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

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Addendum

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

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

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

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

The following example illustrates the changes :-

September 2002

*NEIC **01** 18:45:41.7±1.7,21.70S×179.55W,h600km,mb4.6/6,*
Error ellipse: s-maj=75.5km s-min=25.7km az=151.0
*IDC **01** 18:45:46.3±2.6,21.76S×179.70W,h627km±37km,mb3.5/4,*
mb1 3.7/4,mb1mx3.2/14,Error ellipse: s-maj=83.2km
s-min=20.6km az=159.0
ISC 01 18:45:43.1±2.7,**22.3S**±0.2×**179.6W**±0.3,**h613**km±42km,
n22,σ1§**15**/21,**mb4.4**/9,**1C,South of Fiji Islands**

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

Epicentral Estimates

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

Observational Data

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

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

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

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

*ISK **01** 00:12:07.1, 39.40N×33.10E, h2km, MD3.5*
*CSEM **01** 00:12:07.1, 39.40N×33.10E, h2km, MD3.5, After ISK*
ISC 01 00:12:07.8±0.3, 39.38N±0.02×33.08E±0.03, h2km, n32, σ0§84/43, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAMT	**Kaman**	**0.49**	**91**	*i* PG	**Pg**	**00 12 16.9**	**-0.7**
ANTO	**Ankara**	**0.54**	**336**	*i* PG	**Pg**	**00 12 17.9**	**-0.6**
ANTO				SG	**Sg**	**00 12 26.0**	**+0.2**
ANTO	**Ankara**	**0.54**	**336**	*i* P	**Pg**	**00 12 18.2**	**-0.4**
ANTO				*i* S	**Sg**	**00 12 26.2**	**+0.5**
LOD	**Lodumlu**	**0.56**	**334**	*i* PG	**Pg**	**00 12 18.9**	**-0.2**
CDAG	**Cicekdag**	**1.03**	**76**	*i* P	**Pb**	**00 12 26.4**	**-1.7**
CDAG				*i* S	**Sb**	**00 12 43.7**	**+1.9**
KIZT	**Kizilcal**	**1.06**	**242**	*i* PG	**Pg**	**00 12 28.2**	**-0.8**
ELDT	**Eldivan**	**1.14**	**13**	*i* P	**Pb**	**00 12 29.4**	**-0.6**
ELDT				*i* S	**Sb**	**00 12 44.4**	**-0.6**
KDHN	**Kadinhani**	**1.14**	**222**	*i* P	**Pb**	**00 12 29.2**	**-0.7**
KDHN				*i* S	**Sb**	**00 12 45.6**	**+0.5**
CANT	**Cankiri**	**1.29**	**18**	*i* PN	**Pn**	**00 12 32.5**	**-0.4**
SGKT	**Sivrigoynuk**	**1.43**	**327**	*i* P	**Pn**	**00 12 34.6**	**-0.3**
SGKT				*i* S	**Sb**	**00 12 57.0**	**+3.6**
CORM	**Corum**	**1.44**	**56**	PN	**Pn**	**00 12 34.5**	**-0.5**
AVNT	**Avonos**	**1.50**	**113**	*i* P	**Pn**	**00 12 35.6**	**-0.3**
AVNT				*i* S	**Sb**	**00 12 57.2**	**+1.6**
KONT	**Konya--Tatoy**	**1.54**	**202**	PN	**Pn**	**00 12 37.3**	**+0.9**
ESKT	**Eskisehir**	**1.73**	**275**	PN	**Pn**	**00 12 39.5**	**+0.3**
ESKT	**Eskisehir**	**1.73**	**275**	*i* P	**Pn**	**00 12 40.3**	**+1.1**
ESKT				*i* S	**Sg**	**00 13 06.3**	**+0.7**
NIG	**Nigde**	**1.74**	**136**	PN	**Pn**	**00 12 39.4**	**0.0**
YOZ	**Yozgat**	**1.75**	**81**	PN	**Pn**	**00 12 39.6**	**+0.1**
TOS	**Tosya**	**1.81**	**23**	PN	**Pn**	**00 12 39.6**	**-0.7**
SAFT	**Safranbolu**	**1.88**	**351**	PN	**Pn**	**00 12 40.8**	**-0.5**
BALT	**Daday**	**2.17**	**6**	*e*P	**Pn**	**00 12 46.7**	**+1.3**
BALT				*i* S	**Sb**	**00 13 16.8**	**+2.0**
HENT	**Hendek**	**2.21**	**311**	*e*P	**Pn**	**00 12 46.9**	**+0.9**
BNN	**Bunyan**	**2.21**	**103**	PN	**Pn**	**00 12 46.7**	**+0.6**
GPA	**Golpazari**	**2.32**	**294**	*e*PN	**Pn**	**00 12 47.3**	**-0.3**
ALT	**Altintas**	**2.33**	**263**	*e*PN	**Pn**	**00 12 48.0**	**+0.2**
BYBT	**Boyabat**	**2.45**	**31**	*e*PN	**Pn**	**00 12 48.8**	**-0.7**
HDMB	**Hadim**	**2.46**	**191**	*e*PN	**Pn**	**00 12 49.3**	**-0.2**
BOYT	**Boyabat**	**2.47**	**34**	*e*P	**Pn**	**00 12 48.8**	**-0.9**
BOYT				*i* S	**Sn**	**00 13 16.9**	**-3.9**
ISP	**Isparta**	**2.53**	**234**	*e*PN	**Pn**	**00 12 50.7**	**0.0**
TKTP	**Tekketepe**	**2.54**	**239**	*i* P	**Pn**	**00 12 50.9**	**+0.2**
TKTP				*i* S	**Sg**	**00 13 31.6**	**-0.9**
BCK	**Bucak**	**2.74**	**226**	*e*PN	**Pn**	**00 12 53.9**	**+0.3**
GDZ	**Gediz**	**2.81**	**265**	*i* P	**Pn**	**00 12 59.5**	**+4.9**
TOKT	**Tokat**	**2.83**	**69**	*e*PN	**Pn**	**00 12 54.4**	**-0.5**

NNC 01 00:16:25.1±3.9, 37.01N×71.29E, h198km±61km, mpv3.5, 3C-3D, Error ellipse: s-maj=44.9km s-min=27.8km az=36.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.11**	**355**	⇑P	P	00 17 54.0	-0.5
	1.4nm,0.3s,baz=182,slow=14,SNR=68						
KK31				⇑S	S	00 19 04.3	+0.1
	3.9nm,0.4s,baz=163,slow=28,SNR=4.5						
AAK	**Ala-Archa**	**6.13**	**23**	⇓P	P	00 17 53.6	-1.1
	2.3nm,0.4s						
AAK				⇓S	S	00 19 05.3	+0.7
	5.2nm,0.6s						
AB31	**Akbulak array**	**14.75**	**330**	⇓P	P	00 19 44.5	-0.7
	0.3nm,0.5s						
AB31				⇑S	S	00 22 28.1	+4.5
	0.6nm,0.7s						

*ATH **01** 00:30:36.6, 37.34N×20.53E, h25km±1km, MD3.8/13*
*NEIC **01** 00:30:36.6, 37.34N×20.53E, h25km, mb3.3/1, MD3.8(ATH), After ATH.*
*IDC **01** 00:30:39.7±1.6, 37.22N×20.55E, h60km±30km, mb3.2/4, mb1 3.4/8, mb1mx3.2/25, mbtmp3.4/8, ML3.6/4, Error ellipse: s-maj=33.1km s-min=11.2km az=17.0*
*CSEM **01** 00:30:39.3±0.1, 37.37N×20.54E, h54km±2km, MD3.8, Error ellipse: s-maj=4.5km s-min=3.1km az=21.0*
ISC 01 00:30:37.2±0.6, 37.32N±0.05×20.54E±0.05, h25km, n31, σ1§11/35, mb3.3/4, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.85**	**3**	*e*PN	**Pn**	**00 30 53.0**	**-0.7**
VLS				*e*SN	**Sn**	**00 31 05.3**	**-0.2**
RLS	**Riolos of Patr**	**1.04**	**45**	*e*PN	**Pn**	**00 30 56.6**	**+0.3**
ITM	**Ithomi**	**1.12**	**97**	*e*PN	**Pn**	**00 30 58.1**	**+0.7**
EVR	**Evrytania**	**1.88**	**32**	*e*PN	**Pn**	**00 31 09.6**	**+1.2**
VLI	**Velíai**	**2.01**	**107**	*e*PN	**Pn**	**00 31 11.8**	**+1.6**
KYTH	**Kithira**	**2.26**	**117**	*e*PN	**Pn**	**00 31 15.0**	**+1.2**
JAN	**Janina**	**2.34**	**6**	*e*PB	**Pb**	**00 31 16.5**	**-2.1**
LKR	**Lokris**	**2.35**	**55**	*e*PN	**Pn**	**00 31 15.7**	**+0.6**
NAIG	**Nisos Aigina**	**2.38**	**79**	*e*PN	**Pn**	**00 31 16.0**	**+0.4**
NSAL	**Nisos Salamina**	**2.39**	**75**	*e*PN	**Pn**	**00 31 16.5**	**+0.8**
KEK	**Kerkira**	**2.46**	**347**	*e*PN	**Pn**	**00 31 16.7**	**+0.1**
SRN	**Sarande**	**2.59**	**351**	*i* Pg	**Pn**	**00 31 19.0**	**+0.5**
SRN				*i* Sg	**Sn**	**00 31 50.8**	**+1.3**
NEO	**Neokhori**	**2.90**	**46**	*e*PN	**Pn**	**00 31 23.3**	**+0.4**
KZN	**Kozani**	**3.13**	**18**	*e*PN	**Pn**	**00 31 27.5**	**+1.3**
TIP	**Timpagrande**	**3.51**	**303**	*e*P	**Pn**	**00 31 31.1**	**-0.4**
TIP	**Timpagrande**	**3.51**	**303**	*e*P	**Pn**	**00 31 31.1**	**-0.4**
IDI	**Anoyia**	**4.06**	**119**	P	**Pn**	**00 31 38.5**	**-0.9**
	0.9nm,0.3s,baz=312,slow=11,SNR=14						
IDI				S	**Sn**	**00 32 24.7**	**-2.0**
	4.3nm,0.3s,baz=285,slow=16,SNR=3.8						
SG1	**Sgolgore (BA)**	**4.62**	**321**	*e*Pn	**Pn**	**00 31 47.2**	**-0.2**
VAE	**Valguarnera**	**4.88**	**274**	P	**Pn**	**00 31 52.5**	**+1.4**
	1.6nm,0.3s,baz=238,slow=22,SNR=10						
VAE				S	**Sn**	**00 32 47.5**	**0.0**
	2.7nm,0.3s,baz=126,slow=12,SNR=5.5						
KKB	**Krupnik**	**4.95**	**23**	P	**Pn**	**00 31 41.5**	**-10**
RZN	**Rozhen**	**5.43**	**35**	P	**Pn**	**00 31 58.0**	**-0.7**
VTS	**Vitosha**	**5.65**	**20**	P	**Pn**	**00 32 01.0**	**-0.9**
MLR	**Muntele Rosu**	**9.11**	**25**	P	**P**	**00 32 49.3**	**-1.0**
	0.2nm,0.3s,baz=220,slow=14,SNR=3.2						
AKASG	**Malin Array Be**	**14.75**	**22**	P	**P**	**00 34 07.5**	**+1.5**
	0.9nm,0.3s,baz=209,slow=8.8,SNR=8.6						
AKASG	**Malin Array Be**	**14.75**	**22**	P	**P**	**00 34 07.4**	**+1.5**
HFS	**Hagfors**	**23.25**	**351**	P	**P**	**00 35 42.4**	**-0.9**
	0.8nm,0.4s,mb3.5,baz=166,slow=12,SNR=9.6						
FINES	**FINESS Array B**	**24.39**	**6**	P	**P**	**00 35 52.3**	**-2.1**
	0.7nm,0.8s,mb3.2,baz=177,slow=11,SNR=5.5						
NB2	**NORSAR Subarra**	**24.46**	**349**	P	**P**	**00 35 53.7**	**-1.3**
	0.5nm,0.6s,mb3.1,baz=157,slow=9.3						
NOA	**NORSAR Array B**	**24.46**	**349**	P	**P**	**00 35 53.8**	**-1.2**
	0.9nm,0.7s,mb3.3,baz=157,slow=8.8,SNR=4.3						
KAF	**Kangasniemi**	**25.07**	**6**	*e*p	**P**	**00 36 02.0**	**+1.1**
MKAR	**Makanchi Array**	**45.74**	**58**	P	**P**	**00 38 55.5**	**-2.6**
	0.2nm,0.4s,mb3.4,baz=284,slow=6.0,SNR=3.4						

OTT 01 00:38:17.5±0.1, 64.66N×110.68W, h1km, MN3.0/15, Blast, Ekati Mine, Nt Mining explosion., Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKTN	**Ekati Mine**	**0.05**	**40**	PG	Pg	00 38 18.2	-0.3
LDGN	**Lac de Gras No**	**0.07**	**75**	PG	Pg	00 38 19.3	+0.4
LDGN				SG	Sg	00 38 20.4	+0.5
DVKN	**Diavik Mine**	**0.22**	**133**	PG	Pg	00 38 21.5	-0.4
DVKN				SG	Sg	00 38 24.0	-0.8
DVKN				Trac		00 38 25.8	
	comp=Z,86nm,0.1s						
ACKN	**Achilles Lake**	**0.34**	**347**	PG	Pg	00 38 23.8	-0.5
ACKN				SG	Sg	00 38 28.2	-0.7
LGSN	**Lac de Gras So**	**0.41**	**144**	PG	Pg	00 38 24.8	-0.8
LGSN				SG	Sg	00 38 30.0	-1.0
LGSN				Trac		00 38 31.9	
	comp=Z,34nm,0.1s						
YMBN	**Yamba Lake**	**0.42**	**301**	PG	Pg	00 38 25.1	-0.8
YMBN				SG	Sg	00 38 31.1	-0.4
YMBN				Trac		00 38 31.4	
	comp=Z,108nm,0.1s						
YNEN	**Yamba Lake Nor**	**0.46**	**340**	PG	Pg	00 38 25.9	-0.7
YNEN				SG	Sg	00 38 31.4	-1.3
YNEN				Trac		00 38 33.0	
	comp=Z,87nm,0.1s						
MCKN	**MacKay Lake No**	**0.51**	**156**	PG	Pg	00 38 26.6	-1.0
MCKN				SG	Sg	00 38 33.3	-1.0
MCKN				Trac		00 38 34.2	
	comp=Z,64nm,0.1s						
GLWN	**Glow Worm Lake**	**0.59**	**83**	PG	Pg	00 38 28.2	-0.9
GLWN				SG	Sg	00 38 36.1	-0.9
GLWN				Trac		00 38 36.5	
	comp=Z,38nm,0.1s						
COWN	**Contwyoto Lake**	**0.65**	**341**	PG	Pg	00 38 29.4	-1.0
COWN				SG	Sg	00 38 37.0	-2.0
COWN				Trac		00 38 38.9	
	comp=Z,98nm,0.1s						
MLON	**Marlo Lake**	**0.77**	**153**	PG	Pg	00 38 31.6	-1.3
MLON				SG	Sg	00 38 41.6	-1.6
MLON				Trac		00 38 43.3	
	comp=Z,21nm,0.1s						
BOXN	**Box Lake**	**0.92**	**152**	PG	Pg	00 38 34.2	-1.5
BOXN				SG	Sg	00 38 45.8	-2.1
BOXN				Trac		00 38 48.1	
	comp=Z,37nm,0.2s						
MGTN	**Margaret Lake**	**1.09**	**153**	PG	Pg	00 38 37.5	-1.8
MGTN				SG	Sg	00 38 51.7	-2.1
MGTN				Trac		00 38 52.4	
	comp=Z,113nm,0.1s						
GBLN	**Grizzly Bear L**	**1.10**	**246**	PG	Pg	00 38 37.5	-2.0
GBLN				SG	Sg	00 38 51.8	-2.4
GBLN				Trac		00 38 56.6	
	comp=Z,276nm,0.1s						
LUPN	**Lupin Mine**	**1.11**	**348**	PG	Pg	00 38 37.7	-1.9
LUPN				SG	Sg	00 38 51.6	-2.8
LUPN				Trac		00 38 56.8	
	comp=Z,46nm,0.1s						
SNPN	**Snap Lake**	**1.15**	**185**	PG	Pg	00 38 38.5	-1.9
SNPN				SG	Sg	00 38 53.4	-2.4
SNPN				Trac		00 38 57.5	
	comp=Z,338nm,0.1s						
KNDN	**Kennady Lake**	**1.41**	**152**	PG	Pg	00 38 42.8	-2.8
KNDN				SG	Sg	00 38 60.0	-4.3
KNDN				Trac		00 39 03.9	
	comp=Z,65nm,0.2s						
ILKN	**Indian Lake**	**1.98**	**259**	PN	Pn	00 38 51.5	-0.9
ILKN				SN	Sn	00 39 16.4	-1.8
ILKN				Trac		00 39 20.4	
	comp=Z,32nm,0.1s						
CTLN	**Castor Lake**	**2.32**	**267**	PN	Pn	00 38 55.7	-1.6
CTLN				SN	Sn	00 39 25.3	-1.5
CTLN				Trac		00 39 30.8	
	comp=Z,15nm,0.1s						
YKW3	**Yellowknife Ar**	**2.74**	**222**	PN	Pn	00 39 00.6	-2.8
YKW3				SN	Sn	00 39 31.5	-6.2
YKW3				SG	Sg	00 39 41.2	-7.6
YKW3				Trac		00 39 48.4	
	comp=Z,12nm,0.2s						
GALN	**Gameti Lake**	**2.93**	**262**	PN	Pn	00 39 03.8	-2.3
GALN				SN	Sn	00 39 37.1	-5.3
GALN				Trac		00 39 46.8	
	comp=Z,6.2nm,0.1s						
INK	**Inuvik**	**9.80**	**302**	PN	P	00 40 36.6	-5.7
INK				SN	Sn	00 42 19.5	-15
FCC	**Fort Churchill**	**9.83**	**119**	SN	Sn	00 42 20.0	-15
QILN	**Qililigaq Expl**	**10.21**	**68**	PN	P	00 40 41.2	-6.8
QILN				SN	S	00 42 28.3	-16
QILN				Trac		00 42 52.0	
	comp=Z,0.5nm,0.2s						
RES	**Resolute Bay**	**11.40**	**21**	PN	P	00 40 54.9	-9.4
RES				SN	S	00 42 46.9	-27
RES				Trac		00 43 10.2	
	comp=Z,0.2nm,0.1s						

*CSEM **01** 00:44:47.1±0.5, 38.43N×28.42W, ML1.9, After PDA*
*PDA **01** 00:44:47.1±1.2, 38.43N×28.42W, MD2.9, ML1.9, Error ellipse: s-maj=4.6km s-min=2.4km az=22.0*
SVSA 01 00:44:47.1±1.2, 38.43N×28.42W, MD2.9, ML1.9, Error ellipse: s-maj=4.6km s-min=2.4km az=22.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PICO	**Pico**	**0.07**	**357**	*i* P	Pg	00 44 48.2	-0.4
HOR	**Horta**	**0.19**	**301**	*e*P	Pg	00 44 51.1	+0.2
HOR				*e*S	Sg	00 44 53.6	+0.1
CALA	**Caldeira**	**0.27**	**305**	*e*rx		00 44 48.3	
CALA	**Caldeira**	**0.27**	**305**	*e*P	Pg	00 44 52.6	+0.1
CALA				*e*S	Sg	00 44 56.5	+0.4
CALA	**Caldeira**	**0.27**	**305**	*e*P	Pg	00 44 52.6	+0.1
CALA				*e*S	Sg	00 44 56.5	+0.4
PIED	**Piedade**	**0.29**	**92**	*e*P	Pg	00 44 53.1	+0.3
PIED				*e*S	Sg	00 44 56.6	-0.1
PCED	**Cedros**	**0.30**	**312**	*i* P	Pg	00 44 52.7	-0.3
PCED				*i* S	Sg	00 44 57.3	+0.3
	216nm,0.4s						
PCED	**Cedros**	**0.30**	**312**	*i* S	Sg	00 44 57.3	+0.3
PMAN	**Manadas**	**0.33**	**52**	*e*P	Pg	00 44 53.2	-0.5
PMAN				*e*S	Sg	00 44 57.8	-0.3
	255nm,0.2s						
PGRA	**Graciosa**	**0.69**	**30**	*e*P	Pg	00 44 58.6	-2.3
PGRA				*e*S	Sg	00 45 08.2	-1.9
	158nm,0.3s						
STGR	**Santa Cruz**	**0.73**	**26**	*e*P	Pg	00 45 00.8	-0.8
STGR				*i* S	Sg	00 45 10.6	-0.7
	25nm,0.1s						
ASBA	**Santa Barbara**	**0.91**	**71**	*e*S	Sg	00 45 13.6	-3.7
	11nm,0.2s						
PSBA	**Serra de Santa**	**0.92**	**68**	*e*S	Sg	00 45 13.7	-4.1
	11nm,0.4s						
PPAD	**Pico dos Padre**	**0.93**	**73**	*e*S	Sg	00 45 13.9	-4.1
	6.5nm,0.1s						
PBIS	**Biscoitos**	**0.97**	**70**	*e*S	Sg	00 45 15.4	-4.1
	9.2nm,0.1s						
RIB2	**Ribeirinha**	**1.01**	**76**	*e*S	Sg	00 45 16.0	-4.6
	8.5nm,0.1s						
PVNV	**Vila Nova**	**1.04**	**71**	*e*S	Sb	00 45 16.8	-5.0
	7.8nm,0.1s						
PFAV	**Pico das Favas**	**1.08**	**74**	*e*rx		00 45 20.2	

*BJI **01** 00:45:04.9, 39.58N×32.63E, h20km, mB4.8, mb4.8, Ms4.4, Msz4.1*
*NEIC **01** 00:45:06.0, 39.41N×33.06E, h7km, mb4.3/33, ML4.6(ISK), After ISK.*
*ISK **01** 00:45:07.0, 39.41N×33.06E, h7km, ML4.6*
*MOS **01** 00:45:07.3±1.1, 39.44N×33.00E, h10km, mb4.4/25, Error ellipse: s-maj=5.9km s-min=3.5km az=123.7*
*CSEM **01** 00:45:07.3±0.0, 39.47N×33.05E, h15km, mb4.3/19, Ms3.5, Error ellipse: s-maj=1.3km s-min=0.8km az=22.0*
*IDC **01** 00:45:08.7±0.6, 39.56N×33.03E, mb4.0/16, mb1 4.1/24, mb1mx4.1/29, mbtmp4.0/24, ML3.6/7, MS3.8/21, Ms1 3.8/21, ms1mx3.7/28, Error ellipse: s-maj=9.6km s-min=6.7km az=177.0*
ISC 01 00:45:08.4±0.4, 39.46N±0.02×33.07E±0.02, h19km±3km, h12km±.9km: pP-P, n295, σ1§06/316, mb4.3/48, MS3.8/27, 7C-7D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTO	**Ankara**	**0.46**	**333**	*i* P	**Pb**	**00 45 17.9**	**+0.1**
ANTO				*i* S	**Sb**	**00 45 26.3**	**+2.2**
ANTO	**Ankara**	**0.46**	**333**	P	**Pb**	**00 45 16.6**	**-1.2**
ANTO	**Ankara**	**0.46**	**333**	*i* Pg	**Pb**	**00 45 17.0**	**-0.8**
LOD	**Lodumlu**	**0.49**	**332**	*i* PG	**Pb**	**00 45 18.4**	**+0.2**
KAMT	**Kaman**	**0.51**	**100**	*i* PG	**Pb**	**00 45 16.5**	**-2.0**
BRTR	**Keskin Array B**	**0.52**	**59**	Pg	**Pb**	**00 45 17.6**	**-1.1**
	569nm,0.3s,baz=222,slow=19,SNR=2967						
BRTR				Lg		00 45 25.2	
	3μm,0.3s,baz=219,slow=29,SNR=78						
BRTR	**Keskin Array B**	**0.52**	**59**	Pg	**Pb**	**00 45 17.6**	**-1.1**
BRTR				S	**Sb**	**00 45 25.2**	**-0.6**
CDAG	**Cicekdag**	**1.02**	**80**	*i* P	**Pb**	**00 45 26.1**	**-1.2**
CDAG				*i* S	**Sb**	**00 45 40.6**	**+0.3**
ELDT	**Eldivan**	**1.07**	**15**	*i* P	**Pb**	**00 45 28.4**	**+0.3**
ELDT				*i* S	**Sb**	**00 45 47.1**	**+5.4**
KIZT	**Kizilcal**	**1.09**	**238**	*i* PG	**Pb**	**00 45 27.6**	**-0.7**
CANT	**Cankiri**	**1.23**	**20**	*i* PN	**Pn**	**00 45 31.9**	**+1.2**
SGKT	**Sivrigoynuk**	**1.36**	**326**	*i* P	**Pn**	**00 45 34.1**	**+1.5**
SGKT				*i* S	**Sb**	**00 46 02.9**	**+13**
CORM	**Corum**	**1.41**	**59**	*i* PN	**Pn**	**00 45 34.0**	**+0.8**
CORM				SN	**Sn**	**00 45 54.4**	**+3.0**
AVNT	**Avonos**	**1.55**	**115**	*i* P	**Pn**	**00 45 35.3**	**0.0**
AVNT				*i* S	**Sn**	**00 45 55.2**	**+0.2**
KONT	**Konya--Tatoy**	**1.61**	**200**	*i* PN	**Pn**	**00 45 36.4**	**+0.2**
ESKT	**Eskisehir**	**1.71**	**273**	*i* PN	**Pn**	**00 45 38.1**	**+0.4**
ESKT	**Eskisehir**	**1.71**	**273**	*i* P	**Pn**	**00 45 39.4**	**+1.6**
ESKT				*i* S	**Sn**	**00 46 06.4**	**+7.1**
TOS	**Tosya**	**1.74**	**25**	*i* PN	**Pn**	**00 45 39.2**	**+1.1**
YOZ	**Yozgat**	**1.75**	**83**	*i* PN	**Pn**	**00 45 39.3**	**+1.0**
SAFT	**Safranbolu**	**1.81**	**351**	PN	**Pn**	**00 45 39.5**	**+0.5**
NIG	**Nigde**	**1.81**	**138**	*i* PN	**Pn**	**00 45 38.7**	**-0.4**
BALT	**Daday**	**2.09**	**7**	*i* P	**Pn**	**00 45 44.6**	**+1.5**
BALT				*i* S	**Sn**	**00 46 07.7**	**-1.1**
HENT	**Hendek**	**2.15**	**310**	*i* P	**Pn**	**00 45 45.7**	**+1.8**
HENT				*i* S	**Sn**	**00 46 23.5**	**+13**
BNN	**Bunyan**	**2.25**	**105**	PN	**Pn**	**00 45 45.6**	**+0.3**
GPA	**Golpazari**	**2.28**	**292**	PN	**Pn**	**00 45 46.4**	**+0.6**
ALT	**Altintas**	**2.33**	**261**	PN	**Pn**	**00 45 46.4**	**-0.2**
BYBT	**Boyabat**	**2.39**	**32**	PN	**Pn**	**00 45 48.0**	**+0.6**
BOYT	**Boyabat**	**2.41**	**35**	*i* P	**Pn**	**00 45 48.6**	**+0.9**
BOYT				*i* S	**Sn**	**00 46 17.0**	**0.0**
EYL	**Eskiyayla**	**2.49**	**297**	PN	**Pn**	**00 45 49.3**	**+0.4**
HDMB	**Hadim**	**2.53**	**191**	PN	**Pn**	**00 45 48.6**	**-0.8**
ISP	**Isparta**	**2.57**	**232**	PN	**Pn**	**00 45 49.2**	**-0.7**
ISP	**Isparta**	**2.57**	**232**	*e*P	**Pn**	**00 45 49.8**	**-0.1**
ISP				*e*S	**Sn**	**00 46 29.1**	**+8.2**
TKTP	**Tekketepe**	**2.57**	**237**	*i* P	**Pn**	**00 45 51.4**	**+1.4**
BZK	**Bozkurt**	**2.60**	**16**	PN	**Pn**	**00 45 50.8**	**+0.4**
BCK	**Bucak**	**2.78**	**225**	PN	**Pn**	**00 45 53.2**	**+0.2**
KVT	**Kavak**	**2.80**	**54**	*e*PN	**Pn**	**00 45 53.4**	**+0.2**
GDZ	**Gediz**	**2.81**	**264**	*e*P	**Pn**	**00 45 54.4**	**+1.1**
GDZ				*i* S	**Sn**	**00 46 39.2**	**+12**
TOKT	**Tokat**	**2.81**	**71**	PN	**Pn**	**00 45 53.4**	**0.0**
HRT	**Hereke**	**2.94**	**299**	PN	**Pn**	**00 45 56.0**	**+0.7**
KHL	**Karahalli**	**2.99**	**249**	PN	**Pn**	**00 45 56.5**	**+0.6**
MEST	**Erdemli**	**2.99**	**163**	*i* P	**Pn**	**00 45 55.9**	**0.0**
SVST	**Sivas**	**3.02**	**83**	*i* P	**Pn**	**00 45 57.2**	**+0.9**
SVST				*i* S	**Sn**	**00 46 44.4**	**+12**
YLV	**Yalova**	**3.04**	**293**	*e*PN	**Pn**	**00 45 56.7**	**0.0**
ULDT	**Uludag**	**3.10**	**284**	*i* P	**Pn**	**00 45 57.7**	**+0.2**
ANTB	**Antalya**	**3.18**	**217**	*e*PN	**Pn**	**00 45 59.0**	**+0.3**
CEYT	**Ceyhan**	**3.23**	**138**	*e*PN	**Pn**	**00 45 58.9**	**-0.5**
IKL	**Isikli**	**3.25**	**171**	*e*PN	**Pn**	**00 45 59.4**	**-0.2**
ORLT	**Orhaneli**	**3.27**	**282**	*e*PN	**Pn**	**00 45 59.3**	**-0.6**
BADT	**Buyukada**	**3.33**	**296**	*e*PN	**Pn**	**00 46 01.0**	**+0.2**
DST	**Dursunbey**	**3.43**	**274**	*e*PN	**Pn**	**00 46 02.8**	**+0.5**
ISK	**Istanbul-Kandi**	**3.46**	**299**	*e*PN	**Pn**	**00 46 03.1**	**+0.5**
DENT	**Denizli**	**3.59**	**243**	*e*PN	**Pn**	**00 46 04.6**	**+0.2**
DNZL	**Cakiroluk**	**3.61**	**242**	*i* P	**Pn**	**00 46 05.5**	**+0.8**
MANT	**Manisa**	**3.64**	**256**	*i* P	**Pn**	**00 46 05.7**	**+0.5**
ELL	**Elmali**	**3.67**	**224**	*e*PN	**Pn**	**00 46 05.7**	**0.0**
CTT	**Catalca**	**3.93**	**297**	*e*PN	**Pn**	**00 46 09.0**	**-0.2**
GAZ	**Gaziantep**	**3.98**	**124**	*e*PN	**Pn**	**00 46 10.1**	**+0.1**
DRWC	**Darouich**	**4.01**	**134**	⇑*i*P	**Pn**	**00 46 10.1**	**-0.3**
BALB	**Balikesir**	**4.01**	**274**	*e*PN	**Pn**	**00 46 10.4**	**-0.1**
BNT	**Bandirma**	**4.06**	**284**	*e*PN	**Pn**	**00 46 11.2**	**+0.1**
GZT	**Gaziantep**	**4.11**	**119**	*i* P	**Pn**	**00 46 12.2**	**+0.4**
AKS	**Akhisar**	**4.12**	**264**	*e*PN	**Pn**	**00 46 12.5**	**+0.5**
HTY	**Hatay**	**4.12**	**143**	*e*PN	**Pn**	**00 46 12.3**	**+0.3**
AKAS	**Kas**	**4.22**	**221**	*i* P	**Pn**	**00 46 15.3**	**+1.9**
LEF	**Lefka**	**4.33**	**182**	*e*PN	**Pn**	**00 46 15.0**	**0.0**
MYA	**Malataya**	**4.33**	**103**	*e*PN	**Pn**	**00 46 14.9**	**-0.1**
MALT	**Malatya**	**4.34**	**104**	*e*P	**Pn**	**00 46 15.0**	**-0.1**
BTCH	**Batrach**	**4.34**	**141**	⇓*i*P	**Pn**	**00 46 15.2**	**0.0**
MRMT	**Marmara Adasi**	**4.35**	**287**	*e*PN	**Pn**	**00 46 15.0**	**-0.3**
DALT	**Dalyan (Mudla)**	**4.40**	**234**	*e*PN	**Pn**	**00 46 16.7**	**+0.7**
YER	**Yerkesik**	**4.42**	**240**	*e*PN	**Pn**	**00 46 16.6**	**+0.4**
CSS	**Prodhromos**	**4.49**	**177**	*e*P	**Pn**	**00 46 14.3**	**-2.9**
CSS	**Prodhromos**	**4.49**	**177**	*e*P	**Pn**	**00 46 14.3**	**-2.9**
SLNF	**Slenfeh**	**4.60**	**146**	⇓*i*P	**Pn**	**00 46 20.8**	**+2.0**
MFT	**Murefte**	**4.63**	**289**	*e*PN	**Pn**	**00 46 18.9**	**-0.3**
IZM	**Izmir**	**4.65**	**259**	*e*PN	**Pn**	**00 46 19.5**	**0.0**
CANB	**Canakkale**	**4.66**	**279**	*e*PN	**Pn**	**00 46 19.5**	**-0.2**
MLSB	**Milas**	**4.68**	**244**	*e*P

GNI Garni 9.02 82 *e*PN **P 00 47 19.5 -1.2**
GNI Garni 9.02 82 Pn **P 00 47 23.8 +3.1**
comp=N,0.2nm,0.3s,baz=143,slow=2.9,SNR=11
GNI Lg 00 49 59.3
comp=N,0.2nm,0.3s,baz=11,slow=22,SNR=1.9
GNI LR LR 00 51 05.0
comp=N,856nm,18.3s,baz=64,slow=39
GNI Garni 9.02 82 *e*P **P 00 47 22.9 +2.1**
comp=N,63nm,1.1s
GNI Garni 9.02 82 *e*P **P 00 47 22.9 +2.2**
GNI pmax pmax
comp=Z,63nm,1.1s
SKO Skopje 9.18 290 *e*Pn **P 00 47 28.0 +5.0**
SKO *e*Sn Sx 00 50 17.1
DGRG David-gareji 9.59 74 P **P 00 47 31.9 +3.2**
DGRG S Sx 00 50 22.6
BURAR Bucovina Array 9.94 328 ⇓P **P 00 47 32.7 -0.7**
BURAR Bucovina Array 9.94 328 ⇓P **P 00 47 32.6 -0.8**
DRGR 10.53 317 ⇓P **P 00 47 39.8 -1.7**
MAK Makhachkala 11.43 68 *e*P **P 00 47 57.0 +3.3**
MAK MLR MLR
comp=N,1μm,7.0s
MAK MLR MLR
comp=E,500nm,7.0s
MAK MLR MLR
comp=Z,1μm,7.0s
AKASG Malin Array Be 11.56 348 Pn **P 00 47 51.2 -4.4**
comp=Z,0.9nm,0.3s,baz=160,slow=13,SNR=14
AKASG Sn **S 00 49 59.3 -6.0**
comp=Z,0.8nm,0.3s,baz=161,slow=23,SNR=3.9
AKASG Malin Array Be 11.56 348 Pn **P 00 47 51.2 -4.4**
AKASG Sn **S 00 49 59.3 -6.0**
LVV L'vov 12.19 331 *e*P **P 00 48 12.1 +8.2**
LVV MLR MLR
comp=Z,100nm,12.0s
LVV MLR MLR
comp=N,110nm,11.0s
LVV MLR MLR
comp=E,130nm,11.0s
VRSR Storozhevoye 12.52 18 *e*P **P 00 48 09.0 +0.6**
comp=E,8.0nm,0.8s
VRSR Storozhevoye 12.52 18 *e*P **P 00 48 09.0 +0.6**
VRSR pmax pmax
comp=Z,8.0nm,0.8s
VRSR pmax pmax
comp=N,20nm,0.9s
VRSR pmax pmax
comp=E,4.0nm,0.9s
VRSR pmax pmax
comp=Z,8.0nm,0.8s
VRSR pmax pmax
comp=N,20nm,0.9s
VRSR pmax pmax
comp=E,4.0nm,0.9s
KWP Kalwaria 12.56 327 *e*P **P 00 48 16.8 +7.9**
KWP *e* 00 48 31.3
KWP Kalwaria 12.56 327 *e*P **P 00 48 07.2 -1.7**
comp=E,12nm,0.9s
KWP *e* 00 48 31.3
KWP Kalwaria 12.56 327 *e*P **P 00 48 07.2 -1.8**
KWP pmax pmax
comp=Z,12nm,0.9s
TIP Timpagrande 12.64 274 *e*P **P 00 48 09.7 -0.3**
TIP Timpagrande 12.64 274 *e*P **P 00 48 09.7 -0.3**
VRHR Novokhopersk 13.10 24 *e*P **P 00 48 20.4 +4.3**
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=Z,10.0nm,0.7s
VRHR pmax pmax
comp=E,8.0nm,0.5s
OJC Ojcow 14.27 323 *e*P **P 00 48 33.1 +1.6**
VAE Valguarnera 14.75 268 LR LR 00 54 01.5
comp=E,327nm,19.1s,baz=17,slow=36
OKC Ostrava-Krasne 14.82 319 *e*P **P 00 48 39.1 +0.4**
OKC AMS AMS 00 55 40.0
comp=E,700nm,13.9s
VRAC Vranov 15.32 315 Pn **P 00 48 46.2 +1.0**
comp=E,0.5nm,0.3s,baz=105,slow=9.0,SNR=3.2
OBN Obninsk 15.84 7 *e*P **P 00 48 50.7 -1.2**
comp=E,8.5nm,0.7s
OBN Obninsk 15.84 7 *e*P **P 00 48 50.6 -1.3**
comp=E,8.5nm,0.7s
OBN Obninsk 15.84 7 *c i*P **P 00 48 50.1 -1.8**
OBN pmax pmax
comp=Z,17nm,1.6s
OBN MLR MLR
comp=Z,100nm,20.0s
SUW Suwalki 16.04 338 *e*P **P 00 48 51.8 -2.6**
SUW *e* 00 48 58.6
SUW *e* 00 49 07.4
SUW Suwalki 16.04 338 *e*P **P 00 48 51.8 -2.6**
SUW *e* 00 48 58.6
SUW *e* 00 49 07.4
DPC Dobruska-Polom 16.06 318 *e*P **P 00 48 55.3 +0.5**
DPC AMS AMS 00 56 00.0
comp=Z,600nm,15.0s
UPC Upice 16.32 318 *e*P **P 00 48 59.5 +1.5**
MOS Moscow 16.57 9 *e*S **S 00 52 02.9 -1.1**
MOS Moscow 16.57 9 *e*P **P 00 48 52.4 -8.8**
MOS *e* 00 52 02.9
MOS pmax pmax
comp=Z,51nm,1.4s
GERES GERESS Array B 16.73 310 Pn **P 00 49 04.7 +1.5**
comp=Z,0.0nm,0.3s,baz=135,slow=13,SNR=7.4
GERES LR LR 00 56 10.0
comp=Z,219nm,19.4s,baz=301,slow=40
PRU Pruhonice 16.81 315 *e*P **P 00 49 06.5 +2.2**
PRU AMS AMS 00 57 30.0
comp=Z,300nm,17.3s
KHC Kasperske Hory 16.93 311 *e*P **P 00 49 07.3 +1.5**
KHC AMS AMS 00 56 40.0
comp=Z,400nm,11.3s
KHC Kasperske Hory 16.93 311 *e*P **P 00 49 07.0 +1.2**
PVCC Panska Ves 17.09 316 *e*P **P 00 49 08.3 +0.6**
PVCC AMS AMS 00 57 00.0
comp=Z,500nm,11.1s
BRG Berggiesshubel 17.61 317 *e*P **P 00 49 15.5 +1.3**
comp=Z,12nm,1.6s
BRG Berggiesshubel 17.61 317 *e*P **P 00 49 15.5 +1.3**
BRG pmax pmax
comp=Z,12nm,1.6s
BRG MLR MLR
comp=N,399nm,11.4s
BRG MLR MLR
comp=E,359nm,12.7s
BRG MLR MLR
comp=Z,377nm,10.2s
NKC Novy Kostel 18.10 313 AMS AMS 00 58 20.0
comp=Z,300nm,12.6s
CLL Collm 18.34 317 P **P 00 49 24.0 +0.6**
comp=Z,logA/T=0.6
CLL *e*S **S 00 52 50.0 +5.6**
CLL Collm 18.34 317 *e*P **P 00 49 24.0 +0.6**
comp=Z,4.0nm,1.1s
CLL *e*S **S 00 52 50.0 +5.6**
CLL Collm 18.34 317 *e*P **P 00 49 24.0 +0.6**
CLL *e*S **S 00 52 50.0 +5.6**
CLL pmax pmax
comp=Z,4.0nm,1.1s
DAVOX Davos 18.40 301 P **P 00 49 25.8 +1.6**
comp=Z,0.1nm,0.3s,baz=132,slow=16,SNR=3.5
DAVOX LR LR 00 56 44.2
comp=Z,401nm,18.1s,baz=101,slow=38
DAVOX Davos 18.40 301 P **P 00 49 25.8 +1.6**
DAVOX LR LR 00 56 44.2
PGF Pioggiola 18.41 287 *e*P **P 00 49 24.1 -0.2**
comp=Z,35nm,0.9s
PGF Pioggiola 18.41 287 *e*P **P 00 49 24.1 -0.2**
PGF pmax pmax
comp=Z,17nm,0.9s
DAVA Damuels 18.54 303 ⇑ *i*P **P 00 49 27.5 +1.7**
comp=Z,12nm,0.8s
MOX Moxa 18.76 314 *e*P **P 00 49 24.0 -4.5**
MOX S S 00 53 15.0 +21
MOX L 00 59 28.0
VSU Vasula 19.45 350 *i* P **P 00 49 36.6 0.0**
SBF Sospel 19.62 291 *e*P **P 00 49 37.7 -0.8**
MBDF Montbardon 20.17 294 *e*P **P 00 49 44.0 -0.5**
comp=Z,26nm,0.8s
MBDF Montbardon 20.17 294 *e*P **P 00 49 44.0 -0.5**
MBDF pmax pmax
comp=Z,13nm,0.8s
FRF La Foret Royal 20.17 290 *e*P **P 00 49 44.0 -0.5**
BNI Bardonecchia 20.27 295 *e*P **P 00 49 47.8 +2.2**
comp=Z,16nm,0.9s
BNI Bardonecchia 20.27 295 *e*P **P 00 49 47.8 +2.3**
BNI pmax pmax
comp=Z,15nm,0.9s
LPG La Plagne 20.28 296 *e*P **P 00 49 45.3 -0.3**
comp=Z,22nm,0.9s
LPG La Plagne 20.28 296 *e*P **P 00 49 45.3 -0.3**
LPG pmax pmax
comp=Z,11nm,0.9s
LPL La Plagne 20.29 296 *e*P **P 00 49 45.2 -0.5**
comp=Z,17nm,0.8s
LPL La Plagne 20.29 296 *e*P **P 00 49 45.2 -0.5**
LPL pmax pmax
comp=Z,8.0nm,0.8s
LANF Langenberg 20.37 306 *e*P **P 00 49 46.4 -0.2**
CDF Champ du Feu 20.54 304 *e*P **P 00 49 48.1 -0.2**
comp=Z,26nm,1.1s
CDF Champ du Feu 20.54 304 *e*P **P 00 49 48.1 -0.2**
CDF pmax pmax
comp=Z,13nm,1.1s
ECH Echery 20.56 304 *e*P **P 00 49 49.5 +1.0**
HINF Hinteralfeld 20.66 302 *e*P **P 00 49 48.9 -0.6**
comp=Z,21nm,1.1s
HINF Hinteralfeld 20.66 302 *e*P **P 00 49 48.9 -0.6**
HINF pmax pmax
comp=Z,10.0nm,1.1s
ORIF Oris-en-Rattie 20.82 294 *e*P **P 00 49 50.6 -0.6**
comp=Z,17nm,1.0s
ORIF *e*R
comp=Z,503nm,19.5s
SMRF Simiane la Rot 20.97 291 *e*P **P 00 49 52.2 -0.5**
comp=Z,18nm,1.0s
HAU Haudompre 21.03 303 *e*P **P 00 49 52.7 -0.6**
comp=Z,15nm,0.9s,mb4.0
HAU *e*R
comp=Z,334nm,19.5s
HAU Haudompre 21.03 303 *e*P **P 00 49 52.7 -0.6**
HAU pmax pmax
comp=Z,8.0nm,0.9s,mb4.0
HAU MLR MLR
comp=Z,330nm,19.5s,MS3.7
VIVF Saint-Julien-l 21.67 294 *e*P **P 00 49 59.4 -0.4**
comp=Z,15nm,0.9s,mb4.1
VIVF Saint-Julien-l 21.67 294 *e*P **P 00 49 59.4 -0.4**
VIVF pmax pmax
comp=Z,8.0nm,0.9s,mb4.2
MEZF Maizieres J'vi 21.99 303 *e*P **P 00 50 02.3 -0.7**
comp=Z,16nm,1.0s,mb4.1
LASF Ste Croix 22.21 291 *e*P **P 00 50 04.6 -0.6**
comp=Z,21nm,1.3s,mb4.1
FINES FINESS Array B 22.43 351 P **P 00 50 07.7 +0.4**
comp=Z,4.6nm,0.7s,mb4.0,baz=158,slow=9.4,SNR=25
FINES LR LR 01 00 30.9
comp=Z,198nm,18.3s,MS3.6,baz=162,slow=41
PLDF La Plantade 22.51 296 *e*P **P 00 50 12.2 +4.1**
LOR Lormes 22.53 300 *e*P **P 00 50 07.9 -0.4**
comp=Z,15nm,0.9s,mb4.1
LOR *e*R
comp=Z,374nm,19.2s
LOR Lormes 22.53 300 *e*P **P 00 50 07.9 -0.4**
LOR pmax pmax
comp=Z,8.0nm,0.9s,mb4.2
LOR MLR MLR
comp=Z,370nm,19.3s,MS3.8
LBL Lubilhac 22.70 294 *e*P **P 00 50 15.3 +5.2**
SSF Saint Saulge 22.73 299 *e*P **P 00 50 09.8 -0.5**
comp=Z,10nm,1.2s,mb4.1
SSF Saint Saulge 22.73 299 *e*P **P 00 50 09.8 -0.5**
SSF pmax pmax
comp=Z,10.0nm,1.2s,mb4.1
AVF Avril sur Loir 22.80 298 *e*P **P 00 50 10.4 -0.5**
comp=Z,26nm,1.0s,mb4.3
AVF Avril sur Loir 22.80 298 *e*P **P 00 50 10.4 -0.5**
AVF pmax pmax
comp=Z,13nm,1.0s,mb4.3
AGO Saint Agoulin 22.86 297 *e*P **P 00 50 16.9 +5.3**
BAIF Baives 22.93 307 *e*P **P 00 50 11.6 -0.6**
KAF Kangasniemi 23.06 352 *e*p **P 00 50 13.3 0.0**
HYF Humbligny 23.35 300 *e*P **P 00 50 15.8 -0.5**
MTLF Montolieu 23.39 290 *e*P **P 00 50 16.4 -0.4**
comp=Z,21nm,1.4s,mb4.1
MTLF Montolieu 23.39 290 *e*P **P 00 50 16.4 -0.4**
MTLF pmax pmax
comp=Z,10.0nm,1.4s,mb4.0
TCF Toulx Ste Croi 23.52 297 *e*P **P 00 50 17.3 -0.7**
comp=Z,13nm,1.0s,mb4.0
TCF Toulx Ste Croi 23.52 297 *e*P **P 00 50 17.3 -0.7**
TCF pmax pmax
comp=Z,7.0nm,1.0s,mb4.0
CAF Calviac 23.52 294 *e*P **P 00 50 17.6 -0.4**
ARU Arti 23.87 36 ⇓ *i*P **P 00 50 25.4 +4.2**
ARU *e* 00 50 54.8
ARU *e*PPP PPP 00 51 03.7 -1.3
ARU *e*S **S 00 54 43.0 +10**
ARU *e*SS SS 00 55 28.4 +4.9
ARU *e*SSS SSS 00 55 39.5 -0.2
ARU pmax pmax
comp=Z,12nm,0.8s,mb4.4
RJF Les Rejaudoux 23.93 294 *e*P **P 00 50 21.3 -0.7**
RJF *e*R
comp=Z,351nm,20.0s
HFS Hagfors 24.00 336 P **P 00 50 24.3 +1.7**
comp=Z,3.2nm,0.8s,mb3.8,baz=124,slow=11,SNR=4.8
HFS LR LR 01 00 44.9
comp=Z,210nm,21.3s,MS3.6,baz=48,slow=39
LFF La Frestale 24.46 294 *e*P **P 00 50 26.4 -0.8**
EPF Esparros 24.78 289 *e*P **P 00 50 29.6 -0.6**
comp=Z,8.5nm,1.0s,mb3.9
EPF Esparros 24.78 289 *e*P **P 00 50 29.6 -0.6**
EPF pmax pmax
comp=Z,4.0nm,1.0s,mb3.9
RESF Ens 24.79 288 *e*P **P 00 50 35.6 +5.3**
SVE Sverdlovsk 25.04 37 *e*P **P 00 50 34.8 +2.2**
SVE *e* 00 51 06.2
SVE *e*SS tx 00 56 16.0
KONO Kongsberg 25.06 331 *e*S **S 00 54 55.8 +2.6**
KONO *e* 01 03 53.2
MFF Saint Martin d 25.17 297 *e*P **P 00 50 33.2 -0.7**
comp=Z,12nm,0.9s,mb4.1
MFF Saint Martin d 25.17 297 *e*P **P 00 50 33.2 -0.7**
MFF pmax pmax
comp=Z,6.0nm,0.9s,mb4.1
ETSF Etsaut 25.44 289 *e*P **P 00 50 36.1 -0.4**
comp=Z,14nm,1.0s,mb4.2
ETSF Etsaut 25.44 289 *e*P **P 00 50 36.1 -0.4**
ETSF pmax pmax
comp=Z,7.0nm,1.0s,mb4.2
NOA NORSAR Array B 25.49 335 P **P 00 50 37.4 +0.6**
comp=Z,3.6nm,1.0s,mb3.9,baz=137,slow=9.1,SNR=7.3
NOA LR LR 01 02 43.3
comp=Z,213nm,18.4s,MS3.7,baz=145,slow=42
FLN La Foliniere 25.64 302 *e*P **P 00 50 37.2 -1.1**
comp=Z,33nm,1.3s,mb4.4
FLN *e*R
comp=Z,258nm,19.5s
FLN La Foliniere 25.64 302 *e*P **P 00 50 37.2 -1.1**
FLN pmax pmax
comp=Z,17nm,1.3s,mb4.4
FLN MLR MLR
comp=Z,260nm,19.5s,MS3.8
GRR Gorron 25.84 301 *e*P **P 00 50 39.0 -1.1**
comp=Z,12nm,0.7s,mb4.3
GRR Gorron 25.84 301 *e*P **P 00 50 39.0 -1.1**
GRR pmax pmax
comp=Z,6.0nm,0.7s,mb4.2
SJPF Ste Jean 25.92 289 *e*P **P 00 50 40.1 -0.8**
comp=Z,24nm,1.3s,mb4.3
SJPF Ste Jean 25.92 289 *e*P **P 00 50 40.1 -0.8**
SJPF pmax pmax
comp=Z,12nm,1.3s,mb4.3
SGMF Saint Gilles 26.95 301 *e*P **P 00 50 50.1 -0.3**
BER Bergen 27.16 330 *e*S **S 00 55 31.4 +3.5**
BER AMS AMS 01 05 17.2
comp=Z,144nm,16.3s,MS3.6
QUIF Quistinic 27.32 300 *e*P **P 00 50 53.4 -0.4**
ROSF Rostrenen 27.43 301 *e*P **P 00 50 53.3 -1.5**
ESDC Sonseca Array 28.42 282 P **P 00 51 03.4 -0.4**
comp=Z,1.3nm,0.7s,mb3.7,baz=66,slow=9.4,SNR=4.7
BVAR Borovoye Array 28.80 49 P **P 00 51 08.8 +1.7**
comp=Z,0.4nm,0.5s,mb3.4,baz=212,slow=37,SNR=2.5
EKA Eskdalemuir Ar 28.80 316 P **P 00 51 07.5 +0.4**
comp=Z,2.4nm,0.8s,mb4.0,baz=113,slow=8.6,SNR=5.0
EKA Eskdalemuir Ar 28.80 316 P **P 00 51 07.4 +0.3**
ESK Eskdalemuir 28.82 315 *e*P **P 00 51 07.4 +0.2**
ESK Eskdalemuir 28.82 315 *e*P **P 00 51 07.4 +0.2**
ATD Arta Tunnel 29.14 160 LR LR 01 01 37.5
comp=Z,181nm,19.9s,MS3.7,baz=320,slow=34
ARCES ARCESS Array B 30.41 355 P **P 00 51 21.1 -0.2**
comp=Z,2.3nm,0.6s,mb4.1,baz=170,slow=7.4,SNR=9.1
ARCES LR LR 01 05 15.3
comp=Z,141nm,18.4s,MS3.6,baz=218,slow=40
TRO Tromso 31.16 350 *e*S **S 00 56 32.5 +0.9**
TRO AMS AMS 01 05 54.3
comp=Z,148nm,17.7s,MS3.7
KURK Kurchatov 33.57 55 P **P 00 51 48.6 -0.6**
comp=Z,4.6nm,0.8s,mb4.5
KURK Kurchatov 33.57 55 P **P 00 51 48.6 -0.6**
comp=Z,4.6nm,0.8s,mb4.5
KURK Kurchatov 33.57 55 P **P 00 51 48.6 -0.6**
KURK pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
MKAR Makanchi Array 36.17 62 P **P 00 52 11.1 -0.4**
comp=Z,1.4nm,0.9s,mb3.9,baz=262,slow=8.6,SNR=9.3
MKAR LR LR 01 09 08.6
comp=Z,97nm,20.2s,MS3.6,baz=180,slow=40
NVS Novosibirsk 36.57 48 *e*P **P 00 52 20.2 +5.5**
NVS pmax pmax
comp=Z,8.0nm,1.4s,mb4.4
NVS pmax pmax
comp=N,2.0nm,1.2s
ZAL Zalesovo 37.44 50 P **P 00 52 23.8 +1.8**
comp=N,0.8nm,0.3s,mb4.0,baz=189,slow=13,SNR=2.7
ZAL LR LR 01 12 02.8
comp=N,95nm,20.8s,MS3.6,baz=199,slow=43
JMIC Jan Mayen 38.02 339 AMS AMS 01 08 53.8
comp=Z,89nm,21.4s,MS3.5
WMQ Urumqi 40.44 66 *e*P **P 00 52 46.0 -1.1**
WMQ PP PP 00 54 24.0 +0.2
WMQ PCP PcP 00 54 50.0 -0.5
WMQ SCP 00 58 37.0
WMQ S **S 00 58 54.0 -0.4**
WMQ AMB AMB
comp=Z,7.0nm,0.5s,mb4.7
WMQ AMB AMB
comp=Z,100nm,5.2s
WMQ LR LR
comp=N,215nm,18.0s,MS4.1
WMQ LR LR
comp=E,154nm,19.0s,MS4.1
WMQ LR LR
comp=Z,135nm,17.0s,MS3.9
KBS Kingsbay 40.48 354 AMS AMS 01 11 27.2
comp=Z,77nm,20.1s,MS3.5
KMBO Kilima Mbogo 40.57 174 P **P 00 52 50.5 +2.0**
comp=Z,0.5nm,0.6s,mb3.3,baz=7.2,slow=14,SNR=3.5
KMBO LR LR 01 10 56.6
comp=Z,120nm,18.1s,MS3.8,baz=80,slow=38
KMBO Kilima Mbogo 40.57 174 P **P 00 52 50.5 +2.0**
KMBO LR LR 01 10 56.6
KOLN Koldanda 43.16 90 *e*P **P 00 53 08.9 -0.7**
comp=Z,24nm,0.9s,mb4.9
GKN Gorkha 43.85 89 *e*P **P 00 53 14.3 -0.9**
comp=Z,20nm,0.6s,mb5.1
DMN Daman 44.41 89 *e*P **P 00 53 19.8 +0.1**
comp=Z,46nm,0.8s,mb5.3
KKN Kakani 44.45 89 *e*P **P 00 53 22.4 +2.3**
comp=Z,14nm,0.6s,mb4.9
PKI Pulchoki 44.66 89 *e*P **P 00 53 23.9 +2.1**
comp=Z,15nm,0.8s,mb4.9
DBIC Dimbokro 47.18 236 P **P 00 53 43.6 +1.7**
comp=Z,2.4nm,0.7s,mb4.2,baz=23,slow=9.7,SNR=5.8
DBIC LR LR 01 15 37.0
comp=Z,108nm,19.9s,MS3.8,baz=136,slow=39
LIC Lamto 47.63 236 *e*P **P 00 53 44.3 -1.1**
comp=Z,12nm,1.0s,mb4.8
GTA Gaotai 50.43 67 *e*P **P 00 54 07.1 +0.4**
GTA AP pP 00 54 11.2 -1.4
GTA PP PP 00 56 04.2 +0.9
GTA S **S 01 01 25.5 +7.7**
GTA XS 01 01 33.1
GTA AMB AMB
comp=Z,4.0nm,0.8s,mb4.5
GTA AMB AMB
comp=Z,62nm,4.6s
GTA LR LR
comp=N,98nm,15.2s,MS4.1
GTA LR LR
comp=E,114nm,18.6s,MS4.1
GTA LR LR
comp=Z,85nm,15.2s,MS3.9
SONM Songino Array 51.88 55 P **P 00 54 20.5 +3.0**
comp=Z,0.9nm,0.6s,mb3.9,baz=296,slow=8.0,SNR=8.8
SONM LR LR 01 18 47.1
comp=Z,115nm,21.5s,MS3.9,baz=178,slow=39
BOD Bodaibo 53.14 41 *e*P **P 00 54 25.9 -0.9**
comp=Z,3.0nm,1.1s,mb4.1
BOD Bodaibo 53.14 41 *e*P **P 00 54 25.9 -0.9**
BOD pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
LZH Lanzhou 54.72 70 *e*P **P 00 54 37.5 -1.2**
LZH *e*PP PP 00 56 41.3 -1.6
LZH AMB AMB
comp=Z,25nm,1.5s,mb5.0
LZH AMB AMB
comp=Z,72nm,6.2s
LZH LR LR
comp=N,263nm,15.0s
LZH LR LR
comp=Z,347nm,18.2s,MS4.5
LZH Lanzhou 54.72 70 *e*P **P 00 54 37.5 -1.2**
comp=Z,25nm,1.5s,mb5.0
LZH pP pP 00 54 40.7 -3.9
LZH sP sP 00 54 42.1 -4.8
LZH *e*PP PP 00 56 41.3 -1.6
LZH LR LR
comp=Z,350nm,18.2s,MS4.5
LZH Lanzhou 54.72 70 *e*P **P 00 54 37.5 -1.2**
LZH *PP pP 00 54 40.7 -3.9
LZH *SP sP 00 54 42.1 -4.8
LZH *e* 00 56 41.3
LZH pmax pmax
comp=Z,25nm,1.5s,mb5.0
LZH MLR MLR
comp=Z,350nm,18.2s,MS4.5
CD2 Chengdu 57.08 75 P **P 00 54 54.5 -1.3**
HHC Hu-ho-hao-te 58.03 61 *e*P **P 00 55 00.9 -1.4**
HHC PP PP 00 57 11.4 -1.2
HHC S **S 01 03 00.1 -0.1**
HHC SCS ScS 01 04 46.9 -0.5
HHC AMB AMB
comp=Z,12nm,0.4s,mb5.3
HHC AMB AMB
comp=Z,112nm,10.1s
HHC LR LR
comp=N,121nm,28.5s,MS4.0
HHC LR LR
comp=E,117nm,27.9s,MS4.0
HHC LR LR
comp=Z,138nm,19.0s
KMI Kunming 59.27 81 P **P 00 55 09.5 -1.7**
KMI AMB AMB
comp=Z,8.0nm,0.7s,mb4.9
KMI LR LR
comp=Z,73nm,15.6s,MS3.9
KMI Kunming 59.27 81 P **P 00 55 09.5 -1.7**
comp=Z,8.0nm,0.7s,mb4.9
KMI pP pP 00 55 13.2 -4.0
KMI sP sP 00 55 14.6 -4.8
KMI LR LR
comp=Z,70nm,15.6s,MS3.9
KMI Kunming 59.27 81 P **P 00 55 09.5 -1.7**
KMI *PP pP 00 55 13.2 -4.0
KMI *SP sP 00 55 14.6 -4.8
KMI pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
KMI MLR MLR
comp=Z,70nm,15.6s,MS3.9
MATP Matopo 59.72 185 P **P 00 55 16.3 +2.0**
comp=Z,3.2nm,0.8s,mb4.4,baz=8.1,slow=9.5,SNR=13
SCHQ Schefferville 63.95 321 LR LR 01 21 40.4
comp=Z,57nm,19.4s,MS3.8,slow=34
LBTB Lobatse 64.51 188 P **P 00 55 46.0 -0.4**
comp=Z,2.4nm,0.6s,mb4.4
LBTB Lobatse 64.51 188 P **P 00 55 46.0 -0.4**
LBTB pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
CN2 Changchun 65.59 53 *e*P **P 00 55 51.2 -1.8**
NJ2 Nanjing 67.51 66 *e*P **P 00 56 06.5 +1.1**
NJ2 AMB AMB
comp=Z,60nm,0.8s
BOSA Boshof 68.11 187 P **P 00 56 11.0 +1.8**
comp=Z,5.6nm,0.6s,mb4.8,baz=12,slow=6.4,SNR=19

BOSA			LR	LR	01 30 18.9	
	comp=Z,70nm,18.6s,MS3.9,baz=213,slow=40					
BOSA	**Boshof**	**68.11 187**	*eP*	**P**	**00 56 08.6**	**-0.6**
	comp=Z,4.3nm,0.6s,mb4.7					
BOSA	**Boshof**	**68.11 187**	*eP*	**P**	**00 56 08.6**	**-0.6**
BOSA			pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6					
SSE	**Sheshan**	**69.69 66**	*eP*	**P**	**00 56 17.3**	**-1.6**
SSE			AMB	AMB		
	comp=Z,14nm,0.6s,mb5.1					
SSE			AMB	AMB		
	comp=Z,24nm,4.4s					
SSE	**Sheshan**	**69.69 66**	*eP*	**P**	**00 56 17.3**	**-1.6**
	comp=Z,14nm,0.6s,mb5.1					
YKA	**Yellowknife Ar**	**75.12 345**	P	**P**	**00 56 50.8**	**+0.4**
	comp=Z,0.7nm,0.7s,mb3.7,baz=26,slow=5.7,SNR=4.5					
YKA	**Yellowknife Ar**	**75.12 345**	P	**P**	**00 56 50.8**	**+0.4**
MJAR	**Matsushiro Arr**	**77.74 53**	P	**P**	**00 57 09.1**	**+3.4**
	comp=Z,0.5nm,0.3s,mb3.9,baz=1.1,slow=2.8,SNR=4.1					
MJAR			LR	LR	01 36 39.5	
	comp=Z,78nm,19.7s,MS4.0,baz=210,slow=40					
ULM	**Lac du Bonnet**	**80.04 330**	LR	LR	01 35 57.5	
	comp=Z,42nm,20.6s,MS3.8,baz=310,slow=38					
PDAR	**Pinedale Array**	**91.42 333**	LR	LR	01 40 17.6	
	comp=Z,50nm,18.2s,MS4.0,baz=49,slow=36					

GUC 01 00:49:20.1±0.6, 31.94S×68.57W, h154km±17km, MD3.3, ML3.6, 4C-2D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACH	**Jahuel**	**1.87**	**246**	⇓*i*P	P	00 49 54.6	+0.4
JACH				*i*S	S	00 50 20.6	0.0
FCH	**Farellones**	**2.01**	**226**	⇓*i*P	P	00 49 56.6	+0.8
FCH				*i*S	S	00 50 24.4	+1.0
CMCH	**Combarbala**	**2.21**	**290**	*i*P	P	00 49 58.6	+0.2
CMCH				*i*S	S	00 50 28.0	+0.2
CMCH				AMP		00 50 30.7	
	comp=E,701nm,0.6s						
ROCH	**El Roble**	**2.31**	**243**	⇑*i*P	P	00 50 00.0	+0.4
ROCH				*i*S	S	00 50 30.6	+0.7
PCH	**Pirque**	**2.34**	**224**	⇑*i*P	P	00 50 00.2	+0.2
PCH				*i*S	S	00 50 31.0	+0.4
RCDM	**Rinconada Maip**	**2.44**	**230**	*i*P	P	00 50 01.6	+0.4
RCDM				*i*S	S	00 50 32.8	+0.1
RCDM				AMP		00 50 34.8	
	comp=E,106nm,0.1s						
TACH	**Talagante**	**2.63**	**229**	⇑*i*P	P	00 50 03.2	-0.4
TACH				*i*S	S	00 50 36.1	-0.8
CHCH	**Chadas Angostu**	**2.65**	**221**	⇑*i*P	P	00 50 04.2	+0.3
CHCH				*i*S	S	00 50 37.5	+0.1

*IDC **01** 01:12:20.7±0.7, 57.25S×138.69W, mb4.3/7, mb1 4.5/7, mb1mx4.3/13, mbtmp4.3/7, MS3.6/2, Ms1 3.6/2, ms1mx3.2/17, Error ellipse: s-maj=26.8km s-min=20.6km az=170.0*
*NEIC **01** 01:12:22.1±0.4, 57.21S×138.65W, h10km, mb4.5/4, Error ellipse: s-maj=12.5km s-min=11.6km az=150.0*
*BJI **01** 01:12:23.0, 57.20S×138.70W, h10km*

ISC 01 01:12:20.5±0.7, 57.2S±0.1×138.7W±0.2, h10km, n40, σ0§98/32, mb4.4/11, MS3.5/2, 5C, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**27.52**	**202**	*eP*	**P**	**01 18 10.2**	**+1.7**
	7.3nm,1.1s,mb4.2						
VNDA	**Vanda**	**28.47**	**203**	P	**P**	**01 18 18.0**	**+0.9**
	1.4nm,1.1s,mb3.5,baz=72,slow=6.4,SNR=3.0						
VNDA				LR	LR	01 26 33.9	
	comp=Z,70nm,19.6s,MS3.3,baz=268,slow=30						
VNDA	**Vanda**	**28.47**	**203**	P	**P**	**01 18 16.8**	**-0.3**
	3.0nm,1.2s,mb3.8						
VNDA				LR	LR	01 26 33.9	
PPT	**Papeete**	**40.40**	**344**	LR	LR	01 31 41.3	
	comp=Z,143nm,22.0s,MS3.8,baz=204,slow=29						
VNA3	**Neumayer Olymp**	**46.92**	**160**	*e*	**P**	**01 20 53.5**	**+1.2**
VNA3	**Neumayer Olymp**	**46.92**	**160**	*e*	**P**	**01 20 57.0**	**+4.7**
VNA3	**Neumayer Olymp**	**46.92**	**160**	*e*	**P**	**01 21 02.4**	**+10**
VNA3	**Neumayer Olymp**	**46.92**	**160**	⇑*i*P	**P**	**01 20 51.6**	**-0.7**
VNA3				*e*		01 20 57.0	
VNA3				*e*		01 21 02.4	
VNA2	**Neumayer--Watz**	**47.61**	**160**	*e*	**P**	**01 20 59.1**	**+1.4**
VNA2	**Neumayer--Watz**	**47.61**	**160**	*e*	**P**	**01 21 02.5**	**+4.8**
VNA2	**Neumayer--Watz**	**47.61**	**160**	*e*	**P**	**01 21 07.4**	**+10**
VNA2	**Neumayer--Watz**	**47.61**	**160**	⇑*i*P	**P**	**01 20 57.1**	**-0.6**
VNA2				*e*	pP	01 20 59.1	-1.6
VNA2				*e*		01 21 02.5	
VNA2				*e*		01 21 07.4	
VNA1	**Neumayer--Stat**	**47.68**	**160**	*e*	**P**	**01 21 00.1**	**+1.9**
VNA1	**Neumayer--Stat**	**47.68**	**160**	*e*	**P**	**01 21 03.5**	**+5.3**
VNA1	**Neumayer--Stat**	**47.68**	**160**	*e*	**P**	**01 21 08.4**	**+10**
VNA1	**Neumayer--Stat**	**47.68**	**160**	⇑*i*P	**P**	**01 20 58.1**	**-0.1**
VNA1				*e*	pP	01 21 00.1	-1.2
VNA1				*e*		01 21 03.5	
VNA1				*e*		01 21 08.4	
SNAA	**Sanae**	**47.76**	**163**	*e*	**P**	**01 21 00.0**	**+1.1**
SNAA	**Sanae**	**47.76**	**163**	*e*	**P**	**01 21 03.3**	**+4.4**
SNAA	**Sanae**	**47.76**	**163**	*e*	**P**	**01 21 09.1**	**+10**
SNAA	**Sanae**	**47.76**	**163**	P	**P**	**01 20 57.8**	**-1.0**
	1.7nm,0.7s,mb4.2,baz=223,slow=6.4,SNR=46						
SNAA	**Sanae**	**47.76**	**163**	⇑*i*P	**P**	**01 20 57.9**	**-1.0**
SNAA				*e*		01 21 03.3	
SNAA				*e*		01 21 09.1	
SYO	**Syowa Base**	**54.08**	**179**	⇑P	**P**	**01 21 45.0**	**-1.8**
MAW	**Mawson**	**54.48**	**190**	P	**P**	**01 21 49.4**	**-0.3**
	9.6nm,1.2s,mb4.6,baz=185,slow=7.3,SNR=5.4						
MAW	**Mawson**	**54.48**	**190**	*eP*	**P**	**01 21 49.1**	**-0.6**
STKA	**Stephens Creek**	**58.42**	**259**	P	**P**	**01 22 18.9**	**+0.5**
	12nm,0.9s,mb4.9,baz=132,slow=7.1,SNR=17						
STKA	**Stephens Creek**	**58.42**	**259**	*eP*	**P**	**01 22 18.6**	**+0.2**
CPUP	**Villa Florida**	**63.68**	**98**	*eP*	**P**	**01 22 53.2**	**-0.9**
	4.7nm,1.3s,mb4.4						
LPAZ	**La Paz**	**65.94**	**83**	P	**P**	**01 23 10.3**	**+1.5**
	5.3nm,1.1s,mb4.5,baz=179,slow=3.8,SNR=14						
LPAZ	**La Paz**	**65.94**	**83**	*eP*	**P**	**01 23 09.6**	**+0.8**
WRA	**Warramunga Arr**	**71.84**	**261**	P	**P**	**01 23 44.8**	**-0.5**
	5.3nm,0.9s,mb4.5,baz=148,slow=5.6,SNR=18						
WRAB	**Tennant Creek**	**71.84**	**261**	*eP*	**P**	**01 23 44.7**	**-0.6**
	16nm,1.1s,mb4.9						
SAML	**Samuel**	**74.69**	**83**	*eP*	**P**	**01 24 01.6**	**-0.4**
	9.0nm,1.6s,mb4.5						
TXAR	**Lajitas Array**	**91.14**	**30**	P	**P**	**01 25 27.1**	**+0.7**
	0.6nm,0.9s,mb3.9,baz=196,slow=9.1,SNR=4.4						
ILAR	**Eielson Array**	**121.81**	**356**	PKP	PKPdf	01 31 15.3	-1.5
	4.3nm,0.8s,baz=224,slow=1.5,SNR=47						
ESDC	**Sonseca Array**	**146.01**	**101**	PKPbc	PKPbc	01 32 01.6	+1.7
	1.4nm,0.8s,baz=225,slow=2.1,SNR=6.2						
WMQ	**Urumqi**	**148.27**	**265**	*e*PKP	PKPdf	01 32 07.4	+1.9
MKAR	**Makanchi Array**	**153.10**	**265**	PKPbc	PKPdf	01 32 17.9	+5.3
	3.3nm,1.0s,baz=135,slow=3.4,SNR=15						
MKAR				PKPab	PKPab	01 32 30.1	-0.9
	3.9nm,0.9s,baz=124,slow=4.4,SNR=10						
MKAR				PP	PP	01 36 06.9	+1.4
	0.6nm,0.9s,baz=108,slow=7.7,SNR=4.6						
ZAL	**Zalesovo**	**155.50**	**281**	PKPab	PKPab	01 32 39.9	-1.1
	0.8nm,0.5s,baz=82,slow=13,SNR=5.3						
GERES	**GERESS Array B**	**161.52**	**105**	PKP	PKPdf	01 32 21.9	-1.0
	0.2nm,0.4s,baz=63,slow=3.0,SNR=4.7						
GERES				PKPab	PKPab	01 33 04.8	-2.3
	0.3nm,0.6s,baz=252,slow=3.1,SNR=4.5						
BRTR	**Keskin Array B**	**161.81**	**161**	PKPab	PKPab	01 33 06.9	-1.7
	0.5nm,0.7s,baz=180,slow=6.2,SNR=3.7						

WEL 01 01:13:48.9±0.2, 36.34S×179.79W, h33km, ML3.6/4, Error ellipse: s-maj=3.7km s-min=3.1km az=90.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**2.33**	**221**	PN	Pn	01 14 24.2	-1.6
PUZ				SN	Sn	01 14 51.1	-2.5
MWZ	**Matawai**	**2.92**	**226**	PN	Pn	01 14 32.4	-1.9
MWZ				SN	Sn	01 15 04.8	-3.8
URZ	**Urewera**	**3.13**	**231**	PN	Pn	01 14 35.3	-1.9
URZ				SN	Sn	01 15 10.0	-3.9

*JMA **01** 01:16:44.3±0.3, 33.15N×138.42E, h312km±4km, M3.8*
*NEIC **01** 01:16:45.4±0.8, 33.07N×138.14E, h286km±6km, mb3.8/4, Error ellipse: s-maj=12.7km s-min=10.1km az=75.0*
*IDC **01** 01:16:46.3±0.7, 33.15N×138.10E, h290km±7km, mb3.4/11, mb1 3.6/12, mb1mx3.5/21, mbtmp4.0/12, Error ellipse: s-maj=21.8km s-min=11.1km az=67.0*

ISC 01 01:16:44.9±0.4, 33.14N±0.05×138.37E±0.06, h302km±3km, n46, σ0§93/59, mb3.6/14, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**0.90**	**314**	S	**S**	**01 17 56.7**	**-0.1**
TK02	**Tokai 2**	**0.95**	**328**	P	**P**	**01 17 26.0**	**+0.6**
TK02				S	**S**	**01 17 58.5**	**+1.3**
TK03	**Tokai 3**	**1.08**	**342**	S	**S**	**01 17 59.8**	**+1.6**
JHJ	**Hachijo jima 2**	**1.19**	**91**	P	**P**	**01 17 26.8**	**+0.1**
	59nm,0.3s,baz=345,slow=1.7,SNR=74						
JHJ				S	**S**	**01 18 02.4**	**+3.0**
	26nm,0.3s,baz=246,slow=22,SNR=3.0						
JHJ2	**Mitsune**	**1.22**	**91**	P	**P**	**01 17 26.5**	**-0.3**
JKO	**Kozu shima**	**1.23**	**31**	P	**P**	**01 17 27.4**	**+0.6**
TK04	**Tokai 4**	**1.31**	**342**	P	**P**	**01 17 28.1**	**+0.8**
JSG	**Sagara**	**1.54**	**355**	P	**P**	**01 17 29.4**	**+0.6**
JSG				S	**S**	**01 18 04.6**	**+1.5**
JIM2	**Oshima 3**	**1.81**	**29**	P	**P**	**01 17 30.5**	**-0.1**
JIE	**Ise**	**1.86**	**313**	P	**P**	**01 17 31.3**	**+0.3**
JIE				*e*S	**S**	**01 18 05.7**	**-1.3**
JOD2	**Odawara 2**	**2.20**	**16**	P	**P**	**01 17 34.0**	**+0.2**
JWZ	**Kozaga**	**2.25**	**281**	P	**P**	**01 17 33.9**	**-0.3**
JWZ				*e*S	**S**	**01 18 11.6**	**-1.1**
JYN	**Shimob**	**2.36**	**4**	P	**P**	**01 17 35.7**	**+0.6**
JWY	**Kouya**	**2.55**	**296**	P	**P**	**01 17 37.3**	**+0.4**
BSO1	**Boso 1**	**2.65**	**54**	P	**P**	**01 17 35.7**	**-2.1**
BSO1				S	**S**	**01 18 16.6**	**-2.4**
JGM	**Miyama**	**2.89**	**332**	P	**P**	**01 17 40.7**	**+0.6**
JGM				S	**S**	**01 18 23.4**	**+0.2**
JRY	**Ryogami san**	**2.90**	**9**	P	**P**	**01 17 40.8**	**+0.6**
JRY				*e*S	**S**	**01 18 22.3**	**-1.1**
JWT	**Wachi**	**3.26**	**312**	P	**P**	**01 17 43.9**	**+0.2**
JWT				*e*S	**S**	**01 18 29.1**	**-0.6**
JAI	**Aioi**	**3.33**	**282**	P	**P**	**01 17 44.5**	**-0.1**
MJAR	**Matsushiro Arr**	**3.40**	**358**	P	**P**	**01 17 44.9**	**-0.3**
	2.6nm,0.3s,baz=177,slow=12,SNR=18						
MJAR				S	**S**	**01 18 30.5**	**-1.8**
	0.9nm,0.3s,baz=162,slow=16,SNR=7.0						
JAG	**Ashikaga**	**3.40**	**15**	P	**P**	**01 17 44.2**	**-1.0**
MAT	**Matsushiro**	**3.40**	**358**	P	**P**	**01 17 45.2**	**0.0**
MAT				S	**S**	**01 18 31.9**	**-0.4**
MAT	**Matsushiro**	**3.40**	**358**	P	**P**	**01 17 45.3**	**+0.1**
MAT				S	**S**	**01 18 32.1**	**-0.2**
MAT	**Matsushiro**	**3.40**	**358**	*eP*	**P**	**01 17 45.0**	**-0.2**
MAT				*e*S	**S**	**01 18 32.0**	**-0.3**
JMN	**Monobe**	**3.80**	**280**	P	**P**	**01 17 49.7**	**+0.3**
CBIJ	**Chichi jima**	**6.87**	**150**	P	**P**	**01 18 23.8**	**-1.6**
	2.1nm,0.3s,baz=278,slow=20,SNR=15						
CBIJ				S	**S**	**01 19 37.0**	**-7.3**
	12nm,0.3s,baz=284,slow=22,SNR=13						
ENH	**Enshi**	**24.70**	**271**	*eP*	**P**	**01 21 39.3**	**-1.3**
	10nm,0.8s,mb4.3						
SONM	**Songino Array**	**28.16**	**311**	P	**P**	**01 22 11.6**	**-0.1**
	1.5nm,0.5s,mb3.7,baz=106,slow=7.3,SNR=14						
ZAL	**Zalesovo**	**42.83**	**316**	P	**P**	**01 24 14.3**	**-0.5**
	1.5nm,0.4s,mb3.6,baz=354,slow=9.2,SNR=4.2						
ZAL	**Zalesovo**	**42.83**	**316**	P	**P**	**01 24 14.3**	**-0.5**
MKAR	**Makanchi Array**	**44.19**	**305**	P	**P**	**01 24 25.9**	**+0.1**
	0.9nm,0.3s,mb3.5,baz=85,slow=9.3,SNR=18						
KURK	**Kurchatov**	**46.47**	**311**	*eP*	**P**	**01 24 43.1**	**-0.5**
	2.0nm,0.3s,mb3.9						
BVAR	**Borovoye Array**	**51.42**	**314**	P	**P**	**01 25 20.9**	**-0.1**
	1.1nm,0.4s,mb3.5,baz=96,slow=6.5,SNR=15						
BVAR				PcP	PcP	01 26 31.3	0.0
	0.4nm,0.4s,baz=103,slow=1.6,SNR=4.3						
BRVK	**Borovoye**	**51.48**	**314**	*eP*	**P**	**01 25 21.5**	**+0.1**
	0.7nm,0.6s,mb3.2						
WRAB	**Tennant Creek**	**52.91**	**185**	*eP*	**P**	**01 25 32.0**	**-0.4**
WRA	**Warramunga Arr**	**52.92**	**185**	P	**P**	**01 25 32.0**	**-0.5**
	1.0nm,0.3s,mb3.6,baz=360,slow=7.6,SNR=14						
ILAR	**Eielson Array**	**54.11**	**31**	P	**P**	**01 25 41.9**	**+1.4**
	0.6nm,0.8s,mb3.0,baz=283,slow=7.1,SNR=7.0						
ARCES	**ARCESS Array B**	**66.75**	**339**	P	**P**	**01 27 06.1**	**+1.0**
	3.9nm,1.1s,mb4.0,baz=67,slow=8.0,SNR=7.1						
KAF	**Kangasniemi**	**70.61**	**332**	*ep*	**P**	**01 27 28.7**	**-0.1**
FINES	**FINESS Array B**	**71.08**	**332**	P	**P**	**01 27 32.3**	**+0.7**
	1.2nm,0.5s,mb3.8,baz=54,slow=6.0,SNR=13						
AKASG	**Malin Array Be**	**75.82**	**322**	P	**P**	**01 27 59.1**	**-0.2**
	0.5nm,0.4s,mb3.5,baz=51,slow=5.7,SNR=7.9						
NB2	**NORSAR Subarra**	**76.78**	**337**	P	**P**	**01 28 04.7**	**+0.4**
	0.8nm,0.5s,mb3.7,baz=44,slow=5.3						
NOA	**NORSAR Array B**	**76.78**	**337**	P	**P**	**01 28 05.2**	**+0.9**
	1.0nm,0.5s,mb3.8,baz=44,slow=5.5,SNR=6.4						
PPT	**Papeete**	**85.22**	**114**	*e*LQ		01 29 15.2	
PPT				*e*LR	LR	01 30 56.5	
	204nm,25.8s,baz=184						
TXAR	**Lajitas Array**	**94.50**	**51**	P	**P**	**01 29 35.4**	**+3.2**
	0.3nm,0.6s,mb3.5,baz=276,slow=2.9,SNR=5.6						
TXAR	**Lajitas Array**	**94.50**	**51**	P	**P**	**01 29 35.4**	**+3.2**

*MDD **01** 01:41:44.9±0.6, 35.59N×0.21E, h12km±9km, mb4.2/26, Error ellipse: s-maj=9.1km s-min=3.8km az=152.0, PRXIMO*
*CRAAG **01** 01:41:45.6, 35.66N×0.28E, Ml4.0*
*INMG **01** 01:41:45.3±0.9, 35.68N×0.08E, h7km±8km, ML2.8, Error ellipse: s-maj=7.1km s-min=3.5km az=141.0*
*NEIC **01** 01:41:45.5, 35.55N×0.17E, h16km, MG4.2(MDD), After MDD.*
*LDG **01** 01:41:46.5±0.4, 35.56N×0.12E, h10km, Ml3.1/6, Error ellipse: s-maj=8.3km s-min=3.4km az=156.0*
*CSEM **01** 01:41:46.1±0.2, 35.65N×0.05E, h10km, ML3.1/17, Error ellipse: s-maj=3.3km s-min=2.9km az=143.0*

ISC 01 01:41:43.5±0.4, 35.75N±0.03×0.10E±0.02, h10km, n119, σ1§28/180, 1D, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ODJA	**Bouhanifia**	**0.46**	**206**	P	**Pg**	**01 41 54.0**	**+1.1**
USTO	**Oran**	**0.53**	**269**	P	**Pg**	**01 41 59.0**	**+4.9**
OKGL	**Djebel Kef Gue**	**0.53**	**57**	P	**Pg**	**01 41 55.6**	**+1.3**
EANR	**`Ain N'Sour**	**0.84**	**76**	P	**Pb**	**01 41 59.5**	**-0.2**
ETRT	**Tiaret**	**1.04**	**109**	P	**Pb**	**01 42 01.0**	**-2.2**
ECHF	**Ech Chlef**	**1.09**	**68**	P	**Pb**	**01 42 03.0**	**-1.0**
ECHA	**Ech Chlef**	**1.11**	**68**	P	**Pb**	**01 42 03.0**	**-1.3**
ODZI	**Dziouia**	**1.17**	**248**	P	**Pb**	**01 41 55.0**	**-10**
EBNR	**Beni Rached**	**1.28**	**65**	P	**Pb**	**01 42 06.2**	**-1.1**
OLHC	**Oulhaca**	**1.33**	**249**	P	**Pb**	**01 41 56.0**	**-12**
CART	**Cartagena**	**2.04**	**335**	⇓*e*P	**Pn**	**01 42 18.8**	**+0.5**
CART				*e*S	**Sn**	**01 42 43.0**	**-1.0**
EMUR	**La Murta**	**2.35**	**333**	P	**Pn**	**01 42 23.7**	**+0.8**
	6.9nm,0.1s,SNR=7.9						
EMUR				S	**Sn**	**01 42 53.3**	**+1.3**
	14nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**2.35**	**333**	Pn	**Pn**	**01 42 23.6**	**+0.8**
	7.8nm,0.1s,SNR=7.9						
EMUR				Sn	**Sn**	**01 42 53.3**	**+1.3**
	14nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**2.35**	**333**	Pn	**Pn**	**01 42 23.6**	**+0.8**
EMUR				Sn	**Sn**	**01 42 53.3**	**+1.3**
EMHD	**Djebel Mahouad**	**2.36**	**78**	P	**Pn**	**01 42 21.9**	**-1.1**
EMLI	**Melilla**	**2.52**	**261**	Pn	**Pn**	**01 42 25.4**	**+0.1**
	36nm,0.4s,SNR=5.9						
EMLI				Sn	**Sn**	**01 42 54.9**	**-1.5**
	21nm,0.3s,SNR=7.9						
EMEL	**Melilla**	**2.53**	**261**	P	**Pn**	**01 42 25.4**	**+0.1**
	36nm,0.4s,SNR=5.9						
EMEL				S	**Sn**	**01 42 54.9**	**-1.6**
	21nm,0.3s,SNR=7.9						
EALB	**Alboran**	**2.55**	**275**	P	**Pn**	**01 42 25.8**	**+0.2**
	16nm,0.4s,SNR=20						
EALB				S	**Sn**	**01 42 57.6**	**+0.5**
	12nm,0.2s,SNR=7.9						
EALB	**Alboran**	**2.55**	**275**	Pn	**Pn**	**01 42 25.7**	**+0.1**
	16nm,0.4s,SNR=20						
EALB				Sn	**Sn**	**01 42 57.6**	**+0.6**
	12nm,0.2s,SNR=7.9						
EALB	**Alboran**	**2.55**	**275**	Pn	**Pn**	**01 42 25.7**	**+0.1**
EALB				Sn	**Sn**	**01 42 57.6**	**+0.5**
ABA	**Alger-Bouzarea**	**2.60**	**65**	P	**Pn**	**01 42 31.9**	**+5.6**
EBER	**Berja**	**2.67**	**296**	P	**Pn**	**01 42 28.3**	**+1.0**
	30nm,0.3s,SNR=104						
EBER				S	**Sn**	**01 43 00.9**	**+0.8**
	15nm,0.2s,SNR=7.9						
EBER	**Berja**	**2.67**	**296**	Pn	**Pn**	**01 42 28.4**	**+1.0**
EBER				Sn	**Sn**	**01 43 00.9**	**+0.8**
	15nm,0.2s,SNR=7.9						
EBER	**Berja**	**2.67**	**296**	Pn	**Pn**	**01 42 28.4**	**+1.0**
EBER				Sn	**Sn**	**01 43 00.9**	**+0.8**
ADJB	**Djebel Djouab**	**2.74**	**80**	P	**Pn**	**01 42 26.8**	**-1.6**
EBEN	**Beniarda**	**2.96**	**355**	P	**Pn**	**01 42 32.6**	**+1.0**
	7.4nm,0.3s,SNR=46						
EBEN				S	**Sn**	**01 43 08.9**	**+1.4**
	3.5nm,0.1s,SNR=7.9						
EBEN	**Beniarda**	**2.96**	**355**	Pn	**Pn**	**01 42 33.8**	**+2.2**
	7.4nm,0.3s,SNR=46						
EBEN				Sn	**Sn**	**01 43 08.3**	**+0.8**
	3.5nm,0.1s,SNR=7.9						
EBEN	**Beniarda**	**2.96**	**355**	Pn	**Pn**	**01 42 33.8**	**+2.2**
EBEN				Sn	**Sn**	**01 43 08.3**	**+0.7**
AKET	**Djebel Ketaf**	**3.09**	**83**	P	**Pn**	**01 42 32.7**	**-0.6**
ETOB	**Tobarra**	**3.18**	**336**	P	**Pn**	**01 42 36.5**	**+1.9**
	23nm,0.3s,SNR=705						
ETOB				S	**Sn**	**01 43 14.3**	**+1.4**
	8.7nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**3.18**	**336**	Pn	**Pn**	**01 42 36.5**	**+1.9**
	23nm,0.3s,SNR=705						
ETOB				Sn	**Sn**	**01 43 14.3**	**+1.4**
	8.7nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**3.18**	**336**	Pn	**Pn**	**01 42 36.5**	**+1.9**
ETOB				Sn	**Sn**	**01 43 14.3**	**+1.4**
EQES	**Quesada**	**3.27**	**310**	P	**Pn**	**01 42 38.6**	**+2.7**
	119nm,0.7s,SNR=324						
EQES				S	**Sn**	**01 43 15.6**	**+0.3**
	3.6nm,0.1s,SNR=7.9						
EQES	**Quesada**	**3.27**	**310**	Pn	**Pn**	**01 42 39.0**	**+3.1**
	119nm,0.7s,SNR=324						
EQES				Sn	**Sn**	**01 43 15.6**	**+0.4**
	3.6nm,0.1s,SNR=7.9						
EQES	**Quesada**	**3.27**	**310**	Pn	**Pn**	**01 42 39.0**	**+3.1**
EQES				Sn	**Sn**	**01 43 15.6**	**+0.4**
EIBI	**Ibiza**	**3.42**	**17**	P	**Pn**	**01 42 37.9**	**-0.2**
	14nm,0.4s,SNR=30						
EIBI				S	**Sn**	**01 43 18.8**	**-0.3**
	4.0nm,0.1s,SNR=7.9						
EIBI	**Ibiza**	**3.42**	**17**	Pn	**Pn**	**01 42 39.1**	**+1.0**
	14nm,0.4s,SNR=30						
EIBI				Sn	**Sn**	**01 43 19.1**	**-0.1**
	4.0nm,0.1s,SNR=7.9						
EIBI	**Ibiza**	**3.42**	**17**	Pn	**Pn**	**01 42 39.1**	**+1.0**
EIBI				Sn	**Sn**	**01 43 19.1**	**-0.1**
EMIJ	**Mijas**	**4.02**	**283**	P	**Pn**	**01 42 45.5**	**-1.1**
	10nm,0.3s,SNR=157						
EMIJ				S	**Sn**	**01 43 32.9**	**-1.5**
	6.2nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**4.02**	**283**	Pn	**Pn**	**01 42 45.4**	**-1.2**
	10nm,0.3s,SNR=157						
EMIJ				Sn	**Sn**	**01 43 31.4**	**-2.9**
	6.2nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**4.02**	**283**	Pn	**Pn**	**01 42 45.4**	**-1.2**
EMIJ				Sn	**Sn**	**01 43 31.4**	**-2.9**
CKHR	**Kef el Ahmar**	**4.41**	**85**	P	**Pn**	**01 42 53.0**	**+0.9**
EADA	**Adamuz**	**4.46**	**304**	P	**Pn**	**01 42 53.5**	**+0.8**
	4.1nm,0.6s,SNR=15						
EADA				S	**Sn**	**01 43 43.8**	**-1.4**
	0.5nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**4.46**	**304**	Pn	**Pn**	**01 42 53.7**	**+1.0**
	4.1nm,0.6s,SNR=15						
EADA				Sn	**Sn**	**01 43 43.9**	**-1.4**
	0.5nm,0.3s,SNR=7.9						
ETOS	**Mallorca**	**4.56**	**27**	P	**Pn**	**01 42 53.4**	**-0.7**
	3.3nm,0.3s,SNR=12						
ETOS				S	**Sn**	**01 43 45.1**	**-2.7**
	2.7nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**4.56**	**27**	Pn	**Pn**	**01 42 53.6**	**-0.6**
	3.3nm,0.3s,SNR=12						
ETOS				Sn	**Sn**	**01 43 47.0**	**-0.9**
	2.7nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**4.56**	**27**	Pn	**Pn**	**01 42 53.6**	**-0.5**
ETOS				Sn	**Sn**	**01 43 47.0**	**-0.9**
EMOS	**Mosqueruela**	**4.63**	**355**	P	**Pn**	**01 42 56.7**	**+1.4**
	9.6nm,0.3s,SNR=44						
EMOS				S	**Sn**	**01 43 49.2**	**-0.6**
	0.6nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**4.63**	**355**	Pn	**Pn**	**01 42 57.3**	**+2.0**
	9.6nm,0.3s,SNR=44						
EMOS	

2.3nm,0.5s
PCBR Castelo Branco 7.25 307 *e*Pn **Pn 01 43 31.7 -0.5**
PCBR *e*Sn **Sn 01 44 51.2 -4.3**
4.0nm,0.6s
EPF Esparros 7.28 1 *e*Pn **Pn 01 43 34.3 +1.8**
EPF *e*Sn **Sn 01 44 54.0 -2.1**
0.5nm,0.2s
PTEO Sao Teotonio 7.31 287 *e*Pn **Pn 01 43 32.3 -0.7**
SJPF Ste Jean 7.43 353 *e*Pn **Pn 01 43 36.4 +1.7**
EALK Alkurruntz 7.57 351 P **Pn 01 43 36.0 -0.5**
0.4nm,0.4s,SNR=7.9
EALK Alkurruntz 7.57 351 Pn **Pn 01 43 38.3 +1.7**
0.4nm,0.4s,SNR=7.9
EALK Alkurruntz 7.57 351 Pn **Pn 01 43 38.3 +1.7**
MTE Manteigas 7.61 310 *e*Pn **Pn 01 43 37.9 +0.8**
MTLF Montolieu 7.76 12 *e*Pn **Pn 01 43 39.8 +0.5**
PTOM Tomar 7.77 302 *e*Pn **Pn 01 43 39.1 -0.4**
ELAN Lanestosa 7.96 341 P **Pn 01 43 43.1 +1.0**
1.7nm,0.3s,SNR=10
ELAN Lanestosa 7.96 341 Pn **Pn 01 43 43.3 +1.3**
1.7nm,0.3s,SNR=10
ELAN Lanestosa 7.96 341 Pn **Pn 01 43 43.3 +1.3**
ECAL Calabor 8.16 321 P **P 01 43 45.9 +1.0**
8.0nm,0.5s,SNR=9.7
ECAL Calabor 8.16 321 Pn **P 01 43 45.9 +1.0**
8.0nm,0.5s,SNR=9.7
EARI Arriondas 8.59 333 P **P 01 43 51.5 +0.8**
8.6nm,0.5s,SNR=21
EARI Arriondas 8.59 333 Pn **P 01 43 51.8 +1.0**
8.6nm,0.5s,SNR=21
EARI Arriondas 8.59 333 Pn **P 01 43 51.8 +1.0**
LASF Ste Croix 8.81 18 *e*Pn **P 01 43 53.4 -0.5**
ELOB Lobios 8.82 316 P **P 01 43 54.0 -0.1**
0.3nm,0.1s,SNR=7.9
ELOB Lobios 8.82 316 Pn **P 01 43 53.8 -0.3**
0.3nm,0.1s,SNR=7.9
ELOB Lobios 8.82 316 Pn **P 01 43 53.8 -0.3**
LMR La Mourre 9.05 31 *e*Pn **P 01 43 56.5 -0.7**
LMR *e*Sn **Sn 01 45 34.0 -6.3**
1.2nm,0.3s
LFF La Frestale 9.20 3 *e*Pn **P 01 43 59.5 +0.2**
LFF *e*Sn **Sn 01 45 39.9 -4.0**
0.9nm,0.2s
CAF Calviac 9.29 9 *e*Pn **P 01 43 59.5 -1.1**
FRF La Foret Royal 9.29 31 *e*Pn **P 01 43 59.9 -0.7**
FRF *e*Sn **Sn 01 45 38.7 -7.6**
1.8nm,0.4s
EPON Pontenova 9.41 326 P **P 01 44 02.0 -0.2**
5.2nm,0.4s,SNR=11
EPON Pontenova 9.41 326 Pn **P 01 44 02.4 +0.2**
5.2nm,0.4s,SNR=11
EPON Pontenova 9.41 326 Pn **P 01 44 02.4 +0.2**
RJF Les Rejaudoux 9.61 6 *e*Pn **P 01 44 06.3 +1.4**
VIVF Saint-Julien-l 9.75 20 *e*Pn **P 01 44 06.5 -0.3**
SBF Sospel 9.88 33 *e*Pn **P 01 44 08.6 0.0**
TCF Toulx Ste Croi 10.65 8 *e*Pn **P 01 44 17.7 -1.5**
AVF Avril sur Loir 11.30 11 *e*Pn **P 01 44 27.4 -0.7**
HYF Humbligny 11.67 9 *e*Pn **P 01 44 34.8 +1.7**
QUIF Quistinic 12.40 350 *e*Pn **P 01 44 43.7 +0.8**
SGMF Saint Gilles 12.65 352 *e*Pn **P 01 44 46.8 +0.5**
ROSF Rostrenen 12.83 350 *e*Pn **P 01 44 49.6 +1.0**

IDC 01 01:50:14.7±3.9, 1.55N×97.91E, mb3.8/4, mb1 4.0/4, mb1mx3.7/18, mbtmp3.8/4, Error ellipse: s-maj=154.0km s-min=27.4km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.63**	**123**	P	P	01 58 04.8	-1.8
	0.3nm,0.5s,baz=303,slow=9.2,SNR=3.1						
SONM	**Songino Array**	**46.68**	**8**	P	P	01 58 45.8	-1.2
	0.9nm,0.6s,baz=190,slow=8.8,SNR=8.3						
MKAR	**Makanchi Array**	**47.08**	**345**	P	P	01 58 48.0	-2.2
	0.7nm,0.6s,baz=157,slow=8.0,SNR=7.1						
ZAL	**Zalesovo**	**53.32**	**350**	P	P	01 59 35.0	-2.7
	1.1nm,0.3s,baz=300,slow=10,SNR=6.0						

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*IDC **01** 01:56:23.5±0.9, 46.89S×33.57E, mb4.2/6, mb1 4.2/8, mb1mx4.0/19, mbtmp4.2/8, ML4.1/2, MS3.8/14, Ms1 3.8/14, ms1mx3.8/22, Error ellipse: s-maj=48.2km s-min=16.1km az=73.0*
*NEIC **01** 01:56:24.6±0.5, 46.83S×33.58E, h10km, mb4.4/7, Error ellipse: s-maj=21.4km s-min=8.1km az=74.0*
ISC 01 01:56:23.1±0.6, 46.91S±0.09×33.4E±0.3, h10km, n37, σ0§74/30, mb4.2/9, MS3.8/12, 5C-1D, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**17.43**	**322**	P	P	**02 00 27.2**	**-0.5**
	1.1nm,0.3s,baz=146,slow=13,SNR=10						
SUR				LR	LR	02 05 60.0	
	comp=Z,484nm,20.4s,baz=155,slow=33						
SUR	**Sutherland**	**17.43**	**322**	*e*P	P	**02 00 26.8**	**-1.0**
	4.9nm,0.6s						
SUR				LR	LR	02 05 60.0	
BOSA	**Boshof**	**19.35**	**338**	P	P	**02 00 51.0**	**-0.3**
	0.3nm,0.3s,baz=169,slow=11,SNR=13						
BOSA				LR	LR	02 06 44.1	
	comp=Z,419nm,20.3s,baz=152,slow=32						
BOSA	**Boshof**	**19.35**	**338**	*e*P	P	**02 00 49.9**	**-1.4**
	3.9nm,0.7s						
BOSA				LR	LR	02 06 44.1	
SYO	**Syowa Base**	**22.38**	**174**	⇓P	P	**02 01 21.2**	**-1.4**
LBTB	**Lobatse**	**22.72**	**341**	P	P	**02 01 27.6**	**+1.4**
	4.5nm,0.8s,mb4.0,baz=182,slow=9.3,SNR=6.8						
LBTB				LR	LR	02 08 57.2	
	comp=Z,334nm,19.3s,MS3.8,baz=194,slow=33						
LBTB	**Lobatse**	**22.72**	**341**	*e*P	P	**02 01 27.3**	**+1.0**
	9.3nm,1.1s,mb4.1						
LBTB				LR	LR	02 08 57.2	
MAW	**Mawson**	**25.69**	**154**	P	P	**02 01 54.7**	**+0.4**
	12nm,0.8s,mb4.5,baz=298,slow=13,SNR=21						
MAW				LR	LR	02 09 46.5	
	comp=Z,157nm,18.4s,MS3.6,baz=138,slow=31						
MAW	**Mawson**	**25.69**	**154**	*e*P	P	**02 01 54.3**	**-0.1**
	22nm,1.0s,mb4.6						
MAW				LR	LR	02 09 46.5	
MATP	**Matopo**	**26.72**	**350**	P	P	**02 02 04.8**	**+0.4**
	0.7nm,0.7s,mb3.3,baz=260,slow=11,SNR=3.7						
MATP				LR	LR	02 11 08.4	
	comp=Z,176nm,19.6s,MS3.6,baz=175,slow=33						
SNAA	**Sanae**	**30.07**	**202**	⇑*i*	P	**02 02 34.3**	**+0.1**
SNAA	**Sanae**	**30.07**	**202**	*e*	P	**02 02 38.9**	**+4.7**
SNAA	**Sanae**	**30.07**	**202**	*e*	P	**02 02 51.6**	**+17**
SNAA	**Sanae**	**30.07**	**202**	P	P	**02 02 34.5**	**+0.4**
	0.6nm,0.5s,mb3.6,baz=78,slow=5.7,SNR=13						
SNAA				LR	LR	02 11 45.2	
	comp=Z,48nm,18.5s,MS3.2,baz=234,slow=31						
SNAA	**Sanae**	**30.07**	**202**	⇑*i*P	P	**02 02 34.3**	**+0.1**
SNAA				*e*	pP	02 02 38.9	+1.8
SNAA				*e*		02 02 51.6	
SNAA				*e*		02 16 32.0	
TSUM	**Tsumeb**	**30.53**	**329**	LR	LR	02 13 46.7	
	comp=Z,426nm,19.4s,MS4.1,baz=126,slow=34						
VNA2	**Neumayer--Watz**	**30.90**	**205**	*e*	P	**02 02 49.2**	**+7.7**
VNA2	**Neumayer--Watz**	**30.90**	**205**	*e*	P	**02 02 59.5**	**+18**
VNA2	**Neumayer--Watz**	**30.90**	**205**	⇑*i*P	P	**02 02 42.2**	**+0.7**
VNA2				*e*		02 02 49.2	
VNA2				*e*		02 02 59.5	
VNA2				*e*		02 16 37.6	
VNA1	**Neumayer--Stat**	**31.02**	**205**	*e*	P	**02 02 48.7**	**+6.1**
VNA1	**Neumayer--Stat**	**31.02**	**205**	*e*	P	**02 03 00.2**	**+18**
VNA1	**Neumayer--Stat**	**31.02**	**205**	⇑*i*P	P	**02 02 43.7**	**+1.1**
VNA1				*e*		02 02 48.7	
VNA1				*e*		02 03 00.2	
VNA1				*e*		02 16 35.6	
VNA3	**Neumayer Olymp**	**31.71**	**205**	⇑*i*	P	**02 02 48.8**	**+0.2**
VNA3	**Neumayer Olymp**	**31.71**	**205**	*e*	P	**02 02 54.0**	**+5.4**
VNA3	**Neumayer Olymp**	**31.71**	**205**	*e*	P	**02 03 04.2**	**+16**
CASY	**Casey**	**43.31**	**145**	*e*P	P	**02 04 26.0**	**-0.2**
	6.4nm,1.2s,mb4.2						
QSPA	**South Pole Qui**	**43.31**	**180**	*e*P	P	**02 04 26.0**	**0.0**
	20nm,1.3s,mb4.7						
KMBO	**Kilima Mbogo**	**45.72**	**5**	LR	LR	02 21 04.9	
	comp=Z,119nm,20.7s,MS3.8,baz=270,slow=32						
VNDA	**Vanda**	**51.84**	**167**	P	P	**02 05 32.9**	**+0.1**
	5.4nm,0.7s,mb4.6,baz=238,slow=9.4,SNR=26						
VNDA				LR	LR	02 25 33.4	
	comp=Z,215nm,21.3s,MS4.2,baz=220,slow=34						
SBA	**Scott Base**	**52.28**	**169**	*e*P	P	**02 05 36.9**	**+0.8**
	16nm,1.2s,mb4.8						
DBIC	**Dimbokro**	**63.22**	**316**	LR	LR	02 30 20.4	
	comp=Z,85nm,20.2s,MS3.9,baz=145,slow=32						
PLCA	**Paso Flores**	**69.68**	**232**	LR	LR	02 33 11.0	
	comp=Z,54nm,18.5s,MS3.8,baz=248,slow=32						
CPUP	**Villa Florida**	**71.76**	**251**	LR	LR	02 35 24.2	
	comp=Z,36nm,19.0s,MS3.7,baz=159,slow=33						
BDFB	**Brasilia**	**72.95**	**265**	LR	LR	02 32 06.1	
	comp=Z,82nm,21.7s,MS4.0,baz=320,slow=29						
STKA	**Stephens Creek**	**78.42**	**124**	P	P	**02 08 25.0**	**-0.3**
	2.4nm,0.9s,mb4.1,baz=183,slow=10,SNR=3.2						
STKA	**Stephens Creek**	**78.42**	**124**	P	P	**02 08 25.0**	**-0.3**
GERES	**GERESS Array B**	**96.90**	**347**	LR	LR	02 58 04.4	
	comp=Z,50nm,20.4s,MS4.0,baz=49,slow=38						

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*CSEM **01** 02:02:14.6±0.1, 39.43N×33.08E, h2km, MD4.0, Error ellipse: s-maj=1.4km s-min=1.1km az=2.0*
*ISK **01** 02:02:15.5, 39.41N×33.08E, h7km, MD4.0, ML4.1*
*NEIC **01** 02:02:15.0, 39.43N×33.07E, h10km, ML4.0(ISK), After ISK.*
*IDC **01** 02:02:16.0±1.8, 39.49N×33.06E, mb3.5/4, mb1 3.5/7, mb1mx3.4/20, mbtmp3.4/7, ML3.4/3, Error ellipse: s-maj=23.9km s-min=8.5km az=177.0*
ISC 01 02:02:15.3±0.2, 39.39N±0.02×33.10E±0.02, h2km, n76, σ0§85/88, mb3.4/4, 3C-4D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAMT	**Kaman**	**0.48**	**92**	*i* PG	Pg	**02 02 24.8**	**0.0**
ANTO	**Ankara**	**0.54**	**334**	*i* PG	Pg	**02 02 25.5**	**-0.5**
ANTO				*i* SG	Sg	02 02 33.7	+0.6
ANTO	**Ankara**	**0.54**	**334**	*i* P	Pg	**02 02 26.3**	**+0.3**
ANTO				*i* S	Sg	02 02 34.3	+1.2
BRTR	**Keskin Array B**	**0.54**	**51**	Pg	Pg	**02 02 25.3**	**-0.7**
	294nm,0.3s,baz=222,slow=19,SNR=376						
BRTR				Lg		02 02 33.3	
	1μm,0.3s,baz=219,slow=29,SNR=146						
LOD	**Lodumlu**	**0.56**	**333**	*i* PG	Pg	**02 02 26.5**	**-0.1**
CDAG	**Cicekdag**	**1.01**	**76**	*i* P	Pb	**02 02 34.4**	**-0.8**
CDAG				*i* S	Sb	02 02 48.5	-0.3
KIZT	**Kizilcal**	**1.08**	**242**	*i* PG	Pg	**02 02 36.0**	**-0.8**
ELDT	**Eldivan**	**1.13**	**13**	*i* P	Pb	**02 02 36.6**	**-0.6**
ELDT				*i* S	Sb	02 02 53.5	+1.3
CANT	**Cankiri**	**1.28**	**18**	*i* PN	Pn	**02 02 40.1**	**-0.1**
CANT				*i* SN	Sn	02 02 58.3	+0.2
CORM	**Corum**	**1.42**	**56**	*i* PN	Pn	**02 02 42.3**	**+0.1**
SGKT	**Sivrigoynuk**	**1.43**	**326**	*i* P	Pn	**02 02 42.8**	**+0.5**
SGKT				*i* S	Sb	02 03 02.8	+1.8
KONT	**Konya--Tatoy**	**1.55**	**202**	*i* PN	Pn	**02 02 44.8**	**+0.7**
YOZ	**Yozgat**	**1.74**	**81**	*i* PN	Pn	**02 02 46.8**	**+0.1**
NIG	**Nigde**	**1.74**	**137**	PN	Pn	**02 02 47.5**	**+0.8**
ESKT	**Eskisehir**	**1.75**	**275**	*i* P	Pn	**02 02 46.6**	**-0.2**
ESKT				*i* S	Sn	02 03 12.7	+2.7
ESKT	**Eskisehir**	**1.75**	**275**	*i* Pn	Pn	**02 02 46.9**	**+0.1**
TOS	**Tosya**	**1.79**	**23**	*i* PN	Pn	**02 02 47.4**	**-0.1**
SAFT	**Safranbolu**	**1.88**	**350**	PN	Pn	**02 02 47.5**	**-1.2**
BALT	**Daday**	**2.16**	**6**	*i* P	Pn	**02 02 52.7**	**0.0**
BALT				*i* S	Sn	02 03 22.8	+2.5
BNN	**Bunyan**	**2.20**	**103**	PN	Pn	**02 02 54.1**	**+0.7**
HENT	**Hendek**	**2.21**	**311**	*i* P	Pg	**02 02 57.4**	**-2.1**
HENT				*i* S	Sg	02 03 30.8	+1.8
GPA	**Golpazari**	**2.33**	**294**	PN	Pn	**02 02 54.6**	**-0.6**
ALT	**Altintas**	**2.35**	**263**	PN	Pn	**02 02 55.6**	**+0.2**
BYBT	**Boyabat**	**2.44**	**31**	PN	Pn	**02 02 56.9**	**+0.2**
BOYT	**Boyabat**	**2.45**	**34**	*i* P	Pn	**02 02 56.8**	**-0.2**
BOYT				*i* S	Sn	02 03 28.2	+0.2
HDMB	**Hadim**	**2.47**	**191**	PN	Pn	**02 02 57.4**	**+0.2**
ISP	**Isparta**	**2.55**	**234**	PN	Pn	**02 02 58.2**	**-0.1**
ISP	**Isparta**	**2.55**	**234**	*e*P	Pn	**02 02 58.0**	**-0.3**
ISP	**Isparta**	**2.55**	**234**	*e*Pn	Pn	**02 02 58.2**	**-0.1**
ISP	**Isparta**	**2.55**	**234**	*e*P	Pn	**02 02 58.0**	**-0.4**
EYL	**Eskiyayla**	**2.55**	**298**	*e*PN	Pn	**02 02 58.4**	**+0.1**
TKTP	**Tekketepe**	**2.56**	**239**	*i* P	Pn	**02 02 58.8**	**+0.3**
BZK	**Bozkurt**	**2.66**	**15**	PN	Pn	**02 02 59.0**	**-0.9**
BCK	**Bucak**	**2.75**	**226**	PN	Pn	**02 03 01.4**	**+0.1**
TOKT	**Tokat**	**2.81**	**70**	PN	Pn	**02 03 01.8**	**-0.3**
KVT	**Kavak**	**2.82**	**52**	PN	Pn	**02 03 01.4**	**-0.8**
KHL	**Karahalli**	**2.99**	**250**	PN	Pn	**02 03 04.4**	**-0.2**
HRT	**Hereke**	**3.00**	**300**	PN	Pn	**02 03 04.1**	**-0.6**
YLV	**Yalova**	**3.10**	**294**	PN	Pn	**02 03 05.9**	**-0.2**
ANTB	**Antalya**	**3.14**	**219**	*e*PN	Pn	**02 03 07.5**	**+0.7**
CEYT	**Ceyhan**	**3.16**	**138**	*e*PN	Pn	**02 03 08.0**	**+1.0**
IKL	**Isikli**	**3.18**	**171**	*e*PN	Pn	**02 03 08.0**	**+0.7**
ORLT	**Orhaneli**	**3.31**	**283**	*e*PN	Pn	**02 03 08.5**	**-0.6**
DST	**Dursunbey**	**3.47**	**275**	*e*PN	Pn	**02 03 11.0**	**-0.4**
ISK	**Istanbul-Kandi**	**3.52**	**300**	*e*PN	Pn	**02 03 11.4**	**-0.7**
DENT	**Denizli**	**3.58**	**244**	*e*PN	Pn	**02 03 13.4**	**+0.4**
ELL	**Elmali**	**3.65**	**225**	*e*PN	Pn	**02 03 14.0**	**+0.1**
GAZ	**Gaziantep**	**3.92**	**123**	*e*PN	Pn	**02 03 18.8**	**+1.0**
CTT	**Catalca**	**3.98**	**298**	*e*PN	Pn	**02 03 17.5**	**-1.2**
BALB	**Balikesir**	**4.04**	**275**	*e*PN	Pn	**02 03 19.6**	**0.0**
HTY	**Hatay**	**4.05**	**143**	*e*PN	Pn	**02 03 20.6**	**+0.9**
BNT	**Bandirma**	**4.10**	**285**	*e*PN	Pn	**02 03 20.4**	**0.0**
AKS	**Akhisar**	**4.14**	**265**	*e*PN	Pn	**02 03 21.3**	**+0.3**
MALT	**Malatya**	**4.29**	**103**	*e*P	Pn	**02 03 22.1**	**-1.1**
MALT	**Malatya**	**4.29**	**103**	*e*P	Pn	**02 03 22.1**	**-1.0**
MALT				*e*		02 03 33.4	
MALT				S	Sn	**02 04 31.3**	**+17**
YER	**Yerkesik**	**4.41**	**241**	*e*PN	Pn	**02 03 24.5**	**-0.3**
CSS	**Prodhromos**	**4.42**	**178**	P	Pn	**02 03 20.8**	**-4.2**
CSS	**Prodhromos**	**4.42**	**178**	P	Pn	**02 03 20.8**	**-4.2**
CANB	**Canakkale**	**4.70**	**280**	*e*PN	Pn	**02 03 28.7**	**-0.2**
URFA	**Urfa**	**4.90**	**112**	*e*PN	Pn	**02 03 32.5**	**+0.8**
PTK	**Pertek**	**4.92**	**94**	*e*PN	Pn	**02 03 32.4**	**+0.4**
TIRR	**Tirgusor**	**6.16**	**327**	⇑P	Pn	**02 03 52.2**	**+2.7**
EZM	**Erzurum**	**6.40**	**83**	*e*PN	Pn	**02 03 53.4**	**+0.5**
CFR	**Carcaliu**	**6.86**	**329**	⇓P	Pn	**02 04 07.4**	**+8.1**
CFR	**Carcaliu**	**6.86**	**329**	⇓P	Pn	**02 04 07.4**	**+8.1**
IDI	**Anoyia**	**7.71**	**241**	Pn	Pn	**02 04 10.3**	**-1.1**
	0.5nm,0.3s,baz=37,slow=7.8,SNR=6.0						
MLR	**Muntele Rosu**	**8.07**	**321**	Pn	P	**02 04 14.0**	**-2.4**
	0.1nm,0.3s,baz=203,slow=5.1,SNR=3.5						
MLR				Sn	Sn	**02 05 44.5**	**-4.8**
	0.5nm,0.3s,baz=126,slow=19,SNR=4.1						
MLR	**Muntele Rosu**	**8.07**	**321**	⇑P	P	**02 04 16.5**	**+0.1**
MLR	**Muntele Rosu**	**8.07**	**321**	⇑P	P	**02 04 16.4**	**+0.1**
BURAR	**Bucovina Array**	**10.02**	**328**	⇓P	P	**02 04 41.7**	**-1.5**
BURAR	**Bucovina Array**	**10.02**	**328**	⇓P	P	**02 04 41.7**	**-1.5**
AKASG	**Malin Array Be**	**11.64**	**348**	Pn	P	**02 04 59.5**	**-5.9**
	0.5nm,0.3s,baz=160,slow=12,SNR=4.4						
FINES	**FINESS Array B**	**22.50**	**351**	P	P	**02 07 16.3**	**-0.9**
	1.4nm,0.6s,mb3.6,baz=157,slow=11,SNR=12						
HFS	**Hagfors**	**24.08**	**336**	P	P	**02 07 31.7**	**-0.9**
	2.1nm,0.9s,mb3.6,baz=141,slow=9.5,SNR=4.3						
NOA	**NORSAR Array B**	**25.57**	**335**	P	P	**02 07 46.7**	**-0.1**
	0.7nm,0.8s,mb3.2,baz=132,slow=8.2,SNR=2.8						
MKAR	**Makanchi Array**	**36.18**	**62**	P	P	**02 09 19.9**	**-1.0**
	0.3nm,0.7s,mb3.3,baz=243,slow=9.7,SNR=2.6						

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*IDC **01** 02:03:35.3±0.8, 27.69S×179.04W, h334km±9km, mb3.6/9, mb1 3.9/11, mb1mx3.8/15, mbtmp4.4/11, Error ellipse: s-maj=18.8km s-min=15.0km az=136.0*
*NEIC **01** 02:03:35.4±0.9, 27.61S×179.01W, h339km±9km, mb4.2/3, Error ellipse: s-maj=15.9km s-min=12.1km az=126.0*
ISC 01 02:03:35.2±0.8, 27.94S±0.07×179.2W±0.1, h336km±8km, n56, σ1§12/42, mb3.6/10, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.75**	**139**	P	P	**02 04 25.3**	**+1.6**
	948nm,0.3s,baz=84,slow=6.8,SNR=77						
RAO				S	S	**02 05 02.4**	**+0.7**
	343nm,0.3s,baz=74,slow=22,SNR=2.5						
RAO	**Raoul Island**	**1.75**	**139**	*e*P	P	**02 04 25.8**	**+2.0**
RAO				*e*S	S	**02 05 00.5**	**-1.2**
MXZ	**Matakaoa Point**	**9.82**	**192**	SN	S	**02 07 38.5**	**-1.3**
MWZ	**Matawai**	**10.72**	**194**	PN	P	**02 06 02.7**	**0.0**
MWZ				SN	S	**02 07 58.8**	**-0.6**
URZ	**Urewera**	**10.74**	**196**	P	P	**02 06 04.1**	**+1.2**
	7.0nm,0.3s,baz=340,slow=2.5,SNR=19						
URZ				S	S	**02 08 01.5**	**+1.6**
	5.8nm,0.3s,baz=65,slow=20,SNR=12						
URZ	**Urewera**	**10.74**	**196**	PN	P	**02 06 04.2**	**+1.2**
URZ				SN	S	**02 08 01.0**	**+1.2**
BKZ	**Black Stump Fm**	**11.75**	**197**	PN	P	**02 06 15.7**	**+0.5**
BFZ	**Birch Farm**	**13.25**	**195**	PN	P	**02 06 31.8**	**-1.4**
MRZ	**Mangatainoka R**	**13.39**	**197**	PN	P	**02 06 33.2**	**-1.8**
KIW	**Kapiti Island**	**13.76**	**199**	PN	P	**02 06 38.1**	**-1.2**
AFI	**Afiamalu**	**15.59**	**28**	P	P	**02 06 53.0**	**-6.4**
	7.9nm,0.3s,baz=282,slow=13,SNR=12						
AFI				S	S	**02 09 32.1**	**-11**
	6.7nm,0.3s,baz=200,slow=20,SNR=5.9						
AFI	**Afiamalu**	**15.59**	**28**	*e*P	P	**02 06 52.6**	**-6.8**
	28nm,0.5s						
AFI				S	S	**02 09 32.1**	**-11**
KHZ	**Kahutara**	**15.60**	**200**	PN	P	**02 06 58.6**	**-0.8**
CTA	**Charters Tower**	**32.40**	**276**	P	P	**02 09 35.9**	**-0.5**
	6.3nm,0.7s,mb4.0,baz=101,slow=10,SNR=5.3						
CTAO	**Charters Tower**	**32.40**	**276**	*e*P	P	**02 09 35.7**	**-0.7**
	7.4nm,0.8s,mb4.0						
STKA	**Stephens Creek**	**34.06**	**254**	P	P	**02 09 50.6**	**+0.2**
	1.8nm,0.5s,mb3.6,baz=105,slow=9.9,SNR=9.0						
STKA	**Stephens Creek**	**34.06**	**254**	*e*P	P	**02 09 52.7**	**+2.3**
WRAB	**Tennant Creek**	**42.96**	**270**	*e*P	P	**02 11 04.2**	**+0.4**
WRA	**Warramunga Arr**	**42.97**	**270**	P	P	**02 11 04.4**	**+0.6**
	5.2nm,0.6s,mb3.9,baz=111,slow=7.2,SNR=14						
SBA	**Scott Base**	**50.41**	**184**	*e*P	P	**02 12 02.9**	**+2.3**
	1.8nm,0.7s,mb3.4						
VNDA	**Vanda**	**50.43**	**185**	P	P	**02 12 02.4**	**+1.6**
	1.0nm,0.8s,mb3.1,baz=357,slow=6.6,SNR=4.2						
VNDA	**Vanda**	**50.43**	**185**	*e*P	P	**02 12 01.7**	**+0.9**
	0.9nm,0.8s,mb3.0						
FITZ	**Fitzroy Crossi**	**51.31**	**269**	P	P	**02 12 08.7**	**+0.7**
	5.2nm,0.6s,mb4.0,baz=163,slow=9.1,SNR=4.1						
MAW	**Mawson**	**74.22**	**201**	P	P	**02 14 37.0**	**+0.1**
	2.4nm,0.7s,mb4.0,baz=106,slow=5.4,SNR=10						
MJAR	**Matsushiro Arr**	**75.61**	**326**	P	P	**02 14 43.6**	**-1.8**
	1.4nm,0.4s,mb4.0,baz=151,slow=5.0,SNR=11						
SNAA	**Sanae**	**80.63**	**179**	*e*	P	**02 15 11.4**	**-0.3**
SNAA	**Sanae**	**80.63**	**179**	*e*	P	**02 15 16.0**	**+4.3**
VNA3	**Neumayer Olymp**	**80.82**	**177**	*e*	P	**02 15 12.7**	**0.0**
VNA3	**Neumayer Olymp**	**80.82**	**177**	*e*	P	**02 15 16.7**	**+4.0**
VNA2	**Neumayer--Watz**	**81.25**	**177**	*e*	P	**02 15 15.2**	**+0.3**
VNA2	**Neumayer--Watz**	**81.25**	**177**	*e*	P	**02 15 19.2**	**+4.3**
VNA1	**Neumayer--Stat**	**81.48**	**177**	*e*	P	**02 15 16.6**	**+0.5**
VNA1	**Neumayer--Stat**	**81.48**	**177**	*e*	P	**02 15 21.1**	**+5.0**
TXAR	**Lajitas Array**	**91.98**	**58**	P	P	**02 16 07.2**	**-0.5**
	0.3nm,0.7s,mb3.3,baz=90,slow=1.3,SNR=4.3						
ILAR	**Eielson Array**	**95.78**	**13**	P	P	**02 16 23.3**	**-0.9**
	0.1nm,0.5s,mb3.2,baz=234,slow=4.9,SNR=4.5						
MKAR	**Makanchi Array**	**115.36**	**311**	PKP	PKPdf	02 21 35.9	-1.0
	0.5nm,0.7s,baz=63,slow=2.7,SNR=4.5						
MKAR	**Makanchi Array**	**115.36**	**311**	PKP	PKPdf	02 21 35.9	-1.0
MATP	**Matopo**	**124.94**	**212**	PKP	PKPdf	02 21 56.8	+0.5
	1.1nm,0.7s,baz=178,slow=5.7,SNR=4.6						
ARCES	**ARCESS Array B**	**135.96**	**348**	PKP	PKPdf	02 22 14.6	-1.1
	1.8nm,0.8s,baz=315,slow=1.7,SNR=4.9						
KAF	**Kangasniemi**	**141.88**	**341**	*e*p	PKPdf	02 22 19.5	-7.0
FINES	**FINESS Array B**	**142.47**	**340**	PKhKP		02 22 23.2	
	1.1nm,0.4s,baz=58,slow=4.2,SNR=15						
FINES				PKP	PKPdf	02 22 27.6	+0.1
	0.8nm,0.5s,slow=3.8,SNR=4.4						
NB2	**NORSAR Subarra**	**146.16**	**351**	PKPabc	PKPdf	02 22 34.0	+0.1
	2.4nm,0.6s,baz=24,slow=3.2						
NOA	**NORSAR Array B**	**146.16**	**351**	PKPbc	PKPbc	02 22 34.3	-1.0
	2.8nm,0.7s,baz=16,slow=4.6,SNR=10						
HFS	**Hagfors**	**146.62**	**348**	PKPbc	PKPbc	02 22 35.5	-0.9
	5.5nm,0.6s,baz=45,slow=4.2,SNR=18						
ASF	**Jabal al Asfar**	**148.54**	**287**	PKPbc	PKPdf	02 22 43.7	+5.1
	1.7nm,0.4s,baz=18,slow=6.4,SNR=3.7						
AKASG	**Malin Array Be**	**148.69**	**324**	PKPbc	PKPdf	02 22 42.0	+3.8
	5.8nm,0.5s,baz=42,slow=3.4,SNR=56						
KSHT	**Keshet**	**149.47**	**288**	P	PKPdf	02 22 46.6	+6.5
MKRJ	**Makawir**	**149.58**	**285**	P	PKPdf	02 22 46.6	+6.3
MMLI	**Mount Malkishu**	**149.79**	**287**	P	PKPdf	02 22 47.3	+6.7
ZFRI	**Zfri**	**149.93**	**283**	P	PKPdf	02 22 47.2	+6.3
EIL	**Elat**	**150.06**	**282**	P	PKPdf	02 22 47.5	+6.4
PRNI	**Paran**	**150.06**	**283**	P	PKPdf	02 22 47.4	+6.3

SKR pmax pmax
comp=Z,20nm,0.4s
SKR smax
comp=N,170nm,0.5s
SKR smax
comp=E,80nm,0.5s
KLY Klyuchi 3.49 1 P **P 02 20 04.8 +1.1**
KLY S **S 02 20 44.3 -0.1**
KLY Klyuchi 3.49 1 *eP* **P 02 20 04.8 +1.1**
KLY *eS* **S 02 20 44.7 +0.3**
SRDR Sredinnyy 3.53 353 *eP* **P 02 20 04.4 +0.3**
SRDR *eS* **S 02 20 44.3 -0.9**
ALID Alaid 3.64 239 *eP* **P 02 20 08.2 +2.4**
KBTR Krutoberegovo 3.65 21 P **P 02 20 06.9 +1.1**
KBTR S **S 02 20 47.5 -0.8**
KBTR Krutoberegovo 3.65 21 *eP* **P 02 20 06.9 +1.1**
KBTR *eS* **S 02 20 47.7 -0.6**
BKI Bering 4.01 51 *eP* **P 02 20 10.3 -0.7**
BKI *eS* **S 02 20 53.0 -4.5**
FX1 Attu Island--F 7.67 85 Pn **Pn 02 21 02.0 -0.6**
comp=E,1.8nm,0.3s,baz=231,slow=8.7,SNR=75
FX1 Sn **Sn 02 22 22.9 -6.4**
comp=E,2.0nm,0.3s,baz=79,slow=23,SNR=6.3
FX1 Attu Island--F 7.67 85 *eP* **P 02 21 02.0 -0.5**
MJAR Matsushiro Arr 22.58 233 P **P 02 24 10.2 +1.4**
comp=E,0.8nm,0.3s,mb3.6,baz=14,slow=5.0,SNR=3.5
TIXI Tiksi 23.43 335 *i P* **P 02 24 17.4 +0.7**
TIXI pmax pmax
comp=Z,8.0nm,0.8s,mb4.2
ILAR Eielson Array 28.83 45 P **P 02 25 06.6 -0.5**
comp=Z,0.2nm,0.6s,mb3.0,baz=258,slow=8.3,SNR=3.4
SONM Songino Array 34.20 284 P **P 02 25 52.1 -2.4**
comp=Z,0.3nm,0.5s,mb3.5,baz=63,slow=9.7,SNR=2.9
MKAR Makanchi Array 48.49 296 P **P 02 27 49.7 -1.7**
comp=Z,0.2nm,0.4s,mb3.5,baz=61,slow=6.3,SNR=4.3
ARCES ARCESS Array B 53.62 342 P **P 02 28 27.0 -2.9**
comp=Z,1.7nm,1.0s,mb3.9,baz=36,slow=7.8,SNR=3.0
PDAR Pinedale Array 57.44 61 P **P 02 28 58.7 +0.9**
comp=Z,0.2nm,0.3s,mb3.6,baz=315,slow=3.8,SNR=3.1
KAF Kangasniemi 59.83 337 *ep* **P 02 29 10.9 -3.3**
FINES FINESS Array B 60.46 337 P **P 02 29 15.4 -3.1**
comp=Z,0.9nm,0.5s,mb4.1,baz=27,slow=8.5,SNR=10.0
NOA NORSAR Array B 63.87 344 P **P 02 29 38.4 -2.7**
comp=Z,0.6nm,0.6s,mb3.8,baz=21,slow=6.6,SNR=3.4
NOA NORSAR Array B 63.87 344 P **P 02 29 38.4 -2.7**
AKASG Malin Array Be 68.97 329 P **P 02 30 11.0 -2.6**
comp=Z,0.7nm,0.4s,mb4.0,baz=27,slow=5.9,SNR=8.1
TXAR Lajitas Array 70.52 67 P **P 02 30 24.0 +0.5**
comp=Z,0.2nm,0.6s,mb3.3,baz=314,slow=5.6,SNR=3.9
MLR Muntele Rosu 74.60 329 P **P 02 30 46.2 -1.0**
comp=Z,0.7nm,0.3s,mb4.0,baz=160,slow=10,SNR=6.9
GERES GERESS Array B 74.85 338 P **P 02 30 46.9 -1.7**
comp=Z,0.4nm,0.5s,mb3.6,baz=30,slow=5.0,SNR=8.7

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*ISK **01** 02:28:26.1,39.45N×33.17E,h5km,MD3.5*
*CSEM **01** 02:28:26.1,39.45N×33.17E,h5km,MD3.5,After ISK*
ISC 01 02:28:27.6±0.4,39.44N±0.03×33.18E±0.03,h5km,n26, σ0§93/36,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAMT	**Kaman**	**0.42**	**100**	*i* PG	**Pg**	**02 28 35.6**	**-0.6**
ANTO	**Ankara**	**0.52**	**326**	*i* PG	**Pg**	**02 28 36.8**	**-1.2**
ANTO				SG	**Sg**	**02 28 45.9**	**+0.9**
LOD	**Lodumlu**	**0.55**	**325**	PG	**Pg**	**02 28 37.7**	**-0.9**
CDAG	**Cicekdag**	**0.94**	**79**	*i* P	**Pb**	**02 28 44.9**	**-1.1**
CDAG				*i* S	**Sb**	**02 29 01.0**	**+2.4**
ELDT	**Eldivan**	**1.06**	**10**	*i* P	**Pb**	**02 28 47.3**	**-0.8**
ELDT				*i* S	**Sb**	**02 29 03.3**	**+1.1**
KIZT	**Kizilcal**	**1.15**	**241**	*e*PN	**Pn**	**02 28 48.9**	**-1.5**
CANT	**Cankiri**	**1.21**	**16**	PN	**Pn**	**02 28 50.5**	**-0.7**
KDHN	**Kadinhani**	**1.23**	**222**	*i* P	**Pb**	**02 28 41.4**	**-10**
KDHN				*i* S	**Sb**	**02 28 58.1**	**-9.1**
CORM	**Corum**	**1.34**	**56**	PN	**Pn**	**02 28 52.7**	**-0.3**
SGKT	**Sivrigoynuk**	**1.42**	**323**	*i* P	**Pn**	**02 28 53.5**	**-0.7**
SGKT				*i* S	**Sb**	**02 29 16.8**	**+4.3**
AVNT	**Avonos**	**1.47**	**116**	*i* P	**Pn**	**02 28 54.5**	**-0.3**
AVNT				*i* S	**Sb**	**02 29 14.5**	**+0.7**
KONT	**Konya--Tatoy**	**1.62**	**203**	PN	**Pn**	**02 28 57.0**	**-0.1**
YOZ	**Yozgat**	**1.67**	**83**	PN	**Pn**	**02 28 57.4**	**-0.4**
TOS	**Tosya**	**1.72**	**22**	PN	**Pn**	**02 28 57.7**	**-0.7**
NIG	**Nigde**	**1.74**	**139**	PN	**Pn**	**02 28 59.6**	**+0.9**
ESKT	**Eskisehir**	**1.80**	**273**	PN	**Pn**	**02 28 59.9**	**+0.3**
ESKT	**Eskisehir**	**1.80**	**273**	*i* P	**Pn**	**02 28 59.9**	**+0.3**
ESKT				*i* S	**Sn**	**02 29 24.8**	**+1.7**
SAFT	**Safranbolu**	**1.83**	**348**	*e*PN	**Pn**	**02 28 59.8**	**-0.2**
BALT	**Daday**	**2.10**	**4**	*i* P	**Pn**	**02 29 06.1**	**+2.3**
BALT				*i* S	**Sn**	**02 29 34.4**	**+3.8**
BNN	**Bunyan**	**2.16**	**105**	*e*PN	**Pn**	**02 29 04.9**	**+0.2**
BYBT	**Boyabat**	**2.36**	**30**	*e*PN	**Pn**	**02 29 07.6**	**0.0**
BOYT	**Boyabat**	**2.38**	**33**	*i* P	**Pn**	**02 29 07.4**	**-0.5**
BOYT				*i* S	**Sn**	**02 29 43.3**	**+5.6**
ALT	**Altintas**	**2.41**	**262**	*e*PN	**Pn**	**02 29 08.2**	**-0.1**
BZK	**Bozkurt**	**2.59**	**14**	*e*PN	**Pn**	**02 29 10.7**	**-0.3**
TKTP	**Tekketepe**	**2.63**	**239**	*i* P	**Pn**	**02 29 11.6**	**+0.1**
TKTP				*i* S	**Sn**	**02 29 45.0**	**+0.7**
TOKT	**Tokat**	**2.74**	**70**	*e*PN	**Pn**	**02 29 12.9**	**-0.1**

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*NIED **01** 02:39:00,33.40N×142.30E,h8km,Mw3.8 Best double couple: M0:4.91×10¹⁴ NP1:φs163°,δ63°,λ-96°. NP2: φs355°,δ28°,λ-79°.*
*JMA **01** 02:39:56.7±0.2,33.45N×142.34E,h6km,M3.9*
*IDC **01** 02:39:56.0±0.9,33.37N×142.45E,mb3.9/7,mb1 4.0/10, mb1mx3.9/22,mbtmp3.9/10,ML3.8/3,Error ellipse: s-maj=21.4km s-min=17.8km az=68.0*
*NEIC **01** 02:40:00.9±0.6,33.46N×142.31E,h35km,mb4.2/2,Error ellipse: s-maj=20.4km s-min=11.9km az=58.0*
ISC 01 02:39:56.8±2.0,33.40N±0.05×142.45E±0.06,h21km±15km, n25,σ0§94/35,mb3.9/9,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.75**	**316**	P	**Pn**	**02 40 26.4**	**0.0**
BSO1				S	**Sn**	**02 40 48.7**	**+0.5**
BSO3	**Boso 3**	**2.13**	**311**	P	**Pn**	**02 40 32.2**	**+0.3**
BSO3				S	**Sn**	**02 40 58.6**	**+0.6**
JHJ2	**Mitsune**	**2.23**	**263**	P	**Pn**	**02 40 34.1**	**+0.8**
JHJ2				S	**Sn**	**02 41 00.6**	**+0.2**
JHJ	**Hachijo jima 2**	**2.25**	**263**	Pn	**Pn**	**02 40 34.0**	**+0.4**
37nm,0.3s,baz=59,slow=18,SNR=20							
JHJ				Sn	**Sn**	**02 41 01.4**	**+0.3**
136nm,0.3s,baz=232,slow=22,SNR=15							
BSO4	**Boso 4**	**2.36**	**313**	P	**Pn**	**02 40 35.8**	**+0.6**
BSO4				S	**Sn**	**02 41 04.5**	**+0.7**
KTR	**Katsuura**	**2.48**	**315**	S	**Sn**	**02 41 06.5**	**-0.4**
JOD2	**Odawara 2**	**3.34**	**305**	S	**Sn**	**02 41 28.3**	**-0.5**
JYN	**Shimob**	**3.84**	**304**	P	**Pn**	**02 40 57.2**	**+0.9**
JAG	**Ashikaga**	**3.89**	**322**	P	**Pn**	**02 40 56.4**	**-0.6**
JRY	**Ryogami san**	**3.92**	**313**	P	**Pn**	**02 40 58.0**	**+0.7**
JRY				S	**Sn**	**02 41 42.4**	**-0.8**
MJAR	**Matsushiro Arr**	**4.68**	**313**	Pn	**Pn**	**02 41 07.8**	**-0.5**
4.4nm,0.3s,baz=143,slow=12,SNR=13							
MJAR				Sn	**Sn**	**02 42 01.2**	**-1.5**
3.0nm,0.3s,baz=152,slow=21,SNR=6.8							
MAT	**Matsushiro**	**4.69**	**313**	P	**Pn**	**02 41 06.9**	**-1.3**
MAT				S	**Sn**	**02 41 58.8**	**-3.9**
MAT	**Matsushiro**	**4.69**	**313**	P	**Pn**	**02 41 08.7**	**+0.5**
MAT				S	**Sn**	**02 42 00.2**	**-2.5**
MAT	**Matsushiro**	**4.69**	**313**	*e*P	**Pn**	**02 41 07.0**	**-1.2**
MAT				*e*S	**Sn**	**02 41 59.0**	**-3.7**
CBIJ	**Chichi jima**	**6.29**	**182**	Pn	**Pn**	**02 41 29.1**	**-1.9**
7.7nm,0.3s,baz=262,slow=21,SNR=24							
CBIJ				Sn	**Sn**	**02 42 37.6**	**-5.4**
8.2nm,0.3s,baz=278,slow=23,SNR=5.1							
SONM	**Songino Array**	**30.62**	**309**	P	**P**	**02 46 13.5**	**+1.9**
1.0nm,0.8s,mb3.7,baz=114,slow=9.3,SNR=4.0							
MKAR	**Makanchi Array**	**46.84**	**305**	P	**P**	**02 48 27.6**	**+0.6**
0.4nm,0.5s,mb3.6,baz=90,slow=12,SNR=4.4							
KURK	**Kurchatov**	**48.89**	**311**	*e*P	**P**	**02 48 42.7**	**-0.2**
2.6nm,0.7s,mb4.4							
KURK				*e*	pP	02 48 50.2	+1.0
ILAR	**Eielson Array**	**52.13**	**31**	P	**P**	**02 49 07.0**	**-0.5**
0.3nm,0.6s,mb3.4,baz=258,slow=5.7,SNR=5.4							
WRA	**Warramunga Arr**	**53.61**	**189**	P	**P**	**02 49 18.1**	**-0.9**
1.2nm,0.6s,mb4.0,baz=7.0,slow=7.6,SNR=19							
FITZ	**Fitzroy Crossi**	**53.67**	**200**	P	**P**	**02 49 19.6**	**+0.1**
7.3nm,0.9s,mb4.6,baz=10,slow=13,SNR=3.9							
BRVK	**Borovoye**	**53.74**	**315**	*e*P	**P**	**02 49 16.4**	**-3.1**
0.7nm,0.4s,mb3.9							
STKA	**Stephens Creek**	**64.94**	**181**	P	**P**	**02 50 37.5**	**+0.3**
0.7nm,0.4s,mb4.0,baz=248,slow=5.9,SNR=3.4							
TXAR	**Lajitas Array**	**91.64**	**53**	P	**P**	**02 53 05.7**	**+1.8**
0.3nm,0.6s,mb3.8,baz=294,slow=2.9,SNR=4.2							
LPAZ	**La Paz**	**147.60**	**66**	PKPbc	PKPdf	02 59 43.3	+1.6
0.7nm,0.7s,baz=37,slow=4.0,SNR=6.1							

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*IDC **01** 02:43:09.3±0.8,12.00N×85.44W,mb3.9/7,mb1 4.1/7, mb1mx3.9/19,mbtmp3.9/7,MS3.2/3,Ms1 3.2/3, ms1mx2.8/26,Error ellipse: s-maj=65.1km s-min=13.5km az=60.0*
*CASC **01** 02:43:14.3±2.3,11.04N×86.59W,h37km±13km, mb3.9(NEIC)*
*NEIC **01** 02:43:14.8±1.3,11.83N×85.64W,h40km±14km,mb3.9/11, Error ellipse: s-maj=22.3km s-min=6.9km az=59.0*
ISC 01 02:43:13.6±0.6,11.03N±0.05×86.63W±0.05,h55km±6km, n53,σ0§88/61,mb3.9/17,MS3.2/3,1C,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUN	**El Crucero**	**1.01**	**19**	*e*P	**P**	**02 43 32.1**	**+0.3**
APON	**Apoyo**	**1.04**	**32**	*e*P	**P**	**02 43 32.0**	**-0.3**
TICN	**Ticuantepe**	**1.07**	**21**	*e*P	**P**	**02 43 32.8**	**0.0**
CONN	**Concepcion**	**1.12**	**61**	*e*P	**P**	**02 43 32.6**	**-0.7**
COPN	**Copaltepe**	**1.15**	**2**	*e*P	**P**	**02 43 33.9**	**+0.2**
XAVN	**Gruta Xavier**	**1.16**	**15**	*e*P	**P**	**02 43 33.9**	**+0.1**
MGAN	**Managua**	**1.18**	**19**	*e*P	**P**	**02 43 34.2**	**+0.1**
MGAN				*e*S	**S**	**02 43 49.1**	**-0.3**
MGAN				*e*S	**S**	**02 43 49.9**	**+0.6**
WILN	**Americas 2**	**1.21**	**21**	*e*P	**P**	**02 43 34.4**	**-0.1**
WILN				*e*S	**S**	**02 43 50.6**	**+0.4**
VCR	**Vista de Mar**	**1.33**	**132**	*e*P	**P**	**02 43 34.7**	**-1.7**
MOMJ	**Momotombo**	**1.38**	**4**	*e*P	**P**	**02 43 36.9**	**-0.2**
LIM1	**Limonal**	**1.39**	**103**	*i* P	**P**	**02 43 36.2**	**-1.0**
LIM1				*i* S	**S**	**02 43 54.3**	**-0.4**
LEON	**Leon**	**1.41**	**349**	*e*P	**P**	**02 43 37.6**	**+0.1**
MIRN	**Miramar**	**1.41**	**357**	*e*P	**P**	**02 43 37.6**	**+0.1**
CNGN	**Cerro Negro**	**1.47**	**357**	*e*P	**P**	**02 43 38.2**	**0.0**
TEL3	**Telica 3**	**1.55**	**352**	*e*P	**P**	**02 43 39.7**	**+0.3**
TELN	**Telica**	**1.58**	**353**	*e*P	**P**	**02 43 40.1**	**+0.2**
PYTN	**Playitas**	**1.60**	**20**	*e*P	**P**	**02 43 39.9**	**-0.3**
CRIN	**San Cristobal**	**1.71**	**346**	*e*P	**P**	**02 43 42.0**	**+0.4**
JTS	**JuntasAbangare**	**1.80**	**114**	Pn	**P**	**02 43 42.1**	**-0.8**
25nm,0.3s,baz=301,slow=16,SNR=81							
JTS				Sn	**S**	**02 44 04.5**	**-0.1**
51nm,0.3s,baz=287,slow=17,SNR=8.1							
JTS				LR	LR	02 44 32.8	
comp=Z,497nm,18.5s,baz=92,slow=48							
JTS	**JuntasAbangare**	**1.80**	**114**	*e*P	**P**	**02 43 41.8**	**-1.1**
JTS				*e*S	**S**	**02 44 05.6**	**+1.0**
JTS				LR	LR	02 44 32.8	
FORC	**Fortuna**	**2.00**	**106**	*e*P	**P**	**02 43 44.6**	**-1.1**
PRS1	**Puriscal**	**2.50**	**114**	*e*P	**P**	**02 43 53.7**	**+0.8**
SJS	**Escuela Geolog**	**2.75**	**113**	*e*P	**P**	**02 43 58.4**	**+2.0**
SJS				*e*S	**S**	**02 44 28.7**	**+0.1**
BLLM	**Bellamira**	**2.87**	**327**	*e*P	**P**	**02 43 59.7**	**+1.7**
BLLM				*e*S	**S**	**02 44 31.3**	**-0.2**
LCR2	**La Lucha 2**	**2.88**	**116**	*e*P	**P**	**02 43 59.3**	**+1.1**
LCR2				*e*S	**S**	**02 44 33.2**	**+1.4**
TRTC	**Tortuguero**	**2.90**	**99**	*e*P	**P**	**02 43 56.6**	**-1.9**
BUS	**Buena Vista**	**3.18**	**117**	*e*P	**P**	**02 44 03.2**	**+0.8**
SNVI	**San Vicente**	**3.36**	**320**	*e*S	**S**	**02 44 42.3**	**-1.6**
LCBS	**La Ceiba**	**3.48**	**319**	*e*P	**P**	**02 44 06.7**	**+0.1**
LCBS				*e*S	**S**	**02 44 47.8**	**+0.9**
LFRS	**El Faro**	**3.51**	**318**	*e*P	**P**	**02 44 06.9**	**-0.2**
LFRS				*e*S	**S**	**02 44 46.6**	**-1.1**
SJG	**San Juan**	**21.02**	**68**	LR	LR	02 54 36.9	
comp=Z,77nm,21.5s,MS3.0,baz=82,slow=35							
LRAL	**Lakeview Retre**	**21.91**	**359**	P	**P**	**02 47 55.0**	**-8.7**
6.7nm,1.1s,mb4.0							
OXF	**Oxford**	**23.52**	**354**	P	**P**	**02 48 18.8**	**-0.6**
15nm,0.9s,mb4.4							
JSC	**Jenkinsville**	**23.66**	**11**	*e*P	**P**	**02 48 13.8**	**-7.1**
LTX	**Lajitas**	**24.18**	**321**	*e*P	**P**	**02 48 26.9**	**+0.9**
3.7nm,0.7s,mb3.9							
TXAR	**Lajitas Array**	**24.18**	**321**	P	**P**	**02 48 27.2**	**+1.3**
3.4nm,0.7s,mb3.9,baz=136,slow=9.9,SNR=57							
ANMO	**Albuquerque**	**29.89**	**326**	P	**P**	**02 49 19.0**	**+0.7**
0.8nm,0.6s,mb3.6,baz=135,slow=8.0,SNR=5.6							
ANMO	**Albuquerque**	**29.89**	**326**	P	**P**	**02 49 18.7**	**+0.4**
1.0nm,0.7s,mb3.6							
SAML	**Samuel**	**30.62**	**129**	*e*P	**P**	**02 49 23.8**	**-1.2**
2.4nm,0.9s,mb4.0							
SDCO	**Great Sand Dun**	**31.54**	**331**	*e*P	**P**	**02 49 33.0**	**+0.1**
1.8nm,0.6s,mb4.1							
LPAZ	**La Paz**	**32.73**	**146**	P	**P**	**02 49 46.4**	**+2.9**
0.2nm,0.3s,mb3.5,baz=351,slow=13,SNR=2.1							
BW06	**Boulder Array**	**37.40**	**332**	*e*P	**P**	**02 50 22.1**	**-0.8**
1.3nm,0.8s,mb3.8							
PDAR	**Pinedale Array**	**37.40**	**332**	P	**P**	**02 50 22.6**	**-0.4**
1.2nm,0.7s,mb3.9,baz=122,slow=9.6,SNR=15							
TPAW	**Teton Pass**	**38.61**	**331**	*e*P	**P**	**02 50 32.5**	**-0.5**
3.1nm,0.8s,mb4.1							
ULM	**Lac du Bonnet**	**39.84**	**351**	LR	LR	03 07 22.4	
comp=Z,40nm,20.6s,MS3.2,baz=125,slow=37							
HLID	**Hailey**	**40.37**	**328**	*e*P	**P**	**02 50 48.2**	**+0.6**
1.0nm,0.6s,mb3.7							
MCMT	**McKenzie Canyo**	**40.51**	**331**	*e*P	**P**	**02 50 49.9**	**+1.1**
BOZ	**Bozeman (W)**	**40.57**	**333**	*e*P	**P**	**02 50 49.1**	**-0.1**
1.5nm,0.6s,mb3.8							
WVOR	**Wild Horse Val**	**41.92**	**324**	*e*P	**P**	**02 51 00.7**	**+0.3**
1.3nm,0.6s,mb3.7							
BDFB	**Brasilia**	**46.52**	**124**	P	**P**	**02 51 36.5**	**-1.2**
2.5nm,0.6s,mb4.3,baz=315,slow=6.5,SNR=7.3							
CPUP	**Villa Florida**	**46.80**	**143**	P	**P**	**02 51 40.1**	**+0.2**
1.5nm,0.9s,mb3.9,baz=334,slow=8.7,SNR=3.8							
CPUP				LR	LR	03 13 21.9	
comp=Z,32nm,21.0s,MS3.3,baz=47,slow=39							
ILAR	**Eielson Array**	**67.64**	**336**	P	**P**	**02 54 04.6**	**-1.9**
0.7nm,0.8s,mb3.8,baz=135,slow=4.5,SNR=16							
WRA	**Warramunga Arr**	**139.62**	**252**	PKP	PKPdf	03 02 41.4	+5.3
0.7nm,0.8s,baz=92,slow=2.9,SNR=5.1							

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*NEIC **01** 03:07:56.6,35.71N×0.13E,h6km,MG3.6(MDD),After MDD.*
MDD 01 03:07:55.8±1.5,35.62N×0.18E,h12km±26km,mb3.2/9, Error ellipse: s-maj=20.8km s-min=10.6km az=148.0, PRXIMO,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EANR	**'Ain N'Sour**	**0.82**	**66**	P	Pb	03 08 10.2	-1.2
ETIRT	**Tiaret**	**0.95**	**104**	P	Pb	03 08 13.0	-0.6
EMUR	**La Murta**	**2.49**	**333**	P	Pn	03 08 34.3	-2.5
0.6nm,0.1s,SNR=7.9							
EMUR				S	Sn	03 09 03.3	-4.0
0.7nm,0.2s,SNR=7.9							
EMUR	**La Murta**	**2.49**	**333**	Pn	Pn	03 08 34.2	-2.6
EMUR				Sn	Sn	03 09 02.1	-5.1
EALB	**Alboran**	**2.63**	**278**	S	Sn	03 09 07.0	-3.9
3.8nm,0.2s,SNR=7.9							
EBER	**Berja**	**2.79**	**298**	P	Pn	03 08 39.2	-1.8
2.1nm,0.1s,SNR=7.9							
EBER				S	Sn	03 09 11.7	-3.1
0.3nm,0.1s,SNR=7.9							
EBER	**Berja**	**2.79**	**298**	Pn	Pn	03 08 39.2	-1.8
EBER				Sn	Sn	03 09 11.2	-3.7
EBEN	**Beniarda**	**3.09**	**354**	P	Pn	03 08 43.6	-1.7
0.3nm,0.1s,SNR=7.9							
EBEN				S	Sn	03 09 17.9	-4.6
0.1nm,0.1s,SNR=7.9							
EBEN	**Beniarda**	**3.09**	**354**	Pn	Pn	03 08 43.6	-1.7
EBEN				Sn	Sn	03 09 18.4	-4.2
ETOB	**Tobarra**	**3.31**	**336**	P	Pn	03 08 47.0	-1.5
4.4nm,0.1s,SNR=7.9							
ETOB				S	Sn	03 09 23.6	-4.6
0.6nm,0.1s,SNR=7.9							
ETOB	**Tobarra**	**3.31**	**336**	Pn	Pn	03 08 47.0	-1.5
ETOB				Sn	Sn	03 09 24.2	-4.0
EQES	**Quesada**	**3.40**	**311**	P	Pn	03 08 48.5	-1.2
1.7nm,0.1s,SNR=7.9							
EQES				S	Sn	03 09 25.0	-5.3
0.6nm,0.1s,SNR=7.9							
EQES	**Quesada**	**3.40**	**311**	Pn	Pn	03 08 49.6	-0.1
EQES				Sn	Sn	03 09 26.6	-3.7
EIBI	**Ibiza**	**3.52**	**15**	P	Pn	03 08 49.8	-1.7
0.2nm,0.2s,SNR=7.9							
EIBI				S	Sn	03 09 29.2	-4.3
1.3nm,0.2s,SNR=7.9							
EIBI	**Ibiza**	**3.52**	**15**	Pn	Pn	03 08 49.0	-2.5
EIBI				Sn	Sn	03 09 30.4	-3.1
EMIJ	**Mijas**	**4.12**	**285**	P	Pn	03 08 56.3	-3.6
0.3nm,0.1s,SNR=7.9							
EMIJ				S	Sn	03 09 42.8	-5.8
0.5nm,0.1s,SNR=7.9							
EMIJ	**Mijas**	**4.12**	**285**	Pn	Pn	03 08 57.0	-2.9
EMIJ				Sn	Sn	03 09 43.6	-4.9
EADA	**Adamuz**	**4.58**	**305**	P	Pn	03 09 04.7	-1.8
0.1nm,0.1s,SNR=7.9							
EADA				S	Sn	03 09 53.8	-6.4
0.2nm,0.1s,SNR=7.9							
EADA	**Adamuz**	**4.58**	**305**	Pn	Pn	03 09 05.2	-1.2
EADA				Sn	Sn	03 09 53.4	-6.7
EMOS	**Mosqueruela**	**4.76**	**354**	P	Pn	03 09 06.9	-2.1
0.1nm,0.2s,SNR=7.9							
EMOS				S	Sn	03 09 58.4	-6.4
0.2nm,0.2s,SNR=7.9							
EMOS	**Mosqueruela**	**4.76**	**354**	Pn	Pn	03 09 06.9	-2.1
EMOS				Sn	Sn	03 09 57.5	-7.3

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*NIED **01** 03:11:00,33.40N×142.40E,h5km,Mw3.8 Best double couple: M0:6.22×10¹⁴ NP1:φs138°,δ71°,λ-92°. NP2: φs323°,δ19°,λ-85°.*
*IDC **01** 03:11:47.8±1.6,33.64N×142.36E,mb3.7/6,mb1 3.9/8, mb1mx3.7/21,mbtmp3.7/8,ML3.6/2,Error ellipse: s-maj=41.4km s-min=20.3km az=174.0*
*JMA **01** 03:11:49.4±0.3,33.37N×142.39E,h25km,M3.8*
*NEIC **01** 03:11:53.8±1.7,33.80N×142.52E,h35km,mb4.0/1,Error ellipse: s-maj=56.2km s-min=15.2km az=198.0*
ISC 01 03:11:48.0±1.8,33.34N±0.05×142.49E±0.06,h25km±15km, n25,σ1§05/37,mb3.7/7,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.82**	**317**	P	**Pn**	**03 12 18.7**	**+0.5**
BSO1				S	**Sn**	**03 12 41.5**	**+0.9**
BSO3	**Boso 3**	**2.20**	**312**	P	**Pn**	**03 12 24.0**	**+0.3**
BSO3				S	**Sn**	**03 12 49.7**	**-0.7**
JHJ2	**Mitsune**	**2.26**	**265**	P	**Pn**	**03 12 25.3**	**+0.8**
JHJ2				S	**Sn**	**03 12 51.9**	**+0.1**
JHJ	**Hachijo jima 2**	**2.28**	**265**	Pn	**Pn**	**03 12 24.6**	**-0.2**
56nm,0.3s,baz=109,slow=23,SNR=43							
JHJ				Sn	**Sn**	**03 12 52.3**	**-0.2**
98nm,0.3s,baz=70,slow=24,SNR=18							
BSO4	**Boso 4**	**2.43**	**313**	P	**Pn**	**03 12 28.2**	**+1.2**
BSO4				S	**Sn**	**03 12 57.2**	**+1.0**
JIM2	**Oshima 3**	**2.89**	**299**	S	**Sn**	**03 13 05.5**	**-2.4**
JOD2	**Odawara 2**	**3.41**	**305**	P	**Pn**	**03 12 41.0**	**+0.1**
JYN	**Shimob**	**3.91**	**304**	P	**Pn**	**03 12 49.2**	**+1.2**
JYN				S	**Sn**	**03 13 34.8**	**+1.1**
JAG	**Ashikaga**	**3.96**	**322**	P	**Pn**	**03 12 48.7**	**-0.1**
JRY	**Ryogami san**	**3.99**	**313**	P	**Pn**	**03 12 49.4**	**+0.3**
JRY				S	**Sn**	**03 13 35.3**	**-0.3**
JMM	**Marumori**	**4.72**	**343**	P	**Pn**	**03 12 57.5**	**-2.1**
JMM				S	**Sn**	**03 13 47.0**	**-7.3**
MJAR	**Matsushiro Arr**	**4.75**	**313**	Pn	**Pn**	**03 12 58.4**	**-1.6**
1.9nm,0.3s,baz=61,slow=28,SNR=14							
MJAR				Sn	**Sn**	**03 13 49.0**	**-6.0**
0.9nm,0.3s,baz=146,slow=14,SNR=4.3							
MAT	**Matsushiro**	**4.75**	**313**	P	**Pn**	**03 13 00.9**	**+0.9**
MAT				S	**Sn**	**03 13 52.7**	**-2.3**
MAT	**Matsushiro**	**4.75**	**313**	P	**Pn**	**03 13 00.9**	**+0.9**
MAT				S	**Sn**	**03 13 53.3**	**-1.7**
MAT	**Matsushiro**	**4.75**	**313**	*e*P	**Pn**	**03 13 01.0**	**+1.0**
MAT				*e*S	**Sn**	**03 13 53.0**	**-2.0**
CBIJ	**Chichi jima**	**6.23**	**183**	Pn	**Pn**	**03 13 19.6**	**-1.2**
11nm,0.3s,baz=52,slow=11,SNR=24							
CBIJ				Sn	**Sn**	**03 14 25.8**	**-6.2**
8.6nm,0.3s,baz=274,slow=22,SNR=6.1							
SONM	**Songino Array**	**30.69**	**309**	P	**P**	**03 18 01.9**	**-0.9**
0.7nm,0.9s,mb3.5,baz=112,slow=6.7,SNR=4.1							
MKAR	**Makanchi Array**	**46.90**	**305**	P	**P**	**03 20 18.4**	**+0.4**
0.3nm,0.6s,mb3.4,baz=97,slow=12,SNR=3.4							
KURK	**Kurchatov**	**48.96**	**311**	*e*P	**P**	**03 20 34.5**	**+0.4**
1.2nm,0.8s,mb4.0							
ILAR	**Eielson Array**	**52.17**	**31**	P	**P**	**03 20 57.2**	**-1.1**
0.8nm,0.6s,mb3.8,baz=262,slow=6.1,SNR=21							

ANTB	**Antalya**	**3.13 218**	*e*PN	Pn	03 32 31.3 +2.3
CEYT	**Ceyhan**	**3.20 137**	*e*PN	Pn	03 32 32.1 +2.1
IKL	**Isikli**	**3.20 171**	*e*PN	Pn	03 32 32.1 +2.1
ORLT	**Orhaneli**	**3.26 283**	*e*PN	Pn	03 32 32.5 +1.6
ELL	**Elmali**	**3.63 224**	*e*PN	Pn	03 32 38.2 +2.1
HTY	**Hatay**	**4.09 142**	*e*PN	Pn	03 32 45.1 +2.4
MYA	**Malataya**	**4.34 103**	*e*PN	Pn	03 32 48.1 +2.0
URFA	**Urfa**	**4.94 112**	*e*PN	Pn	03 32 57.0 +2.3
PTK	**Pertek**	**4.96 94**	*e*PN	Pn	03 32 57.0 +2.0
GUMT	**Gumushane**	**5.06 76**	*e*PN	Pn	03 32 58.1 +1.8

JMA 01 03:54:56.3±0.2,29.86N×139.43E,h452km,M3.7,
Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**3.26**	**6**	P	P	03 56 05.8	-0.2
CBIJ	**Chichi jima**	**3.67**	**138**	P	P	03 56 09.1	-0.3
CBIJ				S	S	03 57 06.3	-0.7
JWZ	**Kozaga**	**4.84**	**320**	P	P	03 56 19.4	-0.6
BSO1	**Boso 1**	**4.96**	**15**	P	P	03 56 21.6	+0.5
BSO1				S	S	03 57 26.5	-1.5
JIE	**Ise**	**5.07**	**334**	P	P	03 56 22.6	+0.3
JRY	**Ryogami san**	**6.16**	**356**	P	P	03 56 32.6	-0.6
JRY				S	S	03 57 46.5	-3.2

IDC 01 04:01:19.8±1.5,4.17N×126.76E,mb3.6/4,mb1 3.6/4,
mb1mx3.5/18,mbtmp3.6/4,Error ellipse:
s-maj=128.2km s-min=25.9km az=68.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.09**	**163**	P	P	04 06 46.4	-1.4
	0.3nm,0.4s,baz=344,slow=10,SNR=6.1						
SONM	**Songino Array**	**46.90**	**341**	P	P	04 09 52.9	-0.9
	0.2nm,0.3s,baz=155,slow=7.1,SNR=2.7						
MKAR	**Makanchi Array**	**57.22**	**325**	P	P	04 11 08.6	-2.7
	0.9nm,0.4s,baz=109,slow=8.6,SNR=11						
BVAR	**Borovoye Array**	**66.97**	**327**	P	P	04 12 13.9	-2.6
	0.3nm,0.3s,baz=121,slow=8.4,SNR=4.5						

NEIC 01 04:04:07.9,59.61N×153.31W,h111km,MG3.1(AEIC),
After AEIC.,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	**Oil Point**	**0.06**	**44**	P	P	04 04 22.7	-0.6
OPT				S	S	04 04 34.1	-0.6
AUL	**Augustine Lava**	**0.24**	**195**	P	P	04 04 23.3	-0.3
AUL				S	S	04 04 35.5	0.0
AUE	**Augustine Isla**	**0.26**	**187**	P	P	04 04 23.0	-0.7
AUH	**Augustine H**	**0.26**	**195**	P	P	04 04 23.3	-0.4
AGU	**Augustine-Summ**	**0.26**	**194**	P	P	04 04 23.2	-0.5
AUI	**Augustine Isla**	**0.28**	**192**	P	P	04 04 23.2	-0.6
AUI				S	S	04 04 35.3	-0.4
ILS	**Iliamna Low So**	**0.37**	**19**	P	P	04 04 23.5	-0.7
IVS	**Iliamna South**	**0.42**	**16**	P	P	04 04 24.2	-0.2
IVS				S	S	04 04 36.9	0.0
IVE	**Iliamna Volcan**	**0.43**	**20**	P	P	04 04 24.1	-0.4
IVE				S	S	04 04 37.0	-0.1
ILW	**Iliamna West**	**0.46**	**11**	P	P	04 04 24.1	-0.7
ILW				S	S	04 04 37.1	-0.3
ILIM	**Iliamna**	**0.50**	**21**	P	P	04 04 24.3	-0.7
ILIM				S	S	04 04 37.6	-0.2
MCNL	**McNeil River**	**0.68**	**231**	P	P	04 04 25.5	-0.8
XLV	**Seldovia**	**0.82**	**100**	P	P	04 04 26.9	-0.7
XLV				S	S	04 04 42.5	0.0
HOM	**Homer**	**0.85**	**86**	P	P	04 04 27.4	-0.6
HOM				S	S	04 04 42.5	-0.4
RSO	**Redoubt South**	**0.90**	**18**	P	P	04 04 27.8	-0.7
RSO				S	S	04 04 42.5	-1.3
CNPM	**China Poot**	**1.06**	**94**	P	P	04 04 29.1	-1.0
RDT	**Redoubt**	**1.07**	**25**	P	P	04 04 29.1	-1.0
RDT				S	S	04 04 45.5	-1.4
NNL	**Ninilchik**	**1.11**	**66**	P	P	04 04 30.5	-0.1
SYI	**Shuyak Island**	**1.11**	**154**	P	P	04 04 29.4	-1.2
SYI				S	S	04 04 46.2	-1.5
KAPH	**Katmai Pasha**	**1.15**	**208**	P	P	04 04 30.1	-1.0
KAPH				S	S	04 04 47.4	-1.1
BRLK	**Bradley Lake**	**1.24**	**82**	P	P	04 04 30.7	-1.4
BRLK				S	S	04 04 49.3	-1.1
KAHC	**Katmai Hardscr**	**1.30**	**223**	P	P	04 04 31.7	-1.2
KAHC				S	S	04 04 50.5	-1.2
KAWH	**Katmai**	**1.45**	**213**	P	P	04 04 33.3	-1.4
CKL	**Chakachamna La**	**1.66**	**16**	P	P	04 04 36.2	-1.0
SPU	**Mount Spurr**	**1.69**	**21**	*e*P	P	04 04 36.1	-1.5
ACHA	**Angle Creek He**	**1.75**	**218**	P	P	04 04 36.9	-1.3
MGLS	**Mageik LS**	**1.75**	**218**	P	P	04 04 37.1	-1.1
SLKM	**Skilak Lake**	**1.79**	**59**	*e*P	P	04 04 37.5	-1.3
SVW2	**Sparrevohn**	**1.87**	**324**	P	P	04 04 38.1	-1.6
KDAK	**Kodiak Island**	**1.87**	**168**	P	P	04 04 37.2	-2.6
KDAK				S	S	04 04 59.9	-3.7
CAHL	**Cahill**	**1.88**	**214**	P	P	04 04 38.6	-1.2
CNTC	**Contact Creek**	**1.90**	**226**	P	P	04 04 38.9	-1.2
CNTC				S	S	04 05 03.5	-0.7
KJL	**Kejulik**	**1.96**	**218**	P	P	04 04 39.9	-0.9
VOGL	**Vogel Lake**	**2.00**	**45**	P	P	04 04 41.6	+0.3
SEW	**Seward**	**2.01**	**74**	P	P	04 04 39.8	-1.7
SEW				S	S	04 05 03.9	-2.9
MPA	**Moose Pass**	**2.17**	**64**	P	P	04 04 42.0	-1.6
FIB	**Fire Island**	**2.20**	**44**	P	P	04 04 43.5	-0.7
RC01	**Rabbit Creek A**	**2.31**	**49**	P	P	04 04 44.2	-1.4
PWL	**Port Wells**	**2.78**	**61**	P	P	04 04 50.0	-1.9
LTI	**Latouche**	**2.79**	**79**	P	P	04 04 49.7	-2.3
PMR	**Palmer**	**2.86**	**44**	P	P	04 04 50.0	-3.0
KNK	**Knik Glacier**	**3.00**	**51**	P	P	04 04 52.1	-2.8
GHO	**Glory Hole Cre**	**3.06**	**43**	P	P	04 04 52.9	-2.8
CFI	**College Fiord**	**3.17**	**58**	P	P	04 04 54.5	-2.7
SML	**Sawmill**	**3.29**	**46**	P	P	04 04 55.8	-3.0
GLI	**Glacier Island**	**3.35**	**65**	P	P	04 04 57.0	-2.7
HIN	**Hinchinbrook I**	**3.51**	**74**	P	P	04 04 59.5	-2.2
MID	**Middleton Isla**	**3.56**	**90**	*e*P	P	04 05 00.7	-1.7
TT01	**Tatalina**	**3.56**	**340**	P	P	04 04 59.9	-2.5
FID	**Port Fidalgo**	**3.60**	**69**	P	P	04 04 59.9	-3.1
JPK	**Jack Peak**	**3.64**	**64**	P	P	04 05 01.5	-2.0
SCM	**Sheep Creek Mo**	**3.69**	**50**	P	P	04 05 01.2	-3.0
ANPK	**Aniakchak Peak**	**3.77**	**225**	P	P	04 05 03.0	-2.3
VLZ	**Valdez**	**3.79**	**63**	P	P	04 05 03.0	-2.5
EYAK	**Cordova Ski Ar**	**3.90**	**73**	P	P	04 05 04.3	-2.8
DIV	**Divide**	**4.04**	**65**	P	P	04 05 06.5	-2.5
KLU	**Klutina**	**4.11**	**59**	P	P	04 05 06.8	-3.0
KTH	**Kantishna Hill**	**4.12**	**15**	P	P	04 05 07.8	-2.2
CHGN	**Chignik**	**4.29**	**222**	P	P	04 05 09.9	-2.4
RND	**Reindeer**	**4.37**	**27**	P	P	04 05 10.5	-2.9
BMRM	**Bremner River**	**4.54**	**69**	P	P	04 05 13.3	-2.5
TZL	**Tazlina**	**4.57**	**54**	P	P	04 05 14.8	-1.3
MCK	**McKinley**	**4.63**	**25**	P	P	04 05 14.5	-2.4
SDG	**Sourdough**	**4.77**	**49**	P	P	04 05 16.5	-2.4
GLB	**Gilahina Butte**	**5.04**	**65**	P	P	04 05 19.5	-3.0
WAX	**Waxell Ridge**	**5.31**	**76**	P	P	04 05 23.7	-2.4
WRH	**Wood River Hil**	**5.46**	**24**	P	P	04 05 24.8	-3.4
BALM	**Baldy**	**5.63**	**71**	P	P	04 05 28.4	-2.1
CCB	**Clear Creek Bu**	**5.67**	**25**	P	P	04 05 27.5	-3.6
MENT	**Mentasta**	**5.70**	**50**	*e*P	P	04 05 29.3	-2.1
COLA	**College**	**5.86**	**23**	P	P	04 05 30.4	-3.2
IL1	**Eielson Array**	**5.99**	**27**	P	P	04 05 31.6	-3.7
IM3	**Indian Mountai**	**6.40**	**358**	P	P	04 05 38.4	-2.6
IMA	**Indian Mountai**	**6.49**	**359**	*e*P	P	04 05 41.2	-1.2
BM3	**Burnt Mountain**	**8.74**	**23**	P	P	04 06 08.9	-3.9
DLBC	**Dease Lake**	**12.04**	**86**	*e*P	P	04 06 53.6	-3.0

*JMA **01** 04:08:12.1±0.7,33.34N×142.49E,h85km,M3.0*
*IDC **01** 04:08:23.8±2.3,33.54N×141.24E,mb3.5/3,mb1 3.6/4,*
mb1mx3.4/19,mbtmp3.4/4,ML3.0/1,MS2.6/1,Ms1 2.6/1,
ms1mx2.5/21,Error ellipse: s-maj=46.9km s-min=26.1km
az=71.0

ISC 01 04:08:11.4±1.7,33.29N±0.09×142.6E±0.1,h33km,n15,
σ0§81/18,mb3.5/2,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.90**	**316**	P	**P**	**04 08 42.2**	**+0.3**
BSO1				S	**S**	**04 09 05.2**	**+0.3**
BSO3	**Boso 3**	**2.28**	**312**	P	**P**	**04 08 47.9**	**+0.5**
BSO3				S	**S**	**04 09 14.9**	**+0.3**
JHJ2	**Mitsune**	**2.31**	**266**	P	**P**	**04 08 47.9**	**0.0**
JHJ	**Hachijo jima 2**	**2.34**	**267**	Pn	**Pn**	**04 08 48.7**	**+0.2**

	18nm,0.3s,baz=66,slow=19,SNR=8.1				
JHJ			Sn	**Sn**	**04 09 15.5 -0.9**
	26nm,0.3s,baz=258,slow=22,SNR=5.7				
BSO4	**Boso 4**	**2.51**	**313**	P	**P**	**04 08 51.7 +1.0**
JYN	**Shimob**	**3.99**	**305**	S	**S**	**04 09 58.4 +0.3**
JAG	**Ashikaga**	**4.04**	**322**	P	**P**	**04 09 12.2 -0.3**
JRY	**Ryogami san**	**4.07**	**313**	P	**P**	**04 09 13.1 +0.3**
JMM	**Marumori**	**4.79**	**343**	P	**P**	**04 09 21.2 -1.9**
JMM				S	**S**	**04 10 11.0 -7.2**
MJAR	**Matsushiro Arr**	**4.83**	**313**	Pn	**Pn**	**04 09 23.8 0.0**
	1.0nm,0.3s,baz=168,slow=15,SNR=6.7				
MAT	**Matsushiro**	**4.84**	**313**	P	**P**	**04 09 24.2 +0.5**
MAT				*e*S	**S**	**04 10 15.9 -3.4**
JNU	**Nakatsue**	**9.80**	**272**	LR	LR	04 14 01.5
	comp=Z,35nm,18.1s,baz=239,slow=39				
SONM	**Songino Array**	**30.77**	**309**	P	**P**	**04 14 31.1 +5.3**
	0.5nm,0.7s,mb3.4,baz=112,slow=7.8,SNR=2.4				
MKAR	**Makanchi Array**	**46.98**	**305**	P	**P**	**04 16 49.4 +8.5**
	0.5nm,0.6s,mb3.6,baz=90,slow=8.6,SNR=5.6				
WRA	**Warramunga Arr**	**53.51**	**190**	P	pP	04 17 46.5 +5.4
	0.6nm,0.8s,baz=6.0,slow=7.6,SNR=8.7				

*NIED **01** 04:40:00,47.00N×154.40E,h20km,Mw5.6 Best double couple: M0=3.11×10^17 NP1:φs=228°,δ70°,λ113°. NP2: φs=357°,δ30°,λ43°.*
*BGS **01** 04:40:27.0,45.79N×157.80E,h17km,mb5.4*
*SKHL **01** 04:40:32.1±0.4,46.76N×154.52E,h35km±5km,mb6.2/11, mbh6.4/8,Ms5.6/8,msh5.7/8*
*IDC **01** 04:40:33.8±0.4,47.05N×153.88E,mb4.9/27,mb1 5.0/29, mb1mx5.0/30,mbtmp4.9/29,ML4.5/2,MS5.1/22,Ms1 5.1/22, ms1mx5.0/28,Error ellipse: s-maj=14.3km s-min=10.4km az=142.0*
*BJI **01** 04:40:34.6,47.29N×153.97E,h19km,mB5.6,mb5.4, Ms5.5,Msz5.4*
*HRVD **01** 04:40:36.7±0.2,47.09N×154.22E,h15km,MW5.6/76, Centroid moment Tensor Solution. LP body waves: s65,c131;Mantle waves: s76,c178; Half duration: 1s6 Moment tensor: Scale 10^17Nm; Mrr2.56±.04; Mθθ-0.70±.04; Mφφ-1.86±.03; Mrθ0.98±.13; Mθφ-1.39±.03; Mφr2.19±.12; Best double couple: M0=3.594×10^17 NP1: φs221°,δ25°,λ103°. NP2:φs27°,δ66°,λ84°. Principal axes: T 3.5, Plg68°, Azm286°; N .192, Plg5°, Azm29°; P -3.688, Plg21°, Azm121°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **01** 04:40:36.7±0.2,47.00N×153.91E,mb5.4/144,MS5.1/124, MW5.7 Error ellipse: s-maj=4.7km s-min=2.7km az=172.0, Moment Tensor Solution. s49 Moment tensor: Scale 10^17 Nm; Mrr2.21; Mθθ-1.66; Mφφ-0.55; Mrθ1.94; Mθφ-0.91; Mφr2.53; Best double couple: M0=3.9×10^17 NP1:φs255°, δ20°,λ121°. NP2:φs42°,δ73°,λ80°. Principal axes: T 3.99, Plg60°, Azm297°; N -.26, Plg10°, Azm45°; P -3.73, Plg28°, Azm140°;*
*MOS **01** 04:40:37.1±1.0,47.08N×153.85E,h28km,mb5.5/94, MS5.3/62 Error ellipse: s-maj=7.5km s-min=3.5km az=107.1*

ISC 01 04:40:35.2±0.1,46.95N±0.03×153.91E±0.03,h18km,
h18km±.9km:pP-P,n914,σ1§03/869,mb5.3/217,MS5.2/180,
159C-14D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.01**	**20**	*e*P	**Pn**	**04 41 33.1**	**-4.2**
SKR				AMB	AMB	04 41 38.3	
	390nm,0.5s						
SKR				AMB	AMB	04 41 38.3	
	370nm,0.5s						
SKR				AMB	AMB	04 41 38.3	
	1μm,0.5s						
SKR				AMB	AMB	04 41 46.0	
	9μm,6.0s						
SKR				AMB	AMB	04 41 46.0	
	7μm,6.0s						
SKR				AMB	AMB	04 41 46.0	
	7μm,6.0s						
SKR				AMB	AMB	04 41 46.0	
	10μm,6.0s						
SKR				AMB	AMB	04 41 46.0	
	7μm,6.0s						
SKR				AMB	AMB	04 41 46.0	
	9μm,6.0s						
SKR				⇑*i*S	**Sn**	**04 42 18.5**	**-5.9**
SKR				A		04 42 32.7	
	1μm,0.6s						
SKR				A		04 42 32.7	
	3μm,0.6s						
SKR				A		04 42 32.7	
	810nm,0.6s						
SKR				A		04 42 41.0	
	24μm,10.0s						
SKR				A		04 42 41.0	
	60μm,10.0s						
SKR				A		04 42 41.0	
	25μm,10.0s						
SKR				A		04 42 41.0	
	23μm,10.0s						
SKR				A		04 42 41.0	
	60μm,10.0s						
SKR				AMS	AMS	04 43 16.0	
	29μm,10.0s						
SKR				AMS	AMS	04 43 16.0	
	42μm,10.0s						
SKR				AMS	AMS	04 43 16.0	
	35μm,10.0s						
SKR				AMS	AMS	04 43 16.0	
	30μm,10.0s						
SKR				AMS	AMS	04 43 16.0	
	40μm,10.0s						
SKR				AMS	AMS	04 43 16.0	
	34μm,10.0s						
KUR	**Kuril'sk**	**4.54**	**250**	*i* P	**Pn**	**04 41 44.2**	**-0.7**
KUR				⇓*i*P		04 41 44.2	
KUR				⇓*i*P		04 41 44.2	
KUR				AMB	AMB	04 41 46.9	
	230nm,0.6s						
KUR				AMB	AMB	04 41 46.9	
	140nm,0.6s						
KUR				AMB	AMB	04 41 46.9	
	1μm,0.6s						
KUR				AMB	AMB	04 41 53.0	
	8μm,4.0s						
KUR				AMB	AMB	04 41 53.0	
	22μm,4.0s						
KUR				AMB	AMB	04 41 53.0	
	16μm,4.0s						
KUR				pP		04 41 53.9	
KUR				sP		04 42 00.0	
KUR				*i* S	**Sn**	**04 42 38.6**	**+0.7**
KUR				A		04 43 02.0	
	5μm,0.7s						
KUR				A		04 43 02.0	
	2μm,0.7s						
KUR				A		04 43 10.5	
	81μm,13.0s						
KUR				A		04 43 10.5	
	47μm,13.0s						
KUR				AMS	AMS	04 44 23.8	
	16μm,12.0s						
KUR				AMS	AMS	04 44 23.8	
	13μm,12.0s						
KUR	**Kuril'sk**	**4.54**	**250**	⇓*i*PN	**Pn**	**04 41 44.2**	**-0.7**
KUR				*i* S	**Sn**	**04 42 38.6**	**+0.7**
KUR				pmax	pmax		
	comp=N,230nm,0.6s						
KUR				pmax	pmax		
	comp=E,140nm,0.6s						
KUR				pmax	pmax		
	comp=Z,1μm,0.6s						
KUR				pmax	pmax		
	comp=N,8μm,4.0s						
KUR				pmax	pmax		
	comp=E,22μm,4.0s						
KUR				pmax	pmax		
	comp=Z,16μm,4.0s						
KUR				smax			
	comp=N,5μm,0.7s						
KUR				smax			
	comp=E,2μm,0.7s						
KUR				smax			
	comp=N,81μm,13.0s						
KUR				smax			
	comp=E,47μm,13.0s						
KUR				MLR	MLR		
	comp=N,16μm,12.0s						
KUR				MLR	MLR		
	comp=E,13μm,12.0s						
KUR				MLR	MLR		
	comp=Z,16μm,12.0s						
YUK	**Yuzh-Kuril'sk**	**6.37**	**246**	*e*P	**Pn**	**04 42 10.5**	**-0.1**
YUK				AMB	AMB	04 42 12.5	
	comp=Z,110nm,0.5s						
YUK				AMB	AMB	04 42 12.5	
	comp=Z,170nm,0.5s						
YUK				AMB	AMB	04 42 20.0	
	comp=Z,408μm,3.8s						
YUK				AMB	AMB	04 42 20.0	
	comp=Z,14μm,3.8s						
YUK				AMB	AMB	04 42 20.0	
	comp=Z,8μm,3.8s						
YUK				*e*S	**Sn**	**04 43 23.5**	**-0.1**
YUK				A		04 43 44.5	
	comp=Z,23μm,6.0s						
YUK				A		04 43 44.5	
	comp=Z,16μm,6.0s						
YUK				A		04 43 53.5	
	comp=Z,7μm,0.6s						
YUK				A		04 43 53.5	
	comp=Z,9μm,0.6s						
YUK				AMS	AMS	04 44 31.0	
	comp=Z,5μm,14.0s						
YUK				AMS	AMS	04 44 31.0	
	comp=Z,4μm,14.0s						
YUK				AMS	AMS	04 44 31.0	
	comp=Z,20μm,14.0s						
YUK	**Yuzh-Kuril'sk**	**6.37**	**246**	*e*PN	**Pn**	**04 42 10.5**	**-0.1**
YUK				pmax	pmax		
	comp=E,110nm,0.5s						
YUK				pmax	pmax		
	comp=Z,170nm,0.5s						
YUK				pmax	pmax		
	comp=Z,8μm,3.5s						
YUK				pmax	pmax		
	comp=N,5μm,4.0s						
YUK				pmax	pmax		
	comp=E,14μm,4.0s						
YUK				MLR	MLR		
	comp=N,5μm,14.0s						
YUK				MLR	MLR		
	comp=E,35μm,14.0s						
YUK				MLR	MLR		
	comp=Z,20μm,14.0s						
NEM2	**Nemuro 2**	**6.80**	**241**	P	**Pn**	**04 42 15.4**	**-1.3**
NEM2				*e*S	**Sn**	**04 43 29.6**	**-4.8**
PET	**Petropavlovsk**	**6.80**	**25**	⇑*i*P	**Pn**	**04 42 13.4**	**-3.4**
PET				AMB	AMB	04 42 16.1	
	comp=Z,700nm,11.0s						
PET				AMB	AMB	04 42 16.6	
PET				AMB	AMB	04 42 23.7	
	comp=Z,1μm,3.7s						
PET				*e*S	**Sn**	**04 43 27.7**	**-6.9**
PET				A		04 43 31.2	
	comp=Z,4μm,12.0s						
PET				A		04 43 34.4	
	comp=Z,7μm,8.2s						
PET				A		04 43 55.1	
	comp=Z,2μm,0.9s						
PET				A		04 43 58.1	
	comp=Z,2μm,1.4s						
PET				AMS	AMS	04 45 12.7	
	comp=Z,16μm,17.0s						
PET				AMS	AMS	04 45 14.1	
	comp=Z,16μm,20.0s						
PET	**Petropavlovsk**	**6.80**	**25**	*e*P	**Pn**	**04 42 12.6**	**-4.2**
	comp=Z,454nm,1.1s						
PET	**Petropavlovsk**	**6.80**	**25**	⇑*i*PN	**Pn**	**04 42 13.4**	**-3.4**
PET				pmax	pmax		
	comp=Z,84nm,0.9s						
PET				pmax	pmax		
	comp=Z,800nm,11.2s						
PET				pmax	pmax		
	comp=Z,1μm,3.7s						
PET				MLR	MLR		
	comp=Z,16μm,17.0s						
PET				MLR	MLR		
	comp=Z,16μm,20.0s						
JRA	**Rausu**	**6.88**	**247**	P	**Pn**	**04 42 19.1**	**+1.3**
JNK	**Nakash**	**7.30**	**246**	P	**Pn**	**04 42 24.3**	**+0.5**
JNK				*e*S	**Sn**	**04 43 45.0**	**-2.1**
JAK	**Akkeshi**	**7.63**	**242**	P	**Pn**	**04 42 27.2**	**-1.2**
JAK				*e*S	**Sn**	**04 43 49.8**	**-5.6**
YSS	**Yuzh-Sakhalins**	**7.64**	**274**	⇑*e*P	**Pn**	**04 42 32.1**	**+3.6**
YSS				*i* P		04 42 32.1	
YSS				AMB	AMB	04 42 34.0	
	comp=Z,210nm,0.7s						
YSS				AMB	AMB	04 42 34.0	
	comp=Z,280nm,0.8s						
YSS				pP		04 42 37.0	
YSS				AMB	AMB	04 42 40.0	
	comp=Z,3μm,7.0s						
YSS				AMB	AMB	04 42 40.0	
	comp=Z,4μm,7.0s						
YSS				AMB	AMB	04 42 40.0	
	comp=Z,4μm,7.0s						
YSS				AMB	AMB	04 42 40.0	
	comp=Z,700nm,7.0s						
YSS				AMB	AMB	04 42 40.0	
	comp=Z,4μm,7.0s						
YSS				sP		04 42 40.1	
YSS				*e*S	**Sn**	**04 43 57.7**	**+2.3**
YSS				A		04 44 05.0	
	comp=Z,260nm,0.8s						
YSS				AMS	AMS	04 45 17.0	
	comp=Z,33μm,15.0s						
YSS				AMS	AMS	04 45 17.0	
	comp=Z,37μm,15.0s						
YSS				AMS	AMS	04 45 17.0	
	comp=Z,8μm,13.0s						
YSS				AMS	AMS	04 45 17.0	
	comp=Z,40μm,16.0s						
YSS				AMS	AMS	04 45 17.0	
	comp=Z,50μm,16.0s						
YSS	**Yuzh-Sakhalins**	**7.64**	**274**	*e*P	**Pn**	**04 42 30.7**	**+2.3**
	comp=Z,259nm,0.6s						
YSS	**Yuzh-Sakhalins**	**7.64**	**274**	*αe*PN	**Pn**	**04 42 32.1**	**+3.6**
YSS				*e*S	**Sn**	**04 43 57.7**	**+2.3**
YSS				pmax	pmax		
	comp=N,120nm,0.7s						
YSS				pmax	pmax		
	comp=Z,210nm,0.7s						
YSS				pmax	pmax		
	comp=E,280nm,0.8s						
YSS				pmax	pmax		
	comp=N,700nm,7.0s						
YSS				pmax	pmax		
	comp=E,4μm,7.0s						
YSS				pmax	pmax		
	comp=Z,3μm,7.0s						
YSS				smax			
	comp=N,260nm,0.8s						
YSS				MLR	MLR		
	comp=Z,40μm,16.0s						
YSS				MLR	MLR		
	comp=N,8μm,13.0s						
YSS				MLR	MLR		
	comp=E,37μm,15.0s						
JTKR	**Abashiri--Toko**	**7.64**	**251**	P	**Pn**	**04 42 30.0**	**+1.5**
JMP	**Maruseppu**	**7.98**	**252**	P	**Pn**	**04 42 34.9**	**+1.7**
JAR	**Ashorobuto**	**8.05**	**247**	P	**P**	**04 42 34.7**	**+0.5**
JAR				*e*S	**Sn**	**04 44 03.8**	**-1.9**
JSE	**Soyaes**	**8.14**	**260**	P	**P**	**04 42 38.8**	**+3.3**
JOB	**Onbets**	**8.21**	**244**	P	**P**	**04 42 35.6**	**-0.9**
JOB				*e*S	**Sn**	**04 44 05.6**	**-4.2**
UGL	**Uglegorsk**	**8.22**	**289**	*i* P	**P**	**04 42 40.0**	**+3.4**
UGL				*i* P		04 42 40.0	
UGL				AMB	AMB	04 42 43.0	
	comp=E,197nm,0.9s						
UGL				AMB	AMB	04 42 43.0	
	comp=E,165nm,0.9s						
UGL				AMB	AMB	04 42 43.0	
	comp=E,344nm,0.9s						
UGL				AMB	AMB	04 42 49.0	
	comp=E,2μm,7.0s						
UGL				AMB	AMB	04 42 49.0	
	comp=E,6μm,7.0s						
UGL				AMB	AMB	04 42 49.0	
	comp=E,6μm,7.0s						
UGL				sP		04 42 55.5	
UGL				A		04 44 49.0	
	comp=E,2μm,8.0s						

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UGL                          A                    04 44 49.0
     comp=E,6µm,8.0s
UGL                          A                    04 44 49.0
     comp=E,5µm,8.0s
UGL                          AMS     AMS          04 46 05.0
     comp=E,28µm,15.0s
UGL                          AMS     AMS          04 46 05.0
     comp=E,37µm,15.0s
UGL                          AMS     AMS          04 46 05.0
     comp=E,49µm,15.0s
UGL  Uglegorsk     8.22 289b iPN     P            04 42 40.0 +3.4
UGL                          S       Sn           04 44 22.0 +12
UGL                          pmax    pmax
     comp=N,197nm,0.9s
UGL                          pmax    pmax
     comp=E,165nm,0.9s
UGL                          pmax    pmax
     comp=Z,344nm,0.9s
UGL                          pmax    pmax
     comp=N,2µm,7.0s
UGL                          pmax    pmax
     comp=E,6µm,7.0s
UGL                          pmax    pmax
     comp=Z,6µm,7.0s
UGL                          smax
     comp=N,2µm,8.0s
UGL                          smax
     comp=E,6µm,8.0s
UGL                          smax
     comp=Z,5µm,8.0s
UGL                          MLR     MLR
     comp=N,28µm,15.0s
UGL                          MLR     MLR
     comp=E,37µm,15.0s
UGL                          MLR     MLR
     comp=Z,49µm,15.0s
TYV  Tymovskoe     8.38 302  eP      P            04 42 36.5 -2.4
TYV                          AMB     AMB          04 42 45.0
     comp=Z,36nm,0.9s
TYV                          AMB     AMB          04 42 45.0
     comp=Z,254nm,1.2s
TYV                          AMB     AMB          04 42 45.0
     comp=Z,336nm,1.2s
TYV                          AMB     AMB          04 42 48.0
     comp=Z,3µm,8.0s
TYV                          AMB     AMB          04 42 48.0
     comp=Z,4µm,8.0s
TYV                          AMB     AMB          04 42 48.0
     comp=Z,5µm,8.0s
TYV                          A                    04 44 08.0
     comp=Z,2µm,6.0s
TYV                          A                    04 44 08.0
     comp=Z,2µm,6.0s
TYV                          AMS     AMS          04 46 06.0
     comp=Z,26µm,16.0s
TYV                          AMS     AMS          04 46 06.0
     comp=Z,19µm,16.0s
TYV                          AMS     AMS          04 46 06.0
     comp=Z,40µm,16.0s
ASAJ Asahikawa     8.43 254  P       P            04 42 42.0 +2.5
JKK2 Kamakawa 2    8.44 253  P       P            04 42 41.4 +1.8
JWK2 Keihoku       8.51 263  P       P            04 42 45.2 +4.7
JCH  Churui        8.66 244  P       P            04 42 41.3 -1.4
JCH                          eS      Sn           04 44 15.0 -6.0
JFR  Furan         8.86 249  P       P            04 42 46.2 +0.8
JEM  Erimo         9.13 241  P       P            04 42 48.6 -0.6
JHR  Hokuryu       9.16 254  P       P            04 42 51.9 +2.3
JBT2 Biratori 2    9.20 247  P       P            04 42 50.0 -0.1
JNBK Urakawa-nobuka 9.22 244 P       P            04 42 48.7 -1.8
JNBK                         eS      Sn           04 44 31.6 -3.3
OKH  Okha          9.64 317 ⇓iP      P            04 42 55.8 -0.4
OKH                          AMB     AMB          04 42 56.0
     comp=Z,300nm,0.8s
OKH                          AMB     AMB          04 43 00.0
     comp=Z,5µm,7.0s
OKH                          AMB     AMB          04 43 00.0
     comp=Z,4µm,6.0s
OKH                          AMB     AMB          04 43 00.0
     comp=Z,7µm,7.0s
OKH                          eS      Sn           04 44 44.2 -0.9
OKH                          A                    04 45 04.4
     comp=Z,4µm,6.0s
OKH                          AMS     AMS          04 48 14.2
     comp=Z,27µm,12.0s
OKH                          AMS     AMS          04 48 14.2
     comp=Z,24µm,15.0s
OKH                          AMS     AMS          04 48 14.2
     comp=Z,33µm,14.0s
OKH  Okha          9.64 317  iPN     P            04 42 56.0 -0.2
OKH                          pmax    pmax
     comp=Z,7µm,8.0s
JSK  Shakotan     10.15 254  P       P            04 43 04.0 +0.8
JNB  Noboribetsu  10.20 249  P       P            04 43 02.7 -1.1
JNB                          eS      S            04 44 53.9 -4.9
JKB  Kayabe       10.51 246  P       P            04 43 05.7 -2.4
JKB                          eS      S            04 44 58.1 -8.2
JSH  Shimam       10.75 251  P       P            04 43 10.7 -0.7
JYM2 Yakumo 2     10.80 248  P       P            04 43 10.9 -1.2
JSR  Shiriuchi    11.09 246  P       P            04 43 14.0 -2.0
JANG Nango        11.12 238  P       P            04 43 11.9 -4.6
JANG                         eS      S            04 45 09.1 -12
JTM  Tenmabayashi 11.12 241  P       P            04 43 12.8 -3.7
JTM                          eS      S            04 45 10.5 -11
JTH  Tanohata     11.21 236  P       P            04 43 12.9 -4.7
JTH                          eS      S            04 45 10.5 -13
JOSM Okushiri--Mats 11.39 250 P       P            04 43 18.9 -1.3
OFUJ Ofunato      11.91 233  P       P            04 43 22.6 -4.6
OFUJ                         eS      S            04 45 27.6 -13
GRNR Gornyy       12.13 295  iP      P            04 43 28.7 -1.4
GRNR                         AMB     AMB          04 43 29.6
     comp=Z,130nm,0.5s
TEY  Ternei       12.19 267  eP      P            04 43 31.0 +0.1
TEY                          AMB     AMB          04 43 42.0
     comp=Z,800nm,6.0s
TEY                          AMB     AMB          04 43 42.0
     comp=Z,6µm,6.0s
TEY                          AMB     AMB          04 43 42.0
     comp=Z,7µm,7.0s
TEY                          AMS     AMS          04 47 59.0
     comp=Z,9µm,17.0s
TEY                          AMS     AMS          04 47 59.0
     comp=Z,11µm,17.0s
TEY                          AMS     AMS          04 47 59.0
     comp=Z,43µm,17.0s
JRG  Rokugo       12.27 237  P       P            04 43 28.9 -3.2
JRG                          eS      S            04 45 41.4 -8.0
JOG2 Oga 2        12.43 241  P       P            04 43 30.6 -3.5
JIO  Ouri         12.54 232  P       P            04 43 30.9 -4.7
JIO                          eS      S            04 45 46.4 -9.3
MA2  Magadan      12.79 353  eP      P            04 43 36.0 -2.9
     comp=Z,56nm,0.6s
MA2  Magadan      12.79 353  ePN     P            04 43 37.1 -1.7
MA2                          pmax    pmax
     comp=Z,56nm,0.6s
JYA  Atsumi       13.35 236  P       P            04 43 42.4 -3.9
JFK  Kawauchi     13.59 230  P       P            04 43 45.1 -4.4
JFK                          eS      S            04 46 09.4 -12
FX1  Attu Island--F 13.73 57 Pn       P            04 43 46.3 -4.9
     comp=Z,6.7nm,0.3s,baz=239,slow=7.7,SNR=41
FX1                          Sn      S            04 46 06.1 -18
     comp=Z,3.5nm,0.3s,baz=36,slow=19,SNR=5.5
FX1                          LR      LR           04 48 02.8
     comp=Z,151nm,22.0s,baz=53,slow=33
FX1  Attu Island--F 13.73 57 eP      P            04 43 47.6 -3.7
JFY  Yanaizu      14.19 233  P       P            04 43 54.7 -2.6
SMY  Shemya       14.23 59   eP      P            04 43 54.6 -3.2
     comp=Z,90nm,0.8s
SMY  Shemya       14.23 59   eP      P            04 43 54.6 -3.2
SMY                          pmax    pmax
     comp=Z,90nm,0.8s
EKMR Ekimchan     14.78 302  eP      P            04 44 03.4 -1.5
EKMR                         AMB     AMB          04 44 16.3
     comp=Z,40nm,0.5s
KLR  Kul'dur      14.98 287  eP      P            04 44 07.7 +0.1
KLR                          ⇓iP                  04 44 08.0
KLR                          AMB     AMB          04 44 15.0
     comp=Z,650nm,3.6s
KLR                          AMB     AMB          04 44 15.0
     comp=Z,700nm,3.6s
KLR                          AMB     AMB          04 44 22.0
     comp=Z,4µm,9.0s
KLR                          AMB     AMB          04 44 22.0
     comp=Z,5µm,9.0s
KLR  Kul'dur      14.98 287  eP      P            04 44 07.7 +0.1
KLR                          e                    04 47 00.0
KLR                          pmax    pmax
     comp=E,650nm,3.6s
KLR                          pmax    pmax
     comp=Z,700nm,3.6s
KLR                          pmax    pmax
     comp=E,4µm,9.0s
KLR                          pmax    pmax
     comp=Z,5µm,9.0s
KLR                          MLR     MLR
     comp=N,8µm,14.0s
KLR                          MLR     MLR
     comp=E,20µm,14.0s
KLR                          MLR     MLR
     comp=Z,26µm,14.0s
MJAR Matsushiro Arr 15.64 234 Pn     P            04 44 13.9 -2.3
     comp=Z,2.0nm,0.3s,baz=28,slow=12,SNR=44
MAJO Matsushiro   15.64 234  eP      P            04 44 22.3 +6.0
     comp=Z,104nm,0.6s
MAJO Matsushiro   15.64 234  eP      P            04 44 22.5 +6.2
MAJO                         pmax    pmax
     comp=Z,100nm,0.7s
MAT  Matsushiro   15.64 234  P       P            04 44 13.6 -2.7
MAT                          S       S            04 47 07.0 -2.5
MAT  Matsushiro   15.64 234  eP      P            04 44 14.0 -2.3
     comp=Z,75nm,1.0s
MAT                          eS      S            04 47 08.0 -1.5
MAT  Matsushiro   15.64 234  eP      P            04 44 14.0 -2.3
MAT                          eS      S            04 47 08.0 -1.5
MAT                          pmax    pmax
     comp=Z,75nm,1.0s
SEY  Seymchan     16.04 357  eP      P            04 44 23.7 +2.4
SEY                          eS      S            04 47 24.0 +5.3
SEY                          pmax    pmax
     comp=Z,40nm,0.8s
SEY                          smax
     comp=N,38µm,18.1s
SEY                          smax
     comp=E,3µm,10.0s
SEY                          MLR     MLR
     comp=N,12µm,13.0s
SEY                          MLR     MLR
     comp=E,18µm,13.0s
SEY                          MLR     MLR
     comp=Z,26µm,13.0s
MDJ  Mudanjiang   17.11 271  P       P            04 44 35.3 +0.4
MDJ                          AP                   04 44 39.8
MDJ                          XP                   04 44 41.9
MDJ                          PP      PP           04 44 49.5 +0.2
MDJ                          S       S            04 47 45.5 +2.2
MDJ                          XS                   04 47 53.3
MDJ                          SS      SS           04 48 03.2 -1.5
MDJ                          AMB     AMB
     comp=Z,81nm,0.7s
MDJ                          AMB     AMB
     comp=Z,1µm,6.6s
MDJ                          LR      LR
     comp=N,3µm,16.1s
MDJ                          LR      LR
     comp=E,9µm,15.4s
MDJ                          LR      LR
     comp=Z,15µm,16.1s
MDJ  Mudanjiang   17.11 271  eP      P            04 44 34.5 -0.5
     comp=Z,55nm,0.7s
JHJ  Hachijo jima 2 17.51 223 P       P            04 44 42.2 +2.3
     comp=Z,4.9nm,0.3s,baz=69,slow=6.5,SNR=7.6
BMKR Bomnak       17.57 305  eP      P            04 44 38.5 -2.1
BMKR                         AMB     AMB          04 44 42.8
     comp=Z,80nm,0.6s
YASR Yasnyy       17.74 300  eP      P            04 44 40.5 -2.2
YASR                         AMB     AMB          04 44 46.6
     comp=Z,4.0nm,0.5s
YASR                         AMB     AMB          04 44 46.6
     comp=Z,24nm,0.5s
YASR                         AMB     AMB          04 44 46.6
     comp=Z,50nm,0.5s
ZEA  Zeya         18.25 302  eP      P            04 44 46.0 -3.1
ZEA                          AMB     AMB          04 44 55.0
     comp=Z,1µm,8.0s
ZEA                          AMB     AMB          04 44 55.0
     comp=Z,5µm,8.0s
ZEA                          AMB     AMB          04 44 55.0
     comp=Z,5µm,8.0s
ZEA                          AMB     AMB          04 44 55.0
     comp=Z,190nm,1.7s
ZEA                          AMB     AMB          04 44 55.0
     comp=Z,240nm,1.7s
ZEA                          AMB     AMB          04 44 55.0
     comp=Z,340nm,1.7s
ZEA                          eS      S            04 48 12.0 +2.7
ZEA                          A                    04 48 15.0
     comp=Z,500nm,10.0s
KROS Kirovskiy    18.56 304  eP      P            04 44 50.4 -2.5
KROS                         AMB     AMB          04 44 54.9
     comp=Z,38nm,0.7s
KROS                         AMB     AMB          04 44 54.9
     comp=Z,84nm,0.7s
KROS                         AMB     AMB          04 44 54.9
     comp=Z,120nm,0.7s
CN2  Changchun    20.20 271  eP      P            04 45 08.4 -3.2
CN2                          ePP     PP           04 45 27.6 -4.0
CN2                          S       S            04 48 48.0 -4.2
CN2                          AMB     AMB
     comp=Z,30nm,0.6s
CN2                          AMB     AMB
     comp=Z,1µm,13.0s
CN2                          LR      LR
     comp=N,10µm,16.0s,MS5.5
CN2                          LR      LR
     comp=E,14µm,16.0s,MS5.5
CLNS Chul'man     20.31 310  eP      P            04 45 13.1 +0.4
YAK  Yakutsk      20.45 326  P       P            04 45 10.4 -3.8
     comp=E,116nm,0.8s
YAK                          LR      LR
     comp=Z,6µm,19.0s,MS5.0
YAK  Yakutsk      20.45 326  eP      P            04 45 11.1 -3.1
YAK                          e*PP                 04 45 20.1
YAK                          e                    04 45 30.2
YAK                          eS      S            04 49 03.6 +6.2
YAK                          e                    04 49 13.2
YAK                          eSS     SS           04 49 23.9 -3.7
YAK                          eSSS    SSS          04 49 41.1 -0.5
YAK                          e                    04 56 37.9
YAK                          pmax    pmax
     comp=E,6.0nm,0.8s
YAK                          pmax    pmax
     comp=Z,33nm,0.8s
YAK                          pmax    pmax
     comp=N,4.0nm,1.0s
YAK                          smax
     comp=N,29nm,0.9s
YAK                          smax
     comp=Z,12nm,0.9s
YAK                          smax
     comp=E,39nm,1.0s
YAK                          MLR     MLR
     comp=N,7µm,13.0s,MS5.3
YAK                          MLR     MLR
     comp=E,7µm,13.0s,MS5.3
YAK                          MLR     MLR
     comp=Z,10µm,13.0s,MS5.4
KS15 Wonju Array Si 21.41 253 eP     P            04 45 24.4 +0.2
CBIJ Chichi jima  21.87 209  P       P            04 45 29.4 +0.6
     comp=Z,39nm,0.9s,mb4.8,baz=185,slow=23,SNR=6.2
SNY  Shenyang     22.19 268 ⇑P       P            04 45 31.4 -0.6
SNY                          AP                   04 45 40.0
SNY                          XP                   04 45 44.8
SNY                          S       S            04 49 33.6 +3.0
SNY                          AMB     AMB
     comp=Z,90nm,0.6s,mb5.4
SNY                          AMB     AMB
     comp=Z,2µm,8.4s
SNY                          LR      LR
     comp=N,7µm,15.3s,MS5.4
SNY                          LR      LR
     comp=E,10µm,16.8s,MS5.4
SNY                          LR      LR
     comp=Z,14µm,15.9s,MS5.5
INCN Inchon       22.21 255  eP      P            04 45 31.5 -0.7
     comp=Z,67nm,0.7s,mb5.2
INCN                         LR      LR
     comp=Z,3µm,19.0s,MS4.8
JNU  Nakatsue     22.29 240  P       P            04 45 33.9 +0.8
     comp=Z,90nm,1.1s,mb5.1,baz=45,slow=6.5
JNU                          LR      LR           04 55 39.7
     comp=Z,4µm,18.2s,MS4.9,baz=41,slow=41
HIA  Hailar       22.82 288  eP      P            04 45 36.9 -1.2
     comp=Z,24nm,0.6s,mb4.8
HIA                          LR      LR
     comp=Z,13µm,19.0s,MS5.4
HIA  Hailar       22.82 288  eP      P            04 45 36.9 -1.1
HIA                          pmax    pmax
     comp=Z,24nm,0.6s
HIA                          MLR     MLR
     comp=Z,13µm,19.0s
DL2  Dalian       24.83 263 ⇑P       P            04 45 59.1 +1.4
DL2                          S       S            04 50 15.0 -1.7
DL2                          AMB     AMB
     comp=Z,50nm,0.7s,mb5.2
DL2                          AMB     AMB
     comp=Z,1µm,8.1s
DL2                          LR      LR
     comp=N,2µm,14.7s,MS4.9
DL2                          LR      LR
     comp=E,2µm,15.3s,MS4.9
DL2                          LR      LR
     comp=Z,2µm,14.6s,MS4.8
BOD  Bodaibo      26.29 309  eP      P            04 46 08.3 -2.8
BOD                          pmax    pmax
     comp=Z,35nm,1.3s,mb4.7
CIT  Chita        26.45 296  eP      P            04 46 11.7 -1.0
CIT                          pmax    pmax
     comp=Z,68nm,2.4s,mb4.8
TIXI Tiksi        27.43 343  iP      P            04 46 19.2 -2.3
TIXI                         LR      LR
     comp=Z,6µm,19.0s,MS5.2
TIXI Tiksi        27.43 343  eP      P            04 46 16.8 -4.7
TIXI                         eS      S            04 50 53.8 -5.5
TIXI                         pmax    pmax
     comp=Z,15nm,0.8s,mb4.6
TIXI                         MLR     MLR
     comp=Z,4µm,13.0s,MS5.2
JOW  Kunigami     28.48 234  P       P            04 46 32.0 +0.6
     comp=Z,39nm,0.9s,mb5.0,baz=48,slow=7.6,SNR=19
MIDW Midway       29.21 120  PFAKE                04 46 50.0 +12
MIDW                         LR      LR
     comp=Z,5µm,22.0s,MS5.1
TIA  Tai'an       29.29 262 ⇑P       P            04 46 39.3 +0.7
TIA                          S       S            04 51 26.6 -2.8
TIA                          AMB     AMB
     comp=Z,27nm,1.0s,mb4.9
TIA                          LR      LR
     comp=N,3µm,15.0s,MS5.3
TIA                          LR      LR
     comp=E,5µm,15.0s,MS5.3
WAKE Wake Island  29.50 155  PFAKE                04 46 50.0 +9.3
WAKE                         LR      LR
     comp=Z,4µm,22.0s,MS4.9
SSE  Sheshan      29.68 249  eP      P            04 46 42.4 +0.2
SSE                          AP      pP           04 46 47.4 +0.1
SSE                          XP      sP           04 46 51.2 +1.6
SSE                          S       S            04 51 38.0 +2.3
SSE                          XS                   04 51 47.0
SSE                          SCS     ScS          04 57 22.0 +2.2
SSE                          AMB     AMB
     comp=Z,39nm,1.5s,mb4.9
SSE                          AMB     AMB
     comp=Z,325nm,4.9s
SSE                          LR      LR
     comp=N,3µm,22.0s,MS4.9
SSE                          LR      LR
     comp=E,2µm,21.9s,MS4.9
SSE                          LR      LR
     comp=Z,3µm,15.0s
SSE  Sheshan      29.68 249  eP      P            04 46 42.4 +0.2
     comp=Z,39nm,1.5s,mb4.9
SSE                          pP      pP           04 46 47.4 +0.1
SSE                          sP      sP           04 46 51.2 +1.6
SSE                          S       S            04 51 38.0 +2.3
SSE                          sS                   04 51 47.0
SSE                          ScS     ScS          04 57 22.0 +2.2
SSE                          LR      LR
     comp=Z,3µm,15.0s,MS5.1
NJ2  Nanjing      30.58 253  eP      P            04 46 51.1 +1.0
NJ2                          AP      pP           04 47 01.1 +5.8
NJ2                          XP      sP           04 47 05.5 +8.0
NJ2                          PP      PP           04 47 52.6 +2.1
NJ2                          S       S            04 51 51.0 +1.1
NJ2                          XS                   04 52 07.0
NJ2                          AMB     AMB
     comp=Z,60nm,0.7s,mb5.5
NJ2                          AMB     AMB
     comp=Z,302nm,4.2s
NJ2                          LR      LR
     comp=N,8µm,17.5s,MS5.5
NJ2                          LR      LR
     comp=E,5µm,16.7s,MS5.5
NJ2                          LR      LR
     comp=Z,13µm,18.1s,MS5.6
HHC  Hu-ho-hao-te 30.83 274  eP      P            04 46 51.6 -0.5
HHC                          AP      pP           04 46 56.0 -1.3
HHC                          XP      sP           04 46 58.7 -0.9
HHC                          PP      PP           04 47 53.1 -0.5
HHC                          PCP     PcP          04 49 51.1 +1.9
HHC                          S       S            04 51 49.8 -3.9
HHC                          SS      SS           04 53 31.9 -4.9
HHC                          AMB     AMB
     comp=Z,37nm,0.6s,mb5.4
HHC                          LR      LR
     comp=N,8µm,16.7s,MS5.6
HHC                          LR      LR
     comp=E,6µm,14.3s,MS5.6
HHC                          LR      LR
     comp=Z,8µm,17.8s,MS5.4
ULN  Ulaanbaatar  31.35 289  PFAKE                04 47 10.0 +13
ULN                          LR      LR
     comp=Z,8µm,19.0s,MS5.4
SONM Songino Array 31.79 289 P       P            04 46 58.8 -1.7
     comp=Z,14nm,0.6s,mb4.9,baz=66,slow=8.5,SNR=148
SONM                         LR      LR           05 00 50.1
     comp=Z,10µm,18.4s,MS5.5,baz=75,slow=38
SVW2 Sparrevohn   31.96  45 eP      P            04 47 01.8 -0.1
BTO  Baotou       31.99 275  eP      P            04 47 06.7 +4.3
BTO                          S       S            04 52 05.3 -6.5
BTO                          LR      LR
     comp=N,6µm,16.5s,MS5.4
BTO                          LR      LR
     comp=E,3µm,17.3s,MS5.4
TLY  Talaya       32.58 297  iP      P            04 47 06.3 -1.1
TLY  Talaya       32.58 297  eP      P            04 47 05.3 -2.1
TLY                          e                    04 48 11.6
TLY                          eS      S            04 52 25.9 +5.0
TLY                          eSS     SS           04 54 40.9 +23
TLY                          pmax    pmax
     comp=Z,13nm,0.6s,mb5.0
TLY                          MLR     MLR
     comp=Z,9µm,16.0s,MS5.5
ZAK  Zakamensk    33.09 295 ⇑iP      P            04 47 11.0 -0.9
ZAK                          e                    04 49 55.0
ZAK                          pmax    pmax
     comp=Z,10.0nm,1.2s,mb4.6
IMA  Indian Mountai 33.33 36 eP      P            04 47 13.8 +0.1
IMA  Indian Mountai 33.33 36 eP      P            04 47 12.8 -1.0
IMA                          pmax    pmax
     comp=Z,150nm,1.1s,mb5.8
RSO  Redoubt South 33.34 46  eP      P            04 47 13.9  0.0
KDAK Kodiak Island 33.55 51  P       P            04 47 17.1 +1.3
SPU  Mount Spurr  33.68  45  eP      P            04 47 15.2 -1.7
TATO Taipei       33.83 241  PFAKE                04 47 30.0 +11
TATO                         LR      LR
     comp=Z,3µm,19.0s,MS5.0
GUMO Guam         34.11 196  PFAKE                04 47 30.0 +8.9
GUMO                         LR      LR
     comp=Z,2µm,19.0s,MS4.8
YHNB Yeheng       34.12 241  P       P            04 47 21.1 +0.1
MOY  Mondy        34.19 298  eP      P            04 47 19.9 -1.5
MOY                          pmax    pmax
     comp=Z,62nm,3.4s
WHN  Wuhan        34.51 256 ⇑P       P            04 47 25.0 +0.6
WHN                          AMB     AMB
     comp=Z,44nm,0.6s,mb5.6
SLKM Skilak Lake  34.59  46  P       P            04 47 24.2 -0.5
PMR  Palmer       35.08  44  eP      P            04 47 28.1 -0.8
     comp=Z,43nm,1.3s,mb5.2
PMR  Palmer       35.08  44  eP      P            04 47 28.1 -0.8
PMR                          pmax    pmax
     comp=Z,43nm,1.3s,mb5.2
QZH  Quanzhou     35.61 244 ⇑iP      P            04 47 35.7 +1.9
QZH                          S       S            04 53 13.5 +5.2
QZH                          AMB     AMB
     comp=Z,120nm,0.8s,mb5.9
QZH                          AMB     AMB
```

comp=Z,1μm,3.2s
QZH LR LR
comp=N,3μm,14.8s,MS5.2
QZH LR LR
comp=E,3μm,17.7s,MS5.2
QZH LR LR
comp=Z,5μm,14.9s,MS5.4
ILAR Eielson Array 36.05 39 P **P 04 47 36.1 -1.0**
comp=Z,17nm,1.1s,mb4.9,baz=259,slow=6.9,SNR=53
ILAR LR LR 05 02 19.5
comp=Z,2μm,20.3s,MS4.9,baz=88,slow=36
XAN Xi'an 36.08 266 P **P 04 47 38.2 +0.5**
XAN AP pP 04 47 47.6 +4.7
XAN PP PP 04 49 01.6 +1.6
XAN S **S 04 53 20.7 +5.3**
XAN AMB AMB
comp=Z,92nm,1.0s,mb5.7
XAN LR LR
comp=N,4μm,15.2s,MS5.5
XAN LR LR
comp=E,4μm,14.2s,MS5.5
XAN LR LR
comp=Z,8μm,15.2s,MS5.6
ENH Enshi 37.94 260 *e*P **P 04 47 53.5 +0.2**
comp=Z,78nm,1.2s,mb5.3
ENH LR LR
comp=Z,1μm,20.0s,MS4.7
LZH Lanzhou 38.43 272⇑*i*P **P 04 47 57.9 +0.5**
LZH AP pP 04 48 02.5 -0.2
LZH XP sP 04 48 05.0 +0.1
LZH PP PP 04 49 29.1 +0.1
LZH S **S 04 53 50.5 -0.7**
LZH SS SS 04 56 29.3 -2.0
LZH AMB AMB
comp=Z,146nm,1.4s,mb5.5
LZH AMB AMB
comp=Z,665nm,6.3s
LZH LR LR
comp=N,3μm,12.9s
LZH LR LR
comp=Z,5μm,16.8s,MS5.4
LZH Lanzhou 38.43 272⇑*i*P **P 04 47 57.9 +0.5**
comp=Z,146nm,1.4s,mb5.5
LZH pP pP 04 48 02.5 -0.2
LZH sP sP 04 48 05.0 +0.1
LZH PP PP 04 49 29.1 +0.1
LZH S **S 04 53 50.5 -0.7**
LZH sS 04 53 58.0
LZH SS SS 04 56 29.3 -2.0
LZH LR LR
comp=Z,5μm,16.8s,MS5.4
LZH Lanzhou 38.43 272⇑*i*P **P 04 47 57.9 +0.5**
LZH *SP sP 04 48 05.0 +0.1
LZH 04 49 29.1
LZH S **S 04 53 50.5 -0.7**
LZH SS SS 04 56 29.3 -2.0
LZH pmax pmax
comp=Z,146nm,1.4s,mb5.5
LZH MLR MLR
comp=Z,5μm,16.8s,MS5.4
GTA Gaotai 39.48 279 ⇑P **P 04 48 06.4 +0.2**
GTA AP pP 04 48 10.5 -0.9
GTA XP sP 04 48 12.5 -1.1
GTA PP PP 04 49 39.9 -0.9
GTA PCP PcP 04 50 15.5 +1.1
GTA SCP 04 54 02.1
GTA S **S 04 54 04.6 -2.5**
GTA SS SS 04 56 50.7 -3.7
GTA SCS ScS 04 58 11.9 +0.2
GTA AMB AMB
comp=Z,21nm,1.1s,mb4.8
GTA AMB AMB
comp=Z,723nm,6.5s
GTA LR LR
comp=N,5μm,14.1s,MS5.6
GTA LR LR
comp=E,4μm,13.3s,MS5.6
GTA LR LR
comp=Z,7μm,12.6s,MS5.7
KWAJ Kwajalein Atol 39.77 159 PFAKE 04 48 20.0 +11
KWAJ LR LR
comp=Z,1μm,20.0s,MS4.7
INK Inuvik 41.19 33 P **P 04 48 19.6 -0.3**
comp=Z,18nm,0.9s,mb4.7,baz=284,slow=5.6,SNR=26
INK Inuvik 41.19 33 *e*P **P 04 48 20.1 +0.2**
comp=Z,26nm,0.8s,mb4.9
INK *e* 04 48 36.8
INK Inuvik 41.19 33 *e*P **P 04 48 20.1 +0.2**
INK *e* 04 48 36.8
INK pmax pmax
comp=Z,26nm,0.8s
CD2 Chengdu 41.44 266⇑*i*P **P 04 48 23.7 +1.3**
CD2 PP PP 04 50 04.2 +2.9
CD2 S **S 04 54 35.2 -1.2**
CD2 AMB AMB
comp=Z,190nm,0.9s,mb5.7
CD2 AMB AMB
comp=Z,770nm,8.4s
CD2 LR LR
comp=N,1μm,14.4s
CD2 LR LR
comp=Z,1μm,15.0s,MS4.8
GYA Guiyang 42.29 258⇓*i*P **P 04 48 30.1 +0.7**
GYA AP pP 04 48 34.8 +0.1
GYA XP sP 04 48 37.6 +0.8
GYA PP PP 04 50 13.1 +2.7
GYA S **S 04 54 48.6 -0.4**
GYA SS SS 04 57 49.3 -2.7
GYA AMB AMB
comp=Z,80nm,0.8s,mb5.4
GYA AMB AMB
comp=Z,1μm,7.2s
GYA LR LR
comp=N,2μm,14.7s,MS5.2
GYA LR LR
comp=E,2μm,13.2s,MS5.2
GYA LR LR
comp=Z,2μm,14.4s,MS5.2
ZAL Zalesovo 42.96 306 P **P 04 48 32.5 -1.9**
comp=Z,25nm,0.5s,mb5.2,baz=45,slow=7.5,SNR=51
ZAL PcP PcP 04 50 24.5 -1.0
comp=Z,5.3nm,0.8s,baz=232,slow=3.8,SNR=3.5
NVS Novosibirsk 43.50 308⇑*i*P **P 04 48 36.4 -2.4**
NVS *i* 04 50 20.6
NVS *e*S **S 04 55 06.4 +0.1**
NVS pmax pmax
comp=Z,38nm,1.0s,mb5.1
NVS pmax pmax
comp=E,25nm,0.9s
NVS smax
comp=N,62nm,2.9s
NVS smax
comp=E,19nm,1.7s
DLBC Dease Lake 45.06 46 *e*P **P 04 48 52.6 +1.3**
WMQ Urumqi 45.37 291⇓P **P 04 48 54.0 0.0**
WMQ XP sP 04 49 01.0 -0.4
WMQ PP PP 04 50 41.0 +0.1
WMQ SCP 04 54 25.0
WMQ S **S 04 55 33.0 -0.4**
WMQ SS SS 04 58 47.0 -1.2
WMQ AMB AMB
comp=Z,31nm,0.8s,mb5.2
WMQ AMB AMB
comp=Z,749nm,8.0s
WMQ LR LR
comp=N,4μm,18.0s,MS5.6
WMQ LR LR
comp=E,4μm,16.0s,MS5.6
WMQ LR LR
comp=Z,6μm,17.0s,MS5.6
QIZ Qiongzhong 45.43 247 P **P 04 48 56.5 +1.7**
QIZ PP PP 04 50 44.3 +2.4
QIZ S **S 04 55 37.2 +2.6**
QIZ XS 04 55 45.6
QIZ SS SS 04 58 54.1 +4.4
QIZ AMB AMB
comp=Z,876nm,9.4s
QIZ LR LR
comp=N,1μm,20.8s,MS5.1
QIZ LR LR
comp=E,2μm,19.5s,MS5.1
QIZ LR LR
comp=Z,2μm,17.2s,MS5.1
QIZ Qiongzhong 45.43 247 PFAKE 04 49 10.0 +15
QIZ LR LR
comp=Z,1μm,20.0s,MS4.9
KMI Kunming 45.82 260 ⇑P **P 04 48 59.2 +1.4**
KMI AP pP 04 49 03.3 +0.2
KMI XP sP 04 49 04.9 -0.4
KMI PP PP 04 50 48.1 +2.4
KMI S **S 04 55 38.8 -1.3**
KMI SS SS 04 58 54.3 -2.3
KMI AMB AMB
comp=Z,55nm,1.2s,mb5.4
KMI AMB AMB
comp=Z,1μm,4.4s
KMI LR LR
comp=N,3μm,16.9s,MS5.4
KMI LR LR
comp=E,2μm,16.1s,MS5.4
KMI LR LR
comp=Z,2μm,15.9s,MS5.2
KMI Kunming 45.82 260 ⇑P **P 04 48 59.2 +1.4**
comp=Z,55nm,1.2s,mb5.4
KMI pP pP 04 49 03.3 +0.2
KMI sP sP 04 49 04.9 -0.4
KMI PP PP 04 50 48.1 +2.4
KMI PPP PPP 04 51 29.5 +0.9
KMI S **S 04 55 38.8 -1.3**
KMI sS 04 55 44.7
KMI SS SS 04 58 54.3 -2.3
KMI SSS SSS 04 59 46.9 -13
KMI LR LR
comp=Z,2μm,15.9s,MS5.2
KMI Kunming 45.82 260 ⇑P **P 04 48 59.2 +1.4**
KMI *SP sP 04 49 04.9 -0.4
KMI 04 50 48.1
KMI PPP PPP 04 51 29.5 +0.9
KMI S **S 04 55 38.8 -1.3**
KMI *SS 04 55 44.7
KMI SS SS 04 58 54.3 -2.3
KMI pmax pmax
comp=Z,55nm,1.2s,mb5.4
KMI MLR MLR
comp=Z,2μm,15.9s,MS5.2
KIP Kipapa 46.29 106 PFAKE 04 49 10.0 +8.4
KIP LR LR
comp=Z,3μm,21.0s,MS5.2
MKAR Makanchi Array 47.34 298 P **P 04 49 08.4 -1.1**
comp=Z,27nm,0.8s,mb5.2,baz=67,slow=7.9,SNR=212
MKAR PcP PcP 04 50 39.7 -1.1
comp=Z,5.4nm,0.7s,baz=61,slow=5.2,SNR=3.0
MKAR ScP 04 54 33.5
comp=Z,1.1nm,0.8s,baz=56,slow=5.2,SNR=4.0
MKAR LR LR 05 10 02.9
comp=Z,4μm,19.1s,MS5.4,baz=16,slow=37
MKAR Makanchi Array 47.34 298 P **P 04 49 08.4 -1.1**
MKAR PcP PcP 04 50 39.7 -1.1
MKAR ScP 04 54 33.5
MKAR LR LR 05 10 02.9
KURK Kurchatov 47.71 304 *e*P **P 04 49 10.6 -1.9**
comp=Z,114nm,0.7s,mb6.0
KURK LR LR
comp=Z,2μm,19.0s,MS5.0
KURK Kurchatov 47.71 304 *e*P **P 04 49 10.6 -1.8**
KURK pmax pmax
comp=Z,114nm,0.7s,mb6.0
KURK MLR MLR
comp=Z,2μm,19.0s,MS5.0
POHA Pohakuloa 49.10 106 PFAKE 04 49 40.0 +16
POHA LR LR
comp=Z,21μm,19.0s,MS6.2
YKW3 Yellowknife Ar 50.40 37 *e*P **P 04 49 32.1 -0.9**
YKA Yellowknife Ar 50.44 37 P **P 04 49 32.8 -0.5**
comp=Z,8.1nm,0.9s,mb4.8,baz=299,slow=7.5,SNR=15
YKA Yellowknife Ar 50.44 37 P **P 04 49 32.8 -0.5**
RES Resolute Bay 50.47 19 *e*P **P 04 49 32.9 -0.5**
comp=Z,40nm,1.0s,mb5.4
RES Resolute Bay 50.47 19 P **P 04 49 33.5 +0.1**
RES pmax pmax
comp=Z,40nm,1.0s,mb5.4
LSA Lhasa 50.81 274⇑*i*P **P 04 49 38.9 +2.3**
comp=Z,121nm,0.6s,mb6.0
LSA LR LR
comp=Z,3μm,19.0s,MS5.4
LSA Lhasa 50.81 274⇑*i*P **P 04 49 38.9 +2.4**
LSA pmax pmax
comp=Z,121nm,0.6s,mb6.0
LSA MLR MLR
comp=Z,3μm,19.0s,MS5.4
BVA0 Borovoye Array 51.16 310 *i* P **P 04 49 37.2 -1.6**
BVA0 pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
BVAR Borovoye Array 51.16 310 P **P 04 49 36.9 -1.9**
comp=Z,23nm,0.5s,mb5.3,baz=53,slow=7.4,SNR=150
BVAR PcP PcP 04 50 54.0 -0.5
comp=Z,8.9nm,0.7s,baz=77,slow=3.0,SNR=5.1
BRVK Borovoye 51.20 310 *e*P **P 04 49 37.4 -1.8**
comp=Z,29nm,0.8s,mb5.3
BRVK *e*PcP PcP 04 50 54.0 -0.6
BRVK LR LR
comp=Z,772nm,20.0s,MS4.7
BRVK Borovoye 51.20 310 *e*P **P 04 49 37.4 -1.7**
BRVK *e* 04 50 54.0
BRVK pmax pmax
comp=Z,29nm,0.8s,mb5.3
BRVK MLR MLR
comp=Z,772nm,20.0s,MS4.7
CHRT Chiangrai 51.39 257 ⇑P **P 04 49 40.0 -1.1**
comp=Z,210nm,0.8s,mb6.1
NANT Nan 51.54 256 ⇑P **P 04 49 41.0 -1.2**
comp=Z,162nm,1.0s,mb5.9
KKTK Khon Kaen 51.92 252 P **P 04 49 46.0 +0.9**
IMP Imphal 52.03 267 *e*P **P 04 49 46.0 +0.1**
KBS Kingsbay 52.38 351 *e*P **P 04 49 47.6 -0.3**
KBS *e*S **S 04 57 09.7 -1.5**
KBS AMS AMS 05 18 27.4
comp=Z,793nm,16.0s,MS4.8
KBS Kingsbay 52.38 351 PFAKE 04 50 00.0 +12
KBS LR LR
comp=Z,1μm,20.0s,MS4.9
CHG Chiang Mai 52.70 257 ⇑P **P 04 49 52.1 +1.2**
comp=Z,50nm,0.9s,mb5.4
CHTO Chiang Mai 52.70 257 *i* P **P 04 49 52.1 +1.1**
SHL Shillong 52.92 269 *i* P **P 04 49 53.0 +0.4**
SHL *ex* x 04 52 24.0
OCWA Octopus Mounta 52.94 57 PFAKE 04 50 00.0 +7.6
OCWA LR LR
comp=Z,1μm,21.0s,MS4.9
ULHL Ulahol 53.38 295 P **P 04 49 55.4 -0.3**
SNR=13
TKM2 Tokmak 2 53.40 296 P **P 04 49 55.2 -0.6**
SNR=13
CHMS Chumysh 53.88 297 P **P 04 49 58.2 -1.1**
SNR=6.1
USP Ospenovka 53.88 297 P **P 04 49 58.4 -0.9**
SNR=31
KBK Karagaybulak 53.95 296 P **P 04 49 59.4 -0.4**
SNR=5.5
FRU Bishkek 54.05 297 *e*P **P 04 49 59.0 -1.6**
FRU *e* 04 57 39.0
FRU *e* 05 01 16.0
FRU MLR MLR
comp=N,7μm,16.0s,MS6.0
FRU MLR MLR
comp=E,8μm,16.0s,MS6.0
FRU MLR MLR
comp=Z,9μm,16.0s,MS5.9
SVE Sverdlovsk 54.06 317⇑*i*P **P 04 49 58.8 -1.6**
SVE *e* pP 04 50 04.2 -1.6
SVE MLR MLR
comp=N,2μm,14.0s,MS5.7
SVE MLR MLR
comp=E,4μm,14.0s,MS5.7
SVE MLR MLR
comp=Z,8μm,14.0s,MS5.9
KZA Kyzart 54.08 296 P **P 04 50 00.9 +0.1**
SNR=24
AAK Ala-Archa 54.24 297 P **P 04 50 01.2 -0.7**
SNR=12
AAK Ala-Archa 54.24 297 *e*P **P 04 49 59.7 -2.3**
comp=Z,26nm,0.8s,mb5.2
AAK LR LR
comp=Z,2μm,19.0s,MS5.1
AAK Ala-Archa 54.24 297 *e*P **P 04 49 59.7 -2.2**
AAK pmax pmax
comp=Z,26nm,0.8s,mb5.2
AAK MLR MLR
comp=Z,2μm,19.0s,MS5.1
EKS2 Erkin-Say 54.66 297 P **P 04 50 04.1 -1.0**
SNR=32
AML Almayashu 55.01 297 P **P 04 50 07.4 -0.2**
SNR=11
KSH Kashi 55.08 293 *e*P **P 04 50 07.0 -1.2**
KSH *e*AP pP 04 50 11.0 -2.6
KSH *e*XP sP 04 50 14.0 -1.7
KSH *e*PCP PcP 04 51 09.4 -0.1
KSH *e*PP PP 04 52 10.0 -3.0
KSH *e*SCP 04 55 06.1
KSH *e*PCS 04 55 08.0
KSH S **S 04 57 44.1 -4.1**
KSH *e*SCS ScS 04 59 52.0 -1.2
KSH *e*SS SS 05 01 26.0 -6.0
KSH AMB AMB
comp=Z,160nm,2.9s,mb5.5
KSH LR LR
comp=N,3μm,14.6s,MS5.8
KSH LR LR
comp=E,4μm,13.6s,MS5.8
COR Corvallis 55.17 60 PFAKE 04 50 20.0 +11
COR LR LR
comp=Z,1μm,21.0s,MS5.0
ARU Arti 55.24 318⇑*i*P **P 04 50 07.2 -1.9**
ARU *i* 04 51 06.3
ARU *e* 04 52 11.4
ARU *e*S **S 04 57 49.2 -0.7**
ARU *e* 04 59 55.3
ARU *e*SS SS 05 01 33.9 -0.3
ARU pmax pmax
comp=Z,103nm,0.8s,mb5.9
ARU MLR MLR
comp=Z,4μm,19.0s,MS5.5
ARU MLR MLR
comp=N,2μm,22.0s,MS5.4
ARU MLR MLR
comp=E,2μm,18.0s,MS5.4
JIRN Jiri 55.48 275 *e*P **P 04 50 12.3 +1.1**
comp=E,522nm,0.6s
GUN Gumba 55.53 275 *e*P **P 04 50 12.5 +0.9**
comp=E,186nm,0.5s,mb6.4
EDM Edmonton 55.78 47 *e*P **P 04 50 12.0 -1.0**
KKN Kakani 56.02 276 *e*P **P 04 50 15.9 +0.8**
comp=E,350nm,0.6s
PKI Pulchoki 56.07 275 *e*P **P 04 50 16.1 +0.6**
comp=E,169nm,0.5s,mb6.3
DMN Daman 56.25 276 *e*P **P 04 50 17.8 +1.0**
comp=E,648nm,0.8s
GKN Gorkha 56.32 276 *e*P **P 04 50 18.1 +0.8**
comp=E,685nm,0.6s
HNR Honiara 56.38 173 LR LR 05 15 52.7
comp=E,1μm,18.4s,MS5.1,baz=94,slow=38
HNR Honiara 56.38 173 PFAKE 04 50 30.0 +12
HNR LR LR
comp=Z,1μm,19.0s,MS5.1
KKAR Karatay Array 56.38 299 *i* P **P 04 50 15.4 -2.1**
KKAR pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
PMG Port Moresby 56.42 188 LR LR 05 10 36.9
comp=Z,815nm,20.6s,MS4.8,baz=28,slow=32
PMG Port Moresby 56.42 188 PFAKE 04 50 30.0 +12
PMG LR LR
comp=Z,1μm,19.0s,MS5.0
DAG Danmarks Havn 56.47 358 *i* P **P 04 50 17.0 -0.7**
comp=Z,6.7nm,0.9s,mb4.7
DAG Danmarks Havn 56.47 358 *e*P **P 04 50 17.0 -0.7**
comp=Z,6.7nm,0.9s,mb4.7
DAG Danmarks Havn 56.47 358 *e*P **P 04 50 17.0 -0.7**
DAG pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
HUMO Hull Mountain 56.51 62 P **P 04 50 16.4 -2.0**
comp=Z,10nm,1.1s,mb4.8
HUMO LR LR
comp=Z,1μm,21.0s,MS4.9
NEW Newport 56.62 53 *e*P **P 04 50 17.6 -1.5**
comp=Z,16nm,1.2s,mb4.9
NEW LR LR
comp=Z,980nm,21.0s,MS4.9
NEW Newport 56.62 53 *e*P **P 04 50 17.7 -1.4**
NEW pmax pmax
comp=Z,16nm,1.2s
NEW MLR MLR
comp=Z,980nm,21.0s
LVZ Lovozero 56.80 337 *i* P **P 04 50 18.1 -2.1**
LVZ Lovozero 56.80 337 *i* P **P 04 50 18.3 -1.9**
LVZ *i* 04 52 25.5
LVZ *i* PPP PPP 04 53 43.3 -3.6
LVZ *i* S **S 04 58 04.8 -5.8**
LVZ pmax pmax
comp=Z,25nm,0.8s,mb5.3
LVZ pmax pmax
comp=N,8.0nm,0.6s
LVZ pmax pmax
comp=E,2.0nm,0.6s
LVZ smax
comp=N,323nm,13.8s
LVZ smax
comp=Z,89nm,11.4s
LVZ smax
comp=E,97nm,9.3s
LVZ MLR MLR
comp=Z,5μm,20.0s,MS5.6
LVZ MLR MLR
comp=N,2μm,17.0s,MS5.5
LVZ MLR MLR
comp=E,3μm,18.0s,MS5.5
KHMM Horse Mountain 57.05 64 *e*P **P 04 50 22.7 +0.4**
YBH Yreka Blue Hor 57.17 62 P **P 04 50 22.6 -0.6**
comp=E,0.5nm,0.3s,baz=247,slow=1.6,SNR=5.7
YBH LR LR 05 08 47.6
comp=E,716nm,22.0s,baz=307,slow=30
YBH Yreka Blue Hor 57.17 62 *e*P **P 04 50 24.7 +1.6**
comp=E,23nm,1.4s,mb5.0
YBH LR LR
comp=Z,1μm,22.0s,MS4.9
KOLN Koldanda 57.17 277 *e*P **P 04 50 24.2 +0.8**
comp=Z,463nm,0.7s
KEV Kevo 57.34 341 *e*P **P 04 50 20.1 -3.9**
KEV MLR MLR
comp=Z,3μm,20.0s,MS5.4
APA Apatity 57.37 337⇑*i*P **P 04 50 22.7 -1.5**
APA *i* PPP PPP 04 53 50.0 -3.9
APA *i* S **S 04 58 20.0 +1.9**
APA MLR MLR
comp=Z,6μm,18.0s,MS5.7
ARCES ARCESS Array B 57.85 341 P **P 04 50 25.6 -1.9**
comp=Z,9.3nm,0.7s,mb5.0,baz=28,slow=7.4,SNR=66
ARCES LR LR 05 18 32.5
comp=Z,4μm,20.6s,MS5.5,baz=33,slow=40
ARE0 ARCESS Array S 57.85 341 *e*P **P 04 50 25.8 -1.7**
WALA Waterton Lakes 57.89 51 *e*P **P 04 50 27.5 -0.6**
comp=Z,38nm,1.4s,mb5.2
WDC Whiskeytown Da 57.95 63 *e*P **P 04 50 28.1 -0.5**
comp=Z,23nm,1.4s,mb5.0
WDC LR LR
comp=Z,581nm,20.0s,MS4.7
WDC Whiskeytown Da 57.95 63 *e*P **P 04 50 28.1 -0.5**
WDC pmax pmax
comp=Z,23nm,1.4s,mb5.0
WDC MLR MLR
comp=Z,581nm,20.0s,MS4.7
BOK Bokaro 58.19 272 *e*P **P 04 50 31.6 +1.0**
BOK AMb AMB 04 50 32.9
comp=Z,58nm,0.9s,mb5.6
PTH Pithoragarh 58.33 281 *e*P **P 04 50 31.0 -0.5**
BMO Blue Mountains 58.51 57 *e*P **P 04 50 32.0 -0.5**
comp=Z,46nm,1.6s,mb5.3
BMO LR LR
comp=Z,743nm,20.0s,MS4.8
MOD Modoc 58.52 61 *e*P **P 04 50 32.5 -0.1**
comp=Z,20nm,1.2s,mb5.0
MOD LR LR
comp=Z,1μm,22.0s,MS5.0
HOPS Hopland 58.57 65 PFAKE 04 50 40.0 +7.0
HOPS LR LR
comp=Z,1μm,20.0s,MS5.0
AB31 Akbulak array 58.72 310 *i* P **P 04 50 32.2 -1.7**
AB31 Akbulak array 58.72 310 *i* P **P 04 50 32.1 -1.8**
AB31 pmax pmax
comp=Z,10.0nm,0.5s,mb5.1
KTK1 Kautokeino 58.76 341 *e*P **P 04 50 31.9 -2.0**
KTK1 AMb AMB 04 50 33.1
comp=Z,26nm,0.7s,mb5.4
KTK1 Kautokeino 58.76 341 *e*P **P 04 50 31.9 -2.0**
comp=Z,26nm,0.7s,mb5.4
KSM Kuching 59.03 234 *e*P **P 04 50 37.8 +1.2**
TRO Tromso 59.15 343 *e*P **P 04 50 34.4 -2.3**
TRO AMb AMB 04 50 50.4

comp=Z,72nm,1.5s,mb5.5
TRO eS **S** **04 58 36.6 -4.8**
TRO AMS AMS 05 23 18.4
comp=Z,2μm,17.1s,MS5.3
WVOR Wild Horse Val 59.19 59 eP **P** **04 50 36.8 -0.4**
comp=Z,50nm,1.7s,mb5.3
WVOR LR LR
comp=Z,1μm,20.0s,MS5.0
WVOR Wild Horse Val 59.19 59 eP **P** **04 50 36.8 -0.4**
WVOR pmax pmax
comp=Z,50nm,1.7s,mb5.3
WVOR MLR MLR
comp=Z,1μm,20.0s,MS5.0
MSO Missoula 59.20 53 eP **P** **04 50 36.1 -1.2**
comp=Z,22nm,1.2s,mb5.0
MSO LR LR
comp=Z,560nm,21.0s,MS4.7
CHMT Chamberlain Mo 59.53 53 eP **P** **04 50 38.7 -0.9**
BEKR Beckwourth 59.71 63 eP **P** **04 50 40.3 -0.7**
comp=Z,13nm,1.2s,mb4.8
FFC Flin Flon 60.23 40 eP **P** **04 50 43.5 -0.8**
comp=Z,17nm,0.9s,mb5.1
FFC LR LR
comp=Z,476nm,20.0s,MS4.6
FFC Flin Flon 60.23 40 eP **P** **04 50 43.5 -0.8**
FFC pmax pmax
comp=Z,17nm,0.9s,mb5.1
FFC MLR MLR
comp=Z,476nm,20.0s,MS4.6
HRY Holter Researc 60.42 52 eP **P** **04 50 45.0 -0.7**
SUMG Summit 60.46 4 eP **P** **04 50 45.5 -0.1**
comp=Z,222nm,1.1s,mb6.1
FCC Fort Churchill 60.80 34 eP **P** **04 50 47.6 -0.4**
CMB Columbia Colle 60.82 64 eP **P** **04 50 48.5 -0.1**
comp=Z,31nm,1.4s,mb5.2
CMB LR LR
comp=Z,889nm,22.0s,MS4.9
CMB Columbia Colle 60.82 64 eP **P** **04 50 48.5 0.0**
CMB pmax pmax
comp=Z,31nm,1.4s,mb5.2
CMB MLR MLR
comp=Z,889nm,22.0s,MS4.9
NDI New Delhi 60.90 282 eP **P** **04 50 47.0 -2.2**
HLID Hailey 60.94 56 eP **P** **04 50 48.7 -0.6**
comp=Z,21nm,1.4s,mb5.1
HLID LR LR
comp=Z,1μm,22.0s,MS5.0
SAO San Andreas Ge 60.96 66 PFAKE 04 51 00.0 +11
SAO LR LR
comp=Z,914nm,19.0s,MS5.0
MCMT McKenzie Canyo 61.04 54 eP **P** **04 50 48.6 -1.2**
BOZ Bozeman (W) 61.20 53 eP **P** **04 50 50.6 -0.3**
comp=Z,55nm,1.4s,mb5.5
BOZ LR LR
comp=Z,948nm,19.0s,MS5.0
BOZ Bozeman (W) 61.20 53 eP **P** **04 50 50.7 -0.2**
BOZ pmax pmax
comp=Z,55nm,1.4s,mb5.5
BOZ MLR MLR
comp=Z,948nm,19.0s,MS5.0
BMN Battle Mountai 61.25 61 eP **P** **04 50 51.4 0.0**
comp=Z,11nm,0.9s,mb5.0
BMN LR LR
comp=Z,871nm,19.0s,MS4.9
BMN Battle Mountai 61.25 61 eP **P** **04 50 51.4 0.0**
BMN pmax pmax
comp=Z,11nm,0.9s,mb5.0
BMN MLR MLR
comp=Z,871nm,19.0s,MS4.9
LOF Lofoten 61.47 344 eP **P** **04 50 53.3 +0.8**
LOF AMb AMB 04 50 54.5
comp=Z,171nm,1.6s,mb5.9
LOF Lofoten 61.47 344 eP **P** **04 50 53.3 +0.8**
comp=Z,171nm,1.6s,mb5.9
PECR Pechory 61.62 323 eP **P** **04 50 51.6 -2.0**
PECR eS **S** **04 59 15.0 +1.8**
PECR pmax pmax
comp=Z,700nm,8.0s
PECR MLR MLR
comp=Z,2μm,17.0s,MS5.4
PECR MLR MLR
comp=N,2μm,15.0s
PECR MLR MLR
comp=N,2μm,14.0s
PECR MLR MLR
comp=Z,4μm,14.0s
JMIC Jan Mayen 61.70 354 eP **P** **04 50 52.9 -1.1**
JMIC AMb AMB 04 50 56.3
comp=Z,110nm,1.2s,mb5.9
JMIC eS **S** **04 59 15.3 +1.3**
JMIC AMS AMS 05 16 35.2
comp=Z,594nm,19.9s,MS4.8
QLMT Earthquake Lak 61.82 54 eP **P** **04 50 55.1 -0.1**
OMM Old Mammoth Mi 61.95 64 eP **P** **04 50 55.7 -0.4**
GCMT Greycliff 62.17 52 eP **P** **04 50 57.9 +0.3**
ELK Elko 62.23 59 eP **P** **04 50 57.9 -0.1**
comp=Z,36nm,1.7s,mb5.2
ELK LR LR
comp=Z,823nm,20.0s,MS4.9
ELK Elko 62.23 59 eP **P** **04 50 57.9 -0.1**
ELK pmax pmax
comp=Z,36nm,1.7s
ELK MLR MLR
comp=Z,823nm,20.0s
YNR Norris Junctio 62.31 53 P **P** **04 50 58.2 -0.2**
MTUM Tungsten Hills 62.38 64 eP **P** **04 50 59.0 0.0**
YFT Old Faithful 62.39 54 eP **P** **04 51 00.3 +1.3**
PTRM Twissleman Ran 62.43 66 eP **P** **04 51 00.5 +1.1**
MELSS Ber_school_2 62.54 343 eP **P** **04 50 58.1 -1.6**
LKWY Lake 62.56 53 PFAKE 04 51 10.0 +10
LKWY LR LR
comp=Z,1μm,20.0s,MS5.1
JBP Jabalpur 62.65 275⇑ *i* P **P** **04 51 04.0 +3.0**
JBP *i* S **S** **04 59 26.4 -0.2**
IMW Indian Meadow 62.69 54 eP **P** **04 51 01.4 +0.4**
comp=Z,36nm,1.3s,mb5.3
TPH Tonopah 62.74 63 eP **P** **04 51 01.6 +0.2**
comp=Z,44nm,1.5s,mb5.4
TPH LR LR
comp=Z,750nm,21.0s,MS4.8
RRI2 Red Ridge 62.83 55 eP **P** **04 51 02.5 +0.6**
comp=Z,39nm,0.9s,mb5.5
SCO Scoresbysund 62.84 358 *i* P **P** **04 51 01.2 -0.4**
comp=Z,34nm,0.8s,mb5.5
SCO Scoresbysund 62.84 358 *i* P **P** **04 51 01.2 -0.4**
SCO pmax pmax
comp=Z,34nm,0.8s,mb5.5
TPAW Teton Pass 62.94 54 eP **P** **04 51 01.2 -1.4**
comp=Z,61nm,1.3s,mb5.6
MOR8 Moi Rana 63.00 343 eP **P** **04 50 59.8 -2.9**
MOR8 AMb AMB 04 51 01.1
comp=Z,134nm,0.6s,mb6.2
MOR8 Moi Rana 63.00 343 eP **P** **04 50 59.8 -2.9**
comp=Z,134nm,0.6s,mb6.2
LOHW Long Hollow 63.06 54 eP **P** **04 51 03.8 +0.4**
comp=Z,135nm,1.9s,mb5.8
SNOW Snow King Moun 63.07 54 eP **P** **04 51 02.6 -0.8**
comp=Z,53nm,1.3s,mb5.5
REDW Red Top Meadow 63.08 55 eP **P** **04 51 03.4 -0.1**
comp=Z,80nm,1.4s,mb5.7
STOK Stokkvaagen 63.14 343 eP **P** **04 51 02.3 -1.4**
STOK AMb AMB 04 51 03.5
comp=Z,55nm,1.1s,mb5.6
STOK Stokkvaagen 63.14 343 eP **P** **04 51 02.3 -1.4**
comp=Z,55nm,1.1s,mb5.6
DGMT Dagmar 63.27 47 eP **P** **04 51 03.2 -1.5**
comp=Z,45nm,1.1s,mb5.5
DGMT LR LR
comp=Z,2μm,20.0s,MS5.3
LAO LASA Array 63.41 49 eP **P** **04 51 05.5 -0.2**
comp=Z,59nm,1.3s,mb5.6
LAO LR LR
comp=Z,2μm,21.0s,MS5.3
KAF Kangasniemi 63.49 335 ep **P** **04 51 04.1 -1.9**
comp=Z,14nm,0.7s,mb5.2,baz=37,slow=6.3
KAF Kangasniemi 63.49 335 eP **P** **04 51 04.1 -1.9**
KAF pmax pmax
comp=Z,14nm,0.7s,mb5.2
ISA Isabella 63.51 65 PFAKE 04 51 20.0 +14
ISA LR LR
comp=Z,206nm,20.0s,MS4.3
DAC Darwin (Calif) 63.66 64 eP **P** **04 51 08.1 +0.7**
comp=Z,6.1nm,1.0s,mb4.6
DAC LR LR
comp=Z,851nm,20.0s,MS4.9
DAC Darwin (Calif) 63.66 64 eP **P** **04 51 00.1 -7.3**
DAC pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
HWUT Hardware Ranch 63.81 56 eP **P** **04 51 06.6 -1.7**
comp=Z,47nm,1.6s,mb5.3
HWUT LR LR
comp=Z,969nm,21.0s,MS5.0
AJM Ajmer 64.06 282 *i* P **P** **04 51 10.0 -0.3**
FINES FINESS Array B 64.09 335 P **P** **04 51 08.6 -1.3**
comp=Z,27nm,0.7s,mb5.4,baz=45,slow=5.4,SNR=124
FINES LR LR 05 23 27.8
comp=Z,4μm,18.4s,MS5.7,baz=33,slow=40
FINES FINESS Array B 64.09 335 P **P** **04 51 08.6 -1.3**
FINES LR LR 05 23 27.8
NOQ North Oquirrh 64.11 58 P **P** **04 51 10.2 -0.2**
PUL Pulkovo 64.12 332 *i* P **P** **04 51 08.2 -1.9**
PUL *i* 04 53 30.1
PUL *i* S **S** **04 59 35.8 -8.7**
PUL *i* SS SS 05 03 50.4 -4.8
PUL pmax pmax
comp=E,20nm,0.5s
PUL pmax pmax
comp=Z,39nm,0.5s,mb5.7
PUL pmax pmax
comp=N,19nm,0.4s
PUL smax
comp=N,250nm,16.1s
PUL smax
comp=Z,248nm,15.1s
PUL smax
comp=E,355nm,13.2s
PUL MLR MLR
comp=Z,3μm,17.0s,MS5.5
PUL MLR MLR
comp=N,2μm,16.0s,MS5.5
PUL MLR MLR
comp=E,2μm,16.0s,MS5.5
BW06 Boulder Array 64.19 54 PFAKE 04 51 20.0 +9.2
BW06 LR LR
comp=Z,846nm,21.0s,MS4.9
PDAR Pinedale Array 64.19 54 P **P** **04 51 10.6 -0.2**
comp=Z,4.8nm,0.9s,mb4.5,baz=315,slow=2.1,SNR=29
PDAR LR LR 05 18 25.2
comp=Z,637nm,21.8s,MS4.8,baz=337,slow=35
BHPL Bhopal 64.34 277 eP **P** **04 51 12.3 +0.3**
SNCC San Nicolas Is 64.41 68 PFAKE 04 51 20.0 +7.6
SNCC LR LR
comp=Z,1μm,22.0s,MS5.0
MOS Moscow 64.59 326α *i* P **P** **04 51 11.7 -1.4**
MOS *e* 04 51 26.8
MOS *e* 04 51 49.2
MOS *e* 04 53 36.7
MOS *e*PPP PPP 04 55 03.9 -6.5
MOS *e*S **S** **04 59 49.9 -0.3**
MOS pmax pmax
comp=Z,114nm,1.3s,mb5.7
MWC Mount Wilson 64.70 66 eP **P** **04 51 14.8 +0.5**
SFJD Kangerlussuaq 64.86 10 *i* P **P** **04 51 13.2 -1.5**
comp=Z,16nm,0.6s,mb5.2
comp=Z,3μm,22.0s
SFJD Kangerlussuaq 64.86 10 *i* P **P** **04 51 13.2 -1.5**
SFJD pmax pmax
comp=Z,16nm,0.6s,mb5.2
SFJD MLR MLR
comp=Z,3μm,22.0s,MS5.4
NSS Namsos 64.94 343 eP **P** **04 51 13.2 -2.1**
NSS AMb AMB 04 51 15.6
comp=Z,70nm,1.9s,mb5.4
NSS *e*S **S** **04 59 53.2 -1.2**
NSS AMS AMS 05 23 25.9
comp=Z,2μm,19.8s,MS5.3
NSS Namsos 64.94 343 eP **P** **04 51 13.2 -2.1**
comp=Z,70nm,1.9s,mb5.4
OBN Obninsk 65.45 326⇑ *i* P **P** **04 51 17.0 -1.7**
OBN LR LR
comp=Z,2μm,21.0s,MS5.3
OBN Obninsk 65.45 326c *i* P **P** **04 51 17.0 -1.7**
OBN *i* 04 51 47.0
OBN *i* S S 04 59 57.5 -3.4
OBN *i* SS SS 05 04 10.7 -5.5
OBN pmax pmax
comp=Z,130nm,2.5s,mb5.5
OBN MLR MLR
comp=Z,2μm,21.0s,MS5.3
TMUT Trail Mountain 65.53 58 eP **P** **04 51 19.4 -0.1**
NEN Nelson 65.76 63 eP **P** **04 51 20.7 -0.4**
LDFC Landfair 65.97 64 eP **P** **04 51 21.9 -0.5**
ULM Lac du Bonnet 66.01 41 P **P** **04 51 20.5 -1.9**
comp=Z,2.3nm,0.7s,mb4.3,baz=318,slow=5.1,SNR=3.7
ULM LR LR 05 23 51.1
comp=Z,735nm,18.2s,MS4.9,baz=133,slow=39
PFO Pinyon Flat Ob 66.11 66 eP **P** **04 51 23.4 +0.1**
comp=Z,63nm,1.9s,mb5.3
PFO LR LR
comp=Z,206nm,19.0s,MS4.4
PFO Pinyon Flat Ob 66.11 66 eP **P** **04 51 23.4 +0.1**
PFO pmax pmax
comp=Z,63nm,1.9s,mb5.3
PFO MLR MLR
comp=Z,206nm,19.0s,MS4.4
RWWY Rawlins 66.20 54 eP **P** **04 51 22.7 -1.1**
comp=Z,41nm,1.4s,mb5.3
RSSD Black Hills 66.28 50 P **P** **04 51 23.9 -0.3**
RSSD Black Hills 66.28 50 eP **P** **04 51 23.2 -1.0**
comp=Z,46nm,1.3s,mb5.3
RSSD LR LR
comp=Z,1μm,20.0s,MS5.1
RSSD Black Hills 66.28 50 eP **P** **04 51 23.2 -1.0**
RSSD pmax pmax
comp=Z,46nm,1.3s,mb5.3
RSSD MLR MLR
comp=Z,1μm,20.0s,MS5.1
VSU Vasula 66.29 333⇑ *i* P **P** **04 51 23.1 -0.9**
VSU Vasula 66.29 333c *i* P **P** **04 51 23.0 -1.0**
VRHR Novokhopersk 66.33 320 eP **P** **04 51 21.9 -2.5**
VRHR *e**PP pP 04 51 28.5 -1.4
VRHR *e*S S 05 00 04.0 -7.7
VRHR pmax pmax
comp=Z,40nm,0.5s,mb5.7
VRHR pmax pmax
comp=N,30nm,1.3s
VRHR pmax pmax
comp=E,10.0nm,0.9s
VRHR smax
comp=N,210nm,13.5s
VRHR smax
comp=Z,100nm,11.5s
VRHR smax
comp=E,180nm,15.4s
VRHR MLR MLR
comp=N,2μm,14.0s,MS5.7
VRHR MLR MLR
comp=E,2μm,14.0s,MS5.7
VRHR MLR MLR
comp=Z,4μm,14.0s,MS5.7
BAR Barrett 66.59 67 P **P** **04 51 26.9 +0.5**
VOR Voronezh 66.90 322 eP **P** **04 51 26.0 -2.1**
VOR *e**PP pP 04 51 32.5 -1.1
VOR pmax pmax
comp=E,110nm,1.5s
VOR pmax pmax
comp=Z,100nm,1.5s,mb5.6
CTA Charters Tower 67.08 188 LR LR 05 21 37.2
comp=Z,626nm,18.2s,MS4.9,baz=30,slow=37
CTAO Charters Tower 67.08 188 PFAKE 04 51 40.0 +10
CTAO LR LR
comp=Z,824nm,19.0s,MS5.0
VRSR Storozhevoye 67.29 322 eP **P** **04 51 29.1 -1.4**
VRSR *e**PP pP 04 51 35.8 -0.2
VRSR *e* 04 51 57.0
VRSR pmax pmax
comp=Z,30nm,0.9s,mb5.3
VRSR pmax pmax
comp=N,10.0nm,0.5s
VRSR pmax pmax
comp=E,10.0nm,1.2s
VRSR MLR MLR
comp=Z,2μm,17.0s,MS5.5
VRSR MLR MLR
comp=N,2μm,16.0s,MS5.4
VRSR MLR MLR
comp=E,1μm,18.0s,MS5.4
VORD Divnogorie 67.43 321 eP **P** **04 51 29.9 -1.5**
VORD pmax pmax
comp=Z,40nm,0.9s,mb5.5
VORD pmax pmax
comp=N,50nm,0.7s
VORD pmax pmax
comp=E,60nm,0.7s
VORD MLR MLR
comp=Z,3μm,13.0s,MS5.8
VORD MLR MLR
comp=N,3μm,14.0s,MS5.7
VORD MLR MLR
comp=E,2μm,14.0s,MS5.7
MOL Molde 67.58 344 eP **P** **04 51 32.8 +0.6**
MOL AMb AMB 04 51 34.5
comp=Z,159nm,1.1s,mb6.0
MOL Molde 67.58 344 eP **P** **04 51 32.8 +0.6**
comp=Z,159nm,1.1s,mb6.0
DOMB Dombas 67.76 343 eP **P** **04 51 32.5 -0.8**
DOMB AMb AMB 04 51 34.0
comp=Z,122nm,1.8s,mb5.6
DOMB Dombas 67.76 343 eP **P** **04 51 32.5 -0.8**
comp=Z,122nm,1.8s,mb5.6
AFI Afiamalu 67.94 144 LR LR 05 15 41.9
comp=Z,1μm,21.8s,MS5.2,baz=328,slow=31
AFI Afiamalu 67.94 144 PFAKE 04 51 50.0 +15
AFI LR LR
comp=Z,2μm,19.0s,MS5.3
SMCO Snowmass 68.04 56 eP **P** **04 51 35.4 0.0**
NB2 NORSAR Subarra 68.22 341 P **P** **04 51 35.3 -0.9**
comp=Z,124nm,1.0s,mb5.9,baz=26,slow=6.2
NB2 NORSAR Subarra 68.22 341 P **P** **04 51 35.3 -0.9**
baz=26,slow=6.5
NB2 NORSAR Subarra 68.22 341 P **P** **04 51 35.3 -0.9**
NB2 pmax pmax
comp=Z,124nm,1.0s,mb5.9
NOA NORSAR Array B 68.22 341 P **P** **04 51 35.3 -0.9**
comp=Z,48nm,0.7s,mb5.7,baz=26,slow=6.3,SNR=213
NOA LR LR 05 26 15.0
comp=Z,2μm,18.1s,MS5.4,baz=15,slow=40
HFA0 Hagfors New Ar 68.46 340 P **P** **04 51 36.4 -1.3**
NAO01 NORSAR Array S 68.46 342 eP **P** **04 51 36.6 -1.1**
comp=Z,115nm,1.2s,mb5.8
NAO01 LR LR
comp=Z,2μm,20.0s,MS5.4
BORG Borgarnes 68.58 358 eP **P** **04 51 39.4 +1.0**
comp=Z,254nm,1.8s,mb5.8
BORG LR LR
comp=Z,249nm,19.0s,MS4.5
WRAB Tennant Creek 68.87 200 PFAKE 04 51 50.0 +9.1
WRAB LR LR
comp=Z,408nm,21.0s,MS4.6
WRAB Tennant Creek 68.87 200 *i* P **P** **04 51 41.4 +0.5**
WB2 Warramunga Arr 68.88 200 eP **P** **04 51 40.3 -0.7**
WRA Warramunga Arr 68.88 200 P **P** **04 51 39.8 -1.2**
comp=Z,4.6nm,0.6s,mb4.6,baz=16,slow=6.6,SNR=31
MAK Makhachkala 69.36 311 eP **P** **04 51 44.0 +0.5**
MAK *e* 04 54 14.0
MAK *e*PPP PPP 04 55 59.9 +2.2
MAK *e*S S 05 00 47.0 -1.0
MAK *e*PS PS 05 01 20.0 +3.6
MAK pmax pmax
comp=Z,1μm,8.0s
MAK smax
comp=N,500nm,10.0s
MAK MLR MLR
comp=N,12μm,15.0s,MS6.3
MAK MLR MLR
comp=Z,7μm,15.0s,MS6.0
MAK MLR MLR
comp=E,4μm,17.0s,MS6.3
SUE Sulen 69.49 345 eP **P** **04 51 43.9 -0.1**
SUE AMb AMB 04 51 45.3
comp=Z,169nm,1.5s,mb5.8
SUE Sulen 69.49 345 eP **P** **04 51 43.9 -0.1**
comp=Z,169nm,1.5s,mb5.8
BHJ Bhuj 69.57 282 *ex* x 04 51 55.2
BHJ *ex* x 05 04 20.9
FITZ Fitzroy Crossi 69.58 209 eP **P** **04 51 45.5 +0.2**
comp=Z,16nm,0.9s,mb4.9
FITZ Fitzroy Crossi 69.58 209 P **P** **04 51 45.6 +0.3**
comp=Z,7.2nm,0.5s,mb4.8,baz=14,slow=8.0,SNR=9.0
KONO Kongsberg 69.82 342 eP **P** **04 51 45.7 -0.4**
KONO *e*S S 05 00 54.3 +1.0
KONO Kongsberg 69.82 342 eP **P** **04 51 45.9 -0.2**
KONO Kongsberg 69.82 342 P **P** **04 51 45.8 -0.3**
KONO pmax pmax
comp=Z,55nm,1.0s,mb5.4
SDCO Great Sand Dun 69.86 56 eP **P** **04 51 46.5 -0.2**
comp=Z,47nm,1.8s,mb5.1
ASK Askoy 69.95 344 eP **P** **04 51 46.7 -0.1**
ASK AMb AMB 04 51 48.4
comp=Z,232nm,1.6s,mb5.8
ASK Askoy 69.95 344 eP **P** **04 51 46.7 -0.1**
comp=Z,232nm,1.6s,mb5.9
POO Poona 69.98 276 eP **P** **04 51 48.2 +0.5**
POO AMb AMB 04 51 49.1
comp=Z,70nm,0.8s,mb5.7
BER Bergen 70.01 344 eP **P** **04 51 47.4 +0.2**
BER *e*P 04 51 47.6
BER AMb AMB 04 51 48.7
comp=Z,148nm,1.4s,mb5.7
BER *e*pP pP 04 51 52.5 -0.2
BER *e*S S 05 00 55.5 0.0
BER AMS AMS 05 28 02.0
comp=Z,2μm,17.2s,MS5.4
GOF Gofitskoye 70.07 315⇑ *i* P **P** **04 51 44.0 -3.8**
GOF pmax pmax
comp=Z,40nm,1.0s,mb5.3
EGD Espegrend 70.14 344 eP **P** **04 51 47.4 -0.6**
EGD AMb AMB 04 51 49.8
comp=Z,240nm,1.7s,mb5.9
EGD Espegrend 70.14 344 eP **P** **04 51 47.4 -0.6**
comp=Z,240nm,1.7s,mb5.8
TUC Tucson 70.50 63 eP **P** **04 51 48.5 -2.2**
comp=Z,18nm,1.4s,mb4.8
TUC LR LR
comp=Z,728nm,19.0s,MS5.0
TUC Tucson 70.50 63 eP **P** **04 51 48.5 -2.2**
TUC pmax pmax
comp=Z,18nm,1.4s,mb4.8
TUC MLR MLR
comp=Z,728nm,19.0s,MS5.0
KAD Karad 70.61 275 eP **P** **04 51 52.0 +0.4**
KAD AMb AMB 04 52 00.5
comp=Z,128nm,2.0s,mb5.5
BLS5 Blasjo 70.68 343 eP **P** **04 51 51.9 +0.6**
BLS5 AMb AMB 04 51 53.5
comp=Z,36nm,0.8s,mb5.3
BLS5 Blasjo 70.68 343 eP **P** **04 51 51.9 +0.6**
comp=Z,36nm,0.8s,mb5.3
KIV Kislovodsk 71.05 315 eP **P** **04 51 53.4 -0.4**
comp=Z,62nm,0.8s,mb5.6
KIV LR LR
comp=Z,1μm,19.0s,MS5.1
KIV Kislovodsk 71.05 315 eP **P** **04 51 53.4 -0.4**
KIV pmax pmax
comp=Z,62nm,0.8s,mb5.6
KIV MLR MLR
comp=Z,1μm,19.0s,MS5.1
SUW Suwalki 71.08 332⇑ eP **P** **04 51 52.5 -1.4**
comp=Z,800nm,4.0s
SUW *e*pP pP 04 51 57.7 -1.6
SUW MLR MLR 05 24 49.1
comp=Z,2μm,21.7s,MS5.4
SUW Suwalki 71.08 332⇑ eP **P** **04 51 52.5 -1.3**
SUW *e*pP pP 04 51 57.7 -1.6
ANMO Albuquerque 71.26 59 P **P** **04 51 55.5 +0.3**
comp=Z,3.9nm,0.8s,mb4.4,baz=309,slow=8.5,SNR=2.7
ANMO Albuquerque 71.26 59 eP **P** **04 51 55.3 +0.1**
comp=Z,8.2nm,1.0s,mb4.6
ANMO LR LR
comp=Z,761nm,20.0s,MS5.0
ANMO Albuquerque 71.26 59 eP **P** **04 51 55.3 +0.1**
ANMO pmax pmax
comp=Z,8.0nm,1.0s
ANMO MLR MLR
comp=Z,761nm,20.0s
WAL1 Walls 71.31 347 eP **P** **04 51 55.0 -0.1**
WAL1 AMb AMB 04 52 02.5
comp=Z,72nm,1.6s,mb5.4
ZEI Tsey 71.33 313 eP **P** **04 51 52.7 -2.8**
ZEI *i* *PP pP 04 52 02.9 +1.9
ZEI *i* 04 54 31.9
ZEI pmax pmax
comp=Z,33nm,0.9s,mb5.3
LRW Lerwick 71.36 347 eP **P** **04 51 55.7 +0.4**
LRW AMb AMB 04 52 02.6
comp=Z,137nm,2.1s,mb5.5
SNART Snartemo 71.53 342 eP **P** **04 51 56.4 0.0**
SNART AMb AMB 04 51 57.7

comp=Z,89nm,0.6s,mb5.8
SNART Snartemo 71.53 342 *e*P **P 04 51 56.4 0.0**
comp=Z,89nm,0.6s,mb5.9
DGRG David-gareji 71.54 311 P **P 04 51 56.0 -0.8**
TI2 Plekhanov 71.65 312*c i*P **P 04 51 48.4 -9.1**
TI2 *i* pP 04 51 54.4 -8.6
TI2 *i* S S 05 01 14.4 -0.5
TI2 MLR MLR
comp=E,2µm,14.0s
TI2 MLR MLR
comp=Z,4µm,14.0s,MS5.8
MTA Mtatsminda 71.66 312 P **P 04 51 58.0 +0.5**
TBLG Delisi 71.66 312 P **P 04 51 58.0 +0.4**
AKASG Malin Array Be 71.69 327 P **P 04 51 56.3 -1.2**
comp=Z,48nm,0.6s,mb5.6,baz=33,slow=6.2,SNR=266
AKASG PP PP 04 54 26.0 -12
comp=Z,0.5nm,0.3s,baz=36,slow=8.2,SNR=4.4
AKASG Malin Array Be 71.69 327 P **P 04 51 56.3 -1.2**
AKASG PP PP 04 54 26.0 -12
ONI Oni 71.69 313 P **P 04 51 58.1 +0.4**
CBKS Cedar Bluff 72.30 52 PFAKE 04 52 10.0 +8.6
CBKS LR LR
comp=Z,903nm,20.0s,MS5.0
COP Copenhagen 72.73 338⇑*i*P **P 04 52 03.8 +0.3**
comp=Z,57nm,0.6s,mb5.7
COP *i* S S 05 01 27.7 +0.9
comp=Z,910nm,18.0s
COP Copenhagen 72.73 338⇑*i*P **P 04 52 03.8 +0.3**
COP *i* S S 05 01 27.7 +0.9
COP pmax pmax
comp=Z,57nm,0.6s,mb5.7
COP MLR MLR
comp=Z,910nm,18.0s,MS5.1
SOC Sochi 72.76 316⇑*i*P **P 04 52 03.5 -0.4**
SOC Sochi 72.76 316*c i*P **P 04 52 03.1 -0.8**
SOC *e* 04 52 16.8
SOC *e*PPP PPP 04 56 26.6 -4.1
SOC *i* S S 05 01 23.4 -4.0
SOC *e* 05 02 07.6
SOC pmax pmax
comp=E,12nm,0.8s
SOC pmax pmax
comp=Z,72nm,0.8s,mb5.7
SOC pmax pmax
comp=N,17nm,0.9s
GNI Garni 72.82 311 LR LR 05 27 37.6
comp=N,4µm,19.4s,MS5.8,baz=27,slow=39
GNI Garni 72.82 311 *e*P **P 04 52 05.8 +1.5**
comp=N,44nm,0.6s,mb5.6
GNI LR LR
comp=Z,5µm,19.0s,MS5.8
GNI Garni 72.82 311*c i*P **P 04 52 05.4 +1.1**
GNI pmax pmax
comp=Z,58nm,0.9s
GNI MLR MLR
comp=Z,2µm,18.0s
MUD Monsted U'grnd 72.83 340⇑*i*P **P 04 52 04.1 +0.1**
comp=Z,23nm,0.6s,mb5.3
MUD *i* S S 05 01 30.7 +2.9
MUD *i* 05 06 26.5
comp=Z,3µm,18.0s
MUD Monsted U'grnd 72.83 340⇑*i*P **P 04 52 04.1 +0.1**
MUD *i* S S 05 01 30.7 +2.9
MUD pmax pmax
comp=Z,23nm,0.6s,mb5.3
SCHQ Schefferville 72.91 23 P **P 04 52 03.3 -1.3**
comp=Z,5.6nm,0.6s,mb4.7,baz=4.0,slow=7.8,SNR=9.6
SCHQ LR LR 05 28 22.7
comp=Z,851nm,19.2s,MS5.0,baz=138,slow=39
PALK Pallekele 73.27 263 PFAKE 04 52 20.0 +13
PALK LR LR
comp=Z,269nm,22.0s,MS4.5
WAR Warsaw 73.28 332 *e*P **P 04 52 06.7 -0.1**
comp=Z,600nm,0.8s
WAR *e*pP pP 04 52 12.4 +0.2
WAR MLR MLR 05 28 24.1
comp=Z,4µm,18.0s
WAR Warsaw 73.28 332 *e*P **P 04 52 06.7 -0.1**
comp=Z,0.6nm,0.8s
WAR *e*pP pP 04 52 12.5 +0.2
WAR LR LR
comp=Z,4µm,18.0s
GKP Gorka Klasztor 73.56 335⇑*e*P **P 04 52 08.0 -0.3**
comp=Z,1µm,4.0s
GKP *e*pP pP 04 52 14.5 +0.6
GKP MLR MLR 05 29 35.1
comp=Z,5µm,19.9s,MS5.8
GKP Gorka Klasztor 73.56 335⇑*e*P **P 04 52 08.0 -0.4**
comp=Z,1.4nm,4.0s
GKP *e*pP pP 04 52 14.5 +0.6
GKP LR LR
comp=Z,5µm,19.9s,MS5.8
MNTX Cornudas Mount 74.19 61 *e*P **P 04 52 12.1 -0.4**
comp=Z,27nm,1.4s,mb5.0
MNTX LR LR
comp=Z,670nm,22.0s,MS4.9
SIM Simferopol' 74.27 320*c i*P **P 04 52 12.6 -0.1**
SIM *e*PPP PPP 04 56 45.0 -0.5
SIM *e*S S 05 01 43.0 -1.3
SIM *e*SSS SS 05 06 30.0 -2.5
SIM MLR MLR
comp=Z,3µm,15.0s,MS5.6
LVV L'vov 74.31 329⇑*i*P **P 04 52 12.3 -0.5**
LVV *e* 04 55 06.9
LVV *e*S S 05 01 44.9 +0.3
LVV *e*PS PS 05 02 19.3 -2.2
KAC Achnashellach 74.49 349 *e*P **P 04 52 13.2 -0.5**
KPL Plockton 74.70 349 *e*P **P 04 52 14.0 -0.9**
KPL AMb AMB 04 52 16.7
comp=Z,37nm,1.1s,mb5.2
KSB Sheil Bridge 74.79 349 *e*P **P 04 52 15.1 -0.3**
KIS Kishinev 74.84 325*c i*P **P 04 52 14.0 -1.9**
KIS *e*PPP PPP 04 56 48.0 -2.6
KIS *e*S S 05 01 46.0 -4.7
KIS *e*PS PS 05 02 30.0 +1.5
KIS pmax pmax
comp=Z,1µm,8.0s
KIS pmax pmax
comp=Z,800nm,8.0s
KIS MLR MLR
comp=E,2µm,14.0s,MS5.8
KIS MLR MLR
comp=Z,4µm,14.0s,MS5.8
KIS MLR MLR
comp=N,2µm,13.0s,MS5.8
KIS MLR MLR
comp=Z,4µm,13.0s
BSEG Bad Segeberg 74.85 339 *e*P **P 04 52 15.8 0.0**
KWP Kalwaria 74.93 330⇑*e*P **P 04 52 16.7 +0.3**
comp=Z,700nm,2.0s,mb6.2
KWP *e*pP pP 04 52 22.6 +0.7
KWP MLR MLR 05 28 05.8
comp=Z,3µm,20.8s,MS5.6
KWP Kalwaria 74.93 330⇑*e*P **P 04 52 16.7 +0.3**
KWP *e*pP pP 04 52 22.6 +0.7
KAR1 Arisaig 75.13 349 *e*P **P 04 52 16.6 -0.8**
IAS Iasi 75.18 325 P **P 04 52 17.8 -0.1**
OJC Ojcow 75.41 332⇑*i*P **P 04 52 18.9 -0.2**
OJC *e*PcP PcP 04 52 32.3 -0.3
OJC *i* S S 05 01 55.7 -1.2
OJC *e*SS SS 05 06 49.3 -0.6
OJC MLR MLR 05 29 40.4
comp=Z,3µm,18.5s,MS5.7
STHS Stebnicka Huta 75.62 330 *i* P **P 04 52 20.8 +0.5**
KOLS Kolonicke sedl 75.68 329 *e*P **P 04 52 20.7 0.0**
KOLS *e*sP sP 04 52 29.2 +1.1
BURAR Bucovina Array 75.72 327 ⇓P **P 04 52 20.9 -0.1**
BURAR Bucovina Array 75.72 327 ⇓P **P 04 52 20.9 0.0**
EAU Auchinoon 75.83 347 *e*P **P 04 52 21.1 -0.3**
EAU AMb AMB 04 52 22.5
comp=Z,62nm,1.7s,mb5.3
KSP Ksiaz 75.97 334⇑*e*P **P 04 52 22.2 -0.1**
comp=Z,1µm,4.1s
KSP *e*pP pP 04 52 27.5 -0.3
KSP MLR MLR 05 30 51.1
comp=Z,9µm,18.5s,MS6.1
KSP Ksiaz 75.97 334⇑*e*P **P 04 52 22.2 -0.1**
KSP *e*S S 05 01 57.5 -5.5
KSP LR LR
comp=Z,11µm,18.5s,MS6.2
CRVS Cervenica-Dubn 75.98 330 *e*P **P 04 52 23.0 +0.6**
CRVS *e*S S 05 02 02.5 -0.7
RAC Raciborz 76.05 332 *e*P **P 04 52 23.2 +0.5**
RAC MLR MLR 05 31 23.7
comp=Z,3µm,17.5s,MS5.6

OKC Ostrava-Krasne 76.27 332⇑*i*P **P 04 52 24.0 0.0**
OKC *e*pP pP 04 52 29.2 -0.4
OKC AMS AMS 05 31 20.0
comp=Z,3µm,16.9s
ESK Eskdalemuir 76.30 347 *e*P **P 04 52 23.6 -0.5**
comp=Z,16nm,0.9s,mb4.9
ESK LR LR
comp=Z,210nm,20.0s,MS4.5
ESK Eskdalemuir 76.30 347 *e*P **P 04 52 23.6 -0.4**
ESK pmax pmax
comp=Z,16nm,0.9s,mb5.0
ESK MLR MLR
comp=Z,210nm,20.0s,MS4.5
UPC Upice 76.35 334⇑*i*P **P 04 52 24.4 0.0**
DPC Dobruska-Polom 76.39 334⇑*i*P **P 04 52 25.0 +0.3**
DPC *e*pP pP 04 52 30.4 +0.2
DPC *e*S S 05 02 06.3 -1.3
DPC AMS AMS 05 30 40.0
comp=Z,5µm,17.9s
CLL Collm 76.51 336 ⇑P **P 04 52 24.9 -0.4**
comp=Z,logA/T=2.2,mb5.9
CLL *e**PP pP 04 52 28.0 -2.9
CLL *e*PP PP 04 55 12.0 -7.0
CLL *e*S S 05 02 09.0 +0.1
CLL *e* 05 02 32.0
CLL *e*SP SP 05 02 45.0 -2.4
CLL *e*SS SS 05 07 41.0 +34
CLL *e*SSS SSS 05 10 25.0 +2.5
CLL Collm 76.51 336⇑*i*P **P 04 52 24.9 -0.4**
comp=Z,130nm,0.8s,mb5.9
CLL *e*S S 05 02 09.0 +0.1
CLL LR LR
comp=Z,2µm,20.2s,MS5.4
CLL Collm 76.51 336⇑*i*P **P 04 52 24.9 -0.4**
CLL *e*S S 05 02 09.0 +0.1
CLL pmax pmax
comp=Z,130nm,0.8s,mb5.9
CLL MLR MLR
comp=Z,2µm,20.2s,MS5.4
MORC Moravsky Berou 76.52 333 *e*P **P 04 52 25.3 -0.1**
comp=Z,52nm,0.9s,mb5.5
MORC Moravsky Berou 76.52 333 *e*P **P 04 52 25.3 -0.1**
MORC pmax pmax
comp=Z,52nm,0.9s,mb5.5
MSL Mosul 76.56 309 *e*P **P 04 52 33.0 +7.1**
MSL Mosul 76.56 309 *e*SKS SKS 05 02 52.0 +14
MSL *e*S S 05 03 08.0 +58
VRI Vrincioaia 76.60 325 ⇑P **P 04 52 26.5 +0.6**
CFR Carcaliu 76.61 324 ⇑P **P 04 52 26.4 +0.4**
CFR Carcaliu 76.61 324 ⇑P **P 04 52 26.4 +0.4**
BRG Berggiesshubel 76.63 335 *i* P **P 04 52 25.8 -0.2**
comp=Z,37nm,1.0s,mb5.3
BRG PP PP 04 55 14.0 -6.0
BRG S S 05 02 05.0 -5.2
BRG SS SS 05 07 04.0 -4.8
BRG LR LR
comp=Z,3µm,15.5s,MS5.7
BRG Berggiesshubel 76.63 335 *i* P **P 04 52 25.8 -0.2**
BRG 04 55 14.0
BRG S S 05 02 05.0 -5.2
BRG SS SS 05 07 04.0 -4.8
BRG pmax pmax
comp=Z,37nm,1.1s,mb5.2
BRG MLR MLR
comp=N,3µm,16.1s,MS5.6
BRG MLR MLR
comp=E,552nm,17.4s,MS5.6
BRG MLR MLR
comp=Z,3µm,15.5s,MS5.7
KECS Kecovo 76.68 330 *e*P **P 04 52 26.2 -0.1**
CLZ Clausthal 76.74 338 *e*P **P 04 52 26.9 +0.3**
comp=Z,103nm,1.1s,mb5.7
CLZ *e*S S 05 02 10.1 -1.2
CLZ Clausthal 76.74 338 *e*P **P 04 52 26.9 +0.3**
CLZ *e*S S 05 02 10.1 -1.2
CLZ pmax pmax
comp=Z,103nm,1.1s,mb5.7
WIT Witteveen 76.75 340⇑*e*P **P 04 52 23.2 -3.4**
comp=Z,469nm,2.3s,mb6.0
WIT Witteveen 76.75 340⇑*e*P **P 04 52 23.2 -3.4**
comp=Z,469nm,2.3s,mb6.0
PVCC Panska Ves 76.76 335⇑*i*P **P 04 52 26.8 +0.1**
PVCC *e*pP pP 04 52 32.2 -0.1
PVCC AMS AMS 05 29 50.0
comp=Z,3µm,15.8s
LTX Lajitas 76.92 61 *e*P **P 04 52 28.3 +0.3**
comp=Z,26nm,0.9s,mb5.2
LTX LR LR
comp=Z,1µm,20.0s,MS5.1
LTX Lajitas 76.92 61 *e*P **P 04 52 28.3 +0.2**
LTX pmax pmax
comp=Z,26nm,0.9s,mb5.2
LTX MLR MLR
comp=Z,1µm,20.0s,MS5.1
TXAR Lajitas Array 76.92 61 P **P 04 52 28.3 +0.3**
comp=Z,13nm,0.8s,mb4.9,baz=296,slow=4.3,SNR=174
TXAR LR LR 05 26 34.1
comp=Z,853nm,20.2s,MS5.1,baz=310,slow=36
IBBN Ibbenburen 76.96 339 P **P 04 52 27.8 0.0**
TIRR Tirgusor 77.08 323 ⇓P **P 04 52 28.6 -0.1**
TIRR Tirgusor 77.08 323 ⇓P **P 04 52 28.6 0.0**
HARR Harsova 77.09 324 ⇑P **P 04 52 29.4 +0.7**
HARR Harsova 77.09 324 ⇑P **P 04 52 29.4 +0.8**
MLR Muntele Rosu 77.22 325 P **P 04 52 29.6 +0.2**
VYHS Vyhne 77.22 331 *i* P **P 04 52 29.8 +0.5**
VYHS *e* 05 02 11.8
VRAC Vranov 77.23 333 P **P 04 52 30.1 +0.8**
VRAC Vranov 77.23 333 P **P 04 52 30.0 +0.7**
PRU Pruhonice 77.25 334⇑*i*P **P 04 52 29.5 +0.1**
PRU *e*pP pP 04 52 34.3 -0.7
PRU *e*S S 05 02 17.5 +0.6
PRU AMS AMS 05 30 10.0
comp=Z,3µm,17.1s
JAVC Velka Javorina 77.28 332 P **P 04 52 31.0 +1.4**
ISR Istrita 77.29 325 ⇑P **P 04 52 30.4 +0.6**
CCM Cathedral Cave 77.30 47 *e*P **P 04 52 27.6 -2.3**
comp=Z,13nm,0.9s,mb4.9
CCM LR LR
comp=Z,1µm,20.0s,MS5.2
CCM Cathedral Cave 77.30 47 *e*P **P 04 52 27.7 -2.3**
CCM pmax pmax
comp=Z,13nm,0.9s,mb4.9
CCM MLR MLR
comp=Z,1µm,20.0s,MS5.2
DRGR 77.34 328 ⇑P **P 04 52 30.6 +0.6**
DRGR 77.34 328 ⇑P **P 04 52 30.6 +0.5**
DRGR 77.34 328 P **P 04 52 30.2 +0.2**
SLM Saint Louis 77.35 46 *e*P **P 04 52 30.0 -0.3**
PSZ Piszkesteto 77.36 330 *e*P **P 04 52 30.4 +0.3**
comp=Z,41nm,1.0s,mb5.3
PSZ Piszkesteto 77.36 330 *e*P **P 04 52 30.4 +0.3**
PSZ pmax pmax
comp=Z,41nm,1.0s,mb5.3
MALT Malatya 77.42 313 *e*P **P 04 52 32.0 +1.4**
comp=Z,87nm,1.0s,mb5.6
MALT Malatya 77.42 313 *e*P **P 04 52 32.0 +1.4**
MALT pmax pmax
comp=Z,87nm,1.0s,mb5.6
MOX Moxa 77.49 336⇑*i*P **P 04 52 30.8 0.0**
comp=Z,logA/T=1.8,mb5.5
MOX PP PP 04 55 25.0 -2.3
MOX S S 05 02 21.0 +1.5
MOX SS SS 05 07 48.0 +26
MOX L 05 29 22.0
MOX Moxa 77.49 336⇑*i*P **P 04 52 30.8 0.0**
comp=Z,79nm,1.2s,mb5.5
MOX LR LR
comp=Z,2µm,22.0s,MS5.4
MOX Moxa 77.49 336*c i*P **P 04 52 30.8 0.0**
MOX pmax pmax
comp=Z,79nm,1.2s,mb5.5
MOX MLR MLR
comp=Z,2µm,22.0s,MS5.4
KRUC Moravsky 77.51 333 P **P 04 52 31.2 +0.3**
WTSB Winterswijk 77.51 340⇑*e*P **P 04 52 30.6 -0.2**
comp=Z,79nm,3.3s
WTSB Winterswijk 77.51 340⇑*e*P **P 04 52 30.6 -0.2**
comp=Z,79nm,3.3s
VOIR 77.61 326 ⇑P **P 04 52 32.2 +0.7**
VOIR 77.61 326 ⇑P **P 04 52 32.2 +0.7**
NKC Novy Kostel 77.63 336⇑*i*P **P 04 52 31.8 +0.3**
NKC *e*pP pP 04 52 36.9 -0.2
NKC *e*S S 05 02 22.5 +1.5
NKC AMS AMS 05 33 00.0

comp=Z,3µm,15.4s
FVM French Village 77.76 47 *e*P **P 04 52 31.7 -0.8**
comp=Z,26nm,1.2s,mb5.0
FVM French Village 77.76 47 *e*P **P 04 52 31.7 -0.8**
FVM pmax pmax
comp=Z,26nm,1.2s,mb5.0
LHO Holmfirth 77.78 345 *e*P **P 04 52 32.1 -0.2**
BUG Bochum--Univer 77.88 339 P **P 04 52 31.6 -1.3**
SRO Srobarova 77.98 331 *e*P **P 04 52 34.1 +0.6**
KBI1 Birley Grange 78.00 345 *e*P **P 04 52 32.9 -0.6**
BUD Budapest 78.03 331 P **P 04 52 34.4 +0.6**
ZST Bratislava 78.04 332 *e*P **P 04 52 34.6 +0.7**
BHD Baghdad 78.12 306 *i* P **P 04 52 35.0 +0.4**
BHD Baghdad 78.12 306 *e*SKS SKS 05 02 56.0 +6.7
BHD *e*S S 05 03 05.5 +39
VKA Vienna 78.23 333⇑*i*P **P 04 52 36.2 +1.3**
comp=Z,448nm,3.0s
VKA Vienna 78.23 333⇑*i*P **P 04 52 36.2 +1.3**
VKA pmax pmax
comp=Z,448nm,3.0s
KWE Weaver Farm 78.28 345 *e*P **P 04 52 35.2 +0.1**
KHC Kasperske Hory 78.30 335⇑*i*P **P 04 52 35.6 +0.4**
KHC *e*pP pP 04 52 40.5 -0.3
KHC *e*S S 05 02 28.1 -0.1
KHC AMS AMS 05 32 50.0
comp=Z,4µm,15.6s
GRA1 Grafenberg Arr 78.46 336 *e*P **P 04 52 36.7 +0.6**
comp=Z,123nm,0.8s,mb5.9
GRA1 *e*PP PP 04 55 32.7 -2.9
GRA1 *e*S S 05 02 30.4 +0.4
GRA1 LR LR
comp=Z,2µm,19.4s,MS5.5
GRF Grafenberg Arr 78.46 336 *e*P **P 04 52 36.7 +0.6**
comp=Z,123nm,0.8s,mb5.9
GRF *e*PP PP 04 55 32.7 -2.9
GRF *e*S S 05 02 30.4 +0.4
GRF LR LR
comp=Z,2µm,19.4s,MS5.5
GRF Grafenberg Arr 78.46 336 *e*P **P 04 52 36.7 +0.6**
GRF *e* 04 55 32.7
GRF *e*S S 05 02 30.4 +0.4
GRF pmax pmax
comp=Z,123nm,0.8s,mb5.9
GRF MLR MLR
comp=Z,2µm,19.4s,MS5.5
GRF Grafenberg Arr 78.46 336 *e*P **P 04 52 36.7 +0.6**
GRF *e* 04 55 32.7
GRF *e*S S 05 02 30.4 +0.4
GRF pmax pmax
comp=Z,123nm,0.8s,mb5.9
GRF MLR MLR
comp=Z,2µm,19.4s,MS5.5
GRFO Grafenberg 78.46 336 P **P 04 52 36.8 +0.7**
WET Wettzell 78.49 335 *e*P **P 04 52 36.8 +0.5**
comp=Z,53nm,0.9s,mb5.5
WET *e*S S 05 02 30.6 +0.3
WET Wettzell 78.49 335 *e*P **P 04 52 36.8 +0.5**
WET *e*S S 05 02 30.6 +0.3
WET pmax pmax
comp=Z,53nm,0.9s,mb5.5
GERES GERESS Array B 78.52 334 P **P 04 52 36.5 +0.1**
comp=Z,13nm,0.7s,mb5.0,baz=36,slow=5.1,SNR=67
GERES LR LR 05 31 12.7
comp=Z,3µm,18.0s,MS5.7,baz=20,slow=39
BRTR Keskin Array B 78.62 317 P **P 04 52 37.9 +0.7**
comp=Z,33nm,0.8s,mb5.3,baz=71,slow=4.0,SNR=22
SOP Sopron 78.67 332⇑*e*P **P 04 52 38.1 +0.8**
SOP Sopron 78.67 332 P **P 04 52 37.7 +0.4**
TNS Taunus Mts 78.71 338 *e*P **P 04 52 37.8 +0.3**
comp=Z,48nm,0.8s,mb5.5
TNS *e*S S 05 02 31.0 -1.6
TNS Taunus Mts 78.71 338 *e*P **P 04 52 37.8 +0.3**
TNS *e*S S 05 02 31.0 -1.6
TNS pmax pmax
comp=Z,48nm,0.8s,mb5.5
BLO Bloomington 78.73 44 *e*P **P 04 52 37.1 -0.7**
comp=Z,18nm,1.0s,mb5.0
BLO Bloomington 78.73 44 *e*P **P 04 52 37.1 -0.7**
BLO pmax pmax
comp=Z,18nm,1.0s,mb5.0
DLF Lyons Farm 78.75 348⇑*i*P **P 04 52 37.7 +0.1**
DSB Dublin 78.78 348 *e*P **P 04 52 37.6 -0.2**
comp=Z,13nm,0.8s,mb4.9
DCN Croghan 78.81 349⇑*i*P **P 04 52 38.0 +0.1**
HGN Heimansgroeve 78.83 340⇑*e*P **P 04 52 38.0 -0.1**
comp=Z,85nm,2.5s,mb5.2
HGN *e*S S 05 02 35.3 +1.5
HGN *e*SS tx 05 07 14.2
ANTO Ankara 78.90 318 P **P 04 52 39.4 +0.7**
MIB Mutribah 79.03 302 *e*P **P 04 52 40.5 +0.9**
MIB AMb AMB 04 52 42.2
comp=Z,401nm,0.7s
TOD Tromm 79.19 338⇑*e*P **P 04 52 40.4 +0.3**
MOA Molln 79.24 334⇑*i*P **P 04 52 40.6 +0.2**
comp=Z,651nm,4.3s
STKA Stephens Creek 79.24 191 *e*P **P 04 52 41.2 +0.4**
comp=Z,4.8nm,1.2s,mb4.3
STKA Stephens Creek 79.24 191 P **P 04 52 41.0 +0.2**
comp=Z,3.1nm,0.9s,baz=335,slow=5.4,SNR=3.4
STKA LR LR 05 27 35.5
comp=Z,955nm,19.4s,baz=18,slow=36
ABH Alteburg 79.25 339⇑*e*P **P 04 52 40.8 +0.4**
ABH Alteburg 79.25 339 *e*P **P 04 52 40.6 +0.2**
KBD Kabd 79.28 301 *e*P **P 04 52 41.7 +0.6**
KBD AMb AMB 04 52 43.4
comp=Z,582nm,0.8s
ARSA Arzberg 79.38 333⇑*i*P **P 04 52 41.7 +0.5**
comp=Z,588nm,4.3s
HBAR Harrisburg 79.53 48 *e*P **P 04 52 42.5 +0.2**
RUP Ruppelstein 79.54 339⇑*e*P **P 04 52 42.3 +0.3**
RUP Ruppelstein 79.54 339 *e*P **P 04 52 42.1 +0.1**
RDF Al-Radifah 79.55 301 *e*P **P 04 52 43.5 +1.0**
RDF AMb AMB 04 52 46.3
comp=Z,258nm,0.8s,mb6.2
WCI Wyandotte Cave 79.58 44 *e*P **P 04 52 41.6 -0.9**
comp=Z,16nm,0.8s,mb5.0
WCI LR LR
comp=Z,1µm,21.0s,MS5.2
WCI Wyandotte Cave 79.58 44 *e*P **P 04 52 41.6 -0.9**
WCI pmax pmax
comp=Z,15nm,0.8s,mb5.0
WCI MLR MLR
comp=Z,1µm,21.0s,MS5.2
GENY Geneseo 79.61 36 P **P 04 52 41.1 -1.5**
KTD Kalmit 79.64 338 *e*P **P 04 52 43.3 +0.8**
RAR Rarotonga 79.66 137 PFAKE 04 52 50.0 +6.8
RAR LR LR
comp=Z,2µm,19.0s,MS5.4
GLAT Glass 79.67 47 P **P 04 52 42.9 -0.1**
GIVF Givet 79.70 340 *e*P **P 04 52 42.9 0.0**
HDH Heidenheim 79.75 336⇑*e*P **P 04 52 43.1 0.0**
HDH Heidenheim 79.75 336 P **P 04 52 44.1 +1.0**
PQI Presque Isle 79.79 28 PFAKE 04 52 50.0 +6.6
PQI LR LR
comp=Z,5µm,19.0s,MS5.9
WLF Walferdange 79.80 339 *e*P **P 04 52 44.7 +1.4**
comp=Z,10nm,0.6s,mb4.9
WLF Walferdange 79.80 339 *e*P **P 04 52 44.7 +1.3**
WLF pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
UTMT University of 79.82 47 *e*P **P 04 52 43.4 -0.4**
comp=Z,30nm,0.6s,mb5.4
FUR Furstenfeldbru 79.83 336 *e*P **P 04 52 44.2 +0.6**
comp=Z,90nm,0.9s,mb5.7
FUR Furstenfeldbru 79.83 336 *e*P **P 04 52 44.2 +0.6**
FUR pmax pmax
comp=Z,90nm,0.9s,mb5.7
STU Stuttgart 79.85 337 *e*P **P 04 52 45.1 +1.4**
comp=Z,11nm,0.6s,mb5.0
STU Stuttgart 79.85 337 *e*P **P 04 52 45.1 +1.4**
STU pmax pmax
comp=Z,11nm,0.6s,mb5.0
MENF Mencas 79.86 342 *e*P **P 04 52 45.1 +1.4**
BAIF Baives 79.88 341 *e*P **P 04 52 43.9 +0.1**
NCB Newcomb 79.99 33 PFAKE 04 53 00.0 +15
NCB LR LR
comp=Z,848nm,21.0s,MS5.1
RAO Raoul Island 80.00 155 LR LR 05 23 15.1
comp=Z,1µm,19.9s,MS5.3,baz=89,slow=32
RAO Raoul Island 80.00 155 PFAKE 04 53 00.0 +15
RAO LR LR
comp=Z,2µm,20.0s,MS5.5
SVIS Svilajnac 80.02 328 ⇓*i*P **P 04 52 43.9 -0.8**
LANF Langenberg 80.02 338 *e*P **P 04 52 44.9 +0.3**
LBG Lerchenberg 80.05 337⇑*e*P **P 04 52 45.1 +0.3**

PERS Pernice 80.06 333 eP P 04 52 45.1 +0.3
PERS Pernice 80.06 333 P P 04 52 45.3 +0.5
KBA Koelnbreinsper 80.21 334⇑iP P 04 52 46.5 +0.9
comp=Z,340nm,2.8s,mb5.8
KBA Koelnbreinsper 80.21 334 iP P 04 52 46.5 +0.9
KBA pmax pmax
comp=Z,340nm,2.8s,mb5.8
DIM Dimitrovgrad 80.25 324 eP P 04 52 47.0 +1.0
NATX Nacogdoches 80.31 54 eP P 04 52 47.0 +0.5
comp=Z,180nm,1.5s,mb5.8
NATX LR LR
comp=Z,1µm,20.0s,MS5.2
OBKA Obir 80.35 333⇑iP P 04 52 46.6 +0.2
comp=Z,572nm,3.6s
ZAPS Zavoj/Pirot 80.35 326⇑iP P 04 52 46.0 -0.5
BFO Black Forest 80.48 338 eP P 04 52 47.4 +0.3
comp=Z,43nm,0.9s,mb5.4
BFO eS S 05 02 51.7 +0.4
BFO Black Forest 80.48 338 eP P 04 52 47.4 +0.3
BFO eS S 05 02 51.7 +0.4
BFO pmax pmax
comp=Z,43nm,0.9s,mb5.4
HEX Exmoor 80.50 346 eP P 04 52 47.0 0.0
HEX AMb AMB 04 52 48.2
comp=Z,36nm,0.9s,mb5.3
WATA Walderalm 80.50 335⇑iP P 04 52 48.1 +0.9
comp=Z,58nm,1.1s,mb5.4
WATA Walderalm 80.50 335 iP P 04 52 48.1 +0.9
WATA pmax pmax
comp=Z,58nm,1.1s,mb5.4
WVT Waverly 80.50 46 eP P 04 52 46.9 -0.6
comp=Z,24nm,1.3s,mb5.0
WVT LR LR
comp=Z,852nm,19.0s,MS5.1
WVT Waverly 80.50 46 eP P 04 52 46.9 -0.5
WVT pmax pmax
comp=Z,24nm,1.3s,mb5.0
WVT MLR MLR
comp=Z,852nm,19.0s,MS5.1
GUT Gutenstein 80.51 337⇑eP P 04 52 47.6 +0.4
GUT Gutenstein 80.51 337 P P 04 52 48.0 +0.8
WTTA Wattenberg 80.55 335⇑iP P 04 52 48.4 +1.0
comp=Z,784nm,3.9s
WTTA Wattenberg 80.55 335⇑iP P 04 52 48.4 +1.0
WTTA pmax pmax
comp=Z,784nm,3.9s
SPAK Spaichingen 80.57 337 eP P 04 52 47.5 0.0
SPAK Spaichingen 80.57 337 eP P 04 52 47.9 +0.4
UBR Uberruh 80.60 336 eP P 04 52 47.9 +0.2
UBR Uberruh 80.60 336 P P 04 52 49.5 +1.8
MOTA Moosalm 80.62 335⇑iP P 04 52 48.7 +0.9
comp=Z,69nm,1.0s,mb5.5
MOTA Moosalm 80.62 335⇑iP P 04 52 48.7 +0.9
MOTA pmax pmax
comp=Z,69nm,1.0s,mb5.5
DIVS Divcibare 80.63 328⇓iP P 04 52 47.4 -0.6
CRES Cresnjev 80.67 332 eP P 04 52 47.9 -0.2
HTL Hartland 80.68 346 eP P 04 52 47.7 -0.3
CDF Champ du Feu 80.68 338 eP P 04 52 48.4 +0.3
comp=Z,62nm,0.9s,mb5.2
CDF Champ du Feu 80.68 338 eP P 04 52 48.4 +0.3
CDF pmax pmax
comp=Z,31nm,0.9s,mb5.2
ACCN Adirondack Com 80.70 33 P P 04 52 47.5 -0.8
SQTA Sankt Quirin 80.71 335⇑iP P 04 52 49.4 +1.1
comp=Z,58nm,1.1s,mb5.4
SQTA Sankt Quirin 80.71 335⇑iP P 04 52 49.4 +1.1
SQTA pmax pmax
comp=Z,58nm,1.1s,mb5.4
VTS Vitosha 80.72 325 eP P 04 52 48.0 -0.5
LJU Ljubljana 80.77 333 eP P 04 52 48.1 -0.5
LJU e 04 53 32.0
PTCC Patocco-Chiusa 80.81 334 P P 04 52 48.4 -0.4
FVI Forni Avoltri 80.81 334 P P 04 52 49.1 +0.3
BINY Binghamton 80.82 35 PFAKE 04 53 00.0 +11
BINY LR LR
comp=Z,1µm,20.0s,MS5.2
LIBD Limburg 80.84 338 eP P 04 52 49.6 +0.7
LIBD Limburg 80.84 338 eP P 04 52 49.2 +0.3
SEST Monte Rota 80.84 334 P P 04 52 49.5 +0.5
VISS Visnje 80.88 332 e P 04 52 49.0 -0.3
RZN Rozhen 80.89 324 eP P 04 52 50.0 +0.6
ECH Echery 80.89 338 eP P 04 52 49.5 +0.3
SISB Singen-Sch Ber 80.91 337 P P 04 52 50.1 +0.8
KIZ Kirchzarten 80.94 338⇑eP P 04 52 49.5 0.0
KIZ Kirchzarten 80.94 338 P P 04 52 49.7 +0.2
STEIN Stein am Rhein 80.95 337⇑iP P 04 52 50.0 +0.5
SLE Schleitheim 80.96 337⇑iP P 04 52 49.6 0.0
OXF Oxford 80.98 48 eP P 04 52 49.4 -0.6
comp=Z,44nm,1.0s,mb5.3
OXF LR LR
comp=Z,1µm,22.0s,MS5.2
OXF Oxford 80.98 48 eP P 04 52 49.4 -0.6
OXF pmax pmax
comp=Z,44nm,1.0s,mb5.3
OXF MLR MLR
comp=Z,1µm,22.0s,MS5.2
FELD Feldberg 80.99 338⇑eP P 04 52 50.1 +0.4
FELD Feldberg 80.99 338 eP P 04 52 49.9 +0.2
RDO Rodhopi 81.01 323 eP P 04 52 50.0 0.0
BOJS Bojanci 81.02 332 eP P 04 52 49.8 -0.1
DAVA Damuels 81.02 336⇑iP P 04 52 50.6 +0.7
comp=Z,537nm,4.2s
HASS Wahat al Ahsa' 81.03 297 P P 04 52 50.6 +0.2
WVL Waterville 81.11 30 PFAKE 04 53 00.0 +10
WVL LR LR
comp=Z,6µm,22.0s,MS5.9
LIENZ Alp Oberkamor 81.12 336⇑iP P 04 52 50.9 +0.5
MEZF Maizieres J'vi 81.14 340 eP P 04 52 50.9 +0.4
WILA Wila 81.17 337⇑iP P 04 52 50.8 +0.1
THEF They Montfort 81.17 339 eP P 04 52 51.2 +0.5
MOF Molkenrain 81.23 338 eP P 04 52 51.2 +0.2
SULZ Sulz-Cheisache 81.28 337⇑eP P 04 52 51.3 0.0
HAU Haudompre 81.29 339 eP P 04 52 51.4 +0.1
comp=Z,62nm,0.9s,mb5.3
HAU eR
comp=Z,3µm,22.8s
HAU Haudompre 81.29 339 eP P 04 52 51.4 +0.1
HAU pmax pmax
comp=Z,31nm,0.9s,mb5.2
HAU MLR MLR
comp=Z,3µm,22.8s,MS5.6
ZUR Zurich 81.30 337⇑iP P 04 52 51.8 +0.4
ZUR Zurich 81.30 337⇑iP P 04 52 51.7 +0.3
HINF Hinteralfeld 81.34 338 eP P 04 52 51.6 0.0
comp=Z,53nm,1.0s,mb5.1
HINF Hinteralfeld 81.34 338 eP P 04 52 51.6 0.0
HINF pmax pmax
comp=Z,26nm,1.0s,mb5.1
MCWV Mont Chateau 81.35 39 PFAKE 04 53 00.0 +8.2
MCWV LR LR
comp=Z,2µm,21.0s,MS5.4
FFD Franklin Falls 81.36 32 P P 04 52 52.3 +0.5
comp=Z,9.1nm,0.3s,mb5.2
MMB Musomiste 81.37 325 eP P 04 52 52.0 +0.1
PLONS Plons 81.38 336⇑iP P 04 52 52.1 +0.3
KKB Krupnik 81.39 325 eP P 04 52 53.0 +1.0
DAVOX Davos 81.48 336⇑iP P 04 52 53.2 +0.8
BBS Basel-Blauen 81.50 338⇑eP P 04 52 52.9 +0.5
BBS Basel-Blauen 81.50 338 eP P 04 52 52.5 +0.1
PLE Pljevlja 81.52 328⇑iP P 04 52 52.6 +0.1
FUORN Ofenpass 81.52 336⇑iP P 04 52 53.6 +1.0
BALST Balsthal 81.57 338⇑iP P 04 52 53.3 +0.5
ISP Isparta 81.58 318 eP P 04 52 52.9 -0.1
comp=Z,25nm,0.7s,mb5.3
ISP Isparta 81.58 318 eP P 04 52 52.9 -0.2
ISP pmax pmax
comp=Z,25nm,0.7s,mb5.2
BRMO Bormio 81.62 335 P P 04 52 54.3 +1.2
BOURR Bourrignon 81.63 338⇑iP P 04 52 53.5 +0.4
CTI Castel Tesino 81.64 334 P P 04 52 53.3 +0.1
MUO Muotathal 81.65 337⇑iP P 04 52 53.9 +0.7
LLS Linth-Limmern 81.66 336⇑eP P 04 52 53.7 +0.4
EMMW East Machias 81.71 28 P P 04 52 54.5 +0.9
comp=Z,40nm,0.8s,mb5.4
EMMW LR LR
comp=Z,5µm,19.0s,MS5.9
IVA Berane 81.73 328⇑iP P 04 52 53.5 -0.2
LOMF Lomont 81.78 338 eP P 04 52 54.4 +0.5
BERNI Berninapass 81.78 336⇑iP P 04 52 54.9 +1.0
UPM Unac-Piva 81.80 329⇑iP P 04 52 53.3 -0.8
BNALP Bannalp 81.80 337⇑iP P 04 52 54.2 +0.2
PPT Papeete 81.83 127 LR LR 05 21 45.2
comp=Z,2µm,20.6s,MS5.4,baz=261,slow=30

VDL Val di Lei 81.87 336⇑iP P 04 52 55.3 +1.0
TUE Stuetta 81.92 336 P P 04 52 55.0 +0.4
SKO Skopje 81.93 326 iP P 04 52 55.0 +0.2
PVY Plav 81.94 328⇑iP P 04 52 53.8 -1.0
HASLI Hasliberg 81.98 337⇑iP P 04 52 55.3 +0.4
VAY Valandovo 82.05 325 iP P 04 52 55.8 +0.4
FLN La Foliniere 82.11 343 eP P 04 52 55.3 -0.2
comp=Z,68nm,1.1s,mb5.2
FLN eR
comp=Z,3µm,18.0s
FLN La Foliniere 82.11 343 eP P 04 52 55.3 -0.2
FLN pmax pmax
comp=Z,34nm,1.1s,mb5.2
FLN MLR MLR
comp=Z,3µm,18.0s,MS5.6
NKY Niksic 82.11 328⇑iP P 04 52 54.4 -1.3
FUSIO Fusio 82.12 337⇑iP P 04 52 56.5 +0.8
FUSIO Fusio 82.12 337⇑iP P 04 52 56.6 +0.9
BRY Bratogost 82.19 329⇑iP P 04 52 54.9 -1.3
HRV Harvard--Oak R 82.24 32 PFAKE 04 53 10.0 +14
HRV LR LR
comp=Z,619nm,20.0s,MS5.0
TZTN Tazewell 82.24 43 eP P 04 52 56.4 -0.1
BRANT Les Verrieres 82.25 338⇑iP P 04 52 57.1 +0.8
BHL Bhannes 82.26 312 eP P 04 52 57.4 +0.7
TORNY Torny 82.28 338⇑iP P 04 52 57.1 +0.6
TTG Podgorica 82.35 328⇑iP P 04 52 55.8 -1.2
WES Weston 82.43 32 PFAKE 04 53 10.0 +13
WES LR LR
comp=Z,2µm,22.0s,MS5.5
LKBD Leukerbad 82.46 337⇑iP P 04 52 58.3 +0.9
MUGIO Muggio 82.50 336⇑iP P 04 52 57.7 0.0
GRR Gorron 82.54 343 eP P 04 52 57.8 0.0
comp=Z,63nm,0.9s,mb5.4
GRR Gorron 82.54 343 eP P 04 52 57.8 0.0
GRR pmax pmax
comp=Z,32nm,0.9s,mb5.3
SENIN Lac Senin 82.57 337⇑iP P 04 52 58.7 +0.7
CSS Prodhromos 82.57 315 eP P 04 52 58.4 +0.1
comp=Z,37nm,0.6s,mb5.6
LOR Lormes 82.58 340 eP P 04 52 58.4 +0.4
comp=Z,95nm,0.9s,mb5.5
LOR eR
comp=Z,3µm,20.8s
LOR Lormes 82.58 340 eP P 04 52 58.4 +0.4
LOR pmax pmax
comp=Z,47nm,0.9s,mb5.5
LOR MLR MLR
comp=Z,3µm,20.8s,MS5.7
BUM Brajici-Budva 82.59 328⇑iP P 04 52 57.0 -1.2
HCY Herceg Novi 82.61 328⇑iP P 04 52 57.4 -0.9
FWV Forest Hill 82.64 41 eP P 04 52 58.5 0.0
SALA Sala 82.65 311 ⇑P P 04 53 00.5 +1.8
AIGLE Aigle 82.68 338⇑iP P 04 52 58.9 +0.3
GIMEL Gimel 82.68 338⇑iP P 04 52 59.1 +0.5
MMK Mattmark 82.68 337 ⇑P P 04 52 59.8 +1.2
ULC Ulcinj 82.76 328⇑iP P 04 52 58.3 -0.8
MCGN Macugnaga 82.76 337 P P 04 53 00.0 +1.0
DIX Grande Dixence 82.80 337⇑iP P 04 53 00.6 +1.4
SSF Saint Saulge 82.86 340 eP P 04 53 00.0 +0.5
comp=Z,25nm,0.9s,mb5.2
SSF Saint Saulge 82.86 340 eP P 04 53 00.0 +0.5
SSF pmax pmax
comp=Z,25nm,0.9s,mb5.2
HYF Humbligny 82.86 341 eP P 04 53 00.0 +0.5
EMV Vieux Emosson 82.95 338⇑iP P 04 53 00.9 +0.9
ELN Prospectdale 82.96 41 eP P 04 52 59.7 -0.5
ASF Jabal al Asfar 82.99 310 P P 04 53 01.9 +1.4
comp=Z,21nm,0.8s,mb5.2,baz=278,slow=2.5,SNR=28
SGMF Saint Gilles 82.99 344 eP P 04 53 00.6 +0.5
comp=Z,83nm,0.9s,mb5.5
SGMF Saint Gilles 82.99 344 eP P 04 53 00.6 +0.5
SGMF pmax pmax
comp=Z,41nm,0.9s,mb5.5
ROSF Rostrenen 83.04 345 eP P 04 53 00.9 +0.5
comp=Z,125nm,1.0s,mb5.6
ROSF Rostrenen 83.04 345 eP P 04 53 00.9 +0.5
ROSF pmax pmax
comp=Z,63nm,1.0s,mb5.6
ORX Oropa 83.06 337 P P 04 53 00.4 -0.1
TIR Tirane 83.06 327 P P 04 53 00.9 +0.2
ORO Oropa 83.07 337 P P 04 53 01.4 +0.8
BLA Blacksburg 83.12 41 eP P 04 53 00.7 -0.4
comp=Z,52nm,1.6s,mb5.3
BLA LR LR
comp=Z,1µm,19.0s,MS5.2
BLA Blacksburg 83.12 41 eP P 04 53 00.7 -0.4
BLA pmax pmax
comp=Z,52nm,1.6s,mb5.3
BLA MLR MLR
comp=Z,1µm,19.0s,MS5.2
AVF Avril sur Loir 83.15 340 eP P 04 53 01.5 +0.5
comp=Z,52nm,0.7s,mb5.4
AVF Avril sur Loir 83.15 340 eP P 04 53 01.5 +0.5
AVF pmax pmax
comp=Z,26nm,0.7s,mb5.4
MYNC Murphy 83.15 44 eP P 04 53 01.1 -0.2
comp=Z,33nm,1.3s,mb5.2
MYNC LR LR
comp=Z,2µm,21.0s,MS5.3
MYNC Murphy 83.15 44 eP P 04 53 01.1 -0.2
MYNC pmax pmax
comp=Z,33nm,1.3s,mb5.2
MYNC MLR MLR
comp=Z,2µm,21.0s,MS5.3
TRAV 83.24 337 P P 04 53 01.4 0.0
RSM Repubblica di 83.31 333 P P 04 53 04.0 +2.1
LRAL Lakeview Retre 83.37 48 eP P 04 53 01.7 -0.7
comp=Z,7.6nm,0.9s,mb4.7
LRAL LR LR
comp=Z,1µm,19.0s,MS5.3
QURS Qurayyt al Mil 83.38 310 P P 04 53 04.4 +1.9
QUIF Quistinic 83.42 345 eP P 04 53 02.6 +0.2
FSSB Fossombrone 83.43 333 P P 04 53 03.0 +0.5
LSD Ceresole Reale 83.44 337 P P 04 53 03.7 +1.2
LPL La Plagne 83.50 337 eP P 04 53 04.3 +1.6
comp=Z,60nm,0.8s,mb5.5
LPL La Plagne 83.50 337 eP P 04 53 04.3 +1.6
LPL pmax pmax
comp=Z,30nm,0.8s,mb5.5
LPG La Plagne 83.52 337 eP P 04 53 04.5 +1.7
comp=Z,81nm,0.8s,mb5.6
LPG La Plagne 83.52 337 eP P 04 53 04.5 +1.7
LPG pmax pmax
comp=Z,41nm,0.8s,mb5.6
GRAM 83.52 335 P P 04 53 01.9 -1.0
SFI Santa Sofia 83.52 333 P P 04 53 04.2 +1.3
SEI Scarperia 83.54 334 P P 04 53 05.3 +2.3
MMLI Mount Malkishu 83.54 312 P P 04 53 04.1 +0.8
ARV Arcevia 83.55 333 P P 04 53 03.7 +0.7
VMG Vicchio 83.56 334 P P 04 53 05.2 +2.1
CING Cingoli 83.58 332 P P 04 53 03.5 +0.3
PGD Poggio Sodo 83.59 334 P P 04 53 05.1 +1.9
VALM 83.60 335 P P 04 53 02.3 -1.0
OFRI 'Ofer 83.62 312 P P 04 53 03.8 +0.1
CBN Corbin 83.62 38 PFAKE 04 53 20.0 +16
CBN LR LR
comp=Z,2µm,21.0s,MS5.4
CODM 83.68 335 P P 04 53 01.7 -1.9
RSP Reno Superiore 83.70 337 P P 04 53 04.6 +0.8
SARO Sassorosso 83.70 335 P P 04 53 03.3 -0.5
BACM 83.72 335 P P 04 53 02.2 -1.7
CRE Caprese Michel 83.75 333 P P 04 53 04.9 +0.8
PLDF La Plantade 83.86 340 eP P 04 53 06.7 +2.2
FENE Fenestrelle 83.87 337 P P 04 53 04.5 -0.1
TCF Toulx Ste Croi 83.89 341 eP P 04 53 05.4 +0.7
comp=Z,60nm,1.1s,mb5.3
TCF Toulx Ste Croi 83.89 341 eP P 04 53 05.4 +0.7
TCF pmax pmax
comp=Z,30nm,1.1s,mb5.3
SLTI Sal'it 83.89 312 P P 04 53 05.4 +0.3
MURB Monte Urbino 83.89 333 P P 04 53 06.0 +1.2
AGO Saint Agoulin 83.90 340 eP P 04 53 06.9 +2.2
PCP Pian Castagno 83.91 336 P P 04 53 06.0 +1.1
BNI Bardonecchia 83.95 337 eP P 04 53 06.2 +1.1
comp=Z,48nm,1.3s,mb5.5
BNI Bardonecchia 83.95 337 eP P 04 53 06.2 +1.2
BNI pmax pmax
comp=Z,48nm,1.3s,mb5.5
GDM Grand'Maison 83.95 338 eP P 04 53 06.6 +1.6
BHB Bricherasio 83.99 337 P P 04 53 04.1 -1.1
ARG Arkhangelos 84.00 319 eP P 04 53 06.0 +0.5
GRN Grenoble 84.01 338 eP P 04 53 07.0 +1.7
HILS Ha'il 84.04 304 P P 04 53 07.2 +1.3

RRL Cesana Torines 84.04 337 P P 04 53 06.2 +0.7
CSNT Castellina Chi 84.09 334 P P 04 53 07.0 +1.2
NRCA Norcia 84.09 332 P P 04 53 06.8 +1.0
MFF Saint Martin d 84.10 342 eP P 04 53 06.2 +0.5
comp=Z,26nm,0.7s,mb5.2
MFF Saint Martin d 84.10 342 eP P 04 53 06.2 +0.5
MFF pmax pmax
comp=Z,13nm,0.7s,mb5.2
TERO Teramo 84.12 332 P P 04 53 05.9 -0.1
MKRJ Makawir 84.13 311 P P 04 53 06.9 +0.6
PYM Petit Puy Mans 84.21 340 eP P 04 53 08.1 +1.8
MBDF Montbardon 84.22 337 eP P 04 53 07.2 +0.8
comp=Z,21nm,0.6s,mb5.1
MBDF Montbardon 84.22 337 eP P 04 53 07.2 +0.8
MBDF pmax pmax
comp=Z,11nm,0.6s,mb5.2
ORIF Oris-en-Rattie 84.28 338 eP P 04 53 07.9 +1.2
comp=Z,62nm,0.7s,mb5.5
ORIF eR
comp=Z,2µm,22.8s
FIN Finale Ligure 84.31 336 P P 04 53 06.4 -0.4
RGNG Rignano Grg 84.31 330 P P 04 53 08.2 +1.3
ROB Roburent 84.33 336 P P 04 53 06.4 -0.5
AQU L'Aquila 84.43 332 eP P 04 53 08.7 +1.2
comp=Z,31nm,0.8s,mb5.5
AQU L'Aquila 84.43 332 eP P 04 53 08.7 +1.2
AQU pmax pmax
comp=Z,31nm,0.8s,mb5.5
SURF Saint Ours 84.44 337 eP P 04 53 08.9 +1.4
MZDA Masada 84.47 311 P P 04 53 08.2 +0.2
GRFL Gerfalco 84.48 334 P P 04 53 08.1 +0.4
ENR Entracque 84.51 337 P P 04 53 06.5 -1.4
STV Sta Anna Valdi 84.52 337 P P 04 53 07.1 -0.8
MONE Monesi 84.56 336 P P 04 53 07.0 -1.1
NSAL Nisos Salamina 84.60 323 eP P 04 53 05.0 -3.5
MGER Gerania Oros 84.62 323 eP P 04 53 07.5 -1.1
MNS Montasola 84.64 332 P P 04 53 08.6 +0.1
LBL Lubilhac 84.64 340 eP P 04 53 10.4 +1.9
VIVF Saint-Julien-l 84.65 339 eP P 04 53 09.3 +0.8
comp=Z,112nm,1.4s,mb5.5
VIVF Saint-Julien-l 84.65 339 eP P 04 53 09.3 +0.8
VIVF pmax pmax
comp=Z,56nm,1.4s,mb5.5
IMI Imperia 84.68 336 P P 04 53 08.7 0.0
CII Carovilli 84.70 331 eP P 04 53 10.2 +1.3
comp=Z,54nm,1.3s,mb5.5
PTQR Pietraquaria 84.73 332 P P 04 53 09.7 +0.7
TOUF Mont Tournerai 84.76 337 eP P 04 53 09.8 +0.7
FG5 Orsara di Pugl 84.77 330 P P 04 53 10.0 +0.8
RNI2 Rionero Sannit 84.77 331 P P 04 53 10.3 +1.1
NEGI Negi 84.78 336 P P 04 53 08.1 -1.2
MIDA Miranda 84.79 331 P P 04 53 10.7 +1.4
FG4 Candela 84.82 330 P P 04 53 10.0 +0.5
LTRZ Laterza 84.83 329 P P 04 53 09.5 0.0
SBF Sospel 84.84 336 eP P 04 53 09.6 +0.1
comp=Z,222nm,1.2s,mb5.9
SBF Sospel 84.84 336 eP P 04 53 09.6 +0.1
SBF pmax pmax
comp=Z,111nm,1.2s,mb5.9
CERT Cerreto 84.93 332 P P 04 53 10.1 +0.1
MTCE Montecelio 84.94 332 P P 04 53 11.8 +1.7
RJF Les Rejaudoux 84.97 341 eP P 04 53 10.3 +0.2
comp=Z,46nm,1.2s,mb5.2
RJF eR
comp=Z,3µm,21.8s
RJF Les Rejaudoux 84.97 341 eP P 04 53 10.3 +0.2
RJF pmax pmax
comp=Z,23nm,1.2s,mb5.2
RJF MLR MLR
comp=Z,3µm,21.8s,MS5.6
REVF Revere 84.98 336 eP P 04 53 10.9 +0.7
KARP Karpathos 84.99 319 eP P 04 53 10.0 -0.5
STOF St-Etienne Org 85.13 337 eP P 04 53 12.2 +1.2
JSC Jenkinsville 85.16 43 eP P 04 53 11.1 -0.2
MRLC Muro Lucano 85.16 330 P P 04 53 11.3 +0.1
ZFRI Zfri 85.16 311 P P 04 53 12.0 +0.5
CAF Calviac 85.21 340 eP P 04 53 11.9 +0.6
comp=Z,16nm,0.7s,mb5.0
CAF Calviac 85.21 340 eP P 04 53 11.9 +0.6
CAF pmax pmax
comp=Z,8.0nm,0.7s,mb5.0
CSSN Cassano Irpino 85.23 330 P P 04 53 11.5 0.0
SMRF Simiane la Rot 85.24 338 eP P 04 53 11.8 +0.3
KZIT Kziot 85.29 311 P P 04 53 12.4 +0.3
VILF Villemus 85.32 338 eP P 04 53 13.3 +1.4
FRF La Foret Royal 85.34 337 eP P 04 53 12.3 +0.3
SGO Sicignano 85.40 330 P P 04 53 12.4 0.0
PRNI Paran 85.41 311 P P 04 53 13.3 +0.6
SLCN Sala Consilina 85.44 329 P P 04 53 13.6 +1.0
ORI Oriolo Calabro 85.44 329 P P 04 53 13.6 +1.0
TAVF Tavernes 85.44 337 eP P 04 53 13.9 +1.4
LFF La Frestale 85.49 341 eP P 04 53 13.1 +0.4
comp=Z,46nm,0.8s,mb5.3
LFF La Frestale 85.49 341 eP P 04 53 13.1 +0.4
LFF pmax pmax
comp=Z,23nm,0.8s,mb5.4
PRAF Pradon 85.50 338 eP P 04 53 14.6 +1.8
VLS Valsamata 85.53 325⇑iP P 04 53 13.0 -0.1
LASF Ste Croix 85.58 339 eP P 04 53 13.8 +0.6
comp=Z,23nm,0.9s,mb5.1
LMR La Mourre 85.59 337 eP P 04 53 13.5 +0.2
comp=Z,101nm,1.0s,mb5.7
LMR La Mourre 85.59 337 eP P 04 53 13.5 +0.2
LMR pmax pmax
comp=Z,51nm,1.0s,mb5.7
PGF Pioggiola 85.61 335 eP P 04 53 13.8 +0.4
PUYF Puyloubier 85.62 337 eP P 04 53 14.6 +1.2
MGR Morigerati 85.69 329 P P 04 53 13.9 +0.1
GELF Grande-Etoile 85.83 338 eP P 04 53 15.2 +0.7
VLI Veliai 85.83 323 eP P 04 53 12.5 -2.2
ITM Ithomi 85.86 323 eP P 04 53 14.0 -0.8
MBH Mount Berech 85.91 310 P P 04 53 15.8 +0.6
EIL Elat 85.98 310 P P 04 53 16.0 +0.4
NWAO Narrogin (SRO) 86.10 210 LR LR 05 32 37.0
comp=Z,314nm,20.1s,MS4.7,baz=29,slow=36
TIP Timpagrande 86.11 328 eP P 04 53 15.7 -0.3
XRY Khrisi 86.21 320 eP P 04 53 15.0 -1.6
ALWS Ilw as Safayha 86.21 310 P P 04 53 17.9 +1.2
TBKS Tabuk 86.28 308 P P 04 53 18.3 +1.2
JMOS Jabal al Moall 86.30 310 P P 04 53 18.5 +1.4
VAM Vamos 86.41 321 eP P 04 53 13.5 -4.1
HAQS Haql 86.49 310 P P 04 53 18.9 +0.8
GRI Girifalco 86.55 328 P P 04 53 18.4 +0.3
NHSC New Hope 86.63 43 PFAKE 04 53 30.0 +11
NHSC LR LR
comp=Z,1µm,21.0s,MS5.3
MTLF Montolieu 86.67 340 eP P 04 53 18.9 +0.3
comp=Z,10nm,0.6s,mb4.9
MTLF Montolieu 86.67 340 eP P 04 53 18.9 +0.3
MTLF pmax pmax
comp=Z,5.0nm,0.6s,mb4.9
KBRS Khaybar 86.70 305 P P 04 53 20.3 +1.1
BDAS Al Bad' 86.89 309 P P 04 53 20.8 +0.7
TAYS Tayyib Ism 86.92 310 P P 04 53 21.7 +1.5
GVD Gavdhos 86.94 321 eP P 04 53 21.2 +1.1
comp=Z,62nm,0.9s,mb5.8
SOI Samo 87.34 328 P P 04 53 21.7 -0.3
EPF Esparros 87.40 341 eP P 04 53 21.9 -0.2
comp=Z,7.9nm,0.5s,mb4.9
EPF Esparros 87.40 341 eP P 04 53 21.9 -0.2
EPF pmax pmax
comp=Z,4.0nm,0.5s,mb4.9
SJPF Ste Jean 87.66 342 eP P 04 53 23.6 +0.2
ETSF Etsaut 87.72 342 eP P 04 53 23.9 +0.2
comp=Z,18nm,0.6s,mb5.2
ETSF Etsaut 87.72 342 eP P 04 53 23.9 +0.2
ETSF pmax pmax
comp=Z,9.0nm,0.6s,mb5.2
KAMS Al Khamasin 87.80 298 P P 04 53 24.9 +0.3
UMJS Umm Lajj 88.22 306 P P 04 53 27.4 +0.9
SNZO South Karori 89.80 164 PFAKE 04 53 50.0 +16
SNZO LR LR
comp=Z,1µm,21.0s,MS5.4
BLJS Baljurashi 89.92 299 P P 04 53 35.6 +0.9
DWPF Disney 90.16 47 PFAKE 04 53 50.0 +14
DWPF LR LR
comp=Z,942nm,19.0s,MS5.2
DJNS Zahran al Janu 90.41 297 P P 04 53 38.4 +1.4
PVRL Vila Real 90.65 346 eP P 04 53 37.2 -0.4
comp=Z,25nm,1.2s,mb5.4
MTE Manteigas 91.48 346 eP P 04 53 42.5 +1.1
MTE eSKSac 05 04 15.5
MTE eLR LR 05 25 04.9

comp=Z,1μm,16.0s
ESDC Sonseca Array 91.53 343 P P 04 53 40.6 -1.0
comp=Z,1.5nm,0.6s,mb4.5,baz=14,slow=4.4,SNR=13
ESLA Sonseca Array 91.53 343 PFAKE 04 53 50.0 +8.4
ESLA LR LR
comp=Z,11μm,19.0s,MS6.3
BBSR BB Station 93.72 32 PFAKE 04 54 00.0 +8.1
BBSR LR LR
comp=Z,623nm,21.0s,MS5.0
CMLA Cha da Macela 95.67 360 PFAKE 04 54 10.0 +9.3
CMLA LR LR
comp=Z,312nm,20.0s,MS4.8
JTS JuntasAbangare 102.67 60 PFAKE 04 54 40.0 +7.1
JTS LR LR
comp=Z,100nm,20.0s,MS4.3
SJG San Juan 105.88 40 PFAKE 04 59 10.0
SJG LR LR
comp=Z,496nm,20.0s,MS5.1
PAYG Puerto Ayora 107.86 71 PFAKE 04 59 10.0
PAYG LR LR
comp=Z,421nm,21.0s,MS5.0
KMBO Kilima Mbogo 108.76 289 P Pdif 04 54 56.6 -3.1
SDV Santo Domingo 111.76 48 PFAKE 04 59 20.0 +7.1
SDV LR LR
comp=Z,430nm,20.0s,MS5.0
MBAR Mbarara 112.49 295 PFAKE 04 59 20.0 +5.6
MBAR LR LR
comp=Z,279nm,19.0s,MS4.9
DRV Dumont d'Urvil 113.78 186 PP PP 05 00 18.0 +8.1
DRV SP SP 05 09 44.0 +4.7
DRV SS SS 05 15 47.0 -7.0
CASY Casey 117.69 198 *P*FAKE 04 59 30.0 +6.7
CASY LR LR
comp=Z,529nm,20.0s,MS5.2
MIR Mirnyy 122.29 204 *e*PKIKP PKPdf 04 59 29.0 -3.2
MIR pmax pmax
comp=Z,24nm,1.4s
DBIC Dimbokro 123.39 334 PKP PKPdf 04 59 31.2 -4.3
comp=Z,2.9nm,0.7s,baz=31,slow=1.5,SNR=8.1
DBIC Dimbokro 123.39 334 PKIKP PKPdf 04 59 31.3 -4.2
DBIC pmax pmax
comp=Z,3.0nm,0.7s
VNDA Vanda 124.29 178 PKP PKPdf 04 59 31.9 -4.0
comp=Z,0.7nm,0.9s,baz=317,slow=7.4,SNR=3.4
VNDA Vanda 124.29 178 PKP PKPdf 04 59 31.9 -4.0
VNDA LR LR
comp=Z,459nm,20.0s,MS5.1
SBA Scott Base 124.78 177 PFAKE 04 59 50.0 +13
SBA LR LR
comp=Z,765nm,20.0s,MS5.4
NNA Nana 125.06 68 PFAKE 04 59 50.0 +11
NNA LR LR
comp=Z,111nm,21.0s,MS4.5
LSZ Lusaka 125.23 286 PFAKE 04 59 50.0 +11
LSZ LR LR
comp=Z,2μm,19.0s,MS5.7
SAML Samuel 130.73 52 PFAKE 05 00 00.0 +10
SAML LR LR
comp=Z,648nm,21.0s,MS5.3
MAW Mawson 132.66 211 PKP PKPdf 04 59 49.7 -2.2
comp=Z,2.0nm,0.9s,baz=60,slow=8.1,SNR=3.8
MAW Mawson 132.66 211 PKP PKPdf 04 59 49.7 -2.2
MAW LR LR
comp=Z,287nm,20.0s,MS5.0
LPAZ La Paz 133.76 63 PKP PKPdf 04 59 53.6 -1.6
comp=Z,1.3nm,0.9s,baz=9.2,slow=4.7,SNR=6.6
LPAZ La Paz 133.76 63 *e*PKP PKPdf 04 59 53.4 -1.8
LPAZ LR LR
comp=Z,411nm,22.0s,MS5.1
LBTB Lobatse 133.76 280 PFAKE 05 00 00.0 +5.0
LBTB LR LR
comp=Z,649nm,20.0s,MS5.3
TSUM Tsumeb 134.95 293 PFAKE 05 00 10.0 +13
TSUM LR LR
comp=Z,713nm,22.0s,MS5.3
BOSA Boshof 136.33 276 PKP PKPdf 04 59 58.1 -1.6
comp=Z,1.0nm,0.6s,baz=129,slow=2.3,SNR=4.0
BOSA PP PP 05 02 31.6 -8.7
comp=Z,3.5nm,0.9s,baz=17,slow=7.6,SNR=4.4
BOSA Boshof 136.33 276 PKP PKPdf 04 59 58.1 -1.6
BOSA PP PP 05 02 31.6 -8.7
BOSA LR LR
comp=Z,644nm,19.0s,MS5.4
QSPA South Pole Qui 136.68 180 *e*P PKPdf 04 59 56.6 -2.4
LVC Limon Verde 137.97 70 PFAKE 05 00 10.0 +7.1
LVC LR LR
comp=Z,533nm,19.0s,MS5.3
RCBR Riachuelo 138.17 15 PFAKE 05 00 10.0 +6.5
RCBR LR LR
comp=Z,458nm,19.0s,MS5.2
SUR Sutherland 141.66 275 PFAKE 05 00 20.0 +11
SUR LR LR
comp=Z,217nm,19.0s,MS4.9
BDFB Brasilia 143.85 38 PKP PKPdf 05 00 08.3 -5.1
comp=Z,5.2nm,0.9s,baz=354,slow=4.5,SNR=6.6
BAO Brasilia Array 143.85 38 PKPdf PKPdf 05 00 08.5 -4.9
PLCA Paso Flores 147.68 95 PKPbc PKPdf 05 00 20.1 +0.9
comp=Z,8.2nm,0.9s,baz=257,slow=3.6,SNR=15
PLCA Paso Flores 147.68 95 PKPbc PKPdf 05 00 20.1 +0.9
PLCA LR LR
comp=Z,1μm,19.0s,MS5.7
CPUP Villa Florida 147.89 61 PKPbc PKPdf 05 00 18.5 -1.5
comp=Z,9.7nm,1.1s,baz=340,slow=2.6,SNR=15
CPUP Villa Florida 147.89 61 *e*PKPdf PKPdf 05 00 15.8 -4.3
CPUP LR LR
comp=Z,630nm,20.0s,MS5.4
TRQA Tornquist 152.29 84 *e*PKPbc PKPdf 05 00 30.3 +3.8
TRQA LR LR
comp=Z,805nm,22.0s,MS5.5
PMSA Palmer Station 152.83 145 *e*PKPbc PKPdf 05 00 30.7 +4.3
PMSA LR LR
comp=Z,722nm,20.0s,MS5.5
SNAA Sanae 152.90 196 *e* PKPdf 05 00 37.0 +11
SNAA Sanae 152.90 196 *e* PKPdf 05 00 41.7 +15
SNAA Sanae 152.90 196 *e* PKPdf 05 00 44.6 +18
SNAA Sanae 152.90 196 *e* PKPdf 05 00 50.2 +24
SNAA Sanae 152.90 196 *e* PKPdf 05 00 52.4 +26
SNAA Sanae 152.90 196 PKPbc PKPdf 05 00 30.7 +4.4
comp=Z,1.1nm,0.6s,baz=196,slow=9.3,SNR=34
SNAA PKPab PKPab 05 00 42.2 -1.0
comp=Z,2.4nm,0.8s,baz=192,slow=13,SNR=7.6
SNAA Sanae 152.90 196 ⇑*i*PKPdf PKPdf 05 00 30.6 +4.3
SNAA *e* 05 00 37.0
SNAA *e* 05 00 41.7
SNAA *e* 05 00 44.6
SNAA *e* 05 00 50.2
SNAA *e* 05 00 52.4
SNAA Sanae 152.90 196 PKIKP PKPdf 05 00 30.7 +4.4
SNAA 05 00 42.2
SNAA pmax pmax
comp=Z,1.0nm,0.6s
SNAA pmax pmax
comp=Z,2.0nm,0.8s
VNA2 Neumayer--Watz 154.33 194 *e* PKPdf 05 00 41.9 +14
VNA2 Neumayer--Watz 154.33 194 *e* PKPdf 05 00 45.3 +17
VNA2 Neumayer--Watz 154.33 194 *e* PKPdf 05 00 48.5 +20
VNA2 Neumayer--Watz 154.33 194 *e* PKPdf 05 00 54.7 +26
VNA2 Neumayer--Watz 154.33 194 *e* PKPdf 05 00 56.2 +28
VNA2 Neumayer--Watz 154.33 194 ⇑*i*PKPdf PKPdf 05 00 34.4 +6.1
VNA2 *e* 05 00 41.9
VNA2 *e* 05 00 45.3
VNA2 *e* 05 00 48.5
VNA2 *e* 05 00 54.7
VNA2 *e* 05 00 56.2
VNA3 Neumayer Olymp 154.41 192 *e* PKPdf 05 00 40.7 +12
VNA3 Neumayer Olymp 154.41 192 *e* PKPdf 05 00 45.3 +17
VNA3 Neumayer Olymp 154.41 192 *e* PKPdf 05 00 48.4 +20
VNA3 Neumayer Olymp 154.41 192 *e* PKPdf 05 00 53.9 +26
VNA3 Neumayer Olymp 154.41 192 *e* PKPdf 05 00 56.1 +28
VNA3 Neumayer Olymp 154.41 192 ⇑*i*PKPdf PKPdf 05 00 34.1 +5.7
VNA3 *e* 05 00 40.7
VNA3 *e* 05 00 45.3
VNA3 *e* 05 00 48.4
VNA3 *e* 05 00 53.9
VNA3 *e* 05 00 56.1
VNA1 Neumayer--Stat 154.71 194 *e* PKPdf 05 00 35.3 +6.5
VNA1 Neumayer--Stat 154.71 194 *e* PKPdf 05 00 41.4 +13
VNA1 Neumayer--Stat 154.71 194 *e* PKPdf 05 00 45.5 +17
VNA1 Neumayer--Stat 154.71 194 *e* PKPdf 05 00 49.2 +20
VNA1 Neumayer--Stat 154.71 194 *e* PKPdf 05 00 55.8 +27
VNA1 Neumayer--Stat 154.71 194 PKPdf PKPdf 05 00 27.8 -1.0
VNA1 *e* 05 00 35.3
VNA1 *e* 05 00 41.4
VNA1 *e* 05 00 45.5
VNA1 *e* 05 00 49.2
VNA1 *e* 05 00 55.8

IDC 01 05:28:00.3±4.6, 46.63N×153.72E, mb3.7/3, mb1 4.0/3, mb1mx3.5/19, mbtmp3.7/3, Error ellipse: s-maj=159.7km s-min=40.6km az=8.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**47.37**	**298**	P	P	05 36 35.7	-1.8
	0.4nm,0.7s,baz=56,slow=8.7,SNR=3.7						
NB2	**NORSAR Subarra**	**68.48**	**341**	P	P	05 39 04.2	-1.5
	0.7nm,0.8s,baz=27,slow=6.5						
NOA	**NORSAR Array B**	**68.48**	**341**	P	P	05 39 03.8	-1.9
	1.5nm,0.9s,baz=27,slow=6.3,SNR=4.1						
TXAR	**Lajitas Array**	**77.19**	**61**	P	P	05 39 56.2	-1.3
	0.4nm,0.7s,baz=303,slow=3.7,SNR=5.8						

*LDG **01** 05:33:14.1±0.2, 17.27S×167.50E, h30km, Mb4.5/2, Error ellipse: s-maj=29.1km s-min=3.7km az=94.0*
*IDC **01** 05:33:15.3±4.5, 17.50S×168.05E, h49km±39km, mb4.1/10, mb1 4.2/10, mb1mx4.1/17, mbtmp4.4/10, ML5.1/1, MS3.7/2, Ms1 3.7/2, ms1mx3.4/22, Error ellipse: s-maj=31.4km s-min=21.3km az=43.0*
*BJI **01** 05:33:16.3, 17.80S×167.90E, h40km, mb4.7*
*NEIC **01** 05:33:16.4±0.6, 17.77S×167.85E, h40km, mb4.8/4, Error ellipse: s-maj=15.7km s-min=13.6km az=65.0*
NEIC Felt at Port-Vila.
ISC 01 05:33:15.9±3.3, 17.7S±0.1×167.9E±0.1, h61km±25km, n45, σ0s94/32, mb4.4/11, 4C-2D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.52**	**197**	*e*P	**P**	**05 34 23.8**	**+0.2**
DZM				*e*S	**S**	**05 35 14.0**	**-1.4**
DZM	**Mont Dzumac**	**4.52**	**197**	P	**P**	**05 34 23.9**	**+0.4**
	78nm,0.3s,baz=49,slow=18,SNR=296						
DZM				S	**S**	**05 35 14.3**	**-1.1**
	6.6nm,0.3s,baz=139,slow=19,SNR=3.4						
DZM				LR	LR	05 36 10.4	
	comp=Z,703nm,20.1s,baz=28,slow=37						
DZM	**Mont Dzumac**	**4.52**	**197**	*e*P	**P**	**05 34 23.8**	**+0.2**
DZM				*e*S	**S**	**05 35 14.0**	**-1.4**
CTA	**Charters Tower**	**20.59**	**260**	P	**P**	**05 37 53.8**	**+1.5**
	3.5nm,0.6s,baz=72,slow=17,SNR=3.9						
CTA				LR	LR	05 44 30.3	
	comp=Z,238nm,20.0s,baz=48,slow=32						
URZ	**Urewera**	**21.99**	**160**	P	**P**	**05 38 08.0**	**+1.8**
	8.0nm,0.6s,mb4.3,baz=351,slow=6.1,SNR=6.8						
RPZ	**Rata Peaks**	**26.04**	**175**	P	**P**	**05 38 46.1**	**+0.9**
	5.6nm,0.8s,mb4.1,baz=15,slow=18,SNR=4.0						
STKA	**Stephens Creek**	**27.61**	**234**	*e*P	**P**	**05 39 00.9**	**+1.2**
	2.4nm,0.6s,mb4.0						
STKA	**Stephens Creek**	**27.61**	**234**	P	**P**	**05 39 00.4**	**+0.7**
	3.4nm,0.7s,mb4.1,baz=59,slow=9.0,SNR=8.0						
STKA				PcP	PcP	05 42 15.3	-0.9
	2.4nm,0.8s,baz=40,slow=2.9,SNR=3.4						
WB2	**Warramunga Arr**	**31.78**	**261**	*e*P	**P**	**05 39 36.0**	**-0.8**
WRAB	**Tennant Creek**	**31.78**	**261**	*e*P	**P**	**05 39 36.1**	**-0.6**
WRA	**Warramunga Arr**	**31.79**	**261**	P	**P**	**05 39 36.1**	**-0.8**
	3.2nm,0.4s,mb4.5,baz=80,slow=6.0,SNR=77						
WRA				PcP	PcP	05 42 26.0	-1.0
	1.7nm,0.7s,baz=90,slow=3.1,SNR=10						
FITZ	**Fitzroy Crossi**	**40.12**	**263**	*e*P	**P**	**05 40 48.2**	**+0.7**
	20nm,0.9s,mb4.9						
FITZ	**Fitzroy Crossi**	**40.12**	**263**	P	**P**	**05 40 48.5**	**+1.0**
	28nm,0.8s,mb5.0,baz=109,slow=3.0,SNR=10						
MBWA	**Marble Bar**	**45.39**	**258**	*e*P	**P**	**05 41 31.0**	**+0.6**
NWAO	**Narrogin (SRO)**	**47.77**	**241**	P	**P**	**05 41 49.2**	**+0.2**
VNDA	**Vanda**	**59.89**	**182**	P	**P**	**05 43 16.3**	**-1.1**
	1.0nm,0.6s,mb4.0,baz=348,slow=4.1,SNR=5.8						
VNDA	**Vanda**	**59.89**	**182**	P	**P**	**05 43 17.1**	**-0.3**
SBA	**Scott Base**	**60.15**	**180**	*e*P	**P**	**05 43 19.5**	**+0.3**
SBA				*e*		05 43 28.1	
CASY	**Casey**	**60.99**	**203**	P	**P**	**05 43 23.3**	**-1.7**
QSPA	**South Pole Qui**	**72.31**	**180**	⇑*i*P	**P**	**05 44 36.7**	**+0.4**
	10.0nm,0.7s,mb4.8						
KMI	**Kunming**	**76.38**	**302**	P	**P**	**05 45 06.7**	**+5.9**
KMI				AMB	AMB		
	comp=Z,6.0nm,0.6s,mb4.7						
KMI	**Kunming**	**76.38**	**302**	P	**P**	**05 45 06.7**	**+5.9**
	comp=Z,6.0nm,0.6s,mb4.7						
MAW	**Mawson**	**79.34**	**202**	P	**P**	**05 45 17.7**	**+1.4**
	comp=Z,5.3nm,0.9s,mb4.5,baz=119,slow=5.3,SNR=8.2						
SONM	**Songino Array**	**85.24**	**324**	P	**P**	**05 45 47.1**	**0.0**
	comp=Z,2.5nm,0.9s,mb4.4,baz=150,slow=6.2,SNR=14						
SYO	**Syowa Base**	**86.01**	**196**	⇓P	**P**	**05 45 49.6**	**-0.7**
SYO	**Syowa Base**	**86.01**	**196**	⇓PcP	PcP	05 45 50.5	-3.0
ILAR	**Eielson Array**	**89.19**	**18**	P	**P**	**05 46 04.0**	**-1.8**
	comp=Z,0.5nm,0.7s,mb4.0,baz=237,slow=4.6,SNR=6.3						
SNAA	**Sanae**	**90.60**	**183**	⇑*i*	**P**	**05 46 12.1**	**-0.1**
VNA3	**Neumayer Olymp**	**91.24**	**181**	⇑*i*	**P**	**05 46 14.8**	**-0.4**
VNA2	**Neumayer--Watz**	**91.52**	**182**	⇑*i*	**P**	**05 46 16.4**	**-0.1**
CPUP	**Villa Florida**	**117.98**	**134**	*e*PKPdf	PKPdf	05 51 57.7	+1.5
ARCES	**ARCESS Array B**	**123.29**	**345**	PKP	PKPdf	05 52 04.2	-1.4
	comp=Z,2.3nm,0.8s,SNR=6.3						
CDF	**Champ du Feu**	**145.56**	**337**	*e*PKP1	PKPbc	05 52 47.8	0.0
	comp=Z,11nm,0.8s						
SSF	**Saint Saulge**	**148.04**	**340**	*e*PKP1	PKPdf	05 52 54.4	+3.2
LPL	**La Plagne**	**148.15**	**334**	*e*PKP1	PKPdf	05 52 55.3	+3.8
LPG	**La Plagne**	**148.15**	**334**	*e*PKP1	PKPdf	05 52 55.5	+4.0
	comp=Z,6.0nm,0.7s						
SGMF	**Saint Gilles**	**148.57**	**348**	*e*PKP1	PKPdf	05 52 55.5	+3.4
TCF	**Toulx Ste Croi**	**149.14**	**340**	*e*PKP1	PKPdf	05 52 57.9	+4.9
SBF	**Sospel**	**149.16**	**332**	*e*PKP1	PKPdf	05 52 57.8	+4.6
PGF	**Pioggiola**	**149.42**	**328**	*e*PKP1	PKPdf	05 52 58.5	+4.9
	comp=Z,26nm,0.9s						
MFF	**Saint Martin d**	**149.55**	**344**	*e*PKP1	PKPdf	05 52 58.8	+5.1
LASF	**Ste Croix**	**150.48**	**336**	*e*PKP1	PKPdf	05 53 00.1	+4.9
	comp=Z,9.8nm,0.9s						
MTLF	**Montolieu**	**151.73**	**338**	*e*PKP1	PKPdf	05 53 03.9	+6.8
EPF	**Esparros**	**152.65**	**340**	*e*PKP1	PKPdf	05 53 06.4	+7.9
ETSF	**Etsaut**	**153.06**	**341**	*e*PKP1	PKPdf	05 53 07.7	+8.7
	comp=Z,6.6nm,0.8s						

*NIED **01** 05:57:00, 20.80N×121.70E, h71km, Mw4.7 Best double couple: Mo1.11×10^16 NP1:φs227°, δ86°, λ-113°. NP2: φs128°, δ23°, λ-10°.*
*BJI **01** 05:57:17.4, 20.80N×121.06E, h25km, mB4.6, mb4.3, ML3.9, Ms4.1, Msz4.0*
*MOS **01** 05:57:17.4±0.9, 20.86N×121.32E, h33km, mb4.8/6, Error ellipse: s-maj=15.3km s-min=9.4km az=105.0*
*NEIC **01** 05:57:19.3±1.0, 20.78N×121.21E, h37km±9km, mb4.4/11, Error ellipse: s-maj=9.0km s-min=7.8km az=106.0*
*JMA **01** 05:57:20.6±0.4, 20.85N×121.65E, h131km, M4.2*
*IDC **01** 05:57:20.5±3.7, 20.88N×121.36E, h44km±34km, mb4.0/16, mb1 4.2/18, mb1mx4.1/22, mbtmp4.3/18, ML4.3/2, MS3.8/3, Ms1 3.8/3, ms1mx3.4/25, Error ellipse: s-maj=24.8km s-min=13.3km az=67.0*
ISC 01 05:57:18.1±0.8, 20.85N±0.04×121.34E±0.05, h39km±7km, h41km±1.1km: pP-P, n87, σ1s12/100, mb4.4/29, MS3.9/6, 3C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**3.16**	**172**	⇑*e*P	**P**	**05 58 08.6**	**+2.0**
CVP				*i* S	**S**	**05 58 50.5**	**+6.9**
NACB	**Ninganchiao**	**3.32**	**4**	*e*P	**P**	**05 58 09.3**	**+0.4**
YHNB	**Yeheng**	**3.80**	**1**	*e*P	**P**	**05 58 16.5**	**+0.7**
YOJ	**Yonaguni jima**	**3.92**	**23**	P	**P**	**05 58 18.5**	**+1.2**
YOJ				*e*S	**S**	**05 59 03.3**	**+0.6**
HATJ	**Hateruma jima**	**3.93**	**35**	P	**P**	**05 58 17.9**	**+0.4**
HATJ				*e*S	**S**	**05 59 02.7**	**-0.2**
TATO	**Taipei**	**4.11**	**2**	*e*Pn	**P**	**05 58 22.9**	**+2.8**
IRIF	**Iriomote-Funau**	**4.12**	**32**	P	**P**	**05 58 21.0**	**+0.8**
IRIF				*e*S	**S**	**05 59 07.5**	**-0.2**
JKRS	**Kuro-shima**	**4.18**	**36**	P	**P**	**05 58 21.3**	**+0.2**
JKRS				*e*S	**S**	**05 59 07.9**	**-1.5**
JIJ	**Ishigaki jima**	**4.36**	**36**	P	**P**	**05 58 23.3**	**-0.3**
JIJ				*e*S	**S**	**05 59 09.8**	**-4.0**
QZH	**Quanzhou**	**4.80**	**329**	⇑P	**P**	**05 58 25.7**	**-4.1**
QZH				S	**S**	**05 59 15.4**	**-9.5**
QZH				Smax			
	comp=N,140nm,0.7s						
QZH				Smax			
	comp=E,140nm,0.8s						
JTJ	**Tarama**	**4.89**	**39**	P	**P**	**05 58 30.7**	**-0.4**
JTJ				*e*S	**S**	**05 59 25.4**	**-1.8**
JOGS	**Gusukube**	**5.41**	**43**	P	**P**	**05 58 37.4**	**-1.0**
GZH	**Guangzhou**	**7.75**	**288**	P	**P**	**05 59 03.8**	**-7.3**
GZH				Smax			
	comp=N,44nm,0.7s						
GZH				Smax			
	comp=E,42nm,0.7s						
JIH	**Iheya**	**8.64**	**43**	P	**P**	**05 59 23.5**	**0.0**
JOW	**Kunigami**	**8.71**	**45**	P	**P**	**05 59 24.1**	**-0.3**
	comp=E,5.7nm,0.3s,baz=198,slow=8.4,SNR=16						
JOW				S	**S**	**06 00 54.0**	**-8.4**
	baz=139,slow=19,SNR=1.8						
JOW				LR	LR	06 03 18.0	
	comp=E,467nm,18.5s,baz=16,slow=41						
JOW	**Kunigami**	**8.71**	**45**	P	**P**	**05 59 23.3**	**-1.1**
JOW				*e*S	**S**	**06 00 57.1**	**-5.3**
QIZ	**Qiongzhong**	**10.96**	**262**	P	**P**	**05 59 51.0**	**-4.5**
QIZ	**Qiongzhong**	**10.96**	**262**	*e*Pn	**P**	**05 59 50.7**	**-4.7**
NJ2	**Nanjing**	**11.38**	**349**	*e*P	**P**	**06 00 03.9**	**+2.8**
NJ2				AP		06 00 10.9	
NJ2				PP	PP	06 00 12.6	+2.9
NJ2				XP		06 00 15.1	
NJ2				S	**S**	**06 02 10.0**	**+2.1**
NJ2				XS		06 02 22.0	
NJ2				AMB	AMB		
	comp=Z,30nm,0.8s						
NJ2				AMB	AMB		
	comp=Z,402nm,4.6s						
NJ2				LR	LR		
	comp=N,700nm,14.9s						
NJ2				LR	LR		
	comp=E,540nm,10.0s						
NJ2				LR	LR		
	comp=Z,1μm,14.0s						
GYA	**Guiyang**	**14.55**	**295**	⇓*i*P	**P**	**06 00 39.2**	**-4.1**
GYA				AP		06 00 48.5	
GYA				XP		06 00 52.6	
GYA				S	**S**	**06 03 14.8**	**-9.3**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.5s						
GYA				AMB	AMB		
	comp=Z,70nm,2.8s						
GYA				LR	LR		
	comp=N,700nm,12.7s						
GYA				LR	LR		
	comp=Z,880nm,14.1s						
JNU	**Nakatsue**	**14.88**	**33**	P	**P**	**06 00 54.6**	**+7.1**
	comp=Z,0.6nm,0.3s,baz=301,slow=4.3,SNR=3.6						
KKM	**Kota Kinabalu**	**15.53**	**199**	P	**P**	**06 00 59.8**	**+3.8**
KS15	**Wonju Array Si**	**17.49**	**18**	*e*P	**P**	**06 01 21.0**	**+0.4**
KMI	**Kunming**	**17.64**	**287**	P	**P**	**06 01 21.8**	**-0.8**
KMI				AMB	AMB		
	comp=Z,8.0nm,0.7s						
KMI	**Kunming**	**17.64**	**287**	P	**P**	**06 01 21.8**	**-0.8**
	comp=Z,8.0nm,0.7s						
CD2	**Chengdu**	**18.70**	**306**	P	**P**	**06 01 33.6**	**-2.1**
CBIJ	**Chichi jima**	**20.03**	**68**	P	**P**	**06 01 51.1**	**+0.7**
	comp=Z,3.8nm,0.3s,baz=285,slow=16,SNR=3.7						
JHJ	**Hachijo jima 2**	**20.45**	**49**	LR	LR	06 08 44.1	
	comp=Z,257nm,19.1s,MS3.6,baz=101,slow=33						
MAJO	**Matsushiro**	**21.48**	**40**	P	**P**	**06 02 10.6**	**+5.3**
MAT	**Matsushiro**	**21.48**	**40**	P	**P**	**06 02 05.1**	**-0.2**
MAT	**Matsushiro**	**21.48**	**40**	*e*P	**P**	**06 02 05.0**	**-0.3**
	comp=Z,5.0nm,1.0s,mb3.8						
MAT	**Matsushiro**	**21.48**	**40**	*e*P	**P**	**06 02 05.0**	**-0.3**
MAT				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb3.8						
MJAR	**Matsushiro Arr**	**21.48**	**40**	P	**P**	**06 02 05.4**	**+0.1**
	comp=Z,5.2nm,0.7s,mb4.0,baz=230,slow=8.1,SNR=12						
LZH	**Lanzhou**	**21.56**	**318**	*e*P	**P**	**06 02 07.0**	**+0.9**
LZH				AP		06 02 16.8	
LZH				XP		06 02 21.7	
LZH				*e*PP	PP	06 02 32.1	+1.0
LZH				*e*S	**S**	**06 05 58.0**	**+0.3**
LZH				XS		06 06 13.2	
LZH				SS	SS	06 06 34.3	-0.4
LZH				AMB	AMB		
	comp=Z,24nm,1.3s,mb4.5						
LZH				AMB	AMB		
	comp=Z,121nm,4.7s						
LZH				LR	LR		
	comp=N,667nm,8.2s						
LZH				LR	LR		
	comp=Z,1μm,12.1s,MS4.5						
LZH	**Lanzhou**	**21.56**	**318**	*e*P	**P**	**06 02 07.0**	**+0.9**
	comp=Z,24nm,1.3s,mb4.5						
LZH				pP		06 02 16.8	
LZH				sP		06 02 21.7	
LZH				*e*PP	PP	06 02 32.1	+1.0
LZH				*e*S	**S**	**06 05 58.0**	**+0.3**
LZH				sS		06 06 13.2	
LZH				SS	SS	06 06 34.3	-0.4
LZH				pmax	pmax		
	comp=Z,24nm,1.3s,mb4.5						
LZH				MLR	MLR		
	comp=Z,1μm,12.1s,MS4.5						
HHC	**Hu-ho-hao-te**	**21.60**	**340**	*e*P	**P**	**06 02 09.4**	**+2.9**
HHC				AP		06 02 19.6	
HHC				PP	PP	06 02 35.6	+3.9
HHC				S	**S**	**06 06 01.7**	**+3.2**
HHC				XS		06 06 16.0	
HHC				SS	SS	06 06 36.4	+0.5
HHC				AMB	AMB		
	comp=Z,21nm,0.5s,mb4.8						
HHC				AMB	AMB		
	comp=Z,392nm,13.3s						
HHC				LR	LR		
	comp=N,344nm,15.5s,MS3.9						
HHC				LR	LR		
	comp=E,257nm,20.2s,MS3.9						
HHC				LR	LR		
	comp=Z,288nm,14.9s						
BTO	**Baotou**	**21.93**	**336**	*e*P	**P**	**06 02 15.6**	**+5.8**
BTO				AMB	AMB		
	comp=Z,9.0nm,0.6s,mb4.4						
CN2	**Changchun**	**23.14**	**8**	*e*P	**P**	**06 02 20.2**	**-1.5**
CN2				*e*AP		06 02 29.6	
CN2				*e*S	**S**	**06 06 25.7**	**-0.8**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.3						
CN2				AMB	AMB		
	comp=Z,300nm,3.0s						
CN2				LR	LR		
	comp=N,200nm,14.0s,MS4.0						
CN2				LR	LR		
	comp=E,300nm,14.0s,MS4.0						
CN2				LR	LR		
	comp=Z,300nm,15.0s,MS3.9						
MDJ	**Mudanjiang**	**24.67**	**14**	P	**P**	**06 02 35.7**	**-0.9**
MDJ				AMB	AMB		
	comp=Z,8.0nm,0.7s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,18nm,3.1s						
KULM	**Kulim**	**25.34**	**235**	P	**P**	**06 02 39.5**	**-3.8**
HIA	**Hailar**	**28.39**	**358**	*e*P	**P**	**06 03 11.1**	**+0.4**
	comp=Z,6.7nm,0.8s,mb4.3						
HIA	**Hailar**	**28.39**	**358**	*e*P	**P**	**06 03 11.1**	**+0.3**
HIA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ULN	**Ulaanbaatar**	**29.32**	**340**	*i* P	**P**	**06 03 05.6**	**-13**
SONM	**Songino Array**	**29.50**	**339**	P	**P**	**06 03 20.1**	**-0.7**
	comp=Z,6.8nm,0.8s,mb4.4,baz=156,slow=7.4,SNR=45						
SONM				PcP	PcP	06 06 25.3	-0.4
	comp=Z,0.6nm,0.9s,baz=90,slow=2.5,SNR=3.7						
YSS	**Yuzh-Sakhalins**	**31.33**	**29**	⇑*e*P	**P**	**06 03 37.0**	**+0.1**
YSS				*e*		06 03 43.8	
YSS				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.0						
WMQ	**Urumqi**	**36.12**	**317**	P	**P**	**06 04 19.0**	**+0.7**
WMQ				AP	pP	06 04 31.0	+1.7
WMQ				XP	sP	06 04 36.0	+1.8
WMQ				PP	PP	06 05 42.0	+0.7
WMQ				PCP	PcP	06 06 45.0	+1.1
WMQ				S	**S**	**06 09 55.0**	**+0.5**
WMQ				SCP		06 10 27.0	
WMQ				SS	SS	06 12 19.0	-0.2
WMQ				AMB	AMB		
	comp=Z,16nm,0.8s,mb5.0						
WMQ				AMB	AMB		

comp=Z,167nm,6.0s
WMQ LR LR
comp=N,105nm,16.0s,MS3.9
WMQ LR LR
comp=E,142nm,16.0s,MS3.9
WMQ LR LR
comp=Z,128nm,16.0s,MS3.8
FITZ Fitzroy Crossi 38.94 173 *eP* **P 06 04 41.5 -0.6**
comp=Z,14nm,1.1s,mb4.6
FITZ *e* pP 06 04 52.8 -0.3
FITZ Fitzroy Crossi 38.94 173 P **P 06 04 41.6 -0.5**
comp=Z,19nm,1.0s,mb4.8,baz=2.5,slow=17,SNR=4.1
MKAR Makanchi Array 40.87 319 P **P 06 04 58.0 +0.1**
comp=Z,1.7nm,0.6s,mb3.9,baz=114,slow=10.0,SNR=19
WRAB Tennant Creek 42.48 162 *eP* **P 06 05 11.0 -0.5**
comp=Z,13nm,0.8s,mb4.6
WRAB Tennant Creek 42.48 162 *eP* **P 06 05 11.0 -0.5**
WRAB pmax pmax
comp=Z,13nm,0.8s,mb4.6
WRA Warramunga Arr 42.49 162 P **P 06 05 10.8 -0.7**
comp=Z,7.2nm,0.5s,mb4.6,baz=344,slow=9.1,SNR=75
WRA PcP PcP 06 07 04.2 -0.2
comp=Z,0.6nm,0.7s,baz=345,slow=3.5,SNR=5.1
WB2 Warramunga Arr 42.49 162 *eP* **P 06 05 10.8 -0.7**
WB2 *e* pP 06 05 22.1 -0.5
PET Petropavlovsk 43.01 32 *eP* **P 06 05 15.0 -0.3**
ZAL Zalesovo 43.14 329 P **P 06 05 15.6 -0.8**
comp=Z,2.8nm,0.4s,mb4.3,baz=161,slow=8.0,SNR=6.0
KURK Kurchatov 44.77 322 *eP* **P 06 05 29.1 -0.4**
comp=Z,4.1nm,1.0s,mb4.2
KURK Kurchatov 44.77 322 *eP* **P 06 05 29.1 -0.4**
KURK pmax pmax
comp=Z,4.0nm,1.0s,mb4.2
CTAO Charters Tower 47.43 147 *eP* **P 06 05 51.8 +0.8**
BVAR Borovoye Array 50.36 322 P **P 06 06 13.3 +0.1**
comp=Z,0.7nm,0.5s,mb3.9,baz=100,slow=8.8,SNR=5.2
BVAR PcP PcP 06 07 30.8 -0.8
comp=Z,1.6nm,0.6s,baz=114,slow=4.3,SNR=5.8
FX1 Attu Island--F 50.82 38 *eP* **P 06 06 17.8 +1.1**
STKA Stephens Creek 55.90 159 *eP* **P 06 06 54.6 0.0**
comp=Z,2.2nm,0.5s,mb4.4
STKA Stephens Creek 55.90 159 P **P 06 06 54.6 +0.1**
comp=Z,3.4nm,0.6s,mb4.5,baz=347,slow=22,SNR=12
IMA Indian Mountai 69.12 26 *eP* **P 06 08 22.3 +0.4**
comp=Z,32nm,1.1s,mb5.2
IMA Indian Mountai 69.12 26 *eP* **P 06 08 22.3 +0.4**
IMA pmax pmax
comp=Z,32nm,1.1s,mb5.2
RSO Redoubt South 70.10 32 *eP* **P 06 08 28.2 +0.2**
MALT Malatya 71.98 305 P **P 06 08 32.5 -7.2**
ILAR Eielson Array 72.11 27 P **P 06 08 38.3 -1.6**
comp=Z,1.3nm,0.8s,mb3.9,baz=272,slow=5.0,SNR=19
ARCES ARCESS Array B 72.68 338 P **P 06 08 42.6 -0.6**
comp=Z,2.7nm,0.8s,mb4.2,baz=61,slow=9.3,SNR=3.4
KAF Kangasniemi 74.12 331 *ep* **P 06 08 49.6 -2.2**
FINES FINESS Array B 74.39 330 P **P 06 08 53.3 -0.1**
comp=Z,2.3nm,0.7s,mb4.2,baz=108,slow=6.0,SNR=5.6
AKASG Malin Array Be 75.46 319 P **P 06 09 00.4 +0.7**
comp=Z,0.2nm,0.2s,mb3.7,baz=58,slow=6.9,SNR=2.8
INK Inuvik 76.26 22 *eP* **P 06 09 03.4 -0.5**
HFS Hagfors 80.54 331 P **P 06 09 28.9 +1.4**
comp=Z,1.0nm,0.5s,mb4.0,baz=135,slow=2.0,SNR=3.7
NB2 NORSAR Subarra 81.23 332 P **P 06 09 28.5 -2.7**
comp=Z,2.4nm,1.0s,mb4.1,baz=58,slow=5.8
NB2 NORSAR Subarra 81.23 332 P **P 06 09 28.5 -2.7**
NB2 pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
NOA NORSAR Array B 81.23 332 P **P 06 09 32.6 +1.5**
comp=Z,1.9nm,0.8s,mb4.1,baz=63,slow=5.1,SNR=4.4
NOA LR LR 06 51 15.3
comp=Z,49nm,18.2s,MS3.9,baz=230,slow=40
DLBC Dease Lake 81.74 30 *eP* **P 06 09 35.5 +1.6**
GERES GERESS Array B 85.50 321 P **P 06 09 54.1 +1.0**
comp=Z,0.3nm,0.3s,mb4.1,baz=45,slow=5.7,SNR=4.1
SUMG Summit 85.82 354 P **P 06 09 54.1 0.0**
YKA Yellowknife Ar 85.98 23 P **P 06 09 55.6 +0.6**
comp=Z,4.9nm,0.8s,mb4.8,baz=314,slow=4.7,SNR=23
EDM Edmonton 92.43 29 *eP* **P 06 10 26.6 +0.8**
WALA Waterton Lakes 94.83 33 *eP* **P 06 10 39.0 +2.0**
comp=Z,12nm,1.7s,mb5.0
TXAR Lajitas Array 113.89 42 PKiKP 06 15 54.9
comp=Z,0.1nm,0.3s,baz=232,slow=0.3,SNR=6.5
TXAR Lajitas Array 113.89 42 PKPdf PKPdf 06 15 54.9 +1.7
SDV Santo Domingo 148.20 23 *eP* PKPdf 06 16 59.8 +2.4
LPAZ La Paz 169.94 65 PKP PKPdf 06 17 26.6 +4.7
comp=Z,1.1nm,1.0s,baz=315,slow=4.3,SNR=4.4

*IDC **01** 06:02:54.5±0.8, 66.41N×17.57W, mb3.6/10, mb1 3.8/13, mb1mx3.8/24, mbtmp3.6/13, ML3.4/3, MS3.2/2, Ms1 3.2/2, ms1mx2.8/22, Error ellipse: s-maj=22.4km s-min=14.2km az=1.0*
*CSEM **01** 06:02:54.1±0.1, 66.47N×17.56W, h10km, ML4.1, Error ellipse: s-maj=2.6km s-min=1.6km az=127.0*
*REY **01** 06:02:54.3, 66.59N×17.69W, h14km, ML4.1, ML3.9*
*NEIC **01** 06:02:55.9±0.6, 66.56N×17.68W, h10km, Error ellipse: s-maj=13.1km s-min=11.1km az=157.0*
ISC 01 06:02:54.3±0.5, 66.53N±0.02×17.67W±0.06, h13km±3km, n50, σ0§73/68, mb3.5/10, 2D, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGRI	**Grimsey**	**0.14**	**275**	P	**Pg**	**06 02 57.6**	**-0.2**
IGRI				S	**Sg**	**06 03 00.1**	**-0.1**
IFLA	**Flatey**	**0.38**	**191**	P	**Pg**	**06 03 02.6**	**+0.4**
IFLA				S	**Sg**	**06 03 08.8**	**+1.4**
IBRE	**Brettingsstaoi**	**0.42**	**194**	P	**Pg**	**06 03 03.1**	**+0.1**
IBRE				S	**Sg**	**06 03 09.9**	**+1.1**
IHED	**Heoinshofoi**	**0.47**	**162**	P	**Pg**	**06 03 03.7**	**-0.3**
IHED				S	**Sg**	**06 03 11.0**	**+0.5**
ILEI	**Leirhofn**	**0.49**	**104**	P	**Pb**	**06 03 03.6**	**-0.6**
ILEI				S	**Sg**	**06 03 10.8**	**-0.2**
IGRA	**Granastaoir**	**0.62**	**177**	P	**Pb**	**06 03 06.2**	**-0.2**
IGRA				S	**Sb**	**06 03 15.1**	**+0.4**
ISIG	**Siglufjorour**	**0.64**	**232**	P	**Pb**	**06 03 06.0**	**-0.9**
ISIG				S	**Sb**	**06 03 15.1**	**-0.4**
IHLA	**Hella**	**0.66**	**207**	P	**Pb**	**06 03 06.7**	**-0.4**
IHLA				S	**Sb**	**06 03 15.9**	**0.0**
IGIL	**Gilhagi**	**0.70**	**130**	P	**Pb**	**06 03 07.0**	**-0.9**
IKVO	**Krokottuvotn**	**0.88**	**158**	P	**Pb**	**06 03 10.3**	**-0.6**
IKVO				S	**Sb**	**06 03 22.6**	**+0.2**
IREN	**Reynihlio**	**0.94**	**160**	P	**Pb**	**06 03 11.2**	**-0.8**
IREN				S	**Sb**	**06 03 24.5**	**+0.4**
IGRS	**Grimsstaoir**	**1.09**	**144**	P	**Pb**	**06 03 13.5**	**-1.1**
IGRS				S	**Sb**	**06 03 28.9**	**+0.3**
ISVA	**Svartarkot**	**1.21**	**172**	P	**Pb**	**06 03 15.6**	**-1.0**
ISVA				S	**Sb**	**06 03 32.4**	**+0.4**
IADA	**Aoalbol**	**1.75**	**149**	P	**Pn**	**06 03 24.1**	**-0.5**
IADA				S	**Sn**	**06 03 47.3**	**+0.4**
IHVA	**Hvannstoosfjol**	**1.75**	**154**	P	**Pn**	**06 03 24.6**	**0.0**
IBRU	**Bruarjokull**	**1.83**	**158**	P	**Pn**	**06 03 26.1**	**+0.3**
IHVE	**Hveravellir**	**1.84**	**206**	P	**Pn**	**06 03 25.8**	**-0.2**
IHVE				S	**Sn**	**06 03 49.8**	**+0.5**
IVSH	**V-Sauoahnukur**	**1.91**	**154**	P	**Pn**	**06 03 26.9**	**0.0**
ISKR	**Skrokkalda**	**2.00**	**189**	P	**Pn**	**06 03 27.8**	**-0.5**
IGRF	**Grimsfjall**	**2.14**	**175**	P	**Pn**	**06 03 29.5**	**-0.7**
IASB	**`sbjarnarst**	**2.35**	**222**	P	**Pn**	**06 03 32.9**	**-0.3**
IASB				S	**Sn**	**06 04 02.3**	**+0.2**
BORG	**Borgarnes**	**2.35**	**222**	Pn	**Pn**	**06 03 33.1**	**-0.1**
53nm,0.3s,baz=41,slow=8.3,SNR=322							
BORG				Sn	**Sn**	**06 04 02.4**	**+0.3**
21nm,0.3s,baz=320,slow=23,SNR=15							
BORG	**Borgarnes**	**2.35**	**222**	*e*Pn	**Pn**	**06 03 33.1**	**-0.1**
BORG				*e*Sn	**Sn**	**06 04 01.6**	**-0.5**
BORG	**Borgarnes**	**2.35**	**222**	*e*Pn	**Pn**	**06 03 33.1**	**-0.1**
BORG				*e*Sn	**Sn**	**06 04 01.6**	**-0.6**
IVAT	**Vatnsfell**	**2.41**	**193**	P	**Pn**	**06 03 34.3**	**+0.2**
IGYG	**Gygjarholskot**	**2.50**	**206**	P	**Pn**	**06 03 35.4**	**0.0**
IKAL	**Kalfafell**	**2.59**	**180**	P	**Pn**	**06 03 36.3**	**-0.4**
IFAG	**Fagurholsmyri**	**2.70**	**170**	P	**Pn**	**06 03 38.3**	**0.0**
IKUD	**Kuludalsa**	**2.83**	**220**	P	**Pn**	**06 03 39.3**	**-0.8**
ISAN	**Sandskeio**	**2.98**	**215**	P	**Pn**	**06 03 41.7**	**-0.5**
IBJA	**Bjarnastaoir**	**3.01**	**212**	P	**Pn**	**06 03 42.6**	**-0.1**
IVOG	**Vogar**	**3.25**	**220**	P	**Pn**	**06 03 45.3**	**-0.8**
JMIC	**Jan Mayen**	**5.57**	**32**	Pn	**Pn**	**06 04 15.4**	**-3.6**
1.0nm,0.3s,baz=127,slow=17,SNR=2.4							
JMIC				LR	LR	06 05 57.5	
comp=Z,142nm,18.1s,baz=124,slow=32							
EKA	**Eskdalemuir Ar**	**13.21**	**141**	Pn	**P**	**06 06 10.9**	**+6.9**
0.1nm,0.3s,baz=334,slow=9.6,SNR=7.0							
NOA	**NORSAR Array B**	**13.80**	**100**	Pn	**P**	**06 06 13.2**	**+1.6**
0.1nm,0.3s,baz=286,slow=9.2,SNR=2.8							
DSB	**Dublin**	**14.44**	**152**	P	**P**	**06 06 19.8**	**-0.2**
7.8nm,1.0s							
DSB	**Dublin**	**14.44**	**152**	P	**P**	**06 06 19.8**	**-0.2**
7.8nm,1.0s							
HFS	**Hagfors**	**15.33**	**100**	Pn	**P**	**06 06 36.3**	**+4.7**
0.0nm,0.3s,baz=321,slow=9.5,SNR=4.3							
ARCES	**ARCESS Array B**	**16.16**	**60**	Pn	**P**	**06 06 42.8**	**+0.5**
0.1nm,0.3s,baz=281,slow=9.2,SNR=3.4							
FINES	**FINESS Array B**	**19.51**	**84**	P	**P**	**06 07 23.0**	**-0.6**
0.1nm,0.3s,baz=297,slow=9.3,SNR=3.8							
FINES				LR	LR	06 14 18.6	
comp=Z,106nm,19.3s,baz=112,slow=35							
GERES	**GERESS Array B**	**23.96**	**122**	P	**P**	**06 08 10.5**	**+1.8**
0.3nm,0.2s,mb3.3,baz=328,slow=13,SNR=3.3							
AKASG	**Malin Array Be**	**28.21**	**101**	P	**P**	**06 08 46.1**	**-2.2**
0.8nm,0.6s,mb3.5,baz=320,slow=9.2,SNR=5.2							
YKA	**Yellowknife Ar**	**37.90**	**311**	P	**P**	**06 10 13.6**	**+1.3**
0.9nm,0.6s,mb3.7,baz=42,slow=7.6,SNR=3.0							
BRTR	**Keskin Array B**	**39.07**	**107**	P	**P**	**06 10 22.8**	**+0.4**
1.2nm,0.6s,mb3.8,baz=330,slow=7.0,SNR=3.2							
BVAR	**Borovoye Array**	**42.40**	**64**	P	**P**	**06 10 50.4**	**+0.9**
0.7nm,0.6s,mb3.5,baz=297,slow=9.9,SNR=4.1							
ILAR	**Eielson Array**	**44.00**	**331**	P	**P**	**06 11 04.1**	**+1.8**
0.6nm,0.8s,mb3.4,baz=24,slow=6.9,SNR=7.2							
MKAR	**Makanchi Array**	**51.82**	**59**	P	**P**	**06 12 03.1**	**-0.4**
0.8nm,0.8s,mb3.7,baz=323,slow=6.1,SNR=6.5							
PDAR	**Pinedale Array**	**52.40**	**292**	P	**P**	**06 12 08.4**	**+0.5**
0.5nm,0.8s,mb3.5,baz=34,slow=5.3,SNR=4.5							
SONM	**Songino Array**	**58.27**	**41**	P	**P**	**06 12 50.7**	**+0.4**
0.1nm,0.5s,mb3.1,baz=338,slow=7.8,SNR=2.0							
TXAR	**Lajitas Array**	**61.90**	**279**	P	**P**	**06 13 16.3**	**+0.8**
0.2nm,0.6s,mb3.4,baz=8.1,slow=6.4,SNR=3.5							

*IDC **01** 06:21:34.1±1.6, 26.15N×96.94E, mb3.6/5, mb1 3.8/5, mb1mx3.6/21, mbtmp3.6/5, Error ellipse: s-maj=65.0km s-min=25.4km az=61.0*
*NEIC **01** 06:21:40.8±2.8, 26.24N×97.03E, h48km±28km, Error ellipse: s-maj=33.1km s-min=20.3km az=62.0*
ISC 01 06:21:41.1±4.0, 25.9N±0.1×96.4E±0.3, h80km±40km, n13, σ1§00/14, mb3.6/5, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**6.02**	**310**	*eP*	**P**	**06 23 10.8**	**+1.6**
LSA				*eS*	**S**	**06 24 16.7**	**-0.7**
JIRN	**Jiri**	**9.32**	**283**	*eP*	**P**	**06 23 55.4**	**+0.9**
15nm,0.3s							
GUN	**Gumba**	**9.63**	**284**	*eP*	**P**	**06 23 59.0**	**+0.2**
15nm,0.4s							
PKI	**Pulchoki**	**9.99**	**282**	*eP*	**P**	**06 24 03.4**	**-0.3**
6.9nm,0.4s							
KKN	**Kakani**	**10.13**	**283**	*eP*	**P**	**06 24 05.5**	**-0.2**
9.9nm,0.3s							
DMN	**Daman**	**10.26**	**282**	*eP*	**P**	**06 24 06.8**	**-0.6**
7.2nm,0.4s							
GKN	**Gorkha**	**10.73**	**284**	*eP*	**P**	**06 24 12.7**	**-1.0**
9.8nm,0.3s							
SONM	**Songino Array**	**23.26**	**17**	P	**P**	**06 26 39.2**	**-2.7**
0.2nm,0.5s,mb2.7,baz=207,slow=13,SNR=2.5							
SONM	**Songino Array**	**23.26**	**17**	P	**P**	**06 26 39.2**	**-2.7**
MKAR	**Makanchi Array**	**23.69**	**335**	P	**P**	**06 26 47.7**	**+1.7**
2.7nm,0.6s,mb3.7,baz=147,slow=9.4,SNR=30							
BVAR	**Borovoye Array**	**33.38**	**331**	P	**P**	**06 28 13.4**	**-0.3**
0.4nm,0.4s,mb3.6,baz=146,slow=11,SNR=4.8							
WRA	**Warramunga Arr**	**58.58**	**137**	P	**P**	**06 31 32.1**	**0.0**
0.2nm,0.4s,mb3.5,baz=325,slow=7.1,SNR=5.3							
ARCES	**ARCESS Array B**	**59.32**	**337**	P	**P**	**06 31 37.2**	**+0.6**
3.5nm,1.0s,mb4.3,baz=97,slow=7.3,SNR=3.7							

CASC 01 07:35:46.0±1.9, 8.38N×82.71W, h26km±10km, MW3.7, 1C, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTP1	**Petroterminal**	**0.33**	**122**	↑*i*P	Pb	07 35 50.9	-2.6
PTP1				*e*S	Sb	07 35 57.6	-1.1
BRU2	**Volcan**	**0.41**	**3**	*eP*	Pb	07 35 54.6	-0.1
BRU2				*e*S	Sb	07 36 01.6	+0.9
BUS	**Buena Vista**	**1.56**	**319**	*e*S	Sn	07 36 34.4	+2.3
LCR2	**La Lucha 2**	**1.86**	**317**	*e*S	Sn	07 36 39.6	0.0
PRS1	**Puriscal**	**2.24**	**315**	*e*S	Sn	07 36 49.7	+0.3

NNC 01 07:57:54.9±3.5, 37.14N×70.82E, h221km±53km, mpv3.5, 3C-2D, Error ellipse: s-maj=38.1km s-min=23.9km az=36.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.97**	**358**	P	P	07 59 22.4	-0.4
1.2nm,0.3s,baz=181,slow=12,SNR=47							
KK31				⇓S	S	08 00 31.6	+0.5
9.2nm,0.3s,baz=186,slow=24,SNR=5.6							
AAK	**Ala-Archa**	**6.17**	**26**	⇑P	P	07 59 24.3	-1.1
2.1nm,0.5s							
AAK				⇑S	S	08 00 36.9	+0.9
12nm,0.7s							
AB31	**Akbulak array**	**14.46**	**330**	⇓P	P	08 01 09.7	-0.8
0.3nm,0.3s,baz=138,slow=12,SNR=12							
AB31				⇑S	S	08 03 50.1	+4.6
0.4nm,0.5s,baz=152,slow=24,SNR=2.8							

*HLW **01** 08:08:48.7, 36.08N×24.25E, h33km, Mb3.8*
*ATH **01** 08:08:50.5, 35.96N×24.13E, h36km±3km, MD3.7/19, ML3.6*
*NEIC **01** 08:08:50.5, 35.96N×24.13E, h36km, ML3.6(ATH), After ATH.*
*CSEM **01** 08:08:52.1±0.1, 35.91N×24.07E, h40km, ML3.6, Error ellipse: s-maj=2.0km s-min=1.2km az=43.0*
ISC 01 08:08:49.7±0.4, 35.80N±0.04×24.07E±0.05, h83km±6km, n50, σ0§89/58, 9C-1D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAM	**Vamos**	**0.41**	**165**	*e*PN	**P**	**08 09 03.1**	**0.0**
VAM				*e*SN	**S**	**08 09 10.6**	**-2.6**
KYTH	**Kithira**	**0.96**	**300**	*e*PB	**P**	**08 09 08.0**	**-0.7**
GVD	**Gavdhos**	**0.96**	**179**	*e*PN	**P**	**08 09 12.0**	**+3.3**
GVD	**Gavdhos**	**0.96**	**179**	*e*Pn	**P**	**08 09 12.5**	**+3.8**
THR5	**Thira Island,**	**1.21**	**59**	*e*P	**P**	**08 09 12.2**	**+0.4**
THR6	**Thira Island,**	**1.21**	**63**	*e*P	**P**	**08 09 12.5**	**+0.6**
THR3	**Thira Island,**	**1.24**	**60**	*e*P	**P**	**08 09 12.9**	**+0.7**
SANT	**Santorini**	**1.26**	**63**	*e*P	**P**	**08 09 12.9**	**+0.4**
SANT				*e*S	**S**	**08 09 28.2**	**-1.4**
SANT	**Santorini**	**1.26**	**63**	*e*P	**P**	**08 09 12.9**	**+0.4**
SANT				*e*S	**S**	**08 09 28.2**	**-1.3**
THR1	**Thera Island**	**1.26**	**63**	*e*P	**P**	**08 09 13.4**	**+0.9**
VLI	**Veliai**	**1.29**	**315**	‖*e*PB	**P**	**08 09 12.0**	**-0.9**
NPS	**Neapolis**	**1.37**	**113**	*e*PN	**P**	**08 09 14.8**	**+0.8**
NPS				*e*SN	**S**	**08 09 32.4**	**+0.4**
XRY	**Khrisi**	**1.62**	**124**	*e*PB	**P**	**08 09 20.0**	**+2.8**
APE	**Apeiranthos**	**1.73**	**43**	↑*i*PN	**P**	**08 09 18.6**	**-0.1**
APE				*e*SN	**S**	**08 09 38.3**	**-1.6**
NAIG	**Nisos Aigina**	**2.01**	**347**	*e*PN	**P**	**08 09 22.0**	**-0.3**
NSAL	**Nisos Salamina**	**2.15**	**347**	*e*PN	**P**	**08 09 24.0**	**-0.4**
ATH	**Athens Observa**	**2.18**	**353**	*e*PN	**P**	**08 09 24.6**	**-0.2**
ITM	**Ithomi**	**2.20**	**309**	*e*PB	**P**	**08 09 26.6**	**+1.5**
MGER	**Gerania Oros**	**2.27**	**344**	*e*PN	**P**	**08 09 26.0**	**-0.1**
MPAR	**Parnis Oros**	**2.36**	**354**	*e*PN	**P**	**08 09 27.0**	**-0.3**
KARP	**Karpathos**	**2.53**	**95**	*e*PN	**P**	**08 09 30.9**	**+1.2**
KARP				*e*SN	**S**	**08 09 59.8**	**+0.3**
SMG	**Samos**	**2.93**	**49**	*e*PN	**P**	**08 09 35.0**	**-0.2**
SMG	**Samos**	**2.93**	**49**	*e*Pn	**P**	**08 09 36.0**	**+0.8**
LKR	**Lokris**	**2.97**	**344**	↑*i*PN	**P**	**08 09 35.5**	**-0.3**
BDRM	**Kayabasi**	**3.00**	**64**	*i* P	**P**	**08 09 36.5**	**+0.2**
RLS	**Riolos of Patr**	**3.07**	**318**	*e*PN	**P**	**08 09 38.4**	**+1.2**
AOS	**Alonnisos**	**3.36**	**358**	*e*P	**P**	**08 09 40.9**	**-0.3**
AGG	**Agios Georgios**	**3.50**	**337**	*e*P	**P**	**08 09 43.5**	**+0.4**
NEO	**Neokhori**	**3.56**	**349**	↑*i*PN	**P**	**08 09 44.0**	**0.0**
EVR	**Evrytania**	**3.59**	**331**	*e*PN	**P**	**08 09 44.0**	**-0.4**
XOR	**Xorichti**	**3.62**	**349**	*e*P	**P**	**08 09 44.7**	**-0.2**
VLS	**Valsamata**	**3.66**	**311**	*e*PN	**P**	**08 09 45.8**	**+0.5**
VLS	**Valsamata**	**3.66**	**311**	*e*Pn	**P**	**08 09 45.5**	**+0.2**
LIT	**Litokhoron**	**4.47**	**344**	*e*P	**P**	**08 09 56.6**	**+0.1**
AKAS	**Kas**	**4.51**	**83**	*i* P	**P**	**08 09 58.9**	**+1.7**
GOLH	**Golhisar**	**4.65**	**70**	*i* P	**P**	**08 10 03.9**	**+4.8**
HNAT	**Natroun**	**8.26**	**136**	⇑P	**P**	**08 10 48.5**	**-0.3**
SQR		**8.41**	**133**	P	**P**	**08 10 49.8**	**-1.0**
FYM	**Al Fayyum**	**8.46**	**134**	⇑P	**P**	**08 10 51.5**	**0.0**
AYT	**Al 'Ayyat**	**8.52**	**134**	P	**P**	**08 10 52.0**	**-0.3**
KOT	**Kottamia**	**8.77**	**130**	⇑P	**P**	**08 10 55.3**	**-0.4**
HSAF	**As Saff**	**8.82**	**132**	⇓P	**P**	**08 10 55.7**	**-0.7**
GLL	**Jalalah**	**8.94**	**132**	⇑P	**P**	**08 10 57.3**	**-0.7**
GLL				S	**S**	**08 12 31.9**	**-6.1**
HRSH	**Kfar Ka'horesh**	**9.41**	**118**	⇑P	**P**	**08 11 02.9**	**-1.4**
HRSH				S	**S**	**08 12 41.2**	**-8.0**
RSH		**9.41**	**118**	P	**P**	**08 11 02.9**	**-1.4**
ALWS	**Ilw as Safayha**	**11.31**	**122**	P	**P**	**08 11 29.6**	**-0.4**
HAQS	**Haql**	**11.38**	**123**	P	**P**	**08 11 31.2**	**+0.3**
HAQS				S	Px	08 11 54.0	
JMOS	**Jabal al Moall**	**11.43**	**122**	P	**P**	**08 11 31.1**	**-0.5**
TAYS	**Tayyib Ism**	**11.66**	**125**	P	**P**	**08 11 36.5**	**+1.8**
JMQS	**Jabal Moqyreh**	**12.13**	**121**	P	**P**	**08 11 40.7**	**-0.2**

*BJI **01** 08:09:17.0, 10.10S×161.50E, h92km, mB4.9, mb4.5*
*IDC **01** 08:09:18.4±0.7, 10.20S×161.45E, h78km±6km, mb4.0/10, mb1 4.2/12, mb1mx4.1/18, mbtmp4.4/12, MS3.6/11, Ms1 3.6/11, ms1mx3.5/24, Error ellipse: s-maj=16.2km s-min=9.0km az=32.0*
*NEIC **01** 08:09:18.8±1.4, 10.06S×161.46E, h92km±11km, mb4.5/8, Error ellipse: s-maj=15.3km s-min=10.0km az=56.0*
ISC 01 08:09:18.5±1.1, 10.18S±0.07×161.37E±0.10, h101km±8km, h80km±3.6km: pP-P, n43, σ1§13/38, mb4.3/16, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.58**	**298**	P	**P**	**08 09 45.6**	**-0.7**
636nm,0.3s,baz=161,slow=4.2,SNR=108							
HNR				S	**S**	**08 10 07.0**	**+0.1**
2μm,0.3s,baz=6.5,slow=22,SNR=18							
HNR	**Honiara**	**1.58**	**298**	*eP*	**P**	**08 09 45.6**	**-0.7**
HNR				*e*S	**S**	**08 10 07.3**	**+0.4**
DZM	**Mont Dzumac**	**12.79**	**158**	*eP*	**P**	**08 12 18.4**	**+0.6**
DZM				*e*S	**S**	**08 14 30.5**	**-7.6**
DZM	**Mont Dzumac**	**12.79**	**158**	P	**P**	**08 12 18.5**	**+0.8**
3.9nm,0.3s,baz=333,slow=17,SNR=70							
DZM				S	**S**	**08 14 34.9**	**-3.2**
3.8nm,0.3s,baz=163,slow=24,SNR=7.5							
DZM				LR	LR	08 15 36.2	
comp=Z,204nm,20.7s,baz=5.1,slow=30							
PMG	**Port Moresby**	**14.02**	**272**	LR	LR	08 17 16.8	
comp=Z,388nm,21.9s,baz=108,slow=34							
PMG	**Port Moresby**	**14.02**	**272**	P	**P**	**08 12 40.1**	**+6.3**
20nm,1.0s							
CTA	**Charters Tower**	**17.59**	**234**	*eP*	**P**	**08 13 20.6**	**+1.9**
25nm,1.1s							
CTA	**Charters Tower**	**17.59**	**234**	P	**P**	**08 13 20.8**	**+2.1**
1.1nm,0.3s,baz=65,slow=13,SNR=9.2							
CTA				LR	LR	08 17 31.1	
comp=Z,174nm,21.2s,baz=50,slow=28							
CTAO	**Charters Tower**	**17.59**	**234**	*eP*	**P**	**08 13 21.2**	**+2.5**
94nm,1.4s							
AFI	**Afiamalu**	**26.52**	**101**	LR	LR	08 22 29.6	
comp=Z,143nm,20.1s,baz=220,slow=30							
RAO	**Raoul Island**	**27.12**	**137**	LR	LR	08 24 23.6	
comp=Z,107nm,18.9s,baz=357,slow=34							
WRAB	**Tennant Creek**	**27.79**	**246**	*eP*	**P**	**08 15 00.4**	**0.0**
16nm,1.1s,mb4.5							
WB2	**Warramunga Arr**	**27.79**	**246**	*eP*	**P**	**08 15 00.3**	**-0.1**
WRA	**Warramunga Arr**	**27.80**	**246**	P	**P**	**08 15 00.5**	**0.0**
5.1nm,0.5s,mb4.3,baz=77,slow=9.0,SNR=58							
STKA	**Stephens Creek**	**28.30**	**217**	*eP*	**P**	**08 15 06.1**	**+1.3**
3.4nm,0.8s,mb3.9							
STKA	**Stephens Creek**	**28.30**	**217**	P	**P**	**08 15 05.2**	**+0.4**
1.2nm,0.5s,mb3.7,baz=68,slow=14,SNR=6.9							
STKA				LR	LR	08 25 01.1	
comp=Z,180nm,20.9s,baz=28,slow=33							
URZ	**Urewera**	**31.33**	**156**	P	**P**	**08 15 30.9**	**-0.7**
3.8nm,0.4s,mb4.5,baz=276,slow=3.7,SNR=11							
RPZ	**Rata Peaks**	**34.45**	**168**	P	**P**	**08 15 58.1**	**-0.4**
4.2nm,0.5s,mb4.5,baz=23,slow=11,SNR=8.1							
FITZ	**Fitzroy Crossi**	**35.48**	**253**	*eP*	**P**	**08 16 06.9**	**-0.5**
9.3nm,0.8s,mb4.7							
MBWA	**Marble Bar**	**41.43**	**250**	P	**P**	**08 16 57.0**	**+0.1**
KKM	**Kota Kinabalu**	**47.77**	**288**	P	**P**	**08 17 47.7**	**-0.2**
PPT	**Papeete**	**48.08**	**104**	LR	LR	08 33 29.7	
comp=Z,56nm,18.5s,baz=263,slow=30							
MDJ	**Mudanjiang**	**61.66**	**335**	P	**P**	**08 19 24.6**	**-3.5**
MDJ				AMB	AMB		
comp=Z,8.0nm,1.2s,mb4.6							
MDJ				AMB	AMB		
comp=Z,35nm,3.1s							
CN2	**Changchun**	**62.86**	**331**	*eP*	**P**	**08 19 36.5**	**+0.3**
**F

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.49**	**27**	*e*PN	**P**	**08 17 25.9**	**-2.8**
SKR				*e*S	**S**	**08 18 09.3**	**+0.1**
SKR				pmax	pmax		
	comp=Z,80nm,0.6s						
SKR				smax			
	comp=N,140nm,0.6s						
SKR				smax			
	comp=E,130nm,0.6s						
SKR				MLR	MLR		
	comp=N,600nm,10.0s						
SKR				MLR	MLR		
	comp=E,800nm,10.0s						
SKR				MLR	MLR		
	comp=Z,600nm,10.0s						
KUR	**Kuril'sk**	**4.63**	**241**	*e*PN	**P**	**08 17 37.0**	**-7.9**
KUR				pmax	pmax		
	comp=Z,120nm,0.8s						
PET	**Petropavlovsk**	**6.31**	**29**	*e*P	**P**	**08 18 16.2**	**+7.9**
PET	**Petropavlovsk**	**6.31**	**29**	*e*PN	**P**	**08 18 16.1**	**+7.8**
PET				*e*S	**S**	**08 19 20.8**	**+0.9**
PET				pmax	pmax		
	comp=Z,18nm,1.1s						
PET				smax			
	comp=N,59nm,0.8s						
PET				smax			
	comp=E,52nm,0.6s						
PET				MLR	MLR		
	comp=Z,200nm,17.0s						
YUK	**Yuzh-Kuril'sk**	**6.49**	**239**	*e*PN	**P**	**08 18 13.5**	**+2.6**
YSS	**Yuzh-Sakhalins**	**7.42**	**269**	*i* P	**P**	**08 18 26.0**	**+2.1**
	comp=Z,9.5nm,0.4s						
YSS	**Yuzh-Sakhalins**	**7.42**	**269**↑↑	*e*PN	**P**	**08 18 25.2**	**+1.3**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.8s						
YSS				MLR	MLR		
	comp=Z,400nm,16.0s						
YSS				MLR	MLR		
	comp=E,400nm,15.0s						
MA2	**Magadan**	**12.11**	**353**	*e*PN	**P**	**08 19 36.1**	**+8.2**
FX1	**Attu Island--F**	**13.56**	**60**	Pn	**P**	**08 19 41.4**	**-5.6**
	comp=E,1.2nm,0.3s,baz=227,slow=7.7,SNR=7.6						
FX1				Sn	**S**	**08 22 01.3**	**-16**
	comp=E,1.9nm,0.3s,baz=236,slow=24,SNR=7.1						
SEY	**Seymchan**	**15.38**	**358**	*e*P	**P**	**08 20 16.9**	**+6.2**
MAJO	**Matsushiro**	**15.88**	**231**	*e*P	**P**	**08 20 19.4**	**+2.0**
	comp=E,7.3nm,0.8s						
MAJO	**Matsushiro**	**15.88**	**231**	*e*P	**P**	**08 20 19.4**	**+2.1**
MAJO				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MAT	**Matsushiro**	**15.88**	**231**	P	**P**	**08 20 10.4**	**-6.9**
MAT	**Matsushiro**	**15.88**	**231**	*e*P	**P**	**08 20 10.0**	**-7.3**
	comp=Z,7.0nm,1.0s						
MJAR	**Matsushiro Arr**	**15.88**	**231**	Pn	**P**	**08 20 10.4**	**-6.9**
	comp=Z,0.4nm,0.3s,baz=28,slow=11,SNR=7.7						
YAK	**Yakutsk**	**19.80**	**326**	*e*P	**P**	**08 21 03.3**	**-1.2**
YAK				pmax	pmax		
	comp=Z,14nm,0.7s						
YAK				MLR	MLR		
	comp=Z,100nm,20.0s						
TIXI	**Tiksi**	**26.75**	**343**	*i* P	**P**	**08 22 13.9**	**+1.6**
SSE	**Sheshan**	**29.74**	**248**	*e*P	**P**	**08 22 36.7**	**-2.9**
SSE				AMB	AMB		
	comp=Z,21nm,0.8s,mb4.9						
SSE				AMB	AMB		
	comp=Z,69nm,3.8s						
SSE	**Sheshan**	**29.74**	**248**	*e*P	**P**	**08 22 36.7**	**-2.9**
	comp=Z,21nm,0.8s,mb4.9						
NJ2	**Nanjing**	**30.59**	**252**	*e*P	**P**	**08 22 50.4**	**+3.2**
NJ2				PP	PP	08 23 54.3	+5.9
NJ2				S	**S**	**08 27 38.0**	**-6.7**
NJ2				AMB	AMB		
	comp=Z,50nm,1.0s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,640nm,4.5s						
NJ2				LR	LR		
	comp=N,210nm,16.1s,MS4.0						
NJ2				LR	LR		
	comp=E,130nm,14.8s,MS4.0						
NJ2				LR	LR		
	comp=Z,380nm,18.2s,MS4.1						
SONM	**Songino Array**	**31.38**	**288**	LR	LR	08 37 24.5	
	comp=Z,100nm,19.1s,MS3.5,baz=267,slow=40						
TLY	**Talaya**	**32.10**	**296**	*e*P	**P**	**08 22 58.6**	**-1.7**
TLY				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.0						
TLY				MLR	MLR		
	comp=Z,100nm,15.0s,MS3.6						
ILAR	**Eielson Array**	**35.66**	**39**	P	**P**	**08 23 30.1**	**-0.7**
	comp=Z,0.5nm,0.8s,mb3.5,baz=253,slow=7.8,SNR=3.4						
CD2	**Chengdu**	**41.30**	**265**	P	**P**	**08 24 17.0**	**-1.1**
ZAL	**Zalesovo**	**42.41**	**305**	P	**P**	**08 24 26.2**	**-0.7**
	comp=Z,1.8nm,0.5s,mb4.0,baz=73,slow=8.2,SNR=5.2						
ZAL				LR	LR	08 43 35.0	
	comp=Z,56nm,18.2s,MS3.5,baz=184,slow=38						
ZAL	**Zalesovo**	**42.41**	**305**	P	**P**	**08 24 26.2**	**-0.7**
ZAL				LR	LR	08 43 35.0	
MKAR	**Makanchi Array**	**46.86**	**297**	P	**P**	**08 25 01.5**	**-1.1**
	comp=Z,1.9nm,0.8s,mb4.1,baz=56,slow=8.7,SNR=11						
KURK	**Kurchatov**	**47.18**	**303**	*i* P	**P**	**08 25 04.2**	**-0.9**
	comp=Z,8.5nm,0.8s,mb4.7						
KURK	**Kurchatov**	**47.18**	**303**	*i* P	**P**	**08 25 04.2**	**-0.9**
KURK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
RES	**Resolute Bay**	**49.91**	**19**	P	**P**	**08 25 26.4**	**+0.4**
LSA	**Lhasa**	**50.58**	**273**	P	**P**	**08 25 32.2**	**+0.6**
BVAR	**Borovoye Array**	**50.58**	**309**	P	**P**	**08 25 30.5**	**-0.9**
	comp=Z,1.7nm,0.5s,mb4.2,baz=59,slow=8.6,SNR=10						
BRVK	**Borovoye**	**50.62**	**309**	*e*P	**P**	**08 25 31.0**	**-0.7**
AAK	**Ala-Archa**	**53.77**	**296**	*e*P	**P**	**08 25 53.8**	**-1.5**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
AAK				MLR	MLR		
	comp=Z,100nm,15.0s,MS4.0						
ARU	**Arti**	**54.62**	**317**↓↓	*i*P	**P**	**08 26 00.3**	**-1.0**
ARU				*e*		08 28 05.2	
ARU				*e*PPP	PPP	08 29 14.1	-3.5
ARU				*e*S	**S**	**08 33 30.7**	**-5.3**
ARU				*e*SS	SS	08 37 11.6	-7.2
ARU				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
JIRN	**Jiri**	**55.23**	**274**	*e*P	**P**	**08 26 05.3**	**-0.9**
	comp=Z,34nm,0.7s,mb5.5						
GUN	**Gumba**	**55.27**	**275**	*e*P	**P**	**08 26 05.9**	**-0.6**
	comp=Z,19nm,0.5s,mb5.3						
KKN	**Kakani**	**55.76**	**275**	*e*P	**P**	**08 26 09.2**	**-0.8**
	comp=Z,25nm,0.7s,mb5.4						
PKI	**Pulchoki**	**55.81**	**275**	*e*P	**P**	**08 26 09.3**	**-1.1**
	comp=Z,24nm,0.9s,mb5.2						
DMN	**Daman**	**55.99**	**275**	*e*P	**P**	**08 26 10.9**	**-0.8**
	comp=Z,60nm,0.8s						
GKN	**Gorkha**	**56.05**	**276**	*e*P	**P**	**08 26 10.8**	**-1.3**
	comp=Z,46nm,0.7s,mb5.6						
KOLN	**Koldanda**	**56.90**	**276**	*e*P	**P**	**08 26 17.1**	**-1.1**
	comp=Z,34nm,0.8s,mb5.4						
SUMG	**Summit**	**59.82**	**4**	*i* P	**P**	**08 26 39.2**	**+1.3**
	comp=Z,7.5nm,0.8s,mb4.8						
FINES	**FINESS Array B**	**63.41**	**335**	P	**P**	**08 27 01.8**	**-0.4**
	comp=Z,3.3nm,0.9s,mb4.5,baz=56,slow=6.9,SNR=8.9						
BW06	**Boulder Array**	**63.96**	**54**	P	**P**	**08 27 04.3**	**-1.7**
PDAR	**Pinedale Array**	**63.96**	**54**	P	**P**	**08 27 04.0**	**-2.0**
	comp=Z,0.5nm,0.8s,mb3.6,baz=315,slow=2.1,SNR=4.9						
NB2	**NORSAR Subarra**	**67.53**	**341**	P	**P**	**08 27 28.5**	**+0.1**
	comp=Z,5.3nm,0.8s,mb4.6,baz=26,slow=6.5						
NB2	**NORSAR Subarra**	**67.53**	**341**	P	**P**	**08 27 28.5**	**+0.1**
NB2				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
NOA	**NORSAR Array B**	**67.53**	**341**	P	**P**	**08 27 28.9**	**+0.4**
	comp=Z,4.5nm,0.8s,mb4.6,baz=27,slow=6.3,SNR=16						
WRAB	**Tennant Creek**	**69.42**	**199**	*e*P	**P**	**08 27 43.1**	**+2.2**
KIV	**Kislovodsk**	**70.45**	**314**	*e*P	**P**	**08 27 48.5**	**+1.8**
AKASG	**Malin Array Be**	**71.03**	**326**	P	**P**	**08 27 49.3**	**-0.8**
	comp=Z,3.0nm,0.6s,mb4.4,baz=33,slow=5.9,SNR=13						
GNI	**Garni**	**72.24**	**310**	*e*P	**P**	**08 27 54.0**	**-3.5**
CLL	**Collm**	**75.83**	**336**	↓↓P	**P**	**08 28 19.1**	**+1.1**
	comp=Z,logA/T=1.1,mb4.8						
MORC	**Moravsky Berou**	**75.84**	**332**	P	**P**	**08 28 19.6**	**+1.5**
	comp=Z,2.8nm,0.8s,mb4.2						
MORC	**Moravsky Berou**	**75.84**	**332**	P	**P**	**08 28 19.6**	**+1.5**
MORC				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
TXAR	**Lajitas Array**	**76.77**	**61**	P	**P**	**08 28 21.7**	**-2.2**
	comp=Z,1.4nm,0.7s,mb4.0,baz=298,slow=4.1,SNR=29						
MALT	**Malatya**	**76.82**	**313**	P	**P**	**08 28 25.8**	**+1.9**
	comp=Z,4.7nm,1.0s,mb4.4						
MALT	**Malatya**	**76.82**	**313**	P	**P**	**08 28 25.8**	**+1.8**
MALT				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
KHC	**Kasperske Hory**	**77.62**	**334**	*e*P	**P**	**08 28 29.1**	**+1.0**
GERES	**GERESS Array B**	**77.84**	**334**	P	**P**	**08 28 30.0**	**+0.7**
	comp=Z,0.4nm,0.3s,mb3.8,baz=22,slow=7.2,SNR=5.0						
BRTR	**Keskin Array B**	**78.00**	**317**	P	**P**	**08 28 32.0**	**+1.6**
	comp=Z,2.8nm,0.8s,mb4.3,baz=63,slow=5.5,SNR=10						
CDF	**Champ du Feu**	**79.99**	**338**	*e*P	**P**	**08 28 41.5**	**+0.4**
LOR	**Lormes**	**81.89**	**340**	*e*P	**P**	**08 28 52.3**	**+1.2**
	comp=Z,3.4nm,0.5s,mb4.2						
LOR	**Lormes**	**81.89**	**340**	*e*P	**P**	**08 28 52.3**	**+1.2**
LOR				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
SGMF	**Saint Gilles**	**82.30**	**344**	*e*P	**P**	**08 28 54.1**	**+0.9**
ROSF	**Rostrenen**	**82.35**	**345**	*e*P	**P**	**08 28 54.3**	**+0.8**
	comp=Z,28nm,1.2s,mb4.8						
ROSF	**Rostrenen**	**82.35**	**345**	*e*P	**P**	**08 28 54.3**	**+0.8**
ROSF				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.8						
AVF	**Avril sur Loir**	**82.46**	**340**	*e*P	**P**	**08 28 54.1**	**0.0**
	comp=Z,4.4nm,0.7s,mb4.2						
AVF	**Avril sur Loir**	**82.46**	**340**	*e*P	**P**	**08 28 54.1**	**0.0**
AVF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
SMF	**Signal de Mont**	**82.48**	**340**	*e*P	**P**	**08 28 55.1**	**+0.9**
MFF	**Saint Martin d**	**83.41**	**342**	*e*P	**P**	**08 28 59.9**	**+1.0**
ORIF	**Oris-en-Rattie**	**83.59**	**338**	*e*P	**P**	**08 29 01.1**	**+1.3**
	comp=Z,5.1nm,0.6s,mb4.5						
ORIF	**Oris-en-Rattie**	**83.59**	**338**	*e*P	**P**	**08 29 01.1**	**+1.3**
ORIF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.6						
VIVF	**Saint-Julien-l**	**83.96**	**338**	*e*P	**P**	**08 29 02.5**	**+0.9**
LMR	**La Mourre**	**84.90**	**337**	*e*P	**P**	**08 29 07.1**	**+0.7**
	comp=Z,17nm,0.8s,mb5.0						
LMR	**La Mourre**	**84.90**	**337**	*e*P	**P**	**08 29 07.1**	**+0.7**
LMR				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb5.0						

*IDC **01** 09:00:44.4±0.6, 37.88S×176.50E, h220km±5km, mb3.7/5, mb1 3.9/6, mb1mx3.8/12, mbtmp4.4/6, Error ellipse: s-maj=24.7km s-min=18.9km az=58.0*

*WEL **01** 09:00:46.9±0.2, 37.90S×176.37E, h217km±1km, ML5.6/22, Error ellipse: s-maj=2.2km s-min=1.6km az=90.0*

WEL Felt from Coromandel to Marlborough, maximum reported intensity MM 4.

*NEIC **01** 09:00:46.8, 37.88S×176.36E, h217km, mb4.0/3, After WEL.*

NEIC Felt from Hastings to Wellington. Also felt at Blenheim on the South Island.

ISC 01 09:00:44.8±0.4, 37.98S±0.03×176.26E±0.06, h234km±2km, n199,σ1§13/209, mb3.9/7, 3C, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIRZ	**Lichensteins R**	**0.10**	**104**	PN	**P**	**09 01 15.1**	**-0.1**
LIRZ	**Lichensteins R**	**0.10**	**104**	P	**P**	**09 01 15.1**	**-0.2**
UTU	**Utuhina**	**0.20**	**194**	PN	**P**	**09 01 15.8**	**+0.4**
UTU	**Utuhina**	**0.20**	**194**	P	**P**	**09 01 15.8**	**+0.4**
MKRZ	**Makatiti**	**0.23**	**134**	PN	**P**	**09 01 16.0**	**+0.5**
MKRZ	**Makatiti**	**0.23**	**134**	P	**P**	**09 01 16.0**	**+0.6**
TGRZ	**Tauranga**	**0.25**	**1**	PN	**P**	**09 01 14.8**	**-0.6**
TGRZ				SN	**S**	**09 01 37.3**	**-1.9**
TGRZ				SN	**S**	**09 01 37.4**	**-1.8**
TGRZ	**Tauranga**	**0.25**	**1**	P	**P**	**09 01 14.8**	**-0.7**
TGRZ				S	**S**	**09 01 37.4**	**-1.8**
TAZ	**Tarawera**	**0.32**	**142**	PN	**P**	**09 01 15.9**	**+0.3**
TAZ	**Tarawera**	**0.32**	**142**	P	**P**	**09 01 15.9**	**+0.3**
MARZ	**Manawahe**	**0.33**	**91**	PN	**P**	**09 01 15.3**	**-0.3**
MARZ	**Manawahe**	**0.33**	**91**	P	**P**	**09 01 15.3**	**-0.3**
EDRZ	**Edgecumbe**	**0.40**	**109**	PN	**P**	**09 01 15.5**	**-0.3**
EDRZ	**Edgecumbe**	**0.40**	**109**	P	**P**	**09 01 15.5**	**-0.3**
PATZ	**Paeroa**	**0.40**	**180**	PN	**P**	**09 01 16.3**	**+0.5**
PATZ	**Paeroa**	**0.40**	**180**	P	**P**	**09 01 16.3**	**+0.5**
TOZ	**Tahuroa Road**	**0.65**	**292**	PN	**P**	**09 01 16.7**	**+0.1**
TOZ				SN	**S**	**09 01 40.0**	**-1.3**
TOZ	**Tahuroa Road**	**0.65**	**292**	P	**P**	**09 01 16.7**	**+0.1**
MYRZ	**Mayor Island**	**0.70**	**359**	PN	**P**	**09 01 16.0**	**-0.8**
WHTZ	**Whakaora**	**0.73**	**199**	PN	**P**	**09 01 17.9**	**+1.0**
URZ	**Urewera**	**0.73**	**113**	P	**P**	**09 01 16.2**	**-0.7**
	251nm,0.3s,baz=266,slow=3.1,SNR=1856						
URZ				S	**S**	**09 01 38.1**	**-3.8**
	1μm,0.3s,baz=204,slow=22,SNR=16						
URZ	**Urewera**	**0.73**	**113**	PN	**P**	**09 01 16.2**	**-0.7**
URZ				SN	**S**	**09 01 38.5**	**-3.4**
URZ	**Urewera**	**0.73**	**113**	P	**P**	**09 01 16.2**	**-0.7**
WATZ	**Wairara**	**0.84**	**209**	PN	**P**	**09 01 18.4**	**+1.0**
WATZ				SN	**S**	**09 01 40.7**	**-2.1**
WATZ	**Wairara**	**0.84**	**209**	P	**P**	**09 01 18.4**	**+1.0**
WIZ	**White Island**	**0.87**	**59**	PN	**P**	**09 01 16.6**	**-0.9**
WIZ	**White Island**	**0.87**	**59**	P	**P**	**09 01 16.7**	**-0.8**
HATZ	**Hinemaiaia**	**0.92**	**188**	PN	**P**	**09 01 18.5**	**+0.7**
HATZ				SN	**S**	**09 01 42.0**	**-1.5**
HATZ	**Hinemaiaia**	**0.92**	**188**	P	**P**	**09 01 18.5**	**+0.7**
HATZ				S	**S**	**09 01 42.1**	**-1.4**
RATZ	**Rangitukua**	**0.96**	**203**	PN	**P**	**09 01 19.0**	**+0.9**
RATZ	**Rangitukua**	**0.96**	**203**	P	**P**	**09 01 19.0**	**+1.0**
RITZ	**Rihia Road**	**1.04**	**197**	PN	**P**	**09 01 19.7**	**+1.1**
RITZ				SN	**S**	**09 01 45.0**	**+0.2**
RITZ	**Rihia Road**	**1.04**	**197**	P	**P**	**09 01 19.7**	**+1.2**
MWZ	**Matawai**	**1.06**	**110**	PN	**P**	**09 01 18.4**	**-0.3**
MWZ				SN	**S**	**09 01 43.1**	**-1.9**
MWZ	**Matawai**	**1.06**	**110**	P	**P**	**09 01 18.4**	**-0.3**
MWZ				S	**S**	**09 01 43.1**	**-1.9**
KATZ	**Kakaramea**	**1.09**	**204**	PN	**P**	**09 01 19.9**	**+1.0**
KATZ	**Kakaramea**	**1.09**	**204**	P	**P**	**09 01 19.9**	**+1.1**
BKZ	**Black Stump Fm**	**1.20**	**171**	PN	**P**	**09 01 20.4**	**+0.8**
BKZ				SN	**S**	**09 01 45.2**	**-1.5**
BKZ	**Black Stump Fm**	**1.20**	**171**	P	**P**	**09 01 20.4**	**+0.8**
KRVZ	**Karewarewa**	**1.21**	**203**	PN	**P**	**09 01 20.7**	**+1.0**
HIZ	**Hauiti**	**1.23**	**244**	PN	**P**	**09 01 20.9**	**+1.0**
HIZ	**Hauiti**	**1.23**	**244**	P	**P**	**09 01 20.9**	**+1.1**
MKAZ	**Moumakai**	**1.23**	**315**	PN	**P**	**09 01 19.5**	**-0.3**
MKAZ	**Moumakai**	**1.23**	**315**	P	**P**	**09 01 19.5**	**-0.3**
WTVZ	**West Tongariro**	**1.25**	**205**	PN	**P**	**09 01 23.3**	**+3.3**
WTVZ				SN	**S**	**09 01 49.4**	**+2.1**
TWVZ	**Taurewa**	**1.27**	**210**	PN	**P**	**09 01 21.3**	**+1.1**
TWVZ	**Taurewa**	**1.27**	**210**	P	**P**	**09 01 21.3**	**+1.2**
OTVZ	**Oturere**	**1.27**	**201**	PN	**P**	**09 01 21.2**	**+1.1**
OTVZ				SN	**S**	**09 01 48.2**	**+0.6**
NGZ	**Ngauruhoe**	**1.30**	**203**	PN	**P**	**09 01 21.3**	**+0.9**
NGZ	**Ngauruhoe**	**1.30**	**203**	P	**P**	**09 01 21.3**	**+0.9**
KUZ	**Kuaotunu**	**1.30**	**341**	PN	**P**	**09 01 19.0**	**-1.4**
KUZ	**Kuaotunu**	**1.30**	**341**	P	**P**	**09 01 19.0**	**-1.4**
CNZ	**Chateau**	**1.34**	**204**	PN	**P**	**09 01 21.5**	**+0.9**
CNZ	**Chateau**	**1.34**	**204**	P	**P**	**09 01 21.5**	**+0.8**
WPVZ	**Whakapapa**	**1.34**	**204**	PN	**P**	**09 01 21.6**	**+0.9**
WPVZ	**Whakapapa**	**1.34**	**204**	P	**P**	**09 01 21.6**	**+0.9**
TUVZ	**Tukino**	**1.37**	**200**	PN	**P**	**09 01 22.0**	**+1.1**
TUVZ				SN	**S**	**09 01 49.2**	**+0.3**
TUVZ	**Tukino**	**1.37**	**200**	P	**P**	**09 01 22.0**	**+1.1**
FWVZ	**Far West T-bar**	**1.39**	**203**	PN	**P**	**09 01 22.0**	**+1.0**
DRZ	**Dome Shelter**	**1.40**	**203**	PN	**P**	**09 01 22.4**	**+1.2**
DRZ				SN	**S**	**09 01 51.1**	**+1.8**
DRZ	**Dome Shelter**	**1.40**	**203**	P	**P**	**09 01 22.4**	**+1.2**
TRVZ	**Turoa**	**1.43**	**203**	PN	**P**	**09 01 22.5**	**+1.1**
WNVZ	**Wahianoa**	**1.44**	**201**	PN	**P**	**09 01 22.6**	**+1.2**
WNVZ	**Wahianoa**	**1.44**	**201**	P	**P**	**09 01 22.6**	**+1.1**
OTAZ	**Otara**	**1.48**	**314**	PN	**P**	**09 01 21.4**	**-0.4**
OTAZ	**Otara**	**1.48**	**314**	P	**P**	**09 01 21.4**	**-0.3**
MOVZ	**Moawhango**	**1.48**	**195**	PN	**P**	**09 01 22.5**	**+0.7**
MOVZ	**Moawhango**	**1.48**	**195**	P	**P**	**09 01 22.5**	**+0.7**
PKVZ	**Pokaka**	**1.49**	**208**	PN	**P**	**09 01 22.9**	**+1.0**
KNZ	**Kokohu**	**1.52**	**134**	PN	**P**	**09 01 22.9**	**+0.8**
KNZ				SN	**S**	**09 01 49.3**	**-1.7**
KNZ	**Kokohu**	**1.52**	**134**	P	**P**	**09 01 22.9**	**+0.8**
MTVZ	**Mangateitei**	**1.53**	**203**	PN	**P**	**09 01 23.2**	**+1.0**
PUZ	**Puketiti**	**1.58**	**94**	PN	**P**	**09 01 21.9**	**-0.6**
PUZ	**Puketiti**	**1.58**	**94**	P	**P**	**09 01 21.9**	**-0.7**
MTAZ	**Motutapu**	**1.60**	**318**	PN	**P**	**09 01 22.2**	**-0.6**
MTAZ	**Motutapu**	**1.60**	**318**	P	**P**	**09 01 22.2**	**-0.5**
VRZ	**Vera Road**	**1.64**	**225**	PN	**P**	**09 01 24.3**	**+1.3**
VRZ	**Vera Road**	**1.64**	**225**	P	**P**	**09 01 24.3**	**+1.2**
MXZ	**Matakaoa Point**	**1.68**	**76**	PN	**P**	**09 01 22.4**	**-1.0**
KAAZ	**Kauri Point**	**1.69**	**313**	PN	**P**	**09 01 23.0**	**-0.5**
KAAZ	**Kauri Point**	**1.69**	**313**	P	**P**	**09 01 23.0**	**-0.5**
WTAZ	**Waiatarua**	**1.70**	**307**	PN	**P**	**09 01 23.4**	**-0.2**
WTAZ	**Waiatarua**	**1.70**	**307**	P	**P**	**09 01 23.4**	**-0.1**
RAEZ	**Rainy Point**	**1.96**	**228**	P	**P**	**09 01 31.1**	**+5.3**
WAZ	**Wanganui**	**2.03**	**209**	PN	**P**	**09 01 27.6**	**+1.0**
WAZ	**Wanganui**	**2.03**	**209**	P	**P**	**09 01 27.6**	**+1.1**
TSZ	**Takapari Road**	**2.09**	**186**	PN	**P**	**09 01 28.3**	**+1.1**
TSZ	**Takapari Road**	**2.09**	**186**	P	**P**	**09 01 28.3**	**+1.2**
PWZ	**Pawanui**	**2.10**	**167**	PN	**P**	**09 01 28.4**	**+1.1**
PWZ	**Pawanui**	**2.10**	**167**	P	**P**	**09 01 28.4**	**+1.2**
NEZ	**North Egmont**	**2.13**	**232**	PN	**P**	**09 01 29.4**	**+2.0**
NEZ	**North Egmont**	**2.13**	**232**	P	**P**	**09 01 29.4**	**+1.9**
PKE	**Pukeiti**	**2.15**	**235**	PN	**P**	**09 01 29.5**	**+1.8**
DFE	**Dawson Falls**	**2.16**	**231**	P	**P**	**09 01 29.0**	**+1.2**
NRZ	**Ngariki Road**	**2.27**	**233**	PN	**P**	**09 01 30.3**	**+1.4**
NRZ	**Ngariki Road**	**2.27**	**233**	P	**P**	**09 01 30.4**	**+1.5**
NWEZ	**Newall Road**	**2.27**	**235**	PN	**P**	**09 01 30.7**	**+1.7**
NWEZ	**Newall Road**	**2.27**	**235**	P	**P**	**09 01 30.7**	**+1.7**
WCZ	**Waipu Caves**	**2.55**	**322**	PN	**P**	**09 01 31.1**	**-0.7**
WCZ	**Waipu Caves**	**2.55**	**322**	P	**P**	**09 01 31.1**	**-0.7**
BFZ	**Birch Farm**	**2.70**	**180**	PN	**P**	**09 01 34.2**	**+0.7**
BFZ				SN	**S**	**09 02 11.1**	**0.0**
BFZ	**Birch Farm**	**2.70**	**180**	P	**P**	**09 01 34.2**	**+0.8**
MRZ	**Mangatainoka R**	**2.73**	**191**	PN	**P**	**09 01 34.3**	**+0.6**
MRZ				SN	**S**	**09 02 11.5**	**-0.2**
MRZ	**Mangatainoka R**	**2.73**	**191**	P	**P**	**09 01 34.3**	**+0.5**
KIW	**Kapiti Island**	**3.06**	**199**	PN	**P**	**09 01 37.6**	**+0.2**
KIW	**Kapiti Island**	**3.06**	**199**	P	**P**	**09 01 37.6**	**+0.2**
MTW	**Mount Morrison**	**3.23**	**190**	PN	**P**	**09 01 39.3**	**0.0**
MTW	**Mount Morrison**	**3.23**	**190**	P	**P**	**09 01 39.3**	**0.0**
CAW	**Cannon Point**	**3.26**	**196**	PN	**P**	**09 01 39.8**	**+0.2**
CAW	**Cannon Point**	**3.26**	**196**	P	**P**	**09 01 39.8**	**+0.1**
DUWZ	**D'Urville Isla**	**3.35**	**212**	PN	**P**	**09 01 40.4**	**-0.4**
TRWZ	**Traveller**	**3.44**	**187**	PN	**P**	**09 01 42.0**	**+0.1**
PAWZ	**Paruwai Farm**	**3.46**	**190**	PN	**P**	**09 01 42.0**	**-0.1**
MRW	**Makara Radio**	**3.46**	**200**	PN	**P**	**09 01 41.9**	**-0.1**
MRW	**Makara Radio**	**3.46**	**200**	P	**P**	**09 01 41.9**	**-0.1**
OUZ	**Omahuta**	**3.49**	**321**	PN	**P**	**09 01 41.4**	**-1.0**
OUZ	**Omahuta**	**3.49**	**321**	P	**P**	**09 01 41.4**	**-1.0**
WEL	**Wellington**	**3.50**	**199**	PN	**P**	**09 01 42.3**	**-0.1**
WEL	**Wellington**	**3.50**	**199**	P	**P**	**09 01 42.3**	**-0.2**
MSWZ	**Moikau Station**	**3.52**	**192**	PN	**P**	**09 01 42.5**	**-0.2**
MSWZ	**Moikau Station**	**3.52**	**192**	P	**P**	**09 01 42.5**	**-0.2**
SNZO	**South Karori**	**3.54**	**199**	PN	**P**	**09 01 42.7**	**-0.2**
SNZO				SN	**S**	**09 02 26.6**	**-1.4**
SNZO	**South Karori**	**3.54**	**199**	P	**P**	**09 01 42.7**	**-0.2**
TCW	**Tory Channel**	**3.57**	**205**	PN	**P**	**09 01 43.2**	**-0.2**
TCW	**Tory Channel**	**3.57**	**205**	P	**P**	**09 01 43.2**	**-0.2**
BHW	**Baring Head**	**3.59**	**197**	PN	**P**	**09 01 43.3**	**-0.2**
BHW	**Baring Head**	**3.59**	**197**	P	**P**	**09 01 43.3**	**-0.2**
TUWZ	**Tuamarina**	**3.88**	**207**	PN	**P**	**09 01 46.4**	**-0.6**
NNZ	**Nelson**	**3.92**	**214**	PN	**P**	**09 01 46.7**	**-0.8**
NNZ	**Nelson**	**3.92**	**214**	P	**P**	**09 01 46.7**	**-0.8**
QRZ	**Quartz Range**	**4.05**	**224**	PN	**P**	**09 01 47.7**	**-1.3**
QRZ	**Quartz Range**	**4.05**	**224**	P	**P**	**09 01 47.7**	**-1.4**
CMWZ	**Cape Campbell**	**4.08**	**202**	PN	**P**	**09 01 50.1**	**+0.7**
CMWZ	**Cape Campbell**	**4.08**	**202**	P	**P**	**09 01 50.1**	**+0.7**
BSWZ	**Blackbirch Sta**	**4.16**	**205**	PN	**P**	**09 01 50.0**	**-0.3**
BSWZ	**Blackbirch Sta**	**4.16**	**205**	P	**P**	**09 01 50.0**	**-0.

Ms1 4.1/13,ms1mx4.0/17 Error ellipse: s-maj=15.0km s-min=11.4km az=126.0
*NEIC **01** 09:11:37.9±1.2,5.80S×151.19E,h67km±10km,mb5.0/15, Error ellipse: s-maj=8.2km s-min=7.6km az=94.0*
ISC 01 09:11:36.7±1.6,5.79S±0.06×151.19E±0.06,h69km±14km, h62km±3.7km:pP-P,n92,σ1§08/86,mb4.7/27,1C-1D,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.37**	**228**	P	**P**	**09 12 56.7**	**+0.7**
	16nm,0.3s,baz=47,slow=8.4,SNR=43						
PMG				S	**S**	**09 13 58.2**	**+1.0**
	44nm,0.3s,baz=138,slow=22,SNR=12						
PMG	**Port Moresby**	**5.37**	**228**	*e*P	**P**	**09 12 55.2**	**-0.8**
PMG				*e*S	**S**	**09 13 57.9**	**+0.7**
PMG	**Port Moresby**	**5.37**	**228**	P	**P**	**09 12 56.7**	**+0.7**
PMG				S	**S**	**09 13 58.2**	**+1.0**
PMG				pmax	pmax		
	comp=Z,16nm,0.3s						
PMG				smax			
	comp=E,44nm,0.3s						
HNR	**Honiara**	**9.41**	**113**	P	**P**	**09 13 51.0**	**-0.7**
	comp=E,15nm,0.3s,baz=312,slow=5.3,SNR=3.5						
HNR				LR	LR	09 17 01.1	
	comp=E,810nm,21.2s,baz=286,slow=34						
HNR	**Honiara**	**9.41**	**113**	P	**P**	**09 13 51.0**	**-0.7**
HNR				pmax	pmax		
	comp=Z,15nm,0.3s						
HNR				MLR	MLR		
	comp=Z,810nm,21.2s						
CTA	**Charters Tower**	**15.00**	**198**	*e*P	**P**	**09 15 10.0**	**+3.8**
	comp=Z,31nm,1.7s						
CTA	**Charters Tower**	**15.00**	**198**	P	**P**	**09 15 06.5**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=25,slow=15,SNR=3.0						
CTA	**Charters Tower**	**15.00**	**198**	*e*P	**P**	**09 15 10.0**	**+3.8**
CTA				pmax	pmax		
	comp=Z,31nm,1.7s						
CTAO	**Charters Tower**	**15.00**	**198**	P	**P**	**09 15 05.0**	**-1.1**
KAKA	**Kakadu**	**19.73**	**248**	*e*P	**P**	**09 16 07.3**	**+3.8**
	comp=Z,22nm,0.4s						
GUMO	**Guam**	**20.25**	**342**	*e*P	**P**	**09 16 09.1**	**+0.1**
WRAB	**Tennant Creek**	**21.57**	**228**	*e*P	**P**	**09 16 22.4**	**+0.1**
	comp=Z,65nm,0.7s,mb5.1						
WRAB	**Tennant Creek**	**21.57**	**228**	*e*P	**P**	**09 16 22.5**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,65nm,0.7s,mb5.1						
WB2	**Warramunga Arr**	**21.58**	**228**	⇓*i*P	**P**	**09 16 22.1**	**-0.3**
WB2				*e*S	**S**	**09 20 18.1**	**+5.9**
WRA	**Warramunga Arr**	**21.59**	**228**	P	**P**	**09 16 22.2**	**-0.3**
	comp=Z,16nm,0.5s,mb4.6,baz=53,slow=11,SNR=82						
WRA				S	**S**	**09 20 19.5**	**+7.2**
	comp=Z,9.3nm,1.1s,baz=54,slow=17,SNR=11						
WRA				ScP		09 23 56.8	
	comp=Z,3.5nm,1.0s,baz=47,slow=2.4,SNR=7.2						
WRA	**Warramunga Arr**	**21.59**	**228**	P	**P**	**09 16 22.2**	**-0.3**
WRA				S	**S**	**09 20 19.5**	**+7.1**
WRA				pmax	pmax		
	comp=Z,16nm,0.5s						
WRA				smax			
	comp=E,9.0nm,1.1s						
WRA				pmax	pmax		
	comp=E,4.0nm,1.0s						
DZM	**Mont Dzumac**	**21.90**	**139**	P	**P**	**09 16 24.9**	**-0.7**
	comp=E,9.2nm,0.6s,mb4.3,baz=300,slow=8.1,SNR=6.4						
STKA	**Stephens Creek**	**27.46**	**198**	*e*P	**P**	**09 17 16.3**	**-2.1**
	comp=E,13nm,0.9s,mb4.5						
STKA	**Stephens Creek**	**27.46**	**198**	P	**P**	**09 17 17.1**	**-1.3**
	comp=E,13nm,1.0s,mb4.4,baz=0.7,slow=11,SNR=12						
STKA				LR	LR	09 28 39.7	
	comp=E,509nm,18.1s,baz=138,slow=37						
FITZ	**Fitzroy Crossi**	**27.78**	**242**	*e*P	**P**	**09 17 20.6**	**-0.8**
	comp=E,45nm,0.6s,mb5.2						
FITZ	**Fitzroy Crossi**	**27.78**	**242**	P	**P**	**09 17 20.8**	**-0.7**
	comp=E,21nm,0.5s,mb5.0,baz=54,slow=4.9,SNR=14						
FITZ				LR	LR	09 28 29.4	
	comp=E,343nm,21.2s,baz=82,slow=36						
MBWA	**Marble Bar**	**34.08**	**240**	*e*P	**P**	**09 18 17.0**	**+0.2**
TAU	**Tasmania Unive**	**37.12**	**185**	P	**P**	**09 18 41.8**	**-0.6**
AFI	**Afiamalu**	**37.33**	**105**	LR	LR	09 31 54.8	
	comp=E,165nm,18.3s,baz=179,slow=33						
RAO	**Raoul Island**	**37.36**	**132**	LR	LR	09 31 45.2	
	comp=E,312nm,19.5s,baz=295,slow=32						
JOW	**Kunigami**	**39.29**	**327**	P	**P**	**09 19 01.9**	**+1.3**
	comp=E,12nm,0.4s,mb5.1,baz=136,slow=13,SNR=18						
JOW				LR	LR	09 32 19.9	
	comp=E,280nm,20.0s,baz=134,slow=32						
URZ	**Urewera**	**39.98**	**148**	LR	LR	09 33 11.1	
	comp=E,264nm,20.6s,baz=183,slow=32						
NACB	**Ninganchiao**	**41.46**	**317**	*e*P	**P**	**09 19 18.7**	**+0.2**
RPZ	**Rata Peaks**	**41.62**	**158**	P	**P**	**09 19 19.8**	**+0.2**
	comp=E,6.9nm,0.6s,mb4.6,baz=352,slow=12,SNR=6.4						
RPZ	**Rata Peaks**	**41.62**	**158**	P	**P**	**09 19 19.8**	**+0.2**
YHNB	**Yeheng**	**41.94**	**317**	*e*P	**P**	**09 19 24.4**	**+1.8**
JNU	**Nakatsue**	**43.23**	**335**	LR	LR	09 36 01.8	
	comp=E,103nm,18.3s,baz=34,slow=34						
ENH	**Enshi**	**53.67**	**314**	*e*P	**P**	**09 20 53.3**	**-0.6**
MDJ	**Mudanjiang**	**53.80**	**341**	P	**P**	**09 20 55.1**	**+0.5**
MDJ				AP	pP	09 21 11.3	-1.2
MDJ				XP	sP	09 21 18.9	-1.4
MDJ				PP	PP	09 22 57.6	-0.1
MDJ				S	**S**	**09 28 31.1**	**+8.8**
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,30nm,3.3s						
MDJ				LR	LR		
	comp=N,69nm,21.0s						
MDJ				LR	LR		
	comp=E,89nm,21.0s						
MDJ				LR	LR		
	comp=Z,126nm,23.8s						
CN2	**Changchun**	**54.56**	**337**	*e*P	**P**	**09 21 03.0**	**+2.8**
KMI	**Kunming**	**56.22**	**305**	P	**P**	**09 21 16.3**	**+3.9**
KMI				AP	pP	09 21 31.5	+1.1
KMI				sP	sP	09 21 38.4	+0.1
KMI				PP	PP	09 23 26.5	+6.8
KMI				S	**S**	**09 28 59.8**	**+4.9**
KMI				XS		09 29 27.0	
KMI				SS	SS	09 32 48.9	+6.3
KMI				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
KMI				AMB	AMB		
	comp=Z,66nm,8.0s						
KMI				LR	LR		
	comp=N,128nm,20.4s						
KMI				LR	LR		
	comp=E,187nm,20.4s						
KMI				LR	LR		
	comp=Z,157nm,22.5s						
KMI	**Kunming**	**56.22**	**305**	P	**P**	**09 21 16.3**	**+3.9**
	comp=Z,10.0nm,0.9s,mb4.8						
KMI				pP	pP	09 21 31.5	+1.1
KMI				sP	sP	09 21 38.4	+0.1
KMI				PP	PP	09 23 26.5	+6.8
KMI				S	**S**	**09 28 59.8**	**+4.9**
KMI				sS		09 29 27.0	
KMI				SS	SS	09 32 48.9	+6.3
KMI				LR	LR		
	comp=Z,160nm,22.5s						
KMI	**Kunming**	**56.22**	**305**	P	**P**	**09 21 16.3**	**+3.9**
KMI				*PP	pP	09 21 31.5	+1.1
KMI				*SP	sP	09 21 38.4	+0.1
KMI				S	**S**	**09 28 59.8**	**+4.9**
KMI				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
KMI				MLR	MLR		
	comp=Z,160nm,22.5s						
CD2	**Chengdu**	**58.18**	**312**	*e*P	**P**	**09 21 25.6**	**-0.5**
HHC	**Hu-ho-hao-te**	**58.93**	**326**	*e*P	**P**	**09 21 36.5**	**+5.3**
HHC				AP	pP	09 21 54.1	+4.8
HHC				XP	sP	09 22 01.2	+3.9
HHC				PCP	PcP	09 22 22.6	+3.1
HHC				SCS	ScS	09 31 17.8	+6.9
HHC				AMB	AMB		
	comp=Z,21nm,0.4s,mb5.5						
HHC				AMB	AMB		
	comp=Z,135nm,12.5s						
HHC				LR	LR		
	comp=N,171nm,20.2s						
HHC				LR	LR		
	comp=E,203nm,16.6s						
HHC				LR	LR		
	comp=Z,223nm,19.6s						
PPT	**Papeete**	**58.97**	**107**	*e*LR	LR	09 38 36.6	
	comp=Z,62nm,25.0s						
TBI	**Tubuai**	**59.63**	**114**	*e*LQ		09 37 03.3	
TBI				*e*LR	LR	09 39 33.1	
	comp=Z,156nm,34.0s						
CIT	**Chita**	**65.92**	**336**	*e*P	**P**	**09 22 16.8**	**-0.7**
SONM	**Songino Array**	**66.32**	**329**	P	**P**	**09 22 20.4**	**+0.3**
	comp=Z,3.3nm,0.6s,mb4.4,baz=135,slow=5.2,SNR=29						
SONM				LR	LR	09 51 05.5	
	comp=Z,228nm,19.7s,baz=91,slow=36						
SONM	**Songino Array**	**66.32**	**329**	P	**P**	**09 22 20.4**	**+0.3**
SONM				pmax	pmax		
	comp=Z,3.0nm,0.6s						
SONM				MLR	MLR		
	comp=Z,228nm,19.7s						
CASY	**Casey**	**66.60**	**197**	*e*P	**P**	**09 22 20.9**	**-0.7**
ZAK	**Zakamensk**	**69.51**	**330**	⇑*e*P	**P**	**09 22 38.9**	**-1.1**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.4						
TLY	**Talaya**	**70.14**	**331**	*e*P	**P**	**09 22 41.5**	**-2.2**
BOD	**Bodaibo**	**70.15**	**340**	*e*P	**P**	**09 22 40.5**	**-3.2**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.6s,mb4.0						
VNDA	**Vanda**	**71.91**	**178**	P	**P**	**09 22 54.2**	**+0.3**
	comp=Z,1.9nm,0.8s,mb4.0,baz=330,slow=5.9,SNR=10.0						
VNDA				LR	LR	09 53 43.3	
	comp=Z,86nm,18.1s,baz=18,slow=35						
VNDA	**Vanda**	**71.91**	**178**	*e*P	**P**	**09 22 54.3**	**+0.3**
	comp=Z,6.4nm,1.1s,mb4.4						
MIR	**Mirnyy**	**72.43**	**201**	*e*P	**P**	**09 22 57.0**	**-0.2**
MIR				pmax	pmax		
	comp=Z,34nm,1.6s,mb4.9						
SBA	**Scott Base**	**72.48**	**177**	*e*P	**P**	**09 22 58.9**	**+1.5**
	comp=Z,9.1nm,1.2s,mb4.5						
SBA	**Scott Base**	**72.48**	**177**	*e*P	**P**	**09 22 58.9**	**+1.5**
SBA				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.5						
MKAR	**Makanchi Array**	**80.02**	**319**	P	**P**	**09 23 39.8**	**-0.6**
	comp=Z,0.4nm,0.4s,mb3.6,baz=96,slow=11,SNR=8.4						
MKAR				LR	LR	09 57 24.8	
	comp=Z,105nm,21.7s,baz=170,slow=34						
ZAL	**Zalesovo**	**81.09**	**327**	P	**P**	**09 23 44.4**	**-1.5**
	comp=Z,1.7nm,0.4s,mb4.3,baz=59,slow=8.7,SNR=6.8						
ZAL				LR	LR	09 59 43.4	
	comp=Z,170nm,19.8s,baz=355,slow=36						
ZAL	**Zalesovo**	**81.09**	**327**	P	**P**	**09 23 44.4**	**-1.5**
ZAL				LR	LR	09 59 43.4	
ZAL	**Zalesovo**	**81.09**	**327**	P	**P**	**09 23 44.4**	**-1.5**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ZAL				MLR	MLR		
	comp=Z,170nm,19.8s						
KURK	**Kurchatov**	**83.56**	**322**	*e*P	**P**	**09 23 57.7**	**-0.9**
	comp=Z,0.7nm,1.2s						
KURK	**Kurchatov**	**83.56**	**322**	*e*P	**P**	**09 23 57.7**	**-0.9**
KURK				pmax	pmax		
	comp=Z,1.0nm,1.2s						
ILAR	**Eielson Array**	**83.68**	**22**	P	**P**	**09 23 56.7**	**-2.2**
	comp=Z,2.2nm,0.6s,mb4.2,baz=253,slow=5.1,SNR=46						
ILAR	**Eielson Array**	**83.68**	**22**	P	**P**	**09 23 56.7**	**-2.2**
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MAW	**Mawson**	**84.04**	**203**	*e*P	**P**	**09 24 01.3**	**+0.7**
	comp=Z,2.5nm,0.6s,mb4.2						
MAW	**Mawson**	**84.04**	**203**	P	**P**	**09 24 01.2**	**+0.6**
	comp=Z,2.7nm,0.6s,mb4.2,baz=80,slow=4.4,SNR=11						
MAW				LR	LR	09 59 53.5	
	comp=Z,190nm,18.3s,baz=313,slow=34						
MAW	**Mawson**	**84.04**	**203**	*e*P	**P**	**09 24 01.3**	**+0.7**
MAW				pmax	pmax		
	comp=Z,3.0nm,0.6s						
QSPA	**South Pole Qui**	**84.17**	**180**	*e*P	**P**	**09 24 02.1**	**+1.0**
	comp=Z,22nm,1.3s,mb4.8						
AAK	**Ala-Archa**	**84.18**	**314**	*e*P	**P**	**09 24 01.5**	**-0.4**
INK	**Inuvik**	**89.95**	**21**	P	**P**	**09 24 27.4**	**-1.8**
HUMO	**Hull Mountain**	**90.83**	**47**	*e*P	**P**	**09 24 34.8**	**+0.8**
	comp=Z,15nm,1.1s,mb5.0						
YBH	**Yreka Blue Hor**	**90.91**	**48**	P	**P**	**09 24 36.2**	**+1.9**
	comp=Z,5.2nm,1.0s,mb4.6,baz=198,slow=4.0,SNR=6.3						
YBH	**Yreka Blue Hor**	**90.91**	**48**	*e*P	**P**	**09 24 35.3**	**+0.9**
	comp=Z,10nm,1.2s,mb4.8						
YBH				*e*		09 24 44.2	
YBH	**Yreka Blue Hor**	**90.91**	**48**	*e*P	**P**	**09 24 35.3**	**+0.9**
YBH				pmax	pmax		
	comp=Z,10.0nm,1.2s						
MOD	**Modoc**	**92.72**	**48**	*e*P	**P**	**09 24 43.1**	**+0.4**
	comp=Z,10nm,1.1s,mb5.1						
OMM	**Old Mammoth Mi**	**93.35**	**53**	*e*P	**P**	**09 24 46.9**	**+1.2**
WVOR	**Wild Horse Val**	**94.00**	**48**	*e*P	**P**	**09 24 49.0**	**+0.6**
	comp=Z,7.9nm,1.3s,mb4.9						
WVOR	**Wild Horse Val**	**94.00**	**48**	*e*P	**P**	**09 24 49.0**	**+0.6**
WVOR				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.9						
DAC	**Darwin (Calif)**	**94.37**	**54**	*e*P	**P**	**09 24 51.4**	**+1.1**
	comp=Z,16nm,1.2s,mb5.2						
DAC				*e*		09 24 60.0	
DAC	**Darwin (Calif)**	**94.37**	**54**	*e*P	**P**	**09 24 51.4**	**+1.1**
DAC				pmax	pmax		
	comp=Z,16nm,1.2s,mb5.2						
BMO	**Blue Mountains**	**95.11**	**46**	*e*P	**P**	**09 24 52.9**	**-0.6**
	comp=Z,4.5nm,1.1s,mb4.8						
BMO	**Blue Mountains**	**95.11**	**46**	*e*P	**P**	**09 24 52.9**	**-0.6**
BMO				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.8						
LDFC	**Landfair**	**96.32**	**55**	*e*P	**P**	**09 25 01.5**	**+2.3**
EDM	**Edmonton**	**97.88**	**37**	*e*P	**P**	**09 25 06.2**	**+0.3**
PDAR	**Pinedale Array**	**100.70**	**48**	P	P	09 25 19.1	+0.2
	comp=Z,0.9nm,0.6s,baz=206,slow=1.5,SNR=9.9						
TXAR	**Lajitas Array**	**106.02**	**61**	PP	PP	09 30 04.5	-5.0
	comp=Z,0.3nm,0.9s,baz=243,slow=4.0,SNR=4.1						
GERES	**GERESS Array B**	**124.04**	**327**	PKP	PKPdf	09 30 29.0	+1.6
	comp=Z,0.9nm,0.5s,baz=45,slow=1.9,SNR=6.9						
GERES	**GERESS Array B**	**124.04**	**327**	PKIKP	PKPdf	09 30 29.0	+1.6
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
LPAZ	**La Paz**	**135.34**	**120**	PKP	PKPdf	09 30 52.6	+2.9
	comp=Z,1.0nm,0.5s,baz=231,slow=5.6,SNR=8.2						
LPAZ	**La Paz**	**135.34**	**120**	PKIKP	PKPdf	09 30 52.6	+2.9
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SDV	**Santo Domingo**	**138.43**	**83**	*e*PKPdf	PKPdf	09 30 57.2	+1.7
BDFB	**Brasilia**	**151.45**	**138**	PKPbc	PKPdf	09 31 25.3	+7.9
	comp=Z,5.0nm,0.6s,baz=245,slow=1.5,SNR=8.5						
BDFB	**Brasilia**	**151.45**	**138**	PKIKP	PKPdf	09 31 25.3	+7.9
BDFB				pmax	pmax		
	comp=Z,5.0nm,0.6s						
DBIC	**Dimbokro**	**156.17**	**273**	*e*P	PKPdf	09 31 35.7	+12

*IDC **01** 09:23:42.7±1.5,31.18N×141.79E,mb3.7/4,mb1 3.7/6, mb1mx3.6/20,mbtmp3.6/6,ML3.2/3,MS4.1/1,Ms1 4.0/1, ms1mx3.0/30,Error ellipse: s-maj=52.0km s-min=20.6km az=68.0*
*JMA **01** 09:23:44.6±0.2,31.27N×142.04E,h54km,M3.6*
ISC 01 09:23:42.6±2.7,31.18N±0.07×141.8E±0.2,h14km±19km, n13,σ1§01/16,mb3.6/4,MS4.2/1,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**2.55**	**320**	P	**Pn**	**09 24 25.9**	**+1.6**
JHJ2				*e*S	**Sn**	**09 24 55.9**	**+0.5**
JHJ	**Hachijo jima 2**	**2.58**	**319**	Pn	**Pn**	**09 24 24.4**	**-0.3**
	3.1nm,0.3s,baz=342,slow=20,SNR=6.9						
JHJ				Sn	**Sn**	**09 24 55.4**	**-0.6**
	11nm,0.3s,baz=55,slow=21,SNR=4.9						
BSO1	**Boso 1**	**3.54**	**349**	P	**Pn**	**09 24 37.8**	**-0.5**
CBIJ	**Chichi jima**	**4.08**	**175**	Pn	**Pn**	**09 24 47.0**	**+0.9**
	4.6nm,0.3s,baz=281,slow=21,SNR=14						
CBIJ				Sn	**Sn**	**09 25 32.3**	**-1.8**
	8.0nm,0.3s,baz=264,slow=22,SNR=6.2						
JHO	**Hitachi**	**5.52**	**350**	P	**Pn**	**09 25 05.0**	**-1.3**
JHO				*e*S	**Sn**	**09 26 04.1**	**-6.2**
JAG	**Ashikaga**	**5.58**	**340**	P	**Pn**	**09 25 08.0**	**+0.7**
MJAR	**Matsushiro Arr**	**6.12**	**332**	Pn	**Pn**	**09 25 14.1**	**-0.8**
	0.7nm,0.3s,baz=152,slow=11,SNR=4.9						
MAT	**Matsushiro**	**6.13**	**332**	P	**Pn**	**09 25 13.5**	**-1.5**
SONM	**Songino Array**	**31.63**	**312**	P	**P**	**09 30 08.1**	**+0.9**
	0.9nm,1.0s,mb3.5,baz=108,slow=7.8,SNR=4.2						
MKAR	**Makanchi Array**	**47.69**	**307**	P	**P**	**09 32 21.2**	**+0.8**
	0.6nm,0.7s,mb3.7,baz=79,slow=6.2,SNR=3.7						
WRA	**Warramunga Arr**	**51.32**	**189**	P	**P**	**09 32 48.5**	**-0.1**
	0.4nm,0.3s,mb3.8,baz=6.3,slow=7.7,SNR=9.4						
SCHQ	**Schefferville**	**90.87**	**16**	LR	LR	10 24 04.2	
	comp=Z,92nm,19.2s,MS4.2,baz=5.5,slow=40						
TXAR	**Lajitas Array**	**93.43**	**53**	P	**P**	**09 37 00.2**	**+1.2**
	0.2nm,0.8s,mb3.6,baz=270,slow=1.3,SNR=3.5						

IDC 01 09:24:34.8±3.8,21.12S×179.41E,mb3.8/3,mb1 4.1/3, mb1mx3.7/12,mbtmp3.8/3,MS3.7/2,Ms1 3.7/2, ms1mx3.1/25,Error ellipse: s-maj=169.0km s-min=35.1km az=143.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.10**	**263**	LR	LR	09 30 15.9	
	comp=Z,164nm,18.4s,baz=221,slow=28						
STKA	**Stephens Creek**	**35.34**	**244**	P	P	09 31 30.0	-4.0
	0.5nm,0.4s,baz=73,slow=10,SNR=6.0						
WRA	**Warramunga Arr**	**42.12**	**263**	P	P	09 32 30.5	-0.2
	0.6nm,0.3s,baz=91,slow=8.4,SNR=72						
ILAR	**Eielson Array**	**89.47**	**14**	P	P	09 37 33.2	-1.5
	0.4nm,0.6s,baz=214,slow=5.0,SNR=9.0						
PLCA	**Paso Flores**	**90.59**	**134**	LR	LR	10 10 30.2	
	comp=Z,63nm,18.5s,baz=184,slow=30						
AKASG	**Malin Array Be**	**142.34**	**329**	PKP	PKPdf	09 44 09.6	-1.5
	1.1nm,0.5s,baz=42,slow=4.5,SNR=6.8						

IDC 01 09:38:20.9±1.0,2.08N×128.68E,mb3.8/6,mb1 3.9/6, mb1mx3.8/16,mbtmp3.8/6,Error ellipse: s-maj=72.4km s-min=19.6km az=70.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.58**	**166**	P	P	09 43 22.6	-1.9
	1.0nm,0.5s,baz=345,slow=9.7,SNR=17						
STKA	**Stephens Creek**	**35.93**	**161**	P	P	09 45 22.7	-2.4
	0.6nm,0.5s,baz=360,slow=11,SNR=5.2						
SONM	**Songino Array**	**49.48**	**340**	P	P	09 47 14.6	-0.4
	2.1nm,0.6s,baz=151,slow=8.3,SNR=19						
MKAR	**Makanchi Array**	**60.01**	**325**	P	P	09 48 29.6	-2.2
	2.5nm,0.6s,baz=120,slow=8.6,SNR=29						
BVAR	**Borovoye Array**	**69.76**	**327**	P	P	09 49 32.0	-2.8
	0.5nm,0.5s,baz=143,slow=7.2,SNR=5.0						
ILAR	**Eielson Array**	**85.75**	**25**	P	P	09 51 01.2	-1.7
	0.2nm,0.8s,baz=244,slow=4.8,SNR=4.6						

*NEIC **01** 09:41:59.0,36.42S×179.68W,h33km,ML3.8(WEL),After WEL.*
WEL 01 09:41:59.2±0.4,36.47S×179.88W,h12km,ML3.5/6,Error ellipse: s-maj=4.3km s-min=3.0km az=90.0,East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.82**	**232**	PN	Pn	09 42 28.5	-2.0
MXZ				SN	Sn	09 42 51.1	-2.6
MXZ	**Matakaoa Point**	**1.82**	**232**	*e*P	Pn	09 42 28.6	-2.0
PUZ	**Puketiti**	**2.18**	**222**	PN	Pn	09 42 34.5	-1.4
PUZ				SN	Sn	09 43 00.4	-2.6
PUZ	**Puketiti**	**2.18**	**222**	P	Pn	09 42 34.5	-1.3
PUZ				S	Sn	09 43 00.4	-2.6
MWZ	**Matawai**	**2.78**	**227**	PN	Pn	09 42 42.3	-2.1
MWZ				SN	Sn	09 43 15.2	-2.9
MWZ	**Matawai**	**2.78**	**227**	*e*P	Pn	09 42 42.8	-1.6
URZ	**Urewera**	**2.99**	**232**	PN	Pn	09 42 45.6	-1.8
URZ				SN	Sn	09 43 21.4	-2.1
URZ	**Urewera**	**2.99**	**232**	P	Pn	09 42 45.8	-1.8
KNZ	**Kokohu**	**3.20**	**217**	PN	Pn	09 42 48.5	-1.9
KUZ	**Kuaotunu**	**3.55**	**264**	PN	Pn	09 42 53.2	-2.1
KUZ				SN	Sn	09 43 33.2	-4.4
KUZ	**Kuaotunu**	**3.55**	**264**	*e*P	Pn	09 42 53.2	-2.1
BKZ	**Black Stump Fm**	**3.94**	**226**	PN	Pn	09 42 57.5	-3.3
BKZ				SN	Sn	09 43 42.8	-4.6
BKZ	**Black Stump Fm**	**3.94**	**226**	*e*P	Pn	09 42 57.6	-3.2

*GII **01** 09:56:36.9±0.4,33.64N×35.56E,h1km±16km,ML2.6/6, Mw2.7/3*
*GRAL **01** 09:56:37.5±20.0,33.65N×35.30E,h15km±599km,MD3.3*
ISC 01 09:56:37.9±0.5,33.62N±0.02×35.54E±0.04,h7km±4km, n26,σ0§76/39,11D,Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATL	**Matirih**	**0.21**	**234**	*i* Pg	**Pg**	**09 56 42.5**	**+0.2**
BHL	**Bhannes**	**0.30**	**19**	*i* Pg	**Pg**	**09 56 43.4**	**-0.7**
	baz=330,slow=1.2						
BHL				*i* Sg	**Sg**	**09 56 48.7**	**+0.5**
HRI	**Mount Hermon**	**0.39**	**154**	Pg	**Pg**	**09 56 45.5**	**-0.2**
BRBR	**Barbar**	**0.40**	**120**	⇓*i*P	**Pg**	**09 56 45.7**	**-0.3**
KSDI	**Kefar Szold**	**0.43**	**166**	Pg	**Pg**	**09 56 46.6**	**-0.1**
HNTI	**Hanita**	**0.61**	**210**	Pg	**Pg**	**09 56 49.7**	**-0.4**
HNTI				Sg	**Sg**	**09 57 00.0**	**+1.7**
QASN	**Qassioun**	**0.62**	**97**	⇑*i*P	**Pg**	**09 56 50.0**	**-0.4**
QASN				⇑*i*S	**Sg**	**09 56 58.9**	**+0.1**
KSHT	**Keshet**	**0.67**	**160**	Pg	**Pg**	**09 56 51.3**	**-0.1**
HWQ	**Hawqa**	**0.74**	**27**	*i* Pg	**Pg**	**09 56 52.0**	**-0.8**
HWQ				*i* Sg	**Sg**	**09 57 04.8**	**+2.0**
TOTH	**TOTAH**	**0.79**	**108**	⇓*i*P	**Pb**	**09 56 53.4**	**-0.1**
TOTH				⇓*i*S	**Sb**	**09 57 04.7**	**+0.5**
MARH	**Ras Al Marh**	**0.89**	**62**	⇑*i*P	**Pb**	**09 56 55.6**	**+0.3**
HAF	**Haifa**	**0.94**	**207**	Pg	**Pg**	**09 56 56.1**	**-0.6**
HAF	**Haifa**	**0.94**	**207**	Pg	**Pg**	**09 56 56.2**	**-0.4**
OFRI	**'Ofer**	**1.09**	**205**	Pg	**Pg**	**09 56 58.9**	**-0.9**
MMLI	**Mount Malkishu**	**

IXG			*e*S	S	10 04 07.8	+0.9
RBDL	**Robledal**	**0.52 105**⇑	*e*P	P	10 03 52.2	+1.2
RBDL			*e*S	S	10 04 08.9	+0.2
RTR	**El Retiro**	**0.65 123**⇓	*e*P	P	10 03 52.7	+1.1
RTR			*e*S	S	10 04 09.3	-0.5
FUG	**Fuego 3**	**0.65 288**	*e*S	S	10 04 07.7	-2.2
SNJE	**San Jose**	**0.69 123**⇓	*e*P	P	10 03 53.0	+1.1
SNJE			*e*S	S	10 04 10.6	+0.3
SBLS	**San Blas**	**0.70 126**⇓	*e*P	P	10 03 52.9	+1.0
SBLS			*e*S	S	10 04 10.1	-0.2
MTO2	**Montecristo 2**	**0.83 79**⇓	*e*P	P	10 03 54.8	+2.1
MRL	**Marmol**	**0.95 31**	*e*P	P	10 03 53.4	-0.1
MRL			*e*S	S	10 04 13.0	-0.2
MRL			*e*S	S	10 04 13.0	-0.2
BOQS	**Boqueron**	**1.03 119**⇑	*e*P	P	10 03 55.5	+1.4
BOQS			*e*S	S	10 04 14.7	+0.4
LFU	**La Fuente**	**1.17 115**⇑	*e*P	P	10 03 56.9	+1.5
LFRS	**El Faro**	**1.27 119**⇑	*e*P	P	10 03 57.4	+1.0
LFRS			*e*S	S	10 04 18.4	+0.1
LCBS	**La Ceiba**	**1.33 116**⇑	*e*P	P	10 03 58.2	+1.3
LCBS			*e*S	S	10 04 19.9	+0.5
SNVI	**San Vicente**	**1.47 115**	*e*P	P	10 03 59.9	+1.6
SNVI			*e*S	S	10 04 23.4	+1.5
VSM	**San Miguel**	**2.04 113**⇓	*e*P	P	10 04 06.8	+2.3
VSM			*e*S	S	10 04 33.9	+1.1
BLLM	**Bellamira**	**2.07 112**	*e*P	P	10 04 08.3	+3.4
BLLM			*e*S	S	10 04 37.6	+4.3
CNCH	**Conchagua**	**2.50 112**⇓	*e*P	P	10 04 12.1	+2.0
CRIN	**San Cristobal**	**3.43 116**	*e*P	P	10 04 22.7	+0.8
TELN	**Telica**	**3.67 116**⇑	*e*P	P	10 04 23.9	-1.0
TEL3	**Telica 3**	**3.67 117**⇓	*e*P	P	10 04 23.7	-1.2
LEON	**Leon**	**3.70 119**	*e*P	P	10 04 23.9	-1.4
CNGN	**Cerro Negro**	**3.83 117**	*e*P	P	10 04 27.0	0.0
MIRN	**Miramar**	**3.85 117**⇓	*e*P	P	10 04 26.1	-1.1
MIRN			*e*S	S	10 05 14.2	+1.3
MOMJ	**Momotombo**	**4.01 117**	*e*P	P	10 04 29.4	0.0
COPN	**Copaltepe**	**4.08 120**⇑	*e*P	P	10 04 28.9	-1.3
XAVN	**Gruta Xavier**	**4.32 118**⇑	*e*P	P	10 04 32.7	-0.7
MGAN	**Managua**	**4.38 118**⇑	*e*P	P	10 04 34.0	-0.2
MGAN			*i*		10 05 24.2	
	comp=N,278nm,0.4s					
MGAN			*e*S	S	10 05 27.0	+1.6
TICN	**Ticuantepe**	**4.45 119**⇓	*e*P	P	10 04 34.5	-0.6
APON	**Apoyo**	**4.65 119**⇑	*e*P	P	10 04 36.9	-0.8
CONN	**Concepcion**	**5.20 120**	*e*P	P	10 04 43.8	-1.1

MAN 01 10:29:24.5, 13.84N×120.48E, h97km, mb4.0, ML2.8, MS2.5, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.25**	**245**		*e*P	P	10 29 40.1	+1.6
LUBP					*e*S	S	10 29 50.9	+1.7
TGY	**Tagaytay City**	**0.51**	**60**⇑		*e*P	P	10 29 41.8	+1.5
TGY					*e*S	S	10 29 54.7	+2.8
PGP	**Puerto Galera**	**0.57**	**126**		*e*P	P	10 29 41.7	+1.0
LBPH	**Los Banos**	**0.75**	**65**		*i* P	P	10 29 43.5	+1.3
NBP	**Mount Natib**	**0.90**	**356**		*e*P	P	10 29 44.9	+1.1
ARP	**Angono**	**0.95**	**43**		*e*P	P	10 29 44.6	+0.2
NZB	**Bigte**	**1.18**	**31**		*e*P	P	10 29 46.5	-0.6
BOAC	**Boac**	**1.38**	**106**		*e*P	P	10 29 40.1	-9.3
BUSP	**Coron**	**1.85**	**189**		*e*P	P	10 29 55.6	+0.2

IDC 01 10:36:38.4±4.1, 8.80N×94.60E, mb3.5/3, mb1 3.7/3, mb1mx3.4/19, mbtmp3.5/3, MS3.9/2, Ms1 3.9/2, ms1mx3.1/22, Error ellipse: s-maj=148.3km s-min=31.7km az=63.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**39.30**	**347**		P	P	10 44 09.3	-1.4
	0.6nm,0.9s,baz=169,slow=7.3,SNR=3.7							
SONM	**Songino Array**	**40.17**	**12**		P	P	10 44 15.9	-2.0
	0.7nm,0.7s,baz=187,slow=8.9,SNR=6.5							
NWAO	**Narrogin (SRO)**	**46.76**	**154**		LR	LR	11 05 11.7	
	comp=Z,111nm,19.8s,baz=223,slow=37							
MJAR	**Matsushiro Arr**	**48.21**	**48**		LR	LR	11 06 15.3	
	comp=Z,167nm,18.5s,baz=15,slow=37							
WRA	**Warramunga Arr**	**48.43**	**126**		P	P	10 45 22.9	-1.9
	0.6nm,0.8s,baz=303,slow=8.8,SNR=4.7							

*THR **01** 10:39:39.4±0.3, 35.25N×51.05E, h16km±3km, ML2.8*
*CSEM **01** 10:39:39.6±0.1, 35.30N×51.03E, h20km, ML3.0, Error ellipse: s-maj=3.4km s-min=2.4km az=162.0*
*TEH **01** 10:39:40.6, 35.33N×51.02E, h15km, Mn3.0*
ISC 01 10:39:39.0±0.6, 35.29N±0.04×51.01E±0.04, h6km±8km, n11, σ0°65/17, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IMHD	**Mahdasht**	**0.48**	**324**		Pg	**Pg**	**10 39 49.4**	**+0.7**
THKV	**Tehran--Karaj**	**0.63**	**350**		*e*Pg	**Pg**	**10 39 52.6**	**+0.9**
IVRN	**Varamin**	**0.65**	**116**		Pg	**Pg**	**10 39 52.3**	**+0.2**
IVRN					Sg	**Sg**	**10 40 02.1**	**+1.3**
IAFJ	**Afjeh**	**0.80**	**45**		Pg	**Pg**	**10 39 54.8**	**-0.2**
IAFJ					Sg	**Sg**	**10 40 04.9**	**-0.8**
DAMV	**Damavand**	**0.85**	**66**		*e*Pg	**Pg**	**10 39 55.6**	**-0.4**
DAMV					*e*Sg	**Sg**	**10 40 07.4**	**0.0**
DAMV					AML	AML	10 40 08.1	
	comp=N,459nm,0.3s							
IDMV	**Damavand**	**0.88**	**71**		Pg	**Pg**	**10 39 56.2**	**-0.4**
IRAZ	**Razeghan**	**0.89**	**278**		Pg	**Pg**	**10 40 06.0**	**+9.1**
ASAO	**Ashtian**	**1.10**	**228**		*e*Pg	**Pg**	**10 40 00.1**	**-0.9**
ASAO					*e*Sg	**Sg**	**10 40 14.9**	**-0.7**
ASAO					AML	AML	10 40 15.9	
	comp=N,168nm,0.4s							
ASAO	**Ashtian**	**1.10**	**228**		*e*Pg	**Pg**	**10 40 00.1**	**-0.9**
	SNR=92							
ASAO					*e*Sg	**Sg**	**10 40 14.9**	**-0.7**
	SNR=92							
IFIR	**Firoozkooh**	**1.46**	**76**		Pn	**Pn**	**10 40 06.2**	**+0.1**
IFIR					Sn	**Sn**	**10 40 25.3**	**-0.5**
SNGE	**Sanandaj**	**3.01**	**267**		*e*Pn	**Pn**	**10 40 29.0**	**+0.8**
SNGE					AML	AML	10 41 20.1	
	comp=N,20nm,0.5s							

*SOF **01** 10:42:49.5, 41.89N×21.97E, h10km, MD2.7*
*BEO **01** 10:42:49.1±0.4, 41.87N×21.93E, h8km±1km*
*NEIC **01** 10:42:49.0, 41.82N×21.87E, h15km, MD3.5(ATH), MD2.8(PDG), ML2.5(SKO), After SKO.*
NEIC Felt [III] in the Sveti Nikole-Veles area.
*SKO **01** 10:42:49.0, 41.82N×21.87E, h15km, ML2.5*
*PDG **01** 10:42:51.8±0.2, 41.91N×21.73E, h3km*
*CSEM **01** 10:42:51.8±0.1, 41.84N×22.07E, h10km, MD2.7, Error ellipse: s-maj=2.7km s-min=1.5km az=27.0*
*THE **01** 10:42:51.1, 41.82N×22.06E, h10km, ML3.1*
*ATH **01** 10:42:55.0, 41.55N×22.23E, h16km±1km, MD3.5/3*
ISC 01 10:42:49.3±0.3, 41.86N±0.03×21.99E±0.03, h3km, n32, σ1°§05/54, 3C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SKO	**Skopje**	**0.42**	**285**⇑		*i*Pg	**Pg**	**10 42 56.1**	**-1.6**
SKO					*i* Sg	**Sg**	**10 43 01.3**	**-2.1**
SKO					Smax		10 43 01.5	
	comp=Z,0.5nm,0.4s							
VAY	**Valandovo**	**0.69**	**141**		*i* Pg	**Pg**	**10 43 02.6**	**-0.5**
VAY					*i* Sg	**Sg**	**10 43 11.7**	**-0.7**
KKB	**Krupnik**	**0.82**	**89**		*i* P	**Pg**	**10 43 07.0**	**+1.4**
GRG	**Griva**	**0.95**	**161**		*e*Pg	**Pg**	**10 43 07.6**	**-0.8**
GRG					*e*Sg	**Sg**	**10 43 21.4**	**+0.3**
OHR	**Ohrid**	**1.17**	**230**		*i* Pn	**Pn**	**10 43 09.4**	**-3.0**
OHR					*i* Sn	**Sn**	**10 43 24.0**	**-5.0**
VTS	**Vitosha**	**1.17**	**51**		*i* P	**Pb**	**10 43 12.3**	**+0.6**
MMB	**Musomiste**	**1.33**	**101**		*i* P	**Pb**	**10 43 16.0**	**+1.4**
SRS	**Serrai**	**1.42**	**121**		*e*Pg	**Pg**	**10 43 16.8**	**-0.7**
SRS					*e*Sg	**Sg**	**10 43 36.4**	**0.0**
NVR	**Nevrokopi**	**1.50**	**109**		*e*PN	**Pn**	**10 43 18.3**	**+1.1**
NVR					*e*SN	**Sn**	**10 43 35.7**	**-1.7**
ZAPS	**Zavoj/Pirot**	**1.51**	**18**		*e*Pn	**Pn**	**10 43 17.8**	**+0.5**
ZAPS					Sn	**Sn**	**10 43 36.5**	**-1.3**
KZN	**Kozani**	**1.56**	**186**		*e*PN	**Pn**	**10 43 19.6**	**+1.5**
KZN					*e*SN	**Sn**	**10 43 37.2**	**-1.9**
PVY	**Plav**	**1.67**	**297**		*e*Pg	**Pn**	**10 43 19.0**	**-0.6**
PVY					*e*Sg	**Sn**	**10 43 41.8**	**0.0**
PGB	**Panagyurishte**	**1.76**	**66**		*i* P	**Pn**	**10 43 22.0**	**+1.1**
LIT	**Litokhoron**	**1.80**	**168**		*e*Pb	**Pb**	**10 43 21.4**	**-1.2**
IVA	**Berane**	**1.85**	**304**		*e*Pn	**Pn**	**10 43 22.7**	**+0.5**
IVA					*e*Sn	**Sn**	**10 43 47.7**	**+1.3**
PLG	**Polygyros**	**1.85**	**143**		*e*PN	**Pn**	**10 43 22.5**	**+0.3**
ULC	**Ulcinj**	**2.05**	**274**		*e*Pn	**Pn**	**10 43 25.4**	**+0.4**
ULC					*e*Sn	**Sn**	**10 43 52.2**	**+0.8**
RZN	**Rozhen**	**2.05**	**94**		*i* P	**Pn**	**10 43 26.5**	**+1.4**
TTG	**Podgorica**	**2.11**	**287**		*e*Pn	**Pn**	**10 43 26.5**	**+0.7**
TTG					*e*Sn	**Sn**	**10 43 53.7**	**+0.8**
OUR	**Ouranopolis**	**2.14**	**135**		*e*Pn	**Pn**	**10 43 26.8**	**+0.4**
MEV	**Metsovon**	**2.15**	**196**		*e*Pn	**Pn**	**10 43 27.2**	**+0.7**
MEV					*e*Sn	**Sn**	**10 43 56.3**	**+2.2**
PAIG	**Paliouri**	**2.32**	**146**		*e*Pn	**Pn**	**10 43 28.9**	**0.0**
BUM	**Brajici-Budva**	**2.34**	**282**		*e*Pn	**Pn**	**10 43 30.0**	**+0.7**
BUM					*e*Sn	**Sn**	**10 43 58.9**	**0.0**
BUM	**Brajici-Budva**	**2.34**	**282**		*e*Pn	**Pn**	**10 43 30.0**	**+0.8**
BUM					*e*Sn	**Sn**	**10 43 58.8**	**-0.1**
NKY	**Niksic**	**2.41**	**294**⇑		*i*Pn	**Pn**	**10 43 30.4**	**+0.1**
NKY					*e*Sn	**Sn**	**10 44 01.0**	**+0.3**
PLE	**Pljevlja**	**2.41**	**308**		*e*Pn	**Pn**	**10 43 30.5**	**+0.2**
PLE					*e*Sn	**Sn**	**10 44 01.5**	**+0.7**
KDZ	**Kurdzhali**	**2.58**	**94**		*i* P	**Pn**	**10 43 32.0**	**-0.6**
KDZ					*i* Pg	**Pg**	**10 43 38.5**	**-2.2**
UPM	**Unac-Piva**	**2.64**	**302**		*e*Pn	**Pn**	**10 43 33.0**	**-0.5**
UPM					*e*Sn	**Sn**	**10 44 06.8**	**+0.2**
DIM	**Dimitrovgrad**	**2.65**	**85**		*i* P	**Pg**	**10 43 42.0**	**-0.2**
DIVS	**Divcibare**	**2.67**	**327**⇑		*i*Pn	**Pn**	**10 43 32.8**	**-1.2**
DIVS					Sn	**Sn**	**10 44 05.8**	**-1.5**
BRY	**Bratogost**	**2.75**	**293**		*e*Pn	**Pn**	**10 43 35.4**	**+0.3**
BRY					*e*Sn	**Sn**	**10 44 08.7**	**-0.7**
RDO	**Rodhopi**	**2.76**	**104**		*e*PN	**Pn**	**10 43 37.0**	**+1.8**
RDO					*e*SN	**Sn**	**10 44 08.9**	**-0.7**

*IDC **01** 10:47:02.5±1.0, 0.68S×134.08E, mb4.1/5, mb1 4.3/7, mb1mx4.1/17, mbtmp4.2/7, ML4.4/2, Error ellipse: s-maj=49.4km s-min=19.8km az=81.0*
*NEIC **01** 10:47:06.8±0.6, 0.68S×134.07E, h30km, mb4.4/4, Error ellipse: s-maj=30.7km s-min=8.8km az=86.0*
ISC 01 10:47:05.2±0.7, 0.75S±0.08×134.0E±0.3, h33km, n14, σ0°§80/14, mb4.2/7, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**11.98**	**187**		*e*P	**P**	**10 50 01.0**	**+4.3**
	13nm,0.4s							
WRAB	**Tennant Creek**	**19.07**	**179**		*e*P	**P**	**10 51 27.8**	**+0.1**
	8.6nm,0.7s							
WB2	**Warramunga Arr**	**19.08**	**179**		*e*P	**P**	**10 51 27.0**	**-0.8**
WRA	**Warramunga Arr**	**19.08**	**179**		P	**P**	**10 51 27.1**	**-0.7**
	0.6nm,0.3s,baz=359,slow=12,SNR=25							
FITZ	**Fitzroy Crossi**	**19.09**	**205**		*e*P	**P**	**10 51 28.9**	**+0.9**
	13nm,0.6s							
FITZ	**Fitzroy Crossi**	**19.09**	**205**		P	**P**	**10 51 28.1**	**+0.1**
	1.9nm,0.3s,baz=14,slow=5.7,SNR=22							
STKA	**Stephens Creek**	**31.78**	**168**		P	**P**	**10 53 29.4**	**+0.5**
	0.6nm,0.4s,mb3.8,baz=331,slow=13,SNR=2.6							
STKA	**Stephens Creek**	**31.78**	**168**		P	**P**	**10 53 29.9**	**+1.0**
MAJO	**Matsushiro**	**37.31**	**6**		P	**P**	**10 54 15.5**	**-0.7**
	19nm,1.4s,mb4.7							
MKAR	**Makanchi Array**	**65.39**	**324**		P	**P**	**10 57 47.5**	**+0.7**
	1.5nm,0.6s,mb4.2,baz=112,slow=8.3,SNR=24							
ZAL	**Zalesovo**	**67.92**	**331**		P	**P**	**10 58 01.5**	**-1.1**
	1.2nm,0.3s,mb4.4,baz=203,slow=3.4,SNR=3.4							
KURK	**Kurchatov**	**69.44**	**326**		*e*P	**P**	**10 58 11.3**	**-0.7**
	3.8nm,0.9s,mb4.3							
BVAR	**Borovoye Array**	**75.03**	**326**		P	**P**	**10 58 46.1**	**+0.9**
	0.8nm,0.5s,mb3.9,baz=127,slow=7.4,SNR=5.7							
ILAR	**Eielson Array**	**86.04**	**25**		P	**P**	**10 59 44.4**	**+1.0**
	1.0nm,0.7s,mb4.1,baz=258,slow=4.6,SNR=10							

*NIED **01** 10:50:00, 33.80N×130.10E, h8km, Mw3.5 Best double couple: M0 2.01×10^14 NP1:φs132°, δ89°, λ-5°. NP2:φs222°, δ85°, λ-179°.*
JMA 01 10:50:17.4, 33.77N×130.13E, h11km, M3.8, 3C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JII	**Iki**	**0.33**	**274**		⇓P	Pg	10 50 24.2	-0.1
JII					S	Sg	10 50 28.9	0.0
JFI	**Itaya**	**0.40**	**148**		⇑P	Pg	10 50 25.4	-0.3
JFI					S	Sg	10 50 30.9	-0.4
JFA	**Akaike**	**0.56**	**96**		⇓P	Pb	10 50 28.0	-0.7
JFA					S	Sg	10 50 35.8	-0.4
JTA	**Tamana**	**0.87**	**157**		⇑P	Pb	10 50 33.8	-0.3
JTU	**Tsushima**	**0.97**	**321**		⇑P	Pb	10 50 35.6	-0.1

IDC 01 10:52:51.0±1.4, 8.17N×92.98E, mb3.9/5, mb1 4.1/5, mb1mx3.8/19, mbtmp3.9/5, Error ellipse: s-maj=53.3km s-min=26.0km az=49.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**39.56**	**348**		P	P	11 00 23.4	-2.1
	1.0nm,1.1s,baz=170,slow=8.8,SNR=3.0							
SONM	**Songino Array**	**41.13**	**14**		P	P	11 00 36.9	-1.6
	1.2nm,0.7s,baz=193,slow=7.5,SNR=6.3							
WRA	**Warramunga Arr**	**49.37**	**125**		P	P	11 01 42.6	-2.1
	1.4nm,0.6s,baz=301,slow=6.9,SNR=14							
BRTR	**Keskin Array B**	**61.37**	**311**		P	P	11 03 08.3	-2.9
	1.2nm,0.7s,baz=117,slow=8.3,SNR=5.6							
GERES	**GERESS Array B**	**76.84**	**318**		P	P	11 04 46.3	-0.3
	0.4nm,0.2s,baz=90,slow=5.3,SNR=5.5							

*NIED **01** 10:55:00, 47.00N×154.50E, h11km, Mw4.6 Best double couple: M0 8.22×10^15 NP1:φs229°, δ72°, λ100°. NP2:φs20°, δ21°, λ63°.*
*IDC **01** 10:55:58.7±0.9, 47.05N×153.83E, mb4.3/18, mb1 4.4/20, mb1mx4.4/25, mbtmp4.3/20, ML3.5/2, MS3.8/12, Ms1 3.8/12, ms1mx3.4/36, Error ellipse: s-maj=25.0km s-min=14.1km az=163.0*
*BJI **01** 10:56:01.3, 47.17N×154.29E, h44km, mB4.6, mb4.7, Ms4.1, Msz4.0*
*NEIC **01** 10:56:02.9±0.4, 46.97N×153.83E, h30km, mb4.7/31, MS4.0/1, Error ellipse: s-maj=10.3km s-min=5.9km az=146.0*
*MOS **01** 10:56:02.1±1.2, 47.01N×153.77E, h34km, mb5.0/33, Error ellipse: s-maj=10.1km s-min=6.0km az=98.3*
ISC 01 10:56:00.8±1.2, 46.92N±0.06×153.88E±0.06, h27km±8km, h51km±8.7km: pP-P, n184, σ1°§22/200, mb4.7/61, MS4.0/28, 8C-7D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.52**	**250**		*e*PN	**Pn**	**10 57 09.1**	**-0.2**
KUR					*e*S	**Sn**	**10 58 03.0**	**+1.4**
KUR					pmax	pmax		
	comp=Z,160nm,0.9s							
KUR					smax			
	comp=N,750nm,1.0s							
KUR					smax			
	comp=E,380nm,1.0s							
YUK	**Yuzh-Kuril'sk**	**6.34**	**246**		*e*PN	**Pn**	**10 57 34.9**	**-0.1**
YUK					*e*S	**Sn**	**10 58 48.4**	**+1.2**
YUK					smax			
	comp=N,2μm,1.0s							
YUK					smax			
	comp=E,2μm,1.0s							
YUK					smax			
	comp=N,690nm,0.5s							
YUK					smax			
	comp=E,230nm,0.5s							
NEM2	**Nemuro 2**	**6.77**	**241**		P	**Pn**	**10 57 39.9**	**-1.1**
NEM2					*e*S	**Sn**	**10 58 54.9**	**-3.1**
PET	**Petropavlovsk**	**6.83**	**25**		*e*Pn	**Pn**	**10 57 40.8**	**-1.2**
PET					*e*Sn	**Sn**	**10 58 52.0**	**-7.7**
JRA	**Rausu**	**6.85**	**247**		P	**Pn**	**10 57 43.9**	**+1.7**
JNK	**Nakash**	**7.28**	**246**		P	**Pn**	**10 57 49.1**	**+0.9**
JNK					*e*S	**Sn**	**10 59 10.0**	**-0.8**
JAK	**Akkeshi**	**7.61**	**242**		P	**Pn**	**10 57 51.5**	**-1.3**
JAK					*e*S	**Sn**	**10 59 15.2**	**-3.8**
JTKR	**Abashiri--Toko**	**7.61**	**251**		P	**Pn**	**10 57 54.2**	**+1.4**
YSS	**Yuzh-Sakhalins**	**7.62**	**274**		*e*P	**Pn**	**10 57 56.8**	**+3.8**
	comp=E,24nm,0.6s							
YSS	**Yuzh-Sakhalins**	**7.62**	**274**		⇓*e*PN	**Pn**	**10 57 57.1**	**+4.1**
YSS					*e*		10 59 26.2	
YSS					pmax	pmax		
	comp=Z,20nm,0.7s							
YSS					MLR	MLR		
	comp=Z,900nm,16.0s							
YSS					MLR	MLR		
	comp=E,700nm,15.0s							
JMP	**Maruseppu**	**7.95**	**252**		P	**Pn**	**10 57 59.0**	**+1.4**
JAR	**Ashorobuto**	**8.02**	**247**		P	**P**	**10 57 59.1**	**+0.6**
JAR					*e*S	**Sn**	**10 59 28.3**	**-1.0**
JOB	**Onbets**	**8.19**	**244**		P	**P**	**10 58 01.2**	**+0.4**
JOB					*e*S	**Sn**	**10 59 30.5**	**-2.9**
JCH	**Churui**	**8.63**	**244**		P	**P**	**10 58 06.8**	**-0.3**
JCH					*e*S	**Sn**	**10 59 39.9**	**-4.7**
JAB	**Ashibetsu**	**8.91**	**252**		P	**P**	**10 58 13.2**	**+2.3**
JEM	**Erimo**	**9.10**	**241**		P	**P**	**10 58 13.4**	**-0.1**
JBT2	**Biratori 2**	**9.17**	**247**		P	**P**	**10 58 14.4**	**-0.1**
JNBK	**Urakawa-nobuka**	**9.20**	**244**		P	**P**	**10 58 13.4**	**-1.4**
JNB	**Noboribetsu**	**10.17**	**249**		P	**P**	**10 58 28.1**	**-0.1**
JKB	**Kayabe**	**10.48**	**246**		P	**P**	**10 58 30.5**	**-1.9**
JKB					*e*S	**S**	**11 00 22.9**	**-7.0**
JSH	**Shimam**	**10.73**	**252**		P	**P**	**10 58 36.0**	**+0.2**
JANG	**Nango**	**11.09**	**238**		P	**P**	**10 58 36.9**	**-3.9**
JANG					*e*S	**S**	**11 00 33.6**	**-11**
JRG	**Rokugo**	**12.24**	**237**		P	**P**	**10 58 53.9**	**-2.5**
MA2	**Magadan**	**12.81**	**353**		*e*Pn	**P**	**10 59 02.4**	**-1.4**
	comp=E,8.0nm,0.6s							
MA2	**Magadan**	**12.81**	**353**		*e*PN	**P**	**10 59 02.4**	**-1.4**
MA2					pmax	pmax		
	comp=Z,8.0nm,0.6s							
FX1	**Attu Island--F**	**13.76**	**57**		Pn	**P**	**10 59 12.0**	**-4.3**
	comp=Z,0.8nm,0.3s,baz=205,slow=14,SNR=6.7							
FX1	**Attu Island--F**	**13.76**	**57**		P	**P**	**10 59 12.0**	**-4.3**
FX1					pmax	pmax		
	comp=Z,1.0nm,0.3s							
MJAR	**Matsushiro Arr**	**15.61**	**234**		Pn	**P**	**10 59 39.2**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=26,slow=11,SNR=20							
MAJO	**Matsushiro**	**15.61**	**234**		*e*P	**P**	**10 59 47.4**	**+6.8**
	comp=Z,13nm,0.6s							
MAT	**Matsushiro**	**15.61**	**234**		P	**P**	**10 59 38.6**	**-1.9**
MAT	**Matsushiro**	**15.61**	**234**		*e*P	**P**	**10 59 39.0**	**-1.5**
	comp=Z,10.0nm,1.0s							
MAT	**Matsushiro**	**15.61**	**234**		*e*P	**P**	**10 59 39.0**	**-1.5**
MAT					pmax	pmax		
	comp=Z,10.0nm,1.0s							
SEY	**Seymchan**	**16.07**	**358**		*e*P	**P**	**10 59 47.5**	**+1.3**
MDJ	**Mudanjiang**	**17.09**	**271**		P	**P**	**11 00 02.0**	**+2.7**
MDJ					AP		11 00 16.4	
MDJ					PP	PP	11 00 19.8	+6.3
MDJ					S	**S**	**11 03 10.9**	**+4.0**
MDJ					XS		11 03 25.9	
MDJ					SS	SS	11 03 30.3	+2.1
MDJ					AMB	AMB		
	comp=Z,10.0nm,0.8s							
MDJ					AMB	AMB		
	comp=Z,35nm,3.7s							
MDJ					LR	LR		
	comp=N,29nm,19.6s							
MDJ					LR	LR		
	comp=E,112nm,14.9s							
MDJ					LR	LR		
	comp=Z,161nm,16.4s							
CN2	**Changchun**	**20.18**	**272**		*e*P	**P**	**11 00 33.2**	**-2.7**
CN2					*e*AP		11 00 46.0	
CN2					*e*S	**S**	**11 04 08.9**	**-6.8**
CN2					AMB	AMB		
	comp=Z,10.0nm,0.7s							
CN2					AMB	AMB		
	comp=Z,100nm,5.0s							
CN2					LR	LR		
	comp=N,250nm,15.0s,MS3.8							
CN2					LR	LR		
	comp=E,190nm,15.0s,MS3.8							
CN2					LR	LR		
	comp=Z,350nm,17.0s,MS3.8							
YAK	**Yakutsk**	**20.46**	**326**		*e*P	**P**	**11 00 41.4**	**+2.7**
YAK					*e*		11 00 55.7	
YAK					*e*S	**S**	**11 04 28.3**	**+6.9**
YAK					*e*		11 04 50.1	
YAK					*e*SS	SS	11 04 50.9	-0.8
YAK					*e*		11 12 08.1	
YAK					pmax	pmax		
	comp=E,4.0nm,1.0s							
YAK					pmax	pmax		
	comp=Z,11nm,1.0s							
YAK					pmax	pmax		
	comp=N,2.0nm,0.9s							
YAK					pmax	pmax		
	comp=Z,5.0nm,0.9s							
YAK					pmax	pmax		
	comp=N,2.0nm,1.0s							
YAK					pmax	pmax		
	comp=E,2.0nm,0.8s							
YAK					smax			
	comp=E,8.0nm,1.0s							
YAK					smax			
	comp=N,4.0nm,1.1s							
YAK					MLR	MLR		
	comp=E,97nm,14.0s,MS3.5							
YAK					MLR	MLR		
	comp=Z,128nm,14.0s,MS3.4							
YAK					MLR	MLR		
	comp=N,83nm,13.0s,MS3.5							
SNY	**Shenyang**	**22.17**	**268**		⇑P	**P**	**11 00 56.9**	**+0.7**
SNY					S	**S**	**11 04 55.4**	**+1.6**
SNY					AMB	AMB		
	comp=Z,80nm,6.3s							
SNY					LR	LR		
	comp=N,190nm,14.7s,MS3.9							
SNY					LR	LR		
	comp=E,340nm,16.5s,MS3.9							
SNY					LR

LZH AP pP 11 03 40.3 +11
LZH *e*PP PP 11 04 56.0 +2.9
LZH XS 11 09 41.2
LZH SS SS 11 11 53.5 -1.2
LZH AMB AMB
comp=Z,32nm,1.3s,mb4.9
LZH AMB AMB
comp=Z,97nm,5.9s
LZH LR LR
comp=N,638nm,13.2s
LZH LR LR
comp=Z,835nm,16.6s,MS4.6
LZH Lanzhou 38.41 272 ⇓P **P 11 03 23.5 +1.9**
comp=Z,32nm,1.3s,mb4.9
LZH pP pP 11 03 40.3 +11
LZH sP sP 11 03 48.5 +15
LZH *e*PP PP 11 04 56.0 +2.9
LZH *e*S **S 11 09 01.5 -13**
LZH sS 11 09 41.2
LZH SS SS 11 11 53.5 -1.2
LZH LR LR
comp=Z,840nm,16.6s,MS4.6
LZH Lanzhou 38.41 272 ⇓P **P 11 03 23.5 +1.9**
LZH *PP pP 11 03 40.3 +11
LZH *e* 11 04 56.0
LZH SS SS 11 11 53.5 -1.2
LZH pmax pmax
comp=Z,32nm,1.3s,mb4.9
LZH MLR MLR
comp=Z,840nm,16.6s,MS4.6
GTA Gaotai 39.47 279 *e*P **P 11 03 31.7 +1.4**
GTA PP PP 11 05 08.1 +3.3
GTA S **S 11 09 28.0 -2.3**
GTA SS SS 11 12 17.8 -0.1
GTA AMB AMB
comp=Z,5.0nm,0.7s,mb4.3
GTA AMB AMB
comp=Z,63nm,6.1s
GTA LR LR
comp=N,83nm,18.6s,MS4.0
GTA LR LR
comp=E,156nm,15.2s,MS4.0
GTA LR LR
comp=Z,86nm,16.0s,MS3.7
INK Inuvik 41.22 33 P **P 11 03 44.5 +0.1**
comp=Z,2.7nm,0.8s,mb4.0,baz=282,slow=10,SNR=7.9
INK Inuvik 41.22 33 *e*P **P 11 03 43.8 -0.7**
comp=Z,3.1nm,0.8s,mb4.0
INK Inuvik 41.22 33 *e*P **P 11 03 43.8 -0.7**
INK pmax pmax
comp=Z,3.0nm,0.8s
GYA Guiyang 42.27 258⇑*i*P **P 11 03 54.5 +1.0**
GYA PP PP 11 05 36.1 +1.8
GYA S **S 11 10 07.5 -4.6**
GYA XS 11 10 39.3
GYA AMB AMB
comp=Z,20nm,0.9s,mb4.8
GYA AMB AMB
comp=Z,90nm,2.8s,mb4.9
GYA LR LR
comp=N,340nm,16.2s,MS4.5
GYA LR LR
comp=E,290nm,15.8s,MS4.5
GYA LR LR
comp=Z,370nm,16.0s,MS4.4
ZAL Zalesovo 42.95 306 P **P 11 03 57.2 -1.5**
comp=Z,2.6nm,0.5s,mb4.2,baz=42,slow=6.7,SNR=9.4
ZAL LR LR 11 23 32.0
comp=Z,128nm,20.4s,MS3.8,baz=40,slow=39
ZAL Zalesovo 42.95 306 P **P 11 03 57.2 -1.5**
ZAL LR LR 11 23 32.0
NVS Novosibirsk 43.50 308 *e*P **P 11 04 01.1 -2.0**
DLBC Dease Lake 45.09 46 *e*P **P 11 04 17.2 +1.3**
WMQ Urumqi 45.36 291 *e*P **P 11 04 19.0 +0.8**
WMQ AP pP 11 04 36.0 +10
WMQ PP PP 11 06 05.0 +0.1
WMQ SCP 11 09 44.0
WMQ S **S 11 10 52.0 -4.6**
WMQ XS 11 11 23.0
WMQ AMB AMB
comp=Z,14nm,1.0s,mb4.8
WMQ AMB AMB
comp=Z,108nm,7.0s
WMQ LR LR
comp=N,68nm,18.0s,MS4.2
WMQ LR LR
comp=E,243nm,19.0s,MS4.2
WMQ LR LR
comp=Z,137nm,18.0s,MS3.9
KMI Kunming 45.79 260 P **P 11 04 24.3 +2.4**
KMI AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
KMI Kunming 45.79 260 P **P 11 04 24.3 +2.4**
comp=Z,10.0nm,0.9s,mb4.8
MKAR Makanchi Array 47.33 298 P **P 11 04 32.7 -1.1**
comp=Z,3.4nm,0.8s,mb4.3,baz=67,slow=7.0,SNR=30
MKAR LR LR 11 25 26.3
comp=Z,93nm,18.5s,MS3.8,baz=270,slow=37
MKAR Makanchi Array 47.33 298 P **P 11 04 32.7 -1.1**
MKAR LR LR 11 25 26.3
MKAR Makanchi Array 47.33 298 *i*P **P 11 04 32.1 -1.7**
MKAR pmax pmax
comp=Z,3.0nm,0.8s
KURK Kurchatov 47.71 304 *e*P **P 11 04 34.5 -2.2**
comp=Z,16nm,0.8s,mb5.1
KURK Kurchatov 47.71 304 *e*P **P 11 04 34.5 -2.2**
KURK pmax pmax
comp=Z,17nm,0.8s,mb5.1
YKA Yellowknife Ar 50.47 37 P **P 11 04 58.5 +0.7**
comp=Z,0.4nm,0.3s,mb3.9,baz=301,slow=7.2,SNR=5.6
YKA Yellowknife Ar 50.47 37 P **P 11 04 58.5 +0.7**
RES Resolute Bay 50.50 19 *e*P **P 11 04 57.3 -0.6**
comp=Z,6.0nm,0.7s,mb4.6
RES Resolute Bay 50.50 19 *e*P **P 11 04 57.3 -0.6**
RES pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
LSA Lhasa 50.79 274 P **P 11 05 03.2 +2.5**
LSA Lhasa 50.79 274 *e*P **P 11 05 03.1 +2.5**
comp=Z,8.6nm,0.8s,mb4.7
LSA Lhasa 50.79 274 *e*P **P 11 05 03.1 +2.4**
LSA pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
BVAR Borovoye Array 51.16 310 P **P 11 05 01.8 -1.3**
comp=Z,2.2nm,0.5s,mb4.3,baz=53,slow=7.4,SNR=18
BRVK Borovoye 51.20 310 *e*P **P 11 05 01.7 -1.7**
comp=Z,3.6nm,0.8s,mb4.3
BRVK Borovoye 51.20 310 *e*P **P 11 05 01.7 -1.7**
BRVK pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
SVE Sverdlovsk 54.06 317 *e*P **P 11 05 22.8 -1.9**
SVE pmax pmax
comp=Z,20nm,1.0s,mb5.0
SVE MLR MLR
comp=N,100nm,14.0s,MS4.2
SVE MLR MLR
comp=E,100nm,14.0s,MS4.2
SVE MLR MLR
comp=Z,200nm,14.0s,MS4.3
AAK Ala-Archa 54.23 297 *e*P **P 11 05 24.8 -1.3**
AAK Ala-Archa 54.23 297 *d*P **P 11 05 24.6 -1.5**
AAK pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
AAK MLR MLR
comp=Z,100nm,17.0s,MS4.0
ARU Arti 55.24 318 *e*P **P 11 05 30.9 -2.4**
comp=Z,9.5nm,0.6s,mb5.0
ARU Arti 55.24 318⇑*i*P **P 11 05 31.4 -2.0**
ARU *e* 11 07 31.6
ARU *e*S **S 11 13 11.4 -2.0**
ARU *e*SS SS 11 16 59.0 +1.4
ARU pmax pmax
comp=Z,16nm,0.9s,mb5.0
JIRN Jiri 55.46 275 *e*P **P 11 05 36.7 +1.3**
comp=Z,62nm,0.7s,mb5.7
GUN Gumba 55.51 275 *e*P **P 11 05 36.7 +1.0**
KKN Kakani 56.00 276 *e*P **P 11 05 39.8 +0.6**
comp=Z,40nm,0.6s,mb5.6
PKI Pulchoki 56.05 275 *e*P **P 11 05 40.4 +0.8**
comp=Z,30nm,0.8s,mb5.4
DMN Daman 56.23 276 *e*P **P 11 05 42.0 +1.1**
comp=Z,71nm,0.8s,mb5.7
GKN Gorkha 56.30 276 *e*P **P 11 05 42.2 +0.8**
comp=Z,80nm,0.7s
NEW Newport 56.65 53 P **P 11 05 43.7 +0.1**
KOLN Koldanda 57.16 277 *e*P **P 11 05 48.3 +0.8**
comp=Z,61nm,0.8s,mb5.7
ARCES ARCESS Array B 57.86 341 P **P 11 05 49.3 -2.6**
comp=Z,3.2nm,0.9s,mb4.3,baz=27,slow=5.4,SNR=3.2
ARCES LR LR 11 34 06.5
comp=Z,90nm,18.8s,MS3.9,baz=74,slow=40
WALA Waterton Lakes 57.92 51 *e*P **P 11 05 51.5 -1.0**
comp=Z,2.3nm,0.9s,mb4.2
FFC Flin Flon 60.27 40 P **P 11 05 59.9 -8.8**
SUMG Summit 60.49 4 *e*P **P 11 06 09.3 -0.7**
comp=Z,23nm,1.0s,mb5.2
HLID Hailey 60.97 56 *e*P **P 11 06 13.0 -0.7**
HWUT Hardware Ranch 63.84 56 P **P 11 06 32.6 -0.1**
FINES FINESS Array B 64.11 335 P **P 11 06 32.7 -1.5**
comp=Z,4.3nm,0.8s,mb4.5,baz=45,slow=5.4,SNR=12
FINES LR LR 11 39 00.5
comp=Z,79nm,18.1s,MS3.9,baz=356,slow=40
BW06 Boulder Array 64.22 54 *e*P **P 11 06 34.9 -0.3**
PDAR Pinedale Array 64.22 54 P **P 11 06 34.8 -0.5**
comp=Z,0.6nm,0.9s,mb3.6,baz=315,slow=2.1,SNR=4.5
OBN Obninsk 65.46 326 *e*P **P 11 06 43.8 +0.8**
OBN pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
OBN MLR MLR
comp=Z,100nm,18.0s,MS4.1
PV10 Paradox Valley 67.43 58 P **P 11 06 56.3 +0.4**
NB2 NORSAR Subarra 68.23 341 P **P 11 06 59.6 -0.9**
comp=Z,13nm,0.8s,mb5.0,baz=26,slow=6.2
NB2 NORSAR Subarra 68.23 341 P **P 11 06 59.6 -0.9**
NB2 pmax pmax
comp=Z,13nm,0.8s,mb5.0
NOA NORSAR Array B 68.23 341 P **P 11 06 59.9 -0.6**
comp=Z,12nm,0.9s,mb5.0,baz=26,slow=6.3,SNR=26
NOA LR LR 11 41 02.9
comp=Z,34nm,18.0s,MS3.6,baz=295,slow=40
NOA NORSAR Array B 68.23 341 P **P 11 06 59.9 -0.6**
NOA LR LR 11 41 02.9
HFS Hagfors 68.48 340 LR LR 11 38 59.6
comp=Z,57nm,20.2s,MS3.8,baz=139,slow=38
BORG Borgarnes 68.61 358 LR LR 11 38 06.1
comp=Z,25nm,18.4s,MS3.5,baz=345,slow=37
WRAB Tennant Creek 68.84 200 P **P 11 07 02.9 -2.0**
comp=Z,2.8nm,0.6s,mb4.4
WRAB Tennant Creek 68.84 200 *e*P **P 11 07 05.6 +0.7**
WRA Warramunga Arr 68.85 200 P **P 11 07 05.2 +0.2**
comp=Z,0.4nm,0.7s,baz=21,slow=6.6,SNR=3.8
GOF Gofitskoye 70.08 315 *e*P **P 11 07 04.8 -7.3**
KIV Kislovodsk 71.06 315 *e*P **P 11 07 18.9 +0.8**
KIV pmax pmax
comp=Z,13nm,0.8s,mb4.9
KIV MLR MLR
comp=Z,100nm,15.0s,MS4.2
ANMO Albuquerque 71.29 59 *e*P **P 11 07 19.4 -0.2**
AKASG Malin Array Be 71.69 327 P **P 11 07 20.5 -1.2**
comp=Z,7.1nm,0.7s,mb4.7,baz=32,slow=5.9,SNR=31
SOC Sochi 72.77 316 *e*P **P 11 07 27.6 -0.6**
SOC *e* 11 07 40.9
SOC *e* 11 10 10.3
SOC *e*PPP PPP 11 11 54.1 -0.8
SOC *e*S S 11 16 48.2 -2.5
SOC *e* 11 17 29.5
SOC *e*SS SS 11 21 31.6 -1.4
SOC pmax pmax
comp=Z,13nm,0.9s,mb4.9
SOC pmax pmax
comp=N,9.0nm,0.7s
GNI Garni 72.82 311 LR LR 11 43 09.7
comp=N,118nm,18.0s,MS4.2,baz=172,slow=39
GNI Garni 72.82 311⇑*i*P **P 11 07 29.5 +0.9**
GNI pmax pmax
comp=Z,12nm,1.3s
GNI MLR MLR
comp=Z,100nm,18.0s
LVV L'vov 74.32 329 *e*P **P 11 07 31.5 -5.6**
KWP Kalwaria 74.94 330 *e*P **P 11 07 41.2 +0.5**
KWP Kalwaria 74.94 330 *e*P **P 11 07 41.2 +0.5**
STHS Stebnicka Huta 75.63 330 *e*P **P 11 07 46.1 +1.5**
BURAR Bucovina Array 75.73 327⇑P **P 11 07 45.1 -0.1**
BURAR Bucovina Array 75.73 327⇑P **P 11 07 45.1 -0.1**
UPC Upice 76.36 334 *e*P **P 11 07 49.0 +0.3**
DPC Dobruska-Polom 76.41 334 *e*P **P 11 07 46.4 -2.6**
CLL Collm 76.52 336 P **P 11 07 49.0 -0.6**
comp=Z,logA/T=1.3,mb5.0
CLL Collm 76.52 336 *e*P **P 11 07 49.0 -0.6**
comp=Z,17nm,0.8s,mb5.0
CLL Collm 76.52 336 *e*P **P 11 07 49.0 -0.6**
CLL pmax pmax
comp=Z,17nm,0.8s,mb5.0
MORC Moravsky Berou 76.53 333 *e*P **P 11 07 49.9 +0.3**
comp=Z,6.0nm,1.0s,mb4.5
MORC Moravsky Berou 76.53 333 *e*P **P 11 07 49.9 +0.2**
MORC pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
VRI Vrincioaia 76.61 325⇑P **P 11 07 42.5 -7.7**
VRI Vrincioaia 76.61 325⇑P **P 11 07 42.5 -7.7**
KECS Kecovo 76.69 330 *e*P **P 11 07 51.8 +1.2**
LTX Lajitas 76.95 61 *e*P **P 11 07 53.1 +0.7**
comp=Z,1.8nm,0.4s,mb4.3
LTX Lajitas 76.95 61 *e*P **P 11 07 53.1 +0.7**
LTX pmax pmax
comp=Z,2.0nm,0.4s,mb4.4
TXAR Lajitas Array 76.95 61 P **P 11 07 52.5 +0.1**
comp=Z,1.8nm,0.7s,mb4.1,baz=294,slow=4.0,SNR=34
MLR Muntele Rosu 77.22 325 P **P 11 07 54.2 +0.6**
comp=Z,6.8nm,0.7s,mb4.7,baz=76,slow=1.5,SNR=12
MLR Muntele Rosu 77.22 325⇓P **P 11 07 54.6 +1.0**
MLR Muntele Rosu 77.22 325⇓P **P 11 07 54.6 +1.0**
MLR Muntele Rosu 77.22 325 P **P 11 07 54.2 +0.6**
MLR pmax pmax
comp=Z,7.0nm,0.7s
VYHS Vyhne 77.23 331 *e*P **P 11 07 54.5 +0.9**
PRU Pruhonice 77.26 334 *e*P **P 11 07 54.1 +0.4**
MALT Malatya 77.42 313 *e*P **P 11 07 56.4 +1.5**
comp=Z,7.5nm,1.1s,mb4.5
MALT Malatya 77.42 313 *e*P **P 11 07 56.4 +1.5**
MALT pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
MOX Moxa 77.50 336 *e*P **P 11 07 56.0 +1.0**
KHC Kasperske Hory 78.31 335 *e*P **P 11 08 00.1 +0.6**
GRA1 Grafenberg Arr 78.48 336 *e*P **P 11 08 01.4 +1.0**
comp=Z,21nm,0.9s,mb5.1
GRF Grafenberg Arr 78.48 336 *e*P **P 11 08 01.5 +1.1**
comp=Z,21nm,0.9s,mb5.1
GRF Grafenberg Arr 78.48 336 *e*P **P 11 08 01.4 +1.0**
GRF pmax pmax
comp=Z,21nm,0.9s,mb5.1
GRF Grafenberg Arr 78.48 336 *e*P **P 11 08 01.5 +1.1**
GRF pmax pmax
comp=Z,21nm,0.9s,mb5.1
GERES GERESS Array B 78.53 334 P **P 11 08 01.9 +1.2**
comp=Z,0.7nm,0.4s,mb3.9,baz=27,slow=3.0,SNR=9.5
GERES LR LR 11 46 36.0
comp=Z,77nm,18.1s,MS4.1,baz=163,slow=39
BRTR Keskin Array B 78.62 317 P **P 11 08 03.2 +1.8**
comp=Z,5.0nm,0.8s,mb4.5,baz=72,slow=3.9,SNR=18
BAIF Baives 79.90 341 *e*P **P 11 08 08.1 0.0**
CDF Champ du Feu 80.69 338 *e*P **P 11 08 12.3 -0.1**
HAU Haudompre 81.31 339 *e*P **P 11 08 15.5 -0.1**
HAU *e*R
comp=Z,62nm,22.2s
DAVOX Davos 81.50 336 LR LR 11 47 02.3
comp=Z,56nm,21.1s,MS3.9,baz=259,slow=38
PPT Papeete 81.83 126 LR LR 11 39 08.6
comp=Z,66nm,18.6s,MS4.0,baz=306,slow=32
LOR Lormes 82.60 340 *e*P **P 11 08 22.5 +0.2**
comp=Z,7.1nm,0.8s,mb4.5
LOR *e*R
comp=Z,68nm,19.5s
LOR Lormes 82.60 340 *e*P **P 11 08 22.5 +0.2**
LOR pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
LOR MLR MLR
comp=Z,70nm,19.5s,MS4.0
SSF Saint Saulge 82.88 340 *e*P **P 11 08 23.9 +0.1**
comp=Z,2.5nm,0.8s,mb4.3
SSF Saint Saulge 82.88 340 *e*P **P 11 08 23.9 +0.1**
SSF pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
SGMF Saint Gilles 83.01 344 *e*P **P 11 08 24.7 +0.3**
ROSF Rostrenen 83.06 345 *e*P **P 11 08 24.9 +0.2**
comp=Z,13nm,0.9s,mb4.6
ROSF Rostrenen 83.06 345 *e*P **P 11 08 24.9 +0.2**
ROSF pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
AVF Avril sur Loir 83.17 340 *e*P **P 11 08 25.4 +0.1**
comp=Z,15nm,1.0s,mb4.7
AVF Avril sur Loir 83.17 340 *e*P **P 11 08 25.4 +0.1**
AVF pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
SMF Signal de Mont 83.19 340 *e*P **P 11 08 25.7 +0.3**
comp=Z,29nm,1.2s,mb4.9
SMF Signal de Mont 83.19 340 *e*P **P 11 08 25.7 +0.3**
SMF pmax pmax
comp=Z,15nm,1.2s,mb4.9
BGF Bois d'Agland 83.50 340 *e*P **P 11 08 27.5 +0.6**
LPL La Plagne 83.52 337 *e*P **P 11 08 27.6 +0.6**
comp=Z,6.1nm,0.7s,mb4.5
LPL La Plagne 83.52 337 *e*P **P 11 08 27.6 +0.6**
LPL pmax pmax
comp=Z,3.0nm,0.7s,mb4.5
LPG La Plagne 83.53 337 *e*P **P 11 08 27.9 +0.8**
comp=Z,8.7nm,0.7s,mb4.7
LPG La Plagne 83.53 337 *e*P **P 11 08 27.9 +0.8**
LPG pmax pmax
comp=Z,4.0nm,0.6s,mb4.7
TCF Toulx Ste Croi 83.90 341 *e*P **P 11 08 29.0 +0.1**
comp=Z,12nm,1.1s,mb4.6
TCF Toulx Ste Croi 83.90 341 *e*P **P 11 08 29.0 +0.1**
TCF pmax pmax
comp=Z,6.0nm,1.1s,mb4.6
MBDF Montbardon 84.24 337 *e*P **P 11 08 31.3 +0.6**
ORIF Oris-en-Rattie 84.30 338 *e*P **P 11 08 31.4 +0.4**
comp=Z,13nm,0.8s,mb4.8
ORIF *e*R
comp=Z,47nm,23.0s
SBF Sospel 84.86 336 *e*P **P 11 08 33.9 +0.1**
FRF La Foret Royal 85.35 337 *e*P **P 11 08 35.2 -1.1**
LASF Ste Croix 85.60 339 *e*P **P 11 08 37.1 -0.4**
SJPF Ste Jean 87.68 342 *e*P **P 11 08 46.3 -1.4**
comp=Z,46nm,1.4s,mb5.2
SJPF Ste Jean 87.68 342 *e*P **P 11 08 46.3 -1.4**
SJPF pmax pmax
comp=Z,23nm,1.4s,mb5.2

*CSEM **01** 11:14:04.1±0.2, 43.26N×18.39E, h10km, ML2.9, Error ellipse: s-maj=4.0km s-min=3.2km az=67.0*
*PDG **01** 11:14:05.7±0.1, 43.20N×18.46E, h10km±1km*
*NEIC **01** 11:14:05.7, 43.20N×18.46E, h10km, ML2.9(PDG), After PDG.*
*BEO **01** 11:14:05.5±0.4, 43.19N×18.48E, h8km±1km*
ISC 01 11:14:04.6±0.4, 43.23N±0.02×18.44E±0.03, h10km, n21, σ1§17/39, 8C-8D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRY	**Bratogost**	**0.34**	**166**	⇑*i*Pg	**Pg**	**11 14 11.5**	**-0.1**
BRY				*e*Sg	**Sg**	**11 14 16.4**	**+0.1**
UPM	**Unac-Piva**	**0.35**	**94**	⇑*i*Pg	**Pg**	**11 14 11.8**	**0.0**
UPM				*e*Sg	**Sg**	**11 14 17.1**	**+0.6**
UPM	**Unac-Piva**	**0.35**	**94**	⇑*i*Pg	**Pg**	**11 14 11.8**	**0.0**
UPM				*e*Sg	**Sg**	**11 14 17.1**	**+0.5**
TREB	**Trebinje**	**0.52**	**187**	Sn	**Sn**	**11 14 23.3**	**-3.2**
NKY	**Niksic**	**0.59**	**135**	⇑*i*Pg	**Pg**	**11 14 15.6**	**-0.8**
NKY				*e*Sg	**Sg**	**11 14 24.6**	**+0.3**
STON	**Ston**	**0.65**	**237**	*i* Pg	**Pg**	**11 14 16.8**	**-0.9**
STON				*i* Sg	**Sg**	**11 14 26.7**	**+0.4**
PLE	**Pljevlja**	**0.71**	**82**	⇓*i*Pg	**Pg**	**11 14 18.5**	**-0.3**
PLE				*e*Sg	**Sg**	**11 14 29.4**	**+1.1**
HCY	**Herceg Novi**	**0.78**	**177**	⇑*i*Pg	**Pg**	**11 14 19.7**	**-0.7**
HCY				*e*Sg	**Sg**	**11 14 31.9**	**+1.1**
NVSS	**Nova Varos 2**	**0.96**	**73**	⇑*i*Pg	**Pg**	**11 14 25.7**	**+1.8**
NVSS				Sg	**Sg**	**11 14 42.1**	**+5.2**
BUM	**Brajici-Budva**	**0.99**	**160**	⇓*i*Pg	**Pg**	**11 14 23.3**	**-1.1**
BUM				*e*Sg	**Sg**	**11 14 38.3**	**+0.6**
TTG	**Podgorica**	**1.00**	**142**	⇓*i*Pg	**Pg**	**11 14 22.9**	**-1.9**
TTG				*e*Sg	**Sg**	**11 14 38.8**	**+0.7**
IVA	**Berane**	**1.13**	**108**	⇓*i*Pg	**Pg**	**11 14 26.2**	**-1.1**
IVA				*e*Sg	**Sg**	**11 14 43.3**	**+1.0**
PVY	**Plav**	**1.30**	**119**	⇓*i*Pg	**Pg**	**11 14 29.5**	**-1.1**
PVY				*e*Sg	**Sg**	**11 14 48.8**	**+1.0**
ULC	**Ulcinj**	**1.40**	**154**	⇓*i*Pg	**Pg**	**11 14 30.7**	**-1.9**
ULC				*e*Sg	**Sg**	**11 14 52.7**	**+1.4**
DIVS	**Divcibare**	**1.43**	**52**	⇓*i*Pg	**Pg**	**11 14 31.1**	**-2.0**
DIVS				Sg	**Sg**	**11 14 50.8**	**-1.4**
DIVS	**Divcibare**	**1.43**	**52**	Pg	**Pg**	**11 14 31.1**	**-2.0**
DIVS				Sg	**Sg**	**11 14 50.8**	**-1.3**
BLY	**Banja Luka**	**1.77**	**330**	Pn	**Pn**	**11 14 37.5**	**+1.9**
VOY	**Vojsko**	**4.29**	**312**	*e*Pn	**Pn**	**11 15 13.5**	**+2.1**
VOY				*e*(Sn)	**Sn**	**11 16 03.8**	**+1.7**
VOY				*e*		11 16 24.8	
OBKA	**Obir**	**4.29**	**321**	⇑*i*PN	**Pn**	**11 15 11.1**	**-0.4**
OBKA				*i* SN	**Sn**	**11 16 16.0**	**+14**
ARSA	**Arzberg**	**4.52**	**334**	⇑*i*PN	**Pn**	**11 15 13.8**	**-0.9**
ARSA				*i* SN	**Sn**	**11 16 20.8**	**+13**
MOA	**Molln**	**5.47**	**329**	⇓*i*PN	**Pn**	**11 15 27.9**	**-0.3**
MOA				*i*		11 16 33.3	

*NEIC **01** 11:18:35.6, 45.65S×167.04E, h12km, ML3.9(WEL), After WEL.*
WEL 01 11:18:23.3±0.6, 45.71S×165.99E, h5km, ML4.3/10, Error ellipse: s-maj=5.4km s-min=3.5km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.85**	**75**	P*	Pb	11 18 39.3	-0.9
DCZ				S*	Sb	11 18 50.9	-0.8
DCZ	**Deep Cove**	**0.85**	**75**	P	Pb	11 18 39.3	-0.9
DCZ				S	Sg	11 18 45.1	-6.6
WHZ	**Wether Hill Ro**	**1.38**	**99**	PN	Pn	11 18 48.5	-0.9
WHZ				SN	Sn	11 19 07.8	-0.4
MLZ	**Mavora Lakes**	**1.58**	**78**	PN	Pn	11 18 50.9	-1.2
MLZ				SN	Sn	11 19 09.0	-4.1
MLZ	**Mavora Lakes**	**1.58**	**78**	P	Pn	11 18 50.9	-1.2
MSZ	**Milford Sound**	**1.72**	**54**	PN	Pn	11 18 53.1	-1.0
MSZ				SN	Sn	11 19 15.0	-1.6
MSZ	**Milford Sound**	**1.72**	**54**	P	Pn	11 18 53.2	-0.9
WKZ	**Wanaka**	**2.31**	**69**	PN	Pn	11 19 02.8	+0.2
WKZ				SN	Sn	11 19 31.8	+0.1
WKZ	**Wanaka**	**2.31**	**69**	P	Pn	11 19 03.8	+1.2
EAZ	**Earnscleugh**	**2.38**	**80**	PN	Pn	11 19 03.8	+0.1
EAZ	**Earnscleugh**	**2.38**	**80**	P	Pn	11 19 04.4	+0.7
TUZ	**Tuapeka**	**2.56**	**97**	PN	Pn	11 19 06.3	+0.2
TUZ				SN	Sn	11 19 36.0	-2.1
TUZ	**Tuapeka**	**2.56**	**97**	P	Pn	11 19 06.5	+0.3
LBZ	**Lake Benmore**	**3.25**	**68**	PN	Pn	11 19 15.3	-0.7
LBZ	**Lake Benmore**	**3.25**	**68**	*e*P	Pn	11 19 15.3	-0.8
ODZ	**Otahua Downs**	**3.35**	**80**	PN	Pn	11 19 16.2	-1.2
ODZ				SN	Sn	11 19 54.2	-3.9
ODZ	**Otahua Downs**	**3.35**	**80**	P	Pn	11 19 16.2	-1.2
FOZ	**Fox Glacier**	**3.40**	**52**	PN	Pn	11 19 18.9	+0.8
FOZ	**Fox Glacier**	**3.40**	**52**	*e*P	Pn	11 19 18.5	+0.4
RPZ	**Rata Peaks**	**4.12**	**63**	PN	Pn	11 19 26.5	-1.9
RPZ	**Rata Peaks**	**4.12**	**63**	*e*P	Pn	11 19 26.6	-1.8
WVZ	**Waitaha Valley**	**4.30**	**54**	PN	Pn	11 19 29.2	-1.7
WVZ	**Waitaha Valley**	**4.30**	**54**	*e*P	Pn	11 19 29.3	-1.6
MQZ	**McQueen's Vall**	**5.15**	**70**	PN	Pn	11 19 40.0	-3.0
MQZ	**McQueen's Vall**	**5.15**	**70**	*e*P	Pn	11 19 40.0	-3.0
LTZ	**Lake Taylor**	**5.38**	**59**	PN	Pn	11 19 43.7	-2.5
LTZ	**Lake Taylor**	**5.38**	**59**	*e*P	Pn	11 19 43.7	-2.4
DSZ	**Denniston Nort**	**5.78**	**49**	PN	Pn	11 19 49.5	-2.3
DSZ				SN	Sn	11 20 50.9	-8.5
DSZ	**Denniston Nort**	**5.78**	**49**	P	Pn	11 19 50.0	-1.8
DSZ				S	Sn	11 20 50.9	-8.5
THZ	**Tophouse**	**6.37**	**54**	PN	Pn	11 19 57.8	-2.4
THZ	**Tophouse**	**6.37**	**54**	*e*P	Pn	11 19 57.8	-2.4
QRZ	**Quartz Range**	**6.82**	**47**	PN	Pn	11 20 04.2	-2.3
QRZ				SN	Sn	11 21 13.8	-12
QRZ	**Quartz Range**	**6.82**	**47**	*e*P	Pn	11 20 04.2	-2.3
QRZ				S	Sn	11 21 14.0	-11
NNZ	**Nelson**	**7.00**	**53**	PN	Pn	11 20 07.7	-1.4
NNZ	**Nelson**	**7.00**	**53**	*e*P	Pn	11 20 07.7	-1.4

IDC 01 11:23:53.1±1.2, 26.73S×176.08W, mb3.8/4, mb1 4.2/5, mb1mx4.0/13, mbtmp3.9/5, MS3.3/1, Ms1 3.3/1, ms1mx2.8/18, Error ellipse: s-maj=54.6km s-min=22.0km az=141.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.99**	**212**	Pn	Pn	11 24 41.7	-1.0
	63nm,0.3s,baz=260,slow=22,SNR=5.2						
RAO				Sn	Sn	11 25 17.5	-2.3
	192nm,0.3s,baz=103,slow=22,SNR=5.7						

HNR	**Honiara**	**28.46 303**	LR	LR	11 39 21.7
	comp=Z,55nm,18.7s,baz=142,slow=33				
STKA	**Stephens Creek**	**37.09 252**	P	P	11 31 06.3 -0.7
	0.5nm,0.5s,baz=107,slow=14,SNR=4.0				
WRA	**Warramunga Arr**	**45.80 268**	P	P	11 32 16.1 -2.5
	1.6nm,0.7s,baz=105,slow=8.2,SNR=23				
NVAR	**Mina Array Bea**	**84.40 42**	P	P	11 36 27.6 -1.2
	0.5nm,0.7s,baz=225,slow=7.7,SNR=5.5				
TXAR	**Lajitas Array**	**88.97 56**	P	P	11 36 49.7 -1.6
	0.4nm,0.8s,baz=214,slow=3.3,SNR=6.5				
HFS	**Hagfors**	**145.94 351**	PKPbc	PKPbc	11 43 33.9 -0.3
	4.3nm,0.8s,baz=90,slow=1.5,SNR=5.7				

*ISK **01** 11:58:48.5, 39.39N×33.12E, h3km, MD3.5*
*CSEM **01** 11:58:48.5, 39.39N×33.12E, h3km, MD3.5, After ISK*
ISC 01 11:58:49.0±0.5, 39.36N±0.03×33.15E±0.04, h3km, n18, σ0°83/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAMT	**Kaman**	**0.44**	**89**	PG	**Pg**	**11 58 57.8**	**-0.1**
ANTO	**Ankara**	**0.58**	**332**	PG	**Pg**	**11 58 59.7**	**-0.9**
LOD	**Lodumlu**	**0.61**	**331**	PG	**Pg**	**11 59 00.7**	**-0.4**
LOD				SG	**Sg**	**11 59 08.2**	**-1.0**
CDAG	**Cicekdag**	**0.99**	**74**	*i* P	**Pb**	**11 59 07.6**	**-0.8**
CDAG				*i* S	**Sb**	**11 59 21.4**	**-0.1**
KIZT	**Kizilcal**	**1.09**	**244**	PN	**Pn**	**11 59 10.4**	**-0.8**
ELDT	**Eldivan**	**1.15**	**11**	*i* P	**Pb**	**11 59 10.9**	**-0.3**
ELDT				*i* S	**Sb**	**11 59 27.1**	**+0.7**
KDHN	**Kadinhani**	**1.16**	**224**	*i* P	**Pb**	**11 59 11.7**	**+0.3**
KDHN				*i* S	**Sb**	**11 59 27.4**	**+0.7**
CANT	**Cankiri**	**1.30**	**16**	PN	**Pn**	**11 59 13.7**	**-0.4**
CORM	**Corum**	**1.41**	**54**	PN	**Pn**	**11 59 15.5**	**-0.1**
CORM				SN	**Sn**	**11 59 36.1**	**+1.2**
AVNT	**Avonos**	**1.45**	**113**	*i* P	**Pn**	**11 59 17.2**	**+1.0**
AVNT				*i* S	**Sb**	**11 59 32.6**	**-2.5**
SGKT	**Sivrigoynuk**	**1.47**	**326**	*i* P	**Pn**	**11 59 17.1**	**+0.6**
SGKT				*i* S	**Sb**	**11 59 41.4**	**+5.6**
KONT	**Konya--Tatoy**	**1.54**	**204**	*e*PN	**Pn**	**11 59 17.3**	**-0.1**
YOZ	**Yozgat**	**1.71**	**80**	*e*PN	**Pn**	**11 59 20.4**	**+0.5**
ESKT	**Eskisehir**	**1.78**	**276**	*e*PN	**Pn**	**11 59 21.0**	**0.0**
TOS	**Tosya**	**1.81**	**22**	*e*PN	**Pn**	**11 59 21.0**	**-0.3**
SAFT	**Safranbolu**	**1.91**	**350**	*e*PN	**Pn**	**11 59 22.9**	**+0.1**
BNN	**Bunyan**	**2.16**	**103**	*e*PN	**Pn**	**11 59 26.6**	**+0.3**
BALT	**Daday**	**2.18**	**5**	*i* P	**Pn**	**11 59 29.4**	**+2.8**
BALT				*i* S	**Sn**	**11 59 34.6**	**-20**

*CSEM **01** 12:05:48.5, 39.38N×33.10E, h3km, MD3.5, After ISK*
ISK 01 12:05:48.5, 39.38N×33.10E, h3km, MD3.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAMT	**Kaman**	**0.47**	**92**	*i* PG	Pg	12 05 57.8	-0.2
LOD	**Lodumlu**	**0.57**	**333**	*i* PG	Pg	12 06 00.4	+0.5
KIZT	**Kizilcal**	**1.07**	**242**	*i* PG	Pg	12 06 09.7	-0.3
KIZT				*i* SG	Sg	12 06 24.6	+0.3
CANT	**Cankiri**	**1.28**	**18**	PN	Pn	12 06 13.5	+0.2
CORM	**Corum**	**1.42**	**56**	PN	Pn	12 06 15.5	+0.2
KONT	**Konya--Tatoy**	**1.55**	**202**	PN	Pn	12 06 18.5	+1.4
NIG	**Nigde**	**1.74**	**137**	PN	Pn	12 06 21.1	+1.3
YOZ	**Yozgat**	**1.74**	**81**	PN	Pn	12 06 20.5	+0.7
ESKT	**Eskisehir**	**1.75**	**275**	PN	Pn	12 06 21.1	+1.2
TOS	**Tosya**	**1.79**	**23**	PN	Pn	12 06 20.7	0.0
SAFT	**Safranbolu**	**1.88**	**350**	*e*PN	Pn	12 06 23.3	+1.4
BNN	**Bunyan**	**2.20**	**103**	*e*PN	Pn	12 06 27.9	+1.4
GPA	**Golpazari**	**2.33**	**294**	*e*PN	Pn	12 06 29.9	+1.6
ALT	**Altintas**	**2.34**	**263**	*e*PN	Pn	12 06 29.1	+0.6
BYBT	**Boyabat**	**2.44**	**31**	*e*PN	Pn	12 06 31.4	+1.5
HDMB	**Hadim**	**2.46**	**192**	*e*PN	Pn	12 06 31.5	+1.3
ISP	**Isparta**	**2.55**	**234**	*e*PN	Pn	12 06 32.9	+1.5
BZK	**Bozkurt**	**2.66**	**15**	*e*PN	Pn	12 06 34.4	+1.4
TOKT	**Tokat**	**2.81**	**69**	*e*PN	Pn	12 06 36.5	+1.4
KVT	**Kavak**	**2.82**	**52**	*e*PN	Pn	12 06 36.0	+0.7
IKL	**Isikli**	**3.17**	**171**	*e*PN	Pn	12 06 41.5	+1.2

*CSEM **01** 12:27:41.0±0.8, 45.63N×26.54E, h152km±6km, MD3.6/5, Error ellipse: s-maj=8.4km s-min=4.4km az=18.0, After BUC*
BUC 01 12:27:41.0±0.8, 45.63N×26.54E, h152km±6km, MD3.6/5, 6C-3D, Error ellipse: s-maj=8.4km s-min=4.4km az=18.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRI	**Vrincioaia**	**0.27**	**30**	⇑*i*P	P	12 28 01.7	-0.4
VRI				*i* S	S	12 28 17.2	-1.1
BRD	**Bordesti**	**0.35**	**102**	⇑*i*P	P	12 28 03.3	+0.9
BRD				S	S	12 28 20.8	+1.9
MLR	**Muntele Rosu**	**0.44**	**252**	⇑*i*P	P	12 28 02.5	-0.3
MLR				*i* S	S	12 28 18.7	-0.8
ISR	**Istrita**	**0.51**	**179**	⇑*i*P	P	12 28 03.6	+0.5
ISR				*i* S	S	12 28 20.5	+0.4
SNX	**Sinaia**	**0.77**	**249**	⇑*i*P	P	12 28 04.8	+0.3
SNX				S	S	12 28 23.6	+1.0
VOIR		**1.06**	**260**	⇓*i*P	P	12 28 06.3	-0.4
VOIR				S	S	12 28 25.2	-1.3
CFR	**Carcaliu**	**1.22**	**111**	⇓*i*P	P	12 28 08.1	-0.1
CFR				*i* S	S	12 28 28.3	-0.8
BUC	**Bucharest**	**1.26**	**194**	*i* S	S	12 28 30.6	+0.8
BUC1	**Bucharest**	**1.33**	**196**	*i* S	S	12 28 30.6	-0.6
HARR	**Harsova**	**1.36**	**133**	⇑*i*P	P	12 28 09.8	+0.1
HARR				*i* S	S	12 28 31.0	-0.8
TIRR	**Tirgusor**	**1.77**	**131**	⇓*i*P	P	12 28 13.9	-0.1
TIRR				*i* S	S	12 28 38.0	-1.4

*IDC **01** 12:57:01.6±3.5, 5.71S×151.35E, h52km±34km, mb3.8/5, mb1 4.1/7, mb1mx3.8/14, mbtmp4.2/7, ML3.8/2, MS3.2/4, Ms1 3.2/4, ms1mx3.1/19, Error ellipse: s-maj=34.4km s-min=19.4km az=147.0*
*NEIC **01** 12:57:09.5±1.8, 5.81S×150.88E, h100km±18km, mb4.4/1, Error ellipse: s-maj=25.8km s-min=13.2km az=160.0*
ISC 01 12:57:01.3±2.7, 5.8S±0.2×151.4E±0.1, h69km±25km, n15, σ0°74/15, mb3.8/5, 1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.54**	**229**	P	**P**	**12 58 23.1**	**+0.1**
	6.1nm,0.3s,baz=27,slow=8.7,SNR=24						
PMG				S	**S**	**12 59 23.8**	**-2.4**
	11nm,0.3s,baz=141,slow=22,SNR=4.8						
PMG				LR	LR	13 00 42.0	
	comp=Z,133nm,19.1s,baz=147,slow=40						
PMG	**Port Moresby**	**5.54**	**229**	⇓*i*Pn	**P**	**12 58 23.9**	**+0.9**
PMG				*e*Sn	**S**	**12 59 27.1**	**+0.9**
PMG				LR	LR	13 00 42.0	
HNR	**Honiara**	**9.20**	**114**	P	**P**	**12 59 13.2**	**-0.3**
	5.5nm,0.3s,baz=288,slow=20,SNR=2.3						
HNR				LR	LR	13 02 07.4	
	comp=Z,86nm,21.0s,baz=184,slow=33						
HNR	**Honiara**	**9.20**	**114**	P	**P**	**12 59 26.1**	**+13**
HNR				LR	LR	13 02 07.4	
CTA	**Charters Tower**	**15.08**	**199**	LR	LR	13 05 21.9	
	comp=Z,147nm,21.0s,baz=224,slow=33						
WRAB	**Tennant Creek**	**21.75**	**228**	*e*P	**P**	**13 01 48.6**	**-0.1**
WRAB				*e*		13 02 03.3	
WB2	**Warramunga Arr**	**21.75**	**228**	*e*P	**P**	**13 01 48.6**	**-0.1**
DZM	**Mont Dzumac**	**21.76**	**140**	LR	LR	13 08 06.5	
	comp=Z,104nm,19.4s,baz=87,slow=30						
WRA	**Warramunga Arr**	**21.76**	**228**	P	**P**	**13 01 48.3**	**-0.5**
	1.3nm,0.4s,mb3.6,baz=54,slow=10,SNR=21						
WRA				PcP	PcP	13 05 48.8	+0.9
	0.5nm,0.5s,baz=41,slow=1.8,SNR=4.7						
STKA	**Stephens Creek**	**27.54**	**198**	P	**P**	**13 02 44.5**	**+0.8**
	2.2nm,0.8s,mb3.7,baz=344,slow=7.9,SNR=4.1						
FITZ	**Fitzroy Crossi**	**27.98**	**242**	*e*P	**P**	**13 02 47.3**	**-0.6**
	9.2nm,0.8s,mb4.4						
FITZ	**Fitzroy Crossi**	**27.98**	**242**	P	**P**	**13 02 47.3**	**-0.6**
	4.0nm,0.3s,mb4.5,baz=51,slow=5.5,SNR=12						
MBWA	**Marble Bar**	**34.29**	**240**	*e*P	**P**	**13 03 43.8**	**+0.7**
SONM	**Songino Array**	**66.43**	**329**	P	**P**	**13 07 46.0**	**+0.6**
	0.4nm,0.7s,mb3.3,baz=117,slow=6.4,SNR=3.4						
ILAR	**Eielson Array**	**83.58**	**22**	P	**P**	**13 09 22.1**	**-0.8**
	0.8nm,0.7s,mb3.7,baz=253,slow=4.8,SNR=13						

IDC 01 12:58:32.5±71.0, 1.57N×96.92E, mb3.7/3, mb1 3.8/3, mb1mx3.5/18, mbtmp3.7/3, Error ellipse: s-maj=1357.0km s-min=158.6km az=175.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**46.81**	**9**	P	P	13 07 04.0	-1.8
	0.5nm,0.6s,baz=180,slow=7.4,SNR=6.3						
MKAR	**Makanchi Array**	**46.82**	**346**	P	P	13 07 03.9	-2.0
	0.3nm,0.5s,baz=170,slow=7.4,SNR=4.1						
ZAL	**Zalesovo**	**53.14**	**351**	P	P	13 07 52.0	-2.3
	0.9nm,0.4s,baz=338,slow=5.5,SNR=3.4						

*NNC **01** 12:59:23.1±4.8, 41.26N×77.03E, mpv3.3, Error ellipse: s-maj=133.2km s-min=39.3km az=32.0*
KNET 01 12:59:20.0±1.0, 41.47N×77.20E, ml3.0, 7C-8D, Error ellipse: s-maj=8.9km s-min=5.7km az=50.0, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**1.05**	**318**	⇓P	Pb	12 59 39.5	-1.3
	19nm,0.1s,SNR=13						
ULHL				⇓S	Sb	12 59 56.8	+1.8
	40nm,0.2s						
KZA	**Kyzart**	**1.58**	**293**	⇓P	Pn	12 59 49.8	+0.4
	61nm,0.2s,SNR=88						
KZA				⇓S	Sb	13 00 13.7	+3.5
	134nm,0.4s						
TKM2	**Tokmak 2**	**1.88**	**321**	⇑P	Pn	12 59 54.6	+1.0
	29nm,0.3s,SNR=10						
TKM2				⇑S	Sn	13 00 22.4	+4.1
	65nm,0.2s						
KBK	**Karagaybulak**	**2.05**	**306**	⇓P	Pn	12 59 58.1	+1.9
	22nm,0.2s,SNR=18						
KBK				⇑S	Sn	13 00 29.0	+6.1
	74nm,0.3s						
AAK	**Ala-Archa**	**2.33**	**301**	⇓P	Pn	13 00 03.8	+3.8
	22nm,0.2s,SNR=13						
AAK				⇓S	Sn	13 00 35.9	+6.1
	60nm,0.4s						
AAK	**Ala-Archa**	**2.33**	**301**	⇑Pn	Pn	13 00 03.0	+3.0
	7.6nm,0.3s,baz=123						
AAK				⇑Lg		13 00 36.8	
	32nm,0.5s,baz=168						
CHMS	**Chumysh**	**2.38**	**311**	⇑P	Pn	13 00 03.6	+2.8
	9.9nm,0.2s,SNR=8.3						
KK31	**Karatay Array**	**5.22**	**290**	⇓Pg	Pg	13 00 56.8	-7.4
	3.6nm,0.8s,baz=112,slow=18,SNR=18						
KK31				⇑Lg		13 02 09.1	
	3.8nm,0.6s,baz=119,slow=27,SNR=3.2						

*IDC **01** 13:17:32.5±0.6, 1.18N×97.30E, mb4.4/19, mb1 4.5/19, mb1mx4.4/26, mbtmp4.4/19, MS4.2/14, Ms1 4.2/14, ms1mx4.0/28, Error ellipse: s-maj=20.7km s-min=12.2km az=44.0*
*BJI **01** 13:17:35.3, 1.04N×97.35E, h36km, mB4.9, mb4.9, Ms4.8, Msz4.6*
*MOS **01** 13:17:35.8±0.8, 1.23N×97.17E, h33km, mb4.9/28, MS4.5/8, Error ellipse: s-maj=15.3km s-min=7.1km az=102.1*
*HRVD **01** 13:17:37.2±2.2, 1.41N×97.35E, h32km±2km, MW4.7/20, Centroid moment Tensor Solution. LP body waves: s8,c11;Mantle waves: s20,c34; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.70±.20; $M_{\theta\theta}$-0.27±.11; $M_{\phi\phi}$-0.43±.15; $M_{r\theta}$0.52±.15; $M_{\theta\phi}$1.05±.07; $M_{\phi r}$-0.15±.25; Best double couple: $M_0$1.269×10^{16} NP1:φ354°, δ47°, λ148°. NP2:φ×106°, δ67°, λ48°. Principal axes: T 1.034, Plg49°, Azm330°; N .471, Plg39°, Azm126°; P -1.505, Plg12°, Azm226°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **01** 13:17:37.2±0.3, 1.22N×97.15E, h30km, mb4.9/15 Error ellipse: s-maj=8.8km s-min=6.7km az=214.0*
ISC 01 13:17:35.2±0.4, 1.18N±0.05×97.18E±0.04, h30km, h30km±1.1km: pP-P, n136, σ1°02/139, mb4.7/58, MS4.5/33, 7C-3D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.12**	**49**	P	**Pn**	**13 18 52.7**	**+0.7**
KULM	**Kulim**	**5.36**	**40**	*e*P	**Pn**	**13 18 55.1**	**-0.2**
KGM	**Kluang**	**6.19**	**82**	P	**Pn**	**13 19 09.1**	**+2.0**
SNG	**Songkhla**	**6.88**	**30**	P	**Pn**	**13 19 16.0**	**-0.8**
	1μm,1.0s						
KSM	**Kuching**	**13.13**	**89**	*e*P	**P**	**13 20 44.9**	**+2.4**
KSM				*e*		13 20 54.4	
KKTK	**Khon Kaen**	**16.06**	**20**	P	**P**	**13 21 23.0**	**+2.2**
BDT	**Bhumibol Dam**	**16.07**	**6**	P	**P**	**13 21 27.0**	**+6.1**
KKM	**Kota Kinabalu**	**19.60**	**75**	P	**P**	**13 22 04.4**	**+0.1**
KKM	**Kota Kinabalu**	**19.60**	**75**	*e*P	**P**	**13 22 03.5**	**-0.8**
TSM	**Tawau**	**20.90**	**81**	P	**P**	**13 22 18.3**	**+0.4**
QIZ	**Qiongzhong**	**21.65**	**34**	*e*P	**P**	**13 22 25.3**	**-0.2**
QIZ				S	**S**	**13 26 26.2**	**+7.6**
QIZ				LR	LR		
	comp=N,811nm,15.6s,MS4.5						
QIZ				LR	LR		
	comp=E,998nm,14.2s,MS4.5						
QIZ				LR	LR		
	comp=Z,1μm,13.0s,MS4.4						
KMI	**Kunming**	**24.40**	**12**	P	**P**	**13 22 54.5**	**+2.0**
KMI				AP		13 23 00.9	
KMI				XP		13 23 03.7	
KMI				PP	PP	13 23 31.4	+3.2
KMI				S	**S**	**13 27 10.2**	**+2.8**
KMI				XS		13 27 21.7	
KMI				SS	SS	13 28 04.1	+1.8
KMI				AMB	AMB		
	comp=Z,66nm,1.4s,mb4.9						
KMI				AMB	AMB		
	comp=Z,321nm,3.1s						
KMI				LR	LR		
	comp=N,2μm,15.7s,MS4.8						
KMI				LR	LR		
	comp=E,1μm,14.7s,MS4.8						
KMI				LR	LR		
	comp=Z,2μm,15.4s,MS4.8						
KMI	**Kunming**	**24.40**	**12**	P	**P**	**13 22 54.5**	**+2.0**
	comp=Z,66nm,1.4s,mb4.9						
KMI				pP		13 23 00.9	
KMI				sP		13 23 03.7	
KMI				PP	PP	13 23 31.4	+3.2
KMI				PPP	PPP	13 23 40.7	+2.1
KMI				S	**S**	**13 27 10.2**	**+2.8**
KMI				sS		13 27 21.7	
KMI				SS	SS	13 28 04.1	+1.8
KMI				LR	LR		
	comp=Z,2μm,15.4s,MS4.8						
KMI	**Kunming**	**24.40**	**12**	P	**P**	**13 22 54.5**	**+2.0**
KMI				*SP		13 23 03.7	
KMI						13 23 31.4	
KMI				PPP	PPP	13 23 40.7	+2.1
KMI				S	**S**	**13 27 10.2**	**+2.8**
KMI				*SS		13 27 21.7	
KMI				SS	SS	13 28 04.1	+1.8
KMI				pmax	pmax		
	comp=Z,66nm,1.4s,mb4.9						
KMI				MLR	MLR		
	comp=Z,2μm,15.4s,MS4.8						
HYB	**Hyderabad**	**24.41**	**312**	*e*P		13 23 04.0	
GYA	**Guiyang**	**26.74**	**19**	⇓*i*P	**P**	**13 23 14.2**	**-0.2**
GYA				AP	pP	13 23 23.4	+0.3
GYA				XP	sP	13 23 27.8	+0.8
GYA				PP	PP	13 24 01.6	+2.3
GYA				S	**S**	**13 27 47.4**	**+1.1**
GYA				AMB	AMB		
	comp=Z,30nm,1.1s,mb4.7						
GYA				AMB	AMB		
	comp=Z,360nm,4.5s						
GYA				LR	LR		
	comp=N,2μm,15.3s,MS4.7						
GYA				LR	LR		
	comp=E,630nm,13.5s,MS4.7						
GYA				LR	LR		
	comp=Z,2μm,13.2s,MS4.9						
JIRN	**Jiri**	**28.36**	**339**	*e*P	**P**	**13 23 30.4**	**+1.3**
	comp=Z,83nm,1.0s,mb5.3						
PKI	**Pulchoki**	**28.57**	**338**	*e*P	**P**	**13 23 31.6**	**+0.7**
	comp=Z,10nm,0.3s,mb5.0						
DMN	**Daman**	**28.72**	**337**	*e*P	**P**	**13 23 33.2**	**+0.9**
	comp=Z,66nm,1.1s,mb5.3						
KKN	**Kakani**	**28.81**	**338**	*e*P	**P**	**13 23 33.8**	**+0.6**
	comp=Z,134nm,1.5s,mb5.5						
LSA	**Lhasa**	**28.94**	**349**	P	**P**	**13 23 35.2**	**+0.9**
LSA	**Lhasa**	**28.94**	**349**	*e*P	**P**	**13 23 34.7**	**+0.4**
	comp=Z,9.7nm,0.7s,mb4.6						
LSA	**Lhasa**	**28.94**	**349**	*e*P	**P**	**13 23 34.7**	**+0.4**
LSA				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.7						
GKN	**Gorkha**	**29.25**	**337**	*e*P	**P**	**13 23 37.5**	**+0.4**
	comp=Z,124nm,1.3s,mb5.5						
KOLN	**Koldanda**	**29.47**	**335**	*e*P	**P**	**13 23 39.4**	**+0.3**
	comp=Z,37nm,0.9s,mb5.1						
CD2	**Chengdu**	**30.22**	**11**	*e*P	**P**	**13 23 43.4**	**-2.3**
ENH	**Enshi**	**31.21**	**21**	*e*P	**P**	**13 23 52.5**	**-1.9**
	comp=Z,53nm,1.1s,mb5.3						
QZH	**Quanzhou**	**31.40**	**40**	*e*P	**P**	**13 23 56.8**	**+0.6**
QZH				S	**S**	**13 29 05.0**	**+4.4**
QZH				LR	LR		
	comp=N,1μm,12.0s,MS4.9						
QZH				LR	LR		
	comp=E,1μm,12.3s,MS4.9						
QZH				LR	LR		
	comp=Z,2μm,14.0s,MS4.9						
FITZ	**Fitzroy Crossi**	**33.93**	**126**	P	**P**	**13 24 17.6**	**-0.6**
	comp=Z,6.3nm,0.8s,mb4.6,baz=169,slow=2.1,SNR=6.3						
LZH	**Lanzhou**	**35.28**	**9**	⇑P	**P**	**13 24 29.5**	**-0.2**
LZH				AP	pP	13 24 38.6	+0.1
LZH				XP	sP	13 24 42.8	+0.5
LZH				*e*PP	PP	13 25 49.5	+0.3
LZH				*e*S	**S**	**13 30 01.5**	**+0.7**
LZH				XS		13 30 16.7	
LZH				SS	SS	13 32 19.5	+1.0
LZH				AMB	AMB		
	comp=Z,42nm,1.4s,mb5.2						
LZH				AMB	AMB		
	comp=Z,93nm,5.2s						
LZH				LR	LR		
	comp=N,957nm,13.2s						
LZH				LR	LR		
	comp=Z,1μm,16.9s,MS4.7						
LZH	**Lanzhou**	**35.28**	**9**	⇑P	**P**	**13 24 29.5**	**-0.2**
	comp=Z,42nm,1.4s,mb5.2						
LZH				pP	pP	13 24 38.6	+0.1
LZH				sP	sP	13 24 42.8	+0.5
LZH				*e*PP	PP	13 25 49.5	+0.3
LZH				*e*S	**S**	**13 30 01.5**	**+0.7**
LZH				sS		13 30 16.7	
LZH				SS	SS	13 32 19.5	+1.0
LZH				LR	LR		
	comp=Z,1μm,16.9s,MS4.7						
NJ2	**Nanjing**	**36.89**	**31**	*e*P	**P**	**13 24 42.3**	**-1.0**
NJ2				AP	pP	13 24 51.2	-1.0
NJ2				XP	sP	13 24 56.4	+0.5
NJ2				PP	PP	13 26 07.5	-2.0
NJ2				S	**S**	**13 30 24.0**	**-1.6**
NJ2				XS		13 30 39.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,426nm,5.2s						
NJ2				LR	LR		
	comp=N,1μm,11.2s						
NJ2				LR	LR		
	comp=E,610nm,9.2s						
NJ2				LR	LR		
	comp=Z,6μm,13.4s,MS5.6						
SSE	**Sheshan**	**37.44**	**35**	*e*P	**P**	**13 24 46.1**	**-1.8**
SSE				AP	pP	13 24 56.3	-0.5
SSE				XP	sP	13 25 00.8	+0.3
SSE				PP	PP	13 26 12.1	-4.1
SSE				S	**S**	**13 30 32.5**	**-1.5**
SSE				XS		13 30 49.9	
SSE				AMB	AMB		
	comp=Z,36nm,0.6s,mb5.4						
SSE				AMB	AMB		
	comp=Z,53nm,4.8s						
SSE				LR	LR		
	comp=N,518nm,17.1s,MS4.4						
SSE				LR	LR		
	comp=E,161nm,17.1s,MS4.4						
SSE				LR	LR		
	comp=Z,628nm,12.7s,MS4.6						
SSE	**Sheshan**	**37.44**	**35**	*e*P	**P**	**13 24 46.1**	**-1.8**
	comp=Z,36nm,0.6s,mb5.4						
SSE				pP	pP	13 24 56.3	-0.5
SSE				sP	sP	13 25 00.8	+0.3
SSE				PP	PP	13 26 12.1	-4.1
SSE				S	**S**	**13 30 32.5**	**-1.5**
SSE				sS		13 30 49.9	
SSE				SS	SS	13 33 17.5	+10
SSE				LR	LR		
	comp=Z,630nm,12.7s,MS4.6						
GTA	**Gaotai**	**38.13**	**3**	*e*P	**P**	**13 24 53.7**	**+0.1**
GTA				AP	pP	13 25 01.9	-0.6
GTA				XP	sP	13 25 05.8	-0.4
GTA				PP	PP	13 26 24.5	+0.2
GTA				PCP	PcP	13 27 09.2	+0.6
GTA				S	**S**	**13 30 43.4**	**-0.9**
GTA				SCP		13 30 52.3	
GTA				XS		13 30 59.8	
GTA				SS	SS	13 33 22.0	-0.8
GTA				SCS	ScS	13 35 01.3	+0.3
GTA				AMB	AMB		
	comp=Z,19nm,1.0s,mb4.8						
GTA				AMB	AMB		
	comp=Z,91nm,6.8s						
GTA				LR	LR		
	comp=N,524nm,15.2s,MS4.6						
GTA				LR	LR		
	comp=E,469nm,14.1s,MS4.6						
GTA				LR	LR		
	comp=Z,628nm,15.2s,MS4.5						
JOW	**Kunigami**	**39.27**	**47**	P	**P**	**13 25 03.9**	**+0.6**
	comp=Z,16nm,0.6s,mb4.9,baz=233,slow=9.4,SNR=15						
JOW				LR	LR	13 39 59.1	
	comp=Z,145nm,21.8s,MS3.8,baz=286,slow=34						
BTO	**Baotou**	**40.94**	**15**	*e*P	**P**	**13 25 18.0**	**+1.1**
BTO				AMB	AMB		
	comp=Z,5.0nm,0.3s,mb4.6						
BTO				LR	LR		
	comp=N,562nm,13.7s,MS4.8						
BTO				LR	LR		
	comp=E,721nm,15.7s,MS4.8						
HHC	**Hu-ho-hao-te**	**41.59**	**16**	*e*P	**P**	**13 25 23.1**	**+0.9**
HHC				AP	pP	13 25 31.9	+0.8
HHC				XP	sP	13 25 37.0	+2.2
HHC				PP	PP	13 27 06.9	+5.5
HHC				PCP	PcP	13 27 20.9	+1.2
HHC				PCS		13 31 11.6	
HHC				S	**S**	**13 31 37.8**	**+1.6**
HHC				XS		13 31 54.1	
HHC				SS	SS	13 34 36.4	-0.2
HHC				AMB	AMB		
	comp=Z,14nm,1.1s,mb4.5						
HHC				AMB	AMB		
	comp=Z,118nm,7.7s						
HHC				LR	LR		
	comp=N,774nm,16.0s,MS4.8						
HHC				LR	LR		
	comp=E,766nm,17.3s,MS4.8						
HHC				LR	LR		
	comp=Z,737nm,16.6s,MS4.6						
WRA	**Warramunga Arr**	**42.04**	**122**	P	**P**	**13 25 26.4**	**+0.1**
	comp=Z,5.6nm,0.7s,mb4.3,baz=302,slow=9.1,SNR=54						
WRA				S	**S**

comp=Z,134nm,6.0s
WMQ LR LR
comp=N,126nm,20.0s,MS4.2
WMQ LR LR
comp=E,261nm,22.0s,MS4.2
WMQ LR LR
comp=Z,185nm,24.0s,MS3.9
JNU Nakatsue 44.84 41 P P 13 25 47.5 -1.3
comp=Z,11nm,0.9s,mb4.7,baz=110,slow=8.8,SNR=5.2
ULHL Ulahol 45.01 338 P P 13 25 51.4 +1.3
SNR=5.4
TKM2 Tokmak 2 45.83 338 P P 13 25 57.7 +1.2
SNR=8.1
KS15 Wonju Array Si 45.85 35 *e*P **P 13 25 56.6 -0.2**
KBK Karagaybulak 45.85 337 P P 13 25 58.1 +1.4
SNR=6.2
AML Almayashu 45.91 336 P P 13 25 59.0 +1.8
SNR=10
AAK Ala-Archa 46.01 337 *e*P **P 13 25 57.9 -0.1**
comp=Z,3.3nm,0.8s,mb4.3
AAK *e* 13 26 03.1
AAK Ala-Archa 46.01 337 *e*P **P 13 25 57.9 -0.1**
AAK *e* 13 26 03.1
AAK pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
FRU Bishkek 46.13 337 *e*P **P 13 26 04.0 +5.1**
FRU *e* pP 13 26 12.0 +4.1
USP Ospenovka 46.55 337 P P 13 26 03.2 +1.0
SNR=13
SNY Shenyang 46.93 27 ⇓P **P 13 26 05.2 0.0**
SNY S **S 13 32 57.9 +4.4**
SNY AMB AMB
comp=Z,20nm,1.1s,mb5.0
SNY LR LR
comp=N,470nm,16.8s,MS4.7
SNY LR LR
comp=E,490nm,16.2s,MS4.7
SNY LR LR
comp=Z,670nm,15.5s,MS4.7
SONM Songino Array 47.16 8 P P 13 26 07.3 +0.3
comp=Z,7.6nm,0.9s,mb4.6,baz=188,slow=8.7,SNR=25
SONM PcP PcP 13 27 38.5 -0.2
comp=Z,1.5nm,0.5s,baz=194,slow=4.8,SNR=4.7
SONM Songino Array 47.16 8 P P 13 26 07.3 +0.4
SONM 13 27 38.5
SONM pmax pmax
comp=Z,8.0nm,0.9s
SONM pmax pmax
comp=Z,2.0nm,0.5s
MK02 Makanchi Array 47.23 346 P P 13 26 07.6 0.0
MK02 pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
MKAR Makanchi Array 47.26 346 P P 13 26 08.1 +0.3
comp=Z,4.2nm,0.5s,mb4.6,baz=162,slow=8.6,SNR=40
MKAR LR LR 13 50 07.9
comp=Z,135nm,21.8s,MS3.9,baz=175,slow=41
MKAR Makanchi Array 47.26 346 P P 13 26 08.1 +0.3
MKAR pmax pmax
comp=Z,4.0nm,0.5s
MKAR MLR MLR
comp=Z,135nm,21.8s
KKAR Karatay Array 48.07 334 *i* P **P 13 26 14.0 -0.2**
ZAK Zakamensk 49.30 5 *e*P **P 13 26 23.2 -0.3**
ZAK pmax pmax
comp=Z,2.0nm,1.0s,mb4.1
CN2 Changchun 49.33 27 *e*P **P 13 26 22.5 -1.4**
CN2 *e*XP sP 13 26 36.2 -0.3
CN2 *e*PP PP 13 28 17.8 -0.4
CN2 *e*S **S 13 33 26.5 -0.8**
CN2 AMB AMB
comp=Z,20nm,0.9s,mb5.2
CN2 AMB AMB
comp=Z,170nm,4.0s
CN2 LR LR
comp=N,620nm,14.0s,MS4.8
CN2 LR LR
comp=E,310nm,14.0s,MS4.8
CN2 LR LR
comp=Z,610nm,17.0s,MS4.7
TLY Talaya 50.62 5 *e*P **P 13 26 33.5 -0.1**
comp=Z,2.7nm,0.8s,mb4.2
TLY Talaya 50.62 5⇑*i*P **P 13 26 34.1 +0.5**
TLY pmax pmax
comp=Z,10.0nm,1.7s,mb4.5
HIA Hailar 51.67 19 *e*P **P 13 26 41.4 -0.2**
comp=Z,21nm,1.1s,mb5.0
HIA Hailar 51.67 19 *e*P **P 13 26 41.4 -0.2**
HIA pmax pmax
comp=Z,21nm,1.1s
MJAR Matsushiro Arr 51.72 42 P P 13 26 41.9 -0.3
comp=Z,3.0nm,1.0s,mb4.2,baz=226,slow=9.5,SNR=8.2
MJAR PcP PcP 13 27 54.9 -0.6
comp=Z,0.7nm,0.4s,baz=229,slow=5.6,SNR=4.0
MJAR LR LR 13 48 49.0
comp=Z,160nm,20.9s,MS4.0,baz=285,slow=36
MJAR Matsushiro Arr 51.72 42 P P 13 26 41.9 -0.3
MJAR 13 27 54.9
MJAR pmax pmax
comp=Z,3.0nm,1.0s
MJAR pmax pmax
comp=Z,1.0nm,0.4s
MJAR MLR MLR
comp=Z,160nm,20.9s
KURK Kurchatov 51.81 345 *e*P **P 13 26 42.0 -0.7**
comp=Z,24nm,1.3s,mb5.0
KURK Kurchatov 51.81 345 *e*P **P 13 26 42.0 -0.7**
KURK pmax pmax
comp=Z,24nm,1.3s,mb5.0
MDJ Mudanjiang 51.90 29 P P 13 26 44.1 +0.7
MDJ AP pP 13 26 52.9 +0.4
MDJ XP sP 13 26 57.3 +1.3
MDJ PP PP 13 28 41.2 -0.8
MDJ S **S 13 34 08.0 +5.3**
MDJ AMB AMB
comp=Z,13nm,1.2s,mb4.7
MDJ AMB AMB
comp=Z,115nm,3.3s
MDJ LR LR
comp=N,132nm,20.7s,MS4.2
MDJ LR LR
comp=E,146nm,17.8s,MS4.2
MDJ LR LR
comp=Z,276nm,17.8s,MS4.3
CIT Chita 52.50 13 *e*P **P 13 26 48.0 +0.2**
CIT pmax pmax
comp=Z,45nm,1.6s,mb5.2
STKA Stephens Creek 53.36 132 *e*P **P 13 26 55.7 +1.2**
comp=Z,3.6nm,0.7s,mb4.4
STKA Stephens Creek 53.36 132 P P 13 26 55.1 +0.7
comp=Z,4.4nm,0.7s,mb4.5,baz=317,slow=5.9,SNR=15
ZAL Zalesovo 53.57 351 P P 13 26 54.9 -0.8
comp=Z,7.6nm,0.9s,mb4.6,baz=301,slow=6.1,SNR=34
ZAL Zalesovo 53.57 351 P P 13 26 54.9 -0.8
ZAL Zalesovo 53.57 351 *i* P **P 13 26 55.7 0.0**
ZAL pmax pmax
comp=Z,8.0nm,0.9s
NVS Novosibirsk 54.70 350⇑*i*P **P 13 27 02.2 -1.8**
NVS *e* 13 34 37.9
NVS pmax pmax
comp=Z,14nm,1.0s,mb5.0
NVS pmax pmax
comp=N,6.0nm,1.1s
NVS pmax pmax
comp=E,6.0nm,0.9s
BVA0 Borovoye Array 56.26 341 *i* P **P 13 27 14.1 -1.2**
BVA0 pmax pmax
comp=Z,2.0nm,1.2s,mb4.0
BVAR Borovoye Array 56.26 341 P P 13 27 14.6 -0.7
comp=Z,6.5nm,0.8s,mb4.7,baz=143,slow=7.4,SNR=28
BVAR Borovoye Array 56.26 341 P P 13 27 14.6 -0.7
BVAR pmax pmax
comp=Z,7.0nm,0.8s
KLR Kul'dur 56.28 27 *e*P **P 13 27 13.0 -2.5**
KLR MLR MLR
comp=N,500nm,13.0s
KLR MLR MLR
comp=Z,700nm,13.0s,MS4.9
AB31 Akbulak array 57.52 332 *i* P **P 13 27 23.0 -1.4**
AB31 pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
BOD Bodaibo 58.03 11 *e*P **P 13 27 26.6 -1.2**
BOD pmax pmax
comp=Z,14nm,1.0s,mb5.0
YSS Yuzh-Sakhalins 60.38 34 *e*P **P 13 27 43.7 -0.4**
comp=Z,30nm,1.1s,mb5.2
YSS Yuzh-Sakhalins 60.38 34⇑*i*P **P 13 27 43.8 -0.4**
YSS pmax pmax
comp=Z,33nm,1.3s,mb5.2
GNI Garni 61.30 316 *e*P **P 13 27 50.4 -0.1**
GNI pmax pmax
comp=Z,22nm,1.7s
SVE Sverdlovsk 62.70 338 *e*P **P 13 27 59.0 -0.7**
SVE *e* 13 28 05.0
SVE MLR MLR
comp=N,200nm,14.0s,MS4.6
SVE MLR MLR
comp=E,200nm,14.0s,MS4.6
SVE MLR MLR
comp=Z,200nm,14.0s,MS4.4
ARU Arti 63.20 337 *e*P **P 13 28 01.6 -1.3**
comp=Z,13nm,1.3s,mb4.9
ARU Arti 63.20 337⇑*i*P **P 13 28 01.8 -1.1**
ARU *e* 13 28 38.9
ARU *e* 13 30 19.7
ARU *e*PPP PPP 13 31 47.5 -7.2
ARU *e*S **S 13 36 32.9 +2.2**
ARU *e*SS SS 13 40 38.5 -0.5
ARU pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
KIV Kislovodsk 64.31 319 *e*P **P 13 28 09.8 -0.7**
KIV pmax pmax
comp=Z,12nm,1.0s,mb4.9
KIV pmax pmax
comp=N,11nm,0.8s
KIV pmax pmax
comp=E,9.0nm,0.8s
ASF Jabal al Asfar 64.46 305 LR LR 13 58 49.0
comp=E,231nm,19.0s,MS4.4,baz=339,slow=38
MALT Malatya 65.13 312 P P 13 28 14.3 -1.6
YAK Yakutsk 65.45 16 *e*P **P 13 28 16.0 -1.4**
comp=E,28nm,0.9s,mb5.3
YAK Yakutsk 65.45 16 *e*P **P 13 28 16.4 -1.1**
YAK *e**PP pP 13 28 24.4 -2.3
YAK *e* 13 28 46.6
YAK *e* 13 30 42.2
YAK *e*S S 13 37 04.2 +5.8
YAK *e*SS SS 13 41 15.7 +2.1
YAK *e*SSS SSS 13 44 07.6 +0.9
YAK pmax pmax
comp=N,7.0nm,1.0s
YAK pmax pmax
comp=Z,20nm,1.0s,mb5.1
YAK pmax pmax
comp=E,5.0nm,1.1s
YAK pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
YAK smax
comp=E,2.0nm,1.0s
YAK MLR MLR
comp=Z,291nm,15.0s,MS4.6
YAK MLR MLR
comp=N,159nm,12.0s,MS4.5
YAK MLR MLR
comp=E,120nm,13.0s,MS4.5
MATP Matopo 70.50 248 P P 13 28 51.2 +1.5
comp=E,4.3nm,0.9s,mb4.4,baz=81,slow=5.1,SNR=8.3
MATP LR LR 13 54 13.5
comp=E,167nm,18.7s,MS4.3,baz=68,slow=31
MATP Matopo 70.50 248 P P 13 28 51.2 +1.5
MATP LR LR 13 54 13.4
ISP Isparta 70.98 310 *i* P **P 13 28 51.0 -1.4**
MA2 Magadan 71.36 26⇑*i*P **P 13 28 53.2 -1.1**
MA2 pmax pmax
comp=Z,26nm,1.7s,mb4.9
OBN Obninsk 72.63 328⇓*i*P **P 13 29 01.5 -0.4**
OBN *i* pP 13 29 12.6 +1.4
OBN pmax pmax
comp=Z,27nm,2.5s,mb4.7
OBN MLR MLR
comp=Z,100nm,18.0s,MS4.1
MAW Mawson 72.69 193 LR LR 13 57 16.8
comp=Z,148nm,20.1s,MS4.3,baz=48,slow=33
TIXI Tiksi 73.21 10 *i* P **P 13 29 05.2 +0.2**
SEY Seymchan 73.79 23 *e*P **P 13 29 08.3 -0.2**
SEY 13 29 24.0
SEY *e*S S 13 38 25.7 -11
SEY *e*SS SS 13 43 23.9 +1.2
SEY *e*SSS SSS 13 46 37.2 +2.9
SEY pmax pmax
comp=Z,20nm,1.2s,mb4.9
SEY MLR MLR
comp=Z,500nm,22.0s,MS4.8
SEY MLR MLR
comp=N,110nm,17.0s
SEY MLR MLR
comp=E,360nm,23.0s
APE Apeiranthos 74.69 308 *e*P **P 13 29 13.9 -0.4**
BOSA Boshof 74.75 240 LR LR 14 00 14.4
comp=E,136nm,18.8s,MS4.3,baz=53,slow=34
AKASG Malin Array Be 75.26 322 P P 13 29 16.2 -1.0
comp=E,1.4nm,0.5s,mb4.1,baz=100,slow=4.0,SNR=4.5
AKASG Malin Array Be 75.26 322 P P 13 29 16.2 -1.1
AKASG pmax pmax
comp=Z,1.0nm,0.5s
MLR Muntele Rosu 76.07 317 P P 13 29 22.4 +0.5
comp=Z,2.2nm,0.6s,mb4.2,baz=84,slow=14,SNR=2.7
MLR Muntele Rosu 76.07 317 P P 13 29 22.4 +0.5
MLR pmax pmax
comp=Z,2.0nm,0.6s
APA Apatity 79.14 339 *e*P **P 13 29 35.5 -3.0**
RPZ Rata Peaks 79.20 135 LR LR 14 06 57.4
comp=Z,337nm,18.2s,MS4.7,baz=81,slow=38
FINES FINESS Array B 80.01 333 P P 13 29 43.7 +0.5
comp=Z,1.3nm,0.8s,mb3.9,baz=108,slow=6.0,SNR=4.0
FINES LR LR 14 12 02.0
comp=Z,49nm,19.2s,MS3.9,baz=136,slow=41
FX1 Attu Island--F 80.62 37 LR LR 14 08 49.9
comp=Z,2.6nm,20.1s,baz=78,slow=38
MORC Moravsky Berou 82.41 320 P P 13 29 56.2 +0.1
MORC *e*pP pP 13 30 03.9 -1.6
ARCES ARCESS Array B 82.55 340 P P 13 29 56.5 +0.2
comp=Z,2.2nm,0.8s,mb4.3,baz=90,slow=4.9,SNR=6.0
ARCES LR LR 14 10 52.1
comp=Z,144nm,19.1s,MS4.4,baz=94,slow=39
ARCES ARCESS Array B 82.55 340 P P 13 29 56.6 +0.2
ARCES pmax pmax
comp=Z,2.0nm,0.8s
ARCES MLR MLR
comp=Z,144nm,19.1s
URZ Urewera 82.82 129 LR LR 14 07 56.6
comp=Z,190nm,20.1s,MS4.5,baz=36,slow=37
GERES GERESS Array B 84.82 319 P **P 13 30 09.2 +0.9**
comp=Z,0.4nm,0.3s,mb4.1,baz=90,slow=5.3,SNR=8.2
HFS Hagfors 85.73 330 P P 13 30 13.1 +0.5
comp=Z,1.0nm,0.5s,mb4.3,baz=180,slow=3.0,SNR=4.4
HFS Hagfors 85.73 330 P P 13 30 13.1 +0.5
HFS pmax pmax
comp=Z,1.0nm,0.5s
VNDA Vanda 85.81 169 LR LR 14 06 01.7
comp=Z,139nm,19.7s,MS4.4,baz=320,slow=34
RAO Raoul Island 86.12 119 LR LR 14 12 03.0
comp=Z,168nm,19.3s,MS4.5,baz=331,slow=38
KIWB Kanaga Island 86.40 38 P **P 13 30 15.6 -0.6**
NB2 NORSAR Subarra 87.02 331 P P 13 30 19.5 +0.6
comp=Z,1.5nm,1.0s,mb4.2,baz=97,slow=4.8
NB2 NORSAR Subarra 87.02 331 P P 13 30 19.5 +0.6
NB2 pmax pmax
comp=Z,2.0nm,1.0s,mb4.3
NOA NORSAR Array B 87.02 331 P P 13 30 19.4 +0.5
comp=Z,2.0nm,0.9s,mb4.4,baz=94,slow=5.0,SNR=4.7
NOA LR LR 14 15 07.2
comp=Z,76nm,20.2s,MS4.1,baz=110,slow=40
DAVOX Davos 87.30 317 P P 13 30 21.5 +0.9
comp=Z,2.5nm,0.6s,mb4.6,baz=348,slow=19,SNR=3.4
PDAR Pinedale Array 130.07 26 PKP PKPdf 13 36 44.1 -3.8
comp=Z,0.9nm,1.0s,baz=315,slow=2.1,SNR=4.9
TXAR Lajitas Array 143.70 32 PKP PKPdf 13 37 08.3 -4.9
comp=Z,1.1nm,0.9s,baz=288,slow=4.0,SNR=6.7
TXAR Lajitas Array 143.70 32 PKP PKPdf 13 37 08.3 -4.9
TXAR Lajitas Array 143.70 32 PKIKP PKPdf 13 37 08.3 -4.9
TXAR pmax pmax
comp=Z,1.0nm,0.9s
CPUP Villa Florida 144.97 222 PKPbc PKPbc 13 37 12.2 +1.6
comp=Z,4.8nm,0.7s,baz=135,slow=4.2,SNR=14
CPUP Villa Florida 144.97 222 *e*PKP PKPdf 13 37 12.1 -3.5
CPUP Villa Florida 144.97 222 PKIKP PKPdf 13 37 12.2 -3.3
CPUP pmax pmax
comp=Z,5.0nm,0.7s
LRAL Lakeview Retre 145.75 6 *e*PKP PKPdf 13 37 13.2 -3.5

*IDC **01** 13:22:52.5±0.9,39.25N×33.21E,mb3.8/7,mb1 3.9/12, mb1mx3.7/24,mbtmp3.8/12,ML3.8/4,MS3.2/6,Ms1 3.2/6, ms1mx2.9/30,Error ellipse: s-maj=12.5km s-min=9.5km az=140.0*
*CSEM **01** 13:22:53.9±0.1,39.43N×33.08E,h2km,mb4.1/2,Ms2.8, Error ellipse: s-maj=1.6km s-min=1.3km az=178.0*
*ISK **01** 13:22:54.3,39.40N×33.11E,h3km,ML4.2*
*NEIC **01** 13:22:56.0,39.44N×33.07E,h17km,mb4.1/5,ML4.2(ISK), After ISK.*
ISC 01 13:22:55.7±0.6,**39.45N**±0.02×**33.09E**±0.03,**h14**km±5km, **n112**,σ1⁸⁹**07**/131,**mb3.8**/9,**MS3.0**/3,**4C-2D,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTO	**Ankara**	**0.48**	**332**	*i* PG	**Pg**	**13 23 05.2**	**-0.4**
ANTO				*i* SG	**Sg**	**13 23 13.5**	**+1.2**
KAMT	**Kaman**	**0.49**	**99**	*i* PG	**Pg**	**13 23 03.7**	**-2.1**
BRTR	**Keskin Array B**	**0.51**	**57**	Pg	**Pg**	**13 23 04.5**	**-1.7**
	143nm,0.3s,baz=222,slow=19,SNR=4388						
BRTR				Lg		13 23 12.2	
	568nm,0.3s,baz=223,slow=30,SNR=91						
BRTR	**Keskin Array B**	**0.51**	**57**	Pg	**Pg**	**13 23 04.4**	**-1.8**
LOD	**Lodumlu**	**0.51**	**331**	*i* PG	**Pg**	**13 23 06.3**	**+0.1**
CDAG	**Cicekdag**	**1.01**	**79**	*i* P	**Pb**	**13 23 13.4**	**-1.1**
CDAG				*i* S	**Sb**	**13 23 32.2**	**+4.8**
ELDT	**Eldivan**	**1.07**	**14**	*i* P	**Pb**	**13 23 15.9**	**+0.3**
ELDT				*i* S	**Sb**	**13 23 33.2**	**+3.9**
KIZT	**Kizilcal**	**1.10**	**239**	*i* PN	**Pn**	**13 23 15.3**	**-1.4**
CANT	**Cankiri**	**1.23**	**19**	PN	**Pn**	**13 23 19.3**	**+0.7**
SGKT	**Sivrigoynuk**	**1.38**	**325**	*i* P	**Pn**	**13 23 22.0**	**+1.3**
SGKT				*i* S	**Sb**	**13 23 49.2**	**+11**
CORM	**Corum**	**1.39**	**58**	*i* PN	**Pn**	**13 23 21.3**	**+0.4**
AVNT	**Avonos**	**1.53**	**115**	*i* P	**Pn**	**13 23 22.2**	**-0.6**
AVNT				*i* S	**Sb**	**13 23 43.6**	**+1.2**
KONT	**Konya--Tatoy**	**1.60**	**201**	*i* PN	**Pn**	**13 23 24.3**	**+0.4**
BSTP	**Nigde**	**1.69**	**152**	*i* P	**Pn**	**13 23 27.0**	**+1.8**
BSTP				*i* S	**Sn**	**13 23 47.9**	**+1.1**
ESKT	**Eskisehir**	**1.73**	**273**	PN	**Pn**	**13 23 26.3**	**+0.5**
ESKT	**Eskisehir**	**1.73**	**273**	*i* P	**Pn**	**13 23 27.0**	**+1.2**
ESKT				*i* S	**Sn**	**13 23 54.3**	**+6.4**
YOZ	**Yozgat**	**1.73**	**83**	PN	**Pn**	**13 23 26.4**	**+0.6**
TOS	**Tosya**	**1.74**	**24**	PN	**Pn**	**13 23 26.8**	**+0.9**
NIG	**Nigde**	**1.79**	**138**	PN	**Pn**	**13 23 27.4**	**+0.8**
SAFT	**Safranbolu**	**1.82**	**350**	PN	**Pn**	**13 23 27.6**	**+0.6**
BALT	**Daday**	**2.10**	**6**	*i* P	**Pn**	**13 23 34.7**	**+3.7**
BALT				*i* S	**Sn**	**13 24 05.3**	**+8.2**
HENT	**Hendek**	**2.17**	**310**	*i* P	**Pn**	**13 23 33.1**	**+1.1**
HENT				*i* S	**Sn**	**13 24 09.9**	**+11**
BNN	**Bunyan**	**2.22**	**105**	PN	**Pn**	**13 23 33.3**	**+0.5**
GPA	**Golpazari**	**2.30**	**292**	*e*PN	**Pn**	**13 23 34.2**	**+0.3**
ALT	**Altintas**	**2.35**	**261**	*e*PN	**Pn**	**13 23 35.4**	**+0.8**
BYBT	**Boyabat**	**2.39**	**32**	*e*PN	**Pn**	**13 23 35.8**	**+0.6**
BOYT	**Boyabat**	**2.41**	**34**	*i* P	**Pn**	**13 23 35.2**	**-0.3**
BOYT				*i* S	**Sn**	**13 23 59.8**	**-5.2**
EYL	**Eskiyayla**	**2.52**	**297**	*e*PN	**Pn**	**13 23 38.8**	**+1.8**
HDMB	**Hadim**	**2.52**	**191**	*e*PN	**Pn**	**13 23 36.8**	**-0.3**
ISP	**Isparta**	**2.58**	**232**	*e*PN	**Pn**	**13 23 38.3**	**+0.4**
ISP	**Isparta**	**2.58**	**232**	*e*Pn	**Pn**	**13 23 38.3**	**+0.4**
ISP	**Isparta**	**2.58**	**232**	*e*P	**Pn**	**13 23 37.8**	**-0.1**
ISP				*e*S	**Sn**	**13 24 04.1**	**-5.2**
TKTP	**Tekketepe**	**2.58**	**238**	*i* P	**Pn**	**13 23 37.9**	**0.0**
TKTP				*i* S	**Sn**	**13 24 17.0**	**+7.7**
BZK	**Bozkurt**	**2.61**	**15**	*e*PN	**Pn**	**13 23 39.2**	**+0.9**
BCK	**Bucak**	**2.79**	**226**	*e*PN	**Pn**	**13 23 41.2**	**+0.3**
ERMK	**Ermenek**	**2.80**	**183**	*i* P	**Pn**	**13 23 40.1**	**-0.9**
ERMK				*i* S	**Sn**	**13 24 24.3**	**+9.3**
GDZ	**Gediz**	**2.82**	**264**	*i* P	**Pn**	**13 23 46.9**	**+5.5**
GDZ				*i* S	**Sn**	**13 24 27.2**	**+12**
HRT	**Hereke**	**2.96**	**299**	*e*PN	**Pn**	**13 23 43.6**	**+0.3**
MEST	**Erdemli**	**2.97**	**163**	*i* P	**Pn**	**13 23 42.1**	**-1.4**
MEST				*i* S	**Sn**	**13 24 19.0**	**-0.3**
KHL	**Karahalli**	**3.00**	**249**	*e*PN	**Pn**	**13 23 43.6**	**-0.3**
SVST	**Sivas**	**3.00**	**83**	*i* P	**Pn**	**13 23 44.4**	**+0.5**
SVST				*i* S	**Sn**	**13 24 30.6**	**+11**
YLV	**Yalova**	**3.07**	**293**	*e*PN	**Pn**	**13 23 46.0**	**+1.2**
ULDT	**Uludag**	**3.12**	**284**	*i* P	**Pn**	**13 23 45.4**	**-0.3**
ULDT				*i* S	**Sn**	**13 24 32.1**	**+9.0**
CEYT	**Ceyhan**	**3.21**	**138**	*e*PN	**Pn**	**13 23 46.6**	**-0.3**
IKL	**Isikli**	**3.24**	**171**	*e*PN	**Pn**	**13 23 48.0**	**+0.8**
DST	**Dursunbey**	**3.45**	**274**	*e*PN	**Pn**	**13 23 50.9**	**+0.6**
KAHT	**Ahir Dag**	**3.48**	**120**	*i* P	**Pn**	**13 23 53.4**	**+2.7**
KAHT				*i* S	**Sn**	**13 24 48.0**	**+16**
ISK	**Istanbul-Kandi**	**3.48**	**299**	*e*PN	**Pn**	**13 23 51.3**	**+0.6**
DNZL	**Cakiroluk**	**3.62**	**242**	*i* P	**Pn**	**13 23 52.5**	**-0.2**
MANT	**Manisa**	**3.66**	**256**	*i* P	**Pn**	**13 23 53.0**	**-0.2**
MANT				*i* S	**Sn**	**13 24 57.2**	**+21**
COBT	**Iskenderun**	**3.85**	**138**	*i* P	**Pn**	**13 24 01.7**	**+5.8**
COBT				*i* S	Sn	13 25 25.4	+44
BTOK	**Tokmak**	**3.92**	**276**	*i* P	**Pn**	**13 24 09.5**	**+13**
BTOK				*i* S	Sn	13 25 07.5	+24
GAZ	**Gaziantep**	**3.96**	**124**	*e*PN	**Pn**	**13 23 57.2**	**-0.3**
BALB	**Balikesir**	**4.03**	**274**	*e*PN	**Pn**	**13 24 00.1**	**+1.5**
BNT	**Bandirma**	**4.08**	**285**	*e*PN	**Pn**	**13 24 00.5**	**+1.3**
HTY	**Hatay**	**4.10**	**143**	*e*PN	**Pn**	**13 23 59.5**	**-0.1**
AKS	**Akhisar**	**4.14**	**264**	*e*PN	**Pn**	**13 24 01.5**	**+1.4**
MYA	**Malataya**	**4.31**	**103**	*e*PN	**Pn**	**13 24 02.9**	**+0.4**
MALT	**Malatya**	**4.32**	**104**	*e*PN	**Pn**	**13 24 03.5**	**+0.9**
MALT	**Malatya**	**4.32**	**104**	*e*P	**Pn**	**13 24 02.2**	**-0.4**
MALT	**Malatya**	**4.32**	**104**	*e*Pn	**Pn**	**13 24 03.5**	**+0.9**
MRMT	**Marmara Adasi**	**4.37**	**287**	*e*PN	**Pn**	**13 24 04.9**	**+1.5**
YER	**Yerkesik**	**4.43**	**240**	PN	**Pn**	**13 24 04.2**	**0.0**
CSS	**Prodhromos**	**4.48**	**177**	*e*P	**Pn**	**13 24 14.5**	**+10**
MFT	**Murefte**	**4.65**	**289**	*e*PN	**Pn**	**13 24 08.3**	**+1.0**
KDAG	**Bornova**	**4.66**	**259**	*i* P	**Pn**	**13 24 20.0**	**+13**
KDAG				*i* S	Sn	13 25 31.2	+29
IZM	**Izmir**	**4.66**	**259**	*e*PN	**Pn**	**13 24 07.3**	**-0.2**
ELZG	**Elazig**	**4.69**	**100**	*i* P	**Pn**	**13 24 07.8**	**-0.1**
MLSB	**Milas**	**4.70**	**244**	*e*PN	**Pn**	**13 24 08.3**	**+0.3**
PTK	**Pertek**	**4.93**	**94**	PN	**Pn**	**13 24 11.2**	**-0.1**
GUMT	**Gumushane**	**5.01**	**76**	*e*PN	**Pn**	**13 24 13.6**	**+1.1**
EDRB	**Edirne**	**5.39**	**298**	*e*PN	**Pn**	**13 24 18.9**	**+1.1**
RZN	**Rozhen**	**6.76**	**292**	*e*P	**Pn**	**13 24 35.0**	**-2.1**
MMB	**Musomiste**	**7.45**	**290**	*e*P	**Pn**	**13 24 43.0**	**-3.7**
IDI	**Anoyia**	**7.74**	**240**	Pn	**Pn**	**13 24 50.1**	**-0.7**
	1.2nm,0.3s,baz=36,slow=15,SNR=7.6						
IDI				LR	LR	13 28 14.5	
	comp=Z,140nm,19.7s,baz=78,slow=42						
ASF	**Jabal al Asfar**	**7.89**	**156**	Pn	**Pn**	**13 24 47.7**	**-5.2**
	0.2nm,0.3s,baz=311,slow=18,SNR=1.7						
ASF				LR	LR	13 28 12.9	
	comp=Z,163nm,19.0s,baz=280,slow=42						
VRI	**Vrincioaia**	**7.94**	**326**	⇑P	**Pn**	**13 24 52.0**	**-1.7**
VRI	**Vrincioaia**	**7.94**	**326**	⇑P	**Pn**	**13 24 52.0**	**-1.6**
KKB	**Krupnik**	**7.98**	**291**	*e*P	**Pn**	**13 24 51.0**	**-3.2**
MLR	**Muntele Rosu**	**8.02**	**321**	Pn	**P**	**13 24 54.1**	**-0.7**
	0.2nm,0.3s,baz=135,slow=5.7,SNR=2.5						
MLR				LR	LR	13 28 42.8	
	comp=Z,202nm,19.3s,baz=150,slow=43						
MLR	**Muntele Rosu**	**8.02**	**321**	⇓P	**P**	**13 24 53.1**	**-1.6**
MLR	**Muntele Rosu**	**8.02**	**321**	⇓P	**P**	**13 24 53.1**	**-1.7**
VTS	**Vitosha**	**8.10**	**296**	*e*P	**P**	**13 24 54.0**	**-1.9**
GNI	**Garni**	**9.00**	**82**	Pn	**P**	**13 25 04.6**	**-3.7**
	1.4nm,0.3s,baz=45,slow=18,SNR=2.1						
BURAR	**Bucovina Array**	**9.96**	**328**	⇑P	**P**	**13 25 19.6**	**-1.9**
BURAR	**Bucovina Array**	**9.96**	**328**	⇑P	**P**	**13 25 19.6**	**-1.9**
AKASG	**Malin Array Be**	**11.58**	**348**	Pn	**P**	**13 25 42.5**	**-1.1**
	0.8nm,0.3s,baz=155,slow=13,SNR=3.8						
VRAC	**Vranov**	**15.34**	**315**	Pn	**P**	**13 26 34.9**	**+1.5**
	0.5nm,0.3s,baz=125,slow=16,SNR=2.7						
SBF	**Sospel**	**19.64**	**291**	*e*P	**P**	**13 27 26.1**	**-0.7**
MBDF	**Montbardon**	**20.19**	**294**	*e*P	**P**	**13 27 32.4**	**-0.3**
	17nm,0.8s						
FRF	**La Foret Royal**	**20.19**	**290**	*e*P	**P**	**13 27 32.2**	**-0.5**
LMR	**La Mourre**	**20.28**	**290**	*e*P	**P**	**13 27 33.5**	**-0.2**
	44nm,1.1s						
BNI	**Bardonecchia**	**20.29**	**295**	*e*P	**P**	**13 27 30.5**	**-3.2**
	11nm,0.9s						
LPG	**La Plagne**	**20.30**	**296**	*e*P	**P**	**13 27 33.6**	**-0.2**
LPL	**La Plagne**	**20.31**	**296**	*e*P	**P**	**13 27 33.9**	**-0.1**
	11nm,0.8s						
CDF	**Champ du Feu**	**20.56**	**304**	*e*P	**P**	**13 27 36.4**	**-0.1**
HINF	**Hinteralfeld**	**20.68**	**302**	*e*P	**P**	**13 27 37.6**	**-0.1**
ORIF	**Oris-en-Rattie**	**20.84**	**294**	*e*P	**P**	**13 27 39.4**	**0.0**
ORIF				*e*R			
	100nm,19.0s						
VIVF	**Saint-Julien-l**	**21.69**	**294**	*e*P	**P**	**13 27 47.6**	**-0.5**
LASF	**Ste Croix**	**22.23**	**292**	*e*P	**P**	**13 27 52.8**	**-0.7**
	20nm,1.1s,mb4.1						
FINES	**FINESS Array B**	**22.45**	**351**	P	**P**	**13 27 53.8**	**-1.7**
	2.0nm,0.5s,mb3.8,baz=149,slow=11,SNR=12						
FINES				LR	LR	13 38 27.7	

comp=Z,43nm,18.3s,MS2.9,baz=120,slow=41
AVF Avril sur Loir 22.82 298 *e*P P 13 27 58.8 -0.4
10nm,0.8s,mb4.0
KAF Kangasniemi 23.07 352 *e*p P 13 28 00.9 -0.6
HFS Hagfors 24.02 336 P P 13 28 11.0 +0.2
1.4nm,0.7s,mb3.5,baz=173,slow=12,SNR=2.7
HFS LR LR 13 38 31.6
comp=Z,58nm,20.1s,MS3.0,baz=341,slow=39
MFF Saint Martin d 25.19 297 *e*P P 13 28 21.6 -0.6
NOA NORSAR Array B 25.51 335 P P 13 28 23.0 -2.0
0.8nm,0.7s,mb3.4,baz=135,slow=9.3,SNR=3.6
NOA NORSAR Array B 25.51 335 P P 13 28 23.0 -2.0
GRR Gorron 25.86 301 *e*P P 13 28 27.9 -0.5
EKA Eskdalemuir Ar 28.82 316 P P 13 28 52.0 -3.3
0.7nm,0.5s,mb3.6,baz=119,slow=8.6,SNR=4.0
ARCES ARCESS Array B 30.42 355 P P 13 29 06.3 -3.1
3.4nm,1.0s,mb4.0,baz=180,slow=3.6,SNR=5.4
ARCES LR LR 13 42 29.0
comp=Z,36nm,19.0s,MS3.0,baz=165,slow=38
MKAR Makanchi Array 36.16 62 P P 13 29 57.1 -2.3
0.3nm,0.6s,mb3.4,baz=191,slow=32,SNR=3.4
BOSA Boshof 68.10 187 P P 13 33 54.4 -2.9
2.8nm,0.9s,mb4.3,baz=315,slow=10.0,SNR=2.6

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*BJI **01** 13:34:56.1,36.70N×25.94E,h164km,mB4.9,mb4.6*
*CSEM **01** 13:34:58.6,36.47N×26.76E,h145km,mb4.9*
*CRAAG **01** 13:34:58.4,36.57N×26.87E,Mb4.9*
*PDG **01** 13:34:59.0±0.2,36.60N×26.20E,h4km±1km*
*MOS **01** 13:34:59.6±0.9,36.57N×26.78E,h155km,mb4.8/33,Error ellipse: s-maj=4.6km s-min=2.0km az=124.9*
*ATH **01** 13:35:00.2,36.57N×26.77E,h133km±1km,ML4.6*
*HRVD **01** 13:35:00.2±0.7,36.29N×26.74E,h150km±9km,MW4.8/45, Centroid moment Tensor Solution. LP body waves: s7,c7; Mantle waves: s45,c61; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.07±.22; $M_{\theta\theta}$-0.95±.20; $M_{\phi\phi}$0.88±.21; $M_{r\theta}$0.93±.12; $M_{\theta\phi}$-0.10±.21; $M_{\phi r}$1.56±.14; Best double couple: $M_0$2.021×10^{16} NP1:ϕ_s306°,δ27°,λ180°. NP2: ϕ_s36°,δ90°,λ63°. Principal axes: T 2.168, Plg39°, Azm282°; N -.293, Plg27°, Azm37°; P -1.875, Plg39°, Azm151°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **01** 13:35:00.2±0.5,36.67N×26.58E,h143km±4km,mb4.2/20, mb1 4.4/26,mb1mx4.4/29,mbtmp4.7/26 Error ellipse: s-maj=9.7km s-min=6.5km az=120.0*
*NEIC **01** 13:35:00.2,36.57N×26.78E,h133km,mb5.0/117,After ATH.*
*ISK **01** 13:35:00.2,36.58N×26.76E,h134km,MD4.0*
*GRAL **01** 13:35:03.5±3.5,36.54N×27.38E,MD4.8*
*HLW **01** 13:35:03.4,36.17N×26.95E,h33km,Mb5.5*
*THE **01** 13:35:05.8,36.73N×26.67E,h107km,ML4.7*
*NIC **01** 13:35:07.5±0.2,36.85N×27.63E,h41km,mb5.0,ML4.7, MW3.7*

ISC 01 13:34:58.9±0.1,**36.52N**±0.01×**26.80E**±0.01,**h148**km±1km, **h142**km±2.1km:**pP-P,n830,**σ1§**04**/920,**mb4.8**/101,**74C-53D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BODT	**Bodrum**	**0.68**	**37**	*i* PG		**P**		**13 35 21.5**	**+0.1**
BODT				*i* SG		**S**		**13 35 36.0**	**-2.7**
KARP	**Karpathos**	**1.02**	**163**	⇑*i*P		**P**		**13 35 24.8**	**+1.0**
KARP				*e*S		**S**		**13 35 42.2**	**-0.7**
THR1	**Thera Island**	**1.09**	**262**	*e*Pg		**P**		**13 35 25.5**	**+1.0**
SANT	**Santorini**	**1.09**	**262**	⇓*i*P		**P**		**13 35 25.5**	**+1.0**
SANT				*e*S		**S**		**13 35 43.4**	**-0.8**
SANT	**Santorini**	**1.09**	**262**	⇓*i*P		**P**		**13 35 25.5**	**+1.0**
SANT				*e*S		**S**		**13 35 43.4**	**-0.8**
MLSB	**Milas**	**1.10**	**45**	PN		**P**		**13 35 25.3**	**+0.7**
ARG	**Arkhangelos**	**1.11**	**106**	⇑*i*P		**P**		**13 35 25.8**	**+1.1**
THR4	**Thira Island,**	**1.13**	**267**	*e*Pg		**P**		**13 35 25.9**	**+1.0**
THR3	**Thira Island,**	**1.13**	**265**	*e*Pg		**P**		**13 35 26.1**	**+1.2**
THR6	**Thira Island,**	**1.14**	**262**	*e*Pg		**P**		**13 35 26.6**	**+1.6**
APE	**Apeiranthos**	**1.16**	**298**	*i* PN		**P**		**13 35 24.8**	**-0.3**
APE	**Apeiranthos**	**1.16**	**298**	⇓*i*P		**P**		**13 35 25.9**	**+0.8**
APE				*e*S		**S**		**13 35 43.3**	**-2.0**
THR5	**Thira Island,**	**1.18**	**265**	*e*Pg		**P**		**13 35 26.3**	**+1.0**
SMG	**Samos**	**1.18**	**1**	⇓*i*P		**P**		**13 35 25.7**	**+0.3**
SMG				*e*S		**S**		**13 35 43.7**	**-2.1**
YER	**Yerkesik**	**1.34**	**62**	PN		**P**		**13 35 27.9**	**+0.9**
ZKR	**Zakros**	**1.48**	**199**	P		**P**		**13 35 29.2**	**+0.7**
DALT	**Dalyan (Mudla)**	**1.50**	**80**	PN		**P**		**13 35 30.1**	**+1.5**
DALT				SN		**S**		**13 35 50.2**	**-1.3**
NPS	**Neapolis**	**1.58**	**218**	⇓*i*P		**P**		**13 35 30.5**	**+0.9**
XRY	**Khrísi**	**1.88**	**209**	*e*P		**P**		**13 35 34.2**	**+1.4**
IZM	**Izmir**	**1.91**	**11**	*i* PN		**P**		**13 35 33.4**	**+0.2**
IDI	**Anoyia**	**1.98**	**232**	P		**P**		**13 35 34.9**	**+0.9**
	253nm,0.3s,baz=93,slow=7.4,SNR=1455								
IDI				S		**S**		**13 35 59.5**	**-1.5**
	2μm,0.3s,baz=247,slow=16,SNR=55								
DENT	**Denizli**	**2.17**	**55**	PN		**P**		**13 35 37.3**	**+1.0**
KSL	**Kastellorizon**	**2.28**	**99**	*e*P		**P**		**13 35 39.0**	**+1.3**
VAM	**Vamos**	**2.39**	**243**	*e*P		**P**		**13 35 39.8**	**+0.7**
AKS	**Akhisar**	**2.48**	**19**	*i* PN		**P**		**13 35 40.6**	**+0.3**
ELL	**Elmali**	**2.51**	**84**	PN		**P**		**13 35 41.7**	**+1.1**
PRK	**Paraskevi**	**2.75**	**351**	⇓*i*P		**P**		**13 35 44.0**	**+0.3**
GVD	**Gavdhos**	**2.77**	**234**	*e*P		**P**		**13 35 45.0**	**+1.0**
GVD	**Gavdhos**	**2.77**	**234**	*e*P		**P**		**13 35 45.0**	**+0.9**
KHL	**Karahalli**	**2.81**	**50**	PN		**P**		**13 35 45.3**	**+0.8**
ATH	**Athens Observa**	**2.85**	**301**	⇓*i*P		**P**		**13 35 46.4**	**+1.4**
NAIG	**Nisos Aigina**	**2.92**	**296**	*e*P		**P**		**13 35 46.2**	**+0.3**
MPAR	**Parnis Oros**	**2.93**	**305**	*e*P		**P**		**13 35 47.2**	**+1.1**
NSAL	**Nisos Salamina**	**3.00**	**298**	*e*P		**P**		**13 35 48.5**	**+1.6**
KYTH	**Kithira**	**3.05**	**267**	*e*P		**P**		**13 35 48.5**	**+1.0**
VLI	**Veliai**	**3.11**	**275**	⇑*i*P		**P**		**13 35 48.5**	**+0.1**
BCK	**Bucak**	**3.17**	**72**	PN		**P**		**13 35 50.2**	**+1.0**
BALB	**Balikesir**	**3.23**	**15**	PN		**P**		**13 35 50.2**	**+0.3**
ISP	**Isparta**	**3.24**	**65**	PN		**P**		**13 35 49.7**	**-0.4**
ISP	**Isparta**	**3.24**	**65**	*e*P		**P**		**13 35 50.3**	**+0.2**
EZN	**Ezine**	**3.32**	**354**	PN		**P**		**13 35 51.1**	**0.0**
DST	**Dursunbey**	**3.40**	**25**	PN		**P**		**13 35 52.2**	**+0.1**
CANB	**Canakkale**	**3.49**	**3**	PN		**P**		**13 35 53.7**	**+0.4**
AOS	**Alonnisos**	**3.51**	**320**	*e*Pn		**P**		**13 35 54.5**	**+1.0**
LIA	**Limnos Island**	**3.60**	**340**	⇓*i*P		**P**		**13 35 55.0**	**+0.2**
ALT	**Altintas**	**3.64**	**45**	PN		**P**		**13 35 56.4**	**+1.1**
LKR	**Lokris**	**3.69**	**306**	⇓*i*P		**P**		**13 35 56.8**	**+0.9**
LPK	**Lapseki**	**3.84**	**360**	PN		**P**		**13 35 58.2**	**+0.3**
BNT	**Bandirma**	**3.93**	**13**	PN		**P**		**13 35 59.1**	**+0.1**
ITM	**Ithomi**	**3.96**	**281**	⇑*i*P		**P**		**13 36 00.6**	**+1.1**
ITM				*e*S		**S**		**13 36 44.7**	**-1.4**
NEO	**Neokhori**	**3.96**	**316**	⇓*i*P		**P**		**13 36 00.5**	**+1.0**
XOR	**Xorichti**	**4.02**	**316**	*e*Pn		**P**		**13 36 01.2**	**+0.9**
MRMT	**Marmara Adasi**	**4.12**	**8**	PN		**P**		**13 36 01.1**	**-0.5**
PAIG	**Paliouri**	**4.19**	**325**	*e*Pn		**P**		**13 36 03.1**	**+0.5**
MFT	**Murefte**	**4.27**	**5**	PN		**P**		**13 36 02.8**	**-0.8**
AGG	**Ágios Georgios**	**4.33**	**307**	*e*Pn		**P**		**13 36 06.5**	**+2.1**
ESKT	**Eskisehir**	**4.38**	**46**	PN		**P**		**13 36 06.3**	**+1.3**
OUR	**Ouranopolis**	**4.40**	**331**	*e*Pn		**P**		**13 36 06.1**	**+0.8**
ALN	**Alexandroupoli**	**4.41**	**353**	*e*Pn		**P**		**13 36 05.4**	**+0.1**
YLV	**Yalova**	**4.51**	**26**	PN		**P**		**13 36 05.8**	**-0.9**
RLS	**Riolos of Patr**	**4.52**	**291**	*e*P		**P**		**13 36 09.1**	**+2.2**
HDMB	**Hadim**	**4.59**	**83**	PN		**P**		**13 36 08.9**	**+1.2**
EVR	**Evrytania**	**4.62**	**303**	*e*P		**P**		**13 36 10.0**	**+1.8**
KONT	**Konya--Tatoy**	**4.66**	**71**	*e*PN		**P**		**13 36 09.5**	**+0.8**
PLG	**Polygyros**	**4.66**	**327**	⇓*i*P		**P**		**13 36 09.3**	**+0.6**
KIZT	**Kizilcal**	**4.66**	**58**	*e*PN		**P**		**13 36 10.3**	**+1.5**
RDO	**Rodhopi**	**4.72**	**348**	⇓*i*P		**P**		**13 36 09.8**	**+0.3**
RDO	**Rodhopi**	**4.72**	**348**	⇓*i*P		**P**		**13 36 09.6**	**+0.1**
PPCY	**Paphos**	**4.80**	**108**	P		**P**		**13 36 10.3**	**-0.2**
PPCY				S		**S**		**13 36 57.7**	**-8.1**
PPCY	**Paphos**	**4.80**	**108**	*e*P		**P**		**13 36 10.3**	**-0.2**
ALFC	**Alevga**	**4.90**	**104**	⇑P		**P**		**13 36 11.6**	**-0.3**
	53nm,0.2s								
ALFC				S		**S**		**13 37 01.5**	**-6.7**
ALFC	**Alevga**	**4.90**	**104**	*e*P		**P**		**13 36 11.6**	**-0.3**
LIT	**Litokhoron**	**4.92**	**318**	*e*Pn		**P**		**13 36 13.2**	**+1.0**
THE	**Thessaloniki**	**5.08**	**325**	*e*Pn		**P**		**13 36 15.2**	**+0.9**
SLUM		**5.19**	**195**	⇓P		**P**		**13 36 16.1**	**+0.4**
SLUM				S		**S**		**13 37 06.5**	**-8.6**
VLS	**Valsamata**	**5.22**	**290**	*e*P		**P**		**13 36 17.0**	**+0.9**
VLS	**Valsamata**	**5.22**	**290**	*e*P		**P**		**13 36 16.0**	**-0.1**
SRS	**Serrai**	**5.23**	**332**	*e*Pn		**P**		**13 36 17.0**	**+0.8**
KDZ	**Kurdzhali**	**5.23**	**349**	*i* P		**P**		**13 36 16.5**	**+0.2**
SZAC	**Souni-Zanaja**	**5.26**	**108**	*e*P		**P**		**13 36 16.4**	**-0.2**
SZAC				S		**S**		**13 37 11.7**	**-5.0**
NVR	**Nevrokopi**	**5.34**	**335**	⇓*i*P		**P**		**13 36 18.6**	**+1.0**
LKD	**Levkas**	**5.35**	**296**	*e*Pn		**P**		**13 36 18.5**	**+0.8**
LKD				*e*Sn		**S**		**13 37 16.6**	**-2.3**
MAMC	**Mammari**	**5.38**	**103**	*e*P		**P**		**13 36 17.8**	**-0.5**
RZN	**Rozhen**	**5.41**	**343**	*i* P		**P**		**13 36 20.0**	**+1.4**
KZN	**Kozani**	**5.46**	**315**	⇑*i*P		**P**		**13 36 21.3**	**+2.0**
CSS	**Prodhromos**	**5.53**	**104**	⇑P		**P**		**13 36 20.1**	**-0.2**
	31nm,0.6s								
CSS				S		**S**		**13 37 16.8**	**-6.5**
CSS	**Prodhromos**	**5.53**	**104**	*e*P		**P**		**13 36 20.1**	**-0.2**
CSS	**Prodhromos**	**5.53**	**104**	*e*P		**P**		**13 36 18.6**	**-1.7**
	380nm,0.6s								
IKL	**Isikli**	**5.56**	**91**	PN		**P**		**13 36 20.7**	**+0.1**
MMB	**Musomiste**	**5.59**	**336**	*i* P		**P**		**13 36 22.0**	**+0.9**
GRG	**Griva**	**5.61**	**323**	*e*Pn		**P**		**13 36 22.4**	**+1.2**
DIM	**Dimitrovgrad**	**5.61**	**350**	*i* P		**P**		**13 36 21.0**	**-0.2**
JAN	**Janina**	**5.64**	**305**	*e*P		**P**		**13 36 24.0**	**+2.3**
JAN				*e*S		**S**		**13 37 24.1**	**-1.8**
JAN	**Janina**	**5.64**	**305**	*e*P		**P**		**13 36 24.4**	**+2.7**
JAN				*e*S		**S**		**13 37 24.1**	**-1.8**
PLD	**Plovdiv**	**5.81**	**344**	*i* P		**P**		**13 36 24.0**	**+0.1**
VAY	**Valandovo**	**5.82**	**327**	*i* Pn		**P**		**13 36 25.6**	**+1.6**
VAY				*i* Sn		**S**		**13 37 28.0**	**-2.1**
IGT	**Igoumenitsa**	**5.92**	**302**	*e*Pn		**P**		**13 36 26.4**	**+0.9**
IGT				*e*Sn		**S**		**13 37 27.1**	**-5.6**
JMB	**Yambol**	**5.94**	**358**	P		**P**		**13 36 26.0**	**+0.3**
KKB	**Krupnik**	**6.07**	**333**	*i* P		**P**		**13 36 27.5**	**+0.1**
PHNC	**Paralimni**	**6.07**	**102**	P		**P**		**13 36 28.6**	**+1.1**
PHNC				S		**S**		**13 37 29.5**	**-6.7**
PHNC	**Paralimni**	**6.07**	**102**	*e*P		**P**		**13 36 28.6**	**+1.1**
KAMT	**Kaman**	**6.16**	**60**	*e*PN		**P**		**13 36 29.6**	**+1.0**
BRTR	**Keskin Array B**	**6.27**	**57**	P		**P**		**13 36 31.2**	**+1.2**
	4.9nm,0.3s,baz=231,slow=13,SNR=39								
BRTR				S		**S**		**13 37 44.0**	**+3.1**
	baz=217,slow=24,SNR=2.4								
BRTR				ScP				13 46 31.8	
	0.1nm,0.3s,baz=189,slow=2.7,SNR=9.0								
BRTR	**Keskin Array B**	**6.27**	**57**	P		**P**		**13 36 31.2**	**+1.1**
SRN	**Sarande**	**6.32**	**304**	*e*Pn		**P**		**13 36 31.5**	**+0.7**
SRN				*i* Sn		**S**		**13 37 36.4**	**-5.7**
PGB	**Panagyurishte**	**6.35**	**342**	*i* P		**P**		**13 36 31.0**	**-0.3**
KEK	**Kerkira**	**6.37**	**302**	*e*P		**P**		**13 36 32.5**	**+1.0**
KEK	**Kerkira**	**6.37**	**302**	*e*P		**P**		**13 36 31.9**	**+0.4**
OHR	**Ohrid**	**6.55**	**316**	⇑*i*Pn		**P**		**13 36 35.2**	**+1.2**
OHR				*i* Sn		**S**		**13 37 47.4**	**-0.4**
VTS	**Vitosha**	**6.67**	**337**	P		**P**		**13 36 36.2**	**+0.7**
SKO	**Skopje**	**6.85**	**324**	*e*Pn		**P**		**13 36 42.0**	**+4.1**
SKO				*e*Sn		**S**		**13 37 58.0**	**+3.1**
TIR	**Tirane**	**7.24**	**314**	*e*Pn		**P**		**13 36 45.2**	**+2.0**
TIR	**Tirane**	**7.24**	**314**	P		**P**		**13 36 43.7**	**+0.5**
QSH	**Qafa e Shtames**	**7.33**	**315**	*i* Pn		**P**		**13 36 48.2**	**+3.8**
ARNB	**Al Arnab**	**7.45**	**92**	⇑*i*P		**P**		**13 36 44.6**	**-1.4**
ZAPS	**Zavoj/Pirot**	**7.49**	**336**	⇑*i*Pn		**P**		**13 36 46.3**	**-0.2**
HMYD	**Mayadein**	**7.50**	**152**	⇑P		**P**		**13 36 46.3**	**-0.4**
HTY	**Hatay**	**7.55**	**90**	*e*PN		**P**		**13 36 48.2**	**+0.9**
SQR		**7.58**	**150**	⇓P		**P**		**13 36 47.6**	**-0.1**
HNAT	**Natroun**	**7.58**	**154**	⇑P		**P**		**13 36 47.2**	**-0.5**
MATL	**Matirih**	**7.62**	**111**	*e*Pn		**P**		**13 36 46.4**	**-1.9**
HLW	**Helwan**	**7.66**	**149**	⇓P		**P**		**13 36 48.7**	**-0.1**
FYM	**Al Fayyum**	**7.68**	**151**	⇓P		**P**		**13 36 48.6**	**-0.6**
SLNF	**Slenfeh**	**7.69**	**94**	⇓*i*P		**P**		**13 36 47.9**	**-1.3**
HNTI	**Hanita**	**7.69**	**114**	Pn		**P**		**13 36 48.3**	**-1.0**
BHL	**Bhannes**	**7.70**	**107**	*e*Pn		**P**		**13 36 46.6**	**-2.7**
BHL				Sn		**S**		**13 38 07.7**	**-7.7**
AYT	**Al 'Ayyat**	**7.72**	**151**	⇓P		**P**		**13 36 49.3**	**-0.3**
HAF	**Haifa**	**7.74**	**116**	Pn		**P**		**13 36 48.0**	**-1.8**
HAF				Sn		**S**		**13 38 11.1**	**-5.2**
HAF	**Haifa**	**7.74**	**116**	P		**P**		**13 36 48.3**	**-1.5**
HAF				Sn		**S**		**13 38 11.1**	**-5.2**
OFRI	**'Ofer**	**7.79**	**118**	Pn		**P**		**13 36 49.7**	**-0.9**
HWQ	**Hawqa**	**7.80**	**104**	*e*Pn		**P**		**13 36 49.3**	**-1.4**
HWQ				Sn		**S**		**13 38 12.2**	**-5.5**
LCI	**Lecce**	**7.81**	**302**	P		**P**		**13 36 50.0**	**-0.8**
KOT	**Kottamia**	**7.81**	**146**	⇓P		**P**		**13 36 50.0**	**-0.8**
KOT				S		**S**		**13 38 09.1**	**-8.9**
BTCH	**Batrach**	**7.82**	**91**	⇓*i*P		**P**		**13 36 49.4**	**-1.5**
WRDH	**Warideh**	**7.85**	**95**	⇓*i*P		**P**		**13 36 50.0**	**-1.4**
BIDA	**Albida**	**7.88**	**98**	⇑*i*P		**P**		**13 36 50.2**	**-1.6**
HHAG	**Hagoal**	**7.91**	**144**	⇓P		**P**		**13 36 52.1**	**0.0**
DRWD	**Darouich**	**7.94**	**86**	⇑*i*P		**P**		**13 36 51.5**	**-4.1**
HSAF	**As Saff**	**7.96**	**149**	⇓P		**P**		**13 36 52.1**	**-0.6**
ULC	**Ulcinj**	**7.99**	**315**	⇑*i*Pn		**P**		**13 36 53.0**	**-0.2**
ULC				*e*Sn		**S**		**13 38 17.7**	**-4.6**
HRSH	**Kfar Ka'horesh**	**8.00**	**132**	⇓P		**P**		**13 36 52.5**	**-0.8**
HRSH				S		**S**		**13 38 14.7**	**-7.9**
RSH		**8.00**	**132**	P		**P**		**13 36 52.5**	**-0.8**
KSDI	**Kefar Szold**	**8.00**	**112**	Pn		**P**		**13 36 52.4**	**-1.0**
KSDI	**Kefar Szold**	**8.00**	**112**	P		**P**		**13 36 52.2**	**-1.2**
TIRR	**Tirgusor**	**8.02**	**8**	⇑P		**P**		**13 36 52.8**	**-0.8**
TIRR	**Tirgusor**	**8.02**	**8**	⇑P		**P**		**13 36 52.8**	**-0.8**
HRI	**Mount Hermon**	**8.03**	**111**	Pn		**P**		**13 36 53.0**	**-0.7**
HRI	**Mount Hermon**	**8.03**	**111**	P		**P**		**13 36 53.1**	**-0.6**
PVY	**Plav**	**8.03**	**321**	*e*Pn		**P**		**13 36 53.5**	**-0.3**
PVY				*e*Sn		**S**		**13 38 19.4**	**-4.0**
SLTI	**Sal'it**	**8.04**	**120**	Pn		**P**		**13 36 52.4**	**-1.5**
SLTI				Sn		**S**		**13 38 14.7**	**-8.8**
SLTI	**Sal'it**	**8.04**	**120**	P		**P**		**13 36 52.9**	**-1.0**
GLL	**Jalalah**	**8.06**	**148**	⇓P		**P**		**13 36 53.8**	**-0.3**
BRBR	**Barbar**	**8.13**	**110**	⇑*i*P		**P**		**13 36 53.5**	**-1.5**
MMLI	**Mount Malkishu**	**8.20**	**117**	Pn		**P**		**13 36 55.2**	**-0.8**
MMLI	**Mount Malkishu**	**8.20**	**117**	P		**P**		**13 36 55.4**	**-0.6**
HARR	**Harsova**	**8.20**	**6**	⇑P		**P**		**13 36 55.3**	**-0.7**
HARR	**Harsova**	**8.20**	**6**	⇑P		**P**		**13 36 55.3**	**-0.7**
KSHT	**Keshet**	**8.21**	**113**	Pn		**P**		**13 36 55.7**	**-0.5**
IVA	**Berane**	**8.27**	**322**	*e*Pn		**P**		**13 36 57.2**	**+0.2**
IVA				*e*Sn		**S**		**13 38 25.1**	**-4.0**
TTG	**Podgorica**	**8.29**	**318**	⇑*i*Pn		**P**		**13 36 56.8**	**-0.4**
TTG				*e*Sn		**S**		**13 38 25.2**	**-4.3**
MARH	**Ras Al Marh**	**8.30**	**105**	⇑*i*P		**P**		**13 36 56.1**	**-1.2**
QASN	**Qassioun**	**8.32**	**108**	⇓*i*P		**P**		**13 36 56.9**	**-0.8**
TIP	**Timpagrande**	**8.38**	**291**	⇑*e*P		**P**		**13 36 56.3**	**-2.0**
TIP	**Timpagrande**	**8.38**	**291**	⇑*e*P		**P**		**13 36 56.3**	**-2.1**
BUM	**Brajici-Budva**	**8.40**	**316**	⇑*i*Pn		**P**		**13 36 58.4**	**-0.3**
BUM				*e*Sn		**S**		**13 38 28.0**	**-4.3**
HBNS	**Bani Suwayf**	**8.41**	**153**	⇓P		**P**		**13 36 58.2**	**-0.7**
KZIT	**Kziot**	**8.45**	**129**	Pn		**P**		**13 36 58.5**	**-0.8**
KZIT				Sn		**S**		**13 38 26.2**	**-7.1**
PE1	**Pezze di Greco**	**8.49**	**303**	*e*Pn		**P**		**13 36 58.5**	**-1.3**
TOTH	**TOTAH**	**8.51**	**109**	⇑*i*P		**P**		**13 37 00.0**	**-0.1**
RTMM	**Retamin**	**8.53**	**127**	Pn		**P**		**13 37 00.2**	**-0.2**
GRI	**Girifalco**	**8.54**	**289**	P		**P**		**13 36 58.6**	**-2.0**
SVTA	**Shivta**	**8.57**	**128**	P		**P**		**13 37 00.7**	**-0.2**
MASH	**Mash'abbe Sade**	**8.63**	**127**	Pn		**P**		**13 37 00.7**	**-1.1**
MASH	**Mash'abbe Sade**	**8.63**	**127**	P		**P**		**13 37 01.7**	**-0.1**
BRT	**Bari-Castellan**	**8.67**	**303**	P		**P**		**13 37 01.3**	**-0.9**
NKY	**Niksic**	**8.70**	**319**	⇑*i*Pn		**P**		**13 37 02.1**	**-0.5**
NKY				*e*Sn		**S**		**13 38 34.9**	**-4.2**
SOI	**Samo**	**8.70**	**283**	P		**P**		**13 37 00.5**	**-2.2**
HCY	**Herceg Novi**	**8.73**	**315**	⇑*i*Pn		**P**		**13 37 02.4**	**-0.6**
HCY				*e*Sn		**S**		**13 38 35.8**	**-4.1**
MZDA	**Masada**	**8.81**	**124**	Pn		**P**		**13 37 04.3**	**+0.2**
MZDA	**Masada**	**8.81**	**124**	P		**P**		**13 37 03.9**	**-0.2**
MZDA				S		**S**		**13 38 37.8**	**-4.1**
LTRZ	**Laterza**	**8.81**	**301**	P		**P**		**13 37 01.8**	**-2.4**
MKRJ	**Makawir**	**8.85**	**122**	Pn		**P**		**13 37 04.4**	**-0.2**
CEL	**Celeste**	**8.85**	**285**	P		**P**		**13 37 02.6**	**-2.1**
PLE	**Pljevlja**	**8.86**	**322**	*e*Pn		**P**		**13 37 05.3**	**+0.5**
PLE				*e*Sn		**S**		**13 38 39.2**	**-3.9**
ORI	**Oriolo Calabro**	**8.87**	**297**	P		**P**		**13 37 03.3**	**-1.6**
ROOS	**tl_alroos**	**8.88**	**102**	⇑*i*P		**P**		**13 37 04.8**	**-0.3**
MTTG	**Motta San Giov**	**8.98**	**283**	P		**P**		**13 37 04.3**	**-2.0**
MLR	**Muntele Rosu**	**8.98**	**356**	P		**P**		**13 37 06.3**	**-0.1**
	0.9nm,0.3s,baz=190,slow=3.6,SNR=72								
MLR				ScP				13 46 33.0	
	0.2nm,0.3s,baz=138,slow=0.9,SNR=5.3								
MLR	**Muntele Rosu**	**8.98**	**356**	⇑P		**P**		**13 37 07.0**	**+0.6**
MLR	**Muntele Rosu**	**8.98**	**356**	⇑P		**P**		**13 37 07.0**	**+0.6**
TREB	**Trebinje**	**8.98**	**316**	Pn		**P**		**13 37 05.6**	**-0.8**
TREB				Sn		**S**		**13 38 40.1**	**-5.9**
SCLL	**Scilla**	**8.99**	**284**	P		**P**		**13 37 04.4**	**-2.1**
BAI	**Bari**	**8.99**	**304**	*e*Pn		**P**		**13 37 05.4**	**-1.1**
BRY	**Bratogost**	**9.00**	**318**	⇑*i*Pn		**P**		**13 37 06.3**	**-0.2**
BRY				*e*Sn		**S**		**13 38 42.0**	**-4.3**
BRY	**Bratogost**	**9.00**	**318**	⇑*i*Pn		**P**		**13 37 06.3**	**-0.3**
BRY				*e*Sn		**S**		**13 38 42.0**	**-4.4**
VOIR		**9.00**	**352**	⇓P		**P**		**13 37 06.1**	**-0.5**
VOIR		**9.00**	**352**	⇓P		**P**		**13 37 06.1**	**-0.6**
SG1	**Sgolgore (BA)**	**9.01**	**302**	*e*Pn		**P**		**13 37 05.2**	**-1.5**
UPM	**Unac-Piva**	**9.01**	**320**	⇑*i*Pn		**P**		**13 37 06.7**	**-0.1**
UPM				*e*Sn		**S**		**13 38 42.6**	**-4.2**
SALA	**Sala**	**9.03**	**112**	⇑*i*P		**P**		**13 37 06.8**	**-0.1**
MSI	**Messina ING**	**9.11**	**284**	P		**P**		**13 37 06.5**	**-1.6**
DIVS	**Divcibare**	**9.18**	**328**	⇓*i*Pn		**P**		**13 37 09.6**	**+0.7**
ZFRI	**Zfri**	**9.18**	**128**	Pn		**P**		**13 37 07.0**	**-2.0**
PRNI	**Paran**	**9.21**	**130**	Pn		**P**		**13 37 08.1**	**-1.3**
PRNI				Sn		**S**		**13 38 44.9**	**-6.5**
KMTI	**Karmit**	**9.21**	**132**	Pn		**P**		**13 37 08.1**	**-1.3**
KMTI				Sn		**S**		**13 38 44.2**	**-7.3**
AGST	**Augusta-Monte**	**9.30**	**278**	P		**P**		**13 37 08.6**	**-2.0**
CUC	**Castrocucco**	**9.31**	**295**	P		**P**		**13 37 09.2**	**-1.5**
VRI	**Vrincioaia**	**9.34**	**360**	⇓P		**P**		**13 37 12.8**	**+1.8**
VRI	**Vrincioaia**	**9.34**	**360**	⇓P		**P**		**13 37 12.8**	**+1.8**
ZALF	**Zalf**	**9.38**	**109**	⇑*i*P		**P**		**13 37 11.9**	**+0.2**
CDT	**Castel del Mon**	**9.39**	**302**	*e*Pn		**P**		**13 37 10.2**	**-1.6**
ASF	**Jabal al Asfar**	**9.41**	**115**	P		**P**		**13 37 12.3**	**+0.3**
	13nm,0.3s,baz=180,slow=3.0,SNR=42								
ASF				S		**S**		**13 38 51.7**	**-4.4**
	9.8nm,0.3s,baz=83,slow=20,SNR=3.6								
MALT	**

KIV **Kislovodsk** 14.21 54 eP P 13 38 19.6 +5.3
KIV pmax pmax
comp=N,12nm,0.8s
KIV pmax pmax
comp=E,14nm,0.8s
KIV pmax pmax
comp=Z,35nm,0.8s
AKASG **Malin Array Be** 14.28 6 P P 13 38 15.7 +0.5
comp=Z,1.0nm,0.3s,baz=197,slow=11,SNR=4.8
AKASG S S 13 40 57.9 +7.9
baz=190,slow=22,SNR=32
AKASG ScP 13 46 40.9
comp=Z,0.5nm,0.3s,baz=209,slow=1.2,SNR=15
AKASG **Malin Array Be** 14.28 6 P P 13 38 15.7 +0.5
AKASG S S 13 40 57.9 +7.9
AKASG ScP 13 46 40.9
CAE **Caneva** 14.35 316⇑ eP P 13 38 17.0 +0.9
ZCCA **Zocca** 14.35 308 P P 13 38 17.2 +1.1
PII **Pisa** 14.37 305 P P 13 38 16.1 -0.2
ZOU **Zoufplan** 14.39 318⇓ eP P 13 38 17.0 +0.4
UMJS **Umm Lajj** 14.41 138 P P 13 38 19.0 +2.0
BDI **Bagni Di Lucca** 14.46 306 ⇓P P 13 38 17.8 +0.3
MAIM 14.47 306 P P 13 38 17.8 +0.2
MAIM 14.47 306 P P 13 38 17.8 +0.2
FVI **Forni Avoltri** 14.52 318 P P 13 38 18.9 +0.7
CSMI **Casera Mimoias** 14.54 318⇑ iP P 13 38 19.0 +0.6
KBA **Koelnbreinsper** 14.54 321 i SN S 13 40 56.2 +0.3
KBA **Koelnbreinsper** 14.54 321 i P P 13 38 19.1 +0.7
KBA **Koelnbreinsper** 14.54 321⇑ iPn P 13 38 19.1 +0.7
KBA i Sn S 13 40 56.2 +0.3
ZEI **Tsey** 14.56 59 eP P 13 38 22.3 +3.5
OJC **Ojcow** 14.60 342 eP P 13 38 23.0 +3.8
GSCL **Gusciola** 14.60 307 P P 13 38 20.8 +1.6
MOA **Molln** 14.62 325⇓ iPn P 13 38 20.8 +1.3
MOA i Sn S 13 40 58.3 +0.5
VLC **Villacollemand** 14.64 306 eP P 13 38 18.5 -1.3
comp=Z,62nm,1.0s
VLC **Villacollemand** 14.64 306 eP P 13 38 18.5 -1.3
comp=Z,62nm,1.0s
SARO **Sassorosso** 14.64 307 P P 13 38 18.7 -1.1
SARO **Sassorosso** 14.64 307 P P 13 38 18.7 -1.1
KRUC **Moravsky** 14.66 332 P P 13 38 21.3 +1.4
OKC **Ostrava-Krasne** 14.71 337 eP P 13 38 22.3 +1.7
OKC eS S 13 41 13.0 +13
FAU **Forcella Aurin** 14.74 316⇓ eP P 13 38 23.0 +2.0
ERBM **Eremo** 14.74 307 P P 13 38 22.3 +1.3
VRAC **Vranov** 14.79 333 P P 13 38 21.0 -0.5
comp=Z,6.1nm,0.3s,baz=128,slow=11,SNR=62
VRAC ScP 13 46 42.1
comp=Z,0.3nm,0.3s,baz=207,slow=8.0,SNR=3.8
VRAC **Vranov** 14.79 333 ePn P 13 38 24.2 +2.6
BHD **Baghdad** 14.79 98 eP P 13 38 23.5 +1.8
BHD eS S 13 41 11.5 +10
VINC **Vinca** 14.79 306 P P 13 38 20.7 -0.9
VINC **Vinca** 14.79 306 P P 13 38 20.7 -0.9
CORF **Corte** 14.80 298 eP P 13 38 21.9 +0.1
AFL **Alpe Faloria** 14.80 317⇓ iP P 13 38 23.0 +1.2
VALM 14.82 307 P P 13 38 22.0 0.0
VALM 14.82 307 P P 13 38 22.0 0.0
CTI **Castel Tesino** 14.82 315 P P 13 38 21.7 -0.3
MORC **Moravsky Berou** 14.85 336 eP P 13 38 22.0 -0.4
comp=Z,61nm,0.9s
MORC **Moravsky Berou** 14.85 336 ePn P 13 38 23.9 +1.5
MORC **Moravsky Berou** 14.85 336 eP P 13 38 21.9 -0.5
comp=Z,61nm,0.9s
MORC **Moravsky Berou** 14.85 336 eP P 13 38 22.0 -0.4
MORC pmax pmax
comp=Z,61nm,0.9s
SEST **Monte Rota** 14.92 318 P P 13 38 23.9 +0.7
GOF **Gofitskoye** 14.94 50 i P P 13 38 23.2 -0.4
comp=Z,60nm,1.3s
GOF **Gofitskoye** 14.94 50⇑ iP P 13 38 23.2 -0.4
GOF pmax pmax
comp=Z,60nm,1.3s
PGF **Pioggiola** 14.99 299 eP P 13 38 23.4 -0.7
comp=Z,56nm,0.6s
PGF **Pioggiola** 14.99 299 eP P 13 38 23.4 -0.7
PGF pmax pmax
comp=Z,28nm,0.6s
GRAM 14.99 307 P P 13 38 24.3 +0.1
GRAM 14.99 307 P P 13 38 24.3 +0.1
CODM 15.09 307 P P 13 38 25.4 0.0
SAL **Salo** 15.24 312 P P 13 38 27.8 +0.5
APPI **Appiano** 15.30 315 P P 13 38 29.2 +1.1
BOB **Bobbio (Coli)** 15.51 307 P P 13 38 30.4 -0.3
WTTA **Wattenberg** 15.55 318⇑ iPn P 13 38 31.9 +0.8
WTTA i Sn S 13 41 19.4 +0.4
CGMA **Guelma** 15.60 276 P P 13 38 34.0 +2.2
GERES **GERESS Array B** 15.60 326 P P 13 38 31.0 -0.8
comp=Z,1.8nm,0.3s,baz=139,slow=12,SNR=148
GERES ScP 13 46 43.1
comp=Z,0.5nm,0.3s,baz=180,slow=2.7,SNR=20
WATA **Walderalm** 15.62 318⇓ iPn P 13 38 32.6 +0.5
WATA i Sn S 13 41 21.0 +0.3
SQTA **Sankt Quirin** 15.75 318⇓ iPn P 13 38 34.0 +0.3
SQTA i Sn S 13 41 23.6 0.0
DPC **Dobruska-Polom** 15.75 335 eP P 13 38 34.7 +1.1
DPC eS S 13 41 29.9 +6.3
BRMO **Bormio** 15.79 314 P P 13 38 35.3 +1.1
KHC **Kasperske Hory** 15.87 327 eP P 13 38 36.3 +1.2
KHC eS S 13 41 33.9 +7.7
MOTA **Moosalm** 15.88 318⇑ iPn P 13 38 35.5 +0.2
MOTA i Sn S 13 41 27.8 +1.2
BERNI **Berninapass** 15.96 313⇓ iP P 13 38 37.8 +1.5
UPC **Upice** 15.99 334 eP P 13 38 37.6 +1.0
PCP **Pian Castagno** 16.00 306 P P 13 38 34.2 -2.6
FIN **Finale Ligure** 16.09 304 P P 13 38 36.7 -1.2
FIN **Finale Ligure** 16.09 304 P P 13 38 36.7 -1.2
PRU **Pruhonice** 16.12 330 eP P 13 38 38.7 +0.5
PRU eS S 13 41 39.6 +7.7
CKFL **Kef-Lekhel** 16.16 276 P P 13 38 41.0 +2.2
KSP **Ksiaz** 16.18 335 eP P 13 38 39.9 +0.9
KSP eS S 13 41 40.1 +6.9
KSP **Ksiaz** 16.18 335⇑ eP P 13 38 39.8 +0.9
KSP eS S 13 41 37.0 +3.8
WET **Wettzell** 16.19 325 eP P 13 38 39.6 +0.5
comp=Z,94nm,0.9s
WET **Wettzell** 16.19 325 eP P 13 38 39.6 +0.5
WET pmax pmax
comp=Z,94nm,0.9s
IMI **Imperia** 16.20 303 P P 13 38 38.8 -0.4
IMI **Imperia** 16.20 303 P P 13 38 38.8 -0.5
DAVOX **Davos** 16.25 314 P P 13 38 39.9 +0.1
comp=Z,4.6nm,0.3s,baz=120,slow=12,SNR=37
DAVOX ScP 13 46 44.8
comp=Z,0.2nm,0.3s,baz=224,slow=16,SNR=3.7
NEGI **Negi** 16.30 303 P P 13 38 40.0 -0.5
NEGI **Negi** 16.30 303 P P 13 38 40.0 -0.5
FUR **Furstenfeldbru** 16.31 320 eP P 13 38 41.1 +0.6
comp=Z,180nm,0.8s
FUR **Furstenfeldbru** 16.31 320 eP P 13 38 41.1 +0.6
FUR pmax pmax
comp=Z,180nm,0.8s
ROB **Roburent** 16.35 304 P P 13 38 42.1 +1.0
ROB **Roburent** 16.35 304 P P 13 38 42.1 +0.9
CASM **Ain Smara** 16.36 275 P P 13 38 42.0 +0.7
TUE **Stuetta** 16.39 313 P P 13 38 41.4 -0.2
VAI **Varese** 16.44 310 P P 13 38 42.0 -0.2
SAOF **Saorge** 16.45 303 eP P 13 38 42.2 -0.2
SBF **Sospel** 16.49 302 eP P 13 38 42.7 -0.1
comp=Z,315nm,0.9s
SBF **Sospel** 16.49 302 eP P 13 38 42.7 -0.1
SBF pmax pmax
comp=Z,158nm,0.9s
REVF **Revere** 16.50 302 eP P 13 38 42.5 -0.4
DAVA **Damuels** 16.53 316⇑ iPn P 13 38 43.2 0.0
DAVA i Sn S 13 41 42.9 +1.9
PVCC **Panska Ves** 16.54 332 eP P 13 38 43.6 +0.2
PVCC eS S 13 41 31.8 -9.5
AUTN **L'Aution** 16.54 303 eP P 13 38 43.5 0.0
UBR **Uberruh** 16.63 317⇑ eP P 13 38 44.8 +0.3
UBR **Uberruh** 16.63 317 P P 13 38 45.0 +0.5
ENR **Entracque** 16.63 304 P P 13 38 44.5 0.0
ENR **Entracque** 16.63 304 P P 13 38 44.5 0.0
TOUF **Mont Tournerai** 16.67 303 eP P 13 38 45.3 +0.3
PLONS **Plons** 16.68 314⇑ iP P 13 38 45.6 +0.5
MVIF **Mont Vial** 16.70 302 eP P 13 38 45.4 +0.1
STV **Sta Anna Valdi** 16.70 303 P P 13 38 45.4 0.0
STV **Sta Anna Valdi** 16.70 303 P P 13 38 45.4 0.0
LIENZ **Alp Oberkamor** 16.75 315⇑ iP P 13 38 46.2 +0.3
LLS **Linth-Limmern** 16.79 313⇑ eP P 13 38 46.6 +0.2
FUSIO **Fusio** 16.79 312⇑ eP P 13 38 46.6 +0.1

DFRA **Djebel Bou Aff** 16.82 276 P P 13 38 50.0 +3.1
ORO **Oropa** 16.82 309 P P 13 38 45.7 -1.1
ORX **Oropa** 16.82 309 P P 13 38 46.2 -0.7
ORX **Oropa** 16.82 309 P P 13 38 46.2 -0.6
CALN **Calern** 16.83 302 eP P 13 38 47.1 +0.2
DOI **San Damiano** 16.84 304 P P 13 38 46.4 -0.7
TRAV 16.92 308 P P 13 38 46.4 -1.6
TRAV 16.92 308 P P 13 38 46.4 -1.6
CMER **Merouana** 16.92 273 P P 13 38 54.0 +5.8
FRF **La Foret Royal** 16.94 301 eP P 13 38 47.5 -0.7
comp=Z,176nm,0.8s
FRF epP 13 39 12.5
FRF **La Foret Royal** 16.94 301 eP P 13 38 47.5 -0.7
FRF pmax pmax
comp=Z,88nm,0.8s
BHB **Bricherasio** 16.96 305 P P 13 38 45.9 -2.6
BHB **Bricherasio** 16.96 305 P P 13 38 45.9 -2.6
LMR **La Mourre** 16.96 300 eP P 13 38 47.3 -1.3
comp=Z,187nm,1.2s
LMR **La Mourre** 16.96 300 eP P 13 38 47.3 -1.3
LMR pmax pmax
comp=Z,94nm,1.2s
MCGN **Macugnaga** 16.97 310 P P 13 38 47.5 -1.1
MMK **Mattmark** 17.02 310⇑ iP P 13 38 48.1 -1.2
BRG **Berggiesshubel** 17.05 331 i P P 13 38 49.2 -0.4
comp=Z,11nm,0.8s
BRG i pP 13 39 13.2
BRG **Berggiesshubel** 17.05 331 i P P 13 38 49.2 -0.5
comp=Z,11nm,0.8s
BRG i pP 13 39 13.2
BRG S S 13 41 38.0 -15
BRG **Berggiesshubel** 17.05 331 i P P 13 38 49.2 -0.4
BRG pmax pmax
comp=Z,11nm,0.8s
BRG pmax pmax
comp=Z,9.0nm,0.8s
MUO **Muotathal** 17.07 313⇑ iP P 13 38 49.9 +0.1
RSP **Reno Superiore** 17.09 306 P P 13 38 47.4 -2.6
RSP **Reno Superiore** 17.09 306 P P 13 38 47.4 -2.6
HDH **Heidenheim** 17.12 320 eP P 13 38 49.7 -0.8
HDH **Heidenheim** 17.12 320 P P 13 38 50.2 -0.3
SURF **Saint Ours** 17.13 304 eP P 13 38 50.9 +0.4
WILA **Wila** 17.15 315⇑ iP P 13 38 50.5 -0.3
VRSR **Storozhevoye** 17.15 27 eP P 13 38 49.7 -1.1
VRSR pmax pmax
comp=N,3.0nm,0.7s
VRSR pmax pmax
comp=Z,5.0nm,0.7s
VRSR pmax pmax
comp=E,6.0nm,0.9s
VRSR pmax pmax
comp=N,3.0nm,0.7s
VRSR pmax pmax
comp=Z,5.0nm,0.7s
VRSR pmax pmax
comp=E,6.0nm,0.9s
FENE **Fenestrelle** 17.16 306 P P 13 38 52.1 +1.1
NKC **Novy Kostel** 17.18 327 eP P 13 38 50.4 -0.8
SET **Setif** 17.24 275 P P 13 38 55.0 +3.0
MBDF **Montbardon** 17.24 305 eP P 13 38 50.7 -1.3
comp=E,302nm,0.8s
MBDF **Montbardon** 17.24 305 eP P 13 38 50.7 -1.3
MBDF pmax pmax
comp=Z,151nm,0.8s
HASLI **Hasliberg** 17.25 312⇑ iP P 13 38 51.8 -0.2
SISB **Singen-Sch Ber** 17.26 316 P P 13 38 52.7 +0.5
LSD **Ceresole Reale** 17.27 307 P P 13 38 49.6 -2.7
RRL **Cesana Torines** 17.31 305 P P 13 38 52.2 -0.5
RRL **Cesana Torines** 17.31 305 P P 13 38 52.2 -0.5
GRA1 **Grafenberg Arr** 17.35 324 eP P 13 38 52.3 -0.9
comp=Z,77nm,0.8s
GRF **Grafenberg Arr** 17.35 324 eP P 13 38 52.3 -0.9
comp=Z,77nm,0.8s
GRF **Grafenberg Arr** 17.35 324 eP P 13 38 52.3 -0.9
GRF pmax pmax
comp=Z,77nm,0.8s
GRF **Grafenberg Arr** 17.35 324 eP P 13 38 52.3 -0.9
GRF pmax pmax
comp=Z,77nm,0.8s
TAVF **Tavernes** 17.36 300 eP P 13 38 53.5 +0.1
DIX **Grande Dixence** 17.38 309⇓ eP P 13 38 53.5 -0.1
LKBD **Leukerbad** 17.39 310⇑ iP P 13 38 53.6 -0.1
GUT **Gutenstein** 17.40 317 eP P 13 38 52.8 -1.0
GUT **Gutenstein** 17.40 317 P P 13 38 53.1 -0.7
BNI **Bardonecchia** 17.43 305 eP P 13 38 52.9 -1.2
comp=Z,46nm,0.8s
BNI **Bardonecchia** 17.43 305 eP P 13 38 52.9 -1.3
comp=Z,46nm,0.8s
BNI **Bardonecchia** 17.43 305 eP P 13 38 52.9 -1.2
BNI pmax pmax
comp=Z,46nm,0.8s
BERF **Bertagne** 17.53 299 eP P 13 38 56.5 +1.1
LPG **La Plagne** 17.55 307 eP P 13 38 55.9 +0.3
comp=Z,114nm,0.5s
LPG **La Plagne** 17.55 307 eP P 13 38 55.9 +0.3
LPG pmax pmax
comp=Z,57nm,0.5s
LPL **La Plagne** 17.57 307 eP P 13 38 55.8 -0.1
comp=Z,143nm,0.8s
LPL **La Plagne** 17.57 307 eP P 13 38 55.8 -0.1
LPL pmax pmax
comp=Z,71nm,0.8s
SENIN **Lac Senin** 17.58 310⇑ iP P 13 38 55.4 -0.5
STOF **St-Etienne Org** 17.58 302 eP P 13 38 56.5 +0.5
PUYF **Puyloubier** 17.59 307 eP P 13 38 55.4 -0.6
SPAK **Spaichingen** 17.60 317 eP P 13 38 55.6 -0.5
SPAK **Spaichingen** 17.60 317 P P 13 38 56.0 -0.1
GRYON **Gryon** 17.64 310⇑ iP P 13 38 55.8 -0.9
SULZ **Sulz-Cheisache** 17.66 314⇓ iP P 13 38 56.6 -0.3
VILF **Villemus** 17.67 301 eP P 13 38 57.0 0.0
SUW **Suwalki** 17.67 353 eP P 13 38 56.4 -0.6
comp=Z,200nm,0.7s
SUW eS S 13 42 11.8 +5.4
SUW **Suwalki** 17.67 353 eP P 13 38 56.3 -0.6
comp=Z,0.1nm,0.7s
SUW **Suwalki** 17.67 353 eP P 13 38 56.3 -0.6
SUW eS S 13 42 11.8 +5.4
GELF **Grande-Etoile** 17.74 299 eP P 13 38 57.7 -0.1
CLL **Collm** 17.76 331 ⇑P P 13 38 56.8 -1.2
comp=Z,logA/T=2.0
CLL e 13 39 00.0
CLL e 13 39 09.0
CLL eS S 13 42 15.0 +6.5
CLL i SCP 13 46 48.1
CLL **Collm** 17.76 331⇑ iP P 13 38 56.8 -1.2
comp=Z,67nm,0.7s
CLL eS S 13 42 15.0 +6.5
CLL i ScP 13 46 48.1
CLL **Collm** 17.76 331⇑ iP P 13 38 56.8 -1.2
CLL eS S 13 42 15.0 +6.5
CLL pmax pmax
comp=Z,67nm,0.7s
STU **Stuttgart** 17.77 319 eP P 13 38 56.8 -1.3
comp=Z,93nm,0.6s
STU **Stuttgart** 17.77 319 eP P 13 38 56.8 -1.3
comp=Z,93nm,0.6s
STU **Stuttgart** 17.77 319 eP P 13 38 56.8 -1.3
STU pmax pmax
comp=Z,93nm,0.6s
AIGLE **Aigle** 17.78 310⇑ iP P 13 38 57.1 -1.2
SMRF **Simiane la Rot** 17.80 301 eP P 13 38 57.4 -1.1
comp=Z,174nm,1.2s
BALST **Balsthal** 17.81 313⇑ iP P 13 38 56.7 -1.9
MOX **Moxa** 17.84 327 i P P 13 38 58.0 -1.0
comp=Z,logA/T=2.1
MOX **Moxa** 17.84 327 eP P 13 38 58.0 -1.0
comp=Z,170nm,1.4s
MOX **Moxa** 17.84 327 eP P 13 38 58.0 -1.0
MOX pmax pmax
comp=Z,170nm,1.4s
GDM **Grand'Maison** 17.85 305 eP P 13 38 59.1 0.0
ORIF **Oris-en-Rattie** 17.90 304 eP P 13 38 58.2 -1.5
comp=Z,112nm,0.9s
ORIF eR
comp=Z,56nm,21.2s
FELD **Feldberg** 17.91 315 eP P 13 38 59.3 -0.4
FELD **Feldberg** 17.91 315 eP P 13 39 00.1 +0.4
LBG **Lerchenberg** 17.92 318⇑ eP P 13 38 59.7 -0.1
LBG **Lerchenberg** 17.92 318 P P 13 38 59.8 0.0
TORNY **Torny** 17.97 311⇑ iP P 13 38 59.3 -1.2
BFO **Black Forest** 17.98 317 eP P 13 38 59.2 -1.3
comp=Z,90nm,0.9s
BFO **Black Forest** 17.98 317 eP P 13 38 59.2 -1.3
BFO pmax pmax
comp=Z,90nm,0.9s
BBS **Basel-Blauen** 17.98 313 eP P 13 38 59.2 -1.3
BBS **Basel-Blauen** 17.98 313 eP P 13 39 00.4 -0.1
KIZ **Kirchzarten** 18.00 315 eP P 13 39 00.7 -0.1
VRHR **Novokhopersk** 18.02 31 eP P 13 39 01.7 +0.8
VRHR pmax pmax
comp=Z,30nm,0.7s
VRHR pmax pmax
comp=N,6.0nm,0.4s
VRHR pmax pmax
comp=E,4.0nm,0.4s
PRAF **Pradon** 18.03 300 eP P 13 39 01.5 +0.4
GKP **Gorka Klasztor** 18.04 341 eP P 13 39 00.4 -0.7
GKP eS S 13 42 24.3 +10
GKP **Gorka Klasztor** 18.04 341 eP P 13 39 00.4 -0.7
GKP eS S 13 42 24.3 +10
GRN **Grenoble** 18.11 305 eP P 13 39 00.6 -1.3
LIBD **Limburg** 18.29 315 eP P 13 39 03.8 0.0
GIMEL **Gimel** 18.29 310⇑ iP P 13 39 02.3 -1.6
GIMEL **Gimel** 18.29 310⇑ iP P 13 39 02.4 -1.5
LOMF **Lomont** 18.33 312 eP P 13 39 03.1 -1.1
BRANT **Les Verrieres** 18.35 311⇑ iP P 13 39 03.2 -1.2
MOF **Molkenrain** 18.40 314 eP P 13 39 03.4 -1.6
RUE **Ruedersdorf** 18.41 334 eP P 13 39 03.6 -1.5
comp=E,72nm,0.8s
RUE **Ruedersdorf** 18.41 334 eP P 13 39 03.6 -1.5
comp=E,72nm,0.8s
MIB **Mutribah** 18.44 105 eP P 13 39 06.0 +0.5
MIB AMb AMB 13 39 08.2
comp=Z,120nm,0.6s
SWS **Schriesheim** 18.46 320⇑ eP P 13 39 04.5 -1.1
SWS **Schriesheim** 18.46 320 P P 13 39 04.9 -0.7
TOD **Tromm** 18.48 321⇑ eP P 13 39 04.8 -1.1
HINF **Hinteralfeld** 18.54 314 eP P 13 39 05.4 -1.1
comp=Z,69nm,0.6s
HINF **Hinteralfeld** 18.54 314 eP P 13 39 05.4 -1.1
HINF pmax pmax
comp=Z,34nm,0.6s
ECH **Echery** 18.57 315 eP P 13 39 06.4 -0.4
OG05 **Jujurieux** 18.60 307 eP P 13 39 06.0 -1.1
CDF **Champ du Feu** 18.61 316 eP P 13 39 06.7 -0.5
comp=Z,371nm,1.1s
CDF **Champ du Feu** 18.61 316 eP P 13 39 06.7 -0.5
CDF pmax pmax
comp=Z,185nm,1.1s
LANF **Langenberg** 18.63 318 eP P 13 39 06.7 -0.8
KTD **Kalmit** 18.68 319 eP P 13 39 07.1 -0.9
KTD **Kalmit** 18.68 319 eP P 13 39 07.2 -0.8
VIVF **Saint-Julien-I** 18.69 303 eP P 13 39 06.4 -1.7
comp=Z,167nm,0.7s
VIVF epP 13 39 32.1
VIVF **Saint-Julien-I** 18.69 303 eP P 13 39 06.4 -1.7
VIVF pmax pmax
comp=Z,84nm,0.7s
UMR **Umm Al-Rimmam** 18.84 106 eP P 13 39 10.9 +1.1
UMR AMb AMB 13 39 12.8
comp=Z,192nm,0.6s
HAU **Haudompre** 18.93 314 eP P 13 39 09.7 -0.9
comp=Z,207nm,0.8s
HAU eR
comp=Z,61nm,22.2s
KBD **Kabd** 19.00 107 eP P 13 39 12.2 +0.7
KBD AMb AMB 13 39 13.7
comp=Z,158nm,0.6s
RDF **Al-Radifah** 19.01 108 eP P 13 39 13.0 +1.4
LASF **Ste Croix** 19.02 300 eP P 13 39 09.9 -1.7
comp=Z,94nm,0.8s
TNS **Taunus Mts** 19.05 322 eP P 13 39 10.6 -1.2
comp=Z,136nm,0.9s
TNS **Taunus Mts** 19.05 322 eP P 13 39 10.6 -1.2
TNS pmax pmax
comp=Z,136nm,0.9s
ABA **Alger-Bouzarea** 19.06 278 P P 13 39 01.5 -11
ETOS **Mallorca** 19.13 287 P P 13 39 11.8 -1.0
comp=Z,98nm,0.9s,SNR=9.7
ETOS **Mallorca** 19.13 287 P P 13 39 11.8 -1.0
comp=Z,98nm,0.9s
EMHD **Djebel Mahouad** 19.20 276 P P 13 39 12.5 -1.1
CLZ **Clausthal** 19.25 328 eP P 13 39 12.6 -1.3
THEF **They Montfort** 19.25 314 eP P 13 39 13.2 -0.8
ABH **Alteburg** 19.30 320 eP P 13 39 13.1 -1.3
ABH **Alteburg** 19.30 320 eP P 13 39 13.5 -0.9
EJON **La Jonquera** 19.35 295 P P 13 39 13.4 -1.7
comp=Z,43nm,0.7s,SNR=17
EJON **La Jonquera** 19.35 295 P P 13 39 13.4 -1.6
comp=Z,43nm,0.7s
SJAF **Saint Jean de** 19.36 295 eP P 13 39 13.5 -1.7
QRN **Al-Qurain** 19.38 108 eP P 13 39 17.3 +1.8
QRN AMb AMB 13 39 18.5
comp=Z,130nm,0.6s
RUP **Ruppelstein** 19.45 319 eP P 13 39 15.2 -0.8
RUP **Ruppelstein** 19.45 319 eP P 13 39 15.3 -0.7
COLF **Collangettes** 19.56 304 eP P 13 39 16.1 -1.1
FILF **Fillols** 19.61 295 eP P 13 39 17.7 0.0
LRDF **Laroque-de-Fa** 19.69 296 eP P 13 39 17.5 -1.1
PLDF **La Plantade** 19.76 306 eP P 13 39 19.3 0.0
OBN **Obninsk** 19.76 17 i P P 13 39 20.8 +1.6
comp=Z,31nm,0.9s
OBN **Obninsk** 19.76 17 P P 13 39 21.1 +1.9
OBN **Obninsk** 19.76 17c iP P 13 39 20.8 +1.6
OBN i S S 13 42 48.9 +0.2
OBN pmax pmax
comp=Z,31nm,0.9s
LBL **Lubilhac** 19.77 303 eP P 13 39 20.5 +1.2
SMF **Signal de Mont** 19.86 308 eP P 13 39 19.3 -1.0
comp=Z,151nm,0.7s
SMF epP 13 39 45.2
SMF **Signal de Mont** 19.86 308 eP P 13 39 19.3 -1.0
SMF pmax pmax
comp=Z,75nm,0.7s
WLF **Walferdange** 19.91 318 eP P 13 39 20.0 -0.8
comp=Z,58nm,0.8s
WLF **Walferdange** 19.91 318 eP P 13 39 20.0 -0.8
comp=Z,58nm,0.8s
WLF **Walferdange** 19.91 318 eP P 13 39 20.0 -0.8
WLF pmax pmax
comp=Z,57nm,0.8s
MEZF **Maizieres J'vi** 19.93 314 eP P 13 39 20.5 -0.5
comp=Z,271nm,0.8s
VALF **Valcebollere** 19.98 295 eP P 13 39 21.2 -0.3
MTLF **Montolieu** 20.00 297 eP P 13 39 21.0 -0.8
comp=Z,148nm,0.7s
MTLF **Montolieu** 20.00 297 eP P 13 39 21.0 -0.8
MTLF pmax pmax
comp=Z,74nm,0.7s
PYM **Petit Puy Mans** 20.09 305 eP P 13 39 24.2 +1.6
LOR **Lormes** 20.10 309 eP P 13 39 21.8 -0.9
comp=Z,124nm,0.8s
LOR eR
comp=Z,50nm,21.2s
LOR **Lormes** 20.10 309 eP P 13 39 21.8 -0.9
LOR pmax pmax
comp=Z,62nm,0.8s
LOR MLR MLR
comp=Z,50nm,21.3s
AGO **Saint Agoulin** 20.11 306 eP P 13 39 23.1 +0.3
LPEF **Le Peyrat** 20.15 296 eP P 13 39 22.2 -1.1
AVF **Avril sur Loir** 20.23 308 eP P 13 39 23.4 -0.6
comp=Z,176nm,0.8s
AVF **Avril sur Loir** 20.23 308 eP P 13 39 23.4 -0.6
AVF pmax pmax
comp=Z,88nm,0.8s
SSF **Saint Saulge** 20.24 309 eP P 13 39 23.5 -0.6
comp=Z,86nm,0.6s
SSF **Saint Saulge** 20.24 309 eP P 13 39 23.5 -0.6
SSF pmax pmax
comp=Z,86nm,0.6s
EIBI **Ibiza** 20.26 285 P P 13 39 23.5 -0.9
comp=Z,50nm,0.7s,SNR=7.9
EIBI **Ibiza** 20.26 285 P P 13 39 23.5 -0.9
comp=Z,50nm,0.7s
FRNF **Fournols** 20.27 303 eP P 13 39 24.9 +0.4
EMIR **Miracle** 20.28 293 P P 13 39 25.5 +1.0
comp=Z,157nm,0.8s,SNR=30
EBNR **Beni Rached** 20.33 277 P P 13 39 25.0 -0.1
BUG **Bochum--Univer** 20.40 323 P P 13 39 25.9 +0.2
VERF **Verneugheol** 20.44 304 eP P 13 39 27.0 +0.9
BGF **Bois d'Agland** 20.47 307 eP P 13 39 25.6 -0.8
comp=Z,145nm,0.8s
BGF **Bois d'Agland** 20.47 307 eP P 13 39 25.6 -0.8
BGF pmax pmax
comp=Z,73nm,0.8s
ECHA **Ech Chlef** 20.48 277 P P 13 39 28.0 +1.4
CAF **Calviac** 20.48 302 eP P 13 39 26.5 -0.1
comp=Z,157nm,0.9s

CAF	**Calviac**	**20.48 302**	*e*P	**P**	**13 39 26.5**	**-0.1**
CAF			pmax	pmax		
comp=Z,78nm,0.9s						
EPOB	**Poblet**	**20.55 291**	P	**P**	**13 39 26.8**	**-0.5**
comp=Z,32nm,0.5s,SNR=15						
EPOB	**Poblet**	**20.55 291**	P	**P**	**13 39 26.8**	**-0.5**
comp=Z,32nm,0.5s						
MOS	**Moscow**	**20.58 18**	*e*P	**P**	**13 39 35.4**	**+7.9**
MOS			*e*		13 39 51.7	
MOS			*e*		13 43 02.0	
SALF	**Salau**	**20.64 295**	*e*P	**P**	**13 39 28.3**	**+0.1**
HGN	**Heimansgroeve**	**20.65 320⇑**	*e*P	**P**	**13 39 27.8**	**-0.5**
comp=Z,49nm,1.4s						
ETRT	**Tiaret**	**20.66 274**	P	**P**	**13 39 29.0**	**+0.6**
EANR	**'Ain N'Sour**	**20.73 276**	P	**P**	**13 39 29.5**	**+0.4**
MLS	**Moulis**	**20.74 296**	*e*P	**P**	**13 39 28.6**	**-0.6**
TCF	**Toulx Ste Croi**	**20.79 306**	*e*P	**P**	**13 39 29.3**	**-0.4**
comp=Z,32nm,0.6s						
TCF	**Toulx Ste Croi**	**20.79 306**	*e*P	**P**	**13 39 29.3**	**-0.4**
TCF			pmax	pmax		
comp=Z,16nm,0.6s						
BSEG	**Bad Segeberg**	**20.84 332**	*e*P	**P**	**13 39 29.7**	**-0.4**
HYF	**Humbligny**	**20.86 308**	*e*P	**P**	**13 39 29.9**	**-0.5**
GIVF	**Givet**	**20.87 317**	*e*P	**P**	**13 39 29.8**	**-0.6**
comp=Z,90nm,0.7s						
GIVF	**Givet**	**20.87 317**	*e*P	**P**	**13 39 29.8**	**-0.6**
GIVF			pmax	pmax		
comp=Z,45nm,0.7s						
EBR	**Ebro Roquetas**	**20.95 290**	*e*P	**P**	**13 39 30.8**	**-0.5**
RJF	**Les Rejaudoux**	**20.96 303**	*e*P	**P**	**13 39 31.4**	**+0.1**
comp=Z,128nm,0.9s						
RJF			*e*R			
comp=Z,68nm,19.0s						
RJF	**Les Rejaudoux**	**20.96 303**	*e*P	**P**	**13 39 31.4**	**+0.1**
RJF			pmax	pmax		
comp=Z,64nm,0.9s						
RJF			MLR	MLR		
comp=Z,70nm,19.0s						
OKGL	**Djebel Kef Gue**	**21.08 277**	P	**P**	**13 39 35.0**	**+2.4**
OJGS	**Djebel Guires**	**21.08 275**	P	**P**	**13 39 32.0**	**-0.6**
BAIF	**Baives**	**21.19 317**	*e*P	**P**	**13 39 33.1**	**-0.5**
comp=Z,133nm,0.7s,mb5.1						
BAIF	**Baives**	**21.19 317**	*e*P	**P**	**13 39 33.1**	**-0.5**
BAIF			pmax	pmax		
comp=Z,66nm,0.7s,mb5.1						
EGRA	**Graus**	**21.20 294**	P	**P**	**13 39 34.6**	**+0.8**
comp=Z,40nm,0.7s,mb4.8,SNR=11						
EGRA	**Graus**	**21.20 294**	P	**P**	**13 39 34.6**	**+0.8**
comp=Z,40nm,0.7s,mb4.9						
RESF	**Ens**	**21.27 295**	*e*P	**P**	**13 39 36.6**	**+2.2**
EPF	**Esparros**	**21.30 296**	*e*P	**P**	**13 39 34.1**	**-0.6**
comp=Z,30nm,0.6s,mb4.5						
EPF	**Esparros**	**21.30 296**	*e*P	**P**	**13 39 34.1**	**-0.6**
EPF			pmax	pmax		
comp=Z,15nm,0.6s,mb4.5						
OJBR	**Djebel Berber**	**21.39 275**	P	**P**	**13 39 39.0**	**+3.3**
EBIE	**Bielsa**	**21.39 295**	P	**P**	**13 39 36.6**	**+1.0**
comp=Z,39nm,0.6s,mb4.9,SNR=26						
EBIE	**Bielsa**	**21.39 295**	P	**P**	**13 39 36.6**	**+0.9**
comp=Z,39nm,0.6s,mb4.9						
LFF	**La Frestale**	**21.39 301**	*e*P	**P**	**13 39 36.1**	**+0.5**
comp=Z,59nm,0.5s,mb4.8						
LFF	**La Frestale**	**21.39 301**	*e*P	**P**	**13 39 36.1**	**+0.5**
LFF			pmax	pmax		
comp=Z,29nm,0.5s,mb4.9						
EBEN	**Beniarda**	**21.49 284**	P	**P**	**13 39 38.6**	**+1.9**
comp=Z,32nm,0.8s,mb4.7,SNR=7.0						
EBEN	**Beniarda**	**21.49 284**	P	**P**	**13 39 38.6**	**+2.0**
comp=Z,32nm,0.8s,mb4.7						
LABF	**Labassere**	**21.50 296**	*e*P	**P**	**13 39 39.4**	**+2.8**
VIEF	**Viey**	**21.51 295**	*e*P	**P**	**13 39 37.0**	**+0.2**
EMOS	**Mosqueruela**	**21.67 289**	P	**P**	**13 39 39.7**	**+1.4**
comp=Z,42nm,1.1s,mb4.8,SNR=9.8						
EMOS	**Mosqueruela**	**21.67 289**	P	**P**	**13 39 39.8**	**+1.4**
comp=Z,42nm,1.1s,mb4.8						
ESAC	**San Caprasio**	**21.74 292**	P	**P**	**13 39 40.3**	**+1.3**
comp=Z,59nm,0.5s,mb5.3,SNR=18						
ODJA	**Bouhanifia**	**21.84 275**	P	**P**	**13 39 42.0**	**+2.0**
ETSF	**Etsaut**	**21.93 295**	*e*P	**P**	**13 39 40.5**	**-0.4**
comp=Z,30nm,0.5s,mb4.7						
ETSF	**Etsaut**	**21.93 295**	*e*P	**P**	**13 39 40.5**	**-0.4**
ETSF			pmax	pmax		
comp=Z,15nm,0.5s,mb4.7						
VSU	**Vasula**	**21.95 360**	P	**P**	**13 39 41.6**	**+0.6**
VSU	**Vasula**	**21.95 360⇑**	*i*P	**P**	**13 39 41.7**	**+0.7**
ECHE	**Chera**	**22.05 286**	P	**P**	**13 39 44.0**	**+2.0**
comp=Z,36nm,0.8s,mb4.8,SNR=7.9						
ECHE	**Chera**	**22.05 286**	P	**P**	**13 39 44.0**	**+1.9**
comp=Z,36nm,0.8s,mb4.8						
ECHE	**Chera**	**22.05 286**	P	**P**	**13 39 44.0**	**+2.0**
ECHE			pmax	pmax		
comp=Z,36nm,0.8s,mb4.8						
ORDF	**Ordiarp**	**22.25 296**	*e*P	**P**	**13 39 45.1**	**+1.1**
LARF	**Larrau**	**22.26 296**	*e*P	**P**	**13 39 45.8**	**+1.7**
EMUR	**La Murta**	**22.35 282**	P	**P**	**13 39 46.0**	**+1.0**
comp=Z,43nm,1.1s,mb4.8,SNR=7.6						
EMUR	**La Murta**	**22.35 282**	P	**P**	**13 39 46.0**	**+1.0**
comp=Z,43nm,1.1s,mb4.8						
MFF	**Saint Martin d**	**22.44 305**	*e*P	**P**	**13 39 46.1**	**+0.3**
comp=Z,39nm,0.7s,mb4.7						
MFF	**Saint Martin d**	**22.44 305**	*e*P	**P**	**13 39 46.1**	**+0.3**
MFF			pmax	pmax		
comp=Z,19nm,0.7s,mb4.6						
SJPF	**Ste Jean**	**22.45 296**	*e*P	**P**	**13 39 46.2**	**+0.3**
comp=Z,148nm,1.0s,mb5.1						
SJPF	**Ste Jean**	**22.45 296**	*e*P	**P**	**13 39 46.2**	**+0.3**
SJPF			pmax	pmax		
comp=Z,74nm,1.0s,mb5.1						
OSSF	**Osses**	**22.49 296**	*e*P	**P**	**13 39 47.5**	**+1.1**
ETOB	**Tobarra**	**22.53 284**	P	**P**	**13 39 48.7**	**+1.9**
comp=Z,31nm,0.7s,mb4.8,SNR=9.9						
ETOB	**Tobarra**	**22.53 284**	P	**P**	**13 39 48.7**	**+2.0**
comp=Z,31nm,0.7s,mb4.8						
EALK	**Alkurruntz**	**22.66 296**	P	**P**	**13 39 50.2**	**+2.2**
comp=Z,12nm,0.3s,mb4.8						
LCHF	**La Chataignera**	**22.85 305**	*e*P	**P**	**13 39 50.8**	**+1.0**
ENIJ	**Nijar**	**23.21 280**	P	**P**	**13 39 55.5**	**+2.1**
comp=Z,2.2nm,0.4s,mb3.9						
ENIJ	**Nijar**	**23.21 280**	P	**P**	**13 39 55.5**	**+2.1**
ENIJ			pmax	pmax		
comp=Z,2.0nm,0.4s,mb3.9						
EVIA	**Vianos**	**23.28 284**	P	**P**	**13 39 56.1**	**+2.1**
comp=Z,52nm,0.7s,mb5.1						
EVIA	**Vianos**	**23.28 284**	P	**P**	**13 39 56.1**	**+2.1**
EVIA			pmax	pmax		
comp=Z,52nm,0.7s,mb5.1						
LRYF	**La Roche-sur-Y**	**23.36 304**	*e*P	**P**	**13 39 55.1**	**+0.4**
FLN	**La Foliniere**	**23.36 310**	*e*P	**P**	**13 39 54.4**	**-0.3**
comp=Z,72nm,0.3s,mb5.3						
FLN			*e*R			
comp=Z,17nm,17.0s						
FLN	**La Foliniere**	**23.36 310**	*e*P	**P**	**13 39 54.4**	**-0.3**
FLN			pmax	pmax		
comp=Z,36nm,0.3s,mb5.3						
FLN			MLR	MLR		
comp=Z,20nm,17.0s						
GRR	**Gorron**	**23.46 309**	*e*P	**P**	**13 39 55.2**	**-0.5**
EBER	**Berja**	**23.77 280**	P	**P**	**13 40 00.3**	**+1.6**
comp=Z,42nm,0.5s,mb5.2,SNR=24						
EBER	**Berja**	**23.77 280**	P	**P**	**13 40 00.3**	**+1.6**
comp=Z,42nm,0.5s,mb5.2						
EQES	**Quesada**	**23.80 282**	P	**P**	**13 40 00.1**	**+1.1**
comp=Z,42nm,0.6s,mb5.2,SNR=29						
EALB	**Alboran**	**24.03 278**	P	**P**	**13 40 02.1**	**+0.8**
comp=Z,140nm,0.7s,mb5.6,SNR=6.5						
EALB	**Alboran**	**24.03 278**	P	**P**	**13 40 02.1**	**+0.9**
comp=Z,140nm,0.7s,mb5.6						
ELAN	**Lanestosa**	**24.07 296**	P	**P**	**13 40 02.5**	**+1.0**
comp=Z,101nm,0.8s,mb5.4,SNR=20						
ELAN	**Lanestosa**	**24.07 296**	P	**P**	**13 40 02.5**	**+1.1**
comp=Z,101nm,0.8s,mb5.4						
EBAN	**Banos Encina**	**24.32 283**	P	**P**	**13 40 04.9**	**+0.9**
comp=Z,21nm,0.6s,mb4.9,SNR=21						
EBAN	**Banos Encina**	**24.32 283**	P	**P**	**13 40 04.9**	**+0.9**
EBAN			pmax	pmax		
comp=Z,21nm,0.6s,mb4.8						
ESDC	**Sonseca Array**	**24.36 287**	P	**P**	**13 40 04.2**	**0.0**
comp=Z,17nm,0.5s,mb4.8,baz=80,slow=9.4,SNR=84						
ESDC			ScP		13 47 04.4	
comp=Z,0.3nm,0.3s,baz=80,slow=2.3,SNR=7.9						
ESDC	**Sonseca Array**	**24.36 287**	P	**P**	**13 40 05.2**	**+0.9**
comp=Z,30nm,0.7s,mb4.9,SNR=21						
ESDC	**Sonseca Array**	**24.36 287**	P	**P**	**13 40 05.2**	**+1.0**
comp=Z,30nm,0.7s,mb4.9						
ESLA	**Sonseca Array**	**24.36 287**	*e*P	**P**	**13 40 04.6**	**+0.3**
comp=Z,4.9nm,0.6s,mb4.2						
ESLA	**Sonseca Array**	**24.36 287**	*e*P	**P**	**13 40 04.6**	**+0.4**
comp=Z,5.0nm,0.6s,mb4.2						
ERON	**Agron**	**24.48 280**	P	**P**	**13 40 06.8**	**+1.4**
comp=Z,5.9nm,0.4s,mb4.5,SNR=6.9						
ERON	**Agron**	**24.48 280**	P	**P**	**13 40 06.8**	**+1.3**
comp=Z,5.9nm,0.4s,mb4.5						
SGMF	**Saint Gilles**	**24.49 308**	*e*P	**P**	**13 40 04.7**	**-0.8**
ELOJ	**Sierra Loja**	**24.73 281**	P	**P**	**13 40 08.1**	**+0.3**
comp=Z,10nm,0.6s,mb4.5,SNR=11						
ELOJ	**Sierra Loja**	**24.73 281**	P	**P**	**13 40 08.1**	**+0.3**
comp=Z,10nm,0.6s,mb4.5						
ELOJ	**Sierra Loja**	**24.73 281**	P	**P**	**13 40 08.1**	**+0.3**
ELOJ			pmax	pmax		
comp=Z,10.0nm,0.6s,mb4.5						
ELUQ	**Luque**	**24.77 282**	P	**P**	**13 40 08.1**	**-0.1**
comp=Z,23nm,0.4s,mb5.1,SNR=7.9						
ELUQ	**Luque**	**24.77 282**	P	**P**	**13 40 08.1**	**-0.1**
ELUQ			pmax	pmax		
comp=Z,23nm,0.4s,mb5.1						
QUIF	**Quistinic**	**24.79 307**	*e*P	**P**	**13 40 07.2**	**-1.0**
comp=Z,44nm,0.6s,mb4.9						
QUIF			*e*pP		13 40 37.2	
QUIF	**Quistinic**	**24.79 307**	*e*P	**P**	**13 40 07.2**	**-1.0**
QUIF			*e**PP		13 40 37.2	
QUIF			pmax	pmax		
comp=Z,22nm,0.6s,mb4.9						
EADA	**Adamuz**	**24.94 283**	P	**P**	**13 40 10.4**	**+0.6**
comp=Z,22nm,0.7s,mb4.8,SNR=16						
EADA	**Adamuz**	**24.94 283**	P	**P**	**13 40 10.4**	**+0.6**
comp=Z,22nm,0.7s,mb4.8						
FINES	**FINESS Array B**	**24.95 359**	P	**P**	**13 40 08.8**	**-0.8**
comp=Z,6.3nm,0.4s,mb4.5,baz=164,slow=10.0,SNR=38						
FINES			PcP	PcP	13 43 40.2	-1.7
comp=Z,1.6nm,0.4s,baz=166,slow=0.7,SNR=6.6						
FINES			ScP		13 47 05.4	
comp=Z,2.7nm,0.6s,baz=180,slow=3.8,SNR=9.6						
FINES	**FINESS Array B**	**24.95 359**	P	**P**	**13 40 08.8**	**-0.8**
FINES			PcP	PcP	13 43 40.2	-1.7
FINES			ScP		13 47 05.4	
ROSF	**Rostrenen**	**24.98 308**	*e*P	**P**	**13 40 08.6**	**-1.4**
comp=Z,34nm,0.7s,mb4.7						
ROSF	**Rostrenen**	**24.98 308**	*e*P	**P**	**13 40 08.6**	**-1.4**
ROSF			pmax	pmax		
comp=Z,17nm,0.7s,mb4.7						
HFS	**Hagfors**	**25.09 344**	P	**P**	**13 40 09.7**	**-1.2**
comp=Z,18nm,0.4s,mb4.9,baz=150,slow=12,SNR=105						
EMIJ	**Mijas**	**25.31 280**	P	**P**	**13 40 13.2**	**-0.1**
comp=Z,47nm,0.8s,mb5.1,SNR=13						
EMIJ	**Mijas**	**25.31 280**	P	**P**	**13 40 13.2**	**-0.1**
comp=Z,47nm,0.8s,mb5.1						
EARI	**Arriondas**	**25.36 295**	P	**P**	**13 40 14.0**	**+0.3**
comp=Z,66nm,0.7s,mb5.3,SNR=38						
EARI	**Arriondas**	**25.36 295**	P	**P**	**13 40 14.0**	**+0.3**
comp=Z,66nm,0.7s,mb5.3						
ECAB	**El Cabril**	**25.61 283**	P	**P**	**13 40 16.5**	**+0.4**
comp=Z,47nm,0.7s,mb5.2,SNR=38						
KAF	**Kangasniemi**	**25.62 359**	*e*p	**P**	**13 40 14.7**	**-1.2**
comp=Z,2.5nm,0.6s,mb4.0,baz=176,slow=9.1						
KAF	**Kangasniemi**	**25.62 359**	*e*P	**P**	**13 40 14.7**	**-1.2**
KAF			pmax	pmax		
comp=Z,3.0nm,0.6s,mb4.1						
ESPR	**Espera**	**26.12 281**	P	**P**	**13 40 20.1**	**-0.7**
comp=Z,27nm,0.6s,mb5.0,SNR=14						
ESPR	**Espera**	**26.12 281**	P	**P**	**13 40 20.1**	**-0.6**
comp=Z,27nm,0.6s,mb5.0						
NAO01	**NORSAR Array S**	**26.36 342**	*e*P	**P**	**13 40 20.7**	**-2.0**
comp=Z,20nm,0.6s,mb4.9						
NAO01	**NORSAR Array S**	**26.36 342**	*e*P	**P**	**13 40 20.7**	**-2.0**
comp=Z,20nm,0.6s,mb4.9						
ECAL	**Calabor**	**26.43 292**	P	**P**	**13 40 24.4**	**+0.9**
comp=Z,28nm,0.6s,mb5.1,SNR=15						
ECAL	**Calabor**	**26.43 292**	P	**P**	**13 40 24.4**	**+0.9**
comp=Z,28nm,0.6s,mb5.1						
NB2	**NORSAR Subarra**	**26.46 343**	P	**P**	**13 40 21.6**	**-2.0**
comp=Z,7.0nm,0.7s,mb4.4,baz=156,slow=9.3						
NB2	**NORSAR Subarra**	**26.46 343**	P	**P**	**13 40 21.6**	**-2.0**
NB2			pmax	pmax		
comp=Z,7.0nm,0.7s,mb4.4						
NOA	**NORSAR Array B**	**26.46 343**	P	**P**	**13 40 21.2**	**-2.3**
comp=Z,7.9nm,0.7s,mb4.5,baz=148,slow=11,SNR=41						
NOA			pP	pP	13 40 53.3	-0.9
comp=Z,5.4nm,0.9s,baz=153,slow=11,SNR=3.5						
NOA			ScP		13 47 09.8	
comp=Z,1.4nm,0.6s,baz=135,slow=3.3,SNR=3.9						
NOA	**NORSAR Array B**	**26.46 343**	P	**P**	**13 40 21.2**	**-2.3**
NOA			pP	pP	13 40 53.3	-0.9
NOA			ScP		13 47 09.8	
EMIN	**Mina Concepcio**	**26.63 283**	P	**P**	**13 40 25.6**	**+0.2**
comp=Z,64nm,0.6s,mb5.4,SNR=51						
EMIN	**Mina Concepcio**	**26.63 283**	P	**P**	**13 40 25.6**	**+0.1**
comp=Z,64nm,0.6s,mb5.4						
EPON	**Pontenova**	**26.78 295**	P	**P**	**13 40 26.5**	**-0.2**
comp=Z,67nm,0.8s,mb5.3,SNR=24						
EPON	**Pontenova**	**26.78 295**	P	**P**	**13 40 26.5**	**-0.2**
comp=Z,67nm,0.8s,mb5.3						
EBAD	**Badajoz**	**26.79 285**	P	**P**	**13 40 26.4**	**-0.4**
comp=Z,32nm,0.7s,mb5.0,SNR=14						
EBAD	**Badajoz**	**26.79 285**	P	**P**	**13 40 26.4**	**-0.4**
comp=Z,32nm,0.7s,mb5.1						
PCBR	**Castelo Branco**	**27.05 288**	*e*P	**P**	**13 40 29.3**	**+0.1**
comp=Z,45nm,1.2s,mb5.0						
MTE	**Manteigas**	**27.07 289**	*e*P	**P**	**13 40 29.3**	**-0.1**
comp=Z,50nm,1.1s,mb5.1						
MTE	**Manteigas**	**27.07 289**	*e*P	**P**	**13 40 28.9**	**-0.5**
comp=Z,22nm,0.8s,mb4.8						
PVRL	**Vila Real**	**27.17 291**	*e*P	**P**	**13 40 30.4**	**+0.1**
comp=Z,28nm,1.7s,mb4.6						
AB31	**Akbulak array**	**27.18 52**	P	**P**	**13 40 29.9**	**-0.4**
EGRO	**El Granado**	**27.30 283**	P	**P**	**13 40 31.3**	**-0.3**
comp=Z,44nm,0.8s,mb5.2,SNR=17						
EGRO	**El Granado**	**27.30 283**	P	**P**	**13 40 31.3**	**-0.3**
comp=Z,44nm,0.8s,mb5.1						
ELOB	**Lobios**	**27.42 292**	P	**P**	**13 40 33.0**	**+0.5**
comp=Z,19nm,0.7s,mb4.8,SNR=7.9						
ELOB	**Lobios**	**27.42 292**	P	**P**	**13 40 33.0**	**+0.4**
comp=Z,19nm,0.7s,mb4.8						
PBEJ	**Beja**	**27.54 284**	*e*P	**P**	**13 40 33.7**	**0.0**
comp=Z,44nm,1.4s,mb5.0						
EVO	**Evora**	**27.59 285**	*e*P	**P**	**13 40 34.4**	**+0.3**
comp=Z,12nm,0.7s,mb4.5						
EKA	**Eskdalemuir Ar**	**27.74 322**	P	**P**	**13 40 32.8**	**-2.6**
comp=Z,7.6nm,0.5s,mb4.7,baz=116,slow=10,SNR=33						
EKA			pP	pP	13 41 03.8	-2.4
comp=Z,3.9nm,0.6s,baz=118,slow=9.6,SNR=3.2						
EKA			ScP		13 47 14.2	
comp=Z,1.4nm,0.6s,baz=112,slow=4.5,SNR=4.3						
EZAM	**Zamans**	**27.89 293**	P	**P**	**13 40 37.0**	**+0.2**
comp=Z,30nm,0.6s,mb5.2,SNR=6.8						
EZAM	**Zamans**	**27.89 293**	P	**P**	**13 40 37.0**	**+0.2**
comp=Z,30nm,0.6s,mb5.2						
EZAM	**Zamans**	**27.89 293**	P	**P**	**13 40 37.0**	**+0.2**
EZAM			pmax	pmax		
comp=Z,30nm,0.6s,mb5.2						
EMAZ	**Mazaricos**	**28.10 294**	P	**P**	**13 40 38.4**	**-0.3**
comp=Z,51nm,0.9s,mb5.3						
DLF	**Lyons Farm**	**28.61 316⇑**	*i*P	**P**	**13 40 41.4**	**-1.7**
DCN	**Croghan**	**29.04 316⇑**	*i*P	**P**	**13 40 45.7**	**-1.3**
ARU	**Arti**	**29.17 37**	*e*P	**P**	**13 40 46.8**	**-1.3**
comp=Z,4.7nm,0.3s,mb4.7						
ARU	**Arti**	**29.17 37⇓**	*i*P	**P**	**13 40 47.0**	**-1.1**
ARU			*e*		13 41 54.8	
ARU			*e*S	**S**	**13 45 33.9**	**+5.9**
ARU			*e*		13 51 05.8	
ARU			pmax	pmax		
comp=Z,3.0nm,0.6s,mb4.2						
VAL	**Valentia**	**30.30 312**	*e*P	**P**	**13 40 57.1**	**-1.1**
VAL			⇓*i*pPP		13 42 44.7	
ARCES	**ARCESS Array B**	**33.08 359**	P	**P**	**13 41 20.4**	**-1.7**
comp=Z,1.6nm,0.4s,mb4.1,baz=170,slow=7.7,SNR=31						
ARCES			ScP		13 47 30.1	
comp=Z,5.4nm,1.0s,baz=180,slow=1.2,SNR=6.2						
KEV	**Kevo**	**33.29 0**	*e*p	**P**	**13 41 22.6**	**-1.4**
KKAR	**Karatay Array**	**33.91 65**	*i*P	**P**	**13 41 29.4**	**-0.1**
BVA0	**Borovoye Array**	**34.44 47**	*i*P	**P**	**13 41 32.0**	**-1.9**
BVA0			pmax	pmax		
comp=Z,1.0nm,1.1s						
BVAR	**Borovoye Array**	**34.44 47**	P	**P**	**13 41 33.6**	**-0.4**
comp=Z,1.1nm,0.6s,mb3.8,baz=248,slow=8.0,SNR=9.7						
BVAR			ScP		13 47 36.6	
comp=Z,3.1nm,0.8s,baz=288,slow=4.7,SNR=15						
EFAM	**Famara**	**34.49 269**	P	**P**	**13 41 34.9**	**+0.3**
comp=Z,162nm,1.3s,mb5.6,SNR=4.5						
EFAM	**Famara**	**34.49 269**	P	**P**	**13 41 34.9**	**+0.3**
comp=Z,162nm,1.3s,mb5.6						
AAK	**Ala-Archa**	**36.87 65**	*e*P	**P**	**13 41 54.5**	**0.0**
comp=Z,4.8nm,0.8s,mb4.2						
AAK	**Ala-Archa**	**36.87 65**	*e*P	**P**	**13 41 54.5**	**0.0**
AAK			pmax	pmax		
comp=Z,5.0nm,0.8s,mb4.2						
MBAR	**Mbarara**	**37.12 173**	*e*P	**P**	**13 41 58.4**	**+1.5**
comp=Z,22nm,1.0s,mb4.8						
MBAR	**Mbarara**	**37.12 173**	*e*P	**P**	**13 41 58.4**	**+1.5**
MBAR			pmax	pmax		
comp=Z,22nm,1.0s,mb4.7						
KMBO	**Kilima Mbogo**	**38.70 163**	P	**P**	**13 42 12.3**	**+2.2**
comp=Z,5.7nm,0.7s,mb4.3,baz=349,slow=9.2,SNR=15						
KMBO	**Kilima Mbogo**	**38.70 163**	P	**P**	**13 42 12.3**	**+2.2**
KURK	**Kurchatov**	**39.29 52**	*e*P	**P**	**13 42 14.1**	**-0.5**
comp=Z,7.8nm,0.8s,mb4.4						
KURK	**Kurchatov**	**39.29 52**	*e*P	**P**	**13 42 14.1**	**-0.5**
KURK			pmax	pmax		
comp=Z,8.0nm,0.8s,mb4.4						
DBIC	**Dimbokro**	**41.46 232**	P	**P**	**13 42 33.3**	**+0.6**
comp=Z,11nm,0.4s,mb4.9,baz=27,slow=8.8,SNR=52						
DBIC	**Dimbokro**	**41.46 232**	*e*P	**P**	**13 42 33.4**	**+0.7**
comp=Z,10nm,0.6s,mb4.6						
DBIC	**Dimbokro**	**41.46 232**	*e*P	**P**	**13 42 33.4**	**+0.7**
DBIC			pmax	pmax		
comp=Z,10.0nm,0.6s						
LIC	**Lamto**	**41.91 232**	*e*P	**P**	**13 42 37.4**	**+0.9**
comp=Z,21nm,0.5s,mb4.7						
LIC			*e*pP	pP	13 43 11.2	+1.8
MKAR	**Makanchi Array**	**41.92 58**	P	**P**	**13 42 36.7**	**+0.6**
comp=Z,6.4nm,0.4s,mb4.6,baz=275,slow=7.7,SNR=58						
MKAR			pP	pP	13 43 08.4	-0.6
comp=Z,3.1nm,0.7s,baz=282,slow=6.5,SNR=2.7						
MKAR			ScP		13 48 05.1	
comp=Z,3.6nm,0.7s,baz=274,slow=4.0,SNR=17						
MK02	**Makanchi Array**	**41.93 58**	P	**P**	**13 42 36.8**	**+0.5**
MK02			pmax	pmax		
comp=Z,3.0nm,0.4s,mb4.3						
NVS	**Novosibirsk**	**42.18 46⇓**	*i*P	**P**	**13 42 38.4**	**+0.2**
NVS			*i*	pP	13 43 10.5	-0.6
NVS			*e*S	**S**	**13 48 45.9**	**-0.6**
NVS			pmax	pmax		
comp=Z,12nm,0.7s,mb4.6						
NVS			pmax	pmax		
comp=N,3.0nm,0.6s						
NVS			pmax	pmax		
comp=E,9.0nm,0.8s						
NVS			smax			
comp=N,14nm,1.1s						
ZAL	**Zalesovo**	**43.09 47**	P	**P**	**13 42 45.1**	**-0.4**
comp=N,4.3nm,0.5s,mb4.3,baz=207,slow=4.7,SNR=14						
ZAL			pP	pP	13 43 17.1	-1.4
comp=N,2.1nm,0.5s,baz=232,slow=7.4,SNR=1.6						
WMQ	**Urumqi**	**46.17 61**	*e*P	**P**	**13 43 10.0**	**-0.2**
WMQ			AP	pP	13 43 42.0	-1.6
WMQ			PCP	PcP	13 44 44.0	-0.1
WMQ			S	**S**	**13 49 44.0**	**-0.1**
WMQ			SCS	ScS	13 52 48.0	+0.6
WMQ			SS	SS	13 53 06.0	+0.4
WMQ			AMB	AMB		
comp=Z,12nm,0.9s,mb4.5						
WMQ			AMB	AMB		
comp=Z,108nm,7.0s						
WMQ			LR	LR		
comp=N,79nm,18.0s						
WMQ			LR	LR		
comp=E,68nm,19.0s						
WMQ			LR	LR		
comp=Z,54nm,17.0s						
SUMG	**Summit**	**48.19 338**	*e*P	**P**	**13 43 25.0**	**-0.6**
comp=Z,8.0nm,0.2s,mb5.0						
KOLN	**Koldanda**	**48.28 83**	*e*P	**P**	**13 43 27.8**	**+0.9**
comp=Z,34nm,0.8s,mb5.0						
GKN	**Gorkha**	**49.01 83**	*e*P	**P**	**13 43 32.8**	**+0.3**
comp=Z,52nm,0.6s,mb5.3						
DMN	**Daman**	**49.55 83**	*e*P	**P**	**13 43 37.7**	**+1.1**
comp=Z,34nm,0.5s,mb5.2						
KKN	**Kakani**	**49.62 83**	*e*P	**P**	**13 43 37.7**	**+0.6**
comp=Z,15nm,0.4s,mb5.0						
PKI	**Pulchoki**	**49.81 83**	*e*P	**P**	**13 43 39.1**	**+0.5**
comp=Z,15nm,0.7s,mb4.8						
JIRN	**Jiri**	**50.40 82**	*e*P	**P**	**13 43 43.8**	**+0.7**
comp=Z,26nm,0.6s,mb5.0						
ZAK	**Zakamensk**	**54.85 50⇓**	*e*P	**P**	**13 44 16.3**	**+0.6**
ZAK			*e*		13 45 10.1	
ZAK			pmax	pmax		
comp=Z,2.0nm,0.9s,mb3.9						
ZAK			pmax	pmax		
comp=Z,2.0nm,0.9s,mb3.9						
TSUM	**Tsumeb

KMI				*SP	sP	13 46 13.0	-2.0
KMI				S	**S**	**13 53 54.2**	**+4.4**
KMI				SS	SS	13 58 07.4	+2.3
KMI				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.7						
KMI				MLR	MLR		
	comp=Z,60nm,23.0s						
BOSA	**Boshof**	**64.81**	**182**	P	**P**	**13 45 25.0**	**+1.0**
	comp=Z,9.7nm,0.7s,mb4.8,baz=5.5,slow=6.8,SNR=16						
BOSA	**Boshof**	**64.81**	**182**	P	**P**	**13 45 25.0**	**+1.0**
GYA	**Guiyang**	**67.06**	**73**⇑	*i*P	**P**	**13 45 38.6**	**+0.1**
GYA				AP	pP	13 46 13.5	-0.7
GYA				PP	PP	13 48 09.2	0.0
GYA				SCP		13 49 53.8	
GYA				S	S	13 54 19.1	+0.5
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0						
GYA				AMB	AMB		
	comp=Z,80nm,3.0s						
GYA				LR	LR		
	comp=N,420nm,17.9s						
GYA				LR	LR		
	comp=E,540nm,18.2s						
GYA				LR	LR		
	comp=Z,370nm,17.9s						
CN2	**Changchun**	**71.28**	**49**	*e*P	**P**	**13 45 59.4**	**-4.4**
ACCN	**Adirondack Com**	**72.61**	**311**	*e*P	**P**	**13 46 12.6**	**+0.9**
NJ2	**Nanjing**	**73.24**	**62**	*e*P	**P**	**13 46 16.6**	**+1.0**
NJ2				AP	pP	13 46 50.1	-1.8
NJ2				PP	PP	13 49 03.5	+1.4
NJ2				S	S	13 55 34.0	+3.9
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,404nm,4.2s						
NJ2				LR	LR		
	comp=N,1μm,11.2s						
NJ2				LR	LR		
	comp=E,610nm,9.2s						
NJ2				LR	LR		
	comp=Z,6μm,13.4s						
BINY	**Binghamton**	**74.69**	**311**	*e*P	**P**	**13 46 24.5**	**+0.8**
	comp=Z,17nm,1.0s,mb4.6						
SSE	**Sheshan**	**75.42**	**62**	*e*P	**P**	**13 46 20.1**	**-8.0**
	comp=Z,23nm,0.8s,mb4.9						
YKA	**Yellowknife Ar**	**76.56**	**343**	P	**P**	**13 46 32.1**	**-1.6**
	comp=Z,0.4nm,0.4s,baz=34,slow=6.3,SNR=3.9						
ILAR	**Eielson Array**	**78.92**	**357**	P	**P**	**13 46 46.0**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=335,slow=3.3,SNR=6.4						
ILAR				pP	pP	13 47 21.6	-1.9
	comp=Z,0.4nm,0.7s,baz=342,slow=4.5,SNR=3.3						
ULM	**Lac du Bonnet**	**79.91**	**327**	P	**P**	**13 46 51.8**	**-0.6**
	comp=Z,4.7nm,0.4s,mb4.5,baz=48,slow=5.5,SNR=7.7						
FWV	**Forest Hill**	**80.43**	**310**	*e*P	**P**	**13 46 55.7**	**+0.3**
MJAR	**Matsushiro Arr**	**83.43**	**49**	P	**P**	**13 47 10.5**	**-0.4**
	comp=Z,0.5nm,0.4s,slow=5.0,SNR=4.3						
EDM	**Edmonton**	**84.17**	**337**	*e*P	**P**	**13 47 14.1**	**-0.1**
FVM	**French Village**	**85.88**	**315**	*e*P	**P**	**13 47 23.6**	**+0.7**
	comp=Z,18nm,1.0s,mb4.8						
FVM	**French Village**	**85.88**	**315**	*e*P	**P**	**13 47 23.7**	**+0.7**
FVM				pmax	pmax		
	comp=Z,18nm,1.0s,mb4.8						
CCM	**Cathedral Cave**	**86.29**	**316**	*e*P	**P**	**13 47 25.4**	**+0.5**
	comp=Z,20nm,0.8s,mb4.9						
CCM	**Cathedral Cave**	**86.29**	**316**	*e*P	**P**	**13 47 25.5**	**+0.5**
CCM				pmax	pmax		
	comp=Z,20nm,0.8s,mb4.9						
LAO	**LASA Array**	**87.05**	**330**	*e*P	**P**	**13 47 29.2**	**+0.8**
	comp=Z,8.7nm,0.8s,mb4.6						
LRAL	**Lakeview Retre**	**87.22**	**310**	*e*P	**P**	**13 47 29.9**	**+0.3**
	comp=Z,21nm,1.1s,mb4.9						
LRAL				*e*pP	pP	13 48 04.5	-2.6
GCMT	**Greycliff**	**89.16**	**331**	P	**P**	**13 47 39.0**	**+0.5**
CHMT	**Chamberlain Mo**	**89.54**	**334**	*e*P	**P**	**13 47 40.3**	**+0.1**
NEW	**Newport**	**89.67**	**337**	P	**P**	**13 47 41.5**	**+0.8**
BOZ	**Bozeman (W)**	**90.03**	**332**	*e*P	**P**	**13 47 43.3**	**+0.8**
	comp=Z,0.9nm,0.6s,mb3.9						
BOZ	**Bozeman (W)**	**90.03**	**332**	*e*P	**P**	**13 47 43.3**	**+0.8**
BOZ				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
SDV	**Santo Domingo**	**90.69**	**282**	*e*P	**P**	**13 47 46.9**	**+0.5**
	comp=Z,2.7nm,0.6s,mb4.5						
PHWY	**Pilot Hill**	**91.06**	**326**	*e*P	**P**	**13 47 47.7**	**+0.2**
MCMT	**McKenzie Canyo**	**91.18**	**333**	P	**P**	**13 47 49.0**	**+1.1**
BW06	**Boulder Array**	**91.63**	**329**	P	**P**	**13 47 49.6**	**-0.4**
PDAR	**Pinedale Array**	**91.63**	**329**	P	**P**	**13 47 49.7**	**-0.4**
	comp=Z,0.6nm,0.8s,mb3.7,baz=27,slow=3.3,SNR=6.4						
RRI2	**Red Ridge**	**91.85**	**331**	*e*P	**P**	**13 47 51.8**	**+0.7**
	comp=Z,4.1nm,0.9s,mb4.5						
HLID	**Hailey**	**92.84**	**333**	P	**P**	**13 47 56.8**	**+1.1**
ELK	**Elko**	**95.58**	**332**	P	**P**	**13 48 08.9**	**+0.8**
MNTX	**Cornudas Mount**	**98.70**	**320**	*e*P	**P**	**13 48 22.1**	**-0.4**
	comp=Z,1.2nm,0.6s,mb4.5						
WRA	**Warramunga Arr**	**115.42**	**97**	PKP	PKPdf	13 53 24.7	+1.3
	comp=Z,0.5nm,0.8s,baz=319,slow=2.2,SNR=6.4						

*BJI **01** 13:51:47.1, 2.43S×99.33E, h30km, mB5.3, mb4.8, Ms4.7, Msz4.5*
*IDC **01** 13:51:48.5±0.6, 1.69S×99.60E, mb4.2/15, mb1 4.2/15, mb1mx4.1/21, mbtmp4.2/15, MS3.6/1, Ms1 3.6/1, ms1mx3.0/14, Error ellipse: s-maj=20.4km s-min=16.8km az=60.0*
*NEIC **01** 13:51:53.2±0.4, 1.67S×99.58E, h30km, mb4.4/5, Error ellipse: s-maj=10.2km s-min=8.4km az=64.0*

ISC 01 13:51:51.5±6.0, 1.6S±0.1×99.6E±0.1, h30km±41km, n28, σ0°87/26, mb4.3/21, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.96**	**9**	*e*Pn	**Pn**	**13 53 33.6**	**-0.5**
KKM	**Kota Kinabalu**	**18.27**	**65**	*e*P	**P**	**13 56 05.6**	**+0.7**
KMI	**Kunming**	**26.77**	**6**	P	**P**	**13 57 35.1**	**+4.2**
	4.0nm,0.7s,mb4.1						
KMI				pP	pP	13 57 41.3	+1.7
KMI				LR	LR		
	comp=Z,60nm,21.4s						
WRA	**Warramunga Arr**	**38.54**	**121**	P	**P**	**13 59 13.0**	**-0.4**
	comp=Z,2.2nm,0.6s,mb4.1,baz=302,slow=9.1,SNR=20						
WRA				PcP	PcP	14 01 25.5	-0.8
	comp=Z,0.4nm,0.5s,baz=313,slow=2.5,SNR=5.5						
WRAB	**Tennant Creek**	**38.54**	**121**	*e*P	**P**	**13 59 14.0**	**+0.5**
	comp=Z,4.8nm,0.7s,mb4.3						
JOW	**Kunigami**	**39.57**	**42**	P	**P**	**13 59 22.3**	**+0.3**
	comp=Z,2.7nm,0.5s,mb4.2,baz=225,slow=2.9,SNR=2.5						
JNU	**Nakatsue**	**45.46**	**38**	P	**P**	**14 00 08.9**	**-1.0**
	comp=Z,5.4nm,0.7s,mb4.5,baz=151,slow=12,SNR=4.8						
WMQ	**Urumqi**	**46.49**	**348**	*e*P	**P**	**14 00 20.6**	**+2.7**
WMQ				AP	pP	14 00 30.6	+3.7
WMQ				AMB	AMB		
	comp=Z,14nm,0.6s,mb5.1						
SONM	**Songino Array**	**49.62**	**6**	P	**P**	**14 00 42.4**	**+0.1**
	comp=Z,1.1nm,0.5s,mb4.2,baz=187,slow=9.5,SNR=13						
SONM				LR	LR	14 25 38.5	
	comp=Z,66nm,19.4s,baz=80,slow=41						
STKA	**Stephens Creek**	**49.70**	**132**	P	**P**	**14 00 43.0**	**-0.1**
	comp=Z,1.0nm,0.6s,mb4.0,baz=275,slow=9.6,SNR=5.7						
STKA	**Stephens Creek**	**49.70**	**132**	*e*P	**P**	**14 00 43.6**	**+0.5**
MKAR	**Makanchi Array**	**50.56**	**345**	P	**P**	**14 00 50.1**	**+0.6**
	comp=Z,2.9nm,0.5s,mb4.5,baz=159,slow=8.6,SNR=32						
KURK	**Kurchatov**	**55.14**	**344**	*e*P	**P**	**14 01 22.6**	**-0.9**
	comp=Z,3.2nm,0.7s,mb4.5						
ZAL	**Zalesovo**	**56.72**	**350**	P	**P**	**14 01 34.5**	**-0.4**
	comp=Z,4.6nm,0.4s,mb4.9,baz=304,slow=4.8,SNR=9.1						
ZAL	**Zalesovo**	**56.72**	**350**	P	**P**	**14 01 34.5**	**-0.4**
BVAR	**Borovoye Array**	**59.70**	**340**	P	**P**	**14 01 54.4**	**-1.2**
	comp=Z,1.6nm,0.4s,mb4.4,baz=143,slow=9.4,SNR=11						
BRVK	**Borovoye**	**59.76**	**340**	P	**P**	**14 01 55.9**	**-0.2**
	comp=Z,1.3nm,0.6s,mb4.1						
YSS	**Yuzh-Sakhalins**	**61.39**	**32**	*e*P	**P**	**14 02 06.3**	**-0.9**
	comp=Z,6.6nm,1.1s,mb4.7						
KMBO	**Kilima Mbogo**	**62.31**	**270**	P	**P**	**14 02 15.0**	**+1.1**
	comp=Z,0.8nm,0.5s,mb4.1,baz=48,slow=16,SNR=3.2						
KMBO	**Kilima Mbogo**	**62.31**	**270**	P	**P**	**14 02 15.0**	**+1.1**
MATP	**Matopo**	**71.72**	**249**	P	**P**	**14 03 12.4**	**-0.9**
	comp=Z,2.2nm,0.6s,mb4.3,baz=106,slow=4.9,SNR=7.9						
BRTR	**Keskin Array B**	**72.77**	**312**	P	**P**	**14 03 18.6**	**-0.6**
	comp=Z,0.9nm,0.5s,mb3.9,baz=138,slow=6.2,SNR=4.9						
FX1	**Attu Island--F**	**81.44**	**36**	P	**P**	**14 04 07.3**	**+0.1**
	comp=Z,3.3nm,0.7s,mb4.4,baz=229,slow=20,SNR=4.0						
VNDA	**Vanda**	**82.60**	**169**	P	**P**	**14 04 12.2**	**-0.6**
	comp=Z,0.3nm,0.7s,mb3.4,baz=332,slow=7.6,SNR=1.8						
FINES	**FINESS Array B**	**83.59**	**332**	P	**P**	**14 04 19.3**	**+1.2**
	comp=Z,0.3nm,0.4s,mb3.8,baz=127,slow=6.9,SNR=3.1						
ARCES	**ARCESS Array B**	**85.99**	**340**	P	**P**	**14 04 31.1**	**+1.1**
	comp=Z,1.3nm,0.6s,mb4.3,baz=63,slow=5.4,SNR=4.1						
CPUP	**Villa Florida**	**144.37**	**217**	PKP	PKPdf	14 11 26.4	-4.3
	comp=Z,4.8nm,0.9s,baz=161,slow=3.2,SNR=11						
TXAR	**Lajitas Array**	**144.66**	**37**	PKP	PKPdf	14 11 27.4	-3.7
	comp=Z,1.9nm,0.4s,baz=329,slow=3.4,SNR=14						

IDC 01 13:55:19.0±1.4, 15.04S×173.05W, mb4.1/3, mb1 4.2/3, mb1mx3.8/16, mbtmp4.1/3, MS3.4/2, Ms1 3.4/2, ms1mx3.2/19, Error ellipse: s-maj=59.2km s-min=23.1km az=138.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.66**	**48**	Pn	Pn	13 55 48.3	-1.3
	25nm,0.3s,baz=31,slow=6.6,SNR=48						
AFI				Sn	Sn	13 56 06.4	-5.5
	148nm,0.3s,baz=240,slow=23,SNR=21						
PPT	**Papeete**	**22.66**	**100**	LR	LR	14 06 26.1	
	comp=Z,89nm,18.9s,baz=6.5,slow=29						
URZ	**Urewera**	**24.72**	**199**	P	P	14 00 42.2	-1.0
	7.8nm,0.9s,baz=5.4,slow=19,SNR=3.7						
HNR	**Honiara**	**26.96**	**279**	LR	LR	14 09 57.3	
	comp=Z,86nm,21.4s,baz=137,slow=33						
STKA	**Stephens Creek**	**44.51**	**240**	P	P	14 03 31.5	-2.8
	2.4nm,1.0s,baz=78,slow=10,SNR=3.0						
WRA	**Warramunga Arr**	**50.26**	**256**	P	P	14 04 16.7	-2.7
	0.7nm,0.5s,baz=91,slow=6.8,SNR=20						
BRTR	**Keskin Array B**	**146.09**	**322**	PKPbc	PKPbc	14 15 03.1	+1.7
	2.4nm,1.1s,baz=72,slow=4.6,SNR=5.6						

*GRAL **01** 14:01:23.6±0.5, 33.75N×36.65E, MD3.2*
*GII **01** 14:01:26.8±0.8, 33.63N×36.43E, ML2.1/3*
*CSEM **01** 14:01:28.0±0.4, 33.71N×36.26E, h2km, ML2.2, Error ellipse: s-maj=9.1km s-min=5.4km az=72.0, Suspected Mining explosion.*

ISC 01 14:01:24.4±1.5, 33.74N±0.05×36.50E±0.10, n13, σ0°65/17, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWQ	**Hawqa**	**0.71**	**319**	*i*Pg	**Pg**	**14 01 37.5**	**-1.1**
HWQ				*i*Sg	**Sg**	**14 01 48.3**	**+0.3**
BHL	**Bhannes**	**0.72**	**283**	*i*Pg	**Pg**	**14 01 38.5**	**-0.4**
BHL				*i*Sg	**Sg**	**14 01 49.6**	**+1.1**
KSDI	**Kefar Szold**	**0.89**	**232**	Pg	**Pg**	**14 01 42.6**	**+0.3**
KSHT	**Keshet**	**0.95**	**218**	Pg	**Pg**	**14 01 43.5**	**0.0**
MATL	**Matirih**	**1.01**	**256**	*i*Pg	**Pg**	**14 01 44.0**	**-0.6**
HNTI	**Hanita**	**1.29**	**240**	Pg	**Pg**	**14 01 49.5**	**-0.7**
HNTI				Sg	**Sg**	**14 02 06.9**	**-0.5**
HNTI	**Hanita**	**1.29**	**240**	Pg	**Pg**	**14 01 49.5**	**-0.7**
HNTI				Sg	**Sg**	**14 02 06.1**	**-1.3**
HAF	**Haifa**	**1.56**	**233**	Pn	**Pn**	**14 01 54.3**	**+0.7**
HAF	**Haifa**	**1.56**	**233**	Pn	**Pn**	**14 01 54.6**	**+1.0**
MMLI	**Mount Malkishu**	**1.58**	**215**	Pn	**Pn**	**14 01 54.3**	**+0.4**
OFRI	**'Ofer**	**1.69**	**229**	Pn	**Pn**	**14 01 56.0**	**+0.5**
SLTI	**Sal'it**	**1.94**	**220**	Pn	**Pn**	**14 01 59.0**	**+0.1**
SLTI	**Sal'it**	**1.94**	**220**	Pn	**Pn**	**14 01 59.0**	**+0.1**

*NEIC **01** 14:42:40.8, 32.71S×71.78W, h27km, ML2.6(GUC), After GUC.*

GUC 01 14:42:40.8±0.8, 32.71S×71.78W, h27km±5km, MD3.6, ML2.6, 8C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.34**	**59**⇓	*i*P	Pb	14 42 48.6	+0.1
PACH				*i*S	Sb	14 42 54.2	+0.4
ROCH	**El Roble**	**0.70**	**112**⇑	*i*P	Pb	14 42 54.1	-0.2
LCCH	**Las Cruces**	**0.78**	**167**⇑	*i*P	Pb	14 42 55.0	-0.7
LCCH				*i*S	Sb	14 43 05.5	-0.5
CHNG	**Los Chungos**	**0.86**	**16**⇑	*i*P	Pb	14 42 56.2	-0.8
CHNG				*i*S	Sb	14 43 07.6	-0.6
CHNG				AMP		14 43 09.4	
	comp=E,213nm,0.3s						
JACH	**Jahuel**	**1.00**	**89**⇑	*i*P	Pn	14 42 58.6	-0.7
JACH				*i*S	Sb	14 43 12.0	-0.2
PEL	**Peldehue**	**1.02**	**115**⇓	*i*P	Pn	14 42 59.1	-0.3
RCDM	**Rinconada Maip**	**1.13**	**134**⇑	*i*P	Pn	14 43 00.5	-0.5
RCDM				*i*S	Sn	14 43 15.4	-0.4
RCDM				AMP		14 43 22.9	
	comp=E,388nm,0.1s						
TACH	**Talagante**	**1.18**	**143**⇑	*i*P	Pn	14 43 01.5	-0.3
ILCH	**Illapel**	**1.19**	**26**	*i*P	Pn	14 43 02.3	+0.4
ILCH				*i*S	Sn	14 43 18.1	+0.8
SAN	**Santiago**	**1.20**	**129**	*i*S	Sn	14 43 16.3	-1.2
CLCH	**Cerro Calan**	**1.25**	**124**⇑	*i*P	Pn	14 43 02.8	+0.1
CLCH				*i*S	Sn	14 43 19.4	+0.6
CLCH				AMP		14 43 23.7	
	comp=N,313nm,0.5s						
ANTU	**Antumapu**	**1.29**	**132**	*e*P	Pn	14 43 03.3	0.0
FCH	**Farellones**	**1.40**	**117**⇓	*i*P	Pn	14 43 05.2	+0.4
PCH	**Pirque**	**1.40**	**131**	*e*P	Pn	14 43 05.1	+0.2
PCH				*i*S	Sn	14 43 24.0	+1.4
CHCH	**Chadas Angostu**	**1.54**	**143**	*i*P	Pn	14 43 07.7	+0.8
CHCH				*i*S	Sn	14 43 27.6	+1.4
CACH	**El Canelo**	**1.71**	**145**	*e*P	Pn	14 43 10.8	+1.4
CACH				*i*S	Sn	14 43 33.6	+2.9
CICH	**Cipreses**	**1.97**	**145**⇑	*i*P	Pn	14 43 13.8	+0.8
SFDO	**San Fernando**	**2.00**	**162**	*e*P	Pn	14 43 13.8	+0.3

*TEH **01** 14:48:18.9, 38.22N×56.43E, h10km, Mn3.2*
*CSEM **01** 14:48:18.9, 38.22N×56.43E, h10km, ML3.2, After TEH*
*NNC **01** 14:49:17.0±68.0, 42.37N×57.08E, mpv2.8, Error ellipse: s-maj=742.1km s-min=568.2km az=15.0*

ISC 01 14:48:17.6±0.9, 38.16N±0.09×56.38E±0.08, h10km, n8, σ0°46/9, 1C, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPAY	**Payeh**	**2.70**	**128**	Pn	**Pn**	**14 49 02.1**	**+0.2**
IKIA	**Kiasar**	**2.90**	**229**	Pn	**Pn**	**14 49 05.1**	**+0.3**
IMOG	**Moghan**	**3.13**	**130**	Pn	**Pn**	**14 49 08.0**	**0.0**
IMYA	**Miamay**	**3.48**	**120**	Pn	**Pn**	**14 49 12.7**	**-0.3**
IFIR	**Firoozkooh**	**3.84**	**230**	Pn	**Pn**	**14 49 18.9**	**+0.8**
IFIR				Sn	**Sn**	**14 50 02.9**	**-0.9**
IDMV	**Damavand**	**4.33**	**235**	Pn	**Pn**	**14 49 25.4**	**+0.3**
IAFJ	**Afjeh**	**4.38**	**240**	Pn	**Pn**	**14 49 25.8**	**0.0**
AB31	**Akbulak array**	**11.39**	**12**	Pn	**P**	**14 51 03.1**	**-0.3**
	0.2nm,0.3s,baz=201,slow=13,SNR=9.7						
AB31				⇑Lg		14 53 04.9	
	0.4nm,0.5s,baz=196,slow=23,SNR=5.0						

*KISR **01** 15:44:40.9±0.5, 34.08N×48.19E, h34km, ML2.9*
*TEH **01** 15:44:43.1, 33.63N×48.51E, h18km, Mn3.4*
*THR **01** 15:44:43.1±0.8, 33.94N×48.77E, h14km±7km, ML3.2*
*CSEM **01** 15:44:44.2±0.1, 33.88N×48.65E, h25km, ML3.4, Error ellipse: s-maj=3.3km s-min=2.5km az=99.0*

ISC 01 15:44:44.6±0.4, 33.86N±0.03×48.71E±0.05, h18km, n22, σ0°99/30, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKOM	**Komasi**	**1.04**	**288**	Pn	**Pn**	**15 45 02.3**	**-2.1**
ASAO	**Ashtian**	**1.29**	**57**	*e*PG	**Pn**	**15 45 05.5**	**-2.4**
ASAO				AML	AML	15 45 26.3	
	comp=E,499nm,0.4s						
SNGE	**Sanandaj**	**1.67**	**318**	*e*PG	**Pn**	**15 45 13.2**	**-0.1**
SNGE				*e*SG	**Sn**	**15 45 35.2**	**+0.8**
SNGE				AML	AML	15 45 41.6	
	comp=N,206nm,0.4s						
SHGO	**Shushtar**	**1.75**	**177**	*e*PG	**Pn**	**15 45 16.0**	**+1.6**
SHGO				*e*SG	**Sn**	**15 45 40.8**	**+4.5**
SHGO				AML	AML	15 45 48.1	
	comp=N,216nm,0.8s						
IDHR	**Dehrash**	**2.10**	**294**	Pn	**Pn**	**15 45 20.9**	**+1.4**
IMHD	**Mahdasht**	**2.43**	**41**	Pn	**Pn**	**15 45 25.4**	**+1.1**
IKLH	**Kalahroud**	**2.45**	**102**	Pn	**Pn**	**15 45 24.9**	**+0.3**
THKV	**Tehran--Karaj**	**2.72**	**40**	*e*Pn	**Pn**	**15 45 27.8**	**-0.6**
IVRN	**Varamin**	**2.74**	**65**	Pn	**Pn**	**15 45 29.7**	**+1.0**
IAFJ	**Afjeh**	**3.17**	**50**	Pn	**Pn**	**15 45 35.6**	**+0.8**
IZEF	**Zefreh**	**3.17**	**107**	Pn	**Pn**	**15 45 33.8**	**-1.0**
DAMV	**Damavand**	**3.21**	**56**	*e*PN	**Pn**	**15 45 34.3**	**-1.1**
DAMV				*e*SG	**Sn**	**15 46 20.6**	**+7.0**
IDMV	**Damavand**	**3.23**	**57**	Pn	**Pn**	**15 45 35.8**	**+0.2**
IGAR	**Garneh**	**3.34**	**118**	Pn	**Pn**	**15 45 31.8**	**-5.4**
IFIR	**Firoozkooh**	**3.77**	**61**	Pn	**Pn**	**15 45 43.5**	**+0.2**
IFIR				Sn	**Sn**	**15 46 28.4**	**+0.6**
MIB	**Mutribah**	**4.21**	**196**	*e*P	**Pn**	**15 45 48.3**	**-1.2**
MIB				*e*S	**Sn**	**15 46 38.6**	**-0.1**
MIB				AML	AML	15 46 41.2	
	comp=Z,14nm,0.5s						
MIB	**Mutribah**	**4.21**	**196**	*e*P	**Pn**	**15 45 49.5**	**0.0**
UMR	**Umm Al-Rimmam**	**4.37**	**191**	*e*P	**Pn**	**15 45 51.0**	**-0.8**
UMR				*e*S	**Sn**	**15 46 43.5**	**+0.5**
UMR				AML	AML	15 46 45.6	
	comp=Z,9.1nm,0.3s						
KBD	**Kabd**	**4.75**	**191**	*e*P	**Pn**	**15 45 56.2**	**-0.9**
KBD				AMb	AMB	15 46 00.6	
	comp=Z,77nm,0.3s						
KBD	**Kabd**	**4.75**	**191**	*e*P	**Pn**	**15 45 56.2**	**-0.9**
RDF	**Al-Radifah**	**5.01**	**192**	*e*P	**Pn**	**15 46 00.3**	**-0.6**
RDF				*e*S	**Sn**	**15 46 59.4**	**+0.3**
RDF				AML	AML	15 47 01.8	
	comp=Z,14nm,0.5s						
QRN	**Al-Qurain**	**5.14**	**188**	*e*P	**Pn**	**15 46 02.2**	**-0.5**
QRN				*e*S	**Sn**	**15 47 03.7**	**+1.4**
QRN				AML	AML	15 47 07.6	
	comp=Z,4.9nm,0.1s						

*IDC **01** 16:23:56.7±3.2, 16.70S×70.17W, h74km±28km, mb4.1/11, mb1 4.3/12, mb1mx4.1/18, mbtmp4.4/12, MS4.1/16, Ms1 4.1/16, ms1mx4.1/20, Error ellipse: s-maj=29.1km s-min=14.9km az=70.0*
*MOS **01** 16:23:57.2±1.5, 16.27S×70.13W, h76km, mb4.9/15, MS4.3/13, Error ellipse: s-maj=18.1km s-min=10.4km az=123.9*
*NEIC **01** 16:23:58.8±1.1, 16.55S×69.98W, h91km±9km, mb4.8/36, Error ellipse: s-maj=12.7km s-min=5.5km az=49.0*
NEIC Felt [III] at Calacoa and Lloque; [II] at Arequipa.
*BJI **01** 16:23:59.4, 16.88S×70.98W, h100km, mB4.9*

ISC 01 16:23:50.1±0.3, 16.73S±0.05×70.19W±0.07, h33km, n165, σ0°91/117, mb4.8/43, MS4.3/23, 4C-3D, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**1.27**	**282**⇑	*i*P	**P**	**16 24 06.5**	**-5.1**
ARE				*e*S	**S**	**16 24 21.0**	**-6.8**
LPAZ	**La Paz**	**2.03**	**78**	P	**P**	**16 24 30.9**	**+8.4**
	baz=254,slow=14						
LPAZ				S	**S**	**16 25 01.6**	**+15**
	30nm,0.3s,baz=36,slow=17,SNR=3.4						
LPAZ	**La Paz**	**2.03**	**78**	*e*P	**P**	**16 24 30.3**	**+7.8**
LPAZ	**La Paz**	**2.03**	**78**	P	**P**	**16 24 30.9**	**+8.4**
LPAZ				S	**S**	**16 25 01.7**	**+15**
LPAZ				smax			
	comp=E,30nm,0.3s						
LVC	**Limon Verde**	**5.97**	**169**	P	**P**	**16 25 19.2**	**+0.8**
	comp=E,6.2nm,0.3s,baz=322,slow=10,SNR=36						
LVC				S	**S**	**16 26 39.7**	**+13**
	comp=E,4.8nm,0.3s,baz=182,slow=14,SNR=3.0						
LVC	**Limon Verde**	**5.97**	**169**	*e*P	**P**	**16 25 18.7**	**+0.2**
	comp=E,79nm,0.8s						
NNA	**Nana**	**7.98**	**305**	*e*P	**P**	**16 25 44.9**	**-1.7**
	comp=E,44nm,0.8s						
SIV	**San Ignacio**	**8.79**	**86**	P	**P**	**16 26 00.1**	**+2.3**
	comp=E,3.7nm,0.3s,baz=270,slow=13,SNR=55						
SIV				S	**S**	**16 27 58.3**	**+22**
	comp=E,1.0nm,0.3s,baz=180,slow=20,SNR=2.3						
SAML	**Samuel**	**10.32**	**42**	*e*P	**P**	**16 26 19.1**	**+0.1**
	comp=E,30nm,1.1s						
CFAA	**Coronel Fontan**	**14.91**	**174**	P	**P**	**16 27 17.5**	**-2.8**
	comp=E,0.0nm,0.3s,baz=344,slow=14,SNR=4.6						
CFAA				LR	LR	16 33 44.9	
	comp=E,84nm,19.8s,baz=337,slow=39						
CPUP	**Villa Florida**	**15.30**	**131**	P	**P**	**16 27 24.0**	**-1.4**
	comp=E,0.1nm,0.3s,baz=262,slow=11,SNR=2.6						
CPUP				LR	LR	16 34 55.2	
	comp=E,401nm,18.6s,baz=337,slow=43						
LPA	**La Plata**	**21.17**	**151**	*de*P	**P**	**16 28 34.0**	**-0.8**
LPA				*es*P		16 28 53.0	
BDFB	**Brasilia**	**21.33**	**90**	P	**P**	**16 28 36.2**	**-0.3**
	comp=E,5.7nm,0.8s,mb4.0,baz=265,slow=12,SNR=5.5						
BDFB				LR	LR	16 37 25.2	
	comp=E,949nm,18.9s,MS4.2,baz=24,slow=38						
BDFB	**Brasilia**	**21.33**	**90**	P	**P**	**16 28 36.2**	**-0.3**
BDFB				pmax	pmax		
	comp=Z,6.0nm,0.8s						
BDFB				MLR	MLR		
	comp=Z,949nm,18.9s						
BAO	**Brasilia Array**	**21.35**	**90**	P	**P**	**16 28 36.0**	**-0.7**
TRQA	**Tornquist**	**22.44**	**163**	*e*P	**P**	**16 28 46.6**	**-0.9**
	comp=Z,68nm,1.5s,mb4.8						
PLCA	**Paso Flores**	**23.92**	**181**	P	**P**	**16 29 02.8**

ANMO pmax pmax
comp=Z,13nm,1.2s
ANMO MLR MLR
comp=Z,184nm,22.0s
PQI Presque Isle 63.13 2 P **P 16 34 16.2 -0.8**
comp=Z,175nm,0.4s
SDCO Great Sand Dun 63.55 329 *e*P **P 16 34 19.5 -0.3**
comp=Z,40nm,1.4s,mb5.2
PHWY Pilot Hill 66.34 332 *e*P **P 16 34 37.8 +0.1**
LDFC Landfair 66.87 321 *e*P **P 16 34 42.2 +1.0**
NEN Nelson 67.10 322 *e*P **P 16 34 43.2 +0.6**
SNAA Sanae 67.16 162 P **P 16 34 42.3 -0.1**
SNAA Sanae 67.16 162 P 16 34 51.1 +8.7
SNAA Sanae 67.16 162 P 16 34 56.7 +14
SNAA Sanae 67.16 162 P **P 16 34 42.4 0.0**
comp=Z,2.4nm,1.0s,mb4.2,baz=260,slow=2.6,SNR=9.6
SNAA Sanae 67.16 162 P **P 16 34 42.4 0.0**
SNAA pmax pmax
comp=Z,2.0nm,1.0s
RWWY Rawlins 67.45 331 *e*P **P 16 34 45.1 +0.4**
comp=Z,51nm,1.6s,mb5.3
RWWY *e* pP 16 34 54.8 -0.2
TMUT Trail Mountain 67.63 327 *e*P **P 16 34 45.9 0.0**
RSSD Black Hills 67.99 334 *e*P **P 16 34 48.0 -0.1**
comp=Z,6.8nm,0.9s,mb4.7
RSSD Black Hills 67.99 334 *e*P **P 16 34 48.0 -0.1**
RSSD pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
DBIC Dimbokro 68.64 76 P **P 16 34 51.8 -0.8**
comp=Z,16nm,1.1s,mb4.8,baz=200,slow=4.8,SNR=6.1
DBIC LR LR 17 03 01.5
comp=Z,705nm,20.0s,MS4.9,baz=223,slow=34
DBIC Dimbokro 68.64 76 *e*P **P 16 34 51.5 -1.2**
comp=Z,22nm,1.2s,mb5.0
DBIC Dimbokro 68.64 76 P **P 16 34 51.8 -0.8**
DBIC pmax pmax
comp=Z,16nm,1.2s
DBIC MLR MLR
comp=Z,705nm,20.0s
DAC Darwin (Calif) 69.17 320 *e*P **P 16 34 56.2 +0.7**
comp=Z,14nm,1.0s,mb4.8
DAC Darwin (Calif) 69.17 320 *e*P **P 16 34 56.2 +0.7**
DAC pmax pmax
comp=Z,14nm,1.0s,mb4.8
BW06 Boulder Array 69.39 330 *e*P **P 16 34 56.6 -0.2**
comp=Z,20nm,1.4s,mb4.8
BW06 LR LR
comp=Z,133nm,21.0s,MS4.2
PDAR Pinedale Array 69.39 330 P **P 16 34 56.9 +0.2**
comp=Z,6.4nm,1.1s,mb4.5,baz=146,slow=5.3,SNR=27
PDAR LR LR 17 11 24.9
comp=Z,89nm,18.3s,MS4.0,baz=149,slow=41
HWUT Hardware Ranch 69.51 328 *e*P **P 16 34 57.3 -0.2**
comp=Z,16nm,1.3s,mb4.8
AHID Auburn Hatcher 70.14 329 P **P 16 35 01.4 +0.1**
ULM Lac du Bonnet 70.42 343 P **P 16 35 02.0 -0.8**
comp=Z,13nm,1.0s,mb4.8,baz=149,slow=5.9,SNR=15
ULM LR LR 17 08 40.1
comp=Z,121nm,21.6s,MS4.1,baz=150,slow=38
ULM Lac du Bonnet 70.42 343 *e*P **P 16 35 01.2 -1.7**
comp=Z,8.6nm,1.3s,mb4.5
REDW Red Top Meadow 70.46 330 *e*P **P 16 35 03.6 +0.4**
comp=Z,34nm,1.5s,mb5.1
MTUM Tungsten Hills 70.46 321 *e*P **P 16 35 04.5 +1.1**
LOHW Long Hollow 70.53 330 *e*P **P 16 35 03.9 +0.2**
comp=Z,24nm,1.5s,mb4.9
TPAW Teton Pass 70.61 330 *e*P **P 16 35 04.6 +0.4**
comp=Z,22nm,1.4s,mb4.9
RRI2 Red Ridge 70.68 329 *e*P **P 16 35 05.3 +0.7**
comp=Z,57nm,1.4s,mb5.3
ELK Elko 70.83 325 *e*P **P 16 35 06.0 +0.4**
comp=Z,5.7nm,1.1s,mb4.4
ELK LR LR
comp=Z,374nm,21.0s,MS4.6
ELK Elko 70.83 325 *e*P **P 16 35 06.0 +0.5**
ELK pmax pmax
comp=Z,6.0nm,1.1s
ELK MLR MLR
comp=Z,374nm,21.0s
OMM Old Mammoth Mi 70.89 321 *e*P **P 16 35 07.2 +1.2**
IMW Indian Meadow 70.91 330 *e*P **P 16 35 06.4 +0.5**
comp=Z,33nm,1.4s,mb5.1
SCHQ Schefferville 71.33 2 LR LR 17 05 47.6
comp=Z,114nm,21.4s,MS4.1,baz=135,slow=35
GCMT Greycliff 71.75 332 *e*P **P 16 35 11.8 +0.8**
QLMT Earthquake Lak 71.84 330 *e*P **P 16 35 12.1 +0.7**
CMB Columbia Colle 72.01 320 *e*P **P 16 35 12.9 +0.3**
HLID Hailey 72.38 328 *e*P **P 16 35 15.6 +0.9**
comp=Z,12nm,1.3s,mb4.7
MCMT McKenzie Canyo 72.52 330 *e*P **P 16 35 16.3 +0.8**
BOZ Bozeman (W) 72.54 331 *e*P **P 16 35 15.7 +0.1**
comp=Z,23nm,1.5s,mb4.9
BOZ Bozeman (W) 72.54 331 *e*P **P 16 35 15.7 +0.1**
BOZ pmax pmax
comp=Z,23nm,1.5s,mb4.9
BEKR Beckwourth 73.16 322 *e*P **P 16 35 19.6 +0.2**
comp=Z,16nm,1.6s,mb4.7
WVOR Wild Horse Val 73.84 325 *e*P **P 16 35 23.7 +0.3**
comp=Z,20nm,1.5s,mb4.8
WVOR Wild Horse Val 73.84 325 *e*P **P 16 35 23.7 +0.3**
WVOR pmax pmax
comp=Z,20nm,1.5s,mb4.8
TBI Tubuai 73.93 250 *e*S S 16 44 58.3 +5.6
TBI *e*LR LR 16 58 09.0
comp=Z,494nm,31.2s
CHMT Chamberlain Mo 74.24 331 *e*P **P 16 35 26.5 +0.9**
CHMT *e* 16 35 33.9
MOD Modoc 74.43 324 *e*P **P 16 35 27.6 +0.8**
comp=Z,7.2nm,0.6s,mb4.8
MSO Missoula 74.50 330 *e*P **P 16 35 27.7 +0.7**
comp=Z,25nm,1.5s,mb4.9
BMO Blue Mountains 74.77 327 *e*P **P 16 35 28.9 +0.3**
comp=Z,33nm,1.6s,mb5.0
PPT Papeete 75.27 256 *e*S S 16 45 13.2 +5.5
PPT *e*LR LR 16 58 36.3
comp=Z,265nm,30.8s
PPT Papeete 75.27 256 LR LR 17 02 47.7
comp=Z,110nm,20.4s,MS4.1,baz=57,slow=31
YBH Yreka Blue Hor 75.72 322 *e*P **P 16 35 33.8 -0.4**
comp=Z,4.8nm,1.1s,mb4.3
YBH Yreka Blue Hor 75.72 322 *e*P **P 16 35 33.8 -0.4**
YBH pmax pmax
comp=Z,5.0nm,1.1s
WALA Waterton Lakes 76.11 332 *e*P **P 16 35 36.8 +0.6**
comp=Z,24nm,1.5s,mb4.9
FFC Flin Flon 76.15 342 *e*P **P 16 35 35.9 -0.5**
comp=Z,11nm,1.4s,mb4.6
FFC Flin Flon 76.15 342 *e*P **P 16 35 35.9 -0.4**
FFC pmax pmax
comp=Z,11nm,1.4s,mb4.6
VNDA Vanda 81.31 190 P **P 16 36 06.0 +1.8**
comp=Z,1.6nm,1.0s,mb3.9,baz=140,slow=4.5,SNR=4.7
VNDA LR LR 17 10 32.7
comp=Z,152nm,19.0s,MS4.4,baz=125,slow=34
VNDA Vanda 81.31 190 P **P 16 36 06.0 +1.8**
VNDA LR LR 17 10 32.7
VNDA Vanda 81.31 190 P **P 16 36 06.0 +1.8**
VNDA pmax pmax
comp=Z,2.0nm,1.0s
VNDA MLR MLR
comp=Z,152nm,19.0s
SYO Syowa Base 81.37 160 ⇑P **P 16 36 03.8 -0.8**
TSUM Tsumeb 82.61 108 *e*P **P 16 36 12.8 +0.9**
comp=Z,13nm,1.4s,mb4.8
YKA Yellowknife Ar 86.31 341 P **P 16 36 30.1 +0.6**
comp=Z,5.3nm,1.0s,mb4.7,baz=133,slow=4.8,SNR=30
YKA LR LR 17 16 18.1
comp=Z,136nm,20.5s,MS4.3,baz=180,slow=36
YKA Yellowknife Ar 86.31 341 P **P 16 36 30.1 +0.6**
YKA LR LR 17 16 18.1
YKA Yellowknife Ar 86.31 341 P **P 16 36 30.1 +0.6**
YKA pmax pmax
comp=Z,5.0nm,1.0s
YKA MLR MLR
comp=Z,136nm,20.5s
YKW3 Yellowknife Ar 86.36 341 *e*P **P 16 36 29.7 -0.1**
BOSA Boshof 86.77 119 LR LR 17 10 30.3
comp=Z,197nm,21.3s,MS4.5,baz=255,slow=32
MAW Mawson 89.22 164 P **P 16 36 44.5 +1.1**
comp=Z,3.7nm,0.9s,mb4.7,baz=274,slow=7.5,SNR=5.3
MAW LR LR 17 13 56.2
comp=Z,182nm,20.5s,MS4.5,baz=51,slow=34
MAW Mawson 89.22 164 P **P 16 36 44.5 +1.0**
MAW pmax pmax
comp=Z,4.0nm,0.9s
MAW MLR MLR
comp=Z,182nm,20.5s
DLBC Dease Lake 89.43 333 *e*P **P 16 36 46.0 +1.3**
SUMG Summit 91.56 9 P **P 16 36 55.2 +0.9**
JMIC Jan Mayen 96.97 17 LR LR 17 20 34.0
comp=Z,100nm,18.5s,MS4.3,baz=82,slow=35
NKC Novy Kostel 98.08 40 AMS AMS 17 17 30.0
comp=Z,100nm,19.5s
KHC Kasperske Hory 98.48 41 AMS AMS 17 24 40.0
comp=Z,100nm,20.8s
GERES GERESS Array B 98.48 42 LR LR 17 20 46.2
comp=Z,71nm,19.7s,MS4.2,baz=64,slow=35
PRU Pruhonice 99.31 41 AMS AMS 17 20 30.0
comp=Z,100nm,19.4s
ILAR Eielson Array 99.44 335 PP PP 16 41 32.2 -4.0
comp=Z,0.6nm,0.9s,baz=126,slow=7.8,SNR=4.2
PVCC Panska Ves 99.46 40 AMS AMS 17 18 20.0
comp=Z,200nm,23.2s
DPC Dobruska-Polom 100.51 41 AMS AMS 17 18 50.0
comp=Z,200nm,22.4s
OKC Ostrava-Krasne 101.54 41 AMS AMS 17 21 50.0
comp=Z,100nm,19.4s
OBN Obninsk 113.14 37 *i* PKIKP PKPdf 16 42 25.7 +1.7
OBN pmax pmax
comp=Z,5.0nm,0.7s
OBN MLR MLR
comp=Z,100nm,20.0s,MS4.4
KIV Kislovodsk 117.84 49 *i* PKIKP PKPdf 16 42 35.2 +1.9
KIV pmax pmax
comp=Z,6.0nm,1.2s
KIV pmax pmax
comp=N,1.0nm,0.6s
KIV pmax pmax
comp=E,2.0nm,1.2s
KIV MLR MLR
comp=N,64nm,18.0s,MS4.4
KIV MLR MLR
comp=E,47nm,18.0s,MS4.4
KIV MLR MLR
comp=Z,63nm,18.0s,MS4.3
GOF Gofitskoye 118.01 48 *e*PKIKP PKPdf 16 42 27.2 -6.5
ARU Arti 124.83 32 *i* PKIKP PKPdf 16 42 46.0 -0.6
ARU *e* 16 44 31.8
ARU *e* 16 49 54.7
ARU *e*SP SP 16 54 25.8 -4.6
ARU *e*SS SS 17 01 20.3 -8.4
SEY Seymchan 125.25 338 *i* PKIKP PKPdf 16 42 47.9 +0.7
YAK Yakutsk 132.62 347 *c i* PKIKP PKPdf 16 43 03.4 +2.0
YAK MLR MLR
comp=Z,100nm,22.0s,MS4.5
WRA Warramunga Arr 136.31 214 PKP PKPdf 16 43 10.6 +1.3
comp=Z,2.1nm,0.9s,baz=162,slow=1.4,SNR=8.9
WRA Warramunga Arr 136.31 214 PKIKP PKPdf 16 43 10.6 +1.3
WRA pmax pmax
comp=Z,2.0nm,0.9s
WRAB Tennant Creek 136.31 214 *i* PKIKP PKPdf 16 43 12.4 +3.1
NVS Novosibirsk 136.81 22 ⇑ *i* PKIKP PKPdf 16 43 11.6 +2.3
KURK Kurchatov 137.90 29 *e*PKPdf PKPdf 16 43 12.2 +0.8
ZAL Zalesovo 138.09 22 PKP PKPdf 16 43 13.1 +1.4
comp=Z,4.2nm,0.9s,baz=176,slow=2.2,SNR=18
ZAL Zalesovo 138.09 22 PKIKP PKPdf 16 43 13.1 +1.4
ZAL pmax pmax
comp=Z,4.0nm,0.9s
YSS Yuzh-Sakhalins 139.40 325 ⇓ *i* PKIKP PKPdf 16 43 17.3 +3.1
YSS MLR MLR
comp=Z,100nm,18.0s,MS4.6
AAK Ala-Archa 140.36 42 *i* PKIKP PKPdf 16 43 18.6 +2.5
MKAR Makanchi Array 142.35 31 PKP PKPdf 16 43 18.3 -1.1
comp=Z,0.9nm,0.9s,SNR=6.1
MKAR Makanchi Array 142.35 31 PKP PKPdf 16 43 18.3 -1.1
IRK Irkutsk 144.30 6 *e*PKIKP PKPdf 16 43 22.8 +0.2
IRK pmax pmax
comp=Z,32nm,1.9s
TLY Talaya 144.79 7 *e*PKPdf PKPdf 16 43 25.4 +1.9
TLY Talaya 144.79 7 *e*PKIKP PKPdf 16 43 25.5 +2.0
TLY pmax pmax
comp=Z,26nm,1.4s
ZAK Zakamensk 146.02 7 ⇓ *i* PKP2 PKPab 16 43 29.5 +0.4
ZAK pmax pmax
comp=Z,12nm,1.6s
HIA Hailar 146.56 348 *e*PKPbc PKPbc 16 43 29.8 +1.9
WMQ Urumqi 147.14 30 PKP PKPdf 16 43 31.0 +3.3
WMQ PP PP 16 47 03.0 +3.9
WMQ LR LR
comp=N,215nm,24.0s,MS5.0
WMQ LR LR
comp=E,168nm,24.0s,MS5.0
WMQ LR LR
comp=Z,203nm,24.0s,MS4.8
MDJ Mudanjiang 147.59 333 PKP PKPdf 16 43 29.5 +1.1
MJAR Matsushiro Arr 148.04 314 PKPbc PKPdf 16 43 33.3 +3.9
comp=Z,18nm,1.0s,baz=191,slow=0.9,SNR=50
MJAR Matsushiro Arr 148.04 314 PKP2 PKPab 16 43 33.3 -4.1
MJAR pmax pmax
comp=Z,18nm,1.0s
MAT Matsushiro 148.04 314 *e*PKP PKPdf 16 43 34.0 +4.6
SONM Songino Array 148.86 4 PKP PKPdf 16 43 33.6 +3.2
comp=Z,3.9nm,0.6s,slow=2.9,SNR=18
SONM PKPbc PKPdf 16 43 37.5 +7.2
comp=Z,3.9nm,0.6s,baz=327,slow=2.0,SNR=30
SONM Songino Array 148.86 4 PKIKP PKPdf 16 43 33.6 +3.3
SONM 16 43 37.5
SONM pmax pmax
comp=Z,4.0nm,0.6s
SONM pmax pmax
comp=Z,4.0nm,0.6s
HHC Hu-ho-hao-te 155.92 357 *e*PKP PKPdf 16 43 42.3 +1.6
HHC PP PP 16 47 49.9 +1.0
HHC PP PP
comp=Z,69nm,9.5s
LZH Lanzhou 160.01 14 *e*PKP PKPdf 16 43 49.5 +3.5
LZH PKP2 PKPab 16 44 31.8 +3.8
LZH *e*PP PP 16 48 13.5 +2.9
LZH *e*SS SS 17 08 16.4 +1.8
LZH PP PP
comp=Z,79nm,8.5s
LZH LR LR
comp=E,217nm,18.5s
LZH LR LR
comp=Z,299nm,20.0s
LZH Lanzhou 160.01 14 *e*PKP PKPdf 16 43 49.5 +3.5
LZH pPKP 16 44 03.2
LZH sPKP 16 44 08.1
LZH Lanzhou 160.01 14 *e*PKIKP PKPdf 16 43 49.5 +3.5
LZH 16 44 08.1
SSE Sheshan 162.34 326 *e*PKP PKPdf 16 43 48.9 +0.4
SSE SS SS 17 08 34.1 -5.0
SSE PP PP
comp=Z,53nm,5.7s
SSE LR LR
comp=N,23nm,19.6s
SSE LR LR
comp=E,76nm,19.7s
SSE LR LR
comp=Z,70nm,23.9s
SSE Sheshan 162.34 326 *e*PKP PKPdf 16 43 48.9 +0.4
SSE PP PP 16 48 16.6 -6.8
SSE SS SS 17 08 34.1 -5.0
SSE LR LR
comp=Z,70nm,23.9s
NJ2 Nanjing 162.68 333 *e*PKP PKPdf 16 43 49.5 +0.7
NJ2 PKP2 PKPab 16 44 40.2 +0.5
NJ2 PP PP 16 48 26.0 +0.9
NJ2 PP PP
comp=Z,1μm,8.5s
NJ2 LR LR
comp=N,1μm,21.2s
NJ2 LR LR
comp=E,4μm,19.2s
NJ2 LR LR
comp=Z,3μm,23.4s
CD2 Chengdu 164.84 20 PKP PKPdf 16 43 53.4 +2.4
KMI Kunming 169.36 37 PKP PKPdf 16 43 56.3 +2.0
GYA Guiyang 169.89 16 *e*PKP PKPdf 16 43 57.6 +3.0
GYA PP PP
comp=Z,90nm,8.4s

*NEIC **01** 17:11:06.6±4.7,37.93N×71.82E,h154km±29km,mb3.7/4, Error ellipse: s-maj=51.3km s-min=25.1km az=178.0*
*IDC **01** 17:11:07.4±9.9,37.93N×71.86E,h163km±92km,mb3.3/4, mb1 3.3/7,mb1mx3.1/22,mbtmp3.7/7,Error ellipse: s-maj=75.9km s-min=58.0km az=174.0*
*MOS **01** 17:11:07.6±1.4,38.00N×71.84E,h180km,mb3.7/1,Error ellipse: s-maj=27.3km s-min=10.3km az=94.4*

*NNC **01** 17:11:08.4±5.7,38.02N×71.85E,h206km±69km,mpv3.8, Error ellipse: s-maj=59.8km s-min=34.7km az=21.0*

ISC 01 17:10:58.4±1.3,37.41N±0.07×72.2E±0.1,h139km±15km, n25,σ1§07/30,mb3.6/5,2C-2D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**5.51**	**18**	⇑P	**P**	**17 12 22.8**	**+3.4**
	7.2nm,0.7s						
AAK				⇓S	**S**	**17 13 23.2**	**+1.0**
	21nm,0.7s						
AAK	**Ala-Archa**	**5.51**	**18**	*e*Pn	**P**	**17 12 21.6**	**+2.1**
	8.4nm,0.6s						
AAK	**Ala-Archa**	**5.51**	**18**	*e*PN	**P**	**17 12 21.6**	**+2.2**
AAK				pmax	pmax		
	comp=Z,8.0nm,0.6s						
KK31	**Karatay Array**	**5.83**	**348**	⇓P	**P**	**17 12 25.0**	**+1.3**
	comp=Z,11nm,0.7s,baz=180,slow=14,SNR=81						
KK31				S	**S**	**17 13 27.0**	**-2.8**
	comp=Z,39nm,0.5s,baz=170,slow=20,SNR=26						
KKAR	**Karatay Array**	**5.83**	**348**	*i* PN	**P**	**17 12 24.9**	**+1.3**
KKAR				S	**S**	**17 13 27.0**	**-2.8**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KKAR				smax			
	comp=E,12nm,0.4s						
MKAR	**Makanchi Array**	**12.01**	**35**	P	**P**	**17 13 50.0**	**+4.3**
	comp=E,0.1nm,0.3s,baz=226,slow=16,SNR=3.3						
GKN	**Gorkha**	**14.06**	**128**	*e*P	**P**	**17 14 11.9**	**-0.5**
	comp=E,16nm,0.5s						
KURK	**Kurchatov**	**14.08**	**17**	*e*P	**P**	**17 14 17.7**	**+5.2**
	comp=E,1.7nm,0.8s						
KKN	**Kakani**	**14.62**	**127**	*e*P	**P**	**17 14 18.7**	**-0.7**
	comp=E,23nm,1.0s						
DMN	**Daman**	**14.63**	**128**	*e*P	**P**	**17 14 20.2**	**+0.6**
	comp=E,21nm,0.9s						
AB31	**Akbulak array**	**14.79**	**327**	⇑P	**P**	**17 14 21.7**	**+0.3**
	comp=E,0.4nm,0.3s						
AB31				S	**S**	**17 16 52.8**	**-9.0**
PKI	**Pulchoki**	**14.85**	**128**	*e*P	**P**	**17 14 22.2**	**-0.2**
	comp=E,15nm,0.7s						
JIRN	**Jiri**	**15.29**	**125**	*e*P	**P**	**17 14 26.6**	**-1.3**
	comp=E,15nm,0.3s						
BVA0	**Borovoye Array**	**15.66**	**356**	P	**P**	**17 14 32.5**	**+0.1**
	comp=E,0.3nm,0.7s,baz=159,slow=13,SNR=13						
BVAR	**Borovoye Array**	**15.66**	**356**	P	**P**	**17 14 32.2**	**-0.3**
	comp=E,0.3nm,0.3s,baz=156,slow=13,SNR=15						
BVAR				S	**S**	**17 17 21.3**	**-0.4**
	comp=E,0.2nm,0.3s,baz=153,slow=26,SNR=5.0						
BRVK	**Borovoye**	**15.71**	**356**	*e*Pn	**P**	**17 14 32.3**	**-0.6**
	comp=E,1.0nm,0.6s						
BRVK	**Borovoye**	**15.71**	**356**	*e*P	**P**	**17 14 32.3**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZAL	**Zalesovo**	**18.68**	**24**	P	**P**	**17 15 08.4**	**+0.3**
	comp=Z,1.3nm,0.3s,baz=250,slow=4.7,SNR=3.6						
ARU	**Arti**	**21.10**	**339**	*e*P	**P**	**17 15 33.2**	**+0.3**
	comp=Z,3.4nm,0.8s,mb3.7						
ARU	**Arti**	**21.10**	**339**	*e*P	**P**	**17 15 33.2**	**+0.3**
ARU				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.7						
AKASG	**Malin Array Be**	**33.12**	**308**	P	**P**	**17 17 23.6**	**+0.5**
	comp=Z,0.4nm,0.3s,mb3.6,baz=105,slow=9.6,SNR=4.8						
FINES	**FINESS Array B**	**37.27**	**325**	P	**P**	**17 17 58.1**	**+0.1**
	comp=Z,0.4nm,0.4s,mb3.4,baz=129,slow=8.9,SNR=2.8						
ARCES	**ARCESS Array B**	**40.67**	**337**	P	**P**	**17 18 27.2**	**+1.1**
	comp=Z,3.6nm,0.9s,mb4.0,baz=79,slow=6.2,SNR=4.8						
NOA	**NORSAR Array B**	**44.23**	**322**	P	**P**	**17 18 54.2**	**-0.7**
	comp=Z,0.4nm,0.8s,mb3.1,baz=96,slow=7.7,SNR=3.5						
NOA	**NORSAR Array B**	**44.23**	**322**	P	**P**	**17 18 54.2**	**-0.7**

*IDC **01** 17:25:10.5±8.0,46.77N×154.29E,mb3.8/7,mb1 3.9/8, mb1mx3.8/21,mbtmp3.9/8,ML3.2/1,Error ellipse: s-maj=202.7km s-min=25.1km az=167.0*
*MOS **01** 17:25:16.7±1.1,47.34N×154.47E,h47km,mb4.5/1,Error ellipse: s-maj=20.4km s-min=14.3km az=90.8*
*NEIC **01** 17:25:35.4±5.6,48.36N×152.72E,h100km,mb4.3/3,Error ellipse: s-maj=121.0km s-min=16.6km az=145.0*

ISC 01 17:25:15.7±2.1,47.2N±0.1×154.5E±0.2,h42km±16km,n17, σ0§98/20,mb3.9/9,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.60**	**16**	*e*PN	**P**	**17 26 09.5**	**-1.0**
SKR				*e*S	**S**	**17 26 52.8**	**+0.4**
SKR				pmax	pmax		
	comp=N,20nm,0.5s						
SKR				pmax	pmax		
	comp=Z,40nm,0.5s						
SKR				smax			
	comp=N,50nm,0.5s						
SKR				smax			
	comp=E,60nm,0.5s						
PET	**Petropavlovsk**	**6.37**	**23**	*e*PN	**P**	**17 26 49.6**	**+0.1**
PET				*e*S	**S**	**17 28 01.8**	**0.0**
PET				smax			
	comp=E,15nm,0.6s						
PET				smax			
	comp=N,14nm,0.4s						
YSS	**Yuzh-Sakhalins**	**8.03**	**272**	*e*Pn	**P**	**17 27 13.7**	**+1.1**
	comp=N,5.6nm,0.3s						
YSS	**Yuzh-Sakhalins**	**8.03**	**272**	*e*PN	**P**	**17 27 14.0**	**+1.4**
FX1	**Attu Island--F**	**13.23**	**58**	Pn	**P**	**17 28 23.0**	**-0.2**
	comp=N,0.4nm,0.3s,baz=249,slow=8.9,SNR=5.7						
FX1				Sn	**S**	**17 30 41.2**	**-8.6**
	comp=N,1.1nm,0.3s,baz=53,slow=18,SNR=7.3						
SONM	**Songino Array**	**32.08**	**289**	P	**P**	**17 31 39.5**	**-1.1**
	comp=N,0.2nm,0.4s,mb3.3,baz=74,slow=10,SNR=2.7						
ZAL	**Zalesovo**	**43.12**	**306**	P	**P**	**17 33 12.0**	**-1.2**
	comp=N,0.9nm,0.5s,mb3.8,baz=17,slow=8.2,SNR=4.4						
MKAR	**Makanchi Array**	**47.57**	**298**	P	**P**	**17 33 48.4**	**-0.4**
	comp=N,0.9nm,0.9s,mb3.8,baz=53,slow=6.1,SNR=4.8						
KURK	**Kurchatov**	**47.89**	**304**	*e*P	**P**	**17 33 50.3**	**-0.9**
	comp=N,3.4nm,0.9s,mb4.4						
KURK	**Kurchatov**	**47.89**	**304**	*e*P	**P**	**17 33 50.3**	**-0.9**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
BVAR	**Borovoye Array**	**51.29**	**310**	P	**P**	**17 34 16.9**	**-0.3**
	comp=Z,0.7nm,0.3s,mb4.0,baz=51,slow=7.7,SNR=8.8						
ARU	**Arti**	**55.30**	**318**	*e*P	**P**	**17 34 46.2**	**-0.6**
	comp=Z,1.4nm,0.5s,mb4.2						
ARU	**Arti**	**55.30**	**318**	*e*P	**P**	**17 34 46.3**	**-0.5**
FINES	**FINESS Array B**	**64.00**	**335**	P	**P**	**17 35 47.8**	**+1.3**
	comp=Z,0.5nm,0.3s,mb4.0,baz=31,slow=8.6,SNR=9.6						
NOA	**NORSAR Array B**	**68.07**	**342**	P	**P**	**17 36 15.0**	**+2.7**
	comp=Z,1.0nm,0.7s,mb4.0,baz=26,slow=6.3,SNR=3.3						
NOA	**NORSAR Array B**	**68.07**	**342**	P	**P**	**17 36 15.0**	**+2.7**
AKASG	**Malin Array Be**	**71.67**	**327**	P	**P**	**17 36 35.6**	**+1.2**
	comp=Z,1.0nm,0.4s,mb4.1,baz=36,slow=6.5,SNR=5.4						

MOS 01 17:33:29.8±1.6,44.33N×42.87E,h14km,mb3.9/1,3D, Error ellipse: s-maj=24.2km s-min=7.2km az=105.8, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NAGR	**Nagutskaya**	**0.14**	**326**	*e*PG	Pg	17 33 33.1	-0.5
PYA	**Pyatigorsk**	**0.33**	**155**	*e*PG	Pg	17 33 35.7	-1.1
PYA				*i* S	Sg	17 33 40.9	-0.5
KIV	**Kislovodsk**	**0.40**	**200**	⇓ *i* PG	Pg	17 33 37.7	-0.4
KIV				*i* S	Sg	17 33 43.6	-0.1
SHAR	**Shatzhatmas**	**0.60**	**194**	⇓ *i* PG	Pg	17 33 41.6	-0.5
SHAR				*i* S	Sb	17 33 50.2	+0.5
KUBR	**Kubataba**	**0.66**	**144**	⇓ *i* PG	Pg	17 33 42.6	-0.6
KUBR				*e*S	Sb	17 33 51.5	+0.3
GOF	**Gofitskoye**	**0.74**	**9**	*i* PG	Pg	17 33 42.1	-2.6
GOF				*i* S	Sb	17 33 53.4	-0.1
GOF				pmax	pmax		
	comp=Z,150nm,0.7s						
GOF				smax			
	comp=N,570nm,0.6s						
GOF				smax			
	comp=E,230nm,0.6s						
LSNR	**Lesken**	**1.26**	**147**	*i* PG	Pg	17 33 54.1	-0.9
LSNR				*i* S	Sb	17 34 11.3	+2.6
DIGR	**Digorskoe uzhe**	**1.52**	**160**	*i* PG	Pg	17 33 57.5	-2.8
DIGR				*i* S	Sb	17 34 17.1	+0.8
ARNR	**Ardon**	**1.53**	**138**	*i* PG	Pg	17 33 59.1	-1.4
ARNR				*i* S	Sb	17 34 20.0	+3.4
ZEI	**Tsey**	**1.73**	**154**	*e*PN	Pn	17 34 00.8	+1.0
ZEI				*e*S	Sn	17 34 23.3	+1.6
ONI	**Oni**	**1.80**	**166**	P	Pn	17 34 03.1	+2.3
ONI				S	Sn	17 34 55.1	+32

LACR	**Lac**	**1.83**	**145**	*e*PN	Pn	17 34 02.9	+1.8
LACR				*i* S	Sn	17 34 27.3	+3.1
VLKR	**Vladikavkaz**	**1.83**	**134**	*e*PN	Pn	17 34 03.9	+2.6
VLKR				*e*S	Sn	17 34 28.8	+4.4

NIED ***01*** *17:44:00,44.40N×148.20E,h53km,Mw3.6 Best double couple: M₀3.04×10¹⁴ NP1:φs162°,δ68°,λ-131°. NP2: φs48°,δ46°,λ-32°.*

JMA 01 17:44:23.5±0.4,44.38N×148.19E,h63km,M3.5,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**2.04**	**241**	P	P	17 44 56.1	-0.1
NEM2				*e*S	S	17 45 20.3	-0.1
JRA	**Rausu**	**2.25**	**260**	P	P	17 44 59.1	-0.1
JNK	**Nakash**	**2.63**	**254**	P	P	17 45 04.4	-0.2
JNK				*e*S	S	17 45 34.9	-0.4
JAK	**Akkeshi**	**2.89**	**243**	P	P	17 45 07.6	-0.6
JAK				*e*S	S	17 45 40.3	-1.6
JTKR	**Abashiri--Toko**	**3.11**	**264**	P	P	17 45 10.1	-1.2
JAR	**Ashorobuto**	**3.38**	**253**	P	P	17 45 15.3	+0.2
JAR				*e*S	S	17 45 55.1	+0.9
JCH	**Churui**	**3.93**	**245**	P	P	17 45 22.5	-0.4
JCH				*e*S	S	17 46 06.1	-2.0
JSE	**Soyaes**	**4.04**	**280**	P	P	17 45 21.9	-2.5
JNBK	**Urakawa-nobuka**	**4.49**	**244**	P	P	17 45 29.1	-1.6
JKB	**Kayabe**	**5.80**	**247**	P	P	17 45 46.6	-2.2
JKB				*e*S	S	17 46 48.8	-6.0
JOT	**Ohata**	**6.04**	**243**	P	P	17 45 49.5	-2.7
JOT				*e*S	S	17 46 53.4	-7.4
JANG	**Nango**	**6.36**	**233**	*e*S	S	17 47 00.9	-7.8

FUNV ***01*** *17:58:30.5,8.58N×70.82W,h0km,MW3.5*
NEIC ***01*** *17:58:30.5,8.58N×70.82W,h0km,mb3.4/1,MW4.0(CAR), After CAR.*
IDC ***01*** *17:58:32.0±2.7,8.84N×70.86W,h11km±21km,mb3.7/3, mb1 4.1/5,mb1mx3.7/22,mbtmp4.1/5,MS2.6/3,Ms1 2.7/3, ms1mx2.5/27,Error ellipse: s-maj=36.1km s-min=22.1km az=88.0*

ISC 01 17:58:30.1±0.6,8.60N±0.02×70.78W±0.03,h4km±4km,n27, σ1§23/38,mb3.6/3,MS2.6/2,1C,Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	**0.32**	**27**	Pg	**Pg**	**17 58 36.9**	**+0.4**
	2μm,0.3s,baz=194,slow=8.3,SNR=9757						
SDV				Lg		17 58 41.5	
	baz=306,slow=18						
SDV	**Santo Domingo**	**0.32**	**27⇑**	*i*P	**Pg**	**17 58 36.2**	**-0.4**
SDV				*i* S	**Sg**	**17 58 41.5**	**+0.7**
SOCV	**Socops**	**0.32**	**193**	*e*P	**Pg**	**17 58 36.3**	**-0.3**
SOCV				*e*S	**Sg**	**17 58 40.8**	**-0.1**
VIGV	**El Vigia**	**0.62**	**293**	*e*P	**Pg**	**17 58 42.3**	**-0.3**
VIGV				*e*S	**Sg**	**17 58 50.2**	**-0.8**
SANV	**Sanarito**	**1.52**	**54**	*e*P	**Pn**	**17 58 59.4**	**+1.2**
SANV				*e*S	**Sb**	**17 59 19.9**	**+1.8**
QARV	**Quebrada Arrib**	**1.62**	**9**	*e*P	**Pn**	**17 59 00.2**	**+0.7**
QARV				*e*S	**Sb**	**17 59 22.5**	**+1.6**
CURV	**Curarigua**	**1.62**	**30**	*e*P	**Pn**	**17 59 00.5**	**+0.9**
CURV				*e*S	**Sb**	**17 59 22.6**	**+1.6**
CAPV	**Capacho**	**1.68**	**244**	*e*P	**Pn**	**17 59 01.3**	**+0.8**
CAPV				*e*S	**Sn**	**17 59 22.5**	**-0.2**
ELOV	**Elorza**	**2.04**	**141**	*e*P	**Pn**	**17 59 05.4**	**-0.3**
ELOV				*e*S	**Sn**	**17 59 31.9**	**0.0**
TEPV	**Terepaima**	**2.07**	**49**	*e*P	**Pn**	**17 59 06.9**	**+0.8**
TEPV				*e*S	**Sn**	**17 59 32.9**	**+0.2**
SIQV	**Siquisique**	**2.25**	**25**	*e*P	**Pn**	**17 59 08.0**	**-0.7**
SIQV				*e*S	**Sn**	**17 59 37.7**	**+0.5**
DABV	**Dabajuro**	**2.31**	**4**	*e*S	**Sn**	**17 59 38.3**	**-0.5**
VIRV	**Villa del Rosa**	**2.48**	**320**	*e*P	**Pn**	**17 59 11.6**	**-0.4**
VIRV				*e*S	**Sn**	**17 59 41.5**	**-1.5**
BAUV	**El Baul**	**2.73**	**83**	*e*P	**Pn**	**17 59 14.4**	**-1.1**
BAUV				*e*S	**Sn**	**17 59 48.0**	**-1.4**
TURV	**Turiamo**	**3.44**	**57**	*e*P	**Pn**	**17 59 25.9**	**+0.4**
TURV				*e*S	**Sn**	**18 00 05.0**	**-2.2**
FUNV	**FUNVISIS**	**4.33**	**64**	*e*P	**Pn**	**17 59 37.0**	**-1.3**
LLAV	**El Llanito**	**4.34**	**64**	*e*P	**Pn**	**17 59 37.0**	**-1.3**
ROSC	**El Rosal**	**5.12**	**224**	Pn	**Pn**	**17 59 51.4**	**+1.9**
	7.3nm,0.3s,baz=84,slow=9.7,SNR=16						
ROSC				Sn	**Sn**	**18 00 52.1**	**+2.3**
	8.9nm,0.3s,baz=287,slow=19,SNR=4.0						
SJG	**San Juan**	**10.47**	**25**	Pn	**P**	**18 01 01.5**	**-2.8**
	10nm,0.3s,baz=205,slow=13,SNR=9.1						
JTS	**JuntasAbangare**	**14.08**	**278**	LR	LR	18 06 28.6	
	comp=Z,23nm,20.9s,baz=271,slow=34						
SAML	**Samuel**	**19.00**	**156**	*e*P	**P**	**18 02 52.3**	**-3.1**
	1.1nm,0.4s						
SAML				*e*S	**S**	**18 06 11.9**	**-13**
LPAZ	**La Paz**	**24.86**	**174**	P	**P**	**18 03 58.8**	**+3.4**
	2.0nm,0.8s,mb3.7,baz=352,slow=10,SNR=7.4						
LPAZ				LR	LR	18 13 08.2	
	comp=Z,24nm,21.1s,MS2.7,baz=288,slow=35						
SIV	**San Ignacio**	**26.25**	**158**	P	**P**	**18 04 10.2**	**+1.8**
	1.1nm,0.9s,mb3.4,baz=1.5,slow=14,SNR=3.7						
CFAA	**Coronel Fontan**	**40.05**	**177**	LR	LR	18 22 55.8	
	comp=Z,6.0nm,19.0s,MS2.5,baz=269,slow=36						
PDAR	**Pinedale Array**	**48.07**	**322**	P	**P**	**18 07 10.9**	**-1.9**
	0.4nm,0.4s,mb3.8,baz=129,slow=12,SNR=3.1						
LZH	**Lanzhou**	**135.27**	**6**	*e*PKP	PKPdf	18 17 51.5	-2.6
LZH				pPKP		18 17 54.7	
LZH				sPKP		18 17 56.1	
WRA	**Warramunga Arr**	**153.22**	**242**	PKPbc	PKPdf	18 18 29.0	+4.2
	0.3nm,0.3s,baz=106,slow=2.7,SNR=14						

THR ***01*** *18:12:04.9±0.3,30.41N×50.64E,h18km±6km,ML3.8*
NEIC ***01*** *18:12:04.9,30.41N×50.64E,h18km,mb4.0/1, ML3.8(THR),MN3.8(TEH),After THR.*
IDC ***01*** *18:12:05.9±5.2,30.79N×50.66E,mb3.9/11,mb1 4.0/12, mb1mx3.8/24,mbtmp3.9/12,ML3.6/1,Error ellipse: s-maj=103.8km s-min=22.2km az=176.0*
MOS ***01*** *18:12:06.3±1.5,30.37N×50.59E,h33km,mb4.3/2,Error ellipse: s-maj=20.5km s-min=11.5km az=109.6*
TEH ***01*** *18:12:09.0,30.48N×50.82E,h10km,Mn3.8*
CSEM ***01*** *18:12:09.3±0.1,30.50N×50.78E,h60km,ML3.8,Error ellipse: s-maj=3.0km s-min=1.9km az=147.0*

ISC 01 18:12:09.4±0.4,30.50N±0.04×50.79E±0.04,h63km±6km, n50,σ0§99/55,mb3.8/13,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPAR	**Pars**	**2.06**	**108**	Pn	**P**	**18 12 43.1**	**+0.7**
IGAR	**Garneh**	**2.12**	**34**	Pn	**P**	**18 12 44.9**	**+1.7**
IMOK	**Mook**	**2.21**	**130**	Pn	**P**	**18 12 44.9**	**+0.3**
ISRV	**Sarvestan**	**2.30**	**118**	Pn	**P**	**18 12 44.7**	**-1.1**
SHGO	**Shushtar**	**2.34**	**314**	*e*Pg	**P**	**18 12 46.8**	**+0.4**
SHGO				AML	AML	18 13 38.9	
	comp=E,496nm,0.6s						
SHGR	**Shooshtar-Gavs**	**2.34**	**314**	*e*PG	**P**	**18 12 46.8**	**+0.4**
SHGR				AML	AML	18 13 30.4	
	comp=N,1μm,0.3s						
SHGR	**Shooshtar-Gavs**	**2.34**	**314**	*e*Pg	**P**	**18 12 46.0**	**-0.4**
IZEF	**Zefreh**	**2.73**	**28**	Pn	**P**	**18 12 52.3**	**+0.4**
ISAD	**Sadrabad**	**2.85**	**60**	Pn	**P**	**18 12 55.2**	**+1.5**
IKLH	**Kalahroud**	**2.89**	**13**	Pn	**P**	**18 12 52.7**	**-1.5**
KBD	**Kabd**	**3.00**	**245**	*e*P	**P**	**18 12 55.5**	**-0.2**
KBD				*e*S	**S**	**18 13 31.6**	**+1.0**
KBD				AML	AML	18 13 33.4	
	comp=Z,606nm,0.2s						
QRN	**Al-Qurain**	**3.05**	**236**	*e*P	**P**	**18 12 56.7**	**+0.2**
QRN				*e*S	**S**	**18 13 32.9**	**+0.9**
QRN				AML	AML	18 13 34.7	
	comp=Z,120nm,0.2s						
RDF	**Al-Radifah**	**3.23**	**242**	*e*P	**P**	**18 12 58.9**	**0.0**
RDF				*e*S	**S**	**18 13 37.1**	**+0.8**
RDF				AML	AML	18 13 40.2	
	comp=Z,157nm,0.4s						
IMEH	**Mehriz**	**3.40**	**74**	Pn	**P**	**18 13 02.1**	**+0.7**
ASAO	**Ashtian**	**4.09**	**351**	*e*PN	**P**	**18 13 09.8**	**-1.2**
ASAO				AML	AML	18 14 04.0	
	comp=N,73nm,0.5s						
ASAO	**Ashtian**	**4.09**	**351**	*e*Pn	**P**	**18 13 09.0**	**-2.0**
IBAF	**Bafgh**	**4.24**	**74**	Pn	**P**	**18 13 13.3**	**+0.2**
IVRN	**Varamin**	**4.55**	**10**	Pn	**P**	**18 13 17.3**	**-0.2**
IRAZ	**Razeghan**	**4.95**	**352**	Pn	**P**	**18 13 27.1**	**+4.1**
IDMV	**Damavand**	**5.17**	**11**	Pn	**P**	**18 13 26.0**	**-0.1**
KRBR	**Kerman**	**5.19**	**94**	*e*PN	**P**	**18 13 25.9**	**-0.4**
KRBR	**Kerman**	**5.19**	**94**	*e*Pn	**P**	**18 13 25.0**	**-1.3**
DAMV	**Damavand**	**5.21**	**11**	*e*PN	**P**	**18 13 26.1**	**-0.5**
DAMV	**Damavand**	**5.21**	**11**	*e*Pn	**P**	**18 13 26.0**	**-0.6**
HASS	**Wahat al Ahsa'**	**5.38**	**191**	P	**P**	**18 13 27.9**	**-1.0**
HASS				S	**S**	**18 14 27.3**	**-2.9**
IFIR	**Firoozkooh**	**5.39**	**17**	Pn	**P**	**18 13 28.8**	**-0.2**
IAFJ	**Afjeh**	**5.40**	**8**	Pn	**P**	**18 13 29.3**	**+0.1**
SNGE	**Sanandaj**	**5.42**	**329**	*e*PN	**P**	**18 13 27.5**	**-2.0**
SNGE	**Sanandaj**	**5.42**	**329**	*e*Pn	**P**	**18 13 27.0**	**-2.5**
IDHR	**Dehrash**	**5.60**	**320**	Pn	**P**	**18 13 32.1**	**+0.1**
HILS	**Ha'il**	**8.47**	**251**	P	**P**	**18 14 07.0**	**-4.8**
ASF	**Jabal al Asfar**	**12.00**	**282**	Pn	**P**	**18 14 55.7**	**-4.0**
	comp=N,0.4nm,0.3s,baz=338,slow=5.4,SNR=2.7						
ASF				Sn	**S**	**18 16 57.1**	**-15**
	comp=N,0.3nm,0.3s,baz=315,slow=16,SNR=2.1						
TBKS	**Tabuk**	**12.63**	**263**	P	**P**	**18 15 03.6**	**-4.5**
VORD	**Divnogorie**	**22.18**	**340**	*e*P	**P**	**18 17 01.1**	**-0.1**
VORD				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.2						
VORD				pmax	pmax		
	comp=N,10.0nm,0.6s						
VORD				pmax	pmax		
	comp=E,8.0nm,0.6s						
MLR	**Muntele Rosu**	**24.51**	**315**	P	**P**	**18 17 26.4**	**+2.4**
	comp=E,1.8nm,0.5s,mb3.9,baz=290,slow=23,SNR=6.2						
AKASG	**Malin Array Be**	**25.82**	**328**	P	**P**	**18 17 35.8**	**-0.6**
	comp=E,0.5nm,0.4s,mb3.4,baz=135,slow=8.5,SNR=7.6						
ARU	**Arti**	**26.49**	**10**	P	**P**	**18 17 46.7**	**+4.2**
	comp=E,2.1nm,0.6s,mb3.8						
ARU	**Arti**	**26.49**	**10**	P	**P**	**18 17 46.7**	**+4.2**
ARU				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.8						
BVAR	**Borovoye Array**	**26.67**	**27**	P	**P**	**18 17 45.4**	**+1.3**
	comp=Z,2.8nm,0.5s,mb4.1,baz=224,slow=8.2,SNR=27						
MKAR	**Makanchi Array**	**29.24**	**47**	P	**P**	**18 18 08.7**	**+1.3**
	comp=Z,0.5nm,0.5s,mb3.5,baz=239,slow=9.2,SNR=8.3						
MKAR	**Makanchi Array**	**29.24**	**47**	P	**P**	**18 18 08.6**	**+1.2**
GERES	**GERESS Array B**	**33.49**	**314**	P	**P**	**18 18 44.9**	**+0.2**
	comp=Z,0.2nm,0.3s,mb3.5,baz=121,slow=7.8,SNR=4.0						
ZAL	**Zalesovo**	**33.87**	**36**	P	**P**	**18 18 47.6**	**-0.2**
	comp=Z,1.0nm,0.5s,mb4.0,baz=222,slow=8.5,SNR=4.3						
FINES	**FINESS Array B**	**34.95**	**339**	P	**P**	**18 18 56.5**	**-0.5**
	comp=Z,0.9nm,0.4s,mb4.1,baz=146,slow=9.2,SNR=15						
KAF	**Kangasniemi**	**35.41**	**340**	*e*p	**P**	**18 19 00.1**	**-0.8**
HFS	**Hagfors**	**38.58**	**331**	P	**P**	**18 19 27.4**	**-0.1**
	comp=Z,1.8nm,0.4s,mb4.2,baz=117,slow=9.9,SNR=15						
NOA	**NORSAR Array B**	**40.10**	**331**	P	**P**	**18 19 38.7**	**-1.4**
	comp=Z,0.2nm,0.4s,mb3.2,baz=122,slow=9.3,SNR=3.2						
ARCES	**ARCESS Array B**	**41.65**	**347**	P	**P**	**18 19 53.4**	**+0.7**
	comp=Z,1.8nm,0.9s,mb3.7,baz=146,slow=8.7,SNR=7.7						
ARCES	**ARCESS Array B**	**41.65**	**347**	P	**P**	**18 19 53.3**	**+0.6**
EKA	**Eskdalemuir Ar**	**45.20**	**319**	P	**P**	**18 20 21.8**	**+0.2**
	comp=Z,0.5nm,0.4s,mb3.7,baz=101,slow=8.4,SNR=6.0						

IGQ 01 18:46:27.2,2.97S×79.24W,h12km±6km,mb4.1,1C-1D, Error ellipse: s-maj=12.0km s-min=3.1km az=29.9,Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**1.59**	**22**	⇓P	Pn	18 46 57.2	+1.9
IGUA				S	Sn	18 47 18.9	+3.0
ARRY	**Arrayan**	**1.65**	**28**	⇑P	Pn	18 46 58.0	+1.7
ARRY				S	Sn	18 47 20.6	+3.1
CUSU	**Cusua**	**1.69**	**27**	P	Pn	18 46 59.2	+2.3
ULBA	**Ulba**	**1.72**	**29**	P	Pn	18 46 59.6	+2.3
PISA	**Pisayambo**	**2.08**	**24**	P	Pn	18 47 04.6	+2.2
QIL1	**Quilotoa**	**2.13**	**8**	P	Pn	18 47 03.0	-0.2
CAMI	**Rancho Maria**	**2.39**	**18**	P	Pn	18 47 10.3	+3.4
TAMB	**Tambo**	**2.42**	**21**	P	Pn	18 47 10.4	+3.1
NAS1	**Nasa**	**2.44**	**18**	P	Pn	18 47 10.9	+3.3
VC1	**Cotopaxi 1**	**2.46**	**20**	P	Pn	18 47 09.7	+1.9
JUA2	**San Juan 2**	**2.81**	**13**	P	Pn	18 47 15.9	+3.0
TERV	**Terraza Guagua**	**2.85**	**13**	P	Pn	18 47 15.1	+1.7
GGP	**Refugio Guagua**	**2.85**	**13**	P	Pn	18 47 15.9	+2.5
PINO	**Pino**	**2.86**	**13**	P	Pn	18 47 14.7	+1.1
YANA	**Yana**	**2.91**	**13**	P	Pn	18 47 16.2	+1.9
JOR1	**San Jorge 1**	**3.01**	**12**	P	Pn	18 47 13.9	-1.8

IDC 01 19:15:31.5±3.1,12.70N×56.67E,mb3.7/4,mb1 3.8/4, mb1mx3.5/18,mbtmp3.7/4,MS3.2/3,Ms1 3.2/3, ms1mx2.9/20,Error ellipse: s-maj=98.2km s-min=28.8km az=127.0,Socotra region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**13.57**	**267**	LR	LR	19 23 03.3	
	comp=Z,63nm,19.9s,baz=251,slow=33						
KMBO	**Kilima Mbogo**	**23.67**	**236**	P	P	19 20 45.2	-0.6
	0.5nm,0.4s,baz=41,slow=19,SNR=3.8						
KMBO				LR	LR	19 30 36.1	
	comp=Z,55nm,19.5s,baz=94,slow=38						
MKAR	**Makanchi Array**	**40.24**	**27**	P	P	19 23 10.1	-1.6
	0.5nm,0.8s,baz=209,slow=8.8,SNR=5.2						
FINES	**FINESS Array B**	**53.47**	**342**	P	P	19 24 53.5	-2.1
	1.0nm,0.6s,baz=135,slow=9.8,SNR=5.3						
SONM	**Songino Array**	**54.09**	**39**	LR	LR	19 47 32.6	
	comp=Z,37nm,18.3s,baz=168,slow=36						
ARCES	**ARCESS Array B**	**60.12**	**348**	P	P	19 25 40.1	-2.7
	1.2nm,0.7s,baz=135,slow=6.9,SNR=6.3						

NNC ***01*** *19:30:20.5±8.8,42.98N×85.12E,mpv2.5,Error ellipse: s-maj=289.4km s-min=101.2km az=63.0*

BJI 01 19:30:06.6,42.22N×85.00E,h20km,ML2.9,1C,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**2.54**	**50**	P	Pn	19 30 52.2	+4.5
WMQ				S	Sn	19 31 21.5	+3.1
WMQ				Smax			
	comp=N,45nm,0.5s						
WMQ				Smax			
	comp=E,64nm,0.5s						
MK31	**Makanchi Array**	**4.97**	**338**	⇑Pn	Pn	19 31 30.0	+8.0
	comp=E,0.3nm,0.3s,baz=153,slow=14,SNR=4.3						
MK31				Lg		19 32 35.7	
	comp=E,2.9nm,0.5s,baz=150,slow=29,SNR=7.0						

MDD 01 19:48:10.8±1.1,35.48N×3.80W,h11km±12km,mb3.7/16, Error ellipse: s-maj=9.5km s-min=5.7km az=13.0, PRXIMO,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMEL	**Melilla**	**0.71**	**104**	P	Pb	19 48 24.1	-0.6
	609nm,0.2s,SNR=36						
EMEL				S	Sb	19 48 33.2	-1.0
	1μm,0.2s,SNR=14						
MELI	**Melilla**	**0.73**	**104**	P	Pb	19 48 24.4	-0.6
MELI				S	Sb	19 48 33.2	-1.5
EALB	**Alboran**	**0.78**	**53**	P	Pb	19 48 24.7	-1.1
	22nm,0.1s,SNR=7.9						
EALB				S	Sb	19 48 35.2	-0.8
	155nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**1.34**	**324**	P	Pb	19 48 33.2	-2.2
	2.1nm,0.1s,SNR=7.9						
EMIJ				S	Sb	19 48 50.2	-2.3
	44nm,0.4s,SNR=7.9						
EGUA	**Guajares**	**1.37**	**8**	P	Pn	19 48 33.7	-2.2
	1.6nm,0.2s,SNR=7.9						
EGUA				S	Sb	19 48 51.9	-1.3
	10nm,0.2s,SNR=7.9						
ERON	**Agron**	**1.54**	**360**	P	Pn	19 48 37.3	-1.1
	1.4nm,0.1s,SNR=5.8						
ERON				S	Sb	19 48 56.4	-1.9
	24nm,0.3s,SNR=14						
EBER	**Berja**	**1.60**	**27**	P	Pn	19 48 37.4	-1.8
	2.3nm,0.2s,SNR=4.0						
EBER				S	Sn	19 48 58.7	-1.3
	14nm,0.2s,SNR=7.9						
ELOJ	**Sierra Loja**	**1.69**	**350**	P	Pn	19 48 39.6	-0.9
	1.0nm,0.2s,SNR=7.9						
ELOJ				S	Sn	19 49 00.8	-1.5
	4.7nm,0.2s,SNR=5.2						
ELUQ	**Luque**	**2.12**	**350**	P	Pn	19 48 44.4	-2.1
	2.2nm,0.2s,SNR=7.9						
ESPR	**Espera**	**2.17**	**311**	P	Pn	19 48 46.3	-1.0
	0.7nm,0.1s,SNR=7.9						
ESPR				S	Sn	19 49 12.0	-2.4
	2.8nm,0.2s,SNR=7.9						
EQES	**Quesada**	**2.40**	**14**	P	Pn	19 48 49.6	-0.9
	1.6nm,0.1s,SNR=7.9						
EQES				S	Sn	19 49 18.7	-1.4
	18nm,0.4s,SNR=7.9						
EBAN	**Banos Encina**	**2.68**	**0**	P	Pn	19 48 52.5	-2.2
	0.5nm,0.1s,SNR=7.9						
EBAN				S	Sn	19 49 23.4	-4.1
	6.4nm,0.5s,SNR=4.0						
EADA	**Adamuz**	**2.76**	**347**	P	Pn	19 48 54.5	-1.3
	0.5nm,0.1s,SNR=7.9						
EADA				S	Sn	19 49 25.9	-3.5
	11nm,0.3s,SNR=4.0						
EMUR	**La Murta**	**3.13**	**40**	S	Sn	19 49 34.6	-4.3
	0.7nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.25**	**316**	P	Pn	19 48 60.0	-2.8
	0.7nm,0.1s,SNR=7.9						
EMIN				S	Sn	19 49 36.7	-5.2
	1.4nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**3.64**	**29**	P	Pn	19 49 06.3	-2.0
	1.4nm,0.2s,SNR=7.9						
ETOB				S	Sn	19 49 48.2	-3.4
	0.6nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**4.19**	**358**	P	Pn	19 49 14.5	-1.7
	1.0nm,0.1s,baz=178,slow=12,SNR=7.9						
EIBI	**Ibiza**	**5.42**	**48**	P	Pn	19 49 29.8	-3.7
	0.7nm,0.2s,SNR=7.9						

CSEM ***01*** *19:49:18.8±0.4,35.35N×3.99W,h1km,MD2.7,Error ellipse: s-maj=13.5km s-min=9.9km az=31.0,After CNRM*
CNRM ***01*** *19:49:18.8,35.35N×3.99W,h1km,MD2.7*

MDD 01 19:49:17.2±0.7,35.43N×3.91W,h3km±9km,mbLg1.7/3, Error ellipse: s-maj=7.0km s-min=3.8km az=122.0, PRXIMO,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAL	**Palemas**	**0.21**	**188**	*i* P	Pg	19 49 21.0	-0.5
MPAL				*i* S	Sg	19 49 24.0	-0.3
TOU	**Touzarine**	**0.49**	**165**	*i* P	Pg	19 49 26.0	-1.0
TOU				*i* S	Sg	19 49 33.0	-0.5
EMEL	**Melilla**	**0.79**	**99**	P	Pg	19 49 32.7	-0.2
	SNR=7.9						
EMEL				S	Sg	19 49 41.7	-1.8
	SNR=7.9						
EALB	**Alboran**	**0.87**	**54**	P	Pb	19 49 32.9	-1.7
	41nm,0.2s,SNR=7.9						
EALB				S	Sg	19 49 44.0	-2.3
	10.0nm,0.1s,SNR=7.9						
ZAI	**Zaio**	**1.06**	**116**	*e*P	Pb	19 49 40.5	+2.7
ZAI				*i* S	Sb	19 49 53.0	+1.2
EMIJ	**Mijas**	**1.33**	**328**	P	Pb	19 49 42.1	-0.4
	2.4nm,0.1s,SNR=7.9						
EMIJ				S	Sb	19 49 59.1	-0.7
	3.6nm,0.2s,SNR=7.9						
TZK	**Tazeka**	**1.36**	**190**	*i* P	Pb	19 49 42.0	-1.0
TZK				*i* S	Sb	19 49 59.0	-1.7
EGUA	**Guajares**	**1.42**	**11**	P	Pn	19 49 42.6	-1.4
	0.5nm,0.2s,SNR=7.9						
EGUA				S	Sb	19 50 00.9	-1.6
	1.3nm,0.2s,SNR=7.9						

IDC ***01*** *20:00:19.3±13.0,28.75N×81.67E,mb3.9/3,mb1 3.9/4, mb1mx3.4/20,mbtmp3.8/4,ML3.8/1,Error ellipse: s-maj=254.5km s-min=77.6km az=139.0*
NDI ***01*** *20:00:33.3±3.5,29.67N×80.60E,h10km,ML3.7*

ISC 01 20:00:27.6±1.8,29.6N±0.1×80.82E±0.08,h9km±8km,n11, σ1§05/14,mb3.9/3,Nepal-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGTI	**Lohaghat**	**0.52**	**258**	*e*P	**Sg**	**20 00 43.5**	**-1.5**
PTH	**Pithoragarh**	**0.53**	**269**	*e*P	**Pg**	**20 00 39.0**	**+0.7**
PTH				*e*S	**Sg**	**20 00 45.0**	**-0.4**
DDI	**Dehra Dun**	**2.52**	**288**	*e*x	**Pn**	**20 01 10.0**	**+0.5**
KLP	**Kalpa**	**2.96**	**312**	*e*P	**Pn**	**20 01 19.2**	**+3.3**
KLP				*e*S	**Sn**	**20 01 51.5**	**-0.4**
KLP				AML	AML	20 01 58.7	
	comp=E,507nm,0.5s						
KLP				AML	AML	20 01 59.1	
	comp=N,348nm,0.9s						
AYAN	**Aya Nagar**	**3.41**	**253**	*e*x	**Pg**	**20 01 36.5**	**+0.7**
AYAN				*e*S	**Sn**	**20 02 03.9**	**+0.7**
SMLA	**Simla**	**3.52**	**297**	*e*PB	**Pb**	**20 01 29.5**	**-0.4**
SDNR	**Sundarnagar**	**3.84**	**301**	*e*PB	**Pb**	**20 01 37.0**	**+1.6**
MKAR	**Makanchi Array**	**17.24**	**3**	P	**P**	**20 04 31.2**	**+1.0**
	comp=N,0.3nm,0.3s,baz=190,slow=11,SNR=13						
ZAL	**Zalesovo**	**24.53**	**6**	P	**P**	**20 05 46.8**	**-1.7**
	comp=N,0.8nm,0.4s,mb3.6,baz=297,slow=7.6,SNR=4.1						
FINES	**FINESS Array B**	**47.77**	**328**	P	**P**	**20 09 05.8**	**-1.0**
	comp=N,0.6nm,0.4s,mb3.9,baz=112,slow=10,SNR=7.4						
ARCES	**ARCESS Array B**	**50.66**	**338**	P	**P**	**20 09 28.3**	**-0.7**
	comp=N,2.6nm,0.8s,mb4.2,baz=98,slow=6.4,SNR=3.9						

CSEM ***01*** *20:20:34.7±0.6,38.68N×28.53W,h5km,ML2.1,Error ellipse: s-maj=5.8km s-min=2.1km az=25.0,After PDA*
PDA ***01*** *20:20:34.7±0.6

MPA	**Moose Pass**	**4.09 258**	P	**Pn**	**20 33 25.8**	**-0.1**
RC01	**Rabbit Creek A**	**4.12 267**	P	**Pn**	**20 33 26.5**	**+0.3**
MCK	**McKinley**	**4.15 305**	P	**Pn**	**20 33 27.8**	**+1.1**
WRH	**Wood River Hil**	**4.26 316**	P	**Pn**	**20 33 29.0**	**+0.8**
SEW	**Seward**	**4.28 253**	P	**Pn**	**20 33 27.2**	**-1.3**
FIB	**Fire Island**	**4.32 268**	P	**Pn**	**20 33 29.7**	**+0.7**
SLKM	**Skilak Lake**	**4.49 260**	*e*P	**Pn**	**20 33 30.9**	**-0.6**
KTH	**Kantishna Hill**	**4.89 298**	P	**Pn**	**20 33 37.1**	**-0.1**
BRLK	**Bradley Lake**	**5.08 253**	P	**Pn**	**20 33 38.5**	**-1.3**
SPU	**Mount Spurr**	**5.21 270**	*e*P	**Pn**	**20 33 41.5**	**-0.2**
RSO	**Redoubt South**	**5.71 264**	*e*P	**Pn**	**20 33 47.1**	**-1.6**
AGU	**Augustine-Summ**	**6.42 255**	P	**Pn**	**20 33 57.8**	**-0.9**
DLBC	**Dease Lake**	**6.45 114**	Pn	**Pn**	**20 33 59.8**	**+0.6**
DLBC			Pg	**Pg**	**20 34 20.8**	**-9.0**
DLBC			Sg	**Sg**	**20 34 46.8**	**-9.0**
DLBC			Trac		20 36 15.3	
	comp=Z,39nm,0.7s					
DLBC	**Dease Lake**	**6.45 114**	*e*Pn	**Pn**	**20 33 58.4**	**-0.7**
KDAK	**Kodiak Island**	**6.88 241**	P	**Pn**	**20 34 03.1**	**-2.2**
SVW2	**Sparrevohn**	**6.91 272**	*e*P	**Pn**	**20 34 03.3**	**-2.4**
IMA	**Indian Mountai**	**7.10 315**	*e*P	**Pn**	**20 34 08.6**	**+0.3**
FNBB	**Fort Nelson**	**9.46 98**	P	**P**	**20 34 38.6**	**-2.5**
FNBB			Sg	**Sg**	**20 37 16.5**	**-19**
FNBB			Trac		20 37 46.4	
	comp=Z,7.0nm,0.6s					

*IDC **01** 20:57:15.3±3.3, 43.99N×129.88W, mb3.2/3, mb1 3.7/5, mb1mx3.5/23, mbtmp3.4/5, ML3.8/2, MS2.9/3, Ms1 2.9/3, ms1mx2.6/13, Error ellipse: s-maj=69.6km s-min=22.7km az=47.0*

*NEIC **01** 20:57:19.5±1.4, 44.28N×129.14W, h10km, mb3.7/2, Error ellipse: s-maj=16.2km s-min=7.9km az=68.0*

ISC 01 20:57:18.2±1.4,**44.35N**±0.07×**129.1W**±0.2,**h10**km,**n41,** σ0**74**/38,**mb3.2**/2,**MS2.4**/1,**1C-1D,Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RNO	**Roman Nose**	**3.90**	**95**	P	**Pn**	**20 58 19.3**	**-0.1**
KMOR	**Kings Mountain**	**4.20**	**70**	P	**Pn**	**20 58 23.2**	**-0.6**
NLO	**Nicolai Mounta**	**4.37**	**64**	P	**Pn**	**20 58 26.4**	**+0.2**
DBO	**Dodson Butte**	**4.43**	**104**	P	**Pn**	**20 58 24.3**	**-2.7**
HSO	**Harness Mounta**	**4.43**	**99**	P	**Pn**	**20 58 25.6**	**-1.5**
WISH	**Wishkah**	**4.66**	**52**	P	**Pn**	**20 58 31.0**	**+0.7**
BMW	**Boistfort Moun**	**4.66**	**61**	P	**Pn**	**20 58 29.5**	**-0.9**
SSOR	**Sweet Springs**	**4.78**	**82**	P	**Pn**	**20 58 32.0**	**0.0**
HUMO	**Hull Mountain**	**4.81**	**109**	*e*P	**Pn**	**20 58 28.9**	**-3.5**
OOW	**Octopus West**	**4.83**	**44**	P	**Pn**	**20 58 32.6**	**-0.1**
OCWA	**Octopus Mounta**	**4.84**	**44**	P	**Pn**	**20 58 32.8**	**-0.1**
RVW	**Rose Valley**	**4.85**	**66**	P	**Pn**	**20 58 33.1**	**0.0**
HBO	**Huckleberry Mo**	**4.92**	**93**	⇑P	**Pn**	**20 58 34.3**	**+0.2**
IRO	**Indian Ridge**	**4.95**	**92**	P	**Pn**	**20 58 34.7**	**+0.2**
OTR	**Olympics--Tyee**	**5.00**	**40**	P	**Pn**	**20 58 35.4**	**+0.3**
LVP	**Lakeview Peak**	**5.04**	**68**	P	**Pn**	**20 58 35.9**	**+0.1**
FL2	**Flat Top 2**	**5.12**	**66**	P	**Pn**	**20 58 37.1**	**+0.2**
OSD	**Olympics--Snow**	**5.13**	**45**	P	**Pn**	**20 58 37.0**	**0.0**
TDL	**Tradedollar La**	**5.26**	**65**	P	**Pn**	**20 58 38.9**	**+0.1**
STW	**Striped Peak**	**5.36**	**43**	P	**Pn**	**20 58 40.3**	**0.0**
HDW	**Hoodsport**	**5.36**	**50**	P	**Pn**	**20 58 39.9**	**-0.4**
YBH	**Yreka Blue Hor**	**5.37 117**	Pn	**Pn**	**20 58 40.4**	**0.0**
	0.2nm,0.3s,baz=283,slow=13,SNR=9.9					
YBH	**Yreka Blue Hor**	**5.37 117**	*e*P	**Pn**	**20 58 41.4**	**+1.0**
GNW	**Green Mountain**	**5.44**	**52**	⇓P	**Pn**	**20 58 41.1**	**-0.2**
WPW	**White Pass**	**5.82**	**63**	P	**Pn**	**20 58 46.8**	**+0.1**
FMW	**Mount Fremont**	**5.83**	**61**	P	**Pn**	**20 58 46.7**	**-0.1**
MCW	**Mount Constitu**	**6.13**	**43**	P	**Pn**	**20 58 51.1**	**0.0**
CMW	**Cultus Mountai**	**6.33**	**47**	P	**Pn**	**20 58 54.6**	**+0.7**
TBM	**Table Mountain**	**6.59**	**62**	P	**Pn**	**20 58 57.8**	**+0.2**
MBW	**Mount Baker**	**6.67**	**46**	P	**Pn**	**20 58 59.5**	**+0.8**
VDB	**Vedder Mountai**	**6.72**	**43**	P	**Pn**	**20 58 59.5**	**+0.1**
NEW	**Newport**	**9.18**	**61**	LR	LR	21 03 01.9	
	comp=Z,106nm,21.3s,baz=332,slow=35						
DLBC	**Dease Lake**	**14.12 358**	LR	LR	21 05 32.1		
	comp=Z,81nm,18.5s,baz=341,slow=34						
PDAR	**Pinedale Array**	**14.27 90**	Pn	**P**	**21 00 52.2**	**+10**
	0.1nm,0.3s,baz=284,slow=15,SNR=3.8						
PV01	**Paradox Valley**	**16.64 105**	*e*P	**P**	**21 01 14.4**	**+1.5**
SDCO	**Great Sand Dun**	**18.96 102**	*e*P	**P**	**21 01 42.4**	**+0.6**
	5.1nm,1.2s						
YKA	**Yellowknife Ar**	**20.04 20**	P	**P**	**21 01 54.8**	**+0.8**
	0.4nm,0.4s,baz=207,slow=11,SNR=3.4						
FFC	**Flin Flon**	**20.32 50**	*e*P	**P**	**21 01 55.5**	**-1.5**
	4.8nm,0.9s						
ILAR	**Eielson Array**	**22.75 340**	P	**P**	**21 02 20.4**	**-1.0**
	1.1nm,1.0s,mb3.2,baz=148,slow=8.5,SNR=9.8						
ULM	**Lac du Bonnet**	**23.17 63**	LR	LR	21 12 51.1		
	comp=Z,14nm,19.7s,MS2.4,baz=194,slow=39						
TXAR	**Lajitas Array**	**25.15 118**	P	**P**	**21 02 46.0**	**+1.1**
	0.3nm,0.4s,mb3.2,baz=280,slow=7.6,SNR=4.4						

*ATH **01** 21:17:42.7, 34.87N×23.35E, h26km, MD3.2/4*
*HLW **01** 21:17:43.9, 35.26N×24.62E, h33km, Mb3.0*
*CSEM **01** 21:17:43.2±0.6, 34.81N×23.57E, h60km, MD3.2, Error ellipse: s-maj=26.6km s-min=10.7km az=67.0*

ISC 01 21:17:43.3±1.2,**34.77N**±0.07×**23.4E**±0.2,**h33**km,**n7,** σ1**19**/9,**2C-2D,Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.54**	**82**	*e*PN	**Pn**	**21 17 55.0**	**+0.3**
VAM	**Vamos**	**0.90**	**44**	⇓*i*PN	**Pn**	**21 18 00.0**	**+0.3**
KYTH	**Kithira**	**1.54**	**348**	*e*PN	**Pn**	**21 18 08.5**	**-0.5**
VLI	**Veliai**	**1.99**	**348**	*e*PN	**Pn**	**21 18 15.9**	**+0.6**
SLUM		**3.59**	**155**	⇑P	**P**	**21 18 40.0**	**+2.0**
SLUM				S	**S**	**21 19 20.8**	**+0.9**
HMAT	**Matruh**	**4.79**	**139**	⇓P	**P**	**21 18 53.0**	**-2.0**
HMAT				S	**S**	**21 19 41.9**	**-8.1**
HFRF	**Wahat Farafira**	**8.67**	**150**	⇑P	**P**	**21 19 47.8**	**-1.6**

*NEIC **01** 21:20:57.8, 39.72S×174.08E, h195km, MG4.1(WEL), After WEL.*

WEL 01 21:20:58.7±0.2,**39.75S**×**174.13E,h187**km±2km,**ML4.0**/16, **Error ellipse: s-maj=2.0km s-min=0.9km az=90.0,North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRZ	**Ngariki Road**	**0.44**	**340**	PN	P	21 21 24.1	-0.3
NRZ	**Ngariki Road**	**0.44**	**340**	*e*P	P	21 21 24.0	-0.4
NEZ	**North Egmont**	**0.48**	**357**	PN	P	21 21 24.7	+0.1
NEZ	**North Egmont**	**0.48**	**357**	P	P	21 21 24.7	+0.2
PKE	**Pukeiti**	**0.56**	**349**	PN	P	21 21 24.5	-0.4
PKE	**Pukeiti**	**0.56**	**349**	P	P	21 21 24.7	-0.2
WAZ	**Wanganui**	**0.66**	**91**	PN	P	21 21 26.0	+0.7
WAZ				SN	S	21 21 43.9	-2.0
WAZ	**Wanganui**	**0.66**	**91**	P	P	21 21 26.1	+0.8
WAZ				S	S	21 21 47.1	+1.2
VRZ	**Vera Road**	**0.79**	**38**	PN	P	21 21 25.1	-0.9
VRZ				SN	S	21 21 46.1	-1.0
VRZ	**Vera Road**	**0.79**	**38**	P	P	21 21 25.2	-0.8
VRZ				S	S	21 21 46.1	-1.0
PKVZ	**Pokaka**	**1.05**	**65**	PN	P	21 21 27.3	-0.3
PKVZ				SN	S	21 21 49.2	-0.8
DUWZ	**D'Urville Isla**	**1.07**	**188**	PN	P	21 21 27.7	-0.1
DUWZ				SN	S	21 21 49.6	-0.7
MTVZ	**Mangateitei**	**1.10**	**71**	PN	P	21 21 27.9	-0.2
MTVZ				SN	S	21 21 49.9	-0.9
TRVZ	**Turoa**	**1.19**	**68**	PN	P	21 21 28.7	-0.2
TRVZ				SN	S	21 21 51.0	-1.1
DRZ	**Dome Shelter**	**1.21**	**67**	PN	P	21 21 29.1	+0.1
DRZ				SN	S	21 21 51.4	-1.0
DRZ	**Dome Shelter**	**1.21**	**67**	P	P	21 21 29.4	+0.4
FWVZ	**Far West T-bar**	**1.21**	**66**	PN	P	21 21 28.8	-0.2
FWVZ				SN	S	21 21 50.8	-1.6
FWVZ	**Far West T-bar**	**1.21**	**66**	P	P	21 21 28.8	-0.2
WNVZ	**Wahianoa**	**1.21**	**70**	PN	P	21 21 28.9	-0.1
WNVZ				SN	S	21 21 51.5	-0.9
WNVZ	**Wahianoa**	**1.21**	**70**	P	P	21 21 29.0	0.0
WNVZ				S	S	21 21 51.5	-1.0
TWVZ	**Taurewa**	**1.22**	**57**	PN	P	21 21 28.2	-0.9
TWVZ				SN	S	21 21 51.1	-1.5
TWVZ	**Taurewa**	**1.22**	**57**	P	P	21 21 28.3	-0.8
TWVZ				S	S	21 21 51.2	-1.4
WPVZ	**Whakapapa**	**1.23**	**64**	PN	P	21 21 28.6	-0.5
WPVZ				SN	S	21 21 51.0	-1.7
WPVZ	**Whakapapa**	**1.23**	**64**	P	P	21 21 28.6	-0.5
CNZ	**Chateau**	**1.23**	**64**	PN	P	21 21 28.8	-0.4
CNZ	**Chateau**	**1.23**	**64**	P	P	21 21 28.9	-0.3
KIW	**Kapiti Island**	**1.26**	**152**	PN	P	21 21 29.4	-0.1
KIW				SN	S	21 21 51.9	-1.3
TUVZ	**Tukino**	**1.27**	**68**	PN	P	21 21 29.6	0.0
TUVZ				SN	S	21 21 53.0	-0.4
TUVZ	**Tukino**	**1.27**	**68**	P	P	21 21 29.6	0.0
NGZ	**Ngauruhoe**	**1.28**	**64**	PN	P	21 21 29.2	-0.3
NGZ				SN	S	21 21 52.3	-1.1
NGZ	**Ngauruhoe**	**1.28**	**64**	P	P	21 21 29.3	-0.3
MOVZ	**Moawhango**	**1.30**	**75**	PN	P	21 21 29.2	-0.6
MOVZ				SN	S	21 21 51.2	-2.7
MOVZ	**Moawhango**	**1.30**	**75**	P	P	21 21 29.2	-0.6
OTVZ	**Oturere**	**1.33**	**64**	PN	P	21 21 29.8	-0.2
OTVZ				SN	S	21 21 53.0	-1.3
KRVZ	**Karewarewa**	**1.34**	**61**	PN	P	21 21 29.7	-0.5
HIZ	**Hauiti**	**1.36**	**25**	PN	P	21 21 28.8	-1.5
HIZ	**Hauiti**	**1.36**	**25**	*e*P	P	21 21 28.7	-1.5
MRZ	**Mangatainoka R**	**1.44**	**130**	PN	P	21 21 30.8	-0.3
MRZ				SN	S	21 21 54.8	-1.2
MRZ	**Mangatainoka R**	**1.44**	**130**	P	P	21 21 30.9	-0.2
MRZ				S	S	21 21 55.1	-0.9
TSZ	**Takapari Road**	**1.45**	**103**	PN	P	21 21 30.8	-0.3
TSZ	**Takapari Road**	**1.45**	**103**	P	P	21 21 30.9	-0.2
TCW	**Tory Channel**	**1.47**	**176**	PN	P	21 21 31.3	0.0
TCW				SN	S	21 21 54.8	-1.7
TCW	**Tory Channel**	**1.47**	**176**	P	P	21 21 31.3	0.0
CAW	**Cannon Point**	**1.54**	**152**	PN	P	21 21 31.7	-0.3
CAW				SN	S	21 21 56.3	-1.3
MRW	**Makara Radio**	**1.54**	**164**	PN	P	21 21 31.7	-0.4
MRW				SN	S	21 21 56.3	-1.5
MRW	**Makara Radio**	**1.54**	**164**	P	P	21 21 31.7	-0.3
RATZ	**Rangitukua**	**1.55**	**56**	PN	P	21 21 31.5	-0.6
RATZ	**Rangitukua**	**1.55**	**56**	P	P	21 21 31.5	-0.6
NNZ	**Nelson**	**1.57**	**201**	PN	P	21 21 31.5	-0.9
NNZ				SN	S	21 21 56.6	-1.7
NNZ	**Nelson**	**1.57**	**201**	P	P	21 21 31.5	-0.8
WEL	**Wellington**	**1.61**	**163**	PN	P	21 21 32.2	-0.5
WEL	**Wellington**	**1.61**	**163**	P	P	21 21 32.2	-0.5
WEL				S	S	21 21 56.6	-2.3
SNZO	**South Karori**	**1.62**	**164**	PN	P	21 21 32.2	-0.6
SNZO				SN	S	21 21 57.5	-1.5
SNZO	**South Karori**	**1.62**	**164**	P	P	21 21 32.2	-0.6
QRZ	**Quartz Range**	**1.63**	**228**	PN	P	21 21 31.1	-1.7
QRZ				SN	S	21 21 56.8	-2.4
QRZ	**Quartz Range**	**1.63**	**228**	P	P	21 21 31.1	-1.8
TUWZ	**Tuamarina**	**1.69**	**185**	PN	P	21 21 32.8	-0.6
BHW	**Baring Head**	**1.75**	**161**	PN	P	21 21 33.3	-0.8
BHW				SN	S	21 21 59.3	-2.0
BHW	**Baring Head**	**1.75**	**161**	P	P	21 21 33.3	-0.8
MTW	**Mount Morrison**	**1.76**	**144**	PN	P	21 21 33.6	-0.5
MTW				SN	S	21 21 59.7	-1.7
MTW	**Mount Morrison**	**1.76**	**144**	P	P	21 21 33.6	-0.5
BFZ	**Birch Farm**	**1.87**	**121**	PN	P	21 21 34.9	-0.4
BFZ				SN	S	21 22 01.7	-1.7
BFZ	**Birch Farm**	**1.87**	**121**	P	P	21 21 34.9	-0.4
MSWZ	**Moikau Station**	**1.87**	**153**	PN	P	21 21 34.5	-0.8
MSWZ				SN	S	21 22 01.4	-2.0
MSWZ	**Moikau Station**	**1.87**	**153**	P	P	21 21 34.5	-0.8
PAWZ	**Paruwai Farm**	**1.91**	**149**	PN	P	21 21 34.9	-0.8
BKZ	**Black Stump Fm**	**1.92**	**73**	PN	P	21 21 34.7	-1.1
BKZ	**Black Stump Fm**	**1.92**	**73**	P	P	21 21 34.8	-1.0
CMWZ	**Cape Campbell**	**2.00**	**178**	PN	P	21 21 36.2	-0.3
CMWZ	**Cape Campbell**	**2.00**	**178**	P	P	21 21 36.3	-0.3
TRWZ	**Traveller**	**2.03**	**145**	PN	P	21 21 36.3	-0.7
PWZ	**Pawanui**	**2.12**	**98**	PN	P	21 21 37.6	-0.4
PWZ	**Pawanui**	**2.12**	**98**	P	P	21 21 37.6	-0.4
THZ	**Tophouse**	**2.22**	**204**	PN	P	21 21 37.5	-1.5
THZ	**Tophouse**	**2.22**	**204**	*e*P	P	21 21 37.6	-1.4
DSZ	**Denniston Nort**	**2.67**	**221**	PN	P	21 21 42.0	-2.2
DSZ	**Denniston Nort**	**2.67**	**221**	*e*P	P	21 21 42.1	-2.1
KHZ	**Kahutara**	**2.70**	**189**	PN	P	21 21 43.0	-1.7
KHZ	**Kahutara**	**2.70**	**189**	P	P	21 21 43.0	-1.7
URZ	**Urewera**	**2.76**	**58**	PN	P	21 21 42.5	-2.8
URZ	**Urewera**	**2.76**	**58**	P	P	21 21 42.6	-2.7
KNZ	**Kokohu**	**2.84**	**76**	PN	P	21 21 44.8	-1.6
KNZ	**Kokohu**	**2.84**	**76**	P	P	21 21 44.8	-1.5
MWZ	**Matawai**	**3.00**	**63**	PN	P	21 21 45.7	-2.6
MWZ	**Matawai**	**3.00**	**63**	P	P	21 21 45.7	-2.5
LTZ	**Lake Taylor**	**3.34**	**204**	PN	P	21 21 50.1	-2.3
LTZ	**Lake Taylor**	**3.34**	**204**	P	P	21 21 50.1	-2.3
PUZ	**Puketiti**	**3.63**	**64**	PN	P	21 21 52.9	-3.1
PUZ	**Puketiti**	**3.63**	**64**	P	P	21 21 52.9	-3.2
MXZ	**Matakaoa Point**	**3.93**	**58**	PN	P	21 21 56.5	-3.3
MXZ	**Matakaoa Point**	**3.93**	**58**	*e*P	P	21 21 56.5	-3.4
MQZ	**McQueen's Vall**	**4.11**	**195**	PN	P	21 21 57.9	-4.2
MQZ	**McQueen's Vall**	**4.11**	**195**	P	P	21 21 57.9	-4.2
WVZ	**Waitaha Valley**	**4.19**	**216**	PN	P	21 22 00.3	-2.8
WVZ	**Waitaha Valley**	**4.19**	**216**	*e*P	P	21 22 00.3	-2.8
RPZ	**Rata Peaks**	**4.58**	**209**	PN	P	21 22 04.5	-3.7
RPZ	**Rata Peaks**	**4.58**	**209**	P	P	21 22 04.6	-3.6
FOZ	**Fox Glacier**	**5.06**	**220**	PN	P	21 22 09.6	-4.7
FOZ	**Fox Glacier**	**5.06**	**220**	*e*P	P	21 22 09.1	-5.2
LBZ	**Lake Benmore**	**5.49**	**211**	PN	P	21 22 15.6	-4.2
LBZ	**Lake Benmore**	**5.49**	**211**	*e*P	P	21 22 15.6	-4.2
ODZ	**Otahua Downs**	**5.89**	**205**	PN	P	21 22 21.7	-3.4
ODZ	**Otahua Downs**	**5.89**	**205**	*e*P	P	21 22 21.7	-3.4
JCZ	**Jackson Bay**	**5.89**	**221**	PN	P	21 22 20.5	-4.7
JCZ	**Jackson Bay**	**5.89**	**221**	*e*P	P	21 22 20.5	-4.6

*PGC **01** 21:23:17.1, 61.54N×141.23W, h5km, ML3.2/1, Wrangell Mountains, Alaska.*
*NEIC **01** 21:23:19.2, 61.41N×141.58W, h1km, ML3.6(PMR), ML3.4(AEIC), After AEIC.*

ISC 01 21:23:13.7±0.5,**61.58N**±0.04×**141.14W**±0.05,**h1**km,**n34,** σ1**08**/41,**Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTGM	**Chitina Glacie**	**0.63**	**189**	P	**Pg**	**21 23 27.5**	**+1.3**
BALM	**Baldy**	**0.80**	**227**	P	**Pg**	**21 23 29.4**	**-0.2**
TGL	**Tana Glacier**	**1.17**	**225**	P	**Pb**	**21 23 36.1**	**-0.2**
TGL				S	**Sb**	**21 23 51.2**	**-0.6**
YAH	**Yahtse**	**1.26**	**194**	P	**Pb**	**21 23 38.8**	**+0.9**
YAH				S	**Sb**	**21 23 57.1**	**+2.6**
CRQM	**Cirque**	**1.28**	**230**	P	**Pb**	**21 23 37.2**	**-1.0**
CRQM				S	**Sb**	**21 23 53.5**	**-1.5**
WAX	**Waxell Ridge**	**1.41**	**217**	P	**Pb**	**21 23 40.7**	**+0.2**
BMRM	**Bremner River**	**1.78**	**251**	P	**Pn**	**21 23 44.7**	**-1.2**
HYT	**Haines Junctio**	**1.92**	**112**	Pn	**Pn**	**21 23 50.3**	**+2.5**
HYT				Pg	**Pg**	**21 23 51.0**	**-0.3**
HYT				Sg	**Sg**	**21 24 16.6**	**-0.9**
HYT				Trac		21 24 28.3	
	comp=Z,155nm,0.4s						
PNL	**Peninsula**	**2.10**	**155**	P	**Pn**	**21 23 54.0**	**+3.6**
SGAM	**Sherman Glacie**	**2.26**	**243**	P	**Pn**	**21 23 53.9**	**+1.3**
DIV	**Divide**	**2.28**	**261**	P	**Pn**	**21 23 53.4**	**+0.5**
KLU	**Klutina**	**2.29**	**270**	P	**Pn**	**21 23 52.8**	**-0.4**
EYAK	**Cordova Ski Ar**	**2.47**	**247**	*e*P	**Pn**	**21 23 56.5**	**+0.8**
VLZ	**Valdez**	**2.54**	**262**	P	**Pn**	**21 23 57.3**	**+0.5**
JPK	**Jack Peak**	**2.69**	**261**	P	**Pn**	**21 23 59.1**	**+0.3**
SCM	**Sheep Creek Mo**	**2.96**	**278**	P	**Pn**	**21 24 02.4**	**-0.2**
GLI	**Glacier Island**	**2.97**	**259**	P	**Pn**	**21 24 02.9**	**+0.1**
WHY	**Whitehorse**	**3.17**	**104**	Sg	**Sg**	**21 24 57.5**	**-1.8**
CFI	**College Fiord**	**3.21**	**266**	P	**Pn**	**21 24 06.9**	**+0.6**
SML	**Sawmill**	**3.44**	**277**	P	**Pn**	**21 24 09.5**	**0.0**
LTI	**Latouche**	**3.64**	**248**	P	**Pn**	**21 24 12.0**	**-0.3**
GHO	**Glory Hole Cre**	**3.72**	**276**	P	**Pn**	**21 24 13.4**	**-0.1**
PMR	**Palmer**	**3.82**	**274**	*e*P	**Pn**	**21 24 18.1**	**+3.2**
RC01	**Rabbit Creek A**	**4.17**	**267**	P	**Pn**	**21 24 20.0**	**+0.1**
MCK	**McKinley**	**4.19**	**304**	*e*P	**Pn**	**21 24 21.8**	**+1.6**
SLKM	**Skilak Lake**	**4.55**	**260**	*e*P	**Pn**	**21 24 24.7**	**-0.5**
KTH	**Kantishna Hill**	**4.94**	**298**	P	**Pn**	**21 24 30.8**	**+0.1**
SPU	**Mount Spurr**	**5.26**	**270**	*e*P	**Pn**	**21 24 35.2**	**-0.2**
RSO	**Redoubt South**	**5.76**	**264**	*e*P	**Pn**	**21 24 40.9**	**-1.4**
DLBC	**Dease Lake**	**6.40**	**115**	Pn	**Pn**	**21 24 52.3**	**+0.8**
DLBC				Pg	**Pg**	**21 25 12.9**	**-8.5**
DLBC				Sg	**Sg**	**21 26 37.5**	**-9.2**
DLBC				Trac		21 26 52.1	
	comp=Z,22nm,0.7s						
DLBC	**Dease Lake**	**6.40**	**115**	P	**Pn**	**21 24 52.1**	**+0.6**
KDAK	**Kodiak Island**	**6.93**	**242**	P	**Pn**	**21 24 57.1**	**-1.8**
SVW2	**Sparrevohn**	**6.97**	**272**	*e*P	**Pn**	**21 24 57.0**	**-2.4**
IMA	**Indian Mountai**	**7.13**	**315**	*e*P	**Pn**	**21 25 02.3**	**+0.5**

*CASC **01** 22:03:21.7±2.6, 13.41N×92.36W, MD3.8*
*IDC **01** 22:03:31.5±3.4, 15.47N×91.03W, mb3.8/4, mb1 4.0/6, mb1mx3.7/21, mbtmp3.8/6, ML3.5/1, Error ellipse: s-maj=137.7km s-min=21.5km az=42.0*

ISC 01 22:03:28.1±1.3,**14.0N**±0.2×**92.55W**±0.06,**h33**km,**n13,** σ1**50**/20,**mb3.8**/4,**1C,Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**1.73**	**73**	*e*P	**P**	**22 03 53.7**	**-2.5**
FUG				*e*S	**S**	**22 04 17.0**	**-0.4**
PCG	**Pacaya**	**1.94**	**77**	*e*S	**S**	**22 04 24.0**	**+1.4**
IXG	**Ixpaco**	**2.05**	**84**	*e*P	**P**	**22 03 56.3**	**-4.4**
IXG				*e*S	**S**	**22 04 25.8**	**+0.4**
RBDL	**Robledal**	**2.79**	**86**	⇑*e*P	**P**	**22 04 15.4**	**+4.1**
RBDL				*e*S	**S**	**22 04 50.5**	**+6.3**
RTR	**El Retiro**	**2.83**	**91**	*e*P	**P**	**22 04 15.4**	**+3.6**
RTR				*e*S	**S**	**22 04 50.0**	**+4.9**
SNJE	**San Jose**	**2.86**	**91**	*e*P	**P**	**22 04 15.3**	**+2.9**
SNJE				*e*S	**S**	**22 04 51.6**	**+5.5**
MRL	**Marmol**	**2.98**	**68**	*e*P	**P**	**22 04 12.5**	**-1.6**
MRL				*e*S	**S**	**22 04 55.5**	**+6.3**
JTS	**JuntasAbangare**	**8.28 115**	Pn	**P**	**22 05 28.7**	**0.0**
	0.7nm,0.3s,baz=331,slow=19,SNR=2.7						
JTS				Sn	**Sn**	**22 06 45.9**	**-16**
	0.7nm,0.3s,baz=5.2,slow=21,SNR=2.2						
TXAR	**Lajitas Array**	**18.44 328**	P	**P**	**22 07 45.6**	**+2.6**
	baz=153,slow=14,SNR=5.1						
SDV	**Santo Domingo**	**22.06 101**	P	**P**	**22 08 15.5**	**-6.3**
	6.2nm,0.6s,mb4.2,baz=319,slow=11,SNR=12						
ANMO	**Albuquerque**	**24.38 331**	P	**P**	**22 08 45.4**	**+0.9**
	0.4nm,0.3s,mb3.3,baz=141,slow=6.5,SNR=2.5						
PDAR	**Pinedale Array**	**32.24 336**	P	**P**	**22 09 54.7**	**-1.0**
	0.6nm,0.9s,mb3.4,baz=129,slow=9.5,SNR=4.5						
YKA	**Yellowknife Ar**	**50.95 347**	P	**P**	**22 12 27.0**	**-1.2**
	1.5nm,0.7s,mb4.0,baz=150,slow=7.5,SNR=7.5						

*NNC **01** 22:19:35.6±4.8, 40.65N×77.66E, mpv2.9, Error ellipse: s-maj=61.1km s-min=18.3km az=176.0*

BJI 01 22:19:16.7,39.44N×**77.37E,h17**km,**ML3.3,2C-4D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.08 274**	*e*PG		Pb	22 19 36.6	0.0
KSH				SG	Sb	22 19 53.0	+2.7
KSH				Smax			
	comp=N,630nm,0.3s						
KSH				Smax			
	comp=E,560nm,0.2s						
AAK	**Ala-Archa**	**3.86 327**	⇓Pn	Pn		22 20 23.7	+7.0
	comp=E,9.3nm,0.8s						
AAK				⇓Lg		22 21 13.7	
	comp=E,74nm,0.9s						
KK31	**Karatay Array**	**6.33 308**	⇓Pn	Pn		22 21 07.4	+16
	comp=E,1.0nm,0.6s,baz=139,slow=12,SNR=4.6						
KK31				⇓Sn	Sn	22 22 18.6	+14
	comp=E,3.9nm,0.6s,baz=122,slow=27,SNR=4.7						
MK31	**Makanchi Array**	**8.18 24**	⇑Pn	P		22 21 22.1	+4.5
	comp=E,0.1nm,0.5s,baz=194,slow=19,SNR=7.2						
MK31				⇑Lg		22 23 15.9	
	comp=E,6.0nm,1.3s,baz=204,slow=27,SNR=4.0						

*NEIC **01** 22:44:09.5, 36.52S×71.71W, h90km, MD3.3(GUC), After GUC.*

**GUC 01 22:

```
QIZ                                   eS    S     01 07 41.4 +0.3
QIZ                                   LR    LR
     comp=N,394nm,16.0s,MS4.0
QIZ                                   LR    LR
     comp=E,305nm,18.0s,MS4.0
QIZ                                   LR    LR
     comp=Z,383nm,19.8s,MS3.8
QIZ  Qiongzhong      20.57  46  eP          P     01 03 57.3 -1.1
     comp=Z,23nm,0.8s
KMI  Kunming         21.51  21  P           P     01 04 09.5 +1.5
KMI                                   AP          01 04 21.7
KMI                                   XP          01 04 27.1
KMI                                   PP    PP    01 04 36.2 +3.2
KMI                                   S     S     01 08 00.6 +1.7
KMI                                   XS          01 08 22.0
KMI                                   SS    SS    01 08 36.6 +0.5
KMI                                   AMB   AMB
     comp=Z,14nm,1.0s,mb4.3
KMI                                   AMB   AMB
     comp=Z,58nm,3.1s
KMI                                   LR    LR
     comp=N,189nm,17.1s,MS3.8
KMI                                   LR    LR
     comp=E,264nm,16.7s,MS3.8
KMI                                   LR    LR
     comp=Z,283nm,20.2s,MS3.7
KMI  Kunming         21.51  21  P           P     01 04 09.5 +1.5
     comp=Z,14nm,1.0s,mb4.3
KMI                                   pP          01 04 21.7
KMI                                   sP          01 04 27.1
KMI                                   PP    PP    01 04 36.2 +3.2
KMI                                   S     S     01 08 00.6 +1.7
KMI                                   sS          01 08 22.0
KMI                                   SS    SS    01 08 36.6 +0.5
KMI  Kunming         21.51  21  P           P     01 04 09.5 +1.5
KMI                                   *PP         01 04 21.7
KMI                                   *SP         01 04 27.1
KMI                                               01 04 36.2
KMI                                   S     S     01 08 00.6 +1.7
KMI                                   SS    SS    01 08 36.6 +0.5
KMI                                   pmax  pmax
     comp=Z,14nm,1.0s,mb4.3
JIRN Jiri            23.71 342  eP          P     01 04 30.3 +0.7
     comp=Z,44nm,0.9s,mb4.9
PKI  Pulchoki        23.88 340  eP          P     01 04 31.3 +0.1
     comp=Z,17nm,0.5s,mb4.8
DMN  Daman           24.01 340  eP          P     01 04 33.0 +0.4
     comp=Z,33nm,0.6s,mb4.9
KKN  Kakani          24.12 340  eP          P     01 04 33.7 +0.1
     comp=Z,31nm,0.7s,mb4.9
GYA  Guiyang         24.33  28⇑ iP          P     01 04 35.9 +0.2
GYA                                   AP          01 04 47.8
GYA                                   XP          01 04 53.4
GYA                                   AMB   AMB
     comp=Z,40nm,0.8s,mb4.9
GYA                                   AMB   AMB
     comp=Z,190nm,3.6s
GYA                                   LR    LR
     comp=N,710nm,16.7s,MS4.3
GYA                                   LR    LR
     comp=E,520nm,16.4s,MS4.3
GYA                                   LR    LR
     comp=Z,450nm,15.8s,MS4.1
GKN  Gorkha          24.54 339  eP          P     01 04 37.0 -0.7
     comp=Z,67nm,0.7s,mb5.3
LSA  Lhasa           24.64 354  P           P     01 04 39.4 +0.7
LSA  Lhasa           24.64 354  eP          P     01 04 39.0 +0.3
     comp=Z,22nm,0.6s,mb4.9
LSA  Lhasa           24.64 354  eP          P     01 04 39.0 +0.3
LSA                                   pmax  pmax
     comp=Z,22nm,0.6s,mb4.9
KOLN Koldanda        24.71 337  eP          P     01 04 40.1 +0.7
     comp=Z,52nm,0.6s,mb5.2
CD2  Chengdu         27.19  18  P           P     01 05 01.0 -1.4
ENH  Enshi           28.87  28  eP          P     01 05 15.4 -2.2
     comp=Z,28nm,0.7s,mb5.1
XAN  Xi'an           31.85  23  P           P     01 05 42.0 -2.0
XAN                                   AMB   AMB
     comp=Z,61nm,0.7s,mb5.5
XAN                                   LR    LR
     comp=N,123nm,16.5s,MS3.8
XAN                                   LR    LR
     comp=E,129nm,16.5s,MS3.8
XAN                                   LR    LR
     comp=Z,224nm,19.6s,MS3.9
GTA  Gaotai          34.52   8  eP          P     01 06 06.2 -0.8
GTA                                   AP    pP    01 06 18.5 -0.1
GTA                                   XP    sP    01 06 23.6 -0.4
GTA                                   PP    PP    01 07 24.1 +0.2
GTA                                   PCP   PcP   01 08 42.4 +0.9
GTA                                   S     S     01 11 31.6 -0.2
GTA                                   XS          01 11 52.2
GTA                                   SS    SS    01 13 45.8 +1.0
GTA                                   AMB   AMB
     comp=Z,21nm,1.1s,mb5.0
GTA                                   AMB   AMB
     comp=Z,66nm,5.3s
GTA                                   LR    LR
     comp=N,118nm,14.4s,MS3.8
GTA                                   LR    LR
     comp=E,76nm,14.8s,MS3.8
GTA                                   LR    LR
     comp=Z,142nm,15.6s,MS3.8
NJ2  Nanjing         35.34  38  eP          P     01 06 14.8 +0.7
NJ2                                   AP    pP    01 06 23.0 -2.7
NJ2                                   PP    PP    01 07 33.9 -0.5
NJ2                                   S     S     01 11 45.0 +0.4
NJ2                                   XS          01 12 03.0
NJ2                                   AMB   AMB
     comp=Z,30nm,0.8s,mb5.3
NJ2                                   AMB   AMB
     comp=Z,60nm,5.9s
NJ2                                   LR    LR
     comp=N,530nm,18.6s,MS4.4
NJ2                                   LR    LR
     comp=E,310nm,20.9s,MS4.4
NJ2                                   LR    LR
     comp=Z,1μm,19.9s,MS4.7
SSE  Sheshan         36.18  41  eP          P     01 06 17.2 -4.0
SSE                                   S     S     01 11 53.4 -4.1
SSE                                   SCS   ScS   01 16 33.9 +1.5
SSE                                   AMB   AMB
     comp=Z,20nm,0.7s,mb5.2
SSE                                   AMB   AMB
     comp=Z,91nm,9.4s
SSE                                   LR    LR
     comp=N,96nm,14.6s,MS4.1
SSE                                   LR    LR
     comp=E,233nm,14.7s,MS4.1
SSE                                   LR    LR
     comp=Z,305nm,14.6s,MS4.2
SSE  Sheshan         36.18  41  eP          P     01 06 17.2 -4.0
     comp=Z,20nm,0.7s,mb5.2
SSE                                   pP    pP    01 06 26.9 -5.9
SSE                                   sP    sP    01 06 29.6 -8.6
SSE                                   PP    PP    01 07 38.3 -6.3
SSE                                   S     S     01 11 53.4 -4.1
SSE                                   sS          01 12 08.7
SSE                                   SS    SS    01 14 30.8 +8.0
SSE                                   ScS   ScS   01 16 33.9 +1.5
FITZ Fitzroy Crossi  38.61 127  eP          P     01 06 40.9 -0.7
     comp=Z,15nm,0.6s,mb4.9
FITZ Fitzroy Crossi  38.61 127  P           P     01 06 41.3 -0.3
     comp=Z,20nm,0.7s,mb5.0,baz=327,slow=3.3,SNR=19
HHC  Hu-ho-hao-te    38.84  21  eP          P     01 06 44.3 +1.0
HHC                                   AP    pP    01 06 57.2 +2.2
HHC                                   XP    sP    01 07 01.4 +1.2
HHC                                   PP    PP    01 08 18.7 +2.2
HHC                                   S     S     01 12 39.1 +1.2
HHC                                   XS          01 12 59.3
HHC                                   SS    SS    01 15 22.8 +0.8
HHC                                   SCS   ScS   01 16 48.5 +1.1
HHC                                   AMB   AMB
     comp=Z,13nm,0.8s,mb4.7
HHC                                   AMB   AMB
     comp=Z,146nm,7.7s
HHC                                   LR    LR
     comp=N,283nm,19.0s,MS4.2
HHC                                   LR    LR
     comp=E,213nm,17.8s,MS4.2
HHC                                   LR    LR
     comp=Z,218nm,21.4s,MS4.0
JOW  Kunigami        38.98  53  P           P     01 06 44.9 +0.2
     comp=Z,28nm,0.6s,mb5.2,baz=257,slow=10,SNR=16
WMQ  Urumqi          38.99 352  P           P     01 06 45.7 +1.2
WMQ                                   AP    pP    01 06 58.0 +1.8
WMQ                                   XP    sP    01 07 03.0 +1.5
WMQ                                   PP    PP    01 08 19.0 +0.7
WMQ                                   S     S     01 12 40.0 -0.2
WMQ                                   SS    SS    01 15 24.0 -1.3
WMQ                                   AMB   AMB
     comp=Z,16nm,0.7s,mb4.9
WMQ                                   AMB   AMB
     comp=Z,105nm,7.0s
WMQ                                   LR    LR
     comp=N,79nm,16.0s,MS3.9
WMQ                                   LR    LR
     comp=E,112nm,18.0s,MS3.9
WMQ                                   LR    LR
     comp=Z,82nm,16.0s,MS3.6
AAK  Ala-Archa       41.28 338  eP          P     01 07 03.5  0.0
     comp=Z,2.8nm,0.5s,mb4.2
AAK  Ala-Archa       41.28 338⇑ iP          P     01 07 03.8 +0.3
AAK                                   pmax  pmax
     comp=Z,4.0nm,0.8s,mb4.1
MKAR Makanchi Array  42.80 348  P           P     01 07 16.1 +0.1
     comp=Z,9.5nm,0.6s,mb4.7,baz=168,slow=8.1,SNR=107
MKAR                                  LR    LR    01 27 53.2
     comp=Z,91nm,21.7s,MS3.6,baz=172,slow=40
KKAR Karatay Array   43.28 335  i P         P     01 07 19.9  0.0
KKAR                                  pmax  pmax
     comp=Z,1.0nm,0.4s,mb3.9
SONM Songino Array   43.83  12  P           P     01 07 23.7 -0.7
     comp=Z,11nm,0.7s,mb4.7,baz=192,slow=8.1,SNR=88
SONM                                  PcP   PcP   01 09 10.9 +0.1
     comp=Z,2.7nm,0.6s,baz=198,slow=3.9,SNR=5.5
SONM                                  LR    LR    01 27 42.8
     comp=Z,89nm,18.1s,MS3.7,baz=200,slow=39
JNU  Nakatsue        44.04  46  P           P     01 07 26.9 +0.6
     comp=Z,5.9nm,0.5s,mb4.5,baz=172,slow=11,SNR=4.5
ZAK  Zakamensk       45.76   8  eP          P     01 07 38.6 -1.1
ZAK                                   e           01 09 17.2
ZAK                                   pmax  pmax
     comp=Z,2.0nm,0.9s,mb4.0
ZAK                                   pmax  pmax
     comp=Z,1.0nm,0.8s,mb3.8
WRA  Warramunga Arr  46.61 124  P           P     01 07 47.0 +0.2
     comp=Z,14nm,0.6s,mb5.1,baz=302,slow=9.3,SNR=50
WRAB Tennant Creek   46.62 124  eP          P     01 07 47.1 +0.3
WRAB                                  epP   pP    01 08 01.5 +2.8
WB2  Warramunga Arr  46.62 124⇑ iP          P     01 07 47.4 +0.5
TLY  Talaya          47.08   8  eP          P     01 07 49.2 -0.8
TLY                                   e           01 09 44.1
TLY                                   pmax  pmax
     comp=Z,4.0nm,0.8s,mb4.4
TLY                                   MLR   MLR
     comp=Z,77nm,17.0s,MS3.7
KURK Kurchatov       47.31 347  eP          P     01 07 51.9  0.0
     comp=Z,11nm,0.6s,mb5.0
KURK                                  epP   pP    01 08 04.8 +1.1
KURK Kurchatov       47.31 347  eP          P     01 07 51.9  0.0
KURK                                  e*PP  pP    01 08 04.8 +1.0
KURK                                  pmax  pmax
     comp=Z,11nm,0.6s,mb5.0
CN2  Changchun       47.32  31  eP          P     01 07 51.2 -0.9
CN2                                   eAP   pP    01 08 03.8 -0.2
CN2                                   eS    S     01 14 40.0 -1.8
CN2                                   AMB   AMB
     comp=Z,10.0nm,0.8s,mb4.8
CN2                                   LR    LR
     comp=N,220nm,16.0s,MS4.3
CN2                                   LR    LR
     comp=E,150nm,16.0s,MS4.3
CN2                                   LR    LR
     comp=Z,140nm,19.0s,MS4.0
ZAL  Zalesovo        49.29 353  P           P     01 08 07.0 -0.2
     comp=Z,6.6nm,0.5s,mb4.9,baz=296,slow=6.7,SNR=31
ZAL                                   LR    LR    01 33 26.8
     comp=Z,88nm,20.5s,MS3.7,baz=297,slow=42
MDJ  Mudanjiang      50.05  33  P           P     01 08 13.5 +0.3
MDJ                                   AMB   AMB
     comp=Z,15nm,1.7s,mb4.8
MDJ                                   AMB   AMB
     comp=Z,67nm,5.5s
MDJ                                   LR    LR
     comp=N,37nm,24.4s,MS3.7
MDJ                                   LR    LR
     comp=E,76nm,22.9s,MS3.7
MDJ                                   LR    LR
     comp=Z,70nm,22.1s,MS3.6
MDJ  Mudanjiang      50.05  33  eP          P     01 08 13.2  0.0
     comp=Z,6.1nm,0.6s,mb4.8
NVS  Novosibirsk     50.38 352⇑ iP          P     01 08 13.9 -1.7
NVS                                   eS    S     01 15 17.0 -7.3
NVS                                   pmax  pmax
     comp=N,6.0nm,0.8s
NVS                                   pmax  pmax
     comp=Z,10.0nm,0.8s,mb4.9
NVS                                   pmax  pmax
     comp=E,5.0nm,0.6s
NVS                                   smax
     comp=N,14nm,1.8s
MJAR Matsushiro Arr  50.97  46  P           P     01 08 20.1 -0.1
     comp=N,2.6nm,0.7s,mb4.3,baz=257,slow=7.4,SNR=6.6
MJAR                                  PcP   PcP   01 09 35.9 -0.3
     comp=N,1.4nm,0.4s,baz=233,slow=5.6,SNR=4.4
MJAR                                  LR    LR    01 32 01.0
     comp=N,102nm,19.5s,MS3.9,baz=270,slow=38
VOSK Vostochnaya     51.19 342  P           P     01 08 20.6 -1.1
VOSK                                  pmax  pmax
     comp=Z,8.0nm,0.8s,mb4.7
BVA0 Borovoye Array  51.63 342  i P         P     01 08 24.4 -0.6
BVA0                                  pmax  pmax
     comp=Z,2.0nm,1.1s,mb4.0
BVAR Borovoye Array  51.63 342  P           P     01 08 24.4 -0.7
     comp=Z,4.4nm,0.6s,mb4.6,baz=144,slow=9.8,SNR=43
BVAR                                  PcP   PcP   01 09 38.9 +0.4
     comp=Z,2.5nm,0.7s,baz=153,slow=6.4,SNR=2.0
BRVK Borovoye        51.69 342  eP          P     01 08 24.2 -1.3
     comp=Z,3.8nm,0.5s,mb4.6
BRVK Borovoye        51.69 342  eP          P     01 08 24.2 -1.3
BRVK                                  pmax  pmax
     comp=Z,4.0nm,0.5s,mb4.6
AB31 Akbulak array   52.71 332  P           P     01 08 32.7 -0.5
AB31                                  pmax  pmax
     comp=Z,1.0nm,0.3s,mb4.2
KLR  Kul'dur         54.22  29  eP          P     01 08 40.2 -4.1
PMG  Port Moresby    54.67 105  P           P     01 08 47.3 -0.7
     comp=Z,6.0nm,0.4s,mb5.0,baz=270,slow=3.7,SNR=5.3
BOD  Bodaibo         54.81  13  eP          P     01 08 47.1 -1.4
BOD                                   pmax  pmax
     comp=Z,13nm,0.9s,mb5.0
GNI  Garni           56.46 316  P           P     01 09 00.7  0.0
     comp=Z,1.8nm,0.4s,mb4.4,baz=28,slow=17,SNR=2.4
CTA  Charters Tower  56.90 118  eP          P     01 08 58.7 -5.4
     comp=Z,14nm,1.6s,mb4.8
KMBO Kilima Mbogo    57.26 265  P           P     01 09 06.1 -0.7
     comp=Z,1.5nm,0.9s,mb4.0,baz=52,slow=19,SNR=2.3
KMBO                                  LR    LR    01 29 07.4
     comp=Z,151nm,20.0s,MS4.1,baz=271,slow=31
KMBO Kilima Mbogo    57.26 265  P           P     01 09 06.1 -0.7
KMBO Kilima Mbogo    57.26 265  i P         P     01 09 11.7 +4.9
KMBO                                  pmax  pmax
     comp=Z,1.0nm,0.6s
SVE  Sverdlovsk      58.00 339  eP          P     01 09 10.8 -0.5
SVE                                   e     pP    01 09 21.6 -1.9
STKA Stephens Creek  58.15 133  eP          P     01 09 10.8 -1.9
     comp=Z,4.7nm,0.6s,mb4.7
STKA Stephens Creek  58.15 133  P           P     01 09 12.3 -0.3
     comp=Z,3.1nm,0.8s,mb4.4,baz=312,slow=8.3,SNR=5.1
STKA                                  LR    LR    01 36 43.3
     comp=Z,110nm,21.7s,MS3.9,baz=269,slow=39
ARU  Arti            58.47 338  eP          P     01 09 13.0 -1.6
     comp=Z,4.2nm,0.7s,mb4.6
ARU  Arti            58.47 338⇑ iP          P     01 09 13.5 -1.1
ARU                                   e           01 10 02.6
ARU                                   e           01 11 24.5
ARU                                   eS    S     01 17 15.4 +2.4
ARU                                   eSS   SS    01 21 08.7 +1.3
ARU                                   pmax  pmax
     comp=Z,8.0nm,1.0s,mb4.7
YSS  Yuzh-Sakhalins  58.91  37⇓ iP          P     01 09 17.4 -0.4
YSS                                   pmax  pmax
     comp=Z,21nm,1.3s,mb5.0
KIV  Kislovodsk      59.45 319  eP          P     01 09 20.9 -0.6
KIV                                   pmax  pmax
     comp=E,2.0nm,0.8s
KIV                                   pmax  pmax
     comp=Z,6.0nm,0.8s,mb4.7
KIV                                   MLR   MLR
     comp=N,25nm,18.0s
KIV                                   MLR   MLR
     comp=Z,32nm,18.0s,MS3.5
YAK  Yakutsk         62.58  18⇑ iP          P     01 09 39.9 -2.6
BR131 Keskin Array S 64.32 312  eP          P     01 09 53.3 -1.0
     comp=Z,3.4nm,0.6s,mb4.5
BRTR Keskin Array B  64.32 312  P           P     01 09 53.5 -0.8
     comp=Z,4.2nm,0.7s,mb4.6,baz=126,slow=7.3,SNR=22
OBN  Obninsk         67.77 328c i P          P     01 10 15.0 -1.0
OBN                                   e     pP    01 10 28.6 +0.2
OBN                                   pmax  pmax
     comp=Z,15nm,1.3s,mb4.9
MA2  Magadan         69.16  27  eP          P     01 10 23.2 -1.3
     comp=Z,15nm,0.7s,mb5.0
MA2  Magadan         69.16  27 ceP          P     01 10 23.6 -0.9
MA2                                   e           01 12 59.8
MA2                                   eS    S     01 19 20.7 -5.1
MA2                                   ePS   PS    01 19 53.7 -3.6
MA2                                   pmax  pmax
     comp=Z,8.0nm,0.7s,mb4.8
TIXI Tiksi           69.91  11  eP          P     01 10 25.7 -3.2
TIXI                                  pmax  pmax
     comp=Z,20nm,0.8s,mb5.1
TIXI                                  MLR   MLR
     comp=Z,86nm,17.0s,MS4.1
AKASG Malin Array Be 70.39 322  P           P     01 10 30.9 -1.2
     comp=Z,2.4nm,0.6s,mb4.3,baz=88,slow=5.2,SNR=10
VRI  Vrincioaia      70.77 317  ⇓P          P     01 10 35.6 +1.1
VRI  Vrincioaia      70.77 317  ⇓P          P     01 10 35.6 +1.0
MLR  Muntele Rosu    71.22 316  ⇓P          P     01 10 38.2 +0.9
MLR  Muntele Rosu    71.22 316  ⇓P          P     01 10 38.2 +0.9
SEY  Seymchan        71.39  24⇑ iP          P     01 10 36.6 -1.4
VTS  Vitosha         72.63 313  ⇓P          P     01 10 46.0 +0.3
VTS  Vitosha         72.63 313  ⇓P          P     01 10 46.0 +0.3
KWP  Kalwaria        74.20 320  eP          P     01 10 55.2 +0.5
KWP  Kalwaria        74.20 320  eP          P     01 10 55.2 +0.4
BOSA Boshof          74.22 239  LR    LR    01 38 22.7
     comp=Z,95nm,18.0s,MS4.1,baz=345,slow=32
KOLS Kolonicke sedl  74.35 319  i P         P     01 10 57.4 +1.7
SUW  Suwalki         74.81 325  eP          P     01 10 57.9 -0.3
SUW  Suwalki         74.81 325  eP          P     01 10 57.9 -0.3
STHS Stebnicka Huta  75.10 320  eP          P     01 11 01.8 +1.8
FINES FINESS Array B 75.20 333  P           P     01 11 00.0 -0.3
     comp=Z,5.2nm,0.7s,mb4.6,baz=92,slow=6.1,SNR=29
FINES                                 LR    LR    01 48 15.5
     comp=Z,52nm,19.2s,MS3.9,baz=310,slow=39
KAF  Kangasniemi     75.29 333  ep          P     01 10 59.9 -0.9
     comp=Z,6.0nm,0.8s,mb4.6,baz=104,slow=5.4
KECS Kecovo          75.44 319  eP          P     01 11 02.8 +0.8
MAW  Mawson          75.86 192  P           P     01 11 03.8 -0.1
     comp=Z,0.8nm,0.8s,mb3.7,baz=41,slow=19,SNR=1.8
OJC  Ojcow           76.16 320  eP          P     01 11 06.8 +0.8
OKC  Ostrava-Krasne  77.16 320  eP          P     01 11 12.8 +1.2
OKC                                   epP   pP    01 11 22.2 -2.0
MORC Moravsky Berou  77.54 320  eP          P     01 11 13.8 +0.1
     comp=Z,6.6nm,1.4s,mb4.4
MORC                                  epP   pP    01 11 27.4 +1.1
MORC Moravsky Berou  77.54 320  eP          P     01 11 13.8 +0.1
MORC                                  e*PP  pP    01 11 27.4 +1.1
MORC                                  pmax  pmax
     comp=Z,7.0nm,1.4s,mb4.4
ARCES ARCESS Array B 77.89 340  P           P     01 11 14.5 -0.8
     comp=Z,1.2nm,0.5s,mb4.0,baz=90,slow=4.9,SNR=11
ARCES                                 LR    LR    01 48 15.5
     comp=Z,84nm,19.2s,MS4.1,baz=82,slow=38
GKP  Gorka Klasztor  78.16 323  eP          P     01 11 15.4 -1.6
GKP  Gorka Klasztor  78.16 323  eP          P     01 11 15.4 -1.7
DPC  Dobruska-Polom  78.38 320  eP          P     01 11 19.6 +1.2
DPC                                   epP   pP    01 11 32.3 +1.3
FX1  Attu Island--F  79.26  37  eP          P     01 11 22.3 -0.8
PRU  Pruhonice       79.49 320  eP          P     01 11 25.5 +1.1
PRU                                   epP   pP    01 11 35.6 -1.5
BRG  Berggiesshubel  79.94 321  eP          P     01 11 27.9 +1.1
     comp=Z,4.1nm,1.0s,mb4.3
BRG                                   e     pP    01 11 41.7 +2.2
BRG  Berggiesshubel  79.94 321  eP          P     01 11 28.0 +1.2
BRG                                   e     pP    01 11 41.7 +2.2
BRG                                   pmax  pmax
     comp=Z,4.0nm,1.0s,mb4.3
BRG                                   pmax  pmax
     comp=Z,5.0nm,1.1s,mb4.4
GERES GERESS Array B 79.95 319  P           P     01 11 28.3 +1.3
     comp=Z,2.1nm,0.7s,mb4.2,baz=105,slow=4.8,SNR=24
GERES                                 LR    LR    01 49 55.0
     comp=Z,25nm,19.6s,MS3.6,baz=136,slow=38
KHC  Kasperske Hory  80.05 319  eP          P     01 11 24.3 -3.2
KHC                                   epP   pP    01 11 43.0 +2.9
MOX  Moxa            81.40 320  eP          P     01 11 36.0 +1.4
GRA1 Grafenberg Arr  81.62 319  eP          P     01 11 36.8 +1.1
     comp=Z,3.0nm,1.0s,mb4.2
GRF  Grafenberg Arr  81.62 319  eP          P     01 11 36.8 +1.1
     comp=Z,3.0nm,1.0s,mb4.2
GRF  Grafenberg Arr  81.62 319  eP          P     01 11 36.8 +1.1
GRF                                   pmax  pmax
     comp=Z,3.0nm,1.0s,mb4.2
GRF  Grafenberg Arr  81.62 319  eP          P     01 11 36.8 +1.1
GRF                                   pmax  pmax
     comp=Z,3.0nm,1.0s,mb4.2
NB2  NORSAR Subarra  82.18 331  P           P     01 11 38.2 -0.2
     comp=Z,1.9nm,0.7s,mb4.1,baz=98,slow=5.0
NOA  NORSAR Array B  82.18 331  P           P     01 11 38.2 -0.1
     comp=Z,1.4nm,0.7s,mb4.0,baz=95,slow=5.4,SNR=6.8
LPG  La Plagne       84.64 315  eP          P     01 11 52.4 +1.2
     comp=Z,10nm,0.9s,mb4.6
LPG  La Plagne       84.64 315  eP          P     01 11 52.4 +1.2
LPG                                   pmax  pmax
     comp=Z,5.0nm,0.9s,mb4.6
VNDA Vanda           90.21 168  P           P     01 12 18.8 +1.4
     comp=Z,0.7nm,0.9s,mb4.0,baz=289,slow=6.9,SNR=4.4
VNDA                                  LR    LR    01 50 04.8
     comp=Z,59nm,19.1s,MS4.0,baz=276,slow=34
IMA  Indian Mountai  94.13  22  eP          P     01 12 37.2 +1.6
     comp=Z,42nm,1.5s,mb5.7
IMA                                   epP   pP    01 12 50.7 +2.2
IMA  Indian Mountai  94.13  22  eP          P     01 12 37.2 +1.6
IMA                                   e*PP  pP    01 12 50.7 +2.2
IMA                                   pmax  pmax
     comp=Z,42nm,1.5s,mb5.7
DBIC Dimbokro        98.41 277  LR    LR    01 52 45.3
     comp=Z,68nm,21.8s,MS4.1,baz=163,slow=33
PDAR Pinedale Array  127.69  22  PKP   PKPdf 01 18 24.2 +2.3
     comp=Z,0.6nm,0.7s,baz=90,slow=1.5,SNR=6.5
TXAR Lajitas Array   141.68  26  PKnKP       01 18 44.2
     comp=Z,0.5nm,0.6s,baz=221,slow=0.6,SNR=8.2
TXAR                                  PKP   PKPdf 01 18 49.8 +1.5
     comp=Z,0.3nm,0.6s,baz=67,slow=2.8,SNR=5.4
```

IDC 02 01:33:20.3±6.4, 19.10N×121.17E, mb3.7/5, mb1 3.9/5, mb1mx3.6/19, mbtmp3.7/5, Error ellipse: s-maj=174.3km s-min=57.8km az=18.0, Philippine Islands region

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Code Station Name        Δ°   AZ°   Phase ID          Time      Res
                                    Op    ISC       h m s     ISC
SONM Songino Array   31.09 341  P           P     01 39 40.7 -1.7
     0.5nm,0.8s,baz=158,slow=7.8,SNR=3.6
MKAR Makanchi Array  42.09 320  P           P     01 41 14.5 -1.0
     1.1nm,0.9s,baz=117,slow=8.1,SNR=9.0
ZAL  Zalesovo        44.56 330  P           P     01 41 33.1 -2.4
     0.7nm,0.4s,baz=35,slow=6.5,SNR=4.3
BVAR Borovoye Array  51.66 323  P           P     01 42 28.0 -2.8
     0.3nm,0.5s,baz=90,slow=8.6,SNR=2.0
YKA  Yellowknife Ar  87.64  23  P           P     01 46 10.4 -1.0
     1.2nm,0.8s,baz=315,slow=5.2,SNR=6.7
```

THR ***02*** *02:08:14.3±0.4, 28.95N×57.37E, h39km±4km, ML3.6*
KISR ***02*** *02:08:17.8±1.5, 29.20N×56.61E, h33km±999km, ML4.3*
CSEM ***02*** *02:08:18.5±0.4, 29.01N×56.59E, h20km, ML4.3, Error ellipse: s-maj=10.0km s-min=6.9km az=117.0*

ISC 02 02:08:17.1±1.2, 28.96N±0.06×56.58E±0.07, h10km, n8, σ1§05/14, Southern Iran

```
Code Station Name        Δ°   AZ°   Phase ID          Time      Res
                                    Op    ISC       h m s     ISC
KRBR Kerman          1.03   9 ePG          Pg    02 08 36.2 -1.5
KRBR                                eSG         Sg    02 08 51.9 +0.3
KRBR                                AML         AML   02 08 58.6
     comp=N,738nm,0.4s
KRBR Kerman          1.03   9 ePg          Pg    02 08 36.2 -1.6
     SNR=103
KRBR                                eSg         Sg    02 08 51.9 +0.3
     SNR=103
BNDS Bandar-Abbas    1.59 193 ePG          Pg    02 08 48.0 -0.9
BNDS                                AML         AML   02 09 27.9
```

comp=N,467nm,0.3s
GHIR Ghir-Karzin 3.23 259 *e*PN **Pn 02 09 13.8 +4.9**
GHIR AML AML 02 10 03.3
comp=N,124nm,0.2s
KBD Kabd 7.78 274 *e*P **Pn 02 10 15.2 +2.1**
KBD *e*S **Sn 02 11 42.4 +0.2**
KBD AML AML 02 11 42.5
comp=Z,62nm,0.3s
RDF Al-Radifah 7.91 272 *e*P **Pn 02 10 16.2 +1.2**
RDF *e*S **Sn 02 11 44.6 -0.9**
RDF AML AML 02 11 48.3
comp=Z,25nm,0.3s
MIB Mutribah 8.11 278 *e*P **P 02 10 18.3 +0.6**
MIB *e*S **Sn 02 11 49.3 -1.0**
MIB AML AML 02 11 50.1
comp=Z,21nm,0.5s
NAY Al-Naaiem 8.18 274 *e*P **P 02 10 19.6 +0.9**
NAY *e*S **Sn 02 11 51.4 -0.7**
NAY AML AML 02 11 52.3
comp=Z,11nm,0.4s

MOS ***02*** *02:31:23.0±0.9, 7.90S×149.43E, h52km, mb5.2/21, Error ellipse: s-maj=11.4km s-min=8.3km az=85.0*
BJI ***02*** *02:31:24.8, 7.91S×149.42E, h71km, mB4.9, mb5.1, Ms4.4, Msz4.2*
IDC ***02*** *02:31:24.8±2.3, 7.90S×149.48E, h53km±20km, mb4.6/14, mb1 4.6/18, mb1mx4.6/20, mbtmp4.8/18, ML4.1/4, MS4.2/13, Ms1 4.2/13, ms1mx4.1/16, Error ellipse: s-maj=17.2km s-min=12.5km az=104.0*
HRVD ***02*** *02:31:26.5±0.5, 7.97S×149.48E, h87km±6km, MW5.0/36, Centroid moment Tensor Solution. LP body waves: s8,c9; Mantle waves: s36,c58; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.34±.32; $M_{\theta\theta}$-4.09±.24; $M_{\phi\phi}$2.75±.28; $M_{r\theta}$-1.69±.22; $M_{\theta\phi}$1.75±.25; $M_{\phi r}$0.46±.26; Best double couple: $M_0$4.085×10^{16} NP1:ϕ_s57°, δ78°, λ-10°. NP2: ϕ_s149°, δ81°, λ-167°. Principal axes: T 3.174, Plg2°, Azm283°; N 1.822, Plg74°, Azm186°; P -4.996, Plg15°, Azm14°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***02*** *02:31:26.5±0.2, 7.95S×149.41E, mb4.9/20 Error ellipse: s-maj=7.8km s-min=5.6km az=103.0*
ISC 02 02:31:23.5±0.3, 7.93S±0.04×149.49E±0.05, h58km, h58km±3.6km: pP-P, n142, σ1§02/125, mb5.1/52, MS4.3/20, 7C-11D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.73**	**237**	P	**P**	**02 32 06.4**	**+0.4**
	103nm,0.3s,baz=52,slow=7.0,SNR=217						
PMG				S	**S**	**02 32 39.6**	**+1.7**
	312nm,0.3s,baz=201,slow=20,SNR=18						
PMG				LR	LR	02 33 09.7	
	comp=Z,2μm,19.3s,baz=32,slow=38						
PMG	**Port Moresby**	**2.73**	**237**	*e*P	**P**	**02 32 06.1**	**+0.1**
PMG	**Port Moresby**	**2.73**	**237**	P	**P**	**02 32 06.4**	**+0.4**
PMG				S	**S**	**02 32 39.6**	**+1.7**
PMG				pmax	pmax		
	comp=Z,103nm,0.3s						
PMG				smax			
	comp=N,312nm,0.3s						
PMG				MLR	MLR		
	comp=Z,2μm,19.3s						
HNR	**Honiara**	**10.44**	**99**	P	**P**	**02 33 50.8**	**-2.3**
	comp=Z,4.6nm,0.3s,baz=191,slow=10,SNR=2.3						
HNR	**Honiara**	**10.44**	**99**	P	**P**	**02 33 53.5**	**+0.4**
CTA	**Charters Tower**	**12.48**	**194**	P	**P**	**02 34 19.4**	**-1.2**
	comp=Z,0.6nm,0.3s,baz=51,slow=16,SNR=5.0						
CTA				LR	LR	02 38 39.1	
	comp=Z,1μm,20.1s,baz=12,slow=35						
KAKA	**Kakadu**	**17.43**	**253**	*e*P	**P**	**02 35 31.8**	**+7.4**
	comp=Z,36nm,0.6s						
WRAB	**Tennant Creek**	**18.91**	**229**	*e*P	**P**	**02 35 40.5**	**-1.7**
	comp=Z,28nm,0.6s						
WRAB	**Tennant Creek**	**18.91**	**229**	⇑*i*P	**P**	**02 35 41.3**	**-0.9**
WB2	**Warramunga Arr**	**18.91**	**229**	*e*P	**P**	**02 35 41.0**	**-1.2**
WRA	**Warramunga Arr**	**18.92**	**229**	P	**P**	**02 35 41.1**	**-1.2**
	comp=Z,0.9nm,0.3s,baz=54,slow=10,SNR=28						
WRA	**Warramunga Arr**	**18.92**	**229**	P	**P**	**02 35 41.1**	**-1.2**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
DZM	**Mont Dzumac**	**21.54**	**133**	LR	LR	02 41 54.9	
	comp=Z,429nm,20.7s,MS3.8,baz=0.7,slow=29						
ARMA	**Armidale**	**22.46**	**175**	*e*P	**P**	**02 36 12.5**	**-6.3**
STKA	**Stephens Creek**	**24.93**	**196**	*e*P	**P**	**02 36 43.3**	**+0.4**
	comp=Z,13nm,0.8s,mb4.5						
STKA	**Stephens Creek**	**24.93**	**196**	P	**P**	**02 36 43.0**	**+0.1**
	comp=Z,6.5nm,0.8s,mb4.2,baz=14,slow=8.8,SNR=11						
STKA				LR	LR	02 47 22.0	
	comp=Z,790nm,18.8s,MS4.2,baz=15,slow=38						
FITZ	**Fitzroy Crossi**	**25.31**	**244**	*e*P	**P**	**02 36 46.0**	**-0.6**
	comp=Z,49nm,0.8s,mb5.1						
FITZ	**Fitzroy Crossi**	**25.31**	**244**	P	**P**	**02 36 46.2**	**-0.3**
	comp=Z,36nm,0.5s,mb5.1,baz=48,slow=5.1,SNR=76						
FITZ				LR	LR	02 47 35.6	
	comp=Z,1μm,18.2s,MS4.4,baz=80,slow=38						
CBIJ	**Chichi jima**	**35.53**	**349**	P	**P**	**02 38 14.6**	**-2.5**
	comp=Z,18nm,0.5s,mb5.2,baz=296,slow=21,SNR=4.3						
JOW	**Kunigami**	**40.22**	**330**	LR	LR	02 55 33.3	
	comp=Z,298nm,18.8s,MS4.2,baz=110,slow=36						
NACB	**Ninganchiao**	**41.95**	**320**	*e*P	**P**	**02 39 10.2**	**-0.3**
YHNB	**Yeheng**	**42.44**	**321**	*e*P	**P**	**02 39 13.8**	**-0.8**
JNU	**Nakatsue**	**44.50**	**338**	P	**P**	**02 39 30.2**	**-0.9**
	comp=Z,13nm,0.9s,mb4.8,baz=171,slow=13,SNR=4.4						
MJAR	**Matsushiro Arr**	**45.49**	**347**	P	**P**	**02 39 37.5**	**-1.5**
	comp=Z,11nm,1.0s,mb4.6,baz=173,slow=8.8,SNR=18						
MJAR				LR	LR	02 58 40.3	
	comp=Z,65nm,18.7s,MS3.6,baz=185,slow=36						
MJAR	**Matsushiro Arr**	**45.49**	**347**	P	**P**	**02 39 37.5**	**-1.5**
MJAR				pmax	pmax		
	comp=Z,11nm,1.0s						
MJAR				MLR	MLR		
	comp=Z,65nm,18.7s						
MAT	**Matsushiro**	**45.49**	**347**	P	**P**	**02 39 36.8**	**-2.2**
MAT	**Matsushiro**	**45.49**	**347**	*e*P	**P**	**02 39 37.0**	**-2.0**
	comp=Z,58nm,1.5s,mb5.2						
MAT	**Matsushiro**	**45.49**	**347**	*e*P	**P**	**02 39 37.0**	**-2.0**
MAT				pmax	pmax		
	comp=Z,58nm,1.5s,mb5.2						
SSE	**Sheshan**	**47.34**	**326**	*e*P	**P**	**02 39 52.1**	**-1.6**
SSE				AP	pP	02 40 11.7	+2.9
SSE				XP	sP	02 40 20.0	+4.5
SSE				PCP	PcP	02 41 19.9	-4.2
SSE				PP	PP	02 41 44.1	-0.6
SSE				S	**S**	**02 46 40.9**	**-1.2**
SSE				XS		02 47 14.1	
SSE				SCS	ScS	02 49 38.0	-1.4
SSE				AMB	AMB		
	comp=Z,36nm,1.0s,mb5.3						
SSE				AMB	AMB		
	comp=Z,110nm,4.0s						
SSE				LR	LR		
	comp=N,115nm,22.7s,MS3.9						
SSE				LR	LR		
	comp=E,100nm,22.7s,MS3.9						
SSE				LR	LR		
	comp=Z,236nm,24.9s,MS4.1						
SSE	**Sheshan**	**47.34**	**326**	*e*P	**P**	**02 39 52.1**	**-1.6**
	comp=Z,36nm,1.0s,mb5.3						
SSE				pP	pP	02 40 11.7	+2.9
SSE				sP	sP	02 40 20.0	+4.5
SSE				PcP	PcP	02 41 19.9	-4.2
SSE				PP	PP	02 41 44.1	-0.6
SSE				S	**S**	**02 46 40.9**	**-1.2**
SSE				sS		02 47 14.1	
SSE				ScS	ScS	02 49 38.0	-1.4
SSE				SS	SS	02 50 08.6	+4.8
QIZ	**Qiongzhong**	**47.38**	**305**	P	**P**	**02 39 54.4**	**+0.2**
QIZ	**Qiongzhong**	**47.38**	**305**	*e*P	**P**	**02 39 53.5**	**-0.7**
NJ2	**Nanjing**	**49.36**	**325**	*e*P	**P**	**02 40 10.8**	**+1.5**
NJ2				AP	pP	02 40 25.1	+0.6
NJ2				XP	sP	02 40 32.6	+1.4
NJ2				PP	PP	02 42 07.0	+2.9
NJ2				S	**S**	**02 47 11.0**	**+0.6**
NJ2				XS		02 47 37.0	
NJ2				AMB	AMB		
	comp=Z,120nm,0.7s,mb6.0						
NJ2				AMB	AMB		
	comp=Z,60nm,6.0s						
NJ2				LR	LR		
	comp=Z,2μm,15.4s,MS5.2						
KS15	**Wonju Array Si**	**49.46**	**337**	P	**P**	**02 40 09.5**	**-0.5**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GYA	**Guiyang**	**53.81**	**311**	P	**P**	**02 40 42.9**	**0.0**
GYA				AP	pP	02 40 58.7	+0.4
GYA				XP	sP	02 41 05.4	+0.5
GYA				PP	PP	02 42 46.2	+0.4
GYA				S	**S**	**02 48 10.1**	**-1.4**
GYA				SS	SS	02 51 50.4	-2.1
GYA				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.2						
GYA				AMB	AMB		
	comp=Z,110nm,3.1s						
GYA				LR	LR		
	comp=N,340nm,17.6s,MS4.6						
GYA				LR	LR		
	comp=E,270nm,18.0s,MS4.6						
GYA				LR	LR		
	comp=Z,290nm,18.4s,MS4.4						
ENH	**Enshi**	**54.01**	**317**	*e*P	**P**	**02 40 43.3**	**-1.0**
SNY	**Shenyang**	**54.92**	**336**	⇑P	**P**	**02 40 52.7**	**+2.0**
SNY				AMB	AMB		
	comp=Z,10.0nm,2.1s,mb4.5						
YSS	**Yuzh-Sakhalins**	**54.97**	**354**	*d i*P	**P**	**02 40 50.1**	**-1.0**
YSS				pmax	pmax		
	comp=Z,11nm,0.7s,mb5.0						
MDJ	**Mudanjiang**	**55.30**	**343**	P	**P**	**02 40 54.9**	**+1.4**
MDJ				AP	pP	02 41 10.4	+1.4
MDJ				SCP		02 45 47.3	
MDJ				PCS		02 45 54.1	
MDJ				S	**S**	**02 48 36.6**	**+5.3**
MDJ				XS		02 49 03.5	
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.3s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,49nm,3.3s						
MDJ				LR	LR		
	comp=N,78nm,33.0s,MS3.6						
MDJ				LR	LR		
	comp=E,40nm,33.0s,MS3.6						
MDJ				LR	LR		
	comp=Z,103nm,34.5s,MS3.7						
CN2	**Changchun**	**55.91**	**339**	*e*P	**P**	**02 41 01.4**	**+3.5**
KMI	**Kunming**	**56.13**	**307**	P	**P**	**02 41 01.4**	**+1.7**
KMI				AMB	AMB		
	comp=Z,12nm,0.7s,mb5.0						
KMI	**Kunming**	**56.13**	**307**	P	**P**	**02 41 01.4**	**+1.7**
	comp=Z,12nm,0.7s,mb5.0						
XAN	**Xi'an**	**56.74**	**320**	P	**P**	**02 41 02.8**	**-1.2**
XAN				AMB	AMB		
	comp=Z,32nm,1.3s,mb5.2						
CD2	**Chengdu**	**58.39**	**314**	P	**P**	**02 41 15.0**	**-0.6**
SKR	**Severo-Kuril's**	**58.66**	**5**	*e*P	**P**	**02 41 12.5**	**-4.7**
SKR				pmax	pmax		
	comp=Z,60nm,0.7s,mb5.7						
KLR	**Kul'dur**	**59.01**	**347**	*e*P	**P**	**02 41 16.0**	**-3.6**
HHC	**Hu-ho-hao-te**	**59.78**	**327**	*e*P	**P**	**02 41 24.9**	**-0.1**
HHC				PP	PP	02 43 40.4	+1.1
HHC				S	**S**	**02 49 33.6**	**+3.5**
HHC				SCS	ScS	02 51 07.4	+1.0
HHC				AMB	AMB		
	comp=Z,25nm,0.6s,mb5.4						
HHC				AMB	AMB		
	comp=Z,96nm,8.9s						
HHC				LR	LR		
	comp=N,131nm,20.8s,MS4.2						
HHC				LR	LR		
	comp=E,120nm,22.6s,MS4.2						
HHC				LR	LR		
	comp=Z,207nm,25.0s,MS4.2						
PPT	**Papeete**	**59.98**	**106**	*e*S	Sx	02 49 57.8	
PPT				*e*LQ		02 57 04.2	
PPT				*e*LR	LR	02 59 40.9	
	comp=Z,115nm,26.2s						
TBI	**Tubuai**	**60.35**	**112**	*e*LQ		02 57 20.2	
TBI				*e*LR	LR	03 00 02.7	
	comp=Z,186nm,35.0s						
BTO	**Baotou**	**60.44**	**326**	*e*P	**P**	**02 41 29.2**	**-0.4**
BTO				AMB	AMB		
	comp=Z,33nm,0.7s,mb5.5						
PET	**Petropavlovsk**	**61.22**	**6**	*e*P	**P**	**02 41 38.0**	**+3.3**
PET				*e*		02 49 49.5	
PET				pmax	pmax		
	comp=Z,100nm,17.1s						
LZH	**Lanzhou**	**61.28**	**319**	⇓P	**P**	**02 41 36.0**	**+0.6**
LZH				AP	pP	02 41 52.5	+1.4
LZH				XP	sP	02 41 59.6	+1.8
LZH				*e*PP	PP	02 43 54.2	+1.3
LZH				*e*S	**S**	**02 49 51.2**	**+1.8**
LZH				AMB	AMB		
	comp=Z,27nm,1.4s,mb5.2						
LZH				AMB	AMB		
	comp=Z,84nm,6.2s						
LZH				LR	LR		
	comp=N,702nm,15.2s						
LZH				LR	LR		
	comp=Z,937nm,18.6s,MS5.0						
LZH	**Lanzhou**	**61.28**	**319**	⇓P	**P**	**02 41 36.0**	**+0.6**
	comp=Z,27nm,1.4s,mb5.2						
LZH				pP	pP	02 41 52.5	+1.4
LZH				sP	sP	02 41 59.6	+1.8
LZH				*e*PP	PP	02 43 54.2	+1.3
LZH				*e*S	**S**	**02 49 51.2**	**+1.8**
HIA	**Hailar**	**62.63**	**339**	*e*P	**P**	**02 41 43.2**	**-1.0**
	comp=Z,76nm,1.5s,mb5.6						
HIA	**Hailar**	**62.63**	**339**	*e*P	**P**	**02 41 43.2**	**-1.0**
HIA				pmax	pmax		
	comp=Z,76nm,1.5s						
FX1	**Attu Island--F**	**63.85**	**16**	P	**P**	**02 41 53.0**	**+0.9**
	comp=Z,44nm,0.6s,mb5.6,baz=202,slow=3.0,SNR=19						
FX1	**Attu Island--F**	**63.85**	**16**	*e*P	**P**	**02 41 52.5**	**+0.4**
FX1	**Attu Island--F**	**63.85**	**16**	P	**P**	**02 41 53.0**	**+0.8**
FX1				pmax	pmax		
	comp=Z,44nm,0.6s						
CASY	**Casey**	**64.09**	**196**	*e*P	**P**	**02 41 52.5**	**-1.0**
GTA	**Gaotai**	**65.80**	**320**	*e*P	**P**	**02 42 05.4**	**+0.4**
GTA				AP	pP	02 42 21.4	+0.4
GTA				XP	sP	02 42 27.8	+0.5
GTA				PP	PP	02 44 33.9	+1.3
GTA				S	S	02 50 49.7	+4.1
GTA				XS		02 51 16.6	
GTA				AMB	AMB		
	comp=Z,12nm,1.3s,mb4.8						
GTA				AMB	AMB		
	comp=Z,62nm,6.1s						
GTA				LR	LR		
	comp=N,80nm,16.0s,MS4.1						
GTA				LR	LR		
	comp=E,67nm,17.1s,MS4.1						
GTA				LR	LR		
	comp=Z,101nm,17.5s,MS4.1						
SONM	**Songino Array**	**67.29**	**330**	P	**P**	**02 42 14.7**	**+0.5**
	comp=Z,14nm,0.6s,mb5.2,baz=143,slow=6.2,SNR=113						
SONM				LR	LR	03 13 22.3	
	comp=Z,197nm,19.0s,MS4.3,baz=357,slow=37						
SONM	**Songino Array**	**67.29**	**330**	P	**P**	**02 42 14.7**	**+0.4**
SONM				pmax	pmax		
	comp=Z,15nm,0.6s						
SONM				MLR	MLR		
	comp=Z,197nm,19.0s						
MA2	**Magadan**	**67.30**	**1**	*e*P	**P**	**02 42 13.9**	**-0.1**
	comp=Z,15nm,0.8s,mb5.1						
MA2				*e*pP	pP	02 42 25.6	-4.5
CLNS	**Chul'man**	**67.64**	**346**	*e*P	**P**	**02 42 15.0**	**-1.2**
CLNS				pmax	pmax		
	comp=N,13nm,0.7s						
CLNS				pmax	pmax		
	comp=Z,35nm,0.7s,mb5.5						
CLNS				pmax	pmax		
	comp=E,13nm,0.6s						
VNDA	**Vanda**	**69.86**	**177**	P	**P**	**02 42 29.9**	**+0.2**
	comp=E,4.6nm,0.9s,mb4.4,baz=330,slow=6.5,SNR=27						
VNDA				LR	LR	03 09 16.0	
	comp=E,243nm,20.0s,MS4.5,baz=346,slow=32						
VNDA	**Vanda**	**69.86**	**177**	*e*P	**P**	**02 42 29.2**	**-0.5**
	comp=E,5.8nm,0.7s,mb4.6						
SBA	**Scott Base**	**70.47**	**176**	P	**P**	**02 42 32.5**	**-0.9**
ZAK	**Zakamensk**	**70.52**	**331**	⇑*i*P	**P**	**02 42 34.1**	**0.0**
ZAK				pmax	pmax		
	comp=Z,19nm,1.2s,mb4.9						
JIRN	**Jiri**	**70.64**	**303**	*e*P	**P**	**02 42 35.5**	**+0.3**
	comp=Z,17nm,0.7s,mb5.1						
SEY	**Seymchan**	**70.69**	**1**	*e*P	**P**	**02 42 35.2**	**+0.3**
SEY				*e*		02 43 03.2	
SEY				pmax	pmax		
	comp=Z,30nm,1.2s,mb5.1						
GUN	**Gumba**	**70.99**	**303**	*e*P	**P**	**02 42 37.6**	**+0.3**
TLY	**Talaya**	**71.20**	**332**	*e*P	**P**	**02 42 38.4**	**+0.2**
	comp=Z,31nm,1.6s,mb5.0						
TLY	**Talaya**	**71.20**	**332**	⇓*i*P	**P**	**02 42 38.1**	**0.0**
TLY				*e*S	S	02 51 42.3	-7.1
TLY				pmax	pmax		
	comp=Z,22μm,1.5s						
PKI	**Pulchoki**	**71.27**	**303**	*e*P	**P**	**02 42 38.5**	**-0.5**
	comp=Z,53nm,1.4s,mb5.3						
YAK	**Yakutsk**	**71.43**	**350**	*e*P	**P**	**02 42 39.2**	**-0.1**
	comp=Z,104nm,1.1s,mb5.7						
YAK	**Yakutsk**	**71.43**	**350**	*e*P	**P**	**02 42 39.3**	**-0.1**
YAK				pmax	pmax		
	comp=Z,104nm,1.1s,mb5.7						
KKN	**Kakani**	**71.45**	**303**	*e*P	**P**	**02 42 39.8**	**-0.3**
	comp=Z,31nm,0.9s,mb5.2						
DMN	**Daman**	**71.53**	**302**	*e*P	**P**	**02 42 40.8**	**+0.2**
	comp=Z,48nm,0.9s,mb5.4						
BOD	**Bodaibo**	**71.59**	**341**	⇑*i*P	**P**	**02 42 39.5**	**-0.9**
BOD				pmax	pmax		
	comp=Z,28nm,1.1s,mb5.1						
UNV	**Unalaska Valle**	**71.84**	**26**	*e*P	**P**	**02 42 41.1**	**-0.8**
GKN	**Gorkha**	**72.05**	**303**	*e*P	**P**	**02 42 43.4**	**-0.3**
	comp=Z,31nm,0.8s,mb5.3						
MOY	**Mondy**	**72.45**	**331**	*e*P	**P**	**02 42 46.5**	**+0.9**
MOY				pmax	pmax		
	comp=Z,60nm,2.7s,mb5.0						
KOLN	**Koldanda**	**72.84**	**302**	*e*P	**P**	**02 42 48.2**	**-0.2**
	comp=Z,34nm,1.0s,mb5.3						
WMQ	**Urumqi**	**75.86**	**319**	P	**P**	**02 43 07.0**	**+1.5**
WMQ				AP	pP	02 43 24.0	+2.2
WMQ				XP	sP	02 43 31.0	+2.9
WMQ				PP	PP	02 46 00.0	+2.0
WMQ				S	S	02 52 43.0	+1.0
WMQ				XS		02 53 12.0	
WMQ				SS	SS	02 57 39.0	+1.1
WMQ				AMB	AMB		
	comp=Z,18nm,1.0s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,105nm,6.0s						
WMQ				LR	LR		
	comp=N,45nm,22.0s,MS4.0						
WMQ				LR	LR		
	comp=E,73nm,22.0s,MS4.0						
WMQ				LR	LR		
	comp=Z,62nm,20.0s,MS3.9						
MKAR	**Makanchi Array**	**80.56**	**320**	P	**P**	**02 43 31.7**	**+0.5**
	comp=Z,2.3nm,0.5s,mb4.4,baz=102,slow=7.5,SNR=33						
MKAR	**Makanchi Array**	**80.56**	**320**	P	**P**	**02 43 31.7**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MAW	**Mawson**	**81.43**	**203**	⇑*i*P	**P**	**02 43 35.6**	**+0.2**
	comp=Z,4.6nm,0.6s,mb4.6						
MAW	**Mawson**	**81.43**	**203**	P	**P**	**02 43 35.7**	**+0.3**
	comp=Z,2.6nm,0.6s,mb4.3,baz=121,slow=8.6,SNR=15						
MAW				LR	LR	03 16 47.4	
	comp=Z,182nm,18.1s,MS4.5,baz=317,slow=33						
ZAL	**Zalesovo**	**81.97**	**327**	P	**P**	**02 43 38.2**	**-0.2**
	comp=Z,8.3nm,0.7s,mb4.8,baz=0.8,slow=5.5,SNR=31						
ZAL				LR	LR	03 19 05.3	
	comp=Z,146nm,21.5s,MS4.3,baz=352,slow=35						
ZAL	**Zalesovo**	**81.97**	**327**	P	**P**	**02 43 38.3**	**-0.2**
ZAL				pmax	pmax		
	comp=Z,8.0nm,0.7s						
ZAL				MLR	MLR		
	comp=Z,147nm,21.5s						
QSPA	**South Pole Qui**	**82.05**	**180**	⇑*i*P	**P**	**02 43 39.4**	**+1.0**
	comp=Z,9.7nm,0.7s,mb4.8						
SLKM	**Skilak Lake**	**82.89**	**26**	P	**P**	**02 43 43.3**	**+0.2**
NVS	**Novosibirsk**	**83.17**	**328**	⇑*i*P	**P**	**02 43 44.1**	**-0.5**
NVS				pmax	pmax		
	comp=Z,14nm,1.4s,mb4.8						
NVS				pmax	pmax		
	comp=E,7.0nm,1.0s						
TKM2	**Tokmak 2**	**83.75**	**315**	P	**P**	**02 43 48.4**	**+0.5**
	SNR=5.9						
KZA	**Kyzart**	**83.76**	**314**	P	**P**	**02 43 49.4**	**+1.5**
	SNR=20						
KURK	**Kurchatov**	**84.23**	**323**	*e*P	**P**	**02 43 49.9**	**-0.2**
	comp=E,15nm,1.0s,mb5.1						
KURK	**Kurchatov**	**84.23**	**323**	*e*P	**P**	**02 43 49.9**	**-0.1**
KURK				pmax	pmax		
	comp=Z,15nm,1.0s,mb5.1						
SML	**Sawmill**	**84.32**	**25**	*e*P	**P**	**02 43 50.5**	**+0.3**
AAK	**Ala-Archa**	**84.45**	**314**	*e*P	**P**	**02 43 50.7**	**-0.7**
	comp=Z,7.1nm,0.9s,mb4.8						
AAK	**Ala-Archa**	**84.45**	**314**	*d i*P	**P**	**02 43 51.0**	**-0.3**
AAK				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.8						
IMA	**Indian Mountai**	**84.50**	**20**	*e*P	**P**	**02 43 51.9**	**+0.8**
	comp=Z,64nm,1.2s,mb5.6						
IMA	**Indian Mountai**	**84.50**	**20**	*e*P	**P**	**02 43 51.9**	**+0.9**
IMA				pmax	pmax		
	comp=Z,64nm,1.2s,mb5.6						
USP	**Ospenovka**	**84.62**	**315**	P	**P**	**02 43 52.7**	**+0.5**
	SNR=13						
AML	**Almayashu**	**84.89**	**314**	P	**P**	**02 43 54.8**	**+1.3**
	SNR=18						
EKS2	**Erkin-Say**	**84.97**	**314**	P	**P**	**02 43 54.9**	**+1.0**
	SNR=8.7						
MCK	**McKinley**	**85.01**	**23**	*e*P	**P**	**02 43 53.4**	**-0.2**
	comp=Z,16nm,1.2s,mb5.0						
MCK	**McKinley**	**85.01**	**23**	*e*P	**P**	**02 43 53.4**	**-0.2**
MCK				pmax	pmax		
	comp=Z,16nm,1.2s,mb5.0						
ILAR	**Eielson Array**	**86.29**	**23**	P	**P**	**02 43 59.4**	**-0.5**
	comp=Z,6.6nm,0.8s,mb4.9,baz=254,slow=4.8,SNR=59						
ILAR	**Eielson Array**	**86.29**	**23**	P	**P**	**02 43 59.4**	**-0.5**
ILAR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
BRVK	**Borovoye**	**89.85**	**324**	*e*P	**P**	**02 44 18.0**	**+0.8**
	comp=Z,4.6nm,0.9s,mb4.8						
BRVK	**Borovoye**	**89.85**	**324**	*e*P	**P**	**02 44 18.0**	**+0.8**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.8						
YBH	**Yreka Blue Hor**	**93.58**	**49**	P	**P**	**02 44 36.4**	**+1.8**
	comp=Z,2.0nm,0.8s,mb4.6,baz=133,slow=4.3,SNR=4.3						
YBH	**Yreka Blue Hor**	**93.58**	**49**	P	**P**	**02 44 36.4**	**+1.7**
YBH				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NVAR	**Mina Array Bea**	**96.59**	**52**	P	**P**	**02 44 50.6**	**+2.1**
	comp=Z,1.5nm,0.7s,mb4.5,baz=252,slow=5.7,SNR=8.6						
ARU	**Arti**	**97.06**	**326**	⇓*i*P	**P**	**02 44 50.2**	**0.0**
ARU				*e*		02 48 45.4	
ARU				*e*S		02 55 19.3	
ARU				*e*SS	SS	03 02 40.9	-5.6
ARU				pmax	pmax		
	comp=Z,4.0nm,1.6s,mb4.6						
SNAA	**Sanae**	**98.48**	**189**	LR	LR	03 30 37.2	
	comp=Z,104nm,18.4s,MS4.4,baz=24,slow=36						
SNAA	**Sanae**	**98.48**	**189**	⇓*i*Pdif	**P**	**02 44 56.5**	**+0.2**
SNAA				*e*		02 45 06.9	
SNAA				*e*	pP	02 45 12.6	-0.4
SNAA				*e*		02 45 27.5	
SNAA	**Sanae**	**98.48**	**189**	⇓*i*P	**P**	**02 44 56.5**	**+0.2**
SNAA				*e*	pP	02 45 12.6	-0.4
YKA	**Yellowknife Ar**	**99.71**	**28**	LR	LR	03 26 41.5	
	comp=Z,91nm,19.9s,MS4.3,baz=270,sl

LPAZ	**La Paz**	**135.66**	**123**	PKIKP	PKPdf	02 50 41.2	+2.7
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SDV	**Santo Domingo**	**140.31**	**86**	PKhKP		02 50 43.3	
	comp=Z,8.5nm,0.8s,baz=286,slow=3.9,SNR=3.9						
SDV				PKP	PKPdf	02 50 49.4	+2.4
	comp=Z,8.5nm,0.8s,baz=245,slow=2.7,SNR=10						
SDV	**Santo Domingo**	**140.31**	**86**	*e*PKP	PKPdf	02 50 49.5	+2.5
SJG	**San Juan**	**143.90**	**70**	PKP	PKPdf	02 50 54.6	+1.4
	comp=Z,5.2nm,0.6s,baz=300,slow=22,SNR=3.4						
SJG	**San Juan**	**143.90**	**70**	PKIKP	PKPdf	02 50 54.6	+1.4
SJG				pmax	pmax		
	comp=Z,5.0nm,0.6s						
BDFB	**Brasilia**	**150.86**	**143**	PKP	PKPdf	02 51 06.5	+1.7
	comp=Z,1.7nm,0.5s,baz=227,slow=6.2,SNR=3.6						
BDFB				PKPbc	PKPdf	02 51 12.4	+7.7
	comp=Z,8.0nm,0.9s,baz=187,slow=3.1,SNR=8.3						
BDFB				PKPab	PKPab	02 51 19.6	-0.5
	comp=Z,7.6nm,0.7s,baz=130,slow=3.7,SNR=4.3						
BDFB	**Brasilia**	**150.86**	**143**	PKIKP	PKPdf	02 51 06.5	+1.8
BDFB						02 51 19.6	
BDFB				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BDFB				pmax	pmax		
	comp=Z,8.0nm,0.9s						
BDFB				pmax	pmax		
	comp=Z,8.0nm,0.7s						
BAO	**Brasilia Array**	**150.87**	**144**	PKPdf	PKPdf	02 51 08.0	+3.3
DBIC	**Dimbokro**	**154.53**	**269**	PKPbc	PKPdf	02 51 20.1	+10
	comp=Z,2.9nm,0.7s,baz=110,slow=4.1,SNR=6.9						
DBIC	**Dimbokro**	**154.53**	**269**	PKIKP	PKPdf	02 51 20.2	+10
DBIC				pmax	pmax		
	comp=Z,3.0nm,0.7s						

*LDG **02** 02:36:13.5±0.2, 18.51S×66.81W, h277km, Mb4.5/19, Error ellipse: s-maj=10.9km s-min=6.2km az=83.0*
*IDC **02** 02:36:14.0±0.7, 18.29S×66.89W, h258km±5km, mb3.7/14, mb1 4.0/18, mb1mx3.9/21, mbtmp4.4/18, Error ellipse: s-maj=11.1km s-min=9.4km az=77.0*
*NEIC **02** 02:36:15.3±0.2, 18.30S×66.92W, mb4.4/26, Error ellipse: s-maj=7.1km s-min=6.5km az=65.0*

ISC 02 02:36:13.6±0.4, 18.32S±0.04×66.90W±0.05, h270km±4km, h276km±1.7km; pP-P, n79, σ0°89/85, mb4.2/39, 4C, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.34**	**329**	P	**P**	**02 37 02.6**	**+1.5**
	baz=111,slow=6.6						
LPAZ				S	**S**	**02 37 38.4**	**+0.3**
	17nm,0.3s,baz=45,slow=23,SNR=6.8						
LPAZ	**La Paz**	**2.34**	**329**	⇑*i*Pn	**P**	**02 37 02.5**	**+1.4**
LVC	**Limon Verde**	**4.67**	**204**	P	**P**	**02 37 27.1**	**+0.4**
	45nm,0.3s,baz=18,slow=8.2,SNR=322						
LVC				S	**S**	**02 38 23.0**	**-0.8**
	49nm,0.3s,baz=256,slow=23,SNR=18						
LVC	**Limon Verde**	**4.67**	**204**	⇑*i*P	**P**	**02 37 27.0**	**+0.3**
LVC				*i* S	**S**	**02 38 22.7**	**-1.1**
LVC	**Limon Verde**	**4.67**	**204**	⇑*i*Pn	**P**	**02 37 27.0**	**+0.3**
LVC				*e*S	**S**	**02 38 23.4**	**-0.3**
ARE	**Arequipa**	**4.76**	**292**	⇑*i*P	**P**	**02 37 27.5**	**-0.2**
ARE				*i* S	**S**	**02 38 25.2**	**-0.4**
SIV	**San Ignacio**	**6.03**	**68**	P	**P**	**02 37 43.3**	**+0.3**
	17nm,0.3s,baz=256,slow=12,SNR=170						
SIV				S	**S**	**02 38 52.3**	**-0.8**
	1.1nm,0.3s,baz=16,slow=21,SNR=6.0						
ANCH	**Antofagasta**	**6.27**	**211**	*e*P	**P**	**02 37 45.0**	**-1.1**
ANCH				*i* S	**S**	**02 38 51.7**	**-6.8**
CPN1	**Cerro Paranal**	**7.08**	**207**	*e*P	**P**	**02 37 55.4**	**-0.7**
CPN1				*i* S	**S**	**02 39 12.2**	**-4.3**
CRCH	**Chaqaral**	**8.70**	**203**	*e*P	**P**	**02 38 15.3**	**-1.2**
CRCH				*i* S	**S**	**02 39 47.5**	**-5.5**
CRCH	**Chaqaral**	**8.70**	**203**	*e*P	**P**	**02 38 15.3**	**-1.2**
SAML	**Samuel**	**9.98**	**22**	*e*Pn	**P**	**02 38 32.6**	**0.0**
	0.8nm,0.3s						
NNA	**Nana**	**11.48**	**302**	*e*Pn	**P**	**02 38 50.9**	**-0.4**
	16nm,0.4s						
NNA				*e*S	**S**	**02 40 51.3**	**-4.5**
CPUP	**Villa Florida**	**11.91**	**134**	*e*Pn	**P**	**02 38 59.6**	**+2.9**
CFAA	**Coronel Fontan**	**13.29**	**185**	P	**P**	**02 39 13.8**	**+0.2**
	0.1nm,0.3s,baz=8.9,slow=12,SNR=20						
BDFB	**Brasilia**	**18.25**	**84**	P	**P**	**02 40 10.8**	**+1.2**
	8.8nm,0.3s,baz=270,slow=10,SNR=50						
BAO	**Brasilia Array**	**18.28**	**84**	P	**P**	**02 40 12.0**	**+2.1**
TRQA	**Tornquist**	**20.13**	**169**	P	**P**	**02 40 29.1**	**+0.7**
PLCA	**Paso Flores**	**22.56**	**187**	P	**P**	**02 40 53.5**	**+1.5**
	3.6nm,0.9s,mb3.7,baz=11,slow=10,SNR=4.0						
PLCA	**Paso Flores**	**22.56**	**187**	*e*P	**P**	**02 40 52.7**	**+0.7**
SDV	**Santo Domingo**	**27.28**	**352**	P	**P**	**02 41 36.1**	**+0.5**
RCBR	**Riachuelo**	**32.68**	**72**	*e*P	**P**	**02 42 23.2**	**+0.3**
	13nm,0.6s,mb4.7						
TXAR	**Lajitas Array**	**59.19**	**323**	P	**P**	**02 45 48.2**	**-0.4**
	1.0nm,0.5s,mb3.5,baz=148,slow=8.3,SNR=22						
TXAR	**Lajitas Array**	**59.19**	**323**	P	**P**	**02 45 48.2**	**-0.4**
CCM	**Cathedral Cave**	**60.56**	**338**	*e*P	**P**	**02 45 55.3**	**-2.4**
	4.4nm,0.6s,mb4.2						
ANMO	**Albuquerque**	**64.95**	**325**	P	**P**	**02 46 25.7**	**-0.7**
	1.4nm,0.5s,mb3.8,baz=145,slow=6.7,SNR=8.6						
ANMO	**Albuquerque**	**64.95**	**325**	*e*P	**P**	**02 46 25.6**	**-0.8**
	1.4nm,0.6s,mb3.8						
DBIC	**Dimbokro**	**66.02**	**74**	P	**P**	**02 46 32.4**	**-1.2**
	4.3nm,0.5s,mb4.4,baz=229,slow=6.4,SNR=25						
SDCO	**Great Sand Dun**	**66.54**	**327**	*e*P	**P**	**02 46 36.9**	**+0.4**
	6.3nm,0.6s,mb4.5						
ISCO	**Idaho Springs**	**68.17**	**329**	*e*P	**P**	**02 46 47.5**	**+0.9**
	2.4nm,0.9s,mb3.9						
SMCO	**Snowmass**	**68.38**	**327**	*e*P	**P**	**02 46 49.2**	**+1.4**
PV01	**Paradox Valley**	**68.44**	**326**	*e*P	**P**	**02 46 49.0**	**+0.8**
PDAR	**Pinedale Array**	**72.36**	**328**	P	**P**	**02 47 12.2**	**+0.3**
	1.4nm,0.5s,mb3.9,baz=122,slow=8.8,SNR=14						
SCHQ	**Schefferville**	**72.85**	**0**	P	**P**	**02 47 13.6**	**-0.8**
	1.2nm,0.4s,mb3.9,baz=203,slow=4.9,SNR=5.9						
ULM	**Lac du Bonnet**	**72.90**	**341**	P	**P**	**02 47 13.8**	**-1.1**
	1.5nm,0.4s,mb4.0,baz=162,slow=7.5,SNR=2.4						
ULM	**Lac du Bonnet**	**72.90**	**341**	P	**P**	**02 47 13.8**	**-1.1**
LOHW	**Long Hollow**	**73.50**	**328**	*e*P	**P**	**02 47 18.8**	**+0.3**
	1.8nm,0.6s,mb3.9						
TPAW	**Teton Pass**	**73.58**	**328**	*e*P	**P**	**02 47 20.1**	**+1.2**
	6.1nm,1.2s,mb4.1						
IMW	**Indian Meadow**	**73.87**	**328**	*e*P	**P**	**02 47 21.7**	**+1.1**
	4.8nm,0.6s,mb4.3						
OMM	**Old Mammoth Mi**	**74.12**	**319**	*e*P	**P**	**02 47 23.4**	**+1.2**
NVAR	**Mina Array Bea**	**74.21**	**320**	P	**P**	**02 47 24.1**	**+1.3**
	1.7nm,0.8s,mb3.8,baz=124,slow=6.5,SNR=6.9						
BMO	**Blue Mountains**	**77.81**	**326**	*e*P	**P**	**02 47 43.7**	**+1.1**
	3.1nm,0.6s,mb4.2						
YBH	**Yreka Blue Hor**	**78.91**	**321**	P	**P**	**02 47 48.7**	**+0.1**
	0.7nm,0.3s,mb3.8,baz=238,slow=9.5,SNR=3.9						
EVO	**Evora**	**78.97**	**43**	*e*P	**P**	**02 47 47.9**	**-1.1**
	17nm,1.0s,mb4.4						
ESDC	**Sonseca Array**	**82.24**	**44**	P	**P**	**02 48 07.5**	**+1.4**
	1.9nm,0.7s,mb4.0,baz=249,slow=5.5,SNR=11						
BOSA	**Boshof**	**83.25**	**118**	P	**P**	**02 48 12.6**	**+1.1**
	1.9nm,0.5s,mb4.2,baz=158,slow=8.4,SNR=7.9						
ETSF	**Etsaut**	**86.08**	**42**	*e*P	**P**	**02 48 25.4**	**+0.2**
ETSF				*e*pP	pP	02 49 30.2	+0.1
MAW	**Mawson**	**86.81**	**163**	P	**P**	**02 48 30.1**	**+2.0**
	1.2nm,0.9s,mb3.7,baz=90,slow=8.1,SNR=5.0						
ROSF	**Rostrenen**	**87.19**	**37**	*e*P	**P**	**02 48 30.1**	**-0.3**
	38nm,1.4s,mb4.7						
LFF	**La Frestale**	**87.89**	**41**	*e*P	**P**	**02 48 33.7**	**0.0**
	22nm,0.8s,mb4.8						
MTLF	**Montolieu**	**88.08**	**43**	*e*P	**P**	**02 48 34.6**	**-0.1**
MFF	**Saint Martin d**	**88.15**	**39**	*e*P	**P**	**02 48 34.7**	**-0.2**
	13nm,0.8s,mb4.5						
MFF				*e*pP	pP	02 49 41.4	+1.4
RJF	**Les Rejaudoux**	**88.55**	**41**	*e*P	**P**	**02 48 36.5**	**-0.3**
	9.2nm,0.8s,mb4.3						
GRR	**Gorron**	**88.61**	**38**	*e*P	**P**	**02 48 36.7**	**-0.3**
	6.9nm,0.8s,mb4.3						
CAF	**Calviac**	**88.71**	**42**	*e*P	**P**	**02 48 37.3**	**-0.3**
	6.5nm,0.6s,mb4.3						
YKA	**Yellowknife Ar**	**88.84**	**340**	P	**P**	**02 48 38.6**	**+0.9**
	1.5nm,0.4s,mb4.1,baz=152,slow=4.6,SNR=8.9						
FLN	**La Foliniere**	**89.01**	**37**	*e*P	**P**	**02 48 38.5**	**-0.4**
TCF	**Toulx Ste Croi**	**89.43**	**40**	*e*P	**P**	**02 48 40.4**	**-0.5**
	4.7nm,0.5s,mb4.3						
BGF	**Bois d'Agland**	**89.95**	**40**	*e*P	**P**	**02 48 43.0**	**-0.4**
	7.7nm,0.6s,mb4.4						
AVF	**Avril sur Loir**	**90.36**	**40**	*e*P	**P**	**02 48 44.7**	**-0.6**
	5.0nm,0.7s,mb4.1						
SMRF	**Simiane la Rot**	**90.55**	**44**	*e*P	**P**	**02 48 45.2**	**-1.0**
SSF	**Saint Saulge**	**90.58**	**40**	*e*P	**P**	**02 48 45.4**	**-0.9**
	8.2nm,0.8s,mb4.3						
SSF				*e*pP	pP	02 49 52.1	+0.4
SMF	**Signal de Mont**	**90.60**	**41**	*e*P	**P**	**02 48 46.2**	**-0.2**
	23nm,0.9s,mb4.7						
SMF				*e*pP	pP	02 49 53.4	+1.6
LOR	**Lormes**	**90.89**	**40**	*e*P	**P**	**02 48 46.9**	**-0.8**
	5.9nm,0.6s,mb4.3						
FRF	**La Foret Royal**	**91.08**	**44**	*e*P	**P**	**02 48 47.6**	**-1.0**
	8.6nm,0.8s,mb4.3						
ORIF	**Oris-en-Rattie**	**91.14**	**43**	*e*P	**P**	**02 48 48.8**	**-0.1**
	5.7nm,0.7s,mb4.2						
SBF	**Sospel**	**91.72**	**44**	*e*P	**P**	**02 48 50.8**	**-0.9**
LPL	**La Plagne**	**91.94**	**42**	*e*P	**P**	**02 48 52.4**	**-0.2**
LPG	**La Plagne**	**91.94**	**42**	*e*P	**P**	**02 48 52.6**	**-0.1**
MEZF	**Maizieres J'vi**	**92.15**	**39**	*e*P	**P**	**02 48 53.2**	**-0.3**
	11nm,0.7s,mb4.6						
PGF	**Pioggiola**	**92.26**	**46**	*e*P	**P**	**02 48 53.2**	**-1.0**
HAU	**Haudompre**	**92.72**	**40**	*e*P	**P**	**02 48 55.8**	**-0.4**
HINF	**Hinteralfeld**	**92.95**	**40**	*e*P	**P**	**02 48 56.4**	**-0.9**
CDF	**Champ du Feu**	**93.46**	**40**	*e*P	**P**	**02 48 58.4**	**-1.1**
	2.8nm,0.6s,mb4.0						
GERES	**GERESS Array B**	**97.58**	**41**	P	**P**	**02 49 18.8**	**+0.5**
	0.6nm,0.8s,mb4.0,baz=297,slow=3.0,SNR=4.3						
STKA	**Stephens Creek**	**123.11**	**209**	PKP	PKPdf	02 54 40.8	+2.4
	1.4nm,0.7s,baz=350,slow=11,SNR=3.6						
WRA	**Warramunga Arr**	**136.65**	**210**	PKP	PKPdf	02 55 07.0	+2.6
	0.7nm,0.4s,baz=154,slow=1.6,SNR=17						
WRA				SKPbc		02 58 14.1	
	0.9nm,0.8s,baz=160,slow=2.7,SNR=6.6						
SONM	**Songino Array**	**150.05**	**9**	PKPbc	PKPdf	02 55 34.7	+8.1
	1.5nm,0.6s,baz=314,slow=1.4,SNR=5.8						
SONM				PKPab	PKPab	02 55 39.4	-1.6
	2.5nm,0.7s,baz=325,slow=3.1,SNR=14						
SONM				pPKPab		02 56 44.2	
	1.0nm,0.7s,baz=322,slow=2.6,SNR=4.6						
LZH	**Lanzhou**	**160.50**	**23**	*e*PKP	PKPdf	02 55 43.0	+2.3

IDC 02 03:07:07.6±1.3, 2.49N×126.57E, mb3.7/5, mb1 3.9/5, mb1mx3.7/17, mbtmp3.7/5, Error ellipse: s-maj=101.0km s-min=20.2km az=72.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.48**	**183**	P	P	03 11 48.2	-1.7
	1.9nm,0.5s,baz=7.7,slow=17,SNR=6.2						
WRA	**Warramunga Arr**	**23.57**	**161**	P	P	03 12 19.9	-0.9
	1.3nm,0.4s,baz=338,slow=11,SNR=16						
STKA	**Stephens Creek**	**37.04**	**159**	P	P	03 14 18.6	-2.5
	1.7nm,0.7s,baz=332,slow=12,SNR=2.8						
SONM	**Songino Array**	**48.41**	**342**	P	P	03 15 50.8	-2.7
	0.2nm,0.6s,baz=164,slow=10,SNR=2.5						
MKAR	**Makanchi Array**	**58.48**	**326**	P	P	03 17 06.4	-1.4
	0.4nm,0.5s,baz=118,slow=6.7,SNR=3.8						

IDC 02 03:16:32.6±9.1, 19.73S×67.43W, h41km±66km, mb3.2/2, mb1 3.7/3, mb1mx3.5/15, mbtmp3.5/3, ML3.7/1, Error ellipse: s-maj=112.3km s-min=54.5km az=70.0, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.48**	**349**	P	P	03 17 24.8	-0.9
	5.0nm,0.3s,baz=125,slow=12,SNR=36						
LPAZ				S	S	03 18 05.6	-0.5
	5.7nm,0.3s,baz=8.8,slow=20,SNR=4.5						
TXAR	**Lajitas Array**	**60.00**	**323**	P	P	03 26 35.3	-2.4
	0.1nm,0.5s,baz=149,slow=7.3,SNR=3.7						
PDAR	**Pinedale Array**	**73.29**	**329**	P	P	03 28 00.0	-1.7
	0.3nm,0.6s,baz=135,slow=7.7,SNR=4.5						
SONM	**Songino Array**	**151.51**	**9**	PKPbc	PKPdf	03 36 22.1	+6.3
	1.2nm,0.9s,baz=324,slow=2.2,SNR=9.2						

*NEIC **02** 03:46:29.0, 32.61S×71.69W, h32km, ML4.0(GUC), After GUC.*
NEIC Felt [III] at Zapallar and [II] at Olmue, Valparaiso and Vina del Mar.

GUC 02 03:46:29.0±0.7, 32.61S×71.69W, h32km±3km, MD4.3, ML4.0, 9C-9D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.22**	**72**	⇓*i*P	Pb	03 46 36.0	+0.3
IHA	**Instituto Hidr**	**0.42**	**175**	*e*P	Pb	03 46 38.2	-0.1
IHA				*i* S	Sb	03 46 44.4	-0.3
ROCH	**El Roble**	**0.68**	**123**	⇑*i*P	Pb	03 46 42.2	-0.1
CHNG	**Los Chungos**	**0.74**	**12**	⇓*i*P	Pn	03 46 43.0	-0.3
CHNG				*i* S	Sb	03 46 53.1	-0.1
CHNG				AMP		03 46 54.6	
	comp=E,4μm,0.3s						
LCCH	**Las Cruces**	**0.87**	**174**	⇑*i*P	Pn	03 46 45.0	-0.2
JACH	**Jahuel**	**0.92**	**95**	⇑*i*P	Pn	03 46 45.8	-0.1
JACH				*i* S	Sn	03 46 58.6	+0.5
PEL	**Peldehue**	**1.00**	**123**	⇑*i*P	Pn	03 46 47.4	+0.4
PEL				*i* S	Sn	03 47 00.9	+0.9
ILCH	**Illapel**	**1.06**	**24**	*e*P	Pn	03 46 48.3	+0.4
ILCH				*i* S	Sn	03 47 02.6	+1.0
ILCH				AMP		03 47 08.1	
	comp=E,6μm,0.2s						
RCDM	**Rinconada Maip**	**1.15**	**140**	⇑*i*P	Pn	03 46 49.3	+0.2
RCDM				*i* S	Sn	03 47 04.6	+0.8
RCDM				AMP		03 47 06.4	
	comp=N,6μm,0.1s						
SAN	**Santiago**	**1.21**	**135**	⇑*i*P	Pn	03 46 50.4	+0.5
SAN				*i* S	Sn	03 47 06.3	+1.0
SAN				AMP		03 47 11.2	
	comp=E,5μm,0.4s						
STL	**Santa Lucia**	**1.21**	**134**	⇓*i*P	Pn	03 46 49.4	-0.5
STL				*i* S	Sn	03 47 05.5	+0.2
STL				AMP		03 47 06.5	
	comp=E,2μm,0.5s						
TACH	**Talagante**	**1.22**	**149**	⇑*i*P	Pn	03 46 50.5	+0.4
TACH				*i* S	Sn	03 47 06.2	+0.6
DSCH	**Colegio Aleman**	**1.23**	**130**	⇑*i*P	Pn	03 46 50.7	+0.5
DSCH				*i* S	Sn	03 47 06.9	+1.1
DSCH				AMP		03 47 08.0	
	comp=E,8μm,0.5s						
CLCH	**Cerro Calan**	**1.25**	**130**	⇓*i*P	Pn	03 46 51.0	+0.5
CLCH				*i* S	Sn	03 47 07.8	+1.5
CLCH				AMP		03 47 10.2	
	comp=E,6μm,0.6s						
CLCH				AMP		03 47 10.8	
	comp=E,7μm,0.6s						
ANTU	**Antumapu**	**1.30**	**138**	⇓*i*P	Pn	03 46 52.0	+0.6
ANTU				*i* S	Sn	03 47 08.8	+1.0
ANTU				AMP		03 47 14.2	
	comp=N,6μm,0.4s						
FSR	**Penalolen**	**1.30**	**132**	*i* P	Pn	03 46 51.6	+0.3
FSR				*i* S	Sn	03 47 08.9	+1.1
FSR				AMP		03 47 14.6	
	comp=N,5μm,0.4s						
LNV	**Longovilo**	**1.37**	**170**	*e*P	Pn	03 46 52.0	-0.2
LNV				*i* S	Sn	03 47 10.4	+1.0
PCH	**Pirque**	**1.41**	**136**	⇑*i*P	Pn	03 46 53.5	+0.7
PCH				*i* S	Sn	03 47 12.5	+2.0
CMCH	**Combarbala**	**1.54**	**22**	⇓*i*P	Pn	03 46 55.4	+0.6
CMCH				*i* S	Sn	03 47 15.5	+1.6
CMCH				AMP		03 47 19.1	
	comp=E,16μm,0.7s						
CHCH	**Chadas Angostu**	**1.58**	**147**	⇓*i*P	Pn	03 46 56.6	+1.3
CHCH				*i* S	Sn	03 47 16.8	+1.9
CACH	**El Canelo**	**1.76**	**149**	⇓*i*P	Pn	03 46 59.6	+1.8
CACH				*i* S	Sn	03 47 23.0	+3.6
SFDO	**San Fernando**	**2.08**	**165**	⇓*i*P	Pn	03 47 03.0	+0.5
NICH	**Los Niches**	**2.42**	**171**	*i* P	Pn	03 47 09.1	+1.7
ZON	**Zonda**	**2.76**	**68**	*e*P	Pn	03 47 15.0	+2.8
ZON				*e*S	Sn	03 47 55.0	+10

*MOS **02** 03:51:28.7±1.0, 1.72N×126.82E, h44km, mb5.1/33, Error ellipse: s-maj=17.4km s-min=7.2km az=106.9*
*BJI **02** 03:51:34.6, 1.54N×127.05E, h106km, mB5.0, mb5.1*
*HRVD **02** 03:51:36.2±0.6, 1.62N×127.00E, h123km±9km, MW4.8/31, Centroid moment Tensor Solution. LP body waves: s6,c7; Mantle waves: s31,c40; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.81±.20; $M_{\theta\theta}$1.23±.16; $M_{\phi\phi}$-0.41±.22; $M_{r\theta}$-0.64±.13; $M_{\theta\phi}$0.47±.21; $M_{\phi r}$-0.94±.16; Best double couple: $M_0$1.638×10^{16} NP1:ϕ_s288°, δ36°, λ-32°. NP2: ϕ_s45°, δ72°, λ-121°. Principal axes: T 1.687, Plg21°, Azm158°; N -.101, Plg30°, Azm55°; P -1.589, Plg53°, Azm278°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **02** 03:51:36.2±1.6, 1.63N×126.96E, h100km±15km, mb4.9/21 Error ellipse: s-maj=11.6km s-min=5.8km az=75.0*
*IDC **02** 03:51:38.3±1.7, 1.62N×127.06E, h119km±14km, mb4.5/18, mb1 4.6/19, mb1mx4.5/22, mbtmp4.9/19, MS3.5/4, Ms1 3.5/4, ms1mx3.3/15, Error ellipse: s-maj=22.0km s-min=7.8km az=83.0*

ISC 02 03:51:35.0±0.8, 1.66N±0.03×127.00E±0.06, h101km±7km, h97km±4.9km; pP-P, n150, σ1°03/156, mb4.9/70, 11C-4D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**4.85**	**335**	⇓*e*P	**P**	**03 52 49.5**	**+2.4**
GSPH				*i* S	**S**	**03 53 42.7**	**+0.2**
CTBH	**Cotabato--PC H**	**6.17**	**334**	*e*P	**P**	**03 53 05.6**	**+0.5**
CTBH				*i* S	**S**	**03 54 12.5**	**-2.3**
BUKP	**Musuan**	**6.47**	**343**	*e*P	**P**	**03 53 10.3**	**+1.1**
BUTP	**Butuan**	**7.39**	**349**	*e*P	**P**	**03 53 15.4**	**-6.4**
IPIL	**Ipil**	**7.52**	**324**	*e*P	**P**	**03 53 24.0**	**+0.4**
IPIL				*e*S	**S**	**03 54 38.4**	**-9.4**
KKM	**Kota Kinabalu**	**11.61**	**292**	P	**P**	**03 54 17.7**	**-1.0**
KAKA	**Kakadu**	**15.26**	**159**	*e*P	**P**	**03 55 10.1**	**+3.8**
	147nm,0.6s						
KSM	**Kuching**	**16.69**	**270**	*e*P	**P**	**03 55 24.7**	**+0.6**
FITZ	**Fitzroy Crossi**	**19.68**	**184**	⇑*i*P	**P**	**03 55 57.0**	**-1.6**
	41nm,0.7s						
FITZ				*e*S	**S**	**03 59 31.2**	**+1.3**
FITZ	**Fitzroy Crossi**	**19.68**	**184**	P	**P**	**03 55 57.3**	**-1.3**
	6.8nm,0.3s,baz=9.9,slow=8.7,SNR=74						
FITZ				S	**S**	**03 59 31.9**	**+2.0**
	0.4nm,0.3s,baz=187,slow=19,SNR=4.6						
FITZ				LR	LR	04 03 30.2	
	comp=Z,87nm,20.1s,baz=79,slow=36						
FITZ				ScP		04 03 36.6	
	0.2nm,0.3s,baz=39,slow=6.1,SNR=2.8						
WRAB	**Tennant Creek**	**22.64**	**162**	*e*P	**P**	**03 56 27.5**	**-0.8**
	147nm,0.7s,mb5.4						
WRAB	**Tennant Creek**	**22.64**	**162**	*c i*P	**P**	**03 56 28.5**	**+0.2**
WRA	**Warramunga Arr**	**22.64**	**162**	P	**P**	**03 56 28.4**	**0.0**
	31nm,0.4s,mb5.0,baz=340,slow=11,SNR=257						
WRA				S	**S**	**04 00 28.0**	**+3.3**
	3.2nm,0.7s,baz=333,slow=20,SNR=5.2						
WRA				ScP		04 03 45.6	
	0.9nm,0.6s,baz=337,slow=2.8,SNR=4.8						
WRA	**Warramunga Arr**	**22.64**	**162**	P	**P**	**03 56 28.4**	**0.0**
WRA				S	**S**	**04 00 28.0**	**+3.3**
WRA				pmax	pmax		
	comp=Z,31nm,0.4s						
WRA				smax			
	comp=N,3.0nm,0.7s						
WRA				pmax	pmax		
	comp=N,1.0nm,0.6s						
WB2	**Warramunga Arr**	**22.64**	**162**	*e*P	**P**	**03 56 28.4**	**0.0**
WB2				*e*		03 56 35.0	
WB2				*e*S	**S**	**04 00 25.5**	**+0.7**
YHNB	**Yeheng**	**23.51**	**347**	*e*P	**P**	**03 56 38.1**	**+1.4**
MBWA	**Marble Bar**	**23.77**	**197**	*e*P	**P**	**03 56 39.0**	**-0.2**
	comp=N,44nm,0.6s,mb5.0						
QIZ	**Qiongzhong**	**24.10**	**317**	P	**P**	**03 56 42.8**	**+0.4**
QIZ	**Qiongzhong**	**24.10**	**317**	*e*P	**P**	**03 56 42.6**	**+0.2**
	comp=N,16nm,0.7s,mb4.5						
JOW	**Kunigami**	**25.06**	**3**	P	**P**	**03 56 53.0**	**+1.4**
	comp=N,16nm,0.7s,mb4.6,baz=144,slow=12,SNR=8.1						
CTA	**Charters Tower**	**28.70**	**140**	*e*P	**P**	**03 57 25.5**	**+0.6**
	comp=N,8.4nm,0.9s,mb4.4						
CTA				*e*		03 57 30.4	
CTA	**Charters Tower**	**28.70**	**140**	P	**P**	**03 57 25.2**	**+0.2**
	comp=N,10.0nm,0.9s,mb4.5,baz=337,slow=13,SNR=3.6						
CTA				ScP		04 04 03.3	
	comp=N,8.2nm,1.0s,baz=315,slow=6.6,SNR=2.6						
CTA	**Charters Tower**	**28.70**	**140**	*e*P	**P**	**03 57 25.5**	**+0.6**
CTA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
CBIJ	**Chichi jima**	**29.19**	**29**	P	**P**	**03 57 28.4**	**-0.9**
	comp=Z,28nm,0.6s,mb5.1,baz=236,slow=11,SNR=6.2						
SSE	**Sheshan**	**29.79**	**350**	*e*P	**P**	**03 57 31.7**	**-2.9**
SSE				AMB	AMB		
	comp=Z,34nm,0.7s,mb5.1						
SSE				AMB	AMB		
	com

XAN				AMB	AMB	
	comp=Z,18nm,1.1s,mb4.9					
CD2	**Chengdu**	**36.48**	**325**	*e*P	**P**	**03 58 32.7 +0.5**
HHC	**Hu-ho-hao-te**	**41.44**	**342**	*e*P	**P**	**03 59 14.8 +1.6**
HHC				AP	pP	03 59 39.3 +2.5
HHC				XP	sP	03 59 51.2 +2.6
HHC				PP	PP	04 00 55.4 +1.8
HHC				PCS		04 05 02.8
HHC				S	**S**	**04 05 21.8 +1.3**
HHC				XS		04 06 02.2
HHC				SS	SS	04 08 25.5 +2.4
HHC				AMB	AMB	
	comp=Z,33nm,1.1s,mb5.1					
HHC				AMB	AMB	
	comp=Z,91nm,8.9s					
HHC				LR	LR	
	comp=N,125nm,16.7s					
HHC				LR	LR	
	comp=E,115nm,18.4s					
HHC				LR	LR	
	comp=Z,101nm,17.8s					
CN2	**Changchun**	**41.98**	**358**	*e*P	**P**	**03 59 20.4 +2.7**
CN2				*e*AP	pP	03 59 45.0 +3.7
CN2				*e*S	**S**	**04 05 32.4 +3.9**
CN2				AMB	AMB	
	comp=Z,10.0nm,0.6s,mb4.7					
MDJ	**Mudanjiang**	**42.84**	**3**	P	**P**	**03 59 25.6 +0.9**
MDJ				AMB	AMB	
	comp=Z,22nm,1.3s,mb4.7					
MDJ				AMB	AMB	
	comp=Z,92nm,3.7s					
MDJ	**Mudanjiang**	**42.84**	**3**	*e*P	**P**	**03 59 25.6 +1.0**
	comp=Z,12nm,0.7s,mb4.7					
GTA	**Gaotai**	**45.01**	**330**	*e*P	**P**	**03 59 43.0 +0.8**
GTA				AP	pP	04 00 04.9 -1.1
GTA				PCP	PcP	04 01 22.4 +0.3
GTA				PP	PP	04 01 32.5 +2.6
GTA				S	**S**	**04 06 16.6 +4.2**
GTA				XS		04 06 56.5
GTA				SS	SS	04 09 32.4 +4.6
GTA				AMB	AMB	
	comp=Z,20nm,1.1s,mb4.8					
GTA				AMB	AMB	
	comp=Z,103nm,4.6s					
GTA				LR	LR	
	comp=N,60nm,12.6s					
GTA				LR	LR	
	comp=E,67nm,15.2s					
GTA				LR	LR	
	comp=Z,86nm,11.4s					
JIRN	**Jiri**	**46.82**	**307**	*e*P	**P**	**03 59 57.1 +0.4**
	comp=Z,32nm,0.6s,mb5.2					
YSS	**Yuzh-Sakhalins**	**47.16**	**15**⇑	*i*P	**P**	**03 59 59.3 +0.2**
YSS				pmax	pmax	
	comp=Z,16nm,1.3s,mb4.6					
GUN	**Gumba**	**47.17**	**307**	*e*P	**P**	**03 59 59.9 +0.4**
	comp=Z,58nm,0.7s,mb5.4					
PKI	**Pulchoki**	**47.40**	**307**	*e*P	**P**	**04 00 00.5 -0.8**
	comp=Z,42nm,1.1s,mb5.1					
KLR	**Kul'dur**	**47.57**	**4**	*e*P	**P**	**04 00 03.0 +0.8**
KKN	**Kakani**	**47.60**	**307**	*e*P	**P**	**04 00 02.8 0.0**
	comp=Z,31nm,0.8s,mb5.2					
DMN	**Daman**	**47.66**	**307**	*e*P	**P**	**04 00 02.6 -0.7**
	comp=Z,38nm,0.9s,mb5.2					
GKN	**Gorkha**	**48.20**	**307**	*e*P	**P**	**04 00 06.8 -0.7**
	comp=Z,29nm,0.7s,mb5.2					
KOLN	**Koldanda**	**48.94**	**306**	*e*P	**P**	**04 00 12.8 -0.4**
	comp=Z,78nm,0.8s,mb5.7					
SONM	**Songino Array**	**49.34**	**342**	P	**P**	**04 00 16.5 +0.5**
	comp=Z,10nm,0.7s,mb4.9,baz=157,slow=8.3,SNR=90					
SONM				PcP	PcP	04 01 36.9 -0.5
	comp=Z,3.5nm,0.8s,baz=163,slow=4.9,SNR=4.9					
SONM				LR	LR	04 23 13.1
	comp=Z,46nm,19.6s,baz=43,slow=38					
SONM	**Songino Array**	**49.34**	**342**	P	**P**	**04 00 16.5 +0.6**
SONM						04 01 36.9
SONM				pmax	pmax	
	comp=Z,10.0nm,0.7s					
SONM				pmax	pmax	
	comp=Z,4.0nm,0.8s					
SONM				MLR	MLR	
	comp=Z,46nm,19.6s					
ZAK	**Zakamensk**	**52.56**	**341**	*e*P	**P**	**04 00 40.1 -0.2**
ZAK				*e*		04 01 49.1
ZAK				pmax	pmax	
	comp=Z,5.0nm,0.8s,mb4.6					
ZAK				pmax	pmax	
	comp=Z,6.0nm,0.8s,mb4.7					
TLY	**Talaya**	**53.57**	**342**⇑	*i*P	**P**	**04 00 48.2 +0.4**
TLY				pmax	pmax	
	comp=Z,7.0nm,0.6s,mb4.9					
MOY	**Mondy**	**54.41**	**340**	*e*P	**P**	**04 00 54.5 +0.6**
MOY				pmax	pmax	
	comp=Z,25nm,1.5s,mb5.0					
WMQ	**Urumqi**	**54.57**	**326**⇑	*i*P	**P**	**04 00 56.0 +0.8**
WMQ				AP	pP	04 01 20.0 +0.2
WMQ				XP	sP	04 01 31.0 0.0
WMQ				PP	PP	04 03 01.0 +1.1
WMQ				SCP		04 05 46.0
WMQ				S	**S**	**04 08 26.0 +1.1**
WMQ				SS	SS	04 12 08.0 -0.6
WMQ				AMB	AMB	
	comp=Z,85nm,1.0s,mb5.7					
WMQ				AMB	AMB	
	comp=Z,112nm,6.0s					
WMQ				LR	LR	
	comp=N,43nm,20.0s					
WMQ				LR	LR	
	comp=E,56nm,20.0s					
WMQ				LR	LR	
	comp=Z,41nm,18.0s					
BOD	**Bodaibo**	**56.94**	**352**	*e*P	**P**	**04 01 09.9 -2.1**
BOD				pmax	pmax	
	comp=Z,8.0nm,1.0s,mb4.7					
MKAR	**Makanchi Array**	**59.41**	**326**	P	**P**	**04 01 29.6 +0.3**
	comp=Z,22nm,0.4s,mb5.6,baz=120,slow=8.1,SNR=289					
MKAR	**Makanchi Array**	**59.41**	**326**	P	**P**	**04 01 29.2 0.0**
MKAR				pmax	pmax	
	comp=Z,5.0nm,0.4s					
YAK	**Yakutsk**	**60.26**	**1**	*e*P	**P**	**04 01 33.2 -1.7**
YAK				pmax	pmax	
	comp=Z,13nm,0.8s,mb5.0					
YAK				pmax	pmax	
	comp=N,5.0nm,1.1s					
MA2	**Magadan**	**60.64**	**14**	*e*P	**P**	**04 01 37.5 0.0**
	comp=N,19nm,0.8s,mb5.2					
MA2	**Magadan**	**60.64**	**14**	*c i*P	**P**	**04 01 37.9 +0.4**
MA2				pmax	pmax	
	comp=Z,26nm,1.0s,mb5.2					
KZA	**Kyzart**	**61.32**	**318**	P	**P**	**04 01 43.7 +1.3**
	SNR=40					
TKM2	**Tokmak 2**	**61.47**	**319**	P	**P**	**04 01 43.6 +0.2**
	SNR=31					
CHMS	**Chumysh**	**62.06**	**319**	P	**P**	**04 01 47.2 -0.1**
	SNR=8.5					
AAK	**Ala-Archa**	**62.07**	**318**	P	**P**	**04 01 48.6 +1.2**
	SNR=7.6					
AAK	**Ala-Archa**	**62.07**	**318**	*e*P	**P**	**04 01 46.0 -1.4**
	comp=Z,15nm,0.8s,mb5.1					
AAK	**Ala-Archa**	**62.07**	**318**	*e*P	**P**	**04 01 46.0 -1.4**
AAK				pmax	pmax	
	comp=Z,15nm,0.8s,mb5.1					
FRU	**Bishkek**	**62.08**	**319**	*e*P	**P**	**04 01 47.0 -0.4**
USP	**Ospenovka**	**62.35**	**319**	P	**P**	**04 01 49.4 +0.1**
	SNR=60					
AML	**Almayashu**	**62.39**	**318**	P	**P**	**04 01 50.5 +1.0**
	SNR=68					
ZAL	**Zalesovo**	**62.55**	**333**	P	**P**	**04 01 49.0 -1.4**
	comp=Z,8.1nm,0.3s,mb5.1,baz=352,slow=6.2,SNR=24					
ZAL	**Zalesovo**	**62.55**	**333**	P	**P**	**04 01 49.0 -1.4**
ZAL				pmax	pmax	
	comp=Z,8.0nm,0.4s					
EKS2	**Erkin-Say**	**62.56**	**318**	P	**P**	**04 01 51.3 +0.7**
	SNR=31					
KURK	**Kurchatov**	**63.62**	**328**⇓	*i*P	**P**	**04 01 57.0 -0.6**
	comp=Z,92nm,0.5s,mb5.9					
KURK	**Kurchatov**	**63.62**	**328**	P	**P**	**04 01 56.6 -1.0**
KURK				pmax	pmax	
	comp=Z,25nm,0.6s,mb5.2					
FX1	**Attu Island--F**	**63.74**	**29**	*e*P	**P**	**04 01 58.2 -0.1**
NVS	**Novosibirsk**	**63.83**	**334**	*e*P	**P**	**04 01 56.5 -2.3**
NVS				*e*		04 02 13.6
NVS				pmax	pmax	
	comp=Z,23nm,0.9s,mb5.0					
NVS				pmax	pmax	
	comp=N,9.0nm,0.6s					
NVS				pmax	pmax	
	comp=E,10.0nm,0.7s					
SEY	**Seymchan**	**63.98**	**13**⇑	*i*P	**P**	**04 02 00.5 +0.9**
KKAR	**Karatay Array**	**64.93**	**318**	*i*P	**P**	**04 02 05.5 -0.7**
KKAR				pmax	pmax	
	comp=Z,5.0nm,0.5s,mb4.6					
VOSK	**Vostochnaya**	**68.74**	**327**	P	**P**	**04 02 28.7 -1.2**
VOSK				pmax	pmax	
	comp=Z,6.0nm,0.6s,mb4.6					
BRVK	**Borovoye**	**69.27**	**327**	*e*P	**P**	**04 02 32.0 -1.1**
	comp=Z,14nm,0.8s,mb4.8					
BRVK	**Borovoye**	**69.27**	**327**	*e*P	**P**	**04 02 32.1 -1.1**
BRVK				pmax	pmax	
	comp=Z,14nm,0.8s,mb4.8					
TIXI	**Tiksi**	**69.90**	**1**	*e*P	**P**	**04 02 34.1 -2.6**
TIXI				pmax	pmax	
	comp=Z,13nm,1.0s,mb4.7					
AB31	**Akbulak array**	**73.92**	**321**	*i*P	**P**	**04 03 00.1 -0.8**
AB31				pmax	pmax	
	comp=Z,10.0nm,0.7s,mb4.7					
SVE	**Sverdlovsk**	**75.86**	**329**	*e*P	**P**	**04 03 11.2 -0.6**
SVE				*e*		04 03 31.0
SVE				pmax	pmax	
	comp=Z,40nm,1.4s,mb5.0					
ARU	**Arti**	**76.82**	**328**	*e*P	**P**	**04 03 15.5 -1.8**
	comp=Z,11nm,0.5s,mb4.8					
ARU	**Arti**	**76.82**	**328**⇓	*i*P	**P**	**04 03 16.1 -1.2**
ARU				*e*		04 06 08.5
ARU				*e*S	S	04 13 01.2 +6.3
ARU				*e*SS	SS	04 17 55.5 -0.3
ARU				pmax	pmax	
	comp=Z,12nm,0.9s,mb4.6					
RDF	**Al-Radifah**	**79.97**	**299**	*e*P	**P**	**04 03 34.8 -0.3**
RDF				AMb	AMB	04 03 36.9
	comp=Z,81nm,0.5s,mb5.8					
MIB	**Mutribah**	**80.20**	**300**	*e*P	**P**	**04 03 36.2 -0.1**
MIB				AMb	AMB	04 03 38.9
	comp=Z,108nm,0.8s,mb5.7					
NAY	**Al-Naaiem**	**80.25**	**299**	*e*P	**P**	**04 03 36.2 -0.4**
NAY				AMb	AMB	04 03 39.0
	comp=Z,45nm,0.8s,mb5.4					
VNDA	**Vanda**	**81.35**	**173**	P	**P**	**04 03 41.5 +0.1**
	comp=Z,7.2nm,0.6s,mb4.7,baz=316,slow=6.3,SNR=71					
VNDA				LR	LR	04 38 37.8
	comp=Z,57nm,18.8s,baz=281,slow=35					
VNDA	**Vanda**	**81.35**	**173**	*e*P	**P**	**04 03 41.3 -0.1**
	comp=Z,7.0nm,0.6s,mb4.7					
MAW	**Mawson**	**81.92**	**200**	P	**P**	**04 03 45.2 +0.7**
	comp=Z,3.7nm,0.5s,mb4.5,baz=84,slow=5.2,SNR=55					
MAW	**Mawson**	**81.92**	**200**	P	**P**	**04 03 45.2 +0.7**
MAW				pmax	pmax	
	comp=Z,4.0nm,0.5s					
KAMS	**Al Khamasin**	**82.32**	**290**	P	**P**	**04 03 47.0 -0.5**
GNI	**Garni**	**83.01**	**310**	*i*P	**P**	**04 03 50.4 -0.3**
DJNS	**Zahran al Janu**	**83.27**	**288**	P	**P**	**04 03 53.7 +1.4**
RSO	**Redoubt South**	**83.75**	**29**	*e*P	**P**	**04 03 53.6 -0.3**
IMA	**Indian Mountai**	**84.16**	**24**	*e*P	**P**	**04 03 57.5 +1.7**
	comp=Z,46nm,0.9s,mb5.3					
IMA	**Indian Mountai**	**84.16**	**24**	*e*P	**P**	**04 03 57.5 +1.7**
IMA				pmax	pmax	
	comp=Z,46nm,0.9s,mb5.3					
SPU	**Mount Spurr**	**84.18**	**29**	*e*P	**P**	**04 03 57.1 +1.1**
KIV	**Kislovodsk**	**84.76**	**314**	*d i*P	**P**	**04 03 59.2 -0.1**
KIV				pmax	pmax	
	comp=Z,9.0nm,1.3s,mb4.5					
HILS	**Ha'il**	**84.99**	**297**	P	**P**	**04 04 02.2 +1.3**
BLJS	**Baljurashi**	**85.12**	**290**	P	**P**	**04 04 03.1 +1.4**
VRHR	**Novokhopersk**	**85.81**	**321**	*e*P	**P**	**04 04 03.0 -1.3**
VRHR				pmax	pmax	
	comp=Z,30nm,1.4s,mb5.0					
VRHR				pmax	pmax	
	comp=N,8.0nm,0.6s					
VRHR				pmax	pmax	
	comp=E,20nm,1.3s					
SML	**Sawmill**	**86.02**	**28**	*e*P	**P**	**04 04 05.9 +0.8**
ILAR	**Eielson Array**	**86.85**	**25**	P	**P**	**04 04 08.2 -0.9**
	comp=E,14nm,0.6s,mb4.1,baz=244,slow=5.1,SNR=15					
ILAR	**Eielson Array**	**86.85**	**25**	P	**P**	**04 04 08.2 -0.9**
ILAR				pmax	pmax	
	comp=Z,1.0nm,0.6s					
SOC	**Sochi**	**86.89**	**313**	*c i*P	**P**	**04 04 09.3 -0.6**
SOC				*e*		04 07 35.4
SOC				*e*S	S	04 14 32.1 -5.7
SOC				*e*SS	SS	04 20 33.4 +8.3
SOC				*e*SSS	SSS	04 23 59.2 +2.3
SOC				pmax	pmax	
	comp=N,17nm,0.7s					
SOC				pmax	pmax	
	comp=E,21nm,0.7s					
SOC				pmax	pmax	
	comp=Z,24nm,0.7s,mb5.2					
VRSR	**Storozhevoye**	**87.34**	**321**	*e*P	**P**	**04 04 11.1 -0.7**
VRSR				pmax	pmax	
	comp=Z,10.0nm,2.4s,mb4.3					
VRSR				pmax	pmax	
	comp=N,7.0nm,0.9s					
VRSR				pmax	pmax	
	comp=E,7.0nm,0.9s					
VRSR				pmax	pmax	
	comp=Z,10.0nm,2.4s,mb4.3					
VRSR				pmax	pmax	
	comp=N,7.0nm,0.9s					
VRSR				pmax	pmax	
	comp=E,7.0nm,0.9s					
MALT	**Malatya**	**87.86**	**308**	*e*P	**P**	**04 04 15.2 +0.5**
	comp=E,2.9nm,0.8s,mb4.4					
MALT	**Malatya**	**87.86**	**308**	*e*P	**P**	**04 04 15.2 +0.6**
MALT				pmax	pmax	
	comp=Z,3.0nm,0.8s,mb4.4					
ANN	**Anapa**	**88.54**	**315**	*e*P	**P**	**04 04 19.4 +1.7**
ANN				*e*		04 16 05.3
ANN				pmax	pmax	
	comp=Z,40nm,1.0s,mb5.4					
OBN	**Obninsk**	**88.90**	**325**	*c i*P	**P**	**04 04 18.3 -0.8**
OBN				*e*		04 04 27.5
OBN				*e*		04 04 39.5
OBN				*e*PS	PS	04 16 42.8 +26
OBN				pmax	pmax	
	comp=Z,30nm,1.7s,mb5.0					
ASF	**Jabal al Asfar**	**89.22**	**302**	P	**P**	**04 04 21.9 +0.7**
	comp=Z,2.4nm,0.3s,mb4.6,baz=59,slow=3.1,SNR=6.7					
ASF	**Jabal al Asfar**	**89.22**	**302**	P	**P**	**04 04 21.9 +0.7**
ASF				pmax	pmax	
	comp=Z,2.0nm,0.4s					
SYO	**Syowa Base**	**90.60**	**201**	⇑P	**P**	**04 04 26.5 -0.3**
BRTR	**Keskin Array B**	**91.54**	**310**	P	**P**	**04 04 30.9 -0.9**
	comp=Z,1.2nm,0.8s,mb4.2,baz=104,slow=5.1,SNR=4.7					
BRTR	**Keskin Array B**	**91.54**	**310**	P	**P**	**04 04 31.0 -0.9**
BRTR				pmax	pmax	
	comp=Z,1.0nm,0.8s					
ARCES	**ARCESS Array B**	**92.47**	**340**	P	**P**	**04 04 34.6 -0.9**
	comp=Z,5.8nm,0.7s,mb4.9,baz=90,slow=4.9,SNR=14					
ARCES	**ARCESS Array B**	**92.47**	**340**	P	**P**	**04 04 34.6 -0.8**
ARCES				pmax	pmax	
	comp=Z,6.0nm,0.7s					
KAF	**Kangasniemi**	**93.55**	**332**	*e*p	**P**	**04 04 39.1 -1.4**
FINES	**FINESS Array B**	**93.77**	**332**	P	**P**	**04 04 40.0 -1.5**
	comp=Z,0.8nm,0.7s,mb4.2,baz=45,slow=5.4,SNR=6.3					
FINES	**FINESS Array B**	**93.77**	**332**	P	**P**	**04 04 40.0 -1.5**
FINES				pmax	pmax	
	comp=Z,1.0nm,0.7s					
MLR	**Muntele Rosu**	**96.57**	**316**	P	**P**	**04 04 54.5 -0.1**
	comp=Z,2.6nm,0.7s,mb4.8,baz=326,slow=1.1,SNR=6.1					
MLR	**Muntele Rosu**	**96.57**	**316**	P	**P**	**04 04 54.5 -0.1**
MLR				pmax	pmax	
	comp=Z,3.0nm,0.7s					
NB2	**NORSAR Subarra**	**100.75**	**334**	P	P	04 05 11.3 -1.9
	comp=Z,0.7nm,0.7s,baz=67,slow=4.6					
NOA	**NORSAR Array B**	**100.75**	**334**	P	P	04 05 11.7 -1.6
	comp=Z,1.2nm,0.8s,baz=67,slow=4.7,SNR=4.4					
NOA	**NORSAR Array B**	**100.75**	**334**	P	P	04 05 11.7 -1.5
NOA				pmax	pmax	
	comp=Z,1.0nm,0.8s					
PDAR	**Pinedale Array**	**112.72**	**42**	PKKPbc		04 20 48.9
	comp=Z,0.4nm,0.6s,baz=118,slow=6.5,SNR=4.7					
SCHQ	**Schefferville**	**122.56**	**9**	PKP	PKPdf	04 10 19.6 +1.0
	comp=Z,1.4nm,0.4s,baz=4.0,slow=7.3,SNR=9.5					
TXAR	**Lajitas Array**	**122.63**	**53**	PKP	PKPdf	04 10 21.6 +2.1
	comp=Z,0.8nm,0.6s,baz=210,slow=1.1,SNR=18					
TXAR	**Lajitas Array**	**122.63**	**53**	PKIKP	PKPdf	04 10 21.6 +2.1
TXAR				pmax	pmax	
	comp=Z,1.0nm,0.6s					
DBIC	**Dimbokro**	**131.24**	**280**	PKP	PKPdf	04 10 38.7 +2.1
	comp=Z,2.8nm,0.7s,baz=358,slow=2.9,SNR=7.4					
DBIC				SKPbc		04 13 51.6
	comp=Z,2.4nm,0.9s,baz=90,slow=6.1,SNR=4.2					
DBIC	**Dimbokro**	**131.24**	**280**	PKP	PKPdf	04 10 38.7 +2.1
DBIC				SKPbc		04 13 51.6
DBIC	**Dimbokro**	**131.24**	**280**	PKIKP	PKPdf	04 10 38.7 +2.2
DBIC				pmax	pmax	
	comp=Z,3.0nm,0.7s					
DBIC				pmax	pmax	
	comp=N,2.0nm,0.9s					

*THE **02** 03:53:46.1, 38.49N×21.75E, h10km, ML3.3*
*ATH **02** 03:53:47.7, 38.67N×21.69E, h15km, MD3.5/15*
*NEIC **02** 03:53:47.5, 38.68N×21.68E, h13km, MD3.4(ATH), After ATH.*
*CSEM **02** 03:53:48.1±0.2, 38.69N×21.69E, MD3.4, Error ellipse: s-maj=2.9km s-min=2.2km az=37.0*
*SOF **02** 03:53:57.9, 39.42N×22.33E, h2km, MD3.0*

ISC 02 03:53:48.2±0.3, 38.70N±0.02×21.66E±0.03, h15km, n42, σ1§24/60, 1C-2D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.24**	**29**⇑	*i*PB	**Pb**	**03 53 53.0**	**-0.8**
EVR				*e*SB	**Sb**	**03 53 57.3**	**-0.2**
AGG	**Agios Georgios**	**0.62**	**59**	*e*Pg	**Pg**	**03 53 59.3**	**-1.5**
AGG				*e*Sg	**Sg**	**03 54 09.9**	**+0.7**
RLS	**Riolos of Patr**	**0.66**	**193**	*e*PB	**Pb**	**03 53 59.8**	**-1.1**
RLS				*e*SN	**Sg**	**03 54 09.2**	**-1.5**
LKD	**Levkas**	**0.79**	**271**	*e*Pg	**Pg**	**03 54 02.4**	**-1.8**
LKD				*e*Sg	**Sg**	**03 54 16.1**	**+1.3**
VLS	**Valsamata**	**0.99**	**238**⇓	*i*PN	**Pn**	**03 54 06.7**	**-0.7**
VLS				*e*SN	**Sn**	**03 54 21.2**	**+0.1**
VLS	**Valsamata**	**0.99**	**238**⇓	*i*Pb	**Pb**	**03 54 05.1**	**-1.4**
VLS				*e*Sb	**Sb**	**03 54 20.0**	**+0.9**
LKR	**Lokris**	**1.05**	**92**	*e*PN	**Pn**	**03 54 07.7**	**-0.7**
LKR				*e*SN	**Sn**	**03 54 22.1**	**-0.7**
LKR	**Lokris**	**1.05**	**92**	*e*Pg	**Pg**	**03 54 06.4**	**-3.0**
LKR				*e*Sb	**Sb**	**03 54 21.3**	**+0.3**
JAN	**Janina**	**1.14**	**327**	*e*PN	**Pn**	**03 54 10.2**	**+0.6**
JAN				*e*SN	**Sn**	**03 54 26.2**	**+1.3**
IGT	**Igoumenitsa**	**1.32**	**309**	*e*Pg	**Pg**	**03 54 13.9**	**-0.8**
IGT				*e*Sg	**Sn**	**03 54 35.8**	**+6.2**
NEO	**Neokhori**	**1.36**	**63**	*e*PN	**Pn**	**03 54 12.6**	**-0.2**
NEO				*e*SN	**Sn**	**03 54 32.0**	**+1.4**
NEO	**Neokhori**	**1.36**	**63**	*e*Pg	**Pn**	**03 54 12.6**	**-0.2**
NEO				*e*Sb	**Sb**	**03 54 31.3**	**+1.3**
XOR	**Xorichti**	**1.37**	**61**	*e*Pg	**Pg**	**03 54 13.2**	**-2.4**
XOR	**Xorichti**	**1.37**	**61**	*e*Pg	**Pg**	**03 54 13.2**	**-2.5**
MGER	**Gerania Oros**	**1.45**	**119**	*e*PN	**Pn**	**03 54 15.0**	**+0.9**
ITM	**Ithomi**	**1.54**	**172**	*e*PN	**Pn**	**03 54 15.4**	**+0.1**
ITM	**Ithomi**	**1.54**	**172**	*e*Pb	**Pb**	**03 54 17.3**	**+1.4**
ITM				*e*Sb	**Sb**	**03 54 37.3**	**+2.3**
LIT	**Litokhoron**	**1.54**	**25**	*e*Pb	**Pb**	**03 54 16.3**	**+0.4**
LIT				*e*Sb	**Sn**	**03 54 39.9**	**+4.8**
KZN	**Kozani**	**1.60**	**3**	*e*PN	**Pn**	**03 54 17.8**	**+1.5**
KZN				*e*SN	**Sb**	**03 54 40.4**	**+3.4**
KZN	**Kozani**	**1.60**	**3**	*e*Pg	**Pg**	**03 54 17.4**	**-3.0**
KZN				*e*Sb	**Sb**	**03 54 40.4**	**+3.4**
NSAL	**Nisos Salamina**	**1.63**	**119**	*e*PN	**Pn**	**03 54 17.5**	**+0.9**
MPAR	**Parnis Oros**	**1.73**	**108**	*e*PN	**Pn**	**03 54 18.5**	**+0.5**
NAIG	**Nisos Aigina**	**1.73**	**123**	*e*PN	**Pn**	**03 54 18.5**	**+0.5**
NAIG	**Nisos Aigina**	**1.73**	**123**	*e*Pg	**Pg**	**03 54 20.0**	**-2.8**
KEK	**Kerkira**	**1.76**	**306**	*e*PN	**Pn**	**03 54 20.2**	**+1.7**
KEK	**Kerkira**	**1.76**	**306**	*e*Pg	**Pg**	**03 54 21.1**	**-2.4**
ATH	**Athens Observa**	**1.78**	**114**	*e*PN	**Pn**	**03 54 19.4**	**+0.6**
ATH				*e*SN	**Sn**	**03 54 42.9**	**+1.7**
ATH	**Athens Observa**	**1.78**	**114**	*e*Pn	**Pn**	**03 54 19.5**	**+0.7**
ATH				*e*Sn	**Sn**	**03 54 42.9**	**+1.7**
AOS	**Alonnisos**	**1.80**	**74**	*e*Pb	**Pb**	**03 54 18.4**	**-1.9**
PAIG	**Paliouri**	**1.99**	**51**	*e*Pn	**Pn**	**03 54 21.0**	**-0.8**
PLG	**Polygyros**	**2.17**	**39**	*e*PB	**Pb**	**03 54 24.5**	**-2.2**
PLG	**Polygyros**	**2.17**	**39**	*e*Pn	**Pn**	**03 54 23.7**	**-0.7**
VLI	**Velíai**	**2.23**	**152**	*e*PN	**Pn**	**03 54 26.2**	**+1.0**
GRG	**Griva**	**2.32**	**14**	*e*Pn	**Pn**	**03 54 26.9**	**+0.4**
OUR	**Ouranopolis**	**2.43**	**47**	*e*Pn	**Pn**	**03 54 27.4**	**-0.6**
KNT	**Kendrikon**	**2.63**	**21**	*e*Pn	**Pn**	**03 54 32.0**	**+1.0**
SRS	**Serrai**	**2.83**	**31**	*e*Pn	**Pn**	**03 54 33.7**	**-0.2**
NVR	**Nevrokopi**	**3.14**	**32**	*e*PN	**Pn**	**03 54 39.5**	**+1.3**
MMB	**Musomiste**	**3.29**	**28**	*i*P	**Pn**	**03 54 40.0**	**-0.4**
KKB	**Krupnik**	**3.34**	**19**	*i*P	**Pn**	**03 54 41.0**	**-0.1**
RZN	**Rozhen**	**3.79**	**37**	P	**Pn**	**03 54 47.0**	**-0.5**
VTS	**Vitosha**	**4.06**	**16**	P	**Pn**	**03 54 52.5**	**+1.2**

OTT 02 03:59:37.3±1.0, 75.39N×70.73W, h18km, MN2.9/1, Baffin Bay. 300km east from Craig Harbour, Nu Eastern Arctic Background Seismic Zone., Baffin Bay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TULEG	**Thule**	**1.24**	**21**	PG	Pb	03 59 59.6	-0.3
TULEG				SG	Sb	04 00 16.2	+0.7
TULEG				Trac		04 00 17.6	
	comp=Z,74nm,0.3s						
PINU	**Pond Inlet**	**3.37**	**220**	PN	Pn	04 00 10.8	-19
PINU				SN	Sn	04 00 45.3	-25
PINU				Trac		04 00 47.7	
	comp=Z,10nm,0.1s						
EUNU	**Eureka**	**5.73**	**332**	PN	Pn	04 01 03.1	-0.5
EUNU				SN	Sn	04 02 04.7	-5.0
EUNU				Trac		04 02 12.1	
	comp=Z,0.9nm,0.2s						
RES	**Resolute Bay**	**6.27**	**275**	PN	Pn	04 01 07.2	-4.2
RES				SN	Sn	04 02 14.3	-9.0
RES				Trac		04 02 17.9	
	comp=Z,1.1nm,0.2s						
QILN	**Qililugaq Expl**	**10.10**	**218**	PN	P	04 01 55.6	-8.7
QILN				SN	S	04 03 38.0	-20
QILN				Trac		04 03 43.8	
	comp=Z,0.3nm,0.1s						
FRB	**Frobisher Bay**	**11.73**	**175**	PN	P	04 02 20.6	-6.0
FRB				SN	S	04 04 17.4	-21

GUC 02 04:09:10.6±0.4, 24.40S×67.50W, h200km±9km, ML3.5, 3C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPCH	**San Pedro de A**	**1.62**	**337**⇑	*i*P	P	04 09 46.9	+1.1
SPCH				*i* S	S	04 10 14.7	+1.8
SPCH				AMP		04 10 16.1	
	comp=N,250nm,0.5s						
LVC	**Limon Verde**	**2.20**

ANTO			*i* SG		**Sg**	**05 14 48.4**	**-3.0**
ANTO	**Ankara**	**0.59 326**	*i* P		**Pg**	**05 14 40.5**	**-2.9**
ANTO			*i* S		**Sg**	**05 14 49.4**	**-1.9**
LOD	**Lodumlu**	**0.62 325**	*i* PG		**Pg**	**05 14 41.5**	**-2.5**
CDAG	**Cicekdag**	**0.92 74**	*i* P		**Pb**	**05 14 48.4**	**-1.0**
CDAG			*i* S		**Sb**	**05 15 01.9**	**+0.4**
ELDT	**Eldivan**	**1.12 8**	*i* P		**Pb**	**05 14 51.7**	**-1.0**
ELDT			*i* S		**Sb**	**05 15 07.8**	**+0.6**
KIZT	**Kizilcal**	**1.16 245**	PN		**Pn**	**05 14 52.9**	**-1.1**
KDHN	**Kadinhani**	**1.22 226**	*i* P		**Pb**	**05 14 49.8**	**-4.7**
KDHN			*i* S		**Sb**	**05 15 11.6**	**+1.4**
CANT	**Cankiri**	**1.26 14**	PN		**Pn**	**05 14 54.7**	**-0.8**
CANT			SN		**Sn**	**05 15 12.2**	**-0.5**
SGKT	**Sivrigoynuk**	**1.49 323**	*i* P		**Pn**	**05 15 00.0**	**+1.2**
SGKT			*i* S		**Sb**	**05 15 19.8**	**+1.7**
KONT	**Konya--Tatoy**	**1.58 206**	*e*PN		**Pn**	**05 15 00.2**	**+0.1**
YOZ	**Yozgat**	**1.64 80**	PN		**Pn**	**05 15 00.8**	**-0.1**
TOS	**Tosya**	**1.76 20**	*e*PN		**Pn**	**05 15 01.8**	**-0.9**
ESKT	**Eskisehir**	**1.84 275**	*i* P		**Pn**	**05 15 02.3**	**-1.5**
ESKT			*i* S		**Sn**	**05 15 28.4**	**+0.9**
ESKT	**Eskisehir**	**1.84 275**	*e*Pn		**Pn**	**05 15 02.2**	**-1.6**
SAFT	**Safranbolu**	**1.90 348**	*e*PN		**Pn**	**05 15 02.9**	**-1.8**
BNN	**Bunyan**	**2.11 104**	*e*PN		**Pn**	**05 15 07.3**	**-0.3**
BALT	**Daday**	**2.15 3**	*i* P		**Pn**	**05 15 10.2**	**+2.0**
BALT			*i* S		**Sn**	**05 15 38.1**	**+2.7**
BOYT	**Boyabat**	**2.41 32**	*i* P		**Pn**	**05 15 13.7**	**+1.8**
BOYT			*i* S		**Sn**	**05 15 44.4**	**+2.5**
TKTP	**Tekketepe**	**2.64 240**	*i* P		**Pn**	**05 15 14.6**	**-0.6**
TKTP			*i* S		**Sn**	**05 15 50.9**	**+3.2**
ULDT	**Uludag**	**3.24 285**	*i* P		**Pn**	**05 15 27.9**	**+4.1**
ULDT			*i* S		**Sn**	**05 16 12.5**	**+9.5**

IGQ 02 05:27:16.5, 2.72S×78.11W, h12km±14km, mb4.1, 4C-1D, Error ellipse: s-maj=17.2km s-min=7.2km az=145.3, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**1.33 337**		⇓P	Pb	05 27 40.6	-0.3
IGUA				S	Sb	05 28 01.4	+3.5
PISA	**Pisayambo**	**1.68 351**		⇑P	Pn	05 27 45.4	-0.5
PISA				S	Sn	05 28 09.7	+2.3
TAMB	**Tambo**	**2.03 353**		P	Pn	05 27 51.4	+0.4
TAMB				S	Sn	05 28 19.2	+2.7
QIL1	**Quilotoa**	**2.04 336**		⇑P	Pn	05 27 53.9	+2.8
VC1	**Cotopaxi 1**	**2.09 352**		P	Pn	05 27 52.9	+1.0
VC1				S	Sn	05 28 23.3	+5.4
ANTI	**Antisana**	**2.26 359**		P	Pn	05 27 55.3	+1.0
JUA2	**San Juan 2**	**2.54 349**		P	Pn	05 28 01.4	+3.1
JUA2				S	Sn	05 28 36.3	+6.9
GGP	**Refugio Guagua**	**2.58 349**		⇑P	Pn	05 28 02.2	+3.4
TERV	**Terraza Guagua**	**2.58 349**		P	Pn	05 28 02.3	+3.5
PINO	**Pino**	**2.60 349**		P	Pn	05 28 02.6	+3.5
YANA	**Yana**	**2.63 350**		P	Pn	05 28 02.8	+3.2
YANA				S	Sn	05 28 38.3	+6.6
ECOPE	**Copete-Rev Vol**	**2.65 11**		P	Pn	05 27 58.0	-1.7
CONE	**Cono NE Rev Vo**	**2.68 10**		P	Pn	05 28 01.6	+1.4
CONE				S	Sn	05 28 38.5	+5.6
JOR1	**San Jorge 1**	**2.76 349**		P	Pn	05 28 00.7	-0.6
CAYA	**Cayambe**	**2.78 2**		⇑P	Pn	05 28 04.0	+2.3
ECEN	**Cerro Negro**	**3.53 2**		P	Pn	05 28 20.3	+8.0

*PGC **02** 05:42:04.7, 65.21N×133.69W, h1km, ML3.9/2, Wernecke Mountains, Yukon Territory*
*IDC **02** 05:42:05.4±3.7, 65.41N×133.64W, h15km±25km, mb3.5/6, mb1 3.9/9, mb1mx3.7/22, mbtmp3.7/9, ML4.2/3, MS2.9/1, Ms1 2.9/1, ms1mx2.1/21, Error ellipse: s-maj=13.8km s-min=9.2km az=32.0*
*NEIC **02** 05:42:05.0, 65.21N×133.69W, h1km, mb3.7/1, ML3.9(PGC), ML3.8(AEIC), After PGC.*
ISC 02 05:42:00.1±0.5, 65.30N±0.04×133.46W±0.10, h1km, n29, σ1♀07/42, mb3.7/6, Northern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BC01	**Beaver Creek A**	**4.29 242**		P	**Pn**	**05 43 08.8**	**+0.8**
WHY	**Whitehorse**	**4.70 189**		Pn	**Pn**	**05 43 15.1**	**+1.3**
WHY				Sn	**Sn**	**05 44 07.7**	**-2.1**
WHY				Sg	**Sg**	**05 44 27.6**	**-8.9**
WHY				Trac		05 44 31.4	
	comp=Z,50nm,0.4s						
WHY	**Whitehorse**	**4.70 189**		P	**Pn**	**05 43 14.8**	**+1.0**
WHY				S	**Sn**	**05 44 09.3**	**-0.4**
HYT	**Haines Junctio**	**4.85 204**		Pn	**Pn**	**05 43 17.0**	**+1.1**
HYT				Sn	**Sn**	**05 44 10.9**	**-2.6**
HYT				Sg	**Sg**	**05 44 31.0**	**-10**
HYT				Trac		05 44 37.9	
	comp=Z,43nm,0.4s						
DOT	**Dot Lake**	**4.87 255**		P	**Pn**	**05 43 15.4**	**-0.8**
DOT				S	**Sn**	**05 44 09.6**	**-4.6**
BM3	**Burnt Mountain**	**4.97 300**		P	**Pn**	**05 43 17.5**	**-0.1**
MENT	**Mentasta**	**5.08 247**		P	**Pn**	**05 43 19.1**	**-0.1**
IL1	**Eielson Array**	**5.71 271**		P	**Pn**	**05 43 27.6**	**-0.5**
ILAR	**Eielson Array**	**5.71 271**		Pn	**Pn**	**05 43 28.2**	**+0.1**
	0.4nm,0.3s,baz=95,slow=10,SNR=20						
ILAR				Lg		05 45 02.5	
	3.5nm,0.3s,baz=72,slow=27,SNR=7.7						
PAX	**Paxson**	**5.75 252**		P	**Pn**	**05 43 29.3**	**+0.7**
PNL	**Peninsula**	**6.28 209**		P	**Pn**	**05 43 38.3**	**+2.2**
BESE	**Bessie Mountai**	**6.77 186**		P	**Pn**	**05 43 43.9**	**+0.9**
DLBC	**Dease Lake**	**7.07 165**		Pn	**Pn**	**05 43 48.0**	**+0.8**
	6.1nm,0.3s,baz=7.9,slow=14,SNR=37						
DLBC				Sn	**Sn**	**05 45 08.4**	**-0.8**
	1.7nm,0.3s,baz=164,slow=20,SNR=3.8						
DLBC				Lg		05 45 44.1	
	3.4nm,0.3s,baz=260,slow=24,SNR=6.1						
DLBC	**Dease Lake**	**7.07 165**		Pn	**Pn**	**05 43 47.8**	**+0.6**
DLBC				Sg	**Sg**	**05 45 43.6**	**-12**
DLBC				Trac		05 45 51.0	
	comp=Z,32nm,0.6s						
DLBC	**Dease Lake**	**7.07 165**		P	**Pn**	**05 43 47.9**	**+0.6**
KTH	**Kantishna Hill**	**7.75 265**		P	**Pn**	**05 43 55.3**	**-1.4**
IM3	**Indian Mountai**	**8.40 284**		P	**P**	**05 44 04.8**	**-1.1**
YKW3	**Yellowknife Ar**	**8.73 100**		Pn	**P**	**05 44 09.4**	**-1.0**
YKW3				Pn	**P**	**05 44 09.8**	**-0.7**
YKW3				Sn	**Sn**	**05 45 40.0**	**-11**
YKW3				Sn	**Sn**	**05 45 40.5**	**-10**
YKW3				Sg	**Sg**	**05 46 38.1**	**-13**
YKW3				Trac		05 46 47.9	
	comp=Z,6.0nm,0.4s						
YKA	**Yellowknife Ar**	**8.77 100**		Pn	**P**	**05 44 10.8**	**-0.1**
	2.3nm,0.3s,baz=296,slow=12,SNR=24						
YKA				Sn	**Sn**	**05 45 44.6**	**-6.9**
	1.6nm,0.3s,baz=298,slow=22,SNR=5.1						
SVW2	**Sparrevohn**	**10.80 257**		*e*P	**P**	**05 44 41.5**	**+2.7**
RES	**Resolute Bay**	**15.82 37**		P	**P**	**05 45 44.3**	**-1.0**
RES				S	**S**	**05 48 28.9**	**-13**
FFC	**Flin Flon**	**18.73 109**		*e*P	**P**	**05 46 21.4**	**-0.5**
	4.1nm,0.8s						
NEW	**Newport**	**19.17 145**		LR	LR	05 54 00.1	
	comp=Z,35nm,20.3s,baz=154,slow=37						
PDAR	**Pinedale Array**	**26.25 138**		P	**P**	**05 47 41.6**	**+3.5**
	0.3nm,0.6s,mb3.1,baz=354,slow=8.2,SNR=2.9						
TXAR	**Lajitas Array**	**40.47 138**		P	**P**	**05 49 42.8**	**+1.1**
	0.2nm,0.6s,mb2.9,baz=356,slow=8.7,SNR=4.6						
FINES	**FINESS Array B**	**52.66 12**		P	**P**	**05 51 17.1**	**-0.1**
	0.8nm,0.4s,mb4.0,baz=358,slow=9.1,SNR=8.0						
MJAR	**Matsushiro Arr**	**56.78 286**		P	**P**	**05 51 47.5**	**-0.2**
	0.8nm,0.3s,mb4.3,baz=29,slow=16,SNR=4.9						
AKASG	**Malin Array Be**	**63.57 12**		P	**P**	**05 52 34.3**	**+0.6**
	0.2nm,0.3s,mb3.8,baz=7.6,slow=6.6,SNR=5.7						
MKAR	**Makanchi Array**	**64.85 334**		P	**P**	**05 52 42.3**	**+0.1**
	0.7nm,0.7s,mb4.0,baz=37,slow=6.1,SNR=5.1						

*KNET **02** 05:49:00.2±0.3, 43.04N×74.90E, h13km±2km, ml1.9, Error ellipse: s-maj=2.6km s-min=1.5km az=57.0*
*NNC **02** 05:49:00.9±0.7, 43.04N×74.91E, mpv2.7, Error ellipse: s-maj=10.6km s-min=3.6km az=120.0*
ISC 02 05:49:00.6±0.8, 43.07N±0.04×74.92E±0.04, h6km±6km, n11, σ0♀48/20, 13C-5D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHMS	**Chumysh**	**0.14 241**		⇑P	**Pg**	**05 49 03.4**	**-0.2**
	161nm,0.1s,SNR=396						
CHMS				⇓S	**Sg**	**05 49 05.3**	**-0.3**
	424nm,0.2s						
USP	**Ospenovka**	**0.37 303**		P	**Pg**	**05 49 08.3**	**+0.3**
	136nm,0.1s,SNR=218						
USP				⇓S	**Sg**	**05 49 13.6**	**+0.6**
	199nm,0.2s						
KBK	**Karagaybulak**	**0.41 177**		P	**Pg**	**05 49 09.0**	**+0.1**
	157nm,0.2s,SNR=72						
KBK				⇑S	**Sg**	**05 49 15.2**	**+0.8**
	409nm,0.2s						
TKM2	**Tokmak 2**	**0.52 106**		⇑P	**Pg**	**05 49 10.9**	**-0.1**
	24nm,0.1s,SNR=19						
TKM2				⇓S	**Sg**	**05 49 18.3**	**+0.4**
	74nm,0.1s						
AAK	**Ala-Archa**	**0.54 216**		⇑P	**Pg**	**05 49 10.9**	**-0.5**
	29nm,0.2s,SNR=15						
AAK				⇓S	**Sg**	**05 49 18.2**	**-0.3**
	66nm,0.3s						
AAK	**Ala-Archa**	**0.54 216**		⇑P	**Pg**	**05 49 10.9**	**-0.5**
	8.7nm,0.2s						
AAK				⇑S	**Sg**	**05 49 18.1**	**-0.5**
	25nm,0.3s						
EKS2	**Erkin-Say**	**0.93 245**		P	**Pb**	**05 49 18.5**	**-0.4**
	18nm,0.1s,SNR=44						
EKS2				⇑S	**Sb**	**05 49 31.7**	**+0.4**
	15nm,0.2s						
KZA	**Kyzart**	**1.02 166**		⇑P	**Pb**	**05 49 20.2**	**-0.1**
	11nm,0.2s,SNR=42						
KZA				⇑S	**Sb**	**05 49 34.5**	**+0.7**
	15nm,0.2s						
ULHL	**Ulahol**	**1.27 130**		⇑P	**Pb**	**05 49 23.5**	**-1.2**
	5.7nm,0.2s,SNR=33						
AML	**Almayashu**	**1.30 224**		⇑P	**Pb**	**05 49 24.9**	**-0.3**
	7.0nm,0.2s,SNR=9.5						
AML				⇓S	**Sb**	**05 49 42.2**	**+0.2**
	16nm,0.2s						
KK31	**Karatay Array**	**3.23 272**		⇑Pg	**Pg**	**05 49 60.0**	**-5.2**
	0.5nm,0.2s,baz=95,slow=16,SNR=23						
KK31				⇑Lg		05 50 42.6	
	1.4nm,0.3s,baz=91,slow=29,SNR=6.8						

CASC 02 06:04:12.5±1.5, 11.25N×86.32W, h34km±9km, MD3.7, ML3.6, 4C-11D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APON	**Apoyo**	**0.71 20**		⇓*i*P	P	06 04 26.1	0.0
CRUN	**El Crucero**	**0.73 1**		*e*P	P	06 04 26.8	+0.4
CONN	**Concepcion**	**0.75 65**		⇓*i*P	P	06 04 26.0	-0.6
MASN	**Masaya**	**0.76 13**		⇓*e*P	P	06 04 26.5	-0.2
TICN	**Ticuantepe**	**0.79 6**		⇓*e*P	P	06 04 27.4	+0.3
XAVN	**Gruta Xavier**	**0.90 360**		⇓*e*P	P	06 04 28.9	+0.2
MGAN	**Managua**	**0.90 4**		⇓*i*P	P	06 04 28.8	+0.1
MGAN				*e*S	S	06 04 41.6	+0.9
MGAN				*i*		06 04 44.2	
	comp=N,2μm,0.3s						
WILN	**Americas 2**	**0.92 8**		⇓*e*P	P	06 04 28.9	0.0
WILN				*e*S	S	06 04 42.1	+0.9
COPN	**Copaltepe**	**0.97 344**		⇑*e*P	P	06 04 29.7	0.0
COPN				*e*S	S	06 04 42.6	+0.1
MOMJ	**Momotombo**	**1.18 349**		⇓*e*P	P	06 04 32.6	-0.1
LIM1	**Limonal**	**1.18 117**		*i* P	P	06 04 32.0	-0.7
LIM1				*i* S	S	06 04 47.9	+0.1
MIRN	**Miramar**	**1.25 342**		⇑*e*P	P	06 04 33.6	0.0
LEON	**Leon**	**1.29 334**		⇓*i*P	P	06 04 34.3	0.0
LEON				*e*S	S	06 04 50.8	+0.2
CNGN	**Cerro Negro**	**1.30 343**		⇓*e*P	P	06 04 34.3	-0.2
CNGN				*e*S	S	06 04 51.1	+0.2
PYTN	**Playitas**	**1.31 11**		⇓*e*P	P	06 04 34.1	-0.5
TEL3	**Telica 3**	**1.42 339**		⇑*e*P	P	06 04 36.1	0.0
TEL3				*e*S	S	06 04 53.2	-0.6
TELN	**Telica**	**1.44 340**		⇑*e*P	P	06 04 36.6	+0.1
CRIN	**San Cristobal**	**1.61 334**		*e*P	P	06 04 39.3	+0.3
PRS1	**Puriscal**	**2.34 122**		*e*P	P	06 04 49.7	+0.4
SJS	**Escuela Geolog**	**2.58 120**		*e*P	P	06 04 53.8	+1.0
SJS				*e*S	S	06 05 23.9	+0.6
TRTC	**Tortuguero**	**2.64 104**		*e*P	P	06 04 51.5	-2.2
LCR2	**La Lucha 2**	**2.72 123**		*e*P	P	06 04 55.2	+0.4
LCR2				*e*S	S	06 05 28.3	+1.3

*SOF **02** 06:06:44.2, 40.81N×27.86E, h9km, MD2.9*
*ISK **02** 06:06:44.5, 40.81N×28.05E, h17km, MD3.1, ML3.1*
*CSEM **02** 06:06:44.3±0.1, 40.80N×28.06E, h15km, MD3.1, Error ellipse: s-maj=1.8km s-min=1.4km az=151.0*
ISC 02 06:06:44.7±0.5, 40.81N±0.03×28.07E±0.04, h8km±5km, n31, σ1♀00/39, 1C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLVT	**Silivri**	**0.43 14**		PG	**Pg**	**06 06 54.0**	**+0.5**
SLVT				SG	**Sg**	**06 07 00.0**	**+0.7**
CTT	**Catalca**	**0.43 39**		*i* Pg	**Pg**	**06 06 53.8**	**+0.3**
TKR	**Tekirdag**	**0.44 294**		PG	**Pg**	**06 06 53.4**	**-0.2**
BNT	**Bandirma**	**0.47 194**		PG	**Pg**	**06 06 54.8**	**+0.6**
BNT				SG	**Sg**	**06 07 01.1**	**+0.6**
BGKT	**Bogazkoy**	**0.65 55**		PG	**Pg**	**06 06 57.4**	**-0.3**
RKY	**Sarkoy-Tekirda**	**0.69 260**		PG	**Pg**	**06 06 58.3**	**-0.2**
ISK	**Istanbul-Kandi**	**0.79 71**		PG	**Pg**	**06 07 00.3**	**-0.3**
BADT	**Buyukada**	**0.80 87**		PG	**Pg**	**06 07 00.7**	**0.0**
KLYT	**Kilyos**	**0.86 59**		PG	**Pg**	**06 07 01.4**	**-0.5**
ORLT	**Orhaneli**	**0.99 140**		PG	**Pg**	**06 07 04.8**	**+0.2**
YLV	**Yalova**	**1.02 103**		*e*PG	**Pg**	**06 07 03.8**	**-1.4**
BTOK	**Tokmak**	**1.05 182**		*i* P	**Pb**	**06 06 54.6**	**-10**
BTOK				*i* S	**Sb**	**06 07 17.4**	**-1.0**
ULDT	**Uludag**	**1.05 129**		*i* P	**Pb**	**06 07 05.4**	**+0.6**
ULDT				*i* S	**Sb**	**06 07 19.4**	**+0.8**
CANB	**Canakkale**	**1.10 224**		*e*PN	**Pn**	**06 07 05.7**	**-0.7**
BALB	**Balikesir**	**1.18 187**		*e*PN	**Pn**	**06 07 06.4**	**-1.1**
HRT	**Hereke**	**1.21 89**		*e*PN	**Pn**	**06 07 07.7**	**-0.3**
SILT	**Sile**	**1.24 73**		*e*PN	**Pn**	**06 07 08.4**	**0.0**
DST	**Dursunbey**	**1.28 160**		*e*PN	**Pn**	**06 07 08.4**	**-0.5**
EDRB	**Edirne**	**1.44 317**		*e*PN	**Pn**	**06 07 10.7**	**-0.5**
EYL	**Eskiyayla**	**1.61 98**		*e*PN	**Pn**	**06 07 12.9**	**-0.7**
EZN	**Ezine**	**1.66 234**		*e*PN	**Pn**	**06 07 13.2**	**-1.1**
AYVA	**Ayvalik**	**1.84 216**		*i* P	**Pn**	**06 07 19.7**	**+2.8**
AYVA				*i* S	**Sn**	**06 07 44.1**	**+3.6**
JMB	**Yambol**	**1.99 327**		P	**Pn**	**06 07 19.3**	**+0.1**
GDZ	**Gediz**	**2.03 147**		*i* P	**Pn**	**06 07 24.6**	**+4.8**
GDZ				*i* S	**Sn**	**06 07 50.9**	**+5.3**
HENT	**Hendek**	**2.15 89**		*i* P	**Pn**	**06 07 22.2**	**+0.8**
HENT				*i* S	**Sn**	**06 07 53.6**	**+5.1**
KDZ	**Kurdzhali**	**2.17 294**		*i* P	**Pn**	**06 07 25.5**	**+3.8**
ESKT	**Eskisehir**	**2.49 120**		*e*PN	**Pn**	**06 07 25.5**	**-0.8**
ESKT	**Eskisehir**	**2.49 120**		*i* P	**Pn**	**06 07 29.2**	**+2.9**
ESKT				*i* S	**Sn**	**06 08 06.8**	**+10**
MMB	**Musomiste**	**3.37 285**		P	**Pn**	**06 07 36.0**	**-2.7**
KKB	**Krupnik**	**3.90 287**		P	**Pn**	**06 07 56.5**	**+10**
MLR	**Muntele Rosu**	**4.93 342**		⇑P	**Pn**	**06 08 01.5**	**+0.6**

*NEIC **02** 06:12:43.5±2.5, 6.64S×147.52E, h57km±24km, mb4.0/2, Error ellipse: s-maj=30.2km s-min=15.0km az=151.0*
*IDC **02** 06:12:44.2±3.5, 6.73S×147.56E, h65km±30km, mb3.8/4, mb1 4.1/7, mb1mx3.9/14, mbtmp4.3/7, ML4.0/3, MS3.9/1, Ms1 3.9/1, ms1mx2.9/24, Error ellipse: s-maj=32.4km s-min=23.8km az=119.0*
ISC 02 06:12:42.2±3.0, 6.6S±0.2×147.5E±0.1, h64km±27km, n13, σ0♀90/14, mb3.9/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.78 188**		P	**P**	**06 13 25.7**	**+0.3**
	52nm,0.3s,baz=345,slow=4.6,SNR=48						
PMG				S	**S**	**06 13 56.9**	**-1.0**
	35nm,0.3s,baz=214,slow=22,SNR=8.5						
PMG	**Port Moresby**	**2.78 188**		*e*Pn	**P**	**06 13 24.7**	**-0.8**
PMG				*e*Sn	**S**	**06 13 59.5**	**+1.6**
HNR	**Honiara**	**12.61 104**		P	**P**	**06 15 40.8**	**+0.1**
	5.8nm,0.3s,baz=157,slow=5.8,SNR=3.8						
WRAB	**Tennant Creek**	**18.40 223**		P	**P**	**06 16 55.8**	**+1.3**
	2.5nm,0.6s						
WB2	**Warramunga Arr**	**18.41 223**		*e*P	**P**	**06 16 53.3**	**-1.3**
WRA	**Warramunga Arr**	**18.42 223**		P	**P**	**06 16 53.9**	**-0.8**
	0.4nm,0.3s,baz=51,slow=11,SNR=25						
FITZ	**Fitzroy Crossi**	**24.20 240**		*e*P	**P**	**06 17 54.7**	**+0.7**
	7.4nm,0.6s,mb4.3						
FITZ	**Fitzroy Crossi**	**24.20 240**		P	**P**	**06 17 54.7**	**+0.7**
	7.4nm,0.5s,mb4.4,baz=36,slow=7.4,SNR=28						
STKA	**Stephens Creek**	**25.72 192**		P	**P**	**06 18 09.2**	**+0.8**
	2.5nm,0.6s,mb3.9,baz=7.1,slow=8.1,SNR=5.4						
RPZ	**Rata Peaks**	**42.32 155**		LR	LR	06 36 34.9	
	comp=Z,133nm,19.4s,baz=191,slow=34						
VNDA	**Vanda**	**71.26 177**		P	**P**	**06 23 55.2**	**-1.0**
	0.6nm,0.6s,mb3.7,baz=334,slow=7.5,SNR=6.5						
VNDA	**Vanda**	**71.26 177**		P	**P**	**06 23 55.2**	**-1.0**
MKAR	**Makanchi Array**	**78.31 320**		P	**P**	**06 24 37.3**	**+0.2**
	0.7nm,0.8s,mb3.6,baz=101,slow=6.2,SNR=6.3						

*BJI **02** 06:29:20.2, 20.71S×69.05W, h109km*
*GUC **02** 06:29:21.7±0.6, 20.07S×69.39W, h99km±5km, MD4.3, ML4.6*
*IDC **02** 06:29:21.3±0.6, 19.94S×69.00W, h106km±5km, mb3.8/9, mb1 4.0/11, mb1mx3.8/19, mbtmp4.3/11, MS3.0/4, Ms1 3.0/4, ms1mx2.6/24, Error ellipse: s-maj=19.5km s-min=9.6km az=87.0*
*NEIC **02** 06:29:21.1±0.3, 19.90S×69.02W, mb4.2/20, Error ellipse: s-maj=8.3km s-min=5.8km az=54.0*
ISC 02 06:29:19.3±0.7, 19.87S±0.05×69.04W±0.06, h105km±7km, h107km±1.2km: pP-P, n57, σ1♀07/51, mb4.2/22, 2C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.73 178**		P	**P**	**06 30 03.1**	**+0.6**
	31nm,0.3s,baz=357,slow=9.4,SNR=119						
LVC				S	**S**	**06 30 35.1**	**+0.2**
	154nm,0.3s,baz=129,slow=21,SNR=7.5						
LVC	**Limon Verde**	**2.73 178**		*e*P	**P**	**06 30 03.4**	**+0.9**
LVC				*i* S	**S**	**06 30 34.6**	**-0.4**
LVC	**Limon Verde**	**2.73 178**		*e*Pn	**P**	**06 30 03.5**	**+1.0**
LPAZ	**La Paz**	**3.67 14**		P	**P**	**06 30 20.1**	**+4.9**
	8.2nm,0.3s,baz=190,slow=8.4,SNR=92						
LPAZ				LR	LR	06 31 59.5	
	comp=Z,126nm,18.2s,baz=204,slow=42						
LPAZ	**La Paz**	**3.67 14**		⇑*e*Pn	**P**	**06 30 20.1**	**+4.9**
ARE	**Arequipa**	**4.11 325**		⇑*i*P	**P**	**06 30 20.7**	**-0.6**
ARE				*i* S	**S**	**06 31 08.1**	**-0.6**
SIV	**San Ignacio**	**8.51 64**		P	**P**	**06 31 21.1**	**0.0**
	5.2nm,0.3s,baz=256,slow=11,SNR=346						
NNA	**Nana**	**10.85 315**		*e*Pn	**P**	**06 31 54.2**	**+1.6**
CFAA	**Coronel Fontan**	**11.71 177**		P	**P**	**06 31 58.9**	**-5.2**
	0.1nm,0.3s,baz=348,slow=13,SNR=14						
CFAA				S	**S**	**06 34 02.0**	**-11**
	0.1nm,0.3s,baz=236,slow=18,SNR=6.8						
SAML	**Samuel**	**12.25 28**		*e*Pn	**P**	**06 32 13.2**	**+1.9**
	2.5nm,0.8s						
CPUP	**Villa Florida**	**12.54 123**		LR	LR	06 38 01.1	
	comp=Z,93nm,21.5s,baz=274,slow=42						
CPUP	**Villa Florida**	**12.54 123**		*e*Pn	**P**	**06 32 14.2**	**-0.9**
	18nm,0.8s						
TRQA	**Tornquist**	**19.13 163**		*e*P	**P**	**06 33 34.2**	**-2.4**
	9.8nm,0.8s						
BDFB	**Brasilia**	**20.46 81**		P	**P**	**06 33 50.8**	**+0.2**
	13nm,0.4s,baz=264,slow=12,SNR=33						
BDFB				LR	LR	06 43 08.6	
	comp=Z,41nm,18.7s,baz=296,slow=40						
BAO	**Brasilia Array**	**20.48 81**		P	**P**	**06 33 51.0**	**+0.2**
PLCA	**Paso Flores**	**20.83 183**		P	**P**	**06 33 53.6**	**-0.6**
	1.7nm,0.4s,baz=202,slow=1.9,SNR=5.3						
PLCA	**Paso Flores**	**20.83 183**		*e*P	**P**	**06 33 53.7**	**-0.6**
	6.0nm,0.9s						
CAM4	**Nova Friburgo**	**24.81 100**		*e*P	**P**	**06 34 33.9**	**+0.7**
CAM4				*i*		06 34 33.8	
CAM4				*i*		06 34 35.1	
CAM3	**Guarapari**	**26.75 97**		⇓*i*P	**P**	**06 34 51.6**	**+0.4**
CAM3				*i*		06 34 54.2	
JTS	**JuntasAbangare**	**33.82 331**		LR	LR	06 49 48.9	
	comp=Z,22nm,18.6s,baz=236,slow=36						
RCBR	**Riachuelo**	**35.10 71**		*e*P	**P**	**06 36 04.3**	**-0.3**
	17nm,0.7s,mb5.0						
COW	**Cow Castle Cre**	**54.11 348**		*e*P	**P**	**06 38 35.3**	**-0.4**
LRAL	**Lakeview Retre**	**55.34 342**		*e*P	**P**	**06 38 43.0**	**-1.6**
	3.8nm,0.8s,mb4.5						
PLAL	**Pickwick Lake**	**57.47 341**		*e*P	**P**	**06 38 57.5**	**-2.3**
	3.7nm,1.0s,mb4.4						
ELN	**Prospectdale**	**57.85 349**		*e*P	**P**	**06 39 02.4**	**0.0**
WVT	**Waverly**	**58.47 342**		*e*P	**P**	**06 39 04.8**	**-1.9**
	6.1nm,0.6s,mb4.8						
MCWV	**Mont Chateau**	**60.07 350**		*e*P	**P**	**06 39 17.3**	**-0.4**
	13nm,0.6s,mb5.1						
FVM	**French Village**	**60.96 341**		*e*P	**P**	**06 39 22.2**	**-1.6**
	9.3nm,0.7s,mb4.9						
FVM	

ELDT	**Eldivan**	**1.13**	**11**	*i* P	**Pb**	**06 47 53.3**	**-0.8**
ELDT				*i* S	**Sb**	**06 48 08.8**	**-0.1**
KDHN	**Kadinhani**	**1.17**	**223**	*i* P	**Pb**	**06 47 54.2**	**-0.7**
KDHN				*i* S	**Sb**	**06 48 10.3**	**+0.1**
CANT	**Cankiri**	**1.27**	**17**	*i* PN	**Pn**	**06 47 56.8**	**-0.1**
AVNT	**Avonos**	**1.47**	**114**	*i* P	**Pn**	**06 47 59.8**	**+0.1**
AVNT				*i* S	**Sb**	**06 48 20.0**	**+1.1**
KONT	**Konya--Tatoy**	**1.56**	**203**	*i* PN	**Pn**	**06 48 01.8**	**+0.7**
YOZ	**Yozgat**	**1.71**	**81**	*i* PN	**Pn**	**06 48 03.3**	**+0.2**
NIG	**Nigde**	**1.72**	**137**	PN	**Pn**	**06 48 03.9**	**+0.6**
ESKT	**Eskisehir**	**1.77**	**275**	PN	**Pn**	**06 48 04.2**	**+0.1**
ESKT	**Eskisehir**	**1.77**	**275**	*i* P	**Pn**	**06 48 05.0**	**+0.9**
ESKT				*i* S	**Sn**	**06 48 32.6**	**+5.3**
TOS	**Tosya**	**1.78**	**22**	PN	**Pn**	**06 48 04.2**	**-0.1**
SAFT	**Safranbolu**	**1.88**	**350**	PN	**Pn**	**06 48 06.0**	**+0.4**
BALT	**Daday**	**2.15**	**5**	*i* P	**Pn**	**06 48 11.9**	**+2.4**
BALT				*i* S	**Sn**	**06 48 42.5**	**+5.5**
BNN	**Bunyan**	**2.17**	**103**	PN	**Pn**	**06 48 10.9**	**+1.0**
HENT	**Hendek**	**2.24**	**311**	*i* P	**Pn**	**06 48 14.3**	**+3.6**
HENT				*i* S	**Sn**	**06 48 40.4**	**+1.3**
GPA	**Golpazari**	**2.35**	**293**	*e*PN	**Pn**	**06 48 11.7**	**-0.8**
ALT	**Altintas**	**2.37**	**263**	PN	**Pn**	**06 48 12.6**	**-0.1**
BYBT	**Boyabat**	**2.42**	**30**	*e*PN	**Pn**	**06 48 14.2**	**+0.7**
BOYT	**Boyabat**	**2.44**	**33**	*i* P	**Pn**	**06 48 13.5**	**-0.1**
BOYT				*i* S	**Sn**	**06 48 49.4**	**+5.2**
HDMB	**Hadim**	**2.47**	**192**	*e*PN	**Pn**	**06 48 13.5**	**-0.6**
ISP	**Isparta**	**2.57**	**234**	*e*PN	**Pn**	**06 48 15.4**	**-0.1**
BZK	**Bozkurt**	**2.66**	**14**	*e*PN	**Pn**	**06 48 17.0**	**+0.3**
TOKT	**Tokat**	**2.79**	**69**	*e*PN	**Pn**	**06 48 17.9**	**-0.7**
IKL	**Isikli**	**3.17**	**172**	*e*PN	**Pn**	**06 48 24.6**	**+0.6**

BJI 02 06:59:55.6, 25.26N×103.07E, h12km, ML3.5, Ms3.4, Msz3.2, 1C, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**0.33**	**246**	⇑PG	Pg	07 00 00.9	-1.6
KMI				SG	Sg	07 00 05.8	-1.3
KMI				Smax			
	comp=N,3μm,0.6s						
KMI				Smax			
	comp=E,4μm,0.6s						
KMI				LR	LR		
	comp=N,4μm,3.8s						
KMI				LR	LR		
	comp=E,4μm,3.8s						
GYA	**Guiyang**	**3.45**	**69**	P	Pn	07 00 49.7	-0.6
GYA				S	Sn	07 01 30.0	-1.6
GYA				SG	Sg	07 01 42.8	-7.7
GYA				Smax			
	comp=N,70nm,0.7s						
GYA				Smax			
	comp=E,90nm,0.7s						
GYA				LR	LR		
	comp=N,250nm,6.6s						
GYA				LR	LR		
	comp=E,400nm,7.5s						
GYA				LR	LR		
	comp=Z,310nm,8.7s						

*IDC **02** 07:09:27.2±2.3, 9.40N×93.18E, mb3.9/5, mb1 4.0/5, mb1mx3.7/20, mbtmp3.8/5, Error ellipse: s-maj=103.3km s-min=23.8km az=62.0*
*NEIC **02** 07:09:30.9±1.8, 9.28N×92.99E, h30km, mb4.0/1, Error ellipse: s-maj=76.5km s-min=15.3km az=60.0*
ISC 02 07:09:28.6±2.5, 9.2N±0.4×92.9E±0.6, h30km, n6, σ0°22/6, mb3.9/6, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**38.53**	**348**	P	**P**	**07 16 50.5**	**+0.2**
	1.3nm,0.7s,mb3.8,baz=172,slow=8.1,SNR=12						
SONM	**Songino Array**	**40.16**	**14**	P	**P**	**07 17 03.8**	**0.0**
	0.8nm,0.6s,mb3.6,baz=194,slow=5.1,SNR=4.1						
BVAR	**Borovoye Array**	**47.34**	**342**	P	**P**	**07 18 01.6**	**-0.1**
	0.4nm,0.5s,mb3.6,baz=149,slow=8.6,SNR=3.9						
WRA	**Warramunga Arr**	**50.03**	**126**	P	**P**	**07 18 22.9**	**0.0**
	1.3nm,0.4s,mb4.3,baz=307,slow=8.3,SNR=37						
WRA				PcP	PcP	07 19 43.9	+1.2
	0.4nm,0.4s,baz=317,slow=2.8,SNR=9.1						
WRAB	**Tennant Creek**	**50.03**	**126**	*e*P	**P**	**07 18 23.0**	**+0.1**
	0.6nm,0.4s,mb4.0						
ILAR	**Eielson Array**	**93.98**	**22**	P	**P**	**07 22 44.4**	**-0.2**
	0.3nm,0.6s,mb3.9,baz=287,slow=4.7,SNR=6.0						

*BJI **02** 07:15:36.8, 0.39N×97.21E, h30km, mB5.1, mb4.9, Ms4.3, Msz4.0*
*IDC **02** 07:15:40.3±1.0, 1.11N×97.07E, mb4.2/11, mb1 4.3/11, mb1mx4.1/20, mbtmp4.2/11, Error ellipse: s-maj=51.3km s-min=16.5km az=51.0*
*NEIC **02** 07:15:44.7±0.5, 1.12N×97.13E, h30km, mb4.5/7, Error ellipse: s-maj=16.2km s-min=9.6km az=57.0*
ISC 02 07:15:44.1±2.5, 1.13N±0.09×97.2E±0.1, h36km±21km, n33, σ1°01/33, mb4.5/27, MS4.0/1, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.36**	**39**	*e*Pn	**P**	**07 17 03.6**	**-0.1**
KMI	**Kunming**	**24.44**	**12**	P	**P**	**07 21 02.6**	**+1.7**
KMI				S	**S**	**07 25 17.8**	**+2.1**
KMI				AMB	AMB		
	comp=Z,21nm,1.3s,mb4.4						
KMI				AMB	AMB		
	comp=Z,128nm,3.9s						
KMI				LR	LR		
	comp=N,344nm,11.4s,MS4.1						
KMI				LR	LR		
	comp=E,186nm,12.6s,MS4.1						
KMI				LR	LR		
	comp=Z,334nm,14.6s,MS4.0						
KMI	**Kunming**	**24.44**	**12**	P	**P**	**07 21 02.6**	**+1.7**
	comp=Z,21nm,1.3s,mb4.4						
KMI				S	**S**	**07 25 17.8**	**+2.1**
GYA	**Guiyang**	**26.77**	**19**	⇑*i*P	**P**	**07 21 23.0**	**+0.2**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
JIRN	**Jiri**	**28.43**	**339**	*e*P	**P**	**07 21 38.5**	**+0.7**
	comp=Z,25nm,0.8s,mb4.9						
PKI	**Pulchoki**	**28.63**	**338**	*e*P	**P**	**07 21 41.0**	**+1.4**
	comp=Z,30nm,1.1s,mb4.9						
GUN	**Gumba**	**28.77**	**339**	*e*P	**P**	**07 21 41.3**	**+0.5**
	comp=Z,34nm,0.7s,mb5.2						
DMN	**Daman**	**28.78**	**337**	*e*P	**P**	**07 21 42.6**	**+1.7**
KKN	**Kakani**	**28.88**	**338**	*e*P	**P**	**07 21 42.7**	**+0.9**
	comp=Z,44nm,1.1s,mb5.1						
GKN	**Gorkha**	**29.32**	**337**	*e*P	**P**	**07 21 45.8**	**+0.1**
	comp=Z,26nm,0.9s,mb5.0						
KOLN	**Koldanda**	**29.54**	**335**	*e*P	**P**	**07 21 48.1**	**+0.5**
	comp=Z,10nm,0.5s,mb4.8						
ENH	**Enshi**	**31.23**	**21**	*e*P	**P**	**07 22 01.1**	**-1.6**
	comp=Z,11nm,0.5s,mb5.0						
FITZ	**Fitzroy Crossi**	**33.86**	**126**	P	**P**	**07 22 25.0**	**-0.6**
	comp=Z,4.3nm,0.7s,mb4.5,baz=326,slow=9.2,SNR=4.2						
XAN	**Xi'an**	**34.52**	**17**	P	**P**	**07 22 29.5**	**-1.7**
XAN				AP	pP	07 22 36.3	-5.2
XAN				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.6						
GTA	**Gaotai**	**38.17**	**3**	P	**P**	**07 23 01.9**	**-0.1**
GTA				AP	pP	07 23 12.4	+0.1
GTA				XP	sP	07 23 16.2	-0.7
GTA				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.7						
WRA	**Warramunga Arr**	**41.97**	**122**	P	**P**	**07 23 34.2**	**+0.5**
	comp=Z,2.5nm,0.6s,mb4.1,baz=302,slow=9.1,SNR=33						
WRAB	**Tennant Creek**	**41.97**	**122**	*e*P	**P**	**07 23 33.9**	**+0.2**
	comp=Z,3.4nm,0.5s,mb4.2						
SONM	**Songino Array**	**47.20**	**8**	P	**P**	**07 24 15.4**	**+0.2**
	comp=Z,1.7nm,0.5s,mb4.3,baz=190,slow=9.9,SNR=18						
SONM				PcP	PcP	07 25 46.1	-0.6
	comp=Z,0.7nm,0.4s,baz=176,slow=4.4,SNR=3.9						
MKAR	**Makanchi Array**	**47.32**	**346**	P	**P**	**07 24 16.1**	**-0.1**
	comp=Z,2.9nm,0.5s,mb4.5,baz=160,slow=8.8,SNR=32						
TLY	**Talaya**	**50.66**	**5**	*e*P	**P**	**07 24 41.6**	**-0.4**
	comp=Z,2.6nm,0.8s,mb4.2						
HIA	**Hailar**	**51.70**	**19**	*e*P	**P**	**07 24 49.6**	**-0.2**
	comp=Z,4.8nm,0.4s,mb4.8						
KURK	**Kurchatov**	**51.87**	**345**	*e*P	**P**	**07 24 50.0**	**-1.1**
	comp=Z,6.1nm,1.0s,mb4.5						
STKA	**Stephens Creek**	**53.28**	**132**	P	**P**	**07 25 03.4**	**+1.5**
	comp=Z,2.9nm,0.6s,mb4.4,baz=345,slow=5.2,SNR=5.8						
ZAL	**Zalesovo**	**53.63**	**351**	P	**P**	**07 25 03.5**	**-0.6**
	comp=Z,3.7nm,0.6s,mb4.5,baz=294,slow=6.4,SNR=16						
ZAL	**Zalesovo**	**53.63**	**351**	P	**P**	**07 25 03.5**	**-0.6**
BVAR	**Borovoye Array**	**56.33**	**341**	P	**P**	**07 25 22.5**	**-1.3**
	comp=Z,3.0nm,0.8s,mb4.4,baz=149,slow=8.6,SNR=18						
BRVK	**Borovoye**	**56.39**	**341**	*e*P	**P**	**07 25 22.4**	**-1.7**
	comp=Z,2.0nm,0.9s,mb4.2						
BRTR	**Keskin Array B**	**69.19**	**312**	P	**P**	**07 26 48.9**	**-0.3**
	comp=Z,0.9nm,0.6s,mb3.9,baz=104,slow=5.9,SNR=3.3						
AKASG	**Malin Array Be**	**75.33**	**322**	P	**P**	**07 27 24.2**	**-1.3**
	comp=Z,0.2nm,0.3s,mb3.5,baz=88,slow=4.9,SNR=4.9						
ARCES	**ARCESS Array B**	**82.61**	**340**	P	**P**	**07 28 03.4**	**-1.3**
	comp=Z,2.4nm,0.8s,mb4.3,baz=56,slow=4.4,SNR=3.8						
GERES	**GERESS Array B**	**84.89**	**319**	P	**P**	**07 28 17.9**	**+1.2**
	comp=Z,0.3nm,0.3s,mb4.0,baz=78,slow=9.0,SNR=4.0						
TXAR	**Lajitas Array**	**143.71**	**32**	PKP	PKPdf	07 35 15.9	-0.1
	comp=Z,0.2nm,0.5s,baz=49,slow=2.1,SNR=5.9						
LRAL	**Lakeview Retre**	**145.79**	**6**	*e*PKPbc	PKPbc	07 35 21.1	+0.8

*NIED **02** 07:16:00, 31.30N×130.40E, h145km, Mw3.9 Best double couple: Mo6.8×10^14 NP1:φs179°, δ77°, λ-72°. NP2:φs304°, δ22°, λ-143°.*
JMA 02 07:16:01.3±0.1, 31.26N×130.44E, h146km±1km, M3.6, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSU	**Suzuyama**	**0.24**	**3**	P	P	07 16 21.3	-0.3
JSU				S	S	07 16 36.7	-0.5
JTSR	**Tashiro 2**	**0.42**	**103**	P	P	07 16 21.9	-0.4
JTSR				S	S	07 16 36.9	-1.5
JSJ	**Shimokoshiki**	**0.75**	**304**	P	P	07 16 23.6	-0.5
JSJ				S	S	07 16 40.4	-1.1
JTN	**Tanegashima 3**	**0.76**	**142**	P	P	07 16 23.8	-0.3
JTN				S	S	07 16 40.7	-1.0
JTZ	**Takazaki**	**0.84**	**41**	P	P	07 16 24.6	-0.1
JTZ				S	S	07 16 42.3	-0.4
JIU2	**Izumi 2**	**1.32**	**14**	P	P	07 16 29.1	+0.1
JIU2				S	S	07 16 49.9	-0.5

*IDC **02** 07:31:34.9±15.0, 21.65S×177.14W, h276km±144km, mb3.4/3, mb1 3.7/3, mb1mx3.3/13, mbtmp4.0/3, Error ellipse: s-maj=133.1km s-min=47.3km az=167.0*
*NEIC **02** 07:31:39.4±7.2, 21.80S×177.12W, h322km±68km, mb4.2/3, Error ellipse: s-maj=72.7km s-min=28.3km az=165.0*
ISC 02 07:31:35.9±1.6, 21.9S±0.8×177.1W±0.3, h300km, n16, σ0°45/8, mb3.8/6, 1C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTAO	**Charters Tower**	**34.21**	**266**	*e*P	**P**	**07 37 56.4**	**+0.8**
	10nm,0.7s,mb4.5						
STKA	**Stephens Creek**	**37.98**	**246**	P	**P**	**07 38 27.3**	**+0.3**
	2.2nm,0.6s,mb3.8,baz=71,slow=11,SNR=11						
STKA	**Stephens Creek**	**37.98**	**246**	*e*P	**P**	**07 38 27.1**	**+0.1**
WB2	**Warramunga Arr**	**45.24**	**263**	*e*P	**P**	**07 39 25.6**	**-0.3**
WRAB	**Tennant Creek**	**45.24**	**263**	*e*P	**P**	**07 39 25.9**	**+0.1**
	3.3nm,0.6s,mb3.7						
WRA	**Warramunga Arr**	**45.25**	**263**	P	**P**	**07 39 25.2**	**-0.8**
	3.8nm,0.9s,mb3.6,baz=96,slow=7.8,SNR=39						
MBWA	**Male Bar**	**58.38**	**258**	*e*P	**P**	**07 41 02.4**	**-0.1**
	5.0nm,0.5s,mb4.2						
TXAR	**Lajitas Array**	**87.08**	**57**	P	**P**	**07 43 49.5**	**+0.1**
	0.1nm,0.6s,mb2.8,baz=220,slow=9.8,SNR=3.6						
MKAR	**Makanchi Array**	**112.72**	**313**	PKiKP		07 49 37.5	
	0.3nm,0.7s,baz=36,slow=0.6,SNR=4.2						
BVAR	**Borovoye Array**	**120.64**	**320**	PKP	PKPdf	07 49 53.2	+1.2
	1.1nm,0.5s,baz=183,slow=1.3,SNR=7.9						
ARCES	**ARCESS Array B**	**130.39**	**350**	PKP	PKPdf	07 50 11.0	+0.7
	2.9nm,0.9s,slow=2.4,SNR=4.8						
HFS	**Hagfors**	**140.99**	**351**	PKhKP		07 50 24.5	
	2.0nm,0.8s,baz=76,slow=6.1,SNR=7.0						
AKASG	**Malin Array Be**	**144.59**	**331**	PKP	PKPdf	07 50 36.1	-0.3
	1.1nm,0.4s,baz=42,slow=4.3,SNR=7.5						
BRTR	**Keskin Array B**	**148.35**	**311**	PKPbc	PKPdf	07 50 48.2	+5.1
	0.6nm,0.6s,baz=76,slow=5.9,SNR=2.8						
CLL	**Collm**	**149.55**	**347**	⇑*i*PKP1	PKPdf	07 50 51.4	+6.8
MLR	**Muntele Rosu**	**149.80**	**327**	PKPbc	PKPdf	07 50 52.3	+7.1
	3.4nm,0.6s,baz=63,slow=4.5,SNR=7.0						

*NIED **02** 07:42:00, 28.30N×142.80E, h5km, Mw5.0 Best double couple: Mo3.89×10^16 NP1:φs152°, δ73°, λ84°. NP2:φs354°, δ18°, λ110°.*
*IDC **02** 07:42:43.0±0.7, 28.16N×142.88E, mb4.2/15, mb1 4.4/16, mb1mx4.3/22, mbtmp4.2/16, ML4.2/1, MS4.0/9, Ms1 4.0/9, ms1mx3.8/27, Error ellipse: s-maj=20.2km s-min=14.6km az=112.0*
*MOS **02** 07:42:42.8±1.0, 28.19N×142.82E, h10km, mb4.8/21, MS4.2/9, Error ellipse: s-maj=16.7km s-min=7.4km az=118.2*
*BJI **02** 07:42:44.6, 28.25N×142.54E, h13km, mB4.9, mb4.8, Ms4.4, Msz4.1*
*JMA **02** 07:42:45.5±0.3, 28.25N×142.79E, h28km, M4.5*
*NEIC **02** 07:42:47.8±0.3, 28.18N×142.87E, mb4.7/26, MW5.0(NIED), Error ellipse: s-maj=7.7km s-min=6.7km az=17.0*
*CSEM **02** 07:42:52.9, 28.31N×141.34E, h33km, mb5.5*
ISC 02 07:42:46.4±0.3, 28.27N±0.03×142.77E±0.05, h32km, h32km±.4km:pP-P, n123, σ1°20/139, mb4.5/48, MS4.2/20, 5C-2D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.28**	**204**	Pn	**Pn**	**07 43 07.9**	**-0.5**
	60nm,0.3s,baz=52,slow=8.1,SNR=67						
CBIJ				Sn	**Sn**	**07 43 24.4**	**-0.1**
	130nm,0.3s,baz=273,slow=23,SNR=30						
CBIJ	**Chichi jima**	**1.28**	**204**	P	**Pn**	**07 43 07.9**	**-0.5**
CBIJ				S	**Sn**	**07 43 23.4**	**-1.1**
JHHJ	**Haha-jima-NKT**	**1.72**	**198**	P	**Pn**	**07 43 13.9**	**-0.7**
JHHJ				*e*S	**Sn**	**07 43 36.6**	**+1.0**
JHJ2	**Mitsune**	**5.45**	**333**	P	**Pn**	**07 44 08.0**	**+0.4**
JHJ	**Hachijo jima 2**	**5.47**	**333**	LR	LR	07 46 05.6	
	comp=Z,1μm,18.7s,baz=121,slow=36						
BSO1	**Boso 1**	**6.54**	**347**	P	**Pn**	**07 44 20.2**	**-2.8**
BSO3	**Boso 3**	**6.79**	**344**	P	**Pn**	**07 44 24.4**	**-2.1**
JOD2	**Odawara 2**	**7.64**	**337**	P	**Pn**	**07 44 38.7**	**+0.3**
JHU	**Hanno**	**8.11**	**340**	P	**P**	**07 44 43.5**	**-1.5**
JRY	**Ryogami san**	**8.39**	**338**	P	**P**	**07 44 47.3**	**-1.5**
JAG	**Ashikaga**	**8.60**	**342**	P	**P**	**07 44 48.8**	**-2.9**
JAG				*e*S	**Sn**	**07 46 21.0**	**-7.6**
MJAR	**Matsushiro Arr**	**9.10**	**336**	Pn	**P**	**07 44 57.0**	**-1.6**
	2.3nm,0.3s,baz=162,slow=11,SNR=53						
MJAR	**Matsushiro Arr**	**9.10**	**336**	P	**P**	**07 44 57.0**	**-1.6**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MAT	**Matsushiro**	**9.10**	**336**	P	**P**	**07 44 56.7**	**-2.0**
MAT				*e*S	**Sn**	**07 46 36.6**	**-4.4**
MAT	**Matsushiro**	**9.10**	**336**	P	**P**	**07 44 57.6**	**-1.1**
MAT	**Matsushiro**	**9.10**	**336**	*e*P	**P**	**07 44 57.0**	**-1.7**
MAT				S	**Sn**	**07 46 37.0**	**-4.0**
JMK	**Ichinoseki**	**10.73**	**354**	P	**P**	**07 45 17.9**	**-3.1**
JNU	**Nakatsue**	**11.31**	**298**	LR	LR	07 49 32.8	
	comp=Z,567nm,19.2s,baz=307,slow=36						
JOW	**Kunigami**	**12.94**	**267**	LR	LR	07 50 05.6	
	comp=Z,628nm,21.6s,baz=156,slow=34						
KS15	**Wonju Array Si**	**15.47**	**310**	*e*P	**P**	**07 46 28.6**	**+4.6**
INCN	**Inchon**	**16.35**	**308**	*e*P	**P**	**07 46 38.3**	**+3.1**
	comp=Z,64nm,1.2s						
YSS	**Yuzh-Sakhalins**	**18.65**	**360**	*e*P	**P**	**07 47 04.4**	**+0.6**
	comp=Z,65nm,1.4s						
YSS				*e*		07 47 13.8	
YSS	**Yuzh-Sakhalins**	**18.65**	**360**	*e*P	**P**	**07 47 04.4**	**+0.6**
YSS				pmax	pmax		
	comp=Z,65nm,1.4s						
SSE	**Sheshan**	**18.96**	**284**	*e*P	**P**	**07 47 06.0**	**-1.6**
SSE				AP		07 47 14.1	
SSE				XP		07 47 18.1	
SSE				S	**S**	**07 50 40.2**	**+6.0**
SSE				AMB	AMB		
	comp=Z,34nm,0.6s						
SSE				AMB	AMB		
	comp=Z,33nm,3.5s						
SSE				LR	LR		
	comp=N,61nm,14.5s						
SSE				LR	LR		
	comp=E,246nm,14.3s						
SSE				LR	LR		
	comp=Z,349nm,14.8s						
SSE	**Sheshan**	**18.96**	**284**	*e*P	**P**	**07 47 06.0**	**-1.6**
	comp=Z,34nm,0.6s						
SSE				pP		07 47 14.1	
SSE				sP		07 47 18.1	
SSE				S	**S**	**07 50 40.2**	**+6.0**
SSE				sS		07 50 55.0	
TATO	**Taipei**	**19.30**	**265**	*e*P	**P**	**07 47 13.7**	**+2.1**
	comp=Z,146nm,1.5s						
MDJ	**Mudanjiang**	**19.41**	**331**	P	**P**	**07 47 12.7**	**0.0**
MDJ				AP		07 47 20.7	
MDJ				XP		07 47 24.7	
MDJ				PP	PP	07 47 32.8	+2.6
MDJ				S	**S**	**07 50 52.3**	**+7.9**
MDJ				PCS		07 55 08.7	
MDJ				AMB	AMB		
	comp=Z,27nm,1.6s						
MDJ				AMB	AMB		
	comp=Z,240nm,5.7s						
MDJ				LR	LR		
	comp=N,426nm,15.3s						
MDJ				LR	LR		
	comp=E,399nm,16.0s						
MDJ				LR	LR		
	comp=Z,370nm,17.8s						
MDJ	**Mudanjiang**	**19.41**	**331**	*e*P	**P**	**07 47 12.0**	**-0.7**
	comp=Z,16nm,0.8s						
SNY	**Shenyang**	**20.67**	**316**	⇑P	**P**	**07 47 26.1**	**0.0**
SNY				AMB	AMB		
	comp=Z,20nm,1.2s						
CN2	**Changchun**	**20.82**	**323**	*e*P	**P**	**07 47 31.4**	**+3.7**
CN2				*e*S	**S**	**07 51 19.4**	**+6.0**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
CN2				LR	LR		
	comp=N,840nm,15.0s,MS4.3						
CN2				LR	LR		
	comp=E,570nm,15.0s,MS4.3						
CN2				LR	LR		
	comp=Z,440nm,16.0s,MS3.9						
NJ2	**Nanjing**	**21.00**	**286**	*e*P	**P**	**07 47 28.8**	**-0.8**
NJ2				AP		07 47 38.3	
NJ2				XP		07 47 42.8	
NJ2				PP	PP	07 47 53.0	+0.4
NJ2				S	**S**	**07 51 15.0**	**-1.9**
NJ2				XS		07 51 27.0	
NJ2				AMB	AMB		
	comp=Z,30nm,0.9s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,200nm,8.0s						
NJ2				LR	LR		
	comp=N,790nm,12.3s						
NJ2				LR	LR		
	comp=E,1μm,20.9s						
NJ2				LR	LR		
	comp=Z,430nm,16.8s,MS3.9						
KLR	**Kul'dur**	**22.57**	**341**	*e*P	**P**	**07 47 42.2**	**-3.0**
KLR				MLR	MLR		
	comp=E,500nm,12.0s						
KLR				MLR	MLR		
	comp=Z,800nm,12.0s,MS4.4						
WHN	**Wuhan**	**24.83**	**282**	⇑P	**P**	**07 48 09.2**	**+1.9**
HIA	**Hailar**	**27.40**	**326**	*e*P	**P**	**07 48 32.5**	**+1.6**
	comp=Z,52nm,1.1s,mb5.0						
HIA	**Hailar**	**27.40**	**326**	*e*P	**P**	**07 48 32.5**	**+1.6**
HIA				pmax	pmax		
	comp=Z,52nm,1.1s						
HHC	**Hu-ho-hao-te**	**28.44**	**304**	*e*P	**P**	**07 48 40.9**	**+0.6**
HHC				AP	pP	07 48 50.1	+0.4
HHC				XP	sP	07 48 54.1	+0.2
HHC				PP	PP	07 49 33.4	+1.2
HHC				PCP	PcP	07 51 52.9	+0.7
HHC				S	**S**	**07 53 26.2**	**+2.2**
HHC				XS		07 53 39.3	
HHC				AMB	AMB		
	comp=Z,19nm,0.9s,mb4.7						
HHC				AMB	AMB		
	comp=Z,131nm,5.7s						
HHC				LR	LR		
	comp=N,321nm,14.3s,MS4.3						
HHC				LR	LR		
	comp=E,446nm,16.1s,MS4.3						
HHC				LR	LR		
	comp=Z,605nm,17.8s,MS4.2						
ENH	**Enshi**	**29.04**	**282**	*e*P	**P**	**07 48 44.6**	**-1.3**
	comp=Z,25nm,0.9s,mb4.9						
XAN	**Xi'an**	**29.44**	**290**	P	**P**	**07 48 47.3**	**-2.2**
XAN				AP	pP	07 48 57.3	-1.5
XAN				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.4						
GYA	**Guiyang**	**32.04**	**275**	⇑*i*P	**P**	**07 49 11.6**	**-0.9**
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.9						
FX1	**Attu Island--F**	**33.30**	**34**	LR	LR	08 03 55.5	
	comp=Z,8.2nm,18.4s,baz=265,slow=38						
LZH	**Lanzhou**	**33.68**	**293**	*e*P	**P**	**07 49 26.0**	**-0.6**
LZH				AP	pP	07 49 35.7	-0.4
LZH				XP	sP	07 49 39.6	-0.6
LZH				*e*PP	PP	07 50 40.1	+0.4
LZH				*e*S	**S**	**07 54 47.5**	**+1.1**
LZH				AMB	AMB		
	comp=Z,25nm,1.3s,mb5.0						
LZH				AMB	AMB		
	comp=Z,78nm,5.2s						
LZH				LR	LR		
	comp=N,567nm,13.0s						
LZH				LR	LR		
	comp=Z,987nm,16.9s,MS4.6						
LZH	**Lanzhou**	**33.68**	**293**	*e*P	**P**	**07 49 26.0**	**-0.6**
	comp=Z,25nm,1.3s,mb5.0						
LZH				pP	pP	07 49 35.7	-0.4
LZH				sP	sP	07 49 39.6	-0.6
LZH				*e*PP	PP	07 50 40.1	+0.4
LZH				*e*S	**S**	**07 54 47.5**	**+1.1**
LZH				sS		07 55 03.9	
LZH				*e*SS	SS	07 56 55.8	+3.6
LZH	**Lanzhou**	**33.68**	**293**	*e*P	**P**	**07 49 26.0**	**-0.6**
LZH				*e*		07 50 40.1	
LZH				*e*S	**S**	**07 54 47.5**	**+1.1**
LZH				*e*SS	SS	07 56 55.8	+3.6
LZH				pmax	pmax		
	comp=Z,25nm,1.3s,mb5.0						
CD2	**Chengdu**	**33.91**	**284**	P	**P**	**07 49 28.0**	**-0.6**
CD2				S	**S**	**07 54 48.8**	**-1.2**
CD2				AMB	AMB		
	comp=Z,30nm,1.1s,mb5.1						
CD2				LR	LR		
	comp=N,310nm,13.8s						
CD2				LR	LR		

KMI				SSS	SSS	07 58 12.3	+3.7
KMI	**Kunming**	**35.78**	**274**	P	**P**	**07 49 45.7**	**+0.9**
KMI						07 51 08.6	
KMI				PPP	PPP	07 51 28.2	+2.5
KMI				S	**S**	**07 55 24.7**	**+5.5**
KMI				SS	SS	07 57 39.9	-0.9
KMI				SSS	SSS	07 58 12.3	+3.7
KMI				pmax	pmax		
	comp=Z,22nm,1.2s,mb5.0						
GTA	**Gaotai**	**37.05**	**299**	*e*P	**P**	**07 49 54.5**	**-0.8**
GTA				AP	pP	07 50 03.6	-1.2
GTA				XP	sP	07 50 08.2	-0.6
GTA				PP	PP	07 51 23.2	+1.0
GTA				S	**S**	**07 55 39.1**	**+0.7**
GTA				XS		07 55 54.7	
GTA				SS	SS	07 58 09.6	+0.8
GTA				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.5						
GTA				AMB	AMB		
	comp=Z,97nm,5.7s						
GTA				LR	LR		
	comp=N,292nm,13.3s,MS4.4						
GTA				LR	LR		
	comp=E,362nm,16.4s,MS4.4						
GTA				LR	LR		
	comp=Z,234nm,18.6s,MS4.0						
ZAK	**Zakamensk**	**37.08**	**318⇑**	*e*P	**P**	**07 49 56.6**	**+1.2**
ZAK				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.7						
IRK	**Irkutsk**	**37.24**	**321**	*e*P	**P**	**07 49 57.9**	**+1.2**
IRK				*e*		07 51 45.0	
IRK				pmax	pmax		
	comp=Z,72nm,3.5s						
TLY	**Talaya**	**37.37**	**320**	*e*P	**P**	**07 49 59.0**	**+1.2**
	comp=Z,29nm,1.1s,mb5.0						
TLY	**Talaya**	**37.37**	**320**	*d iP*	**P**	**07 49 59.3**	**+1.5**
TLY				*e*		07 51 20.4	
TLY				*e*S	**S**	**07 55 50.1**	**+7.0**
TLY				*e*SSS	SSS	07 58 46.8	-0.5
TLY				pmax	pmax		
	comp=Z,36nm,1.2s,mb5.1						
TLY				MLR	MLR		
	comp=Z,367nm,17.0s,MS4.2						
LSA	**Lhasa**	**44.86**	**285**	*e*P	**P**	**07 51 00.6**	**+0.9**
	comp=Z,14nm,1.7s,mb4.5						
LSA	**Lhasa**	**44.86**	**285**	*e*P	**P**	**07 51 00.6**	**+0.9**
LSA				pmax	pmax		
	comp=Z,14nm,1.7s,mb4.5						
WMQ	**Urumqi**	**46.32**	**305**	P	**P**	**07 51 12.0**	**+1.0**
WMQ				AP	pP	07 51 22.0	+1.4
WMQ				XP	sP	07 51 26.0	+1.4
WMQ				PP	PP	07 53 01.0	+1.3
WMQ				SCP		07 56 37.0	
WMQ				S	**S**	**07 57 57.0**	**+1.8**
WMQ				XS		07 58 13.0	
WMQ				SCS	ScS	08 01 02.0	+0.9
WMQ				SS	SS	08 01 15.0	+2.0
WMQ				AMB	AMB		
	comp=Z,16nm,1.0s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,101nm,6.0s						
WMQ				LR	LR		
	comp=N,205nm,20.0s,MS4.2						
WMQ				LR	LR		
	comp=E,189nm,20.0s,MS4.2						
WMQ				LR	LR		
	comp=Z,176nm,20.0s,MS4.0						
WRAB	**Tennant Creek**	**48.61**	**191**	*e*P	**P**	**07 51 27.0**	**-2.2**
	comp=Z,25nm,1.0s,mb5.2						
WRAB	**Tennant Creek**	**48.61**	**191**	*i* P	**P**	**07 51 27.5**	**-1.7**
WB2	**Warramunga Arr**	**48.62**	**191**	*e*P	**P**	**07 51 26.8**	**-2.5**
WRA	**Warramunga Arr**	**48.62**	**191**	P	**P**	**07 51 27.2**	**-2.1**
	comp=Z,5.1nm,0.6s,mb4.7,baz=12,slow=8.3,SNR=41						
WRA	**Warramunga Arr**	**48.62**	**191**	P	**P**	**07 51 27.2**	**-2.1**
WRA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
ZAL	**Zalesovo**	**48.96**	**318**	P	**P**	**07 51 32.0**	**+0.5**
	comp=Z,1.7nm,0.8s,mb4.1,baz=355,slow=7.4,SNR=7.4						
ZAL				PcP	PcP	07 52 56.0	+0.4
	comp=Z,1.6nm,0.7s,baz=320,slow=2.8,SNR=4.0						
ZAL				LR	LR	08 14 11.6	
	comp=Z,256nm,18.7s,MS4.2,baz=116,slow=38						
ZAL	**Zalesovo**	**48.96**	**318**	P	**P**	**07 51 32.0**	**+0.5**
ZAL				PcP	PcP	07 52 56.0	+0.3
ZAL	**Zalesovo**	**48.96**	**318**	P	**P**	**07 51 32.0**	**+0.5**
ZAL						07 52 56.0	
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ZAL				MLR	MLR		
	comp=Z,257nm,18.7s						
FITZ	**Fitzroy Crossi**	**48.99**	**202**	*e*P	**P**	**07 51 31.5**	**-0.7**
	comp=Z,14nm,0.9s,mb5.0						
NVS	**Novosibirsk**	**49.98**	**319**	*e*P	**P**	**07 51 39.2**	**-0.1**
NVS				pmax	pmax		
	comp=E,13nm,1.5s						
NVS				pmax	pmax		
	comp=Z,16nm,1.5s,mb4.8						
MKAR	**Makanchi Array**	**50.13**	**309**	P	**P**	**07 51 41.0**	**+0.4**
	comp=Z,1.5nm,0.7s,mb4.1,baz=92,slow=7.7,SNR=17						
MKAR				PcP	PcP	07 53 00.8	+0.8
	comp=Z,3.0nm,1.0s,baz=90,slow=6.1,SNR=4.5						
MKAR				LR	LR	08 13 52.9	
	comp=Z,205nm,18.9s,MS4.2,baz=89,slow=37						
MKAR	**Makanchi Array**	**50.13**	**309**	P	**P**	**07 51 41.0**	**+0.3**
MKAR				PcP	PcP	07 53 00.8	+0.8
MKAR	**Makanchi Array**	**50.13**	**309**	P	**P**	**07 51 41.0**	**+0.4**
MKAR						07 53 00.8	
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
MKAR				MLR	MLR		
	comp=Z,205nm,19.0s						
KURK	**Kurchatov**	**52.54**	**314**	*e*P	**P**	**07 51 58.9**	**+0.1**
	comp=Z,47nm,1.1s,mb5.3						
KURK	**Kurchatov**	**52.54**	**314**	*e*P	**P**	**07 51 58.9**	**+0.1**
KURK				pmax	pmax		
	comp=Z,47nm,1.1s,mb5.3						
AAK	**Ala-Archa**	**56.02**	**304**	P	**P**	**07 52 23.7**	**-0.7**
	comp=Z,8.4nm,1.3s,mb4.6						
AAK	**Ala-Archa**	**56.02**	**304**	P	**P**	**07 52 23.7**	**-0.6**
AAK				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.6						
ILAR	**Eielson Array**	**56.44**	**29**	P	**P**	**07 52 25.8**	**-1.3**
	comp=Z,1.1nm,0.8s,mb4.0,baz=254,slow=6.8,SNR=10						
ILAR	**Eielson Array**	**56.44**	**29**	P	**P**	**07 52 25.8**	**-1.3**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BVAR	**Borovoye Array**	**57.53**	**317**	P	**P**	**07 52 35.1**	**+0.1**
	comp=Z,8.9nm,0.8s,mb4.8,baz=90,slow=7.4,SNR=31						
BVAR	**Borovoye Array**	**57.53**	**317**	P	**P**	**07 52 35.1**	**+0.1**
BVAR				pmax	pmax		
	comp=Z,9.0nm,0.8s						
BRVK	**Borovoye**	**57.59**	**317**	*e*P	**P**	**07 52 35.3**	**-0.1**
	comp=Z,6.8nm,1.0s,mb4.6						
BRVK	**Borovoye**	**57.59**	**317**	*e*P	**P**	**07 52 35.3**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
SVE	**Sverdlovsk**	**62.61**	**322⇑**	*e*P	**P**	**07 53 10.0**	**+0.3**
SVE				*e*S	S	08 02 12.0	+38
SVE				MLR	MLR		
	comp=E,100nm,15.0s						
SVE				MLR	MLR		
	comp=Z,300nm,15.0s,MS4.6						
ARU	**Arti**	**63.81**	**322**	*e*P	**P**	**07 53 17.5**	**-0.1**
	comp=Z,16nm,1.0s,mb5.0						
ARU	**Arti**	**63.81**	**322⇓**	*i P*	**P**	**07 53 17.4**	**-0.2**
ARU				*e*		07 55 36.7	
ARU				*e*S	**S**	**08 01 52.9**	**+4.1**
ARU				*e*SS	SS	08 06 02.6	+4.0
ARU				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
ARU				MLR	MLR		
	comp=Z,100nm,19.0s,MS4.0						
ARU				MLR	MLR		
	comp=N,100nm,20.0s,MS4.2						
ARU				MLR	MLR		
	comp=E,100nm,19.0s,MS4.2						
DLBC	**Dease Lake**	**64.95**	**35**	P	**P**	**07 53 24.8**	**-0.1**
	comp=E,1.0nm,0.7s,mb4.0,baz=311,slow=12,SNR=3.9						
YKA	**Yellowknife Ar**	**70.87**	**29**	P	**P**	**07 54 01.5**	**-0.3**
	comp=E,1.8nm,0.8s,mb4.0,baz=20,slow=3.0,SNR=4.2						
YKA	**Yellowknife Ar**	**70.87**	**29**	P	**P**	**07 54 01.5**	**-0.3**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ARCES	**ARCESS Array B**	**72.60**	**341**	P	**P**	**07 54 11.8**	**-0.2**
	comp=Z,3.7nm,0.9s,mb4.3,baz=34,slow=13,SNR=3.9						
ARCES	**ARCESS Array B**	**72.60**	**341**	P	**P**	**07 54 11.8**	**-0.2**
ARCES	**ARCESS Array B**	**72.60**	**341**	P	**P**	**07 54 11.8**	**-0.2**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
EDM	**Edmonton**	**75.57**	**37**	*e*P	**P**	**07 54 28.9**	**-0.6**
OBN	**Obninsk**	**75.86**	**325**	P	**P**	**07 54 32.0**	**+0.9**
OBN				*e*		07 54 37.0	
OBN				S	S	08 04 19.0	+9.2
OBN				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
OBN				MLR	MLR		
	comp=Z,200nm,18.0s,MS4.5						
GOF	**Gofitskoye**	**76.89**	**314**	*e*P	**P**	**07 54 36.5**	**-0.6**
BMO	**Blue Mountains**	**77.11**	**46**	*e*P	**P**	**07 54 37.6**	**-0.7**
	comp=Z,8.7nm,1.3s,mb4.5						
BMO				*e*pP	pP	07 54 47.9	-0.5
FINES	**FINESS Array B**	**77.12**	**334**	P	**P**	**07 54 39.4**	**+1.4**
	comp=Z,1.4nm,0.8s,mb3.9,baz=45,slow=2.7,SNR=3.9						
FINES	**FINESS Array B**	**77.12**	**334**	P	**P**	**07 54 39.4**	**+1.4**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WALA	**Waterton Lakes**	**77.22**	**41**	*e*P	**P**	**07 54 39.0**	**+0.2**
	comp=Z,4.0nm,0.9s,mb4.3						
KIV	**Kislovodsk**	**77.62**	**313**	*i* P	**P**	**07 54 42.8**	**+1.7**
KIV				pmax	pmax		
	comp=Z,27nm,1.1s,mb5.1						
KIV				MLR	MLR		
	comp=Z,100nm,18.0s,MS4.2						
NVAR	**Mina Array Bea**	**79.39**	**52**	P	**P**	**07 54 51.1**	**+0.1**
	comp=Z,0.4nm,0.3s,mb3.8,baz=292,slow=4.9,SNR=4.6						
PPT	**Papeete**	**79.72**	**116**	LR	LR	08 26 38.2	
	comp=Z,94nm,18.4s,MS4.2,baz=49,slow=33						
ELK	**Elko**	**80.38**	**49**	*e*P	**P**	**07 54 56.9**	**+0.7**
	comp=Z,7.8nm,1.3s,mb4.5						
ELK	**Elko**	**80.38**	**49**	*e*P	**P**	**07 54 56.9**	**+0.7**
ELK				pmax	pmax		
	comp=Z,8.0nm,1.3s						
ANN	**Anapa**	**80.51**	**316**	*e*P	**P**	**07 54 58.3**	**+1.5**
ANN				*e*S	S	08 05 03.8	+4.1
ANN				pmax	pmax		
	comp=Z,49nm,1.1s,mb5.3						
IMW	**Indian Meadow**	**81.57**	**45**	*e*P	**P**	**07 55 03.8**	**+1.5**
	comp=Z,5.6nm,1.0s,mb4.5						
IMW				*e*pP	pP	07 55 13.9	+1.4
AKASG	**Malin Array Be**	**81.97**	**324**	P	**P**	**07 55 05.4**	**+1.1**
	comp=Z,0.3nm,0.3s,mb3.7,baz=47,slow=5.6,SNR=6.9						
HWUT	**Hardware Ranch**	**82.36**	**47**	*e*P	**P**	**07 55 06.1**	**-0.3**
	comp=Z,1.5nm,0.7s,mb4.0						
HWUT				*e*pP	pP	07 55 17.2	+0.5
NB2	**NORSAR Subarra**	**82.71**	**338**	P	**P**	**07 55 08.4**	**+0.5**
	comp=Z,4.7nm,1.2s,mb4.4,baz=47,slow=4.6						
NB2	**NORSAR Subarra**	**82.71**	**338**	P	**P**	**07 55 08.4**	**+0.5**
NB2				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.4						
NOA	**NORSAR Array B**	**82.71**	**338**	P	**P**	**07 55 08.6**	**+0.7**
	comp=Z,2.3nm,1.0s,mb4.2,baz=41,slow=4.7,SNR=3.6						
NOA				LR	LR	08 37 00.5	
	comp=Z,79nm,20.0s,MS4.1,baz=35,slow=39						
NOA	**NORSAR Array B**	**82.71**	**338**	P	**P**	**07 55 08.6**	**+0.7**
BW06	**Boulder Array**	**83.02**	**45**	*e*P	**P**	**07 55 10.5**	**+0.6**
	comp=Z,1.1nm,0.8s,mb3.9						
BW06				*e*pP	pP	07 55 20.1	-0.1
PDAR	**Pinedale Array**	**83.02**	**45**	P	**P**	**07 55 10.3**	**+0.5**
	comp=Z,0.5nm,0.8s,mb3.6,baz=315,slow=2.1,SNR=4.6						
PDAR				LR	LR	08 27 32.0	
	comp=Z,92nm,20.1s,MS4.2,baz=139,slow=32						
NEN	**Nelson**	**83.15**	**53**	*e*P	**P**	**07 55 10.5**	**-0.2**
NEN				*e*pP	pP	07 55 20.7	-0.3
MALT	**Malatya**	**83.16**	**310**	*e*P	**P**	**07 55 13.2**	**+2.5**
	comp=Z,10nm,1.2s,mb4.7						
MALT	**Malatya**	**83.16**	**310**	*e*P	**P**	**07 55 13.2**	**+2.5**
MALT				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.7						
RWWY	**Rawlins**	**85.07**	**45**	*e*P	**P**	**07 55 21.1**	**+0.9**
	comp=Z,3.1nm,0.7s,mb4.5						
RWWY				*e*pP	pP	07 55 31.4	+0.9
SMCO	**Snowmass**	**86.62**	**47**	*e*P	**P**	**07 55 28.3**	**+0.3**
SMCO				*e*pP	pP	07 55 37.6	-0.6
TXAR	**Lajitas Array**	**94.49**	**53**	P	**P**	**07 56 06.3**	**+1.3**
	comp=Z,0.5nm,0.6s,mb4.1,baz=294,slow=1.7,SNR=7.6						
TXAR	**Lajitas Array**	**94.49**	**53**	P	**P**	**07 56 06.3**	**+1.3**
TXAR	**Lajitas Array**	**94.49**	**53**	P	**P**	**07 56 06.3**	**+1.3**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
LPAZ	**La Paz**	**149.12**	**74**	PKPbc	PKPdf	08 02 35.1	+2.0
	comp=Z,1.6nm,0.8s,baz=101,slow=2.2,SNR=6.9						
LPAZ	**La Paz**	**149.12**	**74**	PKP2	PKPdf	08 02 35.1	+1.9
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						

PLV 02 07:46:51.1±1.5, 20.24N×105.99E, h16km±12km, MD3.5, Vietnam

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNV	**Hanoi**	**0.83**	**348**	*e*Pn	Pn	07 47 05.4	-2.5
HNV				*e*Pg	Pb	07 47 05.9	-0.7
HNV				*e*Sg	Sb	07 47 15.6	-1.6
BVV	**Ba Vi**	**1.04**	**326**	*e*Pn	Pn	07 47 09.9	-1.1
BVV				*e*Pg	Pb	07 47 11.2	+1.0
BVV				*e*Sg	Sb	07 47 23.9	+0.6
YTV	**Yen Tu**	**1.14**	**37**	*e*Pn	Pn	07 47 12.5	0.0
YTV				*e*Pg	Pb	07 47 13.9	+1.9
YTV				*e*Sg	Sb	07 47 27.8	+1.4

CASC 02 08:27:58.4±3.0, 8.45N×82.80W, h11km±11km, MD3.8, MW4.1, 2C-4D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVD	**David**	**0.35**	**93**	⇓*iP*	Pg	08 28 06.1	+0.5
DVD				*e*S	Sg	08 28 11.4	+0.9
BRU2	**Volcan**	**0.35**	**18**	⇓*iP*	Pg	08 28 06.0	+0.2
BRU2				⇓*e*S	Sg	08 28 13.1	+2.4
ACR	**Cerro Adams**	**0.41**	**299**	*e*P	Pg	08 28 05.3	-1.6
BRU	**Baru**	**0.42**	**34**	⇓*e*P	Pg	08 28 08.2	+1.1
PTP1	**Petroterminal**	**0.44**	**124**	⇑*i*P	Pg	08 28 04.3	-3.2
PTP1				*e*S	Sg	08 28 10.3	-3.3
SFX2	**San Felix**	**0.94**	**100**	⇑*i*P	Pb	08 28 13.5	-2.7
SFX2				*e*S	Sb	08 28 26.9	-1.4
CNI	**Changuinola**	**1.00**	**16**	*e*P	Pb	08 28 17.0	-0.2
LCR2	**La Lucha 2**	**1.75**	**317**	*e*P	Pn	08 28 26.9	-2.0
SJS	**Escuela Geolog**	**1.93**	**320**	*e*P	Pn	08 28 32.2	+0.8
SJS				*e*S	Sn	08 28 55.8	0.0
PRS1	**Puriscal**	**2.13**	**316**	*e*P	Pn	08 28 31.9	-2.5
AZU	**Azuero**	**2.59**	**105**	*e*S	Sn	08 29 14.0	+1.3
FORC	**Fortuna**	**2.72**	**318**	*e*P	Pn	08 28 42.7	-0.2

CASC 02 08:31:55.5±2.0, 8.43N×82.73W, h26km±6km, MD4.3, MW4.1, 2C-3D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVD	**David**	**0.28**	**88**	⇓*iP*	Pb	08 32 03.0	+0.8
BRU2	**Volcan**	**0.37**	**6**	⇓*iP*	Pb	08 32 02.9	-0.7
BRU2				*e*S	Sb	08 32 10.1	+1.0
PTP1	**Petroterminal**	**0.37**	**126**	⇑*i*P	Pb	08 32 01.3	-2.4
PTP1				*e*S	Sb	08 32 07.8	-1.5
BRU	**Baru**	**0.41**	**24**	⇓*i*P	Pb	08 32 05.2	+0.9
SFX2	**San Felix**	**0.86**	**99**	⇑*i*P	Pb	08 32 10.3	-1.4
SFX2				*e*S	Sb	08 32 23.8	+0.9
CNI	**Changuinola**	**1.01**	**12**	*e*P	Pn	08 32 13.6	-0.5
LCR2	**La Lucha 2**	**1.81**	**316**	*e*P	Pn	08 32 25.4	-0.2
LCR2				*e*S	Sn	08 32 48.4	+0.4
PRS1	**Puriscal**	**2.20**	**315**	*e*P	Pn	08 32 30.7	-0.4
PRS1				*e*S	Sn	08 32 58.4	+0.6

*BJI **02** 08:39:49.1, 4.48S×129.24E, h35km, mB5.7, mb5.4, Ms5.2, Msz4.9*
*IDC **02** 08:39:50.3±0.3, 4.04S×128.72E, mb5.4/31, mb1 5.3/33, mb1mx5.3/33, mbtmp5.4/33, ML4.4/2, MS5.2/12, Ms1 5.2/12, ms1mx5.0/18, Error ellipse: s-maj=14.9km s-min=9.6km az=68.0*
*HRVD **02** 08:39:51.7±0.2, 3.95S×128.84E, h12km, MW5.6/57, Centroid moment Tensor Solution. LP body waves: s51,c109;Mantle waves: s57,c176; Half duration: 1ŝ6 Moment tensor: Scale 10^17^Nm; M_{rr}3.10±.06; $M_{\theta\theta}$-3.40±.04; $M_{\phi\phi}$0.29±.06; $M_{r\theta}$0.37±.14; $M_{\theta\phi}$0.39±.05; $M_{\phi r}$0.75±.17; Best double couple: $M_0$3.386×10^17^ NP1: ϕ_s290°,δ44°,λ111°. NP2:ϕ_s82°,δ49°,λ70°. Principal axes: T 3.319, Plg75°, Azm285°; N .128, Plg15°, Azm95°; P -3.454, Plg3°, Azm185°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **02** 08:39:51.7±0.1, 4.00S×128.82E, h10km, mb5.6/46, MS5.2/105, MW5.5 Error ellipse: s-maj=4.7km s-min=3.3km az=70.0, Moment Tensor Solution. s21 Moment tensor: Scale 10^17^Nm; M_{rr}2.32; $M_{\theta\theta}$-2.30; $M_{\phi\phi}$-0.02; $M_{r\theta}$-0.87; $M_{\theta\phi}$0.00; $M_{\phi r}$0.45; Best double couple: $M_0$2.5×10^17^ NP1:ϕ_s80°,δ35°,λ74°. NP2:ϕ_s280°, δ56°,λ101°. Principal axes: T 2.56, Plg76°, Azm224°; N -.09, Plg9°, Azm94°; P -2.46, Plg10°, Azm2°;*
NEIC Felt [IV] on Ambon and [III] at Amahai, Indonesia. Felt at Darwin, Australia.
*MOS **02** 08:39:52.7±1.1, 3.91S×128.76E, h21km, mb5.9/46, MS5.1/33 Error ellipse: s-maj=10.4km s-min=5.9km az=111.7*

ISC 02 08:39:52.0±0.9, 4.05S±0.03×128.82E±0.04, h24km±6km, h26km±1.6km: pP-P, n556, σ1ŝ10/315, mb5.6/125, MS5.2/145, 70C-9D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**9.31**	**158**	⇑*iP*	P	**08 42 12.5**	**+4.5**
	222nm,0.6s						
DAV	**Davao City (W)**	**11.52**	**344**	*e*P	**P**	**08 42 45.0**	**+6.7**
IPIL	**Ipil**	**13.31**	**332**	*e*P	**P**	**08 43 01.4**	**-0.9**
TSM	**Tawau**	**13.73**	**307**	P	**P**	**08 43 09.0**	**+1.1**
FITZ	**Fitzroy Crossi**	**14.30**	**192**	*e*P	**P**	**08 43 14.2**	**-1.3**
	194nm,0.7s						
FITZ	**Fitzroy Crossi**	**14.30**	**192**	Pn	**P**	**08 43 14.2**	**-1.3**
	5.1nm,0.3s,baz=16,slow=9.1,SNR=33						
FITZ				Sn	**S**	**08 45 53.8**	**-0.5**
	1.6nm,0.3s,baz=74,slow=6.7,SNR=2.2						
FITZ				LR	LR	08 49 10.0	
	comp=Z,12μm,18.1s,baz=48,slow=39						
SNPH	**Sibulan**	**14.43**	**337**	*e*P	**P**	**08 43 17.1**	**0.0**
TBP	**Tagbilaran**	**14.52**	**340**	*e*P	**P**	**08 43 27.6**	**+9.3**
KKM	**Kota Kinabalu**	**16.10**	**308**	P	**P**	**08 43 40.5**	**+1.8**
KKM	**Kota Kinabalu**	**16.10**	**308**	⇑*e*P	**P**	**08 43 39.2**	**+0.4**
RCP	**Roxas**	**16.65**	**339**	*e*P	**P**	**08 43 44.8**	**-1.0**
WRAB	**Tennant Creek**	**16.68**	**162**	⇑*e*P	**P**	**08 43 42.6**	**-3.4**
	1μm,1.2s						
WRAB	**Tennant Creek**	**16.68**	**162**	⇑*e*P	**P**	**08 43 42.6**	**-3.5**
WRAB				pmax	pmax		
	comp=Z,1μm,1.2s						
WRA	**Warramunga Arr**	**16.68**	**162**	Pn	**P**	**08 43 43.1**	**-3.0**
	comp=Z,2.7nm,0.3s,baz=338,slow=13,SNR=39						
WRA				Sn	**S**	**08 46 46.9**	**-3.0**
	comp=Z,1.7nm,0.3s,baz=333,slow=24,SNR=5.3						
WB2	**Warramunga Arr**	**16.69**	**162**	⇑*i*P	**P**	**08 43 43.0**	**-3.2**
WB2				*i* S	**S**	**08 47 02.9**	**+13**
BATP	**Bataraza**	**16.84**	**319**	*e*P	**P**	**08 43 52.4**	**+4.1**
PPR	**Puerto Princes**	**17.03**	**324**	*e*P	**P**	**08 43 56.4**	**+5.9**
BUSP	**Coron**	**18.11**	**332**	*e*P	**P**	**08 44 04.6**	**+0.5**
BOAC	**Boac**	**18.73**	**338**	*e*P	**P**	**08 44 13.6**	**+2.0**
PMG	**Port Moresby**	**18.96**	**107**	P	**P**	**08 44 14.9**	**+0.4**
	comp=Z,0.8nm,0.3s,baz=282,slow=11,SNR=25						
PMG	**Port Moresby**	**18.96**	**107**	⇑*i*P	**P**	**08 44 14.5**	**0.0**
	comp=Z,229nm,1.1s						
PMG	**Port Moresby**	**18.96**	**107**	*c iP*	**P**	**08 44 14.7**	**+0.3**
MBWA	**Marble Bar**	**19.16**	**207**	⇑*i*P	**P**	**08 44 17.4**	**+0.6**
	comp=Z,252nm,0.9s						
KSM	**Kuching**	**19.30**	**286**	⇑*i*P	**P**	**08 44 19.1**	**+0.6**
LUBP	**Lubang**	**19.62**	**334**	*e*P	**P**	**08 44 23.1**	**+1.2**
BALP	**Baler**	**20.93**	**340**	*e*P	**P**	**08 44 36.1**	**+0.3**
CAUP	**Cauayan**	**21.98**	**342**	*e*P	**P**	**08 44 49.6**	**+3.3**
BOLP	**Bolinao**	**22.13**	**337**	*e*P	**P**	**08 44 50.4**	**+2.5**
CTA	**Charters Tower**	**23.29**	**135**	⇑*i*P	**P**	**08 45 00.9**	**+1.6**
	comp=Z,196nm,0.9s,mb5.5						
CTA				*i* S	**S**	**08 49 16.0**	**+10**
CTA	**Charters Tower**	**23.29**	**135**	P	**P**	**08 45 00.9**	**+1.6**
	comp=Z,287nm,1.0s,mb5.7,baz=319,slow=12,SNR=62						
CTA				LR	LR	08 54 45.4	
	comp=Z,5μm,18.2s,MS5.0,baz=315,slow=38						
CTA	**Charters Tower**	**23.29**	**135**	⇑*i*P	**P**	**08 45 00.9**	**+1.6**
CTA				*i* S	**S**	**08 49 16.0**	**+10**
CTA				pmax	pmax		
	comp=Z,196nm,0.9s						
CTAO	**Charters Tower**	**23.29**	**135**	⇑*i*P	**P**	**08 45 00.4**	**+1.1**
	comp=Z,348nm,1.0s,mb5.7						
CTAO				LR	LR		
	comp=Z,4μm,20.0s,MS4.9						
CTAO	**Charters Tower**	**23.29**	**135**	⇑*i*P	**P**	**08 45 00.4**	**+1.1**
CTAO				pmax	pmax		
	comp=Z,348nm,1.0s,mb5.7						
CTAO				MLR	MLR		
	comp=Z,4μm,20.0s,MS4.9						
GUMO	**Guam**	**23.68**	**42**	⇑*i*P	**P**	**08 45 04.1**	**+1.0**
	comp=Z,252nm,1.0s,mb5.6						
GUMO				LR	LR		
	comp=Z,3μm,20.0s,MS4.8						
GUMO	**Guam**	**23.68**	**42**	⇑*i*P	**P**	**08 45 04.1**	**+0.9**
GUMO				pmax	pmax		
	comp=Z,252nm,1.0s,mb5.6						
GUMO				MLR	MLR		
	comp=Z,3μm,20.0s,MS4.8						
KGM	**Kluang**	**26.19**	**283**	P	**P**	**08 45 28.8**	**+1.7**
IPM	**Ipoh**	**29.07**	**287**	P	**P**	**08 45 53.7**	**+0.6**
KLBR	**Kellerberrin**	**29.30**	**200**	⇑*i*P	**P**	**08 45 55.3**	**+0.2**
	comp=Z,117nm,0.8s,mb5.7						
**

KKTK	Khon Kaen	32.73	309	P	P	08 46 26.0 +0.5
	comp=Z,309nm,0.5s,mb6.5					
NNT	Nongplab	33.30	300	P	P	08 46 31.6 +1.2
CBIJ	Chichi jima	33.55	22	P	P	08 46 32.5 0.0
	comp=Z,150nm,0.9s,mb5.9,baz=186,slow=9.2,SNR=15					
CBIJ				LR	LR	08 58 04.6
	comp=Z,4μm,20.9s,MS5.1,baz=199,slow=33					
ARMA	Armidale	33.93	143	eP	P	08 46 27.5 -8.3
ARMA				j S	S	08 51 55.8 -2.2
SSE	Sheshan	35.70	349	⇑P	P	08 46 51.0 +0.1
SSE				AP	pP	08 47 00.4 +2.4
SSE				XP	sP	08 47 05.2 +4.2
SSE				AMB	AMB	
	comp=Z,51nm,0.9s,mb5.5					
SSE				AMB	AMB	
	comp=Z,299nm,6.8s					
SSE				LR	LR	
	comp=N,438nm,21.9s,MS4.6					
SSE				LR	LR	
	comp=E,1μm,21.9s,MS4.6					
SSE				LR	LR	
	comp=Z,1μm,25.1s,MS4.7					
SSE	Sheshan	35.70	349	⇑P	P	08 46 51.0 +0.1
	comp=Z,51nm,0.9s,mb5.5					
SSE				pP	pP	08 47 00.4 +2.4
SSE				sP	sP	08 47 05.2 +4.2
SSE				S	S	08 52 03.5 -22
SSE				sS		08 52 20.0
SSE				SS	SS	08 54 25.6 -21
SSE				ScS	ScS	08 57 20.3 +14
SSE				LR	LR	
	comp=Z,1μm,25.1s,MS4.7					
NANT	Nan	35.81	310	⇑P	P	08 46 51.0 -1.0
	comp=Z,906nm,1.0s					
RIV	Riverview	36.20	148	eP	P	08 46 56.7 +1.6
BDT	Bhumibol Dam	36.26	307	P	P	08 47 02.0 +6.3
	comp=Z,27nm,0.8s,mb5.2					
CNB	Canberra Magne	36.45	151	⇑iP	P	08 46 58.5 +1.3
	comp=Z,103nm,1.2s,mb5.6					
TOO	Toolangi	36.68	158	⇑iP	P	08 47 01.3 +2.2
	comp=Z,27nm,0.8s,mb5.1					
TOO				eS	S	08 52 47.3 +6.8
TOO	Toolangi	36.68	158	⇑iP	P	08 47 01.3 +2.2
TOO				eS	S	08 52 47.3 +6.8
TOO				pmax	pmax	
	comp=Z,27nm,0.8s,mb5.1					
JNU	Nakatsue	37.02	3	P	P	08 47 02.1 +0.1
	comp=Z,70nm,0.8s,mb5.5,baz=179,slow=4.0,SNR=32					
JNU				LR	LR	09 02 41.8
	comp=Z,3μm,18.4s,MS5.1,baz=178,slow=37					
WHN	Wuhan	37.08	339	P	P	08 47 03.5 +1.0
WHN				S	S	08 52 47.8 +1.2
WHN				LR	LR	
	comp=Z,3μm,18.0s,MS5.2					
NJ2	Nanjing	37.14	346	eP	P	08 47 03.8 +0.8
NJ2				AP	pP	08 47 12.1 +2.1
NJ2				XP	sP	08 47 13.8 +0.8
NJ2				PP	PP	08 48 31.2 +1.1
NJ2				S	S	08 52 50.0 +2.5
NJ2				XS		08 53 03.0
NJ2				AMB	AMB	
	comp=Z,110nm,1.0s,mb5.6					
NJ2				AMB	AMB	
	comp=Z,520nm,3.7s					
NJ2				LR	LR	
	comp=N,2μm,24.0s,MS5.1					
NJ2				LR	LR	
	comp=E,3μm,22.0s,MS5.1					
NJ2				LR	LR	
	comp=Z,1μm,16.0s					
CHRT	Chiangrai	37.15	311	⇑P	P	08 47 02.0 -1.2
	comp=Z,395nm,0.8s,mb6.3					
GYA	Guiyang	37.15	326	⇑iP	P	08 47 03.8 +0.7
GYA				S	S	08 52 47.2 -0.5
GYA				AMB	AMB	
	comp=Z,70nm,0.8s,mb5.5					
GYA				AMB	AMB	
	comp=Z,560nm,5.1s					
GYA				LR	LR	
	comp=N,2μm,17.4s,MS5.1					
GYA				LR	LR	
	comp=E,1μm,16.4s,MS5.1					
GYA				LR	LR	
	comp=Z,2μm,19.5s,MS5.0					
CHG	Chiang Mai	37.18	309	⇑P	P	08 47 04.7 +1.3
	comp=Z,147nm,0.9s,mb5.8					
JHJ	Hachijo jima 2	38.40	15	P	P	08 47 14.1 +0.5
	comp=Z,55nm,0.8s,mb5.3,baz=218,slow=17,SNR=3.4					
JHJ				LR	LR	09 01 26.8
	comp=Z,4μm,18.3s,MS5.2,baz=265,slow=34					
KMI	Kunming	38.51	320	⇑⇑P	P	08 47 16.6 +2.0
KMI				AP	pP	08 47 27.3 +5.7
KMI				XP	sP	08 47 31.2 +6.6
KMI				PP	PP	08 48 48.8 +2.4
KMI				PCP	PcP	08 49 29.2 +1.5
KMI				S	S	08 53 10.8 +2.4
KMI				XS		08 53 27.1
KMI				SS	SS	08 55 52.6 +3.3
KMI				SCS	ScS	08 57 23.2 +1.4
KMI				AMB	AMB	
	comp=Z,103nm,1.6s,mb5.3					
KMI				AMB	AMB	
	comp=Z,628nm,3.5s					
KMI				LR	LR	
	comp=N,2μm,16.9s,MS5.1					
KMI				LR	LR	
	comp=E,2μm,15.9s,MS5.1					
KMI				LR	LR	
	comp=Z,2μm,27.0s					
KMI	Kunming	38.51	320	⇑P	P	08 47 16.6 +2.0
	comp=Z,103nm,1.6s,mb5.3					
KMI				pP	pP	08 47 27.3 +5.7
KMI				sP	sP	08 47 31.2 +6.6
KMI				PP	PP	08 48 48.8 +2.4
KMI				PPP	PPP	08 49 13.3 +4.2
KMI				PcP	PcP	08 49 29.2 +1.5
KMI				S	S	08 53 10.8 +2.4
KMI				PcS		08 53 18.5
KMI				sS		08 53 27.1
KMI				SS	SS	08 55 52.6 +3.3
KMI				SSS	SSS	08 56 15.6 -6.7
KMI				ScS	ScS	08 57 23.2 +1.4
KMI				LR	LR	
	comp=Z,2μm,27.0s,MS4.8					
KMI	Kunming	38.51	320	⇑P	P	08 47 16.6 +2.0
KMI				*PP	pP	08 47 27.3 +5.7
KMI						08 48 48.8
KMI				PPP	PPP	08 49 13.3 +4.2
KMI						08 49 29.2
KMI				S	S	08 53 10.8 +2.4
KMI						08 53 18.5
KMI				SS	SS	08 55 52.6 +3.3
KMI				SSS	SSS	08 56 15.6 -6.7
KMI						08 57 23.2
KMI				pmax	pmax	
	comp=Z,103nm,1.6s,mb5.3					
KMI				MLR	MLR	
	comp=Z,2μm,27.0s,MS4.8					
ENH	Enshi	38.82	333	eP	P	08 47 17.0 -0.1
	comp=Z,72nm,1.0s,mb5.4					
NOUC	Port Laguerre	40.50	120	eP	P	08 47 30.7 -0.4
NOUC	Port Laguerre	40.50	120	eP	P	08 47 30.7 -0.4
DZM	Mont Dzumac	40.61	120	eP	P	08 47 32.7 +0.7
DZM	Mont Dzumac	40.61	120	P	P	08 47 32.7 +0.7
	comp=Z,48nm,0.9s,mb5.1,baz=284,slow=7.2,SNR=14					
KS15	Wonju Array Si	41.29	359	eP	P	08 47 37.4 0.0
MJAR	Matsushiro Arr	41.33	11	P	P	08 47 37.1 -0.6
	comp=Z,83nm,0.9s,mb5.4,baz=190,slow=11,SNR=107					
MJAR				LR	LR	09 02 09.1
	comp=Z,2μm,20.1s,MS4.9,baz=190,slow=32					
MAJO	Matsushiro	41.33	11	eP	P	08 47 36.7 -1.0
	comp=Z,120nm,0.9s,mb5.5					
MAJO				ePcP	PcP	08 49 36.8 +0.2
MAJO				LR	LR	
	comp=Z,2μm,19.0s,MS5.0					
MAJO	Matsushiro	41.33	11	eP	P	08 47 36.7 -1.0
MAJO				e		08 49 36.8
MAJO				pmax	pmax	
	comp=Z,120nm,0.9s,mb5.5					
MAJO				MLR	MLR	
	comp=Z,2μm,19.0s,MS5.0					
MAT	Matsushiro	41.33	11	P	P	08 47 36.0 -1.7
MAT				S	S	08 53 48.0 -2.5
MAT	Matsushiro	41.33	11	eP	P	08 47 36.0 -1.7
	comp=Z,142nm,1.0s,mb5.5					
MAT				eS	S	08 53 48.0 -2.5
MAT				LR	LR	
	comp=Z,2μm,20.0s,MS5.0					
MAT	Matsushiro	41.33	11	eP	P	08 47 36.0 -1.7
MAT				eS	S	08 53 48.0 -2.5
MAT				pmax	pmax	
	comp=Z,142nm,1.0s,mb5.5					
MAT				MLR	MLR	
	comp=Z,2μm,20.0s,MS5.0					
INCN	Inchon	41.37	357	eP	P	08 47 37.2 -0.9
	comp=Z,154nm,0.9s,mb5.6					
INCN				LR	LR	
	comp=Z,2μm,20.0s,MS5.0					
TIA	Tai'an	41.52	346	eP	P	08 47 38.6 -0.8
TAU	Tasmania Unive	42.04	160	PFAKE		08 48 00.0 +16
TAU				LR	LR	
	comp=Z,1μm,20.0s,MS4.8					
CD2	Chengdu	42.21	327	⇑iP	P	08 47 45.3 +0.2
CD2				S	S	08 54 01.8 -1.8
CD2				AMB	AMB	
	comp=Z,50nm,1.6s,mb4.9					
CD2				LR	LR	
	comp=N,970nm,15.0s					
CD2				LR	LR	
	comp=Z,1μm,17.4s,MS4.8					
XAN	Xi'an	42.29	335	P	P	08 47 45.1 -0.6
XAN				AP	pP	08 47 52.4 -0.4
XAN				AMB	AMB	
	comp=Z,64nm,1.0s,mb5.2					
XAN				LR	LR	
	comp=N,674nm,21.6s					
XAN				LR	LR	
	comp=E,710nm,15.6s					
XAN				LR	LR	
	comp=Z,1μm,22.5s,MS4.8					
DL2	Dalian	43.26	352	P	P	08 47 53.3 -0.3
DL2				S	S	08 54 16.9 -2.0
DL2				AMB	AMB	
	comp=Z,20nm,0.7s,mb5.0					
DL2				AMB	AMB	
	comp=Z,190nm,3.8s					
DL2				LR	LR	
	comp=N,650nm,15.5s,MS4.8					
DL2				LR	LR	
	comp=E,710nm,13.3s,MS4.8					
DL2				LR	LR	
	comp=Z,940nm,19.2s					
WAKE	Wake Island	43.85	57	PFAKE		08 48 10.0 +11
WAKE				LR	LR	
	comp=Z,2μm,19.0s,MS5.0					
IMP	Imphal	44.40	312	eP	P	08 48 03.0 0.0
IMP				ex	x	08 49 47.0
SNY	Shenyang	45.91	355	⇑P	P	08 48 14.0 -0.8
SNY				XP	sP	08 48 30.6 +5.8
SNY				S	S	08 54 51.6 -5.5
SNY				SS	SS	08 58 13.0 -0.9
SNY				AMB	AMB	
	comp=Z,50nm,1.8s,mb5.1					
SNY				AMB	AMB	
	comp=Z,650nm,9.0s					
SNY				LR	LR	
	comp=N,2μm,19.4s					
SNY				LR	LR	
	comp=Z,2μm,19.6s,MS5.2					
LZH	Lanzhou	46.27	332	⇑P	P	08 48 18.5 +0.8
LZH				AP	pP	08 48 27.2 +2.3
LZH				XP	sP	08 48 30.8 +3.0
LZH				PP	PP	08 50 07.5 +1.1
LZH				S	S	08 55 03.6 +1.2
LZH				XS		08 55 18.1
LZH				SS	SS	08 58 22.3 +2.1
LZH				AMB	AMB	
	comp=Z,132nm,1.3s,mb5.7					
LZH				AMB	AMB	
	comp=Z,415nm,6.2s					
LZH				LR	LR	
	comp=N,2μm,14.9s					
LZH				LR	LR	
	comp=Z,4μm,17.7s,MS5.5					
LZH	Lanzhou	46.27	332	⇑P	P	08 48 18.5 +0.8
	comp=Z,132nm,1.3s,mb5.7					
LZH				pP	pP	08 48 27.2 +2.3
LZH				sP	sP	08 48 30.8 +3.0
LZH				PP	PP	08 50 07.5 +1.1
LZH				S	S	08 55 03.6 +1.2
LZH				sS		08 55 18.1
LZH				SS	SS	08 58 22.3 +2.1
LZH				LR	LR	
	comp=Z,4μm,17.7s,MS5.5					
LZH	Lanzhou	46.27	332	⇑P	P	08 48 18.5 +0.8
LZH				*PP	pP	08 48 27.2 +2.3
LZH						08 50 07.5
LZH				S	S	08 55 03.6 +1.2
LZH				*SS		08 55 18.1
LZH				SS	SS	08 58 22.3 +2.1
LZH				pmax	pmax	
	comp=Z,132nm,1.3s,mb5.7					
LZH				MLR	MLR	
	comp=Z,4μm,17.7s,MS5.5					
HHC	Hu-ho-hao-te	47.40	342	eP	P	08 48 26.2 -0.4
HHC				AP	pP	08 48 34.5 +0.8
HHC				XP	sP	08 48 38.0 +1.4
HHC				PP	PP	08 50 18.5 +1.3
HHC				SCP		08 53 49.1
HHC				S	S	08 55 18.8 +0.5
HHC				SCS	ScS	08 58 12.9 -3.4
HHC				SS	SS	08 58 39.6 -0.1
HHC				AMB	AMB	
	comp=Z,37nm,1.5s,mb5.1					
HHC				AMB	AMB	
	comp=Z,639nm,4.8s					
HHC				LR	LR	
	comp=N,1μm,16.1s,MS5.0					
HHC				LR	LR	
	comp=E,890nm,17.8s,MS5.0					
HHC				LR	LR	
	comp=Z,1μm,30.3s					
CAL	Calcutta	47.58	306	eP	P	08 48 30.6 +2.4
CAL				ex	x	08 51 17.1
CAL				ex	x	08 55 27.5
BTO	Baotou	47.67	341	eP	P	08 48 28.4 -0.3
BTO				AMB	AMB	
	comp=Z,27nm,1.5s,mb5.1					
CN2	Changchun	47.73	357	eP	P	08 48 28.2 -1.0
CN2				eXP	sP	08 48 41.2 +2.0
CN2				eS	S	08 55 22.9 -0.1
CN2				AMB	AMB	
	comp=Z,60nm,1.1s,mb5.5					
CN2				AMB	AMB	
	comp=Z,380nm,5.0s					
CN2				LR	LR	
	comp=N,1μm,16.0s,MS5.1					
CN2				LR	LR	
	comp=E,1μm,16.0s,MS5.1					
CN2				LR	LR	
	comp=Z,2μm,19.0s,MS5.1					
MDJ	Mudanjiang	48.45	1	P	P	08 48 35.1 +0.3
MDJ				AP	pP	08 48 41.4 -0.5
MDJ				PCP	PcP	08 50 00.7 -0.4
MDJ				PP	PP	08 50 27.4 +0.2
MDJ				PCS		08 53 57.4
MDJ				S	S	08 55 34.9 +1.7
MDJ				AMB	AMB	
	comp=Z,66nm,1.7s,mb5.4					
MDJ				AMB	AMB	
	comp=Z,416nm,4.7s					
MDJ				LR	LR	
	comp=N,2μm,39.6s,MS4.8					
MDJ				LR	LR	
	comp=E,494nm,36.3s,MS4.8					
MDJ				LR	LR	
	comp=Z,3μm,38.5s,MS5.0					
MDJ	Mudanjiang	48.45	1	eP	P	08 48 34.5 -0.2
	comp=Z,177nm,1.5s,mb5.9					
LSA	Lhasa	49.28	315	P	P	08 48 42.7 +1.4
LSA				PCP	PcP	08 50 04.2 -0.1
LSA				S	S	08 55 43.3 -1.6
LSA				SCS	ScS	08 58 31.7 +2.8
LSA				LR	LR	
	comp=N,450nm,29.4s,MS4.6					
LSA				LR	LR	
	comp=E,800nm,25.6s,MS4.6					
LSA	Lhasa	49.28	315	eP	P	08 48 42.5 +1.1
	comp=E,57nm,0.8s,mb5.7					
LSA	Lhasa	49.28	315	eP	P	08 48 42.5 +1.2
LSA				pmax	pmax	
	comp=Z,57nm,0.8s,mb5.7					
GTA	Gaotai	50.84	331	⇑P	P	08 48 53.1 0.0
GTA				AP	pP	08 48 59.8 -0.6
GTA				XP	sP	08 49 03.3 +0.2
GTA				PCP	PcP	08 50 10.3 +0.4
GTA				PP	PP	08 50 50.3 0.0
GTA				SCP		08 54 02.7
GTA				PCS		08 54 05.2
GTA				S	S	08 56 05.9 -0.5
GTA				XS		08 56 21.9
GTA				SCS	ScS	08 58 41.5 +2.2
GTA				AMB	AMB	
	comp=Z,78nm,1.4s,mb5.5					
GTA				AMB	AMB	
	comp=Z,461nm,6.5s					
GTA				LR	LR	
	comp=N,1μm,18.6s,MS5.0					
GTA				LR	LR	
	comp=E,939nm,23.6s,MS5.0					
GTA				LR	LR	
	comp=Z,2μm,25.5s,MS5.1					
MDRS	Chennai	51.15	290	ex	x	08 56 32.0
JIRN	Jiri	51.79	310	eP	P	08 49 00.6 +0.1
	comp=Z,253nm,1.1s,mb6.0					
GUN	Gumba	52.16	310	eP	P	08 49 03.2 0.0
	comp=Z,188nm,0.6s,mb6.2					
YSS	Yuzh-Sakhalins	52.26	12	eP	P	08 49 03.0 -0.8
	comp=Z,102nm,1.5s,mb5.5					
YSS				LR	LR	
	comp=Z,1μm,19.0s,MS5.0					
YSS	Yuzh-Sakhalins	52.26	12	eP	P	08 49 03.0 -0.8
YSS				pmax	pmax	
	comp=Z,101nm,1.5s,mb5.5					
YSS				MLR	MLR	
	comp=Z,1μm,19.0s,MS5.0					
PKI	Pulchoki	52.34	310	eP	P	08 49 04.2 -0.5
	comp=Z,198nm,1.2s,mb5.9					
BLSP	Bilaspur	52.55	302	ex	P	08 49 00.0 -6.2
KKN	Kakani	52.55	310	eP	P	08 49 05.8 -0.4
	comp=Z,119nm,0.8s,mb5.9					
DMN	Daman	52.60	309	eP	P	08 49 06.3 -0.3
	comp=Z,238nm,1.1s,mb6.0					
KLR	Kul'dur	53.13	2	eP	P	08 49 07.2 -3.0
KLR				eS	S	08 56 32.0 -5.5
KLR				pmax	pmax	
	comp=N,28nm,1.6s					
KLR				pmax	pmax	
	comp=E,37nm,1.6s					
KLR				pmax	pmax	
	comp=Z,80nm,1.6s,mb5.4					
KLR				smax		
	comp=N,1μm,10.0s					
KLR				smax		
	comp=E,500nm,10.0s					
KLR				MLR	MLR	
	comp=E,600nm,15.0s					
KLR				MLR	MLR	
	comp=Z,1μm,15.0s,MS5.1					
GKN	Gorkha	53.15	310	eP	P	08 49 10.1 -0.6
	comp=Z,168nm,0.8s,mb6.0					
TRD	Trivandrum	53.20	284	eP	P	08 49 08.5 -2.7
TRD				AMb	AMB	08 49 13.2
	comp=Z,64nm,1.3s,mb5.4					
HIA	Hailar	53.69	353	eP	P	08 49 13.9 -0.3
	comp=Z,308nm,2.2s,mb5.8					
HIA	Hailar	53.69	353	eP	P	08 49 13.9 -0.4
HIA				pmax	pmax	
	comp=Z,308nm,2.2s					
KOLN	Koldanda	53.84	309	eP	P	08 49 15.5 -0.2
	comp=Z,238nm,0.8s,mb6.2					
RPZ	Rata Peaks	54.27	143	P	P	08 49 19.2 +0.6
	comp=Z,141nm,0.9s,mb5.9,baz=334,slow=7.2,SNR=37					
SONM	Songino Array	55.29	342	P	P	08 49 25.8 -0.3
	comp=Z,34nm,1.1s,mb5.3,baz=153,slow=5.5,SNR=72					
SONM				PKP2bc		09 19 40.9
	comp=Z,0.4nm,0.7s,baz=270,slow=2.5,SNR=5.1					
SONM	Songino Array	55.29	342	P	P	08 49 25.8 -0.3
SONM				⇑e		09 19 40.9
SNZO	South Karori	55.30	139	eP	P	08 49 25.0 -1.2
	comp=Z,81nm,0.9s,mb5.8					
SNZO				LR	LR	
	comp=Z,3μm,19.0s,MS5.4					
URZ	Urewera	55.54	135	P	P	08 49 27.5 -0.5
	comp=Z,28nm,0.9s,mb5.3,baz=282,slow=6.0,SNR=7.4					
RAO	Raoul Island	56.25	123	PFAKE		08 49 50.0 +17
RAO				LR	LR	
	comp=Z,966nm,19.0s,MS4.9					
BHPL	Bhopal	56.98	301	eP	P	08 49 37.3 -1.3
BHPL				AMb	AMB	08 49 40.3
	comp=Z,138nm,1.4s,mb5.8					
CIT	Chita	57.35	349	eP	P	08 49 40.9 +0.1
CIT				e	pP	08 49 48.0 -0.1
CIT				e		08 59 28.8
CIT				pmax	pmax	
	comp=Z,261nm,2.0s,mb5.9					
KAD	Karad	57.95	293	eP	P	08 49 43.6 -1.8
KAD				AMb	AMB	08 49 46.6
	comp=Z,189nm,1.3s,mb6.0					
ZAK	Zakamensk	58.52	341	⇓eP	P	08 49 47.9 -1.0
ZAK				pmax	pmax	
	comp=Z,18nm,1.2s,mb5.0					
POO	Poona	58.60	294	eP	P	08 49 46.8 -3.1
POO				AMb	AMB	08 49 51.1
	comp=Z,121nm,1.3s,mb5.8					
SONA	Sohna	59.21	306	eP	P	08 49 51.2 -2.9
SONA				AMb	AMB	08 49 54.8
	comp=Z,126nm,0.6s,mb6.1					
AYAN	Aya Nagar	59.27	307	eP	P	08 49 52.5 -2.0
AYAN				AMb	AMB	08 50 09.9
	comp=Z,16nm,1.4s,mb4.9					
NDI	New Delhi	59.28	307	eP	P	08 49 51.0 -3.6
AFI	Afiamalu	59.34	104	P	P	08 49 54.8 -0.3
	comp=Z,75nm,1.1s,mb5.7,baz=247,slow=13,SNR=4.9					
AFI	Afiamalu	59.34	104	P	P	08 49 54.8 -0.3
SKR	Severo-Kuril's	59.35	20	eP	P	08 49 51.3 -3.4
SKR				e	pP	08 49 58.5 -3.6
SKR				e		08 52 02.0
SKR				pmax	pmax	
	comp=Z,30nm,0.5s,mb5.6					
SKR				pmax	pmax	
	comp=Z,1μm,2.0s,mb6.5					
BHGR	Bahadurgarh	59.51	307	eP	P	08 49 54.0 -2.1
TLY	Talaya	59.53	342	eP	P	08 49 54.9 -1.0
	comp=Z,25nm,0.9s,mb5.2					
TLY				ePcP	PcP	08 50 42.7 -0.3
TLY				ePP	PP	08 52 14.7 +5.4
TLY	Talaya	59.53	342	c iP	P	08 49 55.6 -0.3
TLY				e		08 50 42.8
TLY				eS	S	08 57 56.8 -5.7
TLY				eSS	SS	09 01 56.1 -3.2
TLY				pmax	pmax	
	comp=Z,81nm,1.8s,mb5.5					
KUDL	Kundal	59.65	306	eP	P	08 49 54.2 -2.8
KUDL				AMb	AMB	08 49 57.9
	comp=Z,106nm,1.1s,mb5.8					
IRK	Irkutsk	59.83	343	eP	P	08 49 57.6 -0.4
IRK				pmax	pmax	
	comp=Z,170nm,1.9s,mb5.8					
KKR	Kurukshetra	60.13	308	eP	P	08 49 57.4 -2.9
KHET	Khetri	60.17	306	eP	P	08 49 57.4 -3.2
KHET				AMb	AMB	08 50 01.1
	comp=Z,103nm,1.6s,mb5.6					
WMQ	Urumqi	60.30	327	⇑iP	P	08 50 01.0 -0.3
WMQ				AP	pP	08 50 07.0 -1.7
WMQ				PP	PP	08 52 16.0 -0.3
WMQ				SCP		08 54 46.0
WMQ				S	S	08 58 12.0 -0.5
WMQ				SCS	ScS	08 59 46.0 -0.8
WMQ				SS	SS	09 02 12.0 +0.7
WMQ				AMB	AMB	
	comp=Z,115nm,1.0s,mb5.9					
WMQ				AMB	AMB	
	comp=Z,641nm,5.0s					
WMQ				LR	LR	
	comp=N,2μm,25.0s,MS5.2					
WMQ				LR	LR	
	comp=E,1μm,24.0s,MS5.2					
WMQ				LR	LR	
	comp=Z,2μm,24.0s,MS5.1					
AJM	Ajmer	60.52	303	eP	P	08 50 01.0 -2.1
CLNS	Chul'man	60.77	358	eP	P	08 50 03.6 -0.7
CLNS				e*PP	pP	08 50 08.7 -3.0
CLNS				e		08 50 46.6
CLNS				e		08 52 13.1

CLNS				*e*S	S	08 58 18.7	+0.4
CLNS				pmax	pmax		
	comp=N,63nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,104nm,0.8s,mb6.0						
CLNS				pmax	pmax		
	comp=E,17nm,0.6s						
CLNS				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
CLNS				pmax	pmax		
	comp=N,17nm,1.0s						
CLNS				pmax	pmax		
	comp=E,8.0nm,1.1s						
CLNS				smax			
	comp=E,390nm,13.2s						
CLNS				smax			
	comp=Z,374nm,8.4s						
CLNS				smax			
	comp=N,974nm,13.6s						
CLNS				MLR	MLR		
	comp=Z,1μm,19.0s,MS5.0						
CLNS				MLR	MLR		
	comp=N,600nm,14.0s,MS4.9						
CLNS				MLR	MLR		
	comp=E,400nm,19.0s,MS4.9						
MIDW	**Midway**	**60.87**	**55**	PFAKE		08 50 20.0	+15
MIDW				LR	LR		
	comp=Z,1μm,21.0s,MS5.0						
PET	**Petropavlovsk**	**62.17**	**20**	*e*P	**P**	**08 50 13.1**	**-0.8**
	comp=Z,121nm,1.4s,mb5.8						
PET				LR	LR		
	comp=Z,1μm,20.0s,MS5.1						
PET	**Petropavlovsk**	**62.17**	**20**	*e*P	**P**	**08 50 13.4**	**-0.5**
PET				*e*S	**S**	**08 58 38.6**	**+2.4**
PET				*e*PPS	PPS	08 59 03.7	-1.5
PET				*e*SS	SS	09 02 44.5	+3.4
PET				pmax	pmax		
	comp=Z,600nm,3.5s						
PET				pmax	pmax		
	comp=Z,60nm,1.4s,mb5.5						
PET				pmax	pmax		
	comp=Z,200nm,4.3s						
PET				pmax	pmax		
	comp=Z,400nm,20.3s						
PET				smax			
	comp=E,400nm,9.3s						
PET				smax			
	comp=E,600nm,7.7s						
PET				smax			
	comp=N,1μm,8.7s						
PET				smax			
	comp=N,700nm,15.9s						
BOD	**Bodaibo**	**62.82**	**351**	⇓*i*P	**P**	**08 50 17.3**	**-0.8**
BOD				pmax	pmax		
	comp=Z,90nm,1.2s,mb5.8						
DRV	**Dumont d'Urvil**	**62.98**	**175**	P	**P**	**08 50 19.0**	**0.0**
DRV				S	**S**	**08 58 54.0**	**+7.8**
DRV				L		09 06 00.0	
DRV				R		09 10 00.0	
CASY	**Casey**	**63.42**	**188**	⇑*i*P	**P**	**08 50 21.4**	**-0.5**
JASL	**Jaisalmer**	**63.81**	**303**	*e*P	**P**	**08 50 21.4**	**-3.7**
KSH	**Kashi**	**65.07**	**317**	⇑*i*P	**P**	**08 50 33.0**	**-0.1**
KSH				*e*AP	pP	08 50 40.1	-0.4
KSH				*e*XP	sP	08 50 44.0	+0.9
KSH				*e*PCP	PcP	08 51 06.0	+0.3
KSH				*e*PP	PP	08 52 57.1	-1.3
KSH				*e*SCP		08 55 06.2	
KSH				*e*PCS		08 55 08.0	
KSH				S	S	08 59 10.0	-2.5
KSH				*e*SCS	ScS	09 00 22.0	-0.8
KSH				AMB	AMB		
	comp=Z,560nm,3.6s						
KSH				LR	LR		
	comp=N,490nm,7.7s						
KSH				LR	LR		
	comp=E,750nm,14.5s						
MKAR	**Makanchi Array**	**65.14**	**327**	P	**P**	**08 50 32.9**	**-0.6**
	comp=E,61nm,0.6s,mb5.8,baz=124,slow=7.7,SNR=584						
MKAR				PKP2bc		09 19 19.5	
	comp=E,0.8nm,0.8s,baz=284,slow=5.0,SNR=4.0						
MKAR	**Makanchi Array**	**65.14**	**327**	P	**P**	**08 50 32.9**	**-0.6**
MKAR				⇑*e*		09 19 19.5	
MA2	**Magadan**	**65.77**	**12**	*e*P	**P**	**08 50 37.4**	**+0.2**
	comp=E,74nm,1.0s,mb5.7						
MA2				LR	LR		
	comp=Z,981nm,22.0s,MS5.0						
MA2	**Magadan**	**65.77**	**12**	*de*P	**P**	**08 50 38.0**	**+0.8**
MA2				*e*		08 51 02.1	
MA2				*e*		08 52 56.9	
MA2				*e*PPP	PPP	08 54 41.8	+2.8
MA2				*e*S	S	08 59 22.4	+1.7
MA2				*e*PS	PS	08 59 47.6	+2.5
MA2				*e*		09 00 32.9	
MA2				pmax	pmax		
	comp=Z,60nm,1.5s,mb5.4						
YAK	**Yakutsk**	**65.90**	**0**	*e*P	**P**	**08 50 37.8**	**-0.2**
	comp=Z,428nm,0.9s,mb6.5						
YAK				*e*PcP	PcP	08 51 07.1	-1.6
YAK				LR	LR		
	comp=Z,1μm,20.0s,MS5.2						
YAK	**Yakutsk**	**65.90**	**0**	*c i*P	**P**	**08 50 37.5**	**-0.5**
YAK				*i* *PP	pP	08 50 47.6	+2.2
YAK				*i*		08 51 06.4	
YAK				*i*		08 53 01.9	
YAK				*i* PPP	PPP	08 54 37.1	-3.2
YAK				*i* S	S	08 59 22.3	0.0
YAK				*i*		09 00 29.8	
YAK				pmax	pmax		
	comp=Z,189nm,0.9s,mb6.1						
YAK				pmax	pmax		
	comp=N,85nm,1.2s						
YAK				pmax	pmax		
	comp=E,22nm,1.0s						
YAK				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
YAK				smax			
	comp=E,151nm,11.6s						
YAK				smax			
	comp=Z,238nm,14.5s						
YAK				smax			
	comp=N,458nm,9.6s						
AAA	**Alma-Ata**	**66.31**	**321**	*e*P	**P**	**08 50 41.0**	**0.0**
AAA				*e*S	S	08 59 31.0	+3.5
AAA				smax			
	comp=E,1μm,7.0s						
MIR	**Mirnyy**	**67.16**	**195**	*e*P	**P**	**08 50 45.0**	**-1.0**
MIR				pmax	pmax		
	comp=Z,77nm,1.8s,mb5.4						
AAK	**Ala-Archa**	**67.55**	**320**	*e*P	**P**	**08 50 48.0**	**-0.9**
	comp=Z,31nm,0.9s,mb5.3						
AAK	**Ala-Archa**	**67.55**	**320**	*c i*P	**P**	**08 50 48.1**	**-0.8**
AAK				pmax	pmax		
	comp=Z,93nm,1.6s,mb5.6						
AAK				MLR	MLR		
	comp=Z,2μm,23.0s,MS5.2						
FRU	**Bishkek**	**67.57**	**320**	*e*P	**P**	**08 50 48.0**	**-1.0**
FRU				*e*		08 51 10.0	
FRU				pmax	pmax		
	comp=Z,100nm,2.0s,mb5.5						
FRU				MLR	MLR		
	comp=Z,1μm,20.0s,MS5.0						
FX1	**Attu Island--F**	**67.88**	**27**	LR	LR	09 15 10.9	
	comp=Z,109nm,21.6s,baz=254,slow=31						
FX1	**Attu Island--F**	**67.88**	**27**	*e*P	**P**	**08 50 51.1**	**+0.4**
SMY	**Shemya**	**68.21**	**28**	*e*P	**P**	**08 50 53.6**	**+0.8**
SMY				LR	LR		
	comp=Z,4μm,22.0s,MS5.6						
ZAL	**Zalesovo**	**68.44**	**334**	P	**P**	**08 50 53.3**	**-0.9**
	comp=Z,26nm,0.8s,mb5.3,baz=351,slow=5.9,SNR=84						
ZAL				PKPPKP		09 19 11.7	
	comp=Z,1.6nm,0.3s,baz=138,slow=4.2,SNR=6.2						
SEY	**Seymchan**	**69.15**	**11**	⇑*i*P	**P**	**08 50 59.2**	**+0.7**
SEY	**Seymchan**	**69.15**	**11**	*i* P	**P**	**08 50 59.2**	**+0.7**
SEY						08 51 22.9	
SEY						08 53 33.6	
SEY				*e*S	S	09 00 05.6	+4.3
SEY				*e*PS	PS	09 00 36.5	+6.4
SEY						09 01 00.3	
SEY				pmax	pmax		
	comp=Z,140nm,1.1s,mb5.8						
SEY				pmax	pmax		
	comp=N,60nm,0.8s						
SEY				pmax	pmax		
	comp=E,30nm,0.8s						
SEY				smax			
	comp=N,1μm,8.9s						
SEY				smax			
	comp=E,440nm,8.9s						
SEY				MLR	MLR		
	comp=Z,810nm,19.0s,MS5.0						
SEY				MLR	MLR		
	comp=N,630nm,21.0s						
SEY				MLR	MLR		
	comp=E,320nm,15.0s						
KURK	**Kurchatov**	**69.41**	**329**	⇑*i*P	**P**	**08 50 59.7**	**-0.6**
	comp=E,119nm,0.7s,mb5.9						
KURK	**Kurchatov**	**69.41**	**329**	⇑*i*P	**P**	**08 50 59.7**	**-0.5**
KURK				pmax	pmax		
	comp=Z,119nm,0.7s,mb5.9						
NVS	**Novosibirsk**	**69.73**	**334**	⇑*i*P	**P**	**08 51 00.6**	**-1.5**
NVS				*i* S	S	09 00 04.6	-3.5
NVS				*i*		09 00 55.7	
NVS				pmax	pmax		
	comp=Z,204nm,1.5s,mb5.8						
NVS				pmax	pmax		
	comp=N,150nm,1.6s						
NVS				pmax	pmax		
	comp=E,148nm,1.4s						
NVS				smax			
	comp=N,46nm,2.4s						
NVS				smax			
	comp=E,168nm,3.0s						
KKAR	**Karatay Array**	**70.37**	**319**	*i* P	**P**	**08 51 05.4**	**-0.8**
GSTR	**Great Sitkin T**	**72.74**	**32**	*e*P	**P**	**08 51 20.6**	**+0.3**
BVA0	**Borovoye Array**	**74.96**	**328**	*i* P	**P**	**08 51 32.7**	**-0.5**
BVA0				pmax	pmax		
	comp=Z,156nm,2.3s,mb5.5						
BVAR	**Borovoye Array**	**74.96**	**328**	P	**P**	**08 51 32.9**	**-0.2**
	comp=Z,45nm,0.9s,mb5.4,baz=135,slow=6.3,SNR=193						
BRVK	**Borovoye**	**75.03**	**328**	⇑*i*P	**P**	**08 51 33.4**	**-0.2**
	comp=Z,69nm,1.0s,mb5.5						
BRVK	**Borovoye**	**75.03**	**328**	⇑*i*P	**P**	**08 51 33.4**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,69nm,1.0s,mb5.5						
VNDA	**Vanda**	**75.49**	**173**	P	**P**	**08 51 35.7**	**-0.1**
	comp=Z,25nm,0.8s,mb5.2,baz=321,slow=5.9,SNR=131						
VNDA	**Vanda**	**75.49**	**173**	*e*P	**P**	**08 51 35.4**	**-0.4**
	comp=Z,32nm,0.8s,mb5.3						
VNDA				LR	LR		
	comp=Z,1μm,19.0s,MS5.2						
VNDA	**Vanda**	**75.49**	**173**	*e*P	**P**	**08 51 35.4**	**-0.4**
VNDA				pmax	pmax		
	comp=Z,32nm,0.8s						
VNDA				MLR	MLR		
	comp=Z,1μm,19.0s						
TIXI	**Tiksi**	**75.56**	**0**	PFAKE		08 51 50.0	+14
TIXI				LR	LR		
	comp=Z,1μm,22.0s,MS5.2						
TIXI	**Tiksi**	**75.56**	**0**	*e*P	**P**	**08 51 33.1**	**-3.1**
TIXI				pmax	pmax		
	comp=Z,53nm,0.8s,mb5.5						
TIXI				MLR	MLR		
	comp=Z,1μm,17.0s,MS5.2						
SBA	**Scott Base**	**76.39**	**172**	PFAKE		08 51 50.0	+9.2
SBA				LR	LR		
	comp=Z,1μm,20.0s,MS5.2						
MAW	**Mawson**	**77.25**	**201**	⇑*i*P	**P**	**08 51 45.7**	**-0.1**
	comp=Z,22nm,1.4s,mb4.9						
MAW	**Mawson**	**77.25**	**201**	P	**P**	**08 51 45.9**	**+0.2**
	comp=Z,31nm,1.2s,mb5.1,baz=67,slow=6.4,SNR=24						
MAW				LR	LR	09 24 42.0	
	comp=Z,1μm,18.9s,MS5.2,baz=59,slow=35						
MAW	**Mawson**	**77.25**	**201**	⇑*i*P	**P**	**08 51 45.7**	**-0.1**
MAW				pmax	pmax		
	comp=Z,22nm,1.4s						
POHA	**Pohakuloa**	**77.92**	**69**	PFAKE		08 52 00.0	+10
POHA				LR	LR		
	comp=Z,12μm,22.0s,MS6.2						
UNV	**Unalaska Valle**	**78.68**	**33**	*e*P	**P**	**08 51 53.0**	**-0.9**
	comp=Z,255nm,1.0s,mb6.1						
UNV				LR	LR		
	comp=Z,8μm,22.0s,MS6.0						
AB31	**Akbulak array**	**79.49**	**322**	*i* P	**P**	**08 51 58.1**	**-0.3**
AB31				pmax	pmax		
	comp=Z,63nm,0.8s,mb5.6						
PPT	**Papeete**	**80.79**	**107**	*e*S	S	09 02 07.6	-3.5
PPT				*e*SS	SS	09 07 21.9	-6.0
PPT				*e*LR	LR	09 17 17.5	
	comp=Z,840nm,27.8s						
PPT	**Papeete**	**80.79**	**107**	P	**P**	**08 52 08.6**	**+2.6**
	comp=Z,55nm,0.9s,mb5.5,baz=270,slow=7.1,SNR=4.4						
OPO	**Ambohidratompo**	**80.80**	**252**	P	**P**	**08 52 06.2**	**+0.2**
	comp=Z,6.0nm,0.6s,mb4.7,baz=111,slow=4.7,SNR=15						
TBI	**Tubuai**	**80.81**	**113**	*e*S	S	09 02 08.1	-3.1
TBI				*e*LR	LR	09 17 18.2	
	comp=Z,814nm,26.0s						
TVO	**Taravao**	**81.09**	**107**	*e*P	**P**	**08 52 09.7**	**+2.2**
	comp=Z,316nm,1.3s,mb6.1						
PMOR	**Pomariorio Ree**	**82.48**	**105**	*e*P	**P**	**08 52 16.8**	**+2.0**
	comp=Z,177nm,1.3s,mb5.8						
SDPT	**Sand Point**	**82.49**	**33**	*e*P	**P**	**08 52 14.4**	**+0.4**
SDPT				LR	LR		
	comp=Z,1μm,23.0s,MS5.2						
ARU	**Arti**	**82.60**	**328**	⇑*i*P	**P**	**08 52 14.4**	**-0.2**
	comp=Z,88nm,0.8s,mb5.8						
ARU	**Arti**	**82.60**	**328**	⇑*i*P	**P**	**08 52 14.5**	**-0.1**
ARU				*e*		08 55 25.3	
ARU				*e*PPP	PPP	08 57 14.2	-4.6
ARU				*i* S	S	09 02 26.3	-2.6
ARU				*e*SS	SS	09 07 46.6	-7.7
ARU				pmax	pmax		
	comp=Z,95nm,0.8s,mb5.9						
ARU				MLR	MLR		
	comp=Z,500nm,20.0s,MS4.9						
ARU				MLR	MLR		
	comp=N,200nm,18.0s,MS4.9						
ARU				MLR	MLR		
	comp=E,400nm,19.0s,MS4.9						
VAH	**Vaihoa**	**82.73**	**105**	*e*P	**P**	**08 52 17.7**	**+1.6**
	comp=E,130nm,1.2s,mb5.8						
TNA	**Tin City**	**82.94**	**22**	*e*P	**P**	**08 52 17.0**	**+0.8**
	comp=E,55nm,1.3s,mb5.4						
TNA				LR	LR		
	comp=Z,528nm,22.0s,MS4.9						
CHGN	**Chignik**	**83.89**	**32**	*e*P	**P**	**08 52 21.6**	**+0.4**
KBD	**Kabd**	**84.23**	**300**	*e*P	**P**	**08 52 24.4**	**+0.8**
KBD				AMb	AMB	08 52 27.6	
	comp=Z,808nm,1.6s,mb6.6						
RDF	**Al-Radifah**	**84.33**	**299**	*e*P	**P**	**08 52 24.6**	**+0.5**
RDF				AMb	AMB	08 52 27.7	
	comp=Z,345nm,1.1s,mb6.4						
MIB	**Mutribah**	**84.63**	**300**	*e*P	**P**	**08 52 26.2**	**+0.7**
MIB				AMb	AMB	08 52 29.1	
	comp=Z,421nm,1.1s,mb6.5						
LBOS		**84.74**	**284**	⇑*e*P	**P**	**08 52 28.1**	**+1.7**
DHBB	**Dhamar BB**	**85.63**	**285**	⇑*e*P	**P**	**08 52 33.5**	**+2.7**
QSPA	**South Pole Qui**	**85.90**	**180**	*e*P	**P**	**08 52 31.2**	**+0.4**
	comp=Z,56nm,1.0s,mb5.8						
SYO	**Syowa Base**	**85.97**	**201**	⇓P	**P**	**08 52 30.0**	**-1.3**
MAK	**Makhachkala**	**86.40**	**313**	*d i*P	**P**	**08 52 35.8**	**+1.8**
MAK				*i*	pP	08 52 42.0	+0.4
MAK				*e*		09 02 58.0	
MAK				*i* S	S	09 03 10.0	+3.3
MAK				*e*PS	PS	09 04 04.0	-6.2
MAK				pmax	pmax		
	comp=Z,400nm,1.5s,mb6.4						
MAK				pmax	pmax		
	comp=Z,2μm,4.0s						
MAK				smax			
	comp=N,2μm,9.0s						
MAK				smax			
	comp=E,2μm,10.0s						
SVW2	**Sparrevohn**	**86.61**	**28**	*e*P	**P**	**08 52 35.1**	**+0.5**
KDAK	**Kodiak Island**	**87.34**	**32**	*e*P	**P**	**08 52 38.9**	**+0.7**
KDAK				LR	LR		
	comp=Z,2μm,23.0s,MS5.5						
BHD	**Baghdad**	**87.56**	**303**	*e*P	**P**	**08 52 41.0**	**+1.1**
BHD	**Baghdad**	**87.56**	**303**	*e*SKS	SKS	09 02 55.0	-16
BHD				*e*S	S	09 03 16.0	-2.0
DGRG	**David-gareji**	**87.75**	**312**	P	**P**	**08 52 42.8**	**+2.2**
RSO	**Redoubt South**	**87.81**	**29**	*e*P	**P**	**08 52 40.8**	**+0.4**
GNI	**Garni**	**88.07**	**310**	P	**P**	**08 52 43.5**	**+1.4**
	comp=Z,12nm,0.7s,mb5.2,baz=136,slow=5.7,SNR=15						
GNI	**Garni**	**88.07**	**310**	*e*P	**P**	**08 52 42.5**	**+0.3**
	comp=Z,113nm,1.4s,mb5.9						
GNI				LR	LR		
	comp=Z,279nm,20.0s,MS4.7						
GNI	**Garni**	**88.07**	**310**	*e*P	**P**	**08 52 42.5**	**+0.3**
GNI				pmax	pmax		
	comp=Z,113nm,1.4s						
GNI				MLR	MLR		
	comp=Z,279nm,20.0s						
MTA	**Mtatsminda**	**88.22**	**312**	P	**P**	**08 52 44.4**	**+1.5**
TI2	**Plekhanov**	**88.25**	**312**	*c i*P	**P**	**08 52 43.0**	**0.0**
TI2				*i* S	S	09 03 26.0	+1.7
TI2				pmax	pmax		
	comp=Z,2μm,3.0s						
TBLG	**Delisi**	**88.26**	**312**	P	**P**	**08 52 44.3**	**+1.2**
SPU	**Mount Spurr**	**88.29**	**28**	*e*P	**P**	**08 52 42.3**	**-0.4**
IMA	**Indian Mountai**	**88.63**	**23**	*e*P	**P**	**08 52 44.6**	**+0.4**
IMA	**Indian Mountai**	**88.63**	**23**	P	**P**	**08 52 45.0**	**+0.8**
IMA				pmax	pmax		
	comp=Z,90nm,1.0s,mb6.0						
MSL	**Mosul**	**88.94**	**306**	*e*P	**P**	**08 52 53.5**	**+7.1**
MSL				*ep*P	pP	08 53 06.0	+12
MSL	**Mosul**	**88.94**	**306**	*e*SKS	SKS	09 03 20.0	+0.2
MSL				*e*S	S	09 03 40.0	+9.2
ZEI	**Tsey**	**89.00**	**313**	*e*P	**P**	**08 52 45.2**	**-1.4**
ZEI				*i* *PP	pP	08 52 55.0	+0.8
ZEI				*i*		08 56 15.3	
ZEI				pmax	pmax		
	comp=Z,36nm,0.9s,mb5.7						
SLKM	**Skilak Lake**	**89.05**	**29**	*e*P	**P**	**08 52 46.4**	**+0.1**
SLKM	**Skilak Lake**	**89.05**	**29**	P	**P**	**08 52 46.6**	**+0.2**
FIB	**Fire Island**	**89.19**	**29**	PFAKE		08 53 00.0	+13
FIB				LR	LR		
	comp=Z,613nm,20.0s,MS5.0						
ONI	**Oni**	**89.31**	**313**	P	**P**	**08 52 49.0**	**+0.9**
PMR	**Palmer**	**89.75**	**28**	*e*P	**P**	**08 52 49.8**	**+0.2**
PMR				LR	LR		
	comp=Z,2μm,23.0s,MS5.4						
GOF	**Gofitskoye**	**89.86**	**315**	⇓*i*P	**P**	**08 52 49.3**	**-1.3**
GOF				pmax	pmax		
	comp=Z,100nm,1.3s,mb6.0						
KIV	**Kislovodsk**	**90.00**	**314**	⇑*i*P	**P**	**08 52 51.4**	**+0.1**
SML	**Sawmill**	**90.16**	**28**	*e*P	**P**	**08 52 51.0**	**-0.5**
SML	**Sawmill**	**90.16**	**28**	P	**P**	**08 52 57.7**	**+6.2**
MCK	**McKinley**	**90.17**	**26**	*e*P	**P**	**08 52 50.9**	**-0.7**
	comp=Z,52nm,1.2s,mb5.7						
MCK				*e*PP	PP	08 56 24.9	-2.7
MCK				LR	LR		
	comp=Z,607nm,22.0s,MS5.0						
MCK	**McKinley**	**90.17**	**26**	P	**P**	**08 52 51.0**	**-0.5**
MCK				pmax	pmax		
	comp=Z,43nm,1.1s,mb5.7						
ILAR	**Eielson Array**	**91.20**	**25**	P	**P**	**08 52 54.6**	**-1.6**
	comp=Z,16nm,0.7s,mb5.4,baz=279,slow=4.3,SNR=88						
ILAR				PP	PP	08 56 37.2	+1.4
	comp=Z,5.3nm,0.9s,baz=260,slow=6.8,SNR=10						
ILAR				PKKPbc		09 10 19.5	
	comp=Z,1.9nm,0.8s,baz=44,slow=1.1,SNR=19						
ILAR				LR	LR	09 28 42.1	
	comp=Z,754nm,21.6s,MS5.1,baz=249,slow=32						
DIV	**Divide**	**91.30**	**29**	*e*P	**P**	**08 52 57.1**	**+0.3**
	comp=Z,305nm,1.2s,mb6.5						
DIV				LR	LR		
	comp=Z,8μm,22.0s,MS6.1						
KMBO	**Kilima Mbogo**	**91.49**	**269**	P	**P**	**08 52 59.4**	**+0.6**
	comp=Z,6.8nm,0.9s,mb5.0,baz=63,slow=6.2,SNR=12						
KMBO				LR	LR	09 31 03.4	
	comp=Z,732nm,19.8s,MS5.1,baz=276,slow=34						
SOC	**Sochi**	**92.12**	**313**	*e*P	**P**	**08 53 00.6**	**-0.4**
SOC				*e*		08 56 39.8	
SOC				*e*S	S	09 03 30.5	-29
SOC				*e*SS	SS	09 10 11.6	-0.8
SOC				*e*SSS	SSS	09 13 50.9	+0.4
SOC				pmax	pmax		
	comp=Z,21nm,0.8s,mb5.5						
SOC				pmax	pmax		
	comp=N,10.0nm,0.5s						
SOC				pmax	pmax		
	comp=E,4.0nm,0.5s						
SOC				MLR	MLR		
	comp=Z,405nm,21.0s,MS4.8						
SOC				MLR	MLR		
	comp=N,247nm,22.0s,MS4.7						
SOC				MLR	MLR		
	comp=E,167nm,21.0s,MS4.7						
MENT	**Mentasta**	**92.42**	**27**	*e*P	**P**	**08 53 02.3**	**+0.4**
MALT	**Malatya**	**92.80**	**308**	*e*P	**P**	**08 53 05.3**	**+1.0**
	comp=E,53nm,1.4s,mb5.8						
MALT	**Malatya**	**92.80**	**308**	*e*P	**P**	**08 53 05.3**	**+1.1**
MALT				pmax	pmax		
	comp=Z,53nm,1.4s,mb5.8						
UMJS	**Umm Lajj**	**93.07**	**295**	P	**P**	**08 53 07.2**	**+1.4**
ASF	**Jabal al Asfar**	**93.76**	**302**	P	**P**	**08 53 09.3**	**+0.5**
	comp=Z,18nm,0.8s,mb5.5,baz=327,slow=4.5,SNR=20						
ANN	**Anapa**	**93.82**	**314**	*e*P	**P**	**08 53 07.0**	**-1.8**
ANN				*e*PP	pP	08 53 15.8	-0.6
ANN				*e*		09 03 38.6	
ANN				*e*		09 04 13.1	
ANN				pmax	pmax		
	comp=Z,84nm,1.2s,mb6.0						
ANN				MLR	MLR		
	comp=N,455nm,21.0s,MS5.0						
ANN				MLR	MLR		
	comp=E,390nm,21.0s,MS5.0						
ANN				MLR	MLR		
	comp=Z,457nm,21.0s,MS4.9						
TBKS	**Tabuk**	**93.90**	**298**	P	**P**	**08 53 10.5**	**+1.0**
MOS	**Moscow**	**94.00**	**325**	*e*P	**P**	**08 53 05.9**	**-3.4**
MOS				*e*		08 56 57.5	
MOS				pmax	pmax		
	comp=Z,85nm,1.4s,mb6.0						
RKT	**Rikitea**	**94.12**	**113**	*e*LR	LR	09 23 16.9	
	comp=Z,549nm,26.5s						
DAWY	**Dawson**	**94.40**	**26**	⇑*e*P	**P**	**08 53 11.7**	**+0.7**
JMQS	**Jabal Moqyreh**	**94.51**	**299**	P	**P**	**08 53 13.2**	**+0.8**
OBN	**Obninsk**	**94.59**	**325**	⇑*e*P	**P**	**08 53 11.3**	**-0.8**
OBN				LR	LR		
	comp=Z,800nm,22.0s,MS5.1						
OBN	**Obninsk**	**94.59**	**325**	*c i*P	**P**	**08 53 11.0**	**-1.1**
OBN				*e*	pP	08 53 18.9	-0.7
OBN				*i*		08 57 09.0	
OBN				*e*PPP	PPP	08 59 12.3	+5.5
OBN				*e*		09 03 45.7	
OBN				*i*		09 04 24.1	
OBN				*e*PS	PS	09 05 49.7	+5.0
OBN				*e*SS	SS	09 10 47.0	-0.6
OBN				pmax	pmax		
	comp=Z,16nm,0.7s,mb5.6						
OBN				MLR	MLR		
	comp=Z,800nm,22.0s,MS5.1						
KSHT	**Keshet**	**94.71**	**303**	P	**P**	**08 53 14.2**	**+1.0**
MKRJ	**Makawir**	**94.81**	**301**	P	**P**	**08 53 14.4**	**+0.7**
MMLI	**Mount Malkishu**	**95.02**	**302**	P	**P**	**08 53 15.5**	**+0.9**
BDAS	**Al Bad'**	**95.18**	**298**	P	**P**	**08 53 16.0**	**+0.6**
JMOS	**Jabal al Moall**	**95.20**	**299**	P	**P**	**08 53 16.1**	**+0.6**
ALWS	**Ilw as Safayha**	**95.24**	**299**	P	**P**	**08 53 16.4**	**+0.7**
PRNI	**Paran**	**95.32**	**300**	P	**P**	**08 53 16.8**	**+0.7**
EIL	**Elat**	**95.35**	**299**	P	**P**	**08 53 16.7**	**+0.5**
HAQS	**Haql**	**95.35**	**299**	P	**P**	**08 53 16.9**	**+0.7**
TAYS	**Tayyib Ism**	**95.39**	**298**	P	**P**	**08 53 17.1**	**+0.7**
KMTI	**Karmit**	**95.56**	**300**	P	**P**	**08 53 17.5**	**+0.4**
APA	**Apatity**	**95.80**	**337**	*e*P	**P**	**08 53 09.2**	**-8.1**
APA				*e*		09 03 50.0	
APA				*e*		09 04 30.0	
APA				pmax	pmax		
	comp=Z,12nm,0.8s,mb5.4						
SIM	**Simferopol'**	**96.18**	**315**	*ce*P	**P**	**08 53 19.0**	**-0.6**
SIM				pmax	pmax		
	comp=Z,24nm,0.9s,mb5.6						
BR131	**Keskin Array S**	**96.56**	**309**	*e*P	**P**	**08 53 21.1**	**-0.3**
	comp=Z,4.1nm,0.8s,mb4.9						
BR131				LR	LR		
	comp=Z,295nm,20.0s,MS4.8						
BRTR	**Keskin Array B**	**96.56**	**309**	P	**P**	**08 53 21.1**	**-0.4**
	comp=Z,6.6nm,

KBS *e*PP PP 08 57 25.3 -11
KBS *e*SKSa 09 04 09.9
KBS AMS AMS 09 38 20.8
comp=Z,522nm,22.0s,MS5.0
KBS Kingsbay 98.98 350 PFAKE 08 53 40.0 +8.5
KBS LR LR
comp=Z,1µm,22.0s,MS5.3
LSZ Lusaka 99.17 254 PFAKE 08 53 50.0 +16
LSZ LR LR
comp=Z,834nm,19.0s,MS5.3
AKASG Malin Array Be 99.21 321 P **P** **08 53 32.1 -1.0**
comp=Z,0.3nm,0.3s,baz=75,slow=4.0,SNR=11
AKASG PP PP 08 57 38.5 +0.3
comp=Z,0.2nm,0.2s,baz=76,slow=6.0,SNR=4.8
DLBC Dease Lake 99.28 32 P **P** **08 53 33.4 +0.1**
comp=Z,3.4nm,1.0s,mb4.8,baz=258,slow=6.9,SNR=7.2
DLBC Dease Lake 99.28 32 *e*P **P** **08 53 33.9 +0.7**
KAF Kangasniemi 99.42 332 *e*p **P** **08 53 31.7 -2.1**
comp=Z,5.7nm,0.7s,mb5.2
FINES FINESS Array B 99.63 332 P **P** **08 53 33.8 -1.0**
comp=Z,3.3nm,0.7s,mb4.9,baz=104,slow=5.7,SNR=14
FINES PKiKP 08 58 04.3
comp=Z,2.1nm,0.8s,baz=117,slow=4.3,SNR=3.5
KIS Kishinev 99.78 317 *e*P **P** **08 53 32.0 -3.8**
KIS *e* 09 04 12.0
KIS MLR MLR
comp=Z,600nm,20.0s,MS5.1
KIS MLR MLR
comp=E,300nm,19.0s
KIS MLR MLR
comp=Z,500nm,22.0s
BOSA Boshof 99.92 240 P **P** **08 53 36.4 -0.6**
comp=Z,2.1nm,0.8s,mb4.6,baz=78,slow=2.7,SNR=5.3
BOSA Boshof 99.92 240 P **P** **08 53 36.4 -0.6**
BOSA LR LR
comp=Z,573nm,19.0s,MS5.1
VNA3 Neumayer Olymp 100.09 193 *e* P 08 53 41.8 +5.1
VNA3 Neumayer Olymp 100.09 193 *e* P 08 53 46.1 +9.4
VNA3 Neumayer Olymp 100.09 193 ⇑/Pdif P 08 53 37.2 +0.5
VNA3 *e* 08 53 41.8
VNA3 *e* 08 53 46.1
VNA1 Neumayer--Stat 100.21 193 *e* P 08 53 43.9 +6.6
VNA1 Neumayer--Stat 100.21 193 *e* P 08 53 48.2 +11
VNA1 Neumayer--Stat 100.21 193 ⇑/Pdif P 08 53 40.0 +2.7
VNA1 *e* 08 53 43.9
VNA1 *e* 08 53 48.2
LBTB Lobatse 100.23 244 PFAKE 08 53 50.0 +12
LBTB LR LR
comp=Z,1µm,20.0s,MS5.4
TRO Tromso 100.64 340 *e*PP PP 08 57 42.7 -6.5
TRO AMS AMS 09 48 47.2
comp=Z,728nm,18.8s,MS5.2
MLR Muntele Rosu 101.91 316 P P 08 53 45.5 +0.1
comp=Z,8.8nm,1.2s,baz=36,slow=2.5,SNR=12
MLR PP PP 08 58 01.5 +2.4
comp=Z,17nm,1.3s,baz=145,slow=6.8,SNR=3.3
OCWA Octopus Mounta 104.40 42 PFAKE 08 54 10.0 +14
OCWA LR LR
comp=Z,906nm,21.0s,MS5.3
RES Resolute Bay 105.03 11 *e*Pdif Pdif 08 53 58.9 +0.3
comp=Z,5.3nm,0.8s
RES Resolute Bay 105.03 11 P Pdif 08 54 00.4 +1.8
RES pmax pmax
comp=Z,5.0nm,0.9s
YKA Yellowknife Ar 105.63 26 Pdiff Pdif 08 54 02.5 +1.1
comp=Z,1.5nm,0.7s,baz=292,slow=4.9,SNR=3.9
YKA Yellowknife Ar 105.63 26 Pdif Pdif 08 54 02.5 +1.1
HFS Hagfors 105.83 332 Pdiff Pdif 08 54 01.7 -0.7
comp=Z,2.1nm,0.5s,baz=90,slow=5.9,SNR=9.2
HUMO Hull Mountain 106.12 47 PFAKE 08 58 30.0
HUMO LR LR
comp=Z,690nm,22.0s,MS5.2
VYHS Vyhne 106.22 319 *e* PP 08 58 31.6 +0.3
OKC Ostrava-Krasne 106.35 321 AMS AMS 09 54 30.0
comp=Z,400nm,21.0s
YBH Yreka Blue Hor 106.44 48 PFAKE 08 58 30.0
YBH LR LR
comp=Z,591nm,20.0s,MS5.1
HOPS Hopland 106.59 51 PFAKE 08 58 30.0
HOPS LR LR
comp=Z,653nm,20.0s,MS5.2
NB2 NORSAR Subarra 106.64 333 P Pdif 08 54 04.9 -1.0
comp=Z,5.6nm,1.0s,baz=69,slow=4.5
NB2 NORSAR Subarra 106.64 333 P Pdif 08 54 04.9 -1.0
baz=69,slow=4.4
NOA NORSAR Array B 106.64 333 Pdiff Pdif 08 54 05.3 -0.6
comp=Z,2.0nm,0.7s,baz=68,slow=4.6,SNR=12
NOA PKiKP 08 58 17.0
comp=Z,0.8nm,0.6s,baz=158,slow=1.8,SNR=3.9
WDC Whiskeytown Da 106.76 49 PFAKE 08 58 30.0
WDC LR LR
comp=Z,660nm,20.0s,MS5.2
NAO01 NORSAR Array S 106.86 333 PFAKE 08 58 30.0
NAO01 LR LR
comp=Z,993nm,20.0s,MS5.4
JMIC Jan Mayen 107.86 347 AMS AMS 09 49 05.3
comp=Z,271nm,19.7s,MS4.8
KONO Kongsberg 107.93 332 *e*PP PP 08 58 40.5 -3.3
KONO *e*SKSa 09 04 43.3
KONO Kongsberg 107.93 332 PFAKE 08 58 30.0
KONO LR LR
comp=Z,546nm,20.0s,MS5.1
MOD Modoc 108.18 47 PFAKE 08 58 30.0
MOD LR LR
comp=Z,470nm,19.0s,MS5.1
SAO San Andreas Ge 108.20 53 PFAKE 08 58 30.0
SAO LR LR
comp=Z,659nm,19.0s,MS5.2
PVCC Panska Ves 108.40 322 AMS AMS 09 45 30.0
comp=Z,500nm,20.8s
PRU Pruhonice 108.57 322 *e*PP PP 08 58 45.9 -3.2
PRU AMS AMS 09 45 40.0
comp=Z,600nm,23.0s
TSUM Tsumeb 108.58 248 PFAKE 08 58 30.0
TSUM LR LR
comp=Z,576nm,20.0s,MS5.1
BRG Berggiesshubel 108.68 323 *e*PKP Pdif 08 54 16.9 +1.8
comp=Z,4.0nm,0.7s
BRG *e* 09 04 58.0
BRG SS SS 09 14 17.0 +15
BRG Berggiesshubel 108.68 323 *e*P Pdif 08 54 17.0 +1.9
BRG *e* 09 04 58.0
BRG SS SS 09 14 17.0 +15
BRG pmax pmax
comp=Z,4.0nm,0.7s
BRG MLR MLR
comp=N,244nm,19.3s,MS5.1
BRG MLR MLR
comp=E,430nm,19.5s,MS5.1
BRG MLR MLR
comp=Z,691nm,26.9s
CMB Columbia Colle 108.83 51 PFAKE 08 58 30.0
CMB LR LR
comp=Z,732nm,19.0s,MS5.3
NEW Newport 108.90 40 PFAKE 08 58 30.0
NEW LR LR
comp=Z,994nm,20.0s,MS5.4
CLL Collm 109.11 323 *e*PDIF Pdif 08 54 18.0 +1.0
CLL *e*PKIKP 08 58 22.0
CLL *e*PP PP 08 58 49.0 -4.3
CLL *e*PPP PPP 09 01 12.0 +0.5
CLL *e* 09 04 10.0
CLL *e* 09 04 57.0
CLL *e* 09 05 51.0
CLL *e* 09 06 26.0
CLL *e*PS PS 09 08 05.0 -8.7
CLL *e*PPS PPS 09 09 18.0 -1.6
CLL *e* 09 09 49.0
CLL *e*SS SS 09 14 29.0 +21
CLL *e*SSS SSS 09 18 15.0 +0.8
CLL Collm 109.11 323 *e*P Pdif 08 54 18.0 +1.0
CLL *e* 09 04 57.0
CLL pmax pmax
comp=Z,6.0nm,0.8s
BOJS Bojanci 109.30 317 *e*PKiKP 08 58 22.7
BOJS *e*PP PP 08 58 57.5 +2.7
MUD Monsted U'grnd 109.41 329 *i* P PP 08 58 58.8 +3.5
MUD *i* 09 08 12.1
comp=Z,560nm,21.0s
KHC Kasperske Hory 109.42 321 *e*PP PP 08 58 51.5 -4.0
KHC AMS AMS 09 56 30.0
comp=Z,500nm,19.7s
GERESS GERESS Array B 109.42 321 PKiKP 08 58 22.6
comp=Z,3.6nm,0.6s,baz=71,slow=0.9,SNR=15
VISS Visnje 109.50 317 *e*PKiKP 08 58 22.8

BER Bergen 109.53 334 *e*SKSa 09 04 56.4
BER AMS AMS 09 52 01.1
comp=Z,800nm,19.2s,MS5.3
EDM Edmonton 109.64 34 *e*PKP 08 58 22.7
BMO Blue Mountains 109.66 44 PFAKE 08 58 30.0
BMO LR LR
comp=Z,685nm,21.0s,MS5.2
NKC Novy Kostel 109.78 322 AMS AMS 09 51 00.0
comp=Z,500nm,19.4s
MOX Moxa 110.15 323 *e*P PKPdf 08 58 26.0 -0.2
MOX PP PP 08 59 09.0 +8.4
MOX PS PS 09 08 24.0 -0.1
MOX SSS SSS 09 18 38.0 +7.3
MOX L 09 57 10.0
SNCC San Nicolas Is 110.29 56 PFAKE 08 58 40.0 +13
SNCC LR LR
comp=Z,1µm,21.0s,MS5.4
PMSA Palmer Station 110.69 174 PFAKE 08 58 40.0 +13
PMSA LR LR
comp=Z,878nm,20.0s,MS5.3
BMN Battle Mountai 110.77 48 PFAKE 08 58 40.0 +12
BMN LR LR
comp=Z,584nm,19.0s,MS5.2
BMN Battle Mountai 110.77 48 PKIKP PKPdf 08 58 24.3 -3.4
WTTA Wattenberg 111.21 319 ⇑/*P* PKPdf 08 58 26.0 -2.4
WATA Walderalm 111.23 320 ⇑/*P* PKPdf 08 58 27.8 -0.6
TPH Tonopah 111.27 51 PFAKE 08 58 40.0 +11
TPH LR LR
comp=Z,623nm,19.0s,MS5.2
DAC Darwin (Calif) 111.34 53 PFAKE 08 58 40.0 +11
DAC LR LR
comp=Z,794nm,20.0s,MS5.3
MSO Missoula 111.38 41 *e*PKP PKPdf 08 58 26.0 -2.7
MSO *e*PP PP 08 59 05.5 -3.8
MSO LR LR
comp=Z,518nm,20.0s,MS5.1
SQTA Sankt Quirin 111.50 320 ⇓/*P* PKPdf 08 58 26.7 -2.2
MOTA Moosalm 111.53 320 ⇓/*P* PKPdf 08 58 26.4 -2.6
CHMT Chamberlain Mo 111.80 41 *e*PKP PKPdf 08 58 26.7 -2.8
HLID Hailey 112.01 44 *e*PKP PKPdf 08 58 28.3 -1.7
HLID LR LR
comp=Z,591nm,22.0s,MS5.1
ELK Elko 112.16 48 *e*PKP PKPdf 08 58 28.2 -2.1
ELK LR LR
comp=Z,829nm,21.0s,MS5.3
ELK Elko 112.16 48 PKIKP PKPdf 08 58 29.2 -1.2
DAVA Damuels 112.34 320 ⇑/*P* PKPdf 08 58 28.0 -2.6
DAVOX Davos 112.51 319 PKiKP 08 58 28.8
comp=Z,6.4nm,0.5s,baz=137,slow=3.9,SNR=12
MCMT McKenzie Canyo 112.72 43 *e*PKP PKPdf 08 58 29.0 -2.4
PFO Pinyon Flat Ob 112.76 55 PFAKE 08 58 40.0 +8.2
PFO LR LR
comp=Z,222nm,19.0s,MS4.8
ABH Alteburg 112.87 323 *e*P PKPdf 08 58 29.9 -1.7
LANF Langenberg 113.05 322 *e*P PKPdf 08 58 28.5 -3.5
BOZ Bozeman (W) 113.27 42 *e*PKP PKPdf 08 58 30.3 -2.2
BOZ LR LR
comp=Z,723nm,20.0s,MS5.3
BOZ Bozeman (W) 113.27 42 *e*PKIKP PKPdf 08 58 31.0 -1.5
FELD Feldberg 113.33 321 *e*P PKPdf 08 58 29.0 -3.6
NEN Nelson 113.65 53 *e*PKPdf PKPdf 08 58 31.2 -2.3
ECH Echery 113.73 322 *e*P PKPdf 08 58 30.6 -2.8
BBS Basel-Blauen 113.79 321 *e*P PKPdf 08 58 30.6 -2.9
MOF Molkenrain 113.88 321 *e*P PKPdf 08 58 28.5 -5.2
HINF Hinteralfeld 114.07 321 *e*PKIKP PKPdf 08 58 30.7 -3.3
comp=Z,20nm,0.9s
RRI2 Red Ridge 114.22 44 *e*PKP PKPdf 08 58 32.6 -1.9
LOMF Lomont 114.26 321 *e*P PKPdf 08 58 30.8 -3.6
IMW Indian Meadow 114.31 43 *e*PKP PKPdf 08 58 32.5 -2.1
HAU Haudompre 114.31 322 *e*PKIKP PKPdf 08 58 31.5 -3.0
HAU *e*R
comp=Z,435nm,19.8s
GIVF Givet 114.39 324 *e*PKIKP PKPdf 08 58 32.1 -2.4
TPAW Teton Pass 114.43 44 *e*PKP PKPdf 08 58 32.9 -1.9
THEF They Montfort 114.45 322 *e*P PKPdf 08 58 31.3 -3.4
PGF Pioggiola 114.45 315 *e*PKIKP PKPdf 08 58 32.1 -2.8
comp=Z,42nm,1.1s
REDW Red Top Meadow 114.54 44 *e*PKP PKPdf 08 58 32.8 -2.2
AHID Auburn Hatcher 114.56 44 PFAKE 08 58 40.0 +4.9
AHID LR LR
comp=Z,699nm,21.0s,MS5.2
SNOW Snow King Moun 114.58 44 *e*PKP PKPdf 08 58 33.1 -2.0
HWUT Hardware Ranch 114.59 46 *e*PKP PKPdf 08 58 32.9 -2.3
HWUT LR LR
comp=Z,634nm,20.0s,MS5.2
LOHW Long Hollow 114.63 43 *e*PKP PKPdf 08 58 33.1 -2.1
BAIF Baives 114.77 324 *e*PKIKP PKPdf 08 58 32.7 -2.6
comp=Z,10.0nm,0.6s
SAOF Saorge 114.98 317 *e*P PKPdf 08 58 33.0 -2.8
LPG La Plagne 114.99 319 *e*PKIKP PKPdf 08 58 33.4 -2.4
comp=Z,20nm,0.7s
LPL La Plagne 115.00 319 *e*PKIKP PKPdf 08 58 33.3 -2.5
comp=Z,18nm,0.6s
SBF Sospel 115.11 317 *e*PKIKP PKPdf 08 58 33.0 -3.1
REVF Revere 115.19 317 *e*P PKPdf 08 58 31.2 -5.1
BNI Bardonecchia 115.20 318 *e*PKP PKPdf 08 58 32.7 -3.6
BNI Bardonecchia 115.20 318 PKIKP PKPdf 08 58 33.7 -2.6
MBDF Montbardon 115.25 318 *e*PKIKP PKPdf 08 58 33.3 -3.1
comp=Z,13nm,0.6s
SURF Saint Ours 115.31 318 *e*P PKPdf 08 58 33.4 -3.1
TMUT Trail Mountain 115.53 48 *e*PKPdf PKPdf 08 58 35.0 -2.0
BW06 Boulder Array 115.63 44 *e*PKPdf PKPdf 08 58 34.4 -2.8
BW06 LR LR
comp=Z,1µm,22.0s,MS5.4
PDAR Pinedale Array 115.64 44 PKP PKPdf 08 58 34.5 -2.8
comp=Z,2.4nm,0.9s,baz=225,slow=2.1,SNR=20
PDAR PKKPbc 09 09 06.7
comp=Z,1.9nm,0.8s,baz=109,slow=4.6,SNR=14
GRN Grenoble 115.74 319 *e*P PKPdf 08 58 35.1 -2.3
FRF La Foret Royal 115.75 317 *e*PKIKP PKPdf 08 58 34.3 -3.1
comp=Z,42nm,1.0s
ORIF Oris-en-Rattie 115.78 319 *e*PKIKP PKPdf 08 58 34.5 -2.9
comp=Z,14nm,0.6s
ORIF *e*R
comp=Z,838nm,22.5s
LMR La Mourre 115.92 317 *e*PKIKP PKPdf 08 58 34.0 -3.8
comp=Z,23nm,1.0s
EKA Eskdalemuir Ar 116.03 332 PKP PKPdf 08 58 35.2 -2.5
comp=Z,3.6nm,0.6s,baz=10,slow=2.4,SNR=11
LOR Lormes 116.15 322 *e*PKIKP PKPdf 08 58 34.9 -3.2
comp=Z,8.7nm,0.7s
LOR *e*R
comp=Z,514nm,21.0s
SMRF Simiane la Rot 116.32 318 *e*PKIKP PKPdf 08 58 35.3 -3.2
LAO LASA Array 116.38 39 *e*PKPdf PKPdf 08 58 36.3 -2.3
LAO LR LR
comp=Z,1µm,20.0s,MS5.5
SMF Signal de Mont 116.42 321 *e*PKIKP PKPdf 08 58 35.3 -3.3
SSF Saint Saulge 116.46 321 *e*PKIKP PKPdf 08 58 35.9 -2.8
comp=Z,34nm,0.9s
VIVF Saint-Julien-l 116.59 319 *e*PKIKP PKPdf 08 58 36.1 -2.9
comp=Z,21nm,0.9s
AVF Avril sur Loir 116.66 321 *e*PKIKP PKPdf 08 58 35.9 -3.2
comp=Z,21nm,0.9s
PLDF La Plantade 116.83 320 *e*P PKPdf 08 58 37.6 -1.8
DGMT Dagmar 116.86 37 PFAKE 08 58 50.0 +11
DGMT LR LR
comp=Z,689nm,21.0s,MS5.2
BGF Bois d'Agland 117.08 321 *e*PKIKP PKPdf 08 58 37.2 -2.7
comp=Z,65nm,0.9s
AGO Saint Agoulin 117.11 321 *e*P PKPdf 08 58 38.6 -1.3
LBL Lubilhac 117.37 320 *e*P PKPdf 08 58 38.8 -1.7
LASF Ste Croix 117.43 318 *e*PKIKP PKPdf 08 58 37.8 -2.8
TCF Toulx Ste Croi 117.59 321 *e*PKIKP PKPdf 08 58 38.1 -2.7
comp=Z,35nm,0.9s
RWWY Rawlins 117.64 45 *e*PKPdf PKPdf 08 58 38.7 -2.4
VERF Verneugheol 117.65 320 *e*P PKPdf 08 58 38.9 -2.1
TUC Tucson 117.69 56 *e*PKPdf PKPdf 08 58 39.4 -2.0
TUC LR LR
comp=Z,514nm,21.0s,MS5.1
TUC Tucson 117.69 56 PKIKP PKPdf 08 58 40.0 -1.4
FLN La Foiniere 118.08 325 *e*PKIKP PKPdf 08 58 38.8 -2.9
comp=Z,11nm,0.7s
FLN *e*R
comp=Z,662nm,20.0s
CAF Calviac 118.26 320 *e*PKIKP PKPdf 08 58 39.8 -2.4
RJF Les Rejaudoux 118.45 320 *e*PKIKP PKPdf 08 58 39.3 -3.3
RJF *e*R
comp=Z,512nm,20.0s
GRR Gorron 118.48 324 *e*PKIKP PKPdf 08 58 39.6 -3.0
SMCO Snowmass 118.69 47 *e*PKPdf PKPdf 08 58 41.4 -1.8
MTLF Montolieu 118.82 318 *e*PKIKP PKPdf 08 58 40.3 -3.1
comp=Z,22nm,0.8s
RSSD Black Hills 118.85 41 *e*PKPdf PKPdf 08 58 40.5 -2.9

RSSD LR LR
comp=Z,203nm,19.0s,MS4.8
RSSD Black Hills 118.85 41 PKIKP PKPdf 08 58 40.7 -2.7
MFF Saint Martin d 118.91 322 *e*PKIKP PKPdf 08 58 40.2 -3.2
comp=Z,32nm,0.6s
PHWY Pilot Hill 119.01 44 *e*PKPdf PKPdf 08 58 41.0 -2.8
LFF La Frestale 119.11 320 *e*PKIKP PKPdf 08 58 40.4 -3.5
ISCO Idaho Springs 119.45 46 *e*PKPdf PKPdf 08 58 42.6 -2.0
ISCO LR LR
comp=Z,923nm,21.0s,MS5.4
SGMF Saint Gilles 119.53 325 *e*PKIKP PKPdf 08 58 41.6 -3.0
comp=Z,29nm,0.7s
ROSF Rostrenen 119.90 325 *e*PKIKP PKPdf 08 58 42.2 -3.1
comp=Z,14nm,0.6s
QUIF Quistinic 120.06 325 *e*PKIKP PKPdf 08 58 42.3 -3.3
comp=Z,16nm,0.6s
EPF Esparros 120.19 318 *e*PKIKP PKPdf 08 58 43.1 -2.9
comp=Z,15nm,0.8s
SDCO Great Sand Dun 120.26 48 PFAKE 08 59 00.0 +14
SDCO LR LR
comp=Z,863nm,20.0s,MS5.4
ANMO Albuquerque 120.45 52 *e*PKPdf PKPdf 08 58 44.4 -2.3
ANMO LR LR
comp=Z,552nm,21.0s,MS5.2
EBIE Bielsa 120.47 318 PKP PKPdf 08 58 42.4 -4.2
ULM Lac du Bonnet 120.60 32 PKP PKPdf 08 58 43.2 -3.5
comp=Z,5.0nm,0.9s,baz=327,slow=5.9,SNR=5.7
ULM Lac du Bonnet 120.60 32 PKP PKPdf 08 58 43.2 -3.5
ULM LR LR
comp=Z,449nm,21.0s,MS5.1
ETSF Etsaut 120.85 319 *e*PKIKP PKPdf 08 58 44.3 -3.0
comp=Z,39nm,1.1s
SJPF Ste Jean 121.19 319 *e*PKIKP PKPdf 08 58 44.9 -3.1
EMOS Mosqueruela 121.87 316 PKP PKPdf 08 58 47.9 -1.4
ECRI Cripan 122.26 319 PKP PKPdf 08 58 46.9 -3.1
MNTX Cornudas Mount 122.28 55 ⇑*e*PKPdf PKPdf 08 58 48.1 -2.2
MNTX LR LR
comp=Z,426nm,21.0s,MS5.1
ECHE Chera 122.54 315 PKP PKPdf 08 58 49.1 -1.5
ELAN Lanestosa 122.56 320 PKP PKPdf 08 58 48.4 -2.1
ETOB Tobarra 123.34 314 PKP PKPdf 08 58 50.2 -2.0
EARI Arriondas 123.66 321 PKP PKPdf 08 58 50.1 -2.6
EVIA Vianos 124.02 315 PKP PKPdf 08 58 52.0 -1.6
CBKS Cedar Bluff 124.03 45 *e*PKPdf PKPdf 08 58 49.7 -3.9
CBKS LR LR
comp=Z,587nm,20.0s,MS5.2
LTX Lajitas 124.37 57 *e*PKPdf PKPdf 08 58 52.1 -2.4
LTX LR LR
comp=Z,582nm,19.0s,MS5.3
LTX Lajitas 124.37 57 PKIKP PKPdf 08 58 52.4 -2.1
TXAR Lajitas Array 124.37 57 PKP PKPdf 08 58 52.2 -2.2
comp=Z,3.8nm,0.8s,baz=222,slow=1.3,SNR=48
TXAR PKKPbc 09 08 35.9
comp=Z,0.5nm,0.8s,baz=113,slow=6.9,SNR=5.4
EHUE Huescar 124.44 314 PKP PKPdf 08 58 51.4 -3.0
ENIJ Nijar 124.51 313 PKP PKPdf 08 58 52.1 -2.5
ESDC Sonseca Array 124.58 317 PKP PKPdf 08 58 52.1 -2.5
comp=Z,0.5nm,0.3s,baz=5.1,slow=2.6,SNR=12
ESDC PP PP 09 00 44.3 +2.9
comp=Z,1.7nm,0.7s,baz=48,slow=8.3,SNR=5.0
EPON Pontenova 124.85 322 PKP PKPdf 08 58 51.5 -3.6
EBER Berja 125.03 313 PKP PKPdf 08 58 54.3 -1.3
EBAN Banos Encina 125.14 315 PKP PKPdf 08 58 53.5 -2.3
ECAL Calabor 125.32 320 PKP PKPdf 08 58 52.0 -4.0
ERON Agron 125.65 314 PKP PKPdf 08 58 53.6 -3.2
EADA Adamuz 125.69 315 PKP PKPdf 08 58 54.7 -2.1
ELOJ Sierra Loja 125.84 314 PKP PKPdf 08 58 53.9 -3.2
STS Santiago 125.95 322 PKP PKPdf 08 58 55.0 -2.1
KSU1 Kansas State U 126.07 43 *e*PKPdf PKPdf 08 58 54.5 -3.0
EMAZ Mazaricos 126.18 322 PKP PKPdf 08 58 55.7 -1.9
PVRL Vila Real 126.29 320 *e*PKPdf PKPdf 08 58 56.0 -1.8
ECAB El Cabril 126.33 315 PKP PKPdf 08 58 56.0 -2.0
MTE Manteigas 126.64 319 *e*PKPdf PKPdf 08 58 56.2 -2.3
MTE *e*PP PP 09 00 51.9 -2.8
PCBR Castelo Branco 126.88 318 *e*PKPdf PKPdf 08 58 57.1 -1.9
ESPR Espera 127.19 314 PKP PKPdf 08 58 57.5 -2.2
EMIN Mina Concepcio 127.35 316 PKP PKPdf 08 58 58.0 -2.0
PTOM Tomar 127.61 319 *e*PKPdf PKPdf 08 58 58.6 -1.9
SCHQ Schefferville 127.81 11 PKP PKPdf 08 58 58.0 -2.5
comp=Z,3.3nm,0.8s,baz=317,slow=3.0,SNR=5.1
SCHQ Schefferville 127.81 11 PKP PKPdf 08 58 58.0 -2.5
SCHQ LR LR
comp=Z,188nm,20.0s,MS4.8
EVO Evora 127.90 317 *e*PKIKP PKPdf 08 58 57.2 -3.9
comp=Z,51nm,1.2s
EVO *e*R
comp=Z,487nm,20.5s
PBEJ Beja 128.05 317 *e*PKPdf PKPdf 08 59 00.0 -1.4
CCM Cathedral Cave 130.22 42 ⇑*e*PKPdf PKPdf 08 59 02.0 -3.6
CCM LR LR
comp=Z,160nm,21.0s,MS4.7
CCM Cathedral Cave 130.22 42 PKIKP PKPdf 08 59 02.2 -3.3
NATX Nacogdoches 130.79 51 PFAKE 08 59 20.0 +13
NATX LR LR
comp=Z,526nm,20.0s,MS5.2
FVM French Village 130.80 41 ⇓*e*PKPdf PKPdf 08 59 03.9 -2.8
FVM *e*SKP 09 02 25.9
FVM French Village 130.80 41 PKIKP PKPdf 08 59 04.5 -2.1
UALR University of 131.15 46 *e*PKPdf PKPdf 08 59 04.3 -3.1
UALR *e*SKPbc 09 02 28.9
PLCA Paso Flores 132.03 160 PKP PKPdf 08 59 07.4 -1.5
comp=Z,76nm,1.6s,baz=222,slow=6.6,SNR=6.1
PLCA Paso Flores 132.03 160 PKP PKPdf 08 59 07.4 -1.5
PLCA LR LR
comp=Z,1µm,20.0s,MS5.7
BLO Bloomington 132.58 38 *e*PKPdf PKPdf 08 59 07.1 -2.9
BLO Bloomington 132.58 38 PKIKP PKPdf 08 59 07.7 -2.3
SADO Sadowa 132.60 27 PKP PKPdf 08 59 07.2 -2.6
comp=Z,6.1nm,0.8s,baz=310,slow=2.9,SNR=7.1
SADO SKPbc 09 02 33.2
comp=Z,4.5nm,1.0s,baz=236,slow=4.6,SNR=5.1
WCI Wyandotte Cave 133.31 39 *e*PKPdf PKPdf 08 59 08.2 -3.1
WCI *e*SKP 09 02 35.1
WCI LR LR
comp=Z,245nm,22.0s,MS4.9
WCI Wyandotte Cave 133.31 39 PKIKP PKPdf 08 59 08.7 -2.6
OXF Oxford 133.37 45 *e*PKPpre 08 59 00.8
OXF *e*PKPdf PKPdf 08 59 08.4 -3.2
OXF LR LR
comp=Z,451nm,19.0s,MS5.2
OXF Oxford 133.37 45 PKIKP PKPdf 08 59 01.4 -10
WVT Waverly 133.56 42 *e*PKPdf PKPdf 08 59 08.1 -3.7
WVT *e*SKP 09 02 35.7
WVT LR LR
comp=Z,604nm,21.0s,MS5.3
WVT Waverly 133.56 42 PKIKP PKPdf 08 59 08.7 -3.1
DBIC Dimbokro 133.82 275 PKhKP 08 58 53.5
comp=Z,2.9nm,0.7s,baz=94,slow=6.2,SNR=4.8
DBIC PKP PKPdf 08 59 10.4 -2.5
comp=Z,12nm,0.8s,baz=90,slow=3.2,SNR=8.1
DBIC Dimbokro 133.82 275 PKP PKPdf 08 59 10.4 -2.4
LIC Lamto 134.00 275 *e*PKIKP PKPdf 08 59 10.5 -2.7
comp=Z,21nm,0.7s
PLAL Pickwick Lake 134.04 43 *e*PKPdf PKPdf 08 59 08.7 -4.1
PLAL LR LR
comp=Z,740nm,22.0s,MS5.4
PQI Presque Isle 135.10 16 PFAKE 08 59 20.0 +5.6
PQI LR LR
comp=Z,2µm,22.0s,MS5.9
LRAL Lakeview Retre 135.85 45 *e*PKPpre 08 59 59.5
LRAL *e*PKPdf PKPdf 08 59 12.8 -3.3
LRAL LR LR
comp=Z,689nm,21.0s,MS5.4
LBNH Lisbon 136.00 22 PFAKE 08 59 20.0 +3.9
LBNH LR LR
comp=Z,1µm,22.0s,MS5.7
BINY Binghamton 136.04 27 *e*PKPdf PKPdf 08 59 13.0 -3.3
BINY LR LR
comp=Z,1µm,22.0s,MS5.6
MCWV Mont Chateau 136.08 32 PFAKE 08 59 30.0 +14
MCWV LR LR
comp=Z,713nm,20.0s,MS5.4
CPCT Cooper Cave 136.13 40 *e*PKPdf PKPdf 08 59 13.7 -2.9
WVL Waterville 136.50 19 PFAKE 08 59 30.0 +13
WVL LR LR
comp=Z,2µm,19.0s,MS5.9
MYNC Murphy 136.62 41 *e*PKPpre 08 59 03.1
MYNC *e*PKPdf PKPdf 08 59 14.3 -3.2
MYNC LR LR
comp=Z,806nm,20.0s,MS5.5
TRQA Tornquist 136.92 167 PFAKE 08 59 30.0 +12
TRQA LR LR
comp=Z,979nm,21.0s,MS5.5
FWV Forest Hill 137.01 35 *e*PKPpre 08 59 04.6

FWV				*e*PKPdf	PKPdf	08 59 15.2	-3.0
EMMW	**East Machias**	**137.05**	**17**	PFAKE		08 59 30.0	+12
EMMW				LR	LR		
comp=Z,2μm,20.0s,MS5.8							
ELN	**Prospectdale**	**137.29**	**36**	*e*PKPdf	PKPdf	08 59 15.6	-3.1
BLA	**Blacksburg**	**137.49**	**35**	*e*PKPdf	PKPdf	08 59 16.1	-3.0
BLA				LR	LR		
comp=Z,835nm,22.0s,MS5.4							
HRV	**Harvard--Oak R**	**137.62**	**22**	PFAKE		08 59 30.0	+11
HRV				LR	LR		
comp=Z,694nm,22.0s,MS5.3							
WES	**Weston**	**137.82**	**22**	PFAKE		08 59 30.0	+10
WES				LR	LR		
comp=Z,2μm,21.0s,MS5.7							
CBN	**Corbin**	**138.45**	**32**	PFAKE		08 59 30.0	+9.2
CBN				LR	LR		
comp=Z,958nm,21.0s,MS5.5							
JSC	**Jenkinsville**	**138.95**	**39**	*e*PKPdf	PKPdf	08 59 18.2	-3.6
CMLA	**Cha da Macela**	**139.07**	**328**	PFAKE		08 59 30.0	+8.1
CMLA				LR	LR		
comp=Z,240nm,21.0s,MS4.9							
NHSC	**New Hope**	**140.40**	**40**	PFAKE		08 59 30.0	+5.5
NHSC				LR	LR		
comp=Z,1μm,20.0s,MS5.6							
PAYG	**Puerto Ayora**	**140.64**	**96**	PFAKE		08 59 30.0	+4.4
PAYG				LR	LR		
comp=Z,559nm,19.0s,MS5.3							
CFAA	**Coronel Fontan**	**140.99**	**157**	PKhKP		08 59 15.2	
comp=Z,0.7nm,0.8s,baz=250,slow=2.8,SNR=11							
CFAA				PKP	PKPdf	08 59 22.5	-3.2
comp=Z,1.8nm,0.8s,baz=242,slow=2.5,SNR=19							
DWPF	**Disney**	**142.57**	**47**	PFAKE		08 59 40.0	+12
DWPF				LR	LR		
comp=Z,216nm,22.0s,MS4.9							
JTS	**JuntasAbangare**	**145.94**	**78⇑**	*e*PKPdf	PKPdf	08 59 32.7	-2.0
FORC	**Fortuna**	**146.19**	**77**	*e*P	PKPbc	08 59 33.7	+2.0
PRS1	**Puriscal**	**146.61**	**78**	*e*P	PKPbc	08 59 36.5	+3.9
MGV	**Manicaragua**	**146.81**	**55**	P	PKPbc	08 59 34.7	+1.8
SJS	**Escuela Geolog**	**146.87**	**78**	*e*P	PKPbc	08 59 37.0	+3.8
LCR2	**La Lucha 2**	**146.94**	**78**	*e*P	PKPbc	08 59 35.0	+1.5
TRTC	**Tortuguero**	**147.11**	**77**	*e*P	PKPdf	08 59 35.2	-1.4
BUS	**Buena Vista**	**147.21**	**79**	*e*P	PKPdf	08 59 38.6	+1.8
LVC	**Limon Verde**	**148.33**	**148**	PKPbc	PKPdf	08 59 40.6	+2.3
comp=Z,41nm,1.0s,baz=251,slow=1.8,SNR=23							
LVC	**Limon Verde**	**148.33**	**148**	*e*PKPbc	PKPdf	08 59 40.6	+2.2
LVC				LR	LR		
comp=Z,860nm,22.0s,MS5.5							
DVD	**David**	**148.62**	**80**	*e*P	PKPdf	08 59 37.4	-1.7
PTP1	**Petroterminal**	**148.66**	**81**	*e*P	PKPdf	08 59 37.1	-2.0
CCCC	**Cccc**	**149.05**	**54**	P	PKPdf	08 59 39.6	+0.1
BBSR	**BB Station**	**149.11**	**23**	*e*PKPbc	PKPdf	08 59 40.8	+1.4
BBSR				LR	LR		
comp=Z,487nm,20.0s,MS5.3							
CPUP	**Villa Florida**	**149.21**	**169**	*e*PKPbc	PKPdf	08 59 41.3	+1.6
CPUP				LR	LR		
comp=Z,1μm,19.0s,MS5.7							
NNA	**Nana**	**149.91**	**122**	*e*PKPbc	PKPdf	08 59 43.9	+2.8
NNA				LR	LR		
comp=Z,200nm,21.0s,MS4.9							
HLGC	**Holguin**	**150.58**	**53**	P	PKPdf	08 59 45.1	+3.2
ARE	**Arequipa**	**151.38**	**136**	*e*P	PKPdf	08 59 47.0	+3.8
UPA	**Univ. de Panam**	**151.41**	**79**	*e*P	PKPdf	08 59 42.4	-1.0
LPAZ	**La Paz**	**153.74**	**141**	PKP	PKPdf	08 59 45.1	-1.5
comp=Z,5.9nm,1.0s,baz=325,slow=1.6,SNR=21							
LPAZ				PKPbc	PKPdf	08 59 53.5	+6.9
comp=Z,6.0nm,0.8s,baz=29,slow=5.0,SNR=16							
LPAZ				PKPab	PKPab	09 00 07.1	+1.8
comp=Z,15nm,1.0s,baz=201,slow=12,SNR=8.2							
LPAZ	**La Paz**	**153.74**	**141**	*e*PKPdf	PKPdf	08 59 45.4	-1.2
LPAZ				LR	LR		
comp=Z,442nm,22.0s,MS5.2							
ROSC	**El Rosal**	**156.90**	**87**	PKP	PKPdf	08 59 48.8	-2.2
comp=Z,3.6nm,0.7s,baz=99,slow=16,SNR=6.5							
ROSC				PKPbc	PKPdf	09 00 00.4	+9.4
comp=Z,5.5nm,0.6s,baz=103,slow=18,SNR=4.3							
ROSC				PKPab	PKPab	09 00 21.2	+2.3
comp=Z,11nm,0.7s,baz=111,slow=15,SNR=5.2							
SJG	**San Juan**	**159.75**	**45**	PFAKE		09 00 00.0	+5.8
SJG				LR	LR		
comp=Z,332nm,20.0s,MS5.2							
SDV	**Santo Domingo**	**160.09**	**75**	*e*PKPdf	PKPdf	08 59 53.1	-1.6
SDV				LR	LR		
comp=Z,619nm,20.0s							
BDFB	**Brasilia**	**160.18**	**189**	PKP	PKPdf	08 59 52.4	-2.3
comp=Z,9.5nm,0.9s,baz=107,slow=2.5,SNR=9.5							
BDFB				PKPab	PKPab	09 00 32.4	-0.5
comp=Z,15nm,1.1s,baz=184,slow=2.3,SNR=5.2							
BAO	**Brasilia Array**	**160.19**	**189**	PKPdf	PKPdf	08 59 53.5	-1.2
RCBR	**Riachuelo**	**161.86**	**237**	PFAKE		09 00 10.0	+13
RCBR				LR	LR		
comp=Z,474nm,19.0s							
SAML	**Samuel**	**162.39**	**137**	*e*PKPdf	PKPdf	08 59 54.7	-2.3
SAML				*e*PKPab	PKPab	09 00 41.3	-1.2
SAML				LR	LR		
comp=Z,594nm,21.0s							

*IDC **02** 08:42:46.2±1.0, 4.10S×128.73E, mb4.7/7, mb1 4.7/7, mb1mx4.5/18, mbtmp4.7/7, MS4.6/3, Ms1 4.6/3, ms1mx4.3/20, Error ellipse: s-maj=62.2km s-min=21.9km az=60.0*

*NEIC **02** 08:42:47.8±0.4, 4.05S×128.86E, h10km, mb4.7/4, Error ellipse: s-maj=19.3km s-min=8.3km az=62.0*

ISC 02 08:42:49.4±0.6, 4.0S±0.1×128.9E±0.2, h33km, n18, σ0§67/14, mb4.7/9, MS4.7/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**16.68**	**162**	*e*P	**P**	**08 46 41.2**	**-1.1**
37nm,0.6s							
CTA	**Charters Tower**	**23.27**	**135**	P	**P**	**08 47 56.1**	**+0.9**
52nm,1.0s,mb4.9,baz=338,slow=12,SNR=3.7							
CTAO	**Charters Tower**	**23.27**	**135**	P	**P**	**08 47 56.3**	**+1.1**
20nm,0.8s,mb4.6							
KULM	**Kulim**	**29.67**	**288**	*e*P	**P**	**08 48 55.1**	**+0.5**
MAJO	**Matsushiro**	**41.30**	**11**	*e*P	**P**	**08 50 33.3**	**-0.3**
11nm,0.9s,mb4.5							
MJAR	**Matsushiro Arr**	**41.30**	**11**	P	**P**	**08 50 33.5**	**-0.1**
12nm,0.9s,mb4.5,baz=190,slow=11,SNR=5.0							
RPZ	**Rata Peaks**	**54.26**	**143**	P	**P**	**08 52 14.7**	**+0.1**
23nm,0.9s,mb5.1,baz=353,slow=6.7,SNR=3.5							
SONM	**Songino Array**	**55.29**	**342**	P	**P**	**08 52 23.3**	**+1.3**
5.0nm,1.0s,mb4.5,baz=164,slow=7.4,SNR=3.5							
MKAR	**Makanchi Array**	**65.14**	**327**	P	**P**	**08 53 28.8**	**-0.6**
3.1nm,0.6s,mb4.5,baz=121,slow=8.4,SNR=3.7							
YAK	**Yakutsk**	**65.88**	**0**	*e*P	**P**	**08 53 33.5**	**-0.3**
24nm,0.7s,mb5.3							
KURK	**Kurchatov**	**69.41**	**329**	P	**P**	**08 53 55.4**	**-0.8**
BVAR	**Borovoye Array**	**74.97**	**328**	P	**P**	**08 54 29.2**	**+0.1**
4.9nm,0.9s,mb4.5,baz=104,slow=5.9,SNR=4.1							
PPT	**Papeete**	**80.75**	**107**	LR	LR	09 23 53.0	
comp=Z,277nm,21.0s,MS4.6,baz=53,slow=30							
ATD	**Arta Tunnel**	**86.90**	**282**	LR	LR	09 29 56.1	
comp=Z,359nm,19.3s,MS4.8,baz=191,slow=33							
GNI	**Garni**	**88.08**	**310**	LR	LR	09 40 25.6	
comp=Z,243nm,19.4s,MS4.6,baz=239,slow=39							
BRTR	**Keskin Array B**	**96.58**	**309**	P	**P**	**08 56 16.9**	**-0.4**
0.8nm,0.6s,mb4.3,baz=124,slow=5.2,SNR=2.8							
SNAA	**Sanae**	**98.26**	**194**	*e*P	**P**	**08 56 24.9**	**+0.6**
CPUP	**Villa Florida**	**149.22**	**169**	PKPbc	PKPdf	09 02 36.9	+5.8
8.4nm,0.8s,baz=118,slow=3.9,SNR=4.3							

IDC 02 08:45:34.0±1.8, 4.00S×128.84E, mb4.2/4, mb1 4.5/5, mb1mx4.2/17, mbtmp4.3/5, ML4.1/1, Error ellipse: s-maj=62.0km s-min=41.2km az=72.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.73**	**162**	Pn	P	08 49 30.7	-0.8
0.7nm,0.3s,baz=341,slow=12,SNR=2.9							
MJAR	**Matsushiro Arr**	**41.27**	**11**	P	P	08 53 21.2	-1.5
0.8nm,0.3s,baz=196,slow=12,SNR=5.1							
MKAR	**Makanchi Array**	**65.10**	**327**	P	P	08 56 17.1	-1.7
2.6nm,0.6s,baz=127,slow=8.1,SNR=5.7							
BVAR	**Borovoye Array**	**74.93**	**328**	P	P	08 57 16.7	-1.8
2.4nm,0.9s,baz=162,slow=9.4,SNR=4.6							
ILAR	**Eielson Array**	**91.14**	**25**	P	P	08 58 39.5	-2.1
0.6nm,0.6s,baz=248,slow=5.1,SNR=6.1							

IDC 02 09:13:20.0±2.2, 4.15S×128.66E, mb3.4/2, mb1 3.6/3, mb1mx3.5/16, mbtmp3.4/3, ML3.2/1, Error ellipse: s-maj=148.9km s-min=40.4km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.64**	**161**	Pn	P	09 17 14.9	-1.5
0.1nm,0.3s,baz=344,slow=12,SNR=6.8							
SONM	**Songino Array**	**55.33**	**342**	P	P	09 22 55.7	-2.2
0.2nm,0.4s,baz=143,slow=7.2,SNR=2.9							
MKAR	**Makanchi Array**	**65.12**	**327**	P	P	09 24 02.6	-2.3
0.2nm,0.4s,baz=138,slow=6.9,SNR=4.3							

*BUC **02** 09:33:29.9±0.8, 45.45N×26.34E, h141km±7km, MD4.2/6, Error ellipse: s-maj=6.6km s-min=4.3km az=24.0*

*SOF **02** 09:33:30.6, 45.50N×26.25E, h100km, MD2.8*

*NEIC **02** 09:33:30.4, 45.47N×26.38E, h136km, MG4.0(BUC), After BUC.*

*CSEM **02** 09:33:30.3±0.1, 45.48N×26.36E, h130km±1km, MD4.2/6, Error ellipse: s-maj=2.3km s-min=1.8km az=10.0*

ISC 02 09:33:29.8±0.7, 45.46N±0.04×26.36E±0.05, h141km±5km, n42, σ0§82/70, 26C-6D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLR	**Muntele Rosu**	**0.29**	**277⇑**	*i*P	**P**	**09 33 49.9**	**+0.2**
MLR				*i* S	**S**	**09 34 04.8**	**-0.1**
MLR	**Muntele Rosu**	**0.29**	**277⇑**	*i*P	**P**	**09 33 49.9**	**+0.1**
MLR				*i* S	**S**	**09 34 04.8**	**-0.1**
ISR	**Istrita**	**0.36**	**159⇑**	*i*P	**P**	**09 33 50.4**	**+0.4**
ISR				*i* S	**S**	**09 34 05.3**	**-0.1**
ISR	**Istrita**	**0.36**	**159⇑**	*i*P	**P**	**09 33 50.4**	**+0.4**
ISR				*i* S	**S**	**09 34 05.3**	**-0.1**
BRD	**Bordesti**	**0.48**	**78⇑**	*i*P	**P**	**09 33 51.8**	**+1.3**
BRD				*i* S	**S**	**09 34 08.0**	**+1.6**
BRD	**Bordesti**	**0.48**	**78⇑**	*i*P	**P**	**09 33 51.8**	**+1.2**
BRD				*i* S	**S**	**09 34 08.0**	**+1.6**
VRI	**Vrincioaia**	**0.48**	**32⇑**	*i*P	**P**	**09 33 50.5**	**-0.1**
VRI				*i* S	**S**	**09 34 05.4**	**-1.0**
VRI	**Vrincioaia**	**0.48**	**32⇑**	*i*P	**P**	**09 33 50.5**	**-0.1**
VRI				*i* S	**S**	**09 34 05.4**	**-1.1**
SNX	**Sinaia**	**0.60**	**261⇑**	*i*P	**P**	**09 33 51.3**	**+0.1**
SNX				*i* S	**S**	**09 34 08.8**	**+1.3**
SNX	**Sinaia**	**0.60**	**261⇑**	*i*P	**P**	**09 33 51.3**	**+0.1**
SNX				*i* S	**S**	**09 34 08.8**	**+1.2**
VOIR		**0.92**	**269⇑**	*i*P	**P**	**09 33 53.0**	**-0.3**
VOIR				*i* S	**S**	**09 34 09.8**	**-1.5**
VOIR		**0.92**	**269⇑**	*i*P	**P**	**09 33 53.0**	**-0.3**
VOIR				*i* S	**S**	**09 34 09.8**	**-1.5**
MTUR	**Matau**	**0.94**	**256⇑**	*i*P	**P**	**09 33 53.5**	**+0.1**
MTUR				*i* S	**S**	**09 34 11.3**	**-0.3**
MTUR	**Matau**	**0.94**	**256⇑**	*i*P	**P**	**09 33 53.5**	**+0.1**
MTUR				*i* S	**S**	**09 34 11.2**	**-0.4**
MTUR	**Matau**	**0.94**	**256⇑**	*i*P	**P**	**09 33 53.5**	**+0.1**
MTUR				*i* S	**S**	**09 34 11.2**	**-0.3**
BUC	**Bucharest**	**1.06**	**190**	*i* S	**S**	**09 34 14.8**	**+1.4**
BUC1	**Bucharest**	**1.13**	**192⇑**	*i*P	**P**	**09 33 55.8**	**+0.6**
BUC1				*i* S	**S**	**09 34 14.8**	**+0.1**
BUC1	**Bucharest**	**1.13**	**192⇑**	*i*P	**P**	**09 33 55.8**	**+0.6**
BUC1				*i* S	**S**	**09 34 14.8**	**+0.1**
CFR	**Carcaliu**	**1.28**	**102⇑**	*i*P	**P**	**09 33 56.9**	**+0.1**
CFR				*i* S	**S**	**09 34 16.9**	**-0.6**
CFR	**Carcaliu**	**1.28**	**102⇑**	*i*P	**P**	**09 33 56.9**	**+0.1**
CFR				*i* S	**S**	**09 34 16.9**	**-0.5**
HARR	**Harsova**	**1.35**	**124⇓**	*i*P	**P**	**09 33 57.8**	**+0.3**
HARR				*i* S	**S**	**09 34 18.0**	**-0.7**
HARR	**Harsova**	**1.35**	**124⇓**	*i*P	**P**	**09 33 57.8**	**+0.4**
HARR				*i* S	**S**	**09 34 18.0**	**-0.8**
TLCR		**1.75**	**98⇑**	*i*P	**P**	**09 34 01.5**	**-0.4**
TLCR				*i* S	**S**	**09 34 26.1**	**-0.4**
TLCR		**1.75**	**98⇑**	*i*P	**P**	**09 34 01.5**	**-0.3**
TLCR				*i* S	**S**	**09 34 26.1**	**-0.3**
TIRR	**Tirgusor**	**1.77**	**124⇓**	*i*P	**P**	**09 34 02.5**	**+0.5**
TIRR				*i* S	**S**	**09 34 25.3**	**-1.4**
TIRR	**Tirgusor**	**1.77**	**124⇓**	*i*P	**P**	**09 34 02.5**	**+0.5**
TIRR				*i* S	**S**	**09 34 25.3**	**-1.4**
ZIMR		**1.94**	**202⇑**	*i*P	**S**	**09 34 29.0**	**-1.1**
ZIMR		**1.94**	**202⇑**	*i*P	**S**	**09 34 29.0**	**-1.1**
PSN	**Preselentsi**	**2.20**	**143**	*i* P	**P**	**09 34 07.5**	**+0.2**
SZH	**Strazhica**	**2.21**	**188**	*i* P	**P**	**09 34 06.5**	**-0.9**
BURAR	**Bucovina Array**	**2.30**	**340⇓**	*i*P	**P**	**09 34 09.0**	**+0.5**
BURAR				*i* S	**S**	**09 34 38.7**	**+0.6**
BURAR	**Bucovina Array**	**2.30**	**340⇓**	*i*P	**P**	**09 34 09.0**	**+0.5**
BURAR				*i* S	**S**	**09 34 38.7**	**+0.6**
KIS	**Kishinev**	**2.30**	**47**	*i* S	**S**	**09 34 34.0**	**-4.1**
500nm,0.6s							
PVL	**Pavlikeni**	**2.36**	**199**	*i* P	**P**	**09 34 10.3**	**+1.0**
PRD	**Provadia**	**2.38**	**161**	*i* P	**P**	**09 34 10.0**	**+0.5**
DRGR		**2.87**	**299**	⇑P	**P**	**09 34 14.3**	**-1.5**
DRGR		**2.87**	**299**	⇑P	**P**	**09 34 14.3**	**-1.5**
PGB	**Panagyurishte**	**3.31**	**209**	P	**P**	**09 34 22.0**	**+0.4**
ZAPS	**Zavoj/Pirot**	**3.44**	**232⇑**	*i*Pn	**P**	**09 34 21.9**	**-1.5**
ZAPS				Sn	**S**	**09 34 59.7**	**-4.7**
VTS	**Vitosha**	**3.66**	**220**	*i* P	**P**	**09 34 25.5**	**-0.7**
RZN	**Rozhen**	**3.95**	**198**	P	**P**	**09 34 31.0**	**+0.9**
KKB	**Krupnik**	**4.30**	**215**	P	**P**	**09 34 35.5**	**+0.7**

*GUC **02** 09:53:34.8±0.8, 24.06S×66.74W, h200km, ML4.4*

*IDC **02** 09:53:34.0±1.3, 23.85S×66.49W, h203km±18km, mb1 3.2/5, mb1mx3.1/18, mbtmp3.7/5, Error ellipse: s-maj=22.6km s-min=18.4km az=108.0*

*NEIC **02** 09:53:34.8, 24.06S×66.74W, h200km, After GUC.*

ISC 02 09:53:32.5±0.8, 23.95S±0.05×66.6W±0.2, h230km±30km, n14, σ1§20/19, 2C-1D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.50**	**302**	P	**P**	**09 54 20.2**	**+1.5**
14nm,0.3s,baz=138,slow=15,SNR=252							
LVC				S	**S**	**09 54 54.5**	**0.0**
35nm,0.3s,baz=281,slow=21,SNR=51							
LVC	**Limon Verde**	**2.50**	**302**	⇓*i*P	**P**	**09 54 20.0**	**+1.3**
LVC				*i* S	**S**	**09 54 54.3**	**-0.2**
LVC				AMP		09 54 56.2	
comp=E,303nm,0.4s							
ANCH	**Antofagasta**	**3.48**	**274⇑**	*i*P	**P**	**09 54 31.2**	**+1.4**
ANCH				*i* S	**S**	**09 55 13.7**	**-0.6**
ANCH				AMP		09 55 16.5	
comp=N,650nm,0.1s							
CPN1	**Cerro Paranal**	**3.52**	**258⇑**	*i*P	**P**	**09 54 31.9**	**+1.6**
CPN1				*i* S	**S**	**09 55 15.1**	**0.0**
CPN1				AMP		09 55 17.0	
comp=E,376nm,0.5s							
CRCH	**Chaqaral**	**4.34**	**236**	*i* S	**S**	**09 55 31.5**	**-1.2**
CRCH				AMP		09 55 33.0	
comp=E,170nm,0.3s							
CFAA	**Coronel Fontan**	**7.76**	**190**	P	**P**	**09 55 24.3**	**+0.9**
comp=E,0.2nm,0.3s,baz=23,slow=12,SNR=55							
CFAA				S	**S**	**09 56 48.3**	**-1.9**
comp=E,0.3nm,0.3s,baz=118,slow=22,SNR=12							
CFAA	**Coronel Fontan**	**7.76**	**190**	P	**P**	**09 55 24.3**	**+0.9**
CFAA				S	**S**	**09 56 48.3**	**-1.8**
LPAZ	**La Paz**	**7.76**	**349**	P	**P**	**09 55 24.1**	**+0.7**
comp=E,1.8nm,0.3s,baz=168,slow=7.7,SNR=47							
LPAZ				S	**S**	**09 56 48.3**	**-1.9**
baz=2.7,slow=17,SNR=1.8							
SIV	**San Ignacio**	**9.48**	**34**	P	**P**	**09 55 44.1**	**-1.4**
comp=E,0.1nm,0.3s,baz=219,slow=15,SNR=5.5							
PLCA	**Paso Flores**	**17.05**	**190**	P	**P**	**09 57 26.7**	**+8.0**
comp=E,0.2nm,0.3s,baz=354,slow=8.2,SNR=5.8							
PLCA	**Paso Flores**	**17.05**	**190**	P	**P**	**09 57 26.7**	**+8.0**
BDFB	**Brasilia**	**19.34**	**68**	P	**P**	**09 57 43.3**	**+0.8**
comp=E,0.5nm,0.3s,baz=245,slow=9.2,SNR=6.7							
WRA	**Warramunga Arr**	**131.83**	**207**	PKP	PKPdf	10 12 23.6	+4.6
comp=E,0.1nm,0.3s,baz=160,slow=1.8,SNR=5.4							
MKAR	**Makanchi Array**	**146.27**	**40**	PKPbc	PKPbc	10 12 49.3	+3.7
comp=E,0.6nm,0.5s,baz=313,slow=3.4,SNR=7.7							

IDC 02 10:18:28.9±1.6, 4.06S×128.81E, mb3.9/2, mb1 4.2/4, mb1mx3.9/17, mbtmp4.0/4, ML3.4/2, Error ellipse: s-maj=66.6km s-min=33.2km az=78.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**14.29**	**192**	Pn	P	10 21 54.3	-0.6
0.1nm,0.3s,baz=6.6,slow=11,SNR=1.9							
WRA	**Warramunga Arr**	**16.68**	**162**	Pn	P	10 22 23.4	-2.4
0.1nm,0.3s,baz=338,slow=13,SNR=6.6							
MKAR	**Makanchi Array**	**65.13**	**327**	P	P	10 29 12.0	-1.9
1.3nm,0.7s,baz=122,slow=8.2,SNR=15							
ILAR	**Eielson Array**	**91.21**	**25**	P	P	10 31 35.0	-1.9
0.3nm,0.7s,baz=265,slow=5.1,SNR=4.4							

*PRU **02** 10:47:27.5, 46.24N×17.23E*

*LJU **02** 10:47:34.4, 46.18N×16.50E, h23km, ML3.1*

*NEIC **02** 10:47:34.7±0.8, 46.15N×16.52E, h10km, ML3.4(VIE), ML3.1(LJU), Error ellipse: s-maj=10.0km s-min=4.1km az=144.0*

*CSEM **02** 10:47:34.7±0.2, 46.06N×16.50E, h12km, ML3.9/7, Error ellipse: s-maj=4.8km s-min=3.0km az=156.0*

ISC 02 10:47:35.0±0.5, 46.23N±0.02×16.41E±0.03, h14km±3km, n52, σ1§36/98, 10C-12D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOGS	**Kog**	**0.25**	**333⇓**	*i*Pg	**Pg**	**10 47 42.2**	**+1.5**
KOGS				*i* Sg	**Sg**	**10 47 47.3**	**+2.9**
KOGS	**Kog**	**0.25**	**333⇓**	*i*Pg	**Pg**	**10 47 42.1**	**+1.4**
KOGS				*i* Sg	**Sg**	**10 47 47.3**	**+2.9**
GOLS	**Golise**	**0.59**	**249⇑**	*i*Pg	**Pg**	**10 47 47.0**	**-0.1**
GOLS				*i* Sg	**Sg**	**10 47 56.9**	**+1.7**
comp=Z,905nm,0.3s							
GOLS	**Golise**	**0.59**	**249⇑**	*i*Pg	**Pg**	**10 47 47.0**	**-0.1**
GOLS				*i* Sg	**Sg**	**10 47 56.9**	**+1.7**
comp=Z,905nm,0.3s							
GCIS	**Gornji Cirnik**	**0.66**	**237**	*i* Pg	**Pg**	**10 47 48.0**	**-0.4**
GCIS				*i* Sg	**Sg**	**10 47 58.1**	**+0.9**
comp=Z,311nm,0.1s							
DOBS	**Dobrina**	**0.66**	**264⇑**	*i*Pg	**Pg**	**10 47 48.6**	**+0.1**
DOBS				*i* Sg	**Sg**	**10 47 58.6**	**+1.1**
comp=Z,415nm,0.1s							
DOBS	**Dobrina**	**0.66**	**264⇑**	*i*Pg	**Pg**	**10 47 48.6**	**+0.1**
DOBS				*i* Sg	**Sg**	**10 47 58.6**	**+1.1**
comp=Z,415nm,0.1s							
CESS	**Cesta pri Krsk**	**0.71**	**249**	*i* Pg	**Pg**	**10 47 49.5**	**+0.1**
CESS				*i* Sg	**Sg**	**10 48 01.1**	**+2.0**
comp=Z,1μm,0.4s							
CESS	**Cesta pri Krsk**	**0.71**	**249**	*i* Pg	**Pg**	**10 47 49.5**	**+0.1**
CRES	**Cresnjev**	**0.78**	**239**	*i*Pg	**Pg**	**10 47 50.2**	**-0.6**
CRES				*i* Sg	**Sg**	**10 48 01.3**	**0.0**
comp=Z,335nm,0.2s							
CRES	**Cresnjev**	**0.78**	**239**	*i*Pg	**Pg**	**10 47 50.1**	**-0.7**
CRES				*i* Sg	**Sg**	**10 48 01.3**	**0.0**
comp=Z,335nm,0.2s							
LEGS	**Legarje**	**0.81**	**250**	*i*Pg	**Pg**	**10 47 51.2**	**-0.3**
LEGS				*i* Sg	**Sg**	**10 48 03.7**	**+1.2**
comp=Z,327nm,0.3s							
LEGS	**Legarje**	**0.81**	**250**	*i*Pg	**Pg**	**10 47 51.2**	**-0.3**
LEGS				*i* Sg	**Sg**	**10 48 03.7**	**+1.3**
comp=Z,327nm,0.3s							
PERS	**Pernice**	**0.99**	**295**	*i*Pg	**Pg**	**10 47 54.6**	**-0.3**
PERS				*e*Sg	**Sg**	**10 48 10.2**	**+2.0**
comp=Z,886nm,0.2s							
PERS	**Pernice**	**0.99**	**295**	*i*Pg	**Pg**	**10 47 54.7**	**-0.2**
PERS				*e*Sg	**Sg**	**10 48 10.2**	**+2.0**
comp=Z,886nm,0.2s							
PDKS	**Podkum**	**1.00**	**261**	*i* Pg	**Pg**	**10 47 54.8**	**-0.4**
PDKS	**Podkum**	**1.00**	**261**	*i* Pn	**Pn**	**10 47 54.7**	**+0.2**
BOJS	**Bojanci**	**1.09**	**229**	*i* Pg	**Pg**	**10 47 55.5**	**-1.4**
BOJS				*e*Sg	**Sg**	**10 48 11.6**	**+0.1**
comp=Z,208nm,0.2s							
RHK1	**Bakonya**	**1.16**	**96⇑**	*e*Pn	**Pn**	**10 47 54.6**	**-2.2**
VISS	**Visnje**	**1.18**	**249**	*i* Pg	**Pg**	**10 47 57.9**	**-0.8**
VISS	**Visnje**	**1.18**	**249**	*i* Pn	**Pn**	**10 47 57.8**	**+0.7**
ARSA	**Arzberg**	**1.19**	**329⇓**	*i*PG	**Pg**	**10 47 58.7**	**-0.3**
ARSA				*i* SG	**Sg**	**10 48 14.3**	**-0.7**
comp=Z,397nm,0.3s							
OBKA	**Obir**	**1.32**	**283⇑**	*i*PG	**Pg**	**10 48 00.0**	**-1.6**
OBKA				*i* SG	**Sg**	**10 48 18.4**	**-0.9**
comp=Z,45nm,0.2s							
RHK3	**Tenkes**	**1.32**	**104⇓**	*e*Pn	**Pn**	**10 47 56.8**	**-2.4**
RHK3				*e*Sn	**Sn**	**10 48 15.2**	**-1.4**
LJU	**Ljubljana**	**1.32**	**263**	*i* Pg	**Pg**	**10 48 00.5**	**-1.1**
LJU				*i* Sg	**Sg**	**10 48 17.7**	**-1.7**
comp=Z,34nm,0.1s							
LJU	**Ljubljana**	**1.32**	**263**	*i* Pg	**Pg**	**10 48 00.5**	**-1.1**
LJU				*i* Sg	**Sg**	**10 48 17.7**	**-1.7**
comp=Z,34nm,0.1s							
SOP	**Sopron

HRVD **02** *11:33:53.5±0.5, 6.79S×123.24E, h672km±5km, MW5.3/32, Centroid moment Tensor Solution. LP body waves: s32,c57; Half duration: 1s2 Moment tensor: Scale 10^{17} Nm; M_{rr}=-0.89±.08; M_{tt}0.73±.10; M_{pp}0.15±.13; M_{rt}-0.85±.10; M_{rp}0.37±.10; M_{tp}0.35±.12; Best double couple: M_0=1.271×10^{17} NP1:ϕ_s225°,δ31°,λ-134°. NP2: ϕ_s93°,δ68°,λ-68°. Principal axes: T 1.145, Plg20°, Azm166°; N .253, Plg21°, Azm264°; P -1.397, Plg60°, Azm36°; nsta1 refers to body waves, cutoff=40s.*

IDC **02** *11:33:53.7±0.5, 6.83S×122.94E, h665km±5km, mb4.5/25, mb1 4.4/25, mb1mx4.4/26, mbtmp5.4/25 Error ellipse: s-maj=7.9km s-min=5.3km az=75.0*

NEIC **02** *11:33:53.5±0.1, 6.90S×122.89E, mb5.2/38, Error ellipse: s-maj=5.7km s-min=3.6km az=67.0*

ISC 02 11:33:52.0±0.2,**6.92S**±0.03×**122.94E**±0.04,**h668**km, **h668**km±3.8km:**pP-P,n446,**σ**1**10/298,**mb5.1**/100,**32C-54D, Flores Sea**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**10.98**	**122**	⇑*i*P	**P**	**11 36 27.9**	**+6.8**
	1μm,1.3s						
KAKA				*e*S	**S**	**11 38 28.5**	**+7.7**
KAKA				*e*SCP		11 43 51.7	
KAKA				*e*SCS	ScS	11 47 25.2	+4.1
FITZ	**Fitzroy Crossi**	**11.42**	**167**	*e*P	**P**	**11 36 26.2**	**+0.9**
	3μm,0.7s						
FITZ				*e*S	**S**	**11 38 31.4**	**+3.2**
FITZ	**Fitzroy Crossi**	**11.42**	**167**	P	**P**	**11 36 26.2**	**+1.0**
	209nm,0.3s,baz=355,slow=7.6,SNR=3836						
FITZ				S	**S**	**11 38 32.0**	**+3.8**
	16nm,0.3s,baz=169,slow=16,SNR=19						
TSM	**Tawau**	**12.23**	**335**	P	**P**	**11 36 35.9**	**+2.9**
KCP	**Kidapawan**	**14.00**	**9**	*e*P	**P**	**11 36 51.7**	**+1.8**
MBWA	**Marble Bar**	**14.49**	**192**	⇑*i*Pn	**P**	**11 36 54.4**	**-0.2**
	374nm,0.6s						
MBWA				*e*S	**S**	**11 39 19.1**	**-1.6**
MBWA				*e*ScP		11 43 51.4	
KKM	**Kota Kinabalu**	**14.52**	**332**	P	**P**	**11 36 56.4**	**+1.5**
KKM	**Kota Kinabalu**	**14.52**	**332**	⇑*e*Pn	**P**	**11 36 55.7**	**+0.8**
KKM				*e*PcP	PcP	11 41 20.5	+0.3
IPIL	**Ipil**	**14.61**	**359**	*e*P	**P**	**11 36 57.9**	**+2.1**
BUKP	**Musuan**	**14.85**	**8**	*e*P	**P**	**11 37 00.2**	**+2.2**
KSM	**Kuching**	**15.12**	**303**	⇑*i*P	**P**	**11 37 01.9**	**+1.4**
KSM				*e*PcP	PcP	11 41 21.2	+0.2
KSM				*e*ScP		11 43 53.0	
BUTP	**Butuan**	**16.01**	**10**	*e*P	**P**	**11 37 10.0**	**+1.2**
SNPH	**Sibulan**	**16.16**	**1**	*e*P	**P**	**11 37 11.2**	**+1.1**
BATP	**Bataraza**	**16.43**	**342**	*e*P	**P**	**11 37 14.2**	**+1.7**
TBP	**Tagbilaran**	**16.53**	**3**	*e*P	**P**	**11 37 14.8**	**+1.4**
WRA	**Warramunga Arr**	**17.03**	**141**	P	**P**	**11 37 18.1**	**+0.1**
	74nm,0.3s,baz=318,slow=10,SNR=2061						
WRA				S	**S**	**11 40 02.0**	**-1.0**
	10nm,0.3s,baz=317,slow=17,SNR=21						
WRA				ScP		11 43 56.3	
	1.7nm,0.3s,baz=307,slow=2.5,SNR=8.8						
WRA				PKiKP		11 49 14.4	
	0.2nm,0.3s,baz=312,slow=1.2,SNR=9.3						
WRA	**Warramunga Arr**	**17.03**	**141**	P	**P**	**11 37 18.1**	**+0.1**
WRA				S	**S**	**11 40 02.0**	**-1.0**
WRA				pmax	pmax		
	comp=Z,74nm,0.3s						
WRA				smax			
	comp=E,10.0nm,0.3s						
WRA				pmax	pmax		
	comp=E,2.0nm,0.3s						
WRAB	**Tennant Creek**	**17.03**	**141**	⇑*e*P	**P**	**11 37 18.4**	**+0.5**
	comp=E,642nm,0.6s						
WRAB				*e*S	**S**	**11 40 01.9**	**-1.1**
WRAB				*e*ScP		11 43 56.2	
WRAB	**Tennant Creek**	**17.03**	**141**	⇑*e*P	**P**	**11 37 18.4**	**+0.4**
WRAB				*e*S	**S**	**11 40 01.9**	**-1.1**
WRAB				pmax	pmax		
	comp=Z,642nm,0.6s						
WB2	**Warramunga Arr**	**17.04**	**141**	⇑*i*P	**P**	**11 37 18.0**	**0.0**
WB2				*e*S	**S**	**11 40 01.2**	**-2.0**
WB2				*e*SCP		11 43 56.1	
WB2				*e*SCS	ScS	11 47 33.5	-3.0
PPR	**Puerto Princes**	**17.11**	**346**	*e*P	**P**	**11 37 20.8**	**+2.1**
GUIM	**Jordan**	**17.43**	**359**	*e*P	**P**	**11 37 21.5**	**-0.3**
BESP	**Borongan**	**18.57**	**8**	*e*P	**P**	**11 37 31.5**	**-0.6**
BUSP	**Coron**	**19.00**	**352**	*e*P	**P**	**11 37 37.2**	**+1.2**
AUQP	**San Andres**	**20.11**	**359**	*e*P	**P**	**11 37 48.9**	**+2.8**
LUBP	**Lubang**	**20.69**	**353**	*e*P	**P**	**11 37 52.1**	**+0.8**
POLP	**Polilio Island**	**21.53**	**357**	*e*P	**P**	**11 37 58.9**	**0.0**
BALP	**Baler**	**22.55**	**357**	*e*P	**P**	**11 38 07.8**	**-0.2**
SCZP	**Santa Cruz**	**22.75**	**352**	*e*P	**P**	**11 38 08.8**	**-1.0**
BOLP	**Bolinao**	**23.34**	**353**	*e*P	**P**	**11 38 13.9**	**-1.1**
CAUP	**Cauayan**	**23.74**	**357**	*e*P	**P**	**11 38 18.4**	**0.0**
PMG	**Port Moresby**	**24.10**	**98**	P	**P**	**11 38 22.2**	**+0.6**
	comp=Z,38nm,0.5s,mb5.1,baz=296,slow=2.7,SNR=28						
PMG				S	**S**	**11 41 56.7**	**0.0**
	comp=Z,7.0nm,0.7s,baz=306,slow=22,SNR=5.5						
PMG				ScP		11 44 15.3	
	comp=Z,39nm,0.9s,baz=18,slow=5.1,SNR=9.3						
PMG	**Port Moresby**	**24.10**	**98**	*e*P	**P**	**11 38 20.4**	**-1.2**
	comp=Z,54nm,0.6s,mb5.2						
PMG	**Port Moresby**	**24.10**	**98**	P	**P**	**11 38 22.2**	**+0.6**
PMG				S	**S**	**11 41 56.7**	**0.0**
PMG				pmax	pmax		
	comp=Z,38nm,0.5s						
PMG				smax			
	comp=E,7.0nm,0.7s						
PMG				pmax	pmax		
	comp=E,39nm,0.9s						
IPM	**Ipoh**	**24.68**	**297**	P	**P**	**11 38 26.6**	**-0.1**
KLBR	**Kellerberrin**	**25.02**	**191**	*e*P	**P**	**11 38 28.1**	**-1.4**
	comp=E,259nm,0.4s,mb6.1						
KLBR				*e*S	**S**	**11 42 07.2**	**-3.8**
KLBR				*e*SCP		11 44 16.2	
KULM	**Kulim**	**25.34**	**298**	*e*P	**P**	**11 38 30.4**	**-2.0**
KULM				*e*PcP	PcP	11 41 41.4	+0.6
MUN	**Mundaring**	**25.71**	**193**	⇑*i*P	**P**	**11 38 34.8**	**-0.7**
	comp=E,80nm,0.4s,mb5.6						
CTA	**Charters Tower**	**26.12**	**122**	*e*P	**P**	**11 38 39.8**	**+0.6**
	comp=E,29nm,0.9s,mb4.8						
CTA				*i* PCP	PcP	11 41 42.7	+0.2
CTA				*e*SCP		11 44 20.1	
CTA	**Charters Tower**	**26.12**	**122**	P	**P**	**11 38 40.1**	**+0.9**
	comp=E,24nm,0.5s,mb5.0,baz=295,slow=9.6,SNR=13						
CTA				PcP	PcP	11 41 42.7	+0.2
	comp=E,28nm,0.7s,baz=20,slow=2.1,SNR=7.1						
CTA				ScP		11 44 20.7	
	comp=E,44nm,0.8s,baz=302,slow=4.9,SNR=8.6						
CTA	**Charters Tower**	**26.12**	**122**	P	**P**	**11 38 40.1**	**+0.9**
CTA						11 41 42.7	
CTA				pmax	pmax		
	comp=Z,24nm,0.5s						
CTA				pmax	pmax		
	comp=Z,28nm,0.7s						
CTA				pmax	pmax		
	comp=E,44nm,0.9s						
CTAO	**Charters Tower**	**26.12**	**122**	*e*P	**P**	**11 38 39.8**	**+0.6**
	comp=E,102nm,1.2s,mb5.2						
CTAO				*e*PcP	PcP	11 41 42.8	+0.3
CTAO	**Charters Tower**	**26.12**	**122**	*e*P	**P**	**11 38 39.8**	**+0.6**
CTAO				*e*		11 41 42.8	
CTAO				pmax	pmax		
	comp=Z,102nm,1.2s,mb5.2						
NWAO	**Narrogin (SRO)**	**26.42**	**191**	P	**P**	**11 38 41.2**	**-0.4**
	comp=Z,211nm,0.6s,mb5.8,baz=18,slow=8.5,SNR=345						
NWAO	**Narrogin (SRO)**	**26.42**	**191**	*e*P	**P**	**11 38 41.1**	**-0.4**
	comp=Z,164nm,0.6s,mb5.7						
NWAO	**Narrogin (SRO)**	**26.42**	**191**	P	**P**	**11 38 41.2**	**-0.4**
NWAO				pmax	pmax		
	comp=Z,211nm,0.6s						
QIZ	**Qiongzhong**	**28.84**	**334**	⇑*i*P	**P**	**11 39 02.7**	**+0.4**
QIZ				XP	sP	11 42 00.2	+0.6
QIZ				S	**S**	**11 43 09.7**	**-0.5**
QIZ				AMB	AMB		
	comp=Z,99nm,0.8s,mb5.4						
QIZ	**Qiongzhong**	**28.84**	**334**	⇑*e*P	**P**	**11 39 02.4**	**0.0**
	comp=Z,77nm,0.6s,mb5.4						
QIZ				*e*PcP	PcP	11 41 49.8	+0.5
STKA	**Stephens Creek**	**30.32**	**147**	*e*P	**P**	**11 39 15.3**	**+0.5**
	comp=Z,467nm,0.6s						
STKA				*e*S	**S**	**11 43 31.1**	**-1.9**
STKA				*e*SCS	ScS	11 48 26.0	-4.2
STKA	**Stephens Creek**	**30.32**	**147**	P	**P**	**11 39 15.7**	**+0.9**
	comp=Z,534nm,0.6s,baz=316,slow=10,SNR=985						
STKA				S	**S**	**11 43 31.3**	**-1.6**
	comp=Z,27nm,0.7s,baz=150,slow=16,SNR=6.8						
KKTK	**Khon Kaen**	**30.50**	**319**	P	**P**	**11 39 17.0**	**+0.6**
	comp=Z,864nm,0.7s						
YHNB	**Yeheng**	**31.43**	**357**	*e*P	**P**	**11 39 22.6**	**-1.6**
YHNB				*e*S	**S**	**11 43 41.0**	**-8.9**
QZH	**Quanzhou**	**31.95**	**353**	P	**P**	**11 39 28.5**	**0.0**
QZH				S	**S**	**11 43 49.5**	**-8.3**
QZH				AMB	AMB		
	comp=Z,130nm,0.7s,mb5.6						
NANT	**Nan**	**33.68**	**320**	⇑P	**P**	**11 39 42.0**	**-0.9**
	comp=Z,469nm,1.0s,mb6.0						
BDT	**Bhumibol Dam**	**33.71**	**316**	P	**P**	**11 39 49.0**	**+5.8**
	comp=Z,40nm,0.7s,mb5.1						
JOW	**Kunigami**	**33.95**	**9**	P	**P**	**11 39 45.6**	**+0.5**
	comp=Z,46nm,0.5s,mb5.3,baz=203,slow=9.4,SNR=22						
CHG	**Chiang Mai**	**34.84**	**318**	⇑P	**P**	**11 39 51.9**	**-0.6**
	comp=Z,39nm,0.6s,mb5.1						
CHRT	**Chiangrai**	**35.05**	**320**	⇓P	**P**	**11 39 53.0**	**-1.2**
	comp=Z,737nm,0.6s						
ARMA	**Armidale**	**35.64**	**135**	⇑*i*P	**P**	**11 39 52.5**	**-6.5**
ARMA				*i* PCP	Px	11 41 36.5	
ARMA				*i* SCP		11 44 43.7	
HNR	**Honiara**	**36.70**	**96**	P	**P**	**11 40 08.5**	**+0.7**
	comp=Z,393nm,0.9s,mb6.0,baz=233,slow=4.6,SNR=11						
HNR				ScP		11 44 57.3	
	comp=Z,84nm,0.7s,baz=183,slow=0.5,SNR=4.2						
HNR				S	**S**	**11 45 06.7**	**-1.8**
	comp=Z,105nm,0.9s,baz=329,slow=4.7,SNR=4.1						
HNR	**Honiara**	**36.70**	**96**	⇓*e*P	**P**	**11 40 08.4**	**+0.6**
	comp=Z,288nm,0.8s,mb5.9						
HNR	**Honiara**	**36.70**	**96**	P	**P**	**11 40 08.5**	**+0.7**
HNR				S	**S**	**11 45 06.7**	**-1.8**
HNR				pmax	pmax		
	comp=Z,393nm,0.9s,mb5.9						
HNR				pmax	pmax		
	comp=E,84nm,0.7s						
HNR				smax			
	comp=E,105nm,0.9s						
GYA	**Guiyang**	**36.75**	**335**	⇓*i*P	**P**	**11 40 08.2**	**+0.1**
GYA				PCP	PcP	11 42 12.5	+0.8
GYA				SCP		11 44 57.2	
GYA				S	**S**	**11 45 05.6**	**-3.5**
GYA				SCS	ScS	11 49 06.6	+1.8
GYA				AMB	AMB		
	comp=Z,140nm,2.4s,mb5.1						
TOO	**Toolangi**	**36.75**	**149**	⇑*i*P	**P**	**11 40 09.8**	**+1.8**
	comp=Z,47nm,0.5s,mb5.3						
TOO				*e*PCP	PP	11 41 52.4	+1.3
TOO	**Toolangi**	**36.75**	**149**	⇑*i*P	**P**	**11 40 09.8**	**+1.8**
TOO				pmax	pmax		
	comp=Z,47nm,0.5s,mb5.3						
CNB	**Canberra Magne**	**37.25**	**143**	⇑*i*P	**P**	**11 40 13.5**	**+1.4**
	comp=Z,72nm,0.8s,mb5.2						
CNB				*e*PCP	PP	11 41 58.3	+2.2
RIV	**Riverview**	**37.39**	**140**	*e*P	**P**	**11 40 15.5**	**+2.3**
KMI	**Kunming**	**37.43**	**329**	P	**P**	**11 40 15.5**	**+1.9**
KMI				XP	sP	11 43 19.7	+3.8
KMI				S	**S**	**11 45 16.9**	**-2.1**
KMI				AMB	AMB		
	comp=Z,38nm,1.1s,mb4.8						
KMI				AMB	AMB		
	comp=Z,86nm,3.1s						
KMI	**Kunming**	**37.43**	**329**	P	**P**	**11 40 15.5**	**+1.9**
	comp=Z,38nm,1.1s,mb4.8						
KMI				PcP	PcP	11 42 20.2	+6.3
KMI				sP	sP	11 43 19.7	+3.8
KMI				S	**S**	**11 45 16.9**	**-2.1**
KMI				sS		11 48 26.8	
KMI				SS	SS	11 48 30.6	-4.1
KMI				ScS	ScS	11 49 12.9	+4.2
KMI				LR	LR		
	comp=Z,180nm,18.2s						
KMI	**Kunming**	**37.43**	**329**	P	**P**	**11 40 15.5**	**+1.9**
KMI						11 42 20.2	
KMI				*SP	sP	11 43 19.7	+3.8
KMI				S	**S**	**11 45 16.9**	**-2.1**
KMI				*SS		11 48 26.8	
KMI				SS	SS	11 48 30.6	-4.1
KMI						11 49 12.9	
KMI				pmax	pmax		
	comp=Z,38nm,1.1s,mb4.8						
KMI				MLR	MLR		
	comp=Z,180nm,18.2s						
SSE	**Sheshan**	**37.84**	**358**	⇓P	**P**	**11 40 17.3**	**+0.4**
SSE				PP	PP	11 42 05.5	+3.8
SSE				PCP	PcP	11 42 14.2	-0.9
SSE				XP	sP	11 43 21.6	+2.4
SSE				S	**S**	**11 45 25.0**	**+0.2**
SSE				AMB	AMB		
	comp=Z,130nm,0.7s,mb5.5						
SSE				AMB	AMB		
	comp=Z,27nm,3.5s						
SSE	**Sheshan**	**37.84**	**358**	⇓P	**P**	**11 40 17.3**	**+0.4**
	comp=Z,130nm,0.7s,mb5.5						
SSE				PP	PP	11 42 05.5	+3.8
SSE				PcP	PcP	11 42 14.2	-0.9
SSE				sP	sP	11 43 21.6	+2.4
SSE				S	**S**	**11 45 25.0**	**+0.2**
SSE				ScS	ScS	11 49 14.7	+3.7
SSE				LR	LR		
	comp=Z,100nm,22.5s						
WHN	**Wuhan**	**38.15**	**348**	P	**P**	**11 40 20.5**	**+1.1**
WHN				PCP	PcP	11 42 15.0	-1.1
CBIJ	**Chichi jima**	**38.61**	**28**	P	**P**	**11 40 23.1**	**0.0**
	comp=Z,151nm,0.5s,mb5.7,baz=209,slow=2.4,SNR=34						
CBIJ				S	**S**	**11 45 32.5**	**-3.7**
	comp=Z,82nm,0.6s,baz=350,slow=20,SNR=8.1						
NJ2	**Nanjing**	**38.95**	**354**	*e*P	**P**	**11 40 27.0**	**+1.2**
NJ2				PP	PP	11 42 18.5	+6.3
NJ2				XP	sP	11 43 30.1	+1.5
NJ2				S	**S**	**11 45 42.0**	**+1.1**
NJ2				AMB	AMB		
	comp=Z,140nm,0.8s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,340nm,5.6s						
ENH	**Enshi**	**39.17**	**341**	⇓*e*P	**P**	**11 40 27.7**	**+0.2**
	comp=Z,60nm,0.6s,mb5.2						
ENH				*e*ScP		11 45 05.8	
JNU	**Nakatsue**	**40.53**	**10**	P	**P**	**11 40 38.0**	**-0.3**
	comp=Z,29nm,0.9s,mb4.7,baz=219,slow=4.1,SNR=12						
JNU				PcP	PcP	11 42 23.8	-0.1
	comp=Z,14nm,0.8s,baz=139,slow=8.9,SNR=4.8						
JNU				S	**S**	**11 46 01.5**	**-2.0**
	comp=Z,8.3nm,1.1s,baz=298,slow=22,SNR=2.5						
CD2	**Chengdu**	**41.86**	**335**	P	**P**	**11 40 47.0**	**-2.0**
CD2				S	**S**	**11 46 19.4**	**-3.1**
CD2				AMB	AMB		
	comp=Z,80nm,0.7s,mb5.3						
XAN	**Xi'an**	**42.85**	**343**	P	**P**	**11 40 55.9**	**-0.6**
XAN				AMB	AMB		
	comp=Z,230nm,0.7s,mb5.7						
JHJ	**Hachijo jima 2**	**42.91**	**21**	P	**P**	**11 40 56.1**	**-1.0**
	comp=Z,54nm,0.7s,mb5.1,baz=200,slow=8.2,SNR=5.8						
JHJ				S	**S**	**11 46 35.1**	**-2.1**
	comp=Z,70nm,1.0s,baz=249,slow=20,SNR=2.8						
TIA	**Tai'an**	**43.25**	**353**	*e*P	**P**	**11 40 59.0**	**-0.6**
KS15	**Wonju Array Si**	**44.37**	**6**	⇓*e*P	**P**	**11 41 08.8**	**+0.5**
KS15				*e*PcP	PcP	11 42 37.1	+0.1
DZM	**Mont Dzumac**	**44.54**	**114**	P	**P**	**11 41 11.3**	**+1.5**
	comp=Z,16nm,0.7s,mb4.5,baz=287,slow=6.2,SNR=8.9						
MJAR	**Matsushiro Arr**	**45.54**	**17**	P	**P**	**11 41 16.6**	**-0.6**
	comp=Z,89nm,0.8s,mb5.1,baz=194,slow=8.9,SNR=188						
MJAR				PcP	PcP	11 42 41.0	-0.2
	comp=Z,18nm,0.8s,baz=203,slow=4.6,SNR=10						
MJAR				S	**S**	**11 47 11.9**	**-1.8**
	comp=Z,7.8nm,1.1s,baz=225,slow=41,SNR=11						
MJAR	**Matsushiro Arr**	**45.54**	**17**	P	**P**	**11 41 16.6**	**-0.6**
MJAR				PcP	PcP	11 42 41.0	-0.2
MJAR				S	**S**	**11 47 11.8**	**-1.8**
MJAR	**Matsushiro Arr**	**45.54**	**17**	P	**P**	**11 41 16.7**	**-0.5**
MJAR						11 42 41.0	
MJAR				S	**S**	**11 47 11.9**	**-1.8**
MJAR				pmax	pmax		
	comp=Z,89nm,0.8s						
MJAR				pmax	pmax		
	comp=Z,18nm,0.8s						
MJAR				smax			
	comp=E,8.0nm,1.1s						
MAJO	**Matsushiro**	**45.54**	**17**	⇓*e*P	**P**	**11 41 16.6**	**-0.6**
	comp=E,59nm,0.6s,mb5.1						
MAJO				*e*PcP	PcP	11 42 40.9	-0.3
MAJO				*e*S	**S**	**11 47 12.8**	**-0.9**
MAJO	**Matsushiro**	**45.54**	**17**	⇓*e*P	**P**	**11 41 16.6**	**-0.6**
MAJO				*e*		11 42 40.9	
MAJO				*e*S	**S**	**11 47 12.8**	**-0.9**
MAJO				pmax	pmax		
	comp=Z,59nm,0.6s,mb5.1						
MAT	**Matsushiro**	**45.54**	**17**	P	**P**	**11 41 16.1**	**-1.1**
MAT				S	**S**	**11 47 10.4**	**-3.3**
MAT	**Matsushiro**	**45.54**	**17**	*e*P	**P**	**11 41 16.0**	**-1.2**
	comp=Z,58nm,0.8s,mb5.0						
MAT				*e*S	**S**	**11 47 10.0**	**-3.7**
MAT	**Matsushiro**	**45.54**	**17**	*e*P	**P**	**11 41 16.0**	**-1.2**
MAT				*e*S	**S**	**11 47 10.0**	**-3.7**
MAT				pmax	pmax		
	comp=Z,57nm,0.8s,mb5.0						
DL2	**Dalian**	**45.61**	**359**	P	**P**	**11 41 16.9**	**-0.8**
DL2				PCP	PcP	11 42 41.4	0.0
DL2				S	**S**	**11 47 10.5**	**-4.1**
DL2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.2						
LZH	**Lanzhou**	**46.39**	**339**	⇑P	**P**	**11 41 24.2**	**+0.6**
LZH				PCP	PcP	11 42 44.0	-0.2
LZH				AP	pP	11 43 19.1	+0.6
LZH				PP	PP	11 43 26.5	+4.5
LZH				XP	sP	11 44 31.5	+0.6
LZH				SCP		11 45 35.4	
LZH				PCS		11 46 38.7	
LZH				S	**S**	**11 47 25.0**	**-0.4**
LZH				SCS	ScS	11 50 05.2	+0.7
LZH				XS		11 50 52.3	
LZH				AMB	AMB		
	comp=Z,159nm,1.3s,mb5.2						
LZH				AMB	AMB		
	comp=E,578nm,6.4s						
LZH	**Lanzhou**	**46.39**	**339**	⇑P	**P**	**11 41 24.2**	**+0.6**
	comp=Z,159nm,1.3s,mb5.2						
LZH				PcP	PcP	11 42 44.0	-0.2
LZH				pP	pP	11 43 19.1	+0.6
LZH				PP	PP	11 43 26.5	+4.5
LZH				sP	sP	11 44 31.5	+0.6
LZH				ScP		11 45 35.4	
LZH				PcS		11 46 38.7	
LZH				S	**S**	**11 47 25.0**	**-0.4**
LZH				ScS	ScS	11 50 05.2	+0.7
LZH				sS		11 50 52.3	
LZH	**Lanzhou**	**46.39**	**339**	⇑P	**P**	**11 41 24.2**	**+0.6**
LZH						11 42 44.0	
LZH				*PP	pP	11 43 19.1	+0.6
LZH						11 43 26.5	
LZH				*SP	sP	11 44 31.5	+0.6
LZH				S	**S**	**11 47 25.0**	**-0.4**
LZH						11 50 05.2	
LZH				*SS		11 50 52.3	
LZH				pmax	pmax		
	comp=Z,159nm,1.3s,mb5.2						
LSA	**Lhasa**	**47.53**	**322**	P	**P**	**11 41 33.7**	**+1.5**
LSA				S	**S**	**11 47 37.4**	**-3.6**
LSA	**Lhasa**	**47.53**	**322**	⇓*e*P	**P**	**11 41 33.3**	**+1.1**
	comp=Z,91nm,0.6s,mb5.3						
LSA				*e*PcP	PcP	11 42 49.3	+0.8
LSA				*e*S	**S**	**11 47 40.1**	**-0.8**
LSA	**Lhasa**	**47.53**	**322**	⇓*e*P	**P**	**11 41 33.3**	**+1.1**
LSA				*e*		11 42 49.3	
LSA				*e*S	**S**	**11 47 40.2**	**-0.8**
LSA				pmax	pmax		
	comp=Z,91nm,0.6s,mb5.3						
SNY	**Shenyang**	**48.51**	**1**	⇑*i*P	**P**	**11 41 37.8**	**-1.5**
SNY				AMB	AMB		
	comp=Z,70nm,0.7s,mb5.1						
HHC	**Hu-ho-hao-te**	**48.67**	**349**	*e*P	**P**	**11 41 40.5**	**0.0**
HHC				AP	pP	11 43 37.0	-0.1
HHC				XP	sP	11 44 48.4	-0.7
HHC				S	**S**	**11 47 53.6**	**-2.8**
HHC				SCS	ScS	11 50 19.7	0.0
HHC				AMB	AMB		
	comp=Z,35nm,0.8s,mb4.7						
HHC				AMB	AMB		
	comp=Z,195nm,5.4s						
JIRN	**Jiri**	**49.43**	**316**	*e*P	**P**	**11 41 46.5**	**+0.2**
	comp=Z,187nm,0.8s,mb5.5						
PKI	**Pulchoki**	**49.92**	**315**	*e*P	**P**	**11 41 49.7**	**-0.1**
	comp=Z,143nm,0.6s,mb5.5						
KKN	**Kakani**	**50.15**	**315**	*e*P	**P**	**11 41 51.3**	**-0.2**
	comp=Z,173nm,0.8s,mb5.4						
DMN	**Daman**	**50.16**	**315**	*e*P	**P**	**11 41 51.5**	**-0.1**
	comp=Z,225nm,0.9s,mb5.5						
CN2	**Changchun**	**50.53**	**2**	⇓P	**P**	**11 41 52.9**	**-1.1**
CN2				*e*S	**S**	**11 48 25.0**	**+3.7**
CN2				AMB	AMB		
	comp=Z,40nm,0.9s,mb4.7						
CN2				AMB	AMB		
	comp=Z,170nm,5.0s						
GKN	**Gorkha**	**50.73**	**315**	*e*P	**P**	**11 41 55.4**	**-0.3**
	comp=Z,219nm,0.5s,mb5.6						
GTA	**Gaotai**	**50.83**	**337**	P	**P**	**11 41 56.6**	**+0.4**
GTA				S	**S**	**11 48 22.7**	**-2.6**
GTA				AMB	AMB		
	comp=Z,65nm,0.7s,mb5.0						
GTA				AMB	AMB		
	comp=Z,140nm,7.2s						
KOLN	**Koldanda**	**51.33**	**314**	*e*P	**P**	**11 41 59.9**	**0.0**
	comp=Z,340nm,0.7s,mb5.7						
MDJ	**Mudanjiang**	**51.65**	**6**	P	**P**	**11 42 02.3**	**+0.3**
MDJ				PCP	PcP	11 43 03.7	+0.1
MDJ				AP	pP	11 43 59.5	-1.5
MDJ				XP	sP	11 45 14.5	+2.3
MDJ				S	**S**	**11 48 35.8**	**-0.2**
MDJ				XS		11 52 10.3	
MDJ				SS	SS	11 52 28.4	0.0
MDJ				AMB	AMB		
	comp=Z,168nm,0.9s,mb5.3						
MDJ				AMB	AMB		
	comp=Z,117nm,5.8s						
MDJ	**Mudanjiang**	**51.65**	**6**	⇓*e*P	**P**	**11 42 02.0**	**0.0**
	comp=Z,118nm,0.7s,mb5.2						
MDJ				*e*PcP	PcP	11 43 03.5	-0.1
HIA	**Hailar**	**56.02**	**357**	⇓*e*P	**P**	**11 42 31.7**	**-0.6**
	comp=Z,47nm,0.8s,mb4.7						
HIA				*e*PcP	PcP	11 43 20.1	-0.3
HIA	**Hailar**	**56.02**	**357**	⇓*e*P	**P**	**11 42 31.7**	**-0.6**
HIA				*e*		11 43 20.1	
HIA				pmax	pmax		
	comp=Z,47nm,0.

ZAK e 11 43 32.9
ZAK pmax pmax
comp=Z,26nm,0.9s,mb4.4
ZAK pmax pmax
comp=Z,12nm,1.0s,mb4.0
WMQ Urumqi 59.71 331⇓ iP P 11 42 58.0 +0.9
WMQ PCP PcP 11 43 36.0 +0.8
WMQ AP pP 11 45 03.0 +0.2
WMQ PP PP 11 45 23.0 +2.4
WMQ XP sP 11 46 13.0 +1.7
WMQ S **S 11 50 20.0 +0.6**
WMQ SCS ScS 11 51 40.0 +0.9
WMQ AMB AMB
comp=Z,102nm,1.0s,mb4.9
WMQ AMB AMB
comp=Z,564nm,6.0s
CASY Casey 59.89 186⇑ iP P 11 42 57.0 -0.9
JASL Jaisalmer 60.57 306 eP P 11 43 01.7 -1.2
JASL AMb AMB 11 43 01.9
TLY Talaya 60.67 346⇓ eP P 11 43 03.2 0.0
comp=Z,37nm,0.8s,mb4.7
TLY ePcP PcP 11 43 38.9 0.0
TLY Talaya 60.67 346⇓ eP P 11 43 03.2 0.0
TLY e 11 43 38.9
TLY pmax pmax
comp=Z,37nm,0.8s,mb4.7
IRK Irkutsk 61.05 347 eP P 11 43 05.1 -0.6
IRK e 11 43 40.1
IRK pmax pmax
comp=Z,48nm,1.9s,mb4.4
MOY Mondy 61.32 345 eP P 11 43 07.8 +0.4
MOY pmax pmax
comp=Z,57nm,1.8s,mb4.5
MIR Mirnyy 63.00 193d iP P 11 43 17.4 -0.5
MIR pmax pmax
comp=Z,24nm,1.4s,mb4.2
KSH Kashi 63.37 321 P P 11 43 22.1 +1.4
KSH ePCP PcP 11 43 50.0 -0.2
KSH eAP pP 11 45 29.0 0.0
KSH ePP PP 11 45 54.2 +2.4
KSH eSCP 11 46 49.0
KSH ePCS 11 47 53.0
KSH eS **S 11 51 00.2 -3.8**
KSH eSCS ScS 11 52 07.0 +0.1
KSH eSS SS 11 55 31.1 +0.1
KSH AMB AMB
comp=Z,320nm,6.3s
SKR Severo-Kuril's 64.13 23 eP P 11 43 22.5 -2.8
SKR pmax pmax
comp=Z,50nm,0.5s,mb5.0
MKAR Makanchi Array 64.50 330 P P 11 43 27.6 -0.1
comp=Z,67nm,0.8s,mb4.9,baz=129,slow=7.8,SNR=286
MKAR PcP PcP 11 43 54.0 -0.8
comp=Z,21nm,0.7s,baz=130,slow=5.7,SNR=8.8
MKAR PP PP 11 46 00.1 -1.5
comp=Z,5.9nm,0.9s,baz=135,slow=8.6,SNR=3.9
MKAR S **S 11 51 16.9 -0.4**
comp=Z,2.5nm,0.8s,baz=132,slow=16,SNR=12
MKAR PKP2bc 12 12 08.8
comp=Z,0.5nm,0.7s,baz=315,slow=1.7,SNR=3.5
MKAR Makanchi Array 64.50 330 P P 11 43 27.6 -0.1
MKAR PcP PcP 11 43 54.0 -0.8
MKAR PP PP 11 46 00.1 -1.5
MKAR S **S 11 51 16.9 -0.4**
MKAR ⇑e 12 12 08.8
MKAR Makanchi Array 64.50 330 P P 11 43 27.6 0.0
MKAR 11 43 54.0
MKAR 11 46 00.1
MKAR S **S 11 51 17.0 -0.3**
MKAR pmax pmax
comp=Z,67nm,0.8s
MKAR pmax pmax
comp=Z,21nm,0.7s
MKAR pmax pmax
comp=Z,6.0nm,0.9s
MKAR smax
comp=E,3.0nm,0.8s
MKAR pmax pmax
comp=Z,1.0nm,0.7s
BOD Bodaibo 64.93 355⇓ iP P 11 43 30.4 +0.3
BOD e 11 51 20.2
BOD pmax pmax
comp=Z,38nm,1.0s,mb4.7
KZA Kyzart 65.32 323 P P 11 43 33.8 +1.0
SNR=5.9
TKM2 Tokmak 2 65.61 324 P P 11 43 34.6 0.0
SNR=27
KBK Karagaybulak 65.84 323 P P 11 43 36.8 +0.8
SNR=18
UCH Uchtor 65.85 322 P P 11 43 36.7 +0.6
SNR=33
AAK Ala-Archa 66.09 323 P P 11 43 38.0 +0.5
SNR=19
AAK Ala-Archa 66.09 323⇓ eP P 11 43 37.2 -0.4
comp=Z,47nm,0.7s,mb4.9
AAK ePcP PcP 11 44 01.2 -0.4
AAK Ala-Archa 66.09 323⇓ eP P 11 43 37.2 -0.4
AAK e 11 44 01.2
AAK pmax pmax
comp=Z,47nm,0.7s,mb4.9
CHMS Chumysh 66.16 323 P P 11 43 38.1 +0.2
SNR=11
AML Almayashu 66.29 322 P P 11 43 40.0 +1.3
SNR=26
USP Ospenovka 66.46 323 P P 11 43 39.8 0.0
SNR=38
EKS2 Erkin-Say 66.54 323 P P 11 43 40.9 +0.6
SNR=28
PET Petropavlovsk 66.95 23⇓ eP P 11 43 43.0 +0.5
comp=Z,147nm,1.2s,mb5.2
PET Petropavlovsk 66.95 23d iP P 11 43 43.1 +0.6
PET pmax pmax
comp=Z,154nm,1.4s,mb5.1
ZAL Zalesovo 68.58 337 P P 11 43 51.7 -0.7
comp=Z,32nm,0.8s,mb4.7,baz=337,slow=4.9,SNR=120
ZAL S S 11 51 59.6 -5.0
comp=Z,2.3nm,0.8s,baz=304,slow=2.0,SNR=3.4
ZAL PKP2bc 12 12 00.1
comp=Z,1.8nm,0.3s,baz=157,slow=4.7,SNR=4.9
ZAL Zalesovo 68.58 337 P P 11 43 51.7 -0.7
ZAL S S 11 51 59.6 -5.0
ZAL ⇑e 12 12 00.1
ZAL Zalesovo 68.58 337 P P 11 43 51.7 -0.7
ZAL S S 11 51 59.6 -5.0
ZAL pmax pmax
comp=Z,32nm,0.8s
ZAL smax
comp=E,2.0nm,0.8s
ZAL pmax pmax
comp=Z,2.0nm,0.4s
KKAR Karatay Array 68.78 321 iP P 11 43 53.3 -0.4
KKAR pmax pmax
comp=Z,2.0nm,0.5s
YAK Yakutsk 68.94 3 eP P 11 43 54.1 -0.2
comp=Z,418nm,0.8s,mb5.8
YAK ePcP PcP 11 44 12.6 -0.7
YAK Yakutsk 68.94 3d iP P 11 43 54.5 +0.2
YAK i *PP PcP 11 44 11.0 -2.3
YAK i S S 11 52 07.2 -1.3
YAK e*SS 11 52 49.5
YAK pmax pmax
comp=Z,143nm,0.9s,mb5.3
YAK pmax pmax
comp=N,56nm,1.1s
YAK pmax pmax
comp=E,15nm,1.0s
YAK smax
comp=N,7.0nm,1.2s
YAK smax
comp=E,14nm,1.2s
KURK Kurchatov 68.95 332⇓ iP P 11 43 54.2 -0.4
comp=E,90nm,0.9s,mb5.1
KURK Kurchatov 68.95 332⇓ iP P 11 43 54.2 -0.4
KURK pmax pmax
comp=Z,90nm,0.9s,mb5.1
NVS Novosibirsk 69.87 337 eP P 11 43 57.8 -2.1
NVS e pP 11 46 10.3 -1.9
NVS pmax pmax
comp=N,45nm,1.3s
NVS pmax pmax
comp=E,43nm,1.3s
NVS pmax pmax
comp=Z,73nm,1.3s,mb5.0
NVS pmax pmax
comp=N,14nm,1.4s
NVS pmax pmax
comp=E,12nm,1.4s
NVS pmax pmax
comp=Z,18nm,1.4s,mb4.3
MA2 Magadan 69.89 15⇓ eP P 11 44 00.7 +0.8
comp=Z,214nm,1.0s,mb5.5
MA2 ePcP PcP 11 44 14.6 -2.8
MA2 Magadan 69.89 15⇓ eP P 11 44 00.7 +0.8
MA2 e 11 44 14.6
MA2 pmax pmax
comp=Z,214nm,1.0s,mb5.5
MAW Mawson 72.52 200⇑ iP P 11 44 15.1 +0.2
comp=Z,13nm,0.9s,mb4.4
MAW Mawson 72.52 200 P P 11 44 15.4 +0.5
comp=Z,13nm,0.7s,mb4.5,baz=60,slow=6.4,SNR=38
MAW pP pP 11 46 27.0 -1.7
comp=Z,3.0nm,0.8s,baz=64,slow=14,SNR=3.4
MAW Mawson 72.52 200 P P 11 44 15.4 +0.5
MAW *PP pP 11 46 27.0 -1.7
MAW pmax pmax
comp=Z,13nm,0.7s
MAW pmax pmax
comp=Z,3.0nm,0.8s
FX1 Attu Island--F 73.16 29⇓ eP P 11 44 20.0 +1.2
SEY Seymchan 73.19 14 i P P 11 44 19.8 +1.0
SEY e 11 47 23.6
SEY pmax pmax
comp=N,20nm,0.7s
SEY pmax pmax
comp=E,20nm,0.7s
SEY pmax pmax
comp=Z,30nm,0.7s,mb4.8
VNDA Vanda 73.45 172 P P 11 44 20.3 +0.2
comp=Z,13nm,0.6s,mb4.5,baz=318,slow=6.3,SNR=95
VNDA pP pP 11 46 34.9 +0.6
comp=Z,3.1nm,1.0s,baz=339,slow=6.4,SNR=2.3
VNDA S S 11 52 57.8 -0.5
comp=Z,3.2nm,1.2s,baz=134,slow=17,SNR=7.7
VNDA PKPPKP 12 11 50.1
comp=Z,1.1nm,0.9s,baz=203,slow=2.7,SNR=4.0
VNDA Vanda 73.45 172 eP P 11 44 19.8 -0.2
comp=Z,14nm,0.6s,mb4.6
VNDA Vanda 73.45 172 P P 11 44 20.3 +0.3
VNDA *PP pP 11 46 34.9 +0.6
VNDA S S 11 52 57.8 -0.5
VNDA pmax pmax
comp=Z,13nm,0.6s
VNDA pmax pmax
comp=Z,3.0nm,1.0s
VNDA smax
comp=E,3.0nm,1.2s
VNDA pmax pmax
comp=Z,1.0nm,1.0s
VOSK Vostochnaya 73.91 330 P P 11 44 22.7 -0.3
VOSK pmax pmax
comp=Z,27nm,0.8s,mb4.8
BVA0 Borovoye Array 74.38 330 P P 11 44 25.0 -0.6
BVA0 pmax pmax
comp=Z,24nm,1.2s,mb4.6
BVAR Borovoye Array 74.38 330 P P 11 44 26.0 +0.4
comp=Z,32nm,0.8s,mb4.9,baz=143,slow=7.4,SNR=174
BVAR S S 11 53 06.5 -2.3
comp=Z,0.9nm,0.6s,baz=111,slow=13,SNR=4.5
BVAR Borovoye Array 74.38 330 P P 11 44 26.0 +0.4
BVAR S S 11 53 06.5 -2.3
BVAR pmax pmax
comp=Z,32nm,0.9s
BVAR smax
comp=E,1.0nm,0.6s
SBA Scott Base 74.41 171 eP P 11 44 25.5 +0.1
comp=E,18nm,0.9s,mb4.6
SBA Scott Base 74.41 171 eP P 11 44 25.5 +0.1
SBA pmax pmax
comp=Z,18nm,0.9s,mb4.6
BRVK Borovoye 74.45 330⇓ iP P 11 44 26.1 +0.1
comp=Z,53nm,1.1s,mb5.0
BRVK Borovoye 74.45 330⇓ iP P 11 44 26.1 +0.1
BRVK pmax pmax
comp=Z,53nm,1.1s,mb5.0
HASS Wahat al Ahsa' 77.96 297 P P 11 44 46.4 +0.8
AB31 Akbulak array 78.17 323 i P P 11 44 45.9 -0.3
AB31 pmax pmax
comp=Z,26nm,0.7s,mb4.9
GSTR Great Sitkin T 78.30 33 eP P 11 44 47.6 +0.8
TIXI Tiksi 78.50 2d iP P 11 44 47.0 -0.5
TIXI pmax pmax
comp=Z,85nm,1.0s,mb5.2
SVE Sverdlovsk 81.16 330⇑ iP P 11 45 01.6 +0.2
SVE e pP 11 47 21.0 +1.5
SVE e 11 48 24.0
SVE eS S 11 54 15.0 -3.4
SVE pmax pmax
comp=Z,100nm,1.2s,mb5.1
SVE MLR MLR
comp=N,100nm,12.0s
SVE MLR MLR
comp=E,100nm,12.0s
SVE MLR MLR
comp=Z,200nm,12.0s
SYO Syowa Base 81.20 201 ⇑P P 11 45 00.5 -0.9
ATD Arta Tunnel 81.74 283 P P 11 45 07.5 +2.2
comp=Z,3.0nm,0.5s,mb4.5,baz=81,slow=6.6,SNR=5.9
ATD Arta Tunnel 81.74 283 P P 11 45 07.5 +2.2
ARU Arti 82.01 330 eP P 11 45 05.6 -0.1
comp=Z,25nm,0.6s,mb4.9
ARU Arti 82.01 330⇓ iP P 11 45 05.8 0.0
ARU e 11 48 23.3
ARU i S S 11 54 23.3 -3.5
ARU eSS SS 12 00 03.9 -7.3
ARU pmax pmax
comp=Z,13nm,0.5s,mb4.7
DJNS Zahran al Janu 82.07 289 P P 11 45 09.4 +2.6
QSPA South Pole Qui 83.06 180⇑ iP P 11 45 11.4 +0.9
comp=Z,19nm,0.8s,mb4.7
BLJS Baljurashi 84.25 291 P P 11 45 20.1 +2.4
UNV Unalaska Valle 84.29 34 P P 11 45 16.7 -0.4
comp=Z,144nm,1.0s,mb5.5
DGRG David-gareji 85.31 313 P P 11 45 24.1 +1.8
HILS Ha'il 85.35 298 P P 11 45 24.7 +1.9
GNI Garni 85.48 311d iP P 11 45 24.0 +0.9
GNI pmax pmax
comp=Z,47nm,1.8s
KMBO Kilima Mbogo 85.59 269 P P 11 45 25.7 +1.5
comp=Z,8.1nm,0.6s,mb4.5,baz=62,slow=7.4,SNR=20
KMBO pP pP 11 47 43.3 -0.8
comp=Z,2.2nm,0.7s,baz=47,slow=12,SNR=3.0
KMBO Kilima Mbogo 85.59 269 P P 11 45 25.7 +1.5
KMBO *PP pP 11 47 43.3 -0.7
KMBO pmax pmax
comp=Z,8.0nm,0.6s
KMBO pmax pmax
comp=Z,2.0nm,0.7s
KBRS Khaybar 87.32 296 P P 11 45 33.4 +1.3
PMOR Pomariorio Ree 87.43 105 eP P 11 45 36.1 +3.3
comp=Z,99nm,1.0s,mb5.4
VAH Vaihoa 87.66 105 eP P 11 45 36.9 +3.0
comp=Z,122nm,1.2s,mb5.4
GOF Gofitskoye 87.77 316⇑ iP P 11 45 33.0 -0.7
GOF pmax pmax
comp=Z,70nm,1.3s,mb5.1
KIV Kislovodsk 87.79 315 eP P 11 45 34.8 +0.9
KIV e 11 49 11.5
KIV e 11 55 06.1
KIV pmax pmax
comp=N,11nm,1.0s
KIV pmax pmax
comp=Z,14nm,1.0s,mb4.5
KIV pmax pmax
comp=E,11nm,0.8s
VRHR Novokhopersk 89.91 321 eP P 11 45 42.7 -0.7
VRHR pmax pmax
comp=Z,50nm,0.8s,mb5.4
VRHR pmax pmax
comp=N,9.0nm,0.5s
VRHR pmax pmax
comp=E,10.0nm,0.9s
JMQS Jabal Moqyreh 90.74 299 P P 11 45 48.6 +0.8
VORD Divnogorie 91.33 321 eP P 11 45 49.2 -0.8
VORD pmax pmax
comp=Z,30nm,0.7s,mb5.2
VORD pmax pmax
comp=N,10.0nm,0.9s
VORD pmax pmax
comp=E,10.0nm,0.7s
BDAS Al Bad' 91.36 298 P P 11 45 50.9 +0.3
VRSR Storozhevoye 91.44 321 eP P 11 45 49.7 -0.8
VRSR pmax pmax
comp=Z,30nm,0.8s,mb5.2
VRSR pmax pmax
comp=N,9.0nm,0.9s
VRSR pmax pmax
comp=E,20nm,0.8s
VRSR pmax pmax
comp=Z,30nm,0.8s,mb5.2
VRSR pmax pmax
comp=N,9.0nm,0.9s
VRSR pmax pmax
comp=E,20nm,0.8s
JMOS Jabal al Moall 91.44 299 P P 11 45 51.7 +0.7
ALWS Ilw as Safayha 91.50 299 P P 11 45 52.3 +1.0
HAQS Haql 91.59 299 P P 11 45 52.3 +0.5
ANN Anapa 91.64 315 eP P 11 45 50.0 -1.6
ANN i 11 49 40.8
ANN e 11 55 26.1
ANN pmax pmax
comp=Z,56nm,1.2s,mb5.4
MBAR Mbarara 92.12 269 i P P 11 45 53.2 -1.3
RSO Redoubt South 93.16 30 eP P 11 45 56.2 -2.0
BOSA Boshof 93.42 241 P P 11 46 00.7 +0.5
comp=Z,9.1nm,0.7s,mb5.0,baz=138,slow=1.4,SNR=18
BOSA Boshof 93.42 241 P P 11 46 00.7 +0.5
BOSA pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
OBN Obninsk 93.55 325c iP P 11 46 00.1 0.0
OBN pmax pmax
comp=Z,44nm,0.6s,mb5.7
IMA Indian Mountai 93.59 24 eP P 11 46 00.5 +0.5
comp=Z,116nm,1.1s,mb5.8
IMA Indian Mountai 93.59 24 eP P 11 46 00.5 +0.5
IMA pmax pmax
comp=Z,116nm,1.1s,mb5.8
SPU Mount Spurr 93.60 29 eP P 11 45 58.7 -1.5
BR131 Keskin Array S 93.83 309 eP P 11 46 01.2 -0.6
comp=Z,6.0nm,0.8s,mb4.7
BRTR Keskin Array B 93.83 309 P P 11 46 01.4 -0.4
comp=Z,5.4nm,0.8s,mb4.6,baz=117,slow=5.5,SNR=17
BRTR pP pP 11 48 22.9 -0.9
comp=Z,0.3nm,0.3s,baz=72,slow=4.6,SNR=1.7
BRTR Keskin Array B 93.83 309 P P 11 46 01.4 -0.4
BRTR *PP pP 11 48 22.9 -0.9
BRTR pmax pmax
comp=Z,5.0nm,0.8s
SNAA Sanae 94.02 195⇓ iP P 11 46 02.5 +0.6
SNAA e pP 11 48 26.4 +2.5
SNAA e 11 48 53.9
MCK McKinley 95.32 27⇓ eP P 11 46 07.1 -0.8
comp=Z,20nm,1.0s,mb5.2
MCK McKinley 95.32 27⇓ eP P 11 46 07.1 -0.8
MCK pmax pmax
comp=Z,20nm,1.0s,mb5.2
SML Sawmill 95.44 28⇓ eP P 11 46 08.1 -0.4
VNA2 Neumayer--Watz 95.64 195 P P 11 46 07.4 -1.8
VNA2 e 11 48 35.2
VNA2 e 11 48 55.2
VNA3 Neumayer Olymp 95.98 194 P P 11 46 10.9 +0.2
VNA3 e pP 11 48 37.8 +5.0
VNA3 e 11 49 07.6
ILAR Eielson Array 96.28 26 P P 11 46 10.7 -1.5
comp=Z,6.0nm,0.8s,mb4.8,baz=251,slow=4.5,SNR=51
ILAR PP PP 11 50 15.0 -3.7
comp=Z,3.0nm,1.0s,baz=264,slow=6.7,SNR=9.5
ILAR PKIKP 11 50 45.1
comp=Z,0.8nm,0.7s,baz=286,slow=3.2,SNR=5.3
ILAR PKKPbc 12 02 55.0
comp=Z,1.6nm,0.7s,baz=79,slow=1.5,SNR=16
ILAR Eielson Array 96.28 26 P P 11 46 10.7 -1.5
ILAR 11 50 15.0
ILAR pmax pmax
comp=Z,6.0nm,0.8s
ILAR pmax pmax
comp=Z,3.0nm,1.0s
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR pmax pmax
comp=Z,2.0nm,0.7s
DIV Divide 96.63 29 P P 11 46 14.4 +0.5
AKASG Malin Array Be 97.66 320 P P 11 46 18.1 -0.6
comp=Z,4.5nm,0.5s,mb5.0,baz=78,slow=4.5,SNR=33
AKASG pP pP 11 48 42.5 +1.5
comp=Z,0.1nm,0.3s,baz=86,slow=4.1,SNR=1.5
AKASG PP PP 11 50 27.5 -2.3
comp=Z,0.4nm,0.3s,baz=82,slow=6.7,SNR=5.2
AKASG PKKPbc 12 02 51.0
comp=Z,0.8nm,0.5s,baz=272,slow=3.9,SNR=5.6
AKASG Malin Array Be 97.66 320 P P 11 46 18.2 -0.5
AKASG *PP pP 11 48 42.5 +1.6
AKASG 11 50 27.5
AKASG pmax pmax
comp=Z,5.0nm,0.5s
AKASG pmax pmax
comp=Z,1.0nm,0.5s
ARCES ARCESS Array B 99.05 339 P P 11 46 23.7 -0.9
comp=Z,7.5nm,0.9s,mb4.9,baz=76,slow=4.3,SNR=16
ARCES PKiKP 11 50 50.8
comp=Z,1.4nm,0.4s,baz=127,slow=1.7,SNR=16
ARCES PKKPbc 12 02 46.9
comp=Z,0.5nm,0.4s,baz=263,slow=3.5,SNR=9.1
ARCES ARCESS Array B 99.05 339 P P 11 46 23.7 -0.9
ARCES ARCESS Array B 99.05 339 P P 11 46 23.7 -0.8
ARCES pmax pmax
comp=Z,8.0nm,0.9s
ARCES pmax pmax
comp=Z,1.0nm,0.4s
ARCES pmax pmax
comp=Z,1.0nm,0.4s
FINES FINESS Array B 99.32 331 P P 11 46 25.2 -0.7
comp=Z,1.0nm,0.6s,mb4.2,baz=90,slow=5.7,SNR=5.2
FINES PKiKP 11 50 51.5
comp=Z,1.8nm,0.5s,baz=100,slow=4.2,SNR=14
FINES FINESS Array B 99.32 331 P P 11 46 25.3 -0.7
FINES pmax pmax
comp=Z,1.0nm,0.6s
FINES pmax pmax
comp=Z,2.0nm,0.5s
DAWY Dawson 99.54 26 eP P 11 46 27.1 +0.2
NB2 NORSAR Subarra 106.47 332 P Pdif 11 46 56.3 -1.2
comp=Z,1.7nm,0.7s,baz=74,slow=4.5
NB2 NORSAR Subarra 106.47 332 P Pdif 11 46 56.3 -1.2
NB2 pmax pmax
comp=Z,2.0nm,0.7s
NOA NORSAR Array B 106.47 332 Pdiff Pdif 11 46 56.5 -0.9
comp=Z,1.0nm,0.6s,baz=74,slow=4.5,SNR=4.5
NOA PKiKP 11 51 04.1
comp=Z,1.8nm,0.6s,baz=262,slow=3.2,SNR=8.4
NOA NORSAR Array B 106.47 332 P Pdif 11 46 56.6 -0.9
NOA pmax pmax
comp=Z,1.0nm,0.6s
NOA pmax pmax
comp=Z,2.0nm,0.6s
BOJS Bojanci 107.29 315 i PKiKP 11 51 06.7
LJU Ljubljana 107.72 316 i PKiKP 11 51 07.7
GERES GERESS Array B 107.82 319 PKiKP 11 51 07.2
comp=Z,1.3nm,0.5s,baz=90,slow=1.3,SNR=8.1
GERES PKKPbc 12 02 23.4
comp=Z,0.5nm,0.6s,baz=256,slow=5.5,SNR=3.9
WTTA Wattenberg 109.47 318⇑ iP 11 51 10.7
MOTA Moosalm 109.81 318⇑ iP 11 51 11.1
DAVA Damuels 110.64 318⇑ iP PKPdf 11 51 13.0 +2.2
YKA Yellowknife Ar 110.69 25 PKiKP 11 51 12.0
comp=Z,7.2nm,0.6s,baz=291,slow=2.1,SNR=34
TDL Tradedollar La 112.04 43 P PKPdf 11 51 16.5 +3.0
HUMO Hull Mountain 112.33 47 ePKPdf PKPdf 11 51 17.0 +2.7
HINF Hinteralfeld 112.50 319 ePKIKP PKPdf 11 51 15.7 +1.3
comp=Z,23nm,0.7s
TWW Teanaway 112.74 42 P PKPdf 11 51 17.9 +2.9
HAU Haudompre 112.78 319 ePKIKP PKPdf 11 51 16.4 +1.4
comp=Z,18nm,0.8s
HAU eR
comp=Z,59nm,19.5s
TBM Table Mountain 112.91 42 P PKPdf 11 51 17.8 +2.5
BUOR Burton Butte 112.92 47 P PKPdf 11 51 18.1 +2.7
SBF Sospel 113.07 315 ePKIKP PKPdf 11 51 17.0 +1.3
GIVF Givet 113.13 322 ePKIKP PKPdf 11 51 17.7 +2.1
LPG La Plagne 113.16 317 ePKIKP PKPdf 11 51 17.9 +2.1
LPL La Plagne 113.17 317 ePKIKP PKPdf 11 51 17.8 +2.0
comp=Z,12nm,0.5s
CROR Criterion Ridg 113.20 44 P PKPdf 11 51 18.6 +2.7
HOG Hogback Mounta 113.32 47 P PKPdf 11 51 19.1 +2.9
MBDF Montbardon 113.33 316 ePKIKP PKPdf 11 51 17.8 +1.6
NSHM Saint Helena R 113.36 51 ePKPdf PKPdf 11 51 18.9 +2.4
BAIF Baives 113.52 322 ePKIKP PKPdf 11 51 18.5 +2.1

comp=Z,21nm,0.9s
FRF La Foret Royal 113.70 315 *e*PKIKP PKPdf 11 51 18.4 +1.5
LTIM Timbered Crate 113.70 48 P PKPdf 11 51 19.8 +2.8
ORIF Oris-en-Rattie 113.90 316 *e*PKIKP PKPdf 11 51 18.9 +1.6
comp=Z,8.4nm,0.5s
ORIF *e*R
comp=Z,66nm,21.0s
WIW Wooded Island 113.98 42 P PKPdf 11 51 20.3 +2.9
SMRF Simiane la Rot 114.35 315 *e*PKIKP PKPdf 11 51 20.1 +1.9
comp=Z,27nm,0.9s
MOD Modoc 114.41 47 *e*PKPdf PKPdf 11 51 20.7 +2.4
MOD *e*SKPdf 11 53 54.8
LOR Lormes 114.60 319 *e*PKIKP PKPdf 11 51 20.2 +1.6
comp=Z,14nm,0.6s
LOR *e*R
comp=Z,60nm,21.8s
VIVF Saint-Julien-l 114.74 316 *e*PKIKP PKPdf 11 51 20.5 +1.6
SMF Signal de Mont 114.80 318 *e*PKIKP PKPdf 11 51 20.6 +1.6
BEKR Beckwourth 114.82 49 *e*PKPdf PKPdf 11 51 21.3 +2.1
SSF Saint Saulge 114.89 319 *e*PKIKP PKPdf 11 51 20.9 +1.8
comp=Z,43nm,0.8s
LRV Little Rabbit 114.98 53 *e*PKPdf PKPdf 11 51 22.0 +2.4
AVF Avril sur Loir 115.08 319 *e*PKIKP PKPdf 11 51 20.8 +1.3
comp=Z,15nm,0.6s
CMB Columbia Colle 115.17 51 *e*PKPdf PKPdf 11 51 21.9 +2.0
EDM Edmonton 115.27 34 *e*PKPdf PKPdf 11 51 21.4 +1.8
EDM *e*PP PP 11 52 32.5 -4.3
BGF Bois d'Agland 115.48 319 *e*PKIKP PKPdf 11 51 22.4 +2.1
comp=Z,59nm,0.6s
LASF Ste Croix 115.52 316 *e*PKIKP PKPdf 11 51 22.1 +1.7
comp=Z,32nm,1.1s
BMO Blue Mountains 115.76 43↓ *e*PKPdf PKPdf 11 51 22.1 +1.3
BMO *e*SKPdf 11 53 55.2
PTRM Twissleman Ran 115.76 54 *e*PKPdf PKPdf 11 51 22.8 +1.7
TCF Toulx Ste Croi 115.98 318 *e*PKIKP PKPdf 11 51 23.1 +1.9
comp=Z,22nm,0.8s
CAF Calviac 116.50 317 *e*PKIKP PKPdf 11 51 24.4 +2.1
comp=Z,26nm,0.8s
WALA Waterton Lakes 116.56 38↓ *e*PKPdf PKPdf 11 51 23.9 +1.5
WALA *e*PP PP 11 52 43.2 -2.5
WALA *e*SKPdf 11 53 58.1
MTUM Tungsten Hills 116.73 52 *e*PKPdf PKPdf 11 51 26.1 +3.1
RJF Les Rejaudoux 116.75 318 *e*PKIKP PKPdf 11 51 24.9 +2.1
RJF *e*R
comp=Z,58nm,22.5s
FLN La Foliniere 116.85 322 *e*PKIKP PKPdf 11 51 24.4 +1.5
comp=Z,20nm,0.8s
FLN *e*R
comp=Z,45nm,18.2s
MTLF Montolieu 116.87 315 *e*PKIKP PKPdf 11 51 24.6 +1.5
comp=Z,12nm,0.7s
GRR Gorron 117.22 321 *e*PKIKP PKPdf 11 51 25.1 +1.5
comp=Z,12nm,0.3s
MSO Missoula 117.35 40↓ *e*PKPdf PKPdf 11 51 25.2 +1.3
MSO *e*PP PP 11 52 46.6 -4.4
MSO *e* 11 53 58.7
LFF La Frestale 117.39 317 *e*PKIKP PKPdf 11 51 26.1 +2.1
comp=Z,40nm,0.7s
ETOS Mallorca 117.41 311 PKP PKPdf 11 51 26.6 +2.4
MFF Saint Martin d 117.41 319 *e*PKIKP PKPdf 11 51 25.6 +1.6
comp=Z,28nm,0.6s
TPH Tonopah 117.60 51 *e*PKPdf PKPdf 11 51 27.0 +2.4
CHMT Chamberlain Mo 117.76 40 *e*PKPdf PKPdf 11 51 26.4 +1.8
CHMT *e* 11 54 00.1
MWC Mount Wilson 117.76 55↓ *e*PKPdf PKPdf 11 51 27.2 +2.2
EMIR Miracle 117.77 314 PKP PKPdf 11 51 26.1 +1.3
HLID Hailey 118.13 44 *e*PKPdf PKPdf 11 51 28.1 +2.6
HLID *e* 11 54 01.9
EPOB Poblet 118.25 313 PKP PKPdf 11 51 27.5 +1.7
EPF Esparros 118.27 315 *e*PKIKP PKPdf 11 51 27.6 +1.8
SGMF Saint Gilles 118.31 322 *e*PKIKP PKPdf 11 51 27.2 +1.4
comp=Z,8.7nm,0.3s
ELK Elko 118.39 47↓ *e*PKPdf PKPdf 11 51 28.7 +2.6
ELK *e*PP PP 11 52 56.1 -2.2
EBIE Bielsa 118.52 315 PKP PKPdf 11 51 27.6 +1.3
ROSF Rostrenen 118.72 322 *e*PKIKP PKPdf 11 51 26.8 +0.2
comp=Z,15nm,0.7s
HRY Holter Researc 118.74 40 *e*PKPdf PKPdf 11 51 28.5 +1.9
MCMT McKenzie Canyo 118.77 42 *e*PKPdf PKPdf 11 51 29.5 +2.7
QUIF Quistinic 118.82 322 *e*PKIKP PKPdf 11 51 28.1 +1.3
comp=Z,12nm,0.6s
ETSF Etsaut 118.94 316 *e*PKIKP PKPdf 11 51 29.5 +2.4
comp=Z,18nm,0.7s
PFO Pinyon Flat Ob 119.19 55↓ *e*PKPdf PKPdf 11 51 29.9 +2.0
PFO *e*PP PP 11 53 00.9 -2.9
ESAC San Caprasio 119.25 314 PKP PKPdf 11 51 29.8 +2.0
BOZ Bozeman (W) 119.28 41↓ *e*PKPdf PKPdf 11 51 30.0 +2.3
BOZ *e*PP PP 11 52 59.4 -4.5
BOZ *e* 11 54 03.0
SJPF Ste Jean 119.33 316 *e*PKIKP PKPdf 11 51 30.2 +2.3
comp=Z,15nm,0.7s
EALK Alkurruntz 119.49 316 PKP PKPdf 11 51 30.1 +1.9
EMOS Mosqueruela 119.67 313 PKP PKPdf 11 51 30.7 +2.1
QLMT Earthquake Lak 119.71 42 *e*PKPdf PKPdf 11 51 31.6 +3.1
LDFC Landfair 119.96 53↓ *e*PKPdf PKPdf 11 51 32.2 +2.9
LDFC *e*PP PP 11 53 05.3 -2.8
EBEN Beniarda 119.97 311 PKP PKPdf 11 51 31.3 +2.1
NEN Nelson 120.03 53 *e*PKPdf PKPdf 11 51 32.0 +2.6
YFT Old Faithful 120.24 42 *e*PKPdf PKPdf 11 51 34.0 +4.4
ECHE Chera 120.26 312 PKP PKPdf 11 51 32.2 +2.5
RRI2 Red Ridge 120.32 43 *e*PKPdf PKPdf 11 51 32.1 +2.4
FFC Flin Flon 120.35 28 *e*PKPdf PKPdf 11 51 30.9 +1.4
IMW Indian Meadow 120.38 43 *e*PKPdf PKPdf 11 51 32.4 +2.6
ECRI Cripan 120.39 316 PKP PKPdf 11 51 32.5 +2.6
TPAW Teton Pass 120.52 43 *e*PKPdf PKPdf 11 51 32.9 +2.8
REDW Red Top Meadow 120.64 43 *e*PKPdf PKPdf 11 51 32.9 +2.5
GLA Glamis 120.64 56 *e*PKPdf PKPdf 11 51 33.7 +3.1
SNOW Snow King Moun 120.67 43↓ *e*PKPdf PKPdf 11 51 33.2 +2.8
NOQ North Oquirrh 120.68 46 *e*PKPdf PKPdf 11 51 33.1 +2.6
LOHW Long Hollow 120.71 43↓ *e*PKPdf PKPdf 11 51 33.1 +2.6
LOHW *e* 11 54 06.5
HWUT Hardware Ranch 120.76 45 *e*PKPdf PKPdf 11 51 32.7 +2.1
ELAN Lanestosa 120.80 317 PKP PKPdf 11 51 32.9 +2.2
ETOB Tobarra 120.98 311 PKP PKPdf 11 51 33.5 +2.4
EVIA Vianos 121.69 311 PKP PKPdf 11 51 34.9 +2.3
PDAR Pinedale Array 121.74 43 PKP PKPdf 11 51 34.8 +2.2
comp=Z,3.9nm,0.5s,baz=150,slow=0.7,SNR=55
PDAR PKKPbc 12 01 35.4
comp=Z,1.8nm,0.6s,baz=119,slow=4.3,SNR=14
TMUT Trail Mountain 121.78 48↓ *e*PKPdf PKPdf 11 51 35.4 +2.7
ENIJ Nijar 121.97 309 PKP PKPdf 11 51 35.0 +1.9
EARI Arriondas 121.97 317 PKP PKPdf 11 51 35.1 +2.1
EHUE Huescar 122.01 311 PKP PKPdf 11 51 33.9 +0.7
LAO LASA Array 122.26 38 *e*PKPdf PKPdf 11 51 35.9 +2.5
LAO *e*SKPdf 11 54 09.5
EQES Quesada 122.37 311 PKP PKPdf 11 51 35.4 +1.5
ESDC Sonseca Array 122.43 313 PKP PKPdf 11 51 36.1 +2.2
comp=Z,4.1nm,0.6s,baz=22,slow=3.3,SNR=19
ESDC Sonseca Array 122.43 313 PKP PKPdf 11 51 36.1 +2.2
EBER Berja 122.51 310 PKP PKPdf 11 51 36.5 +2.3
DGMT Dagmar 122.60 35 *e*PKPdf PKPdf 11 51 35.7 +1.6
EBAN Banos Encina 122.80 311 PKP PKPdf 11 51 36.6 +2.0
ERON Agron 123.17 310 PKP PKPdf 11 51 36.6 +1.2
EPON Pontenova 123.26 318 PKP PKPdf 11 51 37.8 +2.4
ELUQ Luque 123.35 311 PKP PKPdf 11 51 37.7 +2.0
EADA Adamuz 123.38 312 PKP PKPdf 11 51 37.9 +2.1
ELOJ Sierra Loja 123.40 310 PKP PKPdf 11 51 36.5 +0.7
ECAL Calabor 123.55 316 PKP PKPdf 11 51 38.3 +2.2
PBRG Braganca 123.60 316 *e*PKPdf PKPdf 11 51 38.2 +2.1
ECAB El Cabril 124.04 312 PKP PKPdf 11 51 39.3 +2.2
TUC Tucson 124.13 56 *e*PKPdf PKPdf 11 51 39.4 +2.0
STS Santiago 124.38 318 PKP PKPdf 11 51 39.2 +1.6
ELOB Lobios 124.48 317 PKP PKPdf 11 51 40.2 +2.4
PVRL Vila Real 124.49 316 *e*PKPdf PKPdf 11 51 40.6 +2.8
EMAZ Mazaricos 124.63 318 PKP PKPdf 11 51 41.9 +3.8
MTE Manteigas 124.72 315 *e*PKPdf PKPdf 11 51 41.0 +2.7
ESPR Espera 124.78 310 PKP PKPdf 11 51 40.8 +2.2
RSSD Black Hills 124.81 40↓ *e*PKPdf PKPdf 11 51 39.9 +1.5
PCBR Castelo Branco 124.89 314 *e*PKPdf PKPdf 11 51 41.1 +2.4
SMCO Snowmass 124.90 46↓ *e*PKPdf PKPdf 11 51 41.5 +2.7
EBAD Badajoz 124.97 313 PKP PKPdf 11 51 41.1 +2.3
EMIN Mina Concepcio 125.08 312 PKP PKPdf 11 51 41.5 +2.4
PHWY Pilot Hill 125.12 44 *e*PKPdf PKPdf 11 51 40.9 +1.8
ISCO Idaho Springs 125.63 45 *e*PKPdf PKPdf 11 51 41.4 +1.3
EGRO El Granado 125.76 312 PKP PKPdf 11 51 43.9 +3.5
EVO Evora 125.78 313 *e*PKIKP PKPdf 11 51 42.2 +1.8
comp=Z,12nm,0.5s
PBEJ Beja 125.86 312 *e*PKPdf PKPdf 11 51 43.4 +2.8
ULM Lac du Bonnet 126.04 30 PKP PKPdf 11 51 41.9 +1.3
comp=Z,16nm,0.6s,baz=334,slow=1.7,SNR=19
ANMO Albuquerque 126.80 51 PKP PKPdf 11 51 45.7 +3.2
comp=Z,16nm,0.9s,baz=221,slow=1.3,SNR=48
ANMO PP PP 11 53 51.7 -1.9
comp=Z,0.8nm,0.3s,baz=285,slow=7.4,SNR=9.0
ANMO SKPbc 11 54 02.6
comp=Z,6.5nm,1.0s,baz=284,slow=4.9,SNR=6.4
ANMO Albuquerque 126.80 51 *e*PKPdf PKPdf 11 51 45.2 +2.6
ANMO *e*PP PP 11 53 51.6 -2.0
ANMO Albuquerque 126.80 51 PKIKP PKPdf 11 51 45.7 +3.2
ANMO 11 53 51.7
ANMO pmax pmax
comp=Z,16nm,0.9s
ANMO pmax pmax
comp=Z,1.0nm,0.3s
ANMO pmax pmax
comp=E,7.0nm,1.0s
DBIC Dimbokro 128.19 273 PKP PKPdf 11 51 47.9 +2.2
comp=E,12nm,0.5s,baz=108,slow=2.1,SNR=28
DBIC SKPbc 11 54 06.8
comp=E,11nm,0.4s,baz=85,slow=3.8,SNR=24
DBIC Dimbokro 128.19 273 PKP PKPdf 11 51 47.9 +2.2
DBIC SKPbc 11 54 06.8
DBIC Dimbokro 128.19 273 PKIKP PKPdf 11 51 47.9 +2.2
DBIC 11 54 06.8
DBIC pmax pmax
comp=Z,12nm,0.5s
DBIC pmax pmax
comp=E,11nm,0.4s
LIC Lamto 128.33 272 *e*PKIKP PKPdf 11 51 47.5 +1.5
comp=E,18nm,0.3s
MNTX Cornudas Mount 128.70 55 *e*PKPdf PKPdf 11 51 48.5 +2.2
MNTX *e*PP PP 11 54 08.3 +1.7
LTX Lajitas 130.83 57 *e*PKPdf PKPdf 11 51 53.1 +2.8
LTX *e* 11 54 16.7
TXAR Lajitas Array 130.83 57 PKhKP 11 51 37.5
comp=E,0.7nm,0.6s,baz=293,slow=3.0,SNR=12
TXAR PKP PKPdf 11 51 53.6 +3.2
comp=E,6.9nm,0.8s,baz=217,slow=1.3,SNR=35
TXAR SKPbc 11 54 16.8
comp=E,8.7nm,0.7s,baz=268,slow=2.8,SNR=29
TXAR SKKPbc 12 03 50.1
comp=E,0.4nm,0.5s,baz=121,slow=5.3,SNR=5.3
TXAR Lajitas Array 130.83 57 PKP PKPdf 11 51 53.6 +3.2
TXAR SKPbc 11 54 16.8
TXAR SKKPbc 12 03 50.1
PLCA Paso Flores 130.99 166 PKP PKPdf 11 51 53.1 +2.8
comp=E,8.0nm,0.6s,baz=279,slow=0.3,SNR=20
PLCA SKPbc 11 54 16.6
comp=E,32nm,0.8s,baz=200,slow=3.2,SNR=32
PLCA Paso Flores 130.99 166 PKIKP PKPdf 11 51 53.2 +2.9
PLCA 11 54 16.6
PLCA pmax pmax
comp=Z,8.0nm,0.6s
PLCA pmax pmax
comp=E,33nm,0.8s
SCHQ Schefferville 131.58 8 PKhKP 11 51 35.9
comp=E,1.3nm,0.6s,baz=301,slow=5.4,SNR=4.8
SCHQ PKP PKPdf 11 51 53.2 +2.2
comp=E,11nm,0.3s,baz=13,slow=2.4,SNR=47
SCHQ SKPbc 11 54 17.6
comp=E,9.6nm,0.9s,baz=5.5,slow=4.8,SNR=7.2
SCHQ Schefferville 131.58 8 PKP PKPdf 11 51 53.2 +2.2
SCHQ SKPbc 11 54 17.6
KSU1 Kansas State U 132.13 42 *e*PKPdf PKPdf 11 51 55.3 +2.7
KSU1 *e* 11 54 20.3
FVM French Village 136.76 39 *e*PKPpre 11 51 51.4
FVM *e*PKPdf PKPdf 11 52 02.8 +1.7
NATX Nacogdoches 137.11 50 *e*PKPdf PKPdf 11 52 03.1 +1.2
SADO Sadowa 137.67 23 PKhKP 11 51 55.0
comp=E,8.4nm,0.6s,baz=338,slow=4.1,SNR=10
SADO PKP PKPdf 11 52 04.8 +2.3
comp=E,7.1nm,0.4s,baz=290,slow=3.3,SNR=8.3
SADO Sadowa 137.67 23 PKP PKPdf 11 52 04.8 +2.3
BLO Bloomington 138.35 35 *e*PKPpre 11 51 57.0
BLO *e*PKPdf PKPdf 11 52 05.1 +1.2
WCI Wyandotte Cave 139.12 36 *e*PKPpre 11 51 58.6
OXF Oxford 139.47 43 *e*PKPpre 11 51 59.8
WVT Waverly 139.54 40 *e*PKPpre 11 52 00.2
GENY Geneseo 139.87 24 *e*PKPpre 11 52 03.7
PLAL Pickwick Lake 140.08 41 *e*PKPpre 11 52 01.9
CFAA Coronel Fontan 140.23 165 PKhKP 11 52 03.4
comp=E,1.4nm,0.5s,baz=159,slow=3.0,SNR=14
CFAA PKP PKPdf 11 52 09.8 +2.3
comp=E,2.3nm,0.6s,baz=223,slow=4.1,SNR=15
CFAA SKPbc 11 54 44.0
comp=E,1.6nm,0.6s,baz=212,slow=2.9,SNR=16
CFAA Coronel Fontan 140.23 165 PKP PKPdf 11 52 09.8 +2.3
CFAA SKPbc 11 54 44.0
MIV Mineville/With 140.28 19 *e*PKPpre 11 52 03.5
MIV *e*PKPdf PKPdf 11 52 08.5 +1.2
ACCN Adirondack Com 140.85 19 *e*PKPpre 11 52 03.9
BINY Binghamton 141.07 23 *e*PKPpre 11 52 05.8
MCWV Mont Chateau 141.51 29 *e*PKPpre 11 52 07.0
TZTN Tazewell 141.86 36 *e*PKPpre 11 52 08.6
LRAL Lakeview Retre 141.96 43 *e*PKPpre 11 52 08.8
CPCT Cooper Cave 142.03 38 *e*PKPpre 11 52 08.1
HRV Harvard--Oak R 142.31 18 *e*PKPpre 11 52 10.2
WES Weston 142.49 17 *e*PKPpre 11 52 10.3
MYNC Murphy 142.52 38 *e*PKPpre 11 52 10.4
FWV Forest Hill 142.62 32 *e*PKPpre 11 52 10.5
PAL Palisades 142.88 21 *e*PKPpre 11 52 12.1
ELN Prospectdale 142.91 32 *e*PKPpre 11 52 11.6
BRNJ Basking Ridge 142.92 22 *e*PKPpre 11 52 12.4
CPNY Central Park 143.05 22 *e*PKP PKPdf 11 52 12.7 +0.6
BLA Blacksburg 143.10 32 *e*PKPpre 11 52 12.4
CBN Corbin 143.82 28 *e*PKP PKPdf 11 52 15.3 +1.7
JSC Jenkinsville 144.78 36 *e*PKP PKPdf 11 52 17.8 +2.5
COW Cow Castle Cre 145.74 37 *e*PKP PKPdf 11 52 19.8 +2.8
NHSC New Hope 146.25 36 *e*PKPbc PKPbc 11 52 22.3 +2.6
HBF Harts Bluff 146.25 37 *e*PKPbc PKPbc 11 52 22.5 +2.8
CPUP Villa Florida 146.95 180 PKP PKPdf 11 52 21.6 +2.4
comp=E,37nm,0.6s,baz=184,slow=1.7,SNR=70
CPUP PKPbc PKPbc 11 52 24.7 +3.2
comp=E,37nm,0.6s,baz=184,slow=1.7,SNR=78
CPUP Villa Florida 146.95 180 *e*PKPdf PKPdf 11 52 21.3 +2.1
CPUP *e*PKPbc PKPbc 11 52 24.5 +2.9
CPUP *e*pPKPdf 11 54 52.4
CPUP Villa Florida 146.95 180 *e*PKIKP PKPdf 11 52 21.3 +2.1
CPUP *e* 11 54 52.4
LVC Limon Verde 148.44 159 PKP PKPdf 11 52 25.3 +3.7
comp=E,36nm,0.7s,baz=274,slow=2.0,SNR=13
LVC PKPbc PKPdf 11 52 29.6 +7.9
comp=E,36nm,0.7s,baz=255,slow=2.1,SNR=55
LVC SKPbc 11 55 05.2
comp=E,6.2nm,0.9s,baz=211,slow=3.5,SNR=3.0
LVC Limon Verde 148.44 159 *e*PKPdf PKPdf 11 52 24.7 +3.1
LVC *e*PKPbc PKPdf 11 52 29.1 +7.5
DWPF Disney 148.75 45 *e*PKPdf PKPdf 11 52 24.1 +2.1
DWPF *e*PKPbc PKPdf 11 52 28.8 +6.8
JTS JuntasAbangare 152.22 81 *e*PKPbc PKPdf 11 52 36.4 +8.9
NNA Nana 152.80 134 *e*PKPdf PKPdf 11 52 30.3 +2.0
NNA *e*PKPbc PKPdf 11 52 38.1 +10
LPAZ La Paz 154.47 155 PKP PKPdf 11 52 34.3 +3.8
comp=E,4.9nm,0.9s,baz=185,slow=1.0,SNR=19
LPAZ PKPbc PKPdf 11 52 43.9 +13
comp=E,3.2nm,0.6s,baz=49,slow=6.5,SNR=10
LPAZ PKPab PKPab 11 53 01.0 +0.5
comp=E,7.2nm,0.5s,baz=103,slow=2.8,SNR=8.4
LPAZ La Paz 154.47 155 *e*PKPdf PKPdf 11 52 33.1 +2.6
LPAZ La Paz 154.47 155 PKIKP PKPdf 11 52 34.3 +3.8
LPAZ 11 53 01.0
LPAZ pmax pmax
comp=Z,5.0nm,0.9s
LPAZ pmax pmax
comp=Z,3.0nm,0.6s
LPAZ pmax pmax
comp=Z,7.0nm,0.5s
BAO Brasilia Array 155.86 202 PKPdf PKPdf 11 52 35.0 +2.7
BDFB Brasilia 155.86 202 PKP PKPdf 11 52 35.3 +3.0
comp=Z,4.6nm,0.6s,baz=182,slow=5.6,SNR=7.2
BDFB PKPab PKPab 11 53 05.9 -0.5
comp=Z,3.8nm,0.6s,baz=142,slow=4.6,SNR=3.9
BDFB Brasilia 155.86 202 PKIKP PKPdf 11 52 35.3 +3.0
BDFB 11 53 05.9
BDFB pmax pmax
comp=Z,5.0nm,0.6s
BDFB pmax pmax
comp=Z,4.0nm,0.6s
SIV San Ignacio 156.89 170 PKP PKPdf 11 52 36.6 +2.9
comp=Z,4.7nm,0.8s,baz=196,slow=1.7,SNR=23
SIV PKPab PKPab 11 53 10.7 -0.2
comp=Z,8.7nm,0.5s,baz=207,slow=5.3,SNR=17
ROSC El Rosal 162.70 96 PKP PKPdf 11 52 43.4 +3.3
comp=Z,13nm,0.8s,baz=99,slow=21,SNR=8.7
ROSC PKPab PKPab 11 53 38.6 +2.5
comp=Z,14nm,0.7s,baz=109,slow=22,SNR=5.3
SAML Samuel 163.10 159 *e*PKPdf PKPdf 11 52 41.9 +1.4
SAML *e*PKPab PKPab 11 53 37.3 -0.5
SDV Santo Domingo 166.41 81 PKP PKPdf 11 52 45.1 +1.8
comp=Z,5.8nm,0.6s,baz=294,slow=2.0,SNR=7.2
SDV PKPab PKPab 11 53 53.6 +1.4
comp=Z,13nm,0.8s,baz=337,slow=3.3,SNR=12
SDV Santo Domingo 166.41 81 *e*PKPdf PKPdf 11 52 44.9 +1.5
SDV *e*PKPab PKPab 11 53 53.5 +1.4

IDC ***02*** *11:35:22.9±2.9, 11.46N×86.14W, h30km±22km, mb3.9/8, mb1 4.1/8, mb1mx3.8/21, mbtmp4.1/8, MS3.2/4, Ms1 3.2/4, ms1mx2.8/23, Error ellipse: s-maj=41.5km s-min=15.6km az=57.0*

CASC ***02*** *11:35:23.3±1.5, 11.10N×86.55W, h30km±10km, MD3.8, ML4.3, mb4.1(NEIC)*

BJI ***02*** *11:35:25.4, 11.20N×86.30W, h66km, Ms4.9, Msz4.8*

NEIC ***02*** *11:35:25.4±1.2, 11.24N×86.28W, h67km±12km, mb4.1/14, Error ellipse: s-maj=22.4km s-min=8.4km az=54.0*

ISC 02 11:35:25.2±0.5, 11.31N±0.07×86.27W±0.07, h76km±4km, n65, σ0§98/65, mb4.1/21, 8C-10D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APON	**Apoyo**	**0.64**	**19**↓	*iP*	**P**	**11 35 40.3**	**+0.2**
CRUN	**El Crucero**	**0.67**	**358**↑	*e*P	**P**	**11 35 40.6**	**+0.2**
MASN	**Masaya**	**0.68**	**10**↑	*e*P	**P**	**11 35 40.6**	**0.0**
CONN	**Concepcion**	**0.68**	**68**↓	*i*P	**P**	**11 35 40.8**	**+0.3**
TICN	**Ticuantepe**	**0.72**	**3**↓	*e*P	**P**	**11 35 41.0**	**+0.1**
MGAN	**Managua**	**0.83**	**2**↓	*e*P	**P**	**11 35 42.4**	**+0.3**
MGAN				*i*		11 35 58.9	
	comp=N,9μm,0.6s						
XAVN	**Gruta Xavier**	**0.83**	**356**↓	*e*P	**P**	**11 35 42.2**	**0.0**
WILN	**Americas 2**	**0.85**	**6**↓	*e*P	**P**	**11 35 42.7**	**+0.3**
WILN				*e*S	**S**	**11 35 58.6**	**+3.4**
COPN	**Copaltepe**	**0.92**	**340**↑	*e*P	**P**	**11 35 42.3**	**-0.9**
MOMJ	**Momotombo**	**1.12**	**347**↑	*e*P	**P**	**11 35 45.2**	**-0.6**
LIM1	**Limonal**	**1.17**	**121**	*i* P	**P**	**11 35 45.6**	**-0.8**
LIM1				*i* S	**S**	**11 36 03.8**	**+1.4**
MIRN	**Miramar**	**1.20**	**339**↓	*e*P	**P**	**11 35 46.1**	**-0.7**
PYTN	**Playitas**	**1.24**	**10**↑	*e*P	**P**	**11 35 48.2**	**+0.9**
CNGN	**Cerro Negro**	**1.25**	**341**↑	*e*P	**P**	**11 35 46.7**	**-0.8**
LEON	**Leon**	**1.25**	**331**↓	*e*P	**P**	**11 35 46.0**	**-1.5**
TEL3	**Telica 3**	**1.37**	**336**↑	*e*P	**P**	**11 35 48.1**	**-1.1**
TELN	**Telica**	**1.40**	**337**↓	*e*P	**P**	**11 35 48.5**	**-1.0**
CRIN	**San Cristobal**	**1.57**	**331**↑	*e*P	**P**	**11 35 50.5**	**-1.4**
JTS	**JuntasAbangare**	**1.65**	**128**	Pg	**P**	**11 35 51.5**	**-1.3**
	comp=N,45nm,0.3s,baz=324,slow=15,SNR=118						
JTS				Lg		11 36 17.7	
	comp=N,136nm,0.3s,baz=220,slow=21,SNR=32						
JTS				LR	LR	11 36 42.3	
	comp=N,434nm,18.3s,baz=332,slow=48						
JTS	**JuntasAbangare**	**1.65**	**128**	*e*P	**P**	**11 35 51.0**	**-1.8**
FORC	**Fortuna**	**1.78**	**118**	*i* P	**P**	**11 35 54.1**	**-0.5**
FORC				*e*P		11 35 54.4	
PRS1	**Puriscal**	**2.34**	**124**	*e*P	**P**	**11 36 02.5**	**+0.2**
SJS	**Escuela Geolog**	**2.57**	**122**	*e*P	**P**	**11 36 05.6**	**0.0**
SJS				*e*S	**S**	**11 36 37.9**	**+2.1**
TRTC	**Tortuguero**	**2.62**	**106**	*e*P	**P**	**11 36 06.0**	**-0.3**
LCR2	**La Lucha 2**	**2.72**	**125**	*e*P	**P**	**11 36 08.2**	**+0.4**
BUS	**Buena Vista**	**3.03**	**125**	*e*P	**P**	**11 36 11.5**	**-0.5**
SNVI	**San Vicente**	**3.39**	**313**	*e*P	**P**	**11 36 16.2**	**-0.9**
SNVI				*e*S	**S**	**11 36 56.7**	**+0.4**
LCBS	**La Ceiba**	**3.52**	**312**↓	*e*P	**P**	**11 36 20.7**	**+1.8**
LCBS				*e*S	**S**	**11 37 02.0**	**+2.4**
LFRS	**El Faro**	**3.56**	**310**	*e*P	**P**	**11 36 20.6**	**+1.1**
LFRS				*e*S	**S**	**11 37 00.8**	**+0.2**
TEIG	**Tepich**	**9.07**	**348**	P	**P**	**11 37 35.2**	**-0.2**
ROSC	**El Rosal**	**13.45**	**118**	LR	LR	11 43 31.1	
	comp=N,62nm,20.0s,baz=236,slow=36						
LRAL	**Lakeview Retre**	**21.63**	**358**	*e*P	**P**	**11 40 12.5**	**+1.8**
	comp=N,7.3nm,1.0s,mb4.0						
NATX	**Nacogdoches**	**21.77**	**340**	*e*P	**P**	**11 40 13.1**	**+1.0**
	comp=N,18nm,0.6s,mb4.6						
CPCT	**Cooper Cave**	**24.08**	**4**	*e*P	**P**	**11 40 36.4**	**+1.7**
LTX	**Lajitas**	**24.18**	**320**	*e*P	**P**	**11 40 34.6**	**-1.0**
	comp=N,5.0nm,0.6s,mb4.0						
TXAR	**Lajitas Array**	**24.18**	**320**	P	**P**	**11 40 36.8**	**+1.2**
	comp=N,4.8nm,0.7s,mb4.0,baz=136,slow=9.9,SNR=87						
TXAR				PcP	PcP	11 44 17.8	+1.9
	comp=N,0.3nm,0.8s,baz=169,slow=4.6,SNR=4.0						
MNTX	**Cornudas Mount**	**26.89**	**322**	*e*P	**P**	**11 40 59.6**	**-1.4**
	comp=N,2.5nm,1.1s,mb3.7						
CCM	**Cathedral Cave**	**27.00**	**351**	*e*P	**P**	**11 41 00.9**	**-1.1**
	comp=N,3.1nm,0.6s,mb4.0						
ANMO	**Albuquerque**	**29.85**	**325**	P	**P**	**11 41 27.9**	**+0.3**
	comp=N,1.3nm,0.6s,mb3.7,baz=126,slow=6.3,SNR=6.7						
ANMO	**Albuquerque**	**29.85**	**325**	*e*P	**P**	**11 41 27.6**	**0.0**
	comp=N,1.6nm,0.8s,mb3.7						
SAML	**Samuel**	**30.54**	**130**	*e*P	**P**	**11 41 32.0**	**-1.9**
SDCO	**Great Sand Dun**	**31.47**	**330**	*e*P	**P**	**11 41 41.4**	**-0.5**
	comp=N,2.9nm,0.7s,mb4.1						
SADO	**Sadowa**	**33.90**	**9**	P	**P**	**11 42 01.9**	**-1.0**
	comp=N,1.3nm,0.3s,mb4.2,baz=209,slow=10,SNR=2.9						
PHWY	**Pilot Hill**	**34.30**	**334**	*e*P	**P**	**11 42 06.0**	**-0.3**
SIV	**San Ignacio**	**36.85**	**137**	P	**P**	**11 42 29.0**	**+0.9**
	comp=N,2.4nm,0.8s,mb4.2,baz=345,slow=9.2,SNR=10						
SIV				PcP	PcP	11 44 50.2	+1.3
	comp=N,1.0nm,0.7s,baz=259,slow=4.5,SNR=5.0						
BW06	**Boulder Array**	**37.32**	**331**	*e*P	**P**	**11 42 31.3**	**-0.5**
	comp=N,1.1nm,0.6s,mb4.0						
PDAR	**Pinedale Array**	**37.32**	**331**	P	**P**	**11 42 32.2**	**+0.4**
	comp=N,1.6nm,0.7s,mb4.1,baz=122,slow=9.1,SNR=18						
PDAR				PcP	PcP	11 44 50.2	0.0
	comp=N,0.3nm,0.7s,baz=135,slow=1.3,SNR=3.6						
HWUT	**Hardware Ranch**	**37.44**	**328**	*e*P	**P**	**11 42 33.3**	**+0.4**
	comp=N,2.9nm,0.8s,mb4.3						
LVC	**Limon Verde**	**37.77**	**153**	LR	LR	11 56 59.1	
	comp=N,35nm,19.5s,baz=327,slow=34						
SNOW	**Snow King Moun**	**38.41**	**331**	*e*P	**P**	**11 42 41.4**	**+0.5**
	comp=N,7.8nm,0.8s,mb4.6						
LOHW	**Long Hollow**	**38.46**	**331**	*e*P	**P**	**11 42 41.2**	**-0.1**
	comp=N,1.9nm,0.6s,mb4.1						
TPAW	**Teton Pass**	**38.53**	**331**	*e*P	**P**	**11 42 41.9**	**0.0**
	comp=N,3.3nm,0.7s,mb4.3						
ELK	**Elko**	**38.86**	**324**	*e*P	**P**	**11 42 44.8**	**+0.2**
	comp=N,1.1nm,0.9s,mb3.7						
NVAR	**Mina Array Bea**	**39.31**	**319**	P	**P**	**11 42 50.4**	**+2.0**
	comp=N,0.9nm,0.8s,mb3.7,baz=135,slow=7.7,SNR=7.8						
NVAR	**Mina Array Bea**	**39.31**	**319**	P	**P**	**11 42 50.4**	**+2.0**
ULM	**Lac du Bonnet**	**39.62**	**350**	P	**P**	**11 42 49.5**	**-1.4**
	comp=N,2.5nm,0.6s,mb4.2,baz=149,slow=7.1,SNR=2.7						
ULM				LR	LR	12 02 39.6	
	comp=N,34nm,18.5s,baz=71,slow=41						
ULM	**Lac du Bonnet**	**39.62**	**350**	P	**

WRAB	**Tennant Creek**	**23.76**	**162**	*eP*	**P**	**12 09 28.8**	**-0.1**
	12nm,0.8s,mb4.4						
WRA	**Warramunga Arr**	**23.76**	**162**	P	**P**	**12 09 28.7**	**-0.3**
	2.8nm,0.5s,mb4.0,baz=337,slow=11,SNR=38						
WB2	**Warramunga Arr**	**23.77**	**162**	*eP*	**P**	**12 09 29.3**	**+0.3**
MBWA	**Marble Bar**	**24.74**	**196**	P	**P**	**12 09 38.8**	**+0.3**
MJAR	**Matsushiro Arr**	**35.25**	**16**	P	**P**	**12 11 12.8**	**+0.7**
	1.2nm,0.8s,mb3.9,baz=201,slow=11,SNR=4.2						
NWAO	**Narrogin (SRO)**	**36.61**	**193**	P	**P**	**12 11 23.9**	**+0.3**
	18nm,1.1s,mb4.8,baz=45,slow=5.7,SNR=3.5						
STKA	**Stephens Creek**	**37.22**	**159**	P	**P**	**12 11 28.4**	**-0.3**
	1.9nm,0.3s,mb4.4,baz=353,slow=8.1,SNR=5.4						
STKA	**Stephens Creek**	**37.22**	**159**	P	**P**	**12 11 28.4**	**-0.3**
MDJ	**Mudanjiang**	**41.76**	**3**	P	**P**	**12 12 04.7**	**-1.6**
	4.9nm,0.5s,mb4.4						
SONM	**Songino Array**	**48.22**	**342**	P	**P**	**12 12 58.6**	**+0.7**
	0.9nm,0.7s,mb3.9,baz=156,slow=8.1,SNR=5.7						
MKAR	**Makanchi Array**	**58.35**	**326**	P	**P**	**12 14 11.8**	**-1.0**
	0.8nm,0.5s,mb4.0,baz=124,slow=8.7,SNR=7.0						
MKAR	**Makanchi Array**	**58.35**	**326**	P	**P**	**12 14 11.8**	**-1.0**
ZAL	**Zalesovo**	**61.45**	**333**	P	**P**	**12 14 34.8**	**+0.8**
	1.4nm,0.3s,mb4.5,baz=281,slow=4.6,SNR=3.1						
KURK	**Kurchatov**	**62.56**	**328**	*eP*	**P**	**12 14 40.1**	**-1.3**
	5.8nm,0.8s,mb4.8						
BVAR	**Borovoye Array**	**68.13**	**327**	P	**P**	**12 15 18.8**	**+1.6**
	0.5nm,0.5s,mb3.8,baz=143,slow=7.2,SNR=3.3						
BRVK	**Borovoye**	**68.21**	**327**	*eP*	**P**	**12 15 13.8**	**-3.8**
	1.5nm,0.8s,mb4.1						
VNDA	**Vanda**	**82.47**	**173**	P	**P**	**12 16 39.7**	**+1.2**
	0.6nm,0.6s,mb3.7,baz=302,slow=5.4,SNR=3.5						

IDC 02 12:05:20.8±1.7, 2.68N×126.72E, mb4.0/5, mb1 4.2/5, mb1mx3.9/18, mbtmp4.1/5, MS3.4/1, Ms1 3.4/1, ms1mx2.9/23, Error ellipse: s-maj=91.1km s-min=20.6km az=77.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.67**	**183**	P	P	12 10 02.4	-2.6
	6.4nm,0.5s,baz=11,slow=7.9,SNR=6.8						
WRA	**Warramunga Arr**	**23.69**	**162**	P	P	12 10 33.5	-1.7
	1.5nm,0.4s,baz=340,slow=9.8,SNR=9.4						
NWAO	**Narrogin (SRO)**	**36.53**	**193**	P	P	12 12 28.0	-2.1
	5.0nm,0.8s,baz=45,slow=9.8,SNR=3.2						
DZM	**Mont Dzumac**	**45.95**	**124**	LR	LR	12 30 55.5	
	comp=Z,43nm,19.6s,baz=227,slow=33						
SONM	**Songino Array**	**48.29**	**342**	P	P	12 14 04.0	-1.7
	0.5nm,0.5s,baz=156,slow=7.3,SNR=2.6						
MKAR	**Makanchi Array**	**58.41**	**326**	P	P	12 15 18.9	-1.6
	0.6nm,0.5s,baz=118,slow=7.4,SNR=4.7						

*BJI **02** 12:18:42.4, 2.35N×126.67E, h35km, mB4.6, mb4.7, Ms3.9, Msz3.6*
*MOS **02** 12:18:44.3±1.3, 2.67N×126.73E, h33km, mb4.6/11, Error ellipse: s-maj=25.1km s-min=9.4km az=104.0*
*NEIC **02** 12:18:46.5±0.3, 2.65N×126.65E, h35km, mb4.8/14, Error ellipse: s-maj=17.6km s-min=7.0km az=78.0*
*IDC **02** 12:18:48.2±3.8, 2.64N×126.71E, h56km±34km, mb4.0/12, mb1 4.1/12, mb1mx4.0/19, mbtmp4.3/12, MS3.7/2, Ms1 3.7/2, ms1mx3.3/21, Error ellipse: s-maj=39.9km s-min=11.8km az=75.0*

ISC 02 12:18:49.6±3.4, 2.61N±0.06×126.6E±0.1, h80km±32km, n62, σ1§19/67, mb4.5/30, 2C-2D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**16.29**	**159**	*eP*	**P**	**12 22 40.2**	**+5.4**
	17nm,0.6s						
FITZ	**Fitzroy Crossi**	**20.61**	**183**	*eP*	**P**	**12 23 24.4**	**-0.2**
	18nm,1.2s						
FITZ	**Fitzroy Crossi**	**20.61**	**183**	P	**P**	**12 23 24.4**	**-0.2**
	11nm,0.5s,baz=4.7,slow=10,SNR=24						
WRAB	**Tennant Creek**	**23.66**	**162**	*eP*	**P**	**12 23 56.0**	**+1.4**
	60nm,1.2s,mb4.8						
WRAB	**Tennant Creek**	**23.66**	**162**	*eP*	**P**	**12 23 53.7**	**-1.0**
WRA	**Warramunga Arr**	**23.66**	**162**	P	**P**	**12 23 54.2**	**-0.5**
	5.1nm,0.5s,mb4.1,baz=342,slow=9.9,SNR=60						
WRA				S	**S**	**12 28 06.9**	**+6.5**
	0.4nm,0.6s,baz=342,slow=22,SNR=3.5						
WRA	**Warramunga Arr**	**23.66**	**162**	P	**P**	**12 23 54.2**	**-0.5**
WRA				S	**S**	**12 28 06.9**	**+6.5**
WRA				pmax	pmax		
	comp=Z,5.0nm,0.5s						
WB2	**Warramunga Arr**	**23.66**	**162**	*eP*	**P**	**12 23 54.3**	**-0.5**
JOW	**Kunigami**	**24.13**	**4**	P	**P**	**12 24 00.6**	**+1.3**
	comp=Z,17nm,0.7s,mb4.5,baz=169,slow=12,SNR=4.2						
CBIJ	**Chichi jima**	**28.55**	**30**	LR	LR	12 34 12.0	
	comp=Z,104nm,18.8s,baz=290,slow=32						
SSE	**Sheshan**	**28.79**	**350**	*eP*	**P**	**12 24 42.1**	**-0.2**
SSE				PCP	PcP	12 27 47.0	-3.5
SSE				S	**S**	**12 29 22.2**	**-2.5**
SSE				AMB	AMB		
	comp=Z,42nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,14nm,3.5s						
SSE				LR	LR		
	comp=N,72nm,30.2s						
SSE				LR	LR		
	comp=E,62nm,30.3s						
SSE				LR	LR		
	comp=Z,161nm,22.8s						
SSE	**Sheshan**	**28.79**	**350**	*eP*	**P**	**12 24 42.1**	**-0.2**
	comp=Z,42nm,0.7s,mb5.2						
SSE				pP	pP	12 25 15.2	+14
SSE				sP	sP	12 25 33.8	+24
SSE				PP	PP	12 25 51.0	+13
SSE				PcP	PcP	12 27 47.0	-3.5
SSE				S	**S**	**12 29 22.2**	**-2.5**
SSE				sS		12 30 21.5	
SSE				ScS	ScS	12 35 07.1	-8.5
NJ2	**Nanjing**	**30.18**	**347**	*eP*	**P**	**12 24 56.0**	**+1.4**
NJ2				S	**S**	**12 29 43.0**	**-3.7**
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.4						
NJ2				AMB	AMB		
	comp=Z,50nm,9.0s						
NJ2				LR	LR		
	comp=N,90nm,26.7s						
NJ2				LR	LR		
	comp=E,250nm,26.1s						
NJ2				LR	LR		
	comp=Z,160nm,21.5s						
ENH	**Enshi**	**31.94**	**331**	*eP*	**P**	**12 25 07.8**	**-2.2**
	comp=Z,19nm,1.1s,mb4.7						
MJAR	**Matsushiro Arr**	**35.42**	**16**	P	**P**	**12 25 38.0**	**-1.9**
	comp=Z,1.5nm,0.6s,mb4.0,baz=192,slow=9.7,SNR=6.4						
MJAR	**Matsushiro Arr**	**35.42**	**16**	P	**P**	**12 25 38.0**	**-1.9**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
STKA	**Stephens Creek**	**37.13**	**159**	P	**P**	**12 25 53.1**	**-1.3**
	comp=Z,4.8nm,0.5s,mb4.7,baz=352,slow=14,SNR=4.8						
STKA	**Stephens Creek**	**37.13**	**159**	*eP*	**P**	**12 25 54.6**	**+0.2**
LZH	**Lanzhou**	**39.41**	**330**	⇑P	**P**	**12 26 13.5**	**+0.2**
LZH				AP	pP	12 26 23.1	-10
LZH				XP	sP	12 26 27.2	-15
LZH				AMB	AMB		
	comp=Z,29nm,1.3s,mb5.0						
LZH	**Lanzhou**	**39.41**	**330**	⇑P	**P**	**12 26 13.5**	**+0.2**
	comp=Z,29nm,1.3s,mb5.0						
LZH				pP	pP	12 26 23.1	-10
LZH				sP	sP	12 26 27.2	-15
HHC	**Hu-ho-hao-te**	**40.42**	**342**	*eP*	**P**	**12 26 22.6**	**+1.0**
HHC				AMB	AMB		
	comp=Z,14nm,0.6s,mb5.0						
MDJ	**Mudanjiang**	**41.91**	**3**	P	**P**	**12 26 34.2**	**+0.4**
MDJ				AMB	AMB		
	comp=Z,17nm,1.4s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,56nm,5.1s						
MDJ				LR	LR		
	comp=N,99nm,27.7s						
MDJ				LR	LR		
	comp=E,26nm,35.3s						
MDJ				LR	LR		
	comp=Z,129nm,30.3s						
MDJ	**Mudanjiang**	**41.91**	**3**	*eP*	**P**	**12 26 33.7**	**-0.1**
	comp=Z,33nm,1.2s,mb4.9						
LSA	**Lhasa**	**43.10**	**312**	P	**P**	**12 26 44.4**	**+0.6**
LSA	**Lhasa**	**43.10**	**312**	*eP*	**P**	**12 26 45.1**	**+1.4**
	comp=Z,9.6nm,1.0s,mb4.5						
LSA	**Lhasa**	**43.10**	**312**	*eP*	**P**	**12 26 45.2**	**+1.4**
LSA				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.5						
GTA	**Gaotai**	**44.00**	**330**	*eP*	**P**	**12 26 49.9**	**-1.0**
GTA				AP	pP	12 26 57.5	-13
GTA				XP	sP	12 27 00.7	-19
GTA				AMB	AMB		
	comp=Z,5.0nm,1.9s,mb3.9						
YSS	**Yuzh-Sakhalins**	**46.34**	**15**	*eP*	**P**	**12 27 09.3**	**-0.1**
	comp=Z,4.9nm,0.6s,mb4.4						
YSS	**Yuzh-Sakhalins**	**46.34**	**15**	*eP*	**P**	**12 27 09.3**	**-0.1**
YSS				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.4						
KLR	**Kul'dur**	**46.65**	**5**	*eP*	**P**	**12 27 08.2**	**-3.7**
SONM	**Songino Array**	**48.31**	**342**	P	**P**	**12 27 24.1**	**-0.8**
	comp=Z,1.8nm,0.6s,mb4.1,baz=157,slow=6.3,SNR=15						
SONM				PcP	PcP	12 28 51.7	+0.9
	comp=Z,1.3nm,0.9s,baz=169,slow=4.4,SNR=3.9						
SONM	**Songino Array**	**48.31**	**342**	P	**P**	**12 27 24.1**	**-0.8**
SONM						12 28 51.7	
SONM				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SONM				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ZAK	**Zakamensk**	**51.54**	**341**	*eP*	**P**	**12 27 49.6**	**+0.2**
ZAK				*e*		12 29 03.2	
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.8						
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.9						
TLY	**Talaya**	**52.55**	**342**	⇓*iP*	**P**	**12 27 58.1**	**+1.1**
TLY				pmax	pmax		
	comp=Z,8.0nm,1.5s,mb4.5						
WMQ	**Urumqi**	**53.57**	**326**	*eP*	**P**	**12 28 07.0**	**+2.3**
WMQ				XP	sP	12 28 18.0	-16
WMQ				PP	PP	12 30 09.0	+1.5
WMQ				S	**S**	**12 35 37.0**	**+7.0**
WMQ				SS	SS	12 39 16.0	+5.2
WMQ				AMB	AMB		
	comp=Z,17nm,0.9s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,110nm,6.0s						
WMQ				LR	LR		
	comp=N,163nm,20.0s						
WMQ				LR	LR		
	comp=E,112nm,20.0s						
WMQ				LR	LR		
	comp=Z,101nm,18.0s						
BOD	**Bodaibo**	**55.95**	**352**	*eP*	**P**	**12 28 19.5**	**-2.2**
MKAR	**Makanchi Array**	**58.41**	**326**	P	**P**	**12 28 38.0**	**-1.2**
	comp=Z,1.3nm,0.4s,mb4.3,baz=120,slow=8.0,SNR=14						
MKAR				LR	LR	12 54 44.1	
	comp=Z,97nm,20.8s,baz=150,slow=37						
MKAR	**Makanchi Array**	**58.41**	**326**	*iP*	**P**	**12 28 39.2**	**0.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
YAK	**Yakutsk**	**59.32**	**2**	*eP*	**P**	**12 28 47.6**	**+2.3**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
ZAL	**Zalesovo**	**61.53**	**333**	P	**P**	**12 28 58.9**	**-1.6**
	comp=Z,2.3nm,0.3s,mb4.7,baz=343,slow=5.9,SNR=5.5						
ZAL	**Zalesovo**	**61.53**	**333**	*iP*	**P**	**12 29 02.4**	**+1.9**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KURK	**Kurchatov**	**62.62**	**328**	*eP*	**P**	**12 29 06.2**	**-1.6**
	comp=Z,9.1nm,0.8s,mb4.8						
KURK	**Kurchatov**	**62.62**	**328**	*eP*	**P**	**12 29 06.2**	**-1.6**
KURK				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
SEY	**Seymchan**	**63.14**	**13**	*iP*	**P**	**12 29 08.3**	**-2.8**
BVAR	**Borovoye Array**	**68.19**	**327**	P	**P**	**12 29 42.9**	**-0.6**
	comp=Z,0.9nm,0.3s,mb4.0,baz=98,slow=5.8,SNR=6.9						
BVAR	**Borovoye Array**	**68.19**	**327**	P	**P**	**12 29 42.9**	**-0.6**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CASY	**Casey**	**69.70**	**187**	*eP*	**P**	**12 29 53.5**	**+0.9**
	comp=Z,6.5nm,1.2s,mb4.3						
SVE	**Sverdlovsk**	**74.85**	**329**	*eP*	**P**	**12 30 23.0**	**-0.1**
ARU	**Arti**	**75.82**	**328**	*eP*	**P**	**12 30 27.6**	**-1.0**
	comp=Z,7.6nm,1.0s,mb4.4						
ARU	**Arti**	**75.82**	**328**	⇓*iP*	**P**	**12 30 28.0**	**-0.6**
ARU				*e*		12 33 21.1	
ARU				*e*S	S	12 39 59.5	-3.3
ARU				*e*SSS	SSS	12 48 20.4	+5.8
ARU				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.3						
VNDA	**Vanda**	**82.34**	**173**	P	**P**	**12 31 03.5**	**-0.1**
	comp=Z,1.6nm,1.0s,mb3.8,baz=287,slow=7.0,SNR=4.2						
VNDA	**Vanda**	**82.34**	**173**	P	**P**	**12 31 03.6**	**0.0**
VNDA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
IMA	**Indian Mountai**	**83.44**	**24**	*eP*	**P**	**12 31 10.2**	**+0.8**
	comp=Z,40nm,1.3s,mb5.1						
IMA	**Indian Mountai**	**83.44**	**24**	*eP*	**P**	**12 31 10.2**	**+0.9**
IMA				pmax	pmax		
	comp=Z,40nm,1.3s,mb5.1						
SPU	**Mount Spurr**	**83.53**	**29**	*eP*	**P**	**12 31 10.7**	**+0.9**
SLKM	**Skilak Lake**	**84.36**	**30**	*eP*	**P**	**12 31 14.6**	**+0.6**
SML	**Sawmill**	**85.36**	**28**	*eP*	**P**	**12 31 20.2**	**+1.2**
ILAR	**Eielson Array**	**86.15**	**25**	P	**P**	**12 31 22.4**	**-0.4**
	comp=Z,0.3nm,0.6s,mb3.4,baz=250,slow=5.3,SNR=6.4						
OBN	**Obninsk**	**87.91**	**325**	P	**P**	**12 31 32.0**	**+0.5**
OBN				*e*		12 31 46.2	
OBN				pmax	pmax		
	comp=Z,8.0nm,0.4s,mb5.1						
BR131	**Keskin Array S**	**90.64**	**310**	P	**P**	**12 31 47.5**	**+2.7**
	comp=Z,1.9nm,0.8s,mb4.3						
BRTR	**Keskin Array B**	**90.64**	**310**	P	**P**	**12 31 45.0**	**+0.2**
	comp=Z,1.8nm,0.9s,mb4.2,baz=104,slow=5.1,SNR=5.2						
BRTR	**Keskin Array B**	**90.64**	**310**	P	**P**	**12 31 45.0**	**+0.2**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.9s						

*IDC **02** 13:26:20.1±5.0, 4.23S×152.91E, h61km±43km, mb3.7/7, mb1 3.9/8, mb1mx3.7/17, mbtmp4.0/8, ML3.2/1, MS3.5/1, Ms1 3.5/1, ms1mx2.9/21, Error ellipse: s-maj=28.9km s-min=25.8km az=26.0*
*NEIC **02** 13:26:22.3±2.9, 4.31S×152.89E, h81km±24km, mb4.3/2, Error ellipse: s-maj=22.3km s-min=18.6km az=207.0*

ISC 02 13:26:20.5±4.1, 4.3S±0.2×152.9E±0.1, h77km±35km, n12, σ0§86/13, mb3.9/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.59**	**228**	P	**P**	**13 28 11.1**	**+0.5**
	1.9nm,0.3s,baz=47,slow=13,SNR=10						
PMG				S	**S**	**13 29 35.7**	**0.0**
	4.4nm,0.3s,baz=100,slow=18,SNR=10						
PMG	**Port Moresby**	**7.59**	**228**	P	**P**	**13 28 11.1**	**+0.5**
PMG				*e*Sn	**S**	**13 29 33.0**	**-2.8**
PMG				S	**S**	**13 29 35.8**	**0.0**
CTA	**Charters Tower**	**16.95**	**202**	LR	LR	13 36 04.4	
	comp=Z,151nm,18.8s,baz=228,slow=34						
DZM	**Mont Dzumac**	**22.03**	**144**	P	**P**	**13 31 09.7**	**-0.1**
	5.9nm,0.8s,mb4.0,baz=305,slow=14,SNR=7.6						
WRAB	**Tennant Creek**	**23.80**	**228**	*eP*	**P**	**13 31 27.3**	**+0.1**
	13nm,0.5s,mb4.5						
WRA	**Warramunga Arr**	**23.82**	**228**	P	**P**	**13 31 28.0**	**+0.7**
	6.3nm,0.5s,mb4.2,baz=52,slow=9.3,SNR=47						
WRA				PcP	PcP	13 35 10.2	-0.2
	0.8nm,0.7s,baz=49,slow=2.5,SNR=5.6						
FITZ	**Fitzroy Crossi**	**29.95**	**241**	P	**P**	**13 32 22.5**	**-1.3**
	3.3nm,0.3s,mb4.4,baz=2.4,slow=21,SNR=5.0						
VNDA	**Vanda**	**73.32**	**178**	P	**P**	**13 37 45.6**	**+0.6**
	0.7nm,0.8s,mb3.5,baz=346,slow=7.7,SNR=4.2						
MKAR	**Makanchi Array**	**80.00**	**319**	P	**P**	**13 38 24.2**	**+1.2**
	0.2nm,0.5s,mb3.2,baz=135,slow=6.1,SNR=3.2						
ILAR	**Eielson Array**	**81.68**	**22**	P	**P**	**13 38 30.2**	**-1.3**
	0.4nm,0.7s,mb3.3,baz=235,slow=6.0,SNR=7.0						
BVAR	**Borovoye Array**	**88.88**	**323**	P	**P**	**13 39 07.4**	**+0.1**
	0.8nm,0.7s,mb3.9,baz=90,slow=5.9,SNR=3.6						
BDFB	**Brasilia**	**151.37**	**134**	PKPbc	PKPdf	13 46 08.6	+8.5
	2.9nm,0.5s,baz=163,slow=3.2,SNR=5.0						

*IDC **02** 13:36:27.6±1.3, 2.69N×126.71E, mb4.0/6, mb1 4.1/6, mb1mx3.9/18, mbtmp4.0/6, Error ellipse: s-maj=71.0km s-min=19.0km az=74.0*
*NEIC **02** 13:36:32.0±0.7, 2.73N×126.88E, h35km, mb4.7/1, Error ellipse: s-maj=24.6km s-min=9.4km az=61.0*

ISC 02 13:36:34.2±6.8, 2.7N±0.2×126.6E±0.4, h71km±63km, n12, σ0§76/12, mb4.0/6, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**10.86**	**288**	*e*Pn	**P**	**13 39 09.0**	**0.0**
FITZ	**Fitzroy Crossi**	**20.64**	**183**	P	**P**	**13 41 09.4**	**-0.9**
	3.4nm,0.4s,baz=5.5,slow=7.8,SNR=17						
WRAB	**Tennant Creek**	**23.70**	**162**	*eP*	**P**	**13 41 40.6**	**+0.1**
	27nm,1.1s,mb4.5						
WRA	**Warramunga Arr**	**23.71**	**162**	P	**P**	**13 41 40.7**	**+0.1**
	1.6nm,0.3s,mb3.8,baz=340,slow=10,SNR=60						
WB2	**Warramunga Arr**	**23.71**	**162**	*eP*	**P**	**13 41 40.4**	**-0.2**
NWAO	**Narrogin (SRO)**	**36.47**	**193**	P	**P**	**13 43 35.5**	**+1.2**
	6.5nm,0.8s,mb4.6,baz=16,slow=9.7,SNR=4.6						
NWAO	**Narrogin (SRO)**	**36.47**	**193**	P	**P**	**13 43 35.5**	**+1.2**
STKA	**Stephens Creek**	**37.18**	**159**	P	**P**	**13 43 40.4**	**+0.1**
	1.1nm,0.3s,mb4.2,baz=321,slow=7.3,SNR=9.9						
STKA	**Stephens Creek**	**37.18**	**159**	*eP*	**P**	**13 43 40.2**	**-0.1**
SONM	**Songino Array**	**48.27**	**342**	P	**P**	**13 45 11.2**	**+1.2**
	0.5nm,0.8s,mb3.4,baz=152,slow=7.6,SNR=4.4						
MKAR	**Makanchi Array**	**58.35**	**326**	P	**P**	**13 46 24.3**	**-0.1**
	0.5nm,0.5s,mb3.8,baz=122,slow=8.1,SNR=5.6						
KURK	**Kurchatov**	**62.56**	**328**	P	**P**	**13 46 51.5**	**-1.5**

*IDC **02** 13:37:55.0±17.0, 36.03N×70.11E, h134km±154km, mb3.3/3, mb1 3.4/5, mb1mx3.1/21, mbtmp3.7/5, ML3.6/2, Error ellipse: s-maj=94.6km s-min=76.0km az=51.0*
*NNC **02** 13:38:07.6±4.3, 36.82N×70.22E, h189km±46km, mpv3.6, Error ellipse: s-maj=38.4km s-min=27.6km az=13.0*

ISC 02 13:38:05.3±2.5, 36.7N±0.2×70.3E±0.2, h210km±19km, n16, σ0§63/18, mb3.0/2, 3C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.04**	**25**	P	**P**	**13 39 33.9**	**0.0**
	SNR=60						
KK31	**Karatay Array**	**6.39**	**2**	⇓P	**P**	**13 39 38.6**	**+0.1**
	1.4nm,0.3s,baz=174,slow=7.3,SNR=22						
KK31				⇓S	**S**	**13 40 50.9**	**-0.3**
	9.1nm,0.6s,baz=190,slow=26,SNR=6.4						
UCH	**Uchtor**	**6.42**	**29**	P	**P**	**13 39 39.1**	**+0.2**
	SNR=27						
EKS2	**Erkin-Say**	**6.54**	**23**	P	**P**	**13 39 40.6**	**+0.2**
	SNR=7.2						
AAK	**Ala-Archa**	**6.76**	**28**	⇑P	**P**	**13 39 43.4**	**+0.2**
	1.3nm,0.2s						
AAK				⇑S	**S**	**13 40 59.5**	**-0.1**
	26nm,0.9s						
USP	**Ospenovka**	**7.32**	**25**	P	**P**	**13 39 49.8**	**-0.7**
	SNR=8.1						
TKM2	**Tokmak 2**	**7.44**	**32**	P	**P**	**13 39 51.8**	**-0.3**
	SNR=14						
MK31	**Makanchi Array**	**13.48**	**38**	P	**P**	**13 41 12.1**	**+2.8**
	1.0nm,0.6s,baz=216,slow=9.0,SNR=5.8						
MKAR	**Makanchi Array**	**13.48**	**38**	P	**P**	**13 41 09.0**	**-0.3**
	0.1nm,0.3s,baz=216,slow=12,SNR=4.4						
AB31	**Akbulak array**	**14.62**	**332**	P	**P**	**13 41 23.1**	**-0.3**
	1.1nm,0.6s,baz=147,slow=12,SNR=20						
VOSK	**Vostochnaya**	**16.03**	**2**	⇑P	**P**	**13 41 40.5**	**-0.1**
	1.3nm,0.7s						
BVA0	**Borovoye Array**	**16.32**	**0**	⇓P	**P**	**13 41 44.8**	**+0.7**
	0.1nm,0.5s,baz=171,slow=16,SNR=7.5						
BVAR	**Borovoye Array**	**16.32**	**0**	P	**P**	**13 41 44.5**	**+0.4**
	0.6nm,0.3s,baz=159,slow=10,SNR=8.5						
ZAL	**Zalesovo**	**19.97**	**26**	P	**P**	**13 42 22.6**	**-0.1**
	2.2nm,0.3s,baz=238,slow=5.9,SNR=4.4						
SONM	**Songino Array**	**28.71**	**56**	P	**P**	**13 43 44.3**	**-0.6**
	0.4nm,0.8s,mb3.1,baz=270,slow=4.3,SNR=3.5						
WRA	**Warramunga Arr**	**82.60**	**121**	P	**P**	**13 50 02.0**	**-4.4**
	0.1nm,0.4s,mb2.9,baz=320,slow=5.3,SNR=7.6						

*CSEM **02** 13:53:18.0±0.2, 32.25N×55.28E, h2km, ML3.6, Error ellipse: s-maj=6.2km s-min=2.3km az=64.0*
*TEH **02** 13:53:20.5, 32.01N×55.01E, h10km, Mn3.6*
*THR **02** 13:53:21.3±0.5, 32.04N×54.92E, h14km±4km, ML3.2*

ISC 02 13:53:19.9±0.8, 32.11N±0.06×55.11E±0.09, h10km, n22, σ1§69/23, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ICHK	**Chekchek**	**0.61**	**283**	Pg	**Pg**	**13 53 30.5**	**-1.8**
IBAF	**Bafgh**	**0.65**	**143**	Pg	**Pg**	**13 53 32.0**	**-0.9**
IMEH	**Mehriz**	**0.83**	**211**	Pg	**Pg**	**13 53 33.9**	**-2.8**
ISAD	**Sadrabad**	**1.23**	**261**	Pg	**Pg**	**13 53 41.0**	**-3.5**
NASN	**Na'in**	**2.07**	**290**	*e*PG	**Pg**	**13 53 57.0**	**-4.2**
NASN				*e*SG	**Sg**	**13 54 22.7**	**-6.0**
IGAR	**Garneh**	**2.48**	**274**	Pn	**Pn**	**13 54 02.7**	**+1.7**
IZEF	**Zefreh**	**2.48**	**289**	Pn	**Pn**	**13 54 01.5**	**+0.4**
KRBR	**Kerman**	**2.55**	**146**	*e*PN	**Pn**	**13 54 04.9**	**+2.9**
KRBR				*e*SG	**Sg**	**13 54 42.5**	**-2.3**
KRBR				AML	AML	13 54 59.0	
	comp=N,228nm,0.8s						
KRBR	**Kerman**	**2.55**	**146**	*e*Pn	**Pn**	**13 54 04.9**	**+2.8**
	SNR=52						
KRBR				*e*Sg	**Sg**	**13 54 42.5**	**-2.3**
	SNR=90						
IPAR	**Pars**	**2.87**	**219**	Pn	**Pn**	**13 54 10.0**	**+3.3**
IKLH	**Kalahroud**	**3.21**	**293**	Pn	**Pn**	**13 54 12.1**	**+0.6**
ISRV	**Sarvestan**	**3.22**	**213**	Pn	**Pn**	**13 54 14.3**	**+2.7**
IMOK	**Mook**	**3.69**	**215**	Pn	**Pn**	**13 54 21.2**	**+3.0**
IFIR	**Firoozkooh**	**4.03**	**332**	Pn	**Pn**	**13 54 22.4**	**-0.8**
**IF

```
ULM  Lac du Bonnet      65.51 347  P          P          14 05 10.4 +1.4
     2.4nm,0.6s,mb4.4,baz=142,slow=5.5,SNR=3.2
ILAR Eielson Array      93.77 336  P          P          14 07 41.0 -0.1
     0.5nm,0.8s,mb4.0,baz=159,slow=5.3,SNR=5.0
WRA  Warramunga Arr    135.00 223  PKP        PKPdf      14 13 44.6 +1.3
     0.7nm,0.9s,baz=132,slow=2.0,SNR=6.6
SONM Songino Array     145.51 356  PKPbc      PKPbc      14 14 03.1 +1.2
     1.4nm,0.7s,baz=322,slow=3.0,SNR=11
```

*BJI **02** 13:54:49.0,2.10N×96.40E,h25km,mB4.3,mb4.8,Ms4.0*
*IDC **02** 13:54:50.7±1.6,2.10N×96.42E,h26km±5km,mb4.0/8,mb1 4.1/8,mb1mx3.8/19,mbtmp4.1/8,Error ellipse: s-maj=67.3km s-min=14.8km az=56.0*
*NEIC **02** 13:54:50.5±0.6,2.08N×96.38E,mb4.4/5,Error ellipse: s-maj=14.7km s-min=8.1km az=47.0*

ISC 02 13:54:49.1±0.8,2.1N±0.1×96.5E±0.1,h25km, h25km±3.1km:pP-P,n27,σ1°09/26,mb4.3/16,Northern Sumatera

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Code Station Name          Δ°   AZ°  Phase ID                Time      Res
                                     Op        ISC           h m s     ISC
KULM Kulim                 5.25  52  ePn       Pn            13 56 08.3 +0.2
KULM                                 epP                     13 56 15.5
KSM  Kuching              13.83  92  eP        P             13 58 07.3 +1.1
QIZ  Qiongzhong           21.34  37  P         P             13 59 36.0 -0.7
     4.9nm,1.1s,mb3.8
JIRN Jiri                 27.28 340  eP        P             14 00 33.8  0.0
     23nm,0.8s,mb4.8
PKI  Pulchoki             27.48 338  eP        P             14 00 35.5 -0.1
DMN  Daman                27.63 338  eP        P             14 00 38.2 +1.3
KKN  Kakani               27.73 338  eP        P             14 00 39.4 +1.6
LSA  Lhasa                27.94 350  P         P             14 00 40.2 +0.5
LSA  Lhasa                27.94 350  eP        P             14 00 39.7  0.0
     13nm,1.0s,mb4.5
GKN  Gorkha               28.16 337  eP        P             14 00 43.4 +1.7
     28nm,1.0s,mb4.8
KOLN Koldanda             28.37 335  eP        P             14 00 45.3 +1.7
     8.8nm,0.8s,mb4.5
FITZ Fitzroy Crossi       35.02 126  P         P             14 01 41.8 -0.2
     4.5nm,0.7s,mb4.5,baz=183,slow=5.9,SNR=3.6
WRA  Warramunga Arr       43.10 122  P         P             14 02 49.5 +0.2
     0.9nm,0.5s,mb3.8,baz=301,slow=9.1,SNR=15
WRA                                  pP        pP            14 02 57.8 +0.8
     1.3nm,0.6s,baz=304,slow=9.0,SNR=7.2
WRAB Tennant Creek        43.11 122  P         P             14 02 49.9 +0.5
     22nm,1.4s,mb4.7
MKAR Makanchi Array       46.23 347  P         P             14 03 13.0 -1.0
     6.2nm,0.8s,mb4.6,baz=158,slow=8.7,SNR=48
MKAR Makanchi Array       46.23 347  P         P             14 03 13.0 -1.0
SONM Songino Array        46.39  9   P         P             14 03 14.3 -1.0
     0.8nm,0.4s,mb4.0,baz=192,slow=10,SNR=10
SONM                                 pP        pP            14 03 23.3 +0.3
     0.9nm,0.5s,baz=191,slow=9.7,SNR=6.3
SONM                                 PcP       PcP           14 04 50.1 -0.3
     0.6nm,0.6s,baz=196,slow=5.1,SNR=3.6
KURK Kurchatov            50.77 345  eP        P             14 03 48.3 -0.9
     8.9nm,1.2s,mb4.6
ZAL  Zalesovo             52.58 351  P         P             14 04 01.6 -1.2
     4.2nm,0.7s,mb4.5,baz=314,slow=7.0,SNR=17
ZAL                                  pP        pP            14 04 09.8 -0.9
     3.3nm,0.5s,baz=306,slow=5.8,SNR=4.6
ZAL  Zalesovo             52.58 351  P         P             14 04 01.6 -1.2
ZAL                                  pP        pP            14 04 09.8 -0.9
STKA Stephens Creek       54.47 132  P         P             14 04 16.4 -0.7
     1.1nm,0.5s,mb4.1,baz=270,slow=3.0,SNR=4.4
STKA Stephens Creek       54.47 132  P         P             14 04 16.1 -0.9
BVAR Borovoye Array       55.20 341  P         P             14 04 20.4 -1.8
     2.1nm,0.7s,mb4.3,baz=143,slow=7.4,SNR=16
BRVK Borovoye             55.26 341  eP        P             14 04 20.4 -2.1
     1.0nm,0.6s,mb4.0
FINES FINESS Array B      78.90 333  P         P             14 06 52.7 +1.0
     0.2nm,0.3s,mb3.5,baz=76,slow=5.7,SNR=3.7
FINES                                pP        pP            14 06 58.5 -1.3
     0.9nm,0.6s,baz=146,slow=6.9,SNR=1.9
FINES FINESS Array B      78.90 333  P         P             14 06 52.8 +1.0
FINES                                pP        pP            14 06 58.5 -1.3
GERES GERESS Array B      83.69 319  pP        pP            14 07 26.4 +1.1
     0.3nm,0.2s,baz=101,slow=5.0,SNR=2.0
```

*MOS **02** 14:48:19.8±1.1,47.59N×153.69E,h30km,mb4.7/2,Error ellipse: s-maj=21.3km s-min=14.5km az=79.2*
*IDC **02** 14:48:21.4±1.8,47.28N×153.75E,h34km±7km,mb3.6/9,mb1 3.8/10,mb1mx3.6/22,mbtmp3.8/10,ML3.5/1,MS3.3/4,Ms1 3.3/4,ms1mx2.9/25,Error ellipse: s-maj=49.1km s-min=22.0km az=173.0*
*NEIC **02** 14:48:28.1±2.5,47.15N×153.66E,h104km±24km,mb4.3/3,Error ellipse: s-maj=23.5km s-min=18.9km az=156.0*

ISC 02 14:48:21.5±2.1,47.5N±0.1×153.6E±0.2,h41km±18km, h33km±4.2km:pP-P,n28,σ0°74/28,mb4.2/15,MS3.2/4, Kuril Islands

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Code Station Name          Δ°   AZ°  Phase ID                Time      Res
                                     Op        ISC           h m s     ISC
SKR  Severo-Kuril's        3.63  26  ePN       P             14 49 10.6 -6.1
SKR                                  eS        S             14 49 59.3 +0.5
SKR                                  pmax      pmax
     comp=Z,40nm,0.5s
SKR                                  smax
     comp=N,70nm,0.6s
SKR                                  smax
     comp=E,80nm,0.6s
YSS  Yuzh-Sakhalins        7.42 270  ePn       P             14 50 14.8 +4.8
MJAR Matsushiro Arr       15.79 232  Pn        P             14 52 01.0 -1.4
     comp=E,0.2nm,0.3s,baz=22,slow=9.5,SNR=4.7
MAJO Matsushiro           15.79 232  eP        P             14 52 03.2 +0.9
     comp=E,4.7nm,0.6s
MAJO Matsushiro           15.79 232  eP        P             14 52 03.2 +0.9
MAJO                                 pmax      pmax
     comp=Z,5.0nm,0.6s
SONM Songino Array        31.44 289  P         P             14 54 40.8 -0.1
     comp=Z,0.3nm,0.6s,mb3.3,baz=71,slow=7.0,SNR=3.3
SONM                                 LR        LR            15 09 16.7
     comp=Z,37nm,19.6s,MS3.1,baz=330,slow=40
ILAR Eielson Array        35.78  39  P         P             14 55 16.9 -1.4
     comp=Z,0.2nm,0.6s,mb3.2,baz=249,slow=7.7,SNR=4.3
ILAR                                 pP        pP            14 55 27.4 -2.3
     comp=Z,0.5nm,0.6s,baz=254,slow=6.7,SNR=4.6
ZAL  Zalesovo             42.51 305  P         P             14 56 13.0 -1.1
     comp=Z,1.3nm,0.5s,mb3.9,baz=20,slow=3.6,SNR=4.3
ZAL                                  LR        LR            15 13 04.8
     comp=Z,34nm,20.9s,MS3.2,baz=120,slow=35
MKAR Makanchi Array       46.94 297  P         P             14 56 49.5 -0.1
     comp=Z,0.5nm,0.5s,mb3.7,baz=67,slow=7.3,SNR=9.3
MKAR                                 LR        LR            15 19 57.4
     comp=Z,25nm,18.8s,MS3.2,baz=273,slow=40
KURK Kurchatov            47.27 303  eP        P             14 56 51.5 -0.7
     comp=Z,3.9nm,0.7s,mb4.5
KURK Kurchatov            47.27 303  eP        P             14 56 51.6 -0.6
KURK                                 pmax      pmax
     comp=Z,4.0nm,0.7s,mb4.5
BVAR Borovoye Array       50.69 309  P         P             14 57 18.5 -0.1
     comp=Z,0.6nm,0.4s,mb3.9,baz=76,slow=6.1,SNR=5.5
ARU  Arti                 54.74 317  eP        P             14 57 47.4 -1.3
     comp=Z,3.3nm,0.6s,mb4.5
ARU  Arti                 54.74 317  eP        P             14 57 47.4 -1.2
ARU                                  pmax      pmax
     comp=Z,3.0nm,0.6s,mb4.5
JIRN Jiri                 55.24 274  eP        P             14 57 53.7 +1.0
KKN  Kakani               55.77 275  eP        P             14 57 56.8 +0.2
     comp=Z,12nm,0.7s,mb5.0
PKI  Pulchoki             55.83 275  eP        P             14 57 57.6 +0.7
DMN  Daman                56.01 275  eP        P             14 57 58.7 +0.5
GKN  Gorkha               56.07 276  eP        P             14 57 58.9 +0.2
     comp=Z,21nm,0.6s,mb5.3
KOLN Koldanda             56.92 276  eP        P             14 58 05.1 +0.3
     comp=Z,13nm,0.7s,mb5.1
FINES FINESS Array B      63.56 335  P         P             14 58 49.2 -0.2
     comp=Z,1.2nm,0.4s,mb4.2,baz=29,slow=7.9,SNR=9.1
NB2  NORSAR Subarra       67.68 341  P         P             14 59 16.0 +0.2
     comp=Z,1.1nm,0.6s,mb4.1,baz=30,slow=6.5
NOA  NORSAR Array B       67.68 341  P         P             14 59 16.4 +0.6
     comp=Z,1.7nm,0.9s,mb4.1,baz=28,slow=6.5,SNR=4.9
NOA                                  pP        pP            14 59 27.6 -0.5
     comp=Z,1.1nm,0.8s,baz=26,slow=6.2,SNR=3.8
AKASG Malin Array Be      71.16 326  P         P             14 59 37.3  0.0
     comp=Z,0.3nm,0.3s,mb3.7,baz=36,slow=6.0,SNR=5.1
ANMO Albuquerque          71.17  59  LR        LR            15 28 38.4
     comp=Z,26nm,18.1s,MS3.5,slow=34
CLL  Collm                75.97 336  P         P             15 00 06.5 +1.2
     comp=Z,logA/T=0.9,mb4.6
TXAR Lajitas Array        76.84  61  P         P             15 00 11.0 +0.3
     comp=Z,0.3nm,0.4s,mb3.5,baz=315,slow=5.3,SNR=4.0
TXAR                                 pP        pP            15 00 19.7 -3.3
     comp=Z,1.1nm,0.7s,baz=303,slow=4.0,SNR=4.2
TXAR Lajitas Array        76.84  61  P         P             15 00 11.0 +0.3
TXAR                                 pP        pP            15 00 19.7 -3.3
```

*THR **02** 15:08:57.7±0.7,31.28N×50.99E,h14km±9km,ML3.1*
*KISR **02** 15:09:00.4±1.3,31.75N×51.00E,h33km,ML3.2*
*CSEM **02** 15:09:00.1±0.2,31.76N×50.89E,h2km,ML3.2,Error ellipse: s-maj=9.7km s-min=4.3km az=151.0*

ISC 02 15:09:00.2±0.7,31.73N±0.07×50.90E±0.06,h2km,n6, σ1°07/11,Northern and central Iran

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Code Station Name          Δ°   AZ°  Phase ID                Time      Res
                                     Op        ISC           h m s     ISC
SHGO Shushtar              1.83 283  ePg       Pg            15 09 34.7 -2.0
SHGO                                 eSg       Sg            15 10 01.9 +0.8
SHGO                                 AML       AML           15 10 19.1
     comp=N,172nm,0.6s
NASN Na'in                 1.94  56  ePg       Pg            15 09 37.1 -1.8
NASN                                 eSg       Sg            15 10 05.9 +1.2
ASAO Ashtian               2.91 346  ePn       Pn            15 09 52.6 +4.2
ASAO                                 AML       AML           15 10 50.6
     comp=N,37nm,0.7s
MIB  Mutribah              3.62 239  eP        Pn            15 09 58.7 +0.2
MIB                                  eS        Sn            15 10 42.5 +0.2
MIB                                  AML       AML           15 11 00.3
     comp=Z,23nm,0.5s
KBD  Kabd                  3.76 228  eP        Pn            15 10 01.0 +0.5
KBD                                  eS        Sn            15 10 46.9 +0.9
KBD                                  AML       AML           15 10 54.5
     comp=Z,48nm,0.3s
RDF  Al-Radifah            4.02 227  eP        Pn            15 10 04.3 +0.1
RDF                                  eS        Sn            15 10 51.8 -0.9
RDF                                  AML       AML           15 10 58.7
     comp=Z,28nm,0.6s
```

*NNC **02** 16:00:01.8±4.6,40.06N×73.58E,mpv3.5,Error ellipse: s-maj=41.1km s-min=24.4km az=11.0*

ISC 02 15:59:56.3±5.1,39.6N±0.3×73.4E±0.2,h10km,n11, σ0°39/12,2C-1D,Tajikistan-Xinjiang border region

```
Code Station Name          Δ°   AZ°  Phase ID                Time      Res
                                     Op        ISC           h m s     ISC
AML  Almayashu             2.50   5  P         Pn            16 00 37.9  0.0
     SNR=63
UCH  Uchtor                2.72  18  P         Pn            16 00 41.2 +0.3
     SNR=65
KZA  Kyzart                2.82  29  P         Pn            16 00 42.6 +0.3
     SNR=46
AAK  Ala-Archa             3.11  15  P         Pn            16 00 46.9 +0.4
     SNR=17
AAK  Ala-Archa             3.11  15  Pn        Pn            16 00 46.8 +0.4
     28nm,0.5s
AAK                                  ⇓Lg                     16 01 24.0
     84nm,0.7s
KBK  Karagaybulak          3.24  21  P         Pn            16 00 48.9 +0.7
     SNR=10.0
ULHL Ulahol                3.38  39  P         Pn            16 00 49.6 -0.7
     SNR=31
CHMS Chumysh               3.51  16  P         Pn            16 00 52.0 -0.2
     SNR=11
TKM2 Tokmak 2              3.68  26  P         Pn            16 00 54.2 -0.3
     SNR=8.2
USP  Ospenovka             3.72  12  P         Pn            16 00 54.6 -0.5
     SNR=24
KK31 Karatay Array         4.09 329  Pn        Pn            16 01 00.4 +0.1
     1.9nm,0.3s,baz=133,slow=12,SNR=36
KK31                                 ⇑Sn       Sn            16 01 48.7 -0.1
     6.4nm,0.3s,baz=152,slow=24,SNR=6.5
KK31                                 ⇑Lg                     16 02 04.3
     41nm,0.8s,baz=144,slow=32,SNR=3.8
```

NEIC 02 16:16:59.4±0.2,45.39N×112.59W,h5km,ML3.5,Error ellipse: s-maj=3.4km s-min=2.7km az=76.0,Montana

```
Code Station Name          Δ°   AZ°  Phase ID                Time      Res
                                     Op        ISC           h m s     ISC
MCMT McKenzie Canyo        0.59 198  eP        Pg            16 17 10.4 -0.8
BOZ  Bozeman (W)           0.72  69  eP        Pg            16 17 13.1 -0.8
QLMT Earthquake Lak        0.99 124  eP        Pb            16 17 17.6 -1.1
HRY  Holter Researc        1.43  22  eP        Pn            16 17 25.9 -0.2
YNR  Norris Junctio        1.51 116  eP        Pn            16 17 27.4 +0.1
YNR                                  eS        Sb            16 17 45.8 -1.2
YFT  Old Faithful          1.56 126  eP        Pn            16 17 28.3 +0.3
CHMT Chamberlain Mo        1.60 344  eP        Pn            16 17 28.6 +0.1
MSO  Missoula              1.72 327  ePn       Pn            16 17 30.1 -0.2
LKWY Lake                  1.76 117  Pn        Pn            16 17 30.2 -0.6
IMW  Indian Meadow         1.90 141  ePn       Pn            16 17 33.0 +0.1
GCMT Greycliff             2.09  78  ePn       Pn            16 17 35.5 -0.1
TPAW Teton Pass            2.23 148  Pn        Pn            16 17 37.9 +0.3
RRI2 Red Ridge             2.23 155  ePn       Pn            16 17 37.6  0.0
HLID Hailey                2.24 216  ePn       Pn            16 17 37.3 -0.5
LOHW Long Hollow           2.27 141  ePn       Pn            16 17 38.1 -0.1
SNOW Snow King Moun        2.33 145  ePn       Pn            16 17 39.4 +0.4
REDW Red Top Meadow        2.38 148  ePn       Pn            16 17 39.1 -0.6
AHID Auburn Hatcher        2.83 157  Pn        Pn            16 17 45.0 -1.1
BMO  Blue Mountains        3.38 263  ePn       Pn            16 17 52.0 -1.9
WALA Waterton Lakes        3.78 347  ePn       Pn            16 17 58.8 -0.9
HWUT Hardware Ranch        3.85 168  Pn        Pn            16 17 59.6 -1.0
NEW  Newport               4.24 314  ePn       Pn            16 18 04.8 -1.3
LAO  LASA Array            4.62  71  Pn        Pn            16 18 10.0 -1.6
NOQ  North Oquirrh         4.74 176  Pn        Pn            16 18 11.8 -1.5
ELK  Elko                  5.03 204  ePn       Pn            16 18 15.5 -1.8
TMUT Trail Mountain        6.17 170  Pn        Pn            16 18 31.9 -1.6
RSSD Black Hills           6.22  99  ePn       Pn            16 18 31.9 -2.3
DGMT Dagmar                6.52  59  ePn       Pn            16 18 35.6 -2.9
PV10 Paradox Valley        7.49 158  Pn        Pn            16 18 50.2 -1.8
EDM  Edmonton              7.86 357  Pn        Pn            16 18 55.1 -2.1
```

*IDC **02** 16:18:44.5±1.5,8.20N×92.65E,mb3.6/6,mb1 3.8/6,mb1mx3.7/20,mbtmp3.6/6,Error ellipse: s-maj=58.5km s-min=26.2km az=50.0*
*NEIC **02** 16:18:49.2±1.0,8.25N×92.48E,h30km,mb4.2/3,Error ellipse: s-maj=35.2km s-min=12.5km az=46.0*

ISC 02 16:18:47.4±1.1,7.8N±0.2×92.4E±0.2,h30km,n16, σ1°80/16,mb4.0/11,Nicobar Islands region

```
Code Station Name          Δ°   AZ°  Phase ID                Time      Res
                                     Op        ISC           h m s     ISC
KULM Kulim                 8.57 107  eP        P             16 20 53.6 +1.1
JIRN Jiri                 10.58 344  eP        P             16 23 26.9 +0.2
PKI  Pulchoki             10.72 342  eP        P             16 23 29.5 +1.4
     23nm,1.0s
DMN  Daman                10.85 342  eP        P             16 23 31.5 +2.1
     17nm,0.9s
KKN  Kakani               10.97 342  eP        P             16 23 32.3 +1.7
     9.2nm,0.6s
GKN  Gorkha               21.37 341  eP        P             16 23 36.3 +1.7
     54nm,1.1s,mb4.8
KOLN Koldanda             21.51 338  eP        P             16 23 38.3 +2.2
     18nm,0.8s,mb4.5
LSA  Lhasa                21.79 357  P         P             16 23 34.8 -4.1
     11nm,1.1s,mb4.2
LSA                                  e                       16 23 46.0
AAK  Ala-Archa            38.09 338  P         P             16 26 01.1 -4.2
     2.3nm,0.7s,mb4.0
AAK                                  e         pP            16 26 08.5 -5.8
MKAR Makanchi Array       39.78 349  P         P             16 26 15.5 -3.9
     0.2nm,0.5s,mb3.1,baz=170,slow=6.2,SNR=3.8
SONM Songino Array        41.61  14  P         P             16 26 31.3 -3.1
     0.3nm,0.5s,mb3.2,baz=211,slow=8.4,SNR=3.5
BVAR Borovoye Array       48.49 342  P         P             16 27 26.8 -2.5
     0.5nm,0.5s,mb3.8,baz=169,slow=7.3,SNR=2.9
WRA  Warramunga Arr       49.65 124  P         P             16 27 38.3 -0.4
     1.1nm,0.8s,mb4.0,baz=302,slow=8.8,SNR=11
WRAB Tennant Creek        49.65 124  eP        P             16 27 39.1 +0.4
     1.8nm,0.8s,mb4.2
BRTR Keskin Array B       61.16 311  P         P             16 29 01.6  0.0
     0.3nm,0.3s,mb3.9,baz=104,slow=5.1,SNR=3.6
GERES GERESS Array B      76.71 318  P         P             16 30 36.6 -0.9
     1.1nm,0.8s,mb3.9,baz=90,slow=4.0,SNR=3.6
```

*IDC **02** 16:23:42.8±0.8,9.03N×92.20E,mb4.1/15,mb1 4.3/15,mb1mx4.1/24,mbtmp4.1/15,Error ellipse: s-maj=26.8km s-min=17.9km az=59.0*
*BJI **02** 16:23:44.5,8.87N×92.28E,h30km,mB4.5,mb4.3,Ms3.7,Msz3.4*
*NEIC **02** 16:23:47.1±0.5,9.00N×92.28E,h30km,mb4.3/5,Error ellipse: s-maj=16.1km s-min=8.4km az=50.0*

ISC 02 16:23:44.9±0.6,8.94N±0.09×92.3E±0.1,h30km,n34, σ0°83/34,mb4.2/21,MS3.5/1,1D,Nicobar Islands region

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Code Station Name          Δ°   AZ°  Phase ID                Time      Res
                                     Op        ISC           h m s     ISC
KULM Kulim                 9.08 113  ePn       P             16 25 55.4 -1.7
JIRN Jiri                 19.49 344  eP        P             16 28 11.5 -1.1
PKI  Pulchoki             19.64 342  eP        P             16 28 14.8 +0.6
     18nm,0.6s
DMN  Daman                19.77 341  eP        P             16 28 16.0 +0.3
     20nm,0.7s
KKN  Kakani               19.88 342  eP        P             16 28 16.1 -0.8
     13nm,0.5s
GKN  Gorkha               20.29 340  eP        P             16 28 20.1 -1.0
     23nm,0.5s
KOLN Koldanda             20.44 338  eP        P             16 28 22.6 -0.1
     14nm,0.6s
LSA  Lhasa                20.68 357  P         P             16 28 26.0 +0.8
LSA  Lhasa                20.68 357  eP        P             16 28 25.2  0.0
     12nm,0.8s
GYA  Guiyang              22.14  36  ⇓iP       P             16 28 41.0 +1.1
GYA                                  AMB       AMB
     comp=Z,10.0nm,0.9s,mb4.2
ENH  Enshi                26.64  35  P         P             16 29 28.0 +4.9
     comp=Z,8.4nm,0.8s,mb4.3
GTA  Gaotai               31.09  11  eP        P             16 30 03.6 +0.7
GTA                                  AMB       AMB
     comp=Z,8.0nm,1.0s,mb4.5
GTA                                  AMB       AMB
     comp=Z,50nm,6.1s
GTA                                  LR        LR
     comp=N,72nm,14.8s,MS3.6
GTA                                  LR        LR
     comp=E,68nm,16.3s,MS3.6
GTA                                  LR        LR
     comp=Z,66nm,16.0s,MS3.4
AAK  Ala-Archa            37.01 338  eP        P             16 30 54.0 +0.2
     comp=Z,4.8nm,0.9s,mb4.3
MKAR Makanchi Array       38.67 349  P         P             16 31 08.1 +0.4
     comp=Z,3.6nm,0.8s,mb4.2,baz=165,slow=8.2,SNR=37
MKAR                                 PcP       PcP           16 33 20.1 +0.3
     comp=Z,0.5nm,0.8s,baz=205,slow=2.9,SNR=3.0
SONM Songino Array        40.58  15  P         P             16 31 24.5 +1.1
     comp=Z,2.0nm,0.7s,mb3.8,baz=191,slow=7.5,SNR=16
KURK Kurchatov            43.16 347  eP        P             16 31 44.8 +0.2
     comp=Z,6.5nm,1.1s,mb4.3
KURK                                 epP       pP            16 31 54.3 +0.7
KURK                                 esP       sP            16 31 58.9 +1.7
ZAL  Zalesovo             45.28 354  P         P             16 32 01.1 -0.5
     comp=Z,1.0nm,0.3s,mb4.1,baz=301,slow=8.3,SNR=5.5
BVAR Borovoye Array       47.40 342  P         P             16 32 18.2 -0.3
     comp=Z,1.3nm,0.8s,mb3.9,baz=143,slow=7.4,SNR=9.5
NWAO Narrogin (SRO)       47.95 151  P         P             16 32 25.9 +2.9
     comp=Z,6.8nm,0.8s,mb4.7,baz=339,slow=8.6,SNR=4.7
MJAR Matsushiro Arr       49.85  49  P         P             16 32 38.2 +0.6
     comp=Z,0.4nm,0.3s,mb3.9,baz=236,slow=8.8,SNR=3.2
WRA  Warramunga Arr       50.39 125  P         P             16 32 41.3 -0.5
     comp=Z,0.7nm,0.5s,mb4.0,baz=303,slow=8.9,SNR=22
WRAB Tennant Creek        50.39 125  eP        P             16 32 41.6 -0.3
     comp=Z,2.4nm,0.7s,mb4.3
BRTR Keskin Array B       60.33 311  P         P             16 33 52.2 -1.3
     comp=Z,1.9nm,0.8s,mb4.2,baz=112,slow=6.7,SNR=6.3
MLR  Muntele Rosu         67.12 316  P         P             16 34 38.1 +0.1
     comp=Z,4.9nm,0.8s,mb4.6,baz=140,slow=3.5,SNR=14
MATP Matopo               69.14 244  P         P             16 34 52.4 +1.4
     comp=Z,1.4nm,0.7s,mb4.0,baz=41,slow=22,SNR=4.6
MATP Matopo               69.14 244  P         P             16 34 52.4 +1.4
FINES FINESS Array B      70.91 332  P         P             16 35 00.5 -0.7
     comp=Z,1.5nm,0.6s,mb4.1,baz=104,slow=7.9,SNR=6.9
FINES FINESS Array B      70.91 332  P         P             16 35 00.5 -0.7
KAF  Kangasniemi          71.01 333  ep        P             16 34 56.6 -5.1
ARCES ARCESS Array B      73.64 340  P         P             16 35 16.9 -0.2
     comp=Z,2.5nm,0.7s,mb4.3,baz=90,slow=3.6,SNR=6.7
GERES GERESS Array B      75.80 318  P         P             16 35 30.5 +0.6
     comp=Z,1.8nm,0.6s,mb4.2,baz=90,slow=5.3,SNR=12
HFS  Hagfors              76.61 330  P         P             16 35 33.9 -0.4
     comp=Z,0.7nm,0.4s,mb3.9,baz=90,slow=4.4,SNR=6.2
NB2  NORSAR Subarra       77.90 331  P         P             16 35 40.9 -0.4
     comp=Z,0.1nm,0.6s,mb2.9,baz=93,slow=6.2
NOA  NORSAR Array B       77.90 331  P         P             16 35 41.0 -0.3
     comp=Z,0.9nm,0.6s,mb3.9,baz=93,slow=5.6,SNR=5.0
```

*IDC **02** 16:39:15.5±1.6,23.53S×179.73W,h502km±18km,mb3.9/7,mb1 4.0/9,mb1mx3.7/18,mbtmp4.9/9,Error ellipse: s-maj=20.9km s-min=18.0km az=23.0*
*NEIC **02** 16:39:15.7±1.1,23.71S×179.64W,h507km±14km,mb4.4/11,Error ellipse: s-maj=17.8km s-min=17.0km az=154.0*

ISC 02 16:39:14.6±0.9,23.79S±0.07×179.6W±0.1,h506km±16km, n37,σ1°29/35,mb4.3/13,1C-6D,South of Fiji Islands

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Code Station Name          Δ°   AZ°  Phase ID                Time      Res
                                     Op        ISC           h m s     ISC
RAO  Raoul Island          5.65 165  P         P             16 40 51.6 +2.9
     115nm,0.3s,baz=76,slow=23,SNR=6.4
RAO  Raoul Island          5.65 165  eP        P             16 40 49.0 +0.2
AFI  Afiamalu             12.31  38  P         P             16 41 57.4 +0.1
     3.9nm,0.3s,baz=8.2,slow=16,SNR=9.9
AFI                                  S         S             16 44 07.2 -0.9
     5.5nm,0.3s,baz=65,slow=17,SNR=6.2
DZM  Mont Dzumac          12.95 275  P         P             16 42 05.6 +1.7
     0.2nm,0.3s,baz=252,slow=20,SNR=2.2
URZ  Urewera              14.69 190  P         P             16 42 18.6 -3.1
     0.8nm,0.3s,baz=342,slow=18,SNR=5.4
URZ                                  S         S             16 44 51.7 -1.1
     2.4nm,0.3s,baz=223,slow=24,SNR=13
BKZ  Black Stump Fm       15.68 191  ePN       P             16 42 29.9 -1.7
CNZ  Chateau              15.90 194  ePN       P             16 42 35.1 +1.3
TUVZ Tukino               15.95 193  ePN       P             16 42 35.7 +1.4
PWZ  Pawanui              16.46 190  ePN       P             16 42 38.1 -1.2
THZ  Tophouse             18.98 197  ePN       P             16 43 03.6 -0.3
LTZ  Lake Taylor          20.10 198  ePN       P             16 43 07.2 -7.2
RPZ  Rata Peaks           21.31 199  P         P             16 43 23.3 -2.3
     12nm,0.5s,mb4.7,baz=29,slow=3.6,SNR=15
RPZ  Rata Peaks           21.31 199  P         P             16 43 23.3 -2.3
ARMA Armidale             26.39 249  ⇓iP       P             16 44 03.0 -8.5
CNB  Canberra Magne       29.21 240  eP        P             16 44 36.9 +0.8
     18nm,0.8s,mb4.5
CTA  Charters Tower       31.82 270  ⇓iP       P             16 44 58.9 +0.3
     7.7nm,0.4s,mb4.5
CTA  Charters Tower       31.82 270  P         P             16 44 58.7 +0.1
     11nm,0.4s,mb4.6,baz=95,slow=11,SNR=34
CTAO Charters Tower       31.82 270  eP        P             16 44 58.6  0.0
     11nm,0.4s,mb4.6
TOO  Toolangi             32.80 237  ⇓iP       P             16 45 07.0 +0.4
     9.8nm,0.6s,mb4.4
STKA Stephens Creek       35.09 248  eP        P             16 45 25.7 -0.2
     4.6nm,0.9s,mb3.9
STKA Stephens Creek       35.09 248  P         P             16 45 25.8 -0.1
     3.3nm,0.4s,mb4.1,baz=98,slow=7.7,SNR=19
WRA  Warramunga Arr       42.76 266  P         P             16 46 27.5 -0.8
     7.3nm,0.3s,mb4.5,baz=102,slow=8.0,SNR=12
WRA                                  ScP                     16 51 13.1
     0.9nm,1.1s,baz=101,slow=3.7,SNR=7.8
FITZ Fitzroy Crossi       51.18 265  eP        P             16 47 32.5  0.0
     16nm,0.9s,mb4.3
FITZ Fitzroy Crossi       51.18 265  P         P             16 47 32.0 -0.5
     14nm,0.4s,mb4.6,baz=168,slow=2.0,SNR=3.5
SBA  Scott Base           54.51 184  eP        P             16 47 57.8 +2.2
     11nm,1.0s,mb4.1
SBA                                  ePcP      PcP           16 48 52.6 +1.4
VNDA Vanda                54.52 185  P         P             16 47 57.0 +1.4
     1.8nm,0.6s,mb3.6,baz=350,slow=6.8,SNR=19
KLBR Kellerberrin         55.35 247  ⇑iP       P             16 48 01.0 -1.1
     23nm,0.9s,mb4.5
NWAO Narrogin (SRO)       55.60 245  P         P             16 48 02.3 -1.4
     17nm,1.1s,mb4.3,baz=129,slow=15,SNR=8.8
NWAO Narrogin (SRO)       55.60 245  eP        P             16 48 01.4 -2.4
     2.4nm,0.5s,mb3.8
CASY Casey                60.36 206  ⇓iP       P             16 48 34.8 -0.7
QSPA South Pole Qui       66.30 180  ⇓iP       P             16 49 15.0 +1.8
     18nm,1.1s,mb4.6
MAW  Mawson               77.97 200  ⇓iP       P             16 50 21.9 +1.3
     3.7nm,0.6s,mb4.0
MAW  Mawson               77.97 200  P         P             16 50 22.1 +1.4
     4.5nm,0.6s,mb4.1,baz=140,slow=6.4,SNR=17
BVAR Borovoye Array       120.58 319 PKP       PKPdf         16 57 08.7 +0.7
     0.4nm,0.3s,baz=45,slow=8.4,SNR=3.5
ARCES ARCESS Array B      131.85 348 PKP       PKPdf         16 57 31.3 +2.2
     1.1nm,0.6s,baz=90,slow=1.2,SNR=4.7
ARCES ARCESS Array B      131.85 348 PKP       PKPdf         16 57 31.3 +2.2
HFS  Hagfors              142.50 349 PKP       PKPdf         16 57 47.3 -1.2
     0.5nm,0.4s,baz=63,slow=3.3,SNR=5.4
```

NIED ***02*** *16:42:00,33.50N×141.10E,h50km,Mw4.3 Best double couple: M₀2.89×10¹⁵ NP1:φs213°,δ61°,λ137°. NP2: φs327°,δ53°,λ37°.*
JMA ***02*** *16:42:15.7±0.2,33.47N×141.17E,h52km,M4.3*
JMA Felt I J1.
MOS ***02*** *16:42:16.6±0.8,33.42N×141.06E,h62km,mb4.5/4,Error ellipse: s-maj=26.6km s-min=8.1km az=117.7*
IDC ***02*** *16:42:17.9±2.5,33.45N×141.08E,h53km±20km,mb3.9/17, mb1 4.0/19,mb1mx4.0/25,mbtmp4.2/19,ML4.1/2,MS3.1/4, Ms1 3.1/4,ms1mx2.9/28,Error ellipse: s-maj=22.1km s-min=9.7km az=86.0*
NEIC ***02*** *16:42:18.8±1.0,33.44N×141.03E,h62km±8km,mb4.8/7, MW4.2(NIED),Error ellipse: s-maj=12.3km s-min=5.8km az=80.0*
NEIC Recorded [1 JMA] on Hachijo-jima.

ISC 02 16:42:15.9±0.8,33.45N±0.04×141.13E±0.07,h55km±6km, n61,σ0°73/70,mb4.3/25,MS3.2/3,1C-1D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.15**	**253**	P	**P**	**16 42 36.4**	**+0.4**
JHJ2				S	**S**	**16 42 51.9**	**+0.9**
JHJ	**Hachijo jima 2**	**1.18**	**254**	P	**P**	**16 42 36.0**	**-0.3**
	2μm,0.3s,baz=126,slow=3.1,SNR=3378						
JHJ				S	**S**	**16 42 51.6**	**0.0**
	4μm,0.3s,baz=244,slow=23,SNR=24						
BSO1	**Boso 1**	**1.20**	**354**	P	**P**	**16 42 36.4**	**-0.3**
BSO3	**Boso 3**	**1.44**	**339**	P	**P**	**16 42 40.0**	**-0.2**
JMY	**Miyakejima3**	**1.48**	**295**	P	**P**	**16 42 40.8**	**0.0**
BSO4	**Boso 4**	**1.67**	**337**	P	**P**	**16 42 43.4**	**+0.1**
NJJJ	**Nii jima 2**	**1.80**	**302**	P	**P**	**16 42 45.4**	**+0.2**
JKO	**Kozu shima**	**1.81**	**294**	P	**P**	**16 42 45.6**	**+0.2**
JKO				S	**S**	**16 43 07.8**	**+0.6**
KTR	**Katsuura**	**1.82**	**338**	P	**P**	**16 42 45.3**	**-0.1**
JIM2	**Oshima 3**	**1.89**	**312**	P	**P**	**16 42 46.2**	**-0.2**
JIM2				S	**S**	**16 43 08.3**	**-0.8**
JIZS	**Izushimoda**	**2.25**	**305**	P	**P**	**16 42 51.9**	**+0.3**
JIZS				S	**S**	**16 43 18.3**	**+0.1**
KTJJ	**Kamata 2**	**2.26**	**311**	P	**P**	**16 42 51.2**	**-0.4**
JOD2	**Odawara 2**	**2.47**	**317**	P	**P**	**16 42 54.5**	**-0.2**
JOD2				*e*S	**S**	**16 43 22.4**	**-1.3**
SHZ3	**Shizuoka 3**	**2.90**	**304**	P	**P**	**16 43 01.9**	**+1.1**
JYN	**Shimob**	**2.95**	**314**	P	**P**	**16 43 02.2**	**+0.7**
TK01	**Tokai 1**	**2.97**	**277**	P	**P**	**16 43 01.9**	**+0.1**
MJAR	**Matsushiro Arr**	**3.90**	**323**	P	**P**	**16 43 15.6**	**+0.7**
	30nm,0.3s,baz=162,slow=13,SNR=109						
MJAR				S	**S**	**16 43 59.1**	**-0.8**
	9.7nm,0.3s,baz=152,slow=14,SNR=4.6						
MAJO	**Matsushiro**	**3.91**	**323**	*e*Pn	**P**	**16 43 15.9**	**+1.0**
MAT	**Matsushiro**	**3.91**	**323**	P	**P**	**16 43 15.5**	**+0.6**
MAT				S	**S**	**16 43 58.9**	**-1.0**
MAT	**Matsushiro**	**3.91**	**323**	*e*P	**P**	**16 43 16.0**	**+1.1**
MAT				*e*S	**S**	**16 43 59.0**	**-0.9**
CBIJ	**Chichi jima**	**6.40**	**172**	P	**P**	**16 43 46.5**	**-3.3**
	34nm,0.3s,baz=78,slow=8.8,SNR=39						
CBIJ				S	**S**	**16 44 55.0**	**-7.4**
	17nm,0.3s,baz=290,slow=22,SNR=2.4						
JNU	**Nakatsue**	**8.59**	**271**	P	**P**	**16 44 20.0**	**-0.1**
	1.6nm,0.3s,baz=106,slow=6.9,SNR=8.2						
JNU				LR	LR	16 46 55.4	
	comp=Z,32nm,20.9s,baz=236,slow=32						
JOW	**Kunigami**	**12.93**	**243**	P	**P**	**16 45 14.7**	**-4.2**
	baz=104,slow=18,SNR=3.0						
HIA	**Hailar**	**22.41**	**321**	P	**P**	**16 47 10.0**	**-0.7**
	5.8nm,0.6s,mb4.2						
HIA	**Hailar**	**22.41**	**321**	P	**P**	**16 47 10.0**	**-0.7**
HIA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
CIT	**Chita**	**27.21**	**321**	*e*P	**P**	**16 47 51.4**	**-5.0**
SONM	**Songino Array**	**29.73**	**309**	P	**P**	**16 48 18.7**	**-0.3**
	comp=Z,1.4nm,0.7s,mb3.8,baz=106,slow=8.8,SNR=11						
SONM				LR	LR	17 00 34.5	
	comp=Z,74nm,19.5s,MS3.3,baz=256,slow=37						
BOD	**Bodaibo**	**30.49**	**331**	*e*P	**P**	**16 48 24.8**	**-0.8**
ZAK	**Zakamensk**	**32.42**	**313**	*e*P	**P**	**16 48 43.4**	**+0.8**
ZAK				*e*		16 49 45.8	
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.6						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.3s,mb3.5						
PMG	**Port Moresby**	**43.01**	**171**	P	**P**	**16 50 12.4**	**+0.6**
	comp=Z,8.1nm,0.8s,mb4.5,baz=305,slow=15,SNR=3.9						
ZAL	**Zalesovo**	**44.23**	**315**	P	**P**	**16 50 21.2**	**0.0**
	comp=Z,0.8nm,0.5s,mb3.7,baz=34,slow=7.3,SNR=3.4						
ZAL				LR	LR	17 09 24.6	
	comp=Z,23nm,18.0s,MS3.1,baz=350,slow=37						
NVS	**Novosibirsk**	**45.20**	**316**	*e*P	**P**	**16 50 27.6**	**-1.4**
NVS				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.3						
NVS				pmax	pmax		
	comp=N,1.0nm,0.7s						
NVS				pmax	pmax		
	comp=E,2.0nm,0.8s						
MKAR	**Makanchi Array**	**45.90**	**305**	P	**P**	**16 50 34.9**	**+0.2**
	comp=E,1.4nm,0.5s,mb4.1,baz=87,slow=10,SNR=24						
KAKA	**Kakadu**	**46.65**	**192**	*e*P	**P**	**16 50 46.0**	**+5.1**
	comp=E,9.4nm,0.5s,mb5.0						
KURK	**Kurchatov**	**48.02**	**311**	*e*P	**P**	**16 50 50.6**	**-0.7**
	comp=E,6.3nm,0.9s,mb4.7						
KURK	**Kurchatov**	**48.02**	**311**	*e*P	**P**	**16 50 50.6**	**-0.6**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
ILAR	**Eielson Array**	**52.66**	**31**	P	**P**	**16 51 26.1**	**-0.2**
	comp=Z,0.7nm,0.7s,mb3.7,baz=253,slow=5.3,SNR=5.6						
BVAR	**Borovoye Array**	**52.85**	**314**	P	**P**	**16 51 27.5**	**-0.4**
	comp=Z,1.7nm,0.7s,mb4.1,baz=90,slow=8.9,SNR=8.2						
FITZ	**Fitzroy Crossi**	**53.36**	**198**	⇓*i*P	**P**	**16 51 32.1**	**0.0**
	comp=Z,5.2nm,0.6s,mb4.6						
FITZ	**Fitzroy Crossi**	**53.36**	**198**	P	**P**	**16 51 32.2**	**0.0**
	comp=Z,6.5nm,0.6s,mb4.8,baz=9.5,slow=9.1,SNR=8.6						
CTA	**Charters Tower**	**53.47**	**174**	P	**P**	**16 51 32.0**	**-1.0**
	comp=Z,3.5nm,0.6s,mb4.5,baz=7.1,slow=8.1,SNR=3.6						
WRAB	**Tennant Creek**	**53.48**	**188**	*e*P	**P**	**16 51 32.4**	**-0.7**
	comp=Z,28nm,0.5s,mb5.5						
WRAB	**Tennant Creek**	**53.48**	**188**	*e*P	**P**	**16 51 32.4**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,28nm,0.5s,mb5.5						
WB2	**Warramunga Arr**	**53.49**	**188**	⇑*i*P	**P**	**16 51 32.5**	**-0.6**
WRA	**Warramunga Arr**	**53.49**	**188**	P	**P**	**16 51 32.6**	**-0.5**
	comp=Z,26nm,0.5s,mb5.4,baz=5.5,slow=7.6,SNR=171						
ARU	**Arti**	**58.92**	**320**	*e*P	**P**	**16 52 11.1**	**-0.3**
	comp=Z,7.5nm,0.4s,mb5.1						
ARU	**Arti**	**58.92**	**320**	*e*P	**P**	**16 52 11.1**	**-0.3**
STKA	**Stephens Creek**	**64.98**	**180**	P	**P**	**16 52 51.7**	**-0.7**
	comp=Z,2.7nm,0.7s,mb4.4,baz=14,slow=3.7,SNR=4.4						
STKA	**Stephens Creek**	**64.98**	**180**	P	**P**	**16 52 51.7**	**-0.7**
NWAO	**Narrogin (SRO)**	**69.75**	**201**	P	**P**	**16 53 22.1**	**-0.1**
	comp=Z,12nm,0.5s,mb5.1,baz=23,slow=6.4,SNR=30						
FINES	**FINESS Array B**	**71.88**	**333**	P	**P**	**16 53 34.7**	**+0.2**
	comp=Z,1.6nm,0.7s,mb4.0,baz=63,slow=4.3,SNR=5.1						
AKASG	**Malin Array Be**	**76.99**	**323**	P	**P**	**16 54 05.0**	**+0.8**
	comp=Z,1.3nm,0.4s,mb4.2,baz=48,slow=6.1,SNR=6.9						
HFS	**Hagfors**	**77.25**	**336**	P	**P**	**16 54 06.1**	**+0.7**
	comp=Z,0.9nm,0.4s,mb4.0,baz=80,slow=9.0,SNR=5.7						
HFS	**Hagfors**	**77.25**	**336**	P	**P**	**16 54 06.1**	**+0.7**
NB2	**NORSAR Subarra**	**77.40**	**338**	P	**P**	**16 54 07.3**	**+1.1**
	comp=Z,1.1nm,0.7s,mb3.9,baz=40,slow=5.8						
NB2	**NORSAR Subarra**	**77.40**	**338**	P	**P**	**16 54 07.3**	**+1.1**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
NOA	**NORSAR Array B**	**77.40**	**338**	P	**P**	**16 54 06.4**	**+0.2**
	comp=Z,1.8nm,0.8s,mb4.1,baz=40,slow=5.8,SNR=6.2						
NOA				LR	LR	17 33 29.3	
	comp=Z,13nm,20.6s,MS3.2,baz=75,slow=40						
PDAR	**Pinedale Array**	**80.35**	**45**	P	**P**	**16 54 24.6**	**+1.9**
	comp=Z,0.4nm,0.6s,mb3.5,baz=90,slow=5.9,SNR=3.9						
BRTR	**Keskin Array B**	**81.06**	**312**	P	**P**	**16 54 27.9**	**+1.5**
	comp=Z,1.2nm,0.8s,mb3.9,baz=127,slow=6.2,SNR=4.7						
GERES	**GERESS Array B**	**85.63**	**328**	P	**P**	**16 54 50.4**	**+1.0**
	comp=Z,0.3nm,0.5s,mb3.8,baz=34,slow=4.8,SNR=3.6						
LPAZ	**La Paz**	**148.58**	**64**	PKPbc	PKPdf	17 02 01.7	+8.3
	comp=Z,1.6nm,0.6s,baz=292,slow=5.4,SNR=2.0						

PRE 02 17:01:03.5±2.0,26.39S×27.48E,h2km,ML3.7,South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	**Parys**	**0.54**	**192**	*e*P	Pg	17 01 15.1	+0.8
PRYS				*e*S	Sg	17 01 21.4	-0.2
PRYS				AML	AML	17 01 28.1	
	comp=Z,2μm,0.7s						
KSR	**Koster**	**0.75**	**316**	*e*P	Pg	17 01 18.3	-0.2
KSR				*e*S	Sg	17 01 28.7	+0.2
KSR				AML	AML	17 01 36.4	
	comp=Z,2μm,0.1s						
SLR	**Silverton**	**0.97**	**48**	*e*P	Pb	17 01 22.3	-0.4
SLR				*e*S	Sb	17 01 35.0	-0.8
SLR				AML	AML	17 01 42.3	
	comp=Z,382nm,0.4s						
SEK	**Senekal**	**1.93**	**176**	*e*S	Sn	17 02 02.8	0.0
SEK				AML	AML	17 02 06.5	
	comp=Z,1μm,0.2s						
SWZ	**Schweizer**	**2.08**	**247**	*e*P	Pn	17 01 41.0	+1.2
SWZ				*e*S	Sn	17 02 06.0	-0.6
SWZ				AML	AML	17 02 12.4	
	comp=Z,2μm,0.5s						
BFT	**Belfast (SA)**	**2.41**	**74**	*e*P	Pn	17 01 58.2	+14
BFT				*e*S	Sn	17 02 14.2	-0.9
NWL	**Newcastle**	**2.57**	**122**	*e*P	Pn	17 01 47.5	+0.7
NWL				AML	AML	17 02 27.4	
	comp=Z,516nm,0.5s						
POGA	**Pongola**	**3.82**	**106**	*e*P	Pn	17 02 05.5	+1.0
POGA				*e*S	Sn	17 02 34.6	-16
PKA	**Prieska**	**5.30**	**231**	*e*P	Pn	17 02 23.8	-1.8
PKA				*e*S	Sn	17 03 23.2	-4.9
PKA				AML	AML	17 03 55.7	
	comp=Z,175nm,0.5s						
CVNA	**Calvinia**	**8.45**	**231**	*e*P	P	17 03 07.3	-2.5

IDC ***02*** *17:12:10.5±4.2,2.00N×96.65E,mb3.7/4,mb1 3.9/4, mb1mx3.6/18,mbtmp3.7/4,Error ellipse: s-maj=169.0km s-min=27.6km az=57.0*
NEIC ***02*** *17:12:12.4±1.3,1.61N×96.70E,h30km,mb4.2/2,Error ellipse: s-maj=26.4km s-min=18.4km az=47.0*

ISC 02 17:12:10.7±1.6,1.7N±0.2×96.7E±0.2,h30km,n7,σ0°78/7, mb3.9/6,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.34**	**47**	*e*Pn	**Pn**	**17 13 30.5**	**-0.1**
LSA	**Lhasa**	**28.39**	**350**	P	**P**	**17 18 05.9**	**+1.1**
	2.6nm,0.4s,mb4.2						
WRA	**Warramunga Arr**	**42.69**	**122**	P	**P**	**17 20 11.3**	**+4.3**
	0.7nm,0.6s,mb3.6,baz=301,slow=9.0,SNR=8.3						
WRAB	**Tennant Creek**	**42.70**	**122**	P	**P**	**17 20 06.9**	**-0.1**
	4.3nm,1.1s,mb4.1						
MKAR	**Makanchi Array**	**46.69**	**346**	P	**P**	**17 20 38.3**	**-0.4**
	0.8nm,0.7s,mb3.8,baz=157,slow=7.6,SNR=10						
SONM	**Songino Array**	**46.76**	**9**	P	**P**	**17 20 39.6**	**+0.3**
	0.2nm,0.4s,mb3.4,baz=190,slow=8.8,SNR=2.9						
ZAL	**Zalesovo**	**53.03**	**351**	P	**P**	**17 21 26.1**	**-1.1**
	1.0nm,0.4s,mb4.1,baz=307,slow=4.6,SNR=4.9						

BJI ***02*** *17:38:07.5,8.06S×101.60E,h30km,mB4.9,mb4.7,Ms4.4, Msz4.3*
IDC ***02*** *17:38:10.8±0.5,7.10S×101.67E,mb4.3/19,mb1 4.4/19, mb1mx4.4/20,mbtmp4.3/19,MS3.8/4,Ms1 3.8/4, ms1mx3.3/25,Error ellipse: s-maj=18.5km s-min=13.6km az=58.0*
MOS ***02*** *17:38:14.1±1.3,7.17S×101.78E,h33km,mb4.7/25,Error ellipse: s-maj=16.4km s-min=8.7km az=113.9*
NEIC ***02*** *17:38:15.3±3.8,7.18S×101.72E,h30km±26km,mb4.6/14, MS4.4/1,Error ellipse: s-maj=12.2km s-min=7.4km az=57.0*

ISC 02 17:38:11.7±0.3,7.22S±0.05×101.75E±0.06,h16km, h16km±3.7km:pP-P,n110,σ1°11/109,mb4.5/49,MS4.0/13, 4C-6D,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSM	**Kuching**	**12.15**	**45**	*e*P	**P**	**17 41 06.1**	**-1.1**
KULM	**Kulim**	**12.47**	**355**	P	**P**	**17 41 09.3**	**-2.4**
FITZ	**Fitzroy Crossi**	**25.66**	**117**	*e*P	**P**	**17 43 43.6**	**+0.9**
	6.2nm,0.8s,mb4.2						
FITZ	**Fitzroy Crossi**	**25.66**	**117**	P	**P**	**17 43 43.0**	**+0.3**
	5.7nm,0.6s,mb4.3,baz=181,slow=2.0,SNR=9.1						
NWAO	**Narrogin (SRO)**	**29.34**	**153**	LR	LR	17 53 58.2	
	comp=Z,164nm,19.9s,MS3.6,baz=145,slow=32						
KMI	**Kunming**	**32.16**	**2**	P	**P**	**17 44 42.4**	**+1.3**
KMI				AP	pP	17 44 47.2	+1.4
KMI				PP	PP	17 45 51.7	+3.5
KMI				S	**S**	**17 49 56.7**	**+4.8**
KMI				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.3						
KMI				LR	LR		
	comp=N,205nm,13.7s,MS4.1						
KMI				LR	LR		
	comp=E,220nm,15.8s,MS4.1						
KMI				LR	LR		
	comp=Z,194nm,15.1s,MS3.9						
KMI	**Kunming**	**32.16**	**2**	P	**P**	**17 44 42.4**	**+1.3**
	comp=Z,6.0nm,1.1s,mb4.3						
KMI				pP	pP	17 44 47.2	+1.4
KMI				PP	PP	17 45 51.7	+3.5
KMI				S	**S**	**17 49 56.7**	**+4.8**
KMI				LR	LR		
	comp=Z,190nm,15.1s,MS3.9						
KMI	**Kunming**	**32.16**	**2**	P	**P**	**17 44 42.4**	**+1.3**
KMI						17 45 51.7	
KMI				S	**S**	**17 49 56.7**	**+4.8**
KMI				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.3						
KMI				MLR	MLR		
	comp=Z,190nm,15.1s,MS3.9						
GYA	**Guiyang**	**33.81**	**8**	P	**P**	**17 44 59.4**	**+3.9**
GYA				AP	pP	17 45 03.8	+3.6
GYA				XP	sP	17 45 06.9	+4.6
GYA				PP	PP	17 46 12.3	+3.4
GYA				S	**S**	**17 50 23.1**	**+5.5**
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
GYA				AMB	AMB		
	comp=Z,80nm,2.6s,mb5.2						
GYA				LR	LR		
	comp=N,310nm,15.4s,MS4.4						
GYA				LR	LR		
	comp=E,450nm,15.8s,MS4.4						
GYA				LR	LR		
	comp=Z,390nm,15.6s,MS4.2						
WRA	**Warramunga Arr**	**34.03**	**115**	P	**P**	**17 44 57.8**	**+0.4**
	comp=Z,1.7nm,0.7s,mb4.1,baz=293,slow=10,SNR=16						
WRA	**Warramunga Arr**	**34.03**	**115**	P	**P**	**17 44 57.8**	**+0.4**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
WRAB	**Tennant Creek**	**34.04**	**115**	*e*P	**P**	**17 44 56.3**	**-1.2**
	comp=Z,9.3nm,0.8s,mb4.8						
WRAB				*e*		17 45 06.4	
WRAB	**Tennant Creek**	**34.04**	**115**	*e*P	**P**	**17 44 56.3**	**-1.2**
WRAB				*e*		17 45 06.4	
WRAB				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
WB2	**Warramunga Arr**	**34.04**	**115**	*e*P	**P**	**17 44 57.9**	**+0.4**
JIRN	**Jiri**	**37.80**	**337**	*e*P	**P**	**17 45 30.8**	**+1.5**
	comp=Z,37nm,0.8s,mb5.2						
CD2	**Chengdu**	**37.96**	**3**	P	**P**	**17 45 31.4**	**+0.8**
PKI	**Pulchoki**	**38.03**	**336**	*e*P	**P**	**17 45 31.8**	**+0.6**
	comp=Z,23nm,1.1s,mb4.8						
LSA	**Lhasa**	**38.09**	**345**	P	**P**	**17 45 33.8**	**+2.1**
LSA	**Lhasa**	**38.09**	**345**	*e*P	**P**	**17 45 32.5**	**+0.8**
	comp=Z,12nm,1.0s,mb4.6						
LSA	**Lhasa**	**38.09**	**345**	*e*P	**P**	**17 45 32.5**	**+0.8**
LSA				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.6						
DMN	**Daman**	**38.18**	**336**	*e*P	**P**	**17 45 33.6**	**+1.1**
	comp=Z,42nm,1.3s,mb5.0						
KKN	**Kakani**	**38.27**	**336**	*e*P	**P**	**17 45 33.9**	**+0.6**
	comp=Z,25nm,0.9s,mb4.9						
GKN	**Gorkha**	**38.72**	**335**	*e*P	**P**	**17 45 38.1**	**+1.1**
	comp=Z,47nm,1.2s,mb5.1						
KOLN	**Koldanda**	**38.96**	**334**	*e*P	**P**	**17 45 40.0**	**+1.0**
	comp=Z,44nm,0.9s,mb5.2						
NJ2	**Nanjing**	**42.33**	**22**	*e*P	**P**	**17 46 06.5**	**-0.3**
NJ2				PP	PP	17 47 47.5	-0.4
NJ2				S	**S**	**17 52 28.0**	**+1.2**
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.4						
NJ2				AMB	AMB		
	comp=Z,160nm,3.7s						
NJ2				LR	LR		
	comp=N,220nm,26.7s,MS4.2						
NJ2				LR	LR		
	comp=E,330nm,28.0s,MS4.2						
NJ2				LR	LR		
	comp=Z,120nm,21.5s						
SSE	**Sheshan**	**42.40**	**25**	*e*P	**P**	**17 46 07.7**	**+0.3**
SSE				PP	PP	17 47 47.5	-1.1
SSE				PCP	PcP	17 47 59.7	-1.5
SSE				S	**S**	**17 52 31.6**	**+3.7**
SSE				SS	SS	17 55 42.9	+12
SSE				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.0						
SSE				AMB	AMB		
	comp=Z,64nm,9.1s						
SSE				LR	LR		
	comp=N,40nm,28.2s,MS3.3						
SSE				LR	LR		
	comp=E,44nm,28.2s,MS3.3						
SSE				LR	LR		
	comp=Z,42nm,14.5s						
SSE	**Sheshan**	**42.40**	**25**	*e*P	**P**	**17 46 07.7**	**+0.3**
	comp=Z,30nm,0.7s,mb5.0						
SSE				pP	pP	17 46 11.0	-1.2
SSE				sP	sP	17 46 12.3	-1.9
SSE				PP	PP	17 47 47.5	-1.1
SSE				PcP	PcP	17 47 59.7	-1.5
SSE				S	**S**	**17 52 31.6**	**+3.7**
SSE				sS		17 52 37.3	
SSE				SS	SS	17 55 42.9	+12
SSE				ScS	ScS	17 56 09.6	+3.0
SSE				LR	LR		
	comp=Z,40nm,14.5s,MS3.4						
JOW	**Kunigami**	**42.51**	**36**	P	**P**	**17 46 07.0**	**-1.4**
	baz=155,slow=19						
LZH	**Lanzhou**	**43.12**	**2**	*e*P	**P**	**17 46 14.7**	**+1.5**
LZH				AP	pP	17 46 23.4	+5.4
LZH				XP	sP	17 46 27.0	+7.0
LZH				*e*PP	PP	17 47 57.8	+2.0
LZH				AMB	AMB		
	comp=Z,22nm,1.5s,mb4.7						
LZH				AMB	AMB		
	comp=Z,81nm,6.4s						
LZH				LR	LR		
	comp=N,337nm,15.0s						
LZH				LR	LR		
	comp=Z,495nm,18.5s,MS4.4						
LZH	**Lanzhou**	**43.12**	**2**	*e*P	**P**	**17 46 14.7**	**+1.5**
	comp=Z,22nm,1.5s,mb4.7						
LZH				pP	pP	17 46 23.4	+5.4
LZH				sP	sP	17 46 27.0	+7.0
LZH				*e*PP	PP	17 47 57.8	+2.0
LZH				LR	LR		
	comp=Z,500nm,18.5s,MS4.5						
STKA	**Stephens Creek**	**44.47**	**129**	*e*P	**P**	**17 46 25.3**	**+1.1**
	comp=Z,5.7nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**44.47**	**129**	P	**P**	**17 46 24.5**	**+0.3**
	comp=Z,3.8nm,0.8s,mb4.2,baz=298,slow=8.1,SNR=7.2						
PMG	**Port Moresby**	**44.97**	**96**	P	**P**	**17 46 28.0**	**-0.4**
	comp=Z,3.2nm,0.7s,mb4.2,baz=218,slow=12,SNR=1.9						
PMG	**Port Moresby**	**44.97**	**96**	P	**P**	**17 46 28.0**	**-0.4**
PMG				pmax	pmax		
	comp=Z,3.0nm,0.7s						
GTA	**Gaotai**	**46.43**	**358**	*e*P	**P**	**17 46 40.6**	**+1.0**
GTA				AP	pP	17 46 44.6	+0.1
GTA				PCP	PcP	17 48 15.4	+0.5
GTA				PP	PP	17 48 30.6	+1.8
GTA				S	**S**	**17 53 30.2**	**+4.2**
GTA				SS	SS	17 56 49.0	+4.7
GTA				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.3						
GTA				AMB	AMB		
	comp=Z,48nm,3.8s						
GTA				LR	LR		
	comp=N,90nm,20.1s,MS4.0						
GTA				LR	LR		
	comp=E,134nm,16.7s,MS4.0						
GTA				LR	LR		
	comp=Z,60nm,17.9s,MS3.6						
HHC	**Hu-ho-hao-te**	**48.68**	**10**	*e*P	**P**	**17 46 57.0**	**-0.2**
HHC				PP	PP	17 48 51.4	+1.1
HHC				S	**S**	**17 53 56.3**	**-1.5**
HHC				SCS	ScS	17 56 46.2	-0.3
HHC				AMB	AMB		
	comp=Z,11nm,0.5s,mb5.1						
HHC				AMB	AMB		
	comp=Z,93nm,5.1s						
HHC				LR	LR		
	comp=N,152nm,19.6s						
HHC				LR	LR		
	comp=E,242nm,25.0s						
HHC				LR	LR		
	comp=Z,109nm,19.6s,MS3.9						
WMQ	**Urumqi**	**52.37**	**347**	P	**P**	**17 47 26.0**	**+0.6**
WMQ				PP	PP	17 49 26.0	+0.8
WMQ				S	**S**	**17 54 49.0**	**+0.2**
WMQ				SCS	ScS	17 57 12.0	+0.5
WMQ				SS	SS	17 58 26.0	+0.7
WMQ				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,101nm,6.0s						
WMQ				LR	LR		
	comp=N,44nm,18.0s,MS3.7						
WMQ				LR	LR		
	comp=E,39nm,18.0s,MS3.7						
WMQ				LR	LR		
	comp=Z,36nm,19.0s,MS3.4						
SONM	**Songino Array**	**54.97**	**4**	P	**P**	**17 47 44.6**	**+0.1**
	comp=Z,2.3nm,0.8s,mb4.2,baz=179,slow=6.4,SNR=13						
SONM				PcP	PcP	17 48 46.0	-0.1
	comp=Z,2.1nm,0.7s,baz=179,slow=4.7,SNR=3.7						
SONM				LR	LR	18 15 05.8	
	comp=Z,87nm,18.3s,MS3.9,baz=195,slow=40						
SONM	**Songino Array**	**54.97**	**4**	P	**P**	**17 47 44.6**	**+0.1**
SONM						17 48 46.0	
SONM				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SONM				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SONM				MLR	MLR		
	comp=Z,87nm,18.3s						
CN2	**Changchun**	**55.13**	**21**	*e*P	**P**	**17 47 45.8**	**+0.1**
CN2				*e*S	**S**	**17 55 28.2**	**+2.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
CN2				AMB	AMB		
	comp=Z,300nm,3.0s						
CN2				LR	LR		
	comp=N,200nm,15.0

comp=Z,1.7nm,0.8s,baz=146,slow=5.3,SNR=4.9
BVAR Borovoye Array 65.65 340 P P 17 48 55.7 -1.7
BVAR 17 49 28.8
BVAR pmax pmax
comp=Z,4.0nm,0.7s
BVAR pmax pmax
comp=Z,2.0nm,0.8s
MAW Mawson 65.71 195 P P 17 48 57.6 +0.1
comp=Z,2.0nm,0.5s,mb4.4,baz=25,slow=12,SNR=6.1
MAW LR LR 18 13 23.7
comp=Z,55nm,19.4s,MS3.8,baz=253,slow=32
MAW Mawson 65.71 195 P P 17 48 57.6 +0.1
MAW pmax pmax
comp=Z,2.0nm,0.5s
MAW MLR MLR
comp=Z,55nm,19.5s
BRVK Borovoye 65.72 340 *eP* **P 17 48 56.0 -1.8**
comp=Z,1.6nm,0.6s,mb4.2
BRVK Borovoye 65.72 340 *eP* **P 17 48 56.0 -1.8**
BRVK pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
MATP Matopo 71.85 251 P **P 17 49 35.6 -0.7**
comp=Z,4.8nm,0.9s,mb4.4,baz=100,slow=8.5,SNR=8.9
SVE Sverdlovsk 72.14 338 *eP* **P 17 49 38.3 +0.9**
SVE pmax pmax
comp=Z,20nm,1.3s,mb4.9
LSZ Lusaka 72.32 256 *eP* **P 17 49 37.9 -1.2**
comp=Z,4.5nm,0.9s,mb4.4
LSZ Lusaka 72.32 256 *eP* **P 17 49 37.9 -1.3**
LSZ pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
YAK Yakutsk 72.35 13 *eP* **P 17 49 36.4 -2.2**
YAK pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
ARU Arti 72.66 337⇓*iP* **P 17 49 39.8 -0.7**
ARU *e* 17 49 55.3
ARU *e* 17 52 18.8
ARU *e*SS S 17 59 04.7 +1.2
ARU *e*SS SS 18 03 42.5 -2.8
ARU pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
KIV Kislovodsk 73.62 320 *eP* **P 17 49 38.2 -8.1**
KIV pmax pmax
comp=N,4.0nm,0.9s
KIV pmax pmax
comp=E,5.0nm,0.9s
KIV pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
GOF Gofitskoye 73.91 321 *eP* **P 17 49 46.9 -1.1**
BOSA Boshof 74.74 242 P **P 17 49 52.8 -0.4**
comp=Z,1.7nm,0.8s,mb4.0,baz=96,slow=9.2,SNR=2.2
BOSA LR LR 18 19 34.7
comp=Z,104nm,18.0s,MS4.2,baz=152,slow=33
BOSA Boshof 74.74 242 P **P 17 49 52.8 -0.3**
BOSA pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
BOSA MLR MLR
comp=Z,104nm,18.0s,MS4.2
VNDA Vanda 76.74 169 P **P 17 50 04.7 +1.1**
comp=Z,3.7nm,1.0s,mb4.3,baz=297,slow=6.0,SNR=13
VNDA Vanda 76.74 169 *eP* **P 17 50 03.9 +0.3**
comp=Z,5.7nm,1.1s,mb4.4
VNDA Vanda 76.74 169 *eP* **P 17 50 03.9 +0.3**
VNDA pmax pmax
comp=Z,6.0nm,1.1s
SBA Scott Base 77.83 169 *eP* **P 17 50 08.9 -0.6**
comp=Z,3.0nm,0.8s,mb4.3
SBA Scott Base 77.83 169 *eP* **P 17 50 09.0 -0.6**
SBA pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
BRTR Keskin Array B 78.12 313 P **P 17 50 10.1 -1.8**
comp=Z,2.6nm,0.8s,mb4.2,baz=129,slow=7.9,SNR=10
BRTR Keskin Array B 78.12 313 P **P 17 50 10.1 -1.8**
BRTR pmax pmax
comp=Z,3.0nm,0.8s
OBN Obninsk 82.12 328⇓*eP* **P 17 50 33.3 +0.4**
OBN *e* 17 50 44.1
OBN SS SS 18 06 11.0 +2.4
OBN pmax pmax
comp=Z,27nm,1.4s,mb5.0
QSPA South Pole Qui 82.78 180⇓*iP* **P 17 50 37.6 +1.7**
comp=Z,8.8nm,0.9s,mb4.8
TIRR Tirgusor 83.30 316 ⇑P **P 17 50 40.1 +0.8**
TIRR Tirgusor 83.30 316 ⇑P **P 17 50 40.1 +0.8**
AKASG Malin Array Be 84.66 322 P **P 17 50 45.2 -0.8**
comp=Z,1.5nm,0.7s,mb4.2,baz=86,slow=4.7,SNR=11
AKASG Malin Array Be 84.66 322 P **P 17 50 45.2 -0.8**
AKASG Malin Array Be 84.66 322 *i* P **P 17 50 45.8 -0.2**
AKASG pmax pmax
comp=Z,2.0nm,0.7s
VRI Vrincioaia 84.84 317 ⇑P **P 17 50 48.1 +1.1**
VRI Vrincioaia 84.84 317 ⇑P **P 17 50 48.1 +1.1**
MLR Muntele Rosu 85.27 317 ⇓P **P 17 50 49.9 +0.7**
MLR Muntele Rosu 85.27 317 ⇓P **P 17 50 49.9 +0.7**
SNAA Sanae 87.74 198 *eP* **P 17 51 00.9 +0.2**
comp=Z,2.5nm,0.7s,mb4.5
SNAA Sanae 87.74 198 *eP* **P 17 51 00.9 +0.2**
SNAA pmax pmax
comp=Z,2.0nm,0.7s
KOLS Kolonicke sedl 88.53 320 *eP* **P 17 51 06.2 +1.2**
CRVS Cervenica-Dubn 89.05 319 *eP* **P 17 51 08.3 +0.9**
STHS Stebnicka Huta 89.29 320 *eP* **P 17 51 09.7 +1.1**
FINES FINESS Array B 89.51 332 P **P 17 51 08.4 -0.9**
comp=Z,1.4nm,0.7s,mb4.4,baz=108,slow=6.0,SNR=4.9
FINES FINESS Array B 89.51 332 P **P 17 51 08.4 -0.9**
FINES pmax pmax
comp=Z,1.0nm,0.7s
KECS Kecovo 89.59 319 *eP* **P 17 51 10.8 +0.8**
VYHS Vyhne 90.67 319 *eP* **P 17 51 15.4 +0.4**
ARCES ARCESS Array B 91.94 340 P **P 17 51 19.7 -0.6**
comp=Z,3.0nm,0.8s,mb4.7,baz=112,slow=6.5,SNR=5.8
ARCES ARCESS Array B 91.94 340 P **P 17 51 19.7 -0.7**
ARCES pmax pmax
comp=Z,3.0nm,0.8s
GERES GERESS Array B 94.09 319 P **P 17 51 29.3 -1.4**
comp=Z,0.4nm,0.6s,mb4.0,baz=117,slow=3.0,SNR=4.8
NOA NORSAR Array B 96.52 331 P **P 17 51 39.4 -2.2**
comp=Z,0.2nm,0.5s,mb3.8,baz=226,slow=30,SNR=2.4
MNTX Cornudas Mount 144.88 43 *e*PKP PKPdf 17 57 49.5 -3.0
BINY Binghamton 145.11 357 *e*PKP PKPdf 17 57 49.4 -3.1
LTX Lajitas 147.50 44 *e*PKPbc PKPdf 17 57 58.4 +1.4
TXAR Lajitas Array 147.50 44 PKPbc PKPdf 17 57 58.2 +1.3
comp=Z,5.1nm,0.9s,baz=270,slow=1.3,SNR=25
TXAR Lajitas Array 147.50 44 PKPbc PKPdf 17 57 58.2 +1.3
TXAR Lajitas Array 147.50 44 PKP2 PKPab 17 57 58.2 -1.8
TXAR pmax pmax
comp=Z,5.0nm,0.9s
WVT Waverly 149.92 16 *e*PKPdf PKPdf 17 57 57.9 -2.7
WVT *e*PKPbc PKPdf 17 58 02.9 +2.3
PLAL Pickwick Lake 150.93 17 *e*PKPdf PKPdf 17 57 57.9 -4.3
PLAL *e*PKPbc PKPdf 17 58 04.5 +2.4
CPCT Cooper Cave 151.32 11 *e*PKPbc PKPdf 17 58 05.1 +2.3
LPAZ La Paz 154.59 203 PKP PKPdf 17 58 07.0 -0.8
comp=Z,0.7nm,0.5s,baz=22,slow=5.4,SNR=3.6
LPAZ PKPab PKPab 17 58 31.3 +1.6
comp=Z,0.9nm,0.8s,baz=188,slow=7.1,SNR=2.7
LPAZ La Paz 154.59 203 PKIKP PKPdf 17 58 07.0 -0.8
LPAZ pmax pmax
comp=Z,1.0nm,0.5s
LPAZ pmax pmax
comp=Z,1.0nm,0.8s

NEIC ***02*** *17:54:36.9±0.8,22.01S×179.55W,h563km±10km, mb4.7/12,Error ellipse: s-maj=14.7km s-min=8.9km az=152.0*
IDC ***02*** *17:54:37.3±1.2,22.08S×179.57W,h566km±15km, mb3.8/12,mb1 4.0/15,mb1mx3.9/20,mbtmp4.8/15,Error ellipse: s-maj=17.2km s-min=11.2km az=159.0*
ISC 02 17:54:36.9±0.9,22.27S±0.07×179.57W±0.08, h579km±13km,n47,σ1$25/42,mb4.4/18,8D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**7.11**	**168**	P	**P**	**17 56 28.2**	**+0.6**
	73nm,0.3s,baz=92,slow=23,SNR=5.9						
RAO				S	**S**	**17 57 56.8**	**+1.0**
	24nm,0.3s,baz=98,slow=23,SNR=2.8						
AFI	**Afiamalu**	**11.13**	**43**	P	**P**	**17 57 04.5**	**-2.5**
	4.2nm,0.3s,baz=62,slow=22,SNR=5.5						
AFI				S	**S**	**17 59 01.2**	**-6.4**
	2.6nm,0.3s,baz=26,slow=21,SNR=3.0						
AFI	**Afiamalu**	**11.13**	**43**	*e*P	**P**	**17 57 04.2**	**-2.8**
	29nm,0.6s						
DZM	**Mont Dzumac**	**12.97**	**268**	P	**P**	**17 57 25.7**	**+0.4**
	2.6nm,0.3s,baz=81,slow=16,SNR=19						
URZ	**Urewera**	**16.19**	**189**	P	**P**	**17 57 55.6**	**-1.2**
	6.4nm,0.3s,baz=347,slow=3.4,SNR=35						
URZ				S	**S**	**18 00 35.9**	**-2.0**
	0.7nm,0.3s,baz=89,slow=20,SNR=5.7						
URZ	**Urewera**	**16.19**	**189**	*e*PN	**P**	**17 57 54.7**	**-2.0**
BKZ	**Black Stump Fm**	**17.17**	**190**	PN	**P**	**17 58 04.6**	**-1.5**
VRZ	**Vera Road**	**17.49**	**195**	*e*PN	**P**	**17 58 11.5**	**+2.4**
TSZ	**Takapari Road**	**18.14**	**191**	*e*PN	**P**	**17 58 14.5**	**-0.8**
THZ	**Tophouse**	**20.44**	**196**	*e*PN	**P**	**17 58 36.3**	**-0.4**
KHZ	**Kahutara**	**20.90**	**194**	*e*PN	**P**	**17 58 39.7**	**-1.2**
LTZ	**Lake Taylor**	**21.56**	**197**	*e*PN	**P**	**17 58 45.5**	**-1.4**
RPZ	**Rata Peaks**	**22.75**	**198**	P	**P**	**17 58 59.0**	**+1.3**
	6.7nm,0.6s,mb4.5,baz=38,slow=17,SNR=5.1						
ARMA	**Armidale**	**27.00**	**246**⇓*iP*		**P**	**17 59 27.9**	**-7.5**
CNB	**Canberra Magne**	**30.04**	**237**⇓*iP*		**P**	**18 00 03.2**	**+1.8**
	33nm,0.6s,mb5.1						
CTA	**Charters Tower**	**31.91**	**267**⇓*iP*		**P**	**18 00 18.2**	**+0.8**
	18nm,0.4s,mb5.1						
CTA	**Charters Tower**	**31.91**	**267**	P	**P**	**18 00 18.0**	**+0.6**
	25nm,0.4s,mb5.2,baz=94,slow=10,SNR=80						
CTAO	**Charters Tower**	**31.91**	**267**⇓*eP*		**P**	**18 00 18.2**	**+0.9**
	24nm,0.5s,mb5.1						
TOO	**Toolangi**	**33.68**	**235**⇓*iP*		**P**	**18 00 33.6**	**+1.5**
	13nm,0.6s,mb4.7						
PMG	**Port Moresby**	**34.38**	**287**	P	**P**	**18 00 38.1**	**0.0**
	33nm,0.8s,mb5.0,baz=99,slow=5.4,SNR=15						
STKA	**Stephens Creek**	**35.72**	**246**⇓*iP*		**P**	**18 00 50.5**	**+1.4**
	14nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**35.72**	**246**	P	**P**	**18 00 50.5**	**+1.4**
	16nm,0.5s,mb4.8,baz=94,slow=9.7,SNR=97						
WB2	**Warramunga Arr**	**42.93**	**264**⇓*iP*		**P**	**18 01 46.8**	**-0.5**
WRAB	**Tennant Creek**	**42.93**	**264**	*e*P	**P**	**18 01 46.4**	**-0.9**
	17nm,0.6s,mb4.7						
WRA	**Warramunga Arr**	**42.94**	**264**	P	**P**	**18 01 46.9**	**-0.5**
	9.5nm,0.3s,mb4.8,baz=95,slow=7.8,SNR=651						
WRA				ScP		18 06 22.7	
	2.6nm,1.0s,baz=96,slow=4.3,SNR=7.1						
WRA				S	**S**	**18 07 29.7**	**-2.1**
	0.6nm,0.9s,baz=98,slow=14,SNR=3.1						
KAKA	**Kakadu**	**46.59**	**273**	*e*P	**P**	**18 02 20.0**	**+4.5**
	13nm,0.3s,mb4.9						
FITZ	**Fitzroy Crossi**	**51.37**	**264**⇓*iP*		**P**	**18 02 50.8**	**-0.2**
	13nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**51.37**	**264**	P	**P**	**18 02 50.6**	**-0.4**
	14nm,0.3s,mb4.8,baz=73,slow=3.0,SNR=90						
VNDA	**Vanda**	**56.03**	**185**	P	**P**	**18 03 24.9**	**+1.9**
	0.4nm,0.7s,baz=17,slow=19,SNR=3.0						
NWAO	**Narrogin (SRO)**	**56.28**	**244**	P	**P**	**18 03 24.9**	**-0.4**
	8.9nm,0.8s,mb4.1,baz=41,slow=8.8,SNR=6.0						
MJAR	**Matsushiro Arr**	**70.79**	**325**	P	**P**	**18 04 57.0**	**-0.2**
	1.0nm,0.6s,mb3.5,baz=152,slow=5.9,SNR=3.8						
YBH	**Yreka Blue Hor**	**82.58**	**39**	P	**P**	**18 06 02.1**	**+1.2**
	4.4nm,0.8s,mb4.0,baz=0.4,slow=0.3,SNR=6.8						
YBH	**Yreka Blue Hor**	**82.58**	**39**	*e*P	**P**	**18 06 01.7**	**+0.8**
	4.3nm,0.8s,mb4.0						
HLID	**Hailey**	**88.61**	**41**	*e*P	**P**	**18 06 31.2**	**+1.2**
	2.2nm,0.7s,mb4.1						
TXAR	**Lajitas Array**	**89.23**	**58**	P	**P**	**18 06 34.2**	**+1.0**
	2.6nm,0.9s,mb4.0,baz=225,slow=5.3,SNR=11						
ILAR	**Eielson Array**	**90.36**	**13**	P	**P**	**18 06 35.5**	**-2.0**
	0.7nm,0.5s,mb3.8,baz=214,slow=4.8,SNR=6.6						
PDAR	**Pinedale Array**	**91.25**	**44**	P	**P**	**18 06 41.9**	**-0.3**
	1.1nm,0.8s,mb3.8,baz=242,slow=2.5,SNR=10						
BOZ	**Bozeman (W)**	**91.40**	**41**	*e*P	**P**	**18 06 43.4**	**+0.6**
	1.5nm,0.8s,mb4.0						
BVAR	**Borovoye Array**	**119.48**	**319**	PKP	PKPdf	18 12 21.0	0.0
	0.6nm,0.3s,baz=130,slow=2.8,SNR=6.8						
ARCES	**ARCESS Array B**	**130.38**	**349**	PKP	PKPdf	18 12 40.3	-1.2
	4.8nm,0.9s,baz=346,slow=5.0,SNR=6.4						
FINES	**FINESS Array B**	**137.03**	**342**	SKPbc		18 15 34.2	
	0.4nm,0.5s,baz=270,slow=1.9,SNR=4.1						
HFS	**Hagfors**	**141.03**	**349**	PKhKP		18 12 56.6	
	1.2nm,0.4s,baz=78,slow=3.2,SNR=18						
AKASG	**Malin Array Be**	**143.81**	**329**	PKP	PKPdf	18 13 06.2	0.0
	1.4nm,0.4s,baz=38,slow=4.2,SNR=4.2						
EKA	**Eskdalemuir Ar**	**146.88**	**4**	PKPbc	PKPbc	18 13 15.7	+2.2
	1.8nm,0.7s,baz=5.3,slow=3.6,SNR=7.5						
BRG	**Berggiesshubel**	**149.56**	**343**	*i* P	PKPdf	18 13 23.3	+7.7
KHC	**Kasperske Hory**	**151.24**	**342**	*e*PKPbc	PKPdf	18 13 27.0	+8.8
KHC				*e*PKPab	PKPab	18 13 38.0	0.0
GERES	**GERESS Array B**	**151.46**	**342**	PKPbc	PKPdf	18 13 26.3	+7.8
	0.5nm,0.4s,baz=27,slow=3.0,SNR=5.8						
GERES				PKPab	PKPab	18 13 36.9	-2.1
	0.3nm,0.6s,baz=281,slow=6.8,SNR=3.8						

ISK ***02*** *18:10:38.6,35.68N×26.64E,h55km, MD3.7,ML3.8*
ATH ***02*** *18:11:40.7,35.98N×26.86E,h18km±3km, MD3.7/10*
NEIC ***02*** *18:11:40.7,35.98N×26.86E,h18km, MD3.7(ATH), MD3.6(ISK),After ATH.*
CSEM ***02*** *18:11:42.1±0.1,35.80N×27.01E,h52km±1km, MD3.7, Error ellipse: s-maj=2.5km s-min=1.1km az=36.0*
HLW ***02*** *18:11:45.9,35.81N×27.01E,h33km, Mb3.5*
IDC ***02*** *18:11:45.3±2.7,36.06N×26.71E,h41km±36km,mb3.3/4, mb1 3.2/5,mb1mx3.1/21,mbtmp3.4/5,ML2.8/1,Error ellipse: s-maj=38.8km s-min=16.3km az=152.0*
ISC 02 18:11:42.4±0.2,35.77N±0.02×26.93E±0.03,h51km±5km, n68,σ1$23/73,mb3.4/4,1C,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.29**	**140**	*e*PB	**P**	**18 11 50.4**	**-1.2**
KARP				*e*SB	**S**	**18 11 58.0**	**-0.2**
ARG	**Arkhangelos**	**1.06**	**65**⇑*i*PN		**P**	**18 12 01.2**	**-0.1**
ARG				*e*SN	**S**	**18 12 15.2**	**0.0**
NPS	**Neapolis**	**1.19**	**245**	*e*PN	**P**	**18 12 04.2**	**+1.3**
NPS				*e*SN	**S**	**18 12 20.2**	**+1.9**
BODT	**Bodrum**	**1.32**	**13**	PN	Px	18 11 04.2	
BODT				SN	Sx	18 11 22.5	
THR1	**Thera Island**	**1.33**	**297**	*e*P	**P**	**18 12 05.8**	**+0.6**
SANT	**Santorini**	**1.33**	**297**	*e*Pn	**P**	**18 12 03.7**	**-1.4**
SANT				*e*Sg	**S**	**18 12 22.8**	**+0.8**
SANT	**Santorini**	**1.33**	**297**	*e*Pn	**P**	**18 12 03.7**	**-1.4**
SANT				*e*Sg	**S**	**18 12 22.8**	**+0.8**
XRY	**Khrisi**	**1.35**	**229**	*e*PN	**P**	**18 12 08.5**	**+3.1**
BDRM	**Kayabasi**	**1.35**	**18**	*i* P	**P**	**18 12 05.3**	**-0.1**
BDRM				*i* S	**S**	**18 12 21.6**	**-0.9**
THR3	**Thira Island,**	**1.39**	**298**	*e*P	**P**	**18 12 05.2**	**-0.8**
THR4	**Thira Island,**	**1.42**	**299**	*e*P	**P**	**18 12 08.3**	**+2.0**
THR5	**Thira Island,**	**1.43**	**297**	*e*P	**P**	**18 12 08.0**	**+1.5**
MLSB	**Milas**	**1.66**	**24**	PN	Px	18 11 09.1	
DALT	**Dalyan (Mudla)**	**1.70**	**54**	PN	Px	18 11 10.5	
DALT				SN	Sx	18 11 33.7	
APE	**Apeiranthos**	**1.72**	**319**	*e*PN	**P**	**18 12 08.7**	**-1.7**
IDI	**Anoyia**	**1.73**	**254**	P	**P**	**18 12 11.3**	**+0.7**
	43nm,0.3s,baz=59,slow=14,SNR=233						
IDI				S	**S**	**18 12 32.4**	**+0.7**
	57nm,0.3s,baz=97,slow=18,SNR=12						
YER	**Yerkesik**	**1.74**	**38**	PN	Px	18 11 10.7	
KSL	**Kastellorizon**	**2.19**	**79**	*e*PN	**P**	**18 12 19.0**	**+1.9**
AKAS	**Kas**	**2.22**	**77**	*i* P	**P**	**18 12 19.2**	**+1.7**
AKAS				*i* S	**S**	**18 12 47.9**	**+4.1**
VAM	**Vamos**	**2.26**	**261**	*e*PB	**P**	**18 12 18.6**	**+0.5**
GVD	**Gavdhos**	**2.50**	**249**	Pn	**P**	**18 12 19.5**	**-2.1**
GVD	**Gavdhos**	**2.50**	**249**	Pn	**P**	**18 12 19.4**	**-2.2**
DNZL	**Cakiroluk**	**2.56**	**41**	*i* P	**P**	**18 12 23.5**	**+1.1**
GOLH	**Golhisar**	**2.57**	**55**	*i* P	**P**	**18 12 24.2**	**+1.6**
GOLH				*i* S	**S**	**18 12 54.8**	**+2.0**
ELL	**Elmali**	**2.60**	**67**	*e*PN	Px	18 11 23.1	
DENT	**Denizli**	**2.60**	**40**	PN	Px	18 11 23.1	
IZM	**Izmir**	**2.63**	**6**	PN	Px	18 11 21.9	
KDAG	**Bornova**	**2.64**	**6**	*i* P	**P**	**18 12 28.5**	**+5.0**
KDAG				*i* S	**S**	**18 13 07.8**	**+13**
KYTH	**Kithira**	**3.20**	**280**	*e*PN	**P**	**18 12 31.0**	**-0.4**
VLI	**Veliai**	**3.36**	**287**	*e*PN	**P**	**18 12 33.3**	**-0.5**
MPAR	**Parnis Oros**	**3.49**	**314**	*e*PN	**P**	**18 12 35.0**	**-0.6**
AOS	**Alonnisos**	**4.17**	**325**	*e*P	**P**	**18 12 43.5**	**-1.6**
LKR	**Lokris**	**4.25**	**314**	*e*PN	**P**	**18 12 45.5**	**-0.8**
LOS	**Limnos**	**4.40**	**341**	*e*P	**P**	**18 12 46.2**	**-2.2**
SLUM		**4.50**	**199**	P	**P**	**18 12 51.9**	**+2.0**
SLUM				S	**S**	**18 13 40.7**	**-0.8**
HDMB	**Hadim**	**4.64**	**74**	*e*PN	Px	18 11 52.7	
XOR	**Xorichti**	**4.66**	**321**	*e*P	**P**	**18 12 50.6**	**-1.4**
HMAT	**Matruh**	**4.67**	**178**	P	**P**	**18 12 54.0**	**+1.8**
HMAT				S	**S**	**18 13 44.2**	**-1.5**
AGG	**Agios Georgios**	**4.89**	**313**	*e*P	**P**	**18 12 55.5**	**+0.2**
KIZT	**Kizilcal**	**5.02**	**50**	*e*PN	Px	18 11 57.3	
ALN	**Alexandroupoli**	**5.16**	**353**	*e*P	**P**	**18 12 55.8**	**-3.3**
SWA1		**6.57**	**189**	P	**P**	**18 13 19.9**	**+1.1**
SWA1				S	**S**	**18 14 29.6**	**-3.6**
BRTR	**Keskin Array B**	**6.62**	**51**	P	**P**	**18 13 20.1**	**+0.7**
	0.2nm,0.3s,baz=234,slow=17,SNR=3.6						
BRTR	**Keskin Array B**	**6.62**	**51**	P	**P**	**18 13 20.1**	**+0.7**
SWA2		**6.63**	**191**	P	**P**	**18 13 20.8**	**+1.2**
HSAF	**As Saff**	**7.27**	**146**	P	**P**	**18 13 28.0**	**-0.5**
GLL	**Jalalah**	**7.37**	**146**	P	**P**	**18 13 30.2**	**+0.2**
HRSH	**Kfar Ka'horesh**	**7.44**	**128**	P	**P**	**18 13 29.9**	**-0.9**
RSH		**7.44**	**128**	P	**P**	**18 13 29.9**	**-0.9**
KSHT	**Keshet**	**7.85**	**108**	Pn	**P**	**18 13 35.7**	**-0.8**
KZIT	**Kziot**	**7.91**	**126**	Pn	**P**	**18 13 36.5**	**-0.8**
HNKL	**Nakhl**	**8.31**	**133**	P	**P**	**18 13 43.3**	**+0.4**
HNKL				S	**S**	**18 15 09.7**	**-6.7**
MZDA	**Masada**	**8.33**	**120**	Pn	**P**	**18 13 42.3**	**-0.8**
MKRJ	**Makawir**	**8.39**	**118**	Pn	**P**	**18 13 44.1**	**+0.1**
KMTI	**Karmit**	**8.65**	**129**	Pn	**P**	**18 13 46.1**	**-1.5**
PRNI	**Paran**	**8.67**	**126**	Pn	**P**	**18 13 46.6**	**-1.2**
HFRF	**Wahat Farafira**	**8.68**	**172**	P	**P**	**18 13 48.3**	**+0.4**
TIP	**Timpagrande**	**8.77**	**296**	*e*P	**P**	**18 13 46.4**	**-2.8**
NUB		**9.37**	**134**	P	**P**	**18 13 56.2**	**-1.2**
HKAT	**Jabal Katrina**	**9.38**	**138**	P	**P**	**18 13 56.8**	**-0.8**
HHRG	**Al Ghardaqah**	**10.23**	**145**	P	**P**	**18 14 09.0**	**-0.4**
HDK1	**Dakhla**	**10.42**	**168**	P	**P**	**18 14 13.1**	**+1.3**
GTR	**Jabal at Tayr**	**10.70**	**162**	P	**P**	**18 14 15.3**	**-0.3**
GERES	**GERESS Array B**	**16.29**	**327**	P	**P**	**18 15 29.7**	**+0.7**
	0.2nm,0.3s,baz=144,slow=12,SNR=6.7						
FINES	**FINESS Array B**	**25.70**	**359**	P	**P**	**18 17 09.2**	**+0.1**
	0.3nm,0.4s,mb3.2,baz=166,slow=7.9,SNR=4.3						
HFS	**Hagfors**	**25.84**	**345**	P	**P**	**18 17 09.2**	**-1.2**
	0.5nm,0.5s,mb3.4,baz=153,slow=9.9,SNR=4.9						
MKAR	**Makanchi Array**	**42.23**	**57**	P	**P**	**18 19 33.5**	**+1.7**
	0.4nm,0.6s,mb3.2,baz=280,slow=6.7,SNR=5.0						
SONM	**Songino Array**	**57.98**	**51**	P	**P**	**18 21 33.7**	**+1.8**
	0.5nm,0.5s,mb3.8,baz=289,slow=9.1,SNR=3.5						

NIED ***02*** *18:16:00,33.20N×142.50E,h8km,Mw4.3 Best double couple: M0=3.75×10^15 NP1:φs174°,δ71°,λ-109°. NP2: φs40°,δ26°,λ-47°.*
IDC ***02*** *18:16:39.5±0.5,33.18N×142.62E,mb4.3/20,mb1 4.5/24, mb1mx4.4/30,mbtmp4.3/24,ML4.1/4,MS3.6/7,Ms1 3.6/7, ms1mx3.3/27,Error ellipse: s-maj=16.3km s-min=12.7km az=69.0*
BJI ***02*** *18:16:42.9,33.57N×142.67E,h28km,mB4.3,mb4.4, Ms3.8,Msz3.7*
JMA ***02*** *18:16:42.3±0.3,33.24N×142.50E,h77km,M4.1*
MOS ***02*** *18:16:44.1±1.6,33.15N×142.44E,h35km,mb4.8/11,Error ellipse: s-maj=21.6km s-min=7.8km az=121.7*
NEIC ***02*** *18:16:45.2±0.3,33.19N×142.51E,mb4.7/12, MW4.3(NIED),Error ellipse: s-maj=10.5km s-min=7.6km az=47.0*
ISC 02 18:16:43.6±0.3,33.24N±0.04×142.39E±0.04,h32km, h32km±1.9km:pP-P,n100,σ1$28/109,mb4.4/38,MS3.7/6, 3C-2D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.83**	**321**	P	**Pn**	**18 17 13.0**	**-0.4**
BSO1				*e*S	**Sn**	**18 17 36.8**	**+1.1**
BSO2	**Boso 2**	**2.03**	**319**	*e*S	**Sn**	**18 17 42.4**	**+1.7**
JHJ2	**Mitsune**	**2.16**	**267**	P	**Pn**	**18 17 18.4**	**+0.3**
JHJ2				*e*S	**Sn**	**18 17 45.5**	**+1.5**
JHJ	**Hachijo jima 2**	**2.19**	**268**	Pn	**Pn**	**18 17 18.4**	**-0.1**
	343nm,0.3s,baz=96,slow=7.4,SNR=218						
JHJ				Sn	**Sn**	**18 17 45.1**	**+0.4**
	223nm,0.3s,baz=93,slow=23,SNR=6.6						
BSO3	**Boso 3**	**2.20**	**316**	P	**Pn**	**18 17 18.7**	**-0.1**
BSO3				*e*S	**Sn**	**18 17 47.2**	**+2.0**
BSO4	**Boso 4**	**2.44**	**316**	P	**Pn**	**18 17 22.6**	**+0.5**
JMY	**Miyakejima3**	**2.54**	**290**	P	**Pn**	**18 17 23.3**	**-0.2**
KTR	**Katsuura**	**2.56**	**319**	P	**Pn**	**18 17 24.1**	**+0.2**
KTR				*e*S	**Sn**	**18 17 56.6**	**+2.3**
JIM2	**Oshima 3**	**2.86**	**302**	P	**Pn**	**18 17 27.1**	**-1.1**
JIM2				*e*S	**Sn**	**18 18 00.8**	**-1.1**
JOD2	**Odawara 2**	**3.40**	**307**	P	**Pn**	**18 17 34.6**	**-1.1**
JOD2				*e*S	**Sn**	**18 18 15.2**	**-0.2**
JYN	**Shimob**	**3.90**	**306**	P	**Pn**	**18 17 42.1**	**-0.7**
JAG	**Ashikaga**	**3.99**	**324**	P	**Pn**	**18 17 43.0**	**-1.1**
JRY	**Ryogami san**	**3.99**	**315**	P	**Pn**	**18 17 43.5**	**-0.7**
JRY				*e*S	**Sn**	**18 18 29.4**	**-1.0**
MJAR	**Matsushiro Arr**	**4.76**	**315**	Pn	**Pn**	**18 17 54.3**	**-0.7**
	12nm,0.3s,baz=55,slow=26,SNR=105						
MJAR				Sn	**Sn**	**18 18 48.3**	**-1.5**
	6.0nm,0.3s,baz=120,slow=30,SNR=5.2						
MAJO	**Matsushiro**	**4.76**	**315**	*e*Pn	**Pn**	**18 17 54.5**	**-0.6**
MAJO				S	**Sn**	**18 18 47.8**	**-2.1**
MAT	**Matsushiro**	**4.76**	**315**	P	**Pn**	**18 17 54.5**	**-0.6**
MAT				S	**Sn**	**18 18 45.3**	**-4.6**
MAT	**Matsushiro**	**4.76**	**315**	P	**Pn**	**18 17 54.1**	**-1.0**
MAT				*e*S	**Sn**	**18 18 50.4**	**+0.5**
MAT	**Matsushiro**	**4.76**	**315**	*e*P	**Pn**	**18 17 55.0**	**-0.1**
MAT				*e*S	**Sn**	**18 18 45.0**	**-4.9**
JMM	**Marumori**	**4.80**	**345**	P	**Pn**	**18 17 52.2**	**-3.4**
JMM				*e*S	**Sn**	**18 18 42.9**	**-7.9**
JIE	**Ise**	**4.87**	**285**	P	**Pn**	**18 17 55.7**	**-0.9**
JNS	**Sasagawa**	**5.21**	**332**	P	**Pn**

GTA AMB AMB
comp=Z,2.0nm,0.9s,mb4.0
WMQ Urumqi 43.36 301 *e*P **P 18 24 47.5 +3.1**
WMQ AP pP 18 24 57.5 +3.4
WMQ AMB AMB
comp=Z,11nm,0.6s,mb4.8
ZAL Zalesovo 45.12 315 P **P 18 24 59.0 +0.5**
comp=Z,0.7nm,0.5s,mb3.8,baz=16,slow=9.1,SNR=4.4
ZAL PcP PcP 18 26 38.1 -1.0
comp=Z,0.9nm,0.6s,baz=300,slow=4.2,SNR=3.4
ZAL LR LR 18 47 06.6
comp=Z,54nm,19.1s,MS3.5,baz=163,slow=40
NVS Novosibirsk 46.08 316 *e*P **P 18 25 07.6 +1.5**
NVS pmax pmax
comp=N,4.0nm,1.4s
NVS pmax pmax
comp=E,14nm,1.4s
NVS pmax pmax
comp=Z,15nm,1.4s,mb4.7
KAKA Kakadu 46.67 193 *e*P **P 18 25 14.9 +3.7**
comp=Z,8.6nm,0.8s,mb4.7
MKAR Makanchi Array 46.88 305 P **P 18 25 13.0 +0.5**
comp=Z,4.3nm,0.8s,mb4.4,baz=90,slow=9.3,SNR=17
MKAR LR LR 18 44 46.9
comp=Z,67nm,20.6s,MS3.6,baz=194,slow=36
MKAR Makanchi Array 46.88 305 P **P 18 25 13.0 +0.5**
MKAR LR LR 18 44 46.9
KURK Kurchatov 48.96 311 *e*P **P 18 25 30.2 +1.6**
comp=Z,21nm,0.8s,mb5.2
KURK *e* 18 25 36.6
KURK Kurchatov 48.96 311 *e*P **P 18 25 30.2 +1.6**
KURK *e* 18 25 36.6
KURK pmax pmax
comp=Z,21nm,0.8s,mb5.2
ILAR Eielson Array 52.30 31 P **P 18 25 52.5 -1.4**
comp=Z,2.6nm,0.9s,mb4.1,baz=268,slow=6.3,SNR=17
CTA Charters Tower 53.16 175 P **P 18 25 59.4 -1.5**
comp=Z,8.4nm,1.0s,mb4.6,baz=36,slow=16,SNR=2.9
WB2 Warramunga Arr 53.44 189 *e*P **P 18 26 00.2 -2.7**
WRA Warramunga Arr 53.44 189 P **P 18 26 00.7 -2.2**
comp=Z,3.6nm,0.6s,mb4.5,baz=7.9,slow=7.7,SNR=39
WRA PcP PcP 18 27 09.4 -0.3
comp=Z,0.6nm,0.5s,baz=0.2,slow=3.9,SNR=5.6
FITZ Fitzroy Crossi 53.50 200 *e*P **P 18 26 02.3 -1.1**
comp=Z,8.4nm,0.9s,mb4.7
FITZ Fitzroy Crossi 53.50 200 P **P 18 26 01.6 -1.8**
comp=Z,9.2nm,0.8s,mb4.8,baz=35,slow=2.8,SNR=7.7
BVAR Borovoye Array 53.76 315 P **P 18 26 06.4 +1.6**
comp=Z,1.5nm,0.7s,mb4.0,baz=90,slow=7.2,SNR=6.2
DAWY Dawson 55.58 31 *e*P **P 18 26 19.6 +1.5**
SVE Sverdlovsk 58.55 320 *e*P **P 18 26 43.0 +3.9**
ARU Arti 59.75 320 *e*P **P 18 26 45.9 -1.6**
comp=Z,7.5nm,1.1s,mb4.6
ARU Arti 59.75 320 ⇓*i*P **P 18 26 48.9 +1.4**
ARU *e* 18 27 34.3
ARU *e* 18 29 01.5
ARU *e*PPP PPP 18 30 25.2 -1.6
ARU *e*S **S 18 34 59.0 +4.4**
ARU *e*SS SS 18 38 56.8 +5.0
ARU pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
STKA Stephens Creek 64.77 181 *e*P **P 18 27 20.2 -1.1**
comp=Z,4.7nm,0.8s,mb4.6
STKA Stephens Creek 64.77 181 P **P 18 27 19.5 -1.8**
comp=Z,5.9nm,0.8s,mb4.7,baz=353,slow=5.6,SNR=8.1
ARCES ARCESS Array B 67.83 340 LR LR 19 04 30.8
comp=Z,59nm,18.1s,MS3.9,baz=64,slow=42
NWAO Narrogin (SRO) 69.95 202 P **P 18 27 52.6 -1.2**
comp=Z,16nm,0.7s,mb5.0,baz=352,slow=7.8,SNR=6.3
OBN Obninsk 71.62 324 *d i*P **P 18 28 05.4 +1.8**
OBN *e* pP 18 28 15.8 +2.2
OBN *e* 18 28 25.7
OBN pmax pmax
comp=Z,16nm,1.7s,mb4.7
FINES FINESS Array B 72.55 333 P **P 18 28 08.7 -0.1**
comp=Z,3.3nm,0.9s,mb4.2,baz=127,slow=9.5,SNR=5.8
KIV Kislovodsk 74.02 312 *e*P **P 18 28 21.0 +3.2**
KIV pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
GNI Garni 74.64 308 LR LR 19 04 56.3
comp=Z,36nm,18.8s,MS3.7,baz=348,slow=39
NVAR Mina Array Bea 76.63 53 P **P 18 28 32.6 -0.3**
comp=Z,1.3nm,0.7s,mb4.0,baz=286,slow=6.6,SNR=11
BOZ Bozeman (W) 76.89 44 *e*P **P 18 28 34.2 +0.1**
comp=Z,2.6nm,1.1s,mb4.1
BOZ Bozeman (W) 76.89 44 *e*P **P 18 28 34.2 +0.1**
BOZ pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
AKASG Malin Array Be 77.80 323 P **P 18 28 38.6 -0.4**
comp=Z,0.7nm,0.6s,mb3.8,baz=44,slow=6.2,SNR=8.2
HFS Hagfors 77.87 336 P **P 18 28 39.1 -0.1**
comp=Z,2.4nm,0.7s,mb4.2,baz=252,slow=4.7,SNR=5.2
NB2 NORSAR Subarra 77.99 338 P **P 18 28 39.6 -0.2**
comp=Z,4.3nm,0.7s,mb4.5,baz=39,slow=5.6
NB2 NORSAR Subarra 77.99 338 P **P 18 28 39.6 -0.2**
NB2 pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
NOA NORSAR Array B 77.99 338 P **P 18 28 39.0 -0.8**
comp=Z,2.1nm,0.8s,mb4.2,baz=39,slow=5.7,SNR=7.8
PDAR Pinedale Array 79.76 45 P **P 18 28 47.8 -2.1**
comp=Z,0.6nm,0.7s,mb3.6,baz=304,slow=5.3,SNR=5.4
BRTR Keskin Array B 81.98 312 P **P 18 29 02.2 +0.6**
comp=Z,0.9nm,0.4s,mb4.0,baz=117,slow=5.5,SNR=4.7
PPT Papeete 82.22 117 LR LR 18 57 34.7
comp=Z,54nm,20.7s,MS3.9,baz=360,slow=30
MLR Muntele Rosu 82.80 321 P **P 18 29 07.5 +1.7**
comp=Z,1.2nm,0.6s,mb4.1,baz=106,slow=5.9,SNR=3.1
PV01 Paradox Valley 83.12 49 *e*P **P 18 29 08.3 +0.7**
ISCO Idaho Springs 83.92 46 *e*P **P 18 29 12.5 +0.9**
comp=Z,11nm,1.4s,mb4.8
ISCO *e*pP pP 18 29 22.6 +0.8
ISCO Idaho Springs 83.92 46 *e*P **P 18 29 12.5 +0.9**
ISCO *e**PP pP 18 29 22.6 +0.7
ISCO pmax pmax
comp=Z,11nm,1.4s,mb4.8
ASF Jabal al Asfar 84.30 305 P **P 18 29 14.9 +1.2**
comp=Z,2.7nm,0.4s,mb4.7,baz=341,slow=1.3,SNR=5.6
BRG Berggiesshubel 84.73 330 *e*P **P 18 29 18.4 +3.0**
comp=Z,4.5nm,1.0s,mb4.5
BRG *e* pP 18 29 28.1 +2.4
BRG Berggiesshubel 84.73 330 *e*P **P 18 29 18.4 +3.1**
BRG *e* pP 18 29 28.1 +2.4
BRG pmax pmax
comp=Z,5.0nm,1.0s,mb4.6
BRG pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
CLL Collm 84.78 331 ⇑P **P 18 29 16.2 +0.6**
comp=Z,logA/T=0.9,mb4.8
CLL *i **PP pP 18 29 27.6 +1.7
CLL *e* 18 29 38.0
CLL Collm 84.78 331 ⇑*i*P **P 18 29 16.2 +0.6**
comp=Z,7.0nm,0.9s,mb4.8
CLL *i* pP pP 18 29 27.6 +1.7
CLL Collm 84.78 331 ⇑*i*P **P 18 29 16.2 +0.6**
CLL *i **PP pP 18 29 27.6 +1.7
CLL pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
SDCO Great Sand Dun 85.27 47 *e*P **P 18 29 19.4 +1.0**
comp=Z,3.7nm,0.9s,mb4.5
SDCO *e*pP pP 18 29 31.0 +2.3
MOX Moxa 85.86 331 *e*P **P 18 29 24.0 +3.0**
TXAR Lajitas Array 91.78 53 P **P 18 29 49.1 -0.5**
comp=Z,1.4nm,0.8s,mb4.3,baz=315,slow=3.5,SNR=7.1
SAML Samuel 146.22 50 *e*PKPdf PKPdf 18 36 21.7 -3.9
SAML *e*pPKPdf 18 36 33.6
LPAZ La Paz 147.72 66 PKPbc PKPdf 18 36 24.8 -3.1
comp=Z,0.7nm,0.5s,baz=344,slow=7.4,SNR=4.3
LVC Limon Verde 150.49 77 PKPbc PKPdf 18 36 33.2 +1.0
comp=Z,2.8nm,0.8s,baz=192,slow=1.3,SNR=3.8
PLCA Paso Flores 152.76 115 PKPbc PKPdf 18 36 37.9 +2.9
comp=Z,4.0nm,1.1s,baz=27,slow=2.3,SNR=2.8
PLCA PKPab PKPab 18 36 49.6 -0.5
comp=Z,1.4nm,0.6s,baz=243,slow=4.5,SNR=3.0
CFAA Coronel Fontan 154.14 95 PKPbc PKPdf 18 36 41.2 +4.0
comp=Z,0.1nm,0.3s,baz=270,slow=4.0,SNR=2.9
CFAA PKPab PKPab 18 36 54.5 -1.7
comp=Z,0.3nm,0.4s,baz=249,slow=4.5,SNR=7.5
CFAA Coronel Fontan 154.14 95 PKPbc PKPdf 18 36 41.2 +4.0
CFAA PKPab PKPab 18 36 54.5 -1.7

NIED ***02*** *18:53:00,46.50N×152.90E,h8km,Mw4.3 Best double couple: M0 3.11×10¹⁵ NP1:φs326°,δ80°,λ74°. NP2:φs204°, δ18°,λ146°.*
IDC ***02*** *18:53:52.3±0.8,46.45N×152.43E,mb3.8/12,mb1 4.0/14, mb1mx4.0/23,mbtmp3.9/14,ML4.4/3,MS3.3/6,Ms1 3.3/6, ms1mx3.0/27,Error ellipse: s-maj=23.8km s-min=15.5km az=149.0*
SKHL ***02*** *18:53:54.7,46.20N×153.15E,h67km±31km,mb5.1/5, Ms3.8/1*
MOS ***02*** *18:53:55.4±1.4,46.36N×152.72E,h37km,mb4.6/7,Error ellipse: s-maj=16.0km s-min=9.3km az=58.9*
BJI ***02*** *18:53:56.6,46.01N×152.79E,h65km,mB4.3,mb4.1*
NEIC ***02*** *18:53:58.8±0.6,46.29N×152.69E,mb4.4/7,Error ellipse: s-maj=18.1km s-min=8.6km az=143.0*
ISC 02 18:53:57.7±0.4,46.47N±0.05×152.64E±0.06,h53km, h53km±3.0km;pP-P,n65,σ1º24/71,mb4.4/24,MS3.3/6,2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.56**	**251**	*i* P	**P**	**18 54 51.5**	**-0.4**
KUR				AMB	AMB	18 54 52.1	
	110nm,0.5s						
KUR				AMB	AMB	18 54 52.1	
	280nm,0.5s						
KUR				AMB	AMB	18 54 52.1	
	380nm,0.5s						
KUR				*e*S	**S**	**18 55 33.4**	**+0.3**
KUR				A		18 55 40.2	
	3μm,1.0s						
KUR				A		18 55 40.2	
	2μm,1.0s						
KUR				A		18 55 44.3	
	840nm,0.5s						
KUR				A		18 55 44.3	
	680nm,0.5s						
KUR	**Kuril'sk**	**3.56**	**251**	⇓*i*PN	**P**	**18 54 51.5**	**-0.4**
KUR				*e*S	**S**	**18 55 33.4**	**+0.3**
KUR				pmax	pmax		
	comp=N,110nm,0.5s						
KUR				pmax	pmax		
	comp=E,30nm,0.5s						
KUR				pmax	pmax		
	comp=Z,380nm,0.5s						
KUR				smax			
	comp=N,3μm,1.0s						
KUR				smax			
	comp=E,2μm,1.0s						
KUR				smax			
	comp=N,840nm,0.5s						
KUR				smax			
	comp=E,680nm,0.5s						
SKR	**Severo-Kuril's**	**4.81**	**27**	*e*P	**P**	**18 55 05.7**	**-3.7**
SKR				AMB	AMB	18 55 08.5	
	comp=E,80nm,0.6s						
SKR				AMB	AMB	18 55 08.5	
	comp=E,200nm,0.6s						
SKR				*e*S	**S**	**18 55 59.5**	**-5.0**
SKR				A		18 56 02.5	
	comp=E,150nm,0.4s						
SKR				A		18 56 02.5	
	comp=E,370nm,0.4s						
SKR				A		18 56 02.5	
	comp=E,70nm,0.4s						
SKR				AMS	AMS	18 56 38.0	
	comp=E,800nm,14.0s						
SKR				AMS	AMS	18 56 38.0	
	comp=E,1μm,14.0s						
SKR	**Severo-Kuril's**	**4.81**	**27**	*e*PN	**P**	**18 55 05.7**	**-3.7**
SKR				pmax	pmax		
	comp=Z,200nm,0.7s						
SKR				pmax	pmax		
	comp=N,80nm,0.5s						
SKR				pmax	pmax		
	comp=E,80nm,0.5s						
SKR				MLR	MLR		
	comp=N,800nm,14.0s						
SKR				MLR	MLR		
	comp=Z,1μm,14.0s						
YUK	**Yuzh-Kuril'sk**	**5.37**	**245**	*e*P	**P**	**18 55 16.8**	**-0.5**
YUK				AMB	AMB	18 55 17.8	
	comp=Z,170nm,0.4s						
YUK				AMB	AMB	18 55 17.8	
	comp=Z,620nm,0.4s						
YUK				*e*S	**S**	**18 56 16.5**	**-2.1**
YUK				A		18 56 30.8	
	comp=Z,570nm,0.4s						
YUK				A		18 56 30.8	
	comp=Z,630nm,0.4s						
YUK				A		18 56 47.1	
	comp=Z,4μm,1.0s						
YUK				A		18 56 47.1	
	comp=Z,2μm,1.0s						
YSS	**Yuzh-Sakhalins**	**6.82**	**278**	*e*P	**P**	**18 55 40.0**	**+2.5**
YSS				AMB	AMB	18 55 43.0	
	comp=Z,50nm,0.7s						
YSS				AMB	AMB	18 55 43.0	
	comp=Z,50nm,0.9s						
YSS				*e*S	**S**	**18 56 56.0**	**+1.4**
YSS				A		18 57 01.6	
	comp=Z,60nm,1.0s						
YSS				AMS	AMS	18 58 09.0	
	comp=Z,300nm,19.0s						
YSS	**Yuzh-Sakhalins**	**6.82**	**278**	*e*Pn	**P**	**18 55 39.7**	**+2.1**
	comp=Z,34nm,0.6s						
YSS				*e*Sn	**S**	**18 56 55.7**	**+1.2**
YSS	**Yuzh-Sakhalins**	**6.82**	**278**	*e*PN	**P**	**18 55 39.7**	**+2.2**
YSS				*e*		18 56 55.7	
YSS				pmax	pmax		
	comp=Z,34nm,0.6s						
PET	**Petropavlovsk**	**7.63**	**28**	Pn	**P**	**18 55 47.8**	**-1.0**
	comp=Z,21nm,0.6s						
PET				*e*Sn	**S**	**18 57 13.0**	**-1.6**
PET	**Petropavlovsk**	**7.63**	**28**	PN	**P**	**18 55 47.8**	**-0.9**
PET				pmax	pmax		
	comp=Z,21nm,0.6s						
TYV	**Tymovskoe**	**7.94**	**307**	*e*P	**P**	**18 55 52.5**	**-0.5**
TYV				AMB	AMB	18 56 07.5	
	comp=Z,13nm,0.9s						
TYV				*e*S	**S**	**18 57 21.0**	**-1.3**
TYV				A		18 57 41.2	
	comp=Z,18nm,0.9s						
MAJO	**Matsushiro**	**14.65**	**233**	*e*P	**P**	**18 57 18.9**	**-4.4**
	comp=Z,16nm,0.6s						
MAJO	**Matsushiro**	**14.65**	**233**	*e*P	**P**	**18 57 18.9**	**-4.4**
MAJO				pmax	pmax		
	comp=Z,16nm,0.6s						
MAT	**Matsushiro**	**14.65**	**233**	P	**P**	**18 57 21.4**	**-1.9**
MAT	**Matsushiro**	**14.65**	**233**	*e*P	**P**	**18 57 21.0**	**-2.3**
	comp=Z,9.9nm,0.5s						
MAT	**Matsushiro**	**14.65**	**233**	*e*P	**P**	**18 57 21.0**	**-2.3**
MAT				pmax	pmax		
	comp=Z,10.0nm,0.5s						
MJAR	**Matsushiro Arr**	**14.65**	**233**	Pn	**P**	**18 57 20.2**	**-3.1**
	comp=Z,0.5nm,0.3s,baz=30,slow=13,SNR=11						
MJAR	**Matsushiro Arr**	**14.65**	**233**	Pn	**P**	**18 57 20.2**	**-3.1**
FX1	**Attu Island--F**	**14.73**	**57**	Pn	**P**	**18 57 23.0**	**-1.1**
	comp=Z,16nm,0.3s,baz=318,slow=4.6,SNR=37						
FX1				Sn	**S**	**18 59 57.2**	**-9.2**
	comp=Z,1.5nm,0.3s,baz=98,slow=22,SNR=5.9						
FX1	**Attu Island--F**	**14.73**	**57**	*e*P	**P**	**18 57 22.7**	**-1.5**
FX1				*e*Sn	**S**	**19 00 00.8**	**-5.6**
FX1	**Attu Island--F**	**14.73**	**57**	P	**P**	**18 57 23.0**	**-1.1**
FX1						18 59 57.2	
FX1				pmax	pmax		
	comp=Z,16nm,0.3s						
FX1				smax			
	comp=N,2.0nm,0.3s						
MDJ	**Mudanjiang**	**16.25**	**272**	P	**P**	**18 57 44.0**	**+0.4**
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.8s						
MDJ				AMB	AMB		
	comp=Z,53nm,3.9s						
JHJ	**Hachijo jima 2**	**16.57**	**221**	Pn	**P**	**18 57 43.3**	**-4.4**
	comp=Z,2.5nm,0.3s,baz=50,slow=18,SNR=2.9						
JHJ				Sn	**S**	**19 00 39.5**	**-10**
	comp=Z,2.6nm,0.3s,baz=140,slow=20,SNR=3.5						
BMKR	**Bomnak**	**17.15**	**307**	*e*P	**P**	**18 57 56.8**	**+1.9**
YASR	**Yasnyy**	**17.24**	**302**	*e*P	**P**	**18 57 55.4**	**-0.7**
KROS	**Kirovskiy**	**18.11**	**305**	*e*P	**P**	**18 58 05.4**	**-1.4**
KROS				AMB	AMB	18 58 08.5	
	comp=Z,11nm,1.0s						
YAK	**Yakutsk**	**20.39**	**328**	⇓*i*P		18 58 43.2	
JNU	**Nakatsue**	**21.30**	**239**	P	**P**	**18 58 40.8**	**-1.0**
	comp=Z,5.5nm,0.8s,mb4.0,baz=45,slow=7.1,SNR=2.3						
JNU				LR	LR	19 07 33.1	
	comp=Z,36nm,18.1s,MS2.8,baz=229,slow=39						
SONM	**Songino Array**	**31.12**	**290**	P	**P**	**19 00 09.4**	**-3.8**
	comp=Z,0.3nm,0.5s,mb3.4,baz=135,slow=17,SNR=2.9						
SONM				LR	LR	19 13 37.3	
	comp=Z,62nm,18.1s,MS3.3,baz=250,slow=38						
IMA	**Indian Mountai**	**34.23**	**36**	*e*P	**P**	**19 00 40.9**	**+0.9**
	comp=Z,18nm,0.8s,mb5.0						
IMA				*e*pP	pP	19 00 54.6	+0.9
IMA	**Indian Mountai**	**34.23**	**36**	*e*P	**P**	**19 00 40.9**	**+1.0**
IMA				*e**PP	pP	19 00 54.6	+0.9
IMA				pmax	pmax		
	comp=Z,18nm,0.8s,mb5.0						
ILAR	**Eielson Array**	**36.97**	**38**	P	**P**	**19 01 03.5**	**+0.3**
	comp=Z,1.1nm,0.6s,mb3.9,baz=266,slow=7.7,SNR=11						
MKAR	**Makanchi Array**	**46.78**	**297**	P	**P**	**19 02 22.7**	**-0.7**
	comp=Z,0.7nm,0.5s,mb3.8,baz=68,slow=8.0,SNR=11						
MKAR				PcP	PcP	19 03 56.3	-0.1
	comp=Z,0.7nm,0.6s,baz=71,slow=2.6,SNR=5.0						
KURK	**Kurchatov**	**47.25**	**304**	P	**P**	**19 02 27.4**	**+0.4**
	comp=Z,1.4nm,0.7s,mb4.0						
KURK	**Kurchatov**	**47.25**	**304**	P	**P**	**19 02 27.4**	**+0.4**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
LSA	**Lhasa**	**49.97**	**273**	*e*P	**P**	**19 02 50.3**	**+1.9**
	comp=Z,6.7nm,0.6s,mb4.8						
LSA	**Lhasa**	**49.97**	**273**	*e*P	**P**	**19 02 50.3**	**+1.9**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.9						
BVAR	**Borovoye Array**	**50.79**	**309**	P	**P**	**19 02 52.8**	**-1.5**
	comp=Z,0.8nm,0.6s,mb3.9,baz=40,slow=6.1,SNR=6.6						
BVAR				PcP	PcP	19 04 09.9	-0.9
	comp=Z,0.6nm,0.4s,baz=117,slow=3.3,SNR=5.0						
YKA	**Yellowknife Ar**	**51.34**	**36**	LR	LR	19 28 51.7	
	comp=Z,24nm,18.0s,MS3.3,baz=90,slow=41						
JIRN	**Jiri**	**54.65**	**274**	*e*P	**P**	**19 03 24.8**	**+1.5**
	comp=Z,27nm,0.7s,mb5.4						
KKN	**Kakani**	**55.19**	**275**	*e*P	**P**	**19 03 28.6**	**+1.3**
	comp=Z,25nm,0.7s,mb5.3						
PKI	**Pulchoki**	**55.24**	**275**	*e*P	**P**	**19 03 28.6**	**+0.9**
	comp=Z,30nm,1.2s,mb5.2						
DMN	**Daman**	**55.42**	**275**	*e*P	**P**	**19 03 30.4**	**+1.4**
	comp=Z,24nm,0.9s,mb5.2						
GKN	**Gorkha**	**55.50**	**276**	*e*P	**P**	**19 03 30.0**	**+0.5**
	comp=Z,42nm,0.8s,mb5.5						
KOLN	**Koldanda**	**56.36**	**276**	*e*P	**P**	**19 03 36.9**	**+1.2**
	comp=Z,20nm,0.9s,mb5.2						
ARCES	**ARCESS Array B**	**58.01**	**341**	LR	LR	19 33 15.6	
	comp=Z,21nm,19.0s,MS3.3,baz=34,slow=41						
YBH	**Yreka Blue Hor**	**58.16**	**61**	LR	LR	19 23 50.5	
	comp=Z,41nm,19.2s,MS3.6,baz=114,slow=31						
ELK	**Elko**	**63.23**	**58**	P	**P**	**19 04 22.7**	**+0.1**
	comp=Z,1.5nm,0.8s,mb4.2						
ELK				*e*pP	pP	19 04 38.7	+1.3
ELK	**Elko**	**63.23**	**58**	P	**P**	**19 04 22.7**	**0.0**
ELK				*e**PP	pP	19 04 38.7	+1.3
ELK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
IMW	**Indian Meadow**	**63.67**	**53**	P	**P**	**19 04 28.6**	**+3.2**
IMW				*e*pP	pP	19 04 41.8	+1.6
FINES	**FINESS Array B**	**64.16**	**335**	P	**P**	**19 04 27.6**	**-0.6**
	comp=Z,0.7nm,0.5s,mb3.9,baz=45,slow=8.1,SNR=5.0						
DUG	**Dugway**	**65.00**	**57**	*e*P	pP	19 04 48.4	-0.5
PDAR	**Pinedale Array**	**65.17**	**54**	P	**P**	**19 04 36.4**	**+1.2**
	comp=Z,0.4nm,0.8s,mb3.5,baz=301,slow=5.3,SNR=4.2						
PDAR				LR	LR	19 31 56.7	
	comp=Z,41nm,18.4s,MS3.7,baz=67,slow=35						
RSSD	**Black Hills**	**67.25**	**49**	P	**P**	**19 04 48.8**	**+0.5**
	comp=Z,2.6nm,0.8s,mb4.3						
RSSD				*e*pP	pP	19 05 04.0	+0.8
RSSD	**Black Hills**	**67.25**	**49**	P	**P**	**19 04 48.8**	**+0.5**
RSSD				*e**PP	pP	19 05 04.0	+0.8
RSSD				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
WRAB	**Tennant Creek**	**68.13**	**199**	*e*P	**P**	**19 04 53.6**	**-0.6**
	comp=Z,4.3nm,0.8s,mb4.5						
WRAB	**Tennant Creek**	**68.13**	**199**	*e*P	**P**	**19 04 53.6**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
WRA	**Warramunga Arr**	**68.14**	**199**	P	**P**	**19 04 53.3**	**-1.0**
	comp=Z,1.1nm,0.6s,mb4.1,baz=20,slow=6.9,SNR=12						
NB2	**NORSAR Subarra**	**68.39**	**341**	P	**P**	**19 04 55.0**	**-0.1**
	comp=Z,3.0nm,0.8s,mb4.4,baz=27,slow=6.5						
NB2	**NORSAR Subarra**	**68.39**	**341**	P	**P**	**19 04 55.0**	**-0.1**
NB2				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
NOA	**NORSAR Array B**	**68.39**	**341**	P	**P**	**19 04 56.0**	**+0.8**
	comp=Z,1.0nm,0.8s,mb3.9,baz=28,slow=6.4,SNR=4.2						
AKASG	**Malin Array Be**	**71.60**	**326**	P	**P**	**19 05 14.3**	**-0.5**
	comp=Z,0.4nm,0.3s,mb3.8,baz=33,slow=6.2,SNR=3.7						
AKASG	**Malin Array Be**	**71.60**	**326**	P	**P**	**19 05 14.3**	**-0.5**
TXAR	**Lajitas Array**	**77.91**	**60**	P	**P**	**19 05 52.6**	**+1.1**
	comp=Z,0.4nm,0.5s,mb3.6,baz=270,slow=2.5,SNR=3.7						
BRTR	**Keskin Array B**	**78.37**	**316**	P	**P**	**19 05 55.0**	**+1.2**
	comp=Z,1.4nm,0.8s,mb3.9,baz=90,slow=2.5,SNR=4.8						

IGQ 02 19:29:51.7,1.09S×78.78W,h12km±3km,mb4.2,2C-13D, Error ellipse: s-maj=2.4km s-min=1.1km az=169.5, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QIL1	**Quilotoa**	**0.29**	**327**	⇓P	Pg	19 29 58.5	+0.7
PISA	**Pisayambo**	**0.39**	**86**	⇓P	Pg	19 30 00.3	+0.5
JUIV	**Juive**	**0.46**	**137**	P	Pg	19 30 01.0	-0.1
CUSU	**Cusua**	**0.46**	**140**	⇓P	Pg	19 30 01.6	+0.4
CAMI	**Rancho Maria**	**0.49**	**34**	P	Pg	19 30 02.2	+0.5
RETU	**Refugio**	**0.49**	**138**	P	Pg	19 30 02.9	+1.1
RETU				S	Sg	19 30 07.3	-1.1
MOV1	**Cotopaxi Vol s**	**0.50**	**42**	⇑P	Pg	19 30 02.2	+0.3
ULBA	**Ulba**	**0.52**	**134**	⇓P	Pb	19 30 02.0	-0.2
ARRY	**Arrayan**	**0.53**	**142**	⇑P	Pb	19 30 02.3	0.0
NAS1	**Nasa**	**0.54**	**34**	⇓P	Pb	19 30 03.4	+0.8
TAMB	**Tambo**	**0.56**	**46**	⇓P	Pb	19 30 03.5	+0.5
VC1	**Cotopaxi 1**	**0.58**	**40**	⇓P	Pb	19 30 03.9	+0.7
COV1	**Cotopaxi Volc**	**0.60**	**46**	⇓P	Pb	19 30 03.2	-0.4
COV1				S	Sb	19 30 11.4	-0.5
PITA	**Cotopaxi Volc**	**0.63**	**33**	⇓P	Pb	19 30 04.9	+0.8
ANTI	**Antisana**	**0.88**	**44**	⇓P	Pb	19 30 08.6	+0.2
GGP	**Refugio Guagua**	**0.92**	**11**	⇓P	Pb	19 30 09.4	+0.2
PINO	**Pino**	**0.94**	**10**	⇓P	Pb	19 30 10.0	+0.6
CAYA	**Cayambe**	**1.39**	**34**	⇓P	Pn	19 30 18.7	+1.7

IDC ***02*** *19:32:39.3±0.8, 13.89N×145.03E,mb4.1/8,mb1 4.4/8, mb1mx4.1/21,mbtmp4.1/8,Error ellipse: s-maj=32.0km s-min=19.2km az=91.0*
NEIC ***02*** *19:32:54.3±0.8, 13.73N×144.89E,h126km±7km,mb3.7/1, Error ellipse: s-maj=23.3km s-min=12.2km az=97.0*
ISC 02 19:32:53.0±0.6,13.73N±0.08×144.8E±0.2,h126km±5km, n15,σ1º00/15,mb3.9/9,1C-2D,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.15**	**161**	⇓*i*Pn	**P**	**19 33 11.1**	**+0.8**
GUMO				*e*S	**S**	**19 33 22.9**	**-0.4**
SAPN	**Saipan**	**1.73**	**31**	⇑*i*P	**P**	**19 33 24.1**	**+0.3**
SAPN				*e*S	**S**	**19 33 46.0**	**-1.3**
SARN	**Sarigan**	**3.09**	**17**	⇓*e*P	**P**	**19 33 43.0**	**+1.5**
WRA	**Warramunga Arr**	**35.02**	**197**	P	**P**	**19 39 35.0**	**-0.5**
	0.4nm,0.4s,mb3.6,baz=25,slow=9.2,SNR=7.1						
FITZ	**Fitzroy Crossi**	**36.86**	**211**	P	**P**	**19 39 51.8**	**+0.8**
	3.3nm,0.8s,mb4.3,baz=10,slow=7.3,SNR=6.2						
DZM	**Mont Dzumac**	**41.42**	**149**	P	**P**	**19 40 29.6**	**+0.8**
	12nm,0.6s,mb4.9,baz=315,slow=10.0,SNR=14						
STKA	**Stephens Creek**	**45.45**	**184**	P	**P**	**19 41

mb1 3.4/8, mb1mx3.1/21, mbtmp3.8/8, Error ellipse: s-maj=52.3km s-min=21.4km az=32.0
*MOS **02** 19:53:51.3±0.8, 36.38N×70.46E, h212km, mb4.1/1, Error ellipse: s-maj=27.4km s-min=11.0km az=85.6*
*NNC **02** 19:53:58.7±7.6, 36.94N×70.44E, h198km±68km, mpv3.8, Error ellipse: s-maj=119.1km s-min=69.0km az=92.0*
ISC 02 19:53:53.1±1.3, 36.52N±0.07×70.5E±0.1, h221km±12km, n33, σ0^{s}70/36, mb3.3/6, 2C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**5.25**	**54**	*e*P	**P**	**19 55 12.6**	**+0.8**
KSH				S	**S**	**19 56 13.4**	**+0.3**
KSH				Smax			
	comp=N,120nm,0.5s						
KSH				Smax			
	comp=E,140nm,0.6s						
AML	**Almayashu**	**6.12**	**23**	P	**P**	**19 55 22.8**	**-0.2**
	SNR=203						
UCH	**Uchtor**	**6.49**	**27**	P	**P**	**19 55 27.9**	**+0.2**
	SNR=78						
KK31	**Karatay Array**	**6.58**	**0**	P	**P**	**19 55 27.7**	**-1.0**
	comp=E,3.8nm,0.4s,baz=193,slow=14,SNR=194						
KK31				⇑S	**S**	**19 56 38.9**	**-4.5**
	comp=E,12nm,0.6s,baz=187,slow=27,SNR=6.0						
EKS2	**Erkin-Say**	**6.63**	**21**	P	**P**	**19 55 29.5**	**0.0**
	SNR=12						
AAK	**Ala-Archa**	**6.84**	**26**	P	**P**	**19 55 32.5**	**+0.3**
	SNR=11						
AAK	**Ala-Archa**	**6.84**	**26**	*e*Pn	**P**	**19 55 31.3**	**-0.8**
AAK				*e*Sn	**S**	**19 56 49.1**	**-0.4**
KBK	**Karagaybulak**	**7.02**	**28**	P	**P**	**19 55 35.2**	**+0.7**
	SNR=9.4						
ULHL	**Ulahol**	**7.24**	**36**	P	**P**	**19 55 37.3**	**0.0**
	SNR=17						
CHMS	**Chumysh**	**7.25**	**25**	P	**P**	**19 55 36.9**	**-0.5**
	SNR=8.3						
USP	**Ospenovka**	**7.41**	**23**	P	**P**	**19 55 39.1**	**-0.3**
	SNR=25						
TKM2	**Tokmak 2**	**7.50**	**30**	P	**P**	**19 55 40.6**	**0.0**
	SNR=38						
MKAR	**Makanchi Array**	**13.51**	**37**	P	**P**	**19 56 56.6**	**-0.5**
	comp=E,0.2nm,0.3s,baz=223,slow=16,SNR=11						
KOLN	**Koldanda**	**14.10**	**125**	*e*P	**P**	**19 57 04.8**	**+0.4**
GKN	**Gorkha**	**14.65**	**121**	*e*P	**P**	**19 57 10.9**	**-0.3**
	comp=E,31nm,0.5s						
AB31	**Akbulak array**	**14.88**	**332**	⇓P	**P**	**19 57 15.0**	**+1.1**
	comp=E,1.7nm,0.7s,baz=144,slow=12,SNR=17						
DMN	**Daman**	**15.22**	**122**	*e*P	**P**	**19 57 18.2**	**0.0**
	comp=E,18nm,0.5s						
KKN	**Kakani**	**15.23**	**121**	*e*P	**P**	**19 57 17.8**	**-0.5**
	comp=E,25nm,0.5s						
PKI	**Pulchoki**	**15.45**	**121**	*e*P	**P**	**19 57 21.2**	**+0.1**
	comp=E,26nm,0.7s						
VOSK	**Vostochnaya**	**16.21**	**1**	⇑P	**P**	**19 57 29.2**	**-0.8**
	comp=E,2.7nm,1.1s						
BVA0	**Borovoye Array**	**16.51**	**360**	P	**P**	**19 57 33.8**	**+0.3**
	comp=E,0.2nm,0.5s,baz=161,slow=8.4,SNR=21						
BVAR	**Borovoye Array**	**16.51**	**360**	P	**P**	**19 57 33.4**	**-0.1**
	comp=E,0.9nm,0.3s,baz=167,slow=8.4,SNR=22						
BRVK	**Borovoye**	**16.54**	**360**	*e*P	**P**	**19 57 33.6**	**-0.3**
	comp=E,2.5nm,0.7s						
BRVK	**Borovoye**	**16.54**	**360**	*e*P	**P**	**19 57 33.6**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
LSA	**Lhasa**	**18.56**	**106**	P	**P**	**19 57 58.6**	**+3.1**
	comp=Z,4.8nm,0.7s						
ZAL	**Zalesovo**	**20.05**	**25**	P	**P**	**19 58 10.8**	**+0.2**
	comp=Z,2.2nm,0.3s,baz=251,slow=6.2,SNR=9.3						
SONM	**Songino Array**	**28.65**	**55**	P	**P**	**19 59 32.3**	**+1.1**
	comp=Z,0.2nm,0.6s,mb2.9,baz=276,slow=10.0,SNR=3.6						
ARCES	**ARCESS Array B**	**40.98**	**338**	P	**P**	**20 01 15.8**	**+0.4**
	comp=Z,1.8nm,0.7s,mb3.6,baz=90,slow=6.1,SNR=7.5						
NOA	**NORSAR Array B**	**44.13**	**323**	P	**P**	**20 01 41.8**	**+0.9**
	comp=Z,0.3nm,0.7s,mb2.7,baz=71,slow=10.0,SNR=2.6						
ILAR	**Eielson Array**	**74.87**	**16**	P	**P**	**20 05 10.1**	**-0.4**
	comp=Z,0.6nm,0.9s,mb3.2,baz=309,slow=6.1,SNR=4.6						
WRA	**Warramunga Arr**	**82.34**	**122**	P	**P**	**20 05 50.1**	**-1.5**
	comp=Z,0.7nm,0.7s,mb3.4,baz=322,slow=4.9,SNR=14						
WRAB	**Tennant Creek**	**82.34**	**122**	*e*P	**P**	**20 05 50.6**	**-0.9**
	comp=Z,1.5nm,0.7s,mb3.7						
WRAB	**Tennant Creek**	**82.34**	**122**	*e*P	**P**	**20 05 50.7**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.5						

IDC 02 20:02:18.3±8.7, 33.02N×142.36E, h32km±62km, mb3.2/3, mb1 3.2/5, mb1mx3.1/20, mbtmp3.3/5, ML2.8/1, Error ellipse: s-maj=53.7km s-min=30.6km az=66.0, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**2.17**	**273**	Pn	Pn	20 02 51.8	-1.1
	6.5nm,0.3s,baz=75,slow=19,SNR=18						
JHJ				Sn	Sn	20 03 17.1	-1.7
	17nm,0.3s,baz=246,slow=21,SNR=11						
MJAR	**Matsushiro Arr**	**4.90**	**317**	Pn	Pn	20 03 28.6	-3.1
	0.6nm,0.3s,baz=173,slow=14,SNR=5.3						
SONM	**Songino Array**	**30.81**	**309**	P	P	20 08 30.9	-2.3
	0.2nm,0.5s,baz=115,slow=6.9,SNR=3.2						
MKAR	**Makanchi Array**	**46.99**	**305**	P	P	20 10 46.5	-1.5
	0.3nm,0.6s,baz=90,slow=8.6,SNR=4.1						
WRA	**Warramunga Arr**	**53.22**	**189**	P	P	20 11 33.3	-2.6
	0.3nm,0.8s,baz=7.0,slow=7.6,SNR=5.0						

IDC 02 20:07:54.1±1.5, 1.27S×123.75E, mb3.4/3, mb1 3.8/4, mb1mx3.7/17, mbtmp3.6/4, ML3.9/1, Error ellipse: s-maj=122.8km s-min=25.6km az=68.0, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**16.83**	**174**	Pn	P	20 11 52.5	-0.4
	0.3nm,0.3s,baz=0.9,slow=8.5,SNR=6.0						
WRA	**Warramunga Arr**	**21.25**	**152**	P	P	20 12 41.6	-2.7
	0.6nm,0.5s,baz=328,slow=11,SNR=12						
SONM	**Songino Array**	**51.20**	**345**	P	P	20 17 00.3	-1.1
	0.6nm,1.0s,baz=162,slow=9.1,SNR=2.3						
MKAR	**Makanchi Array**	**60.08**	**328**	P	P	20 18 02.4	-3.1
	0.3nm,0.5s,baz=130,slow=8.7,SNR=3.7						

*PRU **02** 20:13:47.2, 44.09N×12.21E*
*NEIC **02** 20:13:49.5±0.7, 44.25N×12.11E, h10km, ML2.9(LDG), ML2.6(ROM), ML3.0(VIE), Error ellipse: s-maj=10.6km s-min=4.0km az=146.0*
*ROM **02** 20:13:50.3±0.2, 44.18N×12.11E, h17km±3km, Md2.8/20, Ml2.4/8, Error ellipse: s-maj=2.9km s-min=1.7km az=141.0*
*CSEM **02** 20:13:50.5±0.1, 44.19N×12.19E, h16km, ML2.9/18, Error ellipse: s-maj=1.5km s-min=0.9km az=49.0*
*LDG **02** 20:13:51.0±0.1, 44.26N×12.13E, h10km, Md2.8/3, Ml2.9/16, Error ellipse: s-maj=2.8km s-min=1.8km az=97.0*
ISC 02 20:13:50.0±0.3, 44.28N±0.02×12.04E±0.03, h26km±4km, n79, σ1^{s}31/126, 10C-1D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRSN	**Barisano**	**0.03**	**77**	⇑*i*Pg	**Pb**	**20 13 53.9**	**-0.5**
BRSN				Sg	**Sn**	**20 13 57.9**	**+0.8**
	975nm,0.2s						
SFI	**Santa Sofia**	**0.40**	**201**	Pg	**Pb**	**20 13 57.3**	**-1.3**
SFI				Sg	**Sb**	**20 14 03.6**	**-0.8**
	600nm,0.4s						
RSM	**Repubblica di**	**0.46**	**140**	Pg	**Pb**	**20 13 58.5**	**-1.0**
	75nm,0.2s						
PGD	**Poggio Sodo**	**0.46**	**210**	Pg	**Pb**	**20 13 58.8**	**-0.8**
PGD				Sg	**Sb**	**20 14 06.3**	**+0.1**
VMG	**Vicchio**	**0.48**	**229**	⇑*i*Pg	**Pb**	**20 13 59.3**	**-0.5**
VMG				Sg	**Sb**	**20 14 07.5**	**+1.0**
	103nm,0.2s						
SEI	**Scarperia**	**0.54**	**246**	Pg	**Pb**	**20 14 00.7**	**-0.2**
SEI				Sg	**Sb**	**20 14 10.4**	**+2.1**
	391nm,0.4s						
CRE	**Caprese Michel**	**0.66**	**186**	Pg	**Pb**	**20 14 01.9**	**-1.0**
CRE				Sg	**Sb**	**20 14 12.1**	**+0.4**
	173nm,0.7s						
ZCCA	**Zocca**	**0.77**	**276**	Pg	**Pb**	**20 14 07.3**	**+2.7**
	18nm,0.3s						
BADI	**Badiali**	**0.78**	**169**	Pg	**Pb**	**20 14 04.2**	**-0.7**
	38μm,16.0s						
FSSB	**Fossombrone**	**0.79**	**137**	Pg	**Pb**	**20 14 03.6**	**-1.4**
	74nm,0.4s						
CSNT	**Castellina Chi**	**0.97**	**214**	Pg	**Pb**	**20 14 09.2**	**+1.1**
	136nm,0.6s						
ARV	**Arcevia**	**1.02**	**140**	Pg	**Pn**	**20 14 08.2**	**-0.6**
	31nm,0.4s						
GSCL	**Gusciola**	**1.04**	**274**	Pg	**Pn**	**20 14 12.9**	**+3.7**
	16nm,0.4s						
BDI	**Bagni Di Lucca**	**1.06**	**259**	Pg	**Pn**	**20 14 12.4**	**+3.0**
	25nm,0.1s						
MURB	**Monte Urbino**	**1.07**	**161**	Pg	**Pn**	**20 14 10.5**	**+0.9**
	327nm,0.4s						
MAIM		**1.17**	**252**	P	**Pn**	**20 14 12.6**	**+1.6**
MAIM				S	**Sn**	**20 14 28.8**	**+2.5**
MAIM		**1.17**	**252**	P	**Pn**	**20 14 12.6**	**+1.6**
MAIM				S	**Sn**	**20 14 28.8**	**+2.5**
ERBM	**Eremo**	**1.18**	**277**	Pg	**Pn**	**20 14 15.0**	**+4.0**
	76nm,1.1s						
SARO	**Sassorosso**	**1.18**	**266**	P	**Pn**	**20 14 14.3**	**+3.2**
SARO	**Sassorosso**	**1.18**	**266**	P	**Pn**	**20 14 14.3**	**+3.2**
SARO	**Sassorosso**	**1.18**	**266**	P	**Pn**	**20 14 14.3**	**+3.2**
VLC	**Villacollemand**	**1.20**	**265**	Pg	**Pn**	**20 14 14.5**	**+3.2**
VLC				Sg	**Sn**	**20 14 32.9**	**+6.1**
	51nm,0.8s						
VLC	**Villacollemand**	**1.20**	**265**	*e*P	**Pn**	**20 14 14.0**	**+2.7**
VLC	**Villacollemand**	**1.20**	**265**	Pg	**Pn**	**20 14 14.5**	**+3.2**
VLC				*e*S	**Sn**	**20 14 32.1**	**+5.3**
VLC				Sg	**Sn**	**20 14 32.9**	**+6.1**
	51nm,0.8s						
VLC	**Villacollemand**	**1.20**	**265**	*e*P	**Pn**	**20 14 14.0**	**+2.7**
VLC				*e*S	**Sn**	**20 14 32.1**	**+5.3**
PII	**Pisa**	**1.23**	**244**	Pg	**Pn**	**20 14 13.3**	**+1.5**
	47nm,0.2s						
CING	**Cingoli**	**1.23**	**137**	Pg	**Pn**	**20 14 12.1**	**+0.3**
	61nm,0.7s						
VALM		**1.29**	**274**	P	**Pn**	**20 14 16.0**	**+3.3**
VALM		**1.29**	**274**	P	**Pn**	**20 14 16.0**	**+3.4**
VINC	**Vinca**	**1.36**	**265**	P	**Pn**	**20 14 16.7**	**+3.0**
VINC	**Vinca**	**1.36**	**265**	P	**Pn**	**20 14 16.7**	**+3.0**
VINC	**Vinca**	**1.36**	**265**	P	**Pn**	**20 14 16.7**	**+3.0**
BACM		**1.41**	**271**	P	**Pn**	**20 14 19.5**	**+5.1**
BACM		**1.41**	**271**	P	**Pn**	**20 14 19.5**	**+5.0**
SACS	**San Casciano d**	**1.43**	**184**	Pg	**Pn**	**20 14 15.8**	**+1.1**
	50nm,0.7s						
ARCI	**Arcidosso**	**1.48**	**196**	Pg	**Pn**	**20 14 16.8**	**+1.4**
	86nm,0.9s						
CODM		**1.58**	**275**	P	**Pn**	**20 14 19.9**	**+3.1**
CODM		**1.58**	**275**	P	**Pn**	**20 14 19.9**	**+3.2**
NRCA	**Norcia**	**1.64**	**151**	Pg	**Pn**	**20 14 18.9**	**+1.2**
	9.0nm,0.3s						
NVLJ	**Novalja**	**2.05**	**81**	*i* Pn	**Pn**	**20 14 22.9**	**-0.6**
NVLJ				*i* Sn	**Sn**	**20 14 47.3**	**-1.2**
NVLJ	**Novalja**	**2.05**	**81**	*i* Pn	**Pn**	**20 14 22.9**	**-0.6**
NVLJ				*i* Sn	**Sn**	**20 14 47.2**	**-1.3**
VOY	**Vojsko**	**2.19**	**36**	*e*Pn	**Pn**	**20 14 25.9**	**+0.3**
VOY				*e*Sn	**Sn**	**20 14 52.2**	**+0.1**
ROBS	**Robic**	**2.22**	**27**	*i* Pn	**Pn**	**20 14 25.9**	**-0.2**
ROBS				*e*Sn	**Sn**	**20 14 53.0**	**0.0**
	comp=Z,10.0nm,0.2s						
CEY	**Cerknica**	**2.24**	**48**	*e*Pn	**Pn**	**20 14 25.8**	**-0.5**
CEY				*i* Sn	**Sn**	**20 14 52.9**	**-0.3**
CADS	**Cadrg**	**2.29**	**31**	*i* Pn	**Pn**	**20 14 26.6**	**-0.3**
CADS				*i* Sn	**Sn**	**20 14 54.7**	**+0.1**
	comp=Z,20nm,0.3s						
GORS	**Gorjuse**	**2.46**	**33**	*i* Pn	**Pn**	**20 14 29.5**	**+0.1**
PGF	**Pioggiola**	**2.81**	**233**	*e*Pn	**Pn**	**20 14 34.8**	**+0.4**
PGF				*e*Sn	**Sn**	**20 15 07.6**	**-0.2**
	comp=Z,11nm,0.4s						
OBKA	**Obir**	**2.85**	**38**	⇓*i*PN	**Pn**	**20 14 34.2**	**-0.7**
OBKA				*i* PG	**Pn**	**20 14 42.9**	**+8.0**
OBKA				*i* SN	**Sn**	**20 15 08.5**	**-0.3**
OBKA				*i* SG	**Sn**	**20 15 21.7**	**+13**
	comp=Z,16nm,0.4s						
KBA	**Koelnbreinsper**	**2.95**	**18**	⇑*i*PN	**Pn**	**20 14 37.0**	**+0.7**
KBA				*i* PG	**Pn**	**20 14 46.2**	**+10**
KBA				*i* SN	**Sn**	**20 15 12.5**	**+1.2**
KBA				*i* SG	**Sn**	**20 15 27.1**	**+16**
	comp=Z,13nm,0.4s						
SQTA	**Sankt Quirin**	**3.00**	**349**	⇑*i*PN	**Pn**	**20 14 39.3**	**+2.2**
SQTA				*i* SN	**Sn**	**20 15 16.9**	**+4.3**
WTTA	**Wattenberg**	**3.00**	**355**	⇑*i*PN	**Pn**	**20 14 38.8**	**+1.7**
WTTA				*i* SN	**Sn**	**20 15 15.9**	**+3.3**
WATA	**Walderalm**	**3.08**	**354**	⇑*i*PN	**Pn**	**20 14 39.7**	**+1.5**
WATA				*i* SN	**Sn**	**20 15 17.7**	**+3.2**
MOTA	**Moosalm**	**3.14**	**348**	⇑*i*PN	**Pn**	**20 14 40.8**	**+1.8**
MOTA				*i* SN	**Sn**	**20 15 19.7**	**+3.6**
SBF	**Sospel**	**3.34**	**264**	*e*Pn	**Pn**	**20 14 42.1**	**+0.1**
SBF				*e*Sn	**Sn**	**20 15 20.5**	**-0.8**
	comp=Z,4.5nm,0.4s						
DAVA	**Damuels**	**3.37**	**334**	⇑*i*PN	**Pn**	**20 14 44.7**	**+2.4**
DAVA				*i*		20 15 24.0	
MBDF	**Montbardon**	**3.80**	**279**	*e*Pn	**Pn**	**20 14 48.1**	**-0.3**
ARSA	**Arzberg**	**3.84**	**38**	⇑*i*PN	**Pn**	**20 14 48.4**	**-0.7**
ARSA				*i* SN	**Sn**	**20 15 32.2**	**-1.8**
ARSA				*i* SG	Sn	20 15 54.4	+20
	comp=Z,4.7nm,0.6s						
MOA	**Molln**	**3.89**	**23**	⇑*i*PN	**Pn**	**20 14 49.8**	**0.0**
MOA				*i* SN	**Sn**	**20 15 35.5**	**+0.3**
LPG	**La Plagne**	**3.95**	**290**	*e*Pn	**Pn**	**20 14 50.1**	**-0.5**
LPG				*e*Sn	**Sn**	**20 15 35.1**	**-1.6**
	comp=Z,3.4nm,0.3s						
FRF	**La Foret Royal**	**3.96**	**261**	*e*Pn	**Pn**	**20 14 50.9**	**+0.1**
FRF				*e*Sn	**Sn**	**20 15 35.8**	**-1.2**
	comp=Z,11nm,0.5s						
LPL	**La Plagne**	**3.97**	**290**	*e*Pn	**Pn**	**20 14 50.5**	**-0.4**
LPL				*e*Sn	**Sn**	**20 15 35.3**	**-1.9**
	comp=Z,1.9nm,0.3s						
LPL				*e*Sg	**Sn**	**20 15 55.1**	**+18**
LMR	**La Mourre**	**4.11**	**259**	*e*Pn	**Pn**	**20 14 52.7**	**-0.2**
LMR				*e*Sn	**Sn**	**20 15 38.4**	**-2.4**
	comp=Z,2.7nm,0.3s						
ORIF	**Oris-en-Rattie**	**4.45**	**280**	*e*Pn	**Pn**	**20 14 57.5**	**-0.1**
ORIF				*e*Sn	**Sn**	**20 15 47.0**	**-2.2**
	comp=Z,2.5nm,0.3s						
SMRF	**Simiane la Rot**	**4.66**	**269**	*e*Pn	**Pn**	**20 15 01.1**	**+0.4**
KHC	**Kasperske Hory**	**4.97**	**12**	*e*PN	**Pn**	**20 15 00.7**	**-4.3**
KHC				PG	Pn	20 15 26.0	+21
KHC				*ex*	x	20 15 55.6	
KHC				*e*SG	Sn	20 16 33.0	+31
KHC	**Kasperske Hory**	**4.97**	**12**	*e*Pg	**Pn**	**20 15 00.7**	**-4.3**
KHC				*e*Sg	**Sn**	**20 15 55.6**	**-6.8**
HINF	**Hinteralfeld**	**5.05**	**316**	*e*Pn	**Pn**	**20 15 05.4**	**-0.8**
HINF				*e*Sn	**Sn**	**20 16 01.1**	**-3.5**
	comp=Z,3.5nm,0.3s						
CDF	**Champ du Feu**	**5.29**	**323**	*e*Pn	**Pn**	**20 15 08.9**	**-0.6**
CDF				*e*Sn	**Sn**	**20 16 07.0**	**-3.4**
	comp=Z,1.7nm,0.3s						
VIVF	**Saint-Julien-l**	**5.30**	**279**	*e*Pn	**Pn**	**20 15 08.5**	**-1.1**
VIVF				*e*Sn	**Sn**	**20 16 06.9**	**-3.7**
	comp=Z,1.4nm,0.3s						
HAU	**Haudompre**	**5.43**	**315**	*e*Pn	**Pn**	**20 15 10.7**	**-0.9**
HAU				*e*Sn	**Sn**	**20 16 10.4**	**-3.7**
	comp=Z,5.0nm,0.2s						
LASF	**Ste Croix**	**5.89**	**271**	*e*Pn	**Pn**	**20 15 16.9**	**-1.1**
SMF	**Signal de Mont**	**6.23**	**295**	*e*Pn	**Pn**	**20 15 21.5**	**-1.4**
SMF				*e*Sn	**Sn**	**20 16 29.5**	**-4.6**
	comp=Z,5.6nm,0.5s						
LOR	**Lormes**	**6.46**	**300**	*e*Pn	**Pn**	**20 15 24.8**	**-1.2**
LOR				*e*Sn	**Sn**	**20 16 34.6**	**-5.0**
	comp=Z,2.4nm,0.3s						
SSF	**Saint Saulge**	**6.59**	**298**	*e*Pn	**Pn**	**20 15 26.6**	**-1.4**
SSF				*e*Sn	**Sn**	**20 16 37.9**	**-5.2**
	comp=Z,1.0nm,0.4s						
AVF	**Avril sur Loir**	**6.60**	**295**	*e*Pn	**Pn**	**20 15 26.7**	**-1.3**
AVF				*e*Sn	**Sn**	**20 16 37.7**	**-5.5**
	comp=Z,0.9nm,0.3s						
BGF	**Bois d'Agland**	**6.86**	**293**	*e*Pn	**Pn**	**20 15 29.9**	**-1.8**
MTLF	**Montolieu**	**7.17**	**266**	*e*Pn	**Pn**	**20 15 35.7**	**-0.3**
TCF	**Toulx Ste Croi**	**7.22**	**290**	*e*Pn	**Pn**	**20 15 35.0**	**-1.7**
HYF	**Humbligny**	**7.22**	**298**	*e*Pn	**Pn**	**20 15 35.4**	**-1.3**

IDC 02 20:35:35.2±1.2, 48.28N×153.55E, mb3.5/4, mb1 3.8/4, mb1mx3.5/21, mbtmp3.5/4, Error ellipse: s-maj=43.8km s-min=28.5km az=137.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAR	**Eielson Array**	**35.18**	**40**	P	P	20 42 31.2	-1.2
	0.2nm,0.6s,baz=247,slow=6.9,SNR=4.5						
MKAR	**Makanchi Array**	**46.52**	**296**	P	P	20 44 03.8	-1.9
	0.4nm,0.5s,baz=58,slow=7.5,SNR=5.9						
PDAR	**Pinedale Array**	**63.62**	**55**	P	P	20 46 07.2	-2.6
	0.6nm,0.9s,baz=315,slow=1.3,SNR=3.8						
WRA	**Warramunga Arr**	**70.05**	**199**	P	P	20 46 49.0	-1.9
	0.5nm,0.6s,baz=15,slow=6.4,SNR=7.4						

*NEIC **02** 20:48:50.0, 28.89S×71.36W, h37km, mb3.6/1, After GUC.*
NEIC Felt [II] at Freirina and Vallenar.
GUC 02 20:48:50.0±0.7, 28.89S×71.36W, h37km±7km, ML4.6, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.61**	**60**	⇑*i*P	P	20 49 02.3	+0.1
VACH				*i* S	S	20 49 11.5	+0.4
VACH				AMP		20 49 12.3	
	comp=E,74μm,0.1s						
VACH	**Vallenar**	**0.61**	**60**	⇑*i*P	P	20 49 02.3	+0.1
VACH				*i* S	S	20 49 11.5	+0.4
VACH				AMP		20 49 12.3	
	comp=E,76μm,0.1s						
VACH				AMP		20 49 12.5	
	comp=N,64μm,0.1s						
VACH				⇓*e*		20 52 13.5	
	baz=341,slow=4.1						
CPCH	**Copiapo**	**1.77**	**31**	*e*P	P	20 49 19.3	+0.7
CPCH				*e*S	S	20 49 41.9	+1.8
CMCH	**Combarbala**	**2.30**	**172**	*e*P	P	20 49 26.9	+0.6
CMCH				*e*S	S	20 49 55.2	+1.6
CMCH				AMP		20 50 08.5	
	comp=N,7μm,0.8s						
CRCH	**Chaqaral**	**2.62**	**15**	⇓*i*P	P	20 49 28.4	-2.4
CRCH				*e*S	S	20 49 58.2	-3.4
CRCH				AMP		20 50 14.1	
	comp=E,1μm,0.4s						
LVC	**Limon Verde**	**6.63**	**20**	*e*Pn	P	20 50 20.9	-6.6
TRQA	**Tornquist**	**12.03**	**142**	Pn	P	20 51 39.7	-2.2
CPUP	**Villa Florida**	**12.70**	**82**	*e*Pn	P	20 51 50.1	-0.8
SAML	**Samuel**	**21.27**	**23**	*e*P	P	20 53 32.2	-3.2
	comp=E,2.0nm,0.7s						

*BJI **02** 20:56:33.6, 4.93N×94.26E, h47km, mB4.8, mb5.0, Ms4.6, Msz4.4*
*MOS **02** 20:56:35.3±0.8, 5.34N×94.35E, h41km, mb5.2/46, MS4.3/9, Error ellipse: s-maj=10.1km s-min=5.0km az=116.4*
*HRVD **02** 20:56:36.5±0.6, 5.22N×94.25E, h34km±1km, MW4.9/35, Centroid moment Tensor Solution. LP body waves: s27,c37;Mantle waves: s35,c53; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.71±.20; $M_{\theta\theta}$-0.94±.12; $M_{\phi\phi}$-1.77±.16; $M_{r\theta}$0.90±.14; $M_{\theta\phi}$1.81±.10; $M_{\phi r}$-0.85±.18; Best double couple: $M_0$3.211×10^{16} NP1:ϕ_s326°, δ34°, λ97°. NP2:ϕ_s138°, δ56°, λ86°. Principal axes: T 2.965, Plg78°, Azm32°; N .489, Plg4°, Azm140°; P -3.457, Plg11°, Azm231°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **02** 20:56:36.5±0.2, 5.25N×94.26E, mb5.0/50, MS4.7/5 Error ellipse: s-maj=5.7km s-min=3.9km az=206.0*
*IDC **02** 20:56:37.5±0.6, 5.29N×94.33E, h44km±5km, mb4.6/27, mb1 4.6/27, mb1mx4.6/30, mbtmp4.8/27, MS4.3/13, Ms1 4.2/13, ms1mx4.1/31, Error ellipse: s-maj=13.4km s-min=8.5km az=50.0*
ISC 02 20:56:34.9±0.2, 5.24N±0.04×94.26E±0.03, h38km, h38km±1.8km:pP-P, n282, σ0^{s}97/280, mb5.0/110, MS4.4/31, 55C-11D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKT	**Phuket**	**4.81**	**54**	P	**P**	**20 57 53.0**	**+6.1**
KULM	**Kulim**	**6.36**	**89**	*e*P	**P**	**20 58 08.7**	**+0.1**
PBA	**Port Blair**	**6.55**	**347**	*ex*	x	20 58 18.8	
PBA				AMb	AMB	20 58 25.3	
	comp=Z,112nm,1.1s						
PBA				*e*S	**S**	**20 59 19.5**	**-6.1**
SNG	**Songkhla**	**6.60**	**73**	P	**P**	**20 58 13.0**	**+1.0**
	comp=Z,700nm,1.0s						
NNT	**Nongplab**	**9.09**	**36**	P	**P**	**20 58 48.9**	**+2.4**
BDT	**Bhumibol Dam**	**12.80**	**21**	P	**P**	**20 59 45.0**	**+7.9**
	comp=Z,16nm,0.8s						
PALK	**Pallekele**	**13.63**	**279**	P	**P**	**20 59 47.5**	**-0.6**
	comp=Z,3.2nm,0.4s						
PALK				S	**S**	**21 02 03.0**	**-16**
KKTK	**Khon Kaen**	**13.86**	**37**	P	**P**	**21 00 01.0**	**+10**
	comp=Z,2μm,0.6s						
CHG	**Chiang Mai**	**14.24**	**18**	⇑P	**P**	**20 59 59.9**	**+3.7**
	comp=Z,127nm,0.7s						
NANT	**Nan**	**14.87**	**24**	⇑P	**P**	**21 00 06.0**	**+1.6**
	comp=Z,634nm,1.0s						
CHRT	**Chiangrai**	**15.51**	**20**	⇓P	**P**	**21 00 11.0**	**-1.6**
	comp=Z,316nm,0.6s						
MDRS	**Chennai**	**15.87**	**300**	*ex*	x	21 04 24.0	
KSM	**Kuching**	**16.45**	**103**	*e*P	**P**	**21 00 26.9**	**+2.3**
SALM	**Salem**	**17.11**	**293**	*e*P	**P**	**21 00 38.0**	**+5.0**
SALM				*ex*	x	21 03 28.0	
TRD	**Trivandrum**	**17.48**	**282**	*ex*	**S**	**21 03 43.6**	**-5.3**
HYB	**Hyderabad**	**19.57**	**309**	*i* P	**P**	**21 01

KKN Kakani 24.00 340 *e*P **P 21 01 47.4 +0.2**
comp=Z,251nm,1.4s,mb5.5
BHPL Bhopal 24.17 319 *e*P **P 21 01 51.7 +2.8**
BHPL AMb AMB 21 01 55.7
comp=Z,33nm,1.6s,mb4.5
BHPL *e*S **S 21 06 14.3 +13**
GYA Guiyang 24.20 28⇑*i*P **P 21 01 50.3 +1.2**
GYA AP 21 01 59.3
GYA XP 21 02 03.6
GYA PP PP 21 02 28.8 +4.2
GYA S **S 21 06 11.5 +9.5**
GYA AMB AMB
comp=Z,170nm,0.8s,mb5.5
GYA AMB AMB
comp=Z,270nm,4.3s
GYA LR LR
comp=N,790nm,17.5s,MS4.4
GYA LR LR
comp=E,770nm,16.2s,MS4.4
GYA LR LR
comp=Z,1μm,16.8s,MS4.4
GKN Gorkha 24.42 339 *e*P **P 21 01 52.1 +0.8**
comp=Z,174nm,0.7s,mb5.6
LSA Lhasa 24.51 353 P **P 21 01 53.0 +0.9**
LSA Lhasa 24.51 353 *e*P **P 21 01 53.0 +0.9**
comp=Z,58nm,0.7s,mb5.2
LSA Lhasa 24.51 353 *e*P **P 21 01 53.0 +0.9**
LSA pmax pmax
comp=Z,57nm,0.7s,mb5.2
KOLN Koldanda 24.60 337 *e*P **P 21 01 53.9 +0.9**
comp=Z,175nm,0.7s,mb5.7
CD2 Chengdu 27.05 18 P **P 21 02 14.8 -1.1**
CD2 AMB AMB
comp=Z,20nm,1.2s,mb4.5
NDI New Delhi 28.37 327 *e*P **P 21 02 25.4 -2.5**
NDI AMb AMB 21 02 28.3
comp=Z,20nm,0.5s,mb5.0
ENH Enshi 28.74 28⇑*e*P **P 21 02 29.9 -1.2**
comp=Z,40nm,0.7s,mb5.2
WHN Wuhan 31.48 35 *e*P **P 21 02 56.1 +0.6**
WHN AP pP 21 03 03.5 -2.7
WHN LR LR
comp=N,1μm,15.4s,MS4.8
WHN LR LR
comp=E,1μm,16.2s,MS4.8
WHN LR LR
comp=Z,2μm,17.5s,MS4.8
LZH Lanzhou 31.94 15 ⇑P **P 21 02 58.2 -1.2**
LZH AP pP 21 03 07.5 -2.6
LZH AMB AMB
comp=Z,39nm,1.3s,mb5.1
LZH AMB AMB
comp=Z,78nm,5.7s
LZH LR LR
comp=N,383nm,13.3s
LZH LR LR
comp=Z,491nm,17.5s,MS4.2
LZH Lanzhou 31.94 15 ⇑P **P 21 02 58.2 -1.2**
comp=Z,39nm,1.3s,mb5.1
LZH pP pP 21 03 07.5 -2.6
LZH sP sP 21 03 11.6 -3.5
LZH *e*PP PP 21 04 19.5 +14
LZH LR LR
comp=Z,490nm,17.5s,MS4.2
LZH Lanzhou 31.94 15 ⇑P **P 21 02 58.2 -1.2**
LZH *SP sP 21 03 11.6 -3.5
LZH *e* 21 04 19.5
LZH pmax pmax
comp=Z,39nm,1.3s,mb5.1
LZH MLR MLR
comp=Z,490nm,17.5s,MS4.2
YHNB Yeheng 32.42 51 *e*P **P 21 03 04.9 +1.2**
GTA Gaotai 34.39 8 ⇑P **P 21 03 20.2 -0.4**
GTA PP PP 21 04 40.6 +3.8
GTA PCP PcP 21 05 56.6 +0.7
GTA S **S 21 08 51.2 +6.4**
GTA SS SS 21 11 05.8 +9.3
GTA AMB AMB
comp=Z,48nm,0.9s,mb5.4
GTA AMB AMB
comp=Z,160nm,6.8s
GTA LR LR
comp=N,220nm,19.0s,MS4.0
GTA LR LR
comp=E,147nm,19.8s,MS4.0
GTA LR LR
comp=Z,289nm,26.2s
NJ2 Nanjing 35.23 38 *e*P **P 21 03 28.0 +0.2**
NJ2 PP PP 21 04 47.8 +0.3
NJ2 S **S 21 08 49.0 -8.9**
NJ2 XS 21 09 21.0
NJ2 AMB AMB
comp=Z,70nm,0.9s,mb5.6
NJ2 AMB AMB
comp=Z,60nm,8.6s
NJ2 LR LR
comp=N,2μm,16.3s,MS5.0
NJ2 LR LR
comp=E,1μm,14.0s,MS5.0
NJ2 LR LR
comp=Z,1μm,14.2s,MS4.7
SSE Sheshan 36.07 41 *e*P **P 21 03 32.7 -2.3**
SSE AP pP 21 03 42.8 -3.0
SSE PP PP 21 04 56.8 -0.9
SSE S **S 21 09 11.0 +0.2**
SSE SCS ScS 21 13 44.5 -2.5
SSE AMB AMB
comp=Z,39nm,0.8s,mb5.4
SSE AMB AMB
comp=Z,60nm,4.7s
SSE LR LR
comp=N,312nm,14.8s,MS4.6
SSE LR LR
comp=E,648nm,14.9s,MS4.6
SSE LR LR
comp=Z,938nm,14.7s,MS4.7
SSE Sheshan 36.07 41 *e*P **P 21 03 32.7 -2.3**
comp=Z,39nm,0.8s,mb5.4
SSE pP pP 21 03 42.8 -3.0
SSE sP sP 21 03 46.5 -4.2
SSE PP PP 21 04 56.8 -0.9
SSE S **S 21 09 11.0 +0.2**
SSE sS 21 09 26.0
SSE SS SS 21 11 49.3 +14
SSE ScS ScS 21 13 44.5 -2.5
SSE LR LR
comp=Z,940nm,14.7s,MS4.7
MBWA Marble Bar 36.23 137 P **P 21 03 34.7 -1.7**
comp=Z,0.8nm,0.5s,mb3.9
TIA Tai'an 37.30 31 ⇑P **P 21 03 45.4 +0.1**
TIA AMB AMB
comp=Z,34nm,1.0s,mb5.1
KSH Kashi 37.92 337 *e*P **P 21 03 50.0 -0.4**
KSH *e*AP pP 21 03 59.4 -1.9
KSH *e*XP sP 21 04 04.1 -2.0
KSH AMB AMB
comp=Z,280nm,3.6s
BTO Baotou 37.95 20 *e*P **P 21 03 49.6 -1.1**
BTO AMB AMB
comp=Z,7.0nm,0.4s,mb4.7
FITZ Fitzroy Crossi 38.68 128⇑*i*P **P 21 03 55.7 -1.2**
comp=Z,18nm,0.6s,mb5.0
FITZ Fitzroy Crossi 38.68 128 P **P 21 03 55.7 -1.2**
comp=Z,22nm,0.6s,mb5.1,baz=314,slow=3.0,SNR=33
FITZ PcP PcP 21 06 07.7 -1.3
comp=Z,7.5nm,0.7s,baz=298,slow=5.7,SNR=3.3
HHC Hu-ho-hao-te 38.70 21 *e*P **P 21 03 57.6 +0.7**
HHC AP pP 21 04 07.7 -0.1
HHC XP sP 21 04 11.7 -0.9
HHC PP PP 21 05 33.8 +4.1
HHC PCP PcP 21 06 06.5 -2.4
HHC S **S 21 09 58.4 +7.4**
HHC XS 21 10 14.5
HHC SCS ScS 21 14 00.6 -1.2
HHC AMB AMB
comp=Z,38nm,0.8s,mb5.2
HHC AMB AMB
comp=Z,105nm,3.1s
HHC LR LR
comp=N,568nm,18.4s,MS4.6
HHC LR LR
comp=E,515nm,16.7s,MS4.6
HHC LR LR
comp=Z,550nm,19.6s,MS4.4
WMQ Urumqi 38.86 352 P **P 21 03 58.7 +0.5**
WMQ AP pP 21 04 06.7 -2.4
WMQ AMB AMB
comp=Z,9.0nm,0.9s,mb4.5
JOW Kunigami 38.89 53 P **P 21 03 59.6 +1.0**
comp=Z,23nm,0.5s,mb5.2,baz=189,slow=4.9,SNR=11
UCH Uchtor 40.81 337 P **P 21 04 15.7 +1.3**
SNR=15
TKM2 Tokmak 2 41.01 339 P **P 21 04 17.1 +1.0**
SNR=11
KBK Karagaybulak 41.02 338 P **P 21 04 17.7 +1.6**
SNR=12
AML Almayashu 41.05 337 P **P 21 04 17.8 +1.5**
SNR=29
AAK Ala-Archa 41.17 338 *e*P **P 21 04 17.6 +0.3**
comp=Z,26nm,0.9s,mb4.9
AAK Ala-Archa 41.17 338 *e*P **P 21 04 17.6 +0.3**
AAK pmax pmax
comp=Z,26nm,0.9s,mb4.9
FRU Bishkek 41.29 338 *e*P **P 21 04 19.0 +0.7**
FRU *e* 21 05 53.0
FRU pmax pmax
comp=Z,40nm,1.6s,mb4.8
USP Ospenovka 41.71 338 P **P 21 04 22.3 +0.5**
SNR=13
KAKA Kakadu 41.92 115 *e*P **P 21 04 28.1 +4.2**
comp=Z,10nm,0.5s,mb4.7
MKAR Makanchi Array 42.67 348 P **P 21 04 30.2 +0.5**
comp=Z,32nm,0.8s,mb5.1,baz=166,slow=8.3,SNR=267
MKAR LR LR 21 25 07.6
comp=Z,269nm,21.8s,MS4.1,baz=177,slow=40
MKAR Makanchi Array 42.67 348 P **P 21 04 30.2 +0.5**
MKAR LR LR 21 25 07.7
SONM Songino Array 43.70 12 P **P 21 04 37.8 -0.2**
comp=Z,25nm,0.8s,mb5.0,baz=191,slow=8.2,SNR=171
SONM PcP PcP 21 06 25.1 0.0
comp=Z,5.8nm,0.7s,baz=196,slow=3.7,SNR=6.9
SONM ScP 21 10 13.4
comp=Z,0.7nm,0.8s,baz=225,slow=2.0,SNR=4.0
SONM LR LR 21 25 41.7
comp=Z,250nm,20.0s,MS4.1,baz=313,slow=40
JNU Nakatsue 43.94 46 P **P 21 04 39.2 -0.9**
comp=Z,15nm,0.9s,mb4.7,baz=141,slow=5.4,SNR=7.3
KS15 Wonju Array Si 44.36 39 *e*P **P 21 04 43.4 -0.1**
SNY Shenyang 44.83 31 ⇑P **P 21 04 46.7 -0.4**
SNY AP pP 21 05 01.3 +3.2
SNY AMB AMB
comp=Z,20nm,1.5s,mb4.7
SNY AMB AMB
comp=Z,110nm,2.9s,mb5.2
SNY LR LR
comp=N,470nm,17.3s,MS4.5
SNY LR LR
comp=E,170nm,17.1s,MS4.5
SNY LR LR
comp=Z,420nm,17.6s,MS4.4
ZAK Zakamensk 45.62 8⇑*e*P **P 21 04 53.3 -0.1**
ZAK *e* 21 06 31.5
ZAK pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
ZAK pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
ZAK pmax pmax
comp=Z,1.0nm,0.8s,mb3.8
MOY Mondy 46.61 6 *e*P **P 21 05 01.4 +0.2**
WRA Warramunga Arr 46.67 124 P **P 21 05 01.4 -0.6**
comp=Z,18nm,0.6s,mb5.2,baz=302,slow=9.3,SNR=197
WRA pP pP 21 05 14.4 +1.4
comp=Z,44nm,0.9s,baz=300,slow=8.9,SNR=14
WRA S **S 21 11 49.4 +1.5**
comp=Z,1.8nm,1.1s,baz=306,slow=16,SNR=3.7
WRAB Tennant Creek 46.68 124 *e*P **P 21 05 01.7 -0.4**
comp=Z,112nm,1.0s,mb5.8
WRAB *e*sP sP 21 05 16.3 -1.5
WRAB Tennant Creek 46.68 124 *e*P **P 21 05 01.7 -0.4**
WRAB *e**SP sP 21 05 16.3 -1.5
WRAB pmax pmax
comp=Z,112nm,1.0s,mb5.8
WB2 Warramunga Arr 46.68 124⇑*i*P **P 21 05 01.6 -0.5**
WB2 *e*S **S 21 11 53.0 +4.9**
TLY Talaya 46.94 8 *e*P **P 21 05 04.1 +0.4**
comp=Z,11nm,0.9s,mb4.8
TLY Talaya 46.94 8 *e*P **P 21 05 04.1 +0.4**
TLY pmax pmax
comp=Z,14nm,1.0s,mb4.8
TLY MLR MLR
comp=Z,298nm,20.0s,MS4.2
KURK Kurchatov 47.18 346⇑*i*P **P 21 05 06.2 +0.5**
comp=Z,55nm,0.9s,mb5.5
KURK *e*pP pP 21 05 14.8 -1.9
KURK *e*sP sP 21 05 19.1 -2.2
KURK Kurchatov 47.18 346⇑*i*P **P 21 05 06.2 +0.5**
KURK *e**SP sP 21 05 19.1 -2.2
KURK pmax pmax
comp=Z,55nm,0.9s,mb5.5
CN2 Changchun 47.20 31 *e*P **P 21 05 04.9 -1.0**
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
IRK Irkutsk 47.58 8 *e*P **P 21 05 08.7 -0.1**
IRK pmax pmax
comp=Z,35nm,1.9s,mb5.1
HIA Hailar 48.90 22 *e*P **P 21 05 18.9 -0.1**
comp=Z,7.8nm,0.6s,mb4.9
HIA pP pP 21 05 31.1 +1.0
HIA Hailar 48.90 22 *e*P **P 21 05 18.9 -0.1**
HIA *PP pP 21 05 31.1 +1.1
HIA pmax pmax
comp=Z,8.0nm,0.6s
ZAL Zalesovo 49.16 353 P **P 21 05 21.0 0.0**
comp=Z,14nm,0.4s,mb5.3,baz=299,slow=6.2,SNR=82
ZAL S **S 21 12 23.1 +0.6**
comp=Z,0.8nm,0.3s,baz=49,slow=25,SNR=7.5
CIT Chita 49.30 16 *e*P **P 21 05 21.6 -0.5**
CIT *e* pP 21 05 33.5 +0.4
CIT pmax pmax
comp=Z,64nm,1.4s,mb5.5
MDJ Mudanjiang 49.93 33 P **P 21 05 27.2 +0.2**
MDJ XP sP 21 05 42.8 +0.1
MDJ AMB AMB
comp=Z,26nm,1.5s,mb5.0
MDJ AMB AMB
comp=Z,63nm,6.7s
MDJ LR LR
comp=N,253nm,20.4s,MS4.4
MDJ LR LR
comp=E,301nm,18.4s,MS4.4
MDJ LR LR
comp=Z,390nm,18.0s,MS4.5
MDJ Mudanjiang 49.93 33 *e*P **P 21 05 27.1 +0.1**
comp=Z,46nm,1.4s,mb5.3
KBD Kabd 50.01 304 *e*P **P 21 05 29.1 +1.2**
RDF Al-Radifah 50.04 304 *e*P **P 21 05 29.3 +1.2**
RDF AMb AMB 21 05 30.5
comp=Z,51nm,0.9s,mb5.5
NVS Novosibirsk 50.25 352 *e*P **P 21 05 28.2 -1.2**
NVS *e*S **S 21 12 34.9 -2.8**
NVS pmax pmax
comp=N,18nm,0.9s
NVS pmax pmax
comp=E,11nm,0.9s
NVS pmax pmax
comp=Z,25nm,0.9s,mb5.2
NVS smax
comp=N,16nm,1.5s
NVS smax
comp=E,16nm,1.5s
MIB Mutribah 50.51 305 *e*P **P 21 05 32.5 +0.9**
MIB AMb AMB 21 05 33.7
comp=Z,44nm,0.8s,mb5.4
MAJO Matsushiro 50.86 46 P **P 21 05 33.3 -1.0**
comp=Z,6.5nm,0.6s,mb4.7
MAJO Matsushiro 50.86 46 P **P 21 05 33.3 -0.9**
MAJO pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
MJAR Matsushiro Arr 50.86 46 P **P 21 05 34.0 -0.2**
comp=Z,3.1nm,0.6s,mb4.4,baz=205,slow=6.7,SNR=12
MJAR PcP PcP 21 06 49.7 -1.0
comp=Z,3.1nm,0.7s,baz=225,slow=2.7,SNR=6.3
MJAR LR LR 21 30 17.8
comp=Z,286nm,18.3s,MS4.3,baz=245,slow=40
MJAR Matsushiro Arr 50.86 46 P **P 21 05 34.0 -0.2**
MJAR PcP PcP 21 06 49.7 -1.0
MJAR LR LR 21 30 17.8
ATD Arta Tunnel 51.19 281 LR LR 21 23 59.8
comp=Z,116nm,18.0s,MS4.0,baz=81,slow=32
BVAR Borovoye Array 51.51 342 P **P 21 05 38.5 -0.4**
comp=Z,14nm,0.7s,mb5.0,baz=141,slow=8.9,SNR=114
BVAR PcP PcP 21 06 53.3 +0.4
comp=Z,5.0nm,0.8s,baz=146,slow=5.2,SNR=1.8
BVAR S **S 21 12 56.7 +1.6**
comp=Z,0.1nm,0.3s,baz=138,slow=17,SNR=3.3
BRVK Borovoye 51.57 342⇑*i*P **P 21 05 38.8 -0.5**
comp=Z,11nm,0.8s,mb4.8
BRVK *e*pP pP 21 05 48.7 -1.7
BRVK *e*sP sP 21 05 53.4 -1.7
BRVK Borovoye 51.57 342⇑*i*P **P 21 05 38.8 -0.6**
BRVK *e**PP pP 21 05 48.7 -1.8
BRVK *e**SP sP 21 05 53.4 -1.7
BRVK pmax pmax
comp=Z,11nm,0.8s,mb4.8
KLR Kul'dur 54.09 30 *e*P **P 21 05 54.8 -3.4**
KLR pmax pmax
comp=E,25nm,1.6s
KLR pmax pmax
comp=Z,34nm,1.6s,mb5.0
BOD Bodaibo 54.67 13⇓*i*P **P 21 06 01.3 -1.0**
BOD pmax pmax
comp=Z,38nm,0.9s,mb5.4
PMG Port Moresby 54.68 105 *e*P **P 21 06 01.4 -1.5**
comp=Z,7.2nm,0.4s,mb5.1
PMG Port Moresby 54.68 105 *e*P **P 21 06 01.4 -1.6**
PMG pmax pmax
comp=Z,7.0nm,0.4s
GNI Garni 56.37 316 P **P 21 06 15.4 +0.6**
comp=Z,7.2nm,0.7s,mb4.8,baz=52,slow=8.4,SNR=4.8
GNI Garni 56.37 316 P **P 21 06 13.3 -1.5**
comp=Z,4.7nm,0.7s,mb4.6
GNI Garni 56.37 316 P **P 21 06 13.3 -1.5**
GNI pmax pmax
comp=Z,5.0nm,0.7s
CTA Charters Tower 56.95 118 *e*P **P 21 06 18.2 -1.0**
comp=Z,9.1nm,1.0s,mb4.8
CTA Charters Tower 56.95 118 LR LR 21 30 52.6
comp=Z,318nm,20.4s,MS4.4,baz=288,slow=36
CTA Charters Tower 56.95 118 *e*P **P 21 06 18.2 -1.0**
CTA pmax pmax
comp=Z,9.0nm,1.0s
CTAO Charters Tower 56.95 118 P **P 21 06 18.4 -0.7**
comp=Z,0.9nm,0.5s,mb4.1
CTAO Charters Tower 56.95 118 P **P 21 06 18.4 -0.8**
CTAO pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
TBLG Delisi 57.04 317 P **P 21 06 19.4 -0.2**
KMBO Kilima Mbogo 57.29 265 P **P 21 06 23.4 +1.6**
comp=Z,3.1nm,0.9s,mb4.3,baz=54,slow=11,SNR=8.4
KMBO pP pP 21 06 35.6 +2.5
comp=Z,7.2nm,1.1s,baz=66,slow=6.6,SNR=8.3
KMBO LR LR 21 26 44.3
comp=Z,344nm,21.0s,MS4.4,baz=87,slow=32
SVE Sverdlovsk 57.88 339⇑*e*P **P 21 06 24.6 -0.7**
SVE *e* 21 06 41.7
SVE *e* 21 07 23.5
SVE *e*S **S 21 14 21.0 +0.5**
SVE pmax pmax
comp=Z,76nm,1.7s,mb5.5
ZEI Tsey 58.05 318 *e*P **P 21 06 23.5 -3.2**
ZEI pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
STKA Stephens Creek 58.22 133 *e*P **P 21 06 27.0 -1.0**
comp=Z,14nm,0.9s,mb5.0
STKA Stephens Creek 58.22 133 P **P 21 06 27.2 -0.8**
comp=Z,3.9nm,0.7s,mb4.5,baz=295,slow=9.0,SNR=11
STKA pP pP 21 06 40.5 +1.2
comp=Z,20nm,0.9s,baz=298,slow=2.8,SNR=11
STKA LR LR 21 31 52.1
comp=Z,313nm,19.3s,MS4.4,baz=126,slow=36
ARU Arti 58.35 338⇑*i*P **P 21 06 27.4 -1.1**
comp=Z,23nm,0.9s,mb5.2
ARU Arti 58.35 338⇑*i*P **P 21 06 27.6 -1.0**
ARU *e* 21 07 17.9
ARU *e* 21 08 39.8
ARU *e*PPP PPP 21 09 56.9 -6.2
ARU *e*S **S 21 14 28.7 +2.1**
ARU *e*SS SS 21 18 23.8 +3.2
ARU pmax pmax
comp=Z,19nm,0.9s,mb5.1
ARU MLR MLR
comp=Z,200nm,21.0s,MS4.2
ARU MLR MLR
comp=N,100nm,20.0s,MS4.3
ARU MLR MLR
comp=E,200nm,21.0s,MS4.3
ERZM Erzurum 58.66 314 *i*P **P 21 06 31.2 +0.2**
YSS Yuzh-Sakhalins 58.79 37 *e*P **P 21 06 31.2 -0.5**
comp=E,12nm,0.8s,mb5.0
YSS Yuzh-Sakhalins 58.79 37 *e*P **P 21 06 31.1 -0.6**
YSS *e* pP 21 06 43.2 +0.2
YSS pmax pmax
comp=Z,40nm,1.0s,mb5.4
YSS MLR MLR
comp=Z,300nm,17.0s,MS4.5
KIV Kislovodsk 59.36 319 *e*P **P 21 06 34.9 -0.8**
comp=Z,13nm,0.8s,mb5.0
KIV Kislovodsk 59.36 319*c i*P **P 21 06 35.0 -0.7**
KIV pmax pmax
comp=Z,33nm,1.6s,mb5.1
KIV MLR MLR
comp=Z,100nm,17.0s,MS4.0
ELZG Elazig 59.91 312 *i*P **P 21 06 39.5 -0.2**
MALT Malatya 60.27 311 *e*P **P 21 06 41.3 -0.8**
comp=Z,3.1nm,0.7s,mb4.5
MALT Malatya 60.27 311 *e*P **P 21 06 41.3 -0.8**
MALT pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
GZT Gaziantep 60.63 310 *i*P **P 21 06 44.3 -0.2**
KAHT Ahir Dag 61.23 310 *i*P **P 21 06 48.9 +0.3**
YAK Yakutsk 62.45 18 *e*P **P 21 06 54.6 -1.8**
comp=Z,41nm,0.8s,mb5.6
YAK Yakutsk 62.45 18*c i*P **P 21 06 54.8 -1.6**
YAK pmax pmax
comp=Z,102nm,1.5s,mb5.7
VRHR Novokhopersk 63.16 326 *e*P **P 21 06 59.5 -1.8**
VRHR pmax pmax
comp=Z,30nm,0.7s,mb5.5
VRHR pmax pmax
comp=N,20nm,0.5s
VRHR pmax pmax
comp=E,20nm,0.6s
BOYT Boyabat 63.80 314 *i*P **P 21 07 04.8 -0.9**
TOO Toolangi 63.87 136 *e*P **P 21 07 07.1 +0.9**
comp=E,13nm,0.9s,mb5.0
TOO Toolangi 63.87 136 *e*P **P 21 07 07.1 +0.9**
TOO pmax pmax
comp=Z,13nm,0.9s,mb5.0
BR131 Keskin Array S 64.25 312 *e*P **P 21 07 07.7 -0.9**
comp=Z,11nm,0.7s,mb5.0
BRTR Keskin Array B 64.25 312 P **P 21 07 07.8 -0.8**
comp=Z,12nm,0.7s,mb5.0,baz=127,slow=7.4,SNR=56
VORD Divnogorie 64.42 325 *e*P **P 21 07 07.6 -1.9**
VORD pmax pmax
comp=Z,20nm,0.8s,mb5.2
VORD pmax pmax
comp=N,20nm,1.0s
VORD pmax pmax
comp=E,20nm,0.6s
VRSR Storozhevoye 64.59 325 *e*P **P 21 07 08.7 -1.9**
VRSR pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
VRSR pmax pmax
comp=N,9.0nm,0.9s
VRSR pmax pmax
comp=E,20nm,0.8s
VRSR pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
VRSR pmax pmax
comp=N,9.0nm,0.9s
VRSR pmax pmax
comp=E,20nm,0.8s
VOR Voronezh 64.81 326 *e*P **P 21 07 10.5 -1.5**
VOR pmax pmax
comp=Z,70nm,1.7s,mb5.4
SIM Simferopol' 65.43 317 P **P 21 07 15.1 -1.0**
SIM pmax pmax
comp=Z,19nm,0.8s,mb5.2
SGKT Sivrigoynuk 65.64 312 *i*P **P 21 07 16.7 -0.9**
ESKT Eskisehir 66.28 311 *i*P **P 21 07 20.2 -1.5**
TKTP Tekketepe 66.36 309 *i*P **P 21 07 21.6 -0.5**
MOS Moscow 67.39 329 *e*P **P 21 07 26.4 -1.9**
MOS *e* 21 07 52.1
MOS *e*S S 21 16 23.9 +4.1
MOS pmax pmax
comp=Z,100nm,1.1s,mb5.8
MOS pmax pmax

comp=Z,82nm,0.8s,mb5.8
OBN Obninsk 67.67 328⇑ *e*P **P 21 07 29.1 -1.0**
comp=Z,18nm,0.8s,mb5.2
OBN Obninsk 67.67 328 *c i*P **P 21 07 29.1 -1.0**
OBN *i* pP 21 07 41.8 +0.2
OBN *i* 21 07 59.6
OBN *e*S S 21 16 24.4 +1.3
OBN *e*PS PS 21 16 43.2 -9.0
OBN pmax pmax
comp=Z,72nm,1.5s,mb5.5
OBN MLR MLR
comp=Z,100nm,19.0s,MS4.1
ULDT Uludag 67.71 311 *i* P **P 21 07 29.9 -0.7**
BTOK Tokmak 68.46 311 *i* P **P 21 07 34.6 -0.8**
MA2 Magadan 69.04 27⇑ *e*P **P 21 07 37.9 -0.7**
MA2 Magadan 69.04 27 *e*P **P 21 07 38.0 -0.5**
MA2 pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
TIRR Tirgusor 69.20 316 ⇓ P **P 21 07 39.0 -0.8**
TIRR Tirgusor 69.20 316 ⇓ P **P 21 07 39.0 -0.8**
CFR Carcaliu 69.56 316 ⇑ P **P 21 07 42.0 0.0**
CFR Carcaliu 69.56 316 ⇑ P **P 21 07 42.0 0.0**
HARR Harsova 69.59 316 ⇑ P **P 21 07 42.4 +0.2**
HARR Harsova 69.59 316 ⇑ P **P 21 07 42.4 +0.2**
TIXI Tiksi 69.78 11⇑ *i*P **P 21 07 41.4 -1.5**
IDI Anoyia 70.17 306 P **P 21 07 46.0 +0.1**
comp=Z,7.5nm,0.7s,mb4.7,baz=80,slow=6.1,SNR=4.1
IDI pP pP 21 07 58.6 +1.1
comp=Z,9.7nm,0.5s,baz=47,slow=8.7,SNR=2.7
AKASG Malin Array Be 70.29 322 P **P 21 07 44.8 -1.6**
comp=Z,9.9nm,0.7s,mb4.8,baz=91,slow=4.7,SNR=33
AKASG PP PP 21 10 14.0 -10
comp=Z,0.5nm,0.3s,baz=83,slow=7.6,SNR=5.5
AKASG Malin Array Be 70.29 322 P **P 21 07 44.8 -1.6**
AKASG PP PP 21 10 14.0 -10
PET Petropavlovsk 70.59 35 *i* P **P 21 07 46.6 -1.5**
VRI Vrincioaia 70.69 317 ⇓ P **P 21 07 49.4 +0.6**
VRI Vrincioaia 70.69 317 ⇓ P **P 21 07 49.4 +0.6**
MLR Muntele Rosu 71.14 316 P **P 21 07 51.9 +0.3**
comp=Z,22nm,0.8s,mb5.1,baz=151,slow=0.9,SNR=51
MLR Muntele Rosu 71.14 316 ⇓ P **P 21 07 52.0 +0.4**
MLR Muntele Rosu 71.14 316 ⇓ P **P 21 07 52.0 +0.5**
SEY Seymchan 71.26 24 *e*P **P 21 07 51.3 -0.7**
VOIR 71.75 316 ⇑ P **P 21 07 54.3 -0.9**
VOIR 71.75 316 ⇑ P **P 21 07 54.4 -0.8**
CASY Casey 72.31 173 *e*P **P 21 07 59.0 +0.8**
PUL Pulkovo 72.57 332⇑ *i*P **P 21 07 59.9 +0.1**
PUL Pulkovo 72.57 332 *i* P **P 21 07 59.9 +0.1**
PUL pmax pmax
comp=Z,88nm,0.7s,mb5.8
PUL pmax pmax
comp=N,67nm,0.6s
PUL pmax pmax
comp=E,52nm,0.9s
VSU Vasula 73.91 330 *e*P **P 21 08 07.3 -0.4**
KWP Kalwaria 74.11 320⇑ *e*P **P 21 08 09.3 +0.3**
KOLS Kolonicke sedl 74.26 319 *e*P **P 21 08 07.2 -2.7**
BOSA Boshof 74.31 239 P **P 21 08 11.2 +0.5**
comp=E,3.7nm,0.6s,mb4.5,baz=132,slow=3.3,SNR=10.0
BOSA LR LR 21 34 56.9
comp=E,222nm,20.1s,MS4.5,baz=163,slow=31
SUW Suwalki 74.71 325⇑ *e*P **P 21 08 11.7 -0.7**
SUW Suwalki 74.71 325⇑ *e*P **P 21 08 11.7 -0.7**
CRVS Cervenica-Dubn 74.79 319 *e*P **P 21 08 14.0 +1.0**
STHS Stebnicka Huta 75.01 320 *e*P **P 21 08 15.1 +0.8**
FINES FINESS Array B 75.09 333 P **P 21 08 14.2 -0.2**
comp=E,10nm,0.5s,mb5.0,baz=93,slow=5.5,SNR=80
KAF Kangasniemi 75.18 333 *e*p **P 21 08 13.2 -1.8**
comp=E,12nm,0.6s,mb5.0,baz=105,slow=5.4
KECS Kecovo 75.36 319 *i* P **P 21 08 16.4 +0.1**
PSZ Piszkesteto 75.67 318⇑ *e*P **P 21 08 18.3 +0.3**
PSZ Piszkesteto 75.67 318 *e*P **P 21 08 17.7 -0.3**
comp=E,11nm,0.9s,mb4.8
PSZ Piszkesteto 75.67 318 *e*P **P 21 08 17.7 -0.3**
PSZ pmax pmax
comp=Z,11nm,0.9s,mb4.8
MAW Mawson 76.00 192 P **P 21 08 21.0 +1.5**
comp=Z,2.5nm,1.0s,mb4.1,baz=4.8,slow=12,SNR=2.0
MAW LR LR 21 36 16.9
comp=Z,174nm,19.9s,MS4.4,baz=45,slow=31
OJC Ojcow 76.06 320 *e*P **P 21 08 20.6 +0.4**
VYHS Vyhne 76.44 319 *e*P **P 21 08 22.8 +0.4**
TIP Timpagrande 77.03 309 *e*P **P 21 08 25.2 -0.7**
OKC Ostrava-Krasne 77.07 320 *e*P **P 21 08 26.2 +0.3**
OKC *e*S S 21 18 08.0 -2.5
OKC AMS AMS 21 46 40.0
comp=Z,200nm,16.9s
MORC Moravsky Berou 77.45 320 *e*P **P 21 08 28.1 +0.1**
comp=Z,19nm,1.3s,mb4.9
MORC Moravsky Berou 77.45 320 *e*P **P 21 08 28.1 0.0**
MORC pmax pmax
comp=Z,19nm,1.3s,mb4.9
ZST Bratislava 77.56 318 *i* P **P 21 08 29.3 +0.6**
ZST *e*pP pP 21 08 40.1 -0.2
ARCES ARCESS Array B 77.77 340 P **P 21 08 29.4 0.0**
comp=Z,4.3nm,0.8s,mb4.4,baz=106,slow=6.7,SNR=13
VRAC Vranov 78.01 319 P **P 21 08 31.1 -0.1**
comp=Z,2.4nm,0.7s,mb4.2,baz=100,slow=5.9,SNR=3.4
VRAC pP pP 21 08 43.9 +1.1
comp=Z,2.0nm,0.5s,baz=169,slow=13,SNR=2.6
GKP Gorka Klasztor 78.07 323 *e*P **P 21 08 31.3 0.0**
GKP Gorka Klasztor 78.07 323 *e*P **P 21 08 31.3 -0.1**
KSP Ksiaz 78.36 321 *e*P **P 21 08 33.9 +0.8**
KSP Ksiaz 78.36 321 *e*P **P 21 08 33.9 +0.9**
UPC Upice 78.51 320 *e*P **P 21 08 34.4 +0.6**
ARSA Arzberg 78.53 317⇓ *i*P **P 21 08 34.7 +0.7**
comp=Z,83nm,2.1s,mb5.2
BOJS Bojanci 78.58 315 *e*P **P 21 08 34.5 +0.1**
PERS Pernice 78.76 316 *e*P **P 21 08 36.0 +0.6**
PDKS Podkum 78.80 316 *e*P **P 21 08 36.2 +0.6**
VISS Visnje 78.89 316 *e*P **P 21 08 36.3 +0.3**
LJU Ljubljana 79.13 316 *e*P **P 21 08 38.0 +0.6**
FX1 Attu Island--F 79.14 37 *e*P **P 21 08 37.0 -0.3**
PRU Pruhonice 79.40 320 *e*P **P 21 08 39.2 +0.5**
PRU *e*SKS SKS 21 18 54.0 +7.2
PRU AMS AMS 21 47 40.0
comp=Z,300nm,19.0s
MOA Molln 79.42 318⇑ *i*P **P 21 08 39.1 +0.2**
comp=Z,37nm,2.2s,mb4.9
PVCC Panska Ves 79.43 320 *e*P **P 21 08 39.6 +0.7**
PVCC AMS AMS 21 47 50.0
comp=Z,300nm,18.0s
BRG Berggiesshubel 79.85 321⇑ *i*P **P 21 08 42.0 +0.8**
BRG Berggiesshubel 79.85 321⇑ *i*P **P 21 08 42.0 +0.9**
BRG *i* pP 21 08 56.0 +3.2
BRG pmax pmax
comp=Z,17nm,1.1s,mb4.9
BRG pmax pmax
comp=Z,25nm,1.6s,mb4.9
GERES GERESS Array B 79.87 319 P **P 21 08 42.1 +0.8**
comp=Z,8.5nm,0.7s,mb4.8,baz=90,slow=5.3,SNR=60
KHC Kasperske Hory 79.97 319 *e*P **P 21 08 40.7 -1.1**
KHC *e*S S 21 18 42.5 +1.2
KHC AMS AMS 21 46 50.0
comp=Z,400nm,16.9s
WET Wettzell 80.42 319 *e*P **P 21 08 44.8 +0.5**
comp=Z,17nm,1.2s,mb4.8
WET Wettzell 80.42 319 *e*P **P 21 08 44.8 +0.5**
WET pmax pmax
comp=Z,17nm,1.2s,mb4.8
CLL Collm 80.47 321 ⇑P **P 21 08 44.5 +0.1**
comp=Z,logA/T=1.0,mb4.7
CLL *i* *PP pP 21 08 54.4 -1.7
CLL Collm 80.47 321⇑ *i*P **P 21 08 44.5 +0.1**
comp=Z,13nm,1.2s,mb4.7
CLL *i* pP 21 08 54.4 -1.7
CLL Collm 80.47 321⇑ *i*P **P 21 08 44.5 +0.1**
CLL *i* pP 21 08 54.4 -1.7
CLL pmax pmax
comp=Z,13nm,1.2s,mb4.7
NKC Novy Kostel 80.76 320 *e*P **P 21 08 46.7 +0.7**
NKC AMS AMS 21 47 30.0
comp=Z,400nm,13.5s
HFS Hagfors 80.78 330 P **P 21 08 45.9 0.0**
comp=Z,7.7nm,0.6s,mb4.8,baz=117,slow=6.6,SNR=60
WTTA Wattenberg 81.17 317⇑ *i*P **P 21 08 48.3 +0.1**
comp=Z,84nm,2.5s,mb5.2
WTTA Wattenberg 81.17 317⇑ *i*P **P 21 08 48.3 +0.1**
WTTA pmax pmax
comp=Z,84nm,2.5s,mb5.2
WATA Walderalm 81.22 317⇓ *i*P **P 21 08 48.3 -0.2**
comp=Z,13nm,1.4s,mb4.7
WATA Walderalm 81.22 317⇓ *i*P **P 21 08 48.3 -0.2**
WATA pmax pmax
comp=Z,13nm,1.4s,mb4.7
MOX Moxa 81.31 320 *i* P **P 21 08 49.7 +0.8**
comp=Z,logA/T=1.1,mb4.8
MOX pP pP 21 09 00.0 -0.6
MOX L 21 48 22.0
MOX Moxa 81.31 320 *e*P **P 21 08 49.7 +0.8**
comp=Z,21nm,1.6s,mb4.8
MOX *e* pP 21 09 00.0 -0.6
MOX LR LR
comp=Z,300nm,20.0s,MS4.7
MOX Moxa 81.31 320 *e*P **P 21 08 49.7 +0.8**
MOX *e* pP 21 09 00.0 -0.6
MOX pmax pmax
comp=Z,21nm,1.6s,mb4.8
MOX MLR MLR
comp=Z,300nm,20.0s,MS4.7
FUR Furstenfeldbru 81.44 318 *e*P **P 21 08 49.8 +0.2**
comp=Z,9.0nm,0.7s,mb4.8
FUR Furstenfeldbru 81.44 318 *e*P **P 21 08 49.8 +0.2**
FUR pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
SQTA Sankt Quirin 81.46 317⇑ *i*P **P 21 08 49.8 0.0**
comp=Z,6.9nm,0.9s,mb4.6
SQTA Sankt Quirin 81.46 317⇑ *i*P **P 21 08 49.8 0.0**
SQTA pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
GRA1 Grafenberg Arr 81.53 319 *e*P **P 21 08 51.0 +1.0**
comp=Z,22nm,1.2s,mb5.0
GRA1 *e*pP pP 21 09 03.0 +1.2
GRA1 LR LR
comp=Z,400nm,21.0s,MS4.8
GRF Grafenberg Arr 81.53 319 *e*P **P 21 08 51.0 +1.0**
comp=Z,22nm,1.2s,mb5.0
GRF *e*pP pP 21 09 03.0 +1.2
GRF LR LR
comp=Z,400nm,21.0s,MS4.8
GRF Grafenberg Arr 81.53 319 *e*P **P 21 08 51.0 +1.0**
GRF *e**PP pP 21 09 03.0 +1.2
GRF pmax pmax
comp=Z,22nm,1.2s,mb5.0
GRF MLR MLR
comp=Z,400nm,21.0s,MS4.8
GRF Grafenberg Arr 81.53 319 *e*P **P 21 08 51.0 +1.0**
GRF *e**PP pP 21 09 03.0 +1.2
GRF pmax pmax
comp=Z,22nm,1.2s,mb5.0
GRF MLR MLR
comp=Z,400nm,21.0s,MS4.8
MOTA Moosalm 81.54 317⇑ *i*P **P 21 08 50.1 0.0**
comp=Z,12nm,1.1s,mb4.7
MOTA Moosalm 81.54 317⇑ *i*P **P 21 08 50.1 0.0**
MOTA pmax pmax
comp=Z,12nm,1.1s,mb4.7
NB2 NORSAR Subarra 82.08 331 P **P 21 08 52.1 -0.5**
comp=Z,6.7nm,0.8s,mb4.6,baz=98,slow=5.3
NB2 NORSAR Subarra 82.08 331 P **P 21 08 52.1 -0.5**
NB2 pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
NOA NORSAR Array B 82.08 331 P **P 21 08 52.3 -0.3**
comp=Z,5.0nm,0.8s,mb4.5,baz=94,slow=5.5,SNR=22
NOA LR LR 21 48 22.8
comp=Z,127nm,21.6s,MS4.2,baz=150,slow=38
CLZ Clausthal 82.13 321 *e*P **P 21 08 53.8 +0.7**
comp=Z,17nm,1.1s,mb4.9
CLZ Clausthal 82.13 321 *e*P **P 21 08 53.8 +0.7**
CLZ pmax pmax
comp=Z,17nm,1.1s,mb4.9
BSEG Bad Segeberg 82.23 324 *e*P **P 21 08 54.5 +0.9**
BSEG pmax pmax
comp=Z,25nm,0.9s,mb5.1
DAVOX Davos 82.37 316 P **P 21 08 55.5 +1.1**
comp=Z,14nm,0.6s,mb5.0,baz=112,slow=5.0,SNR=20
DAVA Damuels 82.37 317⇑ *i*P **P 21 08 55.0 +0.6**
comp=Z,25nm,1.5s,mb4.9
SYO Syowa Base 82.94 197 ⇑PcP PcP 21 09 05.0 +3.0
TNS Taunus Mts 83.33 320 *e*P **P 21 09 00.1 +0.9**
comp=Z,12nm,1.0s,mb4.9
TNS Taunus Mts 83.33 320 *e*P **P 21 09 00.1 +0.9**
TNS pmax pmax
comp=Z,12nm,1.0s,mb4.9
BFO Black Forest 83.42 318 *e*P **P 21 08 59.9 +0.2**
comp=Z,8.0nm,0.8s,mb4.8
BFO Black Forest 83.42 318 *e*P **P 21 08 59.9 +0.2**
BFO pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
BNI Bardonecchia 84.62 315 *e*P **P 21 09 06.2 +0.3**
comp=Z,8.2nm,0.8s,mb4.9
BNI Bardonecchia 84.62 315 *e*P **P 21 09 06.2 +0.3**
BNI pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
URZ Urewera 87.61 129 LR LR 21 47 48.7
comp=Z,167nm,18.4s,MS4.5,baz=258,slow=35
EKA Eskdalemuir Ar 89.95 325 P **P 21 09 32.2 +0.9**
comp=Z,6.1nm,0.7s,mb5.0,baz=95,slow=5.4,SNR=18
VNDA Vanda 90.34 168 P **P 21 09 33.5 +0.7**
comp=Z,0.8nm,0.5s,mb4.3,baz=277,slow=4.4,SNR=8.1
VNDA LR LR 21 45 24.5
comp=Z,136nm,19.7s,MS4.4,baz=305,slow=32
SBA Scott Base 91.44 168 *e*P **P 21 09 39.3 +1.3**
comp=Z,17nm,1.7s,mb5.1
SBA *e* 21 09 47.4
SBA Scott Base 91.44 168 *e*P **P 21 09 39.3 +1.4**
SBA *e* 21 09 47.4
SBA pmax pmax
comp=Z,17nm,1.7s,mb5.1
IMA Indian Mountai 94.00 22 *e*P **P 21 09 50.3 +0.5**
comp=Z,98nm,1.5s,mb6.0
IMA Indian Mountai 94.00 22 *e*P **P 21 09 50.3 +0.5**
IMA pmax pmax
comp=Z,98nm,1.5s,mb6.0
DBIC Dimbokro 96.42 278 LR LR 21 51 10.0
comp=Z,124nm,20.3s,MS4.4,baz=54,slow=33
PPT Papeete 116.49 107 *e*LR LR 21 50 38.2
comp=Z,75nm,25.5s
SCHQ Schefferville 118.11 348 PKP PKPdf 21 15 19.4 +1.5
comp=Z,1.1nm,0.6s,baz=11,slow=5.2,SNR=4.3
SCHQ Schefferville 118.11 348 PKP PKPdf 21 15 19.1 +1.3
ULM Lac du Bonnet 124.05 8 PKP PKPdf 21 15 30.6 +1.1
comp=Z,1.0nm,0.3s,baz=11,slow=4.3,SNR=3.2
HLID Hailey 124.95 25 PKP PKPdf 21 15 30.6 -0.8
HLID *e*pPKPdf 21 15 40.0
ELK Elko 126.84 28 *e*PKPdf PKPdf 21 15 37.5 +2.3
PDAR Pinedale Array 127.56 22 PKP PKPdf 21 15 37.5 +1.0
comp=Z,1.6nm,0.8s,baz=61,slow=0.4,SNR=14
PDAR PP PP 21 17 37.7 -3.9
comp=Z,0.2nm,0.5s,baz=339,slow=7.7,SNR=2.6
MNTX Cornudas Mount 138.77 26 PKP PKPdf 21 15 55.0 -2.7
TXAR Lajitas Array 141.55 26 PKhKP 21 15 58.8
comp=Z,0.5nm,0.5s,baz=270,slow=1.3,SNR=6.4
TXAR PP PP 21 19 08.1 -2.2
comp=Z,0.5nm,0.7s,slow=5.0,SNR=5.0
BDFB Brasilia 141.56 251 PKP PKPdf 21 16 03.8 +0.6
comp=Z,2.2nm,0.6s,baz=157,slow=7.7,SNR=3.0
CPUP Villa Florida 145.70 229 PKPbc PKPbc 21 16 12.2 +1.3
comp=Z,5.0nm,0.7s,baz=139,slow=3.4,SNR=19
CPUP Villa Florida 145.70 229 *e*PKPdf PKPdf 21 16 12.2 +2.0
DWPF Disney 146.59 353 *e*PKPdf PKPdf 21 16 13.5 +1.9
LPAZ La Paz 159.54 236 PKP PKPdf 21 16 33.7 +3.4
comp=Z,1.0nm,0.7s,baz=31,slow=5.7,SNR=4.1
LPAZ PKPab PKPab 21 17 12.0 +1.2
comp=Z,2.2nm,0.7s,baz=90,slow=3.0,SNR=6.9
LPAZ La Paz 159.54 236 PKP PKPdf 21 16 33.7 +3.4
LPAZ PKPab PKPab 21 17 12.0 +1.2

BJI ***02*** *21:32:28.0, 11.20S×166.50E, h83km, mB5.0, mb4.9*
NEIC ***02*** *21:32:29.7±0.5, 11.18S×166.46E, mb4.6/8, Error ellipse: s-maj=12.3km s-min=9.3km az=91.0*
IDC ***02*** *21:32:32.7±3.2, 11.24S×166.37E, h109km±27km, mb4.1/13, mb1 4.2/16, mb1mx4.2/21, mbtmp4.5/16, MS3.8/2, Ms1 3.8/2, ms1mx3.3/16, Error ellipse: s-maj=21.3km s-min=15.7km az=86.0*
ISC 02 21:32:31.9±1.9, 11.32S±0.08×166.3E±0.1, h114km±15km, n52, σ0§99/50, mb4.7/27, 2D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.51**	**286**	P	**P**	**21 34 07.8**	**+1.3**
	9.1nm,0.3s,baz=175,slow=5.5,SNR=4.0						
HNR				S	**S**	**21 35 17.2**	**-2.6**
	20nm,0.3s,baz=156,slow=20,SNR=3.2						
HNR	**Honiara**	**6.51**	**286**	*e*Pn	**P**	**21 34 06.9**	**+0.4**
HNR				*e*Sn	**S**	**21 35 17.4**	**-2.4**
DZM	**Mont Dzumac**	**10.69**	**179**	*e*P	**P**	**21 35 03.1**	**+0.3**
DZM				*e*S	**S**	**21 36 55.8**	**-5.1**
DZM	**Mont Dzumac**	**10.69**	**179**	P	**P**	**21 35 03.2**	**+0.3**
	5.8nm,0.3s,baz=37,slow=18,SNR=70						
DZM				S	**S**	**21 36 58.2**	**-2.6**
	4.4nm,0.3s,baz=123,slow=22,SNR=7.2						
DZM	**Mont Dzumac**	**10.69**	**179**	*e*P	**P**	**21 35 03.1**	**+0.3**
DZM				*e*S	**S**	**21 36 55.8**	**-5.1**
NOUC	**Port Laguerre**	**10.72**	**180**	*e*P	**P**	**21 35 04.0**	**+0.8**
NOUC				*e*S	**S**	**21 36 56.9**	**-4.6**
NOUC	**Port Laguerre**	**10.72**	**180**	*e*P	**P**	**21 35 04.0**	**+0.8**
NOUC				*e*S	**S**	**21 36 56.9**	**-4.6**
PMG	**Port Moresby**	**18.91**	**274**	P	**P**	**21 36 47.0**	**+0.8**
	0.7nm,0.3s,baz=104,slow=3.8,SNR=4.5						
CTA	**Charters Tower**	**21.14**	**243**	P	**P**	**21 37 10.3**	**+1.0**
	6.3nm,0.6s,mb4.1,baz=109,slow=14,SNR=5.2						
CTAO	**Charters Tower**	**21.14**	**243**	*e*P	**P**	**21 37 10.0**	**+0.7**
	7.6nm,0.8s,mb4.1						
AFI	**Afiamalu**	**21.56**	**99**	LR	LR	21 43 59.7	
	comp=Z,109nm,18.8s,baz=349,slow=32						
STKA	**Stephens Creek**	**30.61**	**224**	P	**P**	**21 38 37.9**	**+0.5**
	5.1nm,1.0s,mb4.2,baz=33,slow=13,SNR=4.1						
WB2	**Warramunga Arr**	**31.87**	**250**	*e*P	**P**	**21 38 48.5**	**-0.1**
WRAB	**Tennant Creek**	**31.87**	**250**	*e*P	**P**	**21 38 48.1**	**-0.5**
	5.7nm,0.7s,mb4.4						
WRA	**Warramunga Arr**	**31.89**	**250**	P	**P**	**21 38 47.8**	**-0.8**
	3.0nm,0.6s,mb4.2,baz=83,slow=9.2,SNR=19						
WRA				PcP	PcP	21 41 37.0	+0.3
	1.3nm,0.9s,baz=82,slow=2.4,SNR=6.8						
RPZ	**Rata Peaks**	**32.54**	**174**	P	**P**	**21 38 52.9**	**-1.2**
	7.1nm,0.6s,mb4.7,baz=314,slow=12,SNR=6.3						
KAKA	**Kakadu**	**33.12**	**264**	*e*P	**P**	**21 39 04.8**	**+5.4**
	9.0nm,0.6s,mb4.8						
FITZ	**Fitzroy Crossi**	**39.82**	**255**	*e*P	**P**	**21 39 56.6**	**+0.9**
	7.1nm,0.7s,mb4.6						
FITZ	**Fitzroy Crossi**	**39.82**	**255**	P	**P**	**21 39 56.6**	**+0.9**
	9.4nm,0.7s,mb4.7,baz=183,slow=4.0,SNR=13						
PPT	**Papeete**	**43.12**	**104**	*e*LR	LR	21 52 44.8	
	148nm,29.5s						
NWAO	**Narrogin (SRO)**	**49.75**	**236**	P	**P**	**21 41 15.4**	**+0.6**
	4.0nm,0.6s,mb4.5,baz=117,slow=4.5,SNR=4.2						
MJAR	**Matsushiro Arr**	**54.46**	**332**	P	**P**	**21 41 47.6**	**-2.3**
	5.5nm,0.7s,mb4.7,baz=168,slow=9.0,SNR=17						
MAJO	**Matsushiro**	**54.46**	**332**	*e*P	**P**	**21 41 46.9**	**-3.0**
	4.2nm,0.6s,mb4.7						
VNDA	**Vanda**	**66.22**	**181**	P	**P**	**21 43 09.8**	**+0.4**
	0.6nm,0.7s,mb3.5,baz=341,slow=3.9,SNR=6.6						
VNDA	**Vanda**	**66.22**	**181**	P	**P**	**21 43 09.8**	**+0.4**
CN2	**Changchun**	**66.25**	**329**	*e*P	**P**	**21 43 08.9**	**-1.1**
CN2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0						
CASY	**Casey**	**66.31**	**201**	P	**P**	**21 43 08.2**	**-1.8**
CASY				*e*pP	pP	21 43 29.9	-8.4
XAN	**Xi'an**	**70.70**	**312**	P	**P**	**21 43 37.5**	**-0.1**
XAN				AMB	AMB		
	comp=Z,22nm,0.8s,mb5.0						
KMI	**Kunming**	**71.72**	**301**	P	**P**	**21 43 44.9**	**+1.1**
KMI				AMB	AMB		
	comp=Z,14nm,1.4s,mb4.6						
KMI	**Kunming**	**71.72**	**301**	P	**P**	**21 43 44.9**	**+1.1**
	comp=Z,14nm,1.4s,mb4.6						
KMI				pP	pP	21 43 56.0	-17
HHC	**Hu-ho-hao-te**	**72.38**	**319**	*e*P	**P**	**21 43 48.3**	**+0.8**
HHC				AMB	AMB		
	comp=Z,11nm,0.6s,mb4.9						
CD2	**Chengdu**	**73.19**	**307**	*e*P	**P**	**21 43 52.0**	**-0.4**
LZH	**Lanzhou**	**75.33**	**312**	⇓P	**P**	**21 44 05.9**	**+1.2**
LZH				AP	pP	21 44 28.0	-5.7
LZH				XP	sP	21 44 40.1	-6.0
LZH				AMB	AMB		
	comp=Z,27nm,1.2s,mb4.8						
LZH	**Lanzhou**	**75.33**	**312**	⇓P	**P**	**21 44 05.9**	**+1.2**
	comp=Z,27nm,1.2s,mb4.8						
LZH				pP	pP	21 44 28.0	-5.7
LZH				sP	sP	21 44 40.1	-6.0
SONM	**Songino Array**	**79.20**	**324**	P	**P**	**21 44 26.3**	**+0.5**
	comp=Z,3.4nm,0.6s,mb4.3,baz=132,slow=5.8,SNR=23						
LSA	**Lhasa**	**82.95**	**302**	*e*P	**P**	**21 44 47.2**	**+1.4**
	comp=Z,4.3nm,0.7s,mb4.4						
ILAR	**Eielson Array**	**83.61**	**18**	P	**P**	**21 44 48.0**	**-0.5**
	comp=Z,2.1nm,0.6s,mb4.1,baz=257,slow=5.0,SNR=23						
YBH	**Yreka Blue Hor**	**83.71**	**45**	P	**P**	**21 44 50.5**	**+1.0**
	comp=Z,1.4nm,0.6s,mb4.0,baz=168,slow=9.3,SNR=3.6						
PKI	**Pulchoki**	**87.23**	**299**	*e*P	**P**	**21 45 07.3**	**+0.2**
	comp=Z,18nm,0.8s,mb5.1						
KKN	**Kakani**	**87.40**	**299**	*e*P	**P**	**21 45 07.8**	**-0.1**
	comp=Z,48nm,1.4s,mb5.2						
DMN	**Daman**	**87.50**	**299**	*e*P	**P**	**21 45 08.1**	**-0.3**
	comp=Z,49nm,0.9s,mb5.5						
GKN	**Gorkha**	**88.00**	**299**	*e*P	**P**	**21 45 10.5**	**-0.3**
	comp=Z,37nm,0.8s,mb5.5						
KOLN	**Koldanda**	**88.84**	**298**	*e*P	**P**	**21 45 14.8**	**0.0**
	comp=Z,14nm,0.7s,mb5.1						
MKAR	**Makanchi Array**	**94.08**	**317**	P	**P**	**21 45 39.1**	**+0.5**
	comp=Z,10nm,0.7s,mb5.2,baz=94,slow=5.9,SNR=32						
ZAL	**Zalesovo**	**94.10**	**324**	P	**P**	**21 45 37.6**	**-0.8**
	comp=Z,1.9nm,0.8s,mb4.5,baz=353,slow=6.7,SNR=8.0						
TXAR	**Lajitas Array**	**95.50**	**61**	LR	LR	22 25 29.2	
	comp=Z,71nm,18.3s,baz=30,slow=33						
BVAR	**Borovoye Array**	**102.49**	**322**	P	Pdif	21 46 16.1	-0.3
	comp=Z,0.6nm,0.7s,baz=90,slow=3.0,SNR=4.3						
ARCES	**ARCESS Array B**	**116.73**	**346**	PKP	PKPdf	21 51 03.3	+1.0
	comp=Z,1.9nm,0.6s,baz=80,slow=2.4,SNR=16						
FINES	**FINESS Array B**	**122.22**	**339**	PKP	PKPdf	21 51 14.2	+1.1
	comp=Z,0.4nm,0.4s,SNR=5.5						
NOA	**NORSAR Array B**	**127.11**	**345**	PKP	PKPdf	21 51 21.8	-0.7
	comp=Z,0.7nm,0.7s,baz=31,slow=1.9,SNR=3.8						
GERES	**GERESS Array B**	**136.19**	**334**	PKP	PKPdf	21 51 41.5	+1.5
	comp=Z,0.4nm,0.4s,SNR=7.5						
ESDC	**Sonseca Array**	**150.47**	**345**	PKPbc	PKPdf	21 52 12.1	+7.3
	comp=Z,0.4nm,0.4s,baz=45,slow=2.1,SNR=4.6						

IDC ***02*** *21:35:19.0±0.8, 34.41N×22.06E, mb3.9/13, mb1 4.0/17, mb1mx3.9/30, mbtmp3.9/17, ML3.6/4, Error ellipse: s-maj=16.9km s-min=15.8km az=110.0*
NEIC ***02*** *21:35:21.3, 34.12N×21.99E, h25km, mb3.7/10, MD4.3(PDG), ML4.3(THE), ML3.8(ATH), After CSEM.*
PDG ***02*** *21:35:23.7±0.2, 34.77N×20.76E, h1km±11km*
CSEM ***02*** *21:35:23.7±0.1, 34.46N×21.98E, h45km±1km, mb4.1/2, Ms3.3, Error ellipse: s-maj=3.8km s-min=1.8km az=27.0*
MOS ***02*** *21:35:24.9±1.0, 34.79N×22.09E, h33km, mb4.2/9, Error ellipse: s-maj=8.8km s-min=4.4km az=114.0*
THE ***02*** *21:35:29.0, 34.85N×21.98E, h24km, ML4.3*
ISC 02 21:35:24.6±0.7, 34.62N±0.04×22.02E±0.04, h47km±7km, n147, σ1§31/164, mb3.9/17, MS3.4/1, 2C, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**1.72**	**82**	*e*P	**P**	**21 35 52.1**	**-0.6**
GVD	**Gavdhos**	**1.72**	**82**	*e*Pn	**P**	**21 35 52.0**	**-0.7**
GVD	**Gavdhos**	**1.72**	**82**	*e*Pn	**P**	**21 35 52.0**	**-0.7**
KYTH	**Kithira**	**1.85**	**26**	*e*P	**P**	**21 35 57.6**	**+3.0**
VAM	**Vamos**	**1.96**	**66**	*e*P	**P**	**21 35 51.6**	**-4.4**
VAM	**Vamos**	**1.96**	**66**	P	**P**	**21 35 56.9**	**+0.9**
VLI	**Veliai**	**2.23**	**19⇑**	*i*P	**P**	**21 36 03.0**	**+3.2**
VLI	**Veliai**	**2.23**	**19**	P	**P**	**21 36 03.3**	**+3.5**
IDI	**Anoyia**	**2.45**	**73**	Pn	**P**	**21 36 02.7**	**-0.4**
	8.9nm,0.3s,baz=244,slow=10,SNR=188						
IDI				Sn	**S**	**21 36 34.6**	**+2.6**
	15nm,0.3s,baz=291,slow=21,SNR=5.4						
ITM	**Ithomi**	**2.56**	**358**	*e*P	**P**	**21 36 07.0**	**+2.4**
NPS	**Neapolis**	**3.02**	**77**	*e*P	**P**	**21 36 11.0**	**-0.2**
NPS	**Neapolis**	**3.02**	**77**	P	**P**	**21 36 11.2**	**0.0**
XRY	**Khrisi**	**3.04**	**84**	*e*P	**P**	**21 36 11.0**	**-0.4**
NAIG	**Nisos Aigina**	**3.35**	**20**	*e*P	**P**	**21 36 15.6**	**+0.6**
RLS	**Riolos of Patr**	**3.46**	**353**	*e*P	**P**	**21 36 19.9**	**+2.5**
RLS	**Riolos of Patr**	**3.46**	**353**	P	**P**	**21 36 20.4**	**+3.0**
NSAL	**Nisos Salamina**	**3.48**	**19**	*e*P	**

JAN	Janina	5.11	350	eP	P	21 36 40.0	-0.7
MEV	Metsovon	5.20	353	ePn	P	21 36 43.2	+1.4
ARG	Arkhangelos	5.24	71	P	P	21 36 41.0	-1.4
KEK	Kerkira	5.38	341	eP	P	21 36 45.1	+0.7
PAIG	Paliouri	5.46	14	ePn	P	21 36 45.9	+0.4
PAIG				eSn	S	21 37 46.7	-1.2
OUR	Ouranopolis	5.92	15	ePn	P	21 36 51.9	+0.1
FNA	Florina	6.17	355	ePn	P	21 36 56.2	+0.7
FNA				eSn	S	21 38 03.8	-1.9
TIP	Timpagrande	6.20	319	ePn	P	21 36 53.4	-2.5
TIP	Timpagrande	6.20	319	ePn	P	21 36 53.4	-2.4
GRG	Griva	6.33	3	ePn	P	21 36 58.4	+0.7
KNT	Kendrikon	6.57	6	ePn	P	21 37 01.8	+0.8
KNT				eSn	S	21 38 14.2	-1.3
SRS	Serrai	6.61	10	ePn	P	21 37 01.7	+0.1
VAE	Valguarnera	6.79	297	Pn	P	21 37 03.5	-0.6
	4.8nm,0.3s,baz=292,slow=13,SNR=12						
VAE				Sn	S	21 38 16.5	-4.4
	2.3nm,0.3s,baz=90,slow=2.4,SNR=8.4						
ALN	Alexandroupoli	7.03	26	ePn	P	21 37 09.4	+1.9
PE1	Pezze di Greco	7.17	331	ePn	P	21 37 07.6	-1.8
SKO	Skopje	7.36	357	ePn	P	21 37 09.0	-3.0
SKO				eSn	S	21 38 29.0	-6.0
SG1	Sgolgore (BA)	7.51	327	ePn	P	21 37 12.2	-2.0
ULC	Ulcinj	7.65	344	ePn	P	21 37 13.3	-2.8
ULC				eSn	S	21 38 34.9	-7.3
CDT	Castel del Mon	7.89	327	ePn	P	21 37 17.8	-1.6
BUM	Brajici-Budva	8.05	343	⇑iPn	P	21 37 18.1	-3.5
BUM				eSn	S	21 38 44.8	-7.5
TTG	Podgorica	8.09	345	ePn	P	21 37 19.1	-3.1
TTG				eSn	S	21 38 46.0	-7.2
TTG	Podgorica	8.09	345	ePn	P	21 37 19.0	-3.2
TTG				eSn	S	21 38 46.0	-7.3
PVY	Plav	8.12	349	ePn	P	21 37 20.4	-2.2
PVY				eSn	S	21 38 48.8	-5.3
HCY	Herceg Novi	8.29	342	ePn	P	21 37 21.2	-3.7
HCY				eSn	S	21 38 49.1	-9.1
IVA	Berane	8.40	349	ePn	P	21 37 24.9	-1.6
IVA				eSn	S	21 38 55.2	-5.8
NKY	Niksic	8.51	345	⇑iPn	P	21 37 25.4	-2.6
NKY				eSn	S	21 38 56.3	-7.5
STON	Ston	8.90	339	i Sn	S	21 39 04.0	-9.4
UPM	Unac-Piva	8.91	345	ePn	P	21 37 30.3	-3.1
UPM				eSn	S	21 39 05.7	-7.8
PLE	Pljevlja	8.93	348	ePn	P	21 37 31.2	-2.6
PLE				eSn	S	21 39 06.9	-7.2
BRTR	Keskin Array B	10.58	58	Pn	P	21 37 55.5	-0.9
	0.2nm,0.3s,baz=243,slow=17,SNR=6.0						
KZIT	Kziot	11.06	106	Pn	P	21 37 53.7	-9.2
SLTI	Sal'it	11.14	99	Pn	P	21 37 56.5	-7.5
RTMM	Retamin	11.23	105	Pn	P	21 37 56.3	-9.0
MLR	Muntele Rosu	11.27	14	Pn	P	21 38 07.2	+1.6
	0.1nm,0.3s,baz=180,slow=9.1,SNR=2.1						
MASH	Mash'abbe Sade	11.33	105	Pn	P	21 37 57.8	-8.8
KSHT	Keshet	11.59	94	Pn	P	21 38 05.6	-4.5
MZDA	Masada	11.69	103	Pn	P	21 38 02.3	-9.0
PRNI	Paran	11.76	108	Pn	P	21 38 04.6	-7.8
MKRJ	Makawir	11.83	101	Pn	P	21 38 06.4	-6.9
EIL	Elat	12.02	111	Pn	P	21 38 08.1	-7.7
ASF	Jabal al Asfar	12.67	97	Pn	P	21 38 17.0	-7.6
	0.7nm,0.3s,baz=199,slow=4.6,SNR=4.1						
ASF				Sn	S	21 40 27.5	-18
	0.2nm,0.3s,baz=330,slow=8.1,SNR=2.1						
PGF	Pioggiola	12.89	312	eP	P	21 38 26.9	-0.5
MBDF	Montbardon	15.46	315	eP	P	21 39 01.3	+0.4
	9.7nm,0.9s						
MBDF	Montbardon	15.46	315	eP	P	21 39 01.3	+0.4
MBDF				pmax	pmax		
	comp=Z,5.0nm,0.9s						
OKC	Ostrava-Krasne	15.47	351	eP	P	21 39 08.8	+7.8
GERES	GERESS Array B	15.49	339	Pn	P	21 39 00.9	-0.5
	comp=Z,0.1nm,0.3s,baz=168,slow=12,SNR=4.1						
GERES				Sn	S	21 41 51.2	-0.6
	comp=Z,0.2nm,0.3s,baz=158,slow=23,SNR=3.8						
MORC	Moravsky Berou	15.50	349	P	P	21 39 01.3	-0.1
	comp=Z,6.0nm,1.0s						
MORC	Moravsky Berou	15.50	349	Pn	P	21 39 01.3	-0.1
	comp=Z,5.7nm,1.0s						
MORC				e		21 39 07.9	
MORC	Moravsky Berou	15.50	349	P	P	21 39 01.3	-0.1
MORC				pmax	pmax		
	comp=Z,6.0nm,1.0s						
SMRF	Simiane la Rot	15.77	311	eP	P	21 39 04.5	-0.3
KHC	Kasperske Hory	15.79	339	eP	P	21 39 09.4	+4.3
LPG	La Plagne	15.93	318	eP	P	21 39 07.2	+0.3
LPL	La Plagne	15.95	318	eP	P	21 39 07.8	+0.6
ORIF	Oris-en-Rattie	16.09	315	eP	P	21 39 09.3	+0.4
ORIF				eR			
	comp=Z,220nm,23.0s						
PRU	Pruhonice	16.31	343	eP	P	21 39 21.8	+10
VIVF	Saint-Julien-l	16.77	313	eP	P	21 39 18.3	+0.8
PVCC	Panska Ves	16.80	343	eP	P	21 39 23.7	+5.9
LASF	Ste Croix	16.89	309	eP	P	21 39 19.3	+0.3
	comp=Z,39nm,1.3s						
AKASG	Malin Array Be	16.91	16	P	P	21 39 16.1	-3.1
	comp=Z,0.5nm,0.3s,baz=206,slow=11,SNR=9.1						
AKASG	Malin Array Be	16.91	16	P	P	21 39 16.1	-3.1
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
NKC	Novy Kostel	17.10	339	eP	P	21 39 34.1	+12
BRG	Berggiesshubel	17.27	343	eP	P	21 39 29.1	+5.3
BRG				pmax	pmax		
	comp=Z,3.0nm,1.1s						
BRG				MLR	MLR		
	comp=N,314nm,18.4s						
BRG				MLR	MLR		
	comp=E,173nm,12.4s						
BRG				MLR	MLR		
	comp=Z,359nm,15.6s						
HINF	Hinteralfeld	17.39	324	eP	P	21 39 25.8	+0.5
	comp=Z,2.9nm,0.6s						
HINF	Hinteralfeld	17.39	324	eP	P	21 39 25.8	+0.5
HINF				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CDF	Champ du Feu	17.61	326	eP	P	21 39 29.1	+1.1
HAU	Haudompre	17.77	324	eP	P	21 39 30.7	+0.7
	comp=Z,4.6nm,0.6s						
HAU				eR			
	comp=Z,279nm,19.8s						
CLL	Collm	17.91	341	i *SP		21 39 43.6	
CLL				ePPP	PPP	21 39 54.0	-2.1
KIV	Kislovodsk	18.48	54	eP	P	21 39 44.0	+5.3
KIV				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KIV				MLR	MLR		
	comp=N,79nm,17.0s						
KIV				MLR	MLR		
	comp=E,134nm,17.0s						
KIV				MLR	MLR		
	comp=Z,193nm,17.0s						
LOR	Lormes	18.59	318	eP	P	21 39 40.6	+0.5
LOR				eR			
	comp=Z,86nm,19.5s						
AVF	Avril sur Loir	18.60	316	eP	P	21 39 40.3	+0.1
	comp=Z,6.3nm,1.0s						
AVF	Avril sur Loir	18.60	316	eP	P	21 39 40.3	+0.1
AVF				pmax	pmax		
	comp=Z,3.0nm,1.0s						
MEZF	Maizieres J'vi	18.74	323	eP	P	21 39 43.5	+1.6
BGF	Bois d'Agland	18.76	315	eP	P	21 39 42.7	+0.6
EPF	Esparros	18.82	303	eP	P	21 39 42.9	0.0
RJF	Les Rejaudoux	18.94	310	eP	P	21 39 45.1	+0.9
RJF				eR			
	comp=Z,228nm,19.2s						
WLF	Walferdange	19.03	327	P	P	21 39 46.4	+1.2
	comp=Z,6.2nm,0.8s						
WLF	Walferdange	19.03	327	P	P	21 39 46.4	+1.2
	comp=Z,6.2nm,0.8s						
WLF	Walferdange	19.03	327	P	P	21 39 46.4	+1.2
WLF				pmax	pmax		
	comp=Z,6.0nm,0.8s						
LFF	La Frestale	19.28	309	eP	P	21 39 48.0	0.0
	comp=Z,2.6nm,0.4s						
LFF	La Frestale	19.28	309	eP	P	21 39 48.0	0.0
LFF				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ETSF	Etsaut	19.41	302	eP	P	21 39 49.8	+0.4
	comp=Z,11nm,0.9s						
ETSF	Etsaut	19.41	302	eP	P	21 39 49.8	+0.4
ETSF				pmax	pmax		
	comp=Z,6.0nm,0.9s						
SJPF	Ste Jean	19.94	302	eP	P	21 39 55.1	-0.1
	comp=Z,22nm,0.9s						
SJPF	Ste Jean	19.94	302	eP	P	21 39 55.1	-0.1
SJPF				pmax	pmax		
	comp=Z,11nm,0.9s						
ESDC	Sonseca Array	21.28	291	P	P	21 40 08.9	-0.1
	comp=Z,0.9nm,0.6s,mb3.3,baz=91,slow=11,SNR=5.3						
FLN	La Foliniere	21.84	317	eP	P	21 40 16.0	+1.4
FLN				eR			
	comp=Z,159nm,22.2s						
GRR	Gorron	21.86	316	eP	P	21 40 16.6	+1.9
SGMF	Saint Gilles	22.79	314	eP	P	21 40 25.8	+2.0
	comp=Z,24nm,1.1s,mb4.2						
SGMF	Saint Gilles	22.79	314	eP	P	21 40 25.8	+2.0
SGMF				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.2						
OBN	Obninsk	22.85	22	eP	P	21 40 26.0	+1.6
	comp=Z,5.0nm,0.8s,mb4.0						
OBN	Obninsk	22.85	22	eP	P	21 40 26.0	+1.6
OBN				e		21 40 37.8	
OBN						21 40 51.0	
OBN				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.0						
OBN				MLR	MLR		
	comp=Z,100nm,16.0s,MS3.4						
ROSF	Rostrenen	23.25	314	eP	P	21 40 30.3	+2.0
EVO	Evora	24.38	288	eP	P	21 40 39.7	+0.3
	comp=Z,14nm,1.0s,mb4.0						
EVO				eR			
	comp=Z,154nm,21.5s						
HFS	Hagfors	26.10	351	P	P	21 40 57.3	+1.8
	comp=Z,0.8nm,0.5s,mb3.5,baz=180,slow=10,SNR=6.0						
HFS	Hagfors	26.10	351	P	P	21 40 57.3	+1.8
HFS				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	FINESS Array B	26.97	4	P	P	21 41 03.6	+0.2
	comp=Z,2.0nm,0.9s,mb3.6,baz=162,slow=12,SNR=3.7						
FINES	FINESS Array B	26.97	4	P	P	21 41 03.6	+0.2
FINES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
EKA	Eskdalemuir Ar	27.05	328	P	P	21 41 05.5	+1.3
	comp=Z,1.5nm,0.8s,mb3.6,baz=101,slow=7.2,SNR=4.2						
EKA	Eskdalemuir Ar	27.05	328	P	P	21 41 05.6	+1.3
EKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NOA	NORSAR Array B	27.34	349	P	P	21 41 06.4	-0.4
	comp=Z,0.5nm,0.8s,mb3.1,baz=104,slow=17,SNR=2.3						
NOA	NORSAR Array B	27.34	349	P	P	21 41 06.4	-0.4
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ARCES	ARCESS Array B	35.02	2	P	P	21 42 14.0	-0.3
	comp=Z,2.2nm,0.8s,mb4.1,baz=188,slow=8.6,SNR=8.5						
ARCES	ARCESS Array B	35.02	2	P	P	21 42 14.0	-0.3
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
DBIC	Dimbokro	37.25	228	P	P	21 42 30.9	-2.8
	comp=Z,2.0nm,0.7s,mb4.1,baz=35,slow=12,SNR=3.5						
DBIC	Dimbokro	37.25	228	P	P	21 42 30.9	-2.7
DBIC				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	Makanchi Array	46.22	56	P	P	21 43 46.1	-0.5
	comp=Z,5.1nm,0.6s,mb4.6,baz=280,slow=6.9,SNR=37						
MKAR	Makanchi Array	46.22	56	P	P	21 43 46.1	-0.5
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
NVS	Novosibirsk	46.29	45	eP	P	21 43 46.4	-0.7
NVS				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
NVS				pmax	pmax		
	comp=N,4.0nm,1.3s						
NVS				pmax	pmax		
	comp=E,2.0nm,0.7s						
ZAL	Zalesovo	47.23	46	P	P	21 43 53.1	-1.3
	comp=E,1.3nm,0.4s,mb4.2,baz=207,slow=6.4,SNR=5.6						
ZAL	Zalesovo	47.23	46	P	P	21 43 53.1	-1.3
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TSUM	Tsumeb	53.69	185	P	P	21 44 41.9	-2.2
	comp=Z,1.7nm,1.0s,mb3.9,baz=319,slow=11,SNR=3.2						
MATP	Matopo	55.09	173	P	P	21 44 52.2	-2.0
	comp=Z,1.2nm,0.8s,mb4.0,baz=302,slow=9.5,SNR=3.1						
SONM	Songino Array	61.81	50	P	P	21 45 40.5	-0.3
	comp=Z,1.9nm,0.8s,mb4.3,baz=286,slow=7.5,SNR=8.8						
SCHQ	Schefferville	61.91	319	P	P	21 45 41.5	+0.1
	comp=Z,1.4nm,0.7s,mb4.2,baz=38,slow=12,SNR=3.9						
BOD	Bodaibo	62.46	37	eP	P	21 45 41.5	-3.4
WRA	Warramunga Arr	119.11	95	PKP	PKPdf	21 54 08.7	0.0
	comp=Z,0.2nm,0.5s,baz=315,slow=1.8,SNR=10						

*NEIC **02** 21:36:17.4, 33.79S×72.10W, h29km, ML2.8(GUC), After GUC.*

GUC 02 21:36:17.4±0.6, 33.79S×72.10W, h29km±10km, MD3.6, ML2.8, 4C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCCH	Las Cruces	0.54	55	⇑iP	Pb	21 36 28.3	-0.1
LCCH				i S	Sb	21 36 36.2	+0.3
LNV	Longovilo	0.59	106	⇓iP	Pb	21 36 29.1	-0.2
LNV				i S	Sb	21 36 37.5	0.0
TACH	Talagante	0.98	82	eP	Pn	21 36 34.8	-0.5
TACH				i S	Sb	21 36 47.9	-0.3
RCDM	Rinconada Maip	1.12	75	eP	Pn	21 36 37.1	-0.2
RCDM				i S	Sn	21 36 51.2	-0.6
RCDM				AMP		21 36 53.7	
	comp=N,321nm,0.1s						
CHCH	Chadas Angostu	1.21	97	⇑iP	Pn	21 36 38.7	+0.1
CHCH				i S	Sn	21 36 55.3	+1.1
SFDO	San Fernando	1.22	133	eP	Pn	21 36 38.2	-0.5
CACH	El Canelo	1.29	105	eP	Pn	21 36 40.5	+0.8
CACH				i S	Sn	21 36 58.2	+2.1
PCH	Pirque	1.33	83	⇑iP	Pn	21 36 40.9	+0.5
PCH				i S	Sn	21 36 58.4	+1.2
PACH	Papudo	1.37	24	eP	Pn	21 36 40.9	+0.1
CICH	Cipreses	1.49	111	eP	Pn	21 36 43.0	+0.4
FCH	Farellones	1.58	74	eP	Pn	21 36 45.1	+1.2
FCH				eS	Sn	21 37 05.9	+2.4
FCH				AMP		21 37 11.5	
	comp=E,162nm,0.2s						
LMEL	Las Melosas	1.58	93	⇑iP	Pn	21 36 44.6	+0.7
LMEL				i S	Sn	21 37 05.9	+2.4
LMEL				AMP		21 37 09.3	
	comp=N,295nm,0.2s						
JACH	Jahuel	1.68	49	eP	Pn	21 36 46.5	+1.2

*BER **02** 22:11:38.0±1.2, 54.54N×4.15E, h15km, ML2.0, ML2.8(BGS)*
*BGS **02** 22:11:38.6±0.4, 54.53N×4.09E, h17km±24km, ML2.8*

ISC 02 22:11:36.2±0.8, 54.65N±0.05×3.72E±0.09, h15km, n22, σ1°50/33, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AWI1	Witton	2.27	217	eP	Pn	22 12 14.6	+0.8
ABA1	Baconsthorpe	2.33	222	eP	Pn	22 12 15.4	+0.7
AWH	Whinburgh	2.61	220	eP	Pn	22 12 19.2	+0.6
AWH				eS	Sn	22 12 49.6	-0.7
APAE	Packway	2.71	211	eP	Pn	22 12 20.1	+0.1
APAE				eS	Sn	22 12 50.6	-2.2
LCP	Cassop	3.02	274	eP	Pn	22 12 27.3	+2.9
HPK	Haverah Park	3.21	260	eS	Sn	22 13 06.5	+1.1
KBI1	Birley Grange	3.40	248	eP	Pn	22 12 31.9	+2.1
KBI1				eS	Sn	22 13 10.3	-0.1
KBI1				AML	AML	22 13 13.2	
	comp=Z,9.2nm,0.2s						
KBI1	Birley Grange	3.40	248	eP	Pn	22 12 32.0	+2.1
KBI1				eS	Sn	22 13 10.3	0.0
	comp=Z,9.2nm,0.2s						
LHO	Holmfirth	3.46	254	eP	Pn	22 12 32.6	+1.8
KWE	Weaver Farm	3.68	246	eP	Pn	22 12 35.3	+1.4
KWE				eS	Sn	22 13 15.9	-1.5
KWE				AML	AML	22 13 18.9	
	comp=Z,11nm,0.4s						
KWE	Weaver Farm	3.68	246	eP	Pn	22 12 35.3	+1.4
KWE				eS	Sn	22 13 15.9	-1.5
	comp=Z,11nm,0.4s						
SNART	Snartemo	4.17	26	eP	Pn	22 12 38.7	-2.2
SNART				eS	Sn	22 13 23.6	-6.2
SNART				AML	AML	22 13 28.6	
	comp=Z,3.4nm,0.4s						
EAU	Auchinoon	4.27	289	eP	Pn	22 12 44.6	+2.3
EAU				eS	Sn	22 13 32.8	+0.4
EAU				AML	AML	22 13 33.7	
	comp=Z,14nm,0.4s						
EAU	Auchinoon	4.27	289	eP	Pn	22 12 44.6	+2.3
EAU				eS	Sn	22 13 32.8	+0.4
	comp=Z,14nm,0.4s						
KMY	Karmoy	4.65	10	eP	Pn	22 12 46.9	-0.7
KMY				eS	Sn	22 13 37.6	-4.3
KMY				AML	AML	22 13 47.5	
	comp=Z,4.6nm,0.8s						
BLS5	Blasjo	5.01	16	eP	Pn	22 12 52.7	-0.1
BLS5				eS	Sn	22 13 45.6	-5.4
BLS5				AML	AML	22 13 48.2	
	comp=Z,2.1nm,0.6s						
WCB1	Church Bay	5.04	259	eS	Sn	22 13 49.8	-1.9
WCB1				AML	AML	22 13 51.4	
	comp=E,6.7nm,0.4s						
WCB1				AML	AML	22 13 52.0	
	comp=N,6.2nm,0.1s						
WCB1	Church Bay	5.04	259	eS	Sn	22 13 49.8	-1.9
	comp=N,6.2nm,0.1s						
YRC	Rhoscolyn	5.09	257	eS	Sn	22 13 51.2	-2.0
YRE	Yr Eifl	5.11	254	eS	Sn	22 13 50.6	-2.8
MOR8	Moi Rana	12.69	20	e	P	22 14 48.7	+10
LOF	Lofoten	14.29	15	e	P	22 15 04.3	+4.6

*IDC **02** 22:27:43.9±1.3, 0.32N×121.85E, mb3.7/5, mb1 3.9/5, mb1mx3.7/18, mbtmp3.8/5, Error ellipse: s-maj=152.0km s-min=24.3km az=62.0*
*NEIC **02** 22:27:49.2±0.6, 0.45N×122.18E, h35km, mb4.0/2, Error ellipse: s-maj=44.1km s-min=10.9km az=70.0*

ISC 02 22:27:47.3±0.8, 0.5N±0.2×122.0E±0.4, h33km, n10, σ0°64/10, mb3.9/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	Marble Bar	21.59	186	P	P	22 32 36.5	+0.2
WRAB	Tennant Creek	23.61	150	eP	P	22 32 56.3	0.0
	1.1nm,0.6s,mb3.5						
WRA	Warramunga Arr	23.61	150	P	P	22 32 56.3	0.0
	2.3nm,0.7s,mb3.7,baz=326,slow=10,SNR=16						
SONM	Songino Array	49.10	346	P	P	22 36 34.5	+0.9
	0.3nm,0.4s,mb3.7,baz=165,slow=7.5,SNR=3.8						
MKAR	Makanchi Array	57.70	329	P	P	22 37 37.9	+0.8
	0.3nm,0.3s,mb3.8,baz=129,slow=7.8,SNR=5.3						
MKAR	Makanchi Array	57.70	329	P	P	22 37 37.9	+0.8
ZAL	Zalesovo	61.49	336	P	P	22 38 01.9	-1.2
	1.0nm,0.3s,mb4.4,baz=87,slow=20,SNR=3.4						
ZAL	Zalesovo	61.49	336	P	P	22 38 01.9	-1.2
KURK	Kurchatov	62.08	330	eP	P	22 38 07.2	+0.1
	4.6nm,1.0s,mb4.6						
BVAR	Borovoye Array	67.57	329	P	P	22 38 41.9	-0.7
	0.2nm,0.3s,mb3.6,baz=135,slow=12,SNR=3.0						

IDC 02 23:07:40.2±2.4, 15.24S×166.48E, mb3.9/3, mb1 4.0/4, mb1mx3.8/14, mbtmp3.9/4, ML3.9/1, MS3.0/3, Ms1 3.0/3, ms1mx2.7/31, Error ellipse: s-maj=68.0km s-min=29.7km az=86.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	6.79	180	eP	Pn	23 09 22.1	-1.5
DZM				eS	Sn	23 10 33.3	-9.3
DZM	Mont Dzumac	6.79	180	Pn	Pn	23 09 21.9	-1.7
	2.1nm,0.3s,baz=7.8,slow=16,SNR=27						
DZM				Sn	Sn	23 10 37.6	-5.0
	1.2nm,0.3s,baz=322,slow=23,SNR=7.0						
DZM				LR	LR	23 11 34.1	
	comp=Z,134nm,18.7s,baz=203,slow=34						
HNR	Honiara	8.61	311	LR	LR	23 12 22.1	
	comp=Z,40nm,21.2s,baz=136,slow=33						
CTA	Charters Tower	19.86	253	P	P	23 12 18.6	+2.7
	0.3nm,0.3s,baz=53,slow=12,SNR=3.9						
CTA				LR	LR	23 18 57.3	
	comp=Z,87nm,18.2s,baz=233,slow=34						
WRA	Warramunga Arr	30.96	257	P	P	23 13 59.4	-2.0
	0.8nm,0.8s,baz=85,slow=8.9,SNR=7.5						
SONM	Songino Array	82.45	324	P	P	23 20 04.2	-1.6
	0.2nm,0.3s,baz=124,slow=5.2,SNR=3.5						
MKAR	Makanchi Array	97.05	316	P	P	23 21 14.7	-0.6
	0.4nm,0.6s,baz=95,slow=8.0,SNR=4.5						

*CSEM **02** 23:24:17.5±0.2, 38.49N×8.27W, h2km, ML2.9/12, Error ellipse: s-maj=4.1km s-min=2.5km az=53.0*
*LDG **02** 23:24:18.3±0.1, 38.48N×8.17W, h2km, Md3.4/1, Ml3.1/1, Error ellipse: s-maj=3.6km s-min=2.4km az=110.0*
*IGIL **02** 23:24:18.3±4.8, 38.50N×8.10W, h2km±999km, ML3.0*
*INMG **02** 23:24:18.2±1.2, 38.49N×8.14W, ML2.7, Error ellipse: s-maj=1.9km s-min=1.6km az=72.0*
*MDD **02** 23:24:18.6±0.3, 38.47N×8.18W, h11km, mb3.3/7, mbLg2.8/22, Error ellipse: s-maj=3.7km s-min=2.2km az=55.0, PRXIMO*
*NEIC **02** 23:24:18.2, 38.49N×8.18W, ML2.8(LIS), MN2.7(MDD), After MDD.*

ISC 02 23:24:16.8±0.4, 38.54N±0.02×8.07W±0.03, h8km±2km, n92, σ1°35/167, 2C, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVO	Evora	0.04	99	ePg	Pg	23 24 19.5	+1.0
EVO				eSg	Sg	23 24 21.0	+1.4
	8μm,0.3s						
PBEJ	Beja	0.54	163	ePg	Pg	23 24 27.3	-0.3
PBEJ				eSg	Sg	23 24 34.3	-0.5
	278nm,0.1s						
PBEJ	Beja	0.54	163	Pg	Pg	23 24 27.2	-0.4
PBEJ				Lg		23 24 34.0	
PBEJ	Beja	0.54	163	ePg	Pg	23 24 27.3	-0.3
PBEJ				eSg	Sg	23 24 34.3	-0.5
	278nm,0.1s						
ALMR	Almeirim	0.73	327	eP	Pb	23 24 31.6	+0.2
ALMR				e		23 24 31.9	
	baz=169,slow=4.1						
ALMR				eS	Sg	23 24 41.7	+0.4
ALMR				eS	Sg	23 24 41.7	+0.4
ALMR				AML	AML	23 24 42.5	
	comp=N,299nm,0.3s						
ALMR	Almeirim	0.73	327	eP	Pb	23 24 31.6	+0.2
ALMR				eS	Sg	23 24 41.7	+0.4
EBAD	Badajoz	0.85	75	⇑Pg	Pg	23 24 36.3	+2.3
	comp=N,24nm,0.1s,SNR=18						
EBAD				Lg		23 24 48.7	
	comp=N,299nm,0.1s,SNR=48						
EBAD	Badajoz	0.85	75	Pg	Pg	23 24 36.1	+2.1
	comp=N,24nm,0.1s,SNR=18						
EBAD	Badajoz	0.85	75	⇑Pg	Pg	23 24 36.1	+2.2
EBAD				Lg		23 24 48.7	
LIS	Lisbon	0.86	282	eP	Pb	23 24 33.4	-0.3
LIS				eS	Sb	23 24 44.9	-0.3
LIS				eS	Sb	23 24 44.9	-0.3

PCBR	**Castelo Branco**	**1.38**	**19**	*e*P		**Pb**	**23 24 45.1 +2.6**
PCBR				*e*S		**Sb**	**23 25 03.8 +3.7**
	comp=N,125nm,0.2s						
PCBR	**Castelo Branco**	**1.38**	**19**	*e*P		**Pb**	**23 24 45.1 +2.6**
PCBR				*e*S		**Sb**	**23 25 03.8 +3.7**
	comp=N,125nm,0.2s						
PCBR	**Castelo Branco**	**1.38**	**19**	P		**Pb**	**23 24 45.0 +2.5**
PCBR				S		**Sb**	**23 25 03.7 +3.6**
MTE	**Manteigas**	**1.90**	**12**	*e*Pn		**Pn**	**23 24 51.7 +1.7**
MTE				*e*Sn		**Sn**	**23 25 16.1 +1.8**
	comp=N,53nm,0.6s						
MTE	**Manteigas**	**1.90**	**12**	*e*Pn		**Pn**	**23 24 51.7 +1.7**
MTE				Sn		**Sn**	**23 25 16.0 +1.7**
ECAB	**El Cabril**	**2.14**	**102**	Pn		**Pn**	**23 24 55.5 +2.1**
	comp=N,0.1nm,0.1s,SNR=51						
ECAB				Pg		**Pg**	**23 24 57.9 -1.6**
	comp=N,2.1nm,0.1s,SNR=7.9						
ECAB				Lg			23 25 26.6
	comp=N,66nm,0.3s,SNR=16						
ECAB	**El Cabril**	**2.14**	**102**	Pn		**Pn**	**23 24 55.5 +2.2**
	comp=N,0.1nm,0.1s,SNR=51						
ECAB	**El Cabril**	**2.14**	**102**	Pg		**Pg**	**23 24 57.9 -1.6**
	comp=N,2.1nm,0.1s,SNR=7.9						
ESPR	**Espera**	**2.42**	**133**	Pn		**Pn**	**23 24 58.7 +1.3**
	comp=N,0.3nm,0.1s,SNR=8.0						
ESPR				Pg		**Pg**	**23 25 03.3 -1.9**
	comp=N,1.3nm,0.1s,SNR=4.0						
ESPR				Sn		**Sn**	**23 25 25.8 -1.7**
	comp=N,7.9nm,0.3s,SNR=5.1						
ESPR				Lg			23 25 35.8
	comp=N,20nm,0.2s,SNR=7.9						
ESPR	**Espera**	**2.42**	**133**	Pn		**Pn**	**23 24 58.9 +1.5**
	comp=N,0.3nm,0.1s,SNR=8.0						
ESPR	**Espera**	**2.42**	**133**	Pg		**Pg**	**23 25 03.3 -1.9**
	comp=N,1.3nm,0.1s,SNR=4.0						
ESPR				Sn		**Sn**	**23 25 27.8 +0.3**
	comp=N,7.9nm,0.3s,SNR=5.1						
ESPR	**Espera**	**2.42**	**133**	Pn		**Pn**	**23 24 58.9 +1.5**
ESPR				Pg		**Pg**	**23 25 03.3 -1.9**
ESPR				Sn		**Sn**	**23 25 27.8 +0.3**
ESPR				Lg			23 25 38.2
PVRL	**Vila Real**	**2.75**	**6**	*e*Pn		**Pn**	**23 25 02.6 +0.6**
PVRL				*e*Sg		**Sg**	**23 25 46.9 -1.4**
	comp=N,25nm,0.1s						
PVRL	**Vila Real**	**2.75**	**6**	Pn		**Pn**	**23 25 02.5 +0.5**
PVRL				Lg			23 25 46.4
EADA	**Adamuz**	**2.77**	**97**	Pn		**Pn**	**23 25 03.6 +1.2**
	comp=N,0.2nm,0.1s,SNR=10						
EADA				Pg		**Pg**	**23 25 10.1 -2.0**
	comp=N,0.5nm,0.1s,SNR=15						
EADA				Lg			23 25 47.7
	comp=N,12nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**2.77**	**97**	Pn		**Pn**	**23 25 03.6 +1.2**
	comp=N,0.2nm,0.1s,SNR=10						
EADA	**Adamuz**	**2.77**	**97**	Pg		**Pg**	**23 25 10.1 -2.1**
	comp=N,0.5nm,0.1s,SNR=15						
EADA	**Adamuz**	**2.77**	**97**	Pn		**Pn**	**23 25 03.6 +1.2**
EADA				Pg		**Pg**	**23 25 10.1 -2.0**
EADA				Lg			23 25 47.8
EMIJ	**Mijas**	**3.28**	**126**	Pn		**Pn**	**23 25 10.9 +1.3**
	comp=N,0.2nm,0.1s,SNR=7.9						
EMIJ				Sn		**Sn**	**23 25 46.1 -3.2**
	comp=N,4.7nm,0.3s,SNR=7.9						
EMIJ				Lg			23 26 03.6
	comp=N,12nm,0.4s,SNR=7.9						
EMIJ	**Mijas**	**3.28**	**126**	Pn		**Pn**	**23 25 11.3 +1.7**
	comp=N,0.2nm,0.1s,SNR=7.9						
EMIJ				Sn		**Sn**	**23 25 50.5 +1.2**
	comp=N,4.7nm,0.3s,SNR=7.9						
EMIJ	**Mijas**	**3.28**	**126**	Pn		**Pn**	**23 25 11.3 +1.7**
EMIJ				Sn		**Sn**	**23 25 50.5 +1.2**
EMIJ				Lg			23 26 04.2
ELOB	**Lobios**	**3.32**	**0**	Pn		**Pn**	**23 25 10.3 0.0**
	comp=N,1.6nm,0.1s,SNR=14						
ELOB				Pg		**Pg**	**23 25 20.1 -3.1**
	comp=N,0.6nm,0.1s,SNR=4.0						
ELOB				Sn		**Sn**	**23 25 48.3 -2.1**
	comp=N,2.7nm,0.1s,SNR=6.0						
ELOB				Lg			23 26 04.7
	comp=N,13nm,0.2s,SNR=11						
ELOB	**Lobios**	**3.32**	**0**	Pn		**Pn**	**23 25 10.3 0.0**
	comp=N,1.6nm,0.1s,SNR=14						
ELOB	**Lobios**	**3.32**	**0**	Pg		**Pg**	**23 25 20.1 -3.1**
	comp=N,0.6nm,0.1s,SNR=4.0						
ELOB				Sn		**Sn**	**23 25 48.3 -2.1**
	comp=N,2.7nm,0.1s,SNR=6.0						
ELOB	**Lobios**	**3.32**	**0**	Pn		**Pn**	**23 25 10.3 0.0**
ELOB				Pg		**Pg**	**23 25 20.1 -3.1**
ELOB				Sn		**Sn**	**23 25 48.3 -2.1**
ELOB				Lg			23 26 03.8
EBAN	**Banos Encina**	**3.39**	**95**	Pn		**Pn**	**23 25 12.6 +1.5**
	comp=N,0.7nm,0.1s,SNR=7.9						
EBAN				Pg		**Pg**	**23 25 21.4 -3.1**
	comp=N,1.0nm,0.1s,SNR=7.9						
EBAN				Sn		**Sn**	**23 25 51.9 -0.1**
	comp=N,1.3nm,0.1s,SNR=7.9						
EBAN				Lg			23 26 07.3
	comp=N,11nm,0.2s,SNR=13						
EBAN	**Banos Encina**	**3.39**	**95**	Pn		**Pn**	**23 25 12.7 +1.5**
	comp=N,0.7nm,0.1s,SNR=7.9						
EBAN	**Banos Encina**	**3.39**	**95**	Pg		**Pg**	**23 25 22.6 -1.9**
EBAN				Sn		**Sn**	**23 25 51.9 -0.2**
	comp=N,1.3nm,0.1s,SNR=7.9						
EBAN	**Banos Encina**	**3.39**	**95**	Pn		**Pn**	**23 25 12.7 +1.5**
EBAN				Pg		**Pg**	**23 25 22.6 -1.8**
EBAN				Sn		**Sn**	**23 25 51.9 -0.1**
EBAN				Lg			23 26 07.3
ESDC	**Sonseca Array**	**3.39**	**69**	Pn		**Pn**	**23 25 11.3 +0.1**
	comp=N,1.2nm,0.2s,baz=255,slow=13,SNR=22						
ESDC				Pg		**Pg**	**23 25 22.2 -2.3**
	comp=N,3.7nm,0.2s,baz=258,slow=17,SNR=19						
ESDC				Sn		**Sn**	**23 25 52.0 -0.1**
	comp=N,5.4nm,0.1s,baz=256,slow=24,SNR=11						
ESDC				Lg			23 26 07.3
	comp=N,18nm,0.5s,baz=260,slow=28,SNR=8.8						
ESDC	**Sonseca Array**	**3.39**	**69**	Pn		**Pn**	**23 25 11.3 +0.1**
	comp=N,1.2nm,0.2s,SNR=22						
ESDC	**Sonseca Array**	**3.39**	**69**	Pg		**Pg**	**23 25 22.2 -2.3**
	comp=N,3.7nm,0.2s,SNR=19						
ESDC				Sn		**Sn**	**23 25 52.6 +0.5**
	comp=N,5.4nm,0.1s,SNR=11						
ESDC	**Sonseca Array**	**3.39**	**69**	Pn		**Pn**	**23 25 11.3 +0.1**
ESDC				Pg		**Pg**	**23 25 22.2 -2.3**
ESDC				Sn		**Sn**	**23 25 52.6 +0.5**
ESDC				Lg			23 26 07.3
ELOJ	**Sierra Loja**	**3.40**	**113**	Pn		**Pn**	**23 25 11.9 +0.6**
	comp=N,1.2nm,0.3s,SNR=7.9						
ELOJ				Sn		**Sn**	**23 25 49.4 -2.9**
	comp=N,0.8nm,0.2s,SNR=7.9						
ELOJ				Lg			23 26 08.6
	comp=N,4.5nm,0.4s,SNR=7.1						
ELOJ	**Sierra Loja**	**3.40**	**113**	Pn		**Pn**	**23 25 13.0 +1.7**
	comp=N,1.2nm,0.3s,SNR=7.9						
ELOJ	**Sierra Loja**	**3.40**	**113**	Pn		**Pn**	**23 25 13.0 +1.7**
ELOJ				Lg			23 26 07.4
PBRG	**Braganca**	**3.42**	**17**	*e*Pn		**Pn**	**23 25 12.6 +1.0**
PBRG				*e*Sn		**Sn**	**23 25 52.2 -0.6**
	comp=N,10nm,0.4s						
PBRG	**Braganca**	**3.42**	**17**	Pn		**Pn**	**23 25 12.5 +0.9**
PBRG				Sn		**Sn**	**23 25 52.1 -0.7**
ECAL	**Calabor**	**3.55**	**16**	Pn		**Pn**	**23 25 14.0 +0.5**
	comp=N,1.5nm,0.1s,SNR=7.9						
ECAL				Pg		**Pg**	**23 25 23.9 -3.8**
	comp=N,3.0nm,0.2s,SNR=4.6						
ECAL				Sn		**Sn**	**23 25 55.1 -1.0**
	comp=N,6.1nm,0.3s,SNR=7.9						
ECAL				Lg			23 26 14.0
	comp=N,28nm,0.6s,SNR=8.0						
ECAL	**Calabor**	**3.55**	**16**	Pn		**Pn**	**23 25 13.9 +0.5**
ECAL	**Calabor**	**3.55**	**16**	Pg		**Pg**	**23 25 25.6 -2.1**
	comp=N,3.0nm,0.2s,SNR=4.6						
ECAL				Sn		**Sn**	**23 25 55.1 -1.0**
	comp=N,6.1nm,0.3s,SNR=7.9						
ECAL	**Calabor**	**3.55**	**16**	Pn		**Pn**	**23 25 13.9 +0.5**
ECAL				Pg		**Pg**	**23 25 25.6 -2.0**
ECAL				Sn		**Sn**	**23 25 55.1 -0.9**
ECAL				Lg			23 26 12.4
EZAM	**Zamans**	**3.64**	**353**	Pn		**Pn**	**23 25 14.9 +0.2**
	comp=N,2.3nm,0.1s,SNR=6.6						
EZAM				Sn		**Sn**	**23 25 55.7 -2.7**
	comp=N,2.4nm,0.2s						
EZAM				Lg			23 26 13.9
	comp=N,6.7nm,0.3s,SNR=7.9						
EZAM	**Zamans**	**3.64**	**353**	Pn		**Pn**	**23 25 14.9 +0.2**
EZAM				Sn		**Sn**	**23 25 55.6 -2.7**
EZAM				Lg			23 26 13.7

ERUA	**La Rua**	**3.91**	**10**	Pn		**Pn**	**23 25 19.5 +0.8**
	comp=N,3.2nm,0.1s,SNR=7.9						
ERUA				Lg			23 26 25.5
	comp=N,11nm,0.8s,SNR=4.0						
EQES	**Quesada**	**4.01**	**99**	Pn		**Pn**	**23 25 21.0 +1.0**
	comp=N,0.6nm,0.2s,SNR=7.9						
EQES				Sn		**Sn**	**23 26 06.8 -0.9**
	comp=N,1.0nm,0.2s,SNR=4.0						
EQES				Lg			23 26 28.5
	comp=N,4.5nm,0.2s,SNR=5.5						
EQES	**Quesada**	**4.01**	**99**	Pn		**Pn**	**23 25 22.1 +2.1**
	comp=N,0.6nm,0.2s,SNR=7.9						
EQES				Sn		**Sn**	**23 26 07.4 -0.3**
	comp=N,1.0nm,0.2s,SNR=4.0						
EQES	**Quesada**	**4.01**	**99**	Pn		**Pn**	**23 25 22.1 +2.1**
EQES				Sn		**Sn**	**23 26 07.4 -0.3**
EQES				Lg			23 26 28.5
EVIA	**Vianos**	**4.36**	**87**	Lg			23 26 39.0
	comp=N,22nm,0.5s,SNR=9.9						
EHUE	**Huescar**	**4.38**	**98**	Pn		**Pn**	**23 25 26.9 +1.7**
	comp=N,0.1nm,0.1s,SNR=7.9						
EHUE				Sn		**Sn**	**23 26 13.5 -3.5**
	comp=N,0.4nm,0.2s,SNR=7.9						
EHUE				Lg			23 26 40.7
	comp=N,1.9nm,0.2s,SNR=7.6						
EHUE	**Huescar**	**4.38**	**98**	Pn		**Pn**	**23 25 27.5 +2.3**
	comp=N,0.1nm,0.1s,SNR=7.9						
EHUE				Sn		**Sn**	**23 26 17.1 0.0**
	comp=N,0.4nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**4.38**	**98**	Pn		**Pn**	**23 25 27.5 +2.3**
EHUE				Sn		**Sn**	**23 26 17.1 0.0**
EHUE				Lg			23 26 41.5
EBER	**Berja**	**4.42**	**110**	Pn		**Pn**	**23 25 28.2 +2.4**
	comp=N,0.7nm,0.1s,SNR=7.9						
EBER				Sn		**Sn**	**23 26 14.9 -3.3**
	comp=N,1.0nm,0.3s,SNR=4.0						
EBER				Lg			23 26 39.2
	comp=N,4.5nm,0.5s,SNR=7.9						
EBER	**Berja**	**4.42**	**110**	Pn		**Pn**	**23 25 29.4 +3.5**
	comp=N,0.7nm,0.1s,SNR=7.9						
EBER				Sn		**Sn**	**23 26 18.4 +0.2**
	comp=N,1.0nm,0.3s,SNR=4.0						
EBER	**Berja**	**4.42**	**110**	Pn		**Pn**	**23 25 29.4 +3.5**
EBER				Sn		**Sn**	**23 26 18.4 +0.2**
EBER				Lg			23 26 44.1
EPON	**Pontenova**	**4.83**	**8**	Pn		**Pn**	**23 25 31.2 -0.5**
	comp=N,0.4nm,0.1s,SNR=7.9						
EPON				Sn		**Sn**	**23 26 25.3 -3.3**
	comp=N,0.5nm,0.2s,SNR=7.9						
EPON				Lg			23 26 54.0
	comp=N,2.2nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**4.83**	**8**	Pn		**Pn**	**23 25 32.1 +0.4**
	comp=N,0.4nm,0.1s,SNR=7.9						
EPON				Sn		**Sn**	**23 26 24.6 -4.0**
	comp=N,0.5nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**4.83**	**8**	Pn		**Pn**	**23 25 32.1 +0.4**
EPON				Sn		**Sn**	**23 26 24.6 -4.0**
EPON				Lg			23 26 54.0
ETOB	**Tobarra**	**5.11**	**87**	Pn		**Pn**	**23 25 35.5 -0.1**
	comp=N,0.2nm,0.2s,SNR=7.9						
ETOB				Sn		**Sn**	**23 26 31.6 -4.0**
	comp=N,3.4nm,0.6s,SNR=5.3						
ETOB				Lg			23 27 02.2
	comp=N,13nm,0.5s,SNR=7.9						
ETOB	**Tobarra**	**5.11**	**87**	Sn		**Sn**	**23 26 35.4 -0.2**
	comp=N,3.4nm,0.6s,SNR=5.3						
EARI	**Arriondas**	**5.23**	**24**	Pn		**Pn**	**23 25 37.8 +0.5**
	comp=N,0.1nm,0.1s,SNR=7.9						
EARI				Sn		**Sn**	**23 26 35.7 -2.8**
	comp=N,0.3nm,0.3s,SNR=7.9						
EARI				Lg			23 27 05.8
	comp=N,0.9nm,0.3s,SNR=7.9						
EARI	**Arriondas**	**5.23**	**24**	Pn		**Pn**	**23 25 37.8 +0.6**
	comp=N,0.1nm,0.1s,SNR=7.9						
EARI				Sn		**Sn**	**23 26 35.7 -2.8**
	comp=N,0.3nm,0.3s,SNR=7.9						
EARI	**Arriondas**	**5.23**	**24**	Pn		**Pn**	**23 25 37.8 +0.5**
EARI				Sn		**Sn**	**23 26 35.7 -2.8**
EARI				Lg			23 27 05.9
EMOS	**Mosqueruela**	**6.16**	**70**	Pn		**Pn**	**23 25 51.2 +0.9**
	comp=N,0.2nm,0.2s,SNR=7.9						
EMOS				Sn		**Sn**	**23 26 58.2 -3.6**
	comp=N,0.4nm,0.2s,SNR=7.9						
EALK	**Alkurruntz**	**6.82**	**45**	Pn		**Pn**	**23 25 59.8 +0.1**
	comp=N,0.2nm,0.2s,SNR=7.9						
EALK				Sn		**Sn**	**23 27 12.4 -6.1**
	comp=N,0.3nm,0.2s,SNR=7.9						
EALK				Lg			23 27 57.1
	comp=N,0.6nm,0.3s,SNR=7.9						
SJPF	**Ste Jean**	**6.91**	**46**	*e*Pn		**Pn**	**23 26 00.0 -1.0**
SJPF				*e*Sg		**Sg**	**23 27 57.7 -9.3**
	comp=N,3.6nm,0.5s						
ETSF	**Etsaut**	**7.17**	**50**	*e*Pn		**Pn**	**23 26 04.2 -0.5**
EBIE	**Bielsa**	**7.50**	**54**	Pn		**Pn**	**23 26 08.7 -0.4**
	comp=N,0.4nm,0.2s,SNR=7.9						
EBIE	**Bielsa**	**7.50**	**54**	Pn		**Pn**	**23 26 08.7 -0.5**
EPF	**Esparros**	**7.80**	**52**	*e*Pn		**Pn**	**23 26 13.0 -0.4**
MFF	**Saint Martin d**	**9.95**	**33**	*e*Pn		**P**	**23 26 40.7 -2.5**

WEL 02 23:24:40.1±0.5, 38.93S×175.32E, h216km±3km, ML3.7/15, 1C, Error ellipse: s-maj=5.6km s-min=3.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWVZ	**Taurewa**	**0.17**	**146**	PN	P	23 25 08.1	-0.4
TWVZ				SN	S	23 25 30.2	-0.3
CNZ	**Chateau**	**0.33**	**146**	PN	P	23 25 08.5	-0.3
NGZ	**Ngauruhoe**	**0.33**	**138**	PN	P	23 25 08.7	-0.2
PKVZ	**Pokaka**	**0.36**	**176**	PN	P	23 25 08.4	-0.5
FWVZ	**Far West T-bar**	**0.37**	**151**	PN	P	23 25 08.8	-0.2
WNVZ	**Wahianoa**	**0.46**	**151**	PN	P	23 25 09.0	-0.1
MOVZ	**Moawhango**	**0.59**	**145**	PN	P	23 25 09.2	-0.4
MOVZ				SN	S	23 25 31.3	-1.2
WAZ	**Wanganui**	**0.86**	**197**	PN	P	23 25 10.2	-0.6
WAZ				SN	S	23 25 33.8	-1.0
BKZ	**Black Stump Fm**	**0.95**	**105**	PN	P	23 25 11.7	+0.3
BKZ				SN	S	23 25 35.5	-0.1
TSZ	**Takapari Road**	**1.23**	**156**	PN	P	23 25 13.2	-0.2
TSZ				SN	S	23 25 38.5	-0.7
URZ	**Urewera**	**1.56**	**65**	PN	P	23 25 15.2	-0.9
URZ				SN	S	23 25 42.2	-1.7
MRZ	**Mangatainoka R**	**1.74**	**173**	PN	P	23 25 16.4	-1.3
MRZ				SN	S	23 25 44.6	-2.1
MWZ	**Matawai**	**1.83**	**72**	PN	P	23 25 18.1	-0.4
KNZ	**Kokohu**	**1.84**	**94**	PN	P	23 25 19.1	+0.5
KIW	**Kapiti Island**	**1.96**	**189**	PN	P	23 25 17.7	-2.0
DUWZ	**D'Urville Isla**	**2.16**	**209**	PN	P	23 25 18.9	-2.9
CAW	**Cannon Point**	**2.18**	**185**	PN	P	23 25 19.9	-2.1
MTW	**Mount Morrison**	**2.23**	**176**	PN	P	23 25 20.4	-2.1
MTW				SN	S	23 25 53.2	-2.2
MRW	**Makara Radio**	**2.34**	**191**	PN	P	23 25 21.1	-2.6
TCW	**Tory Channel**	**2.42**	**199**	PN	P	23 25 21.8	-2.7
SNZO	**South Karori**	**2.42**	**191**	PN	P	23 25 21.7	-2.9
PAWZ	**Paruwai Farm**	**2.45**	**178**	PN	P	23 25 22.6	-2.3
MSWZ	**Moikau Station**	**2.48**	**181**	⇑PN	P	23 25 22.8	-2.5
TRWZ	**Traveller**	**2.48**	**174**	PN	P	23 25 23.1	-2.1
BHW	**Baring Head**	**2.50**	**188**	PN	P	23 25 22.4	-3.0
TUWZ	**Tuamarina**	**2.71**	**202**	PN	P	23 25 24.6	-3.2
TUWZ				SN	S	23 25 59.1	-5.5
MXZ	**Matakaoa Point**	**2.72**	**61**	PN	P	23 25 27.1	-0.8
NNZ	**Nelson**	**2.73**	**212**	PN	P	23 25 24.0	-4.0
NNZ				SN	S	23 25 58.6	-6.4
QRZ	**Quartz Range**	**2.86**	**228**	PN	P	23 25 24.3	-5.2
THZ	**Tophouse**	**3.38**	**212**	PN	P	23 25 30.9	-4.6
KHZ	**Kahutara**	**3.74**	**201**	PN	P	23 25 35.8	-4.0
LTZ	**Lake Taylor**	**4.49**	**210**	PN	P	23 25 43.8	-5.3
MQZ	**McQueen's Vall**	**5.18**	**202**	PN	P	23 25 51.4	-6.4
RPZ	**Rata Peaks**	**5.76**	**212**	SN	S	23 26 59.8	-12
ODZ	**Otahua Downs**	**7.03**	**208**	SN	S	23 27 29.1	-12

*IDC **02** 23:39:08.7±1.8, 51.81N×167.56W, mb3.8/9, mb1 4.0/10, mb1mx3.8/24, mbtmp3.8/10, ML3.7/1, MS3.7/2, Ms1 3.7/2, ms1mx2.6/29, Error ellipse: s-maj=55.2km s-min=14.7km az=4.0*
*NEIC **02** 23:39:16.1±0.6, 51.98N×167.41W, h48km±4km, mb4.2/1, ML3.6(AEIC), Error ellipse: s-maj=9.7km s-min=3.1km az=158.0*
ISC 02 23:39:13.4±0.9, 51.86N±0.08×167.38W±0.07, h46km±8km, n39, σ0§65/39, mb3.7/9, MS3.6/2, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**1.44**	**322**	P	P	**23 39 37.4**	**-0.1**
NIKO				S	S	**23 39 54.8**	**-0.6**
OKCD	**Okmok Cone D**	**1.64**	**344**	P	P	**23 39 40.8**	**+0.4**
OKCD				S	S	**23 40 00.9**	**+0.6**
OKCE	**Okmok Cone E**	**1.64**	**343**	P	P	**23 39 41.0**	**+0.6**
UNV	**Unalaska Valle**	**2.06**	**15**	P	P	**23 39 45.8**	**-0.5**
MNAT	**Makushin Natee**	**2.07**	**11**	P	P	**23 39 46.6**	**+0.2**
MTBL	**Makushin Table**	**2.15**	**11**	P	P	**23 39 48.4**	**+0.7**
AKLV	**Akutan Long Va**	**2.46**	**20**	P	P	**23 39 51.8**	**-0.2**
AKUT	**Akutan**	**2.48**	**22**	P	P	**23 39 52.0**	**-0.2**
AKGG	**Akutan Green G**	**2.49**	**19**	P	P	**23 39 52.7**	**+0.3**
WESE	**West Dahl East**	**3.11**	**32**	P	P	**23 40 01.6**	**+0.3**
WESN	**West Dahl Nort**	**3.19**	**31**	P	P	**23 40 02.9**	**+0.5**
ATKA	**Atka Island**	**4.22**	**277**	P	P	**23 40 16.8**	**-0.2**
DT1	**Dutton Round H**	**4.46**	**41**	P	P	**23 40 20.1**	**-0.2**
DTNA	**Dutton South F**	**4.50**	**41**	P	P	**23 40 20.6**	**-0.2**
DOL	**Dolgoi Island**	**4.66**	**43**	P	P	**23 40 22.6**	**-0.6**
HAG	**Hague Volcano**	**4.76**	**41**	P	P	**23 40 24.7**	**+0.2**
GSMY	**Great Sitkin M**	**5.37**	**275**	P	P	**23 40 33.0**	**0.0**
GSTR	**Great Sitkin T**	**5.37**	**276**	P	P	**23 40 33.4**	**+0.3**
SDPT	**Sand Point**	**5.39**	**47**	P	P	**23 40 32.7**	**-0.7**
GSTD	**Great Sitkin T**	**5.43**	**276**	P	P	**23 40 34.0**	**+0.1**
ADAG	**Mount Adagdak**	**5.71**	**275**	P	P	**23 40 38.0**	**+0.1**
KIKV	**Kanaga Island**	**6.07**	**274**	P	P	**23 40 43.9**	**+1.1**
KIMD	**Kanaga Island**	**6.12**	**273**	P	P	**23 40 43.3**	**-0.2**
CHGN	**Chignik**	**6.90**	**46**	*e*P	P	**23 40 53.2**	**-1.3**
FX1	**Attu Island--F**	**11.94**	**283**	Pn	P	**23 42 02.3**	**-1.1**
	1.6nm,0.3s,baz=322,slow=5.1,SNR=12						
FX1				Sn	S	**23 44 12.0**	**-4.2**
	0.2nm,0.3s,baz=21,slow=18,SNR=2.5						
IMA	**Indian Mountai**	**15.84**	**21**	P	P	**23 42 54.7**	**+0.3**
	21nm,1.1s						
YBH	**Yreka Blue Hor**	**31.75**	**91**	LR	LR	23 57 08.8	
	comp=Z,42nm,18.1s,MS3.2,baz=346,slow=34						
PDAR	**Pinedale Array**	**39.29**	**80**	P	P	**23 46 40.4**	**+1.2**
	0.2nm,0.7s,mb3.0,baz=270,slow=1.8,SNR=2.5						
JHJ	**Hachijo jima 2**	**42.19**	**265**	LR	LR	00 00 12.8	
	comp=Z,243nm,21.7s,MS4.0,baz=20,slow=30						
TXAR	**Lajitas Array**	**51.52**	**90**	P	P	**23 48 16.6**	**+0.1**
	0.1nm,0.6s,mb2.9,baz=297,slow=4.0,SNR=2.3						
SONM	**Songino Array**	**52.62**	**302**	P	P	**23 48 24.2**	**-0.2**
	0.3nm,0.5s,mb3.5,baz=104,slow=6.1,SNR=4.4						
ARCES	**ARCESS Array B**	**58.55**	**355**	P	P	**23 49 06.2**	**-0.8**
	2.5nm,0.9s,mb4.2,baz=7.1,slow=7.3,SNR=3.5						
BVAR	**Borovoye Array**	**64.83**	**326**	P	P	**23 49 49.2**	**+0.1**
	2.5nm,0.6s,mb4.4,baz=50,slow=6.9,SNR=20						
MKAR	**Makanchi Array**	**65.04**	**315**	P	P	**23 49 49.2**	**-1.5**
	0.3nm,0.7s,mb3.4,baz=27,slow=6.4,SNR=3.1						
HFS	**Hagfors**	**68.36**	**359**	P	P	**23 50 11.5**	**+0.1**
	1.4nm,0.8s,mb4.0,baz=45,slow=6.3,SNR=5.9						
AKASG	**Malin Array Be**	**76.85**	**349**	P	P	**23 51 01.4**	**-0.2**
	0.5nm,0.5s,mb3.7,baz=9.0,slow=5.2,SNR=4.3						
AKASG	**Malin Array Be**	**76.85**	**349**	P	P	**23 51 01.4**	**-0.2**
GERES	**GERESS Array B**	**79.67**	**359**	P	P	**23 51 19.0**	**+1.9**
	0.9nm,0.7s,mb3.8,baz=18,slow=4.2,SNR=11						
MATP	**Matopo**	**146.26**	**332**	PKPbc	PKPbc	23 58 50.1	+1.3
	2.1nm,1.1s,baz=11,slow=5.2,SNR=4.7						

*MOS **02** 23:39:14.4±2.6, 36.69N×46.46E, h10km, mb4.2/2, Error ellipse: s-maj=17.8km s-min=7.3km az=105.2*
*IDC **02** 23:39:22.2±2.0, 37.66N×46.42E, mb3.8/6, mb1 4.0/8, mb1mx3.8/21, mbtmp3.8/8, ML1.2/1, MS3.1/4, Ms1 3.1/4, ms1mx2.7/27, Error ellipse: s-maj=35.3km s-min=15.5km az=35.0*
*THR **02** 23:39:23.0±0.4, 38.00N×46.84E, h14km±12km, ML3.6*
*NEIC **02** 23:39:23.3, 37.99N×46.88E, h14km, mb4.0/2, ML3.6(THR), After THR.*
*CSEM **02** 23:39:23.6±0.2, 37.93N×46.58E, h14km, ML3.6, Error ellipse: s-maj=6.9km s-min=3.7km az=51.0*
ISC 02 23:39:22.5±0.5, 38.03N±0.03×46.64E±0.04, h10km, n50, σ1§48/64, mb3.7/6, MS3.0/3, 1D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRMI	**Germi**	**1.26**	**51**	*e*PG	**Pb**	**23 39 44.6**	**-1.3**

comp=E,3.2nm,0.6s
ARU e 23 44 02.1
ARU Arti 20.06 20 ⇓*i*P **P 23 44 00.2 +1.7**
ARU *e*PPP PPP 23 44 27.8 +0.9
ARU *e*S **S 23 47 50.9 +13**
ARU *e*SS SS 23 48 15.0 +8.1
ARU pmax pmax
comp=Z,4.0nm,0.7s
KWP Kalwaria 20.70 312 *e*P **P 23 44 06.2 +0.9**
comp=Z,9.9nm,1.0s
KWP Kalwaria 20.70 312 *e*P **P 23 44 06.2 +0.9**
comp=Z,9.9nm,1.0s
KWP Kalwaria 20.70 312 *e*P **P 23 44 06.2 +0.9**
KWP pmax pmax
comp=Z,10.0nm,1.0s
SVE Sverdlovsk 20.98 22 *e*P **P 23 44 14.4 +6.3**
SVE *e* 23 44 52.0
BVAR Borovoye Array 22.25 40 P **P 23 44 23.7 +2.8**
comp=Z,1.8nm,0.8s,mb3.6,baz=234,slow=13,SNR=12
GERES GERESS Array B 26.05 305 P **P 23 44 59.3 +1.8**
comp=Z,1.5nm,0.7s,mb3.6,baz=100,slow=8.1,SNR=7.3
FINES FINESS Array B 26.71 338 LR LR 23 56 33.4
comp=Z,22nm,19.5s,MS2.7,baz=328,slow=38
MKAR Makanchi Array 27.55 60 P **P 23 45 15.5 +4.3**
comp=Z,1.3nm,0.9s,mb3.5,baz=264,slow=10,SNR=5.6
HFS Hagfors 30.37 327 P **P 23 45 36.1 -0.3**
comp=Z,3.2nm,0.8s,mb4.1,baz=117,slow=9.7,SNR=5.1
HFS LR LR 23 58 38.5
comp=Z,44nm,19.8s,MS3.1,baz=341,slow=38
ZAL Zalesovo 30.47 46 P **P 23 45 39.4 +2.0**
comp=Z,0.6nm,0.4s,mb3.6,baz=226,slow=9.3,SNR=3.9
ZAL LR LR 00 00 51.0
comp=Z,64nm,19.0s,MS3.3,baz=44,slow=42
ZAL Zalesovo 30.47 46 P **P 23 45 39.4 +2.0**
ZAL LR LR 00 00 51.0
NOA NORSAR Array B 31.89 328 P **P 23 45 49.3 -0.5**
comp=Z,1.1nm,0.8s,mb3.8,baz=139,slow=7.6,SNR=4.2

*JMA **03** 01:14:03.2±0.2,28.89N×140.76E,h22km±4km,M4.3*
*IDC **03** 01:14:07.5±1.8,28.94N×141.11E,h57km±23km,mb3.8/5, mb1 3.9/8,mb1mx3.6/21,mbtmp4.1/8,ML3.8/3,MS3.6/2, Ms1 3.6/2,ms1mx2.8/28,Error ellipse: s-maj=84.0km s-min=8.6km az=71.0*
ISC 03 01:14:05.5±1.6,28.9N±0.1×140.8E±0.4,h50km±19km,n16, σ0§91/19,mb4.1/5,MS4.3/1,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.15**	**145**	P	**P**	**01 14 39.2**	**-0.5**
	34nm,0.3s,baz=296,slow=21,SNR=30						
CBIJ				S	**S**	**01 15 04.8**	**-0.3**
	105nm,0.3s,baz=72,slow=23,SNR=4.1						
CBIJ	**Chichi jima**	**2.15**	**145**	P	**P**	**01 14 39.2**	**-0.5**
CBIJ				*e*S	**S**	**01 15 05.8**	**+0.6**
JHHJ	**Haha-jima-NKT**	**2.54**	**151**	P	**P**	**01 14 44.9**	**-0.4**
JHHJ				*e*S	**S**	**01 15 15.6**	**+0.4**
JHJ	**Hachijo jima 2**	**4.32**	**349**	P	**P**	**01 15 11.0**	**+0.5**
	9.3nm,0.3s,baz=43,slow=19,SNR=4.6						
JHJ				S	**S**	**01 15 59.5**	**-0.8**
	11nm,0.3s,baz=32,slow=19,SNR=2.5						
BSO3	**Boso 3**	**5.92**	**358**	P	**P**	**01 15 31.9**	**-0.8**
BSO4	**Boso 4**	**6.11**	**356**	P	**P**	**01 15 38.1**	**+2.6**
MJAR	**Matsushiro Arr**	**7.96**	**345**	P	**P**	**01 16 02.2**	**+1.0**
	0.7nm,0.3s,baz=169,slow=12,SNR=5.5						
MAT	**Matsushiro**	**7.96**	**345**	P	**P**	**01 15 57.7**	**-3.5**
MAT				*e*S	**S**	**01 17 23.8**	**-6.9**
JNU	**Nakatsue**	**9.51**	**299**	LR	LR	01 19 25.5	
	comp=Z,79nm,18.4s,baz=44,slow=33						
WRA	**Warramunga Arr**	**48.93**	**188**	P	**P**	**01 22 48.5**	**-0.3**
	3.4nm,0.9s,mb4.4,baz=9.0,slow=8.2,SNR=21						
STKA	**Stephens Creek**	**60.42**	**179**	LR	LR	01 49 12.7	
	comp=Z,241nm,20.8s,MS4.3,baz=110,slow=35						
ARCES	**ARCESS Array B**	**71.47**	**340**	P	**P**	**01 25 21.8**	**-0.4**
	5.1nm,0.9s,mb4.5,baz=60,slow=7.3,SNR=3.7						
FINES	**FINESS Array B**	**75.82**	**333**	P	**P**	**01 25 47.2**	**-0.5**
	1.4nm,0.9s,mb3.9,baz=56,slow=5.0,SNR=3.9						
NB2	**NORSAR Subarra**	**81.51**	**338**	P	**P**	**01 26 18.7**	**0.0**
	1.0nm,0.6s,mb3.9,baz=43,slow=5.0						
NOA	**NORSAR Array B**	**81.51**	**338**	P	**P**	**01 26 19.1**	**+0.3**
	1.5nm,0.7s,mb4.0,baz=44,slow=5.3,SNR=7.5						
BRTR	**Keskin Array B**	**83.91**	**312**	P	**P**	**01 26 32.2**	**+0.8**
	0.5nm,0.7s,mb3.8,baz=27,slow=6.4,SNR=3.2						

*BJI **03** 01:23:15.5,16.90S×70.60W,h1km*
*HRVD **03** 01:23:15.5±0.6,16.82S×70.56W,h28km±2km,MW4.9/39, Centroid moment Tensor Solution. LP body waves: s17,c20;Mantle waves: s39,c53; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.09±.24; $M_{\theta\theta}$-0.19±.16; $M_{\phi\phi}$1.28±.20; $M_{r\theta}$0.15±.28; $M_{\theta\phi}$-2.09±.12; $M_{\phi r}$0.61±.31; Best double couple: $M_0$2.375×10^{16} NP1:ϕ_s283°,δ65°, λ-162°. NP2:ϕ_s185°,δ74°,λ-27°. Principal axes: T 2.804, Plg6°, Azm235°; N -.859, Plg59°, Azm336°; P -1.945, Plg30°, Azm142°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **03** 01:23:15.4±0.7,16.79S×70.68W,mb4.2/9,mb1 4.4/12, mb1mx4.2/23,mbtmp4.2/12,ML4.5/2,MS3.8/15,Ms1 3.8/15, ms1mx3.7/24 Error ellipse: s-maj=22.4km s-min=16.3km az=54.0*
*NEIC **03** 01:23:15.5±1.8, 16.90S×70.60W,h1km±10km,mb4.9/8, Error ellipse: s-maj=13.6km s-min=8.9km az=216.0*
NEIC Felt [II] at Arequipa.
ISC 03 01:23:19.7±0.8,16.84S±0.05×70.70W±0.04,h39km±7km, n48,σ1§25/33,mb4.5/16,MS3.9/13,1C,Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**0.85**	**296**	⇑*i*P	**P**	**01 23 33.9**	**-1.4**
ARE				*i*S	**S**	**01 23 46.5**	**-0.2**
LPAZ	**La Paz**	**2.52**	**78**	Pn	**P**	**01 23 58.9**	**-0.3**
	43nm,0.3s,baz=255,slow=14,SNR=1520						
LPAZ				Sn	**S**	**01 24 29.6**	**+0.8**
	24nm,0.3s,baz=331,slow=19,SNR=3.1						
LPAZ				LR	LR	01 25 07.7	
	comp=Z,4μm,20.6s,baz=33,slow=45						
LVC	**Limon Verde**	**5.99**	**164**	Pn	**P**	**01 24 47.5**	**-0.6**
	3.1nm,0.3s,baz=325,slow=11,SNR=36						
LVC				Sn	**S**	**01 25 58.2**	**+1.8**
	3.0nm,0.3s,baz=217,slow=20,SNR=2.6						
NNA	**Nana**	**7.66**	**308**	*e*P	**P**	**01 25 13.2**	**+1.7**
	26nm,0.8s						
SIV	**San Ignacio**	**9.27**	**86**	Pn	**P**	**01 25 28.1**	**-5.8**
	2.9nm,0.3s,baz=273,slow=9.2,SNR=82						
SIV				Sn	**S**	**01 27 17.2**	**-0.9**
	0.8nm,0.3s,baz=262,slow=19,SNR=1.8						
CFAA	**Coronel Fontan**	**14.87**	**172**	Pn	**P**	**01 26 42.4**	**-6.7**
	0.0nm,0.3s,baz=340,slow=15,SNR=2.2						
CFAA				LR	LR	01 32 24.5	
	comp=Z,32nm,18.2s,baz=157,slow=37						
BDFB	**Brasilia**	**21.81**	**90**	LR	LR	01 36 53.0	
	comp=Z,274nm,18.8s,MS3.7,baz=155,slow=38						
TRQA	**Tornquist**	**22.49**	**162**	*e*P	**P**	**01 28 14.8**	**-2.2**
	170nm,2.0s,mb5.1						
PLCA	**Paso Flores**	**23.81**	**180**	P	**P**	**01 28 29.8**	**-0.2**
	12nm,1.1s,mb4.2,baz=343,slow=10,SNR=5.4						
PLCA				LR	LR	01 37 59.1	
	comp=Z,230nm,19.5s,MS3.7,baz=344,slow=37						
PLCA	**Paso Flores**	**23.81**	**180**	*e*P	**P**	**01 28 29.9**	**-0.1**
	44nm,1.5s,mb4.7						
PLCA				LR	LR	01 37 59.1	
SDV	**Santo Domingo**	**25.56**	**0**	P	**P**	**01 28 47.1**	**+0.1**
	1.5nm,0.4s,mb3.9,baz=312,slow=4.7,SNR=4.7						
SDV	**Santo Domingo**	**25.56**	**0**	*e*P	**P**	**01 28 46.7**	**-0.2**
JTS	**JuntasAbangare**	**30.42**	**331**	LR	LR	01 42 35.2	
	comp=Z,254nm,21.4s,MS3.8,baz=159,slow=38						
USHA	**Ushuaia**	**37.96**	**178**	LR	LR	01 44 24.5	
	comp=Z,68nm,18.9s,MS3.5,baz=197,slow=33						
TXAR	**Lajitas Array**	**55.86**	**325**	P	**P**	**01 32 55.6**	**-0.4**
	1.2nm,0.7s,mb4.0,baz=149,slow=9.0,SNR=7.3						
TXAR				LR	LR	01 56 07.2	
	comp=Z,51nm,18.4s,MS3.6,baz=175,slow=35						
FVM	**French Village**	**57.59**	**342**	*e*P	**P**	**01 33 06.9**	**-1.4**
	43nm,1.2s,mb5.3						
CCM	**Cathedral Cave**	**57.91**	**341**	*e*P	**P**	**01 33 08.6**	**-1.8**
	17nm,1.2s,mb5.0						
RKT	**Rikitea**	**60.33**	**253**	*e*S	**S**	**01 41 35.1**	**-2.2**
RKT				*e*LR	LR	01 51 27.2	
	122nm,29.5s						
ANMO	**Albuquerque**	**61.69**	**327**	P	**P**	**01 33 36.9**	**+0.4**
	1.7nm,0.7s,mb4.3,baz=173,slow=7.4,SNR=5.3						
SDCO	**Great Sand Dun**	**63.39**	**330**	*e*P	**P**	**01 33 48.0**	**+0.2**
	12nm,1.2s,mb4.9						
ISCO	**Idaho Springs**	**65.07**	**331**	*e*P	**P**	**01 33 59.0**	**+0.4**
	5.1nm,1.3s,mb4.4						
SMCO	**Snowmass**	**65.23**	**330**	*e*P	**P**	**01 34 00.9**	**+1.3**
NEN	**Nelson**	**66.88**	**322**	*e*P	**P**	**01 34 11.6**	**+1.4**
DUG	**Dugway**	**68.96**	**327**	*e*P	**P**	**01 34 24.5**	**+1.4**
	9.8nm,1.4s,mb4.5						
DBIC	**Dimbokro**	**69.14**	**76**	LR	LR	02 02 40.1	
	comp=Z,170nm,19.1s,MS4.3,baz=225,slow=34						
PDAR	**Pinedale Array**	**69.24**	**330**	P	**P**	**01 34 22.6**	**-2.2**
	1.6nm,0.9s,mb3.9,baz=135,slow=4.2,SNR=14						
PDAR				LR	LR	02 06 19.4	
	comp=Z,39nm,20.3s,MS3.6,baz=255,slow=37						
ULM	**Lac du Bonnet**	**70.39**	**343**	P	**P**	**01 34 29.4**	**-2.2**
	3.5nm,0.7s,mb4.4,baz=137,slow=6.1,SNR=6.4						
ULM				LR	LR	02 08 16.9	
	comp=Z,73nm,18.3s,MS4.0,baz=184,slow=38						
ELK	**Elko**	**70.64**	**326**	P	**P**	**01 34 32.2**	**-1.1**
	1.2nm,0.9s,mb3.8,baz=147,slow=4.6,SNR=5.0						
SCHQ	**Schefferville**	**71.45**	**2**	LR	LR	02 08 40.0	
	comp=Z,46nm,18.8s,MS3.8,baz=115,slow=38						
HLID	**Hailey**	**72.21**	**328**	*e*P	**P**	**01 34 44.4**	**+1.8**
	3.4nm,1.2s,mb4.2						
MCMT	**McKenzie Canyo**	**72.36**	**330**	*e*P	**P**	**01 34 45.1**	**+1.6**
BOZ	**Bozeman (W)**	**72.40**	**331**	*e*P	**P**	**01 34 44.5**	**+0.8**
TBI	**Tubuai**	**73.45**	**250**	*e*LR	LR	01 57 36.9	
	188nm,35.0s						
PPT	**Papeete**	**74.78**	**256**	*e*LR	LR	01 58 06.0	
	86nm,30.0s						
YKA	**Yellowknife Ar**	**86.25**	**341**	LR	LR	02 15 46.2	
	comp=Z,49nm,21.9s,MS3.9,baz=270,slow=36						
BOSA	**Boshof**	**87.14**	**119**	LR	LR	02 09 09.4	
	comp=Z,95nm,19.5s,MS4.2,baz=164,slow=32						
MAW	**Mawson**	**89.26**	**164**	P	**P**	**01 36 12.8**	**+0.3**
	2.2nm,0.9s,mb4.5,baz=285,slow=9.5,SNR=4.0						
MAW				LR	LR	02 14 09.1	
	comp=Z,68nm,19.7s,MS4.1,baz=56,slow=34						
DLBC	**Dease Lake**	**89.31**	**333**	P	**P**	**01 36 14.2**	**+1.3**
	3.3nm,1.0s,mb4.6,baz=190,slow=8.3,SNR=4.5						
GERES	**GERESS Array B**	**98.88**	**42**	LR	LR	02 15 03.3	
	comp=Z,39nm,21.4s,MS3.9,baz=350,slow=31						
WRA	**Warramunga Arr**	**135.95**	**215**	PKP	PKPdf	01 42 39.3	+1.8
	0.5nm,0.6s,baz=142,slow=1.3,SNR=4.8						
ZAL	**Zalesovo**	**138.36**	**22**	PKP	PKPdf	01 42 41.6	+0.6
	2.3nm,0.8s,baz=206,slow=1.6,SNR=13						
MKAR	**Makanchi Array**	**142.69**	**31**	PKP	PKPdf	01 42 51.7	+2.9
	0.8nm,0.9s,baz=333,slow=2.7,SNR=5.7						
WMQ	**Urumqi**	**147.47**	**30**	*e*PKP	PKPdf	01 43 02.0	+4.9
MJAR	**Matsushiro Arr**	**147.76**	**313**	PKPbc	PKPdf	01 43 03.0	+5.2
	11nm,1.1s,baz=232,slow=0.8,SNR=18						
MAJO	**Matsushiro**	**147.76**	**313**	*e*PKPbc	PKPdf	01 43 03.1	+5.3
MAT	**Matsushiro**	**147.76**	**313**	PKP	PKPdf	01 43 02.6	+4.8
MAT	**Matsushiro**	**147.76**	**313**	*e*PKP	PKPdf	01 43 03.0	+5.2
SONM	**Songino Array**	**148.99**	**4**	PKPbc	PKPdf	01 43 05.6	+6.2
	2.7nm,0.6s,baz=332,slow=1.4,SNR=14						

*IDC **03** 01:56:41.1±3.0,2.77N×95.74E,mb4.3/5,mb1 4.4/5, mb1mx3.9/19,mbtmp4.3/5,MS3.8/1,Ms1 3.8/1, ms1mx2.9/23,Error ellipse: s-maj=117.8km s-min=25.2km az=55.0*
*NEIC **03** 01:56:44.8±1.1,2.70N×95.61E,h30km,mb4.5/2,Error ellipse: s-maj=25.1km s-min=13.8km az=212.0*
ISC 03 01:56:43.3±1.4,2.7N±0.2×95.7E±0.1,h30km,n17, σ0§88/16,mb4.5/12,MS3.5/2,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.58**	**62**	*e*P	**Pn**	**01 58 06.8**	**+0.3**
KMI	**Kunming**	**23.32**	**16**	P	**P**	**02 01 41.4**	**-8.6**
	9.0nm,0.7s,mb4.3						
KMI				pP		02 01 44.7	
KMI				LR	LR		
	comp=Z,60nm,19.3s,MS3.1						
JIRN	**Jiri**	**26.45**	**341**	*e*P	**P**	**02 02 20.9**	**+1.1**
	comp=Z,36nm,0.7s,mb5.0						
PKI	**Pulchoki**	**26.84**	**339**	*e*P	**P**	**02 02 22.1**	**+0.6**
GUN	**Gumba**	**26.79**	**340**	*e*P	**P**	**02 02 23.5**	**+0.6**
	comp=Z,39nm,0.6s,mb5.1						
KKN	**Kakani**	**26.88**	**339**	*e*P	**P**	**02 02 24.2**	**+0.5**
	comp=Z,24nm,0.9s,mb4.7						
LSA	**Lhasa**	**27.22**	**351**	*e*P	**P**	**02 02 26.1**	**-0.7**
GKN	**Gorkha**	**27.31**	**338**	*e*P	**P**	**02 02 28.5**	**+0.9**
	comp=Z,23nm,0.9s,mb4.7						
KOLN	**Koldanda**	**27.50**	**336**	*e*P	**P**	**02 02 30.4**	**+1.0**
	comp=Z,17nm,0.7s,mb4.7						
WRA	**Warramunga Arr**	**44.09**	**122**	P	**P**	**02 04 51.4**	**+0.4**
	comp=Z,2.4nm,0.8s,mb4.0,baz=300,slow=9.0,SNR=11						
MKAR	**Makanchi Array**	**45.46**	**347**	P	**P**	**02 05 01.6**	**0.0**
	comp=Z,5.6nm,0.7s,mb4.5,baz=162,slow=8.0,SNR=38						
SONM	**Songino Array**	**45.92**	**10**	P	**P**	**02 05 04.7**	**-0.5**
	comp=Z,1.9nm,0.7s,mb4.2,baz=188,slow=9.1,SNR=9.3						
KURK	**Kurchatov**	**49.99**	**346**	*e*P	**P**	**02 05 35.9**	**-1.0**
	comp=Z,7.4nm,1.3s,mb4.6						
ZAL	**Zalesovo**	**51.87**	**352**	P	**P**	**02 05 50.6**	**-0.5**
	comp=Z,2.6nm,0.5s,mb4.4,baz=326,slow=7.1,SNR=10.0						
BVAR	**Borovoye Array**	**54.38**	**341**	P	**P**	**02 06 08.6**	**-1.0**
	comp=Z,2.4nm,0.6s,mb4.3,baz=144,slow=9.2,SNR=19						
BRVK	**Borovoye**	**54.44**	**341**	*e*P	**P**	**02 06 07.8**	**-2.3**
CTA	**Charters Tower**	**54.50**	**117**	LR	LR	02 32 50.8	
	comp=Z,102nm,21.4s,MS3.9,baz=227,slow=40						

WEL 03 02:16:40.3±0.3,46.20S×166.85E,h108km±2km,ML3.5/5, 1C-3D,Error ellipse: s-maj=3.1km s-min=2.2km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.76**	**17**	PN	P	02 16 58.9	-0.3
DCZ				SN	S	02 17 13.1	-0.3
WHZ	**Wether Hill Ro**	**0.83**	**69**	⇓PN	P	02 16 59.5	-0.5
WHZ				SN	S	02 17 13.8	-0.8
MLZ	**Mavora Lakes**	**1.26**	**48**	PN	P	02 17 03.9	-0.7
MLZ				SN	S	02 17 21.3	-1.6
MSZ	**Milford Sound**	**1.71**	**27**	PN	P	02 17 09.3	-0.8
MSZ				SN	S	02 17 30.5	-1.8
TUZ	**Tuapeka**	**1.96**	**84**	PN	P	02 17 12.1	-1.0
TUZ				SN	S	02 17 35.2	-2.4
EAZ	**Earnscleugh**	**1.98**	**62**	⇓PN	P	02 17 12.6	-0.8
EAZ				SN	S	02 17 36.5	-1.7
WKZ	**Wanaka**	**2.05**	**49**	⇑PN	P	02 17 14.4	0.0
WKZ				SN	S	02 17 39.5	-0.5
JCZ	**Jackson Bay**	**2.52**	**33**	PN	P	02 17 19.8	-1.0
JCZ				*e*SN	S	02 17 50.1	-1.1
ODZ	**Otahua Downs**	**2.91**	**68**	⇓PN	P	02 17 23.3	-2.7
ODZ				SN	S	02 17 55.4	-5.0
LBZ	**Lake Benmore**	**2.97**	**54**	PN	P	02 17 24.0	-2.9
LBZ				SN	S	02 17 57.1	-4.9

WEL 03 02:19:22.2±0.4,38.18S×176.12E,h164km±3km,ML3.5/11, 5C,Error ellipse: s-maj=4.3km s-min=3.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.78**	**96**	⇑PN	P	02 19 46.7	-0.3
URZ				SN	S	02 20 05.6	-0.5
BKZ	**Black Stump Fm**	**1.02**	**164**	PN	P	02 19 48.7	+0.1
BKZ				SN	S	02 20 09.0	-0.1
NGZ	**Ngauruhoe**	**1.07**	**202**	PN	P	02 19 49.2	+0.2
MWZ	**Matawai**	**1.12**	**98**	⇑PN	P	02 19 49.6	+0.1
MWZ				SN	S	02 20 09.6	-1.0
TUVZ	**Tukino**	**1.14**	**198**	PN	P	02 19 49.9	+0.2
WNVZ	**Wahianoa**	**1.22**	**200**	PN	P	02 19 50.4	0.0
MOVZ	**Moawhango**	**1.26**	**193**	⇑PN	P	02 19 50.1	-0.7
MOVZ				SN	S	02 20 12.2	-0.7
KNZ	**Kokohu**	**1.48**	**125**	*e*SN	S	02 20 16.3	-0.4
MXZ	**Matakaoa Point**	**1.84**	**71**	PN	P	02 19 56.2	-0.5
MXZ				*e*SN	S	02 20 22.3	-1.0
TSZ	**Takapari Road**	**1.88**	**184**	⇑PN	P	02 19 56.2	-1.0
TSZ				*e*SN	S	02 20 21.6	-2.5
PWZ	**Pawanui**	**1.93**	**163**	PN	P	02 19 57.3	-0.4
PWZ				SN	S	02 20 24.6	-0.5
MRZ	**Mangatainoka R**	**2.51**	**189**	⇑PN	P	02 20 02.3	-2.4
MRZ				SN	S	02 20 34.4	-3.0
KIW	**Kapiti Island**	**2.83**	**199**	PN	P	02 20 05.5	-3.2
MTW	**Mount Morrison**	**3.01**	**189**	PN	P	02 20 07.5	-3.4
MTW				SN	S	02 20 43.4	-4.9
TRWZ	**Traveller**	**3.23**	**186**	PN	P	02 20 10.6	-3.2
MSWZ	**Moikau Station**	**3.30**	**191**	PN	P	02 20 10.8	-3.8
SNZO	**South Karori**	**3.31**	**199**	PN	P	02 20 10.7	-4.1
SNZO				*e*SN	S	02 20 50.0	-5.0
TCW	**Tory Channel**	**3.34**	**205**	*e*SN	S	02 20 49.9	-6.0
MQZ	**McQueen's Vall**	**6.11**	**204**	*e*SN	S	02 21 49.3	-11

IDC 03 02:29:18.6±1.8,1.53S×99.67E,mb3.6/3,mb1 3.7/3, mb1mx3.5/16,mbtmp3.6/3,Error ellipse: s-maj=83.8km s-min=26.8km az=59.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.52**	**121**	P	P	02 36 42.8	-1.9
	0.6nm,0.5s,baz=302,slow=9.3,SNR=12						
WRA				PcP	PcP	02 38 56.6	-1.6
	0.5nm,0.9s,baz=312,slow=2.5,SNR=4.8						
SONM	**Songino Array**	**49.51**	**6**	P	P	02 38 11.7	-1.2
	0.2nm,0.3s,baz=178,slow=8.4,SNR=2.2						
MKAR	**Makanchi Array**	**50.49**	**345**	P	P	02 38 17.9	-2.5
	0.6nm,0.5s,baz=164,slow=8.8,SNR=7.9						
CPUP	**Villa Florida**	**144.50**	**217**	PKP	PKPdf	02 48 56.4	-3.2
	2.9nm,0.8s,baz=140,slow=2.8,SNR=8.2						
TXAR	**Lajitas Array**	**144.53**	**37**	PKP	PKPdf	02 48 57.0	-2.6
	1.1nm,0.7s,baz=253,slow=1.4,SNR=16						

*KNET **03** 02:42:30.5±0.6,42.80N×77.93E,ml2.4,Error ellipse: s-maj=5.5km s-min=3.0km az=149.0*
*NNC **03** 02:42:33.4±2.1,43.22N×78.04E,mpv2.8,Error ellipse: s-maj=34.3km s-min=8.6km az=149.0*
ISC 03 02:42:28.6±1.7,42.6N±0.2×78.5E±0.1,h10km,n9, σ1§15/13,13C-3D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**1.70**	**257**	⇑P	**Pn**	**02 42 57.0**	**-1.5**
	13nm,0.2s,SNR=11						
ULHL				⇑S	**Sn**	**02 43 17.2**	**-3.3**
	101nm,0.2s						
TKM2	**Tokmak 2**	**2.14**	**279**	⇑P	**Pn**	**02 43 03.4**	**-1.5**
	4.8nm,0.2s,SNR=6.7						
TKM2				⇑S	**Sn**	**02 43 28.1**	**-3.6**
	21nm,0.1s						
KZA	**Kyzart**	**2.45**	**258**	⇑P	**Pn**	**02 43 09.6**	**+0.1**
	3.6nm,0.2s,SNR=8.1						
KZA				⇓S	**Sn**	**02 43 40.6**	**+0.8**
	29nm,0.5s						
KBK	**Karagaybulak**	**2.60**	**272**	⇓P	**Pn**	**02 43 11.5**	**0.0**
	6.2nm,0.2s,SNR=6.2						
KBK				⇓S	**Sn**	**02 43 43.3**	**-0.2**
	34nm,0.3s						
AAK	**Ala-Archa**	**2.94**	**271**	⇑P	**Pn**	**02 43 17.5**	**+1.1**
	3.1nm,0.6s						
AAK				⇑S	**Sn**	**02 43 52.5**	**+0.5**
	5.2nm,0.4s						
UCH	**Uchtor**	**2.96**	**263**	⇑P	**Pn**	**02 43 16.9**	**+0.3**
	2.1nm,0.3s,SNR=6.0						
UCH				⇑S	**Sn**	**02 43 54.1**	**+1.5**
	7.0nm,0.3s						
MK05	**Makanchi Array**	**4.97**	**32**	⇑Pn	**Pn**	**02 43 45.6**	**+0.5**
	0.4nm,0.2s,baz=207,slow=17						
MK05				⇑Lg		02 45 00.7	
	1.7nm,0.6s,baz=219,slow=30						
KK31	**Karatay Array**	**5.87**	**277**	⇑Lg		02 45 25.1	
	0.9nm,0.5s,baz=96,slow=26,SNR=3.8						
KURK	**Kurchatov**	**8.08**	**1**	⇑Lg		02 46 33.4	
	1.1nm,0.5s						

IDC 03 02:52:20.6±2.5,1.25N×96.82E,mb4.1/6,mb1 4.3/6, mb1mx3.9/19,mbtmp4.1/6,Error ellipse: s-maj=101.4km s-min=27.4km az=54.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.38**	**122**	P	P	03 00 17.2	-1.6
	0.6nm,0.8s,baz=300,slow=9.3,SNR=5.9						
MKAR	**Makanchi Array**	**47.10**	**346**	P	P	03 00 55.0	-1.3
	2.5nm,0.6s,baz=159,slow=8.1,SNR=23						
SONM	**Songino Array**	**47.14**	**9**	P	P	03 00 54.5	-2.1
	2.4nm,0.8s,baz=186,slow=9.2,SNR=14						
ZAL	**Zalesovo**	**53.44**	**351**	P	P	03 01 42.7	-1.9
	2.5nm,0.3s,baz=294,slow=4.6,SNR=5.1						
BVAR	**Borovoye Array**	**56.08**	**341**	P	P	03 02 01.0	-2.9
	0.7nm,0.5s,baz=135,slow=8.4,SNR=4.7						
ARCES	**ARCESS Array B**	**82.36**	**340**	P	P	03 04 43.6	-1.9
	5.8nm,0.9s,baz=104,slow=3.7,SNR=5.6						

CASC 03 03:01:45.9±2.5,12.80N×90.89W,h5km±17km,MD3.6, 1C-4D,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**1.43**	**17**	*e*P	Pn	03 02 11.0	-1.6
IXG				*e*S	Sb	03 02 32.5	+1.4
SBLS	**San Blas**	**1.61**	**50**	*e*P	Pn	03 02 24.6	+10
SBLS				*e*S	Sb	03 02 49.2	+13
SNJE	**San Jose**	**1.64**	**49**	*e*P	Pn	03 02 25.2	+10
SNJE				*e*S	Sb	03 02 48.3	+11
BOQS	**Boqueron**	**1.82**	**59**	⇓*e*P	Pn	03 02 27.7	+10
BOQS				*e*S	Sn	03 02 52.4	+10
LFRS	**El Faro**	**1.96**	**65

BSO2 Boso 2 1.93 315 S **S** **03 26 49.2 +2.0**
BSO3 Boso 3 2.11 312 P **P** **03 26 26.8 +0.2**
BSO3 S **S** **03 26 52.8 +1.0**
JHJ2 Mitsune 2.19 263 P **P** **03 26 28.0 +0.2**
JHJ2 S **S** **03 26 55.1 +1.3**
JHJ Hachijo jima 2 2.21 264 Pn **P** **03 26 28.2 +0.1**
58nm,0.3s,baz=164,slow=7.6,SNR=32
JHJ Sn **S** **03 26 54.6 +0.2**
269nm,0.3s,baz=252,slow=20,SNR=20
BSO4 Boso 4 2.34 314 P **P** **03 26 30.4 +0.4**
BSO4 S **S** **03 26 59.8 +2.1**
KTR Katsuura 2.46 316 S **S** **03 27 01.8 +1.0**
JMY Miyakejima3 2.50 287 P **P** **03 26 31.6 -0.7**
JIM2 Oshima 3 2.80 299 P **P** **03 26 35.6 -0.9**
JIZS Izushimoda 3.21 295 P **P** **03 26 42.2 -0.2**
JIZS S **S** **03 27 18.8 -1.1**
JOD2 Odawara 2 3.32 305 P **P** **03 26 43.0 -0.9**
JOD2 S **S** **03 27 21.0 -1.6**
JYN Shimob 3.82 304 P **P** **03 26 50.0 -1.0**
JYN S **S** **03 27 36.1 +0.8**
JAG Ashikaga 3.88 322 P **P** **03 26 50.9 -0.9**
JAG S **S** **03 27 34.7 -2.0**
JRY Ryogami san 3.90 313 P **P** **03 26 51.6 -0.5**
JRY S **S** **03 27 37.7 +0.5**
MJAR Matsushiro Arr 4.66 314 Pn **P** **03 27 02.7 -0.2**
7.9nm,0.3s,baz=95,slow=29,SNR=43
MJAR Sn **S** **03 27 55.3 -1.3**
12nm,0.3s,baz=94,slow=9.1,SNR=6.4
MJAR Matsushiro Arr 4.66 314 Pn **P** **03 27 02.7 -0.2**
MJAR Sn **S** **03 27 55.3 -1.3**
MAJO Matsushiro 4.66 314 *e*P **P** **03 27 02.5 -0.5**
MAT Matsushiro 4.66 314 P **P** **03 27 02.5 -0.5**
MAT S **S** **03 27 55.3 -1.3**
MAT Matsushiro 4.66 314 P **P** **03 27 03.3 +0.3**
MAT Matsushiro 4.66 314 *e*P **P** **03 27 03.0 0.0**
MAT *e*S **S** **03 27 55.0 -1.6**
JGM Miyama 5.23 298 P **P** **03 27 11.2 +0.3**
CBIJ Chichi jima 6.28 182 Pn **P** **03 27 21.6 -4.1**
8.5nm,0.3s,baz=260,slow=23,SNR=19
CBIJ Sn **S** **03 28 29.3 -7.7**
10nm,0.3s,baz=105,slow=17,SNR=2.9
JNU Nakatsue 9.66 272 Pn **P** **03 28 13.8 +1.2**
0.4nm,0.3s,baz=69,slow=17,SNR=9.1
YSS Yuzh-Sakhalins 13.55 1 *e*P **P** **03 28 59.2 -5.7**
12nm,0.6s
YSS *e*pP 03 29 09.7
YSS Yuzh-Sakhalins 13.55 1 P **P** **03 28 59.7 -5.2**
YSS *e*S **S** **03 31 19.5 -16**
YSS pmax pmax
comp=N,60nm,1.0s
YSS pmax pmax
comp=Z,60nm,1.0s
YSS smax
comp=N,40nm,1.1s
YSS MLR MLR
comp=N,200nm,15.0s
YSS MLR MLR
comp=Z,200nm,15.0s
CN2 Changchun 16.81 313 *e*P **P** **03 29 48.1 +1.1**
CN2 LR LR
comp=N,270nm,14.0s
CN2 LR LR
comp=E,310nm,14.0s
CN2 LR LR
comp=Z,270nm,14.0s
SNY Shenyang 17.11 305 ⇓P **P** **03 29 55.7 +5.0**
SNY AMB AMB
comp=Z,20nm,1.0s
SNY LR LR
comp=E,210nm,16.2s
SNY LR LR
comp=Z,240nm,13.4s
SSE Sheshan 18.09 269 P **P** **03 30 09.7 +6.5**
SSE S **S** **03 33 20.6 0.0**
SSE AMB AMB
comp=Z,28nm,0.7s
SSE AMB AMB
comp=Z,96nm,4.9s
SSE LR LR
comp=N,100nm,18.3s
SSE LR LR
comp=E,19nm,18.7s
SSE LR LR
comp=Z,72nm,17.2s
SSE Sheshan 18.09 269 P **P** **03 30 09.7 +6.5**
comp=Z,28nm,0.7s
SSE pP 03 30 35.6
SSE sP 03 30 54.9
SSE S **S** **03 33 20.6 0.0**
SSE PcP PcP 03 34 44.7 +8.0
NJ2 Nanjing 19.85 273 *e*P **P** **03 30 29.2 +5.6**
NJ2 S **S** **03 33 59.0 -0.9**
NJ2 PCP PcP 03 34 44.0 +4.3
NJ2 AMB AMB
comp=Z,20nm,1.1s
NJ2 AMB AMB
comp=Z,180nm,8.0s
NJ2 LR LR
comp=N,280nm,11.5s
NJ2 LR LR
comp=E,280nm,21.0s
NJ2 LR LR
comp=Z,300nm,24.2s
HIA Hailar 23.13 320 P **P** **03 30 53.1 -3.4**
comp=Z,3.2nm,0.5s,mb4.0
WHN Wuhan 23.94 271 ⇑P **P** **03 31 05.5 +1.0**
HHC Hu-ho-hao-te 25.60 296 *e*P **P** **03 31 22.6 +2.2**
HHC S **S** **03 35 52.3 +9.1**
HHC AMB AMB
comp=Z,21nm,0.8s,mb4.7
HHC AMB AMB
comp=Z,137nm,3.9s
BTO Baotou 26.74 295 *e*P **P** **03 31 32.8 +1.9**
BTO AMB AMB
comp=Z,11nm,0.4s,mb4.7
XAN Xi'an 27.79 281 P **P** **03 31 39.3 -1.3**
XAN AP pP 03 31 50.0 -1.2
XAN AMB AMB
comp=Z,8.0nm,1.0s,mb4.3
CIT Chita 27.93 320 *e*P **P** **03 31 45.6 +3.9**
CIT *e* pP 03 31 55.2 +2.9
CIT pmax pmax
comp=Z,61nm,2.1s,mb4.9
ENH Enshi 28.07 273 *e*P **P** **03 31 42.4 -0.8**
comp=Z,27nm,1.1s,mb4.8
YAK Yakutsk 29.79 348 *e*P **P** **03 31 57.5 -0.6**
YAK pmax pmax
comp=Z,12nm,0.8s,mb4.7
SONM Songino Array 30.60 309 P **P** **03 32 07.3 +1.8**
comp=Z,2.6nm,0.8s,mb4.1,baz=117,slow=8.6,SNR=8.8
SONM LR LR 03 43 35.7
comp=Z,73nm,18.6s,MS3.4,baz=103,slow=35
BOD Bodaibo 31.07 330 *e*P **P** **03 32 03.0 -6.5**
BOD *e* pP 03 32 15.0 -5.3
BOD pmax pmax
comp=Z,2.0nm,1.0s,mb3.9
BOD pmax pmax
comp=Z,6.0nm,1.0s,mb4.4
GYA Guiyang 31.62 267 ⇓*i*P **P** **03 32 13.2 -1.5**
GYA AMB AMB
comp=Z,10.0nm,0.4s,mb5.0
LZH Lanzhou 31.66 286 *e*P **P** **03 32 24.8 +10**
comp=Z,23nm,1.3s,mb4.8
LZH pP pP 03 32 33.5 +7.7
LZH sP sP 03 32 37.5 +6.7
LZH LR LR
comp=Z,320nm,13.5s,MS4.2
ZAK Zakamensk 33.24 313 *e*P **P** **03 32 29.1 +0.5**
ZAK pmax pmax
comp=Z,2.0nm,1.1s,mb4.0
GTA Gaotai 34.56 292 *e*P **P** **03 32 39.8 -0.2**
GTA AP pP 03 32 52.3 +1.4
GTA XP sP 03 32 57.5 +1.6
GTA AMB AMB
comp=Z,5.0nm,1.0s,mb4.4
ZAL Zalesovo 45.03 315 P **P** **03 34 08.7 +2.3**
comp=Z,2.2nm,0.3s,mb4.4,baz=122,slow=9.5,SNR=2.2
NVS Novosibirsk 45.98 316 *e*P **P** **03 34 14.1 0.0**
NVS pmax pmax
comp=Z,11nm,1.5s,mb4.6
NVS pmax pmax
comp=N,3.0nm,0.7s
MKAR Makanchi Array 46.81 305 P **P** **03 34 21.6 +1.0**
comp=N,3.0nm,0.9s,mb4.2,baz=88,slow=8.6,SNR=12
KURK Kurchatov 48.87 311 *e*P **P** **03 34 36.9 +0.2**
comp=N,12nm,0.9s,mb4.9
KURK Kurchatov 48.87 311 *e*P **P** **03 34 36.9 +0.2**
KURK pmax pmax
comp=Z,12nm,0.9s,mb4.9
SML Sawmill 51.48 35 *e*P **P** **03 34 56.0 -0.5**
ILAR Eielson Array 52.17 31 P **P** **03 35 00.3 -1.2**
comp=Z,3.6nm,0.8s,mb4.3,baz=270,slow=6.1,SNR=25
ILAR LR LR 03 56 22.2
comp=Z,36nm,20.1s,MS3.4,baz=4.7,slow=35
WRA Warramunga Arr 53.59 189 P **P** **03 35 12.1 -0.7**
comp=Z,1.9nm,0.7s,mb4.1,baz=8.9,slow=7.6,SNR=28
WRA PcP PcP 03 36 20.0 +1.0
comp=Z,1.4nm,0.7s,baz=2.7,slow=4.0,SNR=4.5
BVAR Borovoye Array 53.66 314 P **P** **03 35 13.2 +0.4**
comp=Z,0.9nm,0.6s,mb3.9,baz=90,slow=8.6,SNR=7.0
ARU Arti 59.65 320 ⇑*i*P **P** **03 35 54.7 -0.7**
ARU *e* 03 38 06.5
ARU *e*S **S** **03 43 51.1 -10**
ARU *e*SS SS 03 47 47.7 -11
ARU pmax pmax
comp=Z,6.0nm,1.3s,mb4.5
STKA Stephens Creek 64.92 181 P **P** **03 36 31.5 +0.6**
comp=Z,1.4nm,0.7s,mb4.1,baz=316,slow=15,SNR=4.1
STKA Stephens Creek 64.92 181 P **P** **03 36 31.5 +0.6**
YKA Yellowknife Ar 66.56 30 LR LR 04 08 40.8
comp=Z,26nm,18.1s,MS3.5,baz=260,slow=39
NEW Newport 72.19 44 *e*P **P** **03 37 16.4 +0.8**
comp=Z,3.2nm,0.9s,mb4.2
NEW Newport 72.19 44 *e*P **P** **03 37 16.4 +0.8**
NEW pmax pmax
comp=Z,3.0nm,0.9s
FINES FINESS Array B 72.42 333 P **P** **03 37 17.4 +0.7**
comp=Z,3.3nm,0.9s,mb4.3,baz=124,slow=6.9,SNR=7.2
FINES FINESS Array B 72.42 333 *e*P **P** **03 37 17.0 +0.3**
BMO Blue Mountains 73.82 47 *e*P **P** **03 37 24.2 -1.0**
comp=Z,2.4nm,1.1s,mb4.0
KIV Kislovodsk 73.92 312 *e*P **P** **03 37 28.0 +2.1**
KIV *e*S S 03 46 45.8 -7.9
KIV *e*SS SS 03 51 32.4 -8.4
KIV pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
KIV pmax pmax
comp=N,2.0nm,0.6s
KIV pmax pmax
comp=E,3.0nm,1.2s
WVOR Wild Horse Val 74.23 49 *e*P **P** **03 37 25.5 -2.1**
BEKR Beckwourth 74.42 52 *e*P **P** **03 37 29.5 +0.7**
comp=E,4.2nm,1.0s,mb4.3
GNI Garni 74.56 308 LR LR 04 14 38.8
comp=E,45nm,18.9s,MS3.8,baz=29,slow=39
CMB Columbia Colle 75.33 54 *e*P **P** **03 37 35.1 +1.0**
comp=E,1.3nm,0.6s,mb4.0
CMB Columbia Colle 75.33 54 *e*P **P** **03 37 35.1 +1.0**
CMB pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
BOZ Bozeman (W) 76.77 44 *e*P **P** **03 37 43.0 +0.9**
comp=Z,2.3nm,0.8s,mb4.2
BOZ *e*pP pP 03 37 52.5 -1.3
BOZ Bozeman (W) 76.77 44 *e*P **P** **03 37 43.0 +0.9**
BOZ *e**PP pP 03 37 52.6 -1.2
BOZ pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
ELK Elko 77.28 50 *e*P **P** **03 37 46.7 +1.6**
comp=Z,1.7nm,0.9s,mb4.0
ELK Elko 77.28 50 *e*P **P** **03 37 46.7 +1.6**
ELK pmax pmax
comp=Z,2.0nm,0.9s
AKASG Malin Array Be 77.68 323 P **P** **03 37 47.5 +0.5**
comp=Z,1.3nm,0.7s,mb4.0,baz=47,slow=6.0,SNR=8.6
NB2 NORSAR Subarra 77.86 338 P **P** **03 37 48.4 +0.6**
comp=Z,2.4nm,0.8s,mb4.2,baz=39,slow=5.6
NB2 NORSAR Subarra 77.86 338 P **P** **03 37 48.4 +0.6**
NB2 pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
NOA NORSAR Array B 77.86 338 P **P** **03 37 48.5 +0.7**
comp=Z,3.3nm,0.8s,mb4.3,baz=39,slow=5.6,SNR=14
NOA LR LR 04 17 18.4
comp=Z,36nm,20.4s,MS3.7,baz=115,slow=40
PDAR Pinedale Array 79.64 45 P **P** **03 37 58.6 +0.6**
comp=Z,0.7nm,0.7s,mb3.7,baz=270,slow=3.0,SNR=6.4
NEN Nelson 80.36 54 *e*P **P** **03 38 02.2 +0.2**
KWP Kalwaria 81.57 325 *e*P **P** **03 38 09.5 +1.5**
comp=Z,9.2nm,0.9s,mb4.7
KWP Kalwaria 81.57 325 *e*P **P** **03 38 09.5 +1.5**
KWP pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
BRTR Keskin Array B 81.89 312 P **P** **03 38 11.9 +2.0**
comp=Z,1.4nm,0.7s,mb4.0,baz=112,slow=4.8,SNR=4.2
PPT Papeete 82.28 117 LR LR 04 11 48.1
comp=Z,43nm,18.1s,MS3.9,baz=313,slow=34
SMCO Snowmass 83.36 47 *e*P **P** **03 38 19.0 +1.6**
ASF Jabal al Asfar 84.23 305 P **P** **03 38 24.1 +2.1**
comp=Z,1.7nm,0.4s,mb4.5,baz=175,slow=4.5,SNR=3.6
BRG Berggiesshubel 84.60 330 *e*P **P** **03 38 24.9 +1.6**
comp=Z,6.5nm,1.3s,mb4.6
BRG Berggiesshubel 84.60 330 *e*P **P** **03 38 25.0 +1.6**
BRG pmax pmax
comp=Z,7.0nm,1.3s,mb4.6
CLL Collm 84.66 331 P **P** **03 38 24.7 +1.1**
comp=Z,logA/T=1.0,mb4.9
CLL *i* *PP pP 03 38 35.3 -0.3
CLL Collm 84.66 331 *i* P **P** **03 38 24.7 +1.1**
comp=Z,9.0nm,1.0s,mb4.8
CLL *i* pP pP 03 38 35.3 -0.3
CLL Collm 84.66 331 *i* P **P** **03 38 24.7 +1.1**
CLL *i* *PP pP 03 38 35.3 -0.3
CLL pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
SDCO Great Sand Dun 85.16 47 *e*P **P** **03 38 28.4 +1.9**
comp=Z,6.2nm,0.9s,mb4.7
ANMO Albuquerque 86.30 50 *e*P **P** **03 38 34.0 +1.8**
comp=Z,3.7nm,1.0s,mb4.6
ANMO Albuquerque 86.30 50 *e*P **P** **03 38 34.0 +1.9**
ANMO pmax pmax
comp=Z,4.0nm,1.0s
SCHQ Schefferville 88.60 16 P **P** **03 38 43.7 +0.9**
comp=Z,1.6nm,0.9s,mb4.3,baz=13,slow=7.1,SNR=3.6
CDF Champ du Feu 89.23 332 *e*P **P** **03 38 44.9 -1.0**
HINF Hinteralfeld 89.88 332 *e*P **P** **03 38 47.6 -1.3**
TXAR Lajitas Array 91.68 53 P **P** **03 38 59.3 +1.4**
comp=Z,2.1nm,0.8s,mb4.5,baz=303,slow=3.3,SNR=31
SSF Saint Saulge 91.79 333 *e*P **P** **03 38 56.4 -1.5**
comp=Z,11nm,1.2s,mb4.8
LPL La Plagne 91.79 331 *e*P **P** **03 38 56.5 -1.4**
LPG La Plagne 91.80 331 *e*P **P** **03 38 56.8 -1.2**
AVF Avril sur Loir 92.08 333 *e*P **P** **03 38 57.6 -1.6**
comp=Z,9.3nm,1.0s,mb4.8
MBDF Montbardon 92.42 330 *e*P **P** **03 38 58.7 -2.1**
comp=Z,5.1nm,0.8s,mb4.6
SBF Sospel 92.83 329 *e*P **P** **03 39 00.9 -1.9**
comp=Z,103nm,1.3s,mb5.8
SGMF Saint Gilles 92.89 337 *e*P **P** **03 39 00.4 -2.5**
ROSF Rostrenen 93.04 338 *e*P **P** **03 39 00.7 -2.9**
comp=Z,34nm,1.3s,mb5.3
VIVF Saint-Julien-l 93.17 331 *e*P **P** **03 39 03.5 -0.8**
comp=Z,27nm,1.3s,mb5.2
FRF La Foret Royal 93.41 329 *e*P **P** **03 39 03.6 -1.8**
comp=Z,91nm,1.6s,mb5.7
MFF Saint Martin d 93.51 335 *e*P **P** **03 39 04.5 -1.3**
comp=Z,14nm,1.1s,mb5.0
SMRF Simiane la Rot 93.53 330 *e*P **P** **03 39 04.4 -1.5**
comp=Z,32nm,1.1s,mb5.4
EPF Esparros 96.40 333 *e*P **P** **03 39 16.0 -3.0**
ETSF Etsaut 96.85 334 *e*P **P** **03 39 19.4 -1.6**
comp=Z,19nm,1.3s,mb5.1
SAML Samuel 146.12 50 *e*PKPbc PKPbc 03 45 30.9 +1.1
LPAZ La Paz 147.64 66 PKPbc PKPdf 03 45 35.2 +4.0
comp=Z,4.4nm,0.8s,baz=344,slow=4.1,SNR=18
LPAZ La Paz 147.64 66 PKPbc PKPdf 03 45 35.2 +4.0

*NIED **03** 03:45:00, 33.70N×130.20E, h5km, Mw3.4 Best double couple: M0 1.27×10^14 NP1:φs300°, δ84°, λ26°. NP2:φs207°, δ64°, λ173°.*
JMA 03 03:45:13.6, 33.70N×130.24E, h6km, M3.5, 2C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFI	**Itaya**	**0.30**	**155**	⇑P	Pg	03 45 19.8	+0.1
JFI				S	Sg	03 45 24.1	+0.4
JII	**Iki**	**0.43**	**283**	⇓P	Pg	03 45 22.4	+0.1
JII				S	Sg	03 45 28.4	+0.2
JFA	**Akaike**	**0.46**	**88**	⇓P	Pg	03 45 22.6	-0.3
JFA				S	Sg	03 45 29.1	0.0
JTA	**Tamana**	**0.77**	**161**	⇑P	Pb	03 45 28.5	-0.6
JTA				S	Sg	03 45 39.1	-0.3

GUC 03 03:59:59.0±0.9, 26.61S×70.80W, h59km±16km, ML4.0, 4D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRCH	**Chaqaral**	**0.31**	**32**	⇓*i*P	P	04 00 12.2	+3.1
CRCH				*i* S	S	04 00 19.9	+3.4
CRCH				AMP		04 00 20.9	
comp=E,7μm,0.5s							
CPCH	**Copiapo**	**0.85**	**152**	⇓*i*P	P	04 00 15.9	+0.7
CPCH				*i* S	S	04 00 27.4	+0.2
VACH	**Vallenar**	**1.96**	**179**	⇓*i*P	P	04 00 31.6	+1.1
VACH				*i* S	S	04 00 54.1	+0.2
VACH				AMP		04 00 55.7	
comp=N,4μm,0.1s							
CPN1	**Cerro Paranal**	**2.01**	**10**	*e*P	P	04 00 31.5	+0.3
CPN1				*i* S	S	04 00 56.6	+1.5
CPN1				AMP		04 00 58.1	
comp=E,1μm,0.3s							
TLL	**Tololo Astrono**	**3.55**	**180**	⇓*i*P	P	04 00 52.7	-0.3
TLL				AMP		04 01 46.9	
comp=N,458nm,0.5s							

IDC 03 04:16:21.8±1.3, 3.74N×127.70E, mb3.8/5, mb1 4.0/5, mb1mx3.8/18, mbtmp3.9/5, Error ellipse: s-maj=87.9km s-min=19.4km az=72.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.80**	**185**	P	P	04 21 16.5	-1.0
5.5nm,1.0s,baz=356,slow=8.9,SNR=4.8							
WRA	**Warramunga Arr**	**24.42**	**165**	P	P	04 21 42.3	-1.1
1.1nm,0.5s,baz=344,slow=10,SNR=21							
STKA	**Stephens Creek**	**37.81**	**161**	P	P	04 23 39.2	-2.6
1.7nm,0.5s,baz=346,slow=4.2,SNR=2.9							
SONM	**Songino Array**	**47.60**	**341**	P	P	04 25 00.4	-1.0
0.4nm,0.5s,baz=149,slow=8.4,SNR=3.4							
MKAR	**Makanchi Array**	**58.10**	**325**	P	P	04 26 16.4	-3.0
0.9nm,0.5s,baz=114,slow=8.4,SNR=12							

IDC 03 04:23:30.1±2.1, 22.30N×45.31W, mb3.9/6, mb1 4.2/7, mb1mx3.8/25, mbtmp4.0/7, MS3.6/5, Ms1 3.5/5, ms1mx3.3/31, Error ellipse: s-maj=58.1km s-min=23.7km az=94.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**20.00**	**262**	P	P	04 28 03.9	-3.4
baz=188,slow=7.1,SNR=2.4							
SJG				LR	LR	04 34 13.1	
comp=Z,351nm,20.9s,baz=87,slow=32							
SDV	**Santo Domingo**	**27.74**	**245**	LR	LR	04 38 34.8	
comp=Z,117nm,21.4s,baz=224,slow=33							
SCHQ	**Schefferville**	**36.27**	**339**	P	P	04 30 34.8	-2.2
2.9nm,0.9s,baz=214,slow=7.3,SNR=3.7							
SCHQ				LR	LR	04 43 41.7	
comp=Z,90nm,20.4s,baz=138,slow=33							
LPAZ	**La Paz**	**44.39**	**212**	P	P	04 31 42.0	-2.5
2.3nm,1.0s,baz=38,slow=9.4,SNR=6.9							
LVC	**Limon Verde**	**50.22**	**209**	P	P	04 32 29.4	-0.7
0.7nm,0.5s,baz=39,slow=6.5,SNR=1.9							
TXAR	**Lajitas Array**	**52.55**	**291**	P	P	04 32 46.1	-1.5
0.6nm,0.9s,baz=98,slow=7.5,SNR=6.8							
HFS	**Hagfors**	**55.57**	**31**	LR	LR	04 51 47.9	
comp=Z,75nm,19.9s,baz=263,slow=31							
PDAR	**Pinedale Array**	**56.53**	**307**	P	P	04 33 14.7	-1.9
1.8nm,0.9s,baz=97,slow=7.3,SNR=12							
CFAA	**Coronel Fontan**	**57.93**	**203**	LR	LR	04 58 06.7	
comp=Z,14nm,18.8s,baz=239,slow=36							
ILAR	**Eielson Array**	**74.86**	**334**	P	P	04 35 12.2	-1.7
3.0nm,1.0s,baz=68,slow=4.1,SNR=15							

*NNC **03** 04:26:30.9±1.6, 43.19N×78.17E, h6km±5km, mpv3.4, Error ellipse: s-maj=21.0km s-min=6.1km az=151.0*
*KNET **03** 04:26:33.9±1.0, 42.96N×77.97E, ml3.4, Error ellipse: s-maj=9.3km s-min=6.3km az=151.0*
ISC 03 04:26:32.1±2.0, 43.0N±0.2×78.4E±0.1, h10km±15km, n13, σ1§12/18, 17C-6D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**1.79**	**245**	P	**Pn**	**04 27 01.6**	**-1.8**
42nm,0.1s,SNR=305							
ULHL				⇓S	**Sn**	**04 27 23.8**	**-2.7**
559nm,0.2s							
TKM2	**Tokmak 2**	**2.08**	**268**	⇑P	**Pn**	**04 27 06.4**	**-1.2**
22nm,0.1s,SNR=59							
TKM2				⇓S	**Sn**	**04 27 32.4**	**-1.5**
331nm,0.1s							
KZA	**Kyzart**	**2.54**	**249**	⇑P	**Pn**	**04 27 14.3**	**+0.3**
21nm,0.2s,SNR=23							
KZA				⇓S	**Sn**	**04 27 46.4**	**+1.1**
93nm,0.3s							
KBK	**Karagaybulak**	**2.59**	**263**	⇑P	**Pn**	**04 27 15.1**	**+0.3**
33nm,0.2s,SNR=16							
KBK				⇑S	**Sn**	**04 27 48.6**	**+1.9**
196nm,0.2s							
CHMS	**Chumysh**	**2.70**	**271**	⇓P	**Pn**	**04 27 15.9**	**-0.5**
22nm,0.2s,SNR=12							
CHMS				⇑S	**Sn**	**04 27 49.3**	**-0.2**
162nm,0.3s							
AAK	**Ala-Archa**	**2.92**	**264**	⇓P	**Pn**	**04 27 20.9**	**+1.3**
27nm,0.2s,SNR=30							
AAK	**Ala-Archa**	**2.92**	**264**	⇑Pg	**Pn**	**04 27 21.0**	**+1.4**
25nm,0.5s							
AAK				⇑Lg		04 27 57.6	
69nm,0.7s							
UCH	**Uchtor**	**3.00**	**256**	⇑P	**Pn**	**04 27 21.6**	**+1.0**
26nm,0.4s,SNR=37							
MK31	**Makanchi Array**	**4.66**	**35**	⇑Pn	**Pn**	**04 27 44.8**	**+0.5**
1.1nm,0.3s,baz=212,slow=13,SNR=47							
MK31				⇑Sn	**Sn**	**04 28 38.8**	**-0.3**
6.4nm,0.5s,baz=220,slow=22,SNR=5.8							
MK31				⇑Lg		04 28 56.7	
6.1nm,0.4s,baz=216,slow=28,SNR=12							
KK31	**Karatay Array**	**5.80**	**273**	⇑Pg	**Pb**	**04 28 13.1**	**-0.1**
1.7nm,0.5s,baz=91,slow=16,SNR=26							
KK31				⇑Lg		04 29 26.8	
7.6nm,0.5s,baz=88,slow=26,SNR=6.5							
KURK	**Kurchatov**	**7.70**	**1**	⇑Lg		04 30 29.8	
7.3nm,0.8s							
VOSK	**Vostochnaya**	**10.91**	**335**	⇓Pn	**P**	**04 29 05.7**	**-5.7**
0.7nm,0.6s							
VOSK				⇑Lg		04 32 09.6	
4.7nm,0.9s							
BVA0	**Borovoye Array**	**11.36**	**335**	⇑Pn	**P**	**04 29 12.1**	**-5.3**
0.2nm,0.6s,baz=133,slow=12,SNR=15							
BVA0				⇑Lg		04 32 23.8	
1.0nm,0.9s,baz=144,slow=30,SNR=5.4							

GUC 03 04:34:34.1±0.7, 29.84S×71.61W, h15km±5km, MD4.0, ML3.5, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.33**	**102**	⇓*i*P	Px	04 35 31.1	
LSCH				*i* S	Sx	04 35 36.6	
LSCH				AMP		04 35 37.2	
comp=E,5μm,0.3s							
TLL	**Tololo Astrono**	**0.77**	**115**	⇓*i*P	Pb	04 34 49.1	+0.4
TLL				*i* S	Sb	04 34 59.7	+1.0
TLL				AMP		04 35 04.7	
comp=E,6μm,0.6s							
CMCH	**Combarbala**	**1.43**	**159**	*e*P	Pn	04 34 58.5	-1.2
CMCH				*i* S	Sb	04 35 17.4	-0.4
CMCH				AMP		04 35 21.0	
comp=E,4μm,0.6s							
VACH	**Vallenar**	**1.46**	**31**	⇑*i*P	Pn	04 34 59.2	-0.9
VACH				*i* S	Sb	04 35 18.0	-0.7
ILCH	**Illapel**	**1.83**	**168**	⇑*i*P	Pn	04 35 05.1	-0.3
ILCH				*i* S	Sn	04 35 28.4	0.0
ILCH				AMP		04 35 36.8	
comp=N,543nm,0.4s							
CHNG	**Los Chungos**	**2.04**	**177**	*i* P	Pn	04 35 09.7	+1.3
CHNG				*i* S	Sn	04 35 35.7	+2.0
CHNG				AMP		04 35 43.0	
comp=E,247nm,0.9s							
JACH	**Jahuel**	**2.96**	**163**	*e*P	Pn	04 35 21.7	+0.1
JACH				*i* S	Sn	04 35 58.1	+0.9
DSCH	**Colegio Aleman**	**3.66**	**166**	*i* S	Sn	04 36 16.8	+2.1

CLCH	Cerro Calan	3.66 166	*e*P	Pn	04 35 31.6 +0.1
RCDM	Rinconada Maip	3.70 170	*e*P	Pn	04 35 31.9 -0.2

*IDC **03** 04:36:22.7±0.8, 1.03S×136.62E, mb3.9/7, mb1 4.1/9, mb1mx4.0/17, mbtmp4.0/9, ML3.6/2, MS3.7/3, Ms1 3.7/3, ms1mx3.2/20, Error ellipse: s-maj=38.7km s-min=18.4km az=76.0*

*NEIC **03** 04:36:25.9±9.6, 1.05S×136.76E, h19km±59km, Error ellipse: s-maj=21.8km s-min=18.5km az=137.0*

ISC 03 04:36:26.3±0.8, 1.2S±0.1×136.8E±0.1, h33km, n17, σ1°19/12, mb3.9/5, MS3.6/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**13.20 129**		Pn	**P**	**04 39 33.2**	**-0.8**
	0.6nm,0.3s,baz=280,slow=11,SNR=2.6						
WRAB	**Tennant Creek**	**18.81 187**		*e*P	**P**	**04 40 44.6**	**-1.1**
WRA	**Warramunga Arr**	**18.82 187**		P	**P**	**04 40 45.6**	**-0.3**
	0.3nm,0.3s,baz=9.2,slow=11,SNR=11						
FITZ	**Fitzroy Crossi**	**20.07 212**		P	**P**	**04 40 59.3**	**-0.5**
	6.5nm,0.9s,baz=43,slow=2.6,SNR=3.2						
CTA	**Charters Tower**	**20.98 154**		P	**P**	**04 41 09.5**	**+0.3**
	6.3nm,1.1s,baz=309,slow=14,SNR=2.5						
CTA				LR	LR	04 50 28.9	
	comp=Z,305nm,18.9s,MS3.7,baz=140,slow=40						
MBWA	**Marble Bar**	**25.91 219**		*e*P	**P**	**04 41 59.4**	**+2.0**
STKA	**Stephens Creek**	**30.89 172**		P	**P**	**04 42 42.8**	**+0.6**
	2.6nm,0.9s,mb4.1,baz=334,slow=9.7,SNR=2.2						
JNU	**Nakatsue**	**34.54 351**		LR	LR	04 54 13.4	
	comp=Z,72nm,20.1s,MS3.4,baz=138,slow=31						
SONM	**Songino Array**	**55.50 336**		LR	LR	05 07 55.3	
	comp=Z,74nm,19.2s,MS3.8,baz=182,slow=34						
MKAR	**Makanchi Array**	**67.38 323**		P	**P**	**04 47 19.8**	**-0.6**
	0.6nm,0.7s,mb3.8,baz=106,slow=8.8,SNR=5.4						
BVAR	**Borovoye Array**	**76.94 325**		P	**P**	**04 48 14.4**	**-2.7**
	0.4nm,0.4s,mb3.7,baz=117,slow=6.4,SNR=3.0						
VNDA	**Vanda**	**77.49 175**		P	**P**	**04 48 20.4**	**+0.6**
	1.0nm,0.8s,mb3.8,baz=330,slow=6.4,SNR=3.9						
VNDA	**Vanda**	**77.49 175**		P	**P**	**04 48 20.4**	**+0.6**
ILAR	**Eielson Array**	**85.24 25**		P	**P**	**04 49 02.5**	**+1.9**
	0.8nm,0.7s,mb4.0,baz=262,slow=6.4,SNR=3.8						
CPUP	**Villa Florida**	**149.47 155**		PKPbc	PKPdf	04 56 13.8	+5.4
	1.7nm,0.8s,baz=76,slow=9.8,SNR=4.1						
CPUP	**Villa Florida**	**149.47 155**		PKPbc	PKPdf	04 56 13.8	+5.4
SDV	**Santo Domingo**	**151.67 73**		PKPbc	PKPdf	04 56 20.3	+8.3
	3.2nm,0.9s,baz=269,slow=1.1,SNR=5.2						

*IDC **03** 04:38:44.6±0.7, 22.26N×45.04W, mb4.0/15, mb1 4.1/15, mb1mx4.0/30, mbtmp4.0/15, MS4.1/20, Ms1 4.1/20, ms1mx4.0/26, Error ellipse: s-maj=22.9km s-min=15.4km az=130.0*

*NEIC **03** 04:38:46.1±0.4, 22.27N×45.05W, h10km, mb4.5/10, Error ellipse: s-maj=10.1km s-min=7.7km az=125.0*

ISC 03 04:38:44.3±0.6, 22.28N±0.08×45.1W±0.1, h10km, n40, σ0°85/27, mb4.2/24, MS4.1/20, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**20.22 262**		P	**P**	**04 43 20.8**	**-1.6**
	4.8nm,0.7s,baz=98,slow=13,SNR=2.8						
SDV	**Santo Domingo**	**27.94 246**		P	**P**	**04 44 38.2**	**+1.0**
	0.8nm,0.4s,mb3.7,baz=52,slow=13,SNR=3.8						
SDV				LR	LR	04 54 34.1	
	comp=Z,238nm,19.6s,MS3.8,baz=292,slow=34						
SADO	**Sadowa**	**35.80 317**		LR	LR	04 57 31.4	
	comp=Z,473nm,21.7s,MS4.2,baz=130,slow=31						
SCHQ	**Schefferville**	**36.38 339**		P	**P**	**04 45 50.2**	**-0.3**
	3.7nm,0.9s,mb4.3,baz=139,slow=6.1,SNR=4.3						
SIV	**San Ignacio**	**41.14 204**		P	**P**	**04 46 30.9**	**+0.3**
	0.5nm,0.6s,mb3.3,baz=142,slow=6.6,SNR=3.0						
CCM	**Cathedral Cave**	**42.47 302**		*e*P	**P**	**04 46 42.1**	**+0.8**
	6.1nm,1.0s,mb4.2						
LPAZ	**La Paz**	**44.50 212**		LR	LR	05 04 40.4	
	comp=Z,210nm,19.3s,MS4.1,baz=34,slow=35						
LPAZ	**La Paz**	**44.50 212**		*e*P	**P**	**04 46 59.0**	**+1.0**
	4.3nm,0.6s,mb4.4						
BORG	**Borgarnes**	**45.23 14**		LR	LR	05 02 09.3	
	comp=Z,129nm,20.4s,MS3.9,baz=328,slow=31						
WMOK	**Wichita Mounta**	**48.30 297**		*e*P	**P**	**04 47 28.3**	**+0.4**
	7.8nm,1.2s,mb4.6						
ULM	**Lac du Bonnet**	**48.34 318**		P	**P**	**04 47 28.9**	**+0.9**
	1.2nm,0.4s,mb4.3,baz=134,slow=1.0,SNR=3.3						
ULM				LR	LR	05 05 25.1	
	comp=Z,363nm,20.0s,MS4.3,baz=205,slow=33						
CPUP	**Villa Florida**	**49.76 194**		P	**P**	**04 47 38.6**	**-0.6**
	2.3nm,1.0s,mb4.2,baz=11,slow=10,SNR=3.8						
CPUP				LR	LR	05 07 27.1	
	comp=Z,71nm,18.4s,MS3.7,baz=230,slow=35						
DAVOX	**Davos**	**50.24 47**		P	**P**	**04 47 43.2**	**+0.5**
	1.8nm,0.7s,mb4.2,baz=287,slow=10,SNR=2.6						
DAVOX				LR	LR	05 05 13.8	
	comp=Z,189nm,20.6s,MS4.1,baz=267,slow=32						
LVC	**Limon Verde**	**50.31 209**		P	**P**	**04 47 42.6**	**-0.8**
	0.6nm,0.4s,mb4.0,baz=332,slow=9.9,SNR=3.2						
TXAR	**Lajitas Array**	**52.77 291**		P	**P**	**04 48 01.8**	**-0.2**
	1.2nm,0.9s,mb3.8,baz=101,slow=8.5,SNR=13						
TXAR				LR	LR	05 09 26.9	
	comp=Z,209nm,20.7s,MS4.2,baz=70,slow=35						
VAE	**Valguarnera**	**52.94 59**		LR	LR	05 06 24.4	
	comp=Z,202nm,19.9s,MS4.2,baz=297,slow=31						
GERES	**GERESS Array B**	**53.11 45**		P	**P**	**04 48 03.4**	**-0.8**
	0.2nm,0.3s,mb3.5,baz=236,slow=4.8,SNR=4.3						
GERES				LR	LR	05 08 21.1	
	comp=Z,100nm,19.7s,MS3.9,baz=40,slow=33						
NOA	**NORSAR Array B**	**54.58 30**		LR	LR	05 07 25.1	
	comp=Z,215nm,20.9s,MS4.2,baz=260,slow=32						
HFS	**Hagfors**	**55.47 31**		P	**P**	**04 48 20.6**	**-0.8**
	2.7nm,1.0s,mb4.2,baz=236,slow=16,SNR=2.7						
PDAR	**Pinedale Array**	**56.72 307**		P	**P**	**04 48 30.3**	**-0.3**
	3.3nm,1.0s,mb4.3,baz=76,slow=6.1,SNR=17						
PDAR				LR	LR	05 09 32.6	
	comp=Z,221nm,21.4s,MS4.2,baz=95,slow=33						
LOHW	**Long Hollow**	**57.48 308**		*e*P	**P**	**04 48 35.4**	**-0.6**
	4.7nm,1.1s,mb4.4						
TPAW	**Teton Pass**	**57.73 308**		*e*P	**P**	**04 48 32.5**	**-5.2**
	3.0nm,1.0s,mb4.3						
BOZ	**Bozeman (W)**	**58.20 311**		*e*P	**P**	**04 48 41.1**	**+0.2**
	2.3nm,1.0s,mb4.2						
TUC	**Tucson**	**58.47 295**		*e*P	**P**	**04 48 43.5**	**+0.5**
	3.3nm,1.1s,mb4.3						
EDM	**Edmonton**	**59.52 320**		*e*P	**P**	**04 48 50.0**	**-0.1**
HLID	**Hailey**	**60.25 308**		*e*P	**P**	**04 48 53.3**	**-1.8**
	9.8nm,1.7s,mb4.6						
YKA	**Yellowknife Ar**	**61.04 330**		LR	LR	05 13 34.4	
	comp=Z,207nm,20.6s,MS4.3,baz=95,slow=34						
FINES	**FINESS Array B**	**61.67 31**		LR	LR	05 12 39.8	
	comp=Z,144nm,18.4s,MS4.2,baz=169,slow=33						
NEW	**Newport**	**61.90 314**		*e*P	**P**	**04 49 06.2**	**-0.1**
	7.1nm,1.0s,mb4.8						
ARCES	**ARCESS Array B**	**62.53 22**		LR	LR	05 11 22.8	
	comp=Z,77nm,19.6s,MS3.9,baz=229,slow=31						
AKASG	**Malin Array Be**	**63.23 43**		P	**P**	**04 49 14.3**	**-0.8**
	0.5nm,0.4s,mb4.0,baz=270,slow=5.7,SNR=4.9						
AKASG	**Malin Array Be**	**63.23 43**		P	**P**	**04 49 14.3**	**-0.8**
PLCA	**Paso Flores**	**67.03 201**		LR	LR	05 17 30.9	
	comp=Z,97nm,18.1s,MS4.1,baz=16,slow=35						
ILAR	**Eielson Array**	**74.98 334**		P	**P**	**04 50 27.6**	**+0.5**
	3.0nm,0.9s,mb4.2,baz=45,slow=6.1,SNR=14						
IMA	**Indian Mountai**	**77.08 337**		*e*P	**P**	**04 50 39.9**	**+0.8**
	13nm,1.2s,mb4.7						
KMBO	**Kilima Mbogo**	**83.31 94**		LR	LR	05 28 20.2	
	comp=Z,162nm,18.8s,MS4.4,baz=279,slow=36						
BOSA	**Boshof**	**84.56 124**		LR	LR	05 24 29.6	
	comp=Z,124nm,18.3s,MS4.3,baz=173,slow=32						
BVAR	**Borovoye Array**	**86.56 33**		P	**P**	**04 51 30.8**	**+2.1**
	0.8nm,0.6s,mb4.1,baz=288,slow=4.7,SNR=4.6						
MKAR	**Makanchi Array**	**96.44 33**		LR	LR	05 33 55.5	
	comp=Z,98nm,18.3s,MS4.3,baz=182,slow=34						
SNAA	**Sanae**	**98.08 168**		LR	LR	05 27 03.6	
	comp=Z,45nm,20.9s,MS3.9,baz=204,slow=30						

WEL 03 04:42:41.8±0.5, 37.50S×176.47E, h200km±5km, ML3.5/13, Error ellipse: s-maj=10.0km s-min=6.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.92 147**		PN	P	04 43 10.8	-0.3
URZ				SN	S	04 43 33.4	-0.4
MWZ	**Matawai**	**1.18 136**		PN	P	04 43 13.4	+0.3
MWZ				SN	S	04 43 36.5	-0.8
MXZ	**Matakaoa Point**	**1.46 93**		PN	P	04 43 14.9	-0.5
PUZ	**Puketiti**	**1.53 113**		*e*PN	P	04 43 15.5	-0.5
BKZ	**Black Stump Fm**	**1.67 180**		PN	P	04 43 16.8	-0.5
BKZ				*e*SN	S	04 43 43.9	-0.9
KNZ	**Kokohu**	**1.79 149**		PN	P	04 43 18.4	-0.2
KNZ				*e*SN	S	04 43 45.5	-1.4
NGZ	**Ngauruhoe**	**1.81 202**		*e*PN	P	04 43 19.1	+0.4
TUVZ	**Tukino**	**1.89 200**		*e*PN	P	04 43 19.5	0.0
WNVZ	**Wahianoa**	**1.96 200**		PN	P	04 43 20.1	0.0
MOVZ	**Moawhango**	**1.99 196**		PN	P	04 43 19.8	-0.7
PWZ	**Pawanui**	**2.55 173**		PN	P	04 43 25.8	-0.8
PWZ				SN	S	04 43 59.6	-1.7
TSZ	**Takapari Road**	**2.59 189**		PN	P	04 43 25.6	-1.6
TSZ				SN	S	04 43 58.9	-3.3
MRZ	**Mangatainoka R**	**3.24 192**		PN	P	04 43 32.4	-2.4
MRZ				SN	S	04 44 12.5	-3.3
KIW	**Kapiti Island**	**3.58 199**		PN	P	04 43 36.0	-2.9
KIW				SN	S	04 44 18.4	-4.7
MTW	**Mount Morrison**	**3.74 191**		PN	P	04 43 37.4	-3.5
CAW	**Cannon Point**	**3.77 196**		PN	P	04 43 38.4	-2.9
MRW	**Makara Radio**	**3.98 200**		*e*SN	S	04 44 27.1	-4.7
MSWZ	**Moikau Station**	**4.03 193**		PN	P	04 43 41.1	-3.4
TCW	**Tory Channel**	**4.08 204**		PN	P	04 43 41.9	-3.3
TCW				SN	S	04 44 29.8	-4.6
TUWZ	**Tuamarina**	**4.39 206**		PN	P	04 43 45.8	-3.3
CMWZ	**Cape Campbell**	**4.59 202**		*e*SN	S	04 44 40.2	-5.6
THZ	**Tophouse**	**5.08 212**		*e*PN	P	04 43 54.8	-3.0
KHZ	**Kahutara**	**5.41 204**		*e*PN	P	04 43 58.1	-4.0
MQZ	**McQueen's Vall**	**6.85 204**		*e*SN	S	04 45 28.9	-9.2

*IDC **03** 04:46:11.4±0.8, 22.27N×44.99W, mb4.0/13, mb1 4.2/13, mb1mx4.0/25, mbtmp4.0/13, MS3.9/3, Ms1 3.9/3, ms1mx3.4/22, Error ellipse: s-maj=24.4km s-min=16.8km az=116.0*

*NEIC **03** 04:46:12.9±0.6, 22.29N×45.01W, h10km, mb4.5/3, Error ellipse: s-maj=16.2km s-min=12.7km az=113.0*

ISC 03 04:46:11.3±0.6, 22.3N±0.1×45.0W±0.1, h10km, n20, σ0°90/17, mb4.1/16, MS3.9/3, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**36.36 339**		P	**P**	**04 53 17.9**	**+0.6**
	2.0nm,0.8s,mb4.1,baz=169,slow=10,SNR=3.8						
BDFB	**Brasilia**	**37.85 185**		P	**P**	**04 53 31.0**	**+0.8**
	2.0nm,0.6s,mb4.0,baz=73,slow=7.7,SNR=4.2						
JTS	**JuntasAbangare**	**40.06 259**		LR	LR	05 06 05.1	
	comp=Z,100nm,21.1s,MS3.6,baz=110,slow=30						
SIV	**San Ignacio**	**41.21 204**		P	**P**	**04 53 56.0**	**-2.1**
	0.2nm,0.5s,mb3.0,baz=257,slow=20,SNR=2.2						
LPAZ	**La Paz**	**44.57 213**		P	**P**	**04 54 26.4**	**+0.8**
	3.7nm,1.2s,mb4.1,baz=34,slow=12,SNR=4.7						
WMOK	**Wichita Mounta**	**48.35 297**		*e*P	**P**	**04 54 55.1**	**0.0**
	5.4nm,1.2s,mb4.5						
ULM	**Lac du Bonnet**	**48.35 318**		P	**P**	**04 54 54.9**	**-0.1**
	1.3nm,0.4s,mb4.3,baz=7.6,slow=2.8,SNR=3.2						
TXAR	**Lajitas Array**	**52.82 291**		P	**P**	**04 55 28.9**	**-0.5**
	0.6nm,0.9s,mb3.5,baz=100,slow=7.6,SNR=6.7						
GERES	**GERESS Array B**	**53.03 45**		P	**P**	**04 55 29.8**	**-0.8**
	0.2nm,0.5s,mb3.4,baz=243,slow=6.0,SNR=4.8						
NOA	**NORSAR Array B**	**54.51 30**		P	**P**	**04 55 41.1**	**-0.1**
	1.0nm,0.9s,mb3.8,baz=247,slow=7.7,SNR=3.1						
ANMO	**Albuquerque**	**54.65 298**		LR	LR	05 16 25.6	
	comp=Z,136nm,19.5s,MS4.0,slow=33						
HFS	**Hagfors**	**55.40 31**		P	**P**	**04 55 47.4**	**-0.4**
	3.4nm,0.8s,mb4.4,baz=243,slow=6.6,SNR=4.6						
PDAR	**Pinedale Array**	**56.75 307**		P	**P**	**04 55 57.5**	**-0.3**
	2.4nm,1.0s,mb4.2,baz=90,slow=8.9,SNR=13						
TUC	**Tucson**	**58.52 295**		*e*P	**P**	**04 56 11.1**	**+0.8**
	5.8nm,1.4s,mb4.4						
EDM	**Edmonton**	**59.53 320**		P	**P**	**04 56 13.8**	**-3.3**
NEW	**Newport**	**61.92 314**		LR	LR	05 21 02.0	
	comp=Z,135nm,18.4s,MS4.1,baz=112,slow=34						
NEW	**Newport**	**61.92 314**		*e*P	**P**	**04 56 33.4**	**0.0**
	4.3nm,1.0s,mb4.5						
AKASG	**Malin Array Be**	**63.15 43**		P	**P**	**04 56 41.1**	**-0.3**
	1.6nm,0.8s,mb4.2,baz=274,slow=5.4,SNR=9.9						
ILAR	**Eielson Array**	**74.97 334**		P	**P**	**04 57 54.8**	**+0.7**
	3.1nm,0.8s,mb4.3,baz=56,slow=5.2,SNR=16						
BVAR	**Borovoye Array**	**86.48 33**		P	**P**	**04 58 57.0**	**+1.7**
	1.9nm,0.9s,mb4.3,baz=297,slow=3.3,SNR=7.7						

*IDC **03** 04:47:25.1±0.5, 3.93S×128.78E, mb4.6/11, mb1 4.7/13, mb1mx4.6/20, mbtmp4.6/13, ML4.0/2, MS3.7/5, Ms1 3.8/5, ms1mx3.4/25, Error ellipse: s-maj=29.0km s-min=13.9km az=73.0*

*BJI **03** 04:47:26.3, 4.45S×129.04E, h47km, mB4.9, mb4.9, Ms4.6, Msz4.0*

*HRVD **03** 04:47:28.5±0.7, 3.95S×128.64E, h28km±2km, MW4.8/37, Centroid moment Tensor Solution. LP body waves: s9,c10; Mantle waves: s37,c45; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.46±.25; $M_{\theta\theta}$-1.33±.14; $M_{\phi\phi}$-0.13±.16; $M_{r\theta}$0.08±.20; $M_{\theta\phi}$0.39±.11; $M_{\phi r}$-1.08±.28; Best double couple: $M_0$1.758×10^{16} NP1:ϕ_s266°, δ42°, λ50°. NP2:ϕ_s134°, δ59°, λ120°. Principal axes: T 2.009, Plg63°, Azm94°; N -.503, Plg25°, Azm297°; P -1.507, Plg9°, Azm203°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **03** 04:47:28.5±0.3, 4.01S×128.90E, mb4.9/13 Error ellipse: s-maj=13.1km s-min=6.8km az=75.0*

NEIC Felt [II] on Ceram, Indonesia.

*MOS **03** 04:47:28.1±1.3, 4.07S×128.72E, h33km, mb4.9/22, Error ellipse: s-maj=18.0km s-min=7.6km az=111.1*

ISC 03 04:47:27.0±0.3, 4.05S±0.04×128.87E±0.07, h27km, h27km±3.4km: pP-P, n109, σ0°94/94, mb4.8/40, MS4.0/7, 2C-7D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**9.30 158**		‖*i*P	**P**	**04 49 47.9**	**+5.4**
	43nm,0.5s						
FITZ	**Fitzroy Crossi**	**14.32 192**		*e*P	**P**	**04 50 48.8**	**-1.5**
	28nm,0.4s						
FITZ	**Fitzroy Crossi**	**14.32 192**		Pn	**P**	**04 50 52.4**	**+2.1**
	1.8nm,0.3s,baz=20,slow=8.2,SNR=6.3						
FITZ				LR	LR	04 56 36.1	
	comp=Z,160nm,20.5s,baz=68,slow=38						
WRAB	**Tennant Creek**	**16.67 162**		*e*P	**P**	**04 51 18.9**	**-1.7**
	60nm,0.8s						
WRAB	**Tennant Creek**	**16.67 162**		*i* P	**P**	**04 51 18.6**	**-2.0**
WRA	**Warramunga Arr**	**16.67 162**		Pn	**P**	**04 51 19.0**	**-1.7**
	0.6nm,0.3s,baz=339,slow=13,SNR=41						
WRA				Sn	**S**	**04 54 20.0**	**-4.1**
	0.4nm,0.3s,baz=338,slow=25,SNR=3.9						
WRA	**Warramunga Arr**	**16.67 162**		P	**P**	**04 51 19.0**	**-1.7**
WRA						04 54 20.0	
WRA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
WB2	**Warramunga Arr**	**16.68 162**		‖*i*P	**P**	**04 51 18.6**	**-2.1**
PMG	**Port Moresby**	**18.93 107**		P	**P**	**04 51 50.2**	**+1.6**
	comp=Z,0.4nm,0.3s,baz=295,slow=9.4,SNR=7.7						
PMG	**Port Moresby**	**18.93 107**		*i* P	**P**	**04 51 50.4**	**+1.8**
MBWA	**Marble Bar**	**19.18 207**		*e*P	**P**	**04 51 52.1**	**+0.5**
	comp=Z,26nm,0.7s						
KSM	**Kuching**	**19.34 286**		*e*P	**P**	**04 51 53.9**	**+0.4**
CTA	**Charters Tower**	**23.26 135**		‖*i*P	**P**	**04 52 36.1**	**+2.5**
	comp=Z,22nm,1.1s,mb4.5						
CTA	**Charters Tower**	**23.26 135**		P	**P**	**04 52 36.4**	**+2.8**
	comp=Z,28nm,1.0s,mb4.7,baz=316,slow=12,SNR=12						
CTA	**Charters Tower**	**23.26 135**		‖*i*P	**P**	**04 52 36.1**	**+2.5**
CTA				pmax	pmax		
	comp=Z,22nm,1.1s						
CTAO	**Charters Tower**	**23.26 135**		*e*P	**P**	**04 52 35.5**	**+1.9**
	comp=Z,39nm,1.1s,mb4.8						
CTAO	**Charters Tower**	**23.26 135**		*e*P	**P**	**04 52 35.5**	**+1.9**
CTAO				pmax	pmax		
	comp=Z,39nm,1.1s,mb4.8						
KLBR	**Kellerberrin**	**29.32 200**		*e*P	**P**	**04 53 30.6**	**+0.8**
	comp=Z,89nm,1.9s,mb5.2						
KLBR				*e*	pP	04 53 37.2	-0.5
STKA	**Stephens Creek**	**30.15 158**		P	**P**	**04 53 38.0**	**+0.8**
	comp=Z,3.9nm,0.6s,mb4.3,baz=360,slow=9.3,SNR=3.9						
NWAO	**Narrogin (SRO)**	**30.72 199**		P	**P**	**04 53 43.6**	**+1.4**
	comp=Z,13nm,0.9s,mb4.8,baz=345,slow=2.8,SNR=4.0						
NWAO				LR	LR	05 07 07.1	
	comp=Z,134nm,19.4s,MS3.6,baz=174,slow=38						
NWAO	**Narrogin (SRO)**	**30.72 199**		*e*P	**P**	**04 53 41.7**	**-0.5**
NWAO				LR	LR	05 07 07.1	
KKTK	**Khon Kaen**	**32.76 309**		P	**P**	**04 54 02.0**	**+1.7**
	comp=Z,432nm,0.9s						
SSE	**Sheshan**	**35.71 349**		P	**P**	**04 54 25.8**	**+0.3**
SSE				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.2						
SSE				AMB	AMB		
	comp=Z,114nm,6.6s						
SSE	**Sheshan**	**35.71 349**		P	**P**	**04 54 25.8**	**+0.3**
	comp=Z,20nm,0.6s,mb5.2						
NANT	**Nan**	**35.84 310**		P	**P**	**04 54 26.0**	**-0.8**
JNU	**Nakatsue**	**37.02 3**		P	**P**	**04 54 36.6**	**+0.2**
	comp=Z,8.6nm,0.8s,mb4.7,baz=121,slow=5.3,SNR=4.3						
WHN	**Wuhan**	**37.09 339**		*e*P	**P**	**04 54 38.0**	**+0.9**
NJ2	**Nanjing**	**37.14 346**		*e*P	**P**	**04 54 38.2**	**+0.7**
NJ2				AP	pP	04 54 48.3	+2.8
NJ2				XP	sP	04 54 52.3	+3.5
NJ2				PP	PP	04 56 05.3	+0.6
NJ2				S	**S**	**05 00 20.0**	**-1.8**
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,160nm,8.0s						
NJ2				LR	LR		
	comp=N,790nm,17.7s,MS4.7						
NJ2				LR	LR		
	comp=E,850nm,19.3s,MS4.7						
NJ2				LR	LR		
	comp=Z,290nm,25.8s						
CHG	**Chiang Mai**	**37.21 309**		⇑P	**P**	**04 54 39.3**	**+1.1**
	comp=Z,13nm,0.8s,mb4.8						
KMI	**Kunming**	**38.53 320**		P	**P**	**04 54 51.3**	**+2.0**
KMI				AMB	AMB		
	comp=Z,12nm,1.2s,mb4.5						
KMI				LR	LR		
	comp=Z,67nm,21.4s,MS3.4						
KMI	**Kunming**	**38.53 320**		P	**P**	**04 54 51.3**	**+2.0**
	comp=Z,12nm,1.2s,mb4.5						
KMI				pP	pP	04 54 56.4	-0.9
KMI				LR	LR		
	comp=Z,70nm,21.4s,MS3.5						
KMI	**Kunming**	**38.53 320**		P	**P**	**04 54 51.3**	**+2.0**
KMI				*PP	pP	04 54 56.4	-0.9
KMI				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.5						
KMI				MLR	MLR		
	comp=Z,70nm,21.4s,MS3.5						
MAT	**Matsushiro**	**41.31 11**		P	**P**	**04 55 11.0**	**-1.2**
	comp=Z,7.6nm,0.9s,mb4.3						
MAT	**Matsushiro**	**41.31 11**		P	**P**	**04 55 11.0**	**-1.2**
MAT				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.3						
MJAR	**Matsushiro Arr**	**41.31 11**		P	**P**	**04 55 11.5**	**-0.6**
	comp=Z,5.1nm,0.9s,mb4.1,baz=191,slow=12,SNR=8.0						
MJAR				LR	LR	05 08 26.9	
	comp=Z,66nm,20.4s,MS3.5,baz=235,slow=31						
XAN	**Xi'an**	**42.30 335**		P	**P**	**04 55 19.5**	**-0.9**
LZH	**Lanzhou**	**46.29 332**		*e*P	**P**	**04 55 50.0**	**-2.4**
LZH				AMB	AMB		
	comp=Z,25nm,1.5s,mb4.9						
LZH				LR	LR		
	comp=N,319nm,12.9s						
LZH				LR	LR		
	comp=Z,446nm,17.5s,MS4.5						
LZH	**Lanzhou**	**46.29 332**		*e*P	**P**	**04 55 50.0**	**-2.4**
	comp=Z,25nm,1.5s,mb4.9						
LZH				pP	pP	04 55 59.5	-0.9
LZH				sP	sP	04 56 04.0	+0.3
LZH				*eP	PP	04 57 13.5	-28
LZH				LR	LR		
	comp=Z,450nm,17.5s,MS4.5						
LZH	**Lanzhou**	**46.29 332**		*e*P	**P**	**04 55 50.0**	**-2.4**
LZH				*PP	pP	04 55 59.5	-0.9
LZH				*SP	sP	04 56 04.0	+0.3
LZH				pmax	pmax		
	comp=Z,25nm,1.5s,mb4.9						
LZH				MLR	MLR		
	comp=Z,450nm,17.5s,MS4.5						
CN2	**Changchun**	**47.73 357**		*e*P	**P**	**04 56 04.0**	**+0.3**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
LSA	**Lhasa**	**49.31 315**		P	**P**	**04 56 11.7**	**-4.4**
GTA	**Gaotai**	**50.86 331**		*e*P	**P**	**04 56 27.4**	**-0.4**
GTA				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.8						
GUN	**Gumba**	**52.18 310**		*e*P	**P**	**04 56 38.4**	**+0.4**
	comp=Z,33nm,0.7s,mb5.4						
YSS	**Yuzh-Sakhalins**	**52.25 12**		*e*P	**P**	**04 56 38.7**	**+0.5**
PKI	**Pulchoki**	**52.37 310**		*e*P	**P**	**04 56 38.9**	**-0.5**
KKN	**Kakani**	**52.58 310**		*e*P	**P**	**04 56 40.6**	**-0.4**

comp=Z,7.0nm,0.9s,mb4.6
VNDA Vanda 75.49 173 P **P** **04 59 10.5 +0.2**
comp=Z,3.8nm,0.8s,mb4.4,baz=323,slow=5.9,SNR=28
VNDA LR LR 05 29 15.1
comp=Z,113nm,19.1s,MS4.2,baz=58,slow=33
VNDA Vanda 75.49 173 *e*P **P** **04 59 10.3 0.0**
VNDA LR LR 05 29 15.1
TIXI Tiksi 75.56 0 *e*P **P** **04 59 11.0 +0.3**
TIXI pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
SBA Scott Base 76.39 172 *e*P **P** **04 59 15.9 +0.6**
AB31 Akbulak array 79.51 322 *i* P **P** **04 59 33.0 0.0**
AB31 pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
SVE Sverdlovsk 81.67 329 *e*P **P** **04 59 45.0 +0.7**
SVE pmax pmax
comp=Z,40nm,1.3s,mb5.2
ARU Arti 82.62 328 *e*P **P** **04 59 49.2 0.0**
comp=Z,9.2nm,0.6s,mb5.0
ARU Arti 82.62 328 ⇓*i*P **P** **04 59 49.0 -0.2**
ARU *e* 05 02 59.2
ARU *e*PPP PPP 05 04 48.1 -5.4
ARU *e*S S 05 10 05.6 +2.3
ARU *e*SS SS 05 15 29.8 +1.0
ARU pmax pmax
comp=Z,16nm,0.9s,mb5.0
SYO Syowa Base 85.99 201 ⇑P **P** **05 00 05.0 -0.9**
SYO Syowa Base 85.99 201 ⇓P **P** **05 00 11.7 +5.8**
SML Sawmill 90.14 28 *e*P **P** **05 00 25.8 -0.2**
ILAR Eielson Array 91.18 25 P **P** **05 00 30.1 -0.6**
comp=Z,2.1nm,0.6s,mb4.6,baz=243,slow=4.9,SNR=21
ILAR Eielson Array 91.18 25 P **P** **05 00 30.1 -0.5**
ILAR pmax pmax
comp=Z,2.0nm,0.6s
OBN Obninsk 94.61 325 *e*P **P** **05 00 47.0 +0.4**
OBN *e* 05 04 33.6
OBN pmax pmax
comp=Z,3.0nm,0.9s,mb4.7
ARCES ARCESS Array B 98.44 340 P **P** **05 01 03.1 -0.6**
comp=Z,3.3nm,0.8s,mb4.9,baz=72,slow=3.8,SNR=4.8
ARCES ARCESS Array B 98.44 340 P **P** **05 01 03.1 -0.6**
ARCES pmax pmax
comp=Z,3.0nm,0.8s
GERES GERESS Array B 109.44 321 PKiKP 05 05 57.2
comp=Z,0.6nm,0.5s,baz=180,slow=1.0,SNR=4.9
PDAR Pinedale Array 115.60 44 PKP PKPdf 05 06 07.5 -4.3
comp=Z,0.5nm,0.9s,baz=153,slow=4.0,SNR=3.6
MNTX Cornudas Mount 122.24 55 *e*P PKPdf 05 06 23.1 -1.9
TXAR Lajitas Array 124.34 57 PKP PKPdf 05 06 27.0 -2.2
comp=Z,0.6nm,0.8s,baz=225,slow=1.8,SNR=7.6
TXAR Lajitas Array 124.34 57 PKIKP PKPdf 05 06 27.0 -2.2
TXAR pmax pmax
comp=Z,1.0nm,0.8s
DBIC Dimbokro 133.86 275 PKP PKPdf 05 06 44.6 -3.1
comp=Z,4.9nm,1.1s,baz=197,slow=12,SNR=3.6
DBIC Dimbokro 133.86 275 PKIKP PKPdf 05 06 44.6 -3.1
DBIC pmax pmax
comp=Z,5.0nm,1.1s
CFAA Coronel Fontan 140.98 157 PKhKP 05 06 51.2
comp=Z,0.2nm,0.7s,baz=228,slow=5.6,SNR=7.3
JTS JuntasAbangare 145.90 78 PKPbc PKPbc 05 07 07.9 +2.4
comp=Z,4.9nm,0.6s,baz=281,slow=5.0,SNR=7.7
JTS JuntasAbangare 145.90 78 PKP2 PKPab 05 07 07.9 +0.2
JTS pmax pmax
comp=Z,5.0nm,0.6s
LVC Limon Verde 148.31 148 PKPbc PKPdf 05 07 15.2 +2.1
comp=Z,2.8nm,0.7s,baz=308,slow=4.8,SNR=5.6
CPUP Villa Florida 149.21 169 PKPbc PKPdf 05 07 16.0 +1.6
comp=Z,5.9nm,0.8s,baz=221,slow=3.1,SNR=18
CPUP Villa Florida 149.21 169 PKP2 PKPab 05 07 16.0 -4.6
CPUP pmax pmax
comp=Z,6.0nm,0.8s
LPAZ La Paz 153.72 141 PKP PKPdf 05 07 19.4 -2.0
comp=Z,0.6nm,0.8s,baz=229,slow=20,SNR=3.3
LPAZ PKPbc PKPdf 05 07 28.2 +6.9
comp=Z,0.7nm,0.6s,baz=194,slow=4.5,SNR=5.9
LPAZ PKPab PKPab 05 07 41.0 +1.4
comp=Z,1.4nm,0.6s,baz=224,slow=4.1,SNR=8.8
LPAZ La Paz 153.72 141 PKIKP PKPdf 05 07 19.4 -1.9
LPAZ 05 07 28.3
LPAZ pmax pmax
comp=Z,1.0nm,0.8s
LPAZ pmax pmax
comp=Z,1.0nm,0.6s
LPAZ pmax pmax
comp=Z,1.0nm,0.6s
SDV Santo Domingo 160.04 75 PKP PKPdf 05 07 26.9 -2.5
comp=Z,2.6nm,0.7s,baz=303,slow=12,SNR=4.6

*NEIC **03** 05:02:13.0, 19.91S×133.88E, ML3.8(AUST), After AUST.*
AUST 03 05:02:13.4, 19.91S×133.88E, h0km, ML3.8, Northern Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**0.45**	**94**	*e*P	Pg	05 02 22.3	-0.1
WB2	**Warramunga Arr**	**0.45**	**95**	*e*P	Pg	05 02 22.4	0.0
WB2				*e*S	Sg	05 02 27.1	-1.3
QIS	**Mount Isa**	**5.42**	**98**	*e*P	Pn	05 03 36.0	-1.4
QIS				*e*S	Sn	05 04 38.2	-3.3
6.5nm,0.2s							
QIS	**Mount Isa**	**5.42**	**98**	*e*P	Pn	05 03 36.0	-1.4
6.5nm,0.2s							
QIS				*e*S	Sn	05 04 38.2	-3.3
KNA	**Kununurra**	**6.38**	**310**	*e*P	Pn	05 03 50.6	-0.4
KNA				*e*S	Sn	05 04 59.1	-6.5
KAKA	**Kakadu**	**7.28**	**349**	*e*P	Pn	05 04 06.1	+2.4
KAKA				*e*S	Sn	05 05 26.0	-2.1
51nm,0.2s							
KAKA	**Kakadu**	**7.28**	**349**	*e*P	Pn	05 04 06.1	+2.4
51nm,0.2s							
KAKA				*e*S	Sn	05 05 26.0	-2.1
FITZ	**Fitzroy Crossi**	**8.00**	**282**	*e*P	Pn	05 04 12.1	-1.6
FITZ				*e*S	Sn	05 05 38.7	-7.2
31nm,0.3s							
FITZ	**Fitzroy Crossi**	**8.00**	**282**	*e*P	Pn	05 04 12.1	-1.6
31nm,0.3s							
FITZ				*e*S	Sn	05 05 38.7	-7.2

*CSEM **03** 05:08:18.9±0.1, 38.38N×27.04W, ML2.2, Error ellipse: s-maj=6.8km s-min=2.7km az=36.0, After PDA*
*PDA **03** 05:08:18.9±1.4, 38.38N×27.04W, MD2.9, ML2.2, Error ellipse: s-maj=4.0km s-min=2.0km az=59.0*
SVSA 03 05:08:18.9±1.4, 38.38N×27.04W, MD2.9, ML2.2, Error ellipse: s-maj=4.0km s-min=2.0km az=59.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIB2	**Ribeirinha**	**0.31**	**340**	*e*P	Pg	05 08 24.5	-0.5
RIB2				*e*S	Sg	05 08 29.2	+0.1
149nm,0.2s							
ADH	**Angra Heroismo**	**0.31**	**331**	*e*P	Pg	05 08 24.7	-0.4
ADH				*e*S	Sg	05 08 29.8	+0.5
PSCM	**Serra do Cume**	**0.32**	**349**	*i* P	Pg	05 08 24.5	-0.8
PSCM				*e*S	Sg	05 08 29.0	-0.6
263nm,0.2s							
PFAV	**Pico das Favas**	**0.33**	**354**	*e*P	Pg	05 08 25.4	-0.1
PFAV				*e*S	Sg	05 08 29.6	-0.3
75nm,0.1s							
PPAD	**Pico dos Padre**	**0.37**	**329**	*i* P	Pg	05 08 25.8	-0.5
PPAD				*e*S	Sg	05 08 31.3	0.0
109nm,0.2s							
PVNV	**Vila Nova**	**0.39**	**347**	*e*P	Pg	05 08 25.8	-0.9
PVNV				*e*S	Sg	05 08 31.5	-0.3
51nm,0.2s							
ASBA	**Santa Barbara**	**0.40**	**327**	*i* P	Pg	05 08 26.4	-0.6
ASBA				*e*S	Sg	05 08 32.2	-0.1
118nm,0.2s							
PBIS	**Biscoitos**	**0.41**	**336**	*e*P	Pg	05 08 26.1	-1.0
PBIS				*e*S	Sg	05 08 32.3	-0.3
59nm,0.1s							
PMAN	**Manadas**	**0.86**	**287**	*e*P	Pg	05 08 33.5	-2.6
PMAN				*e*S	Sg	05 08 43.8	-3.7
28nm,0.2s							
PICO	**Pico**	**1.09**	**277**	*e*P	Pb	05 08 36.7	-3.7
PICO				*e*S	Sb	05 08 50.1	-4.9
SET4	**Mosteiros**	**1.10**	**117**	*e*P	Pb	05 08 37.0	-3.5
SET4				*e*S	Sb	05 08 50.1	-5.2
SET2	**Ginetes**	**1.11**	**119**	*e*P	Pb	05 08 37.1	-3.6
SET2				*e*S	Sb	05 08 50.7	-4.9
PSET	**Sete Cidades**	**1.18**	**118**	*e*P	Pb	05 08 37.3	-4.6
PSET				*e*S	Sb	05 08 52.0	-5.6
35nm,0.3s							
HOR	**Horta**	**1.26**	**277**	*e*S	Sb	05 08 53.8	-6.0
CALA	**Caldeira**	**1.32**	**279**	*e*S	Sb	05 08 54.8	-6.8
MESC	**Monte Escuro**	**1.39**	**115**	*e*S	Sb	05 08 59.2	-4.4
MESC				*erx*		05 09 00.0	
PRCH	**Ribeira Ch**	**1.40**	**117**	*e*S	Sb	05 08 58.9	-4.9
13nm,0.1s							
VIF	**Vila Franca**	**1.42**	**116**	*e*S	Sb	05 09 00.0	-4.4
4.3nm,0.1s							
MIRA	**Miradouro**	**1.51**	**113**	*e*P	Pn	05 08 43.0	-4.3
MIRA				*e*S	Sb	05 09 01.0	-6.2

*NEIC **03** 05:30:20.0, 39.61S×176.23E, h43km, ML3.8(WEL), After WEL.*
WEL 03 05:30:19.6±0.1, 39.62S×176.25E, h50km±1km, ML3.8/14, 16C-8D, Error ellipse: s-maj=0.7km s-min=0.5km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOVZ	**Moawhango**	**0.43**	**299**	⇑PN	P	05 30 29.5	-0.6
MOVZ				SN	S	05 30 36.5	-1.1
MOVZ	**Moawhango**	**0.43**	**299**	P	P	05 30 29.5	-0.6
MOVZ				S	S	05 30 36.5	-1.1
BKZ	**Black Stump Fm**	**0.49**	**23**	⇓PN	P	05 30 30.4	-0.3
BKZ				*e*SN	S	05 30 38.7	0.0
BKZ	**Black Stump Fm**	**0.49**	**23**	P	P	05 30 30.4	-0.3
BKZ				S	S	05 30 38.9	+0.2
TSZ	**Takapari Road**	**0.49**	**206**	⇑PN	P	05 30 30.6	-0.1
TSZ				SN	S	05 30 38.8	+0.1
TSZ	**Takapari Road**	**0.49**	**206**	P	P	05 30 30.6	-0.1
TSZ				S	S	05 30 39.2	+0.5
TUVZ	**Tukino**	**0.58**	**307**	⇑PN	P	05 30 31.7	-0.1
TUVZ				SN	S	05 30 40.7	+0.1
TUVZ	**Tukino**	**0.58**	**307**	P	P	05 30 31.7	0.0
WNVZ	**Wahianoa**	**0.58**	**300**	⇑PN	P	05 30 31.7	-0.1
WNVZ				SN	S	05 30 40.4	-0.2
WNVZ	**Wahianoa**	**0.58**	**300**	P	P	05 30 31.7	-0.1
TRVZ	**Turoa**	**0.63**	**300**	⇑PN	P	05 30 32.3	-0.1
TRVZ				SN	S	05 30 41.5	-0.2
DRZ	**Dome Shelter**	**0.63**	**303**	⇓PN	P	05 30 32.3	-0.1
DRZ	**Dome Shelter**	**0.63**	**303**	P	P	05 30 32.4	0.0
PWZ	**Pawanui**	**0.63**	**131**	⇑PN	P	05 30 32.7	+0.3
PWZ	**Pawanui**	**0.63**	**131**	P	P	05 30 32.7	+0.3
OTVZ	**Oturere**	**0.64**	**315**	⇑PN	P	05 30 32.4	-0.2
OTVZ				SN	S	05 30 41.8	-0.2
MTVZ	**Mangateitei**	**0.64**	**291**	⇑PN	P	05 30 32.5	-0.1
MTVZ				SN	S	05 30 42.4	+0.3
FWVZ	**Far West T-bar**	**0.65**	**304**	⇓PN	P	05 30 32.4	-0.2
FWVZ				*e*SN	S	05 30 41.0	-1.2
FWVZ	**Far West T-bar**	**0.65**	**304**	P	P	05 30 32.4	-0.2
NGZ	**Ngauruhoe**	**0.67**	**311**	⇑PN	P	05 30 32.7	-0.2
NGZ				*e*SN	S	05 30 42.4	-0.3
NGZ	**Ngauruhoe**	**0.67**	**311**	P	P	05 30 32.7	-0.2
WPVZ	**Whakapapa**	**0.68**	**307**	⇑PN	P	05 30 32.9	-0.2
WPVZ				SN	S	05 30 42.8	-0.3
CNZ	**Chateau**	**0.68**	**308**	⇓PN	P	05 30 32.9	-0.2
KRVZ	**Karewarewa**	**0.70**	**318**	⇑PN	P	05 30 33.1	-0.2
KRVZ				SN	S	05 30 43.5	0.0
RITZ	**Rihia Road**	**0.71**	**335**	PN	P	05 30 33.3	-0.1
WTVZ	**West Tongariro**	**0.71**	**314**	⇑PN	P	05 30 35.6	+2.1
WTVZ				SN	S	05 30 45.7	+1.9
HATZ	**Hinemaiaia**	**0.73**	**351**	⇑PN	P	05 30 33.5	-0.3
HATZ				SN	S	05 30 44.1	-0.2
HATZ				SN	S	05 30 44.3	0.0
PKVZ	**Pokaka**	**0.77**	**295**	⇑PN	P	05 30 33.9	-0.3
PKVZ				SN	S	05 30 44.7	-0.4
KATZ	**Kakaramea**	**0.77**	**326**	PN	P	05 30 34.0	-0.3
TWVZ	**Taurewa**	**0.83**	**311**	PN	P	05 30 34.4	-0.7
TWVZ				SN	S	05 30 46.1	-0.5
RATZ	**Rangitukua**	**0.83**	**334**	PN	P	05 30 34.7	-0.5
WHTZ	**Whakaora**	**0.97**	**347**	PN	P	05 30 36.8	-0.3
WHTZ	**Whakaora**	**0.97**	**347**	P	P	05 30 36.9	-0.2
WAZ	**Wanganui**	**0.98**	**262**	PN	P	05 30 37.8	+0.5
WATZ	**Wairara**	**0.99**	**336**	PN	P	05 30 36.4	-0.9
WATZ	**Wairara**	**0.99**	**336**	P	P	05 30 36.6	-0.7
BFZ	**Birch Farm**	**1.06**	**180**	PN	P	05 30 38.0	-0.4
BFZ				SN	S	05 30 51.8	-0.5
MRZ	**Mangatainoka R**	**1.16**	**206**	⇓PN	P	05 30 39.2	-0.5
MRZ				SN	S	05 30 54.1	-0.6
MRZ	**Mangatainoka R**	**1.16**	**206**	P	P	05 30 39.2	-0.5
PATZ	**Paeroa**	**1.23**	**0**	⇑PN	P	05 30 40.3	-0.5
PATZ	**Paeroa**	**1.23**	**0**	P	P	05 30 40.4	-0.4
VRZ	**Vera Road**	**1.25**	**293**	PN	P	05 30 40.3	-0.7
VRZ				SN	S	05 30 55.9	-1.2
VRZ	**Vera Road**	**1.25**	**293**	P	P	05 30 40.4	-0.7
KNZ	**Kokohu**	**1.26**	**62**	PN	P	05 30 40.5	-0.6
KNZ	**Kokohu**	**1.26**	**62**	*e*P	P	05 30 40.5	-0.6
TAZ	**Tarawera**	**1.40**	**9**	PN	P	05 30 42.5	-0.7
TAZ	**Tarawera**	**1.40**	**9**	P	P	05 30 42.6	-0.6
RAEZ	**Rainy Point**	**1.47**	**282**	PN	P	05 30 44.1	-0.1
RAEZ	**Rainy Point**	**1.47**	**282**	P	P	05 30 44.2	0.0
MKRZ	**Makatiti**	**1.49**	**7**	PN	P	05 30 43.9	-0.5
MKRZ	**Makatiti**	**1.49**	**7**	P	P	05 30 44.1	-0.3
URZ	**Urewera**	**1.52**	**27**	PN	P	05 30 43.6	-1.2
URZ				SN	S	05 31 03.1	-0.5
URZ	**Urewera**	**1.52**	**27**	P	P	05 30 43.8	-1.0
HIZ	**Hauiti**	**1.54**	**315**	⇑PN	P	05 30 44.0	-1.2
HIZ	**Hauiti**	**1.54**	**315**	P	P	05 30 44.1	-1.1
EDRZ	**Edgecumbe**	**1.56**	**14**	PN	P	05 30 44.6	-0.8
EDRZ	**Edgecumbe**	**1.56**	**14**	P	P	05 30 44.7	-0.7
KIW	**Kapiti Island**	**1.61**	**219**	⇓PN	P	05 30 45.0	-1.1
KIW				SN	S	05 31 05.4	-0.4
MWZ	**Matawai**	**1.62**	**38**	PN	P	05 30 45.6	-0.7
MWZ	**Matawai**	**1.62**	**38**	P	P	05 30 45.6	-0.7
MTW	**Mount Morrison**	**1.64**	**200**	PN	P	05 30 44.7	-1.8
MTW	**Mount Morrison**	**1.64**	**200**	P	P	05 30 44.7	-1.9
MARZ	**Manawahe**	**1.66**	**12**	PN	P	05 30 46.0	-0.9
MARZ	**Manawahe**	**1.66**	**12**	P	P	05 30 46.1	-0.8
DFE	**Dawson Falls**	**1.68**	**279**	PN	P	05 30 47.2	+0.1
DFE	**Dawson Falls**	**1.68**	**279**	P	P	05 30 47.4	+0.3
NEZ	**North Egmont**	**1.70**	**281**	*e*PN	P	05 30 48.2	+0.9
NEZ	**North Egmont**	**1.70**	**281**	P	P	05 30 47.7	+0.3
CAW	**Cannon Point**	**1.74**	**211**	PN	P	05 30 46.1	-1.8
CAW	**Cannon Point**	**1.74**	**211**	P	P	05 30 46.2	-1.7
PKE	**Pukeiti**	**1.80**	**283**	PN	P	05 30 48.8	+0.1
PKE	**Pukeiti**	**1.80**	**283**	P	P	05 30 49.1	+0.3
NRZ	**Ngariki Road**	**1.81**	**278**	P	P	05 30 48.8	-0.1
TRWZ	**Traveller**	**1.83**	**193**	PN	P	05 30 47.4	-1.7
TRWZ				SN	S	05 31 09.2	-2.0
PAWZ	**Paruwai Farm**	**1.87**	**199**	PN	P	05 30 47.6	-2.2
PAWZ				SN	S	05 31 09.9	-2.3
MSWZ	**Moikau Station**	**1.95**	**203**	PN	P	05 30 48.4	-2.5
MSWZ				SN	S	05 31 11.4	-2.8
MSWZ	**Moikau Station**	**1.95**	**203**	P	P	05 30 48.4	-2.5
MRW	**Makara Radio**	**2.00**	**216**	*e*PN	P	05 30 49.2	-2.3
MRW	**Makara Radio**	**2.00**	**216**	P	P	05 30 49.7	-1.8
WEL	**Wellington**	**2.01**	**214**	*e*PN	P	05 30 49.6	-2.1
WEL	**Wellington**	**2.01**	**214**	P	P	05 30 49.9	-1.9
SNZO	**South Karori**	**2.06**	**214**	PN	P	05 30 50.0	-2.4
SNZO				*e*SN	S	05 31 14.6	-2.3
SNZO	**South Karori**	**2.06**	**214**	P	P	05 30 50.0	-2.4
BHW	**Baring Head**	**2.07**	**210**	⇓PN	P	05 30 50.0	-2.6
BHW	**Baring Head**	**2.07**	**210**	P	P	05 30 50.0	-2.6
DUWZ	**D'Urville Isla**	**2.14**	**236**	PN	P	05 30 51.5	-2.0
TCW	**Tory Channel**	**2.19**	**223**	⇓PN	P	05 30 52.0	-2.3
TCW	**Tory Channel**	**2.19**	**223**	P	P	05 30 52.0	-2.3
PUZ	**Puketiti**	**2.20**	**46**	PN	P	05 30 52.7	-1.8
PUZ	**Puketiti**	**2.20**	**46**	*e*P	P	05 30 52.7	-1.8
TUWZ	**Tuamarina**	**2.52**	**223**	PN	P	05 30 56.0	-3.0
MXZ	**Matakaoa Point**	**2.61**	**39**	PN	P	05 30 58.5	-1.8
MXZ	**Matakaoa Point**	**2.61**	**39**	*e*P	P	05 30 58.6	-1.7
NNZ	**Nelson**	**2.71**	**233**	PN	P	05 30 59.1	-2.6
NNZ	**Nelson**	**2.71**	**233**	P	P	05 30 59.3	-2.4
BSWZ	**Blackbirch Sta**	**2.76**	**220**	P	P	05 30 59.3	-3.2
QRZ	**Quartz Range**	**3.09**	**246**	*e*P	P	05 31 04.3	-2.8
THZ	**Tophouse**	**3.32**	**229**	*e*P	P	05 31 06.9	-3.5
KHZ	**Kahutara**	**3.46**	**215**	*e*P	P	05 31 05.1	-7.3
DSZ	**Denniston Nort**	**3.99**	**236**	*e*P	P	05 31 15.8	-4.0
LTZ	**Lake Taylor**	**4.36**	**222**	*e*P	P	05 31 20.3	-4.7
MQZ	**McQueen's Vall**	**4.89**	**212**	*e*P	P	05 31 26.7	-5.8
LBZ	**Lake Benmore**	**6.56**	**221**	*e*P	P	05 31 49.8	-6.1
ODZ	**Otahua Downs**	**6.83**	**216**	*e*P	P	05 31 53.2	-6.4

*IDC **03** 05:38:25.3±1.9, 2.08N×96.21E, mb4.1/7, mb1 4.2/7, mb1mx3.9/19, mbtmp4.1/7, Error ellipse: s-maj=88.6km s-min=20.3km az=53.0*
*NEIC **03** 05:38:29.9±0.8, 2.11N×96.34E, h30km, mb4.3/1, Error ellipse: s-maj=20.9km s-min=12.1km az=51.0*
ISC 03 05:38:28.1±1.0, 2.1N±0.1×96.4E±0.2, h30km, n9, σ0§71/9, mb4.0/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.31**	**54**	*e*P	Pn	05 39 47.5	-0.1
FITZ	**Fitzroy Crossi**	**35.15**	**126**	P	P	05 45 21.1	-0.4
4.8nm,0.9s,mb4.4,baz=4.0,slow=6.6,SNR=3.1							
WRA	**Warramunga Arr**	**43.23**	**122**	P	P	05 46 30.0	+1.2
0.7nm,0.5s,mb3.6,baz=301,slow=9.1,SNR=6.2							
WRAB	**Tennant Creek**	**43.24**	**122**	*e*P	P	05 46 27.9	-0.9
4.7nm,0.9s,mb4.2							
MKAR	**Makanchi Array**	**46.15**	**347**	P	P	05 46 51.8	0.0
2.6nm,0.7s,mb4.3,baz=161,slow=7.9,SNR=23							
SONM	**Songino Array**	**46.36**	**9**	P	P	05 46 53.9	+0.5
1.0nm,0.5s,mb4.0,baz=196,slow=8.8,SNR=5.9							
BVAR	**Borovoye Array**	**55.11**	**341**	P	P	05 47 58.8	-1.1
1.4nm,0.7s,mb4.1,baz=146,slow=8.5,SNR=9.7							
FINES	**FINESS Array B**	**78.80**	**333**	P	P	05 50 29.4	-0.1
0.3nm,0.4s,mb3.5,baz=90,slow=8.3,SNR=5.0							
ARCES	**ARCESS Array B**	**81.39**	**340**	P	P	05 50 44.0	+0.9
2.1nm,0.9s,mb4.1,baz=90,slow=4.9,SNR=9.0							

*IDC **03** 05:40:28.8±3.2, 44.57N×147.84E, mb3.9/6, mb1 4.2/6, mb1mx3.8/19, mbtmp3.9/6, Error ellipse: s-maj=99.5km s-min=24.9km az=2.0*
*JMA **03** 05:40:47.5±0.5, 44.57N×147.91E, h132km, M3.4*
ISC 03 05:40:47.8±1.0, 44.3N±0.1×147.7E±0.1, h186km±10km, n17, σ1§07/23, mb3.5/6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.70**	**235**	P	P	05 41 21.5	-1.0
NEM2				*e*S	S	05 41 47.2	-2.1
JNK	**Nakash**	**2.25**	**251**	P	P	05 41 29.0	+0.5
JAK	**Akkeshi**	**2.54**	**239**	P	P	05 41 32.1	+0.3
JAK				*e*S	S	05 42 05.9	+0.3
JTKR	**Abashiri--Toko**	**2.73**	**263**	P	P	05 41 33.8	-0.2
JTKR				*e*S	S	05 42 10.3	+0.7
JAR	**Ashorobuto**	**3.00**	**251**	P	P	05 41 38.8	+1.5
JKK2	**Kamakawa 2**	**3.57**	**264**	P	P	05 41 45.1	+0.8
JCH	**Churui**	**3.57**	**243**	P	P	05 41 45.7	+1.3
JCH				*e*S	S	05 42 29.2	+1.2
JSE	**Soyaes**	**3.67**	**281**	P	P	05 41 44.6	-1.0
JNBK	**Urakawa-nobuka**	**4.13**	**242**	P	P	05 41 52.0	+0.6
JNBK				*e*S	S	05 42 39.4	-1.2
JKB	**Kayabe**	**5.44**	**245**	P	P	05 42 09.3	+1.0
JKB				*e*S	S	05 43 10.5	-0.2
JOT	**Ohata**	**5.69**	**241**	*e*S	S	05 43 14.6	-2.0
ILAR	**Eielson Array**	**40.79**	**37**	P	P	05 48 10.8	-1.1
0.7nm,0.6s,mb3.5,baz=275,slow=8.1,SNR=5.9							
MKAR	**Makanchi Array**	**44.64**	**297**	P	P	05 48 44.0	+0.9
1.3nm,0.7s,mb3.7,baz=76,slow=8.1,SNR=10.0							
BVAR	**Borovoye Array**	**49.41**	**309**	P	P	05 49 19.9	-0.2
0.3nm,0.4s,mb3.3,baz=56,slow=5.2,SNR=3.4							
FINES	**FINESS Array B**	**64.51**	**333**	P	P	05 51 04.2	-1.9
0.4nm,0.4s,mb3.6,baz=291,slow=36,SNR=3.2							
PDAR	**Pinedale Array**	**69.25**	**50**	P	P	05 51 36.0	-0.1
0.7nm,0.6s,mb3.6,baz=273,slow=1.5,SNR=8.6							
TXAR	**Lajitas Array**	**82.02**	**57**	P	P	05 52 49.5	+1.3
1.3nm,0.5s,mb3.8,baz=288,slow=4.1,SNR=32							

*NIED **03** 05:41:00, 31.00N×131.80E, h41km, Mw4.0 Best double couple: M0 9.45×10^14 NP1:φs152°, δ82°, λ-133°. NP2: φs53°, δ44°, λ-12°.*
JMA 03 05:41:09.9±0.1, 30.99N×131.77E, h48km±2km, M3.5, 5C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNAR	**Kushima--Naru**	**0.68**	**322**	⇑P	P	05 41 23.5	+0.1
JNAR				S	S	05 41 33.3	0.0
JTSR	**Tashiro 2**	**0.75**	**284**	⇑P	P	05 41 24.0	-0.3
JTN	**Tanegashima 3**	**0.76**	**244**	⇑P	P	05 41 24.5	+0.1
JTN				S	S	05 41 35.5	+0.5
JTZ	**Takazaki**	**1.08**	**327**	⇓P	P	05 41 29.0	+0.1
JTZ				S	S	05 41 43.3	+0.3
JSU	**Suzuyama**	**1.24**	**295**	⇑P	P	05 41 31.3	+0.2
JTSN	**Tsuno**	**1.27**	**350**	⇓P	P	05 41 31.6	0.0
JTSN				*e*S	S	05 41 48.2	+0.4
JKC	**Kuchinoerabu**	**1.45**	**249**	P	P	05 41 34.1	-0.2
JKC				S	S	05 41 52.3	-0.1
JZO	**Okuchi**	**1.52**	**319**	⇑P	P	05 41 35.3	+0.1
JZO				S	S	05 41 54.4	+0.4

*ATH **03** 05:49:30.4, 41.01N×19.61E, h25km±10km, MD3.7/6*
*NEIC **03** 05:49:30.4, 41.01N×19.61E, h25km, MD3.7(ATH), ML3.4(PDG), After ATH.*
*TIR **03** 05:49:31.9, 40.93N×19.87E, h17km, Ml3.0*
*PDG **03** 05:49:32.4±0.3, 40.87N×19.45E, h14km±1km*
*CSEM **03** 05:49:32.5±0.1, 40.90N×19.80E, h5km, MD3.7, Error ellipse: s-maj=1.4km s-min=1.0km az=53.0*
*THE **03** 05:49:32.3, 40.93N×19.76E, h10km, ML3.6*
*ROM **03** 05:49:32.4±0.4, 40.88N×19.71E, h12km, Md3.3/13, Ml3.1/5, Error ellipse: s-maj=5.8km s-min=3.1km az=121.0*
ISC 03 05:49:32.2±0.2, 40.92N±0.01×19.73E±0.02, h10km, n70, σ1§19/114, 13C-3D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.44**	**13**	⇑*i*Pg	Pg	05 49 41.5	+0.4
TIR				*i* Sg	Sg	05 49 47.5	+0.4
**QS

BRY	**Bratogost**	**2.17 336**	⇑*i*Pn	**Pn**	**05 50 08.9**	**+0.1**
BRY			*e*Sn	**Sn**	**05 50 37.0**	**+1.0**
BRY	**Bratogost**	**2.17 336**	⇑*i*Pn	**Pn**	**05 50 08.9**	**0.0**
BRY			*e*Sn	**Sn**	**05 50 37.0**	**+1.0**
VAY	**Valandovo**	**2.18 79**	⇓*i*Pn	**Pn**	**05 50 08.7**	**-0.3**
VAY			⇑*i*Sn	**Sg**	**05 50 47.8**	**+3.0**
LTRZ	**Laterza**	**2.24 263**	Pn	**Pn**	**05 50 09.0**	**-0.8**
	47nm,0.5s					
LIT	**Litokhoron**	**2.26 110**	*e*Pn	**Pn**	**05 50 09.9**	**-0.2**
SG1	**Sgolgore (BA)**	**2.32 269**	*e*Pn	**Pn**	**05 50 13.1**	**+2.1**
LKD	**Levkas**	**2.32 162**	*e*Pn	**Pn**	**05 50 10.8**	**-0.2**
UPM	**Unac-Piva**	**2.36 345**	⇑*i*Pn	**Pn**	**05 50 12.4**	**+0.8**
UPM			*e*Sn	**Sn**	**05 50 42.8**	**+1.9**
UPM	**Unac-Piva**	**2.36 345**	⇑*i*Pn	**Pn**	**05 50 12.4**	**+0.8**
UPM			*e*Sn	**Sn**	**05 50 42.8**	**+1.9**
PLE	**Pljevlja**	**2.42 354**	⇑*i*Pn	**Pn**	**05 50 14.1**	**+1.6**
PLE			*e*Sn	**Sn**	**05 50 44.8**	**+2.4**
STON	**Ston**	**2.47 323**	*i* Pn	**Pn**	**05 50 12.6**	**-0.6**
STON			*i* Sn	**Sn**	**05 50 42.0**	**-1.7**
STON	**Ston**	**2.47 323**	*i* Pn	**Pn**	**05 50 12.5**	**-0.7**
STON			*i* Sn	**Sn**	**05 50 42.0**	**-1.7**
EVR	**Evrytania**	**2.56 141**	*e*PN	**Pn**	**05 50 13.9**	**-0.6**
EVR			*e*SN	**Sn**	**05 50 47.0**	**+1.0**
CDT	**Castel del Mon**	**2.62 275**	*e*Pn	**Pn**	**05 50 14.7**	**-0.7**
AGG	**Agios Georgios**	**2.75 133**	*e*Pn	**Pn**	**05 50 17.5**	**+0.2**
AGG			*e*Sn	**Sn**	**05 50 51.3**	**+0.5**
VLS	**Valsamata**	**2.82 166**	*e*PN	**Pn**	**05 50 17.8**	**-0.4**
TIP	**Timpagrande**	**2.87 234**	Pn	**Pn**	**05 50 18.1**	**-0.8**
	24nm,0.7s					
BBLS	**Bajina Basta -**	**2.96 355**	*i* Pn	**Pn**	**05 50 11.3**	**-8.7**
MS1	**Monte Sant'Ang**	**2.96 287**	*e*Pn	**Pn**	**05 50 19.4**	**-0.8**
GRUS	**Gruza**	**3.05 13**	*i* Pn	**Pn**	**05 50 20.3**	**-1.2**
XOR	**Xorichti**	**3.07 119**	*e*Pn	**Pn**	**05 50 21.1**	**-0.7**
CUC	**Castrocucco**	**3.13 254**	Pn	**Pn**	**05 50 22.8**	**+0.2**
	49nm,0.5s					
NVR	**Nevrokopi**	**3.15 81**	*e*PN	**Pn**	**05 50 22.1**	**-0.7**
SLCN	**Sala Consilina**	**3.16 262**	Pn	**Pn**	**05 50 22.5**	**-0.6**
	18nm,0.3s					
DIVS	**Divcibare**	**3.18 3**	⇓*i*Pn	**Pn**	**05 50 22.1**	**-1.2**
DIVS			Sn	**Sn**	**05 50 58.1**	**-3.6**
RGNG	**Rignano Grg**	**3.21 285**	Pn	**Pn**	**05 50 24.0**	**+0.2**
MRLC	**Muro Lucano**	**3.22 268**	Pn	**Pn**	**05 50 25.4**	**+1.5**
	17nm,0.3s					
MGR	**Morigerati**	**3.28 258**	Pn	**Pn**	**05 50 24.9**	**+0.2**
	30nm,0.5s					
SGO	**Sicignano**	**3.38 265**	Pn	**Pn**	**05 50 26.1**	**-0.1**
	13nm,0.3s					
LKR	**Lokris**	**3.39 131**	*e*PN	**Pn**	**05 50 26.2**	**0.0**
SGG	**Gregorio Mates**	**4.07 278**	Pn	**Pn**	**05 50 36.4**	**+0.5**
	50nm,0.5s					
VAGA	**Valle Agricola**	**4.18 279**	Pn	**Pn**	**05 50 37.8**	**+0.3**
VVLD	**Villa Vallelon**	**4.69 284**	Pn	**Pn**	**05 50 44.4**	**-0.4**
NVLJ	**Novalja**	**5.11 317**	*i* Pn	**Pn**	**05 50 48.9**	**-1.7**
NVLJ			*i* Sn	**Sn**	**05 51 45.4**	**-5.0**
NVLJ	**Novalja**	**5.11 317**	*i* Pn	**Pn**	**05 50 48.9**	**-1.7**
NVLJ			*i* Sn	**Sn**	**05 51 45.3**	**-5.0**
FIAM	**Fiamignano**	**5.14 287**	Pn	**Pn**	**05 50 51.0**	**-0.1**
	21nm,0.5s					
BOJS	**Bojanci**	**5.63 326**	*i* Pn	**Pn**	**05 50 56.2**	**-1.8**
BOJS			*e*Sn	**Sn**	**05 51 58.6**	**-4.9**
	comp=Z,3.0nm,0.2s					
CRES	**Cresnjev**	**5.81 329**	*e*Pn	**Pn**	**05 50 57.7**	**-2.8**
CRES			*e*Sn	**Sn**	**05 52 01.7**	**-6.3**
	comp=Z,4.0nm,0.2s					
VISS	**Visnje**	**6.04 325**	*e*Pn	**Pn**	**05 51 02.2**	**-1.7**
VISS			*e*Sn	**Sn**	**05 52 09.2**	**-4.7**
	comp=Z,5.0nm,0.3s					
CEY	**Cerknica**	**6.18 323**	*i* Pn	**Pn**	**05 51 02.0**	**-3.8**
CEY			*e*Sn	**Sn**	**05 52 12.4**	**-4.8**
	comp=Z,12nm,0.3s					
VOY	**Vojsko**	**6.64 322**	*e*Pn	**Pn**	**05 51 10.8**	**-1.5**
VOY			*e*Sn	**Sn**	**05 52 22.6**	**-6.2**

KRSC 03 05:54:47.3±0.8, 55.17N×162.37E, h64km±5km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.72**	**211**	*i* P	P	05 55 02.9	+0.8
MKZ				*e*S	S	05 55 14.6	+1.4
KBTR	**Krutoberegovo**	**1.07**	**14**	*i* P	P	05 55 06.3	-0.4
KBTR				*i* S	S	05 55 20.6	-0.5
ZLN	**Zelenaya**	**1.23**	**314**	*e*P	P	05 55 09.6	+0.8
ZLN				*e*S	S	05 55 26.3	+1.4
TUMR	**Tumrok**	**1.28**	**276**	*e*P	P	05 55 10.5	+0.9
TUMR				*e*S	S	05 55 27.1	+1.0
CIRR	**Tsirk**	**1.32**	**317**	*e*P	P	05 55 10.7	+0.5
CIRR				*e*S	S	05 55 27.3	+0.1
LGNR	**Loginova**	**1.32**	**315**	*i* P	P	05 55 11.0	+0.8
LGNR				*e*S	S	05 55 28.8	+1.6
KMNR	**Kamenistaya**	**1.35**	**297**	*e*P	P	05 55 11.5	+0.9
KMNR				*i* S	S	05 55 29.4	+1.5
KPT	**Kopyto**	**1.46**	**304**	*e*P	P	05 55 12.7	+0.6
KPT				*e*S	S	05 55 32.1	+1.7
KRSR	**Krestovskiy**	**1.47**	**317**	*i* P	P	05 55 12.0	-0.2
KRSR				*e*S	S	05 55 30.3	-0.2
KLY	**Klyuchi**	**1.50**	**320**	*e*P	P	05 55 11.6	-1.1
KLY				*e*S	S	05 55 30.1	-1.3
KOZ	**Kozyrevsk**	**1.67**	**303**	*e*P	P	05 55 15.7	+0.7
KOZ				*e*S	S	05 55 36.8	+1.4
SRDR	**Sredinnyy**	**1.89**	**309**	*i* P	P	05 55 18.0	+0.1
SRDR				*e*S	S	05 55 40.4	-0.2
KII	**Karymskiy**	**2.04**	**237**	*e*P	P	05 55 21.1	+1.0
KII				*e*S	S	05 55 46.7	+2.3
BKI	**Bering**	**2.07**	**88**	*i* P	P	05 55 19.7	-0.7
BKI				*i* S	S	05 55 42.9	-2.0
BKI				Smax			
	220nm,0.2s						
ESO	**Esso**	**2.22**	**291**	*i* P	P	05 55 22.4	-0.2
ESO				*e*S	S	05 55 47.5	-1.3
ESO				Smax			
	80nm,0.5s						
SPN	**Mys Shipunski**	**2.49**	**215**	*i* P	P	05 55 25.7	-0.8
SPN				*i* S	S	05 55 53.3	-2.4
NLC	**Nalytchevo**	**2.68**	**223**	*e*P	P	05 55 29.0	-0.1
NLC				*e*S	S	05 55 59.9	-0.5
SDLR	**Sedlovina**	**2.79**	**229**	*e*P	P	05 55 31.1	+0.4
SDLR				*e*S	S	05 56 02.3	-0.9
SMAR	**Somma**	**2.84**	**229**	*e*P	P	05 55 32.0	+0.7
SMAR				*e*S	S	05 56 04.1	-0.3
AVH	**Avacha**	**2.86**	**230**	*e*P	P	05 55 32.4	+0.7
AVH				*e*S	S	05 56 06.1	+1.1
UGLR	**Uglovaya**	**2.86**	**228**	*i* P	P	05 55 32.5	+0.8
UGLR				*e*S	S	05 56 04.8	-0.3
KOK	**Koryaka**	**2.89**	**231**	*i* P	P	05 55 32.9	+0.8
KOK				*e*S	S	05 56 06.4	+0.7
GNL	**Ganaly**	**2.98**	**242**	*e*P	P	05 55 34.3	+1.0
PET	**Petropavlovsk**	**3.07**	**227**	*e*P	P	05 55 34.9	+0.3
PET				*e*S	S	05 56 09.4	-0.8
KRMR	**Karymshinskiy**	**3.43**	**229**	*e*S	S	05 56 20.2	+0.9
RUS	**Russkaya**	**3.57**	**221**	*e*P	P	05 55 41.2	-0.4
RUS				*e*S	S	05 56 21.0	-1.9
GRL	**Gorelyy**	**3.65**	**226**	*e*P	P	05 55 44.6	+1.8
GRL				*e*S	S	05 56 25.2	+0.3
APC	**Apacha**	**3.81**	**236**	P	P	05 55 46.6	+1.7

IDC 03 06:03:28.1±4.3, 2.34N×97.67E, mb3.5/3, mb1 3.6/3, mb1mx3.4/17, mbtmp3.5/3, Error ellipse: s-maj=165.8km s-min=29.0km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.25**	**123**	P	P	06 11 23.3	-1.9
	0.2nm,0.7s,baz=305,slow=9.0,SNR=9.2						
SONM	**Songino Array**	**45.94**	**8**	P	P	06 11 53.7	-0.8
	0.5nm,0.5s,baz=190,slow=10.0,SNR=4.9						
MKAR	**Makanchi Array**	**46.26**	**345**	P	P	06 11 54.4	-2.6
	0.4nm,0.4s,baz=158,slow=8.7,SNR=6.8						

IDC 03 06:06:48.8±2.3, 17.26S×178.37W, h501km±31km, mb3.0/3, mb1 3.5/4, mb1mx3.1/15, mbtmp4.1/4, Error ellipse: s-maj=132.9km s-min=22.9km az=157.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.17**	**63**	P	P	06 08 36.3	-1.5
	22nm,0.3s,baz=215,slow=16,SNR=42						
STKA	**Stephens Creek**	**38.98**	**240**	P	P	06 13 31.6	-0.9
	2.7nm,0.6s,baz=98,slow=7.1,SNR=2.9						
WRA	**Warramunga Arr**	**44.79**	**259**	P	P	06 14 18.1	-0.9
	1.0nm,0.4s,baz=94,slow=7.1,SNR=55						
WRA				PcP	PcP	06 15 46.7	-4.2
	0.2nm,0.9s,baz=90,slow=3.6,SNR=4.6						
TXAR	**Lajitas Array**	**85.61**	**58**	P	P	06 18 35.7	+0.6
	0.2nm,0.7s,baz=220,slow=7.0,SNR=4.3						

*NEIC **03** 06:09:48.0±3.4, 51.62N×16.14E, h5km, ML3.1(VIE), ML2.9(SZGRF), Error ellipse: s-maj=38.4km s-min=9.9km az=205.0*
*CSEM **03** 06:09:49.2±0.2, 51.52N×16.12E, h2km, ML3.5/2, Error ellipse: s-maj=3.2km s-min=1.7km az=17.0*
*WAR **03** 06:09:50.1, 51.50N×16.10E, h1km, ML2.8, Mining Induced*
*PRU **03** 06:09:50.3, 51.47N×16.08E*
ISC 03 06:09:48.0±0.8, 51.46N±0.05×16.07E±0.04, n23, σ1§28/42, 2C, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.64**	**167**	*e*PG	**Pg**	**06 10 02.0**	**+1.3**
KSP				*e*SG	**Sg**	**06 10 12.0**	**+2.8**
KSP	**Ksiaz**	**0.64**	**167**	*e*Pg	**Pg**	**06 10 02.3**	**+1.6**
KSP				*e*Sg	**Sg**	**06 10 11.6**	**+2.4**
UPC	**Upice**	**0.96**	**182**	*e*PG	**Pg**	**06 10 08.3**	**+1.1**
DPC	**Dobruska-Polom**	**1.13**	**172**	*e*PG	**Pg**	**06 10 11.0**	**+0.5**
DPC				*e*SG	**Sg**	**06 10 26.6**	**+1.1**
	30nm,0.3s						
PVCC	**Panska Ves**	**1.33**	**226**	*e*PG	**Pg**	**06 10 15.7**	**+1.0**
BRG	**Berggiesshubel**	**1.47**	**247**	Pg	**Pg**	**06 10 17.7**	**+0.4**
BRG				Sg	**Sg**	**06 10 37.8**	**+1.0**
BRG	**Berggiesshubel**	**1.47**	**247**	Pg	**Pg**	**06 10 17.7**	**+0.4**
BRG				Sg	**Sg**	**06 10 37.9**	**+1.0**
PRU	**Pruhonice**	**1.77**	**214**	*e*PG	**Pg**	**06 10 22.8**	**-0.5**
PRU				*e*SG	**Sg**	**06 10 46.6**	**-0.3**
CLL	**Collm**	**1.93**	**267**	*i* PG	**Pg**	**06 10 25.7**	**-0.9**
CLL				*e*		06 10 30.0	
CLL				*i* SG	**Sg**	**06 10 52.0**	**-0.3**
CLL	**Collm**	**1.93**	**267**	*i* Pg	**Pg**	**06 10 25.7**	**-0.9**
CLL				*i* Sg	**Sg**	**06 10 52.0**	**-0.3**
MORC	**Moravsky Berou**	**1.93**	**150**	*e*P	**Pn**	**06 10 22.9**	**+0.5**
MORC	**Moravsky Berou**	**1.93**	**150**	*e*Pn	**Pn**	**06 10 23.0**	**+0.6**
OKC	**Ostrava-Krasne**	**2.10**	**140**	*e*PG	**Pg**	**06 10 29.8**	**-0.1**
OKC				*e*SG	**Sg**	**06 10 56.3**	**-1.5**
VRAC	**Vranov**	**2.18**	**171**	*e*Pn	**Pn**	**06 10 27.2**	**+1.1**
NKC	**Novy Kostel**	**2.61**	**243**	*e*PN	**Pn**	**06 10 33.6**	**+1.5**
NKC				*e*PG	**Pg**	**06 10 38.7**	**-1.4**
NKC				*e*SG	**Sg**	**06 11 13.0**	**-1.8**
	36nm,0.3s						
OJC	**Ojcow**	**2.67**	**116**	*e*PG	**Pg**	**06 10 40.0**	**-1.3**
OJC				*e*SG	**Sg**	**06 11 15.0**	**-1.9**
OJC	**Ojcow**	**2.67**	**116**	*e*Pg	**Pg**	**06 10 39.8**	**-1.5**
OJC				*e*Sg	**Sg**	**06 11 15.5**	**-1.4**
KHC	**Kasperske Hory**	**2.83**	**215**	*e*PN	**Pn**	**06 10 35.7**	**+0.4**
KHC				*e*PG	**Pg**	**06 10 42.0**	**-2.5**
KHC				*e*SG	**Sg**	**06 11 19.6**	**-2.7**
KHC	**Kasperske Hory**	**2.83**	**215**	*e*Pg	**Pg**	**06 10 42.0**	**-2.5**
KHC				*e*Sg	**Sg**	**06 11 19.6**	**-2.7**
GEC2	**GERESS Array S**	**3.03**	**211**	*e*Pn	**Pn**	**06 10 40.1**	**+1.9**
NIE	**Niedzica**	**3.40**	**125**	*e*P	**Pg**	**06 10 51.9**	**-3.9**
NIE				*e*S	**Sg**	**06 11 35.6**	**-5.5**
MOA	**Molln**	**3.80**	**199**	⇑*i*PN	**Pn**	**06 10 49.8**	**+0.7**
MOA				*i* SG	**Sg**	**06 11 53.4**	**-1.2**
	7.6nm,0.4s						
ARSA	**Arzberg**	**4.23**	**185**	⇑*i*PN	**Pn**	**06 10 55.9**	**+0.7**
ARSA				*i* SG	**Sg**	**06 12 04.6**	**-4.3**
	5.9nm,0.4s						

*ROM **03** 06:31:45.8±0.7, 40.64N×13.66E, h469km±10km, Ml3.6/8, Error ellipse: s-maj=9.2km s-min=6.6km az=8.0*
*CSEM **03** 06:31:45.3±0.7, 40.72N×13.79E, h479km±7km, mb4.0/24, Error ellipse: s-maj=18.4km s-min=3.6km az=57.0*
*LDG **03** 06:31:56.9±0.2, 41.04N×13.57E, h410km, Mb4.1/28*
*NEIC **03** 06:31:56.5±0.4, 40.72N×13.55E, h392km±4km, mb4.0/24, Error ellipse: s-maj=7.1km s-min=4.1km az=183.0*
*IDC **03** 06:31:59.2±1.4, 40.93N×13.65E, h414km±15km, mb3.0/8, mb1 3.1/17, mb1mx3.1/30, mbtmp3.9/17, Error ellipse: s-maj=25.1km s-min=13.6km az=46.0*
ISC 03 06:31:55.2±0.3, 40.66N±0.04×13.52E±0.05, h406km±3km, n118, σ0§78/118, mb3.5/7, 14C-7D, Tyrrhenian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VENT	**Ventotene**	**0.15**	**332**		**P**	**06 32 46.3**	**+0.8**
ISOR	**Termini**	**0.63**	**97**	⇑	**P**	**06 32 45.8**	**-0.3**
GIUL	**Giuliano Di Ro**	**0.92**	**348**	⇑*i*Pg	**P**	**06 32 47.3**	**+0.5**
SGG	**Gregorio Mates**	**0.97**	**42**	⇑*i*Pg	**P**	**06 32 47.4**	**+0.4**
	45nm,0.5s						
MIDA	**Miranda**	**1.12**	**29**	⇑*i*Pg	**P**	**06 32 48.0**	**+0.4**
	24nm,0.6s						
CSSN	**Cassano Irpino**	**1.16**	**80**	Pg	**P**	**06 32 47.8**	**+0.1**
VVLD	**Villa Vallelon**	**1.21**	**4**	⇑*i*Pg	**P**	**06 32 48.1**	**+0.1**
	76nm,1.5s						
SGO	**Sicignano**	**1.37**	**94**	⇑*i*Pg	**P**	**06 32 48.4**	**-0.3**
MRLC	**Muro Lucano**	**1.50**	**86**	Pg	**P**	**06 32 49.0**	**-0.3**
FAGN	**Fagnano**	**1.60**	**2**	Pg	**P**	**06 32 50.4**	**+0.6**
	53nm,0.8s						
MGR	**Morigerati**	**1.64**	**108**	Pg	**P**	**06 32 49.8**	**-0.2**
CUC	**Castrocucco**	**1.88**	**110**	⇑*i*Pg	**P**	**06 32 50.8**	**-0.6**
MURB	**Monte Urbino**	**2.70**	**344**	Pg	**P**	**06 32 57.8**	**+0.9**
	44nm,0.3s						
MSRU	**Castanea**	**2.85**	**147**	Pg	**P**	**06 32 57.8**	**-0.2**
	121nm,0.9s						
TIP	**Timpagrande**	**2.90**	**120**	*e*P	**P**	**06 32 57.0**	**-1.4**
TIP	**Timpagrande**	**2.90**	**120**	*e*P	**P**	**06 32 57.0**	**-1.4**
CEL	**Celeste**	**3.03**	**142**	Pg	**P**	**06 32 59.2**	**-0.2**
	51nm,0.6s						
GRFL	**Gerfalco**	**3.12**	**323**	Pg	**P**	**06 33 01.6**	**+1.4**
MTTG	**Motta San Giov**	**3.15**	**147**	Pg	**P**	**06 33 00.7**	**+0.2**
	65nm,0.5s						
SOI	**Samo**	**3.25**	**142**	⇓*i*Pg	**P**	**06 33 00.1**	**-1.2**
VAE	**Valguarnera**	**3.26**	**167**	P	**P**	**06 33 08.6**	**+7.3**
	1.9nm,0.3s,baz=338,slow=6.2,SNR=4.0						
CSNT	**Castellina Chi**	**3.26**	**330**	Pg	**P**	**06 33 02.4**	**+1.0**
SFI	**Santa Sofia**	**3.47**	**340**	Pg	**P**	**06 33 03.4**	**+0.2**
	74nm,1.4s						
PGD	**Poggio Sodo**	**3.47**	**338**	Pg	**P**	**06 33 03.3**	**0.0**
	22nm,0.6s						
VMG	**Vicchio**	**3.60**	**337**	⇓*i*Pg	**P**	**06 33 04.7**	**+0.2**
	29nm,0.4s						
SSY	**Sortino**	**3.71**	**160**	Pg	**P**	**06 33 04.5**	**-0.9**
SEI	**Scarperia**	**3.75**	**335**	Pg	**P**	**06 33 05.6**	**-0.1**
	34nm,0.2s						
PII	**Pisa**	**3.78**	**325**	⇓*i*Pg	**P**	**06 33 07.2**	**+1.2**
HMDC	**Modica**	**3.83**	**165**	⇓*i*Pg	**P**	**06 33 06.3**	**-0.2**
PGF	**Pioggiola**	**3.87**	**301**	*e*P	**P**	**06 33 07.8**	**+0.9**
	24nm,0.6s						
ZCCA	**Zocca**	**4.13**	**334**	Pg	**P**	**06 33 10.7**	**+1.3**
	14nm,0.3s						
GSCL	**Gusciola**	**4.27**	**331**	Pg	**P**	**06 33 11.6**	**+0.8**
	16nm,0.2s						
ERBM	**Eremo**	**4.40**	**330**	⇑*i*Pg	**P**	**06 33 13.1**	**+1.1**
	42nm,0.8s						
BOJS	**Bojanci**	**5.00**	**14**	*i* P	**P**	**06 33 17.9**	**-0.2**
VISS	**Visnje**	**5.23**	**10**	*e*P	**P**	**06 33 19.9**	**-0.6**
CRES	**Cresnjev**	**5.35**	**15**	*e*P	**P**	**06 33 21.4**	**-0.3**
PDKS	**Podkum**	**5.50**	**11**	*e*P	**P**	**06 33 23.0**	**-0.3**
SBF	**Sospel**	**5.53**	**307**	*e*P	**P**	**06 33 23.4**	**-0.2**
	123nm,0.9s						
GOLS	**Golise**	**5.56**	**15**	*e*P	**P**	**06 33 23.4**	**-0.5**
CADS	**Cadrg**	**5.56**	**2**	*i* P	**P**	**06 33 22.9**	**-1.0**
LMR	**La Mourre**	**5.86**	**299**	*e*P	**P**	**06 33 26.8**	**-0.3**
	22nm,0.6s						
FRF	**La Foret Royal**	**5.87**	**302**	*e*P	**P**	**06 33 27.4**	**+0.2**
	9.9nm,0.3s						
OBKA	**Obir**	**5.89**	**7**	⇑*i*P	**P**	**06 33 27.3**	**-0.1**
	10.0nm,0.5s						
KBA	**Koelnbreinsper**	**6.41**	**359**	⇑*i*P	**P**	**06 33 33.1**	**-0.1**
	5.6nm,0.5s						
MBDF	**Montbardon**	**6.42**	**311**	*e*P	**P**	**06 33 34.5**	**+1.3**
	62nm,0.7s						
DAVOX	**Davos**	**6.66**	**338**	P	**P**	**06 33 37.0**	**+1.1**
	2.5nm,0.3s,baz=183,slow=7.3,SNR=13						
DAVOX	**Davos**	**6.66**	**338**	P	**P**	**06 33 37.0**	**+1.0**
WTTA	**Wattenberg**	**6.74**	**349**	⇓*i*P	**P**	**06 33 37.1**	**+0.3**
	15nm,0.5s						
ARSA	**Arzberg**	**6.74**	**12**	⇑*i*P	**P**	**06 33 36.7**	**-0.2**
	4.6nm,0.7s						
SMRF	**Simiane la Rot**	**6.75**	**302**	*e*P	**P**	**06 33 37.1**	**+0.1**
	34nm,0.7s						
SQTA	**Sankt Quirin**	**6.76**	**347**	⇑*i*P	**P**	**06 33 37.4**	**+0.3**
	11nm,0.7s						
WATA	**Walderalm**	**6.81**	**349**	⇑*i*P	**P**	**06 33 38.0**	**+0.3**
	14nm,0.6s						
MOTA	**Moosalm**	**6.90**	**346**	⇓*i*P	**P**	**06 33 38.9**	**+0.2**
	3.0nm,0.5s						
LPG	**La Plagne**	**6.92**	**317**	*e*P	**P**	**06 33 38.5**	**-0.3**
	7.7nm,0.3s						
LPL	**La Plagne**	**6.94**	**317**	*e*P	**P**	**06 33 38.8**	**-0.3**
	6.4nm,0.2s						
ORIF	**Oris-en-Rattie**	**7.04**	**310**	*e*P	**P**	**06 33 40.3**	**0.0**
	17nm,0.5s						
DAVA	**Damuels**	**7.12**	**340**	⇑*i*P	**P**	**06 33 40.4**	**-0.7**
	6.8nm,0.5s						
MOA	**Molln**	**7.21**	**4**	⇓*i*P	**P**	**06 33 42.1**	**0.0**
	9.7nm,0.8s						
VIVF	**Saint-Julien-l**	**7.74**	**306**	*e*P	**P**	**06 33 48.6**	**+0.4**
	49nm,0.6s						
LASF	**Ste Croix**	**7.92**	**299**	*e*P	**P**	**06 33 50.8**	**+0.5**
	14nm,0.8s						
GEC2	**GERESS Array S**	**8.18**	**1**	*e*P	**P**	**06 33 52.2**	**-1.0**
	4.0nm,0.6s						
GERES	**GERESS Array B**	**8.18**	**1**	P	**P**	**06 33 52.5**	**-0.8**
	0.9nm,0.3s,baz=177,slow=11,SNR=18						
KHC	**Kasperske Hory**	**8.47**	**0**	*e*P	**P**	**06 33 55.8**	**-0.7**
WET	**Wettzell**	**8.49**	**357**	*e*P	**P**	**06 33 55.9**	**-0.9**
	12nm,0.6s						
BFO	**Black Forest**	**8.51**	**336**	*e*P	**P**	**06 33 49.6**	**-7.4**
	6.0nm,1.2s						
HINF	**Hinteralfeld**	**8.60**	**328**	*e*P	**P**	**06 33 55.9**	**-2.1**
	14nm,0.4s						
MTLF	**Montolieu**	**8.83**	**291**	*e*P	**P**	**06 34 01.2**	**+0.6**
	3.8nm,0.5s						
VRAC	**Vranov**	**8.91**	**13**	P	**P**	**06 34 02.5**	**+0.9**
	1.3nm,0.3s,baz=210,slow=13,SNR=5.5						
CDF	**Champ du Feu**	**8.93**	**332**	*e*P	**P**	**06 33 59.8**	**-2.0**
	4.7nm,0.3s						
HAU	**Haudompre**	**8.95**	**327**	*e*P	**P**	**06 34 00.4**	**-1.7**
	21nm,0.3s						
GRA1	**Grafenberg Arr**	**9.17**	**351**	*e*P	**P**	**06 34 03.4**	**-1.2**
	5.0nm,0.7s						
GRF	**Grafenberg Arr**	**9.17**	**351**	*e*P	**P**	**06 34 03.4**	**-1.2**
	5.0nm,0.7s						
SMF	**Signal de Mont**	**9.21**	**314**	*e*P	**P**	**06 34 03.8**	**-1.2**
	7.4nm,0.5s						
PRU	**Pruhonice**	**9.35**	**4**	*e*P	**P**	**06 34 06.8**	**+0.1**
CAF	**Calviac**	**9.43**	**301**	*e*P	**P**	**06 34 08.0**	**+0.4**
	3.6nm,0.3s						
AVF	**Avril sur Loir**	**9.57**	**313**	*e*P	**P**	**06 34 08.5**	**-0.6**
	3.1nm,0.4s						
LOR	**Lormes**	**9.59**	**317**	*e*P	**P**	**06 34 08.6**	**-0.8**
	3.8nm,0.4s						
NKC	**Novy Kostel**	**9.60**	**356**	*e*P	**P**	**06 34 09.6**	**+0.1**
SSF	**Saint Saulge**	**9.65**	**315**	*e*P	**P**	**06 34 09.1**	**-0.9**
	2.5nm,0.5s						
DPC	**Dobruska-Polom**	**9.88**	**11**	*e*P	**P**	**06 34 13.1**	**+0.3**
PVCC	**Panska Ves**	**9.89**	**4**	*e*P	**P**	**06 34 13.3**	**+0.4**
RJF	**Les Rejaudoux**	**9.94**	**302**	*e*P	**P**	**06 34 13.7**	**+0.3**
TCF	**Toulx Ste Croi**	**9.95**	**308**	*e*P	**P**	**06 34 13.2**	**-0.4**
UPC	**Upice**	**10.00**	**9**	*e*P	**P**	**06 34 15.0**	**+0.9**
EPF	**Esparros**	**10.11**	**288**	*e*P	**P**	**06 34 14.9**	**-0.6**
MLR	**Muntele Rosu**	**10.29**	**58**	P	**P**	**06 34 18.4**	**+0.8**
	0.4nm,0.3s,baz=255,slow=12,SNR=5.3						
LFF	**La Frestale**	**10.31**	**299**	*e*P	**P**	**06 34 17.9**	**+0.1**
IDI	**Anoyia**	**10.46**	**117**	P	**P**	**06 34 19.4**	**-0.2**
	1.9nm,0.3s,baz=333,slow=11,SNR=7.6						
IDI	**Anoyia**	**10.46**	**117**	P	**P**	**06 34 19.4**	**-0.2**
CLL	**Collm**	**10.65**	**358**	P	**P**	**06 34 22.6**	**+0.8**
	logA/T=1.2						
CLL				*e*		06 34 29.0	
CLL	**Collm**	**10.65**	**358**	*i* P	**P**	**06 34 22.6**	**+0.8**
	10.0nm,0.6s						
CLL				*e*		06 34 29.0	
ETSF	**Etsaut**	**10.75**	**287**	*e*P	**P**	**06 34 23.7**	**+0.8**
	4.0nm,

VNDA	Vanda	72.51	176	P		P	06 49 45.2	+1.0
	0.7nm,0.8s,mb3.7,baz=330,slow=6.3,SNR=3.8							
VNDA	Vanda	72.51	176	P		P	06 49 45.2	+1.0
MKAR	Makanchi Array	74.20	322	P		P	06 49 55.4	+0.6
	1.2nm,0.7s,mb3.9,baz=112,slow=6.5,SNR=11							
KURK	Kurchatov	78.09	324	*e*P		P	06 50 14.8	-1.8
BVAR	Borovoye Array	83.68	325	P		P	06 50 46.7	+0.6
	1.4nm,0.8s,mb4.2,baz=117,slow=6.6,SNR=9.3							
ILAR	Eielson Array	87.21	24	P		P	06 51 02.5	-0.8
	0.8nm,0.6s,mb4.1,baz=259,slow=5.0,SNR=6.6							
ROSC	El Rosal	143.78	90	PKP	PKPdf		06 57 53.8	+1.6
	1.6nm,0.5s,baz=252,slow=20,SNR=6.1							
SDV	Santo Domingo	147.45	83	PKPbc	PKPdf		06 58 03.0	+4.5
	2.8nm,0.7s,baz=284,slow=3.3,SNR=6.0							
SIV	San Ignacio	148.54	134	PKPbc	PKPdf		06 58 07.4	+7.3
	1.1nm,0.8s,baz=328,slow=2.5,SNR=7.7							

PRU ***03*** *06:44:37.1, 49.60N×6.65E*
BGR ***03*** *06:44:39.9±0.2, 49.38N×6.84E, h1km, ML3.4/8, Error ellipse: s-maj=2.2km s-min=1.1km az=99.0*
LDG ***03*** *06:44:40.4±0.1, 49.37N×6.91E, h1km, Md3.7/3, Ml3.8/31, Error ellipse: s-maj=1.4km s-min=1.0km az=37.0, Suspected Mining induced.*
STR ***03*** *06:44:40.1±0.2, 49.36N×6.89E, h1km±1km, Ml3.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
CSEM ***03*** *06:44:40.2±0.0, 49.37N×6.92E, h2km, ML3.9/27, Error ellipse: s-maj=0.9km s-min=0.8km az=148.0*
NEIC ***03*** *06:44:40.1, 49.36N×6.89E, h1km, ML3.8(LDG), ML3.5(SZGRF), ML3.3(VIE), ML3.2(STR), After STR.*
LEDBW ***03*** *06:44:40.2±0.2, 49.38N×6.92E, h1km, ML3.3, Error ellipse: s-maj=4.0km s-min=2.0km az=94.0*
BNS ***03*** *06:44:40.0±0.7, 49.34N×6.66E, h1km, ML3.4*
ISC 03 06:44:37.4±0.2, 49.38N±0.01×6.80E±0.02, n133, σ1°35/289, 14C-12D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUP	**Ruppelstein**	**0.37**	**28**	⇓*e*Pg	**Pg**	**06 44 46.9**	**+2.1**
RUP				*e*Sg	**Sg**	**06 44 52.1**	**+2.5**
	SNR=109						
RUP	**Ruppelstein**	**0.37**	**28**	Pg	**Pg**	**06 44 46.8**	**+2.1**
RUP				Sg	**Sg**	**06 44 52.1**	**+2.5**
	SNR=109						
RUP	**Ruppelstein**	**0.37**	**28**	Pg	**Pg**	**06 44 46.8**	**+2.1**
RUP				Sg	**Sg**	**06 44 52.6**	**+3.0**
WLF	**Walferdange**	**0.51**	**304**	*e*Pg	**Pg**	**06 44 51.2**	**+3.6**
	SNR=117						
WLF				*e*Sg	**Sg**	**06 44 57.2**	**+2.9**
ABH	**Alteburg**	**0.70**	**44**	⇓*i*Pg	**Pg**	**06 44 52.3**	**+0.9**
ABH				*e*Sg	**Sg**	**06 45 01.2**	**+0.5**
	SNR=29						
ABH	**Alteburg**	**0.70**	**44**	Pg	**Pg**	**06 44 52.2**	**+0.8**
LANF	**Langenberg**	**0.77**	**121**	⇓*i*Pg	**Pg**	**06 44 53.5**	**+0.6**
KTD	**Kalmit**	**0.84**	**94**	*e*Pg	**Pg**	**06 44 54.6**	**+0.3**
KTD				*e*Sg	**Sg**	**06 45 06.7**	**+1.2**
	SNR=67						
KTD	**Kalmit**	**0.84**	**94**	Pg	**Pg**	**06 44 55.7**	**+1.4**
CDF	**Champ du Feu**	**1.02**	**162**	*e*Pg	**Pg**	**06 44 58.4**	**+0.6**
CDF				*e*Pn	**Pn**	**06 44 59.4**	**+0.6**
CDF				*e*Sg	**Sg**	**06 45 11.8**	**+0.5**
	273nm,0.2s						
STR	**Strasbourg**	**1.02**	**141**	*e*Pg	**Pg**	**06 44 59.4**	**+1.6**
	SNR=3.4						
STR				*e*Sg	**Sg**	**06 45 12.4**	**+1.0**
	SNR=3.4						
WLS	**Welschbruch**	**1.03**	**159**	Pg	**Pg**	**06 44 58.8**	**+0.7**
WLS				Sg	**Sg**	**06 45 12.7**	**+0.8**
WLS	**Welschbruch**	**1.03**	**159**	*e*Pg	**Pg**	**06 44 58.8**	**+0.7**
	SNR=86						
WLS				⇓*i*Pn	**Pn**	**06 44 58.8**	**-0.2**
WLS				*e*Sg	**Sg**	**06 45 13.2**	**+1.3**
	SNR=86						
RFYF	**Reffroy**	**1.15**	**230**	*e*Pn	**Pn**	**06 45 03.1**	**+2.4**
RFYF				*e*Sg	**Sg**	**06 45 18.1**	**+2.4**
	724nm,0.2s						
ECH	**Echery**	**1.19**	**168**	Pg	**Pg**	**06 45 02.6**	**+1.4**
ECH				Sg	**Sg**	**06 45 17.5**	**+0.5**
ECH	**Echery**	**1.19**	**168**	⇓*e*Pn	**Pn**	**06 45 01.8**	**+0.6**
ECH				*e*Pg	**Pg**	**06 45 01.8**	**+0.7**
	SNR=64						
ECH				*e*Sg	**Sg**	**06 45 17.4**	**+0.4**
	SNR=64						
ECH	**Echery**	**1.19**	**168**	⇓*e*P	**Pn**	**06 45 01.8**	**+0.6**
ECH	**Echery**	**1.19**	**168**	Pg	**Pg**	**06 45 01.8**	**+0.6**
	SNR=64						
ECH				Sg	**Sg**	**06 45 17.4**	**+0.4**
	SNR=64						
STB	**Steinbach**	**1.22**	**1**	*e*Pg	**Pg**	**06 45 02.5**	**+0.8**
STB				*e*Sg	**Sg**	**06 45 20.0**	**+2.1**
	713nm,0.7s						
SWS	**Schriesheim**	**1.25**	**84**	⇓*i*Pg	**Pg**	**06 45 01.7**	**-0.7**
THEF	**They Montfort**	**1.27**	**205**	⇑*e*Pn	**Pn**	**06 45 04.1**	**+1.7**
THEF				*e*Pg	**Pg**	**06 45 04.1**	**+1.3**
	SNR=117						
THEF				*e*Sg	**Sg**	**06 45 20.7**	**+0.9**
	SNR=117						
THEF	**They Montfort**	**1.27**	**205**	⇑*e*P	**Pn**	**06 45 04.1**	**+1.7**
THEF	**They Montfort**	**1.27**	**205**	Pg	**Pg**	**06 45 04.3**	**+1.5**
THEF				Sg	**Sg**	**06 45 21.0**	**+1.2**
KLL	**Kalltalsperre**	**1.31**	**346**	*e*Pg	**Pg**	**06 45 04.0**	**+0.5**
KLL				*e*Sg	**Sg**	**06 45 21.9**	**+1.0**
	242nm,0.7s						
TOD	**Tromm**	**1.33**	**79**	⇓*i*Pn	**Pn**	**06 45 02.8**	**-0.4**
TOD				*e*Pg	**Pg**	**06 45 02.8**	**-1.1**
	SNR=75						
TOD				*e*Sg	**Sg**	**06 45 21.0**	**-0.6**
	SNR=75						
TOD	**Tromm**	**1.33**	**79**	Pg	**Pg**	**06 45 03.9**	**-0.1**
TOD				Sg	**Sg**	**06 45 21.2**	**-0.5**
LIBD	**Limburg**	**1.34**	**156**	P*	**Pb**	**06 45 05.3**	**+2.2**
LIBD				*e*Pg	**Pg**	**06 45 05.4**	**+1.2**
	SNR=0.1						
TNS	**Taunus Mts**	**1.36**	**51**	*e*Pn	**Pn**	**06 45 03.6**	**-0.1**
	SNR=2.0						
TNS				Pg	**Pg**	**06 45 05.0**	**+0.4**
TNS				Sg	**Sg**	**06 45 22.8**	**0.0**
TNS	**Taunus Mts**	**1.36**	**51**	P	**Pg**	**06 45 05.0**	**+0.4**
TNS				S	**Sg**	**06 45 22.8**	**0.0**
TNS	**Taunus Mts**	**1.36**	**51**	*e*Pn	**Pn**	**06 45 03.6**	**-0.1**
TNS				*e*Sg	**Sg**	**06 45 22.7**	**-0.1**
HAU	**Haudompre**	**1.41**	**192**	*e*Pn	**Pn**	**06 45 05.3**	**+1.0**
HAU				*e*Pg	**Pg**	**06 45 06.5**	**+1.0**
HAU				*e*Sg	**Sg**	**06 45 24.6**	**+0.3**
	354nm,0.2s						
MEZF	**Maizieres J'vi**	**1.45**	**233**	*e*Pg	**Pg**	**06 45 07.7**	**+1.4**
MEZF				*e*Sg	**Sg**	**06 45 27.6**	**+2.0**
	353nm,0.4s						
BFO	**Black Forest**	**1.46**	**135**	⇓*i*Pn	**Pn**	**06 45 05.1**	**0.0**
BFO				*e*Pg	**Pg**	**06 45 06.8**	**+0.3**
BFO				*e*Sg	**Sg**	**06 45 25.3**	**-0.7**
BFO	**Black Forest**	**1.46**	**135**	*e*Pn	**Pn**	**06 45 04.9**	**-0.2**
BFO				*e*Sg	**Sg**	**06 45 25.3**	**-0.7**
GIVF	**Givet**	**1.47**	**300**	*e*Pn	**Pn**	**06 45 07.5**	**+2.3**
GIVF				*e*Pg	**Pg**	**06 45 09.0**	**+2.2**
GIVF				*e*Sn	**Sn**	**06 45 26.4**	**+0.9**
GIVF				*e*Sg	**Sg**	**06 45 29.8**	**+3.4**
	422nm,0.3s						
HGN	**Heimansgroeve**	**1.49**	**338**	⇑*e*Pn	**Pn**	**06 45 07.1**	**+1.5**
	25nm,0.3s,baz=150						
HGN				⇑*i*Pg	**Pg**	**06 45 08.5**	**+1.3**
	82nm,0.8s						
HGN				*i* Sg	**Sg**	**06 45 27.2**	**+0.1**
	15nm,1.6s						
HGN	**Heimansgroeve**	**1.49**	**338**	*e*Pn	**Pn**	**06 45 07.1**	**+1.5**
	SNR=11						
HGN				*e*Pg	**Pg**	**06 45 09.0**	**+1.7**
	SNR=57						
HGN				*e*Sg	**Sg**	**06 45 27.8**	**+0.6**
HGN	**Heimansgroeve**	**1.49**	**338**	⇑*i*Pg	**Pg**	**06 45 08.5**	**+1.3**
	82nm,0.8s						
HGN				*i* Sg	**Sg**	**06 45 27.2**	**+0.1**
	15nm,1.6s						
LBG	**Lerchenberg**	**1.50**	**118**	⇑*i*Pg	**Pg**	**06 45 07.3**	**0.0**
MOF	**Molkenrain**	**1.54**	**172**	Pg	**Pg**	**06 45 09.0**	**+0.7**
MOF				Sg	**Sg**	**06 45 29.3**	**+0.4**
MOF	**Molkenrain**	**1.54**	**172**	*e*Pn	**Pn**	**06 45 06.9**	**+0.5**
	SNR=1.5						
MOF				Pg	**Pg**	**06 45 08.9**	**+0.7**
MOF				*e*Sg	**Sg**	**06 45 29.2**	**+0.4**
	SNR=28						
MOF	**Molkenrain**	**1.54**	**172**	P	**Pg**	**06 45 08.9**	**+0.7**
FBB	**Freiburg**	**1.55**	**153**	P*	**Pb**	**06 45 08.7**	**+2.0**
HINF	**Hinteralfeld**	**1.56**	**179**	*e*Pn	**Pn**	**06 45 07.3**	**+0.7**
HINF				*e*Pg	**Pg**	**06 45 09.3**	**+0.6**
HINF				*e*Sg	**Sg**	**06 45 29.1**	**-0.4**
	659nm,0.2s						
DOU	**Dourbes**	**1.60**	**298**	P	**Pn**	**06 45 09.2**	**+2.1**
	50nm,0.7s						
BNS	**Bensberg**	**1.60**	**9**	*e*Pg	**Pg**	**06 45 09.3**	**-0.2**
BNS				*e*Sg	**Sg**	**06 45 30.4**	**-0.5**
	1μm,0.4s						
KIZ	**Kirchzarten**	**1.61**	**152**	Pg	**Pg**	**06 45 09.6**	**0.0**
SFTF	**Sexfontaines**	**1.65**	**225**	*e*Pn	**Pn**	**06 45 09.5**	**+1.6**
SFTF				*e*Sg	**Sg**	**06 45 34.0**	**+1.5**
	138nm,0.3s						
STU	**Stuttgart**	**1.69**	**110**	*e*Pg	**Pg**	**06 45 08.1**	**-3.1**
STU				*e*Sg	**Sg**	**06 45 30.2**	**-3.5**
FELD	**Feldberg**	**1.71**	**152**	Pn	**Pn**	**06 45 08.7**	**+0.1**
FELD				Pg	**Pg**	**06 45 11.7**	**+0.2**
FELD				*e*Sg	**Sg**	**06 45 33.2**	**-0.9**
FELD	**Feldberg**	**1.71**	**152**	Pg	**Pg**	**06 45 11.6**	**+0.1**
FELD				Sg	**Sg**	**06 45 34.0**	**-0.2**
BAIF	**Baives**	**1.81**	**293**	*e*Pn	**Pn**	**06 45 12.1**	**+2.0**
BAIF				*e*Pg	**Pg**	**06 45 15.1**	**+1.5**
BAIF				*e*Sg	**Sg**	**06 45 40.0**	**+2.2**
	262nm,0.5s						
SPAK	**Spaichingen**	**1.84**	**133**	*e*Pn	**Pn**	**06 45 11.8**	**+1.3**
	SNR=1.1						
SPAK				Pg	**Pg**	**06 45 13.6**	**-0.5**
SPAK	**Spaichingen**	**1.84**	**133**	PG	**Pg**	**06 45 13.6**	**-0.5**
SPAK	**Spaichingen**	**1.84**	**133**	Pg	**Pg**	**06 45 13.7**	**-0.4**
BBS	**Basel-Blauen**	**1.98**	**166**	*e*Pn	**Pn**	**06 45 13.4**	**+0.9**
	SNR=1.3						
BBS				Pg	**Pg**	**06 45 18.1**	**+1.2**
BBS	**Basel-Blauen**	**1.98**	**166**	PG	**Pg**	**06 45 18.1**	**+1.3**
BBS	**Basel-Blauen**	**1.98**	**166**	Pg	**Pg**	**06 45 17.2**	**+0.4**
GUT	**Gutenstein**	**2.02**	**130**	Pn	**Pn**	**06 45 12.6**	**-0.5**
GUT				Pg	**Pg**	**06 45 17.0**	**-0.7**
LOMF	**Lomont**	**2.03**	**179**	Pg	**Pg**	**06 45 18.0**	**0.0**
LOMF				Sg	**Sg**	**06 45 45.3**	**+0.3**
LOMF	**Lomont**	**2.03**	**179**	Pn	**Pn**	**06 45 13.7**	**+0.5**
LOMF				*e*Pg	**Pg**	**06 45 18.3**	**+0.3**
	SNR=5.0						
LOMF				*e*Sg	**Sg**	**06 45 44.4**	**-0.6**
	SNR=5.0						
BUG	**Bochum--Univer**	**2.09**	**8**	*e*Pg	**Pg**	**06 45 19.1**	**0.0**
	SNR=3.8						
BUG				*e*Sg	**Sg**	**06 45 44.0**	**-2.8**
SISB	**Singen-Sch Ber**	**2.23**	**139**	P*	**Pb**	**06 45 21.3**	**+3.0**
HROE	**Hohe Rhon--Fla**	**2.46**	**61**	*e*Pn	**Pn**	**06 45 19.1**	**-0.3**
WTSB	**Winterswijk**	**2.59**	**0**	*e*Pn	**Pn**	**06 45 23.2**	**+1.9**
WTSB				*e*Pg	**Pg**	**06 45 27.8**	**-1.3**
	14nm,0.8s						
WTSB				⇑*i*x	x	06 45 30.9	
	86nm,0.8s						
WTSB				*e*Sg	**Sg**	**06 45 59.7**	**-3.9**
WTSB	**Winterswijk**	**2.59**	**0**	*e*Pn	**Pn**	**06 45 22.2**	**+0.9**
	SNR=2.2						
WTSB				*e*Pg	**Pg**	**06 45 27.8**	**-1.3**
	SNR=4.2						
WTSB				*e*Sg	**Sg**	**06 46 02.3**	**-1.4**
WTSB	**Winterswijk**	**2.59**	**0**	*e*Pg	**Pg**	**06 45 27.8**	**-1.3**
	14nm,0.8s						
WTSB				*e*Sg	**Sg**	**06 45 59.7**	**-4.0**
NORI	**Noerdlinger Ri**	**2.60**	**103**	⇓*i*Pn	**Pn**	**06 45 21.2**	**-0.3**
UBR	**Uberruh**	**2.78**	**126**	Pn	**Pn**	**06 45 24.7**	**+0.7**
LOR	**Lormes**	**2.88**	**224**	*e*Pn	**Pn**	**06 45 25.7**	**+0.3**
LOR				*e*Sn	**Sn**	**06 46 00.8**	**-0.5**
LOR				*e*Sg	**Sg**	**06 46 12.3**	**-1.1**
	75nm,0.3s						
GRA1	**Grafenberg Arr**	**2.90**	**82**	*e*Pg	**Pg**	**06 45 30.0**	**-5.3**
GRA1				*e*Sg	**Sg**	**06 46 10.8**	**-3.2**
GRF	**Grafenberg Arr**	**2.90**	**82**	*e*Pg	**Pg**	**06 45 30.0**	**-5.4**
GRF				*e*Sg	**Sg**	**06 46 10.8**	**-3.2**
DAVA	**Damuels**	**2.94**	**134**	⇑*i*PN	**Pn**	**06 45 27.5**	**+1.3**
DAVA				*i* PG	**Pg**	**06 45 37.3**	**+1.3**
DAVA				*i* SN	**Sn**	**06 46 03.8**	**+1.1**
DAVA				*i* SG	**Sg**	**06 46 17.9**	**+2.7**
	116nm,0.8s						
IBBN	**Ibbenburen**	**2.99**	**11**	*e*Sg	**Sg**	**06 46 14.3**	**-2.8**
SSF	**Saint Saulge**	**3.20**	**225**	*e*Pn	**Pn**	**06 45 29.9**	**0.0**
SSF				*e*Sn	**Sn**	**06 46 07.9**	**-1.4**
SSF				*e*Sg	**Sg**	**06 46 21.7**	**-2.1**
	29nm,0.3s						
CLZ	**Clausthal**	**3.36**	**41**	*e*Pn	**Pn**	**06 45 31.7**	**-0.5**
MOX	**Moxa**	**3.36**	**66**	*e*Pn	**Pn**	**06 45 32.2**	**0.0**
	SNR=3.7						
MOX				*e*Pg	**Pg**	**06 45 40.6**	**-3.8**
	SNR=4.7						
MOX				*e*Sn	**Sn**	**06 46 10.3**	**-3.0**
	SNR=2.2						
MOX				*e*Sg	**Sg**	**06 46 26.4**	**-2.7**
MOX	**Moxa**	**3.36**	**66**	*i* P	**Pn**	**06 45 32.8**	**+0.6**
MOX				Pg	**Pg**	**06 45 40.0**	**-4.4**
MOX				Sg	**Sg**	**06 46 24.0**	**-5.2**
MOX	**Moxa**	**3.36**	**66**	*e*Pn	**Pn**	**06 45 32.8**	**+0.6**
MOX				*i* Pg	**Pg**	**06 45 40.4**	**-4.0**
MOX				*e*Sg	**Sg**	**06 46 24.2**	**-5.0**
SMF	**Signal de Mont**	**3.38**	**217**	*e*Pn	**Pn**	**06 45 32.0**	**-0.5**
SMF				*e*Pg	**Pg**	**06 45 44.4**	**-0.5**
SMF				*e*Sn	**Sn**	**06 46 11.6**	**-2.3**
SMF				*e*Sg	**Sg**	**06 46 26.9**	**-3.0**
	71nm,0.3s						
MZEK	**Zeckenberg-Ebn**	**3.40**	**78**	*e*Pn	**Pn**	**06 45 33.5**	**+0.7**
AVF	**Avril sur Loir**	**3.47**	**223**	*e*Pn	**Pn**	**06 45 33.3**	**-0.5**
AVF				*e*Sn	**Sn**	**06 46 14.4**	**-1.8**
AVF				*e*Sg	**Sg**	**06 46 30.6**	**-2.3**
	62nm,0.4s						
HYF	**Humbligny**	**3.49**	**234**	*e*Pn	**Pn**	**06 45 34.4**	**+0.4**
HYF				*e*Pg	**Pg**	**06 45 46.3**	**-0.7**
HYF				*e*Sn	**Sn**	**06 46 15.2**	**-1.4**
HYF				*e*Sg	**Sg**	**06 46 31.8**	**-1.7**
NOTT	**Nottersdorf**	**3.49**	**81**	*e*Pn	**Pn**	**06 45 33.9**	**-0.2**
NOTT				*e*Sg	**Sg**	**06 46 29.2**	**-4.5**
MANZ	**Manzenberg**	**3.50**	**78**	*e*Pn	**Pn**	**06 45 34.8**	**+0.5**
MOTA	**Moosalm**	**3.52**	**124**	⇑*i*PN	**Pn**	**06 45 34.9**	**+0.4**
MOTA				*i* SN	**Sn**	**06 46 16.6**	**-0.9**
MOTA				*i* SG	**Sg**	**06 46 36.4**	**+1.8**
	24nm,0.5s						
SQTA	**Sankt Quirin**	**3.65**	**125**	⇑*i*PN	**Pn**	**06 45 36.8**	**+0.4**
SQTA				*i* SN	**Sn**	**06 46 20.2**	**-0.6**
NEUB	**Neuenburg**	**3.68**	**58**	*e*Sg	**Sg**	**06 46 36.1**	**-3.8**
GUNZ	**Gunzen**	**3.71**	**73**	*e*Pn	**Pn**	**06 45 37.2**	**-0.1**
	SNR=3.5						
GUNZ				*e*Pg	**Pg**	**06 45 48.6**	**-2.9**
	SNR=4.0						
GUNZ				*e*Sg	**Sg**	**06 46 36.8**	**-4.3**
WERD	**Werda**	**3.72**	**71**	*e*Pn	**Pn**	**06 45 36.9**	**-0.4**
	SNR=2.3						
WERD				*e*Pg	**Pg**	**06 45 48.4**	**-3.3**
	SNR=7.0						
WERD				*e*Sg	**Sg**	**06 46 36.1**	**-5.1**
NKC	**Novy Kostel**	**3.76**	**75**	*e*PG	**Pg**	**06 45 48.1**	**-4.4**
NKC				*e*SG	**Sg**	**06 46 36.1**	**-6.5**
WATA	**Walderalm**	**3.79**	**121**	⇓*i*PN	**Pn**	**06 45 38.8**	**+0.5**
WATA				*i* SN	**Sn**	**06 46 24.5**	**+0.3**
WATA				*i* SG	**Sg**	**06 46 44.9**	**+1.4**
	17nm,0.5s						
TANN	**Tannenbergstha**	**3.81**	**72**	*e*Pn	**Pn**	**06 45 37.9**	**-0.7**
	SNR=3.1						
TANN				*e*Pg	**Pg**	**06 45 50.6**	**-2.8**
	SNR=4.7						
TANN				*e*Sg	**Sg**	**06 46 38.5**	**-5.7**
WTTA	**Wattenberg**	**3.86**	**121**	⇑*i*PN	**Pn**	**06 45 39.8**	**+0.4**
WTTA				*i* SN	**Sn**	**06 46 26.3**	**+0.2**
LPL	**La Plagne**	**3.87**	**181**	*e*Pn	**Pn**	**06 45 39.5**	**+0.1**
LPL				*e*Sn	**Sn**	**06 46 23.2**	**-3.0**
LPL				*e*Sg	**Sg**	**06 46 41.1**	**-5.0**
	62nm,0.9s						
BGF	**Bois d'Agland**	**3.87**	**225**	*e*Pn	**Pn**	**06 45 39.1**	**-0.4**
BGF				*e*Pg	**Pg**	**06 45 53.3**	**-1.5**
BGF				*e*Sn	**Sn**	**06 46 24.2**	**-2.2**
BGF				*e*Sg	**Sg**	**06 46 43.1**	**-3.3**
	148nm,0.4s						
LPG	**La Plagne**	**3.88**	**180**	*e*Pn	**Pn**	**06 45 39.6**	**-0.1**
LPG				*e*Sn	**Sn**	**06 46 23.1**	**-3.6**
LPG				*e*Sg	**Sg**	**06 46 41.9**	**-4.8**
	88nm,1.0s						
WET	**Wettzell**	**3.99**	**91**	*e*Pn	**Pn**	**06 45 40.9**	**-0.3**
	SNR=8.8						
WET				*e*Pg	**Pg**	**06 45 52.7**	**-4.4**
	SNR=0.6						
WET				*e*Sg	**Sg**	**06 46 46.2**	**-4.1**
WET	**Wettzell**	**3.99**	**91**	*e*Pn	**Pn**	**06 45 40.7**	**-0.5**
WET				*e*Sg	**Sg**	**06 46 46.2**	**-4.1**
RJOB	**Jochberg**	**4.31**	**110**	⇓*i*Pn	**Pn**	**06 45 46.4**	**+0.7**
TCF	**Toulx Ste Croi**	**4.37**	**227**	*e*Pn	**Pn**	**06 45 46.2**	**-0.4**
TCF				*e*Sn	**Sn**	**06 46 36.1**	**-2.9**
TCF				*e*Sg	**Sg**	**06 46 59.0**	**-3.9**
	36nm,0.3s						
CLL	**Collm**	**4.42**	**62**	*e*Pn	**Pn**	**06 45 42.0**	**-5.3**
CLL				*i* Pg	**Pg**	**06 45 59.3**	**-6.3**
CLL				*e*Sn	**Sn**	**06 46 35.0**	**-5.2**
CLL				*e*Sg	**Sg**	**06 46 59.7**	**-4.9**
KHC	**Kasperske Hory**	**4.45**	**91**	*e*PN	**Pn**	**06 45 47.0**	**-0.7**
KHC				*e*SN	**Sn**	**06 46 35.7**	**-5.3**
KHC				*e*SG	**Sg**	**06 46 58.9**	**-6.7**
	51nm,1.2s						
ORIF	**Oris-en-Rattie**	**4.51**	**188**	*e*Sg	**Sg**	**06 47 01.6**	**-5.9**
	89nm,0.8s						
GEC2	**GERESS Array S**	**4.57**	**94**	*e*Pn	**Pn**	**06 45 48.9**	**-0.5**
	SNR=34						
GEC2				*e*Sn	**Sn**	**06 46 39.8**	**-4.2**
	SNR=2.0						
GEC2				*e*Sg	**Sg**	**06 47 05.2**	**-4.3**
GEC2	**GERESS Array S**	**4.57**	**94**	*e*Pn	**Pn**	**06 45 48.8**	**-0.6**
GEC2				*e*Sn	**Sn**	**06 46 39.7**	**-4.3**
MBDF	**Montbardon**	**4.66**	**180**	*e*Pn	**Pn**	**06 45 50.3**	**-0.3**
VIVF	**Saint-Julien-l**	**4.75**	**199**	*e*Pn	**Pn**	**06 45 51.2**	**-0.8**
VIVF				*e*Pg	**Pg**	**06 46 08.8**	**-3.5**
VIVF				*e*Sn	**Sn**	**06 46 43.9**	**-4.8**
VIVF				*e*Sg	**Sg**	**06 47 08.8**	**-6.8**
	22nm,0.3s						
FLN	**La Foliniere**	**4.82**	**265**	*e*Pn	**Pn**	**06 45 53.5**	**+0.5**
FLN				*e*Pg	**Pg**	**06 46 11.0**	**-2.7**
FLN				*e*Sn	**Sn**	**06 46 47.1**	**-3.4**
FLN				*e*Sg	**Sg**	**06 47 13.0**	**-5.0**
	40nm,0.4s						
BRG	**Berggiesshubel**	**4.83**	**69**	*e*Sg	**Sg**	**06 47 09.4**	**-9.0**
BRG	**Berggiesshubel**	**4.83**	**69**	Pn	**Pn**	**06 45 52.8**	**-0.4**
BRG	**Berggiesshubel**	**4.83**	**69**	Pn	**Pn**	**06 45 52.8**	**-0.4**
KBA	**Koelnbreinsper**	**4.95**	**115**	⇑*i*PN	**Pn**	**06 45 55.0**	**+0.3**
KBA				*i* SN	**Sn**	**06 46 52.9**	**-0.6**
KBA				*i* SG	**Sg**	**06 47 23.5**	**+1.4**
	15nm,0.8s						
GRR	**Gorron**	**5.15**	**262**	*e*Pn	**Pn**	**06 45 57.8**	**+0.2**
GRR				*e*Pg	**Pg**	**06 46 17.2**	**-3.0**
GRR				*e*Sn	**Sn**	**06 46 55.4**	**-3.2**
GRR				*e*Sg	**Sg**	**06 47 23.4**	**-5.4**
	31nm,0.5s						
MOA	**Molln**	**5.19**	**104**	⇑*i*PN	**Pn**	**06 45 57.8**	**-0.3**
MOA				*i* SN	**Sn**	**06 46 57.2**	**-2.4**
MOA				*i* SG	**Sg**	**06 47 31.4**	**+1.3**
	8.3nm,0.6s						
MOA	**Molln**	**5.19**	**104**	⇑*i*Pn	**Pn**	**06 45 57.8**	**-0.3**
	8.3nm,0.6s						
MOA				*i* Sn	**Sn**	**06 46 57.2**	**-2.4**
MOA				*i* Sg	**Sg**	**06 47 31.4**	**+1.3**
MFF	**Saint Martin d**	**5.42**	**242**	*e*Pn	**Pn**	**06 46 01.2**	**-0.3**
MFF				*e*Pg	**Pg**	**06 46 22.2**	**-3.5**
MFF				*e*Sn	**Sn**	**06 46 58.7**	**-6.9**
MFF				*e*Sg	**Sg**	**06 47 32.7**	**-5.3**
	64nm,0.8s						
RJF	**Les Rejaudoux**	**5.43**	**223**	*e*Sn	**Sn**	**06 47 00.8**	**-4.9**
RJF				*e*Sg	**Sg**	**06 47 31.7**	**-6.5**
	34nm,0.4s						
SMRF	**Simiane la Rot**	**5.47**	**189**	*e*Pn	**Pn**	**06 46 01.1**	**-1.1**
CAF	**Calviac**	**5.50**	**218**	*e*Pn	**Pn**	**06 46 01.2**	**-1.4**
CAF				*e*Sn	**Sn**	**06 47 03.0**	**-4.5**
CAF				*e*Sg	**Sg**	**06 47 34.5**	**-6.0**
	23nm,0.5s						
LASF	**Ste Croix**	**5.68**	**202**	*e*Sg	**Sg**	**06 47 38.9**	**-7.5**
	26nm,0.5s						
LFF	**La Frestale**	**6.06**	**225**	*e*Sg	**Sg**	**06 47 52.0**	**-7.3**
	86nm,0.7s						
SGMF	**Saint Gilles**	**6.28**	**263**	*e*Pn	**Pn**	**06 46 12.3**	**-1.3**
SGMF				*e*Pg	**Pg**	**06 46 37.4**	**-5.4**
SGMF				*e*Sn	**Sn**	**06 47 21.3**	**-5.7**
SGMF				*e*Sg	**Sg**	**06 47

comp=Z,2.0nm,1.0s,mb3.8
KURK Kurchatov 44.85 348 *e*P **P** 07 28 33.6 0.0
comp=Z,3.4nm,0.6s,mb4.3
KURK *e*pP pP 07 28 43.9 +0.4
KURK Kurchatov 44.85 348 *e*P **P** 07 28 33.7 +0.1
KURK *e**PP pP 07 28 43.9 +0.4
KURK pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
ZAL Zalesovo 47.01 354 P **P** 07 28 49.5 -1.1
comp=Z,1.4nm,0.4s,mb4.3,baz=287,slow=11,SNR=4.2
ZAL Zalesovo 47.01 354 P **P** 07 28 49.5 -1.1
ZAL pmax pmax
comp=Z,1.0nm,0.4s
NVS Novosibirsk 48.07 353 *e*P **P** 07 28 57.2 -1.8
BVAR Borovoye Array 49.05 343 P **P** 07 29 06.1 -0.4
comp=Z,1.6nm,0.7s,mb4.1,baz=166,slow=6.1,SNR=8.1
BVAR Borovoye Array 49.05 343 P **P** 07 29 06.1 -0.5
BVAR pmax pmax
comp=Z,2.0nm,0.7s
WRA Warramunga Arr 49.45 124 P **P** 07 29 10.4 +0.2
comp=Z,2.8nm,0.8s,mb4.3,baz=304,slow=8.9,SNR=19
WRA PcP PcP 07 30 32.7 +0.4
comp=Z,0.8nm,0.4s,baz=310,slow=2.8,SNR=12
WRA Warramunga Arr 49.45 124 P **P** 07 29 10.4 +0.3
WRA 07 30 32.7
WRA pmax pmax
comp=Z,3.0nm,0.8s
WRA pmax pmax
comp=Z,1.0nm,0.4s
WRAB Tennant Creek 49.46 124 *e*P **P** 07 29 09.9 -0.3
WRAB *e*pP pP 07 29 20.7 +0.7
WB2 Warramunga Arr 49.46 124 *e*P **P** 07 29 10.3 +0.1
BOD Bodaibo 53.28 14 *e*P **P** 07 29 35.5 -3.0
BOD pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
KMBO Kilima Mbogo 55.43 264 LR LR 07 48 53.0
comp=Z,59nm,20.3s,MS3.7,baz=90,slow=31
ARU Arti 55.79 338⇓ *e*P **P** 07 29 56.8 -0.1
ARU pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
YSS Yuzh-Sakhalins 58.52 38⇑ *e*P **P** 07 30 27.3 +11
STKA Stephens Creek 61.04 132 *e*P **P** 07 30 34.3 +0.4
comp=Z,2.2nm,0.6s,mb4.5
STKA Stephens Creek 61.04 132 P **P** 07 30 33.5 -0.4
comp=Z,2.7nm,0.5s,mb4.6,baz=334,slow=4.7,SNR=7.2
BRTR Keskin Array B 61.43 311 P **P** 07 30 35.0 -1.4
comp=Z,0.8nm,0.5s,mb4.1,baz=129,slow=7.9,SNR=3.7
BRTR Keskin Array B 61.43 311 P **P** 07 30 35.0 -1.4
BRTR pmax pmax
comp=Z,1.0nm,0.5s
TIXI Tiksi 68.30 12⇓ *e*P **P** 07 31 19.5 -0.8
TIXI pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
GERES GERESS Array B 77.06 318 P **P** 07 32 13.1 +0.7
comp=Z,1.0nm,0.5s,mb4.0,baz=90,slow=5.3,SNR=12
GERES GERESS Array B 77.06 318 P **P** 07 32 13.1 +0.7
GERES pmax pmax
comp=Z,1.0nm,0.5s
CPUP Villa Florida 145.31 233 PKPbc PKPbc 07 39 57.2 +0.8
comp=Z,2.2nm,0.8s,baz=144,slow=6.1,SNR=6.5
CPUP Villa Florida 145.31 233 PKPbc PKPbc 07 39 57.2 +0.8
CPUP Villa Florida 145.31 233 PKIKP PKPdf 07 39 57.2 +1.2
CPUP pmax pmax
comp=Z,2.0nm,0.8s

*BJI **03** 07:33:01.3, 10.50N×92.88E, h30km, mB4.6, mb4.5, Ms4.0, Msz4.1*
*IDC **03** 07:33:06.0±0.9, 11.40N×92.70E, mb4.3/13, mb1 4.4/13, mb1mx4.2/22, mbtmp4.3/13, MS3.7/4, Ms1 3.6/4, ms1mx3.1/29, Error ellipse: s-maj=42.9km s-min=16.1km az=57.0*
*MOS **03** 07:33:08.5±0.7, 11.32N×92.62E, h33km, mb4.5/15, Error ellipse: s-maj=19.6km s-min=8.6km az=93.8*
*NEIC **03** 07:33:10.6±0.5, 11.43N×92.78E, h30km, mb4.7/4, Error ellipse: s-maj=16.1km s-min=8.0km az=65.0*
ISC 03 07:33:07.8±0.5, 11.33N±0.05×92.74E±0.05, h27km, h27km±4.0km: pP-P, n79, σ1°05/79, mb4.4/28, MS3.7/5, 3C-4D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**0.32**	**1**	*e*P	**Pb**	**07 33 18.0**	**+2.7**
PBA	comp=Z,5μm,0.2s			AMb	AMB	07 33 19.3	
PBA				*e*S	**Sb**	**07 33 23.4**	**+3.0**
NST	**Nakhon Sawan**	**8.39**	**58**	P	**P**	**07 35 10.7**	**0.0**
BDT	**Bhumibol Dam**	**8.45**	**45**	P	**P**	**07 35 18.5**	**+6.9**
CHG	**Chiang Mai**	**9.55**	**38**	⇓P	**P**	**07 35 38.3**	**+11**
	comp=Z,11nm,0.8s						
NANT	**Nan**	**10.69**	**45**	⇓P	**P**	**07 35 43.0**	**+0.5**
	comp=Z,75nm,1.0s						
VIS	**Vishakhapatnam**	**11.10**	**306**	*e*P	**P**	**07 35 46.0**	**-2.2**
VIS				AMb	AMB	07 35 47.8	
	comp=Z,134nm,1.0s						
VIS				*e*S	**S**	**07 37 38.8**	**-14**
BWNR	**Bhubaneshwar**	**11.13**	**324**	*e*P	**P**	**07 35 53.3**	**+4.8**
BWNR				*e*S	**S**	**07 37 45.8**	**-7.3**
MDRS	**Chennai**	**12.33**	**279**	*e*P	**P**	**07 36 05.2**	**+0.3**
BOK	**Bokaro**	**14.00**	**333**	AMb	AMB	07 33 01.2	
	comp=Z,44nm,0.5s						
BOK				*e*P		07 36 24.8	
BOK				*e*S	**S**	**07 38 56.0**	**-6.5**
SHL	**Shillong**	**14.18**	**357**	*e*P	**P**	**07 36 32.4**	**+3.1**
NGP	**Nagpur**	**16.36**	**308**	*e*P	**P**	**07 36 58.6**	**+1.1**
NGP				AMb	AMB	07 36 59.7	
	comp=Z,12nm,0.6s						
NGP				*ex*	x	07 39 36.6	
NGP				AMb	AMB	07 39 38.7	
	comp=Z,33nm,1.8s						
KMI	**Kunming**	**16.67**	**33**	P	**P**	**07 37 02.9**	**+1.4**
KMI				AMB	AMB		
	comp=Z,14nm,1.3s						
KMI	**Kunming**	**16.67**	**33**	P	**P**	**07 37 02.9**	**+1.4**
	comp=Z,14nm,1.3s						
JIRN	**Jiri**	**17.37**	**340**	*e*P	**P**	**07 37 11.8**	**+1.6**
	comp=Z,16nm,0.6s						
PKI	**Pulchoki**	**17.56**	**338**	*e*P	**P**	**07 37 13.7**	**+1.1**
	comp=Z,24nm,0.7s						
PKI				*e*S	**S**	**07 40 17.1**	**-8.0**
DMN	**Daman**	**17.71**	**337**	*e*P	**P**	**07 37 15.3**	**+0.9**
	comp=Z,28nm,0.8s						
GKN	**Gorkha**	**18.24**	**337**	*e*P	**P**	**07 37 21.4**	**+0.3**
	comp=Z,14nm,0.4s						
LSA	**Lhasa**	**18.34**	**356**	*e*P	**P**	**07 37 22.0**	**-0.2**
KOLN	**Koldanda**	**18.46**	**334**	*e*P	**P**	**07 37 22.5**	**-1.3**
	comp=Z,24nm,0.7s						
BHPL	**Bhopal**	**18.79**	**311**	*e*P	**P**	**07 37 27.6**	**-0.2**
BHPL				AMb	AMB	07 37 46.4	
	comp=Z,35nm,1.9s						
GYA	**Guiyang**	**19.97**	**39**⇓	*i*P	**P**	**07 37 41.0**	**-0.2**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.5s						
BOM	**Bombay**	**20.64**	**294**	*ex*	x	07 37 24.3	
CD2	**Chengdu**	**22.00**	**26**	P	**P**	**07 38 00.7**	**-1.1**
SONA	**Sohna**	**22.32**	**321**	*e*P	**P**	**07 38 07.9**	**+2.8**
NDI	**New Delhi**	**22.55**	**322**	*e*P	**P**	**07 38 07.2**	**-0.3**
NDI				AMb	AMB	07 38 15.5	
	comp=Z,13nm,0.5s,mb4.6						
ENH	**Enshi**	**24.44**	**37**	*e*P	**P**	**07 38 25.1**	**-0.7**
	comp=Z,14nm,0.4s,mb4.7						
LZH	**Lanzhou**	**26.61**	**20**	*e*P	**P**	**07 38 46.9**	**+0.8**
LZH				AP	pP	07 38 55.8	+1.9
LZH				XP	sP	07 38 59.9	+2.5
LZH				AMB	AMB		
	comp=Z,21nm,1.3s,mb4.5						
LZH	**Lanzhou**	**26.61**	**20**	*e*P	**P**	**07 38 46.9**	**+0.8**
	comp=Z,21nm,1.3s,mb4.5						
LZH				pP	pP	07 38 55.8	+1.9
LZH				sP	sP	07 38 59.9	+2.5
XAN	**Xi'an**	**27.01**	**31**	P	**P**	**07 38 47.6**	**-2.2**
XAN				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.2						
GTA	**Gaotai**	**28.66**	**11**	P	**P**	**07 39 05.2**	**+0.5**
GTA				AP	pP	07 39 10.4	-2.1
GTA				XP	sP	07 39 13.1	-2.9
GTA				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.5						
NJ2	**Nanjing**	**31.69**	**45**	*e*P	**P**	**07 39 30.9**	**-0.7**
NJ2				AP	pP	07 39 40.0	+0.5
NJ2				XP	sP	07 39 43.2	+0.3
NJ2				PP	PP	07 40 34.4	-2.4
NJ2				S	**S**	**07 44 36.0**	**-2.3**
NJ2				XS		07 44 52.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,160nm,4.4s						
NJ2				LR	LR		
	comp=N,530nm,5.4s						
NJ2				LR	LR		
	comp=E,470nm,12.9s						
NJ2				LR	LR		
	comp=Z,340nm,19.7s						
SSE	**Sheshan 32.85 49**			P	**P**	**07 39 38.6**	**-3.2**
SSE				AMB	AMB		
	comp=Z,16nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,126nm,5.0s						
SSE	**Sheshan 32.85 49**			P	**P**	**07 39 38.6**	**-3.2**
	comp=Z,16nm,0.7s,mb5.1						
AAK	**Ala-Archa 35.00 336**⇓			*e*P	**P**	**07 40 00.7**	**+0.5**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
AAK				MLR	MLR		
	comp=Z,100nm,18.0s,MS3.6						
MKAR Makanchi Array 36.43 348				P	**P**	**07 40 12.3**	**0.0**
	comp=Z,1.5nm,0.5s,mb4.2,baz=172,slow=8.6,SNR=15						
MKAR Makanchi Array 36.43 348				P	**P**	**07 40 12.3**	**0.0**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
JOW Kunigami 36.80 60				LR	LR	07 58 15.0	
	comp=Z,194nm,18.4s,MS3.9,baz=114,slow=41						
SONM Songino Array 38.15 15				P	**P**	**07 40 27.0**	**+0.3**
	comp=Z,2.2nm,0.4s,mb4.2,baz=199,slow=7.9,SNR=21						
SONM				PcP	PcP	07 42 42.2	+0.5
	comp=Z,1.5nm,0.7s,baz=191,slow=2.7,SNR=6.3						
SONM				ScP		07 46 26.5	
	comp=Z,0.6nm,0.7s,baz=207,slow=3.2,SNR=5.0						
SONM				LR	LR	07 56 32.5	
	comp=Z,52nm,21.2s,MS3.3,baz=145,slow=37						
SONM Songino Array 38.15 15				P	**P**	**07 40 27.0**	**+0.3**
SONM				PcP	PcP	07 42 42.2	+0.5
SONM				ScP		07 46 26.5	
SONM				LR	LR	07 56 32.5	
SONM Songino Array 38.15 15				P	**P**	**07 40 27.0**	**+0.3**
SONM						07 42 42.2	
SONM						07 46 26.5	
SONM				pmax	pmax		
	comp=Z,2.0nm,0.4s						
SONM				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SONM				pmax	pmax		
	comp=N,1.0nm,0.7s						
SONM				MLR	MLR		
	comp=Z,52nm,21.2s						
ZAK Zakamensk 39.89 11				*e*P	**P**	**07 40 41.2**	**0.0**
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.9						
KURK Kurchatov 40.94 346				*e*P	**P**	**07 40 49.6**	**-0.2**
TLY Talaya 41.20 10				*e*P	**P**	**07 40 52.7**	**+0.8**
TLY				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.0						
MBWA Marble Bar 41.78 141				*e*P	**P**	**07 40 58.5**	**+1.4**
CN2 Changchun 42.93 35⇑				P	**P**	**07 41 06.2**	**0.0**
CN2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.0						
ZAL Zalesovo 42.96 353				P	**P**	**07 41 06.0**	**-0.3**
	comp=Z,1.3nm,0.3s,mb4.1,baz=298,slow=14,SNR=3.7						
ZAL Zalesovo 42.96 353				P	**P**	**07 41 06.0**	**-0.3**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FITZ Fitzroy Crossi 43.70 132				P	**P**	**07 41 12.9**	**+0.1**
	comp=Z,6.1nm,0.8s,mb4.4,baz=273,slow=6.7,SNR=3.5						
BVAR Borovoye Array 45.29 341				P	**P**	**07 41 24.1**	**-1.0**
	comp=Z,1.1nm,0.4s,mb4.0,baz=153,slow=8.7,SNR=8.3						
BVAR Borovoye Array 45.29 341				P	**P**	**07 41 24.1**	**-1.0**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MJAR Matsushiro Arr 47.96 51				LR	LR	08 02 52.4	
	comp=Z,76nm,20.0s,MS3.7,baz=275,slow=37						
BOD Bodaibo 49.15 15				*e*P	**P**	**07 41 53.8**	**-1.5**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.4						
WRA Warramunga Arr 51.41 127				P	**P**	**07 42 13.6**	**+0.6**
	comp=Z,1.7nm,0.5s,mb4.2,baz=306,slow=8.3,SNR=74						
WRA				PcP	PcP	07 43 28.1	+0.6
	comp=Z,0.6nm,0.9s,baz=315,slow=3.3,SNR=5.1						
WRA Warramunga Arr 51.41 127				P	**P**	**07 42 13.6**	**+0.6**
WRA						07 43 28.1	
WRA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
WRAB Tennant Creek 51.41 127				*e*P	**P**	**07 42 13.5**	**+0.5**
WB2 Warramunga Arr 51.42 127				*e*P	**P**	**07 42 13.6**	**+0.5**
SVE Sverdlovsk 51.70 338				*e*P	**P**	**07 42 14.3**	**-0.4**
YAK Yakutsk 57.20 20⇑				*e*P	**P**	**07 42 54.0**	**-0.9**
YAK				pmax	pmax		
	comp=Z,21nm,0.8s,mb5.2						
OBN Obninsk 61.74 327				*e*P	**P**	**07 43 23.9**	**-2.4**
OBN				*e*S	**S**	**07 51 44.8**	**-0.9**
OBN				*e*SS	SS	07 55 47.4	-1.8
OBN				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.6						
STKA Stephens Creek 63.49 134				P	**P**	**07 43 39.0**	**+0.9**
	comp=Z,2.0nm,0.8s,mb4.3,baz=292,slow=11,SNR=3.1						
TIXI Tiksi 64.14 12⇑				*e*P	**P**	**07 43 40.4**	**-1.5**
TIXI				pmax	pmax		
	comp=Z,18nm,1.5s,mb4.9						
FINES FINESS Array B 69.03 332				P	**P**	**07 44 12.9**	**-0.1**
	comp=Z,0.9nm,0.4s,mb4.1,baz=85,slow=6.0,SNR=10						
FINES FINESS Array B 69.03 332				P	**P**	**07 44 12.9**	**-0.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ARCES ARCESS Array B 71.56 340				P	**P**	**07 44 28.2**	**-0.2**
	comp=Z,2.8nm,0.8s,mb4.3,baz=91,slow=5.8,SNR=12						
ARCES ARCESS Array B 71.56 340				P	**P**	**07 44 28.2**	**-0.2**
ARCES ARCESS Array B 71.56 340				P	**P**	**07 44 28.2**	**-0.1**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GERES GERESS Array B 74.35 318				P	**P**	**07 44 45.4**	**+0.4**
	comp=Z,0.6nm,0.6s,mb3.7,baz=101,slow=6.8,SNR=5.2						
GERES GERESS Array B 74.35 318				P	**P**	**07 44 45.4**	**+0.4**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FX1 Attu Island--F 75.28 38				P	**P**	**07 44 50.6**	**+0.3**
	comp=Z,8.7nm,0.5s,mb4.9,baz=341,slow=0.9,SNR=12						
FX1 Attu Island--F 75.28 38				P	**P**	**07 44 50.6**	**+0.3**
FX1				pmax	pmax		
	comp=Z,9.0nm,0.5s						
NB2 NORSAR Subarra 76.06 330				P	**P**	**07 44 54.1**	**-0.5**
	comp=Z,0.6nm,0.5s,mb3.8,baz=93,slow=5.6						
NOA NORSAR Array B 76.06 330				P	**P**	**07 44 54.4**	**-0.2**
	comp=Z,0.7nm,0.5s,mb3.8,baz=92,slow=5.7,SNR=4.4						
NOA NORSAR Array B 76.06 330				P	**P**	**07 44 54.4**	**-0.2**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BOSA Boshof 76.28 237				LR	LR	08 17 53.5	
	comp=Z,42nm,18.3s,MS3.8,baz=166,slow=35						
KONO Kongsberg 76.84 329				*e*P	**P**	**07 44 58.8**	**-0.1**
ILAR Eielson Array 92.07 22				P	**P**	**07 46 15.4**	**-0.2**
	comp=Z,1.5nm,0.7s,mb4.5,baz=303,slow=4.5,SNR=16						
ILAR Eielson Array 92.07 22				P	**P**	**07 46 15.4**	**-0.2**
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
PDAR Pinedale Array 122.42 19				PKP	PKPdf	07 52 03.5	-2.3
	comp=Z,0.6nm,0.7s,baz=315,slow=1.3,SNR=7.7						
TXAR Lajitas Array 136.58 21				PKP	PKPdf	07 52 31.6	-1.5
	comp=Z,0.4nm,0.5s,baz=161,slow=0.2,SNR=10						

*NIED **03** 07:38:00, 37.20N×138.80E, h5km, Mw3.5 Best double couple: $M_0$1.92×10^14 NP1:φs348°, δ62°, λ75°. NP2:φs198°, δ32°, λ116°.*
JMA 03 07:38:51.7, 37.21N×138.82E, h8km±1km, M3.8, 4C-4D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.16**	**76**	⇓P	Pg	07 38 55.2	0.0
JHK				S	Sg	07 38 58.1	+0.5
JIZZ	**Izumozaki**	**0.33**	**345**	⇑P	Pg	07 38 58.9	+0.4
JIZZ				S	Sg	07 39 05.1	+2.1
JKT	**Katashina**	**0.56**	**142**	⇓P	Pg	07 39 02.4	-0.6
JKT				S	Sg	07 39 10.4	-0.1
JGK	**Kuni**	**0.66**	**193**	⇑P	Pg	07 39 04.3	-0.7
JNS	**Sasagawa**	**0.72**	**33**	⇑P	Pb	07 39 05.0	-1.1
JNS				S	Sg	07 39 14.9	-1.0
JFY	**Yanaizu**	**0.73**	**74**	⇓P	Pb	07 39 05.4	-0.9
JFY				S	Sb	07 39 15.3	-0.9
MAT	**Matsushiro**	**0.83**	**217**	P	Pb	07 39 06.7	-1.2
MAT				S	Sb	07 39 17.7	-1.3
MAT	**Matsushiro**	**0.83**	**217**	P	Pb	07 39 06.6	-1.3
MAT				S	Sb	07 39 17.4	-1.6
JAG	**Ashikaga**	**0.93**	**147**	⇓P	Pb	07 39 09.3	-0.4
JAG				S	Sb	07 39 21.8	-0.2
JSD	**Sado**	**0.94**	**332**	⇑P	Pb	07 39 08.0	-1.8
JSD				S	Sb	07 39 20.5	-1.6

IDC 03 07:59:19.9±3.2, 51.12N×38.47E, mb1 3.6/6, mb1mx3.4/22, mbtmp3.5/6, ML3.5/6, Error ellipse: s-maj=38.3km s-min=18.0km az=129.0, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKASG	**Malin Array Be**	**5.87**	**269**	Pn	Pn	08 00 48.1	-2.2
	1.3nm,0.3s,baz=54,slow=12,SNR=3.3						
AKASG				Pg	Pg	08 01 00.6	-16
	3.2nm,0.3s,baz=59,slow=16,SNR=7.2						
AKASG				Sn	Sn	08 01 51.7	-7.5
	3.8nm,0.3s,baz=72,slow=29,SNR=5.0						
MLR	**Muntele Rosu**	**10.06**	**241**	Pn	P	08 01 43.1	-5.6
	0.1nm,0.3s,baz=281,slow=18,SNR=2.0						
FINES	**FINESS Array B**	**12.40**	**331**	Pn	P	08 02 12.2	-8.2
	0.5nm,0.3s,baz=151,slow=13,SNR=7.8						
HFS	**Hagfors**	**16.55**	**313**	Pn	P	08 03 02.8	-12
	0.0nm,0.3s,baz=143,slow=14,SNR=3.3						
NOA	**NORSAR Array B**	**18.02**	**314**	P	P	08 03 30.0	-3.1
	0.3nm,0.3s,baz=108,slow=13,SNR=2.5						
ARCES	**ARCESS Array B**	**19.47**	**346**	P	P	08 03 49.4	-1.2
	0.1nm,0.3s,baz=155,slow=13,SNR=3.2						

IDC 03 08:22:07.7±1.6, 4.09N×91.71E, mb3.9/7, mb1 4.1/7, mb1mx3.9/21, mbtmp3.9/7, Error ellipse: s-maj=63.3km s-min=20.0km az=54.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**40.06**	**124**	P	P	08 29 44.5	-2.2
	5.5nm,1.1s,baz=290,slow=2.8,SNR=2.9						
MKAR	**Makanchi Array**	**43.32**	**351**	P	P	08 30 10.6	-2.5
	0.6nm,0.6s,baz=171,slow=8.8,SNR=7.1						
SONM	**Songino Array**	**45.38**	**14**	P	P	08 30 29.0	-0.7
	1.4nm,0.7s,baz=195,slow=8.5,SNR=10						
WRA	**Warramunga Arr**	**48.21**	**121**	P	P	08 30 50.7	-1.7
	1.8nm,0.8s,baz=298,slow=8.6,SNR=11						
ZAL	**Zalesovo**	**50.01**	**355**	P	P	08 31 03.4	-2.4
	1.6nm,0.3s,baz=56,slow=7.8,SNR=4.0						
BVAR	**Borovoye Array**	**51.85**	**344**	P	P	08 31 16.7	-3.1
	0.7nm,0.9s,baz=135,slow=6.1,SNR=3.2						
GERES	**GERESS Array B**	**79.04**	**319**	P	P	08 34 14.7	-0.7
	0.3nm,0.3s,baz=100,slow=6.0,SNR=3.0						

IDC 03 08:27:44.1±0.9, 15.40S×173.24W, mb4.0/6, mb1 4.3/7, mb1mx4.0/18, mbtmp4.0/7, ML3.0/1, MS3.5/2, Ms1 3.5/2, ms1mx3.0/22, Error ellipse: s-maj=49.3km s-min=20.1km az=135.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.05**	**44**	Pn	Pn	08 28 19.5	-0.7
	275nm,0.3s,baz=175,slow=2.0,SNR=480						
AFI				Sn	Sn	08 28 40.0	-6.9
	308nm,0.3s,baz=60,slow=22,SNR=8.4						
PPT	**Papeete**	**22.80**	**99**	*e*LR	LR	08 37 38.7	
	114nm,28.8s						
PPT	**Papeete**	**22.80**	**99**	LR	LR	08 38 37.4	
	comp=Z,84nm,20.8s,baz=267,slow=29						
URZ	**Urewera**	**24.32**	**199**	P	P	08 33 03.5	-0.9
	3.9nm,0.3s,baz=13,slow=12,SNR=10						
RKT	**Rikitea**	**36.85**	**108**	*e*LR	LR	08 44 20.9	
	52nm,28.5s						
STKA	**Stephens Creek**	**44.17**	**240**	LR	LR	08 50 38.4	
	comp=Z,107nm,21.4s,baz=114,slow=31						
WRA	**Warramunga Arr**	**49.99**	**257**	P	P	08 36 40.0	-2.5
	0.3nm,0.6s,baz=96,slow=7.7,SNR=13						
YBH	**Yreka Blue Hor**	**73.50**	**37**	P	P	08 39 19.2	-1.4
	3.3nm,1.1s,baz=63,slow=2.9,SNR=4.1						
TXAR	**Lajitas Array**	**80.48**	**56**	P	P	08 39 58.7	-1.2
	0.8nm,0.9s,baz=225,slow=7.1,SNR=9.0						
PDAR	**Pinedale Array**	**82.16**	**42**	P	P	08 40 06.8	-1.5
	1.3nm,1.0s,baz=225,slow=2.1,SNR=9.8						
ILAR	**Eielson Array**	**82.41**	**11**	P	P	08 40 07.6	-1.6
	0.2nm,0.3s,baz=228,slow=6.7,SNR=5.0						
GERES	**GERESS Array B**	**146.16**	**352**	PKPbc	PKPbc	08 47 25.8	-0.6
	0.4nm,0.2s,slow=4.0,SNR=3.8						
BRTR	**Keskin Array B**	**146.25**	**321**	PKPbc	PKPbc	08 47 27.7	+0.8
	0.7nm,0.4s,baz=180,slow=1.4,SNR=4.9						

*GUC **03** 08:41:36.0±0.8, 20.03S×69.69W, h100km, ML4.2*
*NEIC **03** 08:41:38.9±1.3, 20.13S×69.04W, h122km±16km, mb3.9/2, Error ellipse: s-maj=28.4km s-min=12.3km az=110.0*
*IDC **03** 08:41:41.5±1.2, 20.16S×68.73W, h127km±14km, mb3.7/3, mb1 3.8/7, mb1mx3.5/18, mbtmp4.2/7, Error ellipse: s-maj=34.8km s-min=8.3km az=98.0*
ISC 03 08:41:37.5±0.8, 20.15S±0.05×69.5W±0.1, h161km±10km, n17, σ1°93/25, mb4.1/1, 1C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.50**	**169**	P	**P**	**08 42 19.5**	**-0.2**
	90nm,0.3s,baz=21,slow=12,SNR=436						
LVC				S	**S**	**08 42 52.7**	**+0.5**
	156nm,0.3s,baz=99,slow=19,SNR=17						
LVC	**Limon Verde**	**2.50**	**169**	⇓*i*P	**P**	**08 42 19.5**	**-0.3**
LVC				*i* S	**S**	**08 42 51.5**	**-0.7**
LVC				AMP		08 42 58.7	
	comp=E,779nm,0.7s						
SPCH	**San Pedro de A**	**2.98**	**157**	*i* P	**P**	**08 42 26.2**	**+0.4**
SPCH				*i* S	**S**	**08 43 04.2**	**+1.5**
SPCH				AMP		08 43 44.7	
	comp=N,531nm,0.2s						
SPCH	**San Pedro de A**	**2.98**	**157**⇑	*i*P	**P**	**08 42 26.2**	**+0.5**
SPCH				*i* S	**S**	**08 43 03.7**	**+0.9**
ANCH	**Antofagasta**	**3.63**	**194**	*e*P	**P**	**08 42 33.8**	**-0.2**
ANCH				*i* S	**S**	**08 43 17.3**	**-0.3**
ANCH	**Antofagasta**	**3.63**	**194**	*e*P	**P**	**08 42 33.9**	**-0.2**
ANCH				*i* S	**S**	**08 43 16.7**	**-0.8**
LPAZ	**La Paz**	**4.04**	**18**	P	**P**	**08 42 38.8**	**-0.5**
	comp=N,6.6nm,0.3s,baz=193,slow=9.1,SNR=267						
LPAZ				S	**S**	**08 43 27.3**	**+0.4**
	comp=N,0.6nm,0.3s,baz=225,slow=20,SNR=2.1						
CPN1	**Cerro Paranal**	**4.54**	**191**	*e*P	**P**	**08 42 46.3**	**+0.3**

NASN				AML	AML	08 53 07.6
	comp=E,248nm,0.4s					
IZEF	**Zefreh**	**1.73 203**		Pn	**Pn**	**08 52 31.9 +0.5**
IKLH	**Kalahroud**	**1.74 228**		Pn	**Pn**	**08 52 32.1 +0.5**
IAFJ	**Afjeh**	**1.79 320**		Pn	**Pn**	**08 52 33.1 +0.9**
IAFJ				Sn	**Sn**	**08 52 54.3 -0.8**
THKV	**Tehran--Karaj**	**2.33 308**	*e*	Pn	**Pn**	**08 52 41.0 +1.1**
IMHD	**Mahdasht**	**2.34 301**		Pn	**Pn**	**08 52 41.2 +1.1**
IMHD				Sn	**Sn**	**08 53 06.8 -2.4**
IGAR	**Garneh**	**2.38 199**		Pn	**Pn**	**08 52 39.3 -1.3**
ASAO	**Ashtian**	**2.56 272**	*e*	PN	**Pn**	**08 52 46.4 +3.1**
ASAO				AML	AML	08 53 25.2
	comp=N,59nm,0.6s					
IRAZ	**Razeghan**	**2.78 290**		Pn	**Pg**	**08 52 58.0 +1.5**

*GUC **03** 09:02:52.4±0.9, 39.37S×75.22W, h15km±20km, ML4.8*
*IDC **03** 09:02:53.6±1.1, 39.35S×75.39W, mb4.2/10, mb1 4.3/14, mb1mx4.2/19, mbtmp4.2/14, ML4.3/4, MS4.0/9, Ms1 4.0/9, ms1mx3.8/23, Error ellipse: s-maj=28.1km s-min=17.6km az=69.0*
*NEIC **03** 09:02:57.4±8.8, 39.24S×74.98W, h14km±52km, mb4.4/4, ML4.8(GUC), Error ellipse: s-maj=32.5km s-min=11.9km az=70.0*

ISC 03 09:02:56.8±0.6, 39.04S±0.05×74.93W±0.08, h15km, n44, σ1§45/43, mb4.2/14, MS4.5/5, 6C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLCH	**Valdivia**	**1.51**	**121**	⇑*i* P	**Pn**	**09 03 22.6**	**-0.9**
VLCH				*i* S	**Sb**	**09 03 42.6**	**-0.2**
PMCH	**Puerto Montt**	**2.90**	**148**	*e* P	**Pn**	**09 03 44.9**	**+1.5**
PMCH				*i* S	**Sn**	**09 04 18.9**	**+0.6**
PMCH				AMP		09 04 25.2	
	comp=E,4μm,0.2s						
CCHI	**Chillan**	**3.31**	**44**	*e* P	**Pn**	**09 03 50.6**	**+1.3**
CCHI				*i* S	**Sn**	**09 04 34.0**	**+5.2**
COCH	**Cobquecura**	**3.36**	**31**	*e* P	**Pn**	**09 03 50.5**	**+0.5**
PLCA	**Paso Flores**	**3.77**	**118**	Pn	**Pn**	**09 03 56.1**	**+0.4**
	comp=E,3.5nm,0.3s,baz=291,slow=14,SNR=51						
PLCA				Sn	**Sn**	**09 04 45.0**	**+4.7**
	comp=E,9.6nm,0.3s,baz=308,slow=6.9,SNR=5.7						
NICH	**Los Niches**	**4.99**	**37**	*e* P	**Pn**	**09 04 13.4**	**+0.2**
SFDO	**San Fernando**	**5.41**	**37**	⇑*i* P	**Pn**	**09 04 18.9**	**-0.2**
RCDM	**Rinconada Maip**	**6.46**	**32**	*e* P	**Pn**	**09 04 32.8**	**-0.9**
PCH	**Pirque**	**6.47**	**35**	*e* P	**Pn**	**09 04 33.6**	**-0.4**
CLCH	**Cerro Calan**	**6.65**	**34**	*e* P	**Pn**	**09 04 34.9**	**-1.6**
CFAA	**Coronel Fontan**	**9.21**	**38**	Pn	**P**	**09 05 10.7**	**-1.5**
	comp=E,0.5nm,0.3s,baz=212,slow=10,SNR=32						
CFAA				Sn	**Sn**	**09 06 53.7**	**-2.7**
	comp=E,0.4nm,0.3s,baz=80,slow=17,SNR=5.1						
CFAA				LR	LR	09 08 52.7	
	comp=E,40nm,18.3s,baz=223,slow=37						
USHA	**Ushuaia**	**16.40**	**167**	Pn	**P**	**09 06 42.4**	**-5.4**
	comp=E,0.6nm,0.3s,baz=348,slow=9.1,SNR=6.2						
USHA				LR	LR	09 13 13.8	
	comp=E,527nm,18.4s,baz=356,slow=38						
LVC	**Limon Verde**	**17.16**	**19**	P	**P**	**09 07 02.0**	**+4.3**
	comp=E,0.3nm,0.3s,baz=172,slow=5.8,SNR=3.6						
LVC				LR	LR	09 12 35.4	
	comp=E,163nm,21.0s,baz=203,slow=33						
LVC	**Limon Verde**	**17.16**	**19**	P	**P**	**09 07 02.0**	**+4.3**
LVC				LR	LR	09 12 35.4	
CPUP	**Villa Florida**	**19.45**	**55**	P	**P**	**09 07 25.9**	**+0.3**
	comp=E,0.2nm,0.3s,baz=230,slow=6.2,SNR=16						
CPUP				LR	LR	09 15 46.3	
	comp=E,169nm,18.4s,baz=72,slow=39						
CPUP	**Villa Florida**	**19.45**	**55**	P	**P**	**09 07 25.9**	**+0.3**
CPUP				LR	LR	09 15 46.3	
ARE	**Arequipa**	**22.69**	**9**	*e* P	**P**	**09 08 03.0**	**+3.9**
LPAZ	**La Paz**	**23.43**	**17**	P	**P**	**09 08 09.7**	**+3.4**
	comp=E,2.0nm,0.8s,mb3.6,baz=170,slow=8.8,SNR=9.3						
SIV	**San Ignacio**	**25.97**	**32**	P	**P**	**09 08 32.7**	**+2.1**
	comp=E,3.0nm,0.9s,mb3.8,baz=226,slow=12,SNR=9.4						
BDFB	**Brasilia**	**33.16**	**53**	P	**P**	**09 09 34.9**	**+0.1**
	comp=E,7.9nm,1.0s,mb4.6,baz=221,slow=4.0,SNR=6.2						
BAO	**Brasilia Array**	**33.18**	**53**	P	**P**	**09 09 28.6**	**-6.4**
ROSC	**El Rosal**	**43.67**	**1**	P	**P**	**09 11 03.5**	**+0.6**
	comp=E,3.1nm,0.4s,mb4.4,baz=230,slow=7.0,SNR=2.7						
VNA3	**Neumayer Olymp**	**45.66**	**156**	⇑*i*	**P**	**09 11 33.8**	**+16**
VNA1	**Neumayer--Stat**	**46.04**	**155**	⇑*i*	**P**	**09 11 39.3**	**+18**
VNA2	**Neumayer--Watz**	**46.35**	**155**	⇑*i*	**P**	**09 11 32.0**	**+8.5**
SDV	**Santo Domingo**	**47.84**	**6**	P	**P**	**09 11 37.7**	**+1.6**
	comp=E,2.5nm,0.8s,mb4.3,baz=164,slow=8.6,SNR=3.9						
SNAA	**Sanae**	**47.87**	**156**	*e*	**P**	**09 11 39.5**	**+4.0**
SNAA	**Sanae**	**47.87**	**156**	P	**P**	**09 11 32.8**	**-2.8**
	comp=E,3.9nm,1.1s,mb4.3,baz=278,slow=6.2,SNR=12						
SNAA	**Sanae**	**47.87**	**156**	⇑*i* P	**P**	**09 11 32.9**	**-2.6**
SNAA				*e*		09 11 39.5	
JTS	**JuntasAbangare**	**49.95**	**347**	LR	LR	09 29 27.4	
	comp=E,6μm,19.0s,MS5.7,baz=315,slow=32						
MAW	**Mawson**	**69.00**	**164**	LR	LR	09 43 41.5	
	comp=E,101nm,19.6s,MS4.1,baz=60,slow=36						
LRAL	**Lakeview Retre**	**72.58**	**349**	*e* P	**P**	**09 14 23.3**	**-1.9**
	comp=E,5.8nm,0.9s,mb4.5						
TXAR	**Lajitas Array**	**73.11**	**334**	P	**P**	**09 14 26.6**	**-1.9**
	comp=E,0.9nm,0.9s,mb3.7,baz=158,slow=6.7,SNR=8.0						
WMOK	**Wichita Mounta**	**76.66**	**340**	*e* P	**P**	**09 14 46.5**	**-2.2**
	comp=E,4.6nm,1.2s,mb4.3						
RPZ	**Rata Peaks**	**78.34**	**223**	LR	LR	09 40 03.9	
	comp=E,209nm,21.3s,MS4.4,baz=184,slow=29						
DBIC	**Dimbokro**	**78.97**	**72**	P	**P**	**09 15 01.3**	**-0.5**
	comp=E,1.6nm,0.6s,mb4.1,baz=150,slow=20,SNR=4.3						
ANMO	**Albuquerque**	**79.19**	**334**	*e* P	**P**	**09 15 03.3**	**+0.7**
	comp=E,2.3nm,1.0s,mb4.1						
BOSA	**Boshof**	**79.76**	**118**	P	**P**	**09 15 04.3**	**-1.6**
	comp=E,1.6nm,0.7s,mb4.0,baz=262,slow=8.9,SNR=3.1						
SMCO	**Snowmass**	**83.20**	**335**	*e* P	**P**	**09 15 26.0**	**+2.4**
HWUT	**Hardware Ranch**	**86.92**	**333**	*e* P	**P**	**09 15 43.4**	**+1.2**
	comp=E,2.5nm,0.9s,mb4.4						
MATP	**Matopo**	**87.25**	**114**	LR	LR	09 49 44.6	
	comp=E,63nm,18.3s,MS4.1,baz=70,slow=32						
PDAR	**Pinedale Array**	**87.28**	**335**	P	**P**	**09 15 40.8**	**-3.0**
	comp=E,1.5nm,1.2s,mb4.1,baz=135,slow=4.2,SNR=5.2						
DZM	**Mont Dzumac**	**96.42**	**235**	LR	LR	09 49 11.3	
	comp=E,81nm,18.4s,MS4.2,baz=224,slow=29						
ARU	**Arti**	**145.01**	**45**	*e* P	PKPbc	09 22 32.1	-0.8

*SOF **03** 09:09:36.8, 41.89N×21.90E, h11km, MD2.7*
*BEO **03** 09:09:36.8±0.2, 41.89N×21.94E, h4km*
*CSEM **03** 09:09:36.5±0.1, 41.80N×21.86E, h10km, MD2.7, Error ellipse: s-maj=2.2km s-min=2.0km az=20.0*

ISC 03 09:09:36.6±1.0, 41.84N±0.05×21.86E±0.08, h2km±9km, n12, σ0§79/15, 1C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKO	**Skopje**	**0.34**	**293**	*e* Pg	**Pg**	**09 09 43.8**	**+0.4**
SKO						09 09 48.2	
VAY	**Valandovo**	**0.74**	**134**	*e* Pg	**Pg**	**09 09 50.5**	**-0.9**
VAY				*e* Sg	**Sg**	**09 10 00.6**	**-0.7**
KKB	**Krupnik**	**0.91**	**88**	*i* Pg	**Pg**	**09 09 55.0**	**+0.2**
GRG	**Griva**	**0.97**	**155**	*e* P	**Pb**	**09 09 55.4**	**-0.3**
KNT	**Kendrikon**	**1.03**	**131**	*e* P	**Pb**	**09 09 56.9**	**+0.1**
KNT	**Kendrikon**	**1.03**	**131**	*e* P	**Pb**	**09 09 56.8**	**0.0**
FNA	**Florina**	**1.11**	**199**	*e* P	**Pb**	**09 09 57.8**	**-0.4**
VTS	**Vitosha**	**1.25**	**53**	*e* P	**Pb**	**09 10 00.5**	**-0.1**
VTS				*e* Pg	**Pg**	**09 10 01.5**	**-0.1**
MMB	**Musomiste**	**1.42**	**99**	*i* P	**Pn**	**09 10 03.8**	**+0.4**
ZAPS	**Zavoj/Pirot**	**1.56**	**21**	⇑*i* Pn	**Pn**	**09 10 05.6**	**+0.1**
ZAPS				Sn	**Sn**	**09 10 24.8**	**-1.7**
RZN	**Rozhen**	**2.14**	**93**	*e* P	**Pn**	**09 10 15.0**	**+1.2**
KDZ	**Kurdzhali**	**2.67**	**93**	*e* P	**Pn**	**09 10 23.0**	**+1.7**

CASC 03 09:10:10.3±2.2, 11.31N×85.45W, h2km±8km, MD3.6, ML2.5, 1D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CONN	**Concepcion**	**0.30**	**326**	⇓*i* P	Pg	09 10 17.8	+1.5
CONN				*e* S	Sg	09 10 21.6	+1.3
WILN	**Americas 2**	**1.11**	**320**	*e* S	Sb	09 10 46.8	+0.2
MGAN	**Managua**	**1.14**	**317**	*e* P	Pb	09 10 32.2	-0.1
MGAN				*e* S	Sb	09 10 47.9	+0.5
MGAN				*i*		09 10 48.2	
	comp=N,101nm,0.3s						
MGAN				*i*		09 10 48.3	
	comp=E,89nm,0.4s						
FORC	**Fortuna**	**1.14**	**137**	*e* P	Pb	09 10 32.3	0.0
FORC				*e* S	Sb	09 10 49.1	+1.7
COPN	**Copaltepe**	**1.41**	**308**	*e* P	Pb	09 10 36.8	-0.1
COPN				*e* S	Sb	09 10 56.7	+1.4
PRS1	**Puriscal**	**1.73**	**140**	*e* P	Pn	09 10 42.0	+0.3
PRS1				*e* S	Sn	09 11 08.4	+3.7
TRTC	**Tortuguero**	**1.86**	**113**	*e* P	Pn	09 10 43.4	-0.1
TRTC				*e* S	Sn	09 11 07.7	-0.2
BUS	**Buena Vista**	**2.42**	**136**	*e* P	Pn	09 10 51.6	+0.2
BUS				*e* S	Sn	09 11 25.9	+3.9

*IDC **03** 09:27:30.2±0.5, 11.35N×85.61W, mb4.7/20, mb1 4.8/22, mb1mx4.8/23, mbtmp4.7/22, ML5.3/2, MS4.7/22, Ms1 4.7/22, ms1mx4.7/28, Error ellipse: s-maj=20.6km s-min=8.8km az=67.0*
*MOS **03** 09:27:30.3±1.2, 11.16N×85.78W, h10km, mb5.5/67, MS5.0/15, Error ellipse: s-maj=7.4km s-min=4.8km az=76.5*
*CASC **03** 09:27:31.5±2.3, 11.30N×85.51W, h11km±6km, MD3.9, ML5.0, mb5.3(NEIC)*
*BJI **03** 09:27:32.2, 11.20N×85.60W, h10km, mB5.4, Ms5.2, Msz5.1*
*CRAAG **03** 09:27:32.3, 11.40N×85.67W, Mb5.2*
*NEIC **03** 09:27:32.2±0.2, 11.18N×85.64W, h10km, mb5.3/135, MS5.2/8, MW5.2(CASC), Error ellipse: s-maj=6.1km s-min=3.5km az=50.0*
NEIC Felt in northern Costa Rica.
*HRVD **03** 09:27:32.2±0.2, 11.39N×85.52W, h14km±1km, MW5.3/73, Centroid moment Tensor Solution. LP body waves: s58,c95;Mantle waves: s73,c138; Half duration: 1§1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.01±.02; $M_{\theta\theta}$-0.93±.02; $M_{\phi\phi}$0.91±.03; $M_{r\theta}$0.09±.04; $M_{\theta\phi}$0.25±.02; $M_{\phi r}$0.04±.04; Best double couple: M_o.957×10^{17} NP1: ϕ_s323°, δ84°, λ-179°. NP2:ϕ_s233°, δ89°, λ-6°. Principal axes: T .949, Plg3°, Azm278°; N .017, Plg84°, Azm43°; P -.966, Plg5°, Azm188°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 03 09:27:30.1±0.6, 11.25N±0.03×85.60W±0.03, h2km±4km, n445, σ1§16/438, mb5.1/156, MS4.9/32, 28C-21D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CONN	**Concepcion**	**0.32**	**356**	⇑*e* P	**Pg**	**09 27 36.8**	**+0.3**
LIM1	**Limonal**	**0.64**	**148**	⇑*e* P	**Pg**	**09 27 44.0**	**+1.1**
LIM1				*i* S	**Sg**	**09 27 53.3**	**+1.9**
APON	**Apoyo**	**0.81**	**326**	⇑*e* P	**Pg**	**09 27 46.8**	**+0.6**
MASN	**Masaya**	**0.91**	**324**	⇑*e* P	**Pb**	**09 27 48.7**	**+0.5**
CRUN	**El Crucero**	**1.00**	**317**	⇓*e* P	**Pb**	**09 27 51.1**	**+1.3**
WILN	**Americas 2**	**1.08**	**328**	⇑*e* P	**Pb**	**09 27 50.9**	**-0.2**
MGAN	**Managua**	**1.10**	**325**	⇓*e* P	**Pb**	**09 27 51.4**	**0.0**
MGAN				*e* S	**Sb**	**09 28 07.8**	**+1.9**
	comp=E,42μm,0.7s						
VCR	**Vista de Mar**	**1.11**	**182**	⇓*e* P	**Pb**	**09 27 53.2**	**+1.6**
JTS	**JuntasAbangare**	**1.14**	**146**	Pg	**Pg**	**09 27 52.8**	**-0.1**
	comp=E,3μm,0.3s,baz=347,slow=7.8,SNR=1514						
JTS				Lg		09 28 10.6	
	comp=E,3μm,0.3s,baz=314,slow=9.3,SNR=18						
JTS	**JuntasAbangare**	**1.14**	**146**	P	**Pb**	**09 27 52.8**	**+0.6**
JTS						10 28 10.6	
JTS				smax			
	comp=E,3.0nm,0.3s						
XAVN	**Gruta Xavier**	**1.15**	**322**	⇑*e* P	**Pb**	**09 27 52.3**	**+0.1**
FORC	**Fortuna**	**1.20**	**130**	⇑*i* P	**Pb**	**09 27 52.5**	**-0.6**
FORC				⇑*e* P		09 27 53.0	
COPN	**Copaltepe**	**1.34**	**314**	⇓*e* P	**Pb**	**09 27 55.5**	**0.0**
PYTN	**Playitas**	**1.36**	**341**	⇓*e* P	**Pb**	**09 27 54.9**	**-1.0**
MOMJ	**Momotombo**	**1.48**	**322**	⇑*e* P	**Pn**	**09 27 57.2**	**-0.5**
MIRN	**Miramar**	**1.61**	**318**	⇓*e* P	**Pn**	**09 27 59.7**	**+0.1**
CNGN	**Cerro Negro**	**1.65**	**319**	⇑*e* P	**Pn**	**09 27 60.0**	**-0.1**
LEON	**Leon**	**1.72**	**313**	⇑*e* P	**Pn**	**09 28 00.4**	**-0.7**
PRS1	**Puriscal**	**1.78**	**135**	⇑*e* P	**Pn**	**09 28 02.3**	**+0.2**
PRS1	**Puriscal**	**1.78**	**135**	*e* P	**Pn**	**09 28 02.2**	**+0.1**
TEL3	**Telica 3**	**1.79**	**317**	⇑*e* P	**Pn**	**09 28 02.1**	**-0.2**
TELN	**Telica**	**1.81**	**318**	*e* P	**Pn**	**09 28 03.8**	**+1.3**
TRTC	**Tortuguero**	**1.97**	**110**	⇓*e* P	**Pn**	**09 28 02.1**	**-2.6**
TRTC	**Tortuguero**	**1.97**	**110**	*e* P	**Pn**	**09 28 01.9**	**-2.8**
SJS	**Escuela Geolog**	**2.00**	**130**	*e* P	**Pn**	**09 28 04.3**	**-0.8**
SJS				*e* S	**Sn**	**09 28 29.6**	**-1.4**
LAJ	**Bijagual**	**2.00**	**133**	*e* P	**Pn**	**09 28 00.4**	**-4.8**
CRIN	**San Cristobal**	**2.02**	**316**	⇓*e* P	**Pn**	**09 28 06.0**	**+0.5**
LCR2	**La Lucha 2**	**2.17**	**133**	⇓*e* P	**Pn**	**09 28 06.5**	**-1.1**
BUS	**Buena Vista**	**2.47**	**133**	⇑*e* P	**Pn**	**09 28 11.2**	**-0.8**
CNCH	**Conchagua**	**2.97**	**313**	⇓*e* P	**Pn**	**09 28 33.8**	**+15**
CNCH				*e* S	**Sn**	**09 29 11.6**	**+16**
BLLM	**Bellamira**	**3.38**	**311**	⇓*e* P	**Pn**	**09 28 39.7**	**+15**
BLLM				*e* S	**Sn**	**09 29 21.4**	**+15**
VSM	**San Miguel**	**3.40**	**310**	⇓*e* P	**Pn**	**09 28 40.2**	**+15**
VSM				*e* S	**Sn**	**09 29 22.7**	**+16**
CNI	**Changuinola**	**3.54**	**121**	*e* P	**Pn**	**09 28 26.8**	**-0.3**
BRU	**Baru**	**3.85**	**129**	*e* P	**Pn**	**09 28 32.5**	**+0.9**
SNVI	**San Vicente**	**3.94**	**307**	⇑*e* P	**Pn**	**09 28 47.2**	**+14**
SNVI				*e* S	**Sn**	**09 29 34.6**	**+14**
LCBS	**La Ceiba**	**4.08**	**306**	⇓*e* P	**Pn**	**09 28 48.7**	**+14**
LCBS				*e* S	**Sn**	**09 29 37.3**	**+14**
LFRS	**El Faro**	**4.12**	**305**	⇓*e* P	**Pn**	**09 28 49.1**	**+14**
LFRS				*e* S	**Sn**	**09 29 37.8**	**+13**
DVD	**David**	**4.17**	**132**	*e* P	**Pn**	**09 28 35.2**	**-1.0**
LBRS	**Las Brisas**	**4.18**	**307**	⇓*e* P	**Pn**	**09 28 50.7**	**+14**
LBRS				*e* S	**Sn**	**09 29 40.5**	**+14**
LFU	**La Fuente**	**4.24**	**306**	*e* P	**Pn**	**09 28 52.1**	**+15**
LFU				*e* S	**Sn**	**09 29 43.3**	**+16**
SNET	**Serv Nac Est T**	**4.30**	**305**	*e* S	**Sn**	**09 29 29.5**	**+0.2**
PICS	**Picacho**	**4.34**	**305**	*e* P	**Pn**	**09 28 35.6**	**-3.0**
PICS				*e* S	**Sn**	**09 29 26.8**	**-3.7**
PTP1	**Petroterminal**	**4.35**	**134**	*e* P	**Pn**	**09 28 33.4**	**-5.2**
BOQS	**Boqueron**	**4.36**	**305**	⇓*e* P	**Pn**	**09 28 52.8**	**+14**
BOQS				*e* S	**Sn**	**09 29 45.0**	**+14**
SBLS	**San Blas**	**4.70**	**304**	⇓*e* P	**Pn**	**09 28 58.7**	**+15**
SBLS				*e* S	**Sn**	**09 29 55.0**	**+16**
SNJE	**San Jose**	**4.70**	**304**	⇓*e* P	**Pn**	**09 28 58.7**	**+15**
SNJE				*e* S	**Sn**	**09 29 53.6**	**+14**
SFX2	**San Felix**	**4.71**	**128**	⇓*e* P	**Pn**	**09 28 43.5**	**-0.2**
SFX2				*e* S	**Sn**	**09 29 35.5**	**-4.1**
RTR	**El Retiro**	**4.75**	**304**	*e* P	**Pn**	**09 28 59.4**	**+15**
RTR				*e* S	**Sn**	**09 29 56.1**	**+15**
MTO2	**Montecristo 2**	**4.83**	**311**	*e* P	**Pn**	**09 29 00.3**	**+15**
MTO2				*e* S	**Sn**	**09 29 58.1**	**+15**
RBDL	**Robledal**	**4.90**	**306**	⇓*e* P	**Pn**	**09 29 00.9**	**+14**
RBDL				*e* S	**Sn**	**09 30 00.3**	**+16**
AZU	**Azuero**	**6.28**	**123**	*e* P	**Pn**	**09 29 03.9**	**-2.0**
UPA	**Univ. de Panam**	**6.38**	**110**	*e* P	**Pn**	**09 29 06.0**	**-1.4**
SOR	**Soroa**	**11.75**	**12**	*e* P	**P**	**09 30 22.3**	**+0.6**
SOR				*e* S	**S**	**09 32 48.6**	**+14**
	comp=N,2μm,1.4s						
	comp=E,1μm,1.5s						
LMGC	**Las Mercedes**	**12.05**	**42**	*e* P	**P**	**09 30 23.1**	**-2.8**
LMGC				*e* S	**S**	**09 32 50.9**	**+8.8**
	comp=N,14μm,16.4s						
	comp=E,14μm,9.1s						
MGV	**Manicaragua**	**12.07**	**26**	*e* P	**P**	**09 30 24.3**	**-1.8**
MGV				*e* S	**S**	**09 32 48.0**	**+5.6**
	comp=N,255nm,1.2s						
	comp=E,212nm,0.8s						
OXX	**Oaxaca**	**12.24**	**300**	*e* P	**P**	**09 30 28.0**	**-0.5**
PAYG	**Puerto Ayora**	**12.72**	**202**	P	**P**	**09 30 31.6**	**-3.3**
	comp=E,140nm,1.2s						
ROSC	**El Rosal**	**12.84**	**119**	Pn	**P**	**09 30 38.0**	**+1.6**
	comp=E,1.4nm,0.3s,baz=88,slow=23,SNR=9.5						
ROSC				LR	LR	09 35 31.6	
	comp=E,5μm,18.8s,baz=175,slow=37						
RCC	**Rio Carpintero**	**12.90**	**46**	*e* P	**P**	**09 30 37.5**	**+0.2**
RCC				*e* S	**S**	**09 33 15.3**	**+13**
HLGC	**Holguin**	**13.26**	**43**	*e* P	**P**	**09 30 46.3**	**+4.3**
MOAC	**Moa**	**13.86**	**46**	*e* P	**P**	**09 30 51.3**	**+1.3**
MOAC				*e* S	**S**	**09 33 07.1**	**-19**
	comp=N,1μm,6.1s						
	comp=E,1μm,1.0s						
PPM	**Popocatepetl**	**14.78**	**303**	*e* P	**P**	**09 31 05.0**	**+2.9**
SDV	**Santo Domingo**	**14.92**	**98**	Pn	**P**	**09 31 01.8**	**-2.2**
	comp=E,1.1nm,0.3s,baz=288,slow=4.6,SNR=18						
SDV				LR	LR	09 37 05.0	
	comp=E,2μm,19.5s,baz=280,slow=38						
SDV	**Santo Domingo**	**14.92**	**98**	*e* P	**P**	**09 31 01.0**	**-3.0**
	comp=E,81nm,1.0s						
ACX	**Acapulco**	**14.97**	**294**	*e* P	**P**	**09 31 05.0**	**+0.5**
CAIG	**El Cayaco**	**15.34**	**294**	*e* P	**P**	**09 31 15.2**	**+5.8**
MOIG	**Morelia**	**17.19**	**301**	*i* P	**P**	**09 31 34.4**	**+1.2**
DWPF	**Disney**	**17.23**	**13**	*e* P	**P**	**09 31 32.8**	**-0.7**
	comp=E,85nm,1.4s						
SFJM	**Santa Fe**	**19.11**	**301**	*e* P	**P**	**09 31 57.0**	**+0.2**
SJG	**San Juan**	**20.01**	**68**	P	**P**	**09 32 04.4**	**-2.6**
	comp=E,2.4nm,0.3s,baz=309,slow=20,SNR=15						
SJG				LR	LR	09 38 30.0	
	comp=E,3μm,21.8s,MS4.6,baz=248,slow=33						
SJG	**San Juan**	**20.01**	**68**	*e* P	**P**	**09 32 04.0**	**-3.0**
	comp=E,265nm,1.4s						
SJG	**San Juan**	**20.01**	**68**	P	**P**	**09 32 04.4**	**-2.6**
SJG				pmax	pmax		
	comp=Z,2.0nm,0.3s						
SJG				MLR	MLR		
	comp=Z,3μm,21.8s						
LRAL	**Lakeview Retre**	**21.73**	**357**	*e* P	**P**	**09 32 24.6**	**+0.1**
	comp=Z,259nm,1.4s,mb5.5						
NATX	**Nacogdoches**	**22.06**	**339**	*e* P	**P**	**09 32 28.4**	**+0.4**
	comp=Z,90nm,1.1s,mb5.1						
HBF	**Harts Bluff**	**22.11**	**12**	*e* P	**P**	**09 32 30.1**	**+1.7**
CSU	**Charleston Sou**	**22.23**	**12**	*e* P	**P**	**09 32 32.3**	**+2.6**
NHSC	**New Hope**	**22.32**	**12**	*e* P	**P**	**09 32 30.5**	**0.0**
	comp=Z,201nm,1.3s,mb5.4						
COW	**Cow Castle Cre**	**22.49**	**11**	*e* P	**P**	**09 32 36.1**	**+3.9**
JSC	**Jenkinsville**	**23.27**	**9**	*e* P	**P**	**09 32 39.9**	**0.0**
OXF	**Oxford**	**23.42**	**352**	*e* P	**P**	**09 32 42.1**	**+0.7**
	comp=Z,334nm,1.2s,mb5.6						
OXF	**Oxford**	**23.42**	**352**	*e* P	**P**	**09 32 42.1**	**+0.7**
OXF				pmax	pmax		
	comp=Z,334nm,1.2s,mb5.6						
PLAL	**Pickwick Lake**	**23.74**	**355**	*e* P	**P**	**09 32 44.3**	**-0.1**
	comp=Z,183nm,1.5s,mb5.3						
MYNC	**Murphy**	**23.76**	**3**	*e* P	**P**	**09 32 45.2**	**+0.6**
	comp=Z,109nm,1.5s,mb5.1						
MYNC	**Murphy**	**23.76**	**3**	*e* P	**P**	**09 32 45.3**	**+0.6**
MYNC				pmax	pmax		
	comp=Z,109nm,1.5s,mb5.1						
CPCT	**Cooper Cave**	**24.12**	**2**	*e* P	**P**	**09 32 49.1**	**+0.9**
UALR	**University of**	**24.21**	**346**	*e* P	**P**	**09 32 46.6**	**-2.5**
	comp=Z,34nm,0.8s,mb4.8						
HBAR	**Harrisburg**	**24.63**	**350**	*e* P	**P**	**09 32 53.7**	**+0.5**
LTX	**Lajitas**	**24.66**	**320**	*e* P	**P**	**09 32 52.9**	**-0.5**
	comp=Z,29nm,0.8s,mb4.8						
LTX	**Lajitas**	**24.66**	**320**	*e* P	**P**	**09 32 52.9**	**-0.5**
LTX				pmax	pmax		
	comp=Z,29nm,0.8s,mb4.9						
TXAR	**Lajitas Array**	**24.66**	**320**	P	**P**	**09 32 52.6**	**-0.8**
	comp=Z,22nm,0.7s,mb4.8,baz=141,slow=8.7,SNR=215						
TXAR				LR	LR	09 45 09.7	
	comp=Z,970nm,19.0s,MS4.3,baz=170,slow=43						
TXAR	**Lajitas Array**	**24.66**	**320**	P	**P**	**09 32 52.6**	**-0.8**
TXAR				pmax	pmax		
	comp=Z,22nm,0.7s						
TXAR				MLR	MLR		
	comp=Z,970nm,19.0s						
HALT	**Halls**	**24.79**	**353**	*e* P	**P**	**09 32 53.6**	**-1.1**
WVT	**Waverly**	**24.86**	**356**	*e* P	**P**	**09 32 54.7**	**-0.6**
	comp=Z,49nm,1.3s,mb4.9						
WVT	**Waverly**	**24.86**	**356**	*e* P	**P**	**09 32 54.7**	**-0.6**
WVT				pmax	pmax		
	comp=Z,49nm,1.3s,mb4.9						
GLAT	**Glass**	**25.14**	**353**	*e* P	**P**	**09 32 57.1**	**-0.9**
UTMT	**University of**	**25.16**	**354**	*e* P	**P**	**09 32 57.6**	**-0.6**
	comp=Z,323nm,1.3s,mb5.7						
TZTN	**Tazewell**	**25.26**	**4**	*e* P	**P**	**09 32 59.1**	**0.0**
ELN	**Prospectdale**	**26.24**	**9**	*e* P	**P**	**09 33 08.1**	**-0.2**
BLA	**Blacksburg**	**26.27**	**9**	*e* P	**P**	**09 33 08.5**	**-0.1**
	comp=

TPAW Teton Pass 38.91 330 *e*P **P 09 34 59.1 +0.3**
comp=Z,17nm,1.0s,mb4.7
RRI2 Red Ridge 38.98 330 *e*P **P 09 34 59.8 +0.4**
comp=Z,33nm,1.4s,mb4.9
IMW Indian Meadow 39.21 331 *e*P **P 09 35 00.4 -0.9**
comp=Z,7.3nm,0.9s,mb4.4
ELK Elko 39.30 324 *e*P **P 09 35 02.0 -0.1**
comp=Z,12nm,1.3s,mb4.5
ELK Elko 39.30 324 *e*P **P 09 35 02.0 -0.1**
ELK pmax pmax
comp=Z,12nm,1.3s
LAO LASA Array 39.41 338 *e*P **P 09 35 02.6 -0.3**
comp=Z,35nm,1.2s,mb5.0
YFT Old Faithful 39.58 331 P **P 09 35 08.1 +3.8**
PTRM Twissleman Ran 39.65 314 P **P 09 35 05.1 +0.1**
ULM Lac du Bonnet 39.80 350 P **P 09 35 03.7 -2.5**
comp=Z,37nm,1.3s,mb5.0,baz=166,slow=7.9,SNR=12
ULM Lac du Bonnet 39.80 350 *e*P **P 09 35 03.0 -3.2**
comp=Z,78nm,1.3s,mb5.3
OMM Old Mammoth Mi 39.81 317 *e*P **P 09 35 06.6 +0.2**
GCMT Greycliff 40.08 334 *e*P **P 09 35 07.3 -1.1**
QLMT Earthquake Lak 40.14 331 *e*P **P 09 35 10.2 +1.2**
DGMT Dagmar 40.23 341 *e*P **P 09 35 10.3 +0.6**
comp=Z,77nm,1.1s,mb5.3
BMN Battle Mountai 40.28 322 *e*P **P 09 35 08.9 -1.3**
comp=Z,31nm,1.3s,mb4.9
BMN Battle Mountai 40.28 322 *e*P **P 09 35 08.9 -1.3**
BMN pmax pmax
comp=Z,31nm,1.3s,mb4.9
HLID Hailey 40.72 328 *e*P **P 09 35 12.8 -1.0**
comp=Z,5.4nm,1.0s,mb4.1
MCMT McKenzie Canyo 40.82 330 *e*P **P 09 35 14.6 0.0**
BOZ Bozeman (W) 40.85 332 *e*P **P 09 35 13.0 -1.8**
comp=Z,17nm,1.3s,mb4.5
BOZ Bozeman (W) 40.85 332 *e*P **P 09 35 13.0 -1.8**
BOZ pmax pmax
comp=Z,17nm,1.3s,mb4.5
HRY Holter Researc 41.74 333 *e*P **P 09 35 22.2 0.0**
WVOR Wild Horse Val 42.34 323 *e*P **P 09 35 26.3 -0.9**
comp=Z,14nm,1.0s,mb4.5
WVOR Wild Horse Val 42.34 323 *e*P **P 09 35 26.3 -0.9**
WVOR pmax pmax
comp=Z,14nm,1.0s,mb4.5
CHMT Chamberlain Mo 42.54 332 *e*P **P 09 35 28.3 -0.4**
MSO Missoula 42.80 331 *e*P **P 09 35 30.1 -0.8**
comp=Z,8.3nm,1.1s,mb4.4
BMO Blue Mountains 43.12 327 *e*P **P 09 35 32.0 -1.5**
comp=Z,7.6nm,1.2s,mb4.3
WALA Waterton Lakes 44.43 334 *e*P **P 09 35 42.6 -1.4**
comp=Z,13nm,1.1s,mb4.6
YBH Yreka Blue Hor 44.43 320 LR LR 09 57 41.3
comp=Z,2μm,19.2s,MS5.1,baz=150,slow=41
FFC Flin Flon 45.27 347 *e*P **P 09 35 49.7 -0.9**
comp=Z,37nm,1.4s,mb5.0
FFC Flin Flon 45.27 347 *e*P **P 09 35 49.7 -0.9**
FFC pmax pmax
comp=Z,37nm,1.4s,mb5.0
CFAA Coronel Fontan 45.74 159 P **P 09 35 55.6 +0.8**
comp=Z,0.5nm,0.9s,baz=317,slow=8.0,SNR=5.4
CFAA LR LR 09 51 46.6
comp=Z,54nm,21.4s,baz=348,slow=32
BDFB Brasilia 45.81 125 P **P 09 35 53.5 -1.9**
comp=Z,6.9nm,0.7s,mb4.7,baz=334,slow=12,SNR=6.0
BDFB LR LR 09 55 44.1
comp=Z,3μm,18.2s,MS5.2,baz=97,slow=37
BDFB Brasilia 45.81 125 P **P 09 35 53.6 -1.8**
BDFB pmax pmax
comp=Z,7.0nm,0.7s
BDFB MLR MLR
comp=Z,3μm,18.2s
BAO Brasilia Array 45.82 125 P **P 09 35 52.5 -3.0**
SCHQ Schefferville 45.94 15 P **P 09 35 55.0 -1.0**
comp=Z,15nm,0.9s,mb4.9,baz=210,slow=5.7,SNR=16
SCHQ LR LR 09 55 40.3
comp=Z,2μm,18.1s,MS5.2,baz=209,slow=37
SCHQ Schefferville 45.94 15 *e*P **P 09 35 53.8 -2.1**
comp=Z,23nm,0.9s,mb5.1
CPUP Villa Florida 46.38 144 P **P 09 35 58.4 -1.4**
comp=Z,6.7nm,1.2s,mb4.5,baz=19,slow=6.8,SNR=5.5
CPUP LR LR 09 54 44.7
comp=Z,670nm,21.9s,MS4.5,baz=343,slow=35
CPUP Villa Florida 46.38 144 *e*P **P 09 35 58.4 -1.5**
comp=Z,14nm,1.3s,mb4.8
CPUP Villa Florida 46.38 144 P **P 09 35 58.4 -1.4**
CPUP pmax pmax
comp=Z,7.0nm,1.2s
CPUP MLR MLR
comp=Z,670nm,22.0s
EDM Edmonton 47.40 338 P **P 09 36 04.3 -3.3**
BBB Bella Bella 53.28 329 LR LR 10 05 24.7
comp=Z,1μm,18.8s,MS4.9,baz=319,slow=43
PLCA Paso Flores 53.56 166 P **P 09 36 52.2 -2.4**
comp=Z,8.8nm,1.1s,mb4.6,baz=341,slow=11,SNR=10
PLCA LR LR 09 58 00.0
comp=Z,296nm,18.8s,MS4.4,baz=128,slow=34
PLCA Paso Flores 53.56 166 *e*P **P 09 36 52.3 -2.4**
comp=Z,50nm,1.5s,mb5.2
YKA Yellowknife Ar 55.25 344 P **P 09 37 04.2 -2.5**
comp=Z,11nm,1.0s,mb4.8,baz=135,slow=7.4,SNR=15
YKA Yellowknife Ar 55.25 344 P **P 09 37 04.2 -2.5**
YKA Yellowknife Ar 55.25 344 P **P 09 37 04.2 -2.6**
YKA pmax pmax
comp=Z,11nm,1.0s
DLBC Dease Lake 57.77 334 LR LR 10 08 40.6
comp=Z,1μm,18.3s,MS5.0,baz=130,slow=43
DLBC Dease Lake 57.77 334 P **P 09 37 22.5 -2.3**
TAOE Nuku Hiva Isla 57.81 252 *e*S **S 09 45 23.9 -0.1**
TAOE *e*LR LR 09 54 08.4
comp=Z,3μm,25.6s
RKT Rikitea 59.17 234 *e*LQ 09 53 01.8
RKT *e*LR LR 09 55 00.6
comp=Z,399nm,32.0s
SFJD Kangerlussuaq 60.39 15 *i* P **P 09 37 44.6 +1.8**
comp=Z,32nm,1.4s,mb5.2
SFJD Kangerlussuaq 60.39 15 *i* P **P 09 37 44.6 +1.8**
SFJD pmax pmax
comp=Z,32nm,1.4s,mb5.2
DAWY Dawson 64.61 337 P **P 09 38 10.1 -0.8**
SUMG Summit 67.31 14 *e*P **P 09 38 25.8 -2.3**
comp=Z,58nm,1.2s,mb5.5
ILAR Eielson Array 67.85 336 P **P 09 38 27.6 -4.0**
comp=Z,12nm,1.2s,mb4.8,baz=126,slow=4.1,SNR=20
ILAR LR LR 10 14 23.8
comp=Z,1μm,18.6s,MS5.1,baz=132,slow=42
BORG Borgarnes 69.04 24 LR LR 10 08 28.5
comp=Z,597nm,18.3s,MS4.9,baz=199,slow=36
PPT Papeete 69.36 246 *e*S S 09 47 47.7 -0.3
PPT *e*LR LR 09 59 35.4
comp=Z,1μm,26.8s,baz=67
PPT Papeete 69.36 246 LR LR 10 02 59.4
comp=Z,546nm,18.2s,MS4.8,baz=82,slow=31
TBI Tubuai 71.28 241 *e*LR LR 10 00 14.7
comp=Z,545nm,29.2s,baz=64
EZAM Zamans 72.85 49 P **P 09 39 03.4 +1.0**
comp=Z,75nm,1.1s,mb5.5
EZAM Zamans 72.85 49 P **P 09 39 03.4 +1.0**
EZAM pmax pmax
comp=Z,75nm,1.1s,mb5.5
STS Santiago 72.97 49 P **P 09 39 03.4 +0.3**
comp=Z,17nm,1.2s,mb4.9
STS Santiago 72.97 49 P **P 09 39 03.4 +0.3**
STS pmax pmax
comp=Z,17nm,1.2s,mb4.8
ELOB Lobios 73.33 50 P **P 09 39 04.7 -0.5**
comp=Z,8.9nm,1.1s,mb4.6
EVO Evora 73.41 53 *e*P **P 09 39 04.2 -1.5**
comp=Z,77nm,1.2s,mb5.2
EVO *e*R
comp=Z,1μm,22.5s
PVRL Vila Real 73.59 50 *e*P **P 09 39 06.5 -0.2**
comp=Z,28nm,1.4s,mb5.0
MTE Manteigas 73.73 51 *e*P **P 09 39 08.6 +1.0**
comp=Z,47nm,1.3s,mb5.2
MTE *e*LQ 09 59 17.5
MTE *e*LR LR 10 03 17.3
comp=Z,892nm,18.0s
EGRO El Granado 73.85 54 P **P 09 39 09.0 +0.6**
comp=Z,9.5nm,0.8s,mb4.8
DAG Danmarks Havn 73.92 13 *i* P **P 09 39 07.0 -1.0**
comp=Z,3.8nm,1.1s,mb4.2
DAG Danmarks Havn 73.92 13 *e*P **P 09 39 07.0 -1.0**
comp=Z,3.8nm,1.1s,mb4.2
DAG Danmarks Havn 73.92 13 *e*P **P 09 39 07.0 -1.0**
DAG pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
EPON Pontenova 73.99 48 P **P 09 39 11.4 +2.4**
comp=Z,70nm,1.7s,mb5.3

EBAD Badajoz 74.18 53 P **P 09 39 11.1 +0.9**
comp=Z,21nm,1.2s,mb5.0
PBRG Braganca 74.31 50 *e*P **P 09 39 10.9 0.0**
comp=Z,37nm,1.3s,mb5.2
ECAL Calabor 74.31 49 P **P 09 39 10.6 -0.3**
comp=Z,73nm,1.4s,mb5.4
EMIN Mina Concepcio 74.49 54 P **P 09 39 12.8 +0.8**
comp=Z,45nm,1.4s,mb5.2
ESPR Espera 75.18 55 P **P 09 39 16.6 +0.6**
comp=Z,75nm,1.6s,mb5.4
JMIC Jan Mayen 75.23 19 LR LR 10 10 29.7
comp=Z,598nm,20.8s,MS4.9,baz=256,slow=34
EARI Arriondas 75.41 48 P **P 09 39 16.3 -0.9**
comp=Z,37nm,1.4s,mb5.1
EMIJ Mijas 76.07 55 P **P 09 39 22.2 +1.1**
comp=Z,56nm,1.2s,mb5.4
EADA Adamuz 76.12 53 P **P 09 39 19.8 -1.5**
comp=Z,38nm,1.5s,mb5.1
ESDC Sonseca Array 76.51 52 P **P 09 39 21.7 -1.8**
comp=Z,23nm,1.0s,mb5.0,baz=283,slow=4.9,SNR=35
ESDC Sonseca Array 76.51 52 P **P 09 39 23.9 +0.4**
comp=Z,30nm,1.3s,mb5.1
ELOJ Sierra Loja 76.52 54 P **P 09 39 25.4 +1.8**
comp=Z,40nm,1.2s,mb5.2
ELOJ Sierra Loja 76.52 54 P **P 09 39 25.4 +1.8**
ELOJ pmax pmax
comp=Z,40nm,1.2s,mb5.2
EKA Eskdalemuir Ar 76.54 36 P **P 09 39 20.6 -2.7**
comp=Z,37nm,1.1s,mb5.2,baz=270,slow=5.0,SNR=19
EKA Eskdalemuir Ar 76.54 36 P **P 09 39 20.7 -2.6**
EKA pmax pmax
comp=Z,37nm,1.1s
ROSF Rostrenen 76.60 43 *e*P **P 09 39 23.0 -0.8**
comp=Z,134nm,1.3s,mb5.4
ROSF Rostrenen 76.60 43 *e*P **P 09 39 23.0 -0.8**
ROSF pmax pmax
comp=Z,67nm,1.3s,mb5.4
QUIF Quistinic 76.69 43 *e*P **P 09 39 23.6 -0.7**
comp=Z,128nm,1.3s,mb5.4
QUIF Quistinic 76.69 43 *e*P **P 09 39 23.6 -0.7**
QUIF pmax pmax
comp=Z,64nm,1.3s,mb5.4
ELAN Lanestosa 76.71 48 P **P 09 39 23.7 -0.9**
comp=Z,46nm,1.3s,mb5.2
EBAN Banos Encina 76.74 53 P **P 09 39 25.2 +0.3**
comp=Z,53nm,1.4s,mb5.3
EBAN Banos Encina 76.74 53 P **P 09 39 25.2 +0.3**
EBAN pmax pmax
comp=Z,53nm,1.4s,mb5.3
ERON Agron 76.81 54 P **P 09 39 26.6 +1.4**
comp=Z,20nm,1.1s,mb5.0
SGMF Saint Gilles 77.08 43 *e*P **P 09 39 25.4 -1.1**
comp=Z,90nm,1.3s,mb5.2
SGMF Saint Gilles 77.08 43 *e*P **P 09 39 25.4 -1.1**
SGMF pmax pmax
comp=Z,45nm,1.3s,mb5.2
EQES Quesada 77.33 54 P **P 09 39 28.4 +0.2**
comp=Z,72nm,1.3s,mb5.4
ECRI Cripan 77.42 49 P **P 09 39 29.0 +0.5**
comp=Z,46nm,1.4s,mb5.2
ECRI Cripan 77.42 49 P **P 09 39 29.0 +0.5**
ECRI pmax pmax
comp=Z,46nm,1.4s,mb5.2
EBER Berja 77.55 55 P **P 09 39 29.7 +0.3**
comp=Z,131nm,1.6s,mb5.6
EHUE Huescar 77.71 54 P **P 09 39 31.9 +1.7**
comp=Z,105nm,1.9s,mb5.4
EHUE Huescar 77.71 54 P **P 09 39 31.9 +1.7**
EHUE pmax pmax
comp=Z,105nm,1.9s,mb5.4
EVIA Vianos 77.71 53 P **P 09 39 31.6 +1.4**
comp=Z,36nm,1.2s,mb5.2
EVIA Vianos 77.71 53 P **P 09 39 31.6 +1.4**
EVIA pmax pmax
comp=Z,37nm,1.2s,mb5.2
EALK Alkurruntz 78.11 48 P **P 09 39 32.2 -0.1**
comp=Z,84nm,1.4s,mb5.5
GRR Gorron 78.21 43 *e*P **P 09 39 32.1 -0.6**
comp=Z,220nm,1.3s,mb5.6
GRR Gorron 78.21 43 *e*P **P 09 39 32.1 -0.6**
GRR pmax pmax
comp=Z,110nm,1.3s,mb5.6
SJPF Ste Jean 78.33 48 *e*P **P 09 39 33.3 -0.2**
comp=Z,126nm,1.3s,mb5.4
SJPF Ste Jean 78.33 48 *e*P **P 09 39 33.3 -0.2**
SJPF pmax pmax
comp=Z,63nm,1.3s,mb5.4
LCHF La Chataignera 78.40 44 *e*P **P 09 39 35.3 +1.5**
FLN La Foliniere 78.43 42 *e*P **P 09 39 33.3 -0.6**
comp=Z,184nm,1.3s,mb5.6
FLN *e*R
comp=Z,1μm,18.8s
FLN La Foliniere 78.43 42 *e*P **P 09 39 33.3 -0.6**
FLN pmax pmax
comp=Z,92nm,1.3s,mb5.5
FLN MLR MLR
comp=Z,1μm,18.8s,MS5.2
ETOB Tobarra 78.46 53 P **P 09 39 33.5 -0.8**
comp=Z,65nm,1.4s,mb5.4
LARF Larrau 78.51 48 *e*P **P 09 39 35.6 +1.1**
EMUR La Murta 78.77 53 P **P 09 39 36.8 +0.8**
comp=Z,55nm,1.4s,mb5.3
MFF Saint Martin d 78.82 44 *e*P **P 09 39 35.5 -0.6**
comp=Z,126nm,1.4s,mb5.4
MFF Saint Martin d 78.82 44 *e*P **P 09 39 35.5 -0.6**
MFF pmax pmax
comp=Z,63nm,1.4s,mb5.3
ETSF Etsaut 78.83 48 *e*P **P 09 39 36.4 +0.2**
comp=Z,86nm,1.3s,mb5.2
ETSF Etsaut 78.83 48 *e*P **P 09 39 36.4 +0.2**
ETSF pmax pmax
comp=Z,43nm,1.3s,mb5.2
REYF Montagne du Re 78.94 48 *e*P **P 09 39 37.4 +0.6**
ESAC San Caprasio 79.00 49 P **P 09 39 38.3 +1.1**
comp=Z,106nm,1.1s,mb5.7
VIEF Viey 79.26 48 *e*P **P 09 39 40.7 +2.1**
EBIE Bielsa 79.36 48 P **P 09 39 38.2 -0.9**
comp=Z,32nm,1.2s,mb5.1
EPF Esparros 79.48 48 *e*P **P 09 39 39.3 -0.5**
comp=Z,116nm,1.4s,mb5.3
EPF Esparros 79.48 48 *e*P **P 09 39 39.3 -0.5**
EPF pmax pmax
comp=Z,58nm,1.4s,mb5.3
EBEN Beniarda 79.48 52 P **P 09 39 40.7 +0.8**
comp=Z,84nm,2.0s,mb5.3
EGRA Graus 79.54 49 P **P 09 39 40.9 +0.8**
comp=Z,95nm,1.4s,mb5.5
LFF La Frestale 79.58 46 *e*P **P 09 39 39.6 -0.7**
comp=Z,136nm,1.3s,mb5.4
LFF La Frestale 79.58 46 *e*P **P 09 39 39.6 -0.7**
LFF pmax pmax
comp=Z,68nm,1.3s,mb5.4
LIC Lamto 79.59 86 *e*P **P 09 39 40.3 -0.7**
comp=Z,104nm,1.3s,mb5.3
DBIC Dimbokro 79.68 85 P **P 09 39 39.8 -1.7**
comp=Z,22nm,1.2s,mb5.0,baz=287,slow=4.4,SNR=6.4
DBIC LR LR 10 11 40.5
comp=Z,266nm,19.8s,MS4.6,baz=256,slow=33
RJF Les Rejaudoux 80.09 46 *e*P **P 09 39 42.3 -0.7**
comp=Z,80nm,1.3s,mb5.2
RJF *e*R
comp=Z,782nm,20.0s
RJF Les Rejaudoux 80.09 46 *e*P **P 09 39 42.3 -0.7**
RJF pmax pmax
comp=Z,40nm,1.3s,mb5.2
RJF MLR MLR
comp=Z,780nm,20.0s,MS5.0
EPOB Poblet 80.19 50 P **P 09 39 43.8 +0.1**
comp=Z,40nm,1.4s,mb5.2
EMIR Miracle 80.47 49 P **P 09 39 46.0 +0.9**
comp=Z,93nm,1.5s,mb5.5
TCF Toulx Ste Croi 80.47 45 *e*P **P 09 39 44.1 -0.9**
comp=Z,88nm,1.3s,mb5.2
TCF Toulx Ste Croi 80.47 45 *e*P **P 09 39 44.1 -0.9**
TCF pmax pmax
comp=Z,44nm,1.3s,mb5.2
CAF Calviac 80.52 46 *e*P **P 09 39 44.4 -0.9**
comp=Z,74nm,1.3s,mb5.2
CAF Calviac 80.52 46 *e*P **P 09 39 44.4 -0.9**
CAF pmax pmax
comp=Z,37nm,1.3s,mb5.2
EIBI Ibiza 80.66 52 P **P 09 39 48.6 +2.4**
comp=Z,78nm,1.1s,mb5.5
MTLF Montolieu 80.81 48 *e*P **P 09 39 46.1 -0.8**
comp=Z,97nm,1.3s,mb5.3
MTLF Montolieu 80.81 48 *e*P **P 09 39 46.1 -0.8**
MTLF pmax pmax

comp=Z,48nm,1.3s,mb5.3
BGF Bois d'Agland 80.88 44 *e*P **P 09 39 46.2 -0.9**
comp=Z,97nm,1.2s,mb5.3
BGF Bois d'Agland 80.88 44 *e*P **P 09 39 46.2 -0.9**
BGF pmax pmax
comp=Z,48nm,1.2s,mb5.3
PYM Petit Puy Mans 81.08 45 *e*P **P 09 39 49.5 +1.3**
AVF Avril sur Loir 81.19 44 *e*P **P 09 39 48.8 0.0**
comp=Z,95nm,1.4s,mb5.2
AVF Avril sur Loir 81.19 44 *e*P **P 09 39 48.8 0.0**
AVF pmax pmax
comp=Z,47nm,1.4s,mb5.2
SSF Saint Saulge 81.27 44 *e*P **P 09 39 48.0 -1.2**
comp=Z,34nm,1.4s,mb5.1
SSF Saint Saulge 81.27 44 *e*P **P 09 39 48.0 -1.2**
SSF pmax pmax
comp=Z,34nm,1.4s,mb5.1
LBL Lubilhac 81.31 46 *e*P **P 09 39 50.2 +0.7**
BAIF Baives 81.36 41 *e*P **P 09 39 48.7 -0.9**
comp=Z,70nm,1.5s,mb5.1
BAIF Baives 81.36 41 *e*P **P 09 39 48.7 -0.9**
BAIF pmax pmax
comp=Z,35nm,1.5s,mb5.1
EJON La Jonquera 81.41 48 P **P 09 39 51.7 +1.7**
comp=Z,58nm,1.2s,mb5.4
LOR Lormes 81.48 44 *e*P **P 09 39 49.2 -1.1**
comp=Z,90nm,1.3s,mb5.2
LOR *e*R
comp=Z,1μm,18.0s
LOR Lormes 81.48 44 *e*P **P 09 39 49.2 -1.1**
LOR pmax pmax
comp=Z,45nm,1.3s,mb5.2
LOR MLR MLR
comp=Z,1μm,18.0s,MS5.3
PLDF La Plantade 81.48 45 *e*P **P 09 39 50.2 -0.1**
SMF Signal de Mont 81.55 44 *e*P **P 09 39 49.4 -1.2**
comp=Z,56nm,1.3s,mb5.0
SMF Signal de Mont 81.55 44 *e*P **P 09 39 49.4 -1.2**
SMF pmax pmax
comp=Z,28nm,1.3s,mb5.0
GIVF Givet 81.75 41 *e*P **P 09 39 50.9 -0.7**
LASF Ste Croix 81.89 47 *e*P **P 09 39 52.4 -0.1**
comp=Z,104nm,1.4s,mb5.3
MEZF Maizieres J'vi 82.11 42 *e*P **P 09 39 52.8 -0.7**
HGN Heimansgroeve 82.36 40⇑ *e*P **P 09 39 54.2 -0.6**
VIVF Saint-Julien-l 82.37 46 *e*P **P 09 39 54.9 0.0**
comp=Z,89nm,1.3s,mb5.2
VIVF Saint-Julien-l 82.37 46 *e*P **P 09 39 54.9 0.0**
VIVF pmax pmax
comp=Z,45nm,1.3s,mb5.2
WLF Walferdange 82.66 41 *e*P **P 09 39 55.3 -1.1**
comp=Z,64nm,1.3s,mb5.5
WLF Walferdange 82.66 41 *e*P **P 09 39 55.3 -1.1**
WLF pmax pmax
comp=Z,64nm,1.3s,mb5.5
WTSB Winterswijk 82.72 39⇑ *e*P **P 09 39 55.8 -0.8**
comp=Z,30nm,2.1s,mb5.0
HAU Haudompre 83.04 43 *e*P **P 09 39 57.5 -0.9**
HAU *e*R
comp=Z,960nm,19.0s
CABF La Chapelle 83.08 44 *e*P **P 09 39 58.1 -0.5**
comp=Z,86nm,1.3s,mb5.3
CABF La Chapelle 83.08 44 *e*P **P 09 39 58.1 -0.5**
CABF pmax pmax
comp=Z,43nm,1.3s,mb5.3
SMRF Simiane la Rot 83.14 47 *e*P **P 09 39 58.8 -0.1**
ORIF Oris-en-Rattie 83.20 46 *e*P **P 09 39 59.2 -0.1**
ORIF *e*R
comp=Z,739nm,20.8s
HINF Hinteralfeld 83.41 43 *e*P **P 09 39 59.3 -1.0**
comp=Z,76nm,1.4s,mb5.2
HINF Hinteralfeld 83.41 43 *e*P **P 09 39 59.3 -1.0**
HINF pmax pmax
comp=Z,38nm,1.4s,mb5.2
NAO01 NORSAR Array S 83.42 29 *e*P **P 09 40 02.2 +2.2**
comp=Z,34nm,1.2s,mb5.2
LOMF Lomont 83.47 43 *e*P **P 09 40 01.5 +0.9**
ABH Alteburg 83.52 41 *e*P **P 09 40 01.1 +0.3**
NB2 NORSAR Subarra 83.54 29 P **P 09 39 58.8 -1.8**
comp=Z,39nm,1.2s,mb5.4,baz=280,slow=5.0
NB2 NORSAR Subarra 83.54 29 P **P 09 39 58.8 -1.8**
baz=280,slow=5.3
NOA NORSAR Array B 83.54 29 P **P 09 39 58.9 -1.7**
comp=Z,17nm,1.1s,mb5.1,baz=282,slow=5.2,SNR=13
NOA LR LR 10 17 06.4
comp=Z,371nm,18.7s,MS4.8,baz=285,slow=36
NOA NORSAR Array B 83.54 29 P **P 09 39 58.9 -1.7**
NOA pmax pmax
comp=Z,17nm,1.1s
NOA MLR MLR
comp=Z,371nm,18.7s
ECH Echery 83.54 42 *e*P **P 09 40 01.9 +0.9**
MOF Molkenrain 83.59 43 *e*P **P 09 40 00.5 -0.7**
CDF Champ du Feu 83.59 42 *e*P **P 09 40 00.3 -0.9**
comp=Z,73nm,1.4s,mb5.3
CDF Champ du Feu 83.59 42 *e*P **P 09 40 00.3 -0.9**
CDF pmax pmax
comp=Z,36nm,1.4s,mb5.3
WLS Welschbruch 83.64 42 *e*P **P 09 40 01.5 +0.1**
LPL La Plagne 83.70 45 *e*P **P 09 40 01.6 -0.2**
LPG La Plagne 83.72 45 *e*P **P 09 40 02.2 +0.3**
comp=Z,52nm,1.4s,mb5.2
LPG La Plagne 83.72 45 *e*P **P 09 40 02.2 +0.3**
LPG pmax pmax
comp=Z,26nm,1.4s,mb5.2
LANF Langenberg 83.84 41 *e*P **P 09 40 03.4 +1.0**
MBDF Montbardon 83.86 46 *e*P **P 09 40 02.2 -0.5**
comp=Z,48nm,1.3s,mb5.2
MBDF Montbardon 83.86 46 *e*P **P 09 40 02.2 -0.5**
MBDF pmax pmax
comp=Z,24nm,1.3s,mb5.2
BBS Basel-Blauen 83.90 43 *e*P **P 09 40 02.9 +0.1**
LMR La Mourre 83.91 47 *e*P **P 09 40 01.7 -1.2**
SURF Saint Ours 83.93 46 *e*P **P 09 40 06.1 +3.1**
TNS Taunus Mts 84.03 40 *e*P **P 09 40 03.0 -0.4**
comp=Z,35nm,1.3s,mb5.3
TNS Taunus Mts 84.03 40 *e*P **P 09 40 03.0 -0.4**
TNS pmax pmax
comp=Z,35nm,1.3s,mb5.3
FELD Feldberg 84.16 42 *e*P **P 09 40 04.1 0.0**
MVIF Mont Vial 84.27 47 *e*P **P 09 40 04.4 -0.4**
BFO Black Forest 84.30 42 *e*P **P 09 40 03.8 -0.9**
comp=Z,28nm,1.3s,mb5.2
BFO Black Forest 84.30 42 *e*P **P 09 40 03.8 -0.9**
BFO pmax pmax
comp=Z,28nm,1.3s,mb5.2
TOD Tromm 84.37 41 *e*P **P 09 40 06.5 +1.4**
AUTN L'Aution 84.45 46 *e*P **P 09 40 07.9 +2.3**
BSEG Bad Segeberg 84.47 36 *e*P **P 09 40 05.3 -0.2**
SBF Sospel 84.48 47 *e*P **P 09 40 05.1 -0.7**
CLZ Clausthal 84.92 38 *e*P **P 09 40 07.7 -0.1**
comp=Z,46nm,1.2s,mb5.5
CLZ Clausthal 84.92 38 *e*P **P 09 40 07.7 -0.1**
CLZ pmax pmax
comp=Z,46nm,1.2s,mb5.5
CASM Ain Smara 85.11 54 P **P 09 40 12.0 +2.8**
CKFL Kef-Lekhel 85.27 54 P **P 09 40 13.0 +3.1**
CAEH 'Ain El Ouahch 85.31 54 P **P 09 40 16.0 +5.9**
DAVA Damuels 85.52 43⇑ *i*P **P 09 40 11.7 +0.8**
comp=Z,60nm,1.3s,mb5.7
DAVOX Davos 85.62 43 P **P 09 40 12.0 +0.6**
comp=Z,11nm,1.0s,mb5.0,baz=264,slow=7.4,SNR=12
CMAH Djebel Manchou 85.79 54 P **P 09 40 15.0 +2.5**
PGF Pioggiola 85.85 48 *e*P **P 09 40 11.7 -1.0**
comp=Z,188nm,1.5s,mb5.8
PGF Pioggiola 85.85 48 *e*P **P 09 40 11.7 -1.0**
PGF pmax pmax
comp=Z,94nm,1.5s,mb5.8
GRA1 Grafenberg Arr 85.89 40 *e*P **P 09 40 12.7 0.0**
comp=Z,81nm,1.6s,mb5.7
GRA1 LR LR
comp=Z,1μm,18.6s,MS5.3
GRF Grafenberg Arr 85.89 40 *e*P **P 09 40 12.7 0.0**
comp=Z,81nm,1.6s,mb5.7
GRF LR LR
comp=Z,1μm,18.6s,MS5.3
GRF Grafenberg Arr 85.89 40 *e*P **P 09 40 12.7 0.0**
GRF pmax pmax
comp=Z,81nm,1.6s,mb5.7
GRF MLR MLR
comp=Z,1μm,18.6s,MS5.3
GRF Grafenberg Arr 85.89 40 *e*P **P 09 40 12.7 0.0**
GRF pmax pmax
comp=Z,81nm,1.6s,mb5.7
GRF MLR MLR
comp=Z,1μm,18.6s,MS5.3

ABSA	**Djebel Ababsia**	**85.90**	**54**	P		**P**	**09 40 17.0**	**+3.9**
MOX	**Moxa**	**85.93**	**39**	*i* P		**P**	**09 40 12.8**	**-0.1**
	comp=Z,logA/T=1.4,mb5.4							
MOX				PS	SS		09 56 24.0	-2.5
MOX				L			10 19 28.0	
MOX	**Moxa**	**85.93**	**39**	*e*P		**P**	**09 40 12.8**	**-0.1**
	comp=Z,37nm,1.6s,mb5.4							
MOX				LR	LR			
	comp=Z,600nm,19.0s,MS5.0							
MOX	**Moxa**	**85.93**	**39**	*e*P		**P**	**09 40 12.8**	**-0.1**
MOX				pmax	pmax			
	comp=Z,37nm,1.6s,mb5.4							
MOX				MLR	MLR			
	comp=Z,600nm,19.0s,MS5.0							
RGN	**Rugen**	**86.05**	**35**	*e*P		**P**	**09 40 14.6**	**+1.2**
	comp=Z,198nm,1.4s,mb6.2							
FUR	**Furstenfeldbru**	**86.26**	**42**	*e*P		**P**	**09 40 14.1**	**-0.4**
	comp=Z,30nm,0.9s,mb5.5							
FUR	**Furstenfeldbru**	**86.26**	**42**	*e*P		**P**	**09 40 14.1**	**-0.4**
FUR				pmax	pmax			
	comp=Z,30nm,0.9s,mb5.5							
MOTA	**Moosalm**	**86.32**	**43**	⇓*i*P		**P**	**09 40 16.7**	**+1.8**
	comp=Z,24nm,1.2s,mb5.3							
MOTA	**Moosalm**	**86.32**	**43**	⇓*i*P		**P**	**09 40 16.7**	**+1.8**
MOTA				pmax	pmax			
	comp=Z,24nm,1.2s,mb5.3							
SQTA	**Sankt Quirin**	**86.42**	**43**	⇑*i*P		**P**	**09 40 16.9**	**+1.5**
	comp=Z,17nm,1.2s,mb5.1							
SQTA	**Sankt Quirin**	**86.42**	**43**	⇑*i*P		**P**	**09 40 16.9**	**+1.5**
SQTA				pmax	pmax			
	comp=Z,17nm,1.2s,mb5.2							
NKC	**Novy Kostel**	**86.54**	**40**	*e*P		**P**	**09 40 16.1**	**+0.2**
NKC				*e*S	S		09 50 51.2	-0.4
NKC				AMS	AMS		10 17 00.0	
	comp=Z,700nm,19.3s							
CLL	**Collm**	**86.64**	**38**	P		**P**	**09 40 15.9**	**-0.4**
	comp=Z,logA/T=1.1,mb5.1							
CLL				*i* *PP	pP		09 40 18.6	+1.5
CLL				*e**SP	sP		09 40 21.0	+3.6
CLL				*e*S	S		09 50 56.0	+3.5
CLL				*e*PPS	PPS		09 52 12.0	-6.7
CLL	**Collm**	**86.64**	**38**	*i* P		**P**	**09 40 15.9**	**-0.4**
	comp=Z,18nm,1.5s,mb5.1							
CLL				*i* pP	pP		09 40 18.6	+1.5
CLL				*e*S	S		09 50 56.0	+3.5
CLL				LR	LR			
	comp=Z,700nm,17.9s,MS5.1							
CLL	**Collm**	**86.64**	**38**	*i* P		**P**	**09 40 15.9**	**-0.4**
CLL				*i* *PP	pP		09 40 18.6	+1.5
CLL				*e*S	S		09 50 56.0	+3.5
CLL				pmax	pmax			
	comp=Z,18nm,1.5s,mb5.1							
CLL				MLR	MLR			
	comp=Z,700nm,17.9s,MS5.1							
ARCES	**ARCESS Array B**	**86.73**	**19**	P		**P**	**09 40 11.3**	**-5.1**
	comp=Z,1.7nm,0.9s,mb4.3,baz=64,slow=42,SNR=5.6							
ARCES				LR	LR		10 16 28.2	
	comp=Z,526nm,21.3s,MS4.9,baz=283,slow=34							
WET	**Wettzell**	**87.07**	**41**	*e*P		**P**	**09 40 18.6**	**+0.1**
	comp=Z,58nm,1.4s,mb5.6							
WET	**Wettzell**	**87.07**	**41**	*e*P		**P**	**09 40 18.6**	**+0.1**
WET				pmax	pmax			
	comp=Z,58nm,1.4s,mb5.6							
BRG	**Berggiesshubel**	**87.32**	**39**	*i* P		**P**	**09 40 20.6**	**+1.0**
BRG				SS	S		09 50 57.0	-2.0
BRG				pmax	pmax			
	comp=Z,47nm,1.6s,mb5.5							
BRG				MLR	MLR			
	comp=N,649nm,19.6s							
BRG				MLR	MLR			
	comp=E,365nm,28.2s							
BRG				MLR	MLR			
	comp=Z,266nm,21.3s,MS4.6							
KHC	**Kasperske Hory**	**87.52**	**40**	*e*P		**P**	**09 40 21.9**	**+1.3**
KHC				*e*S	S		09 51 07.6	+6.7
KHC				AMS	AMS		10 16 10.0	
	comp=Z,900nm,18.6s							
GEC2	**GERESS Array S**	**87.67**	**41**	*e*P		**P**	**09 40 21.2**	**-0.2**
	comp=Z,28nm,1.4s,mb5.3							
GEC2	**GERESS Array S**	**87.67**	**41**	*e*P		**P**	**09 40 21.2**	**-0.2**
GEC2				pmax	pmax			
	comp=Z,28nm,1.4s,mb5.3							
GERES	**GERESS Array B**	**87.67**	**41**	P		**P**	**09 40 21.5**	**+0.2**
	comp=Z,6.4nm,1.1s,mb4.8,baz=270,slow=1.3,SNR=20							
GERES				LR	LR		10 17 01.7	
	comp=Z,825nm,19.1s,MS5.2,baz=52,slow=34							
PVCC	**Panska Ves**	**87.79**	**39**	*e*P		**P**	**09 40 23.0**	**+1.1**
PVCC				AMS	AMS		10 17 40.0	
	comp=Z,500nm,19.0s							
PRU	**Pruhonice**	**87.91**	**39**	*e*P		**P**	**09 40 24.9**	**+2.4**
PRU				*e*S	S		09 51 10.5	+5.9
PRU				AMS	AMS		10 15 10.0	
	comp=Z,900nm,20.9s							
ROBS	**Robic**	**88.19**	**43**	*e*P		**P**	**09 40 25.6**	**+1.7**
MOA	**Molln**	**88.28**	**42**	⇑*i*P		**P**	**09 40 26.3**	**+2.0**
	comp=Z,18nm,1.3s,mb5.2							
CADS	**Cadrg**	**88.34**	**43**	*e*P		**P**	**09 40 26.4**	**+1.8**
UPC	**Upice**	**88.68**	**39**	*e*P		**P**	**09 40 26.9**	**+0.7**
DPC	**Dobruska-Polom**	**88.92**	**39**	*e*P		**P**	**09 40 28.0**	**+0.7**
DPC				*e*S	S		09 51 16.4	+2.5
DPC				AMS	AMS		10 19 30.0	
	comp=Z,700nm,18.3s							
LJU	**Ljubljana**	**88.92**	**43**	*e*P		**P**	**09 40 28.7**	**+1.2**
PDKS	**Podkum**	**89.23**	**43**	*e*P		**P**	**09 40 29.6**	**+0.7**
VRAC	**Vranov**	**89.38**	**40**	P		**P**	**09 40 31.6**	**+2.0**
	comp=Z,3.1nm,0.4s,mb5.0,baz=358,slow=7.7,SNR=7.2							
VRAC	**Vranov**	**89.38**	**40**	P		**P**	**09 40 31.6**	**+2.1**
VRAC				pmax	pmax			
	comp=Z,3.0nm,0.4s							
GOLS	**Golise**	**89.67**	**43**	*e*P		**P**	**09 40 32.8**	**+1.8**
MORC	**Moravsky Berou**	**89.83**	**39**	*e*P		**P**	**09 40 32.1**	**+0.5**
	comp=Z,9.0nm,1.3s,mb4.9							
MORC	**Moravsky Berou**	**89.83**	**39**	*e*P		**P**	**09 40 32.1**	**+0.4**
MORC				pmax	pmax			
	comp=Z,9.0nm,1.3s,mb4.9							
ZST	**Bratislava**	**90.02**	**41**	*e*P		**P**	**09 40 35.1**	**+2.5**
OKC	**Ostrava-Krasne**	**90.19**	**39**	*e*P		**P**	**09 40 34.0**	**+0.7**
OKC				*e*S	S		09 51 33.0	+7.4
OKC				AMS	AMS		10 19 10.0	
	comp=Z,800nm,18.6s							
FINES	**FINESS Array B**	**90.24**	**27**	P		**P**	**09 40 33.0**	**-0.2**
	comp=Z,4.2nm,1.1s,mb4.7,baz=288,slow=6.0,SNR=7.6							
FINES				LR	LR		10 16 52.5	
	comp=Z,367nm,20.4s,MS4.8,baz=92,slow=33							
VYHS	**Vyhne**	**91.03**	**40**	*e*P		**P**	**09 40 39.8**	**+2.6**
VSU	**Vasula**	**91.78**	**29**	⇑*e*P		**P**	**09 40 41.7**	**+1.3**
PSZ	**Piszkesteto**	**91.89**	**40**	*e*P		**P**	**09 40 40.6**	**-0.5**
	comp=Z,36nm,1.4s,mb5.5							
PSZ	**Piszkesteto**	**91.89**	**40**	*e*P		**P**	**09 40 40.6**	**-0.6**
PSZ				pmax	pmax			
	comp=Z,36nm,1.4s,mb5.5							
KECS	**Kecovo**	**92.08**	**40**	*e*P		**P**	**09 40 42.9**	**+0.9**
STHS	**Stebnicka Huta**	**92.23**	**39**	*e*pP		pP	09 40 46.4	+2.9
CRVS	**Cervenica-Dubn**	**92.54**	**39**	*e*sP		sP	09 40 50.7	+5.5
KOLS	**Kolonicke sedl**	**93.03**	**39**	*e*P		**P**	**09 40 49.0**	**+2.6**
TIXI	**Tiksi**	**94.15**	**350**	*e*P		**P**	**09 40 52.2**	**+1.1**
TIXI				pmax	pmax			
	comp=Z,8.0nm,1.3s,mb5.0							
VNA3	**Neumayer Olymp**	**96.09**	**162**	⇑*i*P		**P**	**09 40 57.2**	**-2.8**
VNA3				*e*			09 47 45.8	
AKASG	**Malin Array Be**	**96.45**	**36**	P		**P**	**09 41 02.6**	**+0.6**
	comp=Z,0.6nm,0.3s,mb4.4,baz=288,slow=3.0,SNR=4.3							
AKASG	**Malin Array Be**	**96.45**	**36**	P		**P**	**09 41 02.6**	**+0.5**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.4s							
MLR	**Muntele Rosu**	**96.65**	**41**	P		**P**	**09 41 04.6**	**+1.5**
	comp=Z,4.3nm,1.1s,mb4.8,baz=341,slow=2.0,SNR=4.8							
MLR	**Muntele Rosu**	**96.65**	**41**	P		**P**	**09 41 04.6**	**+1.5**
MLR				pmax	pmax			
	comp=Z,4.0nm,1.1s							
VNA2	**Neumayer--Watz**	**96.72**	**161**	⇑*i*P		**P**	**09 41 02.5**	**-0.3**
OBN	**Obninsk**	**98.14**	**29**	⇓*e*P		**P**	**09 41 09.0**	**-0.5**
OBN				pmax	pmax			
	comp=Z,6.0nm,0.4s,mb5.5							
OBN				MLR	MLR			
	comp=Z,400nm,18.0s,MS5.0							
SNAA	**Sanae**	**98.32**	**162**	⇑*i*P		**P**	**09 41 12.3**	**+2.3**
SNAA				*e*			09 47 34.2	
CN2	**Changchun**	**118.36**	**335**	*e*PKP		PKPdf	09 46 15.7	-5.8
CN2				LR	LR			
	comp=N,220nm,21.0s,MS5.0							
CN2				LR	LR			
	comp=E,260nm,21.0s,MS5.0							
CN2				LR	LR			
	comp=Z,370nm,23.0s,MS5.0							
WMQ	**Urumqi**	**124.86**	**6**	*e*PKP		PKPdf	09 46 34.7	+0.6
HHC	**Hu-ho-hao-te**	**125.79**	**344**	*e*PKP		PKPdf	09 46 29.1	-6.9
HHC				PP	PP			
	comp=Z,97nm,11.3s							
HHC				LR	LR			
	comp=N,171nm,29.7s,MS4.8							
HHC				LR	LR			
	comp=E,219nm,29.7s,MS4.8							
HHC				LR	LR			
	comp=Z,163nm,25.6s,MS4.6							
KSH	**Kashi**	**126.67**	**18**	*e*PKP		PKPdf	09 46 36.0	-1.6
KSH				*e*PKS	PKS		09 50 11.0	+0.1
KSH				*e*SKS	SKS		09 53 42.0	-1.9
KSH				PP	PP			
	comp=Z,280nm,3.0s							
KSH				LR	LR			
	comp=N,290nm,5.3s							
KSH				LR	LR			
	comp=E,250nm,5.6s							
NJ2	**Nanjing**	**131.00**	**332**	*e*PKP		PKPdf	09 46 41.0	-5.2
NJ2				PP	PP		09 49 06.0	+0.7
NJ2				PKS	PKS		09 50 17.0	-2.2
NJ2				SKS	SKS		09 53 50.0	-5.7
NJ2				PP	PP			
	comp=Z,260nm,10.0s							
NJ2				LR	LR			
	comp=N,370nm,15.2s,MS5.3							
NJ2				LR	LR			
	comp=E,390nm,18.8s,MS5.3							
NJ2				LR	LR			
	comp=Z,500nm,22.2s,MS5.2							
LZH	**Lanzhou**	**132.09**	**350**	*e*PKP		PKPdf	09 46 44.2	-4.0
LZH				XPKP			09 46 48.5	
LZH				*e*PP	PP		09 49 07.2	-4.5
LZH				SKKS			09 56 00.5	
LZH				*e*SS	SS		10 06 44.5	-2.5
LZH				PP	PP			
	comp=Z,83nm,8.7s							
LZH				LR	LR			
	comp=E,217nm,18.1s							
LZH				LR	LR			
	comp=Z,398nm,20.0s,MS5.1							
LZH	**Lanzhou**	**132.09**	**350**	*e*PKP		PKPdf	09 46 44.2	-4.0
LZH				pPKP			09 46 47.4	
LZH				sPKP			09 46 48.5	
LZH				*e*PP	PP		09 49 07.2	-4.5
LZH				SKKS			09 56 00.5	
LZH				*e*SS	SS		10 06 44.5	-2.5
LZH				LR	LR			
	comp=Z,400nm,20.0s,MS5.1							
LZH	**Lanzhou**	**132.09**	**350**	*e*PKIKP		PKPdf	09 46 44.2	-4.0
LZH							09 46 47.4	
LZH							09 46 48.5	
LZH				*e*			09 49 07.2	
LZH				*e*SS	SS		10 06 44.5	-2.5
LZH				MLR	MLR			
	comp=Z,400nm,20.0s,MS5.1							
CD2	**Chengdu**	**137.13**	**348**	PKP		PKPdf	09 46 51.7	-5.8
WB2	**Warrmunga Arr**	**140.64**	**252**	*e*PKP		PKPdf	09 46 59.1	-5.3
WRA	**Warrmunga Arr**	**140.65**	**252**	PKhKP			09 46 57.2	
	comp=Z,1.8nm,0.8s,baz=100,slow=2.7,SNR=8.5							
WRA				PKP		PKPdf	09 47 03.3	-1.1
	comp=Z,2.1nm,0.8s,baz=89,slow=2.1,SNR=8.7							
WRA	**Warrmunga Arr**	**140.65**	**252**	PKP		PKPdf	09 47 03.3	-1.1
WRA	**Warrmunga Arr**	**140.65**	**252**	PKIKP		PKPdf	09 46 57.2	-7.2
WRA							09 47 03.3	
WRA				pmax	pmax			
	comp=Z,2.0nm,0.8s							
WRA				pmax	pmax			
	comp=Z,2.0nm,0.8s							
KMI	**Kunming**	**142.95**	**347**	PKP		PKPdf	09 47 04.4	-3.8
KMI				APKP			09 47 08.2	
KMI				PP	PP		09 50 15.5	-3.8
KMI				SS	SS		10 08 55.4	-0.3
KMI				PP	PP			
	comp=Z,148nm,5.5s							
KMI				LR	LR			
	comp=N,209nm,28.7s,MS4.9							
KMI				LR	LR			
	comp=E,209nm,28.7s,MS4.9							
KMI				LR	LR			
	comp=Z,233nm,32.1s,MS4.7							
FITZ	**Fitzroy Crossi**	**149.05**	**254**	*e*PKP		PKPdf	09 47 21.3	+2.6
	comp=Z,10.0nm,0.8s							
FITZ	**Fitzroy Crossi**	**149.05**	**254**	PKPbc		PKPdf	09 47 21.3	+2.7
	comp=Z,9.4nm,0.9s,baz=333,slow=4.0,SNR=4.9							
NWAO	**Narrogin (SRO)**	**149.91**	**221**	PKPbc		PKPdf	09 47 21.9	+2.2
	comp=Z,8.1nm,0.9s,baz=288,slow=2.1,SNR=2.8							
NWAO				PKPab		PKPab	09 47 28.6	-1.5
	comp=Z,9.4nm,0.7s,baz=24,slow=0.5,SNR=4.6							
NWAO	**Narrogin (SRO)**	**149.91**	**221**	PKP2		PKPdf	09 47 21.9	+2.3
NWAO				pmax	pmax			
	comp=Z,8.0nm,0.9s							
NWAO				pmax	pmax			
	comp=Z,9.0nm,0.7s							
KLBR	**Kellerberrin**	**150.41**	**223**	*e*PKP		PKPdf	09 47 25.3	+4.8
	comp=Z,36nm,1.2s							
MUN	**Mundaring**	**151.19**	**221**	*e*PKP		PKPdf	09 47 22.2	+0.6
	comp=Z,11nm,0.7s							

*THR **03** 09:28:42.7±0.3,28.20N×57.66E,h14km±3km, ML4.1*
*CSEM **03** 09:28:42.0±0.1,28.24N×57.58E,h12km, ML4.1,Error ellipse: s-maj=2.8km s-min=1.6km az=138.0*
*KISR **03** 09:28:45.2±1.2,27.65N×57.06E,h33km, ML4.5*
*IDC **03** 09:29:18.7±6.3,32.97N×56.51E,mb3.6/6,mb1 3.7/7, mb1mx3.6/21,mbtmp3.6/7,Error ellipse: s-maj=123.5km s-min=29.3km az=172.0*

ISC 03 09:28:42.8±1.0,28.36N±0.06×57.37E±0.07,h10km,n19, σ1§74/24,mb3.8/4,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.43**	**228**	*e*PG	**Pg**	**09 29 11.1**	**-0.2**
BNDS				*e*SG	**Sg**	**09 29 31.7**	**+1.3**
BNDS				AML	AML	09 29 35.2	
	comp=N,3μm,0.7s						
KRBR	**Kerman**	**1.70**	**342**	*e*PG	**Pg**	**09 29 18.2**	**+1.4**
KRBR				AML	AML	09 29 54.7	
	comp=N,2μm,0.3s						
KRBR	**Kerman**	**1.70**	**342**	*e*Pg	**Pg**	**09 29 18.2**	**+1.4**
	SNR=90						
KRBR				Sn	**Sg**	**09 29 43.2**	**+3.7**
	SNR=52						
ZHSF	**Zahedan**	**3.24**	**67**	*e*PN	**Pn**	**09 29 32.9**	**-1.8**
GHIR	**Ghir-Karzin**	**3.86**	**270**	*e*PN	**Pn**	**09 29 47.5**	**+3.9**
GHIR				AML	AML	09 30 38.6	
	comp=N,124nm,0.3s						
NASN	**Na'in**	**5.92**	**320**	*e*PN	**Pn**	**09 30 16.5**	**+3.8**
QRN	**Al-Qurain**	**8.32**	**275**	*e*P	**P**	**09 30 46.6**	**+0.3**
QRN				*e*S	**Sn**	**09 32 17.8**	**-3.6**
QRN				AML	AML	09 32 19.1	
	comp=Z,51nm,0.3s						
KBD	**Kabd**	**8.53**	**278**	*e*P	**P**	**09 30 50.0**	**+0.7**
KBD				*e*S	**Sn**	**09 32 22.9**	**-3.6**
KBD				AML	AML	09 32 25.7	
	comp=Z,50nm,0.2s						
UMR	**Umm Al-Rimmam**	**8.54**	**280**	*e*P	**P**	**09 30 51.2**	**+1.8**
UMR				*e*S	**Sn**	**09 32 25.2**	**-1.6**
UMR				AML	AML	09 32 26.4	
	comp=Z,23nm,0.3s						
RDF	**Al-Radifah**	**8.64**	**276**	*e*P	**P**	**09 30 51.3**	**+0.5**
RDF				*e*S	**Sn**	**09 32 26.2**	**-3.2**
RDF				AML	AML	09 32 31.0	
	comp=Z,35nm,0.3s						
RDF	**Al-Radifah**	**8.64**	**276**	*e*P	**P**	**09 30 51.3**	**+0.4**
RDF				*e*S	**Sn**	**09 32 26.2**	**-3.3**
MIB	**Mutribah**	**8.89**	**282**	*e*P	**P**	**09 30 55.4**	**+1.1**
MIB				AML	AML	09 32 35.5	
	comp=Z,23nm,0.3s						
BRTR	**Keskin Array B**	**22.63**	**306**	P	**P**	**09 33 46.7**	**+1.6**
	baz=117,slow=9.7,SNR=4.8						
BVAR	**Borovoye Array**	**26.46**	**18**	P	**P**	**09 34 18.4**	**-3.2**
	comp=Z,1.0nm,0.6s,mb3.6,baz=180,slow=5.9,SNR=4.8						
MKAR	**Makanchi Array**	**26.82**	**40**	P	pP	09 34 34.9	+7.0
	comp=Z,0.4nm,0.5s,baz=231,slow=9.2,SNR=2.6						
FINES	**FINESS Array B**	**39.08**	**337**	P	**P**	**09 36 09.1**	**-2.4**
	comp=Z,0.6nm,0.5s,mb3.6,baz=126,slow=12,SNR=2.3						
GERES	**GERESS Array B**	**39.11**	**314**	P	pP	09 36 18.7	+3.8
	comp=Z,0.9nm,0.8s,baz=112,slow=7.2,SNR=2.0						
HFS	**Hagfors**	**43.27**	**330**	P	**P**	**09 36 46.2**	**+0.3**
	comp=Z,1.1nm,0.6s,mb3.7,baz=142,slow=16,SNR=2.9						
ARCES	**ARCESS Array B**	**45.12**	**345**	P	**P**	**09 36 58.3**	**-2.5**
	comp=Z,4.0nm,1.1s,mb4.2,baz=151,slow=11,SNR=3.0						

MAN 03 09:32:56.6,11.08N×124.64E,h18km,mb4.2,ML3.1, MS2.8,1C,Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.35**	**77**	*i* P	Pb	09 33 01.9	-2.0
BESP	**Borongan**	**0.94**	**57**	*e*P	Pb	09 33 13.5	-0.5
BESP				*e*S	Sb	09 33 24.5	-1.6
LLP	**Lapu-Lapu**	**1.01**	**221**	*e*P	Pb	09 33 14.9	-0.2
LLP				*e*S	Sb	09 33 29.4	+1.5
TBP	**Tagbilaran**	**1.58**	**209**	*e*P	Pn	09 33 27.7	+3.7
TBP				*e*S	Sn	09 33 46.7	+2.6
RCP	**Roxas**	**1.91**	**284**	⇑*e*P	Pn	09 33 28.6	-0.1
GUIM	**Jordan**	**2.06**	**257**	*e*P	Pn	09 33 42.9	+12
BUKP	**Musuan**	**3.21**	**172**	*e*P	Pn	09 33 47.4	+0.1

*IDC **03** 09:35:19.9±1.0,9.49S×118.22E,mb4.2/7,mb1 4.2/9, mb1mx4.1/17,mbtmp4.1/9,ML3.8/2,Error ellipse: s-maj=44.3km s-min=19.8km az=55.0*
*NEIC **03** 09:35:22.5±0.6,9.20S×118.48E,h10km,mb4.6/1,Error ellipse: s-maj=23.8km s-min=12.1km az=68.0*

ISC 03 09:35:22.6±0.8,9.5S±0.1×118.6E±0.2,h33km,n18, σ1§21/20,mb4.2/9,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.99**	**142**	Pn	**P**	**09 38 00.0**	**-0.7**
	0.8nm,0.3s,baz=325,slow=5.6,SNR=14						
FITZ				Sn	**S**	**09 39 55.8**	**-7.7**
	1.3nm,0.3s,baz=180,slow=16,SNR=4.3						
MBWA	**Marble Bar**	**11.67**	**175**	*e*P	**P**	**09 38 03.9**	**-6.0**
	19nm,0.3s						
WRA	**Warramunga Arr**	**18.46**	**126**	P	**P**	**09 39 41.0**	**+3.1**
	0.2nm,0.3s,baz=299,slow=13,SNR=14						
WRA				S	**S**	**09 42 57.6**	**-1.6**
	0.1nm,0.3s,baz=97,slow=40,SNR=3.7						
WRAB	**Tennant Creek**	**18.47**	**126**	*e*P	**P**	**09 39 40.7**	**+2.8**
KLBR	**Kellerberrin**	**22.02**	**182**	*e*P	**P**	**09 40 22.4**	**+6.6**
	37nm,1.6s,mb4.6						
KLBR				*e*S	**S**	**09 43 57.5**	**-14**
MUN	**Mundaring**	**22.49**	**185**	*e*P	**P**	**09 40 29.6**	**+9.0**
MUN				*e*S	**S**	**09 44 11.5**	**-9.0**
NWAO	**Narrogin (SRO)**	**23.37**	**183**	P	**P**	**09 40 37.7**	**+8.5**
	5.4nm,0.4s,mb4.4,baz=360,slow=10.0,SNR=9.5						
NWAO	**Narrogin (SRO)**	**23.37**	**183**	*e*P	**P**	**09 40 35.0**	**+5.8**
NWAO				P		09 40 37.7	
STKA	**Stephens Creek**	**30.87**	**140**	P	**P**	**09 41 39.8**	**+1.5**
	1.5nm,0.5s,mb4.1,baz=329,slow=12,SNR=3.3						
MJAR	**Matsushiro Arr**	**49.37**	**21**	P	**P**	**09 44 12.2**	**+1.1**
	3.2nm,1.0s,mb4.3,baz=194,slow=8.2,SNR=4.7						
MDJ	**Mudanjiang**	**54.76**	**10**	*e*P	**P**	**09 44 51.2**	**-0.2**
SONM	**Songino Array**	**58.07**	**350**	P	**P**	**09 45 15.6**	**+0.6**
	2.9nm,0.8s,mb4.4,baz=168,slow=8.7,SNR=20						
MKAR	**Makanchi Array**	**64.68**	**333**	P	**P**	**09 45 58.6**	**-0.9**
	0.8nm,0.4s,mb4.1,baz=154,slow=6.4,SNR=18						
ZAL	**Zalesovo**	**69.33**	**339**	P	**P**	**09 46 27.3**	**-1.3**
	2.4nm,0.5s,mb4.4,baz=332,slow=5.9,SNR=7.7						
BVAR	**Borovoye Array**	**74.51**	**332**	P	**P**	**09 46 58.9**	**-0.6**
	1.0nm,0.6s,mb4.0,baz=135,slow=6.3,SNR=5.2						
KMBO	**Kilima Mbogo**	**81.23**	**270**	P	**P**	**09 47 37.8**	**+0.3**
	0.4nm,0.4s,mb3.8,baz=72,slow=6.4,SNR=3.8						
OXF	**Oxford**	**144.28**	**42**	*e*PKPdf	PKPdf	09 54 57.9	+2.2
LRAL	**Lakeview Retre**	**146.77**	**41**	*e*PKPbc	PKPbc	09 55 04.9	+3.4

*IDC **03** 09:42:45.1±4.9,10.24N×86.27W,mb3.6/4,mb1 3.9/4, mb1mx3.7/19,mbtmp3.6/4,Error ellipse: s-maj=115.6km s-min=13.3km az=12.0*

CASC 03 09:42:25.6±2.0,12.06N×86.15W,h6km±5km,MD4.2, ML2.6,Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASN	**Masaya**	**0.07**	**184**	*e*P	Pg	09 42 27.7	+0.4
WILN	**Americas 2**	**0.11**	**338**	*e*P	Pg	09 42 29.1	+1.1
MGAN	**Managua**	**0.13**	**311**	*e*P	Pg	09 42 29.2	+0.8
MGAN				*e*S	Sg	09 42 32.0	+1.7
MGAN				*i*		09 42 47.3	
	comp=N,1μm,0.5s						
APON	**Apoyo**	**0.16**	**151**	*e*P	Pg	09 42 29.3	+0.3
CRUN	**El Crucero**	**0.17**	**243**	*e*P	Pg	09 42 28.7	-0.4
XAVN	**Gruta Xavier**	**0.20**	**297**	*e*P	Pg	09 42 30.7	+1.0
COPN	**Copaltepe**	**0.45**	**285**	*e*P	Pg	09 42 34.2	-0.5
PYTN	**Playitas**	**0.48**	**10**	*e*P	Pg	09 42 35.3	0.0
MOMJ	**Momotombo**	**0.52**	**312**	*e*P	Pg	09 42 36.8	+0.8
MIRN	**Miramar**	**0.67**	**304**	*e*P	Pg	09 42 38.7	-0.3
CNGN	**Cerro Negro**	**0.70**	**309**	*e*P	Pg	09 42 39.3	-0.3
LEON	**Leon**	**0.81**	**296**	*e*P	Pb	09 42 39.9	-1.8
TEL3	**Telica 3**	**0.85**	**307**	*e*P	Pb	09 42 41.5	-1.0
VCR	**Vista de Mar**	**1.99**	**165**	*e*P	Pn	09 43 00.9	+0.7
VCR				*e*S	Sn	09 43 26.8	+1.1
JTS	**JuntasAbangare**	**2.11**	**146**	Pg	Pg	09 43 10.0	+2.2
	comp=N,349nm,0.3s,baz=337,slow=13,SNR=6.7						
JTS				Lg		09 43 26.9	
	comp=N,793nm,0.3s,baz=336,slow=22,SNR=24						
FORC	**Fortuna

APON	**Apoyo**	**0.80**	**321**⇓	*e*P	Pb	10 00 28.9	-0.7
CRUN	**El Crucero**	**1.01**	**313**⇓	*e*P	Pb	10 00 33.2	+0.1
WILN	**Americas 2**	**1.07**	**324**	*e*S	Sb	10 00 48.3	+0.2
MGAN	**Managua**	**1.09**	**321**⇓	*e*P	Pb	10 00 33.5	-1.0
MGAN				*e*S	Sb	10 00 48.2	-0.7
MGAN				*i*		10 00 50.9	
	comp=E,222nm,0.4s						
MGAN				*i*		10 00 52.1	
	comp=N,211nm,0.3s						
VCR	**Vista de Mar**	**1.16**	**184**	*e*P	Pb	10 00 35.3	-0.4
FORC	**Fortuna**	**1.19**	**133**⇓	*e*P	Pb	10 00 34.9	-1.2
FORC				*e*S	Sb	10 00 52.0	+0.4
COPN	**Copaltepe**	**1.35**	**311**⇑	*e*P	Pb	10 00 37.9	-1.1
COPN				*e*S	Sb	10 00 56.4	0.0
PRS1	**Puriscal**	**1.78**	**137**⇓	*e*P	Pn	10 00 45.0	-0.2
PRS1				*e*S	Sn	10 01 08.9	+0.6
TRTC	**Tortuguero**	**1.94**	**111**	*e*P	Pn	10 00 47.1	-0.3
TRTC				*e*S	Sn	10 01 10.9	-1.4
SJS	**Escuela Geolog**	**1.99**	**132**	*e*S	Sn	10 01 14.5	+0.8
LCR2	**La Lucha 2**	**2.16**	**135**⇓	*e*P	Pn	10 00 49.9	-0.8
LCR2				*e*S	Sn	10 01 19.3	+1.2
BUS	**Buena Vista**	**2.46**	**134**⇓	*e*P	Pn	10 00 55.8	+0.8
BUS				*e*S	Sn	10 01 27.4	+1.6

CASC 03 10:26:29.5±2.4, 11.29N×85.48W, h3km±7km, MD3.5, ML2.8, 4C-3D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CONN	**Concepcion**	**0.31**	**331**⇑	*i*P	Pg	10 26 36.6	+0.9
CONN				*e*S	Sg	10 26 42.0	+2.2
LIM1	**Limonal**	**0.63**	**160**⇓	*i*P	Pg	10 26 42.3	+0.2
LIM1				*e*S	Sg	10 26 51.7	+1.3
FORC	**Fortuna**	**1.14**	**136**⇓	*e*P	Pb	10 26 51.0	-0.4
FORC				*e*S	Sb	10 27 09.7	+3.3
MGAN	**Managua**	**1.14**	**318**	*e*S	Sb	10 27 06.4	0.0
MGAN				*i*		10 27 07.0	
	comp=E,215nm,0.3s						
MGAN				*i*		10 27 07.1	
	comp=N,170nm,0.6s						
XAVN	**Gruta Xavier**	**1.19**	**316**	*e*P	Pb	10 26 52.7	+0.3
XAVN				*e*S	Sb	10 27 08.5	+0.5
PYTN	**Playitas**	**1.36**	**335**	*e*P	Pb	10 26 54.5	-0.8
COPN	**Copaltepe**	**1.41**	**309**⇑	*e*P	Pb	10 26 55.1	-0.9
COPN				*e*S	Sb	10 27 13.7	-0.6
MIRN	**Miramar**	**1.66**	**313**⇑	*e*P	Pn	10 26 59.9	+0.2
CNGN	**Cerro Negro**	**1.70**	**315**	*e*P	Pn	10 27 00.8	+0.6
PRS1	**Puriscal**	**1.73**	**139**	*e*P	Pn	10 27 00.7	0.0
PRS1				*e*S	Sn	10 27 26.7	+3.1
LEON	**Leon**	**1.78**	**309**	*e*P	Pn	10 27 01.6	+0.2
TEL3	**Telica 3**	**1.85**	**314**	*e*P	Pn	10 27 02.5	+0.1
TRTC	**Tortuguero**	**1.87**	**112**⇓	*e*P	Pn	10 27 02.1	-0.6
TRTC				*e*S	Sn	10 27 27.9	+0.8
LCR2	**La Lucha 2**	**2.11**	**137**⇑	*e*P	Pn	10 27 05.4	-0.8
LCR2				*e*S	Sn	10 27 35.3	+2.0

*CSEM **03** 10:26:36.3±0.1, 34.88N×3.76W, h2km, ML3.4/2, Error ellipse: s-maj=4.1km s-min=2.1km az=106.0*
*NEIC **03** 10:26:37.7, 34.71N×3.61W, h64km, MG3.5(MDD), After MDD.*
*CNRM **03** 10:26:37.5, 35.05N×3.81W, h11km, MD3.4*
*SFS **03** 10:26:37.0, 31.71N×3.61W, h64km*
*MDD **03** 10:26:38.3±0.4, 34.94N×3.87W, mbLg2.3/20, Error ellipse: s-maj=3.7km s-min=3.3km az=144.0, PRXIMO*

ISC 03 10:26:37.0±0.6, 34.96N±0.02×3.97W±0.03, h5km±4km, n73, σ1§32/131, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOU	**Touzarine**	**0.18**	**90**	P	**Pg**	**10 26 39.0**	**-1.7**
TOU				S	**Sg**	**10 26 42.0**	**-1.1**
TOU	**Touzarine**	**0.18**	**90**	*i* P	**Pg**	**10 26 39.0**	**-1.7**
MPAL	**Palemas**	**0.26**	**5**	P	**Pg**	**10 26 42.0**	**-0.4**
MPAL				S	**Sg**	**10 26 45.0**	**-1.0**
MPAL	**Palemas**	**0.26**	**5**	*i* P	**Pg**	**10 26 42.0**	**-0.4**
TZK	**Tazeka**	**0.89**	**192**	*i* P	**Pb**	**10 26 55.0**	**+0.5**
TZK				*i* S	**Sb**	**10 27 08.0**	**+1.5**
EMEL	**Melilla**	**0.90**	**68**	P	**Pb**	**10 26 53.0**	**-1.7**
	473nm,0.3s,SNR=4.0						
EMEL				S	**Sb**	**10 27 07.2**	**+0.5**
	628nm,0.6s,SNR=4.7						
EMLI	**Melilla**	**0.90**	**68**	P	**Pb**	**10 26 53.0**	**-1.8**
	473nm,0.3s,SNR=4.0						
EMLI				S	**Sb**	**10 27 07.2**	**+0.3**
	628nm,0.6s,SNR=4.7						
MELI	**Melilla**	**0.91**	**68**	P	**Pb**	**10 26 55.5**	**+0.6**
MELI				S	**Sb**	**10 27 08.3**	**+1.2**
MELI	**Melilla**	**0.91**	**68**	*i* P	**Pb**	**10 26 55.5**	**+0.6**
MELI				*e*S	**Sb**	**10 27 08.3**	**+1.2**
ZAI	**Zaio**	**1.00**	**89**	P	**Pb**	**10 26 54.0**	**-2.5**
ZAI				S	**Sb**	**10 27 05.0**	**-4.9**
ZAI	**Zaio**	**1.00**	**89**	*i* P	**Pb**	**10 26 54.0**	**-2.5**
EALB	**Alboran**	**1.24**	**38**	P	**Pb**	**10 27 01.2**	**+0.6**
	4.9nm,0.1s,SNR=4.0						
EALB				S	**Sb**	**10 27 16.6**	**-0.1**
	58nm,0.3s,SNR=7.9						
EALB	**Alboran**	**1.24**	**38**	P	**Pb**	**10 27 02.4**	**+1.8**
	4.9nm,0.1s,SNR=4.0						
EALB				S	**Sb**	**10 27 16.6**	**-0.1**
	58nm,0.3s,SNR=7.9						
EALB	**Alboran**	**1.24**	**38**	P	**Pb**	**10 27 02.4**	**+1.8**
EALB				S	**Sb**	**10 27 16.6**	**-0.1**
DKH	**Dar Kharkhour**	**1.26**	**295**	P	**Pb**	**10 27 00.0**	**-0.8**
DKH				S	**Sb**	**10 27 16.0**	**-1.2**
EMIJ	**Mijas**	**1.73**	**338**	P	**Pn**	**10 27 09.7**	**+1.7**
	6.5nm,0.3s,SNR=4.8						
EMIJ				S	**Sn**	**10 27 28.7**	**-2.0**
	17nm,0.2s,SNR=5.8						
EMIJ	**Mijas**	**1.73**	**338**	P	**Pn**	**10 27 09.9**	**+1.9**
	6.5nm,0.3s,SNR=4.8						
EMIJ	**Mijas**	**1.73**	**338**	P	**Pn**	**10 27 09.9**	**+1.9**
EMIJ				S	**Sn**	**10 27 28.7**	**-2.0**
MIF	**Mishlifen**	**1.87**	**214**	*i* P	**Pn**	**10 27 11.0**	**+1.0**
MIF				*i* S	**Sn**	**10 27 35.0**	**+0.8**
EGUA	**Guajares**	**1.90**	**10**	P	**Pn**	**10 27 10.0**	**-0.4**
	0.6nm,0.1s,SNR=4.0						
EGUA				S	**Sn**	**10 27 33.9**	**-1.1**
	1.1nm,0.2s,SNR=7.9						
EGUA	**Guajares**	**1.90**	**10**	P	**Pn**	**10 27 09.0**	**-1.4**
	0.8nm,0.2s,SNR=4.0						
EGUA				S	**Sn**	**10 27 33.5**	**-1.5**
	SNR=7.9						
EGUA	**Guajares**	**1.90**	**10**	P	**Pn**	**10 27 09.0**	**-1.4**
EGUA				S	**Sn**	**10 27 33.5**	**-1.4**
ERON	**Agron**	**2.06**	**4**	P	**Pn**	**10 27 13.6**	**+0.9**
	5.3nm,0.3s,SNR=4.0						
ERON				S	**Sn**	**10 27 42.4**	**+3.3**
	2.0nm,0.2s,SNR=4.0						
ERON	**Agron**	**2.06**	**4**	P	**Pn**	**10 27 13.4**	**+0.7**
	5.3nm,0.3s,SNR=4.0						
ERON				S	**Sn**	**10 27 42.4**	**+3.4**
	SNR=4.0						
ERON	**Agron**	**2.06**	**4**	P	**Pn**	**10 27 13.4**	**+0.7**
ERON				S	**Sn**	**10 27 42.4**	**+3.3**
CZD	**Col de Zad**	**2.12**	**205**	*i* P	**Pn**	**10 27 14.0**	**+0.4**
CZD				*i* S	**Sn**	**10 27 40.0**	**-0.6**
EBER	**Berja**	**2.12**	**24**	P	**Pn**	**10 27 13.3**	**-0.3**
	6.2nm,0.3s,SNR=5.6						
EBER				S	**Sn**	**10 27 39.8**	**-0.9**
	18nm,0.4s,SNR=7.5						
EBER	**Berja**	**2.12**	**24**	P	**Pn**	**10 27 13.2**	**-0.4**
	6.2nm,0.3s,SNR=5.6						
EBER				S	**Sn**	**10 27 37.3**	**-3.4**
	18nm,0.4s,SNR=7.5						
EBER	**Berja**	**2.12**	**24**	P	**Pn**	**10 27 13.2**	**-0.4**
EBER				S	**Sn**	**10 27 37.3**	**-3.4**
ELOJ	**Sierra Loja**	**2.19**	**356**	P	**Pn**	**10 27 16.1**	**+1.6**
	4.8nm,0.4s,SNR=4.0						
ELOJ				S	**Sn**	**10 27 43.6**	**+1.3**
	2.1nm,0.2s,SNR=4.0						
ELOJ	**Sierra Loja**	**2.19**	**356**	P	**Pn**	**10 27 18.1**	**+3.5**
	4.8nm,0.4s,SNR=4.0						
ELOJ				S	**Sn**	**10 27 43.7**	**+1.4**
	SNR=4.0						
ELOJ	**Sierra Loja**	**2.19**	**356**	P	**Pn**	**10 27 18.1**	**+3.5**
ELOJ				S	**Sn**	**10 27 43.7**	**+1.4**
EQUE	**Quentar**	**2.28**	**11**	P	**Pn**	**10 27 16.3**	**+0.4**
	2.4nm,0.3s,SNR=7.9						
EQUE				S	**Sn**	**10 27 45.3**	**+0.6**
	2.8nm,0.2s,SNR=4.0						
ESPR	**Espera**	**2.44**	**322**	P	**Pn**	**10 27 18.5**	**+0.2**
	4.3nm,0.1s,SNR=4.0						
ESPR				S	**Sn**	**10 27 49.8**	**+0.9**
	6.7nm,0.1s,SNR=4.0						
ESPR	**Espera**	**2.44**	**322**	P	**Pn**	**10 27 20.8**	**+2.6**
	7.9nm,0.2s,SNR=4.0						
ESPR				S	**Sn**	**10 27 49.4**	**+0.5**
	SNR=4.0						
ESPR	**Espera**	**2.44**	**322**	P	**Pn**	**10 27 20.8**	**+2.5**
ESPR				S	**Sn**	**10 27 49.4**	**+0.5**
ELUQ	**Luque**	**2.61**	**355**	P	**Pn**	**10 27 21.9**	**+1.4**
	2.2nm,0.2s,SNR=4.0						
ELUQ				S	**Sn**	**10 27 52.3**	**-0.7**
	2.7nm,0.2s,SNR=4.0						
ELUQ	**Luque**	**2.61**	**355**	P	**Pn**	**10 27 21.9**	**+1.3**
	3.8nm,0.2s,SNR=4.0						
ELUQ				S	**Sn**	**10 27 55.3**	**+2.3**
	SNR=4.0						
ELUQ	**Luque**	**2.61**	**355**	P	**Pn**	**10 27 21.9**	**+1.4**
ELUQ				S	**Sn**	**10 27 55.3**	**+2.3**
EQES	**Quesada**	**2.93**	**14**	P	**Pn**	**10 27 27.1**	**+2.0**
	2.5nm,0.3s,SNR=5.8						
EQES				S	**Sn**	**10 28 00.8**	**-0.3**
	11nm,0.3s,SNR=5.5						
EQES	**Quesada**	**2.93**	**14**	P	**Pn**	**10 27 27.2**	**+2.1**
EQES				S	**Sn**	**10 28 01.9**	**+0.8**
	11nm,0.3s,SNR=5.5						
EQES	**Quesada**	**2.93**	**14**	P	**Pn**	**10 27 27.2**	**+2.1**
EQES				S	**Sn**	**10 28 01.9**	**+0.7**
ZFT	**Errachidia**	**2.94**	**186**	*i* P	**Pn**	**10 27 24.0**	**-1.3**
ZFT				*i* S	**Sn**	**10 27 59.0**	**-2.4**
EHUE	**Huescar**	**3.06**	**21**	P	**Pn**	**10 27 27.3**	**+0.4**
	1.0nm,0.1s,SNR=4.0						
EHUE				S	**Sn**	**10 28 03.6**	**-0.8**
	2.8nm,0.4s,SNR=4.0						
EHUE	**Huescar**	**3.06**	**21**	P	**Pn**	**10 27 27.3**	**+0.4**
EHUE				S	**Sn**	**10 28 03.6**	**-0.8**
EBAN	**Banos Encina**	**3.20**	**3**	P	**Pn**	**10 27 30.0**	**+1.0**
	2.1nm,0.3s,SNR=4.0						
EBAN				S	**Sn**	**10 28 09.2**	**+1.2**
	SNR=4.0						
EBAN	**Banos Encina**	**3.20**	**3**	P	**Pn**	**10 27 30.0**	**+0.9**
EBAN				S	**Sn**	**10 28 09.2**	**+1.1**
EADA	**Adamuz**	**3.24**	**351**	P	**Pn**	**10 27 29.9**	**+0.4**
	1.6nm,0.3s,SNR=6.2						
EADA				S	**Sn**	**10 28 08.8**	**-0.2**
	4.0nm,0.6s,SNR=4.5						
EADA	**Adamuz**	**3.24**	**351**	P	**Pn**	**10 27 30.8**	**+1.3**
	1.6nm,0.3s,SNR=6.2						
EADA				S	**Sn**	**10 28 11.0**	**+2.0**
	4.0nm,0.6s,SNR=4.5						
EADA	**Adamuz**	**3.24**	**351**	P	**Pn**	**10 27 30.8**	**+1.2**
EADA				S	**Sn**	**10 28 11.0**	**+2.0**
ECAB	**El Cabril**	**3.32**	**340**	P	**Pn**	**10 27 31.5**	**+0.8**
	1.6nm,0.4s,SNR=4.7						
ECAB				S	**Sn**	**10 28 09.7**	**-1.4**
	SNR=7.9						
ECAB	**El Cabril**	**3.32**	**340**	P	**Pn**	**10 27 31.5**	**+0.8**
	1.6nm,0.4s,SNR=4.7						
ECAB				S	**Sn**	**10 28 09.6**	**-1.5**
EMIN	**Mina Concepcio**	**3.55**	**323**	P	**Pn**	**10 27 35.0**	**+1.0**
	2.0nm,0.3s,SNR=7.4						
EMIN				S	**Sn**	**10 28 15.8**	**-1.1**
	1.3nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.55**	**323**	P	**Pn**	**10 27 34.8**	**+0.8**
EMIN	**Mina Concepcio**	**3.55**	**323**	P	**Pn**	**10 27 34.8**	**+0.8**
EMIN				S	**Sn**	**10 28 14.6**	**-2.3**
EMUR	**La Murta**	**3.62**	**37**	S	**Sn**	**10 28 14.3**	**-4.4**
	1.6nm,0.3s,SNR=4.0						
EMUR	**La Murta**	**3.62**	**37**	S	**Sn**	**10 28 13.8**	**-4.9**
	SNR=4.0						
EGRO	**El Granado**	**3.83**	**313**	P	**Pn**	**10 27 38.8**	**+0.8**
	2.1nm,0.3s,SNR=4.7						
EGRO				S	**Sn**	**10 28 21.9**	**-2.1**
	5.5nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**3.83**	**313**	P	**Pn**	**10 27 38.8**	**+0.8**
EGRO	**El Granado**	**3.83**	**313**	P	**Pn**	**10 27 38.8**	**+0.9**
EGRO				S	**Sn**	**10 28 21.9**	**-2.1**
ETOB	**Tobarra**	**4.16**	**27**	P	**Pn**	**10 27 43.3**	**+0.7**
	0.9nm,0.2s,SNR=7.6						
ETOB				S	**Sn**	**10 28 30.0**	**-2.3**
	1.1nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**4.16**	**27**	P	**Pn**	**10 27 43.7**	**+1.1**
ETOB				S	**Sn**	**10 28 29.8**	**-2.5**
ETOB	**Tobarra**	**4.16**	**27**	P	**Pn**	**10 27 43.7**	**+1.1**
ETOB				S	**Sn**	**10 28 29.8**	**-2.5**
PBEJ	**Beja**	**4.38**	**315**	*e*Sn	**Sn**	**10 28 35.6**	**-2.4**
	2.9nm,0.2s						
PBEJ	**Beja**	**4.38**	**315**	*e*Sn	**Sn**	**10 28 35.6**	**-2.4**
	2.9nm,0.2s						
EBAD	**Badajoz**	**4.51**	**328**	P	**Pn**	**10 27 47.3**	**-0.3**
	2.0nm,0.3s,SNR=5.5						
EBAD				S	**Sn**	**10 28 38.6**	**-2.5**
	5.2nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**4.51**	**328**	P	**Pn**	**10 27 47.3**	**-0.3**
PTEO	**Sao Teotonio**	**4.63**	**305**	*e*Pn	**Pn**	**10 27 51.2**	**+1.9**
PTEO				*e*Sn	**Sn**	**10 28 42.5**	**-1.7**
	8.5nm,0.3s						
PTEO	**Sao Teotonio**	**4.63**	**305**	*e*Pn	**Pn**	**10 27 51.2**	**+1.9**
PTEO				*e*Sn	**Sn**	**10 28 42.5**	**-1.7**
	8.5nm,0.3s						
ESDC	**Sonseca Array**	**4.71**	**0**	P	**Pn**	**10 27 50.8**	**+0.4**
	1.2nm,0.1s,SNR=7.9						
ESDC	**Sonseca Array**	**4.71**	**0**	P	**Pn**	**10 27 50.8**	**+0.4**
PCBR	**Castelo Branco**	**5.61**	**331**	*e*Pn	**Pn**	**10 28 04.2**	**+1.0**
PBRG	**Braganca**	**7.17**	**343**	*e*Pn	**Pn**	**10 28 25.1**	**-0.1**

*UCR **03** 10:32:09.3, 11.39N×85.45W, h5km, MD4.6*

CASC 03 10:32:11.7±2.2, 11.30N×85.46W, h2km±7km, MD3.5, ML3.0, 2C-3D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CONN	**Concepcion**	**0.31**	**328**	*e*P	Pg	10 32 19.0	+1.1
LIM1	**Limonal**	**0.63**	**162**	*i* P	Pg	10 32 24.8	+0.5
LIM1				*i* S	Sg	10 32 34.1	+1.4
APON	**Apoyo**	**0.86**	**316**⇓	*e*P	Pg	10 32 29.4	+0.6
CRUN	**El Crucero**	**1.07**	**309**	*e*P	Pb	10 32 29.3	-3.3
FORC	**Fortuna**	**1.13**	**137**	*e*P	Pb	10 32 33.1	-0.6
FORC				*e*P		10 32 33.4	
FORC				*e*S	Sb	10 32 50.2	+1.5
FORC				*e*S	Sb	10 32 51.9	+3.2
MGAN	**Managua**	**1.14**	**317**⇓	*e*P	Pb	10 32 33.3	-0.6
MGAN				*e*S	Sb	10 32 49.2	+0.1
MGAN				*i*		10 32 50.4	
	comp=E,291nm,0.5s						
VCR	**Vista de Mar**	**1.18**	**188**	*e*P	Pb	10 32 33.8	-0.7
XAVN	**Gruta Xavier**	**1.20**	**315**	*e*P	Pb	10 32 34.9	+0.1
PYTN	**Playitas**	**1.36**	**334**⇑	*e*P	Pb	10 32 37.0	-0.6
COPN	**Copaltepe**	**1.42**	**308**⇓	*e*P	Pb	10 32 38.0	-0.5
MOMJ	**Momotombo**	**1.53**	**316**	*e*P	Pn	10 32 41.1	+0.9
MIRN	**Miramar**	**1.67**	**313**	*e*P	Pn	10 32 42.2	-0.1
CNGN	**Cerro Negro**	**1.70**	**315**	*e*P	Pn	10 32 42.5	-0.2
PRS1	**Puriscal**	**1.73**	**139**	*e*P	Pn	10 32 43.4	+0.4
PRS1				*e*S	Sn	10 33 08.8	+2.8
LEON	**Leon**	**1.79**	**308**	*e*P	Pn	10 32 44.0	+0.1
TRTC	**Tortuguero**	**1.86**	**113**⇑	*e*P	Pn	10 32 44.5	-0.4
TRTC				*e*S	Sn	10 33 09.4	+0.1
LCR2	**La Lucha 2**	**2.11**	**137**	*e*P	Pn	10 32 48.1	-0.4
LCR2				*e*S	Sn	10 33 17.8	+2.2
BUS	**Buena Vista**	**2.41**	**136**	*e*P	Pn	10 32 52.9	+0.1

*CSEM **03** 10:39:38.9±0.1, 34.92N×3.87W, h2km, MD3.3, Error ellipse: s-maj=3.2km s-min=1.9km az=118.0*
*MDD **03** 10:39:39.3±0.4, 34.98N×3.84W, mb3.3/6, mbLg2.0/8, Error ellipse: s-maj=4.0km s-min=3.1km az=50.0, PRXIMO*
*CNRM **03** 10:39:39.2, 35.00N×3.77W, h6km, MD3.3*
*NEIC **03** 10:39:43.7, 35.07N×3.79W, h11km, MG3.7(MDD), After MDD.*
*SFS **03** 10:39:43.0, 35.06N×3.79W, h11km*

ISC 03 10:39:38.6±0.7, 34.96N±0.02×3.89W±0.04, h7km±4km, n31, σ1§31/59, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOU	**Touzarine**	**0.12**	**88**	*i* P	**Pg**	**10 39 40.0**	**-1.2**
TOU				*i* S	**Sg**	**10 39 42.0**	**-0.9**
MPAL	**Palemas**	**0.27**	**352**	*i* P	**Pg**	**10 39 44.0**	**-0.1**
MPAL				*i* S	**Sg**	**10 39 47.0**	**-0.8**
EMEL	**Melilla**	**0.84**	**66**	P	**Pb**	**10 39 56.8**	**+1.6**
	163nm,0.1s,SNR=9.3						
EMEL				S	**Sb**	**10 40 06.5**	**0.0**
	215nm,0.3s,SNR=4.0						
EMLI	**Melilla**	**0.84**	**66**	P	**Pb**	**10 39 56.8**	**+1.6**
	163nm,0.1s,SNR=9.3						
EMLI				S	**Sb**	**10 40 06.5**	**-0.1**
	215nm,0.3s,SNR=4.0						
MELI	**Melilla**	**0.85**	**67**	*i* P	**Pb**	**10 39 57.0**	**+1.6**
MELI				*e*S	**Sb**	**10 40 10.6**	**+3.8**
TZK	**Tazeka**	**0.90**	**196**	*i* P	**Pb**	**10 39 57.0**	**+0.8**
TZK				*i* S	**Sb**	**10 40 10.0**	**+1.9**
ZAI	**Zaio**	**0.94**	**89**	*i* P	**Pb**	**10 39 55.0**	**-1.9**
ZAI				*i* S	**Sb**	**10 40 06.0**	**-3.4**
EALB	**Alboran**	**1.21**	**35**	P	**Pb**	**10 40 02.8**	**+1.4**
	11nm,0.3s,SNR=7.9						
EALB				S	**Sb**	**10 40 17.1**	**+0.1**
	28nm,0.2s,SNR=7.9						
EALB	**Alboran**	**1.21**	**35**	P	**Pb**	**10 40 02.8**	**+1.4**
EALB				S	**Sb**	**10 40 17.1**	**+0.1**
EMIJ	**Mijas**	**1.75**	**336**	P	**Pn**	**10 40 09.8**	**+0.1**
	1.6nm,0.2s,SNR=7.9						
EMIJ				S	**Sn**	**10 40 33.0**	**+0.4**
	3.5nm,0.1s,SNR=7.9						
EMIJ	**Mijas**	**1.75**	**336**	P	**Pn**	**10 40 12.6**	**+2.8**
	1.6nm,0.2s,SNR=7.9						
EMIJ				S	**Sn**	**10 40 32.3**	**-0.3**
	3.5nm,0.1s,SNR=7.9						
EMIJ	**Mijas**	**1.75**	**336**	P	**Pn**	**10 40 12.6**	**+2.8**
EMIJ				S	**Sn**	**10 40 32.3**	**-0.3**
MIF	**Mishlifen**	**1.90**	**216**	*i* P	**Pn**	**10 40 13.0**	**+1.1**
MIF				*i* S	**Sn**	**10 40 35.0**	**-1.3**
EBER	**Berja**	**2.10**	**23**	P	**Pn**	**10 40 15.1**	**+0.4**
	0.9nm,0.1s,SNR=4.0						
EBER				S	**Sn**	**10 40 40.5**	**-0.9**
	2.5nm,0.2s,SNR=7.9						
EBER	**Berja**	**2.10**	**23**	P	**Pn**	**10 40 15.1**	**+0.4**
	0.9nm,0.1s,SNR=4.0						
EBER				S	**Sn**	**10 40 39.5**	**-1.9**
	2.5nm,0.2s,SNR=7.9						
EBER	**Berja**	**2.10**	**23**	P	**Pn**	**10 40 15.1**	**+0.4**
EBER				S	**Sn**	**10 40 39.5**	**-1.9**
CZD	**Col de Zad**	**2.14**	**207**	*i* P	**Pn**	**10 40 16.0**	**+0.7**
CZD				*i* S	**Sn**	**10 40 42.0**	**-0.5**
EQUE	**Quentar**	**2.27**	**9**	P	**Pn**	**10 40 17.3**	**+0.1**
	0.4nm,0.1s,SNR=7.9						
EQES	**Quesada**	**2.92**	**13**	P	**Pn**	**10 40 24.4**	**-1.9**
	0.9nm,0.1s,SNR=4.0						
EQES				S	**Sn**	**10 40 59.0**	**-3.0**
	1.1nm,0.2s,SNR=7.9						
EQES	**Quesada**	**2.92**	**13**	P	**Pn**	**10 40 28.0**	**+1.6**
	0.9nm,0.1s,SNR=4.0						
EQES				S	**Sn**	**10 41 01.8**	**-0.3**
	2.1nm,0.2s,SNR=7.9						
EQES	**Quesada**	**2.92**	**13**	P	**Pn**	**10 40 28.0**	**+1.6**
EQES				S	**Sn**	**10 41 01.8**	**-0.3**
ZFT	**Errachidia**	**2.94**	**188**	P	**Pn**	**10 40 25.0**	**-1.7**
ZFT				S	**Sn**	**10 41 00.0**	**-2.7**
ZFT	**Errachidia**	**2.94**	**188**	*i* P	**Pn**	**10 40 25.0**	**-1.7**
EMIN	**Mina Concepcio**	**3.59**	**322**	P	**Pn**	**10 40 36.5**	**+0.5**
	0.3nm,0.2s,SNR=7.9						
EMIN				S	**Sn**	**10 41 16.3**	**-2.8**
	0.3nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.59**	**322**	P	**Pn**	**10 40 37.4**	**+1.4**
	0.3nm,0.2s,SNR=7.9						
EMIN				S	**Sn**	**10 41 17.3**	**-1.9**
	0.3nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.59**	**322**	P	**Pn**	**10 40 37.4**	**+1.5**
EMIN				S	**Sn**	**10 41 17.4**	**-1.8**
ETOB	**Tobarra**	**4.13**	**26**	P	**Pn**	**10 40 44.1**	**+0.4**
	0.6nm,0.2s,SNR=7.9						
ETOB				S	**Sn**	**10 41 28.4**	**-4.5**
	0.7nm,0.4s,SNR=4.0						
ETOB	**Tobarra**	**4.13**	**26**	P	**Pn**	**10 40 44.1**	**+0.4**
	0.6nm,0.2s,SNR=7.9						
ETOB				S	**Sn**	**10 41 28.4**	**-4.5**
	0.7nm,0.4s,SNR=4.0						
EBAD	**Badajoz**	**4.54**	**327**	P	**Pn**	**10 40 48.4**	**-1.1**
	0.7nm,0.2s,SNR=4.0						
EBAD				S	**Sn**	**10 41 39.1**	**-4.1**
	1.7nm,0.2s,SNR=4.0						
EBAD	**Badajoz**	**4.54**	**327**	P	**Pn**	**10 40 50.9**	**+1.4**
EBAD	**Badajoz**	**4.54**	**327**	P	**Pn**	**10 40 50.9**	**+1.4**
EBAD				S	**Sn**	**10 41 39.1**	**-4.2**

*MOS **03** 10:41:15.2±1.1, 3.13N×128.15E, h52km, mb5.9/54, MS5.1/16, Error ellipse: s-maj=8.8km s-min=4.7km az=112.0*
*BJI **03** 10:41:16.4, 2.91N×128.58E, h88km, mB5.9, mb5.6, Ms5.2, Msz5.0*
*HRVD **03** 10:41:18.2±0.1, 3.13N×128.11E, h81km, MW5.9/71, Centroid moment Tensor Solution. LP body waves: s67,c144;Mantle waves: s71,c209; Half duration: 2§1 Moment tensor: Scale 10^{18}Nm; M_{rr}0.71±.01; $M_{\theta\

605nm,0.6s
KAKA *e*S Sx 10 48 16.0
KAKA *i* SCP 10 53 26.3
APYP Conner 16.33 335 *e*P **P** **10 45 05.1 +1.9**
KSM Kuching 18.02 266⇓*e*P **P** **10 45 23.8 -0.4**
KSM *e*S **S** **10 48 43.1 +3.7**
GUMO Guam 19.49 56 *e*P **P** **10 45 41.5 +0.6**
336nm,1.0s
GUMO Guam 19.49 56 *e*P **P** **10 45 41.5 +0.7**
GUMO pmax pmax
comp=Z,337nm,1.0s
SAPN Saipan 21.08 54 *e*P **P** **10 46 00.1 +2.8**
FITZ Fitzroy Crossi 21.10 187⇑*i*P **P** **10 45 56.1 -1.4**
comp=Z,137nm,0.8s,mb5.3
FITZ *e*S **S** **10 49 45.5 +2.7**
FITZ *e*SCP 10 53 31.1
FITZ Fitzroy Crossi 21.10 187 P **P** **10 45 56.3 -1.2**
comp=Z,143nm,0.7s,mb5.4,baz=5.1,slow=8.4,SNR=91
FITZ ScP 10 53 31.1
comp=Z,96nm,1.1s,baz=167,slow=12,SNR=3.6
FITZ LR LR 10 54 37.9
comp=Z,3μm,18.5s,baz=39,slow=38
SARN Sarigan 21.94 50 *e*P **P** **10 46 09.6 +3.7**
NACB Ninganchiao 22.05 344 *e*P **P** **10 46 07.4 +0.5**
PMG Port Moresby 22.47 123 P **P** **10 46 13.4 +2.3**
comp=Z,69nm,0.7s,mb5.1,baz=350,slow=8.5,SNR=28
PMG Port Moresby 22.47 123 *e*P **P** **10 46 10.8 -0.3**
comp=Z,355nm,0.9s,mb5.7
PMG LR LR
comp=Z,8μm,20.0s
PMG Port Moresby 22.47 123 *e*P **P** **10 46 10.8 -0.2**
PMG pmax pmax
comp=Z,355nm,0.9s
PMG MLR MLR
comp=Z,8μm,20.0s
YHNB Yeheng 22.58 343 *e*P **P** **10 46 12.6 +0.5**
TATO Taipei 22.84 344 *e*P **P** **10 46 15.2 +0.6**
comp=Z,83nm,0.6s,mb5.2
WRAB Tennant Creek 23.53 166⇑*i*P **P** **10 46 22.1 +0.8**
comp=Z,3μm,1.2s,mb6.4
WRAB *e*S **S** **10 50 26.2 -0.1**
WRAB Tennant Creek 23.53 166⇑*i*P **P** **10 46 22.1 +0.8**
WRAB *e*S **S** **10 50 26.3 0.0**
WRAB pmax pmax
comp=Z,3μm,1.2s,mb6.4
WRA Warramunga Arr 23.54 166 P **P** **10 46 23.1 +1.7**
comp=Z,241nm,0.7s,mb5.6,baz=346,slow=11,SNR=424
WRA S **S** **10 50 29.7 +3.3**
comp=Z,86nm,1.2s,baz=347,slow=16,SNR=4.0
WRA ScP 10 53 37.3
comp=Z,29nm,1.0s,baz=337,slow=3.1,SNR=7.4
WB2 Warramunga Arr 23.54 166⇑*i*P **P** **10 46 22.3 +0.9**
WB2 *e*S **S** **10 50 27.2 +0.7**
WB2 *i* SCS ScS 10 57 21.5 -0.3
HKC Hong Kong 23.60 326⇑*i*P **P** **10 46 23.0 +1.0**
JOW Kunigami 23.73 360 P **P** **10 46 25.2 +2.1**
comp=Z,284nm,0.8s,mb5.7,baz=177,slow=8.8,SNR=33
JOW PP PP 10 46 56.1 -2.4
comp=Z,207nm,0.3s,baz=164,slow=18,SNR=50
JOW LR LR 10 54 46.0
comp=Z,3μm,19.6s,baz=43,slow=34
QZH Quanzhou 23.76 338⇑*i*P **P** **10 46 23.2 -0.3**
QZH AP 10 46 39.0
QZH S **S** **10 50 24.5 -5.7**
QZH AMB AMB
comp=Z,580nm,1.0s,mb5.9
QZH AMB AMB
comp=Z,9μm,6.8s
QIZ Qiongzhong 24.08 313⇑*i*P **P** **10 46 26.8 +0.1**
QIZ AP 10 46 44.9
QIZ S **S** **10 50 36.3 +0.4**
QIZ AMB AMB
comp=Z,337nm,1.5s,mb5.5
QIZ AMB AMB
comp=Z,2μm,5.4s
QIZ Qiongzhong 24.08 313⇑*e*P **P** **10 46 26.6 -0.1**
comp=Z,664nm,1.4s,mb5.8
QIZ *e*S **S** **10 50 41.2 +5.3**
GZH Guangzhou 24.68 325 P **P** **10 46 35.0 +2.4**
GZH S **S** **10 50 46.8 +0.9**
GZH AMB AMB
comp=Z,179nm,0.9s,mb5.5
GZH LR LR
comp=N,4μm,20.8s
GZH LR LR
comp=E,4μm,25.8s
GZH LR LR
comp=Z,10μm,30.8s
KGM Kluang 24.96 268 P **P** **10 46 37.0 +1.7**
MBWA Marble Bar 25.40 199⇑*e*P **P** **10 46 38.5 -0.9**
comp=Z,268nm,1.1s,mb5.6
UBT Ubonrachathani 25.97 299 P **P** **10 46 45.5 +0.8**
IPM Ipoh 27.25 274 P **P** **10 46 56.7 +0.2**
CBIJ Chichi jima 27.43 28 P **P** **10 46 57.1 -0.9**
comp=Z,133nm,0.3s,mb5.9,baz=198,slow=1.8,SNR=15
CBIJ LR LR 10 56 28.9
comp=Z,3μm,18.7s,baz=190,slow=33
KULM Kulim 27.66 276 P **P** **10 46 58.6 -1.6**
PPI Padang Panjang 28.08 263 P **P** **10 47 07.9 +3.8**
comp=Z,113nm,1.0s,mb5.3
KKTK Khon Kaen 28.34 300 P **P** **10 47 06.0 -0.3**
comp=Z,4μm,0.5s
SSE Sheshan 28.77 347 P **P** **10 47 07.8 -2.2**
SSE PCP PcP 10 50 20.4 +1.9
SSE S **S** **10 51 47.9 -4.6**
SSE AMB AMB
comp=Z,44nm,0.9s,mb5.1
SSE AMB AMB
comp=Z,1μm,7.5s
SSE LR LR
comp=N,1μm,14.5s
SSE LR LR
comp=E,2μm,15.1s
SSE LR LR
comp=Z,2μm,24.5s
SSE Sheshan 28.77 347 P **P** **10 47 07.8 -2.2**
comp=Z,44nm,0.9s,mb5.1
SSE pP pP 10 47 24.4 -3.3
SSE sP sP 10 47 32.9 -3.8
SSE PP PP 10 48 12.1 +6.8
SSE PcP PcP 10 50 20.4 +1.9
SSE S **S** **10 51 47.9 -4.6**
SSE sS 10 52 17.0
SSE PcS 10 54 02.9
SSE LR LR
comp=Z,2μm,24.5s
CTA Charters Tower 28.92 143 *e*P **P** **10 47 11.8 +0.4**
comp=Z,41nm,0.8s,mb5.1
CTA *e*S **S** **10 51 54.1 -1.0**
CTA Charters Tower 28.92 143 P **P** **10 47 11.8 +0.4**
comp=Z,48nm,0.8s,mb5.2,baz=319,slow=10,SNR=35
CTA LR LR 10 59 06.3
comp=Z,3μm,21.2s,baz=326,slow=37
CTA Charters Tower 28.92 143 *e*P **P** **10 47 11.8 +0.4**
CTA *e*S **S** **10 51 54.1 -1.0**
CTA pmax pmax
comp=Z,41nm,0.8s
CTAO Charters Tower 28.92 143 *e*P **P** **10 47 11.4 0.0**
comp=Z,61nm,0.8s,mb5.3
CTAO LR LR
comp=Z,3μm,21.0s
CTAO Charters Tower 28.92 143 P **P** **10 47 12.3 +0.9**
CTAO pmax pmax
comp=Z,61nm,0.9s,mb5.2
NJ2 Nanjing 30.26 344 *e*P **P** **10 47 24.0 +0.8**
NJ2 PP PP 10 48 24.5 -0.1
NJ2 S **S** **10 52 16.0 -0.1**
NJ2 AMB AMB
comp=Z,20nm,0.5s,mb5.0
NJ2 AMB AMB
comp=Z,810nm,8.9s
NJ2 LR LR
comp=N,5μm,25.2s
NJ2 LR LR
comp=E,4μm,16.7s
NJ2 LR LR
comp=Z,1μm,25.5s
WHN Wuhan 30.43 336 P **P** **10 47 24.5 -0.2**
WHN S **S** **10 52 15.0 -3.7**
WHN AMB AMB
comp=Z,3μm,7.5s
WHN LR LR
comp=N,5μm,26.7s
WHN LR LR
comp=E,9μm,19.8s
WHN LR LR
comp=Z,12μm,23.8s
GYA Guiyang 31.23 320⇑*i*P **P** **10 47 31.8 0.0**
GYA AP pP 10 47 50.6 +0.7
GYA XP sP 10 48 01.2 +2.2
GYA PP PP 10 48 35.4 -1.6
GYA PCP PcP 10 50 25.7 +0.8
GYA S **S** **10 52 30.8 -0.6**
GYA SCS ScS 10 57 56.4 +0.7
GYA AMB AMB
comp=Z,40nm,1.2s,mb5.0
GYA AMB AMB
comp=Z,990nm,6.0s
GYA LR LR
comp=N,3μm,18.6s
GYA LR LR
comp=E,1μm,16.4s
GYA LR LR
comp=Z,3μm,18.6s
JHJ Hachijo jima 2 31.87 18 P **P** **10 47 35.2 -2.1**
comp=Z,42nm,0.4s,mb5.5,baz=181,slow=9.4,SNR=7.5
ENH Enshi 32.47 329⇑*i*P **P** **10 47 41.9 -0.7**
comp=Z,112nm,0.8s,mb5.7
KMI Kunming 33.01 314 P **P** **10 47 48.5 +1.1**
KMI S **S** **10 53 01.1 +1.9**
KMI AMB AMB
comp=Z,95nm,1.5s,mb5.4
KMI AMB AMB
comp=Z,966nm,5.5s
KMI LR LR
comp=N,3μm,17.9s
KMI LR LR
comp=E,2μm,15.8s
KMI LR LR
comp=Z,4μm,34.7s
KMI Kunming 33.01 314 P **P** **10 47 48.5 +1.1**
comp=Z,95nm,1.5s,mb5.4
KMI pP pP 10 47 58.7 -6.9
KMI sP sP 10 48 03.5 -11
KMI PP PP 10 48 55.7 -4.2
KMI PPP PPP 10 49 13.4 -3.0
KMI S **S** **10 53 01.1 +1.9**
KMI sS 10 53 17.6
KMI SS SS 10 54 59.4 -4.3
KMI SSS SSS 10 55 26.1 -3.9
KMI LR LR
comp=Z,4μm,34.7s
KMI Kunming 33.01 314 P **P** **10 47 48.5 +1.1**
KMI *SP sP 10 48 03.5 -11
KMI 10 48 55.7
KMI PPP PPP 10 49 13.4 -3.0
KMI S **S** **10 53 01.1 +1.9**
KMI SS SS 10 54 59.4 -4.3
KMI SSS SSS 10 55 26.1 -3.9
KMI pmax pmax
comp=Z,95nm,1.5s,mb5.4
KMI MLR MLR
comp=Z,4μm,34.7s
HNR Honiara 33.87 112 P **P** **10 47 55.1 +0.2**
comp=Z,305nm,0.9s,mb6.1,baz=262,slow=5.2,SNR=5.9
HNR Honiara 33.87 112 P **P** **10 47 55.1 +0.2**
comp=Z,240nm,0.9s,mb6.0
HNR Honiara 33.87 112 P **P** **10 47 57.3 +2.4**
HNR pmax pmax
comp=Z,240nm,0.9s,mb6.0
KS15 Wonju Array Si 34.31 359 *e*P **P** **10 47 57.2 -1.1**
KS15 *e*PcP PcP 10 50 33.9 +0.6
MJAR Matsushiro Arr 34.64 14 P **P** **10 47 59.1 -2.1**
comp=Z,61nm,0.8s,mb5.5,baz=187,slow=9.8,SNR=113
MJAR PcP PcP 10 50 35.0 +0.8
comp=Z,33nm,0.9s,baz=186,slow=3.3,SNR=8.5
MJAR ScP 10 54 12.6
comp=Z,10nm,1.1s,baz=214,slow=4.6,SNR=6.5
MJAR LR LR 11 00 19.2
comp=Z,3μm,20.9s,baz=205,slow=33
MAJO Matsushiro 34.64 14⇑*e*P **P** **10 47 58.9 -2.3**
comp=Z,77nm,0.8s,mb5.6
MAJO *e*PcP PcP 10 50 34.8 +0.6
MAJO Matsushiro 34.64 14⇑*e*P **P** **10 47 58.9 -2.3**
MAJO *e* 10 50 34.8
MAJO pmax pmax
comp=Z,77nm,0.8s,mb5.6
MAT Matsushiro 34.64 14 P **P** **10 47 59.2 -2.0**
MAT S **S** **10 53 20.0 -4.3**
MAT Matsushiro 34.64 14 *e*P **P** **10 47 59.0 -2.2**
comp=Z,205nm,1.2s,mb5.8
MAT *e*S **S** **10 53 20.0 -4.3**
MAT LR LR
comp=Z,5μm,21.0s
MAT Matsushiro 34.64 14 *e*P **P** **10 47 59.0 -2.2**
MAT *e*S **S** **10 53 20.0 -4.3**
MAT pmax pmax
comp=Z,205nm,1.2s,mb5.8
MAT MLR MLR
comp=Z,5μm,21.0s
XAN Xi'an 35.80 332 P **P** **10 48 10.4 -0.7**
XAN AMB AMB
comp=Z,176nm,1.3s,mb5.8
XAN LR LR
comp=N,2μm,27.6s
XAN LR LR
comp=E,2μm,32.0s
XAN LR LR
comp=Z,4μm,34.1s
KLBR Kellerberrin 35.80 195⇑*i*P **P** **10 48 09.9 -1.3**
comp=Z,141nm,0.7s,mb6.0
KLBR *e*PCP PcP 10 50 37.6 0.0
CD2 Chengdu 36.17 323 P **P** **10 48 14.9 +0.6**
CD2 XP sP 10 48 44.2 +2.3
CD2 PP PP 10 49 37.6 -1.2
CD2 S **S** **10 53 46.9 -1.1**
CD2 AMB AMB
comp=Z,60nm,0.9s,mb5.5
CD2 AMB AMB
comp=Z,650nm,5.5s
CD2 LR LR
comp=N,1μm,16.8s
CD2 LR LR
comp=Z,2μm,33.0s
DL2 Dalian 36.28 351⇑*i*P **P** **10 48 15.0 -0.1**
DL2 PP PP 10 49 38.7 -1.3
DL2 PCP PcP 10 50 39.8 +0.8
DL2 S **S** **10 53 44.4 -5.1**
DL2 AMB AMB
comp=Z,100nm,0.8s,mb5.8
DL2 AMB AMB
comp=Z,730nm,6.8s
DL2 LR LR
comp=E,2μm,20.4s
DL2 LR LR
comp=Z,2μm,19.7s
MUN Mundaring 36.60 197⇑*i*P **P** **10 48 16.9 -1.0**
comp=Z,71nm,0.8s,mb5.7
MUN *e*S **S** **10 53 44.0 -10**
MUN Mundaring 36.60 197⇑*i*P **P** **10 48 16.9 -1.0**
MUN pmax pmax
comp=Z,71nm,0.8s,mb5.7
STKA Stephens Creek 36.89 161⇑*i*P **P** **10 48 20.4 +0.1**
comp=Z,512nm,0.4s
STKA *e*S **S** **10 53 56.2 -2.7**
STKA Stephens Creek 36.89 161 P **P** **10 48 20.5 +0.1**
comp=Z,554nm,0.4s,baz=339,slow=7.9,SNR=1045
STKA LR LR 11 04 48.4
comp=Z,1μm,18.3s,baz=329,slow=38
NWAO Narrogin (SRO) 37.20 195 *e*P **P** **10 48 22.5 -0.5**
comp=Z,151nm,1.1s,mb5.8
NWAO Narrogin (SRO) 37.20 195 P **P** **10 48 22.6 -0.3**
NWAO pmax pmax
comp=Z,150nm,1.1s
SNY Shenyang 38.91 354⇑P **P** **10 48 36.6 -0.4**
SNY S **S** **10 54 22.0 -7.5**
SNY AMB AMB
comp=Z,1μm,13.9s
SNY LR LR
comp=E,2μm,22.1s
SNY LR LR
comp=Z,2μm,29.0s
KWAJ Kwajalein Atol 39.53 80 *e*P **P** **10 48 43.8 +1.4**
comp=Z,372nm,1.1s,mb6.1
IMP Imphal 39.56 306⇑*i*x x 10 48 49.0
IMP *e*x x 10 50 50.0
LZH Lanzhou 39.95 329⇑P **P** **10 48 46.5 +0.8**
LZH AP pP 10 49 03.5 -0.8
LZH PP PP 10 50 23.5 +1.1
LZH PCP PcP 10 50 50.3 -0.1
LZH SCP 10 54 32.5
LZH PCS 10 54 39.2
LZH S **S** **10 54 47.0 +2.0**
LZH SS SS 10 57 40.5 +1.7
LZH SCS ScS 10 58 44.3 +1.2
LZH AMB AMB
comp=Z,556nm,1.5s,mb6.2
LZH AMB AMB
comp=Z,2μm,6.2s
LZH LR LR
comp=N,5μm,14.0s
LZH LR LR
comp=Z,7μm,17.3s
LZH Lanzhou 39.95 329⇑P **P** **10 48 46.5 +0.8**
comp=Z,556nm,1.5s,mb6.2
LZH pP pP 10 49 03.5 -0.8
LZH sP sP 10 49 12.0 -1.2
LZH PP PP 10 50 23.5 +1.1
LZH PcP PcP 10 50 50.3 -0.1
LZH ScP 10 54 32.5
LZH PcS 10 54 39.2
LZH S **S** **10 54 47.0 +2.0**
LZH sS 10 55 16.2
LZH SS SS 10 57 40.5 +1.7
LZH ScS ScS 10 58 44.3 +1.2
LZH LR LR
comp=Z,7μm,17.3s
LZH Lanzhou 39.95 329⇑P **P** **10 48 46.5 +0.8**
LZH *PP pP 10 49 03.5 -0.8
LZH 10 50 23.5
LZH 10 50 50.3
LZH S **S** **10 54 47.0 +2.0**
LZH SS SS 10 57 40.5 +1.7
LZH 10 58 44.3
LZH pmax pmax
comp=Z,556nm,1.5s,mb6.2
LZH MLR MLR
comp=Z,7μm,17.3s
ARMA Armidale 39.99 148⇑*i*P **P** **10 48 37.3 -8.8**
ARMA *e*PCP PcP 10 50 42.8 -7.8
ARMA *e*SCP 10 54 24.9
HHC Hu-ho-hao-te 40.61 340 *e*P **P** **10 48 51.4 +0.3**
HHC PP PP 10 50 28.7 -0.3
HHC PCS 10 54 42.8
HHC S **S** **10 54 50.9 -4.0**
HHC SS SS 10 57 54.9 +2.1
HHC AMB AMB
comp=Z,47nm,1.1s,mb5.2
HHC AMB AMB
comp=Z,2μm,7.1s
HHC LR LR
comp=N,1μm,20.8s
HHC LR LR
comp=E,886nm,16.6s
HHC LR LR
comp=Z,2μm,25.6s
CN2 Changchun 40.73 357 *e*P **P** **10 48 50.8 -1.3**
CN2 PP PP 10 50 25.6 -4.6
CN2 PCP PcP 10 50 53.2 +0.3
CN2 SCP 10 54 34.6
CN2 AMB AMB
comp=Z,1μm,7.0s
CN2 LR LR
comp=N,910nm,21.0s
CN2 LR LR
comp=E,2μm,21.0s
CN2 LR LR
comp=Z,2μm,23.0s
BTO Baotou 40.94 339 *e*P **P** **10 48 54.5 +0.7**
BTO LR LR
comp=N,1μm,11.2s
BTO LR LR
comp=E,1μm,11.2s
MDJ Mudanjiang 41.49 1 P **P** **10 48 58.7 +0.5**
MDJ PP PP 10 50 35.4 -2.8
MDJ PCP PcP 10 50 55.3 0.0
MDJ S **S** **10 55 07.1 -0.7**
MDJ AMB AMB
comp=Z,108nm,0.9s,mb5.7
MDJ AMB AMB
comp=Z,1μm,7.5s
MDJ LR LR
comp=N,3μm,30.5s
MDJ LR LR
comp=E,675nm,22.3s
MDJ LR LR
comp=Z,3μm,29.7s
MDJ Mudanjiang 41.49 1⇑*e*P **P** **10 48 57.6 -0.6**
comp=Z,64nm,0.8s,mb5.5
RIV Riverview 42.49 151⇓*i*P **P** **10 49 08.7 +2.0**
RIV *e*PCP PcP 10 50 59.6 +0.8
CNB Canberra Magne 42.91 154⇑*i*P **P** **10 49 10.8 +0.7**
comp=Z,194nm,1.1s,mb5.8
CAL Calcutta 43.33 300 *e*P **P** **10 49 14.2 +0.5**
CAL *e*x x 10 54 47.7
TOO Toolangi 43.39 160⇑*i*P **P** **10 49 15.3 +1.4**
comp=Z,179nm,0.6s,mb6.0
TOO Toolangi 43.39 160⇑*i*P **P** **10 49 15.3 +1.4**
TOO pmax pmax
comp=Z,179nm,0.6s,mb6.0
YUK Yuzh-Kuril'sk 43.75 18 *e*P **P** **10 49 14.0 -2.8**
YUK *e*SSS ScS 10 59 08.0 +2.0
YUK pmax pmax
comp=Z,2μm,6.0s
LSA Lhasa 44.10 311 P **P** **10 49 20.2 +0.4**
comp=Z,114nm,0.6s,mb5.8
LSA Lhasa 44.10 311 P **P** **10 49 20.2 +0.4**
LSA pmax pmax
comp=Z,114nm,0.6s,mb5.8
GTA Gaotai 44.55 328⇑P **P** **10 49 23.8 +0.5**
GTA AP pP 10 49 42.7 +0.7
GTA XP sP 10 49 51.9 +1.1
GTA PCP PcP 10 51 06.1 +0.4
GTA PP PP 10 51 09.4 -0.1
GTA SCP 10 54 50.2
GTA PCS 10 54 59.2
GTA S **S** **10 55 51.9 -0.6**
GTA SS SS 10 59 03.9 -1.3
GTA SCS ScS 10 59 11.6 +0.5
GTA AMB AMB
comp=Z,92nm,1.3s,mb5.3
GTA AMB AMB
comp=Z,1μm,8.4s
GTA LR LR
comp=N,2μm,21.7s
GTA LR LR
comp=E,2μm,28.9s
GTA LR LR
comp=Z,5μm,29.3s
NOUC Port Laguerre 44.73 126 *e*P **P** **10 49 25.1 +0.1**
DZM Mont Dzumac 44.83 126 *e*P **P** **10 49 25.4 -0.4**
DZM Mont Dzumac 44.83 126 *e*P **P** **10 49 25.4 -0.4**
GTK Gangtok 44.98 307 *e*P **P** **10 49 27.0 +0.1**
YSS Yuzh-Sakhalins 45.58 14⇑*e*P **P** **10 49 30.4 -1.0**
comp=Z,70nm,0.7s,mb5.5
YSS *e*PcP PcP 10 51 09.7 +0.5
YSS LR LR
comp=Z,3μm,21.0s
YSS Yuzh-Sakhalins 45.58 14*c i*P **P** **10 49 30.5 -0.9**
YSS *e*SP sP 10 49 54.7 -4.2
YSS *e*S **S** **10 56 05.0 -2.2**
YSS pmax pmax
comp=N,50nm,0.8s
YSS pmax pmax
comp=Z,80nm,0.8s,mb5.5
YSS pmax pmax
comp=Z,900nm,10.0s
YSS MLR MLR
comp=Z,1μm,19.0s
YSS MLR MLR
comp=N,1μm,20.0s
KLR Kul'dur 46.18 3 *e*P **P** **10 49 31.8 -4.3**
KLR *e* 10 51 08.0
KLR *e*S **S** **10 56 10.0 -5.8**
KLR *e*PS PS 10 56 36.0 -0.3
KLR pmax pmax
comp=Z,90nm,2.0s,mb5.2
KLR pmax pmax
comp=Z,1μm,0.8s,mb6.7
KLR pmax pmax
comp=N,1.0nm,6.5s
VIS Vishakhapatnam 46.43 292 *e*P **P** **10 49 39.7 +1.2**
VIS AMb AMB 10 49 41.5
comp=Z,78nm,1.3s,mb5.3

HIA	**Hailar**	**46.70 352⇑**	*eP*	**P**	**10 49 39.0**	**-1.1**
	comp=Z,45nm,0.9s,mb5.2					
HIA			*e*PcP	PcP	10 51 13.6	+0.5
HIA	**Hailar**	**46.70 352⇑**	*eP*	**P**	**10 49 39.0**	**-1.2**
HIA			*e*		10 51 13.6	
HIA			pmax	pmax		
	comp=Z,45nm,0.9s					
JIRN	**Jiri**	**47.07 306**	*eP*	**P**	**10 49 44.3**	**+0.9**
	comp=Z,580nm,0.8s,mb6.4					
PALK	**Pallekele**	**47.56 277**	*eP*	**P**	**10 49 49.3**	**+1.8**
	comp=Z,67nm,0.8s,mb5.5					
PKI	**Pulchoki**	**47.67 305**	*eP*	**P**	**10 49 48.4**	**+0.3**
	comp=Z,170nm,0.7s,mb6.0					
KKN	**Kakani**	**47.86 305**	*eP*	**P**	**10 49 49.8**	**+0.2**
	comp=Z,464nm,0.9s,mb6.3					
DMN	**Daman**	**47.93 305**	*eP*	**P**	**10 49 50.6**	**+0.5**
	comp=Z,472nm,0.8s,mb6.3					
GKN	**Gorkha**	**48.47 305**	*eP*	**P**	**10 49 54.4**	**+0.1**
	comp=Z,181nm,0.6s,mb6.1					
SONM	**Songino Array**	**48.52 340**	P	**P**	**10 49 53.8**	**-0.6**
	comp=Z,20nm,0.8s,mb5.1,baz=152,slow=6.8,SNR=104					
SONM			PcP	PcP	10 51 19.5	-0.1
	comp=Z,26nm,0.7s,baz=158,slow=3.8,SNR=4.0					
SONM			LR	LR	11 11 09.4	
	comp=Z,2μm,20.7s,baz=149,slow=37					
MDRS	**Chennai**	**48.53 285**	*ex*	**P**	**10 49 53.0**	**-1.9**
MDRS			*ex*	x	10 51 33.0	
MDRS			*ex*	x	10 57 09.0	
BLSP	**Bilaspur**	**48.64 297**	*eP*	**P**	**10 49 56.1**	**+0.4**
BLSP			AMb	AMB	10 49 58.2	
	comp=Z,189nm,0.8s,mb6.1					
TAU	**Tasmania Unive**	**48.80 161**	*eP*	**P**	**10 49 57.4**	**+0.8**
	comp=Z,318nm,1.1s,mb6.2					
TAU	**Tasmania Unive**	**48.80 161**	*eP*	**P**	**10 49 57.4**	**+0.8**
TAU			pmax	pmax		
	comp=Z,318nm,1.1s,mb6.2					
KOLN	**Koldanda**	**49.23 305**	*eP*	**P**	**10 50 00.8**	**+0.7**
	comp=Z,1μm,0.7s					
SALM	**Salem**	**50.35 283**	*eP*	**P**	**10 50 09.0**	**+0.1**
SALM			*ex*	x	10 50 10.5	
CIT	**Chita**	**50.41 348**	*eP*	**P**	**10 50 06.6**	**-2.2**
CIT			*e*	pP	10 50 28.1	+0.2
CIT			*e*		10 51 26.0	
CIT			*e*		10 57 10.0	
CIT			*e*		10 59 53.9	
CIT			pmax	pmax		
	comp=Z,150nm,2.5s,mb5.5					
HYB	**Hyderabad**	**50.83 290**	*i* P	**P**	**10 50 13.0**	**+0.5**
	comp=Z,240nm,1.0s,mb6.2					
HYB			*e*S	**S**	**10 57 20.0**	**-1.2**
HYB	**Hyderabad**	**50.83 290**	*eP*	**P**	**10 50 13.0**	**+0.5**
	comp=Z,240nm,1.0s,mb6.2					
HYB			*e*S	**S**	**10 57 20.0**	**-1.2**
HYB	**Hyderabad**	**50.83 290**	*eP*	**P**	**10 50 13.0**	**+0.5**
HYB			*e*S	**S**	**10 57 20.0**	**-1.2**
HYB			pmax	pmax		
	comp=Z,240nm,1.0s,mb6.2					
JBP	**Jabalpur**	**50.84 298**	*i* x	**P**	**10 50 15.9**	**+3.4**
JBP			*i* x	x	10 57 26.7	
TRD	**Trivandrum**	**51.33 278**	*eP*	**P**	**10 50 16.7**	**+0.3**
TRD			AMb	AMB	10 50 18.4	
	comp=Z,162nm,0.8s,mb6.1					
ZAK	**Zakamensk**	**51.76 340**	*eP*	**P**	**10 50 17.6**	**-1.4**
ZAK			*e*		10 51 31.5	
ZAK			pmax	pmax		
	comp=Z,18nm,1.0s,mb5.1					
ZAK			pmax	pmax		
	comp=Z,46nm,1.0s,mb5.5					
PTH	**Pithoragarh**	**52.64 305**	*eP*	**P**	**10 50 27.0**	**+1.0**
PTH			*ex*	x	10 54 07.0	
TLY	**Talaya**	**52.74 341⇑**	*iP*	**P**	**10 50 25.4**	**-1.0**
	comp=Z,43nm,0.9s,mb5.5					
TLY	**Talaya**	**52.74 341**	*eP*	**P**	**10 50 25.4**	**-1.0**
TLY			*e*		10 51 32.9	
TLY			*e*		10 52 18.7	
TLY			*e*S	**S**	**10 57 45.9**	**-1.0**
TLY			*e*PS	PS	10 57 53.0	-16
TLY			*e*		11 00 05.1	
TLY			pmax	pmax		
	comp=Z,59nm,1.1s,mb5.5					
TLY			MLR	MLR		
	comp=Z,2μm,18.0s					
LATR	**Latur**	**52.88 291**	*eP*	**P**	**10 50 27.5**	**-0.4**
SKR	**Severo-Kuril's**	**53.02 22**	*eP*	**P**	**10 50 18.0**	**-11**
SKR			*e*S	**S**	**10 57 46.0**	**-4.7**
SKR			*e*SS	SS	11 01 36.0	+5.9
SKR			pmax	pmax		
	comp=N,1μm,6.0s					
SKR			pmax	pmax		
	comp=E,1μm,6.0s					
SKR			pmax	pmax		
	comp=Z,2μm,6.0s					
SKR			smax			
	comp=N,2μm,10.0s					
SKR			smax			
	comp=E,1μm,10.0s					
SKR			MLR	MLR		
	comp=N,1μm,18.0s					
SKR			MLR	MLR		
	comp=Z,1μm,18.0s					
IRK	**Irkutsk**	**53.02 342**	*eP*	**P**	**10 50 26.9**	**-1.6**
IRK			pmax	pmax		
	comp=Z,141nm,2.6s,mb5.5					
BHPL	**Bhopal**	**53.13 297**	*eP*	**P**	**10 50 29.1**	**-0.6**
BHPL			AMb	AMB	10 50 31.4	
	comp=Z,257nm,1.1s,mb6.2					
MOY	**Mondy**	**53.63 339**	*eP*	**P**	**10 50 32.9**	**-0.1**
MOY			pmax	pmax		
	comp=Z,259nm,2.2s,mb5.9					
AGRA	**Agra**	**53.77 302**	*eP*	**P**	**10 50 34.7**	**+0.3**
AGRA			AMb	AMB	10 50 35.6	
	comp=Z,428nm,0.8s,mb6.5					
CLNS	**Chul'man**	**53.78 358**	*eP*	**P**	**10 50 32.8**	**-1.2**
CLNS			*e*		10 51 38.2	
CLNS			*e*S	**S**	**10 58 02.9**	**+2.0**
CLNS			*e*SS	SS	11 01 46.3	+4.2
CLNS			pmax	pmax		
	comp=N,17nm,0.7s					
CLNS			pmax	pmax		
	comp=E,12nm,0.7s					
CLNS			pmax	pmax		
	comp=Z,40nm,0.7s,mb5.6					
CLNS			pmax	pmax		
	comp=Z,35nm,0.9s,mb5.4					
CLNS			pmax	pmax		
	comp=N,47nm,1.1s					
CLNS			pmax	pmax		
	comp=E,27nm,0.9s					
CLNS			smax			
	comp=N,467nm,12.6s					
CLNS			smax			
	comp=Z,333nm,12.1s					
CLNS			smax			
	comp=E,85nm,11.3s					
CLNS			MLR	MLR		
	comp=Z,1μm,17.0s					
CLNS			MLR	MLR		
	comp=N,1μm,18.0s					
CLNS			MLR	MLR		
	comp=E,600nm,17.0s					
WMQ	**Urumqi**	**54.23 325⇑**	*iP*	**P**	**10 50 38.0**	**+0.5**
WMQ			PP	PP	10 52 42.0	+0.7
WMQ			S	**S**	**10 58 09.0**	**+1.8**
WMQ			SCS	ScS	11 00 18.0	+2.1
WMQ			SS	SS	11 01 50.0	+0.4
WMQ			AMB	AMB		
	comp=Z,125nm,1.0s,mb5.9					
WMQ			AMB	AMB		
	comp=Z,315nm,7.0s					
WMQ			LR	LR		
	comp=N,4μm,20.0s					
WMQ			LR	LR		
	comp=E,4μm,20.0s					
WMQ			LR	LR		
	comp=Z,5μm,20.0s					
ASOR	**Ausora**	**54.39 304**	*eP*	**P**	**10 50 38.7**	**-0.2**
SONA	**Sohna**	**54.81 303**	*eP*	**P**	**10 50 41.3**	**-0.6**
SONA			AMb	AMB	10 50 43.2	
	comp=Z,648nm,0.9s,mb6.7					
NDI	**New Delhi**	**54.83 303**	*i* P	**P**	**10 50 39.0**	**-3.1**
NDI			*ex*	x	10 58 09.5	
AYAN	**Aya Nagar**	**54.84 303**	*eP*	**P**	**10 50 41.1**	**-1.0**
KAD	**Karad**	**54.93 289**	*eP*	**P**	**10 50 41.5**	**-1.4**
KAD			AMb	AMB	10 50 43.2	
	comp=Z,116nm,1.0s,mb5.9					
KLP	**Kalpa**	**54.93 307**	*eP*	**P**	**10 50 43.3**	**+0.5**
BHGR	**Bahadurgarh**	**55.06 303**	*eP*	**P**	**10 50 42.3**	**-1.4**
BHGR			AMb	AMB	10 50 44.8	
	comp=Z,374nm,1.0s,mb6.4					
MNCY	**Minicoy**	**55.20 278**	*i* x	x	10 50 52.0	
MNCY			*i* x	x	10 51 59.0	
POO	**Poona**	**55.43 290**	*eP*	**P**	**10 50 46.1**	**-0.4**
POO			AMb	AMB	10 50 47.6	
	comp=Z,200nm,0.6s,mb6.3					
POO			*i* S	**S**	**10 58 24.0**	**+0.4**
KKR	**Kurukshetra**	**55.56 305**	*eP*	**P**	**10 50 46.9**	**-0.4**
KHET	**Khetri**	**55.83 302**	*eP*	**P**	**10 50 48.7**	**-0.6**
PET	**Petropavlovsk**	**55.84 22⇑**	*iP*	**P**	**10 50 48.1**	**-0.9**
	comp=Z,153nm,1.4s,mb5.8					
PET	**Petropavlovsk**	**55.84 22**	*c iP*	**P**	**10 50 48.2**	**-0.8**
PET			*e**PP	pP	10 51 04.2	-4.2
PET			*e*		10 51 47.5	
PET			*e*		10 52 51.5	
PET			*i* S	**S**	**10 58 28.6**	**+0.1**
PET			*e**SS		10 58 56.3	
PET			*e*		11 00 32.4	
PET			*e*SS	SS	11 02 13.6	-1.5
PET			*e*SSS	SSS	11 04 20.2	-4.7
PET			pmax	pmax		
	comp=Z,1μm,6.6s					
PET			pmax	pmax		
	comp=N,600nm,5.9s					
PET			pmax	pmax		
	comp=Z,27nm,1.2s,mb5.2					
PET			pmax	pmax		
	comp=N,14nm,0.8s					
PET			pmax	pmax		
	comp=N,200nm,12.4s					
PET			pmax	pmax		
	comp=Z,500nm,12.3s					
PET			pmax	pmax		
	comp=Z,51nm,1.3s,mb5.4					
PET			pmax	pmax		
	comp=Z,300nm,7.8s					
PET			pmax	pmax		
	comp=Z,200nm,17.7s					
PET			smax			
	comp=E,500nm,13.1s					
PET			smax			
	comp=N,500nm,15.5s					
PET			smax			
	comp=N,700nm,23.3s					
PET			MLR	MLR		
	comp=Z,1μm,17.0s					
PET			MLR	MLR		
	comp=Z,800nm,17.0s					
BOD	**Bodaibo**	**55.84 351**	*eP*	**P**	**10 50 47.0**	**-2.0**
BOD			pmax	pmax		
	comp=Z,29nm,1.0s,mb5.3					
SDNR	**Sundarnagar**	**55.95 306**	*eP*	**P**	**10 50 49.4**	**-0.7**
AJM	**Ajmer**	**56.39 300**	*eP*	**P**	**10 50 52.0**	**-1.3**
BOM	**Bombay**	**56.46 291**	*ex*	x	10 56 21.4	
BOM			*ex*	x	10 56 42.5	
DLH	**Dalhousie**	**57.10 307**	*eP*	**P**	**10 50 57.0**	**-1.3**
YAK	**Yakutsk**	**58.93 1**	*eP*	**P**	**10 51 09.0**	**-1.5**
	comp=Z,175nm,0.8s,mb6.1					
YAK			LR	LR		
	comp=Z,2μm,20.0s					
YAK	**Yakutsk**	**58.93 1**	*c iP*	**P**	**10 51 09.1**	**-1.5**
YAK			pmax	pmax		
	comp=Z,85nm,0.6s,mb6.0					
YAK			MLR	MLR		
	comp=Z,800nm,20.0s					
MKAR	**Makanchi Array**	**59.06 325**	P	**P**	**10 51 11.1**	**-0.6**
	comp=Z,95nm,0.8s,mb5.9,baz=121,slow=6.9,SNR=398					
MKAR			LR	LR	11 20 02.7	
	comp=Z,1μm,19.6s,baz=177,slow=39					
MKAR			PKPPKP		11 20 43.4	
	comp=Z,3.3nm,1.0s,baz=304,slow=4.4,SNR=5.3					
MKAR			PKP2bc		11 20 53.1	
	comp=Z,4.9nm,1.1s,baz=315,slow=1.7,SNR=5.7					
MKAR	**Makanchi Array**	**59.06 325**	P	**P**	**10 51 11.1**	**-0.6**
MKAR			LR	LR	11 20 02.7	
MKAR			P'P'		11 20 43.4	
MKAR			⇑*e*		11 20 53.1	
MA2	**Magadan**	**59.07 13⇑**	*eP*	**P**	**10 51 10.6**	**-1.0**
	comp=Z,72nm,0.9s,mb5.7					
MA2	**Magadan**	**59.07 13**	*ceP*	**P**	**10 51 10.8**	**-0.8**
MA2			*SP	sP	10 51 31.1	-8.8
MA2			*e*S	**S**	**10 59 11.4**	**+0.5**
MA2			pmax	pmax		
	comp=Z,20nm,0.7s,mb5.3					
MA2			pmax	pmax		
	comp=N,9.0nm,0.8s					
JCZ	**Jackson Bay**	**59.21 147**	PN	**P**	**10 51 13.6**	**+0.8**
QRZ	**Quartz Range**	**59.38 142**	PN	**P**	**10 51 14.1**	**+0.1**
KSH	**Kashi**	**59.67 315⇑**	*iP*	**P**	**10 51 16.1**	**+0.1**
KSH			*e*PCP	PcP	10 52 03.2	+1.1
KSH			*e*PP	PP	10 53 29.0	-1.4
KSH			*e*PCS		10 56 03.1	
KSH			S	**S**	**10 59 18.7**	**-0.2**
KSH			*e*SCS	ScS	11 00 56.0	+0.6
KSH			*e*SS	SS	11 03 15.0	-2.0
KSH			AMB	AMB		
	comp=Z,1μm,2.8s,mb6.5					
KSH			LR	LR		
	comp=N,1μm,12.4s					
KSH			LR	LR		
	comp=E,740nm,10.0s					
JASL	**Jaisalmer**	**59.75 299**	*eP*	**P**	**10 51 16.3**	**-0.4**
JASL			AMb	AMB	10 51 18.5	
	comp=Z,224nm,1.1s,mb6.1					
BHJ	**Bhuj**	**60.11 295**	*eP*	**P**	**10 51 18.9**	**-0.4**
BHJ			AMb	AMB	10 51 22.9	
	comp=Z,242nm,1.1s,mb6.1					
BHJ			*ex*	x	10 59 39.1	
NNZ	**Nelson**	**60.13 142**	*e*PN	**P**	**10 51 17.8**	**-1.3**
THZ	**Tophouse**	**60.16 143**	PN	**P**	**10 51 18.5**	**-0.9**
	comp=Z,64nm,0.6s,mb5.8					
LBZ	**Lake Benmore**	**60.20 147**	*e*PN	**P**	**10 51 18.9**	**-0.6**
RPZ	**Rata Peaks**	**60.26 145**	*e*PN	**P**	**10 51 19.6**	**-0.4**
AAA	**Alma-Ata**	**60.60 319**	*eP*	**P**	**10 51 21.0**	**-1.4**
AAA			*e*S	**S**	**10 59 32.0**	**+1.2**
AAA			pmax	pmax		
	comp=Z,2μm,16.0s					
AAA			smax			
	comp=N,1μm,10.0s					
AAA			smax			
	comp=E,2μm,10.0s					
ULHL	**Ulahol**	**60.62 318**	P	**P**	**10 51 23.4**	**+0.9**
	SNR=23					
URZ	**Urewera**	**60.93 137**	*e*PN	**P**	**10 51 24.0**	**-0.6**
BKZ	**Black Stump Fm**	**60.99 138**	*e*PN	**P**	**10 51 23.8**	**-1.2**
SNZO	**South Karori**	**61.00 141**	*eP*	**P**	**10 51 23.0**	**-2.1**
	comp=E,55nm,0.8s,mb5.6					
KZA	**Kyzart**	**61.22 317**	P	**P**	**10 51 27.4**	**+0.9**
	SNR=136					
TKM2	**Tokmak 2**	**61.34 318**	P	**P**	**10 51 27.3**	**0.0**
	SNR=40					
KBK	**Karagaybulak**	**61.66 318**	P	**P**	**10 51 30.4**	**+0.9**
	SNR=10					
AFI	**Afiamalu**	**61.74 107**	LR	LR	11 13 23.8	
	comp=E,1μm,20.8s,baz=270,slow=31					
UCH	**Uchtor**	**61.78 317**	P	**P**	**10 51 31.1**	**+0.8**
	SNR=227					
CHMS	**Chumysh**	**61.94 318**	P	**P**	**10 51 30.8**	**-0.6**
	SNR=26					
AAK	**Ala-Archa**	**61.96 318**	P	**P**	**10 51 31.6**	**+0.1**
	SNR=19					
AAK	**Ala-Archa**	**61.96 318⇑**	*iP*	**P**	**10 51 30.4**	**-1.1**
	comp=E,64nm,1.0s,mb5.6					
AAK			*e*pP	pP	10 51 47.9	-3.3
AAK	**Ala-Archa**	**61.96 318⇑**	*iP*	**P**	**10 51 30.4**	**-1.1**
AAK			*e**PP	pP	10 51 47.9	-3.3
AAK			pmax	pmax		
	comp=Z,64nm,1.0s,mb5.6					
FRU	**Bishkek**	**61.96 318⇑**	*iP*	**P**	**10 51 31.0**	**-0.5**
FRU			*i*	pP	10 51 50.0	-1.2
FRU			*e*		10 59 48.0	
FRU			*e*		11 01 09.0	
FRU			pmax	pmax		
	comp=Z,330nm,2.5s,mb5.9					
ZAL	**Zalesovo**	**61.97 333**	P	**P**	**10 51 29.6**	**-1.7**
	comp=Z,22nm,1.0s,mb5.2,baz=359,slow=7.1,SNR=62					
ZAL			PKP2bc		11 20 45.9	
	comp=Z,5.3nm,0.8s,baz=170,slow=3.0,SNR=14					
ZAL			LR	LR	11 21 03.8	
	comp=Z,1μm,21.9s,baz=0.2,slow=38					
ZAL	**Zalesovo**	**61.97 333**	P	**P**	**10 51 29.6**	**-1.7**
ZAL			⇑*e*		11 20 45.9	
ZAL			LR	LR	11 21 03.8	
FX1	**Attu Island--F**	**61.98 29⇑**	*eP*	**P**	**10 51 31.6**	**+0.2**
USP	**Ospenovka**	**62.21 318**	P	**P**	**10 51 32.8**	**-0.4**
	SNR=10					
AML	**Almayashu**	**62.30 317**	P	**P**	**10 51 34.4**	**+0.6**
	SNR=77					
SMY	**Shemya**	**62.34 29**	*eP*	**P**	**10 51 33.5**	**-0.4**
SMY			LR	LR		
	comp=Z,3μm,17.0s					
SEY	**Seymchan**	**62.43 12⇑**	*iP*	**P**	**10 51 34.5**	**+0.1**
SEY	**Seymchan**	**62.43 12**	*eP*	**P**	**10 51 34.2**	**-0.2**
SEY			*SP	sP	10 51 57.9	-4.8
SEY					10 52 19.9	
SEY			*e*		10 53 57.4	
SEY			*e*PPP	PPP	10 55 26.3	+1.5
SEY			*e*S	**S**	**10 59 55.2**	**+1.6**
SEY			*SS		11 00 23.5	
SEY					11 01 22.8	
SEY			pmax	pmax		
	comp=N,20nm,0.8s					
SEY			pmax	pmax		
	comp=Z,20nm,0.8s,mb5.2					
SEY			smax			
	comp=N,1μm,8.8s					
SEY			smax			
	comp=E,1μm,9.4s					
SEY			MLR	MLR		
	comp=Z,2μm,22.0s					
SEY			MLR	MLR		
	comp=E,1μm,20.0s					
EKS2	**Erkin-Say**	**62.45 317**	P	**P**	**10 51 35.0**	**+0.3**
	SNR=66					
MCQ	**Macquarie Isla**	**62.66 160**	*eP*	**P**	**10 51 36.4**	**+0.4**
KURK	**Kurchatov**	**63.21 327⇑**	*iP*	**P**	**10 51 38.4**	**-1.4**
	comp=E,150nm,0.8s,mb6.0					
KURK	**Kurchatov**	**63.21 327⇑**	*iP*	**P**	**10 51 38.4**	**-1.3**
KURK			pmax	pmax		
	comp=Z,149nm,0.8s,mb6.0					
NVS	**Novosibirsk**	**63.25 333**	*i* P	**P**	**10 51 37.3**	**-2.6**
NVS			*i* *PP	pP	10 51 56.9	-2.8
NVS			*i* S	**S**	**10 59 56.3**	**-7.7**
NVS			*i* *SS		11 00 38.9	
NVS			pmax	pmax		
	comp=N,64nm,1.0s					
NVS			pmax	pmax		
	comp=Z,110nm,1.0s,mb5.7					
NVS			pmax	pmax		
	comp=E,46nm,0.9s					
NVS			smax			
	comp=N,138nm,2.6s					
NVS			smax			
	comp=E,176nm,2.5s					
KKAR	**Karatay Array**	**64.84 317**	*i* P	**P**	**10 51 49.8**	**-0.7**
GSTR	**Great Sitkin T**	**67.16 34**	*eP*	**P**	**10 52 05.4**	**+0.3**
VOSK	**Vostochnaya**	**68.35 327**	*i* P	**P**	**10 52 11.1**	**-1.3**
VOSK	**Vostochnaya**	**68.35 327**	P	**P**	**10 52 11.1**	**-1.3**
VOSK			pmax	pmax		
	comp=Z,46nm,0.8s,mb5.4					
TIXI	**Tiksi**	**68.58 0⇑**	*iP*	**P**	**10 52 11.6**	**-2.0**
TIXI	**Tiksi**	**68.58 0⇑**	*iP*	**P**	**10 52 12.0**	**-1.6**
TIXI			*e**PP	pP	10 52 28.2	-5.5
TIXI			*e*S	S	11 01 00.2	-8.5
TIXI			*e*		11 01 31.0	
TIXI			pmax	pmax		
	comp=Z,27nm,0.6s,mb5.2					
TIXI			MLR	MLR		
	comp=Z,874nm,16.0s					
BVA0	**Borovoye Array**	**68.80 327**	*i* P	**P**	**10 52 14.4**	**-0.8**
BVA0			pmax	pmax		
	comp=Z,28nm,1.1s,mb5.0					
BVAR	**Borovoye Array**	**68.80 327**	P	**P**	**10 52 14.2**	**-1.0**
	comp=Z,71nm,0.7s,mb5.6,baz=127,slow=7.4,SNR=308					
BVAR			PcP	PcP	10 52 39.0	-0.4
	comp=Z,100nm,1.0s,baz=124,slow=5.3,SNR=10					
BVAR			PKP2bc		11 20 27.7	
	comp=Z,1.6nm,0.8s,baz=270,slow=3.0,SNR=6.6					
BVAR	**Borovoye Array**	**68.80 327**	P	**P**	**10 52 14.2**	**-1.0**
BVAR			PcP	PcP	10 52 39.0	-0.4
BVAR			⇑*e*		11 20 27.7	
BRVK	**Borovoye**	**68.87 327⇑**	*iP*	**P**	**10 52 14.5**	**-1.2**
	comp=Z,84nm,0.8s,mb5.6					
BRVK			pP	pP	10 52 32.2	-3.5
BRVK			LR	LR		
	comp=Z,671nm,20.0s					
BRVK	**Borovoye**	**68.87 327⇑**	*iP*	**P**	**10 52 14.5**	**-1.2**
BRVK			*PP	pP	10 52 32.2	-3.6
BRVK			pmax	pmax		
	comp=Z,84nm,0.8s,mb5.6					
BRVK			MLR	MLR		
	comp=Z,671nm,20.0s					
DRV	**Dumont d'Urvil**	**69.98 175**	P	**P**	**10 52 19.0**	**-3.2**
DRV			S	S	11 01 26.0	+0.8
DRV			L		11 10 00.0	
DRV			R		11 15 00.0	
CASY	**Casey**	**70.26 188**	*eP*	**P**	**10 52 23.6**	**-0.3**
UNV	**Unalaska Valle**	**73.17 34**	*eP*	**P**	**10 52 41.4**	**+0.1**
	comp=Z,96nm,0.6s,mb5.8					
AKUT	**Akutan**	**73.67 34**	*eP*	**P**	**10 52 44.4**	**+0.1**
AKUT			LR	LR		
	comp=Z,10μm,23.0s					
AB31	**Akbulak array**	**73.72 321**	*i* P	**P**	**10 52 43.6**	**-1.1**
AB31			pmax	pmax		
	comp=Z,3.0nm,0.4s					
KIP	**Kipapa**	**73.75 69**	*eP*	**P**	**10 52 47.4**	**+1.9**
	comp=Z,121nm,0.8s,mb5.7					
KIP	**Kipapa**	**73.75 69**	P	**P**	**10 52 47.6**	**+2.1**
KIP			pmax	pmax		
	comp=Z,120nm,0.9s,mb5.6					
HON	**Honolulu**	**73.76 69**	*eP*	**P**	**10 52 47.8**	**+2.3**
HON	**Honolulu**	**73.76 69**	P	**P**	**10 52 48.3**	**+2.8**
MIR	**Mirnyy**	**73.79 194**	*eP*	**P**	**10 52 44.0**	**-0.8**
MIR			*i*		10 52 58.0	
MIR			*e*S	S	11 02 11.0	+2.4
MIR			pmax	pmax		
	comp=Z,606nm,3.0s					
MIR			smax			
	comp=N,784nm,10.0s					
SVE	**Sverdlovsk**	**75.42 328⇑**	*eP*	**P**	**10 52 53.2**	**-1.1**
SVE			*e*	pP	10 53 14.0	-0.7
SVE			*e*		10 55 44.0	
SVE			*e*S	S	11 02 20.0	-6.8
SVE			*e*PS	PS	11 03 04.0	-10
SVE			*e*		11 03 26.0	
SVE			*e*SS	SS	11 07 15.0	-5.9
SVE			pmax	pmax		
	comp=Z,260nm,1.5s,mb5.7					
ARU	**Arti**	**76.40 328**	*eP*	**P**	**10 52 58.2**	**-1.7**
	comp=Z,80nm,0.8s,mb5.5					
ARU	**Arti**	**76.40 328⇑**	*iP*	**P**	**10 52 58.4**	**-1.5**
ARU			*e*		10 53 09.4	
ARU			*e*PPP	PPP	10 57 35.5	-6.2
ARU			*i* S	S	11 02 33.4	-4.2
ARU			*e*		11 03 10.8	
ARU			*e*SS	SS	11 07 34.4	-1.9
ARU			pmax	pmax		
	comp=Z,64nm,0.9s,mb5.3					
TNA	**Tin City**	**76.68 23⇑**	*iP*	**P**	**10 53 01.5**	**+0.1**
	comp=Z,15nm,1.0s,mb4.7					
CHGN	**Chignik**	**78.31 33**	*eP*	**P**	**10 53 11.5**	**+1.0**
HASS	**Wahat al Ahsa'**	**78.42 295**	P	**P**	**10 53 11.3**	**-0.5**
QRN	**Al-Qurain**	**80.13 299**	*eP*	**P**	**10 53 19.9**	**-1.1**
QRN			AMb	AMB	10 53 28.9	
	comp=Z,236nm,0.8s,mb6.1					
UMR	**Umm Al-Rimmam**	**80.34 299**	*eP*	**P**	**10 53 21.7**	**-0.4**
UMR			AMb	AMB	10 53 24.2	
	comp=Z,112nm,0.9s,mb5.7					
KBD	**Kabd**	**80.34 299**	*eP*	**P**	**10 53 20.8**	**-1.4**
KBD			AMb	AMB	10 53 23.8	
	comp=Z,239nm,0.8s,mb6.1					
RDF	**Al-Radifah**	**80.46 299**	*eP*	**P**	**10 53 21.9**	**-0.8**
RDF			AMb	AMB	10 53 31.5	
	comp=Z,106nm,0.9s,mb5.7					
SVW2	**Sparrevohn**	**80.72 29**	*eP*	**P**	**10 53 25.4**	**+2.0**
RYDS	**Riyadh**	**81.17 294**	P	**P**	**10 53 25.7**	**-0.9**
MAK	**Makhachkala**	**81.23 313**	*eP*	**P**	**10 53 27.0**	**+0.5**
MAK			*e**PP	pP	10 53 47.0	-0.1
MAK			*e*		10 56 37.0	
MAK			*i* S	S	11 03 28.0	-1.1
MAK			*i* PS	PS	11 04 10.0	-17
MAK			*e*SS	SS	11 08 46.0	-2.7
MAK			pmax	pmax		
	comp=Z,1μm,9.0s					
MAK			smax			
	comp=E,2μm,8.0s					

MAK smax
comp=N,500nm,6.0s
RSO Redoubt South 81.98 29 *e*P **P 10 53 30.8 +0.7**
SPU Mount Spurr 82.42 29 P **P 10 53 32.1 -0.1**
IMA Indian Mountai 82.45 24 *e*P **P 10 53 33.9 +1.6**
IMA Indian Mountai 82.45 24 P **P 10 53 34.0 +1.7**
IMA pmax pmax
comp=Z,430nm,1.0s,mb6.2
VNDA Vanda 82.49 173 P **P 10 53 32.7 +0.4**
comp=Z,92nm,0.7s,mb5.7,baz=318,slow=6.5,SNR=246
VNDA Vanda 82.49 173⇑ *e*P **P 10 53 32.6 +0.2**
comp=Z,87nm,0.8s,mb5.6
VNDA Vanda 82.49 173⇑ *e*P **P 10 53 32.6 +0.3**
VNDA pmax pmax
comp=Z,87nm,0.8s
LBOS 82.54 284 *e*P **P 10 53 34.8 +1.1**
DGRG David-gareji 82.73 311 P **P 10 53 35.1 +0.9**
GNI Garni 83.16 310 P **P 10 53 37.4 +0.9**
comp=Z,32nm,0.8s,mb5.2,baz=48,slow=5.6,SNR=7.5
GNI Garni 83.16 310 *e*P **P 10 53 36.9 +0.5**
comp=Z,88nm,0.9s,mb5.6
GNI Garni 83.16 310 P **P 10 53 37.6 +1.2**
GNI pmax pmax
comp=Z,88nm,0.9s
TI2 Plekhanov 83.20 311⇑ *i*P **P 10 53 31.6 -5.0**
TBLG Delisi 83.21 311 P **P 10 53 37.9 +1.2**
TBLG S 11 15 28.2
SLKM Skilak Lake 83.23 30 *e*P **P 10 53 36.6 +0.3**
SLKM Skilak Lake 83.23 30 P **P 10 53 37.2 +0.8**
BHD Baghdad 83.28 303 *e*P x 10 53 35.0
BHD *e*pP x 10 53 53.5
BHD *e*S x 11 00 45.0
BHD *e*SP x 11 04 25.0
DHBB Dhamar BB 83.35 284⇑ *e*P **P 10 53 33.8 -4.1**
SBA Scott Base 83.38 172⇑ *e*P **P 10 53 38.1 +1.2**
comp=Z,50nm,0.7s,mb5.5
SBA LR LR
comp=Z,2μm,21.0s
SBA Scott Base 83.38 172 P **P 10 53 38.3 +1.4**
SBA pmax pmax
comp=Z,50nm,0.7s,mb5.5
PPT Papeete 83.41 108 *e*P **P 10 53 41.0 +2.9**
comp=Z,102nm,1.4s,mb5.5
PPT Papeete 83.41 108 *e*LR LR 11 20 00.5
comp=Z,3μm,25.5s
PPT Papeete 83.41 108 P **P 10 53 40.2 +2.1**
comp=Z,51nm,1.0s,mb5.3,baz=68,slow=2.5,SNR=3.9
PAE Paea 83.41 108 *e*P **P 10 53 40.8 +2.7**
comp=Z,182nm,1.3s,mb5.8
MAW Mawson 83.59 201 *i*S S 11 03 50.4 -2.0
MAW Mawson 83.59 201 P **P 10 53 39.3 +1.3**
comp=Z,93nm,0.9s,mb5.6,baz=68,slow=5.9,SNR=81
MAW PKKPbc 11 11 56.8
comp=Z,5.8nm,0.8s,baz=280,slow=4.9,SNR=9.1
MAW Mawson 83.59 201⇑ *i*P **P 10 53 38.7 +0.7**
comp=Z,79nm,0.9s,mb5.5
MAW *i*S S 11 03 50.4 -2.0
MAW Mawson 83.59 201⇑ *i*P **P 10 53 38.7 +0.7**
MAW *i*S S 11 03 50.4 -2.0
MAW pmax pmax
comp=Z,79nm,0.9s
TVO Taravao 83.73 108 *e*P **P 10 53 42.7 +2.8**
comp=Z,232nm,1.3s,mb5.9
CLDR Caldiran 83.77 309 P **P 10 53 40.5 +0.9**
PMR Palmer 83.87 28 *e*P **P 10 53 40.3 +0.8**
PMR LR LR
comp=Z,30μm,19.0s
ZEI Tsey 83.87 313 *e*P **P 10 53 38.1 -1.9**
ZEI pmax pmax
comp=Z,38nm,0.9s,mb5.2
HKR Hakkari 83.87 307 P **P 10 53 41.0 +0.9**
HAKT HAKKARI 83.90 307 *i*P **P 10 53 41.9 +1.6**
TBI Tubuai 84.07 114 *e*LR LR 11 20 42.9
comp=Z,4μm,38.5s
DJNS Zahran al Janu 84.10 287 P **P 10 53 43.2 +1.5**
TATS Tathlith 84.12 289 P **P 10 53 42.7 +0.9**
MCK McKinley 84.15 26⇑ *e*P **P 10 53 40.9 0.0**
comp=Z,46nm,0.9s,mb5.3
MCK McKinley 84.15 26 P **P 10 53 41.2 +0.3**
MCK pmax pmax
comp=Z,46nm,0.9s,mb5.3
TVAN Van 84.15 308 *i*P **P 10 53 43.4 +1.8**
ONI Oni 84.19 312 P **P 10 53 40.5 -1.1**
SML Sawmill 84.26 28⇑ *e*P **P 10 53 42.1 +0.6**
SML Sawmill 84.26 28 P **P 10 53 42.3 +0.8**
PECR Pechory 84.32 326⇓ *i*P **P 10 53 41.5 -0.4**
PECR *e* 11 03 55.4
PECR pmax pmax
comp=E,500nm,6.0s
PECR pmax pmax
comp=Z,1μm,6.0s
MSL Mosul 84.38 306 *e*P x 10 53 49.0
MSL *e*S x 10 03 04.0
MSL *e*pP x 10 54 11.0
AFFS 'Afif 84.50 294 P **P 10 53 44.8 +1.2**
GOF Gofitskoye 84.55 315⇑ *i*P **P 10 53 40.0 -3.4**
GOF pmax pmax
comp=Z,107nm,1.0s,mb5.7
KIV Kislovodsk 84.78 314⇑ *e*P **P 10 53 44.3 -0.2**
comp=Z,67nm,0.9s,mb5.6
KIV Kislovodsk 84.78 314 *c i*P **P 10 53 44.6 +0.1**
KIV *e*PPP PPP 10 58 53.7 -5.7
KIV *e* 11 04 03.2
KIV pmax pmax
comp=Z,33nm,1.1s,mb5.2
KIV pmax pmax
comp=E,25nm,0.8s
KIV MLR MLR
comp=N,837nm,16.0s
KIV MLR MLR
comp=Z,1μm,16.0s
PMOR Pomariorio Ree 84.80 105 *e*P **P 10 53 47.9 +2.6**
comp=Z,137nm,1.2s,mb5.8
PMOR *e*pP pP 10 54 12.2 +6.2
BCHG Becho 84.84 313 P **P 10 53 46.9 +2.1**
VAH Vaihoa 85.08 105 *e*P **P 10 53 49.1 +2.5**
VAH *e*pP pP 10 54 13.2 +5.8
ILAR Eielson Array 85.12 25 P **P 10 53 46.0 +0.2**
comp=Z,7.1nm,0.4s,mb4.9,baz=256,slow=4.4,SNR=80
ILAR PKiKP 10 58 57.2
comp=Z,1.0nm,0.8s,baz=228,slow=3.4,SNR=4.7
ILAR PKKPbc 11 11 53.4
comp=Z,1.0nm,0.8s,baz=45,slow=1.3,SNR=7.5
DIV Divide 85.45 29⇑ *e*P **P 10 53 48.5 +1.0**
comp=Z,411nm,0.9s,mb6.4
HILS Ha'il 85.53 297 P **P 10 53 49.7 +1.0**
VRHR Novokhopersk 85.60 321 *c i*P **P 10 53 47.5 -0.9**
VRHR *e**SP sP 10 54 11.2 -6.2
VRHR *e*S S 11 04 07.3 -5.3
VRHR pmax pmax
comp=Z,180nm,0.8s,mb6.0
VRHR pmax pmax
comp=N,40nm,1.6s
VRHR pmax pmax
comp=E,140nm,1.1s
VRHR smax
comp=E,270nm,1.5s
VRHR smax
comp=Z,120nm,2.3s
VRHR smax
comp=N,160nm,1.8s
BLJS Baljurashi 85.88 290 P **P 10 53 52.2 +1.7**
MENT Mentasta 86.46 27 *e*P **P 10 53 53.6 +1.3**
SOC Sochi 86.93 313 *c i*P **P 10 53 53.9 -1.2**
SOC *e* pP 10 54 14.6 -1.4
SOC *e*S 11 04 12.9
SOC *e*SSS SSS 11 13 42.8 -1.1
SOC pmax pmax
comp=N,21nm,0.9s
SOC pmax pmax
comp=E,26nm,0.9s
SOC pmax pmax
comp=Z,42nm,0.9s,mb5.4
SOC pmax pmax
comp=Z,1μm,5.9s
SOC MLR MLR
comp=N,1μm,14.0s
SOC MLR MLR
comp=Z,1μm,14.0s
SOC MLR MLR
comp=E,1μm,19.0s
VORD Divnogorie 87.08 321⇓ *i*P **P 10 53 54.9 -0.7**
VORD *e**SP sP 10 54 16.0 -8.6
VORD *e* 10 57 17.7
VORD *e* 11 04 11.0
VORD *e*S S 11 04 22.0 -4.7
VORD *e*SP SP 11 05 21.8 -7.2
VORD *e*SS SS 11 10 20.0 +5.7
VORD pmax pmax
comp=N,20nm,0.9s
VORD pmax pmax
comp=E,80nm,0.9s
VORD pmax pmax
comp=Z,110nm,0.9s,mb5.8
VORD pmax pmax
comp=Z,200nm,8.2s
VORD pmax pmax
comp=N,70nm,10.6s
VORD pmax pmax
comp=E,140nm,14.4s
VORD smax
comp=N,290nm,8.8s
VORD smax
comp=Z,210nm,10.8s
VORD smax
comp=E,460nm,9.6s
VOR Voronezh 87.12 321 *e*P **P 10 53 56.0 +0.2**
VOR *e* pP 10 54 20.0 +3.3
VOR pmax pmax
comp=Z,170nm,1.8s,mb5.7
VRSR Storozhevoye 87.14 321 *c i*P **P 10 53 54.8 -1.1**
VRSR *e**PP pP 10 54 10.5 -6.3
VRSR *e**SP sP 10 54 16.5 -8.3
VRSR *e* 10 57 21.1
VRSR *e* 11 04 12.2
VRSR *e*S S 11 04 24.4 -2.8
VRSR pmax pmax
comp=Z,110nm,0.8s,mb5.8
VRSR pmax pmax
comp=N,20nm,0.7s
VRSR pmax pmax
comp=E,100nm,0.8s
VRSR pmax pmax
comp=Z,110nm,0.8s,mb5.8
VRSR pmax pmax
comp=N,20nm,0.7s
VRSR pmax pmax
comp=E,100nm,0.8s
VRSR smax
comp=N,80nm,3.5s
VRSR smax
comp=Z,70nm,4.6s
VRSR smax
comp=E,210nm,4.0s
VRSR smax
comp=N,80nm,3.5s
VRSR smax
comp=Z,70nm,4.6s
VRSR smax
comp=E,210nm,4.0s
VRSR pmax pmax
comp=N,8μm,19.0s
VRSR pmax pmax
comp=Z,14μm,19.0s
VRSR pmax pmax
comp=E,7μm,18.0s
VRSR pmax pmax
comp=N,8μm,19.0s
VRSR pmax pmax
comp=Z,14μm,19.0s
VRSR pmax pmax
comp=E,7μm,18.0s
GUMT Gumushane 87.18 310 P **P 10 53 57.3 +0.9**
ELZG Elazig 87.62 308 *i*P **P 10 53 59.5 +0.9**
URFA Urfa 87.79 307 P **P 10 53 58.9 -0.4**
KBRS Khaybar 87.84 296 P **P 10 54 01.3 +1.4**
MOS Moscow 87.94 326 *e*P **P 10 53 58.3 -1.3**
MOS Moscow 87.94 326 *e*P **P 10 53 58.1 -1.5**
MOS *e* pP 10 54 18.7 -1.9
MOS *e*S 11 04 17.1
MOS pmax pmax
comp=Z,100nm,0.7s,mb6.0
MOS pmax pmax
comp=Z,300nm,1.2s,mb6.2
MALT Malatya 88.06 308⇑ *e*P **P 10 54 00.3 -0.4**
comp=Z,21nm,0.8s,mb5.2
MALT Malatya 88.06 308⇑ *e*P **P 10 54 00.3 -0.4**
MALT pmax pmax
comp=Z,21nm,0.8s,mb5.2
MYA Malataya 88.07 308 *e*P **P 10 54 01.5 +0.8**
DAWY Dawson 88.37 26⇑ *e*P **P 10 54 02.4 +0.9**
ANN Anapa 88.53 315⇑ *i*P **P 10 54 01.2 -1.5**
ANN Anapa 88.53 315 *c i*P **P 10 54 01.3 -1.4**
ANN *i**PP pP 10 54 17.2 -6.5
ANN *e* 10 57 33.3
ANN *e* 11 04 24.5
ANN *i* 11 04 35.2
ANN pmax pmax
comp=Z,113nm,0.9s,mb5.9
OBN Obninsk 88.57 325⇑ *e*P **P 10 54 01.1 -1.5**
comp=Z,84nm,0.9s,mb5.8
OBN *e*pP pP 10 54 21.7 -1.9
OBN Obninsk 88.57 325 *c i*P **P 10 54 01.3 -1.3**
OBN *e**PP pP 10 54 26.3 +2.7
OBN *e*S 11 04 23.4
OBN *e*SS SS 11 10 31.4 -4.6
OBN pmax pmax
comp=Z,126nm,1.3s,mb5.8
OBN MLR MLR
comp=Z,900nm,16.0s
LVZ Lovozero 88.64 338 *i*P **P 10 54 01.8 -0.9**
LVZ *i* 10 57 34.7
LVZ *i*PPP PPP 10 59 34.9 +1.3
LVZ *i*S 11 04 22.0
LVZ *i*SS SS 11 10 39.9 +3.2
LVZ pmax pmax
comp=Z,30nm,1.1s,mb5.2
LVZ pmax pmax
comp=N,8.0nm,1.3s
LVZ pmax pmax
comp=E,6.0nm,0.9s
LVZ smax
comp=N,395nm,13.6s
LVZ smax
comp=Z,175nm,13.4s
LVZ smax
comp=E,446nm,11.2s
LVZ smax
comp=N,221nm,3.0s
LVZ smax
comp=Z,68nm,2.7s
LVZ smax
comp=E,355nm,2.8s
GZT Gaziantep 88.79 307 *i*P **P 10 54 04.6 +0.4**
GAZ Gaziantep 89.08 307 *e*P **P 10 54 05.7 +0.2**
APA Apatity 89.14 338 *e*P **P 10 54 00.0 -5.1**
APA *i* 10 57 40.0
APA *i*PPP PPP 10 59 38.0 +0.1
APA *i* 11 04 26.0
APA *i*S S 11 04 42.0 -3.6
APA pmax pmax
comp=Z,26nm,1.0s,mb5.2
QURS Qurayyt al Mil 89.29 301 P **P 10 54 07.6 +0.9**
ASF Jabal al Asfar 89.61 302 P **P 10 54 09.0 +0.9**
comp=Z,49nm,0.8s,mb5.7,baz=335,slow=1.7,SNR=51
ASF PKKPbc 11 11 44.8
comp=Z,2.7nm,0.5s,baz=5.0,slow=2.7,SNR=5.3
UMJS Umm Lajj 89.63 295 P **P 10 54 09.2 +0.8**
COBT Iskenderun 89.88 306 *i*P **P 10 54 09.6 +0.3**
TBKS Tabuk 90.14 298 P **P 10 54 11.4 +0.7**
BOYT Boyabat 90.59 311 *i*P **P 10 54 11.9 -0.6**
JMQS Jabal Moqyreh 90.69 299 P **P 10 54 14.0 +0.7**
SIM Simferopol' 90.88 315 *e*P **P 10 54 13.5 -0.2**
SIM *e**PP pP 10 54 37.5 +2.7
SIM *e* 10 57 55.0
SIM *e* 11 04 35.0
SIM *e*S S 11 05 06.0 +4.3
SIM *e*PS PS 11 06 16.0 -7.5
SIM pmax pmax
comp=Z,38nm,0.9s,mb5.5
SIM pmax pmax
comp=Z,110nm,0.9s,mb6.0
SIM pmax pmax
comp=Z,38nm,0.8s,mb5.6
CORM Corum 90.90 310 *e*P **P 10 54 10.9 -3.1**
KMBO Kilima Mbogo 91.09 269 P **P 10 54 15.6 +0.1**
comp=Z,17nm,0.9s,mb5.2,baz=43,slow=8.7,SNR=22
KEV Kevo 91.13 340 *e*p **P 10 54 12.9 -1.5**
comp=Z,16nm,1.0s,mb5.1
KEV Kevo 91.13 340 *e*P **P 10 54 12.9 -1.5**
KEV pmax pmax
comp=Z,16nm,1.0s,mb5.1
JMOS Jabal al Moall 91.34 299 P **P 10 54 16.8 +0.5**
ALWS Ilw as Safayha 91.37 299 P **P 10 54 17.0 +0.6**
BDAS Al Bad' 91.40 298 P **P 10 54 16.9 +0.3**
HAQS Haql 91.51 299 P **P 10 54 17.4 +0.3**
TAYS Tayyib Ism 91.59 299 P **P 10 54 17.9 +0.4**
ARCES ARCESS Array B 91.69 340 P **P 10 54 16.0 -1.0**
comp=Z,25nm,0.9s,mb5.5,baz=82,slow=4.6,SNR=28
ARCES PKiKP 10 59 08.3
comp=Z,2.5nm,0.5s,baz=135,slow=1.5,SNR=6.9
BR131 Keskin Array S 91.70 310 *e*P **P 10 54 17.1 -0.6**
BRTR Keskin Array B 91.70 310 P **P 10 54 17.0 -0.7**
comp=Z,7.9nm,0.8s,mb5.0,baz=108,slow=4.8,SNR=15
BRTR PKKPbc 11 11 38.5
comp=Z,4.1nm,1.0s,baz=207,slow=2.8,SNR=9.9
BALT Daday 91.72 312 *i*P **P 10 54 17.5 -0.3**
IKL Isikli 91.97 306 *e*P **P 10 54 18.4 -0.6**
SYO Syowa Base 92.28 201⇓ P **P 10 54 19.1 -0.6**
SYO Syowa Base 92.28 201⇓ PcP PcP 10 54 19.7 -0.9
CSS Prodhromos 92.38 305 *e*P **P 10 54 20.1 -0.8**
comp=Z,36nm,0.8s,mb5.7
ERMK Ermenek 92.56 307 *i*P **P 10 54 21.3 -0.4**
HDMB Hadim 92.86 307 *e*P **P 10 54 22.5 -0.6**
QSPA South Pole Qui 92.88 180 *e*P **P 10 54 23.6 +1.4**
comp=Z,118nm,0.9s,mb6.2
KAF Kangasniemi 92.98 333 *e*p **P 10 54 21.5 -1.5**
comp=Z,14nm,0.9s,mb5.3,baz=74,slow=4.3
KAF Kangasniemi 92.98 333 *e*P **P 10 54 21.5 -1.5**
KAF pmax pmax
comp=Z,14nm,0.9s,mb5.3
KIZT Kizilcal 93.14 309 *e*P **P 10 54 23.4 -0.9**
FINES FINESS Array B 93.23 332 P **P 10 54 22.8 -1.3**
comp=Z,5.3nm,0.8s,mb4.9,baz=54,slow=5.3,SNR=22
FINES PKKPbc 11 11 33.8
comp=Z,1.4nm,0.7s,baz=242,slow=2.9,SNR=5.9
AKASG Malin Array Be 93.45 321 P **P 10 54 24.3 -1.1**
comp=Z,17nm,0.8s,mb5.4,baz=70,slow=4.2,SNR=47
AKASG PKKPbc 11 11 33.0
comp=Z,0.8nm,0.5s,baz=263,slow=3.4,SNR=7.5
VSU Vasula 93.51 329⇑ *i*P **P 10 54 23.9 -1.6**
DLBC Dease Lake 93.59 31 P **P 10 54 26.7 +0.8**
comp=Z,7.9nm,1.0s,mb5.0,baz=281,slow=8.4,SNR=9.0
DLBC Dease Lake 93.59 31 *e*P **P 10 54 27.6 +1.7**
KIS Kishinev 94.29 317 *c i*P **P 10 54 26.0 -3.3**
KIS *e* 10 58 20.0
KIS *e* 11 04 55.0
KIS *e* 11 05 40.0
KIS pmax pmax
comp=Z,500nm,5.0s
KIS pmax pmax
comp=Z,500nm,6.0s
YLV Yalova 94.85 311 *e*P **P 10 54 29.2 -2.9**
TIRR Tirgusor 94.97 315⇑ P **P 10 54 32.3 -0.2**
TIRR Tirgusor 94.97 315⇑ P **P 10 54 32.3 -0.2**
CFR Carcaliu 95.05 316⇓ P **P 10 54 33.3 +0.4**
CFR Carcaliu 95.05 316⇓ P **P 10 54 33.3 +0.5**
ULDT Uludag 95.08 311 *i*P **P 10 54 32.6 -0.6**
SUW Suwalki 96.43 325 P **P 10 54 38.0 -0.8**
comp=Z,51nm,1.1s,mb5.9
SUW Suwalki 96.43 325 P **P 10 54 38.0 -0.9**
SUW pmax pmax
comp=Z,51nm,1.1s,mb5.9
MLR Muntele Rosu 96.52 316 P **P 10 54 39.4 -0.1**
comp=Z,19nm,0.9s,mb5.5,baz=338,slow=3.8,SNR=30
MLR Muntele Rosu 96.52 316⇓ P **P 10 54 39.3 -0.2**
MLR Muntele Rosu 96.52 316⇓ P **P 10 54 39.2 -0.2**
EDRB Edirne 96.61 313 *e*P **P 10 54 37.5 -2.5**
MBAR Mbarara 97.57 270 *e*P **P 10 54 44.6 -0.5**
comp=Z,5.2nm,0.9s,mb5.1
MBAR Mbarara 97.57 270 P **P 10 54 49.3 +4.3**
MBAR pmax pmax
comp=Z,5.0nm,1.0s,mb5.0
RZN Rozhen 98.13 313 *e*P **P 10 54 45.5 -1.4**
DAG Danmarks Havn 98.20 353⇑ *i*P **P 10 54 45.9 -0.6**
comp=Z,6.0nm,0.8s,mb5.2
DAG Danmarks Havn 98.20 353⇑ *i*P **P 10 54 45.9 -0.6**
DAG pmax pmax
comp=Z,6.0nm,0.8s,mb5.2
KOLS Kolonicke sedl 98.22 320 *e*P **P 10 54 47.1 0.0**
KOLS *e* pP 10 55 10.3 +2.1
RES Resolute Bay 98.27 11 *e*P **P 10 54 46.9 0.0**
comp=Z,25nm,0.8s,mb5.8
RES Resolute Bay 98.27 11 P **P 10 54 48.0 +1.2**
RES pmax pmax
comp=Z,25nm,0.8s,mb5.8
UZH Uzhgorod 98.28 320 *i*P **P 10 54 48.0 +0.6**
UZH *i* 11 08 17.0
DRGR 98.44 318⇓ P **P 10 54 48.9 +0.7**
DRGR 98.44 318⇓ P **P 10 54 48.9 +0.7**
CRVS Cervenica-Dubn 98.74 320 *e*P **P 10 54 51.2 +1.7**
CRVS *e* 10 55 28.1
CRVS *e*PP PP 10 58 45.7 -8.1
CRVS Cervenica-Dubn 98.74 320 *e*P **P 10 54 51.2 +1.7**
CRVS *e* 10 58 45.7
STHS Stebnicka Huta 98.75 321 *e*P **P 10 54 48.2 -1.3**
MMB Musomiste 98.87 313 *e*P **P 10 54 48.5 -1.8**
VTS Vitosha 99.04 314 *e*P **P 10 54 49.0 -2.0**
NIE Niedzica 99.34 321 *e*P **P 10 54 52.7 +0.5**
HFS Hagfors 99.41 333 P **P 10 54 50.1 -2.1**
comp=Z,18nm,0.9s,mb5.6,baz=90,slow=4.4,SNR=21
OJC Ojcow 99.44 322 *e*P **P 10 54 52.0 -0.7**
KECS Kecovo 99.48 320 *e*P **P 10 54 52.2 -0.7**
YKA Yellowknife Ar 99.54 25 P **P 10 54 53.1 +0.3**
comp=Z,2.6nm,0.5s,mb5.1,baz=297,slow=4.4,SNR=8.8
YKA PKiKP 10 59 22.0
comp=Z,5.0nm,0.7s,baz=304,slow=1.7,SNR=10
PGC Sidney 99.73 40 *e*Pdif **P 10 54 54.9 +0.8**
comp=Z,17nm,1.0s,mb5.6
NB2 NORSAR Subarra100.15 334 P P 10 54 53.6 -2.0
comp=Z,14nm,0.9s,baz=65,slow=4.5
NB2 NORSAR Subarra100.15 334 P P 10 54 53.6 -2.0
baz=65,slow=4.6
NOA NORSAR Array B 100.15 334 P P 10 54 53.9 -1.7
comp=Z,9.3nm,0.9s,baz=66,slow=4.5,SNR=23
NOA PP PP 10 59 01.4 -3.0
comp=Z,2.6nm,0.9s,baz=75,slow=6.9,SNR=3.5
NOA PKKPbc 11 11 14.6
comp=Z,4.7nm,0.9s,baz=242,slow=2.4,SNR=10.0
NOA NORSAR Array B 100.15 334 P P 10 54 53.9 -1.7
NOA PP PP 10 59 01.4 -3.0
NOA PKKPbc 11 11 14.6
NAO01 NORSAR Array S 100.38 334 *e*P P 10 54 55.5 -1.1
comp=Z,18nm,1.1s
LSZ Lusaka 100.51 255 Pdif P 10 54 57.9 -0.4
comp=Z,12nm,0.9s
LSZ Lusaka 100.51 255 P P 10 54 57.9 -0.4
LSZ pmax pmax
comp=Z,12nm,0.9s
VYHS Vyhne 100.53 320 *e*P P 10 54 57.3 -0.3
VYHS *e*PP PP 10 59 08.9 +1.1
DIVS Divcibare 100.96 316 *e*P P 10 54 59.5 -0.2
KSP Ksiaz 101.38 323 *e*Pdif P 10 55 01.2 -0.2
KSP *e*PP PP 10 59 11.0 -3.1
KSP *e*SKS SKS 11 05 31.0 -1.3
KSP *e*SP SP 11 07 58.0 -9.2
KSP *e*SS SS 11 13 42.0 +4.6
KSP Ksiaz 101.38 323 *e*P P 10 55 01.2 -0.2
KSP *e* 10 59 11.0
KSP *e* 11 05 31.0
KSP *e*SS SS 11 13 42.0 +4.6
DPC Dobruska-Polom 101.52 323 *e*PDIF P 10 55 01.8 -0.2
DPC *e*pP 10 55 22.4
UPC Upice 101.66 323 *e*PDIF P 10 55 02.0 -0.6
UPC *e*pP 10 55 23.8
ZST Bratislava 101.72 320 *e*PP PP 10 59 16.5 -0.1
COP Copenhagen 101.78 329 *i*P PP 10 59 16.7 -0.2
COP *i*S 11 05 37.4
YBH Yreka Blue Hor 102.08 46 P Pdif 10 55 05.7 +1.0
comp=Z,3.2nm,1.0s,baz=180,slow=10,SNR=2.8
PVCC Panska Ves 102.52 323 *e*PDIF Pdif 10 55 06.8 +0.4
PVCC *e*pP 10 55 28.6
PRU Pruhonice 102.72 323 *e*PDIF Pdif 10 55 07.0 -0.3
PRU *e*pP 10 55 30.0
BRG Berggiesshubel 102.77 324 *e*PKP Pdif 10 55 07.8 +0.3
comp=Z,7.9nm,0.9s
BRG *e* 10 55 29.6
BRG Berggiesshubel 102.77 324 *e*P Pdif 10 55 07.8 +0.3
BRG *i* 10 59 26.1
BRG pmax pmax
comp=Z,8.0nm,0.9s
BRG pmax pmax
comp=Z,12nm,1.1s
BRG pmax pmax

comp=Z,25nm,1.4s
MUD Monsted U'grnd 103.11 330 *i* P x 10 59 13.9
CLL Collm 103.16 324 *e*PDIF Pdif 10 55 10.0 +0.8
CLL *e*PP PP 10 59 28.0 +0.4
CLL *e**PPP 10 59 44.0
CLL *e*PPP PPP 11 01 38.0 -2.6
CLL *e* 11 05 38.0
CLL *e* 11 06 17.0
CLL *e* 11 06 44.0
CLL *e*PS PS 11 08 18.0 -17
CLL *e*SPP SPP 11 09 13.0 -6.0
CLL *e*SS SS 11 14 05.0 +2.8
CLL Collm 103.16 324 *e*P Pdif 10 55 10.0 +0.8
CLL *e* 11 05 37.0
CLL *e*S S 11 06 42.0 -3.9
LEGS Legarje 103.59 319 *e*P 10 59 28.9
KHC Kasperske Hory 103.61 322 *e*PDIF Pdif 10 55 10.7 -0.6
KHC *e*pP 10 55 32.6
GERES GERESS Array B 103.64 322 Pdiff Pdif 10 55 11.4 0.0
comp=Z,1.9nm,0.8s,baz=72,slow=4.2,SNR=14
GERES PKiKP 10 59 30.5
comp=Z,2.5nm,0.8s,baz=63,slow=3.0,SNR=5.3
GERES PKKPbc 11 11 06.9
comp=Z,0.3nm,0.3s,baz=270,slow=2.7,SNR=4.4
NEW Newport 103.85 39 Pdiff Pdif 10 55 13.8 +1.5
comp=Z,2.7nm,0.9s,baz=259,slow=3.9,SNR=5.4
NEW PKiKP 10 59 31.5
comp=Z,2.8nm,0.8s,baz=70,slow=2.3,SNR=4.3
NEW Newport 103.85 39 *e*Pdif Pdif 10 55 13.7 +1.3
comp=Z,4.0nm,0.9s
NEW Newport 103.85 39 P Pdif 10 55 14.0 +1.7
NEW pmax pmax
comp=Z,4.0nm,1.0s
NKC Novy Kostel 103.89 323 *e*PDIF Pdif 10 55 12.6 +0.1
NKC *e*pP 10 55 35.5
EDM Edmonton 104.13 33 *e*Pdif Pdif 10 55 14.6 +1.2
EDM Edmonton 104.13 33 P Pdif 10 55 14.9 +1.4
WVOR Wild Horse Val 104.79 45 *e*Pdif Pdif 10 55 18.6 +1.9
comp=Z,3.7nm,0.9s
WVOR Wild Horse Val 104.79 45 *e*P Pdif 10 55 18.6 +2.0
WVOR pmax pmax
comp=Z,4.0nm,0.9s
SNAA Sanae 104.87 194 *e* PP 10 59 34.5 -5.5
SNAA Sanae 104.87 194 *e* x 10 59 40.0
SNAA Sanae 104.87 194 *e* x 10 59 51.2
SNAA Sanae 104.87 194 *e* x 10 59 59.7
SNAA Sanae 104.87 194 Pdiff Pdif 10 55 19.7 +3.4
comp=Z,2.6nm,0.8s,baz=179,slow=4.2,SNR=16
SNAA PKKPbc 11 10 59.8
comp=Z,4.6nm,0.9s,baz=302,slow=2.1,SNR=21
SNAA Sanae 104.87 194 Pdif Pdif 10 55 20.0 +3.7
SNAA *e* 10 59 34.5
SNAA *e* 10 59 40.0
SNAA *e* 10 59 51.2
SNAA *e* 10 59 59.7
SNAA *e* 11 10 59.5
SNAA *e* 11 17 17.6
BMO Blue Mountains 104.92 42 *e*Pdif Pdif 10 55 18.8 +1.7
comp=Z,1.4nm,0.8s
BMO Blue Mountains 104.92 42 P Pdif 10 55 21.7 +4.6
BMO pmax pmax
comp=Z,1.0nm,0.8s
MSO Missoula 106.39 39 *e*PKiKP 10 59 35.4
VNA2 Neumayer--Watz 106.47 194 Pdif Pdif 10 55 25.7 +2.3
VNA2 *e* 10 59 36.8
VNA2 *e* 10 59 59.7
VNA2 *e* 11 10 55.1
VNA2 *e* 11 11 13.3
VNA3 Neumayer Olymp 106.78 193 Pdif Pdif 10 55 28.4 +3.7
VNA3 *e* 10 59 44.1
VNA3 *e* 11 00 06.3
VNA3 *e* 11 10 53.5
VNA3 *e* 11 11 09.8
CHMT Chamberlain Mo 106.79 39 *e*PKiKP 10 59 36.1
DAVOX Davos 106.80 321 Pdiff Pdif 10 55 29.1 +3.8
comp=Z,3.0nm,0.7s,baz=115,slow=16,SNR=4.5
VNA1 Neumayer--Stat 106.87 194 *e* Px 11 00 02.6
HLID Hailey 107.32 43 *e*Pdif Pdif 10 55 28.4 +0.6
comp=Z,3.4nm,1.2s
HLID *e*PKiKP 10 59 38.2
CDF Champ du Feu 107.72 323 *e*PKIKP 10 59 37.0
ELK Elko 107.75 46 Pdif Pdif 10 55 31.1 +1.4
comp=Z,4.2nm,1.0s
ELK *e*PKiKP 10 59 39.3
ELK Elko 107.75 46 P Pdif 10 55 32.2 +2.5
ELK pmax pmax
comp=Z,4.0nm,1.0s
HRY Holter Researc 107.76 39 *e*PKiKP 10 59 38.0
MCMT McKenzie Canyo 107.87 41 *e*PKiKP 10 59 39.1
HINF Hinteralfeld 108.24 323 *e*PKIKP 10 59 38.5
BOZ Bozeman (W) 108.33 40 *e*PKiKP 10 59 40.0
GIVF Givet 108.37 326 *e*PKIKP 10 59 38.3
HAU Haudompre 108.46 323 *e*PKIKP 10 59 39.2
BAIF Baives 108.74 326 *e*PKIKP 10 59 39.3
MEZF Maizieres J'vi 109.00 324 *e*PKIKP 10 59 40.0
PGF Pioggiola 109.04 317 *e*PKIKP 10 59 39.6
comp=Z,55nm,1.1s
PFO Pinyon Flat Ob 109.11 53 *e*PKiKP 10 59 41.4
FFC Flin Flon 109.17 28 *e*PKiKP 10 59 40.6
CABF La Chapelle 109.24 322 *e*PKIKP 10 59 40.4
comp=Z,19nm,0.8s
LPG La Plagne 109.31 321 *e*PKIKP 10 59 40.7
LPL La Plagne 109.32 321 *e*PKIKP 10 59 40.5
comp=Z,8.6nm,0.7s
RRI2 Red Ridge 109.48 42 *e*PKiKP 10 59 42.4
IMW Indian Meadow 109.50 41 *e*PKiKP 10 59 41.6
SBF Sospel 109.56 319 *e*PKIKP 10 59 40.5
comp=Z,50nm,0.9s
EKA Eskdalemuir Ar 109.60 333 PKiKP 10 59 40.8
comp=Z,4.1nm,1.0s,baz=23,slow=2.9,SNR=5.3
MBDF Montbardon 109.63 320 *e*PKIKP 10 59 41.3
comp=Z,8.3nm,0.6s
TPAW Teton Pass 109.66 42 *e*PKiKP 10 59 42.5
DUG Dugway 109.67 45 *e*PKiKP 10 59 42.7
NEN Nelson 109.74 51 *e*PKiKP 10 59 43.2
REDW Red Top Meadow 109.78 42 *e*PKiKP 10 59 42.5
SNOW Snow King Moun 109.80 42 *e*PKiKP 10 59 43.0
LOHW Long Hollow 109.84 41 *e*PKiKP 10 59 41.9
ORIF Oris-en-Rattie 110.12 320 *e*PKIKP PKPdf 10 59 42.3 +2.3
comp=Z,5.8nm,0.6s
FRF La Foret Royal 110.21 319 *e*PKIKP PKPdf 10 59 41.6 +1.4
LOR Lormes 110.29 323 *e*PKIKP PKPdf 10 59 41.8 +1.5
comp=Z,14nm,1.0s
SMF Signal de Mont 110.60 323 *e*PKIKP PKPdf 10 59 42.3 +1.4
comp=Z,12nm,0.9s
SSF Saint Saulge 110.60 323 *e*PKIKP PKPdf 10 59 42.9 +2.0
comp=Z,15nm,0.8s
SMRF Simiane la Rot 110.73 319 *e*PKIKP PKPdf 10 59 42.9 +1.6
AVF Avril sur Loir 110.82 323 *e*PKIKP PKPdf 10 59 43.5 +2.1
comp=Z,9.5nm,0.8s
PDAR Pinedale Array 110.89 42 PKiKP 10 59 44.4
comp=Z,2.6nm,0.9s,baz=180,slow=1.5,SNR=8.9
VIVF Saint-Julien-l 110.92 321 *e*PKIKP PKPdf 10 59 43.1 +1.5
TMUT Trail Mountain 111.16 46 *e*PKiKP 10 59 46.0
LAO LASA Array 111.21 37 *e*PKiKP 10 59 45.0
BGF Bois d'Agland 111.24 323 *e*PKIKP PKPdf 10 59 43.9 +1.7
comp=Z,22nm,0.8s
TCF Toulx Ste Croi 111.76 323 *e*PKIKP PKPdf 10 59 45.1 +1.9
comp=Z,23nm,0.8s
LASF Ste Croix 111.79 320 *e*PKIKP PKPdf 10 59 44.9 +1.6
FLN La Foliniere 112.03 326 *e*PKIKP PKPdf 10 59 45.1 +1.5
GRR Gorron 112.45 326 *e*PKIKP PKPdf 10 59 46.0 +1.5
CAF Calviac 112.52 322 *e*PKIKP PKPdf 10 59 46.3 +1.6
RJF Les Rejaudoux 112.67 322 *e*PKIKP PKPdf 10 59 46.5 +1.5
RWWY Rawlins 112.93 42 *e*PKiKP 10 59 48.1
MFF Saint Martin d 113.00 324 *e*PKIKP PKPdf 10 59 47.1 +1.5
comp=Z,30nm,0.8s
MTLF Montolieu 113.19 320 *e*PKIKP PKPdf 10 59 47.3 +1.2
comp=Z,36nm,1.0s
SGMF Saint Gilles 113.46 327 *e*PKIKP PKPdf 10 59 47.7 +1.2
comp=Z,33nm,0.8s
ROSF Rostrenen 113.81 327 *e*PKIKP PKPdf 10 59 48.4 +1.2
RSSD Black Hills 113.82 39 *e*PKiKP 10 59 49.3
RSSD Black Hills 113.82 39 PKIKP PKPdf 10 59 49.4 +2.1
QUIF Quistinic 113.99 327 *e*PKIKP PKPdf 10 59 48.6 +1.0
comp=Z,9.3nm,0.6s
TUC Tucson 114.04 53 *e*PKiKP 10 59 50.7
TUC Tucson 114.04 53 PKIKP PKPdf 10 59 51.0 +2.9
SMCO Snowmass 114.20 44 *e*PKiKP 10 59 51.7
ETOS Mallorca 114.45 316 PKP PKPdf 10 59 50.0 +1.3
EPF Esparros 114.54 321 *e*PKIKP PKPdf 10 59 50.3 +1.5
comp=Z,9.3nm,0.8s
EBIE Bielsa 114.83 320 PKP PKPdf 10 59 52.1 +2.7
ULM Lac du Bonnet 114.86 30 PKP PKPdf 10 59 50.6 +1.3
comp=Z,8.1nm,0.7s,baz=294,slow=1.7,SNR=7.6
ULM PKKPbc 11 10 33.9
comp=Z,6.3nm,0.8s,baz=135,slow=4.9,SNR=6.3
ULM Lac du Bonnet 114.86 30 *e*PKiKP 10 59 50.5
ISCO Idaho Springs 114.87 43 *e*PKiKP 10 59 52.5
ISCO Idaho Springs 114.87 43 PKIKP PKPdf 10 59 52.7 +3.2
EPOB Poblet 114.88 319 PKP PKPdf 10 59 51.6 +2.1
ETSF Etsaut 115.17 321 *e*PKIKP PKPdf 10 59 51.4 +1.4
comp=Z,15nm,0.8s
SJPF Ste Jean 115.48 321 *e*PKIKP PKPdf 10 59 52.2 +1.6
EBR Ebro Roquetas 115.53 318 *e*PKPDF PKPdf 10 59 53.0 +2.2
SDCO Great Sand Dun 115.87 45 *e*PKPdf PKPdf 10 59 54.7 +3.2
ANMO Albuquerque 116.37 48 *e*PKPdf PKPdf 10 59 55.8 +3.3
ANMO Albuquerque 116.37 48 PKIKP PKPdf 10 59 56.0 +3.5
EMOS Mosqueruela 116.39 318 PKP PKPdf 10 59 57.8 +5.4
ECRI Cripan 116.55 321 PKP PKPdf 10 59 55.6 +2.9
ELAN Lanestosa 116.78 322 PKP PKPdf 10 59 55.6 +2.5
EBEN Beniarda 117.03 317 PKP PKPdf 10 59 55.8 +2.1
ECHE Chera 117.10 318 PKP PKPdf 10 59 56.8 +3.0
EARI Arriondas 117.81 323 PKP PKPdf 10 59 58.8 +3.7
ETOB Tobarra 117.96 317 PKP PKPdf 10 59 58.3 +2.9
MNTX Cornudas Mount 118.52 51 *e*PKPdf PKPdf 10 59 59.3 +2.5
EVIA Vianos 118.61 318 PKP PKPdf 10 59 59.9 +3.1
EPON Pontenova 118.95 324 PKP PKPdf 10 59 59.9 +2.6
ESDC Sonseca Array 119.04 319 PKP PKPdf 10 59 59.9 +2.3
comp=Z,2.7nm,0.5s,baz=21,slow=2.2,SNR=12
ESDC PP PP 11 01 19.0 -4.1
comp=Z,2.8nm,0.8s,baz=52,slow=7.3,SNR=4.2
ESDC PKKPbc 11 10 16.1
comp=Z,6.4nm,0.9s,baz=248,slow=3.3,SNR=9.0
ESDC Sonseca Array 119.04 319 PKP PKPdf 11 00 01.6 +4.0
EQES Quesada 119.42 317 PKP PKPdf 10 59 59.6 +1.2
ECAL Calabor 119.52 323 PKP PKPdf 11 00 00.8 +2.4
EBAN Banos Encina 119.72 318 PKP PKPdf 11 00 01.5 +2.5
EBER Berja 119.75 316 PKP PKPdf 11 00 01.7 +2.6
STS Santiago 120.03 324 PKP PKPdf 11 00 02.6 +3.2
EMAZ Mazaricos 120.24 325 PKP PKPdf 11 00 02.4 +2.6
EADA Adamuz 120.25 318 PKP PKPdf 11 00 02.6 +2.7
EGUA Guajares 120.25 316 PKP PKPdf 11 00 03.1 +3.1
ERON Agron 120.33 317 PKP PKPdf 11 00 02.0 +1.9
ELUQ Luque 120.36 317 PKP PKPdf 11 00 02.6 +2.4
ELOB Lobios 120.36 323 PKP PKPdf 11 00 02.5 +2.4
ELOJ Sierra Loja 120.50 317 PKP PKPdf 11 00 02.4 +1.9
PVRL Vila Real 120.51 323 *e*PKPdf PKPdf 11 00 03.0 +2.6
EZAM Zamans 120.57 324 PKP PKPdf 11 00 03.1 +2.6
LTX Lajitas 120.82 53 *e*PKPdf PKPdf 11 00 04.0 +2.7
LTX Lajitas 120.82 53 PKIKP PKPdf 11 00 04.4 +3.1
TXAR Lajitas Array 120.82 53 PKP PKPdf 11 00 03.8 +2.5
comp=Z,8.2nm,0.6s,baz=288,slow=0.8,SNR=84
MTE Manteigas 120.92 322 *e*PKPdf PKPdf 11 00 03.9 +2.7
MTE *e*PP PP 11 01 31.9 -3.3
MTE Manteigas 120.92 322 *e*PKPdf PKPdf 11 00 03.8 +2.5
SCHQ Schefferville 121.05 10 PKP PKPdf 11 00 03.0 +1.9
comp=Z,12nm,0.7s,baz=26,slow=3.7,SNR=22
SCHQ PKKPbc 11 10 04.7
comp=Z,2.2nm,0.7s,baz=175,slow=2.0,SNR=5.2
SCHQ Schefferville 121.05 10 *e*PKPdf PKPdf 11 00 02.5 +1.4
PCBR Castelo Branco 121.20 321 *e*PKPdf PKPdf 11 00 04.4 +2.6
KSU1 Kansas State U 121.21 40 *e*PKPdf PKPdf 11 00 04.0 +2.1
EBAD Badajoz 121.53 320 PKP PKPdf 11 00 05.2 +2.8
ESPR Espera 121.80 317 PKP PKPdf 11 00 06.1 +3.1
EMIN Mina Concepcio 121.86 319 PKP PKPdf 11 00 05.9 +2.8
PTOM Tomar 121.91 321 *e*PKPdf PKPdf 11 00 06.2 +3.1
WMOK Wichita Mounta 122.08 45⇑ *e*PKPdf PKPdf 11 00 04.9 +1.4
WMOK Wichita Mounta 122.08 45 PKIKP PKPdf 11 00 05.6 +2.0
EVO Evora 122.30 320 *e*PKIKP PKPdf 11 00 05.5 +1.6
comp=Z,68nm,0.9s
PBEJ Beja 122.49 320 *e*PKPdf PKPdf 11 00 07.1 +2.8
EGRO El Granado 122.52 319 PKP PKPdf 11 00 07.2 +2.8
PLOU Loures 122.81 321 *e*PKPdf PKPdf 11 00 08.0 +3.1
PTEO Sao Teotonio 123.32 320 *e*PKPdf PKPdf 11 00 09.1 +3.2
SFJM Santa Fe 124.56 63 *i* P PKPdf 11 00 11.0 +2.2
CCM Cathedral Cave 125.20 38⇑ *e*PKPdf PKPdf 11 00 10.7 +1.1
CCM Cathedral Cave 125.20 38 PKIKP PKPdf 11 00 10.9 +1.3
FVM French Village 125.75 38 *e*PKPdf PKPdf 11 00 12.4 +1.8
UALR University of 126.49 42 *e*PKPdf PKPdf 11 00 14.6 +2.4
USHA Ushuaia 126.54 168 PKP PKPdf 11 00 14.9 +3.3
comp=Z,58nm,1.0s,baz=271,slow=0.4,SNR=18
NATX Nacogdoches 126.57 46 *e*PKPdf PKPdf 11 00 15.3 +3.0
PARMO Parma 127.00 38 *e*PKPdf PKPdf 11 00 15.1 +2.0
BLO Bloomington 127.23 34 *e*PKPdf PKPdf 11 00 15.5 +2.0
GLAT Glass 127.54 38 *e*PKiKP 11 00 14.4
HALT Halls 127.74 39 *e*PKPdf PKPdf 11 00 15.8 +1.2
MSNY Massena 127.97 21 *e*PKPdf PKPdf 11 00 16.4 +1.7
WCI Wyandotte Cave 128.01 35 *e*PKPdf PKPdf 11 00 15.8 +0.8
WCI Wyandotte Cave 128.01 35 PKIKP PKPdf 11 00 16.1 +1.1
WVT Waverly 128.53 38 *e*PKPdf PKPdf 11 00 17.4 +1.3
WVT Waverly 128.53 38 PKIKP PKPdf 11 00 17.6 +1.5
OXF Oxford 128.57 40 *e*PKPdf PKPdf 11 00 17.1 +0.9
OXF Oxford 128.57 40 PKIKP PKPdf 11 00 17.4 +1.2
GENY Geneseo 128.73 25 *e*PKPdf PKPdf 11 00 19.8 +3.6
PPM Popocatepetl 128.94 63 *i* P PKPdf 11 00 22.0 +4.7
NCB Newcomb 129.09 21 *e*PKPdf PKPdf 11 00 18.8 +1.9
PLAL Pickwick Lake 129.12 39 *e*PKPdf PKPdf 11 00 18.5 +1.3
MIV Mineville/With 129.24 20 *e*PKPdf PKPdf 11 00 19.1 +2.0
BINY Binghamton 129.94 23 *e*PKPdf PKPdf 11 00 20.4 +1.9
HNH Hanover 129.99 19 *e*PKPdf PKPdf 11 00 21.2 +2.6
MCWV Mont Chateau 130.33 29 PKPdf PKPdf 11 00 21.5 +2.1
TZTN Tazewell 130.75 34 *e*PKPdf PKPdf 11 00 22.5 +2.2
TZTN *e*SKP 11 03 39.1
CPCT Cooper Cave 130.97 36 *e*PKPpre 11 00 08.7
CPCT *e*PKPdf PKPdf 11 00 22.7 +2.0
CPCT SKP 11 03 38.8
LRAL Lakeview Retre 131.06 40 *e*PKPdf PKPdf 11 00 22.9 +1.9
LRAL *e*SKP 11 03 40.3
OXX Oaxaca 131.32 64 *i* P PKPdf 11 00 27.0 +5.2
MYNC Murphy 131.46 36 *e*PKPdf PKPdf 11 00 23.6 +2.0
WES Weston 131.49 19 *e*PKPdf PKPdf 11 00 23.1 +1.7
WES Weston 131.49 19 PKIKP PKPdf 11 00 25.3 +3.8
BLA Blacksburg 131.94 31 PKPdf PKPdf 11 00 24.3 +1.8
DBIC Dimbokro 132.25 282 PKP PKPdf 11 00 26.2 +2.5
comp=Z,20nm,0.9s,baz=66,slow=2.2,SNR=15
DBIC SKPbc 11 03 44.1
comp=Z,16nm,0.7s,baz=62,slow=2.8,SNR=7.5
LIC Lamto 132.50 281 *e*PKIKP PKPdf 11 00 26.3 +2.1
comp=Z,54nm,0.9s
CBN Corbin 132.65 28 *e*PKPdf PKPdf 11 00 26.5 +2.7
COW Cow Castle Cre 134.65 35 *e*PKPdf PKPdf 11 00 30.6 +2.9
PLCA Paso Flores 138.74 158 PKhKP 11 00 32.5
comp=Z,12nm,0.9s,baz=196,slow=3.9,SNR=12
PLCA PKP PKPdf 11 00 37.5 +2.5
comp=Z,22nm,0.7s,baz=224,slow=1.8,SNR=19
PLCA SKPbc 11 04 05.3
comp=Z,8.5nm,0.9s,baz=330,slow=1.7,SNR=3.8
PLCA Paso Flores 138.74 158 *e*PKPpre 11 00 28.6
PLCA PKP PKPdf 11 00 32.5 -2.5
PLCA PKP PKPdf 11 00 37.5 +2.5
PLCA SKPbc 11 04 05.3
PLCA Paso Flores 138.74 158 PKHKP 11 00 29.0
TRQA Tornquist 143.84 166 *e*PKPpre 11 00 44.1
JTS JuntasAbangare 144.38 68 PKP PKPdf 11 00 47.5 +1.8
comp=Z,216nm,0.9s,baz=326,slow=3.5,SNR=69
LMEL Las Melosas 144.77 153⇑ *e*P PKPdf 11 00 47.8 +2.0
DSCH Colegio Aleman 144.97 152⇑ *e*P PKPdf 11 00 48.9 +2.7
DSCH Colegio Aleman 144.97 152 *i* P PKPdf 11 00 48.9 +2.7
CLCH Cerro Calan 144.99 152⇑ *e*P PKPdf 11 00 48.1 +1.9
PEL Peldehue 145.12 152 *e*P PKPdf 11 00 48.8 +2.3
PEL Peldehue 145.12 152⇑ *i*P PKPdf 11 00 49.6 +3.1
HLGC Holguin 146.36 44 *e*P PKPdf 11 00 52.1 +3.3
CMCH Combarbala 146.56 149 *e*P PKPdf 11 00 51.2 +2.3
CMCH Combarbala 146.56 149 *e*P PKPdf 11 00 51.4 +2.4
MBJ Montego Bay 146.62 50⇑ *e*P PKPdf 11 00 54.0 +4.6
MCJ Malvern 147.04 50⇑ *e*P PKPdf 11 00 52.7 +2.6
BNJ Bonny Gate 147.36 49⇑ *e*P PKPdf 11 00 53.4 +2.8
TLL Tololo Astrono 147.47 148 *e*P PKPdf 11 00 53.2 +2.8
CFAA Coronel Fontan 147.54 153 PKPbc PKPdf 11 00 55.6 +5.0
comp=Z,22nm,0.7s,baz=219,slow=2.9,SNR=110
STH Stony Hill 147.61 49⇑ *e*P PKPdf 11 00 53.2 +2.2
GWJ Greenwich 147.68 49⇑ *e*P PKPdf 11 00 53.7 +2.6
LPA La Plata 147.70 170 *ce*PKP PKPdf 11 00 52.0 +1.3
comp=Z,955nm,0.8s
LPA La Plata 147.70 170 *e*PKP PKPdf 11 00 57.0 +6.3
LVC Limon Verde 154.32 141 PKPbc PKPdf 11 01 13.0 +12
comp=Z,40nm,0.6s,baz=348,slow=1.1,SNR=14
LVC PKPab PKPab 11 01 26.9 +0.9
comp=Z,51nm,0.8s,baz=236,slow=7.6,SNR=7.8
SJG San Juan 154.68 34 PKP PKPdf 11 01 04.1 +2.6
comp=Z,8.8nm,0.3s,baz=322,slow=19,SNR=5.3
SJG PKPbc PKPdf 11 01 13.0 +12
comp=Z,13nm,0.3s,baz=338,slow=7.7,SNR=6.6
SJG PKPab PKPab 11 01 28.6 +1.0
comp=Z,9.4nm,0.3s,baz=337,slow=22,SNR=3.2
SJG San Juan 154.68 34 *e*PKPdf PKPdf 11 01 03.8 +2.4
ROSC El Rosal 156.11 71 PKP PKPdf 11 01 07.6 +4.1
comp=Z,13nm,0.6s,baz=231,slow=1.6,SNR=8.3
ROSC PKPab PKPab 11 01 35.2 +1.2
comp=Z,21nm,0.6s,baz=225,slow=2.0,SNR=3.8
CPUP Villa Florida 156.16 167 PKP PKPdf 11 01 06.5 +3.2
comp=Z,23nm,1.0s,baz=199,slow=0.5,SNR=31
CPUP PKPbc PKPdf 11 01 16.4 +13
comp=Z,39nm,1.1s,baz=223,slow=1.5,SNR=17
CPUP PKPab PKPab 11 01 33.9 +0.1
comp=Z,80nm,1.0s,baz=228,slow=3.5,SNR=12
CPUP Villa Florida 156.16 167 *e*PKPdf PKPdf 11 01 06.6 +3.3
CPUP *e* 11 01 15.8
SDV Santo Domingo 157.77 58 PKP PKPdf 11 01 08.8 +3.1
comp=Z,62nm,1.0s,baz=283,slow=0.8,SNR=45
SDV PKPab PKPab 11 01 41.8 +0.7
comp=Z,44nm,1.0s,baz=314,slow=8.2,SNR=6.6
SDV Santo Domingo 157.77 58 *e*PKPdf PKPdf 11 01 07.6 +2.0
LPAZ La Paz 159.12 130 PKP PKPdf 11 01 11.3 +4.1
comp=Z,16nm,0.9s,baz=344,slow=5.0,SNR=8.8
LPAZ PKPab PKPab 11 01 48.3 +1.5
comp=Z,30nm,0.8s,baz=204,slow=2.6,SNR=6.2
LPAZ La Paz 159.12 130 PKP PKPdf 11 01 11.3 +4.1
LPAZ PKPab PKPab 11 01 48.3 +1.5
SIV San Ignacio 164.12 145 PKP PKPdf 11 01 15.7 +3.4
comp=Z,29nm,1.0s,baz=211,slow=1.6,SNR=84
SIV PKPab PKPab 11 02 09.9 +1.5
comp=Z,39nm,1.0s,baz=236,slow=5.2,SNR=12
BAO Brasilia Array 166.89 196 PKPdf PKPdf 11 01 17.5 +2.8
BDFB Brasilia 166.89 196 PKP PKPdf 11 01 17.4 +2.7
comp=Z,22nm,1.0s,baz=84,slow=0.6,SNR=15
BDFB PKPab PKPab 11 02 21.2 +0.7
comp=Z,16nm,0.7s,baz=84,slow=1.3,SNR=5.5

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*IDC **03** 10:58:30.6±4.6, 14.74S×75.12W, h80km±44km, mb3.5/3, mb1 4.0/6, mb1mx3.8/18, mbtmp4.1/6, ML4.5/3, Error ellipse: s-maj=63.8km s-min=22.5km az=65.0*
*NEIC **03** 10:58:31.6±1.4, 14.48S×75.01W, h90km±13km, mb4.5/3, Error ellipse: s-maj=26.9km s-min=9.9km az=225.0*
NEIC Felt [III] at Palpa.
ISC 03 10:58:29.1±1.5, 14.6S±0.1×75.1W±0.2, h89km±15km, n17, σ1§11/17, mb4.2/7, 1C, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**3.11**	**327**	*e*P	**P**	**10 59 17.8**	**+0.5**
LPAZ	**La Paz**	**6.93**	**105**	P	**P**	**11 00 09.9**	**0.0**
1.5nm,0.3s,baz=292,slow=10,SNR=26							
LVC	**Limon Verde**	**9.89**	**144**	P	**P**	**11 00 48.4**	**-1.7**
5.2nm,0.3s,baz=332,slow=10,SNR=45							
LVC				S	**S**	**11 02 33.8**	**-6.2**
1.9nm,0.3s,baz=266,slow=23,SNR=7.1							
LVC	**Limon Verde**	**9.89**	**144**	*e*P	**P**	**11 00 48.0**	**-2.2**
LVC				S	**S**	**11 02 33.9**	**-6.2**
SIV	**San Ignacio**	**13.62**	**98**	P	**P**	**11 01 40.7**	**+1.0**
0.4nm,0.3s,baz=264,slow=10,SNR=6.2							
PLCA	**Paso Flores**	**26.32**	**172**	P	**P**	**11 04 04.6**	**+6.2**
13nm,1.1s,mb4.3							
CCIG	**Comitan**	**35.01**	**331**⇑	*i*P	**P**	**11 05 14.5**	**-0.7**
PMSA	**Palmer Station**	**50.67**	**174**	*e*P	**P**	**11 07 23.2**	**+2.0**
14nm,0.6s,mb5.2							
TXAR	**Lajitas Array**	**51.67**	**328**	P	**P**	**11 07 29.4**	**+0.1**
1.5nm,0.5s,mb4.3,baz=152,slow=9.1,SNR=24							
SDCO	**Great Sand Dun**	**59.40**	**332**	*e*P	**P**	**11 08 24.3**	**-0.4**
DUG	**Dugway**	**64.82**	**329**	*e*P	**P**	**11 09 00.7**	**-0.2**
2.3nm,0.8s,mb4.1							
PDAR	**Pinedale Array**	**65.28**	**333**	P	**P**	**11 09 06.2**	**+2.3**
0.4nm,0.7s,mb3.3,baz=129,slow=5.8,SNR=3.1							
ULM	**Lac du Bonnet**	**67.12**	**346**	P	**P**	**11 09 13.7**	**-1.6**
3.1nm,0.6s,mb4.3,baz=177,slow=4.1,SNR=3.0							
SNAA	**Sanae**	**70.66**	**161**	P	**P**	**11 09 36.7**	**-0.1**
0.7nm,0.6s,mb3.7,baz=288,slow=6.6,SNR=9.3							
EDM	**Edmonton**	**75.12**	**337**	*e*P	**P**	**11 10 02.7**	**-0.5**
WRA	**Warramunga Arr**	**135.07**	**221**	PKP	PKPdf	11 17 41.9	+2.8
0.5nm,0.6s,baz=130,slow=1.9,SNR=9.5							
SONM	**Songino Array**	**146.86**	**358**	PKPbc	PKPbc	11 18 02.7	+2.0
1.9nm,0.5s,baz=336,slow=2.3,SNR=15							

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*MOS **03** 11:03:12.9±1.1, 11.28N×85.56W, h10km, mb6.4/86, MS6.4/31, Error ellipse: s-maj=5.4km s-min=3.8km az=76.1*
*BGS **03** 11:03:13.3±1.3, 12.24N×86.91W, h14km, mb6.0*
*IDC **03** 11:03:13.2±0.5, 11.37N×85.29W, mb5.3/28, mb1 5.4/29, mb1mx5.4/29, mbtmp5.2/29, ML4.5/1, MS6.2/23, Ms1 6.2/23, ms1mx6.2/27, Error ellipse: s-maj=18.6km s-min=9.0km az=74.0*
*CASC **03** 11:03:14.0±4.4, 11.32N×85.47W, h10km±12km, MD4.1, ML5.3, mb6.0(NEIC)*
*BJI **03** 11:03:15.1, 11.20N×85.50W, h14km, mB6.2, Ms6.8, Msz6.6*
*NEIC **03** 11:03:15.1±0.2, 11.25N×85.54W, h14km, mb6.0/202, ME6.8, MS6.5/39, MW6.2, MD5.9(CASC), Error ellipse: s-maj=4.6km s-min=2.8km az=216.0 Broadband fault plane solution: P waves. NP1:ϕ_s160°, δ89°, λ175°. NP2: ϕ_s250°, δ85°, λ1°. Principal axes: T Plg4°, Azm115°; N Plg0°, Azm0°; P Plg3°, Azm205°; Moment Tensor Solution. s39 Moment tensor: Scale 10^{18} Nm; M_{rr}0.15; $M_{\theta\theta}$-1.71; $M_{\phi\phi}$ 1.56; $M_{r\theta}$-0.46; $M_{\theta\phi}$2.28; $M_{\phi r}$0.72; Best double couple: M_o2.9×10^{18} NP1:ϕ_s72°, δ74°, λ-3°. NP2: ϕ_s162°, δ88°, λ-164°. Principal axes: T 2.8, Plg10°, Azm296°; N .25, Plg74°, Azm171°; P -3.06, Plg13°, Azm28°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [IV] at San Juan Sur. Felt at Bluefields, Granada, Managua, Niquinohomo, Rivas, San Rafael del Sur and on Isla de Ometepe. Also felt at Liberia, Naranjo, San Jose, San Pedro and Tilaran, Costa Rica and at Roatan and Sandy Bay, Honduras.
*HRVD **03** 11:03:15.1±0.1, 11.38N×85.56W, h12km, MW6.3/79, Centroid moment Tensor Solution. LP body waves: s74, c188; Mantle waves: s79, c333; Half duration: 3s3 Moment tensor: Scale 10^{18}Nm; M_{rr}0.04±.02; $M_{\theta\theta}$-2.36±.02; $M_{\phi\phi}$2.32±.02; $M_{r\theta}$0.12±.05; $M_{\theta\phi}$1.89±.02; $M_{\phi r}$0.08±.05; Best double couple: M_o3.011×10^{18} NP1: ϕ_s334°, δ87°, λ180°. NP2:ϕ_s64°, δ90°, λ3°. Principal axes: T 2.992, Plg2°, Azm289°; N .036, Plg87°, Azm73°; P -3.03, Plg2°, Azm199°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*CRAAG **03** 11:03:20.5, 11.38N×85.64W, Mb5.9*
ISC 03 11:03:13.9±0.1, 11.30N±0.02×85.50W±0.02, h14km, h14km±1.0km: pP-P, n884, σ1§19/842, mb5.8/246, MS6.4/81, 78C-72D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CONN	**Concepcion**	**0.29**	**335**⇓	*i*P	**Pg**	**11 03 20.5**	**+0.2**
APON	**Apoyo**	**0.82**	**318**⇑	*i*P	**Pb**	**11 03 29.8**	**+0.3**
MASN	**Masaya**	**0.93**	**317**⇑	*e*P	**Pb**	**11 03 31.3**	**0.0**
CRUN	**El Crucero**	**1.03**	**311**⇓	*e*P	**Pb**	**11 03 34.0**	**+0.9**
WILN	**Americas 2**	**1.08**	**322**⇑	*e*P	**Pb**	**11 03 33.9**	**0.0**
MGAN	**Managua**	**1.11**	**319**⇑	*e*P	**Pb**	**11 03 34.4**	**0.0**
MGAN				*e*S	**Sb**	**11 03 49.8**	**+1.3**
MGAN				*e*S	**Sb**	**11 03 51.6**	**+3.1**
comp=E,162μm

CRIN eS Sn 11 04 13.5 -0.5
LCR2 La Lucha 2 2.14 136⇑ eP Pn 11 03 49.0 -0.8
BUS Buena Vista 2.44 135 eP Pn 11 03 53.6 -0.4
BUS ⇑ eP 11 03 53.9
BUS Buena Vista 2.44 135⇑ eP Pn 11 03 53.9 -0.1
LIO Limon 2.75 118 eP Pn 11 03 55.8 -2.6
LIO Limon 2.75 118 eP Pn 11 03 54.0 -4.5
CNCH Conchagua 3.01 311⇑ eP Pn 11 04 16.3 +14
CNCH eS Sn 11 04 55.8 +18
BLLM Bellamira 3.42 309⇑ eP Pn 11 04 22.2 +14
BLLM eS Sn 11 05 04.2 +16
VSM San Miguel 3.43 308⇑ eP Pn 11 04 22.7 +15
VSM eS Sn 11 05 05.0 +16
CNI Changuinola 3.48 122⇓ eP Pn 11 04 09.8 +0.9
ACR Cerro Adams 3.50 139 eP Pn 11 04 08.3 -0.7
ACR Cerro Adams 3.50 139 eP Pn 11 04 04.2 -4.9
BRU Baru 3.81 130⇓ eP Pn 11 04 12.4 -1.2
SNVI San Vicente 3.99 306 eP Pn 11 04 30.1 +14
SNVI eS Sn 11 05 19.3 +16
LCBS La Ceiba 4.12 305⇑ eP Pn 11 04 31.1 +13
LCBS eS Sn 11 05 21.2 +15
DVD David 4.14 133⇓ eP Pn 11 04 18.1 -0.1
LFRS El Faro 4.17 304⇑ eP Pn 11 04 31.7 +13
LFRS eS Sn 11 05 21.0 +13
LBRS Las Brisas 4.22 305⇑ eP Pn 11 04 34.1 +15
LBRS eS Sn 11 05 27.3 +18
LFU La Fuente 4.28 305 eP Pn 11 04 34.5 +14
LFU eS Sn 11 05 26.9 +16
PTP1 Petroterminal 4.32 135 eP Pn 11 04 18.5 -2.2
SNET Serv Nac Est T 4.34 303 eP Pn 11 04 34.5 +13
SNET eS Sn 11 05 14.9 +2.8
SNET eS Sn 11 05 26.0 +14
SNET i 11 05 49.3
comp=Z,7μm,1.2s
BOQS Boqueron 4.41 304⇑ eP Pn 11 04 35.9 +14
BOQS eS Sn 11 05 29.4 +16
SFX2 San Felix 4.67 130⇑ iP Pn 11 04 25.0 -0.7
SBLS San Blas 4.75 303⇑ eP Pn 11 04 41.6 +15
SBLS eS Sn 11 05 37.9 +16
SNJE San Jose 4.75 303⇑ eP Pn 11 04 41.6 +15
SNJE eS Sn 11 05 39.3 +17
RTR El Retiro 4.80 303 eP Pn 11 04 41.9 +14
RTR eS Sn 11 05 39.1 +16
MTO2 Montecristo 2 4.86 310⇑ eP Pn 11 04 42.5 +14
MTO2 eS Sn 11 05 40.8 +16
RBDL Robledal 4.95 305 eP Pn 11 04 43.6 +14
RBDL eS Sn 11 05 42.4 +15
AZU Azuero 6.23 124⇓ eP Pn 11 04 47.0 -0.7
UPA Univ. de Panam 6.31 111⇑ eP Pn 11 04 46.7 -2.2
CCIG Comitan 8.12 308 i S Sn 11 07 06.2 +19
MCJ Malvern 10.03 48⇑ eP P 11 05 41.9 +1.2
MCJ eS Sx 11 08 41.4
MBJ Montego Bay 10.21 45⇑ eP P 11 05 44.3 +1.0
PCJ Portland Cotta 10.31 51⇑ eP P 11 05 45.6 +1.1
PCJ eS Sx 11 08 53.6
CVJ Coleyville 10.33 47⇑ eP P 11 05 44.1 -0.7
CMIG Matias Romero 10.76 303⇑ iP P 11 05 47.9 -2.9
CMIG i S S 11 07 51.7 -0.3
STH Stony Hill 10.77 50⇑ eP P 11 05 49.9 -1.0
STH eS Sx 11 09 10.8
BNJ Bonny Gate 10.82 49⇑ eP P 11 05 52.6 +1.0
GWJ Greenwich 10.83 51⇑ eP P 11 05 50.9 -0.8
HUIG Huatulco 11.23 294⇑ iP P 11 05 54.0 -3.2
SOR Soroa 11.67 11 eP P 11 06 02.7 -0.5
baz=185
SOR eS S 11 08 33.6 +19
comp=N,19μm,2.7s
comp=E,26μm,3.3s
EVV El Vigia 11.88 308 eP P 11 06 10.0 +4.0
LMGC Las Mercedes 11.95 42 eP P 11 06 06.6 -0.3
baz=228
LMGC eS S 11 08 26.6 +5.7
comp=N,380μm,10.9s
comp=E,240μm,10.9s
MGV Manicaragua 11.98 25 eP P 11 06 05.9 -1.4
MGV eS S 11 08 26.1 +4.5
comp=N,48μm,2.2s
comp=E,40μm,2.2s
OXX Oaxaca 12.30 299 eP P 11 06 12.5 +0.8
ROSC El Rosal 12.78 119 Pn P 11 06 20.4 +2.3
comp=E,0.9nm,0.3s,baz=301,slow=4.8,SNR=17
ROSC LR LR 11 11 16.0
comp=E,165μm,19.3s,baz=345,slow=38
RCC Rio Carpintero 12.80 46 eP P 11 06 17.1 -1.2
RCC eS S 11 08 50.7 +9.2
PAYG Puerto Ayora 12.81 202 eP P 11 06 21.4 +2.9
comp=E,1μm,1.5s
HLGC Holguin 13.15 42 eP P 11 06 22.6 -0.4
PNIG Pinotepa 13.26 294⇑ iP P 11 06 23.6 -0.8
LVIG Laguna Verde 13.44 310⇑ iP P 11 06 23.9 -2.8
MOAC Moa 13.75 46 i P P 11 06 32.7 +1.7
baz=225
MOAC i S S 11 08 57.3 -7.1
comp=N,19μm,4.3s
comp=E,24μm,6.8s
PPM Popocatepetl 14.83 303 eP P 11 06 45.0 -0.1
SDV Santo Domingo 14.84 98 Pn P 11 06 43.6 -1.6
comp=E,2.0nm,0.3s,baz=302,slow=9.1,SNR=15
SDV Santo Domingo 14.84 98 eP P 11 06 43.3 -2.0
ACX Acapulco 15.03 293 eP P 11 06 46.0 -1.8
YAIG Yautepec 15.09 301⇑ iP P 11 06 47.5 -1.2
PLIG Platanillo 15.25 299⇑ iP P 11 06 50.4 -0.3
UNM Universidad Na 15.41 303⇑ iP P 11 06 52.0 -0.7
CAIG El Cayaco 15.41 293⇑ iP P 11 06 52.7 0.0
DWPF Disney 17.15 12 eP P 11 07 14.4 -0.5
comp=E,6μm,2.5s
MOIG Morelia 17.25 301⇑ iP P 11 07 17.2 +1.1
SFJM Santa Fe 19.16 301 i P P 11 07 40.0 +0.3
SJG San Juan 19.89 68 P P 11 07 46.6 -1.4
comp=E,8.8nm,0.3s,baz=285,slow=9.2,SNR=33
SJG LR LR 11 14 13.1
comp=E,93μm,21.9s,baz=240,slow=34
SJG San Juan 19.89 68 eP P 11 07 46.7 -1.3
comp=E,6μm,1.8s
SJG San Juan 19.89 68 eP P 11 07 46.7 -1.3
SJG pmax pmax
comp=Z,6μm,1.8s
CJM Chamela 20.51 296⇑ iP P 11 07 53.9 -0.6
LRAL Lakeview Retre 21.67 357 eP P 11 08 06.5 +0.3
comp=Z,2μm,1.4s,mb6.4
HBF Harts Bluff 22.04 12 eP P 11 08 11.0 +1.2
NATX Nacogdoches 22.05 339 eP P 11 08 10.2 +0.3
comp=Z,4μm,1.8s,mb6.5
RGRS Roger Stewart 22.05 12 eP P 11 08 10.8 +0.8
CSU Charleston Sou 22.15 12 eP P 11 08 12.5 +1.5
NHSC New Hope 22.25 12 eP P 11 08 13.2 +1.3
comp=Z,2μm,1.3s,mb6.4
COW Cow Castle Cre 22.41 11 eP P 11 08 14.5 +0.9
STAT Sint Eustatius 22.66 72 eP P 11 08 22.5 +6.3
SKDB Saint Kitts 2 22.80 72 eP P 11 08 23.9 +6.3
SKI Saint Kitts 22.85 72 eP P 11 08 17.1 -1.0
SKTB Turtle Beach 22.93 73 eP P 11 08 22.3 +3.4
NVRH Round Hill, Ne 22.95 73 eP P 11 08 22.2 +3.2
MAIG Mazatlaan 23.18 303⇑ iP P 11 08 22.5 +1.2
JSC Jenkinsville 23.20 9 eP P 11 08 22.0 +0.6
OXF Oxford 23.38 352 eP P 11 08 23.6 +0.5
comp=Z,3μm,1.3s,mb6.6
OXF Oxford 23.38 352 P P 11 08 23.8 +0.7
OXF pmax pmax
comp=Z,3μm,1.3s,mb6.6
LZG Guadaloupe-1 23.54 76 eP P 11 08 22.2 -2.6
SCG Saint Claude 23.61 76 eP P 11 08 23.8 -1.7
TBG Guadaloupe-3 23.62 76 eP P 11 08 23.9 -1.7
TPP Pointe-a-Pierr 23.64 90 eP P 11 08 26.8 +1.0
PHG Guadaloupe-2 23.65 76 eP P 11 08 24.5 -1.3
TRN Trinidad (W) 23.67 89 eP P 11 08 23.6 -2.4
DOG Dongo Capester 23.67 76 eP P 11 08 24.9 -1.1
BCG Bois Riant Cap 23.68 76 eP P 11 08 26.1 0.0
PLAL Pickwick Lake 23.69 355 eP P 11 08 25.9 -0.2
comp=Z,1μm,1.7s,mb6.1
MYNC Murphy 23.70 3 eP P 11 08 27.9 +1.7
comp=Z,6μm,2.5s,mb6.6
MYNC Murphy 23.70 3 eP P 11 08 27.9 +1.7
MYNC pmax pmax
comp=Z,6μm,2.5s,mb6.6
BBL Barber's Block 23.75 77 eP P 11 08 27.6 +0.8
SVB Belmont 23.77 83 eP P 11 08 28.4 +1.3
SEG Port Louis 23.84 75 eP P 11 08 24.4 -3.3
MGG Marie-Galante 23.94 76 eP P 11 08 26.0 -2.7
SLB Belfond 24.00 81 eP P 11 08 34.4 +5.0
TBH Brigand Hill 24.01 90 eP P 11 08 32.7 +3.3
CPCT Cooper Cave 24.06 2 eP P 11 08 30.9 +1.3

UALR University of 24.18 346 eP P 11 08 30.8 -0.2
comp=Z,2μm,1.8s,mb6.2
DEG La Desirade 24.24 75 eP P 11 08 30.9 -0.8
TPR Prospect 24.25 88 eP P 11 08 34.6 +2.8
BOT Bacolet 24.31 88 eP P 11 08 35.3 +3.0
HBAR Harrisburg 24.59 350 eP P 11 08 34.3 -0.6
LTX Lajitas 24.67 319 eP P 11 08 35.4 -0.4
comp=Z,331nm,1.3s,mb5.7
LTX Lajitas 24.67 319 P P 11 08 35.6 -0.1
LTX pmax pmax
comp=Z,330nm,1.3s,mb5.7
TXAR Lajitas Array 24.67 319 P P 11 08 35.4 -0.4
comp=Z,45nm,0.7s,mb5.1,baz=139,slow=9.4,SNR=121
TXAR LR LR 11 20 54.8
comp=Z,34μm,19.3s,MS5.8,baz=95,slow=43
NNA Nana 24.68 159 eP P 11 08 38.2 +2.3
comp=Z,2μm,2.3s,mb6.3
HALT Halls 24.75 353 eP P 11 08 36.6 +0.2
WVT Waverly 24.81 356 eP P 11 08 36.1 -0.8
comp=Z,1μm,1.8s,mb6.0
WVT Waverly 24.81 356 eP P 11 08 36.2 -0.8
WVT pmax pmax
comp=Z,1μm,1.8s,mb6.0
GLAT Glass 25.09 353 eP P 11 08 39.6 -0.1
UTMT University of 25.11 354 eP P 11 08 40.3 +0.4
comp=Z,2μm,1.3s,mb6.5
TZTN Tazewell 25.19 4 eP P 11 08 41.5 +0.8
ELN Prospectdale 26.17 9 eP P 11 08 50.3 +0.6
BLA Blacksburg 26.20 9 eP P 11 08 50.6 +0.6
comp=Z,606nm,1.4s,mb5.9
BLA Blacksburg 26.20 9 eP P 11 08 50.6 +0.6
BLA pmax pmax
comp=Z,606nm,1.4s,mb5.9
WMOK Wichita Mounta 26.28 335 eP P 11 08 49.8 -1.0
comp=Z,2μm,1.6s,mb6.3
WMOK Wichita Mounta 26.28 335 eP P 11 08 49.8 -1.0
WMOK pmax pmax
comp=Z,2μm,1.6s,mb6.3
FWV Forest Hill 26.50 8 eP P 11 08 53.2 +0.4
USIN University of 26.62 356 eP P 11 08 52.8 -1.1
LPIG La Paz 26.78 302⇑ iP P 11 08 55.2 -0.3
WCI Wyandotte Cave 26.82 359 eP P 11 08 55.0 -0.7
comp=Z,811nm,1.4s,mb6.1
WCI Wyandotte Cave 26.82 359 eP P 11 08 55.0 -0.7
WCI pmax pmax
comp=Z,811nm,1.4s,mb6.1
FVM French Village 26.93 351 eP P 11 08 55.5 -1.2
comp=Z,807nm,1.8s,mb6.0
FVM French Village 26.93 351 eP P 11 08 55.5 -1.2
FVM pmax pmax
comp=Z,807nm,1.8s,mb6.0
CCM Cathedral Cave 27.13 350 eP P 11 08 56.6 -1.9
comp=Z,902nm,1.4s,mb6.1
CCM Cathedral Cave 27.13 350 P P 11 08 56.7 -1.9
CCM pmax pmax
comp=Z,900nm,1.4s,mb6.1
MNTX Cornudas Mount 27.37 321 eP P 11 08 58.2 -2.5
comp=Z,161nm,0.8s,mb5.6
SLM Saint Louis 27.55 352 eP P 11 09 01.5 -0.8
comp=Z,789nm,1.6s,mb6.1
SLM Saint Louis 27.55 352 eP P 11 09 01.5 -0.8
SLM pmax pmax
comp=Z,789nm,1.6s,mb6.1
CBN Corbin 27.76 14 eP P 11 09 04.8 +0.6
comp=Z,1μm,1.7s,mb6.2
BLO Bloomington 27.77 358 eP P 11 09 03.5 -0.8
comp=Z,2μm,1.9s,mb6.4
BLO Bloomington 27.77 358 eP P 11 09 03.5 -0.8
BLO pmax pmax
comp=Z,2μm,1.9s,mb6.4
BBSR BB Station 28.40 39 eP P 11 09 11.0 +0.9
comp=Z,693nm,1.7s,mb6.0
MCWV Mont Chateau 28.68 9 eP P 11 09 12.6 0.0
comp=Z,682nm,1.5s,mb6.2
KSU1 Kansas State U 29.40 342 eP P 11 09 16.8 -2.2
ANMO Albuquerque 30.29 324 LR LR 11 25 44.5
comp=Z,24μm,18.8s,MS5.9,baz=69,slow=44
ANMO Albuquerque 30.29 324 eP P 11 09 25.8 -1.2
comp=Z,59nm,1.1s,mb5.2
ANMO LR LR
comp=Z,30μm,22.0s,MS5.9
ANMO Albuquerque 30.29 324 P P 11 09 26.3 -0.7
ANMO pmax pmax
comp=Z,59nm,1.0s
BRNJ Basking Ridge 30.82 16 eP P 11 09 32.8 +1.2
ARE Arequipa 30.87 153 eP P 11 09 34.0 +1.7
CPNY Central Park 31.09 17 eP P 11 09 34.6 +0.6
TUC Tucson 31.28 316 eP P 11 09 34.1 -1.7
comp=Z,51nm,1.2s,mb5.2
TUC LR LR
comp=Z,92μm,20.0s,MS6.4
TUC Tucson 31.28 316 eP P 11 09 34.1 -1.7
TUC pmax pmax
comp=Z,51nm,1.2s,mb5.2
TUC MLR MLR
comp=Z,92μm,20.0s,MS6.4
SDCO Great Sand Dun 31.86 329 eP P 11 09 39.5 -1.3
comp=Z,112nm,1.1s,mb5.6
SDCO LR LR
comp=Z,42μm,21.0s,MS6.1
BINY Binghamton 31.88 13 eP P 11 09 41.2 +0.2
comp=Z,875nm,1.7s,mb6.3
BINY LR LR
comp=Z,78μm,19.0s,MS6.4
GENY Geneseo 32.05 11 eP P 11 09 43.9 +1.5
LPAZ La Paz 32.35 148 P P 11 09 44.6 -0.7
comp=Z,17nm,1.0s,mb4.8,baz=344,slow=8.9,SNR=10
LPAZ LR LR 11 24 01.1
comp=Z,57μm,18.5s,MS6.3,baz=306,slow=39
LPAZ La Paz 32.35 148 eP P 11 09 44.5 -0.8
comp=Z,97nm,1.4s,mb5.4
LPAZ LR LR
comp=Z,42μm,19.0s,MS6.2
LPAZ La Paz 32.35 148 eP P 11 09 44.5 -0.8
LPAZ pmax pmax
comp=Z,97nm,1.4s
LPAZ MLR MLR
comp=Z,42μm,19.0s
QUA2 Belchertown 32.93 18 eP P 11 09 50.3 +0.3
comp=Z,422nm,1.7s,mb6.1
WES Weston 33.35 19 eP P 11 09 54.3 +0.6
comp=Z,1μm,2.3s,mb6.4
WES LR LR
comp=Z,64μm,20.0s,MS6.3
WES Weston 33.35 19 eP P 11 09 54.3 +0.6
WES pmax pmax
comp=Z,1μm,2.3s,mb6.4
WES MLR MLR
comp=Z,64μm,20.0s,MS6.3
HRV Harvard--Oak R 33.38 19 eP P 11 09 53.6 -0.4
comp=Z,218nm,1.7s,mb5.8
HRV LR LR
comp=Z,64μm,19.0s,MS6.3
HRV Harvard--Oak R 33.38 19 eP P 11 09 53.6 -0.4
HRV pmax pmax
comp=Z,218nm,1.7s,mb5.8
HRV MLR MLR
comp=Z,64μm,19.0s,MS6.3
ISCO Idaho Springs 33.52 331 eP P 11 09 55.0 -0.2
comp=Z,726nm,2.3s,mb6.2
ISCO LR LR
comp=Z,53μm,21.0s,MS6.2
ISCO Idaho Springs 33.52 331 eP P 11 09 55.0 -0.2
ISCO pmax pmax
comp=Z,726nm,2.3s,mb6.2
ISCO MLR MLR
comp=Z,53μm,21.0s,MS6.2
ACCN Adirondack Com 33.57 16 eP P 11 09 55.8 +0.2
SMCO Snowmass 33.70 329 eP P 11 09 56.1 -0.6
NCB Newcomb 33.98 15 eP P 11 09 58.8 -0.3
comp=Z,1μm,2.5s,mb6.4
NCB LR LR
comp=Z,83μm,19.0s,MS6.5
FFD Franklin Falls 34.23 18 eP P 11 10 02.2 +0.9
comp=Z,67nm,0.6s,mb5.8
MIV Mineville/With 34.25 15 eP P 11 10 00.5 -1.0
HNH Hanover 34.25 17 eP P 11 09 58.9 -2.6
comp=Z,93nm,2.3s,mb5.3
PHWY Pilot Hill 34.65 333 eP P 11 10 05.1 +0.2
MSNY Massena 34.80 13 eP P 11 10 05.8 -0.4
BAR Barrett 35.67 312 eP P 11 10 13.5 -0.2
RWWY Rawlins 35.75 332 eP P 11 10 14.3 0.0
comp=Z,730nm,1.8s,mb6.3
WVL Waterville 35.84 19 eP P 11 10 14.7 -0.3
comp=Z,3μm,1.8s,mb6.9
WVL LR LR

comp=Z,175μm,21.0s,MS6.8
NEN Nelson 35.97 317 eP P 11 10 15.4 -0.8
PFO Pinyon Flat Ob 35.97 313 eP P 11 10 15.4 -1.0
comp=Z,67nm,1.4s,mb5.4
PFO LR LR
comp=Z,14μm,20.0s,MS5.7
PFO Pinyon Flat Ob 35.97 313 eP P 11 10 15.4 -0.9
PFO pmax pmax
comp=Z,67nm,1.4s,mb5.4
PFO MLR MLR
comp=Z,14μm,20.0s,MS5.7
TMUT Trail Mountain 36.04 325 eP P 11 10 16.8 0.0
SIV San Ignacio 36.33 138 P P 11 10 18.1 -1.3
comp=Z,65nm,0.9s,mb5.5,baz=316,slow=8.8,SNR=42
RSSD Black Hills 36.40 337 eP P 11 10 19.7 -0.1
comp=Z,731nm,1.9s,mb6.3
RSSD LR LR
comp=Z,7μm,19.0s,MS5.4
RSSD Black Hills 36.40 337 eP P 11 10 19.7 -0.1
RSSD pmax pmax
comp=Z,731nm,1.9s,mb6.3
RSSD MLR MLR
comp=Z,7μm,19.0s,MS5.4
EMMW East Machias 36.73 22 eP P 11 10 23.7 +1.2
comp=Z,3μm,2.1s,mb6.8
EMMW LR LR
comp=Z,149μm,19.0s,MS6.8
LVC Limon Verde 37.42 154 P P 11 10 30.2 +1.6
comp=Z,51nm,1.0s,mb5.3,baz=321,slow=6.0,SNR=26
LVC Limon Verde 37.42 154 eP P 11 10 29.2 +0.6
comp=Z,245nm,1.2s,mb5.9
LVC LR LR
comp=Z,27μm,20.0s,MS6.0
MWC Mount Wilson 37.43 313 eP P 11 10 28.6 0.0
MWC Mount Wilson 37.43 313 P P 11 10 29.0 +0.4
NOQ North Oquirrh 37.48 326 eP P 11 10 29.3 +0.4
DUG Dugway 37.56 325 eP P 11 10 29.2 -0.3
comp=Z,50nm,1.1s,mb5.2
DUG LR LR
comp=Z,70μm,19.0s,MS6.5
DUG Dugway 37.56 325 eP P 11 10 29.2 -0.3
DUG pmax pmax
comp=Z,50nm,1.1s,mb5.2
DUG MLR MLR
comp=Z,70μm,19.0s,MS6.5
BW06 Boulder Array 37.69 331 eP P 11 10 28.6 -2.1
comp=Z,14μm,1.8s
BW06 LR LR
comp=Z,51μm,19.0s,MS6.3
PDAR Pinedale Array 37.69 331 P P 11 10 32.2 +1.6
comp=Z,22nm,0.9s,mb4.9,baz=122,slow=9.6,SNR=27
DAC Darwin (Calif) 38.17 316 eP P 11 10 34.0 -0.8
comp=Z,71nm,1.5s,mb5.2
DAC Darwin (Calif) 38.17 316 eP P 11 10 34.1 -0.6
DAC pmax pmax
comp=Z,71nm,1.4s,mb5.2
PQI Presque Isle 38.24 20 eP P 11 10 33.6 -1.6
comp=Z,1μm,1.5s,mb6.4
AHID Auburn Hatcher 38.45 329 eP P 11 10 37.1 0.0
comp=Z,279nm,1.6s,mb5.7
REDW Red Top Meadow 38.77 330 eP P 11 10 39.6 -0.1
comp=Z,227nm,1.1s,mb5.8
SNOW Snow King Moun 38.79 330 eP P 11 10 40.2 +0.3
comp=Z,499nm,1.7s,mb6.0
LOHW Long Hollow 38.83 331 eP P 11 10 39.6 -0.7
comp=Z,376nm,1.8s,mb5.8
TPAW Teton Pass 38.91 330 eP P 11 10 41.1 +0.2
comp=Z,256nm,1.4s,mb5.8
TPH Tonopah 38.92 319 eP P 11 10 41.0 +0.1
comp=Z,181nm,1.4s,mb5.6
TPH Tonopah 38.92 319 eP P 11 10 41.1 +0.1
TPH pmax pmax
comp=Z,181nm,1.4s,mb5.6
RRI2 Red Ridge 38.98 330 eP P 11 10 41.8 +0.3
comp=Z,362nm,1.6s,mb5.8
IMW Indian Meadow 39.21 331 eP P 11 10 43.3 -0.1
comp=Z,187nm,1.6s,mb5.6
ELK Elko 39.31 323 eP P 11 10 43.8 -0.5
comp=Z,211nm,1.6s,mb5.6
ELK Elko 39.31 323 P P 11 10 43.9 -0.4
ELK pmax pmax
comp=Z,210nm,1.6s
LAO LASA Array 39.40 337 eP P 11 10 43.2 -1.7
comp=Z,2μm,1.9s,mb6.4
MTUM Tungsten Hills 39.40 317 eP P 11 10 45.5 +0.4
LKWY Lake 39.45 332 eP P 11 10 46.7 +1.3
comp=Z,191nm,1.5s,mb5.6
LKWY Lake 39.45 332 eP P 11 10 46.7 +1.3
LKWY pmax pmax
comp=Z,191nm,1.5s,mb5.6
YFT Old Faithful 39.57 331 eP P 11 10 48.1 +1.7
PTRM Twissleman Ran 39.68 313 eP P 11 10 48.0 +0.7
YNR Norris Junctio 39.70 332 eP P 11 10 49.5 +2.1
ULM Lac du Bonnet 39.76 350 P P 11 10 47.6 -0.3
comp=Z,252nm,1.1s,mb5.8,baz=167,slow=8.3,SNR=48
ULM LR LR 11 28 46.6
comp=Z,19μm,20.5s,MS5.9,baz=172,slow=39
ULM Lac du Bonnet 39.76 350 eP P 11 10 45.7 -2.2
comp=Z,1μm,1.5s,mb6.5
OMM Old Mammoth Mi 39.83 317 eP P 11 10 48.8 +0.2
QLMT Earthquake Lak 40.14 331 eP P 11 10 51.3 +0.3
DGMT Dagmar 40.21 341 eP P 11 10 51.4 -0.2
comp=Z,3μm,1.8s,mb6.7
BMN Battle Mountai 40.30 322 eP P 11 10 52.2 -0.2
comp=Z,468nm,1.6s,mb6.0
BMN Battle Mountai 40.30 322 P P 11 10 52.5 +0.1
BMN pmax pmax
comp=Z,470nm,1.6s,mb6.0
LRV Little Rabbit 40.62 314 eP P 11 10 56.1 +1.0
HLID Hailey 40.72 327 eP P 11 10 54.5 -1.4
comp=Z,61nm,1.3s,mb5.1
MCMT McKenzie Canyo 40.82 330 eP P 11 10 57.6 +1.0
BOZ Bozeman (W) 40.84 332 eP P 11 10 56.0 -0.8
comp=Z,581nm,2.0s,mb5.9
BOZ Bozeman (W) 40.84 332 P P 11 10 56.2 -0.6
BOZ pmax pmax
comp=Z,580nm,2.0s,mb5.9
CMB Columbia Colle 40.99 316 eP P 11 10 57.2 -0.8
comp=Z,86nm,1.4s,mb5.2
CMB Columbia Colle 40.99 316 P P 11 10 58.3 +0.2
CMB pmax pmax
comp=Z,86nm,1.3s,mb5.2
SAO San Andreas Ge 41.09 314 eP P 11 10 59.1 +0.2
comp=Z,60nm,1.3s,mb5.1
SAO San Andreas Ge 41.09 314 eP P 11 10 59.2 +0.3
SAO pmax pmax
comp=Z,60nm,1.3s,mb5.1
HRY Holter Researc 41.74 333 eP P 11 11 03.6 -0.5
BEKR Beckwourth 41.94 319 eP P 11 11 05.8 -0.1
comp=Z,127nm,1.4s,mb5.4
WVOR Wild Horse Val 42.36 323 eP P 11 11 08.6 -0.8
comp=Z,531nm,1.6s,mb5.9
WVOR Wild Horse Val 42.36 323 eP P 11 11 08.6 -0.7
WVOR pmax pmax
comp=Z,531nm,1.6s,mb5.9
CHMT Chamberlain Mo 42.54 332 eP P 11 11 10.7 0.0
NSHM Saint Helena R 42.74 316 eP P 11 11 13.2 +0.7
MSO Missoula 42.80 331 eP P 11 11 12.3 -0.6
comp=Z,132nm,1.6s,mb5.4
MOD Modoc 43.04 321 eP P 11 11 14.2 -0.7
comp=Z,102nm,1.5s,mb5.3
BMO Blue Mountains 43.13 327 eP P 11 11 14.2 -1.4
comp=Z,36nm,1.1s,mb5.0
TLL Tololo Astrono 43.59 161 eP P 11 11 19.6 +0.1
WDC Whiskeytown Da 43.74 318 eP P 11 11 20.4 -0.2
comp=Z,35nm,1.3s,mb4.9
WDC LR LR
comp=Z,50μm,21.0s,MS6.4
WDC Whiskeytown Da 43.74 318 eP P 11 11 20.4 -0.2
WDC pmax pmax
comp=Z,35nm,1.3s,mb4.9
WDC MLR MLR
comp=Z,50μm,21.0s,MS6.4
KIPM Iron Peak 43.97 317 eP P 11 11 25.4 +3.0
KCPM Cahto Peak 43.98 317 eP P 11 11 23.4 +0.9
WALA Waterton Lakes 44.42 333 P P 11 11 26.0 0.0
comp=Z,588nm,2.0s,mb6.0
YBH Yreka Blue Hor 44.45 320 P P 11 11 26.6 +0.2
comp=Z,13nm,1.2s,baz=151,slow=5.5,SNR=7.0
YBH PP PP 11 13 15.5 +4.1
comp=Z,7.7nm,0.8s,baz=113,slow=6.8,SNR=3.9
YBH LR LR 11 33 25.5
comp=Z,70μm,18.8s,MS6.6,baz=143,slow=41
YBH Yreka Blue Hor 44.45 320 eP P 11 11 26.0 -0.4
comp=Z,17nm,1.1s
YBH Yreka Blue Hor 44.45 320 eP P 11 11 26.0 -0.4
YBH pmax pmax

comp=Z,17nm,1.1s
KHMM Horse Mountain 44.66 318 *e*P **P 11 11 27.1 -1.0**
HUMO Hull Mountain 45.07 321 *e*P **P 11 11 30.8 -0.6**
comp=Z,67nm,1.5s,mb5.2
FFC Flin Flon 45.23 347 *e*P **P 11 11 31.8 -0.6**
comp=Z,844nm,1.7s,mb6.3
FFC Flin Flon 45.23 347 *e*P **P 11 11 31.8 -0.6**
FFC pmax pmax
comp=Z,844nm,1.7s,mb6.3
NEW Newport 45.33 330 *e*P **P 11 11 32.0 -1.3**
comp=Z,148nm,1.7s,mb5.5
NEW Newport 45.33 330 P **P 11 11 33.1 -0.2**
NEW pmax pmax
comp=Z,150nm,1.6s
ZON Zonda 45.55 160 *e*P **P 11 11 29.0 -6.3**
KBO Bosley Butte 45.66 319 *e*P **P 11 11 36.4 +0.4**
CFAA Coronel Fontan 45.76 159 P **P 11 11 36.8 -0.1**
comp=Z,4.8nm,1.2s,baz=330,slow=7.3,SNR=20
BDFB Brasilia 45.76 125 P **P 11 11 35.8 -1.2**
comp=Z,37nm,0.8s,mb5.4,baz=294,slow=9.6,SNR=26
BDFB LR LR 11 31 29.1
comp=Z,114µm,18.9s,MS6.8,baz=141,slow=37
BAO Brasilia Array 45.77 125 P **P 11 11 36.0 -1.2**
SCHQ Schefferville 45.86 15 P **P 11 11 36.0 -1.4**
comp=Z,53nm,0.8s,mb5.5,baz=210,slow=6.4,SNR=26
SCHQ LR LR 11 31 33.3
comp=Z,72µm,18.2s,MS6.7,baz=212,slow=37
SCHQ Schefferville 45.86 15 *e*P **P 11 11 36.2 -1.2**
comp=Z,2µm,1.8s,mb6.7
KEBM Edson Butte 46.08 320 *e*P **P 11 11 40.4 +1.2**
CPUP Villa Florida 46.37 144 P **P 11 11 39.2 -2.6**
comp=Z,9.6nm,0.8s,mb4.8,baz=352,slow=6.1,SNR=11
CPUP LR LR 11 32 54.9
comp=Z,22µm,19.1s,MS6.1,baz=340,slow=38
CPUP Villa Florida 46.37 144 *e*P **P 11 11 40.4 -1.4**
comp=Z,285nm,1.7s,mb5.9
CPUP Villa Florida 46.37 144 *e*P **P 11 11 40.4 -1.4**
CPUP pmax pmax
comp=Z,285nm,1.7s
COR Corvallis 46.37 323 *e*P **P 11 11 40.6 -0.9**
comp=Z,428nm,1.8s,mb6.1
COR Corvallis 46.37 323 *e*P **P 11 11 40.6 -0.9**
COR pmax pmax
comp=Z,428nm,1.8s,mb6.1
CLCH Cerro Calan 46.68 163 *e*P **P 11 11 45.4 +1.2**
EDM Edmonton 47.38 338 *e*P **P 11 11 46.7 -2.8**
EDM Edmonton 47.38 338 *e*P **P 11 11 47.3 -2.1**
FCC Fort Churchill 47.81 354 *e*P **P 11 11 51.3 -1.4**
comp=Z,2µm,1.9s,mb6.7
FCC Fort Churchill 47.81 354 *e*P **P 11 11 51.3 -1.4**
FCC pmax pmax
comp=Z,2µm,1.9s,mb6.7
OCWA Octopus Mounta 48.66 326 P **P 11 12 00.5 +1.0**
comp=Z,98nm,1.5s,mb5.6
PGC Sidney 48.80 327 *e*P **P 11 11 59.7 -0.8**
comp=Z,166nm,1.4s,mb5.9
RCBR Riachuelo 52.21 107 *e*P **P 11 12 26.5 -0.5**
comp=Z,220nm,1.4s,mb5.9
LPA La Plata 52.87 152 *ce*P **P 11 12 30.0 -1.6**
LPA *ep*P *p*P 11 12 33.0 -3.1
LPA *es*P *s*P 11 12 37.0 -0.8
LPA *e*PP PP 11 14 35.0 +2.3
LPA *e*S **S 11 19 58.0 -0.3**
LPA *ep*S 11 20 03.0
comp=Z,25µm,18.0s
PLCA Paso Flores 53.59 166 P **P 11 12 35.9 -1.0**
comp=Z,39nm,1.0s,mb5.3,baz=347,slow=8.6,SNR=24
PLCA LR LR 11 31 15.9
comp=Z,9µm,18.1s,MS5.8,baz=210,slow=31
PLCA Paso Flores 53.59 166 *e*P **P 11 12 35.6 -1.3**
comp=Z,499nm,1.8s,mb6.1
PLCA Paso Flores 53.59 166 *e*P **P 11 12 35.6 -1.3**
PLCA pmax pmax
comp=Z,499nm,1.8s
YKA Yellowknife Ar 55.22 344 P **P 11 12 46.8 -1.7**
comp=Z,38nm,0.8s,mb5.5,baz=139,slow=7.2,SNR=38
YKW3 Yellowknife Ar 55.28 344 *e*P **P 11 12 46.5 -2.4**
DLBC Dease Lake 57.76 334 *e*P **P 11 13 07.6 +0.8**
TAOE Nuku Hiva Isla 57.92 252 *e*S **S 11 21 04.9 -1.1**
TAOE *e*LR LR 11 29 55.5
comp=Z,80µm,25.2s
ADH Angra Heroismo 58.33 51 *i*LR LR 11 30 30.0
RKT Rikitea 59.28 234 *e*P **P 11 13 22.2 +4.4**
comp=Z,462nm,1.4s,mb6.3
RKT Rikitea 59.28 234 *e*LQ 11 28 27.8
RKT *e*LR LR 11 30 46.1
comp=Z,8µm,24.8s
PDA Ponta Delgada 59.38 53 *e*P **P 11 13 25.0 +6.7**
PDA Ponta Delgada 59.38 53 *i*S **S 11 21 37.0 +12**
PDA *i*LQ 11 28 05.6
PDA *i*LR LR 11 31 24.0
SFJD Kangerlussuaq 60.31 15⇓ *i*P **P 11 13 22.5 -1.8**
comp=Z,205nm,1.2s,mb6.0
SFJD *i* 11 17 11.4
SFJD *i*S **S 11 21 31.5 -4.9**
SFJD *i* 11 25 50.9
comp=Z,66µm,17.0s
SFJD Kangerlussuaq 60.31 15⇓ *i*P **P 11 13 22.5 -1.8**
SFJD *i* 11 17 11.4
SFJD *i*S **S 11 21 31.5 -4.9**
SFJD pmax pmax
comp=Z,200nm,1.2s,mb6.0
SFJD MLR MLR
comp=Z,66µm,17.0s,MS6.8
RES Resolute Bay 63.58 357 *e*P **P 11 13 44.4 -1.7**
comp=Z,967nm,1.9s,mb6.5
RES Resolute Bay 63.58 357 P **P 11 13 44.5 -1.6**
RES pmax pmax
comp=Z,970nm,1.8s,mb6.5
DAWY Dawson 64.59 337 *e*P **P 11 13 52.3 -0.5**
INK Inuvik 64.87 342 *e*P **P 11 13 53.0 -1.6**
comp=Z,0.4nm,0.6s
CHIE El Hierro 65.02 65 P **P 11 13 58.3 +2.0**
comp=Z,64nm,1.0s,mb5.6
EHIG Higuera 65.16 64 P **P 11 13 59.3 +2.2**
comp=Z,420nm,1.1s,mb6.4
EGOM La Gomera 65.69 64 P **P 11 14 03.6 +3.2**
comp=Z,95nm,1.0s,mb5.8
MENT Mentasta 65.83 335 *e*P **P 11 14 01.3 +0.5**
DIV Divide 66.03 333 P **P 11 13 59.9 -2.2**
comp=Z,380nm,1.6s,mb6.2
CCAN Las Canadas 66.22 64 P **P 11 14 06.9 +3.0**
comp=Z,64nm,1.0s,mb5.6
VAH Vaihoa 66.93 248 *e*P **P 11 14 12.7 +4.1**
comp=Z,523nm,1.4s,mb6.4
PMOR Pomariorio Ree 67.10 248 *e*P **P 11 14 14.1 +4.5**
comp=Z,2µm,2.0s,mb6.8
EOSO Osorio 67.15 64 P **P 11 14 13.7 +3.9**
comp=Z,582nm,1.8s,mb6.3
SUMG Summit 67.23 14 *e*P **P 11 14 08.2 -1.4**
comp=Z,2µm,1.9s,mb6.8
SML Sawmill 67.41 333 *e*P **P 11 14 12.3 +1.4**
USHA Ushuaia 67.44 169 P **P 11 14 10.8 -0.4**
comp=Z,23nm,1.1s,mb5.1,baz=308,slow=5.1,SNR=3.5
ILAR Eielson Array 67.84 336 P **P 11 14 10.8 -2.6**
comp=Z,9.8nm,0.8s,mb4.9,baz=127,slow=4.3,SNR=22
ILAR LR LR 11 50 28.4
comp=Z,31µm,19.3s,MS6.5,baz=127,slow=42
MCK McKinley 68.31 335 *e*P **P 11 14 16.6 +0.2**
comp=Z,37nm,1.3s,mb5.3
MCK McKinley 68.31 335 *e*P **P 11 14 16.6 +0.1**
MCK pmax pmax
comp=Z,37nm,1.3s,mb5.2
CFTV Fuerteventura 68.44 64 P **P 11 14 20.7 +2.8**
comp=Z,24nm,0.9s,mb5.2
EFAM Famara 68.91 63 P **P 11 14 24.6 +3.8**
comp=Z,55nm,1.0s,mb5.4
SPU Mount Spurr 68.93 332 *e*P **P 11 14 19.0 -1.3**
BORG Borgarnes 68.95 24 P **P 11 14 19.9 -0.6**
comp=Z,94nm,1.1s,mb5.6,baz=219,slow=6.1,SNR=6.0
BORG LR LR 11 44 12.0
comp=Z,18µm,18.9s,MS6.3,baz=246,slow=36
BORG Borgarnes 68.95 24 *e*P **P 11 14 20.1 -0.3**
comp=Z,412nm,1.5s,mb6.1
RSO Redoubt South 69.08 331 *e*P **P 11 14 21.6 +0.3**
TVO Taravao 69.25 246 *e*P **P 11 14 27.5 +4.5**
comp=Z,464nm,1.5s,mb6.2
PPT Papeete 69.47 246 *e*P **P 11 14 28.7 +4.3**
comp=Z,186nm,1.6s,mb5.8
PPT Papeete 69.47 246 *e*SS SS 11 27 58.9 -0.2
PPT *e*LQ 11 32 44.7
PPT *e*LR LR 11 35 22.2
comp=Z,21µm,25.5s,baz=60
PPT Papeete 69.47 246 P **P 11 14 26.5 +2.1**
comp=Z,52nm,1.0s,mb5.4,baz=40,slow=4.5,SNR=5.0
PPT LR LR 11 38 42.7
comp=Z,11µm,18.9s,MS6.1,baz=70,slow=31
PAE Paea 69.50 246 *e*P **P 11 14 28.9 +4.3**
comp=Z,768nm,1.5s,mb6.4
SVW2 Sparrevohn 70.58 331 *e*P **P 11 14 32.6 +2.2**
SCO Scoresbysund 70.72 19 *i*P **P 11 14 31.4 +0.3**
comp=Z,17nm,0.9s,mb5.0
SCO *i*S S 11 23 43.0 -0.6
SCO Scoresbysund 70.72 19 *i*P **P 11 14 31.4 +0.3**
SCO *i*S S 11 23 43.0 -0.6
SCO pmax pmax
comp=Z,17nm,0.9s,mb5.0
IMA Indian Mountai 70.94 336 *e*P **P 11 14 32.2 -0.3**
comp=Z,164nm,1.4s,mb5.8
IMA Indian Mountai 70.94 336 *e*P **P 11 14 32.2 -0.3**
IMA pmax pmax
comp=Z,164nm,1.4s,mb5.8
CHGN Chignik 71.20 326 *e*P **P 11 14 38.1 +3.9**
TBI Tubuai 71.39 241 *e*LQ 11 33 17.0
TBI Tubuai 71.39 241 *e*P **P 11 14 40.1 +4.1**
TBI Tubuai 71.39 241 *e*SS SS 11 28 30.2 +1.3
TBI *e*LR LR 11 35 57.1
comp=Z,11µm,29.2s,baz=70
VAL Valentia 72.10 39 *e*P **P 11 14 39.4 -0.3**
VAL *i*S S 11 24 01.0 +1.2
PLOU Loures 72.40 53 *e*P **P 11 14 42.3 +0.6**
comp=Z,119nm,1.6s,mb5.6
EMAZ Mazaricos 72.54 48 P **P 11 14 42.2 -0.3**
comp=Z,30nm,0.9s,mb5.2
EZAM Zamans 72.74 49 P **P 11 14 42.8 -1.0**
comp=Z,98nm,1.1s,mb5.7
EZAM Zamans 72.74 49 P **P 11 14 42.8 -0.9**
EZAM pmax pmax
comp=Z,98nm,1.1s,mb5.7
PTEO Sao Teotonio 72.75 54 *e*P **P 11 14 45.9 +2.0**
comp=Z,354nm,1.7s,mb6.0
STS Santiago 72.86 49 P **P 11 14 43.1 -1.3**
comp=Z,23nm,0.8s,mb5.2
STS Santiago 72.86 49 P **P 11 14 43.1 -1.3**
STS pmax pmax
comp=Z,23nm,0.8s,mb5.2
PTOM Tomar 72.97 52 *e*P **P 11 14 46.3 +1.2**
comp=Z,250nm,1.8s,mb5.8
ELOB Lobios 73.22 50 P **P 11 14 46.2 -0.3**
comp=Z,26nm,1.0s,mb5.1
EVO Evora 73.30 53 *e*P **P 11 14 45.1 -1.9**
comp=Z,349nm,1.4s,mb5.8
EVO *e*R
comp=Z,16µm,17.2s
PBEJ Beja 73.42 54 *e*P **P 11 14 49.4 +1.6**
comp=Z,152nm,1.8s,mb5.6
PVRL Vila Real 73.48 50 *e*P **P 11 14 48.1 +0.1**
comp=Z,240nm,1.5s,mb5.9
MTE Manteigas 73.62 51 *e*P **P 11 14 48.8 -0.1**
comp=Z,138nm,1.3s,mb5.7
MTE *e*S S 11 24 17.9 +0.6
MTE *e*LQ 11 34 32.0
MTE *e*LR LR 11 36 37.5
comp=Z,20µm,20.0s
MTE Manteigas 73.62 51 *e*P **P 11 14 47.7 -1.2**
comp=Z,177nm,1.4s,mb5.8
PCBR Castelo Branco 73.68 52 *e*P **P 11 14 48.0 -1.3**
EGRO El Granado 73.74 54 P **P 11 14 50.5 +0.9**
comp=Z,67nm,1.1s,mb5.5
DAG Danmarks Havn 73.84 13⇓ *i*P **P 11 14 47.4 -2.1**
comp=Z,800nm,2.3s,mb6.2
comp=Z,54µm,19.0s
DAG Danmarks Havn 73.84 13⇓ *e*P **P 11 14 47.4 -2.1**
comp=Z,800nm,2.3s,mb6.2
DAG LR LR
comp=Z,54µm,19.0s,MS6.9
DAG Danmarks Havn 73.84 13⇓ *e*P **P 11 14 47.4 -2.1**
DAG pmax pmax
comp=Z,800nm,2.3s,mb6.2
DAG MLR MLR
comp=Z,54µm,19.0s,MS6.9
DAG MLR MLR
comp=N,19µm,17.0s,MS6.8
DAG MLR MLR
comp=E,44µm,20.0s,MS6.8
EPON Pontenova 73.88 48 P **P 11 14 50.8 +0.5**
ERUA La Rua 73.89 49 P **P 11 14 52.5 +2.1**
comp=E,11nm,0.7s,mb4.9
ERUA La Rua 73.89 49 P **P 11 14 52.5 +2.1**
ERUA pmax pmax
comp=Z,11nm,0.7s,mb4.9
DCN Croghan 73.99 38⇑ *i*P **P 11 14 49.5 -1.2**
EBAD Badajoz 74.07 53 P **P 11 14 54.2 +2.7**
comp=Z,66nm,1.4s,mb5.4
PBRG Braganca 74.20 50 *e*P **P 11 14 52.9 +0.7**
comp=Z,274nm,1.7s,mb5.9
ECAL Calabor 74.20 50 P **P 11 14 52.1 -0.1**
EMIN Mina Concepcio 74.38 54 P **P 11 14 55.0 +1.6**
comp=Z,56nm,1.2s,mb5.4
DLF Lyons Farm 74.43 38⇑ *i*P **P 11 14 52.0 -1.3**
DSB Dublin 74.53 38 *e*P **P 11 14 53.6 -0.2**
comp=Z,258nm,1.8s,mb5.9
RRH Rhenigidale 74.56 33 *e*P **P 11 14 51.8 -2.1**
GMM Mts of Mourne 74.81 37 *e*P **P 11 14 54.1 -1.4**
RTO Tolsta 74.84 32 *e*P **P 11 14 52.7 -2.8**
RRR Rubha Reidh 75.03 33 *e*P **P 11 14 54.5 -2.2**
GMK Mull of Kintyr 75.05 36 *e*P **P 11 14 55.0 -1.8**
ESPR Espera 75.07 55 P **P 11 14 59.4 +2.0**
comp=Z,83nm,1.0s,mb5.6
JMIC Jan Mayen 75.15 19 P **P 11 14 58.0 +0.9**
comp=Z,33nm,0.5s,mb5.5,baz=267,slow=3.4,SNR=3.7
JMIC LR LR 11 46 13.1
comp=Z,18µm,21.2s,MS6.3,baz=252,slow=34
JMIC Jan Mayen 75.15 19 *e*P **P 11 14 57.0 0.0**
JMIC AMb AMB 11 15 07.3
comp=Z,667nm,1.9s,mb6.2
JMIC *e*PP PP 11 17 43.2 -4.4
JMIC *e*S S 11 24 36.9 +3.2
JMIC *e*SS SS 11 29 28.4 +2.9
JMIC AMS AMS 11 46 37.9
comp=Z,14µm,18.1s,MS6.3
JMIC Jan Mayen 75.15 19 *e*P **P 11 14 57.0 0.0**
JMIC *e* 11 24 41.3
JMIC LR LR
comp=Z,14248µm,18.1s
CCA1 Carnmenellis 75.19 41 *e*P **P 11 14 56.9 -0.8**
CGW Gweek 75.19 41⇑ *e*P **P 11 14 56.9 -0.8**
CRQ2 Rosemanowes 2 75.22 41 *e*P **P 11 14 57.0 -1.0**
CGH1 Goonhilly 75.23 41⇑ *e*P **P 11 14 57.1 -0.8**
CMA1 Manaccan 75.25 41⇑ *e*P **P 11 14 57.2 -0.9**
EARI Arriondas 75.30 48 P **P 11 14 57.1 -1.4**
comp=Z,45nm,1.1s,mb5.3
GAL1 Galloway 75.55 36⇑ *e*P **P 11 14 58.0 -1.6**
WCB1 Church Bay 75.62 38 *e*P **P 11 14 58.2 -1.9**
UNV Unalaska Valle 75.65 323 *e*P **P 11 15 00.4 +0.1**
comp=Z,117nm,1.0s,mb5.8
HTL Hartland 75.66 40 *e*P **P 11 14 59.4 -1.0**
YRE Yr Eifl 75.70 38 *e*P **P 11 14 58.2 -2.3**
WLF1 Llynfaes 75.71 38 *e*P **P 11 14 58.4 -2.2**
MDO Dochfour 75.79 33 *e*P **P 11 14 58.9 -2.1**
EMIJ Mijas 75.95 55 P **P 11 15 04.3 +1.9**
comp=Z,60nm,0.9s,mb5.5
EADA Adamuz 76.01 53 P **P 11 15 02.5 -0.1**
comp=Z,22nm,0.9s,mb5.1
HEX Exmoor 76.09 40 *e*P **P 11 15 01.8 -1.0**
BWH Wardlaw 76.16 36 *e*P **P 11 15 01.6 -1.5**
EAU Auchinoon 76.28 35 *e*P **P 11 15 01.6 -2.2**
EAU AMb AMB 11 15 11.8
comp=Z,392nm,1.9s,mb6.0
ELUQ Luque 76.29 54 P **P 11 15 06.4 +2.1**
comp=Z,1µm,3.8s
ELUQ Luque 76.29 54 P **P 11 15 06.4 +2.1**
ELUQ pmax pmax
comp=Z,1µm,3.8s
MCD Coleburn Disti 76.39 33⇑ *e*P **P 11 15 02.6 -1.8**
BBO1 Bothel 76.39 36 *e*P **P 11 15 03.7 -0.7**
ESDC Sonseca Array 76.40 52 P **P 11 15 04.2 -0.7**
comp=Z,40nm,0.9s,mb5.3,baz=282,slow=5.7,SNR=25
ESDC Sonseca Array 76.40 52 P **P 11 15 05.7 +0.9**
comp=Z,77nm,1.1s,mb5.5
BHH Howats Hill 76.41 36 *e*P **P 11 15 03.0 -1.6**
HTR Trewern Hill 76.41 39 *e*P **P 11 15 03.2 -1.3**
ELOJ Sierra Loja 76.41 54 P **P 11 15 07.5 +2.5**
comp=Z,60nm,0.9s,mb5.5
ELOJ Sierra Loja 76.41 54 P **P 11 15 07.5 +2.6**
ELOJ pmax pmax
comp=Z,60nm,0.9s,mb5.5
ESK Eskdalemuir 76.41 36⇑ *e*P **P 11 15 02.7 -1.8**
ESK AMb AMB 11 15 12.5
comp=Z,355nm,2.1s,mb5.9
ESK Eskdalemuir 76.41 36 *e*P **P 11 15 02.9 -1.6**
comp=Z,573nm,1.6s,mb6.2
ESK Eskdalemuir 76.41 36 *e*P **P 11 15 02.9 -1.7**
ESK pmax pmax
comp=Z,573nm,1.6s,mb6.2
EKA Eskdalemuir Ar 76.44 36 P **P 11 15 03.1 -1.6**
comp=Z,95nm,0.9s,mb5.7,baz=267,slow=5.1,SNR=46
ECK Cauldkaine Hil 76.46 36⇑ *e*P **P 11 15 03.1 -1.7**
ECK AMb AMB 11 15 12.8
comp=Z,370nm,2.0s,mb6.0
ROSF Rostrenen 76.50 43 *e*P **P 11 15 04.0 -1.2**
comp=Z,908nm,1.8s,mb6.1
ROSF Rostrenen 76.50 43 *e*P **P 11 15 04.0 -1.2**
ROSF pmax pmax
comp=Z,454nm,1.8s,mb6.1
SSP1 Stoney Pound 76.50 39⇑ *e*P **P 11 15 03.7 -1.4**
EDU Dundee 76.52 34 *e*P **P 11 15 03.6 -1.5**
EDU AMb AMB 11 15 13.2
comp=Z,598nm,2.0s,mb6.2
BBH Bruntsheil 76.57 36 *e*P **P 11 15 03.8 -1.6**
MCH1 Michaelchurch 76.58 39 *e*P **P 11 15 04.0 -1.6**
QUIF Quistinic 76.58 43 *e*P **P 11 15 04.6 -1.1**
comp=Z,919nm,1.6s,mb6.2
QUIF Quistinic 76.58 43 *e*P **P 11 15 04.6 -1.1**
QUIF pmax pmax
comp=Z,459nm,1.6s,mb6.2
ELAN Lanestosa 76.60 48 P **P 11 15 06.6 +0.8**
comp=Z,47nm,1.1s,mb5.3
EBAN Banos Encina 76.63 53 P **P 11 15 07.9 +1.8**
comp=Z,40nm,0.9s,mb5.3
EBAN Banos Encina 76.63 53 P **P 11 15 07.9 +1.7**
EBAN pmax pmax
comp=Z,40nm,0.9s,mb5.3
HLM1 Long Mynd 76.64 39 *e*P **P 11 15 04.4 -1.5**
TNA Tin City 76.65 335 *e*P **P 11 15 08.6 +2.9**
comp=Z,73nm,1.7s,mb5.3
ERON Agron 76.70 54 P **P 11 15 09.0 +2.5**
comp=Z,29nm,0.8s,mb5.3
HGH Gray Hill 76.70 39 *e*P **P 11 15 05.1 -1.1**
HGH AMb AMB 11 15 14.8
comp=Z,342nm,1.9s,mb6.0
BTA Talkin 76.72 36 *e*P **P 11 15 04.4 -1.9**
EDR Drumtochty 76.78 34 *e*P **P 11 15 04.5 -2.0**
EDR AMb AMB 11 15 14.4
comp=Z,327nm,2.0s,mb5.9
HAE Alders End 76.85 39 *e*P **P 11 15 05.7 -1.4**
HAE AMb AMB 11 15 10.7
comp=Z,176nm,1.4s,mb5.8
ECOG Cogollos-Vega 76.87 54 P **P 11 15 09.6 +2.1**
comp=Z,2.2nm,0.3s
ECOG Cogollos-Vega 76.87 54 P **P 11 15 09.6 +2.1**
ECOG pmax pmax
comp=Z,2.0nm,0.3s
SGMF Saint Gilles 76.98 43 *e*P **P 11 15 06.5 -1.4**
comp=Z,718nm,1.7s,mb6.0
SGMF Saint Gilles 76.98 43 *e*P **P 11 15 06.5 -1.4**
SGMF pmax pmax
comp=Z,359nm,1.7s,mb6.0
EQES Quesada 77.22 54 P **P 11 15 10.1 +0.6**
comp=Z,4µm,3.3s
LHO Holmfirth 77.23 37⇑ *e*P **P 11 15 07.8 -1.4**
LRN Richmond 77.25 37 *e*P **P 11 15 07.9 -1.3**
KWE Weaver Farm 77.26 38 *e*P **P 11 15 08.0 -1.3**
ECRI Cripan 77.31 49 P **P 11 15 11.0 +1.2**
comp=Z,661nm,2.0s,mb6.2
ECRI Cripan 77.31 49 P **P 11 15 11.0 +1.2**
ECRI pmax pmax
comp=Z,661nm,2.0s,mb6.2
KBI1 Birley Grange 77.44 38 *e*P **P 11 15 08.8 -1.5**
EBER Berja 77.44 55 P **P 11 15 10.3 -0.3**
comp=Z,78nm,0.8s,mb5.7
PMSA Palmer Station 77.57 171 *e*P **P 11 15 11.2 +0.5**
comp=Z,463nm,2.3s,mb6.0
EHUE Huescar 77.60 54 P **P 11 15 12.6 +1.1**
comp=Z,86nm,1.2s,mb5.6
EHUE Huescar 77.60 54 P **P 11 15 12.6 +1.1**
EHUE pmax pmax
comp=Z,86nm,1.2s,mb5.6
EVIA Vianos 77.60 53 P **P 11 15 12.6 +1.1**
comp=Z,42nm,0.9s,mb5.4
EVIA Vianos 77.60 53 P **P 11 15 12.6 +1.1**
EVIA pmax pmax
comp=Z,42nm,0.9s,mb5.4
LRYF La Roche-sur-Y 77.75 45 *e*P **P 11 15 12.8 +0.7**
LWH Whinny Nab 77.90 37 *e*P **P 11 15 11.9 -0.9**
ENIJ Nijar 77.98 54 P **P 11 15 14.5 +0.9**
comp=Z,2.4nm,0.7s
ENIJ Nijar 77.98 54 P **P 11 15 14.5 +0.9**
ENIJ pmax pmax
comp=Z,2.0nm,0.7s
EALK Alkurruntz 78.00 48 P **P 11 15 13.3 -0.3**
comp=Z,51nm,1.1s,mb5.4
GRR Gorron 78.10 43 *e*P **P 11 15 12.9 -1.1**
comp=Z,2µm,1.9s,mb6.4
GRR Gorron 78.10 43 *e*P **P 11 15 12.9 -1.1**
GRR pmax pmax
comp=Z,851nm,1.9s,mb6.3
OSSF Osses 78.18 48 *e*P **P 11 15 14.6 0.0**
SJPF Ste Jean 78.22 48 *e*P **P 11 15 14.2 -0.6**
comp=Z,244nm,1.2s,mb5.7
SJPF Ste Jean 78.22 48 *e*P **P 11 15 14.2 -0.6**
SJPF pmax pmax
comp=Z,122nm,1.2s,mb5.7
FLN La Foliniere 78.33 42 *e*P **P 11 15 14.2 -1.1**
comp=Z,1µm,1.7s,mb6.3
FLN *e*R
comp=Z,32µm,19.0s
FLN La Foliniere 78.33 42 *e*P **P 11 15 14.2 -1.1**
FLN pmax pmax
comp=Z,672nm,1.7s,mb6.3
FLN MLR MLR
comp=Z,32µm,19.0s,MS6.7
ETOB Tobarra 78.35 53 P **P 11 15 15.4 -0.2**
comp=Z,65nm,1.0s,mb5.5
LARF Larrau 78.40 48 *e*P **P 11 15 16.0 +0.2**
ORDF Ordiarp 78.42 48 *e*P **P 11 15 17.2 +1.3**
EMUR La Murta 78.66 53 P **P 11 15 17.1 -0.3**
comp=Z,50nm,1.1s,mb5.3
ECHE Chera 78.71 52 P **P 11 15 19.1 +1.5**
comp=Z,10nm,0.7s,mb4.9
ECHE Chera 78.71 52 P **P 11 15 19.1 +1.5**
ECHE pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
MFF Saint Martin d 78.71 44 *e*P **P 11 15 16.3 -1.1**
comp=Z,247nm,1.2s,mb5.7
MFF Saint Martin d 78.71 44 *e*P **P 11 15 16.3 -1.1**
MFF pmax pmax
comp=Z,123nm,1.2s,mb5.7
ETSF Etsaut 78.72 48 *e*P **P 11 15 17.2 -0.4**
comp=Z,437nm,1.7s,mb5.8
ETSF Etsaut 78.72 48 *e*P **P 11 15 17.2 -0.4**
ETSF pmax pmax
comp=Z,219nm,1.7s,mb5.8
FDAF Les Forges d'A 78.72 48 *e*P **P 11 15 19.3 +1.7**
REYF Montagne du Re 78.83 48 *e*P **P 11 15 19.3 +1.1**
ESAC San Caprasio 78.89 49 P **P 11 15 20.7 +2.2**
comp=Z,75nm,0.9s,mb5.6
EMOS Mosqueruela 79.02 51 P **P 11 15 20.2 +1.0**
comp=Z,26nm,0.8s,mb5.2
LABF Labassere 79.17 48 *e*P **P 11 15 21.0 +1.0**
EBIE Bielsa 79.25 48 P **P 11 15 19.7 -0.8**
comp=Z,25nm,0.9s,mb5.2
EPF Esparros 79.37 48 *e*P **P 11 15 20.4 -0.7**
comp=Z,667nm,1.7s,mb6.0
EPF Esparros 79.37 48 *e*P **P 11 15 20.4 -0.7**
EPF pmax pmax
comp=Z,334nm,1.7s,mb6.0
EBEN Beniarda 79.37 53 P **P 11 15 22.7 +1.5**
comp=Z,34nm,0.9s,mb5.3
EGRA Graus 79.43 49 P **P 11 15 22.5 +1.1**
comp=Z,55nm,1.0s,mb5.4
LFF La Frestale 79.47 46 *e*P **P 11 15 20.5 -1.1**
comp=Z,247nm,1.3s,mb5.7
LFF La Frestale 79.47 46 *e*P **P 11 15 20.5 -1.1**
LFF pmax pmax
comp=Z,124nm,1.3s,mb5.7
LIC Lamto 79.49 86 *e*P **P 11 15 20.2 -2.2**
comp=Z,233nm,1.1s,mb5.7
DBIC Dimbokro 79.58 85 P **P 11 15 20.9 -2.0**
comp=Z,21nm,0.9s,mb5.1,baz=271,slow=5.6,SNR=12
DBIC LR LR 11 47 24.6
comp=Z,7µm,19.8s,MS6.0,baz=263,slow=33
MELF Melles 79.69 48 *e*P **P 11 15 25.0 +2.2**
EBR Ebro Roquetas 79.70 50 *e*P **P 11 15 26.0 +3.1**
MLS Moulis 79.92 48 *e*P **P 11 15 25.7 +1.6**
RJF Les Rejaudoux 79.98 46 *e*P **P 11 15 23.2 -1.1**
comp=Z,956nm,1.9s,mb6.1

RJF *e*R
comp=Z,21µm,20.0s
RJF Les Rejaudoux 79.98 46 *e*P **P 11 15 23.2 -1.1**
RJF pmax pmax
comp=Z,478nm,1.9s,mb6.1
RJF MLR MLR
comp=Z,21µm,20.0s,MS6.5
SALF Salau 80.02 48 *e*P **P 11 15 26.7 +2.1**
EPOB Poblet 80.08 50 P **P 11 15 23.7 -1.3**
comp=Z,26nm,0.9s,mb5.2
OJBR Djebel Berber 80.17 56 P **P 11 15 29.0 +3.4**
EMIR Miracle 80.36 49 P **P 11 15 26.6 +0.2**
comp=Z,29nm,0.8s,mb5.3
OKGL Djebel Kef Gue 80.36 55 P **P 11 15 28.0 +1.4**
TCF Toulx Ste Croi 80.36 45 *e*P **P 11 15 25.0 -1.3**
comp=Z,759nm,1.9s,mb6.0
TCF Toulx Ste Croi 80.36 45 *e*P **P 11 15 25.0 -1.3**
TCF pmax pmax
comp=Z,379nm,1.9s,mb6.0
CAF Calviac 80.41 46 *e*P **P 11 15 25.5 -1.1**
comp=Z,583nm,1.8s,mb5.9
CAF Calviac 80.41 46 *e*P **P 11 15 25.5 -1.1**
CAF pmax pmax
comp=Z,292nm,1.8s,mb5.9
KBS Kingsbay 80.42 11 *e*P **P 11 15 27.6 +1.5**
KBS AMb AMB 11 15 37.4
comp=Z,150nm,1.6s,mb5.7
KBS *e* 11 25 37.5
KBS AMS AMS 11 52 32.3
comp=Z,18µm,18.1s,MS6.5
KBS Kingsbay 80.42 11 *e*P **P 11 15 27.6 +1.5**
KBS *e* 11 25 37.5
KBS LR LR
comp=Z,18010µm,18.1s
OJGS Djebel Guires 80.51 56 P **P 11 15 31.0 +3.6**
HYF Humbligny 80.55 44 *e*P **P 11 15 26.3 -1.0**
EIBI Ibiza 80.55 52 P **P 11 15 28.1 +0.6**
comp=Z,33nm,0.9s,mb5.3
VALF Valcebollere 80.66 49 *e*P **P 11 15 30.4 +2.4**
BER Bergen 80.68 30 *e*P **P 11 15 26.9 -0.8**
BER AMb AMB 11 15 37.8
comp=Z,335nm,2.0s,mb5.9
BER *e* 11 25 42.1
BER Bergen 80.68 30 *e*P **P 11 15 26.9 -0.8**
BER *e* 11 25 42.1
BER LR LR
comp=Z,18269µm,15.2s
MTLF Montolieu 80.70 48 *e*P **P 11 15 27.1 -1.1**
comp=Z,855nm,1.9s,mb6.0
MTLF Montolieu 80.70 48 *e*P **P 11 15 27.1 -1.1**
MTLF pmax pmax
comp=Z,428nm,1.9s,mb6.0
FRNF Fournols 80.71 46 *e*P **P 11 15 28.4 +0.2**
BGF Bois d'Agland 80.77 44 *e*P **P 11 15 27.1 -1.4**
comp=Z,1µm,1.9s,mb6.2
BGF Bois d'Agland 80.77 44 *e*P **P 11 15 27.1 -1.4**
BGF pmax pmax
comp=Z,579nm,1.9s,mb6.2
PYM Petit Puy Mans 80.97 45 *e*P **P 11 15 30.9 +1.3**
AGO Saint Agoulin 81.02 45 *e*P **P 11 15 31.4 +1.6**
FILF Fillols 81.04 48 *e*P **P 11 15 30.2 +0.2**
AVF Avril sur Loir 81.09 44 *e*P **P 11 15 28.5 -1.7**
comp=Z,346nm,1.6s,mb5.8
AVF Avril sur Loir 81.09 44 *e*P **P 11 15 28.5 -1.7**
AVF pmax pmax
comp=Z,173nm,1.6s,mb5.7
SSF Saint Saulge 81.16 44 *e*P **P 11 15 28.9 -1.6**
comp=Z,304nm,1.9s,mb5.9
SSF Saint Saulge 81.16 44 *e*P **P 11 15 28.9 -1.6**
SSF pmax pmax
comp=Z,304nm,1.9s,mb5.9
LBL Lubilhac 81.20 46 *e*P **P 11 15 32.8 +2.0**
BAIF Baives 81.25 41 *e*P **P 11 15 29.7 -1.3**
comp=Z,673nm,1.9s,mb5.9
BAIF Baives 81.25 41 *e*P **P 11 15 29.7 -1.3**
BAIF pmax pmax
comp=Z,337nm,1.9s,mb6.0
SJAF Saint Jean de 81.29 48 *e*P **P 11 15 33.0 +1.7**
EJON La Jonquera 81.30 48 P **P 11 15 31.3 0.0**
comp=Z,48nm,1.0s,mb5.4
LOR Lormes 81.37 44 *e*P **P 11 15 30.2 -1.4**
comp=Z,883nm,1.9s,mb6.1
LOR *e*R
comp=Z,40µm,18.0s
LOR Lormes 81.37 44 *e*P **P 11 15 30.2 -1.4**
LOR pmax pmax
comp=Z,442nm,1.9s,mb6.1
LOR MLR MLR
comp=Z,40µm,18.0s,MS6.8
PLDF La Plantade 81.37 45 *e*P **P 11 15 32.8 +1.1**
SMF Signal de Mont 81.44 44 *e*P **P 11 15 30.3 -1.7**
comp=Z,520nm,1.9s,mb5.8
SMF Signal de Mont 81.44 44 *e*P **P 11 15 30.3 -1.7**
SMF pmax pmax
comp=Z,260nm,1.9s,mb5.8
COLF Collangettes 81.48 45 *e*P **P 11 15 32.9 +0.7**
GSTR Great Sitkin T 81.53 321 P **P 11 15 36.0 +3.7**
ETOS Mallorca 81.59 51 P **P 11 15 32.7 -0.2**
comp=Z,20nm,0.9s,mb5.1
GIVF Givet 81.64 41 *e*P **P 11 15 31.8 -1.2**
comp=Z,1µm,1.9s,mb6.2
GIVF Givet 81.64 41 *e*P **P 11 15 31.8 -1.2**
GIVF pmax pmax
comp=Z,542nm,1.9s,mb6.2
LASF Ste Croix 81.79 47 *e*P **P 11 15 33.3 -0.6**
comp=Z,585nm,1.8s,mb5.9
MEZF Maizieres J'vi 82.00 42 *e*P **P 11 15 33.8 -1.1**
comp=Z,960nm,1.6s,mb6.2
HGN Heimansgroeve 82.25 40 *e*P **P 11 15 34.8 -1.4**
comp=Z,39nm,1.4s,mb5.1
HGN *e*P 11 15 35.2
comp=Z,18nm,2.5s
HGN *i* x x 11 15 40.6
comp=Z,317nm,3.3s
HGN Heimansgroeve 82.25 40 *i* S S 11 25 46.5 -3.1
HGN *e*SS SS 11 31 22.8 +10
VIVF Saint-Julien-l 82.26 46 *e*P **P 11 15 36.0 -0.3**
comp=Z,1µm,1.9s,mb6.2
VIVF Saint-Julien-l 82.26 46 *e*P **P 11 15 36.0 -0.3**
VIVF pmax pmax
comp=Z,547nm,1.9s,mb6.2
WIT Witteveen 82.40 38 *e*P **P 11 15 37.5 +0.6**
WIT *i* x x 11 15 42.3
comp=Z,1µm,2.9s
WLF Walferdange 82.55 41 *e*P **P 11 15 36.8 -1.0**
comp=Z,413nm,1.6s,mb6.2
WLF Walferdange 82.55 41 *e*P **P 11 15 36.8 -0.9**
WLF pmax pmax
comp=Z,413nm,1.6s,mb6.2
WTSB Winterswijk 82.61 39⇑ *e*P **P 11 15 37.3 -0.7**
comp=Z,51nm,1.7s,mb5.3
WTSB *i* x x 11 15 42.6
comp=Z,483nm,2.2s
THEF They Montfort 82.66 42 *e*P **P 11 15 38.6 +0.3**
PRAF Pradon 82.76 47 *e*P **P 11 15 41.9 +3.0**
KONO Kongsberg 82.91 31 *e*P **P 11 15 41.2 +1.8**
KONO *e*SKSa 11 25 59.8
KONO Kongsberg 82.91 31 *e*P **P 11 15 41.2 +1.8**
KONO *e* 11 26 13.9
KONO Kongsberg 82.91 31⇓ *e*P **P 11 15 39.1 -0.3**
HAU Haudompre 82.94 43 *e*P **P 11 15 38.4 -1.3**
comp=Z,638nm,1.7s,mb6.1
HAU *e*R
comp=Z,28µm,19.2s
HAU Haudompre 82.94 43 *e*P **P 11 15 38.4 -1.3**
HAU pmax pmax
comp=Z,319nm,1.7s,mb6.1
HAU MLR MLR
comp=Z,28µm,19.3s,MS6.7
GRN Grenoble 82.95 45 *e*P **P 11 15 41.8 +1.9**
CABF La Chapelle 82.98 44 *e*P **P 11 15 38.9 -1.1**
comp=Z,1µm,1.9s,mb6.2
CABF La Chapelle 82.98 44 *e*P **P 11 15 38.9 -1.1**
CABF pmax pmax
comp=Z,516nm,1.9s,mb6.2
GELF Grande-Etoile 83.01 47 *e*P **P 11 15 42.6 +2.4**
SMRF Simiane la Rot 83.03 47 *e*P **P 11 15 40.1 -0.2**
NSS Namsos 83.08 26 *e*P **P 11 15 40.6 +0.4**
NSS AMb AMB 11 15 49.2
comp=Z,155nm,1.6s,mb5.8
NSS *e*S S 11 25 55.8 -2.0
NSS *e*SS SS 11 31 30.2 +4.8
NSS AMS AMS 11 50 05.8
comp=Z,16µm,23.3s,MS6.3
ORIF Oris-en-Rattie 83.10 46 *e*P **P 11 15 40.4 -0.2**
comp=Z,701nm,1.9s,mb6.1
ORIF *e*R
comp=Z,19µm,22.0s
GIMEL Gimel 83.11 44⇓ *i*P **P 11 15 40.7 0.0**
VILF Villemus 83.15 47 *e*P **P 11 15 44.3 +3.4**
PUYF Puyloubier 83.19 47 *e*P **P 11 15 43.8 +2.7**
BERF Bertagne 83.21 47 *e*P **P 11 15 44.3 +3.0**
GDM Grand'Maison 83.22 45 *e*P **P 11 15 42.5 +1.3**
MUD Monsted U'grnd 83.25 34 *i* S S 11 25 55.0 -4.6
MUD *i* 11 26 01.9
comp=Z,10µm,21.0s
MUD Monsted U'grnd 83.25 34⇓ *i*P **P 11 15 41.5 +0.3**
comp=Z,105nm,1.3s,mb5.7
MUD *i* S S 11 25 55.0 -4.6
MUD *i* 11 26 01.9
MUD Monsted U'grnd 83.25 34⇓ *i*P **P 11 15 41.5 +0.3**
MUD *i* S S 11 25 55.0 -4.6
MUD *i* 11 26 01.9
MUD pmax pmax
comp=Z,100nm,1.3s,mb5.7
MUD MLR MLR
comp=Z,10µm,21.0s,MS6.2
STOF St-Etienne Org 83.26 47 *e*P **P 11 15 43.6 +2.1**
HINF Hinteralfeld 83.30 43 *e*P **P 11 15 40.1 -1.5**
comp=Z,729nm,1.9s,mb6.1
HINF Hinteralfeld 83.30 43 *e*P **P 11 15 40.1 -1.5**
HINF pmax pmax
comp=Z,364nm,1.9s,mb6.1
NAO01 NORSAR Array S 83.32 29 *e*P **P 11 15 40.9 -0.5**
comp=Z,100nm,1.1s,mb5.8
LOMF Lomont 83.36 43 *e*P **P 11 15 42.4 +0.5**
ABH Alteburg 83.41 41 *e*P **P 11 15 41.2 -0.9**
ABH Alteburg 83.41 41 *e*P **P 11 15 43.3 +1.2**
TAVF Tavernes 83.43 47 *e*P **P 11 15 44.3 +1.9**
ECH Echery 83.44 42 *e*P **P 11 15 42.9 +0.6**
NB2 NORSAR Subarra 83.44 29 P **P 11 15 41.4 -0.6**
comp=Z,360nm,1.4s,mb6.2,baz=281,slow=5.0
NB2 NORSAR Subarra 83.44 29 P **P 11 15 41.4 -0.6**
baz=281,slow=5.1
NB2 NORSAR Subarra 83.44 29 P **P 11 15 41.4 -0.6**
NB2 pmax pmax
comp=Z,360nm,1.4s,mb6.2
NOA NORSAR Array B 83.44 29 P **P 11 15 41.0 -1.0**
comp=Z,29nm,0.9s,mb5.3,baz=283,slow=5.2,SNR=51
NOA LR LR 11 53 00.4
comp=Z,9µm,19.8s,MS6.2,baz=300,slow=36
MOF Molkenrain 83.48 43 *e*P **P 11 15 42.9 +0.4**
CDF Champ du Feu 83.48 42 *e*P **P 11 15 41.4 -1.1**
comp=Z,827nm,1.9s,mb6.1
CDF Champ du Feu 83.48 42 *e*P **P 11 15 41.4 -1.1**
CDF pmax pmax
comp=Z,413nm,1.9s,mb6.1
WLS Welschbruch 83.53 42 *e*P **P 11 15 43.3 +0.5**
TORNY Torny 83.54 44⇓ *i*P **P 11 15 43.1 +0.2**
LPL La Plagne 83.59 45 *e*P **P 11 15 42.8 -0.4**
AIGLE Aigle 83.61 44⇓ *e*P **P 11 15 43.3 0.0**
LPG La Plagne 83.61 45 *e*P **P 11 15 43.3 0.0**
BOURR Bourrignon 83.62 43⇓ *i*P **P 11 15 43.1 -0.2**
BNI Bardonecchia 83.63 45 *e*P **P 11 15 45.8 +2.4**
comp=Z,937nm,2.7s,mb6.4
BNI Bardonecchia 83.63 45 *e*P **P 11 15 45.8 +2.4**
BNI pmax pmax
comp=Z,937nm,2.7s,mb6.4
RRL Cesana Torines 83.73 46 P **P 11 15 45.5 +1.6**
LANF Langenberg 83.73 41 *e*P **P 11 15 44.5 +0.7**
LIBD Limburg 83.74 42 *e*P **P 11 15 44.0 +0.1**
LIBD Limburg 83.74 42 *e*P **P 11 15 44.7 +0.8**
MBDF Montbardon 83.75 46 *e*P **P 11 15 43.7 -0.3**
comp=Z,451nm,1.9s,mb6.0
MBDF Montbardon 83.75 46 *e*P **P 11 15 43.7 -0.3**
MBDF pmax pmax
comp=Z,226nm,1.9s,mb6.0
BBS Basel-Blauen 83.80 43⇓ *e*P **P 11 15 43.9 -0.3**
BBS Basel-Blauen 83.80 43 *e*P **P 11 15 44.4 +0.2**
LMR La Mourre 83.80 47 *e*P **P 11 15 43.1 -1.2**
comp=Z,504nm,1.8s,mb6.0
LMR La Mourre 83.80 47 *e*P **P 11 15 43.1 -1.2**
LMR pmax pmax
comp=Z,252nm,1.8s,mb6.0
SURF Saint Ours 83.82 46 *e*P **P 11 15 46.0 +1.6**
SENIN Lac Senin 83.84 44⇓ *i*P **P 11 15 45.2 +0.8**
KTD Kalmit 83.85 41 *e*P **P 11 15 44.2 -0.2**
FRF La Foret Royal 83.86 47 *e*P **P 11 15 43.7 -0.9**
LSD Ceresole Reale 83.90 45 P **P 11 15 45.4 +0.7**
FENE Fenestrelle 83.91 45 P **P 11 15 43.7 -1.1**
TNS Taunus Mts 83.92 40 *e*P **P 11 15 44.0 -0.8**
comp=Z,506nm,1.7s,mb6.4
TNS *e*S S 11 26 08.6 +2.1
TNS Taunus Mts 83.92 40 *e*P **P 11 15 44.0 -0.8**
TNS *e*S S 11 26 08.6 +2.1
TNS pmax pmax
comp=Z,506nm,1.7s,mb6.4
BALST Balsthal 83.94 43⇓ *i*P **P 11 15 44.7 -0.2**
BALST Balsthal 83.94 43⇓ *i*P **P 11 15 44.6 -0.3**
DIX Grande Dixence 83.97 44⇓ *i*P **P 11 15 45.8 +0.7**
KIZ Kirchzarten 83.98 42⇓ *e*P **P 11 15 44.8 -0.3**
WIMIS Wimmis 84.01 44⇓ *i*P **P 11 15 45.6 +0.3**
RSP Reno Superiore 84.02 45 P **P 11 15 46.6 +1.2**
FELD Feldberg 84.05 43⇓ *e*P **P 11 15 44.4 -1.1**
FELD Feldberg 84.05 43 *e*P **P 11 15 46.2 +0.7**
BHB Bricherasio 84.08 46 P **P 11 15 46.2 +0.5**
SET Setif 84.15 54 P **P 11 15 48.0 +1.8**
MVIF Mont Vial 84.16 47 *e*P **P 11 15 48.1 +2.0**
BFO Black Forest 84.19 42 *e*P **P 11 15 44.7 -1.4**
comp=Z,384nm,1.9s,mb6.2
BFO *e*S S 11 26 09.4 +0.2
BFO Black Forest 84.19 42 *e*P **P 11 15 44.7 -1.4**
BFO *e*S S 11 26 09.4 +0.2
BFO pmax pmax
comp=Z,384nm,1.9s,mb6.2
SULZ Sulz-Cheisache 84.19 43⇓ *i*P **P 11 15 46.0 -0.2**
TOUF Mont Tournerai 84.21 46 *e*P **P 11 15 48.4 +2.0**
SWS Schriesheim 84.22 41 *e*P **P 11 15 45.7 -0.6**
STV Sta Anna Valdi 84.23 46 P **P 11 15 48.1 +1.7**
TOD Tromm 84.26 41 *e*P **P 11 15 45.3 -1.2**
TOD Tromm 84.26 41 *e*P **P 11 15 47.0 +0.5**
CKHR Kef el Ahmar 84.27 55 P **P 11 15 51.0 +4.2**
ENR Entracque 84.30 46 P **P 11 15 48.5 +1.7**
TRAV 84.30 45 P **P 11 15 46.1 -0.6**
AUTN L'Aution 84.34 46 *e*P **P 11 15 50.0 +3.0**
REVF Revere 84.34 47 *e*P **P 11 15 49.0 +2.0**
HASLI Hasliberg 84.35 44⇓ *i*P **P 11 15 47.5 +0.5**
BSEG Bad Segeberg 84.36 36 *e*P **P 11 15 46.2 -0.7**
BSEG pmax pmax
comp=Z,2µm,2.7s,mb6.7
SBF Sospel 84.37 47 *e*P **P 11 15 45.9 -1.3**
comp=Z,280nm,1.3s,mb5.9
SBF Sospel 84.37 47 *e*P **P 11 15 45.9 -1.3**
SBF pmax pmax
comp=Z,140nm,1.3s,mb5.9
SLE Schleitheim 84.40 43⇓ *i*P **P 11 15 47.0 -0.2**
LBG Lerchenberg 84.43 42 *e*P **P 11 15 47.1 -0.2**
SAOF Saorge 84.44 46 *e*P **P 11 15 50.1 +2.6**
ORX Oropa 84.44 45 P **P 11 15 47.7 +0.3**
TRO Tromso 84.44 20 *e*P **P 11 15 47.5 +0.6**
TRO AMb AMB 11 15 56.6
comp=Z,223nm,1.8s,mb6.0
TRO *e*PP PP 11 18 57.3 -6.6
TRO *e*S S 11 26 13.3 +2.0
TRO *e*SS SS 11 31 48.9 +4.2
TRO AMS AMS 11 50 34.5
comp=Z,8µm,22.3s,MS6.0
TRO Tromso 84.44 20 *e*P **P 11 15 47.5 +0.6**
TRO *e* 11 26 14.9
TRO LR LR
comp=Z,7850µm,22.3s
DFRA Djebel Bou Aff 84.47 54 P **P 11 15 54.0 +6.2**
BNALP Bannalp 84.52 43⇓ *i*P **P 11 15 48.5 +0.7**
SPAK Spaichingen 84.53 42 *e*P **P 11 15 46.6 -1.2**
SPAK Spaichingen 84.53 42 *e*P **P 11 15 49.4 +1.6**
ZUR Zurich 84.53 43⇓ *i*P **P 11 15 48.0 +0.1**
MONE Monesi 84.56 46 P **P 11 15 47.6 -0.4**
ROB Roburent 84.60 46 P **P 11 15 49.4 +1.1**
STU Stuttgart 84.67 41 *e*P **P 11 15 48.1 -0.4**
comp=Z,241nm,1.4s,mb6.1
STU Stuttgart 84.67 41 *e*P **P 11 15 48.1 -0.4**
STU pmax pmax
comp=Z,241nm,1.4s,mb6.1
IMI Imperia 84.69 46 P **P 11 15 49.5 +0.8**
GUT Gutenstein 84.75 42 *e*P **P 11 15 48.7 -0.3**
FUSIO Fusio 84.75 44⇓ *i*P **P 11 15 50.0 +1.0**
CLZ Clausthal 84.81 38 *e*P **P 11 15 48.7 -0.5**
comp=Z,550nm,1.8s,mb6.4
CLZ *e*S S 11 26 14.2 -1.1
CLZ Clausthal 84.81 38 *e*P **P 11 15 48.7 -0.5**
CLZ *e*S S 11 26 14.2 -1.1
CLZ pmax pmax
comp=Z,550nm,1.8s,mb6.4
HFS Hagfors 84.83 30 P **P 11 15 47.9 -1.1**
comp=Z,18nm,0.8s,mb5.3,baz=270,slow=3.0,SNR=23
FIN Finale Ligure 84.86 46 P **P 11 15 50.4 +0.9**
LLS Linth-Limmern 84.92 43⇓ *i*P **P 11 15 50.5 +0.7**
CTEI Djebel Teioual 84.97 54 P **P 11 15 53.0 +2.6**
CASM Ain Smara 85.00 54 P **P 11 15 53.5 +3.0**
PCP Pian Castagno 85.03 46 P **P 11 15 50.5 +0.1**
MUGIO Muggio 85.11 44⇓ *i*P **P 11 15 50.5 -0.3**
PLONS Plons 85.13 43⇓ *i*P **P 11 15 51.3 +0.5**
LIENZ Alp Oberkamor 85.15 43⇓ *i*P **P 11 15 51.4 +0.4**
CKFL Kef-Lekhel 85.16 54 P **P 11 15 54.0 +2.7**
COP Copenhagen 85.19 34 *i* S S 11 26 20.7 +1.8
COP *i* 11 31 59.2
comp=Z,6µm,19.0s
COP Copenhagen 85.19 34⇓ *i*P **P 11 15 51.3 +0.3**
comp=Z,103nm,1.5s,mb5.7
COP *i* S S 11 26 20.7 +1.8
COP *i* 11 31 59.2
COP LR LR
comp=Z,6µm,19.0s,MS6.0
COP Copenhagen 85.19 34⇓ *i*P **P 11 15 51.3 +0.3**
COP *i* S S 11 26 20.7 +1.8
COP *i* 11 31 59.2
COP pmax pmax
comp=Z,100nm,1.5s,mb5.7
COP MLR MLR
comp=Z,6µm,19.0s,MS6.0
CAEH 'Ain El Ouahch 85.20 54 P **P 11 15 57.0 +5.5**
VDL Val di Lei 85.30 44⇓ *i*P **P 11 15 52.2 +0.5**
HDH Heidenheim 85.37 42 *e*P **P 11 15 52.0 0.0**
DAVA Damuels 85.41 43⇑ *i*P **P 11 15 52.8 +0.5**
comp=Z,1µm,2.3s,mb6.7
UBR Uberruh 85.48 42⇓ *e*P **P 11 15 52.8 +0.2**
DAVOX Davos 85.51 43 P **P 11 15 53.2 +0.4**
comp=Z,24nm,0.9s,mb5.4,baz=299,slow=7.4,SNR=20
DAVOX Davos 85.51 43⇓ *i*P **P 11 15 53.5 +0.7**
CMAH Djebel Manchou 85.67 54 P **P 11 15 56.0 +2.1**
PGF Pioggiola 85.74 48 *e*P **P 11 15 52.7 -1.3**
comp=Z,234nm,1.3s,mb6.0
PGF Pioggiola 85.74 48 *e*P **P 11 15 52.7 -1.3**
PGF pmax pmax
comp=Z,117nm,1.3s,mb6.0
ABSA Djebel Ababsia 85.79 54 P **P 11 15 57.0 +2.6**
GRA1 Grafenberg Arr 85.79 40 *e*P **P 11 15 53.6 -0.5**
comp=Z,913nm,2.2s,mb6.6
GRA1 *e*S S 11 26 28.3 +3.5
GRA1 LR LR
comp=Z,26µm,20.8s,MS6.6
GRF Grafenberg Arr 85.79 40 *e*P **P 11 15 53.6 -0.5**
comp=Z,913nm,2.2s,mb6.6
GRF *e*S S 11 26 28.3 +3.5
GRF LR LR
comp=Z,26µm,20.8s,MS6.6
GRF Grafenberg Arr 85.79 40 *e*P **P 11 15 53.6 -0.5**
GRF *e*S S 11 26 28.3 +3.5
GRF pmax pmax
comp=Z,913nm,2.2s,mb6.6
GRF MLR MLR
comp=Z,26µm,20.8s,MS6.6
MOX Moxa 85.83 39 *i* P **P 11 15 53.6 -0.7**
comp=Z,logA/T=2.6,mb6.6
MOX *i* pP 11 16 00.0 +1.1
MOX S S 11 26 30.0 +4.8
MOX PS PS 11 27 27.0 +1.0
MOX SS SS 11 32 27.0 +21
MOX L 11 55 01.0
MOX Moxa 85.83 39 *e*P **P 11 15 53.6 -0.7**
comp=Z,955nm,2.5s,mb6.6
MOX *e* pP 11 15 59.6 +0.7
MOX LR LR
comp=Z,17µm,19.0s,MS6.5
MOX Moxa 85.83 39 *e*P **P 11 15 53.6 -0.7**
MOX *e* pP 11 15 59.6 +0.7
MOX pmax pmax
comp=Z,955nm,2.5s,mb6.6
MOX MLR MLR
comp=Z,17µm,19.0s,MS6.5
RGN Rugen 85.95 35 *e*P **P 11 15 56.0 +1.2**
comp=Z,559nm,1.5s,mb6.6
CODM 85.98 46 P **P 11 15 55.4 +0.3**
GRAM 86.11 46 P **P 11 15 56.2 +0.4**
FUR Furstenfeldbru 86.15 42 *e*P **P 11 15 55.1 -0.8**
comp=Z,804nm,2.1s,mb6.6
FUR *e*S S 11 26 30.7 +2.3
FUR Furstenfeldbru 86.15 42 *e*P **P 11 15 55.1 -0.8**
FUR *e*S S 11 26 30.7 +2.3
FUR pmax pmax
comp=Z,804nm,2.1s,mb6.6
MOTA Moosalm 86.22 43⇑ *i*P **P 11 15 57.4 +1.1**
comp=Z,1µm,2.8s,mb6.7
MOTA Moosalm 86.22 43⇑ *i*P **P 11 15 57.4 +1.1**
MOTA pmax pmax
comp=Z,1µm,2.8s,mb6.7
VINC Vinca 86.24 46 P **P 11 15 56.7 +0.2**
VALM 86.27 46 P **P 11 15 56.9 +0.3**
SQTA Sankt Quirin 86.31 43⇓ *i*P **P 11 15 57.0 +0.3**
comp=Z,490nm,2.1s,mb6.4
SQTA Sankt Quirin 86.31 43⇓ *i*P **P 11 15 57.0 +0.3**
SQTA pmax pmax
comp=Z,490nm,2.1s,mb6.4
MIDW Midway 86.37 298 P **P 11 15 58.9 +1.5**
comp=Z,60nm,0.8s,mb5.9
SARO Sassorosso 86.41 46 P **P 11 15 57.0 -0.3**
NKC Novy Kostel 86.44 40 *e*P **P 11 15 56.8 -0.5**
NKC *e*pP pP 11 16 03.1 +1.2
NKC *e*PP PP 11 19 09.2 -12
NKC *e*S S 11 26 33.9 +2.8
NKC *e*SS SS 11 32 02.8 -12
NKC AMS AMS 11 49 50.0
comp=Z,21µm,21.1s
NKC Novy Kostel 86.44 40 *e*P **P 11 15 56.8 -0.5**
NKC *e**PP pP 11 16 03.1 +1.2
NKC *e*S S 11 26 33.9 +2.8
MAIM 86.53 46 P **P 11 15 56.7 -1.2**
CLL Collm 86.53 38 P **P 11 15 57.1 -0.6**
comp=Z,logA/T=1.8,mb5.8
CLL *i* *PP pP 11 16 01.0 -1.3
CLL *e*PP PP 11 19 17.0 -4.6
CLL *e* 11 19 54.0
CLL *e*S S 11 26 33.0 +1.1
CLL *e*PS PS 11 27 31.0 -3.6
CLL *e* 11 27 49.0
CLL *e*PPS PPS 11 27 58.0 -1.7
CLL *e*SS SS 11 32 06.0 -10
CLL *e*SSS SSS 11 35 54.0 +8.0
CLL *e* 11 38 54.0
CLL Collm 86.53 38 *i* P **P 11 15 57.1 -0.6**
comp=Z,104nm,1.7s,mb5.8
CLL *i* pP 11 16 01.0 -1.3
CLL *e*S S 11 26 33.0 +1.1
CLL *e*SS 11 26 59.0
CLL Collm 86.53 38 *i* P **P 11 15 57.1 -0.6**
CLL *i* pP 11 16 01.0 -1.3
CLL *e*S S 11 26 33.0 +1.1
CLL pmax pmax
comp=Z,104nm,1.7s,mb5.8
CLL pmax pmax
comp=Z,494nm,1.9s,mb6.4
WATA Walderalm 86.53 43⇑ *i*P **P 11 15 59.4 +1.6**
comp=Z,697nm,2.5s,mb6.5
WATA Walderalm 86.53 43⇑ *i*P **P 11 15 59.4 +1.6**
WATA pmax pmax
comp=Z,697nm,2.5s,mb6.5
WTTA Wattenberg 86.59 43⇓ *i*P **P 11 15 58.6 +0.5**
comp=Z,2µm,3.0s
WTTA Wattenberg 86.59 43⇓ *i*P **P 11 15 58.6 +0.5**
WTTA pmax pmax
comp=Z,2µm,3.0s
ARCES ARCESS Array B 86.64 19 P **P 11 15 58.0 +0.2**
comp=Z,8.4nm,0.8s,mb5.0,baz=276,slow=4.4,SNR=21
ARCES LR LR 11 51 49.3
comp=Z,12µm,20.4s,MS6.3,baz=299,slow=34
ARE0 ARCESS Array S 86.64 19 *e*P **P 11 15 58.0 +0.2**
BSD Bornholm Skovb 86.71 34 *i* P **P 11 16 00.8 +2.3**
comp=Z,24nm,1.2s,mb5.3
BSD *i* 11 18 14.8
BSD Bornholm Skovb 86.71 34 *i* P **P 11 16 00.8 +2.3**
BSD pmax pmax
comp=Z,24nm,1.2s,mb5.3

WET Wettzell 86.96 41 *e*P **P 11 15 59.4 -0.5**
comp=Z,841nm,2.9s,mb6.5
WET *e*S S 11 26 38.6 +2.5
WET Wettzell 86.96 41 *e*P **P 11 15 59.4 -0.5**
WET *e*S S 11 26 38.6 +2.5
WET pmax pmax
comp=Z,841nm,2.9s,mb6.5
KEV Kevo 87.03 19 *e*p **P 11 16 00.9 +1.2**
comp=Z,705nm,2.7s,mb6.4
KEV Kevo 87.03 19 *e*P **P 11 16 00.9 +1.2**
KEV pmax pmax
comp=Z,705nm,2.7s,mb6.4
KHC Kasperske Hory 87.41 40 *e*P **P 11 16 03.3 +1.3**
KHC *e*pP pP 11 16 07.9 +1.2
KHC *e*PP PP 11 19 31.1 +1.9
KHC *e*S S 11 26 41.6 +1.2
KHC *e*SS SS 11 32 32.3 +3.6
KHC AMS AMS 11 52 10.0
comp=Z,26μm,19.0s
GEC2 GERESS Array S 87.56 41 *e*P **P 11 16 02.1 -0.7**
comp=Z,523nm,2.1s,mb6.4
GEC2 GERESS Array S 87.56 41 *e*P **P 11 16 02.1 -0.7**
GEC2 pmax pmax
comp=Z,523nm,2.1s,mb6.4
GERES GERESS Array B 87.56 41 P **P 11 16 02.3 -0.5**
comp=Z,4.3nm,0.7s,mb4.8,baz=297,slow=3.0,SNR=16
GERES LR LR 11 52 45.0
comp=Z,25μm,19.1s,MS6.6,baz=282,slow=34
PVCC Panska Ves 87.68 39 *e*P **P 11 16 03.9 +0.6**
PVCC *e*pP pP 11 16 09.1 +1.2
PVCC *e*S S 11 26 55.2 +12
PVCC *e*SS SS 11 31 59.9 -33
PVCC AMS AMS 11 49 30.0
comp=Z,17μm,20.1s
PVCC Panska Ves 87.68 39 *e*P **P 11 16 03.9 +0.6**
PVCC *e**PP pP 11 16 09.1 +1.2
PVCC MLR MLR
comp=Z,17μm,20.1s,MS6.4
PRA Prague 87.72 39 P **P 11 16 04.0 +0.5**
PRA AMS AMS 11 55 00.0
KBA Koelnbreinsper 87.76 43⇓*i*P **P 11 16 04.2 +0.4**
comp=Z,123nm,1.4s,mb5.9
KBA Koelnbreinsper 87.76 43⇓*i*P **P 11 16 04.2 +0.4**
KBA pmax pmax
comp=Z,123nm,1.4s,mb5.9
PRU Pruhonice 87.81 39 *e*P **P 11 16 03.9 0.0**
PRU *e*pP pP 11 16 09.6 +1.1
PRU *e*x x 11 19 11.9
PRU *e*S S 11 26 48.7 +4.7
PRU *e*SS SS 11 32 39.4 +4.8
PRU AMS AMS 11 50 40.0
comp=Z,24μm,20.8s
PRU Pruhonice 87.81 39 *e*P **P 11 16 03.9 0.0**
PRU *e**PP pP 11 16 09.6 +1.1
PRU *e*S S 11 26 48.7 +4.7
PRU *e*SS SS 11 32 39.4 +4.8
PRU MLR MLR
comp=Z,24μm,20.8s,MS6.6
FX1 Attu Island--F 87.82 324 *e*P **P 11 16 03.6 -0.3**
ROBS Robic 88.08 43 *e*P **P 11 16 05.3 +0.1**
MOA Molln 88.18 42⇓*i*P **P 11 16 05.6 -0.1**
comp=Z,1μm,3.4s
CADS Cadrg 88.23 43 *e*P **P 11 16 06.2 +0.1**
CADS *e*S S 11 26 47.6 -0.5
VOY Vojsko 88.39 43 *e*P **P 11 16 07.5 +0.7**
GKP Gorka Klasztor 88.52 36 *e*P **P 11 16 08.0 +0.8**
GKP *e*pP pP 11 16 10.9 -0.9
GKP *e*PP PP 11 19 37.5 -0.4
GKP *e*SKS SKS 11 26 35.8 -3.7
GKP *e*S S 11 26 50.9 +0.2
GKP MLR MLR 11 56 37.0
comp=Z,19μm,18.6s,MS6.5
GKP Gorka Klasztor 88.52 36 *e*P **P 11 16 08.0 +0.7**
GKP *e*pP pP 11 16 11.0 -0.9
GKP *e*PP PP 11 19 37.5 -0.4
GKP *e*SKS SKS 11 26 35.8 -3.7
GKP *e*S S 11 26 50.9 +0.2
GKP LR LR
comp=Z,19μm,18.6s,MS6.5
UPC Upice 88.58 39 *e*P **P 11 16 07.6 0.0**
UPC *e*pP pP 11 16 13.1 +0.9
UPC *e*PP PP 11 19 42.4 +4.0
UPC *e*S S 11 26 52.7 +1.5
KSP Ksiaz 88.66 38 *e*P **P 11 16 08.6 +0.6**
KSP *e*pP pP 11 16 11.7 -0.9
KSP *e*PP PP 11 19 40.7 +1.6
KSP *e*SKS SKS 11 26 37.3 -3.0
KSP *e*S S 11 26 51.2 -0.7
KSP MLR MLR 11 50 29.3
comp=Z,23μm,20.6s,MS6.6
KSP Ksiaz 88.66 38⇓*e*P **P 11 16 08.3 +0.3**
KSP *e*pP pP 11 16 12.2 -0.4
KSP *e*PP PP 11 19 40.0 +0.9
KSP *e*SKS SKS 11 26 37.5 -2.8
KSP *e*S S 11 26 51.5 -0.4
KSP *e*SS SS 11 32 50.0 +3.3
KSP LR LR
comp=Z,27μm,19.8s,MS6.7
OBKA Obir 88.71 43⇓*i*P **P 11 16 08.4 +0.1**
comp=Z,1μm,2.9s,mb6.7
DPC Dobruska-Polom 88.81 39 *e*P **P 11 16 08.7 0.0**
DPC *e*pP pP 11 16 14.4 +1.0
DPC *e*PP PP 11 19 32.4 -7.9
DPC *e*S S 11 26 52.4 -1.0
DPC *e*SS SS 11 32 59.7 +11
DPC AMS AMS 11 54 20.0
comp=Z,20μm,18.8s
DPC Dobruska-Polom 88.81 39 *e*P **P 11 16 08.7 0.0**
DPC *e**PP pP 11 16 14.4 +1.0
DPC *e*S S 11 26 52.4 -1.0
DPC MLR MLR
comp=Z,20μm,18.8s,MS6.6
LJU Ljubljana 88.81 43 *e*P **P 11 16 09.3 +0.5**
LJU *e* 11 16 32.0
LJU *e* 11 19 47.9
LJU *e*S S 11 26 52.9 -0.6
LJU Ljubljana 88.81 43 *e*P **P 11 16 09.3 +0.5**
LJU *e*S S 11 26 52.9 -0.6
CEY Cerknica 88.82 44 *e*P **P 11 16 09.4 +0.6**
AFI Afiamalu 89.12 256 LR LR 11 48 04.2
comp=Z,11μm,18.8s,MS6.3,baz=69,slow=30
AFI Afiamalu 89.12 256 *e*P **P 11 16 13.4 +2.4**
comp=Z,426nm,1.6s,mb6.5
AFI Afiamalu 89.12 256 *e*P **P 11 16 13.4 +2.4**
AFI pmax pmax
comp=Z,426nm,1.6s,mb6.5
ARSA Arzberg 89.16 42⇓*i*P **P 11 16 10.2 -0.2**
comp=Z,1μm,3.1s
VRAC Vranov 89.27 40 P **P 11 16 11.2 +0.3**
comp=Z,8.8nm,0.8s,mb5.1,baz=297,slow=3.5,SNR=7.8
VRAC LR LR 11 53 52.4
comp=Z,26μm,19.9s,MS6.7,baz=300,slow=34
VKA Vienna 89.39 41⇓*i*P **P 11 16 12.8 +1.3**
comp=Z,1μm,3.0s
VKA MLRZ 11 55 00.0
comp=Z,10nm,18.0s
VKA Vienna 89.39 41⇓*i*P **P 11 16 12.8 +1.3**
VKA pmax pmax
comp=Z,1μm,3.0s
VKA MLR MLR
comp=Z,10μm,18.0s,MS6.3
NVLJ Novalja 89.43 45 *i*P **P 11 16 10.0 -1.8**
BOJS Bojanci 89.44 44 *e*P **P 11 16 12.2 +0.4**
SOP Sopron 89.71 41 *e*PcP PcP 11 16 14.7 0.0
MORC Moravsky Berou 89.73 39 *e*P **P 11 16 12.8 -0.2**
comp=Z,577nm,2.5s,mb6.5
MORC Moravsky Berou 89.73 39 *e*P **P 11 16 13.5 +0.4**
MORC pmax pmax
comp=Z,580nm,2.5s,mb6.5
CII Carovilli 89.77 48 *e*P **P 11 16 17.2 +3.7**
ZST Bratislava 89.92 41 *e*P **P 11 16 14.1 +0.1**
ZST *e*PP PP 11 19 47.5 -1.7
ZST *e*S S 11 27 17.4 +14
KAF Kangasniemi 89.97 26 *e*p **P 11 16 11.8 -2.1**
comp=Z,505nm,2.6s,mb6.4,baz=291,slow=4.3
KAF Kangasniemi 89.97 26 *e*P **P 11 16 11.8 -2.1**
KAF pmax pmax
comp=Z,505nm,2.6s,mb6.4
RAC Raciborz 90.04 39 *e*P **P 11 16 15.5 +1.0**
RAC *e*S S 11 27 01.5 -3.2
RAC MLR MLR
comp=E,25μm,18.6s
RAC MLR MLR
comp=Z,25μm,18.6s,MS6.7
OKC Ostrava-Krasne 90.09 39 *e*P **P 11 16 14.5 -0.2**
OKC *e*pP pP 11 16 20.4 +1.0
OKC *e*PP PP 11 19 52.5 +2.0
OKC *e*S S 11 27 03.5 -1.6
OKC AMS AMS 11 54 40.0
comp=Z,21μm,18.9s
APA Apatity 90.12 20⇓*i*P **P 11 16 14.5 0.0**
APA *i* 11 19 52.0
APA *i* S S 11 27 12.0 +6.9
APA pmax pmax
comp=Z,16nm,0.8s,mb5.4
FINES FINESS Array B 90.15 27 P **P 11 16 13.2 -1.5**
comp=Z,12nm,1.0s,mb5.2,baz=207,slow=4.3,SNR=15
FINES LR LR 11 52 25.2
comp=Z,15μm,21.9s,MS6.4,baz=285,slow=33
LVZ Lovozero 90.36 19 *i*P **P 11 16 19.5 +3.9**
LVZ *i* 11 19 52.0
LVZ *i* PPP PPP 11 21 50.1 -1.5
LVZ pmax pmax
comp=N,8.0nm,1.3s
LVZ pmax pmax
comp=Z,33nm,1.3s,mb5.5
LVZ pmax pmax
comp=E,7.0nm,1.2s
LVZ pmax pmax
comp=Z,537nm,3.0s
LVZ pmax pmax
comp=N,85nm,2.4s
LVZ pmax pmax
comp=E,66nm,1.9s
LVZ MLR MLR
comp=N,5μm,21.0s,MS6.2
LVZ MLR MLR
comp=Z,14μm,21.0s,MS6.4
LVZ MLR MLR
comp=E,6μm,18.0s,MS6.2
KOLL Kolacno 90.63 40 *e*P **P 11 16 19.0 +1.7**
KOLL *e*pP pP 11 16 23.6 +1.7
VYHS Vyhne 90.93 40 *e*P **P 11 16 18.5 -0.1**
VYHS *e*S S 11 27 23.5 +11
OJC Ojcow 90.98 38⇓*e*P **P 11 16 19.1 +0.3**
OJC *e*PP PP 11 19 55.3 -2.3
OJC ⇑*e*SKSa 11 26 48.7
OJC *e*SS SS 11 33 20.3 +0.1
OJC MLR MLR 11 59 20.6
comp=E,22μm,18.4s,MS6.6
WAR Warsaw 91.03 36 *e*P **P 11 16 19.7 +0.7**
WAR *e*pP pP 11 16 22.6 -1.0
WAR MLR MLR 11 57 48.0
comp=E,19μm,18.7s,MS6.5
WAR Warsaw 91.03 36 *e*P **P 11 16 19.7 +0.7**
WAR *e*pP pP 11 16 22.6 -1.0
WAR LR LR
comp=Z,19μm,18.7s,MS6.5
NIE Niedzica 91.55 39 *e*P **P 11 16 23.1 +1.6**
SUW Suwalki 91.62 34 *e*P **P 11 16 21.2 -0.5**
SUW *e*pP pP 11 16 24.4 -1.9
SUW *e*PP PP 11 20 03.2 +0.5
SUW *e*SKS SKS 11 26 53.5 -4.4
SUW *e*sS 11 27 32.5
SUW MLR MLR 11 51 41.0
comp=Z,14μm,24.4s,MS6.3
SUW Suwalki 91.62 34 *e*P **P 11 16 21.2 -0.5**
SUW *e*pP pP 11 16 24.4 -1.9
SUW *e*PP PP 11 20 03.2 +0.5
SUW *e*SKS SKS 11 26 53.5 -4.4
VSU Vasula 91.69 29 *i*P **P 11 16 24.2 +2.3**
PSZ Piszkesteto 91.78 40⇓*e*PcP PcP 11 16 23.8 0.0
PSZ Piszkesteto 91.78 40 *e*P **P 11 16 22.2 -0.4**
comp=Z,1μm,2.5s,mb6.7
PSZ Piszkesteto 91.78 40 *e*P **P 11 16 22.2 -0.4**
PSZ pmax pmax
comp=Z,1μm,2.5s,mb6.7
STON Ston 91.87 46 *i*P **P 11 16 24.5 +1.4**
KECS Kecovo 91.97 40 *e*P **P 11 16 24.2 +0.8**
STHS Stebnicka Huta 92.13 39 *e*P **P 11 16 27.4 +3.3**
STHS *e*PP PP 11 20 12.6 +5.7
TIP Timpagrande 92.26 49 *e*P **P 11 16 25.9 +0.9**
CRVS Cervenica-Dubn 92.44 39 *e*S S 11 27 31.0 +5.0
CRVS Cervenica-Dubn 92.44 39 *e*S S 11 27 31.0 +5.0
BBLS Bajina Basta - 92.76 44 *e*P **P 11 16 31.6 +4.4**
KOLS Kolonicke sedl 92.93 39 *e*P **P 11 16 29.0 +1.2**
KOLS *e*pP pP 11 16 33.9 +1.4
KWP Kalwaria 92.94 38 *e*P **P 11 16 28.8 +0.9**
KWP *e*pP pP 11 16 32.1 -0.4
KWP *e*S S 11 27 41.4 +11
KWP MLR MLR 11 53 37.7
comp=Z,10μm,23.4s,MS6.2
KWP Kalwaria 92.94 38 *e*P **P 11 16 28.8 +0.9**
KWP *e*pP pP 11 16 32.1 -0.4
KWP *e*S S 11 27 41.4 +11
UZH Uzhgorod 93.05 39 *e*P **P 11 16 29.0 +0.6**
UZH *e* 11 20 17.0
UZH *i* SS SS 11 34 00.0 +10
UZH MLR MLR
comp=Z,9μm,19.0s,MS6.2
DIVS Divcibare 93.08 44⇓*i*P **P 11 16 28.5 -0.1**
BEO Belgrade 93.16 43 *e*P **P 11 16 29.0 0.0**
GRUS Gruza 93.64 44 *e*P **P 11 16 30.8 -0.4**
LVV L'vov 93.67 38 *e*P **P 11 16 32.0 +0.8**
LVV *e* 11 20 24.6
LVV *e* 11 27 04.0
LVV *e*S S 11 27 39.8 +3.1
LVV MLR MLR
comp=Z,12μm,19.7s,MS6.4
LVV MLR MLR
comp=N,4μm,19.0s,MS6.3
LVV MLR MLR
comp=E,9μm,19.7s,MS6.3
SEY Seymchan 93.75 337 *i*P **P 11 16 32.9 +1.6**
SEY Seymchan 93.75 337 *i*P **P 11 16 32.8 +1.5**
SVIS Svilajnac 93.85 44⇓*i*P **P 11 16 33.5 +1.3**
MNK Minsk 93.93 32 *e*P **P 11 16 28.0 -4.3**
TIXI Tiksi 94.11 350⇑*i*P **P 11 16 34.4 +1.6**
TIXI Tiksi 94.11 350 *e*P **P 11 16 33.5 +0.7**
TIXI pmax pmax
comp=Z,18nm,1.0s,mb5.5
BOLS Boljevac 94.51 44 *e*P **P 11 16 38.8 +3.6**
OHR Ohrid 94.62 47⇑*i*P **P 11 16 37.5 +1.7**
SKO Skopje 94.78 46 *i*P **P 11 16 37.1 +0.6**
ZAPS Zavoj/Pirot 95.14 44⇑*i*P **P 11 16 38.9 +0.8**
VTS Vitosha 95.80 45 *e*P **P 11 16 40.5 -0.7**
PET Petropavlovsk 95.92 327 *e*P **P 11 16 39.3 -2.2**
PET *e* 11 20 30.9
PET *e*PPP PPP 11 22 34.1 -7.0
PET *e*S S 11 27 52.8 -3.0
PET *e*SS SS 11 34 37.2 +6.9
PET pmax pmax
comp=Z,800nm,19.8s
PET pmax pmax
comp=Z,800nm,17.1s
PET pmax pmax
comp=Z,700nm,16.7s
PET pmax pmax
comp=Z,600nm,15.2s
PET smax
comp=N,2μm,23.0s
VNA3 Neumayer Olymp 96.12 162 *e* **P 11 16 46.3 +4.3**
VNA3 Neumayer Olymp 96.12 162⇑*i*P **P 11 16 41.5 -0.5**
VNA3 *e* pP 11 16 46.3 -0.3
VNA3 *e* 11 20 32.8
VNA3 *e* 11 21 21.9
AKASG Malin Array Be 96.35 36 P **P 11 16 42.5 -0.9**
comp=N,0.3nm,0.3s,baz=277,slow=3.9,SNR=12
AKASG PKKPbc 11 33 33.6
comp=N,0.4nm,0.3s,baz=90,slow=1.9,SNR=4.9
VNA1 Neumayer--Stat 96.39 161 *e* **P 11 16 51.8 +8.6**
VNA1 Neumayer--Stat 96.39 161⇑*i*P **P 11 16 46.4 +3.2**
VNA1 *e* pP 11 16 51.8 +3.9
VNA1 *e* 11 20 37.2
VNA1 *e* 11 21 24.6
MMB Musomiste 96.52 45 *e*P **P 11 16 48.5 +4.0**
MLR Muntele Rosu 96.54 41 P **P 11 16 44.4 0.0**
comp=N,10nm,1.1s,mb5.2,baz=11,slow=2.1,SNR=7.2
VNA2 Neumayer--Watz 96.75 161 *e* **P 11 16 51.6 +6.8**
VNA2 Neumayer--Watz 96.75 161⇑*i*P **P 11 16 46.6 +1.8**
VNA2 *e* pP 11 16 51.6 +2.1
VNA2 *e* 11 20 40.5
VNA2 *e* 11 21 27.5
RZN Rozhen 97.17 45 *e*P **P 11 16 48.0 +0.6**
RAO Raoul Island 97.51 242 LR LR 11 53 28.2
comp=N,2μm,18.4s,MS5.7,baz=100,slow=31
KDZ Kurdzhali 97.67 45 *e*P **P 11 16 50.0 +0.3**
KIS Kishinev 97.73 39*c i*P **P 11 16 51.0 +1.2**
KIS *e* 11 20 52.0
KIS *e* 11 27 20.0
KIS pmax pmax
comp=Z,500nm,4.0s
OBN Obninsk 98.04 29⇓*e*P **P 11 16 52.1 +1.1**
OBN LR LR
comp=Z,7μm,14.0s,MS6.3
OBN Obninsk 98.04 29⇓*e*P **P 11 16 52.1 +1.1**
OBN *e**PP pP 11 16 56.1 +0.5
OBN *i* 11 20 50.0
OBN *e* 11 27 22.5
OBN pmax pmax
comp=Z,58nm,1.5s,mb5.9
MOS Moscow 98.20 29 *e*P **P 11 16 51.8 +0.1**
MOS *e* 11 20 53.0
MOS *e*PPP PPP 11 23 00.0 -1.5
MOS *e* 11 27 28.3
MOS *e* 11 28 21.3
MOS *e*SS SS 11 34 59.4 -2.7
MOS pmax pmax
comp=Z,400nm,3.0s
MOS MLR MLR
comp=Z,12μm,17.5s,MS6.5
MOS MLR MLR
comp=E,9μm,18.6s
SNAA Sanae 98.34 162 *e* **P 11 16 54.7 +2.7**
SNAA Sanae 98.34 162 P **P 11 16 53.3 +1.3**
comp=E,1.6nm,1.0s,baz=258,slow=0.7,SNR=5.9
SNAA Sanae 98.34 162⇑*i*P **P 11 16 49.5 -2.5**
SNAA *e* pP 11 16 54.7 -1.9
SNAA *e* 11 20 51.9
SNAA *e* 11 21 33.4
VOR Voronezh 101.23 31 P P 11 17 08.0 +2.5
VOR *e* 11 21 15.5
VOR pmax pmax
comp=Z,120nm,2.3s
BRTR Keskin Array B 104.15 44 Pdiff Pdif 11 17 19.4 +0.6
comp=Z,0.3nm,0.3s,baz=53,slow=6.2,SNR=3.7
BRTR PKiKP 11 21 37.5
comp=Z,0.3nm,0.3s,baz=297,slow=3.2,SNR=3.5
BRTR PKKPbc 11 33 08.2
comp=Z,0.9nm,0.7s,baz=180,slow=1.2,SNR=3.7
YSS Yuzh-Sakhalins 107.79 328 P Pdif 11 17 35.0 +0.4
YSS MLR MLR
comp=Z,7μm,23.0s,MS6.2
YSS MLR MLR
comp=N,8μm,24.0s,MS6.2
YSS MLR MLR
comp=E,2μm,20.0s,MS6.2
BOD Bodaibo 109.29 349 *e*P Pdif 11 17 38.4 -2.6
BOD pmax pmax
comp=Z,32nm,2.0s
MSL Mosul 112.31 43 *e*PKP x 11 22 45.0
SYO Syowa Base 112.63 161⇓PP PP 11 22 34.5 -7.0
BHD Baghdad 114.87 45 *e*PKP x 11 22 50.0
DRV Dumont d'Urvil 116.90 199 SP SP 11 32 54.0 +5.2
DRV SS SS 11 39 40.0 +25
CN2 Changchun 118.34 335 *e*PKP PKPdf 11 21 59.7 -5.1
CN2 *e*PP PP 11 23 19.8 -2.6
CN2 LR LR
comp=N,7μm,17.0s,MS6.5
CN2 LR LR
comp=E,8μm,17.0s,MS6.5
CN2 LR LR
comp=Z,9μm,19.0s,MS6.4
MAW Mawson 119.99 167 *e*PKP PKPdf 11 22 02.6 -4.7
comp=Z,4.9nm,1.8s
MAW *e*PP PP 11 23 30.0 -2.4
SONM Songino Array 120.18 351 PKKPbc 11 32 15.1
comp=Z,1.2nm,0.8s,baz=199,slow=3.0,SNR=6.5
MKAR Makanchi Array 121.15 10 PKP PKPdf 11 22 07.3 -2.9
comp=Z,0.9nm,0.8s,baz=320,slow=2.1,SNR=2.8
AAK Ala-Archa 123.28 18 *i* PKPr PKPdf 11 22 14.8 +0.5
AAK Ala-Archa 123.28 18*d i* PKIKP PKPdf 11 22 14.7 +0.4
CASY Casey 124.02 188 *e*PKP PKPdf 11 22 11.2 -4.1
WMQ Urumqi 124.80 6 *e*PKP PKPdf 11 22 18.0 +0.7
WMQ PP PP 11 24 10.0 +4.2
WMQ PKS PKS 11 25 53.0 +3.6
WMQ SKS SKS 11 29 28.0 +6.8
WMQ SKKS 11 31 02.0
WMQ SS SS 11 41 02.0 +5.0
WMQ PP PP
comp=Z,395nm,10.0s
WMQ LR LR
comp=N,17μm,24.0s,MS6.7
WMQ LR LR
comp=E,12μm,24.0s,MS6.7
WMQ LR LR
comp=Z,17μm,22.0s,MS6.7
CNB Canberra Magne 125.01 235 *e*PKP PKPdf 11 22 18.9 +0.9
comp=Z,43nm,1.4s
HHC Hu-ho-hao-te 125.77 344 *e*PKP PKPdf 11 22 19.2 0.0
HHC PP PP 11 24 15.5 +3.0
HHC PKS PKS 11 25 54.2 +2.9
HHC SKKS 11 31 09.6
HHC SS SS 11 41 15.1 +6.1
HHC PP PP
comp=Z,693nm,14.9s
HHC LR LR
comp=N,6μm,23.8s,MS6.3
HHC LR LR
comp=E,6μm,26.2s,MS6.3
HHC LR LR
comp=Z,9μm,26.8s,MS6.3
KSH Kashi 126.59 18 *e*PKP PKPdf 11 22 20.0 -0.8
KSH *e*PKS PKS 11 25 55.2 +2.3
KSH *e*SKS SKS 11 29 26.0 -0.7
KSH PP PP
comp=Z,720nm,6.0s
KSH LR LR
comp=N,7μm,17.4s,MS6.5
KSH LR LR
comp=E,6μm,16.6s,MS6.5
CTA Charters Tower 129.58 253 *e*PKP PKPdf 11 22 17.6 -10
comp=E,26nm,1.4s
CTAO Charters Tower 129.58 253 PKPdf PKPdf 11 22 28.1 +0.9
CTAO LR LR
comp=Z,6μm,21.0s,MS6.3
SSE Sheshan 130.67 329 PKP PKPdf 11 22 29.7 +0.8
SSE PP PP 11 24 46.0 +0.9
SSE PKS PKS 11 26 03.5 +2.8
SSE SS SS 11 42 12.4 +2.3
SSE PP PP
comp=Z,333nm,5.6s
SSE LR LR
comp=N,4μm,21.7s,MS6.2
SSE LR LR
comp=E,4μm,22.0s,MS6.2
SSE LR LR
comp=Z,7μm,20.9s,MS6.3
NJ2 Nanjing 130.99 332 *e*PKP PKPdf 11 22 24.0 -5.5
NJ2 PP PP 11 24 45.0 -2.3
NJ2 SKKS 11 31 36.0
NJ2 PP PP
comp=Z,460nm,9.9s
NJ2 LR LR
comp=N,14μm,34.1s
NJ2 LR LR
comp=E,8μm,39.3s
NJ2 LR LR
comp=Z,13μm,20.6s
LZH Lanzhou 132.05 350 ⇑PKP PKPdf 11 22 31.9 +0.5
LZH XPKP 11 22 36.4
LZH PP PP 11 24 53.5 0.0
LZH PKS PKS 11 26 04.5 +1.5
LZH SKKS 11 31 44.5
LZH SS SS 11 42 24.6 -2.8
LZH PP PP
comp=Z,2μm,5.2s
LZH LR LR
comp=N,12μm,18.5s
LZH LR LR
comp=Z,14μm,20.0s,MS6.7
LZH Lanzhou 132.05 350 ⇑PKP PKPdf 11 22 31.9 +0.5
LZH pPKP 11 22 35.2
LZH sPKP 11 22 36.4
LZH ⇑PKP PKPdf 11 22 53.0 +22
LZH pPKP 11 22 56.3
LZH sPKP 11 22 57.5
LZH PP PP 11 24 53.5 0.0
LZH PKS PKS 11 26 04.5 +1.5
LZH SKKS 11 31 44.5

LZH			SS	SS		11 42 24.6	-2.8
LZH	**Lanzhou**	**132.05 350**	⇑PKIKP	PKPdf		11 22 31.9	+0.5
LZH						11 22 35.2	
LZH						11 22 36.4	
LZH						11 24 53.5	
LZH			SS	SS		11 42 24.6	-2.8
STKA	**Stephens Creek**	**132.10 237**	*e*PKP	PKPdf		11 22 29.4	-2.2
	comp=Z,22nm,1.6s						
STKA			*e*PKS	PKS		11 25 57.0	-6.3
STKA	**Stephens Creek**	**132.10 237**	PKP	PKPdf		11 22 29.4	-2.2
	comp=Z,8.3nm,0.8s,baz=36,slow=1.9,SNR=5.2						
STKA			PP	PP		11 24 56.4	+2.4
	comp=Z,25nm,1.5s,baz=96,slow=12,SNR=3.9						
XAN	**Xi'an**	**132.87 344**	PKP	PKPdf		11 22 32.9	-0.1
WHN	**Wuhan**	**134.22 336**	⇓PKP	PKPdf		11 22 38.3	+2.7
WHN			SS	SS		11 42 55.0	+1.4
WHN			LR	LR			
	comp=Z,16μm,18.5s,MS6.8						
QZH	**Quanzhou**	**136.99 327**	*e*PKP	PKPdf		11 22 33.5	-7.2
QZH			LR	LR			
	comp=N,6μm,15.1s,MS6.5						
QZH			LR	LR			
	comp=E,6μm,17.6s,MS6.5						
QZH			LR	LR			
	comp=Z,10μm,21.4s,MS6.5						
CD2	**Chengdu**	**137.10 348**	PKP	PKPdf		11 22 41.3	+0.5
CD2			PP	PP			
	comp=Z,280nm,9.6s						
CD2			LR	LR			
	comp=N,7μm,22.8s						
CD2			LR	LR			
	comp=Z,9μm,24.0s,MS6.4						
GYA	**Guiyang**	**140.65 343**	⇓*i*PKP	PKPdf		11 22 44.8	-2.8
GYA			PKS	PKS		11 26 20.1	+1.4
GYA			SKS	SKS		11 29 55.4	-1.3
GYA			PP	PP			
	comp=Z,260nm,6.0s						
GYA			LR	LR			
	comp=N,7μm,20.2s,MS6.5						
GYA			LR	LR			
	comp=E,4μm,19.8s,MS6.5						
GYA			LR	LR			
	comp=Z,8μm,20.4s,MS6.5						
WB2	**Warramunga Arr**	**140.75 252**	*e*PKP	PKPdf		11 22 38.6	-9.3
WRAB	**Tennant Creek**	**140.75 252**	*e*PKPpre			11 22 39.4	
WRA	**Warramunga Arr**	**140.76 252**	PKhKP			11 22 38.9	
	comp=Z,8.2nm,0.7s,baz=92,slow=3.4,SNR=35						
WRA			PKP	PKPdf		11 22 46.6	-1.3
	comp=Z,39nm,1.2s,baz=92,slow=2.6,SNR=20						
KAKA	**Kakadu**	**142.88 264**	*e*PKP	PKPdf		11 22 53.3	+1.6
	comp=Z,47nm,1.2s						
KMI	**Kunming**	**142.91 348**	PKP	PKPdf		11 22 48.1	-3.4
KMI			APKP			11 22 53.7	
KMI			XPKP			11 22 56.9	
KMI			PP	PP		11 25 56.9	-4.2
KMI			SKS	SKS		11 29 55.1	-5.2
KMI			SKKS			11 32 45.4	
KMI			SS	SS		11 44 35.8	-0.1
KMI			PP	PP			
	comp=Z,32μm,2.4s						
KMI			PP	PP			
	comp=Z,782nm,4.5s						
KMI			LR	LR			
	comp=N,9μm,22.1s,MS6.7						
KMI			LR	LR			
	comp=E,10μm,20.1s,MS6.7						
KMI			LR	LR			
	comp=Z,8μm,26.1s						
KMI	**Kunming**	**142.91 348**	PKP	PKPdf		11 22 48.1	-3.4
KMI			pPKP			11 22 53.7	
KMI			sPKP			11 22 56.9	
KMI			PP	PP		11 25 56.9	-4.2
KMI			PPP	PPP		11 29 07.8	-4.2
KMI			SKS	SKS		11 29 55.1	-5.2
KMI			SKKS			11 32 45.4	
KMI			SS	SS		11 44 35.8	-0.1
KMI			SSS	SSS		11 50 02.7	+4.6
KMI			LR	LR			
	comp=Z,8μm,26.1s,MS6.3						
BOM	**Bombay**	**143.16 36**	*ex*	x		11 20 28.0	
QIZ	**Qiongzhong**	**146.28 333**	PKP	PKPdf		11 22 57.0	-0.4
QIZ			*e*PP	PP		11 26 23.3	+1.9
QIZ			PP	PP			
	comp=Z,1μm,10.3s						
QIZ			LR	LR			
	comp=N,5μm,21.1s						
QIZ			LR	LR			
	comp=Z,9μm,20.4s,MS6.5						
QIZ	**Qiongzhong**	**146.28 333**	*e*PKPdf	PKPdf		11 22 57.0	-0.5
HYB	**Hyderabad**	**147.41 29**	*i* PKP	PKPdf		11 22 58.0	-1.3
HYB			LR	LR		11 34 08.0	
	comp=Z,12nm,20.0s						
HYB	**Hyderabad**	**147.41 29**	*e*P	PKPdf		11 22 58.0	-1.3
PPR	**Puerto Princes**	**148.08 310**	*e*P	PKPdf		11 23 06.7	+6.2
CHRT	**Chiangrai**	**148.59 350**	⇑P	PKPdf		11 23 02.0	+0.8
VIS	**Vishakhapatnam**	**149.12 21**	*i* P	PKPdf		11 23 01.8	-0.3
FITZ	**Fitzroy Crossi**	**149.16 254**	*e*PKP	PKPdf		11 23 03.4	+1.3
	comp=Z,249nm,1.5s						
CHG	**Chiang Mai**	**149.76 352**	⇑P	PKPdf		11 23 03.1	0.0
	comp=Z,14nm,1.3s						
NWAO	**Narrogin (SRO)**	**150.02 221**	PKPbc	PKPdf		11 23 04.6	+1.5
	comp=Z,34nm,0.8s,baz=129,slow=4.2,SNR=12						
NWAO	**Narrogin (SRO)**	**150.02 221**	*e*PKPbc	PKPdf		11 23 04.4	+1.3
NWAO			LR	LR			
	comp=Z,5μm,20.0s,MS6.3						
KLBR	**Kellerberrin**	**150.52 223**	*e*PKP	PKPdf		11 23 05.2	+1.3
	comp=Z,211nm,1.5s						
BDT	**Bhumibol Dam**	**151.29 351**	P	PKPdf		11 23 12.5	+7.1
MUN	**Mundaring**	**151.29 221**	*e*PKP	PKPdf		11 23 05.2	+0.1
	comp=Z,91nm,1.2s						
KKTK	**Khon Kaen**	**151.33 343**	P	PKPdf		11 23 06.8	+1.3
	comp=Z,370nm,1.0s						
MBWA	**Marble Bar**	**153.90 245**	*e*PKPdf	PKPdf		11 23 07.7	-1.4
MBWA			LR	LR			
	comp=Z,7μm,20.0s,MS6.5						
KSM	**Kuching**	**159.80 308**	PKPbc	PKPdf		11 23 17.0	+0.2
KULM	**Kulim**	**162.42 339**	*e*PKPdf	PKPdf		11 23 20.1	+0.7

IDC 03 11:03:59.6±3.9, 4.82N×94.95E, mb4.0/4, mb1 4.2/4, mb1mx3.8/19, mbtmp4.0/4, Error ellipse: s-maj=154.5km s-min=26.2km az=59.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**43.23 347**		P	P	11 12 02.5	-1.8
	1.3nm,0.5s,baz=167,slow=8.2,SNR=17						
SONM	**Songino Array**	**43.97 11**		P	P	11 12 08.5	-1.7
	0.8nm,0.9s,baz=188,slow=7.5,SNR=3.8						
WRA	**Warramunga Arr**	**45.87 124**		P	P	11 12 24.0	-1.8
	3.3nm,0.8s,baz=301,slow=9.2,SNR=20						
WB2	**Warramunga Arr**	**45.88 124**		*e*P	P	11 12 24.1	-1.8
ZAL	**Zalesovo**	**49.66 352**		P	P	11 12 52.9	-2.1
	1.7nm,0.4s,baz=342,slow=0.7,SNR=4.1						

CASC 03 11:18:31.1±1.7, 11.30N×85.47W, h7km±5km, MD3.6, ML3.3, 11C-8D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CONN	**Concepcion**	**0.30 330**		⇑*e*P	Pg	11 18 37.7	+0.5
CONN				*e*S	Sg	11 18 42.5	+1.2
APON	**Apoyo**	**0.84 317**		⇑*e*P	Pb	11 18 46.9	-0.7
CRUN	**El Crucero**	**1.06 310**		⇑*e*P	Pb	11 18 51.2	-0.1
WILN	**Americas 2**	**1.10 321**		⇓*e*P	Pb	11 18 51.5	-0.6
MGAN	**Managua**	**1.13 318**		⇓*e*P	Pb	11 18 51.8	-0.8
MGAN				*e*S	Sb	11 19 07.6	+0.2
MGAN				*i*		11 19 10.0	
	comp=N,727nm,0.5s						
MGAN				*i*		11 19 11.2	
	comp=E,689nm,0.7s						
FORC	**Fortuna**	**1.14 136**		⇓*i*P	Pb	11 18 52.2	-0.6
VCR	**Vista de Mar**	**1.18 188**		⇓*e*P	Pb	11 18 52.4	-1.0
VCR				*e*S	Sb	11 19 08.9	+0.2
XAVN	**Gruta Xavier**	**1.19 315**		⇑*e*P	Pb	11 18 52.9	-0.6
PYTN	**Playitas**	**1.35 335**		⇑*e*P	Pb	11 18 55.2	-1.2
COPN	**Copaltepe**	**1.40 309**		⇑*e*P	Pn	11 18 55.8	-1.3
COPN				*e*S	Sb	11 19 14.2	-1.0
MOMJ	**Momotombo**	**1.52 317**		⇓*e*P	Pn	11 18 57.2	-1.7
MIRN	**Miramar**	**1.66 313**		⇑*e*P	Pn	11 18 59.6	-1.2
CNGN	**Cerro Negro**	**1.69 315**		⇑*e*P	Pn	11 19 01.0	-0.3
PRS1	**Puriscal**	**1.74 139**		⇑*e*P	Pn	11 19 02.3	+0.3
PRS1				*e*S	Sn	11 19 27.4	+2.8
LEON	**Leon**	**1.78 309**		⇑*e*P	Pn	11 19 02.5	0.0
TEL3	**Telica 3**	**1.84 313**		⇓*e*P	Pn	11 19 02.3	-1.2
TELN	**Telica**	**1.85 314**		⇓*e*P	Pn	11 19 04.1	+0.4
TRTC	**Tortuguero**	**1.87 112**		⇓*e*P	Pn	11 19 03.3	-0.7
CRIN	**San Cristobal**	**2.08 312**		*e*P	Pn	11 19 07.5	+0.7
LCR2	**La Lucha 2**	**2.12 137**		⇑*e*P	Pn	11 19 07.3	-0.1
LCR2				*e*S	Sn	11 19 35.5	+1.2
BUS	**Buena Vista**	**2.42 136**		*e*P	Pn	11 19 12.3	+0.5
BUS				*e*S	Sn	11 19 42.1	+0.1

*IDC **03** 11:26:07.6±1.1, 11.18N×85.73W, mb3.9/4, mb1 4.2/4, mb1mx3.8/18, mbtmp3.9/4, Error ellipse: s-maj=43.4km s-min=11.4km az=53.0*
*NEIC **03** 11:26:07.9±2.7, 11.24N×85.68W, h3km±19km, mb4.5/3, MD5.0(CASC), Error ellipse: s-maj=24.5km s-min=8.4km az=46.0*
*CASC **03** 11:26:07.9±1.9, 11.28N×85.56W, h4km±4km, MD3.5, ML4.3, mb4.5(NEIC)*

ISC 03 11:26:07.5±0.4, 11.21N±0.06×85.68W±0.07, h4km, n41, σ0.96/52, mb3.9/7, 6C-15D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CONN	**Concepcion**	**0.35 9**		⇓*e*P	Pg	11 26 13.9	-0.7
APON	**Apoyo**	**0.79 332**		⇓*e*P	Pg	11 26 23.8	+0.4
MASN	**Masaya**	**0.89 329**		⇓*e*P	Pb	11 26 25.5	+0.3
CRUN	**El Crucero**	**0.97 322**		⇓*e*P	Pb	11 26 27.4	+0.8
WILN	**Americas 2**	**1.06 332**		⇑*e*P	Pb	11 26 27.8	-0.2
WILN				*e*S	Sb	11 26 42.7	+0.6
MGAN	**Managua**	**1.08 329**		⇑*e*P	Pb	11 26 28.1	-0.2
MGAN				*e*S	Sb	11 26 44.4	+1.8
	comp=E,5μm,0.3s						
MGAN				*i*		11 26 46.0	
	comp=N,12μm,0.3s						
VCR	**Vista de Mar**	**1.08 177**		*e*P	Pb	11 26 29.8	+1.4
XAVN	**Gruta Xavier**	**1.12 326**		⇑*e*P	Pb	11 26 29.0	-0.1
JTS	**JuntasAbangare**	**1.17 142**	Pg		Pg	11 26 29.5	-1.3
	comp=N,540nm,0.3s,baz=324,slow=19,SNR=52						
JTS			Lg			11 26 45.1	
	comp=N,890nm,0.3s,baz=29,slow=21,SNR=50						
COPN	**Copaltepe**	**1.31 317**		⇑*e*P	Pb	11 26 32.4	+0.2
PYTN	**Playitas**	**1.36 345**		⇓*e*P	Pb	11 26 32.1	-1.1
MOMJ	**Momotombo**	**1.45 325**		⇓*e*P	Pn	11 26 33.8	-0.8
MOMJ				*e*S	Sb	11 26 55.8	+2.4
MIRN	**Miramar**	**1.58 321**		⇓*e*P	Pn	11 26 36.2	-0.2
CNGN	**Cerro Negro**	**1.62 322**		⇓*e*P	Pn	11 26 36.5	-0.4
LEON	**Leon**	**1.68 315**		⇓*e*P	Pn	11 26 37.7	-0.1
TEL3	**Telica 3**	**1.76 320**		⇓*e*P	Pn	11 26 38.8	-0.3
TELN	**Telica**	**1.78 321**		⇓*e*P	Pn	11 26 39.7	+0.4
PRS1	**Puriscal**	**1.82 132**		*e*P	Pn	11 26 40.6	+0.7
PRS1				*e*P		11 26 40.6	
CRIN	**San Cristobal**	**1.99 318**		⇓*e*P	Pn	11 26 42.0	-0.3
TRTC	**Tortuguero**	**2.04 108**		*e*P	Pn	11 26 39.2	-3.8
TRTC				*e*P		11 26 39.2	
SJS	**Escuela Geolog**	**2.04 128**		*e*P	Pn	11 26 42.9	-0.2
SJS				*e*S	Sn	11 27 10.3	+1.1
LCR2	**La Lucha 2**	**2.21 131**		*e*P	Pn	11 26 45.0	-0.4
LCR2				*e*S	Sn	11 27 14.0	+0.5
BUS	**Buena Vista**	**2.51 131**		*e*P	Pn	11 26 50.6	+0.9
CNCH	**Conchagua**	**2.94 315**		⇓*e*P	Pn	11 27 10.2	+14
CNCH				*e*S	Sn	11 27 47.0	+15
BLLM	**Bellamira**	**3.34 312**		⇓*e*P	Pn	11 27 16.6	+15
BLLM				*e*S	Sn	11 27 59.1	+17
SNVI	**San Vicente**	**3.90 308**		⇑*e*P	Pn	11 27 24.6	+15
SNVI				*e*S	Sn	11 28 12.4	+16
LCBS	**La Ceiba**	**4.03 307**		⇓*e*P	Pn	11 27 25.6	+14
LCBS				*e*S	Sn	11 28 15.3	+16
LFRS	**El Faro**	**4.08 306**		⇓*e*P	Pn	11 27 26.1	+14
LFRS				*e*S	Sn	11 28 16.1	+15
LBRS	**Las Brisas**	**4.13 308**		*e*P	Pn	11 27 26.6	+14
LBRS				*e*S	Sn	11 28 17.0	+15
BOQS	**Boqueron**	**4.31 306**		*e*P	Pn	11 27 29.9	+14
BOQS				*e*S	Sn	11 28 21.3	+14
SDV	**Santo Domingo**	**15.00 98**	Pn		P	11 29 47.4	+5.1
	comp=N,0.4nm,0.3s,baz=294,slow=9.9,SNR=3.1						
OXF	**Oxford**	**23.44 352**		*e*P	P	11 31 19.1	+0.4
	comp=N,15nm,0.9s,mb4.4						
LTX	**Lajitas**	**24.62 320**		*e*P	P	11 31 29.7	-0.6
	comp=N,2.3nm,0.6s,mb3.9						
TXAR	**Lajitas Array**	**24.62 320**	P		P	11 31 29.6	-0.7
	comp=N,3.2nm,0.6s,mb4.0,baz=140,slow=9.8,SNR=50						
TZTN	**Tazewell**	**25.29 4**	P		P	11 31 37.8	+1.2
WMOK	**Wichita Mounta**	**26.28 335**	P		P	11 31 44.4	-1.5
	comp=N,19nm,1.4s,mb4.4						
MNTX	**Cornudas Mount**	**27.32 321**		*e*P	P	11 31 52.8	-2.6
PDAR	**Pinedale Array**	**37.68 331**	P		P	11 33 23.7	-2.0
	comp=N,0.3nm,0.7s,mb3.2,baz=148,slow=12,SNR=3.2						
PLCA	**Paso Flores**	**53.55 166**	P		P	11 35 31.4	-0.3
	comp=N,3.1nm,1.0s,mb4.2,baz=360,slow=6.1,SNR=3.3						
ESDC	**Sonseca Array**	**76.59 52**	P		P	11 38 02.0	+0.9
	comp=N,0.1nm,0.3s,mb3.3,baz=277,slow=7.3,SNR=5.1						
WRA	**Warramunga Arr**	**140.57 252**	PKP	PKPdf		11 45 40.1	-1.5
	comp=N,0.3nm,0.7s,baz=99,slow=3.0,SNR=4.2						

*IDC **03** 11:31:23.3±1.4, 10.75N×86.07W, mb3.8/7, mb1 4.1/7, mb1mx4.0/18, mbtmp3.8/7, Error ellipse: s-maj=46.7km s-min=11.2km az=35.0*
*CASC **03** 11:31:25.6±2.2, 11.33N×85.44W, h12km±7km, MD3.7, mb4.7(NEIC)*
*NEIC **03** 11:31:26.4±0.6, 11.15N×85.55W, h10km, mb4.7/1, MD5.0(CASC), Error ellipse: s-maj=16.1km s-min=6.9km az=58.0*

ISC 03 11:31:25.5±0.4, 11.25N±0.05×85.52W±0.06, h12km, n48, σ1.9/67, mb3.9/8, 11C-12D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CONN	**Concepcion**	**0.33 342**		*e*P	Pg	11 31 30.7	-1.8
CONN				*e*S	Sg	11 31 37.5	+0.4
APON	**Apoyo**	**0.85 321**		⇓*e*P	Pb	11 31 40.8	-1.0
APON				*e*S	Sb	11 31 52.2	-0.7
MASN	**Masaya**	**0.96 320**		⇓*e*P	Pb	11 31 43.1	-0.5
MASN				*e*S	Sb	11 31 57.6	+1.6
CRUN	**El Crucero**	**1.06 314**		⇑*e*P	Pb	11 31 45.6	+0.3
JTS	**JuntasAbangare**	**1.10 150**	Pg		Pg	11 31 46.3	-1.3
	318nm,0.3s,baz=340,slow=15,SNR=26						
JTS			Lg			11 32 02.8	
	1μm,0.3s,baz=280,slow=23,SNR=46						
WILN	**Americas 2**	**1.12 324**		⇑*e*P	Pb	11 31 45.1	-1.1
WILN				*e*S	Sb	11 32 01.0	+0.5
VCR	**Vista de Mar**	**1.12 186**		⇓*e*P	Pb	11 31 47.4	+1.1
VCR				*e*P		11 31 47.4	
VCR	**Vista de Mar**	**1.12 186**		*e*P	Pb	11 31 47.4	+1.1
FORC	**Fortuna**	**1.14 133**		*e*P	Pb	11 31 47.6	+1.0
MGAN	**Managua**	**1.14 321**		⇓*e*P	Pb	11 31 46.0	-0.7
MGAN				*e*S	Sb	11 32 02.3	+1.1
XAVN	**Gruta Xavier**	**1.19 319**		⇓*e*P	Pb	11 31 46.4	-1.1
XAVN				*e*S	Sb	11 32 04.3	+1.6
PYTN	**Playitas**	**1.39 338**		⇓*e*P	Pn	11 31 48.8	-2.0
PYTN				*e*S	Sb	11 32 07.9	-0.4
COPN	**Copaltepe**	**1.40 311**		⇓*e*P	Pn	11 31 50.6	-0.4
COPN				*e*S	Sb	11 32 08.9	+0.2
MOMJ	**Momotombo**	**1.52 319**		⇓*e*P	Pn	11 31 51.5	-1.2
MOMJ				*e*S	Sb	11 32 12.8	+0.4
MIRN	**Miramar**	**1.66 316**		⇑*e*P	Pn	11 31 53.7	-1.0
CNGN	**Cerro Negro**	**1.70 317**		⇑*e*P	Pn	11 31 54.6	-0.6
CNGN				*e*S	Sn	11 32 16.9	-0.1
PRS1	**Puriscal**	**1.73 137**		⇓*e*P	Pn	11 31 55.3	-0.3
PRS1				*e*P		11 31 55.4	
PRS1	**Puriscal**	**1.73 137**		*e*P	Pn	11 31 55.4	-0.3
LEON	**Leon**	**1.77 311**		⇑*e*P	Pn	11 31 56.3	0.0
TEL3	**Telica 3**	**1.85 316**		⇑*e*P	Pn	11 31 56.7	-0.6
TELN	**Telica**	**1.86 317**		⇑*e*P	Pn	11 31 58.1	+0.6
TELN				*e*S	Sn	11 32 23.1	+2.0
TRTC	**Tortuguero**	**1.90 111**		⇓*e*P	Pn	11 31 51.2	-6.9
TRTC	**Tortuguero**	**1.90 111**		*e*P	Pn	11 31 51.2	-6.8
SJS	**Escuela Geolog**	**1.94 132**		⇑*e*P	Pn	11 31 59.2	+0.5
SJS				*e*S	Sn	11 32 24.4	+1.3
SJS	**Escuela Geolog**	**1.94 132**		*e*P	Pn	11 31 59.2	+0.5
SJS				*e*S	Sn	11 32 18.9	-4.2
CRIN	**San Cristobal**	**2.08 314**		⇑*e*P	Pn	11 32 01.4	+0.7
CRIN				*e*S	Sn	11 32 26.2	-0.5
LCR2	**La Lucha 2**	**2.11 135**		*e*P	Pn	11 32 01.7	+0.5
LCR2				⇓*e*P		11 32 01.7	
BUS	**Buena Vista**	**2.42 134**		⇑*e*P	Pn	11 32 04.2	-1.2
BUS				*e*P		11 32 04.2	
BUS	**Buena Vista**	**2.42 134**		*e*P	Pn	11 32 04.2	-1.2
CNCH	**Conchagua**	**3.03 312**		⇓*e*P	Pn	11 32 31.9	+18
CNCH				*e*S	Sn	11 33 08.8	+18
BLLM	**Bellamira**	**3.44 310**		*e*P	Pn	11 32 32.1	+12
BLLM				*e*S	Sn	11 33 13.9	+13
SNVI	**San Vicente**	**4.00 306**		*e*P	Px	11 32 49.9	
SNVI				*e*S	Sx	11 33 38.1	
LCBS	**La Ceiba**	**4.14 306**		⇑*e*P	Pn	11 32 43.7	+14
LCBS				*e*S	Sn	11 33 33.0	+14
LFRS	**El Faro**	**4.19 305**		*e*P	Pn	11 32 44.0	+13
LFRS				*e*S	Sn	11 33 33.7	+14
BOQS	**Boqueron**	**4.43 304**		*e*P	Pn	11 32 43.4	+9.3
BOQS				*e*S	Sn	11 33 36.7	+11
RTR	**El Retiro**	**4.81 304**		*e*P	Pn	11 32 58.4	+19
RTR				*e*S	Sn	11 33 52.8	+17
SDV	**Santo Domingo**	**14.85 98**	Pn		P	11 34 57.9	+0.7
	0.3nm,0.3s,baz=282,slow=8.7,SNR=6.0						
CPCT	**Cooper Cave**	**24.11 2**	P		P	11 36 45.8	+3.7
TXAR	**Lajitas Array**	**24.70 319**	P		P	11 36 47.8	-0.1
	1.9nm,0.7s,mb3.8,baz=138,slow=9.9,SNR=8.4						
TZTN	**Tazewell**	**25.25 4**		*e*P	P	11 36 52.4	-0.6
WMOK	**Wichita Mounta**	**26.32 335**		*e*P	P	11 37 04.2	+1.1
	24nm,1.5s,mb4.5						
LPAZ	**La Paz**	**32.32 148**	P		P	11 37 53.6	-3.2
	0.6nm,0.6s,mb3.6,baz=249,slow=8.6,SNR=3.8						
PDAR	**Pinedale Array**	**37.73 331**	P		P	11 38 41.6	-1.2
	0.5nm,0.8s,mb3.3,baz=129,slow=5.8,SNR=3.7						
MCMT	**McKenzie Canyo**	**40.86 330**		*e*P	P	11 39 12.8	+3.9
YKA	**Yellowknife Ar**	**55.27 344**	P		P	11 41 01.4	+0.6
	2.0nm,0.8s,mb4.2,baz=138,slow=7.4,SNR=4.1						
ILAR	**Eielson Array**	**67.88 336**	P		P	11 42 25.6	-0.1
	0.3nm,0.7s,mb3.4,baz=140,slow=4.4,SNR=5.5						
ESDC	**Sonseca Array**	**76.44 52**	P		P	11 43 18.3	+1.3
	1.1nm,0.6s,mb4.0,baz=279,slow=5.8,SNR=7.0						
NOA	**NORSAR Array B**	**83.49 29**	P		P	11 43 56.3	+2.0
	1.7nm,0.9s,mb4.1,baz=282,slow=5.2,SNR=3.5						

CASC 03 11:36:09.0±2.2, 11.32N×85.51W, h2km±8km, MD3.8, ML3.1, 2C-1D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CONN	**Concepcion**	**0.27 336**		*e*P	Pg	11 36 15.9	+1.4
CRUN	**El Crucero**	**1.02 311**		*e*P	Pb	11 36 29.2	+0.1
WILN	**Americas 2**	**1.07 322**		⇑*e*P	Pb	11 36 29.4	-0.5
MGAN	**Managua**	**1.09 319**		*e*P	Pb	11 36 29.6	-0.7
MGAN				*i*		11 36 48.0	
	comp=E,445nm,0.7s						
VCR	**Vista de Mar**	**1.19 186**		*e*P	Pb	11 36 31.0	-1.0
VCR				*e*S	Sb	11 36 50.1	+2.5
PYTN	**Playitas**	**1.33 336**		*e*P	Pb	11 36 33.5	-0.8
COPN	**Copaltepe**	**1.36 309**		*e*P	Pb	11 36 33.7	-1.2
MOMJ	**Momotombo**	**1.48 317**		*e*P	Pn	11 36 35.6	-1.2
PRS1	**Puriscal**	**1.77 138**		*e*P	Pn	11 36 41.1	+0.1
TRTC	**Tortuguero**	**1.92 112**		*e*P	Pn	11 36 42.4	-0.6
TRTC				*e*S	Sn	11 37 08.7	+0.7
LCR2	**La Lucha 2**	**2.16 136**		⇑*e*P	Pn	11 36 46.1	-0.3
LCR2				*e*S	Sn	11 37 16.3	+2.2
BUS	**Buena Vista**	**2.46 135**		⇓*e*P	Pn	11 36 52.5	+1.7

CASC 03 11:39:46.8±2.4, 11.30N×85.50W, h4km±8km, MD3.5, ML3.3, 2C-2D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APON	**Apoyo**	**0.82 318**		*e*P	Pg	11 40 01.9	-1.4
TICN	**Ticuantepe**	**1.02 316**		⇑*e*P	Pb	11 40 06.8	+0.2
CRUN	**El Crucero**	**1.03 311**		⇓*e*P	Pb	11 40 06.5	-0.4
CRUN				*e*S	Sb	11 40 22.6	+1.9
WILN	**Americas 2**	**1.08 322**		*e*S	Sb	11 40 22.0	-0.1
MGAN	**Managua**	**1.11 319**		*e*S	Sb	11 40 24.3	+1.4
MGAN				*i*		11 40 24.6	
	comp=N,586nm,0.4s						
XAVN	**Gruta Xavier**	**1.16 316**		*e*P	Pb	11 40 07.8	-1.3
FORC	**Fortuna**	**1.17 135**		⇑*e*P	Pb	11 40 08.9	-0.3
FORC				*e*S	Sb	11 40 26.3	+1.8
VCR	**Vista de Mar**	**1.18 186**		*e*P	Pb	11 40 08.7	-0.7
VCR				*e*S	Sb	11 40 28.4	+3.6
COPN	**Copaltepe**	**1.38 309**		⇓*e*P	Pb	11 40 11.9	-0.8
COPN				*e*S	Sb	11 40 29.3	-1.3
CNGN	**Cerro Negro**	**1.67 316**		*e*P	Pn	11 40 17.2	+0.2
LEON	**Leon**	**1.75 309**		*e*P	Pn	11 40 16.8	-1.5
PRS1	**Puriscal**	**1.76 138**		*e*P	Pn	11 40 19.9	+1.5
PRS1				*e*S	Sn	11 40 45.5	+4.0
TEL3	**Telica 3**	**1.82 314**		*e*P	Pn	11 40 18.6	-0.6
TRTC	**Tortuguero**	**1.90 112**		*e*P	Pn	11 40 21.0	+0.6
TRTC	

*CSEM **03** 12:02:33.3±1.2, 38.65N×28.57W, h5km±9km, ML2.3, Error ellipse: s-maj=4.1km s-min=3.1km az=151.0, After PDA*
*PDA **03** 12:02:33.3±1.2, 38.65N×28.57W, h5km±9km, MD2.9, ML2.3, Error ellipse: s-maj=4.1km s-min=3.1km az=151.0*
SVSA 03 12:02:33.3±1.2, 38.65N×28.57W, h5km±9km, MD2.9, ML2.3, Error ellipse: s-maj=4.1km s-min=3.1km az=151.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	Caldeira	0.13	236	*i* P	Pg	12 02 35.6	-0.4
CALA				*e*S	Sg	12 02 38.3	+0.5
CALA	Caldeira	0.13	236	*e*S	Sg	12 02 38.3	+0.5
HOR	Horta	0.13	201	*e*P	Pg	12 02 35.4	-0.7
HOR				*e*S	Sg	12 02 37.7	-0.3
PICO	Pico	0.19	143	*i* P	Pg	12 02 36.6	-0.6
PICO				*e*S	Sg	12 02 39.7	0.0
PICO	Pico	0.19	143	*e*S	Sg	12 02 39.7	0.0
PMAN	Manadas	0.38	93	*e*P	Pg	12 02 40.2	-0.7
PMAN				*e*S	Sg	12 02 45.2	-0.7
	129nm,0.1s						

*CSEM **03** 12:07:20.3±0.1, 43.42N×45.90E, h19km, mb4.0, Error ellipse: s-maj=5.8km s-min=1.9km az=13.0, After OBN*
MOS 03 12:07:20.3±1.4, 43.42N×45.90E, h19km, mb4.0/1, 3C-9D, Error ellipse: s-maj=11.1km s-min=8.8km az=14.0, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTLR	Botlikh	0.79	162	*e*Pg	Pb	12 07 33.5	-1.8
BTLR				*e*Sg	Sb	12 07 46.5	+0.9
KRNR	Karanay	0.95	128	⇓*i*PG	Pb	12 07 36.2	-1.7
KRNR				*i* S	Sb	12 07 51.8	+1.8
VLKR	Vladikavkaz	0.97	248	*e*Pg	Pb	12 07 39.8	+1.6
VLKR	Vladikavkaz	0.97	248	⇓*e*PG	Pb	12 07 39.8	+1.6
VLKR				*e*S	Sb	12 07 55.0	+4.4
XNZR	Khunzakh	1.06	146	*i* Pg	Pb	12 07 41.5	+1.7
XNZR				*i* Sg	Sb	12 07 58.2	+4.9
XNZR	Khunzakh	1.06	146	⇑*i*PG	Pb	12 07 41.5	+1.7
XNZR				*i* S	Sb	12 07 58.2	+4.9
BUJR	Buynaksk	1.07	124	*e*Pg	Pb	12 07 42.5	+2.6
BUJR				*i* Sg	Sb	12 07 59.8	+6.3
ARNR	Ardon	1.20	259	*e*Pg	Pb	12 07 43.1	+0.9
ARNR				*e*Sg	Sb	12 08 01.2	+3.8
ARNR	Ardon	1.20	259	⇓*e*PG	Pb	12 07 43.1	+0.9
ARNR				*e*S	Sb	12 08 01.2	+3.8
LACR	Lac	1.31	244	*e*Pg	Pn	12 07 44.0	+0.1
LACR	Lac	1.31	244	⇑*e*PG	Pn	12 07 44.0	+0.1
LACR				*e*S	Sb	12 08 02.2	+1.6
LSNR	Lesken	1.53	265	*e*Pg	Pn	12 07 47.9	+1.0
LSNR	Lesken	1.53	265	⇓*e*PG	Pn	12 07 47.9	+1.0
LSNR				*i* S	Sn	12 08 09.4	+3.1
ZEI	Tsey	1.60	247	*e*Pg	Pn	12 07 47.8	-0.2
ZEI				*i* Sg	Sn	12 08 09.3	+1.0
ZEI	Tsey	1.60	247	⇓*e*PG	Pn	12 07 47.8	-0.2
ZEI				*i* S	Sn	12 08 09.3	+1.0
DIGR	Digorskoe uzhe	1.77	254	*e*Pn	Pn	12 07 50.8	+0.4
DIGR	Digorskoe uzhe	1.77	254	⇓*e*PN	Pn	12 07 50.8	+0.4
DIGR				*i* S	Sn	12 08 14.5	+1.9
KUBR	Kubataba	1.85	283	*i* Pn	Pn	12 07 51.8	+0.3
KUBR				*i* Sg	Sn	12 08 17.1	+2.6
KUBR	Kubataba	1.85	283	⇓*i*PN	Pn	12 07 51.8	+0.3
KUBR				*i* S	Sn	12 08 17.1	+2.6
TI2	Plekhanov	1.89	207	*i* Pn	Pn	12 07 52.0	-0.1
SHAR	Shatzhatmas	2.37	279	⇓*e*PN	Pn	12 07 58.5	-0.4
SHAR				*e*S	Sn	12 08 30.7	+3.0
KIV0	Kislovodsk Arr	2.38	284	*e*Pn	Pn	12 07 59.3	+0.1
KIV0	Kislovodsk Arr	2.38	284	⇑*e*PN	Pn	12 07 59.3	+0.1
KIV	Kislovodsk	2.39	284	*e*Pn	Pn	12 07 59.2	0.0
KIV				*e*Sn	Sn	12 08 30.9	+2.6
NAGR	Nagutskaya	2.49	295	*e*Pn	Pn	12 08 00.4	-0.2
NAGR				*e*Sn	Sn	12 08 35.2	+4.5
NAGR	Nagutskaya	2.49	295	⇓*e*PN	Pn	12 08 00.4	-0.2
NAGR				*e*S	Sn	12 08 35.2	+4.5

CASC 03 12:10:38.2±1.9, 11.27N×85.55W, h6km±4km, MD3.9, ML4.1, 11C-7D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CONN	Concepcion	0.30	345	⇓*i*P	Pg	12 10 44.5	+0.3
APON	Apoyo	0.82	322	⇓*e*P	Pb	12 10 53.9	-0.5
MASN	Masaya	0.92	320	⇓*e*P	Pb	12 10 55.2	-1.0
TICN	Ticuantepe	1.01	319	⇓*e*P	Pb	12 10 56.7	-1.0
TICN				*e*S	Sb	12 11 10.8	-0.2
CRUN	El Crucero	1.02	314	⇑*i*P	Pb	12 10 57.7	-0.1
WILN	Americas 2	1.08	325	⇑*e*P	Pb	12 10 57.8	-1.1
WILN				*e*S	Sb	12 11 13.1	0.0
MGAN	Managua	1.10	322	⇑*e*P	Pb	12 10 58.1	-1.2
MGAN				*e*S	Sb	12 11 14.7	+0.9
MGAN				*i*		12 11 15.6	
	comp=E,4μm,0.5s						
VCR	Vista de Mar	1.14	184	⇓*e*P	Pb	12 10 58.9	-1.1
VCR				*e*S	Sb	12 11 15.7	+0.8
XAVN	Gruta Xavier	1.16	319	⇓*e*P	Pb	12 10 59.4	-0.8
XAVN				*e*S	Sb	12 11 15.6	+0.4
FORC	Fortuna	1.18	133	⇓*i*P	Pb	12 10 60.0	-0.6
PYTN	Playitas	1.35	338	⇓*e*P	Pb	12 11 02.0	-1.6
PYTN				*e*S	Sb	12 11 20.2	-0.7
COPN	Copaltepe	1.36	312	⇑*e*P	Pb	12 11 02.2	-1.5
COPN				*e*S	Sb	12 11 20.5	-0.7
MOMJ	Momotombo	1.49	319	⇑*e*P	Pn	12 11 03.6	-1.9
MOMJ				*e*S	Sb	12 11 24.2	-0.7
MIRN	Miramar	1.62	316	⇑*e*P	Pn	12 11 06.8	-0.8
MIRN				*e*S	Sb	12 11 28.4	-0.4
CNGN	Cerro Negro	1.66	317	⇑*e*P	Pn	12 11 06.9	-1.2
CNGN				*e*S	Sn	12 11 29.0	-0.8
LEON	Leon	1.74	311	⇑*e*P	Pn	12 11 07.4	-1.7
LEON				*e*S	Sn	12 11 30.8	-1.0
PRS1	Puriscal	1.77	136	*e*P	Pn	12 11 09.2	-0.4
PRS1				*e*S	Sn	12 11 34.9	+2.3
TEL3	Telica 3	1.81	316	⇓*e*P	Pn	12 11 08.9	-1.3
TEL3				*e*S	Sn	12 11 33.4	-0.2
TELN	Telica	1.82	317	*e*P	Pn	12 11 09.8	-0.6
TRTC	Tortuguero	1.93	111	*e*P	Pn	12 11 10.6	-1.3
TRTC				*e*S	Sn	12 11 37.2	+0.4
SJS	Escuela Geolog	1.98	132	*e*P	Pn	12 11 13.1	+0.5
SJS				*e*S	Sn	12 11 38.2	+0.2
CRIN	San Cristobal	2.04	314	⇑*e*P	Pn	12 11 12.4	-1.1
BUS	Buena Vista	2.45	134	*e*P	Pn	12 11 19.9	+0.4
BUS				*e*S	Sn	12 11 51.7	+1.6

IDC 03 12:15:43.0±1.9, 19.67S×173.72W, mb4.0/2, mb1 4.3/3, mb1mx3.9/16, mbtmp4.1/3, Error ellipse: s-maj=70.2km s-min=25.5km az=117.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	6.03	18	Pn	Pn	12 17 13.3	-2.2
	4.9nm,0.3s,baz=221,slow=18,SNR=10						
AFI				Sn	Sn	12 18 21.8	-4.5
	2.0nm,0.3s,baz=202,slow=23,SNR=2.1						
URZ	Urewera	20.16	201	P	P	12 20 18.0	-3.8
	4.5nm,0.7s,baz=54,slow=8.8,SNR=4.4						
WRA	Warramunga Arr	48.71	260	P	P	12 24 29.5	-1.9
	0.9nm,0.2s,baz=97,slow=7.1,SNR=59						
AKASG	Malin Array Be	144.11	335	PKP	PKPdf	12 35 19.1	-3.2
	0.4nm,0.4s,baz=22,slow=2.9,SNR=4.3						
GERES	GERESS Array B	150.29	350	PKPbc	PKPdf	12 35 37.1	+4.5
	0.3nm,0.2s,slow=1.3,SNR=3.9						

*IDC **03** 12:18:02.0±2.4, 26.51N×126.22E, h151km±23km, mb3.7/8, mb1 3.7/10, mb1mx3.6/23, mbtmp4.1/10, Error ellipse: s-maj=47.6km s-min=29.2km az=4.0*
*JMA **03** 12:18:03.8±0.3, 26.66N×126.11E, h138km±3km, M4.4*
*NEIC **03** 12:18:03.6±0.7, 26.58N×126.16E, h160km±10km, mb4.3/2, Error ellipse: s-maj=25.8km s-min=7.2km az=152.0*
*BJI **03** 12:18:03.1, 26.61N×126.42E, h188km, mB4.1, mb4.5*
ISC 03 12:18:01.8±0.3, 26.63N±0.08×126.18E±0.07, h153km±7km, n40, σ1§02/57, mb4.0/11, 2C, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	Kume jima 2	0.63	119	P	P	12 18 25.2	+0.6
JKE				S	S	12 18 41.5	-0.6
JAGN	Aguni-jima	0.96	92	P	P	12 18 27.6	+1.0
JAGN				S	S	12 18 45.3	-0.5
NAH1	Naha	1.43	107	P	P	12 18 32.7	+1.6
NAH1				S	S	12 18 53.3	-0.5
JJT2	Tamagusuku 2	1.50	109	P	P	12 18 33.9	+2.1
JJT2				S	S	12 18 55.6	+0.5
JIH	Iheya	1.65	76	P	P	12 18 34.8	+1.3
JIH				S	S	12 18 57.1	-0.9
JOW	Kunigami	1.89	83	P	P	12 18 37.6	+1.5
JOW				S	S	12 19 01.5	-1.1
JOW	Kunigami	1.89	83	P	P	12 18 37.5	+1.4
JOW				S	S	12 19 02.2	-0.4
JMJ	Miyako jima 2	1.98	204	P	P	12 18 38.0	+0.9
JMJ				S	S	12 19 03.8	-0.5
JOGS	Gusukube	1.99	201	P	P	12 18 38.5	+1.3
JOGS				S	S	12 19 04.6	0.0
JTJ	Tarama	2.39	214	P	P	12 18 42.6	+0.4
JTJ				*e*S	S	12 19 11.3	-1.9
JTK	Tokunoshima	2.73	64	P	P	12 18 46.8	+0.4
JTK				*e*S	S	12 19 20.3	-0.4
JIJ	Ishigaki jima	2.91	220	P	P	12 18 48.1	-0.7
JIJ				*e*S	S	12 19 20.8	-4.0
JKRS	Kuro-shima	3.08	220	*e*S	S	12 19 27.9	-0.9
IRIF	Iriomote-Funau	3.18	225	P	P	12 18 51.6	-0.7
IRIF				*e*S	S	12 19 29.1	-1.8
JAM	Amami Oshima	3.52	59	P	P	12 18 56.6	-0.1
JAM				*e*S	S	12 19 36.4	-2.5
YOJ	Yonaguni jima	3.58	234	P	P	12 18 58.1	+0.6
JZK	Kikaishima	3.77	63	P	P	12 19 00.2	+0.3
JZK				*e*S	S	12 19 43.6	-0.9
TATO	Taipei	4.54	250	P	P	12 19 11.0	+1.0
JNN	Nakanoshima	4.57	45	P	P	12 19 10.6	+0.2
JMZ	Minamidaito 2	4.60	99	P	P	12 19 11.2	+0.3
JMZ				*e*S	S	12 19 59.3	-4.8
YHNB	Yeheng	4.75	247	*e*P	P	12 19 13.8	+1.0
JTN	Tanegashima 3	5.82	45	P	P	12 19 25.6	-1.3
JTN				*e*S	S	12 20 31.6	-1.5
JNU	Nakatsue	7.65	31	P	P	12 19 52.9	+1.5
	5.1nm,0.3s,baz=213,slow=5.1,SNR=32						
MJAR	Matsushiro Arr	14.23	43	P	P	12 21 19.4	+2.2
	0.4nm,0.3s,baz=232,slow=13,SNR=8.0						
XAN	Xi'an	16.61	301	P	P	12 21 48.6	+1.6
XAN				AMB	AMB		
	comp=Z,9.0nm,0.7s						
LZH	Lanzhou	21.23	302	⇑P	P	12 22 37.2	+0.7
LZH				AMB	AMB		
	comp=Z,27nm,1.3s,mb4.4						
LZH	Lanzhou	21.23	302	⇑P	P	12 22 37.2	+0.7
	comp=Z,27nm,1.3s,mb4.4						
LZH				pP		12 22 43.0	
LZH				sP		12 22 45.7	
GTA	Gaotai	25.41	307	*e*P	P	12 23 15.9	-0.7
GTA				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.2						
SONM	Songino Array	26.24	329	P	P	12 23 24.0	-0.2
	comp=Z,3.8nm,0.5s,mb4.3,baz=144,slow=11,SNR=23						
MKAR	Makanchi Array	39.90	312	P	P	12 25 21.7	-0.3
	comp=Z,1.7nm,0.4s,mb4.0,baz=98,slow=10.0,SNR=31						
MKAR	Makanchi Array	39.90	312	P	P	12 25 21.7	-0.3
ZAL	Zalesovo	40.83	323	P	P	12 25 29.1	-0.4
	comp=Z,3.8nm,0.4s,mb4.3,baz=356,slow=7.1,SNR=10						
KURK	Kurchatov	43.26	317	*e*P	P	12 25 48.7	-0.7
	comp=Z,1.7nm,0.3s,mb4.2						
BVAR	Borovoye Array	48.75	318	P	P	12 26 32.3	-0.3
	comp=Z,0.7nm,0.3s,mb3.8,baz=109,slow=9.4,SNR=7.7						
ILAR	Eielson Array	64.96	28	P	P	12 28 25.9	-0.9
	comp=Z,0.6nm,1.1s,mb3.4,baz=246,slow=6.0,SNR=4.5						
FINES	FINESS Array B	71.60	330	P	P	12 29 07.0	-0.9
	comp=Z,0.5nm,0.4s,mb3.6,baz=90,slow=1.9,SNR=7.7						
FINES	FINESS Array B	71.60	330	P	P	12 29 07.0	-0.9
AKASG	Malin Array Be	74.03	319	P	P	12 29 21.5	-0.6
	comp=Z,0.5nm,0.3s,mb3.7,baz=56,slow=6.2,SNR=5.5						
AKASG	Malin Array Be	74.03	319	P	P	12 29 21.5	-0.7
BRTR	Keskin Array B	75.33	307	P	P	12 29 30.4	+0.6
	comp=Z,0.9nm,0.5s,mb3.6,baz=90,slow=4.9,SNR=5.3						

CASC 03 12:20:53.1±2.1, 11.33N×85.46W, h3km±6km, MD3.7, ML3.4, 10C-5D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CONN	Concepcion	0.29	325	⇑*i*P	Pg	12 20 59.8	+0.9
CONN				*e*S	Sg	12 21 05.9	+3.1
APON	Apoyo	0.84	315	⇓*e*P	Pg	12 21 09.3	-0.5
CRUN	El Crucero	1.05	308	⇑*e*P	Pb	12 21 13.7	+0.1
WILN	Americas 2	1.10	319	⇓*e*P	Pb	12 21 13.7	-0.6
WILN				*e*S	Sb	12 21 28.8	-0.1
MGAN	Managua	1.13	317	*e*P	Pb	12 21 14.0	-0.8
MGAN				⇓*e*P		12 21 14.1	
MGAN				*e*S	Sb	12 21 30.0	+0.3
MGAN				*e*S	Sb	12 21 30.1	+0.4
MGAN				*i*		12 21 32.2	
	comp=N,953nm,0.6s						
MGAN				*i*		12 21 32.4	
	comp=N,921nm,0.6s						
MGAN				*i*		12 21 39.3	
	comp=E,733nm,0.3s						
FORC	Fortuna	1.15	138	*i* P	Pb	12 21 14.7	-0.5
FORC				⇑*e*P		12 21 14.9	
XAVN	Gruta Xavier	1.18	314	*e*P	Pb	12 21 14.7	-1.0
VCR	Vista de Mar	1.20	188	⇑*e*P	Pb	12 21 15.7	-0.4
VCR				*e*S	Sb	12 21 32.1	+0.1
PYTN	Playitas	1.34	334	⇓*e*P	Pb	12 21 17.3	-1.2
PYTN				*e*S	Sb	12 21 36.3	+0.3
COPN	Copaltepe	1.40	307	⇑*e*P	Pb	12 21 18.1	-1.4
MOMJ	Momotombo	1.51	316	⇑*e*P	Pn	12 21 20.1	-1.1
MIRN	Miramar	1.66	312	*e*P	Pn	12 21 22.1	-1.1
CNGN	Cerro Negro	1.69	314	*e*P	Pn	12 21 22.9	-0.7
PRS1	Puriscal	1.74	140	⇑*e*P	Pn	12 21 24.5	0.0
PRS1				*e*S	Sn	12 21 50.9	+3.4
LEON	Leon	1.78	308	*e*P	Pn	12 21 22.8	-2.2
TEL3	Telica 3	1.84	313	*e*P	Pn	12 21 24.7	-1.1
TELN	Telica	1.85	314	⇑*e*P	Pn	12 21 26.3	+0.3
TRTC	Tortuguero	1.87	113	⇓*e*P	Pn	12 21 25.6	-0.6
CRIN	San Cristobal	2.07	311	⇑*e*P	Pn	12 21 29.5	+0.3
CRIN				*e*S	Sn	12 21 58.4	+2.6
BUS	Buena Vista	2.42	136	⇑*e*P	Pn	12 21 34.3	+0.1
BUS				*e*S	Sn	12 22 06.8	+2.0

*MOS **03** 12:54:13.9±3.0, 42.26N×45.93E, h10km, mb4.0/1, Error ellipse: s-maj=24.9km s-min=16.1km az=142.3*
TIF 03 12:54:13.3, 42.05N×46.26E, h17km±4km, 1C-2D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTLR	Botlikh	0.62	357	⇓*i*PG	Pb	12 54 26.0	+0.7
BTLR				*i* S	Sb	12 54 35.5	+2.0
BTLR				pmax	pmax		
	comp=Z,286nm,0.2s						
GNBR	Gunib	0.62	56	⇓*i*PG	Pb	12 54 30.0	+4.6
GNBR				*e*S	Sb	12 54 40.0	+6.4
GNBR				pmax	pmax		
	comp=Z,76nm,0.2s						
DGRG	David-gareji	0.89	229	P	Pb	12 54 32.1	+2.2
DGRG				S	Sb	12 54 45.9	+4.5
KRNR	Karanay	0.92	31	*e*PG	Pb	12 54 31.2	+0.8
KRNR				*i* S	Sb	12 54 44.0	+1.9
KRNR				pmax	pmax		
	comp=Z,75nm,0.2s						
MTA	Mtatsminda	1.15	253	P	Pb	12 54 35.3	+0.9
MTA				S	Sb	12 54 50.6	+1.7
TI2	Plekhanov	1.17	255	⇑*i*PG	Pb	12 54 31.6	-3.1
TI2				*i* S	Sb	12 54 46.6	-2.9
TI2				pmax	pmax		
	comp=Z,40nm,0.2s						
TBLG	Delisi	1.18	255	P	Pb	12 54 35.8	+1.0
TBLG				S	Sb	12 54 51.7	+2.0
AKT	Akhty	1.23	117	*e*PG	Pb	12 54 37.0	+1.2
AKT				pmax	pmax		
	comp=Z,63nm,0.2s						
MAK	Makhachkala	1.30	45	*e*PG	Pn	12 54 43.8	+7.0
MAK				*e*		12 55 05.3	
ZEI	Tsey	1.90	293	*e*PG	Pn	12 54 54.0	+8.6
ZEI				*e*		12 55 05.8	
ONI	Oni	2.15	285	P	Pn	12 54 51.9	+2.8
ONI				S	Sn	12 55 20.6	+5.0

*ATH **03** 12:54:21.6, 40.48N×21.35E, h17km±4km, MD3.2/4*

*NEIC **03** 12:54:21.6, 40.48N×21.35E, h17km, MD3.2(ATH), After ATH.*
*THE **03** 12:54:23.5, 40.44N×21.32E, h10km, ML2.9*
*CSEM **03** 12:54:23.2±0.2, 40.44N×21.33E, h15km, ML2.9, Error ellipse: s-maj=5.4km s-min=3.6km az=131.0*
ISC 03 12:54:22.5±0.5, 40.41N±0.03×21.34E±0.04, h10km, n11, σ1§00/19, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	Kozani	0.34	107	*e*PB	Pb	12 54 29.8	-0.4
KZN				*e*SB	Sb	12 54 34.7	-0.7
FNA	Florina	0.38	4	*e*Pg	Pg	12 54 30.0	-0.2
FNA				*e*Sg	Sg	12 54 36.2	+0.8
JAN	Janina	0.84	207	*e*PB	Pb	12 54 38.1	-0.7
JAN				*e*SN	Sn	12 54 51.6	-1.0
LIT	Litokhoron	0.93	109	*e*Pg	Pg	12 54 41.3	+0.1
LIT				*e*Sg	Sg	12 54 55.8	+2.1
GRG	Griva	0.97	55	*e*Pg	Pg	12 54 41.1	-1.0
GRG				*e*Sg	Sg	12 54 56.2	+1.1
IGT	Igoumenitsa	1.17	222	*e*Pg	Pg	12 54 45.6	-0.3
IGT				*e*Sg	Sg	12 55 03.3	+1.8
KEK	Kerkira	1.37	240	*e*PN	Pn	12 54 48.3	+0.5
KNT	Kendrikon	1.40	57	*e*Pg	Pg	12 54 48.7	-1.9
KNT				*e*Sg	Sg	12 55 09.4	+0.1
EVR	Evrytania	1.53	166	*e*PN	Pn	12 54 51.2	+1.1
AGG	Agios Georgios	1.58	151	*e*Pg	Pg	12 54 52.7	-1.5
AGG				*e*Sg	Sg	12 55 15.5	+0.3
LKD	Levkas	1.78	198	*e*Pb	Pb	12 54 55.0	+0.1

*IDC **03** 13:05:44.9±0.7, 11.27N×85.48W, mb4.1/18, mb1 4.4/19, mb1mx4.3/25, mbtmp4.2/19, ML6.7/1, MS3.9/1, Ms1 3.9/1, ms1mx3.5/22, Error ellipse: s-maj=27.1km s-min=8.4km az=65.0*
*CASC **03** 13:05:45.1±2.0, 11.32N×85.42W, h6km±4km, MD4.4, ML4.6, mb4.6(NEIC)*
*NEIC **03** 13:05:48.5, 11.17N×85.31W, h25km, mb4.6/9, MD4.5(CASC), After CASC.*
ISC 03 13:05:44.4±0.3, 11.31N±0.04×85.45W±0.05, h6km, n80, σ0§93/96, mb4.2/26, 21C-8D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CONN	Concepcion	0.31	326	⇑*i*P	Pg	13 05 52.0	+1.2
LIM1	Limonal	0.63	163	⇓*i*P	Pg	13 05 57.4	+0.4
APON	Apoyo	0.86	315	⇑*i*P	Pb	13 06 01.6	+0.3
MASN	Masaya	0.97	314	⇑*e*P	Pb	13 06 03.4	+0.2
TICN	Ticuantepe	1.06	313	⇑*e*P	Pb	13 06 04.8	+0.1
CRUN	El Crucero	1.08	309	⇓*i*P	Pb	13 06 05.7	+0.8
JTS	JuntasAbangare	1.12	154	Pg	Pg	13 06 05.3	-1.4
	304nm,0.3s,baz=354,slow=11,SNR=400						
JTS				Lg		13 06 20.9	
	2μm,0.3s,baz=306,slow=24,SNR=44						
WILN	Americas 2	1.12	320	⇑*e*P	Pb	13 06 05.5	-0.2
WILN				*e*S	Sb	13 06 20.8	+0.4
FORC	Fortuna	1.12	137	⇑*i*P	Pb	13 06 05.8	0.0
FORC	Fortuna	1.12	137	*e*P	Pb	13 06 05.8	-0.1
MGAN	Managua	1.15	317	⇑*i*P	Pb	13 06 06.3	+0.1
MGAN				*e*S	Sb	13 06 22.6	+1.4
MGAN				⇑*i*		13 06 24.5	
	comp=N,17μm,0.5s						
MGAN				*i*		13 06 25.9	
	comp=E,14μm,0.4s						
VCR	Vista de Mar	1.19	189	*e*P	Pb	13 06 07.1	+0.3
VCR	Vista de Mar	1.19	189	*e*P	Pb	13 06 07.3	+0.5
XAVN	Gruta Xavier	1.20	314	⇑*e*P	Pb	13 06 07.2	0.0
PYTN	Playitas	1.36	334	⇑*e*P	Pb	13 06 09.5	-0.4
COPN	Copaltepe	1.42	308	⇓*i*P	Pn	13 06 10.4	-0.4
COPN				*e*S	Sb	13 06 28.0	-1.1
MOMJ	Momotombo	1.53	316	⇑*e*P	Pn	13 06 11.6	-0.8
MOMJ				*e*S	Sb	13 06 32.6	+0.2
MIRN	Miramar	1.68	312	⇓*e*P	Pn	13 06 14.1	-0.4
CNGN	Cerro Negro	1.71	314	⇑*e*P	Pn	13 06 14.4	-0.5
PRS1	Puriscal	1.72	140	⇑*e*P	Pn	13 06 15.7	+0.6
PRS1	Puriscal	1.72	140	*e*P	Pn	13 06 15.8	+0.7
LEON	Leon	1.80	308	⇑*e*P	Pn	13 06 15.7	-0.5
TRTC	Tortuguero	1.85	113	⇓*i*P	Pn	13 06 14.9	-2.0
TRTC	Tortuguero	1.85	113	⇑*e*P	Pn	13 06 14.6	-2.3
TEL3	Telica 3	1.86	313	⇑*e*P	Pn	13 06 16.8	-0.3
TELN	Telica	1.87	314	⇓*e*P	Pn	13 06 17.1	-0.1
SJS	Escuela Geolog	1.93	135	*e*P	Pn	13 06 18.5	+0.4
SJS				*e*S	Sn	13 06 45.3	+2.5
SJS	Escuela Geolog	1.93	135	*e*P	Pn	13 06 18.5	+0.4
SJS				*e*S	Sn	13 06 39.0	-3.9
CRIN	San Cristobal	2.10	312	⇑*e*P	Pn	13 06 20.4	-0.1
CRIN				*e*S	Sn	13 06 48.6	+1.4
LCR2	La Lucha 2	2.10	137	⇑*e*P	Pn	13 06 19.8	-0.8
LCR2				*e*S	Sn	13 06 48.0	+0.7
LCR2	La Lucha 2	2.10	137	*e*P	Pn	13 06 19.7	-0.8
BUS	Buena Vista	2.40	136	⇑*e*P	Pn	13 06 24.3	-0.5
BUS				*e*S	Sn	13 06 56.4	+1.5
BUS	Buena Vista	2.40	136	⇑*e*P	Pn	13 06 24.4	-0.5
CNCH	Conchagua	3.05	310	⇑*e*P	Pn	13 06 48.4	+14
CNCH				*e*S	Sn	13 07 27.4	+16
BLLM	Bellamira	3.46	308	*e*P	Pn	13 06 56.1	+16
BLLM				*e*S	Sn	13 07 39.4	+18
LCBS	La Ceiba	4.17	304	⇓*e*P	Pn	13 07 04.1	+14

comp=E,3.5nm,1.1s,mb4.3,baz=130,slow=4.7,SNR=4.8
SUMG Summit 67.22 14 P **P 13 16 41.7 +0.5**
comp=E,13nm,1.1s,mb4.9
ILAR Eielson Array 67.86 336 P **P 13 16 46.1 +0.8**
comp=E,0.5nm,0.7s,mb3.6,baz=110,slow=4.5,SNR=5.7
ESDC Sonseca Array 76.35 52 P **P 13 17 37.1 +0.8**
comp=E,0.5nm,0.4s,mb3.8,baz=276,slow=6.1,SNR=9.8
EKA Eskdalemuir Ar 76.41 36 P **P 13 17 36.0 -0.2**
comp=E,3.8nm,0.8s,mb4.3,baz=270,slow=5.8,SNR=5.3
NB2 NORSAR Subarra 83.41 29 P **P 13 18 14.7 +1.0**
comp=E,6.5nm,0.9s,mb4.7,baz=282,slow=4.8
NOA NORSAR Array B 83.41 29 P **P 13 18 14.3 +0.6**
comp=E,4.5nm,1.0s,mb4.4,baz=285,slow=5.1,SNR=6.1
CLL Collm 86.49 38 P **P 13 18 30.6 +1.3**
comp=E,logA/T=0.9,mb4.9
CLL *i* *PP pP 13 18 36.1 +4.8
CLL Collm 86.49 38 *i* P **P 13 18 30.6 +1.3**
comp=E,9.0nm,1.2s,mb4.9
CLL *i* 13 18 36.1
GERES GERESS Array B 87.52 41 P **P 13 18 34.9 +0.6**
comp=E,0.4nm,0.2s,mb4.2,baz=252,slow=4.2,SNR=6.7
WRA Warramunga Arr 140.82 252 PKhKP 13 25 13.2

*ATH **03** 13:31:14.8, 40.46N×20.94E, h10km, MD3.0/3*
*THE **03** 13:31:14.3, 40.57N×21.00E, h10km, ML2.6*
*CSEM **03** 13:31:14.1±0.2, 40.61N×20.95E, h5km, ML2.6, Error ellipse: s-maj=4.1km s-min=2.0km az=142.0*
ISC 03 13:31:11.5±0.6, 40.66N±0.03×20.88E±0.04, h6km±6km, n13, σ0$98/21, 1D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBN	**Korca**	**0.08**	**245**	*i* Pg	**Pg**	**13 31 13.0**	**-0.4**
KBN				*i* Sg	**Sg**	**13 31 14.9**	**+0.2**
FNA	**Florina**	**0.40**	**71**	*e*Pg	**Pg**	**13 31 20.9**	**+1.4**
FNA				*e*Sg	**Sg**	**13 31 26.5**	**+1.6**
OHR	**Ohrid**	**0.46**	**352**	*i* Pg	**Pg**	**13 31 19.3**	**-1.4**
OHR				⇓*i*Sg	**Sg**	**13 31 26.5**	**-0.4**
LSK	**Leskovik**	**0.55**	**203**	*i* Pg	**Pg**	**13 31 20.9**	**-1.6**
LSK				*i* Sg	**Sg**	**13 31 30.3**	**+0.4**
KZN	**Kozani**	**0.76**	**117**	*e*PB	**Pb**	**13 31 27.5**	**+0.7**
MEV	**Metsovon**	**0.91**	**163**	*e*Pg	**Pg**	**13 31 28.8**	**-0.9**
MEV				*e*Sg	**Sg**	**13 31 41.3**	**-0.6**
JAN	**Janina**	**1.00**	**181**	*e*PB	**Pb**	**13 31 30.0**	**-0.8**
GRG	**Griva**	**1.19**	**75**	*e*Pg	**Pg**	**13 31 35.9**	**+0.6**
IGT	**Igoumenitsa**	**1.20**	**201**	*e*Pg	**Pg**	**13 31 36.4**	**+0.9**
IGT				*e*Sg	**Sg**	**13 31 53.3**	**+1.8**
KEK	**Kerkira**	**1.25**	**222**	*e*PB	**Pb**	**13 31 36.5**	**+1.3**
LIT	**Litokhoron**	**1.35**	**114**	*e*Pg	**Pg**	**13 31 37.8**	**-0.7**
LIT				*e*Sg	**Sg**	**13 31 55.5**	**-1.0**
AGG	**Agios Georgios**	**1.98**	**145**	*e*Pb	**Pb**	**13 31 46.7**	**-0.9**
AGG				*e*Sb	**Sb**	**13 32 12.0**	**-0.4**
XOR	**Xorichti**	**2.19**	**125**	*e*Pn	**Pn**	**13 31 49.6**	**+0.6**

CASC 03 13:43:49.7±2.5, 11.32N×85.47W, h1km±4km, MD3.5, ML3.0, 5C-4D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CONN	**Concepcion**	**0.29**	**329**	⇑*e*P	Pg	13 43 56.2	+0.8
APON	**Apoyo**	**0.83**	**316**	⇓*e*P	Pg	13 44 06.0	-0.4
WILN	**Americas 2**	**1.09**	**320**	*e*S	Sb	13 44 27.0	+1.3
MGAN	**Managua**	**1.12**	**318**	*e*S	Sb	13 44 26.8	+0.3
	comp=E,280nm,0.3s						
FORC	**Fortuna**	**1.15**	**137**	⇑*e*P	Pb	13 44 11.9	-0.2
FORC				*e*S	Sb	13 44 29.3	+1.9
XAVN	**Gruta Xavier**	**1.18**	**315**	*e*S	Sb	13 44 30.5	+2.4
COPN	**Copaltepe**	**1.39**	**308**	⇓*e*P	Pb	13 44 15.1	-1.1
MOMJ	**Momotombo**	**1.51**	**316**	*e*P	Pn	13 44 16.2	-1.7
MIRN	**Miramar**	**1.65**	**313**	*e*P	Pn	13 44 19.6	-0.4
CNGN	**Cerro Negro**	**1.68**	**315**	*e*P	Pn	13 44 22.4	+2.0
PRS1	**Puriscal**	**1.75**	**139**	⇑*e*P	Pn	13 44 22.0	+0.6
PRS1				*e*S	Sn	13 44 47.1	+2.5
LEON	**Leon**	**1.77**	**308**	⇓*e*P	Pn	13 44 21.1	-0.5
TRTC	**Tortuguero**	**1.88**	**113**	⇓*e*P	Pn	13 44 22.5	-0.8
TRTC				*e*S	Sn	13 44 48.1	+0.3
LCR2	**La Lucha 2**	**2.13**	**137**	⇑*e*P	Pn	13 44 26.1	-0.7
LCR2				*e*S	Sn	13 44 54.8	+0.6
BUS	**Buena Vista**	**2.43**	**136**	⇓*e*P	Pn	13 44 32.0	+0.8
BUS				*e*S	Sn	13 45 05.2	+3.3

*NNC **03** 13:50:54.2±2.7, 41.57N×72.12E, mpv4.0, Error ellipse: s-maj=23.7km s-min=13.1km az=9.0*
ISC 03 13:50:50.1±2.2, 41.1N±0.2×72.0E±0.1, h10km, n17, σ0$99/17, 9C-1D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**1.65**	**52**	P	**Pn**	**13 51 17.1**	**-2.3**
	SNR=209						
EKS2	**Erkin-Say**	**2.05**	**41**	P	**Pn**	**13 51 24.0**	**-1.1**
	SNR=197						
UCH	**Uchtor**	**2.21**	**59**	P	**Pn**	**13 51 27.6**	**+0.2**
	SNR=228						
KK31	**Karatay Array**	**2.25**	**332**	⇓P	**Pn**	**13 51 28.1**	**+0.1**
	43nm,0.3s,baz=139,slow=14,SNR=654						
KK31				⇑S	**Sn**	**13 51 56.5**	**+0.4**
	204nm,0.5s,baz=140,slow=28,SNR=12						
AAK	**Ala-Archa**	**2.42**	**51**	⇑P	**Pn**	**13 51 31.0**	**+0.6**
	SNR=106						
AAK	**Ala-Archa**	**2.42**	**51**	⇑P	**Pn**	**13 51 31.0**	**+0.5**
	94nm,0.4s						
AAK				⇑S	**Sn**	**13 52 00.9**	**+0.5**
	192nm,0.6s						
KZA	**Kyzart**	**2.65**	**68**	P	**Pn**	**13 51 34.7**	**+1.1**
	SNR=67						
KBK	**Karagaybulak**	**2.71**	**55**	P	**Pn**	**13 51 35.6**	**+1.1**
	SNR=62						
CHMS	**Chumysh**	**2.80**	**47**	P	**Pn**	**13 51 36.0**	**+0.2**
	SNR=42						
USP	**Ospenovka**	**2.86**	**41**	P	**Pn**	**13 51 36.4**	**-0.2**
	SNR=91						
TKM2	**Tokmak 2**	**3.25**	**55**	P	**Pn**	**13 51 42.4**	**+0.1**
	SNR=42						
ULHL	**Ulahol**	**3.40**	**69**	P	**Pn**	**13 51 45.0**	**+0.6**
	SNR=15						
MK31	**Makanchi Array**	**9.36**	**49**	Pn	**P**	**13 53 05.4**	**-2.7**
	1.2nm,0.5s,baz=235,slow=14,SNR=27						
MK31				⇑Lg		13 55 38.0	
	5.7nm,0.8s,baz=231,slow=14,SNR=5.5						
KURK	**Kurchatov**	**10.65**	**24**	⇑Lg		13 56 14.0	
	12nm,0.9s						
VOSK	**Vostochnaya**	**11.62**	**357**	⇑Sn	**S**	**13 55 38.8**	**-11**
	1.6nm,0.7s						
VOSK				⇑Lg		13 56 49.2	
	16nm,0.9s						
AB31	**Akbulak array**	**11.73**	**318**	⇑Pn	**P**	**13 53 35.1**	**-5.4**
	1.2nm,0.6s,baz=129,slow=13,SNR=24						
BVA0	**Borovoye Array**	**11.96**	**355**	⇑Lg		13 56 59.3	
	2.3nm,1.4s,baz=57,slow=49,SNR=4.3						

IDC 03 14:01:26.8±1.8, 21.38N×121.48E, mb3.5/3, mb1 3.7/3, mb1mx3.5/17, mbtmp3.5/3, Error ellipse: s-maj=150.6km s-min=25.1km az=66.0, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**29.05**	**339**	P	P	14 07 29.1	-1.7
	0.2nm,0.3s,baz=169,slow=7.3,SNR=3.2						
MKAR	**Makanchi Array**	**40.56**	**318**	P	P	14 09 07.6	-1.9
	0.5nm,0.7s,baz=106,slow=8.8,SNR=6.0						
WRA	**Warramunga Arr**	**42.95**	**162**	P	P	14 09 27.7	-1.8
	0.9nm,0.7s,baz=344,slow=9.1,SNR=9.8						

*IDC **03** 14:11:58.8±1.0, 24.13S×67.04W, h160km±13km, mb3.4/2, mb1 3.7/8, mb1mx3.5/19, mbtmp4.1/8, Error ellipse: s-maj=16.6km s-min=12.4km az=94.0*
*NEIC **03** 14:11:59.3±0.5, 24.11S×67.10W, h175km±7km, mb4.1/1, Error ellipse: s-maj=10.4km s-min=8.1km az=106.0*
*GUC **03** 14:12:00.6±0.8, 24.28S×67.38W, h170km, ML4.2*
ISC 03 14:11:58.2±0.5, 24.15S±0.04×67.19W±0.07, h187km±9km, n21, σ1$26/27, mb3.6/3, 2C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPCH	**San Pedro de A**	**1.54**	**323**	⇑*i*P	**P**	**14 12 33.3**	**+1.8**
SPCH				*i* S	**S**	**14 12 59.3**	**+2.0**
SPCH				AMP		14 13 00.3	
	comp=N,1μm,0.5s						
LVC	**Limon Verde**	**2.20**	**314**	P	**P**	**14 12 39.7**	**+1.4**
	comp=N,20nm,0.3s,baz=129,slow=6.6,SNR=667						
LVC				S	**S**	**14 13 08.9**	**-0.4**
	comp=N,71nm,0.3s,baz=7.2,slow=21,SNR=65						
CPN1	**Cerro Paranal**	**2.97**	**260**	*e*P	**P**	**14 12 48.4**	**+1.0**
CPN1				*i* S	**S**	**14 13 24.6**	**-0.7**
CPN1				AMP		14 13 27.4	
	comp=N,398nm,0.2s						
ANCH	**Antofagasta**	**2.99**	**278**	⇑*i*P	**P**	**14 12 48.5**	**+1.0**
ANCH				*i* S	**S**	**14 13 23.8**	**-1.8**
CRCH	**Chaqaral**	**3.80**	**234**	⇓*i*P	**P**	**14 12 57.8**	**+0.1**
CRCH				*i* S	**S**	**14 13 41.4**	**-2.3**
CRCH				AMP		14 13 43.2	
	comp=N,444nm,0.7s						
CFAA	**Coronel Fontan**	**7.49**	**187**	P	**P**	**14 13 46.3**	**+0.8**
	comp=N,0.1nm,0.3s,baz=3.3,slow=12,SNR=3.4						
CFAA				S	**S**	**14 15 07.5**	**-1.9**
	comp=N,0.1nm,0.3s,baz=102,slow=21,SNR=8.2						
LPAZ	**La Paz**	**7.87**	**353**	P	**P**	**14 13 51.2**	**+0.7**
	comp=N,2.9nm,0.3s,baz=164,slow=8.5,SNR=50						
LPAZ				S	**S**	**14 15 17.3**	**-1.0**
	comp=N,0.1nm,0.3s,baz=348,slow=18,SNR=2.8						
LPAZ	**La Paz**	**7.87**	**353**	*e*P	**P**	**14 13 50.8**	**+0.3**
LPAZ				S	**S**	**14 15 17.3**	**-1.0**
CPUP	**Villa Florida**	**9.19**	**106**	P	**P**	**14 14 07.5**	**-0.2**
	comp=N,0.2nm,0.3s,baz=309,slow=14,SNR=4.3						
CPUP	**Villa Florida**	**9.19**	**106**	*e*P	**P**	**14 14 07.0**	**-0.8**
SIV	**San Ignacio**	**9.94**	**36**	P	**P**	**14 14 15.7**	**-1.9**
	comp=N,0.8nm,0.3s,baz=212,slow=14,SNR=13						
SIV				S	**S**	**14 16 04.9**	**-1.9**
	comp=N,0.2nm,0.3s,baz=339,slow=23,SNR=4.3						
TRQA	**Tornquist**	**14.56**	**163**	*e*P	**P**	**14 15 16.7**	**+0.2**
PLCA	**Paso Flores**	**16.78**	**189**	P	**P**	**14 15 43.9**	**+0.2**
	comp=N,0.1nm,0.3s,baz=352,slow=14,SNR=2.7						
BDFB	**Brasilia**	**19.90**	**68**	P	**P**	**14 16 16.9**	**-0.1**
	comp=N,2.5nm,0.3s,baz=250,slow=10.0,SNR=24						
BAO	**Brasilia Array**	**19.92**	**68**	P	**P**	**14 16 18.0**	**+0.8**
SNAA	**Sanae**	**59.27**	**161**	P	**P**	**14 21 42.8**	**+1.0**
	comp=N,0.4nm,0.7s,mb3.3,baz=270,slow=10.0,SNR=4.0						
HWUT	**Hardware Ranch**	**77.26**	**327**	*e*P	**P**	**14 23 32.5**	**-0.7**
	comp=N,2.2nm,0.5s,mb4.0						
MAW	**Mawson**	**81.35**	**163**	P	**P**	**14 23 57.4**	**+2.8**
	comp=N,0.6nm,0.4s,mb3.6,baz=225,slow=4.3,SNR=8.9						
WRA	**Warramunga Arr**	**131.42**	**207**	PKP	PKPdf	14 30 51.9	+2.9
	comp=N,0.3nm,0.5s,baz=151,slow=1.8,SNR=6.9						
MKAR	**Makanchi Array**	**146.75**	**40**	PKPbc	PKPbc	14 31 20.8	+3.4
	comp=N,0.6nm,0.8s,baz=297,slow=2.7,SNR=4.8						
MKAR	**Makanchi Array**	**146.75**	**40**	PKPbc	PKPbc	14 31 20.8	+3.4

MAN 03 14:20:41.7, 16.46N×122.34E, h25km, mb4.4, ML3.2, MS3.0, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAUP	**Cauayan**	**0.69**	**314**	*e*P	Pb	14 20 54.4	-0.7
BALP	**Baler**	**1.02**	**226**	*e*P	Pn	14 20 59.5	-1.1
CVP	**Callao Caves**	**1.33**	**338**	*i* S	Sn	14 21 24.0	+1.9
PCPH	**Palayan**	**1.49**	**233**	⇑*e*P	Pn	14 21 07.2	-0.2
PCPH				*e*S	Sn	14 21 26.2	0.0
BCPH	**Baguio City Da**	**1.69**	**268**	*i* P	Pn	14 21 09.9	-0.2
BCPH				*i* S	Sn	14 21 30.4	-0.8
APYP	**Conner**	**1.75**	**323**	*e*P	Pn	14 21 11.0	+0.1
APYP				*e*S	Sn	14 21 32.1	-0.5
ABRA	**Dolores**	**1.96**	**307**	*e*P	Pn	14 21 13.5	-0.4
NZB	**Bigte**	**1.99**	**217**	*e*P	Sn	14 21 40.5	+1.8

IDC 03 14:23:03.1±1.3, 4.03N×125.57E, mb3.7/5, mb1 3.9/5, mb1mx3.8/18, mbtmp3.8/5, Error ellipse: s-maj=103.4km s-min=19.9km az=71.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.99**	**180**	P	P	14 28 00.4	-0.3
	5.9nm,0.9s,baz=2.8,slow=8.6,SNR=5.7						
WRA	**Warramunga Arr**	**25.33**	**160**	P	P	14 28 31.0	-2.4
	1.0nm,0.4s,baz=334,slow=11,SNR=28						
STKA	**Stephens Creek**	**38.83**	**158**	P	P	14 30 29.6	-2.1
	1.7nm,0.5s,baz=329,slow=12,SNR=4.4						
SONM	**Songino Array**	**46.66**	**342**	P	P	14 31 32.5	-2.7
	0.5nm,0.7s,baz=153,slow=6.4,SNR=3.3						
MKAR	**Makanchi Array**	**56.65**	**326**	P	P	14 32 49.5	-1.0
	0.5nm,0.8s,baz=121,slow=8.6,SNR=3.6						

MAN 03 14:23:42.1, 12.13N×123.76E, h13km, mb4.3, ML3.1, MS2.9, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCP	**Roxas**	**1.14**	**240**	⇑*e*P	Pb	14 24 12.7	+9.5
AUQP	**San Andres**	**1.58**	**318**	*e*P	Pn	14 24 09.0	-1.1
BESP	**Borongan**	**1.73**	**108**	*e*P	Pn	14 24 11.6	-0.6
GUIM	**Jordan**	**1.88**	**217**	*e*P	Sn	14 24 34.2	-3.9
BOAC	**Boac**	**2.28**	**305**	*e*P	Pn	14 24 19.2	-1.0
BOAC				*e*S	Sn	14 24 38.5	-10
PGP	**Puerto Galera**	**3.05**	**297**	*e*P	Pn	14 24 31.1	0.0
POLP	**Polilio Island**	**3.13**	**326**	*e*P	Pn	14 24 33.5	+1.4
LBPH	**Los Banos**	**3.21**	**309**	*e*P	Pn	14 24 32.5	-0.9
BUSP	**Coron**	**3.48**	**268**	*e*P	Pn	14 24 40.6	+3.4
ARP	**Angono**	**3.48**	**314**	*e*P	Pn	14 24 37.8	+0.6
LUBP	**Lubang**	**3.77**	**295**	*e*P	Pn	14 24 40.9	-0.4
NBP	**Mount Natib**	**4.16**	**309**	*e*P	Pn	14 24 46.2	-0.5

CASC 03 15:02:26.2±1.9, 11.28N×85.45W, h10km±8km, MD3.5, ML2.8, 4C-1D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CONN	**Concepcion**	**0.33**	**330**	⇑*e*P	Pg	15 02 32.6	-0.6
LIM1	**Limonal**	**0.60**	**161**	⇑*i*P	Pb	15 02 37.9	-0.4
LIM1				*i* S	Sg	15 02 47.5	+0.9
APON	**Apoyo**	**0.88**	**317**	*e*P	Pb	15 02 43.4	+0.4
TICN	**Ticuantepe**	**1.07**	**315**	⇑*e*P	Pb	15 02 47.0	+0.6
WILN	**Americas 2**	**1.14**	**321**	*e*P	Pb	15 02 46.3	-1.2
MGAN	**Managua**	**1.16**	**318**	*e*P	Pb	15 02 47.5	-0.5
MGAN				*e*S	Sb	15 03 02.6	-0.3
MGAN				*i*		15 03 06.8	
	comp=N,193nm,0.7s						
PYTN	**Playitas**	**1.39**	**335**	*e*P	Pn	15 02 50.8	-0.9
COPN	**Copaltepe**	**1.43**	**309**	⇑*e*P	Pn	15 02 51.9	-0.4
MOMJ	**Momotombo**	**1.55**	**317**	*e*P	Pn	15 02 53.4	-0.6
PRS1	**Puriscal**	**1.71**	**139**	*e*S	Sn	15 03 20.5	+2.3
TRTC	**Tortuguero**	**1.84**	**112**	*e*S	Sn	15 03 22.1	+0.4
TEL3	**Telica 3**	**1.88**	**314**	*e*P	Pn	15 02 58.1	-0.5
LCR2	**La Lucha 2**	**2.09**	**137**	*e*S	Sn	15 03 27.7	-0.2
BUS	**Buena Vista**	**2.39**	**136**	⇓*e*P	Pn	15 03 07.8	+1.8
BUS				*e*S	Sn	15 03 36.6	+1.1

*CSEM **03** 15:17:37.8, 34.59N×53.16E, h10km, ML3.6, After TEH*
TEH 03 15:17:37.8, 34.59N×53.16E, h10km, Mn3.6, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IFIR	**Firoozkooh**	**1.10**	**343**	Pg	Pg	15 17 57.4	-2.5
IFIR	**Firoozkooh**	**1.10**	**343**	Lg		15 18 12.2	
IVRN	**Varamin**	**1.25**	**290**	Pg	Pg	15 18 00.0	-2.7
IVRN				Sg	Sg	15 18 16.7	-2.6
IDMV	**Damavand**	**1.35**	**317**	Pn	Pn	15 18 02.3	-0.5
IAFJ	**Afjeh**	**1.73**	**317**	Pn	Pn	15 18 08.4	+0.1
IKLH	**Kalahroud**	**1.82**	**226**	Pn	Pn	15 18 08.3	-1.2
IZEF	**Zefreh**	**1.82**	**202**	Pn	Pn	15 18 08.9	-0.6
IMHD	**Mahdasht**	**2.32**	**299**	Pn	Pn	15 18 15.8	-0.8
IGAR	**Garneh**	**2.47**	**199**	Pn	Pn	15 18 16.3	-2.5
ICHK	**Chekchek**	**2.56**	**156**	Pn	Pn	15 18 19.2	-0.9
ISAD	**Sadrabad**	**2.70**	**170**	Pn	Pn	15 18 21.9	-0.2
IRAZ	**Razeghan**	**2.77**	**288**	Pn	Pn	15 18 25.8	+2.7
IMEH	**Mehriz**	**3.41**	**159**	Pn	Pn	15 18 30.7	-1.5
IBAF	**Bafgh**	**3.61**	**145**	Pn	Pn	15 18 33.1	-1.9

CASC 03 16:04:29.8±2.5, 11.25N×85.45W, h6km±7km, MD3.5, ML3.4, 6C-6D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CONN	**Concepcion**	**0.35**	**331**	⇑*i*P	Pg	16 04 36.3	-0.6
APON	**Apoyo**	**0.89**	**318**	⇓*e*P	Pb	16 04 46.4	-0.9
MASN	**Masaya**	**1.00**	**317**	*e*P	Pb	16 04 47.9	-1.3
TICN	**Ticuantepe**	**1.09**	**316**	⇓*e*P	Pb	16 04 51.0	+0.3
FORC	**Fortuna**	**1.09**	**135**	⇑*e*P	Pb	16 04 50.7	0.0
FORC				*e*S	Sb	16 05 06.0	+0.9
CRUN	**El Crucero**	**1.10**	**311**	⇓*e*P	Pb	16 04 50.5	-0.4
CRUN				*e*S	Sb	16 05 07.6	+2.3
WILN	**Americas 2**	**1.16**	**322**	*e*P	Pb	16 04 50.6	-1.1
WILN				*e*S	Sb	16 05 05.0	-1.8
MGAN	**Managua**	**1.18**	**319**	*e*S	Sb	16 05 05.5	-2.2
MGAN				*e*S	Sb	16 05 07.3	-0.4
	comp=E,823nm,0.4s						
XAVN	**Gruta Xavier**	**1.24**	**316**	⇓*e*P	Pb	16 04 52.4	-0.7
XAVN				*e*S	Sb	16 05 08.2	-1.0
PYTN	**Playitas**	**1.41**	**335**	⇓*e*P	Pn	16 04 54.1	-1.9
PYTN				*e*S	Sb	16 05 14.1	-0.1
COPN	**Copaltepe**	**1.45**	**310**	⇑*e*P	Pn	16 04 54.6	-2.1
COPN				*e*S	Sb	16 05 13.1	-2.3
MOMJ	**Momotombo**	**1.57**	**317**	⇓*e*P	Pn	16 04 57.4	-0.9
MOMJ				*e*S	Sb	16 05 20.4	+1.6
PRS1	**Puriscal**	**1.69**	**138**	⇑*e*P	Pn	16 05 00.4	+0.4
PRS1				*e*S	Sn	16 05 22.6	+0.4
MIRN	**Miramar**	**1.71**	**314**	*e*P	Pn	16 05 00.2	-0.2
CNGN	**Cerro Negro**	**1.74**	**316**	*e*P	Pn	16 04 59.2	-1.6
LEON	**Leon**	**1.82**	**310**	*e*P	Pn	16 05 00.6	-1.5
TRTC	**Tortuguero**	**1.84**	**111**	⇑*e*P	Pn	16 05 01.3	-0.9
TEL3	**Telica 3**	**1.89**	**314**	*e*P	Pn	16 05 02.6	-0.4
SJS	**Escuela Geolog**	**1.90**	**133**	*e*S	Sn	16 05 27.2	-0.2
TELN	**Telica**	**1.91**	**315**	*e*P	Pn	16 05 03.4	+0.3
LCR2	**La Lucha 2**	**2.07**	**136**	⇑*e*P	Pn	16 05 04.6	-0.9
LCR2				*e*S	Sn	16 05 31.7	-0.2
CRIN	**San Cristobal**	**2.12**	**313**	*e*P	Pn	16 05 05.8	-0.5
BUS	**Buena Vista**	**2.37**	**135**	*e*P	Pn	16 05 09.0	-0.8
BUS				*e*S	Sn	16 05 40.1	+0.6

*NEIC **03** 16:07:05.4, 11.53N×85.43W, h12km, mb4.4/4, MD4.5(CASC), After CASC.*
*CASC **03** 16:07:06.3±2.5, 11.32N×85.55W, h13km±10km, MD4.1, mb4.4(NEIC)*
*IDC **03** 16:07:11.4±2.0, 10.40N×85.75W, h83km±16km, mb3.7/7, mb1 4.0/8, mb1mx3.7/21, mbtmp4.1/8, MS3.8/11, Ms1 3.8/11, ms1mx3.7/20, Error ellipse: s-maj=60.7km s-min=25.4km az=14.0*
ISC 03 16:07:06.1±2.0, 11.33N±0.06×85.48W±0.08, h7km±13km, n43, σ1$21/34, mb4.2/12, MS3.8/9, 1C-5D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**1.16**	**154**	P	**Pb**	**16 07 27.4**	**-0.5**
	412nm,0.3s,baz=336,slow=18,SNR=60						
JTS				S	**Sb**	**16 07 42.2**	**-0.7**
	769nm,0.3s,baz=278,slow=20,SNR=11						
JTS	**JuntasAbangare**	**1.16**	**154**	⇑*i*Pn	**Pn**	**16 07 27.3**	**-1.2**
JTS				*e*Sn	**Sn**	**16 07 44.9**	**+0.3**
FORC	**Fortuna**	**1.17**	**137**	⇓*e*P	**Pb**	**16 07 27.9**	**-0.2**
FORC	**Fortuna**	**1.17**	**137**	*e*P	**Pb**	**16 07 28.3**	**+0.2**
PRS1	**Puriscal**	**1.76**	**139**	⇓*e*P	**Pn**	**16 07 38.3**	**+1.1**
PRS1	**Puriscal**	**1.76**	**139**	*e*P	**Pn**	**16 07 38.3**	**+1.1**
TRTC	**Tortuguero**	**1.89**	**113**	⇓*e*P	**Pn**	**16 07 38.2**	**-0.8**
TRTC	**Tortuguero**	**1.89**	**113**	*e*P	**Pn**	**16 07 37.9**	**-1.1**
SJS	**Escuela Geolog**	**1.97**	**135**	*e*P	**Pn**	**16 07 40.5**	**+0.4**
SJS				*e*S	**Sn**	**16 08 07.7**	**+2.4**
SJS	**Escuela Geolog**	**1.97**	**135**	*e*P	**Pn**	**16 07 40.5**	**+0.4**
SJS				*e*S	**Sn**	**16 08 07.1**	**+1.8**
LCR2	**La Lucha 2**	**2.14**	**137**	⇓*e*P	**Pn**	**16 07 43.0**	**+0.3**
LCR2	**La Lucha 2**	**2.14**	**137**	*e*P	**Pn**	**16 07 42.9**	**+0.2**
BUS	**Buena Vista**	**2.44**	**136**	⇓*e*P	**Pn**	**16 07 47.5**	**+0.5**
BUS	**Buena Vista**	**2.44**	**136**	*e*P	**Pn**	**16 07 47.5**	**+0.5**
CNCH	**Conchagua**	**3.01**	**310**	*e*P	Px	16 08 13.9	
CNCH				*e*S	Sx	16 08 49.7	
BLLM	**Bellamira**	**3.42**	**308**	*e*P	Px	16 08 19.4	
BLLM				*e*S	Sx	16 08 59.6	
SNVI	**San Vicente**	**3.99**	**305**	*e*P	Px	16 08 27.7	
SNVI				*e*S	Sx	16 09 14.3	
LCBS	**La Ceiba**	**4.13**	**304**	*e*P	Px	16 08 28.8	
LCBS				*e*S	Sx	16 09 15.7	
LFRS	**El Faro**	**4.18**	**303**	*e*P	Px	16 08 29.1	
LFRS				*e*S	Sx	16 09 19.4	
BOQS	**Boqueron**	**4.42**	**303**	*e*P	Px	16 08 32.4	
BOQS				*e*S	Sx	16 09 22.5	
ROSC	**El Rosal**	**12.77**	**119**	LR	LR	16 15 07.0	
	comp=Z,621nm,18.9s,baz=202,slow=38						
SDV	**Santo Domingo**	**14.81**	**98**	P	**P**	**16 10 39.3**	**+1.3**
	0.2nm,0.3s,baz=305,slow=12,SNR=3.1						
SDV				S	**S**	**16 13 21.9**	**-1.4**
	0.3nm,0.3s,baz=29,slow=19,SNR=2.5						
SDV				LR	LR	16 16 53.1	
	comp=Z,221nm,19.9s,baz=164,slow=39						
SDV	**Santo Domingo**

5.0nm,0.8s,mb4.0
FITZ Fitzroy Crossi 23.39 123 P **P 16 38 02.4 +1.1**
3.8nm,0.6s,mb4.0,baz=346,slow=4.3,SNR=12
WRA Warramunga Arr 31.60 119 P **P 16 39 16.0 -0.5**
1.0nm,0.5s,mb3.9,baz=293,slow=10,SNR=16
WRA PcP PcP 16 42 08.3 -0.1
0.3nm,0.4s,baz=309,slow=2.1,SNR=5.6
STKA Stephens Creek 42.76 132 P **P 16 40 51.8 +1.2**
17nm,0.6s,mb5.0,baz=308,slow=8.2,SNR=31
STKA Stephens Creek 42.76 132 *e*P **P 16 40 51.1 +0.5**
STKA P 16 40 51.8
SONM Songino Array 53.39 1 P **P 16 42 13.3 +0.3**
0.2nm,0.4s,mb3.4,baz=180,slow=4.4,SNR=4.0
SONM PcP PcP 16 43 20.1 +0.1
1.2nm,0.8s,baz=158,slow=4.3,SNR=6.7
MKAR Makanchi Array 56.15 341 P **P 16 42 31.7 -1.4**
0.3nm,0.4s,mb3.7,baz=152,slow=8.6,SNR=9.3
MKAR PcP PcP 16 43 30.6 +0.1
0.4nm,0.6s,baz=166,slow=5.0,SNR=3.8
MKAR Makanchi Array 56.15 341 P **P 16 42 31.7 -1.4**
MKAR PcP PcP 16 43 30.6 +0.1
VNDA Vanda 77.49 169 P **P 16 44 48.0 +0.2**
0.8nm,1.0s,mb3.6,baz=305,slow=4.0,SNR=3.7
BRTR Keskin Array B 79.70 312 P **P 16 45 00.7 +0.1**
1.3nm,0.7s,mb4.0,baz=146,slow=7.7,SNR=3.8
BRTR pP pP 16 45 07.2 -3.8
0.6nm,0.4s,baz=129,slow=8.2,SNR=2.8
AKASG Malin Array Be 85.65 322 P **P 16 45 31.0 +0.1**
0.9nm,0.5s,mb4.2,baz=84,slow=5.2,SNR=4.3
AKASG pP pP 16 45 38.2 -3.1
0.5nm,0.5s,baz=86,slow=5.1,SNR=2.4
FINES FINESS Array B 89.87 332 P **P 16 45 51.7 +0.8**
0.6nm,0.5s,mb4.2,baz=108,slow=6.0,SNR=4.4
FINES FINESS Array B 89.87 332 P **P 16 45 51.7 +0.8**
TXAR Lajitas Array 144.03 46 PKP PKPdf 16 52 28.8 +1.6
0.9nm,0.5s,baz=270,slow=1.3,SNR=7.2
TXAR pPKP 16 52 36.0
1.0nm,0.7s,baz=180,slow=1.3,SNR=3.7
TXAR Lajitas Array 144.03 46 PKP PKPdf 16 52 28.8 +1.6
TXAR pPKP 16 52 36.0
JCT Junction City 145.97 41 *e*PKPdf PKPdf 16 52 34.4 +3.8
BDFB Brasilia 146.02 231 PKPbc PKPbc 16 52 34.5 +2.5
1.8nm,0.4s,baz=135,slow=1.4,SNR=3.2
BDFB pPKPbc 16 52 41.5
3.0nm,0.4s,baz=182,slow=4.6,SNR=3.8
WVT Waverly 147.50 20 *e*PKPbc PKPdf 16 52 37.6 +4.7
PLAL Pickwick Lake 148.44 21 *e*PKPbc PKPdf 16 52 39.4 +5.0

CASC 03 16:34:16.9±2.4, 11.33N×85.46W, h1^{km}±4^{km}, MD3.6, ML3.1, 1C-7D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CONN	**Concepcion**	**0.29**	**325**	⇓*e*P	Pg	16 34 23.3	+0.6
CONN				*e*S	Sg	16 34 28.6	+2.1
APON	**Apoyo**	**0.84**	**314**	⇓*e*P	Pg	16 34 33.5	-0.1
TICN	**Ticuantepe**	**1.04**	**313**	⇓*e*P	Pb	16 34 37.1	-0.3
TICN				*e*S	Sb	16 34 52.4	+1.1
CRUN	**El Crucero**	**1.05**	**308**	*e*P	Pb	16 34 37.6	-0.1
CRUN				*e*S	Sb	16 34 53.0	+1.2
WILN	**Americas 2**	**1.10**	**319**	*e*S	Sb	16 34 54.3	+1.3
MGAN	**Managua**	**1.13**	**317**	⇑*e*P	Pb	16 34 38.5	-0.4
MGAN				*e*S	Sb	16 34 54.4	+0.5
MGAN				*i*		16 34 56.8	
	comp=E,412nm,0.4s						
FORC	**Fortuna**	**1.15**	**138**	*e*P	Pb	16 34 40.0	+0.8
XAVN	**Gruta Xavier**	**1.18**	**314**	⇓*e*P	Pb	16 34 39.6	-0.2
PYTN	**Playitas**	**1.34**	**334**	⇓*e*P	Pb	16 34 41.2	-1.3
PYTN				*e*S	Sb	16 35 01.4	+1.3
COPN	**Copaltepe**	**1.40**	**307**	⇓*e*P	Pb	16 34 42.6	-0.9
COPN				*e*S	Sb	16 35 02.1	+0.3
MOMJ	**Momotombo**	**1.51**	**315**	*e*P	Pn	16 34 44.0	-1.3
MOMJ				*e*S	Sb	16 35 04.3	-0.8
MIRN	**Miramar**	**1.66**	**312**	*e*P	Pn	16 34 47.3	0.0
CNGN	**Cerro Negro**	**1.69**	**314**	⇓*e*P	Pn	16 34 48.2	+0.5
PRS1	**Puriscal**	**1.74**	**140**	*e*P	Pn	16 34 50.8	+2.2
LEON	**Leon**	**1.78**	**308**	*e*P	Pn	16 34 46.2	-2.8
LEON				*e*S	Sn	16 35 13.8	+1.2
TEL3	**Telica 3**	**1.84**	**312**	*e*P	Pn	16 34 50.4	+0.5
TEL3				*e*S	Sn	16 35 16.7	+2.5
TELN	**Telica**	**1.85**	**313**	*e*P	Pn	16 34 50.6	+0.5
TELN				*e*S	Sn	16 35 14.8	+0.3
TRTC	**Tortuguero**	**1.87**	**113**	*e*P	Pn	16 34 49.9	-0.4
TRTC				*e*S	Sn	16 35 15.6	+0.8
CRIN	**San Cristobal**	**2.07**	**311**	*e*S	Sn	16 35 21.6	+1.5
LCR2	**La Lucha 2**	**2.12**	**138**	*e*P	Pn	16 34 56.2	+2.2
LCR2				*e*S	Sn	16 35 23.6	+2.1
BUS	**Buena Vista**	**2.42**	**136**	*e*P	Pn	16 35 00.7	+2.4
BUS				*e*S	Sn	16 35 33.1	+4.1

NNC ***03*** *16:40:49.5±4.9, 37.72N×71.42E, h167^{km}±65^{km}, mpv4.1, Error ellipse: s-maj=59.1km s-min=36.3km az=31.0*

ISC 03 16:40:44.2±1.8, 37.4N±0.2×72.0E±0.2, h273^{km}±31^{km}, n15, σ1°01/21, 5C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.91**	**15**	P	**P**	**16 41 59.4**	**-0.8**
	SNR=20						
UCH	**Uchtor**	**5.21**	**21**	P	**P**	**16 42 04.0**	**+0.3**
	SNR=7.7						
EKS2	**Erkin-Say**	**5.44**	**14**	P	**P**	**16 42 06.4**	**-0.1**
	SNR=11						
AAK	**Ala-Archa**	**5.58**	**20**	P	**P**	**16 42 09.1**	**+0.9**
	SNR=8.3						
AAK	**Ala-Archa**	**5.58**	**20**	⇑P	**P**	**16 42 08.5**	**+0.3**
	8.3nm,0.6s						
AAK				⇑S	**S**	**16 43 13.0**	**-1.0**
	13nm,0.5s						
KK31	**Karatay Array**	**5.80**	**349**	⇓P	**P**	**16 42 08.7**	**-2.2**
	15nm,0.4s,baz=176,slow=13,SNR=168						
KK31				⇑S	**S**	**16 43 11.9**	**-7.0**
	6.8nm,0.4s,baz=166,slow=23,SNR=8.2						
CHMS	**Chumysh**	**5.99**	**20**	P	**P**	**16 42 14.1**	**+0.9**
	SNR=10						
USP	**Ospenovka**	**6.17**	**18**	P	**P**	**16 42 16.2**	**+0.7**
	SNR=14						
TKM2	**Tokmak 2**	**6.18**	**26**	P	**P**	**16 42 17.1**	**+1.5**
	SNR=8.6						
KOLN	**Koldanda**	**13.72**	**131**	*e*P	**P**	**16 43 48.7**	**-0.7**
	10nm,0.4s						
KOLN				*e*S	**S**	**16 46 15.6**	**-0.5**
GKN	**Gorkha**	**14.20**	**128**	*e*P	**P**	**16 43 54.9**	**-0.3**
	22nm,0.4s						
GKN				*e*S	**S**	**16 46 25.4**	**-1.1**
AB31	**Akbulak array**	**14.70**	**327**	⇑P	**P**	**16 44 03.4**	**+2.2**
	1.3nm,0.3s,baz=136,slow=13,SNR=26						
AB31				⇑S	**S**	**16 46 36.0**	**-1.4**
	1.6nm,0.6s						
KKN	**Kakani**	**14.75**	**127**	*e*P	**P**	**16 44 01.8**	**-0.1**
	9.1nm,0.5s						
KKN				*e*S	**S**	**16 46 38.8**	**+0.1**
DMN	**Daman**	**14.77**	**128**	*e*P	**P**	**16 44 03.0**	**+0.9**
	9.1nm,0.4s						
PKI	**Pulchoki**	**14.99**	**127**	*e*P	**P**	**16 44 05.7**	**+1.0**
	12nm,0.6s						

IDC ***03*** *16:46:35.5±4.7, 36.03N×71.05E, mb3.7/4, mb1 3.8/6, mb1mx3.5/21, mbtmp3.6/6, ML3.2/2, Error ellipse: s-maj=83.3km s-min=36.5km az=175.0*
NEIC ***03*** *16:46:48.4±6.1, 36.53N×71.06E, h85^{km}±33^{km}, mb3.2/2, Error ellipse: s-maj=62.4km s-min=17.4km az=187.0*
NNC ***03*** *16:46:51.8±5.2, 36.81N×70.76E, h100^{km}±104^{km}, mpv4.1, Error ellipse: s-maj=64.4km s-min=40.4km az=53.0*

ISC 03 16:46:50.0±2.6, 36.7N±0.1×71.0E±0.1, h105^{km}±20^{km}, n20, σ0°88/25, mb3.3/3, 6C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.79**	**20**	P	**P**	**16 48 15.2**	**+0.5**
	SNR=21						
UCH	**Uchtor**	**6.13**	**25**	P	**P**	**16 48 19.6**	**+0.1**
	SNR=9.3						
EKS2	**Erkin-Say**	**6.30**	**19**	P	**P**	**16 48 22.6**	**+0.7**
	SNR=12						
KK31	**Karatay Array**	**6.39**	**357**	⇓P	**P**	**16 48 23.0**	**-0.1**
	4.2nm,0.3s,baz=188,slow=13,SNR=86						
KK31				⇑S	**S**	**16 49 33.6**	**-1.6**
	1.7nm,0.3s,baz=181,slow=20,SNR=4.0						
KK31	**Karatay Array**	**6.39**	**357**	⇓P	**P**	**16 48 22.9**	**-0.1**
	4.2nm,0.3s						
KK31				S	**S**	**16 49 33.5**	**-1.7**
AAK	**Ala-Archa**	**6.49**	**23**	P	**P**	**16 48 24.9**	**+0.5**
	SNR=6.8						
AAK	**Ala-Archa**	**6.49**	**23**	⇑P	**P**	**16 48 24.8**	**+0.4**
	6.6nm,0.3s						
AAK				⇑S	**S**	**16 49 38.9**	**+1.4**
	4.7nm,0.7s						
CHMS	**Chumysh**	**6.90**	**23**	P	**P**	**16 48 30.1**	**0.0**
	SNR=6.2						
USP	**Ospenovka**	**7.07**	**21**	P	**P**	**16 48 32.1**	**-0.2**
	SNR=6.2						
TKM2	**Tokmak 2**	**7.12**	**28**	P	**P**	**16 48 32.7**	**-0.5**
	SNR=6.5						
MKAR	**Makanchi Array**	**13.10**	**36**	Pn	**P**	**16 49 51.8**	**-1.2**
	0.1nm,0.3s,baz=219,slow=9.2,SNR=3.6						
AB31	**Akbulak array**	**14.91**	**331**	⇑P	**P**	**16 50 14.9**	**-1.3**
	0.5nm,0.3s						
AB31				⇑S	**S**	**16 52 52.1**	**-6.7**
	0.7nm,0.5s,baz=158,slow=24,SNR=3.5						
AB31	**Akbulak array**	**14.91**	**331**	⇑P	**P**	**16 50 14.9**	**-1.3**
	0.5nm,0.3s						
AB31				S	**S**	**16 52 52.1**	**-6.7**
KURK	**Kurchatov**	**15.02**	**19**	P	**P**	**16 50 17.9**	**+0.3**
	1.3nm,0.8s						
BVAR	**Borovoye Array**	**16.32**	**359**	P	**P**	**16 50 34.8**	**+1.0**
	0.2nm,0.3s,baz=159,slow=12,SNR=4.4						
BRVK	**Borovoye**	**16.35**	**358**	P	**P**	**16 50 34.7**	**+0.5**
	2.1nm,0.9s						
ZAL	**Zalesovo**	**19.69**	**25**	P	**P**	**16 51 12.2**	**-0.9**
	2.5nm,0.3s,baz=166,slow=3.2,SNR=5.2						
SONM	**Songino Array**	**28.20**	**56**	P	**P**	**16 52 33.4**	**-1.2**
	0.1nm,0.4s,mb2.7,baz=252,slow=9.1,SNR=2.3						
ARCES	**ARCESS Array B**	**40.95**	**337**	P	**P**	**16 54 24.8**	**+1.5**
	1.8nm,0.7s,mb4.0,baz=120,slow=8.5,SNR=5.6						
NOA	**NORSAR Array B**	**44.22**	**323**	P	**P**	**16 54 50.5**	**+0.6**
	0.4nm,0.7s,mb3.3,baz=105,slow=7.4,SNR=2.7						

CASC 03 16:48:39.6±2.3, 11.24N×85.45W, h6^{km}±6^{km}, MD3.5, ML3.2, 9C-5D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CONN	**Concepcion**	**0.36**	**332**	⇑*e*P	Pg	16 48 46.8	-0.1
CONN				*e*S	Sg	16 48 52.5	+0.8
LIM1	**Limonal**	**0.57**	**160**	*i* P	Pg	16 48 50.6	-0.5
LIM1				*i* S	Sg	16 48 59.4	+0.6
APON	**Apoyo**	**0.90**	**318**	⇑*e*P	Pb	16 48 57.5	+0.2
MASN	**Masaya**	**1.01**	**317**	*e*P	Pb	16 48 59.5	+0.5
TICN	**Ticuantepe**	**1.10**	**316**	⇑*e*P	Pb	16 48 59.7	-0.8
CRUN	**El Crucero**	**1.11**	**312**	⇓*e*P	Pb	16 49 00.6	-0.2
WILN	**Americas 2**	**1.16**	**322**	*e*S	Sb	16 49 16.5	-0.4
MGAN	**Managua**	**1.19**	**319**	⇑*e*P	Pb	16 49 01.0	-1.1
MGAN				*e*S	Sb	16 49 17.3	-0.3
MGAN				*i*		16 49 19.2	
	comp=N,478nm,0.4s						
XAVN	**Gruta Xavier**	**1.24**	**316**	⇑*e*P	Pb	16 49 03.1	0.0
XAVN				*e*S	Sb	16 49 19.4	+0.2
PYTN	**Playitas**	**1.42**	**335**	⇓*e*P	Pn	16 49 04.6	-1.4
PYTN				*e*S	Sb	16 49 23.6	-0.6
COPN	**Copaltepe**	**1.46**	**310**	⇑*e*P	Pn	16 49 05.3	-1.2
COPN				*e*S	Sb	16 49 23.8	-1.6
MOMJ	**Momotombo**	**1.57**	**317**	⇑*e*P	Pn	16 49 07.3	-0.9
MOMJ				*e*S	Sb	16 49 28.2	-0.6
PRS1	**Puriscal**	**1.68**	**138**	⇑*i*P	Pn	16 49 11.5	+1.8
PRS1				*e*S	Sn	16 49 34.7	+2.9
MIRN	**Miramar**	**1.71**	**314**	⇓*e*P	Pn	16 49 10.2	0.0
MIRN				*e*S	Sn	16 49 31.8	-0.8
TRTC	**Tortuguero**	**1.83**	**111**	⇑*e*P	Pn	16 49 10.9	-1.0
TRTC				*e*S	Sn	16 49 35.7	+0.1
TEL3	**Telica 3**	**1.90**	**314**	*e*P	Pn	16 49 11.9	-1.0
TEL3				*e*S	Sn	16 49 36.1	-1.2
LCR2	**La Lucha 2**	**2.06**	**136**	⇓*e*P	Pn	16 49 13.4	-1.8
LCR2				*e*S	Sn	16 49 42.0	+0.5
BUS	**Buena Vista**	**2.36**	**135**	⇓*e*P	Pn	16 49 19.8	+0.2
BUS				*e*S	Sn	16 49 52.0	+2.9

JMA ***03*** *16:56:26.3±0.4, 33.97N×137.08E, h355^{km}±4^{km}, M3.0*
IDC ***03*** *16:56:27.8±1.4, 34.03N×137.24E, h366^{km}±60^{km}, mb2.7/2, mb1 2.9/4, mb1mx2.7/23, mbtmp3.3/4, Error ellipse: s-maj=162.7km s-min=20.4km az=63.0*

ISC 03 16:56:25.9±0.8, 34.0N±0.1×137.14E±0.09, h354^{km}±8^{km}, n15, σ0°91/20, mb2.8/2, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIE	**Ise**	**0.57**	**321**	P	**P**	**16 57 11.5**	**+0.5**
JKN2	**Miekihoku**	**0.77**	**292**	P	**P**	**16 57 11.7**	**+0.2**
JWZ	**Kozaga**	**1.25**	**251**	P	**P**	**16 57 13.2**	**-0.3**
JWY	**Kouya**	**1.31**	**282**	P	**P**	**16 57 14.1**	**+0.3**
JGM	**Miyama**	**1.78**	**349**	P	**P**	**16 57 16.8**	**+0.3**
JWT	**Wachi**	**1.95**	**313**	P	**P**	**16 57 17.7**	**+0.1**
JWT				*e*S	**S**	**16 57 56.7**	**-1.4**
JAI	**Aioi**	**2.24**	**267**	P	**P**	**16 57 19.5**	**-0.2**
JHJ	**Hachijo jima 2**	**2.36**	**110**	P	**P**	**16 57 22.6**	**+1.9**
	2.0nm,0.3s,baz=230,slow=21,SNR=4.9						
JHJ				S	**S**	**16 58 08.3**	**+4.8**
	5.4nm,0.3s,baz=267,slow=20,SNR=2.5						
JRY	**Ryogami san**	**2.52**	**35**	P	**P**	**16 57 22.8**	**+0.9**
JRY				*e*S	**S**	**16 58 06.8**	**+1.0**
JMN	**Monobe**	**2.72**	**266**	P	**P**	**16 57 23.5**	**0.0**
MAT	**Matsushiro**	**2.73**	**18**	P	**P**	**16 57 23.7**	**+0.1**
MAT				*e*S	**S**	**16 58 08.2**	**-0.7**
MJAR	**Matsushiro Arr**	**2.73**	**18**	P	**P**	**16 57 24.0**	**+0.4**
	0.9nm,0.3s,baz=186,slow=9.6,SNR=13						
BSO1	**Boso 1**	**3.26**	**76**	P	**P**	**16 57 26.6**	**-1.7**
BSO1				*e*S	**S**	**16 58 15.8**	**-1.5**
MKAR	**Makanchi Array**	**42.88**	**304**	P	**P**	**17 03 52.3**	**+0.4**
	0.3nm,0.5s,mb2.6,baz=87,slow=9.8,SNR=3.6						
WRA	**Warramunga Arr**	**53.66**	**183**	P	**P**	**17 05 13.3**	**-0.9**
	0.2nm,0.3s,mb2.9,baz=0.3,slow=7.6,SNR=12						

IDC 03 17:17:06.7±1.0, 20.27S×66.81E, mb3.8/6, mb1 3.9/6, mb1mx3.7/19, mbtmp3.8/6, Error ellipse: s-maj=37.1km s-min=26.7km az=109.0, Mauritius - Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**38.58**	**249**	P	P	17 24 32.0	-1.2
	2.2nm,0.8s,baz=112,slow=5.4,SNR=2.7						
MAW	**Mawson**	**47.39**	**182**	P	P	17 25 41.9	-2.4
	1.9nm,0.8s,baz=348,slow=13,SNR=5.2						
WRA	**Warramunga Arr**	**62.98**	**103**	P	P	17 27 36.1	-1.8
	0.7nm,0.8s,baz=263,slow=6.0,SNR=4.9						
MKAR	**Makanchi Array**	**68.19**	**11**	P	P	17 28 08.7	-2.4
	0.5nm,0.9s,baz=191,slow=6.2,SNR=4.4						
BVAR	**Borovoye Array**	**73.05**	**2**	P	P	17 28 38.5	-1.8
	0.1nm,0.2s,baz=162,slow=4.6,SNR=4.3						
SONM	**Songino Array**	**76.52**	**26**	P	P	17 28 58.6	-1.7
	0.3nm,0.5s,baz=207,slow=9.9,SNR=3.6						

NEIC ***03*** *17:21:16.8, 14.42N×60.37W, h35^{km}, MD3.4(TRN), After TRN.*

TRN 03 17:21:14.5, 14.37N×60.05W, h35^{km}, M3.5(FDF), Md3.1(FDF), 5C-4D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MVM	**Montagne Vaucl**	**0.84**	**283**	⇓*i*P	P	17 21 31.6	+1.7
CRM	**Caravelle**	**0.92**	**295**	⇓*i*P	P	17 21 32.7	+1.7
CRM				*e*S	S	17 21 45.7	+2.5
SLW	**Petit Monier**	**0.93**	**248**	⇓*i*P	P	17 21 31.7	+0.5
SLB	**Belfond**	**1.10**	**241**	*e*P	P	17 21 34.9	+1.2
FDF	**Fort de France**	**1.12**	**289**	⇓*e*P	P	17 21 34.9	+0.9
FDF				*e*S	S	17 21 49.9	+1.4
BHS	**Barnard House**	**1.50**	**225**	*e*P	P	17 21 39.8	+0.5
BHS				*e*S	S	17 21 57.0	-0.8
SVV	**Soufriere Volc**	**1.54**	**227**	*e*P	P	17 21 40.4	+0.4
SVV				*e*S	S	17 21 57.7	-1.3
SVB	**Belmont**	**1.60**	**227**	*e*P	P	17 21 41.1	+0.4
SVB				*e*S	S	17 21 59.8	-0.6
BBL	**Barber's Block**	**1.79**	**310**	*e*P	P	17 21 44.3	+0.8
BBL				*e*S	S	17 22 06.6	+1.4
MGG	**Marie-Galante**	**1.96**	**322**	⇑*i*P	P	17 21 46.3	+0.3
TBG	**Guadaloupe-3**	**2.13**	**314**	⇑*e*P	P	17 21 48.7	+0.3
TBG				*e*S	S	17 22 14.0	+0.1
DEG	**La Desirade**	**2.16**	**333**	⇑*e*P	P	17 21 49.2	+0.4
DEG				*e*S	S	17 22 15.7	+1.0
DOG	**Dongo Capester**	**2.24**	**318**	⇑*e*P	P	17 21 50.5	+0.6
PHG	**Guadaloupe-2**	**2.24**	**317**	*e*P	P	17 21 50.7	+0.7
SCG	**Saint Claude**	**2.28**	**317**	⇑*e*P	P	17 21 51.1	+0.6
LZG	**Guadaloupe-1**	**2.42**	**317**	*e*P	P	17 21 53.3	+0.7
SEG	**Port Louis**	**2.46**	**325**	*e*P	P	17 21 53.8	+0.7
GRSS	**Sisters**	**2.56**	**217**	*e*P	P	17 21 55.9	+1.4
GRSS				*e*S	S	17 22 25.0	+0.2
GRHS	**Sauteurs**	**2.64**	**216**	*e*P	P	17 21 56.6	+1.0
GRHS				*e*S	S	17 22 26.1	-0.6
GRW	**Mount Saint Ca**	**2.70**	**216**	*e*P	P	17 21 57.8	+1.3
GRW				*e*S	S	17 22 28.5	+0.1

ATH ***03*** *17:32:39.0, 39.10N×23.12E, h13^{km}±7^{km}, MD2.6/6*
THE ***03*** *17:32:39.4, 39.08N×23.27E, h8^{km}, ML2.5*
NEIC ***03*** *17:32:39.0, 39.10N×23.12E, h13^{km}, MD2.6(ATH), After ATH.*
CSEM ***03*** *17:32:39.3±0.1, 39.07N×23.22E, h10^{km}, MD2.6, Error ellipse: s-maj=2.8km s-min=2.1km az=100.0*

ISC 03 17:32:38.8±0.5, 39.08N±0.04×23.26E±0.04, h12^{km}±11^{km}, n11, σ0°68/17, 1C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.23**	**354**	⇑*i*PG	**Pg**	**17 32 44.2**	**+0.4**
NEO				*e*SG	**Sg**	**17 32 47.3**	**+0.1**
XOR	**Xorichti**	**0.29**	**350**	*e*Pg	**Pg**	**17 32 45.3**	**+0.3**
XOR				*e*Sg	**Sg**	**17 32 49.6**	**+0.5**
LKR	**Lokris**	**0.47**	**205**	*e*PB	**Pb**	**17 32 48.1**	**-0.5**
AOS	**Alonnisos**	**0.49**	**79**	*e*Pg	**Pg**	**17 32 48.7**	**-0.2**
AOS				*e*Sg	**Sg**	**17 32 55.9**	**+0.3**
AGG	**Agios Georgios**	**0.72**	**266**	*e*Pg	**Pg**	**17 32 52.4**	**-1.0**
AGG				*e*Sg	**Sg**	**17 33 04.2**	**+1.1**
PAIG	**Paliouri**	**0.91**	**21**	*e*Pg	**Pg**	**17 32 57.0**	**0.0**
PAIG				*e*Sg	**Sg**	**17 33 08.9**	**-0.3**
MPAR	**Parnis Oros**	**1.00**	**158**	*e*PB	**Pb**	**17 32 59.0**	**+1.4**
MGER	**Gerania Oros**	**1.09**	**180**	*e*PN	**Pn**	**17 33 00.0**	**+0.1**
PTL	**Penteli**	**1.13**	**155**	*e*PG	**Pg**	**17 33 01.5**	**0.0**
LIT	**Litokhoron**	**1.18**	**330**	*e*Pg	**Pg**	**17 33 00.9**	**-1.5**
LIT				*e*Sg	**Sg**	**17 33 18.4**	**+0.2**
NSAL	**Nisos Salamina**	**1.18**	**172**	*e*PG	**Pg**	**17 33 01.7**	**-0.8**

IDC ***03*** *17:36:48.6±1.1, 6.11S×146.77E, mb3.8/5, mb1 3.9/7, mb1mx3.8/13, mbtmp3.7/7, ML3.0/2, Error ellipse: s-maj=38.3km s-min=20.7km az=93.0*
NEIC ***03*** *17:36:50.1±0.9, 6.20S×146.79E, h10^{km}, mb4.0/1, Error ellipse: s-maj=25.2km s-min=15.6km az=113.0*

ISC 03 17:36:48.5±1.0, 6.08S±0.08×146.7E±0.1, h10^{km}, n13, σ1°29/14, mb3.7/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.34**	**172**	Pn	**Pn**	**17 37 40.1**	**-1.8**
	5.5nm,0.3s,baz=43,slow=7.4,SNR=22						
PMG				Sn	**Sn**	**17 38 23.1**	**+1.1**
	8.9nm,0.3s,baz=170,slow=18,SNR=3.4						
PMG	**Port Moresby**	**3.34**	**172**	Pn	**Pn**	**17 37 40.1**	**-1.8**
PMG				*e*P		17 37 40.4	
PMG				Sn	**Sn**	**17 38 23.1**	**+1.1**
WRAB	**Tennant Creek**	**18.26**	**220**	P	**P**	**17 41 05.1**	**+1.1**
WB2	**Warramunga Arr**	**18.27**	**220**	*e*P	**P**	**17 41 02.5**	**-1.5**
WRA	**Warramunga Arr**	**18.27**	**220**	P	**P**	**17 41 02.7**	**-1.4**
	0.1nm,0.3s,baz=48,slow=12,SNR=8.7						
FITZ	**Fitzroy Crossi**	**23.76**	**238**	*e*P	**P**	**17 42 02.9**	**+0.7**
	6.4nm,1.3s,mb3.9						
FITZ	**Fitzroy Crossi**	**23.76**	**238**	P	**P**	**17 42 02.5**	**+0.3**
	2.3nm,0.7s,mb3.8,baz=35,slow=12,SNR=5.0						
STKA	**Stephens Creek**	**26.10**	**190**	P	**P**	**17 42 26.1**	**+1.7**
	3.9nm,0.9s,mb3.9,baz=56,slow=11,SNR=4.6						
VNDA	**Vanda**	**71.85**	**177**	P	**P**	**17 48 12.8**	**-0.4**
	0.4nm,0.7s,mb3.4,baz=343,slow=5.8,SNR=3.1						
VNDA	**Vanda**	**71.85**	**177**	P	**P**	**17 48 12.8**	**-0.4**
MKAR	**Makanchi Array**	**77.36**	**321**	P	**P**	**17 48 46.9**	**+1.6**
	0.1nm,0.5s,mb3.0,baz=94,slow=6.1,SNR=2.4						
ILAR	**Eielson Array**	**85.67**	**23**	P	**P**	**17 49 27.6**	**-0.9**
	1.0nm,0.7s,mb4.2,baz=253,slow=4.4,SNR=7.8						
SIV	**San Ignacio**	**144.84**	**129**	PKP	PKPdf	17 56 29.4	-0.5
	1.4nm,0.6s,baz=238,slow=3.4,SNR=9.1						

GUC 03 17:44:18.9±0.6, 32.67S×71.75W, h27^{km}±5^{km}, MD3.6, ML2.8, 9C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.29**	**64**	⇓*i*P	Pb	17 44 26.1	+0.2
PACH				*i* S	Sb	17 44 31.5	+0.7
ROCH	**El Roble**	**0.69**	**116**	⇑*i*P	Pb	17 44 32.3	0.0
ROCH				*i* S	Sb	17 44 42.1	+0.6
CHNG	**Los Chungos**	**0.81**	**15**	⇑*i*P	Pb	17 44 33.6	-0.7
CHNG				*i* S	Sb	17 44 44.7	-0.1
CHNG				AMP		17 44 46.2	
	comp=E,264nm,0.3s						
LCCH	**Las Cruces**	**0.82**	**169**	⇑*i*P	Pb	17 44 33.4	-1.0
LCCH				*i* S	Sb	17 44 45.4	+0.2
JACH

Error ellipse: s-maj=4.2km s-min=2.3km az=143.0
*STR **03** 18:35:14.2±0.6, 46.17N×2.82E, h5km±1km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 03 18:35:12.8±0.1, 46.24N×2.79E, h5km, Md2.7/3, Ml2.5/17, Error ellipse: s-maj=1.5km s-min=1.2km az=120.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGO	**Saint Agoulin**	**0.30**	**128**	Pg	Pg	18 35 19.4	+0.6
AGO				Sg	Sg	18 35 23.4	+0.6
BGF	**Bois d'Agland**	**0.33**	**7**	*e*Pg	Pg	18 35 19.6	+0.2
BGF				*e*Sg	Sg	18 35 23.7	0.0
	104nm,0.3s						
TCF	**Toulx Ste Croi**	**0.41**	**278**	*e*Pg	Pg	18 35 21.0	0.0
TCF				*e*Sg	Sg	18 35 26.6	+0.2
	65nm,0.2s						
PYM	**Petit Puy Mans**	**0.51**	**163**	Pg	Pg	18 35 23.2	+0.2
PYM				Sg	Sg	18 35 29.7	-0.1
PLDF	**La Plantade**	**0.64**	**114**	Pg	Pg	18 35 25.5	0.0
PLDF				Sg	Sg	18 35 33.7	-0.3
AVF	**Avril sur Loir**	**0.68**	**35**	*e*Pg	Pg	18 35 25.7	-0.7
AVF				*e*Sg	Sg	18 35 34.4	-1.0
	38nm,0.2s						
SMF	**Signal de Mont**	**0.83**	**60**	*e*Pg	Pg	18 35 28.3	-1.2
SMF				*e*Sg	Sg	18 35 39.2	-1.4
	22nm,0.2s						
FRNF	**Fournols**	**0.86**	**191**	Pg	Pg	18 35 28.8	-1.3
FRNF				Sg	Sg	18 35 40.1	-1.5
COLF	**Collangettes**	**0.95**	**138**	Pg	Pg	18 35 30.5	-1.4
COLF				Sg	Sg	18 35 42.6	-2.0
SSF	**Saint Saulge**	**0.96**	**30**	*e*Pg	Pg	18 35 30.6	-1.4
SSF				*e*Sg	Sg	18 35 43.2	-1.7
	13nm,0.2s						
HYF	**Humbligny**	**1.04**	**354**	*e*Pg	Pg	18 35 32.0	-1.6
HYF				*e*Sg	Sg	18 35 46.2	-1.2
LBL	**Lubilhac**	**1.05**	**162**	Pg	Pg	18 35 33.3	-0.5
LBL				Sg	Sg	18 35 46.4	-1.5
LOR	**Lormes**	**1.27**	**35**	*e*Pg	Pg	18 35 36.2	-1.9
	baz=224						
LOR				*e*Sg	Sg	18 35 52.6	-2.4
	32nm,0.2s,baz=213						
RJF	**Les Rejaudoux**	**1.29**	**224**	*e*Pg	Pg	18 35 36.6	-2.0
RJF				*e*Sg	Sg	18 35 52.9	-2.9
	11nm,0.3s						
CAF	**Calviac**	**1.41**	**202**	*e*Pg	Pg	18 35 38.3	-2.6
CAF				*e*Sg	Sg	18 35 56.3	-3.3
	11nm,0.2s						
VIVF	**Saint-Julien-l**	**1.91**	**136**	*e*Pg	Pg	18 35 48.2	-2.7
VIVF				*e*Sg	Sg	18 36 10.5	-5.9
	3.5nm,0.2s						
LFF	**La Frestale**	**1.94**	**229**	*e*Pg	Pg	18 35 48.8	-2.7
LFF				*e*Sg	Sg	18 36 13.9	-3.4
	7.5nm,0.2s						
MFF	**Saint Martin d**	**2.06**	**281**	*e*Pn	Pn	18 35 46.8	-1.8
MFF				*e*Pg	Pg	18 35 51.0	-3.0
MFF				*e*Sn	Sn	18 36 11.3	-3.7
MFF				*e*Sg	Sg	18 36 17.6	-4.0
	4.3nm,0.2s						
LASF	**Ste Croix**	**2.29**	**160**	*e*Sg	Sg	18 36 23.2	-5.7
CABF	**La Chapelle**	**2.31**	**79**	*e*Pn	Pn	18 35 48.4	-3.7
CABF				*e*Sn	Sn	18 36 15.4	-5.8
CABF				*e*Sg	Sg	18 36 25.3	-4.4
	2.2nm,0.2s						
ORIF	**Oris-en-Rattie**	**2.54**	**120**	*e*Pn	Pn	18 35 53.2	-2.1
ORIF				*e*Sg	Sg	18 36 32.4	-4.9
	1.3nm,0.3s						
MEZF	**Maizieres J'vi**	**2.74**	**33**	*e*Sg	Sg	18 36 39.0	-5.0
	6.3nm,0.3s						
LPL	**La Plagne**	**2.84**	**103**	*e*Sg	Sg	18 36 42.4	-5.1
	1.6nm,0.4s						
LPG	**La Plagne**	**2.86**	**103**	*e*Sg	Sg	18 36 40.4	-7.7
	3.4nm,0.5s						
MTLF	**Montolieu**	**2.92**	**188**	*e*Sg	Sg	18 36 43.3	-6.8
	1.5nm,0.3s						
HAU	**Haudompre**	**3.01**	**53**	*e*Pn	Pn	18 35 59.4	-2.6
HAU				*e*Sg	Sg	18 36 47.1	-5.8
	3.7nm,0.2s						
HINF	**Hinteralfeld**	**3.20**	**59**	*e*Pn	Pn	18 36 02.2	-2.5
HINF				*e*Pg	Pg	18 36 11.8	-4.8
HINF				*e*Sn	Sn	18 36 36.9	-6.8
HINF				*e*Sg	Sg	18 36 51.6	-7.6
	5.0nm,0.3s						
EPF	**Esparros**	**3.65**	**210**	*e*Sn	Sn	18 36 48.9	-6.3
EPF				*e*Sg	Sg	18 37 07.1	-7.2
	1.6nm,0.2s						
CDF	**Champ du Feu**	**3.75**	**53**	*e*Pn	Pn	18 36 09.7	-2.9
CDF				*e*Sg	Sg	18 37 10.3	-7.3
	2.1nm,0.3s						
EBIE	**Bielsa**	**4.02**	**209**	Pn	Pn	18 36 13.5	-2.9
	0.2nm,0.2s,SNR=7.9						
EBIE				Sn	Sn	18 36 57.3	-7.3
	0.1nm,0.1s,SNR=7.9						
EBIE				Lg		18 37 17.8	
	0.4nm,0.3s,SNR=7.9						

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*IDC **03** 18:51:03.3±0.7, 10.60S×161.76E, h29km±4km, mb4.1/10, mb1 4.3/12, mb1mx4.3/17, mbtmp4.4/12, ML4.4/2, MS3.7/10, Ms1 3.7/10, ms1mx3.6/21, Error ellipse: s-maj=24.4km s-min=15.5km az=80.0*
*NEIC **03** 18:51:05.8±1.6, 10.61S×161.86E, h52km±14km, mb4.5/5, Error ellipse: s-maj=16.8km s-min=11.3km az=58.0*
ISC 03 18:51:05.5±1.7, 10.79S±0.09×161.8E±0.1, h60km±14km, h26km±1.5km:pP-P, n31, σ1§20/24, mb4.3/13, MS3.8/8, 1C-1D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.28**	**306**	Pn	**P**	**18 51 40.6**	**-1.0**
	153nm,0.3s,baz=142,slow=6.5,SNR=57						
HNR				Sn	**S**	**18 52 10.1**	**+1.6**
	378nm,0.3s,baz=185,slow=13,SNR=5.7						
DZM	**Mont Dzumac**	**12.06**	**159**	Pn	**P**	**18 53 55.9**	**-1.0**
	1.9nm,0.3s,baz=319,slow=21,SNR=33						
DZM				Sn	**S**	**18 56 03.0**	**-7.5**
	1.1nm,0.3s,baz=180,slow=20,SNR=5.3						
DZM				LR	LR	18 57 49.9	
	comp=Z,326nm,18.4s,baz=209,slow=33						
CTA	**Charters Tower**	**17.61**	**236**	*e*P	**P**	**18 55 10.8**	**+2.4**
	23nm,0.9s						
CTA	**Charters Tower**	**17.61**	**236**	P	**P**	**18 55 07.0**	**-1.4**
	1.1nm,0.3s,baz=69,slow=12,SNR=25						
CTA				LR	LR	19 00 57.4	
	comp=Z,201nm,18.7s,baz=60,slow=34						
CTA	**Charters Tower**	**17.61**	**236**	P	**P**	**18 55 07.0**	**-1.4**
CTA				*e*P		18 55 10.8	
CTA				LR	LR	19 00 57.4	
CTAO	**Charters Tower**	**17.61**	**236**	*e*P	**P**	**18 55 10.6**	**+2.2**
	34nm,0.9s						
AFI	**Afiamalu**	**25.98**	**100**	LR	LR	19 04 41.9	
	comp=Z,266nm,20.8s,MS3.8,baz=275,slow=31						
WB2	**Warramunga Arr**	**27.96**	**248**	*e*P	**P**	**18 56 53.3**	**+0.5**
WRA	**Warramunga Arr**	**27.98**	**248**	P	**P**	**18 56 51.6**	**-1.3**
	5.3nm,0.8s,mb4.2,baz=73,slow=9.2,SNR=15						
STKA	**Stephens Creek**	**28.10**	**219**	*e*P	**P**	**18 56 56.4**	**+2.5**
	3.5nm,0.7s,mb4.1						
STKA	**Stephens Creek**	**28.10**	**219**	P	**P**	**18 56 55.5**	**+1.7**
	3.0nm,0.8s,mb4.0,baz=21,slow=8.6,SNR=2.8						
KAKA	**Kakadu**	**28.82**	**263**	*e*P	**P**	**18 57 04.6**	**+4.2**
	4.6nm,0.8s,mb4.3						
URZ	**Urewera**	**30.59**	**156**	P	**P**	**18 57 16.6**	**+0.6**
	4.7nm,0.6s,mb4.5,baz=23,slow=7.7,SNR=3.4						
URZ				LR	LR	19 07 10.0	
	comp=Z,91nm,20.3s,MS3.4,baz=280,slow=31						
RPZ	**Rata Peaks**	**33.77**	**168**	P	**P**	**18 57 44.0**	**+0.4**
	3.2nm,0.5s,mb4.5,baz=348,slow=5.2,SNR=5.1						
RPZ				LR	LR	19 08 26.4	
	comp=Z,414nm,19.4s,MS4.2,baz=3.9,slow=31						
FITZ	**Fitzroy Crossi**	**35.73**	**254**	⇑*i*P	**P**	**18 57 59.1**	**-1.5**
	7.7nm,0.6s,mb4.8						
MBWA	**Marble Bar**	**41.63**	**250**	*e*P	**P**	**18 58 47.9**	**-1.9**
PPT	**Papeete**	**47.50**	**104**	*e*LQ		19 11 02.1	
PPT				*e*LR	LR	19 13 02.0	
	180nm,26.2s						
MJAR	**Matsushiro Arr**	**52.06**	**336**	P	**P**	**19 00 07.8**	**-3.8**
	0.7nm,0.6s,mb3.8,baz=174,slow=9.2,SNR=3.1						
RKT	**Rikitea**	**61.30**	**110**	*e*LR	LR	19 19 26.2	
	187nm,31.5s						
VNDA	**Vanda**	**66.72**	**180**	P	**P**	**19 01 52.2**	**+0.2**
	5.7nm,0.7s,mb4.7,baz=345,slow=6.8,SNR=48						
VNDA				LR	LR	19 25 43.6	
	comp=Z,55nm,20.1s,MS3.8,baz=212,slow=31						
SONM	**Songino Array**	**76.22**	**325**	P	**P**	**19 02 49.0**	**-0.2**
	1.4nm,0.7s,mb4.0,baz=144,slow=5.6,SNR=17						
SONM				pP	pP	19 02 57.7	-8.2
	2.6nm,0.7s,baz=146,slow=5.5,SNR=13						
SONM				LR	LR	19 32 06.7	
	comp=Z,51nm,20.2s,MS3.8,baz=173,slow=32						
QSPA	**South Pole Qui**	**79.21**	**180**	⇓*i*P	**P**	**19 03 06.1**	**+0.9**
	15nm,1.1s,mb4.8						
MAW	**Mawson**	**83.50**	**202**	P	**P**	**19 03 28.7**	**+0.9**
	2.6nm,0.8s,mb4.3,baz=90,slow=5.9,SNR=11						
ILAR	**Eielson Array**	**84.53**	**20**	P	**P**	**19 03 33.6**	**+0.7**
	0.8nm,0.5s,mb4.1,baz=258,slow=5.2,SNR=5.5						
ILAR				pP	pP	19 03 42.8	-7.2
	1.1nm,0.7s,baz=260,slow=4.8,SNR=5.5						
MKAR	**Makanchi Array**	**90.71**	**317**	P	**P**	**19 04 02.1**	**-1.0**
	0.5nm,0.5s,mb4.1,baz=95,slow=6.2,SNR=8.6						
MKAR				pP	pP	19 04 10.9	-9.5
	1.3nm,0.6s,baz=96,slow=6.0,SNR=10						
ZAL	**Zalesovo**	**91.12**	**325**	LR	LR	19 41 36.1	
	comp=Z,29nm,20.0s,MS3.7,baz=194,slow=33						
YKA	**Yellowknife Ar**	**96.53**	**28**	LR	LR	19 47 26.1	
	comp=Z,22nm,19.2s,MS3.6,baz=270,slow=35						
TXAR	**Lajitas Array**	**99.10**	**62**	LR	LR	19 41 11.2	
	comp=Z,55nm,19.6s,MS4.1,baz=200,slow=30						
ARCES	**ARCESS Array B**	**115.09**	**344**	PKP	PKPdf	19 09 39.8	+0.2
	3.5nm,0.9s,baz=44,slow=2.0,SNR=6.6						
CPUP	**Villa Florida**	**127.00**	**135**	PKP	PKPdf	19 10 04.4	+0.8
	2.8nm,0.8s,baz=231,slow=0.6,SNR=7.6						
SDV	**Santo Domingo**	**128.34**	**87**	PKP	PKPdf	19 10 08.1	+1.6
	1.0nm,0.3s,baz=334,slow=8.3,SNR=4.5						
SDV				pPKP		19 10 17.6	
	3.0nm,0.7s,baz=309,slow=6.5,SNR=2.6						

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*CSEM **03** 19:17:57.1, 20.86S×178.29W, h33km, mb5.6*
*BJI **03** 19:18:47.9, 20.93S×177.76W, h547km, mB4.7, mb4.7*
*NEIC **03** 19:18:49.3±0.2, 21.05S×178.41W, mb4.7/33, Error ellipse: s-maj=6.7km s-min=4.4km az=106.0*
*IDC **03** 19:18:50.8±0.6, 20.93S×178.52W, h542km±6km, mb4.2/16, mb1 4.3/17, mb1mx4.2/20, mbtmp5.1/17, Error ellipse: s-maj=12.0km s-min=10.0km az=142.0*
*MOS **03** 19:18:50.0±3.4, 21.07S×178.90W, h506km, mb4.6/11, Error ellipse: s-maj=12.0km s-min=10.0km az=114.3*
ISC 03 19:18:46.5±0.8, 21.01S±0.05×178.40W±0.05, h509km±9km, h529km±5.3km:pP-P, n331, σ1§01/156, mb4.7/55, 18C-41D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**8.22**	**177**	P	**P**	**19 20 47.2**	**+0.7**
	154nm,0.3s,baz=261,slow=23,SNR=11						
RAO				S	**S**	**19 22 23.1**	**+1.3**
	91nm,0.3s,baz=90,slow=20,SNR=3.2						
RAO	**Raoul Island**	**8.22**	**177**	*e*P	**P**	**19 20 46.5**	**+0.1**
	599nm,0.4s						
RAO	**Raoul Island**	**8.22**	**177**	P	**P**	**19 20 47.2**	**+0.7**
RAO				S	**S**	**19 22 23.1**	**+1.3**
RAO				pmax	pmax		
	comp=Z,154nm,0.3s						
RAO				smax			
	comp=N,91nm,0.3s						
AFI	**Afiamalu**	**9.47**	**43**	P	**P**	**19 20 58.3**	**-1.2**
	comp=N,139nm,0.3s,baz=38,slow=12,SNR=207						
AFI				S	**S**	**19 22 39.8**	**-5.7**
	comp=N,83nm,0.3s,baz=17,slow=22,SNR=12						
AFI	**Afiamalu**	**9.47**	**43**	*e*P	**P**	**19 20 58.1**	**-1.5**
	comp=N,910nm,0.8s						
DZM	**Mont Dzumac**	**14.14**	**263**	*e*P	**P**	**19 21 49.9**	**+1.8**
DZM	**Mont Dzumac**	**14.14**	**263**	P	**P**	**19 21 50.8**	**+2.7**
	comp=N,3.3nm,0.3s,baz=74,slow=17,SNR=32						
DZM				S	**S**	**19 24 24.0**	**+10**
	baz=9.3,slow=15,SNR=4.4						
MXZ	**Matakaoa Point**	**16.75**	**189**	*e*PN	**P**	**19 22 14.5**	**+0.7**
MXZ	**Matakaoa Point**	**16.75**	**189**	P	**P**	**19 22 15.2**	**+1.3**
MTAZ	**Motutapu**	**16.77**	**199**	*e*PN	**P**	**19 22 17.8**	**+3.7**
MTAZ	**Motutapu**	**16.77**	**199**	P	**P**	**19 22 18.0**	**+3.8**
WTAZ	**Waiatarua**	**17.01**	**200**	PN	**P**	**19 22 19.1**	**+2.6**
WTAZ	**Waiatarua**	**17.01**	**200**	P	**P**	**19 22 19.1**	**+2.6**
MWZ	**Matawai**	**17.62**	**191**	PN	**P**	**19 22 22.4**	**-0.2**
MWZ	**Matawai**	**17.62**	**191**	*e*P	**P**	**19 22 23.0**	**+0.5**
URZ	**Urewera**	**17.63**	**192**	P	**P**	**19 22 21.2**	**-1.4**
	comp=N,5.2nm,0.3s,baz=22,slow=5.2,SNR=38						
URZ				S	**S**	**19 25 13.5**	**-3.6**
	comp=N,0.7nm,0.3s,baz=216,slow=17,SNR=2.5						
URZ	**Urewera**	**17.63**	**192**	PN	**P**	**19 22 21.0**	**-1.6**
URZ	**Urewera**	**17.63**	**192**	*e*P	**P**	**19 22 21.2**	**-1.4**
HIZ	**Hauiti**	**18.39**	**197**	*e*PN	**P**	**19 22 33.2**	**+3.2**
HIZ	**Hauiti**	**18.39**	**197**	*e*P	**P**	**19 22 33.4**	**+3.4**
NGZ	**Ngauruhoe**	**18.83**	**195**	*e*PN	**P**	**19 22 33.8**	**-0.3**
NGZ	**Ngauruhoe**	**18.83**	**195**	P	**P**	**19 22 34.3**	**+0.1**
TUVZ	**Tukino**	**18.90**	**194**	PN	**P**	**19 22 33.7**	**-1.2**
TUVZ	**Tukino**	**18.90**	**194**	P	**P**	**19 22 34.9**	**0.0**
TSZ	**Takapari Road**	**19.59**	**193**	PN	**P**	**19 22 40.3**	**-1.1**
TSZ	**Takapari Road**	**19.59**	**193**	*e*P	**P**	**19 22 41.2**	**-0.2**
MRZ	**Mangatainoka R**	**20.25**	**193**	PN	**P**	**19 22 45.4**	**-2.2**
MRZ	**Mangatainoka R**	**20.25**	**193**	P	**P**	**19 22 46.1**	**-1.5**
QRZ	**Quartz Range**	**21.21**	**199**	*e*PN	**P**	**19 22 56.6**	**+0.1**
QRZ	**Quartz Range**	**21.21**	**199**	P	**P**	**19 22 55.6**	**-0.9**
NNZ	**Nelson**	**21.32**	**197**	*e*PN	**P**	**19 22 56.6**	**-0.9**
NNZ	**Nelson**	**21.32**	**197**	P	**P**	**19 22 56.9**	**-0.6**
THZ	**Tophouse**	**21.96**	**198**	*e*P	**P**	**19 23 02.4**	**-1.0**
KHZ	**Kahutara**	**22.40**	**196**	PN	**P**	**19 23 06.0**	**-1.3**
KHZ	**Kahutara**	**22.40**	**196**	*e*P	**P**	**19 23 05.8**	**-1.6**
LTZ	**Lake Taylor**	**23.08**	**198**	*e*PN	**P**	**19 23 11.3**	**-2.2**
LTZ	**Lake Taylor**	**23.08**	**198**	*e*P	**P**	**19 23 11.5**	**-2.1**
HNR	**Honiara**	**23.82**	**296**	P	**P**	**19 23 22.0**	**+1.5**
	comp=N,76nm,0.7s,mb5.5,baz=180,slow=1.0,SNR=3.6						
HNR	**Honiara**	**23.82**	**296**	P	**P**	**19 23 22.0**	**+1.5**
HNR				pmax	pmax		
	comp=Z,76nm,0.7s,mb5.4						
RPZ	**Rata Peaks**	**24.29**	**199**	P	**P**	**19 23 25.8**	**+1.4**
	comp=Z,7.0nm,0.6s,mb4.5,baz=328,slow=2.3,SNR=11						
PAE	**Paea**	**27.38**	**88**	*e*P	**P**	**19 23 51.7**	**-0.4**
	comp=Z,76nm,1.0s,mb5.3						
PPT	**Papeete**	**27.40**	**88**	*e*P	**P**	**19 23 51.8**	**-0.5**
	comp=Z,68nm,1.4s,mb5.1						
TVO	**Taravao**	**27.66**	**88**	*e*P	**P**	**19 23 54.7**	**+0.1**
	comp=Z,246nm,1.4s,mb5.7						
ARMA	**Armidale**	**28.51**	**245**	⇓*i*P	**P**	**19 23 53.4**	**-8.4**
PMOR	**Pomariorio Ree**	**29.59**	**83**	*e*P	**P**	**19 24 10.9**	**-0.4**
	comp=Z,74nm,1.2s,mb5.1						
VAH	**Vaihoa**	**29.77**	**84**	*e*P	**P**	**19 24 11.9**	**-1.0**
	comp=Z,47nm,0.9s,mb5.0						
CNB	**Canberra Magne**	**31.63**	**236**	⇓*i*P	**P**	**19 24 29.8**	**+1.2**
	comp=Z,61nm,0.6s,mb5.3						
CTA	**Charters Tower**	**33.07**	**265**	⇓*i*P	**P**	**19 24 41.7**	**+0.9**
	comp=Z,97nm,0.4s,mb5.7						
CTA	**Charters Tower**	**33.07**	**265**	P	**P**	**19 24 41.8**	**+0.9**
	comp=Z,122nm,0.5s,mb5.7,baz=94,slow=11,SNR=248						
CTA	**Charters Tower**	**33.07**	**265**	P	**P**	**19 24 41.8**	**+1.0**
CTA				pmax	pmax		
	comp=Z,122nm,0.5s						
CTAO	**Charters Tower**	**33.07**	**265**	*e*P	**P**	**19 24 41.3**	**+0.5**
	comp=Z,131nm,0.6s,mb5.6						
CTAO	**Charters Tower**	**33.07**	**265**	*e*P	**P**	**19 24 41.3**	**+0.5**
CTAO				pmax	pmax		
	comp=Z,131nm,0.6s,mb5.6						
PMG	**Port Moresby**	**35.09**	**284**	P	**P**	**19 24 58.5**	**+0.7**
	comp=Z,76nm,0.6s,mb5.4,baz=82,slow=6.1,SNR=56						
PMG	**Port Moresby**	**35.09**	**284**	*e*P	**P**	**19 24 58.1**	**+0.3**
	comp=Z,137nm,0.9s,mb5.5						
PMG	**Port Moresby**	**35.09**	**284**	P	**P**	**19 24 58.5**	**+0.7**
PMG				pmax	pmax		
	comp=Z,76nm,0.6s						
TOO	**Toolangi**	**35.30**	**234**	⇓*i*P	**P**	**19 25 00.0**	**+0.7**
	comp=Z,34nm,0.7s,mb5.0						
TOO	**Toolangi**	**35.30**	**234**	⇓*i*P	**P**	**19 25 00.0**	**+0.7**
TOO				pmax	pmax		
	comp=Z,34nm,0.7s,mb5.0						
STKA	**Stephens Creek**	**37.23**	**245**	⇓*i*P	**P**	**19 25 16.3**	**+1.0**
	comp=Z,40nm,0.9s,mb5.0						
STKA	**Stephens Creek**	**37.23**	**245**	P	**P**	**19 25 16.4**	**+1.0**
	comp=Z,42nm,0.7s,mb5.1,baz=90,slow=9.4,SNR=50						
WB2	**Warramunga Arr**	**44.15**	**263**	⇓*i*P	**P**	**19 26 10.3**	**-0.7**
WRAB	**Tennant Creek**	**44.15**	**263**	*e*P	**P**	**19 26 10.1**	**-0.8**
	comp=Z,136nm,0.8s,mb5.5						
WRAB				*e*	pP	19 27 44.0	-1.8
WRAB	**Tennant Creek**	**44.15**	**263**	*e*P	**P**	**19 26 10.1**	**-0.9**
WRAB				*e*	pP	19 27 44.0	-1.8
WRAB				pmax	pmax		
	comp=Z,136nm,0.8s,mb5.5						
WRA	**Warramunga Arr**	**44.16**	**263**	P	**P**	**19 26 10.3**	**-0.7**
	comp=Z,35nm,0.4s,mb5.2,baz=97,slow=7.2,SNR=239						
WRA				PcP	PcP	19 27 44.7	-0.8
	comp=Z,11nm,0.9s,baz=98,slow=4.0,SNR=8.2						
WRA				S	**S**	**19 32 01.3**	**-5.8**
	comp=Z,1.6nm,0.8s,baz=101,slow=13,SNR=4.8						
WRA	**Warramunga Arr**	**44.16**	**263**	P	**P**	**19 26 10.3**	**-0.8**
WRA				pP		19 27 44.7	-1.2
WRA				S	**S**	**19 32 01.3**	**-5.8**
WRA				pmax	pmax		
	comp=Z,35nm,0.4s						
WRA				pmax	pmax		
	comp=Z,11nm,0.9s						
WRA				smax			
	comp=N,2.0nm,0.8s						
POHA	**Pohakuloa**	**46.28**	**30**	P	**P**	**19 26 27.0**	**-0.5**
KAKA	**Kakadu**	**47.61**	**272**	⇓*i*P	**P**	**19 26 43.2**	**+5.5**
	comp=N,73nm,0.4s,mb5.6						
GUMO	**Guam**	**49.84**	**310**	*e*P	**P**	**19 26 53.9**	**-0.5**
	comp=N,276nm,1.4s,mb5.5						
GUMO	**Guam**	**49.84**	**310**	*e*P	**P**	**19 26 53.9**	**-0.5**
GUMO				pmax	pmax		
	comp=Z,276nm,1.4s,mb5.5						
FITZ	**Fitzroy Crossi**	**52.59**	**263**	⇓*i*P	**P**	**19 27 13.9**	**-0.5**
	comp=Z,66nm,0.3s,mb5.0						
SBA	**Scott Base**	**57.34**	**184**	*e*P	**P**	**19 27 47.2**	**+0.3**
	comp=Z,29nm,1.3s,mb4.3						
SBA				*e*PcP	PcP	19 28 33.3	-0.7
SBA	**Scott Base**	**57.34**	**184**	*e*P	**P**	**19 27 47.2**	**+0.3**
SBA				*e*		19 28 33.3	
SBA				pmax	pmax		
	comp=Z,29nm,1.3s,mb4.3						
VNDA	**Vanda**	**57.37**	**185**	P	**P**	**19 27 48.0**	**+0.9**
	comp=Z,3.6nm,0.6s,mb3.8,baz=359,slow=7.7,SNR=36						
VNDA	**Vanda**	**57.37**	**185**	*e*P	**P**	**19 27 47.5**	**+0.4**
	comp=Z,2.5nm,0.6s						
VNDA	**Vanda**	**57.37**	**185**	*e*P	**P**	**19 27 47.5**	**+0.4**
VNDA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MBWA	**Marble Bar**	**57.38**	**258**	*e*P	**P**	**19 27 46.5**	**-1.3**
	comp=Z,86nm,0.6s,mb5.2						
MBWA				*e*PcP	PcP	19 28 33.7	-1.2
KLBR	**Kellerberrin**	**57.50**	**245**	⇓*i*P	**P**	**19 27 47.6**	**-1.0**
	comp=Z,94nm,0.9s,mb5.0						
MUN	**Mundaring**	**58.77**	**245**	⇓*i*P	**P**	**19 27 56.5**	**-0.6**
	comp=Z,37nm,0.9s,mb4.6						
MUN	**Mundaring**	**58.77**	**245**	⇓*i*P	**P**	**19 27 56.5**	**-0.6**
MUN				pmax	pmax		
	comp=Z,37nm,0.9s,mb4.6						
CASY	**Casey**	**63.35**	**205**	⇓*i*P	**P**	**19 28 26.1**	**-0.5**
JHJ	**Hachijo jima 2**	**67.01**	**323**	P	**P**	**19 28 49.4**	**-0.7**
	comp=Z,28nm,0.5s,mb5.0,baz=62,slow=22,SNR=4.7						
QSPA	**South Pole Qui**	**69.06**	**180**	⇓*i*P	**P**	**19 29 02.7**	**+0.9**
	comp=Z,34nm,0.7s,mb5.0						
MIR	**Mirnyy**	**70.38**	**205**	*c i*P	**P**	**19 29 09.2**	**-0.5**
MIR				pmax	pmax		
	comp=Z,29nm,1.0s,mb4.8						
MJAR	**Matsushiro Arr**	**70.39**	**324**	P	**P**	**19 29 09.2**	**-1.1**
	comp=Z,3.8nm,0.4s,mb4.2,baz=159,slow=6.6,SNR=21						
MJAR	**Matsushiro Arr**	**70.39**	**324**	P	**P**	**19 29 09.2**	**-1.1**
MJAR				pmax	pmax		
	comp=Z,4.0nm,0.4s						
MAJO	**Matsushiro**	**70.40**	**324**	*e*P	**P**	**19 29 09.2**	**-1.2**
	comp=Z,5.9nm,0.7s,mb4.2						
MAJO	**Matsushiro**	**70.40**	**324**	*e*P	**P**	**19 29 09.2**	**-1.2**
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.2						
MAT	**Matsushiro**	**70.40**	**324**	P	**P**	**19 29 09.4**	**-1.0**
MAT	**Matsushiro**	**70.40**	**324**	*e*P	**P**	**19 29 09.0**	**-1.4**
	comp=Z,7.0nm,0.5s,mb4.5						
MAT	**Matsushiro**	**70.40**	**324**	*e*P	**P**	**19 29 09.0**	**-1.4**
MAT				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.5						
JNU	**Nakatsue**	**72.39**	**317**	P	**P**	**19 29 21.8**	**-0.3**
	comp=Z,28nm,0.9s,mb4.7,baz=73,slow=6.1,SNR=12						
KSM	**Kuching**	**73.11**	**278**	*e*P	**P**	**19 29 25.7**	**-0.8**
FX1	**Attu Island--F**	**73.94**	**355**	*e*P	**P**	**19 29 29.3**	**-1.1**
YSS	**Yuzh-Sakhalins**	**76.18**	**334**	*e*P	**P**	**19 29 43.2**	**+0.3**
	comp=Z,10nm,0.6s,mb4.4						
YSS	**Yuzh-Sakhalins**	**76.18**	**334**	⇓*i*

HIA Hailar 88.89 325 *e*P **P 19 30 47.0 +0.2**
comp=Z,11nm,0.8s,mb4.7
HIA Hailar 88.89 325 *e*P **P 19 30 47.1 +0.3**
HIA pmax pmax
comp=Z,11nm,0.8s
ILAR Eielson Array 88.89 13 P **P 19 30 45.5 -0.9**
comp=Z,2.3nm,0.7s,mb4.1,baz=233,slow=6.2,SNR=12
ILAR pP pP 19 32 45.4 +5.1
comp=Z,2.8nm,1.0s,baz=228,slow=6.3,SNR=5.7
ILAR PP PP 19 34 22.8 -3.5
comp=Z,0.6nm,0.6s,baz=225,slow=7.7,SNR=3.8
ILAR Eielson Array 88.89 13 P **P 19 30 45.6 -0.9**
ILAR pmax pmax
comp=Z,2.0nm,0.7s
ILAR pmax pmax
comp=Z,3.0nm,1.0s
ILAR pmax pmax
comp=Z,1.0nm,0.6s
PLCA Paso Flores 89.20 134 P **P 19 30 49.4 +0.8**
KMI Kunming 89.24 297 P **P 19 30 50.2 +1.1**
comp=Z,29nm,0.9s,mb5.1
KMI LR LR
comp=Z,50nm,17.9s
KMI Kunming 89.24 297 P **P 19 30 50.2 +1.1**
KMI pmax pmax
comp=Z,29nm,0.9s,mb5.1
KMI MLR MLR
comp=Z,50nm,17.9s
BDT Bhumibol Dam 89.42 289 P **P 19 31 00.0 +10**
comp=Z,16nm,0.8s,mb4.9
BW06 Boulder Array 89.59 43 *e*P **P 19 30 50.1 -0.1**
comp=Z,0.9nm,0.4s,mb4.0
PDAR Pinedale Array 89.59 43 P **P 19 30 50.6 +0.3**
comp=Z,2.8nm,0.6s,mb4.2,baz=219,slow=2.8,SNR=28
PDAR pP pP 19 32 49.0 +4.9
comp=Z,0.3nm,0.8s,baz=270,slow=2.7,SNR=2.7
PDAR PKKPbc 19 48 21.4
comp=Z,0.3nm,0.8s,baz=72,slow=2.9,SNR=3.6
CHRT Chiangrai 89.73 291 ⇓P **P 19 30 53.0 +1.6**
comp=Z,263nm,0.8s
SDCO Great Sand Dun 89.97 49 *e*P **P 19 30 53.1 +0.9**
CHG Chiang Mai 90.06 290 ⇓P **P 19 30 54.2 +1.2**
comp=Z,38nm,0.8s,mb5.3
YAK Yakutsk 92.44 338 *d i*P **P 19 31 01.9 -1.0**
YAK pmax pmax
comp=Z,20nm,0.7s,mb5.3
SONM Songino Array 95.89 319 P **P 19 31 18.6 -0.4**
comp=Z,0.6nm,0.6s,mb4.0,baz=57,slow=1.5,SNR=7.2
SONM PP PP 19 35 16.0 -4.6
comp=Z,0.7nm,1.0s,baz=114,slow=7.7,SNR=3.2
SONM PKKP PKKP 19 48 05.5 +53
comp=Z,0.8nm,0.9s,baz=308,slow=3.6,SNR=5.2
SONM Songino Array 95.89 319 P **P 19 31 18.6 -0.3**
SONM pmax pmax
comp=Z,1.0nm,0.6s
SONM pmax pmax
comp=Z,1.0nm,1.0s
SONM pmax pmax
comp=Z,1.0nm,1.0s
ZAL Zalesovo 110.66 321 PKiKP 19 36 18.9
comp=Z,1.6nm,0.6s,baz=275,slow=1.6,SNR=6.6
ZAL PP PP 19 37 10.4 +0.1
comp=Z,0.7nm,0.3s,baz=310,slow=14,SNR=3.8
ZAL Zalesovo 110.66 321 PKPdf PKPdf 19 36 18.9 -1.3
ZAL PP PP 19 37 10.4 +0.1
ZAL Zalesovo 110.66 321 *i* PKIKP PKPdf 19 36 18.9 -1.4
ZAL 19 37 10.5
ZAL pmax pmax
comp=Z,2.0nm,0.6s
ZAL pmax pmax
comp=Z,1.0nm,0.3s
MKAR Makanchi Array 111.27 313 Pdiff Pdif 19 32 29.0 +1.8
comp=Z,0.9nm,0.7s,baz=92,slow=5.5,SNR=8.3
MKAR PKiKP 19 36 21.4
comp=Z,1.9nm,0.7s,baz=72,slow=1.7,SNR=23
MKAR PKKPbc 19 47 19.9
comp=Z,1.0nm,0.6s,baz=286,slow=3.1,SNR=8.7
MKAR Makanchi Array 111.27 313 Pdif Pdif 19 32 29.0 +1.8
MKAR PKPdf PKPdf 19 36 21.4 -0.3
MKAR PKKPbc 19 47 19.9
MKAR Makanchi Array 111.27 313 P Pdif 19 32 29.0 +1.8
MKAR *i* 19 36 21.4
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR pmax pmax
comp=Z,1.0nm,0.6s
AAK Ala-Archa 116.31 308⇑ *i* PKIKP PKPdf 19 36 30.9 -0.7
VOSK Vostochnaya 118.88 319 PKIKP PKPdf 19 36 35.6 -0.7
VOSK pmax pmax
comp=Z,4.0nm,0.7s
BVA0 Borovoye Array 119.22 320 *i* PKIKP PKPdf 19 36 36.7 -0.3
BVA0 pmax pmax
comp=Z,1.0nm,0.7s
BVAR Borovoye Array 119.22 320 PKP PKPdf 19 36 36.6 -0.4
comp=Z,7.7nm,0.6s,baz=106,slow=1.6,SNR=45
BVAR Borovoye Array 119.22 320 PKIKP PKPdf 19 36 36.6 -0.4
BVAR pmax pmax
comp=Z,8.0nm,0.6s
KKAR Karatay Array 119.27 308 *i* PKIKP PKPdf 19 36 36.7 -0.6
KKAR pmax pmax
comp=Z,2.0nm,0.6s
SVE Sverdlovsk 124.19 325 *e*PKIKP PKPdf 19 36 47.0 +0.6
SVE pmax pmax
comp=Z,40nm,1.5s
SVE MLR MLR
comp=Z,100nm,9.0s
ARU Arti 125.40 325 *e*PKP PKPdf 19 36 48.6 -0.1
ARU Arti 125.40 325 *i* PKIKP PKPdf 19 36 49.2 +0.4
ARU *e* 19 48 47.6
BOSA Boshof 125.64 206 PKP PKPdf 19 36 51.5 +1.4
comp=Z,3.1nm,0.7s,baz=269,slow=4.2,SNR=7.7
BOSA Boshof 125.64 206 PKP PKPdf 19 36 51.5 +1.4
BOSA Boshof 125.64 206 PKIKP PKPdf 19 36 51.5 +1.5
BOSA pmax pmax
comp=Z,3.0nm,0.7s
AB31 Akbulak array 126.19 316 *i* PKIKP PKPdf 19 36 50.4 -0.1
AB31 pmax pmax
comp=Z,1.0nm,0.6s
KEV Kevo 128.89 349 *e*pkp PKPdf 19 37 07.5 +12
ARCES ARCESS Array B 129.35 349 PKP PKPdf 19 36 56.2 +0.1
comp=Z,4.8nm,0.6s,baz=16,slow=1.3,SNR=35
ARCES SKPbc 19 39 29.9
comp=Z,2.2nm,0.6s,baz=27,slow=4.0,SNR=8.3
ARCES ARCESS Array B 129.35 349 PKP PKPdf 19 36 56.2 +0.1
ARCES SKPbc 19 39 29.9
ARCES ARCESS Array B 129.35 349 PKIKP PKPdf 19 36 56.2 +0.1
ARCES pmax pmax
comp=Z,5.0nm,0.6s
ARCES pmax pmax
comp=N,2.0nm,0.6s
ARE0 ARCESS Array S 129.35 349 PKP PKPdf 19 36 56.0 0.0
LSZ Lusaka 135.49 218 *e*PKP PKPdf 19 37 09.9 +1.0
KAF Kangasniemi 135.53 344 *e*pkp PKPdf 19 37 06.9 -0.9
baz=27,slow=1.7
FINES FINESS Array B 136.15 343 PKhKP 19 36 57.6
comp=N,1.0nm,0.8s,baz=76,slow=5.7,SNR=3.2
FINES PKP PKPdf 19 37 08.0 -0.9
comp=N,3.9nm,0.8s,baz=90,slow=1.9,SNR=10
FINES SKPbc 19 39 52.7
comp=N,3.7nm,0.7s,baz=63,slow=3.1,SNR=12
FINES FINESS Array B 136.15 343 PKP PKPdf 19 36 57.6 -11
FINES PKP PKPdf 19 37 08.0 -0.9
FINES SKPbc 19 39 52.7
FINES FINESS Array B 136.15 343 PKHKP 19 36 57.6
FINES 19 37 08.0
FINES 19 39 52.7
FINES pmax pmax
comp=Z,1.0nm,0.8s
FINES pmax pmax
comp=Z,4.0nm,0.8s
FINES pmax pmax
comp=N,4.0nm,0.7s
KMBO Kilima Mbogo 138.77 242 PKhKP 19 37 08.0
comp=N,1.3nm,0.6s,baz=78,slow=7.9,SNR=5.6
KMBO PKP PKPdf 19 37 18.4 +3.4
comp=N,4.8nm,0.9s,baz=46,slow=2.8,SNR=7.5
KMBO Kilima Mbogo 138.77 242 PKHKP 19 37 08.0
KMBO 19 37 18.5
KMBO pmax pmax
comp=Z,1.0nm,0.6s
KMBO pmax pmax
comp=Z,5.0nm,1.0s
NOA NORSAR Array B 139.44 353 PKhKP 19 37 07.2
comp=Z,3.4nm,0.7s,baz=15,slow=2.3,SNR=16
NOA PKP PKPdf 19 37 17.3 +2.4
comp=Z,2.7nm,0.8s,baz=14,slow=4.0,SNR=8.1
NOA NORSAR Array B 139.44 353 PKHKP 19 37 07.2
NOA 19 37 17.3
NOA pmax pmax
comp=Z,3.0nm,0.7s
NOA pmax pmax
comp=Z,3.0nm,0.8s
HFS Hagfors 139.98 351 PKhKP 19 37 09.3
comp=Z,3.2nm,0.5s,baz=72,slow=4.7,SNR=19
HFS Hagfors 139.98 351 PKHKP 19 37 09.3
HFS pmax pmax
comp=Z,3.0nm,0.5s
SUW Suwalki 143.18 339 *e*PKP PKPdf 19 37 20.2 -1.3
SUW Suwalki 143.18 339 *e*PKP PKPdf 19 37 20.2 -1.3
AKASG Malin Array Be 143.27 330 PKP PKPdf 19 37 20.1 -1.7
comp=Z,34nm,0.5s,baz=40,slow=4.5,SNR=14
AKASG Malin Array Be 143.27 330 PKHKP 19 37 20.1
AKASG pmax pmax
comp=Z,34nm,0.5s
ELZG Elazig 143.46 307 *i* P PKPbc 19 37 22.8 +1.2
MALT Malatya 143.94 307 *e*PKP PKPdf 19 37 23.8 +0.5
ATAB Bozova 144.29 305 *i* P PKPdf 19 37 23.8 -0.2
MBAR Mbarara 144.32 237 *e*PKP PKPdf 19 37 24.8 0.0
GZT Gaziantep 144.88 306 *i* P PKPdf 19 37 23.8 -1.3
BOYT Boyabat 145.30 313 *i* P PKPdf 19 37 27.6 +1.9
EKA Eskdalemuir Ar 145.54 5 PKPbc PKPbc 19 37 26.9 +0.1
comp=Z,7.0nm,0.8s,baz=342,slow=2.6,SNR=11
EKA Eskdalemuir Ar 145.54 5 PKHKP 19 37 27.0
EKA pmax pmax
comp=Z,7.0nm,0.8s
GKP Gorka Klasztor 145.62 343 *e*PKP PKPdf 19 37 28.4 +2.5
GKP Gorka Klasztor 145.62 343 *e*PKP PKPdf 19 37 28.4 +2.6
COBT Iskenderun 146.13 305 *i* P PKPdf 19 37 28.6 +1.4
LVV L'vov 146.19 334 *e*PKHKP 19 37 29.6
BALT Daday 146.27 315 *i* P PKPdf 19 37 30.5 +3.2
BSEG Bad Segeberg 146.46 351 *e*PKPbc PKPbc 19 37 30.6 +1.5
ASF Jabal al Asfar 146.67 297 PKPbc PKPbc 19 37 32.2 +1.9
comp=Z,28nm,0.9s,baz=327,slow=1.9,SNR=34
ASF Jabal al Asfar 146.67 297 PKIKP PKPdf 19 37 32.2 +4.0
ASF pmax pmax
comp=Z,28nm,0.9s
ELDT Eldivan 146.72 313 *i* P PKPdf 19 37 31.4 +3.4
KWP Kalwaria 146.88 335 *e*PKP PKPdf 19 37 31.8 +3.9
KWP Kalwaria 146.88 335 *e*PKP PKPdf 19 37 31.8 +3.8
BR131 Keskin Array S 146.90 311 *e*PKPbc PKPbc 19 37 31.5 +0.9
BRTR Keskin Array B 146.90 311 PKPbc PKPbc 19 37 31.8 +1.2
comp=Z,13nm,0.7s,baz=136,slow=4.0,SNR=46
BRTR Keskin Array B 146.90 311 PKIKP PKPdf 19 37 31.8 +3.5
BRTR pmax pmax
comp=Z,13nm,0.7s
DCN Croghan 147.01 10 *e*P PKPdf 19 37 31.3 +3.3
TLCR 147.09 323⇑P PKPdf 19 37 32.2 +3.7
TLCR 147.09 323⇑P PKPdf 19 37 32.2 +3.7
DLF Lyons Farm 147.17 9 *e*P PKPdf 19 37 31.6 +3.3
RUE Ruedersdorf 147.20 346 *e*PKPbc PKPdf 19 37 32.2 +3.9
BURAR Bucovina Array 147.31 330⇓P PKPdf 19 37 33.3 +4.6
BURAR Bucovina Array 147.31 330⇓P PKPdf 19 37 33.3 +4.6
KSHT Keshet 147.41 299 P PKPdf 19 37 34.3 +4.9
KSDI Kefar Szold 147.48 299 P PKPdf 19 37 34.5 +5.0
OJC Ojcow 147.49 338 *e*PKP PKPdf 19 37 33.2 +4.3
KOLS Kolonicke sedl 147.61 334 *e*PKP PKPdf 19 37 30.5 +1.4
KOLS *e* 19 37 37.7
SGKT Sivrigoynuk 147.61 314 *i* P PKPdf 19 37 32.4 +3.0
STHS Stebnicka Huta 147.63 336 *i* PKP PKPdf 19 37 34.0 +4.8
STHS *e* 19 37 39.0
MEST Erdemli 147.72 306 *i* P PKPdf 19 37 34.3 +4.6
TIRR Tirgusor 147.77 323⇑P PKPdf 19 37 34.1 +4.5
TIRR Tirgusor 147.77 323⇑P PKPdf 19 37 34.1 +4.6
VRI Vrincioaia 147.78 326⇓P PKPdf 19 37 33.9 +4.4
VRI Vrincioaia 147.78 326⇓P PKPdf 19 37 33.9 +4.4
MMLI Mount Malkishu 147.84 298 P PKPdf 19 37 35.5 +5.4
HARR Harsova 147.90 323⇓P PKPdf 19 37 35.1 +5.3
HARR Harsova 147.90 323⇓P PKPdf 19 37 35.1 +5.4
HNTI Hanita 147.91 299 P PKPdf 19 37 35.1 +4.9
CRVS Cervenica-Dubn 147.96 335 *e*PKP PKPdf 19 37 35.2 +5.5
CRVS *e* 19 37 39.7
NIE Niedzica 147.97 337⇓ *i*PKP PKPdf 19 37 35.1 +5.4
KSP Ksiaz 148.06 342 *e*PKP PKPdf 19 37 34.9 +5.1
KSP Ksiaz 148.06 342 *e*PKP PKPdf 19 37 35.0 +5.2
KSP *e* 19 37 39.6
MZDA Masada 148.12 296 P PKPdf 19 37 35.9 +5.4
OFRI 'Ofer 148.16 298 P PKPdf 19 37 35.6 +5.0
SLTI Sal'it 148.20 298 P PKPdf 19 37 36.2 +5.5
HENT Hendek 148.26 315 *i* P PKPdf 19 37 36.2 +5.8
PSN Preselentsi 148.37 322 *e*P PKPdf 19 37 36.0 +5.4
OKC Ostrava-Krasne 148.38 339⇑ *e*PKPbc PKPdf 19 37 36.0 +5.6
OKC *e*PKPAB PKPab 19 37 41.3 -0.8
ZFRI Zfri 148.40 294 P PKPdf 19 37 36.8 +5.8
MLR Muntele Rosu 148.44 326 PKPbc PKPdf 19 37 35.6 +5.0
comp=Z,16nm,0.6s,baz=327,slow=4.7,SNR=34
MLR Muntele Rosu 148.44 326⇓P PKPdf 19 37 35.8 +5.2
MLR Muntele Rosu 148.44 326⇓P PKPdf 19 37 35.8 +5.2
MLR Muntele Rosu 148.44 326 PKHKP 19 37 35.6
MLR pmax pmax
comp=Z,16nm,0.6s
UPC Upice 148.44 342⇑ *e*PKPB PKPdf 19 37 35.9 +5.5
UPC *e*PKPAB PKPab 19 37 41.7 -0.6
CLL Collm 148.47 346⇓ *i*PKP1 PKPdf 19 37 35.6 +5.1
CLL *i* PKP2 PKPab 19 37 40.6 -1.8
CLL *i* *PPKP 19 39 41.1
CLZ Clausthal 148.47 350 *e*PKPdf PKPdf 19 37 31.4 +1.0
CLZ *e*PKPbc PKPdf 19 37 36.0 +5.6
CLZ *e*PKPab PKPab 19 37 41.4 -1.0
KDHN Kadinhani 148.48 310 *i* P PKPdf 19 37 33.4 +2.5
DPC Dobruska-Polom 148.49 342⇑ *e*PKPB PKPdf 19 37 36.0 +5.5
DPC *e*PKPAB PKPab 19 37 42.2 -0.4
PRNI Paran 148.58 294 P PKPdf 19 37 37.2 +5.9
MORC Moravsky Berou 148.62 340 *e*PKPbc PKPdf 19 37 36.0 +5.2
MORC *e*PKPab PKPab 19 37 41.7 -1.4
BRG Berggiesshubel 148.65 345 *e*PKP PKPdf 19 37 31.8 +1.0
KECS Kecovo 148.68 336 *i* PKP PKPdf 19 37 37.0 +6.1
KECS *e* 19 37 42.5
EIL Elat 148.73 293 PKPbc PKPdf 19 37 37.2 +5.6
comp=Z,380nm,0.8s,baz=10,slow=4.9,SNR=22
EIL Elat 148.73 293 PKPbc PKPdf 19 37 37.2 +5.6
PVCC Panska Ves 148.81 344⇑ *e*PKPB PKPdf 19 37 36.9 +5.9
PVCC *e*PKPAB PKPab 19 37 43.4 -0.5
WTSB Winterswijk 148.84 354⇓ *i*P PKPdf 19 37 36.7 +5.6
comp=Z,48nm,0.9s
KMTI Karmit 148.86 294 P PKPdf 19 37 37.5 +5.7
CSS Prodhromos 148.87 303 *e*PKPbc PKPdf 19 37 36.7 +5.1
ESKT Eskisehir 148.92 313 *i* P PKPdf 19 37 37.2 +5.6
VOIR 148.94 327⇑P PKPdf 19 37 37.1 +5.7
VOIR 148.94 327⇑P PKPdf 19 37 37.1 +5.7
KZIT Kziot 149.00 295 P PKPdf 19 37 38.0 +6.0
PRD Provadia 149.12 322 *e*P PKPdf 19 37 38.0 +6.2
VYHS Vyhne 149.28 337 *i* PKP PKPdf 19 37 37.9 +6.0
VYHS *e* 19 37 44.9
PRU Pruhonice 149.31 344⇑ *e*PKPB PKPdf 19 37 38.0 +6.1
PRU *e*PKPAB PKPab 19 37 45.1 -0.8
VRAC Vranov 149.33 341 PKPbc PKPdf 19 37 38.3 +6.4
comp=Z,6.3nm,0.8s,baz=34,slow=4.7,SNR=4.5
VRAC Vranov 149.33 341 PKHKP 19 37 38.3
VRAC pmax pmax
comp=Z,6.0nm,0.8s
PSZ Piszkesteto 149.37 336 *e*PKPbc PKPdf 19 37 38.0 +6.0
PSZ *e*PKPab PKPab 19 37 45.1 -1.1
KOLL Kolacno 149.37 338 *e*PKP PKPdf 19 37 38.3 +6.3
KOLL *e* 19 37 45.3
MOX Moxa 149.39 347 *e*P PKPdf 19 37 38.0 +6.0
NKC Novy Kostel 149.60 346⇑ *e*PKPB PKPdf 19 37 38.4 +6.1
NKC *e*PKPAB PKPab 19 37 46.0 -1.1
SZH Strazhica 149.91 323 *e*P PKPdf 19 37 39.0 +6.0
HGN Heimansgroeve 150.11 354 *e*P PKPdf 19 37 38.9 +5.8
comp=Z,13nm,0.9s
ZST Bratislava 150.14 339 *e*PKP PKPdf 19 37 40.2 +7.0
ZST *e* 19 37 49.1
PVL Pavlikeni 150.28 324 *e*P PKPdf 19 37 40.0 +6.4
TNS Taunus Mts 150.35 351 *e*PKPdf PKPdf 19 37 34.6 +1.1
TNS *e*PKPbc PKPdf 19 37 40.4 +6.9
TNS *e*PKPab PKPab 19 37 49.0 -1.2
KHC Kasperske Hory 150.35 344⇑ *e*PKPB PKPdf 19 37 40.5 +7.0
KHC *e*PKPAB PKPab 19 37 49.8 -0.5
GRA1 Grafenberg Arr 150.37 347 *e*PKPbc PKPdf 19 37 40.5 +7.0
GRA1 *e*PKPab PKPab 19 37 49.7 -0.6
GRF Grafenberg Arr 150.37 347 *e*PKP PKPdf 19 37 40.5 +7.0
GRF *e*PKP PKPab 19 37 49.7 -0.6
WET Wettzell 150.51 345 *e*PKPbc PKPdf 19 37 40.6 +6.8
WET *e*PKPab PKPab 19 37 50.2 -0.7
GEC2 GERESS Array S 150.58 344 *e*PKPdf PKPdf 19 37 34.4 +0.5
GEC2 *e*PKPbc PKPdf 19 37 40.9 +7.0
GEC2 *e*PKPab PKPab 19 37 50.2 -1.0
GERES GERESS Array B 150.58 344 PKP PKPdf 19 37 34.5 +0.7
comp=Z,0.7nm,0.8s,slow=1.3,SNR=5.4
GERES PKPbc PKPdf 19 37 40.7 +6.8
comp=Z,11nm,0.8s,baz=45,slow=1.9,SNR=70
GERES pPKPbc 19 39 47.5
comp=Z,1.5nm,0.8s,baz=56,slow=4.8,SNR=4.6
GERES GERESS Array B 150.58 344 PKIKP PKPdf 19 37 34.5 +0.6
GERES 19 37 40.7
GERES pmax pmax
comp=Z,1.0nm,0.9s
GERES pmax pmax
comp=Z,11nm,0.8s
GERES pmax pmax
comp=Z,2.0nm,0.8s
GIVF Givet 150.85 356 *e*PKP1 PKPdf 19 37 41.4 +7.2
comp=Z,38nm,0.8s
DIM Dimitrovgrad 150.91 322 *e*P PKPdf 19 37 41.5 +6.9
BAIF Baives 150.94 357 *e*PKP1 PKPdf 19 37 41.7 +7.3
comp=Z,23nm,0.8s
WLF Walferdange 151.18 354 *e*PKPbc PKPdf 19 37 42.5 +7.8
MOA Molln 151.33 342⇓ *i*P PKPdf 19 37 42.2 +7.2
PLD Plovdiv 151.35 322 *e*P PKPdf 19 37 41.0 +5.8
PGB Panagyurishte 151.36 324 *e*P PKPdf 19 37 42.5 +7.3
RZN Rozhen 151.61 322 *e*P PKPdf 19 37 43.0 +7.4
SVIS Svilajnac 151.64 329⇓ *i*PKP PKPdf 19 37 42.6 +7.1
ZAPS Zavoj/Pirot 151.68 326⇓ *i*PKP PKPdf 19 37 43.4 +7.7
FUR Furstenfeldbru 151.81 346 *e*PKPdf PKPdf 19 37 37.0 +1.3
FUR *e*PKPab PKPab 19 37 55.5 -0.9
VTS Vitosha 151.86 325 *i* P PKPdf 19 37 43.5 +7.6
PERS Pernice 152.16 340 *i* PKPbc PKPdf 19 37 43.7 +7.5
GRUS Gruza 152.19 330 *i* PKP PKPdf 19 37 43.8 +7.5
BFO Black Forest 152.21 350 *e*PKPbc PKPdf 19 37 44.3 +8.1
BFO *e*PKPab PKPab 19 37 56.7 -1.4
MMB Musomiste 152.24 323 *e*P PKPdf 19 37 44.0 +7.5
FLN La Foliniere 152.26 3 *e*PKP1 PKPdf 19 37 44.1 +7.8
comp=Z,20nm,0.7s
CDF Champ du Feu 152.28 352 *e*PKP1 PKPdf 19 37 44.5 +8.2
comp=Z,20nm,0.8s
MEZF Maizieres J'vi 152.43 355 *e*PKP1 PKPdf 19 37 45.0 +8.5
ROSF Rostrenen 152.45 7 *e*PKP1 PKPdf 19 37 44.2 +7.7
comp=Z,14nm,0.8s
DOBS Dobrina 152.47 339 *e*PKPbc PKPdf 19 37 44.3 +7.6
WATA Walderalm 152.52 345⇑ *i*P PKPdf 19 37 45.0 +8.3
WATA *i* 19 37 58.8
WTTA Wattenberg 152.57 345⇓ *i*P PKPdf 19 37 45.2 +8.5
WTTA *i* 19 37 59.0
GRR Gorron 152.61 4 *e*PKP1 PKPdf 19 37 44.9 +8.1
comp=Z,13nm,0.7s
SGMF Saint Gilles 152.61 6 *e*PKP1 PKPdf 19 37 44.7 +7.9
comp=Z,20nm,0.8s
MOTA Moosalm 152.62 346⇑ *i*P PKPdf 19 37 45.2 +8.4
MOTA *i* 19 37 58.8
SQTA Sankt Quirin 152.71 346⇓ *i*P PKPdf 19 37 45.4 +8.5
CRES Cresnjev 152.76 339 *e*PKPbc PKPdf 19 37 45.5 +8.4
HAU Haudompre 152.79 353 *e*PKP1 PKPdf 19 37 45.4 +8.4
comp=Z,12nm,0.8s
HINF Hinteralfeld 152.92 352 *e*PKP1 PKPdf 19 37 45.5 +8.3
comp=Z,9.0nm,0.8s
VISS Visnje 152.99 339 *e*PKPbc PKPdf 19 37 45.8 +8.4
BOJS Bojanci 153.11 338 *i* PKPbc PKPdf 19 37 46.5 +9.0
DAVOX Davos 153.42 347 PKPbc PKPdf 19 37 47.4 +10
comp=Z,10nm,0.7s,baz=24,slow=12,SNR=6.6
DAVOX PKPab PKPab 19 38 02.5 -0.7
comp=Z,8.5nm,0.8s,baz=11,slow=5.2,SNR=4.5
DAVOX Davos 153.42 347 PKPbc PKPdf 19 37 47.4 +9.5
DAVOX PKPab PKPab 19 38 02.5 -0.7
LOR Lormes 153.74 357 *e*PKP1 PKPdf 19 37 47.6 +9.3
comp=Z,9.8nm,0.8s
SSF Saint Saulge 153.96 357 *e*PKP1 PKPdf 19 37 48.1 +9.5
comp=Z,13nm,1.0s
CABF La Chapelle 154.20 353 *e*PKP1 PKPdf 19 37 49.1 +10
MFF Saint Martin d 154.43 3 *e*PKP1 PKPdf 19 37 48.9 +10
comp=Z,7.6nm,0.7s
BGF Bois d'Agland 154.49 358 *e*PKP1 PKPdf 19 37 47.6 +8.2
MBDF Montbardon 155.96 351 *e*PKP1 PKPdf 19 37 50.7 +9.3
comp=Z,5.7nm,0.6s
DBIC Dimbokro 164.44 155 PKP PKPdf 19 37 51.7 +0.1
comp=Z,4.9nm,0.7s,baz=180,slow=2.2,SNR=8.6
DBIC PKPab PKPab 19 38 51.5 -0.2
comp=Z,6.9nm,0.8s,baz=161,slow=4.2,SNR=8.4
DBIC Dimbokro 164.44 155 PKP PKPdf 19 37 51.7 +0.1
DBIC PKPab PKPab 19 38 51.5 -0.2
DBIC Dimbokro 164.44 155 PKIKP PKPdf 19 37 51.7 +0.1
DBIC 19 38 51.5
DBIC pmax pmax
comp=Z,5.0nm,0.7s
DBIC pmax pmax
comp=Z,7.0nm,0.8s

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*CSEM **03** 19:48:55.5, 19.83S×177.67W, h33km, mb5.7*
*MOS **03** 19:49:44.1±0.9, 20.30S×178.17W, h516km, mb4.9/27, Error ellipse: s-maj=11.9km s-min=9.1km az=50.2*
*BJI **03** 19:49:45.7, 20.33S×177.54W, h557km, mB4.9, mb4.9*
*IDC **03** 19:49:46.0±1.1, 20.29S×178.18W, h528km±11km, mb4.5/10, mb1 4.6/12, mb1mx4.5/14, mbtmp5.3/12, Error ellipse: s-maj=13.2km s-min=10.0km az=167.0*
*NEIC **03** 19:49:46.7±0.1, 20.39S×178.17W, mb4.9/56, Error ellipse: s-maj=5.5km s-min=3.5km az=140.0*
ISC 03 19:49:45.8±0.2, 20.45S±0.05×178.17W±0.05, h539km, h539km±2.4km: pP-P, n270, e085/172, mb4.8/73, 20C-25D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**8.77**	**179**	S	**S**	**19 53 29.9**	**-2.3**
92nm,0.3s,baz=122,slow=22,SNR=4.1							
RAO	**Raoul Island**	**8.77**	**179**	P	**P**	**19 51 51.3**	**-0.5**
AFI	**Afiamalu**	**8.92**	**44**	P	**P**	**19 51 50.3**	**-3.1**
15nm,0.3s,baz=209,slow=0.3,SNR=20							
AFI				S	**S**	**19 53 27.0**	**-8.1**
11nm,0.3s,baz=12,slow=23,SNR=14							
AFI	**Afiamalu**	**8.92**	**44**	*e*P	**P**	**19 51 49.2**	**-4.2**
64nm,0.6s							
AFI	**Afiamalu**	**8.92**	**44**	P	**P**	**19 51 50.3**	**-3.1**
AFI				S	**S**	**19 53 27.0**	**-8.1**
AFI				pmax	pmax		
comp=Z,15nm,0.3s							
AFI				smax			
comp=N,11nm,0.3s							
DZM	**Mont Dzumac**	**14.44**	**261**	*e*P	**P**	**19 52 51.0**	**+1.4**
DZM	**Mont Dzumac**	**14.44**	**261**	P	**P**	**19 52 51.7**	**+2.1**
comp=N,1.8nm,0.3s,baz=82,slow=17,SNR=22							
DZM				S	**S**	**19 55 09.4**	**-8.3**
comp=N,0.2nm,0.3s,baz=216,slow=22,SNR=7.1							
URZ	**Urewera**	**18.21**	**192**	P	**P**	**19 53 25.3**	**-1.1**
comp=N,2.9nm,0.3s,baz=1.2,slow=2.9,SNR=9.3							
URZ				S	**S**	**19 56 18.6**	**-5.5**
comp=N,0.5nm,0.3s,baz=180,slow=20,SNR=2.4							
RPZ	**Rata Peaks**	**24.89**	**199**	P	**P**	**19 54 27.7**	**+0.2**
comp=N,4.3nm,0.6s,mb4.2,baz=357,slow=4.2,SNR=5.6							
PAE	**Paea**	**27.15**	**89**	*e*P	**P**	**19 54 46.6**	**-1.0**
comp=N,124nm,1.0s,mb5.5							
PPT	**Papeete**	**27.17**	**89**	*e*P	**P**	**19 54 46.4**	**-1.4**
comp=N,54nm,1.0s,mb5.1							
PPT	**Papeete**	**27.17**	**89**	P	**P**	**19 54 46.4**	**-1.4**
comp=N,27nm,0.3s,mb5.3,baz=256,slow=4.2,SNR=4.9							
PPT	**Papeete**	**27.17**	**89**	P	**P**	**19 54 46.4**	**-1.4**
PPT				pmax	pmax		
comp=Z,27nm,0.4s							
TVO	**Taravao**	**27.43**	**89**	*e*P	**P**	**19 54 49.2**	**-1.0**
comp=Z,116nm,0.9s,mb5.5							
PMOR	**Pomariorio Ree**	**29.31**	**84**	*e*P	**P**	**19 55 04.8**	**-1.6**
comp=Z,82nm,1.0s,mb5.3							
CNB	**Canberra Magne**	**32.12**	**236**⇓	*i*P	**P**	**19 55 30.9**	**+0.7**
comp=Z,54nm,0.7s,mb5.2							
CTA	**Charters Tower**	**33.34**	**264**⇓	*i*P	**P**	**19 55 41.2**	**+0.6**
comp=Z,105nm,0.6s,mb5.5							
CTA				*e*SCP		20 01 02.7	
CTA	**Charters Tower**	**33.34**	**264**⇓	*i*P	**P**	**19 55 41.2**	**+0.6**
CTA				pmax	pmax		
comp=Z,105nm,0.6s							
CTAO	**Charters Tower**	**33.34**	**264**	*e*P	**P**	**19 55 40.8**	**+0.2**
comp=Z,138nm,0.7s,mb5.6							
CTAO	**Charters Tower**	**33.34**	**264**	*e*P	**P**	**19 55 40.8**	**+0.2**
CTAO				pmax	pmax		
comp=Z,138nm,0.7s,mb5.6							
PMG	**Port Moresby**	**35.18**	**283**	P	**P**	**19 55 56.3**	**+0.4**
comp=Z,146nm,0.9s,mb5.5,baz=84,slow=6.1,SNR=30							
PMG	**Port Moresby**	**35.18**	**283**	*e*P	**P**	**19 55 55.7**	**-0.3**
comp=Z,173nm,1.0s,mb5.5							
PMG	**Port Moresby**	**35.18**	**283**	P	**P**	**19 55 56.3**	**+0.4**

PMG pmax pmax
comp=Z,146nm,0.9s
TOO Toolangi 35.80 234 ⇓*i*P **P 19 56 01.5 +0.6**
comp=Z,19nm,0.7s,mb4.7
TOO **Toolangi 35.80 234** ⇓*i*P **P 19 56 01.5 +0.6**
TOO pmax pmax
comp=Z,19nm,0.7s,mb4.7
STKA Stephens Creek 37.67 244 ⇓*i*P **P 19 56 17.2 +1.0**
comp=Z,26nm,0.8s,mb4.8
STKA Stephens Creek 37.67 244 P **P 19 56 17.2 +1.0**
comp=Z,38nm,0.8s,mb5.0,baz=88,slow=9.5,SNR=55
WB2 Warramunga Arr 44.44 262 ⇓*i*P **P 19 57 09.9 -0.6**
WB2 *e*S **S 20 03 03.3 -3.2**
WB2 *e*SCS ScS 20 06 10.2 +3.2
WRAB Tennant Creek 44.44 262 *e*P **P 19 57 09.7 -0.8**
comp=Z,168nm,0.9s,mb5.6
WRAB Tennant Creek 44.44 262 *d*P **P 19 57 09.9 -0.6**
WRA Warramunga Arr 44.45 262 P **P 19 57 09.7 -0.9**
comp=Z,57nm,0.5s,mb5.3,baz=98,slow=7.9,SNR=1132
WRA ScP 20 01 45.4
comp=Z,5.5nm,1.0s,baz=95,slow=3.9,SNR=7.1
WRA S **S 20 03 03.9 -2.7**
comp=Z,0.7nm,0.7s,baz=98,slow=15,SNR=2.8
WRA Warramunga Arr 44.45 262 P **P 19 57 09.7 -0.8**
WRA S **S 20 03 03.9 -2.8**
WRA pmax pmax
comp=Z,57nm,0.5s
WRA pmax pmax
comp=N,6.0nm,1.0s
WRA smax
comp=N,1.0nm,0.7s
KAKA Kakadu 47.81 271 ⇓*i*P **P 19 57 41.8 +5.4**
comp=N,110nm,0.5s,mb5.6
FITZ Fitzroy Crossi 52.88 262 ⇓*i*P **P 19 58 13.1 -0.4**
comp=N,47nm,0.6s,mb5.0
MBWA Marble Bar 57.71 257 *e*P **P 19 58 45.7 -1.3**
comp=N,64nm,0.9s,mb4.8
SBA Scott Base 57.91 184 *e*P **P 19 58 49.4 +1.7**
comp=N,4.1nm,1.1s,mb3.6
SBA *e*pP pP 20 00 35.2 +0.8
SBA Scott Base 57.91 184 *e*P **P 19 58 49.4 +1.7**
SBA *e**PP pP 20 00 35.2 +0.8
SBA pmax pmax
comp=Z,4.0nm,1.1s,mb3.6
KLBR Kellerberrin 57.93 245 ⇓*i*P **P 19 58 47.6 -0.8**
comp=Z,61nm,1.0s,mb4.8
VNDA Vanda 57.95 185 P **P 19 58 48.7 +0.8**
comp=Z,1.2nm,0.7s,baz=357,slow=6.4,SNR=11
VNDA Vanda 57.95 185 *e*P **P 19 58 47.8 -0.1**
VNDA Vanda 57.95 185 P **P 19 58 48.7 +0.8**
VNDA pmax pmax
comp=Z,1.0nm,0.7s
MUN Mundaring 59.20 244 ⇓*i*P **P 19 58 56.5 -0.4**
comp=Z,21nm,0.6s,mb4.5
MUN Mundaring 59.20 244 ⇓*i*P **P 19 58 56.5 -0.4**
MUN pmax pmax
comp=Z,21nm,0.6s,mb4.5
RPN Rapa Nui 62.66 111 P **P 19 59 19.6 +0.1**
comp=Z,96nm,0.9s,mb5.2,baz=329,slow=5.9,SNR=3.3
CASY Casey 63.94 205 *e*P **P 19 59 26.6 -0.5**
CASY *e*pP pP 20 01 17.3 +0.1
QSPA South Pole Qui 69.62 180 ⇑*i*P **P 20 00 02.9 +1.1**
comp=Z,12nm,0.8s,mb4.5
MJAR Matsushiro Arr 70.08 324 P **P 20 00 04.2 -1.0**
comp=Z,10.0nm,0.5s,mb4.6,baz=160,slow=6.8,SNR=47
MJAR Matsushiro Arr 70.08 324 P **P 20 00 04.2 -1.0**
MJAR Matsushiro Arr 70.08 324 P **P 20 00 04.2 -1.0**
MJAR pmax pmax
comp=Z,10.0nm,0.5s
MAJO Matsushiro 70.08 324 *e*P **P 20 00 03.5 -1.7**
comp=Z,12nm,0.5s,mb4.7
MAJO Matsushiro 70.08 324 *e*P **P 20 00 03.5 -1.7**
MAJO pmax pmax
comp=Z,12nm,0.5s,mb4.7
MAT Matsushiro 70.08 324 P **P 20 00 04.3 -0.9**
MAT Matsushiro 70.08 324 *e*P **P 20 00 04.0 -1.2**
comp=Z,6.7nm,0.6s,mb4.3
MAT Matsushiro 70.08 324 *e*P **P 20 00 04.0 -1.2**
MAT pmax pmax
comp=Z,7.0nm,0.6s,mb4.4
GSTR Great Sitkin T 72.25 1 *e*P **P 20 00 16.4 -1.2**
FX1 Attu Island--F 73.41 355 *e*P **P 20 00 23.0 -1.1**
YSS Yuzh-Sakhalins 75.78 334 *e*P **P 20 00 37.6 +0.2**
comp=Z,29nm,0.8s,mb4.8
YSS Yuzh-Sakhalins 75.78 334 ⇑*i*P **P 20 00 38.0 +0.5**
YSS pmax pmax
comp=E,30nm,0.8s
YSS pmax pmax
comp=Z,30nm,0.8s,mb4.8
PET Petropavlovsk 75.88 346 *i*P **P 20 00 37.5 -0.4**
PET pmax pmax
comp=Z,14nm,1.1s,mb4.3
SSE Sheshan 77.53 310 P **P 20 00 47.2 -0.1**
SSE AMB AMB
comp=Z,19nm,0.9s,mb4.4
SSE AMB AMB
comp=Z,101nm,3.2s
SSE Sheshan 77.53 310 P **P 20 00 47.2 -0.1**
comp=Z,19nm,0.9s,mb4.4
SAO San Andreas Ge 78.10 43 *e*P **P 20 00 50.4 +0.2**
comp=Z,42nm,0.9s,mb4.8
SAO San Andreas Ge 78.10 43 *e*P **P 20 00 50.4 +0.2**
SAO pmax pmax
comp=Z,41nm,0.9s,mb4.8
PTRM Twissleman Ran 78.25 45 *e*P **P 20 00 51.6 +0.5**
KIPM Iron Peak 78.69 40 *e*P **P 20 00 53.9 +0.5**
MWC Mount Wilson 78.89 47 *e*P **P 20 00 54.3 -0.1**
CMB Columbia Colle 79.53 43 *e*P **P 20 00 57.7 -0.1**
comp=Z,26nm,0.9s,mb4.6
CMB Columbia Colle 79.53 43 *e*P **P 20 00 57.7 0.0**
CMB pmax pmax
comp=Z,26nm,0.9s,mb4.6
PFO Pinyon Flat Ob 79.66 48 *e*P **P 20 00 58.7 +0.2**
comp=Z,20nm,1.2s,mb4.3
PFO Pinyon Flat Ob 79.66 48 *e*P **P 20 00 58.7 +0.2**
PFO pmax pmax
comp=Z,20nm,1.2s,mb4.3
WDC Whiskeytown Da 79.74 40 *e*P **P 20 00 58.7 0.0**
comp=Z,73nm,1.5s,mb4.8
WDC Whiskeytown Da 79.74 40 *e*P **P 20 00 58.7 0.0**
WDC pmax pmax
comp=Z,73nm,1.5s,mb4.8
OMM Old Mammoth Mi 80.19 44 *e*P **P 20 01 01.6 +0.4**
YBH Yreka Blue Hor 80.35 39 *e*P **P 20 01 02.6 +0.7**
comp=Z,32nm,0.8s,mb4.7
YBH Yreka Blue Hor 80.35 39 *e*P **P 20 01 02.6 +0.7**
YBH pmax pmax
comp=Z,32nm,0.8s
LBCM Butte Creek Ri 80.61 40 P **P 20 01 04.1 +0.8**
BEKR Beckwourth 80.63 41 *e*P **P 20 01 03.6 +0.2**
comp=Z,34nm,1.0s,mb4.7
HUMO Hull Mountain 80.75 38 *e*P **P 20 01 04.1 +0.2**
comp=Z,30nm,1.1s,mb4.6
LDFC Landfair 81.39 48 *e*P **P 20 01 07.8 +0.4**
MAW Mawson 81.56 200 P **P 20 01 08.7 +1.1**
comp=Z,1.0nm,0.7s,baz=117,slow=2.3,SNR=3.0
MAW Mawson 81.56 200 *e*P **P 20 01 08.3 +0.8**
MAW *e*pP pP 20 03 03.8 -0.9
TPH Tonopah 81.60 44 *e*P **P 20 01 08.8 +0.4**
comp=Z,46nm,1.1s,mb4.8
TPH Tonopah 81.60 44 *e*P **P 20 01 08.8 +0.4**
TPH pmax pmax
comp=Z,46nm,1.1s,mb4.8
NEN Nelson 81.87 47 *e*P **P 20 01 09.9 +0.1**
MOD Modoc 81.88 40 *e*P **P 20 01 09.8 +0.1**
KLR Kul'dur 82.40 330 *e*P **P 20 01 09.4 -2.8**
PINOR Pine Mountain 82.69 38 P **P 20 01 14.9 +1.2**
BMN Battle Mountai 82.92 42 *e*P **P 20 01 15.2 +0.2**
comp=Z,45nm,1.0s,mb5.0
BMN Battle Mountai 82.92 42 *e*P **P 20 01 15.2 +0.2**
BMN pmax pmax
comp=Z,45nm,1.0s,mb5.0
TUC Tucson 83.07 52 *e*P **P 20 01 16.9 +0.9**
comp=Z,29nm,0.9s,mb4.8
TUC Tucson 83.07 52 *e*P **P 20 01 16.9 +1.0**
TUC pmax pmax
comp=Z,29nm,0.9s,mb4.8
WVOR Wild Horse Val 83.19 40 *e*P **P 20 01 16.5 +0.2**
comp=Z,31nm,1.0s,mb4.8
WVOR Wild Horse Val 83.19 40 *e*P **P 20 01 16.5 +0.2**
WVOR pmax pmax
comp=Z,31nm,1.0s,mb4.8
VIPM Ingram Point 83.26 37 P **P 20 01 17.4 +0.8**
SVW2 Sparrevohn 83.28 11 *e*P **P 20 01 15.1 -1.3**
OCWA Octopus Mounta 83.35 33 *e*P **P 20 01 17.6 +0.6**
comp=Z,56nm,0.9s,mb5.1

MA2 Magadan 83.69 345 *e*P **P 20 01 17.8 -0.6**
MA2 *e**PP pP 20 03 08.9 -7.2
MA2 *e**SP sP 20 04 01.4 -8.6
MA2 *e*S S 20 10 55.8 0.0
MA2 pmax pmax
comp=Z,4.0nm,0.7s,mb4.1
ELK Elko 84.35 43 *e*P **P 20 01 21.7 -0.4**
comp=Z,18nm,1.0s,mb4.5
ELK Elko 84.35 43 *e*P **P 20 01 21.7 -0.4**
ELK pmax pmax
comp=Z,17nm,1.0s
HAWA Hanford 85.00 36 *e*P **P 20 01 25.3 +0.2**
comp=Z,2.6nm,1.0s,mb3.7
BMO Blue Mountains 85.37 39 *e*P **P 20 01 26.9 0.0**
comp=Z,16nm,0.8s,mb4.6
BMO *e*pP pP 20 03 24.4 -0.8
DIV Divide 85.38 15 *e*P **P 20 01 25.8 -0.7**
comp=Z,64nm,1.0s,mb5.1
DUG Dugway 85.63 44 *e*P **P 20 01 27.9 -0.4**
comp=Z,4.3nm,0.6s,mb4.3
DUG Dugway 85.63 44 *e*P **P 20 01 27.9 -0.4**
DUG pmax pmax
comp=Z,4.0nm,0.6s,mb4.2
KKTK Khon Kaen 85.72 289 P **P 20 01 30.8 +1.6**
comp=Z,309nm,0.9s
TMUT Trail Mountain 86.23 46 *e*P **P 20 01 31.8 +0.7**
TMUT *e*pP pP 20 03 32.8 +3.1
HLID Hailey 86.39 41 *e*P **P 20 01 32.3 +0.5**
comp=Z,20nm,1.0s,mb4.7
SYO Syowa Base 86.74 193 ⇓P **P 20 01 31.0 -1.9**
SYO Syowa Base 86.74 193 ⇑PcP PcP 20 01 38.5 +3.7
MNTX Cornudas Mount 86.85 55 *e*P **P 20 01 34.6 +0.3**
comp=Z,32nm,1.0s,mb4.9
MNTX *e*pP pP 20 03 32.6 -0.3
MCK McKinley 86.96 13 *e*P **P 20 01 32.8 -1.1**
comp=Z,10.0nm,0.9s,mb4.5
MCK McKinley 86.96 13 *e*P **P 20 01 32.8 -1.2**
MCK pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
LTX Lajitas 87.16 57 *e*P **P 20 01 36.4 +0.6**
comp=Z,28nm,1.0s,mb4.8
LTX Lajitas 87.16 57 *e*P **P 20 01 36.4 +0.6**
LTX pmax pmax
comp=Z,27nm,1.0s,mb4.8
TXAR Lajitas Array 87.16 57 P **P 20 01 36.5 +0.7**
comp=Z,21nm,0.8s,mb4.8,baz=217,slow=6.3,SNR=84
TXAR pP pP 20 03 35.2 +0.6
comp=Z,1.1nm,0.9s,baz=243,slow=8.1,SNR=2.1
TXAR Lajitas Array 87.16 57 P **P 20 01 36.5 +0.7**
TXAR pP pP 20 03 35.2 +0.6
TXAR Lajitas Array 87.16 57 P **P 20 01 36.5 +0.7**
TXAR *PP pP 20 03 35.2 +0.6
TXAR pmax pmax
comp=Z,21nm,0.8s
TXAR pmax pmax
comp=Z,1.0nm,0.9s
HWUT Hardware Ranch 87.16 44 *e*P **P 20 01 35.4 0.0**
comp=Z,5.2nm,0.7s,mb4.3
ANMO Albuquerque 87.50 51 *e*P **P 20 01 37.4 +0.1**
comp=Z,19nm,1.2s,mb4.6
ANMO *e*pP pP 20 03 37.6 +1.5
ANMO Albuquerque 87.50 51 *e*P **P 20 01 37.4 +0.2**
ANMO pmax pmax
comp=Z,19nm,1.2s
NST Nakhon Sawan 87.87 287 P **P 20 01 39.5 +0.1**
MCMT McKenzie Canyo 88.02 40 *e*P **P 20 01 40.0 +0.6**
SNAA Sanae 88.06 179 P **P 20 01 39.0 0.0**
RRI2 Red Ridge 88.20 42 *e*P **P 20 01 40.7 +0.4**
comp=Z,34nm,0.9s,mb5.1
VNA3 Neumayer Olymp 88.20 176 ⇑*i*P **P 20 01 40.2 +0.5**
IMA Indian Mountai 88.22 10 *e*P **P 20 01 39.7 -0.2**
ILAR Eielson Array 88.30 13 P **P 20 01 39.2 -1.1**
comp=Z,19nm,1.2s,mb4.7,baz=228,slow=5.4,SNR=33
ILAR Eielson Array 88.30 13 P **P 20 01 39.2 -1.1**
ILAR pmax pmax
comp=Z,19nm,1.2s
MSO Missoula 88.43 38 *e*P **P 20 01 40.5 -0.8**
comp=Z,2.6nm,0.6s,mb4.1
REDW Red Top Meadow 88.50 42 *e*P **P 20 01 42.0 +0.3**
comp=Z,45nm,1.1s,mb5.2
TPAW Teton Pass 88.50 42 *e*P **P 20 01 42.1 +0.3**
comp=Z,35nm,1.2s,mb5.1
SNOW Snow King Moun 88.61 42 *e*P **P 20 01 42.9 +0.6**
comp=Z,17nm,0.7s,mb5.0
VNA2 Neumayer--Watz 88.64 177 ⇑*i*P **P 20 01 42.5 +0.8**
IMW Indian Meadow 88.72 42 *e*P **P 20 01 43.3 +0.6**
comp=Z,28nm,0.8s,mb5.1
LOHW Long Hollow 88.78 42 *e*P **P 20 01 43.2 +0.2**
comp=Z,6.2nm,0.5s,mb4.7
VNA1 Neumayer--Stat 88.87 177 ⇑*i*P **P 20 01 43.6 +0.8**
CHMT Chamberlain Mo 88.87 38 *e*P **P 20 01 43.1 -0.3**
QLMT Earthquake Lak 88.88 41 *e*P **P 20 01 44.4 +0.9**
BW06 Boulder Array 89.03 43 *e*P **P 20 01 43.7 -0.6**
comp=Z,17nm,0.8s,mb4.9
BW06 *e*pP pP 20 03 43.3 -0.3
PDAR Pinedale Array 89.03 43 P **P 20 01 43.9 -0.3**
comp=Z,15nm,0.7s,mb5.0,baz=212,slow=3.0,SNR=142
SMCO Snowmass 89.06 47 *e*P **P 20 01 44.8 +0.3**
YFT Old Faithful 89.06 41 *e*P **P 20 01 45.6 +1.3**
BOZ Bozeman (W) 89.18 40 *e*P **P 20 01 45.0 +0.2**
comp=Z,3.6nm,0.4s,mb4.5
BOZ Bozeman (W) 89.18 40 *e*P **P 20 01 45.0 +0.2**
BOZ pmax pmax
comp=Z,4.0nm,0.4s,mb4.6
KMI Kunming 89.19 297 P **P 20 01 47.2 +1.8**
KMI AMB AMB
comp=Z,21nm,0.8s,mb5.0
PLCA Paso Flores 89.42 134 P **P 20 01 46.6 +0.5**
SDCO Great Sand Dun 89.44 49 *e*P **P 20 01 46.1 -0.1**
comp=Z,16nm,1.3s,mb4.7
BDT Bhumibol Dam 89.45 289 P **P 20 01 57.0 +10**
comp=Z,13nm,0.8s,mb4.8
HRY Holter Researc 89.60 39 *e*P **P 20 01 47.0 +0.2**
WALA Waterton Lakes 89.64 36 *e*P **P 20 01 46.6 -0.3**
comp=Z,13nm,0.9s,mb4.8
CHRT Chiangrai 89.73 291 ⇓P **P 20 01 50.0 +2.0**
comp=Z,179nm,0.9s
CHG Chiang Mai 90.08 290 ⇓P **P 20 01 50.9 +1.3**
comp=Z,35nm,0.8s,mb5.2
JCT Junction City 90.69 58 *e*P **P 20 01 51.7 -0.5**
comp=Z,12nm,0.7s,mb4.9
JCT Junction City 90.69 58 *e*P **P 20 01 51.7 -0.5**
JCT pmax pmax
comp=Z,12nm,0.7s,mb4.9
PHWY Pilot Hill 91.05 46 *e*P **P 20 01 53.2 -0.4**
YAK Yakutsk 92.01 338 *e*P **P 20 01 56.6 -0.8**
comp=Z,8.5nm,0.6s,mb5.0
YAK Yakutsk 92.01 338 *c i*P **P 20 01 56.8 -0.6**
YAK pmax pmax
comp=Z,11nm,0.8s,mb4.9
EDM Edmonton 92.15 33 *e*P **P 20 01 57.3 -1.0**
LZH Lanzhou 92.61 308 ⇓P **P 20 02 01.6 +0.7**
LZH AP pP 20 04 01.2 +0.4
LZH PP PP 20 05 56.4 +2.9
LZH AMB AMB
comp=Z,23nm,1.1s,mb5.1
LZH AMB AMB
comp=Z,103nm,6.0s
LZH Lanzhou 92.61 308 ⇓P **P 20 02 01.6 +0.7**
comp=Z,23nm,1.1s,mb5.1
LZH pP pP 20 04 01.2 +0.4
LZH sP sP 20 04 54.3 +0.5
LZH PP PP 20 05 56.4 +2.9
RSSD Black Hills 93.23 44 *e*P **P 20 02 03.2 -0.3**
comp=Z,18nm,1.3s,mb4.9
RSSD Black Hills 93.23 44 *e*P **P 20 02 03.2 -0.3**
RSSD pmax pmax
comp=Z,18nm,1.3s,mb4.9
DGMT Dagmar 94.99 40 P **P 20 02 10.9 -0.5**
comp=Z,11nm,0.4s,mb5.3
CFAA Coronel Fontan 95.26 126 P **P 20 02 13.6 +0.5**
comp=Z,0.1nm,0.4s,baz=172,slow=2.6,SNR=4.6
SONM Songino Array 95.61 319 P **P 20 02 14.2 0.0**
comp=Z,1.5nm,0.7s,mb4.3,baz=127,slow=3.5,SNR=19
SONM PP PP 20 06 12.5 -3.1
comp=Z,0.6nm,0.8s,baz=112,slow=5.7,SNR=5.7
SONM Songino Array 95.61 319 P **P 20 02 14.2 0.0**
SONM 20 06 12.5
SONM pmax pmax
comp=Z,2.0nm,0.7s
SONM pmax pmax
comp=Z,1.0nm,0.8s
ULM Lac du Bonnet 100.69 40 PKKPbc 20 18 49.5
comp=Z,2.5nm,0.5s,baz=43,slow=2.3,SNR=3.2
LPAZ La Paz 102.22 113 P Pdif 20 02 45.2 +0.7
comp=Z,0.8nm,0.5s,baz=281,slow=4.2,SNR=4.9

LPAZ La Paz 102.22 113 P Pdif 20 02 45.3 +0.8
LPAZ pmax pmax
comp=Z,1.0nm,0.5s
ZAL Zalesovo 110.37 321 PKiKP 20 07 16.1
comp=Z,0.9nm,0.4s,baz=313,slow=3.1,SNR=4.3
ZAL Zalesovo 110.37 321 *i* PKIKP PKPdf 20 07 16.1 +0.2
ZAL pmax pmax
comp=Z,1.0nm,0.4s
MKAR Makanchi Array 111.05 313 Pdiff Pdif 20 03 26.5 +3.8
comp=Z,0.6nm,0.5s,baz=97,slow=3.7,SNR=6.0
MKAR PKiKP 20 07 17.6
comp=Z,1.3nm,0.6s,baz=108,slow=0.4,SNR=14
MKAR PKKPbc 20 18 17.2
comp=Z,0.6nm,0.6s,baz=259,slow=4.1,SNR=4.5
MKAR Makanchi Array 111.05 313 P Pdif 20 03 26.5 +3.8
MKAR *i* 20 07 17.6
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR pmax pmax
comp=Z,1.0nm,0.6s
BVAR Borovoye Array 118.94 320 PKP PKPdf 20 07 33.3 +0.6
comp=Z,4.6nm,0.6s,baz=133,slow=1.3,SNR=38
BVAR PP PP 20 09 03.4 -1.1
comp=Z,0.7nm,0.7s,baz=101,slow=7.3,SNR=3.5
BVAR SKP 20 10 18.9
comp=Z,1.5nm,0.8s,baz=90,slow=1.5,SNR=5.1
BVAR PKKPab 20 17 54.0
comp=Z,0.2nm,0.5s,baz=270,slow=4.3,SNR=5.3
BVAR Borovoye Array 118.94 320 PKIKP PKPdf 20 07 33.3 +0.6
BVAR 20 09 03.4
BVAR 20 10 18.9
BVAR 20 17 54.0
BVAR pmax pmax
comp=Z,5.0nm,0.6s
BVAR pmax pmax
comp=Z,1.0nm,0.7s
BVAR pmax pmax
comp=N,2.0nm,0.8s
ARU Arti 125.07 325 *e*PKP PKPdf 20 07 45.1 +0.7
ARU Arti 125.07 325 *i* PKIKP PKPdf 20 07 45.7 +1.3
ARU *e* 20 09 39.3
ARCES ARCESS Array B 128.84 350 PKP PKPdf 20 07 52.4 +1.0
comp=N,2.0nm,0.7s,baz=80,slow=1.6,SNR=12
ARCES SKPbc 20 10 23.4
comp=N,3.1nm,0.7s,baz=21,slow=5.6,SNR=6.1
ARCES ARCESS Array B 128.84 350 PKIKP PKPdf 20 07 52.4 +1.0
ARCES pmax pmax
comp=Z,2.0nm,0.7s
ARCES pmax pmax
comp=N,3.0nm,0.7s
FINES FINESS Array B 135.68 344 PKP PKPdf 20 08 03.5 -0.8
comp=N,1.2nm,0.6s,SNR=5.5
FINES SKPbc 20 10 47.2
comp=N,1.0nm,0.6s,baz=63,slow=4.3,SNR=6.4
FINES FINESS Array B 135.68 344 PKIKP PKPdf 20 08 03.5 -0.8
FINES 20 10 47.3
FINES pmax pmax
comp=Z,1.0nm,0.6s
FINES pmax pmax
comp=N,1.0nm,0.6s
NOA NORSAR Array B 138.91 353 PKhKP 20 08 05.4
comp=N,1.3nm,0.7s,baz=16,slow=2.3,SNR=7.7
NOA SKP 20 10 56.7
comp=N,1.4nm,0.8s,baz=15,slow=4.5,SNR=3.6
NOA NORSAR Array B 138.91 353 PKHKP 20 08 05.4
NOA pmax pmax
comp=Z,1.0nm,0.7s
NOA pmax pmax
comp=N,1.0nm,0.8s
KMBO Kilima Mbogo 139.22 243 SKPbc 20 11 00.4
comp=N,4.9nm,1.1s,baz=161,slow=2.8,SNR=4.5
BLJS Baljurashi 142.73 276 P PKPdf 20 08 18.6 +0.6
AKASG Malin Array Be 142.89 331 PKhKP 20 08 15.0
comp=N,10.0nm,0.6s,baz=43,slow=4.4,SNR=52
AKASG SKP 20 10 56.8
comp=N,0.9nm,0.6s,baz=42,slow=3.8,SNR=4.0
AKASG SKPbc 20 11 06.8
comp=N,0.9nm,0.5s,baz=36,slow=3.2,SNR=7.6
AKASG Malin Array Be 142.89 331 PKP PKPdf 20 08 15.0 -2.4
AKASG SKP 20 10 56.8
AKASG SKPbc 20 11 06.8
AKASG Malin Array Be 142.89 331 PKHKP 20 08 15.0
AKASG pmax pmax
comp=Z,10.0nm,0.6s
AKASG pmax pmax
comp=N,1.0nm,0.6s
AKASG pmax pmax
comp=N,1.0nm,0.5s
MALT Malatya 143.78 307 *e*PKP PKPdf 20 08 20.1 +0.8
LTHS Al Lith 143.89 277 P PKPbc 20 08 21.8 +2.1
MBAR Mbarara 144.81 237 *e*PKP PKPdf 20 08 23.5 +1.7
EKA Eskdalemuir Ar 144.97 5 PKP PKPdf 20 08 22.1 +1.3
comp=N,7.0nm,0.7s,baz=341,slow=3.0,SNR=13
EKA Eskdalemuir Ar 144.97 5 PKIKP PKPdf 20 08 22.2 +1.3
EKA pmax pmax
comp=Z,7.0nm,0.7s
KBRS Khaybar 145.25 286 P PKPdf 20 08 25.7 +3.4
BSEG Bad Segeberg 145.95 351 *e*PKP2 PKPab 20 08 26.1 -2.8
DCN Croghan 146.42 10 *e*P PKPdf 20 08 25.6 +2.2
KWP Kalwaria 146.47 335 *e*PKP PKPdf 20 08 27.9 +4.3
KWP Kalwaria 146.47 335 *e*P PKPdf 20 08 27.9 +4.3
DLF Lyons Farm 146.59 9 *e*P PKPdf 20 08 25.9 +2.3
ASF Jabal al Asfar 146.61 298 PKPbc PKPbc 20 08 29.3 +2.9
comp=Z,17nm,0.8s,baz=317,slow=2.8,SNR=10
ASF Jabal al Asfar 146.61 298 PKP2 PKPab 20 08 29.3 -2.9
ASF pmax pmax
comp=Z,17nm,0.8s
BR131 Keskin Array S 146.69 312 *e*PKP PKPdf 20 08 26.1 +1.9
BRTR Keskin Array B 146.69 312 PKPbc PKPbc 20 08 26.8 +0.4
comp=Z,2.9nm,0.6s,baz=143,slow=4.2,SNR=10
BRTR pPKPbc 20 10 35.9
comp=Z,1.9nm,1.0s,baz=117,slow=2.8,SNR=3.4
BRTR Keskin Array B 146.69 312 PKIKP PKPdf 20 08 26.8 +2.6
BRTR pmax pmax
comp=Z,3.0nm,0.6s
BRTR pmax pmax
comp=Z,2.0nm,1.0s
UMJS Umm Lajj 147.02 285 P PKPdf 20 08 30.5 +5.3
CFR Carcaliu 147.15 325 ⇓P PKPdf 20 08 30.4 +5.6
CFR Carcaliu 147.15 325 ⇓P PKPdf 20 08 30.4 +5.6
KOLS Kolonicke sedl 147.20 335 *e*PKP PKPdf 20 08 29.7 +5.0
KOLS *e* 20 08 32.0
STHS Stebnicka Huta 147.21 336 *e*PKP PKPdf 20 08 30.3 +5.6
STHS *e* 20 08 33.9
VRI Vrincioaia 147.44 327 ⇓P PKPdf 20 08 30.8 +5.6
TIRR Tirgusor 147.46 323 ⇑P PKPdf 20 08 30.7 +5.4
TIRR Tirgusor 147.46 323 ⇑P PKPdf 20 08 30.7 +5.4
TBKS Tabuk 147.52 291 P PKPdf 20 08 31.7 +5.8
CRVS Cervenica-Dubn 147.54 336 *e*PKP PKPdf 20 08 30.0 +4.7
CRVS *e* 20 08 35.1
NIE Niedzica 147.55 337 *e*PKP PKPdf 20 08 31.3 +6.0
KSP Ksiaz 147.60 343 *e*PKP PKPdf 20 08 30.6 +5.3
KSP Ksiaz 147.60 343 *e*PKP PKPdf 20 08 30.6 +5.3
OKC Ostrava-Krasne 147.93 340 ⇑*e*PKPB PKPdf 20 08 31.8 +5.9
OKC AMS AMS 21 02 50.0
comp=Z,100nm,21.0s
CLZ Clausthal 147.97 350 *e*PKP2 PKPab 20 08 31.5 -5.3
UPC Upice 147.98 343 ⇑*e*PKPB PKPdf 20 08 31.8 +5.9
CLL Collm 147.98 347 *e*PKIKP PKPdf 20 08 28.0 +2.1
CLL *i* PKP1 PKPdf 20 08 31.1 +5.2
CLL *e**PPKP 20 10 38.0
CLL Collm 147.98 347 *e*PKP PKPdf 20 08 28.0 +2.1
CLL ⇑*i*PKP PKPdf 20 08 31.1 +5.2
JMQS Jabal Moqyreh 148.03 292 P PKPdf 20 08 33.2 +6.5
DPC Dobruska-Polom 148.03 342 ⇑*e*PKPB PKPdf 20 08 32.3 +6.3
DPC *e*PKPAB PKPab 20 08 37.4 +0.3
DPC AMS AMS 21 07 20.0
comp=Z,100nm,18.4s
MLR Muntele Rosu 148.10 327 PKPbc PKPdf 20 08 32.2 +5.9
comp=Z,4.9nm,0.5s,baz=346,slow=7.7,SNR=21
MLR Muntele Rosu 148.10 327 ⇓P PKPdf 20 08 32.0 +5.7
MLR Muntele Rosu 148.10 327 ⇓P PKPdf 20 08 32.0 +5.7
MLR Muntele Rosu 148.10 327 PKP2 PKPab 20 08 32.2 -5.3
MLR pmax pmax
comp=Z,5.0nm,0.5s
BRG Berggiesshubel 148.17 345 *i* PKP2 PKPab 20 08 32.0 -5.7
BRG pmax pmax
comp=Z,12nm,0.8s
BRG MLR MLR
comp=N,336nm,19.9s
BRG MLR MLR
comp=E,343nm,19.6s
BRG MLR MLR

comp=Z,246nm,24.5s
KECS Kecovo 148.26 336 *e*PKP PKPdf 20 08 32.7 +6.2
KECS *e* 20 08 37.4
PVCC Panska Ves 148.34 344⇑*e*PKPB PKPdf 20 08 32.5 +6.0
PVCC AMS AMS 21 04 00.0
comp=Z,200nm,16.4s
VOIR 148.59 328 ⇓P PKPdf 20 08 33.6 +6.5
VOIR 148.59 328 ⇓P PKPdf 20 08 33.6 +6.5
JMOS Jabal al Moall 148.66 293 P PKPdf 20 08 34.0 +6.3
EIL Elat 148.72 294 PKPbc PKPdf 20 08 34.4 +6.6
comp=Z,65nm,0.5s,baz=356,slow=4.5,SNR=5.6
BDAS Al Bad' 148.76 291 P PKPdf 20 08 34.2 +6.3
HAQS Haql 148.83 293 P PKPdf 20 08 34.4 +6.4
PRU Pruhonice 148.84 344 *e*PKPDF PKPdf 20 08 29.8 +2.5
PRU ⇑*e*PKPB PKPdf 20 08 33.8 +6.5
PRU AMS AMS 21 03 00.0
comp=Z,200nm,16.8s
VYHS Vyhne 148.85 338 *e*PKP PKPdf 20 08 34.2 +6.8
VYHS *e* 20 08 38.5
MOX Moxa 148.89 348 *e*P PKPdf 20 08 33.7 +6.3
TAYS Tayyib Ism 148.95 292 P PKPdf 20 08 34.7 +6.5
NKC Novy Kostel 149.11 347⇑*e*PKPB PKPdf 20 08 34.4 +6.6
NKC *e*PKPAB PKPab 20 08 42.3 +0.8
NKC AMS AMS 21 03 10.0
comp=Z,200nm,17.4s
TNS Taunus Mts 149.83 352 *e*PKHKP 20 08 36.4
GRF Grafenberg Arr 149.88 348 *e*PKHKP 20 08 36.5
KHC Kasperske Hory 149.88 345⇑*e*PKPB PKPdf 20 08 35.9 +6.9
KHC *e*PKPAB PKPab 20 08 45.0 +0.3
KHC AMS AMS 21 02 30.0
comp=Z,200nm,18.6s
WET Wettzell 150.03 345 *e*PKHKP 20 08 36.8
GEC2 GERESS Array S 150.11 344 *e*PKHKP 20 08 36.9
GERES GERESS Array B 150.11 344 PKP PKPdf 20 08 30.9 +1.5
comp=Z,5.2nm,0.8s,slow=4.0,SNR=4.0
GERES PKPbc PKPdf 20 08 36.6 +7.2
comp=Z,6.0nm,0.8s,baz=45,slow=1.9,SNR=38
GERES GERESS Array B 150.11 344 PKIKP PKPdf 20 08 30.9 +1.5
GERES pmax pmax
comp=Z,5.0nm,0.8s
GERES pmax pmax
comp=Z,6.0nm,0.8s
GIVF Givet 150.32 356 *e*PKP1 PKPdf 20 08 36.2 +6.5
comp=Z,52nm,1.1s
BAIF Baives 150.40 357 *e*PKP1 PKPdf 20 08 36.5 +6.7
comp=Z,24nm,1.0s
WLF Walferdange 150.65 354 *e*PKPbc PKPdf 20 08 38.2 +8.0
FLN La Foliniere 151.69 3 *e*PKP1 PKPdf 20 08 38.9 +7.2
BFO Black Forest 151.70 351 *e*PKIKP PKPdf 20 08 40.1 +8.4
CDF Champ du Feu 151.76 352 *e*PKP1 PKPdf 20 08 39.4 +7.6
comp=Z,9.7nm,0.9s
ROSF Rostrenen 151.88 7 *e*PKP1 PKPdf 20 08 39.1 +7.1
MEZF Maizieres J'vi 151.89 355 *e*PKP1 PKPdf 20 08 39.8 +7.8
WATA Walderalm 152.03 346⇑*i*P PKPdf 20 08 41.1 +8.9
SGMF Saint Gilles 152.04 6 *e*PKP1 PKPdf 20 08 39.6 +7.4
comp=Z,28nm,1.0s
GRR Gorron 152.04 4 *e*PKP1 PKPdf 20 08 39.8 +7.6
WTTA Wattenberg 152.09 346⇑*i*P PKPdf 20 08 40.8 +8.5
SQTA Sankt Quirin 152.23 346⇑*i*P PKPdf 20 08 41.8 +9.3
LJU Ljubljana 152.43 341 *e*PKPbc PKPdf 20 08 41.7 +8.8
BOJS Bojanci 152.67 339 *e*PKPbc PKPdf 20 08 42.5 +9.4
DAVOX Davos 152.93 348 PKPbc PKPdf 20 08 43.1 +10
comp=Z,3.8nm,0.5s,baz=301,slow=5.3,SNR=9.8
SSF Saint Saulge 153.42 357 *e*PKP1 PKPdf 20 08 42.9 +8.8
comp=Z,10nm,1.0s
CABF La Chapelle 153.68 353 *e*PKP1 PKPdf 20 08 45.0 +11
ESDC Sonseca Array 160.20 13 PKPab PKPab 20 09 27.9 -1.0
comp=Z,1.9nm,0.9s,baz=332,slow=4.0,SNR=7.7
DBIC Dimbokro 164.84 154 PKPab PKPab 20 09 50.2 +0.4
comp=Z,6.1nm,0.9s,baz=182,slow=8.3,SNR=7.3
DBIC Dimbokro 164.84 154 PKP2 PKPab 20 09 50.2 +0.4
DBIC pmax pmax
comp=Z,6.0nm,1.0s

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*NEIC **03** 19:50:34.2, 33.20S×71.97W, h40km, MD3.5(GUC), After GUC.*

GUC 03 19:50:34.2±0.8, 33.20S×71.97W, h40km±2km, MD3.5, ML2.9, 8C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.33**	**59**⇓	*i*P	P	19 50 42.6	-0.2
IHA				*i* S	S	19 50 48.9	+0.2
LCCH	**Las Cruces**	**0.44**	**130**⇑	*i*P	P	19 50 44.2	+0.1
LCCH				*i* S	S	19 50 51.3	+0.3
ROCH	**El Roble**	**0.84**	**75**⇑	*i*P	P	19 50 50.2	+0.6
ROCH				*i* S	S	19 51 02.3	+1.4
LNV	**Longovilo**	**0.89**	**148**⇑	*i*P	P	19 50 50.3	0.0
LNV				*i* S	S	19 51 01.9	-0.3
TACH	**Talagante**	**0.98**	**118**⇑	*i*P	P	19 50 52.2	+0.6
TACH				*i* S	S	19 51 05.2	+0.8
CLCH	**Cerro Calan**	**1.22**	**100**⇑	*i*P	P	19 50 56.4	+1.4
CLCH				*i* S	S	19 51 12.6	+2.0
CLCH				AMP		19 51 13.8	
JACH	**Jahuel**	**1.27**	**67**⇑	*i*P	P	19 50 56.2	+0.5
JACH				*i* S	S	19 51 13.7	+1.8
PCH	**Pirque**	**1.29**	**110**	*e*P	P	19 50 57.4	+1.3
PCH				*i* S	S	19 51 14.6	+2.1
CHCH	**Chadas Angostu**	**1.32**	**124**	*i* P	P	19 50 57.2	+0.5
CHNG	**Los Chungos**	**1.37**	**17**⇑	*i*P	P	19 50 55.7	-1.6
CHNG				*i* S	S	19 51 12.4	-2.0
FCH	**Farellones**	**1.42**	**96**⇑	*i*P	P	19 50 59.6	+1.7
FCH				*i* S	S	19 51 18.1	+2.5
CACH	**El Canelo**	**1.47**	**129**	*e*P	P	19 51 00.1	+1.5
CACH				*i* S	S	19 51 19.5	+2.7
LMEL	**Las Melosas**	**1.61**	**114**	*e*P	P	19 51 02.2	+1.5
LMEL				*i* S	S	19 51 22.7	+2.2
LMEL				AMP		19 51 25.9	
comp=N,295nm,0.2s							
SFDO	**San Fernando**	**1.62**	**151**	*e*P	P	19 51 01.4	+0.6
SFDO				*i* S	S	19 51 22.1	+1.3

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*CSEM **03** 19:55:40.2±0.8, 42.92N×46.01E, h11km, mb3.9, Error ellipse: s-maj=41.7km s-min=4.8km az=6.0, After OBN*

MOS 03 19:55:40.2±1.4, 42.92N×46.01E, h11km, mb3.9/1, 1C-1D, Error ellipse: s-maj=40.3km s-min=14.5km az=31.6, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTLR	**Botlikh**	**0.30**	**148**	*i* Pg	Pg	19 55 48.0	+1.5
458nm,0.2s							
BTLR				*e*Sg	Sg	19 55 53.5	+2.8
BTLR	**Botlikh**	**0.30**	**148**⇓	*i*PG	Pg	19 55 48.0	+1.5
BTLR				*e*S	Sg	19 55 53.5	+2.8
BTLR				pmax	pmax		
comp=Z,458nm,0.2s							
KRNR	**Karanay**	**0.67**	**98**	*i* Pg	Pg	19 55 52.2	-1.5
comp=Z,25nm,0.2s							
KRNR				*i* Sg	Sg	19 56 01.8	-0.8
KRNR	**Karanay**	**0.67**	**98**⇑	*i*PG	Pg	19 55 52.2	-1.5
KRNR				*i* S	Sb	19 56 01.8	-0.5
KRNR				pmax	pmax		
comp=Z,25nm,0.2s							
BUJR	**Buynaksk**	**0.81**	**96**	*e*Pg	Pg	19 55 58.0	+1.4
comp=Z,39nm,0.2s							
BUJR				*i* Sg	Sg	19 56 09.5	+2.0
BUJR	**Buynaksk**	**0.81**	**96**	*e*PG	Pg	19 55 58.0	+1.4
BUJR				*i* S	Sb	19 56 09.5	+2.9
BUJR				pmax	pmax		
comp=Z,39nm,0.2s							
TBLG	**Delisi**	**1.52**	**219**	P	Pn	19 56 11.9	+4.4
TBLG				S	Sb	19 56 32.8	+5.8
KUBR	**Kubataba**	**2.09**	**296**	*e*Pn	Pn	19 56 17.6	+1.9
KUBR				*e*Sb	Sb	19 56 42.9	-0.8
SHAR	**Shatzhatmas**	**2.57**	**290**	*e*Pn	Pn	19 56 22.9	+0.3
SHAR				*e*Sn	Sn	19 56 52.1	-2.0
KIV0	**Kislovodsk Arr**	**2.63**	**294**	*e*Pn	Pn	19 56 23.5	+0.2
KIV0				*e*Sn	Sn	19 56 53.7	-1.8
KIV	**Kislovodsk**	**2.63**	**294**	*e*Pn	Pn	19 56 23.8	+0.4
KIV				*e*Sn	Sn	19 56 53.9	-1.7

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*IDC **03** 20:27:24.4±0.7, 11.61S×13.24W, mb4.0/13, mb1 4.1/14, mb1mx4.0/24, mbtmp4.0/14, ML3.6/1, MS4.2/13, Ms1 4.2/13, ms1mx4. 1/18, Error ellipse: s-maj=19.9km s-min=16.3km az=165.0*

*NEIC **03** 20:27:25.8±0.5, 11.59S×13.24W, h10km, mb4.3/1, Error ellipse: s-maj=14.3km s-min=11.4km az=163.0*

ISC 03 20:27:24.0±0.5, 11.54S±0.10×13.25W±0.08, h10km, n24, σ0 97/17, mb4.1/16, MS4.3/13, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**19.92**	**25**	**P**	**P**	**20 31 58.9**	**-0.1**
0.2nm,0.3s,baz=204,slow=11,SNR=8.2							
BDFB	**Brasilia**	**34.01**	**259**	**P**	**P**	**20 34 11.2**	**+0.8**
1.3nm,0.3s,mb4.3,baz=98,slow=7.6,SNR=2.7							
BDFB				LR	LR	20 46 17.7	
comp=Z,160nm,19.2s,MS3.8,baz=92,slow=33							
SUR	**Sutherland**	**37.54**	**129**	**P**	**P**	**20 34 40.8**	**+0.6**
6.8nm,0.8s,mb4.5,baz=262,slow=7.1,SNR=4.2							
LBTB	**Lobatse**	**39.10**	**116**	**P**	**P**	**20 34 53.6**	**+0.3**
5.0nm,1.0s,mb4.2,baz=303,slow=17,SNR=3.5							
BOSA	**Boshof**	**39.74**	**121**	P	**P**	**20 34 57.8**	**-0.9**
5.2nm,0.8s,mb4.3,baz=339,slow=4.0,SNR=6.0							
BOSA				LR	LR	20 48 23.1	
comp=Z,518nm,20.9s,MS4.3,baz=340,slow=32							
MATP	**Matopo**	**41.00**	**108**	P	**P**	**20 35 09.2**	**+0.1**
3.6nm,0.9s,mb4.0,baz=258,slow=5.4,SNR=5.7							
CPUP	**Villa Florida**	**43.99**	**244**	P	**P**	**20 35 35.4**	**+1.8**
1.7nm,0.9s,mb3.8,baz=80,slow=8.8,SNR=3.8							
CPUP				LR	LR	20 50 42.5	
comp=Z,331nm,18.6s,MS4.3,baz=106,slow=32							
SIV	**San Ignacio**	**46.58**	**259**	P	**P**	**20 35 53.4**	**-0.9**
1.0nm,0.4s,mb4.1,baz=88,slow=9.5,SNR=6.7							
SAML	**Samuel**	**49.16**	**268**	*e*P	**P**	**20 36 13.9**	**-0.5**
2.8nm,0.8s,mb4.3							
KMBO	**Kilima Mbogo**	**51.16**	**82**	LR	LR	20 54 51.2	
comp=Z,179nm,21.4s,MS4.1,baz=87,slow=32							
LPAZ	**La Paz**	**53.36**	**258**	P	**P**	**20 36 46.0**	**-0.2**
1.6nm,0.8s,mb4.0,baz=79,slow=17,SNR=6.9							
PLCA	**Paso Flores**	**57.89**	**229**	LR	LR	20 58 24.0	
comp=Z,145nm,18.7s,MS4.1,baz=210,slow=32							
SNAA	**Sanae**	**60.43**	**176**	P	**P**	**20 37 34.4**	**-1.4**
0.8nm,1.1s,mb3.7,slow=14,SNR=3.8							
EIL	**Elat**	**61.92**	**47**	P	**P**	**20 37 47.5**	**+1.0**
34nm,0.6s,mb5.6,baz=270,slow=9.1,SNR=2.9							
EIL				LR	LR	21 02 35.3	
comp=Z,3μm,19.1s,MS5.4,baz=78,slow=34							
GERES	**GERESS Array B**	**64.66**	**19**	P	**P**	**20 38 05.0**	**+0.7**
0.3nm,0.5s,mb3.6,baz=212,slow=9.3,SNR=3.7							
ASF	**Jabal al Asfar**	**64.70**	**46**	LR	LR	21 04 34.1	
comp=Z,208nm,19.0s,MS4.3,baz=314,slow=34							
BRTR	**Keskin Array B**	**67.04**	**38**	P	**P**	**20 38 20.9**	**+1.3**
0.5nm,0.6s,mb3.7,baz=231,slow=9.2,SNR=3.7							
AKASG	**Malin Array Be**	**72.16**	**27**	P	**P**	**20 38 49.7**	**-1.1**
0.3nm,0.2s,mb3.9,baz=226,slow=6.3,SNR=4.8							
MAW	**Mawson**	**74.12**	**157**	P	**P**	**20 39 02.4**	**+0.5**
1.1nm,0.6s,mb3.9,baz=339,slow=7.3,SNR=7.1							
MAW				LR	LR	21 04 41.7	
comp=Z,158nm,20.6s,MS4.3,baz=280,slow=30							
NOA	**NORSAR Array B**	**74.89**	**12**	LR	LR	21 10 42.9	
comp=Z,97nm,20.3s,MS4.1,baz=220,slow=35							
FINES	**FINESS Array B**	**79.05**	**18**	P	**P**	**20 39 27.8**	**-1.9**
0.7nm,0.8s,mb3.7,baz=243,slow=26,SNR=2.1							
FINES				LR	LR	21 15 50.1	
comp=Z,129nm,18.2s,MS4.3,baz=229,slow=37							
SCHQ	**Schefferville**	**79.95**	**332**	LR	LR	21 08 13.3	
comp=Z,58nm,19.4s,MS3.9,baz=151,slow=31							
ARCES	**ARCESS Array B**	**85.25**	**13**	LR	LR	21 17 05.3	
comp=Z,117nm,19.7s,MS4.3,baz=230,slow=35							
ULM	**Lac du Bonnet**	**94.11**	**320**	LR	LR	21 17 24.2	
comp=Z,146nm,18.6s,MS4.5,baz=124,slow=32							

IDC 03 20:49:53.3±1.4, 0.35N×120.87E, mb3.6/3, mb1 3.9/4, mb1mx3.6/18, mbtmp3.7/4, ML3.6/1, Error ellipse: s-maj=155.0km s-min=23.4km az=63.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.92**	**166**	P	P	20 54 16.8	-1.3
0.1nm,0.3s,baz=315,slow=7.1,SNR=3.1							
WRA	**Warramunga Arr**	**24.10**	**148**	P	P	20 55 09.1	-2.7
0.3nm,0.9s,baz=327,slow=8.9,SNR=7.2							
MKAR	**Makanchi Array**	**57.21**	**329**	P	P	20 59 44.0	-0.7
0.3nm,0.4s,baz=129,slow=7.8,SNR=4.3							
ZAL	**Zalesovo**	**61.13**	**337**	P	P	21 00 08.8	-3.0
0.6nm,0.3s,baz=277,slow=3.7,SNR=3.3							

MAN 03 20:55:37.2, 18.19N×120.58E, h7km, mb3.9, ML2.7, MS2.3, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.55**	**166**	*e*P	Pg	20 55 48.0	-0.2
ABRA				*e*S	Sg	20 56 00.6	+5.0
APYP	**Conner**	**0.71**	**117**	*e*P	Pg	20 55 51.0	-0.5
APYP				*e*S	Sg	20 56 07.0	+6.0

CASC 03 21:04:15.6±2.0, 11.23N×85.42W, h1km±2km, MD3.7, ML3.5, 5C-6D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CONN	**Concepcion**	**0.39**	**328**⇓	*i*P	Pg	21 04 23.5	+0.1
CONN				*e*S	Sg	21 04 31.5	+2.9
APON	**Apoyo**	**0.93**	**317**⇑	*e*P	Pg	21 04 33.4	-0.8
APON				*e*S	Sg	21 04 47.5	+0.8
MASN	**Masaya**	**1.04**	**316**⇓	*e*P	Pb	21 04 35.5	-0.6
FORC	**Fortuna**	**1.05**	**136**⇑	*e*P	Pb	21 04 36.6	+0.3
TICN	**Ticuantepe**	**1.13**	**315**	*e*P	Pb	21 04 36.2	-1.4
TICN				*e*S	Sb	21 04 53.4	+0.7
CRUN	**El Crucero**	**1.14**	**311**⇓	*e*P	Pb	21 04 37.0	-0.8
WILN	**Americas 2**	**1.19**	**321**	*e*P	Pb	21 04 36.9	-1.8
WILN				*e*S	Sb	21 04 55.0	+0.6
MGAN	**Managua**	**1.22**	**318**⇓	*e*P	Pb	21 04 38.1	-1.1
MGAN				*i*		21 04 57.5	
comp=N,971nm,0.5s							
MGAN				*i*		21 05 02.8	
comp=E,756nm,0.6s							
XAVN	**Gruta Xavier**	**1.27**	**316**	*e*P	Pb	21 04 38.3	-1.8
PYTN	**Playitas**	**1.44**	**334**⇑	*e*P	Pn	21 04 41.4	-1.5
PYTN				*e*S	Sb	21 05 01.6	-0.1
COPN	**Copaltepe**	**1.49**	**309**⇓	*e*P	Pn	21 04 41.5	-2.0
COPN				*e*S	Sb	21 05 02.0	-1.0
MOMJ	**Momotombo**	**1.61**	**317**	*e*P	Pn	21 04 45.2	0.0
MOMJ				*e*S	Sb	21 05 08.7	+2.3
PRS1	**Puriscal**	**1.65**	**139**⇑	*e*P	Pn	21 04 46.4	+0.5
PRS1				*e*S	Sb	21 05 10.9	+3.2
MIRN	**Miramar**	**1.75**	**314**	*e*P	Pn	21 04 46.7	-0.6
MIRN				*e*S	Sn	21 05 10.2	-0.3
CNGN	**Cerro Negro**	**1.78**	**315**	*e*P	Pn	21 04 47.1	-0.6
CNGN				*e*S	Sn	21 05 13.2	+1.9
TRTC	**Tortuguero**	**1.80**	**111**⇑	*e*P	Pn	21 04 47.7	-0.3
TRTC				*e*S	Sn	21 05 11.8	+0.1
SJS	**Escuela Geolog**	**1.86**	**134**	*e*S	Sn	21 05 13.9	+0.7
LEON	**Leon**	**1.86**	**309**⇓	*e*P	Pn	21 04 48.3	-0.6
TEL3	**Telica 3**	**1.93**	**314**	*e*P	Pn	21 04 49.0	-0.9
TEL3				*e*S	Sn	21 05 16.6	+1.4
TELN	**Telica**	**1.94**	**315**	*e*S	Sn	21 05 16.0	+0.5
LCR2	**La Lucha 2**	**2.03**	**137**	*e*P	Pn	21 04 50.6	-0.7
LCR2				*e*S	Sn	21 05 18.5	+0.8
CRIN	**San Cristobal**	**2.16**	**313**	*e*P	Pn	21 04 54.0	+0.7
CRIN				*e*S	Sn	21 05 21.5	+0.4
BUS	**Buena Vista**	**2.33**	**135**	*e*P	Pn	21 04 56.8	+1.1
BUS				*e*S	Sn	21 05 27.1	+1.8

WEL 03 21:18:13.3±0.5, 37.34S×177.05E, h194km±6km, ML3.5/4, 3C, Error ellipse: s-maj=9.8km s-min=4.6km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.02**	**103**⇑	PN	P	21 18 42.5	-0.3
MXZ				SN	S	21 19 04.4	-1.1
MWZ	**Matawai**	**1.06**	**159**⇑	PN	P	21 18 43.0	-0.1
MWZ				SN	S	21 19 05.7	-0.4
PUZ	**Puketiti**	**1.21**	**128**⇑	PN	P	21 18 44.1	-0.2
PUZ				SN	S	21 19 06.8	-1.4
PUZ				SN	S	21 19 07.3	-0.9
KNZ	**Kokohu**	**1.75**	**164**	PN	P	21 18 48.7	-0.5
KNZ				SN	S	21 19 15.6	-1.3
TSZ	**Takapari Road**	**2.85**	**197**	PN	P	21 18 59.4	-2.0
KIW	**Kapiti Island**	**3.89**	**205**	*e*SN	S	21 19 56.9	-4.3
TCW	**Tory Channel**	**4.43**	**208**	*e*SN	S	21 20 08.6	-4.7

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*BJI **03** 21:20:50.4, 2.60N×79.40W, h28km, mB5.2, Ms5.2, Msz4.9*

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*HRVD **03** 21:20:50.5±0.4, 2.64N×79.46W, h13km±1km, MW4.9/40, Centroid moment Tensor Solution. LP body waves: s14,c17;Mantle waves: s40,c60; Half duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}-2.17±.22; $M_{\theta\theta}$0.06±.11; $M_{\phi\phi}$2.11±.17; $M_{r\theta}$-0.34±.33; $M_{r\phi}$0.75±.08; $M_{\theta\phi}$1.20±.35; Best double couple: $M_0$2.587×10^16 NP1:φs34°, δ35°, λ-64°. NP2:φs183°, δ59°, λ-107°. Principal axes: T 2.588, Plg13°, Azm285°; N -.001, Plg15°, Azm191°; P -2.586, Plg70°, Azm54°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*IDC **03** 21:20:50.6±0.7, 2.71N×79.30W, h28km±4km, mb4.3/25, mb1 4.5/27, mb1mx4.4/33, mbtmp4.5/27, ML4.2/2, MS3.9/12, Ms1 3.9/12, ms1mx3.6/38 Error ellipse: s-maj=19.5km s-min=10.0km az=61.0*

*NEIC **03** 21:20:50.5±0.2, 2.62N×79.40W, mb4.9/46, MS4.8/2, Error ellipse: s-maj=5.5km s-min=3.5km az=48.0*

ISC 03 21:20:48.8±0.3, 2.64N±0.04×79.42W±0.04, h28km, h28km±.3km: pP-P, n156, σ0 89/131, mb4.7/63, MS4.2/15, 1D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**5.54**	**66**	Pn	**Pn**	**21 22 12.5**	**+0.9**
26nm,0.3s,baz=261,slow=1.7,SNR=43							
ROSC				Sn	**Sn**	**21 23 16.7**	**+1.5**
17nm,0.3s,baz=92,slow=23,SNR=8.3							
ROSC				LR	LR	21 24 47.1	
comp=Z,846nm,18.6s,baz=31,slow=44							
JTS	**JuntasAbangare**	**9.38**	**324**	Pn	**P**	**21 23 04.8**	**-0.4**
0.5nm,0.3s,baz=299,slow=21,SNR=5.6							
JTS	**JuntasAbangare**	**9.38**	**324**	*e*P	**P**	**21 23 05.3**	**+0.1**
20nm,0.9s							
SDV	**Santo Domingo**	**10.72**	**54**	Pn	**P**	**21 23 22.2**	**-1.6**
9.5nm,0.3s,baz=250,slow=8.2,SNR=31							
SDV	**Santo Domingo**	**10.72**	**54**	*e*P	**P**	**21 23 21.8**	**-2.0**
17nm,0.4s							
NNA	**Nana**	**14.76**	**170**	*e*P	**P**	**21 24 16.3**	**-1.4**
23nm,0.8s							
CCIG	**Comitan**	**18.45**	**318**	*e*P	**P**	**21 25 05.8**	**+1.4**
TPP	**Pointe-a-Pierr**	**19.41**	**66**	*e*P	**P**	**21 25 18.3**	**+2.5**
TRN	**Trinidad (W)**	**19.57**	**65**	*e*P	**P**	**21 25 16.5**	**-1.3**
TBH	**Brigand Hill**	**19.82**	**66**	*e*P	**P**	**21 25 20.8**	**+0.3**
SAML	**Samuel**	**19.86**	**126**	*e*P	**P**	**21 25 17.3**	**-3.6**
76nm,0.9s							
SJG	**San Juan**	**20.14**	**39**	P	**P**	**21 25 23.0**	**-0.8**
26nm,0.9s,baz=255,slow=14,SNR=2.9							
SJG	**San Juan**	**20.14**	**39**	P	**P**	**21 25 22.8**	**-1.0**
80nm,1.3s							
TPR	**Prospect**	**20.35**	**64**	*e*P	**P**	**21 25 24.6**	**-1.4**
BOT	**Bacolet**	**20.40**	**65**	*e*P	**P**	**21 25 26.9**	**+0.4**
ARE	**Arequipa**	**20.54**	**158**	*e*P	**P**	**21 25 29.0**	**+1.1**
CMIG	**Matias Romero**	**20.90**	**314**	*i* P	**P**	**21 25 31.1**	**-0.5**
LPAZ	**La Paz**	**21.87**	**150**	P	**P**	**21 25 41.1**	**-0.3**
12nm,0.8s,mb4.3,baz=339,slow=14,SNR=41							
LPAZ	**La Paz**	**21.87**	**150**	*e*P	**P**	**21 25 41.0**	**-0.5**
60nm,1.5s,mb4.8							
OXX	**Oaxaca**	**22.24**	**311**	*i* P	**P**	**21 25 47.0**	**+1.9**
PPM	**Popocatepetl**	**24.89**	**312**	*e*P	**P**	**21 26 15.0**	**+4.0**
SIV	**San Ignacio**	**25.92**	**136**	P	**P**	**21 26 20.4**	**-0.3**
32nm,1.0s,mb4.8,baz=322,slow=10.0,SNR=49							
LVC	**Limon Verde**	**27.12**	**158**	P	**P**	**21 26 32.4**	**+0.8**
5.3nm,0.3s,mb4.5,baz=214,slow=16,SNR=3.0							
LVC				LR	LR	21 39 11.7	
comp=Z,299nm,18.3s,MS3.9,baz=319,slow=41							
LRAL	**Lakeview Retre**	**31.06**	**348**	*e*P	**P**	**21 27 06.0**	**-0.9**
23nm,1.0s,mb5.0							
JSC	**Jenkinsville**	**31.53**	**357**	*e*P	**P**	**21 27 10.5**	**-0.4**
NATX	**Nacogdoches**	**32.33**	**335**	P	**P**	**21 27 17.9**	**0.0**
MYNC	**Murphy**	**32.56**	**353**	*e*P	**P**	**21 27 19.7**	**-0.2**
10nm,1.0s,mb4.7							
MYNC				*e*pP	pP	21 27 27.4	-1.0
CPCT	**Cooper Cave**	**32.99**	**352**	*e*P	**P**	**21 27 23.1**	**-0.6**
PLAL	**Pickwick Lake**	**33.17**	**347**	*e*P	**P**	**21 27 23.6**	**-1.7**
6.5nm,0.9s,mb4.6							
PLAL				*e*pP	pP	21 27 32.2	-1.5
JCT	**Junction City**	**33.74**	**327**	*e*P	**P**	**21 27 30.1**	**-0.2**
32nm,1.3s,mb5.1							
UALR	**University of**	**34.16**	**341**	*e*P	**P**	**21 27 32.5**	**-1.3**
44nm,0.8s,mb5.4							
UALR				*e*pP	pP	21 27 41.3	-0.9
BLA	**Blacksburg**	**34.41**	**359**	*e*P	**P**	**21 27 36.6**	**+0.6**
29nm,1.1s,mb5.1							
ELN	**Prospectdale**	**34.44**	**358**	*e*P	**P**	**21 27 36.7**	**+0.4**
FWV	**Forest Hill**	**34.80**	**358**	*e*P	**P**	**21 27 39.3**	**0.0**
LTX	**Lajitas**	**35.15**	**321**	*e*P	**P**	**21 27 43.2**	**+0.8**
8.9nm,1.0s,mb4.7							
TXAR	**Lajitas Array**	**35.15**	**321**	P	**P**	**21 27 43.0**	**+0.6**
4.0nm,0.7s,mb4.4,baz=140,slow=9.8,SNR=18							
TXAR				PcP	PcP	21 30 13.9	+0.3
3.0nm,0.8s,baz=143,slow=6.3,SNR=9.4							
TXAR				LR	LR	21 42 21.8	
comp=Z,100nm,19.7s,MS3.6,baz=165,slow=37							
CFAA	**Coronel Fontan**	**35.68**	**164**	P	**P**	**21 27 47.2**	**+0.4**
1.0nm,0.9s,mb3.8,baz=352,slow=7.7,SNR=10							
CPUP	**Villa Florida**	**35.86**	**145**	LR	LR	21 44 01.0	
comp=Z,307nm,19.1s,MS4.1,baz=151,slow=39							
CPUP	**Villa Florida**	**35.86**	**145**	*e*P	**P**	**21 27 45.9**	**-2.5**
7.9nm,1.0s,mb4.6							
BDFB	**Brasilia**	**35.99**	**121**	P	**P**	**21 27 47.6**	**-2.0**
3.1nm,0.5s,mb4.5,baz=294,slow=8.9,SNR=4.8							
BDFB				LR	LR	21 43 22.5	
comp=Z,405nm,18.5s,MS4.2,baz=125,slow=38							
**S

ELK *e*pP pP 21 29 49.8 -0.3
OMM Old Mammoth Mi 50.26 319 *e*P **P** **21 29 45.6 +0.7**
QLMT Earthquake Lak 50.59 331 *e*P **P** **21 29 48.0 +0.8**
BMN Battle Mountai 50.80 323 *e*P **P** **21 29 49.2 +0.3**
32nm,1.1s,mb5.2
HLID Hailey 51.22 328 *e*P **P** **21 29 52.2 +0.2**
5.1nm,0.8s,mb4.5
BOZ Bozeman (W) 51.28 331 *e*P **P** **21 29 51.9 -0.6**
28nm,1.3s,mb5.0
BOZ *e*pP pP 21 30 00.8 -0.3
MCMT McKenzie Canyo 51.29 330 *e*P **P** **21 29 52.7 +0.1**
HRY Holter Researc 52.15 332 *e*P **P** **21 29 59.2 +0.2**
SCHQ Schefferville 53.03 9 P **P** **21 30 04.8 -0.8**
10nm,0.7s,mb4.9,baz=212,slow=5.2,SNR=17
SCHQ Schefferville 53.03 9 *e*P **P** **21 30 04.1 -1.4**
26nm,1.2s,mb5.0
WALA Waterton Lakes 54.82 333 *e*P **P** **21 30 17.6 -1.1**
8.5nm,1.3s,mb4.6
YBH Yreka Blue Hor 54.93 321 P **P** **21 30 19.7 +0.1**
3.3nm,0.7s,mb4.5,baz=128,slow=5.6,SNR=4.1
YBH LR LR 21 53 04.1
comp=Z,140nm,20.9s,MS4.0,baz=6.1,slow=35
NEW Newport 55.79 330 P **P** **21 30 24.7 -1.0**
5.4nm,0.9s,mb4.6,baz=140,slow=5.5,SNR=8.1
NEW LR LR 21 55 05.2
comp=Z,164nm,21.0s,MS4.1,baz=6.9,slow=37
EDM Edmonton 57.66 337 *e*P **P** **21 30 37.8 -1.2**
PGC Sidney 59.30 328 *e*P **P** **21 30 50.0 -0.5**
39nm,0.5s,mb5.7
BBB Bella Bella 63.76 329 P **P** **21 31 20.3 -0.2**
9.5nm,0.7s,mb4.9,baz=147,slow=6.8,SNR=4.9
BBB LR LR 21 59 38.4
comp=Z,112nm,18.8s,MS4.1,baz=316,slow=36
YKA Yellowknife Ar 65.19 343 P **P** **21 31 28.1 -1.5**
16nm,0.7s,mb5.2,baz=136,slow=5.9,SNR=65
YKA *p*P *p*P 21 31 37.1 -1.3
4.9nm,0.8s,baz=130,slow=7.0,SNR=6.3
YKA LR LR 22 01 25.8
comp=Z,51nm,18.9s,MS3.7,baz=270,slow=37
YKA Yellowknife Ar 65.19 343 P **P** **21 31 28.1 -1.5**
YKA *p*P *p*P 21 31 37.1 -1.3
YKA LR LR 22 01 25.8
YKW3 Yellowknife Ar 65.25 343 *e*P **P** **21 31 27.9 -2.0**
YKW3 *e*pP *p*P 21 31 36.7 -2.0
DLBC Dease Lake 68.14 334 P **P** **21 31 49.0 +0.7**
15nm,0.8s,mb5.1,baz=143,slow=6.7,SNR=23
DLBC LR LR 22 03 09.3
comp=Z,89nm,18.4s,MS4.0,baz=108,slow=37
DLBC Dease Lake 68.14 334 *e*P **P** **21 31 48.5 +0.1**
SUMG Summit 74.28 12 *e*P **P** **21 32 24.4 -0.5**
46nm,1.1s,mb5.3
MENT Mentasta 76.18 335 *e*P **P** **21 32 36.8 +0.8**
ESDC Sonseca Array 77.14 50 P **P** **21 32 41.3 -0.5**
0.6nm,0.5s,mb3.8,baz=263,slow=5.7,SNR=6.6
SML Sawmill 77.82 333 *e*P **P** **21 32 45.1 0.0**
ILAR Eielson Array 78.14 336 P **P** **21 32 46.8 0.0**
12nm,0.8s,mb4.8,baz=114,slow=4.2,SNR=64
ILAR *p*P *p*P 21 32 55.8 0.0
6.1nm,0.9s,baz=126,slow=3.4,SNR=8.8
MCK McKinley 78.66 335 *e*P **P** **21 32 49.6 -0.1**
15nm,1.1s,mb4.8
ROSF Rostrenen 78.83 41 *e*P **P** **21 32 51.3 +0.4**
21nm,0.9s,mb4.8
QUIF Quistinic 78.84 42 *e*P **P** **21 32 51.1 +0.1**
58nm,1.4s,mb5.0
SGMF Saint Gilles 79.30 41 *e*P **P** **21 32 53.8 +0.4**
8.4nm,0.7s,mb4.5
SPU Mount Spurr 79.37 332 *e*P **P** **21 32 53.6 0.0**
RSO Redoubt South 79.53 331 *e*P **P** **21 32 54.6 +0.2**
SJPF Ste Jean 79.59 47 *e*P **P** **21 32 55.4 +0.3**
36nm,1.2s,mb4.9
ETSF Etsaut 80.05 47 *e*P **P** **21 32 57.6 0.0**
GRR Gorron 80.44 41 *e*P **P** **21 32 59.8 +0.2**
20nm,1.0s,mb4.7
EPF Esparros 80.72 47 *e*P **P** **21 33 01.5 +0.3**
MFF Saint Martin d 80.72 43 *e*P **P** **21 33 01.4 +0.3**
9.4nm,0.9s,mb4.4
FLN La Foliniere 80.73 41 *e*P **P** **21 33 00.9 -0.2**
34nm,1.1s,mb4.9
SVW2 Sparrevohn 81.02 331 *e*P **P** **21 33 02.1 -0.2**
LFF La Frestale 81.18 45 *e*P **P** **21 33 03.9 +0.4**
IMA Indian Mountail 81.24 337 *e*P **P** **21 33 03.9 +0.5**
CHGN Chignik 81.70 326 *e*P **P** **21 33 06.7 +0.7**
RJF Les Rejaudoux 81.75 45 *e*P **P** **21 33 06.9 +0.4**
40nm,1.4s,mb4.9
CAF Calviac 82.11 45 *e*P **P** **21 33 08.9 +0.5**
TCF Toulx Ste Croi 82.31 44 *e*P **P** **21 33 09.6 +0.2**
BGF Bois d'Agland 82.77 44 *e*P **P** **21 33 12.1 +0.3**
AVF Avril sur Loir 83.13 43 *e*P **P** **21 33 13.7 +0.1**
5.3nm,0.8s,mb4.3
SSF Saint Saulge 83.25 43 *e*P **P** **21 33 14.6 +0.3**
SMF Signal de Mont 83.46 44 *e*P **P** **21 33 15.5 +0.2**
9.6nm,0.9s,mb4.5
LOR Lormes 83.51 43 *e*P **P** **21 33 16.4 +0.8**
MEZF Maizieres J'vi 84.37 42 *e*P **P** **21 33 20.4 +0.5**
HAU Haudompre 85.22 42 *e*P **P** **21 33 24.4 +0.3**
HINF Hinteralfeld 85.55 42 *e*P **P** **21 33 25.9 +0.1**
CDF Champ du Feu 85.85 42 *e*P **P** **21 33 27.7 +0.4**
SBF Sospel 85.92 46 *e*P **P** **21 33 28.3 +0.6**
13nm,0.7s,mb5.0
UNV Unalaska Valle 86.16 324 *e*P **P** **21 33 29.2 +0.6**
38nm,0.9s,mb5.6
NB2 NORSAR Subarra 88.02 29 P **P** **21 33 38.4 +0.9**
4.0nm,1.0s,mb4.6,baz=269,slow=4.8
NOA NORSAR Array B 88.02 29 P **P** **21 33 38.2 +0.7**
1.3nm,0.7s,mb4.3,baz=270,slow=4.8,SNR=4.5
NOA *p*P *p*P 21 33 47.5 +0.8
2.2nm,0.8s,baz=270,slow=4.6,SNR=6.2
NOA NORSAR Array B 88.02 29 P **P** **21 33 38.2 +0.7**
NOA *p*P *p*P 21 33 47.5 +0.8
SNAA Sanae 88.29 162 P **P** **21 33 39.1 +0.5**
0.6nm,0.8s,mb3.9,baz=206,slow=15,SNR=4.3
GERES GERESS Array B 90.09 41 P **P** **21 33 48.2 +0.6**
0.3nm,0.6s,mb3.8,baz=297,slow=3.0,SNR=4.0
ARCES ARCESS Array B 92.73 20 P **P** **21 33 59.6 +0.3**
2.9nm,0.7s,mb4.8,baz=346,slow=10.0,SNR=5.8
ZAL Zalesovo 122.11 11 PKP PKPdf 21 39 42.2 -3.7
1.1nm,0.3s,baz=146,slow=0.4,SNR=8.3
MKAR Makanchi Array 128.20 16 PKP PKPdf 21 39 53.6 -4.3
1.3nm,0.8s,slow=2.4,SNR=10
CN2 Changchun 128.66 337 *e*PKP PKPdf 21 39 54.0 -4.9
SONM Songino Array 129.48 355 PKP PKPdf 21 39 56.4 -4.0
2.9nm,0.9s,baz=32,slow=0.7,SNR=17
STKA Stephens Creek 131.70 228 PKP PKPdf 21 40 01.6 -3.4
4.9nm,1.0s,baz=333,slow=4.5,SNR=3.0
WMQ Urumqi 132.32 13 *e*PKP PKPdf 21 40 02.5 -3.4
SSE Sheshan 141.13 331 PKP PKPdf 21 40 17.4 -5.0
SSE PP PP 21 43 22.1 -1.0
SSE SS SS 22 01 43.6 -2.8
SSE PP PP
comp=Z,182nm,5.9s
SSE LR LR
comp=N,90nm,25.0s,MS4.9
SSE LR LR
comp=E,279nm,25.0s,MS4.9
SSE LR LR
comp=Z,110nm,21.2s,MS4.6
LZH Lanzhou 141.35 356 *e*PKP PKPdf 21 40 18.1 -4.5
LZH XPKP 21 40 31.9
LZH *e*PP PP 21 43 24.2 -0.1
LZH *e*SS SS 22 01 47.3 -1.6
LZH PP PP
comp=Z,77nm,8.2s
LZH LR LR
comp=E,189nm,18.2s
LZH LR LR
comp=Z,249nm,20.0s,MS5.0
LZH Lanzhou 141.35 356 *e*PKP PKPdf 21 40 18.1 -4.5
LZH pPKP 21 40 28.0
LZH sPKP 21 40 31.9
LZH *e*PP PP 21 43 24.2 -0.1
LZH *e*SS SS 22 01 47.3 -1.6
LZH LR LR
comp=Z,250nm,20.0s,MS5.0
NJ2 Nanjing 141.38 335 *e*PKP PKPdf 21 40 17.2 -5.6
WB2 Warramunga Arr 142.81 240 *e*P PKPdf 21 40 17.2 -8.4
WRA Warramunga Arr 142.82 240 PKhKP 21 40 17.2
comp=Z,4.1nm,0.9s,baz=105,slow=3.0,SNR=27
KOLN Koldanda 145.63 27 *e*P PKPbc 21 40 26.9 +0.9
comp=Z,34nm,1.0s
GKN Gorkha 145.89 26 *e*P PKPbc 21 40 27.2 +0.5
comp=Z,50nm,0.9s
KKN Kakani 146.35 25 *e*P PKPbc 21 40 29.0 +1.3
comp=Z,35nm,0.9s
DMN Daman 146.44 25 *e*P PKPbc 21 40 29.4 +1.5
comp=Z,69nm,1.3s
CD2 Chengdu 146.50 355 PKP PKPdf 21 40 26.2 -5.5
PKI Pulchoki 146.60 25 *e*P PKPbc 21 40 30.0 +1.7
comp=Z,41nm,1.1s
LSA Lhasa 146.60 15 PKP PKPdf 21 40 29.0 -2.9
KAKA Kakadu 146.92 251 *e*P PKPbc 21 40 36.6 +7.2
comp=Z,8.6nm,0.6s
KLBR Kellerberrin 146.96 208⇓*i*P PKPbc 21 40 30.3 +1.3
comp=Z,16nm,0.6s
MUN Mundaring 147.32 205 *e*P PKPdf 21 40 32.0 -1.0
comp=Z,24nm,0.9s
GYA Guiyang 150.48 349 PKP PKPdf 21 40 39.8 +1.6
PP PP
comp=Z,110nm,6.8s
GYA LR LR
comp=N,180nm,20.8s,MS5.0
GYA LR LR
comp=E,160nm,21.4s,MS5.0
GYA LR LR
comp=Z,210nm,22.0s,MS4.9
FITZ Fitzroy Crossi 151.02 236 *e*P PKPdf 21 40 41.8 +2.7
comp=Z,25nm,0.8s
KMI Kunming 152.32 356 PKP PKPdf 21 40 38.4 -2.5
KMI APKP 21 40 44.6
KMI XPKP 21 40 49.0
KMI PKP2 PKPab 21 40 55.6 +0.4
KMI PP PP 21 44 27.4 -1.0
KMI PP PP
comp=Z,189nm,5.2s
KMI LR LR
comp=N,267nm,28.0s,MS5.0
KMI LR LR
comp=E,239nm,28.0s,MS5.0
KMI LR LR
comp=Z,181nm,20.7s

IDC ***03*** *21:23:26.7±0.7, 62.00S×155.36W, mb4.0/7, mb1 4.2/7, mb1mx4.2/13, mbtmp4.0/7, MS4.7/12, Ms1 4.7/12, ms1mx4.7/12, Error ellipse: s-maj=29.9km s-min=21.4km az=3.0*
NEIC ***03*** *21:23:28.1±0.4, 62.04S×155.47W, h10km, mb4.3/2, Error ellipse: s-maj=13.5km s-min=12.2km az=144.0*
ISC 03 21:23:26.0±0.6**, 62.00S**±0.08×**155.6W**±0.3**, h10**km**, n35,**
σ0§**80**/15**, mb4.1**/6**, MS4.7**/12**, Pacific-Antarctic Ridge**
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
SBA Scott Base 19.82 202 P **P** **21 27 58.9 -0.3**
28nm,1.5s
VNDA Vanda 20.59 205 P **P** **21 28 08.8 +1.5**
3.2nm,1.0s,baz=65,slow=13,SNR=10
VNDA LR LR 21 33 55.0
comp=Z,2μm,21.0s,MS4.5,baz=67,slow=30
VNDA Vanda 20.59 205 *e*P **P** **21 28 06.2 -1.1**
16nm,1.3s
VNDA LR LR 21 33 55.0
RPZ Rata Peaks 26.76 298 LR LR 21 37 00.6
comp=Z,790nm,20.5s,MS4.3,baz=324,slow=30
URZ Urewera 29.11 312 LR LR 21 38 09.7
comp=Z,996nm,20.8s,MS4.4,baz=241,slow=30
TBI Tubuai 38.85 9 *e*S **S** **21 36 50.5 +0.2**
TBI *e*LQ 21 39 47.5
TBI *e*LR LR 21 41 10.9
4μm,27.8s,baz=185
RKT Rikitea 41.33 29 *e*S **S** **21 37 26.1 -1.3**
RKT *e*LQ 21 40 53.3
RKT *e*LR LR 21 42 32.6
2μm,28.8s,baz=189
PPT Papeete 44.58 8 *e*S **S** **21 38 14.8 -0.2**
PPT *e*LQ 21 41 57.0
PPT *e*LR LR 21 43 47.5
4μm,25.2s,baz=190
PPT Papeete 44.58 8 LR LR 21 45 08.9
comp=Z,1μm,20.4s,MS4.8,baz=193,slow=29
SNAA Sanae 45.28 168 P **P** **21 31 43.5 -1.2**
1.1nm,1.1s,mb3.6,baz=204,slow=8.3,SNR=4.0
MAW Mawson 47.73 199 P **P** **21 32 04.3 +0.2**
1.8nm,1.0s,mb4.1,baz=152,slow=8.5,SNR=4.6
MAW LR LR 21 50 57.3
comp=Z,1μm,18.0s,MS4.9,baz=150,slow=35
STKA Stephens Creek 49.72 277 LR LR 21 50 14.0
comp=Z,1μm,18.5s,MS4.9,baz=150,slow=32
STKA Stephens Creek 49.72 277 *e*P **P** **21 32 20.0 +0.1**
PLCA Paso Flores 52.82 108 LR LR 21 50 21.0
comp=Z,607nm,18.5s,MS4.7,baz=214,slow=31
WRA Warramunga Arr 63.25 278 P **P** **21 33 56.9 +0.2**
1.3nm,0.7s,mb4.2,baz=155,slow=5.8,SNR=16
LVC Limon Verde 68.74 98 P **P** **21 34 31.7 -0.1**
2.0nm,0.7s,mb4.2,baz=170,slow=4.9,SNR=2.3
CPUP Villa Florida 70.83 110 P **P** **21 34 44.5 0.0**
1.9nm,0.7s,mb4.2,baz=252,slow=9.6,SNR=5.3
CPUP LR LR 22 01 59.1
comp=Z,322nm,18.8s,MS4.6,baz=227,slow=33
CPUP Villa Florida 70.83 110 P **P** **21 34 44.5 -0.1**
CPUP LR LR 22 01 59.1
LPAZ La Paz 74.57 96 P **P** **21 35 08.3 +1.7**
3.5nm,1.1s,mb4.2,baz=157,slow=5.1,SNR=4.9
LPAZ LR LR 21 59 37.6
comp=Z,291nm,21.6s,MS4.5,baz=184,slow=29
LPAZ La Paz 74.57 96 P **P** **21 35 08.3 +1.7**
LPAZ LR LR 21 59 37.6
BDFB Brasilia 84.31 113 LR LR 22 11 00.6
comp=Z,682nm,18.9s,MS5.0,baz=204,slow=34
BOSA Boshof 89.71 181 LR LR 22 16 02.6
comp=Z,558nm,18.6s,MS5.0,baz=167,slow=35
ROSC El Rosal 90.14 80 LR LR 22 11 23.5
comp=Z,214nm,18.4s,MS4.6,baz=104,slow=32
ILAR Eielson Array 126.63 5 PKP PKPdf 21 42 29.5 -1.6
0.8nm,0.7s,baz=220,slow=1.3,SNR=4.4
MKAR Makanchi Array 144.40 272 PKP PKPdf 21 43 02.5 -1.7
1.3nm,0.7s,baz=128,slow=4.4,SNR=13
MKAR Makanchi Array 144.40 272 PKP PKPdf 21 43 02.5 -1.7
AAK Ala-Archa 144.94 260 *e*PKPdf PKPdf 21 43 04.2 -1.1
EIL Elat 146.93 197 PKPbc PKPbc 21 43 10.8 +3.1
55nm,0.7s,baz=334,slow=12,SNR=4.3
EIL Elat 146.93 197 PKPbc PKPbc 21 43 10.8 +3.1
ZAL Zalesovo 148.10 283 PKPbc PKPdf 21 43 13.8 +3.6
0.5nm,0.3s,baz=1.7,slow=6.4,SNR=3.2
KURK Kurchatov 148.88 274 *e*PKPdf PKPdf 21 43 11.2 -0.3
ASF Jabal al Asfar 149.09 201 PKPbc PKPdf 21 43 16.2 +3.8
1.5nm,0.8s,baz=279,slow=15,SNR=2.1
ESDC Sonseca Array 151.76 129 PKPbc PKPdf 21 43 21.4 +5.0
0.7nm,0.6s,baz=111,slow=29,SNR=5.1
BVAR Borovoye Array 154.27 271 PKPbc PKPdf 21 43 26.7 +7.3
0.5nm,0.5s,baz=210,slow=44,SNR=4.0
BVAR PKPab PKPab 21 43 41.7 +0.7
1.1nm,0.7s,baz=180,slow=5.9,SNR=6.0
BRTR Keskin Array B 157.00 198 PKPbc PKPdf 21 43 33.4 +10
0.3nm,0.4s,baz=146,slow=4.5,SNR=4.9

IDC ***03*** *21:40:42.6±3.1, 26.05N×60.24E, mb4.1/10, mb1 4.2/10, mb1mx3.9/23, mbtmp4.1/10, MS3.6/4, Ms1 3.6/4, ms1mx3.1/32, Error ellipse: s-maj=65.7km s-min=21.8km az=167.0*
NEIC ***03*** *21:40:44.0±3.9, 26.05N×60.23E, h10km, mb4.0/1, Error ellipse: s-maj=79.7km s-min=13.2km az=164.0*
CSEM ***03*** *21:40:45.1±0.7, 26.51N×59.89E, h10km, mb4.0/1, Error ellipse: s-maj=29.3km s-min=6.5km az=169.0*
ISC 03 21:40:44.7±4.1**, 26.4N**±0.6×**60.0E**±0.2**, h10**km**, n19,**
σ1§**15**/15**, mb3.9**/9**, MS3.6**/3**, Southern Iran**
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
KBD Kabd 11.21 287 *e*P **P** **21 43 27.3 -0.8**
KBD AML AML 21 45 32.6
comp=Z,28nm,0.3s
UMR Umm Al-Rimmam 11.28 289 *e*P **P** **21 43 28.3 -0.7**
UMR AML AML 21 45 35.6
comp=Z,14nm,0.3s
RDF Al-Radifah 11.29 286 *e*P **P** **21 43 27.8 -1.4**
RDF AML AML 21 45 37.0
comp=Z,14nm,0.5s
MIB Mutribah 11.65 290 *e*P **P** **21 43 32.9 -1.2**
MIB AML AML 21 45 44.2
comp=Z,15nm,0.5s
GNI Garni 18.68 321 LR LR 21 53 13.4
comp=Z,76nm,18.2s,baz=342,slow=39
ASF Jabal al Asfar 20.91 291 P **P** **21 45 30.4 +0.5**
comp=Z,12nm,0.9s,baz=330,slow=6.9,SNR=18
ASF LR LR 21 55 56.5
comp=Z,163nm,18.8s,MS3.4,baz=135,slow=43
EIL Elat 22.31 284 P **P** **21 45 45.8 +1.9**
comp=Z,32nm,0.5s,mb5.0,baz=78,slow=9.3,SNR=3.2
BR131 Keskin Array S 25.65 308 P **P** **21 46 17.3 +1.1**
comp=Z,2.4nm,0.7s,mb3.8
BRTR Keskin Array B 25.65 308 P **P** **21 46 18.3 +2.1**
comp=Z,2.5nm,0.7s,mb3.8,baz=123,slow=11,SNR=10
MKAR Makanchi Array 26.97 35 P **P** **21 46 27.4 -0.9**
comp=Z,0.5nm,0.3s,mb3.5,baz=215,slow=8.5,SNR=16
BVAR Borovoye Array 27.73 14 P **P** **21 46 35.5 +0.4**
comp=Z,1.3nm,0.6s,mb3.8,baz=202,slow=12,SNR=9.6
BVAR PcP PcP 21 49 49.7 -2.5
comp=Z,0.4nm,0.5s,baz=153,slow=6.4,SNR=3.5
BVAR Borovoye Array 27.73 14 PcP PcP 21 49 49.7 -2.5
ZAL Zalesovo 33.09 27 P **P** **21 47 21.1 -1.5**
comp=Z,1.7nm,0.3s,mb4.4,baz=152,slow=17,SNR=7.5
AKASG Malin Array Be 33.76 324 P **P** **21 47 30.3 +1.8**
comp=Z,0.5nm,0.5s,mb3.7,baz=150,slow=7.4,SNR=2.3
FINES FINESS Array B 41.80 336 P **P** **21 48 37.0 +1.2**
comp=Z,0.9nm,0.6s,mb3.6,baz=132,slow=8.1,SNR=5.5
SONM Songino Array 42.00 47 LR LR 22 08 35.5
comp=Z,39nm,20.2s,MS3.3,baz=332,slow=40
GERES GERESS Array B 42.14 315 P **P** **21 48 38.6 -0.1**
comp=Z,0.4nm,0.6s,mb3.2,baz=117,slow=9.0,SNR=4.4
ARCES ARCESS Array B 47.63 344 P **P** **21 49 22.2 -0.3**
comp=Z,1.9nm,0.8s,mb4.2,baz=27,slow=5.4,SNR=11
MJAR Matsushiro Arr 65.85 60 LR LR 22 22 25.7
comp=Z,145nm,21.5s,MS4.2,baz=140,slow=38

IDC 03 22:04:20.6±1.1**, 27.58S**×**178.41W, h346**km±14km**, mb3.2/1, mb1 3.4/3, mb1mx3.1/13, mbtmp4.1/3, Error ellipse: s-maj=36.9km s-min=27.6km az=143.0, Kermadec Islands region**
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
RAO Raoul Island 1.72 165 P P 22 05 11.0 +1.0
163nm,0.3s,baz=56,slow=22,SNR=15
RAO S S 22 05 48.8 +0.2
97nm,0.3s,baz=105,slow=23,SNR=2.8
URZ Urewera 11.29 198 P P 22 06 55.0 -0.1
1.9nm,0.3s,baz=257,slow=3.8,SNR=8.9
URZ S S 22 08 57.6 +0.3
2.6nm,0.3s,baz=118,slow=22,SNR=12
DZM Mont Dzumac 14.80 288 P P 22 07 34.6 -1.2
0.4nm,0.3s,baz=103,slow=18,SNR=3.8
WRA Warramunga Arr 43.70 269 P P 22 11 52.5 -1.8
1.2nm,0.6s,baz=107,slow=7.6,SNR=17
NB2 NORSAR Subarra 145.92 352 PKPabc PKPdf 22 23 19.2 +1.4
0.9nm,0.8s,baz=10.0,slow=3.1
NOA NORSAR Array B 145.92 352 PKPbc PKPbc 22 23 18.8 -0.2
0.7nm,0.7s,baz=17,slow=2.9,SNR=3.9
HFS Hagfors 146.41 349 PKPbc PKPbc 22 23 19.5 -0.8
0.7nm,0.4s,baz=90,slow=3.0,SNR=5.2
AKASG Malin Array Be 148.81 325 PKPbc PKPdf 22 23 27.0 +4.2
0.9nm,0.5s,baz=43,slow=3.0,SNR=6.2

NEIC ***03*** *22:08:32.8, 45.04S×167.44E, h118km, MG4.7(WEL), After WEL.*
NEIC Felt at Queenstown.
IDC ***03*** *22:08:33.3±6.6, 44.78S×167.69E, h131km±48km, mb3.4/1, mb1 3.8/2, mb1mx3.5/10, mbtmp3.9/2, Error ellipse: s-maj=121.1km s-min=31.7km az=7.0*
WEL ***03*** *22:08:33.2±0.3, 45.05S×167.50E, h116km±2km, ML4.7/14, Error ellipse: s-maj=2.6km s-min=1.6km az=90.0*
WEL Felt from Otago to Southland, maximum reported intensity MM 4.
ISC 03 22:08:31.1±0.7**, 45.04S**±0.05×**167.63E**±0.07**, h130**km±5**km,**
n41, σ1§**05**/56**, mb3.6**/1**, 8C-2D, South Island**
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
MSZ Milford Sound 0.42 30 ⇑PN **P** **22 08 50.8 +0.8**
MSZ SN **S** **22 09 03.6 -0.6**
MSZ Milford Sound 0.42 30 P **P** **22 08 50.8 +0.9**
MSZ S **S** **22 09 03.6 -0.6**
MLZ Mavora Lakes 0.49 129 ⇑PN **P** **22 08 51.1 +0.7**
MLZ SN **S** **22 09 04.5 -0.3**
MLZ Mavora Lakes 0.49 129 P **P** **22 08 51.1 +0.8**
MLZ S **S** **22 09 04.6 -0.3**
DCZ Deep Cove 0.56 217 ⇑PN **P** **22 08 50.1 -0.6**
DCZ SN **S** **22 09 03.1 -2.5**
DCZ Deep Cove 0.56 217 P **P** **22 08 50.1 -0.6**
DCZ S **S** **22 09 03.1 -2.5**
WHZ Wether Hill Ro 0.88 166 ⇑PN **P** **22 08 54.0 +0.8**
WHZ SN **S** **22 09 09.2 -0.8**
WHZ Wether Hill Ro 0.88 166 P **P** **22 08 54.0 +0.9**
WHZ S **S** **22 09 09.2 -0.7**
WKZ Wanaka 1.00 78 ⇑PN **P** **22 08 56.2 +1.9**
WKZ SN **S** **22 09 12.8 +0.9**
EAZ Earnscleugh 1.20 100 ⇑PN **P** **22 08 58.0 +1.7**
EAZ SN **S** **22 09 15.4 0.0**
EAZ Earnscleugh 1.20 100 P **P** **22 08 58.0 +1.7**
JCZ Jackson Bay 1.25 40 ⇓PN **P** **22 08 58.0 +1.1**
JCZ SN **S** **22 09 16.4 0.0**
JCZ Jackson Bay 1.25 40 P **P** **22 08 58.0 +1.1**
TUZ Tuapeka 1.68 124 ⇑PN **P** **22 09 03.4 +1.7**
TUZ SN **S** **22 09 24.3 -0.7**
LBZ Lake Benmore 1.93 71 ⇓PN **P** **22 09 05.4 +0.7**
LBZ SN **S** **22 09 29.8 -0.4**
FOZ Fox Glacier 2.08 46 PN **P** **22 09 07.8 +1.2**
FOZ SN **S** **22 09 34.3 +0.7**
FOZ Fox Glacier 2.08 46 *e*P **P** **22 09 07.8 +1.2**
ODZ Otahua Downs 2.13 91 ⇑PN **P** **22 09 08.4 +1.2**
ODZ SN **S** **22 09 34.0 -0.8**
ODZ Otahua Downs 2.13 91 P **P** **22 09 08.4 +1.1**
RPZ Rata Peaks 2.79 63 P **P** **22 09 15.6 -0.2**
17nm,0.3s,baz=227,slow=5.4,SNR=26
RPZ S **S** **22 09 48.2 -1.5**
88nm,0.3s,baz=116,slow=18,SNR=37
RPZ Rata Peaks 2.79 63 PN **P** **22 09 15.5 -0.2**
RPZ SN **S** **22 09 48.5 -1.2**
WVZ Waitaha Valley 2.98 50 PN **P** **22 09 17.6 -0.7**
MQZ McQueen's Vall 3.84 71 PN **P** **22 09 29.6 -0.1**
MQZ SN **S** **22 10 10.8 -3.8**
MQZ McQueen's Vall 3.84 71 P **P** **22 09 29.6 -0.1**
LTZ Lake Taylor 4.04 58 PN **P** **22 09 31.4 -1.0**
LTZ Lake Taylor 4.04 58 *e*P **P** **22 09 31.4 -1.0**
DSZ Denniston Nort 4.48 44 PN **P** **22 09 37.3 -1.1**
DSZ Denniston Nort 4.48 44 P **P** **22 09 37.4 -0.9**
KHZ Kahutara 5.02 61 *e*P **P** **22 09 45.6 +0.1**
THZ Tophouse 5.04 51 P **P** **22 09 44.9 -1.0**
QRZ Quartz Range 5.53 42 P **P** **22 09 51.9 -0.5**
NNZ Nelson 5.68 50 *e*P **P** **22 09 54.0 -0.4**
KIW Kapiti Island 6.78 55 P **P** **22 10 07.3 -2.0**
MTW Mount Morrison 6.94 59 P **P** **22 10 09.6 -1.9**
DFE Dawson Falls 7.46 42 P **P** **22 10 20.0 +1.5**
NEZ North Egmont 7.50 42 P **P** **22 10 20.3 +1.2**
PKE Pukeiti 7.51 41 P **P** **22 10 19.8 +0.6**
WRA Warramunga Arr 37.19 301 P **P** **22 15 30.8 -0.5**
0.8nm,0.6s,mb3.6,baz=139,slow=7.7,SNR=28
ARCES ARCESS Array B 148.98 335 PKPbc PKPdf 22 28 03.5 +5.5
5.0nm,1.1s,baz=90,slow=2.4,SNR=5.2
AKASG Malin Array Be 151.82 297 PKPbc PKPdf 22 28 11.1 +8.2
0.5nm,0.5s,baz=75,slow=2.3,SNR=6.4
FINES FINESS Array B 152.29 320 PKPbc PKPdf 22 28 12.0 +8.8
1.0nm,0.6s,baz=135,slow=2.7,SNR=6.1

CSEM ***03*** *22:22:34.9, 28.46S×177.01W, h33km, mb5.5*
MOS ***03*** *22:22:37.2±1.1, 28.02S×177.42W, h56km, mb5.2/18, Error ellipse: s-maj=14.7km s-min=10.5km az=72.8*
BJI ***03*** *22:22:38.9, 28.10S×177.40W, h61km, mB5.4, mb5.0, Ms5.2, Msz4.8*
NEIC ***03*** *22:22:39.0±0.2, 28.13S×177.42W, mb5.1/28, Error ellipse: s-maj=10.2km s-min=6.9km az=133.0*
HRVD ***03*** *22:22:39.0±0.7, 28.05S×177.09W, h57km±3km, MW4.9/36, Centroid moment Tensor Solution. LP body waves: s20,c24;Mantle waves: s36,c45; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.39±.25; $M_{\theta\theta}$0.05±.21; $M_{\phi\phi}$-2.44±.17; $M_{r\theta}$0.27±.13; $M_{\theta\phi}$-0.83±.12; $M_{\phi r}$0.79±.13; Best double couple: $M_0$2.673×10^{16} NP1:φs196°, δ36°, λ89°. NP2:φs18°, δ54°, λ91°. Principal axes: T 2.523, Plg81°, Azm292°; N .303, Plg1°, Azm197°; P -2.823, Plg9°, Azm107°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***03*** *22:22:39.1±1.9, 28.06S×177.36W, h64km±16km, mb4.7/17, mb1 4.7/17, mb1mx4.7/18, mbtmp4.9/17, MS3.9/13, Ms1 3.9/13, ms1mx3.8/20 Error ellipse: s-maj=17.6km s-min=15.7km az=43.0*
ISC 03 22:22:36.8±0.3**, 28.57S**±0.04×**177.37W**±0.07**, h61**km**,**

h61km±.7km**:pP-P,n314,**σ1**937**/136**,mb5.1**/43**,15C-7D,**
Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.83**	**215**	P	**P**	**22 23 00.5**	**+7.7**
	8μm,0.3s,baz=352,slow=2.6,SNR=322						
RAO				S	**S**	**22 23 17.3**	**+13**
	26μm,0.3s,baz=293,slow=23,SNR=44						
RAO				LR	LR	22 23 31.0	
	comp=Z,38μm,21.6s,baz=136,slow=40						
RAO	**Raoul Island**	**0.83**	**215**	*e*P	**P**	**22 23 00.2**	**+7.4**
RAO	**Raoul Island**	**0.83**	**215**	P	**P**	**22 23 00.5**	**+7.7**
RAO				S	**S**	**22 23 17.3**	**+13**
RAO				MLR	MLR		
	comp=Z,38μm,21.6s						
MXZ	**Matakaoa Point**	**9.67**	**201**	*e*PN	**P**	**22 24 53.3**	**-2.4**
MXZ				*e*SN	**S**	**22 26 44.0**	**+0.2**
MXZ	**Matakaoa Point**	**9.67**	**201**	P	**P**	**22 24 53.3**	**-2.4**
MXZ				S	**S**	**22 26 44.3**	**+0.6**
PUZ	**Puketiti**	**10.15**	**200**	*e*SN	**S**	**22 26 53.4**	**-2.1**
URZ	**Urewera**	**10.70**	**204**	P	**P**	**22 25 06.9**	**-2.8**
	comp=Z,0.9nm,0.3s,baz=240,slow=4.8,SNR=12						
URZ				S	**S**	**22 27 10.5**	**+1.7**
	comp=Z,15nm,0.3s,baz=323,slow=19,SNR=13						
URZ	**Urewera**	**10.70**	**204**	*e*PN	**P**	**22 25 06.6**	**-3.1**
URZ				*e*SN	**S**	**22 27 11.0**	**+2.2**
URZ	**Urewera**	**10.70**	**204**	*e*P	**P**	**22 25 06.9**	**-2.8**
KNZ	**Kokohu**	**11.20**	**200**	*e*SN	**S**	**22 27 18.7**	**-2.2**
BKZ	**Black Stump Fm**	**11.73**	**204**	*e*SN	**S**	**22 27 32.3**	**-1.3**
MRZ	**Mangatainoka R**	**13.38**	**204**	*e*SN	**S**	**22 28 06.9**	**-6.1**
KIW	**Kapiti Island**	**13.80**	**205**	*e*PN	**P**	**22 25 53.8**	**+3.0**
QRZ	**Quartz Range**	**14.77**	**211**	*e*PN	**P**	**22 26 04.7**	**+1.2**
QRZ	**Quartz Range**	**14.77**	**211**	P	**P**	**22 26 08.2**	**+4.7**
THZ	**Tophouse**	**15.36**	**208**	*e*PN	**P**	**22 26 09.6**	**-1.6**
THZ				*e*SN	**S**	**22 28 55.4**	**-4.3**
THZ	**Tophouse**	**15.36**	**208**	*e*P	**P**	**22 26 12.8**	**+1.7**
AFI	**Afiamalu**	**15.49**	**21**	P	**P**	**22 26 05.9**	**-7.1**
	comp=Z,2.9nm,0.3s,baz=321,slow=19,SNR=2.3						
AFI				S	S	22 28 39.0	-24
	comp=Z,6.2nm,0.3s,baz=252,slow=23,SNR=5.8						
KHZ	**Kahutara**	**15.66**	**206**	*e*PN	**P**	**22 26 11.1**	**-3.8**
KHZ				*e*SN	**S**	**22 29 00.1**	**-6.5**
DZM	**Mont Dzumac**	**15.99**	**290**	*e*P	**P**	**22 26 26.2**	**+6.9**
DZM	**Mont Dzumac**	**15.99**	**290**	P	**P**	**22 26 26.4**	**+7.1**
	comp=Z,1.8nm,0.3s,baz=113,slow=15,SNR=14						
DZM				LR	LR	22 31 11.0	
	comp=Z,875nm,21.5s,baz=190,slow=32						
MQZ	**McQueen's Vall**	**17.10**	**205**	*e*SN	**S**	**22 29 30.4**	**-9.1**
RPZ	**Rata Peaks**	**17.74**	**209**	P	**P**	**22 26 39.3**	**-1.7**
	comp=Z,3.5nm,0.3s,baz=18,slow=1.9,SNR=14						
RPZ				S	**S**	**22 29 47.3**	**-6.7**
	comp=Z,1.4nm,0.3s,baz=321,slow=13,SNR=7.7						
RPZ				LR	LR	22 33 37.4	
	comp=Z,399nm,18.4s,baz=44,slow=36						
RPZ	**Rata Peaks**	**17.74**	**209**	P	**P**	**22 26 39.3**	**-1.7**
RPZ				S	**S**	**22 29 47.3**	**-6.7**
RPZ				LR	LR	22 33 37.4	
JCZ	**Jackson Bay**	**19.04**	**212**	*e*PN	**P**	**22 26 54.5**	**-2.0**
JCZ	**Jackson Bay**	**19.04**	**212**	*e*P	**P**	**22 26 55.1**	**-1.4**
TBI	**Tubuai**	**25.60**	**85**	*e*LR	LR	22 33 58.7	
	comp=Z,788nm,29.8s,baz=249						
PPT	**Papeete**	**27.75**	**73**	*e*LQ		22 33 48.0	
PPT				*e*LR	LR	22 34 50.2	
	comp=Z,891nm,28.2s,baz=242						
PPT	**Papeete**	**27.75**	**73**	LR	LR	22 36 54.7	
	comp=Z,103nm,19.2s,baz=255,slow=31						
HNR	**Honiara**	**28.58**	**307**	LR	LR	22 37 47.0	
	comp=Z,81nm,18.7s,baz=329,slow=32						
CNB	**Canberra Magne**	**28.93**	**248**	*e*P	**P**	**22 28 36.2**	**+3.9**
	comp=Z,23nm,0.8s,mb5.0						
CTA	**Charters Tower**	**34.10**	**276**	*e*P	**P**	**22 29 19.1**	**+1.4**
	comp=Z,14nm,0.6s,mb5.1						
CTA	**Charters Tower**	**34.10**	**276**	P	**P**	**22 29 18.1**	**+0.3**
	comp=Z,15nm,0.6s,mb5.1,baz=102,slow=9.8,SNR=36						
CTA	**Charters Tower**	**34.10**	**276**	*e*P	**P**	**22 29 19.1**	**+1.4**
CTA				pmax	pmax		
	comp=Z,15nm,0.6s						
STKA	**Stephens Creek**	**35.46**	**254**	*e*P	**P**	**22 29 31.7**	**+2.4**
	comp=Z,17nm,0.9s,mb5.0						
STKA	**Stephens Creek**	**35.46**	**254**	P	**P**	**22 29 31.3**	**+2.0**
	comp=Z,19nm,0.7s,mb5.1,baz=94,slow=9.8,SNR=22						
STKA				LR	LR	22 43 23.8	
	comp=Z,233nm,18.9s,baz=279,slow=35						
PMG	**Port Moresby**	**38.37**	**293**	P	**P**	**22 29 51.9**	**-1.8**
	comp=Z,14nm,1.0s,mb4.6,baz=219,slow=13,SNR=2.0						
PMG				LR	LR	22 43 02.2	
	comp=Z,250nm,18.4s,baz=80,slow=32						
PMG	**Port Moresby**	**38.37**	**293**	P	**P**	**22 29 51.9**	**-1.9**
PMG				pmax	pmax		
	comp=Z,14nm,1.0s						
PMG				MLR	MLR		
	comp=Z,250nm,18.5s						
RKT	**Rikitea**	**38.40**	**92**	*e*LR	LR	22 39 54.7	
	comp=Z,481nm,26.0s,baz=256						
WB2	**Warramunga Arr**	**44.60**	**270**⇑	*i*P	**P**	**22 30 45.2**	**+0.3**
WB2				*e*S	**S**	**22 37 19.5**	**+3.7**
WRAB	**Tennant Creek**	**44.61**	**270**	*e*P	**P**	**22 30 45.0**	**+0.1**
	comp=Z,47nm,0.8s,mb5.4						
WRAB	**Tennant Creek**	**44.61**	**270**	*c i*P	**P**	**22 30 45.6**	**+0.6**
WRA	**Warramunga Arr**	**44.61**	**270**	P	**P**	**22 30 45.3**	**+0.3**
	comp=Z,20nm,0.5s,mb5.2,baz=110,slow=6.4,SNR=362						
WRA				PcP	PcP	22 32 26.6	-0.9
	comp=Z,2.7nm,0.8s,baz=108,slow=3.5,SNR=5.2						
WRA	**Warramunga Arr**	**44.61**	**270**	P	**P**	**22 30 45.3**	**+0.3**
WRA						22 32 26.6	
WRA				pmax	pmax		
	comp=Z,20nm,0.5s						
WRA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KAKA	**Kakadu**	**49.19**	**278**⇓	*i*P	**P**	**22 31 26.5**	**+5.5**
	comp=Z,7.5nm,0.4s,mb5.1						
SBA	**Scott Base**	**49.89**	**184**	*e*P	**P**	**22 31 31.7**	**+6.0**
	comp=Z,59nm,0.8s,mb5.7						
SBA	**Scott Base**	**49.89**	**184**	*e*P	**P**	**22 31 31.7**	**+6.0**
SBA				pmax	pmax		
	comp=Z,59nm,0.8s,mb5.7						
VNDA	**Vanda**	**49.96**	**186**	P	**P**	**22 31 30.8**	**+4.6**
	comp=Z,5.9nm,0.8s,mb4.7,baz=356,slow=7.2,SNR=48						
VNDA				LR	LR	22 47 17.0	
	comp=Z,113nm,21.2s,baz=342,slow=29						
VNDA	**Vanda**	**49.96**	**186**	*e*P	**P**	**22 31 30.7**	**+4.5**
	comp=Z,5.6nm,0.8s,mb4.7						
VNDA	**Vanda**	**49.96**	**186**	*e*P	**P**	**22 31 30.7**	**+4.5**
VNDA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
FITZ	**Fitzroy Crossi**	**52.94**	**268**⇓	*i*P	**P**	**22 31 49.6**	**+0.2**
	comp=Z,51nm,0.7s,mb5.6						
FITZ	**Fitzroy Crossi**	**52.94**	**268**	P	**P**	**22 31 49.0**	**-0.4**
	comp=Z,66nm,0.8s,mb5.7,baz=150,slow=4.5,SNR=56						
FITZ				LR	LR	22 52 00.6	
	comp=Z,132nm,21.4s,baz=115,slow=33						
KLBR	**Kellerberrin**	**55.48**	**250**	*e*P	**P**	**22 32 07.1**	**-0.7**
	comp=Z,34nm,0.8s,mb5.4						
MUN	**Mundaring**	**56.65**	**249**	*e*P	**P**	**22 32 15.9**	**-0.3**
	comp=Z,18nm,1.2s,mb5.0						
MUN	**Mundaring**	**56.65**	**249**	*e*P	**P**	**22 32 15.9**	**-0.3**
MUN				pmax	pmax		
	comp=Z,18nm,1.2s,mb5.0						
MBWA	**Marble Bar**	**56.99**	**262**	*e*P	**P**	**22 32 17.6**	**-1.2**
	comp=Z,25nm,0.8s,mb5.3						
CASY	**Casey**	**57.01**	**207**	*e*P	**P**	**22 32 19.3**	**+1.1**
	comp=Z,31nm,0.6s,mb5.5						
QSPA	**South Pole Qui**	**61.53**	**180**⇑	*i*P	**P**	**22 32 53.5**	**+4.2**
	comp=Z,42nm,0.7s,mb5.7						
CBIJ	**Chichi jima**	**67.59**	**321**	P	**P**	**22 33 26.7**	**-2.5**
	comp=Z,58nm,0.7s,mb5.7,baz=281,slow=16,SNR=2.9						
MAW	**Mawson**	**74.21**	**200**	P	**P**	**22 34 11.5**	**+3.2**
	comp=Z,13nm,0.6s,mb5.1,baz=129,slow=7.7,SNR=48						
MAW				LR	LR	23 02 43.8	
	comp=Z,102nm,21.7s,baz=229,slow=32						
MAW	**Mawson**	**74.21**	**200**	*e*P	**P**	**22 34 11.0**	**+2.7**
	comp=Z,16nm,0.6s,mb5.1						
MAW	**Mawson**	**74.21**	**200**	P	**P**	**22 34 11.5**	**+3.2**
MAW				pmax	pmax		
	comp=Z,13nm,0.6s						
MAW				MLR	MLR		
	comp=Z,102nm,21.7s						
MJAR	**Matsushiro Arr**	**77.06**	**325**	P	**P**	**22 34 23.7**	**-1.5**
	comp=Z,12nm,0.7s,mb4.9,baz=158,slow=7.5,SNR=6.0						
MJAR				LR	LR	23 01 02.1	
	comp=Z,145nm,20.2s,baz=80,slow=30						
MJAR	**Matsushiro Arr**	**77.06**	**325**	P	**P**	**22 34 23.7**	**-1.5**
MJAR				pmax	pmax		
	comp=Z,12nm,0.7s						
MJAR				MLR	MLR		
	comp=Z,145nm,20.2s						
JNU	**Nakatsue**	**78.57**	**318**	P	**P**	**22 34 32.9**	**-0.7**
	comp=Z,11nm,0.8s,mb4.9,baz=146,slow=9.1,SNR=5.8						
SYO	**Syowa Base**	**79.01**	**193**	⇓P	**P**	**22 34 36.6**	**+1.4**
SYO	**Syowa Base**	**79.01**	**193**	⇑pP	pP	22 34 53.2	+0.9
SNAA	**Sanae**	**79.96**	**178**⇑	*i*P	**P**	**22 34 43.1**	**+2.8**
SNAA	**Sanae**	**79.96**	**178**		**P**	**22 34 48.7**	**+8.4**
VNA3	**Neumayer Olymp**	**80.08**	**176**⇑	*i*P	**P**	**22 34 44.4**	**+3.4**
VNA3	**Neumayer Olymp**	**80.08**	**176**		**P**	**22 34 49.7**	**+8.7**
VNA2	**Neumayer--Watz**	**80.53**	**177**⇑	*i*P	**P**	**22 34 46.9**	**+3.6**
VNA2	**Neumayer--Watz**	**80.53**	**177**		**P**	**22 34 51.3**	**+8.0**
VNA1	**Neumayer--Stat**	**80.75**	**176**⇑	*i*P	**P**	**22 34 48.3**	**+3.8**
VNA1	**Neumayer--Stat**	**80.75**	**176**		**P**	**22 34 53.7**	**+9.2**
FX1	**Attu Island--F**	**81.53**	**354**	P	**P**	**22 34 47.0**	**-1.9**
	comp=Z,21nm,0.8s,mb5.1,baz=127,slow=14,SNR=7.4						
FX1	**Attu Island--F**	**81.53**	**354**	*e*P	**P**	**22 34 47.0**	**-1.9**
FX1	**Attu Island--F**	**81.53**	**354**	P	**P**	**22 34 47.0**	**-1.9**
FX1				pmax	pmax		
	comp=Z,21nm,0.8s						
UNV	**Unalaska Valle**	**82.61**	**6**	*e*P	**P**	**22 34 51.8**	**-2.7**
	comp=Z,60nm,0.5s,mb5.9						
PLCA	**Paso Flores**	**83.35**	**133**	P	**P**	**22 35 01.2**	**+2.7**
	comp=Z,1.7nm,0.7s,mb4.2,baz=211,slow=19,SNR=5.3						
PLCA				LR	LR	23 03 24.0	
	comp=Z,80nm,20.5s,baz=83,slow=29						
PLCA	**Paso Flores**	**83.35**	**133**	P	**P**	**22 35 01.2**	**+2.7**
PLCA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
PLCA				MLR	MLR		
	comp=Z,80nm,20.5s						
YSS	**Yuzh-Sakhalins**	**83.35**	**334**	*e*P	**P**	**22 34 57.7**	**-0.6**
	comp=Z,18nm,0.6s,mb5.3						
YSS	**Yuzh-Sakhalins**	**83.35**	**334**⇑	*e*P	**P**	**22 34 58.0**	**-0.4**
YSS				pmax	pmax		
	comp=Z,12nm,0.5s,mb5.2						
PFO	**Pinyon Flat Ob**	**84.57**	**47**	*e*P	**P**	**22 35 04.0**	**-0.8**
	comp=Z,3.9nm,0.9s,mb4.5						
PFO	**Pinyon Flat Ob**	**84.57**	**47**	*e*P	**P**	**22 35 04.0**	**-0.8**
PFO				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
CMB	**Columbia Colle**	**85.04**	**42**	*e*P	**P**	**22 35 06.2**	**-0.8**
	comp=Z,11nm,0.9s,mb5.0						
CMB				*e*pP	pP	22 35 24.1	-0.2
CMB	**Columbia Colle**	**85.04**	**42**	*e*P	**P**	**22 35 06.2**	**-0.8**
CMB				*e**PP	pP	22 35 24.1	-0.2
CMB				pmax	pmax		
	comp=Z,11nm,0.9s,mb5.0						
WDC	**Whiskeytown Da**	**85.55**	**39**	*e*P	**P**	**22 35 09.3**	**-0.1**
	comp=Z,20nm,1.3s,mb5.2						
WDC				*e*pP	pP	22 35 26.0	-0.7
WDC	**Whiskeytown Da**	**85.55**	**39**	*e*P	**P**	**22 35 09.3**	**-0.2**
WDC				*e**PP	pP	22 35 26.0	-0.8
WDC				pmax	pmax		
	comp=Z,20nm,1.3s,mb5.2						
MTUM	**Tungsten Hills**	**85.67**	**43**	*e*P	**P**	**22 35 09.8**	**-0.3**
YBH	**Yreka Blue Hor**	**86.26**	**38**	P	**P**	**22 35 12.6**	**-0.3**
	comp=Z,4.9nm,0.8s,mb4.8,baz=173,slow=1.8						
YBH	**Yreka Blue Hor**	**86.26**	**38**	*e*P	**P**	**22 35 10.0**	**-2.9**
	comp=Z,7.0nm,1.0s,mb4.8						
YBH	**Yreka Blue Hor**	**86.26**	**38**	P	**P**	**22 35 12.6**	**-0.3**
YBH				pmax	pmax		
	comp=Z,5.0nm,0.8s						
LDFC	**Landfair**	**86.36**	**47**	*e*P	**P**	**22 35 14.4**	**+0.9**
NEN	**Nelson**	**86.88**	**46**	*e*P	**P**	**22 35 16.4**	**+0.3**
TPH	**Tonopah**	**86.94**	**43**	*e*P	**P**	**22 35 15.8**	**-0.6**
	comp=Z,16nm,1.1s,mb5.2						
TPH	**Tonopah**	**86.94**	**43**	*e*P	**P**	**22 35 15.8**	**-0.6**
TPH				pmax	pmax		
	comp=Z,16nm,1.1s,mb5.2						
WHN	**Wuhan**	**87.69**	**307**	P	**P**	**22 35 21.5**	**+1.3**
CN2	**Changchun**	**89.03**	**323**	*e*P	**P**	**22 35 26.1**	**-0.1**
CN2				*e*AP	pP	22 35 43.0	-0.6
CN2				*e*S	S	22 46 06.1	-1.4
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb5.2						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,100nm,16.0s						
CN2				LR	LR		
	comp=E,200nm,16.0s						
CN2				LR	LR		
	comp=Z,300nm,18.0s						
LVP	**Lakeview Peak**	**89.42**	**35**	P	**P**	**22 35 28.2**	**+0.2**
ELK	**Elko**	**89.83**	**42**	*e*P	**P**	**22 35 29.6**	**-0.4**
	comp=Z,3.0nm,1.1s,mb4.5						
ELK	**Elko**	**89.83**	**42**	*e*P	**P**	**22 35 29.6**	**-0.4**
ELK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
GL2	**New Goldendale**	**90.15**	**36**	P	**P**	**22 35 31.9**	**+0.5**
HDW	**Hoodsport**	**90.21**	**33**	P	**P**	**22 35 32.3**	**+0.7**
TWW	**Teanaway**	**90.93**	**35**	P	**P**	**22 35 35.7**	**+0.7**
TXAR	**Lajitas Array**	**90.94**	**57**	P	**P**	**22 35 34.3**	**-1.2**
	comp=Z,0.5nm,0.3s,mb4.3,baz=202,slow=6.7,SNR=8.5						
TXAR				LR	LR	23 13 24.7	
	comp=Z,62nm,18.0s,baz=35,slow=34						
TXAR	**Lajitas Array**	**90.94**	**57**	P	**P**	**22 35 34.3**	**-1.2**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
TXAR				MLR	MLR		
	comp=Z,62nm,18.0s						
MNTX	**Cornudas Mount**	**90.97**	**54**	*e*P	**P**	**22 35 35.3**	**-0.3**
	comp=Z,4.2nm,0.9s,mb4.8						
MNTX				*e*pP	pP	22 35 52.8	-0.3
ENH	**Enshi**	**91.03**	**304**	*e*P	**P**	**22 35 37.3**	**+1.4**
	comp=Z,12nm,0.8s,mb5.3						
GYA	**Guiyang**	**91.12**	**300**⇓	*i*P	**P**	**22 35 37.8**	**+1.4**
GYA				XP	sP	22 36 01.4	+1.2
GYA				SKS	SKS	22 46 02.2	+0.9
GYA				S	S	22 46 27.8	+1.0
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.5						
GYA				AMB	AMB		
	comp=Z,120nm,3.4s						
GYA				LR	LR		
	comp=N,380nm,18.4s						
GYA				LR	LR		
	comp=E,360nm,18.6s						
GYA				LR	LR		
	comp=Z,410nm,19.0s						
BMO	**Blue Mountains**	**91.27**	**38**	*e*P	**P**	**22 35 35.9**	**-0.8**
	comp=Z,3.2nm,0.7s,mb4.8						
BMO				*e*pP	pP	22 35 53.5	-0.7
TMUT	**Trail Mountain**	**91.39**	**45**	*e*P	**P**	**22 35 37.9**	**+0.5**
ANMO	**Albuquerque**	**92.01**	**51**	*c i*P	**P**	**22 35 40.7**	**+0.4**
HWUT	**Hardware Ranch**	**92.55**	**43**	*e*P	**P**	**22 35 41.4**	**-1.2**
	comp=Z,2.3nm,0.7s,mb4.7						
KMI	**Kunming**	**93.49**	**297**	P	**P**	**22 35 47.0**	**-0.3**
KMI				AP	pP	22 36 04.7	-0.1
KMI				XP	sP	22 36 11.9	+0.8
KMI				PP	PP	22 39 34.8	-0.2
KMI				S	S	22 46 49.2	+1.6
KMI				AMB	AMB		
	comp=Z,6.0nm,1.6s,mb4.8						
KMI				AMB	AMB		
	comp=Z,234nm,5.3s						
KMI				LR	LR		
	comp=Z,66nm,22.2s						
KMI	**Kunming**	**93.49**	**297**	P	**P**	**22 35 47.0**	**-0.3**
	comp=Z,6.0nm,1.6s,mb4.8						
KMI				pP	pP	22 36 04.7	-0.1
KMI				sP	sP	22 36 11.9	+0.8
KMI				PP	PP	22 39 34.8	-0.2
KMI				PPP	PPP	22 41 37.8	-0.2
KMI				S	S	22 46 49.2	+1.6
KMI				sS		22 47 16.9	
KMI				PS	PS	22 48 10.7	-3.7
KMI				SS	SS	22 53 09.1	-0.7
KMI				SSS	SSS	22 56 50.8	+0.6
KMI				LR	LR		
	comp=Z,70nm,22.2s						
KMI	**Kunming**	**93.49**	**297**	P	**P**	**22 35 47.0**	**-0.3**
KMI				*PP	pP	22 36 04.7	-0.1
KMI				*SP	sP	22 36 11.9	+0.8
KMI						22 39 34.8	
KMI				PPP	PPP	22 41 37.8	-0.2
KMI				S	S	22 46 49.2	+1.6
KMI				PS	PS	22 48 10.7	-3.7
KMI				SS	SS	22 53 09.1	-0.7
KMI				SSS	SSS	22 56 50.8	+0.6
KMI				pmax	pmax		
	comp=Z,6.0nm,1.6s,mb4.8						
KMI				MLR	MLR		
	comp=Z,70nm,22.2s						
MCMT	**McKenzie Canyo**	**93.73**	**40**	P	**P**	**22 35 48.4**	**+0.5**
PDAR	**Pinedale Array**	**94.43**	**43**	P	**P**	**22 35 50.0**	**-1.2**
	comp=Z,3.3nm,0.8s,mb4.8,baz=217,slow=2.4,SNR=29						
PDAR				PKKPbc		22 52 51.9	
	comp=Z,0.5nm,0.6s,baz=58,slow=4.0,SNR=5.8						
QLMT	**Earthquake Lak**	**94.54**	**41**	*e*P	**P**	**22 35 52.3**	**+0.7**
HHC	**Hu-ho-hao-te**	**95.36**	**314**	*e*P	**P**	**22 35 58.7**	**+3.2**
HHC				AP	pP	22 36 16.3	+3.3
HHC				XP	sP	22 36 22.2	+3.0
HHC				PP	PP	22 39 52.2	+3.6
HHC				SKS	SKS	22 46 28.0	+3.4
HHC				S	S	22 47 05.6	+2.5
HHC				XS		22 47 38.2	
HHC				AMB	AMB		
	comp=Z,15nm,0.4s,mb5.8						
HHC				AMB	AMB		
	comp=Z,174nm,5.5s						
HHC				LR	LR		
	comp=N,162nm,16.6s						
HHC				LR	LR		
	comp=E,165nm,17.8s						
HHC				LR	LR		
	comp=Z,145nm,16.0s						
CD2	**Chengdu**	**95.58**	**302**	P	**P**	**22 35 58.0**	**+1.3**
ILAR	**Eielson Array**	**96.03**	**13**	P	**P**	**22 35 56.2**	**-1.6**
	comp=Z,4.2nm,0.7s,mb5.0,baz=220,slow=5.6,SNR=32						
ILAR	**Eielson Array**	**96.03**	**13**	P	**P**	**22 35 56.3**	**-1.6**
ILAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
LZH	**Lanzhou**	**98.07**	**307**	*e*P	**P**	**22 36 09.7**	**+1.8**
LZH				AP	pP	22 36 27.3	+1.9
LZH				XP	sP	22 36 34.1	+2.5
LZH				*e*PP	PP	22 40 12.4	+2.0
LZH				AMB	AMB		
	comp=Z,25nm,1.5s,mb5.5						
LZH				AMB	AMB		
	comp=Z,82nm,6.6s						
LZH				LR	LR		
	comp=N,514nm,17.0s						
LZH				LR	LR		
	comp=Z,649nm,19.5s						
LZH	**Lanzhou**	**98.07**	**307**	*e*P	**P**	**22 36 09.7**	**+1.8**
	comp=Z,25nm,1.5s,mb5.5						
LZH				pP	pP	22 36 27.3	+1.9
LZH				sP	sP	22 36 34.1	+2.5
LZH				*e*PP	PP	22 40 12.4	+2.0
LZH				LR	LR		
	comp=Z,650nm,19.5s						
LPAZ	**La Paz**	**98.38**	**114**	P	**P**	**22 36 12.0**	**+2.4**
	comp=Z,0.6nm,0.8s,mb4.2,baz=51,slow=3.1,SNR=3.6						
LPAZ				LR	LR	23 11 21.6	
	comp=Z,56nm,18.9s,baz=314,slow=30						
LPAZ	**La Paz**	**98.38**	**114**	P	**P**	**22 36 12.0**	**+2.4**
LPAZ				LR	LR	23 11 21.6	
LPAZ	**La Paz**	**98.38**	**114**	P	**P**	**22 36 12.0**	**+2.3**
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.8s						
LPAZ				MLR	MLR		
	comp=Z,56nm,19.0s						
RSSD	**Black Hills**	**98.53**	**44**	*e*P	**P**	**22 36 09.3**	**-0.5**
	comp=Z,8.0nm,0.8s,mb5.3						
RSSD	**Black Hills**	**98.53**	**44**	*e*P	**P**	**22 36 09.3**	**-0.5**
RSSD				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb5.3						
SONM	**Songino Array**	**102.16**	**318**	P	Pdif	22 36 24.5	-1.5
	comp=Z,0.4nm,0.7s,baz=63,slow=3.2,SNR=2.8						
SONM				PKKPbc		22 52 30.2	
	comp=Z,0.1nm,0.3s,baz=345,slow=3.6,SNR=4.1						
MKAR	**Makanchi Array**	**117.01**	**311**	PKP	PKPdf	22 41 14.8	+0.1
	comp=Z,3.0nm,0.5s,baz=79,slow=0.9,SNR=28						
MKAR	**Makanchi Array**	**117.01**	**311**	*i* PKIKP	PKPdf	22 41 22.6	+8.0
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZAL	**Zalesovo**	**117.04**	**319**	PKP	PKPdf	22 41 13.1	-1.4
	comp=Z,1.4nm,0.7s,baz=344,slow=4.3,SNR=3.4						
ZAL	**Zalesovo**	**117.04**	**319**	PKP	PKPdf	22 41 13.1	-1.4
ZAL	**Zalesovo**	**117.04**	**319**	PKIKP	PKPdf	22 41 13.1	-1.4
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NVS	**Novosibirsk**	**118.11**	**320**	*i* PKIKP	PKPdf	22 41 15.5	-1.0
BOSA	**Boshof**	**119.15**	**203**	PKP	PKPdf	22 41 22.4	+3.2
	comp=Z,2.5nm,0.8s,baz=46,slow=5.4,SNR=4.0						
BOSA	**Boshof**	**119.15**	**203**	PKP	PKPdf	22 41 22.4	+3.2
BOSA	**Boshof**	**119.15**	**203**	PKIKP	PKPdf	22 41 22.4	+3.2
BOSA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KURK	**Kurchatov**	**120.17**	**314**	*e*PKPdf	PKPdf	22 41 20.7	0.0
TKM2	**Tokmak 2**	**120.80**	**305**	P	PKPdf	22 41 23.0	+0.9
	SNR=9.5						
CHMS	**Chumysh**	**121.43**	**305**	P	PKPdf	22 41 24.2	+0.9
	SNR=7.1						
UCH	**Uchtor**	**121.45**	**304**	P	PKPdf	22 41 25.3	+1.9
	SNR=9.6						
AAK	**Ala-Archa**	**121.54**	**305**	*i* PKIKP	PKPdf	22 41 24.6	+1.1
USP	**Ospenovka**	**121.66**	**305**	P	PKPdf	22 41 24.6	+0.8
	SNR=5.8						
**EKS2

TVAN	Van	144.84 297	*i* P	PKPdf	22 42 10.3	+3.5
MSL	Mosul	145.19 293	*e*PKP	PKPdf	22 42 15.5	+8.0
HILS	Ha'il	145.50 278	P	PKPdf	22 42 11.4	+3.1
VSU	Vasula	145.77 338c	*i*PKIKP	PKPdf	22 42 08.8	+1.0
MOL	Molde	145.85 356⇑	*i*P	PKPdf	22 42 11.4	+3.6
MOL			AMb	AMB	22 42 13.5	
	comp=Z,63nm,1.6s					
BCA	Borcka	145.86 303	*e*P	PKPdf	22 42 10.9	+2.5
ERZM	Erzurum	146.28 300	*i* P	PKPdf	22 42 12.3	+3.0
EZM	Erzurum	146.28 300	*e*P	PKPdf	22 42 12.9	+3.6
BTMT	Batman	146.37 297	*e*P	PKPdf	22 42 12.9	+3.4
BNGL	BINGOL	146.56 298	*i* P	PKPdf	22 42 13.2	+3.4
BEST	Besiri	146.57 296	*i* P	PKPdf	22 42 13.7	+3.9
SOC	Sochi	146.80 307	*i* PKIKP	PKPdf	22 42 11.1	+1.1
SOC			*e*		22 45 35.6	
SOC			pmax	pmax		
	comp=Z,35nm,1.4s					
SOC			pmax	pmax		
	comp=N,28nm,1.7s					
SOC			pmax	pmax		
	comp=E,21nm,1.5s					
FOO	Floro	146.94 358	*e*P	PKPdf	22 42 11.9	+2.2
FOO			AMb	AMB	22 42 23.7	
	comp=Z,34nm,2.3s					
NB2	NORSAR Subarra	147.03 352	PKPabc	PKPdf	22 42 12.2	+2.3
	comp=Z,30nm,0.9s,baz=12,slow=2.9					
NB2	NORSAR Subarra	147.03 352	PKPa		22 42 12.2	
	baz=12,slow=2.9					
NOA	NORSAR Array B	147.03 352	PKP	PKPdf	22 42 12.2	+2.3
	comp=Z,20nm,0.8s,baz=14,slow=4.5,SNR=56					
NOA	NORSAR Array B	147.03 352	PKP2	PKPab	22 42 12.2	-3.5
NOA			pmax	pmax		
	comp=Z,20nm,0.8s					
NAO01	NORSAR Array S	147.25 353	*e*PKPdf	PKPdf	22 42 12.7	+2.5
HYA	Hoyanger	147.32 357	*e*P	PKPdf	22 42 14.4	+4.1
HYA			AMb	AMB	22 42 22.2	
	comp=Z,46nm,1.8s					
KBRS	Khaybar	147.37 274	P	PKPdf	22 42 17.2	+5.7
DIY	Diyarbakir	147.39 296	*e*P	PKPdf	22 42 16.1	+5.0
GUMT	Gumushane	147.63 301	*e*P	PKPdf	22 42 16.9	+5.5
PTK	Pertek	147.93 298	P	PKPdf	22 42 18.2	+6.2
IZAR	Zarasai	148.00 335	*e*P	PKPdf	22 42 15.7	+4.2
IZAR			AMb	AMB	22 42 17.4	
	comp=Z,19nm,0.9s					
ANN	Anapa	148.03 310	*i* PKHKP		22 42 02.8	
ANN			*i*		22 42 16.1	
ANN			*e*		22 49 03.7	
ANN			pmax	pmax		
	comp=Z,56nm,1.9s					
IDID	Didziasalis	148.14 334	*e*P	PKPdf	22 42 16.0	+4.2
IDID			AMb	AMB	22 42 17.7	
	comp=Z,11nm,1.1s					
ISAL	Salakas	148.18 335	*e*P	PKPdf	22 42 16.1	+4.2
ISAL			AMb	AMB	22 42 18.0	
	comp=Z,11nm,1.2s					
ELZG	Elazig	148.30 298	*i* P	PKPdf	22 42 18.0	+5.4
URFA	Urfa	148.54 296	*e*P	PKPdf	22 42 19.0	+5.9
ODD1	Odda	148.55 356⇑	*i*P	PKPdf	22 42 15.9	+3.6
ODD1			AMb	AMB	22 42 20.6	
	comp=Z,46nm,1.3s					
KONO	Kongsberg	148.57 353	*e*PKPbc	PKPdf	22 42 16.1	+3.8
MYA	Malataya	148.75 298	*e*P	PKPdf	22 42 19.5	+6.1
KMY	Karmoy	149.32 357	*e*P	PKPdf	22 42 19.2	+5.7
GZT	Gaziantep	149.55 296	*i* P	PKPdf	22 42 20.9	+6.2
GAZ	Gaziantep	149.85 296	*e*P	PKPdf	22 42 22.5	+7.4
QURS	Qurayyt al Mil	149.89 284	P	PKPdf	22 42 23.5	+8.1
KAHT	Ahir Dag	150.06 296	*i* P	PKPdf	22 42 21.9	+6.4
AKASG	Malin Array Be	150.15 325	PKPbc	PKPdf	22 42 19.2	+4.1
	comp=Z,28nm,0.7s,baz=46,slow=2.8,SNR=20					
AKASG	Malin Array Be	150.15 325	PKHKP		22 42 19.3	
AKASG			pmax	pmax		
	comp=Z,28nm,0.7s					
SIM	Simferopol'	150.18 312	*i* PKP2	PKPab	22 42 22.0	-7.0
SIM			pmax	pmax		
	comp=Z,25nm,0.6s					
TBKS	Tabuk	150.22 278	P	PKPdf	22 42 24.1	+8.1
ASF	Jabal al Asfar	150.29 286	PKPbc	PKPdf	22 42 23.3	+7.3
	comp=Z,21nm,0.8s,baz=352,slow=2.1,SNR=36					
ASF	Jabal al Asfar	150.29 286	PKIKP	PKPdf	22 42 23.3	+7.3
ASF			pmax	pmax		
	comp=Z,21nm,0.8s					
SUW	Suwalki	150.48 335⇑	*i*PKP	PKPdf	22 42 21.9	+6.3
SUW	Suwalki	150.48 335⇑	*i*PKP	PKPdf	22 42 21.9	+6.3
BNN	Bunyan	150.67 299	*e*P	PKPdf	22 42 21.4	+5.1
COBT	Iskenderun	150.68 294	*i* P	PKPdf	22 42 23.8	+7.3
BOYT	Boyabat	150.79 305	*i* P	PKPdf	22 42 19.9	+3.5
HTY	Hatay	150.81 294	*e*P	PKPdf	22 42 24.5	+7.8
BYBT	Boyabat	150.88 305	*e*P	PKPdf	22 42 24.4	+7.8
CEYT	Ceyhan	151.03 295	*e*P	PKPdf	22 42 23.5	+6.6
KSHT	Keshet	151.22 287	P	PKPdf	22 42 26.3	+8.9
BZK	Bozkurt	151.29 306	*e*P	PKPdf	22 42 25.0	+7.9
MKRJ	Makawir	151.33 284	P	PKPdf	22 42 26.4	+8.8
KSDI	Kefar Szold	151.35 288	P	PKPdf	22 42 26.6	+9.1
BDAS	Al Bad'	151.51 278	P	PKPdf	22 42 26.7	+8.8
TOS	Tosya	151.54 304	*e*P	PKPdf	22 42 25.9	+8.4
MMLI	Mount Malkishu	151.55 286	P	PKPdf	22 42 27.2	+9.3
JMOS	Jabal al Moall	151.60 279	P	PKPdf	22 42 27.0	+9.0
ALWS	Iiw as Safayha	151.65 279	P	PKPdf	22 42 27.2	+9.1
ZFRI	Zfri	151.67 282	P	PKPdf	22 42 27.1	+9.0
TAYS	Tayyib Ism	151.72 278	P	PKPdf	22 42 27.2	+9.0
HAQS	Haql	151.74 279	P	PKPdf	22 42 27.3	+9.0
MUD	Monsted U'grnd	151.75 352	*i* P	PKPdf	22 42 24.9	+7.5
	comp=Z,22nm,0.9s					
	comp=Z,200nm,19.0s					
MUD	Monsted U'grnd	151.75 352	*i* PKIKP	PKPdf	22 42 24.9	+7.5
MUD			pmax	pmax		
	comp=Z,22nm,0.9s					
MUD			MLR	MLR		
	comp=Z,200nm,19.0s					
HNTI	Hanita	151.76 287	P	PKPdf	22 42 26.9	+8.7
EIL	Elat	151.79 280	PKPbc	PKPdf	22 42 27.0	+8.7
	comp=Z,547nm,0.6s,baz=1.5,slow=2.1,SNR=65					
EIL	Elat	151.79 280	P	PKPdf	22 42 27.4	+9.1
PRNI	Paran	151.80 282	P	PKPdf	22 42 27.5	+9.2
BALT	Daday	151.85 306	*i* P	PKPdf	22 42 22.8	+4.8
SLTI	Sal'it	151.87 286	P	PKPdf	22 42 27.6	+9.3
OFRI	'Ofer	151.92 286	P	PKPdf	22 42 27.1	+8.7
CANT	Cankiri	151.95 304	*e*P	PKPdf	22 42 26.7	+8.5
COP	Copenhagen	152.00 348⇓	*i*P	PKPdf	22 42 26.0	+8.2
	comp=Z,39nm,0.7s					
	comp=Z,130nm,20.0s					
COP	Copenhagen	152.00 348⇓	*i*PKIKP	PKPdf	22 42 26.0	+8.2
COP			pmax	pmax		
	comp=Z,39nm,0.7s					
COP			MLR	MLR		
	comp=Z,130nm,20.0s					
BSD	Bornholm Skovb	152.03 345	*i* P	PKPdf	22 42 25.4	+7.6
	comp=Z,58nm,0.7s					
BSD			*i*		22 42 29.3	
BSD	Bornholm Skovb	152.03 345	*i* PKIKP	PKPdf	22 42 25.4	+7.6
BSD			pmax	pmax		
	comp=Z,58nm,0.7s					
BR131	Keskin Array S	152.16 302	*e*PKPbc	PKPdf	22 42 25.9	+7.4
BRTR	Keskin Array B	152.16 302	PKPbc	PKPdf	22 42 25.3	+6.8
	comp=Z,7.9nm,0.5s,baz=140,slow=4.8,SNR=33					
BRTR	Keskin Array B	152.16 302	PKIKP	PKPdf	22 42 25.3	+6.8
BRTR			pmax	pmax		
	comp=Z,8.0nm,0.5s					
KAMT	Kaman	152.19 301	*e*P	PKPdf	22 42 27.1	+8.5
KZIT	Kziot	152.37 283	P	PKPdf	22 42 28.6	+9.5
SAFT	Safranbolu	152.44 305	*e*P	PKPdf	22 42 27.3	+8.4
WAR	Warsaw	152.68 335	*e*PKP	PKPdf	22 42 29.1	+10
WAR	Warsaw	152.68 335	*e*PKIKP	PKPdf	22 42 29.0	+10
ANTO	Ankara	152.75 302	*e*P	PKPdf	22 42 28.5	+9.1
IKL	Isikli	152.77 294	*e*P	PKPdf	22 42 29.1	+10
LOD	Lodumlu	152.77 302	*e*P	PKPdf	22 42 28.2	+8.9
GKP	Gorka Klasztor	153.08 340	*e*PKP	PKPdf	22 42 28.3	+8.9
SGKT	Sivrigoynuk	153.10 304	*i* P	PKPdf	22 42 23.8	+4.0
KIZT	Kizilcal	153.69 301	*e*P	PKPdf	22 42 30.1	+9.5
KWP	Kalwaria	153.98 329	*e*PKP	PKPdf	22 42 30.3	+10
KOLS	Kolonicke sedl	154.68 329	*e*	PKPdf	22 42 32.3	+11
KOLS			*e*		22 42 44.9	
OJC	Ojcow	154.75 334	*e*PKP	PKPdf	22 42 32.0	+10
STHS	Stebnicka Huta	154.78 331	*e*	PKPdf	22 42 32.7	+11
STHS			*e*		22 42 47.3	
MLR	Muntele Rosu	155.01 319	PKP	PKPdf	22 42 24.6	+2.4
	comp=Z,1.1nm,0.8s,baz=173,slow=8.1,SNR=1.8					
MLR			PKPbc	PKPdf	22 42 32.7	+10
	comp=Z,1.7nm,0.6s,baz=242,slow=7.1,SNR=7.7					
MLR	Muntele Rosu	155.01 319	PKIKP	PKPdf	22 42 24.6	+2.4
MLR			pmax	pmax		
	comp=Z,1.0nm,0.8s					
MLR			pmax	pmax		
	comp=Z,2.0nm,0.6s					
CRVS	Cervenica-Dubn	155.07 330	*e*	PKPdf	22 42 35.0	+13
CRVS			*e*		22 42 48.2	
CLL	Collm	155.99 344⇓	*i*	PKPdf	22 42 34.6	+11
CLL			*i* PKP2	PKPab	22 42 50.6	-2.7
CLZ	Clausthal	156.04 348	*e*PKP2	PKPab	22 42 51.6	-1.9
CLZ			pmax	pmax		
	comp=Z,10.0nm,0.8s					
BRG	Berggiesshubel	156.14 342	*e*PKIKP	PKPdf	22 42 32.1	+8.6
BRG			*e*		22 42 52.2	
BRG			pmax	pmax		
	comp=Z,4.0nm,1.0s					
BRG			pmax	pmax		
	comp=Z,7.0nm,0.9s					
BRG			MLR	MLR		
	comp=N,165nm,26.8s					
BRG			MLR	MLR		
	comp=E,116nm,17.7s					
BRG			MLR	MLR		
	comp=Z,228nm,29.3s					
VYHS	Vyhne	156.50 332	*e*	PKPab	22 42 53.5	-2.1
MOX	Moxa	156.93 345	*e*PKP2	PKPab	22 42 55.1	-2.2
MOX			pmax	pmax		
	comp=Z,12nm,1.1s					
DBIC	Dimbokro	157.09 161	PKP	PKPdf	22 42 28.8	+2.8
	comp=Z,4.7nm,1.0s,baz=133,slow=15,SNR=3.9					
DBIC	Dimbokro	157.09 161	PKIKP	PKPdf	22 42 28.8	+2.9
DBIC			pmax	pmax		
	comp=Z,5.0nm,1.0s					
GRF	Grafenberg Arr	157.91 345	*e*PKP2	PKPab	22 42 59.8	-1.8
GRF			pmax	pmax		
	comp=Z,17nm,0.9s					
TNS	Taunus Mts	157.93 350	*e*PKP2	PKPab	22 42 59.7	-1.9
TNS			pmax	pmax		
	comp=Z,10.0nm,0.7s					
WET	Wettzell	158.00 342	*e*PKP2	PKPab	22 43 00.6	-1.4
WET			pmax	pmax		
	comp=Z,6.0nm,1.1s					
GERES	GERESS Array B	158.04 340	PKP	PKPdf	22 42 27.0	+0.9
	comp=Z,0.3nm,0.7s,baz=207,slow=3.0,SNR=3.8					
GERES			PKPab	PKPab	22 43 00.5	-1.7
	comp=Z,0.9nm,0.6s,baz=18,slow=4.2,SNR=6.1					
BAIF	Baives	158.51 357	*e*PKP2	PKPab	22 43 01.8	-2.3
	comp=Z,20nm,1.0s					
FUR	Furstenfeldbru	159.32 343	*e*PKP2	PKPab	22 43 06.2	-1.5
FUR			pmax	pmax		
	comp=Z,20nm,0.9s					
FLN	La Foliniere	159.70 6	*e*PKP2	PKPab	22 43 06.8	-2.5
	comp=Z,29nm,0.8s					
BFO	Black Forest	159.79 349	*e*PKP2	PKPab	22 43 07.1	-2.6
BFO			pmax	pmax		
	comp=Z,5.0nm,0.8s					
CDF	Champ du Feu	159.87 351	*e*PKP2	PKPab	22 43 07.6	-2.4
	comp=Z,13nm,1.0s					
SGMF	Saint Gilles	159.94 10	*e*PKP2	PKPab	22 43 07.8	-2.6
	comp=Z,38nm,1.0s					
MEZF	Maizieres J'vi	160.01 355	*e*PKP2	PKPab	22 43 08.5	-2.2
GRR	Gorron	160.03 7	*e*PKP2	PKPab	22 43 07.7	-3.0
	comp=Z,11nm,0.7s					
QUIF	Quistinic	160.17 12	*e*PKP2	PKPab	22 43 08.7	-2.6
	comp=Z,17nm,0.9s					
HAU	Haudompre	160.38 353	*e*PKP2	PKPab	22 43 10.0	-2.3
	comp=Z,14nm,0.8s					
LOR	Lormes	161.31 357	*e*PKP2	PKPab	22 43 13.2	-3.1
	comp=Z,17nm,1.1s					
SSF	Saint Saulge	161.53 358	*e*PKP2	PKPab	22 43 15.1	-2.2
	comp=Z,21nm,0.9s					
AVF	Avril sur Loir	161.80 358	*e*PKP2	PKPab	22 43 16.0	-2.5
	comp=Z,11nm,0.9s					
MFF	Saint Martin d	161.87 6	*e*PKP2	PKPab	22 43 16.6	-2.2
	comp=Z,34nm,1.1s					
SMF	Signal de Mont	161.93 357	*e*PKP2	PKPab	22 43 16.7	-2.4
	comp=Z,21nm,0.9s					
BGF	Bois d'Agland	162.04 360	*e*PKP2	PKPab	22 43 17.2	-2.4
	comp=Z,15nm,0.8s					
TCF	Toulx Ste Croi	162.31 1	*e*PKP2	PKPab	22 43 18.3	-2.4
	comp=Z,7.9nm,0.9s					
LPL	La Plagne	162.78 350	*e*PKP2	PKPab	22 43 21.5	-1.2
	comp=Z,10nm,0.9s					
LPG	La Plagne	162.79 350	*e*PKP2	PKPab	22 43 21.7	-1.1
	comp=Z,9.0nm,0.9s					
RJF	Les Rejaudoux	163.28 3	*e*PKP2	PKPab	22 43 23.3	-1.6
	comp=Z,6.2nm,0.7s					
ORIF	Oris-en-Rattie	163.48 352	*e*PKP2	PKPab	22 43 23.5	-2.3
	comp=Z,14nm,0.8s					
MBDF	Montbardon	163.54 350	*e*PKP2	PKPab	22 43 24.2	-1.9
	comp=Z,8.7nm,0.8s					
LFF	La Frestale	163.59 5	*e*PKP2	PKPab	22 43 24.2	-2.1
	comp=Z,20nm,0.9s					
CAF	Calviac	163.67 1	*e*PKP2	PKPab	22 43 24.6	-2.1
	comp=Z,8.0nm,1.0s					
SJPF	Ste Jean	165.16 11	*e*PKP2	PKPab	22 43 30.9	-2.3
MTLF	Montolieu	165.26 1	*e*PKP2	PKPab	22 43 30.9	-2.7
	comp=Z,11nm,0.8s					
EPF	Esparros	165.46 7	*e*PKP2	PKPab	22 43 31.9	-2.6
ETSF	Etsaut	165.47 9	*e*PKP2	PKPab	22 43 32.9	-1.7
	comp=Z,12nm,0.8s					
ESDC	Sonseca Array	167.66 24	PKPab	PKPab	22 43 42.6	-1.6
	comp=Z,1.9nm,0.8s,baz=335,slow=3.9,SNR=8.1					

WEL 03 22:26:10.7±0.4, 38.43S×176.05E, h181km±3km, ML3.6/6, 1C, Error ellipse: s-maj=5.4km s-min=3.3km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKZ	Black Stump Fm	0.81	155	PN	P	22 26 37.6	+0.2
BKZ				SN	S	22 26 57.8	-0.4
NGZ	Ngauruhoe	0.82	205	PN	P	22 26 37.4	-0.1
URZ	Urewera	0.85	79	PN	P	22 26 37.4	-0.3
URZ				SN	S	22 26 57.7	-0.9
CNZ	Chateau	0.86	207	PN	P	22 26 37.5	-0.2
TUVZ	Tukino	0.89	200	PN	P	22 26 37.9	0.0
WNVZ	Wahianoa	0.96	201	PN	P	22 26 38.3	-0.1
MOVZ	Moawhango	1.00	193	PN	P	22 26 38.3	-0.4
TSZ	Takapari Road	1.63	182	⇑PN	P	22 26 43.8	-0.6
TSZ				SN	S	22 27 08.6	-1.7
MRZ	Mangatainoka R	2.26	189	PN	P	22 26 49.4	-1.7
MRZ				SN	S	22 27 18.6	-3.7
KIW	Kapiti Island	2.58	200	PN	P	22 26 52.3	-2.6
KIW				SN	S	22 27 24.4	-4.6
MTW	Mount Morrison	2.76	189	PN	P	22 26 54.2	-2.8
QRZ	Quartz Range	3.62	228	PN	P	22 27 02.7	-5.0
QRZ				SN	S	22 27 44.9	-6.7
THZ	Tophouse	4.11	215	PN	P	22 27 10.7	-3.2
THZ				eSN	S	22 27 56.8	-5.9
KHZ	Kahutara	4.42	205	PN	P	22 27 14.1	-3.8

CASC 03 22:28:14.1±1.7, 11.34N×85.41W, h6km±4km, MD3.6, 14C-6D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CONN	Concepcion	0.31	317	⇑*i*P	Pg	22 28 20.3	0.0
CONN				*e*S	Sg	22 28 24.8	+0.3
SSNN	San Juan del S	0.43	263	⇑*e*P	Pg	22 28 22.8	0.0
SSNN				*e*S	Sg	22 28 29.2	+0.7
LIM1	Limonal	0.65	166	⇑*i*P	Pg	22 28 26.6	-0.6
LIM1				*i* S	Sg	22 28 36.0	0.0
APON	Apoyo	0.86	312	⇑*e*P	Pb	22 28 30.1	-1.0
MASN	Masaya	0.97	312	⇑*e*P	Pb	22 28 31.4	-1.4
TICN	Ticuantepe	1.06	311	⇑*e*P	Pb	22 28 33.6	-0.8
TICN				*e*S	Sb	22 28 49.9	+1.6
CRUN	El Crucero	1.08	307	⇑*e*P	Pb	22 28 34.3	-0.5
CRUN				*e*S	Sb	22 28 48.9	-0.1
WILN	Americas 2	1.11	317	*e*P	Pb	22 28 34.5	-0.9
WILN				*e*S	Sb	22 28 49.6	-0.4
WILN				*e*S	Sb	22 28 50.9	+0.9
FORC	Fortuna	1.13	140	*e*P	Pb	22 28 35.0	-0.6
MGAN	Managua	1.15	315	⇓*e*P	Pb	22 28 34.6	-1.3
MGAN				*e*S	Sb	22 28 50.9	0.0
XAVN	Gruta Xavier	1.20	312	⇓*e*P	Pb	22 28 35.5	-1.4
PYTN	Playitas	1.35	332	⇓*e*P	Pb	22 28 37.8	-1.6
PYTN				*e*S	Sb	22 28 58.4	+1.6
COPN	Copaltepe	1.43	306	⇓*e*P	Pn	22 28 38.7	-1.9
COPN				*e*S	Sb	22 28 58.1	-0.9
MOMJ	Momotombo	1.53	314	⇓*e*P	Pn	22 28 40.1	-2.0
MOMJ				*e*S	Sb	22 29 01.7	-0.4
MIRN	Miramar	1.68	311	⇑*e*P	Pn	22 28 42.5	-1.7
CNGN	Cerro Negro	1.71	313	⇑*e*P	Pn	22 28 42.9	-1.7
CNGN				*e*S	Sn	22 29 07.0	0.0
PRS1	Puriscal	1.73	141	⇑*e*P	Pn	22 28 45.6	+0.6
PRS1				*e*S	Sn	22 29 08.7	+1.2
LEON	Leon	1.80	307	⇑*e*P	Pn	22 28 45.4	-0.6
TRTC	Tortuguero	1.83	114	⇑*e*P	Pn	22 28 46.1	-0.4
TRTC				*e*S	Sn	22 29 10.1	-0.1
TEL3	Telica 3	1.86	311	⇓*e*P	Pn	22 28 45.3	-1.6
CRIN	San Cristobal	2.10	310	⇑*e*P	Pn	22 28 50.1	-0.1
LCR2	La Lucha 2	2.11	139	⇑*e*P	Pn	22 28 49.9	-0.4
BUS	Buena Vista	2.41	137	*e*P	Pn	22 28 55.1	+0.5
BUS				*e*S	Sn	22 29 25.6	+0.8

NIED ***03*** *22:32:00, 33.30N×142.70E, h8km, Mw4.0 Best double couple: M0 1.01×10^15 NP1:φs162°, δ69°, λ-87°. NP2: φs333°, δ21°, λ-98°.*
IDC ***03*** *22:32:31.7±0.9, 33.31N×142.72E, mb4.0/6, mb1 4.2/9, mb1mx4.0/22, mbtmp4.1/9, ML4.0/3, Error ellipse: s-maj=23.3km s-min=19.4km az=84.0*
JMA ***03*** *22:32:33.2±0.4, 33.35N×142.65E, h66km, M3.9*
NEIC ***03*** *22:32:33.7±10.0, 33.36N×142.61E, h16km±64km, mb4.5/2, MW3.9(NIED), Error ellipse: s-maj=27.2km s-min=16.2km az=106.0*

ISC 03 22:32:32.3±1.8, 33.36N±0.05×142.58E±0.07, h21km±14km, n31, σ1§07/41, mb4.2/8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	1.85	315	P	Pn	22 33 04.0	+0.7
BSO1				S	Sn	22 33 27.1	+0.8
BSO2	Boso 2	2.06	313	S	Sn	22 33 33.0	+1.5
BSO3	Boso 3	2.24	311	P	Pn	22 33 09.8	+0.9
BSO3				S	Sn	22 33 36.7	+0.5
JHJ2	Mitsune	2.33	265	P	Pn	22 33 10.9	+0.8
JHJ	Hachijo jima 2	2.35	265	Pn	Pn	22 33 11.0	+0.5
	83nm,0.3s,baz=154,slow=11,SNR=49						
JHJ				Sn	Sn	22 33 36.7	-2.4
	48nm,0.3s,baz=63,slow=23,SNR=5.6						
BSO4	Boso 4	2.47	312	P	Pn	22 33 13.6	+1.4
JIM2	Oshima 3	2.94	298	P	Pn	22 33 18.5	-0.4
JOD2	Odawara 2	3.46	304	P	Pn	22 33 25.9	-0.3
JYN	Shinmoh	3.96	304	S	Sn	22 34 18.8	-0.9
JAG	Ashikaga	4.00	321	P	Pn	22 33 34.0	+0.2
JRY	Ryogami san	4.03	312	P	Pn	22 33 34.5	+0.2
JRY				S	Sn	22 34 20.2	-1.2
JMM	Marumori	4.73	343	P	Pn	22 33 42.6	-1.6
MJAR	Matsushiro Arr	4.79	313	Pn	Pn	22 33 44.8	-0.3
	5.1nm,0.3s,baz=21,slow=12,SNR=33						
MJAR				Sn	Sn	22 34 36.0	-4.7
	2.9nm,0.3s,baz=147,slow=13,SNR=5.4						
MAJO	Matsushiro	4.79	313	*e*P	Pn	22 33 45.6	+0.4
MAT	Matsushiro	4.79	313	P	Pn	22 33 45.8	+0.6
MAT				*e*S	Sn	22 34 38.3	-2.5
MAT	Matsushiro	4.79	313	P	Pn	22 33 46.2	+1.0
MAT				S	Sn	22 34 38.5	-2.3
MAT	Matsushiro	4.79	313	P	Pn	22 33 46.0	+0.8
MAT				S	Sn	22 34 38.0	-2.8
JIE	Ise	4.99	284	P	Pn	22 33 48.3	+0.3
JGM	Miyama	5.37	297	P	Pn	22 33 54.3	+1.0
JMK	Ichinoseki	5.69	349	P	Pn	22 33 55.6	-2.2
JMK				S	Sn	22 34 56.1	-7.2
JYK	Kaneyama	5.83	343	P	Pn	22 33 58.7	-1.1
JYK				S	Sn	22 35 01.6	-5.2
CBIJ	Chichi jima	6.25	183	Pn	Pn	22 34 04.3	-1.4
	8.8nm,0.3s,baz=234,slow=23,SNR=9.3						
CBIJ				Sn	Sn	22 35 09.9	-7.3
	16nm,0.3s,baz=94,slow=23,SNR=6.6						
ENH	Enshi	28.22	273	P	P	22 38 25.2	-0.6
	5.3nm,0.6s,mb4.3						
SONM	Songino Array	30.73	309	P	P	22 38 51.4	+3.4
	1.7nm,0.7s,mb4.0,baz=119,slow=9.2,SNR=14						
MKAR	Makanchi Array	46.95	305	P	P	22 41 04.9	+1.7
	2.8nm,0.6s,mb4.4,baz=86,slow=10,SNR=12						
ILAR	Eielson Array	52.12	31	P	P	22 41 43.2	+0.5
	1.5nm,0.6s,mb4.1,baz=264,slow=6.0,SNR=11						
WRAB	Tennant Creek	53.57	190	*e*P	P	22 41 53.6	-0.5
	5.2nm,1.1s,mb4.4						
WRA	Warramunga Arr	53.58	190	P	P	22 41 54.5	+0.3
	0.3nm,0.3s,mb3.7,baz=6.4,slow=7.5,SNR=14						
FITZ	Fitzroy Crossi	53.67	200	P	P	22 41 55.1	+0.3
	2.3nm,0.6s,mb4.3,baz=18,slow=3.2,SNR=4.6						
TXAR	Lajitas Array	91.58	53	P	P	22 45 39.0	0.0
	0.8nm,0.6s,mb4.2,baz=301,slow=3.3,SNR=7.5						
LPAZ	La Paz	147.52	66	PKPbc	PKPdf	22 52 18.9	+1.9
	1.5nm,1.0s,baz=26,slow=12,SNR=7.3						

CRAAG ***03*** *22:43:24.3, 36.16N×2.87E, Ml4.1*
MDD ***03*** *22:43:27.1±0.3, 36.22N×2.95E, mbLg2.6/12, Error ellipse: s-maj=5.0km s-min=3.6km az=53.0, PRXIMO DATOS INTENSIDAD: CRAAG*
MDD EMS: III CHICAO OUZERA.
NEIC ***03*** *22:43:28.0±1.3, 36.23N×3.04E, h15km, MG4.1(MDD), Error ellipse: s-maj=16.3km s-min=5.0km az=152.0*
CSEM ***03*** *22:43:27.4±0.1, 36.23N×2.92E, h2km, ML3.3/14, Error ellipse: s-maj=3.4km s-min=2.4km az=148.0*
LDG ***03*** *22:43:30.5±0.2, 36.31N×2.98E, h10km, Md3.3/3, Ml3.3/11, Error ellipse: s-maj=5.3km s-min=2.9km az=155.0*

**ISC 03 22:43:26.8±0.4,

ETOB			Sn	Sn	22 45 21.2	-1.0
	2.1nm,0.2s,SNR=12					
ECHE	**Chera**	**4.42 317**	P	Pn	22 44 36.8	+1.1
	1.2nm,0.2s,SNR=6.1					
EHUE	**Huescar**	**4.63 289**	P	Pn	22 44 40.7	+2.1
	0.1nm,0.2s,SNR=7.9					
EHUE			S	Sn	22 45 31.5	-1.6
	0.4nm,0.3s,SNR=4.0					
EHUE	**Huescar**	**4.63 289**	Pn	Pn	22 44 40.7	+2.1
	0.1nm,0.2s,SNR=7.9					
EHUE			Sn	Sn	22 45 32.7	-0.4
	0.4nm,0.3s,SNR=4.0					
EHUE	**Huescar**	**4.63 289**	Pn	Pn	22 44 40.7	+2.1
EHUE			Sn	Sn	22 45 32.7	-0.4
EBER	**Berja**	**4.71 278**	P	Pn	22 44 38.7	-0.9
	2.2nm,0.4s,SNR=7.9					
EBER	**Berja**	**4.71 278**	Pn	Pn	22 44 38.7	-0.9
	2.2nm,0.4s,SNR=7.9					
EMOS	**Mosqueruela**	**4.77 327**	P	Pn	22 44 41.7	+1.2
	16nm,0.4s,SNR=66					
EMOS			S	Sn	22 45 35.6	-0.9
	14nm,0.5s,SNR=7.9					
EMOS	**Mosqueruela**	**4.77 327**	Pn	Pn	22 44 41.7	+1.2
	16nm,0.4s,SNR=66					
EMOS			Sn	Sn	22 45 35.3	-1.3
	14nm,0.5s,SNR=7.9					
EMOS	**Mosqueruela**	**4.77 327**	Pn	Pn	22 44 41.7	+1.2
EMOS			Sn	Sn	22 45 35.3	-1.3
EALB	**Alboran**	**4.85 266**	P	Pn	22 44 42.7	+1.1
EALB	**Alboran**	**4.85 266**	P	Pn	22 44 42.7	+1.1
EQES	**Quesada**	**5.00 288**	P	Pn	22 44 44.1	+0.4
	0.4nm,0.2s,SNR=7.9					
EQES			S	Sn	22 45 37.9	-4.4
	3.0nm,0.4s,SNR=7.9					
EQES	**Quesada**	**5.00 288**	Pn	Pn	22 44 44.2	+0.5
	0.4nm,0.2s,SNR=7.9					
EQES			Sn	Sn	22 45 41.1	-1.1
	3.0nm,0.4s,SNR=7.9					
EQES	**Quesada**	**5.00 288**	Pn	Pn	22 44 44.2	+0.5
EQES			Sn	Sn	22 45 41.1	-1.2
EPOB	**Poblet**	**5.15 344**	P	Pn	22 44 46.6	+0.8
	0.8nm,0.3s,SNR=7.9					
EPOB			S	Sn	22 45 45.4	-0.6
	1.1nm,0.3s,SNR=7.9					
EPOB	**Poblet**	**5.15 344**	Pn	Pn	22 44 46.6	+0.8
	0.8nm,0.3s,SNR=7.9					
EPOB			Sn	Sn	22 45 44.7	-1.3
	1.1nm,0.3s,SNR=7.9					
EPOB	**Poblet**	**5.15 344**	Pn	Pn	22 44 46.6	+0.8
EPOB			Sn	Sn	22 45 44.7	-1.4
EMIR	**Miracle**	**5.61 349**	P	Pn	22 44 54.3	+1.9
	17nm,0.4s,SNR=31					
EMIR			S	Sn	22 45 56.3	-1.3
	8.7nm,0.4s,SNR=4.5					
EMIR	**Miracle**	**5.61 349**	Pn	Pn	22 44 54.3	+2.0
	17nm,0.4s,SNR=31					
EMIR			Sn	Sn	22 45 56.3	-1.3
	8.7nm,0.4s,SNR=4.5					
ESAC	**San Caprasio**	**5.93 335**	P	Pn	22 44 58.5	+1.6
	3.8nm,0.2s,SNR=7.9					
ESAC	**San Caprasio**	**5.93 335**	Pn	Pn	22 44 59.5	+2.6
	3.8nm,0.2s,SNR=7.9					
ESAC	**San Caprasio**	**5.93 335**	Pn	Pn	22 44 59.5	+2.6
ESDC	**Sonseca Array**	**6.34 303**	P	Pn	22 45 02.9	+0.1
	0.3nm,0.1s,baz=116,slow=13,SNR=4.9					
ESDC	**Sonseca Array**	**6.34 303**	Pn	Pn	22 45 02.9	+0.2
	0.3nm,0.1s,SNR=4.9					
EBIE	**Bielsa**	**6.63 342**	P	Pn	22 45 07.9	+1.1
	0.5nm,0.3s,SNR=7.9					
EBIE			S	Sn	22 46 20.3	-2.9
	1.3nm,0.4s,SNR=7.9					
EBIE	**Bielsa**	**6.63 342**	Pn	Pn	22 45 07.9	+1.1
EBIE			Sn	Sn	22 46 19.9	-3.3
EPF	**Esparros**	**6.91 344**	*e*Pn	Pn	22 45 11.2	+0.5
EPF			*e*Sn	Sn	22 46 26.2	-4.0
	5.1nm,0.4s					
MTLF	**Montolieu**	**6.95 356**	*e*Pn	Pn	22 45 11.3	+0.1
MTLF			*e*Sn	Sn	22 46 26.8	-4.3
	1.3nm,0.4s					
ETSF	**Etsaut**	**7.02 339**	*e*Pn	Pn	22 45 12.2	0.0
ETSF			*e*Sn	Sn	22 46 28.3	-4.6
	1.6nm,0.4s					
SJPF	**Ste Jean**	**7.42 336**	*e*Pn	Pn	22 45 18.4	+0.5
SJPF			*e*Sn	Sn	22 46 38.6	-4.4
	2.0nm,0.4s					
EALK	**Alkurruntz**	**7.61 335**	P	Pn	22 45 21.5	+1.0
	1.5nm,0.3s,SNR=7.9					
EALK			S	Sn	22 46 44.1	-3.7
	4.3nm,0.5s,SNR=7.9					
EALK	**Alkurruntz**	**7.61 335**	Pn	Pn	22 45 22.7	+2.2
	1.5nm,0.3s,SNR=7.9					
EALK			Sn	Sn	22 46 46.5	-1.3
	4.3nm,0.5s,SNR=7.9					
EALK	**Alkurruntz**	**7.61 335**	Pn	Pn	22 45 22.7	+2.1
EALK			Sn	Sn	22 46 46.5	-1.3
FRF	**La Foret Royal**	**7.69 21**	*e*Pn	Pn	22 45 21.0	-0.7
FRF			*e*Sn	Sn	22 46 45.1	-4.7
	3.7nm,0.2s					
LASF	**Ste Croix**	**7.69 5**	*e*Pn	Pn	22 45 21.8	+0.1
LASF			*e*Sn	Sn	22 46 43.9	-5.9
	2.3nm,0.4s					
PGF	**Pioggiola**	**7.72 36**	*e*Pn	Pn	22 45 20.9	-1.2
PGF			*e*Sn	Sn	22 46 44.6	-5.9
	7.5nm,0.5s					
SMRF	**Simiane la Rot**	**7.83 14**	*e*Pn	Pn	22 45 23.1	-0.4
SMRF			*e*Sn	Sn	22 46 47.7	-5.4
	7.5nm,0.8s					
SBF	**Sospel**	**8.21 23**	*e*Sn	Sn	22 46 56.3	-6.3
	7.9nm,0.3s					
CAF	**Calviac**	**8.54 356**	*e*Pn	P	22 45 33.5	+0.1
VIVF	**Saint-Julien-l**	**8.54 8**	*e*Pn	P	22 45 33.3	-0.2
VIVF			*e*Sn	Sn	22 47 05.2	-5.8
	2.4nm,0.4s					
LFF	**La Frestale**	**8.68 350**	*e*Pn	P	22 45 34.8	-0.7
ORIF	**Oris-en-Rattie**	**8.79 14**	*e*Pn	P	22 45 37.1	+0.1
MBDF	**Montbardon**	**8.81 18**	*e*Pn	P	22 45 36.5	-0.7
RJF	**Les Rejaudoux**	**8.95 354**	*e*Pn	P	22 45 38.9	-0.3
EARI	**Arriondas**	**9.30 320**	P	P	22 45 44.9	+0.8
	0.8nm,0.3s,SNR=7.9					
EARI	**Arriondas**	**9.30 320**	Pn	P	22 45 45.2	+1.2
LPG	**La Plagne**	**9.53 16**	*e*Pn	P	22 45 47.3	+0.2
LPL	**La Plagne**	**9.54 16**	*e*Pn	P	22 45 47.3	0.0
LPL			*e*Sn	Sn	22 47 27.6	-8.1
	0.9nm,0.2s					
CABF	**La Chapelle**	**10.47 12**	*e*Pn	P	22 45 59.4	-0.6
QUIF	**Quistinic**	**12.35 340**	*e*Pn	P	22 46 25.1	-0.5

NIED ***03*** *22:53:00, 36.40N×140.60E, h65km, Mw3.9 Best double couple: M0 7.2×10^14 NP1:φs38°, δ49°, λ103°. NP2:φs199°, δ43°, λ76°.*

IDC ***03*** *22:53:28.4±2.8, 36.42N×140.70E, h59km±26km, mb3.5/11, mb1 3.8/13, mb1mx3.7/21, mbtmp3.9/13, ML4.0/2, Error ellipse: s-maj=28.9km s-min=17.9km az=57.0*

JMA ***03*** *22:53:29.9±0.1, 36.37N×140.54E, h59km±1km, M3.4 Broadband fault plane solution: P waves. NP1:φs70°, δ44°, λ136°. NP2:φs195°, δ61°, λ55°. Principal axes: T Plg58°, Azm55°; N Plg30°, Azm213°; P Plg10°, Azm309°;*

JMA Felt I J1.

NEIC ***03*** *22:53:29.3±1.6, 36.44N×140.66E, h67km±14km, mb4.1/2 Error ellipse: s-maj=19.9km s-min=15.8km az=47.0*

NEIC Recorded [1 JMA] in Ibaraki Prefecture.

ISC 03 22:53:27.8±0.5, 36.33N±0.04×140.66E±0.06, h71km±3km, n32, σ0°89/42, mb3.7/13, 3C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.28**	**346**	⇑P	**P**	**22 53 39.6**	**+0.5**
JHO				S	**S**	**22 53 46.4**	**-1.0**
JYT	**Yasato**	**0.39**	**254**	⇑P	**P**	**22 53 40.2**	**+0.4**
JYT				S	**S**	**22 53 47.1**	**-1.6**
JAG	**Ashikaga**	**0.97**	**276**	⇓P	**P**	**22 53 46.6**	**+0.3**
JFK	**Kawauchi**	**1.04**	**10**	⇓P	**P**	**22 53 47.7**	**+0.5**
JFK				S	**S**	**22 54 01.8**	**+0.2**
JFT	**Otama**	**1.21**	**348**	⇓P	**P**	**22 53 50.1**	**+0.8**
JFT				S	**S**	**22 54 05.4**	**0.0**
JKT	**Katashina**	**1.21**	**291**	⇓P	**P**	**22 53 49.9**	**+0.5**
JKT				S	**S**	**22 54 04.4**	**-1.1**
JFY	**Yanaizu**	**1.31**	**325**	⇓P	**P**	**22 53 51.5**	**+0.6**
JRY	**Ryogami san**	**1.46**	**258**	⇑P	**P**	**22 53 53.3**	**+0.5**
JRY				S	**S**	**22 54 10.3**	**-0.9**
MJAR	**Matsushiro Arr**	**1.98**	**277**	P	**P**	**22 54 00.6**	**+0.7**
	20nm,0.3s,baz=106,slow=8.3,SNR=118						
MJAR				S	**S**	**22 54 16.3**	**-7.2**
	26nm,0.3s,baz=106,slow=10,SNR=25						
MAJO	**Matsushiro**	**1.99**	**277**	*e*P	**P**	**22 54 00.7**	**+0.7**
MAT	**Matsushiro**	**1.99**	**277**	P	**P**	**22 54 01.0**	**+1.1**
MAT				*e*S	**S**	**22 54 23.8**	**+0.2**
MAT	**Matsushiro**	**1.99**	**277**	*e*P	**P**	**22 54 01.0**	**+1.1**
MAT				S	**S**	**22 54 24.0**	**+0.4**
JHJ	**Hachijo jima 2**	**3.29**	**193**	P	**P**	**22 54 19.4**	**+1.1**
	26nm,0.3s,baz=251,slow=23,SNR=6.3						
JHJ				S	**S**	**22 54 57.0**	**+0.8**
	18nm,0.3s,baz=101,slow=23,SNR=4.1						
CBIJ	**Chichi jima**	**9.30**	**172**	P	**P**	**22 55 39.0**	**-2.4**
	6.5nm,0.3s,baz=15,slow=20,SNR=3.4						
CBIJ				S	**S**	**22 57 15.2**	**-10**
	19nm,0.3s,baz=278,slow=21,SNR=1.9						
SONM	**Songino Array**	**27.68**	**305**	P	**P**	**22 59 10.0**	**-1.0**
	0.7nm,0.6s,mb3.4,baz=104,slow=9.2,SNR=8.0						
ZAL	**Zalesovo**	**41.95**	**313**	P	**P**	**23 01 13.3**	**+0.4**
	0.9nm,0.2s,mb4.1,baz=27,slow=4.4,SNR=3.0						
ZAL	**Zalesovo**	**41.95**	**313**	P	**P**	**23 01 13.3**	**+0.4**
MKAR	**Makanchi Array**	**43.98**	**303**	P	**P**	**23 01 28.9**	**-0.5**
	0.4nm,0.6s,mb3.3,baz=100,slow=7.4,SNR=4.3						
KURK	**Kurchatov**	**45.89**	**309**	*e*P	**P**	**23 01 44.4**	**-0.3**
	1.2nm,0.6s,mb3.8						
ILAR	**Eielson Array**	**50.41**	**32**	P	**P**	**23 02 17.1**	**-2.5**
	0.9nm,0.6s,mb3.9,baz=267,slow=6.1,SNR=6.4						
WRA	**Warramunga Arr**	**56.29**	**187**	P	**P**	**23 03 03.3**	**-0.3**
	0.8nm,0.8s,mb3.8,baz=2.6,slow=7.5,SNR=10.0						
ARU	**Arti**	**56.48**	**319**	P	**P**	**23 03 03.6**	**-0.9**
	1.2nm,0.6s,mb4.1						
ARCES	**ARCESS Array B**	**64.44**	**339**	P	**P**	**23 03 57.9**	**-0.3**
	2.1nm,0.8s,mb4.0,baz=45,slow=8.6,SNR=7.1						
ARCES	**ARCESS Array B**	**64.44**	**339**	P	**P**	**23 03 57.9**	**-0.3**
FINES	**FINESS Array B**	**69.15**	**332**	P	**P**	**23 04 28.0**	**-0.1**
	0.3nm,0.3s,mb3.5,baz=249,slow=33,SNR=4.0						
FINES	**FINESS Array B**	**69.15**	**332**	P	**P**	**23 04 28.0**	**-0.1**
AKASG	**Malin Array Be**	**74.48**	**322**	P	**P**	**23 04 59.1**	**-0.8**
	0.4nm,0.4s,mb3.5,baz=46,slow=6.1,SNR=6.2						
NB2	**NORSAR Subarra**	**74.59**	**337**	P	**P**	**23 05 01.3**	**+0.9**
	0.8nm,0.7s,mb3.6,baz=41,slow=5.8						
NOA	**NORSAR Array B**	**74.59**	**337**	P	**P**	**23 05 00.4**	**0.0**
	1.1nm,0.7s,mb3.7,baz=39,slow=5.8,SNR=6.1						
PDAR	**Pinedale Array**	**78.59**	**45**	P	**P**	**23 05 24.7**	**+1.6**
	0.4nm,0.6s,mb3.4,slow=4.4,SNR=4.0						
GERES	**GERESS Array B**	**82.98**	**328**	P	**P**	**23 05 46.9**	**+0.8**
	0.2nm,0.3s,mb3.4,baz=27,slow=6.0,SNR=5.4						
LPAZ	**La Paz**	**147.57**	**60**	PKPbc	PKPdf	23 13 08.1	+6.5
	0.4nm,0.4s,baz=48,slow=1.0,SNR=3.8						

NNC ***03*** *23:13:26.2±4.5, 38.58N×72.36E, h184km±36km, mpv4.0, Error ellipse: s-maj=50.4km s-min=19.5km az=10.0*

ISC 03 23:13:20.8±2.5, 38.2N±0.2×72.4E±0.2, h169km±23km, n15, σ0°81/18, 6C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.03**	**14**	P	**P**	**23 14 22.8**	**+0.1**
	SNR=52						
UCH	**Uchtor**	**4.32**	**22**	P	**P**	**23 14 26.4**	**-0.1**
	SNR=30						
EKS2	**Erkin-Say**	**4.55**	**13**	P	**P**	**23 14 29.8**	**+0.3**
	SNR=17						
AAK	**Ala-Archa**	**4.69**	**20**	P	**P**	**23 14 31.7**	**+0.4**
	SNR=14						
AAK	**Ala-Archa**	**4.69**	**20**	⇓P	**P**	**23 14 31.6**	**+0.3**
	10nm,0.5s						
AAK				⇑S	**S**	**23 15 26.6**	**+0.9**
	70nm,0.8s						
ULHL	**Ulahol**	**4.99**	**35**	P	**P**	**23 14 33.8**	**-1.4**
	SNR=16						
KK31	**Karatay Array**	**5.07**	**344**	⇓P	**P**	**23 14 36.2**	**-0.1**
	15nm,0.5s,baz=155,slow=11,SNR=452						
KK31				S	**S**	**23 15 33.9**	**-0.8**
	43nm,0.5s,baz=177,slow=18,SNR=21						
CHMS	**Chumysh**	**5.10**	**20**	P	**P**	**23 14 36.7**	**+0.1**
	SNR=13						
USP	**Ospenovka**	**5.29**	**17**	P	**P**	**23 14 38.8**	**-0.3**
	SNR=8.5						
TKM2	**Tokmak 2**	**5.29**	**27**	P	**P**	**23 14 40.0**	**+0.8**
	SNR=7.1						
MK31	**Makanchi Array**	**11.25**	**37**	⇑P	**P**	**23 15 57.7**	**+0.1**
	0.9nm,0.5s,baz=221,slow=14,SNR=7.1						
KURK	**Kurchatov**	**13.25**	**18**	⇑P	**P**	**23 16 21.4**	**-1.8**
	3.0nm,0.9s						
AB31	**Akbulak array**	**14.19**	**325**	P	**P**	**23 16 35.7**	**+0.6**
	0.3nm,0.3s,baz=133,slow=12,SNR=19						
AB31				⇑S	**S**	**23 19 03.7**	**-4.8**
	1.1nm,0.4s,baz=134,slow=25,SNR=8.4						
VOSK	**Vostochnaya**	**14.53**	**357**	⇑P	**P**	**23 16 39.6**	**+0.3**
	1.8nm,1.0s						
BVA0	**Borovoye Array**	**14.86**	**355**	⇑P	**P**	**23 16 44.4**	**+1.0**
	0.3nm,0.8s,baz=163,slow=11,SNR=7.8						

NEIC ***03*** *23:23:36.7, 16.10N×97.53W, h21km, MD3.8(MEX), After MEX.*

MEX 03 23:23:36.7±0.6, 16.10N×97.53W, h21km±29km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.64**	**298**	*i* P	Pb	23 23 47.1	-2.0
PNIG				*i* S	Sb	23 23 55.5	-2.0
OXX	**Oaxaca**	**1.25**	**38**	*i* P	Pn	23 23 56.0	-3.2
OXX				*i* S	Sb	23 24 11.0	-4.2
HUIG	**Huatulco**	**1.41**	**103**	*e*P	Pn	23 23 58.9	-2.6
HUIG				*i* S	Sn	23 24 14.4	-5.2
CMIG	**Matias Romero**	**2.73**	**68**	*e*P	Pn	23 24 16.1	-4.2
CMIG				*i* S	Sn	23 24 48.1	-4.9

IDC ***03*** *23:34:26.3±0.8, 4.07S×131.54E, mb4.2/6, mb1 4.3/7, mb1mx4.1/15, mbtmp4.2/7, ML4.3/1, Error ellipse: s-maj=70.3km s-min=18.8km az=64.0*

ISC 03 23:34:43.1±2.6, 4.60S±0.08×131.4E±0.2, h179km±26km, n13, σ1°38/16, mb4.0/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**8.12**	**173**	*e*P	**P**	**23 36 39.7**	**+0.9**
	17nm,0.6s						
KAKA				*e*S	**S**	**23 38 14.3**	**+5.1**
FITZ	**Fitzroy Crossi**	**14.57**	**202**	*e*P	**P**	**23 38 00.5**	**-1.5**
	8.6nm,0.9s						
FITZ				*e*S	**S**	**23 40 40.5**	**+1.6**
FITZ	**Fitzroy Crossi**	**14.57**	**202**	Pn	**P**	**23 37 59.2**	**-2.8**
	1.0nm,0.3s,baz=24,slow=6.0,SNR=16						
FITZ				Sn	**S**	**23 40 40.0**	**+1.1**
	3.2nm,0.3s,baz=192,slow=23,SNR=8.3						
WRA	**Warramunga Arr**	**15.51**	**170**	Pn	**P**	**23 38 09.3**	**-4.5**
	0.7nm,0.3s,baz=350,slow=14,SNR=27						
WRA				Sn	**S**	**23 40 59.9**	**-0.4**
	1.4nm,0.3s,baz=357,slow=23,SNR=8.5						
WB2	**Warramunga Arr**	**15.51**	**170**	*e*P	**P**	**23 38 10.1**	**-3.6**
WB2				*e*S	**S**	**23 40 59.3**	**-1.0**
CTA	**Charters Tower**	**21.10**	**138**	P	**P**	**23 39 16.2**	**+1.6**
	7.0nm,1.0s,mb4.0,baz=311,slow=12,SNR=4.2						
STKA	**Stephens Creek**	**28.76**	**162**	P	**P**	**23 40 30.6**	**+4.4**
	2.5nm,0.6s,mb4.1,baz=300,slow=18,SNR=4.7						
SONM	**Songino Array**	**56.66**	**340**	P	**P**	**23 44 08.6**	**-1.2**
	0.9nm,0.5s,mb3.8,baz=158,slow=7.2,SNR=5.7						
MKAR	**Makanchi Array**	**67.03**	**326**	P	**P**	**23 45 19.6**	**+0.6**
	1.5nm,0.3s,mb4.2,baz=111,slow=8.3,SNR=22						
ZAL	**Zalesovo**	**70.09**	**333**	P	**P**	**23 45 36.0**	**-1.5**
	1.0nm,0.4s,mb3.9,baz=335,slow=6.3,SNR=7.1						
BVAR	**Borovoye Array**	**76.82**	**327**	P	**P**	**23 46 18.3**	**+1.8**
	1.4nm,0.7s,mb3.7,baz=135,slow=8.4,SNR=11						
CPUP	**Villa Florida**	**148.10**	**165**	PKPbc	PKPdf	23 54 16.1	+11
	1.7nm,0.6s,baz=184,slow=7.5,SNR=5.2						
LPAZ	**La Paz**	**151.63**	**137**	PKPbc	PKPdf	23 54 23.8	+13
	0.6nm,0.5s,baz=260,slow=3.6,SNR=5.8						

IDC 03 23:43:07.7±1.6, 8.08N×91.68E, mb3.6/6, mb1 3.8/6, mb1mx3.7/19, mbtmp3.6/6, Error ellipse: s-maj=51.1km s-min=29.1km az=51.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**39.40**	**350**	P	P	23 50 39.0	-1.9
	0.2nm,0.4s,baz=162,slow=7.7,SNR=3.6						
SONM	**Songino Array**	**41.54**	**15**	P	P	23 50 57.2	-1.3
	1.0nm,0.7s,baz=199,slow=8.5,SNR=8.6						
ZAL	**Zalesovo**	**46.06**	**354**	P	P	23 51 32.6	-2.3
	0.4nm,0.4s,baz=324,slow=8.4,SNR=4.2						
WRA	**Warramunga Arr**	**50.38**	**124**	P	P	23 52 06.9	-2.1
	0.5nm,0.8s,baz=304,slow=8.7,SNR=4.9						
BRTR	**Keskin Array B**	**60.45**	**311**	P	P	23 53 19.2	-2.5
	0.8nm,0.8s,baz=90,slow=4.9,SNR=3.8						
GERES	**GERESS Array B**	**76.05**	**318**	P	P	23 54 57.7	-1.0
	0.8nm,0.8s,baz=76,slow=5.5,SNR=6.8						

BJI ***03*** *23:43:45.5, 6.51N×92.60E, h15km, mB5.6, mb5.0, Ms5.8, Msz5.5*

IDC ***03*** *23:43:45.9±0.3, 6.79N×92.72E, mb5.0/34, mb1 5.0/34, mb1mx5.0/34, mbtmp5.0/34, MS5.1/18, Ms1 5.1/18, ms1mx5.1/18, Error ellipse: s-maj=13.9km s-min=8.9km az=42.0*

HRVD ***03*** *23:43:47.2±0.1, 6.68N×92.58E, h12km, MW5.4/77, Centroid moment Tensor Solution. LP body waves: s59,c101; Mantle waves: s77,c161; Half duration: 1s2 Moment tensor: Scale 10^17Nm; Mrr1.54±.02; Mθθ-0.03±.02; Mφφ-1.51±.02; Mrθ0.03±.06; Mφθ0.40±.02; Mφr-0.27±.06; Best double couple: M0 1.598×10^17 NP1: φs344°, δ40°, λ88°. NP2:φs167°, δ50°, λ92°. Principal axes: T 1.563, Plg85°, Azm92°; N .07, Plg1°, Azm346°; P -1.633, Plg5°, Azm256°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***03*** *23:43:47.1±3.7, 6.73N×92.67E, h5km±22km, mb5.3/109, MS5.1/6, MW5.4 Error ellipse: s-maj=6.8km s-min=5.4km az=202.0, Moment Tensor Solution. s22 Moment tensor: Scale 10^17Nm; Mrr1.71; Mθθ-0.02; Mφφ-1.69; Mrθ-0.03; Mφθ-0.04; Mφr0.47; Best double couple: M0 1.8×10^17 NP1: φs183°, δ37°, λ92°. NP2:φs360°, δ53°, λ88°. Principal axes: T 1.78, Plg82°, Azm261°; N -.02, Plg1°, Azm1°; P -1.76, Plg8°, Azm91°;*

MOS ***03*** *23:43:49.8±1.0, 6.81N×92.74E, h33km, mb5.4/106, MS5.2/33 Error ellipse: s-maj=7.9km s-min=3.9km az=121.2*

CRAAG ***03*** *23:43:50.3, 6.72N×92.70E, Mb5.4*

ISC 03 23:43:48.4±0.2, 6.71N±0.03×92.66E±0.03, h23km, h23km±1.2km: pP-P, n507, σ1°16/515, mb5.2/179, MS5.3/70, 35C-9D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**7.91**	**86**	P	**Pn**	**23 45 47.0**	**+2.0**
	456nm,0.9s						
NNT	**Nongplab**	**9.09**	**50**	P	**P**	**23 46 03.0**	**+1.6**
NST	**Nakhon Sawan**	**11.53**	**39**	P	**P**	**23 46 33.0**	**-1.9**
	48nm,1.2s						
PALK	**Pallekele**	**11.88**	**273**	*e*P	**P**	**23 46 36.4**	**-3.3**
	79nm,0.6s						
BDT	**Bhumibol Dam**	**12.16**	**30**	P	**P**	**23 46 54.0**	**+11**
	22nm,1.2s						
CHG	**Chiang Mai**	**13.49**	**26**	⇑P	**P**	**23 47 04.0**	**+2.9**
	93nm,0.8s						
MDRS	**Chennai**	**13.76**	**298**	*e*P	**P**	**23 47 02.3**	**-2.5**
MDRS				AMb	AMB	23 47 04.2	
	comp=Z,109nm,0.2s						
MDRS				*ex*	x	23 49 21.7	
MDRS				*ex*	x	23 50 53.0	
MDRS				*ex*	x	23 58 19.0	
KKTK	**Khon Kaen**	**13.80**	**45**	P	**P**	**23 47 08.0**	**+2.7**
	comp=Z,679nm,1.0s						
VIS	**Vishakhapatnam**	**14.23**	**321**	*e*P	**P**	**23 47 10.0**	**-1.0**
VIS				AMb	AMB	23 47 11.9	
	comp=Z,230nm,0.4s						
VIS				*ex*	x	23 49 39.0	
VIS				*i* x	x	23 51 32.5	
VIS				*i* x	x	23 54 18.3	
UBT	**Ubonrachathani**	**14.79**	**54**	P	**P**	**23 47 27.0**	**+8.7**
CHRT	**Chiangrai**	**14.79**	**27**	⇓P	**P**	**23 47 20.0**	**+1.7**
	comp=Z,416nm,1.2s						
BWNR	**Bhubaneshwar**	**15.05**	**334**	*ex*	x	23 56 43.0	
SALM	**Salem**	**15.09**	**290**	*e*P	**P**	**23 47 22.0**	**-0.2**
SALM				*ex*	x	23 50 00.0	
TRD	**Trivandrum**	**15.66**	**278**	*e*P	**P**	**23 47 27.8**	**-1.9**
CAL	**Calcutta**	**16.28**	**346**	*e*P	**P**	**23 47 34.8**	**-2.6**
CAL				*ex*	x	23 50 52.5	
HYB	**Hyderabad**	**17.41**	**309**	*i* P	**P**	**23 47 52.0**	**+0.3**
HYB				*e*S	**S**	**23 51 08.0**	**+5.2**
HYB				LR	LR	23 58 28.0	
	comp=Z,10nm,14.0s						
HYB	**Hyderabad**	**17.41**	**309**	*e*P	**P**	**23 47 52.0**	**+0.3**
HYB				*e*S	**S**	**23 51 08.0**	**+5.2**
IMP	**Imphal**	**18.01**	**4**	*ex*	**P**	**23 47 50.0**	**-9.2**
IMP				*e*S	**S**	**23 51 23.0**	**+6.4**
BOK	**Bokaro**	**18.19**	**340**	*i* P	**P**	**23 47 58.2**	**-3.2**
BOK				*i* S	**S**	**23 51 28.2**	**+7.6**
BLSP	**Bilaspur**	**18.39**	**328**	*e*P	**P**	**23 48 04.1**	**+0.1**
BLSP				AMb	AMB	23 48 06.4	
	comp=Z,171nm,1.9s						
MNGI	**Mangalore**	**18.63**	**291**	*i* x	x	23 48 49.7	
MNGI				*ex*	x	23 52 02.4	
SHL	**Shillong**	**18.76**	**358**	*e*P	**P**	**23 48 07.0**	**-1.4**
SHL				*e*S	**S**	**23 51 40.0**	**+6.5**
LATR	**Latur**	**19.53**	**308**	*e*P	**P**	**23 48 16.8**	**-0.6**
LATR				*ex*	x	23 51 39.0	
JBP	**Jabalpur**	**20.41**	**325**	*i* P	**P**	**23 48 28.9**	**+2.1**
JBP				*i* x	x	23 52 21.9	
AKL	**Akola**	**20.57**	**314**	*ex*	x	23 50 35.9	
AKL				*ex*	x	23 53 25.0	

BHPL				AMb	AMB	23 48 57.4
	comp=Z,152nm,1.9s,mb5.1					
BHPL				*ex*	x	23 52 54.4
KKN	**Kakani**	**22.10**	**342**	*e*P	**P**	**23 48 44.1 +0.2**
	comp=Z,206nm,0.9s,mb5.6					
GKN	**Gorkha**	**22.50**	**341**	*e*P	**P**	**23 48 48.2 +0.3**
	comp=Z,358nm,1.0s,mb5.8					
KOLN	**Koldanda**	**22.64**	**339**	*e*P	**P**	**23 48 49.4 +0.1**
	comp=Z,211nm,1.2s,mb5.5					
BOM	**Bombay**	**22.80**	**304**	*ex*	x	23 53 10.4
LSA	**Lhasa**	**22.91**	**357**	P	**P**	**23 48 54.2 +2.2**
LSA				S	**S**	**23 53 06.7 +11**
LSA				AMB	AMB	
	comp=Z,70nm,0.8s,mb5.1					
LSA				AMB	AMB	
	comp=Z,660nm,6.3s					
LSA				LR	LR	
	comp=N,2μm,15.8s,MS5.1					
LSA				LR	LR	
	comp=E,4μm,16.4s,MS5.1					
LSA				LR	LR	
	comp=Z,4μm,19.1s,MS4.9					
LSA	**Lhasa**	**22.91**	**357**	*e*P	**P**	**23 48 50.7 -1.3**
	comp=Z,79nm,0.9s,mb5.1					
LSA	**Lhasa**	**22.91**	**357**	*e*P	**P**	**23 48 50.7 -1.3**
LSA				pmax	pmax	
	comp=Z,79nm,0.9s,mb5.1					
GYA	**Guiyang**	**23.74**	**33⇓**	*i*P	**P**	**23 49 00.8 +0.7**
GYA				AP		23 49 04.9
GYA				XP		23 49 08.2
GYA				PP	PP	23 49 34.8 +1.5
GYA				S	**S**	**23 53 13.5 +2.9**
GYA				AMB	AMB	
	comp=Z,90nm,1.1s,mb5.1					
GYA				AMB	AMB	
	comp=Z,1μm,5.4s					
GYA				LR	LR	
	comp=N,7μm,14.1s					
GYA				LR	LR	
	comp=Z,7μm,15.9s,MS5.2					
AJM	**Ajmer**	**26.09**	**321**	*e*P	**P**	**23 49 25.0 +2.5**
CD2	**Chengdu**	**26.22**	**22**	P	**P**	**23 49 23.3 -0.3**
CD2				S	**S**	**23 53 55.9 +3.5**
CD2				AMB	AMB	
	comp=Z,60nm,1.0s,mb5.1					
CD2				LR	LR	
	comp=N,6μm,11.3s					
CD2				LR	LR	
	comp=Z,8μm,12.7s,MS5.5					
NDI	**New Delhi**	**26.28**	**328**	*e*P	**P**	**23 49 23.0 -1.2**
NDI				*ex*	x	23 54 05.0
ENH	**Enshi**	**28.27**	**32**	*e*P	**P**	**23 49 41.4 -0.9**
	comp=Z,85nm,1.2s,mb5.2					
QZH	**Quanzhou**	**30.73**	**51**	P	**P**	**23 50 06.4 +2.1**
QZH				S	**S**	**23 55 08.9 +4.2**
QZH				AMB	AMB	
	comp=Z,2μm,6.4s					
QZH				LR	LR	
	comp=N,20μm,13.0s,MS6.3					
QZH				LR	LR	
	comp=E,36μm,12.8s,MS6.3					
QZH				LR	LR	
	comp=Z,56μm,13.1s,MS6.4					
LZH	**Lanzhou**	**30.98**	**18**	⇑P	**P**	**23 50 05.4 -1.0**
LZH				AP	pP	23 50 10.0 -3.2
LZH				XP	sP	23 50 12.5 -3.6
LZH				PP	PP	23 51 06.9 -1.7
LZH				S	**S**	**23 55 09.0 +0.4**
LZH				SS	SS	23 56 52.5 -0.5
LZH				AMB	AMB	
	comp=Z,59nm,1.3s,mb5.3					
LZH				AMB	AMB	
	comp=Z,321nm,4.9s					
LZH				LR	LR	
	comp=E,3μm,12.5s					
LZH				LR	LR	
	comp=Z,5μm,15.3s,MS5.3					
LZH	**Lanzhou**	**30.98**	**18**	⇑P	**P**	**23 50 05.4 -1.0**
	comp=Z,59nm,1.3s,mb5.3					
LZH				pP	pP	23 50 10.0 -3.2
LZH				sP	sP	23 50 12.5 -3.6
LZH				PP	PP	23 51 06.9 -1.7
LZH				S	**S**	**23 55 09.0 +0.4**
LZH				sS		23 55 16.1
LZH				SS	SS	23 56 52.5 -0.5
LZH				LR	LR	
	comp=Z,5μm,15.3s,MS5.3					
LZH	**Lanzhou**	**30.98**	**18**	⇑P	**P**	**23 50 05.4 -1.0**
LZH				*SP	sP	23 50 12.5 -3.6
LZH						23 51 06.9
LZH				S	**S**	**23 55 09.0 +0.4**
LZH				SS	SS	23 56 52.5 -0.5
LZH				pmax	pmax	
	comp=Z,59nm,1.3s,mb5.3					
LZH				MLR	MLR	
	comp=Z,5μm,15.3s,MS5.3					
XAN	**Xi'an**	**31.08**	**27**	P	**P**	**23 50 05.7 -1.6**
XAN				AP	pP	23 50 14.6 +0.6
XAN				PP	PP	23 51 10.6 +0.8
XAN				S	**S**	**23 55 03.8 -6.3**
XAN				AMB	AMB	
	comp=Z,28nm,0.9s,mb5.1					
XAN				LR	LR	
	comp=N,10μm,12.0s,MS5.8					
XAN				LR	LR	
	comp=E,7μm,13.7s,MS5.8					
XAN				LR	LR	
	comp=Z,20μm,13.3s,MS6.0					
WHN	**Wuhan**	**31.25**	**38**	P	**P**	**23 50 08.1 -0.7**
WHN				AP	pP	23 50 16.4 +0.8
WHN				S	**S**	**23 55 12.3 -0.5**
WHN				LR	LR	
	comp=N,14μm,11.7s,MS6.0					
WHN				LR	LR	
	comp=E,15μm,11.3s,MS6.0					
WHN				LR	LR	
	comp=Z,26μm,11.8s,MS6.1					
DAV	**Davao City (W)**	**32.68**	**87**	*e*P	sP	23 50 36.0 +4.8
GTA	**Gaotai**	**33.19**	**10**	*e*P	**P**	**23 50 25.7 +0.1**
GTA				AP	pP	23 50 33.0 +0.6
GTA				XP	sP	23 50 36.5 +1.1
GTA				PP	PP	23 51 37.3 +0.3
GTA				PCP	PcP	23 53 08.4 +0.1
GTA				S	**S**	**23 55 42.9 0.0**
GTA				XS		23 55 54.7
GTA				PCS		23 56 52.0
GTA				AMB	AMB	
	comp=Z,28nm,1.6s,mb4.9					
GTA				AMB	AMB	
	comp=Z,615nm,6.5s					
GTA				LR	LR	
	comp=N,5μm,13.3s,MS5.4					
GTA				LR	LR	
	comp=E,4μm,16.4s,MS5.4					
GTA				LR	LR	
	comp=Z,3μm,13.3s,MS5.2					
NJ2	**Nanjing**	**35.10**	**41**	*e*P	**P**	**23 50 42.8 +0.6**
NJ2				AP	pP	23 50 46.6 -2.5
NJ2				XP	sP	23 50 50.0 -2.0
NJ2				PP	PP	23 51 59.2 -1.9
NJ2				S	**S**	**23 56 13.0 +0.3**
NJ2				XS		23 56 23.0
NJ2				AMB	AMB	
	comp=Z,70nm,0.9s,mb5.6					
NJ2				AMB	AMB	
	comp=Z,380nm,10.9s					
NJ2				LR	LR	
	comp=N,2μm,18.8s,MS5.1					
NJ2				LR	LR	
	comp=E,2μm,14.6s,MS5.1					
NJ2				LR	LR	
	comp=Z,810nm,16.2s,MS4.6					
KSH	**Kashi**	**35.95**	**338**	*e*P	**P**	**23 50 50.2 +0.8**
KSH				*e*AP	pP	23 50 54.0 -2.2
KSH				*e*XP	sP	23 50 57.3 -1.8
KSH				*e*PP	PP	23 52 11.0 -0.2
KSH				*e*PCP	PcP	23 53 17.1 +0.9
KSH				*e*S	**S**	**23 56 27.5 +1.8**
KSH				*e*SCP		23 57 01.1
KSH				*e*PCS		23 57 03.7
KSH				*e*SS	SS	23 58 46.1 -2.1
KSH				AMB	AMB	
	comp=Z,620nm,4.2s					
KSH				LR	LR	
	comp=N,4μm,11.3s,MS5.5					
KSH				LR	LR	
	comp=E,3μm,12.6s,MS5.5					
SSE	**Sheshan**	**36.07**	**44**	P	**P**	**23 50 48.6 -1.9**
SSE				XP	sP	23 51 01.3 +1.1
SSE				PCP	PcP	23 53 14.1 -2.6
SSE				S	**S**	**23 56 26.5 -1.2**
SSE				XS		23 56 41.7
SSE				AMB	AMB	
	comp=Z,46nm,0.8s,mb5.5					
SSE				AMB	AMB	
	comp=Z,538nm,7.0s					
SSE				LR	LR	
	comp=N,693nm,12.6s,MS4.8					
SSE				LR	LR	
	comp=E,624nm,12.6s,MS4.8					
SSE				LR	LR	
	comp=Z,1μm,9.7s					
SSE	**Sheshan**	**36.07**	**44**	P	**P**	**23 50 48.6 -1.9**
	comp=Z,46nm,0.8s,mb5.5					
SSE				sP	sP	23 51 01.3 +1.1
SSE				PcP	PcP	23 53 14.1 -2.6
SSE				PcS		23 53 47.0
SSE				S	**S**	**23 56 26.5 -1.2**
SSE				sS		23 56 41.7
SSE				SS	SS	23 59 05.2 +14
TIA	**Tai'an**	**36.92**	**34**	*e*P	**P**	**23 50 58.4 +0.8**
TIA				S	**S**	**23 56 42.0 +1.4**
TIA				AMB	AMB	
	comp=Z,30nm,1.2s,mb5.0					
TIA				LR	LR	
	comp=N,5μm,11.0s,MS5.6					
TIA				LR	LR	
	comp=E,4μm,13.0s,MS5.6					
WMQ	**Urumqi**	**37.22**	**354**	*e*P	**P**	**23 51 00.0 0.0**
WMQ				XP	sP	23 51 07.0 -2.7
WMQ				PP	PP	23 52 27.0 -0.3
WMQ				PCP	PcP	23 53 20.0 0.0
WMQ				S	**S**	**23 56 46.0 +0.9**
WMQ				XS		23 56 54.0
WMQ				SS	SS	23 59 17.0 +0.7
WMQ				AMB	AMB	
	comp=Z,17nm,1.0s,mb4.8					
WMQ				AMB	AMB	
	comp=Z,124nm,8.0s					
WMQ				LR	LR	
	comp=N,1μm,19.0s,MS5.1					
WMQ				LR	LR	
	comp=E,3μm,23.0s,MS5.1					
WMQ				LR	LR	
	comp=Z,2μm,20.0s,MS4.8					
HHC	**Hu-ho-hao-te**	**37.95**	**24**	*e*P	**P**	**23 51 05.7 -0.5**
HHC				AP	pP	23 51 09.9 -3.2
HHC				XP	sP	23 51 13.0 -2.9
HHC				PP	PP	23 52 34.3 -1.9
HHC				PCP	PcP	23 53 22.8 +0.5
HHC				S	**S**	**23 56 56.5 +0.1**
HHC				AMB	AMB	
	comp=Z,29nm,1.7s,mb4.7					
HHC				AMB	AMB	
	comp=Z,578nm,5.1s					
HHC				LR	LR	
	comp=N,6μm,14.3s,MS5.8					
HHC				LR	LR	
	comp=E,7μm,13.1s,MS5.8					
HHC				LR	LR	
	comp=Z,7μm,16.1s,MS5.5					
KZA	**Kyzart**	**38.45**	**339**	P	**P**	**23 51 08.3 -2.1**
	SNR=6.7					
UCH	**Uchtor**	**38.85**	**338**	P	**P**	**23 51 14.2 +0.4**
	SNR=67					
AAA	**Alma-Ata**	**38.95**	**342**	*e*P	**P**	**23 51 14.0 -0.5**
AAA				*e*S	**S**	**23 57 16.0 +4.6**
AAA				pmax	pmax	
	comp=Z,800nm,4.0s					
AAA				smax		
	comp=N,1μm,8.0s					
AAA				smax		
	comp=E,1μm,8.0s					
KBK	**Karagaybulak**	**39.07**	**339**	P	**P**	**23 51 15.9 +0.3**
	SNR=47					
AML	**Almayashu**	**39.07**	**337**	P	**P**	**23 51 16.3 +0.7**
	SNR=39					
TKM2	**Tokmak 2**	**39.08**	**340**	P	**P**	**23 51 16.4 +0.8**
	SNR=22					
AAK	**Ala-Archa**	**39.21**	**339**	P	**P**	**23 51 18.5 +1.7**
	SNR=23					
AAK	**Ala-Archa**	**39.21**	**339**	*e*P	**P**	**23 51 16.4 -0.4**
	comp=E,59nm,1.0s,mb5.3					
AAK	**Ala-Archa**	**39.21**	**339**	*e*P	**P**	**23 51 16.4 -0.3**
AAK				pmax	pmax	
	comp=Z,59nm,1.0s,mb5.3					
JOW	**Kunigami**	**39.32**	**55**	P	**P**	**23 51 17.8 0.0**
	comp=Z,67nm,0.8s,mb5.4,baz=182,slow=5.0,SNR=4.8					
JOW				LR	LR	00 09 26.5
	comp=Z,4μm,18.8s,MS5.3,baz=154,slow=39					
FRU	**Bishkek**	**39.34**	**339**	*i*P	**P**	**23 51 19.0 +1.2**
FRU				*i*		23 51 35.0
FRU				*e*S	**S**	**23 57 22.0 +4.7**
FRU				pmax	pmax	
	comp=Z,290nm,2.1s,mb5.6					
CHMS	**Chumysh**	**39.44**	**339**	P	**P**	**23 51 18.7 +0.1**
	SNR=20					
EKS2	**Erkin-Say**	**39.50**	**338**	P	**P**	**23 51 19.6 +0.5**
	SNR=30					
USP	**Ospenovka**	**39.76**	**339**	P	**P**	**23 51 21.2 -0.1**
	SNR=41					
FITZ	**Fitzroy Crossi**	**40.83**	**128⇑**	*i*P	**P**	**23 51 28.3 -2.0**
	comp=Z,51nm,0.8s,mb5.2					
FITZ	**Fitzroy Crossi**	**40.83**	**128**	P	**P**	**23 51 28.6 -1.7**
	comp=Z,68nm,0.8s,mb5.3,baz=322,slow=4.6,SNR=22					
FITZ				PcP	PcP	23 53 32.3 +0.7
	comp=Z,20nm,0.8s,baz=346,slow=8.6,SNR=5.1					
MKAR	**Makanchi Array**	**40.92**	**349**	P	**P**	**23 51 29.6 -1.2**
	comp=Z,13nm,0.7s,mb4.7,baz=166,slow=8.2,SNR=47					
MKAR				LR	LR	00 12 30.3
	comp=Z,2μm,18.8s,MS5.0,baz=169,slow=42					
MKAR	**Makanchi Array**	**40.92**	**349**	P	**P**	**23 51 29.6 -1.1**
MKAR				pmax	pmax	
	comp=Z,13nm,0.7s					
MKAR				MLR	MLR	
	comp=Z,2μm,18.8s					
KKAR	**Karatay Array**	**41.16**	**335**	*e*P	**P**	**23 51 32.9 +0.1**
KKAR				pmax	pmax	
	comp=Z,28nm,0.9s,mb4.9					
DL2	**Dalian**	**41.35**	**35**	P	**P**	**23 51 35.8 +1.4**
DL2				S	**S**	**23 57 46.2 -1.2**
DL2				AMB	AMB	
	comp=Z,20nm,1.5s,mb4.5					
DL2				AMB	AMB	
	comp=Z,410nm,5.5s					
DL2				LR	LR	
	comp=N,2μm,13.5s,MS5.3					
DL2				LR	LR	
	comp=E,2μm,14.0s,MS5.3					
DL2				LR	LR	
	comp=Z,3μm,12.7s,MS5.3					
SONM	**Songino Array**	**42.62**	**14**	P	**P**	**23 51 43.7 -1.0**
	comp=Z,18nm,0.8s,mb4.8,baz=192,slow=7.0,SNR=54					
SONM				PcP	PcP	23 53 35.6 -1.7
	comp=Z,3.5nm,0.8s,baz=202,slow=7.4,SNR=2.8					
SONM				LR	LR	00 11 39.3
	comp=Z,3μm,18.2s,MS5.2,baz=193,slow=39					
SONM	**Songino Array**	**42.62**	**14**	P	**P**	**23 51 43.7 -1.0**
SONM						23 53 35.6
SONM				pmax	pmax	
	comp=Z,19nm,0.8s					
SONM				pmax	pmax	
	comp=Z,4.0nm,0.8s					
SONM				MLR	MLR	
	comp=Z,3μm,18.2s					
JNU	**Nakatsue**	**44.11**	**48**	P	**P**	**23 51 56.9 -0.1**
	comp=Z,22nm,0.9s,mb4.9,baz=208,slow=5.8,SNR=7.9					
JNU				LR	LR	00 11 37.7
	comp=Z,4μm,18.9s,MS5.4,baz=32,slow=38					
ZAK	**Zakamensk**	**44.42**	**10**	*e*P	**P**	**23 52 00.1 +0.8**
ZAK				*e*		23 53 43.7
ZAK				pmax	pmax	
	comp=Z,11nm,1.1s,mb4.5					
ZAK				pmax	pmax	
	comp=Z,5.0nm,1.5s					
SNY	**Shenyang**	**44.44**	**33**	⇑P	**P**	**23 51 59.8 +0.2**
SNY				AP	pP	23 52 06.2 -0.3
SNY				PP	PP	23 53 50.0 +5.5
SNY				S	**S**	**23 58 33.3 +0.8**
SNY				AMB	AMB	
	comp=Z,40nm,1.6s,mb4.9					
SNY				AMB	AMB	
	comp=Z,500nm,8.6s					
SNY				LR	LR	
	comp=N,4μm,14.7s,MS5.8					
SNY				LR	LR	
	comp=E,7μm,13.7s,MS5.8					
SNY				LR	LR	
	comp=Z,5μm,14.3s,MS5.6					
MOY	**Mondy**	**45.34**	**7**	*e*P	**P**	**23 52 09.2 +2.6**
MOY				pmax	pmax	
	comp=Z,97nm,3.6s					
KURK	**Kurchatov**	**45.40**	**347**	*e*P	**P**	**23 52 07.2 +0.1**
	comp=Z,200nm,1.8s,mb5.7					
KURK	**Kurchatov**	**45.40**	**347**	P	**P**	**23 52 07.1 0.0**
KURK				pmax	pmax	
	comp=Z,157nm,2.2s,mb5.5					
TLY	**Talaya**	**45.74**	**10**	*e*P	**P**	**23 52 10.9 +1.2**
	comp=Z,28nm,1.0s,mb5.1					
TLY	**Talaya**	**45.74**	**10***c*	*i*P	**P**	**23 52 09.4 -0.3**
TLY				*e*S	**S**	**23 58 55.8 +4.8**
TLY				*e*SS	SS	00 02 08.9 +1.8
TLY				*e*SSS	SSS	00 03 12.9 +2.7
TLY				pmax	pmax	
	comp=Z,64nm,2.2s,mb5.2					
NWAO	**Narrogin (SRO)**	**45.83**	**151**	P	**P**	**23 52 10.3 -0.4**
	comp=Z,15nm,0.8s,mb5.0,baz=339,slow=6.8,SNR=4.0					
NWAO	**Narrogin (SRO)**	**45.83**	**151**	P	**P**	**23 52 10.4 -0.3**
NWAO				pmax	pmax	
	comp=Z,15nm,0.8s					
IRK	**Irkutsk**	**46.38**	**10**	*e*P	**P**	**23 52 15.4 +0.6**
IRK				pmax	pmax	
	comp=Z,127nm,3.6s					
CN2	**Changchun**	**46.79**	**33**	*e*P	**P**	**23 52 18.2 0.0**
CN2				*e*XP	sP	23 52 26.0 -1.9
CN2				*e*S	**S**	**23 59 07.8 +1.6**
CN2				AMB	AMB	
	comp=Z,40nm,1.2s,mb5.2					
CN2				AMB	AMB	
	comp=Z,680nm,4.0s					
CN2				LR	LR	
	comp=N,5μm,14.0s,MS5.8					
CN2				LR	LR	
	comp=E,5μm,14.0s,MS5.8					
CN2				LR	LR	
	comp=Z,5μm,14.0s,MS5.6					
ZAL	**Zalesovo**	**47.51**	**354**	P	**P**	**23 52 21.4 -2.3**
	comp=Z,8.9nm,0.4s,mb5.2,baz=300,slow=6.9,SNR=32					
ZAL				LR	LR	00 16 13.7
	comp=Z,2μm,20.8s,MS5.0,baz=291,slow=41					
ZAL	**Zalesovo**	**47.51**	**354**	P	**P**	**23 52 21.4 -2.3**
ZAL				LR	LR	00 16 13.7
ZAL	**Zalesovo**	**47.51**	**354**	P	**P**	**23 52 21.5 -2.3**
ZAL				pmax	pmax	
	comp=Z,9.0nm,0.4s					
ZAL				MLR	MLR	
	comp=Z,2μm,20.8s					
RDF	**Al-Radifah**	**47.91**	**303**	*e*P	**P**	**23 52 28.7 +1.5**
RDF				AMb	AMB	23 52 31.2
	comp=Z,42nm,1.3s,mb5.3					
UMR	**Umm Al-Rimmam**	**47.97**	**304**	*e*P	**P**	**23 52 28.8 +1.1**
UMR				AMb	AMB	23 52 30.6
	comp=Z,33nm,0.7s,mb5.5					
HIA	**Hailar**	**48.16**	**24**	*e*P	**P**	**23 52 29.2 +0.3**
	comp=Z,43nm,0.9s,mb5.5					
HIA	**Hailar**	**48.16**	**24**	*e*P	**P**	**23 52 29.2 +0.3**
HIA				pmax	pmax	
	comp=Z,43nm,0.9s					
CIT	**Chita**	**48.34**	**17**	*e*P	**P**	**23 52 27.9 -2.3**
CIT				*e*		23 52 37.4
CIT				pmax	pmax	
	comp=Z,101nm,2.3s,mb5.4					
MIB	**Mutribah**	**48.36**	**304**	*e*P	**P**	**23 52 31.3 +0.6**
MIB				AMb	AMB	23 52 34.2
	comp=Z,57nm,0.7s,mb5.7					
NVS	**Novosibirsk**	**48.59**	**353**	*e*P	**P**	**23 52 30.5 -1.6**
NVS				*e*S	**S**	**23 59 33.6 +2.2**
NVS				pmax	pmax	
	comp=Z,48nm,1.4s,mb5.3					
NVS				pmax	pmax	
	comp=N,83nm,2.0s					
NVS				pmax	pmax	
	comp=E,30nm,1.6s					
NVS				smax		
	comp=N,9.0nm,1.4s					
NVS				smax		
	comp=E,73nm,2.4s					
WRA	**Warramunga Arr**	**48.81**	**124**	P	**P**	**23 52 32.8 -1.4**
	comp=E,40nm,0.8s,mb5.5,baz=302,slow=8.9,SNR=54					
WRA				PcP	PcP	23 53 58.0 -1.2
	comp=E,10nm,0.9s,baz=311,slow=2.8,SNR=2.9					
WRA				S	**S**	**23 59 34.9 -0.2**
	comp=E,1.5nm,0.9s,baz=303,slow=16,SNR=4.8					
WRA	**Warramunga Arr**	**48.81**	**124**	P	**P**	**23 52 32.8 -1.5**
WRA						23 53 58.0
WRA				S	**S**	**23 59 34.9 -0.1**
WRA				pmax	pmax	
	comp=Z,40nm,0.8s					
WRA				pmax	pmax	
	comp=Z,10.0nm,0.9s					
WRA				smax		
	comp=N,2.0nm,0.9s					
WRAB	**Tennant Creek**	**48.82**	**124**	*e*P	**P**	**23 52 32.5 -1.8**
	comp=N,106nm,0.9s,mb5.9					
WRAB	**Tennant Creek**	**48.82**	**124**	*e*P	**P**	**23 52 32.5 -1.8**
WRAB				pmax	pmax	
	comp=Z,106nm,0.9s,mb5.9					
WB2	**Warramunga Arr**	**48.82**	**124⇑**	*i*P	**P**	**23 52 32.9 -1.5**
VOSK	**Vostochnaya**	**49.19**	**343**	P	**P**	**23 52 35.1 -1.6**
VOSK				pmax	pmax	
	comp=Z,31nm,0.9s,mb5.3					
ATD	**Arta Tunnel**	**49.37**	**279**	LR	LR	00 09 54.9
	comp=Z,1μm,20.1s,MS4.9,baz=94,slow=32					
MDJ	**Mudanjiang**	**49.59**	**34**	P	**P**	**23 52 41.1 +1.2**
MDJ				AP	pP	23 52 44.5 -2.4
MDJ				XP	sP	23 52 47.0 -2.7
MDJ				PP	PP	23 54 37.6 +2.7
MDJ				SCP		23 57 57.1
MDJ				S	**S**	**23 59 48.5 +3.0**
MDJ				XS		23 59 55.9
MDJ				AMB	AMB	
	comp=Z,39nm,1.9s,mb5.1					
MDJ				AMB	AMB	
	comp=Z,347nm,4.2s					
MDJ				LR	LR	
	comp=N,3μm,12.6s,MS5.7					
MDJ				LR	LR	
	comp=E,4μm,14.4s,MS5.7					
MDJ				LR	LR	
	comp=Z,5μm,11.3s,MS5.8					
MDJ	**Mudanjiang**	**49.59**	**34**	*e*P	**P**	**23 52 41.3 +1.4**
	comp=Z,66nm,1.4s,mb5.5					
BVA0	**Borovoye Array**	**49.63**	**343**	*i*P	**P**	**23 52 39.1 -1.0**
BVA0				pmax	pmax	
	comp=Z,3.0nm,0.9s,mb4.3					
BVAR	**Borovoye Array**	**49.63**	**343**	P	**P**	**23 52 38.6 -1.5**
	comp=Z,14nm,0.7s,mb5.1,baz=143,slow=9.0,SNR=63					
BVAR	**Borovoye Array**	**49.63**	**343**	P	**P**	**23 52 38.6 -1.5**
BVAR				pmax	pmax	
	comp=Z,14nm,0.7s					
BRVK	**Borovoye**	**49.69**	**342**	*e*P	**P**	**23 52 39.3 -1.3**
	comp=Z,14nm,0.9s,mb5.0					
BRVK	**Borovoye**	**49.69**	**342**	*e*P	**P**	**23 52 39.3 -1.3**
BRVK				pmax	pmax	
	comp=Z,14nm,0.9s,mb5.0					
AB31	**Akbulak array**	**50.56**	**333**	P	**P**	**23 52 46.2 -1.1**
AB31				pmax	pmax	
	comp=Z,77nm,1.2s,mb5.5					
MAJO	**Matsushiro**	**51.02**	**48**	*e*P	**P**	**23 52 50.8 -0.2**
	comp=Z,106nm,1.9s,mb5.5					
MAJO	**Matsushiro**	**51.02**	**48**	*e*P	**P**	**23 52 50.8 -0.2**
MAJO				pmax	pmax	
	comp=Z,106nm,1.9s,mb5.5					
MAT	**Matsushiro**	**51.02**	**48**	P	**P**	**23 52 51.2 +0.2**
MAT	**Matsushiro**	**51.02**	**48**	*e*P	**P**	**23 52 51.0 0.0**
	comp=Z,92nm,2.2s,mb5.3					
MAT	**Matsushiro**	**51.02**	**48**	*e*P	**P**	**23 52 51.0 0.0**
MAT				pmax	pmax	
	comp=Z,92nm,2.2s,mb5.3					
MJAR	**Matsushiro Arr**	**51.02**	**48**	P	**P**	**23 52 49.5 -1.5**
	comp=Z,4.4nm,0.9s,mb4.4,baz=241,slow=7.9,SNR=12					
MJAR				PcP	PcP	23 54 06.0 -1.1
	comp=Z,11nm,0.8s,baz=242,slow=4.6,SNR=9.2					
MJAR				LR	LR	00 16 28.0
	comp=Z,2μm,18.6s,MS5.1,baz=265,slow=38					
MJAR	**Matsushiro Arr**	**51.02**	**48**	P	**P**	**23 52 49.5 -1.5**
MJAR				PcP	PcP	23 54 06.0 -1.1

MJAR			LR	LR	00 16 28.0	
MJAR	**Matsushiro Arr**	**51.02 48**	P	**P**	**23 52 49.5**	**-1.5**
MJAR					23 54 06.0	
MJAR			pmax	pmax		
comp=Z,4.0nm,0.9s						
MJAR			pmax	pmax		
comp=Z,11nm,0.8s						
MJAR			MLR	MLR		
comp=Z,2μm,18.6s						
OPO	**Ambohidratompo**	**51.40 240**	P	**P**	**23 52 54.1**	**0.0**
comp=Z,4.1nm,0.6s,mb4.5,baz=69,slow=5.5,SNR=13						
BHD	**Baghdad**	**51.89 307**	*e*P	x	23 52 56.0	
BHD			*e*PcP	x	23 54 09.0	
BHD			*e*S	x	00 00 17.0	
BOD	**Bodaibo**	**53.62 14**	*e*P	**P**	**23 53 08.7**	**-1.4**
BOD			pmax	pmax		
comp=Z,55nm,1.0s,mb5.4						
MAK	**Makhachkala**	**53.63 320**	*e*P	**P**	**23 53 10.0**	**-0.4**
MAK			*e*		23 54 19.0	
MAK			*e*		23 55 15.0	
MAK			*e*PPP	PPP	23 56 16.0	-4.9
MAK			*e*S	**S**	**00 00 46.0**	**+5.1**
MAK			pmax	pmax		
comp=Z,800nm,3.0s						
MAK			smax			
comp=N,900nm,8.0s						
MAK			smax			
comp=E,500nm,8.0s						
MAK			MLR	MLR		
comp=N,2μm,15.0s,MS5.6						
MAK			MLR	MLR		
comp=E,4μm,15.0s,MS5.6						
MAK			MLR	MLR		
comp=Z,2μm,15.0s,MS5.3						
MSL	**Mosul**	**53.92 310**	*e*P	x	23 53 14.0	
GNI	**Garni**	**54.21 315**	P	**P**	**23 53 13.1**	**-1.6**
comp=Z,9.2nm,0.9s,mb4.7,baz=160,slow=2.8,SNR=12						
GNI	**Garni**	**54.21 315**	P	**P**	**23 53 13.1**	**-1.6**
GNI			pmax	pmax		
comp=Z,9.0nm,0.9s						
TI2	**Plekhanov**	**54.88 317**	*i* P	**P**	**23 53 14.0**	**-5.6**
TBLG	**Delisi**	**54.88 317**	P	**P**	**23 53 19.2**	**-0.5**
KMBO	**Kilima Mbogo**	**55.84 264**	P	**P**	**23 53 26.3**	**-0.6**
comp=Z,7.8nm,1.1s,mb4.7,baz=53,slow=12,SNR=11						
KMBO			LR	LR	00 16 02.3	
comp=Z,3μm,18.2s,MS5.4,baz=65,slow=35						
ZEI	**Tsey**	**55.90 318**	*e*P	**P**	**23 53 23.7**	**-3.2**
ZEI			*i* *PP	pP	23 53 30.8	-3.2
ZEI			*i*		23 55 31.1	
ZEI			pmax	pmax		
comp=Z,7.0nm,0.6s,mb4.9						
SVE	**Sverdlovsk**	**55.95 339**	*e*P	**P**	**23 53 26.0**	**-1.1**
SVE			pmax	pmax		
comp=Z,104nm,1.5s,mb5.6						
CLNS	**Chul'man**	**56.03 21**	*e*P	**P**	**23 53 27.0**	**-0.7**
CLNS			*e**PP	pP	23 53 34.6	-0.1
CLNS			*e*		23 54 24.3	
CLNS			*e*S	**S**	**00 01 10.3**	**-2.7**
CLNS			*e*PS	PS	00 01 29.6	+1.9
CLNS			*e*		00 03 02.9	
CLNS			pmax	pmax		
comp=N,43nm,1.0s						
CLNS			pmax	pmax		
comp=E,36nm,1.0s						
CLNS			pmax	pmax		
comp=Z,88nm,1.0s,mb5.7						
CLNS			pmax	pmax		
comp=Z,12nm,0.6s,mb5.1						
CLNS			pmax	pmax		
comp=N,20nm,1.5s						
CLNS			pmax	pmax		
comp=E,36nm,0.7s						
CLNS			smax			
comp=E,6.0nm,0.8s						
CLNS			smax			
comp=Z,2.0nm,0.7s						
CLNS			smax			
comp=N,10.0nm,1.0s						
CLNS			MLR	MLR		
comp=Z,5μm,13.0s,MS5.8						
CLNS			MLR	MLR		
comp=N,4μm,14.0s,MS5.7						
CLNS			MLR	MLR		
comp=E,1μm,14.0s,MS5.7						
ONI	**Oni**	**56.11 318**	P	**P**	**23 53 25.3**	**-3.2**
ARU	**Arti**	**56.39 338**	*e*P	**P**	**23 53 29.2**	**-1.1**
comp=E,47nm,0.9s,mb5.5						
ARU	**Arti**	**56.39 338⇑**	*i*P	**P**	**23 53 29.5**	**-0.8**
ARU			*e*		23 54 25.5	
ARU			*i*		23 55 34.5	
ARU			*e*PPP	PPP	23 56 53.7	-1.0
ARU			*i* S	**S**	**00 01 20.5**	**+2.7**
ARU			*e*		00 03 11.5	
ARU			pmax	pmax		
comp=Z,54nm,0.9s,mb5.6						
ARU			MLR	MLR		
comp=Z,3μm,18.5s,MS5.3						
ARU			MLR	MLR		
comp=N,1μm,19.0s,MS5.3						
ARU			MLR	MLR		
comp=E,2μm,20.0s,MS5.3						
PMG	**Port Moresby**	**56.61 106**	P	**P**	**23 53 30.4**	**-2.0**
comp=E,32nm,0.8s,mb5.4,baz=106,slow=3.8,SNR=6.5						
PMG	**Port Moresby**	**56.61 106**	*e*P	**P**	**23 53 31.1**	**-1.3**
comp=E,44nm,0.9s,mb5.5						
PMG	**Port Moresby**	**56.61 106**	*e*P	**P**	**23 53 31.1**	**-1.4**
PMG			pmax	pmax		
comp=Z,44nm,0.9s						
KIV	**Kislovodsk**	**57.20 319**	*e*P	**P**	**23 53 35.5**	**-0.8**
comp=Z,33nm,1.1s,mb5.3						
KIV	**Kislovodsk**	**57.20 319**	*e*P	**P**	**23 53 35.6**	**-0.7**
KIV			*e*		23 55 39.8	
KIV			*e*PPP	PPP	23 56 59.5	-5.7
KIV			*e*S	**S**	**00 01 26.6**	**-2.0**
KIV			pmax	pmax		
comp=E,16nm,1.1s						
KIV			pmax	pmax		
comp=Z,34nm,1.1s,mb5.3						
GOF	**Gofitskoye**	**57.46 320⇑**	*i*P	**P**	**23 53 36.0**	**-2.0**
GOF			pmax	pmax		
comp=Z,29nm,1.0s,mb5.3						
ASF	**Jabal al Asfar**	**57.63 304**	P	**P**	**23 53 38.5**	**-0.9**
comp=Z,9.9nm,0.9s,mb4.9,baz=356,slow=4.3,SNR=17						
ASF	**Jabal al Asfar**	**57.63 304**	P	**P**	**23 53 38.5**	**-0.9**
ASF			pmax	pmax		
comp=Z,10.0nm,0.9s						
YSS	**Yuzh-Sakhalins**	**58.59 38**	*e*P	**P**	**23 53 46.4**	**+0.4**
comp=Z,41nm,1.1s,mb5.4						
YSS	**Yuzh-Sakhalins**	**58.59 38⇑**	*e*P	**P**	**23 53 46.0**	**0.0**
YSS			*e*		23 54 33.0	
YSS			*e*S	**S**	**00 01 46.0**	**-0.9**
YSS			*e*PS	PS	00 01 55.0	-8.7
YSS			pmax	pmax		
comp=Z,500nm,5.0s						
YSS			MLR	MLR		
comp=Z,2μm,15.0s,MS5.4						
YSS			MLR	MLR		
comp=E,4μm,14.0s						
EIL	**Elat**	**58.73 301**	P	**P**	**23 53 46.4**	**-0.8**
comp=E,530nm,1.1s,baz=154,slow=7.4,SNR=22						
SOC	**Sochi**	**59.02 317**	*e*P	**P**	**23 53 45.9**	**-3.1**
SOC			*e*		23 54 30.0	
SOC			*e*PPP	PPP	23 57 24.0	-1.7
SOC			pmax	pmax		
comp=Z,26nm,1.1s,mb5.2						
SOC			pmax	pmax		
comp=N,37nm,1.4s						
SOC			pmax	pmax		
comp=E,16nm,1.3s						
CTA	**Charters Tower**	**59.04 118⇑**	*i*P	**P**	**23 53 49.3**	**-0.1**
comp=E,34nm,1.0s,mb5.3						
CTA	**Charters Tower**	**59.04 118**	P	**P**	**23 53 48.9**	**-0.6**
comp=E,43nm,1.0s,mb5.4,baz=292,slow=7.6,SNR=15						
CTA	**Charters Tower**	**59.04 118**	P	**P**	**23 53 48.9**	**-0.5**
CTA			pmax	pmax		
comp=Z,43nm,1.0s						
CTAO	**Charters Tower**	**59.04 118**	*e*P	**P**	**23 53 49.4**	**-0.1**
comp=Z,90nm,1.3s,mb5.6						
CTAO	**Charters Tower**	**59.04 118**	*e*P	**P**	**23 53 49.4**	**0.0**
CTAO			pmax	pmax		
comp=Z,90nm,1.3s,mb5.6						
STKA	**Stephens Creek**	**60.39 132**	*e*P	**P**	**23 53 57.8**	**-0.8**
comp=Z,20nm,1.0s,mb5.1						
STKA	**Stephens Creek**	**60.39 132**	P	**P**	**23 53 57.6**	**-0.9**
comp=Z,22nm,1.0s,mb5.1,baz=311,slow=6.8,SNR=13						
STKA			LR	LR	00 22 08.6	
comp=Z,2μm,18.1s,MS5.2,baz=308,slow=38						
ANN	**Anapa**	**61.00 318**	*e*P	**P**	**23 54 00.9**	**-1.6**
ANN			*i* *PP	pP	23 54 11.2	+1.5
ANN			*i*		23 54 45.0	
ANN			*e*S	**S**	**00 02 19.3**	**+1.4**
ANN			pmax	pmax		
comp=Z,29nm,1.5s,mb5.2						
VRHR	**Novokhopersk**	**61.05 326**	*e*P	**P**	**23 54 00.2**	**-2.6**
VRHR			*e**PP	pP	23 54 07.7	-2.3
VRHR			*e*S	**S**	**00 02 19.3**	**+0.8**
VRHR			pmax	pmax		
comp=Z,160nm,2.1s,mb5.8						
VRHR			pmax	pmax		
comp=N,140nm,2.7s						
VRHR			pmax	pmax		
comp=E,100nm,1.8s						
VRHR			smax			
comp=N,200nm,4.1s						
VRHR			smax			
comp=Z,170nm,5.8s						
VRHR			smax			
comp=E,300nm,8.8s						
YAK	**Yakutsk**	**61.56 19**	*e*P	**P**	**23 54 05.4**	**-0.6**
comp=E,108nm,1.1s,mb5.9						
YAK	**Yakutsk**	**61.56 19**	*i* P	**P**	**23 54 06.3**	**+0.2**
YAK			*e**PP	pP	23 54 16.6	+3.4
YAK			*e*		23 54 48.0	
YAK			*e*		23 56 21.4	
YAK			*e*PPP	PPP	23 57 47.2	-5.2
YAK			*e*S	**S**	**00 02 25.7**	**+1.0**
YAK			*e*		00 03 55.1	
YAK			*e*SS	SS	00 06 28.2	+0.6
YAK			pmax	pmax		
comp=Z,69nm,1.1s,mb5.7						
YAK			pmax	pmax		
comp=N,20nm,0.9s						
YAK			pmax	pmax		
comp=E,31nm,1.1s						
YAK			pmax	pmax		
comp=Z,6.0nm,0.9s,mb4.7						
YAK			pmax	pmax		
comp=N,4.0nm,1.2s						
YAK			pmax	pmax		
comp=E,4.0nm,1.2s						
YAK			smax			
comp=N,6.0nm,1.1s						
YAK			smax			
comp=E,6.0nm,1.1s						
YAK			MLR	MLR		
comp=Z,4μm,14.0s,MS5.7						
YAK			MLR	MLR		
comp=N,4μm,15.0s,MS5.8						
YAK			MLR	MLR		
comp=E,2μm,12.0s,MS5.8						
BR131	**Keskin Array S**	**62.08 312**	*e*P	**P**	**23 54 08.1**	**-1.9**
comp=E,12nm,0.6s,mb5.2						
BRTR	**Keskin Array B**	**62.08 312**	P	**P**	**23 54 07.7**	**-2.3**
comp=E,5.1nm,0.9s,mb4.7,baz=125,slow=7.7,SNR=20						
MBAR	**Mbarara**	**62.21 266**	*e*P	**P**	**23 54 11.4**	**+0.3**
comp=E,23nm,1.5s,mb5.1						
MBAR	**Mbarara**	**62.21 266**	*e*P	**P**	**23 54 11.4**	**+0.3**
MBAR			pmax	pmax		
comp=Z,23nm,1.5s,mb5.1						
VORD	**Divnogorie**	**62.31 325**	*e*P	**P**	**23 54 08.8**	**-2.5**
VORD			*e**PP	pP	23 54 16.0	-2.4
VORD			*e*S	**S**	**00 02 33.7**	**-0.7**
VORD			pmax	pmax		
comp=Z,40nm,1.5s,mb5.3						
VORD			pmax	pmax		
comp=N,20nm,0.8s						
VORD			pmax	pmax		
comp=E,30nm,0.9s						
VORD			smax			
comp=N,340nm,8.6s						
VORD			smax			
comp=Z,130nm,11.1s						
VORD			smax			
comp=E,160nm,7.7s						
PECR	**Pechory**	**62.45 332**	*e*P	**P**	**23 54 10.0**	**-2.1**
PECR			*e*		23 56 31.0	
PECR			*e*S	**S**	**00 02 40.0**	**+3.9**
PECR			*e*		00 02 53.0	
PECR			pmax	pmax		
comp=Z,400nm,8.0s						
PECR			MLR	MLR		
comp=Z,1μm,18.0s,MS5.1						
PECR			MLR	MLR		
comp=N,500nm,14.0s,MS5.2						
PECR			MLR	MLR		
comp=E,1μm,14.0s,MS5.2						
VRSR	**Storozhevoye**	**62.48 325***c*	*i*P	**P**	**23 54 10.0**	**-2.4**
VRSR			*e**PP	pP	23 54 17.7	-1.8
VRSR			*e*		23 54 48.6	
VRSR			*e*S	**S**	**00 02 32.7**	**-3.8**
VRSR			pmax	pmax		
comp=Z,190nm,4.3s						
VRSR			pmax	pmax		
comp=N,60nm,6.2s						
VRSR			pmax	pmax		
comp=E,90nm,4.2s						
VRSR			pmax	pmax		
comp=Z,190nm,4.3s						
VRSR			pmax	pmax		
comp=N,60nm,6.2s						
VRSR			pmax	pmax		
comp=E,90nm,4.2s						
VRSR			smax			
comp=Z,50nm,4.2s						
VRSR			smax			
comp=N,50nm,4.0s						
VRSR			smax			
comp=N,50nm,4.2s						
VRSR			smax			
comp=N,50nm,4.0s						
VOR	**Voronezh**	**62.70 326**	*e*P	**P**	**23 54 12.0**	**-1.8**
VOR			*e**PP	pP	23 54 19.5	-1.5
VOR			pmax	pmax		
comp=E,50nm,1.4s						
VOR			pmax	pmax		
comp=Z,70nm,1.4s,mb5.6						
SIM	**Simferopol'**	**63.27 317**	*e*P	**P**	**23 54 16.4**	**-1.3**
SIM			pmax	pmax		
comp=Z,18nm,0.9s,mb5.2						
SIM			pmax	pmax		
comp=Z,150nm,10.6s						
SIM			MLR	MLR		
comp=Z,1μm,22.5s,MS5.0						
MOS	**Moscow**	**65.31 329**	*e*P	**P**	**23 54 27.0**	**-3.8**
MOS			*e*		23 55 03.9	
MOS			pmax	pmax		
comp=Z,84nm,1.0s,mb5.7						
MOS			MLR	MLR		
comp=Z,2μm,17.3s,MS5.4						
MOS			MLR	MLR		
comp=N,2μm,19.4s						
OBN	**Obninsk**	**65.58 328**	*e*P	**P**	**23 54 30.9**	**-1.6**
comp=N,54nm,1.0s,mb5.5						
OBN			*e*pP	pP	23 54 38.5	-1.2
OBN	**Obninsk**	**65.58 328***c*	*i*P	**P**	**23 54 31.0**	**-1.6**
OBN			*e*	pP	23 54 38.4	-1.3
OBN			*e*		23 55 05.3	
OBN			*e*S	S	00 03 13.5	-1.5
OBN			pmax	pmax		
comp=Z,58nm,1.2s,mb5.5						
OBN			MLR	MLR		
comp=Z,1μm,15.0s,MS5.2						
KIS	**Kishinev**	**67.39 318***c*	*i*P	**P**	**23 54 42.0**	**-2.3**
KIS			*e*		23 57 08.0	
KIS			*e*S	S	00 03 40.0	+2.9
KIS			*e*PS	PS	00 04 18.0	+15
KIS			pmax	pmax		
comp=Z,9.0nm,8.0s						
LSZ	**Lusaka**	**67.50 251**	*e*P	**P**	**23 54 45.6**	**+0.2**
comp=Z,36nm,1.4s,mb5.2						
LSZ	**Lusaka**	**67.50 251**	*e*P	**P**	**23 54 45.7**	**+0.3**
LSZ			pmax	pmax		
comp=Z,35nm,1.4s,mb5.2						
AKASG	**Malin Array Be**	**68.16 322**	P	**P**	**23 54 47.1**	**-1.8**
comp=Z,10nm,0.9s,mb4.9,baz=89,slow=4.9,SNR=37						
AKASG	**Malin Array Be**	**68.16 322**	P	**P**	**23 54 47.2**	**-1.8**
AKASG			pmax	pmax		
comp=Z,10.0nm,0.9s						
SKR	**Severo-Kuril's**	**68.16 38**	*e*P	**P**	**23 54 47.0**	**-2.0**
SKR			*e*		23 55 10.0	
SKR			*e*S	S	00 03 49.0	+2.8
SKR			*e*PS	PS	00 04 18.0	+4.1
SKR			*e*		00 04 35.0	
SKR			pmax	pmax		
comp=N,110nm,1.0s						
SKR			pmax	pmax		
comp=E,90nm,1.0s						
SKR			pmax	pmax		
comp=Z,110nm,1.0s,mb5.8						
SKR			pmax	pmax		
comp=N,800μm,4.0s						
SKR			pmax	pmax		
comp=E,800μm,4.0s						
SKR			pmax	pmax		
comp=Z,1μm,4.0s						
SKR			smax			
comp=N,1μm,12.0s						
SKR			smax			
comp=E,1μm,10.0s						
SKR			MLR	MLR		
comp=N,1μm,16.0s,MS5.3						
SKR			MLR	MLR		
comp=E,900nm,16.0s,MS5.3						
SKR			MLR	MLR		
comp=Z,2μm,16.0s,MS5.4						
MA2	**Magadan**	**68.47 28**	*e*P	**P**	**23 54 50.6**	**-0.2**
comp=Z,44nm,1.0s,mb5.4						
MA2	**Magadan**	**68.47 28***c*	*e*P	**P**	**23 54 51.1**	**+0.4**
MA2			*e*		23 55 16.9	
MA2			*e*S	S	00 03 48.6	-1.1
MA2			*e*PS	PS	00 04 07.7	-10
MA2			*e*SS	SS	00 08 14.5	-0.7
MA2			pmax	pmax		
comp=N,10.0nm,1.0s						
MA2			pmax	pmax		
comp=Z,20nm,1.0s,mb5.1						
MA2			pmax	pmax		
comp=E,20nm,1.1s						
MA2			MLR	MLR		
comp=E,2μm,17.5s						
TIXI	**Tiksi**	**68.65 12⇑**	*e*P	**P**	**23 54 49.9**	**-1.8**
TIXI	**Tiksi**	**68.65 12**	*e*P	**P**	**23 54 48.5**	**-3.2**
TIXI			*e*S	S	00 03 51.6	-0.1
TIXI			pmax	pmax		
comp=Z,63nm,1.0s,mb5.5						
TIXI			MLR	MLR		
comp=Z,2μm,16.0s,MS5.5						
HNR	**Honiara**	**68.93 103**	P	**P**	**23 54 54.6**	**+0.2**
comp=Z,98nm,0.8s,mb5.8,baz=213,slow=8.0,SNR=5.1						
HNR	**Honiara**	**68.93 103**	*e*P	**P**	**23 54 54.1**	**-0.3**
comp=Z,387nm,1.6s,mb6.1						
HNR	**Honiara**	**68.93 103**	*e*P	**P**	**23 54 54.1**	**-0.3**
HNR			pmax	pmax		
comp=Z,387nm,1.6s,mb6.1						
MLR	**Muntele Rosu**	**68.98 316**	P	**P**	**23 54 55.0**	**+0.9**
comp=Z,43nm,0.7s,mb5.5,baz=188,slow=9.5,SNR=10						
MLR	**Muntele Rosu**	**68.98 316**	P	**P**	**23 54 55.0**	**+0.9**
MLR			pmax	pmax		
comp=Z,43nm,0.7s						
MNK	**Minsk**	**70.08 326**	*e*P	**P**	**23 54 56.0**	**-4.7**
PET	**Petropavlovsk**	**70.33 36⇓**	*e*P	**P**	**23 55 01.4**	**-0.8**
PET	**Petropavlovsk**	**70.33 36**	*e*P	**P**	**23 55 01.6**	**-0.6**
PET			*e*S	S	00 04 07.3	-4.4
PET			pmax	pmax		
comp=Z,300nm,4.9s						
PET			pmax	pmax		
comp=Z,200nm,6.6s						
PET			pmax	pmax		
comp=Z,24nm,1.0s,mb5.1						
PET			smax			
comp=N,400nm,11.6s						
PET			smax			
comp=E,200nm,10.0s						
PET			smax			
comp=N,400nm,10.1s						
PET			smax			
comp=E,200nm,7.5s						
PET			MLR	MLR		
comp=Z,1μm,18.0s,MS5.2						
SEY	**Seymchan**	**70.59 25**	*e*P	**P**	**23 55 02.4**	**-1.3**
SEY			pmax	pmax		
comp=E,30nm,1.7s						
SEY			pmax	pmax		
comp=Z,60nm,1.7s,mb5.2						
LVV	**L'vov**	**71.16 320**	*e*P	**P**	**23 55 06.0**	**-1.4**
LVV			*e*	pP	23 55 13.4	-1.2
LVV			*e*S	S	00 04 20.0	-1.5
VSU	**Vasula**	**71.83 330⇓**	*e*P	**P**	**23 55 09.6**	**-1.7**
VSU	**Vasula**	**71.83 330⇓**	*e*P	**P**	**23 55 09.5**	**-1.8**
KWP	**Kalwaria**	**71.96 320**	*e*P	**P**	**23 55 11.8**	**-0.4**
KWP			MLR	MLR	00 34 06.7	
comp=Z,600nm,17.8s,MS4.9						
KWP	**Kalwaria**	**71.96 320**	*e*P	**P**	**23 55 11.8**	**-0.4**
KOLS	**Kolonicke sedl**	**72.11 319**	*e*P	**P**	**23 55 12.9**	**-0.2**
KOLS			*e*		23 55 22.4	
LVZ	**Lovozero**	**72.14 340⇑**	*e*P	**P**	**23 55 12.8**	**-0.1**
LVZ	**Lovozero**	**72.14 340**	*i* P	**P**	**23 55 13.1**	**+0.2**
LVZ			*i*		23 57 52.6	
LVZ			*i* S	S	00 04 35.9	+3.4
LVZ			pmax	pmax		
comp=Z,24nm,0.9s,mb5.1						
LVZ			pmax	pmax		
comp=N,3.0nm,0.8s						
LVZ			pmax	pmax		
comp=E,4.0nm,0.9s						
LVZ			smax			
comp=E,191nm,13.2s						
LVZ			smax			
comp=Z,29nm,8.2s						
LVZ			smax			
comp=N,345nm,16.5s						
LVZ			smax			
comp=N,103nm,2.6s						
LVZ			smax			
comp=Z,103nm,2.8s						
LVZ			MLR	MLR		
comp=Z,2μm,17.0s,MS5.5						
LVZ			MLR	MLR		
comp=N,707nm,15.0s,MS5.3						
LVZ			MLR	MLR		
comp=E,1μm,18.0s,MS5.3						
LBTB	**Lobatse**	**72.40 241**	*e*P	**P**	**23 55 16.1**	**+0.9**
comp=E,82nm,1.7s,mb5.4						
LBTB	**Lobatse**	**72.40 241**	*e*P	**P**	**23 55 16.1**	**+0.9**
LBTB			pmax	pmax		
comp=Z,82nm,1.7s,mb5.4						
APA	**Apatity**	**72.42 340⇑**	*i*P	**P**	**23 55 14.5**	**-0.1**
APA			*i*	pP	23 55 23.0	+1.2
APA			*i* S		00 05 18.0	
APA			pmax	pmax		
comp=Z,37nm,0.9s,mb5.3						
APA			MLR	MLR		
comp=Z,4μm,16.0s,MS5.8						
SUW	**Suwalki**	**72.59 325**	*e*P	**P**	**23 55 14.4**	**-1.4**
SUW			MLR	MLR	00 30 17.3	
comp=Z,800nm,21.2s,MS5.0						
SUW	**Suwalki**	**72.59 325**	*e*P	**P**	**23 55 14.4**	**-1.4**
CRVS	**Cervenica-Dubn**	**72.63 319**	*e*P	**P**	**23 55 17.5**	**+1.3**
CRVS			*e*		23 55 30.3	
STHS	**Stebnicka Huta**	**72.86 320**	*e*P	**P**	**23 55 18.2**	**+0.7**
STHS			*e*		23 55 29.9	
FINES	**FINESS Array B**	**73.05 333**	P	**P**	**23 55 16.5**	**-1.8**
comp=Z,18nm,0.8s,mb5.1,baz=117,slow=4.3,SNR=54						
FINES			LR	LR	00 30 16.7	
comp=Z,1μm,20.5s,MS5.2,baz=110,slow=38						
FINES	**FINESS Array B**	**73.05 333**	P	**P**	**23 55 16.5**	**-1.8**
FINES			LR	LR	00 30 16.7	
FINES	**FINESS Array B**	**73.05 333**	P	**P**	**23 55 16.5**	**-1.9**
FINES			pmax	pmax		
comp=Z,18nm,0.8s						
FINES			MLR	MLR		
comp=Z,1μm,20.5s						
MIR	**Mirnyy**	**73.08 180**	*e*P	**P**	**23 55 12.0**	**-6.4**
MIR			pmax	pmax		
comp=Z,46nm,2.0s,mb5.1						
KAF	**Kangasniemi**	**73.15 333**	*e*p	**P**	**23 55 18.4**	**-0.5**
comp=Z,39nm,1.2s,mb5.2,baz=104,slow=5.4						
KAF	**Kangasniemi**	**73.15 333**	*e*P	**P**	**23 55 18.4**	**-0.5**
KAF			pmax	pmax		
comp=Z,39nm,1.2s,mb5.2						
KECS	**Kecovo**	**73.20 319**	*e*P	**P**	**23 55 18.8**	**-0.7**
KECS			*e*	pP	23 55 26.2	-0.5
NIE	**Niedzica**	**73.46 320**	*e*P	**P**	**23 55 21.1**	**+0.1**
WAR	**Warsaw**	**73.50 323**	*e*P	**P**	**23 55 20.3**	**-0.9**
WAR			MLR	MLR	00 33 35.3	
comp=Z,1μm,18.3s,MS5.2						
WAR	**Warsaw**	**73.50 323**	*e*P	**P**	**23 55 20.3**	**-0.9**
WAR			LR	LR		

comp=Z,1µm,18.3s,MS5.2
PSZ Piszkesteto 73.51 318⇑ *i*P P 23 55 21.1 -0.2
BOSA Boshof 73.73 238 P P 23 55 22.8 -0.2
comp=Z,8.9nm,0.9s,mb4.7,baz=85,slow=5.5,SNR=9.8
BOSA LR LR 00 22 55.9
comp=Z,2µm,19.8s,MS5.4,baz=64,slow=32
BOSA Boshof 73.73 238 *e*P P 23 55 22.9 -0.1
comp=Z,94nm,1.6s,mb5.5
BOSA Boshof 73.73 238 *e*P P 23 55 22.9 -0.1
BOSA pmax pmax
comp=Z,94nm,1.6s,mb5.5
OJC Ojcow 73.92 320 *e*P P 23 55 23.7 +0.1
OJC *e*S S 00 04 55.3 +2.5
OJC MLR MLR 00 34 23.5
comp=Z,900nm,16.9s,MS5.1
CASY Casey 73.97 173 *e*P P 23 55 24.4 +0.8
VYHS Vyhne 74.29 318 *e*P P 23 55 25.5 -0.3
VYHS *e* pP 23 55 32.9 -0.1
OKC Ostrava-Krasne 74.92 320 *e*P P 23 55 29.6 +0.2
KEV Kevo 75.44 341 *e*p P 23 55 31.9 -0.1
comp=Z,45nm,1.0s,mb5.4
KEV Kevo 75.44 341 *e*P P 23 55 31.9 -0.1
KEV pmax pmax
comp=Z,45nm,1.0s,mb5.3
KOGS Kog 75.80 316 *e*P P 23 55 34.4 -0.1
ARCES ARCESS Array B 75.86 340 P P 23 55 33.4 -1.0
comp=Z,18nm,0.9s,mb5.0,baz=90,slow=6.1,SNR=24
ARCES LR LR 00 33 10.4
comp=Z,2µm,19.0s,MS5.3,baz=113,slow=39
ARCES ARCESS Array B 75.86 340 P P 23 55 33.4 -1.0
ARCES pmax pmax
comp=Z,18nm,0.9s
ARCES MLR MLR
comp=Z,2µm,19.0s
ARE0 ARCESS Array S 75.86 340 *e*P P 23 55 33.5 -0.9
VRAC Vranov 75.86 319 P P 23 55 34.8 0.0
comp=Z,5.0nm,0.7s,mb4.5,baz=86,slow=8.5,SNR=5.6
VRAC Vranov 75.86 319 P P 23 55 34.8 0.0
VRAC pmax pmax
comp=Z,5.0nm,0.7s
VKA Vienna 75.93 318⇑ *i*P P 23 55 35.7 +0.5
comp=Z,336nm,3.0s
VKA Vienna 75.93 318⇑ *i*P P 23 55 35.7 +0.5
VKA pmax pmax
comp=Z,336nm,3.0s
GKP Gorka Klasztor 75.94 323 *e*P P 23 55 34.8 -0.4
GKP MLR MLR 00 32 51.3
comp=Z,900nm,21.5s,MS5.0
DPC Dobruska-Polom 76.14 320 *e*P P 23 55 36.8 +0.4
KSP Ksiaz 76.22 321 *e*P P 23 55 37.2 +0.4
KSP MLR MLR 00 36 14.3
comp=Z,2µm,17.1s,MS5.4
KSP Ksiaz 76.22 321⇑ *e*P P 23 55 37.1 +0.3
KSP *e*pP pP 23 55 44.2 +0.2
KSP *e*S S 00 05 18.5 +0.2
KSP LR LR
comp=Z,2µm,17.1s,MS5.5
UPC Upice 76.36 320 *e*P P 23 55 38.3 +0.7
BOJS Bojanci 76.42 315 *e*P P 23 55 38.0 -0.1
KTK1 Kautokeino 76.46 340 *e*P P 23 55 38.4 +0.6
KTK1 AMb AMB 23 55 41.2
comp=Z,50nm,1.0s,mb5.4
KTK1 Kautokeino 76.46 340 *e*P P 23 55 38.4 +0.6
comp=Z,50nm,1.0s,mb5.4
PERS Pernice 76.60 316 *e*P P 23 55 39.4 +0.4
MAW Mawson 77.11 191 *e*P P 23 55 42.4 +1.0
comp=Z,9.0nm,0.9s,mb4.7
MAW Mawson 77.11 191 P P 23 55 41.8 +0.3
comp=Z,9.9nm,0.8s,mb4.8,baz=11,slow=7.9,SNR=20
MAW LR LR 00 26 16.5
comp=Z,603nm,18.0s,MS5.0,baz=30,slow=33
PRU Pruhonice 77.25 320 *e*P P 23 55 42.7 +0.1
MOA Molln 77.27 317⇑ *i*P P 23 55 42.7 0.0
comp=Z,283nm,4.5s
PVCC Panska Ves 77.28 320 *e*P P 23 55 43.3 +0.6
VOY Vojsko 77.40 316 *e*P P 23 55 43.3 -0.2
BSD Bornholm Skovb 77.52 325 *i* P P 23 55 42.7 -1.2
comp=Z,32nm,0.8s,mb5.3
BSD Bornholm Skovb 77.52 325 *i* P P 23 55 42.7 -1.2
BSD pmax pmax
comp=Z,33nm,0.8s,mb5.3
BRG Berggiesshubel 77.70 321 *i* P P 23 55 45.5 +0.5
GERES GERESS Array B 77.71 318 P P 23 55 44.5 -0.6
comp=Z,14nm,0.8s,mb5.0,baz=93,slow=4.3,SNR=59
GERES LR LR 00 35 53.0
comp=Z,472nm,19.6s,MS4.8,baz=286,slow=40
KHC Kasperske Hory 77.81 319 *e*P P 23 55 45.4 -0.3
TRO Tromso 78.10 340 *e*P P 23 55 44.5 -2.3
TRO *e*S S 00 05 41.6 +3.3
TRO AMS AMS 00 32 56.5
comp=Z,1µm,17.1s,MS5.2
TRO Tromso 78.10 340 *e*P P 23 55 44.5 -2.3
TRO LR LR
comp=Z,1038µm,17.1s
TSUM Tsumeb 78.24 249 *e*P P 23 55 48.9 +0.3
comp=Z,59nm,1.8s,mb5.2
WET Wettzell 78.27 319 *e*P P 23 55 48.7 +0.5
comp=Z,25nm,1.1s,mb5.1
WET Wettzell 78.27 319 *e*P P 23 55 48.7 +0.5
WET pmax pmax
comp=Z,25nm,1.1s,mb5.1
CLL Collm 78.33 321 ⇑P P 23 55 48.6 +0.2
comp=Z,logA/T=1.2,mb4.9
CLL *i* PCP PcP 23 55 56.0 -2.2
CLL *e* 23 56 04.0
CLL *e* 23 56 23.0
CLL *e*PP PP 23 58 42.0 -5.6
CLL *e*PPP PPP 00 00 36.0 -0.9
CLL *e*S S 00 05 44.0 +2.9
CLL *e*PS PS 00 06 25.0 -0.9
CLL *e*PPS PPS 00 06 40.0 -3.9
CLL *e* 00 09 32.0
CLL *e*SS SS 00 11 00.0 +13
CLL *e*SSS SSS 00 14 19.0 +14
CLL Collm 78.33 321⇑ *i*P P 23 55 48.6 +0.2
comp=Z,20nm,1.2s,mb4.9
CLL Collm 78.33 321⇑ *i*P P 23 55 48.6 +0.2
CLL pmax pmax
comp=Z,20nm,1.2s,mb4.9
SUR Sutherland 78.47 235 P P 23 55 49.1 -0.5
NKC Novy Kostel 78.61 320 *e*P P 23 55 50.8 +0.8
HFS Hagfors 78.72 330 P P 23 55 48.9 -1.5
comp=Z,10nm,0.7s,mb4.9,baz=113,slow=3.5,SNR=21
HFS Hagfors 78.72 330 P P 23 55 48.9 -1.5
HFS pmax pmax
comp=Z,11nm,0.7s
COP Copenhagen 78.98 325 *i* P P 23 55 53.4 +1.5
comp=Z,23nm,0.9s,mb5.1
COP *i* S S 00 05 52.4 +4.5
COP *i* 00 11 24.3
comp=Z,370nm,16.0s
COP Copenhagen 78.98 325 *e*P P 23 55 53.4 +1.5
comp=Z,23nm,0.9s,mb5.1
COP *i* S S 00 05 52.4 +4.5
COP *i* 00 11 24.3
COP LR LR
comp=Z,370nm,16.0s,MS4.8
COP Copenhagen 78.98 325 *e*P P 23 55 53.4 +1.5
COP *i* S S 00 05 52.4 +4.5
COP pmax pmax
comp=Z,23nm,0.9s,mb5.1
COP MLR MLR
comp=Z,370nm,16.0s,MS4.8
WTTA Wattenberg 79.01 317⇑ *i*P P 23 55 52.2 -0.1
comp=Z,122nm,1.8s,mb5.5
WTTA Wattenberg 79.01 317⇑ *i*P P 23 55 52.2 -0.1
WTTA pmax pmax
comp=Z,122nm,1.8s,mb5.5
WATA Walderalm 79.06 317⇑ *i*P P 23 55 52.1 -0.4
comp=Z,20nm,1.0s,mb5.0
WATA Walderalm 79.06 317⇑ *i*P P 23 55 52.1 -0.4
WATA pmax pmax
comp=Z,20nm,1.0s,mb5.0
MOR8 Moi Rana 79.14 336 *e*P P 23 55 52.2 -0.4
MOR8 AMb AMB 23 55 54.3
comp=Z,37nm,0.9s,mb5.3
MOR8 Moi Rana 79.14 336 *e*P P 23 55 52.2 -0.4
comp=Z,37nm,0.9s,mb5.3
MOX Moxa 79.16 320 *i* P P 23 55 55.2 +2.2
comp=Z,logA/T=1.4,mb5.1
MOX PP PP 23 59 16.0 +22
MOX *e* 00 01 44.0
MOX S tx 00 06 35.0
MOX SS SS 00 11 17.0 +18
MOX SSS SSS 00 14 41.0 +22
MOX L 00 36 42.0
MOX Moxa 79.16 320 *e*P P 23 55 55.2 +2.2
comp=Z,35nm,1.5s,mb5.1
MOX *e* pP 23 56 01.2 +0.9
MOX LR LR
comp=Z,500nm,18.0s,MS4.9
MOX Moxa 79.16 320 *e*P P 23 55 55.2 +2.2
MOX *e* pP 23 56 01.2 +0.9
MOX pmax pmax
comp=Z,35nm,1.5s,mb5.1
MOX MLR MLR
comp=Z,500nm,18.0s,MS4.9
FUR Furstenfeldbru 79.29 318 *e*P P 23 55 53.8 0.0
comp=Z,41nm,1.0s,mb5.3
FUR Furstenfeldbru 79.29 318 *e*P P 23 55 53.8 0.0
FUR pmax pmax
comp=Z,41nm,1.0s,mb5.3
SQTA Sankt Quirin 79.30 317⇓ *i*P P 23 55 53.5 -0.4
comp=Z,22nm,0.9s,mb5.1
SQTA Sankt Quirin 79.30 317⇓ *i*P P 23 55 53.5 -0.4
SQTA pmax pmax
comp=Z,22nm,0.9s,mb5.1
GRA1 Grafenberg Arr 79.38 319 *e*P P 23 55 55.0 +0.8
comp=Z,38nm,1.0s,mb5.3
GRA1 *e*pP pP 23 56 02.6 +1.1
GRA1 *e* 23 56 42.7
GRA1 *e*PP PP 23 59 05.4 +9.4
GRF Grafenberg Arr 79.38 319 *e*P P 23 55 55.0 +0.8
comp=Z,38nm,1.0s,mb5.3
GRF *e*pP pP 23 56 02.6 +1.1
GRF *e* 23 56 42.7
GRF *e*PP PP 23 59 05.4 +9.4
GRF *e*S S 00 06 07.9 +16
GRF *e*SS SS 00 11 36.9 +34
GRF LR LR
comp=Z,900nm,18.7s,MS5.1
GRF Grafenberg Arr 79.38 319 *e*P P 23 55 55.0 +0.8
GRF *e**PP pP 23 56 02.6 +1.1
GRF pmax pmax
comp=Z,38nm,1.0s,mb5.3
GRF Grafenberg Arr 79.38 319 *e*P P 23 55 55.0 +0.8
GRF *e**PP pP 23 56 02.6 +1.1
GRF *e*S S 00 06 07.9 +16
GRF pmax pmax
comp=Z,38nm,1.0s,mb5.3
GRF MLR MLR
comp=Z,900nm,18.7s,MS5.1
MOTA Moosalm 79.38 317⇑ *i*P P 23 55 54.1 -0.2
comp=Z,35nm,1.1s,mb5.2
MOTA Moosalm 79.38 317⇑ *i*P P 23 55 54.1 -0.2
MOTA pmax pmax
comp=Z,35nm,1.1s,mb5.2
MAIM 79.74 313 P P 23 55 57.1 +0.8
LOF Lofoten 79.75 338 *e*P P 23 55 58.4 +2.5
LOF AMb AMB 23 55 59.9
comp=Z,34nm,1.3s,mb5.1
LOF Lofoten 79.75 338 *e*P P 23 55 58.4 +2.5
comp=Z,34nm,1.3s,mb5.1
SARO Sassorosso 79.81 314 P P 23 55 56.5 -0.2
VALM 79.92 314 P P 23 55 56.9 -0.3
NSS Namsos 79.97 334 *e*S S 00 06 01.2 +3.1
NSS AMS AMS 00 34 44.9
comp=Z,914nm,16.7s,MS5.2
VINC Vinca 79.99 314 P P 23 55 58.6 +0.9
NB2 NORSAR Subarra 80.02 331 P P 23 55 55.8 -1.6
comp=Z,14nm,0.9s,mb4.9,baz=96,slow=5.3
NB2 NORSAR Subarra 80.02 331 P P 23 55 55.8 -1.6
baz=96,slow=5.3
NOA NORSAR Array B 80.02 331 P P 23 55 55.2 -2.2
comp=Z,6.7nm,0.7s,mb4.7,baz=94,slow=5.6,SNR=28
NOA LR LR 00 35 15.3
comp=Z,2µm,20.2s,MS5.3,baz=85,slow=39
NOA NORSAR Array B 80.02 331 P P 23 55 55.2 -2.2
NOA LR LR 00 35 15.3
NOA NORSAR Array B 80.02 331 P P 23 55 55.3 -2.1
NOA pmax pmax
comp=Z,7.0nm,0.7s
NOA MLR MLR
comp=Z,2µm,20.2s
BACM 80.05 314 P P 23 55 58.4 +0.5
GRAM 80.05 314 P P 23 55 58.2 +0.3
BSEG Bad Segeberg 80.10 323 *e*P P 23 55 58.4 +0.4
DAVOX Davos 80.20 316 P P 23 55 59.1 +0.4
comp=Z,21nm,0.5s,mb5.3,baz=150,slow=6.2,SNR=36
DAVOX Davos 80.20 316 P P 23 55 59.1 +0.4
CODM 80.21 314 P P 23 55 59.0 +0.2
DAVA Damuels 80.21 317⇑ *i*P P 23 55 59.3 +0.6
comp=Z,306nm,3.2s
KONO Kongsberg 80.74 329 *e*P P 23 55 56.3 -4.9
KONO *e*S S 00 06 06.8 +0.6
PGF Pioggiola 80.83 312 *e*P P 23 56 01.6 -0.6
comp=Z,78nm,1.2s,mb5.2
PGF Pioggiola 80.83 312 *e*P P 23 56 01.6 -0.6
PGF pmax pmax
comp=Z,39nm,1.2s,mb5.2
GENL Genova Univers 80.84 314 P P 23 56 01.9 -0.3
MUD Monsted U'grnd 80.84 326 *i* P P 23 56 02.7 +0.8
comp=Z,22nm,1.0s,mb5.0
comp=Z,820nm,16.0s
TOD Tromm 80.95 319 *e*P P 23 56 02.9 +0.3
PCP Pian Castagno 81.14 314 P P 23 56 04.1 +0.4
TNS Taunus Mts 81.18 320 *e*P P 23 56 04.3 +0.5
comp=Z,21nm,1.1s,mb5.0
TNS Taunus Mts 81.18 320 *e*P P 23 56 04.3 +0.5
TNS pmax pmax
comp=Z,21nm,1.1s,mb5.0
BFO Black Forest 81.26 318 *e*P P 23 56 04.3 +0.1
comp=Z,14nm,1.0s,mb4.8
BFO Black Forest 81.26 318 *e*P P 23 56 04.3 +0.1
BFO pmax pmax
comp=Z,14nm,1.0s,mb4.8
FIN Finale Ligure 81.39 314 P P 23 56 05.2 +0.2
FELD Feldberg 81.48 317 *e*P P 23 56 05.7 +0.3
ORX Oropa 81.53 315 P P 23 56 05.7 0.0
LANF Langenberg 81.60 318 *e*P P 23 56 06.2 +0.2
IMI Imperia 81.62 313 P P 23 56 04.4 -1.9
ROB Roburent 81.63 314 P P 23 56 06.0 -0.3
KBS Kingsbay 81.67 349 *e*P P 23 56 05.5 -0.3
KBS *e*S S 00 06 19.7 +4.2
KBS AMS AMS 00 37 42.1
comp=Z,930nm,17.7s,MS5.2
KBS Kingsbay 81.67 349 *e*P P 23 56 05.5 -0.3
KBS LR LR
comp=Z,930µm,17.7s
TRAV 81.69 315 P P 23 56 04.8 -1.8
MONE Monesi 81.72 313 P P 23 56 06.1 -0.6
NEGI Negi 81.76 313 P P 23 56 04.9 -2.1
ABH Alteburg 81.76 319 *e*P P 23 56 07.4 +0.6
MOL Molde 81.83 332 *e*P P 23 56 10.4 +3.5
MOL AMb AMB 23 56 13.2
comp=Z,42nm,1.3s,mb5.2
MOL Molde 81.83 332 *e*P P 23 56 10.4 +3.5
comp=Z,42nm,1.3s,mb5.2
SAOF Saorge 81.86 313 *e*P P 23 56 09.6 +2.1
SBF Sospel 81.95 313 *e*P P 23 56 07.6 -0.3
comp=Z,77nm,0.8s,mb5.4
SBF Sospel 81.95 313 *e*P P 23 56 07.6 -0.3
SBF pmax pmax
comp=Z,38nm,0.8s,mb5.4
AUTN L'Aution 81.95 313 *e*P P 23 56 11.1 +3.2
CDF Champ du Feu 81.96 318 *e*P P 23 56 07.2 -0.7
comp=Z,22nm,1.0s,mb4.7
CDF Champ du Feu 81.96 318 *e*P P 23 56 07.2 -0.7
CDF pmax pmax
comp=Z,11nm,1.0s,mb4.7
REVF Revere 82.00 313 *e*P P 23 56 08.8 +0.6
STV Sta Anna Valdi 82.02 314 P P 23 56 07.1 -1.2
ECH Echery 82.04 318 *e*P P 23 56 10.2 +1.9
RSP Reno Superiore 82.05 315 P P 23 56 08.2 -0.2
BHB Bricherasio 82.05 314 P P 23 56 07.1 -1.3
MOF Molkenrain 82.07 317 *e*P P 23 56 09.0 +0.6
TOUF Mont Tournerai 82.08 313 *e*P P 23 56 10.6 +2.0
LSD Ceresole Reale 82.11 315 P P 23 56 09.5 +0.7
FENE Fenestrelle 82.19 314 P P 23 56 07.4 -1.7
HINF Hinteralfeld 82.26 317 *e*P P 23 56 08.1 -1.3
LOMF Lomont 82.29 317 *e*P P 23 56 09.9 +0.3
CALN Calern 82.35 313 *e*P P 23 56 11.0 +1.0
SURF Saint Ours 82.38 314 *e*P P 23 56 11.2 +1.0
RRL Cesana Torines 82.39 314 P P 23 56 10.2 0.0
LPG La Plagne 82.39 315 *e*P P 23 56 10.3 +0.1
comp=Z,70nm,0.9s,mb5.3
LPG La Plagne 82.39 315 *e*P P 23 56 10.3 +0.1
LPG pmax pmax
comp=Z,35nm,0.9s,mb5.3
MBDF Montbardon 82.40 314 *e*P P 23 56 09.5 -0.8
comp=Z,70nm,1.3s,mb5.2
MBDF Montbardon 82.40 314 *e*P P 23 56 09.5 -0.8
MBDF pmax pmax
comp=Z,35nm,1.3s,mb5.1
LPL La Plagne 82.41 315 *e*P P 23 56 10.3 0.0
comp=Z,73nm,0.9s,mb5.3
LPL La Plagne 82.41 315 *e*P P 23 56 10.3 0.0
LPL pmax pmax
comp=Z,37nm,0.9s,mb5.3
OG01 Vacheresse 82.41 316 *e*P P 23 56 11.4 +1.1
RSL Roselend 82.47 315 *e*P P 23 56 11.4 +0.8
FRF La Foret Royal 82.53 313 *e*P P 23 56 10.7 -0.3
comp=Z,126nm,1.2s,mb5.5
FRF La Foret Royal 82.53 313 *e*P P 23 56 10.7 -0.3
FRF pmax pmax
comp=Z,63nm,1.2s,mb5.5
HAU Haudompre 82.59 317 *e*P P 23 56 10.4 -0.8
comp=Z,38nm,0.9s,mb5.1
HAU *e*R
comp=Z,312nm,18.2s
HAU Haudompre 82.59 317 *e*P P 23 56 10.4 -0.8
HAU pmax pmax
comp=Z,19nm,0.9s,mb5.1
HAU MLR MLR
comp=Z,310nm,18.3s,MS4.7
LMR La Mourre 82.64 313 *e*P P 23 56 11.3 -0.2
comp=Z,51nm,1.0s,mb5.2
LMR La Mourre 82.64 313 *e*P P 23 56 11.3 -0.2
LMR pmax pmax
comp=Z,26nm,1.0s,mb5.2
CABF La Chapelle 82.82 316 *e*P P 23 56 12.2 -0.2
comp=Z,32nm,1.0s,mb5.0
CABF La Chapelle 82.82 316 *e*P P 23 56 12.2 -0.2
CABF pmax pmax
comp=Z,16nm,1.0s,mb5.0
THEF They Montfort 82.83 318 *e*P P 23 56 12.5 +0.1
BER Bergen 82.89 330 *e* P 23 56 14.9 +2.5
BER AMS AMS 00 37 55.5
comp=Z,1µm,17.2s,MS5.4
TAVF Tavernes 82.96 313 *e*P P 23 56 14.2 +1.0
ORIF Oris-en-Rattie 83.03 314 *e*P P 23 56 13.6 +0.1
comp=Z,24nm,0.8s,mb5.0
ORIF *e*R
comp=Z,729nm,20.2s
STOF St-Etienne Org 83.05 313 *e*P P 23 56 15.1 +1.5
GRN Grenoble 83.11 315 *e*P P 23 56 15.0 +1.1
PUYF Puyloubier 83.22 313 *e*P P 23 56 12.1 -2.4
OG05 Jujurieux 83.28 316 *e*P P 23 56 15.6 +0.9
MEZF Maizieres J'vi 83.44 318 *e*P P 23 56 15.0 -0.5
GIVF Givet 83.51 320 *e*P P 23 56 15.3 -0.6
SYO Syowa Base 83.87 197 ⇓P P 23 56 17.5 +0.2
SYO Syowa Base 83.87 197 ⇓PcP PcP 23 56 19.4 -2.3
VIVF Saint-Julien-l 83.89 314 *e*P P 23 56 17.6 -0.3
comp=Z,53nm,1.0s,mb5.3
VIVF Saint-Julien-l 83.89 314 *e*P P 23 56 17.6 -0.3
VIVF pmax pmax
comp=Z,26nm,1.0s,mb5.3
BAIF Baives 83.91 320 *e*P P 23 56 17.5 -0.4
comp=Z,18nm,0.8s,mb5.0
BAIF Baives 83.91 320 *e*P P 23 56 17.5 -0.4
BAIF pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
LOR Lormes 84.31 317 *e*P P 23 56 19.4 -0.6
comp=Z,67nm,1.2s,mb5.4
LOR *e*R
comp=Z,504nm,23.0s
LOR Lormes 84.31 317 *e*P P 23 56 19.4 -0.6
LOR pmax pmax
comp=Z,34nm,1.2s,mb5.3
LOR MLR MLR
comp=Z,500nm,23.0s,MS4.8
SMF Signal de Mont 84.36 316 *e*P P 23 56 19.6 -0.7
comp=Z,45nm,0.9s,mb5.3
SMF Signal de Mont 84.36 316 *e*P P 23 56 19.6 -0.7
SMF pmax pmax
comp=Z,22nm,0.9s,mb5.3
LASF Ste Croix 84.52 314 *e*P P 23 56 21.2 +0.1
comp=Z,44nm,1.0s,mb5.2
PLDF La Plantade 84.56 316 *e*P P 23 56 22.4 +1.1
SSF Saint Saulge 84.56 317 *e*P P 23 56 21.0 -0.2
comp=Z,30nm,1.4s,mb5.2
SSF Saint Saulge 84.56 317 *e*P P 23 56 21.0 -0.2
SSF pmax pmax
comp=Z,30nm,1.4s,mb5.2
AVF Avril sur Loir 84.69 316 *e*P P 23 56 21.2 -0.7
comp=Z,42nm,1.1s,mb5.2
AVF Avril sur Loir 84.69 316 *e*P P 23 56 21.2 -0.7
AVF pmax pmax
comp=Z,21nm,1.1s,mb5.2
LBL Lubilhac 84.87 315 *e*P P 23 56 25.2 +2.4
AGO Saint Agoulin 84.89 316 *e*P P 23 56 23.5 +0.6
PYM Petit Puy Mans 85.00 315 *e*P P 23 56 23.8 +0.3
BGF Bois d'Agland 85.05 316 *e*P P 23 56 23.4 -0.3
comp=Z,70nm,1.2s,mb5.4
BGF Bois d'Agland 85.05 316 *e*P P 23 56 23.4 -0.3
BGF pmax pmax
comp=Z,35nm,1.2s,mb5.4
HYF Humbligny 85.14 317 *e*P P 23 56 24.1 0.0
EJON La Jonquera 85.35 312 P P 23 56 26.4 +1.0
comp=Z,11nm,1.1s,mb4.9
TCF Toulx Ste Croi 85.51 316 *e*P P 23 56 25.7 -0.3
comp=Z,28nm,1.1s,mb5.1
TCF Toulx Ste Croi 85.51 316 *e*P P 23 56 25.7 -0.3
TCF pmax pmax
comp=Z,14nm,1.1s,mb5.1
CAF Calviac 85.73 315 *e*P P 23 56 27.2 0.0
comp=Z,19nm,0.8s,mb5.0
CAF Calviac 85.73 315 *e*P P 23 56 27.2 0.0
CAF pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
MTLF Montolieu 85.77 313 *e*P P 23 56 27.3 -0.1
comp=Z,47nm,0.9s,mb5.4
MTLF Montolieu 85.77 313 *e*P P 23 56 27.3 -0.1
MTLF pmax pmax
comp=Z,24nm,0.9s,mb5.4
EMHD Djebel Mahouad 85.85 306 P P 23 56 31.0 +3.0
RJF Les Rejaudoux 86.08 315 *e*P P 23 56 29.0 +0.1
comp=Z,34nm,0.8s,mb5.3
RJF *e*R
comp=Z,530nm,17.5s
RJF Les Rejaudoux 86.08 315 *e*P P 23 56 29.0 +0.1
RJF pmax pmax
comp=Z,17nm,0.8s,mb5.3
RJF MLR MLR
comp=Z,530nm,17.5s,MS5.0
EMIR Miracle 86.41 312 P P 23 56 32.6 +2.0
comp=Z,36nm,0.9s,mb5.6
LFF La Frestale 86.67 315 *e*P P 23 56 31.9 +0.1
comp=Z,64nm,1.2s,mb5.4
LFF La Frestale 86.67 315 *e*P P 23 56 31.9 +0.1
LFF pmax pmax
comp=Z,32nm,1.2s,mb5.4
EPOB Poblet 86.80 311 P P 23 56 33.7 +1.2
comp=Z,15nm,0.8s,mb5.3
EIBI Ibiza 86.84 309 P P 23 56 35.9 +3.1
comp=Z,22nm,0.9s,mb5.4
EBNR Beni Rached 86.98 306 P P 23 56 35.0 +1.5
FLN La Foliniere 87.07 319 *e*P P 23 56 33.1 -0.5
comp=Z,34nm,1.0s,mb5.2
FLN *e*R
comp=Z,776nm,18.0s
FLN La Foliniere 87.07 319 *e*P P 23 56 33.1 -0.5
FLN pmax pmax
comp=Z,17nm,1.0s,mb5.2
FLN MLR MLR
comp=Z,780nm,18.0s,MS5.2
MFF Saint Martin d 87.10 316 *e*P P 23 56 33.4 -0.4
comp=Z,34nm,1.1s,mb5.2
MFF Saint Martin d 87.10 316 *e*P P 23 56 33.4 -0.4
MFF pmax pmax
comp=Z,17nm,1.0s,mb5.2
ECHA Ech Chlef 87.13 306 P P 23 56 38.3 +4.1
ETRT Tiaret 87.27 305 P P 23 56 40.1 +5.2
EGRA Graus 87.28 312 P P 23 56 37.6 +2.8
comp=Z,16nm,0.8s,mb5.3
EBR Ebro Roquetas 87.30 311 *e*PCP PcP 23 56 38.5 +1.1
JMIC Jan Mayen 87.33 341 *e*P P 23 56 35.3 +0.9
JMIC AMS AMS 00 40 59.4
comp=Z,474nm,18.4s,MS4.9
EBIE Bielsa 87.35 312 P P 23 56 37.8 +2.7
comp=Z,11nm,0.9s,mb5.1
EANR 'Ain N'Sour 87.37 306 P P 23 56 39.5 +4.1
TNA Tin City 87.82 24 *e*P P 23 56 36.6 -0.2
comp=Z,21nm,1.0s,mb5.3
ETSF Etsaut 87.83 313 *e*P P 23 56 37.8 +0.4

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                comp=Z,29nm,0.9s,mb5.2
ETSF Etsaut          87.83 313 eP        P          23 56 37.8 +0.4
ETSF                           pmax     pmax
                comp=Z,15nm,0.9s,mb5.2
EKA  Eskdalemuir Ar  87.84 325 P         P          23 56 36.6 -0.5
                comp=Z,15nm,0.7s,mb5.3,baz=96,slow=5.0,SNR=22
EKA  Eskdalemuir Ar  87.84 325 P         P          23 56 36.6 -0.5
EKA                            pmax     pmax
                comp=Z,15nm,0.7s
ESAC San Caprasio    87.91 312 P         P          23 56 40.2 +2.3
                comp=Z,33nm,0.8s,mb5.6
EMOS Mosqueruela     88.08 310 P         P          23 56 40.7 +2.0
                comp=Z,30nm,0.9s,mb5.5
SJPF Ste Jean        88.29 313 eP        P          23 56 39.9 +0.3
                comp=Z,40nm,1.2s,mb5.2
SJPF Ste Jean        88.29 313 eP        P          23 56 39.9 +0.3
SJPF                           pmax     pmax
                comp=Z,20nm,1.2s,mb5.2
EALK Alkurruntz      88.48 313 P         P          23 56 43.0 +2.5
                comp=Z,9.2nm,0.8s,mb5.1
SGMF Saint Gilles    88.51 318 eP        P          23 56 41.2 +0.7
                comp=Z,27nm,1.0s,mb5.2
SGMF Saint Gilles    88.51 318 eP        P          23 56 41.2 +0.7
SGMF                           pmax     pmax
                comp=Z,14nm,1.0s,mb5.2
ECHE Chera           88.56 310 P         P          23 56 43.6 +2.6
                comp=Z,6.9nm,0.6s,mb5.2
ECHE Chera           88.56 310 P         P          23 56 43.6 +2.6
ECHE                           pmax     pmax
                comp=Z,7.0nm,0.6s,mb5.2
QUIF Quistinic       88.96 318 eP        P          23 56 42.6 -0.1
EMUR La Murta        89.00 308 P         P          23 56 45.5 +2.4
                comp=Z,7.3nm,0.9s,mb5.0
ETOB Tobarra         89.13 309 P         P          23 56 45.6 +1.9
                comp=Z,13nm,0.9s,mb5.2
ECRI Cripan          89.30 313 P         P          23 56 47.6 +3.2
                comp=Z,3.3nm,0.7s,mb4.8
ECRI Cripan          89.30 313 P         P          23 56 47.6 +3.2
ECRI                           pmax     pmax
                comp=Z,3.0nm,0.7s,mb4.7
EVIA Vianos          89.87 309 P         P          23 56 51.2 +3.9
                comp=Z,14nm,0.8s,mb5.3
EVIA Vianos          89.87 309 P         P          23 56 51.2 +4.0
EVIA                           pmax     pmax
                comp=Z,14nm,0.8s,mb5.3
ELAN Lanestosa       89.87 313 P         P          23 56 48.2 +1.1
                comp=Z,6.1nm,0.8s,mb5.0
ENIJ Nijar           89.88 307 P         P          23 56 50.6 +3.3
                comp=Z,0.7nm,0.6s,mb4.2
ENIJ Nijar           89.88 307 P         P          23 56 50.6 +3.3
ENIJ                           pmax     pmax
                comp=Z,1.0nm,0.6s,mb4.3
EHUE Huescar         90.06 308 P         P          23 56 49.4 +1.2
                comp=Z,15nm,0.9s,mb5.3
EHUE Huescar         90.06 308 P         P          23 56 49.4 +1.3
EHUE                           pmax     pmax
                comp=Z,15nm,0.9s,mb5.3
EBER Berja           90.43 307 P         P          23 56 52.1 +2.3
                comp=Z,23nm,0.8s,mb5.5
EQES Quesada         90.44 308 P         P          23 56 51.5 +1.6
                comp=Z,14nm,0.9s,mb5.3
ESDC Sonseca Array   90.83 310 P         P          23 56 51.4 -0.2
                comp=Z,6.7nm,0.7s,mb5.1,baz=60,slow=4.5,SNR=23
ESDC Sonseca Array   90.83 310 P         P          23 56 51.6  0.0
                comp=Z,10nm,0.6s,mb5.3
EBAN Banos Encina    90.94 308 P         P          23 56 53.8 +1.6
                comp=Z,16nm,1.0s,mb5.3
EBAN Banos Encina    90.94 308 P         P          23 56 53.8 +1.6
EBAN                           pmax     pmax
                comp=Z,16nm,1.0s,mb5.3
EGUA Guajares        90.98 307 P         P          23 56 54.3 +2.0
                comp=Z,0.4nm,0.2s,mb4.4
EADA Adamuz          91.56 309 P         P          23 56 56.3 +1.3
                comp=Z,16nm,1.0s,mb5.3
VNDA Vanda           92.10 168 P         P          23 56 57.4 +0.8
                comp=Z,4.7nm,1.1s,mb4.7,baz=300,slow=6.1,SNR=9.7
VNDA                           LR       LR         00 35 48.7
                comp=Z,534nm,18.4s,MS5.0,baz=299,slow=34
ESPR Espera          92.78 307 P         P          23 57 01.4 +0.7
                comp=Z,7.7nm,0.6s,mb5.3
IMA  Indian Mountai  93.24 22 eP         P          23 57 02.6 +0.5
EBAD Badajoz         93.33 309 P         P          23 57 04.8 +1.6
                comp=Z,8.7nm,0.9s,mb5.2
SVW2 Sparrevohn      94.44 27 eP         P          23 57 06.8 -0.9
ILAR Eielson Array   96.36 22 P          P          23 57 15.9 -0.5
                comp=Z,2.0nm,0.9s,mb4.5,baz=300,slow=4.4,SNR=9.5
ILAR                           PP       PP         00 01 06.1 -6.5
                comp=Z,1.5nm,0.9s,baz=288,slow=7.3,SNR=7.2
ILAR                           LR       LR         00 43 27.9
                comp=Z,604nm,21.6s,MS5.0,baz=233,slow=37
ILAR Eielson Array   96.36 22 P          P          23 57 16.0 -0.4
ILAR                                                00 01 06.1
ILAR                           pmax     pmax
                comp=Z,2.0nm,1.0s
ILAR                           pmax     pmax
                comp=Z,2.0nm,0.9s
ILAR                           MLR      MLR
                comp=Z,605nm,21.6s
DBIC Dimbokro        96.64 278 P         P          23 57 20.4 +1.5
                comp=Z,6.7nm,1.0s,mb5.0,baz=65,slow=7.8,SNR=3.9
DBIC                           LR       LR         00 39 56.9
                comp=Z,1µm,19.0s,MS5.5,baz=69,slow=35
DBIC Dimbokro        96.64 278 P         P          23 57 20.4 +1.5
DBIC                           pmax     pmax
                comp=Z,7.0nm,1.0s
DBIC                           MLR      MLR
                comp=Z,1µm,19.0s
SML  Sawmill         97.27 25 P          P          23 57 18.4 -2.2
YKA  Yellowknife Ar  107.88 13 PP        PP         00 02 33.6 -6.3
                comp=Z,0.8nm,0.8s,baz=336,slow=8.3,SNR=3.7
TBI  Tubuai          118.20 113 ePS      PS         00 13 35.7 -0.8
TBI  Tubuai          118.20 113 eLR      LR         00 38 30.5
                comp=Z,778nm,28.5s
PPT  Papeete         118.44 106 ePS      PS         00 13 33.6 -5.1
PPT  Papeete         118.44 106 eSS      SS         00 20 04.0 -4.4
PPT                             eLR      LR         00 38 39.7
                comp=Z,864nm,29.0s
CHMT Chamberlain Mo  121.86 21 ePKPdf    PKPdf      00 02 42.8 -2.7
ULM  Lac du Bonnet   122.79  7 PKP       PKPdf      00 02 42.3 -4.9
                comp=Z,2.4nm,0.6s,baz=358,slow=3.5,SNR=3.5
SNOW Snow King Moun  125.74 21 ePKPdf    PKPdf      00 02 50.8 -2.3
ELK  Elko            126.26 26 ePKPdf    PKPdf      00 02 52.5 -1.7
PDAR Pinedale Array  126.77 20 PKP       PKPdf      00 02 51.5 -3.6
                comp=Z,3.4nm,0.8s,baz=12,slow=1.9,SNR=23
TAOE Nuku Hiva Isla  127.67 96 eLR       LR         00 42 56.7
                comp=Z,2µm,26.3s
RKT  Rikitea         131.42 115 eLR      LR         00 44 41.8
                comp=Z,573nm,30.5s
KSU1 Kansas State U  133.62 10 ePKPdf    PKPdf      00 03 06.7 -1.5
ANMO Albuquerque     134.80 22 ePKPdf    PKPdf      00 03 08.7 -1.9
BDFB Brasilia        140.47 254 PKP      PKPdf      00 03 19.0 -2.4
                comp=Z,3.2nm,0.8s,baz=142,slow=7.9,SNR=3.7
BDFB Brasilia        140.47 254 PKIKP    PKPdf      00 03 19.0 -2.4
BDFB                           pmax     pmax
                comp=Z,3.0nm,0.8s
TXAR Lajitas Array   140.87 23 PKhKP     PKPdf      00 03 14.4
                comp=Z,0.6nm,0.7s,baz=309,slow=1.6,SNR=8.4
TXAR                           PP       PP         00 06 10.4 -12
                comp=Z,0.6nm,0.8s,baz=22,slow=4.9,SNR=3.8
TXAR Lajitas Array   140.87 23 PKIKP     PKPdf      00 03 14.5 -7.4
TXAR                           pmax     pmax
                comp=Z,1.0nm,0.7s
TXAR                           pmax     pmax
                comp=Z,1.0nm,0.8s
PLCA Paso Flores     142.95 201 ePKPdf   PKPdf      00 03 21.0 -4.1
CPUP Villa Florida   145.40 232 PKPbc    PKPbc      00 03 25.9  0.0
                comp=Z,20nm,0.9s,baz=127,slow=5.2,SNR=31
CPUP Villa Florida   145.40 232 ePKPdf   PKPdf      00 03 25.4 -4.4
SAML Samuel          155.97 263 ePKPdf   PKPdf      00 03 43.6 -2.4
LVC  Limon Verde     156.22 226 ePKPab   PKPab      00 04 10.6 -1.6
LPAZ La Paz          158.93 242 PKP      PKPdf      00 03 47.2 -2.5
                comp=Z,6.4nm,1.2s,baz=26,slow=5.5,SNR=10
LPAZ La Paz          158.93 242 ePKPdf   PKPdf      00 03 47.8 -2.0
LPAZ La Paz          158.93 242 PKIKP    PKPdf      00 03 47.2 -2.5
LPAZ                           pmax     pmax
                comp=Z,6.0nm,1.2s
ROSC El Rosal        162.66 311 PKP      PKPdf      00 03 52.5 -1.2
                comp=Z,3.2nm,0.4s,baz=99,slow=21,SNR=4.5
```

IDC 03 23:51:18.0±4.2, 9.81N×91.92E, mb3.6/3, mb1 3.8/3, mb1mx3.5/19, mbtmp3.6/3, Error ellipse: s-maj=152.1km s-min=31.0km az=64.0, Nicobar Islands region

```
Code Station Name    Δ°   AZ°  Phase ID                Time      Res
                                Op        ISC           h m s     ISC
MKAR Makanchi Array  37.76 349 P          P             23 58 35.6 -1.8
     0.3nm,0.5s,baz=167,slow=8.7,SNR=4.5
SONM Songino Array   39.83  15 P          P             23 58 53.1 -1.6
     1.3nm,0.8s,baz=201,slow=9.2,SNR=4.3
WRA  Warramunga Arr  51.16 125 P          P             00 00 23.2 -2.1
     0.7nm,0.5s,baz=305,slow=8.5,SNR=6.4
```

*IDC **03** 23:52:57.7±1.2, 39.31N×26.92E, mb3.7/3, mb1 4.1/10, mb1mx3.8/27, mbtmp4.1/10, ML4.0/7, MS3.3/2, Ms1 3.3/2, ms1mx2.9/29, Error ellipse: s-maj=22.4km s-min=14.5km az=84.0*
*ISK **03** 23:52:58.3, 39.37N×26.92E, h18km, MD3.9*
*CSEM **03** 23:52:58.2±0.0, 39.38N×27.01E, h15km, ML4.1, Error ellipse: s-maj=1.2km s-min=1.0km az=88.0*
*ATH **03** 23:52:59.0, 39.32N×26.89E, h28km±1km, MD4.1/23, ML4.1*
*NEIC **03** 23:52:59.0, 39.32N×26.88E, h28km, ML4.1(ATH), ML4.1(ISK), After ATH.*
*SOF **03** 23:52:59.3, 39.64N×26.99E, h2km, MD3.8*
*THE **03** 23:53:02.3, 39.40N×26.62E, h10km, ML3.9*

ISC 03 23:52:58.1±0.4, 39.39N±0.02×26.95E±0.02, h11km±3km, n134, σ0°88/158, mb3.6/3, 10C-14D, Turkey

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Code Station Name    Δ°   AZ°  Phase ID                Time      Res
                                Op        ISC           h m s     ISC
AYVA Ayvalik         0.21 249 i P          Pg            23 53 03.9 +1.1
AYVA                            i S          Sg            23 53 07.5 +1.6
PRK  Paraskevi       0.54 255 ⇓i PB       Pb            23 53 09.5 +0.3
PRK                             eSB          Sb            23 53 16.5 -0.2
CANB Canakkale       0.64  8 i PG          Pg            23 53 11.3 +0.3
EZN  Ezine           0.65 313 i PG          Pg            23 53 11.8 +0.5
BALB Balikesir       0.77  70 i PG          Pg            23 53 13.6 +0.1
AKS  Akhisar         0.84 127 i PG          Pg            23 53 15.3 +0.3
BTOK Tokmak          0.92  65 i P           Pb            23 53 16.2 +0.6
BTOK                            i S          Sb            23 53 27.2 -0.4
LPK  Lapseki         1.00 352 PG            Pg            23 53 18.1  0.0
BLCB Balcova         1.00 176 PG            Pg            23 53 17.8 -0.4
BLCB                            SG           Sg            23 53 31.7 +0.1
KDAG Bornova         1.01 166 i P           Pb            23 53 17.5 +0.3
KDAG                            i S          Sb            23 53 31.2 +0.9
IZM  Izmir           1.01 166 PG            Pg            23 53 18.1 -0.4
URLA Izmir           1.06 195 i P           Pb            23 53 17.9 -0.1
URLA                            i S          Sb            23 53 33.4 +1.7
BNT  Bandirma        1.23  37 PN            Pn            23 53 21.0 -0.2
MRMT Marmara Adasi   1.31  22 PN            Pn            23 53 22.4 -0.1
DST  Dursunbey       1.32  80 PN            Pn            23 53 22.8 +0.2
MFT  Murefte         1.42  10 PN            Pn            23 53 24.0 -0.1
LIA  Limnos Island   1.46 291 ⇓i PN         Pn            23 53 25.1 +0.6
LIA                             eSN          Sn            23 53 44.3 +0.6
MANT Manisa          1.54 125 i P           Pn            23 53 26.5 +0.7
MANT                            i S          Sb            23 53 46.3 +0.6
LOS  Limnos          1.54 291 ePg           Pg            23 53 26.8 -2.2
ORLT Orhaneli        1.64  66 PN            Pn            23 53 27.8 +0.6
ALN  Alexandroupoli  1.66 336 ePg           Pg            23 53 30.0 -1.3
ALN                             eSg          Sg            23 53 51.7 -1.9
SMG  Samos           1.68 183 ePN           Pn            23 53 27.4 -0.3
ULDT Uludag          1.85  65 i P           Pn            23 53 29.9 -0.2
ULDT                            i S          Sn            23 53 53.1 -0.6
AYDN Tasoluk         1.87 157 i P           Pn            23 53 30.5 +0.1
AYDN                            i S          Sn            23 53 58.3 +4.1
GDZ  Gediz           1.99  98 i P           Pn            23 53 33.0 +0.8
GDZ                             i S          Sn            23 54 02.3 +5.1
RDO  Rodhopi         2.06 329 ePN           Pn            23 53 34.3 +1.1
RDO                             eSN          Sn            23 53 59.9 +0.7
CTT  Catalca         2.09  32 PN            Pn            23 53 33.5 -0.2
MLSB Milas           2.19 162 PN            Pn            23 53 34.7 -0.3
YLV  Yalova          2.21  57 PN            Pn            23 53 35.5 +0.2
BADT Buyukada        2.22  48 PN            Pn            23 53 36.3 +0.9
KHL  Karahalli       2.27 117 ePN           Pn            23 53 36.7 +0.5
DENT Denizli         2.31 134 PN            Pn            23 53 36.5 -0.2
ISK  Istanbul-Kandi  2.33  43 ePN           Pn            23 53 36.7 -0.3
BODT Bodrum          2.34 173 ePN           Pn            23 53 36.7 -0.4
DNZL Cakiroluk       2.36 135 i P           Pn            23 53 38.0 +0.5
DNZL                            i S          Sn            23 54 11.2 +4.5
AOS  Alonnisos       2.39 266 ePn           Pn            23 53 38.0 +0.1
EDRB Edirne          2.46 356 ePN           Pn            23 53 39.2 +0.2
OUR  Ouranopolis     2.47 294 ePn           Pn            23 53 39.4 +0.4
ALT  Altintas        2.48  97 ePN           Pn            23 53 39.5 +0.3
YER  Yerkesik        2.48 155 ePN           Pn            23 53 39.0 -0.2
HRT  Hereke          2.53  55 ePN           Pn            23 53 40.7 +0.8
KDZ  Kurdzhali       2.55 333 i P           Pn            23 53 40.8 +0.7
APE  Apeiranthos     2.57 206 ePN           Pn            23 53 39.2 -1.2
PAIG Paliouri        2.58 283 ePn           Pn            23 53 40.4 -0.2
PAIG                            eSn          Sn            23 54 11.6 -0.7
EYL  Eskiyayla       2.73  63 ePN           Pn            23 53 43.2 +0.4
GPA  Golpazari       2.74  70 ePN           Pn            23 53 43.2 +0.3
MPAR Parnis Oros     2.80 245 ePN           Pn            23 53 43.5 -0.2
RZN  Rozhen          2.86 324 eP            Pn            23 53 45.0 +0.4
PLG  Polygyros       2.87 291 ePN           Pn            23 53 44.7  0.0
DIM  Dimitrovgrad    2.87 338 i P           Pn            23 53 45.0 +0.2
DIM                             i Pg         Pg            23 53 51.0 -4.5
NEO  Neokhori        2.89 270 ePN           Pn            23 53 44.4 -0.6
ATH  Athens Observa  2.90 242 ePN           Pn            23 53 45.0 -0.1
ATH  Athens Observa  2.90 242 ePn           Pn            23 53 45.6 +0.5
XOR  Xorichti        2.91 271 ePn           Pn            23 53 45.0 -0.3
DALT Dalyan (Mudla)  2.93 152 ePN           Pn            23 53 45.4 -0.2
GOLH Golhisar        2.97 135 i P           Pn            23 53 46.5 +0.3
GOLH                            i S          Sn            23 54 34.0 +12
ESKT Eskisehir       3.02  86 ePN           Pn            23 53 47.6 +0.7
NVR  Nevrokopi       3.07 311 ePN           Pn            23 53 47.8 +0.2
SRS  Serrai          3.10 305 ePn           Pn            23 53 48.1 +0.1
SRS                             eSn          Sn            23 54 24.0 -1.4
NSAL Nisos Salamina  3.10 243 ePN           Pn            23 53 47.2 -0.8
NAIG Nisos Aigina    3.16 240 ePN           Pn            23 53 48.0 -0.9
LKR  Lokris          3.16 258 ePN           Pn            23 53 49.4 +0.5
LKR  Lokris          3.16 258 ePn           Pn            23 53 49.7 +0.8
MGER Gerania Oros    3.21 245 ePN           Pn            23 53 48.8 -0.7
PLD  Plovdiv         3.21 329 i P           Pn            23 53 50.5 +1.0
ARG  Arkhangelos     3.30 163 ⇓i PN         Pn            23 53 51.5 +0.7
MMB  Musomiste       3.30 313 i P           Pn            23 53 50.5 -0.3
THE  Thessaloniki    3.30 293 ePn           Pn            23 53 51.1 +0.2
BCK  Bucak           3.44 123 ePN           Pn            23 53 53.4 +0.5
MDU  Mudurnu         3.45  70 ePN           Pn            23 53 53.0  0.0
LIT  Litokhoron      3.51 283 ePn           Pn            23 53 54.1 +0.3
AGG  Agios Georgios  3.61 266 ePn           Pn            23 53 55.4 +0.2
PGB  Panagyurishte   3.80 327 i P           Pn            23 53 58.0 +0.1
GRG  Griva           3.82 296 ePn           Pn            23 53 58.8 +0.5
PRD  Provadia        3.83  5 i P            Pn            23 53 57.7 -0.6
PRD                             i Pg         Pg            23 54 07.0 -7.5
KARP Karpathos       3.83 177 ePN           Pn            23 53 58.0 -0.4
KIZT Kizilcal        3.87  96 ePN           Pn            23 53 58.7 -0.2
SZH  Strazhica       3.95 349 i P           Pn            23 54 00.0 -0.1
PVL  Pavlikeni       4.02 343 eP            Pn            23 54 01.0  0.0
EVR  Evrytania       4.02 265 ePN           Pn            23 54 01.6 +0.5
KZN  Kozani          4.09 285⇑ ePN          Pn            23 54 02.7 +0.6
VLI  Veliai          4.14 231 ePN           Pn            23 54 01.5 -1.2
NPS  Neapolis        4.25 195 ePN           Pn            23 54 03.0 -1.4
NPS  Neapolis        4.25 195 ePn           Pn            23 54 04.5 +0.1
VTS  Vitosha         4.28 320 i P           Pn            23 54 05.0 +0.3
KYTH Kithira         4.38 226 ePN           Pn            23 54 05.5 -0.7
KYTH Kithira         4.38 226 ePn           Pn            23 54 04.5 -1.7
PSN  Preselentsi     4.39  12 i P           Pn            23 54 05.5 -0.9
IDI  Anoyia          4.41 202 Pn            Pn            23 54 04.4 -2.1
     1.1nm,0.3s,baz=94,slow=7.5,SNR=16
IDI                             Pg           Pg            23 54 16.7 -9.4
     2.4nm,0.3s,baz=81,slow=9.5,SNR=8.3
IDI                             LR           LR            23 55 16.9
     comp=Z,272nm,18.9s,baz=76,slow=32
IDI                             Lg           Lg            23 55 24.3
     4.1nm,0.3s,baz=274,slow=23,SNR=2.9
IDI  Anoyia          4.41 202 Pg            Pg            23 54 16.7 -9.4
FNA  Florina         4.50 290 ePn           Pn            23 54 08.5 +0.7
ITM  Ithomi          4.52 242 ePN           Pn            23 54 07.5 -0.7
VAM  Vamos           4.53 210 ePN           Pn            23 54 07.0 -1.4
VAM  Vamos           4.53 210 ePn           Pn            23 54 06.5 -1.9
JAN  Janina          4.72 275 ePN           Pn            23 54 11.5 +0.4
JAN  Janina          4.72 275 ePn           Pn            23 54 12.7 +1.6
SKO  Skopje          4.92 303 i P           Pn            23 54 14.3 +0.4
LSK  Leskovik        4.95 281 i p           Pn            23 54 15.7 +1.4
ZAPS Zavoj/Pirot     5.09 322 ⇑i Pn         Pn            23 54 16.6 +0.3
ZAPS                            Sn           Sn            23 55 18.4 +2.7
BRTR Keskin Array B  5.18  84 Pn            Pn            23 54 17.6  0.0
     1.6nm,0.3s,baz=259,slow=13,SNR=37
BRTR                            Pg           Pg            23 54 35.9 -5.7
     1.4nm,0.3s,baz=255,slow=15,SNR=17
BRTR                            Sn           Sn            23 55 15.8 -2.3
     baz=152,slow=14,SNR=2.4
BRTR                            Lg                         23 55 44.3
     0.7nm,0.3s,baz=265,slow=27,SNR=6.8
BRTR Keskin Array B  5.18  84 Pn            Pn            23 54 17.5 -0.1
BRTR Keskin Array B  5.18  84 Pg            Pg            23 54 35.9 -5.7
TIRR Tirgusor        5.19  12 ⇓P            Pn            23 54 18.4 +0.8
HARR Harsova         5.35   8 ⇓P            Pn            23 54 19.7 -0.2
HARR Harsova         5.35   8 ⇓P            Pn            23 54 19.7 -0.3
BOLS Boljevac        5.80 322 ePn           Pn            23 54 26.8 +0.5
CFR  Carcaliu        5.86   8 ⇓P            Pn            23 54 24.8 -2.2
CFR  Carcaliu        5.86   8 ⇓P            Pn            23 54 24.8 -2.2
TLCR                 5.96  13 ⇑P            Pn            23 54 26.8 -1.7
TLCR                 5.96  13 ⇑P            Pn            23 54 26.8 -1.8
MLR  Muntele Rosu    6.15 353 Pn            Pn            23 54 31.4 +0.2
     1.2nm,0.3s,baz=197,slow=3.4,SNR=36
MLR                             Lg                         23 56 15.4
     1.9nm,0.3s,baz=134,slow=20,SNR=2.6
MLR  Muntele Rosu    6.15 353 ⇓P            Pn            23 54 33.2 +2.0
MLR  Muntele Rosu    6.15 353 ⇓P            Pn            23 54 33.2 +2.0
DJES Djerdap         6.19 329 ePn           Pn            23 54 30.2 -1.6
VOIR                 6.21 348 ⇓P            Pn            23 54 31.9 -0.1
VOIR                 6.21 348 ⇓P            Pn            23 54 31.9 -0.2
VRI  Vrincioaia      6.48 359 ⇑P            Pn            23 54 38.3 +2.4
VRI  Vrincioaia      6.48 359 ⇑P            Pn            23 54 38.3 +2.4
DIVS Divcibare       7.02 314 ⇑i Pn         Pn            23 54 41.6 -1.8
DRGR                 8.03 339 ⇓P            P             23 54 55.7 -1.8
DRGR                 8.03 339 ⇓P            P             23 54 55.7 -1.8
RHK1 Bakonya         9.36 319 ⇑eP           P             23 55 17.6 +1.6
VAE  Valguarnera     10.02 263 Pn           P             23 55 24.3 -0.8
     0.4nm,0.3s,baz=100,slow=19,SNR=2.0
ASF  Jabal al Asfar  10.81 129 Pn           P             23 55 34.8 -1.2
     0.1nm,0.3s,baz=340,slow=11,SNR=1.9
ARSA Arzberg         11.44 317 ⇑i P         P             23 55 38.3 -6.2
     339nm,3.5s
OBKA Obir            11.54 312 ⇑i P         P             23 55 41.6 -4.2
     272nm,2.7s
EIL  Elat            11.72 143 Pn           P             23 55 45.2 -3.1
     8.3nm,0.3s,baz=318,slow=13,SNR=8.0
EIL                             Sn           S             23 57 50.9 -9.2
     1.5nm,0.3s,baz=358,slow=18,SNR=2.2
DAVOX Davos          14.48 306 Pn           P             23 56 24.6 -0.2
     0.9nm,0.3s,baz=121,slow=16,SNR=4.2
DAVOX                           LR           LR            00 01 25.5
     comp=Z,114nm,18.9s,baz=264,slow=35
DAVOX Davos          14.48 306 Pn           P             23 56 24.6 -0.3
DAVOX                           LR           LR            00 01 25.5
HFS  Hagfors         22.38 342 P            P             23 57 59.0 +1.4
     2.7nm,0.8s,mb3.7,baz=139,slow=13,SNR=2.5
NB2  NORSAR Subarra  23.78 341 P            P             23 58 10.0 -1.1
     2.3nm,0.7s,mb3.7,baz=144,slow=10
NOA  NORSAR Array B  23.78 341 P            P             23 58 10.9 -0.2
     2.0nm,0.7s,mb3.7,baz=154,slow=8.6,SNR=7.8
ESDC Sonseca Array   23.79 281 P            P             23 58 12.7 +1.2
     1.1nm,0.8s,mb3.3,baz=77,slow=8.8,SNR=4.4
SFJD Kangerlussuaq   49.71 330 i P          P             00 01 51.7  0.0
SFJD                            i                          00 09 25.5
     comp=Z,430nm,15.0s
```

CASC 03 23:54:51.1±2.3, 11.23N×85.45W, h12km±7km, MD3.7, ML2.9, 9C-5D, Nicaragua

```
Code Station Name    Δ°   AZ°  Phase ID                Time      Res
                                Op        ISC           h m s     ISC
MADN Villa Maderas   0.19 333 eP            Pg            23 54 55.0 -0.5
MADN                            ⇑i P                     23 54 55.2
CONN Concepcion      0.37 332⇑ eP           Pg            23 54 58.1 -0.7
SSNN San Juan del S  0.40 278⇑ eP           Pg            23 54 59.0 -0.4
SSNN                            eS           Sg            23 55 05.4 +0.6
APON Apoyo           0.91 318⇑ eP           Pb            23 55 07.8 -0.6
FORC Fortuna         1.07 135⇑ eP           Pb            23 55 11.2  0.0
FORC                            ⇑eP                      23 55 11.2
FORC                            eS           Sb            23 55 25.3 +0.3
TICN Ticuantepe      1.11 316⇑ eP           Pb            23 55 11.5 -0.3
CRUN El Crucero      1.12 312 eP            Pb            23 55 12.4 +0.4
MGAN Managua         1.20 319⇑ eP           Pb            23 55 13.3 -0.1
MGAN                            eS           Sb            23 55 29.5 +0.9
     comp=N,194nm,0.2s
COPN Copaltepe       1.47 310⇓ eP           Pn            23 55 17.1 -0.4
VPS2 Volcan Poas 2   1.58 131⇓ eP           Pn            23 55 19.0 -0.1
MOMJ Momotombo       1.58 318 eP            Pn            23 55 19.1 -0.2
PRS1 Puriscal        1.67 138⇓ eP           Pn            23 55 21.0 +0.5
CNGN Cerro Negro     1.76 316⇓ eP           Pn            23 55 23.9 +2.1
TRTC Tortuguero      1.82 111⇓ eP           Pn            23 55 22.1 -0.6
TRTC                            eS           Sn            23 55 46.0 +0.2
TEL3 Telica 3        1.91 314⇓ eP           Pn            23 55 23.7 -0.2
LCR2 La Lucha 2      2.05 136 eP            Pn            23 55 25.1 -0.8
LCR2                            eS           Sn            23 55 51.8 +0.1
CRIN San Cristobal   2.14 313 eP            Pn            23 55 25.4 -1.8
BUS  Buena Vista     2.35 135 eP            Pn            23 55 30.2 -0.1
BUS                             eS           Sn            23 55 59.5 +0.2
```

*ISK **04** 00:03:28.4, 39.41N×26.95E, h22km, MD2.9*
*CSEM **04** 00:03:28.0±0.1, 39.41N×26.99E, h15km, MD2.9, Error ellipse: s-maj=2.4km s-min=1.6km az=81.0*
*ATH **04** 00:03:30.3, 39.43N×26.74E, h20km±2km, MD3.2/4*
*NEIC **04** 00:03:30.3, 39.43N×26.74E, h20km, MD3.2(ATH), MD2.9(ISK), After ATH.*

ISC 04 00:03:28.1±0.5, 39.41N±0.02×26.94E±0.04, h9km±4km, n20, σ0°91/29, Turkey

```
Code Station Name    Δ°   AZ°  Phase ID                Time      Res
                                Op        ISC           h m s     ISC
AYVA Ayvalik         0.21 243 i P          Pg            00 03 33.3 +0.6
AYVA                            i S          Sg            00 03 36.5 +0.8
PRK  Paraskevi       0.54 253 ePB           Pb            00 03 38.9 -0.4
PRK                             eSB          Sb            00 03 45.0 -1.9
CANB Canakkale       0.62  9 PG             Pg            00 03 40.6 +0.1
EZN  Ezine           0.63 312 PG            Pg            00 03 41.1 +0.3
BALB Balikesir       0.77  72 PG            Pg            00 03 44.1 +0.6
AKS  Akhisar         0.86 127 PG            Pg            00 03 45.5 +0.1
AKS                             SG           Sg            00 03 57.2 +0.2
BTOK Tokmak          0.92  67 i P           Pb            00 03 46.5 +0.7
BTOK                            i S          Sb            00 03 57.2 -0.7
LPK  Lapseki         0.97 352 PG            Pg            00 03 47.5 -0.1
BLCB Balcova         1.02 175 PG            Pg            00 03 47.6 -1.0
BLCB                            SG           Sg            00 04 02.6 +0.2
KDAG Bornova         1.04 165 i P           Pb            00 03 47.3 -0.5
KDAG                            i S          Sb            00 04 01.8 +0.5
IZM  Izmir           1.04 166 PG            Pg            00 03 48.4 -0.5
IZM                             SG           Sg            00 04 01.8 -1.1
URLA Izmir           1.08 194 i P           Pb            00 03 47.8 -0.7
URLA                            i S          Sb            00 04 04.7 +2.1
BNT  Bandirma        1.21  38 ePN           Pn            00 03 50.2 -1.0
MRMT Marmara Adasi   1.30  23 ePN           Pn            00 03 52.0 -0.5
DST  Dursunbey       1.32  81 ePN           Pn            00 03 52.0 -0.9
MFT  Murefte         1.40  11 ePN           Pn            00 03 54.0 -0.1
LIA  Limnos Island   1.44 290 ePN           Pn            00 03 54.6 +0.1
SMG  Samos           1.70 183 ePN           Pn            00 04 01.3 +3.1
ULDT Uludag          1.85  66 i P           Pn            00 03 59.6 -0.7
ULDT                            i S          Sn            00 04 25.9 +1.8
RDO  Rodhopi         2.04 329 ePN           Pn            00 04 04.4 +1.3
```

IDC 04 00:11:50.0±1.4, 30.05N×97.16E, mb3.5/3, mb1 3.7/4, mb1mx3.4/20, mbtmp3.4/4, ML3.4/1, Error ellipse: s-maj=68.6km s-min=25.3km az=60.0, Xizang

```
Code Station Name    Δ°   AZ°  Phase ID                Time      Res
                                Op        ISC           h m s     ISC
SONM Songino Array   19.14  19 P          P             00 16 14.7 -2.3
     0.1nm,0.3s,baz=207,slow=9.9,SNR=3.8
MKAR Makanchi Array  20.32 329 P          P             00 16 25.8 -4.5
     0.4nm,0.5s,baz=135,slow=12,SNR=5.5
WRA  Warramunga Arr  61.25 140 P          P             00 22 06.9 -2.5
     1.1nm,0.7s,baz=324,slow=8.2,SNR=11
NOA  NORSAR Array B  62.29 327 P          P             00 22 14.4 -1.5
     0.6nm,0.8s,baz=78,slow=6.5,SNR=3.1
```

*CSEM **04** 00:17:18.4±0.2, 39.42N×26.97E, h12km, MD2.8, Error ellipse: s-maj=5.3km s-min=2.6km az=51.0*
*ISK **04** 00:17:19.4, 39.41N×26.89E, h32km, MD2.8*
*ATH **04** 00:17:23.9, 39.24N×26.48E, h31km, MD3.0/4*
*NEIC **04** 00:17:23.9, 39.24N×26.48E, h31km, MD3.0(ATH), After ATH.*

ISC 04 00:17:18.9±0.6, 39.39N±0.04×26.95E±0.05, h11km±7km, n14, σ0°95/17, Turkey

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

PRK	**Paraskevi**	**0.55**	**255**	*e*PB	**Pb**	**00 17 29.9 0.0**
CANB	**Canakkale**	**0.63**	**8**	PG	**Pg**	**00 17 32.4 +0.8**
CANB				SG	**Sg**	**00 17 41.4 +1.3**
EZN	**Ezine**	**0.65**	**312**	PG	**Pg**	**00 17 31.7 -0.2**
EZN				SG	**Sg**	**00 17 40.7 0.0**
BALB	**Balikesir**	**0.76**	**71**	PG	**Pg**	**00 17 34.3 +0.1**
AKS	**Akhisar**	**0.84**	**127**	PG	**Pg**	**00 17 35.7 -0.1**
AKS				SG	**Sg**	**00 17 47.8 +0.6**
LPK	**Lapseki**	**0.99**	**352**	PG	**Pg**	**00 17 37.2 -1.5**
BLCB	**Balcova**	**1.01**	**176**	*e*PG	**Pg**	**00 17 38.3 -0.8**
IZM	**Izmir**	**1.02**	**166**	*e*PG	**Pg**	**00 17 38.7 -0.7**
BNT	**Bandirma**	**1.22**	**38**	*e*PN	**Pn**	**00 17 40.9 -0.9**
DST	**Dursunbey**	**1.32**	**80**	*e*PN	**Pn**	**00 17 43.2 0.0**
MFT	**Murefte**	**1.42**	**10**	*e*PN	**Pn**	**00 17 43.4 -1.3**
LIA	**Limnos Island**	**1.45**	**291**	*e*PN	**Pn**	**00 17 46.2 +1.0**
SMG	**Samos**	**1.68**	**183**	*e*PN	**Pn**	**00 17 51.3 +2.8**
RDO	**Rodhopi**	**2.06**	**329**	*e*PN	**Pn**	**00 17 58.2 +4.4**

CASC 04 00:20:32.6±1.5,**11.31N**×**85.45W, h2**km±5km,**MD3.5, ML2.9, Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MADN	**Villa Maderas**	**0.13**	**318**	*e*P	Pg	00 20 36.4	+1.2
CONN	**Concepcion**	**0.30**	**325**	*e*P	Pg	00 20 39.1	+0.5
SSNN	**San Juan del S**	**0.40**	**266**	*e*P	Pg	00 20 41.5	+1.0
MGAN	**Managua**	**1.14**	**317**	*e*P	Pb	00 20 53.9	-0.8
MGAN				*e*S	Sb	00 21 10.4	+0.7
	comp=N,226nm,0.5s						
COPN	**Copaltepe**	**1.41**	**308**	*e*P	Pb	00 20 57.8	-1.6
PRS1	**Puriscal**	**1.73**	**140**	*e*P	Pn	00 21 05.1	+1.2
PRS1				*e*S	Sn	00 21 30.5	+3.6
TRTC	**Tortuguero**	**1.85**	**113**	*e*P	Pn	00 21 05.0	-0.7
TRTC				*e*S	Sn	00 21 30.5	+0.5
LCR2	**La Lucha 2**	**2.11**	**138**	*e*P	Pn	00 21 09.0	-0.4
BUS	**Buena Vista**	**2.41**	**136**	*e*P	Pn	00 21 13.3	-0.4
BUS				*e*S	Sn	00 21 45.2	+1.1

*NEIC **04** 00:26:23.5, 32.66S×71.97W, h32km, ML3.9(GUC), After GUC.*
NEIC Felt [II] at Papudo.
GUC 04 00:26:23.5±0.6,**32.66S**×**71.97W, h32**km±1km,**MD4.0, ML3.9, 4C-10D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.46**	**143**	⇓*i*P	Pb	00 26 33.3	-0.1
IHA				*i* S	Sb	00 26 40.5	+0.3
ROCH	**El Roble**	**0.87**	**111**	⇓*i*P	Pn	00 26 40.0	+0.4
ROCH				*i* S	Sn	00 26 52.1	+0.8
CHNG	**Los Chungos**	**0.87**	**28**	⇓*i*P	Pn	00 26 39.4	-0.2
CHNG				*i* S	Sn	00 26 51.2	-0.1
LCCH	**Las Cruces**	**0.88**	**158**	⇓*i*P	Pn	00 26 39.6	-0.2
LCCH				*i* S	Sn	00 26 51.4	-0.2
JACH	**Jahuel**	**1.16**	**92**	⇓*i*P	Pn	00 26 44.2	+0.4
JACH				*i* S	Sn	00 27 00.0	+1.3
ILCH	**Illapel**	**1.23**	**34**	⇑*i*P	Pn	00 26 45.1	+0.4
ILCH				*i* S	Sn	00 27 01.7	+1.4
TACH	**Talagante**	**1.32**	**139**	⇓*i*P	Pn	00 26 46.5	+0.4
TACH				*i* S	Sn	00 27 03.9	+1.2
SAN	**Santiago**	**1.36**	**126**	*e*P	Pn	00 26 47.0	+0.4
SAN				*i* S	Sn	00 27 05.1	+1.4
SAN				AMP		00 27 09.7	
	comp=N,2μm,0.4s						
STL	**Santa Lucia**	**1.36**	**125**	⇓*i*P	Pn	00 26 46.9	+0.2
STL				*i* S	Sn	00 27 05.0	+1.3
DSCH	**Colegio Aleman**	**1.39**	**122**	*i* S	Sn	00 27 05.9	+1.4
DSCH				AMP		00 27 16.5	
	comp=E,4μm,0.6s						
CLCH	**Cerro Calan**	**1.41**	**122**	⇑*i*P	Pn	00 26 48.6	+1.2
CLCH				*i* S	Sn	00 27 07.4	+2.3
CLCH				AMP		00 27 12.4	
	comp=N,3μm,0.7s						
CLCH				AMP		00 27 13.0	
	comp=N,4μm,0.6s						
ANTU	**Antumapu**	**1.45**	**129**	AMP		00 27 16.1	
	comp=E,2μm,0.4s						
FSR	**Penalolen**	**1.46**	**124**	⇓*i*P	Pn	00 26 49.6	+1.5
FSR				*i* S	Sn	00 27 09.1	+2.7
FSR				AMP		00 27 16.0	
	comp=N,2μm,0.3s						
PCH	**Pirque**	**1.56**	**129**	⇓*i*P	Pn	00 26 50.7	+1.3
PCH				*i* S	Sn	00 27 11.1	+2.4
FCH	**Farellones**	**1.56**	**116**	⇑*i*P	Pn	00 26 50.8	+1.3
FCH				*i* S	Sn	00 27 11.6	+2.7
SJCH	**San Jose de Ma**	**1.68**	**126**	⇑*i*P	Pn	00 26 52.1	+1.0
SJCH				*i* S	Sn	00 27 14.4	+2.7
SJCH				AMP		00 27 19.7	
	comp=N,1μm,0.6s						
CHCH	**Chadas Angostu**	**1.69**	**139**	⇓*i*P	Pn	00 26 52.3	+1.0
CHCH				*i* S	Sn	00 27 14.0	+2.0
CMCH	**Combarbala**	**1.69**	**29**	AMP		00 27 26.9	
	comp=E,5μm,0.7s						
CICH	**Cipreses**	**2.10**	**142**	*i* P	Pn	00 26 58.2	+0.9
CICH				*i* S	Sn	00 27 24.6	+1.9
TLL	**Tololo Astrono**	**2.68**	**22**	AMP		00 27 48.0	
	comp=E,748nm,0.6s						

*ISK **04** 00:27:03.9, 39.38N×26.93E, h14km, MD3.0*
*CSEM **04** 00:27:03.6±0.1, 39.40N×26.97E, h5km, MD3.0, Error ellipse: s-maj=2.5km s-min=1.8km az=18.0*
*ATH **04** 00:27:06.8, 39.35N×26.67E, h29km, MD3.1/4*
*NEIC **04** 00:27:06.8, 39.35N×26.67E, h29km, MD3.1(ATH), MD3.0(ISK), After ATH.*
ISC 04 00:27:04.1±0.5,**39.39N**±0.03×**26.97E**±0.04,**h8**km±5km, **n21,**σ0°**76**/29,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYVA	**Ayvalik**	**0.23**	**249**	*i* P	**Pg**	**00 27 09.3**	**+0.3**
AYVA				*i* S	**Sg**	**00 27 12.9**	**+0.8**
PRK	**Paraskevi**	**0.56**	**255**	*e*PB	**Pb**	**00 27 14.8**	**-0.9**
CANB	**Canakkale**	**0.63**	**7**	PG	**Pg**	**00 27 16.9**	**+0.1**
EZN	**Ezine**	**0.66**	**311**	PG	**Pg**	**00 27 16.7**	**-0.6**
EZN				SG	**Sg**	**00 27 26.9**	**+0.7**
BALB	**Balikesir**	**0.75**	**70**	PG	**Pg**	**00 27 18.8**	**-0.3**
AKS	**Akhisar**	**0.83**	**128**	PG	**Pg**	**00 27 21.1**	**+0.3**
AKS				SG	**Sg**	**00 27 32.7**	**+0.7**
BTOK	**Tokmak**	**0.90**	**65**	*i* P	**Pb**	**00 27 22.3**	**+0.7**
BTOK				*i* S	**Sb**	**00 27 32.9**	**-0.6**
LPK	**Lapseki**	**0.99**	**351**	PG	**Pg**	**00 27 23.3**	**-0.7**
BLCB	**Balcova**	**1.01**	**177**	PG	**Pg**	**00 27 23.0**	**-1.3**
KDAG	**Bornova**	**1.01**	**167**	*i* P	**Pb**	**00 27 22.8**	**-0.8**
KDAG				*i* S	**Sb**	**00 27 36.4**	**-0.5**
IZM	**Izmir**	**1.02**	**167**	PG	**Pg**	**00 27 23.5**	**-1.0**
IZM				SG	**Sg**	**00 27 39.0**	**+0.9**
URLA	**Izmir**	**1.07**	**196**	*i* P	**Pb**	**00 27 13.9**	**-11**
URLA				*i* S	**Sb**	**00 27 30.1**	**-8.3**
BNT	**Bandirma**	**1.21**	**37**	PN	**Pn**	**00 27 27.3**	**0.0**
DST	**Dursunbey**	**1.30**	**80**	*e*PN	**Pn**	**00 27 28.8**	**+0.1**
MRMT	**Marmara Adasi**	**1.30**	**22**	*e*PN	**Pn**	**00 27 28.3**	**-0.4**
MFT	**Murefte**	**1.41**	**10**	*e*PN	**Pn**	**00 27 30.2**	**-0.1**
LIA	**Limnos Island**	**1.47**	**291**	*e*PN	**Pn**	**00 27 30.6**	**-0.4**
ORLT	**Orhaneli**	**1.62**	**66**	*e*PN	**Pn**	**00 27 33.5**	**+0.2**
SMG	**Samos**	**1.68**	**183**	*e*PN	**Pn**	**00 27 35.8**	**+1.7**
ULDT	**Uludag**	**1.83**	**65**	*i* P	**Pn**	**00 27 35.2**	**-1.1**
ULDT				*i* S	**Sn**	**00 28 01.1**	**+1.3**
RDO	**Rodhopi**	**2.06**	**328**	*e*PN	**Pn**	**00 27 40.6**	**+1.0**

*JMA **04** 00:33:52.9±0.1, 33.24N×137.16E, h38km±2km, M3.7*
ISC 04 00:33:53.1±1.0,**33.26N**±0.06×**137.16E**±0.05,**h45**km±20km, **n15,**σ0°**64**/24,**8D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**0.62**	**35**	P	**P**	**00 34 05.4**	**-0.3**
TK01				S	**S**	**00 34 14.1**	**-0.7**
TK02	**Tokai 2**	**0.85**	**36**	⇓P	**P**	**00 34 08.9**	**+0.1**
TK03	**Tokai 3**	**1.13**	**36**	P	**P**	**00 34 12.8**	**+0.1**
TK03				*e*S	**S**	**00 34 27.3**	**0.0**
JIE	**Ise**	**1.19**	**342**	⇓P	**P**	**00 34 14.3**	**+0.7**
JIE				S	**S**	**00 34 29.7**	**+0.8**
JKN2	**Miekihoku**	**1.23**	**323**	⇓P	**P**	**00 34 14.5**	**+0.4**
JWZ	**Kozaga**	**1.24**	**283**	⇓P	**P**	**00 34 14.3**	**0.0**
JWZ				*e*S	**S**	**00 34 28.9**	**-1.2**
TK04	**Tokai 4**	**1.27**	**28**	P	**P**	**00 34 15.2**	**+0.4**
TK04				S	**S**	**00 34 31.0**	**0.0**
TSUJ	**Tsu 2**	**1.57**	**337**	⇓P	**P**	**00 34 19.6**	**+0.5**
JWM	**Minabe**	**1.62**	**292**	⇓P	**P**	**00 34 20.0**	**+0.3**
JWY	**Kouya**	**1.62**	**307**	⇓P	**P**	**00 34 20.5**	**+0.7**
JHE	**Heguri**	**1.86**	**319**	⇓P	**P**	**00 34 23.7**	**+0.6**
JHE				S	**S**	**00 34 45.8**	**+0.4**
SHZ3	**Shizuoka 3**	**2.00**	**25**	P	**P**	**00 34 25.1**	**-0.1**
SHZ3				*e*S	**S**	**00 34 47.9**	**-1.2**
JHJ2	**Mitsune**	**2.23**	**93**	P	**P**	**00 34 28.2**	**-0.3**
JAI	**Aioi**	**2.32**	**284**	P	**P**	**00 34 30.0**	**+0.2**
JAI				S	**S**	**00 34 55.6**	**-1.7**
MAT	**Matsushiro**	**3.39**	**14**	P	**P**	**00 34 45.7**	**+0.8**
MAT				S	**S**	**00 35 23.6**	**-0.7**

*CSEM **04** 00:50:23.8±0.1, 39.45N×27.01E, h15km, MD3.0, Error ellipse: s-maj=3.1km s-min=2.7km az=89.0*
*ISK **04** 00:50:25.2, 39.44N×27.01E, h31km, MD3.0*
*ATH **04** 00:50:27.5, 39.30N×26.63E, h33km±2km, MD3.2/4*
*NEIC **04** 00:50:27.5, 39.30N×26.63E, h33km, MD3.2(ATH), After ATH.*
ISC 04 00:50:23.8±0.7,**39.42N**±0.04×**26.96E**±0.05,**h13**km±8km, **n15,**σ0°**84**/18,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.56**	**252**	*e*PB	**Pb**	**00 50 35.2**	**+0.3**
PRK				*e*SB	**Sb**	**00 50 41.2**	**-1.3**
CANB	**Canakkale**	**0.60**	**8**	PG	**Pg**	**00 50 37.0**	**+0.9**
BALB	**Balikesir**	**0.75**	**72**	PG	**Pg**	**00 50 39.2**	**+0.3**
BALB				SG	**Sg**	**00 50 48.9**	**-0.1**
AKS	**Akhisar**	**0.85**	**129**	PG	**Pg**	**00 50 41.3**	**+0.3**
AKS				SG	**Sg**	**00 50 52.5**	**0.0**
LPK	**Lapseki**	**0.97**	**351**	PG	**Pg**	**00 50 42.6**	**-0.7**
BLCB	**Balcova**	**1.03**	**176**	PG	**Pg**	**00 50 43.6**	**-1.0**
IZM	**Izmir**	**1.04**	**167**	PG	**Pg**	**00 50 44.7**	**-0.1**
BNT	**Bandirma**	**1.20**	**38**	PN	**Pn**	**00 50 45.3**	**-0.9**
MRMT	**Marmara Adasi**	**1.28**	**22**	*e*PN	**Pn**	**00 50 46.8**	**-0.6**
DST	**Dursunbey**	**1.30**	**81**	*e*PN	**Pn**	**00 50 47.5**	**-0.3**
MFT	**Murefte**	**1.39**	**10**	*e*PN	**Pn**	**00 50 48.8**	**-0.2**
LIA	**Limnos Island**	**1.45**	**290**	*e*PN	**Pn**	**00 50 50.7**	**+0.8**
ORLT	**Orhaneli**	**1.62**	**67**	*e*PN	**Pn**	**00 50 52.2**	**-0.1**
SMG	**Samos**	**1.71**	**183**	*e*PN	**Pn**	**00 50 55.4**	**+1.9**
RDO	**Rodhopi**	**2.04**	**328**	*e*PN	**Pn**	**00 51 01.5**	**+3.2**

*ISK **04** 00:53:10.2, 39.39N×26.94E, h18km, MD3.1*
*CSEM **04** 00:53:10.1±0.1, 39.40N×26.98E, h8km, MD3.2, Error ellipse: s-maj=2.4km s-min=1.9km az=47.0*
*ATH **04** 00:53:13.2, 39.29N×26.68E, h34km±2km, MD3.2/4*
*NEIC **04** 00:53:13.2, 39.29N×26.68E, h34km, MD3.2(ATH), MD3.0(ISK), After ATH.*
ISC 04 00:53:10.3±0.5,**39.39N**±0.03×**26.94E**±0.04,**h8**km±5km, **n20,**σ0°**84**/27,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYVA	**Ayvalik**	**0.21**	**247**	*i* P	**Pg**	**00 53 15.6**	**+0.9**
AYVA				*i* S	**Sg**	**00 53 18.5**	**+1.0**
PRK	**Paraskevi**	**0.54**	**255**	*e*PB	**Pb**	**00 53 21.4**	**-0.1**
PRK				*e*SB	**Sb**	**00 53 27.7**	**-1.4**
CANB	**Canakkale**	**0.63**	**9**	PG	**Pg**	**00 53 23.1**	**+0.1**
EZN	**Ezine**	**0.64**	**313**	PG	**Pg**	**00 53 23.5**	**+0.3**
BALB	**Balikesir**	**0.77**	**71**	PG	**Pg**	**00 53 25.2**	**-0.6**
AKS	**Akhisar**	**0.85**	**127**	PG	**Pg**	**00 53 26.9**	**-0.5**
AKS				SG	**Sg**	**00 53 39.4**	**+0.6**
BTOK	**Tokmak**	**0.92**	**66**	*i* P	**Pb**	**00 53 28.7**	**+0.5**
BTOK				*i* S	**Sb**	**00 53 42.5**	**+2.1**
LPK	**Lapseki**	**0.99**	**352**	PG	**Pg**	**00 53 29.3**	**-0.8**
BLCB	**Balcova**	**1.01**	**175**	PG	**Pg**	**00 53 29.8**	**-0.7**
KDAG	**Bornova**	**1.02**	**165**	*i* P	**Pb**	**00 53 29.5**	**-0.3**
KDAG				*i* S	**Sb**	**00 53 43.2**	**+0.1**
IZM	**Izmir**	**1.02**	**165**	PG	**Pg**	**00 53 30.0**	**-0.8**
URLA	**Izmir**	**1.06**	**195**	*i* P	**Pb**	**00 53 29.7**	**-0.9**
URLA				*i* S	**Sb**	**00 53 45.4**	**+1.0**
BNT	**Bandirma**	**1.23**	**38**	PN	**Pn**	**00 53 32.2**	**-1.6**
MRMT	**Marmara Adasi**	**1.31**	**22**	*e*PN	**Pn**	**00 53 34.4**	**-0.6**
DST	**Dursunbey**	**1.33**	**80**	*e*PN	**Pn**	**00 53 34.8**	**-0.4**
MFT	**Murefte**	**1.42**	**11**	PN	**Pn**	**00 53 36.5**	**0.0**
LIA	**Limnos Island**	**1.45**	**291**	*e*PN	**Pn**	**00 53 37.0**	**+0.1**
ORLT	**Orhaneli**	**1.65**	**66**	*e*PN	**Pn**	**00 53 39.6**	**-0.2**
SMG	**Samos**	**1.68**	**183**	*e*PN	**Pn**	**00 53 40.7**	**+0.4**
RDO	**Rodhopi**	**2.06**	**329**	*e*PN	**Pn**	**00 53 47.6**	**+2.0**
RDO				*e*SN	**Sn**	**00 54 11.8**	**+0.1**

*NEIC **04** 01:03:44.0, 32.43S×69.17W, h28km, ML3.2(GUC), After GUC.*
GUC 04 01:03:44.0±0.8,**32.43S**×**69.17W, h28**km±4km,**MD3.6, ML3.2, 7C-1D, Mendoza Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZON	**Zonda**	**0.97**	**25**	⇑*i*P	Pn	01 04 04.1	+2.2
ZON				*e*S	Sb	01 04 19.6	+5.0
JACH	**Jahuel**	**1.23**	**258**	⇑*i*P	Pn	01 04 04.6	-1.1
JACH				*i* S	Sn	01 04 20.8	-0.7
CLCH	**Cerro Calan**	**1.50**	**230**	⇑*i*P	Pn	01 04 09.9	+0.3
CLCH				*i* S	Sn	01 04 29.8	+1.4
CLCH				AMP		01 04 36.7	
	comp=E,275nm,0.8s						
PCH	**Pirque**	**1.64**	**223**	⇑*i*P	Pn	01 04 12.5	+0.9
PCH				*i* S	Sn	01 04 33.8	+1.9
ROCH	**El Roble**	**1.65**	**250**	⇑*i*P	Pn	01 04 12.2	+0.6
ROCH				*i* S	Sn	01 04 34.0	+2.0
TACH	**Talagante**	**1.93**	**230**	⇑*i*P	Pn	01 04 16.2	+0.6
TACH				*i* S	Sn	01 04 40.9	+1.8
CMCH	**Combarbala**	**2.00**	**308**	⇓*i*P	Pn	01 04 16.9	+0.3
CMCH				*i* S	Sn	01 04 42.8	+1.8
CMCH				AMP		01 04 44.7	
	comp=E,720nm,0.6s						
CHNG	**Los Chungos**	**2.05**	**285**	*i* P	Pn	01 04 17.7	+0.3
CHNG				*i* S	Sn	01 04 44.0	+1.7
CHNG				AMP		01 04 45.4	
	comp=N,86nm,0.3s						
LCCH	**Las Cruces**	**2.27**	**242**	⇑*i*P	Pn	01 04 20.9	+0.3
LCCH				*i* S	Sn	01 04 48.8	+0.8
TLL	**Tololo Astrono**	**2.65**	**328**	*i* P	Pn	01 04 27.0	+1.0
TLL				*i* S	Sn	01 04 59.7	+2.1
TLL				AMP		01 05 08.7	
	comp=N,366nm,0.5s						

*IDC **04** 01:13:39.2±1.3, 33.23N×142.72E, mb3.6/4, mb1 3.9/5, mb1mx3.6/19, mbtmp3.5/5, ML3.4/1, Error ellipse: s-maj=35.2km s-min=31.0km az=75.0*
*JMA **04** 01:13:39.3±0.5, 33.38N×142.32E, M3.7*
*MOS **04** 01:13:41.4±2.2, 33.54N×142.70E, h33km, mb4.7/1, Error ellipse: s-maj=29.0km s-min=14.7km az=118.4*
*NEIC **04** 01:13:42.1±0.8, 33.56N×142.88E, h35km, MG3.7(JMA), Error ellipse: s-maj=19.0km s-min=11.6km az=65.0*
ISC 04 01:13:40.6±1.4,**33.50N**±0.08×**142.7E**±0.1,**h41**km±16km, **n21,**σ1°**04**/29,**mb3.8**/5,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.84**	**309**	P	**P**	**01 14 10.5**	**+0.1**
BSO1				S	**S**	**01 14 33.9**	**+1.2**
BSO3	**Boso 3**	**2.24**	**306**	P	**P**	**01 14 16.2**	**+0.1**
BSO3				*e*S	**S**	**01 14 42.7**	**0.0**
JHJ2	**Mitsune**	**2.46**	**262**	P	**P**	**01 14 17.3**	**-1.9**
BSO4	**Boso 4**	**2.47**	**308**	P	**P**	**01 14 20.0**	**+0.7**
BSO4				*e*S	**S**	**01 14 49.9**	**+1.5**
JAG	**Ashikaga**	**3.96**	**318**	P	**P**	**01 14 40.4**	**-0.1**
JYN	**Shimob**	**3.98**	**301**	P	**P**	**01 14 41.5**	**+0.7**
JYN				*e*S	**S**	**01 15 26.1**	**-0.7**
JRY	**Ryogami san**	**4.02**	**310**	P	**P**	**01 14 41.9**	**+0.6**
JRY				*e*S	**S**	**01 15 27.0**	**-0.8**
JMM	**Marumori**	**4.63**	**341**	P	**P**	**01 14 49.2**	**-0.8**
MJAR	**Matsushiro Arr**	**4.78**	**311**	Pn	**P**	**01 14 53.5**	**+1.3**
	1.6nm,0.3s,baz=99,slow=16,SNR=6.2						
MJAR				Sn	**S**	**01 15 46.5**	**-0.5**
	3.8nm,0.3s,baz=188,slow=8.5,SNR=8.4						
MAJO	**Matsushiro**	**4.78**	**311**	*e*Pn	**P**	**01 14 51.7**	**-0.5**
MAT	**Matsushiro**	**4.78**	**311**	P	**P**	**01 14 52.8**	**+0.6**
MAT				S	**S**	**01 15 45.7**	**-1.4**
MAT	**Matsushiro**	**4.78**	**311**	*e*P	**P**	**01 14 53.0**	**+0.8**
MAT				*e*S	**S**	**01 15 46.0**	**-1.1**
YSS	**Yuzh-Sakhalins**	**13.44**	**0**	P	**P**	**01 16 49.0**	**-1.9**
	24nm,1.3s						
YSS	**Yuzh-Sakhalins**	**13.44**	**0**	P	**P**	**01 16 49.0**	**-1.9**
YSS				pmax	pmax		
	comp=Z,24nm,1.3s						
MKAR	**Makanchi Array**	**46.96**	**305**	P	**P**	**01 22 13.4**	**+4.3**
	comp=Z,0.3nm,0.7s,mb3.3,baz=84,slow=9.8,SNR=4.0						
ILAR	**Eielson Array**	**51.94**	**31**	P	**P**	**01 22 50.4**	**+3.2**
	comp=Z,0.6nm,0.6s,mb3.7,baz=248,slow=5.5,SNR=5.6						
WRA	**Warramunga Arr**	**53.74**	**190**	P	**P**	**01 23 00.9**	**-0.3**
	comp=Z,0.3nm,0.3s,mb3.7,baz=7.1,slow=7.7,SNR=4.8						
INK	**Inuvik**	**57.06**	**26**	P	**P**	**01 23 23.8**	**-0.8**
	comp=Z,5.8nm,1.3s,mb4.5						
INK	**Inuvik**	**57.06**	**26**	P	**P**	**01 23 23.8**	**-0.8**
INK				pmax	pmax		
	comp=Z,6.0nm,1.3s						
STKA	**Stephens Creek**	**65.04**	**181**	P	**P**	**01 24 19.4**	**+0.4**
TXAR	**Lajitas Array**	**91.41**	**53**	P	**P**	**01 26 48.9**	**+5.0**
	comp=Z,0.3nm,0.6s,mb3.8,baz=307,slow=3.0,SNR=6.9						

*NEIC **04** 01:27:27.2, 32.70S×71.75W, h18km, ML3.7(GUC), After GUC.*
NEIC Felt [II] at Papudo.
GUC 04 01:27:27.2±0.9,**32.70S**×**71.75W, h18**km±4km,**MD4.1, ML3.7, 4C-9D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.31**	**58**	*i* P	Pb	01 27 34.7	+0.7
IHA	**Instituto Hidr**	**0.33**	**164**	⇓*i*P	Pb	01 27 34.5	+0.2
IHA				*i* S	Sb	01 27 39.6	+0.4
ROCH	**El Roble**	**0.68**	**113**	⇑*i*P	Pb	01 27 40.0	-0.2
ROCH				*i* S	Sb	01 27 49.7	+0.6
LCCH	**Las Cruces**	**0.78**	**169**	⇓*i*P	Pb	01 27 41.2	-0.8
LCCH				*e*S	Sb	01 27 51.7	-0.4
CHNG	**Los Chungos**	**0.85**	**15**	⇓*i*P	Pb	01 27 42.2	-0.8
CHNG				*i* S	Sb	01 27 53.9	0.0
CHNG				AMP		01 27 57.4	
	comp=E,845nm,0.3s						
JACH	**Jahuel**	**0.98**	**89**	⇑*i*P	Pb	01 27 44.4	-0.8
JACH				*i* S	Sb	01 27 57.6	0.0
PEL	**Peldehue**	**1.00**	**116**	*e*P	Pb	01 27 45.2	-0.4
PEL				*i* S	Sb	01 27 58.1	-0.2
TACH	**Talagante**	**1.17**	**144**	*e*P	Pb	01 27 47.4	-1.1
TACH				*i* S	Sb	01 28 02.5	-0.7
ILCH	**Illapel**	**1.17**	**25**	⇑*i*P	Pb	01 27 47.8	-0.8
ILCH				*i* S	Sb	01 28 03.7	+0.3
ILCH				AMP		01 28 08.6	
	comp=E,2μm,0.2s						
SAN	**Santiago**	**1.18**	**130**	*e*P	Pb	01 27 48.2	-0.6
SAN				*i* S	Sb	01 28 03.6	0.0
SAN				AMP		01 28 07.4	
	comp=E,3μm,0.4s						
STL	**Santa Lucia**	**1.18**	**128**	*e*P	Pb	01 27 47.2	-1.6
STL				*i* S	Sb	01 28 03.1	-0.6
STL				AMP		01 28 07.0	
	comp=N,1μm,0.3s						
DSCH	**Colegio Aleman**	**1.21**	**125**	⇑*i*P	Pb	01 27 48.4	-0.8
DSCH				*i* S	Sb	01 28 04.4	-0.1
DSCH				AMP		01 28 10.2	
	comp=E,5μm,0.4s						
CLCH	**Cerro Calan**	**1.23**	**124**	⇓*i*P	Pb	01 27 48.7	-0.9
CLCH				*i* S	Sb	01 28 05.1	+0.1
CLCH				AMP		01 28 10.2	
	comp=E,4μm,0.6s						
CLCH				AMP		01 28 11.2	
	comp=E,3μm,0.7s						
ANTU	**Antumapu**	**1.27**	**133**	*e*P	Pn	01 27 49.6	-0.6
ANTU				*i* S	Sb	01 28 06.2	-0.1
ANTU				AMP		01 28 12.4	
	comp=E,3μm,0.2s						
LNV	**Longovilo**	**1.28**	**167**	⇓*i*P	Pn	01 27 48.4	-2.0
LNV				*i* S	Sb	01 28 05.4	-1.1
FSR	**Penalolen**	**1.28**	**127**	*e*P	Pn	01 27 50.2	-0.3
FSR				*i* S	Sb	01 28 07.1	+0.5
FSR				AMP		01 28 12.0	
	comp=N,3μm,0.3s						
PCH	**Pirque**	**1.38**	**132**	⇓*i*P	Pn	01 27 51.2	-0.6
PCH				*i* S	Sb	01 28 09.7	+0.3
SJCH	**San Jose de Ma**	**1.50**	**129**	⇓*i*P	Pn	01 27 53.0	-0.4
SJCH				*i* S	Sn	01 28 12.4	-0.3
SJCH				AMP		01 28 16.8	
	comp=E,1μm,0.6s						
CHCH	**Chadas Angostu**	**1.53**	**143**	⇓*i*P	Pn	01 27 53.5	-0.4
CHCH				*e*S	Sn	01 28 13.7	+0.2
CMCH	**Combarbala**	**1.65**	**23**	*i* P	Pn	01 27 54.4	-1.3
CMCH				*e*S	Sn	01 28 17.4	+0.8
CMCH				AMP		01 28 20.9	
	comp=E,11μm,0.4s						
CACH	**El Canelo**	**1.71**	**146**	⇓*i*P	Pn	01 27 56.8	+0.4
CACH				*i* S	Sn	01 28 20.4	+2.4
TLL	**Tololo Astrono**	**2.66**	**18**	*e*P	Pn	01 28 12.1	+2.1
TLL				*e*S	Sn	01 28 46.0	+4.0
TLL				AMP

PRS1	Puriscal	1.67 138⇑	eP	Pn	02 14 39.6	+0.8
PRS1			eS	Sn	02 15 03.8	+3.0
MIRN	Miramar	1.73 314	eP	Pn	02 14 38.2	-1.4
CNGN	Cerro Negro	1.76 315⇓	eP	Pn	02 14 40.6	+0.5
TRTC	Tortuguero	1.82 111	eP	Pn	02 14 40.4	-0.5
TRTC			eS	Sn	02 15 05.3	+0.8
LCR2	La Lucha 2	2.05 136	eP	Pn	02 14 44.2	-0.1
BUS	Buena Vista	2.35 135	eP	Pn	02 14 49.7	+1.1
BUS			eS	Sn	02 15 20.8	+2.7

MAN 04 02:18:40.4, 16.41N×122.06E, h19km, mb3.9, ML2.7, MS2.3, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAUP	Cauayan	0.58	337	eP	Pb	02 18 51.7	-0.1
CAUP				eS	Sb	02 19 01.6	+2.2
BALP	Baler	0.81	215	eP	Pb	02 18 55.2	-0.4
BALP				eS	Sb	02 19 09.1	+3.1
CVP	Callao Caves	1.31	350	eP	Pn	02 19 02.1	-1.8
CVP				eS	Sb	02 19 24.1	+3.5
APYP	Conner	1.64	332	eP	Pn	02 19 08.3	-0.4
APYP				eS	Sn	02 19 32.7	+3.3
ABRA	Dolores	1.78	314	eP	Pn	02 19 11.4	+0.7
ABRA				eS	Sn	02 19 33.2	+0.2

*IDC **04** 02:21:47.3±1.2, 33.25N×142.57E, mb3.6/5, mb1 3.9/7, mb1mx3.7/19, mbtmp3.6/7, ML3.6/2, MS3.2/1, Ms1 3.2/1, ms1mx2.3/25, Error ellipse: s-maj=28.2km s-min=25.8km az=7.0*
*JMA **04** 02:21:49.0±0.6, 33.36N×142.54E, h82km, M3.5*
*NEIC **04** 02:21:54.2±2.9, 33.34N×142.31E, h54km±25km, MG3.5(JMA), Error ellipse: s-maj=29.2km s-min=24.1km az=92.0*
ISC 04 02:21:50.0±1.3, 33.36N±0.06×142.46E±0.08, h35km±13km, n21, σ1§30/31, mb3.8/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	1.78	317	P	P	02 22 19.0	+0.1
BSO1				S	S	02 22 42.0	+1.4
BSO2	Boso 2	1.98	315	S	S	02 22 48.4	+2.8
BSO3	Boso 3	2.16	312	P	P	02 22 24.7	+0.3
JHJ2	Mitsune	2.23	264	P	P	02 22 26.1	+0.8
JHJ2				S	S	02 22 52.4	+0.6
JHJ	Hachijo jima 2	2.25	265	Pn	P	02 22 25.6	0.0
	54nm,0.3s,baz=72,slow=23,SNR=16						
JHJ				Sn	S	02 22 50.4	-2.2
	43nm,0.3s,baz=71,slow=23,SNR=8.9						
JHJ				LR	LR	02 22 53.7	
	comp=Z,435nm,18.9s,baz=134,slow=29						
BSO4	Boso 4	2.39	313	P	P	02 22 28.6	+0.9
BSO4				S	S	02 22 58.5	+2.4
JOD2	Odawara 2	3.37	305	eS	S	02 23 20.8	-0.2
JAG	Ashikaga	3.93	322	P	P	02 22 48.8	-0.7
JRY	Ryogami san	3.95	313	P	P	02 22 50.2	+0.4
JRY				S	S	02 23 35.2	-0.4
JMM	Marumori	4.70	344	P	P	02 22 57.5	-2.9
MJAR	Matsushiro Arr	4.71	313	Pn	P	02 23 01.5	+0.8
	1.7nm,0.3s,baz=159,slow=10,SNR=8.8						
MJAR				Sn	S	02 23 54.2	-0.7
	4.0nm,0.3s,baz=121,slow=28,SNR=9.8						
MAJO	Matsushiro	4.72	313	ePn	P	02 22 56.7	-4.0
MAJO				eSn	S	02 23 53.5	-1.5
MAT	Matsushiro	4.72	313	P	P	02 23 00.8	+0.1
MAT				S	S	02 23 53.7	-1.3
MAT	Matsushiro	4.72	313	eP	P	02 23 02.0	+1.3
MAT				eS	S	02 23 54.0	-1.0
JMK	Ichinoseki	5.67	350	P	P	02 23 10.9	-3.2
JMK				S	S	02 24 11.1	-7.8
SONM	Songino Array	30.65	309	P	P	02 28 03.8	+0.5
	0.3nm,0.8s,mb3.2,baz=100,slow=8.8,SNR=2.7						
MKAR	Makanchi Array	46.86	305	P	P	02 30 22.1	+3.6
	0.7nm,0.8s,mb3.7,baz=98,slow=8.6,SNR=3.5						
KURK	Kurchatov	48.92	311	P	P	02 30 32.9	-1.5
	2.0nm,0.7s,mb4.3						
ILAR	Eielson Array	52.17	31	P	P	02 30 59.0	+0.1
	0.9nm,0.6s,mb3.9,baz=257,slow=6.4,SNR=7.5						
WRA	Warramunga Arr	53.57	190	P	P	02 31 09.3	-0.7
	0.5nm,0.6s,mb3.6,baz=7.2,slow=7.6,SNR=7.0						
TXAR	Lajitas Array	91.67	53	P	P	02 34 57.1	+1.9
	0.4nm,0.7s,mb3.9,baz=295,slow=3.0,SNR=5.2						

*LDG **04** 02:24:20.0±0.1, 43.04N×0.12W, h2km, Md2.5/3, Ml2.5/12, Error ellipse: s-maj=1.9km s-min=1.1km az=154.0*
*STR **04** 02:24:20.1±0.1, 43.01N×0.10W, h5km±1km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **04** 02:24:20.1, 43.01N×0.10W, h5km, ML2.5(STR), ML2.5(LDG), MN2.0(MDD), After STR.*
*CSEM **04** 02:24:20.3±0.1, 43.04N×0.10W, h5km, ML2.7/16, Error ellipse: s-maj=0.9km s-min=0.8km az=3.0*
*MRB **04** 02:24:22.4, 42.96N×0.04W, h6km±9km, ML1.8/6*
MDD 04 02:24:20.4±0.2, 43.03N×0.11W, h8km±4km, mbLg1.9/14, 2D, Error ellipse: s-maj=2.3km s-min=1.2km az=11.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	Labassere	0.14	82	Pg	Pg	02 24 23.2	-0.2
LABF				Sg	Sg	02 24 25.6	+0.2
LABF	Labassere	0.14	82	Pg	Pg	02 24 23.3	-0.2
LABF				Lg		02 24 25.4	
VIEF	Viey	0.17	146	Pg	Pg	02 24 23.9	-0.3
VIEF				Sg	Sg	02 24 26.3	-0.4
VIEF	Viey	0.17	146	Pg	Pg	02 24 23.9	-0.3
VIEF				Lg		02 24 26.4	
REYF	Montagne du Re	0.21	281	Pg	Pg	02 24 24.3	-0.5
REYF				Sg	Sg	02 24 27.6	-0.2
REYF	Montagne du Re	0.21	281	Pg	Pg	02 24 24.3	-0.5
REYF				Lg		02 24 27.6	
EPF	Esparros	0.33	90	ePg	Pg	02 24 26.2	-0.9
EPF				eSg	Sg	02 24 31.1	-0.5
	91nm,0.2s						
ETSF	Etsaut	0.36	249	ePg	Pg	02 24 26.7	-0.9
ETSF				eSg	Sg	02 24 31.3	-1.2
	98nm,0.2s						
EBIE	Bielsa	0.39	152	⇓Pg	Pg	02 24 27.7	-0.6
	0.8nm,0.0s,SNR=18						
EBIE				Lg		02 24 32.9	
	32nm,0.1s,SNR=5.0						
EBIE	Bielsa	0.39	152	Pg	Pg	02 24 27.7	-0.6
	0.8nm,0.0s,SNR=18						
EBIE				Lg		02 24 32.9	
	32nm,0.1s,SNR=5.0						
EBIE	Bielsa	0.39	152	⇓Pg	Pg	02 24 27.7	-0.6
EBIE				Lg		02 24 32.9	
RESF	Ens	0.40	124	Pg	Pg	02 24 27.9	-0.5
RESF				Sg	Sg	02 24 33.4	-0.4
RESF	Ens	0.40	124	Pg	Pg	02 24 27.8	-0.6
RESF				Lg		02 24 33.4	
FDAF	Les Forges d'A	0.40	238	Pg	Pg	02 24 27.8	-0.6
FDAF				Sg	Sg	02 24 33.3	-0.5
FDAF	Les Forges d'A	0.40	238	Pg	Pg	02 24 27.7	-0.7
FDAF				Lg		02 24 33.2	
ATE	Arette	0.44	278	Pg	Pg	02 24 28.3	-0.9
ATE				Lg		02 24 34.7	
ORDF	Ordiarp	0.63	287	Pg	Pg	02 24 32.8	-0.3
ORDF				Sg	Sg	02 24 41.4	-0.2
ORDF	Ordiarp	0.63	287	Pg	Pg	02 24 32.8	-0.3
ORDF				Lg		02 24 41.5	
LARF	Larrau	0.65	271	Pg	Pg	02 24 32.9	-0.4
LARF				Sg	Sg	02 24 41.7	-0.3
LARF	Larrau	0.65	271	Pg	Pg	02 24 32.5	-0.8
LARF				Lg		02 24 41.1	
MELF	Melles	0.66	104	Pg	Pg	02 24 32.1	-1.5
MELF				Lg		02 24 41.2	
SJPF	Ste Jean	0.82	276	ePg	Pg	02 24 35.4	-1.5
SJPF				eSg	Sg	02 24 45.8	-2.1
	13nm,0.3s						
EGRA	Graus	0.89	159	Pg	Pg	02 24 37.6	-0.6
	1.1nm,0.2s,SNR=11						
EGRA				Lg		02 24 48.9	
	2.4nm,0.1s,SNR=12						
EGRA	Graus	0.89	159	Pg	Pg	02 24 38.0	-0.2
	1.1nm,0.2s,SNR=11						
EGRA	Graus	0.89	159	Pg	Pg	02 24 38.0	-0.3
EGRA				Lg		02 24 47.8	
SALF	Salau	0.99	105	Pg	Pg	02 24 39.1	-1.1
SALF				Sg	Sg	02 24 51.7	-1.8
SALF	Salau	0.99	105	Pg	Pg	02 24 38.7	-1.5
SALF				Lg		02 24 51.8	
EALK	Alkurruntz	1.04	281	Pg	Pg	02 24 39.2	-2.0
	0.3nm,0.1s,SNR=16						
EALK				Lg		02 24 54.5	
	7.2nm,0.2s,SNR=5.0						
EALK	Alkurruntz	1.04	281	Pg	Pg	02 24 40.4	-0.8
	0.3nm,0.1s,SNR=16						
EALK	Alkurruntz	1.04	281	Pg	Pg	02 24 40.4	-0.8
EALK				Lg		02 24 55.1	
EARA	Aranguren	1.11	257	Lg		02 24 56.6	
	3.0nm,0.1s,SNR=7.9						
CSOR	Sort	1.12	125	Pg	Pg	02 24 41.5	-1.4
CSOR				Sg	Sg	02 24 56.3	-1.6
	11nm,0.1s						
CAVN	Les Avellanes	1.31	151	Pg	Pg	02 24 45.1	-1.5
ESAC	San Capraisio	1.33	192	Pg	Pg	02 24 45.9	-1.1
	26nm,0.2s,SNR=16						
ESAC				Lg		02 25 04.3	
	75nm,0.2s,SNR=19						
ESAC	San Capraisio	1.33	192	Pg	Pg	02 24 46.0	-1.1
	26nm,0.2s,SNR=16						
ESAC	San Capraisio	1.33	192	Pg	Pg	02 24 46.0	-1.0
ESAC				Lg		02 25 04.7	
CLLI	Llivia	1.63	109	Pg	Pg	02 24 50.9	-2.0
CLLI				Sg	Sg	02 25 12.7	-2.0
	4.1nm,0.2s						
EMIR	Miracle	1.64	132	Pg	Pg	02 24 51.7	-1.5
	0.6nm,0.1s,SNR=9.7						
EMIR				Lg		02 25 13.6	
	6.3nm,0.1s,SNR=8.0						
EMIR	Miracle	1.64	132	Pg	Pg	02 24 51.7	-1.5
	0.6nm,0.1s,SNR=9.7						
MTLF	Montolieu	1.73	79	ePg	Pg	02 24 52.3	-2.6
MTLF				eSg	Sg	02 25 14.7	-3.3
	5.8nm,0.2s						
ECRI	Cripan	1.82	257	Pg	Pg	02 24 54.4	-2.3
	1.2nm,0.2s,SNR=7.9						
ECRI				Lg		02 25 19.2	
	2.4nm,0.2s,SNR=7.9						
ECRI	Cripan	1.82	257	Pg	Pg	02 24 54.7	-2.0
	1.2nm,0.2s,SNR=7.9						
ECRI	Cripan	1.82	257	Pg	Pg	02 24 54.7	-1.9
ECRI				Lg		02 25 18.3	
CBRU	Bruguera	1.84	113	Pg	Pg	02 24 55.8	-1.4
CBRU				Sg	Sg	02 25 20.1	-1.7
	3.8nm,0.1s						
EPOB	Poblet	1.89	152	Pg	Pg	02 24 54.8	-3.4
	0.4nm,0.1s,SNR=8.9						
EPOB				Lg		02 25 20.2	
	5.6nm,0.2s,SNR=8.2						
EPOB	Poblet	1.89	152	Pg	Pg	02 24 55.2	-3.0
	0.4nm,0.1s,SNR=8.9						
EPOB	Poblet	1.89	152	Pg	Pg	02 24 55.2	-3.0
EPOB				Lg		02 25 20.2	
LFF	La Frestale	2.00	17	ePg	Pg	02 24 57.6	-2.8
LFF				eSg	Sg	02 25 23.5	-3.7
	13nm,0.4s						
CFON	Fontmartina	2.27	123	Pn	Pn	02 24 59.8	+1.0
CFON				Sg	Sg	02 25 30.9	-5.1
	18nm,0.2s						
CAF	Calviac	2.46	39	ePn	Pn	02 24 59.4	-2.1
CAF				ePg	Pg	02 25 05.7	-3.8
CAF				eSg	Sg	02 25 37.0	-5.3
	3.9nm,0.2s						
RJF	Les Rejaudoux	2.56	27	ePn	Pn	02 25 00.7	-2.2
RJF				ePg	Pg	02 25 07.3	-4.1
RJF				eSg	Sg	02 25 38.0	-7.5
	3.6nm,0.2s						
EMOS	Mosqueruela	2.68	186	Pg	Pg	02 25 09.4	-4.4
	0.3nm,0.1s,SNR=4.0						
EMOS				Lg		02 25 46.1	
	0.5nm,0.1s,SNR=7.9						
EMOS	Mosqueruela	2.68	186	Pg	Pg	02 25 09.8	-4.1
	0.3nm,0.1s,SNR=4.0						
EMOS	Mosqueruela	2.68	186	Pg	Pg	02 25 09.8	-4.0
EMOS				Lg		02 25 45.2	
LASF	Ste Croix	3.07	69	ePn	Pn	02 25 08.0	-2.1
LASF				eSg	Sg	02 25 56.6	-5.9
	2.1nm,0.3s						
MFF	Saint Martin d	3.57	360	ePn	Pn	02 25 13.5	-3.8
MFF				ePg	Pg	02 25 25.8	-5.9
MFF				eSg	Sg	02 26 11.6	-7.7
	2.7nm,0.2s						
TCF	Toulx Ste Croi	3.65	26	ePg	Pg	02 25 27.2	-6.1
TCF				eSg	Sg	02 26 14.0	-8.0
	2.1nm,0.2s						
VIVF	Saint-Julien-l	3.91	60	eSg	Sg	02 26 21.2	-9.2
	3.7nm,0.4s						
AVF	Avril sur Loir	4.49	32	ePg	Pg	02 25 43.1	-7.0
AVF				eSg	Sg	02 26 40.8	-9.2
	2.0nm,0.4s						
SSF	Saint Saulge	4.78	31	ePn	Pn	02 25 29.9	-4.5
SSF				ePg	Pg	02 25 48.3	-7.4
SSF				eSg	Sg	02 26 48.2	-11
	1.4nm,0.3s						
LOR	Lormes	5.08	32	eSg	Sg	02 26 58.9	-11
	1.5nm,0.3s						

IDC 04 02:25:14.1±1.6, 5.13N×94.15E, mb3.7/5, mb1 3.9/5, mb1mx3.6/19, mbtmp3.7/5, Error ellipse: s-maj=63.0km s-min=27.2km az=51.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	42.75	348	P	P	02 33 14.0	-0.8
	0.9nm,0.7s,baz=165,slow=8.6,SNR=6.7						
SONM	Songino Array	43.82	12	P	P	02 33 21.6	-1.9
	0.3nm,0.4s,baz=207,slow=6.4,SNR=3.1						
WRA	Warramunga Arr	46.71	123	P	P	02 33 45.4	-1.6
	0.6nm,0.4s,baz=301,slow=9.5,SNR=8.9						
BRTR	Keskin Array B	64.23	312	P	P	02 35 51.6	-1.8
	0.6nm,0.7s,baz=110,slow=8.9,SNR=3.9						
ARCES	ARCESS Array B	77.83	340	P	P	02 37 12.4	-2.3
	1.8nm,1.0s,baz=98,slow=6.4,SNR=3.6						

NEIC 04 02:26:36.4, 35.96S×177.79E, h236km, MG4.4(WEL), After WEL., Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.65	166	P	P	02 27 14.6	-0.4
MXZ				S	S	02 27 44.0	-0.8
PUZ	Puketiti	2.14	170	P	P	02 27 19.2	-0.2
PUZ				S	S	02 27 51.7	-1.0
URZ	Urewera	2.36	193	P	P	02 27 21.6	0.0
MWZ	Matawai	2.38	185	P	P	02 27 21.9	+0.1
KNZ	Kokohu	3.06	182	eP	P	02 27 28.5	-0.6
BKZ	Black Stump Fm	3.36	197	P	P	02 27 32.0	-0.6
WNVZ	Wahianoa	3.79	207	P	P	02 27 37.3	-0.3
PWZ	Pawanui	4.13	190	P	P	02 27 40.3	-1.4
TSZ	Takapari Road	4.34	199	eP	P	02 27 42.5	-1.7
MRZ	Mangatainoka R	5.01	200	eP	P	02 27 50.1	-2.3
KIW	Kapiti Island	5.39	204	P	P	02 27 54.8	-2.4

*IDC **04** 02:28:18.9±0.8, 18.77S×173.51W, mb4.2/9, mb1 4.3/11, mb1mx4.2/19, mbtmp4.2/11, ML4.4/1, MS3.5/2, Ms1 3.5/2, ms1mx2.8/25, Error ellipse: s-maj=33.4km s-min=17.4km az=125.0*
*NEIC **04** 02:28:24.1±0.6, 18.79S×173.65W, h35km, mb4.8/4, Error ellipse: s-maj=21.7km s-min=13.0km az=137.0*
ISC 04 02:28:21.7±0.6, 18.6S±0.1×173.7W±0.1, h33km, n28, σ1§26/22, mb4.3/13, MS3.4/2, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	5.03	22	Pn	Pn	02 29 35.1	-2.0
	6.3nm,0.3s,baz=9.3,slow=5.6,SNR=5.0						
AFI				Sn	Sn	02 30 27.7	-7.1
	26nm,0.3s,baz=16,slow=22,SNR=6.6						
AFI	Afiamalu	5.03	22	ePn	Pn	02 29 34.0	-3.0
AFI				Sn	Sn	02 30 27.7	-7.1
RAR	Rarotonga	13.35	103	eP	P	02 31 13.2	-18
DZM	Mont Dzumac	18.93	256	P	P	02 32 44.7	+2.1
	1.2nm,0.3s,baz=81,slow=20,SNR=8.4						
URZ	Urewera	21.15	200	P	P	02 33 03.7	-2.5
	9.4nm,0.5s,mb4.4,baz=346,slow=9.4,SNR=7.0						
PPT	Papeete	22.95	91	eLR	LR	02 38 14.8	
	118nm,26.2s						
PPT	Papeete	22.95	91	LR	LR	02 40 31.0	
	comp=Z,97nm,18.2s,MS3.3,baz=146,slow=32						
TBI	Tubuai	23.11	106	eLR	LR	02 38 09.4	
	258nm,34.2s						
RPZ	Rata Peaks	28.12	204	P	P	02 34 13.6	+0.8
	13nm,0.6s,mb4.7,baz=344,slow=6.2,SNR=18						
CTAO	Charters Tower	37.75	261	eP	P	02 35 37.0	+0.4
	10nm,0.6s,mb4.7						
STKA	Stephens Creek	42.25	243	P	P	02 36 13.1	-0.7
	1.9nm,0.6s,mb3.9,baz=117,slow=7.9,SNR=6.1						
STKA	Stephens Creek	42.25	243	eP	P	02 36 12.3	-1.4
WB2	Warramunga Arr	48.89	259	eP	P	02 37 05.5	-1.2
WRAB	Tennant Creek	48.89	259	eP	P	02 37 06.2	-0.5
	4.2nm,0.6s,mb4.7						
WRA	Warramunga Arr	48.90	259	P	P	02 37 06.3	-0.4
	2.5nm,0.5s,mb4.5,baz=97,slow=8.7,SNR=54						
GUMO	Guam	51.88	305	eP	P	02 37 29.6	0.0
	217nm,1.3s						
MBWA	Marble Bar	62.23	255	eP	P	02 38 42.1	-0.7
	22nm,1.3s,mb5.1						
MJAR	Matsushiro Arr	71.22	321	P	P	02 39 42.7	+3.1
	0.8nm,0.3s,mb4.1,baz=166,slow=7.6,SNR=4.7						
CMB	Columbia Colle	75.36	41	P	P	02 40 04.4	+0.5
	1.4nm,0.8s,mb3.9						
TXAR	Lajitas Array	82.64	56	P	P	02 40 43.6	0.0
	1.0nm,1.0s,mb3.8,baz=207,slow=8.4,SNR=6.4						
TXAR				LR	LR	03 12 09.6	
	comp=Z,27nm,20.9s,MS3.6,baz=175,slow=32						
MAW	Mawson	84.67	199	P	P	02 40 53.6	+0.6
	0.5nm,0.5s,mb3.9,baz=162,slow=20,SNR=4.5						
PDAR	Pinedale Array	84.84	42	P	P	02 40 55.3	+0.9
	0.5nm,0.8s,mb3.7,baz=225,slow=2.1,SNR=3.5						
ILAR	Eielson Array	85.64	11	P	P	02 40 59.8	+2.0
	0.8nm,0.7s,mb4.1,baz=218,slow=5.8,SNR=5.9						
BVAR	Borovoye Array	120.21	321	PKP	PKPdf	02 47 12.4	+2.9
	0.5nm,0.5s,slow=1.4,SNR=4.5						
ARCES	ARCESS Array B	127.74	352	PKP	PKPdf	02 47 26.5	+3.0
	2.9nm,0.9s,slow=2.4,SNR=5.2						
CLL	Collm	146.95	352	ePKP1	PKPbc	02 48 04.0	+3.6
CLL				e		02 48 17.0	
BRTR	Keskin Array B	148.39	317	PKPbc	PKPdf	02 48 08.7	+7.2
	1.2nm,0.8s,baz=117,slow=2.8,SNR=5.9						
GERES	GERESS Array B	149.26	350	PKPbc	PKPdf	02 48 09.3	+6.7
	0.2nm,0.4s,baz=326,slow=4.8,SNR=4.4						

*PRU **04** 03:06:29.5, 50.29N×18.75E*
WAR 04 03:06:29.2, 50.27N×18.83E, h0km, ML2.4, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	0.62	225	ePG	Pg	03 06 41.1	-0.5
OKC				eSG	Sg	03 06 50.0	+0.2
OJC	Ojcow	0.62	95	ePG	Pg	03 06 41.0	-0.7
OJC				eSG	Sg	03 06 50.0	0.0
NIE	Niedzica	1.29	131	ePG	Pg	03 06 54.0	-0.9
NIE				eSG	Sg	03 07 12.0	0.0
DPC	Dobruska-Polom	1.61	274	ePG	Pg	03 06 58.3	-3.0
DPC				eSG	Sg	03 07 19.0	-3.8
	4.7nm,0.2s						
KSP	Ksiaz	1.71	290	ePG	Pg	03 07 01.0	-2.4
KSP				eSG	Sg	03 07 23.0	-3.3
VYHS	Vyhne	1.78	180	ePN	Pn	03 07 00.1	-1.3
VYHS				eSN	Sn	03 07 22.8	-2.2
STHS	Stebnicka Huta	1.78	118	ePN	Pn	03 07 02.3	+0.9
STHS				eSN	Sn	03 07 26.3	+1.2
UPC	Upice	1.82	278	eSG	Sg	03 07 26.3	-3.4
KECS	Kecovo	2.09	148	ePN	Pn	03 07 08.1	+2.2
KECS				eSN	Sn	03 07 32.9	-0.1
CRVS	Cervenica-Dubn	2.19	128	ePN	Pn	03 07 10.4	+3.1
KHC	Kasperske Hory	3.59	253	ePG	Pg	03 07 33.5	-7.5
KHC				eSG	Sg	03 08 24.0	-4.9

*IDC **04** 03:08:57.2±0.8, 12.87N×91.78E, mb4.1/11, mb1 4.2/11, mb1mx4.0/22, mbtmp4.1/11, Error ellipse: s-maj=35.5km s-min=17.1km az=54.0*
*NEIC **04** 03:09:01.5±0.3, 12.86N×91.80E, h30km, mb4.5/6, Error ellipse: s-maj=10.4km s-min=8.0km az=46.0*
ISC 04 03:08:59.8±0.5, 12.86N±0.06×91.77E±0.09, h33km, n31, σ0§87/31, mb4.2/15, 1C, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIS	Vishakhapatnam	9.46	302	i P	P	03 11 21.0	+4.2
VIS				i S	S	03 12 49.4	-14
PALK	Pallekele	12.23	244	ePn	P	03 11 53.3	-1.2
PALK				eSn	S	03 13 58.4	-12
JIRN	Jiri	15.62	341	eP	P	03 12 38.3	-0.9
	29nm,0.6s						
PKI	Pulchoki	15.80	339	eP	P	03 12 41.0	-0.4
	29nm,0.4s						
DMN	Daman	15.94	338	eP	P	03 12 43.8	+0.5
	19nm,0.3s						
GUN	Gumba	15.95	341	eP	P	03 12 42.0	-1.4
KKN	Kakani	16.04	339	eP	P	03 12 44.8	+0.2
	15nm,0.4s						
GKN	Gorkha	16.47	337	eP	P	03 12 49.5	-0.5
	40nm,0.4s						
KOLN	Koldanda	16.68	334	eP	P	03 12 53.4	+0.8
	44nm,0.6s						
LSA	Lhasa	16.76	358	eP	P	03 12 59.0	+5.3
	31nm,1.1s						
KSM	Kuching	21.57	120	eP	P	03 13 47.8	-0.9
MKAR	Makanchi Array	34.75	349	P	P	03 15 49.1	+0.1
	1.7nm,0.8s,mb4.0,baz=169,slow=9.5,SNR=10						
SONM	Songino Array	36.94	16	P	P	03 16 08.5	+1.0
	0.4nm,0.5s,mb3.5,baz=196,slow=10,SNR=4.4						
SONM				PcP	PcP	03 18 29.3	+0.5
	0.3nm,0.4s,baz=214,slow=5.2,SNR=2.8						
KURK	Kurchatov	39.24	347	eP	P	03 16 24.0	-2.7
	7.1nm,1.0s,mb4.3						
ZAL	Zalesovo	41.34	354	P	P	03 16 44.1	+0.1
	1.4nm,0.3s,mb4.1,baz=204,slow=3.4,SNR=3.3						
BVAR	Borovoye Array	43.54	341	P	P	03 17 02.7	+0.6
	0.3nm,0.5s,mb3.3,baz=148,slow=8.3,SNR=3.5						
FITZ	Fitzroy Crossi	45.43	132	P	P	03 17 17.4	-0.2
	8.8nm,0.8s,mb4.6,baz=1.4,slow=4.4,SNR=12						
WRA	Warramunga Arr	53.08	127	P	P	03 18 16.4	-0.1
	2.0nm,0.4s,mb4.4,baz=300,slow=10.0,SNR=92						
WRAB	Tennant Creek	53.09	127	eP	P	03 18 16.5	-0.1
	5.9nm,0.6s,mb4.7						
WB2	Warramunga Arr	53.09	127	⇑iP	P	03 18 16.4	-0.2
BRTR	Keskin Array B	57.46	309	P	P	03 18 47.9	-0.1
	1.6nm,0.8s,mb4.1,baz=123,slow=7.7,SNR=7.8						
FINES	FINESS Array B	67.24

Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**21.07**	**245**	P	P	03 28 52.6	-0.4
	3.2nm,0.5s,baz=79,slow=14,SNR=3.6						
STKA	**Stephens Creek**	**30.25**	**226**	P	P	03 30 15.5	-2.0
	0.5nm,0.3s,baz=61,slow=10,SNR=3.3						
WRA	**Warramunga Arr**	**31.92**	**252**	P	P	03 30 30.2	-2.1
	0.4nm,0.5s,baz=83,slow=8.6,SNR=12						
ILAR	**Eielson Array**	**84.30**	**18**	P	P	03 36 31.9	-1.2
	1.1nm,0.6s,baz=238,slow=5.3,SNR=10						

*IDC **04** 03:37:45.9±0.7,55.16S×128.81W,mb4.1/9,mb1 4.3/9, mb1mx4.2/15,mbtmp4.1/9,MS3.8/10,Ms1 3.8/10, ms1mx3.7/16,Error ellipse: s-maj=28.1km s-min=19.0km az=148.0*

*NEIC **04** 03:37:46.9±0.5,55.11S×128.84W,h10km,mb4.7/9,Error ellipse: s-maj=15.9km s-min=12.0km az=121.0*

ISC 04 03:37:45.9±0.8,55.2S±0.1×128.7W±0.2,h10km, (h10km±.2km):pP-P),n41,σ1§11/31,mb4.3/14,MS3.8/10,3C, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**32.30**	**134**	*e*P	**P**	**03 44 16.9**	**+0.3**
	6.4nm,1.2s,mb4.3						
VNDA	**Vanda**	**32.54**	**202**	P	**P**	**03 44 19.4**	**+0.8**
	0.9nm,0.9s,mb3.7,baz=114,slow=10,SNR=3.9						
VNDA	**Vanda**	**32.54**	**202**	P	**P**	**03 44 18.5**	**-0.1**
	2.2nm,1.1s,mb4.0						
QSPA	**South Pole Qui**	**35.02**	**180**	*e*P	**P**	**03 44 40.4**	**+0.4**
	17nm,1.1s,mb4.9						
PLCA	**Paso Flores**	**40.30**	**94**	LR	LR	03 58 57.0	
	comp=Z,137nm,19.9s,MS3.8,baz=52,slow=32						
PPT	**Papeete**	**40.79**	**329**	LR	LR	03 58 02.4	
	comp=Z,240nm,18.8s,MS4.1,baz=142,slow=30						
VNA3	**Neumayer Olymp**	**46.78**	**157**	*e*	**P**	**03 46 19.3**	**+2.8**
VNA3	**Neumayer Olymp**	**46.78**	**157**	*e*	**P**	**03 46 26.2**	**+10**
VNA3	**Neumayer Olymp**	**46.78**	**157**	⇑*i*P	**P**	**03 46 16.2**	**-0.3**
VNA3				*e*	pP	03 46 19.3	-0.3
VNA3				*e*		03 46 26.2	
VNA3				*e*		03 46 49.4	
TRQA	**Tornquist**	**47.00**	**98**	*e*P	**P**	**03 46 17.8**	**-0.9**
	15nm,1.2s,mb4.8						
VNA2	**Neumayer--Watz**	**47.52**	**158**	*e*	**P**	**03 46 25.2**	**+2.8**
VNA2	**Neumayer--Watz**	**47.52**	**158**	*e*	**P**	**03 46 32.3**	**+10**
VNA2	**Neumayer--Watz**	**47.52**	**158**	⇑*i*P	**P**	**03 46 22.2**	**-0.2**
VNA2				*e*	pP	03 46 25.2	-0.2
VNA2				*e*		03 46 32.3	
VNA2				*e*		03 46 53.0	
VNA1	**Neumayer--Stat**	**47.53**	**157**	*e*	**P**	**03 46 25.8**	**+3.3**
VNA1	**Neumayer--Stat**	**47.53**	**157**	*e*	**P**	**03 46 32.9**	**+10**
VNA1	**Neumayer--Stat**	**47.53**	**157**	P	**P**	**03 46 22.9**	**+0.4**
VNA1				*e*	pP	03 46 25.8	+0.3
VNA1				*e*		03 46 32.9	
VNA1				*e*		03 46 53.4	
SNAA	**Sanae**	**47.89**	**160**	*e*	**P**	**03 46 27.3**	**+1.9**
SNAA	**Sanae**	**47.89**	**160**	*e*	**P**	**03 46 33.9**	**+8.5**
SNAA	**Sanae**	**47.89**	**160**	P	**P**	**03 46 24.9**	**-0.5**
	1.1nm,0.8s,mb4.0,baz=265,slow=5.5,SNR=12						
SNAA	**Sanae**	**47.89**	**160**	⇑*i*P	**P**	**03 46 24.5**	**-0.9**
	0.2nm,0.8s,mb3.2						
SNAA				*e*	pP	03 46 27.3	-1.1
SNAA				*e*		03 46 33.9	
SNAA				*e*		03 46 57.2	
CFAA	**Coronel Fontan**	**48.03**	**86**	P	**P**	**03 46 26.7**	**-0.3**
	0.7nm,0.9s,mb3.7,baz=236,slow=8.3,SNR=11						
CFAA				LR	LR	04 01 39.1	
	comp=Z,14nm,21.2s,MS2.9,baz=40,slow=30						
LVC	**Limon Verde**	**54.54**	**79**	LR	LR	04 05 25.2	
	comp=Z,48nm,18.9s,MS3.6,baz=117,slow=30						
MAW	**Mawson**	**57.26**	**185**	P	**P**	**03 47 33.5**	**-1.8**
	1.0nm,0.4s,mb4.2,baz=146,slow=11,SNR=4.3						
MAW				LR	LR	04 09 34.6	
	comp=Z,84nm,18.0s,MS3.9,baz=178,slow=33						
MAW	**Mawson**	**57.26**	**185**	P	**P**	**03 47 32.5**	**-2.7**
	5.0nm,1.0s,mb4.5						
MAW				LR	LR	04 09 34.6	
CPUP	**Villa Florida**	**58.26**	**91**	P	**P**	**03 47 42.3**	**-0.5**
	1.7nm,0.6s,mb4.2,baz=248,slow=12,SNR=5.9						
CPUP				LR	LR	04 09 45.9	
	comp=Z,166nm,18.0s,MS4.2,baz=243,slow=33						
CPUP	**Villa Florida**	**58.26**	**91**	*e*P	**P**	**03 47 41.7**	**-1.1**
	2.1nm,0.7s,mb4.3						
CPUP				LR	LR	04 09 45.9	
NNA	**Nana**	**58.93**	**64**	*e*P	**P**	**03 47 41.6**	**-6.0**
	12nm,0.9s,mb4.9						
LPAZ	**La Paz**	**60.04**	**75**	P	**P**	**03 47 56.1**	**+0.9**
	5.9nm,0.8s,mb4.7,baz=194,slow=4.2,SNR=20						
LPAZ				LR	LR	04 06 30.7	
	comp=Z,27nm,18.7s,MS3.4,baz=82,slow=29						
LPAZ	**La Paz**	**60.04**	**75**	*e*P	**P**	**03 47 55.7**	**+0.4**
	11nm,1.0s,mb4.8						
LPAZ				LR	LR	04 06 30.7	
SAML	**Samuel**	**68.79**	**75**	*e*P	**P**	**03 48 50.9**	**-1.4**
	12nm,1.0s,mb4.8						
SAML				*e*		03 49 00.0	
BDFB	**Brasilia**	**71.99**	**92**	LR	LR	04 17 01.1	
	comp=Z,100nm,19.8s,MS4.1,baz=37,slow=33						
ROSC	**El Rosal**	**74.66**	**57**	P	**P**	**03 49 29.1**	**+1.8**
	4.0nm,0.5s,mb4.6,baz=122,slow=9.5,SNR=4.8						
NWAO	**Narrogin (SRO)**	**75.76**	**232**	LR	LR	04 14 45.0	
	comp=Z,113nm,21.6s,MS4.1,baz=349,slow=29						
WRA	**Warramunga Arr**	**77.77**	**253**	P	**P**	**03 49 44.0**	**-0.7**
	1.3nm,0.9s,mb3.9,baz=143,slow=5.2,SNR=8.4						
TXAR	**Lajitas Array**	**86.84**	**22**	P	**P**	**03 50 32.2**	**+0.6**
	1.0nm,0.8s,mb4.1,baz=189,slow=8.0,SNR=10						
TXAR	**Lajitas Array**	**86.84**	**22**	P	**P**	**03 50 32.2**	**+0.6**
BOSA	**Boshof**	**93.62**	**157**	LR	LR	04 31 25.4	
	comp=Z,91nm,20.0s,MS4.2,baz=192,slow=34						
ILAR	**Eielson Array**	**120.41**	**351**	PKP	PKPdf	03 56 36.2	-3.3
	0.9nm,0.8s,baz=186,slow=3.0,SNR=5.9						
SONM	**Songino Array**	**145.75**	**281**	PKPbc	PKPbc	03 57 24.3	-0.2
	1.0nm,0.6s,baz=129,slow=3.9,SNR=6.2						
GERES	**GERESS Array B**	**156.21**	**90**	PKP	PKPdf	03 57 39.4	-2.8
	0.2nm,0.3s,baz=180,slow=2.7,SNR=4.7						
GERES				PKPab	PKPab	03 58 09.4	-0.3
	0.4nm,0.6s,baz=252,slow=3.1,SNR=3.3						
MKAR	**Makanchi Array**	**158.93**	**260**	PKPab	PKPab	03 58 21.6	+0.2
	0.5nm,0.8s,baz=90,slow=7.2,SNR=3.6						

CASC 04 03:44:58.7±1.9,11.31N×85.41W,h6km±7km,MD3.9, ML3.6,1C-1D,Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MADN	**Villa Maderas**	**0.15**	**309**	*i* P	Pg	03 45 02.5	+0.6
CONN	**Concepcion**	**0.33**	**320**	*e*P	Pg	03 45 05.4	+0.1
SSNN	**San Juan del S**	**0.43**	**267**	*e*P	Pg	03 45 07.8	+0.5
LIM1	**Limonal**	**0.63**	**166**	*i* P	Pg	03 45 11.1	-0.2
CRUN	**El Crucero**	**1.10**	**308**	*e*P	Pb	03 45 19.5	-0.1
FORC	**Fortuna**	**1.11**	**139**	*e*P	Pb	03 45 18.3	-1.6
MGAN	**Managua**	**1.16**	**315**	*e*P	Pb	03 45 20.1	-0.7
MGAN				*e*S	Sb	03 45 36.9	+0.8
	comp=N,1μm,0.6s						
XAVN	**Gruta Xavier**	**1.22**	**313**	*e*P	Pb	03 45 21.4	-0.4
COPN	**Copaltepe**	**1.44**	**307**	*e*P	Pn	03 45 24.1	-1.3
MIRN	**Miramar**	**1.69**	**311**	*e*P	Pn	03 45 27.8	-1.3
PRS1	**Puriscal**	**1.71**	**141**	*e*P	Pn	03 45 29.7	+0.4
TRTC	**Tortuguero**	**1.82**	**114**	⇓*e*P	Pn	03 45 30.4	-0.5
TRTC				*e*S	Sn	03 45 56.0	+1.5
LCR2	**La Lucha 2**	**2.09**	**138**	⇓*e*P	Pn	03 45 34.5	-0.1
BUS	**Buena Vista**	**2.39**	**137**	*e*P	Pn	03 45 40.1	+1.2
BUS				*e*S	Sn	03 46 11.1	+2.3

PRE 04 03:46:43.6±2.9,26.27S×28.27E,h2km,ML3.7,South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLR	**Silverton**	**0.54**	**1**	*e*P	Pg	03 46 55.3	+1.0
SLR				*e*S	Sg	03 46 59.9	-1.6
SLR				AML	AML	03 47 02.6	
	comp=Z,358nm,0.3s						
KSR	**Koster**	**1.31**	**288**	*e*P	Pb	03 47 09.8	+1.2
KSR				*e*S	Sb	03 47 25.8	+0.2
KSR				AML	AML	03 47 30.0	
	comp=Z,4μm,0.5s						
NWL	**Newcastle**	**2.08**	**134**	*e*P	Pn	03 47 21.3	+1.4
NWL				*e*S	Sn	03 47 46.1	-0.6
NWL				AML	AML	03 47 51.7	
	comp=Z,1μm,0.6s						
SEK	**Senekal**	**2.12**	**196**	*e*S	Sn	03 47 47.7	-0.1
SEK				AML	AML	03 47 52.4	
	comp=Z,601nm,0.7s						
SWZ	**Schweizer**	**2.78**	**250**	*e*S	Sn	03 48 04.2	-0.4
SWZ				AML	AML	03 48 12.8	
	comp=Z,699nm,0.3s						
POGA	**Pongola**	**3.18**	**111**	*e*P	Pn	03 47 36.6	+1.0
KSD	**Kokstad**	**4.37**	**167**	*e*P	Pn	03 47 51.8	-0.8
KSD				*e*S	Sn	03 48 39.4	-5.4
KSD				AML	AML	03 48 59.6	
	comp=Z,59nm,0.5s						

IDC 04 03:50:17.8±7.3,3.80S×67.73E,mb4.1/5,mb1 4.2/5, mb1mx3.8/19,mbtmp4.1/5,MS3.2/4,Ms1 3.2/4, ms1mx3.0/18,Error ellipse: s-maj=236.3km s-min=27.2km az=70.0,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**29.06**	**302**	LR	LR	04 05 12.4	
	comp=Z,13nm,21.5s,baz=277,slow=31						
KMBO	**Kilima Mbogo**	**30.56**	**274**	LR	LR	04 08 15.7	
	comp=Z,26nm,19.0s,baz=264,slow=35						
LBTB	**Lobatse**	**45.65**	**238**	LR	LR	04 15 08.9	
	comp=Z,49nm,20.0s,baz=55,slow=33						
MKAR	**Makanchi Array**	**51.99**	**13**	P	P	03 59 28.2	-2.9
	0.6nm,0.8s,baz=180,slow=7.2,SNR=3.9						
NWAO	**Narrogin (SRO)**	**54.51**	**128**	P	P	03 59 48.4	-1.5
	9.5nm,0.9s,baz=232,slow=6.4,SNR=2.9						
ZAL	**Zalesovo**	**59.27**	**12**	P	P	04 00 20.8	-2.7
	1.0nm,0.5s,baz=337,slow=7.6,SNR=4.2						
SONM	**Songino Array**	**61.56**	**29**	P	P	04 00 37.6	-1.5
	4.4nm,0.9s,baz=222,slow=6.9,SNR=26						
SONM				LR	LR	04 26 53.1	
	comp=Z,45nm,19.5s,baz=297,slow=36						
WRA	**Warramunga Arr**	**66.74**	**110**	P	P	04 01 10.7	-2.8
	0.7nm,1.0s,baz=274,slow=6.2,SNR=5.4						

*CNRM **04** 04:00:16.6,35.01N×3.77W,h9km,MD2.6*

*CSEM **04** 04:00:16.5±0.3,34.91N×3.97W,h2km,MD2.6,Error ellipse: s-maj=9.5km s-min=6.7km az=97.0*

*NEIC **04** 04:00:18.8,34.86N×3.90W,h2km,MG3.2(MDD),After MDD.*

*MDD **04** 04:00:20.8±1.1,34.78N×3.78W,h64km±15km,mb2.9/2, Error ellipse: s-maj=9.2km s-min=3.3km az=134.0, PRXIMO*

ISC 04 04:00:17.9±0.6,34.99N±0.03×4.00W±0.04,h10km,n25, σ1§18/43,Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAL	**Palemas**	**0.24**	**11**	*i* P	**Pg**	**04 00 21.0**	**-2.0**
EMEL	**Melilla**	**0.91**	**70**	P	**Pb**	**04 00 35.0**	**-0.3**
	87nm,0.2s,SNR=7.9						
EMEL				S	**Sb**	**04 00 46.8**	**-0.3**
	71nm,0.2s,SNR=7.9						
TZK	**Tazeka**	**0.91**	**190**	*i* P	**Pb**	**04 00 35.0**	**-0.3**
TZK				*i* S	**Sb**	**04 00 47.0**	**-0.2**
EMLI	**Melilla**	**0.91**	**70**	P	**Pb**	**04 00 35.0**	**-0.3**
	87nm,0.2s,SNR=7.9						
EMLI				S	**Sb**	**04 00 46.8**	**-0.5**
	71nm,0.2s,SNR=7.9						
EALB	**Alboran**	**1.23**	**39**	P	**Pb**	**04 00 42.0**	**+1.2**
	7.3nm,0.2s,SNR=7.9						
EALB	**Alboran**	**1.23**	**39**	P	**Pb**	**04 00 42.0**	**+1.2**
EMIJ	**Mijas**	**1.70**	**338**	P	**Pn**	**04 00 50.8**	**+3.0**
	1.2nm,0.2s,SNR=7.9						
EMIJ				S	**Sn**	**04 01 09.8**	**+0.1**
	2.2nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**1.70**	**338**	S	**Sn**	**04 01 08.8**	**-0.9**
	2.2nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**1.70**	**338**	P	**Pn**	**04 00 51.6**	**+3.8**
EMIJ				S	**Sn**	**04 01 08.8**	**-0.9**
EBER	**Berja**	**2.11**	**25**	S	**Sn**	**04 01 19.6**	**-0.6**
	2.1nm,0.2s,SNR=7.9						
EBER	**Berja**	**2.11**	**25**	S	**Sn**	**04 01 17.5**	**-2.7**
	2.1nm,0.2s,SNR=7.9						
EQES	**Quesada**	**2.91**	**15**	P	**Pn**	**04 01 06.2**	**+1.1**
	0.2nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**04 01 40.0**	**-0.5**
	1.7nm,0.3s,SNR=7.9						
EQES	**Quesada**	**2.91**	**15**	P	**Pn**	**04 01 06.5**	**+1.4**
	0.2nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**04 01 41.5**	**+1.0**
	1.7nm,0.3s,SNR=7.9						
EQES	**Quesada**	**2.91**	**15**	P	**Pn**	**04 01 06.5**	**+1.4**
EQES				S	**Sn**	**04 01 41.5**	**+1.0**
EADA	**Adamuz**	**3.21**	**352**	P	**Pn**	**04 01 11.4**	**+2.0**
	0.1nm,0.2s,SNR=4.0						
EADA				S	**Sn**	**04 01 50.1**	**+2.0**
	0.3nm,0.2s,SNR=4.0						
EADA	**Adamuz**	**3.21**	**352**	P	**Pn**	**04 01 11.4**	**+2.0**
EADA				S	**Sn**	**04 01 50.1**	**+2.0**
EMIN	**Mina Concepcio**	**3.52**	**323**	P	**Pn**	**04 01 14.7**	**+1.0**
	0.3nm,0.2s,SNR=4.0						
EMIN				S	**Sn**	**04 01 54.7**	**-1.2**
	0.1nm,0.2s,SNR=4.0						
EMIN	**Mina Concepcio**	**3.52**	**323**	P	**Pn**	**04 01 14.7**	**+0.9**
	0.3nm,0.2s,SNR=4.0						
EMIN				S	**Sn**	**04 01 54.3**	**-1.6**
	0.1nm,0.2s,SNR=4.0						
EMIN	**Mina Concepcio**	**3.52**	**323**	P	**Pn**	**04 01 14.8**	**+1.0**
EMIN				S	**Sn**	**04 01 54.3**	**-1.6**
EGRO	**El Granado**	**3.79**	**313**	P	**Pn**	**04 01 18.3**	**+0.6**
	1.1nm,0.5s,SNR=7.9						
EGRO				S	**Sn**	**04 02 01.7**	**-1.2**
	0.7nm,0.4s,SNR=4.0						
EGRO	**El Granado**	**3.79**	**313**	P	**Pn**	**04 01 17.8**	**+0.1**
EGRO	**El Granado**	**3.79**	**313**	P	**Pn**	**04 01 17.8**	**0.0**
EGRO				S	**Sn**	**04 01 58.3**	**-4.7**
EBAD	**Badajoz**	**4.47**	**328**	P	**Pn**	**04 01 27.8**	**+0.5**
	0.4nm,0.4s,SNR=7.9						
EBAD				S	**Sn**	**04 02 18.2**	**-1.9**
	0.9nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**4.47**	**328**	P	**Pn**	**04 01 27.8**	**+0.4**
EBAD				S	**Sn**	**04 02 18.7**	**-1.4**
EBAD	**Badajoz**	**4.47**	**328**	P	**Pn**	**04 01 27.8**	**+0.5**
EBAD				S	**Sn**	**04 02 18.7**	**-1.4**

*LDG **04** 04:35:23.9±0.3,10.74N×62.92W,h10km,Mb4.8/22,Error ellipse: s-maj=17.3km s-min=14.3km az=112.0*

*MOS **04** 04:35:37.5±0.9,11.02N×62.52W,h98km,mb4.8/54,Error ellipse: s-maj=6.8km s-min=5.7km az=123.2*

*BJI **04** 04:35:39.5,10.90N×62.50W,h103km,mB4.2*

*FUNV **04** 04:35:39.7,10.94N×62.25W,h89km,MW3.8*

*NEIC **04** 04:35:39.5±0.2,10.94N×62.48W,h104km±2km,mb4.8/92, MD4.5(TRN),MW4.6(CAR),Error ellipse: s-maj=3.9km s-min=3.5km az=189.0*

NEIC Felt at Cascada, Diego Martin, Princess Town, Rio Claro, San Juan and St. Augustine, Trinidad. Felt lightly in the Carupano area, Venezuela.

*IDC **04** 04:35:39.1±0.5,11.04N×62.63W,h99km±4km,mb4.3/19, mb1 4.5/20,mb1mx4.5/24,mbtmp4.7/20,MS3.4/12, Ms1 3.4/12,ms1mx3.3/24,Error ellipse: s-maj=11.9km s-min=7.8km az=108.0*

*TRN **04** 04:35:39.9,10.83N×62.18W,h117km,MD4.5*

TRN Felt (III) & (IV) in most parts of northern Trinidad and some parts of central and south. Also felt in Grenada.

ISC 04 04:35:37.5±0.1,10.97N±0.02×62.46W±0.02,h97km, h97km±2.3km:pP-P,n333,σ1§25/334,mb4.8/105,59C-12D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.39**	**144**	⇑*e*P	**P**	**04 35 53.1**	**+0.8**
GUIV				*e*S	**S**	**04 36 02.5**	**-0.9**
ITEV	**Isla Los Testi**	**0.77**	**300**	⇓*i*P	**P**	**04 35 58.5**	**+3.0**
ITEV				*e*S	**S**	**04 36 12.1**	**+3.4**
CRUV	**Carupano**	**0.82**	**249**	⇓*i*P	**P**	**04 35 58.8**	**+2.8**
CRUV				*i* S	**S**	**04 36 12.7**	**+3.1**
GUNV	**Guanoco**	**0.93**	**211**	*e*P	**P**	**04 35 59.6**	**+2.5**
GUNV				*e*S	**S**	**04 36 14.0**	**+2.2**
TRN	**Trinidad (W)**	**1.08**	**107**	⇑*i*P	**P**	**04 35 59.5**	**+0.6**
TRN				*e*S	**S**	**04 36 13.4**	**-1.6**
ALNG	**Atlantic LNG**	**1.09**	**136**	*e*P	**P**	**04 36 00.1**	**+1.2**
ALNG				*e*S	**S**	**04 36 15.2**	**+0.1**
TPP	**Pointe-a-Pierr**	**1.18**	**123**	⇑*i*P	**P**	**04 36 01.2**	**+1.1**
TPP				*e*S	**S**	**04 36 14.7**	**-2.3**
SIPA	**Siparia**	**1.24**	**131**	*e*P	**P**	**04 36 01.5**	**+0.6**
SIPA				*e*S	**S**	**04 36 18.1**	**-0.2**
GRW	**Mount Saint Ca**	**1.42**	**33**	*e*P	**P**	**04 36 05.5**	**+2.5**
TBH	**Brigand Hill**	**1.45**	**109**	⇑*i*P	**P**	**04 36 04.0**	**+0.7**
TBH				*e*S	**S**	**04 36 20.3**	**-2.2**
GRHS	**Sauteurs**	**1.48**	**33**	⇓*e*P	**P**	**04 36 06.1**	**+2.3**
GRHS				*e*S	**S**	**04 36 24.3**	**+1.0**
TPR	**Prospect**	**1.67**	**82**	⇓*i*P	**P**	**04 36 06.8**	**+0.8**
TPR				*e*S	**S**	**04 36 26.4**	**-0.7**
BOT	**Bacolet**	**1.72**	**83**	⇓*i*P	**P**	**04 36 07.4**	**+0.7**
BOT				*e*S	**S**	**04 36 27.0**	**-1.3**
BOT	**Bacolet**	**1.72**	**83**	⇓*i*P	**P**	**04 36 07.4**	**+0.7**
BOT				*e*S	**S**	**04 36 25.4**	**-3.0**
ORIV	**Oritupano**	**2.10**	**207**	*e*P	**P**	**04 36 13.9**	**+2.1**
ORIV				*e*S	**S**	**04 36 39.3**	**+2.0**
IBAV	**Isla La Blanqu**	**2.25**	**293**	⇓*i*P	**P**	**04 36 17.1**	**+3.3**
IBAV				*e*S	**S**	**04 36 44.4**	**+3.7**
FCV	**Fort Charlotte**	**2.48**	**28**	*e*P	**P**	**04 36 18.5**	**+1.5**
FCV				*e*S	**S**	**04 36 49.6**	**+3.1**
SVB	**Belmont**	**2.58**	**27**	*e*P	**P**	**04 36 20.0**	**+1.6**
SVB				*e*S	**S**	**04 36 50.3**	**+1.4**
GURV	**El Guri**	**3.24**	**191**	⇑*e*P	**P**	**04 36 27.5**	**0.0**
CUPV	**Cœpira**	**3.40**	**255**	*e*P	**P**	**04 36 32.7**	**+3.0**
CUPV				*e*S	**S**	**04 37 10.6**	**+1.6**
ORCV	**Isla La Orchil**	**3.76**	**283**	*e*P	**P**	**04 36 37.3**	**+2.7**
ORCV				*e*S	**S**	**04 37 19.5**	**+1.6**
MVM	**Montagne Vaucl**	**3.88**	**23**	*e*P	**P**	**04 36 37.2**	**+1.0**
FDF	**Fort de France**	**3.96**	**19**	⇓*e*P	**P**	**04 36 38.1**	**+0.8**
FDF				*e*S	**S**	**04 37 21.4**	**-1.4**
CRM	**Caravelle**	**4.05**	**22**	⇓*e*P	**P**	**04 36 39.9**	**+1.2**
MERV	**Las Mercedes**	**4.15**	**246**	*e*P	**P**	**04 36 41.5**	**+1.6**
MERV				*e*S	**S**	**04 37 28.4**	**+1.0**
BBL	**Barber's Block**	**4.63**	**12**	*e*P	**P**	**04 36 51.3**	**+4.7**
BBL				*e*S	**S**	**04 37 40.5**	**+0.9**
TBG	**Guadaloupe-3**	**4.92**	**9**	*e*P	**P**	**04 36 57.1**	**+6.6**
MGG	**Marie-Galante**	**5.05**	**13**	*e*P	**P**	**04 36 54.1**	**+1.9**
PHG	**Guadaloupe-2**	**5.08**	**9**	⇓*e*P	**P**	**04 36 55.4**	**+2.8**
SCG	**Saint Claude**	**5.09**	**8**	*e*P	**P**	**04 36 55.3**	**+2.5**
DOG	**Dongo Capester**	**5.10**	**9**	*e*P	**P**	**04 36 55.5**	**+2.5**
LUEV	**Luepa**	**5.18**	**169**	*e*P	**P**	**04 36 52.1**	**-1.9**
LZG	**Guadaloupe-1**	**5.19**	**7**	⇓*e*P	**P**	**04 36 56.5**	**+2.4**
CAOV	**Caicara del Or**	**5.26**	**227**	*e*P	**P**	**04 36 55.4**	**+0.4**
CAOV				*e*S	**S**	**04 37 52.4**	**-2.5**
TURV	**Turiamo**	**5.31**	**265**	*e*P	**P**	**04 36 58.0**	**+2.1**
SEG	**Port Louis**	**5.48**	**10**	*e*P	**P**	**04 37 00.3**	**+2.2**
DEG	**La Desirade**	**5.49**	**14**	*e*P	**P**	**04 37 00.2**	**+2.0**
DEG				*e*S	**S**	**04 38 07.0**	**+6.4**
BAUV	**El Baul**	**5.86**	**250**	*e*P	**P**	**04 37 03.9**	**+0.7**
BAUV				*e*S	**S**	**04 38 07.5**	**-2.1**
NVBH	**Bath Hotel, Ne**	**6.12**	**359**	*e*P	**P**	**04 37 10.8**	**+4.0**
NVRH	**Round Hill, Ne**	**6.18**	**359**	*e*P	**P**	**04 37 11.7**	**+3.9**
SKTB	**Turtle Beach**	**6.21**	**359**	*e*P	**P**	**04 37 11.8**	**+3.7**
SKI	**Saint Kitts**	**6.34**	**358**	*e*P	**P**	**04 37 13.9**	**+4.0**
SKI				*e*		04 37 21.3	
SKDB	**Saint Kitts 2**	**6.40**	**357**	*e*P	**P**	**04 37 14.8**	**+3.9**
SKDB				*e*		04 37 21.3	
STAT	**Sint Eustatius**	**6.51**	**356**	*e*P	**P**	**04 37 15.1**	**+2.8**
STAT				*e*		04 37 33.6	
SABS	**Saba**	**6.66**	**354**	*e*P	**P**	**04 37 19.0**	**+4.6**
SABT	**Saba**	**6.66**	**354**	*e*P	**P**	**04 37 19.0**	**+4.6**
TEPV	**Terepaima**	**6.70**	**262**	*e*P	**P**	**04 37 16.2**	**+1.3**
SANV	**Sanarito**	**7.12**	**259**	*e*P	**P**	**04 37 21.9**	**+1.2**
SJG	**San Juan**	**7.95**	**334**	P	**P**	**04 37 35.7**	**+3.6**
	3.5nm,0.3s,baz=146,slow=8.0,SNR=11						
SJG				S	**S**	**04 38 53.6**	**-7.4**
	16nm,0.3s,baz=344,slow=21,SNR=7.8						
SJG	**San Juan**	**7.95**	**334**	*e*Pn	**P**	**04 37 31.4**	**-0.7**
	26nm,0.6s						
SJG				*e*Sn	**S**	**04 38 53.4**	**-7.6**
SJG	**San Juan**	**7.95**	**334**	P	**P**	**04 37 35.7**	**+3.7**
SJG				S	**S**	**04 38 53.6**	**-7.4**
SJG				pmax	pmax		
	comp=Z,4.0nm,0.3s						
SJG				smax			
	comp=N,16nm,0.3s						
ELOV	**Elorza**	**7.98**	**241**	*e*P	**P**	**04 37 32.6**	**+0.2**
SDV	**Santo Domingo**	**8.31**	**256**	P	**P**	**04 37 36.5**	**-0.4**
	comp=N,6.2nm,0.3s,baz=215,slow=2.9,SNR=18						
SDV				S	**S**	**04 39 07.5**	**-2.4**
	comp=N,25nm,0.3s,baz=34,slow=15,SNR=8.1						
SDV	**Santo Domingo**	**8.31**	**256**	*e*Pn	**P**	**04 37 36.4**	**-0.6**
	comp=N,35nm,0.5s						
SDV				*e*Sn	**S**	**04 39 05.9**	**-3.9**
SOCV	**Socops**	**8.70**	**253**	*e*P	**P**	**04 37 42.0**	**-0.1**
VIGV	**El Vigia**	**9.03**	**257**	*e*P	**P**	**04 37 46.7**	**+0.2**
ROSC	**El Rosal**	**13.23**	**244**	P	**P**	**04 38 44.9**	**+2

comp=Z,4.4nm,0.7s,mb4.4,baz=17,slow=6.8,SNR=13
LVC Limon Verde 33.96 191⇑ eP P 04 42 13.2 -0.6
comp=Z,4.1nm,0.6s,mb4.4
WVT Waverly 33.98 322⇑ eP P 04 42 13.7 -0.2
comp=Z,18nm,0.6s,mb5.1
WVT ⇑ ePcP PcP 04 44 47.4 -2.6
WVT Waverly 33.98 322⇑ eP P 04 42 13.7 -0.2
WVT e 04 44 47.4
WVT pmax pmax
comp=Z,18nm,0.6s,mb5.1
ACSO Alum Creek Sta 34.35 332 eP P 04 42 17.4 +0.5
comp=Z,12nm,0.8s,mb4.8
NCB Newcomb 34.42 345 eP P 04 42 17.4 -0.2
comp=Z,5.1nm,0.5s,mb4.6
NCB epP pP 04 42 36.4 -3.5
NCB ⇑ ePcP PcP 04 44 48.6 -2.6
WCI Wyandotte Cave 34.53 326 eP P 04 42 16.7 -1.8
comp=Z,7.3nm,0.6s,mb4.7
WCI ⇑ iPcP PcP 04 44 49.3 -2.2
WCI Wyandotte Cave 34.53 326 eP P 04 42 16.7 -1.8
WCI i 04 44 49.3
WCI pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
UTMT University of 34.75 321 eP P 04 42 20.5 +0.1
comp=Z,133nm,1.0s,mb5.7
BLO Bloomington 35.33 327⇑ iP P 04 42 26.2 +0.9
comp=Z,35nm,0.6s,mb5.4
BLO ePcP PcP 04 44 51.5 -2.4
BLO Bloomington 35.33 327⇑ iP P 04 42 26.2 +0.9
BLO e 04 44 51.5
BLO pmax pmax
comp=Z,35nm,0.6s,mb5.4
SIUC Southern Illin 35.86 322 eP P 04 42 30.0 +0.2
comp=Z,47nm,0.6s,mb5.6
UALR University of 36.08 316⇑ eP P 04 42 31.1 -0.7
comp=Z,13nm,0.6s,mb5.0
NATX Nacogdoches 36.22 310 eP P 04 42 33.7 +0.8
comp=Z,69nm,0.5s,mb5.8
FVM French Village 36.76 322⇑ eP P 04 42 36.9 -0.5
comp=Z,13nm,0.5s,mb5.1
FVM ⇑ ePcP PcP 04 44 56.3 -1.9
FVM French Village 36.76 322⇑ eP P 04 42 36.9 -0.5
FVM e 04 44 56.3
FVM pmax pmax
comp=Z,13nm,0.5s,mb5.1
CCM Cathedral Cave 37.31 321⇑ eP P 04 42 41.1 -0.9
comp=Z,13nm,0.6s,mb5.0
CCM ⇑ ePcP PcP 04 44 58.1 -1.7
CCM Cathedral Cave 37.31 321⇑ eP P 04 42 41.1 -0.9
CCM e 04 44 58.1
CCM pmax pmax
comp=Z,13nm,0.6s,mb5.0
CPUP Villa Florida 37.40 172 P P 04 42 43.1 +0.2
comp=Z,1.3nm,0.6s,mb4.1,baz=8.7,slow=10,SNR=6.8
CPUP LR LR 04 58 58.7
comp=Z,59nm,21.2s,baz=8.9,slow=37
CPUP Villa Florida 37.40 172 eP P 04 42 42.5 -0.4
comp=Z,4.3nm,0.9s,mb4.4
CPUP ePcP PcP 04 44 59.8 -0.5
CPUP Villa Florida 37.40 172 eP P 04 42 42.5 -0.4
CPUP e 04 44 59.8
CPUP pmax pmax
comp=Z,4.0nm,0.9s
WMOK Wichita Mounta 40.64 312⇑ iP P 04 43 08.3 -1.4
comp=Z,16nm,0.7s,mb5.0
WMOK Wichita Mounta 40.64 312⇑ iP P 04 43 08.3 -1.3
WMOK pmax pmax
comp=Z,16nm,0.7s,mb5.0
KSU1 Kansas State U 41.32 319⇑ eP P 04 43 13.6 -1.6
KSU1 ePcP PcP 04 45 10.1 -2.5
LTX Lajitas 42.51 302 eP P 04 43 25.0 -0.1
comp=Z,14nm,0.7s,mb4.8
LTX ⇑ ePcP PcP 04 45 15.5 -1.2
LTX Lajitas 42.51 302 eP P 04 43 25.0 -0.1
LTX e 04 45 15.5
LTX pmax pmax
comp=Z,14nm,0.7s,mb4.8
TXAR Lajitas Array 42.51 302 P P 04 43 25.2 +0.1
comp=Z,9.9nm,0.7s,mb4.7,baz=114,slow=9.6,SNR=106
TXAR PcP PcP 04 45 15.8 -0.9
comp=Z,7.5nm,0.5s,baz=118,slow=5.6,SNR=32
TXAR Lajitas Array 42.51 302 P P 04 43 25.2 +0.1
TXAR PcP PcP 04 45 15.8 -0.9
TXAR Lajitas Array 42.51 302 P P 04 43 25.2 +0.1
TXAR 04 45 15.8
TXAR pmax pmax
comp=Z,10.0nm,0.7s
TXAR pmax pmax
comp=Z,8.0nm,0.5s
CFAA Coronel Fontan 42.69 187 P P 04 43 25.6 -0.9
comp=Z,0.4nm,0.6s,baz=1.6,slow=8.6,SNR=8.4
CBKS Cedar Bluff 43.25 316 eP P 04 43 29.3 -1.7
comp=Z,32nm,0.9s,mb5.0
CBKS Cedar Bluff 43.25 316 eP P 04 43 29.3 -1.7
CBKS pmax pmax
comp=Z,32nm,0.9s,mb5.0
SCHQ Schefferville 43.89 356 P P 04 43 35.9 -0.1
comp=Z,12nm,0.5s,mb4.9,baz=180,slow=6.7,SNR=61
SCHQ PcP PcP 04 45 18.9 -2.0
comp=Z,3.9nm,0.5s,baz=159,slow=2.6,SNR=6.3
SCHQ Schefferville 43.89 356 eP P 04 43 35.7 -0.2
comp=Z,16nm,0.6s,mb4.9
SCHQ ePcP PcP 04 45 18.7 -2.3
MNTX Cornudas Mount 44.62 304⇑ iP P 04 43 41.8 -0.4
comp=Z,13nm,0.9s,mb4.7
MNTX ePcP PcP 04 45 21.3 -2.6
ANMO Albuquerque 46.53 308⇑ iP P 04 43 57.4 +0.2
comp=Z,15nm,0.9s,mb4.7
ANMO Albuquerque 46.53 308 c iP **P 04 43 57.7 +0.5**
SDCO Great Sand Dun 46.83 312 eP P 04 43 59.2 -0.4
comp=Z,23nm,0.6s,mb5.1
SDCO pP pP 04 44 18.3 -4.4
SDCO ePcP PcP 04 45 30.0 -1.5
ISCO Idaho Springs 47.75 315⇑ iP P 04 44 06.1 -0.6
comp=Z,14nm,0.7s,mb4.9
ISCO ePcP PcP 04 45 31.9 -2.8
ISCO Idaho Springs 47.75 315⇑ iP P 04 44 06.1 -0.6
ISCO e 04 45 31.9
ISCO pmax pmax
comp=Z,14nm,0.7s,mb4.9
ULM Lac du Bonnet 47.85 332 P P 04 44 05.3 -2.0
comp=Z,12nm,0.5s,mb5.0,baz=134,slow=8.2,SNR=14
ULM PcP PcP 04 45 32.3 -2.6
comp=Z,7.2nm,0.4s,baz=147,slow=2.5,SNR=7.9
ULM LR LR 05 06 34.5
comp=Z,20nm,18.2s,baz=287,slow=39
ULM Lac du Bonnet 47.85 332⇑ iP P 04 44 04.7 -2.6
comp=Z,16nm,0.6s,mb5.0
ULM ⇑ ePcP PcP 04 45 32.0 -2.9
PHWY Pilot Hill 48.29 317⇑ eP P 04 44 08.8 -2.0
SMCO Snowmass 48.46 313⇑ iP P 04 44 11.8 -0.4
SMCO ePcP PcP 04 45 36.6 -0.6
RSSD Black Hills 48.69 320⇑ eP P 04 44 12.2 -1.7
comp=Z,2.9nm,0.8s,mb4.3
RSSD ePcP PcP 04 45 35.5 -2.6
RSSD Black Hills 48.69 320⇑ eP P 04 44 12.2 -1.7
RSSD e 04 45 35.5
RSSD pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
TUC Tucson 49.20 303 eP P 04 44 17.1 -0.9
comp=Z,7.6nm,1.2s,mb4.5
TUC Tucson 49.20 303 eP P 04 44 17.2 -0.8
TUC pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
DGMT Dagmar 51.05 325 eP P 04 44 31.9 0.0
comp=Z,38nm,0.4s,mb5.8
LAO LASA Array 51.30 322 eP P 04 44 32.4 -1.4
comp=Z,7.8nm,0.5s,mb5.0
LAO ePcP PcP 04 45 45.0 -2.5
TMUT Trail Mountain 51.57 312 eP P 04 44 35.5 -0.5
PDAR Pinedale Array 51.68 317 P P 04 44 35.5 -1.2
comp=Z,27nm,0.6s,mb5.4,baz=116,slow=9.6,SNR=282
PDAR PcP PcP 04 45 46.3 -2.7
comp=Z,3.0nm,0.5s,baz=112,slow=6.5,SNR=6.2
PDAR ScP 04 49 31.8
comp=Z,0.6nm,0.7s,baz=135,slow=4.2,SNR=3.9
PDAR LR LR 05 05 42.5
comp=Z,32nm,21.2s,baz=308,slow=35
PLCA Paso Flores 51.98 188 P P 04 44 38.6 -0.4
comp=Z,7.4nm,1.0s,mb4.7,baz=315,slow=3.6,SNR=6.3
PLCA PcP PcP 04 45 50.6 +0.5
comp=Z,4.0nm,0.6s,baz=310,slow=4.1,SNR=6.3
PLCA LR LR 05 09 54.0
comp=Z,51nm,20.3s,baz=6.2,slow=40
PLCA Paso Flores 51.98 188 eP **P 04 44 38.5 -0.5**
comp=Z,10nm,1.0s,mb4.8
PLCA Paso Flores 51.98 188 P P 04 44 38.6 -0.4
PLCA 04 45 50.6
PLCA pmax pmax
comp=Z,7.0nm,1.0s
PLCA pmax pmax
comp=Z,4.0nm,0.6s
PLCA MLR MLR
comp=Z,51nm,20.3s
HWUT Hardware Ranch 52.62 314 eP **P 04 44 41.7 -2.0**
comp=Z,21nm,0.8s,mb5.2
LOHW Long Hollow 52.71 317⇑ iP **P 04 44 43.0 -1.4**
comp=Z,14nm,0.8s,mb5.0
LOHW ePcP PcP 04 45 50.7 -2.1
AHID Auburn Hatcher 52.72 316⇑ eP **P 04 44 42.4 -2.1**
comp=Z,25nm,0.8s,mb5.3
AHID ePcP PcP 04 45 50.1 -2.8
SNOW Snow King Moun 52.76 317 eP **P 04 44 43.4 -1.4**
comp=Z,21nm,0.7s,mb5.3
SNOW ePcP PcP 04 45 50.2 -2.8
REDW Red Top Meadow 52.78 317⇑ eP **P 04 44 43.4 -1.6**
comp=Z,22nm,0.8s,mb5.2
TPAW Teton Pass 52.90 317⇑ iP **P 04 44 44.6 -1.2**
comp=Z,11nm,0.7s,mb5.0
TPAW ePcP PcP 04 45 51.3 -2.2
LKWY Lake 52.96 318 eP **P 04 44 46.5 +0.2**
comp=Z,7.3nm,0.8s,mb4.8
LKWY Lake 52.96 318 eP **P 04 44 46.5 +0.2**
LKWY pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
DUG Dugway 53.03 312 eP **P 04 44 45.8 -1.1**
comp=Z,20nm,0.7s,mb5.3
DUG epP pP 04 45 11.9 +1.5
DUG ePcP PcP 04 45 51.9 -2.1
DUG Dugway 53.03 312 eP **P 04 44 45.8 -1.1**
DUG e*PP pP 04 45 11.9 +1.5
DUG e 04 45 51.9
DUG pmax pmax
comp=Z,20nm,0.7s,mb5.3
IMW Indian Meadow 53.05 317⇑ eP **P 04 44 45.4 -1.6**
comp=Z,11nm,0.8s,mb4.9
RRI2 Red Ridge 53.09 317 eP **P 04 44 46.2 -1.1**
comp=Z,5.3nm,0.6s,mb4.8
YFT Old Faithful 53.20 318 eP **P 04 44 48.6 +0.6**
NEN Nelson 53.29 306 eP **P 04 44 48.2 -0.7**
FCC Fort Churchill 53.34 340 eP **P 04 44 46.5 -2.4**
comp=Z,13nm,0.7s,mb5.1
FCC Fort Churchill 53.34 340 eP **P 04 44 46.5 -2.4**
FCC pmax pmax
comp=Z,13nm,0.7s,mb5.1
LDFC Landfair 53.37 306 eP **P 04 44 49.6 +0.2**
QLMT Earthquake Lak 53.74 318 eP **P 04 44 51.3 -0.7**
BOZ Bozeman (W) 54.19 319 eP **P 04 44 53.9 -1.4**
comp=Z,12nm,0.8s,mb5.0
BOZ Bozeman (W) 54.19 319 eP **P 04 44 53.9 -1.4**
BOZ pmax pmax
comp=Z,11nm,0.8s,mb4.9
MCMT McKenzie Canyo 54.67 318 eP **P 04 44 58.1 -0.6**
HRY Holter Researc 54.75 320 eP **P 04 44 57.9 -1.4**
ELK Elko 54.96 312 LR LR 05 07 49.4
comp=Z,51nm,20.6s,baz=84,slow=35
ELK Elko 54.96 312 eP **P 04 44 59.6 -1.3**
comp=Z,3.7nm,0.6s,mb4.6
ELK Elko 54.96 312 eP **P 04 44 59.6 -1.3**
ELK pmax pmax
comp=Z,4.0nm,0.6s
PTOM Tomar 55.57 49 eP **P 04 45 05.8 +0.4**
TPH Tonopah 55.72 309 eP **P 04 45 06.5 0.0**
ISA Isabella 56.17 306 P **P 04 45 07.0 -2.7**
PCBR Castelo Branco 56.33 49 eP **P 04 45 11.1 +0.3**
PVRL Vila Real 56.53 48 eP **P 04 45 12.5 +0.3**
LIC Lamto 56.91 90 eP **P 04 45 13.9 -1.4**
comp=Z,29nm,1.1s,mb4.9
OMM Old Mammoth Mi 56.98 308 eP **P 04 45 14.9 -0.6**
WALA Waterton Lakes 56.98 322 eP **P 04 45 12.9 -2.4**
comp=Z,10nm,1.1s,mb4.8
WALA ePcP PcP 04 46 08.0 -1.1
DBIC Dimbokro 57.01 89 P **P 04 45 16.0 0.0**
comp=Z,1.9nm,0.4s,mb4.5,baz=351,slow=15,SNR=9.5
DBIC Dimbokro 57.01 89 eP **P 04 45 15.3 -0.6**
comp=Z,7.8nm,1.0s,mb4.7
DBIC Dimbokro 57.01 89 P **P 04 45 16.0 0.0**
DBIC pmax pmax
comp=Z,2.0nm,0.4s
BMO Blue Mountains 57.66 316⇑ eP **P 04 45 16.8 -3.3**
comp=Z,12nm,1.1s,mb4.8
BMO Blue Mountains 57.66 316⇑ eP **P 04 45 16.8 -3.3**
BMO pmax pmax
comp=Z,12nm,1.1s,mb4.8
CMB Columbia Colle 58.15 308 eP **P 04 45 22.4 -1.2**
comp=Z,2.8nm,0.9s,mb4.3
CMB Columbia Colle 58.15 308 eP **P 04 45 22.4 -1.2**
CMB pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
LRV Little Rabbit 58.34 306 eP **P 04 45 23.6 -1.3**
EDM Edmonton 58.44 327 eP **P 04 45 23.0 -2.4**
NEW Newport 58.66 320 eP **P 04 45 25.1 -1.9**
comp=Z,17nm,1.0s,mb5.0
NEW Newport 58.66 320 eP **P 04 45 25.1 -1.9**
NEW pmax pmax
comp=Z,17nm,1.0s
ESDC Sonseca Array 58.92 50 P **P 04 45 29.5 +0.6**
comp=Z,4.1nm,0.7s,mb4.5,baz=261,slow=7.4,SNR=16
ESDC pP pP 04 45 53.7 +0.7
comp=Z,2.4nm,0.7s,baz=258,slow=7.2,SNR=4.1
ESDC PcP PcP 04 46 17.2 +0.4
comp=Z,2.7nm,0.7s,baz=276,slow=4.0,SNR=7.1
HAWA Hanford 59.61 318 eP **P 04 45 31.3 -2.3**
comp=Z,0.8nm,0.8s,mb3.8
BUOR Burton Butte 60.44 312 P **P 04 45 38.6 -0.7**
TBM Table Mountain 60.54 318 P **P 04 45 39.2 -0.7**
YBH Yreka Blue Hor 60.66 312 LR LR 05 15 59.0
comp=Z,30nm,20.1s,baz=141,slow=40
YBH Yreka Blue Hor 60.66 312 eP **P 04 45 38.1 -2.7**
comp=Z,8.9nm,1.2s,mb4.7
YBH Yreka Blue Hor 60.66 312 eP **P 04 45 38.1 -2.7**
YBH pmax pmax
comp=Z,9.0nm,1.2s
BORG Borgarnes 60.79 19 eP **P 04 45 42.2 +0.8**
HUMO Hull Mountain 61.02 313 eP **P 04 45 40.4 -2.9**
QUIF Quistinic 61.50 41 eP **P 04 45 46.0 -0.4**
ROSF Rostrenen 61.55 41 eP **P 04 45 46.9 +0.2**
comp=Z,16nm,0.7s,mb4.9
ROSF Rostrenen 61.55 41 eP **P 04 45 46.9 +0.2**
ROSF pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
SJPF Ste Jean 61.66 47 eP **P 04 45 48.3 +0.8**
comp=Z,14nm,0.7s,mb4.8
SJPF Ste Jean 61.66 47 eP **P 04 45 48.3 +0.8**
SJPF pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
ETSF Etsaut 62.09 47 eP **P 04 45 51.2 +0.8**
comp=Z,2.8nm,0.5s,mb4.3
ETSF Etsaut 62.09 47 eP **P 04 45 51.2 +0.8**
ETSF pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
EPF Esparros 62.76 47 eP **P 04 45 55.7 +0.8**
comp=Z,16nm,0.5s,mb4.9
EPF Esparros 62.76 47 eP **P 04 45 55.7 +0.8**
EPF pmax pmax
comp=Z,8.0nm,0.5s,mb4.9
PGC Sidney 62.79 319 eP **P 04 45 53.0 -2.0**
comp=Z,48nm,0.9s,mb5.4
GRR Gorron 63.12 41 eP **P 04 45 57.1 -0.1**
comp=Z,13nm,0.6s,mb4.8
GRR Gorron 63.12 41 eP **P 04 45 57.1 -0.1**
GRR pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
MFF Saint Martin d 63.16 43 eP **P 04 45 57.5 0.0**
comp=Z,9.3nm,0.7s,mb4.5
MFF Saint Martin d 63.16 43 eP **P 04 45 57.5 0.0**
MFF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
SUMG Summit 63.23 8 eP **P 04 45 56.9 -0.7**
comp=Z,44nm,1.0s,mb5.3
LFF La Frestale 63.42 45 eP **P 04 45 59.3 +0.1**
YKA Yellowknife Ar 63.44 336 P **P 04 45 56.2 -2.9**
comp=Z,3.0nm,0.3s,mb4.7,baz=106,slow=7.3,SNR=8.6
YKA pP pP 04 46 20.4 -3.0
comp=Z,1.0nm,0.4s,baz=110,slow=7.1,SNR=2.6
YKA sP sP 04 46 32.3 -1.9
comp=Z,1.8nm,0.5s,baz=106,slow=7.3,SNR=2.8
YKA LR LR 05 10 09.8
comp=Z,39nm,21.3s,baz=130,slow=33
YKA Yellowknife Ar 63.44 336 pP pP 04 46 20.4 -3.0
YKA sP sP 04 46 32.3 -1.9
YKA LR LR 05 10 09.8
YKA Yellowknife Ar 63.44 336 P P **04 45 56.2 -2.9**
YKA *PP pP 04 46 20.4 -3.1
YKA *SP sP 04 46 32.3 -1.9
YKA pmax pmax
comp=Z,3.0nm,0.3s
YKA pmax pmax
comp=Z,1.0nm,0.4s
YKA pmax pmax
comp=Z,2.0nm,0.5s
FLN La Foliniere 63.45 41 eP **P 04 45 59.4 0.0**
comp=Z,43nm,0.8s,mb5.2
FLN La Foliniere 63.45 41 eP **P 04 45 59.4 0.0**
FLN pmax pmax
comp=Z,21nm,0.8s,mb5.1
ESK Eskdalemuir 63.77 33 eP **P 04 45 59.5 -1.8**
comp=Z,8.9nm,0.8s,mb4.7
ESK Eskdalemuir 63.77 33 eP **P 04 45 59.5 -1.8**
ESK pmax pmax
comp=Z,9.0nm,0.8s,mb4.7
RJF Les Rejaudoux 64.03 45 eP **P 04 46 03.2 0.0**
MTLF Montolieu 64.17 47 eP **P 04 46 04.1 0.0**
CAF Calviac 64.34 45 eP **P 04 46 05.1 -0.1**
comp=Z,9.2nm,0.4s,mb4.6
CAF Calviac 64.34 45 eP **P 04 46 05.1 -0.1**
CAF pmax pmax
comp=Z,5.0nm,0.4s,mb4.7
TCF Toulx Ste Croi 64.69 44 eP **P 04 46 07.3 -0.2**
comp=Z,5.6nm,0.5s,mb4.4
TCF Toulx Ste Croi 64.69 44 eP **P 04 46 07.3 -0.2**
TCF pmax pmax
comp=Z,3.0nm,0.5s,mb4.4
HYF Humbligny 65.17 43 eP **P 04 46 10.6 +0.1**
AVF Avril sur Loir 65.56 44 eP **P 04 46 12.5 -0.5**
comp=Z,6.2nm,0.5s,mb4.4
AVF Avril sur Loir 65.56 44 eP **P 04 46 12.5 -0.5**
AVF pmax pmax
comp=Z,3.0nm,0.5s,mb4.4
SSF Saint Saulge 65.71 43 eP **P 04 46 13.4 -0.6**
SMF Signal de Mont 65.86 44 eP **P 04 46 15.0 0.0**
comp=Z,7.5nm,0.4s,mb4.5
SMF Signal de Mont 65.86 44 eP **P 04 46 15.0 0.0**
SMF pmax pmax
comp=Z,4.0nm,0.4s,mb4.6
LOR Lormes 65.98 43 eP **P 04 46 15.2 -0.5**
comp=Z,6.6nm,0.4s,mb4.5
LOR Lormes 65.98 43 eP **P 04 46 15.2 -0.5**
LOR pmax pmax
comp=Z,3.0nm,0.4s,mb4.5
RES Resolute Bay 66.27 351 eP **P 04 46 16.0 -1.2**
comp=Z,12nm,0.9s,mb4.7
RES Resolute Bay 66.27 351 eP **P 04 46 16.0 -1.1**
RES pmax pmax
comp=Z,12nm,0.9s,mb4.7
MEZF Maizieres J'vi 66.99 42 eP **P 04 46 21.8 -0.2**
GIVF Givet 67.12 40 eP **P 04 46 22.5 -0.4**
LMR La Mourre 67.27 48 eP **P 04 46 23.8 -0.1**
comp=Z,5.3nm,0.5s,mb4.3
LMR La Mourre 67.27 48 eP **P 04 46 23.8 -0.1**
LMR pmax pmax
comp=Z,3.0nm,0.5s,mb4.4
CABF La Chapelle 67.39 44 eP **P 04 46 24.5 -0.1**
comp=Z,11nm,0.8s,mb4.4
CABF La Chapelle 67.39 44 eP **P 04 46 24.5 -0.1**
CABF pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
LPL La Plagne 67.69 45 eP **P 04 46 27.4 +0.9**
comp=Z,10nm,0.7s,mb4.5
LPL La Plagne 67.69 45 eP **P 04 46 27.4 +0.9**
LPL pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
LPG La Plagne 67.70 45 eP **P 04 46 27.7 +1.2**
comp=Z,8.9nm,0.7s,mb4.4
LPG La Plagne 67.70 45 eP **P 04 46 27.7 +1.2**
LPG pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
HAU Haudompre 67.76 43 eP **P 04 46 26.2 -0.7**
HINF Hinteralfeld 68.07 43 eP **P 04 46 28.1 -0.7**
comp=Z,9.3nm,0.5s,mb4.5
HINF Hinteralfeld 68.07 43 eP **P 04 46 28.1 -0.7**
HINF pmax pmax
comp=Z,5.0nm,0.5s,mb4.6
CDF Champ du Feu 68.44 42 eP **P 04 46 30.6 -0.4**
comp=Z,8.4nm,0.4s,mb4.6
CDF Champ du Feu 68.44 42 eP **P 04 46 30.6 -0.4**
CDF pmax pmax
comp=Z,4.0nm,0.4s,mb4.6
PGF Pioggiola 69.02 49 eP **P 04 46 34.8 +0.1**
DLBC Dease Lake 69.03 329 eP **P 04 46 33.3 -1.3**
NAO01 NORSAR Array S 72.39 29⇑ iP **P 04 46 54.6 -0.1**
comp=Z,4.4nm,0.4s,mb4.6
CLL Collm 72.43 40 P **P 04 46 55.6 +0.5**
comp=Z,logA/T=0.8,mb4.4
CLL Collm 72.43 40 i P **P 04 46 55.6 +0.5**
comp=Z,5.0nm,0.8s,mb4.4
CLL Collm 72.43 40 i P **P 04 46 55.6 +0.5**
CLL pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
NB2 NORSAR Subarra 72.58 29 P **P 04 46 56.6 +0.9**
comp=Z,1.5nm,0.6s,mb4.0,baz=263,slow=6.2
NB2 NORSAR Subarra 72.58 29 P **P 04 46 56.6 +0.9**
NB2 pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
NOA NORSAR Array B 72.58 29 P **P 04 46 56.5 +0.7**
comp=Z,12nm,0.7s,mb4.8,baz=262,slow=6.1,SNR=60
NOA pP pP 04 47 21.8 +1.0
comp=Z,2.8nm,0.8s,baz=261,slow=6.0,SNR=3.9
NOA NORSAR Array B 72.58 29 P **P 04 46 56.5 +0.8**
NOA *PP pP 04 47 21.8 +1.0
NOA pmax pmax
comp=Z,12nm,0.7s
NOA pmax pmax
comp=Z,3.0nm,0.8s
KHC Kasperske Hory 72.65 42 eP **P 04 46 57.3 +0.9**
GERES GERESS Array B 72.72 42 P **P 04 46 56.9 +0.1**
comp=Z,2.0nm,0.6s,mb4.1,baz=259,slow=5.6,SNR=19
GERES GERESS Array B 72.72 42 P **P 04 46 56.9 +0.1**
GERES pmax pmax
comp=Z,2.0nm,0.6s
INK Inuvik 72.91 338 LR LR 05 18 12.1
comp=Z,27nm,19.1s,baz=186,slow=35
INK Inuvik 72.91 338 eP **P 04 46 55.1 -2.4**
comp=Z,7.0nm,0.9s,mb4.5
INK Inuvik 72.91 338 eP **P 04 46 55.1 -2.4**
INK pmax pmax
comp=Z,7.0nm,0.9s
BRG Berggiesshubel 72.99 40 eP **P 04 46 58.2 -0.1**
comp=Z,4.4nm,1.0s,mb4.2
BRG Berggiesshubel 72.99 40 eP **P 04 46 58.2 -0.1**
BRG pmax pmax
comp=Z,4.0nm,1.0s,mb4.2
HFA0 Hagfors New Ar 73.66 30 P **P 04 47 01.9 -0.2**
UPC Upice 74.29 41 eP **P 04 47 06.3 +0.3**
DPC Dobruska-Polom 74.48 41 eP **P 04 47 07.1 0.0**
PMSA Palmer Station 75.53 181 eP **P 04 47 13.3 +0.6**
comp=Z,4.9nm,0.8s,mb4.3
ILAR Eielson Array 77.78 334 P **P 04 47 23.6 -1.8**
comp=Z,2.4nm,0.8s,mb4.0,baz=91,slow=4.3,SNR=19
ILAR Eielson Array 77.78 334 P **P 04 47 23.6 -1.7**
ILAR pmax pmax
comp=Z,2.0nm,0.8s
ARCES ARCESS Array B 79.10 21 P **P 04 47 32.5 0.0**
comp=Z,15nm,0.7s,mb5.0,baz=267,slow=6.2,SNR=70
ARCES pP pP 04 47 57.7 -0.1
comp=Z,7.7nm,0.7s,baz=281,slow=6.2,SNR=5.7
ARCES PKKPbc 05 06 21.7
comp=Z,1.4nm,0.9s,baz=63,slow=2.7,SNR=4.7
ARCES ARCESS Array B 79.10 21 P **P 04 47 32.5 0.0**
ARCES pP pP 04 47 57.7 -0.1
ARCES PKKPbc 05 06 21.7
ARCES ARCESS Array B 79.10 21 P **P 04 47 32.5 0.0**
ARCES *PP pP 04 47 57.7 -0.1
ARCES pmax pmax
comp=Z,15nm,0.7s
ARCES pmax pmax
comp=Z,8.0nm,0.7s
ARCES pmax pmax
comp=Z,1.0nm,0.9s
SLKM Skilak Lake 79.44 330 P **P 04 47 34.0 -0.5**
KEV Kevo 79.61 21 ep **P 04 47 33.5 -1.7**
comp=Z,8.1nm,0.6s,mb4.7
FINES FINESS Array B 79.76 29 P **P 04 47 36.5 +0.3**
comp=Z,15nm,0.4s,mb5.2,baz=269,slow=3.4,SNR=189
FINES pP pP 04 48 01.6 0.0
comp=Z,2.8nm,0.5s,baz=252,slow=6.0,SNR=4.0
FINES FINESS Array B 79.76 29 P **P 04 47 36.5 +0.3**
FINES pP pP 04 48 01.6 0.0

FINES	FINESS Array B	79.76	29	P	P	04 47 36.5	+0.3
FINES				*PP	pP	04 48 01.6	+0.1
FINES				pmax	pmax		
	comp=Z,15nm,0.4s						
FINES				pmax	pmax		
	comp=Z,3.0nm,0.5s						
KAF	Kangasniemi	79.82	29	ep	P	04 47 36.0	-0.5
	comp=Z,9.1nm,0.5s,mb4.9,baz=273,slow=5.3						
VSU	Vasula	80.33	32	i P	P	04 47 39.4	+0.1
IMA	Indian Mountai	80.56	336	eP	P	04 47 40.4	0.0
RSO	Redoubt South	80.70	330	eP	P	04 47 41.0	-0.2
RDO	Rodhopi	81.38	50	P	P	04 47 45.8	+0.6
SVW2	Sparrevohn	82.00	331	eP	P	04 47 47.5	-0.5
APA	Apatity	82.18	23	⇑iP	P	04 47 48.8	0.0
APA				i	pP	04 48 15.0	+0.7
APA				pmax	pmax		
	comp=Z,25nm,1.2s,mb4.9						
TSUM	Tsumeb	84.34	111	eP	P	04 48 01.1	+0.4
	comp=Z,4.4nm,0.9s,mb4.3						
OBN	Obninsk	86.21	35	eP	P	04 48 10.6	+1.5
OBN	Obninsk	86.21	35	d iP	P	04 48 09.7	+0.6
OBN				i *PP	pP	04 48 34.8	0.0
OBN				e		04 51 28.5	
OBN				eSS	SS	05 04 16.7	-1.6
OBN				pmax	pmax		
	comp=Z,51nm,0.9s,mb5.5						
TNA	Tin City	86.39	336	eP	P	04 48 10.1	+0.3
	comp=Z,10nm,0.9s,mb4.8						
MOS	Moscow	86.64	34	eP	P	04 48 08.4	-2.8
MOS				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.2						
BR131	Keskin Array S	87.72	50	eP	P	04 48 17.6	+0.7
	comp=Z,5.9nm,0.7s,mb4.7						
BRTR	Keskin Array B	87.72	50	P	P	04 48 17.8	+0.9
	comp=Z,7.6nm,0.7s,mb4.8,baz=264,slow=4.2,SNR=34						
BRTR				pP	pP	04 48 42.9	+0.2
	comp=Z,2.5nm,0.7s,baz=252,slow=3.9,SNR=4.7						
BRTR	Keskin Array B	87.72	50	P	P	04 48 17.8	+1.0
BRTR				*PP	pP	04 48 42.9	+0.2
BRTR				pmax	pmax		
	comp=Z,8.0nm,0.7s						
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
VNA1	Neumayer--Stat	89.24	164	e	P	04 48 27.8	+4.5
VNA1	Neumayer--Stat	89.24	164	e	pP	04 48 52.9	+3.7
VNA1	Neumayer--Stat	89.24	164	e	Px	04 48 59.0	
VNA1	Neumayer--Stat	89.24	164	⇑iP	P	04 48 25.7	+2.4
VNA1				e		04 48 27.8	
VNA1				e	pP	04 48 52.9	+3.7
VNA1				e		04 48 59.0	
VNA1				e		04 53 44.5	
VNA3	Neumayer Olymp	89.24	165	e	P	04 48 26.5	+3.2
VNA3	Neumayer Olymp	89.24	165	e	pP	04 48 50.3	+1.1
VNA3	Neumayer Olymp	89.24	165	e	Px	04 48 55.3	
VNA3	Neumayer Olymp	89.24	165	⇑iP	P	04 48 24.5	+1.2
VNA3				e		04 48 26.5	
VNA3				e	pP	04 48 50.3	+1.1
VNA3				e	pP	04 48 55.3	+6.1
VNA3				e		04 53 38.1	
VNA3				e		04 59 26.7	
VNA2	Neumayer--Watz	89.63	164	e	P	04 48 27.9	+2.8
VNA2	Neumayer--Watz	89.63	164	e	pP	04 48 53.3	+2.2
VNA2	Neumayer--Watz	89.63	164	e	Px	04 48 58.5	
VNA2	Neumayer--Watz	89.63	164	⇑iP	P	04 48 26.1	+1.0
VNA2				e		04 48 27.9	
VNA2				e	pP	04 48 53.3	+2.2
VNA2				e		04 48 58.5	
VNA2				e		04 53 44.4	
VNA2				e		04 59 25.7	
SUR	Sutherland	90.19	123	eP	P	04 48 28.1	-0.6
SOC	Sochi	91.19	45	eP	P	04 48 32.1	-0.9
SOC				pmax	pmax		
	comp=N,10.0nm,0.9s						
SOC				pmax	pmax		
	comp=E,10.0nm,0.9s						
SOC				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb5.0						
SNAA	Sanae	91.27	164	e	P	04 48 35.8	+3.0
SNAA	Sanae	91.27	164	e	pP	04 48 59.3	+0.5
SNAA	Sanae	91.27	164	e	Px	04 49 05.1	
SNAA	Sanae	91.27	164	⇑iP	P	04 48 33.5	+0.7
SNAA				e		04 48 35.8	
SNAA				e	pP	04 48 59.3	+0.5
SNAA				e		04 49 05.1	
SNAA				e		04 53 47.7	
SNAA	Sanae	91.27	164	⇑iP	P	04 48 33.5	+0.7
SNAA				e	pP	04 48 59.3	+0.5
SNAA				e		04 49 05.1	
MALT	Malatya	91.67	51	eP	P	04 48 36.7	+1.3
	comp=Z,7.2nm,0.8s,mb5.0						
MALT	Malatya	91.67	51	eP	P	04 48 36.7	+1.3
MALT				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.9						
KIV	Kislovodsk	93.13	44	i P	P	04 48 41.6	-0.4
BOSA	Boshof	93.19	118	LR	LR	05 32 04.3	
	comp=Z,58nm,18.1s,baz=163,slow=36						
MKAR	Makanchi Array	114.44	26	PKP	PKPdf	04 54 06.0	-0.2
	comp=Z,0.4nm,0.4s,baz=286,slow=3.0,SNR=4.6						
WMQ	Urumqi	119.09	24	ePKP	PKPdf	04 54 14.0	-1.2
SONM	Songino Array	120.63	9	PKP	PKPdf	04 54 18.4	+0.3
	comp=Z,1.8nm,0.4s,baz=280,slow=1.2,SNR=21						
SONM	Songino Array	120.63	9	PKIKP	PKPdf	04 54 18.4	+0.3
SONM				pmax	pmax		
	comp=Z,2.0nm,0.4s						
CN2	Changchun	125.02	353	ePKP	PKPdf	04 54 28.4	+1.6
MJAR	Matsushiro Arr	128.90	339	PKP	PKPdf	04 54 34.1	-0.4
	comp=Z,1.1nm,0.3s,baz=265,slow=1.1,SNR=9.2						
MJAR	Matsushiro Arr	128.90	339	PKIKP	PKPdf	04 54 34.1	-0.3
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CD2	Chengdu	136.31	17	PKP	PKPdf	04 54 44.0	-4.4
NJ2	Nanjing	137.21	358	ePKP	PKPdf	04 54 52.1	+2.0
NJ2				XPKP		04 55 29.5	
NJ2				PP	PP	04 57 39.0	+0.2
NJ2				PKS	PKS	04 58 27.0	+1.8
NJ2				SKS	SKS	05 01 51.0	+1.9
NJ2				LR	LR		
	comp=N,9μm,25.4s						
NJ2				LR	LR		
	comp=E,12μm,24.7s						
NJ2				LR	LR		
	comp=Z,2μm,23.6s						
KMI	Kunming	141.34	22	PKP	PKPdf	04 54 56.8	-1.0
KMI				PP	PP	04 58 02.2	-2.1
KMI				LR	LR		
	comp=Z,33nm,13.2s						
STKA	Stephens Creek	149.57	223	ePKP	PKPdf	04 55 10.9	-0.6
	comp=Z,6.9nm,0.9s						
STKA	Stephens Creek	149.57	223	PKP	PKPdf	04 55 11.3	-0.1
	comp=Z,5.7nm,0.5s,baz=322,slow=1.5,SNR=6.6						
STKA				PKPbc	PKPdf	04 55 16.9	+5.5
	comp=Z,5.7nm,0.5s,baz=112,slow=3.1,SNR=8.6						
CTA	Charters Tower	150.93	248	i PKP	PKPdf	04 55 20.2	+6.4
	comp=Z,20nm,0.6s						
CTAO	Charters Tower	150.93	248	ePKPbc	PKPdf	04 55 19.7	+5.8
WB2	Warramunga Arr	161.52	239	ePKP	PKPab	04 56 12.3	-2.5
WRA	Warramunga Arr	161.53	239	PKP	PKPdf	04 55 27.9	+0.6
	comp=Z,3.9nm,0.9s,baz=90,slow=0.3,SNR=23						
WRA				PKPab	PKPab	04 56 12.1	-2.7
	comp=Z,3.6nm,0.8s,baz=107,slow=4.4,SNR=26						
WRA	Warramunga Arr	161.53	239	PKIKP	PKPdf	04 55 27.9	+0.6
WRA						04 56 12.1	
WRA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
WRA				pmax	pmax		
	comp=Z,4.0nm,0.8s						

STR ***04*** *04:36:32.7±0.2, 49.32N×6.78E, h1km±1km, Ml2.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
NEIC ***04*** *04:36:32.7, 49.32N×6.78E, h1km, ML3.1(LDG), ML3.1(VIE), ML2.8(STR), After STR.*
CSEM ***04*** *04:36:32.7±0.1, 49.33N×6.84E, h2km, ML3.3/23, Error ellipse: s-maj=1.0km s-min=0.9km az=118.0*
LDG ***04*** *04:36:33.0±0.1, 49.32N×6.82E, h1km, Md3.2/3, Ml3.1/24, Error ellipse: s-maj=1.8km s-min=1.6km az=6.0, Suspected Mining induced.*
BGR ***04*** *04:36:33.9±0.8, 49.35N×6.83E, h1km, ML2.6/3, Error ellipse: s-maj=5.6km s-min=3.3km az=39.0*
BNS ***04*** *04:36:33.9±0.8, 49.36N×6.85E, h1km, ML2.6*
PRU ***04*** *04:36:35.3, 49.33N×7.01E*

ISC 04 04:36:30.4±0.2, 49.29N±0.01×6.75E±0.02, n77, σ1§41/173, 3C-2D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUP	Ruppelstein	0.47	26	Pg	Pg	04 36 40.7	+1.0
RUP				Sg	Sg	04 36 47.3	+1.4
WLF	Walferdange	0.54	315	ePg	Pg	04 36 43.6	+2.4
WLF	SNR=26			eSg	Sg	04 36 50.2	+1.7
	SNR=3.9						
WLF	Walferdange	0.54	315	P	Pg	04 36 43.5	+2.2
WLF	Walferdange	0.54	315	Pg	Pg	04 36 43.6	+2.3
WLF	SNR=26			Sg	Sg	04 36 50.2	+1.7
	SNR=3.9						
WLF				S	Sg	04 36 56.6	+8.1
WLF	Walferdange	0.54	315	ePg	Pg	04 36 43.5	+2.3
LANF	Langenberg	0.76	113	Pg	Pg	04 36 46.4	+0.8
ABH	Alteburg	0.79	41	Pg	Pg	04 36 46.3	0.0
KTD	Kalmit	0.88	87	Pg	Pg	04 36 49.4	+1.5
KTD				Sg	Sg	04 37 00.8	+1.2
CDF	Champ du Feu	0.94	158	ePg	Pg	04 36 50.4	+1.2
CDF				ePn	Pn	04 36 51.5	+0.8
CDF				eSg	Sg	04 37 03.3	+1.5
	159nm,0.2s						
WLS	Welschbruch	0.96	155	Pg	Pg	04 36 51.8	+2.2
WLS				Sg	Sg	04 37 05.7	+3.3
RFYF	Reffroy	1.06	232	ePg	Pg	04 36 54.3	+2.6
	baz=49						
RFYF				eSg	Sg	04 37 08.5	+2.6
	117nm,0.2s						
ECH	Echery	1.10	166	Pg	Pg	04 36 54.4	+1.9
ECH				Sg	Sg	04 37 10.2	+3.0
THEF	They Montfort	1.17	206	Pg	Pg	04 36 55.6	+1.8
THEF				Sg	Sg	04 37 12.3	+2.8
HAU	Haudompre	1.31	192	ePn	Pn	04 36 57.1	+1.2
HAU				ePg	Pg	04 36 58.3	+1.8
HAU				eSg	Sg	04 37 14.4	+0.4
	106nm,0.3s						
STB	Steinbach	1.31	3	ePg	Pg	04 36 56.6	0.0
STB				eSg	Sg	04 37 13.2	-0.9
	91nm,0.5s						
MEZF	Maizieres J'vi	1.36	236	ePn	Pn	04 36 59.1	+2.3
	baz=44						
MEZF				eSg	Sg	04 37 19.3	+3.4
	22nm,0.2s						
TOD	Tromm	1.38	76	Pg	Pg	04 36 57.6	-0.4
TOD				Sg	Sg	04 37 16.6	+0.2
KLL	Kalltalsperre	1.39	349	ePg	Pg	04 36 57.2	-1.0
KLL				eSg	Sg	04 37 16.3	-0.5
	40nm,0.5s						
BFO	Black Forest	1.42	132	ePn	Pn	04 36 57.9	+0.4
	SNR=6.5						
BFO				ePg	Pg	04 36 59.9	+1.2
	SNR=16						
BFO				eSg	Sg	04 37 18.0	+0.4
	SNR=7.7						
BFO	Black Forest	1.42	132	Pg	Pg	04 36 59.9	+1.2
	SNR=16						
BFO				Sg	Sg	04 37 18.0	+0.4
	SNR=7.7						
BFO	Black Forest	1.42	132	ePn	Pn	04 36 57.9	+0.4
BFO				ePg	Pg	04 36 59.9	+1.2
BFO				eSg	Sg	04 37 18.0	+0.4
TNS	Taunus Mts	1.45	49	ePn	Pn	04 36 57.5	-0.4
	SNR=5.8						
TNS				ePg	Pg	04 36 58.4	-0.9
	SNR=14						
TNS				eSg	Sg	04 37 17.0	-1.7
	SNR=3.4						
TNS	Taunus Mts	1.45	49	Pg	Pg	04 36 58.4	-1.0
	SNR=14						
TNS				Sg	Sg	04 37 17.0	-1.7
	SNR=3.4						
TNS	Taunus Mts	1.45	49	ePn	Pn	04 36 57.5	-0.5
TNS				ePg	Pg	04 36 58.4	-1.0
TNS				eSg	Sg	04 37 17.0	-1.7
MOF	Molkenrain	1.46	170	Pg	Pg	04 37 00.8	+1.3
MOF				Sg	Sg	04 37 20.8	+1.9
HINF	Hinteralfeld	1.47	177	ePn	Pn	04 36 58.8	+0.5
HINF				ePg	Pg	04 37 00.8	+1.0
HINF				eSg	Sg	04 37 20.7	+1.3
	106nm,0.2s						
GIVF	Givet	1.49	304	ePn	Pn	04 36 59.9	+1.3
GIVF				eSg	Sg	04 37 20.9	+0.7
	45nm,0.3s						
SFTF	Sexfontaines	1.56	227	ePn	Pn	04 37 01.2	+1.6
	baz=46						
SFTF				eSg	Sg	04 37 24.5	+2.0
	18nm,0.2s						
HGN	Heimansgroeve	1.57	341	ePn	Pn	04 37 00.3	+0.5
	3.8nm,0.3s,baz=150						
HGN				⇑iPg	Pg	04 37 02.0	+0.2
	16nm,0.2s						
HGN				eSg	Sg	04 37 19.7	-3.1
HGN	Heimansgroeve	1.57	341	ePn	Pn	04 37 00.3	+0.5
	SNR=12						
HGN				ePg	Pg	04 37 02.0	+0.1
	SNR=8.0						
HGN				eSg	Sg	04 37 21.7	-1.1
	SNR=4.2						
HGN	Heimansgroeve	1.57	341	⇑iPg	Pg	04 37 02.0	+0.2
	16nm,0.2s						
HGN				Sg	Sg	04 37 21.7	-1.1
	SNR=4.2						
DOU	Dourbes	1.62	301	P	Pn	04 37 01.6	+1.2
DOU				S	Sb	04 37 22.4	+0.6
FELD	Feldberg	1.64	149	Pg	Pg	04 37 03.8	+0.6
FELD				Sg	Sg	04 37 27.0	+2.0
BEBN	Eben Emael	1.66	336	S	Sb	04 37 25.3	+2.2
STU	Stuttgart	1.69	107	eSg	Sg	04 37 24.3	-2.4
	SNR=3.0						
BNS	Bensberg	1.70	9	ePg	Pg	04 37 02.3	-2.2
BNS				eSg	Sg	04 37 21.8	-5.4
	119nm,0.5s						
BAIF	Baives	1.82	296	ePn	Pn	04 37 04.8	+1.5
BAIF				ePg	Pg	04 37 07.1	+0.3
BAIF				eSg	Sg	04 37 31.8	+0.7
	29nm,0.3s						
LOMF	Lomont	1.94	178	Pg	Pg	04 37 09.7	+0.6
SNF	Seneffe	2.01	309	P	Pn	04 37 07.4	+1.4
SNF				S	Sn	04 37 37.5	+5.3
WTSB	Winterswijk	2.69	1	eSg	Sg	04 37 54.9	-4.9
WTSB	Winterswijk	2.69	1	eSg	Sg	04 37 55.2	-4.6
	SNR=3.0						
CABF	La Chapelle	2.71	190	ePn	Pn	04 37 16.8	+0.8
CABF				eSg	Sg	04 37 59.9	-0.8
	35nm,0.6s						
LOR	Lormes	2.79	225	ePn	Pn	04 37 17.4	+0.2
	baz=45						
LOR				eSn	Sn	04 37 52.1	+0.1
LOR				eSg	Sg	04 38 01.4	-2.0
	25nm,0.4s						
DAVA	Damuels	2.89	133	⇓iPN	Pn	04 37 20.0	+1.4
DAVA				i SN	Sn	04 37 54.4	-0.3
DAVA				i SG	Sg	04 38 06.6	-0.2
	7.3nm,0.3s						
SSF	Saint Saulge	3.11	225	ePn	Pn	04 37 21.5	-0.2
SSF				ePg	Pg	04 37 31.3	-1.2
SSF				eSn	Sn	04 38 00.0	0.0
SSF				eSg	Sg	04 38 13.7	-0.2
	15nm,0.4s						
SMF	Signal de Mont	3.28	218	ePn	Pn	04 37 23.8	-0.4
SMF				eSn	Sn	04 38 02.6	-1.9
SMF				eSg	Sg	04 38 17.9	-1.9
	10nm,0.3s						
AVF	Avril sur Loir	3.38	224	ePn	Pn	04 37 25.0	-0.5
AVF				eSn	Sn	04 38 06.2	-0.7
HYF	Humbligny	3.41	235	ePn	Pn	04 37 26.7	+0.8
HYF				eSn	Sn	04 38 03.7	-3.9
HYF				eSg	Sg	04 38 22.0	-1.8
MOX	Moxa	3.43	65	ePg	Pg	04 37 34.9	-3.9
MOX				eSg	Sg	04 38 20.7	-3.8
MOX	Moxa	3.43	65	S	Sn	04 38 09.0	+0.9
MOX				Sg	Sg	04 38 21.0	-3.5
MOTA	Moosalm	3.50	122	⇑iPN	Pn	04 37 28.2	+1.0
MOTA				i SN	Sn	04 38 07.8	-2.1
MOTA				i SG	Sg	04 38 23.6	-3.2
	11nm,0.5s						
SQTA	Sankt Quirin	3.63	123	⇓iPN	Pn	04 37 29.6	+0.6
SQTA				i SN	Sn	04 38 11.7	-1.5
SQTA				i SG	Sg	04 38 26.8	-4.4
	6.4nm,0.3s						
LPL	La Plagne	3.77	180	ePn	Pn	04 37 31.9	+0.8
LPL				ePg	Pg	04 37 43.0	-2.7
LPL				eSg	Sg	04 38 32.7	-3.3
	2.4nm,0.4s						
GUNZ	Gunzen	3.77	71	ePn	Pn	04 37 30.3	-0.8
	SNR=2.7						
GUNZ				ePg	Pg	04 37 42.0	-3.8
	SNR=2.7						
GUNZ				eSg	Sg	04 38 29.9	-6.2
	SNR=2.7						
LPG	La Plagne	3.79	180	ePn	Pn	04 37 32.3	+1.0
LPG				ePg	Pg	04 37 44.0	-2.1
LPG				eSn	Sn	04 38 15.2	-2.1
LPG				eSg	Sg	04 38 34.3	-2.3
	5.4nm,0.6s						
NKC	Novy Kostel	3.82	73	eSG	Sg	04 38 30.1	-7.4
WET	Wettzell	4.02	90	ePn	Pn	04 37 34.5	-0.2
WET				eSn	Sn	04 38 18.4	-4.9
	SNR=2.3						
TCF	Toulx Ste Croi	4.28	227	ePn	Pn	04 37 37.6	-0.8
TCF				ePg	Pg	04 37 53.6	-2.3
TCF				eSg	Sg	04 38 49.4	-3.6
ORIF	Oris-en-Rattie	4.41	188	ePn	Pn	04 37 39.4	-0.8
ORIF				ePg	Pg	04 37 56.1	-2.3
ORIF				eSg	Sg	04 38 52.4	-4.8
	8.5nm,0.7s						
KHC	Kasperske Hory	4.48	89	ePN	Pn	04 37 40.8	-0.4
KHC				ePG	Pg	04 37 58.9	-1.0
KHC				eSN	Sn	04 38 30.1	-4.8
KHC				eSG	Sg	04 38 52.5	-7.2
KHC	Kasperske Hory	4.48	89	ePn	Pn	04 37 40.8	-0.4
KHC				eSn	Sn	04 38 30.1	-4.8
KHC				eSg	Sg	04 38 52.5	-7.2
CLL	Collm	4.49	61	eSG	Sg	04 38 55.0	-5.0
MBDF	Montbardon	4.56	180	ePn	Pn	04 37 43.1	+0.8
GEC2	GERESS Array S	4.59	93	ePn	Pn	04 37 42.3	-0.5
GEC2				eSn	Sn	04 38 32.3	-5.4
	SNR=3.2						
VIVF	Saint-Julien-l	4.65	199	ePn	Pn	04 37 43.2	-0.4
VIVF				ePg	Pg	04 38 00.1	-3.2
VIVF				eSg	Sg	04 39 00.6	-4.7
	2.5nm,0.3s						
FLN	La Foliniere	4.79	266	ePn	Pn	04 37 45.7	+0.2
FLN				ePg	Pg	04 38 03.6	-2.4
FLN				eSn	Sn	04 38 38.2	-4.3
FLN				eSg	Sg	04 39 04.6	-5.1
	14nm,0.6s						
BRG	Berggiesshubel	4.90	68	eSg	Sg	04 39 09.1	-4.4
GRR	Gorron	5.10	263	ePn	Pn	04 37 49.8	-0.2
GRR				ePg	Pg	04 38 09.2	-3.1
GRR				eSn	Sn	04 38 44.3	-6.2
GRR				eSg	Sg	04 39 14.5	-5.8
	5.2nm,0.3s						
PRU	Pruhonice	5.12	79	eSG	Sg	04 39 09.8	-11
RJF	Les Rejaudoux	5.34	224	ePn	Pn	04 37 52.9	-0.4
MFF	Saint Martin d	5.35	243	ePn	Pn	04 37 52.8	-0.7
MFF				eSn	Sn	04 38 50.7	-6.1
CAF	Calviac	5.41	218	ePn	Pn	04 37 52.8	-1.5
CAF				ePg	Pg	04 38 13.6	-4.8
LFF	La Frestale	5.97	226	ePg	Pg	04 38 24.0	-5.7
LFF				eSg	Sg	04 39 42.4	-6.9
	8.8nm,0.3s						
SGMF	Saint Gilles	6.24	264	ePn	Pn	04 38 04.7	-1.3
SGMF				eSn	Sn	04 39 09.7	-9.3
	4.6nm,0.4s						
ROSF	Rostrenen	6.69	266	ePn	Pn	04 38 10.6	-1.7
ROSF				eSn	Sn	04 39 20.8	-9.4
	3.8nm,0.5s						
QUIF	Quistinic	6.71	262	ePn	Pn	04 38 11.5	-1.2
QUIF				ePg	Pg	04 38 37.9	-6.6
QUIF				eSn	Sn	04 39 22.4	-8.5
	3.0nm,0.4s						
MTLF	Montolieu	6.72	209	ePn	Pn	04 38 10.2	-2.6
MTLF				ePg	Pg	04 38 38.3	-6.3

CSEM ***04*** *05:11:41.5±0.4, 77.53N×18.56E, h2km, ML2.3, Error ellipse: s-maj=37.2km s-min=4.9km az=60.0*
NAO ***04*** *05:11:44.9±2.8, 77.68N×18.26E, h12km±27km, ML2.3*
BER ***04*** *05:11:47.2±3.0, 77.72N×18.02E, MD1.9, ML2.6, ML2.3(NAO)*

ISC 04 05:11:43.2±1.1, 77.3N±0.1×16.5E±0.5, h10km, n8, σ1§29/12, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPA0	Spitsbergen Ar	0.84	359	Pg	Pg	05 11 56.5	-3.5
	baz=140,slow=18						
SPA0				Lg		05 12 04.9	
	baz=141,slow=37						
SPA0	Spitsbergen Ar	0.84	359	Pg	Pg	05 11 56.5	-3.5
	baz=140,slow=18,SNR=5.4						
KBS	Kingsbay	1.84	332	Pn	Pn	05 12 15.9	+0.6
KBS				Pg	Pg	05 12 18.4	-1.7
KBS				Lg		05 12 41.7	
KBS	Kingsbay	1.84	332	eP	Pn	05 12 15.5	+0.3
KBS				eS	Sn	05 12 40.1	+1.3
KBS				AML	AML	05 12 44.4	
	comp=Z,94nm,0.4s						
KBS	Kingsbay	1.84	332	Pn	Pn	05 12 15.9	+0.7
KBS	Kingsbay	1.84	332	Pg	Pg	05 12 18.4	-1.7
KBS				eS	Sn	05 12 40.2	+1.4
	comp=Z,94nm,0.4s,SNR=50						
HOPEN	Hopen	2.12	109	eP	Pn	05 12 20.7	+1.5
HOPEN				eS	Sn	05 12 45.3	-0.5
ARA0	ARCESS Array S	8.25	157	Pn	P	05 13 45.4	-0.4
	baz=352,slow=11						

TRN ***04*** *05:21:49.7, 10.97N×62.26W, h121km, MD3.1*
FUNV ***04*** *05:21:49.7, 10.94N×62.24W, h88km, MW3.0*
NEIC ***04*** *05:21:49.2, 10.92N×62.23W, h131km, MD3.1(TRN), After TRN.*

ISC 04 05:21:49.0±0.6, 10.89N±0.04×62.40W±0.03, h100km±6km, n21, σ1§01/37, 2C-1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	Guiria	0.30	143	eP	P	05 22 02.9	-0.8
GUIV				eS	S	05 22 12.3	-2.4
CRUV	Carupano	0.84	256	⇓iP	P	05 22 08.8	+0.7
CRUV				eS	S	05 22 22.5	+0.3
ITEV	Isla Los Testi	0.85	303	eP	P	05 22 08.4	+0.3
ITEV				eS	S	05 22 22.1	-0.3
GUNV	Guanoco	0.89	216	eP	P	05 22 09.5	+1.0
GUNV				eS	S	05 22 23.9	+0.7
TRN	Trinidad (W)	1.01	103	⇑iP	P	05 22 10.6	+0.7
TRN				eS	S	05 22 23.0	-2.4
TPP	Pointe-a-Pierr	1.09	121	eP	P	05 22 11.4	+0.6
TPP				eS	S	05 22 28.7	+1.6
TBH	Brigand Hill	1.37	107	⇑iP	P	05 22 15.0	+0.8
TBH				eS	S	05 22 33.8	+0.9
GRW	Mount Saint Ca	1.46	30	eP	P	05 22 16.3	+1.1
GRW				eS	S	05 22 36.0	+1.2
GRHS	Sauteurs	1.53	29	eP	P	05 22 16.0	0.0
GRHS				eS	S	05 22 34.8	-1.3
TPR	Prospect	1.62	79	eP	P	05 22 17.1	-0.2
TPR				eS	S	05 22 36.5	-1.7
BOT	Bacolet	1.68	80	eP	P	05 22 17.4	-0.5
ORIV	Oritupano	2.06	209	eP	P	05 22 24.0	+1.2
ORIV				eS	S	05 22 48.1	+0.2
IBAV	Isla La Blanqu	2.33

n16,σ1°10/31,2C,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.25**	**101**	*eP*	**P**	**05 27 28.0**	**-0.3**
GUIV				*eS*	**S**	05 27 37.0	-1.9
GUNV	**Guanoco**	**0.70**	**221**	*eP*	**P**	**05 27 33.2**	**+1.6**
GUNV				*eS*	**S**	05 27 46.4	+1.8
CRUV	**Carupano**	**0.75**	**269**	⇑*iP*	**P**	**05 27 32.7**	**+0.7**
CRUV				*eS*	**S**	05 27 45.9	+0.6
ITEV	**Isla Los Testi**	**0.92**	**315**	*eP*	**P**	**05 27 33.9**	**+0.1**
ITEV				*eS*	**S**	05 27 47.7	-0.7
TRN	**Trinidad (W)**	**1.05**	**92**	⇑*iP*	**P**	**05 27 36.4**	**+1.1**
TRN				*eS*	**S**	05 27 49.5	-1.6
TPP	**Pointe-a-Pierr**	**1.07**	**110**	*eP*	**P**	**05 27 37.5**	**+2.0**
TPP				*eS*	**S**	05 27 51.7	+0.2
TBH	**Brigand Hill**	**1.40**	**99**	*eP*	**P**	**05 27 40.8**	**+1.4**
TBH				*eS*	**S**	05 27 57.3	-0.9
GRW	**Mount Saint Ca**	**1.66**	**29**	*eP*	**P**	**05 27 42.2**	**-0.5**
GRW				*eS*	**S**	05 27 59.6	-4.2
TPR	**Prospect**	**1.73**	**74**	*eP*	**P**	**05 27 44.3**	**+0.6**
TPR				*eS*	**S**	05 28 03.8	-1.7
BOT	**Bacolet**	**1.79**	**75**	*eP*	**P**	**05 27 44.7**	**+0.4**
ORIV	**Oritupano**	**1.86**	**210**	*eP*	**P**	**05 27 46.1**	**+0.9**
IBAV	**Isla La Blanqu**	**2.35**	**299**	*eP*	**P**	**05 27 52.3**	**+0.4**
IBAV				*eS*	**S**	05 28 20.3	+0.3
GURV	**El Guri**	**2.98**	**192**	*eP*	**P**	**05 28 00.2**	**-0.3**
GURV				*eS*	**S**	05 28 33.6	-1.8
MERV	**Las Mercedes**	**4.03**	**249**	*eP*	**P**	**05 28 14.4**	**-0.6**
MERV				*eS*	**S**	05 29 00.2	-1.1
CAOV	**Caicara del Or**	**5.07**	**229**	*eP*	**P**	**05 28 28.7**	**-0.4**
CAOV				*eS*	**S**	05 29 22.6	-4.2
BAUV	**El Baul**	**5.76**	**253**	*eP*	**P**	**05 28 37.3**	**-1.2**
BAUV				*eS*	**S**	**05 29 39.3**	**-4.6**

NEIC ***04*** *05:41:11.9±0.9, 15.62S×70.24W, h213km±9km, mb3.6/3, Error ellipse: s-maj=16.2km s-min=14.2km az=148.0*
IDC ***04*** *05:41:12.8±1.6, 15.90S×70.20W, h231km±12km, mb3.2/3, mb1 3.3/5, mb1mx3.1/19, mbtmp3.8/5, Error ellipse: s-maj=23.8km s-min=19.8km az=111.0*

ISC 04 05:41:10.8±0.6, 15.63S±0.09×70.34W±0.06, h223km±6km, n14, σ0°99/20, mb3.6/4, 1D, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**1.39**	**233**	⇓*iP*	**P**	**05 41 46.2**	**+0.2**
ARE				*i S*	**S**	05 42 12.4	-0.8
LPAZ	**La Paz**	**2.22**	**108**	P	**P**	**05 41 55.4**	**+1.7**
	48nm,0.3s,baz=300,slow=7.7,SNR=2299						
LPAZ				S	**S**	**05 42 27.7**	**+0.9**
	3.9nm,0.3s,baz=183,slow=25,SNR=9.5						
LPAZ	**La Paz**	**2.22**	**108**	P	**P**	**05 41 55.4**	**+1.7**
LPAZ				S	**S**	05 42 27.7	+0.9
LVC	**Limon Verde**	**7.08**	**169**	P	**P**	**05 42 52.5**	**-0.5**
	4.3nm,0.3s,baz=341,slow=7.3,SNR=71						
LVC				S	**S**	**05 44 07.4**	**-5.4**
	4.4nm,0.3s,baz=315,slow=24,SNR=13						
LVC	**Limon Verde**	**7.08**	**169**	*eP*n	**P**	**05 42 52.2**	**-0.7**
LVC				*eS*n	S	05 43 47.0	-26
NNA	**Nana**	**7.28**	**299**	*eP*n	**P**	**05 43 02.0**	**+6.5**
NNA				*eS*	**S**	05 44 17.4	0.0
SIV	**San Ignacio**	**8.93**	**94**	P	**P**	**05 43 15.2**	**-1.6**
	0.4nm,0.3s,baz=275,slow=12,SNR=11						
SIV				S	**S**	**05 45 07.6**	**+12**
	0.1nm,0.3s,baz=197,slow=21,SNR=4.9						
SAML	**Samuel**	**9.63**	**47**	*eP*	**P**	**05 43 25.1**	**-0.8**
	3.0nm,0.9s						
CPUP	**Villa Florida**	**16.14**	**133**	P	**P**	**05 44 46.3**	**-0.8**
	2.4nm,1.1s						
BDFB	**Brasilia**	**21.50**	**93**	P	**P**	**05 45 43.0**	**+0.3**
	1.9nm,0.7s,mb3.8,baz=262,slow=7.3,SNR=4.2						
TXAR	**Lajitas Array**	**55.08**	**324**	P	**P**	**05 50 23.0**	**+1.1**
	0.3nm,0.6s,mb3.0,baz=158,slow=12,SNR=5.4						
TXAR	**Lajitas Array**	**55.08**	**324**	P	**P**	**05 50 23.0**	**+1.1**
SNAA	**Sanae**	**68.25**	**162**	*eP*	**P**	**05 51 50.4**	**+1.4**
	4.1nm,1.3s,mb3.9						
DBIC	**Dimbokro**	**68.51**	**76**	P	**P**	**05 51 50.5**	**-1.1**
	0.8nm,0.3s,mb3.8,baz=221,slow=8.4,SNR=8.1						

PDG ***04*** *05:47:36.7±0.1, 38.92N×23.90E, h11km±1km*
BJI ***04*** *05:47:38.7, 38.87N×23.04E, h22km, mB4.9, mb4.8, Ms4.5, Msz4.1*
ATH ***04*** *05:47:39.6, 38.99N×23.33E, h23km, ML4.6*
MOS ***04*** *05:47:39.4±1.0, 39.02N×23.38E, h10km, mb4.8/11, Error ellipse: s-maj=4.2km s-min=2.6km az=98.0*
CSEM ***04*** *05:47:40.0, 39.06N×23.43E, h10km, ML4.8*
NEIC ***04*** *05:47:40.3±0.8, 38.97N×23.40E, h4km±5km, mb4.4/31, MD4.3(ATH), ML4.3(THE), Error ellipse: s-maj=3.2km s-min=2.5km az=208.0*
NEIC Felt at Amarinthos, Athens and Thessaloniki.
THE ***04*** *05:47:41.2, 39.03N×23.33E, h4km, ML4.4*
PRU ***04*** *05:47:41.4, 39.05N×23.04E, M4.6*
SOF ***04*** *05:47:43.1, 39.30N×23.59E, h10km, MD3.9*
IDC ***04*** *05:47:43.2±3.5, 38.99N×23.28E, h24km±25km, mb4.1/13, mb1 4.2/22, mb1mx4.1/31, mbtmp4.2/22, ML3.8/7, MS3.9/22, Ms1 3.9/22, ms1mx3.8/32, Error ellipse: s-maj=13.3km s-min=10.7km az=75.0*
HLW ***04*** *05:47:56.2, 37.86N×23.82E, h33km, Mb3.9*

ISC 04 05:47:38.9±0.4, 38.99N±0.01×23.38E±0.02, h4km±3km, n380, σ1°22/422, mb4.5/41, MS3.9/22, 25C-15D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.34**	**340**	⇑*iPB*	**Pb**	**05 47 47.0**	**-0.1**
NEO				*eSB*	**Sb**	05 47 52.8	+0.3
XOR	**Xorichti**	**0.40**	**339**	*ePg*	**Pg**	05 47 48.1	+1.1
AOS	**Alonnisos**	**0.43**	**65**	*ePg*	**Pg**	05 47 49.0	+1.4
LKR	**Lokris**	**0.45**	**221**	⇑*iPB*	**Pb**	05 47 48.5	-0.4
LKR				*eSB*	**Sb**	05 47 54.5	-1.2
AGG	**Agios Georgios**	**0.81**	**273**	*ePg*	**Pg**	05 47 54.4	-0.8
MPAR	**Parnis Oros**	**0.88**	**161**	⇓*iPN*	**Pn**	05 47 57.0	-0.8
PAIG	**Paliouri**	**0.97**	**14**	*ePg*	**Pg**	05 47 59.1	+0.9
PAIG				*eSg*	**Sg**	05 48 13.6	+2.5
MGER	**Gerania Oros**	**1.00**	**185**	⇓*iPN*	**Pn**	05 47 58.5	-1.1
PTL	**Penteli**	**1.01**	**158**	*ePN*	**Pn**	05 47 59.5	-0.2
ATH	**Athens Observa**	**1.05**	**165**	⇑*iPN*	**Pn**	05 48 00.0	-0.2
ATH				*eSN*	**Sn**	05 48 15.2	-0.2
NSAL	**Nisos Salamina**	**1.08**	**176**	⇓*iPN*	**Pn**	05 48 00.2	-0.5
EVR	**Evrytania**	**1.22**	**267**	*ePN*	**Pn**	05 48 01.6	-1.1
EVR				*eSN*	**Sn**	05 48 18.6	-1.3
NAIG	**Nisos Aigina**	**1.23**	**176**	⇓*iPN*	**Pn**	05 48 03.0	+0.2
LIT	**Litokhoron**	**1.30**	**329**	*ePg*	**Pg**	05 48 04.0	-0.9
LIT				*eSg*	**Sg**	05 48 22.3	-0.1
PLG	**Polygyros**	**1.39**	**2**	⇑*iPN*	**Pn**	05 48 05.2	+0.2
PLG				*eSN*	**Sn**	05 48 23.6	-0.3
OUR	**Ouranopolis**	**1.42**	**19**	*ePg*	**Pg**	05 48 06.0	-1.3
LIA	**Limnos Island**	**1.67**	**56**	⇓*iPB*	**Pb**	05 48 09.4	-0.4
LIA				*eSN*	**Sn**	05 48 32.6	+1.4
THE	**Thessaloniki**	**1.67**	**349**	*ePb*	**Pb**	05 48 08.9	-1.0
RLS	**Riolos of Patr**	**1.76**	**239**	*ePN*	**Pn**	05 48 11.2	+0.8
KZN	**Kozani**	**1.81**	**317**	*ePN*	**Pn**	05 48 12.3	+1.2
KZN				*eSN*	**Sn**	05 48 33.9	-0.8
MEV	**Metsovon**	**1.84**	**296**	*ePb*	**Pb**	05 48 12.0	-0.9
JAN	**Janina**	**2.07**	**290**	*ePN*	**Pn**	05 48 15.5	+0.7
JAN	**Janina**	**2.07**	**290**	*ePn*	**Pn**	05 48 15.9	+1.1
GRG	**Griva**	**2.10**	**339**	*ePn*	**Pn**	05 48 15.4	+0.1
SRS	**Serrai**	**2.13**	**4**	*ePn*	**Pn**	05 48 15.8	+0.1
ITM	**Ithomi**	**2.14**	**213**	*ePn*	**Pn**	05 48 16.8	+1.0
ITM				*eSN*	**Sn**	05 48 42.4	-0.7
ITM	**Ithomi**	**2.14**	**213**	*ePn*	**Pn**	05 48 17.1	+1.3
ITM				*eSn*	**Sn**	05 48 42.4	-0.7
PRK	**Paraskevi**	**2.27**	**83**	⇓*iPN*	**Pn**	05 48 18.2	+0.5
PRK				*eSN*	**Sn**	05 48 46.5	+0.1
VLI	**Veliai**	**2.29**	**189**	⇑*iPN*	**Pn**	05 48 17.8	-0.2
VLI				*eSN*	**Sn**	05 48 46.5	-0.5
VLS	**Valsamata**	**2.33**	**251**	*ePb*	**Pb**	05 48 18.9	-2.2
VLS				Pn	**Pn**	05 48 22.1	+3.6
FNA	**Florina**	**2.36**	**320**	*ePn*	**Pn**	05 48 19.8	+0.7
NVR	**Nevrokopi**	**2.39**	**9**	⇑*iPN*	**Pn**	05 48 19.3	-0.1
VAY	**Valandovo**	**2.41**	**345**	⇑*iPn*	**Pn**	05 48 19.7	0.0
VAY				⇓*iSn*	**Sn**	05 48 49.5	-0.5
IGT	**Igoumenitsa**	**2.42**	**284**	*ePn*	**Pn**	05 48 22.5	+2.6
EZN	**Ezine**	**2.43**	**69**	PN	**Pn**	05 48 20.1	0.0
EZN	**Ezine**	**2.43**	**69**	Pn	**Pn**	05 48 18.9	-1.1
APE	**Apeiranthos**	**2.56**	**138**	PN	**Pn**	05 48 23.1	+1.2
APE				SN	**Sn**	05 48 53.1	-0.8
APE	**Apeiranthos**	**2.56**	**138**	*ePN*	**Pn**	05 48 22.6	+0.7
APE				*eSN*	**Sn**	05 48 54.1	+0.2
APE	**Apeiranthos**	**2.56**	**138**	*ePn*	**Pn**	05 48 22.6	+0.7
APE				*eSn*	**Sn**	05 48 53.1	-0.8
AYVA	**Ayvalik**	**2.60**	**82**	*i* P	**Pn**	05 48 22.8	+0.4
URLA	**Izmir**	**2.60**	**103**	*i* P	**Pn**	05 48 21.9	-0.5
MMB	**Musomiste**	**2.61**	**6**	P	**Pn**	05 48 22.0	-0.6
KYTH	**Kithira**	**2.72**	**186**	*ePN*	**Pn**	05 48 24.0	-0.1
RDO	**Rodhopi**	**2.72**	**37**	*ePN*	**Pn**	05 48 24.1	0.0
ALN	**Alexandroupoli**	**2.80**	**46**	*ePn*	**Pn**	05 48 24.9	-0.4
RZN	**Rozhen**	**2.88**	**20**	P	**Pn**	05 48 26.0	-0.5
RZN	**Rozhen**	**2.88**	**20**	P	**Pn**	05 48 27.0	+0.5
OHR	**Ohrid**	**2.90**	**318**	*ePn*	**Pn**	05 48 27.8	+1.1
OHR				*i*		05 48 35.2	
OHR				*eSn*	**Sn**	05 49 16.2	**+14**
BLCB	**Balcova**	**2.93**	**101**	PN	**Pn**	05 48 26.9	-0.3
BLCB	**Balcova**	**2.93**	**101**	Pn	**Pn**	05 48 26.8	-0.4
LPK	**Lapseki**	**2.96**	**61**	PN	**Pn**	05 48 27.6	+0.1
SMG	**Samos**	**3.01**	**114**	*ePN*	**Pn**	05 48 28.8	+0.6
CANB	**Canakkale**	**3.03**	**69**	PN	**Pn**	05 48 28.3	-0.2
KDZ	**Kurdzhali**	**3.08**	**30**	P	**Pn**	05 48 28.0	-1.3
KDZ	**Kurdzhali**	**3.08**	**30**	P	**Pn**	05 48 29.0	-0.3
SANT	**Santorini**	**3.09**	**147**	*ePn*	**Pn**	05 48 29.3	-0.1
SANT	**Santorini**	**3.09**	**147**	*ePg*	**Pg**	05 48 39.6	-1.0
SANT	**Santorini**	**3.09**	**147**	*ePn*	**Pn**	05 48 29.3	-0.1
SANT				*ePg*	**Pg**	05 48 39.6	-1.0
SANT				*eSn*	**Sn**	05 49 16.5	+9.2
THR1	**Thera Island**	**3.09**	**147**	*ePn*	**Pn**	05 48 32.2	+2.8
IZM	**Izmir**	**3.10**	**100**	PN	**Pn**	05 48 30.0	+0.4
IZM	**Izmir**	**3.10**	**100**	Pn	**Pn**	05 48 29.9	+0.4
KDAG	**Bornova**	**3.10**	**100**	*i* P	**Pn**	05 48 28.2	-1.3
PLD	**Plovdiv**	**3.27**	**18**	P	**Pn**	05 48 32.0	0.0
SKO	**Skopje**	**3.33**	**334**	*i* Pn	**Pn**	05 48 32.7	-0.1
SKO				*eSn*	**Sn**	05 49 22.2	+9.0
AKS	**Akhisar**	**3.46**	**90**	PN	**Pn**	05 48 34.1	-0.6
DIM	**Dimitrovgrad**	**3.47**	**28**	P	**Pn**	05 48 34.0	-0.8
BALB	**Balikesir**	**3.55**	**78**	PN	**Pn**	05 48 34.8	-1.2
TIR	**Tirane**	**3.58**	**312**	*i* Pn	**Pn**	05 48 43.0	+6.7
VTS	**Vitosha**	**3.60**	**358**	P	**Pn**	05 48 37.0	+0.3
VTS				Pg	**Pg**	05 48 49.0	-1.8
PGB	**Panagyurishte**	**3.61**	**9**	P	**Pn**	05 48 36.0	-0.8
PGB	**Panagyurishte**	**3.61**	**9**	P	**Pn**	05 48 35.5	-1.3
MRMT	**Marmara Adasi**	**3.63**	**62**	*ePN*	**Pn**	05 48 36.3	-0.8
MRMT	**Marmara Adasi**	**3.63**	**62**	Pn	**Pn**	05 48 36.2	-0.9
VAM	**Vamos**	**3.63**	**169**	*ePN*	**Pn**	05 48 38.5	+1.4
VAM	**Vamos**	**3.63**	**169**	*ePn*	**Pn**	05 48 39.1	+2.0
BODT	**Bodrum**	**3.65**	**121**	*ePN*	**Pn**	05 48 38.4	+1.0
QSH	**Qafa e Shtames**	**3.67**	**315**	*i* Pn	**Pn**	05 48 42.5	+4.9
QSH				*i* Sn	**Sn**	05 49 29.5	+7.6
BTOK	**Tokmak**	**3.69**	**76**	*i* P	**Pn**	05 48 39.4	+1.5
BDRM	**Kayabasi**	**3.74**	**120**	*i* P	**Pn**	05 48 39.9	+1.2
BNT	**Bandirma**	**3.76**	**67**	*ePN*	**Pn**	05 48 39.2	+0.2
BNT	**Bandirma**	**3.76**	**67**	Pn	**Pn**	05 48 39.1	+0.1
EDRB	**Edirne**	**3.84**	**41**	*ePN*	**Pn**	05 48 40.6	+0.5
MLSB	**Milas**	**3.86**	**115**	*ePN*	**Pn**	05 48 40.6	+0.3
IDI	**Anoyia**	**3.89**	**161**	Pn	**Pn**	05 48 42.4	+1.7
	15nm,0.3s,baz=326,slow=14,SNR=36						
IDI				Sn	**Sn**	05 49 28.1	+0.7
	14nm,0.3s,baz=298,slow=13,SNR=4.7						
IDI				Lg		05 49 48.1	
	23nm,0.3s,baz=298,slow=20,SNR=3.6						
IDI				LR	LR	05 50 25.3	
	comp=Z,2μm,21.5s,baz=333,slow=41						
MANT	**Manisa**	**4.08**	**95**	*i* P	**Pn**	**05 48 44.9**	**+1.4**
DST	**Dursunbey**	**4.12**	**80**	*ePN*	**Pn**	05 48 43.5	-0.5
NPS	**Neapolis**	**4.13**	**154**	*ePN*	**Pn**	05 48 44.5	+0.4
NPS	**Neapolis**	**4.13**	**154**	*ePn*	**Pn**	05 48 45.1	+1.0
GVD	**Gavdhos**	**4.18**	**172**	*ePn*	**Pn**	05 48 46.5	+1.6
YER	**Yerkesik**	**4.29**	**114**	*ePN*	**Pn**	05 48 47.6	+1.1
ULC	**Ulcinj**	**4.33**	**315**	*ePn*	**Pn**	05 48 48.3	+1.3
ULC				*eSn*	**Sn**	05 49 42.7	+4.1
ZAPS	**Zavoj/Pirot**	**4.34**	**353**	⇑*iPn*	**Pn**	05 48 46.6	-0.6
ZAPS				Sn	**Sn**	05 49 36.7	-2.3
PVY	**Plav**	**4.43**	**325**	*ePn*	**Pn**	05 48 49.4	+0.9
PVY				*eSn*	**Sn**	05 49 44.2	+3.0
CTT	**Catalca**	**4.44**	**59**	*ePN*	**Pn**	05 48 47.9	-0.7
CTT	**Catalca**	**4.44**	**59**	Pn	**Pn**	05 48 47.8	-0.7
PVL	**Pavlikeni**	**4.47**	**19**	P	**Pn**	05 48 46.5	-2.6
XRY	**Khrisi**	**4.51**	**155**	*ePN*	**Pn**	05 48 50.0	+0.5
KARP	**Karpathos**	**4.57**	**138**	*ePN*	**Pn**	05 48 51.6	+1.1
ULDT	**Uludag**	**4.60**	**74**	*i* P	**Pn**	05 48 51.1	+0.2
DNZL	**Cakiroluk**	**4.64**	**104**	*i* P	**Pn**	05 48 52.9	+1.4
TTG	**Podgorica**	**4.65**	**319**	⇓*iPn*	**Pn**	05 48 53.0	+1.5
TTG				*eSn*	**Sn**	05 49 50.2	+3.6
IVA	**Berane**	**4.69**	**327**	*ePn*	**Pn**	05 48 52.7	+0.6
IVA				*eSn*	**Sn**	05 49 50.4	+2.7
SZH	**Strazhica**	**4.69**	**23**	*eP*	**Pn**	05 48 52.0	-0.1
DALT	**Dalyan (Mudla)**	**4.71**	**116**	*ePN*	**Pn**	05 48 52.9	+0.4
BUM	**Brajici-Budva**	**4.75**	**316**	*ePn*	**Pn**	05 48 54.3	+1.3
BUM				*eSn*	**Sn**	05 49 53.1	+3.9
GDZ	**Gediz**	**4.75**	**87**	*i* P	**Pn**	05 48 52.1	-1.0
ISK	**Istanbul-Kandi**	**4.83**	**63**	*ePN*	**Pn**	05 48 53.6	-0.5
ISK	**Istanbul-Kandi**	**4.83**	**63**	Pn	**Pn**	05 48 53.6	-0.5
KHL	**Karahalli**	**4.86**	**96**	*ePN*	**Pn**	05 48 54.3	-0.2
KHL	**Karahalli**	**4.86**	**96**	Pn	**Pn**	05 48 53.5	-1.0
YLV	**Yalova**	**4.88**	**69**	*ePN*	**Pn**	05 48 54.4	-0.5
YLV	**Yalova**	**4.88**	**69**	Pn	**Pn**	05 48 54.3	-0.6
BOLS	**Boljevac**	**4.95**	**348**	*ePn*	**Pn**	05 48 54.5	-1.3
NKY	**Niksic**	**5.06**	**320**	*ePn*	**Pn**	05 48 58.4	+1.1
NKY				*eSn*	**Sn**	05 49 59.8	+2.8
NKY	**Niksic**	**5.06**	**320**	*eS*	**Sn**	05 49 59.8	+2.8
HCY	**Herceg Novi**	**5.07**	**315**	*ePn*	**Pn**	05 48 58.8	+1.4
HCY				*eSn*	**Sn**	05 50 00.8	+3.6
TIP	**Timpagrande**	**5.15**	**274**	*ePn*	**Pn**	05 48 58.8	+0.1
TIP	**Timpagrande**	**5.15**	**274**	*ePn*	**Pn**	05 48 58.8	+0.1
HRT	**Hereke**	**5.17**	**67**	*ePN*	**Pn**	05 48 58.7	-0.2
GOLH	**Golhisar**	**5.18**	**108**	*i* P	**Pn**	05 49 00.6	+1.5
ALT	**Altintas**	**5.25**	**87**	*ePN*	**Pn**	05 49 00.2	+0.2
ALT	**Altintas**	**5.25**	**87**	Pn	**Pn**	05 49 00.1	+0.1
PLE	**Pljevlja**	**5.28**	**327**	*ePn*	**Pn**	05 49 01.0	+0.6
PLE				*eSn*	**Sn**	05 50 04.5	+2.0
PLE	**Pljevlja**	**5.28**	**327**	*eS*	**Sn**	05 50 04.5	+2.0
GRUS	**Gruza**	**5.29**	**339**	*ePn*	**Pn**	05 49 01.4	+0.8
LTRZ	**Laterza**	**5.30**	**290**	P	**Pn**	05 48 59.7	-1.1
BRY	**Bratogost**	**5.35**	**318**	*ePn*	**Pn**	05 49 02.3	+0.8
BRY				*eSn*	**Sn**	05 50 07.3	+2.9
BRY	**Bratogost**	**5.35**	**318**	*eS*	**Sn**	05 50 07.3	+2.9
UPM	**Unac-Piva**	**5.39**	**323**	*ePn*	**Pn**	05 49 03.0	+0.9
UPM				*eSn*	**Sn**	05 50 07.8	+2.3
ORI	**Oriolo Calabro**	**5.46**	**284**	P	**Pn**	05 49 03.2	+0.2
TKTP	**Tekketepe**	**5.53**	**98**	*i* P	**Pn**	05 49 04.6	+0.6
ELL	**Elmali**	**5.63**	**111**	*ePN*	**Pn**	05 49 06.8	+1.4
AKAS	**Kas**	**5.66**	**117**	*i* P	**Pn**	05 49 10.3	+4.5
DJES	**Djerdap**	**5.68**	**354**	*ePn*	**Pn**	05 49 08.0	+1.9
DIVS	**Divcibare**	**5.70**	**335**	⇑*iPn*	**Pn**	05 49 05.5	-0.9
DIVS				Sn	**Sn**	05 50 09.5	-3.7
BBLS	**Bajina Basta -**	**5.71**	**330**	*ePn*	**Pn**	05 49 08.2	+1.6
ISP	**Isparta**	**5.72**	**99**	*ePN*	**Pn**	05 49 06.7	0.0
ISP	**Isparta**	**5.72**	**99**	*ePn*	**Pn**	05 49 06.9	+0.3
	34nm,0.5s						
ISP	**Isparta**	**5.72**	**99**	*eP*	**Pn**	**05 49 06.9**	**+0.3**
ISP				pmax	pmax		
	comp=Z,34nm,0.5s						
ESKT	**Eskisehir**	**5.83**	**82**	*ePN*	**Pn**	05 49 08.0	-0.1
ESKT	**Eskisehir**	**5.83**	**82**	*i* P	**Pn**	05 49 08.1	0.0
CUC	**Castrocucco**	**5.93**	**282**	P	**Pn**	05 49 10.6	+0.9
HENT	**Hendek**	**6.07**	**70**	*i* P	**Pn**	05 49 10.0	-1.6
SLCN	**Sala Consilina**	**6.13**	**286**	P	**Pn**	05 49 12.9	+0.4
MGR	**Morigerati**	**6.15**	**283**	P	**Pn**	05 49 13.0	+0.2
MDU	**Mudurnu**	**6.22**	**74**	*ePN*	**Pn**	05 49 13.2	-0.5
MRLC	**Muro Lucano**	**6.32**	**289**	P	**Pn**	05 49 16.7	+1.6
MTUR	**Matau**	**6.36**	**11**	⇓*P*	**Pn**	05 49 14.6	-1.1
MTUR	**Matau**	**6.36**	**11**	⇓*P*	**Pn**	05 49 14.6	-1.1
SGO	**Sicignano**	**6.41**	**287**	P	**Pn**	05 49 16.5	+0.1
RGNG	**Rignano Grg**	**6.53**	**297**	P	**Pn**	05 49 16.7	-1.4
SNX	**Sinaia**	**6.56**	**13**	⇑*P*	**Pn**	05 49 17.6	-0.9
SNX	**Sinaia**	**6.56**	**13**	⇑*P*	**Pn**	05 49 17.6	-0.9
VOIR		**6.56**	**10**	⇑*P*	**Pn**	05 49 17.5	-1.1
VOIR		**6.56**	**10**	⇑*P*	**Pn**	05 49 17.6	-1.0
KIZT	**Kizilcal**	**6.63**	**88**	*ePN*	**Pn**	05 49 19.7	+0.2
HARR	**Harsova**	**6.63**	**29**	⇑*P*	**Pn**	05 49 18.1	-1.5
HARR	**Harsova**	**6.63**	**29**	⇑*P*	**Pn**	05 49 18.1	-1.5
TIRR	**Tirgusor**	**6.64**	**33**	⇑*P*	**Pn**	05 49 18.4	-1.2
TIRR	**Tirgusor**	**6.64**	**33**	⇑*P*	**Pn**	05 49 18.4	-1.2
CSSN	**Cassano Irpino**	**6.69**	**289**	P	**Pn**	05 49 21.1	+0.8
MLR	**Muntele Rosu**	**6.77**	**16**	Pn	**Pn**	05 49 21.0	-0.5
	comp=Z,0.9nm,0.3s,baz=252,slow=4.3,SNR=48						
MLR				Lg		05 51 28.2	
	baz=313,slow=15,SNR=2.7						
MLR	**Muntele Rosu**	**6.77**	**16**	⇑*P*	**Pn**	05 49 21.0	-0.5
MLR	**Muntele Rosu**	**6.77**	**16**	⇑*P*	**Pn**	05 49 21.0	-0.5
KDHN	**Kadinhani**	**6.85**	**91**	*i* P	**Pn**	**05 49 23.4**	**+0.9**
SGKT	**Sivrigoynuk**	**6.87**	**74**	*i* P	**Pn**	**05 49 22.9**	**0.0**
PSB1	**Pescosannita**	**6.93**	**291**	P	**Pn**	**05 49 24.1**	**+0.3**
CFR	**Carcaliu**	**7.12**	**28**	⇑*P*	**Pn**	**05 49 24.0**	**-2.5**
VAE	**Valguarnera**	**7.21**	**261**	Pn	**Pn**	**05 49 28.2**	**+0.5**
	baz=90,slow=20,SNR=2.4						
VAE				Sn	**Sn**	**05 50 50.4**	**-0.7**
	comp=Z,0.9nm,0.3s,baz=78,slow=18,SNR=3.5						
VRI	**Vrincioaia**	**7.31**	**19**	⇓*P*	**Pn**	**05 49 29.5**	**+0.5**
VRI	**Vrincioaia**	**7.31**	**19**	⇓*P*	**Pn**	**05 49 29.5**	**+0.5**
CII	**Carovilli**	**7.45**	**294**	*ePn*	**Pn**	**05 49 31.9**	**+0.9**
	comp=Z,50nm,0.7s						
HDMB	**Hadim**	**7.47**	**103**	*ePN*	**Pn**	**05 49 30.9**	**-0.5**
SLUM		**7.63**	**168**	P	**Pn**	**05 49 30.0**	**-3.5**
VVLD	**Villa Vallelon**	**7.98**	**294**	P	**Pn**	**05 49 40.5**	**+2.1**
BR131	**Keskin Array S**	**7.99**	**81**	*ePn*	**Pn**	**05 49 38.7**	**+0.2**
	comp=Z,4.8nm,0.6s						
BRTR	**Keskin Array B**	**7.99**	**81**	Pn	**Pn**	**05 49 39.0**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=259,slow=11,SNR=13						
BALT	**Daday**	**8.07**	**68**	*i* P	**P**	**05 49 37.2**	**-2.4**
PTQR	**Pietraquaria**	**8.18**	**295**	P	**P**	**05 49 43.3**	**+2.1**
AQU	**L'Aquila**	**8.29**	**297**	Pn	**P**	**05 49 39.6**	**-3.2**
AQU				*eSn*	**Sn**	**05 51 10.5**	**-7.4**
HMAT	**Matruh**	**8.45**	**158**	⇑*P*	**P**	**05 49 40.7**	**-4.2**
CDAG	**Cicekdag**	**8.55**	**82**	*i* P	**P**	**05 49 47.6**	**+1.3**
NRCA	**Norcia**	**8.67**	**300**	P	**P**	**05 49 48.3**	**+0.3**
MNS	**Montasola**	**8.80**

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MOX                                    MLR     MLR
      comp=Z,800nm,14.0s
BFO   Black Forest      14.32 316 eP          P       P     05 51 03.5 -0.9
BDAS  Al Bad'           14.34 134 P           P       P     05 51 04.7 -0.1
CABF  La Chapelle       14.78 307 eP          P       P     05 51 13.1 +2.7
      comp=Z,35nm,1.0s
CABF  La Chapelle       14.78 307 eP          P       P     05 51 13.1 +2.7
CABF                                   pmax    pmax
      comp=Z,18nm,1.0s
HINF  Hinteralfeld      14.88 312 eP          P       P     05 51 11.0 -0.7
GKP   Gorka Klasztor    14.89 346 eP          P       P     05 51 19.3 +7.4
GKP   Gorka Klasztor    14.89 346 eP          P       P     05 51 19.3 +7.4
CDF   Champ du Feu      14.95 314 eP          P       P     05 51 08.3 -4.3
      comp=Z,9.4nm,0.8s
SUW   Suwalki           15.03 360 eP          P       P     05 51 19.5 +5.9
SUW   Suwalki           15.03 360 P           P       P     05 51 11.3 -2.3
      comp=Z,58nm,1.1s
SUW                                    e                     05 51 29.5
SUW   Suwalki           15.03 360 P           P       P     05 51 11.3 -2.3
SUW                                    pmax    pmax
      comp=Z,58nm,1.1s
HAU   Haudompre         15.27 312 eP          P       P     05 51 15.6 -1.2
      comp=Z,15nm,0.8s
HAU                                    eR
      comp=Z,610nm,17.2s
KIV   Kislovodsk        15.29  65 eP          P       P     05 51 18.2 +1.0
      comp=Z,69nm,1.3s
KIV   Kislovodsk        15.29  65 eP          P       P     05 51 18.3 +1.2
KIV                                    pmax    pmax
      comp=Z,35nm,1.4s
TBKS  Tabuk             15.33 130 P           P       P     05 51 18.6 +0.9
TNS   Taunus Mts        15.43 322 eP          P       P     05 51 26.2 +7.3
TNS                                    MLR     MLR
      comp=Z,500nm,21.0s
DBAS  Duba              15.77 134 P           P       P     05 51 25.2 +1.7
MSL   Mosul             15.85  94 i P         P       P     05 51 35.0 +11
ETOS  Mallorca          15.92 279 P           P       P     05 51 31.0 +5.7
      comp=Z,0.9nm,0.4s,SNR=7.9
ETOS  Mallorca          15.92 279 P           P       P     05 51 31.0 +5.7
      comp=Z,0.9nm,0.4s
ZEI   Tsey              15.97  70 eP          P       P     05 51 25.5 -0.4
SMF   Signal de Mont    16.22 304 eP          P       P     05 51 31.7 +2.6
LOR   Lormes            16.45 307 eP          P       P     05 51 35.9 +4.0
      comp=Z,6.1nm,0.7s
LOR                                    eR
      comp=Z,487nm,17.0s
VRSR  Storozhevoye      16.51  37 eP          P       P     05 51 32.5 -0.2
VRSR                                   pmax    pmax
      comp=Z,9.0nm,1.2s
VRSR                                   pmax    pmax
      comp=N,10.0nm,1.4s
VRSR                                   pmax    pmax
      comp=E,10.0nm,1.2s
VRSR                                   pmax    pmax
      comp=Z,9.0nm,1.2s
VRSR                                   pmax    pmax
      comp=N,10.0nm,1.4s
VRSR                                   pmax    pmax
      comp=E,10.0nm,1.2s
VRSR                                   MLR     MLR
      comp=N,400nm,15.0s
VRSR                                   MLR     MLR
      comp=Z,410nm,15.0s
VRSR                                   MLR     MLR
      comp=E,180nm,16.0s
VRSR                                   MLR     MLR
      comp=N,400nm,15.0s
VRSR                                   MLR     MLR
      comp=Z,410nm,15.0s
VRSR                                   MLR     MLR
      comp=E,180nm,16.0s
GNI   Garni             16.52  79 Pn            P       P     05 51 37.4 +4.5
      comp=E,0.9nm,0.3s,baz=4.5,slow=16,SNR=7.1
GNI                                    LR      LR            05 58 30.1
      comp=E,330nm,18.9s,baz=291,slow=39
GNI   Garni             16.52  79 P           P       P     05 51 32.5 -0.4
      comp=E,53nm,1.4s
GNI                                    Pn      P     05 51 37.4 +4.5
GNI                                    LR      LR            05 58 30.1
GNI   Garni             16.52  79 P           P       P     05 51 32.5 -0.4
GNI                                    pmax    pmax
      comp=Z,53nm,1.4s
AVF   Avril sur Loir    16.59 305 eP          P       P     05 51 36.7 +3.0
      comp=Z,23nm,1.0s
AVF   Avril sur Loir    16.59 305 eP          P       P     05 51 36.7 +3.0
AVF                                    pmax    pmax
      comp=Z,12nm,1.0s
SSF   Saint Saulge      16.59 306 eP          P       P     05 51 37.4 +3.7
      comp=Z,5.2nm,0.8s
TCF   Toulx Ste Croi    17.17 302 eP          P       P     05 51 44.1 +3.0
BHD   Baghdad           17.89 102 eP          P       P     05 51 53.0 +2.8
OBN   Obninsk           18.41  25 i P         P       P     05 51 55.4 -1.2
OBN   Obninsk           18.41  25 i P         P       P     05 51 55.3 -1.3
OBN                                    eS      S       S     05 55 24.1 +4.6
OBN                                    pmax    pmax
      comp=Z,33nm,1.7s
OBN                                    MLR     MLR
      comp=Z,400nm,17.0s
ECHE  Chera             18.84 280 P           P       P     05 52 03.4 +1.5
      SNR=7.9
ECHE  Chera             18.84 280 P           P       P     05 52 03.4 +1.5
HILS  Ha'il             19.23 121 P           P       P     05 52 09.7 +3.0
MOS   Moscow            19.27  25 eP          P       P     05 52 03.3 -3.6
MOS                                    eS      S       S     05 55 34.0 -4.9
MOS                                    pmax    pmax
      comp=Z,24nm,0.7s
MOS                                    MLR     MLR
      comp=Z,500nm,16.4s
VSU   Vasula            19.61   5 eP          P       P     05 52 10.8  0.0
GRR   Gorron            19.81 306 eP          P       P     05 52 12.1 -1.0
      comp=Z,18nm,0.8s
GRR   Gorron            19.81 306 eP          P       P     05 52 12.1 -1.0
GRR                                    pmax    pmax
      comp=Z,9.0nm,0.8s
EVIA  Vianos            20.15 277 P           P       P     05 52 14.8 -2.1
      comp=Z,0.8nm,0.2s,SNR=7.9
EVIA  Vianos            20.15 277 P           P       P     05 52 14.8 -2.1
      comp=Z,0.8nm,0.2s
EVIA  Vianos            20.15 277 P           P       P     05 52 14.8 -2.1
EVIA                                   pmax    pmax
      comp=Z,1.0nm,0.2s
EQES  Quesada           20.74 275 P           P       P     05 52 23.6 +0.6
      comp=Z,0.8nm,0.3s,SNR=5.2
EQES  Quesada           20.74 275 P           P       P     05 52 23.6 +0.6
      comp=Z,0.8nm,0.3s
SGMF  Saint Gilles      20.85 305 eP          P       P     05 52 20.4 -3.6
ESDC  Sonseca Array     21.13 281 P           P       P     05 52 25.7 -1.3
      comp=Z,2.3nm,0.6s,mb3.7,baz=73,slow=12,SNR=10
ESDC  Sonseca Array     21.13 281 P           P       P     05 52 25.1 -1.9
      comp=Z,0.8nm,0.3s,mb3.5,SNR=7.9
ESDC  Sonseca Array     21.13 281 P           P       P     05 52 25.1 -1.9
      comp=Z,0.8nm,0.3s,mb3.5
QUIF  Quistinic         21.15 304 eP          P       P     05 52 23.8 -3.3
      comp=Z,39nm,0.8s,mb4.5
QUIF  Quistinic         21.15 304 eP          P       P     05 52 23.8 -3.3
QUIF                                   pmax    pmax
      comp=Z,20nm,0.8s,mb4.5
EBAN  Banos Encina      21.23 276 P           P       P     05 52 26.1 -1.9
      SNR=7.9
EBAN  Banos Encina      21.23 276 P           P       P     05 52 26.1 -1.9
EADA  Adamuz            21.84 277 P           P       P     05 52 33.1 -1.0
      comp=Z,11nm,0.8s,mb4.3
HFS   Hagfors           22.03 347 P           P       P     05 52 36.5 +0.7
      comp=Z,5.6nm,0.8s,mb4.1,baz=130,slow=12,SNR=11
HFS                                    LR      LR            06 02 25.5
      comp=Z,374nm,18.7s,MS3.8,baz=166,slow=40
HFS   Hagfors           22.03 347 P           P       P     05 52 36.5 +0.6
HFS                                    LR      LR            06 02 25.5
AFFS  'Afif             22.42 126 P           P       P     05 52 44.2 +4.2
KONO  Kongsberg         22.45 342 eP          P       P     05 52 38.8 -1.4
      comp=Z,81nm,1.4s,mb5.0
KONO  Kongsberg         22.45 342 eP          P       P     05 52 38.8 -1.3
KONO                                   pmax    pmax
      comp=Z,81nm,1.4s,mb5.0
ECAB  El Cabril         22.51 277 P           P       P     05 52 41.6 +0.8
      comp=Z,3.6nm,0.9s,mb3.8
FINES FINESS Array B    22.54   3 P           P       P     05 52 41.2 +0.4
      comp=Z,4.4nm,0.9s,mb3.9,baz=173,slow=15,SNR=10
FINES                                  LR      LR            06 02 34.5
      comp=Z,458nm,19.1s,MS3.9,baz=164,slow=40
FINES FINESS Array B    22.54   3 P           P       P     05 52 41.2 +0.3
FINES                                  LR      LR            06 02 34.5
KAF   Kangasniemi       23.22   3 ep          P       P     05 52 46.3 -1.2
NAO01 NORSAR Array S    23.23 344 P           P       P     05 52 45.2 -2.4
      comp=Z,7.9nm,0.8s,mb4.2
NB2   NORSAR Subarra    23.34 345 P           P       P     05 52 48.2 -0.5
      comp=Z,0.5nm,0.6s,baz=143,slow=10
NB2   NORSAR Subarra    23.34 345 P           P       P     05 52 48.2 -0.5
NB2                                    pmax    pmax
      comp=Z,1.0nm,0.6s,mb3.4
NOA   NORSAR Array B    23.34 345 P           P       P     05 52 49.2 +0.5
      comp=Z,6.3nm,0.8s,mb4.1,baz=150,slow=9.5,SNR=14
NOA                                    LR      LR            06 02 19.9
      comp=Z,118nm,21.1s,MS3.3,baz=160,slow=38
EMIN  Mina Concepcio    23.54 277 P           P       P     05 52 49.6 -1.3
      comp=Z,0.5nm,0.4s
EKA   Eskdalemuir Ar    24.13 321 P           P       P     05 52 56.2 -0.1
      comp=Z,13nm,0.8s,mb4.4,baz=122,slow=10.0,SNR=18
ESK   Eskdalemuir       24.14 321 P           P       P     05 52 55.0 -1.5
      comp=Z,40nm,1.2s,mb4.7
ESK   Eskdalemuir       24.14 321 P           P       P     05 52 55.0 -1.5
ESK                                    pmax    pmax
      comp=Z,39nm,1.2s,mb4.7
ARU   Arti              28.97  41 eP          P       P     05 53 41.0 -0.2
      comp=Z,9.7nm,1.2s,mb4.4
ARU   Arti              28.97  41 ||i P       P       P     05 53 44.3 +3.1
ARU                                    e                     05 54 33.6
ARU                                    ePPP    PPP           05 54 44.1 -3.6
ARU                                    e                     05 56 52.4
ARU                                    eS      S       S     05 58 32.8 +1.4
ARU                                    eSS     SS            05 59 56.7 -2.5
ARU                                    eSSS    SSS           06 00 12.0 -7.2
ARU                                    e                     06 04 28.5
ARU                                    pmax    pmax
      comp=Z,6.0nm,1.0s,mb4.3
SVE   Sverdlovsk        30.18  41 eP          P       P     05 53 53.0 +0.9
SVE                                    eS      S       S     05 58 56.0 +5.4
SVE                                    MLR     MLR
      comp=N,300nm,12.0s,MS4.2
SVE                                    MLR     MLR
      comp=E,200nm,12.0s,MS4.2
SVE                                    MLR     MLR
      comp=Z,400nm,12.0s,MS4.3
ARCES ARCESS Array B    30.63   1 P           P       P     05 53 53.4 -2.5
      comp=Z,1.2nm,0.7s,mb3.8,baz=180,slow=2.4,SNR=5.6
ARCES                                  LR      LR            06 07 24.7
      comp=Z,417nm,19.2s,MS4.1,baz=207,slow=39
ARCES ARCESS Array B    30.63   1 P           P       P     05 53 53.4 -2.5
ARCES                                  LR      LR            06 07 24.7
KEV   Kevo              30.89   2 ep          P       P     05 53 54.2 -4.0
BRVK  Borovoye          34.82  51 eP          P       P     05 54 32.3 -0.3
      comp=Z,2.1nm,0.6s,mb4.2
BRVK  Borovoye          34.82  51 eP          P       P     05 54 32.3 -0.3
BRVK                                   pmax    pmax
      comp=Z,2.0nm,0.6s,mb4.2
AAK   Ala-Archa         38.38  68 i P         P       P     05 55 01.1 -1.7
AAK                                    pmax    pmax
      comp=Z,4.0nm,1.7s,mb3.9
AAK                                    MLR     MLR
      comp=Z,100nm,19.0s,MS3.6
FRU   Bishkek           38.43  67 P           P       P     05 55 06.0 +2.8
KURK  Kurchatov         39.99  54 eP          P       P     05 55 16.7 +0.6
      comp=Z,22nm,1.6s,mb4.6
KURK  Kurchatov         39.99  54 eP          P       P     05 55 16.7 +0.6
KURK                                   pmax    pmax
      comp=Z,22nm,1.6s,mb4.6
DBIC  Dimbokro          41.03 226 P           P       P     05 55 22.9 -2.1
      comp=Z,7.0nm,0.9s,mb4.3,baz=38,slow=8.8,SNR=6.4
DBIC                                   LR      LR            06 13 42.6
      comp=Z,111nm,18.7s,MS3.8,baz=285,slow=38
DBIC  Dimbokro          41.03 226 eP          P       P     05 55 22.2 -2.8
      comp=Z,7.6nm,0.9s,mb4.3
DBIC  Dimbokro          41.03 226 P           P       P     05 55 22.9 -2.1
DBIC                                   pmax    pmax
      comp=Z,7.0nm,0.9s
DBIC                                   MLR     MLR
      comp=Z,111nm,18.7s
LIC   Lamto             41.49 226 eP          P       P     05 55 29.4 +0.6
      comp=Z,12nm,0.8s,mb4.5
NVS   Novosibirsk       42.48  48 i P         P       P     05 55 37.4 +1.0
MKAR  Makanchi Array    42.97  60 P           P       P     05 55 41.5 +1.1
      comp=Z,2.8nm,0.6s,mb4.2,baz=268,slow=8.0,SNR=18
MKAR                                   LR      LR            06 16 22.9
      comp=Z,67nm,21.3s,MS3.5,baz=358,slow=40
MKAR  Makanchi Array    42.97  60 eP          P       P     05 55 41.6 +1.1
ZAL   Zalesovo          43.47  49 P           P       P     05 55 44.5 +0.1
      comp=Z,4.3nm,0.6s,mb4.4,baz=193,slow=7.5,SNR=14
ZAL                                    LR      LR            06 16 25.8
      comp=Z,80nm,20.9s,MS3.6,baz=108,slow=40
ZAL   Zalesovo          43.47  49 P           P       P     05 55 44.5 +0.1
ZAL                                    LR      LR            06 16 25.8
SUMG  Summit            44.90 338 eP          P       P     05 55 55.7 -0.1
      comp=Z,4.7nm,0.9s,mb4.3
WMQ   Urumqi            47.41  62 eP          P       P     05 56 18.0 +2.0
WMQ                                    XP      sP            05 56 25.0 +7.2
WMQ                                    PP      PP            05 58 09.0 +2.3
WMQ                                    S       S     06 03 11.0 +1.2
WMQ                                    SS      SS            06 06 32.0 +1.0
WMQ                                    AMB     AMB
      comp=Z,17nm,1.0s,mb4.9
WMQ                                    AMB     AMB
      comp=Z,106nm,6.0s
WMQ                                    LR      LR
      comp=N,131nm,18.0s,MS4.1
WMQ                                    LR      LR
      comp=E,176nm,20.0s,MS4.1
WMQ                                    LR      LR
      comp=Z,105nm,18.0s,MS3.9
KOLN  Koldanda          50.70  84 eP          P       P     05 56 39.2 -2.4
      comp=Z,21nm,1.0s,mb5.0
GKN   Gorkha            51.39  83 eP          P       P     05 56 46.3 -0.6
      comp=Z,11nm,0.6s,mb5.0
DMN   Daman             51.95  83 eP          P       P     05 56 50.3 -0.8
      comp=Z,20nm,0.7s,mb5.2
KKN   Kakani            51.99  83 eP          P       P     05 56 51.3 -0.1
      comp=Z,20nm,0.9s,mb5.0
PKI   Pulchoki          52.20  83 eP          P       P     05 56 52.1 -0.9
      comp=Z,21nm,0.9s,mb5.1
GUN   Gumba             52.40  82 eP          P       P     05 56 54.5  0.0
      comp=Z,39nm,0.9s,mb5.3
LSZ   Lusaka            54.17 174 eP          P       P     05 57 06.3 -1.4
      comp=Z,1.9nm,0.8s,mb4.1
LSZ   Lusaka            54.17 174 eP          P       P     05 57 06.3 -1.3
LSZ                                    pmax    pmax
      comp=Z,2.0nm,0.8s,mb4.1
ZAK   Zakamensk         55.33  50 eP          P       P     05 57 15.9 +0.1
ZAK                                    pmax    pmax
      comp=Z,1.0nm,1.0s,mb3.8
SONM  Songino Array     58.21  52 P           P       P     05 57 36.3  0.0
      comp=Z,0.5nm,0.3s,mb4.0,baz=281,slow=7.6,SNR=8.1
SONM                                   LR      LR            06 26 24.7
      comp=Z,86nm,18.0s,MS3.9,baz=86,slow=40
BOD   Bodaibo           58.35  39 eP          P       P     05 57 30.4 -6.7
SCHQ  Schefferville     59.37 318 P           P       P     05 57 43.2 -1.0
      comp=Z,2.4nm,0.6s,mb4.4,baz=49,slow=5.0,SNR=7.6
SCHQ                                   LR      LR            06 24 40.3
      comp=Z,66nm,18.2s,MS3.8,baz=64,slow=37
LBTB  Lobatse           63.70 178 eP          P       P     05 58 12.9 -0.9
      comp=Z,3.4nm,0.7s,mb4.5
LBTB  Lobatse           63.70 178 eP          P       P     05 58 12.9 -0.9
LBTB                                   pmax    pmax
      comp=Z,3.0nm,0.7s,mb4.4
CD2   Chengdu           64.39  70 P           P       P     05 58 16.0 -2.3
KMI   Kunming           66.74  76 P           P       P     05 58 31.1 -2.3
KMI                                    AP      pP            05 58 39.3 +4.5
KMI                                    XP      sP            05 58 42.1 +6.8
KMI                                    PP      PP            06 01 01.8 -0.5
KMI                                    S       S             06 07 23.8 -0.8
KMI                                    SS      SS            06 11 40.1 -3.7
KMI                                    AMB     AMB
      comp=Z,8.0nm,0.5s,mb5.0
KMI                                    AMB     AMB
      comp=Z,193nm,5.5s
KMI                                    LR      LR
      comp=Z,60nm,27.2s,MS3.7
KMI   Kunming           66.74  76 P           P       P     05 58 31.1 -2.3
      comp=Z,8.0nm,0.5s,mb5.0
KMI                                    pP      pP            05 58 39.3 +4.5
KMI                                    sP      sP            05 58 42.1 +6.8
KMI                                    PP      PP            06 01 01.8 -0.5
KMI                                    S       S             06 07 23.8 -0.8
KMI                                    SS      SS            06 11 40.1 -3.7
KMI                                    LR      LR
      comp=Z,60nm,27.2s,MS3.7
KMI   Kunming           66.74  76 P           P       P     05 58 31.1 -2.3
KMI                                    *PP     pP            05 58 39.3 +4.5
KMI                                                          06 01 01.8
KMI                                    S       S             06 07 23.8 -0.8
KMI                                    SS      SS            06 11 40.1 -3.7
KMI                                    pmax    pmax
      comp=Z,8.0nm,0.5s,mb5.0
KMI                                    MLR     MLR
      comp=Z,60nm,27.2s,MS3.7
BOSA  Boshof            67.27 178 P           P       P     05 58 35.2 -1.6
      comp=Z,4.9nm,0.9s,mb4.5,baz=7.2,slow=6.8,SNR=5.2
BOSA                                   LR      LR            06 31 11.2
      comp=Z,126nm,18.6s,MS4.2,baz=356,slow=39
BOSA  Boshof            67.27 178 eP          P       P     05 58 35.9 -1.0
      comp=Z,10nm,1.0s,mb4.8
BOSA  Boshof            67.27 178 eP          P       P     05 58 35.9 -0.9
BOSA                                   pmax    pmax
      comp=Z,10.0nm,1.0s,mb4.8
CN2   Changchun         71.69  48 eP          P       P     05 59 04.7 +1.1
MA2   Magadan           72.63  25 eP          P       P     05 59 09.5 +0.6
MA2   Magadan           72.63  25 eP          P       P     05 59 09.4 +0.5
MA2                                    pmax    pmax
      comp=Z,8.0nm,1.1s,mb4.6
YKA   Yellowknife Ar    73.37 341 P           P       P     05 59 12.9 -0.2
      comp=Z,1.8nm,0.6s,mb4.2,baz=34,slow=5.7,SNR=8.2
YKA                                    LR      LR            06 34 53.0
      comp=Z,92nm,18.5s,MS4.1,baz=245,slow=39
YKA   Yellowknife Ar    73.37 341 P           P       P     05 59 12.9 -0.2
YKA                                    LR      LR            06 34 53.0
NJ2   Nanjing           74.47  61 eP          P       P     05 59 22.4 +2.3
NJ2                                    AMB     AMB
      comp=Z,10.0nm,1.0s,mb4.7
IMA   Indian Mountai    75.25 359 eP          P       P     05 59 24.5 +0.6
      comp=Z,13nm,1.0s,mb4.8
IMA   Indian Mountai    75.25 359 eP          P       P     05 59 24.5 +0.6
IMA                                    pmax    pmax
      comp=Z,13nm,1.0s,mb4.8
ILAR  Eielson Array     76.29 356 LR          LR      LR    06 36 33.2
      comp=Z,25nm,19.1s,MS3.5,baz=18,slow=38
ULM   Lac du Bonnet     76.35 325 LR          LR      LR    06 32 36.1
      comp=Z,108nm,19.7s,MS4.2,baz=14,slow=35
SSE   Sheshan           76.64  61 P           P       P     05 59 31.2 -1.3
SSE                                    AMB     AMB
      comp=Z,17nm,0.7s,mb5.1
SSE                                    AMB     AMB
      comp=Z,164nm,5.3s
SSE   Sheshan           76.64  61 P           P       P     05 59 31.2 -1.3
      comp=Z,17nm,0.7s,mb5.1
MCK   McKinley          77.44 357 P           P       P     05 59 35.3 -1.0
      comp=Z,9.7nm,1.2s,mb4.6
MCK   McKinley          77.44 357 P           P       P     05 59 35.3 -1.0
MCK                                    pmax    pmax
      comp=Z,10.0nm,1.2s,mb4.6
EDM   Edmonton          80.82 335 eP          P       P     05 59 54.2 -0.6
BDFB  Brasilia          85.89 246 LR          LR      LR    06 41 40.7
      comp=Z,84nm,19.7s,MS4.1,baz=110,slow=38
PDAR  Pinedale Array    88.11 327 LR          LR      LR    06 40 49.3
      comp=Z,86nm,18.5s,MS4.2,baz=48,slow=36
CBIJ  Chichi jima       92.92  51 LR          LR      LR    06 44 06.9
      comp=Z,134nm,21.8s,MS4.4,baz=113,slow=36
TXAR  Lajitas Array     96.00 316 LR          LR      LR    06 42 20.4
      comp=Z,50nm,20.6s,MS4.0,baz=70,slow=34
CPUP  Villa Florida     99.41 244 LR          LR      LR    06 44 43.2
      comp=Z,70nm,19.1s,MS4.2,baz=58,slow=34
```

*THE **04** 06:03:16.5, 39.18N×23.46E, h1km, ML2.7*
*CSEM **04** 06:03:17.0±0.1, 39.18N×23.46E, h10km, ML2.7, Error ellipse: s-maj=2.1km s-min=1.9km az=93.0*
*ATH **04** 06:03:19.4, 39.00N×23.24E, h14km, MD2.8/6*
*NEIC **04** 06:03:19.3, 39.02N×23.24E, h19km, MD2.8(ATH), After ATH.*

ISC 04 06:03:16.1±0.5,**39.16N**±0.04×**23.46E**±0.04,**h8**km±10km, **n11**,σ0§83/15,**Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.24**	**309**	ePB	**Sg**	**06 03 25.7**	**+1.3**
XOR	**Xorichti**	**0.30**	**315**	ePg	**Pg**	**06 03 21.3**	**-0.9**
XOR				eSg	**Sg**	**06 03 27.0**	**+0.8**
AOS	**Alonnisos**	**0.33**	**87**	ePg	**Pg**	**06 03 22.4**	**-0.3**
AOS				eSg	**Sg**	**06 03 28.1**	**+1.0**
LKR	**Lokris**	**0.62**	**216**	ePB	**Pb**	**06 03 27.4**	**-1.3**
PAIG	**Paliouri**	**0.79**	**12**	ePg	**Pg**	**06 03 31.4**	**-0.4**
PAIG				eSg	**Sg**	**06 03 41.4**	**-1.0**
AGG	**Agios Georgios**	**0.89**	**262**	ePg	**Pg**	**06 03 33.6**	**-0.3**
AGG				eSg	**Sg**	**06 03 45.8**	**0.0**
MPAR	**Parnis Oros**	**1.03**	**168**	ePG	**Pg**	**06 03 36.5**	**-0.1**
PTL	**Penteli**	**1.15**	**164**	ePN	**Pn**	**06 03 39.7**	**+1.3**
MGER	**Gerania Oros**	**1.18**	**188**	ePN	**Pn**	**06 03 39.0**	**+0.2**
NSAL	**Nisos Salamina**	**1.25**	**180**	ePN	**Pn**	**06 03 40.5**	**+0.7**
NAIG	**Nisos Aigina**	**1.40**	**179**	ePG	**Pg**	**06 03 43.0**	**-1.0**

*ATH **04** 06:05:01.2, 39.17N×22.59E, h30km±2km, MD3.2/3, ML3.3*
*NEIC **04** 06:05:01.2, 39.17N×22.59E, h30km, ML3.3(ATH), After ATH.*
*THE **04** 06:05:05.9, 38.99N×23.33E, h7km, ML3.1*
*CSEM **04** 06:05:05.8±0.1, 38.97N×23.32E, h2km, ML3.1, Error ellipse: s-maj=2.2km s-min=1.4km az=90.0*

ISC 04 06:05:05.3±0.7,**39.00N**±0.04×**23.32E**±0.05,**h5**km±11km, **n13**,σ0§95/19,**Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.32**	**347**	ePN	**Pg**	**06 05 12.1**	**+0.4**
XOR	**Xorichti**	**0.38**	**345**	ePg	**Pg**	**06 05 13.2**	**+0.2**
XOR				eSg	**Sg**	**06 05 18.7**	**+0.5**
LKR	**Lokris**	**0.42**	**216**	ePN	**Pg**	**06 05 13.7**	**-0.1**
AOS	**Alonnisos**	**0.47**	**68**	ePg	**Pg**	**06 05 14.7**	**0.0**
AOS				eSg	**Sg**	**06 05 21.2**	**+0.2**
AGG	**Agios Georgios**	**0.77**	**272**	ePg	**Pg**	**06 05 19.7**	**-1.0**
AGG				eSg	**Sg**	**06 05 32.6**	**+1.6**
PAIG	**Paliouri**	**0.97**	**17**	ePg	**Pg**	**06 05 24.4**	**-0.3**
PAIG				eSg	**Sg**	**06 05 39.4**	**+1.7**
PAIG	**Paliouri**	**0.97**	**17**	ePg	**Pg**	**06 05 24.4**	**-0.3**
PAIG				eSg	**Sg**	**06 05 39.3**	**+1.6**
MGER	**Gerania Oros**	**1.01**	**183**	ePN	**Pn**	**06 05 25.0**	**-0.9**
ATH	**Athens Observa**	**1.07**	**163**	ePB	**Pb**	**06 05 27.0**	**+1.2**
NAIG	**Nisos Aigina**	**1.24**	**174**	ePN	**Pn**	**06 05 29.4**	**+0.2**
LIT	**Litokhoron**	**1.28**	**330**	ePg	**Pg**	**06 05 30.0**	**-0.8**
LIT				eSg	**Sg**	**06 05 46.8**	**-1.0**
OUR	**Ouranopolis**	**1.43**	**21**	ePg	**Pg**	**06 05 31.3**	**-2.6**
KNT	**Kendrikon**	**2.19**	**352**	ePn	**Pn**	**06 05 43.0**	**+0.2**

*THE **04** 06:26:19.7, 38.94N×23.36E, h3km, ML3.1*
*ATH **04** 06:26:20.8, 38.98N×23.29E, h4km, ML3.3*
*NEIC **04** 06:26:20.1, 39.02N×23.24E, h25km, ML3.3(ATH), After ATH.*
*CSEM **04** 06:26:20.3±0.1, 38.96N×23.33E, h5km, ML3.3, Error ellipse: s-maj=2.8km s-min=1.7km az=82.0*

ISC 04 06:26:19.9±0.4,**38.98N**±0.02×**23.35E**±0.04,**h5**km,**n15**, σ0§78/22,**Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.34**	**343**	ePG	**Pg**	**06 26 27.2**	**+0.5**
NEO				eSG	**Sg**	**06 26 31.9**	**+0.6**
XOR	**Xorichti**	**0.40**	**342**	ePg	**Pg**	**06 26 28.2**	**+0.2**
XOR				eSg	**Sg**	**06 26 34.5**	**+1.1**
LKR	**Lokris**	**0.43**	**220**	ePG	**Pg**	**06 26 28.4**	**-0.2**
LKR				eSG	**Sg**	**06 26 34.1**	**-0.2**
AOS	**Alonnisos**	**0.45**	**65**	ePg	**Pg**	**06 26 28.9**	**-0.1**
AOS				eSg	**Sg**	**06 26 35.2**	**+0.1**
AGG	**Agios Georgios**	**0.80**	**273**	ePg	**Pg**	**06 26 34.4**	**-1.4**
AGG				eSg	**Sg**	**06 26 46.9**	**+0.4**
MPAR	**Parnis Oros**	**0.88**	**160**	ePG	**Pg**	**06 26 37.0**	**-0.6**
MPAR				eSG	**Sg**	**06 26 49.5**	**+0.1**
PAIG	**Paliouri**	**0.98**	**15**	ePg	**Pg**	**06 26 39.2**	**-0.2**
MGER	**Gerania Oros**	**1.00**	**184**	ePG	**Pg**	**06 26 40.0**	**+0.1**
PTL	**Penteli**	**1.02**	**156**	ePB	**Pb**	**06 26 40.5**	**+0.9**
PTL	**Penteli**	**1.02**	**156**	ePn	**Pn**	**06 26 41.0**	**+0.3**
ATH	**Athens Observa**	**1.05**	**164**	ePG	**Pg**	**06 26 41.0**	**+0.1**
NSAL	**Nisos Salamina**	**1.08**	**175**	ePG	**Pg**	**06 26 41.5**	**0.0**
NAIG	**Nisos Aigina**	**1.23**	**175**	ePB	**Pb**	**06 26 44.0**	**+0.8**
LIT	**Litokhoron**	**1.30**	**329**	ePg	**Pg**	**06 26 44.1**	**-1.7**
LIT				eSg	**Sg**	**06 27 03.8**	**+0.6**
OUR	**Ouranopolis**	**1.44**	**20**	ePg	**Pg**	**06 26 46.2**	**-2.4**

*NIED **04** 06:37:00, 36.60N×141.40E, h26km, Mw4.1 Best double couple: M0 1.53×10^15 NP1:φs 197°, δ79°, λ108°. NP2: φs 318°, δ21°, λ33°.*
*JMA **04** 06:37:47.6±0.1, 36.56N×141.31E, h47km±2km, M4.4*
JMA Felt II J1.
*MOS **04** 06:37:48.0±0.7, 36.52N×141.36E, h51km, mb4.3/6, Error ellipse: s-maj=13.0km s-min=11.4km az=100.0*

*BJI **04** 06:37:49.2, 36.43N×141.54E, h73km, mB4.7, mb4.4, Ms4.0, Msz3.5*
*IDC **04** 06:37:49.9±2.8, 36.43N×141.43E, h52km±27km, mb3.7/12, mb1 4.0/15, mb1mx3.9/23, mbtmp4.0/15, ML4.0/3, MS3.4/6, Ms1 3.4/6, ms1mx3.0/25, Error ellipse: s-maj=21.4km s-min=11.9km az=62.0*
*NEIC **04** 06:37:50.1±1.4, 36.38N×141.36E, h59km±12km, mb4.3/12, Error ellipse: s-maj=13.4km s-min=11.6km az=112.0*
NEIC Recorded [2 JMA] in Fukushima and Ibaraki; [1 JMA] in Miyagi, Saitama and Tochigi Prefectures.

ISC 04 06:37:46.3±0.8, 36.51N±0.03×141.45E±0.06, h34km±7km, n55, σ0§98/65, mb4.2/23, MS3.5/5, 5C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.72**	**278**	⇑P	**P**	**06 37 59.8**	**-0.2**
JHO				S	**S**	**06 38 08.8**	**-1.1**
ONAJ	**Iwakimizuishiy**	**0.79**	**318**	⇑P	**P**	**06 38 00.7**	**-0.3**
ONAJ				S	**S**	**06 38 10.2**	**-1.6**
JFK	**Kawauchi**	**0.97**	**332**	⇑P	**P**	**06 38 03.4**	**-0.2**
JFK				S	**S**	**06 38 14.7**	**-1.7**
JYT	**Yasato**	**1.05**	**255**	⇓P	**P**	**06 38 04.9**	**+0.1**
JYT				S	**S**	**06 38 17.6**	**-0.9**
JFT	**Otama**	**1.34**	**319**	⇑P	**P**	**06 38 09.7**	**+0.7**
JFT				S	**S**	**06 38 25.6**	**-0.2**
JMM	**Marumori**	**1.45**	**339**	⇑P	**P**	**06 38 10.4**	**-0.1**
JMM				S	**S**	**06 38 27.5**	**-1.0**
JAG	**Ashikaga**	**1.61**	**268**	⇓P	**P**	**06 38 12.9**	**+0.1**
JFY	**Yanaizu**	**1.66**	**303**	P	**P**	**06 38 14.2**	**+0.7**
JFY				S	**S**	**06 38 34.6**	**+0.8**
MJAR	**Matsushiro Arr**	**2.61**	**272**	P	**P**	**06 38 28.3**	**+1.2**
	58nm,0.3s,baz=84,slow=9.0,SNR=168						
MJAR				S	**S**	**06 39 00.0**	**+2.1**
	63nm,0.3s,baz=87,slow=12,SNR=9.4						
MJAR				LR	LR	06 39 38.8	
	comp=Z,440nm,20.4s,baz=120,slow=42						
MAJO	**Matsushiro**	**2.61**	**272**	*e*Pn	**P**	**06 38 28.1**	**+1.0**
MAT	**Matsushiro**	**2.61**	**272**	P	**P**	**06 38 27.8**	**+0.7**
MAT				*e*S	**S**	**06 38 56.7**	**-1.3**
MAT	**Matsushiro**	**2.61**	**272**	*e*P	**P**	**06 38 28.0**	**+0.9**
MAT				*e*S	**S**	**06 38 59.0**	**+1.0**
JHJ	**Hachijo jima 2**	**3.65**	**203**	P	**P**	**06 38 41.5**	**-0.3**
	43nm,0.3s,baz=262,slow=21,SNR=13						
JHJ				S	**S**	**06 39 23.9**	**-0.5**
	81nm,0.3s,baz=66,slow=24,SNR=8.2						
YUK	**Yuzh-Kuril'sk**	**8.23**	**23**	P	**P**	**06 39 48.4**	**+2.1**
YUK				pmax	pmax		
	comp=Z,120nm,0.4s						
JNU	**Nakatsue**	**9.33**	**252**	P	**P**	**06 40 01.0**	**-0.4**
	comp=Z,0.8nm,0.3s,baz=90,slow=37,SNR=2.3						
JNU				LR	LR	06 43 50.8	
	comp=Z,215nm,18.6s,baz=218,slow=39						
YSS	**Yuzh-Sakhalins**	**10.48**	**5**	*e*P	**P**	**06 40 16.8**	**-0.4**
KS15	**Wonju Array Si**	**10.90**	**279**	P	**P**	**06 40 26.3**	**+3.3**
MDJ	**Mudanjiang**	**12.11**	**316**	P	**P**	**06 40 42.8**	**+3.5**
MDJ				AMB	AMB		
	comp=Z,11nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,79nm,3.4s						
MDJ	**Mudanjiang**	**12.11**	**316**	*e*P	**P**	**06 40 42.2**	**+2.9**
	comp=Z,14nm,0.9s						
PET	**Petropavlovsk**	**20.45**	**31**	P	**P**	**06 42 18.5**	**-4.8**
	comp=Z,21nm,1.0s						
ENH	**Enshi**	**27.32**	**266**	P	**P**	**06 43 26.7**	**-3.3**
	comp=Z,13nm,0.7s,mb4.6						
SONM	**Songino Array**	**28.11**	**305**	P	**P**	**06 43 37.2**	**+0.3**
	comp=Z,8.9nm,0.7s,mb4.5,baz=105,slow=8.6,SNR=22						
SONM				LR	LR	06 55 20.3	
	comp=Z,41nm,19.0s,MS3.0,baz=108,slow=37						
ZAK	**Zakamensk**	**30.62**	**309**	*e*P	**P**	**06 43 58.8**	**-0.5**
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.6						
WMQ	**Urumqi**	**41.11**	**297**	*e*P	**P**	**06 45 30.0**	**+1.5**
WMQ				AP	pP	06 45 45.0	+6.5
WMQ				PP	PP	06 47 10.0	+3.7
WMQ				S	**S**	**06 51 40.0**	**+1.1**
WMQ				SS	SS	06 54 41.0	+3.3
WMQ				AMB	AMB		
	comp=Z,12nm,0.8s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,98nm,6.0s						
WMQ				LR	LR		
	comp=N,97nm,20.0s,MS3.9						
WMQ				LR	LR		
	comp=E,127nm,22.0s,MS3.9						
WMQ				LR	LR		
	comp=Z,64nm,18.0s,MS3.5						
ZAL	**Zalesovo**	**42.30**	**313**	LR	LR	07 04 27.5	
	comp=Z,50nm,19.5s,MS3.4,baz=204,slow=38						
MKAR	**Makanchi Array**	**44.42**	**303**	P	**P**	**06 45 56.2**	**+0.8**
	comp=Z,1.8nm,0.5s,mb4.0,baz=90,slow=9.6,SNR=11						
MKAR				LR	LR	07 04 50.2	
	comp=Z,51nm,19.1s,MS3.5,baz=176,slow=36						
KURK	**Kurchatov**	**46.28**	**309**	*e*P	**P**	**06 46 09.3**	**-0.9**
	comp=Z,13nm,0.8s,mb4.9						
KURK	**Kurchatov**	**46.28**	**309**	*e*P	**P**	**06 46 09.3**	**-0.9**
KURK				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.9						
ILAR	**Eielson Array**	**49.92**	**32**	P	**P**	**06 46 38.7**	**+0.4**
	comp=Z,1.4nm,0.8s,mb4.0,baz=269,slow=5.8,SNR=14						
INK	**Inuvik**	**54.84**	**27**	P	**P**	**06 47 15.1**	**+0.1**
	comp=Z,1.2nm,0.5s,mb4.2,baz=311,slow=6.0,SNR=10						
INK	**Inuvik**	**54.84**	**27**	*e*P	**P**	**06 47 15.0**	**0.0**
	comp=Z,3.1nm,0.9s,mb4.3						
INK	**Inuvik**	**54.84**	**27**	P	**P**	**06 47 15.1**	**+0.1**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRAB	**Tennant Creek**	**56.54**	**188**	*e*P	**P**	**06 47 20.5**	**-7.4**
	comp=Z,8.4nm,1.0s,mb4.7						
WB2	**Warramunga Arr**	**56.55**	**188**	*e*P	**P**	**06 47 26.3**	**-1.6**
WRA	**Warramunga Arr**	**56.55**	**188**	P	**P**	**06 47 26.6**	**-1.3**
	comp=Z,2.3nm,0.6s,mb4.4,baz=7.2,slow=7.6,SNR=19						
ARCES	**ARCESS Array B**	**64.50**	**339**	P	**P**	**06 48 21.1**	**-0.2**
	comp=Z,1.7nm,1.1s,mb4.0,baz=195,slow=35,SNR=2.8						
FINES	**FINESS Array B**	**69.29**	**332**	P	**P**	**06 48 51.4**	**-0.2**
	comp=Z,1.5nm,0.8s,mb4.0,baz=190,slow=23,SNR=3.1						
FINES	**FINESS Array B**	**69.29**	**332**	P	**P**	**06 48 51.4**	**-0.2**
WALA	**Waterton Lakes**	**71.80**	**42**	P	**P**	**06 49 05.6**	**-1.5**
	comp=Z,3.0nm,1.1s,mb4.1						
NB2	**NORSAR Subarra**	**74.68**	**337**	P	**P**	**06 49 23.2**	**-0.4**
	comp=Z,1.0nm,0.6s,mb3.9,baz=40,slow=5.8						
NB2	**NORSAR Subarra**	**74.68**	**337**	P	**P**	**06 49 23.2**	**-0.4**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
NOA	**NORSAR Array B**	**74.68**	**337**	P	**P**	**06 49 23.5**	**-0.1**
	comp=Z,1.3nm,0.7s,mb4.0,baz=39,slow=5.8,SNR=7.1						
NOA				LR	LR	07 25 36.5	
	comp=Z,34nm,19.6s,MS3.6,baz=20,slow=38						
AKASG	**Malin Array Be**	**74.73**	**322**	P	**P**	**06 49 23.4**	**-0.7**
	comp=Z,0.4nm,0.3s,mb3.9,baz=48,slow=6.3,SNR=5.8						
HWUT	**Hardware Ranch**	**77.56**	**47**	P	**P**	**06 49 40.3**	**0.0**
	comp=Z,4.3nm,1.2s,mb4.2						
DUG	**Dugway**	**77.67**	**49**	*e*P	**P**	**06 49 41.6**	**+0.5**
	comp=Z,1.5nm,0.8s,mb4.0						
DUG	**Dugway**	**77.67**	**49**	*e*P	**P**	**06 49 41.6**	**+0.6**
DUG				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
PDAR	**Pinedale Array**	**78.01**	**45**	P	**P**	**06 49 43.5**	**+0.7**
	comp=Z,0.3nm,0.6s,mb3.4,baz=315,slow=4.2,SNR=4.1						
ISCO	**Idaho Springs**	**82.19**	**46**	P	**P**	**06 50 06.1**	**+0.9**
	comp=Z,1.1nm,0.7s,mb3.9						
ISCO	**Idaho Springs**	**82.19**	**46**	P	**P**	**06 50 06.1**	**+0.9**
ISCO				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
GERES	**GERESS Array B**	**83.17**	**328**	P	**P**	**06 50 10.1**	**+0.1**
	comp=Z,0.3nm,0.3s,mb3.8,slow=6.7,SNR=3.8						
SCHQ	**Schefferville**	**85.83**	**16**	P	**P**	**06 50 22.7**	**-0.4**
	comp=Z,7.3nm,1.0s,mb4.9						
WMOK	**Wichita Mounta**	**89.62**	**46**	*e*P	**P**	**06 50 41.3**	**-0.5**
	comp=Z,1.2nm,0.9s,mb4.2						
WMOK	**Wichita Mounta**	**89.62**	**46**	*e*P	**P**	**06 50 41.3**	**-0.5**
WMOK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb4.2						
TXAR	**Lajitas Array**	**90.42**	**52**	P	**P**	**06 50 46.8**	**+1.1**
	comp=Z,0.5nm,0.8s,mb3.9,baz=299,slow=2.7,SNR=5.3						
LPAZ	**La Paz**	**146.93**	**60**	*e*PKPbc	PKPbc	06 57 27.1	+1.8

*ATH **04** 06:42:09.2, 39.01N×23.32E, h23km±1km, MD3.1/5, ML3.3*
*THE **04** 06:42:09.3, 38.95N×23.34E, h6km, ML3.1*
*NEIC **04** 06:42:09.2, 39.01N×23.32E, h23km, ML3.3(ATH), After ATH.*
*CSEM **04** 06:42:09.4±0.1, 38.99N×23.33E, h15km, ML3.3, Error ellipse: s-maj=2.8km s-min=2.1km az=93.0*

ISC 04 06:42:09.0±0.6, 38.99N±0.03×23.35E±0.04, h13km±6km, n18, σ0§88/24, 1D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.33**	**343**	*e*PB	**Pb**	**06 42 16.2**	**-0.1**
NEO				*e*SB	**Sb**	**06 42 21.4**	**+0.2**
XOR	**Xorichti**	**0.40**	**342**	*e*Pg	**Pg**	**06 42 17.2**	**0.0**
XOR				*e*Sg	**Sg**	**06 42 23.4**	**+0.6**
XOR	**Xorichti**	**0.40**	**342**	*e*Pg	**Pg**	**06 42 17.2**	**-0.1**
XOR				*e*Sg	**Sg**	**06 42 23.4**	**+0.6**
LKR	**Lokris**	**0.43**	**219**	*e*PB	**Pb**	**06 42 17.7**	**-0.3**
AOS	**Alonnisos**	**0.45**	**66**	*e*Pg	**Pg**	**06 42 18.3**	**0.0**
AOS				*e*Sg	**Sg**	**06 42 25.2**	**+0.6**
AGG	**Agios Georgios**	**0.79**	**273**	*e*Pg	**Pg**	**06 42 23.7**	**-1.3**
AGG				*e*Sg	**Sg**	**06 42 36.3**	**+0.6**
MPAR	**Parnis Oros**	**0.89**	**160**	*e*PN	**Pn**	**06 42 26.5**	**-0.6**
PAIG	**Paliouri**	**0.97**	**15**	*e*Pg	**Pg**	**06 42 28.4**	**-0.1**
PAIG				*e*Sg	**Sg**	**06 42 43.3**	**+1.6**
MGER	**Gerania Oros**	**1.00**	**184**	*e*PN	**Pn**	**06 42 29.5**	**+0.8**
PTL	**Penteli**	**1.02**	**156**	*e*PN	**Pn**	**06 42 29.0**	**0.0**
ATH	**Athens Observa**	**1.05**	**164**	*e*PN	**Pn**	**06 42 30.5**	**+1.0**
NSAL	**Nisos Salamina**	**1.08**	**175**	*e*PN	**Pn**	**06 42 30.0**	**+0.1**
EVR	**Evrytania**	**1.20**	**267**	*e*PN	**Pn**	**06 42 32.0**	**+0.4**
NAIG	**Nisos Aigina**	**1.23**	**175**	*e*PN	**Pn**	**06 42 33.0**	**+1.0**
LIT	**Litokhoron**	**1.29**	**329**	*e*Pg	**Pg**	**06 42 33.1**	**-1.8**
PLG	**Polygyros**	**1.39**	**3**	*e*PN	**Pn**	**06 42 34.4**	**+0.2**
OUR	**Ouranopolis**	**1.43**	**20**	*e*Pg	**Pg**	**06 42 35.6**	**-2.1**
DRWC	**Darouich**	**10.80**	**98**	⇓*i*S	**S**	**06 46 47.0**	**-1.2**

*CSEM **04** 06:47:00.6±0.1, 38.59N×25.52E, h5km, MD3.5, Error ellipse: s-maj=3.9km s-min=2.1km az=54.0*
*ISK **04** 06:47:01.7, 38.58N×25.33E, h27km, MD3.5*
*THE **04** 06:47:13.8, 39.26N×25.07E, h10km*

ISC 04 06:47:01.4±1.1, 38.60N±0.04×25.42E±0.08, h13km±13km, n33, σ0§96/38, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.95**	**104**	*i* P	**Pb**	**06 47 19.4**	**+0.1**
BLCB	**Balcova**	**1.29**	**99**	PN	**Pn**	**06 47 26.1**	**+0.9**
AOS	**Alonnisos**	**1.33**	**296**	*e*Pg	**Pg**	**06 47 31.1**	**+3.0**
AOS				*e*Sg	**Sg**	**06 47 45.7**	**-0.2**
LOS	**Limnos**	**1.36**	**349**	*e*Pg	**Pg**	**06 47 26.0**	**-2.7**
EZN	**Ezine**	**1.41**	**30**	PN	**Pn**	**06 47 26.1**	**-0.9**
EZN				SN	**Sn**	**06 47 45.3**	**-0.2**
IZM	**Izmir**	**1.46**	**97**	PN	**Pn**	**06 47 27.0**	**-0.7**
KDAG	**Bornova**	**1.46**	**97**	*i* P	**Pn**	**06 47 26.0**	**-1.7**
APE	**Apeiranthos**	**1.53**	**177**	PN	**Pn**	**06 47 27.7**	**-1.0**
AKS	**Akhisar**	**1.89**	**81**	*e*PN	**Pn**	**06 47 34.6**	**+0.8**
XOR	**Xorichti**	**1.90**	**294**	*e*Pg	**Pg**	**06 47 39.7**	**+0.3**
CANB	**Canakkale**	**1.90**	**41**	*e*PN	**Pn**	**06 47 35.0**	**+1.0**
LPK	**Lapseki**	**2.05**	**30**	*e*PN	**Pn**	**06 47 37.0**	**+0.9**
OUR	**Ouranopolis**	**2.06**	**328**	*e*Pg	**Pg**	**06 47 38.3**	**-4.3**
BODT	**Bodrum**	**2.14**	**135**	*e*PN	**Pn**	**06 47 37.2**	**-0.3**
AYDN	**Tasoluk**	**2.15**	**115**	*i* P	**Pn**	**06 47 42.8**	**+5.2**
AYDN				*i* S	**Sn**	**06 48 09.8**	**+5.4**
BALB	**Balikesir**	**2.18**	**61**	*e*PN	**Pn**	**06 47 37.5**	**-0.4**
BDRM	**Kayabasi**	**2.22**	**133**	*i* P	**Pn**	**06 47 38.4**	**-0.1**
BDRM				*i* S	**Sn**	**06 48 13.6**	**+7.6**
ALN	**Alexandroupoli**	**2.34**	**12**	*e*Pb	**Pb**	**06 47 44.9**	**+1.8**
ALN				*e*Sb	**Sb**	**06 48 10.8**	**-1.2**
AGG	**Agios Georgios**	**2.45**	**281**	*e*Pn	**Pg**	**06 47 50.8**	**+0.4**
MANT	**Manisa**	**2.46**	**92**	*i* P	**Pn**	**06 47 48.8**	**+6.8**
BNT	**Bandirma**	**2.61**	**47**	PN	**Pn**	**06 47 43.4**	**-0.7**
MRMT	**Marmara Adasi**	**2.61**	**39**	*e*PN	**Pn**	**06 47 44.4**	**+0.2**
MFT	**Murefte**	**2.61**	**33**	*e*PN	**Pn**	**06 47 44.6**	**+0.4**
DST	**Dursunbey**	**2.69**	**67**	*e*PN	**Pn**	**06 47 46.0**	**+0.7**
YER	**Yerkesik**	**2.70**	**122**	*e*PN	**Pn**	**06 47 45.0**	**-0.4**
ORLT	**Orhaneli**	**3.06**	**61**	*e*PN	**Pn**	**06 47 51.1**	**+0.6**
RZN	**Rozhen**	**3.13**	**350**	P	**Pn**	**06 47 50.5**	**-1.0**
GDZ	**Gediz**	**3.21**	**80**	*i* P	**Pn**	**06 48 01.6**	**+9.0**
MMB	**Musomiste**	**3.26**	**337**	P	**Pn**	**06 48 02.0**	**+8.7**
EDRB	**Edirne**	**3.40**	**17**	*e*PN	**Pn**	**06 47 55.8**	**+0.5**
GOLH	**Golhisar**	**3.55**	**111**	*i* P	**Pn**	**06 48 01.3**	**+3.8**
YLV	**Yalova**	**3.63**	**56**	*e*PN	**Pn**	**06 47 59.3**	**+0.7**
VTS	**Vitosha**	**4.33**	**338**	*e*P	**Pn**	**06 48 09.0**	**+0.4**

IDC 04 06:50:58.0±4.0, 13.14N×143.43E, mb3.9/4, mb1 4.0/4, mb1mx3.7/19, mbtmp3.9/4, Error ellipse: s-maj=176.1km s-min=25.4km az=77.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**34.07**	**195**	P	P	06 57 44.8	-1.6
	2.1nm,0.6s,baz=16,slow=9.4,SNR=19						
STKA	**Stephens Creek**	**44.80**	**182**	P	P	06 59 12.7	-2.8
	5.3nm,1.2s,baz=356,slow=15,SNR=3.3						
MKAR	**Makanchi Array**	**60.84**	**316**	P	P	07 01 12.8	-1.7
	0.2nm,0.5s,baz=90,slow=7.2,SNR=3.4						
BVAR	**Borovoye Array**	**69.41**	**322**	P	P	07 02 07.2	-2.6
	0.6nm,0.4s,baz=76,slow=6.1,SNR=3.5						

CASC 04 07:09:32.4±1.6, 11.24N×85.48W, h2km±5km, MD3.6, ML3.0, 4C-4D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MADN	**Villa Maderas**	**0.17**	**343**	⇓*e*P	Pg	07 09 37.0	+1.1
CONN	**Concepcion**	**0.35**	**336**	⇓*e*P	Pg	07 09 40.0	+0.6
SSNN	**San Juan del S**	**0.36**	**277**	⇑*e*P	Pg	07 09 40.5	+0.8
SSNN				*e*S	Sg	07 09 46.6	+2.0
MGAN	**Managua**	**1.17**	**320**	⇑*e*P	Pb	07 09 54.2	-0.8
MGAN				*e*S	Sb	07 10 10.5	0.0
	comp=N,287nm,0.5s						
COPN	**Copaltepe**	**1.43**	**311**	⇓*e*P	Pn	07 09 58.3	-1.1
PRS1	**Puriscal**	**1.70**	**137**	*e*P	Pn	07 10 04.0	+0.9
LEON	**Leon**	**1.81**	**310**	⇓*e*P	Pn	07 10 04.7	-0.1
TRTC	**Tortuguero**	**1.86**	**111**	*e*P	Pn	07 10 04.8	-0.6
TRTC				*e*S	Sn	07 10 29.9	+0.1
LCR2	**La Lucha 2**	**2.08**	**136**	⇑*e*P	Pn	07 10 08.3	-0.4
LCR2				*e*S	Sn	07 10 38.0	+2.5
BUS	**Buena Vista**	**2.38**	**135**	⇑*e*P	Pn	07 10 13.8	+0.8
BUS				*e*S	Sn	07 10 45.5	+2.4

PRE 04 07:21:11.8±1.6, 26.44S×27.60E, h2km, ML3.7, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSR	**Koster**	**0.86**	**312**	*e*P	Pg	07 21 28.6	-0.4
KSR				*e*S	Sg	07 21 40.1	-0.3
KSR				AML	AML	07 21 47.5	
	comp=Z,1μm,0.2s						
SLR	**Silverton**	**0.93**	**41**	*e*P	Pb	07 21 30.3	+0.1
SLR				*e*S	Sg	07 21 41.8	-1.0
SLR				AML	AML	07 21 48.5	
	comp=Z,426nm,0.3s						
SEK	**Senekal**	**1.88**	**179**	*e*P	Pn	07 21 46.2	+1.0
SEK				*e*S	Sn	07 22 09.8	-0.1
SEK				AML	AML	07 22 13.3	
	comp=Z,593nm,0.2s						
SWZ	**Schweizer**	**2.16**	**249**	*e*P	Pn	07 21 49.8	+0.5
SWZ				*e*S	Sn	07 22 16.3	-0.7
SWZ				AML	AML	07 22 20.6	
	comp=Z,2μm,0.4s						
NWL	**Newcastle**	**2.46**	**122**	*e*P	Pn	07 21 54.2	+0.7
NWL				*e*S	Sn	07 22 23.6	-0.9
NWL				AML	AML	07 22 34.0	
	comp=Z,486nm,0.5s						
POGA	**Pongola**	**3.70**	**105**	*e*P	Pn	07 22 12.3	+1.1
POGA				*e*S	Sn	07 22 54.7	-1.3
POGA				AML	AML	07 23 14.0	
	comp=Z,186nm,0.5s						
PKA	**Prieska**	**5.36**	**232**	*e*P	Pn	07 22 32.9	-1.8

*BEO **04** 07:50:25.8±0.3, 41.81N×22.80E, h5km*
*CSEM **04** 07:50:25.1±0.1, 41.80N×22.81E, h2km, MD3.0, Error ellipse: s-maj=1.6km s-min=1.4km az=67.0*
*ATH **04** 07:50:26.1, 41.68N×22.82E, h5km±2km, MD3.2/4*
*THE **04** 07:50:26.0, 41.73N×22.82E, h3km, ML3.4*
*NEIC **04** 07:50:26.1, 41.68N×22.82E, h5km, MD3.2(ATH), After ATH.*
NEIC Felt [III] at Berovo.

*SOF **04** 07:50:26.9, 41.93N×23.08E, h8km, MD3.3*

ISC 04 07:50:24.3±0.3, 41.79N±0.02×22.79E±0.03, h10km, n41, σ1§26/58, 3C-4D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKB	**Krupnik**	**0.23**	**71**	*i* P	**Pg**	**07 50 29.5**	**+0.2**
VAY	**Valandovo**	**0.50**	**199**	*i* Pg	**Pg**	**07 50 34.8**	**+0.5**
VAY				*i* Sg	**Sg**	**07 50 41.8**	**+0.7**
KNT	**Kendrikon**	**0.63**	**172**	*e*Pg	**Pg**	**07 50 37.2**	**+0.1**
KNT				*e*Sg	**Sg**	**07 50 45.5**	**-0.1**
MMB	**Musomiste**	**0.73**	**106**	*i* P	**Pb**	**07 50 39.0**	**+0.4**
VTS	**Vitosha**	**0.86**	**21**	Pg	**Pb**	**07 50 40.5**	**-0.4**
VTS	**Vitosha**	**0.86**	**21**	*i* P	**Pb**	**07 50 40.5**	**-0.4**
GRG	**Griva**	**0.88**	**199**	*e*Pg	**Pg**	**07 50 41.6**	**-0.4**
GRG				*e*Sg	**Sg**	**07 50 53.4**	**-0.4**
SRS	**Serrai**	**0.90**	**138**	*e*Pg	**Pg**	**07 50 41.6**	**-0.8**
SRS				*e*Sg	**Sg**	**07 50 54.0**	**-0.5**
NVR	**Nevrokopi**	**0.92**	**118**	*e*PG	**Pg**	**07 50 42.0**	**-0.7**
NVR				*e*SB	**Sb**	**07 50 53.9**	**+0.1**
SKO	**Skopje**	**1.02**	**281**	*e*Pg	**Pg**	**07 50 44.7**	**-0.1**
SKO				*i*		07 50 46.7	
SKO				*i* Sg	**Sg**	**07 50 59.3**	**+0.8**
SKO				Smax		07 51 07.5	
	comp=Z,0.1nm,0.3s						
THE	**Thessaloniki**	**1.16**	**173**	*e*Pg	**Pg**	**07 50 47.0**	**-0.6**
THE				*e*Sg	**Sg**	**07 51 03.1**	**0.0**
PGB	**Panagyurishte**	**1.28**	**53**	Pg	**Pg**	**07 50 48.5**	**-1.3**
PGB	**Panagyurishte**	**1.28**	**53**	*i* P	**Pb**	**07 50 47.0**	**-1.0**
RZN	**Rozhen**	**1.45**	**93**	*i* Pg	**Pg**	**07 50 51.9**	**-1.3**
RZN	**Rozhen**	**1.45**	**93**	*i* P	**Pn**	**07 50 51.0**	**+0.4**
FNA	**Florina**	**1.46**	**227**	*e*Pg	**Pg**	**07 50 52.5**	**-1.0**
FNA	**Florina**	**1.46**	**227**	*e*Pg	**Pg**	**07 50 52.5**	**-1.1**
PLD	**Plovdiv**	**1.46**	**77**	P	**Pn**	**07 50 52.4**	**+1.5**
PLD	**Plovdiv**	**1.46**	**77**	*i* P	**Pn**	**07 50 51.5**	**+0.6**
PLG	**Polygyros**	**1.50**	**160**	*e*PG	**Pg**	**07 50 52.0**	**-2.3**
PLG				*e*SB	**Sb**	**07 51 10.4**	**-0.3**
ZAPS	**Zavoj/Pirot**	**1.51**	**355**	⇑*i* Pg	**Pg**	**07 50 52.5**	**-2.0**
ZAPS				Sg	**Sg**	**07 51 12.9**	**-1.8**
OUR	**Ouranopolis**	**1.71**	**148**	*e*Pb	**Pb**	**07 50 55.1**	**-0.3**
OUR				*e*Sb	**Sb**	**07 51 18.5**	**+1.6**
KDZ	**Kurdzhali**	**1.97**	**93**	*i* P	**Pn**	**07 50 59.5**	**+1.3**
PAIG	**Paliouri**	**1.98**	**160**	*e*Pb	**Pb**	**07 50 58.5**	**-1.5**
PAIG				*e*Sb	**Sb**	**07 51 23.5**	**-1.1**
DIM	**Dimitrovgrad**	**2.06**	**82**	P	**Pn**	**07 51 03.5**	**+4.0**
BOLS	**Boljevac**	**2.13**	**344**	*e*Pn	**Pn**	**07 51 03.6**	**+3.2**
BOLS				Sg	**Sg**	**07 51 31.9**	**-3.4**
RDO	**Rodhopi**	**2.16**	**106**	*e*PN	**Pn**	**07 51 04.5**	**+3.6**
RDO				*e*SN	**Sn**	**07 51 32.2**	**+4.2**
PVL	**Pavlikeni**	**2.36**	**52**	*i* P	**Pn**	**07 51 06.5**	**+2.8**
XOR	**Xorichti**	**2.44**	**173**	*e*Pn	**Pn**	**07 51 04.8**	**-0.1**
GRUS	**Gruza**	**2.59**	**325**	*e*Pn	**Pn**	**07 51 10.2**	**+3.2**
GRUS				Sg	**Sg**	**07 51 44.0**	**-6.7**
GRUS	**Gruza**	**2.59**	**325**	Pn	**Pn**	**07 51 10.2**	**+3.1**
ALN	**Alexandroupoli**	**2.61**	**109**	*e*Pn	**Pn**	**07 51 07.8**	**+0.5**
ALN				*e*Sn	**Sn**	**07 51 41.1**	**+1.7**
LIA	**Limnos Island**	**2.62**	**135**	*e*PN	**Pn**	**07 51 09.5**	**+2.1**
DJES	**Djerdap**	**2.85**	**356**	*e*Pn	**Pn**	**07 51 13.7**	**+3.0**
DJES				Sg	**Sg**	**07 51 50.0**	**-9.2**
BBLS	**Bajina Basta -**	**3.24**	**311**	*e*Pn	**Pn**	**07 51 19.0**	**+2.8**
BBLS				S	**Sn**	**07 51 59.3**	**+4.0**
MLR	**Muntele Rosu**	**4.35**	**31**	⇑P	**Pn**	**07 51 30.6**	**-1.5**
MLR	**Muntele Rosu**	**4.35**	**31**	⇑P	**Pn**	**07 51 30.6**	**-1.5**
HARR	**Harsova**	**4.75**	**51**	⇓P	**Pn**	**07 51 49.0**	**+11**
TIRR	**Tirgusor**	**4.91**	**55**	⇓P	**Pg**	**07 51 56.2**	**-6.0**
VRI	**Vrincioaia**	**4.97**	**34**	⇓P	**Pn**	**07 51 41.7**	**+0.8**
VRI	**Vrincioaia**	**4.97**	**34**	⇓P	**Pn**	**07 51 41.7**	**+0.8**

*ATH **04** 08:01:50.0, 36.52N×28.69E, h28km, MD3.4/4*
*ISK **04** 08:01:50.5, 36.55N×28.74E, h19km, MD3.5

comp=E,11nm,0.6s
AAK ⇓Sn **Sn** **08 37 35.9 -0.4**
comp=E,107nm,1.4s
CHMS Chumysh 5.90 311 P **P** **08 36 33.3 +3.2**
SNR=11
USP Ospenovka 6.21 312 P **P** **08 36 38.5 +4.0**
SNR=12
MK31 Makanchi Array 7.55 8 ⇑Pn **Pn** **08 36 53.1 -0.4**
comp=E,0.8nm,0.2s,baz=199,slow=13,SNR=112
MK31 ⇑Sn **Sn** **08 38 17.9 -0.9**
comp=E,6.2nm,0.4s,baz=178,slow=21
MKAR Makanchi Array 7.55 8 Pn **Pn** **08 36 52.8 -0.7**
comp=E,1.6nm,0.3s,baz=198,slow=14,SNR=38
MKAR Sn **Sn** **08 38 20.4 +1.5**
comp=E,4.2nm,0.3s,baz=194,slow=25,SNR=10
MKAR Lg 08 39 08.9
comp=E,0.5nm,0.3s,baz=180,slow=29,SNR=2.4
KK31 Karatay Array 8.67 299 ⇓Pn **P** **08 37 19.5 +11**
comp=E,1.1nm,0.5s,baz=134,slow=16,SNR=10
KK31 ⇓Sn **Sn** **08 38 58.8 +12**
comp=E,5.8nm,0.7s,baz=122,slow=28
KURK Kurchatov 11.51 353 ⇓Lg 08 40 50.5
comp=E,12nm,1.3s
BVAR Borovoye Array 15.49 336 Pn **P** **08 38 34.0 -6.2**
comp=E,0.2nm,0.3s,baz=349,slow=32,SNR=2.9
SONM Songino Array 20.30 57 P **P** **08 39 43.8 +5.4**
comp=E,0.8nm,0.5s,baz=259,slow=10,SNR=6.4
WRA Warramunga Arr 77.27 129 P **P** **08 46 55.9 +0.2**
comp=E,0.2nm,0.5s,mb3.3,baz=311,slow=6.6,SNR=1.9

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*NIED **04** 08:57:00,32.70N×131.80E,h50km,Mw3.9 Best double couple: M0 8.74×10^14 NP1:φs2°,δ73°,λ86°. NP2:φs195°, δ18°,λ102°.*
*IDC **04** 08:57:60.0±1.2,32.78N×131.71E,h64km±9km,mb3.5/5, mb1 3.8/8,mb1mx3.6/23,mbtmp4.0/8,MS2.9/1,Ms1 2.9/1, ms1mx2.7/19,Error ellipse: s-maj=23.7km s-min=16.4km az=33.0*
*JMA **04** 08:57:59.9,32.68N×131.76E,h50km±1km,M3.7 Broadband fault plane solution: P waves. NP1:φs155°, δ26°,λ61°. NP2:φs6°,δ68°,λ103°. Principal axes: T Plg65°, Azm298°; N Plg12°, Azm181°; P Plg22°, Azm86°;*
JMA Felt II J1.
*NEIC **04** 08:58:01.4±0.7,32.81N×131.73E,h80km±7km,mb4.4/1 Error ellipse: s-maj=12.0km s-min=9.3km az=150.0*

ISC 04 08:57:58.3±0.4,32.73N±0.05×131.78E±0.04,h66km±4km, n25,σ0=94/32,mb3.7/5,1C-5D,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKIT	**Kitakata**	**0.29**	**250**	⇓P	**P**	**08 58 08.6**	**-0.5**
JKIT				*e*S	**S**	**08 58 14.5**	**-2.5**
JUS	**Usuki**	**0.34**	**356**	⇑P	**P**	**08 58 09.9**	**+0.5**
JUS				S	**S**	**08 58 17.4**	**-0.2**
JTSN	**Tsuno**	**0.53**	**206**	⇓P	**P**	**08 58 10.8**	**-0.4**
JTSN				S	**S**	**08 58 19.6**	**-1.1**
JIU2	**Izumi 2**	**0.83**	**258**	⇓P	**P**	**08 58 15.2**	**+0.5**
JIU2				S	**S**	**08 58 26.8**	**0.0**
JNU	**Nakatsue**	**0.85**	**298**	P	**P**	**08 58 16.1**	**+1.2**
	269nm,0.3s,baz=93,slow=10.0,SNR=1488						
JNU				S	**S**	**08 58 27.9**	**+0.7**
	367nm,0.3s,baz=350,slow=38,SNR=53						
UWA2	**Uwa jima 2**	**0.86**	**55**	⇓P	**P**	**08 58 16.1**	**+1.1**
JTO	**Tosashimizu**	**0.87**	**81**	⇓P	**P**	**08 58 15.8**	**+0.7**
JTO				*e*S	**S**	**08 58 27.7**	**+0.1**
JTZ	**Takazaki**	**1.01**	**216**	P	**P**	**08 58 17.7**	**+0.7**
JTZ				*e*S	**S**	**08 58 31.0**	**+0.2**
KS15	**Wonju Array Si**	**5.69**	**327**	*e*Pn	**P**	**08 59 22.2**	**+0.2**
KS15				*e*Sn	**S**	**09 00 21.5**	**-5.2**
MAJO	**Matsushiro**	**6.52**	**53**	*e*Pn	**P**	**08 59 34.1**	**+0.4**
	6.6nm,0.4s						
MAT	**Matsushiro**	**6.52**	**53**	P	**P**	**08 59 34.6**	**+0.9**
MAT				*e*S	**S**	**09 00 45.4**	**-2.0**
MAT	**Matsushiro**	**6.52**	**53**	*e*P	**P**	**08 59 35.0**	**+1.3**
MJAR	**Matsushiro Arr**	**6.52**	**53**	P	**P**	**08 59 35.2**	**+1.5**
	2.9nm,0.3s,baz=238,slow=14,SNR=42						
MJAR	**Matsushiro Arr**	**6.52**	**53**	P	**P**	**08 59 35.2**	**+1.5**
JOW	**Kunigami**	**6.62**	**208**	P	**P**	**08 59 36.4**	**+1.4**
	1.4nm,0.3s,baz=162,slow=20,SNR=2.5						
JHJ	**Hachijo jima 2**	**6.74**	**85**	P	**P**	**08 59 35.8**	**-1.0**
	16nm,0.3s,baz=63,slow=21,SNR=4.8						
MDJ	**Mudanjiang**	**11.99**	**352**	P	**P**	**09 00 46.6**	**-1.7**
LZH	**Lanzhou**	**23.26**	**286**	pP		09 03 20.5	
	20nm,1.3s						
LZH				sP		09 03 23.1	
SONM	**Songino Array**	**24.40**	**316**	P	**P**	**09 03 11.8**	**+0.4**
	1.5nm,0.6s,mb3.5,baz=125,slow=9.0,SNR=16						
SONM				LR	LR	09 13 26.8	
	comp=Z,28nm,19.4s,baz=188,slow=38						
MKAR	**Makanchi Array**	**39.90**	**305**	P	**P**	**09 05 26.7**	**-0.4**
	0.6nm,0.6s,mb3.6,baz=93,slow=10,SNR=8.0						
BVAR	**Borovoye Array**	**47.73**	**314**	P	**P**	**09 06 30.0**	**-0.2**
	0.9nm,0.4s,mb4.0,baz=101,slow=9.6,SNR=7.4						
BVAR				PcP	PcP	09 07 58.6	-0.2
	0.3nm,0.4s,baz=72,slow=4.7,SNR=3.6						
BRVK	**Borovoye**	**47.80**	**314**	P	**P**	**09 06 29.4**	**-1.2**
WRA	**Warramunga Arr**	**52.43**	**177**	P	**P**	**09 07 06.0**	**-0.4**
	0.5nm,0.8s,mb3.6,baz=352,slow=7.8,SNR=2.4						
ILAR	**Eielson Array**	**57.28**	**30**	pP	pP	09 07 56.5	-1.9
	0.5nm,0.7s,baz=277,slow=6.5,SNR=3.2						
BRTR	**Keskin Array B**	**75.50**	**308**	P	**P**	**09 09 36.9**	**-0.2**
	0.6nm,0.5s,mb3.6,baz=80,slow=7.5,SNR=4.2						

MAN 04 09:07:56.6,16.50N×121.00E,h2km,mb4.5,ML3.3,MS3.2, 1D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAUP	**Cauayan**	**0.91**	**60**	*e*P	Pb	09 08 14.2	-0.4
CAUP				*e*S	Sg	09 08 29.2	+2.5
BALP	**Baler**	**0.93**	**143**	*e*P	Pb	09 08 13.8	-1.3
BALP				*e*S	Sg	09 08 27.7	+0.1
BOLP	**Bolinao**	**1.05**	**264**	*e*P	Pb	09 08 16.4	-0.7
BOLP				*e*S	Sb	09 08 29.6	-1.5
ABRA	**Dolores**	**1.18**	**347**	*e*P	Pb	09 08 17.0	-2.4
ABRA				*e*S	Sb	09 08 34.2	-0.8
SCZP	**Santa Cruz**	**1.27**	**236**	*e*P	Pb	09 08 20.4	-0.4
SCZP				*e*S	Sb	09 08 41.1	+3.7
APYP	**Conner**	**1.38**	**10**	*e*P	Pb	09 08 21.9	-0.9
APYP				*e*S	Sb	09 08 40.8	+0.1
CVP	**Callao Caves**	**1.44**	**33**	*e*P	Pn	09 08 22.0	-1.7
CVP				*e*S	Sb	09 08 44.0	+1.6
NZB	**Bigte**	**1.63**	**177**	*e*P	Pn	09 08 26.1	-0.3
NBP	**Mount Natib**	**1.83**	**198**	*e*P	Pn	09 08 29.1	-0.2
ARP	**Angono**	**1.95**	**176**	*e*P	Pn	09 08 30.8	-0.2
POLP	**Polilio Island**	**1.98**	**153**	*e*P	Pn	09 08 32.4	+1.0
POLP				*e*S	Sn	09 09 00.5	+3.5
LBPH	**Los Banos**	**2.33**	**176**	*e*P	Pn	09 08 36.1	-0.4
LUBP	**Lubang**	**2.84**	**195**	*e*P	Pn	09 08 45.8	+2.0
LUBP				*e*S	Sn	09 09 23.2	+4.2
GQP	**Guinayangan**	**2.93**	**151**	⇓*e*P	Pn	09 08 46.9	+1.9

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*MOS **04** 09:26:47.4±0.9,3.58S×140.14E,h10km,mb6.0/42, MS5.5/37,Error ellipse: s-maj=10.3km s-min=5.7km az=105.9*
*BJI **04** 09:26:50.3,3.84S×140.57E,h49km,mB5.8,mb5.5,Ms5.4, Msz5.2*
*IDC **04** 09:26:50.8±6.0,3.68S×140.19E,h25km±40km,mb5.2/20, mb1 5.1/22,mb1mx5.1/23,mbtmp5.3/22,ML4.3/2,MS5.4/18, Ms1 5.4/18,ms1mx5.3/20,Error ellipse: s-maj=17.0km s-min=9.4km az=76.0*
*HRVD **04** 09:26:52.8±0.1,3.59S×140.33E,h41km,MW5.8/74, Centroid moment Tensor Solution. LP body waves: s73,c164;Mantle waves: s74,c221; Half duration: 2s0 Moment tensor: Scale 10^17Nm; Mrr5.47±.08; Mθθ-5.02±.06; Mφφ-0.45±.07; Mrθ-1.63±.07; Mθφ2.59±.04; Mφr1.82±.08; Best double couple: M0 6.334×10^17 NP1: φs103°,δ35°,λ73°. NP2:φs304°,δ56°,λ102°. Principal axes: T 6.06, Plg75°, Azm250°; N .546, Plg10°, Azm118°; P -6.607, Plg11°, Azm26°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **04** 09:26:52.8±0.1,3.66S×140.18E,h40km,mb5.7/60,ME5.6, MS5.6/122,MW5.7 Error ellipse: s-maj=5.0km s-min=3.9km az=82.0 Broadband fault plane solution: P waves. NP1:φs135°,δ30°,λ90°. NP2:φs315°,δ60°,λ90°. Principal axes: T Plg75°, Azm225°; N Plg0°, Azm0°; P Plg15°, Azm45°; Moment Tensor Solution. s23 Moment tensor: Scale 10^17 Nm; Mrr3.97; Mθθ-1.75; Mφφ-2.22; Mrθ-1.60; Mθφ2.07; Mφr2.17; Best double couple: M0 4.8×10^17 NP1:φs135°,δ28°,λ85°. NP2:φs321°,δ62°, λ93°. Principal axes: T 4.8, Plg73°, Azm238°; N .08, Plg3°, Azm140°; P -4.88, Plg17°, Azm49°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [IV] at Wamena and [II] at Jayapura.

ISC 04 09:26:50.7±0.1,3.69S±0.03×140.19E±0.03,h36km, h36km±1.0km:pP-P,n514,σ1=03/318,mb5.6/103,MS5.4/164, 74C-19D,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.95**	**130**	Pn	**P**	**09 28 59.3**	**-1.3**
	4.9nm,0.3s,baz=310,slow=18,SNR=14						
PMG				Sn	**S**	**09 30 39.2**	**-2.1**
	baz=312,slow=3.9,SNR=2.2						
PMG	**Port Moresby**	**8.95**	**130**	*e*Pn	**P**	**09 29 00.6**	**0.0**
	906nm,1.0s						
PMG	**Port Moresby**	**8.95**	**130**	*i* P	**P**	**09 29 02.4**	**+1.8**
KAKA	**Kakadu**	**11.79**	**220**	⇓*i*P	**P**	**09 29 42.9**	**+3.3**
	1μm,0.4s						
WRAB	**Tennant Creek**	**17.12**	**199**	⇓*e*P	**P**	**09 30 45.3**	**-3.7**
	2μm,0.8s						
WRAB	**Tennant Creek**	**17.12**	**199**	*d i*P	**P**	**09 30 45.3**	**-3.7**
WB2	**Warramunga Arr**	**17.13**	**199**	⇓*i*P	**P**	**09 30 45.4**	**-3.7**
WB2				*e*S	**S**	**09 33 53.4**	**-3.5**
WRA	**Warramunga Arr**	**17.13**	**199**	P	**P**	**09 30 45.4**	**-3.8**
	5.4nm,0.3s,baz=17,slow=13,SNR=86						
WRA				S	**S**	**09 34 02.3**	**+5.3**
	8.0nm,0.3s,baz=8.6,slow=21,SNR=4.4						
CTA	**Charters Tower**	**17.34**	**161**	⇑*i*P	**P**	**09 30 52.5**	**+0.8**
	168nm,1.0s						
CTA	**Charters Tower**	**17.34**	**161**	P	**P**	**09 30 50.9**	**-0.8**
	2.2nm,0.3s,baz=333,slow=13,SNR=41						
CTA				S	**S**	**09 34 03.3**	**+1.6**
	1.0nm,0.3s,baz=241,slow=18,SNR=1.6						
CTA				LR	LR	09 38 00.7	
	comp=Z,28μm,18.2s,baz=345,slow=39						
CTA	**Charters Tower**	**17.34**	**161**	⇑*i*P	**P**	**09 30 52.5**	**+0.8**
CTA				pmax	pmax		
	comp=Z,168nm,1.0s						
CTAO	**Charters Tower**	**17.34**	**161**	⇑*e*P	**P**	**09 30 52.3**	**+0.6**
	comp=Z,446nm,1.3s						
CTAO	**Charters Tower**	**17.34**	**161**	⇑*e*P	**P**	**09 30 52.3**	**+0.6**
CTAO				pmax	pmax		
	comp=Z,446nm,1.3s						
MATI	**Mati**	**17.47**	**307**	*e*P	**P**	**09 30 53.0**	**-0.4**
DAV	**Davao City (W)**	**18.08**	**306**	*e*P	**P**	**09 31 03.0**	**+1.9**
BIPH	**Bislig**	**18.15**	**311**	⇑*i*P	**P**	**09 31 01.4**	**-0.6**
BUKP	**Musuan**	**18.97**	**307**	*e*P	**P**	**09 31 12.3**	**+0.3**
BUKP				*e*S	**S**	**09 34 37.1**	**-1.4**
BUTP	**Butuan**	**19.21**	**311**	*e*P	**P**	**09 31 14.3**	**-0.4**
BUTP				*e*S	**S**	**09 34 39.4**	**-4.7**
SCPH	**Surigao**	**19.84**	**313**	*e*P	**P**	**09 31 21.1**	**-0.4**
FITZ	**Fitzroy Crossi**	**20.20**	**224**	⇑*i*P	**P**	**09 31 24.3**	**-1.1**
	comp=Z,620nm,0.8s						
FITZ				*e*S	**S**	**09 35 03.7**	**-1.5**
FITZ	**Fitzroy Crossi**	**20.20**	**224**	P	**P**	**09 31 24.5**	**-0.9**
	comp=Z,950nm,0.9s,baz=22,slow=9.9,SNR=226						
FITZ				S	**S**	**09 35 02.0**	**-3.2**
	comp=Z,806nm,0.9s,baz=134,slow=8.7,SNR=6.4						
FITZ				LR	LR	09 39 50.9	
	comp=Z,29μm,18.1s,MS5.7,baz=60,slow=39						
PAGZ	**Pagadian**	**20.31**	**304**	*e*P	**P**	**09 31 27.0**	**+0.4**
HNR	**Honiara**	**20.43**	**107**	P	**P**	**09 31 25.8**	**-2.0**
	comp=Z,226nm,0.5s,baz=41,slow=1.5,SNR=12						
HNR				S	**S**	**09 35 07.3**	**-2.3**
	comp=Z,103nm,0.9s,baz=81,slow=14,SNR=1.8						
HNR	**Honiara**	**20.43**	**107**	*e*P	**P**	**09 31 24.4**	**-3.4**
	comp=Z,1μm,1.0s						
HNR				LR	LR		
	comp=Z,6μm,22.0s,MS4.9						
HNR	**Honiara**	**20.43**	**107**	*e*P	**P**	**09 31 24.9**	**-2.9**
HNR				pmax	pmax		
	comp=Z,1μm,1.0s						
MSLP	**Maasin**	**20.54**	**312**	*e*P	**P**	**09 31 28.8**	**-0.1**
MSLP				*e*S	**S**	**09 35 19.3**	**+7.6**
IPIL	**Ipil**	**20.95**	**303**	*e*P	**P**	**09 31 33.2**	**0.0**
TBP	**Tagbilaran**	**21.01**	**309**	*e*P	**P**	**09 31 33.5**	**-0.2**
BESP	**Borongan**	**21.12**	**316**	*e*P	**P**	**09 31 35.2**	**+0.3**
LLP	**Lapu-Lapu**	**21.32**	**311**	*e*P	**P**	**09 31 36.9**	**0.0**
CNP	**Cataman**	**22.30**	**316**	*e*P	**P**	**09 31 46.8**	**+0.2**
GUIM	**Jordan**	**22.57**	**309**	*e*P	**P**	**09 31 48.7**	**-0.8**
RCP	**Roxas**	**23.04**	**311**	⇑*e*P	**P**	**09 31 52.8**	**-1.2**
PVCP	**Virac**	**23.41**	**317**	*e*P	**P**	**09 31 58.0**	**+0.4**
KALP	**Kalibo**	**23.42**	**311**	⇑*e*P	**P**	**09 32 04.5**	**+6.8**
TSM	**Tawau**	**23.67**	**289**	P	**P**	**09 32 04.9**	**+4.7**
CUYO	**Cuyo Island**	**23.93**	**307**	*e*P	**P**	**09 32 04.3**	**+1.6**
OTRP	**Odiongan**	**24.09**	**312**	*e*P	**P**	**09 32 06.3**	**+2.1**
AUQP	**San Andres**	**24.25**	**314**	*e*P	**P**	**09 32 05.3**	**-0.5**
SJMP	**San Jose**	**24.83**	**311**	*e*P	**P**	**09 32 12.3**	**+0.8**
BOAC	**Boac**	**24.94**	**313**	*e*P	**P**	**09 32 13.0**	**+0.5**
PPR	**Puerto Princes**	**25.22**	**302**	⇑*e*P	**P**	**09 32 16.9**	**+1.7**
BUSP	**Coron**	**25.26**	**308**	*e*P	**P**	**09 32 14.9**	**-0.7**
ENPP	**El Nido**	**25.41**	**306**	*e*P	**P**	**09 32 17.5**	**+0.5**
BATP	**Bataraza**	**25.54**	**299**	*e*P	**P**	**09 32 19.6**	**+1.5**
POLP	**Polilio Island**	**25.73**	**316**	*e*P	**P**	**09 32 18.4**	**-1.5**
KKM	**Kota Kinabalu**	**25.82**	**292**	P	**P**	**09 32 23.0**	**+2.2**
KKM	**Kota Kinabalu**	**25.82**	**292**	⇑*e*P	**P**	**09 32 21.6**	**+0.8**
MBWA	**Marble Bar**	**26.41**	**227**	⇑*e*P	**P**	**09 32 25.0**	**-1.1**
	comp=Z,13nm,0.7s,mb4.6						
MBWA				LR	LR		
	comp=Z,12μm,22.0s,MS5.4						
NZB	**Bigte**	**26.41**	**315**	*e*P	**P**	**09 32 26.2**	**0.0**
BALP	**Baler**	**26.68**	**317**	*e*P	**P**	**09 32 28.9**	**+0.1**
NBP	**Mount Natib**	**26.82**	**313**	*e*P	**P**	**09 32 29.0**	**-1.0**
CAUP	**Cauayan**	**27.38**	**319**	*e*P	**P**	**09 32 28.4**	**-6.7**
SCZP	**Santa Cruz**	**27.87**	**314**	*e*P	**P**	**09 32 39.1**	**-0.4**
CVP	**Callao Caves**	**27.93**	**320**	⇓*e*P	**P**	**09 32 39.0**	**-1.1**
STKA	**Stephens Creek**	**28.07**	**177**	⇑*i*P	**P**	**09 32 41.0**	**-0.2**
	comp=Z,14nm,0.4s,mb5.0						
STKA	**Stephens Creek**	**28.07**	**177**	P	**P**	**09 32 39.5**	**-1.7**
	comp=Z,8.1nm,0.5s,mb4.6,baz=348,slow=8.0,SNR=27						
STKA				LR	LR	09 45 07.1	
	comp=Z,29μm,19.1s,MS5.9,baz=346,slow=39						
APYP	**Conner**	**28.42**	**319**	*e*P	**P**	**09 32 42.8**	**-1.7**
KWAJ	**Kwajalein Atol**	**30.02**	**65**	PFAKE		09 33 10.0	+11
KWAJ				LR	LR		
	comp=Z,2μm,21.0s,MS4.7						
KSM	**Kuching**	**30.30**	**279**	⇑*i*P	**P**	**09 33 02.6**	**+1.3**
KSM				*e*pP	pP	09 33 15.1	+3.7
CBIJ	**Chichi jima**	**30.66**	**3**	P	**P**	**09 33 03.0**	**-1.3**
	comp=Z,54nm,0.7s,mb5.5,baz=273,slow=19,SNR=2.1						
CBIJ				LR	LR	09 43 02.1	
	comp=Z,2μm,20.5s,MS4.8,baz=161,slow=32						
NOUC	**Port Laguerre**	**31.25**	**128**	*e*P	**P**	**09 33 08.6**	**-1.0**
JOW	**Kunigami**	**32.46**	**340**	P	**P**	**09 33 17.9**	**-2.3**
	comp=Z,54nm,0.9s,mb5.4,baz=122,slow=19,SNR=3.7						
JOW				LR	LR	09 44 24.5	
	comp=Z,5μm,19.7s,MS5.2,baz=47,slow=32						
CNB	**Canberra Magne**	**32.59**	**166**	*e*P	**P**	**09 33 22.2**	**+1.0**
	comp=Z,35nm,0.9s,mb5.3						
NACB	**Ninganchiao**	**33.09**	**328**	P	**P**	**09 33 24.6**	**-1.1**
NACB				*e*pP	pP	09 33 37.7	+1.9
TATO	**Taipei**	**33.79**	**328**	PFAKE		09 33 40.0	+8.3
TATO				LR	LR		
	comp=Z,5μm,22.0s,MS5.2						
TOO	**Toolangi**	**34.07**	**172**	*e*P	**P**	**09 33 37.4**	**+3.5**
	comp=Z,22nm,1.0s,mb5.0						
WAKE	**Wake Island**	**34.62**	**48**	PFAKE		09 33 50.0	+11
WAKE				LR	LR		
	comp=Z,7μm,20.0s,MS5.4						
KLBR	**Kellerberrin**	**34.87**	**215**	*e*P	**P**	**09 33 39.4**	**-1.4**
	comp=Z,106nm,0.9s,mb5.8						
KLBR				*e*PCP	PcP	09 36 13.5	0.0
QZH	**Quanzhou**	**35.36**	**325**	P	**P**	**09 33 48.1**	**+3.0**
QZH				S	**S**	**09 39 17.2**	**+0.9**
QZH				LR	LR		
	comp=Z,10μm,32.2s,MS5.4						
MUN	**Mundaring**	**36.04**	**216**	*e*P	**P**	**09 33 50.6**	**-0.2**
	comp=Z,27nm,1.0s,mb5.1						
MUN	**Mundaring**	**36.04**	**216**	*e*P	**P**	**09 33 50.6**	**-0.2**
MUN				pmax	pmax		
	comp=Z,27nm,1.0s,mb5.1						
NWAO	**Narrogin (SRO)**	**36.16**	**214**	P	**P**	**09 33 50.6**	**-1.1**
	comp=Z,36nm,0.7s,mb5.4,baz=49,slow=9.8,SNR=14						
NWAO				PcP	PcP	09 36 17.1	-0.2
	comp=Z,93nm,0.7s,baz=54,slow=5.9,SNR=5.1						
NWAO				LR	LR	09 50 05.2	
	comp=Z,8μm,20.4s,MS5.5,baz=30,slow=39						
NWAO	**Narrogin (SRO)**	**36.16**	**214**	*e*P	**P**	**09 33 51.5**	**-0.3**
	comp=Z,143nm,1.0s,mb5.9						
NWAO				*e*pP	pP	09 34 04.1	+2.0
NWAO				LR	LR		
	comp=Z,9μm,19.0s,MS5.6						
NWAO	**Narrogin (SRO)**	**36.16**	**214**	*e*P	**P**	**09 33 51.5**	**-0.3**
NWAO				pmax	pmax		
	comp=Z,143nm,1.0s						
NWAO				MLR	MLR		
	comp=Z,9μm,19.0s						
JHJ	**Hachijo jima 2**	**36.61**	**359**	P	**P**	**09 33 54.7**	**-0.9**
	comp=Z,62nm,0.7s,mb5.5,baz=52,slow=19,SNR=3.0						
JHJ				LR	LR	09 45 49.6	
	comp=Z,8μm,21.9s,MS5.5,baz=186,slow=31						
KGM	**Kluang**	**37.29**	**278**	P	**P**	**09 34 04.2**	**+2.7**
GZH	**Guangzhou**	**37.34**	**317**	P	**P**	**09 34 02.0**	**+0.1**
GZH				S	**S**	**09 39 49.2**	**+2.4**
GZH				LR	LR		
	comp=N,1μm,18.7s,MS4.9						
GZH				LR	LR		
	comp=E,2μm,19.9s,MS4.9						
GZH				LR	LR		
	comp=Z,3μm,22.4s,MS5.0						
QIZ	**Qiongzhong**	**37.44**	**308**	P	**P**	**09 34 02.1**	**-0.6**
QIZ				AP	pP	09 34 13.2	+0.2
QIZ				S	**S**	**09 39 46.6**	**-1.6**
QIZ				AMB	AMB		
	comp=Z,154nm,1.5s,mb5.6						
QIZ				LR	LR		
	comp=N,2μm,24.6s,MS4.9						
QIZ				LR	LR		
	comp=E,1μm,24.1s,MS4.9						
QIZ				LR	LR		
	comp=Z,3μm,32.6s						
QIZ	**Qiongzhong**	**37.44**	**308**	⇑*i*P	**P**	**09 34 02.3**	**-0.4**
	comp=Z,185nm,1.2s,mb5.8						
QIZ				*e*pP	pP	09 34 12.7	-0.4
JNU	**Nakatsue**	**37.66**	**347**	P	**P**	**09 34 04.2**	**-0.2**
	comp=Z,137nm,1.1s,mb5.6,baz=174,slow=8.4,SNR=32						
SSE	**Sheshan**	**39.05**	**334**	P	**P**	**09 34 16.5**	**+0.5**
SSE				AP	pP	09 34 29.4	+3.0
SSE				XP	sP	09 34 34.4	+3.5
SSE				PP	PP	09 35 49.2	-0.6
SSE				PCP	PcP	09 36 29.3	+3.1
SSE				S	**S**	**09 40 13.2**	**+0.6**
SSE				XS		09 40 33.4	
SSE				AMB	AMB		
	comp=Z,111nm,1.2s,mb5.5						
SSE				AMB	AMB		
	comp=Z,577nm,3.7s						
SSE				LR	LR		
	comp=N,3μm,18.7s,MS5.2						
SSE				LR	LR		
	comp=E,2μm,18.7s,MS5.2						
SSE				LR	LR		
	comp=Z,2μm,19.1s,MS4.9						
SSE	**Sheshan**	**39.05**	**334**	P	**P**	**09 34 16.5**	**+0.5**
	comp=Z,111nm,1.2s,mb5.5						
SSE				pP	pP	09 34 29.4	+3.0
SSE				sP	sP	09 34 34.4	+3.5
SSE				PP	PP	09 35 49.2	-0.6
SSE				PcP	PcP	09 36 29.3	+3.1
SSE				S	**S**	**09 40 13.2**	**+0.6**
SSE				sS		09 40 33.4	
SSE				SS	SS	09 43 09.6	+12
SSE				LR	LR		
	comp=Z,2μm,19.1s,MS4.9						
TAU	**Tasmania Unive**	**39.56**	**172**	*e*P	**P**	**09 34 19.5**	**-0.6**
	comp=Z,80nm,1.2s,mb5.3						
TAU				LR	LR		
	comp=Z,4μm,19.0s,MS5.2						
TAU	**Tasmania Unive**	**39.56**	**172**	*e*P	**P**	**09 34 19.5**	**-0.6**
TAU				pmax	pmax		
	comp=Z,80nm,1.2s,mb5.3						
TAU				MLR	MLR		
	comp=Z,4μm,19.0s,MS5.2						
UBT	**Ubonrachathani**	**39.58**	**299**	⇑P	**P**	**09 34 20.3**	**-0.3**
IPM	**Ipoh**	**39.98**	**282**	P	**P**	**09 34 26.3**	**+2.4**
MJAR	**Matsushiro Arr**	**40.06**	**358**	P	**P**	**09 34 22.7**	**-1.7**
	comp=Z,13nm,0.8s,mb4.7,baz=173,slow=9.9,SNR=38						
MJAR				PcP	PcP	09 36 27.8	-1.6
	comp=Z,8.5nm,0.9s,baz=210,slow=6.1,SNR=4.4						
MJAR				LR	LR	09 49 24.2	
	comp=Z,2μm,20.8s,MS5.0,baz=180,slow=34						
MAJO	**Matsushiro**	**40.07**	**358**	⇑*e*P	**P**	**09 34 23.1**	**-1.3**
	comp=Z,85nm,1.1s,mb5.4						
MAJO				*e*pP	pP	09 34 33.6	-1.2
MAJO				LR	LR		
	comp=Z,3μm,21.0s,MS5.2						
MAJO	**Matsushiro**	**40.07**	**358**	⇑*e*P	**P**	**09 34 23.1**	**-1.3**
MAJO				pmax	pmax		
	comp=Z,85nm,1.1s,mb5.4						
MAJO				MLR	MLR		
	comp=Z,3μm,21.0s,MS5.2						
MAT	**Matsushiro**	**40.07**	**358**	P	**P**	**09 34 23.3**	**-1.1**
MAT				S	**S**	**09 40 23.0**	**-4.8**
MAT	**Matsushiro**	**40.07**	**358**	*e*P	**P**	**09 34 23.0**	**-1.4**
	comp=Z,31nm,1.0s,mb5.0						
MAT				*e*S	**S**	**09 40 23.0**	**-4.8**
MAT				LR	LR		
	comp=Z,2μm,20.0s,MS5.0						
MAT	**Matsushiro**	**40.07**	**358**	*e*P	**P**	**09 34 23.0**	**-1.4**
MAT				*e*S	**S**	**09 40 23.0**	**-4.8**
MAT				pmax	pmax		
	comp=Z,31nm,1.0s,mb5.0						
MAT				MLR	MLR		
	comp=Z,2μm,20.0s,MS5.0						
KULM	**Kulim**	**40.49**	**282**	⇑*e*P	**P**	**09 34

KMI			XP	sP	09 35 31.1	+1.2
KMI			PCP	PcP	09 36 51.1	+0.6
KMI			PP	PP	09 37 06.6	+2.9
KMI			S	**S**	**09 41 59.0**	**+0.5**
KMI			XS		09 42 18.8	
KMI			SS	SS	09 45 14.5	-1.9
KMI			AMB	AMB		
	comp=Z,90nm,1.5s,mb5.5					
KMI			AMB	AMB		
	comp=Z,776nm,7.1s					
KMI			LR	LR		
	comp=N,1μm,19.4s,MS5.1					
KMI			LR	LR		
	comp=E,2μm,22.5s,MS5.1					
KMI			LR	LR		
	comp=Z,4μm,22.5s,MS5.3					
KMI	**Kunming**	**46.28 310**	P	**P**	**09 35 16.2**	**+1.2**
	comp=Z,90nm,1.5s,mb5.5					
KMI			pP	pP	09 35 26.8	+1.3
KMI			sP	sP	09 35 31.1	+1.2
KMI			PcP	PcP	09 36 51.1	+0.6
KMI			PP	PP	09 37 06.6	+2.9
KMI			PPP	PPP	09 37 47.8	-0.8
KMI			S	**S**	**09 41 59.0**	**+0.5**
KMI			sS		09 42 18.8	
KMI			SS	SS	09 45 14.5	-1.9
KMI			SSS	SSS	09 46 31.2	+7.6
KMI			LR	LR		
	comp=Z,4μm,22.5s,MS5.3					
KMI	**Kunming**	**46.28 310**	P	**P**	**09 35 16.2**	**+1.2**
KMI					09 36 51.1	
KMI					09 37 06.6	
KMI			PPP	PPP	09 37 47.8	-0.8
KMI			S	**S**	**09 41 59.0**	**+0.5**
KMI			*SS		09 42 18.8	
KMI			SS	SS	09 45 14.5	-1.9
KMI			pmax	pmax		
	comp=Z,90nm,1.5s,mb5.5					
KMI			MLR	MLR		
	comp=Z,4μm,22.5s,MS5.3					
CHG	**Chiang Mai**	**46.35 300**	⇑P	**P**	**09 35 16.0**	**+0.4**
	comp=Z,92nm,1.2s,mb5.6					
QRZ	**Quartz Range**	**47.04 146**	PN	**P**	**09 35 22.0**	**+1.2**
RAO	**Raoul Island**	**47.13 127**	LR	LR	09 53 16.5	
	comp=Z,741nm,19.5s,MS4.7,baz=296,slow=34					
RAO	**Raoul Island**	**47.13 127**	PFAKE		09 35 30.0	+8.3
RAO			LR	LR		
	comp=Z,2μm,20.0s,MS5.2					
JCZ	**Jackson Bay**	**47.47 152**	PN	**P**	**09 35 24.0**	**-0.1**
WVZ	**Waitaha Valley**	**47.68 150**	PN	**P**	**09 35 25.1**	**-0.7**
XAN	**Xi'an**	**47.72 324**	P	**P**	**09 35 26.0**	**-0.3**
XAN			AP	pP	09 35 36.3	-0.5
XAN			S	**S**	**09 42 12.5**	**-6.5**
XAN			AMB	AMB		
	comp=Z,70nm,1.8s,mb5.4					
XAN			LR	LR		
	comp=N,1μm,22.6s,MS4.9					
XAN			LR	LR		
	comp=E,1μm,23.4s,MS4.9					
XAN			LR	LR		
	comp=Z,2μm,27.3s,MS5.0					
SNY	**Shenyang**	**47.76 343**	⇑P	**P**	**09 35 26.7**	**+0.3**
SNY			AP	pP	09 35 36.8	-0.1
SNY			XP	sP	09 35 40.3	-1.0
SNY			S	**S**	**09 42 19.2**	**-0.2**
SNY			XS		09 42 39.9	
SNY			SS	SS	09 45 45.2	+3.1
SNY			AMB	AMB		
	comp=Z,60nm,1.2s,mb5.5					
SNY			AMB	AMB		
	comp=Z,710nm,4.4s					
SNY			LR	LR		
	comp=E,2μm,22.8s					
SNY			LR	LR		
	comp=Z,3μm,22.5s,MS5.2					
YUK	**Yuzh-Kuril'sk**	**47.78 6**	*e*P	**P**	**09 35 26.0**	**-0.6**
YUK			*e*		09 37 21.0	
YUK			pmax	pmax		
	comp=Z,3μm,3.0s					
YUK			pmax	pmax		
	comp=N,4μm,3.5s					
THZ	**Tophouse**	**47.89 147**	PN	**P**	**09 35 27.8**	**+0.4**
URZ	**Urewera**	**48.12 141**	P	**P**	**09 35 29.2**	**-0.1**
	comp=N,23nm,0.4s,mb5.6,baz=294,slow=4.3,SNR=54					
LTZ	**Lake Taylor**	**48.26 148**	PN	**P**	**09 35 30.3**	**0.0**
RPZ	**Rata Peaks**	**48.30 150**	LR	LR	09 54 33.5	
	comp=N,6μm,21.4s,MS5.6,baz=317,slow=34					
RPZ	**Rata Peaks**	**48.30 150**	PN	**P**	**09 35 30.8**	**+0.1**
AFI	**Afiamalu**	**48.45 105**	P	**P**	**09 35 32.1**	**0.0**
	comp=N,64nm,0.9s,mb5.7,baz=226,slow=3.7,SNR=5.7					
AFI			LR	LR	09 54 21.4	
	comp=N,2μm,20.4s,MS5.1,baz=274,slow=34					
SNZO	**South Karori**	**48.58 145**	*e*P	**P**	**09 35 32.0**	**-0.9**
	comp=N,132nm,1.0s,mb5.9					
SNZO			LR	LR		
	comp=Z,5μm,19.0s,MS5.5					
MRZ	**Mangatainoka R**	**48.67 144**	PN	**P**	**09 35 32.9**	**-0.6**
PUZ	**Puketiti**	**48.75 140**	PN	**P**	**09 35 34.1**	**-0.1**
CD2	**Chengdu**	**48.90 317**	P	**P**	**09 35 35.7**	**+0.3**
CD2			AP	pP	09 35 48.5	+2.6
CD2			XP	sP	09 35 54.9	+4.6
CD2			S	**S**	**09 42 32.7**	**-2.8**
CD2			AMB	AMB		
	comp=Z,50nm,0.8s,mb5.6					
CD2			LR	LR		
	comp=E,1μm,19.6s					
CD2			LR	LR		
	comp=Z,1μm,20.0s,MS4.8					
MDJ	**Mudanjiang**	**49.02 350**	P	**P**	**09 35 36.1**	**0.0**
MDJ			AP	pP	09 35 46.7	+0.1
MDJ			XP	sP	09 35 50.6	-0.4
MDJ			PP	PP	09 37 27.4	-2.4
MDJ			PCS		09 40 55.5	
MDJ			S	**S**	**09 42 37.1**	**+0.1**
MDJ			AMB	AMB		
	comp=Z,51nm,1.0s,mb5.5					
MDJ			AMB	AMB		
	comp=Z,274nm,3.6s					
MDJ			LR	LR		
	comp=N,2μm,21.9s,MS5.1					
MDJ			LR	LR		
	comp=E,1μm,23.2s,MS5.1					
MDJ			LR	LR		
	comp=Z,4μm,20.1s,MS5.4					
MDJ	**Mudanjiang**	**49.02 350**	⇑*e*P	**P**	**09 35 36.1**	**0.0**
	comp=Z,159nm,1.5s,mb5.8					
ODZ	**Otahua Downs**	**49.08 152**	PN	**P**	**09 35 36.4**	**-0.2**
CN2	**Changchun**	**49.10 346**	*e*P	**P**	**09 35 36.7**	**-0.1**
CN2			*e*XP	sP	09 35 51.7	0.0
CN2			*e*S	**S**	**09 42 38.5**	**+0.3**
CN2			AMB	AMB		
	comp=Z,100nm,1.1s,mb5.8					
CN2			AMB	AMB		
	comp=Z,1μm,5.0s					
CN2			LR	LR		
	comp=N,4μm,19.0s,MS5.5					
CN2			LR	LR		
	comp=E,2μm,19.0s,MS5.5					
CN2			LR	LR		
	comp=Z,4μm,19.0s,MS5.4					
TUZ	**Tuapeka**	**49.30 153**	PN	**P**	**09 35 38.8**	**+0.5**
YSS	**Yuzh-Sakhalins**	**50.48 2**	⇑*e*P	**P**	**09 35 46.6**	**-0.6**
	comp=Z,173nm,0.9s,mb6.1					
YSS			*e*pP	pP	09 35 55.6	-2.2
YSS			LR	LR		
	comp=Z,3μm,21.0s,MS5.3					
YSS	**Yuzh-Sakhalins**	**50.48 2**	P	**P**	**09 35 47.1**	**-0.2**
YSS			pmax	pmax		
	comp=Z,170nm,1.0s,mb6.0					
HHC	**Hu-ho-hao-te**	**51.48 332**	*e*P	**P**	**09 35 55.1**	**+0.2**
HHC			AP	pP	09 36 05.7	+0.2
HHC			XP	sP	09 36 09.2	-0.6
HHC			PP	PP	09 37 53.3	+0.4
HHC			S	**S**	**09 43 11.2**	**+0.2**
HHC			XS		09 43 31.1	
HHC			SCS	ScS	09 45 39.8	+0.7
HHC			SS	SS	09 46 46.4	+1.4
HHC			AMB	AMB		
	comp=Z,49nm,2.1s,mb5.1					
HHC			LR	LR		
	comp=N,2μm,19.0s,MS5.3					
HHC			LR	LR		
	comp=E,2μm,20.8s,MS5.3					
HHC			LR	LR		
	comp=Z,3μm,19.6s,MS5.2					
MIDW	**Midway**	**51.69 49**	*e*P	**P**	**09 35 56.9**	**+0.1**
	comp=Z,114nm,1.0s,mb5.8					
MIDW			LR	LR		
	comp=Z,4μm,20.0s,MS5.5					
BTO	**Baotou**	**52.02 331**	*e*P	**P**	**09 35 58.1**	**-0.9**
LZH	**Lanzhou**	**52.15 323**	⇑P	**P**	**09 36 01.0**	**+1.0**
LZH			AP	pP	09 36 11.5	+0.9
LZH			XP	sP	09 36 15.3	+0.3
LZH			PP	PP	09 38 01.2	+2.0
LZH			S	**S**	**09 43 23.1**	**+2.7**
LZH			SS	SS	09 46 59.5	+3.4
LZH			AMB	AMB		
	comp=Z,149nm,1.4s,mb5.7					
LZH			AMB	AMB		
	comp=Z,1μm,7.6s					
LZH			LR	LR		
	comp=E,2μm,15.0s					
LZH			LR	LR		
	comp=Z,4μm,18.3s,MS5.5					
LZH	**Lanzhou**	**52.15 323**	⇑P	**P**	**09 36 01.0**	**+1.0**
	comp=Z,149nm,1.4s,mb5.7					
LZH			pP	pP	09 36 11.5	+0.9
LZH			sP	sP	09 36 15.3	+0.3
LZH			PP	PP	09 38 01.2	+2.0
LZH			S	**S**	**09 43 23.1**	**+2.7**
LZH			sS		09 43 39.2	
LZH			SS	SS	09 46 59.5	+3.4
LZH			LR	LR		
	comp=Z,4μm,18.3s,MS5.5					
LZH	**Lanzhou**	**52.15 323**	⇑P	**P**	**09 36 01.0**	**+1.0**
LZH					09 38 01.2	
LZH			S	**S**	**09 43 23.1**	**+2.7**
LZH			*SS		09 43 39.2	
LZH			SS	SS	09 46 59.5	+3.4
LZH			pmax	pmax		
	comp=Z,149nm,1.4s,mb5.7					
LZH			MLR	MLR		
	comp=Z,4μm,18.3s,MS5.5					
IMP	**Imphal**	**53.09 305**	*e*P	**P**	**09 36 06.0**	**-1.2**
KLR	**Kul'dur**	**53.21 353**	⇓*i*P	**P**	**09 36 05.0**	**-2.8**
KLR			*e*	pP	09 36 14.2	-4.2
KLR			*e*S	**S**	**09 43 26.5**	**-8.1**
KLR			*e*		09 45 54.0	
KLR			pmax	pmax		
	comp=N,43nm,1.4s					
KLR			pmax	pmax		
	comp=E,72nm,1.4s					
KLR			pmax	pmax		
	comp=Z,140nm,1.4s,mb5.7					
KLR			smax			
	comp=N,2μm,7.5s					
KLR			smax			
	comp=E,1μm,7.5s					
HIA	**Hailar**	**55.65 344**	⇑*i*P	**P**	**09 36 25.2**	**-0.4**
	comp=E,159nm,1.4s,mb5.8					
HIA			*e*pP	pP	09 36 36.5	+0.2
HIA	**Hailar**	**55.65 344**	⇑*i*P	**P**	**09 36 25.2**	**-0.4**
HIA			pmax	pmax		
	comp=Z,159nm,1.4s					
SKR	**Severo-Kuril's**	**55.86 12**	*e*P	**P**	**09 36 24.0**	**-3.1**
SKR			*e*		09 38 31.0	
SKR			*e*S	**S**	**09 44 10.0**	**-0.3**
SKR			*e*PS	PS	09 44 31.0	+4.2
SKR			pmax	pmax		
	comp=N,110nm,1.0s					
SKR			pmax	pmax		
	comp=E,90nm,1.0s					
SKR			pmax	pmax		
	comp=Z,220nm,1.0s,mb6.1					
SKR			pmax	pmax		
	comp=N,1μm,4.0s					
SKR			pmax	pmax		
	comp=E,1μm,4.0s					
SKR			pmax	pmax		
	comp=Z,1μm,4.0s					
SKR			smax			
	comp=N,3μm,12.0s					
SKR			smax			
	comp=E,1μm,10.0s					
SKR			MLR	MLR		
	comp=N,1μm,18.0s					
SKR			MLR	MLR		
	comp=Z,2μm,18.0s,MS5.2					
GTA	**Gaotai**	**56.73 323**	P	**P**	**09 36 33.8**	**+0.3**
GTA			AP	pP	09 36 43.9	-0.4
GTA			XP	sP	09 36 48.7	+0.2
GTA			PCP	PcP	09 37 30.9	+1.8
GTA			PP	PP	09 38 41.7	+0.4
GTA			SCP		09 41 26.4	
GTA			PCS		09 41 30.5	
GTA			S	**S**	**09 44 23.7**	**+1.7**
GTA			SCS	ScS	09 46 17.6	+1.4
GTA			SS	SS	09 48 08.4	-2.5
GTA			AMB	AMB		
	comp=Z,39nm,1.2s,mb5.3					
GTA			AMB	AMB		
	comp=Z,706nm,9.9s					
GTA			LR	LR		
	comp=N,518nm,20.9s,MS4.9					
GTA			LR	LR		
	comp=E,916nm,19.0s,MS4.9					
GTA			LR	LR		
	comp=Z,2μm,31.2s					
LSA	**Lhasa**	**57.48 309**	P	**P**	**09 36 40.5**	**+1.6**
LSA	**Lhasa**	**57.48 309**	⇑*i*P	**P**	**09 36 39.9**	**+1.0**
	comp=Z,62nm,0.9s,mb5.6					
LSA			*e*pP	pP	09 36 50.2	+0.6
LSA	**Lhasa**	**57.48 309**	⇑*i*P	**P**	**09 36 39.9**	**+1.0**
LSA			pmax	pmax		
	comp=Z,62nm,0.9s,mb5.6					
PET	**Petropavlovsk**	**58.61 13**	⇑*e*P	**P**	**09 36 46.0**	**-0.5**
	comp=Z,128nm,1.2s,mb5.8					
PET			*e*pP	pP	09 36 55.1	-2.1
PET			LR	LR		
	comp=Z,2μm,22.0s,MS5.2					
PET	**Petropavlovsk**	**58.61 13**	α*i*P	**P**	**09 36 46.2**	**-0.3**
PET			*e*		09 37 29.9	
PET			*i*S	**S**	**09 44 49.1**	**+2.7**
PET			*e*SS		09 45 11.3	
PET			pmax	pmax		
	comp=Z,500nm,3.9s					
PET			pmax	pmax		
	comp=Z,106nm,1.1s,mb5.8					
PET			pmax	pmax		
	comp=Z,400nm,14.3s					
PET			pmax	pmax		
	comp=Z,1μm,3.1s					
PET			pmax	pmax		
	comp=Z,103nm,1.3s,mb5.7					
PET			pmax	pmax		
	comp=Z,600nm,3.6s					
PET			smax			
	comp=N,2μm,11.1s					
PET			smax			
	comp=N,2μm,19.6s					
SONM	**Songino Array**	**59.23 334**	P	**P**	**09 36 50.9**	**0.0**
	comp=N,5.9nm,0.8s,mb4.7,baz=151,slow=5.9,SNR=34					
SONM			LR	LR	10 03 53.1	
	comp=N,4μm,19.9s,MS5.5,baz=136,slow=38					
SONM			PKPPKP		10 06 09.8	
	comp=N,1.4nm,1.1s,baz=254,slow=3.0,SNR=4.1					
SONM			PKP2bc		10 06 31.9	
	comp=N,2.5nm,1.2s,baz=310,slow=3.9,SNR=7.1					
SONM	**Songino Array**	**59.23 334**	P	**P**	**09 36 50.9**	**0.0**
SONM			LR	LR	10 03 53.1	
SONM			P'P'		10 06 09.8	
SONM			⇑*e*		10 06 31.9	
CIT	**Chita**	**59.94 341**	*e*P	**P**	**09 36 56.2**	**+0.5**
CIT			*e*		09 39 11.3	
CIT			pmax	pmax		
	comp=Z,399nm,2.3s,mb6.0					
VIS	**Vishakhapatnam**	**59.96 293**	*i*P	**P**	**09 36 53.2**	**-3.1**
PALK	**Pallekele**	**60.36 280**	⇑*e*P	**P**	**09 36 59.1**	**0.0**
	comp=Z,175nm,1.3s,mb5.9					
PALK			*e*pP	pP	09 37 09.9	0.0
PALK			LR	LR		
	comp=Z,234nm,20.0s,MS4.3					
RAR	**Rarotonga**	**60.79 112**	PFAKE		09 37 10.0	+8.1
RAR			LR	LR		
	comp=Z,3μm,20.0s,MS5.4					
GUN	**Gumba**	**60.96 305**	*e*P	**P**	**09 37 03.4**	**+0.4**
	comp=Z,660nm,1.0s,mb6.7					
PKI	**Pulchoki**	**61.22 304**	*e*P	**P**	**09 37 04.8**	**0.0**
	comp=Z,312nm,1.1s,mb6.3					
KKN	**Kakani**	**61.41 304**	*e*P	**P**	**09 37 06.0**	**0.0**
	comp=Z,320nm,0.8s,mb6.5					
DMN	**Daman**	**61.48 304**	*e*P	**P**	**09 37 06.8**	**+0.2**
	comp=Z,532nm,1.0s,mb6.6					
CLNS	**Chul'man**	**61.60 351**	*c i*P	**P**	**09 37 07.3**	**+0.4**
CLNS			*e**PP	pP	09 37 13.9	-3.8
CLNS			*e*		09 37 46.3	
CLNS			*e*		09 39 18.1	
CLNS			*e*S	**S**	**09 45 29.6**	**+4.9**
CLNS			*e*PS	PS	09 45 58.3	+12
CLNS			*e*		09 46 58.1	
CLNS			pmax	pmax		
	comp=Z,132nm,1.1s,mb6.0					
CLNS			pmax	pmax		
	comp=N,83nm,1.2s					
CLNS			pmax	pmax		
	comp=E,34nm,1.0s					
CLNS			pmax	pmax		
	comp=Z,20nm,1.1s,mb5.2					
CLNS			pmax	pmax		
	comp=N,35nm,0.9s					
CLNS			pmax	pmax		
	comp=E,17nm,0.9s					
CLNS			smax			
	comp=N,543nm,5.6s					
CLNS			smax			
	comp=Z,134nm,3.2s					
CLNS			smax			
	comp=E,438nm,4.5s					
MDRS	**Chennai**	**61.79 287**	*ex*	x	09 45 33.0	
GKN	**Gorkha**	**62.01 304**	*e*P	**P**	**09 37 10.1**	**0.0**
	comp=E,771nm,1.1s,mb6.7					
BLSP	**Bilaspur**	**62.25 297**	*e*P	**P**	**09 37 10.3**	**-1.4**
ZAK	**Zakamensk**	**62.50 334**	⇑*i*P	**P**	**09 37 13.0**	**0.0**
ZAK			pmax	pmax		
	comp=Z,50nm,1.3s,mb5.5					
KOLN	**Koldanda**	**62.79 304**	*e*P	**P**	**09 37 15.5**	**+0.2**
	comp=Z,407nm,1.0s,mb6.5					
FX1	**Attu Island--F**	**62.84 22**	P	**P**	**09 37 15.7**	**+0.5**
	comp=Z,161nm,0.6s,mb6.3,baz=303,slow=0.4,SNR=43					
FX1	**Attu Island--F**	**62.84 22**	⇑*i*P	**P**	**09 37 15.8**	**+0.5**
FX1			⇑*e*pP	pP	09 37 28.0	+2.0
DRV	**Dumont d'Urvil**	**62.86 180**	P	**P**	**09 37 15.0**	**-0.2**
DRV			S	**S**	**09 45 50.0**	**+10**
DRV			L		09 53 00.0	
DRV			R		09 57 00.0	
SMY	**Shemya**	**63.07 22**	*e*P	**P**	**09 37 17.8**	**+1.0**
SMY			LR	LR		
	comp=Z,5μm,22.0s,MS5.7					
TLY	**Talaya**	**63.31 335**	⇑*i*P	**P**	**09 37 18.1**	**-0.3**
	comp=Z,29nm,0.4s,mb5.8					
TLY			*e*pP	pP	09 37 29.4	+0.2
TLY			LR	LR		
	comp=Z,452nm,20.0s,MS4.6					
TLY	**Talaya**	**63.31 335**	*e*P	**P**	**09 37 18.5**	**+0.1**
TLY			*e*		09 37 59.8	
TLY			*e*		09 39 36.8	
TLY			*e*S	**S**	**09 45 45.9**	**-0.4**
TLY			pmax	pmax		
	comp=Z,83nm,1.3s,mb5.7					
TLY			MLR	MLR		
	comp=Z,2μm,20.0s,MS5.2					
IRK	**Irkutsk**	**63.48 336**	*e*P	**P**	**09 37 19.8**	**+0.3**
IRK			pmax	pmax		
	comp=Z,209nm,3.4s					
MA2	**Magadan**	**63.62 6**	⇑*e*P	**P**	**09 37 19.9**	**-0.4**
	comp=Z,184nm,1.1s,mb6.0					
MA2			*e*pP	pP	09 37 29.0	-2.2
MA2			LR	LR		
	comp=Z,2μm,21.0s,MS5.2					
MA2	**Magadan**	**63.62 6**	⇑*e*P	**P**	**09 37 19.9**	**-0.4**
MA2			*e**PP	pP	09 37 29.0	-2.2
MA2			pmax	pmax		
	comp=Z,184nm,1.1s,mb6.0					
MA2			MLR	MLR		
	comp=Z,2μm,21.0s,MS5.2					
HYB	**Hyderabad**	**64.31 291**	*i*P	**P**	**09 37 24.0**	**-1.4**
HYB	**Hyderabad**	**64.31 291**	*e*P	**P**	**09 37 24.0**	**-1.4**
JBP	**Jabalpur**	**64.45 298**	*e*P	**P**	**09 37 29.6**	**+3.3**
JBP			AMb	AMB	09 37 31.1	
	comp=Z,179nm,0.8s,mb6.2					
BOD	**Bodaibo**	**64.83 345**	⇓*i*P	**P**	**09 37 27.5**	**-0.7**
BOD			pmax	pmax		
	comp=Z,94nm,1.6s,mb5.6					
KIP	**Kipapa**	**65.40 65**	⇑*e*P	**P**	**09 37 32.7**	**+0.2**
	comp=Z,109nm,0.8s,mb5.9					
KIP			LR	LR		
	comp=Z,3μm,19.0s,MS5.4					
KIP	**Kipapa**	**65.40 65**	P	**P**	**09 37 33.0**	**+0.5**
KIP			pmax	pmax		
	comp=Z,110nm,0.8s,mb5.9					
CASY	**Casey**	**65.84 193**	⇑*i*P	**P**	**09 37 34.1**	**-0.4**
YAK	**Yakutsk**	**66.03 355**	⇑*i*P	**P**	**09 37 35.7**	**-0.1**
	comp=Z,250nm,0.9s,mb6.2					
YAK			*e*pP	pP	09 37 46.6	-0.1
YAK			LR	LR		
	comp=Z,3μm,22.0s,MS5.4					
YAK	**Yakutsk**	**66.03 355**	*c i*P	**P**	**09 37 35.9**	**+0.1**
YAK			*e*		09 38 05.7	
YAK			*e*		09 40 01.7	
YAK			*e*PPP	PPP	09 41 36.7	-2.0
YAK			*i*S	S	09 46 22.9	+3.3
YAK			*e*		09 46 41.9	
YAK			*e*SS	SS	09 50 40.3	+3.7
YAK			pmax	pmax		
	comp=N,48nm,1.0s					
YAK			pmax	pmax		
	comp=Z,133nm,1.0s,mb5.9					
YAK			pmax	pmax		
	comp=E,6.0nm,1.3s					
YAK			pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7					
YAK			pmax	pmax		
	comp=N,10.0nm,1.1s					
YAK			pmax	pmax		
	comp=E,2.0nm,0.7s					
YAK			smax			
	comp=E,3.0nm,1.1s					
YAK			smax			
	comp=N,5.0nm,0.9s					
WMQ	**Urumqi**	**66.69 321**	P	**P**	**09 37 41.0**	**+0.7**
WMQ			AP	pP	09 37 51.0	-0.3
WMQ			XP	sP	09 37 55.0	-0.3
WMQ			PP	PP	09 40 10.0	+0.8
WMQ			SCP		09 42 09.0	
WMQ			S	S	09 46 29.0	+1.1
WMQ			SCS	ScS	09 47 31.0	+0.3
WMQ			SS	SS	09 50 48.0	+0.5
WMQ			AMB	AMB		
	comp=Z,46nm,1.1s,mb5.4					
WMQ			AMB	AMB		
	comp=Z,395nm,9.0s					
WMQ			LR	LR		
	comp=N,1μm,22.0s,MS5.2					
WMQ			LR	LR		
	comp=E,988nm,20.0s,MS5.2					
WMQ			LR	LR		
	comp=Z,1μm,22.0s,MS5.0					
BHPL	**Bhopal**	**66.74 297**	*e*P	**P**	**09 37 40.1**	**-0.8**
BHPL			AMb	AMB	09 37 42.1	
	comp=Z,79nm,1.4s,mb5.6					
BHPL			*ex*	x	09 47 11.3	
GSTR	**Great Sitkin T**	**66.77 28**	*e*P	**P**	**09 37 41.5**	**+0.9**
GSTR			*e*pP	pP	09 37 53.0	+1.4
SEY	**Seymchan**	**67.08 6**	*i* P	**P**	**09 37 42.7**	**+0.3**
SEY					09 38 14.6	
SEY					09 40 15.1	
SEY			*i*S	S	09 46 35.0	+2.7
SEY			*e*PS	PS	09 46 56.3	-3.6
SEY					09 47 37.8	
SEY			*e*SSS	SSS	09 53 44.8	-5.9
SEY			pmax	pmax		
	comp=E,30nm,1.2s					
SEY			pmax	pmax		
	comp=Z,100nm,1.2s,mb5.7					
SEY			pmax	pmax		
	comp=N,30nm,1.0s					
SEY			smax			
	comp=N,3μm,10.3s					
SEY			smax			
	comp=E,80nm,5.2s					
SEY			MLR	MLR		
	comp=N,1μm,19.0s,MS5.2					
SEY			MLR	MLR		
	comp=Z,3μm,19.0s,MS5.5					
SEY			MLR	MLR		

comp=E,890nm,18.0s,MS5.2
POHA Pohakuloa 67.27 67 PFAKE 09 38 00.0 +16
POHA LR LR
comp=Z,31μm,20.0s
DGAR Diego Garcia 67.47 264⇑ *e*P **P 09 37 46.3 +0.6**
comp=Z,624nm,1.1s,mb6.5
DGAR Diego Garcia 67.47 264 *d i*P **P 09 37 46.5 +0.8**
KAD Karad 68.36 290 *e*P **P 09 37 49.3 -1.9**
KAD AMb AMB 09 37 52.0
comp=Z,106nm,1.4s,mb5.7
NDI New Delhi 68.41 303 *e*P **P 09 37 48.0 -3.3**
NDI *e*S S 09 46 48.0 -0.9
POO Poona 68.92 291 *e*P **P 09 37 53.5 -1.1**
POO AMb AMB 09 37 56.1
comp=Z,159nm,1.1s,mb5.9
AJM Ajmer 70.01 300 *e*P **P 09 37 58.5 -2.6**
AJM AMb AMB 09 38 02.5
comp=Z,104nm,1.2s,mb5.6
PPT Papeete 70.05 107 *e*S S 09 47 08.4 0.0
PPT *e*SS SS 09 51 36.6 -3.1
PPT *e*LR LR 09 59 27.1
comp=Z,3μm,26.5s
PPT Papeete 70.05 107 LR LR 10 04 26.9
comp=Z,931nm,18.3s,MS5.1,baz=273,slow=32
TBI Tubuai 70.51 113 *e*S S 09 47 14.2 +0.6
TBI *e*SS SS 09 51 47.4 +0.5
TBI *e*LR LR 09 59 41.7
comp=Z,3μm,34.0s
MIR Mirnyy 70.73 198 *e*P **P 09 38 05.0 +0.1**
MIR *e* 09 38 20.0
MIR pmax pmax
comp=Z,909nm,4.0s
NIKO Nikolski 70.78 30⇑ *e*P **P 09 38 04.6 -0.7**
NIKO *e*pP pP 09 38 16.3 -0.1
MKAR Makanchi Array 71.46 322 P **P 09 38 09.8 +0.2**
comp=Z,11nm,0.6s,mb5.0,baz=108,slow=7.7,SNR=115
MKAR PKPPKP 10 05 57.7
comp=Z,0.5nm,0.7s,baz=297,slow=2.7,SNR=4.2
MKAR LR LR 10 08 03.7
comp=Z,597nm,19.5s,MS4.9,baz=155,slow=35
MKAR Makanchi Array 71.46 322 P **P 09 38 09.8 +0.2**
MKAR P'P' 10 05 57.7
MKAR LR LR 10 08 03.7
MKAR Makanchi Array 71.46 322 *i* P **P 09 38 09.8 +0.2**
MKAR pmax pmax
comp=Z,259nm,1.3s
PMOR Pomariorio Ree 71.59 104 *e*P **P 09 38 11.1 +0.2**
comp=Z,58nm,0.9s,mb5.5
VAH Vaihoa 71.85 105 *e*P **P 09 38 12.2 -0.2**
comp=Z,33nm,0.9s,mb5.3
UNV Unalaska Valle 72.43 30⇑ *e*P **P 09 38 14.9 -0.3**
comp=Z,2μm,1.2s
UNV *e*pP pP 09 38 24.6 -1.6
UNV LR LR
comp=Z,5μm,22.0s,MS5.7
KSH Kashi 72.83 313 P **P 09 38 19.4 +1.5**
KSH *e*AP pP 09 38 29.6 +0.7
KSH *e*XP sP 09 38 33.6 +0.7
KSH *e*PCP PcP 09 38 37.3 +2.1
KSH *e*PP PP 09 41 02.0 -0.2
KSH *e*S S 09 47 39.7 -0.4
KSH *e*SKS SKS 09 48 16.1 +0.4
KSH *e*SCS ScS 09 48 20.7 +1.6
KSH *e*SS SS 09 52 21.2 -1.6
KSH AMB AMB
comp=Z,580nm,6.1s
KSH LR LR
comp=N,270nm,6.8s
KSH LR LR
comp=E,320nm,6.2s
AKUT Akutan 72.95 30 *e*P **P 09 38 18.8 +0.5**
AKUT LR LR
comp=Z,2μm,23.0s,MS5.3
ZAL Zalesovo 73.53 330 P **P 09 38 20.8 -0.9**
comp=Z,4.5nm,0.7s,baz=354,slow=5.6,SNR=20
ZAL LR LR 10 12 15.9
comp=Z,2μm,21.7s,MS5.5,baz=348,slow=37
BHJ Bhuj 73.70 295 *e*P **P 09 38 22.5 -0.8**
BHJ *e*x x 09 46 15.5
KZA Kyzart 74.22 316 P **P 09 38 27.8 +1.9**
SNR=13
TKM2 Tokmak 2 74.27 316 P **P 09 38 26.8 +0.6**
SNR=11
KBK Karagaybulak 74.62 316 P **P 09 38 24.8 -3.5**
SNR=7.8
VNDA Vanda 74.68 175 P **P 09 38 27.4 -0.6**
comp=Z,43nm,0.8s,mb5.4,baz=327,slow=6.6,SNR=164
VNDA LR LR 10 10 42.5
comp=Z,6μm,19.8s,MS5.9,baz=352,slow=35
VNDA Vanda 74.68 175⇑ *i*P **P 09 38 28.1 +0.1**
comp=Z,52nm,0.8s,mb5.5
VNDA *e*pP pP 09 38 37.7 -1.3
VNDA LR LR
comp=Z,6μm,20.0s,MS5.9
VNDA Vanda 74.68 175⇑ *i*P **P 09 38 28.1 +0.1**
VNDA *e**PP pP 09 38 37.7 -1.3
VNDA pmax pmax
comp=Z,52nm,0.8s
VNDA MLR MLR
comp=Z,6μm,20.0s
NVS Novosibirsk 74.77 330 *i* P **P 09 38 27.2 -1.7**
NVS pmax pmax
comp=N,82nm,1.5s
NVS pmax pmax
comp=E,75nm,1.5s
NVS pmax pmax
comp=Z,122nm,1.5s,mb5.6
UCH Uchtor 74.78 315 P **P 09 38 30.9 +1.6**
SNR=23
FRU Bishkek 74.92 316 *e*P **P 09 38 29.8 -0.2**
FRU *e* 09 38 44.0
FRU pmax pmax
comp=Z,150nm,2.2s,mb5.5
FRU MLR MLR
comp=Z,1μm,23.0s,MS5.1
AAK Ala-Archa 74.93 316 PFAKE 09 38 40.0 +10
AAK LR LR
comp=Z,177nm,20.0s,MS4.4
USP Ospenovka 75.14 316 P **P 09 38 31.8 +0.5**
SNR=19
AML Almayashu 75.33 315 P **P 09 38 33.7 +1.4**
SNR=27
KURK Kurchatov 75.36 325⇑ *e*P **P 09 38 31.9 -0.5**
comp=Z,136nm,1.1s,mb5.8
KURK *e*pP pP 09 38 41.7 -1.6
KURK LR LR
comp=Z,338nm,21.0s,MS4.6
KURK Kurchatov 75.36 325⇑ *e*P **P 09 38 31.9 -0.5**
KURK *e**PP pP 09 38 41.7 -1.7
KURK pmax pmax
comp=Z,136nm,1.1s,mb5.8
KURK MLR MLR
comp=Z,338nm,21.0s,MS4.6
SBA Scott Base 75.43 174⇑ *i*P **P 09 38 33.6 +1.4**
comp=Z,139nm,1.3s,mb5.7
SBA LR LR
comp=Z,5μm,20.0s,MS5.8
SBA Scott Base 75.43 174⇑ *i*P **P 09 38 33.7 +1.4**
SBA pmax pmax
comp=Z,139nm,1.3s,mb5.7
SBA MLR MLR
comp=Z,5μm,20.0s,MS5.8
TIXI Tiksi 75.56 356 *i* P **P 09 38 32.5 -0.6**
TIXI LR LR
comp=Z,1μm,22.0s,MS5.2
TIXI Tiksi 75.56 356 *e*P **P 09 38 30.2 -2.9**
TIXI *e* 09 41 21.3
TIXI *e*S S 09 48 02.5 -7.5
TIXI pmax pmax
comp=Z,51nm,1.1s,mb5.4
TIXI MLR MLR
comp=Z,797nm,17.0s,MS5.1
SDPT Sand Point 76.22 30 *e*P **P 09 38 37.3 +0.2**
SDPT LR LR
comp=Z,2μm,21.0s,MS5.4
CHGN Chignik 77.69 30 *e*P **P 09 38 45.3 -0.1**
KKAR Karatay Array 77.86 315 *i* P **P 09 38 46.6 0.0**
KKAR Karatay Array 77.86 315 *e*P **P 09 38 46.6 0.0**
KKAR pmax pmax
comp=Z,46nm,1.0s,mb5.4
TNA Tin City 78.57 20⇑ *e*P **P 09 38 50.5 +0.4**
comp=Z,200nm,1.2s,mb5.9
TNA ⇓*e*pP pP 09 39 01.8 +0.7
TNA LR LR
comp=Z,708nm,20.0s,MS5.0

VOSK Vostochnaya 80.52 325 *i* P **P 09 39 00.4 -0.4**
VOSK Vostochnaya 80.52 325 P **P 09 39 00.4 -0.4**
VOSK pmax pmax
comp=Z,140nm,1.7s,mb5.6
BVA0 Borovoye Array 80.96 325 *i* P **P 09 39 03.3 +0.2**
BVA0 pmax pmax
comp=Z,24nm,1.1s,mb5.0
BVAR Borovoye Array 80.96 325 P **P 09 39 03.3 +0.2**
comp=Z,19nm,0.5s,mb5.3,baz=112,slow=7.2,SNR=136
BRVK Borovoye 81.03 325⇑ *e*P **P 09 39 03.3 -0.2**
comp=Z,85nm,1.0s,mb5.6
BRVK LR LR
comp=Z,191nm,20.0s,MS4.5
BRVK Borovoye 81.03 325 P **P 09 39 03.8 +0.3**
BRVK pmax pmax
comp=Z,85nm,1.0s,mb5.6
SVW2 Sparrevohn 81.09 26 *e*P **P 09 39 04.7 +1.1**
TTA Tatalina 81.68 25 *e*P **P 09 39 11.7 +5.0**
MAW Mawson 81.78 202⇑ *i*P **P 09 39 08.2 +1.1**
comp=Z,66nm,0.9s,mb5.6
MAW Mawson 81.78 202 P **P 09 39 07.3 +0.2**
comp=Z,96nm,1.0s,mb5.7,baz=72,slow=6.7,SNR=62
MAW LR LR 10 13 51.6
comp=Z,3μm,18.9s,MS5.7,baz=77,slow=34
MAW Mawson 81.78 202 *e*P **P 09 39 08.3 +1.2**
MAW pmax pmax
comp=Z,150nm,1.0s
RSO Redoubt South 82.11 27 *e*P **P 09 39 08.1 -0.8**
RSO *e*pP pP 09 39 19.9 -0.2
SPU Mount Spurr 82.70 27 *e*P **P 09 39 11.6 -0.3**
SPU *e*pP pP 09 39 23.1 0.0
SLKM Skilak Lake 83.30 28 *e*P **P 09 39 15.0 0.0**
SLKM *e*pP pP 09 39 27.0 +0.8
FIB Fire Island 83.54 27 PFAKE 09 39 30.0 +14
FIB LR LR
comp=Z,2μm,22.0s,MS5.5
RKT Rikitea 83.82 113 *e*LR LR 10 05 36.7
comp=Z,3μm,35.5s
IMA Indian Mountai 83.89 22 *e*P **P 09 39 18.7 +0.8**
comp=Z,2μm,1.4s
IMA *e*pP pP 09 39 30.4 +1.3
IMA Indian Mountai 83.89 22 *e*P **P 09 39 18.7 +0.8**
IMA pmax pmax
comp=Z,2μm,1.4s
PMR Palmer 84.16 27 *e*P **P 09 39 18.8 -0.5**
PMR LR LR
comp=Z,4μm,22.0s,MS5.8
SML Sawmill 84.59 27 *e*P **P 09 39 21.5 0.0**
SML *e*pP pP 09 39 32.8 +0.1
MCK McKinley 84.94 25 *e*P **P 09 39 22.4 -0.8**
comp=Z,652nm,1.5s,mb6.5
MCK *e*pP pP 09 39 34.9 +0.5
MCK LR LR
comp=Z,2μm,21.0s,MS5.4
MCK McKinley 84.94 25 *e*P **P 09 39 22.4 -0.8**
MCK pmax pmax
comp=Z,652nm,1.5s,mb6.5
MCK MLR MLR
comp=Z,2μm,21.0s,MS5.4
EYAK Cordova Ski Ar 85.42 28 *e*P **P 09 39 26.4 +0.8**
DIV Divide 85.57 28⇑ *i*P **P 09 39 26.9 +0.6**
comp=Z,39μm,0.7s
DIV *e*pP pP 09 39 38.9 +1.3
DIV LR LR
comp=Z,10μm,22.0s,MS6.2
COLA College 85.75 24 PFAKE 09 39 40.0 +13
COLA LR LR
comp=Z,30nm,22.0s
ILAR Eielson Array 86.11 24 P **P 09 39 27.8 -1.1**
comp=Z,36nm,0.7s,mb5.7,baz=258,slow=4.4,SNR=216
ILAR PKKPbc 09 57 29.8
comp=Z,0.6nm,0.6s,baz=6.5,slow=1.6,SNR=6.1
ILAR PKPPKP 10 05 27.9
comp=Z,0.2nm,0.6s,baz=78,slow=1.1,SNR=4.4
ILAR LR LR 10 12 34.2
comp=Z,2μm,21.5s,MS5.4,baz=240,slow=32
QSPA South Pole Qui 86.26 180⇑ *i*P **P 09 39 31.0 +1.6**
comp=Z,404nm,0.7s
AB31 Akbulak array 86.42 320 *i* P **P 09 39 30.1 -0.7**
MENT Mentasta 86.97 26 *e*P **P 09 39 34.5 +1.4**
SVE Sverdlovsk 87.36 327⇑ *i*P **P 09 39 38.9 +3.7**
SVE *e*S S 09 50 11.0 -0.3
SVE *e*PS PS 09 51 12.0 -6.8
SVE pmax pmax
comp=Z,100nm,2.0s,mb5.7
SVE MLR MLR
comp=N,400nm,18.0s,MS5.2
SVE MLR MLR
comp=E,700nm,18.0s,MS5.2
SVE MLR MLR
comp=Z,1μm,18.0s,MS5.3
PTCN Pitcairn Islan 88.20 115 PFAKE 09 39 50.0 +10
PTCN LR LR
comp=Z,19μm,19.0s
ARU Arti 88.42 327⇑ *e*P **P 09 39 39.1 -1.2**
comp=Z,76nm,1.3s,mb5.8
ARU LR LR
comp=Z,344nm,20.0s,MS4.8
ARU Arti 88.42 327⇑ *i*P **P 09 39 39.4 -0.9**
ARU *e* 09 43 07.1
ARU *e*S S 09 50 15.9 -5.3
ARU *e*SS SS 09 56 09.3 -5.7
ARU *e*SSS SSS 09 59 47.6 -0.3
ARU pmax pmax
comp=Z,55nm,1.4s,mb5.6
ARU MLR MLR
comp=Z,1μm,20.0s,MS5.3
ARU MLR MLR
comp=N,300nm,18.0s,MS5.3
ARU MLR MLR
comp=E,1μm,20.0s,MS5.3
DAWY Dawson 89.10 26⇑ *e*P **P 09 39 44.0 +0.7**
DAWY ⇓*e*pP pP 09 39 56.3 +1.7
SYO Syowa Base 90.37 201 ⇓P **P 09 39 48.8 -0.4**
SYO Syowa Base 90.37 201 ⇑PcP PcP 09 39 49.8 -0.8
INK Inuvik 92.03 22 P **P 09 39 56.3 -0.6**
comp=E,10.0nm,1.1s,mb5.1,baz=285,slow=8.6,SNR=11
INK PKKPbc 09 57 13.6
comp=E,2.1nm,0.7s,baz=200,slow=4.8,SNR=4.9
DLBC Dease Lake 93.00 32 *e*P **P 09 40 02.9 +1.2**
DLBC *e*pP pP 09 40 13.8 +0.9
OCWA Octopus Mounta 96.50 43 P **P 09 40 18.7 +0.9**
comp=E,110nm,1.6s,mb6.0
OCWA LR LR
comp=Z,1μm,22.0s,MS5.4
GNI Garni 96.53 310 P **P 09 40 17.8 -0.2**
comp=Z,2.0nm,0.4s,mb4.9,baz=3.5,slow=19,SNR=2.2
GNI Garni 96.53 310 P **P 09 40 17.8 -0.2**
GNI LR LR
comp=Z,413nm,21.0s,MS4.9
BHD Baghdad 96.87 303 *e*P **P 09 40 17.0 -2.8**
KHMM Horse Mountain 97.00 49 *e*P **P 09 40 21.6 +1.3**
ZEI Tsey 97.11 312 *e*P **P 09 40 17.9 -2.8**
ZEI *i* 09 44 14.0
ZEI pmax pmax
comp=Z,4.0nm,0.6s,mb5.0
COR Corvallis 97.21 46 PFAKE 09 40 30.0 +8.9
COR LR LR
comp=Z,387nm,20.0s,MS4.9
HUMO Hull Mountain 97.53 48 *e*P **P 09 40 23.0 +0.4**
comp=Z,14nm,1.0s,mb5.5
HUMO LR LR
comp=Z,3μm,22.0s,MS5.8
HOPS Hopland 97.54 51 PFAKE 09 40 30.0 +7.3
HOPS LR LR
comp=Z,2μm,20.0s,MS5.5
YBH Yreka Blue Hor 97.74 49 *e*P **P 09 40 24.6 +1.0**
comp=Z,28nm,1.2s,mb5.7
YBH LR LR
comp=Z,4μm,21.0s,MS5.8
YBH Yreka Blue Hor 97.74 49 P **P 09 40 24.9 +1.3**
YBH pmax pmax
comp=Z,28nm,1.2s
WDC Whiskeytown Da 97.91 50 *e*P **P 09 40 24.9 +0.5**
comp=Z,16nm,1.0s,mb5.5
WDC *e*pP pP 09 40 33.9 -1.8
WDC LR LR
comp=Z,3μm,21.0s,MS5.7
WDC Whiskeytown Da 97.91 50 *e*P **P 09 40 24.9 +0.6**
WDC *e**PP pP 09 40 33.9 -1.8
WDC pmax pmax
comp=Z,16nm,1.0s,mb5.5
WDC MLR MLR
comp=Z,3μm,21.0s,MS5.7
NSHM Saint Helena R 97.92 52 *e*P **P 09 40 25.3 +0.8**

NSHM *e*pP pP 09 40 34.0 -1.8
KIV Kislovodsk 97.95 314 *i* P **P 09 40 24.2 -0.2**
KIV MLR MLR
comp=Z,205nm,22.0s,MS4.6
VRHR Novokhopersk 98.24 321 *e*P **P 09 40 23.6 -2.0**
VRHR pmax pmax
comp=Z,40nm,1.3s,mb5.8
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.6s
NVL N'lazarevskaya 98.33 195⇓ *i*P **P 09 40 26.0 +0.5**
NVL pmax pmax
comp=Z,4.0nm,1.2s,mb4.8
NVL MLR MLR
comp=Z,230nm,19.5s,MS4.7
MAIT Maitri 98.35 195 *e*P **P 09 40 27.4 +1.8**
MAIT *e*PP PP 09 44 31.4 +2.9
SAO San Andreas Ge 98.90 54 PFAKE 09 40 40.0 +11
SAO LR LR
comp=Z,2μm,19.0s,MS5.6
LVZ Lovozero 99.23 338 *e*P **P 09 40 25.3 -4.3**
LVZ *i* 09 44 34.5
LVZ *i* SS SS 09 58 54.0 +5.9
LVZ pmax pmax
comp=Z,41nm,1.6s,mb5.7
LVZ pmax pmax
comp=N,11nm,1.8s
LVZ pmax pmax
comp=E,8.0nm,1.5s
LVZ pmax pmax
comp=Z,136nm,2.1s,mb6.1
LVZ pmax pmax
comp=N,103nm,2.7s
LVZ MLR MLR
comp=Z,1μm,20.0s,MS5.5
LVZ MLR MLR
comp=N,410nm,19.0s,MS5.4
LVZ MLR MLR
comp=E,1μm,22.0s,MS5.4
MOD Modoc 99.53 48 *e*Pdif **P 09 40 32.6 +1.0**
comp=E,40nm,1.3s,mb5.7
MOD LR LR
comp=Z,3μm,20.0s,MS5.7
BEKR Beckwourth 99.61 50 *e*Pdif **P 09 40 32.3 +0.2**
comp=Z,16nm,1.2s,mb5.3
CMB Columbia Colle 99.69 52 *e*Pdif **P 09 40 32.7 +0.3**
comp=Z,14nm,1.2s,mb5.3
CMB LR LR
comp=Z,1μm,20.0s,MS5.5
CMB Columbia Colle 99.69 52 P **P 09 40 33.7 +1.2**
CMB pmax pmax
comp=Z,14nm,1.2s,mb5.3
HAWA Hanford 99.75 44 *e*Pdif **P 09 40 33.7 +1.1**
comp=Z,3.1nm,1.6s
HAWA *e*pP pP 09 40 44.9 +1.0
HAWA LR LR
comp=Z,84nm,20.0s
VRSR Storozhevoye 99.76 321 *e*P **P 09 40 31.8 -0.6**
VRSR pmax pmax
comp=Z,10.0nm,1.2s,mb5.1
VRSR pmax pmax
comp=N,8.0nm,0.9s
VRSR pmax pmax
comp=E,10.0nm,1.1s
VRSR pmax pmax
comp=Z,10.0nm,1.2s,mb5.1
VRSR pmax pmax
comp=N,8.0nm,0.9s
VRSR pmax pmax
comp=E,10.0nm,1.1s
APA Apatity 99.77 338⇓ *i*P **P 09 40 31.8 -0.3**
APA *i* 09 40 39.8
APA *i* 09 44 40.0
APA *i* PPP PPP 09 46 48.0 -0.3
APA *e*S S 09 52 00.0 +0.6
APA *i* PS PS 09 53 28.0 -7.9
APA *i* SS SS 09 58 52.0 -3.6
APA pmax pmax
comp=Z,47nm,1.2s,mb5.8
MOS Moscow 100.11 326 *e*P P 09 40 30.1 -3.9
MOS pmax pmax
comp=Z,93nm,1.2s
SOC Sochi 100.12 313 *e*P P 09 40 32.5 -1.8
SOC *e*S 09 51 08.6
SOC *e*SS SS 09 59 10.0 +8.8
SOC *e*SSS SSS 10 02 57.8 +6.3
SOC pmax pmax
comp=Z,10.0nm,0.6s
SOC pmax pmax
comp=N,9.0nm,0.5s
SOC pmax pmax
comp=E,10.0nm,0.6s
SOC MLR MLR
comp=N,700nm,20.0s,MS5.2
SOC MLR MLR
comp=Z,650nm,20.0s,MS5.1
SOC MLR MLR
comp=E,340nm,21.0s,MS5.2
YKW3 Yellowknife Ar 100.24 27 *e*Pdif P 09 40 33.0 -1.4
YKA Yellowknife Ar 100.26 27 P P 09 40 33.9 -0.6
comp=E,4.1nm,0.8s,baz=284,slow=4.8,SNR=13
YKA PP PP 09 44 41.2 -2.1
comp=E,2.5nm,0.8s,baz=282,slow=7.5,SNR=5.4
YKA PKKPbc 09 56 52.5
comp=E,3.0nm,0.8s,baz=99,slow=2.6,SNR=7.3
YKA Yellowknife Ar 100.26 27 P P 09 40 33.9 -0.6
YKA PP PP 09 44 41.2 -2.1
YKA PKKPbc 09 56 52.5
KBS Kingsbay 100.50 351 *e* P 09 40 35.5 +0.2
KBS *e*PP PP 09 44 42.4 -2.6
KBS AMS AMS 10 23 00.8
comp=Z,418nm,22.2s,MS4.9
SNCC San Nicolas Is 100.61 57 PFAKE 09 40 50.0 +13
SNCC LR LR
comp=Z,2μm,19.0s,MS5.6
WVOR Wild Horse Val 100.73 48 *e*Pdif P 09 40 37.3 +0.2
comp=Z,62nm,1.6s
WVOR LR LR
comp=Z,2μm,22.0s,MS5.6
WVOR Wild Horse Val 100.73 48 P P 09 40 38.1 +1.0
WVOR pmax pmax
comp=Z,62nm,1.6s
OBN Obninsk 100.80 325 *i* P P 09 40 36.3 -0.8
OBN LR LR
comp=Z,900nm,25.0s,MS5.2
OBN Obninsk 100.80 325 *i* P P 09 40 36.2 -0.9
OBN *e* 09 44 44.2
OBN *e*S 09 51 16.9
OBN *e*SS SS 09 59 13.7 +3.3
OBN pmax pmax
comp=Z,21nm,0.5s
SNAA Sanae 101.05 191⇑ *i*Pdif P 09 40 38.8 +1.0
SNAA *e* 09 40 52.6
SNAA *e* 09 40 58.9
SNAA *e* 09 44 55.5
SNAA Sanae 101.05 191⇑ *i*P P 09 40 38.8 +1.0
SNAA *e* 09 44 55.5
NEW Newport 101.19 42 *e*Pdif P 09 40 38.6 -0.3
comp=Z,45nm,1.8s
NEW LR LR
comp=Z,2μm,22.0s,MS5.5
NEW Newport 101.19 42 *e*P P 09 40 38.7 -0.3
NEW pmax pmax
comp=Z,45nm,1.8s
NEW MLR MLR
comp=Z,2μm,22.0s
KEV Kevo 101.34 341 *e*p P 09 40 37.7 -1.5
KEV Kevo 101.34 341 *e*Pdif P 09 40 37.6 -1.6
comp=Z,71nm,1.6s
KEV LR LR
comp=Z,2μm,20.0s,MS5.6
KEV Kevo 101.34 341 *e*P P 09 40 37.6 -1.6
KEV pmax pmax
comp=Z,71nm,1.6s
KEV MLR MLR
comp=Z,2μm,20.0s,MS5.6
ISA Isabella 101.35 55 PFAKE 09 40 50.0 +10
ISA LR LR
comp=Z,986nm,21.0s,MS5.3
BMO Blue Mountains 101.45 45 *e*Pdif P 09 40 39.2 -1.1
comp=Z,35nm,1.7s
BMO LR LR
comp=Z,1μm,20.0s,MS5.4
BMO Blue Mountains 101.45 45 P P 09 40 40.8 +0.5
BMO pmax pmax

comp=Z,35nm,1.6s
ANN Anapa 101.64 315 *e*P P 09 40 37.5 -3.6
ANN *e* 09 44 50.8
ARCES ARCESS Array B 101.91 341 P P 09 40 41.1 -0.6
comp=Z,9.5nm,0.6s,baz=79,slow=6.0,SNR=56
ARCES PKKPbc 09 56 46.2
comp=Z,1.2nm,0.6s,baz=270,slow=2.4,SNR=8.3
ARE0 ARCESS Array S 101.91 341 *e*Pdif P 09 40 40.8 -0.9
ARE0 *e* 09 40 48.9
BMN Battle Mountai 101.96 50 PFAKE 09 40 50.0 +7.3
BMN LR LR
comp=Z,1μm,20.0s,MS5.5
DAC Darwin (Calif) 102.02 54 PFAKE 09 40 50.0 +6.9
DAC LR LR
comp=Z,4μm,21.0s,MS5.9
TPH Tonopah 102.17 52 PFAKE 09 41 00.0 +16
TPH LR LR
comp=Z,889nm,20.0s,MS5.3
VNA2 Neumayer--Watz 102.51 190⇑ *i*Pdif Pdif 09 40 45.5 +1.1
VNA2 *e* 09 40 57.1
VNA2 *e* 09 41 04.2
VNA2 *e* 09 45 08.2
VNA2 *e* 09 45 19.3
VNA2 *e* 09 57 17.2
VNA3 Neumayer Olymp 102.63 190⇑ *i*Pdif Pdif 09 40 46.1 +1.2
VNA3 *e* 09 40 59.0
VNA3 *e* 09 41 05.6
VNA3 *e* 09 45 11.5
VNA3 *e* 09 45 21.8
VNA3 *e* 09 57 16.8
EDM Edmonton 102.77 36 *e*Pdif Pdif 09 40 52.8 +6.9
KMBO Kilima Mbogo 102.84 268 P Pdif 09 40 48.4 +1.3
comp=Z,1.9nm,0.5s,baz=88,slow=7.0,SNR=8.1
KMBO PP PP 09 45 01.4 -2.7
comp=Z,3.3nm,0.8s,baz=76,slow=6.7,SNR=6.7
KMBO Kilima Mbogo 102.84 268 P Pdif 09 40 48.4 +1.3
KMBO PP PP 09 45 01.4 -2.7
KMBO LR LR
comp=Z,391μm,20.0s
VNA1 Neumayer--Stat 102.90 190⇑ *i*Pdif Pdif 09 40 47.7 +1.6
VNA1 *e* 09 41 00.8
VNA1 *e* 09 41 07.8
VNA1 *e* 09 45 07.1
VNA1 *e* 09 45 18.2
VNA1 *e* 09 57 16.3
TPNV Topopah Spring 103.04 53 PFAKE 09 41 00.0 +12
TPNV LR LR
comp=Z,7.0nm,22.0s
PFO Pinyon Flat Ob 103.15 56 PFAKE 09 41 00.0 +12
PFO LR LR
comp=Z,461nm,22.0s,MS5.0
WALA Waterton Lakes 103.18 41 *e*Pdif Pdif 09 40 53.1 +5.3
comp=Z,15nm,1.2s
WALA *e*PP PP 09 44 56.2 -10
ASF Jabal al Asfar 103.21 302 PP PP 09 45 03.5 -2.9
comp=Z,1.7nm,0.3s,baz=284,slow=5.6,SNR=2.3
ELK Elko 103.43 49 *e*Pdif Pdif 09 40 50.5 +1.3
comp=Z,1.9nm,1.1s
ELK LR LR
comp=Z,3μm,21.0s,MS5.7
ELK Elko 103.43 49 P Pdif 09 40 50.6 +1.5
ELK pmax pmax
comp=Z,33nm,1.7s
MSO Missoula 103.52 43 PFAKE 09 41 00.0 +11
MSO LR LR
comp=Z,843nm,20.0s,MS5.3
TRO Tromso 103.96 342 *e*PP PP 09 45 06.3 -4.5
TRO *e*SKSa 09 51 23.4
TRO *e*SS SS 09 59 51.0 -2.3
TRO AMS AMS 10 30 22.9
comp=Z,1μm,20.8s,MS5.4
CHMT Chamberlain Mo 103.97 43 *e*Pdif Pdif 09 40 57.1 +5.7
KAF Kangasniemi 104.27 334 *e*p Pdif 09 40 51.4 -0.9
NEN Nelson 104.30 54 *e*Pdif Pdif 09 40 54.2 +1.1
FINES FINESS Array B 104.59 333 Pdiff Pdif 09 40 52.5 -1.2
comp=Z,1.2nm,0.6s,baz=56,slow=6.9,SNR=5.4
FINES PP PP 09 45 13.5 -2.5
comp=Z,4.0nm,0.9s,baz=76,slow=7.9,SNR=5.2
FINES FINESS Array B 104.59 333 Pdif Pdif 09 40 52.5 -1.2
FINES PP PP 09 45 13.5 -2.5
MCMT McKenzie Canyo 104.60 45 *e*Pdif Pdif 09 40 56.4 +2.2
BR131 Keskin Array S 105.07 310 PFAKE 09 45 20.0
BR131 LR LR
comp=Z,438nm,21.0s,MS5.0
BRTR Keskin Array B 105.07 310 Pdiff Pdif 09 40 55.6 -0.8
comp=Z,1.2nm,0.8s,baz=135,slow=5.2,SNR=4.3
BRTR PP PP 09 45 15.8 -4.5
comp=Z,1.7nm,0.9s,baz=90,slow=5.8,SNR=2.9
BOZ Bozeman (W) 105.31 44 *e*Pdif Pdif 09 40 58.7 +1.5
comp=Z,8.1nm,1.2s
BOZ LR LR
comp=Z,1μm,20.0s,MS5.4
BOZ Bozeman (W) 105.31 44 *e*P Pdif 09 40 58.7 +1.4
BOZ pmax pmax
comp=Z,8.0nm,1.2s
BOZ MLR MLR
comp=Z,1μm,20.0s,MS5.4
QLMT Earthquake Lak 105.59 45 *e*Pdif Pdif 09 41 00.7 +2.2
RRI2 Red Ridge 105.94 46 *e*Pdif Pdif 09 41 05.3 +5.2
comp=Z,3.5nm,0.8s
RRI2 *e*PKPdf 09 45 16.7
AKASG Malin Array Be 106.05 322 Pdiff Pdif 09 40 58.9 -1.5
comp=Z,0.4nm,0.4s,baz=173,slow=31,SNR=4.7
AKASG PP PP 09 45 24.8 -2.1
comp=Z,0.8nm,0.5s,baz=60,slow=6.6,SNR=4.4
AKASG PKKPbc 09 56 34.9
comp=Z,0.3nm,0.3s,baz=256,slow=3.9,SNR=6.7
AKASG PKKPab 09 56 47.6
comp=Z,0.2nm,0.3s,baz=262,slow=3.6,SNR=6.5
AKASG Malin Array Be 106.05 322 Pdif Pdif 09 40 58.9 -1.5
AKASG PP PP 09 45 24.8 -2.1
AKASG PKKPbc 09 56 34.9
AKASG PKKPab 09 56 47.6
DAG Danmarks Havn 106.06 355 *i* P Pdif 09 41 03.0 +3.1
DAG Danmarks Havn 106.06 355 *e*P Pdif 09 41 03.0 +3.1
HWUT Hardware Ranch 106.06 48 *e*Pdif Pdif 09 41 00.9 +0.3
comp=Z,3.2nm,1.0s
HWUT *e*PP PP 09 45 18.7 -8.5
HWUT LR LR
comp=Z,3μm,22.0s,MS5.8
IMW Indian Meadow 106.11 45 *e*Pdif Pdif 09 41 06.7 +5.9
comp=Z,13nm,1.4s
TPAW Teton Pass 106.18 46 Pdif Pdif 09 41 02.6 +1.4
comp=Z,4.0nm,1.1s
TPAW *e*PP PP 09 45 24.4 -3.7
SNOW Snow King Moun 106.32 46 *e*Pdif Pdif 09 41 06.1 +4.3
comp=Z,4.5nm,1.0s
SNOW *e*PKPdf 09 45 14.7
LKWY Lake 106.36 45 PFAKE 09 45 30.0
LKWY LR LR
comp=Z,2μm,19.0s,MS5.6
BW06 Boulder Array 107.31 46 PFAKE 09 45 30.0
BW06 LR LR
comp=Z,1μm,20.0s,MS5.5
PDAR Pinedale Array 107.31 46 Pdiff Pdif 09 41 07.1 +0.9
comp=Z,0.5nm,0.6s,baz=269,slow=2.4,SNR=6.4
PDAR PP PP 09 45 27.7 -9.2
comp=Z,1.4nm,0.9s,baz=284,slow=6.1,SNR=4.1
PDAR PKKPbc 09 56 32.1
comp=Z,1.9nm,0.6s,baz=97,slow=5.1,SNR=13
TUC Tucson 108.03 57 PFAKE 09 45 30.0
TUC LR LR
comp=Z,2μm,21.0s,MS5.6
LAO LASA Array 108.74 42 *e*Pdif Pdif 09 41 19.5 +7.2
comp=Z,12nm,1.4s
LAO LR LR
comp=Z,1μm,20.0s,MS5.5
FFC Flin Flon 108.81 33 PFAKE 09 45 30.0
FFC LR LR
comp=Z,563nm,22.0s,MS5.1
MATP Matopo 108.89 247 PKKPab 09 56 39.0
comp=Z,1.7nm,0.8s,baz=246,slow=5.8,SNR=3.2
NSS Namsos 108.94 339 AMS AMS 10 36 26.0
comp=Z,2μm,22.1s,MS5.5
MBAR Mbarara 109.37 268 PFAKE 09 45 30.0
MBAR LR LR
comp=Z,141nm,22.0s,MS4.5
PMSA Palmer Station 109.40 169 PFAKE 09 45 30.0
PMSA LR LR
comp=Z,1μm,19.0s,MS5.5
MLR Muntele Rosu 109.49 317 PP PP 09 45 48.3 -4.8
comp=Z,3.0nm,0.7s,baz=70,slow=4.0,SNR=3.7
DGMT Dagmar 109.56 40 PFAKE 09 45 30.0
DGMT LR LR
comp=Z,2μm,20.0s,MS5.6

BOSA Boshof 109.84 238 Pdiff Pdif 09 41 18.7 +1.1
comp=Z,10.0nm,1.0s,baz=118,slow=5.3,SNR=7.0
BOSA Boshof 109.84 238 Pdif Pdif 09 41 18.7 +1.1
BOSA LR LR
comp=Z,1μm,21.0s,MS5.4
JMIC Jan Mayen 109.87 350 *i* Pdif 09 41 05.7 -11
JMIC *e*PP PP 09 45 50.9 -4.3
JMIC *e*SS SS 10 01 13.1 -0.9
JMIC AMS AMS 10 26 36.6
comp=Z,311nm,26.6s,MS4.8
LSZ Lusaka 110.13 252 PFAKE 09 45 30.0 +11
LSZ LR LR
comp=Z,1μm,22.0s,MS5.4
LBTB Lobatse 110.48 242 PFAKE 09 45 30.0 +10
LBTB LR LR
comp=Z,803nm,19.0s,MS5.3
HFS Hagfors 110.64 335 Pdiff Pdif 09 41 19.8 -0.5
comp=Z,5.7nm,1.1s,baz=45,slow=2.1,SNR=3.6
HFS PP PP 09 45 56.4 -4.3
comp=Z,2.0nm,0.8s,baz=211,slow=8.4,SNR=2.4
HFS PKKPab 09 56 28.9
comp=Z,4.7nm,0.8s,baz=180,slow=3.0,SNR=6.3
RSSD Black Hills 110.91 44 PFAKE 09 45 30.0 +10
RSSD LR LR
comp=Z,255nm,22.0s,MS4.8
ANMO Albuquerque 111.18 54 *e*PKPdf PKPdf 09 45 19.9 -1.2
ANMO LR LR
comp=Z,3μm,22.0s,MS5.8
NB2 NORSAR Subarra111.18 336 PKKPbc 09 56 18.2
comp=Z,16nm,1.4s,baz=233,slow=3.2
NB2 NORSAR Subarra111.18 336 *e* 09 56 18.2
baz=233,slow=3.2
NOA NORSAR Array B 111.18 336 Pdiff Pdif 09 41 20.1 -2.7
comp=Z,0.5nm,0.7s,baz=13,slow=2.8,SNR=2.4
NOA PKKPbc 09 56 17.4
comp=Z,1.4nm,0.7s,baz=55,slow=3.2,SNR=4.9
NOA PKKPab 09 56 28.4
comp=Z,2.5nm,0.7s,baz=238,slow=4.2,SNR=5.6
CRVS Cervenica-Dubn 111.38 322 *e* 09 56 30.7
NAO01 NORSAR Array S 111.43 336 PFAKE 09 45 30.0 +9.1
NAO01 LR LR
comp=Z,2μm,21.0s,MS5.6
SUR Sutherland 112.35 233 PFAKE 09 45 40.0 +17
SUR LR LR
comp=Z,412nm,19.0s,MS5.0
KONO Kongsberg 112.63 335 *e* SP 09 55 44.3 +3.9
KONO Kongsberg 112.63 335 PFAKE 09 45 40.0 +17
KONO LR LR
comp=Z,2μm,20.0s,MS5.6
MNTX Cornudas Mount 112.66 57 *e*PKPdf PKPdf 09 45 25.1 +1.1
MNTX *ep*PKPdf 09 45 36.8
MNTX LR LR
comp=Z,1μm,20.0s,MS5.5
OKC Ostrava-Krasne 113.05 323 *e*PP PP 09 46 30.9 +12
OKC *e*SP SP 09 55 45.4 +0.7
OKC AMS AMS 10 36 50.0
comp=Z,800nm,20.1s
VYHS Vyhne 113.15 322 *e* PP 09 46 08.9 -11
BER Bergen 113.90 337 AMS AMS 10 36 34.6
comp=Z,2μm,19.0s,MS5.6
DPC Dobruska-Polom 113.92 324 *e*PP PP 09 46 37.8 +13
DPC *e*PKKP PKKP 09 56 12.3 -11
DPC AMS AMS 10 36 50.0
comp=Z,1μm,23.5s
ULM Lac du Bonnet 114.00 36 PKKPbc 09 56 08.2
comp=Z,2.6nm,0.6s,baz=295,slow=3.2,SNR=3.1
ULM Lac du Bonnet 114.00 36 PFAKE 09 45 40.0 +14
ULM LR LR
comp=Z,4μm,21.0s,MS6.0
LTX Lajitas 114.53 59 PFAKE 09 45 40.0 +12
LTX LR LR
comp=Z,2μm,22.0s,MS5.6
TXAR Lajitas Array 114.53 59 PKP PKPdf 09 45 29.5 +1.8
comp=Z,1.1nm,0.9s,SNR=7.5
TXAR PP PP 09 46 23.9 -5.8
comp=Z,2.7nm,1.2s,baz=280,slow=5.5,SNR=3.4
TXAR PKKPbc 09 56 08.9
comp=Z,1.7nm,0.6s,baz=112,slow=5.3,SNR=25
TXAR PKKPab 09 56 14.8
comp=Z,9.2nm,0.8s,baz=117,slow=5.6,SNR=39
TXAR Lajitas Array 114.53 59 PKP PKPdf 09 45 29.5 +1.8
TXAR PP PP 09 46 23.9 -5.8
TXAR PKKPbc 09 56 08.9
TXAR PKKPab 09 56 14.8
PVCC Panska Ves 114.85 325 AMS AMS 10 38 50.0
comp=Z,1μm,19.1s
BRG Berggiesshubel 115.05 326 *e*PKIKP PKPdf 09 45 28.0 -0.2
BRG *e* 09 56 14.3
BRG SS SS 10 02 36.0 +13
BRG pmax pmax
comp=Z,8.0nm,1.4s
BRG pmax pmax
comp=Z,12nm,1.3s
BRG pmax pmax
comp=Z,7.0nm,1.0s
BRG pmax pmax
comp=Z,18nm,1.5s
BRG MLR MLR
comp=N,1μm,19.1s,MS5.7
BRG MLR MLR
comp=E,1μm,19.9s,MS5.7
BRG MLR MLR
comp=Z,2μm,19.6s,MS5.8
PRU Pruhonice 115.10 325 *e*PP PP 09 46 29.2 -4.1
PRU *e*SP SP 09 56 03.9 -0.3
PRU AMS AMS 10 34 20.0
comp=Z,1μm,22.9s
CLL Collm 115.37 326 ↓*i*PKIKP PKPdf 09 45 30.6 +1.8
comp=Z,logA/T=1.0
CLL *e**PPKP 09 45 43.0
CLL *e**SPP 09 46 47.0
CLL *e*PKKP PKKP 09 56 05.0 -16
CLL *e*PKKP PKKP 09 56 12.0 -8.5
CLL *e*PS PS 09 56 18.0 +7.2
CLL *i* 09 56 23.5
CLL *e*SKKP 09 59 56.0
CLL *i* 10 00 08.0
CLL *i* 10 00 20.9
CLL *e* 10 04 42.0
CLL Collm 115.37 326 ↓*i*PKP PKPdf 09 45 30.6 +1.8
CLL *ep*PKP 09 45 43.0
CLL *e*PKKP PKKP 09 56 05.0 -16
CLL *e*SKKP 09 59 56.0
CLL LR LR
comp=Z,2μm,17.6s,MS5.8
CLL Collm 115.37 326 ↓↓*i*PKIKP PKPdf 09 45 30.6 +1.8
CLL *e* 09 56 05.0
CLL pmax pmax
comp=Z,9.0nm,0.9s
CLL MLR MLR
comp=Z,2μm,17.6s,MS5.8
KOGS Kog 115.56 321 *e*PKPdf PKPdf 09 45 29.9 +0.6
KHC Kasperske Hory 116.05 324 *e*PP PP 09 46 31.4 -8.5
KHC *e*PS PS 09 56 22.5 +5.4
KHC AMS AMS 10 38 10.0
comp=Z,1μm,21.1s
GERES GERESS Array B 116.11 324 PKP PKPdf 09 45 30.8 +0.4
comp=Z,2.2nm,0.6s,baz=81,slow=2.5,SNR=11
GERES PKKPbc 09 56 02.1
comp=Z,0.2nm,0.3s,baz=180,slow=5.9,SNR=2.4
NKC Novy Kostel 116.19 326 *e*PP PP 09 46 34.6 -6.2
NKC *e*SP SP 09 56 14.7 +0.8
NKC AMS AMS 10 40 10.0
comp=Z,2μm,19.8s
SFJD Kangerlussuaq 116.36 5 *i* P PKPdf 09 45 46.3 +16
SFJD *i* 09 55 20.3
SFJD *i* S SS 10 02 40.7 +1.1
comp=Z,720nm,23.0s
BOJS Bojanci 116.58 320 *e*PKPdf PKPdf 09 45 33.5 +2.2
JCT Junction City 117.59 58 *e*PKPdf PKPdf 09 45 35.3 +1.7
JCT LR LR
comp=Z,1μm,22.0s,MS5.5
KSU1 Kansas State U 117.73 47 *e*PKPdf PKPdf 09 45 46.6 +13
TSUM Tsumeb 119.17 246 *e*PKPdf PKPdf 09 45 39.6 +2.7
TSUM LR LR
comp=Z,975nm,20.0s,MS5.4
DAVOX Davos 119.35 323 PKP PKPdf 09 45 37.1 +0.4
comp=Z,5.7nm,0.6s,baz=153,slow=23,SNR=5.7
CDF Champ du Feu 120.03 326 *e*PKIKP PKPdf 09 45 38.7 +0.7
GIVF Givet 120.41 328 *e*PKIKP PKPdf 09 45 40.1 +1.4
HINF Hinteralfeld 120.59 325 *e*PKIKP PKPdf 09 45 39.8 +0.7
EKA Eskdalemuir Ar 120.66 337 PKKPbc 09 55 44.6
comp=Z,2.1nm,0.6s,baz=226,slow=3.1,SNR=8.2
ESK Eskdalemuir 120.69 337 PFAKE 09 45 50.0 +11
ESK LR LR

comp=Z,368nm,22.0s,MS5.0
BAIF Baives 120.76 329 *e*PKIKP PKPdf 09 45 40.6 +1.3
HAU Haudompre 120.77 326 *e*PKIKP PKPdf 09 45 40.4 +1.0
HAU *e*R
comp=Z,2μm,20.2s
NATX Nacogdoches 121.53 55 PFAKE 09 45 50.0 +8.8
NATX LR LR
comp=Z,1μm,20.0s,MS5.6
CABF La Chapelle 121.68 324 *e*PKIKP PKPdf 09 45 42.8 +1.7
comp=Z,22nm,0.8s
LPG La Plagne 121.88 323 *e*PKIKP PKPdf 09 45 43.2 +1.6
comp=Z,12nm,0.7s
LPL La Plagne 121.88 323 *e*PKIKP PKPdf 09 45 42.6 +1.0
PGF Pioggiola 121.92 319 *e*PKIKP PKPdf 09 45 42.8 +1.1
CCM Cathedral Cave 122.03 47 *e*PKPdf PKPdf 09 45 42.6 +0.6
CCM *ep*PKPdf 09 45 54.3
CCM LR LR
comp=Z,434nm,22.0s,MS5.1
CCM Cathedral Cave 122.03 47 *e*PKIKP PKPdf 09 45 42.7 +0.6
CCM MLR MLR
comp=Z,434nm,22.0s,MS5.1
MBDF Montbardon 122.26 322 *e*PKIKP PKPdf 09 45 43.9 +1.5
comp=Z,8.3nm,0.7s
SBF Sospel 122.29 321 *e*PKIKP PKPdf 09 45 44.7 +2.3
UALR University of 122.41 51 *e*PKPdf PKPdf 09 45 44.0 +1.1
UALR *ep*PKPdf 09 45 55.4
LOR Lormes 122.58 326 *e*PKIKP PKPdf 09 45 44.1 +1.2
comp=Z,18nm,0.9s
LOR *e*R
comp=Z,1μm,20.0s
ORIF Oris-en-Rattie 122.70 323 *e*PKIKP PKPdf 09 45 44.4 +1.2
comp=Z,7.3nm,0.6s
ORIF *e*R
comp=Z,1μm,20.8s
SSF Saint Saulge 122.89 326 *e*PKIKP PKPdf 09 45 44.9 +1.4
comp=Z,28nm,1.1s
FRF La Foret Royal 122.94 321 *e*PKIKP PKPdf 09 45 44.7 +1.0
SMF Signal de Mont 122.94 325 *e*PKIKP PKPdf 09 45 44.7 +1.0
AVF Avril sur Loir 123.14 326 *e*PKIKP PKPdf 09 45 44.9 +0.9
LMR La Mourre 123.14 321 *e*PKIKP PKPdf 09 45 45.2 +1.1
comp=Z,104nm,1.3s
SMRF Simiane la Rot 123.39 322 *e*PKIKP PKPdf 09 45 46.1 +1.5
VIVF Saint-Julien-l 123.46 323 *e*PKIKP PKPdf 09 45 46.0 +1.3
comp=Z,45nm,1.2s
FLN La Foliniere 123.97 330 *e*PKIKP PKPdf 09 45 46.7 +1.1
comp=Z,50nm,1.1s
FLN *e*R
comp=Z,3μm,21.2s
TCF Toulx Ste Croi 124.07 326 *e*PKIKP PKPdf 09 45 47.2 +1.4
comp=Z,42nm,1.0s
LASF Ste Croix 124.38 323 *e*PKIKP PKPdf 09 45 47.4 +0.9
GRR Gorron 124.40 329 *e*PKIKP PKPdf 09 45 47.6 +1.2
comp=Z,124nm,1.5s
SCHQ Schefferville 124.51 19 PKP PKPdf 09 45 45.5 -0.9
comp=Z,2.4nm,0.6s,baz=331,slow=7.4,SNR=5.9
SCHQ Schefferville 124.51 19 PKP PKPdf 09 45 45.5 -0.9
SCHQ LR LR
comp=Z,2μm,22.0s,MS5.7
OXF Oxford 124.76 50 *e*PKPdf PKPdf 09 45 46.6 -0.9
OXF LR LR
comp=Z,3μm,22.0s,MS5.9
BLO Bloomington 124.90 44 *e*PKPdf PKPdf 09 45 48.2 +0.6
BLO *ep*PKPdf 09 46 00.3
BLO *e*PP PP 09 47 31.9 -8.4
CAF Calviac 124.95 325 *e*PKIKP PKPdf 09 45 48.0 +0.4
RJF Les Rejaudoux 125.04 325 *e*PKIKP PKPdf 09 45 49.2 +1.5
RJF *e*R
comp=Z,1μm,21.5s
MFF Saint Martin d 125.17 327 *e*PKIKP PKPdf 09 45 49.1 +1.2
comp=Z,23nm,1.0s
WVT Waverly 125.30 48 *e*PKPdf PKPdf 09 45 48.4 0.0
WVT LR LR
comp=Z,2μm,19.0s,MS5.8
SGMF Saint Gilles 125.34 330 *e*PKIKP PKPdf 09 45 49.3 +1.1
comp=Z,90nm,1.4s
WCI Wyandotte Cave 125.49 45 *e*PKPdf PKPdf 09 45 48.1 -0.7
WCI *ep*PKPdf 09 46 01.3
WCI LR LR
comp=Z,229nm,20.0s,MS4.8
WCI Wyandotte Cave 125.49 45 *e*PKIKP PKPdf 09 45 48.1 -0.7
WCI MLR MLR
comp=Z,229nm,20.0s,MS4.8
PLAL Pickwick Lake 125.59 49 *e*PKPdf PKPdf 09 45 48.6 -0.5
PLAL *ep*PKPdf 09 46 00.5
PLAL *e*PP PP 09 47 38.8 -6.3
PLAL LR LR
comp=Z,2μm,22.0s,MS5.7
LFF La Frestale 125.70 325 *e*PKIKP PKPdf 09 45 50.7 +1.7
MTLF Montolieu 125.77 323 *e*PKIKP PKPdf 09 45 50.5 +1.3
comp=Z,59nm,1.4s
QUIF Quistinic 125.87 330 *e*PKIKP PKPdf 09 45 50.4 +1.2
EPF Esparros 127.07 324 *e*PKIKP PKPdf 09 45 53.2 +1.5
comp=Z,29nm,1.2s
LRAL Lakeview Retre 127.18 51 *e*PKPdf PKPdf 09 45 52.9 +0.7
LRAL *ep*PKPdf 09 46 04.5
LRAL LR LR
comp=Z,3μm,22.0s,MS5.9
PLCA Paso Flores 127.61 151 PKP PKPdf 09 45 54.8 +1.9
comp=Z,5.6nm,0.7s,baz=240,slow=1.4,SNR=14
PLCA Paso Flores 127.61 151 PKP PKPdf 09 45 54.8 +1.9
PLCA LR LR
comp=Z,2μm,19.0s,MS5.9
ETSF Etsaut 127.68 324 *e*PKIKP PKPdf 09 45 55.0 +2.1
SJPF Ste Jean 127.94 325 *e*PKIKP PKPdf 09 45 55.4 +2.0
CPCT Cooper Cave 128.02 47 *e*PKPdf PKPdf 09 45 54.6 +0.8
CPCT *ep*PKPdf 09 46 06.2
TZTN Tazewell 128.21 45 *e*PKPdf PKPdf 09 45 55.1 +1.0
TZTN *ep*PKPdf 09 46 06.9
MYNC Murphy 128.48 47 *e*PKPdf PKPdf 09 45 55.0 +0.4
MYNC *ep*PKPdf 09 46 07.3
MYNC LR LR
comp=Z,4μm,20.0s,MS6.1
MYNC Murphy 128.48 47 *e*PKIKP PKPdf 09 45 55.1 +0.5
MYNC MLR MLR
comp=Z,4μm,20.0s,MS6.1
MCWV Mont Chateau 129.09 40 PFAKE 09 46 10.0 +14
MCWV LR LR
comp=Z,2μm,20.0s,MS5.8
PAYG Puerto Ayora 129.37 94 PFAKE 09 46 10.0 +13
PAYG LR LR
comp=Z,13μm,19.0s
FWV Forest Hill 129.58 43 *e*PKPdf PKPdf 09 45 57.7 +1.0
FWV *ep*PKPdf 09 46 09.2
NCB Newcomb 129.69 32 *e*PKPdf PKPdf 09 45 56.0 -0.7
NCB *ep*PKPdf 09 46 08.7
NCB *e*PP PP 09 48 04.6 -7.3
NCB LR LR
comp=Z,2μm,22.0s,MS5.8
GOGA Godfrey 129.71 49 PFAKE 09 46 10.0 +13
GOGA LR LR
comp=Z,3μm,22.0s,MS5.9
ELN Prospectdale 129.81 43 *e*PKPdf PKPdf 09 45 57.2 +0.1
ELN *ep*PKPdf 09 46 09.8
BINY Binghamton 129.89 35 *e*PKPdf PKPdf 09 45 56.0 -1.2
BINY *ep*PKPdf 09 46 07.3
BINY LR LR
comp=Z,4μm,20.0s,MS6.1
MIV Mineville/With 129.98 31 *e*PKPdf PKPdf 09 45 57.8 +0.5
MIV *ep*PKPdf 09 46 08.6
MIV *e*PP PP 09 48 04.8 -8.8
BLA Blacksburg 130.04 43 *e*PKPdf PKPdf 09 45 58.1 +0.5
BLA LR LR
comp=Z,2μm,22.0s,MS5.8
PQI Presque Isle 130.69 25 PFAKE 09 46 10.0 +11
PQI LR LR
comp=Z,7μm,22.0s,MS6.3
JSC Jenkinsville 130.94 47 *e*PKPdf PKPdf 09 46 01.3 +2.0
JSC *ep*PKPdf 09 46 12.8
CBN Corbin 131.50 40 PFAKE 09 46 10.0 +10
CBN LR LR
comp=Z,3μm,21.0s,MS5.9
WVL Waterville 131.56 28 PFAKE 09 46 10.0 +10
WVL LR LR
comp=Z,8μm,20.0s,MS6.4
COW Cow Castle Cre 131.78 47 *e*PKPdf PKPdf 09 46 03.1 +2.2
COW *ep*PKPdf 09 46 14.9
HRV Harvard--Oak R 132.11 32 PFAKE 09 46 10.0 +8.7
HRV LR LR
comp=Z,2μm,21.0s,MS5.8
NHSC New Hope 132.29 47 PFAKE 09 46 10.0 +8.0
NHSC LR LR
comp=Z,2μm,19.0s,MS5.9
WES Weston 132.32 32 PFAKE 09 46 10.0 +8.3
WES LR LR

comp=Z,3μm,22.0s,MS6.0
EMMW East Machias 132.47 27 PFAKE 09 46 10.0 +8.1
EMMW LR LR
comp=Z,8μm,19.0s,MS6.4
DWPF Disney 133.55 54 PFAKE 09 46 20.0 +16
DWPF LR LR
comp=Z,287nm,21.0s,MS5.0
TRQA Tornquist 133.66 156 PFAKE 09 46 20.0 +16
TRQA LR LR
comp=Z,3μm,20.0s,MS6.0
JTS JuntasAbangare 134.75 79 PFAKE 09 46 20.0 +13
JTS LR LR
comp=Z,2μm,19.0s,MS5.9
NNA Nana 140.02 113 PFAKE 09 46 30.0 +13
NNA LR LR
comp=Z,2μm,20.0s,MS5.8
LVC Limon Verde 141.38 134 *e*PKPdf PKPdf 09 46 16.4 -2.5
LVC LR LR
comp=Z,7μm,20.0s,MS6.4
ARE Arequipa 142.83 123 *e*P PKPdf 09 46 20.0 -1.5
ARE *e* 09 46 33.0
BBSR BB Station 143.14 36 PFAKE 09 46 30.0 +10
BBSR LR LR
comp=Z,3μm,20.0s,MS6.1
CMLA Cha da Macela 143.65 341 PFAKE 09 46 40.0 +19
CMLA LR LR
comp=Z,2μm,19.0s,MS5.9
DBIC Dimbokro 145.07 276 PKPbc PKPbc 09 46 26.5 +0.7
comp=Z,86nm,0.6s,baz=78,slow=4.0,SNR=135
LIC Lamto 145.26 276 *e*PKIKP PKPdf 09 46 27.2 +1.3
comp=Z,184nm,0.8s
ROSC El Rosal 145.56 87 PKPbc PKPbc 09 46 28.7 +1.6
comp=Z,26nm,0.5s,baz=77,slow=2.9,SNR=21
CPUP Villa Florida 145.68 151 PKPbc PKPbc 09 46 28.2 +1.3
comp=Z,125nm,0.8s,baz=247,slow=4.5,SNR=169
CPUP Villa Florida 145.68 151 *e*PKPdf PKPdf 09 46 28.6 +2.3
CPUP *ep*PKPdf 09 46 39.1
CPUP LR LR
comp=Z,2μm,21.0s,MS5.9
CPUP Villa Florida 145.68 151 *e*PKP2 PKPab 09 46 28.6 -0.4
CPUP MLR MLR
comp=Z,2μm,21.0s
LPAZ La Paz 145.68 126 PKPbc PKPbc 09 46 29.0 +1.8
comp=Z,46nm,0.6s,baz=298,slow=1.7,SNR=378
LPAZ La Paz 145.68 126 *e*PKPdf PKPdf 09 46 29.8 +3.4
LPAZ *ep*PKPdf 09 46 43.2
LPAZ LR LR
comp=Z,5μm,21.0s,MS6.3
LPAZ La Paz 145.68 126 *e*PKP2 PKPab 09 46 29.8 +0.6
LPAZ MLR MLR
comp=Z,5μm,21.0s
SDV Santo Domingo 148.94 79 *ep*PKPdf 09 46 33.4
SDV *e*PKPbc PKPdf 09 46 37.8 +5.9
SDV *ep*PKPbc 09 46 49.1
SDV LR LR
comp=Z,5μm,19.0s,MS6.3
SJG San Juan 150.50 59 *e*PKPdf PKPdf 09 46 35.9 +1.7
SJG *e*PKPbc PKPdf 09 46 40.1 +5.9
SJG *ep*PKPbc 09 46 52.3
SJG LR LR
comp=Z,2μm,21.0s,MS6.0
SJG San Juan 150.50 59 *e*PKIKP PKPdf 09 46 35.9 +1.7
SJG *e* 09 46 40.1
SJG MLR MLR
comp=Z,2μm,21.0s
SAML Samuel 153.53 118 *e*PKPdf PKPdf 09 46 40.9 +2.2
SAML *e*PKPdf PKPdf 09 46 48.5 +10
SAML LR LR
comp=Z,6μm,20.0s,MS6.4
CAM3 Guarapari 155.72 178⇓*i*P PKPdf 09 46 51.0 +10
CAM3 *i* 09 46 52.4
CAM3 *i* 09 47 01.7
CAM3 *i* 09 47 13.1
CAM3 *i* 09 47 20.1
BAO Brasilia Array 159.16 157 PKPdf PKPdf 09 46 50.0 +4.0
RCBR Riachuelo 169.77 202 PFAKE 09 47 10.0 +15
RCBR LR LR
comp=Z,3μm,19.0s

*IDC **04** 09:41:30.5±1.1,4.59N×96.39E,mb4.1/10,mb1 4.3/10, mb1mx4.0/21,mbtmp4.1/10,Error ellipse: s-maj=59.4km s-min=16.9km az=53.0*
*NEIC **04** 09:41:35.2±0.8,4.57N×96.39E,h30km,mb4.9/2,Error ellipse: s-maj=27.8km s-min=12.6km az=225.0*
ISC 04 09:41:33.4±0.8,**4.6N**±0.1×**96.4E**±0.1,**h30**km,**n13**, σ1§**19**/**13**,**mb4.3**/**12**,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.30**	**80**	*e*Pn	**Pn**	**09 42 38.8**	**+0.2**
FITZ	**Fitzroy Crossi**	**36.59**	**129**	P	**P**	**09 48 37.4**	**-1.5**
	12nm,0.8s,mb4.8,baz=346,slow=8.6,SNR=14						
MKAR	**Makanchi Array**	**43.81**	**346**	P	**P**	**09 49 37.9**	**-0.4**
	0.4nm,0.4s,mb3.5,baz=155,slow=9.8,SNR=7.8						
SONM	**Songino Array**	**43.96**	**10**	P	**P**	**09 49 40.1**	**+0.5**
	0.6nm,0.5s,mb3.6,baz=193,slow=10,SNR=4.1						
WRA	**Warramunga Arr**	**44.54**	**124**	P	**P**	**09 49 44.4**	**-0.2**
	2.5nm,0.4s,mb4.4,baz=301,slow=9.1,SNR=25						
WRAB	**Tennant Creek**	**44.54**	**124**	*e*P	**P**	**09 49 44.5**	**-0.1**
	50nm,1.3s,mb5.2						
KURK	**Kurchatov**	**48.36**	**345**	P	**P**	**09 50 16.1**	**+1.7**
	6.9nm,1.3s,mb4.5						
ZAL	**Zalesovo**	**50.13**	**351**	P	**P**	**09 50 26.4**	**-1.5**
	1.2nm,0.3s,mb4.4,baz=292,slow=5.4,SNR=2.9						
BVAR	**Borovoye Array**	**52.83**	**341**	P	**P**	**09 50 45.7**	**-2.7**
	0.3nm,0.4s,mb3.6,baz=228,slow=41,SNR=2.5						
STKA	**Stephens Creek**	**56.21**	**133**	P	**P**	**09 51 14.8**	**+1.5**
	3.0nm,0.8s,mb4.4,baz=288,slow=6.4,SNR=2.9						
BRTR	**Keskin Array B**	**66.28**	**312**	P	**P**	**09 52 20.5**	**-0.8**
	0.8nm,0.6s,mb4.0,baz=126,slow=11,SNR=3.6						
ARCES	**ARCESS Array B**	**79.12**	**340**	P	**P**	**09 53 37.6**	**+1.2**
	1.8nm,0.9s,mb4.0,baz=79,slow=6.2,SNR=3.7						
DAVOX	**Davos**	**84.32**	**316**	P	**P**	**09 54 05.2**	**+1.2**
	3.3nm,0.5s,mb4.7,baz=205,slow=5.5,SNR=5.1						

*ISK **04** 10:09:06.3,37.98N×27.06E,h21km,MD3.1*
*CSEM **04** 10:09:06.3±0.1,37.94N×27.27E,h5km,MD3.1,Error ellipse: s-maj=3.8km s-min=2.2km az=104.0*
*ATH **04** 10:09:07.7,37.97N×27.13E,h4km,MD3.1/3*
ISC 04 10:09:06.9±0.6,**37.95N**±0.03×**27.22E**±0.06,**h7**km±6km, **n16**,σ0§**78**/**23**,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.39**	**231**	*e*PG	**Pg**	**10 09 14.1**	**-0.6**
SMG				*e*SG	**Sg**	**10 09 19.6**	**-0.3**
IZM	**Izmir**	**0.45**	**5**	*i* PG	**Pg**	**10 09 16.3**	**+0.3**
IZM				*i* SG	**Sg**	**10 09 23.0**	**+1.0**
BLCB	**Balcova**	**0.46**	**343**	*i* PG	**Pg**	**10 09 15.7**	**-0.4**
BLCB				*i* SG	**Sg**	**10 09 21.3**	**-0.9**
MLSB	**Milas**	**0.79**	**146**	*i* PG	**Pg**	**10 09 23.8**	**+1.1**
BODT	**Bodrum**	**0.89**	**175**	PG	**Pg**	**10 09 23.9**	**-0.8**
AKS	**Akhisar**	**1.04**	**27**	PN	**Pn**	**10 09 27.5**	**-0.3**
AKS				SN	**Sn**	**10 09 41.3**	**-1.3**
YER	**Yerkesik**	**1.18**	**133**	PN	**Pn**	**10 09 29.9**	**+0.2**
AYVA	**Ayvalik**	**1.42**	**343**	*i* P	**Pn**	**10 09 33.3**	**+0.2**
AYVA				*i* S	**Sb**	**10 09 51.4**	**0.0**
DNZL	**Cakiroluk**	**1.47**	**100**	*i* P	**Pn**	**10 09 37.7**	**+3.8**
DNZL				*i* S	**Sb**	**10 09 58.1**	**+5.1**
PRK	**Paraskevi**	**1.49**	**331**	*e*PN	**Pn**	**10 09 35.0**	**+0.8**
PRK				*e*SB	**Sb**	**10 09 54.4**	**+0.9**
APE	**Apeiranthos**	**1.60**	**237**	*e*PB	**Pb**	**10 09 37.2**	**+0.8**
DALT	**Dalyan (Mudla)**	**1.63**	**136**	PN	**Pn**	**10 09 35.8**	**-0.5**
BTOK	**Tokmak**	**1.92**	**19**	*i* P	**Pn**	**10 09 41.5**	**+1.2**
DST	**Dursunbey**	**1.99**	**33**	*e*PN	**Pn**	**10 09 41.1**	**-0.2**
CANB	**Canakkale**	**2.07**	**357**	*e*PN	**Pn**	**10 09 41.2**	**-1.3**
ORLT	**Orhaneli**	**2.47**	**31**	*e*PN	**Pn**	**10 09 47.9**	**-0.3**

*NEIC **04** 10:13:33.5,16.33N×97.90W,h20km,MD4.2(MEX),After MEX.*
MEX 04 10:13:33.5±1.0,**16.33N**×**97.90W**,**h20**km±9km,**MD4.2**,**1C**, **Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.23**	**285**	⇑*i*P	Pb	10 13 37.9	-1.2
PNIG				*i* S	Sb	10 13 42.5	-0.3
OXX	**Oaxaca**	**1.35**	**56**	*i* P	Pn	10 13 54.3	-3.1
OXX				*i* S	Sb	10 14 10.3	-4.4
HUIG	**Huatulco**	**1.81**	**108**	*i* P	Pn	10 14 01.4	-2.6
HUIG				*i* S	Sn	10 14 21.2	-5.3
ACX	**Acapulco**	**2.01**	**286**	*i* P	Pn	10 14 03.2	-3.7
ACX				*i* S	Sn	10 14 26.2	-5.5
CAIG	**El Cayaco**	**2.38**	**288**	*i* P	Pn	10 14 10.4	-1.8
CAIG				*i* S	Sn	10 14 36.8	-4.3
PLIG	**Platanillo**	**2.56**	**323**	*e*P	Pn	10 14 12.5	-2.3
PLIG				*i* S	Sn	10 14 41.1	-4.6
IISM	**Ciudad Serdan**	**2.69**	**11**	*e*P	Pn	10 14 12.1	-4.5
IISM				*i* S	Sn	10 14 43.6	-5.2
YAIG	**Yautepec**	**2.75**	**336**	*i* P	Pn	10 14 14.1	-3.4
YAIG				*i* S	Sn	10 14 47.5	-3.0
PPM	**Popocatepetl**	**2.81**	**346**	*i* P	Pn	10 14 15.3	-3.0
CMIG	**Matias Romero**	**2.98**	**75**	*i* P	Pn	10 14 16.6	-4.3
CMIG				*i* S	Sn	10 14 51.2	-5.2
EVV	**El Vigia**	**3.22**	**49**	*e*P	Pn	10 14 25.0	+0.8
UNM	**Universidad Na**	**3.22**	**338**	*e*P	Pn	10 14 30.0	+5.8
LVIG	**Laguna Verde**	**3.65**	**22**	*i* P	Pn	10 14 35.6	+5.3
LVIG				*i* S	Sn	10 15 08.4	-4.9
MOIG	**Morelia**	**4.57**	**317**	*i* S	Sn	10 15 31.9	-4.7

*ATH **04** 10:15:25.1,39.03N×23.16E,h23km,ML3.3*
*THE **04** 10:15:25.7,38.99N×23.31E,h7km,ML3.0*
*NEIC **04** 10:15:25.1,39.03N×23.16E,h23km,ML3.3(ATH),After ATH.*
*CSEM **04** 10:15:25.4±0.1,38.98N×23.29E,h8km,ML3.3,Error ellipse: s-maj=2.0km s-min=1.0km az=83.0*
ISC 04 10:15:25.2±0.6,**39.00N**±0.03×**23.30E**±0.04,**h11**km±5km, **n17**,σ0§**73**/**25**,**Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.31**	**349**	*e*PB	**Pb**	**10 15 31.9**	**-0.4**
NEO				*e*SB	**Sb**	**10 15 36.5**	**-0.5**
XOR	**Xorichti**	**0.37**	**347**	*e*Pg	**Pg**	**10 15 33.1**	**+0.2**
XOR				*e*Sg	**Sg**	**10 15 38.5**	**+0.6**
LKR	**Lokris**	**0.42**	**214**	*e*PB	**Pb**	**10 15 33.6**	**-0.6**
AOS	**Alonnisos**	**0.48**	**70**	*e*Pg	**Pg**	**10 15 35.6**	**+0.7**
AOS				*e*Sg	**Sg**	**10 15 41.2**	**-0.3**
AGG	**Agios Georgios**	**0.76**	**272**	*e*Pg	**Pg**	**10 15 39.4**	**-1.1**
AGG				*e*Sg	**Sg**	**10 15 51.6**	**+1.0**
AGG	**Agios Georgios**	**0.76**	**272**	*e*Pg	**Pg**	**10 15 39.3**	**-1.1**
AGG				*e*Sg	**Sg**	**10 15 51.6**	**+1.0**
MPAR	**Parnis Oros**	**0.92**	**158**	*e*PN	**Pn**	**10 15 44.0**	**+0.1**
PAIG	**Paliouri**	**0.97**	**17**	*e*Pg	**Pg**	**10 15 44.2**	**-0.4**
PAIG				*e*Sg	**Sg**	**10 15 59.0**	**+1.4**
MGER	**Gerania Oros**	**1.02**	**182**	*e*PN	**Pn**	**10 15 45.5**	**+0.2**
PTL	**Penteli**	**1.05**	**155**	*e*PN	**Pn**	**10 15 46.0**	**+0.2**
ATH	**Athens Observa**	**1.08**	**162**	*e*PN	**Pn**	**10 15 46.5**	**+0.3**
NSAL	**Nisos Salamina**	**1.10**	**173**	*e*PN	**Pn**	**10 15 47.0**	**+0.4**
NAIG	**Nisos Aigina**	**1.25**	**173**	*e*PN	**Pn**	**10 15 49.0**	**+0.3**
LIT	**Litokhoron**	**1.26**	**330**	*e*Pg	**Pg**	**10 15 49.4**	**-1.0**
LIT				*e*Sg	**Sg**	**10 16 07.6**	**+0.2**
PLG	**Polygyros**	**1.37**	**5**	*e*PN	**Pn**	**10 15 50.2**	**-0.2**
OUR	**Ouranopolis**	**1.43**	**21**	*e*Pg	**Pg**	**10 15 51.2**	**-2.6**
GRG	**Griva**	**2.07**	**341**	*e*Pn	**Pn**	**10 16 00.5**	**+0.1**
GRG				*e*Sn	**Sn**	**10 16 26.9**	**+0.5**

*IDC **04** 10:25:14.9±1.0,2.78N×126.88E,mb4.0/7,mb1 4.2/7, mb1mx4.0/19,mbtmp4.0/7,Error ellipse: s-maj=66.8km s-min=16.5km az=66.0*
*NEIC **04** 10:25:24.4±3.8,2.66N×126.80E,h76km±36km,mb4.2/4, Error ellipse: s-maj=48.3km s-min=8.1km az=62.0*
ISC 04 10:25:23.6±6.6,**2.7N**±0.2×**126.8E**±0.4,**h86**km±63km,**n16**, σ0§**66**/**17**,**mb4.0**/**8**,**1C**,**Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**11.02**	**288**	*e*P	**P**	**10 28 00.0**	**+0.1**
KAKA	**Kakadu**	**16.30**	**160**	*e*P	**P**	**10 29 14.1**	**+5.4**
	5.7nm,0.6s						
FITZ	**Fitzroy Crossi**	**20.68**	**183**	*e*P	**P**	**10 29 58.2**	**-0.6**
	14nm,1.5s						
FITZ	**Fitzroy Crossi**	**20.68**	**183**	P	**P**	**10 29 58.0**	**-0.8**
	5.1nm,0.5s,baz=342,slow=6.1,SNR=13						
WRAB	**Tennant Creek**	**23.68**	**162**	*e*P	**P**	**10 30 29.3**	**+1.0**
	8.5nm,0.7s,mb4.2						
WRA	**Warramunga Arr**	**23.68**	**162**	P	**P**	**10 30 28.1**	**-0.2**
	2.9nm,0.6s,mb3.8,baz=343,slow=10,SNR=22						
WB2	**Warramunga Arr**	**23.69**	**162**	⇑*i*P	**P**	**10 30 28.7**	**+0.3**
WB2				*e*S	**S**	**10 34 42.1**	**+8.3**
CTA	**Charters Tower**	**29.64**	**141**	P	**P**	**10 31 22.3**	**-1.1**
	4.8nm,1.1s,mb4.1,baz=283,slow=14,SNR=2.6						
CTA	**Charters Tower**	**29.64**	**141**	P	**P**	**10 31 22.3**	**-1.1**
STKA	**Stephens Creek**	**37.15**	**159**	*e*P	**P**	**10 32 28.7**	**+0.8**
	2.6nm,0.8s,mb4.2						
STKA	**Stephens Creek**	**37.15**	**159**	P	**P**	**10 32 28.3**	**+0.4**
	3.5nm,0.7s,mb4.4,baz=150,slow=22,SNR=8.4						
STKA	**Stephens Creek**	**37.15**	**159**	*e*P	**P**	**10 32 28.4**	**+0.5**
SONM	**Songino Array**	**48.30**	**342**	P	**P**	**10 33 58.6**	**+0.6**
	0.3nm,0.3s,mb3.5,baz=161,slow=7.8,SNR=3.8						
MKAR	**Makanchi Array**	**58.42**	**326**	P	**P**	**10 35 11.8**	**-0.9**
	0.8nm,0.5s,mb4.0,baz=123,slow=8.3,SNR=13						
KURK	**Kurchatov**	**62.63**	**328**	*e*P	**P**	**10 35 40.9**	**-0.3**
	2.7nm,0.8s,mb4.2						
BVAR	**Borovoye Array**	**68.21**	**327**	P	**P**	**10 36 17.5**	**+0.6**
	0.8nm,0.5s,mb3.8,baz=172,slow=10,SNR=5.4						

*CRAAG **04** 10:27:09.8,26.57S×114.53W,Mb5.9*
*IDC **04** 10:27:10.9±0.4,26.57S×114.52W,mb5.0/21,mb1 5.1/22, mb1mx5.1/23,mbtmp4.9/22,ML3.9/1,MS5.4/33,Ms1 5.4/33, ms1mx5.3/36,Error ellipse: s-maj=15.3km s-min=13.6km az=5.0*
*MOS **04** 10:27:11.7±1.1,26.48S×114.48W,h10km,mb6.0/41, MS5.4/49,Error ellipse: s-maj=11.7km s-min=6.2km az=77.7*
*BJI **04** 10:27:12.4,26.60S×114.50W,h10km,mB6.0,Ms5.7, Msz5.5*
*HRVD **04** 10:27:12.4±0.1,26.79S×114.47W,h12km,MW5.8/66, Centroid moment Tensor Solution. LP body waves: s56,c121;Mantle waves: s66,c196; Half duration: 1§9 Moment tensor: Scale 10^{17}Nm; M_{rr}-4.13±.07; $M_{\theta\theta}$2.65±.07; $M_{\phi\phi}$1.48±.07; $M_{r\theta}$0.30±.19; $M_{\theta\phi}$-4.25±.06; $M_{\phi r}$1.30±.21; Best double couple: $M_0$5.558×10^{17} NP1: ϕ_s287°,δ47°,λ-126°. NP2:ϕ_s154°,δ53°,λ-58°. Principal axes: T 6.393, Plg3°, Azm222°; N -1.67, Plg25°, Azm313°; P -4.723, Plg65°, Azm124°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **04** 10:27:12.4±0.1,26.63S×114.50W,h10km,mb5.9/89, MS5.4/122,MW5.8 Error ellipse: s-maj=6.2km s-min=4.5km az=82.0,Moment Tensor Solution. s8 Moment tensor: Scale 10^{17}Nm; M_{rr}-5.09; $M_{\theta\theta}$-0.12; $M_{\phi\phi}$5.21; $M_{r\theta}$1.01; $M_{\theta\phi}$-1.35; $M_{\phi r}$-0.97; Best double couple: $M_0$5.5×10^{17} NP1:ϕ_s176°,δ39°,λ-76°. NP2:ϕ_s338°, δ52°,λ-101°. Principal axes: T 5.67, Plg6°, Azm76°; N -.33, Plg9°, Azm345°; P -5.33, Plg79°, Azm202°;*
ISC 04 10:27:11.3±3.5,**26.59S**±0.04×**114.54W**±0.06, **h14**km±21km,**h19**km±.3km:**pP-P**,**n546**,σ0§**87**/**263**, **mb5.6**/**103**,**MS5.4**/**156**,**76C-41D**,**Easter Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**4.68**	**98**	Pn	**Pn**	**10 28 22.1**	**-1.1**
	5.3nm,0.3s,baz=277,slow=6.6,SNR=4.5						
RPN				Sn	**Sn**	**10 29 22.4**	**+4.4**
	5.1nm,0.3s,baz=293,slow=12,SNR=1.9						
RPN				LR	LR	10 29 45.7	
	comp=Z,31μm,20.4s,baz=275,slow=33						
RPN	**Rapa Nui**	**4.68**	**98**	*e*Pn	**Pn**	**10 28 22.6**	**-0.6**
RKT	**Rikitea**	**18.86**	**276**	*e*LQ		10 35 07.1	
RKT				*e*LR	LR	10 35 52.7	
	15μm,29.5s						
TAOE	**Nuku Hiva Isla**	**30.00**	**301**	*e*S	**S**	**10 38 14.5**	**-3.7**
TAOE				*e*LR	LR	10 41 08.1	
	17μm,22.4s						
TBI	**Tubuai**	**31.77**	**268**	*e*S	**S**	**10 38 44.5**	**-1.3**
TBI				*e*LQ		10 40 25.0	
TBI				*e*LR	LR	10 41 44.9	
	13μm,28.8s						
VAH	**Vaihoa**	**32.82**	**283**	*e*P	**P**	**10 33 45.2**	**-1.5**
	125nm,1.4s,mb5.6						
PMOR	**Pomariorio Ree**	**33.15**	**284**	*e*P	**P**	**10 33 48.1**	**-1.5**
	36nm,0.9s,mb5.3						
PPT	**Papeete**	**33.60**	**278**	*e*S	**S**	**10 39 08.7**	**-5.7**
PPT				*e*LQ		10 41 20.0	
PPT				*e*LR	LR	10 42 39.3	
	16μm,26.5s						
PPT	**Papeete**	**33.60**	**278**	P	**P**	**10 33 50.9**	**-2.6**
	47nm,1.0s,mb5.4,baz=109,slow=5.6,SNR=2.0						
PPT				LR	LR	10 42 54.0	
	comp=Z,2μm,20.9s,MS4.9,baz=112,slow=28						
PAYG	**Puerto Ayora**	**34.76**	**46**	PFAKE		10 34 20.0	+16
PAYG				LR	LR		
	comp=Z,13μm,19.0s,MS5.7						
NNA	**Nana**	**38.26**	**75**	*e*P	**P**	**10 34 31.2**	**-1.9**
	comp=Z,93nm,2.0s,mb5.2						
NNA				*e*		10 34 45.0	
NNA				LR	LR		
	comp=Z,2μm,20.0s,MS4.9						
TLL	**Tololo Astrono**	**38.47**	**106**	⇓*i*P	**P**	**10 34 35.7**	**+1.0**
PLCA	**Paso Flores**	**38.83**	**123**	P	**P**	**10 34 38.3**	**+0.7**
	comp=Z,142nm,1.2s,mb5.6,baz=279,slow=9.4,SNR=60						
PLCA				LR	LR	10 47 08.4	
	comp=Z,2μm,19.6s,MS4.9,baz=276,slow=31						
PLCA	**Paso Flores**	**38.83**	**123**	*e*P	**P**	**10 34 38.6**	**+1.0**
	comp=Z,352nm,1.4s,mb5.9						
PLCA				*e*		10 34 45.2	
PLCA				LR	LR		
	comp=Z,2μm,19.0s,MS5.0						
PLCA	**Paso Flores**	**38.83**	**123**	*e*P	**P**	**10 34 38.7**	**+1.1**
PLCA				*e*		10 34 45.2	
PLCA				pmax	pmax		
	comp=Z,352nm,1.4s						
PLCA				MLR	MLR		
	comp=Z,2μm,19.0s						
ZON	**Zonda**	**40.16**	**108**	*e*P	**P**	**10 34 59.5**	**+11**
CFAA	**Coronel Fontan**	**40.53**	**108**	P	**P**	**10 34 52.5**	**+0.7**
	comp=Z,3.8nm,1.1s,baz=264,slow=7.1,SNR=30						
CFAA				LR	LR	10 48 03.7	
	comp=Z,327nm,18.1s,baz=265,slow=31						
ARE	**Arequipa**	**41.12**	**85**	*e*P	**P**	**10 34 56.0**	**-0.8**
LVC	**Limon Verde**	**41.51**	**95**	LR	LR	10 47 44.4	
	comp=Z,9μm,21.8s,MS5.6,baz=256,slow=30						
LVC	**Limon Verde**	**41.51**	**95**	*e*P	**P**	**10 35 00.7**	**+0.8**
	comp=Z,207nm,1.5s,mb5.5						
LVC				LR	LR		
	comp=Z,7μm,20.0s,MS5.5						
RAR	**Rarotonga**	**41.54**	**267**	PFAKE		10 35 10.0	+10
RAR				LR	LR		
	comp=Z,6μm,21.0s,MS5.4						
USHA	**Ushuaia**	**43.75**	**143**	P	**P**	**10 35 18.1**	**+0.3**
	comp=Z,57nm,1.1s,mb5.2,baz=274,slow=8.8,SNR=8.9						
USHA				LR	LR	10 49 07.3	
	comp=Z,4μm,20.2s,MS5.4,baz=265,slow=30						
LPAZ	**La Paz**	**44.19**	**86**	P	**P**	**10 35 22.5**	**+0.6**
	comp=Z,4.3nm,0.8s,baz=254,slow=6.6,SNR=30						
LPAZ				LR	LR	10 49 36.8	
	comp=Z,5μm,20.5s,MS5.4,baz=247,slow=30						
LPAZ	**La Paz**	**44.19**	**86**	⇓*e*P	**P**	**10 35 23.1**	**+1.2**
	comp=Z,69nm,1.7s,mb5.1						
LPAZ				LR	LR		
	comp=Z,5μm,21.0s,MS5.4						
LPAZ	**La Paz**	**44.19**	**86**	*e*P	**P**	**10 35 22.7**	**+0.8**
LPAZ				pmax	pmax		
	comp=Z,69nm,1.6s						
CAIG	**El Cayaco**	**45.54**	**19**	⇑*i*P	**P**	**10 35 33.6**	**+0.9**
JTS	**JuntasAbangare**	**46.58**	**42**	LR	LR	10 50 08.7	
	comp=Z,11μm,21.6s,MS5.8,baz=152,slow=30						
JTS	**JuntasAbangare**	**46.58**	**42**	*e*P	**P**	**10 35 42.4**	**+1.5**
	comp=Z,127nm,1.3s,mb5.7						
JTS				LR	LR		
	comp=Z,2μm,19.0s,MS5.1						
JTS	**JuntasAbangare**	**46.58**	**42**	*d*P	**P**	**10 35 42.0**	**+1.0**
PLIG	**Platanillo**	**47.04**	**20**	⇑*i*P	**P**	**10 35 45.7**	**+1.2**
CMIG	**Matias Romero**	**47.43**	**26**	⇑*i*P	**P**	**10 35 48.0**	**+0.4**
MOIG	**Morelia**	**47.78**	**17**	⇑*i*P	**P**	**10 35 52.0**	**+1.6**
CCIG	**Comitan**	**47.85**	**30**	⇑*i*P	**P**	**10 35 52.0**	**+1.0**
UNM	**Universidad Na**	**48.02**	**20**	*e*P	**P**	**10 35 55.0**	**+2.8**
SFJM	**Santa Fe**	**48.11**	**15**	*e*P	**P**	**10 35 54.0**	**+1.1**
LPA	**La Plata**	**48.80**	**114**	*ce*P	**P**	**10 35 57.0**	**-1.0**
LPA				*e*PCP	PcP	10 37 21.0	-2.2
LPA				*e*SS	SS	10 46 32.0	+6.3
PMSA	**Palmer Station**	**49.73**	**154**	*e*P	**P**	**10 36 05.2**	**+0.5**
	comp=Z,107nm,1.4s,mb5.7						
ROSC	**El Rosal**	**49.91**	**57**	P	**P**	**10 36 08.4**	**+1.5**
	comp=Z,4.7nm,0.3s,mb4.9,baz=98,slow=12,SNR=28						
ROSC				LR	LR	10 53 31.6	
	comp=Z,6μm,18.0s,MS5.7,baz=195,slow=32						
ZAIG	**Zacatecas**	**50.42**	**14**	⇑*i*P	**P**	**10 36 07.2**	**-3.4**
SIV	**San Ignacio**	**50.61**	**89**	LR	LR	10 53 38.8	
	comp=Z,5μm,21.5s,MS5.5,baz=88,slow=31						
CPUP	**Villa Florida**	**50.83**	**103**	P	**P**	**10 36 12.5**	**-1.2**
	comp=Z,32nm,1.2s,mb5.1,baz=280,slow=11,SNR=23						
CPUP				LR	LR	10 54 04.3	
	comp=Z,2μm,18.1s,MS5.2,baz=270,slow=32						
CPUP	**Villa Florida**	**50.83**	**103**	*e*P	**P**	**10 36 13.2**	**-0.5**
	comp=Z,352nm,2.2s,mb5.9						
CPUP				LR	LR		
	comp=Z,2μm,21.0s,MS5.1						
CPUP	**Villa Florida**	**50.83**	**103**	*e*P	**P**	**10 36 13.2**	**-0.5**
CPUP				pmax	pmax		
	comp=Z,352nm,2.2s						
CPUP				MLR	MLR		
	comp=Z,2μm,21.0s						
SAML	**Samuel**	**51.59**	**80**	⇓*e*P	**P**	**10 36 18.3**	**-1.4**
	comp=Z,259nm,2.2s,mb5.8						
SAML				LR	LR		
	comp=Z,6μm,20.0s,MS5.6						
AFI	**Afiamalu**	**54.77**	**271**	P	**P**	**10 36 44.3**	**+1.1**
	comp=Z,28nm,0.9s,mb5.3,baz=52,slow=19,SNR=2.9						
AFI				LR	LR	10 54 55.0	
	comp=Z,2μm,18.5s,MS5.3,baz=117,slow=30						
AFI	**Afiamalu**	**54.77**	**271**	P	**P**	**10 36 44.3**	**+1.1**
AFI				LR	LR	10 54 55.0	
SDV	**Santo Domingo**	**55.31**	**56**	LR	LR	10 57 32.1	
	comp=Z,6μm,18.7s,MS5.7,baz=240,slow=33						
SDV	**Santo Domingo**	**55.31**	**56**	*e*P	**P**	**10 36 46.5**	**-0.6**
	comp=Z,62nm,1.3s,mb5.5						
SDV				LR	LR		
	comp=Z,5μm,19.0s,MS5.6						
RAO	**Raoul Island**	**55.46**	**252**	LR	LR	10 54 06.5	
	comp=Z,4μm,21.5s,MS5.5

PFO Pinyon Flat Ob 59.90 358 *eP* **P 10 37 19.3 +0.1**
comp=Z,164nm,2.0s,mb5.7
PFO LR LR
comp=Z,105nm,22.0s
PFO Pinyon Flat Ob 59.90 358 *eP* **P 10 37 19.3 0.0**
PFO pmax pmax
comp=Z,164nm,2.0s,mb5.7
PFO MLR MLR
comp=Z,105nm,22.0s
MWC Mount Wilson 60.58 357 *eP* **P 10 37 23.6 -0.3**
NATX Nacogdoches 61.05 19 *eP* **P 10 37 27.0 -0.1**
comp=Z,664nm,1.6s,mb6.5
NATX LR LR
comp=Z,3μm,20.0s,MS5.4
RPZ Rata Peaks 61.24 233 LR LR 10 59 30.3
comp=Z,5μm,18.2s,MS5.7,baz=95,slow=32
LDFC Landfair 61.34 359⇑ *eP* **P 10 37 29.9 +0.9**
ANMO Albuquerque 61.68 8 LR LR 10 59 23.5
comp=Z,5μm,19.9s,MS5.7,baz=117,slow=31
ANMO Albuquerque 61.68 8⇑ *eP* **P 10 37 31.0 -0.4**
comp=Z,59nm,1.5s,mb5.5
ANMO LR LR
comp=Z,5μm,21.0s,MS5.7
ANMO Albuquerque 61.68 8 P **P 10 37 31.3 -0.1**
ANMO pmax pmax
comp=Z,59nm,1.5s
SBA Scott Base 61.82 194 *eP* **P 10 37 31.3 -0.5**
comp=Z,321nm,1.8s,mb6.2
SBA Scott Base 61.82 194 *eP* **P 10 37 31.3 -0.5**
SBA pmax pmax
comp=Z,321nm,1.8s,mb6.2
NEN Nelson 61.91 360 *eP* **P 10 37 32.8 -0.1**
ISA Isabella 62.03 356⇑ *eP* **P 10 37 33.6 -0.1**
comp=Z,116nm,1.7s,mb5.7
ISA LR LR
comp=Z,784nm,19.0s,MS4.9
ISA Isabella 62.03 356⇑ *eP* **P 10 37 33.6 -0.1**
ISA pmax pmax
comp=Z,116nm,1.7s,mb5.7
ISA MLR MLR
comp=Z,784nm,19.0s,MS4.9
PTRM Twissleman Ran 62.14 355 *eP* **P 10 37 33.1 -1.4**
BDFB Brasilia 62.42 94 P **P 10 37 35.3 -1.3**
comp=Z,12nm,0.9s,mb5.0,baz=271,slow=6.6,SNR=13
BDFB LR LR 11 01 12.3
comp=Z,4μm,21.7s,MS5.5,baz=258,slow=33
BAO Brasilia Array 62.44 94 P **P 10 37 37.5 +0.8**
DAC Darwin (Calif) 62.60 357⇑ *eP* **P 10 37 37.3 -0.2**
comp=Z,84nm,1.6s,mb5.6
DAC LR LR
comp=Z,2μm,20.0s,MS5.2
DAC Darwin (Calif) 62.60 357⇑ *eP* **P 10 37 37.3 -0.2**
DAC pmax pmax
comp=Z,84nm,1.6s,mb5.6
DAC MLR MLR
comp=Z,2μm,20.0s,MS5.2
VNDA Vanda 62.85 194 P **P 10 37 37.5 -1.1**
comp=Z,14nm,1.2s,mb5.0,baz=89,slow=5.7,SNR=15
VNDA LR LR 10 58 50.7
comp=Z,5μm,18.5s,MS5.7,baz=90,slow=30
VNDA Vanda 62.85 194 *eP* **P 10 37 38.5 -0.2**
comp=Z,184nm,2.1s,mb5.8
VNDA LR LR
comp=Z,5μm,19.0s,MS5.7
VNDA Vanda 62.85 194 *eP* **P 10 37 38.5 -0.1**
VNDA pmax pmax
comp=Z,184nm,2.1s
VNDA MLR MLR
comp=Z,5μm,19.0s
LRV Little Rabbit 62.98 354 *eP* **P 10 37 39.6 -0.4**
DWPF Disney 63.01 33 *eP* **P 10 37 39.7 -0.6**
comp=Z,457nm,1.8s,mb6.3
DWPF LR LR
comp=Z,280nm,20.0s,MS4.4
TPNV Topopah Spring 63.22 358 PFAKE 10 37 50.0 +8.4
TPNV LR LR
comp=Z,7.0nm,22.0s
SAO San Andreas Ge 63.35 354 *eP* **P 10 37 42.2 -0.3**
comp=Z,113nm,1.8s,mb5.7
SAO LR LR
comp=Z,3μm,20.0s,MS5.4
SAO San Andreas Ge 63.35 354 *eP* **P 10 37 42.2 -0.2**
SAO pmax pmax
comp=Z,113nm,1.8s,mb5.7
SAO MLR MLR
comp=Z,3μm,20.0s,MS5.4
TRN Trinidad (W) 63.49 62 *eP* **P 10 37 42.4 -1.3**
QSPA South Pole Qui 63.57 180 *eP* **P 10 37 44.0 +0.8**
comp=Z,215nm,1.3s,mb6.0
MTUM Tungsten Hills 63.72 356 *eP* **P 10 37 45.4 +0.5**
OMM Old Mammoth Mi 64.01 356 *eP* **P 10 37 47.1 +0.4**
TPH Tonopah 64.38 358⇑ *eP* **P 10 37 49.6 +0.5**
comp=Z,97nm,1.4s,mb5.6
TPH LR LR
comp=Z,1μm,21.0s,MS5.1
TPH Tonopah 64.38 358⇑ *eP* **P 10 37 49.7 +0.5**
TPH pmax pmax
comp=Z,97nm,1.4s,mb5.6
TPH MLR MLR
comp=Z,1μm,21.0s,MS5.1
CMB Columbia Colle 64.52 355⇑ *eP* **P 10 37 49.9 -0.2**
comp=Z,120nm,1.5s,mb5.7
CMB LR LR
comp=Z,3μm,19.0s,MS5.5
CMB Columbia Colle 64.52 355⇑ *eP* **P 10 37 49.9 -0.2**
CMB pmax pmax
comp=Z,120nm,1.5s,mb5.7
CMB MLR MLR
comp=Z,3μm,19.0s,MS5.5
UALR University of 64.55 20⇑ *eP* **P 10 37 49.6 -0.8**
comp=Z,308nm,1.8s,mb6.0
SJG San Juan 64.66 52 LR LR 10 58 07.3
comp=Z,1μm,20.4s,MS5.0,baz=222,slow=29
SJG San Juan 64.66 52 *eP* **P 10 37 49.8 -1.5**
comp=Z,42nm,1.0s,mb5.4
SJG LR LR
comp=Z,2μm,21.0s,MS5.4
SJG San Juan 64.66 52 *eP* **P 10 37 49.8 -1.5**
SJG pmax pmax
comp=Z,42nm,1.0s
SJG MLR MLR
comp=Z,2μm,21.0s
LRAL Lakeview Retre 64.83 25⇑ *eP* **P 10 37 51.4 -0.8**
comp=Z,201nm,1.5s,mb5.9
LRAL LR LR
comp=Z,2μm,19.0s,MS5.4
OXF Oxford 65.27 23⇑ *eP* **P 10 37 53.4 -1.6**
comp=Z,222nm,1.4s,mb6.0
OXF LR LR
comp=Z,2μm,21.0s,MS5.2
OXF Oxford 65.27 23⇑ *eP* **P 10 37 53.4 -1.6**
OXF pmax pmax
comp=Z,222nm,1.4s,mb6.0
OXF MLR MLR
comp=Z,2μm,21.0s,MS5.2
TMUT Trail Mountain 65.62 3⇑ *eP* **P 10 37 57.0 -0.1**
HOPS Hopland 65.73 353 *eP* **P 10 37 58.8 +0.9**
comp=Z,424nm,2.1s,mb6.1
HOPS LR LR
comp=Z,3μm,20.0s,MS5.5
SMCO Snowmass 65.81 6⇑ *eP* **P 10 37 58.6 +0.2**
PLAL Pickwick Lake 66.16 24⇑ *eP* **P 10 37 59.1 -1.6**
comp=Z,170nm,1.6s,mb5.8
PLAL LR LR
comp=Z,2μm,19.0s,MS5.3
BEKR Beckwourth 66.34 355⇑ *eP* **P 10 38 01.9 +0.2**
comp=Z,124nm,1.7s,mb5.7
KCPM Cahto Peak 66.47 352⇑ *eP* **P 10 38 03.8 +1.1**
GOGA Godfrey 66.58 28 PFAKE 10 38 20.0 +17
GOGA LR LR
comp=Z,3μm,21.0s,MS5.5
KIPM Iron Peak 66.58 352 *eP* **P 10 38 04.8 +1.4**
BMN Battle Mountai 66.73 358⇑ *eP* **P 10 38 04.3 +0.1**
comp=Z,251nm,1.8s,mb5.9
BMN LR LR
comp=Z,2μm,20.0s,MS5.3
BMN Battle Mountai 66.73 358⇑ *eP* **P 10 38 04.3 +0.1**
BMN pmax pmax
comp=Z,251nm,1.8s,mb5.9
BMN MLR MLR
comp=Z,2μm,20.0s,MS5.3
GLAT Glass 66.91 22⇓ *eP* **P 10 38 05.3 -0.1**
NOQ North Oquirrh 66.94 2⇑ *eP* **P 10 38 05.8 +0.2**
ELK Elko 67.00 359⇑ *eP* **P 10 38 06.0 0.0**
comp=Z,205nm,2.0s,mb5.8
ELK LR LR
comp=Z,2μm,19.0s,MS5.4

ELK Elko 67.00 359⇑ *eP* **P 10 38 06.0 +0.1**
ELK pmax pmax
comp=Z,205nm,2.0s
ELK MLR MLR
comp=Z,2μm,19.0s
UTMT University of 67.11 22⇑ *eP* **P 10 38 07.1 +0.3**
comp=Z,890nm,1.6s,mb6.5
WDC Whiskeytown Da 67.24 353⇑ *eP* **P 10 38 06.9 -0.6**
comp=Z,404nm,2.0s,mb6.1
WDC LR LR
comp=Z,2μm,19.0s,MS5.4
WDC Whiskeytown Da 67.24 353⇑ *eP* **P 10 38 06.9 -0.6**
WDC pmax pmax
comp=Z,404nm,2.0s,mb6.1
WDC MLR MLR
comp=Z,2μm,19.0s,MS5.4
WVT Waverly 67.28 23⇑ *eP* **P 10 38 06.3 -1.5**
comp=Z,186nm,1.6s,mb5.9
WVT LR LR
comp=Z,2μm,22.0s,MS5.2
WVT Waverly 67.28 23⇑ *eP* **P 10 38 06.4 -1.4**
WVT pmax pmax
comp=Z,186nm,1.6s,mb5.9
WVT MLR MLR
comp=Z,2μm,22.0s,MS5.2
LBCM Butte Creek Ri 67.38 354 P **P 10 38 08.7 +0.3**
KSU1 Kansas State U 67.47 15⇑ *eP* **P 10 38 08.5 -0.5**
HBF Harts Bluff 67.53 31 *eP* **P 10 38 10.5 +1.0**
KHMM Horse Mountain 67.66 352 *eP* **P 10 38 10.8 +0.7**
LTIM Timbered Crate 67.73 354 P **P 10 38 10.6 +0.1**
MYNC Murphy 67.75 27⇓ *eP* **P 10 38 10.5 -0.2**
comp=Z,317nm,1.7s,mb6.1
MYNC LR LR
comp=Z,4μm,20.0s,MS5.6
MYNC Murphy 67.75 27⇓ *eP* **P 10 38 10.5 -0.3**
MYNC pmax pmax
comp=Z,317nm,1.7s,mb6.1
MYNC MLR MLR
comp=Z,4μm,20.0s,MS5.6
COW Cow Castle Cre 67.76 30 *eP* **P 10 38 12.0 +1.1**
NHSC New Hope 67.77 31 *eP* **P 10 38 10.9 0.0**
comp=Z,388nm,1.5s,mb6.2
NHSC LR LR
comp=Z,2μm,19.0s,MS5.3
HWUT Hardware Ranch 67.91 2⇑ *eP* **P 10 38 10.3 -1.4**
comp=Z,32nm,1.3s,mb5.2
HWUT LR LR
comp=Z,2μm,19.0s,MS5.5
CPCT Cooper Cave 67.92 26⇓ *eP* **P 10 38 11.1 -0.7**
CCM Cathedral Cave 67.92 20 *eP* **P 10 38 10.9 -0.9**
comp=Z,190nm,1.5s,mb5.9
CCM LR LR
comp=Z,1μm,20.0s,MS5.1
CCM Cathedral Cave 67.92 20 *eP* **P 10 38 10.9 -0.9**
CCM pmax pmax
comp=Z,190nm,1.5s,mb5.9
CCM MLR MLR
comp=Z,1μm,20.0s,MS5.1
PHWY Pilot Hill 68.07 7 *eP* **P 10 38 12.3 -0.4**
FVM French Village 68.10 20⇑ *eP* **P 10 38 11.9 -1.0**
comp=Z,166nm,1.6s,mb5.8
FVM French Village 68.10 20⇑ *eP* **P 10 38 11.9 -1.0**
FVM pmax pmax
comp=Z,166nm,1.6s,mb5.8
LASM Arnica Sink 68.16 354 P **P 10 38 13.8 +0.6**
JSC Jenkinsville 68.27 29 *eP* **P 10 38 13.2 -0.8**
RWWY Rawlins 68.27 6⇑ *eP* **P 10 38 12.7 -1.2**
comp=Z,81nm,1.4s,mb5.6
KRMB Red Mountain 68.33 352 *eP* **P 10 38 16.0 +1.7**
MOD Modoc 68.36 355⇑ *eP* **P 10 38 14.5 0.0**
comp=Z,134nm,1.5s,mb5.8
MOD LR LR
comp=Z,3μm,19.0s,MS5.5
YBH Yreka Blue Hor 68.40 353 LR LR 11 01 35.5
comp=Z,3μm,19.9s,MS5.5,baz=179,slow=30
YBH Yreka Blue Hor 68.40 353 *eP* **P 10 38 14.4 -0.3**
comp=Z,52nm,1.6s,mb5.3
YBH LR LR
comp=Z,3μm,20.0s,MS5.5
YBH Yreka Blue Hor 68.40 353 *eP* **P 10 38 14.4 -0.3**
YBH pmax pmax
comp=Z,52nm,1.6s
YBH MLR MLR
comp=Z,3μm,20.0s
SLM Saint Louis 68.76 20 *eP* **P 10 38 17.2 +0.2**
comp=Z,96nm,1.1s,mb5.6
SLM Saint Louis 68.76 20 *eP* **P 10 38 17.2 +0.2**
SLM pmax pmax
comp=Z,96nm,1.1s,mb5.6
WVOR Wild Horse Val 68.78 357⇑ *eP* **P 10 38 17.4 +0.3**
comp=Z,177nm,1.5s,mb5.8
WVOR LR LR
comp=Z,4μm,19.0s,MS5.7
WVOR Wild Horse Val 68.78 357⇑ *eP* **P 10 38 17.4 +0.3**
WVOR pmax pmax
comp=Z,177nm,1.5s,mb5.8
WVOR MLR MLR
comp=Z,4μm,19.0s,MS5.7
AHID Auburn Hatcher 69.08 3 *eP* **P 10 38 17.0 -1.9**
comp=Z,104nm,1.5s,mb5.5
AHID LR LR
comp=Z,2μm,19.0s,MS5.4
BW06 Boulder Array 69.17 4⇑ *eP* **P 10 38 18.3 -1.1**
comp=Z,104nm,1.5s,mb5.5
BW06 LR LR
comp=Z,2μm,20.0s,MS5.4
PDAR Pinedale Array 69.17 4 P **P 10 38 17.7 -1.7**
comp=Z,3.0nm,0.8s,baz=90,slow=1.5,SNR=4.3
PDAR LR LR 11 03 27.4
comp=Z,2μm,20.9s,MS5.3,baz=191,slow=32
TZTN Tazewell 69.25 26⇑ *eP* **P 10 38 19.1 -1.0**
HUMO Hull Mountain 69.29 353 *eP* **P 10 38 20.3 +0.1**
comp=Z,55nm,1.2s,mb5.4
HUMO LR LR
comp=Z,3μm,21.0s,MS5.4
RRI2 Red Ridge 69.66 3 *eP* **P 10 38 21.8 -0.7**
comp=Z,470nm,1.8s,mb6.1
REDW Red Top Meadow 69.69 3 *eP* **P 10 38 21.9 -0.7**
comp=Z,176nm,1.6s,mb5.7
VNA3 Neumayer Olymp 69.70 161 *e* **P 10 38 27.4 +5.2**
VNA3 Neumayer Olymp 69.70 161 *e* **P 10 38 29.5 +7.3**
VNA3 Neumayer Olymp 69.70 161 *e* PcP 10 38 43.3 -1.9
VNA3 Neumayer Olymp 69.70 161⇓ *iP* **P 10 38 21.6 -0.6**
VNA3 *e* pP 10 38 27.4 +0.9
VNA3 *e* 10 38 29.5
VNA3 *e* 10 38 43.3
VNA3 *e* 11 06 29.7
WCI Wyandotte Cave 69.70 23⇓ *eP* **P 10 38 21.7 -1.1**
comp=Z,196nm,1.9s,mb5.7
WCI LR LR
comp=Z,487nm,19.0s,MS4.8
WCI Wyandotte Cave 69.70 23⇓ *eP* **P 10 38 21.7 -1.1**
WCI pmax pmax
comp=Z,196nm,1.9s,mb5.7
WCI MLR MLR
comp=Z,487nm,19.0s,MS4.8
KEBM Edson Butte 69.71 352 *eP* **P 10 38 23.6 +0.9**
SNOW Snow King Moun 69.80 3 *eP* **P 10 38 22.9 -0.4**
comp=Z,131nm,1.5s,mb5.6
TPAW Teton Pass 69.81 3⇑ *eP* **P 10 38 23.1 -0.3**
comp=Z,78nm,1.1s,mb5.5
LOHW Long Hollow 69.95 3⇑ *eP* **P 10 38 23.5 -0.7**
comp=Z,171nm,1.6s,mb5.7
IMW Indian Meadow 70.22 3⇑ *eP* **P 10 38 25.4 -0.4**
comp=Z,178nm,1.5s,mb5.8
VNA1 Neumayer--Stat 70.36 160 *e* **P 10 38 31.8 +5.6**
VNA1 Neumayer--Stat 70.36 160 *e* PcP 10 38 46.7 -1.3
VNA1 Neumayer--Stat 70.36 160⇓ *iP* **P 10 38 26.1 -0.1**
VNA1 *e* pP 10 38 31.8 +1.3
VNA1 *e* 10 38 46.7
VNA1 *e* 11 06 25.0
BLO Bloomington 70.47 23⇓ *eP* **P 10 38 26.9 -0.5**
comp=Z,342nm,1.9s,mb6.0
BLO Bloomington 70.47 23⇓ *eP* **P 10 38 26.9 -0.5**
BLO pmax pmax
comp=Z,342nm,1.9s,mb6.0
VNA2 Neumayer--Watz 70.50 161 *e* **P 10 38 32.7 +5.6**
VNA2 Neumayer--Watz 70.50 161 *e* **P 10 38 35.0 +7.9**
VNA2 Neumayer--Watz 70.50 161 *e* **P 10 38 45.8 +19**
VNA2 Neumayer--Watz 70.50 161⇓ *iP* **P 10 38 26.5 -0.6**
VNA2 *e* pP 10 38 32.7 +1.3
VNA2 *e* 10 38 35.0
VNA2 *e* 10 38 45.8
VNA2 *e* 11 06 27.2
YFT Old Faithful 70.78 3⇓ *eP* **P 10 38 30.3 +1.1**
LKWY Lake 70.91 3 *eP* **P 10 38 30.7 +0.7**
comp=Z,85nm,1.5s,mb5.5
LKWY LR LR
comp=Z,3μm,19.0s,MS5.6
LKWY Lake 70.91 3 *eP* **P 10 38 30.7 +0.7**
LKWY pmax pmax
comp=Z,85nm,1.5s,mb5.5
LKWY MLR MLR
comp=Z,3μm,19.0s,MS5.6
VIPM Ingram Point 70.97 355 P **P 10 38 31.2 +0.8**
ELN Prospectdale 70.99 28 *eP* **P 10 38 30.8 +0.1**
RSSD Black Hills 71.02 8 *eP* **P 10 38 30.1 -0.7**
comp=Z,92nm,1.3s,mb5.5
RSSD LR LR
comp=Z,2μm,19.0s,MS5.3
RSSD Black Hills 71.02 8 *eP* **P 10 38 30.1 -0.6**
RSSD pmax pmax
comp=Z,92nm,1.3s,mb5.5
RSSD MLR MLR
comp=Z,2μm,19.0s,MS5.3
YNR Norris Junctio 71.05 3 *eP* **P 10 38 31.8 +0.9**
DZM Mont Dzumac 71.06 254 P **P 10 38 31.8 +0.4**
comp=Z,11nm,0.8s,mb4.8,baz=73,slow=14,SNR=5.1
DZM LR LR 11 02 07.6
comp=Z,3μm,21.4s,MS5.5,baz=105,slow=30
MCMT McKenzie Canyo 71.09 1 *eP* **P 10 38 31.3 +0.2**
BLA Blacksburg 71.11 28 PFAKE 10 38 40.0 +8.6
BLA LR LR
comp=Z,2μm,22.0s,MS5.4
QLMT Earthquake Lak 71.13 2 *eP* **P 10 38 31.6 +0.2**
BMO Blue Mountains 71.14 358⇑ *eP* **P 10 38 30.6 -0.8**
comp=Z,192nm,1.8s,mb5.7
BMO LR LR
comp=Z,2μm,20.0s,MS5.3
FWV Forest Hill 71.26 28 *eP* **P 10 38 31.9 -0.3**
SNAA Sanae 71.48 162 *e* **P 10 38 38.3 +5.3**
SNAA Sanae 71.48 162 *e* **P 10 38 41.1 +8.1**
SNAA Sanae 71.48 162 *e* **P 10 38 53.1 +20**
SNAA Sanae 71.48 162 LR LR 11 07 08.4
comp=Z,296nm,19.2s,MS4.6,baz=46,slow=34
SNAA Sanae 71.48 162⇓ *iP* **P 10 38 32.4 -0.6**
SNAA *e* pP 10 38 38.3 +1.0
SNAA *e* 10 38 41.1
SNAA *e* 10 38 53.1
SNAA *e* 11 06 27.7
SNAA Sanae 71.48 162⇓ *iP* **P 10 38 32.4 -0.6**
SNAA *e* pP 10 38 38.3 +1.0
SNAA *e* 10 38 53.1
DRV Dumont d'Urvil 71.74 204 S S 10 47 54.0 +1.1
BOZ Bozeman (W) 71.94 2 *eP* **P 10 38 35.3 -0.9**
comp=Z,173nm,1.8s,mb5.7
BOZ LR LR
comp=Z,1μm,21.0s,MS5.2
BOZ Bozeman (W) 71.94 2 *eP* **P 10 38 35.3 -0.9**
BOZ pmax pmax
comp=Z,173nm,1.8s,mb5.7
BOZ MLR MLR
comp=Z,1μm,21.0s,MS5.2
GCMT Greycliff 72.17 4 *eP* **P 10 38 36.7 -0.9**
HAWA Hanford 72.78 356 *eP* **P 10 38 41.4 +0.3**
comp=Z,13nm,1.8s
HAWA LR LR
comp=Z,83nm,19.0s
HRY Holter Researc 73.00 2 *eP* **P 10 38 42.4 -0.1**
MSO Missoula 73.08 0 *eP* **P 10 38 42.7 -0.2**
comp=Z,96nm,1.6s,mb5.5
MSO LR LR
comp=Z,714nm,19.0s,MS5.0
CHMT Chamberlain Mo 73.17 1 *eP* **P 10 38 43.2 -0.1**
CBN Corbin 73.27 30 *eP* **P 10 38 44.3 +0.1**
CBN LR LR
comp=Z,3μm,19.0s,MS5.6
LAO LASA Array 73.32 6 *eP* **P 10 38 43.7 -0.6**
comp=Z,130nm,1.4s,mb5.7
LAO LR LR
comp=Z,2μm,22.0s,MS5.4
MCWV Mont Chateau 73.42 27 *eP* **P 10 38 45.6 +0.6**
comp=Z,34nm,0.6s,mb5.5
MCWV LR LR
comp=Z,3μm,21.0s,MS5.5
TBM Table Mountain 73.62 356 P **P 10 38 46.7 +0.7**
OCWA Octopus Mounta 74.50 353⇑ *eP* **P 10 38 51.3 +0.2**
comp=Z,266nm,1.8s,mb5.9
OCWA LR LR
comp=Z,1μm,20.0s,MS5.2
NEW Newport 74.55 358 LR LR 11 06 35.6
comp=Z,3μm,18.3s,MS5.6,baz=184,slow=32
NEW Newport 74.55 358⇑ *eP* **P 10 38 51.0 -0.3**
comp=Z,668nm,2.1s,mb6.2
NEW LR LR
comp=Z,3μm,20.0s,MS5.6
NEW Newport 74.55 358⇑ *eP* **P 10 38 51.0 -0.3**
NEW pmax pmax
comp=Z,668nm,2.1s
NEW MLR MLR
comp=Z,3μm,20.0s
DGMT Dagmar 75.29 7⇑ *eP* **P 10 38 55.7 +0.1**
comp=Z,292nm,1.4s,mb6.0
DGMT LR LR
comp=Z,4μm,19.0s,MS5.8
WALA Waterton Lakes 75.31 0⇑ *eP* **P 10 38 55.9 +0.1**
comp=Z,124nm,1.5s,mb5.6
PGC Sidney 75.32 354⇑ *eP* **P 10 38 55.4 -0.4**
comp=Z,946nm,2.0s,mb6.4
BBSR BB Station 75.44 42 PFAKE 10 39 10.0 +13
BBSR LR LR
comp=Z,3μm,21.0s,MS5.6
MAIT Maitri 75.84 164⇓ *iP* **P 10 38 58.9 +0.6**
NVL N'lazarevskaya 75.87 164 *eP* **P 10 38 57.8 -0.7**
NVL *i* *SP sP 10 39 12.4 +8.0
NVL *eS* S 10 48 32.1 -7.0
NVL *e* 10 49 18.0
NVL pmax pmax
comp=Z,10.0nm,1.4s
GENY Geneseo 76.86 27 *eP* **P 10 39 06.9 +2.3**
CPNY Central Park 76.90 30 P **P 10 39 05.1 +0.2**
PAL Palisades 77.10 30 P **P 10 39 05.9 -0.1**
comp=Z,14nm,1.0s,mb4.8
PAL Palisades 77.10 30 P **P 10 39 05.9 -0.1**
PAL pmax pmax
comp=Z,14nm,1.0s,mb4.8
BINY Binghamton 77.15 28⇓ *eP* **P 10 39 06.8 +0.6**
comp=Z,604nm,2.0s,mb6.2
BINY LR LR
comp=Z,3μm,20.0s,MS5.6
RCBR Riachuelo 77.26 90 *eP* **P 10 39 07.5 +0.1**
RCBR LR LR
comp=Z,3μm,19.0s,MS5.6
TAU Tasmania Unive 77.95 228 PFAKE 10 39 20.0 +9.4
TAU LR LR
comp=Z,2μm,19.0s,MS5.3
ULM Lac du Bonnet 78.27 12 P **P 10 39 11.7 -0.5**
comp=Z,27nm,0.8s,mb5.2,baz=208,slow=5.2,SNR=23
ULM LR LR 11 10 25.8
comp=Z,1μm,18.1s,MS5.3,baz=332,slow=33
ULM Lac du Bonnet 78.27 12 *eP* **P 10 39 11.5 -0.7**
comp=Z,70nm,1.0s,mb5.5
ULM LR LR
comp=Z,2μm,19.0s,MS5.5
QUA2 Belchertown 78.81 31 *eP* **P 10 39 16.6 +1.2**
comp=Z,53nm,1.4s,mb5.3
ACCN Adirondack Com 79.11 29⇓ *eP* **P 10 39 17.3 +0.3**
NCB Newcomb 79.34 28⇓ *eP* **P 10 39 18.6 +0.3**
comp=Z,164nm,1.4s,mb5.8
NCB LR LR
comp=Z,2μm,19.0s,MS5.4
HRV Harvard--Oak R 79.36 31⇓ *eP* **P 10 39 18.4 +0.1**
comp=Z,21nm,0.9s,mb5.1
HRV LR LR
comp=Z,2μm,20.0s,MS5.4
HRV Harvard--Oak R 79.36 31⇓ *eP* **P 10 39 18.4 +0.1**
HRV pmax pmax
comp=Z,21nm,0.9s,mb5.1
HRV MLR MLR
comp=Z,2μm,20.0s,MS5.4
WES Weston 79.37 31⇓ *eP* **P 10 39 18.7 +0.3**
comp=Z,403nm,2.1s,mb6.0
WES LR LR
comp=Z,2μm,22.0s,MS5.5
WES Weston 79.37 31⇓ *eP* **P 10 39 18.7 +0.3**
WES pmax pmax
comp=Z,403nm,2.1s,mb6.0
WES MLR MLR
comp=Z,2μm,22.0s,MS5.5
EDM Edmonton 79.48 1⇓ *eP* **P 10 39 18.6 -0.1**
MIV Mineville/With 79.72 29 *eP* **P 10 39 20.6 +0.3**
MSNY Massena 79.91 27 *eP* **P 10 39 22.0 +0.8**

HNH Hanover 79.97 30 *e*P **P 10 39 22.3 +0.7**
comp=Z,20nm,1.6s,mb4.8
FFD Franklin Falls 80.07 30 *e*P **P 10 39 23.8 +1.7**
comp=Z,414nm,1.7s,mb6.1
FRNY Flat Rock 80.31 28 *e*P **P 10 39 22.7 -0.7**
CASY Casey 81.29 197 *e*P **P 10 39 28.8 +0.7**
MIDW Midway 81.29 307 PFAKE 10 39 40.0 +11
MIDW LR LR
comp=Z,1μm,20.0s,MS5.3
FFC Flin Flon 81.70 7⇓ *e*P **P 10 39 30.4 -0.1**
comp=Z,289nm,2.0s,mb5.9
FFC LR LR
comp=Z,971nm,19.0s,MS5.2
FFC Flin Flon 81.70 7⇓ *e*P **P 10 39 30.4 -0.1**
FFC pmax pmax
comp=Z,289nm,2.0s,mb5.9
FFC MLR MLR
comp=Z,971nm,19.0s,MS5.2
WVL Waterville 81.83 31 *e*P **P 10 39 32.3 +1.0**
comp=Z,1μm,1.8s,mb6.5
WVL LR LR
comp=Z,4μm,19.0s,MS5.8
HNR Honiara 81.86 264 LR LR 11 06 51.4
comp=Z,485nm,21.1s,MS4.8,baz=122,slow=29
HNR Honiara 81.86 264 PFAKE 10 39 40.0 +7.9
HNR LR LR
comp=Z,845nm,22.0s,MS5.1
SYO Syowa Base 82.82 171 ⇑P **P 10 39 34.5 -1.5**
SYO Syowa Base 82.82 171 ⇑pP pP 10 39 37.5 -2.9
EMMW East Machias 82.96 32 *e*P **P 10 39 37.5 +0.3**
comp=Z,1μm,1.9s
EMMW LR LR
comp=Z,10μm,19.0s,MS6.2
KWAJ Kwajalein Atol 83.19 283 PFAKE 10 39 50.0 +11
KWAJ LR LR
comp=Z,277nm,20.0s,MS4.6
PQI Presque Isle 84.18 30⇑ *e*P **P 10 39 41.9 -1.5**
comp=Z,217nm,1.0s,mb6.2
PQI LR LR
comp=Z,9μm,20.0s,MS6.1
MIR Mirnyy 84.82 191 *e*P **P 10 39 46.0 -0.1**
MIR *e*S 10 50 24.0
MIR pmax pmax
comp=E,400nm,5.0s
MIR smax
comp=N,990nm,9.0s
MIR MLR MLR
comp=N,1μm,18.0s,MS5.4
MIR MLR MLR
comp=E,520nm,18.0s,MS5.4
MIR MLR MLR
comp=Z,4μm,18.0s,MS5.8
SIT Sitka 85.15 349 *e*P **P 10 39 50.1 +2.1**
DLBC Dease Lake 85.69 352⇓ *e*P **P 10 39 51.7 +1.1**
MAW Mawson 86.07 179 *e*P **P 10 39 53.2 +0.9**
comp=Z,22nm,1.4s,mb5.2
MAW Mawson 86.07 179 P **P 10 39 53.4 +1.0**
comp=Z,21nm,1.1s,mb5.3,baz=191,slow=6.8,SNR=26
MAW LR LR 11 15 02.8
comp=Z,4μm,18.2s,MS5.9,baz=176,slow=33
MAW Mawson 86.07 179 *e*P **P 10 39 53.2 +0.9**
MAW pmax pmax
comp=Z,22nm,1.4s
FCC Fort Churchill 86.72 11⇑ *e*P **P 10 39 56.0 +0.3**
comp=Z,98nm,1.5s,mb5.8
FCC Fort Churchill 86.72 11⇑ *e*P **P 10 39 56.0 +0.3**
FCC pmax pmax
comp=Z,98nm,1.5s,mb5.8
STKA Stephens Creek 87.06 236 *e*P **P 10 39 57.9 -0.1**
comp=Z,14nm,2.0s,mb4.8
STKA Stephens Creek 87.06 236 P **P 10 39 58.4 +0.4**
comp=Z,8.5nm,1.0s,mb4.9,baz=111,slow=5.5,SNR=7.7
STKA LR LR 11 13 38.9
comp=Z,4μm,19.1s,MS5.8,baz=148,slow=32
YKA Yellowknife Ar 88.77 360 P **P 10 40 05.7 +0.3**
comp=Z,9.0nm,0.8s,mb5.2,baz=173,slow=4.7,SNR=34
YKA Yellowknife Ar 88.77 360 P **P 10 40 05.7 +0.3**
YKW3 Yellowknife Ar 88.84 360 *e*P **P 10 40 05.5 -0.4**
WAKE Wake Island 88.97 292 PFAKE 10 40 20.0 +13
WAKE LR LR
comp=Z,1μm,20.0s,MS5.3
CTA Charters Tower 89.01 248 *e*P **P 10 40 08.7 +1.1**
CTA Charters Tower 89.01 248 P **P 10 40 08.7 +1.1**
comp=Z,6.2nm,1.0s,mb4.9,baz=89,slow=2.2,SNR=7.5
CTAO Charters Tower 89.01 248 *e*P **P 10 40 09.0 +1.4**
comp=Z,389nm,2.6s,mb6.3
CTAO LR LR
comp=Z,2μm,22.0s,MS5.6
CTAO Charters Tower 89.01 248 *e*P **P 10 40 09.0 +1.4**
CTAO pmax pmax
comp=Z,389nm,2.6s,mb6.3
CTAO MLR MLR
comp=Z,2μm,22.0s,MS5.6
CHGN Chignik 90.57 337 *e*P **P 10 40 15.9 +1.9**
SCHQ Schefferville 90.83 25 P **P 10 40 14.9 -0.3**
comp=Z,8.6nm,0.8s,mb5.1,baz=218,slow=3.0,SNR=11
SCHQ LR LR 11 19 18.1
comp=Z,2μm,18.3s,MS5.5,baz=214,slow=34
SCHQ Schefferville 90.83 25 *e*P **P 10 40 15.0 -0.3**
comp=Z,20nm,1.2s,mb5.3
SCHQ LR LR
comp=Z,2μm,19.0s,MS5.7
DIV Divide 91.02 345⇑ *e*P **P 10 40 16.0 +0.1**
comp=Z,305nm,1.7s,mb6.3
DIV LR LR
comp=Z,2μm,20.0s,MS5.7
SLKM Skilak Lake 91.55 343 *e*P **P 10 40 18.7 +0.3**
UNV Unalaska Valle 91.82 332 PFAKE 10 40 30.0 +10
UNV LR LR
comp=Z,2μm,20.0s,MS5.5
FIB Fire Island 92.10 344 PFAKE 10 40 30.0 +9.0
FIB LR LR
comp=Z,1μm,19.0s,MS5.4
RSO Redoubt South 92.19 342 *e*P **P 10 40 21.9 +0.5**
MENT Mentasta 92.20 347 *e*P **P 10 40 23.3 +1.9**
SML Sawmill 92.20 345 *e*P **P 10 40 22.2 +0.8**
PMR Palmer 92.21 344 *e*P **P 10 40 23.1 +1.7**
DAWY Dawson 92.44 349 *e*P **P 10 40 21.4 -1.0**
SPU Mount Spurr 92.60 343 *e*P **P 10 40 23.2 0.0**
PMG Port Moresby 93.17 258 LR LR 11 15 15.9
comp=Z,1μm,18.7s,MS5.4,baz=332,slow=31
PMG Port Moresby 93.17 258 PFAKE 10 40 40.0 +13
PMG LR LR
comp=Z,1μm,20.0s,MS5.3
SVW2 Sparrevohn 93.50 341 *e*P **P 10 40 27.3 -0.1**
MCK McKinley 94.01 345 *e*P **P 10 40 29.8 +0.1**
comp=Z,33nm,1.4s,mb5.6
MCK LR LR
comp=Z,327nm,19.0s,MS4.8
MCK McKinley 94.01 345 *e*P **P 10 40 29.8 +0.1**
MCK pmax pmax
comp=Z,33nm,1.4s,mb5.6
MCK MLR MLR
comp=Z,327nm,19.0s,MS4.8
ILAR Eielson Array 94.48 347 P **P 10 40 31.9 +0.1**
comp=Z,4.0nm,0.9s,mb4.8,baz=177,slow=4.4,SNR=24
ILAR PP PP 10 44 16.1 -6.0
comp=Z,0.5nm,1.0s,baz=187,slow=7.3,SNR=2.9
ILAR LR LR 11 16 42.7
comp=Z,431nm,18.2s,MS5.0,baz=118,slow=32
COLA College 94.77 346 PFAKE 10 40 50.0 +17
COLA LR LR
comp=Z,15nm,19.0s
TTA Tatalina 95.11 342 P **P 10 40 43.3 +8.6**
comp=Z,4.7nm,0.6s,mb5.1
TTA Tatalina 95.11 342 P **P 10 40 43.3 +8.6**
TTA pmax pmax
comp=Z,5.0nm,0.6s,mb5.1
INK Inuvik 95.66 353 LR LR 11 15 57.8
comp=Z,1μm,21.9s,MS5.2,baz=162,slow=31
IMA Indian Mountai 97.08 345 *e*P **P 10 40 43.9 +0.3**
WB2 Warramunga Arr 98.77 243 *e*P **P 10 40 54.1 +1.8**
WRAB Tennant Creek 98.78 243 PFAKE 10 41 00.0 +7.6
WRAB LR LR
comp=Z,744nm,20.0s,MS5.2
WRAB Tennant Creek 98.78 243 *i* P **P 10 40 51.5 -0.9**
WRA Warramunga Arr 98.78 243 P **P 10 40 51.4 -1.0**
comp=Z,2.1nm,0.9s,mb4.7,baz=126,slow=4.2,SNR=13
WRA PP PP 10 44 54.2 -2.0
comp=Z,1.7nm,1.2s,baz=118,slow=7.8,SNR=5.4
TNA Tin City 100.53 340 PFAKE 10 41 10.0 +11
TNA LR LR
comp=Z,494nm,20.0s,MS5.0
NWAO Narrogin (SRO) 103.01 223 PFAKE 10 41 20.0 +8.8
NWAO LR LR
comp=Z,4μm,19.0s,MS6.0

CMLA Cha da Macela 105.03 55 PFAKE 10 45 50.0
CMLA LR LR
comp=Z,2μm,20.0s,MS5.7
GUMO Guam 105.31 278 PFAKE 10 45 50.0
GUMO LR LR
comp=Z,129nm,20.0s,MS4.5
PET Petropavlovsk 108.95 320 PFAKE 10 45 50.0
PET LR LR
comp=Z,779nm,22.0s,MS5.2
MBWA Marble Bar 109.17 233 PFAKE 10 45 50.0
MBWA LR LR
comp=Z,4μm,19.0s,MS6.0
BOSA Boshof 112.90 142 PFAKE 10 46 00.0 +8.3
BOSA LR LR
comp=Z,1μm,20.0s,MS5.4
MA2 Magadan 114.87 326 PFAKE 10 46 00.0 +5.2
MA2 LR LR
comp=Z,456nm,19.0s,MS5.1
TSUM Tsumeb 114.96 129 PFAKE 10 46 10.0 +14
TSUM LR LR
comp=Z,874nm,20.0s,MS5.4
BORG Borgarnes 115.07 28 PFAKE 10 46 00.0 +5.0
BORG LR LR
comp=Z,494nm,21.0s,MS5.1
LBTB Lobatse 115.87 140 PFAKE 10 46 10.0 +12
LBTB LR LR
comp=Z,843nm,21.0s,MS5.3
ERM Erimo 116.05 306 PFAKE 10 46 10.0 +12
ERM LR LR
comp=Z,1.0nm,19.0s
YSS Yuzh-Sakhalins 117.34 311 PFAKE 10 46 10.0 +10
YSS LR LR
comp=Z,663nm,22.0s,MS5.2
MAJO Matsushiro 118.55 299 PFAKE 10 46 10.0 +7.5
MAJO LR LR
comp=Z,612nm,20.0s,MS5.2
JMIC Jan Mayen 120.11 21 AMS AMS 11 35 38.8
comp=Z,1μm,18.2s,MS5.5
ESDC Sonseca Array 121.73 58 PKP PKPdf 10 46 05.8 -2.8
comp=Z,2.5nm,0.8s,baz=318,slow=1.6,SNR=7.3
KBS Kingsbay 122.67 11 AMS AMS 11 38 01.1
comp=Z,946nm,17.5s,MS5.5
KBS Kingsbay 122.67 11 PFAKE 10 46 20.0 +10
KBS LR LR
comp=Z,1μm,20.0s,MS5.5
QUIF Quistinic 123.29 49 *e*PKIKP PKPdf 10 46 08.7 -2.7
TIXI Tiksi 123.32 340 PFAKE 10 46 20.0 +9.1
TIXI LR LR
comp=Z,623nm,20.0s,MS5.3
TIXI Tiksi 123.32 340 *i* PKIKP PKPdf 10 46 07.7 -3.2
TIXI pmax pmax
comp=Z,5.0nm,0.8s
TIXI MLR MLR
comp=Z,558nm,17.0s,MS5.3
ESK Eskdalemuir 123.47 40 PFAKE 10 46 20.0 +8.4
ESK LR LR
comp=Z,314nm,21.0s,MS5.0
EKA Eskdalemuir Ar 123.50 40 PKP PKPdf 10 46 09.1 -2.5
comp=Z,3.7nm,0.8s,baz=297,slow=3.7,SNR=5.5
SJPF Ste Jean 124.24 54 *e*PKIKP PKPdf 10 46 11.0 -2.4
ETSF Etsaut 124.70 55 *e*PKIKP PKPdf 10 46 11.2 -3.1
comp=Z,11nm,0.8s
LSZ Lusaka 124.82 135 PFAKE 10 46 20.0 +4.8
LSZ LR LR
comp=Z,1μm,20.0s,MS5.5
GRR Gorron 124.86 48 *e*PKIKP PKPdf 10 46 11.6 -2.8
comp=Z,15nm,0.8s
KLR Kul'dur 124.91 313 *e*PKIKP PKPdf 10 46 09.6 -4.9
FLN La Foliniere 125.12 48 *e*PKIKP PKPdf 10 46 12.1 -2.8
comp=Z,37nm,1.1s
FLN *e*R
comp=Z,1μm,19.0s
YAK Yakutsk 125.19 329 *i* PKP PKPdf 10 46 12.2 -2.5
YAK LR LR
comp=Z,473nm,19.0s,MS5.2
MFF Saint Martin d 125.27 50 *e*PKIKP PKPdf 10 46 12.1 -3.2
comp=Z,13nm,0.8s
EPF Esparros 125.38 55 *e*PKIKP PKPdf 10 46 12.6 -3.0
comp=Z,16nm,0.9s
MDJ Mudanjiang 126.21 307 PKP PKPdf 10 46 14.3 -2.8
MDJ PP PP 10 48 10.3 -2.2
MDJ PKS PKS 10 49 49.2 0.0
MDJ PP PP
comp=Z,180nm,5.3s
MDJ LR LR
comp=N,90nm,19.0s,MS5.0
MDJ LR LR
comp=E,302nm,24.0s,MS5.0
MDJ LR LR
comp=Z,402nm,23.2s,MS5.0
RJF Les Rejaudoux 126.37 52 *e*PKIKP PKPdf 10 46 14.4 -2.9
RJF *e*R
comp=Z,1μm,20.0s
MTLF Montolieu 126.77 54 *e*PKIKP PKPdf 10 46 15.7 -2.4
TCF Toulx Ste Croi 126.89 51 *e*PKIKP PKPdf 10 46 15.7 -2.6
BER Bergen 127.44 33 AMS AMS 11 36 05.1
comp=Z,719nm,19.7s,MS5.4
AVF Avril sur Loir 127.68 50 *e*PKIKP PKPdf 10 46 16.9 -3.0
comp=Z,7.2nm,0.8s
SSF Saint Saulge 127.79 50 *e*PKIKP PKPdf 10 46 17.4 -2.7
INCN Inchon 127.83 298 PFAKE 10 46 30.0 +10
INCN LR LR
comp=Z,58μm,22.0s
SMF Signal de Mont 128.02 50 *e*PKIKP PKPdf 10 46 17.7 -2.9
comp=Z,28nm,1.3s
LOR Lormes 128.03 50 *e*PKIKP PKPdf 10 46 17.7 -2.9
LOR *e*R
comp=Z,2μm,22.8s
BAIF Baives 128.17 46 *e*PKIKP PKPdf 10 46 18.3 -2.5
comp=Z,9.8nm,0.7s
VIVF Saint-Julien-l 128.59 53 *e*PKIKP PKPdf 10 46 19.1 -2.6
MEZF Maizieres J'vi 128.79 48 *e*PKIKP PKPdf 10 46 20.0 -2.0
CN2 Changchun 129.16 306 *e*PKP PKPdf 10 46 18.3 -4.5
CN2 *e*PP PP 10 48 31.8 -0.4
CN2 LR LR
comp=N,340nm,19.0s,MS5.3
CN2 LR LR
comp=E,430nm,19.0s,MS5.3
CN2 LR LR
comp=Z,550nm,19.0s,MS5.3
SMRF Simiane la Rot 129.23 54 *e*PKIKP PKPdf 10 46 20.2 -2.8
TRO Tromso 129.25 19 AMS AMS 11 38 30.6
comp=Z,955nm,21.4s,MS5.5
THEF They Montfort 129.43 48 PKP PKPdf 10 46 21.5 -1.7
THEF They Montfort 129.43 48 *e*P PKPdf 10 46 21.5 -1.7
ORIF Oris-en-Rattie 129.45 53 *e*PKIKP PKPdf 10 46 20.8 -2.6
comp=Z,31nm,1.2s
ORIF *e*R
comp=Z,1μm,20.8s
CABF La Chapelle 129.57 50 *e*PKIKP PKPdf 10 46 20.7 -2.8
KONO Kongsberg 129.70 33 PFAKE 10 46 30.0 +6.6
KONO LR LR
comp=Z,1μm,21.0s,MS5.5
NAO01 NORSAR Array S 129.97 31 PFAKE 10 46 30.0 +6.1
NAO01 LR LR
comp=Z,2μm,20.0s,MS5.7
FRF La Foret Royal 130.00 54 *e*PKIKP PKPdf 10 46 21.3 -3.1
BNI Bardonecchia 130.01 52 *e*PKPdf PKPdf 10 46 23.0 -1.4
HINF Hinteralfeld 130.03 49 *e*PKIKP PKPdf 10 46 21.7 -2.7
comp=Z,24nm,1.1s
LOMF Lomont 130.04 49 PKP PKPdf 10 46 21.5 -2.9
LOMF Lomont 130.04 49 *e*P PKPdf 10 46 21.5 -2.9
LPL La Plagne 130.04 52 *e*PKIKP PKPdf 10 46 22.0 -2.5
LPG La Plagne 130.06 52 *e*PKIKP PKPdf 10 46 22.1 -2.4
NB2 NORSAR Subarra 130.06 31 PKPdf PKPdf 10 46 21.5 -2.6
comp=Z,29nm,1.7s,baz=289,slow=1.9
NB2 NORSAR Subarra 130.06 31 PKPd 10 46 21.5
baz=289,slow=1.9
NOA NORSAR Array B 130.06 31 PKP PKPdf 10 46 21.4 -2.6
comp=Z,2.0nm,0.8s,baz=288,slow=2.3,SNR=6.0
NOA NORSAR Array B 130.06 31 PKP PKPdf 10 46 21.4 -2.6
MBDF Montbardon 130.09 53 *e*PKIKP PKPdf 10 46 22.0 -2.6
comp=Z,12nm,1.0s
ECH Echery 130.21 48 PKP PKPdf 10 46 23.1 -1.6
ECH Echery 130.21 48 *e*P PKPdf 10 46 23.1 -1.6
MOF Molkenrain 130.22 49 PKP PKPdf 10 46 21.5 -3.2
MOF Molkenrain 130.22 49 *e*P PKPdf 10 46 21.5 -3.2
CDF Champ du Feu 130.28 48 *e*PKIKP PKPdf 10 46 22.1 -2.7
WLS Welschbruch 130.33 48 PKP PKPdf 10 46 23.4 -1.5
WLS Welschbruch 130.33 48 *e*P PKPdf 10 46 23.4 -1.5
ABH Alteburg 130.33 46 *e*P PKPdf 10 46 24.2 -0.7
BBS Basel-Blauen 130.50 49 *e*P PKPdf 10 46 23.8 -1.5
LANF Langenberg 130.58 47 PKP PKPdf 10 46 24.1 -1.3
LANF Langenberg 130.58 47 *e*P PKPdf 10 46 24.1 -1.3
FELD Feldberg 130.80 49 *e*P PKPdf 10 46 24.6 -1.2

TNS Taunus Mts 130.87 45 *e*PKPdf PKPdf 10 46 24.7 -1.2
BFO Black Forest 130.99 48 *e*PKPdf PKPdf 10 46 24.4 -1.8
ARCES ARCESS Array B 131.16 17 PKP PKPdf 10 46 25.3 -0.7
comp=Z,3.2nm,1.0s,baz=297,slow=2.7,SNR=5.4
TOD Tromm 131.17 46 *e*P PKPdf 10 46 25.4 -1.1
SSE Sheshan 131.41 289 PKP PKPdf 10 46 27.4 -0.1
SSE PP PP 10 48 50.7 +3.6
SSE SS SS 11 06 22.7 +6.1
SSE PP PP
comp=Z,536nm,5.3s
SSE LR LR
comp=N,264nm,24.0s,MS5.1
SSE LR LR
comp=E,329nm,23.3s,MS5.1
SSE LR LR
comp=Z,470nm,23.2s,MS5.1
KEV Kevo 131.41 17 PFAKE 10 46 40.0 +14
KEV LR LR
comp=Z,1μm,22.0s,MS5.5
BSEG Bad Segeberg 131.42 40 *e*PKPdf PKPdf 10 46 25.1 -1.8
HFS Hagfors 131.51 32 PKP PKPdf 10 46 22.7 -4.1
comp=Z,0.3nm,0.3s,baz=334,slow=44,SNR=2.4
PGF Pioggiola 131.72 56 *e*PKIKP PKPdf 10 46 24.9 -2.9
comp=Z,267nm,1.8s
CLZ Clausthal 131.84 43 *e*PKPdf PKPdf 10 46 26.3 -1.4
DAVOX Davos 132.16 50 PKP PKPdf 10 46 25.5 -3.0
comp=Z,3.4nm,0.7s,baz=18,slow=8.7,SNR=11
COP Copenhagen 132.22 38⇑ *i*P PKPdf 10 46 27.1 -1.2
comp=Z,280nm,17.0s
GRA1 Grafenberg Arr 132.72 46 *e*PKPdf PKPdf 10 46 28.3 -1.1
GRF Grafenberg Arr 132.72 46 *e*PKP PKPdf 10 46 28.3 -1.1
MOX Moxa 132.82 44 *i* P PKPdf 10 46 28.5 -1.1
comp=Z,logA/T=1.7
MOX L 11 35 13.0
MOX Moxa 132.82 44 *e*P PKPdf 10 46 28.5 -1.1
MOX LR LR
comp=Z,900nm,22.0s,MS5.4
MOX Moxa 132.82 44 *e*PKIKP PKPdf 10 46 28.5 -1.1
MOX pmax pmax
comp=Z,114nm,2.4s
MOX MLR MLR
comp=Z,900nm,22.0s,MS5.4
FUR Furstenfeldbru 132.96 48 *e*PKPdf PKPdf 10 46 28.3 -1.6
NKC Novy Kostel 133.41 45 *e*PKPdf PKPdf 10 46 29.3 -1.3
NKC *e*x x 11 07 02.5
NKC AMS AMS 11 35 30.0
comp=Z,2μm,20.4s
NJ2 Nanjing 133.52 290 *e*PKP PKPdf 10 46 26.3 -5.1
NJ2 PP PP 10 49 07.0 +6.8
NJ2 PKS PKS 10 50 02.0 -1.1
NJ2 PP PP
comp=Z,430nm,6.2s
NJ2 LR LR
comp=Z,3μm,28.4s,MS5.8
CLL Collm 133.56 43⇓ *i*PKIKP PKPdf 10 46 28.6 -2.3
comp=Z,logA/T=1.8
CLL *e* 10 46 36.0
CLL *i* 10 46 59.8
CLL *e*PP PP 10 49 08.0 +8.1
CLL *e*SS SS 11 06 59.0 +17
CLL Collm 133.56 43⇓ *i*PKIKP PKPdf 10 46 28.6 -2.3
CLL *e* 10 46 36.0
CLL pmax pmax
comp=Z,179nm,2.6s
WET Wettzell 133.87 46 *e*PKPdf PKPdf 10 46 30.0 -1.5
BOD Bodaibo 133.90 326 *e*PKIKP PKPdf 10 46 26.9 -4.4
BOD pmax pmax
comp=Z,20nm,2.2s
BRG Berggiesshubel 134.22 44 *e*P PKPdf 10 46 30.9 -1.3
BRG Berggiesshubel 134.22 44 *e*PKIKP PKPdf 10 46 30.9 -1.2
BRG pmax pmax
comp=Z,168nm,2.5s
KHC Kasperske Hory 134.33 46 *e*PKPdf PKPdf 10 46 31.1 -1.3
KHC *e*x x 11 06 54.3
KHC AMS AMS 11 33 20.0
comp=Z,2μm,22.2s
GEC2 GERESS Array S 134.46 47 *e*PKPdf PKPdf 10 46 31.0 -1.6
GERES GERESS Array B 134.46 47 PKhKP 10 46 21.4
comp=Z,0.2nm,0.3s,baz=270,slow=4.0,SNR=4.0
GERES PKP PKPdf 10 46 30.6 -2.0
comp=Z,1.9nm,0.8s,baz=270,slow=1.3,SNR=10
APA Apatity 134.62 17 *i* PKIKP PKPdf 10 46 29.5 -3.0
APA *e*PPS PPS 11 01 12.0 +6.2
APA pmax pmax
comp=Z,156nm,2.0s
PVCC Panska Ves 134.69 44 *e*PKPdf PKPdf 10 46 31.4 -1.6
PVCC *e*x x 11 07 50.5
PVCC AMS AMS 11 35 50.0
comp=Z,1μm,21.8s
PVCC Panska Ves 134.69 44 *e*PKIKP PKPdf 10 46 31.4 -1.6
PVCC MLR MLR
comp=Z,1μm,21.8s,MS5.6
PRU Pruhonice 134.78 45 *e*PKPdf PKPdf 10 46 32.7 -0.5
PRU *e*x x 11 06 40.8
PRU AMS AMS 11 36 10.0
comp=Z,1μm,21.5s
GKP Gorka Klasztor 135.58 40 *e*PKP PKPdf 10 46 34.0 -0.7
GKP MLR MLR 11 33 40.5
comp=Z,1μm,31.2s,MS5.5
GKP Gorka Klasztor 135.58 40 *e*PKP PKPdf 10 46 34.0 -0.6
UPC Upice 135.59 44 *e*PKPdf PKPdf 10 46 34.6 -0.1
KSP Ksiaz 135.68 43 *e*PKP PKPdf 10 46 33.2 -1.6
KSP MLR MLR 11 32 08.3
comp=Z,3μm,38.2s,MS5.8
KSP Ksiaz 135.68 43 *e*PKP PKPdf 10 46 33.8 -1.1
KSP LR LR
comp=Z,2μm,24.6s,MS5.8
PDKS Podkum 135.76 50 *e*PKPdf PKPdf 10 46 34.5 -0.6
DPC Dobruska-Polom 135.82 44 *e*PKPdf PKPdf 10 46 34.5 -0.6
DPC *e*x x 11 07 40.3
DPC AMS AMS 11 37 00.0
comp=Z,1μm,21.7s
KAF Kangasniemi 136.01 25 *e*p PKPdf 10 46 33.2 -1.9
CIT Chita 136.03 319 *e*PKIKP PKPdf 10 46 32.9 -2.5
DOBS Dobrina 136.07 50 *e*PKPdf PKPdf 10 46 34.7 -1.0
VRAC Vranov 136.23 45 PKP PKPdf 10 46 34.1 -1.8
comp=Z,2.2nm,0.4s,baz=87,slow=6.7,SNR=6.2
VRAC PP PP 10 49 11.7 -4.7
comp=Z,1.1nm,0.3s,baz=305,slow=18,SNR=5.0
FINES FINESS Array B 136.30 26 PKP PKPdf 10 46 33.8 -1.8
comp=Z,4.5nm,0.8s,baz=180,slow=7.6,SNR=7.5
FINES PP PP 10 49 09.9 -6.6
comp=Z,1.5nm,0.9s,baz=288,slow=18,SNR=2.6
MORC Moravsky Berou 136.72 45 *e*PKPdf PKPdf 10 46 34.4 -2.3
ZST Bratislava 136.80 47 *e*PKP PKPdf 10 46 33.5 -3.4
ZST *i* 10 49 14.4
MBAR Mbarara 136.99 123 *e*PKPdf PKPdf 10 46 37.7 -0.5
MBAR LR LR
comp=Z,194nm,19.0s,MS4.9
OKC Ostrava-Krasne 137.08 44 *e*PKPdf PKPdf 10 46 36.6 -0.8
OKC *e*x x 11 08 00.3
OKC AMS AMS 11 37 30.0
comp=Z,1μm,21.3s
VYHS Vyhne 137.86 46 *e*PKP PKPdf 10 46 37.2 -1.7
OJC Ojcow 138.00 43 *e*PKP PKPdf 10 46 37.3 -1.9
WAR Warsaw 138.09 40 *e*PKP PKPdf 10 46 40.5 +1.2
WAR MLR MLR 11 35 39.5
comp=Z,2μm,28.4s,MS5.7
WAR Warsaw 138.09 40 *e*PKP PKPdf 10 46 40.5 +1.2
WAR LR LR
comp=Z,2μm,28.4s,MS5.7
NIE Niedzica 138.55 44 *e*PKP PKPdf 10 46 40.4 +0.2
QIZ Qiongzhong 138.57 269 PKP PKPdf 10 46 34.4 -6.6
QIZ LR LR
comp=N,426nm,18.5s
QIZ LR LR
comp=Z,472nm,18.5s,MS5.3
SUW Suwalki 138.62 37 *e*PKP PKPdf 10 46 39.5 -0.6
SUW MLR MLR 11 33 38.2
comp=Z,1μm,36.5s,MS5.4
SUW Suwalki 138.62 37 *e*PKP PKPdf 10 46 39.6 -0.6
PSZ Piszkesteto 138.69 47 *e*PKP/D PKPdf 10 46 37.8 -2.7
KECS Kecovo 138.92 46 *e*PKP PKPdf 10 46 36.7 -4.2
HHC Hu-ho-hao-te 139.56 303 *e*PKP PKPdf 10 46 41.3 -0.9
HHC PKS PKS 10 50 15.2 +1.6
HHC PP PP
comp=Z,437nm,11.3s
HHC LR LR
comp=N,371nm,20.2s,MS5.4
HHC LR LR
comp=E,581nm,20.8s,MS5.4
HHC LR LR
comp=Z,884nm,21.4s,MS5.5
KOLS Kolonicke sedl 139.93 45 *e*PKP PKPdf 10 46 40.6 -2.1

KWP	**Kalwaria**	**139.97**	**43**	*e*PKP	PKPdf	10 46 41.0	-1.8
KWP				MLR	MLR	11 34 32.0	
	comp=Z,2μm,36.8s,MS5.5						
KWP	**Kalwaria**	**139.97**	**43**	*e*PKP	PKPdf	10 46 41.0	-1.7
LVV	**L'vov**	**140.72**	**43**	*e*PKIKP	PKPdf	10 46 43.2	-0.8
BTO	**Baotou**	**140.75**	**302**	*e*PKP	PKPdf	10 46 38.0	-6.4
IRK	**Irkutsk**	**141.28**	**322**	*e*PKHKP		10 46 37.6	
IRK				pmax	pmax		
	comp=Z,124nm,2.4s						
KMBO	**Kilima Mbogo**	**141.28**	**131**	PKP	PKPdf	10 46 45.8	-0.4
	comp=Z,3.4nm,0.9s,baz=82,slow=0.4,SNR=6.2						
KMBO	**Kilima Mbogo**	**141.28**	**131**	PKP	PKPdf	10 46 45.8	-0.4
KMBO				LR	LR		
	comp=Z,421μm,20.0s						
SONM	**Songino Array**	**141.70**	**315**	PKhKP		10 46 38.1	
	comp=Z,3.9nm,0.8s,baz=118,slow=1.9,SNR=13						
SONM				PKP	PKPdf	10 46 44.4	-1.4
	comp=Z,6.9nm,0.8s,baz=147,slow=2.1,SNR=30						
TLY	**Talaya**	**141.87**	**321**	*i* PKP	PKPdf	10 46 39.0	-7.0
TLY				LR	LR		
	comp=Z,233nm,21.0s,MS4.9						
TLY	**Talaya**	**141.87**	**321**	*e*PKIKP	PKPdf	10 46 40.3	-5.7
TLY				*i*		10 46 45.0	
TLY				pmax	pmax		
	comp=Z,37nm,2.0s						
XAN	**Xi'an**	**141.98**	**292**	PKP	PKPdf	10 46 41.3	-5.4
ZAK	**Zakamensk**	**142.65**	**320⇑**	*e*PKHKP		10 46 40.8	
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.4s						
GYA	**Guiyang**	**143.25**	**279⇓**	*i* PKP	PKPdf	10 46 43.8	-5.3
GYA				PKS	PKS	10 50 18.8	-1.4
GYA				SKS	SKS	10 53 53.4	-4.5
GYA				PP	PP		
	comp=Z,690nm,5.4s						
GYA				LR	LR		
	comp=N,340nm,20.1s,MS5.5						
GYA				LR	LR		
	comp=E,670nm,19.8s,MS5.5						
GYA				LR	LR		
	comp=Z,710nm,20.0s,MS5.4						
MLR	**Muntele Rosu**	**143.35**	**49**	PKhKP		10 46 42.8	
	comp=Z,11nm,0.8s,baz=337,slow=2.7,SNR=35						
MLR				PKP	PKPdf	10 46 46.7	-2.0
	comp=Z,26nm,0.9s,baz=210,slow=5.1,SNR=36						
MLR	**Muntele Rosu**	**143.35**	**49**	⇓P	PKPbc	10 46 44.5	+0.9
MLR	**Muntele Rosu**	**143.35**	**49**	⇓P	PKPbc	10 46 44.5	+0.9
AKASG	**Malin Array Be**	**143.41**	**39**	PKP	PKPdf	10 46 44.4	-4.2
	comp=Z,2.8nm,0.7s,baz=280,slow=3.9,SNR=9.4						
OBN	**Obninsk**	**144.57**	**29**	*e*PKPdf	PKPdf	10 46 47.5	-3.0
OBN				LR	LR		
	comp=Z,276nm,22.0s,MS5.0						
OBN	**Obninsk**	**144.57**	**29**	*i* PKIKP	PKPdf	10 46 47.0	-3.5
OBN				*e*		10 50 04.9	
OBN				pmax	pmax		
	comp=Z,68nm,1.5s						
OBN				MLR	MLR		
	comp=Z,800nm,17.0s,MS5.6						
MOS	**Moscow**	**144.59**	**27**	*e*PKIKP	PKPdf	10 46 47.4	-3.1
MOS				pmax	pmax		
	comp=Z,1μm,2.4s						
MOS				pmax	pmax		
	comp=Z,337nm,1.9s						
MOS				MLR	MLR		
	comp=Z,1μm,20.5s,MS5.7						
KIS	**Kishinev**	**144.72**	**45**	*e*PKHKP		10 46 35.0	
KIS				*i*		10 46 47.0	
KIS				*e*		10 50 10.0	
KIS				pmax	pmax		
	comp=Z,260nm,2.2s						
KIS				pmax	pmax		
	comp=Z,2μm,3.2s						
CFR	**Carcaliu**	**144.92**	**48**	⇓P	PKPbc	10 46 47.0	-1.1
CFR	**Carcaliu**	**144.92**	**48**	⇓P	PKPbc	10 46 47.0	-1.1
NNT	**Nongplab**	**144.97**	**253**	P	PKPbc	10 46 49.3	+0.2
TIRR	**Tirgusor**	**145.34**	**49**	⇑P	PKPbc	10 46 50.8	+1.6
DGAR	**Diego Garcia**	**145.53**	**192**	PFAKE		10 47 00.0	+9.4
DGAR				LR	LR		
	comp=Z,500nm,22.0s,MS5.2						
NST	**Nakhon Sawan**	**145.99**	**258**	P	PKPbc	10 46 53.0	+1.3
LZH	**Lanzhou**	**146.06**	**296**	⇑PKP	PKPdf	10 46 54.0	+0.3
LZH				APKP		10 46 57.5	
LZH				XPKP		10 46 58.6	
LZH				PP	PP	10 50 21.0	+4.1
LZH				PP	PP		
	comp=Z,928nm,7.9s						
LZH				LR	LR		
	comp=E,825nm,18.2s						
LZH				LR	LR		
	comp=Z,2μm,20.0s,MS5.8						
LZH	**Lanzhou**	**146.06**	**296**	⇑PKP	PKPdf	10 46 54.0	+0.3
LZH				pPKP		10 46 57.5	
LZH				PKP	PKPdf	10 46 58.0	+4.3
LZH				sPKP		10 46 58.6	
LZH				PP	PP	10 50 21.0	+4.1
LZH				SKKS		10 57 08.3	
LZH				SS	SS	11 09 14.2	+5.6
LZH				LR	LR		
	comp=Z,2μm,20.0s,MS5.8						
LZH	**Lanzhou**	**146.06**	**296**	⇑PKP2	PKPab	10 46 54.0	+0.2
LZH						10 50 21.0	
LZH				SS	SS	11 09 14.2	+5.6
LZH				MLR	MLR		
	comp=Z,2μm,20.0s,MS5.8						
CD2	**Chengdu**	**146.26**	**286**	PKP	PKPdf	10 46 54.4	+0.2
KMI	**Kunming**	**146.50**	**276**	PKP	PKPdf	10 46 53.5	-1.3
KMI				PP	PP	10 50 19.6	-0.2
KMI				PP	PP		
	comp=Z,9μm,2.3s						
KMI				PP	PP		
	comp=Z,571nm,5.8s						
KMI				LR	LR		
	comp=N,735nm,18.6s,MS5.6						
KMI				LR	LR		
	comp=E,603nm,18.6s,MS5.6						
KMI				LR	LR		
	comp=Z,738nm,16.9s,MS5.5						
KMI	**Kunming**	**146.50**	**276**	PKP	PKPdf	10 46 53.5	-1.3
KMI				pPKP		10 47 06.1	
KMI				sPKP		10 47 12.3	
KMI				PP	PP	10 50 19.6	-0.2
KMI				PPP	PPP	10 53 33.9	-2.9
KMI				SS	SS	11 09 17.9	+3.8
KMI				SSS	SSS	11 14 50.6	+5.1
KMI				LR	LR		
	comp=Z,740nm,16.9s,MS5.5						
PECR	**Pechory**	**146.54**	**22⇑**	*i*PKP2	PKPab	10 46 54.4	-0.6
PECR				*e*		10 50 26.7	
PECR				pmax	pmax		
	comp=Z,2μm,4.0s						
PECR				MLR	MLR		
	comp=Z,1μm,22.0s,MS5.6						
NANT	**Nan**	**146.66**	**264**	⇓P	PKPbc	10 46 55.0	+1.9
	comp=Z,375nm,0.4s						
BDT	**Bhumibol Dam**	**147.61**	**260**	P	PKPdf	10 47 07.3	+11
CHRT	**Chiangrai**	**147.83**	**265**	⇓P	PKPdf	10 46 57.0	-0.1
	comp=Z,105nm,1.1s						
VOR	**Voronezh**	**148.00**	**31**	PKIKP	PKPdf	10 46 56.0	-0.4
VOR				pmax	pmax		
	comp=Z,1μm,2.5s						
VOR				pmax	pmax		
	comp=N,150nm,2.0s						
VOR				pmax	pmax		
	comp=E,100nm,2.0s						
CHG	**Chiang Mai**	**148.23**	**263**	⇓P	PKPdf	10 46 57.7	0.0
	comp=E,81nm,1.3s						
VRSR	**Storozhevoye**	**148.34**	**32**	*e*PKIKP	PKPdf	10 46 55.8	-1.1
VRSR				pmax	pmax		
	comp=Z,960nm,2.9s						
VRSR				pmax	pmax		
	comp=N,150nm,2.8s						
VRSR				pmax	pmax		
	comp=E,140nm,2.7s						
VRSR				pmax	pmax		
	comp=Z,960nm,2.9s						
VRSR				pmax	pmax		
	comp=N,150nm,2.8s						
VRSR				pmax	pmax		
	comp=E,140nm,2.7s						
VRSR				pmax	pmax		
	comp=Z,850nm,21.0s						
VRSR				pmax	pmax		
	comp=N,470nm,22.0s						
VRSR				pmax	pmax		
	comp=E,300nm,19.0s						
GTA	**Gaotai**	**148.68**	**303**	*e*PKP	PKPdf	10 46 56.8	-1.1
GTA				APKP		10 47 02.6	
GTA				XPKP		10 47 05.1	
GTA				PKS	PKS	10 50 30.2	+2.0
GTA				PP	PP	10 50 32.9	+1.1
GTA				SKS	SKS	10 54 05.1	-0.2
GTA				SKKS		10 57 20.5	
GTA				SS	SS	11 09 44.2	+6.1
GTA				PP	PP		
	comp=Z,447nm,6.5s						
GTA				LR	LR		
	comp=N,431nm,20.1s,MS5.6						
GTA				LR	LR		
	comp=E,864nm,22.8s,MS5.6						
GTA				LR	LR		
	comp=Z,1μm,21.3s,MS5.6						
NVS	**Novosibirsk**	**148.92**	**340⇑**	*i*PKHKP		10 46 54.6	
NVS				pmax	pmax		
	comp=Z,373nm,2.2s						
NVS				pmax	pmax		
	comp=E,111nm,2.0s						
SIM	**Simferopol'**	**148.93**	**46***c*	*i*PKP2	PKPab	10 47 01.2	-3.7
SIM				pmax	pmax		
	comp=Z,52nm,1.4s						
ZAL	**Zalesovo**	**149.17**	**338**	PKP	PKPdf	10 46 55.5	-2.7
	comp=Z,2.9nm,0.7s,baz=70,slow=2.1,SNR=7.0						
ZAL				PKPbc	PKPdf	10 47 00.9	+2.7
	comp=Z,5.3nm,0.7s,baz=75,slow=2.6,SNR=21						
ZAL	**Zalesovo**	**149.17**	**338**	PKP	PKPdf	10 46 55.5	-2.7
ZAL				PKPbc	PKPdf	10 47 00.9	+2.7
VRHR	**Novokhopersk**	**149.54**	**30**	*i* PKP2	PKPab	10 47 01.4	-5.8
VRHR				pmax	pmax		
	comp=Z,1μm,2.6s						
VRHR				pmax	pmax		
	comp=N,260nm,2.5s						
VRHR				pmax	pmax		
	comp=E,200nm,2.2s						
VRHR				MLR	MLR		
	comp=Z,990nm,16.0s,MS5.7						
VRHR				MLR	MLR		
	comp=N,790nm,19.0s,MS5.7						
VRHR				MLR	MLR		
	comp=E,900nm,18.0s,MS5.7						
SVE	**Sverdlovsk**	**149.59**	**5⇑**	*i*PKHKP		10 46 57.7	
SVE				*e*		10 50 44.0	
SVE				*e*SS	tx	11 10 36.0	
SVE				pmax	pmax		
	comp=Z,560nm,2.1s						
ARU	**Arti**	**149.77**	**8**	*e*PKPdf	PKPdf	10 46 57.2	-1.9
ARU				LR	LR		
	comp=Z,435nm,22.0s,MS5.2						
ARU	**Arti**	**149.77**	**8⇓**	*i*PKHKP		10 46 57.5	
ARU				pmax	pmax		
	comp=Z,160nm,2.1s						
ARU				MLR	MLR		
	comp=Z,2μm,21.0s,MS5.8						
ARU				MLR	MLR		
	comp=N,800nm,22.0s,MS5.5						
ARU				MLR	MLR		
	comp=E,400nm,23.0s,MS5.5						
BR131	**Keskin Array S**	**150.48**	**56**	*e*PKPdf	PKPdf	10 46 59.9	-0.8
BR131				*e*PKPbc	PKPdf	10 47 04.7	+4.0
BR131				*e*PKPab	PKPab	10 47 10.1	-1.4
BR131				LR	LR		
	comp=Z,469nm,20.0s,MS5.3						
BRTR	**Keskin Array B**	**150.48**	**56**	PKP	PKPdf	10 46 58.8	-1.9
	comp=Z,0.8nm,0.4s,baz=270,slow=1.4,SNR=8.1						
BRTR				PKPbc	PKPdf	10 47 03.6	+2.9
	comp=Z,24nm,0.9s,baz=226,slow=1.2,SNR=42						
ANN	**Anapa**	**151.09**	**44**	*i* PKIKP	PKPdf	10 46 59.2	-2.2
ANN				pmax	pmax		
	comp=Z,191μm,2.0s						
KZIT	**Kziot**	**152.47**	**74**	P	PKPdf	10 47 02.9	-1.0
KMTI	**Karmit**	**152.76**	**75**	P	PKPdf	10 47 03.3	-1.1
TAYS	**Tayyib Ism**	**152.84**	**79**	P	PKPdf	10 47 03.9	-0.6
OFRI	**'Ofer**	**152.88**	**70**	P	PKPdf	10 47 03.5	-0.9
HAQS	**Haql**	**152.92**	**78**	P	PKPdf	10 47 03.6	-1.0
EIL	**Elat**	**152.95**	**76**	P	PKPdf	10 47 03.3	-1.3
SLTI	**Sal'it**	**152.96**	**71**	P	PKPdf	10 47 04.1	-0.5
HNTI	**Hanita**	**153.00**	**69**	P	PKPdf	10 47 03.3	-1.3
PRNI	**Paran**	**153.00**	**75**	P	PKPdf	10 47 03.3	-1.4
BDAS	**Al Bad'**	**153.04**	**79**	P	PKPdf	10 47 04.1	-0.7
ALWS	**Ilw as Safayha**	**153.04**	**77**	P	PKPdf	10 47 03.9	-0.9
JMOS	**Jabal al Moall**	**153.08**	**77**	P	PKPdf	10 47 04.3	-0.6
SOC	**Sochi**	**153.12**	**44**	*i* PKIKP	PKPdf	10 47 03.1	-1.3
SOC				pmax	pmax		
	comp=Z,80nm,1.8s						
SOC				pmax	pmax		
	comp=N,10.0nm,0.9s						
SOC				pmax	pmax		
	comp=E,20nm,1.0s						
MMLI	**Mount Malkishu**	**153.27**	**70**	P	PKPdf	10 47 03.5	-1.5
MZDA	**Masada**	**153.29**	**73**	P	PKPdf	10 47 04.2	-0.8
BHL	**Bhannes**	**153.30**	**67**	*e*P	PKPdf	10 47 03.5	-1.5
BRVK	**Borovoye**	**153.32**	**354**	*e*PKPdf	PKPdf	10 47 01.9	-2.4
BRVK				*e*PKPbc	PKPdf	10 47 10.8	+6.4
BRVK				*e*PKPab	PKPab	10 47 21.8	-1.2
BRVK				LR	LR		
	comp=Z,165nm,19.0s,MS4.9						
BRVK	**Borovoye**	**153.32**	**354**	*e*PKIKP	PKPdf	10 47 02.0	-2.4
BRVK				*e*		10 47 21.8	
BRVK				MLR	MLR		
	comp=Z,165nm,19.0s,MS4.9						
BVA0	**Borovoye Array**	**153.34**	**353**	*i* PKIKP	PKPdf	10 47 03.3	-1.1
BVA0				pmax	pmax		
	comp=Z,28nm,1.5s						
BVAR	**Borovoye Array**	**153.34**	**353**	PKP	PKPdf	10 47 02.9	-1.6
	comp=Z,3.5nm,0.9s,SNR=15						
BVAR				PKPbc	PKPdf	10 47 10.4	+6.0
	comp=Z,7.0nm,0.7s,baz=313,slow=1.4,SNR=20						
BVAR				PKPab	PKPab	10 47 22.1	-0.9
	comp=Z,17nm,0.9s,baz=27,slow=3.3,SNR=15						
BVAR				PP	PP	10 50 52.2	-5.8
	comp=Z,0.6nm,0.8s,baz=27,slow=3.2,SNR=3.3						
KSHT	**Keshet**	**153.54**	**69**	P	PKPdf	10 47 05.5	+0.2
VOSK	**Vostochnaya**	**153.58**	**352**	PKIKP	PKPdf	10 47 02.6	-2.1
VOSK				pmax	pmax		
	comp=Z,326nm,2.1s						
JMQS	**Jabal Moqyreh**	**153.74**	**78**	P	PKPdf	10 47 05.1	-0.7
KURK	**Kurchatov**	**153.90**	**341**	*e*PKPdf	PKPdf	10 47 03.2	-2.1
KURK				LR	LR		
	comp=Z,345nm,22.0s,MS5.1						
KURK	**Kurchatov**	**153.90**	**341**	PKIKP	PKPdf	10 47 02.7	-2.5
KURK				pmax	pmax		
	comp=Z,120nm,1.9s						
TBKS	**Tabuk**	**154.30**	**80**	P	PKPdf	10 47 05.9	-0.6
MALT	**Malatya**	**154.46**	**56**	*e*PKPdf	PKPdf	10 47 05.0	-1.4
ASF	**Jabal al Asfar**	**154.53**	**71**	PKP	PKPdf	10 47 06.3	-0.4
	comp=Z,4.6nm,0.7s,baz=137,slow=1.2,SNR=29						
ASF				PKPbc	PKPdf	10 47 15.8	+9.1
	comp=Z,9.5nm,1.0s,baz=138,slow=2.0,SNR=7.1						
ASF				PKPab	PKPab	10 47 29.6	+0.8
	comp=Z,6.8nm,0.9s,baz=177,slow=2.3,SNR=5.0						
KIV	**Kislovodsk**	**154.72**	**41**	*e*PKPdf	PKPdf	10 47 04.6	-2.0
KIV				LR	LR		
	comp=Z,158nm,20.0s,MS4.8						
KIV	**Kislovodsk**	**154.72**	**41**	*e*PKIKP	PKPdf	10 47 04.6	-2.0
KIV				MLR	MLR		
	comp=Z,158nm,20.0s,MS4.8						
QURS	**Qurayyt al Mil**	**154.96**	**72**	P	PKPdf	10 47 07.2	-0.1
WMQ	**Urumqi**	**155.12**	**319**	*e*PKP	PKPdf	10 47 07.0	-0.1
WMQ				PP	PP	10 51 11.0	+3.1
WMQ				PP	PP		
	comp=Z,125nm,10.0s						
WMQ				LR	LR		
	comp=N,735nm,25.0s,MS5.6						
WMQ				LR	LR		
	comp=E,824nm,23.0s,MS5.6						
WMQ				LR	LR		
	comp=Z,769nm,22.0s,MS5.5						
MKAR	**Makanchi Array**	**155.84**	**331**	PKP	PKPdf	10 47 04.5	-3.5
	comp=Z,4.3nm,1.1s,baz=38,slow=1.0,SNR=14						
MKAR				PKPab	PKPab	10 47 34.7	+0.9
	comp=Z,3.6nm,0.9s,baz=34,slow=4.4,SNR=6.0						
MKAR				PP	PP	10 51 04.3	-7.8
	comp=Z,3.2nm,1.1s,baz=90,slow=1.2,SNR=5.4						
MKAR	**Makanchi Array**	**155.84**	**331**	PKP	PKPdf	10 47 04.5	-3.5
MKAR				PKPab	PKPab	10 47 34.7	+0.9
MKAR				PP	PP	10 51 04.3	-7.8
PALK	**Pallekele**	**155.93**	**220**	PFAKE		10 47 20.0	+11
PALK				LR	LR		
	comp=Z,343nm,19.0s,MS5.2						
ZEI	**Tsey**	**156.12**	**42**	*e*PKIKP	PKPdf	10 47 09.7	+1.3
LTHS	**Al Lith**	**156.19**	**100**	P	PKPdf	10 47 09.4	+0.3
KBRS	**Khaybar**	**156.48**	**86**	P	PKPdf	10 47 08.8	-0.6
AB31	**Akbulak array**	**156.97**	**9**	*i* PKIKP	PKPdf	10 47 08.4	-1.0
AB31				pmax	pmax		
	comp=Z,122nm,1.8s						
BLJS	**Baljurashi**	**157.09**	**102**	P	PKPdf	10 47 10.9	+0.5
LSA	**Lhasa**	**157.16**	**284**	PKP	PKPdf	10 47 09.0	-1.3
LSA	**Lhasa**	**157.16**	**284**	*e*PKPdf	PKPdf	10 47 09.1	-1.1
LSA				*e*PKPab	PKPab	10 47 41.9	+1.8
TI2	**Plekhanov**	**157.24**	**43**	*e*PKIKP	PKPdf	10 47 01.0	-9.0
DJNS	**Zahran al Janu**	**157.88**	**109**	P	PKPdf	10 47 11.5	0.0
MAK	**Makhachkala**	**158.07**	**37***c*	*i* PKIKP	PKPdf	10 47 10.0	-1.0
MAK				*i*		10 47 44.0	
MAK				*e*		10 54 09.0	
MAK				pmax	pmax		
	comp=Z,600nm,4.0s						
GNI	**Garni**	**158.11**	**47**	PKP	PKPdf	10 47 10.7	-0.5
	comp=Z,3.4nm,0.4s,baz=332,slow=11,SNR=2.6						
GNI	**Garni**	**158.11**	**47**	PKP	PKPdf	10 47 10.7	-0.5
GNI				LR	LR		
	comp=Z,978nm,20.0s,MS5.6						
TATS	**Tathlith**	**158.60**	**105**	P	PKPdf	10 47 12.4	0.0
MSL	**Mosul**	**158.64**	**58**	*e*P	PKPdf	10 47 18.0	+6.0
HILS	**Ha'il**	**158.89**	**82**	P	PKPdf	10 47 11.7	-0.8
AFFS	**'Afif**	**159.51**	**93**	P	PKPdf	10 47 12.7	-0.6
BHD	**Baghdad**	**160.57**	**65**	*e*P	PKPdf	10 47 11.5	-2.6
FRU	**Bishkek**	**162.16**	**338**	*e*PKIKP	PKPdf	10 47 14.6	-0.8
FRU				*e*		10 48 01.0	
FRU				*e*		10 51 43.4	
FRU				pmax	pmax		
	comp=Z,200nm,2.5s						
AAK	**Ala-Archa**	**162.38**	**338**	*e*PKPdf	PKPdf	10 47 13.1	-2.5
AAK				LR	LR		
	comp=Z,226nm,20.0s						
RYDS	**Riyadh**	**162.82**	**94**	P	PKPdf	10 47 15.7	-0.9

MOS ***04*** *10:45:28.9±1.2, 34.89N×26.46E, h10km, mb4.9/41, Error ellipse: s-maj=5.0km s-min=2.5km az=121.1*

IDC ***04*** *10:45:29.7±0.5, 35.08N×26.51E, mb4.4/26, mb1 4.5/35, mb1mx4.5/39, mbtmp4.4/35, ML3.9/8, MS4.0/3, Ms1 4.0/3, ms1mx3.6/32, Error ellipse: s-maj=11.6km s-min=10.0km az=172.0*

CSEM ***04*** *10:45:30.0, 34.98N×26.51E, h10km, mb4.8*

ATH ***04*** *10:45:30.3, 34.94N×26.48E, h22km±1km, MD4.4/17, ML4.7*

NEIC ***04*** *10:45:30.4±0.7, 34.89N×26.50E, h9km±4km, mb4.8/107, MS4.8/1, ML4.7(ATH), ML4.3(GII), Error ellipse: s-maj=3.7km s-min=2.2km az=192.0*

BJI ***04*** *10:45:30.4, 34.90N×26.50E, h9km, mB5.2, mb4.8, Ms4.8, Msz4.6*

HRVD ***04*** *10:45:30.4±1.3, 34.70N×26.28E, h31km±3km, MW5.0/27, Centroid moment Tensor Solution. LP body waves: s8,c9; Mantle waves: s27,c40; Half duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}-0.36±.51; $M_{\theta\theta}$0.03±.44; $M_{\phi\phi}$0.33±.31; $M_{r\theta}$0.63±.50; $M_{\theta\phi}$4.18±.35; $M_{\phi r}$0.89±.47; Best double couple: $M_0$4.303×10^16^ NP1:ϕ_s90°, δ80°, λ7°. NP2:ϕ_s358°, δ83°, λ169°. Principal axes: T 4.598, Plg12°, Azm314°; N -.59, Plg77°, Azm146°; P -4.008, Plg3°, Azm44°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISK ***04*** *10:45:32.9, 35.01N×26.60E, h46km, MD4.4, ML4.5*

ISC 04 10:45:28.7±0.1, 34.83N±0.02×26.51E±0.02, h10km, n497, σ1§30/531, mb4.7/109, MS4.3/9, 17C-5D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.67**	**274**	*e*PN	**Pn**	**10 45 43.2**	**-0.7**
NPS	**Neapolis**	**0.85**	**301**	*i*PN	**Pn**	**10 45 45.5**	**-1.0**
NPS				*e*SN	**Sn**	**10 45 55.7**	**-3.3**
KARP	**Karpathos**	**0.89**	**37**	*e*PB	**Pb**	**10 45 45.4**	**-0.4**
KARP				*e*SN	**Sn**	**10 45 58.5**	**-1.6**
LAST	**Lasithi**	**0.91**	**291**	P	**Pb**	**10 45 45.5**	**-0.5**
IDI	**Anoyia**	**1.40**	**289**	Pg	**Pg**	**10 45 55.0**	**-1.7**
	137nm,0.3s,baz=124,slow=16,SNR=330						
IDI				Lg		10 46 13.9	
	306nm,0.3s,baz=1.5,slow=23,SNR=6.9						
IDI	**Anoyia**	**1.40**	**289**	Pg	**Pg**	**10 45 55.0**	**-1.7**
IDI				Pn	**Pn**	**10 45 56.0**	**+1.6**
IDI				Lg		10 46 13.9	
SIVA	**Sivas**	**1.41**	**278**	Pn	**Pn**	**10 45 56.9**	**+2.4**
THR1	**Thera Island**	**1.75**	**331**	*e*P	**Pn**	**10 46 03.6**	**+4.1**
SANT	**Santorini**	**1.76**	**331**	*e*Pn	**Pn**	**10 45 59.8**	**+0.4**
SANT				*e*Sn	**Sn**	**10 46 22.0**	**0.0**
THR6	**Thira Island,**	**1.77**	**330**	*e*P	**Pn**	**10 46 03.2**	**+3.6**
THR5	**Thira Island,**	**1.84**	**329**	*e*P	**Pn**	**10 46 03.9**	**+3.2**
THR4	**Thira Island,**	**1.86**	**331**	*e*P	**Pn**	**10 46 04.2**	**+3.3**
ARG	**Arkhangelos**	**1.91**	**43⇓**	*i*PN	**Pn**	**10 46 03.6**	**+1.9**
ARG				*e*SN	**Sn**	**10 46 26.8**	**+0.8**
VAM	**Vamos**	**1.98**	**287⇑**	*i*PN	**Pn**	**10 46 05.1**	**+2.5**
GVD	**Gavdhos**	**1.99**	**271**	*e*Pn	**Pn**	**10 46 07.7**	**+4.9**
GVD				*e*Sn	**Sn**	**10 46 27.9**	**-0.1**
BODT	**Bodrum**	**2.32**	**16**	PN	**Pn**	**10 46 07.5**	**0.0**
BODT				SN	**Sn**	**10 46 31.9**	**-4.4**
BODT	**Bodrum**	**2.32**	**16**	Pn	**Pn**	**10 46 06.3**	**-1.2**
BDRM	**Kayabasi**	**2.35**	**19**	*i* P	**Pn**	**10 46 10.4**	**+2.4**
APE	**Apeiranthos**	**2.37**	**341**	PN	**Pn**	**10 46 08.3**	**+0.1**
APE				SN	**Sn**	**10 46 35.2**	**-2.4**
APE	**Apeiranthos**	**2.37**	**341⇑**	*i*PN	**Pn**	**10 46 08.2**	**0.0**
APE				*e*SN	**Sn**	**10 46 36.6**	**-1.0**
APE	**Apeiranthos**	**2.37**	**341***c*	*i*P	**Pn**	**10 46 08.2**	**0.0**
DALT	**Dalyan (Mudla)**	**2.59**	**41**	PN	**Pn**	**10 46 12.1**	**+0.6**
MLSB	**Milas**	**2.66**	**22**	PN	**Pn**	**10 46 12.8**	**+0.3**
YER	**Yerkesik**	**2.71**	**32**	PN	**Pn**	**10 46 13.3**	**+0.2**
KSL	**Kastellorizon**	**2.83**	**61**	*e*PN	**Pn**	**10 46 16.0**	**+1.1**
SMG	**Samos**	**2.88**	**5**	*e*PN	**Pn**	**10 46 16.1**	**+0.5**
SMG				*e*SN	**Sn**	**10 46 49.7**	**-0.9**
AYDN	**Tasoluk**	**3.03**	**21**	*i* P	**Pn**	**10 46 18.5**	**+0.8**
KYTH	**Kithira**	**3.18**	**298**	*e*PN	**Pn**	**10 46 21.0**	**+1.2**
ELL	**Elmali**	**3.36**	**54**	PN	**Pn**	**10 46 22.5**	**+0.1**
ELL	**Elmali**	**3.36**	**54**	Pn	**Pn**	**10 46 24.4**	**+2.0**
VLI	**Veliai**	**3.46**	**304⇑**	*i*PN	**Pn**	**10 46 24.3**	**+0.5**
VLI				*e*SN	**Sn**	**10 47 03.5**	**-1.7**
DNZL	**Cakiroluk**	**3.51**	**35**	*i* P	**Pn**	**10 46 25.5**	**+1.0**
DNZL				*i* S	**Sn**	**10 47 12.

ORLT Orhaneli 5.54 19 *e*PN Pn 10 46 53.6 +0.4
EVR Evrytania 5.55 319 *e*PN Pn 10 46 53.5 +0.1
EVR Evrytania 5.55 319 *e*Pn Pn 10 46 52.7 -0.7
PAIG Paliouri 5.56 337 *e*P Pn 10 46 55.0 +1.4
CSS Prodhromos 5.61 87 *e*Pn Pn 10 46 54.0 -0.3
71nm,0.8s
KONT Konya--Tatoy 5.65 55 *e*PN Pn 10 46 55.2 +0.4
ESKT Eskisehir 5.82 35 *e*PN Pn 10 46 56.8 -0.4
ESKT Eskisehir 5.82 35 Pn Pn 10 46 55.1 -2.1
OUR Ouranopolis 5.84 341 *e*P Pn 10 46 59.5 +2.0
KIZT Kizilcal 5.90 45 *e*PN Pn 10 46 57.7 -0.7
KIZT Kizilcal 5.90 45 Pn Pn 10 46 57.0 -1.4
IKL Isikli 6.02 74 Pn Pn 10 47 00.6 +0.6
LIT Litokhoron 6.15 330 *e*P Pn 10 47 04.0 +2.1
THE Thessaloniki 6.43 335 *e*P Pn 10 47 08.3 +2.5
MEST Erdemli 6.46 72 *i* P Pn 10 47 06.0 -0.1
MEV Metsovon 6.49 321 *e*P Pn 10 47 08.5 +1.8
SRS Serrai 6.68 341 *e*P Pn 10 47 11.4 +2.1
RZN Rozhen 6.99 349 *e*P Pn 10 47 13.0 -0.6
MMB Musomiste 7.09 343 P Pn 10 47 16.0 +0.9
FNA Florina 7.19 327 *e*P Pn 10 47 18.9 +2.4
OFRI 'Ofer 7.40 105 Pn Pn 10 47 19.5 +0.1
HNTI Hanita 7.41 101 Sn Sn 10 48 41.8 -2.8
BRTR Keskin Array B 7.49 47 Pn Pn 10 47 19.9 -0.9
0.4nm,0.3s,baz=207,slow=2.8,SNR=7.1
BRTR Sn **Sn** 10 48 44.8 -1.9
baz=218,slow=28,SNR=1.9
SLTI Sal'it 7.58 108 Pn Pn 10 47 21.2 -0.7
SLTI Sn **Sn** 10 48 44.7 -4.1
KZIT Kziot 7.71 118 Pn Pn 10 47 22.7 -1.0
KZIT Sn **Sn** 10 48 46.5 -5.4
PGB Panagyurishte 7.92 347 *e*P Pn 10 47 27.0 +0.3
MASH Mash'abbe Sade 7.94 117 Pn Pn 10 47 25.5 -1.5
KSHT Keshet 7.95 101 Pn Pn 10 47 26.9 -0.3
KSHT Sn **Sn** 10 48 56.3 -1.8
VTS Vitosha 8.16 343 *e*P P 10 47 31.0 +0.9
VTS Vitosha 8.16 343 P P 10 47 30.2 +0.1
MZDA Masada 8.22 113 Pn P 10 47 30.3 -0.6
MZDA Sn **Sn** 10 48 59.4 -5.4
MKRJ Makawir 8.32 111 Pn P 10 47 31.6 -0.7
KMTI Karmit 8.39 122 Pn P 10 47 32.4 -0.9
KMTI Sn **Sn** 10 49 02.3 -6.8
PRNI Paran 8.45 120 Pn P 10 47 32.5 -1.5
PRNI Sn **Sn** 10 49 05.0 -5.4
PRNI Paran 8.45 120 P P 10 47 32.5 -1.5
PRNI S **Sn** 10 49 04.9 -5.5
ZFRI Zfri 8.46 118 Pn P 10 47 32.7 -1.5
ZFRI Sn **Sn** 10 49 04.2 -6.6
EIL Elat 8.81 123 Pn P 10 47 37.7 -1.4
EIL Sn **Sn** 10 49 12.0 -7.5
TIP Timpagrande 8.92 302 *e*Pn P 10 47 39.1 -1.5
TIP *e*Sn **Sn** 10 49 16.1 -6.1
SOI Samo 9.02 294 P P 10 47 41.7 -0.3
ASF Jabal al Asfar 9.07 104 Pn P 10 47 43.3 +0.5
1.5nm,0.3s,baz=168,slow=13,SNR=8.4
ASF Sn **Sn** 10 49 28.0 +2.0
0.8nm,0.3s,baz=238,slow=14,SNR=2.6
ALWS Ilw as Safayha 9.11 125 P P 10 47 43.3 +0.1
HAQS Haql 9.18 127 P P 10 47 44.1 -0.1
JMOS Jabal al Moall 9.23 125 P P 10 47 44.2 -0.7
JMOS S **Sn** 10 49 27.2 -2.7
MTTG Motta San Giov 9.27 293 P P 10 47 46.7 +1.2
TAYS Tayyib Ism 9.48 129 P P 10 47 48.2 -0.2
ORI Oriolo Calabro 9.55 306 P P 10 47 48.2 -1.1
LTRZ Laterza 9.59 310 P P 10 47 50.6 +0.7
BDAS Al Bad' 9.71 129 P P 10 47 50.3 -1.2
JMQS Jabal Moqyreh 9.93 124 P P 10 47 54.4 -0.1
CUC Castrocucco 9.94 304 P P 10 47 53.8 -0.8
VAE Valguarnera 10.13 289 Pn P 10 47 57.0 -0.3
1.1nm,0.3s,baz=282,slow=8.2,SNR=5.2
VAE Sn **S** 10 49 48.3 -3.7
4.9nm,0.3s,baz=76,slow=6.5,SNR=3.7
MGR Morigerati 10.18 305 P P 10 47 55.5 -2.5
SLCN Sala Consilina 10.25 306 P P 10 47 57.1 -1.8
SVIS Svilajnac 10.29 338 *e* P 10 47 56.7 -2.8
SGO Sicignano 10.55 306 P P 10 48 01.5 -1.5
MLR Muntele Rosu 10.65 358 Pn P 10 48 03.2 -1.2
0.1nm,0.3s,baz=46,slow=23,SNR=1.6
MLR LR LR 10 52 28.1
comp=Z,1μm,18.2s,baz=181,slow=40
CSSN Cassano Irpino 10.89 307 P P 10 48 06.0 -1.6
CII Carovilli 11.79 309 Pn P 10 48 18.2 -1.8
CII *e* 10 48 26.7
AQU L'Aquila 12.70 310 *e*P P 10 48 32.3 +0.2
56nm,1.0s
AQU L'Aquila 12.70 310 *e*P P 10 48 32.3 +0.2
AQU pmax pmax
comp=Z,56nm,1.0s
NRCA Norcia 13.13 311 P P 10 48 37.7 -0.2
MNS Montasola 13.17 309 P P 10 48 41.2 +2.8
BOJS Bojanci 13.68 325 *e*Pn P 10 48 43.0 -2.1
PSZ Piszkesteto 13.97 341 *e*Pn P 10 48 50.6 +1.7
comp=Z,26nm,1.1s
UZH Uzhgorod 14.14 348 *e*P P 10 49 00.0 +8.9
KECS Kecovo 14.35 344 *e*P P 10 48 59.8 +5.9
KOLS Kolonicke sedl 14.43 349 *e*P P 10 48 58.3 +3.4
SFI Santa Sofia 14.49 313 P P 10 48 57.2 +1.4
CRVS Cervenica-Dubn 14.55 347 *e*P P 10 49 05.7 +9.3
CSNT Castellina Chi 14.60 311 P P 10 48 57.0 -0.2
GRFL Gerfalco 14.64 309 P P 10 49 00.7 +3.0
VOY Vojsko 14.72 323 *e*Pn P 10 48 58.0 -0.7
VOY *e* 10 49 04.5
VOY *e* 10 51 43.7
VYHS Vyhne 14.79 340 *e*PN P 10 48 59.9 +0.3
SOP Sopron 14.84 333 P P 10 49 00.5 +0.2
ARSA Arzberg 14.90 330 P P 10 49 00.3 -0.7
KWP Kalwaria 15.05 350 *e*Pn P 10 49 06.3 +3.3
comp=Z,67nm,1.5s
KWP *e* 10 49 22.9
STHS Stebnicka Huta 15.08 347 *i* P P 10 49 09.8 +6.4
LVV L'vov 15.09 354 *e*P P 10 49 11.0 +7.5
LVV MLR MLR
comp=N,400nm,13.0s
LVV MLR MLR
comp=E,1μm,13.0s
LVV MLR MLR
comp=Z,300nm,13.0s
PTCC Patocco-Chiusa 15.25 323 P P 10 49 05.5 -0.2
NIE Niedzica 15.27 344 *e*P P 10 49 11.7 +5.8
GNI Garni 15.41 65 Pn P 10 49 13.0 +5.2
comp=Z,0.3nm,0.3s,baz=28,slow=14,SNR=2.8
GNI Garni 15.41 65 *e*P P 10 49 14.2 +6.5
GNI Garni 15.41 65 *e*P P 10 49 12.2 +4.4
GNI pmax pmax
comp=Z,38nm,1.7s
KIV Kislovodsk 15.45 49 *e*Pn P 10 49 14.2 +5.9
comp=Z,95nm,1.4s
KIV Kislovodsk 15.45 49 *c i*P P 10 49 14.1 +5.8
KIV pmax pmax
comp=Z,77nm,1.7s
ABSA Djebel Ababsia 15.56 281 P P 10 49 18.0 +8.3
CMAH Djebel Manchou 15.61 282 P P 10 49 17.0 +6.6
PGF Ploggiola 15.67 305 *e*P P 10 49 09.7 -1.5
comp=Z,163nm,1.3s
PGF Ploggiola 15.67 305 *e*P P 10 49 09.7 -1.5
PGF pmax pmax
comp=Z,81nm,1.3s
ZEI Tsey 15.69 54 *e*P P 10 49 12.6 +1.3
MOA Molln 15.90 329⇑ *i*P P 10 49 13.7 -0.3
comp=Z,26nm,1.2s
KIEV Kiev 15.97 6 P P 10 49 17.0 +2.0
AKASG Malin Array Be 15.98 6 Pn P 10 49 12.7 -2.4
comp=Z,0.6nm,0.3s,baz=196,slow=11,SNR=7.3
AKASG Malin Array Be 15.98 6 *i* P P 10 49 18.4 +3.3
AKASG pmax pmax
comp=Z,14nm,0.6s
KRUC Moravsky 16.06 335 P P 10 49 18.1 +2.0
OJC Ojcow 16.14 344 *e*P P 10 49 20.1 +3.0
CKFL Kef-Lekhel 16.17 281 P P 10 49 20.5 +2.9
OKC Ostrava-Krasne 16.20 340 *e*P P 10 49 20.7 +2.8
OKC AMS AMS 10 55 40.0
comp=Z,600nm,14.1s
VRAC Vranov 16.21 336 Pn P 10 49 17.9 0.0
comp=Z,0.4nm,0.3s,baz=141,slow=9.6,SNR=6.4
MORC Moravsky Berou 16.32 339 *e*P P 10 49 18.8 -0.6
comp=Z,9.9nm,0.8s
MORC Moravsky Berou 16.32 339 *e*P P 10 49 18.8 -0.6
MORC pmax pmax
comp=Z,10.0nm,0.8s
WTTA Wattenberg 16.70 323⇑ *i*P P 10 49 25.2 +1.0
comp=Z,52nm,1.3s
WTTA Wattenberg 16.70 323⇑ *i*P P 10 49 25.2 +1.0
WTTA pmax pmax
comp=Z,52nm,1.3s
DFRA Djebel Bou Aff 16.85 282 P P 10 49 26.0 -0.2
PCP Pian Castagno 16.85 310 P P 10 49 27.4 +1.2
GERES GERESS Array B 16.91 330 Pn P 10 49 26.4 -0.4
comp=Z,0.3nm,0.3s,baz=144,slow=12,SNR=17
FIN Finale Ligure 16.91 309 P P 10 49 25.9 -1.0
IMI Imperia 16.98 308 P P 10 49 27.4 -0.4
MOTA Moosalm 17.02 322⇑ *i*P P 10 49 28.0 -0.3
comp=Z,20nm,1.1s
MOTA Moosalm 17.02 322⇑ *i*P P 10 49 28.0 -0.3
MOTA pmax pmax
comp=Z,20nm,1.1s
NEGI Negi 17.07 307 P P 10 49 31.4 +2.4
ROB Roburent 17.16 309 P P 10 49 31.1 +1.0
KHC Kasperske Hory 17.18 330 *e*P P 10 49 29.9 -0.4
KHC AMS AMS 10 58 20.0
comp=Z,900nm,12.2s
DPC Dobruska-Polom 17.20 337 *e*P P 10 49 31.4 +0.9
DPC AMS AMS 10 58 40.0
comp=Z,700nm,14.6s
SAOF Saorge 17.23 308 *e*P P 10 49 32.8 +1.8
REVF Revere 17.25 307 *e*P P 10 49 34.2 +3.0
SBF Sospel 17.26 307 *e*P P 10 49 29.8 -1.5
comp=Z,130nm,0.9s
SBF Sospel 17.26 307 *e*P P 10 49 29.8 -1.5
SBF pmax pmax
comp=Z,65nm,0.9s
DAVOX Davos 17.30 319 P P 10 49 32.0 +0.2
comp=Z,0.3nm,0.3s,baz=131,slow=8.6,SNR=7.6
AUTN L'Aution 17.32 308 *e*P P 10 49 34.2 +2.2
TUE Stuetta 17.41 317 P P 10 49 34.4 +1.2
ENR Entracque 17.42 308 P P 10 49 34.4 +1.0
UPC Upice 17.43 337 *e*P P 10 49 34.1 +0.7
TOUF Mont Tournerai 17.44 307 *e*P P 10 49 35.8 +2.2
MVIF Mont Vial 17.46 307 *e*P P 10 49 35.8 +2.0
WET Wettzell 17.48 329 P P 10 49 36.2 +2.1
STV Sta Anna Valdi 17.49 308 P P 10 49 35.8 +1.5
PRU Pruhonice 17.50 334 *e*P P 10 49 33.7 -0.5
PRU AMS AMS 10 57 30.0
comp=Z,600nm,10.9s
CALN Calern 17.57 306 *e*P P 10 49 36.1 +0.9
DAVA Damuels 17.62 320⇑ *i*P P 10 49 35.4 -0.3
comp=Z,20nm,1.0s
KSP Ksiaz 17.64 338 *e*P P 10 49 38.5 +2.5
KSP Ksiaz 17.64 338 *e*P P 10 49 37.1 +1.1
FRF La Foret Royal 17.66 305 *e*P P 10 49 34.9 -1.4
comp=Z,87nm,1.2s
FRF La Foret Royal 17.66 305 *e*P P 10 49 34.9 -1.4
FRF pmax pmax
comp=Z,44nm,1.2s
LMR La Mourre 17.66 305 *e*P P 10 49 34.6 -1.8
ORX Oropa 17.75 313 P P 10 49 35.9 -1.5
UBR Uberruh 17.75 321 P P 10 49 39.3 +1.9
BHB Bricherasio 17.80 310 P P 10 49 38.8 +0.8
TRAV 17.83 312 P P 10 49 36.6 -1.7
PVCC Panska Ves 17.94 335 *e*P P 10 49 39.7 0.0
PVCC AMS AMS 10 59 10.0
comp=Z,400nm,18.7s
RSP Reno Superiore 17.95 311 P P 10 49 38.3 -1.6
MMK Mattmark 17.97 314⇓ *i*P P 10 49 42.5 +2.3
FENE Fenestrelle 18.02 310 P P 10 49 42.5 +1.8
MBDF Montbardon 18.06 309 *e*P P 10 49 39.9 -1.4
comp=Z,80nm,0.9s
MBDF Montbardon 18.06 309 *e*P P 10 49 39.9 -1.4
MBDF pmax pmax
comp=Z,40nm,0.9s
MUO Muotathal 18.10 317⇑ *i*P P 10 49 44.2 +2.4
RRL Cesana Torines 18.14 310 P P 10 49 45.3 +3.0
LSD Ceresole Reale 18.16 312 P P 10 49 45.2 +2.7
MAK Makhachkala 18.22 57 *e*P P 10 49 48.0 +4.7
MAK *e*S **S** 10 53 12.0 +8.3
MAK smax
comp=N,1μm,8.0s
MAK smax
comp=E,1μm,8.0s
BNI Bardonecchia 18.27 310 *e*P P 10 49 44.4 +0.5
comp=E,44nm,1.1s
BNI Bardonecchia 18.27 310 *e*P P 10 49 44.4 +0.5
BNI pmax pmax
comp=Z,44nm,1.1s
DIX Grande Dixence 18.32 314⇓ *i*P P 10 49 46.1 +1.6
LKBD Leukerbad 18.35 315⇑ *i*P P 10 49 44.8 -0.1
LPG La Plagne 18.43 311 *e*P P 10 49 44.6 -1.3
comp=Z,86nm,0.9s
LPG La Plagne 18.43 311 *e*P P 10 49 44.6 -1.3
LPG pmax pmax
comp=Z,43nm,0.9s
BRG Berggiesshubel 18.45 334 *e*P P 10 49 45.8 -0.3
comp=Z,18nm,1.1s
BRG *i* 10 49 55.0
BRG Berggiesshubel 18.45 334 *e*P P 10 49 45.8 -0.2
BRG pmax pmax
comp=Z,18nm,1.1s
BRG pmax pmax
comp=Z,20nm,1.2s
LPL La Plagne 18.45 311 *e*P P 10 49 44.9 -1.2
comp=Z,46nm,0.7s
LPL La Plagne 18.45 311 *e*P P 10 49 44.9 -1.2
LPL pmax pmax
comp=Z,23nm,0.7s
NKC Novy Kostel 18.50 331 *e*P P 10 49 46.1 -0.6
NKC AMS AMS 10 58 40.0
comp=Z,800nm,12.9s
GUT Gutenstein 18.51 321 P P 10 49 46.5 -0.4
SMRF Simiane la Rot 18.53 306 *e*P P 10 49 45.5 -1.7
GRA1 Grafenberg Arr 18.61 328 *e*P P 10 49 46.1 -2.0
comp=Z,70nm,1.1s
GRF Grafenberg Arr 18.61 328 *e*P P 10 49 46.1 -2.0
comp=Z,70nm,1.1s
GRF Grafenberg Arr 18.61 328 *e*P P 10 49 46.1 -2.0
GRF pmax pmax
comp=Z,70nm,1.1s
GRF Grafenberg Arr 18.61 328 *e*P P 10 49 46.1 -2.0
GRF pmax pmax
comp=Z,70nm,1.1s
GRFO Grafenberg 18.61 328 P P 10 49 46.3 -1.8
SULZ Sulz-Cheisache 18.71 318⇓ *i*P P 10 49 50.9 +1.5
ORIF Oris-en-Rattie 18.72 309 *e*P P 10 49 47.8 -1.6
comp=Z,36nm,0.9s
ORIF Oris-en-Rattie 18.72 309 *e*P P 10 49 47.8 -1.6
ORIF pmax pmax
comp=Z,18nm,0.9s
VRSR Storozhevoye 18.77 25 *e*P P 10 49 52.5 +2.5
VRSR pmax pmax
comp=Z,9.0nm,1.0s
VRSR pmax pmax
comp=E,10.0nm,1.3s
VRSR pmax pmax
comp=Z,9.0nm,1.0s
VRSR pmax pmax
comp=E,10.0nm,1.3s
FELD Feldberg 18.98 319 *e*P P 10 49 51.6 -0.9
BBS Basel-Blauen 19.01 317 *e*P P 10 49 52.2 -0.7
BFO Black Forest 19.09 320 P P 10 49 53.5 -0.3
SIND Sindeldorf 19.11 324 P P 10 49 55.9 +1.8
ABA Alger-Bouzarea 19.13 283 P P 10 49 54.0 -0.4
CLL Collm 19.14 333 P P 10 49 53.0 -1.4
comp=E,logA/T=1.3
CLL *i* 10 50 03.1
CLL *i* PP PP 10 50 09.1 -2.2
CLL Collm 19.14 333 *e*P P 10 49 53.0 -1.4
comp=E,19nm,0.9s
CLL *i* pP 10 50 03.1
CLL Collm 19.14 333 *e*P P 10 49 53.0 -1.4
CLL pmax pmax
comp=Z,19nm,0.9s
MOX Moxa 19.16 330 *i* P P 10 49 54.7 +0.1
MOX Moxa 19.16 330 P P 10 49 54.0 -0.6
EMHD Djebel Mahouad 19.22 281 P P 10 49 56.5 +1.1
SUW Suwalki 19.32 354 *e*P P 10 49 56.8 +0.3
SUW Suwalki 19.32 354 *e*P P 10 49 56.8 +0.3
LOMF Lomont 19.33 316 *e*P P 10 49 57.0 +0.3
CABF La Chapelle 19.38 314 *e*P P 10 49 54.8 -2.4
comp=Z,98nm,0.8s
CABF La Chapelle 19.38 314 *e*P P 10 49 54.8 -2.4
CABF pmax pmax
comp=Z,49nm,0.8s
MOF Molkenrain 19.44 318 *e*P P 10 49 58.2 +0.2
ETOS Mallorca 19.46 292 P P 10 49 56.6 -1.6
comp=Z,36nm,1.3s
VIVF Saint-Julien-l 19.47 307 *e*P P 10 49 56.5 -1.8
comp=Z,106nm,1.0s
VIVF Saint-Julien-l 19.47 307 *e*P P 10 49 56.5 -1.8
VIVF pmax pmax
comp=Z,53nm,1.0s
HINF Hinteralfeld 19.58 317 *e*P P 10 49 57.4 -2.1
comp=Z,14nm,0.6s
HINF Hinteralfeld 19.58 317 *e*P P 10 49 57.4 -2.1
HINF pmax pmax
comp=Z,7.0nm,0.6s
VRHR Novokhopersk 19.60 29 *e*P P 10 50 00.5 +0.8
VRHR pmax pmax
comp=Z,20nm,0.7s
VRHR pmax pmax
comp=N,30nm,0.9s
VRHR pmax pmax
comp=E,20nm,0.7s
SWS Schriesheim 19.64 324 P P 10 50 01.8 +1.6
ECH Echery 19.64 319 *e*P P 10 49 58.2 -2.0
WLS Welschbruch 19.65 319 *e*P P 10 49 59.8 -0.5
TOD Tromm 19.67 324 *e*P P 10 49 59.4 -1.1
MNK Minsk 19.69 2 *e*P P 10 50 02.0 +1.3
CDF Champ du Feu 19.69 319 *e*P P 10 49 58.9 -1.9
comp=E,49nm,0.9s
CDF Champ du Feu 19.69 319 *e*P P 10 49 58.9 -1.9
CDF pmax pmax
comp=Z,24nm,0.9s
LASF Ste Croix 19.73 305 *e*P P 10 49 59.5 -1.7
comp=Z,51nm,1.2s
LANF Langenberg 19.76 321 *e*P P 10 50 00.5 -1.1
KTD Kalmit 19.84 322 P P 10 50 03.1 +0.7
RUE Ruedersdorf 19.84 337 *e*P P 10 50 02.7 +0.2
comp=Z,54nm,1.4s
EJON La Jonquera 19.91 299 P P 10 50 01.6 -1.7
comp=Z,38nm,1.3s
HAU Haudompre 19.97 317 *e*P P 10 50 01.8 -2.0
comp=Z,44nm,0.8s
HAU Haudompre 19.97 317 *e*P P 10 50 01.8 -2.0
HAU pmax pmax
comp=Z,22nm,0.8s
TNS Taunus Mts 20.26 325 P P 10 50 05.8 -1.0
THEF They Montfort 20.29 317 *e*P P 10 50 05.9 -1.3
EBNR Beni Rached 20.36 281 P P 10 50 08.5 +0.5
COLF Collangettes 20.37 308 *e*P P 10 50 07.8 -0.3
ABH Alteburg 20.47 323 P P 10 50 10.3 +1.3
ECHA Ech Chlef 20.50 281 P P 10 50 13.0 +3.5
EIBI Ibiza 20.52 289 P P 10 50 07.4 -2.3
comp=Z,38nm,1.2s
VALF Valcebollere 20.53 299 *e*P P 10 50 11.1 +1.4
LBL Lubilhac 20.55 307 *e*P P 10 50 10.6 +0.7
RUP Ruppelstein 20.59 322 P P 10 50 10.5 +0.1
PLDF La Plantade 20.60 310 *e*P P 10 50 10.1 -0.4
ETRT Tiaret 20.62 279 P P 10 50 10.0 -0.7
MTLF Montolieu 20.63 302 *e*P P 10 50 09.2 -1.5
comp=Z,51nm,1.1s
MTLF Montolieu 20.63 302 *e*P P 10 50 09.2 -1.5
MTLF pmax pmax
comp=Z,26nm,1.1s
EANR 'Ain N'Sour 20.73 280 P P 10 50 13.5 +1.6
SMF Signal de Mont 20.76 311 *e*P P 10 50 09.5 -2.6
comp=Z,46nm,0.6s
SMF Signal de Mont 20.76 311 *e*P P 10 50 09.5 -2.6
SMF pmax pmax
comp=Z,23nm,0.6s
EMIR Miracle 20.78 297 P P 10 50 11.6 -0.7
comp=Z,76nm,2.0s
PYM Petit Puy Mans 20.91 309 *e*P P 10 50 13.7 +0.1
AGO Saint Agoulin 20.95 309 *e*P P 10 50 13.9 -0.1
MEZF Maizieres J'vi 20.96 317 *e*P P 10 50 12.3 -1.9
comp=Z,40nm,0.5s
EPOB Poblet 21.00 296 P P 10 50 13.1 -1.6
comp=Z,47nm,1.1s,mb4.7
LOR Lormes 21.03 313 *e*P P 10 50 12.9 -2.0
comp=Z,148nm,1.0s,mb5.0
LOR Lormes 21.03 313 *e*P P 10 50 12.9 -2.0
LOR pmax pmax
comp=Z,74nm,1.0s,mb5.0
WLF Walferdange 21.04 321 *e*P P 10 50 13.4 -1.5
comp=Z,35nm,1.0s,mb4.7
WLF Walferdange 21.04 321 *e*P P 10 50 13.5 -1.4
WLF pmax pmax
comp=Z,35nm,1.0s,mb4.6
AVF Avril sur Loir 21.12 311 *e*P P 10 50 13.8 -2.0
comp=Z,131nm,0.9s,mb5.0
AVF Avril sur Loir 21.12 311 *e*P P 10 50 13.8 -2.0
AVF pmax pmax
comp=Z,65nm,0.9s,mb5.0
SSF Saint Saulge 21.15 312 *e*P P 10 50 14.3 -1.8
comp=Z,235nm,0.9s,mb5.5
SSF Saint Saulge 21.15 312 *e*P P 10 50 14.3 -1.8
SSF pmax pmax
comp=Z,235nm,0.9s,mb5.5
SALF Salau 21.21 299 *e*P P 10 50 16.3 -0.4
CAF Calviac 21.22 306 *e*P P 10 50 14.9 -1.9
comp=Z,63nm,1.2s,mb4.5
CAF Calviac 21.22 306 *e*P P 10 50 14.9 -1.9
CAF pmax pmax
comp=Z,31nm,1.2s,mb4.5
VERF Verneugheol 21.24 308 *e*P P 10 50 17.1 +0.1
MLS Moulis 21.32 300 *e*P P 10 50 14.4 -3.4
EBR Ebro Roquetas 21.36 294 *e*P P 10 50 17.5 -0.7
OBN Obninsk 21.45 16⇑ *i*P P 10 50 20.9 +1.8
OBN *e* 10 50 37.0
OBN *e*S **S** 10 54 18.0 +6.0
OBN pmax pmax
comp=Z,35nm,1.0s,mb4.6
OBN MLR MLR
comp=Z,400nm,16.0s,MS3.9
TCF Toulx Ste Croi 21.63 309 *e*P P 10 50 19.4 -1.5
comp=Z,44nm,0.9s,mb4.6
TCF Toulx Ste Croi 21.63 309 *e*P P 10 50 19.4 -1.5
TCF pmax pmax
comp=Z,22nm,0.9s,mb4.6
RJF Les Rejaudoux 21.71 306 *e*P P 10 50 20.4 -1.4
comp=Z,130nm,1.1s,mb5.0
RJF Les Rejaudoux 21.71 306 *e*P P 10 50 20.4 -1.4
RJF pmax pmax
comp=Z,65nm,1.1s,mb5.0
EGRA Graus 21.72 298 P P 10 50 19.4 -2.4
comp=Z,35nm,1.5s,mb4.6
EBEN Beniarda 21.73 288 P P 10 50 20.6 -1.4
comp=Z,97nm,1.3s,mb5.1
HYF Humbligny 21.77 312 *e*P P 10 50 21.0 -1.3
EPF Esparros 21.88 300 *e*P P 10 50 22.1 -1.3
EBIE Bielsa 21.94 299 P P 10 50 24.4 +0.3
comp=Z,12nm,1.1s,mb4.2
GIVF Givet 21.99 321 *e*P P 10 50 22.7 -1.8
comp=Z,47nm,0.8s,mb4.7
GIVF Givet 21.99 321 *e*P P 10 50 22.7 -1.8
GIVF pmax pmax
comp=Z,24nm,0.8s,mb4.7
EMOS Mosqueruela 22.04 292 P P 10 50 24.6 -0.4
comp=Z,36nm,1.2s,mb4.7
LFF La Frestale 22.11 305 *e*P P 10 50 24.4 -1.4
comp=Z,103nm,1.2s,mb4.8
LFF La Frestale 22.11 305 *e*P P 10 50 24.4 -1.4
LFF pmax pmax
comp=Z,52nm,1.2s,mb4.8
ESAC San Caprasio 22.21 296 P P 10 50 27.4 +0.6
comp=Z,50nm,1.1s,mb4.9
BSEG Bad Segeberg 22.23 334 P P 10 50 27.0 +0.1
MOS Moscow 22.27 17 *e*P P 10 50 31.1 +3.9
MOS *e* 10 50 58.1
MOS pmax pmax
comp=Z,40nm,0.6s,mb5.0
BAIF Baives 22.29 320 *e*P P 10 50 25.3 -2.2
comp=Z,162nm,1.1s,mb5.1
BAIF Baives 22.29 320 *e*P P 10 50 25.3 -2.2
BAIF pmax pmax
comp=Z,81nm,1.1s,mb5.1
ECHE Chera 22.35 290 P P 10 50 27.8 -0.3
comp=Z,9.0nm,1.2s,mb4.1
ECHE Chera 22.35 290 P P 10 50 27.8 -0.4
ECHE pmax pmax
comp=Z,9.0nm,1.2s,mb4.1
ETSF Etsaut 22.49 299 *e*P P 10 50 28.5 -1.1
comp=Z,21nm,0.9s,mb4.3
ETSF Etsaut 22.49 299 *e*P P 10 50 28.5 -1.1
ETSF pmax pmax
comp=Z,10.0nm,0.9s,mb4.2
EMUR La Murta 22.52 286 P P 10 50 31.1 +1.2
comp=Z,12nm,1.2s,mb4.2
ETOB Tobarra 22.76 288 P P 10 50 31.9 -0.3
comp=Z,26nm,1.8s,mb4.4
SJPF Ste Jean 23.01 299 *e*P P 10 50 34.4 -0.3
comp=Z,62nm,0.8s,mb4.8
SJPF Ste Jean 23.01 299 *e*P P 10 50 34.4 -0.3
SJPF pmax pmax

comp=Z,31nm,0.8s,mb4.8
OSSF Osses 23.07 300 *e*P **P 10 50 36.0 +0.8**
EALK Alkurruntz 23.24 300 P **P 10 50 37.1 +0.3**
comp=Z,38nm,1.2s,mb4.7
MFF Saint Martin d 23.26 308 *e*P **P 10 50 36.3 -0.7**
comp=Z,44nm,0.6s,mb4.7
MFF Saint Martin d 23.26 308 *e*P **P 10 50 36.3 -0.7**
MFF pmax pmax
comp=Z,22nm,0.6s,mb4.8
ENIJ Nijar 23.32 284 P **P 10 50 38.6 +0.9**
comp=Z,3.5nm,0.8s,mb3.8
ENIJ Nijar 23.32 284 P **P 10 50 38.6 +0.9**
ENIJ pmax pmax
comp=Z,4.0nm,0.8s,mb3.9
EVIA Vianos 23.51 288 P **P 10 50 40.1 +0.5**
comp=Z,38nm,0.8s,mb4.9
EVIA Vianos 23.51 288 P **P 10 50 40.1 +0.6**
EVIA pmax pmax
comp=Z,38nm,0.8s,mb4.9
EHUE Huescar 23.59 286 P **P 10 50 41.1 +0.8**
comp=Z,19nm,1.0s,mb4.5
EHUE Huescar 23.59 286 P **P 10 50 41.1 +0.8**
EHUE pmax pmax
comp=Z,19nm,1.0s,mb4.5
LCHF La Chataignera 23.66 308 *e*P **P 10 50 43.5 +2.6**
ECRI Cripan 23.85 298 P **P 10 50 43.6 +0.8**
comp=Z,18nm,0.7s,mb4.6
ECRI Cripan 23.85 298 P **P 10 50 43.6 +0.8**
ECRI pmax pmax
comp=Z,18nm,0.7s,mb4.6
EBER Berja 23.87 284 P **P 10 50 44.3 +1.3**
comp=Z,52nm,0.9s,mb5.0
EQES Quesada 23.97 286 P **P 10 50 45.2 +1.1**
comp=Z,26nm,1.0s,mb4.6
FLN La Foliniere 24.31 313 *e*P **P 10 50 45.7 -1.5**
comp=Z,133nm,1.0s,mb5.0
FLN La Foliniere 24.31 313 *e*P **P 10 50 45.7 -1.5**
FLN pmax pmax
comp=Z,67nm,1.0s,mb5.0
GRR Gorron 24.38 312 *e*P **P 10 50 46.4 -1.5**
comp=Z,164nm,1.1s,mb5.1
GRR Gorron 24.38 312 *e*P **P 10 50 46.4 -1.5**
GRR pmax pmax
comp=Z,82nm,1.1s,mb5.1
EGUA Guajares 24.42 283 P **P 10 50 49.8 +1.4**
comp=Z,0.8nm,0.6s
EGUA Guajares 24.42 283 P **P 10 50 49.8 +1.4**
EGUA pmax pmax
comp=Z,1.0nm,0.6s
EBAN Banos Encina 24.52 287 P **P 10 50 48.7 -0.7**
comp=Z,22nm,1.1s,mb4.6
EBAN Banos Encina 24.52 287 P **P 10 50 48.7 -0.7**
EBAN pmax pmax
comp=Z,22nm,1.1s,mb4.6
ERON Agron 24.60 284 P **P 10 50 50.5 +0.4**
comp=Z,3.8nm,0.7s,mb4.0
ELAN Lanestosa 24.62 299 P **P 10 50 51.0 +0.7**
comp=Z,42nm,1.4s,mb4.8
ESDC Sonseca Array 24.66 290 P **P 10 50 50.8 0.0**
comp=Z,14nm,0.6s,mb4.6,baz=81,slow=9.5,SNR=55
ESDC Sonseca Array 24.66 290 P **P 10 50 50.8 +0.1**
comp=Z,33nm,0.9s,mb4.9
ELUQ Luque 24.93 285 P **P 10 50 53.8 +0.5**
comp=Z,29nm,0.7s,mb4.9
ELUQ Luque 24.93 285 P **P 10 50 53.8 +0.5**
ELUQ pmax pmax
comp=Z,29nm,0.7s,mb4.9
EADA Adamuz 25.15 287 P **P 10 50 55.9 +0.5**
comp=Z,12nm,0.8s,mb4.5
SGMF Saint Gilles 25.38 311 *e*P **P 10 50 56.2 -1.2**
comp=Z,137nm,1.0s,mb5.2
SGMF Saint Gilles 25.38 311 *e*P **P 10 50 56.2 -1.2**
SGMF pmax pmax
comp=Z,68nm,1.0s,mb5.1
EMIJ Mijas 25.41 283 P **P 10 50 57.3 -0.6**
comp=Z,53nm,0.7s,mb5.2
QUIF Quistinic 25.64 310 *e*P **P 10 50 57.8 -2.1**
comp=Z,83nm,0.9s,mb5.0
QUIF Quistinic 25.64 310 *e*P **P 10 50 57.8 -2.1**
QUIF pmax pmax
comp=Z,42nm,0.9s,mb5.0
ECAB El Cabril 25.82 287 P **P 10 51 01.6 -0.1**
comp=Z,22nm,1.1s,mb4.6
ROSF Rostrenen 25.85 311 *e*P **P 10 51 00.1 -1.8**
comp=Z,86nm,1.0s,mb4.9
ROSF Rostrenen 25.85 311 *e*P **P 10 51 00.1 -1.8**
ROSF pmax pmax
comp=Z,43nm,1.0s,mb4.9
EARI Arriondas 25.91 299 P **P 10 51 04.5 +2.0**
comp=Z,34nm,1.1s,mb4.8
ESPR Espera 26.25 284 P **P 10 51 06.5 +0.8**
comp=Z,33nm,1.0s,mb4.8
FINES FINESS Array B 26.63 360 P **P 10 51 05.8 -3.2**
comp=Z,1.7nm,0.8s,baz=320,slow=33,SNR=5.3
FINES PcP PcP 10 54 32.9 -0.5
comp=Z,1.9nm,0.8s,baz=166,slow=5.7,SNR=3.3
FINES FINESS Array B 26.63 360 P **P 10 51 05.8 -3.1**
FINES 10 54 32.9
FINES pmax pmax
comp=Z,2.0nm,0.9s
FINES pmax pmax
comp=Z,2.0nm,0.8s
HFS Hagfors 26.65 346 P **P 10 51 07.3 -1.8**
comp=Z,2.2nm,0.5s,mb4.0,baz=121,slow=8.6,SNR=9.9
HFS Hagfors 26.65 346 P **P 10 51 07.3 -1.8**
HFA0 Hagfors New Ar 26.66 346 P **P 10 51 07.9 -1.3**
EMIN Mina Concepcio 26.82 286 P **P 10 51 10.7 -0.2**
comp=Z,15nm,0.9s,mb4.5
ECAL Calabor 26.89 295 P **P 10 51 11.6 +0.1**
comp=Z,60nm,1.2s,mb5.0
EBAD Badajoz 27.04 288 P **P 10 51 12.3 -0.6**
comp=Z,30nm,0.8s,mb4.9
EPON Pontenova 27.32 298 P **P 10 51 16.9 +1.5**
comp=Z,69nm,1.3s,mb5.0
MTE Manteigas 27.43 292 *e*P **P 10 51 16.2 -0.2**
comp=Z,24nm,0.9s,mb4.7
EGRO El Granado 27.48 286 P **P 10 51 15.4 -1.6**
comp=Z,29nm,0.6s,mb5.0
ATD Arta Tunnel 27.55 143 LR LR 11 01 53.8
comp=Z,193nm,19.4s,MS3.7,baz=321,slow=36
NB2 NORSAR Subarra 28.00 344 P **P 10 51 18.9 -2.6**
comp=Z,1.6nm,0.6s,mb3.8,baz=151,slow=10
NB2 NORSAR Subarra 28.00 344 P **P 10 51 18.9 -2.6**
NB2 pmax pmax
comp=Z,2.0nm,0.6s,mb3.9
NOA NORSAR Array B 28.00 344 P **P 10 51 19.6 -1.9**
comp=Z,0.4nm,0.4s,baz=146,slow=8.0,SNR=4.9
EKA Eskdalemuir Ar 28.95 324 P **P 10 51 28.5 -1.5**
comp=Z,10nm,0.8s,mb4.6,baz=138,slow=11,SNR=4.4
ESK Eskdalemuir 28.96 324 *e*P **P 10 51 28.9 -1.2**
ARU Arti 30.67 35 *e*P **P 10 51 44.2 -1.2**
ARCES ARCESS Array B 34.76 359 P **P 10 52 17.8 -3.0**
comp=Z,6.9nm,0.8s,mb4.7,baz=180,slow=8.5,SNR=14
ARCES PcP PcP 10 54 54.5 -0.2
comp=Z,0.5nm,0.4s,baz=179,slow=3.0,SNR=5.2
ARE0 ARCESS Array S 34.76 359 *e*P **P 10 52 20.3 -0.5**
ARE0 *e* 10 53 51.7
BRVK Borovoye 35.72 46 *e*P **P 10 52 29.2 0.0**
comp=Z,16nm,1.4s,mb4.8
BRVK Borovoye 35.72 46 *e*P **P 10 52 29.2 0.0**
BRVK pmax pmax
comp=Z,16nm,1.4s,mb4.8
BVAR Borovoye Array 35.78 46 P **P 10 52 28.1 -1.5**
comp=Z,4.7nm,0.8s,mb4.5,baz=248,slow=6.4,SNR=12
AAK Ala-Archa 37.81 63 *e*P **P 10 52 47.3 +0.4**
comp=Z,9.0nm,1.0s,mb4.5
AAK Ala-Archa 37.81 63⇑ *i*P **P 10 52 47.2 +0.3**
AAK pmax pmax
comp=Z,20nm,1.6s,mb4.6
DBIC Dimbokro 40.24 233 P **P 10 53 08.6 +1.2**
comp=Z,10nm,0.6s,mb4.7,baz=24,slow=9.8,SNR=20
KURK Kurchatov 40.53 51 *e*P **P 10 53 09.6 +0.2**
comp=Z,9.9nm,0.8s,mb4.5
KURK PP PP 10 54 42.0 -4.3
KURK Kurchatov 40.53 51 *e*P **P 10 53 09.6 +0.2**
KURK 10 54 42.0
KURK pmax pmax
comp=Z,10.0nm,0.8s,mb4.5
LIC Lamto 40.69 233 *e*P **P 10 53 12.2 +1.1**
comp=Z,21nm,0.9s,mb4.8
CMLA Cha da Macela 41.60 290 P **P 10 53 17.8 -0.5**
MKAR Makanchi Array 43.03 56 P **P 10 53 30.7 +0.7**
comp=Z,7.8nm,0.5s,mb4.7,baz=273,slow=7.6,SNR=62
MKAR PcP PcP 10 55 18.8 -1.9
comp=Z,2.0nm,0.8s,baz=270,slow=4.1,SNR=2.1
MKAR Makanchi Array 43.03 56 P **P 10 53 30.7 +0.7**
MKAR PcP PcP 10 55 18.8 -1.9

MKAR Makanchi Array 43.03 56 *e*P **P 10 53 30.7 +0.8**
NVS Novosibirsk 43.54 45 *i*P **P 10 53 34.0 +0.1**
NVS *e*S **S 10 59 59.0 -3.5**
NVS pmax pmax
comp=Z,32nm,1.3s,mb4.9
NVS pmax pmax
comp=N,31nm,1.8s
NVS smax
comp=N,38nm,2.5s
ZAL Zalesovo 44.42 46 P **P 10 53 40.2 -0.9**
comp=N,7.7nm,0.5s,mb4.7,baz=204,slow=6.2,SNR=12
ZAL LR LR 11 15 26.3
comp=N,210nm,19.0s,MS4.1,baz=211,slow=41
WMQ Urumqi 47.21 60 *e*P **P 10 54 08.0 +4.6**
WMQ PP PP 10 55 59.0 +5.0
WMQ S **S 11 00 57.0 +1.6**
WMQ SCS ScS 11 03 55.0 -0.2
WMQ SS SS 11 04 18.0 +2.0
WMQ AMB AMB
comp=Z,17nm,1.0s,mb4.9
WMQ AMB AMB
comp=Z,112nm,6.0s
WMQ LR LR
comp=N,301nm,20.0s,MS4.4
WMQ LR LR
comp=E,275nm,20.0s,MS4.4
WMQ LR LR
comp=Z,254nm,20.0s,MS4.2
KOLN Koldanda 48.74 82 *e*P **P 10 54 15.8 +0.3**
comp=Z,40nm,1.0s,mb5.4
GKN Gorkha 49.49 81 *e*P **P 10 54 23.6 +2.3**
LSZ Lusaka 49.86 178 P **P 10 54 26.6 +2.3**
DMN Daman 50.02 81 *e*P **P 10 54 24.9 -0.5**
KKN Kakani 50.09 81 *e*P **P 10 54 27.5 +1.6**
comp=Z,39nm,0.8s,mb5.5
PKI Pulchoki 50.29 81 *e*P **P 10 54 27.3 -0.1**
comp=Z,84nm,1.3s,mb5.6
SFJD Kangerlussuaq 53.50 332 *i*P **P 10 54 56.6 +5.6**
SFJD *i* 10 55 55.4
comp=Z,1μm,18.0s
TSUM Tsumeb 54.40 190 P **P 10 55 00.4 +2.1**
comp=Z,2.5nm,0.8s,mb4.2,baz=321,slow=9.2,SNR=5.0
TSUM Tsumeb 54.40 190 *e*P **P 10 54 59.6 +1.3**
MATP Matopo 54.98 178 P **P 10 55 04.9 +2.3**
comp=Z,5.7nm,0.9s,mb4.6,baz=4.6,slow=9.7,SNR=9.9
TLY Talaya 56.02 47 *e*P **P 10 55 10.2 +0.6**
comp=Z,21nm,1.6s,mb4.9
TLY Talaya 56.02 47 *e*P **P 10 55 10.6 +1.0**
TLY pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
ZAK Zakamensk 56.13 49⇓ *e*P **P 10 55 10.9 +0.5**
ZAK pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
SONM Songino Array 58.84 51 P **P 10 55 29.4 -0.2**
comp=Z,2.4nm,0.5s,mb4.5,baz=288,slow=7.7,SNR=21
LBTB Lobatse 59.52 181 P **P 10 55 38.0 +3.3**
comp=Z,3.7nm,0.9s,mb4.4,baz=1.9,slow=6.3,SNR=2.7
LBTB Lobatse 59.52 181 *e*P **P 10 55 36.7 +2.0**
comp=Z,20nm,1.7s,mb4.9
LBTB Lobatse 59.52 181 *e*P **P 10 55 36.7 +2.0**
LBTB pmax pmax
comp=Z,19nm,1.7s,mb4.8
BOD Bodaibo 60.03 38 *e*P **P 10 55 35.7 -2.0**
BOD pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
TIXI Tiksi 61.08 21 *e*P **P 10 55 44.2 -0.5**
TIXI pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
LZH Lanzhou 61.35 64 *e*P **P 10 55 46.5 -0.4**
LZH AP pP 10 56 00.5 +10
LZH *e*PP PP 10 58 03.5 -0.8
LZH *e*S **S 11 04 01.6 -4.1**
LZH XS 11 04 24.5
LZH AMB AMB
comp=Z,28nm,1.5s,mb5.2
LZH AMB AMB
comp=Z,95nm,6.6s
LZH LR LR
comp=N,387nm,15.2s
LZH LR LR
comp=Z,545nm,18.1s,MS4.8
LZH Lanzhou 61.35 64 *e*P **P 10 55 46.5 -0.4**
comp=Z,28nm,1.5s,mb5.2
LZH pP pP 10 56 00.5 +10
LZH sP sP 10 56 06.3 +15
LZH *e*PP PP 10 58 03.5 -0.8
LZH *e*S **S 11 04 01.6 -4.1**
LZH sS 11 04 24.5
LZH *e*SS SS 11 08 02.7 -5.1
LZH LR LR
comp=Z,550nm,18.1s,MS4.8
LZH Lanzhou 61.35 64 *e*P **P 10 55 46.5 -0.4**
LZH *e* 10 58 03.5
LZH *e*S **S 11 04 01.6 -4.1**
LZH *SS 11 04 24.5
LZH *e*SS SS 11 08 02.7 -5.1
LZH pmax pmax
comp=Z,28nm,1.5s,mb5.2
LZH MLR MLR
comp=Z,550nm,18.1s,MS4.8
BOSA Boshof 63.12 181 P **P 10 56 00.6 +1.8**
comp=Z,1.8nm,0.5s,mb4.4,baz=307,slow=14,SNR=4.6
BOSA Boshof 63.12 181 *e*P **P 10 55 58.8 0.0**
BOSA Boshof 63.12 181 P **P 10 56 00.6 +1.8**
BOSA pmax pmax
comp=Z,2.0nm,0.5s,mb4.5
CD2 Chengdu 63.47 70 P **P 10 56 00.6 -0.6**
SCHQ Schefferville 64.15 320 P **P 10 56 04.5 -0.7**
comp=Z,4.4nm,0.6s,mb4.7,baz=41,slow=5.8,SNR=10.0
SCHQ Schefferville 64.15 320 *e*P **P 10 56 04.8 -0.4**
comp=Z,10nm,0.6s,mb5.0
HHC Hu-ho-hao-te 64.90 57 *e*P **P 10 56 13.8 +3.5**
HHC PP PP 10 58 38.8 +3.6
HHC PCS 11 00 50.4
HHC S **S 11 04 49.5 -0.6**
HHC SS SS 11 09 04.2 +0.7
HHC AMB AMB
comp=Z,23nm,0.8s,mb5.3
HHC AMB AMB
comp=Z,183nm,6.0s
HHC LR LR
comp=N,264nm,22.0s,MS4.6
HHC LR LR
comp=E,335nm,26.2s,MS4.6
HHC LR LR
comp=Z,316nm,29.1s,MS4.3
KMI Kunming 65.32 76 P **P 10 56 18.3 +5.0**
KMI S S 11 04 57.3 +1.8
KMI SS SS 11 09 12.1 +1.8
KMI AMB AMB
comp=Z,8.0nm,0.7s,mb4.9
KMI LR LR
comp=Z,161nm,27.3s,MS4.1
KMI Kunming 65.32 76 P **P 10 56 18.3 +5.0**
comp=Z,8.0nm,0.7s,mb4.9
KMI pP pP 10 56 31.2 +15
KMI sP sP 10 56 36.9 +19
KMI S S 11 04 57.3 +1.8
KMI SS SS 11 09 12.1 +1.8
KMI LR LR
comp=Z,160nm,27.3s,MS4.1
SUR Sutherland 67.07 185 P **P 10 56 26.5 +2.1**
SUR *e* 10 56 49.4
GYA Guiyang 67.79 73 P **P 10 56 32.0 +3.0**
GYA AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
HNH Hanover 72.53 311 *e*P **P 10 56 57.4 -0.1**
comp=Z,0.7nm,0.8s
CN2 Changchun 72.57 49 *e*P **P 10 57 00.2 +2.5**
WES Weston 72.61 310 *e*P **P 10 56 57.2 -0.8**
comp=Z,16nm,0.8s,mb5.0
WES Weston 72.61 310 *e*P **P 10 56 57.2 -0.8**
WES pmax pmax
comp=Z,16nm,0.8s,mb5.0
FRNY Flat Rock 72.73 313 *e*P **P 10 56 59.0 +0.3**
MIV Mineville/With 73.10 312 *e*P **P 10 56 59.0 -1.8**
KLR Kul'dur 73.29 41 *e*P **P 10 56 58.3 -3.5**
ACCN Adirondack Com 73.55 312 *e*P **P 10 57 03.3 -0.2**
NJ2 Nanjing 74.24 62 *e*P **P 10 57 05.3 -2.4**
NJ2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
MDJ Mudanjiang 74.63 46 P **P 10 57 11.2 +1.5**
MDJ PP PP 10 59 58.4 -0.3
MDJ S S 11 06 36.6 -7.6
MDJ SS SS 11 11 30.4 -3.2

MDJ AMB AMB
comp=Z,6.0nm,0.9s,mb4.5
MDJ AMB AMB
comp=Z,32nm,3.4s
MDJ LR LR
comp=N,97nm,28.2s,MS4.4
MDJ LR LR
comp=E,280nm,28.2s,MS4.4
MDJ LR LR
comp=Z,388nm,25.4s,MS4.6
BINY Binghamton 75.62 312 *e*P **P 10 57 16.8 +1.3**
comp=Z,12nm,1.0s,mb4.8
SADO Sadowa 76.05 315 P **P 10 57 18.1 +0.3**
comp=Z,3.7nm,0.6s,mb4.5,baz=108,slow=5.0,SNR=4.4
INK Inuvik 76.09 352 P **P 10 57 17.3 -0.3**
comp=Z,2.5nm,0.8s,mb4.2,baz=65,slow=5.0,SNR=10
INK Inuvik 76.09 352 P **P 10 57 17.3 -0.3**
SSE Sheshan 76.43 62 P **P 10 57 16.5 -3.8**
comp=Z,24nm,0.7s,mb5.2
SSE sP sP 10 57 21.2 -3.3
SSE PP PP 11 00 09.3 -4.4
SSE S S 11 07 05.8 +1.6
SSE sS 11 07 11.5
SSE SS SS 11 12 04.5 +2.7
SSE LR LR
comp=Z,470nm,23.2s,MS4.7
YKA Yellowknife Ar 78.09 343 P **P 10 57 29.2 +0.4**
comp=Z,1.2nm,0.7s,mb3.9,baz=34,slow=6.7,SNR=3.6
IMA Indian Mountai 79.42 0 *e*P **P 10 57 36.6 +0.6**
comp=Z,58nm,1.4s,mb5.3
IMA Indian Mountai 79.42 0 *e*P **P 10 57 36.6 +0.6**
IMA pmax pmax
comp=Z,58nm,1.4s,mb5.3
ILAR Eielson Array 80.59 357 P **P 10 57 42.6 +0.4**
comp=Z,1.8nm,0.7s,mb4.1,baz=338,slow=3.4,SNR=12
DAWY Dawson 80.80 354 *e*P **P 10 57 43.6 +0.2**
ULM Lac du Bonnet 81.19 327 P **P 10 57 46.9 +1.2**
comp=Z,2.8nm,0.7s,mb4.3,baz=65,slow=4.4,SNR=2.6
FWV Forest Hill 81.33 310 *e*P **P 10 57 47.6 +0.8**
SML Sawmill 83.61 358 *e*P **P 10 58 00.7 +2.8**
MJAR Matsushiro Arr 84.72 49 P **P 10 58 03.6 -0.5**
comp=Z,2.9nm,0.9s,mb4.4,baz=298,slow=3.4,SNR=6.2
CPCT Cooper Cave 84.99 310 *e*P **P 10 58 06.9 +1.4**
EDM Edmonton 85.63 337 *e*P **P 10 58 09.3 +1.1**
WVT Waverly 86.60 312 *e*P **P 10 58 13.4 0.0**
comp=Z,4.2nm,0.8s,mb4.7
WVT Waverly 86.60 312 *e*P **P 10 58 13.4 -0.1**
WVT pmax pmax
comp=Z,4.0nm,0.8s,mb4.7
BDFB Brasilia 86.61 248 P **P 10 58 16.6 +2.7**
comp=Z,4.6nm,0.8s,mb4.7,baz=41,slow=4.6,SNR=5.1
CCM Cathedral Cave 87.33 316 *e*P **P 10 58 16.6 -0.4**
comp=Z,4.1nm,0.6s,mb4.8
CCM Cathedral Cave 87.33 316 *e*P **P 10 58 16.6 -0.4**
CCM pmax pmax
comp=Z,4.0nm,0.6s,mb4.8
PLAL Pickwick Lake 87.51 312 *e*P **P 10 58 17.3 -0.6**
comp=Z,7.5nm,0.9s,mb4.9
LRAL Lakeview Retre 88.11 310 *e*P **P 10 58 22.1 +1.3**
comp=Z,11nm,0.9s,mb5.1
LAO LASA Array 88.39 330 *e*P **P 10 58 23.3 +1.5**
comp=Z,9.9nm,0.8s,mb5.1
WALA Waterton Lakes 89.36 335 *e*P **P 10 58 27.0 +0.6**
comp=Z,0.9nm,0.7s,mb4.2
RSSD Black Hills 89.46 327 *e*P **P 10 58 27.3 +0.2**
comp=Z,4.6nm,0.8s,mb4.9
RSSD Black Hills 89.46 327 *e*P **P 10 58 27.3 +0.3**
RSSD pmax pmax
comp=Z,5.0nm,0.8s,mb4.9
SDV Santo Domingo 90.79 281 P **P 10 58 34.6 +0.7**
comp=Z,6.4nm,0.8s,mb5.0,baz=78,slow=4.4,SNR=7.8
NEW Newport 91.12 337 P **P 10 58 35.5 +1.0**
comp=Z,2.3nm,0.9s,mb4.5,baz=73,slow=11,SNR=3.2
NEW Newport 91.12 337 *e*P **P 10 58 34.8 +0.2**
comp=Z,1.0nm,0.6s,mb4.3
NEW Newport 91.12 337 *e*P **P 10 58 34.8 +0.2**
NEW pmax pmax
comp=Z,1.0nm,0.6s
PHWY Pilot Hill 92.33 326 *e*P **P 10 58 40.9 +0.6**
PDAR Pinedale Array 92.95 329 P **P 10 58 43.5 +0.4**
comp=Z,0.6nm,0.8s,mb4.0,baz=34,slow=5.3,SNR=3.9
RRI2 Red Ridge 93.20 331 *e*P **P 10 58 45.6 +1.4**
comp=Z,3.0nm,0.8s,mb4.8
BMO Blue Mountains 94.16 335 *e*P **P 10 58 48.9 +0.2**
comp=Z,2.4nm,0.9s,mb4.6
HWUT Hardware Ranch 94.75 330 *e*P **P 10 58 52.3 +0.9**
comp=Z,3.0nm,0.8s,mb4.8

*IDC **04** 10:46:19.5±1.0, 43.18N×149.19E, mb4.0/8, mb1 4.2/8, mb1mx3.9/21, mbtmp4.0/8, Error ellipse: s-maj=35.4km s-min=25.4km az=122.0*
*NEIC **04** 10:46:26.2±0.8, 43.17N×148.84E, h45km, mb4.7/2, Error ellipse: s-maj=28.7km s-min=15.9km az=123.0*
ISC 04 10:46:22.7±0.7, 43.2N±0.1×148.9E±0.2, h33km, n12, σ1§31/12, mb4.0/9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAJO	**Matsushiro**	**10.55**	**235**	P	**P**	**10 48 52.4**	**-2.2**
	13nm,1.7s						
ILAR	**Eielson Array**	**41.21**	**36**	P	**P**	**10 54 02.6**	**-2.9**
	0.4nm,1.0s,mb3.0,baz=241,slow=6.6,SNR=3.9						
YKA	**Yellowknife Ar**	**55.57**	**34**	P	**P**	**10 55 55.8**	**-0.9**
	0.3nm,0.4s,mb3.7,baz=152,slow=38,SNR=2.7						
CTAO	**Charters Tower**	**62.99**	**183**	P	**P**	**10 56 50.4**	**+1.8**
	13nm,1.4s,mb4.9						
FITZ	**Fitzroy Crossi**	**64.61**	**205**	P	**P**	**10 56 59.0**	**-0.2**
	3.8nm,0.9s,mb4.4,baz=354,slow=9.2,SNR=3.0						
FINES	**FINESS Array B**	**65.97**	**334**	P	**P**	**10 57 08.1**	**+1.0**
	2.5nm,0.8s,mb4.3,baz=90,slow=3.8,SNR=5.1						
PDAR	**Pinedale Array**	**69.30**	**50**	P	**P**	**10 57 27.6**	**-0.7**
	0.3nm,0.6s,mb3.4,baz=315,slow=2.1,SNR=3.6						
NB2	**NORSAR Subarra**	**70.60**	**340**	P	**P**	**10 57 37.3**	**+1.4**
	5.4nm,0.9s,mb4.5,baz=31,slow=6.5						
NOA	**NORSAR Array B**	**70.60**	**340**	P	**P**	**10 57 35.9**	**0.0**
	2.9nm,0.8s,mb4.3,baz=31,slow=6.1,SNR=10						
NOA	**NORSAR Array B**	**70.60**	**340**	P	**P**	**10 57 35.9**	**0.0**
HFS	**Hagfors**	**70.72**	**338**	P	**P**	**10 57 37.8**	**+1.1**
	2.8nm,0.8s,mb4.3,baz=53,slow=7.4,SNR=4.9						
TXAR	**Lajitas Array**	**81.90**	**57**	P	**P**	**10 58 41.0**	**+0.8**
	1.0nm,0.8s,mb3.8,baz=291,slow=3.8,SNR=13						

*NEIC **04** 11:40:23.6, 16.16N×97.96W, h9km, MD3.7(MEX), After MEX.*
MEX 04 11:40:23.7±0.7, 16.16N×97.96W, h9km±7km, MD3.7, 1D, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.28**	**326**	⇓*i*P	Pg	11 40 28.9	-0.6
PNIG				*i* S	Sg	11 40 33.1	-0.3
PNIG	**Pinotepa**	**0.28**	**326**	*i* P	Pg	11 40 28.9	-0.7
PNIG				*i* S	Sg	11 40 33.1	-0.3
OXX	**Oaxaca**	**1.50**	**52**	*i* P	Pn	11 40 47.0	-4.0
OXX				*i* S	Sb	11 41 06.0	-4.4
ACX	**Acapulco**	**2.00**	**291**	*e*P	Pn	11 40 54.0	-4.1
ACX				*i* S	Sn	11 41 19.0	-4.5
PPM	**Popocatepetl**	**2.96**	**348**	*e*P	Pn	11 41 10.0	-1.8
PPM				*i* S	Sn	11 41 45.0	-2.8
CMIG	**Matias Romero**	**3.10**	**72**	*e*P	Pn	11 41 12.9	-0.8
CMIG				*i* S	Sn	11 41 44.5	-6.7

*NEIC **04** 11:59:54.1, 15.87N×96.32W, h46km, MD3.8(MEX), After MEX.*
MEX 04 11:59:54.1±0.4, 15.88N×96.30W, h48km±7km, MD3.8, 1D, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.21**	**121**	⇓*i*P	P	12 00 01.0	-1.2
HUIG				*i* S	S	12 00 06.2	-1.7
OXX	**Oaxaca**	**1.27**	**341**	*i* P	P	12 00 14.0	-1.7
OXX				*i* S	S	12 00 29.0	-2.8
CMIG	**Matias Romero**	**1.81**	**48**	*i* P	P	12 00 20.9	-2.5
CMIG				*i* S	S	12 00 43.5	-1.8
CMIG	**Matias Romero**	**1.81**	**48**	*i* P	P	12 00 21.2	-2.3
CMIG				*i* S	S	12 00 44.1	-1.2
EVV	**El Vigia**	**2.72**	**19**	*e*P	P	12 00 37.0	+0.6
IISM	**Ciudad Serdan**	**3.26**	**342**	*e*P	P	12 00 41.0	-3.0
PPM	**Popocatepetl**	**3.87**	**325**	*e*P	P	12 00 50.0	-2.7
PPM				*i* S	S	12 01 41.0	+3.5

NEIC ***04*** *12:06:50.2, 36.68N×11.19W, MG3.5(MDD), After MDD.*
CSEM ***04*** *12:06:50.9±1.1, 36.64N×11.19W, h10km, ML2.7/5, Error ellipse: s-maj=50.1km s-min=20.3km az=157.0*

MDD 04 12:06:50.1±4.7, 36.59N×11.33W, h16km±270km, mbLg2.2/5, Error ellipse: s-maj=319.0km s-min=38.5km az=50.0, PRXIMO, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio** 3.3nm,0.2s	**2.29**	**65**	*e*Sn	Sn	12 07 53.1	-2.8
PTEO	**Sao Teotonio** 3.3nm,0.2s	**2.29**	**65**	*e*Sn	Sn	12 07 53.1	-2.8
EGRO	**El Granado** 1.1nm,0.1s,SNR=7.9	**3.21**	**72**	P	Pn	12 07 39.7	-1.4
EGRO	1.2nm,0.1s,SNR=7.9			S	Sn	12 08 15.5	-3.9
EGRO	**El Granado** 1.1nm,0.1s,SNR=7.9	**3.21**	**72**	Pn	Pn	12 07 39.7	-1.3
EGRO	1.2nm,0.1s,SNR=7.9			Sn	Sn	12 08 15.5	-3.9
EGRO	**El Granado**	**3.21**	**72**	Pn	Pn	12 07 39.6	-1.4
EGRO				Sn	Sn	12 08 15.5	-3.9
EMIN	**Mina Concepcio** 0.3nm,0.1s,SNR=7.9	**3.90**	**71**	P	Pn	12 07 48.6	-2.2
EMIN	0.8nm,0.1s,SNR=7.9			S	Sn	12 08 31.3	-5.4
EMIN	**Mina Concepcio** 0.3nm,0.1s,SNR=7.9	**3.90**	**71**	Pn	Pn	12 07 48.6	-2.1
EMIN	0.8nm,0.1s,SNR=7.9			Sn	Sn	12 08 31.3	-5.3
EBAD	**Badajoz** 0.3nm,0.1s,SNR=7.9	**4.04**	**56**	P	Pn	12 07 50.0	-2.9
EBAD	2.1nm,0.1s,SNR=7.9			S	Sn	12 08 34.9	-5.5
EBAD	**Badajoz** 0.3nm,0.1s,SNR=7.9	**4.04**	**56**	Pn	Pn	12 07 50.0	-2.9
EBAD	2.1nm,0.1s,SNR=7.9			Sn	Sn	12 08 34.9	-5.5
ECAB	**El Cabril** 0.9nm,0.2s,SNR=7.9	**4.93**	**71**	P	Pn	12 08 02.1	-3.3
ECAB	0.2nm,0.1s,SNR=7.9			S	Sn	12 08 55.5	-7.4
ECAB	**El Cabril** 0.9nm,0.2s,SNR=7.9	**4.93**	**71**	Pn	Pn	12 08 02.1	-3.4
ECAB	0.2nm,0.1s,SNR=7.9			Sn	Sn	12 08 55.5	-7.4
EADA	**Adamuz** 0.2nm,0.1s,SNR=7.9	**5.60**	**72**	P	Pn	12 08 11.5	-3.4
EADA	SNR=7.9			S	Sn	12 09 10.9	-8.6
EADA	**Adamuz** 0.2nm,0.1s,SNR=7.9	**5.60**	**72**	Pn	Pn	12 08 11.5	-3.3
EADA	SNR=7.9			Sn	Sn	12 09 10.9	-8.7
ELOB	**Lobios** 0.4nm,0.1s,SNR=7.9	**5.84**	**25**	S	Sn	12 09 17.9	-7.8

CSEM ***04*** *12:11:11.7, 60.00S×26.35W, h2km, mb6.2*
MOS ***04*** *12:11:14.7±1.1, 59.78S×25.87W, h10km, mb5.9/32, MS5.0/22, Error ellipse: s-maj=22.9km s-min=9.7km az=103.2*
IDC ***04*** *12:11:19.1±1.1, 59.68S×26.18W, h29km±6km, mb5.3/20, mb1 5.3/20, mb1mx5.3/21, mbtmp5.5/20, MS4.8/20, Ms1 4.8/20, ms1mx4.8/23, Error ellipse: s-maj=16.2km s-min=9.0km az=27.0*
BJI ***04*** *12:11:20.5, 59.80S×25.90W, h45km, mB5.5, Ms5.5, Msz5.2*
HRVD ***04*** *12:11:20.6±0.2, 60.13S×25.38W, h34km, MW5.4/73, Centroid moment Tensor Solution. LP body waves: s53,c88; Mantle waves: s73,c142; Half duration: 1§3 Moment tensor: Scale 10^{17}Nm; M_{rr}0.83±.04; $M_{\theta\theta}$0.33±.04; $M_{\phi\phi}$-1.16±.03; $M_{r\theta}$0.97±.04; $M_{\theta\phi}$0.79±.03; $M_{\phi r}$-0.09±.04; Best double couple: $M_0$1.629×10^{17} NP1:ϕ_s10°, δ47°, λ149°. NP2:ϕ_s123°, δ68°, λ47°. Principal axes: T 1.653, Plg48°, Azm346°; N -.045, Plg39°, Azm142°; P -1.605, Plg12°, Azm242°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***04*** *12:11:20.6±0.1, 59.77S×25.89W, mb5.7/33, MS5.1/78, MW5.6 Error ellipse: s-maj=7.7km s-min=4.7km az=52.0, Moment Tensor Solution. s5 Moment tensor: Scale 10^{17} Nm; M_{rr}1.70; $M_{\theta\theta}$-1.24; $M_{\phi\phi}$-0.46; $M_{r\theta}$1.24; $M_{\theta\phi}$1.13; $M_{\phi r}$-1.54; Best double couple: $M_0$2.7×10^{17} NP1:ϕ_s290°, δ24°, λ65°. NP2:ϕ_s138°, δ69°, λ101°. Principal axes: T 2.61, Plg65°, Azm65°; N .25, Plg10°, Azm314°; P -2.86, Plg23°, Azm220°;*

ISC 04 12:11:18.9±1.5, 59.63S±0.06×25.9W±0.1, h44km±13km, h45km±1.8km: pP-P, n397, σ1§14/114, mb5.7/42, MS5.0/102, 38C-8D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.22**	**154**	P	**P**	**12 14 21.6**	**-4.5**
VNA1	**Neumayer--Stat**	**13.22**	**154**		**P**	**12 14 23.2**	**-2.9**
VNA1	**Neumayer--Stat**	**13.22**	**154**		**P**	**12 14 25.8**	**-0.3**
VNA3	**Neumayer Olymp**	**13.38**	**157**	P	**P**	**12 14 23.6**	**-4.6**
VNA3	**Neumayer Olymp**	**13.38**	**157**		**P**	**12 14 29.1**	**+0.9**
VNA3	**Neumayer Olymp**	**13.38**	**157**		**P**	**12 14 33.0**	**+4.8**
VNA3	**Neumayer Olymp**	**13.38**	**157**		**P**	**12 14 41.8**	**+14**
VNA2	**Neumayer--Watz**	**13.62**	**154**	P	**P**	**12 14 27.0**	**-4.1**
VNA2	**Neumayer--Watz**	**13.62**	**154**		**P**	**12 14 29.8**	**-1.3**
VNA2	**Neumayer--Watz**	**13.62**	**154**		**P**	**12 14 35.6**	**+4.5**
SNAA	**Sanae**	**15.20**	**152**	P	**P**	**12 14 46.7**	**-5.0**
SNAA	**Sanae**	**15.20**	**152**		**P**	**12 14 48.9**	**-2.8**
SNAA	**Sanae**	**15.20**	**152**		**P**	**12 14 59.1**	**+7.4**
SNAA	**Sanae** 12nm,0.3s,baz=318,slow=13,SNR=607	**15.20**	**152**	Pn	**P**	**12 14 47.0**	**-4.8**
SNAA	1.1nm,0.3s,slow=20,SNR=3.5			Sn	S	12 17 17.8	-21
SNAA	comp=Z,2μm,20.0s,baz=26,slow=32			LR	LR	12 19 25.7	
SNAA	0.3nm,0.3s,baz=236,slow=3.6,SNR=3.0			PcP	PcP	12 19 56.1	-0.8
SNAA	0.0nm,0.3s,baz=14,slow=4.9,SNR=4.6			ScP		12 23 28.7	
SNAA	**Sanae**	**15.20**	**152**	*c iP*	**P**	**12 14 46.8**	**-4.9**
PMSA	**Palmer Station** 110nm,0.9s	**18.32**	**237**	*eP*	**P**	**12 15 32.5**	**+1.4**
MAIT	**Maitri**	**18.91**	**141**	*eP*	**P**	**12 15 39.9**	**+1.9**
MAIT				*e*S	**S**	**12 19 08.5**	**+4.8**
NVL	**N'lazarevskaya**	**18.94**	**141**	⇑*iP*	**P**	**12 15 36.1**	**-2.3**
NVL				*i* S	**S**	**12 19 11.4**	**+7.0**
NVL	comp=Z,17nm,1.0s			pmax	pmax		
NVL	comp=Z,210nm,16.7s			MLR	MLR		
USHA	**Ushuaia** comp=Z,266nm,0.9s,mb5.7,baz=99,slow=9.7,SNR=71	**23.23**	**263**	P	**P**	**12 16 24.2**	**+1.8**
USHA	comp=Z,12nm,0.8s,baz=67,slow=6.2,SNR=4.9			PcP	PcP	12 20 10.7	-0.2
USHA	comp=Z,7μm,20.5s,MS5.1,baz=76,slow=32			LR	LR	12 23 29.8	
USHA	comp=Z,17nm,0.8s,baz=338,slow=3.1,SNR=6.7			ScP		12 23 45.8	
TRIS	**Tristan da Cun** comp=Z,1μm,0.9s,mb6.3	**24.20**	**27**	⇓*iP*	**P**	**12 16 36.7**	**+4.6**
SYO	**Syowa Base**	**28.41**	**136**	⇓P	**P**	**12 17 07.3**	**-3.5**
QSPA	**South Pole Qui** comp=Z,171nm,1.4s,mb5.7	**30.61**	**180**	*eP*	**P**	**12 17 30.3**	**0.0**
PLCA	**Paso Flores** comp=Z,37nm,0.7s,mb5.4,baz=144,slow=7.9,SNR=84	**33.46**	**284**	P	**P**	**12 17 54.5**	**-1.1**
PLCA				PcP	PcP	12 20 35.7	-0.4
PLCA	comp=Z,8.6nm,0.7s,baz=123,slow=1.6,SNR=4.5			ScP		12 24 17.5	
PLCA	comp=Z,9.0nm,0.8s,baz=132,slow=2.8,SNR=12			LR	LR	12 32 00.9	
PLCA	comp=Z,995nm,19.3s,MS4.5,baz=33,slow=37						
PLCA	**Paso Flores** comp=Z,112nm,1.3s,mb5.6	**33.46**	**284**	⇑*iP*	**P**	**12 17 54.5**	**-1.0**
PLCA				*e*PcP	PcP	12 20 35.3	-0.8
PLCA	**Paso Flores**	**33.46**	**284**	⇑*iP*	**P**	**12 17 54.5**	**-1.0**
PLCA				*e*		12 20 35.3	
PLCA	comp=Z,112nm,1.3s			pmax	pmax		
MAW	**Mawson** comp=Z,47nm,0.9s,mb5.3,baz=231,slow=8.2,SNR=77	**36.88**	**140**	P	**P**	**12 18 23.8**	**-0.6**
MAW	comp=Z,26nm,0.7s,baz=243,slow=3.8,SNR=14			PcP	PcP	12 20 46.0	+0.2
MAW	comp=Z,3.0nm,1.1s,baz=204,slow=10.0,SNR=2.8			ScP		12 24 30.2	
MAW				PKiKP		12 28 01.4	
MAW	comp=Z,0.6nm,0.8s,baz=278,slow=5.6,SNR=3.7			LR	LR	12 31 51.5	
MAW	comp=Z,3μm,19.7s,MS5.0,baz=249,slow=33 **Mawson** comp=Z,78nm,1.1s,mb5.5	**36.88**	**140**	⇑*iP*	**P**	**12 18 23.6**	**-0.8**
MAW				*e*pP	pP	12 18 35.8	-0.7
MAW				⇑*i*PcP	PcP	12 20 45.1	-0.7
MAW	comp=Z,4μm,20.0s,MS5.2			LR	LR		
MAW	**Mawson**	**36.88**	**140**	⇑*iP*	**P**	**12 18 23.6**	**-0.8**
MAW				*i*		12 20 45.1	
MAW	comp=Z,78nm,1.1s			pmax	pmax		
MAW	comp=Z,4μm,20.0s			MLR	MLR		
CLCH	**Cerro Calan**	**39.28**	**292**	⇑*iP*	**P**	**12 18 45.7**	**+0.9**
PEL	**Peldehue**	**39.56**	**292**	⇓*iP*	**P**	**12 18 47.7**	**+0.6**
CFAA	**Coronel Fontan** comp=Z,6.8nm,0.7s,baz=155,slow=7.5,SNR=73	**39.70**	**296**	P	**P**	**12 18 47.6**	**-0.6**
CFAA				PcP	PcP	12 20 53.8	-1.2
CFAA	comp=Z,2.6nm,0.6s,baz=164,slow=4.2,SNR=6.5			ScP		12 24 39.0	
CFAA	comp=Z,1.5nm,0.8s,baz=167,slow=1.2,SNR=7.1			S	**S**	**12 24 48.5**	**0.0**
CFAA	comp=Z,5.4nm,1.0s,baz=255,slow=22,SNR=19			LR	LR	12 34 04.3	
CPUP	**Villa Florida** comp=Z,29nm,0.6s,mb5.2,baz=173,slow=10,SNR=78	**39.75**	**313**	P	**P**	**12 18 48.2**	**-0.5**
CPUP	comp=Z,11nm,0.8s,baz=178,slow=6.3,SNR=11			ScP		12 24 40.5	
CPUP	comp=Z,1μm,21.2s,MS4.6,baz=180,slow=34			LR	LR	12 33 43.0	
CPUP	**Villa Florida** comp=Z,97nm,1.2s,mb5.4	**39.75**	**313**	⇑*iP*	**P**	**12 18 48.0**	**-0.7**
CPUP				*e*pP	pP	12 19 00.4	-0.4
CPUP				*e*sP	sP	12 19 06.1	-0.2
CPUP				*e*ScP		12 24 39.4	
CPUP	comp=Z,1μm,22.0s,MS4.7			LR	LR		
CPUP	**Villa Florida**	**39.75**	**313**	⇑*iP*	**P**	**12 18 48.0**	**-0.7**
CPUP	comp=Z,97nm,1.2s			pmax	pmax		
CPUP	comp=Z,1μm,22.0s			MLR	MLR		
SUR	**Sutherland** comp=Z,34nm,0.7s,mb5.1,baz=204,slow=8.2,SNR=34	**41.05**	**70**	P	**P**	**12 19 01.7**	**+2.3**
SUR	comp=Z,30nm,0.9s,baz=207,slow=2.5,SNR=5.7			PcP	PcP	12 21 01.2	+1.9
SUR	comp=Z,1μm,18.3s,MS4.8,baz=227,slow=31			LR	LR	12 32 45.3	
SUR	**Sutherland** comp=Z,36nm,0.9s,mb5.0	**41.05**	**70**	⇑*iP*	**P**	**12 19 01.5**	**+2.0**
SUR				*e*pP	pP	12 19 13.3	+1.7
SUR				*e*PcP	PcP	12 21 00.6	+1.3
TLL	**Tololo Astrono**	**42.09**	**294**	⇑*iP*	**P**	**12 19 07.6**	**-0.3**
SBA	**Scott Base** comp=Z,201nm,2.0s,mb5.5	**42.55**	**184**	*eP*	**P**	**12 19 11.8**	**+0.7**
SBA	**Scott Base**	**42.55**	**184**	*eP*	**P**	**12 19 11.8**	**+0.7**
SBA	comp=Z,201nm,2.0s,mb5.5			pmax	pmax		
VNDA	**Vanda** comp=Z,6.6nm,0.8s,baz=189,slow=6.4,SNR=14	**43.02**	**182**	P	**P**	**12 19 15.8**	**+0.8**
VNDA	comp=Z,9.5nm,0.9s,baz=222,slow=5.4,SNR=3.6			PcP	PcP	12 21 05.6	+0.5
VNDA	comp=Z,1μm,21.5s,MS4.7,baz=173,slow=34			LR	LR	12 35 46.1	
VNDA	**Vanda** comp=Z,51nm,1.4s,mb5.1	**43.02**	**182**	*eP*	**P**	**12 19 15.5**	**+0.5**
VNDA				*e*PcP	PcP	12 21 04.9	-0.2
VNDA	**Vanda**	**43.02**	**182**	*eP*	**P**	**12 19 15.5**	**+0.6**
VNDA				*e*		12 21 04.9	
VNDA	comp=Z,51nm,1.4s			pmax	pmax		
MIR	**Mirnyy**	**46.28**	**151**	*c iP*	**P**	**12 19 40.4**	**-0.7**
MIR	comp=Z,77nm,1.2s,mb5.5			pmax	pmax		
MIR	comp=N,2μm,18.0s,MS5.1			MLR	MLR		
MIR	comp=E,1μm,18.0s,MS5.1			MLR	MLR		
MIR	comp=Z,3μm,18.0s,MS5.2			MLR	MLR		
BOSA	**Boshof** comp=Z,33nm,0.5s,mb5.5,baz=208,slow=7.5,SNR=112	**46.30**	**71**	P	**P**	**12 19 42.6**	**+0.8**
BOSA	comp=Z,27nm,0.9s,baz=206,slow=2.3,SNR=5.4			PcP	PcP	12 21 17.9	+0.8
BOSA	comp=Z,1μm,19.0s,MS4.8,baz=209,slow=31			LR	LR	12 35 20.4	
BOSA	**Boshof** comp=Z,42nm,0.6s,mb5.5	**46.30**	**71**	⇑*eP*	**P**	**12 19 41.7**	**-0.1**
BOSA				*e*pP	pP	12 19 55.2	+1.1
BOSA				*e*PcP	PcP	12 21 17.0	0.0
BOSA	comp=Z,1μm,21.0s,MS4.9			LR	LR		
BOSA	**Boshof**	**46.30**	**71**	⇑*eP*	**P**	**12 19 41.7**	**-0.1**
BOSA				*e*		12 21 17.0	
BOSA	comp=Z,42nm,0.6s,mb5.5			pmax	pmax		
BOSA	comp=Z,1μm,21.0s,MS4.9			MLR	MLR		
BAO	**Brasilia Array**	**46.83**	**330**	P	**P**	**12 19 47.0**	**+0.9**
BDFB	**Brasilia** comp=Z,82nm,0.7s,mb5.7,baz=156,slow=4.5,SNR=96	**46.83**	**330**	P	**P**	**12 19 46.4**	**+0.3**
BDFB	comp=Z,8.5nm,0.8s,baz=104,slow=11,SNR=3.1			PcP	PcP	12 21 19.4	+0.3
BDFB	comp=Z,2μm,19.0s,MS5.1,baz=158,slow=34			LR	LR	12 37 49.0	
BDFB	**Brasilia**	**46.83**	**330**	P	**P**	**12 19 46.4**	**+0.3**
BDFB				PcP	PcP	12 21 19.4	+0.3
BDFB				LR	LR	12 37 49.0	
LVC	**Limon Verde** comp=Z,59nm,0.5s,mb5.9,baz=152,slow=4.3,SNR=119	**47.76**	**302**	P	**P**	**12 19 54.0**	**+0.7**
LVC	comp=Z,17nm,0.6s,baz=180,slow=3.0,SNR=2.1			PcP	PcP	12 21 22.7	+0.4
LVC	comp=Z,46nm,1.1s,baz=150,slow=7.2,SNR=3.4			PP	PP	12 21 44.5	0.0
LVC	comp=Z,8.7nm,0.7s,baz=320,slow=2.7,SNR=5.7			ScP		12 25 12.6	
LVC	comp=Z,1μm,21.6s,MS4.8,baz=333,slow=35			LR	LR	12 38 48.5	
LVC	**Limon Verde** comp=Z,79nm,0.6s,mb5.9	**47.76**	**302**	⇑*iP*	**P**	**12 19 53.9**	**+0.6**
LVC				*e*PcP	PcP	12 21 20.6	-1.7
LVC				*e*PP	PP	12 21 40.6	-4.0
LVC				*e*ScP		12 25 08.3	
LVC				*e*S	**S**	**12 26 44.2**	**-1.4**
LVC	comp=Z,1μm,20.0s,MS4.8			LR	LR		
LBTB	**Lobatse** comp=Z,37nm,0.8s,mb5.5,baz=221,slow=8.6,SNR=56	**49.49**	**69**	P	**P**	**12 20 07.2**	**+0.5**
LBTB	comp=Z,13nm,0.9s,baz=279,slow=1.2,SNR=2.0			PcP	PcP	12 21 29.9	+1.3
LBTB	comp=Z,1μm,18.1s,MS4.9,baz=214,slow=32			LR	LR	12 37 24.7	
LBTB	**Lobatse** comp=Z,136nm,1.4s,mb5.8	**49.49**	**69**	⇑*iP*	**P**	**12 20 06.8**	**0.0**
LBTB				*e*PcP	PcP	12 21 29.2	+0.7
LBTB	comp=Z,1μm,22.0s,MS4.9			LR	LR		
LBTB	**Lobatse**	**49.49**	**69**	⇑*iP*	**P**	**12 20 06.8**	**+0.1**
LBTB				*e*		12 21 29.2	
LBTB	comp=Z,136nm,1.4s,mb5.8			pmax	pmax		
LBTB	comp=Z,1μm,22.0s,MS4.9			MLR	MLR		
CASY	**Casey**	**50.30**	**159**	*eP*	**P**	**12 20 12.0**	**-0.3**
SIV	**San Ignacio** comp=Z,91nm,0.7s,mb5.8,baz=163,slow=7.8,SNR=533	**50.58**	**314**	P	**P**	**12 20 13.9**	**-1.2**
SIV	comp=Z,6.4nm,0.8s,baz=231,slow=6.5,SNR=5.7			ScP		12 25 23.9	
SIV	comp=Z,6.1nm,1.1s,baz=231,slow=23,SNR=3.8			S	**S**	**12 27 26.5**	**+1.6**
TSUM	**Tsumeb** comp=Z,94nm,0.8s,mb5.8,baz=190,slow=6.5,SNR=154	**50.93**	**57**	P	**P**	**12 20 19.1**	**+1.4**
TSUM	comp=Z,1μm,21.0s,MS5.0,baz=152,slow=30			LR	LR	12 36 58.4	
TSUM	**Tsumeb** comp=Z,102nm,0.8s,mb5.8	**50.93**	**57**	⇑*iP*	**P**	**12 20 18.9**	**+1.2**
TSUM				*e*pP	pP	12 20 30.0	-0.1
LPAZ	**La Paz** comp=Z,44nm,0.5s,mb5.7,baz=134,slow=5.8,SNR=170	**53.05**	**306**	P	**P**	**12 20 34.1**	**+0.4**
LPAZ	comp=Z,12nm,0.7s,baz=173,slow=8.1,SNR=1.6			PcP	PcP	12 21 41.9	+0.2
LPAZ				ScP		12 25 35.0	
LPAZ	comp=Z,1.1nm,0.5s,baz=144,slow=8.1,SNR=4.7			S	**S**	**12 28 00.5**	**+1.7**
LPAZ	comp=Z,3.2nm,1.0s,baz=70,slow=20,SNR=6.3			LR	LR	12 43 12.9	
LPAZ	comp=Z,556nm,20.8s,MS4.6,baz=8.1,slow=36						
LPAZ	**La Paz** comp=Z,136nm,1.0s,mb5.8	**53.05**	**306**	⇑*iP*	**P**	**12 20 33.8**	**+0.1**
LPAZ				*e*PP	PP	12 22 34.0	-1.3
LPAZ				*e*ScP		12 25 33.0	
LPAZ	comp=Z,673nm,21.0s,MS4.7			LR	LR		
LPAZ	**La Paz**	**53.05**	**306**	⇑*iP*	**P**	**12 20 33.8**	**+0.1**
LPAZ				*e*		12 22 34.0	
LPAZ	comp=Z,136nm,1.0s			pmax	pmax		
LPAZ	comp=Z,673nm,21.0s			MLR	MLR		
DRV	**Dumont d'Urvil**	**53.58**	**173**	P	**P**	**12 20 41.0**	**+4.0**
RCBR	**Riachuelo** comp=Z,30nm,0.6s,mb5.4	**54.22**	**348**	⇑*eP*	**P**	**12 20 42.0**	**-0.3**
RCBR				*e*PcP	PcP	12 21 47.2	+0.9
ARE	**Arequipa**	**54.31**	**302**	⇑*iP*	**P**	**12 20 42.7**	**-0.2**
SAML	**Samuel** comp=Z,135nm,0.8s,mb6.0	**57.84**	**315**	⇑*iP*	**P**	**12 21 06.4**	**-1.9**
SAML				*e*S	**S**	**12 29 01.6**	**-1.2**
LSZ	**Lusaka** comp=Z,98nm,0.8s,mb5.9	**59.10**	**66**	⇑*iP*	**P**	**12 21 17.1**	**0.0**
LSZ	comp=Z,2μm,21.0s,MS5.3			LR	LR		
LSZ	**Lusaka**	**59.10**	**66**	P	**P**	**12 21 17.4**	**+0.4**
LSZ	comp=Z,98nm,0.8s,mb5.9			pmax	pmax		
NNA	**Nana** comp=Z,182nm,1.3s,mb6.0	**60.62**	**299**	*eP*	**P**	**12 21 26.1**	**-1.4**
NNA				*e*pP	pP	12 21 39.9	-0.2
NNA				*e*PP	PP	12 23 40.3	-3.1
LIC	**Lamto** comp=Z,293nm,1.0s,mb6.0	**67.70**	**22**	*eP*	**P**	**12 22 14.7**	**+1.1**
DBIC	**Dimbokro** comp=Z,81nm,0.9s,mb5.7,baz=172,slow=7.3,SNR=70	**68.17**	**23**	P	**P**	**12 22 17.6**	**+1.1**
DBIC	comp=Z,612nm,18.2s,MS4.9,baz=162,slow=32			LR	LR	12 47 15.1	
MBAR	**Mbarara** comp=Z,180nm,1.4s,mb5.8	**73.21**	**61**	⇑*iP*	**P**	**12 22 49.8**	**+2.8**
MBAR	comp=Z,328nm,19.0s,MS4.6			LR	LR		
MBAR	**Mbarara**	**73.21**	**61**	P	**P**	**12 22 50.1**	**+3.1**
MBAR	comp=Z,180nm,1.4s,mb5.8			pmax	pmax		
ROSC	**El Rosal** comp=Z,48nm,0.8s,mb5.5,baz=128,slow=4.9,SNR=23	**74.74**	**309**	P	**P**	**12 22 55.7**	**-0.1**
ROSC	comp=Z,492nm,18.4s,MS4.8,baz=174,slow=38			LR	LR	12 58 16.4	
ROSC	**El Rosal**	**74.74**	**309**	P	**P**	**12 22 55.7**	**-0.1**
ROSC				LR	LR	12 58 16.4	
KMBO	**Kilima Mbogo** comp=Z,20nm,1.0s,mb5.0,baz=204,slow=5.4,SNR=31	**75.72**	**67**	P	**P**	**12 23 06.5**	**+5.1**
KMBO				LR	LR	12 53 08.4	
SDV	**Santo Domingo** comp=Z,90nm,0.8s,mb5.8,baz=184,slow=5.0,SNR=90	**77.04**	**314**	P	**P**	**12 23 08.5**	**-0.5**
SDV	**Santo Domingo** comp=Z,97nm,0.8s,mb5.8	**77.04**	**314**	⇑*iP*	**P**	**12 23 08.2**	**-0.8**
SDV				*e*PP	PP	12 25 59.2	-4.9
TAU	**Tasmania Unive** comp=Z,87nm,1.0s,mb5.6	**77.67**	**175**	⇑*eP*	**P**	**12 23 11.4**	**-0.4**
TAU	**Tasmania Unive**	**77.67**	**175**	P	**P**	**12 23 12.0**	**+0.2**
TAU	comp=Z,87nm,1.0s,mb5.6			pmax	pmax		
RKT	**Rikitea** comp=Z,285nm,1.5s,mb6.0	**79.46**	**242**	*eP*	**P**	**12 23 23.6**	**+1.6**
RKT	**Rikitea**	**79.46**	**242**	*e*LQ		12 44 49.0	
RKT	comp=Z,900nm,32.8s,baz=162			*e*LR	LR	12 48 25.2	
BBL	**Barber's Block**	**80.27**	**325**	*eP*	**P**	**12 23 24.4**	**-2.1**
TBG	**Guadaloupe-3**	**80.63**	**325**	*eP*	**P**	**12 23 25.5**	**-2.8**
NWAO	**Narrogin (SRO)**	**82.86**	**149**	⇑*eP*	**P**	**12 23 39.0**	**-0.6**
TOO	**Toolangi** comp=Z,29nm,0.9s,mb5.3	**82.89**	**173**	*eP*	**P**	**12 23 39.6**	**-0.1**
TOO	**Toolangi**	**82.89**	**173**	*eP*	**P**	**12 23 39.6**	**-0.1**
TOO	comp=Z,29nm,0.9s,mb5.3			pmax	pmax		
MUN	**Mundaring** comp=Z,45nm,0.7s,mb5.6	**83.49**	**148**	⇑*iP*	**P**	**12 23 42.8**	**-0.1**
MUN	**Mundaring**	**83.49**	**148**	⇑*iP*	**P**	**12 23 42.8**	**-0.1**
MUN	comp=Z,45nm,0.7s,mb5.6			pmax	pmax		
JTS	**JuntasAbangare** comp=Z,45nm,1.0s,mb5.6,baz=87,slow=1.1,SNR=20	**84.04**	**302**	P	**P**	**12 23 46.1**	**+0.2**
JTS	**JuntasAbangare** comp=Z,103nm,1.3s,mb5.8	**84.04**	**302**	⇑*iP*	**P**	**12 23 45.8**	**-0.2**
JTS	comp=Z,105nm,20.0s,MS4.2			LR	LR		
JTS	**JuntasAbangare** comp=Z,100nm,1.3s	**84.04**	**302**	P	**P**	**12 23 45.9**	**0.0**
JTS				pmax	pmax		
SJG	**San Juan** comp=Z,48nm,0.2s,mb6.2,baz=335,slow=19,SNR=8.9	**84.12**	**322**	P	**P**	**12 23 45.0**	**-1.2**
SJG	**San Juan** comp=Z,36nm,0.3s,mb6.0	**84.12**	**322**	*eP*	**P**	**12 23 44.1**	**-2.1**
SJG	**San Juan**	**84.12**	**322**	*eP*	**P**	**12 23 44.1**	**-2.1**
SJG	comp=Z,37nm,0.3s			pmax	pmax		
KLBR	**Kellerberrin** comp=Z,78nm,1.2s,mb5.7	**84.26**	**149**	⇑*iP*	**P**	**12 23 46.7**	**0.0**
TBI	**Tubuai**	**85.36**	**230**	*e*S	S	12 34 20.6	+2.4
TBI				*e*LQ		12 47 02.3	
TBI	comp=Z,594nm,24.2s,baz=156			*e*LR	LR	12 50 47.5	
DGAR	**Diego Garcia**	**87.84**	**101**	P	**P**	**12 24 02.9**	**-1.7**
STKA	**Stephens Creek** comp=Z,32nm,0.9s,mb5.5	**88.24**	**169**	*eP*	**P**	**12 24 06.8**	**+0.7**
STKA	**Stephens Creek** comp=Z,36nm,0.8s,mb5.6,baz=161,slow=4.8,SNR=48	**88.24**	**169**	P	**P**	**12 24 06.8**	**+0.7**
STKA	comp=Z,7.1nm,0.9s,baz=78,slow=3.7,SNR=6.5			PKKPbc		12 41 49.5	
RAO	**Raoul Island** comp=Z,498nm,21.3s,MS4.9,baz=145,slow=31	**88.49**	**204**	LR	LR	12 56 42.3	
ATD	**Arta Tunnel** comp=Z,62nm,0.9s,mb5.9,baz=242,slow=4.7,SNR=15	**89.43**	**66**	P	**P**	**12 24 16.9**	**+4.8**
ATD	**Arta Tunnel**	**89.43**	**66**	P	**P**	**12 24 16.9**	**+4.8**
PPT	**Papeete** comp=Z,692nm,19.8s,baz=157	**90.62**	**233**	*e*S	S	12 35 08.6	+1.1
PPT				*e*LR	LR	12 53 12.3	
PPT	**Papeete** comp=Z,1μm,19.4s,MS5.3,baz=204,slow=31	**90.62**	**233**	LR	LR	12 57 27.7	
VAH	**Vaihoa** comp=Z,102nm,1.1s,mb6.1	**91.92**	**235**	*eP*	**P**	**12 24 25.2**	**+1.5**
PMOR	**Pomariorio Ree** comp=Z,34nm,1.0s,mb5.6	**92.24**	**235**	*eP*	**P**	**12 24 26.5**	**+1.4**
MBWA	**Marble Bar** comp=Z,21nm,1.0s,mb5.5	**94.71**	**148**	*eP*	**P**	**12 24 35.9**	**-0.4**
MBWA	comp=Z,2μm,21.0s,MS5.5			LR	LR		
CMLA	**Cha da Macela**	**97.04**	**0**	PFAKE		12 25 00.0	+13
CMLA	comp=Z,3μm,20.0s,MS5.7			LR	LR		
DZM	**Mont Dzumac** comp=Z,585nm,20.3s,MS5.1,baz=88,slow=33	**97.98**	**192**	LR	LR	13 04 29.5	
DWPF	**Disney**	**98.63**	**313**	PFAKE		12 25

AFI Afiamalu 101.71 214 PFAKE 12 25 20.0 +12
AFI LR LR
comp=Z,752nm,21.0s,MS5.2
NHSC New Hope 102.68 316 PFAKE 12 25 20.0 +7.9
NHSC LR LR
comp=Z,466nm,21.0s,MS5.0
IDI Anoyia 103.43 41 Pdiff Pdif 12 25 22.6 +7.3
comp=Z,5.6nm,0.8s,baz=230,slow=7.9,SNR=3.1
GOGA Godfrey 104.15 313 PFAKE 12 25 30.0 +11
GOGA LR LR
comp=Z,434nm,22.0s,MS4.9
PALK Pallekele 104.59 101 PFAKE 12 25 30.0 +9.1
PALK LR LR
comp=Z,113nm,20.0s,MS4.4
ASF Jabal al Asfar 105.01 51 Pdiff Pdif 12 25 28.3 +5.9
comp=Z,1.4nm,0.3s,baz=135,slow=1.4,SNR=2.1
ASF PP PP 12 29 47.3 +1.0
comp=Z,1.6nm,0.3s,baz=61,slow=7.3,SNR=10.0
LRAL Lakeview Retre 105.15 310 PFAKE 12 29 50.0
LRAL LR LR
comp=Z,784nm,20.0s,MS5.2
MYNC Murphy 105.88 313 PFAKE 12 29 50.0
MYNC LR LR
comp=Z,727nm,22.0s,MS5.2
CBN Corbin 106.34 320 PFAKE 12 29 50.0
CBN LR LR
comp=Z,639nm,21.0s,MS5.2
BLA Blacksburg 106.47 317 PFAKE 12 29 50.0
BLA LR LR
comp=Z,459nm,21.0s,MS5.0
NATX Nacogdoches 107.14 304 PFAKE 12 29 50.0
NATX LR LR
comp=Z,243nm,20.0s,MS4.8
OXF Oxford 107.39 309 PFAKE 12 29 50.0
OXF LR LR
comp=Z,494nm,22.0s,MS5.0
LPG La Plagne 108.13 23 *e*P Pdif 12 25 39.2 +3.4
comp=Z,2.1nm,0.3s
LPL La Plagne 108.14 23 *e*P Pdif 12 25 39.0 +3.2
JCT Junction City 108.27 299 PFAKE 12 29 50.0
JCT LR LR
comp=Z,273nm,22.0s,MS4.8
MCWV Mont Chateau 108.47 319 PFAKE 12 30 00.0
MCWV LR LR
comp=Z,360nm,22.0s,MS4.9
HRV Harvard--Oak R 108.51 326 PFAKE 12 29 50.0
HRV LR LR
comp=Z,395nm,20.0s,MS5.0
LTX Lajitas 109.04 295 PFAKE 12 30 00.0
LTX LR LR
comp=Z,502nm,19.0s,MS5.1
TXAR Lajitas Array 109.04 295 PKiKP 12 29 45.4
comp=Z,3.0nm,0.9s,baz=162,slow=4.0,SNR=12
TXAR PKKPbc 12 40 52.4
comp=Z,1.0nm,0.6s,baz=270,slow=2.5,SNR=7.3
TXAR PKKPab 12 41 05.1
comp=Z,1.7nm,1.1s,baz=270,slow=1.3,SNR=5.0
EMMW East Machias 109.45 330 PFAKE 12 30 00.0
EMMW LR LR
comp=Z,2μm,20.0s,MS5.6
BINY Binghamton 109.53 323 PFAKE 12 30 00.0
BINY LR LR
comp=Z,672nm,21.0s,MS5.2
DAVOX Davos 110.01 25 PKiKP 12 29 46.8
comp=Z,4.1nm,0.6s,baz=150,slow=13,SNR=3.9
BRTR Keskin Array B 110.44 45 Pdiff Pdif 12 25 56.4 +10
comp=Z,1.0nm,0.8s,baz=180,slow=7.2,SNR=4.2
BRTR PKiKP 12 29 47.3
comp=Z,2.1nm,0.7s,baz=180,slow=3.7,SNR=6.5
BRTR PP PP 12 30 14.0 -12
comp=Z,6.9nm,1.1s,baz=180,slow=6.2,SNR=5.7
BRTR PKKPbc 12 40 45.6
comp=Z,0.5nm,0.4s,baz=63,slow=2.8,SNR=3.7
BR131 Keskin Array S 110.44 45 PFAKE 12 30 00.0 +15
BR131 LR LR
comp=Z,241nm,21.0s,MS4.8
NCB Newcomb 110.62 325 PFAKE 12 30 00.0 +14
NCB LR LR
comp=Z,467nm,21.0s,MS5.0
MALT Malatya 110.99 49 *e*PKPdf PKPdf 12 29 48.6 +2.0
HNR Honiara 111.01 186 PFAKE 12 30 00.0 +13
HNR LR LR
comp=Z,850nm,19.0s,MS5.3
CCM Cathedral Cave 111.20 310 PFAKE 12 30 00.0 +13
CCM LR LR
comp=Z,681nm,20.0s,MS5.2
PQI Presque Isle 111.42 330 PFAKE 12 30 00.0 +13
PQI LR LR
comp=Z,2μm,19.0s,MS5.8
MNTX Cornudas Mount 111.82 295 *e*PKPdf PKPdf 12 29 48.8 +0.4
MNTX LR LR
comp=Z,406nm,20.0s,MS5.0
GERES GERESS Array B 112.81 27 PKiKP 12 29 51.1
comp=Z,4.1nm,0.8s,baz=180,slow=2.7,SNR=16
GERES PP PP 12 30 30.4 -13
comp=Z,3.2nm,1.0s,baz=194,slow=5.5,SNR=4.6
GERES PKKPbc 12 40 39.6
comp=Z,0.3nm,0.2s,baz=352,slow=6.9,SNR=3.8
SADO Sadowa 112.84 322 PKiKP 12 29 51.0
comp=Z,5.4nm,0.7s,baz=180,slow=1.0,SNR=5.5
SADO Sadowa 112.84 322 PKPdf PKPdf 12 29 51.0 +0.9
MLR Muntele Rosu 113.02 37 Pdiff Pdif 12 26 04.8 +7.5
comp=Z,2.3nm,0.8s,baz=219,slow=6.5,SNR=3.6
MLR PKiKP 12 29 51.7
comp=Z,6.3nm,0.7s,baz=184,slow=3.7,SNR=11
MLR PP PP 12 30 31.4 -14
comp=Z,2.7nm,0.8s,baz=167,slow=14,SNR=3.8
KHC Kasperske Hory 113.05 27 *e*PP PP 12 30 41.1 -4.0
KHC AMS AMS 13 11 30.0
comp=Z,400nm,18.9s
NKC Novy Kostel 113.83 26 *e*PP PP 12 30 47.0 -3.5
NKC AMS AMS 13 14 30.0
comp=Z,500nm,17.9s
VRAC Vranov 113.94 29 PKiKP 12 29 53.7
comp=Z,5.3nm,0.8s,baz=306,slow=19,SNR=4.0
PRU Pruhonice 114.08 27 *e*PP PP 12 30 47.2 -5.0
PRU AMS AMS 13 12 40.0
comp=Z,400nm,20.4s
KECS Kecovo 114.17 32 *e*PP PP 12 30 48.3 -4.7
PVCC Panska Ves 114.59 27 *e*PP PP 12 30 52.2 -3.6
PVCC AMS AMS 13 14 40.0
comp=Z,900nm,19.6s
MORC Moravsky Berou 114.61 29 *e*PKPdf PKPdf 12 29 54.9 +1.5
MORC Moravsky Berou 114.61 29 PKIKP PKPdf 12 29 55.2 +1.8
BRG Berggiesshubel 114.77 27 *e*PKIKP PKPdf 12 29 55.4 +1.7
BRG pmax pmax
comp=Z,15nm,1.1s
BRG MLR MLR
comp=N,311nm,17.4s,MS5.1
BRG MLR MLR
comp=E,285nm,20.2s,MS5.1
BRG MLR MLR
comp=Z,415nm,18.7s,MS5.1
OKC Ostrava-Krasne 114.81 30 *e*PP PP 12 30 54.0 -3.4
OKC AMS AMS 13 14 20.0
comp=Z,400nm,23.2s
CRVS Cervenica-Dubn 114.82 32 *e*PP PP 12 31 00.1 +2.6
DPC Dobruska-Polom 114.84 28 *e*PP PP 12 30 54.2 -3.4
DPC AMS AMS 13 16 30.0
comp=Z,500nm,17.9s
TUC Tucson 114.84 292 *e*PKPdf PKPdf 12 29 55.9 +1.5
TUC Tucson 114.84 292 PKIKP PKPdf 12 29 56.5 +2.1
UPC Upice 114.91 28 *e*PP PP 12 30 54.5 -3.5
CLL Collm 114.96 26 P PKPdf 12 29 55.7 +1.6
comp=Z,logA/T=1.0
CLL *e*PP PP 12 30 57.0 -1.4
CLL *e*SPP 12 31 16.0
CLL Collm 114.96 26 *i* PKIKP PKPdf 12 29 55.7 +1.6
CLL pmax pmax
comp=Z,11nm,1.0s
ANMO Albuquerque 115.03 297 PKP PKPdf 12 29 56.4 +1.7
comp=Z,2.6nm,0.8s,baz=90,slow=1.0,SNR=5.2
ANMO PP PP 12 30 52.2 -7.0
comp=Z,4.1nm,1.0s,baz=155,slow=6.4,SNR=4.4
ANMO PKKPbc 12 40 23.1
comp=Z,0.6nm,0.4s,baz=90,slow=8.1,SNR=3.8
ANMO Albuquerque 115.03 297 *e*PKPdf PKPdf 12 29 56.1 +1.4
ANMO *e*PP PP 12 30 52.1 -7.2
ANMO LR LR
comp=Z,319nm,20.0s,MS4.9
ANMO Albuquerque 115.03 297 *e*PKIKP PKPdf 12 29 56.1 +1.4
ANMO MLR MLR
comp=Z,319nm,20.0s
GNI Garni 115.07 53 PKP PKPdf 12 29 56.6 +2.0
comp=Z,2.8nm,0.4s,baz=23,slow=18,SNR=3.6
GNI Garni 115.07 53 PKP PKPdf 12 29 56.6 +2.0
GNI LR LR
comp=Z,469nm,20.0s,MS5.1
KSP Ksiaz 115.29 28 *e*PKP PKPdf 12 29 56.9 +2.1
KWP Kalwaria 115.83 33 *e*PKP PKPdf 12 29 58.0 +2.2
KWP Kalwaria 115.83 33 *e*PKP PKPdf 12 29 58.0 +2.2
ESK Eskdalemuir 116.01 14 PFAKE 12 30 10.0 +14
ESK LR LR
comp=Z,100nm,19.0s,MS4.5
EKA Eskdalemuir Ar 116.04 14 PKP PKPdf 12 29 57.0 +1.0
comp=Z,3.2nm,0.8s,baz=233,slow=3.9,SNR=7.2
ANN Anapa 116.24 45 *i* PKIKP PKPdf 12 29 58.0 +1.3
ANN *e* 12 31 04.9
ANN *e* 12 36 42.3
ANN pmax pmax
comp=Z,55nm,1.6s
KIV Kislovodsk 117.48 49 *e*PKPdf PKPdf 12 30 00.8 +1.7
KIV LR LR
comp=Z,86nm,19.0s,MS4.4
KIV Kislovodsk 117.48 49 PKIKP PKPdf 12 30 01.2 +2.1
PV01 Paradox Valley 118.61 297 *e*PKPdf PKPdf 12 30 01.9 +0.4
PFO Pinyon Flat Ob 118.62 288 *e*PKPdf PKPdf 12 30 03.2 +1.6
PFO Pinyon Flat Ob 118.62 288 PKIKP PKPdf 12 30 04.0 +2.4
ISCO Idaho Springs 118.66 300 *e*PKPdf PKPdf 12 30 03.4 +1.9
ISCO LR LR
comp=Z,462nm,22.0s,MS5.1
AKASG Malin Array Be 118.66 36 PKP PKPdf 12 30 01.9 +0.7
comp=Z,13nm,0.7s,baz=241,slow=2.0,SNR=45
AKASG PP PP 12 31 19.1 -5.2
comp=Z,5.9nm,0.9s,baz=212,slow=7.1,SNR=16
AKASG SKP 12 33 37.5
comp=Z,0.3nm,0.3s,baz=252,slow=2.1,SNR=5.1
SCHQ Schefferville 118.72 334 PKP PKPdf 12 30 02.4 +1.2
comp=Z,45nm,0.7s,baz=147,slow=1.1,SNR=72
SCHQ SKP 12 33 36.1
comp=Z,5.1nm,0.8s,baz=164,slow=5.9,SNR=4.3
SCHQ Schefferville 118.72 334 *e*PKPdf PKPdf 12 30 02.2 +0.9
PV10 Paradox Valley 119.02 297 *e*PKPdf PKPdf 12 30 03.9 +1.7
PV10 *e*SKP 12 33 36.4
LDFC Landfair 119.17 290 *e*PKPdf PKPdf 12 30 04.4 +1.8
NEN Nelson 119.50 291 *e*PKPdf PKPdf 12 30 04.2 +1.0
NEN *e*PP PP 12 31 25.2 -4.9
PHWY Pilot Hill 119.82 301 *e*PKPdf PKPdf 12 30 04.9 +1.2
PHWY *e*PP PP 12 31 26.4 -5.5
SUW Suwalki 119.91 31 *e*PKP PKPdf 12 30 05.0 +1.4
SUW Suwalki 119.91 31 *e*PKP PKPdf 12 30 05.0 +1.4
TMUT Trail Mountain 120.76 296 *e*PKPdf PKPdf 12 30 07.3 +1.6
NST Nakhon Sawan 121.25 114 P PKPdf 12 30 08.0 +1.0
ISA Isabella 121.26 288 PFAKE 12 30 20.0 +13
ISA LR LR
comp=Z,77nm,20.0s,MS4.3
DAC Darwin (Calif) 121.33 289 *e*PKPdf PKPdf 12 30 08.7 +1.9
DAC LR LR
comp=Z,278nm,21.0s,MS4.9
RSSD Black Hills 121.51 304 *e*PKPdf PKPdf 12 30 07.9 +1.0
RSSD Black Hills 121.51 304 PKIKP PKPdf 12 30 08.8 +1.9
PTRM Twissleman Ran 122.09 287 *e*PKPdf PKPdf 12 30 10.6 +2.4
KONO Kongsberg 122.12 20 PFAKE 12 30 20.0 +12
KONO LR LR
comp=Z,478nm,22.0s,MS5.1
KONO Kongsberg 122.12 20 *i* PKIKP PKPdf 12 30 08.8 +1.1
VORD Divnogorie 122.15 43 *e*PKIKP PKPdf 12 30 09.2 +1.2
VORD pmax pmax
comp=Z,30nm,0.8s
VORD pmax pmax
comp=N,40nm,0.7s
VORD pmax pmax
comp=E,40nm,0.7s
TPH Tonopah 122.58 291 *e*PKPdf PKPdf 12 30 11.7 +2.5
TPH Tonopah 122.58 291 PKIKP PKPdf 12 30 12.5 +3.3
MTUM Tungsten Hills 122.65 289 *e*PKPdf PKPdf 12 30 11.5 +2.1
MTUM *e*PP PP 12 31 45.7 -5.9
HWUT Hardware Ranch 122.77 297 *e*PKPdf PKPdf 12 30 07.9 -1.6
HWUT *e*PP PP 12 31 47.5 -4.9
HWUT *e*SKP 12 33 41.8
HWUT LR LR
comp=Z,487nm,20.0s,MS5.2
BW06 Boulder Array 122.80 299 PFAKE 12 30 20.0 +11
BW06 LR LR
comp=Z,578nm,19.0s,MS5.2
PDAR Pinedale Array 122.80 299 PKP PKPdf 12 30 10.2 +0.7
comp=Z,7.9nm,0.6s,baz=138,slow=4.9,SNR=59
PDAR PP PP 12 31 48.6 -3.9
comp=Z,2.5nm,1.1s,baz=125,slow=11,SNR=3.1
PDAR PKKPbc 12 40 02.9
comp=Z,0.3nm,0.7s,baz=27,slow=2.0,SNR=3.8
KKTK Khon Kaen 123.07 117 P PKPdf 12 30 11.0 +0.4
OMM Old Mammoth Mi 123.07 289 *e*PKPdf PKPdf 12 30 12.3 +2.2
OMM *e*PP PP 12 31 50.2 -4.3
LRV Little Rabbit 123.10 286 *e*PKPdf PKPdf 12 30 13.7 +3.5
ULM Lac du Bonnet 123.29 314 PKP PKPdf 12 30 10.3 +0.1
comp=Z,32nm,0.6s,baz=141,slow=1.0,SNR=30
ULM Lac du Bonnet 123.29 314 *e*PKPdf PKPdf 12 30 10.6 +0.4
KOLN Koldanda 123.30 91 *e*P PKPdf 12 30 11.4 +0.6
comp=Z,150nm,1.0s
HFS Hagfors 123.33 22 PKP PKPdf 12 30 10.3 +0.3
comp=Z,22nm,0.8s,baz=180,slow=3.0,SNR=31
HFS PP PP 12 31 46.9 -8.9
comp=Z,4.1nm,0.8s,baz=162,slow=4.6,SNR=3.2
NAO01 NORSAR Array S 123.47 21 *e*PKPdf PKPdf 12 30 11.7 +1.4
AHID Auburn Hatcher 123.48 298 *e*PKPdf PKPdf 12 30 12.6 +1.8
AHID LR LR
comp=Z,403nm,20.0s,MS5.1
NB2 NORSAR Subarra123.71 21 PKPdf PKPdf 12 30 12.0 +1.2
comp=Z,22nm,0.8s,baz=202,slow=1.9
NB2 NORSAR Subarra123.71 21 PKPd PKPdf 12 30 12.0 +1.2
baz=202,slow=1.9
NOA NORSAR Array B 123.71 21 PKP PKPdf 12 30 12.3 +1.6
comp=Z,35nm,0.8s,baz=192,slow=1.5,SNR=83
ELK Elko 123.77 294 PKP PKPdf 12 30 13.8 +2.4
comp=Z,16nm,1.0s,baz=174,slow=1.7,SNR=58
ELK PP PP 12 31 52.6 -6.7
comp=Z,1.6nm,0.9s,baz=139,slow=6.3,SNR=4.3
ELK Elko 123.77 294 *e*PKPdf PKPdf 12 30 13.2 +1.7
ELK *e*PP PP 12 31 52.5 -6.9
ELK *e*SKP 12 33 43.8
ELK LR LR
comp=Z,473nm,20.0s,MS5.2
ELK Elko 123.77 294 *e*PKIKP PKPdf 12 30 13.2 +1.8
ELK MLR MLR
comp=Z,473nm,20.0s
REDW Red Top Meadow 123.85 299 *e*PKPdf PKPdf 12 30 13.0 +1.5
SNOW Snow King Moun 123.88 299 *e*PKPdf PKPdf 12 30 13.4 +1.9
LOHW Long Hollow 123.94 299 *e*PKPdf PKPdf 12 30 13.1 +1.5
LOHW *e*SKP 12 33 45.7
DMN Daman 123.94 93 *e*P PKPdf 12 30 13.1 +1.1
comp=Z,114nm,1.0s
TPAW Teton Pass 123.99 299 *e*PKPdf PKPdf 12 30 13.3 +1.6
TPAW *e*SKP 12 33 43.3
GKN Gorkha 124.02 92 *e*P PKPdf 12 30 12.4 +0.2
comp=Z,116nm,0.9s
RRI2 Red Ridge 124.04 299 *e*PKPdf PKPdf 12 30 13.2 +1.4
PKI Pulchoki 124.06 93 *e*P PKPdf 12 30 13.8 +1.5
comp=Z,94nm,0.8s
CMB Columbia Colle 124.07 288 *e*PKPdf PKPdf 12 30 14.0 +1.9
CMB *e*SKP 12 33 46.7
CMB LR LR
comp=Z,452nm,20.0s,MS5.1
CMB Columbia Colle 124.07 288 *e*PKIKP PKPdf 12 30 14.0 +1.9
CMB MLR MLR
comp=Z,452nm,20.0s,MS5.1
BORG Borgarnes 124.10 2 PKP PKPdf 12 30 13.9 +2.4
comp=Z,15nm,0.7s,baz=88,slow=3.1,SNR=4.2
KKN Kakani 124.17 93 *e*P PKPdf 12 30 12.8 +0.3
comp=Z,81nm,0.8s
NANT Nan 124.23 113 ⇓P PKPdf 12 30 10.0 -2.8
comp=Z,125nm,0.4s
IMW Indian Meadow 124.31 299 *e*PKPdf PKPdf 12 30 13.9 +1.6
IMW *e*SKP 12 33 47.4
BMN Battle Mountai 124.45 292 *e*PKPdf PKPdf 12 30 14.2 +1.5
BMN *e*SKP 12 33 46.1
BMN LR LR
comp=Z,296nm,21.0s,MS4.9
BMN Battle Mountai 124.45 292 *e*PKIKP PKPdf 12 30 14.2 +1.5
BMN MLR MLR
comp=Z,296nm,21.0s,MS4.9
LAO LASA Array 124.49 305 *e*PKPdf PKPdf 12 30 13.8 +1.2
LAO LR LR
comp=Z,600nm,20.0s,MS5.3
LKWY Lake 124.60 300 *e*PKPdf PKPdf 12 30 15.0 +2.2
LKWY LR LR
comp=Z,1μm,19.0s,MS5.5
LKWY Lake 124.60 300 PKIKP PKPdf 12 30 16.7 +3.9
YFT Old Faithful 124.70 300 *e*PKPdf PKPdf 12 30 16.1 +3.1
YFT *e*PP PP 12 32 02.3 -2.6
YFT *e*SKP 12 33 48.8
CHRT Chiangrai 124.72 111 ⇑P PKPdf 12 30 13.0 -0.6
comp=Z,184nm,1.1s
OBN Obninsk 124.73 38 *e*PKPdf PKPdf 12 30 13.6 +0.8
OBN Obninsk 124.73 38 *i* PKIKP PKPdf 12 30 14.1 +1.4
OBN *e* 12 32 05.8
OBN pmax pmax
comp=Z,49nm,0.9s
OBN MLR MLR
comp=Z,500nm,19.0s,MS5.2
VSU Vasula 124.78 31 *i* PKIKP PKPdf 12 30 14.3 +1.6
DGMT Dagmar 125.07 307 *e*PKPdf PKPdf 12 30 14.6 +1.1
DGMT *e*PP PP 12 32 02.8 -4.3
QLMT Earthquake Lak 125.26 300 *e*PKPdf PKPdf 12 30 16.6 +2.6
QLMT *e*SKP 12 33 49.3
BEKR Beckwourth 125.50 290 *e*PKPdf PKPdf 12 30 16.7 +2.1
NSHM Saint Helena R 125.53 287 *e*PKPdf PKPdf 12 30 16.7 +2.0
MOS Moscow 125.59 38 *e*PKIKP PKPdf 12 30 14.1 -0.2
MOS *e* 12 37 22.8
MOS pmax pmax
comp=Z,81nm,0.7s
MOS MLR MLR
comp=Z,600nm,20.5s,MS5.2
MCMT McKenzie Canyo 125.89 299 *e*PKPdf PKPdf 12 30 17.1 +1.9
MCMT *e*PP PP 12 32 10.2 -2.8
BOZ Bozeman (W) 125.99 300 *e*PKPdf PKPdf 12 30 17.0 +1.6
BOZ *e*SKP 12 32 09.5
BOZ LR LR
comp=Z,498nm,20.0s,MS5.2
HOPS Hopland 126.12 287 PFAKE 12 30 30.0 +14
HOPS LR LR
comp=Z,403nm,20.0s,MS5.1
POHA Pohakuloa 126.52 244 PFAKE 12 30 30.0 +13
POHA LR LR
comp=Z,5μm,19.0s
WVOR Wild Horse Val 126.68 293 PKIKP PKPdf 12 30 19.4 +2.6
HRY Holter Researc 126.90 301 *e*PKPdf PKPdf 12 30 19.2 +2.1
MOD Modoc 127.05 291 *e*PKPdf PKPdf 12 30 19.8 +2.2
WDC Whiskeytown Da 127.10 288 *e*PKPdf PKPdf 12 30 18.9 +1.2
WDC Whiskeytown Da 127.10 288 PKIKP PKPdf 12 30 19.6 +1.9
FINES FINESS Array B 127.21 28 PKP PKPdf 12 30 18.8 +1.4
comp=Z,62nm,0.8s,baz=153,slow=4.3,SNR=138
FINES PP PP 12 32 23.8 +3.1
comp=Z,6.4nm,0.9s,baz=225,slow=8.1,SNR=4.0
FINES FINESS Array B 127.21 28 PKP PKPdf 12 30 18.8 +1.4
FINES PP PP 12 32 23.8 +3.1
FINES FINESS Array B 127.21 28 *i* PKIKP PKPdf 12 30 18.8 +1.5
FINES pmax pmax
comp=Z,62nm,0.8s
SFJD Kangerlussuaq 127.64 348 ⇑*i*P PKPdf 12 30 19.3 +1.3
comp=Z,90nm,0.9s
comp=Z,640nm,21.0s
SFJD Kangerlussuaq 127.64 348 PKIKP PKPdf 12 30 19.8 +1.8
CHMT Chamberlain Mo 127.68 300 *e*PKPdf PKPdf 12 30 20.2 +1.5
MSO Missoula 127.92 300 *e*PKPdf PKPdf 12 30 20.5 +1.4
MSO *e*PP PP 12 32 24.4 -1.7
MSO LR LR
comp=Z,381nm,20.0s,MS5.1
BMO Blue Mountains 127.92 296 PFAKE 12 30 30.0 +11
BMO LR LR
comp=Z,438nm,22.0s,MS5.1
YBH Yreka Blue Hor 128.07 289 PKP PKPdf 12 30 20.6 +1.0
comp=Z,9.1nm,1.0s,baz=113,slow=4.6,SNR=9.3
YBH Yreka Blue Hor 128.07 289 *e*PKPdf PKPdf 12 30 20.7 +1.1
YBH Yreka Blue Hor 128.07 289 PKIKP PKPdf 12 30 21.2 +1.7
KWAJ Kwajalein Atol 128.27 197 PFAKE 12 30 30.0 +9.4
KWAJ LR LR
comp=Z,214nm,20.0s,MS4.8
QIZ Qiongzhong 128.54 122 PFAKE 12 30 30.0 +9.0
QIZ LR LR
comp=Z,390nm,21.0s,MS5.1
LSA Lhasa 128.70 97 *e*PKPdf PKPdf 12 30 23.3 +2.2
LSA *e*SKP 12 33 51.1
LSA LR LR
comp=Z,330nm,19.0s,MS5.0
LSA Lhasa 128.70 97 *e*PKIKP PKPdf 12 30 23.3 +2.2
LSA MLR MLR
comp=Z,330nm,19.0s,MS5.0
AB31 Akbulak array 128.77 57 *i* PKIKP PKPdf 12 30 22.1 +1.4
AB31 pmax pmax
comp=Z,51nm,0.7s
HUMO Hull Mountain 128.86 290 *e*PKPdf PKPdf 12 30 22.9 +1.9
HUMO LR LR
comp=Z,298nm,20.0s,MS5.0
KKAR Karatay Array 128.87 69 *i* PKIKP PKPdf 12 30 22.3 +1.3
KKAR pmax pmax
comp=Z,71nm,1.4s
FFC Flin Flon 129.12 313 *e*PKPdf PKPdf 12 30 22.2 +1.1
FFC LR LR
comp=Z,122nm,20.0s,MS4.6
FFC Flin Flon 129.12 313 PKIKP PKPdf 12 30 22.9 +1.7
IRO Indian Ridge 129.58 291 P PKPdf 12 30 24.5 +2.2
WALA Waterton Lakes 129.60 301 *e*PKPdf PKPdf 12 30 23.1 +0.9
WALA *e*SKP 12 33 41.4
AML Almayashu 129.66 72 P PKPdf 12 30 25.1 +2.5
SNR=15
HAWA Hanford 130.11 295 *e*PKPdf PKPdf 12 30 24.5 +1.2
HAWA LR LR
comp=Z,36nm,19.0s,MS4.1
UCH Uchtor 130.13 73 P PKPdf 12 30 23.4 -0.1
SNR=12
KZA Kyzart 130.38 74 P PKPdf 12 30 23.0 -0.9
SNR=8.9
NEW Newport 130.42 299 PKP PKPdf 12 30 25.0 +1.2
comp=Z,13nm,1.1s,baz=231,slow=0.9,SNR=18
NEW SKPbc 12 33 43.4
comp=Z,11nm,0.8s,baz=124,slow=4.1,SNR=10
NEW Newport 130.42 299 *e*PKPdf PKPdf 12 30 24.0 +0.2
NEW *e*SKP 12 33 43.0
NEW LR LR
comp=Z,605nm,20.0s,MS5.3
AAK Ala-Archa 130.43 73 P PKPdf 12 30 26.0 +2.0
SNR=13
AAK Ala-Archa 130.43 73 *e*PKPdf PKPdf 12 30 24.6 +0.5
AAK LR LR
comp=Z,103nm,20.0s,MS4.5
AAK Ala-Archa 130.43 73 PKIKP PKPdf 12 30 25.8 +1.8
AAK pmax pmax
comp=Z,24nm,0.8s
OD2 Odessa Site #2 130.48 297 P PKPdf 12 30 26.0 +2.1
COR Corvallis 130.51 291 PFAKE 12 30 40.0 +16
COR LR LR
comp=Z,451nm,19.0s,MS5.2
KMI Kunming 130.61 111 PKP PKPdf 12 30 26.2 +1.4
KMI XPKP 12 30 46.1
KMI PP PP 12 32 47.9 +3.4
KMI SS SS 12 50 09.3 +2.8
KMI PP PP
comp=Z,258nm,5.8s
KMI LR LR
comp=N,352nm,21.3s,MS5.1
KMI LR LR
comp=E,305nm,22.7s,MS5.1
KMI LR LR
comp=Z,583nm,41.2s
KMI Kunming 130.61 111 PKIKP PKPdf 12 30 26.2 +1.4
KMI 12 32 47.9
KMI SS SS 12 50 09.3 +2.8
KMI SSS SSS 12 55 03.6 +5.0
KMI MLR MLR
comp=Z,580nm,41.2s,MS5.0
FRU Bishkek 130.64 72 *e*PKIKP PKPdf 12 30 25.6 +1.2
FRU pmax pmax
comp=Z,80nm,2.0s
KBK Karagaybulak 130.67 73 P PKPdf 12 30 26.4 +1.9
SNR=10
CHMS Chumysh 130.83 72 P PKPdf 12 30 26.4 +1.7
SNR=8.1
USP Ospenovka 130.91 72 P PKPdf 12 30 26.6 +1.7
SNR=18
TBM Table Mountain 131.18 295 P PKPdf 12 30 27.6 +2.3
TKM2 Tokmak 2 131.18 73 P PKPdf 12 30 28.2 +2.8
SNR=7.1
SUMG Summit 132.21 355 *e*PKPpre 12 30 15.0
SUMG *e*PKPdf PKPdf 12 30 28.1 +1.5
PNT Penticton 132.31 298 P PKPdf 12 30 29.1 +1.8
EDM Edmonton 132.44 306 *e*PKPdf PKPdf 12 30 28.6 +1.1
EDM *e*SKP 12 33 50.8
KTK1 Kautokeino 133.12 22 *e*P Pdif 12 27 29.6 +4.6
OCWA Octopus Mounta 133.26 294 *e*PKPdf PKPdf 12 30 31.6 +2.4
OCWA *e*SKP 12 33 55.2
OCWA LR LR
comp=Z,489nm,21.0s,MS5.2
ARU Arti 133.52 50 *e*PKPdf 12 30 14.4

ARU *e*PP PP 12 32 56.7 -5.2
ARU LR LR
comp=Z,79nm,21.0s,MS4.4
ARU Arti 133.52 50 *e*PKHKP 12 30 15.0
ARU *i* 12 30 31.0
GUMO Guam 133.53 168 PFAKE 12 30 40.0 +9.4
GUMO LR LR
comp=Z,180nm,19.0s,MS4.8
PGC Sidney 133.57 295 *e*PKPdf PKPdf 12 30 31.7 +2.0
PGC *e*SKP 12 33 55.6
GYA Guiyang 133.59 114⇧ *i*PKP PKPdf 12 30 33.6 +3.2
GYA PKS PKS 12 34 08.4 +2.7
GYA PP PP
comp=Z,160nm,7.4s
GYA LR LR
comp=N,410nm,20.7s,MS5.3
GYA LR LR
comp=E,380nm,20.4s,MS5.3
GYA LR LR
comp=Z,590nm,20.0s,MS5.3
ARCES ARCESS Array B 134.00 22 PKhKP 12 30 18.8
comp=Z,6.9nm,0.7s,baz=207,slow=2.7,SNR=24
ARCES PKP PKPdf 12 30 30.7 +0.7
comp=Z,72nm,0.8s,baz=225,slow=1.7,SNR=54
ARCES PP PP 12 32 53.8 -11
comp=Z,3.2nm,0.8s,baz=186,slow=8.2,SNR=4.4
ARCES SKPbc 12 34 00.0
comp=Z,5.9nm,0.6s,baz=220,slow=2.5,SNR=14
ARE0 ARCESS Array S 134.00 22 *e*PKPdf PKPdf 12 30 30.4 +0.4
ARE0 *e*SKP 12 33 58.5
APA Apatity 134.08 27 *i*PKIKP PKPdf 12 30 29.5 -0.7
APA pmax pmax
comp=Z,32nm,0.8s
APA MLR MLR
comp=Z,700nm,20.0s,MS5.4
KEV Kevo 134.47 23 *e*PKPdf PKPdf 12 30 30.4 -0.5
KEV LR LR
comp=Z,535nm,20.0s,MS5.3
KEV Kevo 134.47 23 PKIKP PKPdf 12 30 31.0 +0.1
SVE Sverdlovsk 134.61 50⇧ *e*PKIKP PKPdf 12 30 33.4 +1.9
SVE *e* 12 33 08.5
SVE pmax pmax
comp=Z,60nm,1.7s
BRVK Borovoye 136.01 60 *e*PKPpre 12 30 22.9
BRVK *e*PKPdf PKPdf 12 30 35.5 +1.4
BRVK *e*PP PP 12 33 12.7 -4.7
BRVK LR LR
comp=Z,59nm,20.0s,MS4.3
BVA0 Borovoye Array 136.03 60 *i*PKHKP 12 30 24.7
BVA0 pmax pmax
comp=Z,7.0nm,0.9s
VOSK Vostochnaya 136.09 61 PKHKP 12 30 22.9
VOSK pmax pmax
comp=Z,18nm,0.8s
DAG Danmarks Havn 136.22 2⇩ *i*P PKPdf 12 30 33.8 -0.2
comp=Z,15nm,0.7s
DAG Danmarks Havn 136.22 2⇩ *e*PKIKP PKPdf 12 30 33.8 -0.2
DAG pmax pmax
comp=Z,15nm,0.7s
MKAR Makanchi Array 137.26 74 PKhKP 12 30 26.8
comp=Z,4.0nm,0.7s,baz=221,slow=2.7,SNR=18
MKAR PKP PKPdf 12 30 38.2 +1.6
comp=Z,7.0nm,0.7s,baz=225,slow=2.0,SNR=18
MKAR PP PP 12 33 26.7 +1.4
comp=Z,2.1nm,0.9s,baz=233,slow=7.2,SNR=3.2
MKAR SKPbc 12 34 13.4
comp=Z,3.2nm,0.9s,baz=243,slow=2.7,SNR=3.7
MKAR Makanchi Array 137.26 74 PKP 12 30 26.8
MKAR PKP PKPdf 12 30 38.2 +1.6
MKAR PP PP 12 33 26.7 +1.4
MKAR SKPbc 12 34 13.4
MKAR Makanchi Array 137.26 74 *i*PKHKP 12 30 27.2
MKAR pmax pmax
comp=Z,31nm,1.0s
WMQ Urumqi 137.83 81 PKP PKPdf 12 30 42.0 +4.3
WMQ PP PP 12 33 34.0 +4.6
WMQ SKS SKS 12 37 47.0 +5.2
WMQ SKKS 12 40 20.0
WMQ SS SS 12 51 39.0 +6.0
WMQ PP PP
comp=Z,112nm,10.0s
WMQ LR LR
comp=N,256nm,20.0s,MS5.1
WMQ LR LR
comp=E,201nm,20.0s,MS5.1
WMQ LR LR
comp=Z,247nm,20.0s,MS4.9
ENH Enshi 138.13 114 *e*PKPdf PKPdf 12 30 40.3 +1.6
ENH LR LR
comp=Z,382nm,19.0s,MS5.2
BBB Bella Bella 138.17 296 PKP PKPdf 12 30 37.1 -1.0
comp=Z,26nm,0.9s,baz=305,slow=0.6,SNR=7.9
KURK Kurchatov 138.20 67 *e*PKPpre 12 30 29.9
KURK LR LR
comp=Z,94nm,19.0s,MS4.5
KURK Kurchatov 138.20 67 PKHKP 12 30 30.5
YKA Yellowknife Ar 139.26 315 PKhKP 12 30 33.4
comp=Z,7.1nm,0.9s,baz=110,slow=3.5,SNR=14
YKA PKP PKPdf 12 30 41.3 +1.5
comp=Z,69nm,0.8s,baz=130,slow=2.7,SNR=91
YKA PP PP 12 33 31.1 -6.5
comp=Z,6.0nm,0.9s,baz=124,slow=6.6,SNR=7.3
YKA SKP 12 34 12.7
comp=Z,7.9nm,0.8s,baz=122,slow=1.9,SNR=12
YKA Yellowknife Ar 139.26 315 PKP PKPdf 12 30 33.4 -6.4
YKA PKP PKPdf 12 30 41.3 +1.5
YKA PP PP 12 33 31.1 -6.5
YKA SKP 12 34 12.7
YKW3 Yellowknife Ar 139.31 315 *e*PKPpre 12 30 32.4
YKW3 *e*PKPdf PKPdf 12 30 40.6 +0.8
YKW3 *e*PP PP 12 33 30.1 -7.8
YKW3 *e*SKP 12 34 11.2
KBS Kingsbay 140.12 11 *e*PKPpre 12 30 36.8
KBS *e*PKPdf PKPdf 12 30 44.8 +3.8
KBS LR LR
comp=Z,361nm,19.0s,MS5.1
KBS Kingsbay 140.12 11 PKHKP 12 30 37.1
LZH Lanzhou 140.17 103 ⇩PKP PKPdf 12 30 40.4 -1.8
LZH XPKP 12 30 59.2
LZH PP PP 12 33 42.5 -1.3
LZH SKKS 12 40 26.3
LZH SS SS 12 51 59.6 -0.5
LZH PP PP
comp=Z,287nm,8.1s
LZH LR LR
comp=E,581nm,18.3s
LZH LR LR
comp=Z,847nm,20.0s,MS5.5
LZH Lanzhou 140.17 103 ⇩PKP PKPdf 12 30 40.4 -1.8
LZH pPKP 12 30 54.3
LZH sPKP 12 30 59.2
LZH PP PP 12 33 42.5 -1.3
LZH SKKS 12 40 26.3
LZH SS SS 12 51 59.6 -0.5
LZH LR LR
comp=Z,850nm,20.0s,MS5.5
WHN Wuhan 140.56 120 PKP PKPdf 12 30 40.5 -2.5
RES Resolute Bay 141.45 337 *e*PKPpre 12 30 38.0
RES *e*PKPdf PKPdf 12 30 46.1 +2.9
RES *e*SKP 12 34 19.5
RES Resolute Bay 141.45 337 PKIKP PKPdf 12 30 41.2 -2.0
DLBC Dease Lake 142.94 302 PKhKP 12 30 43.8
comp=Z,18nm,0.9s,baz=284,slow=1.3,SNR=13
DLBC PKP PKPdf 12 30 47.2 +1.1
comp=Z,18nm,0.9s,baz=93,slow=4.0,SNR=22
DLBC SKPbc 12 34 23.2
comp=Z,12nm,1.0s,baz=118,slow=2.4,SNR=5.3
DLBC Dease Lake 142.94 302 *e*PKPdf PKPdf 12 30 43.7 -2.4
DLBC PKP PKPdf 12 30 47.2 +1.1
DLBC *e*SKP 12 34 22.9
DLBC SKPbc 12 34 23.2
NVS Novosibirsk 143.00 65 *e*PKIKP PKPdf 12 30 44.9 -1.5
NVS *e* 12 34 03.2
NVS pmax pmax
comp=Z,218nm,1.8s
NVS pmax pmax
comp=N,65nm,1.5s
ZAL Zalesovo 143.18 67 PKhKP 12 30 44.5
comp=N,9.6nm,0.6s,baz=244,slow=2.6,SNR=32
NJ2 Nanjing 143.81 124 *e*PKP PKPdf 12 30 48.1 -0.4
NJ2 PKS PKS 12 34 22.0 -1.2
NJ2 SKS SKS 12 37 52.0 +0.4
NJ2 PP PP
comp=Z,30nm,8.8s
NJ2 LR LR
comp=N,930nm,27.2s
NJ2 LR LR
comp=E,2μm,19.1s
NJ2 LR LR
comp=Z,570nm,25.0s,MS5.2
SSE Sheshan 143.93 128 PKP PKPdf 12 30 53.6 +4.9
SSE PP PP 12 34 10.4 +3.9
SSE SS SS 12 52 49.8 +5.4
SSE PP PP
comp=Z,548nm,5.2s
SSE LR LR
comp=N,82nm,26.5s,MS5.1
SSE LR LR
comp=E,397nm,27.5s,MS5.1
SSE LR LR
comp=Z,370nm,25.9s,MS5.0
TIA Tai'an 146.58 118 *e*PKP PKPdf 12 30 55.1 +1.9
BTO Baotou 146.73 105 *e*PKP PKPdf 12 30 56.7 +3.4
HHC Hu-ho-hao-te 147.67 106 *e*PKP PKPdf 12 31 00.1 +5.3
HHC APKP 12 31 09.0
HHC PP PP 12 34 33.6 +5.0
HHC SKS SKS 12 38 02.9 +6.1
HHC SKKS 12 41 16.5
HHC SS SS 12 53 31.8 +5.6
HHC PP PP
comp=Z,395nm,19.6s
HHC LR LR
comp=N,186nm,21.4s,MS5.0
HHC LR LR
comp=E,246nm,25.0s,MS5.0
HHC LR LR
comp=Z,237nm,22.0s,MS4.9
INK Inuvik 148.97 317 PKP PKPdf 12 30 55.5 -0.5
comp=Z,14nm,0.9s,baz=43,slow=1.2,SNR=24
INK PKPbc PKPdf 12 31 01.6 +5.6
comp=Z,92nm,0.6s,baz=106,slow=4.0,SNR=174
INK SKPbc 12 34 36.3
comp=Z,6.5nm,0.8s,baz=108,slow=2.1,SNR=3.9
INK Inuvik 148.97 317 *e*PKPdf PKPdf 12 30 54.9 -1.2
INK *e*PKPbc PKPdf 12 31 01.4 +5.4
JNU Nakatsue 149.33 139 PKPbc PKPdf 12 31 04.3 +6.6
baz=278,slow=13
DAWY Dawson 149.63 307 *e*PKPdf PKPdf 12 30 56.7 -0.6
DAWY *e*PKPbc PKPdf 12 31 03.3 +6.1
MOY Mondy 149.72 81 *e*PKHKP 12 30 59.5
MOY pmax pmax
comp=Z,361nm,2.1s
SONM Songino Array 150.06 92 PKP PKPdf 12 30 59.8 +1.4
comp=Z,113nm,0.8s,baz=272,slow=0.6,SNR=82
SONM PKPbc PKPdf 12 31 06.1 +7.7
comp=Z,113nm,0.8s,baz=225,slow=2.0,SNR=267
ZAK Zakamensk 150.10 85⇧ *e*PKIKP PKPdf 12 31 00.3 +1.9
ZAK *i* 12 31 06.1
ZAK pmax pmax
comp=Z,12nm,0.1s
ZAK pmax pmax
comp=Z,93nm,1.1s
EYAK Cordova Ski Ar 150.92 298 *e*PKPbc PKPdf 12 31 07.0 +7.7
TLY Talaya 151.06 83 *e*PKPdf PKPdf 12 31 02.2 +2.4
TLY *e*PKPbc PKPdf 12 31 07.9 +8.1
DIV Divide 151.17 299 *e*PKPdf PKPdf 12 30 59.1 -0.5
DIV *e*PKPbc PKPdf 12 31 07.8 +8.2
DIV LR LR
comp=Z,1μm,21.0s,MS5.7
INCN Inchon 151.69 129 PFAKE 12 31 10.0 +8.8
INCN LR LR
comp=Z,69μm,20.0s
IRK Irkutsk 151.71 83 *e*PKIKP PKPdf 12 31 01.8 +1.1
IRK pmax pmax
comp=Z,130nm,2.4s
KS15 Wonju Array Si 152.14 131 *e*PKPbc PKPdf 12 31 10.5 +8.6
SML Sawmill 152.57 300 *e*PKPdf PKPdf 12 31 00.0 -1.7
SML *e*PKPbc PKPdf 12 31 10.7 +9.0
SML *e*PKPab PKPab 12 31 20.6 -1.1
SML Sawmill 152.57 300 PKIKP PKPdf 12 31 00.8 -0.9
SLKM Skilak Lake 152.92 296 *e*PKPbc PKPdf 12 31 11.3 +9.1
SLKM *e*PKPab PKPab 12 31 22.9 -0.3
ILAR Eielson Array 152.93 306 PKP PKPdf 12 31 00.5 -1.6
comp=Z,6.2nm,1.0s,baz=303,slow=1.2,SNR=32
ILAR PKPbc PKPdf 12 31 11.2 +9.1
comp=Z,38nm,0.6s,baz=45,slow=0.2,SNR=165
COLA College 153.36 306 PFAKE 12 31 20.0 +17
COLA LR LR
comp=Z,20nm,20.0s
MCK McKinley 153.48 303 *e*PKPdf PKPdf 12 31 01.4 -1.4
MCK *e*PKPbc PKPdf 12 31 12.4 +10
MCK LR LR
comp=Z,211nm,20.0s,MS5.0
MCK McKinley 153.48 303 PKIKP PKPdf 12 31 01.6 -1.3
SPU Mount Spurr 154.01 297 *e*PKPdf PKPdf 12 31 00.7 -2.9
SPU *e*PKPbc PKPdf 12 31 13.5 +10
SPU *e*PKPab PKPab 12 31 26.2 -1.5
RSO Redoubt South 154.07 295 *e*PKPdf PKPdf 12 31 01.8 -1.9
MAJO Matsushiro 154.70 149 *e*PKPdf PKPdf 12 31 05.8 +0.5
MAJO *e*PKPbc PKPdf 12 31 15.8 +10
MAJO LR LR
comp=Z,415nm,19.0s,MS5.3
MAJO Matsushiro 154.70 149 PKIKP PKPdf 12 31 07.0 +1.6
MAT Matsushiro 154.70 149 PKP PKPdf 12 31 07.1 +1.7
MAT Matsushiro 154.70 149 *e*PKP PKPdf 12 31 07.0 +1.6
IMA Indian Mountai 155.99 308 *e*P PKPdf 12 31 05.1 -1.0
IMA Indian Mountai 155.99 308 PKIKP PKPdf 12 31 05.3 -0.8
CIT Chita 156.28 91 *e*PKIKP PKPdf 12 31 07.6 +0.7
CIT *e* 12 31 15.3
CIT pmax pmax
comp=Z,114nm,1.4s
CN2 Changchun 156.46 119 *e*PKP PKPdf 12 31 12.1 +4.6
CN2 *e*XPKP 12 31 28.0
CN2 *e*PP PP 12 35 22.5 +4.8
CN2 LR LR
comp=N,290nm,21.0s,MS5.3
CN2 LR LR
comp=E,330nm,21.0s,MS5.3
CN2 LR LR
comp=Z,370nm,21.0s,MS5.2
HIA Hailar 157.72 102 *e*PKPdf PKPdf 12 31 09.8 +0.8
HIA *e*PKPab PKPab 12 31 44.0 +0.1
HIA LR LR
comp=Z,452nm,22.0s,MS5.3
HIA Hailar 157.72 102 *e*PKIKP PKPdf 12 31 09.8 +0.8
HIA MLR MLR
comp=Z,452nm,22.0s
MDJ Mudanjiang 158.90 124 PKP PKPdf 12 31 11.2 +0.6
MDJ APKP 12 31 25.5
MDJ XPKP 12 31 29.6
MDJ PKP2 PKPab 12 31 48.4 -0.7
MDJ SS SS 12 55 31.9 +3.5
MDJ PP PP
comp=Z,141nm,5.7s
MDJ LR LR
comp=N,107nm,22.8s,MS5.0
MDJ LR LR
comp=E,196nm,21.6s,MS5.0
MDJ LR LR
comp=Z,242nm,22.8s,MS5.0
MDJ Mudanjiang 158.90 124 *e*PKPdf PKPdf 12 31 11.8 +1.2
MDJ *e*PKPab PKPab 12 31 47.4 -1.8
BOD Bodaibo 159.29 77 *e*PKIKP PKPdf 12 31 09.9 -0.7
BOD *e* 12 31 50.3
BOD pmax pmax
comp=Z,17nm,1.0s
BOD pmax pmax
comp=Z,38nm,1.4s
ERM Erimo 161.09 154 PFAKE 12 31 30.0 +17
ERM LR LR
comp=Z,1.0nm,21.0s
KLR Kul'dur 163.41 119 *e*PKIKP PKPdf 12 31 13.8 -1.2
KLR *e* 12 32 04.3
KLR pmax pmax
comp=N,24nm,1.4s
KLR pmax pmax
comp=Z,33nm,1.4s
TIXI Tiksi 164.25 30 *e*PKIKP PKPdf 12 31 12.8 -2.4
TIXI *e* 12 35 55.9
TIXI pmax pmax
comp=Z,6.0nm,0.9s
YSS Yuzh-Sakhalins 165.62 147 *e*PKPdf PKPdf 12 31 19.4 +2.1
YSS Yuzh-Sakhalins 165.62 147 PKIKP PKPdf 12 31 19.8 +2.5
YAK Yakutsk 167.85 68 *e*PKIKP PKPdf 12 31 18.0 -0.3
YAK *e* 12 32 27.7
YAK pmax pmax
comp=Z,13nm,1.0s
YAK pmax pmax
comp=Z,25nm,0.8s
YAK pmax pmax
comp=E,6.0nm,1.2s
PET Petropavlovsk 172.92 203 *e*PKIKP PKPdf 12 31 22.5 +0.9
SEY Seymchan 176.57 14 *e*PKIKP PKPdf 12 31 22.4 +0.1
SEY *e* 12 37 01.4
SEY pmax pmax
comp=Z,40nm,0.9s
MA2 Magadan 178.28 90 PFAKE 12 31 30.0 +7.4
MA2 LR LR
comp=Z,288nm,20.0s

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*NNC **04** 12:15:33.0±1.5, 50.99N×73.85E, mpv2.2, Error ellipse: s-maj=15.5km s-min=9.7km az=30.0*
*IDC **04** 12:15:33.1±1.2, 50.91N×73.60E, mb3.6/1, mb1 3.5/4, mb1mx3.3/20, mbtmp3.3/4, ML2.9/3, Error ellipse: s-maj=19.4km s-min=9.5km az=32.0*
*NEIC **04** 12:15:37.0±1.3, 50.84N×73.65E, h38km±18km, Error ellipse: s-maj=28.1km s-min=9.3km az=209.0*
ISC 04 12:15:34.8±0.8, **50.81N**±0.08×**73.64E**±0.08, **h49**km±19km, **n14**, σ0**s96**/20, **mb3.8**/1, **Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VOSK	**Vostochnaya**	**2.53**	**320**	Pn	**P**	**12 16 14.6**	**+0.2**
VOSK				Lg		12 16 48.3	
BVA0	**Borovoye Array**	**3.00**	**319**	Pn	**P**	**12 16 21.5**	**+0.4**
	0.1nm,0.3s,baz=130,slow=16,SNR=66						
BVA0				Sn	**S**	**12 17 04.2**	**+8.2**
	4.5nm,0.6s,baz=128,slow=27,SNR=16						
BVA0				Lg		12 17 12.2	
	8.6nm,0.9s,baz=130,slow=28,SNR=4.5						
BVAR	**Borovoye Array**	**3.00**	**319**	Pn	**P**	**12 16 21.2**	**+0.1**
	3.2nm,0.3s,baz=125,slow=16,SNR=42						
BVAR				Lg		12 17 03.7	
	6.1nm,0.3s,baz=133,slow=30,SNR=23						
BRVK	**Borovoye**	**3.06**	**319**	*e*Pn	**P**	**12 16 23.2**	**+1.2**
BRVK				*e*Sn	**S**	**12 16 53.0**	**-4.7**
KURK	**Kurchatov**	**3.17**	**90**	Pn	**P**	**12 16 21.3**	**-2.1**
KURK				Lg		12 17 09.8	
KURK	**Kurchatov**	**3.17**	**90**	*e*Pn	**P**	**12 16 24.3**	**+0.9**
KURK				*e*Sn	**S**	**12 17 01.3**	**+1.0**
MK31	**Makanchi Array**	**6.98**	**122**	Pn	**P**	**12 17 16.9**	**-0.1**
	0.1nm,0.2s,baz=307,slow=10,SNR=13						
MK31				Lg		12 19 15.2	
	20nm,0.9s,baz=327,slow=25,SNR=7.8						
MKAR	**Makanchi Array**	**6.98**	**122**	Pn	**P**	**12 17 16.7**	**-0.3**
	0.1nm,0.3s,baz=283,slow=13,SNR=6.7						
MKAR				Pg	**P**	**12 17 37.2**	**+20**
	0.4nm,0.3s,baz=308,slow=14,SNR=8.4						
MKAR				Sn	**S**	**12 18 36.6**	**+0.7**
	0.4nm,0.3s,baz=307,slow=18,SNR=5.4						
MKAR				Lg		12 19 10.5	
	0.6nm,0.3s,baz=337,slow=25,SNR=8.4						
MKAR	**Makanchi Array**	**6.98**	**122**	Pn	**P**	**12 17 16.7**	**-0.3**
MKAR				Pg	**P**	**12 17 37.2**	**+20**
MKAR				Sn	**S**	**12 18 36.6**	**+0.7**
MKAR				Lg		12 19 10.5	
ZAL	**Zalesovo**	**7.51**	**61**	Pn	**P**	**12 17 23.5**	**-0.9**
	0.5nm,0.3s,baz=237,slow=12,SNR=3.8						
ZAL				Sn	**S**	**12 18 47.9**	**-1.2**
	0.5nm,0.3s,slow=8.6,SNR=4.4						
ZAL				Lg		12 19 30.2	
	0.3nm,0.3s,baz=102,slow=8.5,SNR=3.8						
KK31	**Karatay Array**	**8.00**	**197**	Lg		12 19 54.7	
	12nm,0.8s,baz=18,slow=28,SNR=4.0						
AAK	**Ala-Archa**	**8.20**	**176**	Lg		12 19 58.7	
AB31	**Akbulak array**	**8.96**	**265**	Pn	**P**	**12 17 42.5**	**-1.8**
	0.7nm,0.4s,baz=78,slow=10,SNR=9.0						
AB31				Lg		12 20 22.6	
ILAR	**Eielson Array**	**60.55**	**19**	P	**P**	**12 25 42.7**	**+0.8**
	0.4nm,0.5s,mb3.8,baz=332,slow=5.7,SNR=13						

MAN 04 12:38:13.3, 15.63N×119.03E, h11km, mb4.2, ML3.0, MS2.7, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**0.86**	**80**	*e*P	Pb	12 38 29.4	-0.4
SCZP				*e*S	Sb	12 38 42.1	+0.9
BOLP	**Bolinao**	**1.14**	**48**	*e*P	Pb	12 38 33.4	-1.1
BOLP				*e*S	Sb	12 38 49.4	+0.4
LUBP	**Lubang**	**2.22**	**148**	*e*P	Pn	12 38 51.9	+1.3
LUBP				*e*S	Sn	12 39 19.9	+1.6
BALP	**Baler**	**2.46**	**87**	*e*P	Pn	12 38 54.8	+0.8
BALP				*e*S	Sn	12 39 24.8	+0.6
ABRA	**Dolores**	**2.58**	**39**	*e*P	Pn	12 38 54.5	-1.2
APYP	**Conner**	**3.07**	**43**	*e*P	Pn	12 39 03.7	+1.0
APYP				*e*S	Sn	12 39 36.2	-3.7
SJMP	**San Jose**	**3.74**	**147**	*e*P	Pn	12 39 12.8	+0.5
SJMP				*e*S	Sn	12 39 56.5	-0.4
ENPP	**El Nido**	**4.41**	**175**	*e*P	Pn	12 39 21.5	-0.3
CUYO	**Cuyo Island**	**5.13**	**158**	*e*P	Pn	12 39 30.9	-1.0

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*NEIC **04** 12:39:43.7±0.6, 18.68N×145.25E, h300km, mb4.1/4, Error ellipse: s-maj=25.1km s-min=10.6km az=93.0*
*IDC **04** 12:39:47.3±9.4, 18.67N×145.30E, h338km±100km, mb3.3/9, mb1 3.5/9, mb1mx3.4/20, mbtmp4.0/9, Error ellipse: s-maj=28.7km s-min=18.4km az=85.0*
ISC 04 12:39:42.4±0.7, **18.68N**±0.09×**145.2E**±0.2, **h300**km, **n15**, σ0**s78**/15, **mb3.7**/12, **Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**38.54**	**178**	P	**P**	**12 46 38.5**	**+0.3**
	1.1nm,0.4s,mb3.6,baz=22,slow=5.4,SNR=2.4						
WRAB	**Tennant Creek**	**39.82**	**196**	*e*P	**P**	**12 46 48.8**	**+0.1**
	14nm,0.6s,mb4.5						
WB2	**Warramunga Arr**	**39.83**	**196**	*e*P	**P**	**12 46 48.6**	**-0.2**
WRA	**Warramunga Arr**	**39.83**	**196**	P	**P**	**12 46 48.8**	**-0.1**
	8.6nm,0.7s,mb4.2,baz=16,slow=8.6,SNR=42						
FITZ	**Fitzroy Crossi**	**41.30**	**209**	*e*P	**P**	**12 47 00.8**	**0.0**
	6.6nm,0.8s,mb3.9						
FITZ	**Fitzroy Crossi**	**41.30**	**209**	P	**P**	**12 47 01.3**	**+0.4**
	4.5nm,0.4s,mb4.0,baz=11,slow=6.3,SNR=45						
SONM	**Songino Array**	**42.87**	**322**	P	**P**	**12 47 14.1**	**+0.9**
	0.5nm,0.6s,mb2.9,baz=133,slow=8.5,SNR=4.6						
MBWA	**Marble Bar**	**46.80**	**213**	*e*P	**P**	**12 47 44.1**	**-0.4**
	14nm,1.0s,mb4.2						
MKAR	**Makanchi Array**	**58.15**	**314**	P	**P**	**12 49 07.8**	**+0.8**
	0.4nm,0.5s,mb3.1,baz=86,slow=7.6,SNR=5.8						
MKAR				PcP	PcP	12 49 54.8	-0.5
	0.2nm,0.4s,baz=77,slow=5.2,SNR=4.0						
MKAR	**Makanchi Array**	**58.15**	**314**	P	**P**	**12 49 07.8**	**+0.7**
MKAR				PcP	PcP	12 49 54.8	-0.5
ILAR	**Eielson Array**	**63.87**	**26**	P	**P**	**12 49 43.9**	**-1.0**
	0.7nm,0.6s,mb3.5,baz=249,slow=5.0,SNR=13						
BRVK	**Borovoye**	**66.26**	**320**	*e*P	**P**	**12 50 00.2**	**0.0**
	1.8nm,0.6s,mb4.0						
ARCES	**ARCESS Array B**	**82.37**	**342**	P	**P**	**12 51 30.4**	**-1.4**
	1.1nm,0.7s,mb3.7,baz=72,slow=8.6,SNR=4.5						
ELK	**Elko**	**84.98**	**49**	P	**P**	**12 51 47.3**	**+1.7**
	0.3nm,0.4s,mb3.5,baz=127,slow=2.2,SNR=5.1						
FINES	**FINESS Array B**	**86.71**	**335**	P	**P**	**12 51 52.8**	**-0.6**
	0.6nm,0.5s,mb3.7,baz=45,slow=5.4,SNR=4.2						

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*IDC **04** 12:57:33.7±0.7, 49.67S×125.81E, mb4.5/10, mb1 4.6/11, mb1mx4.5/14, mbtmp4.6/11, ML2.8/1, MS4.8/10, Ms1 4.7/10, ms1mx4.6/14, Error ellipse: s-maj=30.7km s-min=14.8km az=110.0*
*BJI **04** 12:57:34.7, 49.60S×126.00E, h10km, mB5.4, mb5.2, Ms5.1, Msz4.9*
*NEIC **04** 12:57:34.7±0.4, 49.60S×125.95E, h10km, mb4.9/24, MS5.1/1, Error ellipse: s-maj=13.5km s-min=8.4km az=101.0*
*HRVD **04** 12:57:34.7±0.2, 49.64S×126.06E, h12km, MW5.4/71, Centroid moment Tensor Solution. LP body waves: s50,c90;Mantle waves: s71,c135; Half duration: 1s3 Moment tensor: Scale 10^17^Nm; M_{rr}-0.20±.03; $M_{\theta\theta}$0.82±.03; $M_{\phi\phi}$-0.62±.03; $M_{r\theta}$0.10±.08; $M_{r\phi}$1.50±.02; $M_{\theta\phi}$-0.29±.08; Best double couple: $M_0$1.697×10^17^ NP1: ϕ_s282°, δ80°, λ-7°. NP2:ϕ_s13°, δ83°, λ-170°. Principal axes: T 1.768, Plg2°, Azm148°; N -.143, Plg78°, Azm47°; P -1.625, Plg12°, Azm238°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 04 12:57:33.7±0.3, **49.64S**±0.05×**125.7E**±0.1, **h10**km, **n84**, σ1**s59**/63, **mb4.8**/27, **MS4.8**/12, **1C-1D**, **Western**

Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAU	**Tasmania Unive**	**16.37**	**74**	*eP*	**P**	**13 01 20.5**	**-4.4**
	154nn,1.4s						
NWAO	**Narrogin (SRO)**	**17.85**	**336**	P	**P**	**13 01 45.3**	**+1.7**
	1.6nn,0.3s,baz=159,slow=9.4,SNR=16						
NWAO				LR	LR	13 07 02.3	
	comp=Z,5μm,19.5s,baz=158,slow=32						
NWAO	**Narrogin (SRO)**	**17.85**	**336**	*eP*	**P**	**13 01 43.6**	**0.0**
	355nn,1.8s						
CASY	**Casey**	**18.42**	**200**	*eP*	**P**	**13 01 48.5**	**-2.0**
DRV	**Dumont d'Urvil**	**18.58**	**162**	P	**P**	**13 01 55.0**	**+2.6**
DRV				R		13 06 00.0	
TOO	**Toolangi**	**18.67**	**57**	*eP*	**P**	**13 01 54.8**	**+1.0**
	19nn,0.9s						
KLBR	**Kellerberrin**	**18.99**	**339**	*eP*	**P**	**13 01 54.7**	**-2.9**
	37nn,1.0s						
MUN	**Mundaring**	**19.02**	**335**	*eP*	**P**	**13 01 57.9**	**-0.1**
	17nn,1.0s						
STKA	**Stephens Creek**	**21.37**	**40**	*eP*	**P**	**13 02 20.8**	**-2.5**
	28nn,1.4s,mb4.4						
STKA	**Stephens Creek**	**21.37**	**40**	P	**P**	**13 02 20.8**	**-2.5**
	5.4nn,0.5s,mb4.1,baz=183,slow=9.9,SNR=16						
STKA				LR	LR	13 09 29.8	
	comp=Z,2μm,18.0s,MS4.4,baz=206,slow=34						
CNB	**Canberra Magne**	**22.45**	**59**	*eP*	**P**	**13 02 38.2**	**+4.1**
	58nn,1.2s,mb4.9						
MBWA	**Marble Bar**	**28.82**	**348**	P	**P**	**13 03 34.2**	**+0.2**
WRA	**Warramunga Arr**	**30.43**	**16**	P	**P**	**13 03 46.7**	**-1.7**
	5.3nn,0.9s,mb4.3,baz=194,slow=9.2,SNR=16						
WB2	**Warramunga Arr**	**30.43**	**16**	*eP*	**P**	**13 03 45.2**	**-3.2**
WRAB	**Tennant Creek**	**30.44**	**16**	*eP*	**P**	**13 03 45.2**	**-3.3**
	14nn,0.8s,mb4.8						
VNDA	**Vanda**	**31.15**	**166**	P	**P**	**13 03 52.9**	**-1.3**
	19nn,0.9s,mb5.0,baz=310,slow=8.4,SNR=58						
VNDA				LR	LR	13 15 41.8	
	comp=Z,3μm,18.2s,MS5.0,baz=323,slow=35						
VNDA	**Vanda**	**31.15**	**166**	*eP*	**P**	**13 03 52.3**	**-1.9**
	23nn,0.9s,mb5.0						
RPZ	**Rata Peaks**	**31.30**	**97**	LR	LR	13 13 48.3	
	comp=Z,μm,19.7s,MS4.8,baz=241,slow=31						
FITZ	**Fitzroy Crossi**	**31.46**	**360**	*eP*	**P**	**13 03 59.4**	**+1.9**
	8.9nn,1.0s,mb4.5						
FITZ	**Fitzroy Crossi**	**31.46**	**360**	P	**P**	**13 03 56.6**	**-0.9**
	7.6nn,0.9s,mb4.5,baz=103,slow=3.0,SNR=4.3						
SBA	**Scott Base**	**32.17**	**165**	*eP*	**P**	**13 04 02.0**	**-1.2**
	14nn,1.0s,mb4.7						
CTAO	**Charters Tower**	**33.74**	**36**	P	**P**	**13 04 16.0**	**-1.4**
	12nn,1.2s,mb4.7						
MAW	**Mawson**	**35.35**	**216**	P	**P**	**13 04 29.3**	**-1.4**
	2.3nn,0.8s,mb4.2,baz=75,slow=11,SNR=5.1						
MAW				LR	LR	13 16 10.4	
	comp=Z,818nn,21.5s,MS4.5,baz=84,slow=32						
MAW	**Mawson**	**35.35**	**216**	*eP*	**P**	**13 04 29.1**	**-1.6**
	12nn,1.2s,mb4.7						
KAKA	**Kakadu**	**37.24**	**11**	*eP*	**P**	**13 04 52.8**	**+5.6**
	11nn,0.8s,mb4.7						
QSPA	**South Pole Qui**	**40.48**	**180**	*eP*	**P**	**13 05 13.7**	**+0.1**
	27nn,1.0s,mb4.9						
DZM	**Mont Dzumac**	**42.21**	**64**	P	**P**	**13 05 28.0**	**-0.2**
	5.1nn,0.9s,mb4.1,baz=214,slow=15,SNR=2.4						
SYO	**Syowa Base**	**43.55**	**211**	⇑P	**P**	**13 05 37.8**	**-0.8**
SYO	**Syowa Base**	**43.55**	**211**	⇓pP	pP	13 05 41.5	-0.1
PMG	**Port Moresby**	**43.92**	**31**	P	**P**	**13 05 42.2**	**-0.1**
	16nn,0.8s,mb4.8,baz=225,slow=8.6,SNR=3.0						
PMG	**Port Moresby**	**43.92**	**31**	P	**P**	**13 05 36.7**	**-5.6**
	26nn,1.0s,mb4.9						
HNR	**Honiara**	**49.17**	**47**	*eP*	**P**	**13 06 20.4**	**-3.3**
	119nn,1.2s,mb5.8						
MAIT	**Maitri**	**50.98**	**203**	*eP*	**P**	**13 06 37.7**	**+0.8**
SNAA	**Sanae**	**53.65**	**198**		**P**	**13 06 57.1**	**+0.2**
SNAA	**Sanae**	**53.65**	**198**		**P**	**13 07 07.4**	**+11**
SNAA	**Sanae**	**53.65**	**198**		**P**	**13 07 12.5**	**+16**
SNAA	**Sanae**	**53.65**	**198**	P	**P**	**13 06 57.4**	**+0.5**
	7.3nn,0.9s,mb4.6,baz=148,slow=8.8,SNR=51						
VNA2	**Neumayer--Watz**	**55.14**	**197**		**P**	**13 07 09.1**	**+1.3**
VNA2	**Neumayer--Watz**	**55.14**	**197**		**P**	**13 07 19.3**	**+12**
VNA2	**Neumayer--Watz**	**55.14**	**197**		**P**	**13 07 26.5**	**+19**
VNA3	**Neumayer Olymp**	**55.30**	**196**		**P**	**13 07 10.5**	**+1.6**
VNA3	**Neumayer Olymp**	**55.30**	**196**		**P**	**13 07 19.7**	**+11**
VNA3	**Neumayer Olymp**	**55.30**	**196**		**P**	**13 07 27.2**	**+18**
VNA1	**Neumayer--Stat**	**55.53**	**197**		**P**	**13 07 13.1**	**+2.5**
VNA1	**Neumayer--Stat**	**55.53**	**197**		**P**	**13 07 22.6**	**+12**
VNA1	**Neumayer--Stat**	**55.53**	**197**		**P**	**13 07 28.4**	**+18**
KULM	**Kulim**	**58.88**	**330**	P	**P**	**13 07 33.4**	**-1.7**
PMSA	**Palmer Station**	**65.67**	**175**	*eP*	**P**	**13 08 19.8**	**+0.2**
	14nn,1.0s,mb5.0						
TBI	**Tubuai**	**69.32**	**102**	*eS*	S	13 17 44.5	-3.9
TBI				*e*LQ		13 26 22.7	
TBI				*e*LR	LR	13 29 51.2	
	616nn,25.8s						
PPT	**Papeete**	**73.45**	**98**	*eS*	S	13 18 32.4	-3.7
PPT				*e*SS	SS	13 23 16.5	-4.4
PPT				*e*LQ		13 28 16.4	
PPT				*e*LR	LR	13 31 31.5	
	571nn,23.2s						
PPT	**Papeete**	**73.45**	**98**	LR	LR	13 33 52.1	
	comp=Z,310nm,18.9s,MS4.6,baz=232,slow=30						
BOSA	**Boshof**	**75.02**	**244**	P	**P**	**13 09 16.9**	**-0.1**
	3.1nn,1.1s,mb4.2,baz=113,slow=13,SNR=3.6						
BOSA				LR	LR	13 35 45.0	
	comp=Z,504nm,20.1s,MS4.8,baz=163,slow=30						
KMI	**Kunming**	**77.19**	**339**	P	**P**	**13 09 32.8**	**+3.6**
KMI				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.6						
KMI	**Kunming**	**77.19**	**339**	P	**P**	**13 09 32.8**	**+3.6**
	comp=Z,6.0nm,0.7s,mb4.6						
LBTB	**Lobatse**	**77.52**	**246**	P	**P**	**13 09 30.1**	**-0.9**
	comp=Z,34nm,1.7s,mb5.0						
RKT	**Rikitea**	**78.49**	**112**	*e*LQ		13 30 33.7	
RKT				*e*LR	LR	13 33 52.1	
	comp=Z,2μm,29.8s						
NJ2	**Nanjing**	**81.56**	**354**	*eP*	**P**	**13 09 51.4**	**-1.3**
NJ2				AMB	AMB		
	comp=Z,50nm,1.0s,mb5.4						
LSZ	**Lusaka**	**83.28**	**254**	P	**P**	**13 10 04.3**	**+2.4**
	comp=Z,8.3nm,1.2s,mb4.6						
MAJO	**Matsushiro**	**86.52**	**10**	*eP*	**P**	**13 10 19.9**	**+2.2**
	comp=Z,7.0nm,0.9s,mb4.9						
MAT	**Matsushiro**	**86.52**	**10**	P	**P**	**13 10 20.5**	**+2.8**
MAT				*e*S	S	13 20 50.0	-2.4
MAT	**Matsushiro**	**86.52**	**10**	*eP*	**P**	**13 10 21.0**	**+3.3**
LZH	**Lanzhou**	**87.53**	**342**	*eP*	**P**	**13 10 27.5**	**+4.9**
LZH				AP	pP	13 10 30.8	+5.0
LZH				XP	sP	13 10 32.2	+5.4
LZH				*e*PP	PP	13 13 56.5	+6.5
LZH				*e*SKS	SKS	13 20 53.0	+0.1
LZH				*e*S	S	13 21 08.5	+6.5
LZH				XS		13 21 16.2	
LZH				AMB	AMB		
	comp=Z,27nm,1.5s,mb5.3						
LZH				AMB	AMB		
	comp=Z,102nm,7.5s						
LZH				LR	LR		
	comp=E,523nm,16.0s						
LZH				LR	LR		
	comp=Z,695nm,19.1s,MS5.1						
LZH	**Lanzhou**	**87.53**	**342**	*eP*	**P**	**13 10 27.5**	**+4.9**
	comp=Z,27nm,1.5s,mb5.3						
LZH				pP	pP	13 10 30.8	+5.0
LZH				sP	sP	13 10 32.2	+5.4
LZH				*e*PP	PP	13 13 56.5	+6.5
LZH				*e*SKS	SKS	13 20 53.0	+0.1
LZH				*e*S	S	13 21 08.5	+6.5
LZH				sS		13 21 16.2	
LZH				SS	SS	13 26 59.7	+9.0
LZH				LR	LR		
	comp=Z,700nm,19.1s,MS5.1						
KMBO	**Kilima Mbogo**	**88.14**	**270**	LR	LR	13 41 22.5	
	comp=Z,363nm,21.7s,MS4.8,baz=278,slow=30						
PLCA	**Paso Flores**	**88.88**	**168**	P	**P**	**13 10 27.6**	**-1.3**
	comp=Z,3.0nm,1.0s,mb4.6,baz=234,slow=11,SNR=3.2						
PLCA				LR	LR	13 45 59.0	
	comp=Z,396nm,19.1s,MS4.8,baz=193,slow=33						
PLCA	**Paso Flores**	**88.88**	**168**	*eP*	**P**	**13 10 28.5**	**-0.4**
	comp=Z,28nm,1.5s,mb5.4						
HHC	**Hu-ho-hao-te**	**90.97**	**349**	*eP*	**P**	**13 10 36.6**	**-2.0**
HHC				S	S	13 21 27.5	-5.8
HHC				SS	SS	13 27 36.4	-3.8
HHC				AMB	AMB		
	comp=Z,13nm,0.6s,mb5.4						
HHC				AMB	AMB		
	comp=Z,123nm,4.6s						
HHC				LR	LR		
	comp=N,296nm,26.8s,MS4.7						
HHC				LR	LR		
	comp=E,241nm,25.0s,MS4.7						
HHC				LR	LR		
	comp=Z,444nm,28.5s,MS4.7						
CN2	**Changchun**	**93.06**	**360**	*eP*	**P**	**13 10 50.8**	**+2.6**
MDJ	**Mudanjiang**	**93.94**	**3**	P	**P**	**13 10 52.9**	**+0.7**
MDJ				XP	sP	13 11 02.3	+5.9
MDJ				S	S	13 21 57.5	-1.8
MDJ				SS	SS	13 28 20.6	-2.1
MDJ				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,24nm,3.9s						
MDJ				LR	LR		
	comp=N,107nm,24.5s,MS4.5						
MDJ				LR	LR		
	comp=E,196nm,23.2s,MS4.5						
MDJ				LR	LR		
	comp=Z,242nm,25.9s,MS4.5						
SONM	**Songino Array**	**98.52**	**347**	LR	LR	13 54 54.8	
	comp=Z,367nm,21.7s,MS4.8,baz=171,slow=35						
WMQ	**Urumqi**	**98.83**	**333**	*eP*	**P**	**13 11 15.0**	**+0.6**
WMQ				AMB	AMB		
	comp=Z,14nm,1.0s,mb5.5						
ILAR	**Eielson Array**	**132.38**	**35**	PKP	PKPdf	13 16 49.2	-1.1
	comp=Z,0.6nm,0.8s,baz=301,slow=3.3,SNR=6.6						
TXAR	**Lajitas Array**	**137.74**	**100**	PKhKP		13 16 54.7	
	comp=Z,0.4nm,0.6s,baz=210,slow=7.3,SNR=3.3						
IMW	**Indian Meadow**	**141.58**	**76**	P	PKPdf	13 17 08.0	+0.4
PDAR	**Pinedale Array**	**141.90**	**79**	PKP	PKPdf	13 17 07.3	-0.7
	comp=Z,0.5nm,0.8s,baz=198,slow=2.9,SNR=4.1						
ESDC	**Sonseca Array**	**143.45**	**274**	PKP	PKPdf	13 17 09.9	-0.9
	comp=Z,0.3nm,0.3s,baz=104,slow=1.3,SNR=4.5						
YKA	**Yellowknife Ar**	**145.34**	**45**	PKPbc	PKPbc	13 17 12.8	+2.0
	comp=Z,8.3nm,0.9s,baz=267,slow=3.3,SNR=14						
YKW3	**Yellowknife Ar**	**145.34**	**45**	*e*PKPdf	PKPdf	13 17 11.8	-1.6
LAO	**LASA Array**	**145.81**	**75**	*e*PKPdf	PKPdf	13 17 13.5	-1.2
RSSD	**Black Hills**	**146.08**	**80**	*e*PKPdf	PKPdf	13 17 12.4	-2.8
DGMT	**Dagmar**	**147.77**	**73**	*e*PKPbc	PKPdf	13 17 20.8	+2.9
LRAL	**Lakeview Retre**	**150.67**	**112**	*e*PKPbc	PKPdf	13 17 25.4	+2.5
PLAL	**Pickwick Lake**	**151.33**	**108**	*e*PKPbc	PKPdf	13 17 24.1	+0.1
WVT	**Waverly**	**152.23**	**106**	*e*PKPbc	PKPdf	13 17 28.3	+3.1

MOS ***04*** *13:05:17.0±0.9, 54.94N×163.03E, h33km, mb4.1/1, Error ellipse: s-maj=22.5km s-min=12.0km az=68.0*

KRSC 04 13:05:15.8±1.4, 55.01N×162.87E, h11km±2km, ML4.5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.80**	**236**	P	Pb	13 05 32.0	+0.7
MKZ				S	Sb	13 05 43.7	+1.8
MKZ	**Mys Kozlova**	**0.80**	**236**	*eP*	Pb	13 05 31.2	-0.1
MKZ				*e*S	Sb	13 05 43.4	+1.5
KBTR	**Krutoberegovo**	**1.20**	**359**	P	Pb	13 05 39.1	+1.0
KBTR				S	Sb	13 05 55.3	+1.8
KBTR	**Krutoberegovo**	**1.20**	**359**	*eP*	Pb	13 05 38.5	+0.4
KBTR				*e*S	Sb	13 05 55.5	+2.0
ZLN	**Zelenaya**	**1.55**	**312**	*i* P	Pn	13 05 44.1	+0.6
ZLN				*e*S	Sb	13 06 05.5	+1.9
TUMR	**Tumrok**	**1.59**	**281**	*eP*	Pn	13 05 44.3	+0.2
TUMR				*e*S	Sb	13 06 04.4	-0.3
CIRR	**Tsirk**	**1.64**	**313**	*eP*	Pn	13 05 45.2	+0.4
CIRR				*e*S	Sn	13 06 08.4	+2.5
LGNR	**Loginova**	**1.64**	**312**	*eP*	Pn	13 05 45.7	+0.9
LGNR				*e*S	Sn	13 06 07.7	+1.7
KMNR	**Kamenistaya**	**1.68**	**298**	*eP*	Pn	13 05 45.8	+0.4
KMNR				*e*S	Sn	13 06 08.2	+1.2
KRSR	**Krestovskiy**	**1.78**	**314**	*eP*	Pn	13 05 46.8	0.0
KRSR				*e*S	Sn	13 06 09.7	+0.1
KPT	**Kopyto**	**1.79**	**304**	*eP*	Pn	13 05 47.6	+0.7
KPT				*e*S	Sn	13 06 12.0	+2.3
BKI	**Bering**	**1.79**	**83**	*eP*	Pn	13 05 46.4	-0.6
BKI				*e*S	Sn	13 06 07.0	-2.9
BKI				Smax			
	190nn,1.4s						
KLY	**Klyuchi**	**1.81**	**317**	P	Pn	13 05 46.3	-1.0
KLY				S	Sn	13 06 08.4	-2.0
KLY	**Klyuchi**	**1.81**	**317**	*eP*	Pn	13 05 46.3	-1.0
KLY				*e*S	Sn	13 06 07.6	-2.8
KOZR	**Kozyr**	**1.99**	**303**	PN	Pn	13 05 50.6	+0.7
KOZR				S	Sn	13 06 15.6	+0.6
KOZ	**Kozyrevsk**	**2.00**	**303**	P	Pn	13 05 50.6	+0.6
KOZ				S	Sn	13 06 15.6	+0.4
KOZ	**Kozyrevsk**	**2.00**	**303**	*eP*	Pn	13 05 50.6	+0.6
KOZ				*e*S	Sn	13 06 14.9	-0.3
SRDR	**Sredinnyy**	**2.21**	**308**	*eP*	Pn	13 05 53.5	+0.5
SRDR				*e*S	Sn	13 06 21.6	+1.0
KII	**Karymskiy**	**2.22**	**245**	P	Pn	13 05 53.4	+0.3
KII	**Karymskiy**	**2.22**	**245**	*eP*	Pn	13 05 53.6	+0.5
ESO	**Esso**	**2.54**	**293**	*eP*	Pn	13 05 57.2	-0.6
ESO				*e*S	Sn	13 06 27.6	-1.4
ESO				Smax			
	120nn,0.6s						
SPN	**Mys Shipunski**	**2.55**	**222**	P	Pn	13 05 56.8	-1.0
SPN				S	Sn	13 06 26.4	-2.7
SPN	**Mys Shipunski**	**2.55**	**222**	*eP*	Pn	13 05 56.5	-1.3
SPN				*e*S	Sn	13 06 26.3	-2.8
NLC	**Nalytchevo**	**2.78**	**230**	P	Pn	13 06 00.9	-0.2
NLC				S	Sn	13 06 34.2	-0.7
NLC	**Nalytchevo**	**2.78**	**230**	*eP*	Pn	13 06 00.4	-0.7
NLC				*e*S	Sn	13 06 34.2	-0.7
SDLR	**Sedlovina**	**2.92**	**235**	*i* P	Pn	13 06 03.7	+0.6
SDLR				*e*S	Sn	13 06 38.0	-0.5
SMAR	**Somma**	**2.96**	**235**	*eP*	Pn	13 06 04.4	+0.6
SMAR				*e*S	Sn	13 06 40.3	+0.6
UGLR	**Uglovaya**	**2.99**	**235**	*eP*	Pn	13 06 04.8	+0.7
UGLR				*e*S	Sn	13 06 40.0	-0.3
AVH	**Avacha**	**2.99**	**236**	*eP*	Pn	13 06 05.3	+1.1
AVH				*e*S	Sn	13 06 41.0	+0.6
KOK	**Koryaka**	**3.03**	**237**	*eP*	Pn	13 06 05.4	+0.8
KOK				*e*S	Sn	13 06 42.6	+1.4
GNL	**Ganaly**	**3.17**	**247**	*eP*	Pn	13 06 07.2	+0.5
PET	**Petropavlovsk**	**3.19**	**233**	P	Pn	13 06 07.6	+0.7
PET				S	Sn	13 06 45.6	+0.3
PET	**Petropavlovsk**	**3.19**	**233**	*eP*	Pn	13 06 07.0	+0.1
PET				*e*S	Sn	13 06 45.3	+0.1
KRMR	**Karymshinskiy**	**3.55**	**234**	*eP*	Pn	13 06 13.0	+0.9
KRMR				*e*S	Sn	13 06 54.9	+0.4
RUS	**Russkaya**	**3.66**	**227**	P	Pn	13 06 13.3	-0.3
RUS				S	Sn	13 06 54.3	-2.8
RUS	**Russkaya**	**3.66**	**227**	*eP*	Pn	13 06 13.3	-0.3
RUS				*e*S	Sn	13 06 55.2	-1.9
GRL	**Gorelyy**	**3.76**	**231**	P	Pn	13 06 17.3	+2.2
GRL				*e*S	Sn	13 07 01.0	+1.1
APC	**Apacha**	**3.97**	**241**	*eP*	Pn	13 06 19.2	+1.2
APC				*e*S	Sn	13 07 03.6	-1.4
APC				Smax			
	50nm,1.0s						
MIPR	**Malaya Ipel'ka**	**4.55**	**236**	*eP*	Pn	13 06 27.4	+1.1
PAU	**Pauzhetka**	**5.08**	**228**	*eP*	Pn	13 06 33.6	-0.2
PAU				*e*S	Sn	13 07 28.2	-5.0
PAU				Smax			
	110nn,0.9s						
SKR	**Severo-Kuril's**	**5.96**	**226**	*eP*	Pn	13 06 44.1	-2.1
SKR				*e*S	Sn	13 07 48.5	-6.7

BJI ***04*** *13:21:55.9, 60.00N×153.20W, h124km, mB4.9, mb5.0*
IDC ***04*** *13:21:56.0±3.1, 60.18N×153.25W, h123km±24km, mb3.8/7, mb1 4.2/12, mb1mx3.9/22, mbtmp4.4/12, Error ellipse: s-maj=29.8km s-min=18.5km az=170.0*
NEIC ***04*** *13:21:56.0, 59.98N×153.18W, h125km, mb4.5/1, After AEIC.*

ISC 04 13:21:54.0±0.2, 60.01N±0.03×153.16W±0.06, h133km±2km, h123km±2.6km: pP-P, n94, σ0.74/99, mb4.2/12, 1C-1D, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILW	**Iliamna West**	**0.06**	**12**	**P**	**P**	**13 22 12.4**	**+0.3**
IVE	**Iliamna Volcan**	**0.07**	**80**	P	**P**	**13 22 12.3**	**+0.2**
IVE				S	**S**	**13 22 26.0**	**+0.1**
INE	**Iliamna NE**	**0.07**	**41**	P	**P**	**13 22 12.4**	**+0.3**
ILIM	**Iliamna**	**0.13**	**53**	P	**P**	**13 22 12.4**	**+0.2**
OPT	**Oil Point**	**0.35**	**186**	P	**P**	**13 22 13.2**	**+0.4**
RSO	**Redoubt South**	**0.50**	**24**	⇑*i*P	**P**	**13 22 14.3**	**+0.7**
AUL	**Augustine Lava**	**0.64**	**193**	P	**P**	**13 22 14.8**	**+0.3**
AUL				S	**S**	**13 22 29.7**	**-0.3**
AUE	**Augustine Isla**	**0.66**	**190**	P	**P**	**13 22 14.8**	**+0.2**
AGU	**Augustine-Summ**	**0.66**	**192**	P	**P**	**13 22 14.9**	**+0.3**
RDT	**Redoubt**	**0.68**	**33**	P	**P**	**13 22 15.5**	**+0.7**
AUI	**Augustine Isla**	**0.69**	**192**	P	**P**	**13 22 14.9**	**+0.2**
AUI				S	**S**	**13 22 29.4**	**-1.2**
XLV	**Seldovia**	**0.91**	**127**	P	**P**	**13 22 16.8**	**+0.3**
MCNL	**McNeil River**	**1.02**	**217**	P	**P**	**13 22 17.4**	**-0.1**
BRLK	**Bradley Lake**	**1.17**	**101**	P	**P**	**13 22 19.5**	**+0.4**
SPU	**Mount Spurr**	**1.30**	**24**	*eP*	**P**	**13 22 21.4**	**+0.8**
CRP	**Crater Peak**	**1.36**	**21**	P	**P**	**13 22 22.6**	**+1.4**
CGLM	**Capps Glacier**	**1.43**	**23**	P	**P**	**13 22 23.1**	**+1.2**
KAPH	**Katmai Pasha**	**1.54**	**204**	P	**P**	**13 22 23.2**	**0.0**
SLKM	**Skilak Lake**	**1.55**	**70**	*eP*	**P**	**13 22 23.6**	**+0.3**
SVW2	**Sparrevohn**	**1.62**	**314**	P	**P**	**13 22 24.1**	**0.0**
KAHC	**Katmai Hardscr**	**1.66**	**216**	P	**P**	**13 22 24.4**	**-0.1**
SEW	**Seward**	**1.86**	**85**	P	**P**	**13 22 27.3**	**+0.4**
FIB	**Fire Island**	**1.88**	**50**	P	**P**	**13 22 28.9**	**+1.8**
RC01	**Rabbit Creek A**	**2.01**	**56**	P	**P**	**13 22 28.9**	**+0.3**
KDAK	**Kodiak Island**	**2.25**	**172**	P	**P**	**13 22 30.4**	**-1.4**
CAHL	**Cahill**	**2.25**	**210**	P	**P**	**13 22 32.0**	**+0.2**
KJL	**Kejulik**	**2.32**	**214**	P	**P**	**13 22 33.0**	**+0.4**
PMR	**Palmer**	**2.54**	**49**	P	**P**	**13 22 34.8**	**-0.7**
GHO	**Glory Hole Cre**	**2.73**	**48**	P	**P**	**13 22 37.6**	**-0.4**
SML	**Sawmill**	**2.97**	**50**	P	**P**	**13 22 40.6**	**-0.6**
GLI	**Glacier Island**	**3.13**	**71**	P	**P**	**13 22 41.9**	**-1.4**
TT01	**Tatalina**	**3.22**	**336**	P	**P**	**13 22 44.5**	**+0.1**
TTA	**Tatalina**	**3.24**	**336**	*eP*	**P**	**13 22 44.6**	**-0.1**
HIN	**Hinchinbrook I**	**3.35**	**80**	P	**P**	**13 22 46.7**	**+0.6**
SCM	**Sheep Creek Mo**	**3.39**	**55**	P	**P**	**13 22 46.2**	**-0.5**
FID	**Port Fidalgo**	**3.40**	**74**	P	**P**	**13 22 45.3**	**-1.6**
JPK	**Jack Peak**	**3.41**	**69**	P	**P**	**13 22 47.6**	**+0.6**
MID	**Middleton Isla**	**3.50**	**97**	*eP*	**P**	**13 22 48.3**	**+0.1**
VLZ	**Valdez**	**3.56**	**69**	P	**P**	**13 22 48.1**	**-0.7**
KTH	**Kantishna Hill**	**3.72**	**16**	P	**P**	**13 22 51.0**	**0.0**
EYAK	**Cordova Ski Ar**	**3.73**	**78**	P	**P**	**13 22 51.3**	**+0.1**
DIV	**Divide**	**3.82**	**70**	P	**P**	**13 22 51.7**	**-0.7**
KLU	**Klutina**	**3.85**	**64**	P	**P**	**13 22 52.2**	**-0.6**
MCK	**McKinley**	**4.24**	**26**	P	**P**	**13 22 57.9**	**-0.1**
BMRM	**Bremner River**	**4.34**	**73**	P	**P**	**13 22 59.5**	**+0.2**
SDG	**Sourdough**	**4.46**	**52**	P	**P**	**13 23 00.9**	**-0.1**
CHGN	**Chignik**	**4.64**	**219**	*eP*	**P**	**13 23 02.3**	**-1.0**
GLB	**Gilahina Butte**	**4.81**	**69**	P	**P**	**13 23 05.2**	**-0.5**
GCSA	**Galena City Sc**	**5.06**	**342**	P	**P**	**13 23 09.2**	**+0.2**
WRH	**Wood River Hil**	**5.07**	**26**	P	**P**	**13 23 08.7**	**-0.4**
WAX	**Waxell Ridge**	**5.16**	**81**	P	**P**	**13 23 09.8**	**-0.5**
CCB	**Clear Creek Bu**	**5.28**	**26**	P	**P**	**13 23 11.5**	**-0.4**
MENT	**Mentasta**	**5.40**	**53**	*eP*	**P**	**13 23 12.9**	**-0.5**
BALM	**Baldy**	**5.44**	**74**	P	**P**	**13 23 14.6**	**+0.6**
ILAR	**Eielson Array**	**5.60**	**29**	P	**P**	**13 23 15.1**	**-1.1**
	62nn,0.3s,baz=216,slow=14,SNR=3443						
ILAR				S	**S**	**13 24 17.0**	**-2.9**
	11nn,0.3s,baz=221,slow=19,SNR=5.1						
IL1	**Eielson Array**	**5.60**	**29**	P	**P**	**13 23 15.3**	**-0.8**
CTGM	**Chitina Glacie**	**5.93**	**76**	P	**P**	**13 23 21.8**	**+1.3**
IM3	**Indian Mountai**	**6.01**	**358**	P	**P**	**13 23 22.1**	**+0.5**
IMA	**Indian Mountai**	**6.09**	**358**	*eP*	**P**	**13 23 23.1**	**+0.3**
SDPT	**Sand Point**	**6.10**	**223**	P	**P**	**13 23 21.1**	**-1.8**
BLHA	**Black Hill**	**6.42**	**232**	P	**P**	**13 23 27.5**	**+0.2**
HAG	**Hague Volcano**	**6.64**	**229**	P	**P**	**13 23 30.1**	**-0.1**
DOL	**Dolgoi Island**	**6.75**	**228**	P	**P**	**13 23 31.4**	**-0.4**
PNL	**Peninsula**	**6.95**	**87**	P	**P**	**13 23 34.5**	**0.0**
COLD	**Coldfoot**	**7.37**	**9**	P	**P**	**13 23 39.6**	**-0.6**
BM3	**Burnt Mountain**	**8.35**	**23**	P	**P**	**13 23 51.7**	**-1.5**
SIT	**Sitka**	**9.78**	**100**	*eP*	**P**	**13 24 12.9**	**+0.9**
NIKO	**Nikolski**	**11.15**	**238**	*eP*	**P**	**13 24 30.4**	**+0.1**
INK	**Inuvik**	**11.88**	**37**	P	**P**	**13 24 39.4**	**-0.4**
	1.3nn,0.3s,baz=230,slow=15,SNR=28						
INK	**Inu

MEX 04 13:25:19.5±1.1, 16.58N×100.04W, h6km±8km, MD4.0, 1C, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.31	22	iP	Pg	13 25 25.0	-0.8
ACX				iS	Sg	13 25 30.0	0.0
CAIG	El Cayaco	0.52	335	⇑iP	Pg	13 25 29.2	-0.7
CAIG				iS	Sg	13 25 36.4	-0.4
PNIG	Pinotepa	1.84	96	eP	Pn	13 25 49.7	-2.2
PNIG				iS	Sn	13 26 08.7	-7.0
PLIG	Platanillo	1.87	16	eP	Pn	13 25 50.0	-2.3
PLIG				iS	Sn	13 26 12.1	-4.4
YAIG	Yautepec	2.45	22	eP	Pn	13 25 57.8	-2.9
YAIG				iS	Sn	13 26 27.1	-4.2
PPM	Popocatepetl	2.81	28	eP	Pn	13 26 03.0	-2.8
PPM				iS	Sn	13 26 45.0	+4.5
UNM	Universidad Na	2.85	17	eP	Pn	13 26 05.0	-1.4
UNM				iS	Sn	13 26 44.0	+2.5
OXX	Oaxaca	3.21	81	iP	Pn	13 26 14.0	+2.5
OXX				iS	Sn	13 26 49.0	-1.5
MOIG	Morelia	3.27	341	iS	Sn	13 26 47.3	-4.7
IISM	Ciudad Serdan	3.49	46	eP	Pn	13 26 10.0	-5.4
SFJM	Santa Fe	4.82	324	eP	Pn	13 26 45.0	+11
CMIG	Matias Romero	4.96	83	eP	Pn	13 26 33.2	-3.1
CMIG				iS	Sn	13 27 25.4	-9.4
CMIG	Matias Romero	4.96	83	eP	Pn	13 26 33.1	-3.2
CMIG				iS	Sn	13 27 31.5	-3.3

*JMA **04** 13:35:28.1±0.3, 33.38N×142.63E, h67km, M3.8*
*MOS **04** 13:35:30.0±1.3, 33.33N×142.40E, h33km, mb4.4/6, Error ellipse: s-maj=24.3km s-min=12.1km az=113.7*
*IDC **04** 13:35:32.6±0.8, 33.38N×142.45E, h36km±6km, mb3.6/8, mb1 3.9/10, mb1mx3.8/18, mbtmp3.9/10, ML4.1/2, Error ellipse: s-maj=21.0km s-min=15.8km az=122.0*
*NEIC **04** 13:35:33.0±4.2, 33.53N×142.55E, h35km±29km, mb4.5/6, Error ellipse: s-maj=18.1km s-min=11.4km az=127.0*

ISC 04 13:35:30.9±0.5, 33.41N±0.05×142.43E±0.05, h37km, h37km±1.3km: pP-P, n56, σ1°24/61, mb4.1/15, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	1.73	316	P	P	13 35 58.4	-0.7
BSO1				eS	S	13 36 21.6	+1.4
BSO2	Boso 2	1.93	314	eS	S	13 36 27.4	+2.1
BSO3	Boso 3	2.12	312	P	P	13 36 04.2	-0.4
JHJ2	Mitsune	2.21	263	P	P	13 36 05.7	-0.3
JHJ	Hachijo jima 2	2.24	263	Pn	P	13 36 05.7	-0.6
	49nm,0.3s,baz=170,slow=10,SNR=79						
JHJ				Sn	S	13 36 32.9	-0.1
	35nm,0.3s,baz=74,slow=23,SNR=5.4						
BSO4	Boso 4	2.35	313	P	P	13 36 08.1	+0.2
BSO4				eS	S	13 36 37.1	+1.3
KTR	Katsuura	2.47	315	eS	S	13 36 39.7	+0.9
JIM2	Oshima 3	2.81	299	P	P	13 36 13.1	-1.5
JOD2	Odawara 2	3.33	305	P	P	13 36 20.6	-1.3
JYT	Yasato	3.36	327	P	P	13 36 21.5	-0.9
JHO	Hitachi	3.54	335	P	P	13 36 21.3	-3.6
JHU	Hanno	3.56	314	P	P	13 36 24.3	-0.9
JHU				eS	S	13 37 05.3	-1.4
JYN	Shimob	3.83	304	P	P	13 36 28.2	-0.8
JYN				eS	S	13 37 14.4	+1.0
JAG	Ashikaga	3.88	322	P	P	13 36 28.6	-1.1
JNY	Yasuok	4.25	299	P	P	13 36 35.0	0.0
MAJO	Matsushiro	4.67	313	ePn	P	13 36 39.9	-1.0
MAT	Matsushiro	4.67	313	P	P	13 36 40.3	-0.6
MAT				S	S	13 37 33.7	-1.0
MAT	Matsushiro	4.67	313	eP	P	13 36 40.0	-0.9
MAT				eS	S	13 37 34.0	-0.7
CBIJ	Chichi jima	6.29	182	Pn	P	13 37 04.0	+0.3
	16nm,0.3s,baz=273,slow=22,SNR=5.7						
CBIJ				Sn	S	13 38 07.0	-8.3
	12nm,0.3s,baz=270,slow=20,SNR=2.5						
JNU	Nakatsue	9.68	271	Pn	P	13 37 52.1	+1.3
	0.3nm,0.3s,baz=127,slow=24,SNR=4.8						
YSS	Yuzh-Sakhalins	13.53	1	P	P	13 38 41.1	-1.6
	12nm,0.9s						
YSS	Yuzh-Sakhalins	13.53	1	P	P	13 38 41.1	-1.6
YSS				pmax	pmax		
	comp=Z,12nm,0.9s						
JOW	Kunigami	13.89	246	Pn	P	13 38 50.1	+2.6
	comp=Z,5.1nm,0.3s,baz=107,slow=28,SNR=7.1						
CIT	Chita	27.94	320	eP	P	13 41 22.6	+2.9
CIT				pmax	pmax		
	comp=Z,21nm,3.4s						
ENH	Enshi	28.10	273	P	P	13 41 17.9	-3.5
SONM	Songino Array	30.61	309	P	P	13 41 46.9	+3.3
	comp=Z,2.8nm,0.8s,mb4.2,baz=119,slow=9.2,SNR=19						
BOD	Bodaibo	31.06	330	eP	P	13 41 52.4	+4.9
ZAL	Zalesovo	45.03	315	P	P	13 43 50.9	+6.4
	comp=Z,1.0nm,0.3s,mb4.1,baz=356,slow=3.5,SNR=5.0						
ZAL	Zalesovo	45.03	315	P	P	13 43 50.9	+6.4
ZAL	Zalesovo	45.03	315	P	P	13 43 50.9	+6.4
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	Makanchi Array	46.82	305	P	P	13 43 59.9	+1.1
	comp=Z,1.0nm,0.7s,mb3.9,baz=90,slow=9.7,SNR=6.8						
KURK	Kurchatov	48.88	311	eP	P	13 44 15.2	+0.4
	comp=Z,6.6nm,0.8s,mb4.7						
KURK				e		13 44 33.3	
KURK	Kurchatov	48.88	311	eP	P	13 44 15.2	+0.4
KURK				e		13 44 33.3	
KURK				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
ILAR	Eielson Array	52.14	31	P	P	13 44 38.4	-1.1
	comp=Z,1.0nm,0.6s,mb3.9,baz=256,slow=5.9,SNR=10						
ILAR				pP	pP	13 44 49.0	-1.2
	comp=Z,1.1nm,0.8s,baz=258,slow=6.0,SNR=6.3						
WRA	Warramunga Arr	53.61	189	P	P	13 44 48.2	-2.8
	comp=Z,1.2nm,0.9s,mb3.8,baz=12,slow=7.9,SNR=5.1						
WRA	Warramunga Arr	53.61	189	P	P	13 44 48.2	-2.8
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BVAR	Borovoye Array	53.67	314	P	P	13 44 51.2	+0.2
	comp=Z,0.2nm,0.3s,mb3.5,baz=90,slow=5.8,SNR=3.7						
FITZ	Fitzroy Crossi	53.67	200	P	P	13 44 50.6	-0.8
	comp=Z,3.9nm,0.7s,mb4.5,baz=6.6,slow=13,SNR=5.5						
FITZ				pP	pP	13 45 02.4	+0.1
	comp=Z,2.4nm,0.4s,baz=2.0,slow=9.5,SNR=3.0						
FINES	FINESS Array B	72.41	333	pP	pP	13 47 05.6	-0.4
	comp=Z,1.7nm,0.8s,baz=326,slow=6.9,SNR=2.9						
WALA	Waterton Lakes	73.57	42	P	P	13 46 59.1	-2.7
	comp=Z,2.3nm,0.9s,mb4.1						
BOZ	Bozeman (W)	76.74	44	eP	P	13 47 20.3	+0.3
	comp=Z,1.6nm,0.8s,mb4.0						
BOZ	Bozeman (W)	76.74	44	eP	P	13 47 20.3	+0.3
BOZ				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
FCC	Fort Churchill	76.87	27	P	P	13 47 20.5	0.0
	comp=Z,16nm,0.9s,mb4.9						
FCC	Fort Churchill	76.87	27	P	P	13 47 20.5	0.0
FCC				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
NB2	NORSAR Subarra	77.85	338	P	P	13 47 26.0	+0.1
	comp=Z,2.3nm,0.8s,mb4.2,baz=39,slow=5.6						
NB2	NORSAR Subarra	77.85	338	P	P	13 47 26.0	+0.1
NB2				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
NOA	NORSAR Array B	77.85	338	P	P	13 47 26.2	+0.4
	comp=Z,1.0nm,1.0s,mb3.7,baz=38,slow=3.5,SNR=3.0						
NOA				pP	pP	13 47 37.1	0.0
	comp=Z,1.7nm,0.8s,baz=40,slow=5.6,SNR=4.4						
ISA	Isabella	77.85	55	eP	P	13 47 22.6	-3.8
	comp=Z,9.7nm,1.0s,mb4.7						
PDAR	Pinedale Array	79.61	45	P	P	13 47 37.0	+1.1
	comp=Z,0.1nm,0.3s,mb3.2,baz=326,slow=6.5,SNR=2.7						
BRTR	Keskin Array B	81.89	312	pP	pP	13 47 59.4	0.0
	comp=Z,1.1nm,0.8s,baz=108,slow=3.9,SNR=2.9						
PV10	Paradox Valley	82.54	49	eP	P	13 47 53.0	+1.7
PV01	Paradox Valley	82.98	49	eP	P	13 47 54.7	+1.1
ANMO	Albuquerque	86.27	50	P	P	13 48 11.6	+1.6
TXAR	Lajitas Array	91.65	53	P	P	13 48 36.9	+1.2
	comp=Z,0.7nm,0.6s,mb4.2,baz=315,slow=3.5,SNR=8.3						
TXAR				pP	pP	13 48 48.2	+0.8
	comp=Z,0.4nm,0.5s,baz=270,slow=2.5,SNR=2.7						
TXAR	Lajitas Array	91.65	53	P	P	13 48 36.9	+1.1
TXAR				pP	pP	13 48 48.2	+0.8
LPAZ	La Paz	147.62	66	PKPbc	PKPdf	13 55 14.3	+5.2
	comp=Z,0.8nm,0.5s,baz=344,slow=5.2,SNR=6.0						

*NEIC **04** 13:49:05.9, 32.66S×71.68W, h25km, ML3.9(GUC), After GUC.*
NEIC Felt [II] at Concon, Papudo, Puchuncavi, Quintero, Valparaiso and Vina del Mar.

GUC 04 13:49:05.9±0.7, 32.66S×71.68W, h25km±8km, MD4.1, ML3.9, 11C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	Papudo	0.24	60	eP	Pb	13 49 12.4	+0.4
IHA	Instituto Hidr	0.37	175	⇓iP	Pb	13 49 14.0	+0.1
IHA				iS	Sb	13 49 19.5	+0.2
ROCH	El Roble	0.65	119	⇑iP	Pb	13 49 18.4	-0.1
ROCH				iS	Sb	13 49 27.6	+0.6
CHNG	Los Chungos	0.79	11	⇑iP	Pb	13 49 20.3	-0.5
CHNG				iS	Sb	13 49 31.0	-0.2
CHNG				AMP		13 49 32.5	
	comp=N,3μm,0.3s						
LCCH	Las Cruces	0.82	173	⇑iP	Pb	13 49 20.6	-0.8
LCCH				iS	Sb	13 49 31.4	-0.6
JACH	Jahuel	0.92	92	⇑iP	Pb	13 49 22.3	-0.8
JACH				iS	Sb	13 49 34.9	0.0
PEL	Peldehue	0.97	120	⇑iP	Pb	13 49 23.5	-0.4
PEL				iS	Sb	13 49 36.1	-0.2
SAN	Santiago	1.17	133	⇑iP	Pn	13 49 26.5	-0.4
SAN				iS	Sb	13 49 42.2	+0.2
SAN				AMP		13 49 43.4	
	comp=N,4μm,0.3s						
TACH	Talagante	1.17	148	⇑iP	Pn	13 49 26.3	-0.6
TACH				iS	Sb	13 49 41.2	-1.0
DSCH	Colegio Aleman	1.19	129	⇑iP	Pn	13 49 26.9	-0.3
DSCH				iS	Sb	13 49 42.7	-0.1
DSCH				AMP		13 49 43.5	
	comp=N,10μm,0.3s						
CLCH	Cerro Calan	1.21	128	⇓iP	Pn	13 49 27.1	-0.4
CLCH				iS	Sn	13 49 43.4	+0.1
CLCH				AMP		13 49 44.3	
	comp=N,6μm,0.5s						
CLCH				AMP		13 49 44.9	
	comp=N,7μm,0.5s						
ANTU	Antumapu	1.27	136	⇑iP	Pn	13 49 28.2	-0.1
ANTU				iS	Sn	13 49 44.8	+0.2
ANTU				AMP		13 49 46.9	
	comp=N,3μm,0.5s						
LNV	Longovilo	1.31	170	eP	Pn	13 49 28.6	-0.4
LNV				iS	Sn	13 49 45.6	-0.2
PCH	Pirque	1.37	135	⇑iP	Pn	13 49 29.6	-0.2
PCH				iS	Sn	13 49 47.8	+0.5
CHCH	Chadas Angostu	1.54	146	eP	Pn	13 49 32.4	+0.2
CHCH				iS	Sn	13 49 52.5	+0.9
CACH	El Canelo	1.71	148	⇑iP	Pn	13 49 35.5	+0.8
LMEL	Las Melosas	1.71	134	⇓iP	Pn	13 49 35.0	+0.3
LMEL				iS	Sn	13 49 57.8	+1.8
LMEL				AMP		13 50 01.9	
	comp=N,3μm,0.2s						

*NEIC **04** 13:55:10.6, 31.70S×71.82W, h15km, ML2.9(GUC), After GUC.*

GUC 04 13:55:10.6±0.8, 31.70S×71.82W, h15km±9km, MD3.7, ML2.9, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	Los Chungos	0.33	124	⇓iP	Pb	13 55 17.7	+0.2
CHNG				iS	Sb	13 55 22.9	+0.6
CHNG				AMP		13 55 23.3	
	comp=E,654nm,0.3s						
JACH	Jahuel	1.43	134	eP	Pn	13 55 34.9	-1.2
JACH				iS	Sb	13 55 54.2	+0.1
ROCH	El Roble	1.44	152	⇓iP	Pn	13 55 35.2	-1.1
ROCH				iS	Sb	13 55 54.6	+0.1
TLL	Tololo Astrono	1.76	30	eP	Pn	13 55 41.2	+0.3
TLL				iS	Sn	13 56 03.5	+0.3
TLL				AMP		13 56 08.4	
	comp=N,536nm,0.6s						
LCCH	Las Cruces	1.78	173	⇑iP	Pn	13 55 40.9	-0.3
CLCH	Cerro Calan	2.00	148	⇑iP	Pn	13 55 44.3	-0.1
CLCH				iS	Sn	13 56 09.9	+0.6
CLCH				AMP		13 56 14.1	
	comp=E,252nm,0.6s						
TACH	Talagante	2.08	159	iP	Pn	13 55 45.6	+0.1
CHCH	Chadas Angostu	2.43	157	iP	Pn	13 55 50.9	+0.4
CACH	El Canelo	2.62	157	eP	Pn	13 55 54.3	+1.2

MAN 04 14:10:24.5, 13.57N×120.38E, h39km, mb3.7, ML2.5, MS2.0, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	Puerto Galera	0.56	96	eP	P	14 10 33.2	-2.7
PGP				eS	S	14 10 39.0	-5.2
SJMP	San Jose	1.31	147	eP	P	14 10 48.2	+1.5
SJMP				eS	S	14 11 03.7	+0.5
BOAC	Boac	1.43	94	eP	P	14 10 48.5	+0.2
BOAC				eS	S	14 11 06.0	0.0
BUSP	Coron	1.56	187	eP	P	14 10 50.9	+0.6
BUSP				eS	S	14 11 11.7	+2.2
ENPP	El Nido	2.52	202	eP	P	14 11 03.0	-0.9
ENPP				eS	S	14 11 25.2	-8.5

*CSEM **04** 14:27:50.7±0.0, 44.97N×6.72E, h8km, ML2.5/11, Error ellipse: s-maj=1.2km s-min=0.8km az=66.0*
*GEN **04** 14:27:50.7, 44.97N×6.65E, h0km, ML2.0*
*LDG **04** 14:27:51.3±0.1, 44.97N×6.68E, h2km, Md2.6/2, Ml2.6/13, Error ellipse: s-maj=1.5km s-min=0.9km az=77.0*
*STR **04** 14:27:51.1±0.3, 44.97N×6.68E, h5km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **04** 14:27:51.5, 44.95N×6.64E, h5km, ML2.6(LDG), ML2.6(GEN), ML2.4(STR), After STR.*

ISC 04 14:27:50.1±0.2, 44.96N±0.01×6.63E±0.02, h10km±2km, n55, σ0°82/97, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNI	Bardonecchia	0.10	22	ePg	Pg	14 27 53.1	+0.4
BNI				eSg	Sg	14 27 54.4	-0.1
BNI	Bardonecchia	0.10	22	ePg	Pg	14 27 53.1	+0.4
BNI				eSg	Sg	14 27 54.4	-0.1
RRL	Cesana Torines	0.12	110	P	Pg	14 27 53.5	+0.5
RRL	Cesana Torines	0.12	110	P	Pg	14 27 53.5	+0.4
RRL				S	Sg	14 27 55.0	0.0
MBDF	Montbardon	0.26	156	ePg	Pg	14 27 55.7	+0.2
MBDF				eSg	Sg	14 27 59.2	+0.1
	138nm,0.2s						
FENE	Fenestrelle	0.32	77	P	Pg	14 27 56.9	+0.3
FENE	Fenestrelle	0.32	77	P	Pg	14 27 56.9	+0.2
FENE				S	Sg	14 28 00.6	-0.4
GDM	Grand'Maison	0.44	304	Pg	Pg	14 28 00.4	+1.4
GDM				Sg	Sg	14 28 06.0	+1.1
BHB	Bricherasio	0.47	105	P	Pg	14 27 59.7	+0.1
BHB	Bricherasio	0.47	105	P	Pg	14 27 59.7	+0.1
RSP	Reno Superiore	0.48	67	P	Pg	14 28 00.1	+0.2
RSP				S	Sg	14 28 07.1	+0.6
SURF	Saint Ours	0.50	165	Pg	Pg	14 28 00.4	+0.2
SURF				Sg	Sg	14 28 07.7	+0.8
ORIF	Oris-en-Rattie	0.53	266	ePg	Pg	14 28 01.5	+0.6
ORIF				eSg	Sg	14 28 08.7	+0.6
	36nm,0.2s						
LPG	La Plagne	0.54	9	ePg	Pg	14 28 01.4	+0.3
LPG				eSg	Sg	14 28 08.4	0.0
	29nm,0.2s						
LPL	La Plagne	0.56	8	ePg	Pg	14 28 01.9	+0.5
LPL				eSg	Sg	14 28 08.8	-0.2
	30nm,0.2s						
LSD	Ceresole Reale	0.62	37	P	Pb	14 28 02.3	-0.3
LSD	Ceresole Reale	0.62	37	P	Pb	14 28 02.3	-0.3
LSD				S	Sg	14 28 10.7	-0.3
GRN	Grenoble	0.69	295	Pg	Pg	14 28 05.4	+1.5
GRN				Sg	Sg	14 28 14.5	+1.4
STV	Sta Anna Valdi	0.87	145	P	Pb	14 28 07.3	+0.4
STV	Sta Anna Valdi	0.87	145	P	Pb	14 28 07.3	+0.4
ENR	Entracque	0.93	142	P	Pb	14 28 08.1	+0.3
ENR	Entracque	0.93	142	P	Pb	14 28 08.1	+0.3
ENR				S	Sb	14 28 20.2	+0.2
TRAV		0.96	55	P	Pb	14 28 09.0	+0.5
TRAV				S	Sb	14 28 21.3	+0.3
TRAV		0.96	55	P	Pb	14 28 09.0	+0.6
TRAV				S	Sb	14 28 21.3	+0.2
TOUF	Mont Tournerai	1.05	155	Pg	Pg	14 28 10.5	-0.6
TOUF				Sg	Sg	14 28 25.8	+0.7
ROB	Roburent	1.11	126	P	Pb	14 28 11.4	+0.4
ROB				S	Sb	14 28 25.6	+0.3
ROB	Roburent	1.11	126	P	Pb	14 28 11.4	+0.4
ROB				S	Sb	14 28 25.6	+0.3
AUTN	L'Aution	1.12	149	Pg	Pg	14 28 12.0	-0.6
AUTN				Sg	Sg	14 28 27.2	-0.4
ORX	Oropa	1.17	54	P	Pb	14 28 12.4	+0.5
ORX	Oropa	1.17	54	P	Pb	14 28 12.4	+0.5
SAOF	Saorge	1.18	145	Pg	Pg	14 28 12.9	-0.8
SAOF				Sg	Sg	14 28 29.6	+0.1
MONE	Monesi	1.20	137	P	Pb	14 28 12.9	+0.5
MONE				S	Sb	14 28 28.4	+0.6
MONE	Monesi	1.20	137	P	Pb	14 28 12.9	+0.5
MONE				S	Sb	14 28 28.4	+0.6
CALN	Calern	1.22	171	Pg	Pg	14 28 14.4	-0.2
CALN				Sg	Sg	14 28 35.2	+4.3
SMRF	Simiane la Rot	1.24	218	ePg	Pg	14 28 15.5	+0.6
SMRF				eSg	Sg	14 28 31.9	+0.4
	7.6nm,0.2s						
SBF	Sospel	1.24	152	ePg	Pg	14 28 14.7	-0.2
SBF				eSg	Sg	14 28 31.1	-0.4
	37nm,0.4s						
NEGI	Negi	1.35	145	P	Pb	14 28 15.8	+0.7
NEGI	Negi	1.35	145	P	Pb	14 28 15.8	+0.7
FIN	Finale Ligure	1.36	123	P	Pb	14 28 15.5	+0.3
FIN				S	Sb	14 28 31.5	-1.0
FIN	Finale Ligure	1.36	123	P	Pb	14 28 15.5	+0.3
FIN				S	Sb	14 28 31.5	-0.9
IMI	Imperia	1.39	139	P	Pn	14 28 15.2	-0.4
IMI	Imperia	1.39	139	P	Pn	14 28 15.2	-0.4
VIVF	Saint-Julien-l	1.39	266	ePn	Pn	14 28 16.9	+1.2
VIVF				ePg	Pg	14 28 18.2	+0.2
VIVF				eSg	Sg	14 28 36.4	-0.2
	15nm,0.3s						
FRF	La Foret Royal	1.40	179	ePg	Pg	14 28 17.3	-0.8
FRF				eSg	Sg	14 28 36.2	-0.6
	20nm,0.2s						
PCP	Pian Castagno	1.43	106	P	Pn	14 28 17.3	+1.1
PCP	Pian Castagno	1.43	106	P	Pn	14 28 17.3	+1.1
LMR	La Mourre	1.63	183	ePg	Pg	14 28 21.4	-1.3
LMR				eSg	Sg	14 28 42.8	-1.6
	10nm,0.2s						
CABF	La Chapelle	1.69	347	ePn	Pn	14 28 20.2	+0.2
CABF				ePg	Pg	14 28 22.8	-1.1
CABF				eSg	Sg	14 28 45.2	-1.3
	6.4nm,0.2s						
LASF	Ste Croix	2.17	247	ePn	Pn	14 28 27.1	+0.3
LASF				ePg	Pg	14 28 32.1	-1.4
LASF				eSn	Sn	14 28 53.7	-0.3
	4.2nm,0.3s						
SMF	Signal de Mont	2.58	312	ePn	Pn	14 28 32.5	-0.1
SMF				ePg	Pg	14 28 39.5	-2.0
SMF				eSg	Sg	14 29 13.0	-2.9
	4.0nm,0.2s						
AVF	Avril sur Loir	2.93	310	ePn	Pn	14 28 37.6	-0.1
AVF				eSg	Sg	14 29 23.7	-3.9
	2.8nm,0.4s						
PGF	Pioggiola	2.96	144	ePn	Pn	14 28 39.5	+1.4
PGF				eSn	Sn	14 29 12.1	-2.0
	1.1nm,0.2s						
LOR	Lormes	3.00	321	ePn	Pn	14 28 38.2	-0.6
LOR				eSg	Sg	14 29 25.7	-4.5
	2.5nm,0.3s						
SSF	Saint Saulge	3.02	315	ePn	Pn	14 28 38.8	-0.2
SSF				eSg	Sg	14 29 26.5	-4.3
	1.1nm,0.2s						
HAU	Haudompre	3.05	356	ePg	Pg	14 28 48.1	-2.9

*CSEM **04** 14:56:34.9±0.2, 36.79N×24.75W, h10km, ML2.9, Error ellipse: s-maj=4.2km s-min=3.1km az=86.0, After PDA*
*PDA **04** 14:56:34.9±1.4, 36.79N×24.75W, h10km, MD2.8, ML2.9, Error ellipse: s-maj=19.5km s-min=5.5km az=61.0*

SVSA 04 14:56:34.9±1.4, 36.79N×24.75W, h10km, MD2.8, ML2.9, Error ellipse: s-maj=19.5km s-min=5.5km az=61.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	Pico do Norte,	0.33	311	eP	Pg	14 56 42.9	+1.1
PSMN				eS	Sg	14 56 48.8	+2.4
FRA1	Furnas	1.07	333	eS	Sb	14 57 03.8	-5.1
MIRA	Miradouro	1.08	337	eP	Pb	14 56 52.0	-3.3
MIRA				eS	Sb	14 57 04.3	-5.0
VIF	Vila Franca	1.10	330	eP	Pb	14 56 51.9	-3.7
VIF				eS	Sb	14 57 04.8	-5.1
	78nm,0.3s						
PRCH	Ribeira Ch	1.10	328	eP	Pb	14 56 51.9	-3.8
PRCH				eS	Sb	14 57 04.2	-5.7
	129nm,0.1s						
PCNG	Congro	1.11	332	eP	Pb	14 56 52.0	-3.7
PCNG				eS	Sb	14 57 04.9	-5.0
	79nm,0.1s						
LFA	Lagoa do Fogo	1.14	329	eP	Pb	14 56 52.6	-3.7
PFAD	Fenais da Ajud	1.15	337	eP	Pb	14 56 52.2	-4.1
PFAD				eS	Sb	14 57 05.2	-5.9
MESC	Monte Escuro	1.15	331	eP	Pb	14 56 52.5	-3.9
MESC				iS	Sb	14 57 05.7	-5.4
CML	Cha da Macela	1.17	327	eP	Pb	14 56 52.5	-4.3
CML				eS	Sb	14 57 05.0	-6.8
PMAT	Coroa da Mata	1.18	331	eP	Pb	14 56 53.1	-3.8
PMAT				eS	Sb	14 57 06.2	-5.8
	38nm,0.2s						
FAC	Faja de Cima	1.22	324	eP	Pb	14 56 53.8	-3.8
FAC				eS	Sb	14 57 06.7	-6.5
PSAN	Santo Antonio	1.32	324	eP	Pb	14 56 54.8	-4.5
PSAN				eS	Sb	14 57 09.4	-6.7
PFET	Feteiras	1.32	321	eP	Pb	14 56 54.8	-4.5
PFET				eS	Sb	14 57 09.3	-6.9
SET2	Ginetes	1.35	322	eP	Pb	14 56 55.1	-4.7
SET2				eS	Sb	14 57 10.4	-6.6
SET4	Mosteiros	1.37	323	eP	Pn	14 56 55.3	-4.9
SET4				eS	Sb	14 57 10.4	-7.2
PSCM	Serra do Cume	2.68	316	eS	Sn	14 57 45.0	-6.7
	54nm,0.2s						
PMAN	Manadas	3.23	306	erx		14 57 23.8	
PICO	Pico	3.38	301	eP	Pn	14 57 24.8	-4.1
PICO				eS	Sn	14 58 00.8	-8.7
CALA	Caldeira	3.61	301	eS

PWZ	Pawanui	1.75	53	PN	Pn	15 11 00.8	-2.3
MOVZ	Moawhango	1.77	18	PN	Pn	15 11 02.7	-0.8
CNZ	Chateau	1.93	12	PN	Pn	15 11 05.9	0.0

*ATH **04** 15:27:58.7, 39.02N×23.12E, h23km±6km, MD2.7/3*
*THE **04** 15:27:59.2, 38.98N×23.33E, h1km, ML2.5*
*CSEM **04** 15:27:59.0±0.1, 38.98N×23.31E, h15km, ML2.5, Error ellipse: s-maj=2.8km s-min=1.9km az=126.0*
ISC 04 15:27:58.4±0.8, 38.98N±0.04×23.33E±0.05, h13km±7km, n7, σ0=35/13, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.34**	**346**	*e*PB	**Pb**	**15 28 05.5**	**-0.3**
NEO				*e*SB	**Sb**	**15 28 10.7**	**0.0**
XOR	**Xorichti**	**0.40**	**345**	*e*Pg	**Pg**	**15 28 06.8**	**0.0**
XOR				*e*Sg	**Sg**	**15 28 12.4**	**0.0**
LKR	**Lokris**	**0.41**	**218**	*e*PB	**Pb**	**15 28 07.2**	**+0.1**
LKR				*e*SB	**Sb**	**15 28 12.9**	**0.0**
AOS	**Alonnisos**	**0.47**	**66**	*e*Pg	**Pg**	**15 28 08.1**	**0.0**
AOS				*e*Sg	**Sg**	**15 28 14.8**	**+0.2**
AGG	**Agios Georgios**	**0.78**	**274**	*e*Pg	**Pg**	**15 28 13.2**	**-1.0**
AGG				*e*Sg	**Sg**	**15 28 25.3**	**+0.7**
PAIG	**Paliouri**	**0.99**	**16**	*e*Pg	**Pg**	**15 28 18.2**	**-0.1**
PAIG				*e*Sg	**Sg**	**15 28 31.6**	**0.0**
PLG	**Polygyros**	**1.40**	**4**	*e*PN	**Pn**	**15 28 24.0**	**+0.3**

MAN 04 15:59:18.7, 16.26N×121.77E, h43km, mb4.0, ML2.7, MS2.4, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALP	**Baler**	**0.55**	**200**	*e*P	P	15 59 31.1	+0.9
BALP				*e*S	S	15 59 35.0	-3.4
BALP	**Baler**	**0.55**	**200**	*e*P	P	15 59 31.1	+0.9
BALP				*e*S	S	15 59 35.0	-3.4
CAUP	**Cauayan**	**0.68**	**4**	*e*P	P	15 59 32.5	+0.5
CAUP				*e*S	S	15 59 43.3	+1.6
CAUP	**Cauayan**	**0.68**	**4**	*e*P	P	15 59 32.5	+0.5
CAUP				*e*S	S	15 59 43.3	+1.6
BCPH	**Baguio City Da**	**1.15**	**276**	⇑*i*P	P	15 59 38.8	+0.4
BCPH				*i* S	S	15 59 53.1	-0.1
POLP	**Polilio Island**	**1.53**	**174**	*e*P	P	15 59 44.8	+0.7
POLP	**Polilio Island**	**1.53**	**174**	*e*P	P	15 59 44.8	+0.7
APYP	**Conner**	**1.67**	**343**	*e*P	P	15 59 45.5	-0.6
APYP				*e*S	S	16 00 03.2	-3.2
APYP	**Conner**	**1.67**	**343**	*e*P	P	15 59 45.5	-0.6
APYP				*e*S	S	16 00 03.2	-3.2
ABRA	**Dolores**	**1.71**	**324**	*e*P	P	15 59 47.4	+0.8
ABRA				*e*S	S	16 00 09.5	+2.1
ABRA	**Dolores**	**1.71**	**324**	*e*P	P	15 59 47.4	+0.8
ABRA				*e*S	S	16 00 09.5	+2.1

*NEIC **04** 16:15:04.9±5.2, 37.74N×72.64E, h101km±34km, mb3.8/2, Error ellipse: s-maj=51.6km s-min=21.9km az=183.0*
*IDC **04** 16:15:11.5±18.0, 38.17N×72.87E, h134km±124km, mb3.3/4, mb1 3.4/7, mb1mx3.2/21, mbtmp3.7/7, ML3.6/3, Error ellipse: s-maj=159.2km s-min=31.1km az=11.0*
*NNC **04** 16:15:17.9±4.2, 38.78N×72.65E, h232km±49km, mpv4.0, Error ellipse: s-maj=54.8km s-min=32.3km az=12.0*
ISC 04 16:15:06.9±1.2, 37.86N±0.07×72.8E±0.1, h134km±13km, n29, σ0=92/32, mb3.4/4, 2C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.32**	**9**	P	**P**	**16 16 12.4**	**+0.4**
	SNR=148						
UCH	**Uchtor**	**4.56**	**16**	P	**P**	**16 16 15.7**	**+0.6**
	SNR=8.0						
KZA	**Kyzart**	**4.61**	**23**	P	**P**	**16 16 16.6**	**+0.7**
	SNR=5.5						
EKS2	**Erkin-Say**	**4.86**	**8**	P	**P**	**16 16 19.8**	**+0.7**
	SNR=25						
AAK	**Ala-Archa**	**4.94**	**15**	P	**P**	**16 16 21.2**	**+1.0**
	SNR=11						
AAK	**Ala-Archa**	**4.94**	**15**	⇑P	**P**	**16 16 21.1**	**+0.8**
	6.1nm,0.3s						
AAK				⇓S	**S**	**16 17 14.3**	**-2.5**
	36nm,0.7s						
AAK	**Ala-Archa**	**4.94**	**15**	*e*Pn	**P**	**16 16 19.9**	**-0.3**
	19nm,0.6s						
ULHL	**Ulahol**	**5.11**	**30**	P	**P**	**16 16 22.7**	**+0.1**
	SNR=23						
CHMS	**Chumysh**	**5.34**	**15**	P	**P**	**16 16 26.1**	**+0.5**
	SNR=9.0						
TKM2	**Tokmak 2**	**5.49**	**22**	P	**P**	**16 16 27.9**	**+0.4**
	SNR=6.1						
KK31	**Karatay Array**	**5.53**	**342**	P	**P**	**16 16 28.2**	**+0.2**
	14nm,0.4s,baz=158,slow=12,SNR=112						
KK31				⇑S	**S**	**16 17 24.8**	**-6.1**
	43nm,0.3s						
USP	**Ospenovka**	**5.55**	**13**	P	**P**	**16 16 28.5**	**+0.1**
	SNR=9.3						
MK31	**Makanchi Array**	**11.35**	**35**	⇓P	**P**	**16 17 45.3**	**-0.5**
	1.5nm,0.7s,baz=221,slow=13,SNR=13						
MKAR	**Makanchi Array**	**11.35**	**35**	P	**P**	**16 17 46.0**	**+0.1**
	0.1nm,0.3s,baz=224,slow=13,SNR=14						
KOLN	**Koldanda**	**13.54**	**135**	*e*P	**P**	**16 18 14.1**	**-0.2**
	17nm,0.4s						
GKN	**Gorkha**	**13.96**	**131**	*e*P	**P**	**16 18 19.8**	**0.0**
	11nm,0.3s						
KKN	**Kakani**	**14.50**	**130**	*e*P	**P**	**16 18 26.2**	**-0.5**
	28nm,0.6s						
DMN	**Daman**	**14.53**	**131**	*e*P	**P**	**16 18 26.8**	**-0.2**
	10nm,0.5s						
AB31	**Akbulak array**	**14.70**	**325**	P	**P**	**16 18 28.0**	**-1.0**
	3.5nm,0.2s,baz=132,slow=13,SNR=107						
AB31				⇓S	**S**	**16 20 56.9**	**-12**
	3.9nm,0.3s						
PKI	**Pulchoki**	**14.74**	**130**	*e*P	**P**	**16 18 29.6**	**-0.1**
	16nm,0.5s						
BVAR	**Borovoye Array**	**15.26**	**354**	P	**P**	**16 18 35.6**	**-0.5**
	0.3nm,0.3s,baz=161,slow=9.8,SNR=5.8						
BRVK	**Borovoye**	**15.30**	**354**	P	**P**	**16 18 35.0**	**-1.6**
	1.1nm,0.8s						
ZAL	**Zalesovo**	**18.07**	**23**	P	**P**	**16 19 08.9**	**-1.4**
	0.8nm,0.3s,baz=262,slow=10.0,SNR=14						
SONM	**Songino Array**	**26.38**	**57**	P	**P**	**16 20 33.4**	**+1.2**
	0.2nm,0.4s,mb3.1,baz=259,slow=7.3,SNR=3.6						
FINES	**FINESS Array B**	**37.19**	**325**	P	**P**	**16 22 07.6**	**+1.3**
	0.5nm,0.3s,mb3.6,baz=114,slow=8.9,SNR=8.9						
ARCES	**ARCESS Array B**	**40.46**	**337**	P	**P**	**16 22 34.2**	**+0.9**
	1.4nm,1.0s,mb3.6,baz=111,slow=7.7,SNR=2.6						
TIP	**Timpagrande**	**43.27**	**290**	*e*P	**P**	**16 22 54.1**	**-2.5**
CLL	**Collm**	**43.48**	**308**	P	**P**	**16 22 59.0**	**+1.0**
NOA	**NORSAR Array B**	**44.18**	**322**	P	**P**	**16 23 04.4**	**+0.9**
	0.2nm,0.3s,mb3.2,baz=106,slow=7.0,SNR=3.2						

*NIED **04** 16:19:00, 33.20N×142.40E, h8km, Mw3.7 Best double couple: M0:3.4×10^14 NP1:φs=184°, δ=63°, λ=-71°. NP2:φs=327°, δ=33°, λ=-122°.*
*IDC **04** 16:19:59.4±7.2, 33.10N×142.39E, mb3.7/3, mb1 3.8/4, mb1mx3.6/19, mbtmp3.7/4, Error ellipse: s-maj=177.3km s-min=27.0km az=165.0*
*JMA **04** 16:19:59.3±0.4, 33.22N×142.37E, M3.9*
ISC 04 16:20:01.5±2.1, 33.21N±0.07×142.44E±0.08, h26km±19km, n19, σ0=89/25, mb3.6/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.88**	**320**	P	**Pn**	**16 20 32.8**	**+0.1**
BSO1				*e*S	**Sn**	**16 20 57.6**	**+1.8**
JHJ2	**Mitsune**	**2.20**	**268**	P	**Pn**	**16 20 37.4**	**+0.1**
JHJ2				S	**Sn**	**16 21 04.3**	**+0.4**
JHJ	**Hachijo jima 2**	**2.23**	**268**	Pn	**Pn**	**16 20 36.8**	**-0.9**
	31nm,0.3s,baz=225,slow=21,SNR=47						
JHJ				Sn	**Sn**	**16 21 03.5**	**-1.1**
	66nm,0.3s,baz=98,slow=22,SNR=6.7						
BSO3	**Boso 3**	**2.26**	**315**	P	**Pn**	**16 20 38.5**	**+0.5**
BSO4	**Boso 4**	**2.49**	**316**	P	**Pn**	**16 20 42.2**	**+0.8**
JIM2	**Oshima 3**	**2.92**	**302**	P	**Pn**	**16 20 46.7**	**-0.8**
JOD2	**Odawara 2**	**3.45**	**307**	P	**Pn**	**16 20 54.9**	**-0.1**
JYT	**Yasato**	**3.53**	**329**	P	**Pn**	**16 20 56.4**	**+0.2**
JYT				S	**Sn**	**16 21 37.8**	**+0.2**
JHU	**Hanno**	**3.71**	**316**	P	**Pn**	**16 20 59.2**	**+0.5**
JHU				S	**Sn**	**16 21 41.6**	**-0.4**
JHO	**Hitachi**	**3.73**	**336**	P	**Pn**	**16 20 57.7**	**-1.2**
JAG	**Ashikaga**	**4.04**	**323**	P	**Pn**	**16 21 03.0**	**-0.4**
HMMJ	**Hamamatsu 2**	**4.25**	**294**	P	**Pn**	**16 21 07.5**	**+1.1**
JNY	**Yasuok**	**4.35**	**301**	P	**Pn**	**16 21 09.4**	**+1.5**
MAT	**Matsushiro**	**4.81**	**315**	P	**Pn**	**16 21 14.1**	**-0.2**
MAT				S	**Sn**	**16 22 08.7**	**-1.3**
MAT	**Matsushiro**	**4.81**	**315**	P	**Pn**	**16 21 14.9**	**+0.6**
JMM	**Marumori**	**4.84**	**344**	P	**Pn**	**16 21 12.2**	**-2.5**
SONM	**Songino Array**	**30.74**	**309**	P	**P**	**16 26 16.8**	**0.0**
	0.7nm,0.7s,mb3.6,baz=117,slow=9.7,SNR=5.4						
MKAR	**Makanchi Array**	**46.94**	**305**	P	**P**	**16 28 32.3**	**+0.5**
	1.1nm,0.7s,mb3.9,baz=85,slow=9.0,SNR=6.7						
ILAR	**Eielson Array**	**52.31**	**31**	P	**P**	**16 29 12.9**	**+0.1**
	0.6nm,1.1s,mb3.5,baz=280,slow=5.8,SNR=4.7						

NNC 04 16:34:23.3±7.0, 36.85N×70.24E, h153km±127km, mpv3.3, 2C-1D, Error ellipse: s-maj=74.2km s-min=49.9km az=150.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.25**	**2**	⇓P	P	16 35 53.3	-0.9
	1.2nm,0.4s,baz=180,slow=13,SNR=19						
KK31				⇑S	S	16 37 04.2	-0.6
	4.4nm,0.6s,baz=189,slow=27						
AAK	**Ala-Archa**	**6.64**	**28**	⇑S	S	16 37 13.8	-0.4
	12nm,0.6s						
MK31	**Makanchi Array**	**13.38**	**38**	P	P	16 37 26.8	-1.1
	0.4nm,0.6s,baz=208,slow=9.7,SNR=4.9						
AB31	**Akbulak array**	**14.48**	**332**	P	P	16 37 43.5	+1.7
	0.4nm,0.3s,baz=161,slow=11,SNR=11						

*JMA **04** 16:40:24.5±0.4, 33.38N×142.66E, h63km, M3.5*
ISC 04 16:40:24.4±1.6, 33.39N±0.09×142.6E±0.1, h96km±28km, n12, σ0=78/18, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.86**	**313**	P	**P**	**16 40 55.1**	**-0.4**
BSO1				S	**S**	**16 41 17.8**	**-0.6**
BSO2	**Boso 2**	**2.06**	**312**	S	**S**	**16 41 23.6**	**+0.5**
BSO3	**Boso 3**	**2.25**	**309**	P	**P**	**16 41 00.9**	**+0.1**
BSO3				S	**S**	**16 41 28.3**	**+0.6**
JHJ2	**Mitsune**	**2.37**	**264**	P	**P**	**16 41 02.4**	**0.0**
JHJ2				S	**S**	**16 41 29.5**	**-1.1**
BSO4	**Boso 4**	**2.48**	**311**	P	**P**	**16 41 04.5**	**+0.6**
BSO4				S	**S**	**16 41 33.9**	**+0.6**
JHO	**Hitachi**	**3.63**	**333**	P	**P**	**16 41 19.2**	**-0.5**
JHU	**Hanno**	**3.69**	**313**	P	**P**	**16 41 21.0**	**+0.4**
JYN	**Shimob**	**3.97**	**303**	P	**P**	**16 41 25.7**	**+1.3**
JYN				S	**S**	**16 42 10.0**	**-0.1**
JAG	**Ashikaga**	**3.99**	**320**	P	**P**	**16 41 25.1**	**+0.4**
JFK	**Kawauchi**	**4.22**	**341**	P	**P**	**16 41 26.7**	**-1.1**
JMM	**Marumori**	**4.71**	**342**	P	**P**	**16 41 33.6**	**-1.0**
MAT	**Matsushiro**	**4.80**	**312**	P	**P**	**16 41 37.3**	**+1.5**
MAT				S	**S**	**16 42 29.4**	**-1.2**

KRSC 04 16:47:39.6±0.9, 55.09N×165.35E, h36km±8km, ML4.1, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.38**	**72**	*i* P	P	16 47 46.6	-1.9
BKI				*i* S	S	16 47 52.3	-2.4
BKI				Smax			
	1μm,0.4s						
KBTR	**Krutoberegovo**	**1.82**	**309**	*e*P	P	16 48 06.5	-2.5
KBTR				*e*S	S	16 48 27.9	-3.2
MKZ	**Mys Kozlova**	**2.16**	**257**	*e*P	P	16 48 13.3	-0.6
MKZ				*e*S	S	16 48 38.1	-1.6
ZLN	**Zelenaya**	**2.75**	**292**	*e*P	P	16 48 22.6	+0.3
ZLN				*e*S	S	16 48 53.5	-1.1
CIRR	**Tsirk**	**2.81**	**293**	*e*P	P	16 48 23.9	+0.8
CIRR				*e*S	S	16 48 55.4	-0.7
LGNR	**Loginova**	**2.83**	**293**	*e*P	P	16 48 24.2	+0.8
LGNR				*e*S	S	16 48 56.3	-0.3
KLY	**Klyuchi**	**2.93**	**297**	*e*P	P	16 48 23.4	-1.5
KLY				*e*S	S	16 48 55.6	-3.6
KRSR	**Krestovskiy**	**2.94**	**295**	*e*P	P	16 48 25.0	0.0
KRSR				*e*S	S	16 48 57.8	-1.6
KMNR	**Kamenistaya**	**2.99**	**285**	*e*P	P	16 48 26.5	+0.8
KMNR				*e*S	S	16 49 02.2	+1.4
TUMR	**Tumrok**	**2.99**	**276**	*i* P	P	16 48 25.9	+0.2
TUMR				*e*S	S	16 49 00.0	-0.8
KPT	**Kopyto**	**3.04**	**289**	*i* P	P	16 48 27.1	+0.6
KPT				*e*S	S	16 49 00.5	-1.7
KOZ	**Kozyrevsk**	**3.26**	**290**	*e*P	P	16 48 30.2	+0.7
KOZ				*e*S	S	16 49 06.9	-0.7
SRDR	**Sredinnyy**	**3.42**	**293**	*e*P	P	16 48 32.4	+0.6
SRDR				*e*S	S	16 49 09.7	-1.9
SPN	**Mys Shipunski**	**3.72**	**240**	*e*P	P	16 48 35.2	-0.9
SPN				*e*S	S	16 49 15.4	-3.9
ESO	**Esso**	**3.87**	**285**	*e*P	P	16 48 37.7	-0.6
ESO				*e*S	S	16 49 21.8	-1.4
ESO				Smax			
	20nm,1.1s						
NLC	**Nalytchevo**	**4.02**	**244**	*e*P	P	16 48 39.7	-0.7
NLC				*e*S	S	16 49 23.9	-3.1
SDLR	**Sedlovina**	**4.21**	**247**	*e*P	P	16 48 43.1	0.0
SDLR				*e*S	S	16 49 29.7	-2.0
SMAR	**Somma**	**4.26**	**247**	*e*P	P	16 48 44.4	+0.6
SMAR				*e*S	S	16 49 31.0	-2.0
UGLR	**Uglovaya**	**4.28**	**247**	*e*P	P	16 48 44.2	+0.2
UGLR				*e*S	S	16 49 31.1	-2.2
AVH	**Avacha**	**4.29**	**248**	*e*P	P	16 48 44.7	+0.4
AVH				*e*S	S	16 49 31.9	-1.9
KOK	**Koryaka**	**4.33**	**248**	*e*P	P	16 48 45.3	+0.5
KOK				*e*S	S	16 49 32.4	-2.5
PET	**Petropavlovsk**	**4.46**	**245**	*e*P	P	16 48 46.5	-0.1
PET				*e*S	S	16 49 34.8	-3.1
GNL	**Ganaly**	**4.55**	**255**	*e*P	P	16 48 48.2	+0.3
GNL				*e*S	S	16 49 38.0	-2.3
KRMR	**Karymshinskiy**	**4.83**	**245**	*e*S	S	16 49 43.9	-3.4
RUS	**Russkaya**	**4.85**	**240**	*e*P	P	16 48 51.7	-0.5
RUS				*e*S	S	16 49 43.7	-4.2
GRL	**Gorelyy**	**5.00**	**242**	*e*P	P	16 48 54.7	+0.4
GRL				*e*S	S	16 49 49.6	-2.1
APC	**Apacha**	**5.30**	**249**	*e*P	P	16 48 58.9	+0.5
APC				*e*S	S	16 49 57.2	-1.8
APC				Smax			
	10.0nm,1.1s						
MIPR	**Malaya Ipel'ka**	**5.83**	**245**	*e*P	P	16 49 05.8	-0.1

WEL 04 16:54:16.4±0.1, 40.07S×175.05E, h12km, ML3.5/32, 5C, Error ellipse: s-maj=1.2km s-min=0.5km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAZ	**Wanganui**	**0.32**	**351**	⇑P*	Pb	16 54 23.5	0.0
WAZ				S*	Sb	16 54 27.8	-0.5
TSZ	**Takapari Road**	**0.70**	**89**	P*	Pb	16 54 29.6	-0.3
TSZ				S*	Sb	16 54 39.1	-0.1
MRZ	**Mangatainoka R**	**0.71**	**146**	⇑P*	Pb	16 54 30.5	+0.3
MRZ				S*	Sb	16 54 40.0	+0.2
MRZ				S*	Sb	16 54 40.2	+0.4
MTVZ	**Mangateitei**	**0.76**	**25**	⇑P*	Pb	16 54 30.4	-0.6
KIW	**Kapiti Island**	**0.80**	**188**	⇑P*	Pb	16 54 30.5	-1.2
PKVZ	**Pokaka**	**0.81**	**16**	⇑P*	Pb	16 54 31.1	-0.8
WNVZ	**Wahianoa**	**0.85**	**30**	P*	Pb	16 54 32.1	-0.6
MOVZ	**Moawhango**	**0.85**	**39**	P*	Pb	16 54 31.7	-0.9
TRVZ	**Turoa**	**0.86**	**26**	P*	Pb	16 54 32.1	-0.7
DRZ	**Dome Shelter**	**0.89**	**27**	P*	Pb	16 54 32.7	-0.6
FWVZ	**Far West T-bar**	**0.90**	**25**	P*	Pb	16 54 32.7	-0.8
TUVZ	**Tukino**	**0.93**	**30**	P*	Pb	16 54 33.4	-0.5
RAEZ	**Rainy Point**	**0.93**	**327**	P*	Pb	16 54 34.4	+0.3
WPVZ	**Whakapapa**	**0.95**	**24**	P*	Pb	16 54 33.5	-0.7
CNZ	**Chateau**	**0.95**	**24**	P*	Pb	16 54 33.6	-0.8
VRZ	**Vera Road**	**0.97**	**346**	P*	Pb	16 54 34.2	-0.4
NGZ	**Ngauruhoe**	**0.99**	**25**	P*	Pb	16 54 34.2	-0.8
OTVZ	**Oturere**	**1.02**	**28**	P*	Pb	16 54 34.9	-0.6
CAW	**Cannon Point**	**1.03**	**179**	P*	Pb	16 54 35.2	-0.5
WTVZ	**West Tongariro**	**1.04**	**24**	P*	Pb	16 54 35.0	-0.8
TWVZ	**Taurewa**	**1.04**	**17**	P*	Pb	16 54 34.7	-1.2
DFE	**Dawson Falls**	**1.04**	**315**	P*	Pb	16 54 35.9	0.0
KRVZ	**Karewarewa**	**1.08**	**25**	P*	Pb	16 54 35.6	-0.8
NEZ	**North Egmont**	**1.09**	**317**	P*	Pb	16 54 36.6	-0.1
BFZ	**Birch Farm**	**1.10**	**124**	P*	Pb	16 54 36.9	+0.1
DUWZ	**D'Urville Isla**	**1.13**	**229**	P*	Pb	16 54 35.7	-1.6
NRZ	**Ngariki Road**	**1.13**	**310**	P*	Pb	16 54 37.3	-0.1
MTW	**Mount Morrison**	**1.14**	**163**	P*	Pb	16 54 37.6	+0.1
MRW	**Makara Radio**	**1.19**	**193**	P*	Pb	16 54 37.2	-1.1
KATZ	**Kakaramea**	**1.20**	**25**	P*	Pb	16 54 37.9	-0.7
PKE	**Pukeiti**	**1.20**	**316**	P*	Pb	16 54 38.4	-0.2
NWEZ	**Newall Road**	**1.21**	**311**	P*	Pb	16 54 38.1	-0.7
WEL	**Wellington**	**1.23**	**190**	P*	Pb	16 54 38.2	-0.9
RITZ	**Rihia Road**	**1.26**	**30**	P*	Pb	16 54 39.1	-0.5
SNZO	**South Karori**	**1.26**	**192**	P*	Pb	16 54 38.6	-1.1
TCW	**Tory Channel**	**1.28**	**207**	PN	Pn	16 54 38.3	-1.9
RATZ	**Rangitukua**	**1.32**	**25**	*e*PN	Pn	16 54 36.0	-4.8
PAWZ	**Paruwai Farm**	**1.34**	**168**	PN	Pn	16 54 40.2	-0.7
BHW	**Baring Head**	**1.34**	**186**	PN	Pn	16 54 40.2	-0.8
MSWZ	**Moikau Station**	**1.35**	**174**	PN	Pn	16 54 40.5	-0.6
PWZ	**Pawanui**	**1.39**	**89**	PN	Pn	16 54 41.6	-0.1
TRWZ	**Traveller**	**1.41**	**160**	PN	Pn	16 54 42.1	+0.1
HATZ	**Hinemaiaia**	**1.43**	**35**	PN	Pn	16 54 41.9	-0.3
BKZ	**Black Stump Fm**	**1.43**	**51**	PN	Pn	16 54 42.1	-0.2
HIZ	**Hauiti**	**1.56**	**354**	PN	Pn	16 54 43.3	-0.9
TUWZ	**Tuamarina**	**1.60**	**212**	PN	Pn	16 54 43.1	-1.6
NNZ	**Nelson**	**1.71**	**228**	PN	Pn	16 54 45.2	-1.1
BSWZ	**Blackbirch Sta**	**1.87**	**208**	PN	Pn	16 54 48.1	-0.5
QRZ	**Quartz Range**	**2.07**	**248**	PN	Pn	16 54 49.8	-1.6
UTU	**Utuhina**	**2.09**	**25**	PN	Pn	16 54 54.8	+3.1
TAZ	**Tarawera**	**2.16**	**32**	PN	Pn	16 54 50.5	-2.1
THZ	**Tophouse**	**2.35**	**223**	PN	Pn	16 54 54.4	-1.0
TOZ	**Tahuroa Road**	**2.37**	**9**	PN	Pn	16 54 56.7	+1.0
URZ	**Urewera**	**2.42**	**42**	PN	Pn	16 54 54.9	-1.5
TGRZ	**Tauranga**	**2.52**	**22**	PN	Pn	16 54 59.8	+1.9
MWZ	**Matawai**	**2.59**	**49**	PN	Pn	16 54 58.3	-0.6
KHZ	**Kahutara**	**2.61**	**205**	PN	Pn	16 54 57.4	-1.7
DSZ	**Denniston Nort**	**2.98**	**235**	PN	Pn	16 55 02.8	-1.6
KUZ	**Kuaotunu**	**3.36**	**9**	PN	Pn	16 55 09.1	-0.7
LTZ	**Lake Taylor**	**3.42**	**217**	PN	Pn	16 55 08.2	-2.6
CRLZ	**Canterbury Las**	**3.94**	**207**	PN	Pn	16 55 14.1	-4.0
MQZ	**McQueen's Vall**	**4.05**	**205**	PN	Pn	16 55 14.8	-4.8
WCZ	**Waipu Caves**	**4.16**	**352**	PN	Pn	16 55 20.3	-0.9
ODZ	**Otahua Downs**	**5.94**	**212**	PN	Pn	16 55 41.0	-5.4

*NEIC **04** 16:57:51.4, 65.36N×142.63W, h1km, ML3.3(AEIC), After AEIC.*
PGC 04 16:57:38.3, 65.57N×140.21W, h5km, ML3.9/2, North of Ogilvie Mountains, Yukon Territory, Northern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOT	**Dot Lake**	**2.55**	**222**	P	Pn	16 58 23.9	+2.9
DOT				S	Sn	16 58 48.5	-4.2
BM3	**Burnt Mountain**	**2.56**	**318**	P	Pn	16 58 28.9	+7.8
IL1	**Eielson Array**	**2.93**	**257**	P	Pn	16 58 25.4	-1.0
COLA	**College**	**3.29**	**261**	P	Pn	16 58 30.8	-0.8
CCB	**Clear Creek Bu**	**3.34**	**257**	P	Pn	16 58 30.9	-1.5
WRH	**Wood River Hil**	**3.52**	**255**	P	Pn	16 58 33.5	-1.3
INK	**Inuvik**	**3.80**	**41**	Pn	Pn	16 58 36.6	-2.3
INK				Sn	Sn	16 59 19.4	-5.1
INK				Sg	Sg	16 59 37.1	-7.8
INK				Trac		16 59 44.4	
	comp=Z,104nm,0.6s						
MCK	**McKinley**	**4.18**	**248**	P	Pn	16 58 43.0	-1.2
COLD	**Coldfoot**	**4.35**	**297**	P	Pn	16 58 46.7	+0.2
HYT	**Haines Junctio**	**4.92**	**164**	Pn	Pn	16 58 51.6	-3.1
HYT				Pg	Pg	16 59 06.1	-10
HYT				Sg	Sg	17 00 07.9	-14
HYT				Trac		17 00 17.5	
	comp=Z,36nm,0.3s						
KTH	**Kantishna Hill**	**5.04**	**251**	P	Pn	16 58 54.6	-1.8
DIV	**Divide**	**5.11**	**212**	P	Pn	16 58 59.8	+2.4
SML	**Sawmill**	**5.23**	**227**	P	Pn	16 58 58.7	-0.3
WHY	**Whitehorse**	**5.49**	**151**	Pn	Pn	16 58 59.4	-3.3
WHY				Sg	Sg	17 00 27.4	-14
WHY				Trac		17 00 40.5	
	comp=Z,17nm,0.4s						
IMA	**Indian Mountai**	**5.56**	**281**	P	Pn	16 59 01.7	-2.1
DLBC	**Dease Lake**	**8.60**	**142**	Pn	P	16 59 42.5	-3.9
DLBC				Sg	Sg	17 02 05.4	-19
DLBC				Trac		17 02 10.8	
	comp=Z,10.0nm,0.6s						
FNBB	**Fort Nelson**	**10.42**	**122**	Pn	P	17 00 07.4	-3.9
FNBB				Sg	S	17 03 02.5	+53
FNBB				Trac		17 03 13.3	
	comp=Z,8.0nm,0.9s						
YKW3	**Yellowknife Ar**	**11.56**	**93**	Pn	P	17 00 20.1	-6.8
YKW3				P		17 00 20.2	
YKW3				Sn	S	17 02 17.6	-20
YKW3				Sn	S	17 02 18.6	-19
YKW3				Trac		17 03 10.2	
	comp=Z,5.0nm,0.5s						
YKW3				Trac		17 03 10.2	
	comp=Z,5.0nm,0.5s						

*I

*NEIC **04** 17:28:28.6, 58.88N×154.39W, h117km, mb4.0/1, After AEIC.*
*IDC **04** 17:28:32.8±6.7, 59.40N×154.26W, h156km±61km, mb3.4/2, mb1 3.8/6, mb1mx3.4/21, mbtmp4.1/6, Error ellipse: s-maj=57.1km s-min=25.8km az=28.0*
ISC 04 17:28:26.0±0.3, 58.91N±0.04×154.42W±0.07, h133km±3km, n74, σ0§84/79, mb3.7/2, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCNL	**McNeil River**	**0.28**	**9**	P	**P**	**17 28 44.6**	**+0.2**
KAPH	**Katmai Pasha**	**0.32**	**173**	P	**P**	**17 28 44.6**	**0.0**
KAPH				S	**S**	**17 28 57.7**	**-1.2**
KAHC	**Katmai Hardscr**	**0.40**	**229**	P	**P**	**17 28 44.9**	**-0.1**
KAWH	**Katmai**	**0.57**	**201**	P	**P**	**17 28 45.8**	**-0.1**
KAWH				S	**S**	**17 28 59.7**	**-1.4**
AUI	**Augustine Isla**	**0.67**	**50**	P	**P**	**17 28 47.1**	**+0.5**
AUI				S	**S**	**17 29 01.8**	**-0.5**
AGU	**Augustine-Summ**	**0.68**	**48**	P	**P**	**17 28 47.5**	**+0.8**
AUL	**Augustine Lava**	**0.69**	**47**	P	**P**	**17 28 47.5**	**+0.7**
ACHA	**Angle Creek He**	**0.85**	**214**	P	**P**	**17 28 48.1**	**+0.2**
OPT	**Oil Point**	**0.96**	**39**	P	**P**	**17 28 50.0**	**+1.1**
CAHL	**Cahill**	**0.98**	**209**	P	**P**	**17 28 49.5**	**+0.3**
KJL	**Kejulik**	**1.05**	**216**	P	**P**	**17 28 50.3**	**+0.4**
ILW	**Iliamna West**	**1.32**	**29**	P	**P**	**17 28 53.4**	**+0.6**
ILIM	**Iliamna**	**1.39**	**32**	P	**P**	**17 28 54.4**	**+0.9**
KDAK	**Kodiak Island**	**1.49**	**139**	P	**P**	**17 28 54.1**	**-0.4**
XLV	**Seldovia**	**1.49**	**67**	P	**P**	**17 28 55.5**	**+0.9**
RSO	**Redoubt South**	**1.77**	**28**	*eP*	**P**	**17 28 58.6**	**+0.9**
RDT	**Redoubt**	**1.95**	**31**	P	**P**	**17 29 00.9**	**+1.0**
BRLK	**Bradley Lake**	**2.00**	**63**	P	**P**	**17 29 00.5**	**0.0**
SVW2	**Sparrevohn**	**2.27**	**346**	P	**P**	**17 29 04.6**	**+0.6**
CKL	**Chakachamna La**	**2.52**	**24**	P	**P**	**17 29 08.0**	**+0.8**
SPU	**Mount Spurr**	**2.57**	**27**	*eP*	**P**	**17 29 08.2**	**+0.3**
SLKM	**Skilak Lake**	**2.66**	**51**	*eP*	**P**	**17 29 09.5**	**+0.4**
SEW	**Seward**	**2.80**	**63**	P	**P**	**17 29 11.5**	**+0.6**
VOGL	**Vogel Lake**	**2.90**	**42**	P	**P**	**17 29 13.9**	**+1.7**
FIB	**Fire Island**	**3.11**	**41**	P	**P**	**17 29 15.6**	**+0.7**
RC01	**Rabbit Creek A**	**3.21**	**45**	P	**P**	**17 29 16.1**	**-0.1**
CHGN	**Chignik**	**3.39**	**221**	*eP*	**P**	**17 29 18.2**	**-0.4**
PMR	**Palmer**	**3.76**	**42**	P	**P**	**17 29 22.5**	**-1.1**
GHO	**Glory Hole Cre**	**3.96**	**41**	P	**P**	**17 29 25.2**	**-1.0**
TT01	**Tatalina**	**4.08**	**350**	P	**P**	**17 29 28.5**	**+0.6**
TTA	**Tatalina**	**4.11**	**350**	*eP*	**P**	**17 29 28.6**	**+0.4**
GLI	**Glacier Island**	**4.18**	**59**	P	**P**	**17 29 28.4**	**-0.9**
SML	**Sawmill**	**4.19**	**44**	P	**P**	**17 29 28.2**	**-1.1**
FID	**Port Fidalgo**	**4.41**	**62**	P	**P**	**17 29 31.1**	**-1.2**
JPK	**Jack Peak**	**4.48**	**58**	P	**P**	**17 29 33.6**	**+0.4**
SCM	**Sheep Creek Mo**	**4.58**	**47**	P	**P**	**17 29 33.7**	**-0.8**
VLZ	**Valdez**	**4.63**	**58**	P	**P**	**17 29 35.0**	**-0.1**
EYAK	**Cordova Ski Ar**	**4.69**	**66**	P	**P**	**17 29 35.5**	**-0.5**
SDPT	**Sand Point**	**4.86**	**225**	P	**P**	**17 29 37.4**	**-0.9**
DIV	**Divide**	**4.88**	**59**	P	**P**	**17 29 38.4**	**-0.1**
KTH	**Kantishna Hill**	**4.95**	**18**	P	**P**	**17 29 39.2**	**-0.3**
KLU	**Klutina**	**4.97**	**55**	P	**P**	**17 29 39.1**	**-0.6**
BMRM	**Bremner River**	**5.35**	**63**	P	**P**	**17 29 44.6**	**-0.2**
HAG	**Hague Volcano**	**5.44**	**232**	P	**P**	**17 29 46.8**	**+0.8**
MCK	**McKinley**	**5.51**	**26**	P	**P**	**17 29 46.6**	**-0.3**
DOL	**Dolgoi Island**	**5.54**	**230**	P	**P**	**17 29 47.5**	**+0.1**
SDG	**Sourdough**	**5.67**	**46**	P	**P**	**17 29 49.6**	**+0.6**
GLB	**Gilahina Butte**	**5.87**	**60**	P	**P**	**17 29 51.5**	**-0.3**
BALA	**Baldy Mountain**	**5.89**	**234**	P	**P**	**17 29 53.7**	**+1.6**
WAX	**Waxell Ridge**	**6.06**	**70**	P	**P**	**17 29 54.4**	**+0.1**
WRH	**Wood River Hil**	**6.34**	**26**	P	**P**	**17 29 56.4**	**-1.7**
BALM	**Baldy**	**6.42**	**66**	P	**P**	**17 29 59.4**	**0.0**
CCB	**Clear Creek Bu**	**6.55**	**26**	P	**P**	**17 29 59.2**	**-1.9**
MENT	**Mentasta**	**6.59**	**48**	*eP*	**P**	**17 30 01.7**	**+0.1**
COLA	**College**	**6.74**	**25**	P	**P**	**17 30 02.2**	**-1.4**
IL1	**Eielson Array**	**6.87**	**28**	P	**P**	**17 30 03.7**	**-1.7**
ILAR	**Eielson Array**	**6.87**	**28**	P	**P**	**17 30 03.7**	**-1.7**
	6.4nm,0.3s,baz=213,slow=13,SNR=81						
ILAR				S	**S**	**17 31 17.1**	**-5.5**
	1.5nm,0.3s,baz=202,slow=26,SNR=6.8						
CTGM	**Chitina Glacie**	**6.89**	**67**	P	**P**	**17 30 06.7**	**+1.1**
IM3	**Indian Mountai**	**7.10**	**2**	P	**P**	**17 30 08.7**	**+0.1**
WFAR	**Faris Peak**	**7.19**	**237**	P	**P**	**17 30 10.3**	**+0.6**
IMA	**Indian Mountai**	**7.19**	**2**	*eP*	**P**	**17 30 10.8**	**+1.1**
AKUT	**Akutan**	**7.89**	**238**	*eP*	**P**	**17 30 19.2**	**+0.1**
AHB	**Akutan Harbor**	**7.92**	**238**	P	**P**	**17 30 19.6**	**0.0**
AKGG	**Akutan Green G**	**7.94**	**239**	P	**P**	**17 30 19.3**	**-0.5**
UNV	**Unalaska Valle**	**8.40**	**238**	P	**P**	**17 30 24.9**	**-1.1**
DLBC	**Dease Lake**	**12.68**	**82**	P	**P**	**17 31 27.6**	**+5.3**
	1.5nm,0.3s,baz=269,slow=12,SNR=22						
DLBC				S	**S**	**17 33 42.8**	**+1.8**
	0.4nm,0.3s,baz=112,slow=19,SNR=4.6						
DLBC	**Dease Lake**	**12.68**	**82**	P	**P**	**17 31 25.9**	**+3.5**
INK	**Inuvik**	**13.15**	**36**	P	**P**	**17 31 27.8**	**-0.5**
	0.7nm,0.3s,baz=249,slow=14,SNR=17						
INK	**Inuvik**	**13.15**	**36**	*eP*	**P**	**17 31 27.5**	**-0.7**
	2.7nm,0.5s						
YKA	**Yellowknife Ar**	**19.58**	**63**	P	**P**	**17 32 45.9**	**+0.6**
	0.6nm,0.3s,baz=276,slow=10.0,SNR=13						
YKA	**Yellowknife Ar**	**19.58**	**63**	P	**P**	**17 32 45.9**	**+0.6**
SONM	**Songino Array**	**54.84**	**306**	P	**P**	**17 37 45.1**	**+1.1**
	1.4nm,0.6s,mb3.9,baz=44,slow=7.1,SNR=17						
MKAR	**Makanchi Array**	**64.82**	**321**	P	**P**	**17 38 51.2**	**-0.9**
	0.3nm,0.4s,mb3.5,baz=39,slow=7.8,SNR=3.7						
MKAR	**Makanchi Array**	**64.82**	**321**	P	**P**	**17 38 51.2**	**-1.0**

*ATH **04** 17:37:22.3, 34.79N×26.59E, h5km±2km, MD3.8/5*
*HLW **04** 17:37:22.9, 35.25N×26.36E, h25km, Mb3.4*
*IDC **04** 17:37:22.3±2.7, 34.94N×26.74E, mb3.6/5, mb1 3.9/6, mb1mx3.7/18, mbtmp3.7/6, ML3.0/1, Error ellipse: s-maj=66.8km s-min=12.8km az=1.0*
*NEIC **04** 17:37:22.3, 34.79N×26.59E, h5km, MD3.8(ATH), After ATH.*
*CSEM **04** 17:37:23.2±0.1, 34.86N×26.58E, h5km, MD3.8, Error ellipse: s-maj=2.3km s-min=1.7km az=53.0*
ISC 04 17:37:23.4±0.4, 34.83N±0.02×26.51E±0.04, h5km, n33, σ1§36/48, mb3.6/5, 1C-3D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.67**	**274**	*e*PB	**Pb**	**17 37 37.0**	**-0.2**
NPS	**Neapolis**	**0.85**	**301**	*e*PG	**Pg**	**17 37 39.7**	**-0.8**
NPS				*e*SB	**Sb**	**17 37 52.7**	**+0.9**
KARP	**Karpathos**	**0.89**	**37**	*e*PG	**Pg**	**17 37 38.9**	**-2.4**
KARP				*e*SB	**Sb**	**17 37 52.4**	**-0.7**
IDI	**Anoyia**	**1.40**	**289**	Pg	**Pg**	**17 37 50.2**	**-1.3**
	35nm,0.3s,baz=108,slow=16,SNR=125						
IDI				Lg		17 38 10.6	
	62nm,0.3s,baz=357,slow=14,SNR=8.2						
SANT	**Santorini**	**1.76**	**331**	*i* P	**Pn**	**17 37 54.4**	**-0.5**
SANT				*i* S	**Sn**	**17 38 17.2**	**-0.7**
SANT	**Santorini**	**1.76**	**331**	*e*Pn	**Pn**	**17 37 53.7**	**-1.1**
SANT	**Santorini**	**1.76**	**331**	*e*Pn	**Pn**	**17 37 53.7**	**-1.1**
ARG	**Arkhangelos**	**1.91**	**43**	*e*PN	**Pn**	**17 37 58.0**	**+1.0**
ARG				*e*SN	**Sn**	**17 38 25.1**	**+3.4**
VAM	**Vamos**	**1.98**	**288**	*e*PN	**Pn**	**17 38 01.2**	**+3.2**
VAM				*e*SN	**Sn**	**17 38 28.3**	**+4.9**
BDRM	**Kayabasi**	**2.36**	**19**	*i* P	**Pn**	**17 38 06.1**	**+2.7**
BDRM				*i* S	**Sn**	**17 38 30.9**	**-2.2**
SMG	**Samos**	**2.88**	**5**	*e*PB	**Pb**	**17 38 12.0**	**-3.1**
AKAS	**Kas**	**2.89**	**60**	*i* P	**Pn**	**17 38 09.6**	**-1.4**
AKAS				*i* S	**Sn**	**17 38 54.5**	**+8.0**
AYDN	**Tasoluk**	**3.04**	**21**	*i* P	**Pn**	**17 38 16.9**	**+3.9**
AYDN				*i* S	**Sn**	**17 38 52.3**	**+2.1**
GOLH	**Golhisar**	**3.45**	**45**	*i* P	**Pn**	**17 38 18.3**	**-0.6**
GOLH				*i* S	**Sn**	**17 39 12.2**	**+12**
SLUM		**3.50**	**198**	⇑P	**Pn**	**17 38 19.9**	**+0.2**
URLA	**Izmir**	**3.52**	**1**	*i* P	**Pn**	**17 38 18.0**	**-2.0**
URLA				*i* S	**Sn**	**17 39 12.0**	**+9.4**
HMAT	**Matruh**	**3.76**	**172**	⇓P	**Pn**	**17 38 24.6**	**+1.2**
HMAT				S	**Sn**	**17 39 09.6**	**+1.0**
MANT	**Manisa**	**4.01**	**24**	*i* P	**Pn**	**17 38 27.2**	**+0.3**
MANT				*i* S	**Sn**	**17 39 16.0**	**+1.1**
TKTP	**Tekketepe**	**4.44**	**43**	*i* P	**Pn**	**17 38 41.5**	**+8.4**
TKTP				*i* S	**Sn**	**17 39 37.8**	**+12**
SWA1		**5.59**	**187**	⇓P	**Pn**	**17 38 49.4**	**0.0**
SWA1				S	**Sn**	**17 39 52.7**	**-2.2**
SWA1		**5.59**	**187**	P	**Pn**	**17 38 49.3**	**0.0**
SWA1				S	**Sn**	**17 39 52.7**	**-2.1**
SWA2		**5.64**	**189**	P	**Pn**	**17 38 50.8**	**+0.7**
GLL	**Jalalah**	**6.84**	**138**	P	**Pn**	**17 39 06.8**	**-0.2**
SUZ		**7.31**	**131**	P	**Pn**	**17 39 13.0**	**-0.4**
HFRF	**Wahat Farafira**	**7.81**	**168**	⇓P	**Pn**	**17 39 20.3**	**-0.2**
HKAT	**Jabal Katrina**	**8.95**	**133**	P	**P**	**17 39 36.2**	**-0.2**
AKASG	**Malin Array Be**	**15.98**	**6**	Pn	**P**	**17 41 10.1**	**-0.4**
	baz=195,slow=10,SNR=3.4						
GERES	**GERESS Array B**	**16.91**	**330**	Pn	**P**	**17 41 23.5**	**+1.2**
	0.0nm,0.3s,baz=165,slow=11,SNR=1.6						
ESDC	**Sonseca Array**	**24.67**	**290**	P	**P**	**17 42 48.0**	**+1.7**
	0.2nm,0.3s,mb3.1,baz=98,slow=9.1,SNR=4.1						
ARCES	**ARCESS Array B**	**34.76**	**359**	P	**P**	**17 44 12.8**	**-3.6**
	1.8nm,0.9s,mb4.0,baz=170,slow=10,SNR=4.8						
MKAR	**Makanchi Array**	**43.03**	**56**	P	**P**	**17 45 21.7**	**-3.8**
	0.2nm,0.5s,mb3.1,baz=272,slow=8.3,SNR=2.2						
ZAL	**Zalesovo**	**44.42**	**46**	P	**P**	**17 45 31.8**	**-4.8**
	1.4nm,0.4s,mb4.1,baz=211,slow=2.1,SNR=4.0						
SONM	**Songino Array**	**58.84**	**51**	P	**P**	**17 47 20.9**	**-4.3**
	0.2nm,0.3s,mb3.6,baz=287,slow=7.5,SNR=2.8						

*IDC **04** 17:38:22.9±1.2, 52.99N×159.95E, mb4.3/20, mb1 4.5/21, mb1mx4.4/27, mbtmp4.4/21, ML4.2/1, MS3.4/6, Ms1 3.4/6, ms1mx3.0/24, Error ellipse: s-maj=37.5km s-min=12.1km az=7.0*
*MOS **04** 17:38:26.4±1.1, 52.78N×160.14E, h46km, mb4.8/22, Error ellipse: s-maj=12.2km s-min=5.5km az=96.2*
*BJI **04** 17:38:27.2, 52.97N×160.30E, h73km, mB4.7, mb4.6, Ms3.9, Msz3.6*
*KRSC **04** 17:38:27.3±1.0, 52.82N×160.24E, h29km±2km, ML4.7*
*NEIC **04** 17:38:31.5±0.5, 52.92N×159.83E, mb4.6/23, Error ellipse: s-maj=13.1km s-min=6.9km az=147.0*
ISC 04 17:38:24.8±0.3, 52.69N±0.02×160.42E±0.04, h33km, (h64km±3.8km:pP-P), n155, σ1§32/194, mb4.5/50, MS3.5/10, 3C-6D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.48**	**330**	*i* P	**P**	**17 38 35.5**	**+0.5**
SPN				*i* S	**S**	**17 38 41.5**	**-0.8**
NLC	**Nalytchevo**	**0.81**	**307**	*i* P	**P**	**17 38 40.2**	**+0.4**
NLC				*i* S	**S**	**17 38 50.1**	**-0.8**
UGLR	**Uglovaya**	**1.10**	**299**	*i* P	**P**	**17 38 45.0**	**+1.1**
UGLR				*e*S	**S**	**17 38 56.2**	**-1.9**
SDLR	**Sedlovina**	**1.10**	**303**	*i* P	**P**	**17 38 44.9**	**+0.9**
PET	**Petropavlovsk**	**1.13**	**288**	P	**P**	**17 38 45.4**	**+1.1**
PET				S	**S**	**17 38 57.9**	**-0.9**
PET	**Petropavlovsk**	**1.13**	**288**	*i* P	**P**	**17 38 45.3**	**+1.0**
PET				*e*S	**S**	**17 38 58.6**	**-0.2**
PET	**Petropavlovsk**	**1.13**	**288**	*e*Pg	**P**	**17 38 44.8**	**+0.5**
SMAR	**Somma**	**1.14**	**301**	*i* P	**P**	**17 38 45.2**	**+0.7**
SMAR				*e*S	**S**	**17 38 57.6**	**-1.5**
AVH	**Avacha**	**1.17**	**300**	*i* P	**P**	**17 38 46.1**	**+1.2**
AVH				*e*S	**S**	**17 38 59.0**	**-1.0**
RUS	**Russkaya**	**1.19**	**259**	P	**P**	**17 38 46.9**	**+1.7**
RUS				S	**S**	**17 39 01.9**	**+1.4**
RUS	**Russkaya**	**1.19**	**259**	*i* P	**P**	**17 38 46.8**	**+1.6**
RUS				*i* S	**S**	**17 39 02.1**	**+1.6**
KOK	**Koryaka**	**1.24**	**300**	*i* P	**P**	**17 38 46.9**	**+1.0**
KOK				*e*S	**S**	**17 39 01.9**	**+0.2**
KRMR	**Karymshinskiy**	**1.40**	**277**	*e*P	**P**	**17 38 49.5**	**+1.2**
KRMR				*e*S	**S**	**17 39 05.1**	**-0.7**
GRL	**Gorelyy**	**1.44**	**266**	*i* P	**P**	**17 38 51.1**	**+2.3**
GRL				*e*S	**S**	**17 39 07.9**	**+1.2**
KII	**Karymskiy**	**1.47**	**337**	P	**P**	**17 38 50.4**	**+1.1**
KII				S	**S**	**17 39 07.2**	**-0.4**
KII	**Karymskiy**	**1.47**	**337**	*i* P	**P**	**17 38 50.3**	**+1.0**
KII				*e*S	**S**	**17 39 07.6**	**0.0**
GNL	**Ganaly**	**1.80**	**305**	*i* P	**P**	**17 38 55.9**	**+1.9**
GNL				*e*S	**S**	**17 39 16.1**	**+0.2**
APC	**Apacha**	**2.00**	**278**	*i* P	**P**	**17 38 59.4**	**+2.6**
APC				*e*S	**S**	**17 39 22.4**	**+1.6**
APC				Smax			
	1μm,1.4s						
MKZ	**Mys Kozlova**	**2.03**	**22**	P	**P**	**17 38 57.4**	**+0.2**
MKZ				S	**S**	**17 39 19.5**	**-2.2**
MKZ	**Mys Kozlova**	**2.03**	**22**	*e*P	**P**	**17 38 57.5**	**+0.3**
MKZ				*e*S	**S**	**17 39 21.2**	**-0.5**
MIPR	**Malaya Ipel'ka**	**2.28**	**261**	*i* P	**P**	**17 39 03.7**	**+2.9**
PAU	**Pauzhetka**	**2.54**	**243**	*e*P	**P**	**17 39 07.8**	**+3.2**
PAU				*e*S	**S**	**17 39 36.8**	**+2.1**
PAU				Smax			
	1μm,0.7s						
TUMR	**Tumrok**	**2.61**	**357**	*i* P	**P**	**17 39 07.2**	**+1.7**
TUMR				*e*S	**S**	**17 39 36.1**	**-0.3**
KMNR	**Kamenistaya**	**3.08**	**358**	*e*P	**P**	**17 39 14.3**	**+2.1**
KMNR				*e*S	**S**	**17 39 49.7**	**+1.4**
KPT	**Kopyto**	**3.29**	**358**	*e*P	**P**	**17 39 16.7**	**+1.5**
KPT				*e*S	**S**	**17 39 51.3**	**-2.4**
ZLN	**Zelenaya**	**3.35**	**4**	*e*P	**P**	**17 39 18.3**	**+2.3**
ZLN				*e*S	**S**	**17 39 55.7**	**+0.6**
SKR	**Severo-Kuril's**	**3.35**	**235**	*e*PN	**Pn**	**17 39 15.2**	**-1.0**
SKR				*e*S	**S**	**17 39 53.4**	**-1.8**
SKR				smax			
	comp=N,210nm,0.5s						
SKR				smax			
	comp=E,400nm,0.5s						
KOZ	**Kozyrevsk**	**3.40**	**355**	P	**P**	**17 39 18.2**	**+1.5**
KOZ	**Kozyrevsk**	**3.40**	**355**	*e*P	**P**	**17 39 18.1**	**+1.4**
ESO	**Esso**	**3.40**	**343**	*e*P	**P**	**17 39 17.7**	**+0.9**
ESO				Smax			
	comp=E,200nm,0.9s						
KOZR	**Kozyr**	**3.40**	**355**	PN	**Pn**	**17 39 18.2**	**+1.2**
LGNR	**Loginova**	**3.41**	**3**	*e*P	**P**	**17 39 19.5**	**+2.6**
LGNR				*e*S	**S**	**17 39 57.5**	**+0.8**
CIRR	**Tsirk**	**3.44**	**3**	*e*P	**P**	**17 39 19.3**	**+1.9**
CIRR				*e*S	**S**	**17 39 57.3**	**-0.3**
ALID	**Alaid**	**3.53**	**241**	*e*P	**P**	**17 39 22.1**	**+3.4**
ALID				*e*S	**S**	**17 40 02.0**	**+2.2**
KRSR	**Krestovskiy**	**3.54**	**1**	*e*P	**P**	**17 39 20.2**	**+1.4**
KRSR				*e*S	**S**	**17 39 58.1**	**-2.0**
KLY	**Klyuchi**	**3.64**	**2**	P	**P**	**17 39 22.0**	**+1.8**
KLY				S	**S**	**17 40 01.6**	**-0.9**
KLY	**Klyuchi**	**3.64**	**2**	*i* P	**P**	**17 39 22.0**	**+1.8**
KLY				*e*S	**S**	**17 40 02.3**	**-0.2**
SRDR	**Sredinnyy**	**3.66**	**354**	*e*P	**P**	**17 39 21.3**	**+0.8**
KBTR	**Krutoberegovo**	**3.80**	**21**	P	**P**	**17 39 24.4**	**+2.0**
KBTR				S	**S**	**17 40 06.7**	**+0.1**
KBTR	**Krutoberegovo**	**3.80**	**21**	*e*P	**P**	**17 39 24.4**	**+2.0**
KBTR				*e*S	**S**	**17 40 05.3**	**-1.3**
BKI	**Bering**	**4.14**	**50**	*i* P	**P**	**17 39 27.9**	**+0.6**
BKI				*e*S	**S**	**17 40 10.8**	**-4.4**
BKI				Smax			
	comp=E,110nm,0.6s						
FX1	**Attu Island--F**	**7.73**	**83**	Pn	**Pn**	**17 40 19.1**	**+1.1**
	comp=E,11nm,0.3s,baz=286,slow=1.8,SNR=32						
FX1				Sn	**Sn**	**17 41 40.7**	**-4.6**
	comp=E,19nm,0.3s,baz=103,slow=20,SNR=8.6						
MA2	**Magadan**	**8.75**	**326**	*i* PN	**P**	**17 40 31.5**	**-0.5**
YAK	**Yakutsk**	**18.86**	**312**	P	**P**	**17 42 40.1**	**-4.2**
	comp=E,23nm,0.8s						
YAK	**Yakutsk**	**18.86**	**312**	*e*P	**P**	**17 42 40.6**	**-3.7**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.0s						
MDJ	**Mudanjiang**	**21.78**	**261**	P	**P**	**17 43 13.2**	**-2.1**
MDJ				AP		17 43 26.1	
MDJ				S	**S**	**17 47 04.6**	**-4.6**
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.1						
MDJ				AMB	AMB		
	comp=Z,46nm,4.3s						
MDJ				LR	LR		
	comp=N,25nm,21.2s						
MDJ				LR	LR		
	comp=E,70nm,15.3s						
MDJ				LR	LR		
	comp=Z,70nm,16.6s,MS3.1						
MAJO	**Matsushiro**	**22.45**	**233**	*e*P	**P**	**17 43 23.4**	**+1.3**
	comp=Z,12nm,0.7s,mb4.4						
MAJO	**Matsushiro**	**22.45**	**233**	*e*P	**P**	**17 43 23.4**	**+1.3**
MAJO				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.4						
MAT	**Matsushiro**	**22.45**	**233**	P	**P**	**17 43 23.8**	**+1.7**
MAT	**Matsushiro**	**22.45**	**233**	*e*P	**P**	**17 43 24.0**	**+1.9**
	comp=Z,11nm,1.0s,mb4.2						
MAT	**Matsushiro**	**22.45**	**233**	*e*P	**P**	**17 43 24.0**	**+1.9**
MAT				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.2						
CN2	**Changchun**	**24.72**	**263**	*e*P	**P**	**17 43 43.9**	**-0.1**
HIA	**Hailar**	**25.60**	**279**	*e*P	**P**	**17 43 49.8**	**-2.5**
	comp=Z,10nm,0.8s,mb4.4						
HIA	**Hailar**	**25.60**	**279**	*e*P	**P**	**17 43 49.8**	**-2.5**
HIA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
BOD	**Bodaibo**	**26.52**	**300**	*e*P	**P**	**17 43 56.3**	**-4.5**
KS15	**Wonju Array Si**	**27.28**	**249**	P	**P**	**17 44 07.5**	**-0.5**
ILAR	**Eielson Array**	**28.96**	**45**	P	**P**	**17 44 18.5**	**-4.3**
	comp=Z,0.3nm,0.7s,baz=277,slow=15,SNR=3.4						
ILAR				LR	LR	17 56 23.2	
	comp=Z,33nm,19.5s,MS3.0,baz=2.8,slow=37						
INK	**Inuvik**	**34.07**	**37**	P	**P**	**17 45 07.7**	**0.0**
	comp=Z,1.0nm,0.6s,mb4.0,baz=325,slow=4.8,SNR=5.3						
SONM	**Songino Array**	**34.19**	**284**	P	**P**	**17 45 07.4**	**-1.5**
	comp=Z,1.1nm,0.6s,mb4.0,baz=62,slow=7.6,SNR=11						
SONM				PcP	PcP	17 47 45.4	-0.1
	comp=Z,1.3nm,0.6s,baz=65,slow=1.3,SNR=9.9						
SONM				LR	LR	18 00 08.6	
	comp=Z,91nm,18.7s,MS3.5,baz=235,slow=39						
HHC	**Hu-ho-hao-te**	**34.84**	**270**	*e*P	**P**	**17 45 13.8**	**-0.7**
HHC				AP	pP	17 45 29.3	+5.1
HHC				XP	sP	17 45 36.4	+7.9
HHC				PP	PP	17 46 32.9	+0.4
HHC				S	**S**	**17 50 34.9**	**-7.4**
HHC				XS		17 51 05.9	
HHC				SS	SS	17 52 53.1	-3.8
HHC				AMB	AMB		
	comp=Z,18nm,0.4s,mb5.3						
HHC				AMB	AMB		
	comp=Z,155nm,5.6s						
NJ2	**Nanjing**	**36.32**	**252**	*e*P	**P**	**17 45 25.3**	**-1.8**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
LZH	**Lanzhou**	**42.54**	**270**	*e*P	**P**	**17 46 11.2**	**-7.5**
	comp=Z,21nm,1.5s,mb4.7						
LZH				pP	pP	17 46 27.0	-1.5
LZH				sP	sP	17 46 34.2	+1.5
LZH				*e*PP	PP	17 47 52.5	-7.4
LZH				LR	LR		
	comp=Z,280nm,17.5s,MS4.2						
ZAL	**Zalesovo**	**43.18**	**303**	LR	LR	18 05 50.8	
	comp=Z,72nm,21.9s,MS3.5,baz=55,slow=38						
YKA	**Yellowknife Ar**	**43.33**	**42**	LR	LR	18 05 51.9	
	comp=Z,23nm,19.7s,MS3.1,slow=38						
NVS	**Novosibirsk**	**43.51**	**305**	*e*P	**P**	**17 46 22.6**	**-3.7**
RES	**Resolute Bay**	**43.63**	**22**	P	**P**	**17 46 27.6**	**+0.6**
	comp=Z,14nm,0.9s,mb4.7						
RES	**Resolute Bay**	**43.63**	**22**	P	**P**	**17 46 27.7**	**+0.7**
RES				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.7						
CD2	**Chengdu**	**46.13**	**265**	P	**P**	**17 46 48.0**	**+0.4**
WMQ	**Urumqi**	**47.30**	**290**	*e*P	**P**	**17 46 56.0**	**-0.6**
WMQ				AP	pP	17 47 12.0	+5.5
WMQ				XP	sP	17 47 19.0	+8.4
WMQ				PP	PP	17 48 46.0	-1.1
WMQ				S	**S**	**17 53 40.0**	**-6.9**
WMQ				SS	SS	17 56 59.0	-8.8
WMQ				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,104nm,6.0s						
WMQ				LR	LR		
	comp=N,47nm,16.0s,MS3.7						
WMQ				LR	LR		
	comp=E,44nm,17.0s,MS3.7						
WMQ				LR	LR		
	comp=Z,42nm,16.0s,MS3.5						
MKAR	**Makanchi Array**	**48.51**	**296**	P	**P**	**17 47 02.9**	**-3.2**
	comp=Z,2.0nm,0.4s,mb4.5,baz=55,slow=6.5,SNR=22						
MKAR				LR	LR	18 07 39.6	
	comp=Z,47nm,18.1s,MS3.5,baz=18,slow=36						
MKAR	**Makanchi Array**	**48.51**	**296**	*i* P	**P**	**17 47 02.9**	**-3.1**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
BVAR	**Borovoye Array**	**50.80**	**309**	P	**P**	**17 47 20.2**	**-3.3**
	comp=Z,1.8nm,0.5s,mb4.3,baz=62,slow=7.3,SNR=18						
BVAR				PcP	PcP	17 48 38.7	-1.6
	comp=Z,0.5nm,0.7s,baz=72,slow=4.6,SNR=2.6						
BRVK	**Borovoye**	**50.83**	**309**	*e*P	**P**	**17

GNI	Garni	72.10	313	P	P	17 49 47.3	0.0
	comp=Z,2.4nm,0.4s,mb4.5,baz=72,slow=9.6,SNR=2.6						
STHS	Stebnicka Huta	72.55	333	*i* P	P	17 49 50.2	+0.6
KOLS	Kolonicke sedl	72.70	333	*i* P	P	17 49 50.5	0.0
CLL	Collm	72.81	339	⇓P	P	17 49 50.8	-0.3
	comp=Z,logA/T=1.1,mb4.8						
CLL				*e**SP	sP	17 50 15.0	+10
CLL	Collm	72.81	339	⇓*i*P	P	17 49 50.8	-0.3
	comp=Z,10.0nm,0.8s,mb4.8						
CLL				*es*P	sP	17 50 15.0	+10
CLL	Collm	72.81	339	⇓*i*P	P	17 49 50.8	-0.3
CLL				*e**SP	sP	17 50 15.0	+10
CLL				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
KECS	Kecovo	73.61	333	*e*P	P	17 49 55.4	-0.5
MOX	Moxa	73.73	340	*e*P	P	17 49 58.0	+1.5
VRAC	Vranov	73.85	336	P	P	17 49 57.8	+0.5
	comp=Z,4.4nm,0.7s,mb4.5,baz=79,slow=3.0,SNR=5.8						
MLR	Muntele Rosu	74.70	329	P	P	17 50 02.6	+0.4
	comp=Z,5.9nm,0.6s,mb4.7,baz=270,slow=3.0,SNR=14						
MLR	Muntele Rosu	74.70	329	⇓P	P	17 50 03.0	+0.7
GRA1	Grafenberg Arr	74.71	340	*e*P	P	17 50 02.5	+0.3
	comp=Z,10.0nm,0.8s,mb4.8						
GRF	Grafenberg Arr	74.71	340	*e*P	P	17 50 02.5	+0.3
	comp=Z,10.0nm,0.8s,mb4.8						
GRF	Grafenberg Arr	74.71	340	*e*P	P	17 50 02.5	+0.3
GRF				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
GRF	Grafenberg Arr	74.71	340	*e*P	P	17 50 02.5	+0.3
GRF				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
KHC	Kasperske Hory	74.73	338	*e*P	P	17 50 03.0	+0.7
TIRR	Tirgusor	74.81	327	⇑P	P	17 50 02.0	-0.9
TIRR	Tirgusor	74.81	327	⇑P	P	17 50 02.0	-0.9
GERES	GERESS Array B	74.97	338	P	P	17 50 03.8	+0.1
	comp=Z,1.6nm,0.6s,mb4.1,baz=34,slow=4.8,SNR=9.7						
GERES				LR	LR	18 26 45.1	
	comp=Z,37nm,18.3s,MS3.7,baz=159,slow=39						
VOIR		75.03	329	⇓P	P	17 50 04.5	+0.3
VOIR		75.03	329	⇓P	P	17 50 04.5	+0.4
GIVF	Givet	75.53	344	*e*P	P	17 50 06.3	-0.6
BAIF	Baives	75.67	344	*e*P	P	17 50 07.3	-0.4
CDF	Champ du Feu	76.72	342	*e*P	P	17 50 12.9	-0.8
	comp=Z,11nm,0.8s,mb4.5						
CDF	Champ du Feu	76.72	342	*e*P	P	17 50 12.9	-0.8
CDF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
BR131	Keskin Array S	77.06	321	*e*P	P	17 50 15.0	-0.9
	comp=Z,1.7nm,0.5s,mb4.2						
BRTR	Keskin Array B	77.06	321	P	P	17 50 15.5	-0.4
	comp=Z,2.6nm,0.6s,mb4.3,baz=47,slow=3.2,SNR=12						
HAU	Haudompre	77.28	342	*e*P	P	17 50 16.5	-0.4
DAVOX	Davos	77.76	340	P	P	17 50 20.3	+0.7
	comp=Z,3.2nm,0.6s,mb4.4,baz=20,slow=12,SNR=4.9						
LOR	Lormes	78.43	344	*e*P	P	17 50 22.7	-0.5
	comp=Z,11nm,0.9s,mb4.5						
LOR	Lormes	78.43	344	*e*P	P	17 50 22.7	-0.5
LOR				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
SSF	Saint Saulge	78.69	344	*e*P	P	17 50 24.1	-0.6
QUIF	Quistinic	78.80	349	*e*P	P	17 50 24.4	-0.9
	comp=Z,31nm,1.2s,mb4.8						
QUIF	Quistinic	78.80	349	*e*P	P	17 50 24.4	-0.9
QUIF				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.8						
AVF	Avril sur Loir	78.98	344	*e*P	P	17 50 25.6	-0.7
	comp=Z,12nm,1.0s,mb4.5						
AVF	Avril sur Loir	78.98	344	*e*P	P	17 50 25.6	-0.7
AVF				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
SMF	Signal de Mont	79.04	344	*e*P	P	17 50 26.2	-0.4
LPL	La Plagne	79.61	342	*e*P	P	17 50 29.6	-0.1
	comp=Z,15nm,0.9s,mb4.6						
LPL	La Plagne	79.61	342	*e*P	P	17 50 29.6	-0.1
LPL				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
LPG	La Plagne	79.62	342	*e*P	P	17 50 29.8	0.0
	comp=Z,4.5nm,0.5s,mb4.3						
LPG	La Plagne	79.62	342	*e*P	P	17 50 29.8	0.0
LPG				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
TCF	Toulx Ste Croi	79.66	345	*e*P	P	17 50 29.7	-0.2
ORIF	Oris-en-Rattie	80.34	342	*e*P	P	17 50 33.3	-0.3
	comp=Z,15nm,1.0s,mb4.6						
ORIF	Oris-en-Rattie	80.34	342	*e*P	P	17 50 33.3	-0.3
ORIF				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
VIVF	Saint-Julien-l	80.63	343	*e*P	P	17 50 34.9	-0.2
ASF	Jabal al Asfar	82.23	314	P	P	17 50 43.8	0.0
	comp=Z,7.1nm,0.8s,mb4.7,baz=125,slow=2.0,SNR=11						
MTLF	Montolieu	82.52	344	*e*P	P	17 50 44.7	-0.3
SJPF	Ste Jean	83.27	347	*e*P	P	17 50 48.9	0.0
ETSF	Etsaut	83.39	346	*e*P	P	17 50 49.6	+0.2

NEIC ***04*** *17:56:19.0, 35.08N×22.28E, h5km, MD3.6(ATH), After ATH.*
CSEM ***04*** *17:56:19.0, 35.08N×22.28E, h5km, MD3.6/3, After ATH*

ATH 04 17:56:37.6, 34.64N×23.71E, h32km, MD3.4/3, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAM	Vamos	0.86	28	*e*PN	Pn	17 56 54.5	+0.9
VAM				*e*SN	Sn	17 57 06.9	+1.7
XRY	Khrisi	1.65	81	*e*PB	Pb	17 57 06.0	-1.3
NPS	Neapolis	1.68	68	*e*Pn	Pn	17 57 06.3	+1.0
NPS				*e*Sg	Sn	17 58 26.3	+60
KARP	Karpathos	2.97	71	*e*PN	Pn	17 57 25.6	+1.9

IDC ***04*** *18:36:54.6±2.0, 43.27N×126.24W, mb3.5/4, mb1 3.9/10, mb1mx3.7/26, mbtmp3.7/10, ML3.7/5, MS4.0/15, Ms1 4.0/15, ms1mx3.8/24, Error ellipse: s-maj=32.3km s-min=12.0km az=52.0*
BJI ***04*** *18:36:55.6, 43.20N×126.30W, h10km, mB5.0, mb5.1, Ms4.5, Msz4.0*
NEIC ***04*** *18:36:55.6±0.6, 43.19N×126.32W, h10km, mb4.7/7, MS4.4/2, Error ellipse: s-maj=7.5km s-min=4.1km az=77.0*

ISC 04 18:36:55.7±0.5, 43.21N±0.03×126.13W±0.05, h10km, (h13km±2.5km:pP-P), n105, σ1§23/102, mb4.9/8, MS4.0/11, 2C, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	Edson Butte	1.36	104	*e*P	Pn	18 37 20.7	-0.2
KBO	Bosley Butte	1.72	125	*e*P	Pn	18 37 24.9	-1.2
RNO	Roman Nose	1.87	67	P	Pn	18 37 28.9	+0.6
DBO	Dodson Butte	2.12	92	P	Pn	18 37 32.5	+0.8
HSO	Harness Mounta	2.24	81	P	Pn	18 37 34.0	+0.6
MPOR	Mary's Peak	2.27	54	P	Pn	18 37 33.7	-0.2
KRMB	Red Mountain	2.36	135	*e*P	Pn	18 37 33.1	-2.0
HUMO	Hull Mountain	2.41	103	*e*P	Pn	18 37 35.8	-0.1
KTRM	Thompson Ridge	2.42	122	P	Pn	18 37 35.6	-0.4
COR	Corvallis	2.46	55	*e*P	Pn	18 37 36.2	-0.4
BBOR	Butler Butte	2.55	96	P	Pn	18 37 38.9	+1.0
HBO	Huckleberry Mo	2.84	76	P	Pn	18 37 43.6	+1.5
BROR	Big Rock Looko	2.87	67	P	Pn	18 37 43.4	+1.0
IRO	Indian Ridge	2.93	73	P	Pn	18 37 44.4	+1.2
YBH	Yreka Blue Hor	2.93	119	Pn	Pn	18 37 43.9	+0.5
	4.4nm,0.3s,baz=312,slow=12,SNR=21						
YBH				Sn	Sn	18 38 20.4	+1.5
	9.0nm,0.3s,baz=136,slow=15,SNR=16						
YBH				LR	LR	18 39 10.9	
	comp=Z,1μm,21.6s,baz=297,slow=45						
YBH	Yreka Blue Hor	2.93	119	*e*P	Pn	18 37 43.9	+0.6
KHMM	Horse Mountain	2.94	142	*e*P	Pn	18 37 42.7	-0.8
BUOR	Burton Butte	3.01	107	P	Pn	18 37 46.5	+2.0
KMOR	Kings Mountain	3.08	37	P	Pn	18 37 44.1	-1.2
FRIS	Frissel Point	3.09	70	P	Pn	18 37 46.8	+1.3
SSOR	Sweet Springs	3.12	57	P	Pn	18 37 47.2	+1.2
HUOR	Husband	3.24	72	P	Pn	18 37 49.2	+1.5
WIFE	Three Sisters-	3.25	73	P	Pn	18 37 48.1	+0.3
GT2	Goat Mountain	3.39	54	P	Pn	18 37 51.1	+1.2
BKCOR	Black Crater	3.39	70	P	Pn	18 37 51.2	+1.3
NLO	Nicolai Mounta	3.46	33	P	Pn	18 37 49.8	-0.9
VLMM	Larch Mountain	3.75	50	P	Pn	18 37 55.6	+0.7
TDH	Tom, Dick, Har	3.75	55	⇑P	Pn	18 37 55.9	+0.9
WDC	Whiskeytown Da	3.75	133	*e*P	Pn	18 37 54.4	-0.6
RVW	Rose Valley	3.80	38	P	Pn	18 37 55.3	-0.4
LVP	Lakeview Peak	3.90	42	P	Pn	18 37 57.3	+0.2
VFP	Flag Point	3.96	56	P	Pn	18 37 59.4	+1.5
FL2	Flat Top 2	4.02	41	P	Pn	18 37 59.0	+0.2
JLK	June Lake	4.08	43	P	Pn	18 37 59.8	+0.1
ERK	Elk Rock	4.11	40	P	Pn	18 37 59.9	-0.1
CROR	Criterion Ridg	4.11	63	P	Pn	18 38 01.4	+1.4
STD	Studebaker Rid	4.11	41	P	Pn	18 38 00.5	+0.4
VIPM	Ingram Point	4.19	70	P	Pn	18 38 02.0	+0.7
TDL	Tradedollar La	4.20	40	P	Pn	18 38 01.3	-0.1
KOSW	Kosmos	4.29	39	⇑P	Pn	18 38 02.8	+0.1
ASR	Mount Adams--S	4.37	46	P	Pn	18 38 04.3	+0.5
VTHM	Trough	4.46	62	P	Pn	18 38 06.6	+1.5
MOD	Modoc	4.50	105	P	Pn	18 38 03.0	-2.6
RVC	Mount Rainier-	4.75	37	P	Pn	18 38 09.0	-0.2
WPW	White Pass	4.77	41	P	Pn	18 38 09.3	-0.1
HOPS	Hopland	4.81	150	*e*P	Pn	18 38 10.5	+0.5
FMW	Mount Fremont	4.88	39	P	Pn	18 38 10.8	-0.2
BEKR	Beckwourth	5.47	126	P	Pn	18 38 17.9	-1.4
WVOR	Wild Horse Val	5.57	95	*e*P	Pn	18 38 19.3	-1.4
HAWA	Hanford	5.67	54	*e*P	Pn	18 38 21.4	-0.8
BMO	Blue Mountains	6.57	73	*e*P	Pn	18 38 34.3	-0.6
CMB	Columbia Colle	6.77	138	*e*P	Pn	18 38 38.4	+0.8
NEW	Newport	8.07	48	Pn	P	18 38 55.6	-0.3
	0.3nm,0.3s,baz=219,slow=11,SNR=5.2						
NEW				LR	LR	18 42 22.6	
	comp=Z,2μm,18.1s,baz=236,slow=40						
ELK	Elko	8.48	103	Pn	P	18 39 03.6	+2.0
	0.2nm,0.3s,baz=295,slow=14,SNR=17						
ELK				LR	LR	18 42 54.8	
	comp=Z,329nm,20.0s,baz=281,slow=42						
ELK	Elko	8.48	103	P	P	18 39 00.1	-1.4
BBB	Bella Bella	9.08	352	Pn	P	18 39 07.0	-2.8
	0.2nm,0.3s,baz=190,slow=15,SNR=2.9						
BBB				LR	LR	18 41 57.7	
	comp=Z,1μm,20.7s,baz=183,slow=34						
MSO	Missoula	9.36	63	*e*Pn	P	18 39 12.2	-1.6
WALA	Waterton Lakes	10.30	51	P	P	18 39 24.8	-1.8
DUG	Dugway	10.41	102	P	P	18 39 26.7	-1.3
BOZ	Bozeman (W)	10.66	72	*e*P	P	18 39 29.8	-1.6
RRI2	Red Ridge	10.80	84	P	P	18 39 32.3	-1.2
HWUT	Hardware Ranch	10.89	94	P	P	18 39 33.6	-1.1
IMW	Indian Meadow	11.05	81	P	P	18 39 35.1	-1.8
TPAW	Teton Pass	11.06	83	P	P	18 39 36.2	-0.9
YFT	Old Faithful	11.12	78	P	P	18 39 36.7	-1.2
REDW	Red Top Meadow	11.14	84	*e*P	P	18 39 37.4	-0.8
YNR	Norris Junctio	11.24	77	P	P	18 39 38.1	-1.4
LOHW	Long Hollow	11.31	83	P	P	18 39 39.3	-1.1
LKWY	Lake	11.44	78	P	P	18 39 39.9	-2.2
NEN	Nelson	11.53	127	*e*P	P	18 39 41.5	-2.0
LDFC	Landfair	11.79	130	P	P	18 39 48.5	+1.5
BW06	Boulder Array	12.15	86	P	P	18 39 50.9	-0.9
PDAR	Pinedale Array	12.15	86	Pn	P	18 39 52.8	+1.0
	0.1nm,0.3s,baz=265,slow=10.0,SNR=18						
PDAR				LR	LR	18 45 06.6	
	comp=Z,2μm,18.9s,baz=279,slow=40						
PV01	Paradox Valley	14.25	105	P	P	18 40 18.8	-0.9
DLBC	Dease Lake	15.44	352	Pn	P	18 40 36.3	+1.3
	0.1nm,0.3s,baz=204,slow=12,SNR=5.8						
DLBC				LR	LR	18 45 38.1	
	comp=Z,450nm,21.8s,baz=170,slow=34						
ISCO	Idaho Springs	15.74	96	*e*P	P	18 40 39.5	+0.5
	12nm,1.3s						
DGMT	Dagmar	16.14	63	P	P	18 40 46.6	+2.5
TUC	Tucson	16.27	127	P	P	18 40 47.5	+1.5
	1.7nm,0.8s						
SDCO	Great Sand Dun	16.61	102	*e*P	P	18 40 50.4	+0.3
	83nm,1.7s						
ANMO	Albuquerque	17.33	112	Pn	P	18 41 01.0	+1.7
	baz=304,slow=12,SNR=16						
ANMO				LR	LR	18 48 15.1	
	comp=Z,533nm,18.1s,slow=39						
ANMO	Albuquerque	17.33	112	*e*P	P	18 40 59.9	+0.6
	51nm,1.8s						
FFC	Flin Flon	19.49	45	*e*P	P	18 41 23.5	-1.9
	68nm,1.8s						
YKA	Yellowknife Ar	20.47	15	P	P	18 41 32.8	-3.1
	1.7nm,0.8s,baz=204,slow=11,SNR=2.6						
YKA				LR	LR	18 49 16.8	
	comp=Z,212nm,18.6s,MS3.5,baz=245,slow=36						
ULM	Lac du Bonnet	21.80	61	P	P	18 41 50.0	+0.5
	6.9nm,0.8s,mb4.1,baz=270,slow=7.1,SNR=3.9						
ULM				LR	LR	18 50 53.3	
	comp=Z,594nm,18.2s,MS4.0,baz=272,slow=38						
ULM	Lac du Bonnet	21.80	61	*e*P	P	18 41 49.9	+0.3
TXAR	Lajitas Array	22.71	120	P	P	18 42 00.8	+2.0
	0.9nm,0.9s,baz=297,slow=6.0,SNR=6.7						
ILAR	Eielson Array	24.57	339	P	P	18 42 13.4	-3.2
	1.3nm,0.9s,baz=151,slow=8.4,SNR=7.6						
ILAR				LR	LR	18 50 21.7	
	comp=Z,192nm,21.7s,MS3.5,baz=172,slow=33						
INK	Inuvik	25.46	354	P	P	18 42 19.4	-5.5
	1.0nm,0.7s,baz=156,slow=12,SNR=2.1						
INK				LR	LR	18 52 03.9	
	comp=Z,455nm,21.0s,MS4.0,baz=162,slow=36						
INK	Inuvik	25.46	354	P	P	18 42 19.4	-5.5
INK				LR	LR	18 52 03.9	
SADO	Sadowa	33.48	71	LR	LR	18 57 40.6	
	comp=Z,328nm,20.9s,MS4.0,baz=57,slow=37						
ARCES	ARCESS Array B	65.65	11	LR	LR	19 16 39.3	
	comp=Z,136nm,18.2s,MS4.2,baz=98,slow=36						
MDJ	Mudanjiang	69.59	312	P	P	18 48 06.3	-0.4
MDJ				AP	pP	18 48 09.6	-0.2
MDJ				XP	sP	18 48 11.1	+0.2
MDJ				S	S	18 57 09.5	-3.9
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,96nm,4.3s						
MDJ				LR	LR		
	comp=N,66nm,20.6s,MS4.0						
MDJ				LR	LR		
	comp=E,46nm,20.6s,MS4.0						
MDJ				LR	LR		
	comp=Z,45nm,26.2s						
CN2	Changchun	72.35	314	*e*P	P	18 48 24.3	+0.9
SONM	Songino Array	78.20	327	LR	LR	19 20 55.3	
	comp=Z,90nm,21.9s,MS4.1,baz=40,slow=34						
HHC	Hu-ho-hao-te	81.48	320	*e*P	P	18 49 12.5	-1.8
HHC				PP	PP	18 52 17.8	-5.0
HHC				S	S	18 59 19.2	-5.3
HHC				AMB	AMB		
	comp=Z,15nm,0.5s,mb5.2						
SSE	Sheshan	83.76	307	P	P	18 49 26.9	+0.6
SSE				AMB	AMB		
	comp=Z,27nm,0.8s,mb5.4						
SSE				AMB	AMB		
	comp=Z,525nm,7.0s						
SSE	Sheshan	83.76	307	P	P	18 49 26.9	+0.6
	comp=Z,27nm,0.8s,mb5.4						
NJ2	Nanjing	84.39	309	*e*P	P	18 49 32.1	+2.7
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
HNR	Honiara	84.91	252	LR	LR	19 22 08.8	
	comp=Z,101nm,19.6s,MS4.2,baz=313,slow=32						
WMQ	Urumqi	88.22	336	*e*P	P	18 49 50.0	+2.1
WMQ				AMB	AMB		
	comp=Z,21nm,1.2s,mb5.2						
LZH	Lanzhou	88.90	322	*e*P	P	18 49 48.4	-3.0
LZH				AMB	AMB		
	comp=Z,19nm,1.5s,mb5.2						
LZH				AMB	AMB		
	comp=Z,69nm,7.6s						
LZH				LR	LR		
	comp=E,315nm,16.0s						
LZH				LR	LR		
	comp=Z,397nm,18.5s,MS4.9						
LZH	Lanzhou	88.90	322	*e*P	P	18 49 48.4	-3.0
	comp=Z,19nm,1.5s,mb5.2						
LZH				pP	pP	18 49 51.8	-2.8
LZH				sP	sP	18 49 53.2	-2.4
LZH				*e*PP	PP	18 53 16.5	-6.7
LZH				LR	LR		
	comp=Z,400nm,18.5s,MS4.9						
CD2	Chengdu	93.22	319	P	P	18 50 12.1	+0.6
KMI	Kunming	98.50	316	P	P	18 50 37.6	+1.9
KMI				AP	pP	18 50 43.2	+4.3
KMI				XP	sP	18 50 45.4	+5.5
KMI				S	S	19 02 04.7	+4.0
KMI				AMB	AMB		
	comp=Z,2.0nm,1.0s,mb4.6						
KMI				AMB	AMB		
	comp=Z,132nm,5.9s						
KMI				LR	LR		
	comp=Z,43nm,18.1s,MS4.0						
KMI	Kunming	98.50	316	P	P	18 50 37.6	+1.9
	comp=Z,2.0nm,1.0s,mb4.6						
KMI				pP	pP	18 50 43.2	+4.3
KMI				sP	sP	18 50 45.4	+5.5
KMI				S	S	19 02 04.7	+4.0
KMI				SS	SS	19 08 53.5	+4.1
KMI				LR	LR		
	comp=Z,40nm,18.1s,MS4.0						

GUC 04 18:39:24.9±0.4, 23.50S×67.85W, h137km±5km, ML3.5, 3C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPCH	San Pedro de A	0.67	331	⇑*i*P	P	18 39 46.8	+0.6
SPCH				*i* S	S	18 40 03.3	+0.6
SPCH				AMP		18 40 11.2	
	comp=E,706nm,0.8s						
LVC	Limon Verde	1.32	312	⇑*i*P	P	18 39 52.6	+0.7
LVC				*i* S	S	18 40 13.6	+1.0
LVC				AMP		18 40 15.7	
	comp=E,532nm,0.6s						
ANCH	Antofagasta	2.36	265	⇑*i*P	P	18 40 05.6	+1.4
ANCH				*i* S	S	18 40 35.9	+1.8
CPN1	Cerro Paranal	2.59	244	*e*P	P	18 40 08.3	+1.1
CPN1				*i* S	S	18 40 41.2	+1.7
CPN1				AMP		18 40 49.2	
	comp=E,559nm,0.5s						

IDC ***04*** *18:44:21.2±0.9, 11.28N×85.49W, mb4.1/11, mb1 4.4/13, mb1mx4.2/22, mbtmp4.2/13, ML4.0/1, MS4.1/15, Ms1 4.1/15, ms1mx4.0/23, Error ellipse: s-maj=30.7km s-min=9.8km az=65.0*
CASC ***04*** *18:44:22.6±2.1, 11.26N×85.46W, h9km±4km, MD4.3, ML4.5, mb4.7(NEIC)*
BJI ***04*** *18:44:26.0, 11.20N×85.40W, h34km, Ms4.8, Msz4.3*
NEIC ***04*** *18:44:26.1±3.2, 11.18N×85.44W, h35km±24km, mb4.7/16, Error ellipse: s-maj=15.2km s-min=8.8km az=52.0*
NEIC Felt in parts of southern Nicaragua and northern Costa Rica.

ISC 04 18:44:22.1±0.6, 11.27N±0.04×85.43W±0.05, h11km±4km, n86, σ1§12/82, mb4.4/25, MS4.1/14, 16C-8D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MADN	Villa Maderas	0.17	324	⇑*i*P	Pg	18 44 27.0	+1.1
CONN	Concepcion	0.35	327	⇑*i*P	Pg	18 44 29.9	+0.7
SSNN	San Juan del S	0.41	272	⇑*e*P	Pg	18 44 30.4	-0.1
APON	Apoyo	0.89	316	⇑*e*P	Pb	18 44 39.0	-0.2
MASN	Masaya	1.00	315	⇓*e*P	Pb	18 44 41.1	+0.2
MASN				*e*S	Sb	18 44 53.4	-0.6
JTS	JuntasAbangare	1.08	154	Pg	Pg	18 44 42.7	-1.1
	576nm,0.3s,baz=338,slow=17,SNR=486						
JTS				Lg		18 44 57.6	
	1μm,0.3s,baz=223,slow=22,SNR=29						
JTS	JuntasAbangare	1.08	154	*e*Pn	Pn	18 44 42.6	-0.5
JTS				*e*Sn	Sn	18 44 56.7	-1.5
TICN	Ticuantepe	1.09	314	⇑*e*P	Pb	18 44 42.3	-0.2
FORC	Fortuna	1.09	137	⇑*i*P	Pb	18 44 43.4	+0.9
FORC				*i* P		18 44 43.8	
CRUN	El Crucero	1.11	310	⇓*e*P	Pb	18 44 43.2	+0.4
WILN	Americas 2	1.15	320	⇑*e*P	Pb	18 44 43.2	-0.4
MGAN	Managua	1.18	318	⇓*e*P	Pb	18 44 44.0	0.0
MGAN				*e*S	Sb	18 45 00.7	+1.5
MGAN				*i*		18 45 01.7	
	comp=E,10μm,0.6s						
MGAN				*i*		18 45 02.8	
	comp=N,11μm,0.5s						
XAVN	Gruta Xavier	1.24	315	⇑*e*P	Pb	18 44 44.6	-0.4
PYTN	Playitas	1.40	334	⇑*e*P	Pn	18 44 47.3	-0.4
PYTN				*e*S	Sb	18 45 07.0	+1.5
COPN	Copaltepe	1.45	309	⇓*e*P	Pn	18 44 47.7	-0.7
COPN				*e*S	Sb	18 45 05.6	-1.4
MOMJ	Momotombo	1.57	316	⇑*e*P	Pn	18 44 49.0	-1.1
VPS2	Volcan Poas 2	1.59	132	*e*P	Pn	18 44 49.8	-0.6
VPS2				*e*S	Sb	18 45 13.9	+2.7
PRS1	Puriscal	1.69	139	⇓*e*P	Pn	18 44 53.5	+1.7
PRS1				*e*S	Sn	18 45 16.3	+2.7
MIRN	Miramar	1.71	313	⇑*e*P	Pn	18 44 51.6	-0.5
CNGN	Cerro Negro	1.74	315	⇑*e*P	Pn	18 44 51.7	-0.8
CNGN				*e*S	Sn	18 45 17.0	+2.1
TRTC	Tortuguero	1.82	112	⇓*e*P	Pn	18 44 53.1	-0.6
LEON	Leon	1.83	309	⇓*e*P	Pn	18 44 53.6	-0.2
LEON				*e*S	Sn	18 45 17.1	0.0
TEL3	Telica 3	1.89	313	⇑*e*P	Pn	18 44 53.9	-0.8
SJS	Escuela Geolog	1.89	134	⇓*e*P	Pn	18 44 55.3	+0.5
SJS				*e*S	Sn	18 45 22.8	+4.0
TELN	Telica	1.91	314	⇑*e*P	Pn	18 44 55.2	+0.3
LCR2	La Lucha 2	2.07	137	⇑*e*P	Pn	18 44 57.5	+0.2
CRIN	San Cristobal	2.13	312	*e*P	Pn	18 44 58.3	+0.2
CRIN				*e*S	Sn	18 45 25.5	+0.8
BUS	Buena Vista	2.37	136	⇑*e*P	Pn	18 45 02.4	+0.8
BUS				*e*S	Sn	18 45 35.5	+4.6
LIO	Limon	2.67	118	*e*P	Pn	18 45 04.0	-1.9
CNCH	Conchagua	3.08	311	*e*P	Px	18 45 39.2	
CNCH				*e*S	Sx	18 46 18.3	
BLLM	Bellamira	3.49	309	*e*P	Px	18 45 45.1	
BLLM				*e*S	Sx	18 46 27.4	
SNVI	San Vicente	4.06	305	*e*P	Px	18 45 54.8	
SNVI				*e*S	Sx	18 46 44.0	
LCBS	La Ceiba	4.20	305	*e*P	Px	18 45 54.0	
LCBS

CPUP Villa Florida 46.30 144 LR LR 19 15 53.8
comp=N,140nm,18.0s,MS4.0,baz=185,slow=41
BBB Bella Bella 53.34 329 LR LR 19 21 26.5
comp=N,119nm,19.1s,MS4.0,baz=328,slow=42
PLCA Paso Flores 53.54 166 P **P** **18 53 44.0 -1.3**
comp=N,5.9nm,1.3s,mb4.4,baz=298,slow=6.6,SNR=2.8
PLCA Paso Flores 53.54 166 *eP* **P** **18 53 44.5 -0.7**
comp=N,25nm,1.6s,mb4.9
TRQA Tornquist 53.76 157 P **P** **18 53 49.3 +2.5**
comp=N,15nm,1.2s,mb4.8
YKA Yellowknife Ar 55.27 344 LR LR 19 23 06.5
comp=N,117nm,18.7s,MS4.0,baz=85,slow=42
DLBC Dease Lake 57.82 334 LR LR 19 25 42.1
comp=N,178nm,18.8s,MS4.2,baz=121,slow=43
INK Inuvik 64.92 342 P **P** **18 55 02.4 -1.1**
comp=N,1.1nm,0.8s,mb3.9,baz=88,slow=7.3,SNR=3.3
INK Inuvik 64.92 342 P **P** **18 55 02.4 -1.2**
SUMG Summit 67.24 14 *eP* **P** **18 55 16.9 -1.5**
comp=N,20nm,1.1s,mb5.1
ILAR Eielson Array 67.89 336 P **P** **18 55 20.1 -2.4**
comp=N,0.5nm,0.6s,mb3.7,baz=128,slow=4.0,SNR=5.1
ILAR LR LR 19 31 37.5
comp=N,143nm,18.6s,MS4.2,slow=42
ILAR Eielson Array 67.89 336 P **P** **18 55 20.1 -2.4**
ILAR LR LR 19 31 37.5
ESDC Sonseca Array 76.36 52 P **P** **18 56 13.0 -0.3**
comp=N,1.5nm,0.7s,mb4.0,baz=283,slow=6.7,SNR=6.5
ESK Eskdalemuir 76.40 36 *eP* **P** **18 56 11.1 -2.2**
comp=N,18nm,1.1s,mb4.9
DBIC Dimbokro 79.52 85 P **P** **18 56 30.8 -0.4**
comp=N,16nm,1.3s,mb4.8
NOA NORSAR Array B 83.43 29 P **P** **18 56 50.4 -0.3**
comp=N,1.4nm,0.9s,mb4.0,baz=285,slow=5.1,SNR=3.5
NOA LR LR 19 28 07.0
comp=N,94nm,21.6s,MS4.1,baz=280,slow=32
NOA NORSAR Array B 83.43 29 P **P** **18 56 50.4 -0.3**
NOA LR LR 19 28 07.0
MOX Moxa 85.81 39 *eP* **P** **18 57 06.0 +3.1**
CLL Collm 86.51 38 P **P** **18 57 06.0 -0.4**
CLL *e*PCP PcP 18 57 10.0 +0.7
CLL Collm 86.51 38 *eP* **P** **18 57 06.0 -0.4**
CLL *e*pP pP 18 57 10.0 +0.2
BRG Berggiesshubel 87.19 39 *eP* **P** **18 57 09.2 -0.5**
comp=N,1.6nm,0.5s,mb4.5
GERES GERESS Array B 87.54 41 P **P** **18 57 11.5 +0.1**
comp=N,0.4nm,0.7s,mb3.8,baz=270,slow=2.9,SNR=2.8
WMQ Urumqi 124.82 6 *e*PKP PKPdf 19 03 22.0 -3.7
CD2 Chengdu 137.14 348 PKP PKPdf 19 03 42.8 -6.4
KMI Kunming 142.96 348 PKP PKPdf 19 03 56.6 -3.2
KMI LR LR
comp=Z,38nm,25.0s,MS4.1

*KRSC **04** 18:44:52.8±1.2, 52.51N×156.54E, h296km±3km, ML4.1*
*MOS **04** 18:44:53.1±0.8, 52.91N×156.44E, h294km, mb4.1/6, Error ellipse: s-maj=16.3km s-min=12.6km az=93.6*
*NEIC **04** 18:44:53.6±0.8, 52.84N×156.66E, h296km±10km, mb4.0/6, Error ellipse: s-maj=17.4km s-min=12.9km az=119.0*
*IDC **04** 18:44:57.1±3.3, 52.92N×156.07E, h306km±35km, mb3.3/11, mb1 3.5/12, mb1mx3.4/21, mbtmp4.1/12, Error ellipse: s-maj=23.5km s-min=14.4km az=170.0*
ISC 04 18:44:53.1±0.3, 52.71N±0.05×156.3E±0.1, h285km±4km, n75, σ1°32/99, mb3.7/16, 4D, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MIPR	**Malaya Ipel'ka**	**0.52**	**145**	*i* P		**P**		**18 45 30.9**	**+0.6**
APC	**Apacha**	**0.58**	**67**	*i* P		**P**		**18 45 30.6**	**+0.1**
APC				*e*S		**S**		**18 45 58.3**	**-1.4**
APC				Smax					
60nm,0.8s									
GRL	**Gorelyy**	**1.11**	**97**	*i* P		**P**		**18 45 33.5**	**+0.9**
KRMR	**Karymshinskiy**	**1.14**	**83**	*i* P		**P**		**18 45 33.1**	**+0.3**
PAU	**Pauzhetka**	**1.28**	**165**	*i* P		**P**		**18 45 34.2**	**+0.5**
PAU				*e*S		**S**		**18 46 04.5**	**-0.9**
PAU				Smax					
370nm,1.1s									
RUS	**Russkaya**	**1.39**	**100**	P		**P**		**18 45 33.8**	**-0.6**
RUS				S		**S**		**18 46 04.1**	**-2.5**
RUS	**Russkaya**	**1.39**	**100**	*i* P		**P**		**18 45 33.8**	**-0.6**
RUS				*e*S		**S**		**18 46 03.9**	**-2.7**
GNL	**Ganaly**	**1.41**	**45**	*i* P		**P**		**18 45 34.5**	**0.0**
GNL				*e*S		**S**		**18 46 05.5**	**-1.3**
PET	**Petropavlovsk**	**1.48**	**77**	P		**P**		**18 45 34.8**	**-0.1**
PET				S		**S**		**18 46 06.1**	**-1.5**
PET	**Petropavlovsk**	**1.48**	**77**	*i* P		**P**		**18 45 34.8**	**-0.1**
PET				*e*S		**S**		**18 46 06.3**	**-1.3**
PET	**Petropavlovsk**	**1.48**	**77**	⇓*i*PN		**P**		**18 45 34.7**	**-0.2**
PET	**Petropavlovsk**	**1.48**	**77**	⇓*i*PN		**P**		**18 45 34.9**	**0.0**
PET				*e*S		**S**		**18 46 06.3**	**-1.3**
PET				pmax	pmax				
comp=Z,972nm,0.6s									
PET				pmax	pmax				
comp=E,270nm,0.5s									
PET				smax					
comp=E,114nm,0.7s									
KOK	**Koryaka**	**1.54**	**67**	*i* P		**P**		**18 45 35.8**	**+0.4**
AVH	**Avacha**	**1.59**	**68**	*i* P		**P**		**18 45 36.0**	**+0.3**
UGLR	**Uglovaya**	**1.62**	**71**	*i* P		**P**		**18 45 36.4**	**+0.5**
SMAR	**Somma**	**1.63**	**69**	*i* P		**P**		**18 45 36.4**	**+0.5**
SDLR	**Sedlovina**	**1.68**	**69**	*i* P		**P**		**18 45 36.4**	**+0.1**
SDLR				*e*S		**S**		**18 46 09.6**	**-0.5**
ALID	**Alaid**	**1.89**	**194**	*i* P		**P**		**18 45 39.4**	**+1.5**
NLC	**Nalytchevo**	**1.92**	**75**	P		**P**		**18 45 37.3**	**-0.8**
NLC				S		**S**		**18 46 10.6**	**-2.6**
NLC	**Nalytchevo**	**1.92**	**75**	*e*P		**P**		**18 45 37.2**	**-0.9**
NLC				*e*S		**S**		**18 46 10.9**	**-2.3**
SKR	**Severo-Kuril's**	**2.03**	**183**	*e*PN		**P**		**18 45 41.5**	**+2.5**
SPN	**Mys Shipunski**	**2.31**	**79**	P		**P**		**18 45 40.2**	**-1.3**
SPN				S		**S**		**18 46 13.9**	**-5.3**
SPN	**Mys Shipunski**	**2.31**	**79**	*i* P		**P**		**18 45 40.1**	**-1.4**
SPN				*i* S		**S**		**18 46 14.4**	**-4.8**
KII	**Karymskiy**	**2.32**	**54**	P		**P**		**18 45 42.0**	**+0.3**
KII				S		**S**		**18 46 17.7**	**-1.8**
KII	**Karymskiy**	**2.32**	**54**	*i* P		**P**		**18 45 41.9**	**+0.2**
TUMR	**Tumrok**	**3.45**	**40**	*e*P		**P**		**18 45 54.0**	**+1.0**
TUMR				*e*S		**S**		**18 46 37.4**	**-2.2**
ESO	**Esso**	**3.53**	**23**	*e*P		**P**		**18 45 55.0**	**+1.2**
ESO				*e*S		**S**		**18 46 42.4**	**+1.3**
ESO				Smax					
comp=E,30nm,1.5s									
MKZ	**Mys Kozlova**	**3.74**	**58**	P		**P**		**18 45 54.8**	**-1.3**
MKZ				S		**S**		**18 46 39.0**	**-6.3**
MKZ	**Mys Kozlova**	**3.74**	**58**	*i* P		**P**		**18 45 54.8**	**-1.3**
MKZ				*i* S		**S**		**18 46 39.2**	**-6.1**
KMNR	**Kamenistaya**	**3.84**	**36**	*e*P		**P**		**18 45 59.4**	**+2.2**
KMNR				*e*S		**S**		**18 46 48.1**	**+0.8**
KOZ	**Kozyrevsk**	**3.96**	**31**	*e*P		**P**		**18 45 59.9**	**+1.3**
KPT	**Kopyto**	**4.00**	**34**	*e*P		**P**		**18 46 00.1**	**+1.1**
SRDR	**Sredinnyy**	**4.14**	**28**	*e*P		**P**		**18 46 01.4**	**+0.8**
ZLN	**Zelenaya**	**4.25**	**37**	*e*P		**P**		**18 46 03.8**	**+2.0**
ZLN				*e*S		**S**		**18 46 55.9**	**+0.4**
LGNR	**Loginova**	**4.26**	**36**	*e*P		**P**		**18 46 04.3**	**+2.4**
CIRR	**Tsirk**	**4.30**	**36**	*e*P		**P**		**18 46 04.2**	**+1.8**
KRSR	**Krestovskiy**	**4.32**	**34**	*i* P		**P**		**18 46 04.3**	**+1.7**
KLY	**Klyuchi**	**4.42**	**33**	*e*S		**S**		**18 47 00.1**	**+0.9**
KBTR	**Krutoberegovo**	**5.19**	**45**	P		**P**		**18 46 12.6**	**-0.1**
KBTR				S		**S**		**18 47 10.1**	**-5.0**
KBTR	**Krutoberegovo**	**5.19**	**45**	*e*P		**P**		**18 46 12.6**	**-0.1**
KBTR				*e*S		**S**		**18 47 10.0**	**-5.1**
BKI	**Bering**	**6.25**	**63**	*e*P		**P**		**18 46 23.9**	**-1.7**
BKI				*e*S		**S**		**18 47 30.2**	**-8.0**
BKI				Smax					
comp=E,90nm,0.8s									
FX1	**Attu Island--F**	**10.23**	**82**	P		**P**		**18 47 19.2**	**+4.4**
comp=E,3.9nm,0.3s,baz=163,slow=11,SNR=6.3									
FX1				S		**S**		**18 49 11.1**	**+4.3**
comp=E,1.9nm,0.3s,baz=293,slow=22,SNR=3.1									
YAK	**Yakutsk**	**16.99**	**314**	⇓*i*P		**P**		**18 48 33.0**	**-1.6**
comp=E,33nm,0.7s									
YAK	**Yakutsk**	**16.99**	**314**	⇓*i*P		**P**		**18 48 33.1**	**-1.5**
YAK				pmax	pmax				
comp=Z,33nm,0.7s									
MDJ	**Mudanjiang**	**19.31**	**256**	P		**P**		**18 48 53.5**	**-4.8**
MAJO	**Matsushiro**	**20.56**	**225**	*e*P		**P**		**18 49 12.3**	**+1.6**
comp=Z,2.8nm,0.5s									
MAJO	**Matsushiro**	**20.56**	**225**	*e*P		**P**		**18 49 12.3**	**+1.6**
MAJO				pmax	pmax				
comp=Z,3.0nm,0.5s									
MAT	**Matsushiro**	**20.56**	**225**	P		**P**		**18 49 14.0**	**+3.3**
MAT	**Matsushiro**	**20.56**	**225**	*e*P		**P**		**18 49 14.0**	**+3.3**
HIA	**Hailar**	**23.09**	**276**	*e*P		**P**		**18 49 35.7**	**+0.8**
comp=Z,6.9nm,0.6s,mb4.2									
HIA	**Hailar**	**23.09**	**276**	*e*P		**P**		**18 49 35.7**	**+0.8**
HIA				pmax	pmax				
comp=Z,7.0nm,0.6s									
BOD	**Bodaibo**	**24.31**	**299**	*e*P		**P**		**18 49 44.5**	**-1.6**
ILAR	**Eielson Array**	**30.73**	**45**	P		**P**		**18 50 43.6**	**+0.3**
comp=Z,2.0nm,0.5s,mb3.9,baz=265,slow=6.9,SNR=20									
ILAR	**Eielson Array**	**30.73**	**45**	P		**P**		**18 50 43.7**	**+0.3**
ILAR				pmax	pmax				
comp=Z,2.0nm,0.5s									
TLY	**Talaya**	**31.69**	**290**	*e*P		**P**		**18 50 54.2**	**+2.4**
comp=Z,1.8nm,0.8s,mb3.6									
SONM	**Songino Array**	**31.72**	**282**	P		**P**		**18 50 52.4**	**+0.3**
comp=Z,0.3nm,0.4s,mb3.2,baz=61,slow=8.3,SNR=7.2									
ZAK	**Zakamensk**	**32.43**	**288**	*e*P		**P**		**18 50 58.8**	**+0.6**
ZAK				pmax	pmax				
comp=Z,1.0nm,1.1s,mb3.3									
INK	**Inuvik**	**35.58**	**37**	P		**P**		**18 51 25.4**	**+0.7**
comp=Z,1.0nm,0.4s,mb3.7,baz=308,slow=6.8,SNR=7.1									
INK	**Inuvik**	**35.58**	**37**	P		**P**		**18 51 25.4**	**+0.7**
INK	**Inuvik**	**35.58**	**37**	P		**P**		**18 51 25.4**	**+0.7**
INK				pmax	pmax				
comp=Z,1.0nm,0.4s									
DLBC	**Dease Lake**	**40.12**	**52**	P		**P**		**18 51 57.3**	**-5.1**
ENH	**Enshi**	**40.67**	**255**	P		**P**		**18 52 05.1**	**-2.1**
MKAR	**Makanchi Array**	**46.22**	**294**	P		**P**		**18 52 50.6**	**-0.5**
comp=Z,1.4nm,0.5s,mb3.6,baz=55,slow=6.8,SNR=28									
BVAR	**Borovoye Array**	**48.79**	**307**	P		**P**		**18 53 09.8**	**-1.1**
comp=Z,5.2nm,0.4s,mb4.2,baz=54,slow=7.6,SNR=69									
BVAR				PcP		PcP		18 54 30.1	-1.3
comp=Z,1.1nm,0.4s,baz=50,slow=1.9,SNR=7.7									
BRVK	**Borovoye**	**48.82**	**307**	*e*P		**P**		**18 53 09.9**	**-1.3**
comp=Z,4.2nm,0.6s,mb4.0									
BRVK	**Borovoye**	**48.82**	**307**	*e*P		**P**		**18 53 09.9**	**-1.2**
BRVK				pmax	pmax				
comp=Z,4.0nm,0.6s,mb3.9									
ARU	**Arti**	**52.09**	**316**	*e*P		**P**		**18 53 34.0**	**-1.3**
comp=Z,3.5nm,0.4s,mb4.0									
ARU	**Arti**	**52.09**	**316**	*e*P		**P**		**18 53 34.0**	**-1.4**
ARU				pmax	pmax				
comp=Z,4.0nm,0.4s,mb4.1									
ARCES	**ARCESS Array B**	**52.91**	**340**	P		**P**		**18 53 38.8**	**-2.4**
comp=Z,1.3nm,0.9s,mb3.3,baz=34,slow=6.5,SNR=3.6									
ARCES				PcP		PcP		18 54 45.2	-1.2
comp=Z,0.7nm,0.8s,baz=27,slow=5.4,SNR=4.5									
ARCES	**ARCESS Array B**	**52.91**	**340**	P		**P**		**18 53 38.8**	**-2.4**
ARCES				PcP		PcP		18 54 45.2	-1.2
FINES	**FINESS Array B**	**59.52**	**335**	P		**P**		**18 54 26.1**	**-1.8**
comp=Z,1.0nm,0.9s,mb3.4,baz=53,slow=9.5,SNR=3.7									
PDAR	**Pinedale Array**	**59.72**	**58**	P		**P**		**18 54 31.0**	**+1.5**
comp=Z,0.8nm,0.5s,mb3.5,baz=333,slow=3.3,SNR=4.2									
NOA	**NORSAR Array B**	**63.23**	**342**	P		**P**		**18 54 50.6**	**-1.9**
comp=Z,0.8nm,0.7s,mb3.5,baz=25,slow=6.7,SNR=3.1									
AKASG	**Malin Array Be**	**67.71**	**327**	P		**P**		**18 55 19.2**	**-1.7**
comp=Z,0.4nm,0.4s,mb3.5,baz=32,slow=6.7,SNR=4.5									
WRA	**Warramunga Arr**	**74.81**	**201**	P		**P**		**18 56 04.3**	**+0.5**
comp=Z,1.1nm,0.6s,mb3.6,baz=15,slow=6.0,SNR=4.4									

CASC 04 18:49:47.8±1.8, 11.27N×85.46W, h6km±5km, MD3.9, ML3.8, 16C-6D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MADN	**Villa Maderas**	**0.15**	**332**	⇑*i*P			Pg	18 49 51.3	+0.3
CONN	**Concepcion**	**0.33**	**331**	⇑*e*P			Pg	18 49 54.3	-0.3
SSNN	**San Juan del S**	**0.38**	**272**	⇑*e*P			Pg	18 49 55.3	-0.2
APON	**Apoyo**	**0.87**	**317**	⇑*e*P			Pb	18 50 03.5	-1.4
MASN	**Masaya**	**0.98**	**316**	⇑*e*P			Pb	18 50 06.2	-0.6
TICN	**Ticuantepe**	**1.07**	**315**	⇑*e*P			Pb	18 50 06.8	-1.5
CRUN	**El Crucero**	**1.08**	**311**	⇓*e*P			Pb	18 50 07.7	-0.9
FORC	**Fortuna**	**1.11**	**136**	*i* P			Pb	18 50 08.1	-0.9
FORC				⇑*e*P				18 50 08.2	
FORC				*i* S			Sb	18 50 23.9	+0.3
FORC				*e*S			Sb	18 50 25.1	+1.5
WILN	**Americas 2**	**1.13**	**321**	⇑*e*P			Pb	18 50 07.6	-1.8
MGAN	**Managua**	**1.16**	**319**	⇓*e*P			Pb	18 50 08.5	-1.4
MGAN				*e*S			Sb	18 50 25.2	+0.2
MGAN				*i*				18 50 29.2	
comp=N,2μm,0.6s									
XAVN	**Gruta Xavier**	**1.22**	**316**	⇓*e*P			Pb	18 50 09.4	-1.4
PYTN	**Playitas**	**1.39**	**335**	⇓*e*P			Pb	18 50 12.2	-1.5
COPN	**Copaltepe**	**1.43**	**309**	⇓*e*P			Pn	18 50 12.1	-2.3
MOMJ	**Momotombo**	**1.55**	**317**	⇑*e*P			Pn	18 50 14.9	-1.1
VPS2	**Volcan Poas 2**	**1.61**	**132**	⇑*e*P			Pn	18 50 16.1	-0.9
VPS2				*e*S			Sb	18 50 38.8	+0.6
PRS1	**Puriscal**	**1.71**	**138**	⇑*e*P			Pn	18 50 19.0	+0.7
CNGN	**Cerro Negro**	**1.72**	**315**	⇑*e*P			Pn	18 50 18.1	-0.4
LEON	**Leon**	**1.81**	**309**	⇑*e*P			Pn	18 50 19.2	-0.5
TRTC	**Tortuguero**	**1.85**	**112**	*e*P			Pn	18 50 19.9	-0.4
TEL3	**Telica 3**	**1.87**	**314**	⇑*e*P			Pn	18 50 18.6	-2.1
LCR2	**La Lucha 2**	**2.09**	**137**	⇓*e*P			Pn	18 50 23.0	-0.8
LCR2				*e*S			Sn	18 50 50.3	-0.1
CRIN	**San Cristobal**	**2.10**	**313**	⇑*e*P			Pn	18 50 24.0	-0.1
BUS	**Buena Vista**	**2.39**	**135**	⇑*e*P			Pn	18 50 29.3	+1.2
BUS				*e*S			Sn	18 50 58.7	+0.6

LDG 04 18:52:18.8±0.4, 14.15S×167.09E, h10km, Mb4.2/1, Error ellipse: s-maj=79.2km s-min=11.0km az=88.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.91**	**184**	*e*P			Pn	18 54 11.5	-5.2
DZM				*e*S			Sn	18 55 28.0	-19
SNAA	**Sanae**	**94.12**	**183**				P	19 05 31.2	-7.2
VNA3	**Neumayer Olymp**	**94.79**	**181**				P	19 05 35.3	-6.2
VNA2	**Neumayer--Watz**	**95.06**	**182**				P	19 05 37.0	-5.7
CABF	**La Chapelle**	**143.93**	**338**	*e*PKP1			PKPbc	19 11 53.8	+0.2
15nm,0.9s									
LOR	**Lormes**	**144.13**	**340**	*e*PKP1			PKPbc	19 11 53.7	-0.5
4.0nm,0.7s									
GRR	**Gorron**	**144.43**	**346**	*e*PKP1			PKPbc	19 11 54.0	-1.0
9.7nm,0.6s									
SSF	**Saint Saulge**	**144.43**	**341**	*e*PKP1			PKPbc	19 11 54.4	-0.6
11nm,0.6s									
LPL	**La Plagne**	**144.59**	**336**	*e*PKP1			PKPbc	19 11 55.3	-0.2
6.7nm,0.6s									
LPG	**La Plagne**	**144.60**	**336**	*e*PKP1			PKPbc	19 11 55.4	-0.2
9.8nm,0.7s									
SMF	**Signal de Mont**	**144.69**	**340**	*e*PKP1			PKPbc	19 11 55.1	-0.7
AVF	**Avril sur Loir**	**144.72**	**341**	*e*PKP1			PKPbc	19 11 55.2	-0.7
5.7nm,0.9s									
SGMF	**Saint Gilles**	**144.93**	**348**	*e*PKP1			PKPbc	19 11 55.4	-1.0
27nm,1.1s									
MBDF	**Montbardon**	**145.23**	**335**	*e*PKP1			PKPbc	19 11 57.1	-0.2
7.3nm,0.8s									
ORIF	**Oris-en-Rattie**	**145.43**	**336**	*e*PKP1			PKPbc	19 11 57.8	0.0
18nm,0.7s									
TCF	**Toulx Ste Croi**	**145.53**	**341**	*e*PKP1			PKPbc	19 11 57.6	-0.4
SBF	**Sospel**	**145.65**	**334**	*e*PKP1			PKPbc	19 11 58.7	+0.3
24nm,0.8s									
MFF	**Saint Martin d**	**145.92**	**344**	*e*PKP1			PKPbc	19 11 58.6	-0.3
9.7nm,0.7s									
PGF	**Pioggiola**	**145.97**	**330**	*e*PKP1			PKPbc	19 11 59.2	0.0
FRF	**La Foret Royal**	**146.23**	**334**	*e*PKP1			PKPbc	19 12 00.0	+0.2
8.0nm,0.6s									
SMRF	**Simiane la Rot**	**146.33**	**336**	*e*PKP1			PKPbc	19 12 00.1	+0.1
RJF	**Les Rejaudoux**	**146.62**	**341**	*e*PKP1			PKPbc	19 12 00.7	+0.1
8.3nm,0.8s									
LFF	**La Frestale**	**147.19**	**342**	*e*PKP1			PKPdf	19 12 02.4	-0.8
ETSF	**Etsaut**	**149.44**	**342**	*e*PKP1			PKPdf	19 12 07.8	+0.9
3.5nm,0.6s									

CASC 04 18:56:53.3±2.0, 11.26N×85.44W, h6km±5km, MD4.0, ML3.8, 10C-13D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MADN	**Villa Maderas**	**0.17**	**329**	⇑*i*P			Pg	18 56 56.8	-0.1
CONN	**Concepcion**	**0.35**	**329**	⇑*i*P			Pg	18 56 59.7	-0.7
SSNN	**San Juan del S**	**0.40**	**274**	⇓*e*P			Pg	18 57 00.7	-0.7
APON	**Apoyo**	**0.90**	**317**	⇓*e*P			Pb	18 57 08.9	-1.9
MASN	**Masaya**	**1.00**	**316**	⇑*e*P			Pb	18 57 11.8	-0.9
FORC	**Fortuna**	**1.09**	**136**	⇑*e*P			Pb	18 57 14.3	+0.1
TICN	**Ticuantepe**	**1.09**	**315**	⇑*e*P			Pb	18 57 13.9	-0.3
CRUN	**El Crucero**	**1.11**	**311**	⇓*e*P			Pb	18 57 14.0	-0.5
WILN	**Americas 2**	**1.16**	**321**	⇓*e*P			Pb	18 57 13.9	-1.4
WILN				*e*S			Sb	18 57 30.2	-0.2
MGAN	**Managua**	**1.19**	**318**	⇑*e*P			Pb	18 57 14.6	-1.2
MGAN				*e*S			Sb	18 57 30.8	-0.4
MGAN				*i*				18 57 33.1	
comp=E,2μm,0.6s									
XAVN	**Gruta Xavier**	**1.24**	**316**	⇓*e*P			Pb	18 57 15.4	-1.4
XAVN				*e*S			Sb	18 57 32.5	-0.3
PYTN	**Playitas**	**1.41**	**335**	⇓*e*P			Pn	18 57 17.5	-2.1
PYTN				*e*S			Sb	18 57 38.3	+0.6
COPN	**Copaltepe**	**1.45**	**309**	⇓*e*P			Pn	18 57 18.8	-1.4
MOMJ	**Momotombo**	**1.57**	**317**	⇓*e*P			Pn	18 57 19.9	-2.0
MOMJ				*e*S			Sb	18 57 40.9	-1.5
VPS2	**Volcan Poas 2**	**1.59**	**132**	⇓*e*P			Pn	18 57 21.8	-0.4
VPS2				*e*S			Sb	18 57 42.8	-0.2
PRS1	**Puriscal**	**1.68**	**139**	⇓*e*P			Pn	18 57 23.7	+0.2
PRS1				*e*S			Sn	18 57 48.0	+2.4
MIRN	**Miramar**	**1.71**	**314**	⇑*e*P			Pn	18 57 23.3	-0.6
CNGN	**Cerro Negro**	**1.74**	**315**	⇓*e*P			Pn	18 57 24.0	-0.4
CNGN				*e*S			Sn	18 57 46.8	-0.3
LEON	**Leon**	**1.83**	**309**	*e*P			Pn	18 57 25.1	-0.4
TRTC	**Tortuguero**	**1.83**	**112**	⇓*e*P			Pn	18 57 23.4	-2.2
TEL3	**Telica 3**	**1.90**	**314**	⇑*e*P			Pn	18 57 26.2	-0.4
TELN	**Telica**	**1.91**	**315**	*e*P			Pn	18 57 25.4	-1.3
LCR2	**La Lucha 2**	**2.07**	**137**	⇓*e*P			Pn	18 57 28.4	-0.6
LCR2				*e*S			Sn	18 57 55.4	+0.1
CRIN	**San Cristobal**	**2.13**	**313**	⇑*e*P			Pn	18 57 29.8	0.0
CRIN				*e*S			Sn	18 57 58.2	+1.3
BUS	**Buena Vista**	**2.37**	**135**	⇑*e*P			Pn	18 57 33.7	+0.4
BUS				*e*S			Sn	18 58 03.7	+0.7

*GUC **04** 19:47:36.8±0.9, 25.81S×70.23W, h58km±20km, ML4.7*
*NEIC **04** 19:47:36.8, 25.81S×70.23W, h58km, mb4.3/2, After GUC.*
*IDC **04** 19:47:38.7±2.5, 25.80S×69.93W, h62km±19km, mb4.2/2, mb1 4.0/5, mb1mx3.8/16, mbtmp4.2/5, Error ellipse: s-maj=42.3km s-min=16.0km az=92.0*
ISC 04 19:47:36.2±0.5, 25.83S±0.03×70.3W±0.2, h75km±11km, n18, σ0°63/25, mb4.3/3, 3C, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CRCH	**Chaqaral**	**0.61**	**212**	⇑*i*P			**P**	**19 47 50.6**	**-0.2**
CRCH				*i* S			**S**	**19 48 00.4**	**-1.1**
CRCH				AMP				19 48 01.3	
comp=N,23μm,0.1s									
CPN1	**Cerro Paranal**	**1.20**	**354**	*e*P			**P**	**19 47 57.9**	**+0.1**
CPN1				*i* S			**S**	**19 48 14.8**	**+0.8**
CPN1				AMP				19 48 16.1	
comp=E,5μm,0.5s									
CPCH	**Copiapo**	**1.53**	**183**	*i* P			**P**	**19 48 02.2**	**0.0**
CPCH				*i* S			**S**	**19 48 22.4**	**+1.0**
CPCH				AMP				19 48 25.9	
comp=E,68μm,0.1s									
ANCH	**Antofagasta**	**2.14**	**356**	*e*P			**P**	**19 48 09.8**	**-0.7**
ANCH				*i* S			**S**	**19 48 36.4**	**+0.4**
VACH	**Vallenar**	**2.77**	**189**	⇑*i*P			**P**	**19 48 19.6**	**+0.1**
VACH				*i* S			**S**	**19 48 52.6**	**+0.7**
VACH				AMP				19 49 05.4	
comp=E,6μm,0.3s									
LVC	**Limon Verde**	**3.43**	**21**	P			**P**	**19 48 28.9**	**+0.4**
comp=E,20nm,0.3s,baz=210,slow=10.0,SNR=58									
LVC				S			**S**	**19 49 12.1**	**+3.9**
comp=E,73nm,0.3s,baz=15,slow=20,SNR=11									
LVC	**Limon Verde**	**3.43**	**21**	*e*P			**P**	**19 48 28.5**	**0.0**
LVC	**Limon Verde**	**3.43**	**21**	P			**P**	**19 48 28.9**	**+0.3**
LVC				*e*Sn			**S**	**19 49 08.2**	**0.0**
TLL	**Tololo Astrono**	**4.35**	**186**

BUS *e*S Sn 20 38 48.8 +3.5

SKHL 04 20:50:29.9±0.5,**50.49N**×**142.09E**,**h5**km,**mb3.6**/4,
Sakhalin Island

*NEIC **04** 20:54:41.2±0.9, 18.30S×177.96W, h550km±11km, mb4.4/5, Error ellipse: s-maj=28.5km s-min=11.7km az=156.0*
*IDC **04** 20:54:47.3±12.0, 18.53S×178.22W, h606km±135km, mb3.4/3, mb1 3.6/4, mb1mx3.2/13, mbtmp4.4/4, Error ellipse: s-maj=88.3km s-min=29.0km az=56.0*
ISC 04 20:54:41.5±1.2,**18.0S**±0.3×**177.8W**±0.2,**h608**km±33km,
n18,σ0°**33**/14,**mb4.1**/7,**3C-2D**,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.04**	**56**	*e*Pn	**P**	**20 56 32.6**	**0.0**
DZM	**Mont Dzumac**	**15.38**	**252**	P	**P**	**20 57 53.3**	**+0.1**
0.5nm,0.3s,baz=98,slow=19,SNR=3.8							
CTA	**Charters Tower**	**34.03**	**261**	⇓*i*P	**P**	**21 00 38.4**	**+0.2**
3.4nm,0.6s,mb4.2							
CTAO	**Charters Tower**	**34.03**	**261**	*e*P	**P**	**21 00 37.9**	**-0.2**
9.7nm,0.8s,mb4.5							
STKA	**Stephens Creek**	**39.12**	**241**	⇓*i*P	**P**	**21 01 19.8**	**0.0**
2.3nm,0.5s,mb4.0							
STKA	**Stephens Creek**	**39.12**	**241**	P	**P**	**21 01 19.8**	**0.0**
4.6nm,0.7s,mb4.1,baz=88,slow=10,SNR=20							
STKA	**Stephens Creek**	**39.12**	**241**	*e*P	**P**	**21 01 19.5**	**-0.3**
WB2	**Warramunga Arr**	**45.20**	**260**	⇑*i*P	**P**	**21 02 07.4**	**-0.3**
WRAB	**Tennant Creek**	**45.20**	**260**	*e*P	**P**	**21 02 07.3**	**-0.4**
7.2nm,0.5s,mb4.5							
WRA	**Warramunga Arr**	**45.21**	**260**	P	**P**	**21 02 07.8**	**0.0**
3.1nm,0.4s,mb4.2,baz=97,slow=7.0,SNR=41							
KAKA	**Kakadu**	**48.18**	**269**	⇑*i*P	**P**	**21 02 37.6**	**+7.3**
5.1nm,0.3s,mb4.5							
FITZ	**Fitzroy Crossi**	**53.61**	**260**	⇑*i*P	**P**	**21 03 10.3**	**+0.8**
2.6nm,0.5s,mb3.8							
MBWA	**Marble Bar**	**58.64**	**256**	*e*P	**P**	**21 03 43.8**	**-0.2**
VNDA	**Vanda**	**60.43**	**185**	P	**P**	**21 03 55.1**	**0.0**
2.1nm,0.4s,mb3.7,baz=10,slow=7.3,SNR=12							
MKAR	**Makanchi Array**	**109.61**	**314**	PKiKP		21 12 09.6	
0.2nm,0.7s,baz=158,slow=1.6,SNR=4.3							
ARCES	**ARCESS Array B**	**126.48**	**350**	PKP	PKPdf	21 12 42.4	+6.5
0.7nm,0.7s,baz=45,slow=1.7,SNR=4.9							
CLL	**Collm**	**145.65**	**348**	*i* PKP1	PKPbc	21 13 20.4	+7.8
GERES	**GERESS Array B**	**147.83**	**346**	PKPbc	PKPdf	21 13 26.3	+11
0.5nm,0.7s,baz=27,slow=3.0,SNR=5.6							

*IDC **04** 20:59:26.7±1.9, 17.68S×178.78W, h519km±21km, mb3.5/6, mb1 3.7/8, mb1mx3.6/15, mbtmp4.4/8, Error ellipse: s-maj=25.6km s-min=15.7km az=139.0*
*NEIC **04** 20:59:26.4±0.9, 17.58S×178.81W, h518km±10km, mb4.4/14, Error ellipse: s-maj=13.4km s-min=8.8km az=147.0*
ISC 04 20:59:24.7±1.1,**17.7S**±0.1×**178.82W**±0.09,**h505**km±15km,
n80,σ1°**28**/33,**mb4.2**/17,**3C-8D**,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.75**	**62**	P	**P**	**21 01 20.1**	**+0.4**
7.3nm,0.3s,baz=219,slow=19,SNR=7.4							
AFI	**Afiamalu**	**7.75**	**62**	*e*Pn	**P**	**21 01 19.9**	**+0.2**
RAO	**Raoul Island**	**11.56**	**176**	P	**P**	**21 01 57.4**	**-2.2**
DZM	**Mont Dzumac**	**14.53**	**250**	P	**P**	**21 02 32.8**	**+2.5**
0.3nm,0.3s,baz=78,slow=20,SNR=6.2							
URZ	**Urewera**	**20.82**	**189**	P	**P**	**21 03 31.1**	**-0.2**
3.8nm,0.4s,baz=102,slow=3.0,SNR=3.6							
CTA	**Charters Tower**	**33.10**	**260**	*e*P	**P**	**21 05 19.9**	**+0.4**
6.0nm,0.8s,mb4.1							
CTAO	**Charters Tower**	**33.10**	**260**	*e*P	**P**	**21 05 19.5**	**-0.1**
28nm,0.9s,mb4.7							
CNB	**Canberra Magne**	**33.26**	**232**	⇓*i*P	**P**	**21 05 22.3**	**+1.5**
12nm,0.5s,mb4.6							
PMG	**Port Moresby**	**34.03**	**279**	*e*P	**P**	**21 05 28.1**	**+0.6**
TOO	**Toolangi**	**37.01**	**230**	*e*P	**P**	**21 05 53.7**	**+1.7**
17nm,0.9s,mb4.5							
STKA	**Stephens Creek**	**38.40**	**241**	⇓*i*P	**P**	**21 06 04.8**	**+1.5**
12nm,0.6s,mb4.5							
STKA	**Stephens Creek**	**38.40**	**241**	P	**P**	**21 06 04.8**	**+1.5**
12nm,0.4s,mb4.7,baz=90,slow=9.7,SNR=127							
STKA	**Stephens Creek**	**38.40**	**241**	*e*P	**P**	**21 06 04.6**	**+1.3**
WB2	**Warramunga Arr**	**44.28**	**259**	⇓*i*P	**P**	**21 06 49.6**	**-0.9**
WRAB	**Tennant Creek**	**44.28**	**259**	*e*P	**P**	**21 06 48.9**	**-1.6**
8.2nm,0.7s,mb4.3							
WRA	**Warramunga Arr**	**44.29**	**259**	P	**P**	**21 06 49.7**	**-0.9**
3.4nm,0.5s,mb4.1,baz=92,slow=6.9,SNR=39							
KAKA	**Kakadu**	**47.19**	**269**	⇓*i*P	**P**	**21 07 19.0**	**+6.0**
26nm,0.4s,mb5.0							
FITZ	**Fitzroy Crossi**	**52.68**	**260**	⇓*i*P	**P**	**21 07 53.0**	**-0.6**
15nm,0.9s,mb4.3							
MBWA	**Marble Bar**	**57.75**	**256**	*e*P	**P**	**21 08 27.8**	**-1.1**
19nm,0.9s,mb4.4							
KLBR	**Kellerberrin**	**58.58**	**243**	*e*P	**P**	**21 08 33.2**	**-1.2**
16nm,0.7s,mb4.5							
NWAO	**Narrogin (SRO)**	**58.97**	**242**	*e*P	**P**	**21 08 36.2**	**-0.8**
6.1nm,0.8s,mb4.0							
VNDA	**Vanda**	**60.65**	**185**	P	**P**	**21 08 45.5**	**-2.1**
1.1nm,0.6s,mb3.4,baz=358,slow=6.3,SNR=3.6							
VNDA	**Vanda**	**60.65**	**185**	P	**P**	**21 08 45.5**	**-2.1**
CASY	**Casey**	**66.19**	**205**	⇓*i*P	**P**	**21 09 23.0**	**0.0**
CASY	**Casey**	**66.19**	**205**	*e*P	**P**	**21 09 21.9**	**-1.0**
7.4nm,1.0s,mb4.3							
QSPA	**South Pole Qui**	**72.38**	**180**	*e*P	**P**	**21 10 00.4**	**+0.6**
12nm,1.1s,mb4.3							
CMB	**Columbia Colle**	**77.94**	**43**	*e*P	**P**	**21 10 29.4**	**-1.9**
2.2nm,0.8s,mb3.6							
MAW	**Mawson**	**83.95**	**200**	⇓*i*P	**P**	**21 11 02.1**	**+0.6**
2.6nm,0.9s,mb3.8							
MAW	**Mawson**	**83.95**	**200**	P	**P**	**21 11 02.4**	**+0.9**
3.0nm,0.7s,mb3.9,baz=120,slow=10,SNR=14							
TXAR	**Lajitas Array**	**86.20**	**58**	P	**P**	**21 11 14.9**	**+1.6**
0.3nm,0.4s,mb3.3,baz=214,slow=4.5,SNR=9.3							
SNAA	**Sanae**	**90.84**	**179**	⇑*i*	**P**	**21 11 33.8**	**-0.2**
VNA3	**Neumayer Olymp**	**91.00**	**177**	⇑*i*	**P**	**21 11 36.4**	**+1.7**
VNA2	**Neumayer–Watz**	**91.43**	**177**	⇑*i*	**P**	**21 11 38.3**	**+1.6**
MKAR	**Makanchi Array**	**108.69**	**314**	PKiKP		21 16 55.0	
0.5nm,0.5s,baz=227,slow=2.3,SNR=11							
BVAR	**Borovoye Array**	**116.41**	**321**	PKP	PKPdf	21 17 09.9	-0.3
0.8nm,0.3s,baz=119,slow=2.0,SNR=8.9							
ARCES	**ARCESS Array B**	**126.01**	**350**	PKP	PKPdf	21 17 27.9	-0.5
1.1nm,0.7s,baz=5.2,slow=1.3,SNR=9.0							
MATP	**Matopo**	**133.61**	**216**	PKP	PKPdf	21 17 44.1	+0.1
1.1nm,0.6s,baz=171,slow=1.3,SNR=5.2							
KWP	**Kalwaria**	**143.70**	**336**	*e*P	PKPbc	21 18 00.5	-0.2
BR131	**Keskin Array S**	**144.34**	**315**	*e*PKPdf	PKPdf	21 18 02.8	0.0
BRTR	**Keskin Array B**	**144.34**	**315**	PKP	PKPdf	21 18 02.6	-0.1
2.6nm,0.8s,baz=108,slow=3.9,SNR=12							
STHS	**Stebnicka Huta**	**144.42**	**337**	*i* PKP	PKPdf	21 18 03.8	+1.3
KOLS	**Kolonicke sedl**	**144.43**	**336**	*e*PKP	PKPdf	21 18 03.5	+0.9
ASF	**Jabal al Asfar**	**144.72**	**301**	PKP	PKPdf	21 18 05.1	+1.4
4.1nm,0.8s,baz=302,slow=2.5,SNR=7.5							
OKC	**Ostrava-Krasne**	**145.12**	**341**	*e*PKP	PKPdf	21 18 05.0	+1.2
CLL	**Collm**	**145.15**	**347**	⇓*i*PKP1	PKPbc	21 18 05.0	+0.3
UPC	**Upice**	**145.15**	**343**	*e*PKP	PKPdf	21 18 05.5	+1.7
DPC	**Dobruska-Polom**	**145.21**	**343**	*e*PKP	PKPdf	21 18 05.0	+1.1
BRG	**Berggiesshubel**	**145.34**	**346**	*e*P	PKPdf	21 18 06.2	+2.0
MLR	**Muntele Rosu**	**145.43**	**329**	PKPbc	PKPbc	21 18 06.6	+1.0
2.3nm,0.5s,baz=288,slow=0.6,SNR=7.5							
KECS	**Kecovo**	**145.48**	**337**	*i* PKP	PKPdf	21 18 06.6	+2.2
PVCC	**Panska Ves**	**145.51**	**345**	*e*PKP	PKPdf	21 18 03.3	-1.1
PRU	**Pruhonice**	**146.01**	**345**	*e*P	PKPdf	21 18 07.9	+2.6
VYHS	**Vyhne**	**146.06**	**339**	*i* PKP	PKPdf	21 18 08.7	+3.3
NKC	**Novy Kostel**	**146.28**	**347**	*e*PKP	PKPdf	21 18 07.0	+1.3
GRA1	**Grafenberg Arr**	**147.04**	**348**	*e*PKP	PKPdf	21 18 10.8	+3.9
GRF	**Grafenberg Arr**	**147.04**	**348**	*e*PKP	PKPdf	21 18 10.8	+3.9
KHC	**Kasperske Hory**	**147.05**	**345**	*e*P	PKPdf	21 18 10.7	+3.7
GERES	**GERESS Array B**	**147.28**	**345**	PKPbc	PKPdf	21 18 11.4	+4.0
3.2nm,0.6s,baz=26,slow=3.0,SNR=30							
GIVF	**Givet**	**147.51**	**356**	*e*PKP1	PKPdf	21 18 11.8	+4.1
BAIF	**Baives**	**147.60**	**356**	*e*PKP1	PKPdf	21 18 12.0	+4.2
20nm,1.0s							
CDF	**Champ du Feu**	**148.94**	**352**	*e*PKP1	PKPdf	21 18 15.4	+5.4
6.8nm,0.5s							
FLN	**La Foliniere**	**148.96**	**2**	*e*PKP1	PKPdf	21 18 15.0	+5.0
14nm,0.7s							
MEZF	**Maizieres J'vi**	**149.09**	**355**	*e*PKP1	PKPdf	21 18 16.6	+6.3
GRR	**Gorron**	**149.32**	**3**	*e*PKP1	PKPdf	21 18 16.1	+5.5
5.4nm,0.5s							
SGMF	**Saint Gilles**	**149.34**	**5**	*e*PKP1	PKPdf	21 18 16.0	+5.3
HAU	**Haudompre**	**149.45**	**353**	*e*PKP1	PKPdf	21 18 16.5	+5.6
6.0nm,0.5s							
HINF	**Hinteralfeld**	**149.58**	**352**	*e*PKP1	PKPdf	21 18 16.7	+5.6
2.4nm,0.4s							
DAVOX	**Davos**	**150.09**	**348**	PKPbc	PKPdf	21 18 18.7	+6.8
9.3nm,0.5s,baz=260,slow=2.6,SNR=23							
LOR	**Lormes**	**150.40**	**356**	*e*PKP1	PKPdf	21 18 18.9	+6.5
10nm,0.5s							
SSF	**Saint Saulge**	**150.63**	**357**	*e*PKP1	PKPdf	21 18 19.5	+6.8
7.0nm,0.5s							
CABF	**La Chapelle**	**150.86**	**353**	*e*PKP1	PKPdf	21 18 20.3	+7.2
21nm,0.9s							
AVF	**Avril sur Loir**	**150.91**	**357**	*e*PKP1	PKPdf	21 18 19.5	+6.4
3.9nm,0.7s							
SMF	**Signal de Mont**	**151.02**	**356**	*e*PKP1	PKPdf	21 18 19.7	+6.4
MFF	**Saint Martin d**	**151.13**	**2**	*e*PKP1	PKPdf	21 18 20.2	+6.7
12nm,0.8s							
TCF	**Toulx Ste Croi**	**151.45**	**359**	*e*PKP1	PKPdf	21 18 21.0	+7.1
LPL	**La Plagne**	**151.85**	**352**	*e*PKP1	PKPdf	21 18 22.9	+8.4
LPG	**La Plagne**	**151.87**	**352**	*e*PKP1	PKPdf	21 18 23.1	+8.6
ORIF	**Oris-en-Rattie**	**152.55**	**353**	*e*PKP1	PKPdf	21 18 23.9	+8.4
MBDF	**Montbardon**	**152.62**	**351**	*e*PKP1	PKPdf	21 18 24.1	+8.5
9.9nm,0.8s							
CAF	**Calviac**	**152.82**	**359**	*e*PKP1	PKPdf	21 18 24.4	+8.5

*BJI **04** 21:10:21.1, 0.64N×97.25E, h30km, mB5.0, mb4.8, Ms4.7, Msz4.5*
*IDC **04** 21:10:23.5±0.9, 1.23N×97.04E, mb4.4/13, mb1 4.5/13, mb1mx4.3/20, mbtmp4.4/13, MS3.7/2, Ms1 3.7/2, ms1mx3.1/19, Error ellipse: s-maj=39.5km s-min=16.1km az=48.0*
*MOS **04** 21:10:26.5±1.1, 1.30N×97.19E, h33km, mb4.8/21, Error ellipse: s-maj=18.7km s-min=8.9km az=100.8*
*NEIC **04** 21:10:28.1±0.4, 1.28N×97.18E, h30km, mb4.8/9, Error ellipse: s-maj=10.9km s-min=7.4km az=49.0*
ISC 04 21:10:25.7±0.5,**1.24N**±0.06×**97.17E**±0.06,**h28**km,
h28km±1.7km:**pP-P**,**n87**,σ1°**10**/97,**mb4.7**/44,**MS4.2**/12,**3C**,
Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.08**	**49**	P	**Pn**	**21 11 42.9**	**+0.8**
KULM	**Kulim**	**5.31**	**41**	*e*Pn	**Pn**	**21 11 45.6**	**+0.2**
KGM	**Kluang**	**6.19**	**83**	P	**Pn**	**21 11 59.5**	**+1.6**
SNG	**Songkhla**	**6.82**	**30**	P	**Pn**	**21 12 06.0**	**-0.7**
194nm,0.8s							
KSM	**Kuching**	**13.14**	**89**	P	**P**	**21 13 42.4**	**+9.1**
KKTK	**Khon Kaen**	**16.00**	**20**	P	**P**	**21 14 12.5**	**+1.7**
NANT	**Nan**	**17.79**	**11**	P	**P**	**21 14 35.0**	**+1.7**
100nm,0.4s							
KKM	**Kota Kinabalu**	**19.59**	**75**	P	**P**	**21 14 53.6**	**-1.3**
QIZ	**Qiongzhong**	**21.61**	**34**	P	**P**	**21 15 15.6**	**-0.1**
QIZ	**Qiongzhong**	**21.61**	**34**	*e*P	**P**	**21 15 15.4**	**-0.4**
20nm,1.0s,mb4.5							
QIZ				*e*		21 15 24.0	
KMI	**Kunming**	**24.34**	**12**	P	**P**	**21 15 44.5**	**+1.8**
KMI				AP		21 15 51.3	
KMI				XP		21 15 54.8	
KMI				PP	PP	21 16 21.2	+3.0
KMI				S	**S**	**21 20 02.0**	**+4.8**
KMI				XS		21 20 13.7	
KMI				SS	SS	21 20 57.3	+5.7
KMI				AMB	AMB		
comp=Z,36nm,1.2s,mb4.7							
KMI				AMB	AMB		
comp=Z,277nm,4.7s							
KMI				LR	LR		
comp=N,812nm,13.4s							
KMI				LR	LR		
comp=E,602nm,8.1s							
KMI				LR	LR		
comp=Z,783nm,13.4s,MS4.4							
KMI	**Kunming**	**24.34**	**12**	P	**P**	**21 15 44.5**	**+1.8**
comp=Z,36nm,1.2s,mb4.7							
KMI				pP		21 15 51.3	
KMI				sP		21 15 54.8	
KMI				PP	PP	21 16 21.2	+3.0
KMI				PPP	PPP	21 16 32.3	+3.8
KMI				S	**S**	**21 20 02.0**	**+4.8**
KMI				sS		21 20 13.7	
KMI				SS	SS	21 20 57.3	+5.7
KMI				SSS	SSS	21 21 14.7	+6.6
KMI				LR	LR		
comp=Z,780nm,13.4s,MS4.4							
KMI	**Kunming**	**24.34**	**12**	P	**P**	**21 15 44.5**	**+1.8**
KMI				*SP		21 15 54.8	
KMI						21 16 21.2	
KMI				PPP	PPP	21 16 32.3	+3.8
KMI				S	**S**	**21 20 02.0**	**+4.8**
KMI				*SS		21 20 13.7	
KMI				pmax	pmax		
comp=Z,36nm,1.2s,mb4.7							
KMI				MLR	MLR		
comp=Z,780nm,13.4s,MS4.4							
PKI	**Pulchoki**	**28.50**	**338**	*e*P	**P**	**21 16 22.1**	**+1.0**
comp=Z,24nm,0.8s,mb5.0							
DMN	**Daman**	**28.66**	**337**	*e*P	**P**	**21 16 23.0**	**+0.5**
comp=Z,30nm,0.8s,mb5.1							
KKN	**Kakani**	**28.75**	**338**	*e*P	**P**	**21 16 23.8**	**+0.5**
comp=Z,30nm,0.9s,mb5.0							
LSA	**Lhasa**	**28.88**	**349**	P	**P**	**21 16 25.0**	**+0.6**
LSA	**Lhasa**	**28.88**	**349**	*e*P	**P**	**21 16 25.6**	**+1.1**
comp=Z,11nm,0.8s,mb4.6							
LSA	**Lhasa**	**28.88**	**349**	*e*P	**P**	**21 16 25.6**	**+1.2**
LSA				pmax	pmax		
comp=Z,11nm,0.8s,mb4.6							
GKN	**Gorkha**	**29.19**	**337**	*e*P	**P**	**21 16 27.5**	**+0.2**
comp=Z,46nm,0.9s,mb5.2							
KOLN	**Koldanda**	**29.41**	**335**	*e*P	**P**	**21 16 29.3**	**0.0**
comp=Z,29nm,0.8s,mb5.1							
CD2	**Chengdu**	**30.16**	**11**	P	**P**	**21 16 37.5**	**+1.6**
ENH	**Enshi**	**31.15**	**21**	*e*P	**P**	**21 16 42.6**	**-2.0**
comp=Z,30nm,0.6s,mb5.3							
ENH				*e*	pP	21 16 50.2	-2.7
FITZ	**Fitzroy Crossi**	**33.98**	**126**	P	**P**	**21 17 08.9**	**-0.5**
comp=Z,4.8nm,0.6s,mb4.6,baz=360,slow=8.2,SNR=7.4							
XAN	**Xi'an**	**34.43**	**17**	P	**P**	**21 17 12.1**	**-1.1**
XAN				AP	pP	21 17 18.0	-3.4
XAN				AMB	AMB		
comp=Z,8.0nm,0.5s,mb4.9							
LZH	**Lanzhou**	**35.22**	**9**	⇑P	**P**	**21 17 19.5**	**-0.4**
LZH				AP	pP	21 17 29.0	+0.9
LZH				XP	sP	21 17 32.7	+1.0
LZH				PP	PP	21 18 39.5	+0.3
LZH				*e*S	**S**	**21 22 50.4**	**-0.3**
LZH				XS		21 23 06.1	
LZH				AMB	AMB		
comp=Z,26nm,1.3s,mb5.0							
LZH				AMB	AMB		
comp=Z,79nm,4.9s							
LZH				LR	LR		
comp=E,746nm,13.2s							
LZH				LR	LR		
comp=Z,1μm,17.3s,MS4.8							
LZH	**Lanzhou**	**35.22**	**9**	⇑P	**P**	**21 17 19.5**	**-0.4**
comp=Z,26nm,1.3s,mb5.0							
LZH				pP	pP	21 17 29.0	+0.9
LZH				sP	sP	21 17 32.7	+1.0
LZH				PP	PP	21 18 39.5	+0.3
LZH				*e*S	**S**	**21 22 50.4**	**-0.3**
LZH				sS		21 23 06.1	
LZH				SS	SS	21 25 06.7	-1.2
LZH				LR	LR		
comp=Z,1μm,17.3s,MS4.8							
NJ2	**Nanjing**	**36.84**	**32**	*e*P	**P**	**21 17 32.1**	**-1.5**
NJ2				AP	pP	21 17 41.8	-0.1
NJ2				XP	sP	21 17 45.8	+0.4
NJ2				PP	PP	21 18 58.5	-1.1
NJ2				S	**S**	**21 23 13.0**	**-2.8**
NJ2				XS		21 23 29.0	
NJ2				AMB	AMB		
comp=Z,10.0nm,0.6s,mb4.8							
NJ2				AMB	AMB		
comp=Z,40nm,4.6s							
NJ2				LR	LR		
comp=N,3μm,12.0s,MS5.4							
NJ2				LR	LR		
comp=E,2μm,15.0s,MS5.4							
NJ2				LR	LR		
comp=Z,2μm,19.8s,MS4.9							
SSE	**Sheshan**	**37.40**	**35**	P	**P**	**21 17 36.1**	**-2.2**
SSE				XP	sP	21 17 48.6	-1.5
SSE				PP	PP	21 19 01.9	-4.5
SSE				PCP	PcP	21 19 53.5	-3.8
SSE				S	**S**	**21 23 23.8**	**-0.4**
SSE				XS		21 23 39.1	
SSE				AMB	AMB		
comp=Z,36nm,0.7s,mb5.3							
SSE				AMB	AMB		
comp=Z,901nm,6.7s							
SSE				LR	LR		
comp=N,108nm,17.3s,MS3.7							
SSE				LR	LR		
comp=E,43nm,17.6s,MS3.7							
SSE				LR	LR		
comp=Z,113nm,14.7s,MS3.8							
SSE	**Sheshan**	**37.40**	**35**	P	**P**	**21 17 36.1**	**-2.2**
comp=Z,36nm,0.7s,mb5.3							
SSE				sP	sP	21 17 48.6	-1.5
SSE				PP	PP	21 19 01.9	-4.5
SSE				PcP	PcP	21 19 53.5	-3.8
SSE				S	**S**	**21 23 23.8**	**-0.4**
SSE				sS		21 23 39.1	
SSE				SS	SS	21 26 08.9	+12
SSE				LR	LR		
comp=Z,110nm,14.7s,MS3.8							
GTA	**Gaotai**	**38.06**	**3**	*e*P	**P**	**21 17 44.1**	**+0.3**
GTA				AP	pP	21 17 51.3	-0.8
GTA				XP	sP	21 17 55.0	-0.6
GTA				AMB	AMB		
comp=Z,15nm,1.0s,mb4.7							
HHC	**Hu-ho-hao-te**	**41.53**	**17**	*e*P	**P**	**21 18 14.7**	**+2.2**
HHC				AP	pP	21 18 24.0	+3.2
HHC				XP	sP	21 18 28.2	+3.9
HHC				PP	PP	21 19 53.2	+1.7
HHC				S	**S**	**21 24 30.3**	**+4.1**
HHC				XS		21 24 46.4	
HHC				SS	SS	21 27 31.2	+4.8
HHC				SCS	ScS	21 28 13.5	+1.6
HHC				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.5							
HHC				AMB	AMB		
comp=Z,120nm,3.6s							
HHC				LR	LR		
comp=N,411nm,14.9s,MS4.5							
HHC				LR	LR		
comp=E,292nm,16.1s,MS4.5							
HHC				LR	LR		
comp=Z,309nm,15.5s,MS4.3							
WRA	**Warramunga Arr**	**42.08**	**122**	P	**P**	**21 18 18.1**	**+0.7**
comp=Z,3.1nm,0.5s,mb4.2,baz=303,slow=9.0,SNR=18							
WRA	**Warramunga Arr**	**42.08**	**122**	P	**P**	**21 18 18.1**	**+0.8**
WRA				pmax	pmax		
comp=Z,3.0nm,0.5s							
WRAB	**Tennant Creek**	**42.09**	**122**	*e*P	**P**	**21 18 17.7**	**+0.3**
comp=Z,6.3nm,0.6s,mb4.4							
WRAB				*e*	pP	21 18 24.3	-1.4
WRAB	**Tennant Creek**	**42.09**	**122**	*e*P	**P**	**21 18 17.7**	**+0.3**
WRAB				*e*	pP	21 18 24.3	-1.4
WRAB				pmax	pmax		
comp=Z,6.0nm,0.6s,mb4.4							
WB2	**Warramunga Arr**	**42.09**	**122**	*e*P	**P**	**21 18 18.0**	**+0.6**
WMQ	**Urumqi**	**43.23**	**350**	P	**P**	**21 18 28.0**	**+1.6**
WMQ				AP	pP	21 18 38.0	+3.3
WMQ				XP	sP	21 18 42.0	+3.9
WMQ				PP	PP	21 20 11.0	+2.0
WMQ				S	**S**	**21 24 52.0**	**+0.9**
WMQ				XS		21 25 08.0	
WMQ				SS	SS	21 27 59.0	+1.1
WMQ				AMB	AMB		
comp=Z,16nm,1.0s,mb4.7							
WMQ				LR	LR		
comp=N,48nm,16.0s,MS3.8							
WMQ				LR	LR		
comp=E,95nm,18.0s,MS3.8							
WMQ				LR	LR		
comp=Z,66nm,17.0s,MS3.6							
JNU	**Nakatsue**	**44.79**	**41**	P	**P**	**21 18 39.4**	**+0.2**
comp=Z,9.6nm,0.9s,mb4.7,baz=351,slow=4.6,SNR=5.3							
KS15	**Wonju Array Si**	**45.80**	**35**	*e*P	**P**	**21 18 47.5**	**+0.3**
AAK	**Ala-Archa**	**45.95**	**337**	P	**P**	**21 18 48.5**	**+0.3**
AAK	**Ala-Archa**	**45.95**	**337**	*e*P	**P**	**21 18 48.7**	**+0.5**
AAK				pmax	pmax		
comp=Z,4.0nm,1.1s,mb4.3							
SONM	**Songino Array**	**47.09**	**8**	P	**P**	**21 18 57.8**	**+0.6**
comp=Z,8.3nm,0.8s,mb4.7,baz=189,slow=8.9,SNR=48							
SONM				PcP	PcP	21 20 29.4	+0.2
comp=Z,1.6nm,0.6s,baz=192,slow=3.8,SNR=3.5							
SONM	**Songino Array**	**47.09**	**8**	P	**P**	**21 18 57.8**	**+0.6**
SONM						21 20 29.4	
SONM				pmax	pmax		
comp=Z,8.0nm,0.8s							
SONM				pmax	pmax		
comp=Z,2.0nm,0.6s							
MKAR	**Makanchi Array**	**47.19**	**346**	P	**P**	**21 18 58.5**	**+0.5**
comp=Z,4.9nm,0.5s,mb4.7,baz=160,slow=9.1,SNR=82							
MKAR				LR	LR	21 41 58.4	
comp=Z,60nm,18.2s,MS3.6,baz=168,slow=40							
MKAR	**Makanchi Array**	**47.19**	**346**	P	**P**	**21 18 58.5**	**+0.5**
MKAR				pmax	pmax		
comp=Z,5.0nm,0.5s							
MKAR				MLR	MLR		
comp=Z,60nm,18.2s							
CN2	**Changchun**	**49.28**	**27**	*e*P	**P**	**21 19 13.5**	**-0.8**
CN2				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.9							
CN2				LR	LR		
comp=Z,270nm,15.0s,MS4.4

GNI pmax pmax
comp=Z,13nm,2.5s
SVE Sverdlovsk 62.64 338 *e*P **P 21 20 49.1 -0.9**
SVE *e* 21 21 07.0
SVE *e* 21 24 42.0
SVE MLR MLR
comp=Z,100nm,11.0s,MS4.2
ARU Arti 63.13 337⇑ *i*P **P 21 20 52.0 -1.3**
ARU *e* 21 21 28.1
ARU *e*PPP PPP 21 24 39.4 -5.4
ARU *e*S **S 21 29 22.6 +1.7**
ARU *e*SS SS 21 33 29.7 +0.7
ARU pmax pmax
comp=Z,5.0nm,1.0s,mb4.6
KIV Kislovodsk 64.26 319 *e*P **P 21 21 00.1 -0.8**
KIV pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
YAK Yakutsk 65.39 16 *i* P **P 21 21 06.8 -1.1**
YAK pmax pmax
comp=Z,32nm,0.9s,mb5.3
BRTR Keskin Array B 69.06 312 P **P 21 21 30.5 -0.9**
comp=Z,0.9nm,0.8s,mb3.8,baz=127,slow=6.2,SNR=5.5
BRTR Keskin Array B 69.06 312 P **P 21 21 30.5 -0.9**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
MA2 Magadan 71.31 26 *e*P **P 21 21 44.6 -0.1**
PET Petropavlovsk 72.21 34 *i* P **P 21 21 50.1 -0.1**
PET pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
OBN Obninsk 72.57 328 *i* P **P 21 21 53.0 +0.7**
OBN *e* 21 22 08.7
OBN *e* 21 24 32.4
OBN *e*S S 21 31 15.4 +1.7
OBN *e*SS SS 21 35 52.8 -2.3
OBN pmax pmax
comp=Z,14nm,2.5s,mb4.5
MLR Muntele Rosu 76.02 317 P **P 21 22 12.7 +0.2**
comp=Z,2.5nm,1.1s,mb4.0,baz=174,slow=1.0,SNR=3.8
MLR Muntele Rosu 76.02 317 P **P 21 22 12.7 +0.3**
MLR pmax pmax
comp=Z,3.0nm,1.1s
FINES FINESS Array B 79.95 333 P **P 21 22 33.7 0.0**
comp=Z,1.0nm,0.7s,mb3.9,baz=117,slow=4.3,SNR=5.9
FINES FINESS Array B 79.95 333 P **P 21 22 33.7 0.0**
FINES FINESS Array B 79.95 333 P **P 21 22 33.7 0.0**
FINES pmax pmax
comp=Z,1.0nm,0.7s
ARCES ARCESS Array B 82.49 340 P **P 21 22 47.4 +0.5**
comp=Z,1.2nm,0.4s,mb4.1,baz=98,slow=5.0,SNR=18
ARCES ARCESS Array B 82.49 340 P **P 21 22 47.4 +0.6**
ARCES pmax pmax
comp=Z,1.0nm,0.4s
GERES GERESS Array B 84.76 319 P **P 21 22 59.8 +0.9**
comp=Z,1.5nm,0.9s,mb4.1,baz=76,slow=5.5,SNR=8.9
GERES GERESS Array B 84.76 319 P **P 21 22 59.8 +1.0**
GERES pmax pmax
comp=Z,2.0nm,0.9s
NOA NORSAR Array B 86.95 331 P **P 21 23 10.0 +0.6**
comp=Z,0.6nm,0.7s,mb4.0,baz=101,slow=3.7,SNR=3.9
NOA NORSAR Array B 86.95 331 P **P 21 23 10.0 +0.6**
NOA NORSAR Array B 86.95 331 P **P 21 23 10.0 +0.6**
NOA pmax pmax
comp=Z,1.0nm,0.7s
ILAR Eielson Array 99.67 23 LR LR 22 15 45.2
comp=Z,35nm,18.6s,MS3.9,slow=39
JCT Junction City 144.55 26 *e*PKPdf PKPdf 21 29 58.9 -6.3

IDC 04 21:16:54.3±28.0, 23.49S×178.35E, h674km±293km, mb2.8/3, mb1 2.9/3, mb1mx2.8/11, mbtmp4.0/3, Error ellipse: s-maj=242.6km s-min=96.8km az=81.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**29.96**	**270**	P	P	21 22 13.2	-0.6
	2.6nm,0.4s,baz=84,slow=12,SNR=7.9						
STKA	**Stephens Creek**	**33.48**	**247**	P	P	21 22 40.9	-2.2
	0.6nm,0.4s,baz=103,slow=11,SNR=4.9						
WRA	**Warramunga Arr**	**40.92**	**266**	P	P	21 23 42.1	-1.4
	0.4nm,0.3s,baz=96,slow=7.7,SNR=8.0						
HFS	**Hagfors**	**141.83**	**348**	PKP	PKPdf	21 35 08.4	-2.5
	1.8nm,0.4s,baz=72,slow=4.6,SNR=19						
AKASG	**Malin Array Be**	**143.80**	**326**	PKP	PKPdf	21 35 14.8	+0.1
	0.3nm,0.2s,baz=44,slow=3.7,SNR=7.4						

IDC 04 21:24:06.8±39.0, 22.28S×179.69E, h698km±377km, mb3.2/2, mb1 3.4/2, mb1mx2.9/12, mbtmp4.4/2, Error ellipse: s-maj=467.9km s-min=199.4km az=133.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**31.21**	**268**	P	P	21 29 34.7	-1.2
	5.0nm,0.4s,baz=95,slow=9.6,SNR=20						
WRA	**Warramunga Arr**	**42.25**	**264**	P	P	21 31 03.5	-1.8
	1.6nm,0.5s,baz=101,slow=8.2,SNR=6.5						
ARCES	**ARCESS Array B**	**130.25**	**348**	PKP	PKPdf	21 41 58.2	-1.9
	0.7nm,0.6s,baz=45,slow=1.7,SNR=5.5						
HFS	**Hagfors**	**140.91**	**349**	PKhKP		21 42 13.4	
	1.8nm,0.7s,baz=117,slow=3.3,SNR=7.1						
AKASG	**Malin Array Be**	**143.45**	**328**	PKP	PKPdf	21 42 24.5	+0.2
	1.4nm,0.4s,baz=41,slow=4.1,SNR=10						

*IDC **04** 21:57:40.3±1.3, 17.82S×178.58W, h542km±15km, mb3.9/13, mb1 4.1/16, mb1mx3.9/22, mbtmp4.8/16, Error ellipse: s-maj=19.9km s-min=10.2km az=148.0*
*NEIC **04** 21:57:41.1±0.8, 17.82S×178.59W, h554km±9km, mb4.5/22, Error ellipse: s-maj=12.9km s-min=7.4km az=145.0*
ISC 04 21:57:40.0±0.8, 17.83S±0.09×178.66W±0.08, h548km±10km, n69, σ1$00/55, mb4.3/28, 2C-11D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.69**	**61**	P	**P**	**21 59 34.6**	**-0.8**
	16nm,0.3s,baz=80,slow=17,SNR=13						
AFI				S	**S**	**22 01 06.3**	**-1.0**
	3.2nm,0.3s,baz=259,slow=23,SNR=3.0						
AFI	**Afiamalu**	**7.69**	**61**	*e*P	**P**	**21 59 34.6**	**-0.8**
	54nm,0.5s						
AFI				*e*S	**S**	**22 01 09.7**	**+2.4**
RAO	**Raoul Island**	**11.39**	**177**	P	**P**	**22 00 12.5**	**-0.2**
	46nm,0.3s,baz=107,slow=19,SNR=4.6						
RAO	**Raoul Island**	**11.39**	**177**	*e*P	**P**	**22 00 12.1**	**-0.6**
DZM	**Mont Dzumac**	**14.62**	**251**	*e*P	**P**	**22 00 47.5**	**+2.0**
DZM	**Mont Dzumac**	**14.62**	**251**	P	**P**	**22 00 47.4**	**+1.9**
	4.4nm,0.3s,baz=92,slow=18,SNR=36						
NOUC	**Port Laguerre**	**14.76**	**251**	*e*P	**P**	**22 00 51.8**	**+5.0**
URZ	**Urewera**	**20.69**	**189**	P	**P**	**22 01 41.7**	**-1.6**
	2.4nm,0.4s,baz=270,slow=8.1,SNR=3.7						
CTA	**Charters Tower**	**33.22**	**260**	*i*P	**P**	**22 03 33.5**	**+0.2**
	9.7nm,0.6s,mb4.5						
CTA	**Charters Tower**	**33.22**	**260**	P	**P**	**22 03 33.6**	**+0.3**
	15nm,0.6s,mb4.7,baz=88,slow=10.0,SNR=29						
CTAO	**Charters Tower**	**33.22**	**260**	*e*P	**P**	**22 03 33.5**	**+0.2**
	17nm,0.7s,mb4.7						
CNB	**Canberra Magne**	**33.28**	**232**	*i*P	**P**	**22 03 35.0**	**+1.3**
	40nm,0.6s,mb5.1						
PMG	**Port Moresby**	**34.21**	**280**	P	**P**	**22 03 41.8**	**+0.3**
	56nm,0.8s,mb5.1,baz=77,slow=6.8,SNR=13						
PMG	**Port Moresby**	**34.21**	**280**	*e*P	**P**	**22 03 42.9**	**+1.3**
	53nm,0.8s,mb5.1						
TOO	**Toolangi**	**37.03**	**231**	*i*P	**P**	**22 04 05.8**	**+1.1**
	24nm,0.7s,mb4.8						
STKA	**Stephens Creek**	**38.45**	**241**	*i*P	**P**	**22 04 17.6**	**+1.3**
	22nm,0.6s,mb4.9						
STKA	**Stephens Creek**	**38.45**	**241**	P	**P**	**22 04 17.6**	**+1.3**
	21nm,0.3s,mb5.1,baz=92,slow=9.6,SNR=180						
WB2	**Warramunga Arr**	**44.40**	**259**	*i*P	**P**	**22 05 02.9**	**-0.9**
WRAB	**Tennant Creek**	**44.40**	**259**	*e*P	**P**	**22 05 02.9**	**-0.9**
	21nm,0.6s,mb4.8						
WRA	**Warramunga Arr**	**44.41**	**259**	P	**P**	**22 05 03.1**	**-0.8**
	12nm,0.5s,mb4.7,baz=91,slow=7.0,SNR=120						
KAKA	**Kakadu**	**47.34**	**269**	*i*P	**P**	**22 05 32.3**	**+5.9**
	22nm,0.3s,mb5.2						
FITZ	**Fitzroy Crossi**	**52.80**	**261**	*i*P	**P**	**22 06 06.0**	**-0.5**
	8.6nm,0.3s,mb4.6						
MBWA	**Marble Bar**	**57.86**	**256**	*e*P	**P**	**22 06 40.7**	**-0.9**
	13nm,0.3s,mb4.6						
KLBR	**Kellerberrin**	**58.65**	**244**	*i*P	**P**	**22 06 45.5**	**-1.3**
	19nm,0.8s,mb4.4						
MUN	**Mundaring**	**59.94**	**243**	*e*P	**P**	**22 06 54.9**	**-0.5**
	12nm,1.3s,mb4.1						
CASY	**Casey**	**66.11**	**205**	*i*P	**P**	**22 07 33.9**	**-0.3**
QSPA	**South Pole Qui**	**72.22**	**180**	*i*P	**P**	**22 08 11.1**	**+0.6**
	5.6nm,0.8s,mb4.0						
KRMB	**Red Mountain**	**77.77**	**39**	P	**P**	**22 08 40.0**	**-1.8**
YBH	**Yreka Blue Hor**	**78.62**	**39**	P	**P**	**22 08 46.6**	**+0.3**
	4.7nm,0.7s,mb4.0,baz=26,slow=0.5,SNR=10.0						
MTUM	**Tungsten Hills**	**78.78**	**45**	*e*P	**P**	**22 08 48.2**	**+0.9**
BEKR	**Beckwourth**	**78.99**	**42**	*e*P	**P**	**22 08 48.8**	**+0.4**
	3.1nm,0.5s,mb3.9						
BMN	**Battle Mountai**	**81.31**	**43**	*e*P	**P**	**22 08 56.1**	**-4.3**
	5.3nm,0.6s,mb4.2						
BMN				*e*		22 09 09.8	
WVOR	**Wild Horse Val**	**81.50**	**40**	*e*P	**P**	**22 09 01.1**	**-0.2**
	8.5nm,0.9s,mb4.2						
ELK	**Elko**	**82.77**	**43**	*e*P	**P**	**22 09 07.9**	**+0.2**
	3.5nm,1.0s,mb3.8						
BMO	**Blue Mountains**	**83.63**	**39**	*e*P	**P**	**22 09 11.7**	**-0.2**
	1.2nm,0.7s,mb3.5						
MSU	**Marysvale**	**83.72**	**46**	*e*P	**P**	**22 09 13.3**	**+0.8**
MAW	**Mawson**	**83.85**	**200**	*i*P	**P**	**22 09 12.9**	**+0.5**
	2.2nm,0.4s,mb4.0						
MAW	**Mawson**	**83.85**	**200**	P	**P**	**22 09 13.2**	**+0.7**
	2.8nm,0.4s,mb4.1,baz=128,slow=6.1,SNR=18						
NEW	**Newport**	**85.59**	**36**	P	**P**	**22 09 20.2**	**-1.2**
	2.0nm,0.7s,mb3.9,baz=99,slow=17,SNR=3.8						
NEW	**Newport**	**85.59**	**36**	P	**P**	**22 09 20.2**	**-1.2**
DLBC	**Dease Lake**	**85.85**	**23**	P	**P**	**22 09 23.1**	**+0.7**
	1.4nm,0.6s,mb3.8,baz=230,slow=7.8,SNR=3.8						
ILAR	**Eielson Array**	**85.86**	**13**	P	**P**	**22 09 20.9**	**-1.4**
	1.7nm,0.4s,mb4.1,baz=223,slow=5.3,SNR=19						
TXAR	**Lajitas Array**	**86.16**	**58**	P	**P**	**22 09 25.9**	**+1.4**
	4.1nm,0.8s,mb4.1,baz=222,slow=5.9,SNR=24						
RRI2	**Red Ridge**	**86.59**	**42**	*e*P	**P**	**22 09 26.5**	**+0.3**
	10nm,0.8s,mb4.5						
IMW	**Indian Meadow**	**87.09**	**42**	*e*P	**P**	**22 09 29.7**	**+1.1**
	3.8nm,0.7s,mb4.1						
PDAR	**Pinedale Array**	**87.46**	**44**	P	**P**	**22 09 30.6**	**+0.3**
	2.7nm,0.5s,mb4.1,baz=235,slow=2.7,SNR=21						
SYO	**Syowa Base**	**89.18**	**193**	⇑P	**P**	**22 09 35.8**	**-2.0**
SYO	**Syowa Base**	**89.18**	**193**	⇑PcP	PcP	22 09 38.0	-0.9
SNAA	**Sanae**	**90.68**	**179**		**P**	**22 09 44.2**	**-0.4**
VNA3	**Neumayer Olymp**	**90.83**	**176**		**P**	**22 09 46.9**	**+1.6**
VNA2	**Neumayer--Watz**	**91.27**	**177**		**P**	**22 09 48.3**	**+0.9**
VNA1	**Neumayer--Stat**	**91.50**	**177**		**P**	**22 09 48.1**	**-0.3**
INK	**Inuvik**	**91.87**	**15**	P	**P**	**22 09 49.5**	**-0.6**
	1.5nm,0.6s,mb4.2,baz=189,slow=8.4,SNR=6.3						
INK	**Inuvik**	**91.87**	**15**	*e*P	**P**	**22 09 49.0**	**-1.1**
MKAR	**Makanchi Array**	**108.91**	**314**	PKiKP		22 15 06.9	
	0.4nm,0.5s,baz=98,slow=0.4,SNR=9.8						
BVAR	**Borovoye Array**	**116.63**	**321**	PKP	PKPdf	22 15 21.5	-0.1
	0.8nm,0.4s,baz=124,slow=3.0,SNR=12						
HFS	**Hagfors**	**136.82**	**351**	PKhKP		22 15 52.4	
	3.1nm,1.1s,baz=90,slow=3.0,SNR=5.0						
TATS	**Tathlith**	**140.11**	**279**	P	PKPdf	22 16 02.8	-4.1
HILS	**Ha'il**	**141.60**	**292**	P	PKPdf	22 16 06.8	-2.5
LTHS	**Al Lith**	**143.04**	**280**	P	PKPbc	22 16 12.0	+1.5
BR131	**Keskin Array S**	**144.55**	**315**	*e*PKP	PKPdf	22 16 14.5	+0.5
BRTR	**Keskin Array B**	**144.56**	**315**	PKP	PKPdf	22 16 15.5	+1.5
	2.0nm,0.5s,baz=90,slow=1.2,SNR=15						
QURS	**Qurayyt al Mil**	**144.78**	**299**	P	PKPdf	22 16 17.8	+3.1
ASF	**Jabal al Asfar**	**144.93**	**301**	PKP	PKPdf	22 16 15.8	+0.8
	3.4nm,0.8s,baz=343,slow=4.3,SNR=6.6						
MLR	**Muntele Rosu**	**145.64**	**329**	PKPbc	PKPbc	22 16 19.4	+2.4
	1.2nm,0.8s,baz=165,slow=13,SNR=4.3						
TBKS	**Tabuk**	**146.09**	**294**	P	PKPdf	22 16 20.7	+3.7
BDAS	**Al Bad'**	**147.31**	**295**	P	PKPdf	22 16 23.6	+4.6
GERES	**GERESS Array B**	**147.47**	**345**	PKPbc	PKPdf	22 16 20.9	+2.4
	0.3nm,0.4s,baz=27,slow=3.0,SNR=5.8						
TAYS	**Tayyib Ism**	**147.48**	**295**	P	PKPdf	22 16 24.1	+4.9

*PRU **04** 22:21:08.9, 51.44N×16.09E*
*CSEM **04** 22:21:08.4±0.4, 51.47N×16.10E, ML2.9/6, Error ellipse: s-maj=6.3km s-min=2.9km az=18.0*
*NEIC **04** 22:21:10.2±1.6, 51.33N×16.04E, h5km, ML2.7(VIE), Error ellipse: s-maj=16.7km s-min=6.3km az=206.0*
WAR 04 22:21:08.6, 51.49N×16.10E, h1km, ML2.3, 2C, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.66**	**169**	*e*PG	Pg	22 21 21.0	-0.7
KSP				*e*SG	Sg	22 21 29.0	-1.4
KSP	**Ksiaz**	**0.66**	**169**	*e*Pg	Pg	22 21 20.6	-1.1
KSP				*e*Sg	Sg	22 21 29.2	-1.2
UPC	**Upice**	**0.98**	**183**	*e*PG	Pg	22 21 26.7	-1.5
DPC	**Dobruska-Polom**	**1.15**	**173**	*e*PG	Pg	22 21 29.4	-2.1
DPC				*e*SG	Sg	22 21 43.8	-2.9
	20nm,0.4s						
PVCC	**Panska Ves**	**1.36**	**226**	*e*PG	Pg	22 21 33.8	-1.9
BRG	**Berggiesshubel**	**1.49**	**247**	Pg	Pg	22 21 36.0	-2.3
BRG				Sg	Sg	22 21 56.2	-1.9
BRG	**Berggiesshubel**	**1.49**	**247**	Pg	Pg	22 21 36.0	-2.3
BRG				Sg	Sg	22 21 56.2	-1.9
PRU	**Pruhonice**	**1.79**	**214**	*e*PG	Pg	22 21 41.1	-3.3
PRU				*e*SG	Sg	22 22 04.5	-3.9
	6.2nm,0.3s						
MORC	**Moravsky Berou**	**1.94**	**151**	*e*Pn	Pn	22 21 41.4	-1.7
CLL	**Collm**	**1.95**	**266**	*i* PG	Pg	22 21 44.4	-3.0
CLL				*e*		22 21 48.0	
CLL				*e*SG	Sg	22 22 10.0	-3.4
CLL	**Collm**	**1.95**	**266**	*i* Pg	Pg	22 21 44.4	-3.0
CLL				*e*Sg	Sg	22 22 10.0	-3.4
OKC	**Ostrava-Krasne**	**2.10**	**141**	*e*PG	Pg	22 21 47.7	-2.9
OKC				*e*SG	Sg	22 22 13.8	-4.8
	8.1nm,0.4s						
VRAC	**Vranov**	**2.20**	**171**	*e*Pn	Pn	22 21 46.3	-0.5
VRAC				*e*Sg	Sg	22 22 18.2	-3.7
NKC	**Novy Kostel**	**2.63**	**243**	*e*PN	Pn	22 21 51.6	-1.3
NKC				*e*PG	Pg	22 21 57.8	-3.3
NKC				*e*SG	Sg	22 22 32.6	-3.5
	12nm,0.2s						
KHC	**Kasperske Hory**	**2.86**	**215**	*e*PN	Pn	22 21 54.3	-1.8
KHC				*e*PG	Pg	22 22 00.3	-5.3
KHC				*e*SN	Sn	22 22 27.5	-4.2
KHC				*e*SG	Sg	22 22 37.8	-5.9
	2.6nm,0.3s						
MOX	**Moxa**	**2.95**	**255**	*e*Pg	Pg	22 22 03.7	-3.8
MOX				*e*Sg	Sg	22 22 43.5	-3.3
MOA	**Molln**	**3.83**	**199**	⇑*i*PN	Pn	22 22 08.1	-1.9
MOA				*i* SG	Sg	22 23 11.4	-4.7
	5.7nm,0.6s						
STHS	**Stebnicka Huta**	**3.89**	**120**	*e*SG	Sg	22 23 17.1	-0.9
ARSA	**Arzberg**	**4.25**	**185**	⇑*i*PN	Pn	22 22 13.3	-2.7
ARSA				*i* SG	Sg	22 23 22.6	-7.7
	3.7nm,0.6s						

*IDC **04** 22:27:14.6±0.7, 0.96N×124.95E, mb4.3/9, mb1 4.5/10, mb1mx4.4/16, mbtmp4.3/10, ML5.0/1, MS3.7/2, Ms1 3.6/2, ms1mx3.0/20, Error ellipse: s-maj=54.7km s-min=15.6km az=73.0*
*BJI **04** 22:27:19.5, 0.80N×124.80E, h35km, mB5.2, mb4.8, Ms5.3, Msz4.6*
*NEIC **04** 22:27:19.6±0.5, 0.81N×124.85E, h35km, mb4.5/8, Error ellipse: s-maj=26.8km s-min=9.2km az=76.0*
ISC 04 22:27:17.1±7.0, 0.86N±0.07×124.9E±0.1, h27km±51km, n37, σ0$90/33, mb4.6/22, MS3.7/2, 2C-1D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**15.40**	**151**	*e*P	**P**	**22 31 00.8**	**+6.3**
	11nm,0.6s						
FITZ	**Fitzroy Crossi**	**18.86**	**178**	*e*P	**P**	**22 31 37.5**	**-0.2**
	8.4nm,0.3s						
FITZ	**Fitzroy Crossi**	**18.86**	**178**	P	**P**	**22 31 37.7**	**0.0**
	3.5nm,0.3s,baz=7.7,slow=9.0,SNR=45						
MBWA	**Marble Bar**	**22.47**	**193**	*e*P	**P**	**22 32 14.8**	**-0.9**
	12nm,0.8s,mb4.4						
WRAB	**Tennant Creek**	**22.63**	**156**	*e*P	**P**	**22 32 17.1**	**-0.3**
	84nm,0.8s,mb5.2						
WRA	**Warramunga Arr**	**22.63**	**156**	P	**P**	**22 32 17.6**	**+0.1**
	37nm,0.6s,mb5.0,baz=334,slow=9.9,SNR=103						
WB2	**Warramunga Arr**	**22.64**	**156**	*i*P	**P**	**22 32 17.3**	**-0.2**
JNU	**Nakatsue**	**32.57**	**9**	LR	LR	22 44 44.1	
	comp=Z,78nm,20.0s,MS3.4,baz=220,slow=32						
STKA	**Stephens Creek**	**36.18**	**156**	*e*P	**P**	**22 34 20.0**	**+0.5**
	6.9nm,1.4s,mb4.4						
STKA	**Stephens Creek**	**36.18**	**156**	P	**P**	**22 34 20.1**	**+0.6**
	3.9nm,0.5s,mb4.6,baz=330,slow=6.1,SNR=18						
STKA	**Stephens Creek**	**36.18**	**156**	*e*P	**P**	**22 34 19.8**	**+0.3**
STKA				*e*		22 37 52.5	
KS15	**Wonju Array Si**	**36.50**	**4**	P	**P**	**22 34 23.8**	**+1.7**
MAJO	**Matsushiro**	**37.57**	**18**	*e*P	**P**	**22 34 31.1**	**0.0**
	7.4nm,0.7s,mb4.5						
LSA	**Lhasa**	**43.08**	**315**	*e*P	**P**	**22 35 18.6**	**+1.7**
	3.3nm,0.6s,mb4.2						
MDJ	**Mudanjiang**	**43.77**	**5**	P	**P**	**22 35 22.8**	**+0.7**
MDJ				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,151nm,4.6s						
MDJ	**Mudanjiang**	**43.77**	**5**	P	**P**	**22 35 20.5**	**-1.6**
	comp=Z,6.1nm,0.6s,mb4.5						
GTA	**Gaotai**	**44.70**	**332**	*e*P	**P**	**22 35 31.5**	**+1.7**
GTA				AP	pP	22 35 37.6	-0.4
GTA				XP	sP	22 35 40.5	-0.9
GTA				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.5						
PKI	**Pulchoki**	**46.25**	**309**	*e*P	**P**	**22 35 42.5**	**+0.3**
	comp=Z,37nm,1.5s,mb5.1						
KKN	**Kakani**	**46.46**	**309**	*e*P	**P**	**22 35 44.5**	**+0.6**
DMN	**Daman**	**46.51**	**308**	*e*P	**P**	**22 35 44.5**	**+0.2**
	comp=Z,37nm,1.1s,mb5.2						
GKN	**Gorkha**	**47.06**	**309**	*e*P	**P**	**22 35 48.3**	**-0.3**
	comp=Z,23nm,1.0s,mb5.1						
KOLN	**Koldanda**	**47.77**	**308**	*e*P	**P**	**22 35 52.9**	**-1.3**
	comp=Z,28nm,0.8s,mb5.3						
SONM	**Songino Array**	**49.48**	**344**	P	**P**	**22 36 06.7**	**-0.5**
	comp=Z,0.5nm,0.4s,mb3.9,baz=180,slow=8.9,SNR=5.4						
MKAR	**Makanchi Array**	**58.93**	**327**	P	**P**	**22 37 15.6**	**-0.8**
	comp=Z,1.1nm,0.4s,mb4.2,baz=122,slow=7.9,SNR=23						
MKAR				PcP	PcP	22 38 04.1	-1.0
	comp=Z,1.0nm,0.5s,baz=186,slow=3.5,SNR=7.3						
MKAR	**Makanchi Array**	**58.93**	**327**	P	**P**	**22 37 15.6**	**-0.8**
MKAR				PcP	PcP	22 38 04.1	-1.0
YAK	**Yakutsk**	**61.12**	**3**	P	**P**	**22 37 30.5**	**-0.7**
	comp=Z,32nm,0.6s,mb5.6						
MA2	**Magadan**	**61.91**	**15**	*e*P	**P**	**22 37 36.4**	**-0.1**
	comp=Z,7.0nm,0.6s,mb5.0						
BVAR	**Borovoye Array**	**68.77**	**328**	P	**P**	**22 38 19.7**	**-1.1**
	comp=Z,1.0nm,0.7s,mb3.8,baz=112,slow=8.0,SNR=7.0						
BRVK	**Borovoye**	**68.84**	**328**	P	**P**	**22 38 17.9**	**-3.3**
	comp=Z,1.3nm,0.7s,mb4.0						
MAW	**Mawson**	**80.46**	**200**	P	**P**	**22 39 28.5**	**+0.8**
	comp=Z,2.9nm,0.6s,mb4.4,baz=90,slow=7.1,SNR=19						
VNDA	**Vanda**	**80.83**	**172**	P	**P**	**22 39 30.2**	**+0.7**
	comp=Z,1.3nm,0.8s,mb3.9,baz=334,slow=4.7,SNR=3.6						
ILAR	**Eielson Array**	**88.45**	**25**	P	**P**	**22 40 08.0**	**+0.1**
	comp=Z,0.5nm,0.5s,mb4.0,baz=247,slow=4.7,SNR=5.4						
SYO	**Syowa Base**	**89.12**	**201**	⇑P	**P**	**22 40 11.6**	**+0.6**
SYO	**Syowa Base**	**89.12**	**201**	⇑PcP	PcP	22 40 13.7	+1.0
ARCES	**ARCESS Array B**	**92.50**	**340**	P	**P**	**22 40 25.6**	**-1.1**
	comp=Z,1.3nm,0.6s,mb4.6,baz=80,slow=7.4,SNR=12						
BOSA	**Boshof**	**98.91**	**241**	LR	LR	23 22 52.6	
	comp=Z,46nm,18.7s,MS4.0,baz=346,slow=34						
SCHQ	**Schefferville**	**123.66**	**8**	PKP	PKPdf	22 46 14.4	-2.8
	comp=Z,1.3nm,0.3s,baz=306,slow=8.7,SNR=8.7						

IDC 04 22:31:13.9±14.0, 1.79N×128.00E, h228km±145km, mb3.8/6, mb1 3.9/6, mb1mx3.6/14, mbtmp4.3/6, Error ellipse: s-maj=111.0km s-min=22.2km az=69.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.48**	**164**	P	P	22 35 54.0	-1.0
	1.5nm,0.5s,baz=342,slow=10,SNR=6.2						
STKA	**Stephens Creek**	**35.88**	**160**	P	P	22 37 52.6	-1.4
	3.7nm,0.4s,baz=332,slow=7.1,SNR=8.5						
SONM	**Songino Array**	**49.53**	**341**	P	P	22 39 41.2	-2.1
	1.8nm,0.6s,baz=151,slow=8.0,SNR=9.1						
MKAR	**Makanchi Array**	**59.86**	**325**	P	P	22 40 55.9	-1.7
	3.7nm,0.4s,baz=115,slow=8.1,SNR=47						
BVAR	**Borovoye Array**	**69.62**	**327**	P	P	22 41 58.6	-1.6
	0.8nm,0.4s,baz=135,slow=6.3,SNR=9.8						
ARCES	**ARCESS Array B**	**92.69**	**340**	P	P	22 43 59.1	-1.6
	6.1nm,1.1s,baz=59,slow=7.1,SNR=5.4						

*MEX **04** 22:49:11.1±0.9, 13.47N×91.55W, h40km, MD4.3*
CASC 04 22:49:12.4±2.6, 13.87N×91.30W, h63km±40km, MD3.8, 6C-2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**0.72**	**38**	*e*P	P	22 49 27.3	+0.1
PCG	**Pacaya**	**0.85**	**52**	*e*P	P	22 49 29.2	+0.5
PCG				*e*S	S	22 49 42.3	+1.3
IXG	**Ixpaco**	**0.87**	**70**	*e*P	P	22 49 29.0	-0.1
IXG				*e*S	S	22 49 43.1	+1.6
TP2	**Tecpan 2**	**0.94**	**17**	*e*P	P	22 49 30.5	+0.5
TP2				*e*S	S	22 49 44.3	+1.1
RBDL	**Robledal**	**1.58**	**81**⇓	*e*P	Px	22 50 09.2	
RBDL				*e*S	Sx	22 50 28.7	
RTR	**El Retiro**	**1.61**	**89**⇑	*e*P	Px	22 50 09.5	
RTR				*e*S	Sx	22 50 29.4	
SBLS	**San Blas**	**1.63**	**91**⇑	*e*P	Px	22 50 09.3	
SBLS				*e*S	Sx	22 50 30.3	
SNJE	**San Jose**	**1.65**	**90**

PFET	**Feteiras**	**0.28 275**	*e*P	Pg		22 54 11.2 +0.7
SET2	**Ginetes**	**0.29 280**	*e*P	Pg		22 54 11.2 +0.4
SET4	**Mosteiros**	**0.29 286**	*e*P	Pg		22 54 11.4 +0.5

*CSEM **04** 22:54:10.5±0.1,36.10N×31.07E,h40km,MD3.5, Error ellipse: s-maj=2.4km s-min=1.5km az=95.0*
*ISK **04** 22:54:11.8,36.16N×31.12E,h32km,MD3.5,ML3.6*
*HLW **04** 22:54:20.9,35.45N×30.89E,h25km,Mb3.6*
ISC 04 22:54:11.4±0.3,**36.07N**±0.02×**31.10E**±0.04,**h33**km,**n38**, σ1§**04**/53,**1C-1D,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTB	**Antalya**	**0.90**	**337**	PG	**P**	**22 54 27.0**	**-0.5**
ANTB				SG	**S**	**22 54 38.7**	**-0.8**
ELL	**Elmali**	**1.17**	**305**	PN	**Pn**	**22 54 32.2**	**+0.5**
AKAS	**Kas**	**1.22**	**278**	*i* P	**P**	**22 54 33.0**	**+0.9**
AKAS				*i* S	**S**	**22 54 50.4**	**+2.7**
HDMB	**Hadim**	**1.43**	**51**	PN	**Pn**	**22 54 35.1**	**-0.3**
BCK	**Bucak**	**1.44**	**344**	PN	**Pn**	**22 54 35.2**	**-0.4**
ERMK	**Ermenek**	**1.57**	**68**	*i* P	**P**	**22 54 37.4**	**+0.1**
ERMK				*i* S	**S**	**22 55 01.9**	**+5.2**
GOLH	**Golhisar**	**1.69**	**314**	*i* P	**P**	**22 54 41.5**	**+2.4**
GOLH				*i* S	**S**	**22 55 08.4**	**+8.6**
LEF	**Lefka**	**1.74**	**123**	*e*PN	**Pn**	**22 54 41.3**	**+1.4**
LEF				*e*SN	**Sn**	**22 55 01.6**	**+0.4**
ISP	**Isparta**	**1.83**	**345**	*e*PN	**Pn**	**22 54 40.6**	**-0.5**
TKTP	**Tekketepe**	**2.06**	**343**	*i* P	**P**	**22 54 45.4**	**+1.2**
TKTP				*i* S	**S**	**22 55 09.8**	**+0.8**
IKL	**Isikli**	**2.10**	**85**	PN	**Pn**	**22 54 45.3**	**+0.3**
DALT	**Dalyan (Mudla)**	**2.10**	**290**	PN	**Pn**	**22 54 45.5**	**+0.5**
KONT	**Konya--Tatoy**	**2.12**	**28**	PN	**Pn**	**22 54 45.1**	**-0.2**
DNZL	**Cakiroluk**	**2.30**	**315**	*i* P	**P**	**22 54 48.9**	**+1.2**
DNZL				*i* S	**S**	**22 55 21.9**	**+6.7**
YER	**Yerkesik**	**2.50**	**296**	PN	**Pn**	**22 54 51.2**	**+0.5**
MEST	**Erdemli**	**2.52**	**77**	*i* P	**P**	**22 54 53.2**	**+2.4**
MEST				*i* S	**S**	**22 55 24.8**	**+4.3**
KDHN	**Kadinhani**	**2.58**	**18**	*i* P	**P**	**22 54 50.8**	**-0.8**
KDHN				*i* S	**S**	**22 55 20.6**	**-1.5**
KIZT	**Kizilcal**	**2.87**	**12**	PN	**Pn**	**22 54 55.3**	**-0.7**
MANT	**Manisa**	**3.15**	**321**	*i* P	**P**	**22 55 00.2**	**+0.4**
MANT				*i* S	**S**	**22 55 37.7**	**+1.0**
BODT	**Bodrum**	**3.20**	**289**	PN	**Pn**	**22 55 00.3**	**-0.4**
ESKT	**Eskisehir**	**3.45**	**357**	PN	**Pn**	**22 55 03.3**	**-0.8**
ESKT	**Eskisehir**	**3.45**	**357**	*i* P	**P**	**22 55 02.1**	**-1.9**
ESKT				*i* S	**S**	**22 55 41.2**	**-3.0**
KAMT	**Kaman**	**3.89**	**31**	PN	**Pn**	**22 55 09.9**	**-0.5**
HTY	**Hatay**	**4.08**	**88**	*e*PN	**Pn**	**22 55 13.6**	**+0.4**
COBT	**Iskenderun**	**4.19**	**82**	*i* P	**P**	**22 55 15.2**	**+0.6**
COBT				*i* S	**S**	**22 56 03.6**	**+0.5**
HRSH	**Kfar Ka'horesh**	**5.55**	**156**	P	**P**	**22 55 34.8**	**+1.1**
RSH		**5.55**	**156**	P	**P**	**22 55 34.8**	**+1.0**
HMAT	**Matruh**	**5.98**	**215**	P	**P**	**22 55 39.0**	**-0.8**
HMAT				S	**S**	**22 56 36.0**	**-12**
HMAT	**Matruh**	**5.98**	**215**	P	**P**	**22 55 39.0**	**-0.8**
SUZ		**6.38**	**166**	P	**P**	**22 55 44.9**	**-0.6**
HSAF	**As Saff**	**6.45**	**176**	P	**P**	**22 55 45.6**	**-0.8**
GLL	**Jalalah**	**6.50**	**175**	⇓P	**P**	**22 55 46.6**	**-0.5**
HKAT	**Jabal Katrina**	**7.92**	**161**	P	**P**	**22 56 06.8**	**-0.1**
SWA1		**8.17**	**215**	P	**P**	**22 56 09.2**	**-1.1**
SWA1				S	**S**	**22 57 28.3**	**-14**
SWA2		**8.30**	**216**	P	**P**	**22 56 11.3**	**-1.0**
SWA2				S	**S**	**22 57 32.5**	**-13**
ASUT		**8.66**	**177**	P	**P**	**22 56 16.1**	**-1.2**
ASUT		**8.66**	**177**	P	**P**	**22 56 16.0**	**-1.2**
HFRF	**Wahat Farafira**	**9.21**	**196**	⇑P	**P**	**22 56 23.1**	**-1.8**

*IDC **04** 23:01:10.7±1.1,23.63S×66.44W,h180km±14km,mb3.9/3, mb1 4.1/9,mb1mx3.8/18,mbtmp4.6/9,MS2.9/1,Ms1 2.9/1, ms1mx2.5/18,Error ellipse: s-maj=19.0km s-min=11.7km az=114.0*
*BJI **04** 23:01:12.0,23.50S×66.60W,h199km,mB4.7*
*NEIC **04** 23:01:12.0±0.6,23.46S×66.62W,h199km±8km,mb4.4/13, Error ellipse: s-maj=11.3km s-min=7.8km az=94.0*
*GUC **04** 23:01:12.9±1.1,23.52S×67.24W,h244km±17km,ML4.8*
ISC 04 23:01:11.3±0.5,**23.48S**±0.03×**66.66W**±0.06,**h211**km±6km, **n53**, σ1§**39**/59,**mb4.2**/11,**6C-1D,Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPCH	**San Pedro de A**	**1.52**	**291**	⇑*i*P	**P**	**23 01 49.0**	**+2.4**
SPCH				*i* S	**S**	**23 02 17.7**	**+4.0**
SPCH				AMP		23 02 20.1	
	comp=N,2μm,0.5s						
LVC	**Limon Verde**	**2.24**	**292**	P	**P**	**23 01 55.0**	**+1.5**
	comp=N,102nm,0.3s,baz=110,slow=6.7,SNR=282						
LVC				S	**S**	**23 02 27.0**	**+0.8**
	comp=N,282nm,0.3s,baz=129,slow=12,SNR=73						
LVC	**Limon Verde**	**2.24**	**292**	⇑*i*P	**P**	**23 01 55.0**	**+1.5**
LVC				*i* S	**S**	**23 02 26.9**	**+0.7**
LVC				AMP		23 02 29.0	
	comp=E,3μm,0.5s						
LVC	**Limon Verde**	**2.24**	**292**	*e*Pn	**P**	**23 01 54.9**	**+1.3**
LVC				*e*Sn	**S**	**23 02 26.7**	**+0.6**
ANCH	**Antofagasta**	**3.44**	**266**	⇑*i*P	**P**	**23 02 10.6**	**+3.3**
ANCH				*i* S	**S**	**23 02 50.4**	**-0.3**
CPN1	**Cerro Paranal**	**3.61**	**251**	⇑*i*P	**P**	**23 02 09.1**	**-0.2**
CPN1				*i* S	**S**	**23 02 51.5**	**-2.7**
CPN1				AMP		23 02 53.0	
	comp=E,3μm,0.4s						
CRCH	**Chaqaral**	**4.59**	**231**	⇑*i*P	**P**	**23 02 19.7**	**-1.8**
CRCH				*i* S	**S**	**23 03 11.1**	**-4.8**
LPAZ	**La Paz**	**7.28**	**349**	P	**P**	**23 02 57.9**	**+1.9**
	comp=E,14nm,0.3s,baz=162,slow=7.8,SNR=210						
LPAZ				S	**S**	**23 04 20.1**	**+2.4**
	comp=E,1.0nm,0.3s,baz=53,slow=18,SNR=3.8						
LPAZ	**La Paz**	**7.28**	**349**	*e*P	**P**	**23 02 57.6**	**+1.6**
	comp=E,60nm,0.6s						
LPAZ				*e*S	**S**	**23 04 17.1**	**-0.7**
CFAA	**Coronel Fontan**	**8.22**	**189**	P	**P**	**23 03 05.4**	**-2.8**
	comp=E,2.6nm,0.3s,baz=14,slow=12,SNR=262						
CFAA				S	**S**	**23 04 32.4**	**-7.1**
	comp=E,4.0nm,0.3s,baz=256,slow=17,SNR=9.9						
ZON	**Zonda**	**8.24**	**192**	*e*P	**P**	**23 03 10.0**	**+1.6**
ZON				*e*S	**S**	**23 04 40.1**	**+0.2**
ARE	**Arequipa**	**8.32**	**326**	*e*P	**P**	**23 03 09.0**	**-0.5**
ARE				*e*S	**S**	**23 04 39.0**	**-2.9**
CPUP	**Villa Florida**	**8.94**	**110**	*e*Pn	**P**	**23 03 15.8**	**-1.7**
	comp=E,21nm,0.9s						
CPUP				*e*		23 03 26.1	
SIV	**San Ignacio**	**9.12**	**36**	P	**P**	**23 03 19.2**	**-0.6**
	comp=E,2.7nm,0.3s,baz=216,slow=14,SNR=61						
SIV				S	**S**	**23 05 01.6**	**+1.3**
	comp=E,0.6nm,0.3s,baz=247,slow=15,SNR=3.4						
SAML	**Samuel**	**14.82**	**14**	*e*P	**P**	**23 04 31.5**	**-0.6**
	comp=E,8.3nm,0.9s						
SAML				*e*S	**S**	**23 07 09.0**	**-1.9**
NNA	**Nana**	**14.97**	**318**	*e*P	**P**	**23 04 33.2**	**-0.7**
TRQA	**Tornquist**	**15.08**	**166**	*e*P	**P**	**23 04 31.8**	**-3.3**
PLCA	**Paso Flores**	**17.52**	**190**	P	**P**	**23 05 01.8**	**-1.8**
	comp=E,1.0nm,0.3s,baz=9.4,slow=12,SNR=32						
PLCA	**Paso Flores**	**17.52**	**190**	*e*P	**P**	**23 05 01.6**	**-2.0**
	comp=E,16nm,0.6s						
BDFB	**Brasilia**	**19.21**	**69**	P	**P**	**23 05 21.2**	**0.0**
	comp=E,2.2nm,0.3s,baz=251,slow=10,SNR=53						
BAO	**Brasilia Array**	**19.23**	**69**	P	**P**	**23 05 22.0**	**+0.5**
SDV	**Santo Domingo**	**32.40**	**353**	P	**P**	**23 07 22.9**	**-0.5**
	comp=E,7.3nm,1.0s,mb4.2						
RCBR	**Riachuelo**	**34.42**	**64**	*e*P	**P**	**23 07 40.1**	**-0.6**
	comp=E,9.5nm,0.8s,mb4.4						
PMSA	**Palmer Station**	**41.33**	**178**	*e*P	**P**	**23 08 37.9**	**+0.3**
	comp=E,13nm,0.9s,mb4.3						
SJG	**San Juan**	**41.34**	**1**	LR	LR	23 28 49.1	
	comp=E,16nm,20.5s,baz=90,slow=40						
VNA3	**Neumayer Olymp**	**57.55**	**161**		**P**	**23 10 41.9**	**+1.4**
VNA3	**Neumayer Olymp**	**57.55**	**161**		**P**	**23 10 49.3**	**+8.8**
VNA1	**Neumayer--Stat**	**57.74**	**160**		**P**	**23 10 43.7**	**+1.9**
VNA1	**Neumayer--Stat**	**57.74**	**160**		**P**	**23 10 52.2**	**+10**
VNA2	**Neumayer--Watz**	**58.11**	**161**		**P**	**23 10 45.9**	**+1.5**
VNA2	**Neumayer--Watz**	**58.11**	**161**		**P**	**23 10 54.0**	**+10**
SNAA	**Sanae**	**59.74**	**161**		**P**	**23 10 46.9**	**-8.7**
SNAA	**Sanae**	**59.74**	**161**		**P**	**23 10 55.6**	**0.0**
SNAA	**Sanae**	**59.74**	**161**		**P**	**23 11 01.7**	**+6.1**
SNAA	**Sanae**	**59.74**	**161**	P	**P**	**23 10 55.6**	**0.0**
WVT	**Waverly**	**62.57**	**341**	P	**P**	**23 11 13.1**	**-1.9**
	comp=E,2.8nm,0.8s,mb3.9						
QSPA	**South Pole Qui**	**66.73**	**180**	*e*P	**P**	**23 11 42.0**	**+1.0**
	comp=E,20nm,0.6s,mb4.9						
DBIC	**Dimbokro**	**67.34**	**72**	P	**P**	**23 11 44.7**	**-1.3**
	comp=E,1.3nm,0.4s,mb3.9,baz=195,slow=7.0,SNR=7.9						
DBIC	**Dimbokro**	**67.34**	**72**	P	**P**	**23 11 44.7**	**-1.3**
ANMO	**Albuquerque**	**69.29**	**326**	P	**P**	**23 11 58.3**	**+0.7**
	comp=E,1.4nm,0.8s,mb3.6						
SDCO	**Great Sand Dun**	**71.00**	**328**	*e*P	**P**	**23 12 09.1**	**+1.2**
	comp=E,4.6nm,1.2s,mb4.0						
SYO	**Syowa Base**	**73.93**	**159**	⇑P	**P**	**23 12 23.7**	**-0.8**
SYO	**Syowa Base**	**73.93**	**159**	⇓PcP	PcP	23 12 34.5	-4.5
VNDA	**Vanda**	**75.27**	**190**	P	**P**	**23 12 33.0**	**+1.0**
	comp=E,0.6nm,0.8s,mb3.3,baz=163,slow=7.7,SNR=3.8						
VNDA	**Vanda**	**75.27**	**190**	*e*P	**P**	**23 12 32.8**	**+0.7**
	comp=E,4.5nm,1.3s,mb3.9						
MAW	**Mawson**	**81.84**	**163**	P	**P**	**23 13 08.9**	**+1.3**
	comp=E,5.3nm,0.7s,mb4.3,baz=228,slow=5.5,SNR=19						
CASY	**Casey**	**90.50**	**179**	*e*P	**P**	**23 13 51.5**	**+1.8**
	comp=E,7.6nm,0.8s,mb4.7						
WRA	**Warramunga Arr**	**132.23**	**207**	PKP	PKPdf	23 20 04.5	+3.6
	comp=E,0.8nm,0.9s,baz=163,slow=1.7,SNR=3.6						
MKAR	**Makanchi Array**	**145.93**	**39**	PKPbc	PKPbc	23 20 27.2	+1.5
	comp=E,5.0nm,0.8s,baz=298,slow=3.6,SNR=26						
WMQ	**Urumqi**	**150.75**	**40**	*e*PKP	PKPdf	23 20 38.0	+5.6
CN2	**Changchun**	**157.41**	**337**	*e*PKP	PKPdf	23 20 48.4	+6.9
CD2	**Chengdu**	**168.71**	**47**	PKP	PKPdf	23 20 58.2	+5.7
NJ2	**Nanjing**	**170.16**	**331**	*e*PKP	PKPdf	23 21 00.2	+6.8

*NNC **04** 23:31:44.9±6.5,40.26N×73.09E,mpv3.3,Error ellipse: s-maj=50.2km s-min=23.6km az=151.0*
ISC 04 23:31:37.6±2.2,**39.5N**±0.1×**72.58E**±0.10,**h10**km,**n11**, σ1§**20**/13,**1C-2D,Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**2.76**	**17**	P	**Pn**	**23 32 21.2**	**-1.6**
	SNR=240						
UCH	**Uchtor**	**3.09**	**28**	P	**Pn**	**23 32 29.4**	**+1.9**
	SNR=9.2						
KZA	**Kyzart**	**3.28**	**37**	P	**Pn**	**23 32 29.8**	**-0.3**
	SNR=6.3						
EKS2	**Erkin-Say**	**3.29**	**16**	P	**Pn**	**23 32 29.5**	**-0.7**
	SNR=10						
AAK	**Ala-Archa**	**3.45**	**24**	P	**Pn**	**23 32 33.7**	**+1.1**
	SNR=14						
AAK	**Ala-Archa**	**3.45**	**24**	⇓Pn	**Pn**	**23 32 30.8**	**-1.8**
	26nm,0.8s						
AAK				⇓Lg		23 33 07.2	
	59nm,0.7s						
KBK	**Karagaybulak**	**3.62**	**29**	P	**Pn**	**23 32 37.1**	**+2.0**
	SNR=8.1						
CHMS	**Chumysh**	**3.86**	**24**	P	**Sn**	**23 33 24.6**	**+0.2**
	SNR=5.8						
ULHL	**Ulahol**	**3.90**	**44**	P	**Sn**	**23 33 24.5**	**-0.8**
	SNR=7.3						
KK31	**Karatay Array**	**3.92**	**337**	Pn	**Pn**	**23 32 40.4**	**+1.1**
	0.8nm,0.3s,baz=171,slow=17,SNR=297						
KK31				Pg	**Pg**	**23 32 47.8**	**-8.2**
	5.3nm,0.3s,baz=140,slow=15,SNR=33						
KK31				Sn	**Sn**	**23 33 26.1**	**+0.1**
	baz=135,slow=24						
KK31				⇑Lg		23 33 36.3	
	26nm,0.6s,baz=143,slow=29						
AB31	**Akbulak array**	**13.28**	**321**	Pn	**P**	**23 34 47.5**	**-1.2**
	0.1nm,0.3s,slow=0.1,SNR=6.5						

IDC 04 23:47:54.8±17.0,**0.24N**×**121.95E,h210**km±194km, **mb3.2**/3,**mb1 3.5**/4,**mb1mx3.2**/15,**mbtmp3.9**/4,**ML4.3**/1, **MS4.1**/1,**Ms1 4.1**/1,**ms1mx3.2**/5,**Error ellipse: s-maj=103.5km s-min=36.7km az=58.0,Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.58**	**169**	P	P	23 51 56.3	-2.1
	0.8nm,0.3s,baz=4.4,slow=7.2,SNR=8.5						
WRA	**Warramunga Arr**	**23.45**	**150**	P	P	23 52 45.4	-1.2
	1.4nm,0.5s,baz=326,slow=11,SNR=5.7						
JOW	**Kunigami**	**27.13**	**12**	LR	LR	00 04 39.4	
	comp=Z,342nm,18.4s,baz=159,slow=37						
SONM	**Songino Array**	**49.30**	**346**	P	P	23 56 22.5	-1.7
	1.0nm,0.6s,baz=165,slow=10,SNR=5.5						
MKAR	**Makanchi Array**	**57.86**	**329**	P	P	23 57 24.6	-2.1
	0.4nm,0.3s,baz=128,slow=8.6,SNR=11						

*NEIC **04** 23:56:53.3±1.6,43.65N×127.88W,h10km,mb4.0/2,Error ellipse: s-maj=19.7km s-min=5.5km az=87.0*
*IDC **04** 23:56:59.5±2.8,43.85N×126.86W,mb3.4/2,mb1 3.8/6, mb1mx3.6/22,mbtmp3.4/6,ML3.5/4,MS3.3/10,Ms1 3.3/10, ms1mx3.2/15,Error ellipse: s-maj=41.7km s-min=22.2km az=67.0*
ISC 04 23:56:50.8±1.4,**43.66N**±0.04×**128.0W**±0.1,**h10**km,**n61**, σ1§**10**/56,**mb3.3**/2,**MS3.2**/4,**1C,Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**2.77**	**105**	P	**Pn**	**23 57 35.4**	**-0.7**
RNO	**Roman Nose**	**3.07**	**84**	P	**Pn**	**23 57 40.9**	**+0.5**
KBO	**Boslar Butte**	**3.10**	**116**	*e*P	**Pn**	**23 57 40.4**	**-0.4**
MPOR	**Mary's Peak**	**3.30**	**74**	P	**Pn**	**23 57 43.3**	**-0.2**
COR	**Corvallis**	**3.49**	**73**	*e*P	**Pn**	**23 57 45.3**	**-0.9**
HSO	**Harness Mounta**	**3.55**	**90**	P	**Pn**	**23 57 47.5**	**+0.4**
KRMB	**Red Mountain**	**3.68**	**124**	*e*P	**Pn**	**23 57 48.4**	**-0.6**
KMOR	**Kings Mountain**	**3.76**	**57**	P	**Pn**	**23 57 50.3**	**+0.2**
HUMO	**Hull Mountain**	**3.82**	**104**	*e*P	**Pn**	**23 57 50.1**	**-0.8**
BBOR	**Butler Butte**	**3.94**	**99**	P	**Pn**	**23 57 53.5**	**+0.8**
NLO	**Nicolai Mounta**	**4.03**	**51**	P	**Pn**	**23 57 54.3**	**+0.3**
BROR	**Big Rock Looko**	**4.03**	**79**	P	**Pn**	**23 57 54.7**	**+0.7**
SSOR	**Sweet Springs**	**4.14**	**71**	P	**Pn**	**23 57 56.7**	**+1.2**
IRO	**Indian Ridge**	**4.15**	**83**	P	**Pn**	**23 57 56.3**	**+0.6**
FRIS	**Frissel Point**	**4.28**	**81**	P	**Pn**	**23 57 58.4**	**+0.9**
YBH	**Yreka Blue Hor**	**4.33**	**115**	Pn	**Pn**	**23 57 59.1**	**+0.9**
	0.7nm,0.3s,baz=277,slow=6.4,SNR=6.0						
YBH				Sn	**Sn**	**23 58 50.8**	**+1.5**
	1.5nm,0.3s,baz=92,slow=18,SNR=13						
YBH				LR	LR	23 59 35.4	
	comp=Z,382nm,18.6s,baz=298,slow=42						
YBH	**Yreka Blue Hor**	**4.33**	**115**	*e*P	**Pn**	**23 57 56.4**	**-1.8**
BMW	**Boistfort Moun**	**4.38**	**48**	P	**Pn**	**23 57 58.8**	**-0.2**
RVW	**Rose Valley**	**4.47**	**54**	⇑P	**Pn**	**23 58 00.6**	**+0.3**
VLMM	**Larch Mountain**	**4.63**	**64**	P	**Pn**	**23 58 03.8**	**+1.2**
TDH	**Tom, Dick, Har**	**4.71**	**68**	P	**Pn**	**23 58 04.8**	**+1.1**
OCWA	**Octopus Mounta**	**4.88**	**32**	*e*P	**Pn**	**23 58 05.7**	**-0.3**
TDL	**Tradedollar La**	**4.89**	**55**	P	**Pn**	**23 58 07.0**	**+0.8**
VFP	**Flag Point**	**4.94**	**68**	P	**Pn**	**23 58 07.8**	**+0.9**
WDC	**Whiskeytown Da**	**5.07**	**125**	*e*P	**Pn**	**23 58 10.2**	**+1.4**
ASR	**Mount Adams--S**	**5.17**	**59**	P	**Pn**	**23 58 10.9**	**+0.8**
HDW	**Hoodsport**	**5.27**	**39**	P	**Pn**	**23 58 12.2**	**+0.6**
LON	**Longmire**	**5.34**	**52**	P	**Pn**	**23 58 12.7**	**+0.2**
LON				P		23 58 13.3	
PGC	**Sidney**	**5.90**	**31**	*e*P	**Pn**	**23 58 18.5**	**-1.9**
MOD	**Modoc**	**5.91**	**105**	*e*P	**Pn**	**23 58 19.2**	**-1.3**
HOPS	**Hopland**	**5.94**	**140**	*e*P	**Pn**	**23 58 20.9**	**-0.1**
NSHM	**Saint Helena R**	**6.54**	**140**	P	**Pn**	**23 58 28.9**	**-0.5**
HAWA	**Hanford**	**6.58**	**62**	*e*P	**Pn**	**23 58 29.3**	**-0.6**
	3.1nm,1.4s						
WVOR	**Wild Horse Val**	**6.95**	**97**	*e*P	**Pn**	**23 58 33.9**	**-1.3**
BMO	**Blue Mountains**	**7.75**	**77**	P	**Pn**	**23 58 44.8**	**-1.7**
CMB	**Columbia Colle**	**8.03**	**132**	*e*P	**P**	**23 58 51.2**	**+0.8**
BBB	**Bella Bella**	**8.53**	**359**	LR	LR	00 01 37.8	
	comp=Z,182nm,20.9s,baz=20,slow=33						
NEW	**Newport**	**8.85**	**55**	Pn	**P**	**23 58 59.4**	**-2.3**
	0.3nm,0.3s,baz=256,slow=14,SNR=3.5						
NEW				LR	LR	00 02 23.7	
	comp=Z,309nm,19.8s,baz=228,slow=40						
NEW	**Newport**	**8.85**	**55**	*e*P	**P**	**23 59 00.2**	**-1.5**
OMM	**Old Mammoth Mi**	**9.10**	**128**	*e*P	**P**	**23 59 04.8**	**-0.4**
MTUM	**Tungsten Hills**	**9.53**	**128**	*e*P	**P**	**23 59 09.4**	**-1.7**
ELK	**Elko**	**9.89**	**103**	Pn	**P**	**23 59 19.9**	**+3.9**
	baz=299,slow=11,SNR=4.7						
ELK	**Elko**	**9.89**	**103**	Pn	**P**	**23 59 19.9**	**+3.9**
MSO	**Missoula**	**10.39**	**67**	*e*P	**P**	**23 59 22.2**	**-0.7**
CHMT	**Chamberlain Mo**	**10.87**	**67**	*e*P	**P**	**23 59 28.3**	**-1.1**
WALA	**Waterton Lakes**	**11.11**	**56**	*e*P	**P**	**23 59 30.3**	**-2.4**
BOZ	**Bozeman (W)**	**11.81**	**75**	*e*P	**P**	**23 59 40.8**	**-1.4**
QLMT	**Earthquake Lak**	**11.93**	**79**	*e*P	**P**	**23 59 42.4**	**-1.4**
PDAR	**Pinedale Array**	**13.46**	**87**	Pn	**P**	**00 00 06.0**	**+1.7**
	0.0nm,0.3s,baz=291,slow=13,SNR=7.4						
PDAR				LR	LR	00 05 32.4	
	comp=Z,201nm,19.0s,baz=92,slow=40						
PDAR	**Pinedale Array**	**13.46**	**87**	Pn	**P**	**00 00 06.0**	**+1.7**
PDAR				LR	LR	00 05 32.4	
DLBC	**Dease Lake**	**14.86**	**356**	LR	LR	00 05 27.8	
	comp=Z,105nm,18.2s,baz=127,slow=34						
SDCO	**Great Sand Dun**	**18.01**	**101**	*e*P	**P**	**00 01 03.2**	**+0.5**
	7.0nm,1.4s						
ANMO	**Albuquerque**	**18.74**	**110**	LR	LR	00 08 50.1	
	comp=Z,92nm,18.8s,slow=39						
FFC	**Flin Flon**	**20.15**	**48**	*e*P	**P**	**00 01 28.5**	**+0.8**
	17nm,1.1s						
YKA	**Yellowknife Ar**	**20.43**	**18**	P	**P**	**00 01 33.0**	**+2.4**
	0.1nm,0.3s,baz=203,slow=9.6,SNR=3.7						
YKA	**Yellowknife Ar**	**20.43**	**18**	P	**P**	**00 01 33.0**	**+2.4**
ULM	**Lac du Bonnet**	**22.75**	**62**	LR	LR	00 10 59.9	
	comp=Z,100nm,19.9s,MS3.3,baz=290,slow=38						
TXAR	**Lajitas Array**	**24.09**	**118**	P	**P**	**00 02 10.1**	**+2.8**
	1.7nm,1.1s,mb3.4,baz=301,slow=7.3,SNR=11						
TXAR				LR	LR	00 11 12.9	
	comp=Z,43nm,21.7s,MS2.9,baz=315,slow=36						
INK	**Inuvik**	**24.88**	**355**	LR	LR	00 10 33.2	
	comp=Z,74nm,21.2s,MS3.2,baz=116,slow=33						
SCHQ	**Schefferville**	**40.20**	**52**	LR	LR	00 20 28.8	
	comp=Z,44nm,18.6s,MS3.3,baz=223,slow=36						
GERES	**GERESS Array B**	**81.94**	**24**	P	**P**	**00 09 18.8**	**+7.2**
	0.1nm,0.3s,mb3.2,baz=315,slow=3.8,SNR=3.8						

*MOS **05** 00:07:33.8±0.7,43.64N×46.46E,h143km,mb4.0/1,Error ellipse: s-maj=23.7km s-min=12.3km az=1.4*
*CSEM **05** 00:07:33.1±1.0,43.64N×46.46E,h143km±10km,mb4.0, Error ellipse: s-maj=28.9km s-min=13.0km az=44.0,After OBN*
*TIF **05** 00:07:37.9,43.74N×46.14E,h37km±2km*
*NNC **05** 00:08:31.0±11.0,45.98N×51.08E,mpv2.5,Error ellipse: s-maj=120.5km s-min=102.6km az=58.0*
ISC 05 00:07:37.9±0.8,**43.66N**±0.05×**46.19E**±0.05,**h99**km±11km, **n24**, σ0§**95**/44,**7C-5D,Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLMR	**Dylym**	**0.67**	**151**	⇓*i*P	**P**	**00 07 56.7**	**+1.5**
DLMR				*i* S	**S**	**00 08 11.2**	**+3.1**
KRNR	**Karanay**	**0.98**	**148**	*e*P	**P**	**00 07 57.2**	**-1.1**
KRNR				*i* S	**S**	**00 08 13.0**	**-0.6**
BTLR	**Botlikh**	**0.99**	**179**	*i* P	**P**	**00 07 58.0**	**-0.5**
BTLR				*i* S	**S**	**00 08 14.0**	**+0.1**
VLKR	**Vladikavkaz**	**1.26**	**242**	*e*P	**P**	**00 08 01.6**	**-0.1**
VLKR				*e*S	**S**	**00 08 17.3**	**-2.2**
ARNR	**Ardon**	**1.47**	**252**	*i* P	**P**	**00 08 05.9**	**+1.7**
ARNR				*e*S	**S**	**00 08 23.7**	**0.0**
ARNR	**Ardon**	**1.47**	**252**	⇓*i*P	**P**	**00 08 05.9**	**+1.7**
ARNR				*e*S	**S**	**00 08 23.7**	**0.0**
LACR	**Lac**	**1.62**	**240**	*i* P	**P**	**00 08 06.2**	**+0.2**
LACR	**Lac**	**1.62**	**240**	⇑*i*P	**P**	**00 08 06.2**	**+0.2**
LACR				*e*S	**S**	**00 08 25.6**	**-1.2**
LSNR	**Lesken**	**1.77**	**258**	*i* P	**P**	**00 08 09.2**	**+1.2**
LSNR	**Lesken**	**1.77**	**258**	⇑*i*P	**P**	**00 08 09.2**	**+1.2**
LSNR				*i* S	**S**	**00 08 31.9**	**+1.7**
KUBR	**Kubataba**	**2.02**	**275**	*e*P	**P**	**00 08 12.3**	**+1.1**
KUBR				*e*S	**S**	**00 08 36.7**	**+0.8**
KUBR	**Kubataba**	**2.02**	**275**	⇓*e*P	**P**	**00 08 12.3**	**+1.1**
KUBR				*e*S	**S**	**00 08 36.7**	**+0.8**
DIGR	**Digorskoe uzhe**	**2.05**	**249**	*i* P	**P**	**00 08 11.8**	**+0.2**
DIGR	**Digorskoe uzhe**	**2.05**	**249**	⇓*i*P	**P**	**00 08 11.8**	**+0.2**
DIGR				*e*S	**S

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.45**	**81**	*e*Pn	**Pn**	**00 22 29.1**	**+2.8**
KULM				*e*Sn	**Sn**	**00 23 28.4**	**-0.5**
LSA	**Lhasa**	**25.45**	**352**	*e*P	**P**	**00 26 32.6**	**+0.5**
	6.2nm,0.4s,mb4.5						
FITZ	**Fitzroy Crossi**	**37.39**	**128**	P	**P**	**00 28 16.8**	**-0.5**
	3.6nm,0.7s,mb4.3,baz=336,slow=10.0,SNR=3.2						
AAK	**Ala-Archa**	**42.30**	**337**	P	**P**	**00 28 58.9**	**+1.1**
	5.3nm,0.9s,mb4.2						
MKAR	**Makanchi Array**	**43.69**	**347**	P	**P**	**00 29 09.0**	**0.0**
	1.6nm,0.5s,mb4.0,baz=168,slow=8.3,SNR=18						
SONM	**Songino Array**	**44.31**	**11**	P	**P**	**00 29 13.7**	**-0.3**
	0.4nm,0.4s,mb3.5,baz=180,slow=7.2,SNR=3.6						
WRA	**Warramunga Arr**	**45.40**	**124**	P	**P**	**00 29 23.4**	**+0.3**
	1.8nm,0.5s,mb4.2,baz=301,slow=9.3,SNR=9.6						
WRAB	**Tennant Creek**	**45.40**	**124**	*e*P	**P**	**00 29 22.6**	**-0.5**
	3.3nm,0.5s,mb4.4						
HIA	**Hailar**	**49.30**	**21**	P	**P**	**00 29 52.7**	**-0.5**
	4.5nm,0.6s,mb4.7						
BVAR	**Borovoye Array**	**52.60**	**341**	P	**P**	**00 30 17.7**	**-0.5**
	2.0nm,0.8s,mb4.1,baz=141,slow=9.5,SNR=9.0						
BRVK	**Borovoye**	**52.67**	**341**	*e*P	**P**	**00 30 16.8**	**-1.9**
	2.2nm,0.8s,mb4.1						
FINES	**FINESS Array B**	**76.27**	**332**	P	**P**	**00 32 52.1**	**-0.3**
	0.6nm,0.4s,mb3.8,baz=90,slow=5.7,SNR=9.8						
ARCES	**ARCESS Array B**	**78.88**	**340**	P	**P**	**00 33 06.9**	**+0.3**
	1.0nm,0.6s,mb3.9,baz=89,slow=5.2,SNR=14						
GERES	**GERESS Array B**	**81.14**	**319**	P	**P**	**00 33 20.4**	**+1.3**
	0.6nm,0.7s,mb3.6,baz=63,slow=3.0,SNR=6.0						

KRSC 05 00:28:44.4±1.2, 55.00N×162.92E, h11km±2km, ML4.0, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.82**	**238**	*e*P	Pb	00 29 00.6	+0.4
MKZ				*i* S	Sb	00 29 13.1	+2.1
KBTR	**Krutoberegovo**	**1.21**	**357**	*e*P	Pb	00 29 06.8	-0.1
KBTR				*e*S	Sb	00 29 23.8	+1.4
ZLN	**Zelenaya**	**1.58**	**311**	*e*P	Pn	00 29 13.0	+0.5
ZLN				*e*S	Sb	00 29 34.2	+1.2
TUMR	**Tumrok**	**1.62**	**281**	*e*P	Pn	00 29 12.8	-0.3
TUMR				*e*S	Sn	00 29 33.7	-0.4
CIRR	**Tsirk**	**1.67**	**313**	*e*P	Pn	00 29 15.9	+2.1
LGNR	**Loginova**	**1.67**	**311**	*e*P	Pn	00 29 14.5	+0.7
LGNR				*e*S	Sn	00 29 36.5	+1.1
KMNR	**Kamenistaya**	**1.71**	**297**	*e*P	Pn	00 29 14.6	+0.2
KMNR				*e*S	Sn	00 29 36.3	-0.1
BKI	**Bering**	**1.77**	**82**	*e*P	Pn	00 29 15.0	-0.2
BKI				*i* S	Sn	00 29 36.0	-1.8
BKI				Smax			
	80nm,1.3s						
KRSR	**Krestovskiy**	**1.81**	**313**	*e*P	Pn	00 29 15.6	-0.2
KRSR				*e*S	Sn	00 29 38.6	-0.3
KPT	**Kopyto**	**1.81**	**303**	*e*P	Pn	00 29 16.6	+0.7
KPT				*e*S	Sn	00 29 41.5	+2.4
KLY	**Klyuchi**	**1.84**	**317**	*e*P	Pn	00 29 15.2	-1.1
KLY				*e*S	Sn	00 29 37.3	-2.4
KOZ	**Kozyrevsk**	**2.03**	**303**	*e*P	Pn	00 29 20.4	+1.4
KOZ				*e*S	Sn	00 29 45.8	+1.2
KII	**Karymskiy**	**2.24**	**246**	*e*P	Pn	00 29 22.4	+0.4
SRDR	**Sredinnyy**	**2.24**	**307**	*e*P	Pn	00 29 23.3	+1.2
SRDR				*e*S	Sn	00 29 52.2	+2.2
SPN	**Mys Shipunski**	**2.56**	**223**	*e*P	Pn	00 29 25.2	-1.4
SPN				*e*S	Sn	00 29 55.7	-2.3
ESO	**Esso**	**2.58**	**293**	*e*P	Pn	00 29 26.1	-0.7
ESO				*e*S	Sn	00 29 57.6	-0.8
ESO				Smax			
	60nm,0.6s						
NLC	**Nalytchevo**	**2.79**	**230**	*e*P	Pn	00 29 29.9	0.0
NLC				*e*S	Sn	00 30 03.7	-0.2
SMAR	**Somma**	**2.98**	**236**	*e*P	Pn	00 29 33.4	+0.8
SMAR				*e*S	Sn	00 30 09.4	+0.7
UGLR	**Uglovaya**	**3.01**	**235**	*e*P	Pn	00 29 33.7	+0.8
UGLR				*e*S	Sn	00 30 09.1	-0.2
AVH	**Avacha**	**3.01**	**236**	*e*P	Pn	00 29 34.2	+1.2
AVH				*e*S	Sn	00 30 11.1	+1.6
KOK	**Koryaka**	**3.05**	**238**	*e*P	Pn	00 29 35.0	+1.5
GNL	**Ganaly**	**3.19**	**248**	*e*P	Pn	00 29 36.1	+0.5
PET	**Petropavlovsk**	**3.20**	**234**	*e*P	Pn	00 29 36.1	+0.4
PET				*e*S	Sn	00 30 14.2	-0.1
RUS	**Russkaya**	**3.67**	**227**	*e*P	Pn	00 29 42.3	-0.1
RUS				*e*S	Sn	00 30 24.1	-2.0
GRL	**Gorelyy**	**3.78**	**232**	*e*P	Pn	00 29 44.5	+0.6
GRL				*e*S	Sn	00 30 28.8	-0.1
APC	**Apacha**	**3.99**	**241**	*e*P	Pn	00 29 49.2	+2.3
APC				*e*S	Sn	00 30 34.7	+0.6

LDG ***05*** *00:42:56.2±0.4, 24.02S×66.46W, h176km, Mb4.9/15, Ms3.0/1, Error ellipse: s-maj=38.9km s-min=10.4km az=102.0*
BJI ***05*** *00:42:58.0, 23.90S×66.70W, h193km, mB5.1*
GUC ***05*** *00:42:58.1±0.6, 23.95S×67.28W, h240km±9km, ML5.1*
IDC ***05*** *00:42:58.2±0.8, 23.87S×66.63W, h194km±8km, mb4.0/14, mb1 4.2/21, mb1mx4.2/23, mbtmp4.6/21, MS2.9/1, Ms1 2.9/1, ms1mx2.6/28, Error ellipse: s-maj=13.0km s-min=9.5km az=71.0*
NEIC ***05*** *00:42:58.0±0.4, 23.93S×66.73W, h193km±4km, mb4.5/43, Error ellipse: s-maj=6.6km s-min=4.8km az=82.0*

ISC 05 00:42:57.0±0.5, 23.96S±0.03×66.77W±0.05, h196km±5km, n113, σ1§13/118, mb4.3/47, 7C-9D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPCH	**San Pedro de A**	**1.68**	**308**	⇑*i*P	**P**	**00 43 35.9**	**+3.6**
SPCH				*i* S	**S**	**00 44 05.0**	**+5.4**
SPCH				AMP		00 44 06.5	
	comp=N,5μm,0.7s						
LVC	**Limon Verde**	**2.38**	**304**	P	**P**	**00 43 42.0**	**+2.3**
	baz=114,slow=6.3						
LVC				LR	LR	00 44 11.6	
	comp=N,266nm,20.5s,baz=135,slow=30						
LVC				S	**S**	**00 44 15.5**	**+2.7**
	baz=270,slow=20						
LVC	**Limon Verde**	**2.38**	**304**	⇑*i*P	**P**	**00 43 42.1**	**+2.3**
LVC				*i* S	**S**	**00 44 15.0**	**+2.2**
LVC				AMP		00 44 16.5	
	comp=E,5μm,0.3s						
LVC	**Limon Verde**	**2.38**	**304**	⇑*i*Pn	**P**	**00 43 41.9**	**+2.1**
LVC				*e*Sn	**S**	**00 44 14.9**	**+2.1**
ANCH	**Antofagasta**	**3.35**	**274**	⇑*i*P	**P**	**00 43 52.6**	**+1.4**
ANCH				*i* S	**S**	**00 44 32.7**	**-0.3**
CPN1	**Cerro Paranal**	**3.38**	**258**	⇑*i*P	**P**	**00 43 53.1**	**+1.4**
CPN1				*i* S	**S**	**00 44 33.9**	**+0.1**
CPN1				AMP		00 44 37.2	
	comp=E,5μm,0.5s						
CRCH	**Chaqaral**	**4.23**	**235**	⇓*i*P	**P**	**00 44 02.5**	**+0.3**
CRCH				*i* S	**S**	**00 44 51.2**	**-1.3**
CPCH	**Copiapo**	**4.69**	**223**	⇓*i*P	**P**	**00 44 07.5**	**-0.5**
CPCH				*i* S	**S**	**00 45 01.9**	**-1.0**
VACH	**Vallenar**	**5.83**	**217**	⇑*i*P	**P**	**00 44 22.6**	**-0.2**
VACH				*i* S	**S**	**00 45 28.1**	**-1.3**
CFAA	**Coronel Fontan**	**7.73**	**189**	P	**P**	**00 44 48.4**	**+0.8**
	comp=E,1.1nm,0.3s,baz=9.6,slow=11,SNR=254						
CFAA				S	**S**	**00 46 10.4**	**-3.5**
	comp=E,3.0nm,0.3s,baz=100,slow=24,SNR=20						
LPAZ	**La Paz**	**7.74**	**350**	P	**P**	**00 44 48.2**	**+0.6**
	comp=E,6.5nm,0.3s,baz=164,slow=7.1,SNR=102						
LPAZ				S	**S**	**00 46 13.2**	**-0.9**
	baz=293,slow=15,SNR=2.4						
LPAZ	**La Paz**	**7.74**	**350**	*e*Pn	**P**	**00 44 48.5**	**+0.8**
	comp=E,27nm,0.5s						
LPAZ				*e*Sn	**S**	**00 46 11.3**	**-2.7**
ZON	**Zonda**	**7.75**	**192**	*e*P	**P**	**00 44 49.7**	**+1.9**
ZON				*e*S	S	00 46 48.6	+34
ARE	**Arequipa**	**8.67**	**328**	*e*P	**P**	**00 44 59.0**	**-0.9**
ARE				*e*S	**S**	**00 46 30.0**	**-5.9**
CPUP	**Villa Florida**	**8.87**	**107**	P	**P**	**00 45 02.8**	**+0.4**
	comp=E,1.9nm,0.3s,baz=304,slow=14,SNR=99						
CPUP	**Villa Florida**	**8.87**	**107**	⇑*i*Pn	**P**	**00 45 01.9**	**-0.6**
	comp=E,44nm,0.8s						
SIV	**San Ignacio**	**9.56**	**35**	P	**P**	**00 45 09.9**	**-1.6**
	comp=E,5.0nm,0.3s,baz=219,slow=12,SNR=67						
SIV				S	**S**	**00 46 45.8**	**-11**
	comp=E,0.8nm,0.3s,baz=227,slow=8.4,SNR=3.4						
TRQA	**Tornquist**	**14.64**	**165**	*e*P	**P**	**00 46 14.5**	**-1.4**
	comp=E,11nm,0.6s						
SAML	**Samuel**	**15.31**	**14**	*e*P	**P**	**00 46 22.6**	**-1.9**
	comp=E,19nm,0.9s						
PLCA	**Paso Flores**	**17.03**	**190**	P	**P**	**00 46 44.4**	**-0.6**
	comp=E,0.9nm,0.3s,baz=11,slow=13,SNR=35						
PLCA	**Paso Flores**	**17.03**	**190**	*e*P	**P**	**00 46 43.8**	**-1.1**
	comp=E,27nm,0.6s						
BDFB	**Brasilia**	**19.47**	**68**	P	**P**	**00 47 09.3**	**-1.5**
	comp=E,20nm,0.3s,baz=248,slow=10,SNR=185						
BAO	**Brasilia Array**	**19.49**	**68**	P	**P**	**00 47 10.2**	**-0.9**
USHA	**Ushuaia**	**30.86**	**182**	P	**P**	**00 48 55.9**	**-0.9**
	comp=E,16nm,0.8s,mb4.7,baz=358,slow=6.8,SNR=8.5						
VNA3	**Neumayer Olymp**	**57.13**	**161**	⇓*i*	**P**	**00 52 24.8**	**0.0**
VNA3	**Neumayer Olymp**	**57.13**	**161**	*e*	**P**	**00 52 26.1**	**+1.3**
VNA3	**Neumayer Olymp**	**57.13**	**161**	*e*	**P**	**00 52 30.2**	**+5.4**
VNA3	**Neumayer Olymp**	**57.13**	**161**	*e*	**P**	**00 52 33.2**	**+8.4**
VNA1	**Neumayer--Stat**	**57.32**	**160**	⇓*i*	**P**	**00 52 26.2**	**0.0**
VNA1	**Neumayer--Stat**	**57.32**	**160**	*e*	**P**	**00 52 28.0**	**+1.8**
VNA1	**Neumayer--Stat**	**57.32**	**160**	*e*	**P**	**00 52 32.0**	**+5.8**
VNA1	**Neumayer--Stat**	**57.32**	**160**	*e*	**P**	**00 52 35.2**	**+9.0**
VNA2	**Neumayer--Watz**	**57.69**	**160**	⇓*i*	**P**	**00 52 28.8**	**0.0**
VNA2	**Neumayer--Watz**	**57.69**	**160**	*e*	**P**	**00 52 30.1**	**+1.3**
VNA2	**Neumayer--Watz**	**57.69**	**160**	*e*	**P**	**00 52 33.5**	**+4.7**
VNA2	**Neumayer--Watz**	**57.69**	**160**	*e*	**P**	**00 52 36.9**	**+8.1**
SNAA	**Sanae**	**59.32**	**161**	⇓*i*	**P**	**00 52 39.5**	**-0.6**
SNAA	**Sanae**	**59.32**	**161**	*e*	**P**	**00 52 40.7**	**+0.6**
SNAA	**Sanae**	**59.32**	**161**	*e*	**P**	**00 52 44.4**	**+4.3**
SNAA	**Sanae**	**59.32**	**161**	*e*	**P**	**00 52 47.0**	**+6.9**
SNAA	**Sanae**	**59.32**	**161**	P	**P**	**00 52 40.0**	**-0.1**
	comp=E,2.6nm,0.8s,mb3.9,baz=285,slow=7.4,SNR=38						
WVT	**Waverly**	**62.99**	**341**	*e*P	**P**	**00 53 02.1**	**-3.0**
	comp=E,8.7nm,0.8s,mb4.4						
TXAR	**Lajitas Array**	**63.77**	**324**	P	**P**	**00 53 09.1**	**-1.2**
	comp=E,0.9nm,0.6s,mb3.6,baz=146,slow=8.4,SNR=10						
MAIT	**Maitri**	**63.81**	**159**	*e*P	**P**	**00 53 10.4**	**+0.5**
WCI	**Wyandotte Cave**	**64.51**	**343**	*e*P	**P**	**00 53 12.3**	**-2.7**
	comp=E,5.2nm,0.5s,mb4.4						
WMOK	**Wichita Mounta**	**65.80**	**331**	*e*P	**P**	**00 53 21.5**	**-1.8**
	comp=E,0.9nm,0.6s,mb3.6						
QSPA	**South Pole Qui**	**66.25**	**180**	⇓*i*P	**P**	**00 53 26.2**	**+0.7**
	comp=E,20nm,0.5s,mb5.0						
MNTX	**Cornudas Mount**	**66.53**	**325**	*e*P	**P**	**00 53 26.2**	**-1.8**
	comp=E,4.3nm,1.0s,mb4.0						
LIC	**Lamto**	**67.22**	**72**	*e*P	**P**	**00 53 31.1**	**-1.5**
	comp=E,4.1nm,0.4s,mb4.1						
DBIC	**Dimbokro**	**67.59**	**71**	P	**P**	**00 53 32.3**	**-2.6**
	comp=E,14nm,0.9s,mb4.6,baz=218,slow=6.9,SNR=23						
ANMO	**Albuquerque**	**69.63**	**326**	*e*P	**P**	**00 53 47.0**	**-0.1**
	comp=E,7.0nm,1.3s,mb4.1						
TUC	**Tucson**	**69.98**	**321**	*e*P	**P**	**00 53 49.0**	**-0.2**
	comp=E,1.7nm,0.8s,mb3.7						
SDCO	**Great Sand Dun**	**71.36**	**328**	*e*P	**P**	**00 53 56.8**	**-0.6**
	comp=E,3.0nm,0.7s,mb4.0						
SYO	**Syowa Base**	**73.52**	**159**	⇓P	**P**	**00 54 06.8**	**-2.7**
NEN	**Nelson**	**74.72**	**321**	*e*P	**P**	**00 54 17.0**	**-0.1**
VNDA	**Vanda**	**74.78**	**190**	P	**P**	**00 54 18.1**	**+1.4**
	comp=E,4.4nm,1.1s,mb4.0,baz=201,slow=2.6,SNR=6.0						
VNDA	**Vanda**	**74.78**	**190**	*e*P	**P**	**00 54 17.5**	**+0.8**
	comp=E,5.3nm,1.3s,mb4.0						
MSU	**Marysvale**	**75.31**	**325**	*e*P	**P**	**00 54 21.0**	**+0.6**
MSU				*e*	pP	00 55 10.6	+3.1
SUR	**Sutherland**	**75.65**	**119**	P	**P**	**00 54 22.5**	**+0.1**
	comp=E,6.7nm,0.9s,mb4.3,baz=253,slow=14,SNR=4.1						
SUR	**Sutherland**	**75.65**	**119**	*e*P	**P**	**00 54 21.9**	**-0.6**
	comp=E,8.5nm,0.8s,mb4.4						
RSSD	**Black Hills**	**75.86**	**333**	*e*P	**P**	**00 54 21.9**	**-1.4**
	comp=E,3.0nm,0.9s,mb3.9						
BW06	**Boulder Array**	**77.22**	**329**	*e*P	**P**	**00 54 30.6**	**-0.2**
	comp=E,0.8nm,0.5s,mb3.6						
PDAR	**Pinedale Array**	**77.22**	**329**	P	**P**	**00 54 30.4**	**-0.4**
	comp=E,0.4nm,0.4s,mb3.5,baz=135,slow=6.3,SNR=5.3						
HWUT	**Hardware Ranch**	**77.30**	**327**	*e*P	**P**	**00 54 31.2**	**-0.2**
	comp=E,2.1nm,0.6s,mb3.9						
TSUM	**Tsumeb**	**77.46**	**106**	P	**P**	**00 54 31.8**	**-0.9**
	comp=E,7.4nm,0.6s,mb4.5,baz=228,slow=6.7,SNR=27						
TSUM	**Tsumeb**	**77.46**	**106**	*e*P	**P**	**00 54 31.5**	**-1.2**
	comp=E,6.8nm,0.6s,mb4.5						
ULM	**Lac du Bonnet**	**78.25**	**341**	P	**P**	**00 54 35.1**	**-1.3**
	comp=E,4.7nm,1.0s,mb4.1,baz=151,slow=10.0,SNR=3.1						
LOHW	**Long Hollow**	**78.36**	**329**	*e*P	**P**	**00 54 36.3**	**-0.8**
	comp=E,8.5nm,1.3s,mb4.2						
TPAW	**Teton Pass**	**78.43**	**329**	*e*P	**P**	**00 54 38.1**	**+0.6**
	comp=E,5.2nm,1.0s,mb4.1						
SCHQ	**Schefferville**	**78.46**	**360**	P	**P**	**00 54 37.7**	**+0.3**
	comp=E,1.4nm,0.4s,mb3.9,baz=193,slow=4.2,SNR=7.3						
SCHQ	**Schefferville**	**78.46**	**360**	P	**P**	**00 54 37.7**	**+0.2**
RRI2	**Red Ridge**	**78.50**	**329**	*e*P	**P**	**00 54 38.1**	**+0.2**
	comp=E,5.6nm,1.1s,mb4.1						
ELK	**Elko**	**78.56**	**325**	*e*P	**P**	**00 54 38.1**	**-0.2**
	comp=E,2.1nm,0.9s,mb3.8						
IMW	**Indian Meadow**	**78.73**	**329**	*e*P	**P**	**00 54 39.4**	**+0.2**
	comp=E,11nm,1.4s,mb4.3						
MCMT	**McKenzie Canyo**	**80.33**	**329**	*e*P	**P**	**00 54 48.5**	**+0.8**
BOSA	**Boshof**	**80.56**	**117**	P	**P**	**00 54 48.7**	**-0.5**
	comp=E,2.7nm,0.4s,mb4.3,baz=264,slow=4.8,SNR=20						
BOSA	**Boshof**	**80.56**	**117**	*e*P	**P**	**00 54 48.4**	**-0.8**
	comp=E,4.2nm,0.7s,mb4.2						
MAW	**Mawson**	**81.42**	**163**	⇓*i*P	**P**	**00 54 53.5**	**+0.6**
	comp=E,6.5nm,0.9s,mb4.3						
MAW	**Mawson**	**81.42**	**163**	P	**P**	**00 54 53.9**	**+1.0**
	comp=E,5.6nm,0.7s,mb4.3,baz=216,slow=6.2,SNR=19						
LBTB	**Lobatse**	**82.21**	**114**	*e*P	**P**	**00 54 57.2**	**-0.6**
	comp=E,5.2nm,0.6s,mb4.3						
BMO	**Blue Mountains**	**82.54**	**326**	*e*P	**P**	**00 54 59.2**	**+0.1**
	comp=E,1.7nm,0.8s,mb3.8						
ESDC	**Sonseca Array**	**86.22**	**43**	P	**P**	**00 55 17.7**	**+0.1**
	comp=E,3.0nm,0.7s,mb4.2,baz=244,slow=4.8,SNR=19						
LSZ	**Lusaka**	**88.31**	**106**	*e*P	**P**	**00 55 28.4**	**+0.4**
	comp=E,13nm,1.1s,mb4.7						
SJPF	**Ste Jean**	**89.86**	**42**	*e*P	**P**	**00 55 36.3**	**+1.6**
CASY	**Casey**	**90.03**	**179**	*e*P	**P**	**00 55 36.4**	**+1.5**
	comp=E,5.7nm,0.7s,mb4.5						
ETSF	**Etsaut**	**90.15**	**42**	*e*P	**P**	**00 55 37.6**	**+1.5**
	comp=E,36nm,1.4s,mb4.7						
EPF	**Esparros**	**90.78**	**42**	*e*P	**P**	**00 55 40.2**	**+1.2**
ROSF	**Rostrenen**	**91.62**	**37**	*e*P	**P**	**00 55 44.2**	**+1.4**
	comp=E,48nm,1.3s,mb5.0						
SGMF	**Saint Gilles**	**91.97**	**37**	*e*P	**P**	**00 55 46.1**	**+1.7**
LFF	**La Frestale**	**92.04**	**41**	*e*P	**P**	**00 55 45.9**	**+1.1**
	comp=E,18nm,1.0s,mb4.6						
MFF	**Saint Martin d**	**92.41**	**39**	*e*P	**P**	**00 55 46.5**	**0.0**
	comp=E,17nm,1.0s,mb4.7						
YKA	**Yellowknife Ar**	**94.16**	**340**	P	**P**	**00 55 53.8**	**-0.2**
	comp=E,0.7nm,0.5s,mb3.9,baz=132,slow=4.6,SNR=6.6						
YKA	**Yellowknife Ar**	**94.16**	**340**	P	**P**	**00 55 53.8**	**-0.2**
AVF	**Avril sur Loir**	**94.56**	**40**	*e*P	**P**	**00 55 57.2**	**+0.9**
	comp=E,20nm,1.5s,mb4.7						
SMF	**Signal de Mont**	**94.78**	**41**	*e*P	**P**	**00 55 57.8**	**+0.5**
SSF	**Saint Saulge**	**94.79**	**40**	*e*P	**P**	**00 55 58.5**	**+1.2**
LOR	**Lormes**	**95.10**	**40**	*e*P	**P**	**00 55 59.5**	**+0.8**
	comp=E,12nm,1.2s,mb4.6						
ORIF	**Oris-en-Rattie**	**95.18**	**43**	*e*P	**P**	**00 56 00.3**	**+1.2**
	comp=E,18nm,1.2s,mb4.8						
MBDF	**Montbardon**	**95.64**	**43**	*e*P	**P**	**00 56 01.4**	**+0.2**
	comp=E,16nm,1.2s,mb4.8						
LPL	**La Plagne**	**95.99**	**43**	*e*P	**P**	**00 56 03.8**	**+1.0**
	comp=E,21nm,1.3s,mb4.9						
LPG	**La Plagne**	**96.00**	**43**	*e*P	**P**	**00 56 03.8**	**+1.0**
	comp=E,24nm,1.3s,mb5.0						
PGF	**Pioggiola**	**96.07**	**46**	*e*P	**P**	**00 56 04.0**	**+0.8**
	comp=E,25nm,0.9s,mb5.2						
CABF	**La Chapelle**	**96.12**	**41**	*e*P	**P**	**00 56 04.0**	**+0.7**
	comp=E,19nm,1.1s,mb4.9						
CDF	**Champ du Feu**	**97.67**	**40**	*e*P	**P**	**00 56 10.8**	**+0.4**
WRA	**Warramunga Arr**	**131.76**	**207**	PKP	PKPdf	01 01 47.3	-0.2
	comp=E,1.6nm,0.6s,baz=156,slow=1.5,SNR=7.6						
WRAB	**Tennant Creek**	**131.77**	**207**	*e*PKPdf	PKPdf	01 01 48.5	+1.0
BVAR	**Borovoye Array**	**136.63**	**37**	PKP	PKPdf	01 01 56.9	+1.3
	comp=E,0.3nm,0.4s,baz=270,slow=3.0,SNR=4.1						
MKAR	**Makanchi Array**	**146.35**	**40**	PKP	PKPdf	01 02 14.3	+1.5
	comp=E,6.0nm,0.6s,baz=339,slow=1.7,SNR=46						
MKAR				PKPbc	PKPbc	01 02 16.2	+1.9
	comp=E,5.9nm,0.6s,baz=354,slow=1.6,SNR=43						
MKAR	**Makanchi Array**	**146.35**	**40**	PKP	PKPdf	01 02 14.3	+1.5
MKAR				PKPbc	PKPbc	01 02 16.2	+1.9
WMQ	**Urumqi**	**151.17**	**40**	*e*PKP	PKPdf	01 02 26.0	+5.4
SONM	**Songino Array**	**155.56**	**11**	PKPab	PKPab	01 02 56.3	+0.4
	comp=E,1.5nm,0.8s,baz=325,slow=5.0,SNR=6.9						
CN2	**Changchun**	**157.81**	**336**	*e*PKP	PKPdf	01 02 34.9	+5.3
LZH	**Lanzhou**	**165.44**	**32**	*e*PKP	PKPdf	01 02 37.5	-0.3
LZH				APKP		01 03 29.5	
LZH				XPKP		01 03 50.3	

BJI ***05*** *00:56:52.0, 51.56N×178.06W, h25km, mB5.8, mb5.6, Ms5.6, Msz5.3*
HRVD ***05*** *00:56:53.7±0.1, 51.16N×177.93W, h30km, MW5.8/77, Centroid moment Tensor Solution. LP body waves: s67,c160;Mantle waves: s77,c229; Half duration: 1§8*
Moment tensor: Scale 10¹⁷Nm; Mrr2.96±.05; Mθθ-2.88±.04; Mφφ-0.07±.04; Mrθ4.03±.07; Mrφ-1.21±.03; Mθφ2.10±.07; Best double couple: M₀5.528×10¹⁷ NP1: φs257°, δ18°, λ103°. NP2:φs64°, δ73°, λ86°. Principal axes: T 5.363, Plg62°, Azm327°; N .333, Plg4°, Azm65°; P -5.694, Plg28°, Azm157°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.
NEIC ***05*** *00:56:53.7±0.1, 51.24N×178.25W, mb5.6/218, ME5.4, MS5.3/139, MW5.6, ML5.7(AEIC), ML5.6(PMR) Error ellipse: s-maj=4.1km s-min=2.0km az=179.0 Broadband fault plane solution: P waves. NP1:φs65°, δ80°, λ55°. NP2:φs321°, δ36°, λ163°. Principal axes: T Plg44°, Azm301°; N Plg0°, Azm0°; P Plg27°, Azm182°; Moment Tensor Solution. s28 Moment tensor: Scale 10¹⁷ Nm; Mrr1.41; Mθθ-2.14; Mφφ0.73; Mrθ2.63; Mθφ0.13; Mφr1.85; Best double couple: M₀3.7×10¹⁷ NP1:φs303°, δ24°, λ150°. NP2:φs61°, δ78°, λ69°. Principal axes: T 3.78, Plg52°, Azm306°; N -.1, Plg20°, Azm65°; P -3.68, Plg30°, Azm168°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [IV] on Adak.
BGS ***05*** *00:56:54.8±3.1, 51.24N×178.25W, h33km, mb5.4*
MOS ***05*** *00:56:54.7±0.9, 51.35N×178.09W, h38km, mb5.8/132, MS5.4/70, Error ellipse: s-maj=6.4km s-min=3.6km az=92.3*
IDC ***05*** *00:56:55.3±1.5, 51.38N×178.12W, h30km±9km, mb5.2/30, mb1 5.3/30, mb1mx5.2/32, mbtmp5.3/30, MS5.2/30, Ms1 5.2/30, ms1mx5.2/34, Error ellipse: s-maj=13.6km s-min=8.2km az=165.0*

ISC 05 00:56:52.3±0.1, 51.22N±0.03×178.18W±0.02, h23km, h23km±1.2km: pP-P, n1039, c0§98/974, mb5.6/306, MS5.3/194, 86C-23D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIMD	**Kanaga Island**	**0.80**	**47**	P	**Pb**	**00 57 09.8**	**+2.3**
KIWB	**Kanaga Island**	**0.90**	**45**	*e*P	**Pb**	**00 57 11.2**	**+2.1**
KIKV	**Kanaga Island**	**0.91**	**43**	P	**Pb**	**00 57 11.6**	**+2.3**
KINC	**Kanaga Island**	**0.96**	**42**	P	**Pb**	**00 57 12.6**	**+2.3**
ADAG	**Mount Adagdak**	**1.24**	**52**	P	**Pn**	**00 57 16.2**	**+1.8**
GSCK	**Great Sitkin C**	**1.48**	**57**	P	**Pn**	**00 57 19.9**	**+2.0**
GSCK				S	**Sn**	**00 57 40.7**	**+4.0**
GSSP	**Great Sitkin S**	**1.52**	**54**	P	**Pn**	**00 57 20.4**	**+1.9**
GSMY	**Great Sitkin M**	**1.56**	**57**	P	**Pn**	**00 57 20.6**	**+1.6**
GSTR	**Great Sitkin T**	**1.58**	**56**	P	**Pn**	**00 57 21.2**	**+1.8**
GSIG	**Igitkin Island**	**1.60**	**61**	P	**Pn**	**00 57 21.7**	**+2.1**
ATKA	**Atka Island**	**2.66**	**67**	P	**Pn**	**00 57 36.3**	**+1.5**
ATKA				S	**Sn**	**00 58 07.8**	**+1.1**
SMY	**Shemya**	**5.01**	**291**	*e*P	**Pn**	**00 58 09.1**	**+1.0**
SMY				P		00 58 12.3	
SMY				*e*P		00 58 12.8	
FX1	**Attu Island--F**	**5.59**	**291**	Pn	**Pn**	**00 58 18.3**	**+2.0**
	35n

IMA pmax pmax
comp=Z,700nm,0.9s
SML Sawmill 19.39 45 *e*P **P 01 01 16.8 -2.4**
SEY Seymchan 19.62 318 *e*P **P 01 01 22.7 +0.9**
SEY *e*S **S 01 05 00.9 +4.7**
SEY pmax pmax
comp=E,140nm,1.1s
SEY pmax pmax
comp=Z,250nm,1.1s
SEY pmax pmax
comp=N,90nm,1.2s
SEY smax
comp=N,840nm,4.8s
SEY smax
comp=E,2μm,12.1s
MCK McKinley 19.87 40 *e*P **P 01 01 21.9 -2.6**
comp=E,60nm,0.8s
MCK McKinley 19.87 40 *e*P **P 01 01 21.9 -2.6**
MCK pmax pmax
comp=Z,60nm,0.8s
EYAK Cordova Ski Ar 20.24 50 *e*P **P 01 01 26.4 -2.0**
DIV Divide 20.36 48 *e*P **P 01 01 29.2 -0.6**
comp=Z,195nm,0.6s
DIV LR LR
comp=Z,38μm,21.0s,MS5.7
ILAR Eielson Array 21.12 38 P **P 01 01 35.4 -2.1**
comp=Z,26nm,0.9s,mb4.6,baz=239,slow=9.3,SNR=87
ILAR S **S 01 05 28.9 +2.5**
comp=Z,3.3nm,0.8s,baz=225,slow=10,SNR=3.4
ILAR PcP PcP 01 05 38.7 -4.6
comp=Z,5.6nm,0.8s,baz=335,slow=0.5,SNR=4.6
ILAR ScP 01 09 13.8
comp=Z,1.9nm,0.5s,baz=296,slow=2.8,SNR=8.4
ILAR LR LR 01 10 59.1
comp=Z,11μm,18.3s,MS5.3,baz=86,slow=40
ILAR ScS ScS 01 13 01.1 +1.4
comp=Z,2.0nm,0.9s,baz=212,slow=2.5,SNR=8.4
ILAR P3KPbc 01 35 40.2
comp=Z,0.6nm,0.8s,baz=117,slow=6.4,SNR=5.3
ILAR Eielson Array 21.12 38 P **P 01 01 35.4 -2.1**
ILAR S **S 01 05 29.0 +2.6**
ILAR 01 05 38.7
ILAR 01 13 01.1
MIDW Midway 22.99 178 *e*P **P 01 01 58.1 +1.8**
comp=Z,626nm,1.4s,mb5.8
MIDW LR LR
comp=Z,10μm,20.0s,MS5.3
YUK Yuzh-Kuril'sk 25.09 268 *e*P **P 01 02 16.0 -0.4**
YUK *e* 01 05 45.0
YUK *e*S **S 01 06 38.0 +1.3**
YUK pmax pmax
comp=N,2μm,4.0s
YUK pmax pmax
comp=E,2μm,4.0s
YUK pmax pmax
comp=Z,2μm,4.0s
YUK smax
comp=N,4μm,3.0s
YUK smax
comp=E,2μm,3.0s
SIT Sitka 25.43 60 PFAKE 01 02 30.0 +11
SIT LR LR
comp=Z,7μm,21.0s,MS5.2
YSS Yuzh-Sakhalins 25.73 276 *e*P **P 01 02 24.3 +2.0**
comp=Z,280nm,1.0s,mb5.8
YSS LR LR
comp=Z,7μm,22.0s,MS5.1
YSS Yuzh-Sakhalins 25.73 276α *i*P **P 01 02 24.0 +1.6**
YSS *e* pP 01 02 31.0 +1.9
YSS *e* 01 02 37.0
YSS *e* 01 02 59.0
YSS *e*PPP PPP 01 03 21.0 +6.6
YSS *e*S **S 01 06 52.0 +4.6**
YSS pmax pmax
comp=N,90nm,1.0s
YSS pmax pmax
comp=E,190nm,1.0s
YSS pmax pmax
comp=Z,260nm,1.0s,mb5.7
YSS MLR MLR
comp=N,3μm,20.0s
YSS MLR MLR
comp=Z,3μm,20.0s,MS4.8
INK Inuvik 27.36 35 P **P 01 02 35.7 -1.5**
comp=Z,20nm,0.8s,mb4.7,baz=246,slow=8.0,SNR=72
INK PcP PcP 01 05 55.0 -1.5
comp=Z,19nm,0.7s,baz=296,slow=3.1,SNR=8.8
INK ScP 01 09 32.2
comp=Z,8.7nm,0.9s,baz=53,slow=27,SNR=18
INK ScS ScS 01 13 21.9 -2.4
comp=Z,2.3nm,0.8s,baz=15,slow=31,SNR=16
INK LR LR 01 14 58.3
comp=Z,9μm,18.4s,MS5.4,baz=234,slow=40
INK Inuvik 27.36 35 *e*P **P 01 02 35.3 -1.9**
comp=Z,52nm,1.0s,mb5.0
INK Inuvik 27.36 35 P **P 01 02 35.7 -1.5**
INK 01 05 55.0
INK 01 13 21.9
INK pmax pmax
comp=Z,20nm,0.8s
INK pmax pmax
comp=Z,19nm,0.7s
INK pmax pmax
comp=N,9.0nm,0.9s
INK pmax pmax
comp=N,2.0nm,0.8s
INK MLR MLR
comp=Z,9μm,18.4s
DLBC Dease Lake 28.12 56 P **P 01 02 43.5 -0.6**
comp=Z,1.8nm,0.6s,baz=244,slow=10,SNR=5.6
DLBC LR LR 01 15 01.7
comp=Z,4μm,19.2s,MS5.0,baz=275,slow=39
DLBC Dease Lake 28.12 56 *e*P **P 01 02 43.4 -0.7**
YAK Yakutsk 29.81 312 *e*P **P 01 02 58.0 -1.4**
YAK LR LR
comp=Z,12μm,19.0s,MS5.5
YAK Yakutsk 29.81 312 *e*P **P 01 02 57.0 -2.4**
YAK *e**PP pP 01 03 08.8 +2.6
YAK *e* 01 03 53.7
YAK *e* 01 05 59.6
YAK *e*S **S 01 07 56.5 +3.1**
YAK *e**SS 01 08 12.5
YAK *e*SS SS 01 09 33.5 +4.3
YAK *e*SSS SSS 01 09 50.9 +0.9
YAK *e* 01 13 35.0
YAK pmax pmax
comp=Z,17nm,1.0s,mb4.7
YAK pmax pmax
comp=E,9.0nm,1.1s
YAK pmax pmax
comp=Z,29nm,1.1s,mb4.9
YAK pmax pmax
comp=N,6.0nm,1.0s
YAK pmax pmax
comp=E,24nm,1.2s
YAK smax
comp=N,10.0nm,1.1s
YAK smax
comp=E,8.0nm,1.1s
YAK MLR MLR
comp=Z,7μm,19.0s,MS5.3
YAK MLR MLR
comp=N,863nm,15.0s,MS5.3
YAK MLR MLR
comp=E,5μm,18.0s,MS5.3
BBB Bella Bella 30.55 68 P **P 01 03 06.5 +0.5**
comp=E,60nm,0.8s,mb5.5,baz=298,slow=8.1,SNR=36
BBB LR LR 01 13 31.7
comp=E,2μm,19.8s,MS4.8,baz=290,slow=33
TIXI Tiksi 30.96 331 *i*P **P 01 03 08.2 -1.2**
TIXI LR LR
comp=Z,9μm,20.0s,MS5.4
TIXI Tiksi 30.96 331 *e*P **P 01 03 06.9 -2.5**
TIXI *e* 01 04 07.3
TIXI *e*S **S 01 08 07.9 -3.5**
TIXI pmax pmax
comp=Z,20nm,1.2s,mb4.8
TIXI MLR MLR
comp=Z,7μm,16.0s,MS5.4
KLR Kul'dur 31.60 286 *i*P **P 01 03 12.7 -2.5**
KLR *e* 01 04 22.5
KLR *e*S **S 01 08 18.0 -3.6**
KLR *e*SS SS 01 10 17.5 +6.3
KLR pmax pmax
comp=N,120nm,1.0s
KLR pmax pmax
comp=E,100nm,1.0s
KLR pmax pmax
comp=Z,220nm,1.0s,mb5.9
KLR pmax pmax
comp=E,500nm,3.5s
KLR pmax pmax
comp=Z,1μm,3.5s
KLR smax
comp=N,1μm,5.5s
KLR smax
comp=E,700nm,5.5s
KLR smax
comp=N,260nm,3.0s
KLR smax
comp=E,170nm,3.0s
KLR MLR MLR
comp=E,2μm,14.0s
KLR MLR MLR
comp=Z,4μm,14.0s,MS5.3
KIP Kipapa 33.66 145 *e*P **P 01 03 34.3 +0.9**
comp=Z,207nm,1.3s,mb5.9
KIP LR LR
comp=Z,11μm,20.0s,MS5.6
KIP Kipapa 33.66 145 *e*P **P 01 03 34.3 +0.9**
KIP pmax pmax
comp=Z,207nm,1.3s,mb5.9
KIP MLR MLR
comp=Z,11μm,20.0s,MS5.6
WAKE Wake Island 34.05 206 PFAKE 01 03 50.0 +13
WAKE LR LR
comp=Z,6μm,20.0s,MS5.3
MAJO Matsushiro 34.15 262 *e*P **P 01 03 38.5 +1.0**
comp=Z,114nm,1.0s,mb5.8
MAJO *e*pP pP 01 03 47.1 +2.7
MAJO LR LR
comp=Z,4μm,20.0s,MS5.1
MAJO Matsushiro 34.15 262 *e*P **P 01 03 38.5 +1.0**
MAJO *e**PP pP 01 03 47.1 +2.6
MAJO pmax pmax
comp=Z,114nm,1.0s,mb5.8
MAJO MLR MLR
comp=Z,4μm,20.0s,MS5.1
MAT Matsushiro 34.15 262 P **P 01 03 38.7 +1.2**
MAT S **S 01 09 00.0 -1.3**
MAT Matsushiro 34.15 262 *e*P **P 01 03 39.0 +1.5**
comp=Z,172nm,1.2s,mb5.9
MAT *e*S **S 01 09 00.0 -1.3**
MAT LR LR
comp=Z,4μm,20.0s,MS5.2
MAT Matsushiro 34.15 262 *e*P **P 01 03 39.0 +1.5**
MAT *e*S **S 01 09 00.0 -1.3**
MAT pmax pmax
comp=Z,172nm,1.2s,mb5.9
MAT MLR MLR
comp=Z,4μm,20.0s,MS5.2
OOW Octopus West 34.59 74 P **P 01 03 43.0 +1.8**
OCWA Octopus Mounta 34.59 74 P **P 01 03 41.1 -0.1**
comp=Z,66nm,0.8s,mb5.6
OCWA LR LR
comp=Z,7μm,22.0s,MS5.3
PGC Sidney 34.63 72 *e*P **P 01 03 40.8 -0.7**
comp=Z,62nm,0.8s,mb5.6
MDJ Mudanjiang 34.98 280 P **P 01 03 43.6 -1.0**
MDJ AP pP 01 03 49.7 -1.8
MDJ XP sP 01 03 52.4 -2.1
MDJ PP PP 01 05 05.1 +2.1
MDJ PCP PcP 01 06 12.4 -4.5
MDJ S **S 01 09 15.6 +1.4**
MDJ SCP 01 09 57.4
MDJ PCS 01 10 00.3
MDJ SCS ScS 01 14 01.7 -0.3
MDJ AMB AMB
comp=Z,87nm,1.0s,mb5.6
MDJ AMB AMB
comp=Z,515nm,8.3s
MDJ LR LR
comp=N,3μm,22.7s
MDJ LR LR
comp=E,2μm,29.8s
MDJ LR LR
comp=Z,5μm,19.0s,MS5.3
MDJ Mudanjiang 34.98 280 *e*P **P 01 03 43.6 -1.0**
comp=Z,81nm,0.9s,mb5.7
MDJ LR LR
comp=Z,5μm,22.0s,MS5.2
YKW3 Yellowknife Ar 35.04 46 *e*P **P 01 03 42.8 -2.1**
YKA Yellowknife Ar 35.06 46 P **P 01 03 43.3 -1.7**
comp=Z,25nm,0.8s,mb5.2,baz=281,slow=8.2,SNR=75
YKA PcP PcP 01 06 16.1 -0.8
comp=Z,7.1nm,0.7s,baz=288,slow=3.3,SNR=9.3
YKA ScP 01 09 58.7
comp=Z,3.1nm,0.8s,baz=285,slow=3.3,SNR=6.1
YKA Yellowknife Ar 35.06 46 P **P 01 03 43.3 -1.8**
YKA PcP PcP 01 06 16.1 -0.7
YKA ScP 01 09 58.7
JHJ Hachijo jima 2 35.44 256 LR LR 01 16 05.5
comp=Z,2μm,19.2s,MS4.9,baz=56,slow=32
POHA Pohakuloa 36.11 142 *e*P **P 01 03 55.6 +1.2**
POHA LR LR
comp=Z,89μm,21.0s
COR Corvallis 36.63 78 *e*P **P 01 03 59.2 +0.7**
comp=Z,146nm,0.9s,mb5.8
COR LR LR
comp=Z,3μm,22.0s,MS5.1
COR Corvallis 36.63 78 *e*P **P 01 03 59.2 +0.7**
COR pmax pmax
comp=Z,146nm,0.9s,mb5.8
COR MLR MLR
comp=Z,3μm,22.0s,MS5.1
TWW Teanaway 36.87 73 P **P 01 04 02.0 +1.5**
KEBM Edson Butte 36.88 81 *e*P **P 01 04 01.2 +0.5**
SSOR Sweet Springs 37.01 77 P **P 01 04 03.4 +1.6**
TBM Table Mountain 37.02 73 P **P 01 04 02.4 +0.7**
KBO Bosley Butte 37.31 82 P **P 01 04 04.7 +0.4**
HUMO Hull Mountain 37.88 81 *e*P **P 01 04 09.9 +0.8**
comp=Z,24nm,0.9s,mb4.9
HUMO LR LR
comp=Z,3μm,20.0s,MS5.1
KRMB Red Mountain 37.88 83 *e*P **P 01 04 09.4 +0.3**
CN2 Changchun 37.96 281 *e*P **P 01 04 09.5 -0.2**
CN2 *e*XP sP 01 04 27.3 +7.7
CN2 PP PP 01 05 41.1 +1.3
CN2 PCP PcP 01 06 25.9 +0.1
CN2 *e*S **S 01 09 56.3 -3.6**
CN2 AMB AMB
comp=Z,30nm,1.0s,mb5.0
CN2 AMB AMB
comp=Z,740nm,8.0s
CN2 LR LR
comp=N,4μm,18.0s,MS5.4
CN2 LR LR
comp=E,4μm,18.0s,MS5.4
CN2 LR LR
comp=Z,3μm,18.0s,MS5.2
HAWA Hanford 38.03 74 *e*P **P 01 04 10.7 +0.4**
comp=Z,8.8nm,0.8s,mb4.5
HAWA LR LR
comp=Z,254nm,22.0s
OD2 Odessa Site #2 38.04 72 P **P 01 04 10.5 +0.1**
KHMM Horse Mountain 38.36 84 *e*P **P 01 04 13.1 0.0**
CBIJ Chichi jima 38.38 246 LR LR 01 17 29.8
comp=Z,977nm,20.6s,MS4.6,baz=33,slow=32
BOD Bodaibo 38.38 307 *e*P **P 01 04 10.8 -2.3**
BOD pmax pmax
comp=Z,18nm,0.9s,mb4.8
BOD pmax pmax
comp=Z,26nm,1.0s,mb4.9
YBH Yreka Blue Hor 38.52 82 P **P 01 04 15.4 +1.0**
comp=Z,39nm,0.9s,mb5.2,baz=270,slow=5.4,SNR=24
YBH S **S 01 10 09.7 +1.4**
comp=Z,0.9nm,0.3s,baz=139,slow=13,SNR=1.9
YBH LR LR 01 18 40.0
comp=Z,2μm,18.7s,MS5.1,baz=300,slow=34
YBH Yreka Blue Hor 38.52 82 *e*P **P 01 04 15.7 +1.3**
comp=Z,38nm,0.9s,mb5.1
YBH LR LR
comp=Z,2μm,19.0s,MS5.0
YBH Yreka Blue Hor 38.52 82 P **P 01 04 15.4 +1.0**
YBH S **S 01 10 09.7 +1.4**
YBH pmax pmax
comp=Z,39nm,0.9s
YBH smax
comp=N,1.0nm,0.3s
EDM Edmonton 38.55 61 *e*P **P 01 04 13.6 -1.0**
NEW Newport 38.57 70 P **P 01 04 14.9 +0.1**
comp=N,100nm,0.8s,mb5.6,baz=303,slow=7.4,SNR=136
NEW S **S 01 10 06.6 -2.5**
comp=N,3.0nm,0.8s,baz=52,slow=21,SNR=7.1
NEW LR LR 01 18 42.8
comp=N,3μm,20.4s,MS5.2,baz=267,slow=34
NEW Newport 38.57 70 *e*P **P 01 04 14.8 0.0**
comp=N,92nm,0.8s,mb5.6
NEW LR LR
comp=Z,4μm,20.0s,MS5.2
NEW Newport 38.57 70 P **P 01 04 15.0 +0.2**
NEW S **S 01 10 06.6 -2.5**
NEW pmax pmax
comp=Z,101nm,0.8s
NEW smax
comp=N,3.0nm,0.8s
HIA Hailar 38.71 292 *e*P **P 01 04 15.8 -0.1**
comp=N,139nm,0.9s,mb5.7
HIA LR LR
comp=Z,12μm,20.0s,MS5.7
HIA Hailar 38.71 292 *e*P **P 01 04 15.8 -0.1**
HIA pmax pmax
comp=Z,139nm,0.9s
HIA MLR MLR
comp=Z,12μm,20.0s
KIPM Iron Peak 39.13 85 *e*P **P 01 04 20.4 +0.8**
KCPM Cahto Peak 39.13 85 *e*P **P 01 04 20.2 +0.6**
WDC Whiskeytown Da 39.27 83 *e*P **P 01 04 21.3 +0.6**
comp=Z,37nm,1.0s,mb5.1
WDC LR LR
comp=Z,1μm,21.0s,MS4.7
WDC Whiskeytown Da 39.27 83 *e*P **P 01 04 21.3 +0.6**
WDC pmax pmax
comp=Z,37nm,1.0s,mb5.1
WDC MLR MLR
comp=Z,1μm,21.0s,MS4.7
HOPS Hopland 39.86 86 *e*P **P 01 04 25.9 +0.3**
comp=Z,63nm,1.2s,mb5.2
HOPS LR LR
comp=Z,2μm,22.0s,MS5.0
MOD Modoc 39.92 80 *e*P **P 01 04 26.7 +0.6**
comp=Z,43nm,0.7s,mb5.3
MOD LR LR
comp=Z,3μm,20.0s,MS5.1
KS15 Wonju Array Si 40.06 271 *e*P **P 01 04 28.5 +1.2**
WALA Waterton Lakes 40.07 67⇑*e*P **P 01 04 27.4 +0.1**
comp=Z,94nm,0.8s,mb5.6
BMO Blue Mountains 40.16 74 *e*P **P 01 04 28.1 +0.1**
comp=Z,26nm,0.8s,mb5.0
BMO *e*pP pP 01 04 35.7 +0.7
BMO LR LR
comp=Z,4μm,22.0s,MS5.2
SNY Shenyang 40.19 280 ⇑P **P 01 04 29.5 +1.2**
SNY XP sP 01 04 45.5 +7.3
SNY S **S 01 10 30.9 -2.6**
SNY XS 01 10 50.8
SNY SS SS 01 13 23.2 -2.7
SNY AMB AMB
comp=Z,160nm,1.3s,mb5.6
SNY LR LR
comp=N,4μm,21.3s,MS5.2
SNY LR LR
comp=E,2μm,23.7s,MS5.2
SNY LR LR
comp=Z,5μm,21.3s,MS5.3
NSHM Saint Helena R 40.44 86 *e*P **P 01 04 30.7 +0.4**
WVOR Wild Horse Val 40.65 78 *e*P **P 01 04 32.7 +0.6**
comp=Z,134nm,0.9s,mb5.6
WVOR *e*pP pP 01 04 41.1 +2.1
WVOR LR LR
comp=Z,4μm,22.0s,MS5.2
WVOR Wild Horse Val 40.65 78 *e*P **P 01 04 32.7 +0.6**
WVOR *e**PP pP 01 04 41.1 +2.0
WVOR pmax pmax
comp=Z,134nm,0.9s,mb5.6
WVOR MLR MLR
comp=Z,4μm,22.0s,MS5.2
JNU Nakatsue 40.94 264 P **P 01 04 36.5 +2.0**
comp=Z,178nm,1.1s,mb5.6,baz=61,slow=11,SNR=32
JNU LR LR 01 20 39.0
comp=Z,4μm,21.1s,MS5.2,baz=34,slow=35
CIT Chita 40.96 299 *e*P **P 01 04 34.6 +0.1**
CIT *e* 01 06 08.1
CIT pmax pmax
comp=Z,185nm,2.6s,mb5.2
BEKR Beckwourth 41.04 83 *e*P **P 01 04 35.8 +0.4**
comp=Z,28nm,1.0s,mb4.8
MSO Missoula 41.15 70 *e*P **P 01 04 35.8 -0.4**
comp=Z,42nm,0.9s,mb5.1
MSO LR LR
comp=Z,2μm,19.0s,MS4.9
CHMT Chamberlain Mo 41.52 70 *e*P **P 01 04 38.6 -0.4**
PAHR Pah Rah Range 41.75 82 *e*P **P 01 04 41.8 +0.8**
comp=Z,36nm,0.9s,mb5.0
CMB Columbia Colle 42.12 85 *e*P **P 01 04 44.4 +0.3**
comp=Z,31nm,1.0s,mb4.9
CMB LR LR
comp=Z,3μm,21.0s,MS5.1
CMB Columbia Colle 42.12 85 *e*P **P 01 04 44.4 +0.3**
CMB pmax pmax
comp=Z,31nm,1.0s,mb4.9
CMB MLR MLR
comp=Z,3μm,21.0s,MS5.1
SAO San Andreas Ge 42.24 87 *e*P **P 01 04 45.7 +0.6**
comp=Z,31nm,1.1s,mb4.8
SAO LR LR
comp=Z,2μm,21.0s,MS5.0
SAO San Andreas Ge 42.24 87 *e*P **P 01 04 45.7 +0.6**
SAO pmax pmax
comp=Z,31nm,1.1s,mb4.8
SAO MLR MLR
comp=Z,2μm,21.0s,MS5.0
HRY Holter Researc 42.46 69 *e*P **P 01 04 46.7 -0.1**
BMN Battle Mountai 42.66 80 *e*P **P 01 04 48.4 -0.1**
comp=Z,31nm,0.7s,mb5.1
BMN LR LR
comp=Z,2μm,20.0s,MS5.1
BMN Battle Mountai 42.66 80 *e*P **P 01 04 48.4 -0.1**
BMN pmax pmax
comp=Z,31nm,0.7s,mb5.2
BMN MLR MLR
comp=Z,2μm,20.0s,MS5.1
MCMT McKenzie Canyo 42.85 72 *e*P **P 01 04 50.1 0.0**
DL2 Dalian 43.10 278 P **P 01 04 52.6 +0.5**
DL2 AP pP 01 05 06.2 +7.1
DL2 S **S 01 11 19.1 +2.7**
DL2 XS 01 11 34.0
DL2 AMB AMB
comp=Z,20nm,1.6s,mb4.6
DL2 AMB AMB
comp=Z,450nm,6.8s
DL2 LR LR
comp=N,1μm,16.5s,MS5.0
DL2 LR LR
comp=E,780nm,11.8s,MS5.0
DL2 LR LR
comp=Z,2μm,18.1s
BOZ Bozeman (W) 43.14 70 *e*P **P 01 04 52.4 +0.1**
comp=Z,62nm,0.7s,mb5.5
BOZ LR LR
comp=Z,2μm,19.0s,MS5.0
BOZ Bozeman (W) 43.14 70 *e*P **P 01 04 52.4 +0.1**
BOZ pmax pmax
comp=Z,62nm,0.7s,mb5.5
BOZ MLR MLR
comp=Z,2μm,19.0s,MS5.0
OMM Old Mammoth Mi 43.25 84 *e*P **P 01 04 54.1 +0.8**
MTUM Tungsten Hills 43.68 84 *e*P **P 01 04 57.5 +0.6**
QLMT Earthquake Lak 43.70 71 *e*P **P 01 04 57.0 +0.2**
ELK Elko 43.71 78 P **P 01 04 57.9 +0.9**
comp=Z,64nm,0.9s,mb5.4,baz=298,slow=8.2,SNR=178
ELK LR LR 01 22 03.5
comp=Z,2μm,19.0s,MS5.0,baz=307,slow=35
ELK Elko 43.71 78 *e*P **P 01 04 57.7 +0.7**
comp=Z,79nm,0.9s,mb5.5
ELK LR LR
comp=Z,3μm,19.0s,MS5.2
ELK Elko 43.71 78 *e*P **P 01 04 57.7 +0.7**
ELK pmax pmax
comp=Z,79nm,0.9s
ELK MLR MLR
comp=Z,3μm,19.0s
PTRM Twissleman Ran 43.71 88 P **P 01 04 57.2 +0.1**
KWAJ Kwajalein Atol 43.89 200 PFAKE 01 05 10.0 +11
KWAJ LR LR
comp=Z,1μm,22.0s,MS4.7
FFC Flin Flon 43.92 54 *e*P **P 01 04 56.7 -1.8**
comp=Z,15nm,0.8s,mb4.8

FFC LR LR
comp=Z,1μm,22.0s,MS4.8
FFC Flin Flon 43.92 54 *e*P **P 01 04 56.7 -1.8**
FFC pmax pmax
comp=Z,15nm,0.8s,mb4.8
FFC MLR MLR
comp=Z,1μm,22.0s,MS4.8
YMR Madison River 44.07 71 *e*P **P 01 04 59.8 -0.1**
TPH Tonopah 44.07 83 *e*P **P 01 05 00.2 +0.2**
comp=Z,42nm,0.9s,mb5.2
TPH LR LR
comp=Z,1μm,19.0s,MS4.9
TPH Tonopah 44.07 83 *e*P **P 01 05 00.2 +0.2**
TPH pmax pmax
comp=Z,42nm,0.9s,mb5.2
TPH MLR MLR
comp=Z,1μm,19.0s,MS4.9
YNR Norris Junctio 44.21 71 *e*P **P 01 05 01.3 +0.3**
GCMT Greycliff 44.22 69 *e*P **P 01 05 00.7 -0.3**
YFT Old Faithful 44.26 71 P **P 01 05 01.8 +0.3**
LKWY Lake 44.46 71 P **P 01 05 03.6 +0.6**
comp=Z,58nm,0.8s,mb5.4
LKWY LR LR
comp=Z,2μm,20.0s,MS5.0
LKWY Lake 44.46 71 P **P 01 05 03.6 +0.5**
LKWY pmax pmax
comp=Z,59nm,0.8s,mb5.4
LKWY MLR MLR
comp=Z,2μm,20.0s,MS5.0
IMW Indian Meadow 44.51 72 *e*P **P 01 05 03.2 -0.3**
comp=Z,31nm,0.8s,mb5.2
RRI2 Red Ridge 44.59 73 *e*P **P 01 05 04.3 +0.2**
comp=Z,60nm,0.8s,mb5.5
HVU Hansel Valley 44.61 76 *e*P **P 01 05 04.4 +0.1**
TPAW Teton Pass 44.73 72 *e*P **P 01 05 05.2 0.0**
comp=Z,78nm,1.3s,mb5.4
ISA Isabella 44.80 86 PFAKE 01 05 20.0 +14
ISA LR LR
comp=Z,485nm,19.0s,MS4.5
REDW Red Top Meadow 44.87 73 *e*P **P 01 05 06.3 0.0**
comp=Z,67nm,1.1s,mb5.4
SNOW Snow King Moun 44.87 72 *e*P **P 01 05 06.7 +0.3**
comp=Z,56nm,0.9s,mb5.4
LOHW Long Hollow 44.87 72 *e*P **P 01 05 05.8 -0.6**
comp=Z,25nm,0.9s,mb5.0
BGU Big Grassy Mou 44.96 77 *e*P **P 01 05 06.7 -0.4**
DAC Darwin (Calif) 44.96 85 *e*P **P 01 05 07.5 +0.3**
comp=Z,5.1nm,0.9s
DAC LR LR
comp=Z,2μm,21.0s
DAC Darwin (Calif) 44.96 85 *e*P **P 01 05 07.5 +0.3**
DAC pmax pmax
comp=Z,5.0nm,0.9s
DAC MLR MLR
comp=Z,2μm,21.0s,MS5.0
AHID Auburn Hatcher 45.06 73 *e*P **P 01 05 07.9 0.0**
comp=Z,101nm,1.2s,mb5.5
AHID LR LR
comp=Z,5μm,22.0s,MS5.4
SPUT South Promonto 45.09 76 *e*P **P 01 05 08.3 +0.2**
HWUT Hardware Ranch 45.45 75 *e*P **P 01 05 11.0 0.0**
comp=Z,54nm,0.9s,mb5.4
HWUT LR LR
comp=Z,2μm,19.0s,MS5.1
DUG Dugway 45.52 77 *e*P **P 01 05 11.7 +0.1**
comp=Z,105nm,1.0s,mb5.7
DUG LR LR
comp=Z,2μm,21.0s,MS5.1
DUG Dugway 45.52 77 *e*P **P 01 05 11.7 +0.1**
DUG pmax pmax
comp=Z,105nm,1.0s,mb5.7
DUG MLR MLR
comp=Z,2μm,21.0s,MS5.1
NOQ North Oquirrh 45.67 76 *e*P **P 01 05 12.8 0.0**
SNCC San Nicolas Is 45.70 90 PFAKE 01 05 20.0 +6.9
SNCC LR LR
comp=Z,2μm,20.0s,MS4.9
LAO LASA Array 45.73 66 *e*P **P 01 05 12.9 -0.2**
comp=Z,135nm,0.8s,mb5.9
LAO LR LR
comp=Z,4μm,22.0s,MS5.3
TCUT Toone Canyon 45.83 75 *e*P **P 01 05 14.3 +0.3**
IRK Irkutsk 45.85 303 *e*P **P 01 05 13.3 -0.7**
IRK *e* 01 06 53.5
IRK pmax pmax
comp=Z,76nm,2.6s,mb5.2
CTU Camp Tracy 45.88 76 *e*P **P 01 05 14.3 -0.1**
DGMT Dagmar 45.91 63 *e*P **P 01 05 13.1 -1.4**
comp=Z,36nm,0.7s,mb5.4
DGMT LR LR
comp=Z,4μm,20.0s,MS5.4
MWC Mount Wilson 45.98 88 *e*P **P 01 05 15.6 +0.3**
MWC *e*pP pP 01 05 21.6 -0.7
BW06 Boulder Array 45.98 72⇑*e*P **P 01 05 15.3 +0.1**
comp=Z,93nm,0.8s,mb5.8
BW06 LR LR
comp=Z,4μm,22.0s,MS5.3
PDAR Pinedale Array 45.98 72 P **P 01 05 15.3 +0.1**
comp=Z,110nm,0.8s,mb5.8,baz=302,slow=3.4,SNR=569
PDAR ScP 01 10 44.5
comp=Z,1.0nm,0.9s,baz=304,slow=3.3,SNR=3.0
PDAR S **S 01 11 56.6 -1.4**
comp=Z,0.6nm,0.8s,baz=330,slow=7.3,SNR=3.9
PDAR LR LR 01 21 59.2
comp=Z,3μm,21.6s,MS5.2,baz=312,slow=33
GSC Goldstone 46.07 85 *e*P **P 01 05 15.9 -0.1**
JLU Jordanelle 46.11 76 *e*P **P 01 05 16.4 +0.2**
NLU North Lily Min 46.12 77 *e*P **P 01 05 16.5 +0.2**
DAU Daniels Canyon 46.34 76 *e*P **P 01 05 18.7 +0.6**
MPU Maple Canyon 46.35 77 *e*P **P 01 05 18.4 +0.2**
TLY Talaya 46.48 303 *e*P **P 01 05 17.8 -1.2**
comp=Z,14nm,0.7s,mb5.0
TLY LR LR
comp=Z,1μm,20.0s,MS4.8
TLY Talaya 46.48 303 *e*P **P 01 05 18.4 -0.6**
TLY *e*S **S 01 12 23.5 +19**
TLY pmax pmax
comp=Z,14nm,1.0s,mb4.8
TLY MLR MLR
comp=Z,4μm,20.0s,MS5.4
ARUT Antelope Range 46.60 80 *e*P **P 01 05 20.2 0.0**
ULN Ulaanbaatar 46.68 297 PFAKE 01 05 30.0 +9.4
ULN LR LR
comp=Z,12μm,20.0s,MS5.8
ULN Ulaanbaatar 46.68 297 *i*P **P 01 05 21.7 +1.1**
JOW Kunigami 46.93 260 LR LR 01 22 03.5
comp=Z,1μm,20.2s,MS4.9,baz=75,slow=32
MSU Marysvale 46.94 79 *e*P **P 01 05 23.1 +0.3**
TMUT Trail Mountain 47.05 77 *e*P **P 01 05 23.9 +0.2**
SONM Songino Array 47.07 297 P **P 01 05 25.0 +1.3**
comp=Z,37nm,0.7s,mb5.4,baz=52,slow=9.5,SNR=152
SONM ScP 01 10 48.0
comp=Z,5.8nm,1.0s,baz=59,slow=1.7,SNR=6.8
SONM LR LR 01 26 08.2
comp=Z,14μm,20.1s,MS5.9,baz=61,slow=37
NEN Nelson 47.08 84 *e*P **P 01 05 23.7 -0.3**
LDFC Landfair 47.28 84 *e*P **P 01 05 24.8 -0.7**
PFO Pinyon Flat Ob 47.39 87 *e*P **P 01 05 24.9 -1.5**
comp=Z,12nm,0.9s,mb4.8
PFO LR LR
comp=Z,404nm,20.0s,MS4.4
PFO Pinyon Flat Ob 47.39 87 P **P 01 05 25.1 -1.4**
PFO pmax pmax
comp=Z,12nm,0.9s,mb4.8
SRU San Rafael 47.58 77 *e*P **P 01 05 27.9 0.0**
BAR Barrett 47.87 88 *e*P **P 01 05 29.7 -0.6**
MOY Mondy 47.88 304 *e*P **P 01 05 30.6 +0.6**
MOY pmax pmax
comp=Z,102nm,4.1s
RWWY Rawlins 48.03 72 *e*P **P 01 05 30.5 -0.8**
comp=Z,57nm,0.8s,mb5.7
HHC Hu-ho-hao-te 48.11 286 *e*P **P 01 05 33.6 +1.6**
HHC XP sP 01 05 40.1 -1.8
HHC PP PP 01 07 27.7 +4.1
HHC PCS 01 10 54.7
HHC S **S 01 12 31.6 +3.4**
HHC SCS ScS 01 15 22.7 +1.9
HHC SS SS 01 15 55.8 +3.6
HHC AMB AMB
comp=Z,126nm,1.3s,mb5.8
HHC AMB AMB
comp=Z,335nm,8.9s
HHC LR LR
comp=N,3μm,20.2s,MS5.6
HHC LR LR
comp=E,5μm,21.4s,MS5.6

HHC LR LR
comp=Z,7μm,21.4s,MS5.6
SSE Sheshan 48.39 270 P **P 01 05 34.8 +0.5**
SSE AP pP 01 05 48.7 +7.4
SSE S **S 01 12 30.2 -2.1**
SSE SS SS 01 16 01.3 +4.2
SSE AMB AMB
comp=Z,83nm,0.9s,mb5.8
SSE AMB AMB
comp=Z,1μm,4.9s
SSE LR LR
comp=N,941nm,25.0s,MS4.8
SSE LR LR
comp=E,864nm,24.9s,MS4.8
SSE LR LR
comp=Z,2μm,29.3s,MS4.8
SSE Sheshan 48.39 270 P **P 01 05 34.8 +0.5**
comp=Z,83nm,0.9s,mb5.8
SSE pP pP 01 05 48.7 +7.4
SSE sP sP 01 05 54.5 +10
SSE S **S 01 12 30.2 -2.1**
SSE sS 01 12 53.8
SSE SS SS 01 16 01.3 +4.2
SSE LR LR
comp=Z,2μm,29.3s,MS4.8
RSSD Black Hills 48.46 68⇑*e*P **P 01 05 33.7 -0.9**
comp=Z,29nm,0.6s,mb5.5
RSSD LR LR
comp=Z,2μm,21.0s,MS5.1
RSSD Black Hills 48.46 68⇑*e*P **P 01 05 33.7 -0.9**
RSSD pmax pmax
comp=Z,29nm,0.6s,mb5.5
RSSD MLR MLR
comp=Z,2μm,21.0s,MS5.1
PV10 Paradox Valley 48.95 77 *e*P **P 01 05 38.5 0.0**
BTO Baotou 49.19 287 *e*P **P 01 05 42.3 +2.0**
BTO S **S 01 12 38.9 -4.4**
BTO AMB AMB
comp=Z,162nm,1.1s,mb6.0
NJ2 Nanjing 49.21 272 *e*P **P 01 05 40.8 +0.2**
NJ2 AP pP 01 05 53.1 +5.4
NJ2 XP sP 01 05 58.5 +8.0
NJ2 S **S 01 12 44.0 +0.2**
NJ2 AMB AMB
comp=Z,50nm,1.0s,mb5.5
NJ2 AMB AMB
comp=Z,1μm,4.8s
NJ2 LR LR
comp=N,5μm,21.5s
NJ2 LR LR
comp=E,4μm,27.8s
NJ2 LR LR
comp=Z,2μm,17.3s,MS5.2
PHWY Pilot Hill 49.31 72 *e*P **P 01 05 40.2 -1.0**
PV01 Paradox Valley 49.39 77 *e*P **P 01 05 41.6 -0.2**
ULM Lac du Bonnet 49.44 57 P **P 01 05 39.9 -2.2**
comp=Z,15nm,0.7s,mb5.2,baz=303,slow=7.7,SNR=15
ULM LR LR 01 26 12.8
comp=Z,2μm,21.8s,MS5.1,baz=309,slow=36
ULM Lac du Bonnet 49.44 57 *e*P **P 01 05 39.8 -2.3**
comp=Z,22nm,0.7s,mb5.3
ULM LR LR
comp=Z,3μm,21.0s,MS5.3
SMCO Snowmass 49.71 75 *e*P **P 01 05 43.7 -0.6**
KBS Kingsbay 49.97 357 *e*P **P 01 05 45.5 -0.3**
KBS AMS AMS 01 28 34.5
comp=Z,2μm,18.4s,MS5.1
KBS Kingsbay 49.97 357 *e*P **P 01 05 45.0 -0.9**
comp=Z,40nm,0.6s,mb5.6
KBS LR LR
comp=Z,3μm,19.0s,MS5.3
KBS Kingsbay 49.97 357 *e*P **P 01 05 45.0 -0.8**
KBS pmax pmax
comp=Z,40nm,0.6s,mb5.6
KBS MLR MLR
comp=Z,3μm,19.0s,MS5.3
ISCO Idaho Springs 50.14 73 *e*P **P 01 05 47.4 -0.2**
comp=Z,48nm,0.9s,mb5.5
ISCO LR LR
comp=Z,5μm,21.0s,MS5.5
ISCO Idaho Springs 50.14 73 *e*P **P 01 05 47.4 -0.2**
ISCO pmax pmax
comp=Z,48nm,0.9s,mb5.5
ISCO MLR MLR
comp=Z,5μm,21.0s,MS5.5
SDCO Great Sand Dun 51.51 75⇑*e*P **P 01 05 58.0 0.0**
comp=Z,101nm,1.2s,mb5.6
SDCO LR LR
comp=Z,2μm,21.0s,MS5.1
DAG Danmarks Havn 51.61 6⇓*i*P **P 01 05 55.9 -2.4**
comp=Z,1.7nm,0.4s
comp=Z,6μm,21.0s
DAG Danmarks Havn 51.61 6⇓*e*P **P 01 05 55.9 -2.4**
DAG pmax pmax
comp=Z,2.0nm,0.4s
DAG MLR MLR
comp=N,5μm,21.0s,MS5.6
DAG MLR MLR
comp=E,3μm,21.0s,MS5.6
DAG MLR MLR
comp=Z,6μm,21.0s,MS5.6
HSP Hornsund 51.75 356 *e*P **P 01 05 58.6 -0.7**
TUC Tucson 51.81 84 *e*P **P 01 05 59.3 -1.1**
comp=Z,23nm,0.9s,mb5.1
TUC LR LR
comp=Z,920nm,19.0s,MS4.8
TUC Tucson 51.81 84 *e*P **P 01 05 59.3 -1.1**
TUC pmax pmax
comp=Z,23nm,0.9s,mb5.1
TUC MLR MLR
comp=Z,920nm,19.0s,MS4.8
ANMO Albuquerque 52.74 79 LR LR 01 26 00.9
comp=Z,3μm,21.4s,MS5.2,slow=33
ANMO Albuquerque 52.74 79 *e*P **P 01 06 06.6 -0.8**
comp=Z,18nm,0.9s,mb5.0
ANMO LR LR
comp=Z,2μm,22.0s,MS5.2
ANMO Albuquerque 52.74 79 *e*P **P 01 06 06.6 -0.7**
ANMO pmax pmax
comp=Z,18nm,0.9s
ANMO MLR MLR
comp=Z,2μm,22.0s
WHN Wuhan 53.06 274⇓P **P 01 06 10.0 +0.2**
SUMG Summit 53.35 14 *e*P **P 01 06 09.3 -2.1**
comp=Z,47nm,0.9s,mb5.4
XAN Xi'an 54.07 281 P **P 01 06 17.0 -0.1**
XAN AP pP 01 06 25.8 +1.5
XAN AMB AMB
comp=Z,40nm,1.0s,mb5.3
XAN LR LR
comp=N,1μm,15.9s,MS5.4
XAN LR LR
comp=E,2μm,17.2s,MS5.4
XAN LR LR
comp=Z,3μm,17.8s,MS5.4
QZH Quanzhou 54.33 266⇓*i*P **P 01 06 20.0 +0.9**
QZH AMB AMB
comp=Z,200nm,1.1s,mb6.0
NVS Novosibirsk 54.55 315 *e*P **P 01 06 17.6 -2.8**
NVS *i* 01 07 22.4
NVS *i* 01 16 05.8
NVS pmax pmax
comp=Z,34nm,2.0s,mb5.0
NVS pmax pmax
comp=E,29nm,2.1s
MNTX Cornudas Mount 55.59 81 *e*P **P 01 06 27.4 -0.9**
comp=E,59nm,0.9s,mb5.6
MNTX LR LR
comp=Z,1μm,21.0s,MS4.9
SFJD Kangerlussuaq 55.65 22 *i*P **P 01 06 26.7 -1.5**
comp=Z,13nm,0.6s,mb5.2
SFJD *i*S **S 01 14 06.2 -4.9**
comp=Z,2μm,21.0s
SFJD Kangerlussuaq 55.65 22 *i*P **P 01 06 26.7 -1.5**
SFJD *i*S **S 01 14 06.2 -4.9**
SFJD pmax pmax
comp=Z,13nm,0.6s,mb5.1
SFJD MLR MLR
comp=Z,2μm,21.0s,MS5.3
LZH Lanzhou 55.80 287⇑*i*P **P 01 06 30.0 +0.2**
LZH AP pP 01 06 43.8 +6.9
LZH S **S 01 14 11.0 -2.6**
LZH XS 01 14 33.7
LZH SS SS 01 17 55.4 -3.9
LZH AMB AMB
comp=Z,148nm,1.3s,mb5.9

LZH AMB AMB
comp=Z,773nm,7.1s
LZH LR LR
comp=N,4μm,14.9s
LZH LR LR
comp=Z,6μm,18.3s,MS5.7
LZH Lanzhou 55.80 287⇑*i*P **P 01 06 30.0 +0.2**
comp=Z,148nm,1.3s,mb5.9
LZH pP pP 01 06 43.8 +6.9
LZH sP sP 01 06 49.7 +10
LZH PP PP 01 08 46.2 +10
LZH S **S 01 14 11.0 -2.6**
LZH sS 01 14 33.7
LZH SS SS 01 17 55.4 -3.9
LZH LR LR
comp=Z,6μm,18.3s,MS5.7
KSU1 Kansas State U 55.93 68 *e*P **P 01 06 28.5 -2.1**
GTA Gaotai 55.99 292⇑*i*P **P 01 06 31.5 +0.5**
GTA AP pP 01 06 35.6 -2.6
GTA XP sP 01 06 38.6 -2.3
GTA SCP 01 11 28.9
GTA PCS 01 11 31.3
GTA S **S 01 14 19.1 +3.1**
GTA XS 01 14 25.9
GTA SCS ScS 01 16 16.8 +1.6
GTA SS SS 01 17 59.6 -2.6
GTA AMB AMB
comp=Z,238nm,0.9s,mb6.2
GTA AMB AMB
comp=Z,1μm,5.0s
GTA LR LR
comp=N,5μm,17.5s,MS5.8
GTA LR LR
comp=E,5μm,19.4s,MS5.8
GTA LR LR
comp=Z,7μm,20.5s,MS5.8
ENH Enshi 56.29 278 *e*P **P 01 06 32.5 -0.8**
comp=Z,25nm,0.6s,mb5.4
ENH LR LR
comp=Z,2μm,22.0s,MS5.2
SCO Scoresbysund 57.39 9 *i*P **P 01 06 39.7 -0.9**
comp=Z,5.7nm,0.6s,mb4.8
SCO Scoresbysund 57.39 9 *i*P **P 01 06 39.7 -0.9**
SCO pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
WMOK Wichita Mounta 57.56 74 *e*P **P 01 06 41.0 -1.3**
comp=Z,33nm,0.8s,mb5.4
WMOK LR LR
comp=Z,2μm,22.0s,MS5.2
WMOK Wichita Mounta 57.56 74 *e*P **P 01 06 41.0 -1.3**
WMOK pmax pmax
comp=Z,33nm,0.8s,mb5.4
WMOK MLR MLR
comp=Z,2μm,22.0s,MS5.2
JMIC Jan Mayen 57.87 4 *e*P **P 01 06 44.6 +0.6**
JMIC *e*S **S 01 14 44.7 +4.3**
JMIC AMS AMS 01 33 20.4
comp=Z,1μm,19.2s,MS5.0
KEV Kevo 57.94 350 PFAKE 01 07 00.0 +16
KEV LR LR
comp=Z,2μm,22.0s,MS5.3
LTX Lajitas 58.29 82 *e*P **P 01 06 46.4 -1.1**
comp=Z,220nm,1.0s,mb6.1
LTX LR LR
comp=Z,2μm,20.0s,MS5.2
LTX Lajitas 58.29 82 *e*P **P 01 06 46.4 -1.1**
LTX pmax pmax
comp=Z,220nm,1.0s,mb6.1
LTX MLR MLR
comp=Z,2μm,20.0s,MS5.2
TXAR Lajitas Array 58.29 82 P **P 01 06 46.2 -1.3**
comp=Z,18nm,0.9s,mb5.1,baz=297,slow=5.6,SNR=36
TXAR LR LR 01 31 10.8
comp=Z,1μm,19.0s,MS5.1,baz=110,slow=35
TXAR PKP2bc 01 36 36.2
comp=Z,0.7nm,0.7s,baz=117,slow=5.6,SNR=4.7
TXAR Lajitas Array 58.29 82 P **P 01 06 46.2 -1.3**
TXAR LR LR 01 31 10.8
TXAR ⇑*e* 01 36 36.2
ARCES ARCESS Array B 58.31 350 P **P 01 06 45.1 -1.9**
comp=Z,28nm,0.6s,mb5.5,baz=21,slow=5.0,SNR=102
ARCES PcP PcP 01 07 36.6 -1.2
comp=Z,30nm,0.7s,baz=14,slow=5.0,SNR=14
ARCES ScP 01 11 33.0
comp=Z,5.3nm,0.9s,baz=11,slow=6.2,SNR=6.7
ARCES LR LR 01 36 08.8
comp=Z,2μm,19.1s,MS5.2,baz=16,slow=40
ARE0 ARCESS Array S 58.31 350 *e*P **P 01 06 45.0 -2.0**
ARE0 *e*PcP PcP 01 07 36.1 -1.7
LVZ Lovozero 58.69 346 *i*P **P 01 06 48.1 -1.6**
LVZ *i*PPP PPP 01 10 26.1 +1.0
LVZ *i*S **S 01 14 52.6 +1.4**
LVZ pmax pmax
comp=N,21nm,0.9s
LVZ pmax pmax
comp=Z,64nm,0.9s,mb5.7
LVZ pmax pmax
comp=E,12nm,1.0s
LVZ smax
comp=E,289nm,16.3s
LVZ smax
comp=Z,167nm,13.2s
LVZ smax
comp=N,558nm,15.1s
LVZ MLR MLR
comp=Z,4μm,20.0s,MS5.5
LVZ MLR MLR
comp=N,2μm,22.0s,MS5.3
LVZ MLR MLR
comp=E,2μm,23.0s,MS5.3
TRO Tromso 58.81 353 *e*P **P 01 06 49.1 -1.4**
TRO AMb AMB 01 06 50.4
comp=Z,80nm,1.8s,mb5.4
TRO *e*S **S 01 14 51.6 -1.1**
TRO AMS AMS 01 35 59.5
comp=Z,1μm,20.0s,MS5.0
TRO Tromso 58.81 353 *e*P **P 01 06 49.1 -1.4**
comp=Z,80nm,1.8s,mb5.5
TRO LR LR
comp=Z,1206μm,20.0s
TRO Tromso 58.81 353 *e*P **P 01 06 49.1 -1.4**
TRO pmax pmax
comp=Z,81nm,1.8s,mb5.5
TRO MLR MLR
comp=Z,1206μm,20.0s
KTK1 Kautokeino 59.04 351 *e*P **P 01 06 50.9 -1.3**
KTK1 AMb AMB 01 06 54.3
comp=Z,51nm,1.9s,mb5.2
KTK1 Kautokeino 59.04 351 *e*P **P 01 06 50.9 -1.3**
comp=Z,51nm,1.9s,mb5.2
APA Apatity 59.18 346⇑*i*P **P 01 06 50.8 -2.3**
APA *i* 01 09 00.0
APA *e*S **S 01 14 54.0 -3.6**
APA pmax pmax
comp=Z,18nm,1.2s,mb5.0
CD2 Chengdu 59.39 282 P **P 01 06 55.1 0.0**
CD2 AMB AMB
comp=Z,30nm,0.8s,mb5.4
CCM Cathedral Cave 59.74 66 *e*P **P 01 06 54.8 -2.7**
comp=Z,26nm,0.6s,mb5.4
CCM LR LR
comp=Z,2μm,22.0s,MS5.1
CCM Cathedral Cave 59.74 66 *e*P **P 01 06 54.8 -2.6**
CCM pmax pmax
comp=Z,26nm,0.6s,mb5.4
CCM MLR MLR
comp=Z,2μm,22.0s,MS5.1
WMQ Urumqi 59.76 303 P **P 01 06 57.0 -0.4**
WMQ XP sP 01 07 04.0 -3.3
WMQ PP PP 01 09 11.0 -0.2
WMQ SCP 01 11 42.0
WMQ S **S 01 15 06.0 +0.7**
WMQ SCS ScS 01 16 43.0 +0.4
WMQ SS SS 01 19 03.0 +0.3
WMQ AMB AMB
comp=Z,52nm,1.0s,mb5.5
JCT Junction City 59.88 78 *e*P **P 01 06 56.3 -2.2**
comp=Z,19nm,0.5s,mb5.4
JCT LR LR
comp=Z,2μm,20.0s,MS5.2
JCT Junction City 59.88 78 *e*P **P 01 06 57.0 -1.5**
JCT pmax pmax
comp=Z,19nm,0.5s,mb5.4
SCHQ Schefferville 59.88 39 P **P 01 06 56.0 -2.1**
comp=Z,9.1nm,0.7s,mb4.9,baz=343,slow=6.6,SNR=4.8
SCHQ LR LR 01 34 10.5

comp=Z,4μm,19.3s,MS5.6,baz=316,slow=37
SCHQ Schefferville 59.88 39 *e*P **P 01 06 55.6 -2.6**
comp=Z,40nm,1.2s,mb5.3
SCHQ LR LR
comp=Z,6μm,19.0s,MS5.7
SLM Saint Louis 59.92 65 *e*P **P 01 06 56.7 -2.0**
comp=Z,46nm,0.7s,mb5.6
SLM Saint Louis 59.92 65 P **P 01 06 57.1 -1.6**
SLM pmax pmax
comp=Z,46nm,0.7s,mb5.6
FVM French Village 60.26 65 *e*P **P 01 06 58.9 -2.1**
comp=Z,41nm,0.7s,mb5.6
FVM French Village 60.26 65 *e*P **P 01 06 58.9 -2.1**
FVM pmax pmax
comp=Z,41nm,0.7s,mb5.6
MKAR Makanchi Array 60.44 309 P **P 01 06 59.9 -2.2**
comp=Z,8.3nm,0.5s,mb5.0,baz=52,slow=2.6,SNR=49
MKAR PcP PcP 01 07 46.4 -0.1
comp=Z,9.3nm,0.6s,baz=49,slow=4.8,SNR=5.3
MKAR LR LR 01 35 25.0
comp=Z,2μm,21.4s,MS5.2,baz=22,slow=38
MKAR PKPPKP 01 36 18.0
comp=Z,0.2nm,0.4s,baz=243,slow=2.7,SNR=3.7
MKAR PKP2ab 01 36 44.1
comp=Z,0.8nm,1.0s,baz=90,slow=1.2,SNR=4.0
MKAR Makanchi Array 60.44 309 P **P 01 06 59.9 -2.2**
MKAR PcP PcP 01 07 46.4 -0.1
MKAR LR LR 01 35 25.0
MKAR P'P' 01 36 18.0
MKAR P'P'ab 01 36 44.1
MKAR Makanchi Array 60.44 309 *i* P **P 01 07 00.0 -2.0**
MKAR pmax pmax
comp=Z,7.0nm,0.6s
LOF Lofoten 60.65 355 *e*P **P 01 07 01.6 -1.6**
LOF AMb AMB 01 07 24.2
comp=Z,62nm,2.0s,mb5.4
LOF Lofoten 60.65 355 *e*P **P 01 07 01.6 -1.6**
comp=Z,62nm,2.0s,mb5.4
GYA Guiyang 60.73 277⇑ *i*P **P 01 07 04.0 -0.3**
GYA AP pP 01 07 11.2 -0.4
GYA XP sP 01 07 15.6 +1.4
GYA PP PP 01 09 19.4 -0.9
GYA S **S 01 15 20.6 +2.5**
GYA SS SS 01 19 14.5 -3.7
GYA AMB AMB
comp=Z,30nm,1.1s,mb5.3
GYA AMB AMB
comp=Z,420nm,7.8s
GYA LR LR
comp=N,2μm,17.9s,MS5.4
GYA LR LR
comp=E,2μm,17.6s,MS5.4
GYA LR LR
comp=Z,2μm,18.2s,MS5.4
VOSK Vostochnaya 61.24 320 *i* P **P 01 07 05.7 -1.7**
VOSK Vostochnaya 61.24 320 P **P 01 07 05.6 -1.8**
VOSK pmax pmax
comp=Z,107nm,2.1s,mb5.6
BVA0 Borovoye Array 61.26 320 *i* P **P 01 07 06.1 -1.4**
BVA0 pmax pmax
comp=Z,1.0nm,0.5s
BVAR Borovoye Array 61.26 320 P **P 01 07 06.1 -1.4**
comp=Z,30nm,0.5s,mb5.7,baz=50,slow=6.3,SNR=238
BVAR PcP PcP 01 07 48.9 -0.8
comp=Z,17nm,0.7s,baz=52,slow=4.0,SNR=5.7
BVAR PKPPKP 01 36 28.0
comp=Z,0.4nm,0.3s,baz=315,slow=4.2,SNR=4.6
BRVK Borovoye 61.28 320 *e*P **P 01 07 06.0 -1.7**
comp=Z,16nm,0.5s,mb5.4
BRVK LR LR
comp=Z,1μm,19.0s,MS5.2
BRVK Borovoye 61.28 320 *e*P **P 01 07 06.0 -1.7**
BRVK pmax pmax
comp=Z,16nm,0.5s,mb5.4
BRVK MLR MLR
comp=Z,1μm,19.0s,MS5.2
UALR University of 61.38 69 *e*P **P 01 07 06.8 -1.8**
comp=Z,27nm,0.7s,mb5.5
SADO Sadowa 61.62 53 LR LR 01 35 35.7
comp=Z,3μm,18.6s,MS5.5,baz=344,slow=38
BLO Bloomington 61.64 62 *e*P **P 01 07 08.5 -1.8**
comp=Z,118nm,0.8s,mb6.1
BLO Bloomington 61.64 62 *e*P **P 01 07 08.5 -1.8**
BLO pmax pmax
comp=Z,118nm,0.8s,mb6.1
HBAR Harrisburg 61.82 68 *e*P **P 01 07 09.5 -2.1**
MELSS Ber_school_2 61.90 355 *e*P **P 01 07 11.0 -0.7**
SVE Sverdlovsk 61.94 328 *e*P **P 01 07 11.5 -0.6**
SVE *e* 01 07 51.6
SVE *e*PPP PPP 01 11 05.0 +5.4
SVE *e*S **S 01 15 40.0 +7.1**
SVE *e*PS PS 01 15 56.0 +3.4
SVE *e* 01 16 56.0
SVE pmax pmax
comp=Z,200nm,1.8s,mb6.0
SVE MLR MLR
comp=N,4μm,20.0s,MS5.7
SVE MLR MLR
comp=E,4μm,20.0s,MS5.7
SVE MLR MLR
comp=Z,5μm,20.0s,MS5.6
GLAT Glass 62.11 66 *e*P **P 01 07 12.4 -1.1**
NATX Nacogdoches 62.11 73 P **P 01 07 12.7 -0.9**
NATX LR LR
comp=Z,4μm,22.0s,MS5.5
UTMT University of 62.30 66 *e*P **P 01 07 13.3 -1.5**
comp=Z,299nm,1.1s,mb6.3
HALT Halls 62.33 66 *e*P **P 01 07 13.4 -1.6**
WCI Wyandotte Cave 62.43 63 *e*P **P 01 07 13.9 -1.7**
comp=Z,131nm,0.8s,mb6.1
WCI LR LR
comp=Z,4μm,19.0s,MS5.6
WCI Wyandotte Cave 62.43 63 *e*P **P 01 07 13.9 -1.7**
WCI pmax pmax
comp=Z,131nm,0.8s,mb6.1
WCI MLR MLR
comp=Z,4μm,19.0s,MS5.6
MOR8 Moi Rana 62.54 354 *e*P **P 01 07 14.2 -1.7**
MOR8 AMb AMB 01 07 45.3
comp=Z,28nm,1.0s,mb5.3
MOR8 Moi Rana 62.54 354 *e*P **P 01 07 14.2 -1.7**
comp=Z,28nm,1.0s,mb5.3
MET Memphis--Engin 62.54 67 *e*P **P 01 07 15.6 -0.8**
ACSO Alum Creek Sta 62.83 59 *e*P **P 01 07 16.6 -1.6**
comp=Z,49nm,0.8s,mb5.7
ACSO *e*pP pP 01 07 24.4 -1.2
ACSO LR LR
comp=Z,1μm,22.0s,MS5.1
ARU Arti 62.94 329 *e*P **P 01 07 17.6 -1.1**
comp=Z,68nm,0.7s,mb5.9
ARU LR LR
comp=Z,1μm,20.0s,MS5.0
ARU Arti 62.94 329⇑ *i*P **P 01 07 17.8 -0.9**
ARU *e* 01 07 54.5
ARU *e* 01 09 38.0
ARU *e*S **S 01 15 46.7 +1.1**
ARU *e* 01 17 03.7
ARU pmax pmax
comp=Z,63nm,0.7s,mb5.8
ARU MLR MLR
comp=N,3μm,19.0s,MS5.6
ARU MLR MLR
comp=Z,4μm,19.0s,MS5.6
ARU MLR MLR
comp=E,3μm,17.0s,MS5.6
BORG Borgarnes 62.98 11 LR LR 01 37 09.4
comp=E,2μm,19.1s,MS5.3,baz=333,slow=38
BORG Borgarnes 62.98 11 PFAKE 01 07 30.0 +11
BORG LR LR
comp=Z,578nm,20.0s,MS4.8
WVT Waverly 63.04 65 *e*P **P 01 07 18.1 -1.6**
comp=Z,49nm,0.8s,mb5.7
WVT *e*pP pP 01 07 25.4 -1.5
WVT LR LR
comp=Z,2μm,21.0s,MS5.2
WVT Waverly 63.04 65 *e*P **P 01 07 18.1 -1.6**
WVT *e**PP pP 01 07 25.4 -1.5
WVT pmax pmax
comp=Z,49nm,0.8s,mb5.7
WVT MLR MLR
comp=Z,2μm,21.0s,MS5.2
OXF Oxford 63.28 68 *e*P **P 01 07 19.2 -2.0**
comp=Z,296nm,0.8s,mb6.5
OXF LR LR
comp=Z,2μm,20.0s,MS5.2
OXF Oxford 63.28 68 *e*P **P 01 07 19.3 -2.0**
OXF pmax pmax
comp=Z,296nm,0.8s,mb6.5
OXF MLR MLR
comp=Z,2μm,20.0s,MS5.2
HNR Honiara 63.31 204 LR LR 01 31 43.9
comp=Z,2μm,18.9s,MS5.2,baz=201,slow=33
HNR Honiara 63.31 204 PFAKE 01 07 30.0 +8.3
HNR LR LR
comp=Z,2μm,21.0s,MS5.2
ALLY Alegheny Colle 63.33 56 *e*P **P 01 07 20.6 -0.8**
MSNY Massena 63.57 50 *e*P **P 01 07 20.9 -2.0**
PLAL Pickwick Lake 63.71 66 *e*P **P 01 07 22.4 -1.7**
comp=Z,64nm,0.7s,mb5.8
PLAL *e*pP pP 01 07 29.4 -2.0
PLAL LR LR
comp=Z,1μm,20.0s,MS5.2
GENY Geneseo 63.72 54 *e*P **P 01 07 23.7 -0.3**
KMI Kunming 64.14 278 P **P 01 07 27.2 +0.2**
KMI AP pP 01 07 41.3 +7.0
KMI PCP PcP 01 08 03.3 +1.5
KMI PP PP 01 09 52.6 +2.7
KMI S **S 01 15 59.4 -1.5**
KMI XS 01 16 20.9
KMI SS SS 01 20 13.1 +1.4
KMI AMB AMB
comp=Z,41nm,1.1s,mb5.4
KMI AMB AMB
comp=Z,381nm,3.3s
KMI LR LR
comp=N,2μm,19.2s,MS5.4
KMI LR LR
comp=E,2μm,17.3s,MS5.4
KMI LR LR
comp=Z,2μm,17.8s,MS5.3
KMI Kunming 64.14 278 P **P 01 07 27.2 +0.2**
comp=Z,41nm,1.1s,mb5.4
KMI pP pP 01 07 41.3 +7.0
KMI sP sP 01 07 49.5 +13
KMI PcP PcP 01 08 03.3 +1.5
KMI PP PP 01 09 52.6 +2.7
KMI S **S 01 15 59.4 -1.5**
KMI sS 01 16 20.9
KMI SS SS 01 20 13.1 +1.4
KMI LR LR
comp=Z,2μm,17.8s,MS5.3
QIZ Qiongzhong 64.15 268 P **P 01 07 27.9 +0.7**
QIZ AP pP 01 07 36.1 +1.7
QIZ S **S 01 16 04.0 +2.8**
QIZ SS SS 01 20 07.9 -4.1
QIZ AMB AMB
comp=Z,26nm,1.0s,mb5.2
QIZ AMB AMB
comp=Z,732nm,8.3s
QIZ LR LR
comp=N,455nm,21.7s
QIZ LR LR
comp=E,1μm,16.0s
QIZ LR LR
comp=Z,2μm,16.9s,MS5.3
QIZ Qiongzhong 64.15 268 *e*P **P 01 07 27.6 +0.4**
comp=Z,30nm,1.1s,mb5.2
QIZ LR LR
comp=Z,1μm,20.0s,MS5.0
NSS Namsos 64.31 355 *e*P **P 01 07 26.2 -1.2**
NSS AMb AMB 01 08 00.3
comp=Z,49nm,1.1s,mb5.4
NSS AMS AMS 01 33 56.1
comp=Z,2μm,21.6s,MS5.3
NSS Namsos 64.31 355 *e*P **P 01 07 26.2 -1.2**
comp=Z,49nm,1.1s,mb5.5
NCB Newcomb 64.63 51 *e*P **P 01 07 27.4 -2.5**
comp=Z,24nm,0.8s,mb5.3
NCB LR LR
comp=Z,3μm,19.0s,MS5.5
SWET Sewanee 64.77 65 *e*P **P 01 07 28.1 -2.8**
MCWV Mont Chateau 64.92 57 PFAKE 01 07 40.0 +8.2
MCWV LR LR
comp=Z,4μm,19.0s,MS5.7
SFJM Santa Fe 65.06 88 *e*P **P 01 07 32.0 -1.0**
BINY Binghamton 65.06 53 *e*P **P 01 07 31.5 -1.2**
comp=Z,46nm,0.8s,mb5.6
BINY LR LR
comp=Z,3μm,19.0s,MS5.5
AFI Afiamalu 65.09 173 PFAKE 01 07 40.0 +6.6
AFI LR LR
comp=Z,2μm,21.0s,MS5.3
TZTN Tazewell 65.16 62⇑ *e*P **P 01 07 32.6 -0.9**
ACCN Adirondack Com 65.33 51 *e*P **P 01 07 32.2 -2.2**
CPCT Cooper Cave 65.40 64 *e*P **P 01 07 33.5 -1.5**
PQI Presque Isle 65.51 45 PFAKE 01 07 50.0 +14
PQI LR LR
comp=Z,22μm,19.0s,MS6.4
LBNH Lisbon 65.54 49 *e*P **P 01 07 33.6 -2.2**
comp=Z,12nm,0.8s,mb5.0
LBNH *e*pP pP 01 07 39.4 -3.6
LBNH LR LR
comp=Z,4μm,22.0s,MS5.6
LBNH Lisbon 65.54 49 *e*P **P 01 07 33.6 -2.1**
LBNH pmax pmax
comp=Z,12nm,0.8s,mb5.0
LBNH MLR MLR
comp=Z,4μm,22.0s,MS5.6
LRAL Lakeview Retre 65.73 67 *e*P **P 01 07 35.1 -2.1**
comp=Z,70nm,0.7s,mb5.8
LRAL LR LR
comp=Z,2μm,19.0s,MS5.4
HNH Hanover 65.77 50 *e*P **P 01 07 35.2 -2.0**
comp=Z,1.1nm,0.8s
MYNC Murphy 65.90 64 PFAKE 01 07 50.0 +12
MYNC LR LR
comp=Z,4μm,20.0s,MS5.6
FWV Forest Hill 65.91 60 *e*P **P 01 07 37.2 -1.0**
FINES FINESS Array B 66.02 348 P **P 01 07 37.0 -1.5**
comp=Z,13nm,0.7s,mb5.1,baz=18,slow=6.0,SNR=44
FINES LR LR 01 41 01.6
comp=Z,1μm,18.8s,MS5.1,baz=26,slow=40
ELN Prospectdale 66.20 60 *e*P **P 01 07 38.9 -1.2**
WVL Waterville 66.36 48 PFAKE 01 07 50.0 +9.0
WVL LR LR
comp=Z,13μm,19.0s,MS6.2
BLA Blacksburg 66.39 60 *e*P **P 01 07 40.4 -0.9**
comp=Z,64nm,0.7s,mb5.8
BLA LR LR
comp=Z,2μm,20.0s,MS5.4
BLA Blacksburg 66.39 60 *e*P **P 01 07 40.4 -0.9**
BLA pmax pmax
comp=Z,64nm,0.7s,mb5.8
BLA MLR MLR
comp=Z,2μm,20.0s,MS5.4
MOL Molde 66.46 357 *e*P **P 01 07 43.0 +1.7**
MOL AMb AMB 01 08 11.8
comp=Z,60nm,1.4s,mb5.5
MOL Molde 66.46 357 *e*P **P 01 07 43.0 +1.7**
comp=Z,60nm,1.4s,mb5.4
TKM2 Tokmak 2 66.52 310 P **P 01 07 41.9 -0.1**
SNR=17
USP Ospenovka 66.78 311 P **P 01 07 43.2 -0.5**
SNR=21
CHMS Chumysh 66.86 310 P **P 01 07 44.6 +0.4**
SNR=6.7
PAL Palisades 66.99 53 *e*P **P 01 07 43.6 -1.5**
comp=Z,26nm,0.7s,mb5.4
PAL Palisades 66.99 53 *e*P **P 01 07 43.6 -1.5**
PAL pmax pmax
comp=Z,26nm,0.7s,mb5.4
HRV Harvard--Oak R 67.02 50 PFAKE 01 08 00.0 +15
HRV LR LR
comp=Z,3μm,19.0s,MS5.5
KBK Karagaybulak 67.03 310 P **P 01 07 45.1 -0.2**
SNR=14
FRU Bishkek 67.06 310 *e*P **P 01 07 43.4 -2.0**
FRU *e* 01 08 13.4
FRU pmax pmax
comp=Z,50nm,2.2s,mb5.2
CPNY Central Park 67.12 53 *e*P **P 01 07 44.7 -1.2**
WES Weston 67.22 50 *e*P **P 01 07 44.7 -1.9**
comp=Z,30nm,0.7s,mb5.4
WES LR LR
comp=Z,3μm,21.0s,MS5.5
WES Weston 67.22 50 *e*P **P 01 07 44.7 -1.8**
WES pmax pmax
comp=Z,30nm,0.7s,mb5.4
WES MLR MLR
comp=Z,3μm,21.0s,MS5.5
EMMW East Machias 67.26 46 *e*P **P 01 07 43.9 -2.8**
comp=Z,112nm,0.9s,mb5.9
EMMW LR LR
comp=Z,10μm,20.0s,MS6.0
AAK Ala-Archa 67.27 310 P **P 01 07 46.8 0.0**
SNR=14
AAK Ala-Archa 67.27 310⇑ *i*P **P 01 07 45.6 -1.2**
AAK LR LR
comp=Z,923nm,20.0s,MS5.0
AAK Ala-Archa 67.27 310*c i*P **P 01 07 45.5 -1.3**
AAK pmax pmax
comp=Z,20nm,0.7s,mb5.3
PECR Pechory 67.27 336⇓ *i*P **P 01 07 46.4 -0.2**
PECR *e* 01 08 17.0
PECR *e*S S 01 16 36.0 -2.7
PECR pmax pmax
comp=Z,2μm,1.6s
PECR pmax pmax
comp=Z,600nm,4.0s
PECR MLR MLR
comp=Z,4μm,20.0s,MS5.6
PECR MLR MLR
comp=N,2μm,18.0s,MS5.4
PECR MLR MLR
comp=E,700nm,18.0s,MS5.4
CBN Corbin 67.29 57 *e*P **P 01 07 45.9 -1.1**
comp=E,41nm,0.8s,mb5.5
CBN LR LR
comp=Z,2μm,19.0s,MS5.4
KZA Kyzart 67.32 309 P **P 01 07 48.0 +0.9**
SNR=5.2
PMG Port Moresby 67.41 217 PFAKE 01 08 00.0 +12
PMG LR LR
comp=Z,3μm,21.0s,MS5.4
GOGA Godfrey 67.48 64 *e*P **P 01 07 46.5 -1.8**
comp=Z,66nm,0.7s,mb5.8
GOGA LR LR
comp=Z,2μm,21.0s,MS5.3
GOGA Godfrey 67.48 64 *e*P **P 01 07 46.5 -1.8**
GOGA pmax pmax
comp=Z,66nm,0.7s,mb5.8
GOGA MLR MLR
comp=Z,2μm,21.0s,MS5.3
EKS2 Erkin-Say 67.59 311 P **P 01 07 48.6 -0.2**
SNR=22
NB2 NORSAR Subarra 67.84 355 P **P 01 07 48.2 -1.8**
comp=Z,11nm,0.7s,mb5.0,baz=7.0,slow=6.5
NB2 NORSAR Subarra 67.84 355 P **P 01 07 48.2 -1.8**
baz=7.2,slow=6.5
NOA NORSAR Array B 67.84 355 P **P 01 07 48.6 -1.4**
comp=Z,8.5nm,0.6s,mb5.0,baz=5.8,slow=6.4,SNR=44
NOA LR LR 01 36 02.8
comp=Z,2μm,21.8s,MS5.2,baz=355,slow=35
LSA Lhasa 67.86 290 P **P 01 07 52.6 +1.8**
LSA AP pP 01 08 03.4 +5.4
LSA XP sP 01 08 08.5 +7.9
LSA PCP PcP 01 08 15.0 -2.2
LSA S S 01 16 47.8 +1.6
LSA LR LR
comp=N,1μm,19.9s,MS5.5
LSA LR LR
comp=E,2μm,20.2s,MS5.5
LSA Lhasa 67.86 290 *e*P **P 01 07 52.7 +1.9**
comp=E,488nm,1.1s,mb6.5
LSA *e*pP pP 01 08 00.5 +2.4
LSA LR LR
comp=Z,5μm,19.0s,MS5.7
LSA Lhasa 67.86 290 *e*P **P 01 07 52.7 +1.9**
LSA *e**PP pP 01 08 00.5 +2.5
LSA pmax pmax
comp=Z,488nm,1.1s,mb6.5
LSA MLR MLR
comp=Z,5μm,19.0s,MS5.7
AML Almayashu 68.03 310 P **P 01 07 52.4 +0.8**
SNR=17
NAO01 NORSAR Array S 68.05 355 PFAKE 01 08 00.0 +8.6
NAO01 LR LR
comp=Z,3μm,21.0s,MS5.5
JSC Jenkinsville 68.08 62 *e*P **P 01 07 51.2 -0.8**
TAOE Nuku Hiva Isla 68.25 139 *e*LR LR 01 27 55.9
comp=Z,23μm,22.4s
AB31 Akbulak array 68.30 323 *i* P **P 01 07 52.5 -0.6**
AB31 pmax pmax
comp=Z,67nm,1.1s,mb5.6
BER Bergen 68.71 358 *e*P **P 01 07 53.8 -1.7**
BER *e*S S 01 16 58.0 +2.2
BER AMS AMS 01 47 48.9
comp=Z,970nm,17.6s,MS5.1
KKAR Karatay Array 68.78 313 *i* P **P 01 07 55.3 -0.9**
KKAR Karatay Array 68.78 313 *e*P **P 01 07 55.3 -0.9**
KKAR pmax pmax
comp=Z,16nm,0.6s,mb5.1
KSH Kashi 68.91 307 *e*P **P 01 07 59.1 +2.0**
KSH *e*AP pP 01 08 01.1 -3.2
KSH *e*XP sP 01 08 04.0 -3.0
KSH *e*PCP PcP 01 08 21.1 -0.3
KSH *e*PP PP 01 10 31.0 -0.6
KSH *e*SCP 01 12 23.0
KSH *e*PCS 01 12 25.0
KSH *e*S S 01 16 57.4 -1.1
KSH *e*SCS ScS 01 17 53.3 +1.0
KSH *e*SS SS 01 21 25.1 -0.7
KSH AMB AMB
comp=Z,520nm,3.7s
KSH LR LR
comp=N,3μm,17.0s,MS5.7
KSH LR LR
comp=E,2μm,15.2s,MS5.7
COW Cow Castle Cre 69.06 63 *e*P **P 01 07 57.8 -0.4**
COW *e*pP pP 01 08 04.5 -0.9
KONO Kongsberg 69.31 356 *e*S S 01 17 02.5 -0.3
KONO Kongsberg 69.31 356 *e*P **P 01 07 57.6 -1.6**
comp=E,23nm,0.9s,mb5.1
KONO LR LR
comp=Z,2μm,21.0s,MS5.3
KONO Kongsberg 69.31 356 *e*P **P 01 07 57.6 -1.6**
KONO pmax pmax
comp=Z,23nm,0.9s,mb5.1
KONO MLR MLR
comp=Z,2μm,21.0s,MS5.3
MOS Moscow 69.34 339 *e*P **P 01 07 58.9 -0.5**
MOS *e* 01 08 23.1
MOS *e* 01 10 32.0
MOS *e*PPP PPP 01 12 16.3 +2.7
MOS *e*S S 01 17 03.3 0.0
MOS *e* 01 17 55.0
MOS pmax pmax
comp=Z,500nm,1.8s,mb6.1
MOS pmax pmax
comp=Z,197nm,1.3s,mb5.9
MOS MLR MLR
comp=Z,5μm,23.5s,MS5.7
MOS MLR MLR
comp=N,3μm,22.6s
NHSC New Hope 69.56 63 *e*P **P 01 08 00.8 -0.3**
comp=N,380nm,0.9s,mb6.3
NHSC *e*pP pP 01 08 07.5 -1.0
NHSC LR LR
comp=Z,5μm,19.0s,MS5.8
HBF Harts Bluff 69.58 63 *e*P **P 01 08 00.9 -0.4**
TWB Tillmans-White 69.59 62 *e*P **P 01 08 01.1 -0.3**
RGRS Roger Stewart 69.70 63 *e*P **P 01 08 01.6 -0.5**
CSU Charleston Sou 69.71 63 *e*P **P 01 08 01.8 -0.3**
IMP Imphal 69.81 285 *e*P **P 01 08 02.0 -0.8**
CHRT Chiangrai 69.84 277⇑ P **P 01 08 02.0 -1.1**
comp=Z,263nm,1.1s,mb6.1
NANT Nan 70.06 275 P **P 01 08 04.0 -0.5**
comp=Z,238nm,0.7s,mb6.2
OBN Obninsk 70.15 340 *e*P **P 01 08 03.1 -1.2**
comp=Z,213nm,1.2s,mb6.0
OBN LR LR
comp=Z,626nm,22.0s,MS4.8
OBN Obninsk 70.15 340*c i*P **P 01 08 03.4 -1.0**
OBN *i* 01 08 24.8
OBN *i* 01 10 36.5
OBN *e*S S 01 17 05.0 -7.9
OBN *e*SS SS 01 21 43.6 -0.9
OBN pmax pmax
comp=Z,278nm,1.6s,mb5.9
SHL Shillong 70.47 287⇑ *i*P **P 01 08 08.0 +1.2**
SHL *e*S S 01 17 20.0 +2.9
KKTK Khon Kaen 70.58 272 P **P 01 08 07.0 -0.6**
comp=Z,802nm,0.7s
GTK Gangtok 71.11 290 *e*P **P 01 08 13.0 +2.3**
CHG Chiang Mai 71.15 277⇑ P **P 01 08 10.9 -0.2**
comp=Z,29nm,1.0s,mb5.2
BDT Bhumibol Dam 72.29 276 P **P 01 08 25.5 +7.6**

MNK	**Minsk**	**72.43**	**344**	*e*P	**P**	**01 08 15.0**	**-3.1**
MUD	**Monsted U'grnd**	**72.52**	**356**⇑	*i*P	**P**	**01 08 19.5**	**+1.1**
	comp=Z,44nm,1.4s,mb5.2						
MUD				*i* S	S	01 17 40.2	+0.2
MUD	**Monsted U'grnd**	**72.52**	**356**⇑	*e*P	**P**	**01 08 19.5**	**+1.1**
	comp=Z,44nm,1.4s,mb5.2						
MUD				*i* S	S	01 17 40.2	+0.2
MUD	**Monsted U'grnd**	**72.52**	**356**⇑	*e*P	**P**	**01 08 19.5**	**+1.1**
MUD				*i* S	S	01 17 40.2	+0.2
MUD				pmax	pmax		
	comp=Z,44nm,1.4s,mb5.2						
DWPF	**Disney**	**72.59**	**67**	*e*P	**P**	**01 08 19.2**	**-0.3**
	comp=Z,119nm,0.8s,mb5.9						
DWPF				LR	LR		
	comp=Z,1μm,19.0s,MS5.3						
VRHR	**Novokhopersk**	**72.61**	**335***c*	*i*P	**P**	**01 08 17.4**	**-1.7**
VRHR				*e**PP	pP	01 08 24.5	-1.9
VRHR				*e*S	S	01 17 38.0	-3.2
VRHR				pmax	pmax		
	comp=Z,110nm,0.8s,mb5.8						
VRHR				pmax	pmax		
	comp=N,50nm,0.7s						
VRHR				pmax	pmax		
	comp=E,50nm,1.5s						
VRHR				smax			
	comp=E,80nm,1.8s						
VRHR				smax			
	comp=Z,30nm,2.8s						
VRHR				smax			
	comp=N,80nm,1.6s						
VOR	**Voronezh**	**72.66**	**337**	*e*P	**P**	**01 08 18.5**	**-0.9**
VOR				pmax	pmax		
	comp=Z,140nm,1.6s,mb5.6						
VOR				pmax	pmax		
	comp=N,110nm,1.3s						
VOR				pmax	pmax		
	comp=E,90nm,1.4s						
KKN	**Kakani**	**72.72**	**293**	*e*P	**P**	**01 08 21.5**	**+1.3**
	comp=E,485nm,0.7s,mb6.5						
NST	**Nakhon Sawan**	**72.77**	**274**	P	**P**	**01 08 19.5**	**-1.2**
PKI	**Pulchoki**	**72.81**	**293**	*e*P	**P**	**01 08 21.9**	**+1.1**
	comp=E,990nm,1.1s						
GKN	**Gorkha**	**72.93**	**293**	*e*P	**P**	**01 08 22.5**	**+1.0**
	comp=E,967nm,1.1s,mb6.6						
PPT	**Papeete**	**72.94**	**151**	*e*SS	SS	01 21 52.0	-37
PPT				*e*LR	LR	01 29 57.5	
	comp=E,7μm,28.0s,baz=347						
PPT	**Papeete**	**72.94**	**151**	LR	LR	01 36 57.5	
	comp=E,2μm,18.6s,MS5.4,baz=303,slow=33						
DMN	**Daman**	**72.95**	**293**	*e*P	**P**	**01 08 22.9**	**+1.3**
	comp=E,525nm,1.0s,mb6.4						
COP	**Copenhagen**	**73.10**	**354**	*i*P	**P**	**01 08 15.0**	**-6.9**
	comp=E,43nm,0.9s,mb5.4						
COP				*i* S	S	01 17 50.0	+3.4
	comp=Z,640nm,21.0s						
COP	**Copenhagen**	**73.10**	**354**	*e*P	**P**	**01 08 15.0**	**-6.9**
COP				*i* S	S	01 17 50.0	+3.4
COP				pmax	pmax		
	comp=Z,43nm,0.9s,mb5.4						
COP				MLR	MLR		
	comp=Z,650nm,21.0s,MS4.9						
VRSR	**Storozhevoye**	**73.13**	**336***d*	*i*P	**P**	**01 08 21.3**	**-0.9**
VRSR				*e**PP	pP	01 08 29.0	-0.5
VRSR				*e*		01 08 38.9	
VRSR				*e*S	S	01 17 46.0	-1.1
VRSR				pmax	pmax		
	comp=Z,90nm,1.0s,mb5.7						
VRSR				pmax	pmax		
	comp=N,90nm,0.8s						
VRSR				pmax	pmax		
	comp=E,20nm,0.9s						
VRSR				pmax	pmax		
	comp=Z,90nm,1.0s,mb5.7						
VRSR				pmax	pmax		
	comp=N,90nm,0.8s						
VRSR				pmax	pmax		
	comp=E,20nm,0.9s						
VRSR				smax			
	comp=N,220nm,3.7s						
VRSR				smax			
	comp=Z,30nm,2.3s						
VRSR				smax			
	comp=E,130nm,3.5s						
VRSR				smax			
	comp=N,220nm,3.7s						
VRSR				smax			
	comp=Z,30nm,2.3s						
VRSR				smax			
	comp=E,130nm,3.5s						
VRSR				MLR	MLR		
	comp=N,3μm,20.0s,MS5.6						
VRSR				MLR	MLR		
	comp=Z,5μm,20.0s,MS5.8						
VRSR				MLR	MLR		
	comp=E,2μm,18.0s,MS5.6						
VRSR				MLR	MLR		
	comp=N,3μm,20.0s						
VRSR				MLR	MLR		
	comp=Z,5μm,20.0s						
VRSR				MLR	MLR		
	comp=E,2μm,18.0s						
VORD	**Divnogorie**	**73.34**	**336**	*e*P	**P**	**01 08 22.6**	**-0.8**
VORD				pmax	pmax		
	comp=Z,110nm,1.1s,mb5.7						
VORD				pmax	pmax		
	comp=N,60nm,0.8s						
VORD				pmax	pmax		
	comp=E,10.0nm,0.6s						
VORD				MLR	MLR		
	comp=Z,5μm,19.0s,MS5.8						
VORD				MLR	MLR		
	comp=N,3μm,17.0s,MS5.7						
VORD				MLR	MLR		
	comp=E,3μm,18.0s,MS5.7						
BSD	**Bornholm Skovb**	**73.47**	**352**	*i* P	**P**	**01 08 23.4**	**-0.7**
	comp=E,50nm,0.7s,mb5.6						
BSD	**Bornholm Skovb**	**73.47**	**352**	*i* P	**P**	**01 08 23.4**	**-0.7**
BSD				pmax	pmax		
	comp=Z,50nm,0.7s,mb5.5						
SUW	**Suwalki**	**73.62**	**347**	*e*P	**P**	**01 08 23.3**	**-1.6**
SUW				*e*pP	pP	01 08 32.6	+0.4
SUW				*e*PcP	PcP	01 08 39.9	-1.1
SUW				MLR	MLR	01 40 53.5	
	comp=Z,2μm,22.9s,MS5.4						
SUW	**Suwalki**	**73.62**	**347**	*e*P	**P**	**01 08 23.3**	**-1.6**
SUW				*e**PP	pP	01 08 32.6	+0.3
SUW				*e*		01 08 39.9	
SUW				MLR	MLR		
	comp=Z,2μm,22.9s,MS5.4						
GMK	**Mull of Kintyr**	**73.62**	**4**	*e*P	**P**	**01 08 24.6**	**-0.3**
GMK				AMb	AMB	01 08 27.9	
	comp=Z,87nm,1.8s,mb5.4						
KOLN	**Koldanda**	**73.70**	**294**	*e*P	**P**	**01 08 27.0**	**+1.0**
	comp=Z,659nm,1.2s,mb6.4						
ESK	**Eskdalemuir**	**73.75**	**3**	*e*P	**P**	**01 08 25.0**	**-0.7**
	comp=Z,76nm,1.4s,mb5.4						
ESK				LR	LR		
	comp=Z,394nm,21.0s,MS4.7						
ESK	**Eskdalemuir**	**73.75**	**3**	*e*P	**P**	**01 08 25.0**	**-0.6**
ESK				pmax	pmax		
	comp=Z,76nm,1.4s,mb5.4						
ESK				MLR	MLR		
	comp=Z,394nm,21.0s,MS4.7						
GCL	**Cushendall**	**73.86**	**5**	*e*P	**P**	**01 08 25.4**	**-0.9**
GCL				AMb	AMB	01 08 29.4	
	comp=Z,171nm,1.5s,mb5.8						
RAR	**Rarotonga**	**73.92**	**162**	PFAKE		01 08 40.0	+13
RAR				LR	LR		
	comp=Z,6μm,19.0s,MS5.9						
GAL1	**Galloway**	**74.14**	**4**	*e*P	**P**	**01 08 26.2**	**-1.8**
GAL1				AMb	AMB	01 08 30.9	
	comp=Z,83nm,1.4s,mb5.5						
DZM	**Mont Dzumac**	**74.22**	**195**	LR	LR	01 34 49.2	
	comp=Z,2μm,21.1s,MS5.4,baz=14,slow=31						
GMM	**Mts of Mourne**	**74.71**	**5**	*e*P	**P**	**01 08 30.7**	**-0.6**
GMM				AMb	AMB	01 08 34.7	
	comp=Z,109nm,1.7s,mb5.5						
BSEG	**Bad Segeberg**	**74.97**	**355**	*e*P	**P**	**01 08 32.6**	**-0.2**
BSEG				*e*S	S	01 18 07.5	-0.1
BSEG	**Bad Segeberg**	**74.97**	**355**	*e*P	**P**	**01 08 32.6**	**-0.2**
BSEG				pmax	pmax		
	comp=Z,110nm,1.5s,mb5.6						
GKP	**Gorka Klasztor**	**75.08**	**350**	*e*P	**P**	**01 08 32.9**	**-0.4**
GKP				MLR	MLR	01 42 50.1	
	comp=Z,4μm,21.0s,MS5.6						
GKP	**Gorka Klasztor**	**75.08**	**350**	*e*P	**P**	**01 08 32.9**	**-0.5**
GKP				LR	LR		
	comp=Z,4μm,21.0s,MS5.6						
DCN	**Croghan**	**75.53**	**6**⇓	*i*P	**P**	**01 08 36.1**	**+0.2**
DLF	**Lyons Farm**	**75.62**	**5**⇓	*i*P	**P**	**01 08 36.7**	**+0.2**
WAR	**Warsaw**	**75.64**	**348**	*e*P	**P**	**01 08 32.2**	**-4.4**
WAR				*e*pP	pP	01 08 38.0	-6.0
WAR				*e*PcP	PcP	01 08 44.2	-5.6
WAR				*e*S	S	01 18 11.5	-3.5
WAR				*e*SKS	SKS	01 18 41.2	-6.3
WAR				MLR	MLR	01 41 43.4	
	comp=Z,2μm,23.0s,MS5.4						
WAR	**Warsaw**	**75.64**	**348**	*e*P	**P**	**01 08 32.2**	**-4.4**
WAR				*e*pP	pP	01 08 38.0	-6.0
WAR				*e*PcP	PcP	01 08 44.2	-5.5
WAR				*e*S	S	01 18 11.5	-3.5
WAR				*e*SKS	SKS	01 18 41.2	-6.3
WAR	**Warsaw**	**75.64**	**348**	*e*P	**P**	**01 08 32.2**	**-4.4**
WAR				*e*	PcP	01 08 44.2	-5.5
WAR				*e*S	S	01 18 11.5	-3.5
WAR				*e*		01 18 41.2	
WAR				MLR	MLR		
	comp=Z,2μm,23.0s,MS5.4						
DSB	**Dublin**	**75.68**	**5**	*e*P	**P**	**01 08 36.2**	**-0.6**
	comp=Z,70nm,1.1s,mb5.5						
AKASG	**Malin Array Be**	**75.82**	**342**	P	**P**	**01 08 36.7**	**-0.9**
	comp=Z,27nm,0.5s,mb5.4,baz=16,slow=5.4,SNR=142						
AKASG	**Malin Array Be**	**75.82**	**342**	*i* P	**P**	**01 08 36.7**	**-0.9**
AKASG				pmax	pmax		
	comp=Z,27nm,0.5s						
RUE	**Ruedersdorf**	**76.18**	**353**	*e*P	**P**	**01 08 38.9**	**-0.8**
	comp=Z,102nm,1.4s,mb5.6						
WIT	**Witteveen**	**76.26**	**357**⇑	*i*P	**P**	**01 08 42.2**	**+2.1**
	comp=Z,166nm,1.4s,mb5.8						
NDI	**New Delhi**	**76.59**	**299**	*e*P	**P**	**01 08 42.5**	**0.0**
NDI				AMb	AMB	01 08 46.4	
	comp=Z,75nm,1.3s,mb5.5						
KAKA	**Kakadu**	**76.73**	**230**⇑	*i*P	**P**	**01 08 49.9**	**+6.4**
	comp=Z,33nm,0.8s,mb5.3						
CLZ	**Clausthal**	**77.06**	**355**	*e*P	**P**	**01 08 44.6**	**0.0**
	comp=Z,120nm,1.5s,mb5.6						
CLZ				*e*S	S	01 18 28.2	-2.3
CLZ	**Clausthal**	**77.06**	**355**	*e*P	**P**	**01 08 44.6**	**0.0**
CLZ				pmax	pmax		
	comp=Z,120nm,1.5s,mb5.6						
WTSB	**Winterswijk**	**77.10**	**357**⇑	*i*P	**P**	**01 08 44.3**	**-0.5**
	comp=Z,29nm,1.1s,mb5.1						
KSM	**Kuching**	**77.34**	**256**	*e*P	**P**	**01 08 47.5**	**+0.6**
CLL	**Collm**	**77.41**	**353**	P	**P**	**01 08 45.2**	**-1.3**
	comp=Z,logA/T=1.6,mb5.3						
CLL				*i* *PP	pP	01 08 52.6	-1.3
CLL				*e**SP	sP	01 08 59.0	+2.6
CLL				*e*		01 09 13.0	
CLL				*e*S	S	01 18 38.0	+3.7
CLL				*e*PS	PS	01 19 12.0	-5.1
CLL				*e*PPS	PPS	01 19 24.0	-11
CLL				*e*SS	SS	01 23 48.0	+12
CLL	**Collm**	**77.41**	**353**	*i* P	**P**	**01 08 45.2**	**-1.3**
	comp=Z,61nm,1.4s,mb5.3						
CLL				*i* pP	pP	01 08 52.6	-1.3
CLL				*e*S	S	01 18 38.0	+3.7
CLL				LR	LR		
	comp=Z,2μm,22.5s,MS5.4						
CLL	**Collm**	**77.41**	**353**	*i* P	**P**	**01 08 45.2**	**-1.3**
CLL				*i* *PP	pP	01 08 52.6	-1.3
CLL				*e*S	S	01 18 38.0	+3.7
CLL				pmax	pmax		
	comp=Z,61nm,1.4s,mb5.3						
CLL				MLR	MLR		
	comp=Z,2μm,22.5s,MS5.4						
CTA	**Charters Tower**	**77.57**	**214**⇓	*i*P	**P**	**01 08 48.7**	**+0.7**
	comp=Z,21nm,1.1s,mb5.0						
CTAO	**Charters Tower**	**77.57**	**214**	*e*P	**P**	**01 08 47.6**	**-0.4**
	comp=Z,37nm,1.1s,mb5.2						
CTAO				LR	LR		
	comp=Z,2μm,21.0s,MS5.4						
CTAO	**Charters Tower**	**77.57**	**214**	P	**P**	**01 08 48.7**	**+0.7**
CTAO				pmax	pmax		
	comp=Z,37nm,1.1s,mb5.2						
LVV	**L'vov**	**77.57**	**345**	*d*P	**P**	**01 08 47.8**	**+0.4**
LVV				*e*		01 09 00.4	
LVV				*e*		01 11 49.2	
LVV				*e*S	S	01 18 33.4	-2.7
LVV				*e*		01 18 55.6	
LVV				*e*PS	PS	01 19 22.4	+3.1
LVV				*e*SS	SS	01 23 30.8	-7.8
LVV				*e*SSS	SSS	01 26 51.2	-4.5
LVV				MLR	MLR		
	comp=Z,2μm,20.0s,MS5.3						
LVV				MLR	MLR		
	comp=N,1μm,19.0s,MS5.4						
LVV				MLR	MLR		
	comp=E,1μm,19.0s,MS5.4						
KSP	**Ksiaz**	**77.57**	**351**	*e*P	**P**	**01 08 47.3**	**-0.2**
KSP				*e*PcP	PcP	01 08 55.9	-2.2
KSP				*e*S	S	01 18 34.8	-1.2
KSP				*e*SKS	SKS	01 18 51.1	-10
KSP				MLR	MLR	01 43 41.2	
	comp=E,4μm,21.4s,MS5.7						
KSP	**Ksiaz**	**77.57**	**351**	*e*P	**P**	**01 08 46.8**	**-0.6**
KSP				*e*pP	pP	01 08 52.0	-2.8
KSP				*e*S	S	01 18 35.0	-1.0
KSP				LR	LR		
	comp=Z,5μm,21.4s,MS5.8						
GOF	**Gofitskoye**	**77.69**	**331**⇑	*i*P	**P**	**01 08 44.8**	**-3.4**
GOF				*i* S	S	01 18 35.1	-2.4
GOF				pmax	pmax		
	comp=Z,650nm,1.3s,mb6.4						
GOF				smax			
	comp=N,150nm,2.2s						
GOF				smax			
	comp=E,80nm,2.2s						
BRG	**Berggiesshubel**	**77.76**	**352**	*e*P	**P**	**01 08 48.0**	**-0.5**
	comp=E,71nm,1.6s,mb5.3						
BRG				PP	PP	01 11 29.0	-17
BRG				S	S	01 18 35.0	-3.1
BRG				SS	SS	01 23 37.0	-4.4
BRG				LR	LR		
	comp=Z,2μm,20.3s,MS5.4						
BRG	**Berggiesshubel**	**77.76**	**352**	*e*P	**P**	**01 08 48.0**	**-0.5**
BRG				S	S	01 18 35.0	-3.1
BRG				SS	SS	01 23 37.0	-4.4
BRG				pmax	pmax		
	comp=Z,71nm,1.6s,mb5.3						
BRG				MLR	MLR		
	comp=N,2.0nm,19.7s,MS4.9						
BRG				MLR	MLR		
	comp=E,570nm,19.2s,MS4.9						
BRG				MLR	MLR		
	comp=Z,2μm,20.3s,MS5.4						
OJC	**Ojcow**	**77.78**	**348**⇑	*i*P	**P**	**01 08 48.3**	**-0.3**
OJC				*e*S	S	01 18 37.2	-1.1
OJC				*e*SKS	SKS	01 18 57.0	-6.1
OJC				MLR	MLR	01 48 18.2	
	comp=Z,2μm,19.2s,MS5.5						
UPC	**Upice**	**77.93**	**351**	*e*P	**P**	**01 08 48.9**	**-0.5**
KWP	**Kalwaria**	**77.95**	**346**	*e*P	**P**	**01 08 49.7**	**+0.2**
KWP				*e*S	S	01 18 38.8	-1.5
KWP				*e*SKS	SKS	01 18 53.1	-11
KWP				MLR	MLR	01 44 31.0	
	comp=Z,3μm,22.7s,MS5.6						
KWP	**Kalwaria**	**77.95**	**346**	*e*P	**P**	**01 08 49.7**	**+0.1**
KWP				*e*S	S	01 18 38.7	-1.5
KWP				*e*		01 18 53.1	
KWP				MLR	MLR		
	comp=Z,3μm,22.7s,MS5.6						
PVCC	**Panska Ves**	**78.05**	**352**	*e*P	**P**	**01 08 49.6**	**-0.4**
PVCC				AMS	AMS	01 45 40.0	
	comp=Z,2μm,20.6s						
DPC	**Dobruska-Polom**	**78.05**	**351**	*e*P	**P**	**01 08 50.1**	**0.0**
DPC				AMS	AMS	01 43 50.0	
	comp=Z,2μm,20.1s						
MAK	**Makhachkala**	**78.14**	**328**	*e*P	**P**	**01 08 52.0**	**+1.3**
MAK				*e*		01 11 47.0	
MAK				*i* S	S	01 18 42.0	-0.4
MAK				*i* PS	PS	01 19 26.0	-0.9
MAK				pmax	pmax		
	comp=Z,1μm,8.0s						
MAK				smax			
	comp=N,600nm,6.0s						
MOX	**Moxa**	**78.17**	**354**	*i* P	**P**	**01 08 50.7**	**0.0**
	comp=N,logA/T=1.7,mb5.4						
MOX				pP	pP	01 09 05.0	+6.9
MOX				L		01 47 33.0	
MOX	**Moxa**	**78.17**	**354**	*e*P	**P**	**01 08 50.7**	**0.0**
	comp=N,80nm,1.6s,mb5.4						
MOX				*e*		01 09 04.9	
MOX	**Moxa**	**78.17**	**354**	*e*P	**P**	**01 08 50.7**	**0.0**
MOX				*e*		01 09 04.9	
MOX				pmax	pmax		
	comp=Z,80nm,1.6s,mb5.4						
MOX				pmax	pmax		
	comp=Z,2.0nm,21.0s						
HGN	**Heimansgroeve**	**78.33**	**357**⇑	*i*P	**P**	**01 08 51.3**	**-0.3**
	comp=Z,44nm,1.2s,mb5.2						
HGN				*e*S	S	01 18 15.0	-29
HGN				*e*SS	SS	01 23 43.5	-6.4
OKC	**Ostrava-Krasne**	**78.36**	**349**	*e*P	**P**	**01 08 50.8**	**-1.0**
OKC				AMS	AMS	01 50 50.0	
	comp=Z,2μm,16.8s						
STHS	**Stebnicka Huta**	**78.38**	**347**	*i* P	**P**	**01 08 52.8**	**+0.9**
TBI	**Tubuai**	**78.44**	**153**	*e*LR	LR	01 32 35.6	
	comp=Z,6μm,30.2s,baz=340						
MORC	**Moravsky Berou**	**78.49**	**350**	*e*P	**P**	**01 08 51.8**	**-0.7**
	comp=Z,22nm,1.2s,mb5.0						
MORC	**Moravsky Berou**	**78.49**	**350**	*e*P	**P**	**01 08 51.8**	**-0.7**
MORC				pmax	pmax		
	comp=Z,22nm,1.2s,mb5.0						
NIE	**Niedzica**	**78.50**	**348**	*e*P	**P**	**01 08 52.6**	**0.0**
NKC	**Novy Kostel**	**78.52**	**353**	*e*P	**P**	**01 08 52.4**	**-0.2**
PRU	**Pruhonice**	**78.59**	**352**	*e*P	**P**	**01 08 52.6**	**-0.4**
PRU				AMS	AMS	01 46 10.0	
	comp=Z,2μm,20.5s						
PRU	**Pruhonice**	**78.59**	**352**	*e*P	**P**	**01 08 52.6**	**-0.4**
PRU				LR	LR		
	comp=Z,2μm,20.5s,MS5.5						
KOLS	**Kolonicke sedl**	**78.70**	**346**	*i* P	**P**	**01 08 54.2**	**+0.5**
TNS	**Taunus Mts**	**78.78**	**356**	*e*P	**P**	**01 08 54.0**	**-0.1**
	comp=Z,44nm,1.1s,mb5.3						
TNS	**Taunus Mts**	**78.78**	**356**	*e*P	**P**	**01 08 54.0**	**-0.1**
TNS				pmax	pmax		
	comp=Z,44nm,1.1s,mb5.3						
KIV	**Kislovodsk**	**78.80**	**331**	*e*P	**P**	**01 08 54.5**	**+0.2**
	comp=Z,153nm,1.1s,mb5.8						
KIV				LR	LR		
	comp=Z,1μm,22.0s,MS5.1						
KIV	**Kislovodsk**	**78.80**	**331**	*e*P	**P**	**01 08 54.5**	**+0.2**
KIV				pmax	pmax		
	comp=Z,153nm,1.1s,mb5.8						
KIV				MLR	MLR		
	comp=Z,1μm,22.0s,MS5.1						
CRVS	**Cervenica-Dubn**	**78.85**	**347**	*i* P	**P**	**01 08 54.5**	**0.0**
GIVF	**Givet**	**79.02**	**358**	*e*P	**P**	**01 08 55.2**	**-0.2**
BAIF	**Baives**	**79.08**	**358**	*e*P	**P**	**01 08 55.7**	**0.0**
	comp=Z,107nm,1.0s,mb5.4						
BAIF	**Baives**	**79.08**	**358**	*e*P	**P**	**01 08 55.7**	**0.0**
BAIF				pmax	pmax		
	comp=Z,53nm,1.0s,mb5.4						
GRA1	**Grafenberg Arr**	**79.14**	**354**	*e*P	**P**	**01 08 56.3**	**+0.2**
	comp=Z,250nm,1.7s,mb5.9						
GRA1				*e*S	S	01 18 53.6	+0.7
GRF	**Grafenberg Arr**	**79.14**	**354**	*e*P	**P**	**01 08 56.3**	**+0.2**
	comp=Z,250nm,1.7s,mb5.9						
GRF				*e*S	S	01 18 53.6	+0.7
GRF				LR	LR		
	comp=Z,2μm,21.4s,MS5.5						
GRF	**Grafenberg Arr**	**79.14**	**354**	*e*P	**P**	**01 08 56.3**	**+0.2**
GRF				pmax	pmax		
	comp=Z,250nm,1.7s,mb5.9						
GRF				MLR	MLR		
	comp=Z,2μm,21.4s,MS5.5						
GRF	**Grafenberg Arr**	**79.14**	**354**	*e*P	**P**	**01 08 56.3**	**+0.2**
GRF				*e*S	S	01 18 53.6	+0.7
GRF				pmax	pmax		
	comp=Z,250nm,1.7s,mb5.9						
GRF				MLR	MLR		
	comp=Z,2μm,21.4s,MS5.5						
ABH	**Alteburg**	**79.16**	**356**⇑	*e*P	**P**	**01 08 56.0**	**-0.1**
ABH	**Alteburg**	**79.16**	**356**	*e*P	**P**	**01 08 55.9**	**-0.2**
RUP	**Ruppelstein**	**79.36**	**357**	*e*P	**P**	**01 08 57.1**	**-0.1**
TOD	**Tromm**	**79.37**	**355**⇑	*e*P	**P**	**01 08 57.2**	**-0.1**
TOD	**Tromm**	**79.37**	**355**	*e*P	**P**	**01 08 57.1**	**-0.2**
KECS	**Kecovo**	**79.39**	**347**	*i* P	**P**	**01 08 57.9**	**+0.4**
WLF	**Walferdange**	**79.42**	**357**	*e*P	**P**	**01 08 57.5**	**-0.1**
	comp=Z,75nm,1.4s,mb5.4						
WLF	**Walferdange**	**79.42**	**357**	P	**P**	**01 08 57.9**	**+0.3**
WLF				pmax	pmax		
	comp=Z,75nm,1.4s,mb5.4						
KIS	**Kishinev**	**79.44**	**342***j*	*i*P	**P**	**01 08 57.0**	**-0.7**
KIS				*e*		01 09 08.0	
KIS				*e*		01 11 57.0	
KIS				*e*S	S	01 18 55.0	-1.1
KIS				*e*		01 19 09.0	
KIS				*e*PS	PS	01 19 42.0	-1.2
KIS				*e*SSS	SSS	01 27 24.0	-2.5
KIS				pmax	pmax		
	comp=Z,220nm,1.4s,mb5.9						
KIS				pmax	pmax		
	comp=N,170nm,1.5s						
KIS				pmax	pmax		
	comp=Z,700nm,7.0s						
KIS				pmax	pmax		
	comp=Z,900nm,8.0s						
KIS				MLR	MLR		
	comp=N,4μm,19.0s,MS5.8						
KIS				MLR	MLR		
	comp=Z,4μm,19.0s,MS5.7						
KIS				MLR	MLR		
	comp=E,2μm,18.0s,MS5.8						
KIS				MLR	MLR		
	comp=Z,3μm,19.0s						
ZEI	**Tsey**	**79.49**	**330**	*e*P	**P**	**01 08 55.2**	**-2.9**
ZEI				*i* *PP	pP	01 09 02.1	-3.4
ZEI				*i*		01 11 56.1	
ZEI				pmax	pmax		
	comp=Z,140nm,0.9s,mb5.9						
IAS	**Iasi**	**79.49**	**342**	⇓P	**P**	**01 08 59.4**	**+1.4**
IAS	**Iasi**	**79.49**	**342**	⇓P	**P**	**01 08 59.4**	**+1.4**
SWS	**Schriesheim**	**79.50**	**355**	*e*P	**P**	**01 08 57.9**	**-0.1**
ANN	**Anapa**	**79.51**	**335***c*	*i*P	**P**	**01 08 57.4**	**-0.8**
ANN				*e*	pP	01 09 04.6	-1.0
ANN				*e*		01 11 56.7	
ANN				*e*PPP	PPP	01 13 49.3	-1.6
ANN				*e*S	S	01 18 54.5	-2.4
ANN				*e*SP	SP	01 19 47.8	+6.5
ANN				pmax	pmax		
	comp=Z,88nm,1.3s,mb5.5						
KHC	**Kasperske Hory**	**79.52**	**352**	*e*P	**P**	**01 08 58.2**	**+0.1**
KHC				x	x	01 09 01.0	
KHC				*e*SKS	SKS	01 19 09.2	-6.3
KHC				AMS	AMS	01 48 20.0	
	comp=Z,2μm,20.6s						
KHC	**Kasperske Hory**	**79.52**	**352**	*e*P	**P**	**01 08 58.2**	**+0.1**
KHC				*e*		01 09 01.0	
KHC				*e*S	SKS	01 19 09.2	-6.3
KHC				LR	LR		
	comp=Z,2μm,20.6s,MS5.3						
KHC	**Kasperske Hory**	**79.52**	**352**	*e*P	**P**	**01 08 58.2**	**+0.1**
KHC				*e*		01 09 01.0	
KHC				*e*S	SKS	01 19 09.2	-6.3
KHC				MLR	MLR		
	comp=Z,2μm,20.6s,MS5.3						
WET	**Wettzell**	**79.57**	**353**	*e*P	**P**	**01 08 58.3**	**-0.1**
	comp=Z,59nm,1.6s,mb5.3						
WET	**Wettzell**	**79.57**	**353**	*e*P	**P**	**01 08 58.3**	**-0.1**
WET				pmax	pmax		
	comp=Z,59nm,1.6s,mb5.3						
SIND	**Sindeldorf**	**79.59**	**355**	*e*P	**P**	**01 08 58.0**	**-0.5**
VYHS	**Vyhne**	**79.60**	**349**	*e*S	S	01 19 08.8	+11
VYHS				*e*L		01 45 49.9	
VYHS	**Vyhne**	**79.60**	**349**	*i* P	**P**	**01 08 59.4**	**+0.8**
VYHS				*e*S	S	01

comp=N,17nm,0.8s
SOC pmax pmax
comp=E,9.0nm,0.8s
SOC pmax pmax
comp=Z,45nm,0.8s,mb5.5
SOC pmax pmax
comp=Z,185nm,1.7s,mb5.7
SOC MLR MLR
comp=N,4µm,22.0s,MS5.8
SOC MLR MLR
comp=Z,7µm,22.0s,MS6.0
SOC MLR MLR
comp=E,1µm,21.0s,MS5.8
PSZ Piszkesteto 80.03 348⇑ *eP* **P 01 09 01.3 +0.4**
PSZ Piszkesteto 80.03 348 *eP* **P 01 09 00.8 -0.1**
comp=E,109nm,1.4s,mb5.6
PSZ Piszkesteto 80.03 348 *eP* **P 01 09 00.8 -0.1**
PSZ pmax pmax
comp=Z,109nm,1.4s,mb5.6
LANF Langenberg 80.05 356 *eP* **P 01 09 01.0 +0.1**
ZST Bratislava 80.10 350 *i P* **P 01 09 02.6 +1.4**
RAO Raoul Island 80.12 180 PFAKE 01 09 10.0 +8.2
RAO LR LR
comp=Z,4µm,20.0s,MS5.7
GOR Gori 80.14 329 P **P 01 09 02.9 +1.3**
TI2 Plekhanov 80.16 329*c i* P **P 01 08 55.8 -5.9**
TI2 *i* S S 01 18 58.2 -5.5
TI2 pmax pmax
comp=Z,200nm,0.8s,mb6.1
TI2 MLR MLR
comp=Z,4µm,19.0s,MS5.7
TI2 MLR MLR
comp=E,2µm,20.0s
TBLG Delisi 80.16 329 P **P 01 09 02.8 +1.1**
TBLG S S 01 19 05.5 +1.8
MTA Mtatsminda 80.18 329 P **P 01 09 02.6 +0.8**
STU Stuttgart 80.19 355 *eP* **P 01 09 01.2 -0.5**
comp=E,15nm,0.6s,mb5.1
STU Stuttgart 80.19 355 *eP* **P 01 09 01.2 -0.5**
STU pmax pmax
comp=Z,15nm,0.6s,mb5.1
SIM Simferopol' 80.21 337*c i P* **P 01 09 01.7 -0.2**
SIM *e* 01 12 05.0
SIM *eS* S 01 19 04.0 -0.2
SIM pmax pmax
comp=Z,49nm,0.9s,mb5.4
SIM MLR MLR
comp=Z,6µm,19.0s,MS6.0
LBG Lerchenberg 80.31 355 *eP* **P 01 09 02.0 -0.4**
HDH Heidenheim 80.31 354 *eP* **P 01 09 01.9 -0.5**
SRO Srobarova 80.33 349 *i P* **P 01 09 04.0 +1.5**
KULM Kulim 80.37 266 *eP* **P 01 09 03.3 -0.1**
FLN La Foliniere 80.38 2 *eP* **P 01 09 02.2 -0.5**
comp=Z,83nm,0.7s,mb5.5
FLN *eR*
comp=Z,2µm,20.8s
FLN La Foliniere 80.38 2 *eP* **P 01 09 02.2 -0.5**
FLN pmax pmax
comp=Z,42nm,0.7s,mb5.5
FLN MLR MLR
comp=Z,2µm,20.8s,MS5.5
MEZF Maizieres J'vi 80.62 358 *eP* **P 01 09 04.1 +0.1**
comp=Z,277nm,1.5s,mb5.7
WLS Welschbruch 80.63 356 *eP* **P 01 09 04.1 0.0**
CDF Champ du Feu 80.64 356 *eP* **P 01 09 03.8 -0.3**
comp=Z,42nm,0.9s,mb5.0
CDF Champ du Feu 80.64 356 *eP* **P 01 09 03.8 -0.3**
CDF pmax pmax
comp=Z,21nm,0.9s,mb5.1
FUR Furstenfeldbru 80.66 354 *eP* **P 01 09 04.1 -0.1**
comp=Z,36nm,1.1s,mb5.2
FUR Furstenfeldbru 80.66 354 *eP* **P 01 09 04.1 -0.1**
FUR pmax pmax
comp=Z,36nm,1.1s,mb5.2
BFO Black Forest 80.67 356 *eP* **P 01 09 03.9 -0.4**
comp=Z,76nm,1.6s,mb5.4
BFO Black Forest 80.67 356 *eP* **P 01 09 03.9 -0.4**
BFO pmax pmax
comp=Z,76nm,1.6s,mb5.4
DRGR 80.72 346 ⇑P **P 01 09 03.9 -0.7**
DRGR 80.72 346 ⇑P **P 01 09 03.9 -0.7**
BHPL Bhopal 80.72 295 *eP* **P 01 09 05.5 +0.4**
BHPL AMb AMB 01 09 07.6
comp=Z,228nm,0.8s,mb6.2
ROSF Rostrenen 80.72 3 *eP* **P 01 09 04.3 -0.3**
comp=Z,75nm,0.9s,mb5.3
ROSF Rostrenen 80.72 3 *eP* **P 01 09 04.3 -0.3**
ROSF pmax pmax
comp=Z,37nm,0.9s,mb5.3
MOA Molln 80.73 352⇑*i P* **P 01 09 04.5 -0.1**
comp=Z,99nm,2.1s,mb5.4
GRR Gorron 80.74 2 *eP* **P 01 09 04.5 -0.2**
comp=Z,147nm,0.8s,mb5.7
GRR Gorron 80.74 2 *eP* **P 01 09 04.5 -0.2**
GRR pmax pmax
comp=Z,73nm,0.8s,mb5.7
SGMF Saint Gilles 80.83 3 *eP* **P 01 09 05.0 -0.1**
comp=Z,154nm,0.7s,mb5.7
SGMF Saint Gilles 80.83 3 *eP* **P 01 09 05.0 -0.1**
SGMF pmax pmax
comp=Z,77nm,0.7s,mb5.7
ECH Echery 80.84 356 *eP* **P 01 09 04.3 -0.9**
THEF They Montfort 80.87 357 *eP* **P 01 09 05.5 +0.2**
SPAK Spaichingen 80.88 355 *eP* **P 01 09 05.4 0.0**
LIBD Limburg 80.88 356 *eP* **P 01 09 05.5 +0.1**
GUT Gutenstein 80.89 355⇑*eP* **P 01 09 05.1 -0.3**
VRI Vrincioaia 80.93 343 ⇑P **P 01 09 06.4 +0.7**
VRI Vrincioaia 80.93 343 ⇑P **P 01 09 06.4 +0.7**
KIZ Kirchzarten 81.06 356 *eP* **P 01 09 05.8 -0.6**
HAU Haudompre 81.08 357 *eP* **P 01 09 06.2 -0.2**
comp=Z,51nm,0.9s,mb5.2
HAU *eR*
comp=Z,2µm,22.8s
HAU Haudompre 81.08 357 *eP* **P 01 09 06.2 -0.2**
HAU pmax pmax
comp=Z,26nm,0.9s,mb5.2
HAU MLR MLR
comp=Z,2µm,22.8s,MS5.4
FELD Feldberg 81.14 356⇑*eP* **P 01 09 06.5 -0.2**
FELD Feldberg 81.14 356 *eP* **P 01 09 06.4 -0.3**
QUIF Quistinic 81.15 3 *eP* **P 01 09 06.5 -0.3**
comp=Z,132nm,1.0s,mb5.5
QUIF Quistinic 81.15 3 *eP* **P 01 09 06.5 -0.3**
QUIF pmax pmax
comp=Z,66nm,1.0s,mb5.5
BRD Bordesti 81.17 342 ⇓P **P 01 09 07.9 +0.9**
BRD Bordesti 81.17 342 ⇓P **P 01 09 07.9 +0.9**
TLCR 81.17 341 ⇑P **P 01 09 07.4 +0.4**
TLCR 81.17 341 ⇑P **P 01 09 07.4 +0.4**
MOF Molkenrain 81.20 356 *eP* **P 01 09 06.9 -0.2**
ARSA Arzberg 81.20 351⇑*i P* **P 01 09 07.5 +0.4**
comp=Z,174nm,2.1s,mb5.6
UBR Uberruh 81.22 354 *eP* **P 01 09 07.2 0.0**
HINF Hinteralfeld 81.25 357 *eP* **P 01 09 06.9 -0.4**
comp=Z,54nm,1.2s,mb5.0
HINF Hinteralfeld 81.25 357 *eP* **P 01 09 06.9 -0.4**
HINF pmax pmax
comp=Z,27nm,1.2s,mb5.0
BCA Borcka 81.40 331 *eP* **P 01 09 08.1 -0.2**
NGP Nagpur 81.42 293 *eP* **P 01 09 09.3 +0.5**
NGP AMb AMB 01 09 11.7
comp=Z,236nm,0.9s,mb6.1
MLR Muntele Rosu 81.44 343 P **P 01 09 09.7 +1.3**
comp=Z,70nm,0.7s,mb5.7,baz=13,slow=3.9
MLR Muntele Rosu 81.44 343 ⇓P **P 01 09 09.1 +0.7**
MLR Muntele Rosu 81.44 343 ⇓P **P 01 09 09.1 +0.8**
WATA Walderalm 81.46 353⇑*i P* **P 01 09 08.8 +0.3**
comp=Z,81nm,1.4s,mb5.5
WATA Walderalm 81.46 353⇑*i P* **P 01 09 08.8 +0.3**
WATA pmax pmax
comp=Z,81nm,1.4s,mb5.5
MOTA Moosalm 81.49 354⇑*i P* **P 01 09 08.6 0.0**
comp=Z,94nm,1.5s,mb5.5
MOTA Moosalm 81.49 354⇑*i P* **P 01 09 08.6 0.0**
MOTA pmax pmax
comp=Z,94nm,1.5s,mb5.5
WTTA Wattenberg 81.53 353⇑*i P* **P 01 09 09.2 +0.4**
comp=Z,203nm,1.8s,mb5.8
WTTA Wattenberg 81.53 353⇑*i P* **P 01 09 09.2 +0.4**
WTTA pmax pmax
comp=Z,203nm,1.8s,mb5.8
VIS Vishakhapatnam 81.56 288 *eP* **P 01 09 10.6 +1.0**
VIS AMb AMB 01 09 14.7
comp=Z,89nm,0.9s,mb5.7
BBS Basel-Blauen 81.57 356 *eP* **P 01 09 08.9 -0.1**
BBS Basel-Blauen 81.57 356 *eP* **P 01 09 10.0 +1.0**
KBA Koelnbreinsper 81.58 352⇑*i P* **P 01 09 10.0 +0.9**
comp=Z,259nm,1.8s,mb5.9
KBA Koelnbreinsper 81.58 352⇑*i P* **P 01 09 10.0 +0.9**
KBA pmax pmax
comp=Z,259nm,1.8s,mb5.9
GNI Garni 81.58 328 *eP* **P 01 09 09.6 +0.4**
GNI Garni 81.58 328 P **P 01 09 10.9 +1.7**
comp=Z,32nm,0.8s,mb5.3,baz=343,slow=1.5,SNR=34
GNI Garni 81.58 328 *eP* **P 01 09 09.9 +0.7**
comp=Z,151nm,1.3s,mb5.8
GNI Garni 81.58 328 *eP* **P 01 09 09.9 +0.7**
GNI pmax pmax
comp=Z,151nm,1.3s
SQTA Sankt Quirin 81.61 354⇓*i P* **P 01 09 09.7 +0.5**
comp=Z,106nm,1.5s,mb5.5
SQTA Sankt Quirin 81.61 354⇓*i P* **P 01 09 09.7 +0.5**
SQTA pmax pmax
comp=Z,106nm,1.5s,mb5.5
DAVA Damuels 81.63 354⇑*i P* **P 01 09 09.4 +0.1**
comp=Z,103nm,1.9s,mb5.4
VOIR 81.65 344 ⇓P **P 01 09 10.6 +1.1**
VOIR 81.65 344 ⇓P **P 01 09 10.6 +1.2**
KARS Kars 81.70 330 *i P* **P 01 09 10.5 +0.6**
LOMF Lomont 81.71 357 *eP* **P 01 09 09.7 0.0**
BISS Bistriski jare 81.84 351⇑*i P* **P 01 09 10.8 +0.4**
LOR Lormes 81.87 359 *eP* **P 01 09 10.5 -0.1**
comp=Z,76nm,0.8s,mb5.4
LOR *eR*
comp=Z,2µm,22.2s
LOR Lormes 81.87 359 *eP* **P 01 09 10.5 -0.1**
LOR pmax pmax
comp=Z,38nm,0.8s,mb5.4
LOR MLR MLR
comp=Z,2µm,22.3s,MS5.5
HYF Humbligny 81.89 359 *eP* **P 01 09 10.9 +0.3**
TIRR Tirgusor 81.95 341 ⇓P **P 01 09 12.0 +1.0**
OBKA Obir 82.03 351⇑*i P* **P 01 09 11.7 +0.3**
comp=Z,209nm,2.1s,mb5.7
SSF Saint Saulge 82.09 359 *eP* **P 01 09 11.6 -0.1**
comp=Z,42nm,0.8s,mb5.4
SSF Saint Saulge 82.09 359 *eP* **P 01 09 11.6 -0.1**
SSF pmax pmax
comp=Z,42nm,0.8s,mb5.4
DAVOX Davos 82.13 354 P **P 01 09 13.0 +1.1**
comp=Z,19nm,0.8s,mb5.1,baz=332,slow=6.2,SNR=23
DAVOX LR LR 01 49 57.2
comp=Z,2µm,20.9s,MS5.5,baz=1.5,slow=39
DAVOX Davos 82.13 354 P **P 01 09 13.0 +1.1**
DAVOX LR LR 01 49 57.2
WRAB Tennant Creek 82.16 224 *eP* **P 01 09 11.8 -0.8**
comp=Z,68nm,1.1s,mb5.5
WRAB LR LR
comp=Z,563nm,21.0s,MS4.9
WRAB Tennant Creek 82.16 224 P **P 01 09 12.0 -0.6**
WRAB pmax pmax
comp=Z,68nm,1.1s,mb5.5
WB2 Warramunga Arr 82.17 224⇑*i P* **P 01 09 12.5 -0.2**
WRA Warramunga Arr 82.17 224 P **P 01 09 12.6 0.0**
comp=Z,7.6nm,0.6s,mb4.8,baz=34,slow=6.1,SNR=35
AVF Avril sur Loir 82.36 359 *eP* **P 01 09 13.0 -0.1**
comp=Z,54nm,0.7s,mb5.3
AVF Avril sur Loir 82.36 359 *eP* **P 01 09 13.0 -0.1**
AVF pmax pmax
comp=Z,27nm,0.7s,mb5.3
CADS Cadrg 82.39 352 *eP* **P 01 09 12.3 -1.0**
CADS *e* 01 13 10.5
LCHF La Chataignera 82.46 2 *eP* **P 01 09 14.0 +0.3**
CABF La Chapelle 82.48 357 *eP* **P 01 09 14.1 +0.4**
comp=Z,145nm,1.2s,mb5.5
CABF La Chapelle 82.48 357 *eP* **P 01 09 14.1 +0.4**
CABF pmax pmax
comp=Z,73nm,1.2s,mb5.5
LJU Ljubljana 82.50 351 *eP* **P 01 09 14.4 +0.6**
LJU *e* 01 20 31.1
SMF Signal de Mont 82.50 359 *eP* **P 01 09 13.7 -0.1**
comp=Z,94nm,0.8s,mb5.5
SMF Signal de Mont 82.50 359 *eP* **P 01 09 13.7 -0.1**
SMF pmax pmax
comp=Z,47nm,0.8s,mb5.5
BUC1 Bucharest 82.52 343 ⇑P **P 01 09 14.3 +0.3**
LRYF La Roche-sur-Y 82.54 2 *eP* **P 01 09 14.4 +0.4**
MFF Saint Martin d 82.54 1 *eP* **P 01 09 14.2 +0.1**
comp=Z,135nm,0.9s,mb5.7
MFF Saint Martin d 82.54 1 *eP* **P 01 09 14.2 +0.1**
MFF pmax pmax
comp=Z,68nm,0.9s,mb5.7
VOY Vojsko 82.57 352 *eP* **P 01 09 13.2 -1.0**
PSN Preselentsi 82.74 341 P **P 01 09 16.0 +0.8**
CLDR Caldiran 82.76 328 *eP* **P 01 09 15.6 +0.2**
TCF Toulx Ste Croi 82.87 360 *eP* **P 01 09 15.7 -0.1**
comp=Z,60nm,0.8s,mb5.4
TCF Toulx Ste Croi 82.87 360 *eP* **P 01 09 15.7 -0.1**
TCF pmax pmax
comp=Z,30nm,0.8s,mb5.4
ERZM Erzurum 82.89 330 *i P* **P 01 09 16.6 +0.6**
EZM Erzurum 82.89 330 *eP* **P 01 09 17.6 +1.6**
GUMT Gumushane 82.95 332 *eP* **P 01 09 17.1 +0.8**
BOJS Bojanci 82.96 351 *i P* **P 01 09 15.6 -0.6**
BZK Bozkurt 83.05 336 *eP* **P 01 09 17.2 +0.3**
AGO Saint Agoulin 83.10 359 *eP* **P 01 09 18.8 +1.8**
PLDF La Plantade 83.18 359 *eP* **P 01 09 19.1 +1.7**
RKT Rikitea 83.20 141 *eSS* SS 01 24 30.0 -33
RKT *eLR* LR 01 34 59.7
comp=Z,6µm,27.5s,baz=332
BYBT Boyabat 83.32 336 *eP* **P 01 09 18.9 +0.7**
BOYT Boyabat 83.33 336 *i P* **P 01 09 18.2 0.0**
ORX Oropa 83.38 356 P **P 01 09 18.7 +0.3**
PYM Petit Puy Mans 83.40 359 *eP* **P 01 09 20.2 +1.7**
TVAN Van 83.49 328 *i P* **P 01 09 19.2 +0.1**
TRAV 83.51 356 P **P 01 09 20.7 +1.7**
LPL La Plagne 83.55 357 *eP* **P 01 09 20.4 +1.2**
comp=Z,36nm,0.9s,mb5.2
LPL La Plagne 83.55 357 *eP* **P 01 09 20.4 +1.2**
LPL pmax pmax
comp=Z,18nm,0.9s,mb5.2
LPG La Plagne 83.57 357 *eP* **P 01 09 20.6 +1.3**
comp=Z,36nm,0.9s,mb5.2
LPG La Plagne 83.57 357 *eP* **P 01 09 20.6 +1.3**
LPG pmax pmax
comp=Z,18nm,0.9s,mb5.2
SZH Strazhica 83.58 343 P **P 01 09 19.5 +0.1**
LSD Ceresole Reale 83.59 356 P **P 01 09 20.7 +1.3**
BALT Daday 83.61 337 *i P* **P 01 09 19.6 0.0**
COLF Collargettes 83.63 359 *eP* **P 01 09 20.1 +0.5**
DIVS Divcibare 83.76 347⇓*i P* **P 01 09 19.1 -1.1**
FRNF Fournols 83.77 359 *eP* **P 01 09 20.9 +0.6**
BNGL BINGOL 83.83 330 *i P* **P 01 09 21.4 +0.6**
RJF Les Rejaudoux 83.85 0 *eP* **P 01 09 21.1 +0.4**
comp=Z,275nm,1.3s,mb5.9
RJF *eR*
comp=Z,2µm,19.5s
RJF Les Rejaudoux 83.85 0 *eP* **P 01 09 21.1 +0.4**
RJF pmax pmax
comp=Z,138nm,1.3s,mb5.9
RJF MLR MLR
comp=Z,2µm,19.5s,MS5.6
GRN Grenoble 83.86 357 *eP* **P 01 09 21.8 +1.1**
GDM Grand'Maison 83.88 357 *eP* **P 01 09 22.3 +1.4**
RSP Reno Superiore 83.89 356 P **P 01 09 21.4 +0.5**
TOS Tosya 83.92 336 *eP* **P 01 09 22.6 +1.4**
LBL Lubilhac 83.92 359 *eP* **P 01 09 23.1 +2.0**
TOKT Tokat 83.92 334 *eP* **P 01 09 21.9 +0.7**
BNI Bardonecchia 84.01 357 *eP* **P 01 09 22.5 +1.0**
comp=Z,48nm,0.8s,mb5.7
BNI Bardonecchia 84.01 357 *eP* **P 01 09 22.5 +0.9**
BNI pmax pmax
comp=Z,48nm,0.8s,mb5.7
FENE Fenestrelle 84.02 356 P **P 01 09 22.4 +0.8**
SAFT Safranbolu 84.06 337 *eP* **P 01 09 22.8 +0.9**
JTS JuntasAbangare 84.08 81 LR LR 01 43 58.1
comp=Z,340nm,20.3s,MS4.7,baz=321,slow=34
JTS JuntasAbangare 84.08 81 PFAKE 01 09 30.0 +7.4
JTS LR LR
comp=Z,137nm,19.0s,MS4.3
CTKT Corum 84.11 335 *i P* **P 01 09 22.4 +0.3**
ZAPS Zavoj/Pirot 84.14 345⇑*i P* **P 01 09 22.3 +0.1**
RRL Cesana Torines 84.14 356 P **P 01 09 23.8 +1.6**
SVSK Karacayir 84.17 334 *eP* **P 01 09 23.7 +1.2**
ORIF Oris-en-Rattie 84.17 357 *eP* **P 01 09 23.4 +1.0**
comp=Z,100nm,1.1s,mb5.6
ORIF *eR*
comp=Z,2µm,22.5s
BHB Bricherasio 84.20 356 P **P 01 09 23.0 +0.5**
LFF La Frestale 84.21 1 *eP* **P 01 09 22.8 +0.2**
comp=Z,185nm,0.8s,mb6.0
LFF La Frestale 84.21 1 *eP* **P 01 09 22.8 +0.2**
LFF pmax pmax
comp=Z,92nm,0.8s,mb6.0
CAF Calviac 84.23 360 *eP* **P 01 09 23.1 +0.4**
comp=Z,124nm,0.9s,mb5.7
CAF Calviac 84.23 360 *eP* **P 01 09 23.1 +0.4**
CAF pmax pmax
comp=Z,62nm,0.9s,mb5.7
JMB Yambol 84.23 342 P **P 01 09 23.0 +0.3**
HKR Hakkari 84.24 328 *eP* **P 01 09 23.1 +0.2**
HAKT HAKKARI 84.27 328 *i P* **P 01 09 22.9 -0.1**
VIVF Saint-Julien-l 84.27 358 *eP* **P 01 09 23.5 +0.7**
comp=Z,94nm,1.0s,mb5.6
VIVF Saint-Julien-l 84.27 358 *eP* **P 01 09 23.5 +0.7**
VIVF pmax pmax
comp=Z,47nm,1.0s,mb5.6
SVST Sivas 84.31 334 *i P* **P 01 09 24.4 +1.2**
MBDF Montbardon 84.33 356 *eP* **P 01 09 24.3 +1.1**
comp=Z,56nm,0.7s,mb5.5
MBDF Montbardon 84.33 356 *eP* **P 01 09 24.3 +1.1**
MBDF pmax pmax
comp=Z,28nm,0.7s,mb5.5
GRAM 84.40 354 P **P 01 09 23.3 -0.2**
BTMT Batman 84.42 330 *eP* **P 01 09 25.2 +1.5**
PTK Pertek 84.42 331 *eP* **P 01 09 24.4 +0.6**
CANT Cankiri 84.42 336 *eP* **P 01 09 25.4 +1.7**
PCP Pian Castagno 84.44 355 P **P 01 09 23.3 -0.4**
CODM 84.51 354 P **P 01 09 23.7 -0.4**
VALM 84.53 354 P **P 01 09 24.8 +0.6**
GENL Genova Univers 84.55 355 P **P 01 09 23.3 -0.9**
CORM Corum 84.57 335 *eP* **P 01 09 26.0 +1.6**
SURF Saint Ours 84.58 356 *eP* **P 01 09 25.9 +1.5**
ELDT Eldivan 84.58 336 *i P* **P 01 09 24.1 -0.4**
PLE Pljevlja 84.60 347⇑*i P* **P 01 09 26.1 +1.6**
PGB Panagyurishte 84.60 344 P **P 01 09 25.0 +0.4**
BACM 84.61 354 P **P 01 09 25.2 +0.6**
HYB Hyderabad 84.64 291 *i P* **P 01 09 25.0 -0.3**
comp=Z,140nm,1.0s,mb6.0
HYB *eS* S 01 19 52.0 +2.3
HYB LR LR 01 50 28.0
comp=Z,3.5nm,20.0s
HYB Hyderabad 84.64 291 *eP* **P 01 09 25.0 -0.3**
comp=Z,140nm,1.0s,mb6.0
HYB *eS* S 01 19 52.0 +2.3
HYB Hyderabad 84.64 291 *eP* **P 01 09 25.0 -0.3**
HYB *eS* S 01 19 52.0 +2.3
HYB pmax pmax
comp=Z,140nm,1.0s,mb6.0
FITZ Fitzroy Crossi 84.68 233⇑*i P* **P 01 09 26.4 +0.9**
comp=Z,53nm,0.7s,mb5.8
FITZ Fitzroy Crossi 84.68 233 P **P 01 09 26.5 +1.0**
comp=Z,71nm,0.7s,mb5.9,baz=20,slow=3.5,SNR=60
SARO Sassorosso 84.68 354 P **P 01 09 25.4 +0.5**
VLC Villacollemand 84.71 354 *eP* **P 01 09 24.9 -0.2**
comp=Z,42nm,0.8s,mb5.6
ROB Roburent 84.72 356 P **P 01 09 24.3 -0.8**
VTS Vitosha 84.73 344 P **P 01 09 25.0 -0.2**
VINC Vinca 84.74 354 P **P 01 09 24.8 -0.4**
BEST Besiri 84.76 330 *i P* **P 01 09 26.8 +1.3**
FIN Finale Ligure 84.79 355 P **P 01 09 24.3 -1.1**
UPM Unac-Piva 84.79 348 *eP* **P 01 09 25.9 +0.4**
STV Sta Anna Valdi 84.79 356 P **P 01 09 24.1 -1.4**
EDRB Edirne 84.80 342 *eP* **P 01 09 25.6 +0.1**
ENR Entracque 84.81 356 P **P 01 09 24.1 -1.5**
DIM Dimitrovgrad 84.84 342 P **P 01 09 26.5 +0.8**
HENT Hendek 84.88 338 *i P* **P 01 09 25.0 -1.0**
YOZ Yozgat 84.89 335 *eP* **P 01 09 27.1 +1.0**
ELZG Elazig 84.91 332 *i P* **P 01 09 26.9 +0.7**
PLD Plovdiv 84.94 343 P **P 01 09 27.0 +0.8**
MONE Monesi 84.94 356 P **P 01 09 25.6 -0.6**
MAIM 84.95 354 P **P 01 09 25.0 -1.2**
IVA Berane 84.97 347⇑*i P* **P 01 09 27.0 +0.6**
BHJ Bhuj 85.01 301 *ex* x 01 09 39.5
BHJ *ex* x 01 19 12.8
LATR Latur 85.01 293 *eP* **P 01 09 28.8 +1.7**
TOUF Mont Tournerai 85.03 356 *eP* **P 01 09 27.4 +0.8**
AUTN L'Aution 85.04 356 *eP* **P 01 09 27.4 +0.7**
SAOF Saorge 85.04 356 *eP* **P 01 09 26.9 +0.2**
LASF Ste Croix 85.07 359 *eP* **P 01 09 27.5 +0.7**
comp=Z,59nm,0.8s,mb5.4
DIY Diyarbakir 85.08 330 *eP* **P 01 09 27.9 +0.9**
STOF St-Etienne Org 85.09 357 *eP* **P 01 09 28.1 +1.1**
SMRF Simiane la Rot 85.13 357 *eP* **P 01 09 27.4 +0.3**
comp=Z,121nm,0.8s,mb5.8
BRY Bratogost 85.13 348⇑*i P* **P 01 09 26.9 -0.3**
MDU Mudurnu 85.15 338 *eP* **P 01 09 27.6 +0.3**
MVIF Mont Vial 85.15 356 *eP* **P 01 09 27.9 +0.6**
CDAG Cicekdag 85.16 335 *i P* **P 01 09 27.0 -0.4**
NKY Niksic 85.16 347⇑*i P* **P 01 09 26.9 -0.4**
HRT Hereke 85.16 339 *eP* **P 01 09 27.2 -0.2**
SBF Sospel 85.17 356 *eP* **P 01 09 27.5 +0.1**
comp=Z,221nm,0.9s,mb6.0
SBF Sospel 85.17 356 *eP* **P 01 09 27.5 +0.1**
SBF pmax pmax
comp=Z,111nm,0.9s,mb6.0
NEGI Negi 85.17 356 P **P 01 09 27.0 -0.4**
PVY Plav 85.23 347⇑*i P* **P 01 09 27.4 -0.3**
MALT Malatya 85.24 332 *eP* **P 01 09 28.3 +0.4**
MALT Malatya 85.24 332 *eP* **P 01 09 28.9 +1.0**
comp=Z,150nm,1.2s,mb6.0
MALT Malatya 85.24 332 *eP* **P 01 09 28.9 +1.0**
MALT pmax pmax
comp=Z,150nm,1.2s,mb6.0
KDZ Kurdzhali 85.25 342 P **P 01 09 28.8 +1.0**
VILF Villemus 85.25 357 *eP* **P 01 09 29.0 +1.3**
BR131 Keskin Array S 85.25 336 *eP* **P 01 09 28.2 +0.4**
comp=Z,52nm,0.3s,mb6.1
BR131 LR LR
comp=Z,1µm,20.0s,MS5.2
BRTR Keskin Array B 85.25 336 P **P 01 09 28.4 +0.5**
comp=Z,63nm,0.7s,mb5.9,baz=48,slow=2.7,SNR=308
REVF Revere 85.30 356 *eP* **P 01 09 28.2 +0.2**
CALN Calern 85.30 356 *eP* **P 01 09 28.6 +0.6**
PRAF Pradon 85.31 358 *eP* **P 01 09 29.5 +1.4**
LOD Lodumlu 85.32 337 *eP* **P 01 09 28.6 +0.4**
ANTO Ankara 85.33 337 *eP* **P 01 09 27.5 -0.8**
RZN Rozhen 85.34 343 P **P 01 09 29.0 +0.7**
MARD Mardin 85.44 330 *i P* **P 01 09 29.1 +0.1**
KKB Krupnik 85.45 344 P **P 01 09 29.0 +0.2**
TAVF Tavernes 85.47 357 *eP* **P 01 09 29.7 +0.8**
YLV Yalova 85.47 339 *eP* **P 01 09 28.2 -0.7**
BNN Bunyan 85.48 334 *eP* **P 01 09 29.6 +0.5**
TTG Podgorica 85.50 347⇑*i P* **P 01 09 28.4 -0.7**
FRF La Foret Royal 85.50 356 *eP* **P 01 09 29.2 +0.2**
comp=Z,90nm,0.8s,mb5.8
FRF La Foret Royal 85.50 356 *eP* **P 01 09 29.2 +0.2**
FRF pmax pmax
comp=Z,45nm,0.8s,mb5.8
EPON Pontenova 85.51 7 P **P 01 09 29.6 +0.5**
comp=Z,320nm,1.7s,mb6.3
GPA Golpazari 85.53 339 *eP* **P 01 09 29.7 +0.5**
PUYF Puyloubier 85.56 357 *eP* **P 01 09 30.4 +1.1**
KAMT Kaman 85.57 336 *eP* **P 01 09 29.8 +0.3**
HCY Herceg Novi 85.59 348⇑*i P* **P 01 09 29.1 -0.3**
MMB Musomiste 85.61 344 P **P 01 09 30.0 +0.4**
SKO Skopje 85.62 345⇑*i P* **P 01 09 29.9 +0.2**
MSL Mosul 85.62 328 *eP* **P 01 09 37.0 +7.2**
MSL Mosul 85.62 328 *eSKS* SKS 01 20 00.0 +2.1
MSL *eS* S 01 20 10.0 +11
EARI Arriondas 85.66 5 P **P 01 09 29.9 +0.1**
comp=Z,141nm,1.1s,mb6.1
BUM Brajici-Budva 85.68 347⇑*i P* **P 01 09 29.5 -0.4**
GELF Grande-Etoile 85.72 357 *eP* **P 01 09 31.6 +1.5**
LMR La Mourre 85.74 357 *eP* **P 01 09 30.4 +0.2**
comp=Z,81nm,0.8s,mb5.7
LMR La Mourre 85.74 357 *eP* **P 01 09 30.4 +0.2**
LMR pmax pmax
comp=Z,41nm,0.8s,mb5.7
EMAZ Mazaricos 85.74 8 P **P 01 09 30.3 +0.1**
comp=Z,149nm,1.7s,mb5.9
BERF Bertagne 85.78 357 *eP* **P 01 09 31.6 +1.2**
ELAN Lanestosa 85.81 4 P **P 01 09 30.8 +0.2**
comp=Z,147nm,0.7s,mb6.3
MTLF Montolieu 85.82 360 *eP* **P 01 09 31.0 +0.4**
comp=Z,128nm,1.0s,mb5.8
MTLF Montolieu 85.82 360 *eP* **P 01 09 31.0 +0.4**
MTLF pmax pmax
comp=Z,64nm,1.0s,mb5.8
AVNT Avonos 85.82 335 *i P* **P 01 09 30.9 +0.1**
OSSF Osses 85.86 2 *eP* **P 01 09 30.4 -0.4**
BORA Eskisehir 85.88 338 *i P* **P 01 09 31.4 +0.4**

EALK Alkurruntz 85.89 2 P **P 01 09 31.8 +0.8**
comp=Z,91nm,0.9s,mb6.0
ULDT Uludag 85.93 339 *i* P **P 01 09 30.8 -0.4**
URFA Urfa 85.93 331 *e*P **P 01 09 31.6 +0.2**
ULC Ulcinj 85.96 347⇑*i*P **P 01 09 31.4 +0.1**
SJPF Ste Jean 86.01 2 *e*P **P 01 09 31.2 -0.4**
comp=Z,54nm,0.6s,mb5.6
SJPF Ste Jean 86.01 2 *e*P **P 01 09 31.2 -0.4**
SJPF pmax pmax
comp=Z,27nm,0.6s,mb5.7
ATAB Bozova 86.06 332 *i* P **P 01 09 32.1 +0.1**
VAY Valandovo 86.07 344⇑*i*P **P 01 09 32.3 +0.4**
LARF Larrau 86.09 2 *e*P **P 01 09 32.6 +0.6**
LABF Labassere 86.10 1 *e*P **P 01 09 31.7 -0.3**
EPF Esparros 86.12 1 *e*P **P 01 09 31.8 -0.3**
comp=Z,52nm,0.8s,mb5.5
EPF Esparros 86.12 1 *e*P **P 01 09 31.8 -0.3**
EPF pmax pmax
comp=Z,26nm,0.8s,mb5.5
ESKT Eskisehir 86.13 338 *e*P **P 01 09 31.9 -0.4**
ESKT Eskisehir 86.13 338 *i* P **P 01 09 31.3 -0.9**
MLS Moulis 86.20 1 *e*P **P 01 09 32.5 0.0**
LPEF Le Peyrat 86.21 360 *e*P **P 01 09 33.0 +0.4**
LRDF Laroque-de-Fa 86.22 359 *e*P **P 01 09 33.1 +0.5**
ETSF Etsaut 86.24 2 *e*P **P 01 09 33.3 +0.6**
comp=Z,62nm,0.6s,mb5.7
ETSF Etsaut 86.24 2 *e*P **P 01 09 33.3 +0.6**
ETSF pmax pmax
comp=Z,31nm,0.6s,mb5.7
AQU L'Aquila 86.26 351 *e*P **P 01 09 33.4 +0.6**
comp=Z,76nm,0.7s,mb6.0
AQU L'Aquila 86.26 351 *e*P **P 01 09 33.4 +0.6**
AQU pmax pmax
comp=Z,76nm,0.7s,mb6.0
VIEF Viey 86.26 1 *e*P **P 01 09 33.4 +0.6**
FDAF Les Forges d'A 86.32 2 *e*P **P 01 09 33.4 +0.3**
KAHT Ahir Dag 86.33 333 *i* P **P 01 09 34.0 +0.7**
RESF Ens 86.34 1 *e*P **P 01 09 34.1 +0.9**
GZT Gaziantep 86.39 332 *i* P **P 01 09 33.4 -0.2**
SALF Salau 86.40 0 *e*P **P 01 09 33.9 +0.4**
PGF Pioggiola 86.40 355 *e*P **P 01 09 33.6 +0.1**
comp=Z,224nm,0.8s,mb6.2
PGF Pioggiola 86.40 355 *e*P **P 01 09 33.6 +0.1**
PGF pmax pmax
comp=Z,112nm,0.8s,mb6.2
GRG Griva 86.46 345 *e*P **P 01 09 34.4 +0.6**
EBIE Bielsa 86.46 1 P **P 01 09 35.3 +1.5**
comp=Z,63nm,0.7s,mb6.0
ECRI Cripan 86.47 3 P **P 01 09 34.2 +0.4**
comp=Z,29nm,0.8s,mb5.5
ECRI Cripan 86.47 3 P **P 01 09 34.2 +0.3**
ECRI pmax pmax
comp=Z,29nm,0.8s,mb5.6
POO Poona 86.47 295 *e*P **P 01 09 35.1 +0.7**
POO AMb AMB 01 09 36.8
comp=Z,208nm,0.9s,mb6.4
FILF Fillols 86.59 359 *e*P **P 01 09 34.8 +0.3**
GAZ Gaziantep 86.66 332 *e*P **P 01 09 35.9 +1.0**
VALF Valcebollere 86.75 360 *e*P **P 01 09 35.6 +0.3**
FNA Florina 86.79 345 *e*P **P 01 09 35.4 -0.1**
CII Carovilli 86.80 351 *e*P **P 01 09 35.9 +0.4**
comp=Z,99nm,0.9s,mb6.0
GDZ Gediz 86.86 339 *i* P **P 01 09 34.6 -1.3**
ELOB Lobios 86.89 7 P **P 01 09 36.1 +0.2**
comp=Z,33nm,1.0s,mb5.5
PTCN Pitcairn Islan 86.94 137 PFAKE 01 09 50.0 +13
PTCN LR LR
comp=Z,8μm,21.0s,MS6.1
EGRA Graus 86.95 1 P **P 01 09 36.7 +0.5**
comp=Z,27nm,0.6s,mb5.7
PBRG Braganca 87.05 6 *e*P **P 01 09 36.0 -0.7**
comp=Z,40nm,1.7s,mb5.4
EMIR Miracle 87.24 0 P **P 01 09 37.4 -0.2**
comp=Z,25nm,1.1s,mb5.4
KONT Konya--Tatoy 87.25 336 *e*P **P 01 09 38.2 +0.4**
KAD Karad 87.26 294 *e*P **P 01 09 39.1 +0.9**
KAD AMb AMB 01 09 41.6
comp=Z,160nm,1.2s,mb6.1
ESAC San Caprasio 87.41 2 P **P 01 09 38.9 +0.5**
comp=Z,89nm,0.7s,mb6.1
PVRL Vila Real 87.50 7 *e*P **P 01 09 38.7 -0.2**
comp=Z,51nm,1.8s,mb5.5
COBT Iskenderun 87.54 333 *i* P **P 01 09 38.8 -0.4**
TKTP Tekketepe 87.67 338 *i* P **P 01 09 38.2 -1.5**
MEV Metsovon 87.79 345 *e*P **P 01 09 40.9 +0.6**
EPOB Poblet 87.80 1 P **P 01 09 40.6 +0.3**
comp=Z,34nm,0.8s,mb5.6
ISP Isparta 87.81 338 *e*P **P 01 09 37.9 -2.6**
ISP Isparta 87.81 338 *e*P **P 01 09 39.7 -0.8**
comp=Z,25nm,0.7s,mb5.5
ISP Isparta 87.81 338 *e*P **P 01 09 39.7 -0.7**
ISP pmax pmax
comp=Z,25nm,0.7s,mb5.5
BHD Baghdad 87.91 325 *e*P **P 01 09 38.5 -2.5**
HTY Hatay 87.95 333 *e*P **P 01 09 41.7 +0.6**
KDAG Bornova 88.00 340 *i* P **P 01 09 39.8 -1.5**
MEST Erdemli 88.07 334 *i* P **P 01 09 40.9 -0.9**
ERTA Horta de San J 88.19 1 P **P 01 09 41.6 -0.6**
comp=Z,74nm,1.5s,mb5.7
CMLA Cha da Macela 88.20 21 PFAKE 01 09 50.0 +7.7
CMLA LR LR
comp=Z,4μm,21.0s,MS5.8
EBR Ebro Roquetas 88.33 1 *e*PCP PcP 01 09 42.5 -2.4
ERMK Ermenek 88.34 335 *i* P **P 01 09 41.6 -1.4**
MTE Manteigas 88.39 7 *e*P **P 01 09 42.9 -0.3**
comp=Z,54nm,0.9s,mb5.8
MTE *e*PP PP 01 13 15.1 +1.7
MTE *e*S S 01 20 14.1 -11
MTE *e*LR LR 01 39 09.7
comp=Z,912nm,18.0s
MTE Manteigas 88.39 7 *e*P **P 01 09 42.5 -0.6**
comp=Z,41nm,0.8s,mb5.7
IKL Isikli 88.52 335 *e*P **P 01 09 43.1 -0.7**
AYDN Tasoluk 88.58 340 *i* P **P 01 09 44.0 -0.2**
EMOS Mosqueruela 88.77 2 P **P 01 09 45.3 +0.4**
comp=Z,56nm,1.4s,mb5.7
PCBR Castelo Branco 88.95 7 *e*P **P 01 09 45.1 -0.8**
comp=Z,37nm,0.8s,mb5.8
ELL Elmali 88.99 338 *e*P **P 01 09 45.3 -0.9**
TIP Timpagrande 89.03 348 *e*P **P 01 09 46.0 -0.3**
SJG San Juan 89.09 62 LR LR 01 53 43.5
comp=Z,2μm,18.9s,MS5.6,baz=146,slow=38
PTOM Tomar 89.09 8 *e*P **P 01 09 46.0 -0.6**
comp=Z,68nm,1.1s,mb5.9
PAYG Puerto Ayora 89.19 92 PFAKE 01 10 00.0 +12
PAYG LR LR
comp=Z,845nm,20.0s,MS5.2
DALT Dalyan (Mudla) 89.27 339 *e*P **P 01 09 44.7 -2.8**
ESDC Sonseca Array 89.34 4 P **P 01 09 47.2 -0.5**
comp=Z,12nm,0.6s,mb5.4,baz=350,slow=4.1,SNR=103
ESDC Sonseca Array 89.34 4 P **P 01 09 47.2 -0.5**
comp=Z,14nm,0.6s,mb5.5
ETOS Mallorca 89.38 359 P **P 01 09 48.4 +0.5**
comp=Z,86nm,1.6s,mb5.8
ECHE Chera 89.53 2 P **P 01 09 49.0 +0.4**
comp=Z,10nm,0.7s,mb5.3
ECHE Chera 89.53 2 P **P 01 09 49.0 +0.4**
ECHE pmax pmax
comp=Z,10.0nm,0.7s,mb5.2
AKAS Kas 89.56 338 *i* P **P 01 09 47.0 -1.8**
PHNC Paralimni 89.59 334 P **P 01 09 48.6 -0.4**
MAMC Mammari 89.65 335 P **P 01 09 49.1 -0.2**
PLOU Loures 89.75 9 *e*P **P 01 09 48.9 -0.8**
comp=Z,77nm,1.0s,mb6.0
LEF Lefka 89.79 335 *e*P **P 01 09 48.9 -1.0**
CSS Prodhromos 89.82 335 ⇑P **P 01 09 49.5 -0.6**
comp=Z,0.3nm,0.6s
CSS Prodhromos 89.82 335 *e*P **P 01 09 49.1 -1.0**
comp=Z,32nm,0.7s,mb5.8
ALFC Alevga 89.83 335 ⇑P **P 01 09 48.9 -1.2**
comp=Z,0.6nm,0.5s
MIB Mutribah 89.92 322 *e*P **P 01 09 50.2 -0.4**
MIB AMb AMB 01 09 52.7
comp=Z,144nm,0.8s,mb6.4
UMR Umm Al-Rimmam 89.99 321 *e*P **P 01 09 51.0 0.0**
UMR AMb AMB 01 09 53.6
comp=Z,65nm,0.5s,mb6.2
STKA Stephens Creek 90.01 213 *e*P **P 01 09 52.1 +1.1**
comp=Z,24nm,0.9s,mb5.5
STKA Stephens Creek 90.01 213 P **P 01 09 52.2 +1.1**
comp=Z,19nm,0.7s,mb5.5,baz=352,slow=5.6,SNR=29
STKA LR LR 01 47 48.9
comp=Z,3μm,19.5s,MS5.7,baz=18,slow=34
EBAD Badajoz 90.06 7 P **P 01 09 50.5 -0.6**
comp=Z,92nm,2.0s,mb5.8

EIBI Ibiza 90.13 0 P **P 01 09 51.8 +0.4**
comp=Z,131nm,1.7s,mb6.0
PPCY Paphos 90.15 335 P **P 01 09 50.5 -1.1**
BHL Bhannes 90.16 332 *e*P **P 01 09 51.5 -0.2**
MBWA Marble Bar 90.25 236 PFAKE 01 10 00.0 +7.6
MBWA LR LR
comp=Z,1μm,21.0s,MS5.4
RST Umm Al-Ruwaisa 90.32 322 *e*P **P 01 09 51.7 -0.8**
RST AMb AMB 01 09 55.6
comp=Z,62nm,1.1s,mb5.8
KBD Kabd 90.33 321 *e*P **P 01 09 52.6 0.0**
KBD AMb AMB 01 09 53.7
comp=Z,165nm,0.8s,mb6.4
EBEN Beniarda 90.43 2 P **P 01 09 53.3 +0.5**
comp=Z,92nm,1.6s,mb5.9
EVIA Vianos 90.43 3 P **P 01 09 53.2 +0.4**
comp=Z,19nm,0.7s,mb5.5
EVIA Vianos 90.43 3 P **P 01 09 53.2 +0.4**
EVIA pmax pmax
comp=Z,19nm,0.7s,mb5.5
NAY Al-Naaiem 90.45 322 *e*P **P 01 09 52.6 -0.5**
NAY AMb AMB 01 09 53.9
comp=Z,43nm,0.9s,mb5.8
ETOB Tobarra 90.46 3 P **P 01 09 53.3 +0.3**
comp=Z,73nm,1.1s,mb5.9
RDF Al-Radifah 90.61 321 *e*P **P 01 09 53.8 -0.1**
RDF AMb AMB 01 09 54.9
comp=Z,96nm,0.8s,mb6.2
PBEJ Beja 90.72 8 *e*P **P 01 09 53.9 -0.3**
comp=Z,37nm,1.7s,mb5.4
EADA Adamuz 90.81 5 P **P 01 09 54.8 +0.3**
comp=Z,53nm,1.0s,mb5.8
KSDI Kefar Szold 90.82 332 P **P 01 09 55.3 +0.6**
EBAN Banos Encina 90.85 4 P **P 01 09 54.9 +0.2**
comp=Z,13nm,0.7s,mb5.4
EBAN Banos Encina 90.85 4 P **P 01 09 54.9 +0.1**
EBAN pmax pmax
comp=Z,13nm,0.7s,mb5.4
KSHT Keshet 90.97 332 P **P 01 09 55.9 +0.5**
HNTI Hanita 91.07 333 P **P 01 09 56.0 +0.1**
EMIN Mina Concepcio 91.07 7 P **P 01 09 55.3 -0.5**
comp=Z,149nm,1.8s,mb6.0
EGRO El Granado 91.24 7 P **P 01 09 56.0 -0.6**
comp=Z,29nm,1.0s,mb5.6
EQES Quesada 91.25 4 P **P 01 09 55.5 -1.0**
comp=Z,106nm,1.6s,mb5.9
EHUE Huescar 91.25 3 P **P 01 09 56.5 -0.1**
comp=Z,78nm,1.4s,mb5.8
EHUE Huescar 91.25 3 P **P 01 09 56.5 -0.1**
EHUE pmax pmax
comp=Z,78nm,1.4s,mb5.8
EMUR La Murta 91.27 2 P **P 01 09 56.2 -0.4**
comp=Z,39nm,1.3s,mb5.6
PALK Pallekele 91.29 283 PFAKE 01 10 10.0 +13
PALK LR LR
comp=Z,290nm,21.0s,MS4.7
HAF Haifa 91.39 333 P **P 01 09 57.2 -0.2**
ASF Jabal al Asfar 91.40 331 P **P 01 09 57.8 +0.4**
comp=Z,24nm,0.8s,mb5.6,baz=260,slow=2.8,SNR=64
IDI Anoyia 91.50 341 P **P 01 09 55.3 -2.5**
comp=Z,11nm,0.7s,mb5.3,baz=49,slow=7.8,SNR=11
OFRI 'Ofer 91.55 332 P **P 01 09 58.1 0.0**
MMLI Mount Malkishu 91.60 332 P **P 01 09 58.7 +0.4**
ELOJ Sierra Loja 91.85 5 P **P 01 09 59.3 -0.1**
comp=Z,25nm,0.9s,mb5.5
ELOJ Sierra Loja 91.85 5 P **P 01 09 59.3 -0.1**
ELOJ pmax pmax
comp=Z,25nm,0.9s,mb5.5
SLTI Sal'it 91.89 332 P **P 01 09 59.8 +0.1**
ERON Agron 91.99 5 P **P 01 10 01.5 +1.5**
comp=Z,8.7nm,0.7s,mb5.2
QURS Qurayyt al Mil 92.00 330 P **P 01 10 00.7 +0.5**
ESPR Espera 92.02 6 P **P 01 10 00.6 +0.4**
comp=Z,49nm,0.8s,mb5.9
MKRJ Makawir 92.36 332 P **P 01 10 02.0 +0.2**
SNZO South Karori 92.36 185 PFAKE 01 10 10.0 +8.4
SNZO LR LR
comp=Z,3μm,21.0s,MS5.7
EMIJ Mijas 92.39 5 P **P 01 10 01.8 -0.1**
comp=Z,66nm,0.7s,mb6.1
TRD Trivandrum 92.60 287 *ex* x 01 10 12.8
MZDA Masada 92.67 332 P **P 01 10 03.4 +0.1**
KZIT Kziot 93.33 332 P **P 01 10 06.2 -0.1**
PRNI Paran 93.67 332 P **P 01 10 07.8 -0.1**
SDV Santo Domingo 93.90 71 P **P 01 10 10.4 +1.1**
comp=Z,10nm,0.8s,mb5.3,baz=299,slow=2.9,SNR=13
SDV Santo Domingo 93.90 71 P **P 01 10 10.4 +1.1**
SDV LR LR
comp=Z,745nm,20.0s,MS5.2
HILS Ha'il 94.18 325 P **P 01 10 10.8 +0.5**
EIL Elat 94.33 332 P **P 01 10 11.0 +0.1**
ALWS Ilw as Safayha 94.63 331 P **P 01 10 12.4 0.0**
JMOS Jabal al Moall 94.75 331 P **P 01 10 13.0 +0.1**
HAQS Haql 94.91 331 P **P 01 10 13.7 +0.1**
TBKS Tabuk 95.18 330 P **P 01 10 15.2 +0.3**
TAYS Tayyib Ism 95.40 331 P **P 01 10 15.8 0.0**
BDAS Al Bad' 95.44 331 P **P 01 10 16.2 +0.1**
AFFS 'Afif 96.87 323 P **P 01 10 23.0 +0.4**
TAU Tasmania Unive 98.44 205 PFAKE 01 10 40.0 +11
TAU LR LR
comp=Z,321nm,19.0s,MS4.8
NWAO Narrogin (SRO) 101.17 231 PFAKE 01 10 50.0 +8.1
NWAO LR LR
comp=Z,1μm,22.0s,MS5.3
NNA Nana 106.34 89 PFAKE 01 15 30.0
NNA LR LR
comp=Z,148nm,20.0s,MS4.5
SAML Samuel 112.50 76 PFAKE 01 15 40.0 +8.9
SAML LR LR
comp=Z,896nm,20.0s,MS5.4
LPAZ La Paz 115.07 85 PP PP 01 16 38.4 +2.1
comp=Z,0.8nm,0.8s,baz=346,slow=4.2,SNR=2.3
LPAZ PKKP PKKP 01 26 33.3 +7.5
comp=Z,1.2nm,0.4s,baz=4.0,slow=8.7,SNR=5.4
LPAZ La Paz 115.07 85 PFAKE 01 15 50.0 +14
LPAZ LR LR
comp=Z,708nm,22.0s,MS5.2
SIV San Ignacio 119.24 79 PKP PKPdf 01 15 39.6 -4.5
comp=Z,0.8nm,0.7s,baz=265,slow=5.2,SNR=5.4
SIV PP PP 01 17 01.1 -4.1
comp=Z,1.8nm,0.7s,baz=329,slow=5.5,SNR=5.1
SIV PKKPbc 01 25 54.8
comp=Z,0.4nm,0.5s,baz=106,slow=7.0,SNR=5.2
LVC Limon Verde 119.27 90 PFAKE 01 15 50.0 +5.9
LVC LR LR
comp=Z,725nm,19.0s,MS5.3
DRV Dumont d'Urvil 121.77 198 PP PP 01 17 23.0 +2.0
DRV SP SP 01 27 14.0 +6.3
KMBO Kilima Mbogo 121.84 317 PKP PKPdf 01 15 47.2 -2.1
comp=Z,2.2nm,0.6s,baz=352,slow=0.7,SNR=10
KMBO Kilima Mbogo 121.84 317 PKP PKPdf 01 15 47.2 -2.1
DBIC Dimbokro 122.05 8 PKP PKPdf 01 15 45.8 -3.9
comp=Z,12nm,0.6s,baz=351,slow=1.8,SNR=56
LIC Lamto 122.48 8 *e*PKIKP PKPdf 01 15 46.6 -3.9
comp=Z,38nm,0.7s
MBAR Mbarara 123.95 324 PFAKE 01 16 00.0 +6.6
MBAR LR LR
comp=Z,396nm,21.0s,MS5.0
RCBR Riachuelo 124.98 48 PFAKE 01 16 00.0 +4.6
RCBR LR LR
comp=Z,1μm,22.0s,MS5.6
BDFB Brasilia 126.80 67 PKP PKPdf 01 15 54.4 -4.3
comp=Z,2.2nm,0.5s,baz=191,slow=23,SNR=4.7
BDFB PP PP 01 17 53.2 -2.5
comp=Z,5.1nm,0.8s,baz=334,slow=7.7,SNR=4.9
CASY Casey 129.01 210 PFAKE 01 16 10.0 +8.3
CASY LR LR
comp=Z,1μm,22.0s,MS5.6
VNDA Vanda 129.07 185 PKP PKPdf 01 15 58.4 -3.3
comp=Z,1.3nm,0.8s,baz=0.9,slow=4.1,SNR=3.4
VNDA SKPbc 01 19 18.1
comp=Z,1.5nm,0.8s,baz=348,slow=4.0,SNR=5.7
VNDA Vanda 129.07 185 PKP PKPdf 01 15 58.4 -3.3
VNDA SKPbc 01 19 18.1
VNDA LR LR
comp=Z,976nm,20.0s,MS5.5
SBA Scott Base 129.14 184 PFAKE 01 16 10.0 +8.2
SBA LR LR
comp=Z,1μm,20.0s,MS5.5
CPUP Villa Florida 129.23 84 PKP PKPdf 01 15 58.4 -4.8
comp=Z,2.2nm,0.8s,baz=23,slow=3.2,SNR=5.8
CPUP Villa Florida 129.23 84 PKP PKPdf 01 15 58.4 -4.8
CPUP LR LR
comp=Z,943nm,20.0s,MS5.5
PLCA Paso Flores 130.55 108 PKP PKPdf 01 16 03.0 -2.3
comp=Z,7.8nm,1.0s,baz=240,slow=1.6,SNR=11
PLCA SKPbc 01 19 24.2
comp=Z,3.2nm,0.8s,baz=240,slow=6.5,SNR=4.5
PLCA Paso Flores 130.55 108 PKP PKPdf 01 16 03.0 -2.3
PLCA SKPbc 01 19 24.2
PLCA LR LR
comp=Z,1μm,20.0s,MS5.6
TRQA Tornquist 134.14 99 PFAKE 01 16 20.0 +7.9
TRQA LR LR
comp=Z,1μm,20.0s,MS5.5
LSZ Lusaka 138.36 320 *e*PKP PKPdf 01 16 08.8 -12
LSZ LR LR
comp=Z,1μm,22.0s,MS5.6
QSPA South Pole Qui 140.98 180 *e*P PKPdf 01 16 14.9 -8.5
TSUM Tsumeb 145.71 333 *e*PKP PKPdf 01 16 30.3 -2.9
TSUM LR LR
comp=Z,966nm,20.0s,MS5.6
MAW Mawson 146.60 218 *e*P PKPbc 01 16 30.4 +0.2
comp=Z,47nm,1.0s
MAW Mawson 146.60 218 PKPbc PKPbc 01 16 30.7 +0.5
comp=Z,18nm,0.8s,baz=89,slow=3.7,SNR=42
MAW Mawson 146.60 218 PKP2 PKPab 01 16 30.7 -2.9
MAW pmax pmax
comp=Z,18nm,0.8s
LBTB Lobatse 148.11 316 *e*PKPdf PKPdf 01 16 34.5 -2.6
LBTB *e*PKPbc PKPdf 01 16 37.7 +0.6
LBTB LR LR
comp=Z,2μm,21.0s,MS5.8
BOSA Boshof 151.37 313 PKPbc PKPdf 01 16 46.0 +4.0
comp=Z,62nm,0.6s,baz=26,slow=2.2,SNR=179
BOSA Boshof 151.37 313 *e*PKPbc PKPdf 01 16 45.7 +3.6
BOSA LR LR
comp=Z,2μm,19.0s,MS5.8
SYO Syowa Base 154.75 211 ⇑P PKPdf 01 16 40.8 -4.7
SYO Syowa Base 154.75 211 ⇑pPKPbc 01 17 03.7
SUR Sutherland 156.57 316 PFAKE 01 17 00.0 +11
SUR LR LR
comp=Z,648nm,22.0s,MS5.4
VNA3 Neumayer Olymp 159.24 170 *e* PKPdf 01 16 49.1 -2.2
VNA3 Neumayer Olymp 159.24 170 *e* PKPdf 01 17 03.4 +12
VNA3 Neumayer Olymp 159.24 170 *e* PKPdf 01 17 26.6 +35
VNA3 Neumayer Olymp 159.24 170 *e* PKPdf 01 17 30.0 +39
VNA3 Neumayer Olymp 159.24 170 *e* PKPdf 01 17 39.8 +49
VNA3 Neumayer Olymp 159.24 170 *e* tx 01 18 34.8
VNA3 Neumayer Olymp 159.24 170⇑*i*PKPdf PKPdf 01 16 46.6 -4.7
VNA3 *e* 01 16 49.1
VNA3 *e* 01 17 03.4
VNA3 *e* 01 17 26.6
VNA3 *e* 01 17 30.0
VNA3 *e* 01 17 39.8
VNA3 *e* 01 18 34.8
VNA3 *e* 01 20 18.8
SNAA Sanae 159.37 176 *e* PKPdf 01 16 49.4 -2.0
SNAA Sanae 159.37 176 *e* PKPdf 01 17 04.8 +13
SNAA Sanae 159.37 176 *e* PKPdf 01 17 26.5 +35
SNAA Sanae 159.37 176 *e* PKPdf 01 17 29.6 +38
SNAA Sanae 159.37 176 *e* PKPdf 01 17 40.0 +49
SNAA Sanae 159.37 176 PKP PKPdf 01 16 47.6 -3.9
comp=Z,1.8nm,1.0s,baz=182,slow=1.2,SNR=12
SNAA PKPab PKPab 01 17 23.5 -3.5
comp=Z,1.8nm,0.8s,baz=227,slow=4.0,SNR=7.5
SNAA Sanae 159.37 176⇑*i*PKPdf PKPdf 01 16 47.1 -4.3
SNAA *e* 01 16 49.4
SNAA *e* 01 17 04.8
SNAA *e* 01 17 26.5
SNAA *e* 01 17 29.6
SNAA *e* 01 17 40.0
SNAA *e* 01 20 24.4
SNAA Sanae 159.37 176⇑*i*PKIKP PKPdf 01 16 47.1 -4.3
SNAA *e* 01 17 04.8
SNAA *e* 01 17 26.5
VNA2 Neumayer--Watz 159.78 171 *e* PKPdf 01 16 50.4 -1.5
VNA2 Neumayer--Watz 159.78 171 *e* PKPdf 01 17 05.5 +14
VNA2 Neumayer--Watz 159.78 171 *e* PKPdf 01 17 29.3 +37
VNA2 Neumayer--Watz 159.78 171 *e* PKPdf 01 17 32.9 +41
VNA2 Neumayer--Watz 159.78 171 *e* PKPdf 01 17 42.6 +51
VNA2 Neumayer--Watz 159.78 171 *e* tx 01 18 36.0
VNA2 Neumayer--Watz 159.78 171⇑*i*PKPdf PKPdf 01 16 47.6 -4.3
VNA2 *e* 01 16 50.4
VNA2 *e* 01 17 05.5
VNA2 *e* 01 17 29.3
VNA2 *e* 01 17 32.9
VNA2 *e* 01 17 42.6
VNA2 *e* 01 18 36.0
VNA2 *e* 01 20 24.0
VNA1 Neumayer--Stat 159.96 170 *e* PKPdf 01 16 50.4 -1.7
VNA1 Neumayer--Stat 159.96 170 *e* PKPdf 01 17 05.6 +14
VNA1 Neumayer--Stat 159.96 170 *e* PKPdf 01 17 30.0 +38
VNA1 Neumayer--Stat 159.96 170 *e* PKPdf 01 17 33.9 +42
VNA1 Neumayer--Stat 159.96 170 *e* PKPdf 01 17 42.6 +51
VNA1 Neumayer--Stat 159.96 170 *e* tx 01 18 36.5
VNA1 Neumayer--Stat 159.96 170⇑*i*PKPdf PKPdf 01 16 47.7 -4.4
VNA1 *e* 01 16 50.4
VNA1 *e* 01 17 05.6
VNA1 *e* 01 17 30.0
VNA1 *e* 01 17 33.9
VNA1 *e* 01 17 42.6
VNA1 *e* 01 18 36.5
VNA1 *e* 01 20 25.4

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*NNC **05** 01:03:09.2±18.0, 37.93N×71.71E, mpv3.6, Error ellipse: s-maj=144.3km s-min=110.0km az=176.0*
ISC 05 01:03:08.1±2.8, 37.7N±0.2×71.9E±0.2, h33km, n7, σ0§80/9, 3C, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.63**	**17**	P	**P**	**01 04 18.6**	**+1.0**
	SNR=96						
EKS2	**Erkin-Say**	**5.15**	**16**	P	**P**	**01 04 25.4**	**+0.5**
	SNR=13						
AAK	**Ala-Archa**	**5.31**	**21**	P	**P**	**01 04 27.5**	**+0.4**
	SNR=5.8						
AAK	**Ala-Archa**	**5.31**	**21**	⇑P	**P**	**01 04 27.1**	**0.0**
	5.2nm,0.4s						
AAK				⇑S	**S**	**01 05 28.5**	**+0.5**
	4.5nm,0.7s						
KK31	**Karatay Array**	**5.48**	**350**	P	**P**	**01 04 30.0**	**+0.4**
	2.8nm,0.5s,baz=158,slow=11,SNR=58						
KK31				⇑S	**S**	**01 05 31.6**	**-0.8**
	1.1nm,0.3s,baz=176,slow=24,SNR=3.6						
ULHL	**Ulahol**	**5.64**	**35**	P	**P**	**01 04 30.0**	**-1.7**
	SNR=6.2						
USP	**Ospenovka**	**5.90**	**19**	P	**P**	**01 04 35.1**	**-0.3**
	SNR=7.1						

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*NEIC **05** 01:16:43.3±1.7, 21.51N×143.15E, h304km±16km, mb4.2/14, Error ellipse: s-maj=10.7km s-min=5.9km az=100.0*
*IDC **05** 01:16:44.0±1.7, 21.51N×143.07E, h310km±16km, mb3.8/14, mb1 3.9/16, mb1mx3.8/24, mbtmp4.5/16, Error ellipse: s-maj=16.5km s-min=11.1km az=89.0*
ISC 05 01:16:43.7±0.9, 21.53N±0.05×143.1E±0.1, h321km±8km, n62, σ0§91/57, mb4.1/23, 4C, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**5.14**	**351**	P	**P**	**01 18 04.3**	**+0.2**
JHHJ				*e*S	**S**	**01 19 06.8**	**-0.5**
CBIJ	**Chichi jima**	**5.60**	**352**	P	**P**	**01 18 09.4**	**0.0**
	39nm,0.3s,baz=277,slow=21,SNR=5.8						
CBIJ				S	**S**	**01 19 19.1**	**+2.3**
	57nm,0.3s,baz=302,slow=22,SNR=7.2						
CBIJ	**Chichi jima**	**5.60**	**352**	P	**P**	**01 18 09.2**	**-0.2**
JHJ2	**Mitsune**	**11.89**	**347**	P	**P**	**01 19 24.9**	**-0.8**
JHJ	**Hachijo jima 2**	**11.91**	**346**	P	**P**	**01 19 24.2**	**-1.6**
	21nm,0.3s,baz=105,slow=15,SNR=6.1						
JHJ				S	**S**	**01 21 41.0**	**+6.9**
	10nm,0.3s,baz=68,slow=23,SNR=3.4						
BSO1	**Boso 1**	**13.20**	**352**	P	**P**	**01 19 40.8**	**-0.7**
JWZ	**Kozaga**	**13.61**	**333**	P	**P**	**01 19 47.6**	**+1.1**
JIE	**Ise**	**13.99**	**338**	P	**P**	**01 19 51.3**	**+0.5**
HMMJ	**Hamamatsu 2**	**14.09**	**342**	P	**P**	**01 19 52.1**	**+0.2**
JOD2	**Odawara 2**	**14.12**	**346**	P	**P**	**01 19 52.4**	**0.0**
JTO	**Tosashimizu**	**14.51**	**323**	P	**P**	**01 19 59.8**	**+3.1**
JMN	**Monobe**	**14.62**	**328**	P	**P**	**01 19 59.6**	**+1.6**
JRY	**Ryogami san**	**14.89**	**347**	P	**P**	**01 19 59.9**	**-1.0**
JRY				*e*S	**S**	**01 22 37.2**	**-1.3**
JWT	**Wachi**	**15.26**	**335**	P	**P**	**01 20 06.0**	**+0.9**
MAJO	**Matsushiro**	**15.55**	**345**	*e*P	**P**	**01 20 06.8**	**-1.3**
	13nm,0.3s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAT	**Matsushiro**	**15.55**	**345**	P	**P**	**01 20 07.3**	**-0.8**
MAT				S	**S**	**01 22 51.2**	**-0.8**
MAT	**Matsushiro**	**15.55**	**345**	*e*P	**P**	**01 20 07.0**	**-1.1**
	8.2nm,0.7s						
MAT				*e*S	**S**	**01 22 51.0**	**-1.0**
JHS	**Saijyo**	**16.02**	**329**	P	**P**	**01 20 14.5**	**+1.3**
JHK	**Hiroka**	**16.05**	**348**	P	**P**	**01 20 12.9**	**-0.7**
JSD	**Sado**	**16.97**	**347**	P	**P**	**01 20 22.4**	**-0.8**
SONM	**Songino Array**	**39.40**	**321**	P	**P**	**01 23 43.9**	**-0.6**
	0.7nm,0.4s,mb3.2,baz=130,slow=7.3,SNR=5.2						
WRAB	**Tennant Creek**	**42.09**	**192**	*e*P	**P**	**01 24 06.0**	**-0.6**
	6.1nm,0.5s,mb4.0						
WB2	**Warramunga Arr**	**42.09**	**192⇑**	*i*P	**P**	**01 24 06.2**	**-0.5**
WRA	**Warramunga Arr**	**42.10**	**192**	P	**P**	**01 24 05.8**	**-0.9**
	2.2nm,0.3s,mb3.7,baz=15,slow=9.2,SNR=12						
FITZ	**Fitzroy Crossi**	**42.93**	**205⇑**	*i*P	**P**	**01 24 13.0**	**-0.4**
	7.1nm,1.6s,mb3.5						
FITZ	**Fitzroy Crossi**	**42.93**	**205**	P	**P**	**01 24 13.1**	**-0.3**
	2.9nm,0.5s,mb3.6,baz=0.4,slow=18,SNR=5.6						
KULM	**Kulim**	**44.13**	**255**	*e*P	**P**	**01 24 24.4**	**+1.3**
STKA	**Stephens Creek**	**53.12**	**182**	P	**P**	**01 25 29.6**	**-1.4**
	1.0nm,0.4s,mb3.5,baz=318,slow=20,SNR=4.8						
MKAR	**Makanchi Array**	**54.74**	**313**	P	**P**	**01 25 42.7**	**+0.3**
	2.6nm,0.5s,mb3.8,baz=92,slow=8.9,SNR=35						
MKAR				PcP	PcP	01 26 39.7	-1.1
	0.5nm,0.4s,baz=80,slow=4.1,SNR=5.9						
MKAR	**Makanchi Array**	**54.74**	**313**	P	**P**	**01 25 42.7**	**+0.3**
MKAR				PcP	PcP	01 26 39.7	-1.1
ILAR	**Eielson Array**	**62.23**	**27**	P	**P**	**01 26 32.0**	**-1.4**
	3.4nm,0.6s,mb4.0,baz=259,slow=5.6,SNR=32						
BVAR	**Borovoye Array**	**62.73**	**320**	P	**P**	**01 26 37.1**	**+0.3**
	8.7nm,0.4s,mb4.7,baz=98,slow=7.7,SNR=61						
BRVK	**Borovoye**	**62.80**	**320**	*e*P	**P**	**01 26 37.1**	**-0.2**
	5.5nm,0.6s,mb4.3						
INK	**Inuvik**	**67.76**	**24**	*e*P	**P**	**01 27 07.7**	**-0.7**
	2.6nm,0.7s,mb4.1						
ARU	**Arti**	**69.34**	**324**	*e*P	**P**	**01 27 17.9**	**-0.3**
	3.5nm,0.3s,mb4.6						
YKW3	**Yellowknife Ar**	**76.62**	**28**	*e*P	**P**	**01 28 00.2**	**-0.3**
YKA	**Yellowknife Ar**	**76.65**	**28**	P	**P**	**01 28 00.6**	**-0.1**
	7.2nm,0.6s,mb4.6,baz=292,slow=5.8,SNR=21						
ARCES	**ARCESS Array B**	**79.05**	**341**	P	**P**	**01 28 14.4**	**+1.0**
	3.6nm,0.4s,mb4.5,baz=78,slow=9.0,SNR=79						
NEW	**Newport**	**80.47**	**42**	P	**P**	**01 28 22.2**	**+0.9**
	3.7nm,0.5s,mb4.3,baz=283,slow=4.9,SNR=7.4						
NEW	**Newport**	**80.47**	**42**	*e*P	**P**	**01 28 21.8**	**+0.5**
	3.2nm,0.5s,mb4.3						
FINES	**FINESS Array B**	**83.29**	**334**	P	**P**	**01 28 35.1**	**-0.4**
	2.6nm,0.4s,mb4.4,baz=60,slow=4.9,SNR=36						
HRY	**Holter Researc**	**84.38**	**42**	*e*P	**P**	**01 28 42.1**	**+0.8**
ELK	**Elko**	**84.61**	**48**	P	**P**	**01 28 44.0**	**+1.3**
	2.1nm,0.6s,mb4.1,baz=311,slow=5.1,SNR=9.1						
ELK	**Elko**	**84.61**	**48**	*e*P	**P**	**01 28 43.4**	**+0.8**
	3.9nm,1.0s,mb4.2						
BOZ	**Bozeman (W)**	**84.96**	**43**	*e*P	**P**	**01 28 44.9**	**+0.6**
	2.0nm,0.6s,mb4.1						
FFC	**Flin Flon**	**86.02**	**32**	*e*P	**P**	**01 28 49.6**	**+0.5**
	3.0nm,0.6s,mb4.3						
RRI2	**Red Ridge**	**86.16**	**45**	*e*P	**P**	**01 28 51.2**	**+1.0**
	1.6nm,0.7s,mb4.0						
DUG	**Dugway**	**86.52**	**48**	*e*P	**P**	**01 28 52.6**	**+0.7**
	1.5nm,0.4s,mb4.2						
PDAR	**Pinedale Array**	**87.58**	**45**	P	**P**	**01 28 57.6**	**+0.7**
	0.3nm,0.4s,mb3.4,baz=155,slow=2.4,SNR=4.2						
BRTR	**Keskin Array B**	**90.39**	**313**	P	**P**	**01 29 10.3**	**+0.1**
	0.5nm,0.5s,mb3.7,baz=90,slow=1.4,SNR=3.4						
RSSD	**Black Hills**	**90.44**	**42**	*e*P	**P**	**01 29 10.6**	**+0.4**
	2.1nm,0.5s,mb4.3						
VNA2	**Neumayer--Watz**	**127.66**	**192⇑**	*i*	PKPdf	01 35 12.2	+1.8
VNA3	**Neumayer Olymp**	**127.81**	**191⇑**	*i*	PKPdf	01 35 14.2	+1.7
PLCA	**Paso Flores**	**145.72**	**132**	PKPbc	PKPbc	01 35 47.3	+2.1
	7.0nm,0.7s,baz=236,slow=3.1,SNR=26						
PLCA	**Paso Flores**	**145.72**	**132**	*e*PKPdf	PKPdf	01 35 47.2	+3.1
LPAZ	**La Paz**	**150.05**	**85**	PKP	PKPdf	01 35 55.1	+3.4
	0.8nm,0.8s,baz=263,slow=5.8,SNR=4.6						
LPAZ				PKPbc	PKPdf	01 36 00.0	+8.3
	4.6nm,0.5s,baz=293,slow=2.4,SNR=23						
LPAZ				PKPab	PKPab	01 36 07.4	+1.0
	2.4nm,0.5s,baz=340,slow=3.7,SNR=9.1						
LPAZ	**La Paz**	**150.05**	**85**	PKP	PKPdf	01 35 55.1	+3.4
LPAZ				*e*PKPbc	PKPdf	01 35 60.0	+8.3
LPAZ				*e*PKPab	PKPab	01 36 06.7	+0.3
LPAZ				PKPab	PKPab	01 36 07.4	+1.0
CFAA	**Coronel Fontan**	**150.34**	**116**	PKPbc	PKPdf	01 35 58.9	+7.1
	0.5nm,0.6s,baz=273,slow=4.1,SNR=9.0						
LVC	**Limon Verde**	**150.36**	**98**	PKPbc	PKPdf	01 35 60.0	+8.0
	3.3nm,0.7s,baz=230,slow=5.8,SNR=6.5						
LVC	**Limon Verde**	**150.36**	**98**	*e*PKPbc	PKPdf	01 36 00.1	+8.1
SAML	**Samuel**	**151.80**	**68**	*e*PKPbc	PKPdf	01 36 02.2	+7.8
SAML				*e*PKPab	PKPab	01 36 11.5	-2.4
TRQA	**Tornquist**	**152.85**	**133**	*e*PKPbc	PKPdf	01 36 04.1	+8.9

*IDC **05** 01:54:42.8±1.2, 16.72S×70.66W, mb3.5/2, mb1 3.9/4, mb1mx3.7/18, mbtmp3.6/4, ML4.1/2, MS3.2/1, Ms1 3.3/1, ms1mx3.0/17, Error ellipse: s-maj=28.9km s-min=23.6km az=69.0*
*NEIC **05** 01:54:42.2±1.8, 16.67S×70.50W, h2km±13km, mb4.0/1, Error ellipse: s-maj=11.7km s-min=11.5km az=162.0*
ISC 05 01:54:40.3±0.7, 16.60S±0.07×70.43W±0.06, h2km, n12, σ0$77/16, mb3.6/3, 1D, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**1.03**	**278**	*i*P	**Pb**	**01 55 00.8**	**+0.3**
ARE				*i* S	**Sb**	**01 55 14.2**	**-0.1**
LPAZ	**La Paz**	**2.22**	**82**	Pn	**Pn**	**01 55 25.0**	**+6.3**
	26nm,0.3s,baz=260,slow=12,SNR=622						
LPAZ				Sn	**Sn**	**01 55 56.4**	**+9.3**
	10nm,0.3s,baz=306,slow=24,SNR=6.5						
LPAZ				LR	LR	01 56 37.6	
	comp=Z,459nm,18.8s,baz=320,slow=47						
LPAZ	**La Paz**	**2.22**	**82**	*e*Pn	**Pn**	**01 55 25.4**	**+6.7**
LPAZ				Sn	**Sn**	**01 55 56.4**	**+9.3**
LPAZ				LR	LR	01 56 37.6	
LVC	**Limon Verde**	**6.15**	**167**	Pn	**Pn**	**01 56 15.4**	**+1.0**
	0.8nm,0.3s,baz=344,slow=5.7,SNR=10						
LVC				Sn	**Sn**	**01 57 26.9**	**+0.7**
	0.1nm,0.3s,baz=276,slow=12,SNR=2.3						
LVC				Lg		01 57 47.8	
	1.7nm,0.3s,baz=178,slow=16,SNR=5.0						
LVC	**Limon Verde**	**6.15**	**167**	*e*Pn	**Pn**	**01 56 14.3**	**0.0**
LVC				*e*Sn	**Sn**	**01 57 24.3**	**-1.8**
LVC				Sn	**Sn**	**01 57 26.9**	**+0.7**
LVC				Lg		01 57 47.9	
SIV	**San Ignacio**	**9.00**	**87**	Pn	**P**	**01 56 54.8**	**+0.5**
	0.9nm,0.3s,baz=281,slow=12,SNR=25						
SAML	**Samuel**	**10.38**	**44**	*e*Pn	**P**	**01 57 13.1**	**-0.3**
	2.7nm,0.8s						
PLCA	**Paso Flores**	**24.05**	**180**	P	**P**	**01 59 58.0**	**+0.4**
	2.3nm,1.0s,mb3.6,baz=2.6,slow=14,SNR=4.0						
TXAR	**Lajitas Array**	**55.82**	**325**	P	**P**	**02 04 22.0**	**+0.4**
	0.2nm,0.6s,mb3.4,baz=141,slow=7.6,SNR=4.9						
SNAA	**Sanae**	**67.35**	**162**	*e*P	**P**	**02 05 37.0**	**-1.7**
	0.5nm,0.5s,mb3.8						
MKAR	**Makanchi Array**	**142.36**	**31**	PKP	PKPdf	02 14 16.7	0.0
	0.2nm,0.5s,baz=333,slow=3.2,SNR=3.5						
SONM	**Songino Array**	**148.75**	**4**	PKPbc	PKPdf	02 14 32.2	+4.7
	1.4nm,0.8s,baz=233,slow=0.4,SNR=9.7						

*IDC **05** 02:07:26.0±1.1, 24.33S×67.12W, h146km±14km, mb2.8/1, mb1 3.7/7, mb1mx3.5/18, mbtmp4.0/7, Error ellipse: s-maj=18.9km s-min=11.9km az=73.0*
*GUC **05** 02:07:26.9±1.0, 24.34S×67.58W, h177km±16km, ML4.5*
*NEIC **05** 02:07:26.4±0.5, 24.31S×67.11W, h150km±6km, mb4.5/7, Error ellipse: s-maj=8.8km s-min=6.5km az=97.0*
ISC 05 02:07:25.0±0.5, 24.38S±0.04×67.23W±0.07, h155km±8km, n28, σ1$09/38, mb4.0/3, 3C-4D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPCH	**San Pedro de A**	**1.71**	**329⇑**	*i*P	**P**	**02 08 00.5**	**+3.0**
SPCH				*i* S	**S**	**02 08 25.8**	**+3.3**
SPCH				AMP		02 08 27.2	
	comp=N,2μm,0.6s						
LVC	**Limon Verde**	**2.33**	**318**	P	**P**	**02 08 06.6**	**+1.8**
	comp=N,16nm,0.3s,baz=149,slow=6.6,SNR=204						
LVC				S	**S**	**02 08 36.5**	**+1.0**
	comp=N,132nm,0.3s,baz=268,slow=22,SNR=91						
LVC	**Limon Verde**	**2.33**	**318⇓**	*i*P	**P**	**02 08 06.7**	**+1.8**
LVC				*i* S	**S**	**02 08 36.5**	**+1.1**
LVC				AMP		02 08 38.1	
	comp=E,1μm,0.7s						
LVC	**Limon Verde**	**2.33**	**318**	*e*Pn	**P**	**02 08 06.2**	**+1.4**
LVC				*e*Sn	**S**	**02 08 31.4**	**-4.1**
CPN1	**Cerro Paranal**	**2.90**	**264**	*e*P	**P**	**02 08 13.1**	**+1.1**
CPN1				*i* S	**S**	**02 08 47.3**	**-0.6**
CPN1				AMP		02 08 52.6	
	comp=E,641nm,0.2s						
ANCH	**Antofagasta**	**2.99**	**283⇑**	*i*P	**P**	**02 08 14.1**	**+1.0**
ANCH				*i* S	**S**	**02 08 48.4**	**-1.5**
ANCH				AMP		02 08 51.2	
	comp=N,1μm,0.1s						
CRCH	**Chaqaral**	**3.64**	**237⇑**	*i*P	**P**	**02 08 21.9**	**+0.3**
CRCH				*i* S	**S**	**02 09 03.9**	**-1.0**
CRCH				AMP		02 09 04.6	
	comp=E,2μm,0.3s						
CPCH	**Copiapo**	**4.09**	**223**	*e*P	**P**	**02 08 26.1**	**-1.3**
CPCH				*i* S	**S**	**02 09 13.6**	**-1.7**
CFAA	**Coronel Fontan**	**7.26**	**187**	P	**P**	**02 09 10.4**	**+0.9**
	comp=E,0.2nm,0.3s,baz=359,slow=12,SNR=25						
CFAA				S	**S**	**02 10 30.7**	**-0.1**
	comp=E,0.2nm,0.3s,baz=251,slow=20,SNR=7.5						
LPAZ	**La Paz**	**8.09**	**354**	P	**P**	**02 09 20.9**	**+0.3**
	comp=E,2.8nm,0.3s,baz=156,slow=10,SNR=91						
LPAZ				S	**S**	**02 10 50.2**	**-0.5**
	comp=E,0.1nm,0.3s,baz=252,slow=20,SNR=2.5						
LPAZ	**La Paz**	**8.09**	**354**	*e*Pn	**P**	**02 09 20.1**	**-0.4**
	comp=E,11nm,0.6s						
CPUP	**Villa Florida**	**9.17**	**104**	P	**P**	**02 09 34.9**	**+0.1**
	comp=E,0.3nm,0.3s,baz=293,slow=14,SNR=8.8						
CPUP	**Villa Florida**	**9.17**	**104**	*e*Pn	**P**	**02 09 34.5**	**-0.3**
	comp=E,8.0nm,0.6s						
SIV	**San Ignacio**	**10.15**	**36**	P	**P**	**02 09 45.7**	**-2.0**
	comp=E,1.0nm,0.3s,baz=218,slow=14,SNR=23						
SIV				S	**S**	**02 11 24.4**	**-15**
	comp=E,0.1nm,0.3s,baz=225,slow=15,SNR=4.1						
TRQA	**Tornquist**	**14.36**	**163**	*e*P	**P**	**02 10 42.0**	**0.0**
	comp=E,16nm,0.6s						
SAML	**Samuel**	**15.82**	**15**	*e*P	**P**	**02 10 59.0**	**-1.4**
	comp=E,1.8nm,0.4s						
PLCA	**Paso Flores**	**16.55**	**189**	P	**P**	**02 11 10.5**	**+1.2**
	comp=E,0.2nm,0.3s,baz=358,slow=12,SNR=6.9						
PLCA	**Paso Flores**	**16.55**	**189**	*e*P	**P**	**02 11 10.8**	**+1.5**
	comp=E,8.2nm,0.6s						
BDFB	**Brasilia**	**20.02**	**68**	P	**P**	**02 11 46.6**	**-1.0**
	comp=E,2.2nm,0.3s,baz=250,slow=11,SNR=26						
BAO	**Brasilia Array**	**20.04**	**68**	P	**P**	**02 11 47.5**	**-0.4**
VNA3	**Neumayer Olymp**	**56.87**	**161⇓**	*i*	**P**	**02 16 55.4**	**+0.1**
VNA1	**Neumayer--Stat**	**57.07**	**160**		**P**	**02 16 57.3**	**+0.6**
VNA2	**Neumayer--Watz**	**57.44**	**160⇓**	*i*	**P**	**02 16 59.4**	**+0.1**
SNAA	**Sanae**	**59.07**	**161⇓**	*i*	**P**	**02 17 10.3**	**-0.4**
TXAR	**Lajitas Array**	**63.86**	**325**	P	**P**	**02 17 43.4**	**0.0**
	comp=E,0.1nm,0.5s,mb2.9,baz=113,slow=6.9,SNR=3.4						
QSPA	**South Pole Qui**	**65.83**	**180**	*e*P	**P**	**02 17 55.6**	**+0.4**
	comp=E,3.7nm,0.3s,mb4.7						
CASY	**Casey**	**89.62**	**179**	*e*P	**P**	**02 20 07.3**	**+1.7**
	comp=E,3.4nm,0.8s,mb4.3						
MKAR	**Makanchi Array**	**146.95**	**40**	PKPbc	PKPbc	02 26 50.3	+1.9
	comp=E,0.4nm,0.6s,baz=292,slow=3.7,SNR=4.3						

*ISK **05** 02:17:09.8, 38.73N×27.89E, h21km, MD3.6, ML3.6*
*CSEM **05** 02:17:09.3±0.0, 38.72N×27.92E, h15km, MD3.6, Error ellipse: s-maj=1.2km s-min=1.1km az=149.0*
ISC 05 02:17:09.0±0.4, 38.72N±0.02×27.94E±0.02, h6km±4km, n65, σ0$90/86, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKS	**Akhisar**	**0.19**	**328**	*i*PG	**Pg**	**02 17 14.1**	**+1.1**
MANT	**Manisa**	**0.53**	**115**	*i* P	**Pg**	**02 17 20.1**	**+0.4**
MANT				*i* S	**Sg**	**02 17 26.7**	**-0.1**
KDAG	**Bornova**	**0.62**	**240**	*i* P	**Pg**	**02 17 20.8**	**-0.6**
KDAG				*i* S	**Sg**	**02 17 28.3**	**-1.3**
IZM	**Izmir**	**0.62**	**239**	*i*PG	**Pg**	**02 17 21.8**	**+0.3**
BLCB	**Balcova**	**0.78**	**245**	*i*PG	**Pg**	**02 17 24.9**	**+0.3**
BLCB				*i* SG	**Sg**	**02 17 35.9**	**+0.8**
BALB	**Balikesir**	**0.92**	**357**	PG	**Pg**	**02 17 28.6**	**+1.1**
DST	**Dursunbey**	**1.03**	**31**	*i*PG	**Pg**	**02 17 29.2**	**-0.5**
DST				*i* SG	**Sg**	**02 17 44.5**	**+1.0**
BTOK	**Tokmak**	**1.04**	**4**	*i* P	**Pb**	**02 17 29.7**	**+0.6**
BTOK				*i* S	**Sb**	**02 17 43.3**	**+0.5**
AYDN	**Tasoluk**	**1.06**	**183**	*i* P	**Pb**	**02 17 30.1**	**+0.8**
AYDN				*i* S	**Sb**	**02 17 44.3**	**+1.1**
URLA	**Izmir**	**1.11**	**252**	*i* P	**Pb**	**02 17 30.2**	**0.0**
URLA				*i* S	**Sb**	**02 17 45.8**	**+1.0**
AYVA	**Ayvalik**	**1.14**	**302**	*i* P	**Pb**	**02 17 32.4**	**+1.7**
AYVA				*i* S	**Sb**	**02 17 48.2**	**+2.7**
GDZ	**Gediz**	**1.26**	**72**	*i* P	**Pb**	**02 17 32.1**	**-0.5**
GDZ				*i* S	**Sb**	**02 17 48.4**	**-0.5**
DENT	**Denizli**	**1.29**	**138**	*i* PN	**Pn**	**02 17 33.6**	**+0.1**
KHL	**Karahalli**	**1.30**	**107**	PN	**Pn**	**02 17 34.6**	**+0.9**
DNZL	**Cakiroluk**	**1.34**	**139**	*i* P	**Pb**	**02 17 34.6**	**+0.4**
DNZL				*i* S	**Sb**	**02 17 53.3**	**+1.9**
MLSB	**Milas**	**1.43**	**185**	PN	**Pn**	**02 17 35.5**	**0.0**
CANB	**Canakkale**	**1.47**	**333**	PN	**Pn**	**02 17 35.3**	**-0.8**
ORLT	**Orhaneli**	**1.52**	**29**	PN	**Pn**	**02 17 36.8**	**0.0**
YER	**Yerkesik**	**1.60**	**170**	PN	**Pn**	**02 17 37.9**	**-0.1**
BNT	**Bandirma**	**1.64**	**359**	PN	**Pn**	**02 17 38.5**	**0.0**
BDRM	**Kayabasi**	**1.70**	**194**	*i* P	**Pn**	**02 17 39.2**	**-0.2**
BDRM				*i* S	**Sn**	**02 17 59.6**	**-1.9**
ULDT	**Uludag**	**1.70**	**33**	*i* P	**Pn**	**02 17 38.6**	**-0.8**
ULDT				*i* S	**Sn**	**02 18 01.3**	**-0.3**
ALT	**Altintas**	**1.73**	**78**	PN	**Pn**	**02 17 40.0**	**+0.3**
BODT	**Bodrum**	**1.73**	**197**	PN	**Pn**	**02 17 38.9**	**-0.9**
MRMT	**Marmara Adasi**	**1.90**	**352**	PN	**Pn**	**02 17 41.5**	**-0.8**
GOLH	**Golhisar**	**1.95**	**139**	*i* P	**Pn**	**02 17 42.7**	**-0.3**
GOLH				*i* S	**Sn**	**02 18 19.0**	**+11**
TKTP	**Tekketepe**	**1.99**	**109**	*i* P	**Pn**	**02 17 44.2**	**+0.7**
TKTP				*i* S	**Sn**	**02 18 14.5**	**+5.6**
DALT	**Dalyan (Mudla)**	**2.02**	**164**	PN	**Pn**	**02 17 43.4**	**-0.6**
MFT	**Murefte**	**2.13**	**346**	PN	**Pn**	**02 17 44.6**	**-0.9**
YLV	**Yalova**	**2.15**	**30**	*e*PN	**Pn**	**02 17 45.2**	**-0.7**
ISP	**Isparta**	**2.20**	**113**	PN	**Pn**	**02 17 47.3**	**+0.8**
BORA	**Eskisehir**	**2.27**	**58**	*i* P	**Pn**	**02 17 47.7**	**+0.2**
BORA				*i* S	**Sn**	**02 18 20.1**	**+4.1**
BADT	**Buyukada**	**2.32**	**23**	PN	**Pn**	**02 17 47.5**	**-0.7**
ESKT	**Eskisehir**	**2.40**	**70**	*e*PN	**Pn**	**02 17 49.8**	**+0.4**
ESKT	**Eskisehir**	**2.40**	**70**	*i* P	**Pn**	**02 17 50.0**	**+0.6**
ESKT	**Eskisehir**	**2.40**	**70**	*i* P	**Sg**	**02 18 28.9**	**+0.1**
GPA	**Golpazari**	**2.41**	**49**	*e*PN	**Pn**	**02 17 49.7**	**+0.1**
BCK	**Bucak**	**2.44**	**120**	*e*PN	**Pn**	**02 17 50.2**	**+0.3**
CTT	**Catalca**	**2.46**	**9**	*e*PN	**Pn**	**02 17 49.1**	**-1.1**
HRT	**Hereke**	**2.49**	**32**	PN	**Pn**	**02 17 50.7**	**0.0**
ISK	**Istanbul-Kandi**	**2.50**	**20**	*e*PN	**Pn**	**02 17 50.3**	**-0.5**
ELL	**Elmali**	**2.51**	**141**	*e*PN	**Pn**	**02 17 51.0**	**0.0**
EYL	**Eskiyayla**	**2.52**	**42**	*e*PN	**Pn**	**02 17 51.0**	**-0.1**
APE	**Apeiranthos**	**2.52**	**230**	*e*PN	**Pn**	**02 17 49.5**	**-1.6**
AKAS	**Kas**	**2.81**	**151**	*i* P	**Pn**	**02 17 55.1**	**-0.1**
AKAS				*i* S	**Sg**	**02 18 39.9**	**-2.7**
MDU	**Mudurnu**	**3.07**	**54**	*e*PN	**Pn**	**02 17 58.2**	**-0.8**
KIZT	**Kizilcal**	**3.08**	**86**	*e*PN	**Pn**	**02 17 59.7**	**+0.6**
HENT	**Hendek**	**3.10**	**46**	*i* P	**Pg**	**02 18 06.4**	**-4.5**
HENT				*i* S	**Sg**	**02 18 50.6**	**-1.6**
EDRB	**Edirne**	**3.26**	**344**	*e*PN	**Pn**	**02 18 01.2**	**-0.4**
KDZ	**Kurdzhali**	**3.51**	**327**	P	**Pn**	**02 18 05.5**	**+0.3**
SGKT	**Sivrigoynuk**	**3.68**	**58**	*i* P	**Pn**	**02 18 09.7**	**+2.1**
SGKT				*i* S	**Sg**	**02 19 06.7**	**-4.7**
DIM	**Dimitrovgrad**	**3.80**	**332**	*e*P	**Pn**	**02 18 09.0**	**-0.4**
RZN	**Rozhen**	**3.86**	**321**	P	**Pn**	**02 18 10.0**	**-0.2**
LOD	**Lodumlu**	**3.92**	**71**	*e*PN	**Pn**	**02 18 10.8**	**-0.2**
ANTO	**Ankara**	**3.94**	**71**	*e*PN	**Pn**	**02 18 11.5**	**+0.2**
HDMB	**Hadim**	**4.00**	**115**	*e*PN	**Pn**	**02 18 12.6**	**+0.4**
PLD	**Plovdiv**	**4.19**	**325**	*e*P	**Pn**	**02 18 15.0**	**+0.1**
MMB	**Musomiste**	**4.32**	**313**	P	**Pn**	**02 18 16.0**	**-0.7**
SAFT	**Safranbolu**	**4.43**	**54**	*e*PN	**Pn**	**02 18 18.7**	**+0.4**
ELDT	**Eldivan**	**4.59**	**66**	*i* P	**Pg**	**02 18 34.5**	**-6.2**
ELDT				*i* S	**Sg**	**02 19 44.5**	**+2.6**
PGB	**Panagyurishte**	**4.79**	**324**	P	**Pn**	**02 18 22.5**	**-0.8**
KKB	**Krupnik**	**4.87**	**312**	*e*P	**Pn**	**02 18 24.0**	**-0.5**
BALT	**Daday**	**5.03**	**54**	*i* P	**Pg**	**02 18 42.0**	**-7.4**
BALT				*i* S	**Sg**	**02 19 50.0**	**-6.5**
VTS	**Vitosha**	**5.29**	**319**	*e*P	**Pn**	**02 18 20.0**	**-10**
BOYT	**Boyabat**	**5.98**	**61**	*i* P	**Pg**	**02 19 02.2**	**-6.3**
BOYT				*i* S	**Sg**	**02 20 24.7**	**-3.5**

*NEIC **05** 03:02:58.7, 16.26N×98.10W, h20km, MD4.2(MEX), After MEX.*
MEX 05 03:02:58.7±0.6, 16.26N×98.10W, h20km±7km, MD4.2, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.14**	**350**	*i* P	Pb	03 03 02.2	-0.9
PNIG				*i* S	Sb	03 03 05.1	-1.0
VHO	**Vista Hermosa**	**1.54**	**58**	*i* P	Pn	03 03 22.6	-2.8
VHO				*i* S	Sn	03 03 40.2	-4.8
OXX	**Oaxaca**	**1.56**	**58**	*i* P	Pn	03 03 22.7	-2.9
OXX				*i* S	Sn	03 03 40.7	-4.6
ACX	**Acapulco**	**1.84**	**289**	*e*P	Pn	03 03 26.1	-3.6
ACX				*i* S	Sn	03 03 47.3	-5.2
HUIG	**Huatulco**	**1.98**	**104**	*i* P	Pn	03 03 28.6	-3.1
HUIG				*i* S	Sn	03 03 49.8	-6.3
CAIG	**El Cayaco**	**2.22**	**291**	*i* P	Pn	03 03 32.2	-2.9
CAIG				*i* S	Sn	03 03 57.7	-4.4
PLIG	**Platanillo**	**2.51**	**328**	*e*P	Pn	03 03 37.6	-1.7
PLIG				*i* S	Sn	03 04 04.5	-5.1
YAIG	**Yautepec**	**2.75**	**341**	*i* P	Pn	03 03 42.3	-0.3
YAIG				*i* S	Sn	03 04 11.3	-4.3
IISM	**Ciudad Serdan**	**2.80**	**14**	*i* P	Pn	03 03 41.8	-1.6
IISM				*i* S	Sn	03 04 18.3	+1.3
PPM	**Popocatepetl**	**2.84**	**350**	*e*P	Pn	03 03 42.8	-1.2
PPM				*i* S	Sn	03 04 17.0	-0.9
CMIG	**Matias Romero**	**3.19**	**74**	*i* P	Pn	03 03 44.7	-4.3
CMIG				*i* S	Sn	03 04 22.1	-4.7
EVV	**El Vigia**	**3.42**	**50**	*e*P	Pn	03 03 55.0	+2.8
LVIG	**Laguna Verde**	**3.80**	**25**	*i* P	Pn	03 04 02.6	+5.0
LVIG				*i* S	Sn	03 04 35.3	-7.0

CASC 05 03:35:22.7±1.6, 10.33N×86.37W, MD4.0, ML3.3, 10C-3D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSNN	**San Juan del S**	**1.08**	**28⇑**	*e*P	Pb	03 35 43.9	-0.1
SSNN				*e*S	Sb	03 35 58.9	+0.5
MADN	**Villa Maderas**	**1.35**	**37⇑**	*e*P	Pb	03 35 48.3	-0.3
CONN	**Concepcion**	**1.43**	**31⇑**	*e*P	Pb	03 35 49.1	-0.8
APON	**Apoyo**	**1.60**	**11⇑**	*e*P	Pn	03 35 51.7	-0.7
FORC	**Fortuna**	**1.68**	**85⇑**	*e*P	Pn	03 35 53.2	-0.3
FORC				*e*S	Sb	03 36 17.6	+1.8
MGAN	**Managua**	**1.81**	**4⇓**	*e*P	Pn	03 35 54.8	-0.6
MGAN				*i*		03 36 30.8	
	comp=E,307nm,0.4s						
COPN	**Copaltepe**	**1.85**	**353⇓**	*e*P	Pn	03 35 55.3	-0.7
PRS1	**Puriscal**	**2.05**	**99⇑**	*e*P	Pn	03 35 58.0	-0.9
MOMJ	**Momotombo**	**2.07**	**355**	*e*P	Pn	03 36 01.0	+1.8
VPS2	**Volcan Poas 2**	**2.10**	**94**	*e*P	Pn	03 36 00.3	+0.7
MIRN	**Miramar**	**2.12**	**351⇑

CN2 AMB AMB
comp=Z,20nm,1.0s,mb4.7
DIV Divide 82.53 14 *e*P **P 04 03 37.8 -0.6**
comp=Z,29nm,0.7s,mb5.1
TMUT Trail Mountain 82.63 45 *e*P **P 04 03 39.8 +0.4**
SRU San Rafael 83.00 45 *e*P **P 04 03 41.6 +0.3**
TXAR Lajitas Array 83.54 56 P **P 04 03 45.5 +1.2**
comp=Z,1.2nm,0.8s,mb3.7,baz=221,slow=9.1,SNR=19
HWUT Hardware Ranch 83.58 43 *e*P **P 04 03 44.0 -0.2**
comp=Z,3.1nm,0.6s,mb4.2
PV01 Paradox Valley 83.85 47 *e*P **P 04 03 45.7 +0.1**
ANMO Albuquerque 83.87 50 *e*P **P 04 03 46.3 +0.5**
comp=Z,7.8nm,1.3s,mb4.3
NEW Newport 83.96 35 P **P 04 03 45.5 -0.4**
comp=Z,1.6nm,0.7s,mb3.9,baz=253,slow=11,SNR=3.1
NEW Newport 83.96 35 *e*P **P 04 03 45.1 -0.8**
comp=Z,1.2nm,0.6s,mb3.8
MCK McKinley 84.21 11 *e*P **P 04 03 46.0 -0.8**
comp=Z,8.5nm,1.0s,mb4.4
MCMT McKenzie Canyo 84.48 39 *e*P **P 04 03 48.3 -0.3**
MAW Mawson 84.59 199 P **P 04 03 49.6 +1.0**
comp=Z,6.6nm,0.7s,mb4.5,baz=128,slow=6.7,SNR=34
MAW Mawson 84.59 199 *e*P **P 04 03 49.4 +0.8**
comp=Z,5.2nm,0.7s,mb4.4
RRI2 Red Ridge 84.64 41 *e*P **P 04 03 49.9 +0.4**
comp=Z,2.9nm,0.7s,mb4.1
RRI2 *e*pP pP 04 04 49.3 +0.8
TPAW Teton Pass 84.94 41 *e*P **P 04 03 51.1 +0.2**
comp=Z,3.3nm,0.7s,mb4.2
IMW Indian Meadow 85.16 41 *e*P **P 04 03 52.0 0.0**
comp=Z,4.6nm,1.0s,mb4.2
IMW *e*pP pP 04 04 52.0 +0.9
LOHW Long Hollow 85.22 41 *e*P **P 04 03 52.5 +0.1**
comp=Z,1.6nm,0.7s,mb3.9
BW06 Boulder Array 85.46 42 *e*P **P 04 03 53.0 -0.5**
comp=Z,3.0nm,0.9s,mb4.0
PDAR Pinedale Array 85.46 42 P **P 04 03 53.4 -0.1**
comp=Z,2.2nm,0.9s,mb3.9,baz=227,slow=1.9,SNR=17
PDAR pP pP 04 04 52.8 +0.1
comp=Z,0.9nm,1.0s,baz=225,slow=4.2,SNR=4.3
ILAR Eielson Array 85.54 12 P **P 04 03 52.7 -0.7**
comp=Z,2.8nm,0.5s,mb4.2,baz=224,slow=5.9,SNR=30
BOZ Bozeman (W) 85.64 39 *e*P **P 04 03 53.9 -0.5**
comp=Z,11nm,1.9s,mb4.3
SDCO Great Sand Dun 85.82 48 *e*P **P 04 03 55.4 -0.1**
comp=Z,2.2nm,0.4s,mb4.2
KULM Kulim 86.19 277 *e*P **P 04 03 58.2 +0.4**
RSSD Black Hills 89.64 43 *e*P **P 04 04 12.8 -0.6**
comp=Z,1.2nm,0.6s,mb3.9
SNAA Sanae 90.16 178 *e*P **P 04 04 15.2 0.0**
comp=Z,1.9nm,0.8s,mb4.0
VNA3 Neumayer Olymp 90.18 175 ⇑*i*P **P 04 04 15.7 +0.5**
VNA3 *e* 04 04 25.1
VNA3 *e* 04 05 07.0
VNA2 Neumayer--Watz 90.66 176 *e* **P 04 04 27.0 +10**
VNA2 Neumayer--Watz 90.66 176 *e* pP 04 05 09.9 -7.3
VNA2 Neumayer--Watz 90.66 176 ⇑*i*P **P 04 04 18.2 +0.8**
VNA2 *e* 04 04 27.0
VNA2 *e* 04 05 09.9
VNA1 Neumayer--Stat 90.86 176 *e* **P 04 04 28.2 +10**
VNA1 Neumayer--Stat 90.86 176 ⇑*i*P **P 04 04 19.3 +0.9**
VNA1 *e* 04 04 28.2
INK Inuvik 91.41 14 P **P 04 04 20.9 -0.1**
comp=Z,4.1nm,0.9s,mb4.4,baz=191,slow=3.7,SNR=13
INK Inuvik 91.41 14 *e*P **P 04 04 20.7 -0.2**
comp=Z,10nm,1.4s,mb4.6
YKA Yellowknife Ar 93.34 24 P **P 04 04 30.0 0.0**
comp=Z,1.0nm,0.7s,mb4.0,baz=240,slow=4.1,SNR=6.8
LZH Lanzhou 93.60 307 ⇑P **P 04 04 32.1 +0.3**
LZH AP pP 04 05 31.7 +0.1
LZH XP sP 04 05 57.3 +0.6
LZH PP PP 04 08 22.8 +0.7
LZH AMB AMB
comp=Z,21nm,1.2s,mb5.0
LZH AMB AMB
comp=Z,68nm,6.8s
LZH Lanzhou 93.60 307 ⇑P **P 04 04 32.1 +0.3**
comp=Z,21nm,1.2s,mb5.0
LZH pP pP 04 05 31.7 +0.1
LZH sP sP 04 05 57.3 +0.6
LZH PP PP 04 08 22.8 +0.7
MKAR Makanchi Array 111.63 314 PKiKP 04 09 48.0
comp=Z,1.1nm,0.6s,baz=81,slow=0.5,SNR=9.9
ARU Arti 124.86 327 *e*PKPdf PKPdf 04 10 13.5 +0.8
ARCES ARCESS Array B 127.17 351 PKP PKPdf 04 10 17.6 +0.8
comp=Z,3.8nm,0.8s,baz=14,slow=1.1,SNR=14
FINES FINESS Array B 134.32 346 PKP PKPdf 04 10 30.8 +0.3
comp=Z,1.4nm,0.6s,slow=1.9,SNR=8.6
AKASG Malin Array Be 142.26 335 PKhKP 04 10 41.7
comp=Z,1.1nm,0.5s,baz=39,slow=4.5,SNR=7.9
KMBO Kilima Mbogo 142.80 242 PKhKP 04 10 46.9
comp=Z,1.5nm,0.7s,baz=106,slow=3.5,SNR=7.3
KMBO Kilima Mbogo 142.80 242 PKP PKPdf 04 10 46.9 -0.2
TATS Tathlith 143.52 278 P PKPbc 04 10 49.4 +2.3
AFFS 'Afif 144.08 286 P PKPbc 04 10 50.0 +1.4
MALT Malatya 144.62 311 *e*PKPdf PKPdf 04 10 51.8 +2.2
HILS Ha'il 144.90 292 P PKPdf 04 10 53.4 +3.0
BLJS Baljurashi 145.31 279 P PKPdf 04 10 55.4 +4.1
KWP Kalwaria 145.56 339 *e*PKPdf PKPdf 04 10 52.5 +1.7
STHS Stebnicka Huta 146.22 341 *i* PKP PKPdf 04 10 55.9 +3.9
KSP Ksiaz 146.23 347 *e*PKP PKPdf 04 10 55.5 +3.5
KOLS Kolonicke sedl 146.31 339 *i* PKP PKPdf 04 10 57.0 +4.8
CLL Collm 146.39 351 ⇑*i*PKP1 PKPbc 04 10 55.5 +1.8
LTHS Al Lith 146.45 279 P PKPdf 04 10 57.9 +4.6
TLCR 146.55 329 ⇑P PKPdf 04 10 56.9 +4.2
UPC Upice 146.61 347 ⇑*e*PKPB PKPbc 04 10 56.6 +2.4
DPC Dobruska-Polom 146.69 347 ⇑*e*PKPB PKPbc 04 10 57.0 +2.6
OKC Ostrava-Krasne 146.73 344 ⇑*e*PKPB PKPbc 04 10 57.2 +2.7
PVCC Panska Ves 146.88 349 ⇑*e*PKPB PKPbc 04 10 57.4 +2.5
MORC Moravsky Berou 146.94 345 *e*PKPbc PKPbc 04 10 56.8 +1.8
BR131 Keskin Array S 147.22 317 *e*PKPbc PKPdf 04 10 58.1 +4.1
BRTR Keskin Array B 147.22 317 PKPbc PKPdf 04 10 58.5 +4.5
comp=Z,7.7nm,0.8s,baz=135,slow=3.5,SNR=27
BRTR PKPab PKPab 04 11 01.4 +0.2
comp=Z,8.3nm,0.9s,baz=62,slow=2.1,SNR=20
MOX Moxa 147.23 352 *i* P PKPdf 04 10 58.2 +4.5
comp=Z,logA/T=1.0
MOX Moxa 147.23 352 *e*PKP PKPdf 04 10 58.2 +4.5
KECS Kecovo 147.28 341 *i* PKP PKPdf 04 10 58.5 +4.7
PRU Pruhonice 147.40 348 ⇑*e*PKPB PKPdf 04 10 58.9 +5.0
NKC Novy Kostel 147.52 351 ⇑*e*PKPB PKPdf 04 10 59.2 +5.1
MLR Muntele Rosu 147.68 332 ⇓P PKPdf 04 11 00.0 +5.5
VYHS Vyhne 147.77 343 *i* PKP PKPdf 04 10 59.9 +5.4
PSZ Piszkesteto 147.97 341 *e*PKPbc PKPdf 04 10 59.7 +4.9
DRGR 147.97 337 ⇑P PKPdf 04 10 59.2 +4.3
ASF Jabal al Asfar 148.03 302 PKPbc PKPdf 04 11 01.3 +5.8
comp=Z,4.9nm,0.8s,baz=304,slow=1.4,SNR=9.3
ASF PKPab PKPab 04 11 05.5 +0.8
comp=Z,2.6nm,0.7s,baz=116,slow=0.4,SNR=5.6
GIVF Givet 148.22 0 *e*PKP1 PKPdf 04 11 00.2 +5.0
GRF Grafenberg Arr 148.22 352 *e*PKP PKPdf 04 11 00.8 +5.6
GRF *e*PKP PKPdf 04 11 04.5 +9.3
BAIF Baives 148.26 1 *e*PKP1 PKPdf 04 10 59.8 +4.5
KHC Kasperske Hory 148.40 349 ⇑*e*PKPB PKPdf 04 11 01.4 +5.9
KHC *e*PKPAB PKPab 04 11 05.4 -0.2
ZST Bratislava 148.51 344 *i* PKP PKPdf 04 11 00.2 +4.5
WLF Walferdange 148.64 358 *e*PKPbc PKPdf 04 11 01.3 +5.5
GERES GERESS Array B 148.65 349 ⇑PKPbc PKPdf 04 11 01.9 +6.0
comp=Z,4.9nm,0.8s,baz=27,slow=3.0,SNR=32
FLN La Foliniere 149.25 7 *e*PKP1 PKPdf 04 11 02.5 +5.6
comp=Z,164nm,1.4s
MOA Molln 149.49 348 ⇑*i*P PKPdf 04 11 03.9 +6.6
GRR Gorron 149.57 8 *e*PKP1 PKPdf 04 11 03.5 +6.1
comp=Z,56nm,1.2s
MEZF Maizieres J'vi 149.82 360 *e*PKP1 PKPdf 04 11 04.6 +6.8
CDF Champ du Feu 149.85 357 *e*PKP1 PKPdf 04 11 04.4 +6.6
comp=Z,20nm,0.9s
HAU Haudompre 150.29 358 *e*PKP1 PKPdf 04 11 05.5 +7.0
comp=Z,22nm,0.9s
JMOS Jabal al Moall 150.36 297 P PKPdf 04 11 07.0 +7.8
ALWS Ilw as Safayha 150.36 297 P PKPdf 04 11 07.1 +7.9
KBA Koelnbreinsper 150.41 348 ⇑*i*P PKPdf 04 11 06.5 +7.8
PERS Pernice 150.46 346 *e*PKPbc PKPdf 04 11 05.6 +6.8
PERS *i* 04 11 13.6
HINF Hinteralfeld 150.46 357 *e*PKP1 PKPdf 04 11 05.6 +6.8
comp=Z,9.2nm,0.7s
WATA Walderalm 150.47 351 ⇑*i*P PKPdf 04 11 06.1 +7.3
MOTA Moosalm 150.53 351 ⇑*i*P PKPdf 04 11 06.2 +7.3
WTTA Wattenberg 150.53 351 ⇑*i*P PKPdf 04 11 06.4 +7.5
HAQS Haql 150.54 297 P PKPdf 04 11 07.7 +8.2
BDAS Al Bad' 150.54 296 P PKPdf 04 11 07.4 +7.9
SQTA Sankt Quirin 150.64 351 ⇑*i*P PKPdf 04 11 06.7 +7.7
TAYS Tayyib Ism 150.71 296 P PKPdf 04 11 07.8 +8.1
DAVA Damuels 150.75 353 ⇑*i*P PKPdf 04 11 06.9 +7.7
HYF Humbligny 150.99 3 *e*PKP1 PKPdf 04 11 07.4 +7.8
LOR Lormes 151.04 1 *e*PKP1 PKPdf 04 11 07.2 +7.6
comp=Z,29nm,1.0s
LEGS Legarje 151.05 345 *i* PKP PKPdf 04 11 07.2 +7.5
LJU Ljubljana 151.15 346 *i* PKPbc PKPdf 04 11 07.7 +7.8
SSF Saint Saulge 151.24 2 *e*PKP1 PKPdf 04 11 07.8 +7.9
comp=Z,35nm,1.0s
DAVOX Davos 151.25 353 PKPbc PKPdf 04 11 08.5 +8.5
comp=Z,14nm,0.6s,baz=293,slow=1.5,SNR=29
MFF Saint Martin d 151.41 7 *e*PKP1 PKPdf 04 11 07.7 +7.5
comp=Z,9.8nm,0.8s
BOJS Bojanci 151.48 345 *e*PKPbc PKPdf 04 11 08.8 +8.4
AVF Avril sur Loir 151.50 2 *e*PKP1 PKPdf 04 11 07.8 +7.4
comp=Z,8.5nm,0.8s
SMF Signal de Mont 151.66 2 *e*PKP1 PKPdf 04 11 08.3 +7.7
CABF La Chapelle 151.69 358 *e*PKP1 PKPdf 04 11 09.3 +8.7
comp=Z,32nm,0.9s
TCF Toulx Ste Croi 151.95 4 *e*PKP1 PKPdf 04 11 09.0 +8.0
comp=Z,17nm,0.9s
LPL La Plagne 152.76 357 *e*PKP1 PKPdf 04 11 11.9 +10
comp=Z,13nm,1.1s
LPG La Plagne 152.78 357 *e*PKP1 PKPdf 04 11 12.1 +10
BNI Bardonecchia 153.23 357 *e*PKPbc PKPdf 04 11 12.8 +10
BNI *e*PKPab PKPab 04 11 25.2 -0.7
VIVF Saint-Julien-l 153.47 0 *e*PKP1 PKPdf 04 11 12.9 +10
comp=Z,12nm,1.0s
MBDF Montbardon 153.55 357 *e*PKP1 PKPdf 04 11 12.9 +10
ESDC Sonseca Array 157.31 18 PKPab PKPab 04 11 42.8 -0.6
comp=Z,0.9nm,0.6s,baz=348,slow=4.8,SNR=6.4

IDC ***05*** *04:00:29.6±0.9, 15.76S×177.88W, mb4.3/7, mb1 4.5/8, mb1mx4.3/15, mbtmp4.3/8, ML3.1/1, MS3.9/12, Ms1 3.9/12, ms1mx3.8/19, Error ellipse: s-maj=42.1km s-min=19.4km az=140.0*
NEIC ***05*** *04:00:35.7±2.6, 15.84S×177.91W, h39km±24km, mb4.4/17, Error ellipse: s-maj=18.4km s-min=9.4km az=156.0*
ISC 05 04:00:33.7±0.4, 15.8S±0.2×178.0W±0.1, h33km, n59, σ0.58/29, mb4.4/24, MS4.0/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.27**	**73**	LR	LR	04 03 19.7	
	comp=Z,182nm,18.7s,baz=266,slow=28						
RAO	**Raoul Island**	**13.39**	**180**	LR	LR	04 07 50.6	
	comp=Z,1μm,20.0s,baz=346,slow=33						
DZM	**Mont Dzumac**	**16.01**	**245**	Pn	**P**	**04 04 18.0**	**-0.1**
	0.1nm,0.3s,baz=109,slow=6.8,SNR=3.4						
DZM				LR	LR	04 08 16.9	
	comp=Z,56nm,19.7s,baz=30,slow=29						
DZM	**Mont Dzumac**	**16.01**	**245**	Pn	**P**	**04 04 18.0**	**-0.1**
DZM				LR	LR	04 08 16.9	
HNR	**Honiara**	**22.45**	**284**	LR	LR	04 12 55.4	
	comp=Z,510nm,19.4s,MS4.0,baz=112,slow=33						
URZ	**Urewera**	**22.79**	**190**	P	**P**	**04 05 35.1**	**+0.5**
	8.8nm,0.9s,mb4.2,baz=345,slow=5.7,SNR=6.2						
URZ				LR	LR	04 13 02.8	
	comp=Z,402nm,20.9s,MS3.8,baz=355,slow=33						
PPT	**Papeete**	**27.24**	**98**	*e*LQ		04 11 27.5	
PPT				*e*LR	LR	04 12 28.5	
	203nm,32.8s						
TBI	**Tubuai**	**27.85**	**110**	*e*LQ		04 11 56.1	
TBI				*e*LR	LR	04 12 48.0	
	151nm,29.2s						
CTA	**Charters Tower**	**34.27**	**257**	P	**P**	**04 07 19.4**	**+0.3**
	7.0nm,1.0s,mb4.5,baz=72,slow=12,SNR=4.0						
CTAO	**Charters Tower**	**34.27**	**257**	*e*P	**P**	**04 07 19.8**	**+0.8**
	9.1nm,1.0s,mb4.7						
PMG	**Port Moresby**	**34.59**	**276**	LR	LR	04 17 47.9	
	comp=Z,112nm,21.2s,MS3.6,baz=68,slow=30						
STKA	**Stephens Creek**	**40.04**	**239**	P	**P**	**04 08 07.5**	**0.0**
	4.9nm,1.0s,mb4.2,baz=24,slow=10,SNR=5.5						
STKA				LR	LR	04 24 09.6	
	comp=Z,207nm,19.4s,MS4.0,baz=288,slow=35						
WRA	**Warramunga Arr**	**45.47**	**257**	P	**P**	**04 08 50.9**	**-1.1**
	2.3nm,1.1s,mb3.9,baz=89,slow=7.7,SNR=4.4						
CBIJ	**Chichi jima**	**57.57**	**317**	LR	LR	04 29 23.8	
	comp=Z,238nm,21.6s,MS4.3,baz=224,slow=30						
VNDA	**Vanda**	**62.57**	**185**	LR	LR	04 32 57.9	
	comp=Z,64nm,21.1s,MS3.8,baz=5.2,slow=31						
CMB	**Columbia Colle**	**76.02**	**43**	*e*P	**P**	**04 12 19.0**	**-0.6**
	4.5nm,1.0s,mb4.3						
WVOR	**Wild Horse Val**	**79.53**	**40**	*e*P	**P**	**04 12 38.6**	**-0.4**
	3.2nm,1.2s,mb4.1						
TUC	**Tucson**	**80.08**	**52**	*e*P	**P**	**04 12 41.5**	**-0.7**
	6.4nm,1.3s,mb4.4						
ELK	**Elko**	**80.84**	**43**	*e*P	**P**	**04 12 46.5**	**+0.5**
	2.0nm,0.9s,mb4.0						
BMO	**Blue Mountains**	**81.64**	**39**	*e*P	**P**	**04 12 50.2**	**+0.1**
	84nm,0.6s,mb5.8						
DUG	**Dugway**	**82.19**	**45**	*e*P	**P**	**04 12 52.9**	**-0.1**
	1.5nm,1.0s,mb3.9						
IMA	**Indian Mountai**	**83.63**	**10**	*e*P	**P**	**04 13 00.5**	**+0.7**
	5.3nm,1.0s,mb4.6						
HWUT	**Hardware Ranch**	**83.68**	**44**	*e*P	**P**	**04 13 00.7**	**0.0**
	2.0nm,0.9s,mb4.2						
ILAR	**Eielson Array**	**83.75**	**13**	P	**P**	**04 13 00.5**	**+0.1**
	3.2nm,1.0s,mb4.4,baz=226,slow=6.4,SNR=19						
MNTX	**Cornudas Mount**	**84.02**	**55**	*e*P	**P**	**04 13 02.5**	**-0.2**
	3.8nm,1.0s,mb4.5						
PV01	**Paradox Valley**	**84.22**	**48**	*e*P	**P**	**04 13 02.3**	**-1.2**
MCMT	**McKenzie Canyo**	**84.37**	**40**	*e*P	**P**	**04 13 04.4**	**+0.4**
ANMO	**Albuquerque**	**84.46**	**52**	*e*P	**P**	**04 13 05.3**	**+0.5**
	5.4nm,1.1s,mb4.6						
TXAR	**Lajitas Array**	**84.51**	**58**	P	**P**	**04 13 04.8**	**-0.4**
	2.3nm,1.0s,mb4.2,baz=236,slow=4.5,SNR=16						
LTX	**Lajitas**	**84.51**	**58**	P	**P**	**04 13 04.3**	**-0.8**
	1.5nm,0.6s,mb4.3						
RRI2	**Red Ridge**	**84.64**	**42**	*e*P	**P**	**04 13 06.2**	**+0.8**
	10nm,1.1s,mb4.9						
TPAW	**Teton Pass**	**84.95**	**42**	*e*P	**P**	**04 13 06.4**	**-0.5**
	6.1nm,1.1s,mb4.6						
IMW	**Indian Meadow**	**85.14**	**42**	*e*P	**P**	**04 13 08.8**	**+0.9**
	10nm,1.3s,mb4.8						
LOHW	**Long Hollow**	**85.23**	**42**	*e*P	**P**	**04 13 09.2**	**+0.8**
	2.6nm,1.4s,mb4.2						
BOZ	**Bozeman (W)**	**85.52**	**40**	*e*P	**P**	**04 13 10.3**	**+0.6**
	8.4nm,1.5s,mb4.8						
BW06	**Boulder Array**	**85.54**	**43**	*e*P	**P**	**04 13 10.0**	**+0.1**
	2.1nm,1.0s,mb4.3						
PDAR	**Pinedale Array**	**85.54**	**43**	P	**P**	**04 13 09.4**	**-0.5**
	1.8nm,1.0s,mb4.3,baz=225,slow=4.2,SNR=13						
MAW	**Mawson**	**85.98**	**200**	LR	LR	04 46 05.0	
	comp=Z,104nm,20.5s,MS4.2,baz=245,slow=32						
SONM	**Songino Array**	**92.24**	**319**	LR	LR	04 50 37.6	
	comp=Z,86nm,19.0s,MS4.2,baz=10,slow=33						
PLCA	**Paso Flores**	**92.47**	**133**	LR	LR	04 46 37.9	
	comp=Z,118nm,20.7s,MS4.3,baz=9.6,slow=30						
AKASG	**Malin Array Be**	**138.89**	**334**	PKP	PKPdf	04 20 00.8	+3.9
	0.1nm,0.2s,baz=63,slow=2.1,SNR=4.0						
BR131	**Keskin Array S**	**143.57**	**317**	*e*PKPdf	PKPdf	04 20 06.2	+0.9
BRTR	**Keskin Array B**	**143.57**	**317**	PKP	PKPdf	04 20 05.7	+0.3
	3.7nm,0.9s,baz=117,slow=2.8,SNR=15						
ASF	**Jabal al Asfar**	**144.42**	**304**	PKP	PKPdf	04 20 09.5	+2.4
	1.3nm,0.2s,baz=301,slow=1.8,SNR=3.9						
GRF	**Grafenberg Arr**	**145.38**	**349**	*e*PKP	PKPdf	04 20 11.6	+3.4
KHC	**Kasperske Hory**	**145.45**	**347**	*e*P	PKPdf	04 20 11.5	+3.2
GERES	**GERESS Array B**	**145.69**	**346**	PKPbc	PKPbc	04 20 10.6	+1.1
	1.0nm,0.8s,baz=45,slow=1.9,SNR=7.0						
CDF	**Champ du Feu**	**147.20**	**354**	*e*PKP1	PKPdf	04 20 17.2	+5.9
ROSF	**Rostrenen**	**147.26**	**7**	*e*PKP1	PKPdf	04 20 16.8	+5.4
	51nm,1.2s						
SGMF	**Saint Gilles**	**147.42**	**6**	*e*PKP1	PKPdf	04 20 17.3	+5.6
	63nm,1.2s						
LOR	**Lormes**	**148.59**	**358**	*e*PKP1	PKPdf	04 20 20.3	+6.7
SSF	**Saint Saulge**	**148.81**	**358**	*e*PKP1	PKPdf	04 20 21.0	+7.1
MFF	**Saint Martin d**	**149.24**	**3**	*e*PKP1	PKPdf	04 20 22.1	+7.4
LPL	**La Plagne**	**150.12**	**353**	*e*PKP1	PKPdf	04 20 25.0	+8.9
	14nm,1.1s						
LPG	**La Plagne**	**150.13**	**353**	*e*PKP1	PKPdf	04 20 24.9	+8.8
	17nm,1.1s						
ORIF	**Oris-en-Rattie**	**150.79**	**354**	*e*PKP1	PKPdf	04 20 26.4	+9.3
MBDF	**Montbardon**	**150.89**	**353**	*e*PKP1	PKPdf	04 20 27.9	+11
	22nm,1.1s						
CAF	**Calviac**	**150.97**	**360**	*e*PKP1	PKPdf	04 20 25.9	+8.5
	12nm,1.1s						
LASF	**Ste Croix**	**151.78**	**357**	*e*PKP1	PKPdf	04 20 29.3	+11

CASC 05 04:41:18.7±1.8, 13.63N×89.37W, h81km±7km, MD3.7, 2C-10D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOQS	**Boqueron**	**0.14**	**41**	⇓*i*P	P	04 41 34.8	+4.4
BOQS				*e*S	S	04 41 43.8	+4.6
SNET	**Serv Nac Est T**	**0.15**	**68**	*e*P	P	04 41 34.2	+3.7
SNET				*e*S	S	04 41 43.6	+4.3
LFU	**La Fuente**	**0.28**	**65**	⇓*e*P	P	04 41 36.3	+5.2
LFU				*e*S	S	04 41 46.6	+6.2
LFRS	**El Faro**	**0.30**	**92**	⇓*i*P	P	04 41 35.3	+4.0
LFRS				*e*S	S	04 41 45.5	+4.8
SBLS	**San Blas**	**0.32**	**310**	⇓*e*P	P	04 41 35.1	+3.8
SBLS				*e*S	S	04 41 44.9	+4.1
SNJE	**San Jose**	**0.33**	**316**	⇓*e*P	P	04 41 35.5	+4.1
SNJE				*e*S	S	04 41 45.5	+4.6
LBRS	**Las Brisas**	**0.34**	**72**	⇓*e*P	P	04 41 36.9	+5.4
LBRS				*e*S	S	04 41 48.5	+7.4
RTR	**El Retiro**	**0.37**	**315**	⇓*e*P	P	04 41 35.9	+4.2
RTR				*e*S	S	04 41 46.5	+5.1
LCBS	**La Ceiba**	**0.38**	**87**	⇓*e*P	P	04 41 36.4	+4.7
LCBS				*e*S	S	04 41 46.4	+4.8
SNVI	**San Vicente**	**0.52**	**92**	⇓*i*P	P	04 41 37.7	+4.8
SNVI				*e*S	S	04 41 49.0	+5.6
RBDL	**Robledal**	**0.57**	**328**	⇑*e*P	P	04 41 39.1	+5.8
RBDL				*e*S	S	04 41 50.5	+6.4
VSM	**San Miguel**	**1.09**	**101**	*e*P	P	04 41 37.4	-1.8
VSM				*e*S	S	04 41 52.1	-2.4
BLLM	**Bellamira**	**1.12**	**100**	⇑*e*P	P	04 41 44.6	+5.1
BLLM				*e*S	S	04 42 01.1	+5.9
IXG	**Ixpaco**	**1.18**	**297**	*e*P	P	04 41 40.2	-0.1
IXG				*e*S	S	04 41 56.3	-0.2
MRL	**Marmol**	**1.46**	**348**	*e*P	P	04 41 42.1	-2.0
MRL				*e*S	S	04 42 03.7	+0.9
CNCH	**Conchagua**	**1.54**	**103**	⇓*e*P	P	04 41 49.5	+4.4
CNCH				*e*S	S	04 42 10.0	+5.5
TP2	**Tecpan 2**	**1.97**	**306**	*e*P	P	04 41 53.0	+2.3
TP2				*e*S	S	04 42 18.5	+4.1

CSEM ***05*** *04:59:53.8±0.1, 39.36N×27.02E, h20km, MD3.2, Error ellipse: s-maj=3.3km s-min=1.9km az=97.0*
ISK ***05*** *04:59:55.0, 39.35N×27.13E, h26km, MD3.2*
ATH ***05*** *04:59:58.1, 39.24N×26.43E, h32km, MD3.2/3*
ISC 05 04:59:52.5±0.8, 39.40N±0.03×26.94E±0.04, h1km±6km, n26, σ1.00/34, 1D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.54**	**254**	⇓*i*PB	**Pb**	**05 00 04.1**	**-0.4**
BALB	**Balikesir**	**0.77**	**71**	*i* PG	**Pg**	**05 00 08.2**	**+0.4**
BALB				*i* SG	**Sg**	**05 00 18.4**	**+0.4**
AKS	**Akhisar**	**0.85**	**127**	PG	**Pg**	**05 00 09.9**	**+0.3**
BTOK	**Tokmak**	**0.92**	**66**	*i* P	**Pb**	**05 00 11.9**	**+1.0**
BTOK				*i* S	**Sb**	**05 00 23.7**	**+0.3**
BLCB	**Balcova**	**1.02**	**176**	PG	**Pg**	**05 00 12.9**	**+0.1**
KDAG	**Bornova**	**1.03**	**166**	*i* P	**Pb**	**05 00 12.2**	**-0.6**
KDAG				*i* S	**Sb**	**05 00 27.6**	**+0.9**
IZM	**Izmir**	**1.03**	**166**	PG	**Pg**	**05 00 13.1**	**0.0**
IZM				SG	**Sg**	**05 00 26.7**	**-0.2**
URLA	**Izmir**	**1.07**	**195**	*i* P	**Pb**	**05 00 13.1**	**-0.5**
URLA				*i* S	**Sb**	**05 00 28.2**	**+0.2**
BNT	**Bandirma**	**1.22**	**38**	PN	**Pn**	**05 00 16.2**	**-0.4**
MRMT	**Marmara Adasi**	**1.30**	**23**	PN	**Pn**	**05 00 18.1**	**+0.2**
DST	**Dursunbey**	**1.32**	**81**	PN	**Pn**	**05 00 16.0**	**-2.1**
MFT	**Murefte**	**1.41**	**11**	*e*PN	**Pn**	**05 00 19.7**	**+0.3**
LIA	**Limnos Island**	**1.45**	**291**	*e*PN	**Pn**	**05 00 19.8**	**-0.1**
MANT	**Manisa**	**1.55**	**125**	*i* P	**Pn**	**05 00 22.3**	**+0.8**
MANT				*i* S	**Sb**	**05 00 40.9**	**-1.1**
ORLT	**Orhaneli**	**1.64**	**66**	*e*PN	**Pn**	**05 00 21.2**	**-1.5**
SMG	**Samos**	**1.69**	**183**	*e*PN	**Pn**	**05 00 25.5**	**+2.1**
ULDT	**Uludag**	**1.85**	**66**	*i* P	**Pn**	**05 00 24.2**	**-1.5**
ULDT				*i* S	**Sn**	**05 00 50.0**	**0.0**
GDZ	**Gediz**	**2.00**	**98**	*i* P	**Pn**	**05 00 30.4**	**+2.6**
GDZ				*i* S	**Sn**	**05 00 56.0**	**+2.1**
RDO	**Rodhopi**	**2.05**	**329**	*e*PN	**Pn**	**05 00 32.0**	**+3.5**
CTT	**Catalca**	**2.08**	**33**	*e*PN	**Pn**	**05 00 28.7**	**-0.3**
YLV	**Yalova**	**2.20**	**57**	*e*PN	**Pn**	**05 00 29.6**	**-1.1**
BADT	**Buyukada**	**2.21**	**48**	*e*PN	**Pn**	**05 00 30.6**	**-0.3**
BODT	**Bodrum**	**2.35**	**173**	*e*PN	**Pn**	**05 00 32.3**	**-0.6**
EDRB	**Edirne**	**2.45**	**357**	*e*PN	**Pn**	**05 00 35.6**	**+1.3**
YER	**Yerkesik**	**2.50**	**155**	*e*PN	**Pn**	**05 00 33.9**	**-1.1**
APE	**Apeiranthos**	**2.58**	**206**	*e*PN	**Pn**	**05 00 36.3**	**+0.2**

MEX ***05*** *05:03:50.9±0.6, 13.17N×91.80W, h7km±99km, MD4.7*
CASC ***05*** *05:03:51.4±2.6, 13.47N×91.20W, h16km±19km, MD4.7, ML4.2, mb4.6(NEIC)*
BJI ***05*** *05:03:53.2, 13.50N×91.20W, h54km, mB5.4, Ms5.0, Msz4.8*
NEIC ***05*** *05:03:53.2±0.5, 13.53N×91.19W, h54km±5km, mb4.6/49, MD4.7(MEX), Error ellipse: s-maj=9.1km s-min=3.8km az=224.0*
IDC ***05*** *05:03:54.1±3.1, 13.61N×91.03W, h65km±27km, mb4.1/16, mb1 4.3/18, mb1mx4.2/24, mbtmp4.4/18, ML5.0/2, MS4.1/14, Ms1 4.1/14, ms1mx3.9/23, Error ellipse: s-maj=29.1km s-min=9.6km az=59.0*
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PYTN Playitas 5.20 99⇑ *e*P P 05 05 07.2 -0.8
HUIG Huatulco 5.20 297 *i* P P 05 05 03.9 -4.1
HUIG *i* S S 05 05 58.6 -8.8
HUIG Huatulco 5.20 297 *i* P P 05 05 04.2 -3.9
HUIG *i* S S 05 05 58.5 -9.0
APON Apoyo 5.33 105⇑ *e*P P 05 05 09.6 -0.3
TUIG Tuzandepetl 5.49 327 *i* P P 05 05 09.8 -2.3
TUIG *i* S S 05 06 08.9 -5.8
SSNN San Juan del S 5.74 111⇑ *e*P P 05 05 15.2 -0.3
EVV El Vigia 6.35 323 *e*P P 05 05 21.5 -2.6
EVV El Vigia 6.35 323 *e*P P 05 05 21.0 -3.1
OXX Oaxaca 6.37 306 *i* P P 05 05 20.0 -4.4
VHO Vista Hermosa 6.37 306 *i* P P 05 05 19.5 -5.0
VHO *i* S S 05 06 30.5 -6.2
JTS JuntasAbangare 6.96 116 P P 05 05 32.3 -0.2
comp=E,23nm,0.3s,baz=338,slow=5.3,SNR=64
JTS S S 05 06 46.4 -4.7
comp=E,3.5nm,0.3s,baz=253,slow=20,SNR=2.3
JTS JuntasAbangare 6.96 116 *e*Pn P 05 05 32.0 -0.6
comp=E,84nm,0.5s
JTS *e*Sn S 05 06 50.3 -0.8
FORC Fortuna 7.13 113⇑ *e*P P 05 05 35.0 0.0
FORC Fortuna 7.13 113 *e*P P 05 05 34.9 -0.1
PNIG Pinotepa 7.22 295 *i* P P 05 05 31.3 -5.0
PNIG *i* S S 05 06 44.9 -13
VPS2 Volcan Poas 2 7.63 114 *e*P P 05 05 43.7 +1.8
PRS1 Puriscal 7.66 116⇑ *e*P P 05 05 42.5 +0.2
PRS1 Puriscal 7.66 116 *e*P P 05 05 42.6 +0.3
SJS Escuela Geolog 7.90 115 *e*P P 05 05 46.0 +0.4
SJS *e*S S 05 07 14.9 +0.3
SJS Escuela Geolog 7.90 115 *e*P P 05 05 46.2 +0.5
TRTC Tortuguero 7.95 110⇓ *e*P P 05 05 44.9 -1.5
TRTC Tortuguero 7.95 110 *e*P P 05 05 44.8 -1.5
LCR2 La Lucha 2 8.04 116 *e*P P 05 05 47.8 +0.2
LCR2 *e*S S 05 07 18.3 +0.4
LCR2 La Lucha 2 8.04 116 *e*P P 05 05 47.7 +0.2
IISM Ciudad Serdan 8.04 314 *e*P P 05 05 45.0 -2.6
BUS Buena Vista 8.34 117⇑ *e*P P 05 05 52.8 +1.2
BUS *e*S S 05 07 26.1 +0.7
BUS Buena Vista 8.34 117 *e*P P 05 05 52.8 +1.2
PPM Popocatepetl 9.00 310 *e*P P 05 06 03.0 +2.2
YAIG Yautepec 9.21 307 *i* P P 05 06 02.3 -1.4
PLIG Platanillo 9.30 303 *i* P P 05 06 05.6 +0.6
CAIG El Cayaco 9.37 294 *i* P P 05 06 03.8 -2.0
MOIG Morelia 11.33 305 *i* P P 05 06 33.0 +0.2
SFJM Santa Fe 13.24 304 *e*P P 05 06 59.0 +0.9
ZAIG Zacatecas 14.18 313 *i* P P 05 07 10.9 +0.5
NATX Nacogdoches 18.53 351 P P 05 08 04.2 -1.2
comp=E,18nm,0.8s
JCT Junction City 18.71 337 *e*P P 05 08 08.0 +0.4
comp=E,50nm,1.4s
ROSC El Rosal 18.79 115 P P 05 08 11.8 +3.2
comp=E,0.9nm,0.3s,baz=287,slow=22,SNR=13
TXAR Lajitas Array 19.56 326 P P 05 08 17.5 +0.5
comp=E,1.2nm,0.3s,baz=154,slow=12,SNR=112
TXAR LR LR 05 16 43.2
comp=E,192nm,18.5s,baz=190,slow=39
LTX Lajitas 19.56 326 *e*P P 05 08 17.9 +0.9
comp=E,22nm,1.1s
LRAL Lakeview Retre 19.94 11 *e*P P 05 08 19.9 -1.2
comp=E,43nm,1.2s
SDV Santo Domingo 20.78 100 P P 05 08 28.9 -1.1
comp=E,9.9nm,0.6s,baz=326,slow=8.7,SNR=9.5
SDV Santo Domingo 20.78 100 *e*P P 05 08 28.6 -1.4
comp=E,14nm,0.7s
OXF Oxford 21.09 4 *e*P P 05 08 31.6 -1.4
comp=E,46nm,1.1s,mb4.7
GOGA Godfrey 21.16 18 *e*P P 05 08 32.1 -1.6
comp=E,17nm,0.7s,mb4.5
UALR University of 21.30 358 *e*P P 05 08 33.0 -2.1
comp=E,32nm,0.9s,mb4.7
PLAL Pickwick Lake 21.68 7 *e*P P 05 08 38.8 -0.1
comp=E,17nm,1.1s,mb4.4
NHSC New Hope 22.09 26 P P 05 08 43.6 +0.6
comp=E,68nm,1.1s,mb5.0
SWET Sewanee 22.26 12 *e*P P 05 08 42.5 -2.1
WMOK Wichita Mounta 22.29 344 *e*P P 05 08 43.2 -1.7
comp=E,12nm,1.0s,mb4.3
MNTX Cornudas Mount 22.32 327 *e*P P 05 08 46.1 +0.8
comp=E,92nm,1.3s,mb5.0
JSC Jenkinsville 22.70 22 *e*P P 05 08 48.6 -0.4
CPCT Cooper Cave 22.79 14 *e*P P 05 08 49.4 -0.5
WVT Waverly 22.85 7 *e*P P 05 08 49.2 -1.2
comp=E,32nm,1.4s,mb4.5
TZTN Tazewell 24.07 15 *e*P P 05 09 01.2 -1.1
CCM Cathedral Cave 24.55 0 *e*P P 05 09 05.0 -2.0
comp=E,46nm,1.1s,mb4.9
WCI Wyandotte Cave 25.13 9 *e*P P 05 09 10.3 -2.2
comp=E,36nm,0.8s,mb5.0
ANMO Albuquerque 25.45 330 P P 05 09 16.6 +1.0
comp=E,2.8nm,0.7s,mb3.9,baz=146,slow=10,SNR=14
ANMO Albuquerque 25.45 330 *e*P P 05 09 16.4 +0.8
comp=E,5.0nm,0.9s,mb4.0
TUC Tucson 25.92 320 *e*P P 05 09 23.2 +3.3
comp=E,15nm,1.1s,mb4.4
SDCO Great Sand Dun 27.34 335 *e*P P 05 09 33.4 +0.4
comp=E,13nm,1.4s,mb4.3
ACSO Alum Creek Sta 27.71 14 *e*P P 05 09 34.0 -2.4
comp=E,8.5nm,0.6s,mb4.5
PV01 Paradox Valley 29.02 331 *e*P P 05 09 49.6 +1.6
ISCO Idaho Springs 29.15 337 *e*P P 05 09 49.2 0.0
comp=E,2.4nm,0.8s,mb4.0
PV10 Paradox Valley 29.43 331 *e*P P 05 09 52.0 +0.3
LDFC Landfair 30.45 319 *e*P P 05 10 01.7 +0.9
NEN Nelson 30.65 320 *e*P P 05 10 03.8 +1.3
SRU San Rafael 30.72 330 *e*P P 05 10 04.1 +0.9
MSU Marysvale 31.11 327 *e*P P 05 10 08.1 +1.5
ARUT Antelope Range 31.27 325 *e*P P 05 10 10.7 +2.8
DAU Daniels Canyon 32.09 331 *e*P P 05 10 16.0 +0.8
CTU Camp Tracy 32.55 330 *e*P P 05 10 20.1 +1.0
DUG Dugway 32.69 329 *e*P P 05 10 21.5 +1.1
comp=E,6.9nm,1.2s,mb4.5
TCUT Toone Canyon 32.72 331 *e*P P 05 10 21.2 +0.6
HWUT Hardware Ranch 33.17 332 *e*P P 05 10 25.5 +0.9
comp=E,14nm,1.1s,mb4.8
BW06 Boulder Array 33.24 335 *e*P P 05 10 26.0 +0.9
comp=E,1.0nm,0.6s,mb3.9
PDAR Pinedale Array 33.24 335 P P 05 10 23.7 -1.4
comp=E,0.7nm,0.6s,mb3.8,baz=117,slow=9.9,SNR=8.7
PDAR PcP PcP 05 13 06.2 -0.5
comp=E,1.0nm,0.8s,baz=148,slow=5.0,SNR=5.5
SPUT South Promonto 33.36 330 *e*P P 05 10 27.4 +1.2
HVU Hansel Valley 33.88 331 *e*P P 05 10 32.0 +1.4
REDW Red Top Meadow 34.27 334 *e*P P 05 10 34.3 +0.4
comp=E,27nm,1.1s,mb5.1
SNOW Snow King Moun 34.31 335 *e*P P 05 10 34.6 +0.4
comp=E,22nm,1.0s,mb5.0
ELK Elko 34.35 327 *e*P P 05 10 36.7 +2.0
comp=E,7.7nm,0.9s,mb4.6
ELK *e*PcP PcP 05 13 10.5 +0.6
LOHW Long Hollow 34.37 335 *e*P P 05 10 34.9 +0.1
comp=E,5.2nm,0.8s,mb4.5
TPAW Teton Pass 34.41 334 *e*P P 05 10 35.7 +0.6
comp=E,25nm,1.3s,mb5.0
RRI2 Red Ridge 34.45 334 *e*P P 05 10 36.5 +0.9
comp=E,20nm,1.3s,mb4.9
OMM Old Mammoth Mi 34.48 319 *e*P P 05 10 38.4 +2.5
IMW Indian Meadow 34.74 335 *e*P P 05 10 37.8 -0.2
comp=E,3.6nm,0.6s,mb4.5
IMW *e*PcP PcP 05 13 11.6 +0.6
BMN Battle Mountai 35.22 325 *e*P P 05 10 44.6 +2.5
comp=E,8.1nm,0.7s,mb4.8
CMB Columbia Colle 35.62 319 *e*P P 05 10 48.0 +2.5
comp=E,7.5nm,1.0s,mb4.6
SAML Samuel 35.68 127 *e*P P 05 10 45.0 -1.3
comp=E,16nm,0.8s,mb5.0
MCMT McKenzie Canyo 36.30 334 *e*P P 05 10 52.6 +1.4
BOZ Bozeman (W) 36.46 336 *e*P P 05 10 52.4 -0.1
comp=E,4.3nm,1.0s,mb4.3
BEKR Beckwourth 36.69 321 *e*P P 05 10 56.6 +2.0
comp=E,6.0nm,0.9s,mb4.4
ULM Lac du Bonnet 36.93 355 P P 05 10 53.5 -2.9
comp=E,1.7nm,0.4s,mb4.2,baz=158,slow=8.4,SNR=3.5
ULM LR LR 05 29 23.1
comp=E,160nm,20.6s,MS3.8,baz=150,slow=42
WVOR Wild Horse Val 37.35 326 *e*P P 05 11 02.2 +2.1
comp=E,14nm,1.0s,mb4.7
LPAZ La Paz 37.36 141 P P 05 11 01.3 +0.9
comp=E,4.5nm,0.8s,mb4.4,baz=329,slow=8.7,SNR=20
LPAZ LR LR 05 26 00.5
comp=E,239nm,18.9s,MS4.0,baz=151,slow=36
LPAZ La Paz 37.36 141 *e*P P 05 11 01.0 +0.6
comp=E,7.5nm,0.9s,mb4.5
MOD Modoc 37.94 324 *e*P P 05 11 06.0 +1.1
comp=E,39nm,1.1s,mb5.0
CHMT Chamberlain Mo 38.14 336 *e*P P 05 11 07.1 +0.5
MSO Missoula 38.35 335 *e*P P 05 11 08.8 +0.4
comp=E,8.8nm,1.3s,mb4.3
BMO Blue Mountains 38.37 330 *e*P P 05 11 08.2 -0.3
comp=E,5.5nm,1.1s,mb4.2
NEW Newport 40.82 334 *e*P P 05 11 29.1 +0.3
comp=E,4.0nm,0.9s,mb4.0
SIV San Ignacio 41.80 133 P P 05 11 37.4 +0.2
comp=E,21nm,0.8s,mb4.8,baz=307,slow=8.9,SNR=120
LVC Limon Verde 41.99 148 P P 05 11 40.3 +1.5
comp=E,11nm,0.9s,mb4.5,baz=308,slow=6.9,SNR=12
LVC Limon Verde 41.99 148 *e*P P 05 11 40.7 +1.9
comp=E,15nm,1.0s,mb4.6
FFC Flin Flon 42.07 351 *e*P P 05 11 38.3 -0.6
comp=E,2.3nm,0.6s,mb4.0
EDM Edmonton 43.41 341 *e*P P 05 11 49.0 -1.0
SCHQ Schefferville 45.55 20 P P 05 12 04.7 -2.4
comp=E,9.4nm,0.9s,mb4.7,baz=232,slow=8.4,SNR=6.7
SCHQ LR LR 05 32 17.7
comp=E,379nm,19.1s,MS4.3,baz=85,slow=38
SCHQ Schefferville 45.55 20 *e*P P 05 12 04.4 -2.8
comp=E,14nm,0.9s,mb4.9
CFAA Coronel Fontan 49.93 154 P P 05 12 41.3 -0.3
comp=E,1.6nm,0.9s,mb4.1,baz=333,slow=6.4,SNR=14
CPUP Villa Florida 51.50 140 P P 05 12 52.1 -1.4
comp=E,4.4nm,0.8s,mb4.4,baz=340,slow=7.6,SNR=11
CPUP LR LR 05 36 03.7
comp=E,231nm,19.2s,MS4.2,baz=217,slow=38
BDFB Brasília 51.64 123 P P 05 12 54.1 -0.6
comp=E,7.4nm,0.8s,mb4.6,baz=300,slow=7.5,SNR=12
BDFB LR LR 05 35 11.1
comp=E,151nm,19.3s,MS4.0,baz=301,slow=36
BAO Brasilia Array 51.66 123 P P 05 12 55.0 +0.1
YKA Yellowknife Ar 51.76 346 P P 05 12 53.5 -1.5
comp=E,1.4nm,0.3s,mb4.3,baz=149,slow=7.5,SNR=14
YKA LR LR 05 39 33.1
comp=E,165nm,19.7s,MS4.1,baz=130,slow=41
YKA Yellowknife Ar 51.76 346 P P 05 12 53.5 -1.5
YKA LR LR 05 39 33.1
YKW3 Yellowknife Ar 51.82 347 *e*P P 05 12 53.6 -1.8
DLBC Dease Lake 53.47 336 *e*P P 05 13 08.6 +0.7
PLCA Paso Flores 57.20 161 P P 05 13 34.5 -0.5
comp=E,7.1nm,1.1s,mb4.6,baz=337,slow=7.1,SNR=7.8
PLCA PcP PcP 05 14 28.6 -0.2
comp=E,3.1nm,1.0s,baz=6.0,slow=6.6,SNR=4.0
PLCA LR LR 05 33 46.9
comp=E,249nm,19.2s,MS4.3,baz=357,slow=31
PLCA Paso Flores 57.20 161 *e*P P 05 13 34.5 -0.6
comp=E,21nm,1.4s,mb5.0
RCBR Riachuelo 58.24 106 *e*P P 05 13 42.3 -0.4
comp=E,51nm,1.1s,mb5.5
INK Inuvik 61.20 343 *e*P P 05 14 00.3 -1.9
comp=E,9.8nm,1.1s,mb4.8
ILAR Eielson Array 63.65 337 P P 05 14 17.8 -0.8
comp=E,3.0nm,0.7s,mb4.4,baz=174,slow=4.7,SNR=23
ILAR LR LR 05 43 46.0
comp=E,180nm,19.7s,MS4.2,baz=282,slow=38
MCK McKinley 64.01 335 *e*P P 05 14 20.3 -0.6
comp=E,12nm,1.4s,mb4.7
SPU Mount Spurr 64.41 332 *e*P P 05 14 23.5 -0.1
RSO Redoubt South 64.49 331 *e*P P 05 14 24.4 +0.3
PPT Papeete 65.21 243 LR LR 05 35 21.8
comp=E,212nm,18.9s,MS4.4,baz=21,slow=29
SUMG Summit 66.63 15 *e*P P 05 14 35.7 -2.0
comp=E,3.3nm,0.6s,mb4.5
NOA NORSAR Array B 84.35 29 LR LR 05 53 46.2
comp=E,52nm,19.1s,MS3.9,baz=270,slow=36
DBIC Dimbokro 85.05 84 P P 05 16 22.9 0.0
comp=E,2.9nm,0.5s,mb4.7,baz=249,slow=5.0,SNR=9.3
DBIC Dimbokro 85.05 84 P P 05 16 22.9 0.0
ARCES ARCESS Array B 86.49 18 P P 05 16 26.9 -1.8
comp=E,1.7nm,0.8s,mb4.3,baz=297,slow=6.0,SNR=4.5
ARCES LR LR 05 55 35.1
comp=E,121nm,19.4s,MS4.3,baz=287,slow=36
CLL Collm 88.38 37 P P 05 16 38.0 -0.2
CLL *e**SP sP 05 17 02.0 +2.9
CLL Collm 88.38 37 *e*P P 05 16 38.0 -0.2
CLL epP sP 05 17 02.0 +2.9
GERES GERESS Array B 89.64 40 LR LR 05 57 30.9
comp=E,112nm,19.2s,MS4.3,baz=319,slow=36
FINES FINESS Array B 90.75 25 LR LR 05 58 27.9
comp=E,73nm,19.1s,MS4.1,baz=156,slow=36
CN2 Changchun 113.93 332 *e*PKP PKPdf 05 22 22.9 -1.2
SONM Songino Array 117.03 347 PKP PKPdf 05 22 32.1 +2.2
comp=E,0.6nm,0.8s,SNR=3.9
BOSA Boshof 119.50 115 PKP PKPdf 05 22 36.9 +1.6
comp=E,3.2nm,0.8s,baz=79,slow=1.4,SNR=3.9
BOSA Boshof 119.50 115 PKP PKPdf 05 22 36.9 +1.6
MKAR Makanchi Array 119.81 5 PKP PKPdf 05 22 36.5 +1.0
comp=E,0.7nm,0.8s,baz=345,slow=2.7,SNR=8.9
MKAR Makanchi Array 119.81 5 PKP PKPdf 05 22 36.5 +1.0
HHC Hu-ho-hao-te 122.01 340 *e*PKP PKPdf 05 22 46.9 +7.1
HHC PP PP
comp=Z,258nm,7.7s
WMQ Urumqi 123.05 1 *e*PKP PKPdf 05 22 41.0 -0.8
MAW Mawson 123.26 168 PKP PKPdf 05 22 42.8 +1.2
comp=Z,1.3nm,0.8s,baz=100,slow=4.9,SNR=3.7
NJ2 Nanjing 126.35 328 *e*PKP PKPdf 05 22 47.6 -0.9
STKA Stephens Creek 128.34 240 PKP PKPdf 05 22 54.4 +2.0
comp=Z,1.4nm,0.7s,baz=26,slow=23,SNR=4.5
LZH Lanzhou 128.74 344 *e*PKP PKPdf 05 22 53.5 +0.5
LZH LR LR
comp=N,153nm,18.0s
LZH LR LR
comp=Z,224nm,20.3s,MS4.8
LZH Lanzhou 128.74 344 *e*PKP PKPdf 05 22 53.5 +0.5
LZH pPKP 05 23 16.0
LZH sPKP 05 23 25.6
LZH LR LR
comp=Z,220nm,20.3s,MS4.8
CD2 Chengdu 133.62 342 PKP PKPdf 05 23 00.7 -1.7
WRAB Tennant Creek 135.88 255 *e*PKPdf PKPdf 05 23 09.6 +2.8
WRA Warramunga Arr 135.89 255 PKP PKPdf 05 23 08.8 +2.1
comp=Z,2.1nm,0.8s,baz=85,slow=2.0,SNR=8.7

IGQ 05 05:28:43.2, 0.15S×78.50W, h10km±4km, mb4.0, 6C-9D, Error ellipse: s-maj=1.6km s-min=0.9km az=29.2, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YANA	**Yana**	**0.07**	**296**	⇓P	Pg	05 28 46.1	+0.6
GGP	**Refugio Guagua**	**0.09**	**255**	⇓P	Pg	05 28 46.4	+0.6
PINO	**Pino**	**0.10**	**266**	⇓P	Pg	05 28 46.7	+0.8
TERV	**Terraza Guagua**	**0.10**	**257**	⇓P	Pg	05 28 46.7	+0.7
JUA2	**San Juan 2**	**0.12**	**238**	⇓P	Pg	05 28 46.4	+0.2
JOR1	**San Jorge 1**	**0.20**	**318**	⇓P	Pg	05 28 47.0	-0.6
ANTI	**Antisana**	**0.45**	**131**	⇓P	Pg	05 28 52.0	-0.5
NAS1	**Nasa**	**0.48**	**177**	⇑P	Pg	05 28 53.7	+0.7
VC1	**Cotopaxi 1**	**0.50**	**168**	⇑P	Pg	05 28 53.7	+0.3
COTA	**Cotacachi**	**0.51**	**19**	⇑P	Pg	05 28 53.7	+0.1
CAMI	**Rancho Maria**	**0.52**	**180**	⇓P	Pg	05 28 54.4	+0.6
TAMB	**Tambo**	**0.56**	**166**	⇑P	Pg	05 28 54.7	+0.2
CAYA	**Cayambe**	**0.56**	**67**	⇑P	Pg	05 28 54.7	+0.1
CAYA				S	Sg	05 29 02.1	0.0
QIL1	**Quilotoa**	**0.81**	**212**	⇑P	Pb	05 28 58.9	-0.1
QIL1				S	Sb	05 29 10.5	+0.7
CONE	**Cono NE Rev Vo**	**0.87**	**85**	P	Pb	05 29 00.3	+0.4
LAV3	**Lava3-Reventad**	**0.87**	**86**	P	Pb	05 29 00.3	+0.3
ECOPE	**Copete-Rev Vol**	**0.89**	**87**	P	Pb	05 29 02.2	+2.0
PISA	**Pisayambo**	**0.91**	**172**	⇓P	Pb	05 29 01.0	+0.4
PISA				S	Sb	05 29 14.1	+1.5
ECEN	**Cerro Negro**	**1.10**	**29**	P	Pb	05 29 04.7	+0.7

KRSC 05 05:47:16.0±1.0, 55.00N×163.02E, h8km±3km, ML4.1, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.87**	**240**	*e*P	Pb	05 47 33.1	+0.2
MKZ				*e*S	Sb	05 47 45.6	+1.1
KBTR	**Krutoberegovo**	**1.22**	**355**	*e*P	Pb	05 47 39.1	+0.3
KBTR				*e*S	Sb	05 47 55.8	+1.3
ZLN	**Zelenaya**	**1.62**	**310**	*e*P	Pn	05 47 45.4	+0.3
ZLN				*e*S	Sb	05 48 07.3	+1.0
TUMR	**Tumrok**	**1.67**	**281**	*e*P	Pn	05 47 46.6	+0.8
TUMR				*e*S	Sn	05 48 08.6	+0.9
CIRR	**Tsirk**	**1.71**	**312**	*e*P	Pn	05 47 47.7	+1.4
CIRR				*e*S	Sn	05 48 10.7	+2.2
BKI	**Bering**	**1.71**	**82**	P	Pn	05 47 46.3	0.0
BKI				*e*S	Sn	05 48 07.8	-0.8
BKI				Smax			
	100nm,0.3s						
LGNR	**Loginova**	**1.71**	**310**	*e*P	Pn	05 47 47.1	+0.7
LGNR				*e*S	Sn	05 48 10.7	+2.1
KMNR	**Kamenistaya**	**1.76**	**297**	*e*P	Pn	05 47 47.2	+0.1
KMNR				*e*S	Sn	05 48 10.6	+0.8
KRSR	**Krestovskiy**	**1.85**	**312**	*e*P	Pn	05 47 48.1	-0.3
KRSR				*e*S	Sn	05 48 11.1	-1.1
KPT	**Kopyto**	**1.86**	**302**	*e*P	Pn	05 47 49.1	+0.5
KLY	**Klyuchi**	**1.88**	**315**	*e*P	Pn	05 47 47.7	-1.1
KLY				*e*S	Sn	05 48 11.3	-1.6
KOZ	**Kozyrevsk**	**2.08**	**302**	*e*P	Pn	05 47 52.6	+1.0
KOZ				*e*S	Sn	05 48 19.1	+1.1
SRDR	**Sredinnyy**	**2.29**	**307**	*e*P	Pn	05 47 56.6	+1.9
SRDR				*e*S	Sn	05 48 25.5	+2.2
KII	**Karymskiy**	**2.29**	**247**	*e*P	Pn	05 47 54.5	-0.2
KII				*e*S	Sn	05 48 23.5	0.0
SPN	**Mys Shipunski**	**2.60**	**224**	*e*P	Pn	05 47 58.1	-1.0
SPN				*e*S	Sn	05 48 28.6	-2.6
ESO	**Esso**	**2.63**	**292**	*e*P	Pn	05 47 58.7	-0.8
ESO				*e*S	Sn	05 48 29.7	-2.2
ESO				Smax			
	60nm,0.6s						
NLC	**Nalytchevo**	**2.84**	**231**	*e*P	Pn	05 48 01.8	-0.7
NLC				*e*S	Sn	05 48 37.5	+0.3
SDLR	**Sedlovina**	**2.98**	**236**	*e*P	Pn	05 48 05.2	+0.7
SDLR				*e*S	Sn	05 48 40.4	-0.5
SMAR	**Somma**	**3.03**	**237**	*e*P	Pn	05 48 06.1	+0.9
SMAR				*e*S	Sn	05 48 42.1	0.0
UGLR	**Uglovaya**	**3.05**	**236**	*e*P	Pn	05 48 06.2	+0.7
UGLR				*e*S	Sn	05 48 43.6	+0.9
AVH	**Avacha**	**3.06**	**237**	*e*P	Pn	05 48 06.6	+0.9
AVH				*e*S	Sn	05 48 44.2	+1.3
KOK	**Koryaka**	**3.10**	**238**	*e*P	Pn	05 48 07.1	+1.0
KOK				*e*S	Sn	05 48 44.9	+1.2
GNL	**Ganaly**	**3.25**	**248**	*e*P	Pn	05 48 08.6	+0.3
PET	**Petropavlovsk**	**3.25**	**234**	*e*P	Pn	05 48 09.2	+0.9
PET				*e*S	Sn	05 48 48.0	+0.4
KRMR	**Karymshinskiy**	**3.62**	**235**	*e*S	Sn	05 48 57.4	+0.4
RUS	**Russkaya**	**3.71**	**228**	*e*P	Pn	05 48 14.4	-0.5
RUS				*e*S	Sn	05 48 56.1	-3.3
GRL	**Gorelyy**	**3.82**	**232**	*e*P	Pn	05 48 18.5	+2.0
GRL				*e*S	Sn	05 49 03.0	+0.8
APC	**Apacha**	**4.04**	**241**	*e*P	Pn	05 48 20.9	+1.4
APC				*e*S	Sn	05 49 07.6	0.0
APC				Smax			
	10.0nm,0.6s						
MIPR	**Malaya Ipel'ka**	**4.62**	**236**	*e*P	Pn	05 48 28.7	+0.9
PAU	**Pauzhetka**	**5.14**	**229**	P	Pn	05 48 35.4	+0.2

KRSC 05 05:49:07.9±0.9, 55.01N×162.98E, h11km±2km, ML4.0, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.85**	**238**	*e*P	Pb	05 49 24.8	+0.5
MKZ				*e*S	Sb	05 49 36.6	+1.1
KBTR	**Krutoberegovo**	**1.20**	**356**	*e*P	Pb	05 49 30.3	0.0
KBTR				*e*S	Sb	05 49 46.5	+0.8
ZLN	**Zelenaya**	**1.60**	**310**	*e*P	Pn	05 49 37.4	+1.1
ZLN				*e*S	Sn	05 49 59.7	+2.7
TUMR	**Tumrok**	**1.65**	**281**	*e*S	Sn	05 49 57.7	-0.7
CIRR	**Tsirk**	**1.68**	**312**	P	Pn	05 49 39.3	+1.8
CIRR				*e*S	Sn	05 50 01.0	+1.8
LGNR	**Loginova**	**1.69**	**310**	*e*P	Pn	05 49 38.4	+0.8
BKI	**Bering**	**1.73**	**82**	P	Pn	05 49 38.3	+0.1
BKI				*e*S	Sn	05 49 59.7	-0.7
BKI				Smax			
	70nm,0.3s						
KMNR	**Kamenistaya**	**1.73**	**297**	*e*P	Pn	05 49 38.9	+0.6
KMNR				*e*S	Sn	05 50 01.0	+0.5
KRSR	**Krestovskiy**	**1.83**	**312**	*e*P	Pn	05 49 40.5	+0.9
KRSR				*e*S	Sn	05 50 03.8	+0.9
KPT	**Kopyto**	**1.84**	**303**	P	Pn	05 49 40.3	+0.5
KLY	**Klyuchi**	**1.86**	**316**	*e*P	Pn	05 49 38.8	-1.2
KLY				*e*S	Sn	05 50 00.7	-2.9
KOZ	**Kozyrevsk**	**2.06**	**302**	*e*P	Pn	05 49 43.2	+0.3
KOZ				*e*S	Sn	05 50 09.4	+0.7
KII	**Karymskiy**	**2.28**	**246**	*e*P	Pn	05 49 46.7	+0.7
KII				*e*S	Sn	05 50 14.8	+0.5
SPN	**Mys Shipunski**	**2.59**	**224**	*e*P	Pn	05 49 49.6	-0.9
SPN				*e*S	Sn	05 50 19.9	-2.4
ESO	**Esso**	**2.60**	**292**	*e*P	Pn	05 49 50.7	0.0
ESO				*e*S	Sn	05 50 22.6	0.0
ESO				Smax			
	50nm,0.8s						
NLC	**Nalytchevo**	**2.82**	**231**	*e*P	Pn	05 49 53.4	-0.5
NLC				*e*S	Sn	05 50 26.9	-1.3
SDLR	**Sedlovina**	**2.97**	**236**	*e*P	Pn	05 49 56.3	+0.4
SDLR				*e*S	Sn	05 50 32.2	+0.3
SMAR	**Somma**	**3.02**	**236**	*e*P	Pn	05 49 57.2	+0.6
SMAR				*e*S	Sn	05 50 33.2	+0.1
UGLR	**Uglovaya**	**3.04**	**235**	*e*P	Pn	05 49 57.0	+0.1
UGLR				*e*S	Sn	05 50 33.3	-0.4
AVH	**Avacha**	**3.05**	**237**	*e*P	Pn	05 49 58.2	+1.2
AVH				*e*S	Sn	05 50 35.0	+1.2
KOK	**Koryaka**	**3.08**	**238**	*e*P	Pn	05 49 58.5	+1.0
KOK				*e*S	Sn	05 50 35.9	+1.2
GNL	**Ganaly**	**3.23**	**248**	*e*P	Pn	05 50 00.0	+0.4
PET	**Petropavlovsk**	**3.24**	**234**	*e*P	Pn	05 50 00.2	+0.5
PET				*e*S	Sn	05 50 37.5	-1.1
RUS	**Russkaya**	**3.70**	**228**	*e*P	Pn	05 50 06.2	-0.1
RUS				*e*S	Sn	05 50 49.3	-1.1
GRL	**Gorelyy**	**3.81**	**232**	*e*P	Pn	05 50 08.9	+1.0
GRL				*e*S	Sn	05 50 54.2	+1.0
APC	**Apacha**	**4.02**	**241**	P	Pn	05 50 12.8	+1.9
APC				*e*S	Sn	05 50 59.4	+0.9

IDC 05 06:02:38.5±4.3, 10.20N×92.40E, mb3.5/3, mb1 3.7/3, mb1mx3.5/18, mbtmp3.5/3, Error ellipse: s-maj=157.4km s-min=32.4km az=64.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.47**	**349**	P	P	06 09 53.6	-1.9
	0.3nm,0.5s,baz=178,slow=8.6,SNR=3.7						
SONM	**Songino Array**	**39.33**	**15**	P	P	06 10 09.4	-1.6
	0.4nm,0.7s,baz=207,slow=6.6,SNR=3.5						
WRA	**Warramunga Arr**	**51.00**	**126**	P	P	06 11 42.4	-2.1
	0.5nm,0.4s,baz=307,slow=8.6,SNR=4.7						

GUC 05 06:05:54.1±0.6, 27.97S×68.77W, h100km, ML3.5, 2C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**1.53**	**293**	*e*P	P	06 06 20.6	-0.5
CPCH				*i* S	S	06 06 41.6	+0.4
VACH	**Vallenar**	**1.85**	**251**	⇑*i*P	P	06 06 25.4	+0.1
VACH				*i* S	S	06 06 48.6	+0.3
VACH				AMP		06 06 49.7	
	comp=N,1μm,0.1s						
CRCH	**Chaqaral**	**2.31**	**314**	⇑*i*P	P	06 06 32.5	+1.2
CRCH				*i* S	S	06 07 00.5	+1.3
CRCH				AMP		06 07 04.1	
	comp=N,123nm,0.4s						
CPN1	**Cerro Paranal**	**3.64**	**336**	*i* S	S	06 07 32.0	+0.3

CASC 05 06:06:10.4±2.0, 11.32N×85.48W, h4km±4km, MD3.5, ML2.8, 8C-4D, Nicaragua

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

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XAVN	**Gruta Xavier**	**1.17**	**315⇑**	*eP*	Pb	06 06 32.1	-0.6
PYTN	**Playitas**	**1.34**	**335⇓**	*eP*	Pb	06 06 35.1	-0.5
COPN	**Copaltepe**	**1.38**	**308⇑**	*eP*	Pb	06 06 35.0	-1.5
COPN				*eS*	Sb	06 06 54.6	+0.2
MIRN	**Miramar**	**1.64**	**313⇓**	*eP*	Pn	06 06 40.1	-0.1
CNGN	**Cerro Negro**	**1.67**	**315**	*eP*	Pn	06 06 40.1	-0.5
PRS1	**Puriscal**	**1.76**	**139⇑**	*eP*	Pn	06 06 42.5	+0.6
LEON	**Leon**	**1.76**	**309**	*eP*	Pn	06 06 40.5	-1.4
TEL3	**Telica 3**	**1.82**	**313⇑**	*eP*	Pn	06 06 43.2	+0.3
TELN	**Telica**	**1.84**	**314**	*eP*	Pn	06 06 43.0	0.0
TRTC	**Tortuguero**	**1.89**	**113**	*eP*	Pn	06 06 43.0	-0.8
TRTC				*eS*	Sn	06 07 08.3	0.0
CRIN	**San Cristobal**	**2.06**	**312**	*eP*	Pn	06 06 45.8	-0.4
LCR2	**La Lucha 2**	**2.14**	**137⇑**	*eP*	Pn	06 06 46.6	-0.8
LCR2				*eS*	Sn	06 07 17.2	+2.5
BUS	**Buena Vista**	**2.44**	**136**	*eP*	Pn	06 06 52.1	+0.4
BUS				*eS*	Sn	06 07 25.7	+3.4

ISK ***05*** *06:08:54.0, 39.40N×33.11E, h5km, MD3.6*
CSEM ***05*** *06:08:54.0, 39.40N×33.11E, h5km, MD3.6, After ISK*
ISC 05 06:08:55.4±0.3, 39.40N±0.02×33.08E±0.03, h5km, n39, σ1§11/57, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAMT	**Kaman**	**0.49**	**93**	*i* PG	**Pg**	**06 09 03.6**	**-1.6**
ANTO	**Ankara**	**0.52**	**335**	*i* P	**Pg**	**06 09 04.8**	**-1.1**
ANTO				*i* S	**Sg**	**06 09 13.9**	**+1.1**
LOD	**Lodumlu**	**0.55**	**333**	*i* PG	**Pg**	**06 09 05.4**	**-1.1**
CDAG	**Cicekdag**	**1.02**	**77**	*i* P	**Pb**	**06 09 12.2**	**-3.0**
CDAG				*i* S	**Sb**	**06 09 28.1**	**-0.7**
KIZT	**Kizilcal**	**1.07**	**242**	*i* PN	**Pn**	**06 09 15.5**	**-1.5**
KIZT				*i* SN	**Sn**	**06 09 31.6**	**-0.7**
ELDT	**Eldivan**	**1.12**	**13**	*i* P	**Pb**	**06 09 14.4**	**-2.5**
ELDT				*i* S	**Sb**	**06 09 33.0**	**+1.3**
KDHN	**Kadinhani**	**1.16**	**221**	*i* P	**Sg**	**06 09 32.4**	**-1.5**
CANT	**Cankiri**	**1.28**	**19**	PN	**Pn**	**06 09 19.0**	**-0.9**
CANT				SN	**Sn**	**06 09 38.1**	**+0.5**
SGKT	**Sivrigoynuk**	**1.42**	**326**	*i* P	**Pn**	**06 09 20.7**	**-1.2**
SGKT				*i* S	**Sb**	**06 09 46.7**	**+6.5**
CORM	**Corum**	**1.42**	**56**	PN	**Pn**	**06 09 21.2**	**-0.8**
AVNT	**Avonos**	**1.51**	**114**	*i* P	**Pn**	**06 09 22.4**	**-0.8**
AVNT				*i* S	**Sb**	**06 09 44.7**	**+1.8**
KONT	**Konya--Tatoy**	**1.56**	**202**	PN	**Pn**	**06 09 24.2**	**+0.3**
BSTP	**Nigde**	**1.65**	**151**	*i* P	**Pn**	**06 09 25.4**	**+0.1**
BSTP				*i* S	**Sb**	**06 09 49.8**	**+2.7**
ESKT	**Eskisehir**	**1.73**	**275**	PN	**Pn**	**06 09 27.6**	**+1.1**
ESKT	**Eskisehir**	**1.73**	**275**	*i* P	**Pn**	**06 09 26.3**	**-0.1**
ESKT				*i* S	**Sn**	**06 09 51.6**	**+2.4**
YOZ	**Yozgat**	**1.75**	**81**	PN	**Pn**	**06 09 26.5**	**-0.1**
NIG	**Nigde**	**1.75**	**137**	PN	**Pn**	**06 09 27.0**	**+0.3**
TOS	**Tosya**	**1.79**	**23**	PN	**Pn**	**06 09 27.0**	**-0.2**
MDU	**Mudurnu**	**1.79**	**307**	PN	**Pn**	**06 09 27.9**	**+0.6**
CTKT	**Corum**	**1.79**	**46**	*i* P	**Pn**	**06 09 26.9**	**-0.5**
CTKT				*i* S	**Sn**	**06 09 53.6**	**+2.9**
SAFT	**Safranbolu**	**1.87**	**351**	PN	**Pn**	**06 09 29.2**	**+0.9**
BALT	**Daday**	**2.15**	**6**	*i* P	**Pn**	**06 09 33.2**	**+0.9**
BALT				*i* S	**Sn**	**06 10 04.6**	**+4.9**
HENT	**Hendek**	**2.20**	**311**	*i* P	**Pn**	**06 09 34.8**	**+1.7**
HENT				*i* S	**Sn**	**06 10 08.3**	**+7.3**
BNN	**Bunyan**	**2.22**	**103**	*e*PN	**Pn**	**06 09 33.4**	**0.0**
BOYT	**Boyabat**	**2.45**	**34**	*i* P	**Pn**	**06 09 34.7**	**-2.1**
BOYT				*i* S	**Sn**	**06 10 12.5**	**+5.0**
HDMB	**Hadim**	**2.47**	**191**	*e*PN	**Pn**	**06 09 38.0**	**+0.9**
EYL	**Eskiyayla**	**2.53**	**298**	*e*PN	**Pn**	**06 09 38.7**	**+0.8**
ISP	**Isparta**	**2.54**	**233**	*e*PN	**Pn**	**06 09 38.3**	**+0.2**
TKTP	**Tekketepe**	**2.55**	**239**	*i* P	**Pn**	**06 09 38.3**	**+0.1**
TKTP				*i* S	**Sn**	**06 10 09.3**	**-0.7**
ERMK	**Ermenek**	**2.75**	**183**	*i* P	**Pn**	**06 09 40.8**	**-0.2**
ERMK				*i* S	**Sn**	**06 10 16.3**	**+1.2**
GDZ	**Gediz**	**2.81**	**265**	*i* P	**Pn**	**06 09 46.7**	**+4.7**
GDZ				*i* S	**Sn**	**06 10 25.9**	**+9.3**
KVT	**Kavak**	**2.82**	**52**	*e*PN	**Pn**	**06 09 42.4**	**+0.4**
SVST	**Sivas**	**3.01**	**82**	*i* P	**Pn**	**06 09 49.9**	**+5.1**
SVST				*i* S	**Sn**	**06 10 30.6**	**+8.9**
SVSK	**Karacayir**	**3.06**	**79**	*e*PN	**Pn**	**06 09 45.6**	**+0.1**
YLV	**Yalova**	**3.08**	**293**	*e*PN	**Pn**	**06 09 46.3**	**+0.6**
ULDT	**Uludag**	**3.13**	**285**	*i* P	**Pn**	**06 09 53.4**	**+6.9**
ULDT				*i* S	**Sg**	**06 10 39.1**	**-0.6**
GOLH	**Golhisar**	**3.51**	**233**	*i* P	**Pn**	**06 09 51.6**	**-0.2**
COBT	**Iskenderun**	**3.81**	**138**	*i* P	**Pn**	**06 09 51.3**	**-4.7**
MALT	**Malatya**	**4.31**	**103**	*e*PN	**Pn**	**06 10 03.2**	**0.0**

MAN 05 06:11:46.2, 11.81N×125.84E, h64km, mb4.7, ML3.6, MS3.5, 1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.44**	**242**	*e*P	P	06 11 55.8	-2.2
BESP				*e*S	S	06 12 04.1	-2.6
CNP	**Cataman**	**1.34**	**302**	*e*P	P	06 12 09.1	-0.4
CNP				*e*S	S	06 12 28.1	+1.4
MSLP	**Maasin**	**1.92**	**210**	*e*P	P	06 12 21.8	+4.5
MSLP				*e*S	S	06 12 46.7	+6.5
SCPH	**Surigao**	**2.04**	**190**	*i* P	P	06 12 20.1	+1.1
SCPH				*e*S	S	06 12 46.7	+3.5
LLP	**Lapu-Lapu**	**2.36**	**231**	*e*P	P	06 12 32.4	+8.9
LLP				*e*S	S	06 12 60.0	+8.8
PVCP	**Virac**	**2.42**	**317**	*e*P	P	06 12 26.1	+1.7
PVCP				*e*S	S	06 13 04.0	+11
BUTP	**Butuan**	**2.83**	**184**	*e*P	P	06 12 37.3	+7.2
TBP	**Tagbilaran**	**2.86**	**223**	*e*P	P	06 12 35.8	+5.3
TBP				*e*S	S	06 13 13.1	+9.2
RCP	**Roxas**	**3.04**	**266⇓**	*i* P	P	06 12 36.0	+2.9
GUIM	**Jordan**	**3.40**	**250**	*e*P	P	06 12 39.8	+1.7
GUIM				*e*S	S	06 13 21.3	+4.0
BUKP	**Musuan**	**3.98**	**191**	*e*P	P	06 12 47.6	+1.4
BUKP				*e*S	S	06 13 35.5	+3.6
PAGZ	**Pagadian**	**4.62**	**212**	*e*P	P	06 12 56.5	+1.3
PAGZ				*e*S	S	06 13 50.0	+1.9

IDC ***05*** *06:12:19.9±0.6, 10.69N×91.58E, mb4.2/17, mb1 4.3/17, mb1mx4.3/21, mbtmp4.2/17, MS4.2/14, Ms1 4.2/14, ms1mx4.2/18, Error ellipse: s-maj=25.5km s-min=14.1km az=62.0*
BJI ***05*** *06:12:24.1, 10.83N×91.44E, h25km, mB5.1, mb4.8, Ms4.6, Msz4.2*
MOS ***05*** *06:12:24.3±1.3, 10.84N×91.41E, h33km, mb5.0/21, Error ellipse: s-maj=13.5km s-min=6.9km az=100.0*
NEIC ***05*** *06:12:25.2±3.6, 10.76N×91.45E, h29km±26km, mb4.7/17, Error ellipse: s-maj=11.7km s-min=8.7km az=58.0*
ISC 05 06:12:23.8±0.8, 10.65N±0.05×91.38E±0.04, h38km±7km, h24km±5.7km: pP-P, n128, σ1§32/125, mb4.6/49, MS4.3/23, 10C-2D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.67**	**53**	*e*P	**P**	**06 12 48.9**	**-2.1**
PBA				*e*S	**S**	**06 13 07.6**	**-3.8**
NNT	**Nongplab**	**8.41**	**76**	P	**P**	**06 14 27.2**	**+1.2**
SNG	**Songkhla**	**9.75**	**110**	P	**P**	**06 14 46.0**	**+1.3**
NST	**Nakhon Sawan**	**9.88**	**59**	P	**P**	**06 14 48.0**	**+1.6**
BDT	**Bhumibol Dam**	**9.88**	**48**	P	**P**	**06 14 58.0**	**+11**
	2.2nm,1.0s						
VIS	**Vishakhapatnam**	**10.50**	**313**	*e*P	**P**	**06 14 53.2**	**-1.9**
VIS				*e*S	**S**	**06 16 41.2**	**-11**
KULM	**Kulim**	**10.61**	**119**	*e*Pn	**P**	**06 14 56.7**	**+0.2**
CHG	**Chiang Mai**	**10.92**	**41**	⇑P	**P**	**06 15 14.9**	**+14**
	23nm,0.6s						
BWNR	**Bhubaneshwar**	**10.99**	**331**	*ex*	**P**	**06 15 04.7**	**+3.0**
BWNR				AMb	AMB	06 15 12.8	
	comp=Z,84nm,0.8s						
BWNR				*ex*	**S**	**06 16 59.9**	**-4.5**
PALK	**Pallekele**	**11.07**	**253**	*e*Pn	**P**	**06 15 02.7**	**0.0**
MDRS	**Chennai**	**11.16**	**284**	*ex*	x	06 18 03.0	
NANT	**Nan**	**12.12**	**47**	P	**P**	**06 15 15.0**	**-1.8**
	comp=Z,138nm,0.5s						
CAL	**Calcutta**	**12.18**	**347**	*ex*	x	06 17 54.4	
CAL				*ex*	x	06 19 56.5	
CHRT	**Chiangrai**	**12.23**	**40**	⇑P	**P**	**06 15 19.0**	**+0.6**
	comp=Z,132nm,0.8s						
KKTK	**Khon Kaen**	**12.48**	**62**	P	**P**	**06 15 34.0**	**+12**
	comp=Z,432nm,0.8s						
BOK	**Bokaro**	**14.08**	**339**	*e*P	**P**	**06 15 41.0**	**-1.9**
BOK				AMb	AMB	06 15 44.9	
	comp=Z,27nm,0.9s						
BOK				*ex*	**S**	**06 18 10.0**	**-8.9**
HYB	**Hyderabad**	**14.14**	**300**	*i* P	**P**	**06 15 52.0**	**+8.2**
HYB				*e*S	**S**	**06 18 20.0**	**-0.3**
HYB	**Hyderabad**	**14.14**	**300**	*e*P	**P**	**06 15 52.0**	**+8.2**
HYB				*e*S	**S**	**06 18 20.0**	**-0.3**
BLSP	**Bilaspur**	**14.45**	**323**	*ex*	x	06 15 56.0	
BLSP				*ex*	**S**	**06 18 20.0**	**-7.6**
SHL	**Shillong**	**14.85**	**2**	*e*P	**P**	**06 15 55.0**	**+2.1**
SHL				*ex*	x	06 18 13.0	
NGP	**Nagpur**	**15.79**	**313**	*e*P	**P**	**06 16 05.5**	**+0.4**
NGP				AMb	AMB	06 16 13.7	
	comp=Z,33nm,1.5s						
AKL	**Akola**	**17.05**	**308**	*ex*	x	06 18 29.2	
PKI	**Pulchoki**	**17.75**	**342**	*e*P	**P**	**06 16 30.8**	**+1.1**
DMN	**Daman**	**17.88**	**342**	*e*P	**P**	**06 16 31.8**	**+0.5**
	comp=Z,87nm,0.8s						
GUN	**Gumba**	**17.93**	**344**	*e*P	**P**	**06 16 34.4**	**+2.4**
KMI	**Kunming**	**17.98**	**35**	P	**P**	**06 16 30.9**	**-1.8**
KMI				AP		06 16 37.1	
KMI				PP	PP	06 16 47.1	-0.5
KMI				AMB	AMB		
	comp=Z,268nm,5.8s						
KMI				LR	LR		
	comp=N,1μm,11.2s						
KMI				LR	LR		
	comp=E,917nm,11.4s						
KMI				LR	LR		
	comp=Z,885nm,18.5s						
KMI	**Kunming**	**17.98**	**35**	P	**P**	**06 16 30.9**	**-1.8**
	comp=Z,0.3nm,5.8s						
KMI				pP		06 16 37.1	
KMI				PP	PP	06 16 47.1	-0.5
KMI				S	**S**	**06 20 03.1**	**+14**
KKN	**Kakani**	**17.99**	**342**	*e*P	**P**	**06 16 33.6**	**+0.8**
BHPL	**Bhopal**	**18.28**	**315**	*e*P	**P**	**06 16 37.5**	**+1.0**
BHPL				AMb	AMB	06 16 41.2	
	comp=Z,43nm,1.3s						
GKN	**Gorkha**	**18.39**	**341**	*e*P	**P**	**06 16 37.6**	**-0.2**
	comp=Z,77nm,0.8s						
KOLN	**Koldanda**	**18.54**	**338**	*e*P	**P**	**06 16 40.0**	**+0.4**
POO	**Poona**	**18.68**	**297**	*ex*	x	06 19 35.0	
LSA	**Lhasa**	**18.96**	**359**	P	**P**	**06 16 44.4**	**-0.2**
LSA				AP		06 16 53.1	
LSA				AMB	AMB		
	comp=Z,30nm,1.3s						
LSA				AMB	AMB		
	comp=Z,290nm,6.8s						
LSA				LR	LR		
	comp=N,580nm,15.5s						
LSA				LR	LR		
	comp=E,970nm,15.8s						
LSA				LR	LR		
	comp=Z,860nm,17.7s						
LSA	**Lhasa**	**18.96**	**359**	*e*P	**P**	**06 16 44.3**	**-0.3**
	comp=Z,28nm,0.8s						
LSA	**Lhasa**	**18.96**	**359**	*e*P	**P**	**06 16 44.3**	**-0.3**
LSA				pmax	pmax		
	comp=Z,28nm,0.8s						
QIZ	**Qiongzhong**	**19.68**	**63**	P	**P**	**06 16 51.4**	**-1.3**
QIZ				S	**S**	**06 20 29.6**	**+2.4**
QIZ				LR	LR		
	comp=N,747nm,19.8s						
QIZ				LR	LR		
	comp=E,879nm,14.4s						
QIZ				LR	LR		
	comp=Z,902nm,15.9s						
KSM	**Kuching**	**20.89**	**115**	*e*P	**P**	**06 17 06.5**	**+1.1**
GYA	**Guiyang**	**21.34**	**40⇑**	*i*P	**P**	**06 17 08.1**	**-1.8**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.1						
GYA				AMB	AMB		
	comp=Z,590nm,5.4s						
AJM	**Ajmer**	**22.31**	**317**	*i* P	**P**	**06 17 21.0**	**+1.5**
NDI	**New Delhi**	**22.32**	**326**	*e*P	**P**	**06 17 22.6**	**+3.0**
NDI				AMb	AMB	06 17 26.5	
	comp=Z,69nm,1.1s,mb5.0						
CD2	**Chengdu**	**23.21**	**28**	*e*P	**P**	**06 17 27.6**	**-0.8**
ENH	**Enshi**	**25.79**	**38**	*e*P	**P**	**06 17 51.0**	**-2.2**
	comp=Z,5.9nm,0.4s,mb4.5						
LZH	**Lanzhou**	**27.73**	**22**	⇑P	**P**	**06 18 11.0**	**0.0**
LZH				AP	pP	06 18 16.1	-5.3
LZH				XP	sP	06 18 19.0	-7.1
LZH				AMB	AMB		
	comp=Z,28nm,1.3s,mb4.7						
LZH				AMB	AMB		
	comp=Z,159nm,4.7s						
LZH				LR	LR		
	comp=E,731nm,11.2s						
LZH				LR	LR		
	comp=Z,1μm,15.3s,MS4.7						
LZH	**Lanzhou**	**27.73**	**22**	⇑P	**P**	**06 18 11.0**	**0.0**
	comp=Z,28nm,1.3s,mb4.7						
LZH				pP	pP	06 18 16.1	-5.3
LZH				sP	sP	06 18 19.0	-7.1
LZH				PP	PP	06 19 10.5	+10
LZH				*e*S	S	06 23 10.0	+21
LZH				sS		06 23 18.2	
LZH				LR	LR		
	comp=Z,1μm,15.3s,MS4.7						
LZH	**Lanzhou**	**27.73**	**22**	⇑P	**P**	**06 18 11.0**	**0.0**
LZH				*SP	sP	06 18 19.0	-7.1
LZH						06 19 10.5	
LZH				pmax	pmax		
	comp=Z,28nm,1.3s,mb4.7						
LZH				MLR	MLR		
	comp=Z,1μm,15.3s,MS4.7						
XAN	**Xi'an**	**28.28**	**32**	AP	pP	06 18 27.2	+0.8
GTA	**Gaotai**	**29.61**	**13**	*e*P	**P**	**06 18 27.7**	**0.0**
GTA				AP	pP	06 18 33.8	-4.4
GTA				XP	sP	06 18 37.1	-6.0
GTA				AMB	AMB		
	comp=Z,10.0nm,1.5s,mb4.3						
GTA				AMB	AMB		
	comp=Z,214nm,6.5s						
GTA				LR	LR		
	comp=N,395nm,15.2s,MS4.3						
GTA				LR	LR		
	comp=E,478nm,17.5s,MS4.3						
GTA				LR	LR		
	comp=Z,359nm,20.5s,MS4.0						
NJ2	**Nanjing**	**33.12**	**46**	*e*P	**P**	**06 19 02.2**	**+3.6**
NJ2				AP	pP	06 19 12.0	+2.8
NJ2				XP	sP	06 19 15.8	+1.7
NJ2				PP	PP	06 20 13.9	+3.8
NJ2				S	**S**	**06 24 19.0**	**+4.8**
NJ2				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,430nm,6.1s						
NJ2				LR	LR		
	comp=N,1μm,16.2s						
NJ2				LR	LR		
	comp=E,1μm,23.1s						
NJ2				LR	LR		
	comp=Z,810nm,20.0s,MS4.4						
SSE	**Sheshan**	**34.30**	**49**	P	**P**	**06 19 09.6**	**+0.7**
SSE				AP	pP	06 19 18.2	-1.3
SSE				XP	sP	06 19 22.2	-2.2
SSE				S	**S**	**06 24 35.6**	**+3.0**
SSE				XS		06 24 50.7	
SSE				AMB	AMB		
	comp=Z,44nm,1.2s,mb5.3						
SSE				AMB	AMB		
	comp=Z,1μm,3.9s						
SSE				LR	LR		
	comp=N,216nm,19.9s,MS3.9						
SSE				LR	LR		
	comp=E,96nm,19.8s,MS3.9						
SSE				LR	LR		
	comp=Z,170nm,20.4s,MS3.8						
SSE	**Sheshan**	**34.30**	**49**	P	**P**	**06 19 09.6**	**+0.7**
	comp=Z,44nm,1.2s,mb5.3						
SSE				pP	pP	06 19 18.2	-1.3
SSE				sP	sP	06 19 22.2	-2.2
SSE				S	**S**	**06 24 35.6**	**+3.0**
SSE				sS		06 24 50.7	
SSE				LR	LR		
	comp=Z,170nm,20.4s,MS3.8						
AAK	**Ala-Archa**	**35.11**	**338**	*e*P	**P**	**06 19 15.9**	**+0.3**
	comp=Z,9.6nm,0.9s,mb4.7						
AAK	**Ala-Archa**	**35.11**	**338**	*e*P	**P**	**06 19 15.9**	**+0.2**
AAK				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
FRU	**Bishkek**	**35.24**	**338**	*e*P	**P**	**06 19 18.0**	**+1.2**
FRU				MLR	MLR		
	comp=Z,500nm,16.0s,MS4.4						
MKAR	**Makanchi Array**	**36.84**	**350**	P	**P**	**06 19 30.2**	**0.0**
	comp=Z,5.7nm,0.8s,mb4.4,baz=172,slow=8.6,SNR=17						
MKAR				LR	LR	06 38 08.1	
	comp=Z,262nm,20.0s,MS4.0,baz=180,slow=42						
KKAR	**Karatay Array**	**37.09**	**334**	*i* P	**P**	**06 19 33.2**	**+0.9**
KKAR				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.5						
SONM	**Songino Array**	**39.16**	**16**	P	**P**	**06 19 49.5**	**-0.1**
	comp=Z,5.2nm,0.9s,mb4.3,baz=198,slow=9.9,SNR=24						
SONM				LR	LR	06 39 14.2	
	comp=Z,420nm,18.6s,MS4.3,baz=315,slow=41						
KURK	**Kurchatov**	**41.31**	**348**	*e*P	**P**	**06 20 07.1**	**-0.2**
	comp=Z,20nm,1.3s,mb4.6						
KURK				*e*pP	pP	06 20 11.8	-6.3
KURK	**Kurchatov**	**41.31**	**348**	*e*P	**P**	**06 20 07.1**	**-0.2**
KURK				pmax	pmax		
	comp=Z,20nm,1.3s,mb4.6						
SNY	**Shenyang**	**41.95**	**37**	⇑P	**P**	**06 20 12.1**	**-0.7**
TLY	**Talaya**	**42.12**	**11**	*e*P	**P**	**06 20 15.4**	**+1.4**
	comp=Z,6.8nm,0.9s,mb4.3						
TLY	**Talaya**	**42.12**	**11**	*e*P	**P**	**06 20 15.1**	**+1.1**
TLY				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.2						
TLY				MLR	MLR		
	comp=Z,179nm,15.0s,MS4.1						
ZAL	**Zalesovo**	**43.49**	**354**	P	**P**	**06 20 24.6**	**-0.6**
	comp=Z,2.5nm,0.9s,mb3.9,baz=304,slow=12,SNR=6.6						
ZAL				LR	LR	06 43 02.0	
	comp=Z,353nm,18.2s,MS4.3,baz=290,slow=42						
ZAL	**Zalesovo**	**43.49**	**354**	*i* P	**P**	**06 20 24.9**	**-0.3**
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.9s						
CN2	**Changchun**	**44.26**	**36**	*e*P	**P**	**06 20 35.9**	**+4.4**
CN2				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.8						
FITZ	**Fitzroy Crossi**	**44.27**	**130**	*e*P	**P**	**06 20 29.9**	**-2.0**
	comp=Z,20nm,0.8s,mb4.9						
FITZ	**Fitzroy Crossi**	**44.27**	**130**	P	**P**	**06 20 29.4**	**-2.5**
	comp=Z,11nm,0.9s,mb4.6,baz=337,slow=5.8,SNR=4.6						
VOSK	**Vostochnaya**	**45.08**	**343**	P	**P**	**06 20 37.2**	**-0.7**
VOSK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
HIA	**Hailar**	**45.14**	**26**	*e*P	**P**	**06 20 38.1**	**-0.4**
	comp=Z,5.5nm,0.3s,mb4.9						
HIA	**Hailar**	**45.14**	**26**	*e*P	**P**	**06 20 38.1**	**-0.4**
HIA				pmax	pmax		
	comp=Z,6.0nm,0.3s						
BVA0	**Borovoye Array**	**45.52**	**342**	*i* P	**P**	**06 20 40.4**	**-1.0**
BVA0				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb3.9						
BVAR	**Borovoye Array**	**45.52**	**342**	P	**P**	**06 20 41.2**	**-0.2**
	comp=Z,2.8nm,0.8s,mb4.3,baz=135,slow=6.3,SNR=9.4						
BRVK	**Borovoye**	**45.58**	**342**	*e*P	**P**	**06 20 41.3**	**-0.7**
	comp=Z,3.3nm,1.0s,mb4.2						
BRVK	**Borovoye**	**45.58**	**342**	*e*P	**P**	**06 20 41.3**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
MUN	**Mundaring**	**48.59**	**152**	*e*P	**P**	**06 21 05.9**	**+0.1**
	comp=Z,13nm,0.7s,mb5.1						
MUN	**Mundaring**	**48.59**	**152**	*e*P	**P**	**06 21 05.9**	**+0.1**
MUN				pmax	pmax		
	comp=Z,13nm,0.7s,mb5.1						
MAT	**Matsushiro**	**49.42**	**51**	P	**P**	**06 21 11.4**	**-0.8**
MAT	**Matsushiro**	**49.42**	**51**	P	**P**	**06 21 11.0**	**-1.2**
NWAO	**Narrogin (SRO)**	**49.86**	**151**	P	**P**	**06 21 21.1**	**+5.5**
	comp=Z,15nm,0.9s,mb5.0,baz=327,slow=5.6,SNR=5.2						
BOD	**Bodaibo**	**50.16**	**16**	*e*P	**P**	**06 21 16.1**	**-1.4**
BOD				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.8						
GNI	**Garni**	**50.56**	**314**	P	**P**	**06 21 22.3**	**+1.5**
	comp=Z,4.4nm,0.4s,mb4.8,baz=329,slow=21,SNR=3.5						
KLR	**Kul'dur**	**50.98**	**33**	*e*P	**P**	**06 21 21.1**	**-2.8**
KLR				MLR	MLR		
	comp=E,600nm,16.0s						
KLR				MLR	MLR		
	comp=Z,900nm,16.0s,MS4.9						
SVE	**Sverdlovsk**	**51.84**	**339**	*e*P	**P**	**06 21 30.0**	**-0.2**
SVE				*e*	pP	06 21 40.0	-1.2
SVE				*e*		06 22 50.0	
SVE				pmax	pmax		
	comp=Z,40nm,1.7s,mb5.1						
WRA	**Warramunga Arr**	**52.08**	**126**	P	**P**	**06 21 30.6**	**-2.0**
	comp=Z,13nm,0.9s,mb4.8,baz=307,slow=7.7,SNR=11						
WRAB	**Tennant Creek**	**52.08**	**126**	*e*P	**P**	**06 21 35.8**	**+3.2**
	comp=Z,3.1nm,0.4s,mb4.6						
WRAB	**Tennant Creek**	**52.08**	**126⇓**	*i*P	**P**	**06 21 37.0**	**+4.5**
WB2	**Warramunga Arr**	**52.09**	**126⇑**	*i*P	**P**	**06 21 30.8**	**-1.8**
WB2				*e*		06 21 36.9	
WB2				*e*		06 21 46.3	
ARU	**Arti**	**52.30**	**338⇓**	*i*P	**P**	**06 21 34.4**	**+0.8**
ARU				*e*		06 23 31.0	
ARU				*e*PPP	PPP	06 24 37.4	-0.6
ARU				*e*S	**S**	**06 28 56.2**	**+1.4**
ARU				*e*SS	SS	06 32 36.0	+5.1
ARU				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
ARU				MLR	MLR		
	comp=Z,300nm,18.0s,MS4.4						
ARU				MLR	MLR		
	comp=N,200nm,17.0s,MS4.5						
ARU				MLR	MLR		
	comp=E,300nm,16.5s,MS4.5						
KIV	**Kislovodsk**	**53.45**	**318**	*e*P	**P**	**06 21 41.4**	**-1.0**
KIV				pmax	pmax		
	comp=Z,20nm,1.7s,mb4.8						
KMBO	**Kilima Mbogo**	**55.09**	**261**	LR	LR	06 44 09.8	
	comp=Z,247nm,18.1s,MS4.3,baz=96,slow=34						
SOC	**Sochi**	**55.31**	**316**	*e*P	**P**	**06 21 54.6**	**-1.4**
SOC				*e*PPP	PPP	06 25 08.3	-6.9
SOC				*e*S	**S**	**06 29 32.9**	**-2.7**
SOC				*

comp=Z,3.5nm,1.0s,mb4.2,baz=197,slow=40,SNR=2.5
FINES LR LR 06 56 14.2
comp=Z,96nm,21.6s,MS4.0,baz=136,slow=38
FINES FINESS Array B 69.00 332 P **P** **06 23 25.4 -1.8**
FINES LR LR 06 56 14.2
ARCES ARCESS Array B 71.75 340 P **P** **06 23 43.8 +0.1**
comp=Z,3.9nm,0.8s,mb4.4,baz=328,slow=11,SNR=4.3
ARCES LR LR 06 57 10.1
comp=Z,365nm,19.4s,MS4.7,baz=114,slow=38
GERES GERESS Array B 73.95 318 P **P** **06 23 57.8 +0.8**
comp=Z,0.4nm,0.3s,mb3.9,baz=90,slow=6.7,SNR=7.5
BOSA Boshof 74.79 236 P **P** **06 24 04.5 +2.1**
comp=Z,4.5nm,0.9s,mb4.4,baz=165,slow=5.7,SNR=4.9
BOSA LR LR 06 52 30.0
comp=Z,203nm,19.3s,MS4.4,baz=253,slow=32
BOSA Boshof 74.79 236 P **P** **06 24 04.5 +2.1**
BOSA LR LR 06 52 30.0
NB2 NORSAR Subarra 75.99 330 P **P** **06 24 11.6 +3.1**
comp=Z,8.5nm,1.4s,mb4.5,baz=94,slow=5.3
NB2 NORSAR Subarra 75.99 330 P **P** **06 24 11.6 +3.1**
NB2 pmax pmax
comp=Z,9.0nm,1.4s,mb4.5
NOA NORSAR Array B 75.99 330 P **P** **06 24 08.6 +0.1**
comp=Z,0.3nm,0.6s,baz=116,slow=3.8,SNR=2.8
NOA LR LR 07 05 06.5
comp=Z,119nm,18.2s,baz=100,slow=42
LPG La Plagne 78.74 314 *e*P **P** **06 24 30.4 +6.2**
comp=Z,9.8nm,0.9s,mb4.5
MAW Mawson 80.71 191 *e*P **P** **06 24 35.2 +0.9**
comp=Z,4.7nm,2.0s,mb4.1
MAW Mawson 80.71 191 P **P** **06 24 34.2 -0.1**
comp=Z,0.8nm,0.6s,mb3.8,baz=328,slow=19,SNR=4.0
MAW LR LR 06 55 39.2
comp=Z,72nm,18.0s,MS4.1,baz=247,slow=32
MAW Mawson 80.71 191 *e*P **P** **06 24 35.2 +0.9**
MAW pmax pmax
comp=Z,5.0nm,2.0s
JMIC Jan Mayen 83.22 341 LR LR 07 02 52.2
comp=Z,39nm,20.2s,MS4.2,baz=264,slow=36
BORG Borgarnes 89.83 337 LR LR 07 08 26.4
comp=Z,102nm,19.0s,MS4.3,baz=4.3,slow=38
ILAR Eielson Array 93.19 21 P **P** **06 25 35.6 +0.5**
comp=Z,1.0nm,0.8s,mb4.3,baz=302,slow=4.1,SNR=9.7
ILAR PP PP 06 29 19.1 -2.4
comp=Z,1.0nm,1.0s,baz=287,slow=7.2,SNR=4.5
DBIC Dimbokro 94.87 278 LR LR 07 10 44.0
comp=Z,81nm,18.2s,MS4.2,baz=56,slow=37
VNDA Vanda 96.18 168 LR LR 07 07 05.4
comp=Z,165nm,18.1s,MS4.5,baz=2.6,slow=34
PDAR Pinedale Array 123.50 18 PKP PKPdf 06 31 21.0 +3.4
comp=Z,0.4nm,0.7s,slow=3.0,SNR=4.2
TXAR Lajitas Array 137.68 20 PKP PKPdf 06 31 47.5 +2.8
comp=Z,0.3nm,0.8s,baz=256,slow=5.2,SNR=3.7
PLCA Paso Flores 146.05 205 PKPbc PKPbc 06 32 03.6 +3.4
comp=Z,1.4nm,0.7s,baz=142,slow=3.9,SNR=5.7
CPUP Villa Florida 146.60 238 PKPbc PKPbc 06 32 07.8 +5.9
comp=Z,2.8nm,0.8s,baz=129,slow=1.1,SNR=4.7
CPUP Villa Florida 146.60 238 PKPbc PKPbc 06 32 07.8 +5.9
LPAZ La Paz 159.31 252 PKPab PKPab 06 33 00.9 +2.2
comp=Z,1.5nm,1.1s,baz=314,slow=4.9,SNR=3.9

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*NEIC **05** 06:34:41.3±1.7,50.50N×18.84E,h5km,MG2.6(WAR), Error ellipse: s-maj=21.5km s-min=8.4km az=183.0*
*PRU **05** 06:34:42.5,50.43N×18.84E*
WAR 05 06:34:42.9,50.37N×18.91E,h0km,ML2.5,Mining Induced,Poland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.59**	**104**	*e*PG		Pg	06 34 54.0	-0.7
OJC				*e*SG		Sg	06 35 03.0	+0.4
OKC	**Ostrava-Krasne**	**0.72**	**223**	*e*PG		Pg	06 34 56.5	-0.8
OKC				*e*SG		Sg	06 35 06.6	-0.3
	16nm,0.2s							
MORC	**Moravsky Berou**	**1.06**	**237**	*e*Pg		Pg	06 35 02.9	-1.2
MORC				*e*Sg		Sg	06 35 15.8	-2.4
NIE	**Niedzica**	**1.31**	**136**	*e*PG		Pg	06 35 08.0	-1.2
NIE				*e*SG		Sg	06 35 26.0	-0.7
DPC	**Dobruska-Polom**	**1.66**	**270**	*e*PG		Pg	06 35 12.1	-3.9
DPC				*e*SG		Sg	06 35 33.6	-4.4
	19nm,0.5s							
KSP	**Ksiaz**	**1.73**	**287**	*e*PG		Pg	06 35 14.0	-3.5
KSP				*e*SG		Sg	06 35 38.0	-2.6
STHS	**Stebnicka Huta**	**1.79**	**121**	*e*PN		Pn	06 35 16.9	+1.7
STHS				*e*SN		Sn	06 35 43.2	+4.3
VYHS	**Vyhne**	**1.88**	**181**	*e*PN		Pn	06 35 15.5	-1.0
VYHS				*e*SN		Sn	06 35 40.6	-0.6
KECS	**Kecovo**	**2.15**	**151**	*e*PN		Pn	06 35 22.7	+2.3
KECS				*e*SN		Sn	06 35 46.9	-1.2
PRU	**Pruhonice**	**2.83**	**264**	*e*SG		Sg	06 36 12.7	-4.5
	4.0nm,0.3s							
KHC	**Kasperske Hory**	**3.67**	**252**	*e*SG		Sg	06 36 38.9	-6.2
	5.3nm,0.5s							

JMA 05 06:49:25.3±0.2,43.83N×146.94E,h79km±3km,M3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.99**	**242**	P		P	06 49 44.3	0.0
NEM2				*e*S		S	06 49 58.1	-0.6
JRA	**Rausu**	**1.32**	**275**	P		P	06 49 48.5	-0.2
JRA				*e*S		S	06 50 05.9	-0.2
JNK	**Nakash**	**1.63**	**262**	P		P	06 49 52.4	-0.4
JNK				*e*S		S	06 50 12.7	-0.3
JAK	**Akkeshi**	**1.83**	**244**	P		P	06 49 55.2	-0.3
JAK				*e*S		S	06 50 17.6	-0.2
JTKR	**Abashiri--Toko**	**2.20**	**275**	P		P	06 50 00.0	-0.5
JTKR				*e*S		S	06 50 26.1	-0.5
JAR	**Ashorobuto**	**2.37**	**258**	P		P	06 50 03.2	+0.3
JAR				*e*S		S	06 50 31.6	+0.8
JOB	**Onbets**	**2.45**	**249**	P		P	06 50 04.1	+0.1
JOB				*e*S		S	06 50 32.8	0.0
JMP	**Maruseppu**	**2.59**	**275**	P		P	06 50 05.7	-0.4
JMP				*e*S		S	06 50 35.8	-0.7
JCH	**Churui**	**2.88**	**246**	P		P	06 50 09.3	-0.8
JCH				*e*S		S	06 50 42.7	-1.1
JKK2	**Kamakawa 2**	**3.03**	**272**	P		P	06 50 12.2	0.0
JNBK	**Urakawa-nobuka**	**3.44**	**245**	P		P	06 50 16.6	-1.2
JNBK				*e*S		S	06 50 54.1	-3.5

IDC 05 07:38:43.9±4.4,10.65N×91.41E,mb3.6/3,mb1 3.7/3, mb1mx3.5/18,mbtmp3.6/3,Error ellipse: s-maj=154.3km s-min=34.2km az=64.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**36.85**	**350**	P		P	07 45 54.0	-1.7
	0.5nm,0.7s,baz=171,slow=7.9,SNR=4.7							
SONM	**Songino Array**	**39.16**	**16**	P		P	07 46 13.1	-2.0
	0.3nm,0.3s,baz=202,slow=8.0,SNR=3.9							
WRA	**Warramunga Arr**	**52.05**	**126**	P		P	07 47 56.0	-2.0
	0.8nm,0.7s,baz=301,slow=9.9,SNR=3.0							

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*BJI **05** 08:03:50.6,34.59S×69.08W,h141km,mB4.6*
*GUC **05** 08:03:53.3±0.7,35.04S×70.32W,h160km±3km,ML5.0*
*IDC **05** 08:03:53.6±0.6,35.06S×69.84W,h144km±5km,mb4.2/15, mb1 4.4/19,mb1mx4.4/21,mbtmp4.7/19,MS3.5/4, Ms1 3.5/4,ms1mx3.1/19,Error ellipse: s-maj=15.8km s-min=8.7km az=97.0*
*NEIC **05** 08:03:53.6±0.2,35.08S×70.02W,mb4.6/27,Error ellipse: s-maj=5.9km s-min=3.5km az=84.0*
NEIC Felt [/III] at Curico and Talca, Chile.
ISC 05 08:03:52.4±0.3,35.11S±0.02×70.05W±0.06,h144km±2km, h144km±.6km:pP-P,n138,σ0°96/127,mb4.4/33,17C-15D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.97**	**276**	⇑*i*P		**P**	**08 04 17.3**	**+0.7**
NICH				*i* S		**S**	**08 04 35.4**	**+0.2**
CHCH	**Chadas Angostu**	**1.28**	**337**	⇓*i*P		**P**	**08 04 20.1**	**+0.6**
CHCH				*i* S		**S**	**08 04 40.7**	**+0.3**
SJCH	**San Jose de Ma**	**1.49**	**350**	⇑*i*P		**P**	**08 04 22.7**	**+0.9**
SJCH				⇓*i*S		**S**	**08 04 45.8**	**+1.4**
SJCH				AMP			08 04 48.7	
	comp=N,11μm,0.5s							
PCH	**Pirque**	**1.54**	**346**	⇓*i*P		**P**	**08 04 23.2**	**+1.0**
PCH				*i* S		**S**	**08 04 46.2**	**+1.0**
LNV	**Longovilo**	**1.61**	**315**	⇑*i*P		**P**	**08 04 22.7**	**-0.4**
ANTU	**Antumapu**	**1.61**	**343**	*e*P		**P**	**08 04 24.1**	**+0.9**
ANTU				*i* S		**S**	**08 04 47.1**	**+0.3**
ANTU				AMP			08 04 47.9	
	comp=N,15μm,0.5s							
TACH	**Talagante**	**1.63**	**333**	⇓*i*P		**P**	**08 04 23.5**	**+0.2**
TACH				*i* S		**S**	**08 04 46.3**	**-0.8**
FSR	**Penalolen**	**1.68**	**346**	⇓*i*P		**P**	**08 04 24.8**	**+1.0**
FSR				*i* S		**S**	**08 04 48.9**	**+0.9**
FSR				AMP			08 04 49.8	
	comp=N,11μm,0.5s							
SAN	**Santiago**	**1.73**	**343**	⇓*i*P		**P**	**08 04 24.9**	**+0.4**
SAN				*i* S		**S**	**08 04 49.0**	**-0.1**
SAN				AMP			08 04 50.6	
	comp=N,10μm,0.5s							
STL	**Santa Lucia**	**1.74**	**344**	⇑*i*P		**P**	**08 04 24.0**	**-0.6**
STL				*i* S		**S**	**08 04 48.2**	**-1.1**
STL				AMP			08 04 49.8	
	comp=N,6μm,0.4s							
CLCH	**Cerro Calan**	**1.76**	**347**	⇑*i*P		**P**	**08 04 25.6**	**+0.8**
CLCH				*i* S		**S**	**08 04 50.4**	**+0.8**
CLCH				AMP			08 04 56.9	
	comp=E,12μm,0.7s							
CLCH				AMP			08 04 57.2	
	comp=E,14μm,0.5s							
DSCH	**Colegio Aleman**	**1.76**	**346**	*i* P		**P**	**08 04 25.9**	**+1.1**
DSCH				*i* S		**S**	**08 04 50.2**	**+0.5**
DSCH				AMP			08 04 52.5	
	comp=N,15μm,0.5s							
PEL	**Peldehue**	**2.03**	**345**	⇓*i*P		**P**	**08 04 28.6**	**+0.6**
PEL				*i* S		**S**	**08 04 55.6**	**+0.4**
LCCH	**Las Cruces**	**2.06**	**322**	⇓*i*P		**P**	**08 04 28.1**	**-0.2**
LCCH				*i* S		**S**	**08 04 54.3**	**-1.5**
CNCO	**Chanco**	**2.12**	**252**	⇑*i*P		**P**	**08 04 28.9**	**-0.1**
CNCO				*i* S		**S**	**08 04 55.7**	**-1.3**
CNCO				AMP			08 05 04.7	
	comp=N,19μm,0.4s							
CCHI	**Chillan**	**2.21**	**227**	⇓*i*P		**P**	**08 04 30.4**	**+0.1**
CCHI				*i* S		**S**	**08 04 59.1**	**-0.1**
CCHI				AMP			08 05 06.8	
	comp=N,5μm,0.4s							
ROCH	**El Roble**	**2.28**	**339**	⇓*i*P		**P**	**08 04 31.4**	**+0.3**
ROCH				*i* S		**S**	**08 05 00.3**	**-0.3**
COCH	**Cobquecura**	**2.45**	**245**	⇓*i*P		**P**	**08 04 32.9**	**-0.3**
COCH				*i* S		**S**	**08 05 02.5**	**-1.8**
JACH	**Jahuel**	**2.47**	**349**	⇓*i*P		**P**	**08 04 34.1**	**+0.7**
JACH				*i* S		**S**	**08 05 04.5**	**-0.2**
CHNG	**Los Chungos**	**3.44**	**339**	⇑*i*P		**P**	**08 04 45.7**	**-0.4**
CHNG				*i* S		**S**	**08 05 24.7**	**-2.5**
CHNG				AMP			08 05 30.4	
	comp=N,3μm,0.7s							
ILCH	**Illapel**	**3.59**	**345**	⇓*i*P		**P**	**08 04 47.5**	**-0.5**
ILCH				*i* S		**S**	**08 05 29.2**	**-1.5**
ZON	**Zonda**	**3.74**	**18**	⇓*i*P		**P**	**08 04 54.3**	**+4.3**
ZON				*e*S		**S**	**08 05 43.4**	**+9.3**
CFAA	**Coronel Fontan**	**3.81**	**24**	P		**P**	**08 04 50.9**	**-0.1**
	comp=N,31nm,0.3s,baz=200,slow=13,SNR=3800							
CFAA				S		**S**	**08 05 33.2**	**-2.6**
	comp=N,47nm,0.3s,baz=315,slow=16,SNR=30							
VLCH	**Valdivia**	**5.33**	**208**	⇑*i*P		**P**	**08 05 08.3**	**-2.7**
VLCH				*i* S		**S**	**08 06 08.0**	**-3.8**
PLCA	**Paso Flores**	**5.62**	**184**	P		**P**	**08 05 14.6**	**-0.3**
	comp=N,20nm,0.3s,baz=355,slow=12,SNR=233							
PLCA	**Paso Flores**	**5.62**	**184**	*e*Pn		**P**	**08 05 14.5**	**-0.4**
	comp=N,97nm,0.8s							
PMCH	**Puerto Montt**	**6.75**	**198**	⇑*i*P		**P**	**08 05 31.4**	**+1.4**
PMCH				*i* S		**S**	**08 06 46.1**	**+0.2**
LVC	**Limon Verde**	**12.50**	**5**	P		**P**	**08 06 43.3**	**-2.8**
	comp=N,2.7nm,0.3s,baz=194,slow=8.8,SNR=35							
LVC				S		**S**	**08 08 53.1**	**-9.4**
	comp=N,0.9nm,0.3s,baz=307,slow=16,SNR=2.0							
LVC				LR		LR	08 11 25.4	
	comp=N,181nm,18.9s,baz=201,slow=36							
LVC	**Limon Verde**	**12.50**	**5**	*e*Pn		**P**	**08 06 44.3**	**-1.8**
	comp=N,26nm,0.7s							
CPUP	**Villa Florida**	**14.00**	**55**	P		**P**	**08 06 59.3**	**-6.1**
	comp=N,0.2nm,0.3s,baz=250,slow=15,SNR=5.8							
CPUP				LR		LR	08 12 34.9	
	comp=N,80nm,19.3s,baz=51,slow=38							
CPUP	**Villa Florida**	**14.00**	**55**	*e*Pn		**P**	**08 07 04.2**	**-1.3**
	comp=N,17nm,0.8s							
CPUP				LR		LR	08 12 34.9	
ARE	**Arequipa**	**18.62**	**356**	*e*P		**P**	**08 08 02.0**	**+0.7**
LPAZ	**La Paz**	**18.83**	**6**	*e*P		**P**	**08 08 03.9**	**+0.4**
	comp=N,1.7nm,0.3s,baz=181,slow=6.8,SNR=86							
LPAZ	**La Paz**	**18.83**	**6**	*e*P		**P**	**08 08 03.6**	**+0.1**
	comp=N,48nm,0.8s							
USHA	**Ushuaia**	**19.75**	**177**	P		**P**	**08 08 12.5**	**-0.4**
	comp=N,5.6nm,0.3s,baz=347,slow=5.0,SNR=36							
SIV	**San Ignacio**	**20.67**	**25**	P		**P**	**08 08 21.7**	**-0.8**
	comp=N,16nm,0.8s,baz=210,slow=9.6,SNR=106							
SAML	**Samuel**	**26.79**	**15**	*e*P		**P**	**08 09 19.2**	**-1.7**
	comp=N,14nm,2.8s,mb4.1							
SAML				*e*pP		pP	08 09 51.1	+0.1
BDFB	**Brasilia**	**27.68**	**51**	P		**P**	**08 09 26.0**	**-3.0**
	comp=N,15nm,0.8s,mb4.8,baz=232,slow=6.0,SNR=13							
BDFB				LR		LR	08 21 55.9	
	comp=N,89nm,19.4s,baz=295,slow=39							
BAO	**Brasilia Array**	**27.70**	**51**	P		**P**	**08 09 28.0**	**-1.2**
ROSC	**El Rosal**	**39.96**	**353**	P		**P**	**08 11 15.0**	**+0.7**
	comp=N,5.1nm,0.4s,mb4.5,baz=82,slow=6.1,SNR=7.2							
VNA3	**Neumayer Olymp**	**47.71**	**158**	⇑*i*		**P**	**08 12 15.6**	**-0.1**
VNA3	**Neumayer Olymp**	**47.71**	**158**	*e*		**P**	**08 12 17.6**	**+1.9**
VNA3	**Neumayer Olymp**	**47.71**	**158**	*e*		**P**	**08 12 21.4**	**+5.7**
VNA1	**Neumayer--Stat**	**48.01**	**157**	⇑*i*		**P**	**08 12 18.2**	**+0.2**
VNA1	**Neumayer--Stat**	**48.01**	**157**	*e*		**P**	**08 12 20.3**	**+2.3**
VNA1	**Neumayer--Stat**	**48.01**	**157**	*e*		**P**	**08 12 24.1**	**+6.1**
VNA2	**Neumayer--Watz**	**48.35**	**157**	⇑*i*		**P**	**08 12 20.4**	**-0.3**
VNA2	**Neumayer--Watz**	**48.35**	**157**	*e*		**P**	**08 12 22.7**	**+2.0**
VNA2	**Neumayer--Watz**	**48.35**	**157**	*e*		**P**	**08 12 26.6**	**+5.9**
SNAA	**Sanae**	**49.94**	**158**	⇑*i*		**P**	**08 12 32.1**	**-0.7**
SNAA	**Sanae**	**49.94**	**158**	*e*		**P**	**08 12 33.7**	**+0.9**
SNAA	**Sanae**	**49.94**	**158**	*e*		**P**	**08 12 37.1**	**+4.3**
SNAA	**Sanae**	**49.94**	**158**	P		**P**	**08 12 32.0**	**-0.8**
	comp=N,5.0nm,0.5s,mb4.5,baz=282,slow=6.5,SNR=48							
SNAA				PP		PP	08 14 31.1	+1.3
	comp=N,2.6nm,0.9s,baz=278,slow=13,SNR=3.8							
SNAA	**Sanae**	**49.94**	**158**	⇑*i*P		**P**	**08 12 32.1**	**-0.7**
MAIT	**Maitri**	**54.62**	**156**	*e*P		**P**	**08 13 06.7**	**-0.9**
QSPA	**South Pole Qui**	**55.13**	**180**	⇑*i*P		**P**	**08 13 11.6**	**+0.3**
	comp=N,51nm,0.9s,mb5.2							
SBA	**Scott Base**	**62.32**	**192**	*e*P		**P**	**08 14 01.8**	**+0.7**
	comp=N,6.5nm,0.8s,mb4.5							
VNDA	**Vanda**	**63.33**	**191**	P		**P**	**08 14 08.4**	**+0.7**
	comp=N,6.9nm,0.7s,mb4.6,baz=132,slow=5.7,SNR=25							
VNDA	**Vanda**	**63.33**	**191**	*e*P		**P**	**08 14 08.4**	**+0.7**
	comp=N,4.5nm,0.7s,mb4.4							
SYO	**Syowa Base**	**64.23**	**158**	⇓P		**P**	**08 14 10.5**	**-3.0**
JCT	**Junction City**	**71.00**	**333**	*e*P		**P**	**08 14 55.6**	**-0.7**
	comp=N,2.7nm,0.8s,mb4.0							
JCT				*e*pP		pP	08 15 30.6	-1.1
TXAR	**Lajitas Array**	**71.51**	**329**	P		**P**	**08 14 59.0**	**-0.4**
	comp=N,0.8nm,0.4s,mb3.8,baz=159,slow=8.6,SNR=22							
TXAR				pP		pP	08 15 34.8	0.0
	comp=N,2.7nm,1.0s,baz=149,slow=7.3,SNR=7.5							
SWET	**Sewanee**	**71.52**	**346**	*e*P		**P**	**08 14 56.6**	**-2.7**
SWET				*e*pP		pP	08 15 32.6	-2.1
MAW	**Mawson**	**71.64**	**163**	⇑*i*P		**P**	**08 14 59.0**	**-0.5**
	comp=N,13nm,1.0s,mb4.6							
MAW	**Mawson**	**71.64**	**163**	P		**P**	**08 14 58.7**	**-0.7**
	comp=N,8.1nm,0.6s,mb4.7,baz=215,slow=6.1,SNR=43							
PPT	**Papeete**	**71.70**	**261**	LR		LR	08 38 25.5	
	comp=N,115nm,20.9s,baz=46,slow=29							
WVT	**Waverly**	**72.79**	**345**	*e*P		**P**	**08 15 05.1**	**-1.7**
	comp=N,59nm,1.4s,mb5.1							
WVT				*e*pP		pP	08 15 41.3	-1.0
SUR	**Sutherland**	**72.86**	**118**	*e*P		**P**	**08 15 07.4**	**+0.2**
	comp=N,390nm,2.1s,mb5.8							
DBIC	**Dimbokro**	**74.00**	**70**	P		**P**	**08 15 13.4**	**-0.9**
	comp=N,20nm,0.6s,mb5.0,baz=211,slow=6.4,SNR=47							
MNTX	**Cornudas Mount**	**74.29**	**329**	*e*P		**P**	**08 15 14.5**	**-1.1**
	comp=N,8.5nm,1.0s,mb4.4							
MNTX				*e*pP		pP	08 15 50.0	-1.3
WMOK	**Wichita Mounta**	**74.50**	**336**	*e*P		**P**	**08 15 15.7**	**-1.0**
	comp=N,1.3nm,0.8s,mb3.7							
WMOK				*e*pP		pP	08 15 51.2	-1.2
ANMO	**Albuquerque**	**77.56**	**330**	P		**P**	**08 15 34.4**	**+0.5**
	comp=N,2.1nm,0.8s,mb3.8,baz=160,slow=6.3,SNR=8.7							
ANMO				pP		pP	08 16 10.2	+0.4
	comp=N,6.3nm,1.0s,baz=156,slow=6.7,SNR=9.4							
ANMO	**Albuquerque**	**77.56**	**330**	*e*P		**P**	**08 15 33.4**	**-0.4**
	comp=N,3.6nm,1.0s,mb4.0							
ANMO				*e*pP		pP	08 16 10.2	+0.4
BOSA	**Boshof**	**78.11**	**117**	P		**P**	**08 15 36.7**	**-0.2**
	comp=N,15nm,0.3s,mb5.1,baz=237,slow=4.7,SNR=72							
BOSA	**Boshof**	**78.11**	**117**	*e*P		**P**	**08 15 36.5**	**-0.5**
	comp=N,47nm,1.0s,mb5.1							
CASY	**Casey**	**78.93**	**180**	⇑*i*P		**P**	**08 15 41.2**	**+0.6**
SDCO	**Great Sand Dun**	**79.61**	**332**	*e*P		**P**	**08 15 45.4**	**+0.5**
	comp=N,1.6nm,0.8s,mb3.7							
SDCO				*e*pP		pP	08 16 21.3	+0.3
LBTB	**Lobatse**	**80.35**	**114**	*e*P		**P**	**08 15 48.5**	**-0.7**
	comp=N,38nm,1.0s,mb5.0							
SMCO	**Snowmass**	**81.42**	**332**	*e*P		**P**	**08 15 55.7**	**+1.2**
SMCO				*e*pP		pP	08 16 31.9	+1.2
ISCO	**Idaho Springs**	**81.45**	**333**	*e*P		**P**	**08 15 55.8**	**+1.2**
	comp=N,6.8nm,1.5s,mb4.1							
ISCO				*e*pP		pP	08 16 31.2	+0.4
NEN	**Nelson**	**81.86**	**325**	*e*P		**P**	**08 15 57.7**	**+0.9**
PHWY	**Pilot Hill**	**82.70**	**334**	*e*P		**P**	**08 16 01.6**	**+0.5**
PHWY				*e*pP		pP	08 16 37.6	+0.2
SRU	**San Rafael**	**82.79**	**329**	*e*P		**P**	**08 16 01.9**	**+0.3**
SRU				*e*pP		pP	08 16 38.3	+0.4
ARUT	**Antelope Range**	**82.95**	**327**	P		**P**	**08 16 03.0**	**+0.7**
ARUT				*e*pP		pP	08 16 39.6	+0.9
MSU	**Marysvale**	**83.00**	**328**	*e*P		**P**	**08 16 02.9**	**+0.4**
MSU				*e*pP		pP	08 16 40.0	+1.0
DUG	**Dugway**	**84.67**	**329**	*e*P		**P**	**08 16 11.4**	**+0.5**
	comp=N,5.4nm,1.2s,mb4.2							
DUG				*e*pP		pP	08 16 47.9	+0.5
RSSD	**Black Hills**	**84.70**	**336**	*e*P		**P**	**08 16 11.8**	**+0.9**
	comp=N,4.0nm,1.0s,mb4.1							
RSSD				*e*pP		pP	08 16 47.4	-0.1
HWUT	**Hardware Ranch**	**85.32**	**330**	*e*P		**P**	**08 16 14.6**	**+0.5**
	comp=N,17nm,1.3s,mb4.6							
HWUT				*e*pP		pP	08 16 50.9	+0.2
OMM	**Old Mammoth Mi**	**85.44**	**323**	*e*P		**P**	**08 16 16.1**	**+1.3**
OMM				*e*pP		pP	08 16 51.9	+0.5
SPUT	**South Promonto**	**85.44**	**329**	*e*P		**P**	**08 16 15.4**	**+0.7**
SPUT				*e*pP		pP	08 16 51.4	0.0
BW06	**Boulder Array**	**85.50**	**332**	*e*P		**P**	**08 16 15.3**	**+0.4**
	comp=N,6.7nm,1.2s,mb4.2							
BW06				*e*pP		pP	08 16 51.3	-0.3
PDAR	**Pinedale Array**	**85.50**	**332**	P		**P**	**08 16 14.8**	**-0.2**
	comp=N,1.6nm,0.7s,mb3.9,baz=152,slow=5.0,SNR=19							
PDAR				pP		pP	08 16 51.0	-0.5
	comp=N,2.4nm,1.0s,baz=162,slow=4.7,SNR=6.1							
ELK	**Elko**	**86.17**	**327**	P		**P**	**08 16 19.1**	**+0.9**
	comp=N,2.7nm,0.9s,mb4.0,baz=143,slow=4.5,SNR=13							
ELK				pP		pP	08 16 54.7	-0.3
	comp=N,2.5nm,0.8s,baz=132,slow=3.0,SNR=5.3							
ELK	**Elko**	**86.17**	**327**	*e*P		**P**	**08 16 19.0**	**+0.7**
	comp=N,2.1nm,0.9s,mb3.9							
ELK				*e*pP		pP	08 16 55.3	+0.4
SNOW	**Snow King Moun**	**86.56**	**332**	*e*P		**P**	**08 16 20.7**	**+0.7**
	comp=N,5.1nm,1.1s,mb4.3							
TPAW	**Teton Pass**	**86.66**	**331**	*e*P		**P**	**08 16 21.5**	**+1.0**
	comp=N,2.8nm,0.8s,mb4.1							
TPAW				*e*pP		pP	08 16 57.9	+0.6
RRI2	**Red Ridge**	**86.68**	**331**	*e*P		**P**	**08 16 21.1**	**+0.4**
	comp=N,4.2nm,0.9s,mb4.3							
IMW	**Indian Meadow**	**87.00**	**332**	*e*P		**P**	**08 16 22.6**	**+0.5**
IMW				*e*pP		pP	08 16 59.5	+0.6
LSZ	**Lusaka**	**87.91**	**107**	*e*P		**P**	**08 16 28.6**	**+1.4**
	comp=N,8.1nm,1.1s,mb4.5							
ULM	**Lac du Bonnet**	**88.01**	**344**	P		**P**	**08 16 26.5**	**-0.4**
	comp=N,4.3nm,0.8s,mb4.3,baz=118,slow=3.8,SNR=3.8							
MCMT	**McKenzie Canyo**	**88.52**	**331**	*e*P		**P**	**08 16 29.6**	**+0.2**
MCMT				*e*pP		pP	08 17 07.4	+1.1
YBH	**Yreka Blue Hor**	**90.43**	**323**	P		**P**	**08 16 38.4**	**-0.1**
	comp=N,1.2nm,0.6s,mb4.0,baz=132,slow=1.9,SNR=4.0							
ESDC	**Sonseca Array**	**96.18**	**45**	P		**P**	**08 17 03.4**	**-1.4**
	comp=N,0.3nm,0.3s,mb4.1,baz=258,slow=4.0,SNR=4.4							
GERES	**GERESS Array B**	**111.78**	**45**	PKiKP			08 22 11.1	
	comp=N,0.2nm,0.3s,baz=243,slow=2.2,SNR=3.5							
WRA	**Warramunga Arr**	**120.55**	**207**	PKP		PKPdf	08 22 28.0	+0.8
	comp=N,1.7nm,0.4s,baz=158,slow=1.9,SNR=12							
WRAB	**Tennant Creek**	**120.55**	**207**	*e*PKPdf		PKPdf	08 22 28.3	+1.1
BRTR	**Keskin Array B**	**120.94**	**61**	P

PKI	**Pulchoki**	**23.57**	**342**	*eP*	**P**	**08 17 28.8 +0.1**
	comp=Z,18nm,0.6s,mb4.7					
DMN	**Daman**	**23.70**	**341**	*eP*	**P**	**08 17 30.9 +0.9**
	comp=Z,84nm,0.9s,mb5.2					
GUN	**Gumba**	**23.75**	**343**	*eP*	**P**	**08 17 30.0 -0.4**
	comp=Z,51nm,0.8s,mb5.0					
KKN	**Kakani**	**23.82**	**342**	*eP*	**P**	**08 17 32.1 +1.0**
GKN	**Gorkha**	**24.22**	**341**	*eP*	**P**	**08 17 36.2 +1.2**
	comp=Z,103nm,0.9s,mb6.3					
KOLN	**Koldanda**	**24.37**	**339**	*eP*	**P**	**08 17 37.7 +1.3**
	comp=Z,41nm,0.7s,mb5.0					
LSA	**Lhasa**	**24.52**	**355**	P	**P**	**08 17 39.8 +1.9**
LSA	**Lhasa**	**24.52**	**355**	*eP*	**P**	**08 17 40.3 +2.4**
	comp=Z,16nm,0.7s,mb4.7					
LSA	**Lhasa**	**24.52**	**355**	*eP*	**P**	**08 17 40.3 +2.4**
LSA				pmax	pmax	
	comp=Z,16nm,0.7s,mb4.7					
GYA	**Guiyang**	**24.69**	**29**	P	**P**	**08 17 40.6 +1.1**
GYA				AMB	AMB	
	comp=Z,20nm,0.7s,mb4.8					
GTA	**Gaotai**	**34.60**	**9**	*eP*	**P**	**08 19 08.5 +0.4**
GTA				AMB	AMB	
	comp=Z,9.0nm,0.7s,mb4.8					
WMQ	**Urumqi**	**38.85**	**353**	*eP*	**P**	**08 19 45.6 +1.7**
WMQ				AMB	AMB	
	comp=Z,9.0nm,0.8s,mb4.5					
FITZ	**Fitzroy Crossi**	**39.29**	**127**	P	**P**	**08 19 47.4 -0.4**
	comp=Z,4.8nm,0.9s,mb4.2,baz=1.6,slow=7.7,SNR=5.4					
AAK	**Ala-Archa**	**40.94**	**339**	*eP*	**P**	**08 20 01.5 +0.3**
	comp=Z,4.5nm,0.6s,mb4.3					
AAK	**Ala-Archa**	**40.94**	**339**	*eP*	**P**	**08 20 01.5 +0.3**
AAK				pmax	pmax	
	comp=Z,5.0nm,0.6s,mb4.3					
MKAR	**Makanchi Array**	**42.59**	**349**	P	**P**	**08 20 14.8 0.0**
	comp=Z,5.0nm,0.7s,mb4.4,baz=166,slow=8.2,SNR=47					
MKAR				pP	pP	08 20 22.2 -0.4
	comp=Z,7.3nm,0.7s,baz=167,slow=7.8,SNR=21					
MKAR	**Makanchi Array**	**42.59**	**349**	P	**P**	**08 20 14.8 0.0**
MKAR				pP	pP	08 20 22.2 -0.4
KKAR	**Karatay Array**	**42.90**	**335**	*i* P	**P**	**08 20 17.1 -0.2**
KKAR				pmax	pmax	
	comp=Z,7.0nm,0.9s,mb4.4					
SONM	**Songino Array**	**43.97**	**13**	P	**P**	**08 20 25.9 0.0**
	comp=Z,5.4nm,0.7s,mb4.4,baz=194,slow=8.2,SNR=18					
SONM				pP	pP	08 20 33.2 -0.5
	comp=Z,2.4nm,0.6s,baz=195,slow=8.0,SNR=6.1					
SONM				PcP	PcP	08 22 12.1 +0.1
	comp=Z,2.3nm,0.8s,baz=221,slow=4.0,SNR=4.2					
SONM				pPcP		08 22 19.5
	comp=Z,2.0nm,0.8s,baz=222,slow=1.8,SNR=5.2					
ULN	**Ulaanbaatar**	**44.14**	**13**	P	**P**	**08 20 26.5 -0.8**
	comp=Z,2.5nm,0.8s,mb4.0					
ULN	**Ulaanbaatar**	**44.14**	**13**	P	**P**	**08 20 26.5 -0.8**
ULN				pmax	pmax	
	comp=Z,3.0nm,0.8s,mb4.1					
ZAK	**Zakamensk**	**45.84**	**9**	*eP*	**P**	**08 20 40.1 -0.7**
ZAK				*e*		08 22 26.2
ZAK				pmax	pmax	
	comp=Z,1.0nm,1.0s,mb3.7					
ZAK				pmax	pmax	
	comp=Z,1.0nm,0.9s,mb3.8					
ZAK				pmax	pmax	
	comp=Z,1.0nm,0.9s,mb3.8					
KURK	**Kurchatov**	**47.09**	**347**	*eP*	**P**	**08 20 50.8 +0.2**
	comp=Z,10nm,1.0s,mb4.7					
KURK				*e*pP	pP	08 20 59.1 +0.5
KURK	**Kurchatov**	**47.09**	**347**	*eP*	**P**	**08 20 50.8 +0.2**
KURK				*e**PP	pP	08 20 59.1 +0.5
KURK				pmax	pmax	
	comp=Z,10.0nm,1.0s,mb4.7					
WRA	**Warramunga Arr**	**47.32**	**123**	P	**P**	**08 20 52.9 -0.1**
	comp=Z,12nm,0.7s,mb4.9,baz=301,slow=9.1,SNR=74					
WRA				pP	pP	08 21 00.8 -0.1
	comp=Z,8.2nm,0.6s,baz=301,slow=9.2,SNR=13					
WRA	**Warramunga Arr**	**47.32**	**123**	P	**P**	**08 20 52.9 -0.1**
WRA				pP	pP	08 21 00.8 -0.1
WRAB	**Tennant Creek**	**47.33**	**123**	*eP*	**P**	**08 20 53.3 +0.3**
	comp=Z,20nm,0.7s,mb5.2					
WRAB				*e*pP	pP	08 21 01.6 +0.6
WRAB	**Tennant Creek**	**47.33**	**123**	*eP*	**P**	**08 20 53.3 +0.3**
WRAB				*e**PP	pP	08 21 01.6 +0.7
WRAB				pmax	pmax	
	comp=Z,20nm,0.7s,mb5.2					
WB2	**Warramunga Arr**	**47.33**	**123**	*eP*	**P**	**08 20 53.5 +0.5**
WB2				*e*	pP	08 21 01.8 +0.8
ZAL	**Zalesovo**	**49.15**	**353**	P	**P**	**08 21 06.8 +0.1**
	comp=Z,2.8nm,0.5s,mb4.6,baz=292,slow=7.2,SNR=11					
NVS	**Novosibirsk**	**50.23**	**352**	*eP*	**P**	**08 21 14.1 -0.8**
NVS				*e*	pP	08 21 23.0 0.0
NVS				pmax	pmax	
	comp=Z,8.0nm,0.9s,mb4.8					
NVS				pmax	pmax	
	comp=N,4.0nm,0.9s					
NVS				pmax	pmax	
	comp=E,3.0nm,0.6s					
BVA0	**Borovoye Array**	**51.34**	**342**	*i* P	**P**	**08 21 22.4 -1.0**
BVA0				pmax	pmax	
	comp=Z,1.0nm,0.9s,mb3.8					
BVAR	**Borovoye Array**	**51.34**	**342**	P	**P**	**08 21 22.6 -0.8**
	comp=Z,3.3nm,0.7s,mb4.4,baz=149,slow=8.6,SNR=23					
BVAR				pP	pP	08 21 29.8 -1.6
	comp=Z,3.9nm,0.6s,baz=144,slow=8.7,SNR=13					
BRVK	**Borovoye**	**51.41**	**342**	*eP*	**P**	**08 21 22.7 -1.2**
	comp=Z,0.9nm,0.6s,mb3.9					
BRVK				*e*pP	pP	08 21 31.5 -0.4
BRVK	**Borovoye**	**51.41**	**342**	*eP*	**P**	**08 21 22.7 -1.2**
BRVK				*e**PP	pP	08 21 31.5 -0.4
BRVK				pmax	pmax	
	comp=Z,1.0nm,0.6s,mb3.9					
AB31	**Akbulak array**	**52.30**	**333**	*i* P	**P**	**08 21 30.2 -0.5**
AB31				pmax	pmax	
	comp=Z,2.0nm,0.6s,mb4.2					
BOD	**Bodaibo**	**54.96**	**13**	*eP*	**P**	**08 21 48.3 -1.9**
GNI	**Garni**	**55.85**	**316**	LR	LR	08 48 14.4
	comp=Z,25nm,19.2s,MS3.3,baz=153,slow=39					
CTA	**Charters Tower**	**57.64**	**118**	LR	LR	08 52 21.2
	comp=Z,58nm,18.6s,MS3.7,baz=248,slow=42					
STKA	**Stephens Creek**	**58.78**	**132**	P	**P**	**08 22 17.6 -0.1**
	comp=Z,3.0nm,0.7s,mb4.5,baz=308,slow=9.3,SNR=5.9					
BRTR	**Keskin Array B**	**63.69**	**312**	P	**P**	**08 22 49.2 -1.5**
	comp=Z,2.9nm,0.8s,mb4.4,baz=121,slow=7.2,SNR=12					
BRTR				pP	pP	08 22 57.2 -1.7
	comp=Z,3.7nm,0.8s,baz=123,slow=6.9,SNR=6.7					
AKASG	**Malin Array Be**	**69.85**	**322**	P	**P**	**08 23 28.1 -1.4**
	comp=Z,0.4nm,0.4s,mb3.7,baz=89,slow=4.7,SNR=4.7					
AKASG				pP	pP	08 23 35.9 -1.9
	comp=Z,1.9nm,0.6s,baz=87,slow=4.7,SNR=4.4					
MLR	**Muntele Rosu**	**70.63**	**316**	P	**P**	**08 23 34.2 -0.2**
	comp=Z,8.7nm,0.9s,mb4.7,baz=205,slow=0.5,SNR=9.9					
MLR				pP	pP	08 23 43.9 +1.3
	comp=Z,13nm,0.8s,baz=140,slow=5.1,SNR=11					
BOSA	**Boshof**	**73.54**	**238**	P	**P**	**08 23 52.0 0.0**
	comp=Z,3.0nm,1.1s,mb4.1,baz=56,slow=15,SNR=3.0					
APA	**Apatity**	**74.14**	**340**	*eP*	**P**	**08 23 54.0 -0.8**
FINES	**FINESS Array B**	**74.79**	**333**	P	**P**	**08 23 57.4 -1.2**
	comp=Z,3.3nm,0.8s,mb4.3,baz=127,slow=9.5,SNR=7.3					
FINES				pP	pP	08 24 06.3 -0.5
	comp=Z,3.6nm,0.8s,baz=108,slow=6.0,SNR=5.0					
FINES	**FINESS Array B**	**74.79**	**333**	P	**P**	**08 23 57.4 -1.2**
FINES				pP	pP	08 24 06.3 -0.5
MAW	**Mawson**	**75.73**	**192**	*eP*	**P**	**08 24 06.0 +2.1**
	comp=Z,1.6nm,0.7s,mb4.1					
MAW				*i*	pP	08 24 14.5 +2.3
MAW	**Mawson**	**75.73**	**192**	P	**P**	**08 24 05.7 +1.8**
	comp=Z,1.8nm,0.7s,mb4.1,baz=23,slow=8.2,SNR=8.6					
MAW				pP	pP	08 24 14.1 +1.9
	comp=Z,4.4nm,1.0s,baz=19,slow=6.1,SNR=8.4					
MAW	**Mawson**	**75.73**	**192**	*eP*	**P**	**08 24 06.0 +2.1**
MAW				*i*	pP	08 24 14.5 +2.3
MAW				pmax	pmax	
	comp=Z,2.0nm,0.7s					
ARCES	**ARCESS Array B**	**77.58**	**341**	P	**P**	**08 24 14.8 +0.5**
	comp=Z,1.1nm,0.3s,mb4.3,baz=101,slow=6.8,SNR=37					
ARCES				pP	pP	08 24 21.6 -1.0
	comp=Z,1.2nm,0.4s,baz=91,slow=5.1,SNR=2.5					
GERES	**GERESS Array B**	**79.38**	**319**	P	**P**	**08 24 25.0 +0.6**
	comp=Z,1.2nm,0.7s,mb3.9,baz=104,slow=5.5,SNR=9.4					
GERES				pP	pP	08 24 32.3 -0.5
	comp=Z,2.6nm,0.7s,baz=90,slow=5.3,SNR=6.1					
KHC	**Kasperske Hory**	**79.48**	**319**	*eP*	**P**	**08 24 25.5 +0.5**
HFS	**Hagfors**	**80.45**	**330**	P	**P**	**08 24 30.0 0.0**
	comp=Z,1.2nm,0.7s,mb4.0,baz=90,slow=8.6,SNR=2.0					
NB2	**NORSAR Subarra**	**81.75**	**331**	P	**P**	**08 24 36.5 -0.2**
	comp=Z,5.5nm,1.2s,mb4.4,baz=92,slow=5.6					
NOA	**NORSAR Array B**	**81.75**	**331**	P	**P**	**08 24 36.6 -0.1**
	comp=Z,1.8nm,0.9s,mb4.0,baz=92,slow=5.7,SNR=4.0					
NOA				LR	LR	09 03 22.9
	comp=Z,22nm,19.6s,MS3.5,baz=210,slow=38					
DBIC	**Dimbokro**	**97.59**	**277**	LR	LR	09 06 03.4
	comp=Z,37nm,21.4s,MS3.8,baz=173,slow=33					
PDAR	**Pinedale Array**	**127.96**	**21**	PKP	PKPdf	08 31 25.4 -2.6
	comp=Z,0.8nm,0.9s,baz=333,slow=3.3,SNR=7.2					
TXAR	**Lajitas Array**	**142.00**	**25**	PKhKP		08 31 46.9
	comp=Z,0.7nm,1.0s,baz=90,slow=1.8,SNR=4.8					
CPUP	**Villa Florida**	**145.00**	**230**	PKPbc	PKPbc	08 31 56.1 +1.1
	comp=Z,3.9nm,0.7s,baz=154,slow=5.9,SNR=14					
CPUP				pPKPbc		08 32 04.8
	comp=Z,4.4nm,0.7s,baz=122,slow=3.9,SNR=9.2					
LPAZ	**La Paz**	**158.78**	**237**	PKPab	PKPab	08 32 53.1 -0.3
	comp=Z,1.0nm,0.9s,baz=101,slow=9.2,SNR=4.5					

CASC 05 08:23:14.5±2.2, 11.29N×85.55W, h6^{km}±5^{km}, MD3.5, ML3.0, 7C-9D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MADN	**Villa Maderas**	**0.12**	**7**	⇓*iP*	Pg	08 23 17.7	+0.5
CONN	**Concepcion**	**0.29**	**345**	⇑*iP*	Pg	08 23 20.4	+0.1
CONN				*eS*	Sg	08 23 24.8	+0.6
SSNN	**San Juan del S**	**0.29**	**270**	*eP*	Pg	08 23 21.1	+0.6
SSNN				*eS*	Sg	08 23 25.8	+1.3
LIM1	**Limonal**	**0.65**	**154**	⇓*eP*	Pg	08 23 27.0	-0.5
LIM1				*i* S	Sg	08 23 36.3	0.0
APON	**Apoyo**	**0.81**	**321**	⇓*eP*	Pb	08 23 29.8	-0.7
MASN	**Masaya**	**0.91**	**320**	*eP*	Pb	08 23 32.5	+0.2
CRUN	**El Crucero**	**1.01**	**313**	*eP*	Pb	08 23 33.8	-0.2
WILN	**Americas 2**	**1.07**	**324**	⇓*eP*	Pb	08 23 33.8	-1.2
MGAN	**Managua**	**1.09**	**321**	⇓*eP*	Pb	08 23 34.2	-1.2
MGAN				*i*		08 23 54.4	
	comp=E,278nm,0.7s						
XAVN	**Gruta Xavier**	**1.15**	**318**	*eP*	Pb	08 23 35.5	-0.8
FORC	**Fortuna**	**1.19**	**133**	⇓*eP*	Pb	08 23 35.8	-1.1
FORC				⇓*eP*		08 23 36.0	
FORC				*eS*	Sb	08 23 52.6	+0.2
PYTN	**Playitas**	**1.34**	**338**	⇑*eP*	Pb	08 23 37.9	-1.8
COPN	**Copaltepe**	**1.35**	**311**	⇑*eP*	Pb	08 23 38.3	-1.6
COPN				*eS*	Sb	08 23 56.6	-0.7
MOMJ	**Momotombo**	**1.48**	**319**	*eP*	Pn	08 23 40.7	-1.0
MIRN	**Miramar**	**1.62**	**315**	⇑*eP*	Pn	08 23 42.9	-0.8
CNGN	**Cerro Negro**	**1.65**	**317**	⇑*eP*	Pn	08 23 42.6	-1.6
CNGN				*eS*	Sb	08 24 04.7	-1.2
PRS1	**Puriscal**	**1.78**	**137**	⇓*eP*	Pn	08 23 47.0	+0.9
PRS1				*eS*	Sn	08 24 12.1	+2.9
TEL3	**Telica 3**	**1.80**	**315**	⇓*eP*	Pn	08 23 44.8	-1.6
TELN	**Telica**	**1.81**	**316**	*eP*	Pn	08 23 46.5	-0.1
TRTC	**Tortuguero**	**1.94**	**111**	⇑*eP*	Pn	08 23 47.4	-0.9
TRTC				*eS*	Sn	08 24 13.1	-0.1
SJS	**Escuela Geolog**	**1.99**	**132**	*eS*	Sn	08 24 16.2	+1.7
LCR2	**La Lucha 2**	**2.16**	**135**	*eP*	Pn	08 23 50.5	-1.0
LCR2				*eS*	Sn	08 24 20.2	+1.3
BUS	**Buena Vista**	**2.46**	**134**	⇑*eP*	Pn	08 23 56.8	+0.9
BUS				*eS*	Sn	08 24 27.9	+1.3

*IDC **05** 08:24:05.7±1.2, 2.71N×126.55E, mb3.9/6, mb1 4.0/6, mb1mx3.8/17, mbtmp3.9/6, Error ellipse: s-maj=97.1km s-min=17.8km az=70.0*
*NEIC **05** 08:24:10.2±0.7, 2.83N×126.95E, h35^{km}, mb4.2/3, Error ellipse: s-maj=56.4km s-min=9.2km az=71.0*

ISC 05 08:24:08.4±0.9, 2.8N±0.2×126.7E±0.5, h33^{km}, n9, σ0^{s}27/9, mb4.0/8, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.77**	**183**	P	**P**	**08 28 49.4**	**+0.2**
	5.5nm,0.9s,baz=358,slow=13,SNR=6.4						
WRAB	**Tennant Creek**	**23.79**	**162**	*eP*	**P**	**08 29 19.2**	**-0.1**
	1.3nm,0.5s,mb3.6						
WRA	**Warramunga Arr**	**23.80**	**162**	P	**P**	**08 29 19.1**	**-0.2**
	0.9nm,0.4s,mb3.5,baz=338,slow=10,SNR=9.8						
STKA	**Stephens Creek**	**37.26**	**159**	P	**P**	**08 31 19.2**	**+0.1**
	0.7nm,0.4s,mb3.9,baz=340,slow=11,SNR=5.0						
SONM	**Songino Array**	**48.18**	**342**	P	**P**	**08 32 48.0**	**+0.4**
	0.9nm,0.6s,mb4.0,baz=166,slow=5.9,SNR=3.2						
MKAR	**Makanchi Array**	**58.30**	**326**	P	**P**	**08 34 02.5**	**0.0**
	0.9nm,0.4s,mb4.2,baz=122,slow=7.8,SNR=12						
KURK	**Kurchatov**	**62.51**	**328**	*eP*	**P**	**08 34 30.6**	**-0.5**
	1.8nm,0.6s,mb4.4						
BVAR	**Borovoye Array**	**68.08**	**327**	P	**P**	**08 35 07.2**	**+0.3**
	0.9nm,0.5s,mb4.0,baz=127,slow=7.4,SNR=7.1						
BRVK	**Borovoye**	**68.16**	**327**	*eP*	**P**	**08 35 07.2**	**-0.2**
	2.3nm,0.9s,mb4.2						

*IDC **05** 08:33:09.2±1.2, 4.77N×94.69E, mb4.2/10, mb1 4.3/10, mb1mx4.1/20, mbtmp4.2/10, Error ellipse: s-maj=56.4km s-min=19.4km az=51.0*
*NEIC **05** 08:33:13.5±0.6, 4.70N×94.64E, h30^{km}, mb4.5/3, Error ellipse: s-maj=22.1km s-min=9.0km az=223.0*

ISC 05 08:33:12.4±0.8, 4.8N±0.1×94.7E±0.1, h33^{km}, n17, σ0^{s}64/16, mb4.2/13, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.95**	**85**	*e*Pn	**Pn**	**08 34 41.0**	**+0.4**
FITZ	**Fitzroy Crossi**	**38.05**	**127**	P	**P**	**08 40 30.5**	**+0.8**
	2.8nm,0.7s,mb4.1,baz=358,slow=4.2,SNR=2.9						
MKAR	**Makanchi Array**	**43.23**	**348**	P	**P**	**08 41 12.6**	**+0.4**
	1.6nm,0.3s,mb4.2,baz=164,slow=7.8,SNR=13						
SONM	**Songino Array**	**44.08**	**11**	P	**P**	**08 41 18.4**	**-0.7**
	0.7nm,0.3s,mb3.8,baz=191,slow=7.6,SNR=3.8						
WRA	**Warramunga Arr**	**46.05**	**124**	P	**P**	**08 41 34.8**	**-0.5**
	2.2nm,0.7s,mb4.2,baz=302,slow=9.1,SNR=20						
WRAB	**Tennant Creek**	**46.06**	**124**	*eP*	**P**	**08 41 35.0**	**-0.3**
	7.3nm,0.7s,mb4.7						
WB2	**Warramunga Arr**	**46.06**	**124**	*eP*	**P**	**08 41 35.0**	**-0.4**
KURK	**Kurchatov**	**47.75**	**346**	*eP*	**P**	**08 41 49.2**	**+1.0**
	3.1nm,0.6s,mb4.5						
ZAL	**Zalesovo**	**49.69**	**352**	P	**P**	**08 42 02.9**	**-0.2**
	2.6nm,0.3s,mb4.8,baz=327,slow=4.0,SNR=7.4						
BVAR	**Borovoye Array**	**52.10**	**342**	P	**P**	**08 42 20.9**	**-0.4**
	1.3nm,0.4s,mb4.2,baz=147,slow=8.7,SNR=14						
BRVK	**Borovoye**	**52.16**	**342**	*eP*	**P**	**08 42 21.5**	**-0.4**
	1.4nm,0.5s,mb4.2						
BRTR	**Keskin Array B**	**64.89**	**312**	P	**P**	**08 43 50.7**	**-0.1**
	1.1nm,0.6s,mb4.0,baz=134,slow=7.1,SNR=4.2						
FINES	**FINESS Array B**	**75.71**	**333**	P	**P**	**08 44 54.9**	**-1.2**
	2.0nm,0.9s,mb4.1,baz=135,slow=8.1,SNR=4.0						
ARCES	**ARCESS Array B**	**78.36**	**340**	P	**P**	**08 45 11.4**	**+0.6**
	0.7nm,0.3s,mb4.0,baz=100,slow=6.8,SNR=18						
GERES	**GERESS Array B**	**80.51**	**319**	P	**P**	**08 45 24.0**	**+1.1**
	0.3nm,0.3s,mb3.7,baz=90,slow=8.0,SNR=4.9						
GERES	**GERESS Array B**	**80.51**	**319**	P	**P**	**08 45 23.9**	**+1.1**
TXAR	**Lajitas Array**	**141.79**	**26**	PKP	PKPdf	08 52 41.5	0.0
	0.1nm,0.5s,baz=297,slow=4.0,SNR=2.8						

*NNC **05** 09:23:43.5±13.0, 37.97N×71.92E, h242^{km}±176^{km}, mpv3.8, Error ellipse: s-maj=165.8km s-min=96.4km az=27.0*

ISC 05 09:23:40.0±2.6, 37.7N±0.2×71.9E±0.3, h217^{km}±41^{km}, n9, σ0^{s}79/12, 3C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.61**	**17**	P	**P**	**09 24 50.1**	**-0.4**
	SNR=177						
UCH	**Uchtor**	**4.92**	**23**	P	**P**	**09 24 53.8**	**-0.6**
	SNR=10						
KZA	**Kyzart**	**5.04**	**29**	P	**P**	**09 24 55.2**	**-0.8**
	SNR=5.6						
EKS2	**Erkin-Say**	**5.13**	**16**	P	**P**	**09 24 57.3**	**+0.2**
	SNR=10						
AAK	**Ala-Archa**	**5.28**	**21**	P	**P**	**09 24 59.2**	**+0.2**
	SNR=7.3						
AAK	**Ala-Archa**	**5.28**	**21**	⇑P	**P**	**09 24 59.0**	**0.0**
	4.5nm,0.3s						
AAK				⇑S	**S**	**09 26 01.3**	**+0.8**
	23nm,0.8s						
KK31	**Karatay Array**	**5.48**	**349**	⇓P	**P**	**09 25 01.5**	**-0.1**
	3.9nm,0.3s,baz=203,slow=37,SNR=94						
KK31				⇓S	**S**	**09 26 05.0**	**+0.1**
	1.7nm,0.2s,baz=160,slow=22,SNR=6.9						
CHMS	**Chumysh**	**5.69**	**21**	P	**P**	**09 25 04.4**	**+0.2**
	SNR=6.8						
AB31	**Akbulak array**	**14.41**	**327**	P	**P**	**09 26 57.7**	**+2.6**
	1.0nm,0.2s,baz=132,slow=15,SNR=61						
AB31				⇑S	**S**	**09 29 28.8**	**-0.9**
	1.0nm,0.2s						

*IDC **05** 09:47:22.9±1.1, 19.81N×95.47E, mb4.0/9, mb1 4.2/9, mb1mx4.0/20, mbtmp4.0/9, Error ellipse: s-maj=75.2km s-min=22.5km az=22.0*
*NEIC **05** 09:47:35.4±0.9, 20.02N×95.75E, h100^{km}, mb4.3/1, Error ellipse: s-maj=49.3km s-min=17.7km az=56.0*

ISC 05 09:47:29.9±0.8, 20.4N±0.2×95.3E±0.2, h33^{km}, n14, σ1^{s}09/15, mb4.1/10, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHG	**Chiang Mai**	**3.76**	**114**	PG	**P**	**09 48 28.4**	**+1.4**
CHG				SG	**S**	**09 49 09.2**	**-1.6**
BDT	**Bhumibol Dam**	**4.69**	**131**	P	**P**	**09 48 51.0**	**+11**
NST	**Nakhon Sawan**	**6.55**	**135**	P	**S**	**09 50 21.6**	**+0.7**
MKAR	**Makanchi Array**	**28.41**	**341**	P	**P**	**09 53 25.2**	**+1.8**
	1.4nm,0.6s,mb3.7,baz=152,slow=9.4,SNR=12						
KURK	**Kurchatov**	**33.01**	**340**	*eP*	**P**	**09 54 04.5**	**+0.4**
	3.0nm,0.6s,mb4.4						
ZAL	**Zalesovo**	**34.45**	**349**	P	**P**	**09 54 17.0**	**+0.5**
	1.1nm,0.6s,mb4.0,baz=322,slow=6.1,SNR=4.4						
WRA	**Warramunga Arr**	**55.37**	**134**	P	**P**	**09 56 55.4**	**-7.9**
	2.1nm,0.7s,mb4.3,baz=324,slow=7.5,SNR=17						
AKASG	**Malin Array Be**	**59.40**	**318**	P	**P**	**09 57 29.2**	**-2.2**
	0.7nm,0.5s,mb4.0,baz=79,slow=6.9,SNR=6.1						
MLR	**Muntele Rosu**	**61.41**	**311**	P	**P**	**09 57 45.8**	**+0.6**
	1.4nm,0.4s,mb4.4,baz=153,slow=4.5,SNR=3.2						
FINES	**FINESS Array B**	**62.39**	**330**	P	**P**	**09 57 51.0**	**-0.5**
	1.1nm,0.8s,mb4.0,baz=90,slow=4.2,SNR=3.1						
HFS	**Hagfors**	**68.40**	**328**	P	**P**	**09 58 29.3**	**-0.8**
	2.2nm,0.6s,mb4.4,baz=90,slow=5.9,SNR=7.0						
GERES	**GERESS Array B**	**69.49**	**316**	P	**P**	**09 58 37.1**	**+0.1**
	1.1nm,0.5s,mb4.0,baz=76,slow=5.5,SNR=9.0						
NB2	**NORSAR Subarra**	**69.55**	**329**	P	**P**	**09 58 36.4**	**-0.7**
	1.0nm,0.7s,mb3.9,baz=84,slow=6.2						
NOA	**NORSAR Array B**	**69.55**	**329**	P	**P**	**09 58 36.2**	**-0.9**
	1.2nm,0.7s,mb4.0,baz=86,slow=5.8,SNR=6.1						

*NEIC **05** 10:34:20.4±0.7, 18.70N×145.21E, h350^{km}, mb3.8/3, Error ellipse: s-maj=29.3km s-min=13.6km az=90.0*
*IDC **05** 10:34:28.1±29.0, 18.59N×144.88E, h422^{km}±302^{km}, mb3.4/5, mb1 3.5/5, mb1mx3.2/19, mbtmp4.1/5, MS3.4/1, Ms1 3.4/1, ms1mx2.5/15, Error ellipse: s-maj=158.5km s-min=20.9km az=67.0*

ISC 05 10:34:22.8±2.6, 18.7N±0.1×145.4E±0.8, h400^{km}, n12, σ0^{s}18/9, mb3.8/7, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**39.86**	**196**	*eP*	**P**	**10 41 21.3**	**+0.2**
	9.4nm,0.6s,mb4.3						
WB2	**Warramunga Arr**	**39.87**	**196**	*eP*	**P**	**10 41 21.1**	**-0.1**
WRA	**Warramunga Arr**	**39.88**	**196**	P	**P**	**10 41 21.2**	**0.0**
	6.9nm,0.7s,mb4.1,baz=17,slow=9.0,SNR=91						
FITZ	**Fitzroy Crossi**	**41.38**	**209**	*eP*	**P**	**10 41 33.4**	**0.0**
	4.2nm,0.8s,mb3.8						
FITZ	**Fitzroy Crossi**	**41.38**	**209**	P	**P**	**10 41 33.6**	**+0.2**
	2.4nm,0.3s,mb4.0,baz=16,slow=8.8,SNR=12						
MBWA	**Marble Bar**	**46.89**	**214**	*eP*	**P**	**10 42 16.7**	**-0.2**
	2.3nm,0.4s,mb3.9						
ZAL	**Zalesovo**	**57.87**	**323**	LR	LR	11 09 11.7	
	comp=Z,38nm,21.1s,baz=134,slow=36						
MKAR	**Makanchi Array**	**58.27**	**314**	P	**P**	**10 43 39.0**	**-0.2**
	0.4nm,0.5s,mb3.0,baz=100,slow=8.8,SNR=4.6						
BVAR	**Borovoye Array**	**66.31**	**320**	P	**P**	**10 44 31.7**	**+0.3**
	0.8nm,0.5s,mb3.6,baz=90,slow=7.9,SNR=5.1						
FINES	**FINESS Array B**	**86.79**	**335**	P	**P**	**10 46 23.5**	**-0.2**
	0.8nm,0.7s,mb3.5,baz=72,slow=6.0,SNR=4.1						
CFAA	**Coronel Fontan**	**147.08**	**120**	PKPbc	PKPdf	10 53 23.6	+6.7
	0.1nm,0.4s,baz=343,slow=3.6,SNR=3.2	

URZ			SN	Sn	10 51 27.4	-1.0
EDRZ	**Edgecumbe**	**1.33 239**	PN	Pn	10 51 14.0	-1.2
EDRZ			SN	Sn	10 51 32.1	0.0
KNZ	**Kokohu**	**1.63 194**	PN	Pn	10 51 19.0	-0.5
PATZ	**Paeroa**	**1.79 238**	PN	Pn	10 51 21.3	-0.5
KUZ	**Kuaotunu**	**2.09 288**	PN	Pn	10 51 23.9	-2.2
KUZ			SN	Sn	10 51 48.4	-3.1
BKZ	**Black Stump Fm**	**2.18 217**	PN	Pn	10 51 26.5	-0.9
WNVZ	**Wahianoa**	**2.78 226**	PN	Pn	10 51 35.1	-0.8
PWZ	**Pawanui**	**2.79 201**	PN	Pn	10 51 34.1	-1.9
PWZ			SN	Sn	10 52 08.1	-1.1
TSZ	**Takapari Road**	**3.15 213**	PN	Pn	10 51 39.0	-2.1
WCZ	**Waipu Caves**	**3.43 295**	PN	Pn	10 51 43.5	-1.6
MRZ	**Mangatainoka R**	**3.81 211**	PN	Pn	10 51 47.0	-3.5

WEL 05 10:53:54.4±0.2, 37.37S×176.72E, h215km±2km, ML3.6/12, Error ellipse: s-maj=3.3km s-min=2.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.95**	**161**	PN	P	10 54 25.4	-0.2
URZ				SN	S	10 54 49.5	-0.3
MWZ	**Matawai**	**1.16**	**147**	PN	P	10 54 26.9	-0.2
MWZ				SN	S	10 54 51.8	-0.6
MXZ	**Matakaoa Point**	**1.28**	**99**	PN	P	10 54 27.6	-0.5
MXZ				SN	S	10 54 53.4	-0.6
PUZ	**Puketiti**	**1.41**	**121**	PN	P	10 54 28.8	-0.3
PUZ				SN	S	10 54 54.8	-1.1
BKZ	**Black Stump Fm**	**1.81**	**186**	PN	P	10 54 32.2	-0.4
BKZ				SN	S	10 55 01.2	-0.8
KNZ	**Kokohu**	**1.82**	**156**	PN	P	10 54 32.4	-0.3
KNZ				SN	S	10 55 00.9	-1.3
TUVZ	**Tukino**	**2.08**	**203**	PN	P	10 54 35.4	+0.2
TUVZ				SN	S	10 55 04.0	-2.6
WNVZ	**Wahianoa**	**2.15**	**204**	PN	P	10 54 36.0	+0.1
PWZ	**Pawanui**	**2.66**	**178**	PN	P	10 54 40.5	-1.0
TSZ	**Takapari Road**	**2.76**	**192**	PN	P	10 54 41.2	-1.3
MRZ	**Mangatainoka R**	**3.41**	**195**	PN	P	10 54 47.9	-2.3
KIW	**Kapiti Island**	**3.77**	**201**	PN	P	10 54 51.7	-2.7
MTW	**Mount Morrison**	**3.91**	**194**	PN	P	10 54 55.3	-0.9
CAW	**Cannon Point**	**3.95**	**198**	PN	P	10 54 53.7	-3.0
NNZ	**Nelson**	**4.64**	**213**	PN	P	10 55 02.9	-2.4
QRZ	**Quartz Range**	**4.75**	**222**	PN	P	10 55 04.6	-2.1
THZ	**Tophouse**	**5.29**	**213**	PN	P	10 55 11.2	-2.3

NIED ***05*** *10:55:00, 40.80N×142.80E, h35km, Mw4.0 Best double couple: M0 1.04×10^15 NP1:φs38°, δ77°, λ115°. NP2:φs153°, δ28°, λ28°.*
IDC ***05*** *10:55:15.9±1.4, 40.70N×142.51E, mb3.8/7, mb1 3.9/7, mb1mx3.8/19, mbtmp3.8/7, Error ellipse: s-maj=37.2km s-min=30.3km az=78.0*
JMA ***05*** *10:55:19.6±0.3, 40.79N×142.78E, h21km±4km, M4.1*
JMA Felt I J1.
MOS ***05*** *10:55:22.7±0.9, 41.08N×142.44E, h53km, mb4.2/5, Error ellipse: s-maj=20.1km s-min=11.6km az=80.8*
NEIC ***05*** *10:55:24.0±0.8, 41.21N×142.34E, h35km, mb4.1/2, Error ellipse: s-maj=21.5km s-min=9.9km az=118.0*
NEIC Recorded [1 JMA] in Aomori Prefecture, Honshu.
ISC 05 10:55:20.6±0.7, 40.80N±0.04×142.77E±0.06, h55km±6km, n32, σ0°88/40, mb3.8/11, 2C-7D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JANG	**Nango**	**1.05**	**247**	⇓P	P	**10 55 38.8**	**-0.5**
JTH	**Tanohata**	**1.10**	**219**	⇓P	P	**10 55 39.2**	**-0.9**
JTH				eS	S	**10 55 53.3**	**-1.3**
JEM	**Erimo**	**1.25**	**13**	P	P	**10 55 42.3**	**+0.1**
JTM	**Tenmabayashi**	**1.29**	**270**	⇓P	P	**10 55 42.6**	**-0.2**
JTM				eS	S	**10 55 59.4**	**+0.1**
JOT	**Ohata**	**1.43**	**295**	⇓P	P	**10 55 44.3**	**-0.4**
JOT				eS	S	**10 56 02.3**	**-0.3**
JNBK	**Urakawa-nobuka**	**1.48**	**359**	⇑P	P	**10 55 45.7**	**+0.2**
JKB	**Kayabe**	**1.71**	**310**	⇓P	P	**10 55 48.2**	**-0.3**
JKB				eS	S	**10 56 08.7**	**-0.5**
JAH	**Hinai**	**1.74**	**250**	⇓P	P	**10 55 49.9**	**+0.9**
JAH				eS	S	**10 56 11.4**	**+1.3**
JOM	**Ohasama**	**1.74**	**221**	P	P	**10 55 49.3**	**+0.2**
JCH	**Churui**	**1.87**	**13**	P	P	**10 55 50.8**	**0.0**
JCH				eS	S	**10 56 13.8**	**+0.6**
JSR	**Shiriuchi**	**1.92**	**293**	⇓P	P	**10 55 52.1**	**+0.5**
JSR				eS	S	**10 56 15.4**	**+0.8**
YUK	**Yuzh-Kuril'sk**	**3.96**	**34**	eP	P	**10 56 20.0**	**-0.4**
YUK				eS	S	**10 57 02.0**	**-4.0**
YUK				smax			
	comp=E,1μm,0.6s						
YUK				smax			
	comp=N,770μm,0.5s						
MAJO	**Matsushiro**	**5.55**	**222**	ePn	P	**10 56 45.5**	**+2.9**
MAT	**Matsushiro**	**5.55**	**222**	P	P	**10 56 42.9**	**+0.3**
MAT	**Matsushiro**	**5.55**	**222**	P	P	**10 56 46.0**	**+3.4**
YSS	**Yuzh-Sakhalins**	**6.16**	**360⇑**	eP	P	**10 56 51.0**	**0.0**
YSS				pmax	pmax		
	comp=Z,20nm,0.9s						
BOD	**Bodaibo**	**25.05**	**323**	eP	P	**11 00 39.1**	**-1.7**
SONM	**Songino Array**	**26.78**	**297**	P	P	**11 00 56.8**	**-0.2**
	comp=Z,1.3nm,0.6s,mb3.6,baz=81,slow=8.6,SNR=8.1						
ZAK	**Zakamensk**	**28.95**	**303**	eP	P	**11 01 14.8**	**-1.8**
ZAK				e	pP	11 01 28.7	-1.6
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.1s,mb3.5						
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.5						
MKAR	**Makanchi Array**	**43.12**	**299**	P	P	**11 03 17.8**	**+0.8**
	comp=Z,1.3nm,0.5s,mb3.9,baz=85,slow=9.7,SNR=13						
MKAR	**Makanchi Array**	**43.12**	**299**	i P	P	**11 03 17.8**	**+0.9**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KURK	**Kurchatov**	**44.54**	**305**	P	P	**11 03 27.6**	**-0.7**
	comp=Z,3.4nm,0.7s,mb4.3						
KURK	**Kurchatov**	**44.54**	**305**	P	P	**11 03 27.6**	**-0.7**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.2						
ILAR	**Eielson Array**	**45.77**	**34**	P	P	**11 03 41.6**	**+3.6**
	comp=Z,0.3nm,0.8s,mb3.3,baz=270,slow=5.4,SNR=3.0						
INK	**Inuvik**	**50.57**	**29**	eP	P	**11 04 16.4**	**+1.3**
	comp=Z,0.7nm,0.4s,mb3.9						
INK	**Inuvik**	**50.57**	**29**	eP	P	**11 04 16.4**	**+1.2**
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AB31	**Akbulak array**	**56.38**	**309**	i P	P	**11 05 07.3**	**+9.1**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
WRA	**Warramunga Arr**	**60.93**	**189**	P	P	**11 05 29.6**	**-0.7**
	comp=Z,0.2nm,0.6s,mb3.5,baz=4.4,slow=6.5,SNR=4.6						
FINES	**FINESS Array B**	**65.99**	**332**	P	P	**11 06 02.8**	**0.0**
	comp=Z,2.4nm,0.7s,mb4.3,baz=45,slow=8.1,SNR=8.8						
NB2	**NORSAR Subarra**	**71.13**	**337**	P	P	**11 06 35.1**	**+0.5**
	comp=Z,0.6nm,0.6s,mb3.7,baz=38,slow=5.8						
NOA	**NORSAR Array B**	**71.13**	**337**	P	P	**11 06 35.1**	**+0.5**
	comp=Z,0.6nm,0.7s,mb3.6,baz=38,slow=5.9,SNR=3.6						
AKASG	**Malin Array Be**	**71.98**	**322**	P	P	**11 06 40.0**	**+0.2**
	comp=Z,0.4nm,0.3s,mb3.8,baz=44,slow=6.0,SNR=4.4						

WEL 05 10:58:40.3±0.3, 44.88S×166.50E, h12km±2km, ML3.5/6, Error ellipse: s-maj=3.5km s-min=1.3km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.76**	**143**	P*	Pb	10 58 54.2	-0.7
DCZ				S*	Sb	10 59 05.2	+0.3
MSZ	**Milford Sound**	**1.04**	**79**	P*	Pb	10 58 59.3	-0.4
MSZ				S*	Sb	10 59 13.0	0.0
MLZ	**Mavora Lakes**	**1.27**	**112**	P*	Pb	10 59 02.6	-1.1
MLZ				S*	Sb	10 59 19.0	-0.9
WHZ	**Wether Hill Ro**	**1.44**	**135**	PN	Pn	10 59 05.6	-0.7
WHZ				SN	Sn	10 59 24.5	-0.7
WKZ	**Wanaka**	**1.79**	**89**	PN	Pn	10 59 12.3	+1.0
WKZ				SN	Sn	10 59 35.9	+1.9
JCZ	**Jackson Bay**	**1.81**	**64**	PN	Pn	10 59 13.0	+1.5
EAZ	**Earnscleugh**	**2.02**	**101**	PN	Pn	10 59 15.8	+1.2
EAZ				SN	Sn	10 59 41.3	+1.4
TUZ	**Tuapeka**	**2.46**	**117**	PN	Pn	10 59 21.4	+0.6
TUZ				SN	Sn	10 59 50.0	-1.0
FOZ	**Fox Glacier**	**2.64**	**61**	PN	Pn	10 59 22.7	-0.8
LBZ	**Lake Benmore**	**2.68**	**81**	PN	Pn	10 59 24.3	+0.4
ODZ	**Otahua Downs**	**2.95**	**95**	ePN	Pn	10 59 26.8	-1.0
RPZ	**Rata Peaks**	**3.47**	**72**	PN	Pn	10 59 33.7	-1.6
WVZ	**Waitaha Valley**	**3.55**	**61**	PN	Pn	10 59 34.3	-2.1
DSZ	**Denniston Nort**	**4.98**	**53**	PN	Pn	10 59 53.9	-2.7

IDC ***05*** *11:15:19.0±3.5, 6.84N×126.74E, h145km±31km, mb3.5/6, mb1 3.6/6, mb1mx3.4/18, mbtmp3.9/6, Error ellipse: s-maj=55.6km s-min=15.8km az=74.0*
NEIC ***05*** *11:15:19.3±0.6, 6.87N×126.82E, h150km, mb4.2/1, Error ellipse: s-maj=20.7km s-min=11.7km az=75.0*
ISC 05 11:15:17.5±1.2, 6.84N±0.08×126.7E±0.1, h147km±11km, n15, σ1°10/21, mb3.7/7, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**1.90**	**303**	eP	P	**11 15 52.0**	**+0.3**
BUKP				eS	S	**11 16 16.6**	**-1.3**
BUTP	**Butuan**	**2.36**	**334**	eP	P	**11 15 58.5**	**+1.2**
BUTP				eS	S	**11 16 29.1**	**+1.4**
SCPH	**Surigao**	**3.15**	**338**	eP	P	**11 16 05.6**	**-1.8**
SCPH				eS	S	**11 16 28.3**	**-17**
PAGZ	**Pagadian**	**3.42**	**287**	eP	P	**11 16 11.1**	**+0.2**
PAGZ				eS	S	**11 16 51.5**	**-0.3**
BESP	**Borongan**	**4.88**	**346**	eP	P	**11 16 21.7**	**-8.5**
BESP				eS	S	**11 17 18.4**	**-8.0**
PVCP	**Virac**	**7.16**	**340**	eP	P	**11 17 01.7**	**+1.0**
PVCP				eS	S	**11 18 14.0**	**-6.9**
KSM	**Kuching**	**17.17**	**253**	eP	P	**11 19 11.4**	**+1.4**
FITZ	**Fitzroy Crossi**	**24.80**	**182**	P	P	**11 20 27.8**	**+0.2**
	5.3nm,0.8s,mb4.2,baz=12,slow=9.3,SNR=8.3						
WRA	**Warramunga Arr**	**27.66**	**164**	P	P	**11 20 52.4**	**-1.5**
	0.6nm,0.7s,mb3.4,baz=344,slow=11,SNR=9.1						
WRA				ScP		11 27 33.9	
	1.3nm,0.8s,baz=343,slow=3.3,SNR=7.6						
STKA	**Stephens Creek**	**41.05**	**161**	P	P	**11 22 48.9**	**+0.8**
	1.7nm,0.5s,mb3.9,baz=324,slow=8.4,SNR=6.4						
STKA	**Stephens Creek**	**41.05**	**161**	P	P	**11 22 48.9**	**+0.8**
SONM	**Songino Array**	**44.36**	**340**	P	P	**11 23 15.2**	**+0.4**
	0.7nm,0.5s,mb3.5,baz=172,slow=10,SNR=3.9						
MKAR	**Makanchi Array**	**55.00**	**324**	P	P	**11 24 35.5**	**-0.3**
	1.8nm,0.5s,mb4.1,baz=125,slow=8.2,SNR=8.3						
KURK	**Kurchatov**	**59.12**	**327**	eP	P	**11 25 03.8**	**-1.0**
	2.1nm,0.7s,mb4.1						
ILAR	**Eielson Array**	**82.34**	**26**	P	P	**11 27 23.8**	**-0.1**
	0.2nm,0.6s,mb2.9,baz=259,slow=4.6,SNR=4.2						

CSEM ***05*** *11:27:52.6±0.2, 37.12N×24.44W, h5km, ML3.2, Error ellipse: s-maj=3.9km s-min=3.0km az=43.0, After PDA*
PDA ***05*** *11:27:52.6±0.9, 37.12N×24.44W, h5km, MD3.0, ML3.2, Error ellipse: s-maj=8.6km s-min=5.0km az=40.0*
SVSA 05 11:27:52.6±0.9, 37.12N×24.44W, h5km, MD3.0, ML3.2, Error ellipse: s-maj=8.6km s-min=5.0km az=40.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.52**	**257**	i P	Pg	11 28 02.2	-0.7
PSMN				i S	Sg	11 28 08.8	-1.0
PSMN	**Pico do Norte,**	**0.52**	**257**	i S	Sg	11 28 08.8	-1.0
MIRA	**Miradouro**	**0.94**	**315**	eP	Pb	11 28 08.9	-2.2
MIRA				eS	Sb	11 28 20.1	-3.6
PCNG	**Congro**	**1.00**	**311**	eP	Pb	11 28 08.4	-3.6
PCNG				eS	Sb	11 28 20.5	-4.8
	120nm,0.1s						
PFAD	**Fenais da Ajud**	**1.01**	**316**	i S	Sb	11 28 20.5	-5.0
VIF	**Vila Franca**	**1.01**	**308**	eP	Pb	11 28 08.7	-3.6
VIF				eS	Sb	11 28 20.6	-5.1
	141nm,0.2s						
PRCH	**Ribeira Ch**	**1.03**	**307**	eP	Pb	11 28 08.7	-3.8
PRCH				eS	Sb	11 28 20.7	-5.5
	256nm,0.1s						
MESC	**Monte Escuro**	**1.05**	**310**	eP	Pb	11 28 09.0	-3.8
MESC				eS	Sb	11 28 21.6	-5.1
LFA	**Lagoa do Fogo**	**1.06**	**308**	eP	Pb	11 28 09.2	-3.8
PMAT	**Coroa da Mata**	**1.08**	**311**	eS	Sb	11 28 22.3	-5.3
	65nm,0.1s						
PVER	**Pico Vermelho**	**1.09**	**309**	eS	Sb	11 29 01.7	+34
	86nm,0.3s						
CML	**Cha da Macela**	**1.10**	**307**	eS	Sb	11 28 22.4	-5.7
FAC	**Faja de Cima**	**1.17**	**304**	eS	Sb	11 28 23.6	-6.5
PSAN	**Santo Antonio**	**1.26**	**306**	eS	Sb	11 28 26.9	-5.9
PFET	**Feteiras**	**1.28**	**303**	eS	Sb	11 28 26.7	-6.8
SET2	**Ginetes**	**1.31**	**304**	eS	Sb	11 28 28.5	-5.7
SET4	**Mosteiros**	**1.32**	**305**	eS	Sb	11 28 27.8	-6.8
PFAV	**Pico das Favas**	**2.63**	**308**	eS	Sn	11 29 01.8	-7.3
	10nm,0.2s						
RIB2	**Ribeirinha**	**2.66**	**306**	eS	Sn	11 29 01.5	-8.5
PVNV	**Vila Nova**	**2.70**	**308**	eS	Sn	11 29 02.7	-8.3
	18nm,0.2s						
PPAD	**Pico dos Padre**	**2.75**	**306**	eS	Sn	11 29 03.8	-8.5
	13nm,0.2s						
PBIS	**Biscoitos**	**2.77**	**307**	eS	Sn	11 29 01.4	-11
	5.1nm,0.1s						
ASBA	**Santa Barbara**	**2.79**	**306**	eS	Sn	11 29 05.0	-8.2
	17nm,0.1s						
PSBA	**Serra de Santa**	**2.81**	**307**	eS	Sn	11 29 03.7	-10
	27nm,0.2s						
PMAN	**Manadas**	**3.26**	**299**	eS	Sn	11 29 15.6	-10
	57nm,0.1s						
PICO	**Pico**	**3.45**	**295**	eP	Pn	11 28 42.9	-5.2
PICO				eS	Sn	11 29 19.7	-10
CALA	**Caldeira**	**3.68**	**295**	eP	Pn	11 28 45.4	-6.0
CALA				eS	Sn	11 29 26.0	-10
PCED	**Cedros**	**3.70**	**295**	eS	Sn	11 29 25.4	-11
	20nm,0.3s						

WEL 05 11:51:17.9±0.2, 41.57S×173.07E, h78km±2km, ML3.7/14, Error ellipse: s-maj=1.2km s-min=1.2km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THZ	**Tophouse**	**0.23**	**212**	PN	P	11 51 29.2	-0.4
THZ				SN	S	11 51 37.6	-0.7
NNZ	**Nelson**	**0.42**	**34**	PN	P	11 51 30.6	-0.2
NNZ				SN	S	11 51 40.0	-0.6
BSWZ	**Blackbirch Sta**	**0.62**	**104**	PN	P	11 51 33.1	+0.2
BSWZ				SN	S	11 51 43.8	0.0
TUWZ	**Tuamarina**	**0.67**	**79**	PN	P	11 51 33.1	-0.2
TUWZ				SN	S	11 51 44.0	-0.7
QRZ	**Quartz Range**	**0.84**	**331**	PN	P	11 51 35.1	-0.1
QRZ				SN	S	11 51 47.3	-0.8
CMWZ	**Cape Campbell**	**0.88**	**102**	PN	P	11 51 36.2	+0.6
CMWZ				SN	S	11 51 49.7	+0.9
KHZ	**Kahutara**	**0.92**	**158**	PN	P	11 51 36.0	-0.1
KHZ				SN	S	11 51 49.4	-0.3
DSZ	**Denniston Nort**	**0.96**	**259**	PN	P	11 51 36.2	-0.5
DSZ				SN	S	11 51 49.1	-1.5
TCW	**Tory Channel**	**0.98**	**69**	PN	P	11 51 37.1	+0.3
TCW				SN	S	11 51 50.5	-0.5
DUWZ	**D'Urville Isla**	**1.00**	**40**	PN	P	11 51 37.4	+0.4
DUWZ				SN	S	11 51 52.2	+0.8
SNZO	**South Karori**	**1.26**	**79**	PN	P	11 51 39.7	-0.6
SNZO				SN	S	11 51 56.6	-0.6
MRW	**Makara Radio**	**1.27**	**75**	PN	P	11 51 40.0	-0.6
WEL	**Wellington**	**1.31**	**78**	PN	P	11 51 40.5	-0.7
LTZ	**Lake Taylor**	**1.35**	**206**	PN	P	11 51 41.2	-0.5
LTZ				SN	S	11 51 58.3	-1.1
BHW	**Baring Head**	**1.36**	**84**	PN	P	11 51 40.7	-1.2
KIW	**Kapiti Island**	**1.56**	**64**	PN	P	11 51 44.0	-0.4
CAW	**Cannon Point**	**1.57**	**74**	PN	P	11 51 43.6	-1.1
MSWZ	**Moikau Station**	**1.65**	**85**	PN	P	11 51 44.0	-1.6
MSWZ				SN	S	11 52 03.5	-2.5
PAWZ	**Paruwai Farm**	**1.78**	**85**	PN	P	11 51 45.5	-1.9
PAWZ				SN	S	11 52 06.8	-2.4
MTW	**Mount Morrison**	**1.88**	**78**	PN	P	11 51 46.8	-1.9
MTW				SN	S	11 52 09.4	-2.0
TRWZ	**Traveller**	**1.98**	**86**	PN	P	11 51 48.1	-1.9
CRLZ	**Canterbury Las**	**2.04**	**189**	PN	P	11 51 48.6	-2.2
MRZ	**Mangatainoka R**	**2.10**	**65**	PN	P	11 51 50.1	-1.7
MQZ	**McQueen's Vall**	**2.16**	**188**	PN	P	11 51 49.8	-2.8
WVZ	**Waitaha Valley**	**2.29**	**228**	PN	P	11 51 53.6	-0.9
NRZ	**Ngariki Road**	**2.32**	**17**	PN	P	11 51 55.6	+0.7
WAZ	**Wanganui**	**2.33**	**40**	PN	P	11 51 55.4	+0.5
NWEZ	**Newall Road**	**2.37**	**15**	PN	P	11 51 55.8	+0.2
DFE	**Dawson Falls**	**2.37**	**20**	PN	P	11 51 56.0	+0.4
NEZ	**North Egmont**	**2.42**	**19**	PN	P	11 51 56.4	+0.1
PKE	**Pukeiti**	**2.47**	**17**	PN	P	11 51 56.6	-0.4
RAEZ	**Rainy Point**	**2.49**	**24**	PN	P	11 51 57.4	+0.1
BFZ	**Birch Farm**	**2.56**	**71**	PN	P	11 51 55.3	-3.0
RPZ	**Rata Peaks**	**2.61**	**214**	PN	P	11 51 56.8	-2.1
TSZ	**Takapari Road**	**2.66**	**57**	PN	P	11 51 57.6	-2.1
VRZ	**Vera Road**	**2.76**	**28**	PN	P	11 52 01.5	+0.5
MTVZ	**Mangateitei**	**2.85**	**41**	PN	P	11 52 01.7	-0.6
PKVZ	**Pokaka**	**2.86**	**38**	PN	P	11 52 01.8	-0.7
TRVZ	**Turoa**	**2.95**	**41**	PN	P	11 52 03.2	-0.5
WNVZ	**Wahianoa**	**2.96**	**42**	PN	P	11 52 03.0	-0.7
MOVZ	**Moawhango**	**2.97**	**44**	PN	P	11 52 02.5	-1.5
FWVZ	**Far West T-bar**	**2.99**	**40**	PN	P	11 52 03.6	-0.6
WPVZ	**Whakapapa**	**3.02**	**40**	PN	P	11 52 03.9	-0.8
TUVZ	**Tukino**	**3.03**	**42**	PN	P	11 52 04.2	-0.6
NGZ	**Ngauruhoe**	**3.07**	**40**	PN	P	11 52 04.6	-0.8
TWVZ	**Taurewa**	**3.08**	**37**	PN	P	11 52 04.2	-1.3
OTVZ	**Oturere**	**3.11**	**40**	PN	P	11 52 05.2	-0.8
WTVZ	**West Tongariro**	**3.12**	**39**	PN	P	11 52 05.0	-1.0
KRVZ	**Karewarewa**	**3.16**	**39**	PN	P	11 52 05.5	-1.1
FOZ	**Fox Glacier**	**3.19**	**230**	PN	P	11 52 04.0	-3.1
PWZ	**Pawanui**	**3.27**	**63**	PN	P	11 52 04.7	-3.4
KATZ	**Kakaramea**	**3.28**	**39**	PN	P	11 52 07.5	-0.7
HIZ	**Hauiti**	**3.34**	**25**	PN	P	11 52 08.7	-0.5
RATZ	**Rangitukua**	**3.40**	**38**	PN	P	11 52 10.3	+0.3
WATZ	**Wairara**	**3.51**	**36**	PN	P	11 52 11.3	-0.1
LBZ	**Lake Benmore**	**3.52**	**216**	PN	P	11 52 08.3	-3.3
BKZ	**Black Stump Fm**	**3.55**	**49**	PN	P	11 52 07.2	-4.8
ODZ	**Otahua Downs**	**3.90**	**206**	PN	P	11 52 14.2	-2.7
JCZ	**Jackson Bay**	**4.04**	**230**	PN	P	11 52 16.6	-2.2
TOZ	**Tahuroa Road**	**4.27**	**27**	PN	P	11 52 21.2	-0.8
URZ	**Urewera**	**4.54**	**45**	PN	P	11 52 21.1	-4.6
EAZ	**Earnscleugh**	**4.57**	**216**	PN	P	11 52 22.3	-4.0
MWZ	**Matawai**	**4.71**	**48**	PN	P	11 52 23.5	-4.6
WTAZ	**Waiatarua**	**4.77**	**15**	PN	P	11 52 28.9	-0.1
OTAZ	**Otara**	**4.83**	**18**	PN	P	11 52 29.5	-0.2
MSZ	**Milford Sound**	**4.88**	**229**	PN	P	11 52 28.3	-2.2
KAAZ	**Kauri Point**	**4.91**	**16**	PN	P	11 52 30.4	-0.4
MTAZ	**Motutapu**	**4.98**	**17**	PN	P	11 52 31.4	-0.5
TUZ	**Tuapeka**	**5.04**	**208**	PN	P	11 52 30.3	-2.4
KUZ	**Kuaotunu**	**5.24**	**24**	PN	P	11 52 34.0	-1.4
MXZ	**Matakaoa Point**	**5.69**	**47**	PN	P	11 52 36.6	-5.0
WCZ	**Waipu Caves**	**5.71**	**10**	PN	P	11 52 41.1	-0.7
OUZ	**Omahuta**	**6.35**	**4**	PN	P	11 52 50.2	-0.6

NIED ***05*** *11:56:00, 26.50N×141.90E, h44km, Mw4.3 Best double couple: M0 2.74×10^15 NP1:φs211°, δ80°, λ78°. NP2:φs82°, δ15°, λ140°.*
IDC ***05*** *11:56:52.5±2.7, 26.43N×141.66E, h38km±22km, mb4.2/11, mb1 4.4/12, mb1mx4.2/21, mbtmp4.4/12, ML3.6/1, MS3.2/1, Ms1 3.2/1, ms1mx2.7/25, Error ellipse: s-maj=22.7km s-min=15.8km az=89.0*
JMA ***05*** *11:56:54.6±0.1, 26.48N×142.00E, h54km, M4.3*
JMA Felt I J1.
NEIC ***05*** *11:56:57.1±1.3, 26.44N×141.62E, h79km±11km, mb4.3/3, Error ellipse: s-maj=18.0km s-min=7.9km az=89.0*
ISC 05 11:56:52.3±0.8, 26.49N±0.05×141.7E±0.1, h52km±8km, n39, σ1°14/51, mb4.5/13, 1C-2D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**0.43**	**71**	P	P	**11 57 03.4**	**+0.4**
JHHJ				eS	S	**11 57 09.9**	**-0.8**
CBIJ	**Chichi jima**	**0.73**	**34**	Pn	P	**11 57 07.8**	**+1.1**
	560nm,0.3s,baz=130,slow=6.6,SNR=44						
CBIJ				Sn	S	**11 57 17.5**	**+0.2**
	1μm,0.3s,baz=290,slow=23,SNR=68						
CBIJ	**Chichi jima**	**0.73**	**34**	P	P	**11 57 07.8**	**+1.1**
CBIJ				eS	S	**11 57 16.6**	**-0.7**
JHJ2	**Mitsune**	**6.81**	**346**	P	P	**11 58 32.6**	**+0.6**
JHJ2				eS	S	**11 59 48.4**	**-0.5**
JHJ	**Hachijo jima 2**	**6.82**	**346**	Pn	P	**11 58 29.8**	**-2.4**
	4.0nm,0.3s,baz=81,slow=22,SNR=3.9						
JHJ				Sn	S	**11 59 48.3**	**-1.0**
	3.2nm,0.3s,baz=237,slow=23,SNR=3.5						
BSO1	**Boso 1**	**8.17**	**356**	P	P	**11 58 50.1**	**-0.7**
BSO1				eS	S	**12 00 20.0**	**-2.7**
BSO3	**Boso 3**	**8.35**	**353**	P	P	**11 58 52.8**	**-0.6**
BSO3				eS	S	**12 00 28.1**	**+0.8**
BSO4	**Boso 4**	**8.56**	**352**	P	P	**11 58 58.0**	**+1.8**
BSO4				eS	S	**12 00 33.3**	**+0.9**
JWZ	**Kozaga**	**8.74**	**325**	P	P	**11 59 00.1**	**+1.4**
JOD2	**Odawara 2**	**9.04**	**346**	P	P	**11 59 06.0**	**+3.2**
JHU	**Hanno**	**9.57**	**348**	P	P	**11 59 11.4**	**+1.3**
JHU				eS	S	**12 00 57.2**	**0.0**
JRY	**Ryogami san**	**9.80**	**346**	P	P	**11 59 13.3**	**0.0**

340nm,0.2s
EKMR AMB AMB 12 24 50.0
360nm,0.2s
EKMR *e*Sg Sg 12 24 54.2 -1.0
EKMR A 12 25 03.2
520nm,0.2s
EKMR A 12 25 03.2
340nm,0.2s
GRNR Gornyy 2.88 143 *e*Pn Pn 12 25 25.2 -1.2
GRNR *e*Pg Pg 12 25 32.4 -4.6
GRNR AMB AMB 12 25 34.0
61nm,0.5s
GRNR AMB AMB 12 25 34.0
35nm,0.5s
GRNR AMB AMB 12 25 34.0
36nm,0.5s
GRNR *e*Sg Sg 12 26 10.0 -5.4
GRNR A 12 26 12.2
150nm,0.5s
BMKR Bomnak 3.30 301 *e*Pn Pn 12 25 32.8 +0.4
BMKR *e*Pg Pg 12 25 39.0 -6.5
BMKR AMB AMB 12 25 45.4
18nm,0.6s
BMKR AMB AMB 12 25 45.4
15nm,0.6s
BMKR AMB AMB 12 25 45.4
20nm,0.6s
BMKR *e*Sg Sg 12 26 22.0 -7.5
BMKR A 12 26 30.9
80nm,0.5s
YASR Yasnyy 3.45 275 *e*Pn Pn 12 25 35.4 +0.8
YASR *e*Pg Pg 12 25 42.0 -6.5
YASR AMB AMB 12 25 48.2
9.0nm,0.5s
YASR AMB AMB 12 25 48.2
20nm,0.5s
YASR *e*Sg Sg 12 26 26.7 -7.9
YASR A 12 26 34.9
60nm,0.6s
YASR A 12 26 34.9
43nm,0.6s
YASR A 12 26 34.9
33nm,0.6s
ZEA Zeya 3.92 282 *e*Pg Pg 12 25 51.0 -6.8
ZEA AMB AMB 12 25 51.8
21nm,0.6s
ZEA AMB AMB 12 25 51.8
24nm,0.6s
ZEA *e*Sg Sg 12 26 42.1 -8.0
ZEA A 12 26 46.8
140nm,0.9s
ZEA A 12 26 46.8
83nm,0.9s
ZEA A 12 26 46.8
51nm,0.9s
KLR Kul'dur 4.07 198 *e*Pg Pg 12 25 54.8 -6.0
NKL Nikolayevsk 4.20 87 *e*Pn Pn 12 25 44.0 -1.2
NKL *e*Sg Sg 12 26 51.0 -8.4
NKL A 12 26 58.8
67nm,0.9s
KROS Kirovskiy 4.22 291 ⇓*i*Pg Pg 12 25 56.0 -7.8
KROS AMB AMB 12 25 59.0
9.0nm,0.5s
KROS AMB AMB 12 25 59.0
15nm,0.5s
KROS AMB AMB 12 25 59.0
10.0nm,0.5s
KROS *e*Sg Sg 12 26 51.6 -8.4
KROS A 12 26 55.1
22nm,0.5s
TYV Tymovskoe 5.96 108 *e*Sg Sg 12 27 45.0 -13

*IDC **05** 12:47:50.5±3.6,24.06S×66.89W,h178km±32km, mb1 3.0/3,mb1mx2.9/15,mbtmp3.3/3,Error ellipse: s-maj=49.9km s-min=27.1km az=137.0*
*NEIC **05** 12:47:50.6±1.0,24.07S×66.80W,h184km±13km,Error ellipse: s-maj=22.8km s-min=14.2km az=92.0*
ISC 05 12:47:49.4±1.4,24.12S±0.08×66.6W±0.3,h141km±51km, n8,σ0§44/11,Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.59**	**305**	P	**P**	**12 48 32.9**	**+1.1**
	2.7nm,0.3s,baz=111,slow=10,SNR=57						
LVC				S	**S**	**12 49 03.7**	**-0.5**
	13nm,0.3s,baz=281,slow=20,SNR=62						
LVC	**Limon Verde**	**2.59**	**305**	*e*Pn	**P**	**12 48 32.6**	**+0.7**
LVC				*e*Sn	**S**	**12 49 03.6**	**-0.6**
LVC				S	**S**	**12 49 03.7**	**-0.5**
LPAZ	**La Paz**	**7.92**	**349**	P	**P**	**12 49 42.8**	**-0.1**
	0.2nm,0.3s,baz=172,slow=7.9,SNR=7.5						
LPAZ				S	**S**	**12 51 11.2**	**-0.1**
	0.0nm,0.3s,baz=259,slow=20,SNR=2.5						
LPAZ	**La Paz**	**7.92**	**349**	*e*Pn	**P**	**12 49 43.1**	**+0.2**
LPAZ				S	**S**	**12 51 11.2**	**-0.1**
SIV	**San Ignacio**	**9.62**	**34**	P	**P**	**12 50 05.4**	**-0.1**
	0.3nm,0.3s,baz=215,slow=14,SNR=5.3						
TRQA	**Tornquist**	**14.45**	**165**	*e*Pn	**P**	**12 51 08.1**	**-0.2**
WRA	**Warramunga Arr**	**131.68**	**207**	PKP	PKPdf	13 06 41.7	-4.7
	0.4nm,1.0s,baz=160,slow=1.9,SNR=5.0						
MKAR	**Makanchi Array**	**146.39**	**40**	PKPbc	PKPbc	13 07 10.3	-3.1
	0.4nm,0.6s,baz=304,slow=5.2,SNR=4.5						

*IDC **05** 13:18:24.9±1.1,0.79N×97.35E,mb4.2/12,mb1 4.3/12, mb1mx4.2/18,mbtmp4.2/12,Error ellipse: s-maj=54.2km s-min=17.5km az=51.0*
*BJI **05** 13:18:27.5,1.16N×97.99E,h17km,mb4.9*
*NEIC **05** 13:18:29.6±0.4,0.82N×97.39E,h30km,mb4.4/4,Error ellipse: s-maj=11.4km s-min=6.6km az=48.0*
ISC 05 13:18:30.5±4.2,0.9N±0.2×97.6E±0.2,h49km±34km,n26, σ0§70/26,mb4.3/21,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.33**	**35**	*e*Pn	**P**	**13 19 49.4**	**-0.1**
KKTK	**Khon Kaen**	**16.18**	**18**	P	**P**	**13 22 35.0**	**+19**
	6μm,0.6s						
KKM	**Kota Kinabalu**	**19.30**	**74**	*e*P	**P**	**13 22 55.0**	**+0.6**
DMN	**Daman**	**29.10**	**337**	*e*P	**P**	**13 24 29.4**	**+0.5**
	22nm,0.9s,mb4.9						
KKN	**Kakani**	**29.20**	**337**	*e*P	**P**	**13 24 30.8**	**+1.1**
	12nm,0.7s,mb4.8						
LSA	**Lhasa**	**29.27**	**349**	P	**P**	**13 24 29.4**	**-1.0**
LSA	**Lhasa**	**29.27**	**349**	*e*P	**P**	**13 24 30.4**	**0.0**
	5.4nm,0.3s,mb4.8						
GKN	**Gorkha**	**29.64**	**336**	*e*P	**P**	**13 24 34.0**	**+0.3**
KOLN	**Koldanda**	**29.86**	**335**	*e*P	**P**	**13 24 36.0**	**+0.3**
	13nm,0.7s,mb4.8						
FITZ	**Fitzroy Crossi**	**33.47**	**126**	P	**P**	**13 25 07.0**	**-0.4**
	6.2nm,1.0s,mb4.5,baz=175,slow=12,SNR=3.1						
XAN	**Xi'an**	**34.63**	**17**	P	**P**	**13 25 16.0**	**-1.2**
XAN				AP	pP	13 25 27.8	-2.4
XAN				AMB	AMB		
	comp=Z,12nm,0.6s,mb5.0						
GTA	**Gaotai**	**38.37**	**3**	*e*P	**P**	**13 25 48.6**	**0.0**
GTA				AP	pP	13 25 54.7	-7.0
GTA				XP	sP	13 25 58.5	-9.2
GTA				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.4						
WRA	**Warramunga Arr**	**41.58**	**122**	P	**P**	**13 26 15.8**	**+0.3**
	comp=Z,1.8nm,0.7s,mb3.8,baz=302,slow=8.9,SNR=9.4						
WRAB	**Tennant Creek**	**41.59**	**122**	P	**P**	**13 26 15.9**	**+0.4**
	comp=Z,3.7nm,0.5s,mb4.3						
SONM	**Songino Array**	**47.36**	**8**	P	**P**	**13 27 02.2**	**+0.6**
	comp=Z,1.8nm,0.5s,mb4.3,baz=191,slow=8.9,SNR=21						
SONM				PcP	PcP	13 28 31.5	-0.6
	comp=Z,0.7nm,0.7s,baz=232,slow=2.9,SNR=3.4						
ULN	**Ulaanbaatar**	**47.49**	**9**	*e*P	**P**	**13 27 03.0**	**+0.5**
	comp=Z,1.9nm,0.6s,mb4.2						
MKAR	**Makanchi Array**	**47.60**	**346**	P	**P**	**13 27 03.5**	**+0.1**
	comp=Z,4.5nm,0.5s,mb4.8,baz=160,slow=8.0,SNR=58						
STKA	**Stephens Creek**	**52.90**	**132**	P	**P**	**13 27 43.4**	**-0.7**
	comp=Z,1.4nm,0.7s,mb4.0,baz=321,slow=14,SNR=3.4						
ZAL	**Zalesovo**	**53.89**	**351**	P	**P**	**13 27 50.4**	**-0.6**
	comp=Z,4.8nm,0.4s,mb4.8,baz=291,slow=5.1,SNR=15						
BVAR	**Borovoye Array**	**56.63**	**341**	P	**P**	**13 28 09.7**	**-1.2**
	comp=Z,1.9nm,0.7s,mb4.2,baz=149,slow=8.6,SNR=12						
BRVK	**Borovoye**	**56.70**	**341**	*e*P	**P**	**13 28 09.8**	**-1.5**
	comp=Z,2.1nm,0.8s,mb4.2						
BRTR	**Keskin Array B**	**69.56**	**312**	P	**P**	**13 29 36.0**	**-0.5**
	comp=Z,1.1nm,0.8s,mb3.9,baz=127,slow=6.2,SNR=4.3						
FINES	**FINESS Array B**	**80.41**	**332**	P	**P**	**13 30 37.8**	**-0.5**
	comp=Z,0.7nm,0.5s,mb3.9,baz=90,slow=5.7,SNR=5.8						
ARCES	**ARCESS Array B**	**82.92**	**340**	P	**P**	**13 30 51.7**	**+0.6**
	comp=Z,1.4nm,0.8s,mb4.1,baz=90,slow=4.9,SNR=6.3						
GERES	**GERESS Array B**	**85.26**	**319**	P	**P**	**13 31 04.1**	**+0.8**
	comp=Z,0.9nm,0.9s,mb3.9,baz=90,slow=2.7,SNR=5.2						
NOA	**NORSAR Array B**	**87.43**	**331**	P	**P**	**13 31 14.5**	**+0.9**
	comp=Z,0.6nm,0.7s,mb4.0,baz=105,slow=7.4,SNR=3.0						

*BJI **05** 13:21:29.0,1.96N×96.46E,h39km,mB5.3,mb4.9,Ms5.0, Msz4.6*
*MOS **05** 13:21:29.7±1.0,2.23N×96.44E,h30km,mb4.9/40,Error ellipse: s-maj=14.9km s-min=7.4km az=103.7*
*IDC **05** 13:21:30.8±0.8,2.17N×96.42E,h26km±4km,mb4.2/18, mb1 4.3/18,mb1mx4.3/22,mbtmp4.4/18,MS4.4/2, Ms1 4.3/2,ms1mx3.7/23,Error ellipse: s-maj=19.4km s-min=14.0km az=60.0*
*NEIC **05** 13:21:30.9±0.4,2.16N×96.42E,mb5.0/22,Error ellipse: s-maj=9.5km s-min=8.1km az=211.0*
NEIC Felt [II] at Sinabang.
ISC 05 13:21:29.0±0.4,2.18N±0.05×96.43E±0.04,h26km, h26km±,8km:pP-P,n128,σ1§12/129,mb4.8/64,MS4.5/13, 10C-2D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.17**	**62**	P	**Pn**	**13 22 47.6**	**+0.7**
KULM	**Kulim**	**5.23**	**54**	*e*Pn	**Pn**	**13 22 47.6**	**-0.1**
KULM				*ep*Pn		13 22 54.9	
KGM	**Kluang**	**6.89**	**91**	P	**Pn**	**13 23 12.3**	**+1.3**
KSM	**Kuching**	**13.89**	**93**	*e*Pn	**P**	**13 24 48.4**	**+1.6**
KSM				*ep*Pn		13 24 56.3	
CHG	**Chiang Mai**	**16.72**	**8**	⇑P	**P**	**13 25 22.8**	**-0.5**
	17nm,1.1s						
NANT	**Nan**	**17.04**	**14**	P	**P**	**13 25 27.0**	**-0.4**
	62nm,0.9s						
CHRT	**Chiangrai**	**17.89**	**10**	⇓P	**P**	**13 25 36.0**	**-2.0**
	105nm,0.7s						
KKM	**Kota Kinabalu**	**20.10**	**78**	P	**P**	**13 26 01.7**	**-2.2**
KKM	**Kota Kinabalu**	**20.10**	**78**	*e*P	**P**	**13 26 03.7**	**-0.2**
QIZ	**Qiongzhong**	**21.29**	**37**	P	**P**	**13 26 14.5**	**-1.5**
QIZ				S	**S**	**13 30 08.7**	**+2.5**
QIZ				LR	LR		
	comp=N,2μm,13.7s,MS4.8						
QIZ				LR	LR		
	comp=E,2μm,12.8s,MS4.8						
QIZ				LR	LR		
	comp=Z,4μm,12.8s,MS5.0						
TSM	**Tawau**	**21.51**	**84**	P	**P**	**13 26 18.9**	**+0.5**
KMI	**Kunming**	**23.61**	**14**	P	**P**	**13 26 42.6**	**+3.5**
KMI				AP		13 26 49.9	
KMI				XP		13 26 52.9	
KMI				AMB	AMB		
	comp=Z,24nm,1.3s,mb4.5						
KMI				LR	LR		
	comp=N,1μm,11.5s						
KMI				LR	LR		
	comp=E,1μm,18.5s						
KMI				LR	LR		
	comp=Z,1μm,17.6s						
KMI	**Kunming**	**23.61**	**14**	P	**P**	**13 26 42.6**	**+3.5**
	comp=Z,24nm,1.3s,mb4.5						
KMI				pP		13 26 49.9	
KMI				sP		13 26 52.9	
KMI				S	**S**	**13 31 06.5**	**+18**
KMI				LR	LR		
	comp=Z,1μm,17.6s,MS4.4						
GYA	**Guiyang**	**26.07**	**21**	P	**P**	**13 27 02.9**	**+0.4**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.3						
PKI	**Pulchoki**	**27.37**	**338**	*e*P	**P**	**13 27 16.3**	**+2.0**
	comp=Z,89nm,1.3s,mb5.1						
DMN	**Daman**	**27.51**	**338**	*e*P	**P**	**13 27 15.9**	**+0.2**
	comp=Z,45nm,0.8s,mb5.1						
KKN	**Kakani**	**27.61**	**338**	*e*P	**P**	**13 27 18.6**	**+2.0**
	comp=Z,76nm,0.9s,mb5.3						
LSA	**Lhasa**	**27.83**	**350**	P	**P**	**13 27 19.8**	**+1.3**
LSA	**Lhasa**	**27.83**	**350**	*e*P	**P**	**13 27 19.4**	**+0.9**
	comp=Z,53nm,1.0s,mb5.1						
LSA	**Lhasa**	**27.83**	**350**	*e*P	**P**	**13 27 19.4**	**+0.9**
LSA				pmax	pmax		
	comp=Z,53nm,1.0s,mb5.1						
GKN	**Gorkha**	**28.05**	**337**	*e*P	**P**	**13 27 21.2**	**+0.7**
	comp=Z,62nm,1.0s,mb5.2						
KOLN	**Koldanda**	**28.25**	**335**	*e*P	**P**	**13 27 23.1**	**+0.7**
	comp=Z,62nm,1.0s,mb5.2						
ENH	**Enshi**	**30.57**	**23**	*e*P	**P**	**13 27 41.2**	**-1.8**
	comp=Z,29nm,1.0s,mb5.1						
XAN	**Xi'an**	**33.78**	**19**	P	**P**	**13 28 09.7**	**-1.4**
XAN				AP	pP	13 28 17.2	-1.6
XAN				AMB	AMB		
	comp=Z,43nm,0.8s,mb5.4						
LZH	**Lanzhou**	**34.43**	**11**	⇑P	**P**	**13 28 16.3**	**-0.4**
LZH				AP	pP	13 28 24.2	-0.2
LZH				XP	sP	13 28 27.5	-0.2
LZH				AMB	AMB		
	comp=Z,41nm,1.2s,mb5.2						
LZH				AMB	AMB		
	comp=Z,94nm,6.1s						
LZH				LR	LR		
	comp=E,383nm,13.2s						
LZH				LR	LR		
	comp=Z,491nm,17.0s,MS4.3						
LZH	**Lanzhou**	**34.43**	**11**	⇑P	**P**	**13 28 16.3**	**-0.4**
	comp=Z,41nm,1.2s,mb5.2						
LZH				pP	pP	13 28 24.2	-0.2
LZH				sP	sP	13 28 27.5	-0.2
LZH				PP	PP	13 29 12.5	-20
LZH				LR	LR		
	comp=Z,490nm,17.0s,MS4.3						
FITZ	**Fitzroy Crossi**	**35.12**	**126**	*e*P	**P**	**13 28 21.0**	**-1.8**
	comp=Z,17nm,0.8s,mb5.0						
FITZ	**Fitzroy Crossi**	**35.12**	**126**	P	**P**	**13 28 20.9**	**-1.8**
	comp=Z,17nm,0.9s,mb5.0,baz=281,slow=2.8,SNR=7.1						
SSE	**Sheshan**	**37.08**	**37**	P	**P**	**13 28 37.8**	**-1.3**
SSE				AP	pP	13 28 46.3	-0.6
SSE				XP	sP	13 28 50.5	+0.3
SSE				S	**S**	**13 34 24.2**	**+1.2**
SSE				XS		13 34 39.1	
SSE				AMB	AMB		
	comp=Z,55nm,1.0s,mb5.3						
SSE				AMB	AMB		
	comp=Z,2μm,5.5s						
SSE				LR	LR		
	comp=N,3μm,5.6s						
SSE				LR	LR		
	comp=E,1μm,5.6s						
SSE				LR	LR		
	comp=Z,3μm,6.7s						
SSE	**Sheshan**	**37.08**	**37**	P	**P**	**13 28 37.8**	**-1.3**
	comp=Z,55nm,1.0s,mb5.3						
SSE				pP	pP	13 28 46.3	-0.6
SSE				sP	sP	13 28 50.5	+0.3
SSE				S	**S**	**13 34 24.2**	**+1.2**
SSE				sS		13 34 39.1	
GTA	**Gaotai**	**37.19**	**4**	*e*P	**P**	**13 28 40.3**	**+0.3**
GTA				AP	pP	13 28 48.5	+0.8
GTA				XP	sP	13 28 52.0	+1.0
GTA				PP	PP	13 30 08.0	+0.7
GTA				S	**S**	**13 34 28.3**	**+3.7**
GTA				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.7						
GTA				AMB	AMB		
	comp=Z,273nm,4.9s						
GTA				LR	LR		
	comp=N,643nm,16.7s,MS4.6						
GTA				LR	LR		
	comp=E,439nm,16.4s,MS4.6						
GTA				LR	LR		
	comp=Z,750nm,16.4s,MS4.6						
KAKA	**Kakadu**	**38.69**	**113**	*e*P	**P**	**13 28 58.1**	**+5.3**
	comp=Z,12nm,0.6s,mb4.8						
NWAO	**Narrogin (SRO)**	**40.07**	**152**	LR	LR	13 42 57.9	
	comp=Z,472nm,21.4s,MS4.3,baz=278,slow=32						
BTO	**Baotou**	**40.19**	**16**	*e*P	**P**	**13 29 04.2**	**-0.8**
HHC	**Hu-ho-hao-te**	**40.86**	**18**	*e*P	**P**	**13 29 12.1**	**+1.6**
HHC				XP	sP	13 29 21.2	-0.3
HHC				AMB	AMB		
	comp=Z,25nm,0.6s,mb5.0						
HHC				AMB	AMB		
	comp=Z,255nm,5.6s						
HHC				LR	LR		
	comp=N,775nm,13.1s,MS4.9						
HHC				LR	LR		
	comp=E,628nm,12.5s,MS4.9						
HHC				LR	LR		
	comp=Z,586nm,13.7s,MS4.6						
WMQ	**Urumqi**	**42.19**	**351**	*e*P	**P**	**13 29 22.0**	**+0.6**
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.4						
WRA	**Warramunga Arr**	**43.20**	**122**	P	**P**	**13 29 29.4**	**-0.6**
	comp=Z,5.8nm,0.9s,mb4.3,baz=302,slow=9.0,SNR=18						
WRA	**Warramunga Arr**	**43.20**	**122**	P	**P**	**13 29 29.4**	**-0.6**
WRA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
WRAB	**Tennant Creek**	**43.21**	**122**	*e*P	**P**	**13 29 30.0**	**-0.1**
	comp=Z,26nm,0.9s,mb5.0						
WRAB				*ep*P	pP	13 29 37.2	-0.6
WRAB	**Tennant Creek**	**43.21**	**122**	*e*P	**P**	**13 29 30.0**	**-0.1**
WRAB				*e**PP	pP	13 29 37.2	-0.6
WRAB				pmax	pmax		
	comp=Z,26nm,0.9s,mb5.0						
WB2	**Warramunga Arr**	**43.22**	**122**	*e*P	**P**	**13 29 30.2**	**+0.1**
JNU	**Nakatsue**	**44.60**	**43**	P	**P**	**13 29 42.5**	**+1.4**
	comp=Z,7.1nm,0.9s,mb4.5,baz=190,slow=24,SNR=2.7						
AAK	**Ala-Archa**	**44.80**	**337**	*e*P	**P**	**13 29 44.1**	**+1.4**
	comp=Z,4.1nm,0.4s,mb4.6						
AAK	**Ala-Archa**	**44.80**	**337**	*d i*P	**P**	**13 29 43.9**	**+1.2**
AAK				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.4						
AAK				MLR	MLR		
	comp=Z,300nm,22.0s,MS4.2						
KS15	**Wonju Array Si**	**45.47**	**36**	P	**P**	**13 29 47.7**	**-0.3**
MKAR	**Makanchi Array**	**46.12**	**347**	P	**P**	**13 29 53.0**	**0.0**
	comp=Z,30nm,0.8s,mb5.3,baz=162,slow=7.7,SNR=54						
MKAR	**Makanchi Array**	**46.12**	**347**	P	**P**	**13 29 53.1**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,31nm,0.8s						
SONM	**Songino Array**	**46.29**	**9**	P	**P**	**13 29 54.3**	**-0.1**
	comp=Z,2.9nm,0.5s,mb4.5,baz=191,slow=9.7,SNR=20						
SONM				pP	pP	13 30 03.5	+1.3
	comp=Z,11nm,0.7s,baz=189,slow=8.8,SNR=27						
SONM				PcP	PcP	13 31 30.4	+0.5
	comp=Z,1.8nm,0.7s,baz=188,slow=2.5,SNR=3.6						
SONM				pPcP		13 31 38.3	
	comp=Z,3.7nm,0.7s,baz=191,slow=3.3,SNR=5.8						
SONM	**Songino Array**	**46.29**	**9**	P	**P**	**13 29 54.3**	**-0.1**
SONM				*PP	pP	13 30 03.5	+1.3
SONM						13 31 30.4	
SONM						13 31 38.3	
SONM				pmax	pmax		
	comp=Z,3.0nm,0.5s						
SONM				pmax	pmax		
	comp=Z,11nm,0.7s						
SONM				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SONM				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ULN	**Ulaanbaatar**	**46.43**	**10**	*e*P	**P**	**13 29 56.4**	**+0.9**
	comp=Z,7.5nm,0.8s,mb4.7						
ULN				*ep*P	pP	13 30 04.3	+1.0
ULN	**Ulaanbaatar**	**46.43**	**10**	*e*P	**P**	**13 29 56.4**	**+0.9**
ULN				*e**PP	pP	13 30 04.3	+1.0
ULN				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
KKAR	**Karatay Array**	**46.84**	**334**	P	**P**	**13 29 59.1**	**+0.3**
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
ZAK	**Zakamensk**	**48.38**	**6**	*e*P	**P**	**13 30 10.3**	**-0.4**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
CN2	**Changchun**	**48.80**	**28**	*e*P	**P**	**13 30 13.7**	**-0.3**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
TLY	**Talaya**	**49.70**	**6**	*c i*P	**P**	**13 30 21.7**	**+0.8**
TLY				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
KURK	**Kurchatov**	**50.66**	**345**	*e*P	**P**	**13 30 28.0**	**-0.2**
	comp=Z,16nm,0.8s,mb5.0						
KURK				*ep*P	pP	13 30 35.8	-0.4
KURK	**Kurchatov**	**50.66**	**345**	*e*P	**P**	**13 30 28.0**	**-0.2**
KURK				*e**PP	pP	13 30 35.8	-0.3
KURK				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.0						
HIA	**Hailar**	**50.98**	**19**	*e*P	**P**	**13 30 31.5**	**+0.9**
	comp=Z,11nm,0.9s,mb4.8						
HIA				*ep*P	pP	13 30 37.7	-0.9
HIA	**Hailar**	**50.98**	**19**	*e*P	**P**	**13 30 31.5**	**+0.9**
HIA				*e**PP	pP	13 30 37.7	-0.9
HIA				pmax	pmax		
	comp=Z,11nm,0.9s						
MDJ	**Mudanjiang**	**51.41**	**30**	P	**P**	**13 30 39.0**	**+5.0**
MDJ				PCP	PcP	13 31 44.6	-3.9
MDJ				SCP		13 35 41.2	
MDJ				PCS		13 35 46.3	
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.4s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,257nm,6.2s						
MDJ				LR	LR		
	comp=N,411nm,23.3s,MS4.6						
MDJ				LR	LR		
	comp=E,520nm,23.3s,MS4.6						
MDJ				LR	LR		
	comp=Z,346nm,17.2s						
CIT	**Chita**	**51.70**	**13**	*e*P	**P**	**13 30 37.0**	**+0.9**
CIT				*e*	pP	13 30 44.8	+0.8
CIT				*e*		13 30 52.8	
ZAL	**Zalesovo**	**52.47**	**351**	P	**P**	**13 30 40.3**	**-1.6**
	comp=Z,16nm,0.8s,mb5.0,baz=293,slow=6.5,SNR=64						
ZAL	**Zalesovo**	**52.47**	**351**	P	**P**	**13 30 40.3**	**-1.6**
ZAL				pmax	pmax		
	comp=Z,16nm,0.8s						
NVS	**Novosibirsk**	**53.59**	**351**	⇑*i*P	**P**	**13 30 48.2**	**-1.9**
NVS				*e*S	**S**	**13 38 13.4**	**-6.8**
NVS				pmax	pmax		
	comp=Z,25nm,1.1s,mb5.1						
NVS				pmax	pmax		
	comp=N,21nm,1.2s						
NVS				pmax	pmax		
	comp=E,10.0nm,1.1s						
NVS				smax			
	comp=N,4.0nm,1.5s						
NVS				smax			
	comp=E,15nm,1.7s						
STKA	**Stephens Creek**	**54.58**	**132**	*e*P	**P**	**13 30 58.1**	**+0.4**
	comp=E,6.1nm,1.1s,mb4.5						
STKA	**Stephens Creek**	**54.58**	**132**	P	**P**	**13 30 57.5**	**-0.2**
	comp=E,1.6nm,0.5s,mb4.3,baz=310,slow=8.4,SNR=7.3						
STKA				LR	LR	13 56 48.8	
	comp=E,345nm,19.1s,MS4.4,baz=248,slow=39						
VOSK	**Vostochnaya**	**54.63**	**341**	P	**P**	**13 30 55.8**	**-2.0**
VOSK				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
BVA0	**Borovoye Array**	**55.08**	**341**	*i* P	**P**	**13 30 59.9**	**-1.2**
BVA0				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
BVAR	**Borovoye Array**	**55.08**	**341**	P	**P**	**13 31 00.1**	**-1.0**
	comp=Z,9.7nm,0.8s,mb4.9,baz=143,slow=7.4,SNR=29						
BVAR	**Borovoye Array**	**55.08**	**341**	P	**P**	**13 31 00.1**	**-1.0**
BVAR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
BRVK	**Borovoye**	**55.14**	**341**	*e*P	**P**	**13 31 00.3**	**-1.3**
	comp=Z,12nm,1.0s,mb4.9						
BRVK				*ep*P	pP	13 31 09.0	-0.5
BRVK	**Borovoye**	**55.14**	**341**	*e*P	**P**	**13 31 00.3**	**-1.3**
BRVK				*e**PP	pP	13 31 09.0	-0.5
BRVK				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.9						
KLR	**Kul'dur**	**55.74**	**27**	*e*P	**P**	**13 31 02.3**	**-3.6**
AB31	**Akbulak array**	**56.30**	**332**	P	**P**	**13 31 09.0**	**-0.9**
AB31				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.9						
BOD	**Bodaibo**	**57.20**	**11**	*e*P	**P**	**13 31 14.9**	**-1.4**
BOD				*e*	pP	13 31 23.4	-0.9
BOD				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
BOD				pmax	pmax		
	comp=Z,13nm,0.8s,mb5.0						
KMBO	**Kilima Mbogo**	**59.25**	**267**	P	**P**	**13 31 31.1**	**-0.1**
	comp=Z,2.9nm,1.0s,mb4.3,baz=64,slow=7.9,SNR=5.5						
KMBO	**Kilima Mbogo**	**59.25**	**267**	P	**P**	**13 31 31.1**	**-0.1**
KMBO				pmax	pmax		
	comp=Z,3.0nm,1.0s						
YSS	**Yuzh-Sakhalins**	**59.99**	**35**	*e*P	**P**	**13 31 34.8**	**-1.0**
	comp=Z,30nm,1.1s,mb5.2						
YSS				*ep*P	pP	13 31 43.7	-0.2
YSS	**

GNI	**Garni**	**60.06 316**	*e*P	**P**	**13 31 36.7 +0.3**
GNI			pmax	pmax	
comp=Z,8.0nm,0.9s					
GNI			MLR	MLR	
comp=Z,100nm,21.0s					
SVE	**Sverdlovsk**	**61.50 339**	*e*P	**P**	**13 31 45.8 -0.1**
SVE			*e*		13 31 49.9
SVE			*e*S	**S**	**13 40 21.0 +17**
SVE			MLR	MLR	
comp=N,200nm,12.0s,MS4.6					
SVE			MLR	MLR	
comp=E,200nm,12.0s,MS4.6					
SVE			MLR	MLR	
comp=Z,200nm,12.0s,MS4.5					
ARU	**Arti**	**61.99 337**	*e*P	**P**	**13 31 48.2 -1.1**
comp=Z,13nm,0.9s,mb5.1					
ARU	**Arti**	**61.99 337**⇑	*i*P	**P**	**13 31 52.3 +3.0**
ARU			*e*		13 34 07.4
ARU			*e*PPP	PPP	13 35 39.4 +2.5
ARU			*e*S	**S**	**13 40 21.8 +12**
ARU			pmax	pmax	
comp=Z,12nm,0.9s,mb5.0					
KIV	**Kislovodsk**	**63.07 319**	*e*P	**P**	**13 31 57.7 +1.2**
KIV			pmax	pmax	
comp=Z,10.0nm,0.9s,mb5.0					
ASF	**Jabal al Asfar**	**63.27 305**	P	**P**	**13 31 57.4 -0.7**
comp=Z,0.7nm,0.3s,mb4.2,baz=117,slow=4.5,SNR=2.5					
ASF	**Jabal al Asfar**	**63.27 305**	P	**P**	**13 31 57.4 -0.7**
ASF			pmax	pmax	
comp=Z,1.0nm,0.3s					
YAK	**Yakutsk**	**64.71 17**	*e*P	**P**	**13 32 05.5 -1.5**
comp=Z,40nm,0.9s,mb5.5					
YAK	**Yakutsk**	**64.71 17**	*c i*P	**P**	**13 32 06.0 -1.0**
YAK			pmax	pmax	
comp=Z,28nm,1.2s,mb5.2					
SOC	**Sochi**	**64.88 318**	*e*P	**P**	**13 32 06.2 -2.3**
SOC			*e*		13 32 36.3
SOC			*e*		13 34 37.2
SOC			*e*PPP	PPP	13 36 08.7 +1.7
SOC			*e*S	**S**	**13 40 47.2 +0.7**
SOC			*e*		13 42 02.4
SOC			*e*SS	SS	13 45 05.3 +5.3
SOC			pmax	pmax	
comp=Z,9.0nm,0.7s,mb4.9					
SOC			pmax	pmax	
comp=N,10.0nm,0.6s					
SOC			pmax	pmax	
comp=E,1.0nm,0.3s					
BRTR	**Keskin Array B**	**67.89 312**	P	**P**	**13 32 26.6 -1.1**
comp=E,0.6nm,0.3s,mb4.0,baz=135,slow=4.1,SNR=3.8					
BRTR	**Keskin Array B**	**67.89 312**	P	**P**	**13 32 26.6 -1.1**
BRTR			pmax	pmax	
comp=Z,1.0nm,0.3s					
MATP	**Matopo**	**70.18 248**	P	**P**	**13 32 41.6 -0.4**
comp=Z,1.0nm,0.5s,mb4.0,baz=146,slow=1.5,SNR=5.1					
MA2	**Magadan**	**70.80 26**	*e*P	**P**	**13 32 44.7 -0.5**
comp=Z,9.2nm,0.8s,mb4.8					
MA2			*e*pP	pP	13 32 52.9 -0.3
MA2	**Magadan**	**70.80 26**	*e*P	**P**	**13 32 44.7 -0.5**
MA2			*e**PP	pP	13 32 52.9 -0.4
MA2			pmax	pmax	
comp=Z,9.0nm,0.8s,mb4.8					
MOS	**Moscow**	**71.10 329**	*e*P	**P**	**13 32 52.6 +5.5**
MOS			pmax	pmax	
comp=Z,53nm,1.0s,mb5.4					
OBN	**Obninsk**	**71.39 328**	*c e*P	**P**	**13 32 49.9 +1.1**
OBN			pmax	pmax	
comp=Z,6.0nm,0.6s,mb4.7					
OBN			MLR	MLR	
comp=Z,100nm,18.0s,MS4.1					
PET	**Petropavlovsk**	**71.86 34**	*e*P	**P**	**13 32 51.0 -0.7**
comp=Z,14nm,0.8s,mb4.9					
PET			*e*pP	pP	13 32 59.6 -0.2
PET	**Petropavlovsk**	**71.86 34**	*e*P	**P**	**13 32 51.4 -0.3**
PET			*e*		13 35 31.9
PET			pmax	pmax	
comp=Z,20nm,0.7s,mb5.2					
PET			pmax	pmax	
comp=Z,100nm,17.3s					
TIXI	**Tiksi**	**72.37 10**	*e*P	**P**	**13 32 57.7 +3.3**
TIXI			pmax	pmax	
comp=Z,12nm,1.0s,mb4.8					
SEY	**Seymchan**	**73.17 23**	*e*P	**P**	**13 32 59.2 0.0**
SEY				pP	13 33 07.1 -0.3
SEY					13 35 41.7
SEY			*e*PPP	PPP	13 37 23.9 -3.8
SEY			*e*S	S	13 42 26.1 +2.0
SEY					13 42 57.5
SEY			SS	SS	13 47 12.9 +4.7
SEY			pmax	pmax	
comp=Z,8.0nm,1.2s,mb4.5					
SEY			MLR	MLR	
comp=Z,550nm,22.0s,MS4.8					
SEY			MLR	MLR	
comp=N,530nm,24.0s,MS4.9					
SEY			MLR	MLR	
comp=E,530nm,24.0s,MS4.9					
MAW	**Mawson**	**73.48 193**	P	**P**	**13 33 01.7 +0.7**
comp=E,1.0nm,0.8s,mb3.8,baz=284,slow=13,SNR=4.1					
MAW	**Mawson**	**73.48 193**	P	**P**	**13 33 01.7 +0.8**
MAW			pmax	pmax	
comp=Z,1.0nm,0.8s					
AKASG	**Malin Array Be**	**74.02 322**	P	**P**	**13 33 03.6 -0.7**
comp=Z,1.1nm,0.6s,mb4.0,baz=93,slow=4.4,SNR=5.5					
AKASG	**Malin Array Be**	**74.02 322**	P	**P**	**13 33 03.7 -0.7**
AKASG			pmax	pmax	
comp=Z,1.0nm,0.6s					
BOSA	**Boshof**	**74.60 240**	P	**P**	**13 33 08.1 -0.1**
comp=Z,2.9nm,0.8s,mb4.3,baz=90,slow=1.0,SNR=3.3					
BOSA	**Boshof**	**74.60 240**	P	**P**	**13 33 08.1 -0.1**
BOSA			pmax	pmax	
comp=Z,3.0nm,0.8s,mb4.3					
FINES	**FINESS Array B**	**78.78 333**	P	**P**	**13 33 31.2 +0.3**
comp=Z,3.3nm,1.0s,mb4.2,baz=180,slow=5.7,SNR=4.6					
FINES			pP	pP	13 33 38.4 -0.7
comp=Z,4.5nm,0.7s,baz=90,slow=5.7,SNR=6.0					
FINES	**FINESS Array B**	**78.78 333**	P	**P**	**13 33 31.2 +0.3**
FINES			*PP	pP	13 33 38.4 -0.7
FINES			pmax	pmax	
comp=Z,3.0nm,1.0s					
FINES			pmax	pmax	
comp=Z,5.0nm,0.7s					
PSZ	**Piszkesteto**	**79.37 318**	*e*P	**P**	**13 33 35.8 +1.4**
comp=Z,5.2nm,0.8s,mb4.5					
PSZ	**Piszkesteto**	**79.37 318**	*e*P	**P**	**13 33 35.8 +1.4**
PSZ			pmax	pmax	
comp=Z,5.0nm,0.8s,mb4.5					
BILL	**Bilibino**	**80.53 21**	*e*P	**P**	**13 33 47.4 +7.2**
BILL			pmax	pmax	
comp=Z,6.0nm,1.0s,mb4.5					
BILL			MLR	MLR	
comp=Z,500nm,16.0s,MS5.0					
ARCES	**ARCESS Array B**	**81.36 340**	P	**P**	**13 33 45.7 +1.2**
comp=Z,6.5nm,1.1s,mb4.5,baz=97,slow=7.3,SNR=5.3					
ARCES			pP	pP	13 33 53.1 +0.3
comp=Z,6.3nm,0.8s,baz=90,slow=4.9,SNR=6.3					
ARCES	**ARCESS Array B**	**81.36 340**	P	**P**	**13 33 45.7 +1.2**
ARCES			pP	pP	13 33 53.1 +0.3
ARCES	**ARCESS Array B**	**81.36 340**	P	**P**	**13 33 45.7 +1.2**
ARCES			*PP	pP	13 33 53.1 +0.3
ARCES			pmax	pmax	
comp=Z,7.0nm,1.1s					
ARCES			pmax	pmax	
comp=Z,6.0nm,0.8s					
GERES	**GERESS Array B**	**83.58 319**	P	**P**	**13 33 57.3 +0.9**
comp=Z,2.6nm,0.9s,mb4.4,baz=104,slow=5.5,SNR=13					
GERES	**GERESS Array B**	**83.58 319**	P	**P**	**13 33 57.3 +0.9**
GERES			pmax	pmax	
comp=Z,3.0nm,0.9s					
GRA1	**Grafenberg Arr**	**85.24 320**	*e*P	**P**	**13 34 07.6 +2.8**
comp=Z,6.0nm,0.7s,mb4.8					
GRF	**Grafenberg Arr**	**85.24 320**	*e*P	**P**	**13 34 07.6 +2.8**
comp=Z,6.0nm,0.7s,mb4.8					
GRF	**Grafenberg Arr**	**85.24 320**	*e*P	**P**	**13 34 07.6 +2.8**
GRF			pmax	pmax	
comp=Z,6.0nm,0.7s,mb4.8					
GRF	**Grafenberg Arr**	**85.24 320**	*e*P	**P**	**13 34 07.6 +2.8**
GRF			pmax	pmax	
comp=Z,6.0nm,0.7s,mb4.8					
KONO	**Kongsberg**	**86.53 329**⇑	*i*P	**P**	**13 34 12.0 +1.1**
NEW	**Newport**	**121.90 26**	PKP	PKPdf	13 40 21.1 -4.9
comp=Z,1.7nm,0.6s,baz=99,slow=20,SNR=2.9					
NEW	**Newport**	**121.90 26**	PKIKP	PKPdf	13 40 21.1 -4.9
NEW			pmax	pmax	
comp=Z,2.0nm,0.6s					

PDAR	**Pinedale Array**	**129.49 25**	pPKP		13 40 46.5
comp=Z,0.4nm,0.6s,baz=217,slow=3.5,SNR=3.3					
TXAR	**Lajitas Array**	**143.23 30**	PKP	PKPdf	13 41 01.2 -5.2
comp=Z,0.5nm,0.4s,baz=225,slow=3.5,SNR=3.5					
TXAR			pPKP		13 41 12.7
comp=Z,0.9nm,0.6s,baz=225,slow=1.8,SNR=3.5					
TXAR	**Lajitas Array**	**143.23 30**	PKIKP	PKPdf	13 41 01.2 -5.2
TXAR					13 41 12.7
TXAR			pmax	pmax	
comp=Z,1.0nm,0.4s					
TXAR			pmax	pmax	
comp=Z,1.0nm,0.6s					
CPUP	**Villa Florida**	**145.18 224**	PKPbc	PKPbc	13 41 07.5 +1.9
comp=Z,4.5nm,0.9s,baz=128,slow=3.3,SNR=9.0					
CPUP	**Villa Florida**	**145.18 224**	PKIKP	PKPdf	13 41 07.5 -2.4
CPUP			pmax	pmax	
comp=Z,5.0nm,0.9s					

NEIC ***05*** *13:30:43.0, 32.36N×115.24W, h6km, ML3.6(PAS), After PAS.*
ECX ***05*** *13:30:44.4±0.5, 32.41N×115.23W, h6km, MD3.9, ML4.0, Fault plane solution: NP1:φs330°, δ75°, λ-90°.*
ISC 05 13:30:41.5±0.6, 32.52N±0.03×115.12W±0.04, h22km±6km, n30, σ1§00/37, 1C-9D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.19**	**237**	*e*P	**Pb**	**13 30 46.0**	**-0.7**
CPBX				*e*		13 30 53.8	
comp=N,232μm,1.0s							
COA	**Coachella**	**0.34**	**359**⇓	*i*P	**Pb**	**13 30 52.9**	**+3.9**
PLT	**Pilot Knob**	**0.39**	**57**⇓	*i*P	**Pb**	**13 30 53.4**	**+3.6**
EMX	**El Mayor**	**0.54**	**191**	*e*P	**Pb**	**13 30 51.8**	**-0.4**
EMX				*e*S	**Sb**	**13 30 58.0**	**-1.5**
EMX			⇓	*e*		13 31 04.6	
comp=E,7μm,1.1s							
RMX	**La Rumorosa**	**0.82**	**276**	*e*P	**Pb**	**13 30 57.5**	**+0.7**
RDX	**Rancho Dowling**	**0.92**	**230**	*e*P	**Pb**	**13 30 58.0**	**-0.6**
RDX			⇓	*e*		13 31 16.6	
comp=E,4μm,0.8s							
ECBX	**El Chinero**	**1.05**	**177**⇑	*e*P	**Pb**	**13 31 02.0**	**+1.2**
ECBX				*e*S	**Sb**	**13 31 15.0**	**+0.9**
BAR	**Barrett**	**1.32**	**277**	*e*P	**Pn**	**13 31 04.3**	**-0.7**
CBX	**Cerro Bola**	**1.32**	**261**	*e*P	**Pn**	**13 31 05.3**	**+0.3**
CBX				*e*S	**Sb**	**13 31 22.9**	**+0.8**
ENX	**Ensenada**	**1.46**	**245**⇓	*e*P	**Pn**	**13 31 07.3**	**+0.4**
ENX				*e*S	**Sn**	**13 31 25.6**	**+0.1**
SPX	**San Pedro Mart**	**1.50**	**191**⇓	*e*P	**Pn**	**13 31 06.9**	**-0.6**
SPX				*e*S	**Sn**	**13 31 26.9**	**+0.4**
ECNX	**Esteban Cantu**	**1.52**	**236**⇓	*e*P	**Pn**	**13 31 08.3**	**+0.5**
ECNX				*e*S	**Sn**	**13 31 27.2**	**+0.1**
PFO	**Pinyon Flat Ob**	**1.56**	**314**	*e*P	**Pn**	**13 31 08.3**	**0.0**
PBX	**Punta Banda**	**1.57**	**241**⇓	*e*P	**Pn**	**13 31 08.9**	**+0.5**
PBX				*e*S	**Sn**	**13 31 28.6**	**+0.3**
MWC	**Mount Wilson**	**2.99**	**305**	*e*Pn	**Pn**	**13 31 27.6**	**-1.2**
NEN	**Nelson**	**3.13**	**4**	*e*P	**Pn**	**13 31 31.9**	**+1.2**
TUC	**Tucson**	**3.67**	**92**	*e*Pn	**Pn**	**13 31 37.8**	**-0.7**
DAC	**Darwin (Calif)**	**4.27**	**332**	Pn	**Pn**	**13 31 45.7**	**-1.3**
ARUT	**Antelope Range**	**5.43**	**14**	Pn	**Pn**	**13 32 06.5**	**+3.1**
MTUM	**Tungsten Hills**	**5.59**	**331**	Pn	**Pn**	**13 32 05.5**	**-0.1**
TPH	**Tonopah**	**5.80**	**343**	Pn	**Pn**	**13 32 08.9**	**+0.3**
OMM	**Old Mammoth Mi**	**6.00**	**329**	Pn	**Pn**	**13 32 09.3**	**-2.0**
MSU	**Marysvale**	**6.44**	**21**	P	**Pn**	**13 32 18.9**	**+1.3**
TMUT	**Trail Mountain**	**7.47**	**24**	*e*Pn	**Pn**	**13 32 30.4**	**-1.6**
SRU	**San Rafael**	**7.56**	**28**	Pn	**Pn**	**13 32 34.3**	**+1.0**
PV10	**Paradox Valley**	**7.66**	**39**	P	**Pn**	**13 32 36.1**	**+1.4**
PV01	**Paradox Valley**	**7.74**	**42**	Pn	**Pn**	**13 32 35.3**	**-0.6**
DUG	**Dugway**	**7.88**	**13**	Pn	**Pn**	**13 32 46.8**	**+9.0**
MNTX	**Cornudas Mount**	**8.30**	**93**	Pn	**P**	**13 32 43.0**	**-0.6**
SMCO	**Snowmass**	**9.37**	**43**	Pn	**P**	**13 32 57.0**	**-1.3**

IDC ***05*** *13:35:13.0±1.2, 9.77N×108.01E, mb3.9/7, mb1 4.1/7, mb1mx3.9/17, mbtmp3.9/7, MS4.3/7, Ms1 4.3/7, ms1mx4.0/24, Error ellipse: s-maj=81.7km s-min=22.2km az=58.0*
PLV ***05*** *13:35:13.0±1.4, 9.94N×108.78E, h0km, ML4.4*
NEIC ***05*** *13:35:15.9±5.6, 9.99N×108.37E, h17km±37km, mb4.4/6, Error ellipse: s-maj=13.2km s-min=9.1km az=57.0*
ISC 05 13:35:12.7±0.5, 10.01N±0.05×108.32E±0.07, h10km, n25, σ1§17/22, mb4.1/12, MS4.3/7, Vietnam

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NHA	**Nha-Trang**	**2.35**	**22**	*e*PN	**Pn**	**13 35 53.7**	**+1.6**
baz=188,slow=18							
NHA				*e*PG	**Pg**	**13 35 57.6**	**-2.2**
NHA				*e*SG	**Sg**	**13 36 29.8**	**-1.4**
NHA				*e*		13 36 41.9	
comp=Z,4μm,0.7s							
SNG	**Songkhla**	**8.12**	**250**	P	**P**	**13 37 11.0**	**-2.5**
comp=Z,412nm,1.0s							
KSM	**Kuching**	**8.71**	**167**	*e*Pn	**P**	**13 37 21.2**	**-0.6**
NNT	**Nongplab**	**8.80**	**288**	P	**P**	**13 37 22.2**	**-0.8**
KULM	**Kulim**	**8.93**	**239**	*e*Pn	**P**	**13 37 24.0**	**-0.8**
KULM				*e*		13 40 07.0	
ENH	**Enshi**	**20.19**	**3**	P	**P**	**13 39 50.0**	**-0.5**
comp=Z,4.5nm,0.5s							
JOW	**Kunigami**	**25.20**	**46**	LR	LR	13 48 56.3	
comp=Z,775nm,19.4s,MS4.2,baz=180,slow=32							
LSA	**Lhasa**	**25.32**	**323**	*e*P	**P**	**13 40 44.0**	**+2.6**
comp=Z,8.2nm,0.6s,mb4.4							
JNU	**Nakatsue**	**30.99**	**39**	LR	LR	13 52 52.1	
comp=Z,735nm,19.9s,MS4.3,baz=246,slow=34							
FITZ	**Fitzroy Crossi**	**32.75**	**148**	LR	LR	13 56 42.7	
comp=Z,171nm,21.7s,MS3.7,baz=307,slow=39							
SONM	**Songino Array**	**37.73**	**358**	P	**P**	**13 42 32.6**	**+2.2**
comp=Z,1.1nm,0.9s,mb3.6,baz=180,slow=9.9,SNR=6.8							
SONM				LR	LR	14 00 21.7	
comp=Z,552nm,18.3s,MS4.4,baz=172,slow=40							
MAJO	**Matsushiro**	**37.80**	**41**	*e*P	**P**	**13 42 30.3**	**-0.9**
comp=Z,13nm,0.6s,mb4.8							
MAT	**Matsushiro**	**37.80**	**41**	*e*P	**P**	**13 42 31.0**	**-0.1**
WRA	**Warramunga Arr**	**39.27**	**139**	P	**P**	**13 42 43.9**	**+0.2**
comp=Z,3.3nm,0.9s,mb4.1,baz=319,slow=9.3,SNR=18							
WRAB	**Tennant Creek**	**39.27**	**139**	*e*P	**P**	**13 42 44.0**	**+0.3**
comp=Z,3.5nm,0.6s,mb4.3							
MKAR	**Makanchi Array**	**42.81**	**334**	P	**P**	**13 43 13.6**	**+1.2**
comp=Z,1.4nm,0.7s,mb3.8,baz=136,slow=8.0,SNR=12							
MKAR				LR	LR	14 02 29.8	
comp=Z,475nm,19.6s,MS4.4,baz=150,slow=38							
KURK	**Kurchatov**	**47.37**	**335**	*e*P	**P**	**13 43 49.5**	**+0.7**
comp=Z,6.3nm,1.0s,mb4.5							
ZAL	**Zalesovo**	**47.68**	**341**	P	**P**	**13 43 51.7**	**+0.5**
comp=Z,2.0nm,0.6s,mb4.3,baz=321,slow=7.4,SNR=7.8							
ZAL	**Zalesovo**	**47.68**	**341**	P	**P**	**13 43 51.7**	**+0.5**
BVAR	**Borovoye Array**	**52.63**	**332**	P	**P**	**13 44 28.8**	**-0.3**
comp=Z,0.6nm,0.5s,mb3.8,baz=127,slow=7.4,SNR=5.9							
BRVK	**Borovoye**	**52.70**	**332**	*e*P	**P**	**13 44 29.5**	**-0.1**
comp=Z,1.1nm,0.6s,mb4.0							
KMBO	**Kilima Mbogo**	**71.57**	**265**	LR	LR	14 18 04.2	
comp=Z,222nm,18.1s,MS4.5,baz=274,slow=36							
AKASG	**Malin Array Be**	**75.42**	**320**	P	**P**	**13 46 58.5**	**0.0**
comp=Z,0.2nm,0.2s,mb3.6,baz=80,slow=5.4,SNR=4.3							
GERES	**GERESS Array B**	**85.57**	**319**	P	**P**	**13 47 53.8**	**+1.2**
comp=Z,0.2nm,0.3s,mb3.9,baz=90,slow=6.9,SNR=3.5							
BOSA	**Boshof**	**88.72**	**241**	LR	LR	14 27 08.5	
comp=Z,154nm,18.4s,MS4.5,baz=69,slow=35							

NIED ***05*** *13:41:00, 32.40N×141.90E, h5km, Mw3.9 Best double couple: M0:8.82×10^14 NP1:φs334°, δ83°, λ58°. NP2:φs234°, δ33°, λ168°.*
IDC ***05*** *13:41:09.5±1.0, 32.24N×141.98E, mb4.0/9, mb1 4.1/10, mb1mx4.0/20, mbtmp4.0/10, MS3.3/1, Ms1 3.3/1, ms1mx3.0/23, Error ellipse: s-maj=28.9km s-min=19.5km az=70.0*
JMA ***05*** *13:41:11.2±0.2, 32.38N×141.86E, h1km, M3.6*
NEIC ***05*** *13:41:11.1±0.7, 32.22N×141.90E, h10km, mb4.4/3, Error ellipse: s-maj=22.5km s-min=11.2km az=78.0*
MOS ***05*** *13:41:12.2±1.0, 32.21N×141.86E, h33km, mb4.5/5, Error ellipse: s-maj=29.3km s-min=12.0km az=124.3*
ISC 05 13:41:12.8±1.1, 32.28N±0.05×142.00E±0.08, h38km±9km, n37, σ0§88/48, mb4.0/15, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.02**	**295**	P	**P**	**13 41 45.0**	**-0.1**
JHJ2				S	**S**	**13 42 09.5**	**+0.2**
JHJ	**Hachijo jima 2**	**2.05**	**295**	Pn	**P**	**13 41 44.9**	**-0.6**
37nm,0.3s,baz=80,slow=19,SNR=14							
JHJ				Sn	**S**	**13 42 09.8**	**-0.2**
68nm,0.3s,baz=78,slow=21,SNR=7.7							
BSO1	**Boso 1**	**2.51**	**340**	P	**P**	**13 41 52.4**	**+0.3**
BSO3	**Boso 3**	**2.80**	**334**	P	**P**	**13 41 56.4**	**+0.1**
BSO3				S	**S**	**13 42 29.3**	**+0.1**
BSO4	**Boso 4**	**3.04**	**333**	P	**P**	**13 42 00.2**	**+0.6**
BSO4				S	**S**	**13 42 35.0**	**-0.1**
JYT	**Yasato**	**4.21**	**340**	P	**P**	**13 42 16.9**	**+0.7**
JYT				S	**S**	**13 43 05.0**	**+0.2**
JHU	**Hanno**	**4.21**	**328**	P	**P**	**13 42 17.5**	**+1.2**
JHU				S	**S**	**13 43 03.1**	**-1.9**
JYN	**Shimob**	**4.31**	**319**	P	**P**	**13 42 18.6**	**+1.0**
JHO	**Hitachi**	**4.48**	**345**	P	**P**	**13 42 19.5**	**-0.5**
JHO				S	**S**	**13 43 08.2**	**-3.4**
JRY	**Ryogami san**	**4.53**	**326**	P	**P**	**13 42 21.1**	**+0.4**
JRY				S	**S**	**13 43 13.7**	**+0.9**
JAG	**Ashikaga**	**4.64**	**334**	P	**P**	**13 42 22.1**	**-0.2**
JAG				S	**S**	**13 43 14.4**	**-1.2**
CBIJ	**Chichi jima**	**5.17**	**178**	LR	LR	13 44 17.6	
comp=Z,299nm,18.7s,baz=297,slow=37							
MAT	**Matsushiro**	**5.28**	**325**	P	**P**	**13 42 31.4**	**+0.1**
MAT				S	**S**	**13 43 26.9**	**-4.9**
MAT	**Matsushiro**	**5.28**	**325**	P	**P**	**13 42 31.9**	**+0.6**
MAT				S	**S**	**13 43 32.7**	**+0.9**
JMM	**Marumori**	**5.66**	**350**	P	**P**	**13 42 35.2**	**-1.4**
JMM				S	**S**	**13 43 35.7**	**-5.5**
SONM	**Songino Array**	**31.05**	**310**	P	**P**	**13 47 30.0**	**+0.9**
1.0nm,0.8s,mb3.7,baz=97,slow=8.3,SNR=5.9							
BOD	**Bodaibo**	**31.87**	**332**	*e*P	**P**	**13 47 35.6**	**-0.7**
ZAK	**Zakamensk**	**33.76**	**314**	*e*P	**P**	**13 47 54.1**	**+1.3**
ZAK				pmax	pmax		
comp=Z,1.0nm,1.4s,mb3.5							
NVS	**Novosibirsk**	**46.56**	**317**	*e*P	**P**	**13 49 35.8**	**-2.6**
MKAR	**Makanchi Array**	**47.18**	**306**	P	**P**	**13 49 44.3**	**+0.9**
comp=Z,2.4nm,0.7s,mb4.2,baz=91,slow=9.4,SNR=16							
KURK	**Kurchatov**	**49.34**	**311**	*e*P	**P**	**13 50 00.3**	**+0.2**
comp=Z,4.4nm,0.9s,mb4.5							
KURK	**Kurchatov**	**49.34**	**311**	*e*P	**P**	**13 50 00.3**	**+0.2**
KURK				pmax	pmax		
comp=Z,4.0nm,0.9s,mb4.5							
WRAB	**Tennant Creek**	**52.44**	**189**	*e*P	**P**	**13 50 23.2**	**-0.8**
comp=Z,2.4nm,0.5s,mb4.4							
WRAB	**Tennant Creek**	**52.44**	**189**	*e*P	**P**	**13 50 23.2**	**-0.8**
WRAB				pmax	pmax		
comp=Z,2.0nm,0.5s,mb4.3							
WB2	**Warramunga Arr**	**52.44**	**189**	*e*P	**P**	**13 50 23.5**	**-0.5**
WRA	**Warramunga Arr**	**52.45**	**189**	P	**P**	**13 50 23.5**	**-0.5**
comp=Z,3.0nm,0.7s,mb4.3,baz=5.1,slow=7.7,SNR=48							
FITZ	**Fitzroy Crossi**	**52.49**	**200**	*e*P	**P**	**13 50 24.2**	**-0.2**
comp=Z,7.0nm,1.4s,mb4.4							
FITZ	**Fitzroy Crossi**	**52.49**	**200**	P	**P**	**13 50 24.1**	**-0.4**
comp=Z,2.3nm,0.6s,mb4.3,baz=358,slow=9.2,SNR=5.9							
ILAR	**Eielson Array**	**53.29**	**30**	P	**P**	**13 50 30.2**	**+0.5**
comp=Z,1.2nm,1.1s,mb3.8,baz=254,slow=6.5,SNR=6.1							
VOSK	**Vostochnaya**	**53.88**	**315**	P	**P**	**13 50 32.9**	**-1.4**
VOSK				pmax	pmax		
comp=Z,2.0nm,1.1s,mb4.0							
BVA0	**Borovoye Array**	**54.20**	**315**	*i* P	**P**	**13 50 37.1**	**+0.5**
BVAR	**Borovoye Array**	**54.20**	**315**	P	**P**	**13 50 37.1**	**+0.5**
comp=Z,1.0nm,0.7s,mb3.9,baz=90,slow=8.9,SNR=7.1							
KKAR	**Karatay Array**	**56.02**	**303**	*i* P	**P**	**13 50 49.2**	**-0.8**
KKAR				pmax	pmax		
comp=Z,4.0nm,0.9s,mb4.5							
AB31	**Akbulak array**	**61.43**	**312**	*i* P	**P**	**13 51 27.6**	**+0.1**
AB31				pmax	pmax		
comp=Z,1.0nm,0.6s,mb4.1							
FINES	**FINESS Array B**	**73.25**	**333**	P	**P**	**13 52 41.1**	**-0.2**
comp=Z,1.9nm,1.0s,mb4.0,baz=27,slow=9.3,SNR=3.3							
AKASG	**Malin Array Be**	**78.37**	**323**	P	**P**	**13 53 11.3**	**+0.7**
comp=Z,0.3nm,0.4s,mb3.6,baz=46,slow=6.2,SNR=6.0							
NOA	**NORSAR Array B**	**78.75**	**338**	P	**P**	**13 53 14.5**	**+1.9**
comp=Z,0.7nm,0.9s,mb3.6,baz=62,slow=5.7,SNR=3.2							

MOS ***05*** *13:45:13.0±1.6, 26.40N×102.53E, h33km, mb4.7/24, Error ellipse: s-maj=15.1km s-min=6.4km az=107.6*
BJI ***05*** *13:45:14.5, 26.46N×103.06E, h32km, mB5.1, mb4.7, ML4.7, Ms4.7, Msz4.5*
IDC ***05*** *13:45:14.3±4.5, 26.53N×103.10E, h25km±28km, mb4.0/16, mb1 4.2/16, mb1mx4.1/21, mbtmp4.2/16, Error ellipse: s-maj=30.0km s-min=16.1km az=50.0*
NEIC ***05*** *13:45:15.8±1.2, 26.46N×102.60E, h49km±12km, mb4.8/14, Error ellipse: s-maj=10.4km s-min=8.2km az=72.0*
ISC 05 13:45:12.7±0.3, 26.43N±0.05×102.77E±0.05, h33km, n116, σ1§64/125, mb4.5/37, MS4.6/1, 1C, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**1.30**	**181**	PG	**P**	**13 45 38.6**	**+3.9**
KMI				SG	**S**	**13 45 58.3**	**+7.1**
KMI				Smax			
comp=N,2μm,1.0s							
KMI				Smax			
comp=E,2μm,1.0s							
KMI				LR	LR		
comp=N,13μm,4.8s							
KMI				LR	LR		
comp=E,24μm,6.2s							
GYA	**Guiyang**	**3.49**	**89**	P	**P**	**13 46 07.7**	**+1.7**
GYA				PG	**P**	**13 46 14.5**	**+8.5**
GYA				SG	**S**	**13 46 52.4**	**+5.7**
GYA				LR	LR		
comp=N,15μm,9.0s							
GYA				LR	LR		
comp=E,8μm,7.5s							
GYA				LR	LR		
comp=Z,7μm,8.1s		

LZH MLR MLR
comp=Z,5μm,12.1s
GZH Guangzhou 10.17 107 P **P 13 47 38.6 -0.9**
GZH S **S 13 49 26.2 -7.3**
GZH Smax
comp=N,115nm,1.6s
GZH Smax
comp=E,80nm,1.7s
LSA Lhasa 10.77 290 P **P 13 47 53.4 +5.7**
LSA Lhasa 10.77 290 *e*Pn **P 13 47 53.2 +5.5**
comp=E,10nm,0.6s
LSA Lhasa 10.77 290 *e*P **P 13 47 53.2 +5.5**
LSA pmax pmax
comp=Z,10.0nm,0.6s
WHN Wuhan 10.98 65 *e*P **P 13 47 50.0 -0.6**
CAL Calcutta 13.71 257 *e*x x 13 48 59.7
BTO Baotou 15.37 21 *e*P **P 13 48 45.3 -3.4**
PKI Pulchoki 15.52 278 *e*P **P 13 48 55.5 +4.7**
comp=Z,89nm,1.0s
KKN Kakani 15.64 279 *e*P **P 13 48 55.4 +3.1**
comp=Z,76nm,0.8s
HHC Hu-ho-hao-te 16.12 25 *e*P **P 13 49 00.8 +2.4**
HHC XP 13 49 08.0
HHC PP PP 13 49 12.1 +0.7
HHC S **S 13 51 46.1 -10**
HHC AMB AMB
comp=Z,25nm,0.6s
HHC AMB AMB
comp=Z,622nm,8.8s
HHC LR LR
comp=N,1μm,13.7s
HHC LR LR
comp=E,2μm,13.7s
HHC LR LR
comp=Z,714nm,16.0s
GKN Gorkha 16.21 280 *e*P **P 13 49 02.6 +3.0**
comp=Z,60nm,0.9s
KOLN Koldanda 17.12 279 *e*P **P 13 49 16.2 +5.1**
comp=Z,68nm,1.1s
WMQ Urumqi 21.23 329 P **P 13 50 02.0 +4.1**
WMQ AMB AMB
comp=Z,16nm,1.2s,mb4.2
SONM Songino Array 21.55 7 P **P 13 50 01.3 +0.2**
comp=Z,19nm,0.9s,mb4.5,baz=192,slow=10.0,SNR=38
SONM Songino Array 21.55 7 P **P 13 50 01.3 +0.2**
SONM pmax pmax
comp=Z,19nm,0.9s
ULN Ulaanbaatar 21.66 8 *e*P **P 13 50 02.4 +0.2**
comp=Z,53nm,1.1s,mb4.9
ULN Ulaanbaatar 21.66 8 *e*P **P 13 50 02.4 +0.2**
ULN pmax pmax
comp=Z,53nm,1.1s,mb4.9
KS15 Wonju Array Si 23.90 56 P **P 13 50 26.8 +2.5**
ZAK Zakamensk 23.92 1⇑*i*P **P 13 50 27.5 +3.2**
ZAK pmax pmax
comp=Z,12nm,0.9s,mb4.3
TLY Talaya 25.22 1 *e*P **P 13 50 38.5 +1.6**
TLY *e* 13 51 10.8
TLY pmax pmax
comp=Z,3.0nm,0.8s,mb3.9
MOY Mondy 25.24 357 *e*P **P 13 50 43.0 +5.9**
MOY pmax pmax
comp=Z,38nm,2.4s,mb4.5
JNU Nakatsue 25.25 68 P **P 13 50 36.4 -0.9**
comp=Z,6.2nm,0.9s,mb4.2,baz=33,slow=20,SNR=2.6
CN2 Changchun 25.26 41 *e*P **P 13 50 38.2 +0.9**
CN2 AMB AMB
comp=Z,30nm,1.1s,mb4.7
CN2 AMB AMB
comp=Z,460nm,5.0s
IRK Irkutsk 25.80 2 *e*P **P 13 50 45.5 +3.1**
IRK *e* 13 51 33.2
IRK pmax pmax
comp=Z,38nm,1.4s,mb4.7
KSH Kashi 25.88 307 *e*P **P 13 50 49.0 +5.7**
KSH *e*AP pP 13 50 58.1 +5.5
KSH *e*XP sP 13 51 04.6 +8.1
KSH AMB AMB
comp=Z,140nm,2.0s,mb5.2
MKAR Makanchi Array 26.00 327 P **P 13 50 47.5 +3.2**
comp=Z,5.3nm,0.9s,mb4.0,baz=135,slow=10,SNR=12
MKAR PcP PcP 13 54 13.4 +0.9
comp=Z,0.7nm,0.8s,baz=104,slow=5.9,SNR=2.1
MKAR ScP 13 57 51.7
comp=Z,0.3nm,0.5s,baz=108,slow=4.6,SNR=3.7
MKAR Makanchi Array 26.00 327 P **P 13 50 47.5 +3.2**
MKAR 13 54 13.4
MKAR pmax pmax
comp=Z,5.0nm,1.0s
MKAR pmax pmax
comp=Z,1.0nm,0.8s
HIA Hailar 26.32 26 *e*P **P 13 50 47.0 -0.3**
comp=Z,36nm,0.8s,mb5.0
HIA Hailar 26.32 26 *e*P **P 13 50 47.0 -0.2**
HIA pmax pmax
comp=Z,36nm,0.8s
CIT Chita 26.83 15 *e*P **P 13 50 56.6 +4.8**
AAK Ala-Archa 28.18 312 P **P 13 51 02.6 -1.6**
comp=Z,7.9nm,0.9s,mb4.3
AAK Ala-Archa 28.18 312 P **P 13 51 02.6 -1.6**
AAK pmax pmax
comp=Z,8.0nm,0.9s,mb4.3
KURK Kurchatov 30.47 329 *e*P **P 13 51 24.7 +0.1**
comp=Z,35nm,1.3s,mb4.9
KURK Kurchatov 30.47 329 *e*P **P 13 51 24.7 +0.2**
KURK pmax pmax
comp=Z,35nm,1.3s,mb4.9
ZAL Zalesovo 30.53 339 P **P 13 51 25.4 +0.4**
comp=Z,4.8nm,0.8s,mb4.4,baz=326,slow=10,SNR=17
ZAL Zalesovo 30.53 339 P **P 13 51 25.4 +0.4**
ZAL Zalesovo 30.53 339 P **P 13 51 25.4 +0.4**
ZAL pmax pmax
comp=Z,5.0nm,0.8s
KLR Kul'dur 31.95 37 *e*P **P 13 51 33.8 -3.8**
BOD Bodaibo 32.37 11 *e*P **P 13 51 36.3 -4.8**
BVAR Borovoye Array 35.88 326 P **P 13 52 14.0 +2.6**
comp=Z,1.6nm,0.5s,mb4.2,baz=119,slow=11,SNR=7.2
BVAR PcP PcP 13 54 39.3 +0.8
comp=Z,0.8nm,0.6s,baz=90,slow=1.4,SNR=2.6
BVAR Borovoye Array 35.88 326 P **P 13 52 14.0 +2.6**
BVAR 13 54 39.3
BVAR pmax pmax
comp=Z,2.0nm,0.5s
BVAR pmax pmax
comp=Z,1.0nm,0.6s
BRVK Borovoye 35.95 326 *e*P **P 13 52 11.1 -0.9**
comp=Z,2.2nm,0.6s,mb4.3
BRVK Borovoye 35.95 326 *e*P **P 13 52 11.1 -0.9**
BRVK pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
YSS Yuzh-Sakhalins 37.52 46 *e*P **P 13 52 27.0 +1.8**
comp=Z,13nm,0.9s,mb4.7
YSS Yuzh-Sakhalins 37.52 46 *e*P **P 13 52 27.0 +1.8**
YSS pmax pmax
comp=Z,13nm,0.9s,mb4.7
YAK Yakutsk 39.88 19 *e*P **P 13 52 47.1 +2.4**
comp=Z,15nm,0.7s,mb4.8
YAK Yakutsk 39.88 19 *e*P **P 13 52 47.1 +2.4**
YAK pmax pmax
comp=Z,15nm,0.7s,mb4.8
SVE Sverdlovsk 42.66 327 *e*P **P 13 53 12.6 +5.0**
SVE *e* 13 54 47.3
SVE *e* 13 55 04.8
SVE pmax pmax
comp=Z,40nm,1.9s,mb4.8
SVE MLR MLR
comp=N,200nm,10.0s,MS4.6
SVE MLR MLR
comp=E,300nm,10.0s,MS4.6
SVE MLR MLR
comp=Z,400nm,10.0s,MS4.6
ARU Arti 43.52 326 *e*P **P 13 53 16.9 +2.2**
comp=Z,15nm,1.0s,mb4.7
ARU Arti 43.52 326 *e*P **P 13 53 16.9 +2.3**
ARU pmax pmax
comp=Z,15nm,1.0s,mb4.7
MBWA Marble Bar 50.08 159 *e*P **P 13 54 07.5 +0.8**
comp=Z,9.9nm,0.8s,mb4.9
WRAB Tennant Creek 55.34 143 *e*P **P 13 54 46.4 +0.4**
comp=Z,15nm,0.8s,mb5.1
WRAB Tennant Creek 55.34 143 *e*P **P 13 54 46.4 +0.5**
WRAB pmax pmax
comp=Z,15nm,0.8s,mb5.1
WRA Warramunga Arr 55.35 143 P **P 13 54 46.4 +0.5**
comp=Z,9.6nm,0.8s,mb4.9,baz=331,slow=8.1,SNR=67
WRA Warramunga Arr 55.35 143 P **P 13 54 46.4 +0.5**
WRA pmax pmax
comp=Z,10.0nm,0.8s
WB2 Warramunga Arr 55.35 143 *e*P **P 13 54 46.6 +0.6**
BRTR Keskin Array B 58.12 302 P **P 13 55 06.8 +1.4**
comp=Z,0.6nm,0.6s,mb3.8,baz=104,slow=5.9,SNR=2.8
BRTR Keskin Array B 58.12 302 P **P 13 55 06.8 +1.4**
BRTR Keskin Array B 58.12 302 P **P 13 55 06.8 +1.4**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 59.79 315 P **P 13 55 16.9 0.0**
comp=Z,2.8nm,0.6s,mb4.5,baz=72,slow=6.5,SNR=12
AKASG Malin Array Be 59.79 315 P **P 13 55 16.9 0.0**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
FINES FINESS Array B 60.83 328 P **P 13 55 25.4 +1.6**
comp=Z,1.5nm,0.8s,mb4.2,baz=90,slow=5.7,SNR=3.1
FINES FINESS Array B 60.83 328 P **P 13 55 25.4 +1.6**
FINES pmax pmax
comp=Z,2.0nm,0.8s
ARCES ARCESS Array B 61.06 337 P **P 13 55 25.2 -0.1**
comp=Z,1.1nm,0.7s,mb4.1,baz=91,slow=7.6,SNR=6.2
ARCES ARCESS Array B 61.06 337 P **P 13 55 25.2 -0.1**
ARCES ARCESS Array B 61.06 337 P **P 13 55 25.2 0.0**
ARCES pmax pmax
comp=Z,1.0nm,0.7s
NB2 NORSAR Subarra 67.98 328 P **P 13 56 13.2 +3.0**
comp=Z,1.4nm,0.6s,mb4.2,baz=76,slow=6.2
NB2 NORSAR Subarra 67.98 328 P **P 13 56 13.2 +3.0**
NB2 pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
NOA NORSAR Array B 67.98 328 P **P 13 56 10.7 +0.5**
comp=Z,2.0nm,0.8s,mb4.2,baz=76,slow=6.4,SNR=7.8
NOA NORSAR Array B 67.98 328 P **P 13 56 10.7 +0.5**
NOA pmax pmax
comp=Z,2.0nm,0.8s
STKA Stephens Creek 68.80 145 P **P 13 56 14.9 -0.9**
comp=Z,2.0nm,0.8s,mb4.1,baz=336,slow=3.3,SNR=3.7
KHC Kasperske Hory 69.99 316 *e*P **P 13 56 28.0 +5.2**
GERES GERESS Array B 70.00 315 P **P 13 56 25.8 +3.0**
comp=Z,0.9nm,0.6s,mb3.9,baz=76,slow=5.5,SNR=4.7
GERES GERESS Array B 70.00 315 P **P 13 56 25.8 +3.0**
GERES pmax pmax
comp=Z,1.0nm,0.6s
GRF Grafenberg Arr 71.28 317 *e*P **P 13 56 36.2 +5.6**
comp=Z,5.0nm,1.1s,mb4.4
GRF Grafenberg Arr 71.28 317 *e*P **P 13 56 36.2 +5.6**
GRF pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
GRF Grafenberg Arr 71.28 317 *e*P **P 13 56 36.2 +5.6**
GRF pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
CDF Champ du Feu 74.16 316 *e*P **P 13 56 45.8 -1.7**
ILAR Eielson Array 74.55 25 P **P 13 56 48.6 -0.8**
comp=Z,0.5nm,0.7s,mb3.5,baz=326,slow=2.8,SNR=5.4
ILAR Eielson Array 74.55 25 P **P 13 56 48.7 -0.8**
ILAR pmax pmax
comp=Z,1.0nm,0.7s
HINF Hinteralfeld 74.65 316 *e*P **P 13 56 48.4 -2.0**
GIVF Givet 75.00 319 *e*P **P 13 56 50.4 -1.9**
PGF Pioggiola 75.25 310 *e*P **P 13 56 52.0 -1.9**
BAIF Baives 75.38 319 *e*P **P 13 56 52.8 -1.7**
CABF La Chapelle 75.60 315 *e*P **P 13 56 54.3 -1.5**
LPG La Plagne 75.61 314 *e*P **P 13 56 55.2 -0.7**
comp=Z,17nm,0.7s,mb4.8
LPG La Plagne 75.61 314 *e*P **P 13 56 55.2 -0.7**
LPG pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
LPL La Plagne 75.61 314 *e*P **P 13 56 55.1 -0.9**
comp=Z,18nm,0.8s,mb4.7
LPL La Plagne 75.61 314 *e*P **P 13 56 55.1 -0.9**
LPL pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
MBDF Montbardon 75.90 313 *e*P **P 13 56 55.4 -2.2**
LOR Lormes 76.73 316 *e*P **P 13 57 00.2 -2.1**
INK Inuvik 76.94 19 P **P 13 57 03.0 -0.1**
comp=Z,4.6nm,1.0s,mb4.4,baz=333,slow=7.3,SNR=4.6
INK Inuvik 76.94 19 P **P 13 57 03.0 -0.1**
INK pmax pmax
comp=Z,5.0nm,1.0s
SMRF Simiane la Rot 76.98 313 *e*P **P 13 57 02.6 -1.2**
SMF Signal de Mont 77.00 316 *e*P **P 13 57 02.3 -1.5**
SSF Saint Saulge 77.03 316 *e*P **P 13 57 02.1 -1.9**
VIVF Saint-Julien-l 77.21 314 *e*P **P 13 57 03.1 -2.0**
AVF Avril sur Loir 77.24 316 *e*P **P 13 57 03.5 -1.7**
LASF Ste Croix 78.07 313 *e*P **P 13 57 08.0 -1.8**
TCF Toulx Ste Croi 78.17 316 *e*P **P 13 57 09.2 -1.1**
FLN La Foliniere 78.70 319 *e*P **P 13 57 11.9 -1.2**
MTLF Montolieu 79.46 313 *e*P **P 13 57 15.8 -1.6**
SGMF Saint Gilles 80.16 319 *e*P **P 13 57 20.3 -0.8**
SJPF Ste Jean 81.80 314 *e*P **P 13 57 28.5 -1.3**
YKA Yellowknife Ar 86.49 16 P **P 13 57 52.8 0.0**
comp=Z,0.6nm,0.6s,mb4.0,baz=328,slow=5.6,SNR=3.0
YKA Yellowknife Ar 86.49 16 P **P 13 57 52.8 0.0**
YKA Yellowknife Ar 86.49 16 P **P 13 57 52.8 0.0**
YKA pmax pmax
comp=Z,1.0nm,0.6s

*PRU **05** 13:53:24.1,51.50N×16.17E*
WAR 05 13:53:25.2,51.46N×16.10E,h1km,ML2.6,Mining Induced,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.62**	**169**	*e*PG	Pg	13 53 37.0	-0.7
KSP				*e*SG	Sg	13 53 45.0	-1.0
UPC	**Upice**	**0.95**	**183**	*e*PG	Pg	13 53 42.6	-1.6
DPC	**Dobruska-Polom**	**1.11**	**173**	*e*PG	Pg	13 53 45.4	-2.1
DPC				*e*SG	Sg	13 54 00.5	-1.8
	17nm,0.3s						
PVCC	**Panska Ves**	**1.34**	**227**	*e*PG	Pg	13 53 50.3	-1.7
PRU	**Pruhonice**	**1.77**	**215**	*e*PN	Pn	13 53 55.8	-1.4
PRU				*e*PG	Pg	13 53 57.3	-3.3
PRU				*e*SG	Sg	13 54 22.4	-1.8
	22nm,0.7s						
CLL	**Collm**	**1.95**	**267**	*e*PG	Pg	13 54 01.0	-3.0
CLL				*e*SG	Sg	13 54 27.0	-3.0
OKC	**Ostrava-Krasne**	**2.08**	**140**	*e*PG	Pg	13 54 02.8	-3.9
OKC				*e*SG	Sg	13 54 30.9	-3.5
	7.3nm,0.3s						
NKC	**Novy Kostel**	**2.62**	**244**	*e*PN	Pn	13 54 07.6	-1.7
NKC				*e*PG	Pg	13 54 13.8	-3.7
NKC				*e*SG	Sg	13 54 49.6	-2.8
	8.6nm,0.2s						
OJC	**Ojcow**	**2.65**	**116**	*e*PG	Pg	13 54 15.0	-3.1
OJC				*e*SG	Sg	13 54 50.0	-3.5
KHC	**Kasperske Hory**	**2.83**	**216**	*e*PN	Pn	13 54 11.4	-1.0
KHC				*e*PG	Pg	13 54 16.4	-5.4
KHC				*e*SN	Sn	13 54 47.3	-0.4
KHC				*e*SG	Sg	13 54 57.0	-2.5
	8.3nm,0.6s						

*IDC **05** 13:53:37.9±1.4,26.55N×103.23E,mb3.7/4,mb1 3.9/4, mb1mx3.6/19,mbtmp3.8/4,Error ellipse: s-maj=74.8km s-min=23.1km az=61.0*
*BJI **05** 13:53:39.1,26.42N×103.06E,h26km,ML3.4*
*NEIC **05** 13:53:42.8±0.8,26.46N×102.99E,h35km,Error ellipse: s-maj=18.9km s-min=12.1km az=95.0*
ISC 05 13:53:41.0±0.8,26.52N±0.07×103.1E±0.2,h33km,n6, σ0§67/7,mb3.7/4,Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**1.42**	**192**	PG	**P**	**13 54 05.2**	**+0.6**
KMI				SG	**S**	**13 54 22.3**	**0.0**
KMI				Smax			
	comp=N,480nm,0.7s						
KMI				Smax			
	comp=E,769nm,0.9s						
ENH	**Enshi**	**6.78**	**55**	*e*Pn	**Pn**	**13 55 21.7**	**+0.8**
	comp=E,21nm,0.9s						
SONM	**Songino Array**	**21.44**	**6**	P	**P**	**13 58 27.4**	**-0.9**
	comp=E,1.5nm,0.6s,mb3.5,baz=195,slow=11,SNR=8.5						
MKAR	**Makanchi Array**	**26.07**	**326**	P	**P**	**13 59 13.9**	**+0.7**
	comp=E,0.9nm,0.8s,mb3.4,baz=130,slow=9.5,SNR=5.0						
BVAR	**Borovoye Array**	**35.96**	**326**	P	**P**	**14 00 40.1**	**-0.2**
	comp=E,0.3nm,0.4s,mb3.6,baz=135,slow=8.2,SNR=2.9						
WRA	**Warramunga Arr**	**55.26**	**144**	P	**P**	**14 03 12.6**	**-1.0**
	comp=E,3.1nm,0.7s,mb4.5,baz=332,slow=8.1,SNR=29						

*HLW **05** 14:01:26.4,34.40N×27.87E,h33km,Mb3.5*
ISC 05 14:01:28.9±2.1,34.0N±0.2×28.12E±0.06,h33km,n16, σ1§41/18,2C-1D,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMAT	**Matruh**	**3.02**	**197**	P	**P**	**14 02 17.5**	**+2.0**
SLUM		**3.50**	**225**	⇑P	**P**	**14 02 20.4**	**-1.9**
SLUM				S	**S**	**14 02 59.8**	**-3.4**
SWA1		**5.15**	**204**	P	**P**	**14 02 46.0**	**+0.3**
SWA1				S	**S**	**14 03 42.4**	**-2.3**
SWA2		**5.26**	**206**	⇓P	**P**	**14 02 47.2**	**0.0**
GLL	**Jalalah**	**5.36**	**144**	P	**P**	**14 02 50.2**	**+1.5**
AWBH		**5.70**	**173**	⇑P	**P**	**14 02 54.4**	**+1.0**
SUZ		**5.76**	**135**	P	**P**	**14 02 56.0**	**+1.7**
HNTI	**Hanita**	**5.96**	**97**	Sn	**Sn**	**14 04 05.2**	**+0.1**
SLTI	**Sal'it**	**6.06**	**105**	Sn	**Sn**	**14 04 05.9**	**-1.8**
KZIT	**Kziot**	**6.13**	**118**	Pn	Px	14 03 32.5	
KZIT				Sn	**Sn**	**14 04 09.7**	**+0.2**
MZDA	**Masada**	**6.67**	**112**	Sn	**Sn**	**14 04 20.6**	**-2.2**
MKRJ	**Makawir**	**6.78**	**109**	Sn	**Sn**	**14 04 24.1**	**-1.6**
KMTI	**Karmit**	**6.81**	**123**	Sn	**Sn**	**14 04 27.9**	**+1.4**
HFRF	**Wahat Farafira**	**6.83**	**179**	P	**P**	**14 03 10.2**	**+0.9**
PRNI	**Paran**	**6.87**	**120**	Sn	**Sn**	**14 04 28.0**	**+0.1**
HKAT	**Jabal Katrina**	**7.42**	**136**	P	**P**	**14 03 18.3**	**+0.8**

*ISK **05** 14:09:56.0,39.41N×33.09E,h9km,MD3.5*
*CSEM **05** 14:09:56.0,39.41N×33.09E,h9km,MD3.5,After ISK*
ISC 05 14:09:55.7±0.8,39.38N±0.03×33.08E±0.03,h0km±7km, n28,σ0§87/39,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAMT	**Kaman**	**0.49**	**92**	*i*PG	**Pg**	**14 10 05.7**	**+0.3**
ANTO	**Ankara**	**0.53**	**335**	PG	**Pg**	**14 10 06.0**	**-0.3**
ANTO				SG	**Sg**	**14 10 14.0**	**+0.6**
LOD	**Lodumlu**	**0.56**	**334**	PG	**Pg**	**14 10 07.4**	**+0.5**
CDAG	**Cicekdag**	**1.03**	**76**	*i*P	**Pb**	**14 10 14.1**	**-1.9**
CDAG				*i*S	**Sb**	**14 10 32.6**	**+2.8**
KIZT	**Kizilcal**	**1.06**	**242**	PG	**Pg**	**14 10 17.1**	**+0.3**
ELDT	**Eldivan**	**1.14**	**13**	*i*P	**Pb**	**14 10 16.8**	**-1.0**
ELDT				*i*S	**Sb**	**14 10 33.7**	**+0.6**
KDHN	**Kadinhani**	**1.14**	**221**	*i*P	**Pb**	**14 10 17.7**	**-0.3**
KDHN				*i*S	**Sb**	**14 10 33.4**	**+0.2**
CANT	**Cankiri**	**1.29**	**19**	PN	**Pn**	**14 10 20.8**	**-0.1**
SGKT	**Sivrigoynuk**	**1.43**	**327**	*i*P	**Pb**	**14 10 22.3**	**-0.5**
SGKT				*i*S	**Sb**	**14 10 42.2**	**+0.7**
CORM	**Corum**	**1.43**	**56**	PN	**Pn**	**14 10 22.8**	**-0.1**
AVNT	**Avonos**	**1.51**	**113**	*i*P	**Pn**	**14 10 24.4**	**+0.4**
AVNT				*i*S	**Sb**	**14 10 45.0**	**+1.3**
KONT	**Konya--Tatoy**	**1.54**	**202**	PN	**Pn**	**14 10 25.1**	**+0.6**
ESKT	**Eskisehir**	**1.73**	**275**	PN	**Pn**	**14 10 27.3**	**+0.1**
ESKT	**Eskisehir**	**1.73**	**275**	*i*P	**Pn**	**14 10 28.1**	**+0.9**
ESKT				*i*S	**Sg**	**14 10 54.2**	**+0.9**
NIG	**Nigde**	**1.75**	**136**	PN	**Pn**	**14 10 27.2**	**-0.2**
YOZ	**Yozgat**	**1.75**	**81**	PN	**Pn**	**14 10 27.4**	**-0.1**
MDU	**Mudurnu**	**1.80**	**308**	*e*PN	**Pn**	**14 10 26.9**	**-1.2**
TOS	**Tosya**	**1.80**	**23**	PN	**Pn**	**14 10 27.2**	**-1.0**
CTKT	**Corum**	**1.80**	**46**	*i*P	**Pn**	**14 10 28.4**	**+0.2**
CTKT				*i*S	**Sn**	**14 10 52.5**	**+0.3**
SAFT	**Safranbolu**	**1.88**	**351**	*e*PN	**Pn**	**14 10 28.6**	**-0.7**
BORA	**Eskisehir**	**2.09**	**285**	*i*P	**Pn**	**14 10 31.6**	**-0.7**
BALT	**Daday**	**2.16**	**6**	*i*P	**Pn**	**14 10 35.1**	**+1.7**
BALT				*i*S	**Pg**	**14 10 45.3**	**+6.5**
BNN	**Bunyan**	**2.21**	**103**	*e*PN	**Pn**	**14 10 33.4**	**-0.7**
ALT	**Altintas**	**2.33**	**263**	*e*PN	**Pn**	**14 10 35.0**	**-0.8**
BYBT	**Boyabat**	**2.45**	**31**	*e*PN	**Pn**	**14 10 36.6**	**-0.9**
BOYT	**Boyabat**	**2.46**	**34**	*i*P	**Pn**	**14 10 36.6**	**-1.1**
BOYT				*i*S	**Sn**	**14 11 09.8**	**+0.8**
BZK	**Bozkurt**	**2.67**	**15**	*e*PN	**Pn**	**14 10 40.3**	**-0.3**
GDZ	**Gediz**	**2.81**	**265**	*i*P	**Pn**	**14 10 46.9**	**+4.2**
GDZ				*i*S	**Sg**	**14 11 33.0**	**+3.8**

*BJI **05** 14:14:45.4,26.60N×103.06E,h31km,mB5.4,mb4.9, ML5.1,Ms5.4,Msz5.1*
*MOS **05** 14:14:45.5±1.2,26.53N×102.99E,h33km,mb5.4/99, MS4.8/39,Error ellipse: s-maj=7.5km s-min=3.7km az=122.0*
*HRVD **05** 14:14:48.0±0.2,26.46N×103.19E,h27km,MW5.2/69, Centroid moment Tensor Solution. LP body waves: s43,c69;Mantle waves: s69,c135; Half duration: 1§0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.33±.02; $M_{\theta\theta}$0.66±.02; $M_{\phi\phi}$-0.33±.02; $M_{r\theta}$-0.20±.04; $M_{\theta\phi}$-0.69±.02; $M_{\phi r}$0.19±.04; Best double couple: M_o.882×10^{17} NP1: ϕ_s252°,δ73°,λ-178°. NP2:ϕ_s161°,δ88°,λ-17°. Principal axes: T 1.059, Plg11°, Azm208°; N -.355, Plg73°, Azm335°; P -.705, Plg13°, Azm115°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **05** 14:14:48.9±2.8,26.66N×103.03E,h50km±26km,mb4.6/20, mb1 4.7/20,mb1mx4.6/22,mbtmp4.8/20,MS4.5/29, Ms1 4.5/29,ms1mx4.5/38 Error ellipse: s-maj=17.9km s-min=10.4km az=46.0*
*NEIC **05** 14:14:48.0±0.8,26.57N×103.04E,h42km±7km,mb5.2/102, MS4.8/17,Error ellipse: s-maj=5.3km s-min=4.4km az=223.0*
NEIC At least nine people injured and 3,700 buildings damaged in Huize County. Felt at Chengdu, Panzhihua and Qujing.
ISC 05 14:14:46.3±0.1,26.57N±0.02×103.01E±0.02,h41km, h41km±2.9km:pP-P,n439,σ1§21/451,mb5.1/154,MS4.7/60, 25C-7D,Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**1.46**	**190**	PG	**P**	**14 15 10.5**	**-0.1**
KMI				SG	**S**	**14 15 28.8**	**+0.1**
KMI				Smax			
	comp=N,9μm,0.9s						
KMI				LR	LR		
	comp=N,100μm,4.1s						
KMI				LR	LR		
	comp=E,157μm,6.3s						
GYA	**Guiyang**	**3.28**	**91**	P	**P**	**14 15 36.8**	**+0.3**
GYA				PG	**P**	**14 15 44.7**	**+8.2**
GYA				SG	**S**	**14 16 21.5**	**+6.9**
GYA				LR	LR		
	comp=N,104μm,8.7s						
GYA				LR	LR		
	comp=E,49μm,7.2s						
GYA				LR	LR		
	comp=Z,51μm,7.2s						
CD2	**Chengdu**	**4.38**	**8**	P	**P**	**14 15 52.7**	**+0.7**
CD2				PG	**P**	**14 16 04.9**	**+13**
CD2				SG	**S**	**14 16 58.4**	**+16**
CD2				Smax			
	comp=N,3μm,1.5s						
CD2				Smax			
	comp=E,2μm,2.3s						
CD2				LR	LR		
	comp=Z,11μm,17.9s						
ENH	**Enshi**	**6.79**	**56**	*e*Pn	**P**	**14 16 25.9**	**-0.1**
	comp=Z,575nm,0.9s						
CHRT	**Chiangrai**	**7.30**	**205**	⇑P	**P**	**14 16 32.0**	**-1.0**
	comp=Z,1μm,1.1s						
NANT	**Nan**	**8.02**	**196**	PG	**P**	**14 16 42.0**	**-1.0**
IMP	**Imphal**	**8.38**	**260**	*e*P	**P**	**14 16 49.0**	**+1.0**
CHG	**Chiang Mai**	**8.58**	**207**	⇓P	**P**	**14 16 53.8**	**+3.0**
	comp=Z,58nm,0.8s						
XAN	**Xi'an**	**9.03**	**33**	P	**P**	**14 16 53.5**	**-3.5**
XAN				AP		14 17 02.9	
XAN				S	**S**	**14 18 33.9**	**-4.6**
XAN				AMB	AMB		
	comp=Z,54nm,0.7s						
XAN				LR	LR		
	comp=N,8μm,8.5s						
XAN				LR	LR		
	comp=E,9μm,7.7s						
XAN				LR	LR		
	comp=Z,13μm,8.8s						
LZH	**Lanzhou**	**9.52**	**4**	⇑P	**P**	**14 17 03.0**	**-0.7**
LZH				AP		14 17 11.5	
LZH				PP	PP	14 17 13.0	+1.5
LZH				XP		14 17 20.0	
LZH				*e*S	**S**	**14 18 50.0**	**-0.5**
LZH				SS	SS	14 19 08.1	+4.0
LZH				AMB	AMB		
	comp=Z,153nm,1.2s						
LZH				AMB	AMB		
	comp=Z,805nm,4.2s						
LZH				LR	LR		

comp=E,21μm,9.8s
LZH LR LR
comp=Z,24μm,12.3s
LZH Lanzhou 9.52 4 ⇑P P 14 17 03.0 -0.7
comp=Z,153nm,1.2s
LZH pP 14 17 11.5
LZH PP PP 14 17 13.0 +1.5
LZH sP 14 17 20.0
LZH *e*S **S 14 18 50.0 -0.5**
LZH SS SS 14 19 08.1 +4.0
LZH sS 14 19 10.6
LZH Lanzhou 9.52 4 ⇑P P 14 17 03.0 -0.7
LZH *e*S **S 14 18 50.0 -0.5**
LZH pmax pmax
comp=Z,153nm,1.2s
QIZ Qiongzhong 9.80 139 P P 14 17 04.2 -3.4
QIZ S **S 14 18 55.1 -2.4**
QIZ AMB AMB
comp=Z,15nm,1.3s
QIZ LR LR
comp=N,25μm,11.9s
QIZ LR LR
comp=E,20μm,12.2s
QIZ LR LR
comp=Z,23μm,9.2s
BDT Bhumibol Dam 9.99 203 P P 14 17 21.0 +11
GZH Guangzhou 10.01 108 P P 14 17 07.3 -3.2
GZH S **S 14 18 53.1 -9.5**
SHL Shillong 10.05 267 *e*P **P 14 17 10.0 -1.2**
SHL *e*x x 14 20 25.0
KKTK Khon Kaen 10.18 181 P P 14 17 13.0 0.0
comp=Z,370nm,0.7s
WHN Wuhan 10.73 66 P P 14 17 19.0 -1.4
WHN S **S 14 19 15.0 -5.2**
WHN LR LR
comp=Z,32μm,9.5s
LSA Lhasa 10.92 289 *e*Pn **P 14 17 21.5 -1.6**
comp=Z,100nm,1.3s
LSA Lhasa 10.92 289 *e*P **P 14 17 21.5 -1.5**
LSA pmax pmax
comp=Z,100nm,1.3s
NST Nakhon Sawan 11.17 194 P P 14 17 28.6 +2.2
GTA Gaotai 13.08 349 *e*P **P 14 17 50.9 -1.1**
GTA AP 14 17 59.3
GTA XP 14 18 07.7
GTA S **S 14 20 16.3 -0.8**
GTA XS 14 20 28.9
GTA SS SS 14 20 30.8 -2.1
GTA AMB AMB
comp=Z,12nm,1.2s
GTA AMB AMB
comp=Z,369nm,6.1s
GTA LR LR
comp=N,9μm,10.3s
GTA LR LR
comp=E,16μm,12.6s
GTA LR LR
comp=Z,7μm,9.9s
CAL Calcutta 13.95 256 *e*x x 14 20 46.5
QZH Quanzhou 14.14 93 *e*P **P 14 18 05.0 -0.9**
QZH S **S 14 20 37.0 -5.3**
QZH LR LR
comp=N,10μm,5.6s
QZH LR LR
comp=E,24μm,7.8s
QZH LR LR
comp=Z,31μm,6.6s
NJ2 Nanjing 14.86 65 *e*P **P 14 18 15.1 -0.2**
NJ2 AP 14 18 25.1
NJ2 PP PP 14 18 28.4 +1.3
NJ2 S **S 14 20 58.0 -1.3**
NJ2 XS 14 21 15.0
NJ2 AMB AMB
comp=Z,80nm,1.0s
NJ2 AMB AMB
comp=Z,1μm,5.3s
NJ2 LR LR
comp=N,34μm,16.0s
NJ2 LR LR
comp=E,20μm,14.7s
NJ2 LR LR
comp=Z,19μm,12.8s
BTO Baotou 15.16 21 *e*P **P 14 18 15.7 -3.5**
BTO LR LR
comp=N,8μm,10.4s
BTO LR LR
comp=E,7μm,12.1s
TIA Tai'an 15.40 48 *e*P **P 14 18 22.0 -0.3**
TIA *e*S **S 14 21 06.0 -5.9**
TIA LR LR
comp=N,3μm,10.0s
TIA LR LR
comp=E,3μm,10.0s
PKI Pulchoki 15.71 278 *e*P **P 14 18 23.3 -3.1**
comp=E,226nm,0.9s
KKN Kakani 15.83 278 *e*P **P 14 18 24.8 -3.0**
comp=E,409nm,0.9s
HHC Hu-ho-hao-te 15.91 24 *e*P **P 14 18 25.8 -3.0**
HHC AP 14 18 36.8
HHC XP 14 18 45.7
HHC S **S 14 21 17.3 -6.4**
HHC XS 14 21 37.6
HHC SS SS 14 21 40.5 -2.7
HHC AMB AMB
comp=Z,42nm,0.8s
HHC AMB AMB
comp=Z,320nm,3.1s
HHC LR LR
comp=N,6μm,11.3s
HHC LR LR
comp=E,4μm,8.9s
HHC LR LR
comp=Z,3μm,9.5s
DMN Daman 15.98 278 *e*P **P 14 18 26.6 -3.2**
comp=Z,317nm,1.1s
GKN Gorkha 16.40 279 *e*P **P 14 18 33.1 -1.9**
comp=Z,136nm,0.8s
SSE Sheshan 16.55 70 P P 14 18 36.1 -0.8
SSE S **S 14 21 39.2 +0.6**
SSE AMB AMB
comp=Z,31nm,0.9s
SSE AMB AMB
comp=Z,2μm,3.8s
SSE LR LR
comp=N,5μm,9.5s
SSE LR LR
comp=E,3μm,9.4s
SSE LR LR
comp=Z,7μm,8.8s
SSE Sheshan 16.55 70 P P 14 18 36.1 -0.8
comp=Z,31nm,0.9s
SSE pP 14 18 49.4
SSE sP 14 18 56.0
SSE S **S 14 21 39.2 +0.6**
SSE sS 14 22 07.5
KOLN Koldanda 17.32 278 *e*P **P 14 18 43.6 -3.0**
comp=Z,349nm,1.3s
SNG Songkhla 19.42 187 P P 14 19 13.0 +1.0
DL2 Dalian 19.87 47 P P 14 19 17.3 +0.6
DL2 S **S 14 23 01.8 +8.7**
DL2 AMB AMB
comp=Z,60nm,1.6s
DL2 AMB AMB
comp=Z,820nm,3.8s
DL2 LR LR
comp=E,2μm,13.1s
DL2 LR LR
comp=Z,2μm,16.4s
JBP Jabalpur 21.16 266 *e*P **P 14 19 32.6 +2.4**
JBP AMb AMB 14 19 40.8
comp=Z,98nm,0.8s,mb5.2
WMQ Urumqi 21.22 328 *e*P **P 14 19 30.5 -0.2**
WMQ AP 14 19 44.0
WMQ S **S 14 23 18.0 -1.3**
WMQ XS 14 23 40.0
WMQ SS SS 14 23 55.0 +0.6
WMQ AMB AMB
comp=Z,25nm,0.8s,mb4.6
WMQ LR LR
comp=N,5μm,12.0s,MS5.3
WMQ LR LR
comp=E,6μm,12.0s,MS5.3
WMQ LR LR
comp=Z,2μm,10.0s,MS4.8
KULM Kulim 21.28 186 *e*P **P 14 19 32.1 +0.7**

SONM Songino Array 21.39 6 P P 14 19 32.3 -0.1
comp=Z,97nm,0.9s,mb5.2,baz=189,slow=11,SNR=52
SONM LR LR 14 28 20.2
comp=Z,727nm,21.2s,MS4.0,baz=182,slow=38
SONM Songino Array 21.39 6 P P 14 19 32.3 -0.1
SONM pmax pmax
comp=Z,97nm,0.9s
SONM MLR MLR
comp=Z,727nm,21.2s
ULN Ulaanbaatar 21.50 7 *e*P **P 14 19 33.0 -0.4**
comp=Z,153nm,1.1s,mb5.2
ULN Ulaanbaatar 21.50 7 *e*P **P 14 19 33.0 -0.4**
ULN pmax pmax
comp=Z,153nm,1.1s,mb5.2
IPM Ipoh 21.95 185 P P 14 19 39.3 +1.2
AGRA Agra 22.36 277 *e*P **P 14 19 40.8 -1.4**
AGRA AMb AMB 14 19 50.4
comp=Z,96nm,0.4s,mb5.6
JOW Kunigami 22.57 84 P P 14 19 45.4 +1.1
comp=Z,28nm,0.6s,mb4.9,baz=80,slow=26,SNR=7.3
JOW LR LR 14 29 26.5
comp=Z,4μm,20.1s,MS4.9,baz=227,slow=39
INCN Inchon 22.73 56 *e*P **P 14 19 46.7 +0.9**
comp=Z,83nm,0.8s,mb5.2
SNY Shenyang 22.74 43 ⇑P P 14 19 47.3 +1.5
SNY S **S 14 23 48.8 +1.6**
SNY AMB AMB
comp=Z,20nm,1.5s,mb4.3
SNY AMB AMB
comp=Z,450nm,6.1s
SNY LR LR
comp=N,3μm,13.8s,MS5.1
SNY LR LR
comp=E,4μm,12.6s,MS5.1
SNY LR LR
comp=Z,3μm,14.7s,MS4.9
NDI New Delhi 22.94 281 *e*P **P 14 19 47.0 -0.9**
NDI *e*S **S 14 23 55.0 +4.2**
SONA Sohna 23.07 280 *e*P **P 14 19 48.0 -1.1**
SONA AMb AMB 14 20 00.3
comp=Z,70nm,1.3s,mb4.9
BHGR Bahadurgarh 23.18 281 *e*P **P 14 19 49.5 -0.8**
BHGR AMb AMB 14 20 06.1
comp=Z,134nm,0.3s,mb5.8
BHPL Bhopal 23.43 267 *e*P **P 14 19 53.6 +0.9**
BHPL AMb AMB 14 19 58.2
comp=Z,72nm,1.2s,mb5.0
KUDL Kundal 23.59 280 *e*P **P 14 19 52.9 -1.3**
KUDL AMb AMB 14 20 04.8
comp=Z,47nm,1.6s,mb4.7
RTK Rohtak 23.64 282 *e*P **P 14 19 55.8 +1.1**
RTK AML AML 14 20 05.2
comp=Z,75nm,0.2s
KS15 Wonju Array Si 23.65 57 *e*P **P 14 19 55.8 +1.1**
ZAK Zakamensk 23.78 0⇑ *i*P **P 14 19 57.8 +2.0**
ZAK pmax pmax
comp=Z,39nm,1.0s,mb4.8
ZAK pmax pmax
comp=Z,9.0nm,1.0s,mb4.2
KKM Kota Kinabalu 23.98 146 P P 14 20 00.4 +2.3
KKM Kota Kinabalu 23.98 146 *e*P **P 14 19 59.4 +1.2**
KHET Khetri 24.20 280 *e*P **P 14 19 58.9 -1.2**
KHET AMb AMB 14 20 33.7
comp=Z,51nm,2.4s,mb4.5
HYB Hyderabad 24.40 253 *i*P **P 14 20 04.0 +1.8**
HYB *e*S **S 14 24 26.0 +10**
HYB Hyderabad 24.40 253 *e*P **P 14 20 04.0 +1.8**
KGM Kiuang 24.41 179 P P 14 20 05.3 +2.9
JNU Nakatsue 25.00 68 P P 14 20 07.7 -0.1
comp=Z,25nm,0.9s,mb4.7,baz=201,slow=3.3,SNR=8.6
JNU LR LR 14 29 50.0
comp=Z,2μm,19.4s,MS4.7,baz=260,slow=36
CN2 Changchun 25.01 41 *e*P **P 14 20 07.9 +0.1**
CN2 *e*AP pP 14 20 19.9 +1.3
CN2 *e*S **S 14 24 24.9 -1.5**
CN2 AMB AMB
comp=Z,40nm,1.2s,mb4.8
CN2 AMB AMB
comp=Z,700nm,7.0s
CN2 LR LR
comp=N,3μm,12.0s,MS5.2
CN2 LR LR
comp=E,4μm,12.0s,MS5.2
CN2 LR LR
comp=Z,9μm,13.0s,MS5.4
TLY Talaya 25.08 1 *e*P **P 14 20 09.3 +0.9**
comp=Z,19nm,1.0s,mb4.6
TLY LR LR
comp=Z,394nm,22.0s,MS3.9
TLY Talaya 25.08 1 *e*P **P 14 20 10.2 +1.8**
TLY *e*S **S 14 24 29.8 +2.3**
TLY pmax pmax
comp=Z,11nm,0.9s,mb4.4
TLY MLR MLR
comp=Z,1μm,11.0s,MS4.8
MOY Mondy 25.11 357 *e*P **P 14 20 09.9 +1.2**
MOY pmax pmax
comp=Z,164nm,2.8s,mb5.1
MDRS Chennai 25.22 242 *e*x x 14 24 44.0
AJM Ajmer 25.36 276 *i*P **P 14 20 09.0 -2.3**
IRK Irkutsk 25.66 2 *e*P **P 14 20 16.0 +2.2**
IRK pmax pmax
comp=Z,155nm,2.0s,mb5.2
KSM Kuching 25.92 163 *e*P **P 14 20 16.9 +0.2**
KSH Kashi 25.97 307 *e*P **P 14 20 21.1 +4.2**
KSH *e*AP pP 14 20 32.0 +4.2
KSH *e*PP PP 14 21 04.0 +5.4
KSH *e*PCP PcP 14 23 47.0 +1.9
KSH *e*S **S 14 24 47.1 +4.8**
KSH *e*SCP 14 27 22.4
KSH *e*PCS 14 27 27.0
KSH *e*SCS ScS 14 31 10.1 +1.8
KSH AMB AMB
comp=Z,770nm,3.9s
KSH LR LR
comp=N,2μm,8.8s
KSH LR LR
comp=E,3μm,10.0s
MKAR Makanchi Array 26.00 326 P P 14 20 17.3 +0.2
comp=E,26nm,0.8s,mb4.8,baz=132,slow=8.5,SNR=47
MKAR PcP PcP 14 23 43.9 -1.2
comp=E,3.4nm,0.9s,baz=108,slow=4.6,SNR=5.2
MKAR ScP 14 27 19.9
comp=E,2.1nm,0.8s,baz=135,slow=6.1,SNR=7.6
MKAR LR LR 14 31 44.3
comp=E,2μm,18.1s,MS4.7,baz=149,slow=39
MKAR Makanchi Array 26.00 326 P P 14 20 17.3 +0.2
MKAR 14 23 43.9
MKAR pmax pmax
comp=Z,26nm,0.9s
MKAR pmax pmax
comp=Z,3.0nm,0.9s
MKAR pmax pmax
comp=E,2.0nm,0.8s
MKAR MLR MLR
comp=Z,2μm,18.1s
HIA Hailar 26.11 25 *e*P **P 14 20 17.8 -0.3**
comp=Z,128nm,0.9s,mb5.5
HIA Hailar 26.11 25 *e*P **P 14 20 17.8 -0.3**
HIA pmax pmax
comp=Z,128nm,0.9s
TSM Tawau 26.32 145 P P 14 20 23.4 +3.0
CIT Chita 26.64 15 *e*P **P 14 20 26.4 +3.5**
CIT *e* 14 20 43.2
CIT *e* 14 21 00.5
CIT *e* 14 21 15.8
CIT pmax pmax
comp=Z,123nm,2.4s,mb5.0
AAA Alma-Ata 26.94 315 *i*P **P 14 20 29.6 +3.8**
AAA pmax pmax
comp=Z,600nm,4.8s
MDJ Mudanjiang 27.95 43 P P 14 20 35.0 +0.1
MDJ AP pP 14 20 46.8 +0.9
MDJ XP sP 14 20 53.6 +2.6
MDJ PCP PcP 14 23 48.9 -0.8
MDJ S **S 14 25 16.1 +1.8**
MDJ SCP 14 27 22.4
MDJ PCS 14 27 30.6
MDJ SCS ScS 14 31 16.9 +0.1
MDJ AMB AMB
comp=Z,8.0nm,1.7s,mb4.1
MDJ AMB AMB
comp=Z,210nm,6.1s
MDJ LR LR
comp=N,1μm,22.2s,MS4.5

MDJ LR LR
comp=E,899nm,21.1s,MS4.5
MDJ LR LR
comp=Z,889nm,22.2s,MS4.3
AAK Ala-Archa 28.24 312 *e*P **P 14 20 37.9 +0.3**
comp=Z,143nm,1.8s,mb5.3
AAK Ala-Archa 28.24 312 *e*P **P 14 20 37.9 +0.3**
AAK pmax pmax
comp=Z,143nm,1.8s,mb5.3
FRU Bishkek 28.25 312 *e*P **P 14 20 41.0 +3.4**
FRU *e* 14 20 46.0
FRU pmax pmax
comp=Z,60nm,2.0s,mb4.9
FRU MLR MLR
comp=Z,3μm,16.0s,MS5.0
PALK Pallekele 28.61 232 *e*P **P 14 20 40.3 -0.8**
comp=Z,16nm,0.8s,mb4.8
KURK Kurchatov 30.46 329 *e*P **P 14 20 56.3 -1.0**
comp=Z,70nm,0.9s,mb5.4
KURK Kurchatov 30.46 329 P P 14 20 56.4 -0.9
KURK pmax pmax
comp=Z,118nm,1.6s,mb5.4
ZAL Zalesovo 30.48 339 P P 14 20 56.2 -1.1
comp=Z,15nm,0.9s,mb4.7,baz=324,slow=9.4,SNR=48
ZAL LR LR 14 35 00.5
comp=Z,1μm,20.1s,MS4.5,baz=320,slow=40
ZAL Zalesovo 30.48 339 P P 14 20 56.3 -1.1
ZAL pmax pmax
comp=Z,15nm,0.9s
ZAL MLR MLR
comp=Z,1μm,20.1s
KKAR Karatay Array 31.12 310 P P 14 21 05.6 +2.5
KKAR pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
MAJO Matsushiro 31.45 63 *e*P **P 14 21 06.6 +0.5**
comp=Z,2.7nm,0.8s,mb4.1
MAJO Matsushiro 31.45 63 *e*P **P 14 21 06.6 +0.5**
MAJO pmax pmax
comp=Z,3.0nm,0.8s,mb4.2
MAT Matsushiro 31.45 63 P P 14 21 04.6 -1.5
MAT S **S 14 26 20.0 +10**
MAT Matsushiro 31.45 63 *e*P **P 14 21 05.0 -1.1**
MAT *e*S **S 14 26 20.0 +10**
MAT LR LR
comp=Z,2μm,20.0s,MS4.9
KLR Kul'dur 31.71 37 *e*P **P 14 21 03.8 -4.5**
KLR *e*S **S 14 26 10.5 -3.4**
KLR MLR MLR
comp=E,2μm,11.5s
KLR MLR MLR
comp=Z,4μm,11.5s,MS5.3
NVS Novosibirsk 31.75 338 *e*P **P 14 21 06.8 -1.7**
NVS *e*S **S 14 26 16.3 +1.9**
NVS *e*SS SS 14 28 26.2 +20
NVS *e* 14 31 35.8
NVS pmax pmax
comp=Z,29nm,1.7s,mb4.8
NVS pmax pmax
comp=N,29nm,1.6s
NVS pmax pmax
comp=E,18nm,1.4s
NVS smax
comp=N,50nm,2.1s
BOD Bodaibo 32.19 11 *e*P **P 14 21 11.7 -0.7**
BOD pmax pmax
comp=Z,19nm,0.9s,mb4.9
JHJ Hachijo jima 2 32.44 69 LR LR 14 34 31.3
comp=Z,1μm,18.0s,MS4.7,baz=291,slow=36
CLNS Chul'man 34.06 21 *e*P **P 14 21 31.5 +2.9**
CLNS pmax pmax
comp=Z,31nm,0.7s,mb5.3
CLNS pmax pmax
comp=N,24nm,0.8s
CLNS pmax pmax
comp=E,17nm,0.8s
CLNS pmax pmax
comp=N,2μm,11.3s
CLNS pmax pmax
comp=Z,200nm,10.8s
CLNS pmax pmax
comp=E,300nm,10.9s
CBIJ Chichi jima 34.87 80 LR LR 14 36 11.1
comp=E,1μm,18.8s,MS4.6,baz=1.7,slow=37
VOSK Vostochnaya 35.42 326 P P 14 21 40.0 -0.3
VOSK pmax pmax
comp=Z,17nm,1.0s,mb4.9
BVA0 Borovoye Array 35.89 326 *i*P **P 14 21 43.5 -0.7**
BVA0 pmax pmax
comp=Z,7.0nm,1.5s,mb4.4
BRVK Borovoye 35.96 326 *e*P **P 14 21 44.2 -0.6**
comp=Z,32nm,1.3s,mb5.1
BRVK Borovoye 35.96 326 *e*P **P 14 21 44.2 -0.6**
BRVK pmax pmax
comp=Z,32nm,1.3s,mb5.1
YSS Yuzh-Sakhalins 37.27 46 *e*P **P 14 21 56.0 +0.2**
comp=Z,22nm,0.8s,mb5.0
YSS Yuzh-Sakhalins 37.27 46 *e*P **P 14 21 56.8 +0.9**
YSS *e* pP 14 22 07.9 +0.7
YSS *e* 14 23 22.0
YSS *e*S **S 14 27 41.0 +1.1**
YSS pmax pmax
comp=Z,30nm,1.1s,mb5.0
YSS MLR MLR
comp=Z,2μm,14.0s,MS5.1
YSS MLR MLR
comp=N,2μm,15.0s,MS5.2
YSS MLR MLR
comp=E,1μm,15.0s,MS5.2
YAK Yakutsk 39.68 19 *e*P **P 14 22 14.7 -1.1**
comp=E,88nm,0.8s,mb5.5
YAK Yakutsk 39.68 19 *e*P **P 14 22 15.7 -0.1**
YAK *e**PP pP 14 22 27.3 +0.1
YAK *e* 14 23 46.1
YAK *e*PPP PPP 14 24 10.7 -5.7
YAK *e* 14 24 27.1
YAK *e*S **S 14 28 16.5 +0.3**
YAK *e* 14 32 19.6
YAK pmax pmax
comp=Z,53nm,0.9s,mb5.3
YAK pmax pmax
comp=N,12nm,1.0s
YAK pmax pmax
comp=E,9.0nm,1.0s
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK pmax pmax
comp=Z,5.0nm,0.9s,mb4.2
YAK smax
comp=N,5.0nm,1.3s
YAK smax
comp=E,6.0nm,1.3s
YAK MLR MLR
comp=N,563nm,10.0s
YAK MLR MLR
comp=Z,696nm,10.0s,MS4.8
YAK MLR MLR
comp=E,288nm,9.0s
AB31 Akbulak array 40.12 316 P P 14 22 20.0 +0.5
AB31 pmax pmax
comp=Z,92nm,1.5s,mb5.3
SVE Sverdlovsk 42.66 327 *e*P **P 14 22 41.8 +1.4**
SVE *e* 14 24 18.0
SVE *e*S **S 14 29 06.0 +5.6**
SVE pmax pmax
comp=Z,160nm,2.0s,mb5.4
SVE MLR MLR
comp=N,400nm,12.0s,MS5.0
SVE MLR MLR
comp=E,1μm,12.0s,MS5.0
SVE MLR MLR
comp=Z,2μm,12.0s,MS5.2
ARU Arti 43.52 326 *e*P **P 14 22 46.5 -0.9**
comp=Z,79nm,1.1s,mb5.3
ARU Arti 43.52 326 ⇓ *i*P **P 14 22 47.0 -0.4**
ARU *e* 14 24 32.3
ARU *e*PPP PPP 14 25 01.2 -6.2
ARU *e*S **S 14 29 14.2 +1.2**
ARU *e* 14 32 44.6
ARU pmax pmax
comp=Z,64nm,1.1s,mb5.3
ARU MLR MLR
comp=Z,900nm,18.0s,MS4.7
ARU MLR MLR
comp=N,200nm,16.0s,MS4.7
ARU MLR MLR
comp=E,800nm,19.0s,MS4.7

MA2	**Magadan**	**46.42**	**31**	*e*P	**P**	**14 23 09.3**	**-1.1**
	comp=E,58nm,1.5s,mb5.3						
MA2	**Magadan**	**46.42**	**31**	*e*P	**P**	**14 23 09.3**	**-1.2**
MA2				pmax	pmax		
	comp=Z,58nm,1.5s,mb5.3						
TIXI	**Tiksi**	**47.37**	**11**	*e*P	**P**	**14 23 17.4**	**-0.4**
TIXI				pmax	pmax		
	comp=Z,25nm,0.8s,mb5.2						
KAKA	**Kakadu**	**48.40**	**140**	*e*P	**P**	**14 23 32.5**	**+5.9**
	comp=Z,23nm,0.8s,mb5.2						
QRN	**Al-Qurain**	**48.48**	**286**	*e*P	**P**	**14 23 26.8**	**-0.3**
QRN				AMb	AMB	14 23 29.8	
	comp=Z,110nm,0.8s,mb5.9						
UMR	**Umm Al-Rimmam**	**48.50**	**287**	*e*P	**P**	**14 23 27.4**	**+0.2**
UMR				AMb	AMB	14 23 30.7	
	comp=Z,111nm,1.0s,mb5.8						
SEY	**Seymchan**	**48.52**	**28**	*e*P	**P**	**14 23 28.7**	**+1.8**
SEY						14 24 50.0	
SEY				*e*		14 25 22.8	
SEY				*e*PPP	PPP	14 26 19.1	+6.8
SEY				*e*S	**S**	**14 30 31.1**	**+6.9**
SEY				pmax	pmax		
	comp=E,4.0nm,0.7s						
SEY				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
SEY				smax			
	comp=N,500nm,26.1s						
SEY				smax			
	comp=E,1μm,32.6s						
KBD	**Kabd**	**48.59**	**286**	*e*P	**P**	**14 23 27.8**	**-0.1**
KBD				AMb	AMB	14 23 31.2	
	comp=Z,298nm,0.7s						
PET	**Petropavlovsk**	**48.71**	**42**	*e*P	**P**	**14 23 28.3**	**-0.2**
	comp=Z,16nm,0.9s,mb5.0						
PET	**Petropavlovsk**	**48.71**	**42**	*e*P	**P**	**14 23 31.0**	**+2.5**
PET				*e*		14 24 57.3	
PET				*e*S	**S**	**14 30 31.7**	**+4.7**
PET				*e*SS	SS	14 33 55.4	+2.5
PET				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.1						
PET				MLR	MLR		
	comp=Z,1μm,13.0s,MS5.0						
PET				MLR	MLR		
	comp=Z,1μm,15.0s						
PET				MLR	MLR		
	comp=E,400nm,14.0s,MS4.6						
PET				MLR	MLR		
	comp=N,400nm,19.0s,MS4.6						
RDF	**Al-Radifah**	**48.76**	**286**	*e*P	**P**	**14 23 28.5**	**-0.7**
RDF				AMb	AMB	14 23 32.5	
	comp=Z,259nm,1.0s						
FITZ	**Fitzroy Crossi**	**49.54**	**151**	*e*P	**P**	**14 23 34.1**	**-1.3**
	comp=Z,25nm,0.8s,mb5.3						
FITZ	**Fitzroy Crossi**	**49.54**	**151**	P	**P**	**14 23 35.4**	**+0.1**
	comp=Z,32nm,0.8s,mb5.4,baz=350,slow=5.7,SNR=22						
FITZ				LR	LR	14 44 58.7	
	comp=Z,148nm,21.9s,MS3.9,baz=307,slow=36						
TI2	**Plekhanov**	**49.64**	**303**	*e*P	**P**	**14 23 33.4**	**-2.4**
GNI	**Garni**	**49.70**	**301**	LR	LR	14 49 22.3	
	comp=Z,502nm,18.1s,MS4.6,baz=305,slow=42						
GNI	**Garni**	**49.70**	**301**	*e*P	**P**	**14 23 37.6**	**+1.3**
	comp=Z,25nm,1.2s,mb5.1						
GNI				LR	LR		
	comp=Z,388nm,22.0s,MS4.4						
GNI	**Garni**	**49.70**	**301**	*e*P	**P**	**14 23 37.6**	**+1.3**
GNI				pmax	pmax		
	comp=Z,25nm,1.2s						
GNI				MLR	MLR		
	comp=Z,388nm,22.0s						
MBWA	**Marble Bar**	**50.13**	**160**	*e*P	**P**	**14 23 39.1**	**-0.8**
	comp=Z,60nm,0.8s,mb5.7						
ZEI	**Tsey**	**50.24**	**305**	*e*P	**P**	**14 23 39.1**	**-1.3**
ZEI				*i* *PP	pP	14 23 46.8	-5.2
ZEI				*i*		14 25 32.4	
ZEI				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
BHD	**Baghdad**	**50.69**	**292**	*e*P	**P**	**14 23 43.0**	**-1.0**
GOF	**Gofitskoye**	**50.84**	**308** ⇓	*i*P	**P**	**14 23 42.2**	**-2.7**
GOF				pmax	pmax		
	comp=Z,40nm,1.4s,mb5.2						
KIV	**Kislovodsk**	**51.10**	**306**	*e*P	**P**	**14 23 43.7**	**-3.2**
	comp=Z,15nm,0.6s,mb5.1						
KIV	**Kislovodsk**	**51.10**	**306** ⇑	*i*P	**P**	**14 23 47.8**	**+0.9**
KIV				pmax	pmax		
	comp=Z,58nm,1.7s,mb5.2						
KIV				MLR	MLR		
	comp=Z,500nm,15.0s,MS4.7						
MSL	**Mosul**	**51.33**	**296**	*e*P	**P**	**14 23 57.0**	**+8.2**
VRHR	**Novokhopersk**	**51.99**	**315**	*e*P	**P**	**14 23 52.7**	**-0.8**
VRHR				pmax	pmax		
	comp=Z,50nm,1.5s,mb5.2						
VRHR				pmax	pmax		
	comp=N,10.0nm,2.0s						
VRHR				pmax	pmax		
	comp=E,20nm,1.1s						
SOC	**Sochi**	**53.27**	**306***c*	*i*P	**P**	**14 24 02.4**	**-0.7**
SOC				*e*		14 25 11.8	
SOC				*e*		14 25 58.4	
SOC				*e*PPP	PPP	14 27 06.7	-5.5
SOC				*e*S	**S**	**14 31 33.2**	**+3.3**
SOC				*e*		14 33 53.0	
SOC				*e*SS	SS	14 35 13.9	+4.7
SOC				*e*SSS	SSS	14 37 05.5	+5.8
SOC				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.0						
SOC				pmax	pmax		
	comp=N,14nm,0.9s						
SOC				pmax	pmax		
	comp=E,10.0nm,1.0s						
SOC				MLR	MLR		
	comp=N,408nm,18.0s,MS5.0						
SOC				MLR	MLR		
	comp=Z,964nm,18.0s,MS4.9						
SOC				MLR	MLR		
	comp=E,1μm,17.0s,MS5.0						
VRSR	**Storozhevoye**	**53.53**	**315**	*e*P	**P**	**14 24 04.8**	**-0.2**
VRSR				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.9						
VRSR				pmax	pmax		
	comp=N,8.0nm,0.8s						
VRSR				pmax	pmax		
	comp=E,10.0nm,0.9s						
VRSR				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.9						
VRSR				pmax	pmax		
	comp=N,8.0nm,0.8s						
VRSR				pmax	pmax		
	comp=E,10.0nm,0.9s						
VOR	**Voronezh**	**53.55**	**316**	*e*P	**P**	**14 24 06.0**	**+0.9**
VOR				pmax	pmax		
	comp=Z,80nm,1.6s,mb5.4						
MOS	**Moscow**	**54.70**	**321**	*e*P	**P**	**14 24 13.4**	**-0.1**
MOS				*e*		14 25 13.6	
MOS				*e*		14 26 15.2	
MOS				*e*S	**S**	**14 31 52.1**	**+3.0**
MOS				pmax	pmax		
	comp=Z,155nm,1.2s,mb5.9						
MALT	**Malatya**	**54.76**	**300**	*e*P	**P**	**14 24 14.5**	**+0.3**
	comp=Z,59nm,1.8s,mb5.3						
MALT	**Malatya**	**54.76**	**300**	*e*P	**P**	**14 24 14.5**	**+0.4**
MALT				pmax	pmax		
	comp=Z,59nm,1.8s,mb5.3						
OBN	**Obninsk**	**55.27**	**320***c*	*i*P	**P**	**14 24 17.6**	**0.0**
OBN				*i*		14 25 20.3	
OBN				*e*S	**S**	**14 32 07.5**	**+11**
OBN				pmax	pmax		
	comp=Z,67nm,1.4s,mb5.5						
OBN				MLR	MLR		
	comp=Z,800nm,16.0s,MS4.9						
WRAB	**Tennant Creek**	**55.33**	**143**	*e*P	**P**	**14 24 16.2**	**-2.3**
	comp=Z,123nm,0.8s,mb6.0						
WRAB	**Tennant Creek**	**55.33**	**143** ⇑	*i*P	**P**	**14 24 17.8**	**-0.7**
WRA	**Warramunga Arr**	**55.33**	**144**	P	**P**	**14 24 17.4**	**-1.1**
	comp=Z,72nm,0.8s,mb5.8,baz=331,slow=8.1,SNR=330						
WRA				PcP	PcP	14 25 19.3	+0.7
	comp=Z,7.6nm,0.9s,baz=330,slow=4.3,SNR=5.6						
WRA	**Warramunga Arr**	**55.33**	**144**	P	**P**	**14 24 17.4**	**-1.1**
WRA						14 25 19.3	
WRA				pmax	pmax		
	comp=Z,73nm,0.8s						
WRA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
WB2	**Warramunga Arr**	**55.33**	**143** ⇓	*i*P	**P**	**14 24 17.5**	**-1.1**
BILL	**Biiibino**	**55.68**	**24**	*e*P	**P**	**14 24 18.0**	**-2.4**
	comp=Z,43nm,1.1s,mb5.4						
BILL	**Bilibino**	**55.68**	**24** ⇑	*i*P	**P**	**14 24 19.8**	**-0.6**
BILL				pmax	pmax		
	comp=Z,26nm,0.8s,mb5.3						
BILL				MLR	MLR		
	comp=Z,1μm,16.0s,MS5.0						
PMG	**Port Moresby**	**55.81**	**124**	P	**P**	**14 24 22.4**	**+0.3**
	comp=Z,44nm,0.7s,mb5.6,baz=350,slow=3.1,SNR=12						
PMG	**Port Moresby**	**55.81**	**124**	*e*P	**P**	**14 24 21.9**	**-0.2**
	comp=Z,45nm,0.8s,mb5.5						
PMG				LR	LR		
	comp=Z,161nm,20.0s,MS4.1						
PMG	**Port Moresby**	**55.81**	**124**	*e*P	**P**	**14 24 21.9**	**-0.2**
PMG				pmax	pmax		
	comp=Z,45nm,0.8s						
PMG				MLR	MLR		
	comp=Z,161nm,20.0s						
ASF	**Jabal al Asfar**	**57.09**	**293**	P	**P**	**14 24 30.7**	**-0.3**
	comp=Z,9.2nm,0.9s,mb4.8,baz=322,slow=1.5,SNR=20						
ASF				LR	LR	14 51 25.4	
	comp=Z,403nm,20.3s,MS4.5,baz=131,slow=38						
ASF	**Jabal al Asfar**	**57.09**	**293**	P	**P**	**14 24 30.7**	**-0.3**
ASF				pmax	pmax		
	comp=Z,9.0nm,0.9s						
ASF				MLR	MLR		
	comp=Z,403nm,20.3s						
LVZ	**Lovozero**	**57.54**	**335**	*i*P	**P**	**14 24 32.5**	**-1.2**
LVZ				*i*		14 26 43.7	
LVZ				*i*S	**S**	**14 32 28.9**	**+2.4**
LVZ				*i*		14 34 20.5	
LVZ				*i*SS	SS	14 36 18.8	+0.6
LVZ				pmax	pmax		
	comp=Z,25nm,1.1s,mb5.2						
LVZ				pmax	pmax		
	comp=N,18nm,1.6s						
LVZ				pmax	pmax		
	comp=E,11nm,1.3s						
LVZ				pmax	pmax		
	comp=Z,124nm,2.3s,mb5.5						
LVZ				pmax	pmax		
	comp=N,114nm,3.0s						
LVZ				pmax	pmax		
	comp=E,105nm,2.7s						
LVZ				smax			
	comp=E,75nm,11.0s						
LVZ				smax			
	comp=Z,76nm,13.4s						
LVZ				smax			
	comp=N,153nm,10.4s						
LVZ				smax			
	comp=E,91nm,2.8s						
LVZ				smax			
	comp=Z,92nm,2.2s						
LVZ				smax			
	comp=N,171nm,3.3s						
LVZ				MLR	MLR		
	comp=Z,1μm,17.0s,MS5.0						
LVZ				MLR	MLR		
	comp=N,625nm,16.0s,MS4.9						
LVZ				MLR	MLR		
	comp=E,509nm,16.0s,MS4.9						
APA	**Apatity**	**57.96**	**335**	*e*P	**P**	**14 24 36.0**	**-0.6**
APA				*e*S	**S**	**14 32 36.0**	**+4.0**
APA				pmax	pmax		
	comp=Z,12nm,0.8s,mb5.0						
APA				MLR	MLR		
	comp=Z,2μm,15.0s,MS5.2						
BR131	**Keskin Array S**	**58.23**	**302**	*e*P	**P**	**14 24 39.8**	**+0.9**
	comp=Z,5.4nm,0.9s,mb4.6						
BR131				LR	LR		
	comp=Z,352nm,21.0s,MS4.5						
BRTR	**Keskin Array B**	**58.23**	**302**	P	**P**	**14 24 37.5**	**-1.4**
	comp=Z,1.7nm,0.6s,mb4.2,baz=112,slow=7.4,SNR=8.3						
BRTR				PcP	PcP	14 25 30.1	+0.4
	comp=Z,2.6nm,0.8s,baz=124,slow=5.2,SNR=2.9						
BRTR	**Keskin Array B**	**58.23**	**302**	P	**P**	**14 24 37.5**	**-1.4**
BRTR						14 25 30.1	
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KLBR	**Kellerberrin**	**59.52**	**165** ⇓	*i*P	**P**	**14 24 47.9**	**-0.1**
	comp=Z,45nm,0.8s,mb5.5						
MUN	**Mundaring**	**59.56**	**167**	*e*P	**P**	**14 24 48.9**	**+0.6**
	comp=Z,17nm,0.8s,mb5.1						
MUN	**Mundaring**	**59.56**	**167**	*e*P	**P**	**14 24 48.9**	**+0.6**
MUN				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.1						
AKASG	**Malin Array Be**	**59.84**	**315**	P	**P**	**14 24 47.9**	**-2.0**
	comp=Z,8.9nm,0.6s,mb5.0,baz=75,slow=6.7,SNR=16						
AKASG	**Malin Array Be**	**59.84**	**315**	P	**P**	**14 24 48.0**	**-1.9**
KIS	**Kishinev**	**60.57**	**311**	*e*P	**P**	**14 24 54.0**	**-1.0**
KIS				*e*		14 27 16.0	
KIS				*e*		14 28 40.0	
KIS				*e*		14 33 08.0	
KIS				MLR	MLR		
	comp=Z,600nm,16.0s,MS4.8						
KIS				MLR	MLR		
	comp=E,500nm,13.0s						
KIS				MLR	MLR		
	comp=Z,600nm,16.0s						
VSU	**Vasula**	**60.65**	**324***d*	*i*P	**P**	**14 24 56.8**	**+1.5**
FINES	**FINESS Array B**	**60.83**	**328**	P	**P**	**14 24 54.9**	**-1.6**
	comp=Z,6.9nm,0.8s,mb4.8,baz=124,slow=6.9,SNR=7.8						
FINES				LR	LR	14 53 06.2	
	comp=Z,537nm,22.0s,MS4.7,baz=261,slow=38						
FINES	**FINESS Array B**	**60.83**	**328**	P	**P**	**14 24 54.9**	**-1.6**
FINES				LR	LR	14 53 06.2	
FINES	**FINESS Array B**	**60.83**	**328**	P	**P**	**14 24 54.9**	**-1.6**
FINES				pmax	pmax		
	comp=Z,7.0nm,0.8s						
FINES				MLR	MLR		
	comp=Z,537nm,22.0s						
ARCES	**ARCESS Array B**	**61.02**	**337**	P	**P**	**14 24 57.0**	**-0.7**
	comp=Z,7.6nm,0.8s,mb4.9,baz=91,slow=7.7,SNR=23						
ARCES	**ARCESS Array B**	**61.02**	**337**	P	**P**	**14 24 57.0**	**-0.7**
ARCES				pmax	pmax		
	comp=Z,8.0nm,0.8s						
VRI	**Vrincioaia**	**62.18**	**310** ⇑	P	**P**	**14 25 05.5**	**-0.3**
VRI	**Vrincioaia**	**62.18**	**310** ⇑	P	**P**	**14 25 05.5**	**-0.3**
CTA	**Charters Tower**	**62.53**	**133**	*e*P	**P**	**14 25 07.7**	**-0.7**
	comp=Z,19nm,1.0s,mb5.2						
CTA	**Charters Tower**	**62.53**	**133**	LR	LR	14 53 53.9	
	comp=Z,172nm,19.1s,MS4.2,baz=284,slow=38						
CTA	**Charters Tower**	**62.53**	**133**	*e*P	**P**	**14 25 07.7**	**-0.7**
CTA				pmax	pmax		
	comp=Z,19nm,1.0s						
CTAO	**Charters Tower**	**62.53**	**133**	*e*P	**P**	**14 25 07.0**	**-1.4**
	comp=Z,50nm,1.2s,mb5.5						
CTAO	**Charters Tower**	**62.53**	**133**	*e*P	**P**	**14 25 07.0**	**-1.4**
CTAO				pmax	pmax		
	comp=Z,50nm,1.2s,mb5.5						
MLR	**Muntele Rosu**	**62.79**	**310**	P	**P**	**14 25 10.8**	**+0.9**
	comp=Z,34nm,1.0s,mb5.4,baz=85,slow=5.7,SNR=23						
MLR				LR	LR	14 56 17.8	
	comp=Z,859nm,20.6s,MS4.9,baz=258,slow=40						
MLR	**Muntele Rosu**	**62.79**	**310** ⇑	P	**P**	**14 25 10.9**	**+1.0**
MLR	**Muntele Rosu**	**62.79**	**310** ⇑	P	**P**	**14 25 10.8**	**+1.0**
MLR	**Muntele Rosu**	**62.79**	**310**	P	**P**	**14 25 10.8**	**+0.9**
MLR				pmax	pmax		
	comp=Z,34nm,1.0s						
MLR				MLR	MLR		
	comp=Z,859nm,20.6s						
SUW	**Suwalki**	**63.10**	**319**	*e*P	**P**	**14 25 10.9**	**-0.9**
	comp=Z,66nm,0.9s,mb5.8						
SUW	**Suwalki**	**63.10**	**319**	*e*P	**P**	**14 25 10.9**	**-0.9**
SUW				pmax	pmax		
	comp=Z,65nm,0.9s,mb5.8						
LVV	**L'vov**	**63.27**	**315**	*i*P	**P**	**14 25 15.0**	**+2.0**
LVV				*e*PP	pP	14 25 48.0	+23
LVV				*i*S	**S**	**14 33 50.6**	**+10**
LVV				MLR	MLR		
	comp=Z,260nm,19.0s,MS4.4						
LVV				MLR	MLR		
	comp=E,240nm,18.0s						
KDZ	**Kurdzhali**	**63.98**	**305**	*e*P	**P**	**14 25 18.0**	**+0.3**
KWP	**Kalwaria**	**64.15**	**315**	*e*P	**P**	**14 25 17.5**	**-1.2**
	comp=E,120nm,1.1s,mb5.8						
KWP	**Kalwaria**	**64.15**	**315**	*e*P	**P**	**14 25 17.5**	**-1.1**
KWP				pmax	pmax		
	comp=Z,120nm,1.1s,mb5.8						
RZN	**Rozhen**	**64.48**	**306**	*e*P	**P**	**14 25 20.0**	**-1.0**
KOLS	**Kolonicke sedl**	**64.56**	**314**	*e*P	**P**	**14 25 24.1**	**+2.7**
PGB	**Panagyurishte**	**64.67**	**307**	*e*P	**P**	**14 25 25.0**	**+2.8**
DRGR		**64.73**	**312** ⇓	P	**P**	**14 25 21.0**	**-1.5**
CRVS	**Cervenica-Dubn**	**65.09**	**314**	*e*	**P**	**14 25 30.0**	**+5.2**
STHS	**Stebnicka Huta**	**65.12**	**315**	*e*P	**P**	**14 25 26.2**	**+1.2**
SANT	**Santorini**	**65.26**	**300**	*e*P	**P**	**14 25 24.8**	**-1.3**
	comp=Z,40nm,0.8s,mb5.5						
VTS	**Vitosha**	**65.35**	**307**	*e*P	**P**	**14 25 25.0**	**-1.6**
KKB	**Krupnik**	**65.62**	**306**	*e*P	**P**	**14 25 27.0**	**-1.3**
NIE	**Niedzica**	**65.72**	**315**	*e*P	**P**	**14 25 32.5**	**+3.7**
HNR	**Honiara**	**65.82**	**115**	LR	LR	14 53 44.9	
	comp=Z,243nm,18.7s,MS4.4,baz=299,slow=36						
KECS	**Kecovo**	**65.82**	**314**	*e*P	**P**	**14 25 32.0**	**+2.5**
OJC	**Ojcow**	**65.86**	**316**	*e*P	**P**	**14 25 30.3**	**+0.6**
IDI	**Anoyia**	**66.00**	**299**	LR	LR	14 58 49.3	
	comp=Z,120nm,19.5s,MS4.1,baz=257,slow=40						
PSZ	**Piszkesteto**	**66.34**	**313**	*e*P	**P**	**14 25 30.7**	**-2.0**
	comp=Z,21nm,1.4s,mb5.0						
PSZ	**Piszkesteto**	**66.34**	**313**	*e*P	**P**	**14 25 30.7**	**-2.0**
PSZ				pmax	pmax		
	comp=Z,21nm,1.4s,mb5.0						
SKO	**Skopje**	**66.78**	**307**	*e*Pn	**P**	**14 25 35.0**	**-0.6**
VYHS	**Vyhne**	**66.88**	**314**	*e*P	**P**	**14 25 39.1**	**+2.9**
OKC	**Ostrava-Krasne**	**66.99**	**316**	*e*P	**P**	**14 25 40.1**	**+3.3**
OKC				AMS	AMS	14 56 00.0	
	comp=Z,600nm,13.0s						
MORC	**Moravsky Berou**	**67.38**	**316**	*e*P	**P**	**14 25 38.8**	**-0.5**
	comp=Z,24nm,1.1s,mb5.1						
MORC	**Moravsky Berou**	**67.38**	**316**	*e*P	**P**	**14 25 38.8**	**-0.5**
MORC				pmax	pmax		
	comp=Z,24nm,1.1s,mb5.1						
KSP	**Ksiaz**	**67.88**	**317**	*e*P	**P**	**14 25 44.7**	**+2.3**
KSP				LR	LR		
	comp=Z,1μm,21.0s,MS5.2						
NB2	**NORSAR Subarra**	**67.98**	**328**	P	**P**	**14 25 40.9**	**-1.9**
	comp=Z,13nm,0.9s,mb5.0,baz=76,slow=6.2						
NB2	**NORSAR Subarra**	**67.98**	**328**	P	**P**	**14 25 40.9**	**-1.9**
NB2				pmax	pmax		
	comp=Z,13nm,0.9s,mb5.0						
NOA	**NORSAR Array B**	**67.98**	**328**	P	**P**	**14 25 40.5**	**-2.3**
	comp=Z,7.4nm,0.8s,mb4.8,baz=76,slow=6.3,SNR=14						
NOA	**NORSAR Array B**	**67.98**	**328**	P	**P**	**14 25 40.5**	**-2.3**
NOA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
DPC	**Dobruska-Polom**	**67.99**	**316**	*e*P	**P**	**14 25 46.8**	**+3.7**
DPC				AMS	AMS	14 55 40.0	
	comp=Z,1μm,18.9s						
UPC	**Upice**	**68.14**	**317**	*e*P	**P**	**14 25 47.4**	**+3.4**
NAO01	**NORSAR Array S**	**68.19**	**328**	*e*P	**P**	**14 25 43.1**	**-1.1**
	comp=Z,6.2nm,0.8s,mb4.7						
STKA	**Stephens Creek**	**68.79**	**145**	*e*P	**P**	**14 25 48.3**	**-0.1**
	comp=Z,12nm,0.8s,mb4.9						
STKA	**Stephens Creek**	**68.79**	**145**	P	**P**	**14 25 48.4**	**0.0**
	comp=Z,16nm,0.9s,mb5.0,baz=338,slow=7.1,SNR=21						
STKA				LR	LR	15 00 30.5	
	comp=Z,285nm,19.0s,MS4.5,baz=111,slow=40						
KMBO	**Kilima Mbogo**	**68.96**	**258**	P	**P**	**14 25 50.0**	**+0.2**
	comp=Z,6.3nm,0.9s,mb4.5,baz=47,slow=8.9,SNR=11						
KMBO				LR	LR	14 55 13.7	
	comp=Z,477nm,21.8s,MS4.7,baz=278,slow=35						
PVCC	**Panska Ves**	**69.02**	**317**	*e*P	**P**	**14 25 52.6**	**+3.1**
PVCC				AMS	AMS	14 57 40.0	
	comp=Z,800nm,16.3s						
KONO	**Kongsberg**	**69.14**	**327**	*i*P	**P**	**14 25 52.3**	**+2.3**
PRU	**Pruhonice**	**69.19**	**316**	*e*P	**P**	**14 25 54.3**	**+3.7**
PRU				AMS	AMS	14 56 20.0	
	comp=Z,800nm,18.6s						
BRG	**Berggiesshubel**	**69.31**	**317**	*e*P	**P**	**14 25 52.1**	**+0.9**
BRG				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
BRG				pmax	pmax		
	comp=Z,14nm,0.7s,mb5.0						
BRG				MLR	MLR		
	comp=N,2μm,25.9s,MS5.2						
BRG				MLR	MLR		
	comp=E,682nm,23.2s,MS5.2						
BRG				MLR	MLR		
	comp=Z,1μm,16.1s						
ARSA	**Arzberg**	**69.37**	**313** ⇑	*i*P	**P**	**14 25 54.0**	**+2.3**
	comp=Z,74nm,2.0s,mb5.3						
CLL	**Collm**	**69.74**	**318**	P	**P**	**14 25 54.1**	**+0.2**
	comp=Z,logA/T=0.9,mb4.6						
CLL				*i*		14 25 56.7	
CLL				*e**PP	pP	14 26 07.0	+1.0
CLL	**Collm**	**69.74**	**318**	*i*P	**P**	**14 25 54.1**	**+0.2**
	comp=Z,8.0nm,1.1s,mb4.6						
CLL				*i*		14 25 56.7	
CLL				*e*pP	pP	14 26 07.0	+1.0
CLL	**Collm**	**69.74**	**318**	*i*P	**P**	**14 25 54.1**	**+0.2**
CLL				*e**PP	pP	14 26 07.0	+1.0
CLL				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
CRES	**Cresnjev**	**69.83**	**312**	*e*P	**P**	**14 25 54.6**	**0.0**
CRES				*e*		14 25 57.2	
KHC	**Kasperske Hory**	**70.05**	**316**	*e*P	**P**	**14 25 59.2**	**+3.4**
KHC				AMS	AMS	14 57 00.0	
	comp=Z,700nm,17.7s						
GEC2	**GERESS Array S**	**70.06**	**315**	*e*P	**P**	**14 25 56.9**	**+1.1**
	comp=Z,28nm,1.3s,mb5.0						
GEC2	**GERESS Array S**	**70.06**	**315**	*e*P	**P**	**14 25 56.9**	**+1.1**
GEC2				pmax	pmax		
	comp=Z,28nm,1.3s,mb5.0						
GERES	**GERESS Array B**	**70.06**	**315**	P	**P**	**14 25 55.6**	**-0.2**
	comp=Z,6.8nm,0.9s,mb4.6,baz=76,slow=5.5,SNR=17						
GERES				LR	LR	14 57 30.5	
	comp=Z,695nm,21.0s,MS4.9,baz=236,slow=37						
GERES	**GERESS Array B**	**70.06**	**315**	P	**P**	**14 25 55.6**	**-0.2**
GERES				pmax	pmax		
	comp=Z,7.0nm,0.9s						
GERES				MLR	MLR		
	comp=Z,695nm,21.0s						
LJU	**Ljubljana**	**70.38**	**312**	*e*P	**P**	**14 25 58.3**	**+0.4**
NKC	**Novy Kostel**	**70.41**	**317**	*e*P	**P**	**14 26 01.4**	**+3.5**
NKC				AMS	AMS	14 58 40.0	
	comp=Z,1μm,17.3s						
WET	**Wettzell**	**70.48**	**316**	*e*P	**P**	**14 25 58.8**	**+0.4**
	comp=Z,31nm,1.3s,mb5.1						
WET	**Wettzell**	**70.48**	**316**	*e*P	**P**	**14 25 58.8**	**+0.4**
WET				pmax	pmax		
	comp=Z,31nm,1.3s,mb5.1						
BSEG	**Bad Segeberg**	**70.50**	**321**	*e*P	**P**	**14 25 59.4**	**+1.0**
MOX	**Moxa**	**70.78**	**318**	*i*P	**P**	**14 26 02.7**	**+2.5**
	comp=Z,logA/T=1.4,mb5.1						
MOX				pP	pP	14 26 25.0	+13
MOX				L		14 58 56.0	
MOX	**Moxa**	**70.78**	**318**	*e*P	**P**	**14 26 02.7**	**+2.5**
	comp=Z,46nm,1.9s,mb5.1						
MOX				*e*		14 26 24.7	
MOX				LR	LR		
	comp=Z,600nm,19.0s,MS4.9						
MOX	**Moxa**	**70.78**	**318**	*e*P	**P**	**14 26 02.7**	**+2.5**
MOX				*e*		14 26 24.7	
MOX				pmax	pmax		
	comp=Z,46nm,1.9s,mb5.1						
MOX				MLR	MLR		
	comp=Z,600nm,19.0s,MS4.9						
KBA	**Koelnbreins

WTTA Wattenberg 71.88 314⇑ *i*P P 14 26 07.6 +0.8
WTTA pmax pmax
comp=Z,76nm,1.5s,mb5.4
SQTA Sankt Quirin 72.16 314⇑ *i*P P 14 26 09.2 +0.7
comp=Z,27nm,1.1s,mb5.1
SQTA Sankt Quirin 72.16 314⇑ *i*P P 14 26 09.2 +0.7
SQTA pmax pmax
comp=Z,27nm,1.1s,mb5.1
MOTA Moosalm 72.19 314⇑ *i*P P 14 26 09.3 +0.7
comp=Z,30nm,1.1s,mb5.1
MOTA Moosalm 72.19 314⇑ *i*P P 14 26 09.3 +0.7
MOTA pmax pmax
comp=Z,30nm,1.1s,mb5.1
AQU L'Aquila 72.35 309 *e*P P 14 26 09.1 -0.7
comp=Z,52nm,1.1s,mb5.4
AQU L'Aquila 72.35 309 *e*P P 14 26 09.1 -0.6
AQU pmax pmax
comp=Z,52nm,1.1s,mb5.4
TNS Taunus Mts 72.83 318 *e*P P 14 26 13.2 +0.8
comp=Z,23nm,1.1s,mb5.0
TNS Taunus Mts 72.83 318 *e*P P 14 26 13.2 +0.8
TNS pmax pmax
comp=Z,23nm,1.1s,mb5.0
TOD Tromm 72.84 317 *e*P P 14 26 14.9 +2.5
STU Stuttgart 72.89 316 *e*P P 14 26 11.3 -1.5
comp=Z,22nm,0.8s,mb5.2
STU Stuttgart 72.89 316 *e*P P 14 26 11.3 -1.5
STU pmax pmax
comp=Z,22nm,0.8s,mb5.1
DAVA Damuels 72.99 315⇑ *i*P P 14 26 16.1 +2.7
comp=Z,47nm,1.6s,mb5.2
DAVOX Davos 73.17 314 LR LR 15 03 21.6
comp=Z,827nm,18.9s,MS5.0,baz=256,slow=40
VAE Valguarnera 73.32 304 LR LR 15 02 37.5
comp=Z,326nm,20.0s,MS4.6,baz=329,slow=39
BFO Black Forest 73.59 316 *e*P P 14 26 16.6 -0.3
comp=Z,41nm,1.3s,mb5.2
BFO Black Forest 73.59 316 *e*P P 14 26 16.6 -0.3
BFO pmax pmax
comp=Z,41nm,1.3s,mb5.2
LANF Langenberg 73.67 317 *e*P P 14 26 19.8 +2.4
SARO Sassorosso 73.76 312 P P **14 26 16.9 -1.0**
MAIM 73.80 311 P P **14 26 16.7 -1.5**
VALM 73.81 312 P P **14 26 18.8 +0.5**
GRAM 73.87 312 P P **14 26 19.2 +0.6**
RSO Redoubt South 73.90 30 *e*P P 14 26 18.4 -0.1
VINC Vinca 73.94 312 P P **14 26 18.6 -0.5**
FELD Feldberg 73.96 316 *e*P P 14 26 19.8 +0.8
MCK McKinley 74.05 26 *e*P P 14 26 18.7 -0.6
comp=Z,4.6nm,0.7s,mb4.5
MCK LR LR
comp=Z,254nm,20.0s,MS4.5
MCK McKinley 74.05 26 *e*P P 14 26 18.7 -0.5
MCK pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
MCK MLR MLR
comp=Z,254nm,20.0s,MS4.5
CODM 74.06 312 P P **14 26 19.8 +0.1**
WLS Welschbruch 74.16 316 *e*P P 14 26 21.3 +1.1
CDF Champ du Feu 74.21 316 *e*P P 14 26 19.8 -0.7
comp=Z,46nm,1.0s,mb5.1
CDF Champ du Feu 74.21 316 *e*P P 14 26 19.8 -0.7
CDF pmax pmax
comp=Z,23nm,1.0s,mb5.1
ILAR Eielson Array 74.34 25 P P **14 26 19.8 -1.1**
comp=Z,5.2nm,1.1s,mb4.4,baz=268,slow=7.5,SNR=17
ILAR LR LR 15 00 29.3
comp=Z,339nm,21.3s,MS4.6,baz=90,slow=37
ILAR Eielson Array 74.34 25 P P **14 26 19.8 -1.1**
ILAR pmax pmax
comp=Z,5.0nm,1.1s
ILAR MLR MLR
comp=Z,339nm,21.3s
ECH Echery 74.36 316 *e*P P 14 26 22.0 +0.7
WLF Walferdange 74.42 318 *e*P P 14 26 21.5 -0.2
comp=Z,65nm,1.1s,mb5.5
WLF Walferdange 74.42 318 *e*P P 14 26 21.5 -0.2
WLF pmax pmax
comp=Z,65nm,1.1s,mb5.5
MBAR Mbarara 74.45 261 *e*P P 14 26 23.6 +1.0
comp=Z,8.4nm,1.4s,mb4.5
MBAR Mbarara 74.45 261 *e*P P 14 26 23.7 +1.1
MBAR pmax pmax
comp=Z,8.0nm,1.4s,mb4.5
MOF Molkenrain 74.51 316 *e*P P 14 26 24.6 +2.4
HINF Hinteralfeld 74.70 316 *e*P P 14 26 22.4 -0.9
ORX Oropa 74.82 314 P P **14 26 23.2 -0.9**
PCP Pian Castagno 74.86 312 P P **14 26 25.7 +1.3**
LOMF Lomont 74.89 316 *e*P P 14 26 25.0 +0.5
HAU Haudompre 74.94 316 *e*P P 14 26 23.8 -0.9
HAU *e*R
comp=Z,784nm,20.2s
PMR Palmer 74.97 28 *e*P P 14 26 25.9 +1.3
comp=Z,31nm,1.1s,mb5.2
PMR LR LR
comp=Z,349nm,21.0s,MS4.6
PMR Palmer 74.97 28 *e*P P 14 26 25.9 +1.3
PMR pmax pmax
comp=Z,31nm,1.1s,mb5.2
PMR MLR MLR
comp=Z,349nm,21.0s,MS4.6
TRAV 75.02 314 P P **14 26 25.9 +0.7**
GIVF Givet 75.04 319 *e*P P 14 26 24.8 -0.4
comp=Z,48nm,1.0s,mb5.1
GIVF Givet 75.04 319 *e*P P 14 26 24.8 -0.4
GIVF pmax pmax
comp=Z,24nm,1.0s,mb5.1
THEF They Montfort 75.08 317 *e*P P 14 26 26.2 +0.7
SML Sawmill 75.20 28 *e*P P 14 26 25.7 -0.2
PGF Pioggiola 75.32 310 *e*P P 14 26 25.9 -1.1
comp=Z,36nm,0.7s,mb5.1
PGF Pioggiola 75.32 310 *e*P P 14 26 25.9 -1.1
PGF pmax pmax
comp=Z,18nm,0.7s,mb5.1
ROB Roburent 75.41 312 P P **14 26 27.4 0.0**
BAIF Baives 75.42 319 *e*P P 14 26 27.2 -0.2
comp=Z,49nm,1.2s,mb5.0
BAIF Baives 75.42 319 *e*P P 14 26 27.2 -0.2
BAIF pmax pmax
comp=Z,25nm,1.2s,mb5.0
LSD Ceresole Reale 75.42 314 P P **14 26 27.9 +0.3**
RSP Reno Superiore 75.47 313 P P **14 26 26.8 -1.1**
MEZF Maizieres J'vi 75.54 317 *e*P P 14 26 27.7 -0.4
IMI Imperia 75.54 312 P P **14 26 27.4 -0.9**
MONE Monesi 75.57 312 P P **14 26 27.2 -1.2**
BHB Bricherasio 75.59 313 P P **14 26 28.3 -0.2**
CABF La Chapelle 75.65 315 *e*P P 14 26 28.2 -0.6
comp=Z,52nm,1.3s,mb5.0
CABF La Chapelle 75.65 315 *e*P P 14 26 28.2 -0.6
CABF pmax pmax
comp=Z,26nm,1.3s,mb5.0
LPG La Plagne 75.67 314 *e*P P 14 26 29.2 +0.3
comp=Z,70nm,0.8s,mb5.4
LPG La Plagne 75.67 314 *e*P P 14 26 29.2 +0.3
LPG pmax pmax
comp=Z,35nm,0.8s,mb5.3
LPL La Plagne 75.67 314 *e*P P 14 26 29.2 +0.2
comp=Z,65nm,0.9s,mb5.3
LPL La Plagne 75.67 314 *e*P P 14 26 29.2 +0.2
LPL pmax pmax
comp=Z,33nm,0.9s,mb5.3
NEGI Negi 75.69 312 P P **14 26 28.5 -0.6**
ENR Entracque 75.73 312 P P **14 26 28.1 -1.2**
SAOF Saorge 75.73 312 *e*P P 14 26 30.2 +0.8
STV Sta Anna Valdi 75.79 312 P P **14 26 29.1 -0.6**
AUTN L'Aution 75.82 312 *e*P P 14 26 32.2 +2.4
SBF Sospel 75.86 312 *e*P P 14 26 28.5 -1.6
comp=Z,72nm,0.9s,mb5.3
SBF Sospel 75.86 312 *e*P P 14 26 28.5 -1.6
SBF pmax pmax
comp=Z,36nm,0.9s,mb5.3
RRL Cesana Torines 75.87 313 P P **14 26 30.0 -0.1**
BNI Bardonecchia 75.89 313 *e*P P 14 26 29.8 -0.4
comp=Z,21nm,1.0s,mb5.0
BNI Bardonecchia 75.89 313 *e*P P 14 26 29.8 -0.4
BNI pmax pmax
comp=Z,21nm,1.0s,mb5.0
TOUF Mont Tournerai 75.93 312 *e*P P 14 26 32.9 +2.5
MBDF Montbardon 75.96 313 *e*P P 14 26 29.4 -1.2
comp=Z,41nm,1.0s,mb5.0
MBDF Montbardon 75.96 313 *e*P P 14 26 29.4 -1.2
MBDF pmax pmax
comp=Z,20nm,1.0s,mb5.0
ORIF Oris-en-Rattie 76.46 314 *e*P P 14 26 32.9 -0.6
comp=Z,34nm,0.9s,mb5.0
ORIF *e*R
comp=Z,999nm,20.8s
FRF La Foret Royal 76.51 312 *e*P P 14 26 33.0 -0.8
comp=Z,38nm,0.9s,mb5.0
FRF La Foret Royal 76.51 312 *e*P P 14 26 33.0 -0.8
FRF pmax pmax
comp=Z,19nm,0.9s,mb5.0
LMR La Mourre 76.69 312 *e*P P 14 26 34.1 -0.7
comp=Z,93nm,1.2s,mb5.3
LMR La Mourre 76.69 312 *e*P P 14 26 34.1 -0.7
LMR pmax pmax
comp=Z,47nm,1.2s,mb5.3
INK Inuvik 76.74 19 *e*P P 14 26 34.1 -0.5
comp=Z,22nm,1.0s,mb5.0
INK Inuvik 76.74 19 *e*P P 14 26 34.1 -0.5
INK pmax pmax
comp=Z,22nm,1.0s
LOR Lormes 76.78 316 *e*P P 14 26 34.1 -1.1
LOR *e*R
comp=Z,524nm,21.5s
TAVF Tavernes 76.88 312 *e*P P 14 26 36.8 +1.0
EYAK Cordova Ski Ar 76.92 28 *e*P P 14 26 35.8 +0.1
VILF Villemus 77.01 313 *e*P P 14 26 36.6 0.0
SMRF Simiane la Rot 77.05 313 *e*P P 14 26 36.5 -0.3
comp=Z,83nm,1.5s,mb5.1
SMF Signal de Mont 77.05 316 *e*P P 14 26 35.9 -0.9
comp=Z,137nm,1.4s,mb5.4
SMF Signal de Mont 77.05 316 *e*P P 14 26 35.9 -0.9
SMF pmax pmax
comp=Z,69nm,1.4s,mb5.4
SSF Saint Saulge 77.08 316 *e*P P 14 26 36.3 -0.6
comp=Z,15nm,0.9s,mb4.9
SSF Saint Saulge 77.08 316 *e*P P 14 26 36.3 -0.6
SSF pmax pmax
comp=Z,15nm,0.9s,mb4.9
VIVF Saint-Julien-l 77.27 314 *e*P P 14 26 37.4 -0.6
comp=Z,68nm,1.3s,mb5.1
VIVF Saint-Julien-l 77.27 314 *e*P P 14 26 37.4 -0.6
VIVF pmax pmax
comp=Z,34nm,1.3s,mb5.1
AVF Avril sur Loir 77.29 316 *e*P P 14 26 37.3 -0.8
comp=Z,36nm,0.8s,mb5.0
AVF Avril sur Loir 77.29 316 *e*P P 14 26 37.3 -0.8
AVF pmax pmax
comp=Z,18nm,0.8s,mb5.0
DAWY Dawson 77.46 24 *e*P P 14 26 37.3 -1.4
PLDF La Plantade 77.47 315 *e*P P 14 26 40.2 +1.1
SUMG Summit 77.69 349 *e*P P 14 26 38.8 -1.0
comp=Z,12nm,0.8s,mb4.9
AGO Saint Agoulin 77.75 315 *e*P P 14 26 42.3 +1.7
PYM Petit Puy Mans 77.95 315 *e*P P 14 26 43.7 +1.9
LASF Ste Croix 78.13 313 *e*P P 14 26 42.6 -0.2
comp=Z,86nm,1.3s,mb5.2
TCF Toulx Ste Croi 78.22 316 *e*P P 14 26 43.0 -0.2
comp=Z,38nm,0.8s,mb5.0
TCF Toulx Ste Croi 78.22 316 *e*P P 14 26 43.0 -0.2
TCF pmax pmax
comp=Z,19nm,0.8s,mb5.1
FLN La Foliniere 78.74 319 *e*P P 14 26 45.7 -0.3
FLN *e*R
comp=Z,1μm,20.8s
CAF Calviac 78.91 315 *e*P P 14 26 47.0 -0.1
comp=Z,66nm,1.3s,mb5.1
CAF Calviac 78.91 315 *e*P P 14 26 47.0 -0.1
CAF pmax pmax
comp=Z,33nm,1.3s,mb5.1
RJF Les Rejaudoux 79.09 315 *e*P P 14 26 48.1 +0.1
comp=Z,85nm,1.3s,mb5.2
RJF *e*R
comp=Z,523nm,19.5s
RJF Les Rejaudoux 79.09 315 *e*P P 14 26 48.1 +0.1
RJF pmax pmax
comp=Z,42nm,1.3s,mb5.2
RJF MLR MLR
comp=Z,520nm,19.5s,MS4.9
GRR Gorron 79.13 319 *e*P P 14 26 48.7 +0.5
BORG Borgarnes 79.33 339 LR LR 15 03 41.5
comp=Z,376nm,18.1s,MS4.8,baz=278,slow=37
MTLF Montolieu 79.52 313 *e*P P 14 26 50.0 -0.4
comp=Z,45nm,1.3s,mb5.0
MTLF Montolieu 79.52 313 *e*P P 14 26 50.0 -0.4
MTLF pmax pmax
comp=Z,23nm,1.3s,mb5.0
MFF Saint Martin d 79.53 317 *e*P P 14 26 50.9 +0.5
comp=Z,90nm,1.5s,mb5.2
MFF Saint Martin d 79.53 317 *e*P P 14 26 50.9 +0.5
MFF pmax pmax
comp=Z,45nm,1.5s,mb5.2
LFF La Frestale 79.75 315 *e*P P 14 26 51.6 0.0
VALF Valcebollere 80.07 312 *e*P P 14 26 55.5 +2.1
SGMF Saint Gilles 80.20 319 *e*P P 14 26 53.8 -0.1
ROSF Rostrenen 80.57 320 *e*P P 14 26 55.8 -0.1
EMIR Miracle 80.62 312 P P **14 26 53.6 -2.6**
comp=Z,16nm,0.8s,mb5.0
QUIF Quistinic 80.72 319 *e*P P 14 26 57.1 +0.4
EPF Esparros 80.89 314 *e*P P 14 26 57.5 -0.2
EBIE Bielsa 81.17 313 P P **14 27 00.9 +1.7**
comp=Z,62nm,2.5s,mb5.1
EPOB Poblet 81.18 312 P P **14 26 59.7 +0.5**
comp=Z,10nm,0.8s,mb4.8
EGRA Graus 81.29 313 P P **14 27 01.0 +1.2**
comp=Z,26nm,1.4s,mb5.0
ETSF Etsaut 81.53 314 *e*P P 14 27 01.3 +0.3
comp=Z,24nm,1.0s,mb4.8
ETSF Etsaut 81.53 314 *e*P P 14 27 01.3 +0.3
ETSF pmax pmax
comp=Z,12nm,1.0s,mb4.8
SJPF Ste Jean 81.86 314 *e*P P 14 27 02.7 0.0
comp=Z,34nm,1.2s,mb4.9
SJPF Ste Jean 81.86 314 *e*P P 14 27 02.7 0.0
SJPF pmax pmax
comp=Z,17nm,1.2s,mb4.8
ERTA Horta de San J 81.86 312 P P **14 27 02.7 -0.1**
comp=Z,40nm,1.9s,mb5.0
EIBI Ibiza 82.07 310 P P **14 27 00.4 -3.5**
comp=Z,39nm,1.2s,mb5.2
LSZ Lusaka 83.69 250 *e*P P 14 27 12.6 -0.1
comp=Z,23nm,1.4s,mb5.1
LSZ Lusaka 83.69 250 *e*P P 14 27 12.6 -0.1
LSZ pmax pmax
comp=Z,23nm,1.4s,mb5.1
ETOB Tobarra 84.24 310 P P **14 27 14.8 -0.2**
comp=Z,160nm,3.2s
EVIA Vianos 84.89 311 P P **14 27 18.5 +0.3**
comp=Z,94nm,2.6s,mb5.5
EVIA Vianos 84.89 311 P P **14 27 18.5 +0.3**
EVIA pmax pmax
comp=Z,94nm,2.6s,mb5.5
ESDC Sonseca Array 85.35 312 P P **14 27 20.8 +0.4**
comp=Z,0.2nm,0.3s,baz=38,slow=5.4,SNR=9.6
ESDC Sonseca Array 85.35 312 P P **14 27 20.6 +0.1**
comp=Z,4.1nm,1.1s,mb4.5
EHUE Huescar 85.36 310 P P **14 27 20.6 +0.1**
comp=Z,3.2nm,1.2s,mb4.3
EHUE Huescar 85.36 310 P P **14 27 20.6 0.0**
EHUE pmax pmax
comp=Z,3.0nm,1.2s,mb4.3
EQES Quesada 85.70 310 P P **14 27 23.8 +1.5**
comp=Z,9.2nm,0.8s,mb5.1
EBAN Banos Encina 86.00 311 P P **14 27 24.4 +0.7**
comp=Z,104nm,2.7s,mb5.6
EBAN Banos Encina 86.00 311 P P **14 27 24.4 +0.7**
EBAN pmax pmax
comp=Z,104nm,2.7s,mb5.6
YKW3 Yellowknife Ar 86.24 16 *e*P P 14 27 24.7 +0.5
YKA Yellowknife Ar 86.30 16 P P **14 27 23.8 -0.7**
comp=Z,4.7nm,0.8s,mb4.8,baz=326,slow=4.6,SNR=20
YKA Yellowknife Ar 86.30 16 P P **14 27 23.8 -0.7**
YKA Yellowknife Ar 86.30 16 *i*P P 14 27 25.7 +1.2
YKA pmax pmax
comp=Z,5.0nm,0.8s
EADA Adamuz 86.53 311 P P **14 27 30.1 +3.8**
comp=Z,202nm,4.0s
ELUQ Luque 86.64 311 P P **14 27 28.3 +1.4**
ECAB El Cabril 87.15 311 P P **14 27 27.6 -1.8**
comp=Z,6.0nm,1.0s,mb4.8
LBTB Lobatse 90.57 242 *e*P P 14 27 45.4 -0.5
comp=Z,5.6nm,0.7s,mb5.0
LBTB LR LR
comp=Z,506nm,19.0s,MS5.0
LBTB Lobatse 90.57 242 *e*P P 14 27 45.4 -0.5
LBTB pmax pmax
comp=Z,6.0nm,0.7s,mb5.0
LBTB MLR MLR
comp=Z,506nm,19.0s,MS5.0
AFI Afiamalu 91.93 104 LR LR 15 05 24.5
comp=Z,222nm,20.9s,MS4.6,baz=289,slow=33
BOSA Boshof 92.57 239 P P **14 27 55.0 0.0**
comp=Z,4.8nm,0.9s,mb4.9,baz=70,slow=4.7,SNR=5.4
BOSA LR LR 15 09 04.0
comp=Z,286nm,18.9s,MS4.7,baz=66,slow=35
BOSA Boshof 92.57 239 *e*P P 14 27 54.8 -0.2
comp=Z,5.4nm,0.8s,mb5.0
BOSA Boshof 92.57 239 P P **14 27 55.0 0.0**
BOSA pmax pmax
comp=Z,5.0nm,1.0s,mb4.9
BOSA MLR MLR
comp=Z,286nm,18.9s,MS4.7
CASY Casey 92.73 177 *e*P P 14 27 55.5 +0.6
comp=Z,6.3nm,1.0s,mb5.0
RPZ Rata Peaks 93.64 138 LR LR 15 08 43.1
comp=Z,222nm,20.9s,MS4.6,baz=103,slow=34
URZ Urewera 94.66 131 LR LR 15 06 24.2
comp=Z,109nm,20.4s,MS4.3,baz=200,slow=33
SCHQ Schefferville 98.47 354 LR LR 15 17 15.4
comp=Z,251nm,20.4s,MS4.7,baz=255,slow=38
MAW Mawson 98.54 194 LR LR 15 09 37.8
comp=Z,115nm,19.4s,MS4.4,baz=45,slow=33
PDAR Pinedale Array 104.77 24 PP PP 14 33 07.7 -4.9
comp=Z,0.8nm,0.9s,slow=4.5,SNR=4.2
PPT Papeete 112.90 99 *e*LR LR 15 07 52.0
comp=Z,358nm,26.8s
QSPA South Pole Qui 116.36 180 *e*P PKPdf 14 33 25.5 +0.7
TXAR Lajitas Array 118.81 27 PKP PKPdf 14 33 30.6 -0.1
comp=Z,0.4nm,0.4s,baz=270,slow=2.5,SNR=5.2
JCT Junction City 119.22 23 *e*PKPdf PKPdf 14 33 33.3 +1.8
SNAA Sanae 119.96 201 *e*PKPdf PKPdf 14 33 32.0 +0.1
SDV Santo Domingo 144.22 349 *e*PKPdf PKPdf 14 34 17.4 -1.2
ROSC El Rosal 148.66 355 PKPbc PKPdf 14 34 32.8 +6.7
comp=Z,8.3nm,0.4s,baz=100,slow=20,SNR=7.7
BDFB Brasilia 150.93 286 PKP PKPdf 14 34 32.0 +2.5
comp=Z,2.1nm,0.5s,baz=346,slow=1.3,SNR=2.4
BDFB PKPab PKPab 14 34 45.1 +0.2
comp=Z,16nm,0.9s,baz=84,slow=3.1,SNR=9.1
BDFB Brasilia 150.93 286 PKIKP PKPdf 14 34 32.0 +2.5
BDFB 14 34 45.1
BDFB pmax pmax
comp=Z,2.0nm,0.5s
BDFB pmax pmax
comp=Z,16nm,0.9s
SAML Samuel 158.13 321 *e*PKPdf PKPdf 14 34 41.0 +1.6
PLCA Paso Flores 164.90 199 PKPab PKPab 14 35 41.6 -2.5
comp=Z,6.6nm,0.9s,baz=223,slow=5.3,SNR=4.2
LPAZ La Paz 166.87 319 PKP PKPdf 14 34 50.0 +2.0
comp=Z,0.8nm,0.8s,baz=0.6,slow=2.1,SNR=6.1
LPAZ PKPab PKPab 14 35 51.5 -1.8
comp=Z,0.9nm,0.6s,baz=30,slow=6.2,SNR=3.0
LPAZ La Paz 166.87 319 PKP PKPdf 14 34 50.0 +2.0
LPAZ PKPab PKPab 14 35 51.5 -1.9
LPAZ La Paz 166.87 319 PKIKP PKPdf 14 34 50.0 +2.1
LPAZ 14 35 51.5
LPAZ pmax pmax
comp=Z,1.0nm,0.8s
LPAZ pmax pmax
comp=Z,1.0nm,0.6s

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*IDC **05** 14:27:50.7±4.1, 1.24N×98.11E, mb3.8/4, mb1 4.0/4, mb1mx3.7/17, mbtmp3.8/4, Error ellipse: s-maj=163.5km s-min=29.1km az=56.0*
*NEIC **05** 14:27:52.7±1.3, 0.84N×97.54E, h30km, Error ellipse: s-maj=29.6km s-min=19.9km az=66.0*
ISC 05 14:27:50.9±1.8, 0.9N±0.2×97.5E±0.2, h30km, n5, σ0=36/5, mb3.9/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.38**	**35**	*e*Pn	**Pn**	**14 29 11.4**	**+0.1**
WRA	**Warramunga Arr**	**41.58**	**122**	P	**P**	**14 35 38.1**	**0.0**
0.6nm,0.6s,mb3.4,baz=303,slow=9.1,SNR=4.9							
SONM	**Songino Array**	**47.41**	**8**	P	**P**	**14 36 24.1**	**-0.4**
0.4nm,0.5s,mb3.6,baz=196,slow=8.3,SNR=4.4							
MKAR	**Makanchi Array**	**47.64**	**346**	P	**P**	**14 36 26.7**	**+0.4**
1.2nm,0.5s,mb4.2,baz=158,slow=7.7,SNR=12							
ZAL	**Zalesovo**	**53.92**	**351**	P	**P**	**14 37 13.7**	**-0.1**
2.2nm,0.4s,mb4.5,baz=355,slow=6.5,SNR=3.7							

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*IDC **05** 14:28:05.6±0.7, 12.07N×142.74E, mb4.3/12, mb1 4.5/12, mb1mx4.3/23, mbtmp4.3/12, MS4.3/2, Ms1 4.3/2, ms1mx3.5/28, Error ellipse: s-maj=29.7km s-min=19.7km az=74.0*
*NEIC **05** 14:28:08.8±0.4, 12.06N×142.77E, h20km, mb4.6/6, Error ellipse: s-maj=13.5km s-min=10.0km az=92.0*
ISC 05 14:28:08.9±0.5, 12.01N±0.09×142.7E±0.1, h33km, n25, σ0=96/23, mb4.3/18, MS4.5/2, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**23.65**	**335**	P	**P**	**14 33 18.9**	**+0.6**
9.2nm,0.8s,mb4.2,baz=143,slow=5.1,SNR=4.3							
MAJO	**Matsushiro**	**24.77**	**351**	*e*P	**P**	**14 33 28.6**	**-0.4**
3.3nm,0.4s,mb4.2							
WRAB	**Tennant Creek**	**32.79**	**195**	P	**P**	**14 34 40.8**	**-0.7**
1.6nm,0.6s,mb4.1							
WRA	**Warramunga Arr**	**32.80**	**195**	P	**P**	**14 34 40.6**	**-1.0**
0.6nm,0.5s,mb3.8,baz=18,slow=9.5,SNR=12							
DZM	**Mont Dzumac**	**41.09**	**145**	P	**P**	**14 35 52.1**	**+0.6**
3.0nm,0.6s,mb4.1,baz=315,slow=5.7,SNR=5.2							
KULM	**Kulim**	**42.09**	**265**	P	**P**	**14 36 01.4**	**+1.6**
MKAR	**Makanchi Array**	**61.19**	**317**	P	**P**	**14 38 22.9**	**+0.2**
1.5nm,0.6s,mb4.3,baz=100,slow=8.6,SNR=8.9							
MKAR	**Makanchi Array**	**61.19**	**317**	P	**P**	**14 38 22.9**	**+0.2**
KURK	**Kurchatov**	**64.45**	**321**	*e*P	**P**	**14 38 43.8**	**-0.4**
5.3nm,0.8s,mb4.6							
RSO	**Redoubt South**	**67.17**	**29**	*e*P	**P**	**14 39 00.1**	**-1.3**
PMR	**Palmer**	**69.16**	**28**	*e*P	**P**	**14 39 11.8**	**-2.1**
6.7nm,0.8s,mb4.6							
BVAR	**Borovoye Array**	**69.87**	**322**	P	**P**	**14 39 18.3**	**0.0**
3.7nm,0.6s,mb4.5,baz=106,slow=7.5,SNR=14							
BRVK	**Borovoye**	**69.94**	**322**	*e*P	**P**	**14 39 18.1**	**-0.6**
3.3nm,0.7s,mb4.4							
ILAR	**Eielson Array**	**70.88**	**25**	P	**P**	**14 39 22.6**	**-1.6**
1.4nm,0.5s,mb4.2,baz=252,slow=5.7,SNR=26							
DAWY	**Dawson**	**73.98**	**27**	*e*P	**P**	**14 39 43.4**	**+0.8**
INK	**Inuvik**	**76.62**	**22**	P	**P**	**14 39 57.6**	**0.0**
0.7nm,0.4s,mb3.9,baz=252,slow=3.5,SNR=6.8							
YKW3	**Yellowknife Ar**	**85.19**	**27**	*e*P	**P**	**14 40 43.0**	**+0.1**
YKA	**Yellowknife Ar**	**85.22**	**27**	P	**P**	**14 40 43.6**	**+0.6**
2.8nm,0.6s,mb4.6,baz=287,slow=5.0,SNR=13							
YBH	**Yreka Blue Hor**	**85.48**	**48**	P	**P**	**14 40 46.7**	**+1.9**
1.4nm,0.6s,mb4.3,baz=265,slow=5.9,SNR=4.9							
YBH				LR	LR	15 10 47.5	
comp=Z,178nm,20.6s,MS4.5,baz=349,slow=30							
NEW	**Newport**	**87.79**	**41**	P	**P**	**14 40 56.8**	**+0.9**
1.8nm,0.5s,mb4.6,baz=290,slow=1.2,SNR=4.1							
ARCES	**ARCESS Array B**	**87.93**	**342**	P	**P**	**14 40 56.6**	**+0.5**
1.0nm,0.4s,mb4.4,baz=68,slow=7.6,SNR=11							
BMO	**Blue Mountains**	**88.58**	**44**	*e*P	**P**	**14 41 00.7**	**+0.9**
6.6nm,1.1s,mb4.9							
ELK	**Elko**	**91.18**	**48**	LR	LR	15 14 44.0	
comp=Z,172nm,21.7s,MS4.5,baz=342,slow=31							
FINES	**FINESS Array B**	**91.69**	**335**	P	**P**	**14 41 13.0**	**-1.0**
0.9nm,0.5s,mb4.4,baz=55,slow=4.6,SNR=6.5							
LPAZ	**La Paz**	**149.80**	**102**	PKP	PKPdf	14 47 55.5	+3.8
0.8nm,0.6s,baz=346,slow=4.2,SNR=3.3							
LPAZ				PKPbc	PKPdf	14 47 59.5	+7.8
0.6nm,0.5s,baz=294,slow=3.6,SNR=3.7							

JMA 05 14:28:15.5±0.4, 22.91N×125.09E, h30km, M4.0, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**1.64**	**314**	*e*S	Sn	14 29 03.3	+0.2
JKRS	**Kuro-shima**	**1.65**	**323**	S	Sn	14 29 04.5	+1.2
JIJ	**Ishigaki jima**	**1.69**	**329**	P	Pn	14 28 43.6	+0.1
JIJ				S	Sn	14 29 03.7	-0.5
JTJ	**Tarama**	**1.76**	**348**	P	Pn	14 28 45.2	+0.7
JTJ				S	Sn	14 29 06.4	+0.3
IRIF	**Iriomote-Funau**	**1.89**	**319**	P	Pn	14 28 47.0	+0.7
IRIF				S	Sn	14 29 09.8	+0.4
JMJ	**Miyako jima 2**	**1.91**	**6**	P	Pn	14 28 46.8	+0.2
JMJ				*e*S	Sn	14 29 10.2	+0.4
YOJ	**Yonaguni jima**	**2.45**	**309**	P	Pn	14 28 54.8	+0.4
YOJ				*e*S	Sn	14 29 24.4	+0.7
JKE	**Kume jima 2**	**3.73**	**24**	P	Pn	14 29 10.2	-2.4
JKE				*e*S	Sn	14 29 52.4	-3.7

*IDC **05** 14:28:22.2±1.1, 51.74N×168.79W, mb4.0/13, mb1 4.2/15, mb1mx4.1/26, mbtmp4.0/15, ML3.5/2, Error ellipse: s-maj=31.3km s-min=14.6km az=178.0*
*NEIC **05** 14:28:26.7, 51.76N×168.78W, h18km, mb4.2/2, ML3.5(AEIC), After AEIC.*
ISC 05 14:28:24.4±1.4, 51.72N±0.05×168.78W±0.06, h26km±11km, n48, σ0§81/55, mb4.0/15, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**1.26**	**358**	P	**Pn**	**14 28 46.3**	**-0.2**
NIKO				S	**Sn**	**14 29 02.7**	**-0.1**
OKCE	**Okmok Cone E**	**1.75**	**12**	P	**Pn**	**14 28 53.2**	**-0.4**
OKCE				S	**Sn**	**14 29 14.6**	**-0.8**
OKCD	**Okmok Cone D**	**1.76**	**13**	P	**Pn**	**14 28 53.5**	**-0.3**
OKCD				S	**Sn**	**14 29 16.7**	**+1.1**
OKER	**East Rim**	**1.79**	**14**	P	**Pn**	**14 28 55.0**	**+0.7**
OKER				S	**Sn**	**14 29 18.4**	**+1.9**
MSW	**Makushin Switc**	**2.51**	**28**	P	**Pn**	**14 29 04.8**	**+0.2**
MSW				S	**Sn**	**14 29 34.0**	**-0.6**
MCIR	**Makushin Cirqu**	**2.51**	**26**	P	**Pn**	**14 29 05.3**	**+0.7**
MNAT	**Makushin Natee**	**2.52**	**30**	P	**Pn**	**14 29 04.6**	**0.0**
UNV	**Unalaska Valle**	**2.54**	**32**	P	**Pn**	**14 29 04.9**	**-0.1**
UNV				S	**Sn**	**14 29 34.0**	**-1.4**
MTBL	**Makushin Table**	**2.59**	**29**	P	**Pn**	**14 29 06.0**	**+0.4**
LVA	**Lava Point**	**2.96**	**33**	P	**Pn**	**14 29 11.7**	**+0.9**
AHB	**Akutan Harbor**	**3.00**	**36**	P	**Pn**	**14 29 11.2**	**-0.2**
AKGG	**Akutan Green G**	**3.00**	**33**	P	**Pn**	**14 29 11.6**	**+0.1**
AKUT	**Akutan**	**3.03**	**36**	P	**Pn**	**14 29 12.0**	**+0.2**
AKUT				S	**Sn**	**14 29 45.9**	**-1.8**
ATKA	**Atka Island**	**3.38**	**280**	P	**Pn**	**14 29 16.8**	**-0.2**
ATKA				S	**Sn**	**14 29 56.3**	**-0.4**
WFAR	**Faris Peak**	**3.71**	**39**	P	**Pn**	**14 29 22.0**	**+0.4**
WPOG	**Pogromni**	**3.77**	**39**	P	**Pn**	**14 29 22.6**	**+0.2**
GSTD	**Great Sitkin T**	**4.57**	**277**	P	**Pn**	**14 29 33.7**	**-0.1**
BALA	**Baldy Mountain**	**5.00**	**43**	P	**Pn**	**14 29 40.1**	**+0.3**
DRIA	**Deer Island**	**5.08**	**48**	P	**Pn**	**14 29 40.4**	**-0.6**
DT1	**Dutton Round H**	**5.16**	**46**	P	**Pn**	**14 29 42.9**	**+0.8**
DTNA	**Dutton South F**	**5.20**	**46**	P	**Pn**	**14 29 43.0**	**+0.4**
DOL	**Dolgoi Island**	**5.38**	**48**	P	**Pn**	**14 29 44.3**	**-0.8**
HAG	**Hague Volcano**	**5.46**	**46**	P	**Pn**	**14 29 46.3**	**0.0**
SPIA	**Saint Paul Isl**	**5.54**	**352**	P	**Pn**	**14 29 47.3**	**-0.1**
FX1	**Attu Island--F**	**11.12**	**283**	Pn	**P**	**14 31 03.1**	**-1.7**
	0.4nm,0.3s,baz=97,slow=22,SNR=3.3						
IMA	**Indian Mountai**	**16.29**	**22**	*eP*	**P**	**14 32 13.5**	**+0.7**
	58nm,1.4s						
ILAR	**Eielson Array**	**17.30**	**33**	Pn	**P**	**14 32 22.6**	**-2.9**
	0.3nm,0.3s,baz=234,slow=11,SNR=13						
DAWY	**Dawson**	**19.69**	**40**	*eP*	**P**	**14 32 54.0**	**-0.3**
DLBC	**Dease Lake**	**22.92**	**58**	P	**P**	**14 33 28.4**	**+1.4**
	0.6nm,0.6s,mb3.2,baz=187,slow=24,SNR=2.0						
DLBC	**Dease Lake**	**22.92**	**58**	P	**P**	**14 33 28.4**	**+1.4**
INK	**Inuvik**	**23.70**	**32**	P	**P**	**14 33 33.9**	**-0.6**
	6.2nm,0.5s,mb4.3,baz=243,slow=7.5,SNR=17						
INK	**Inuvik**	**23.70**	**32**	P	**P**	**14 33 33.9**	**-0.6**
YKA	**Yellowknife Ar**	**30.40**	**48**	P	**P**	**14 34 34.2**	**-2.1**
	0.6nm,0.5s,mb3.6,baz=271,slow=8.5,SNR=3.4						
YKA	**Yellowknife Ar**	**30.40**	**48**	P	**P**	**14 34 34.1**	**-2.1**
YAK	**Yakutsk**	**33.88**	**312**	P	**P**	**14 35 07.2**	**+0.5**
BW06	**Boulder Array**	**40.17**	**79**	*eP*	**P**	**14 35 59.8**	**-0.1**
	1.5nm,0.5s,mb4.0						
PDAR	**Pinedale Array**	**40.17**	**79**	P	**P**	**14 36 00.6**	**+0.7**
	1.7nm,0.6s,mb4.0,baz=307,slow=4.3,SNR=14						
ULM	**Lac du Bonnet**	**44.14**	**62**	P	**P**	**14 36 31.9**	**-0.2**
	2.0nm,0.6s,mb4.0,baz=306,slow=6.3,SNR=3.4						
SONM	**Songino Array**	**51.95**	**302**	P	**P**	**14 37 33.6**	**+0.7**
	1.1nm,0.6s,mb4.0,baz=62,slow=6.2,SNR=9.1						
TXAR	**Lajitas Array**	**52.40**	**89**	P	**P**	**14 37 35.9**	**-0.7**
	0.5nm,0.3s,mb3.9,baz=297,slow=5.6,SNR=7.1						
BVAR	**Borovoye Array**	**64.44**	**325**	P	**P**	**14 39 00.5**	**+0.3**
	1.4nm,0.5s,mb4.2,baz=53,slow=6.9,SNR=7.2						
MKAR	**Makanchi Array**	**64.52**	**314**	P	**P**	**14 39 00.3**	**-0.5**
	1.1nm,0.7s,mb4.0,baz=58,slow=6.4,SNR=5.7						
FINES	**FINESS Array B**	**66.57**	**352**	P	**P**	**14 39 13.7**	**0.0**
	0.8nm,0.6s,mb3.9,baz=45,slow=5.4,SNR=3.6						
NB2	**NORSAR Subarra**	**67.59**	**0**	P	**P**	**14 39 20.9**	**+0.7**
	0.7nm,0.6s,mb3.9,baz=157,slow=11						
HFS	**Hagfors**	**68.48**	**359**	P	**P**	**14 39 25.8**	**0.0**
	1.8nm,0.4s,mb4.4,baz=27,slow=3.3,SNR=11						
EKA	**Eskdalemuir Ar**	**72.65**	**9**	P	**P**	**14 39 51.1**	**+0.2**
	1.2nm,0.6s,mb4.0,slow=5.0,SNR=6.3						
GERES	**GERESS Array B**	**79.79**	**358**	P	**P**	**14 40 32.9**	**+1.6**
	0.8nm,0.7s,mb3.8,baz=14,slow=4.0,SNR=7.1						
MAW	**Mawson**	**150.58**	**218**	PKPbc	PKPdf	14 48 13.2	+1.6
	1.2nm,0.8s,baz=86,slow=5.0,SNR=4.3						

*NNC **05** 15:04:18.9±2.8, 41.78N×72.99E, mpv2.7, Error ellipse: s-maj=34.7km s-min=8.4km az=168.0*
*KNET **05** 15:04:20.2±0.5, 41.79N×73.08E, h13km±2km, ml2.1, Error ellipse: s-maj=4.6km s-min=3.5km az=139.0*
ISC 05 15:04:20.7±1.3, 41.72N±0.09×73.01E±0.08, h10km, n11, σ1§17/20, 14C-6D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**0.66**	**51**	⇑P	**Pb**	**15 04 31.8**	**-1.9**
	50nm,0.2s,SNR=217						
AML				⇓S	**Sb**	**15 04 41.4**	**-1.3**
	62nm,0.1s						
EKS2	**Erkin-Say**	**1.10**	**31**	P	**Pb**	**15 04 39.6**	**-1.8**
	2.7nm,0.1s,SNR=10						
EKS2				⇑S	**Sb**	**15 04 54.5**	**-1.1**
	12nm,0.1s						
UCH	**Uchtor**	**1.23**	**65**	⇑P	**Pb**	**15 04 42.1**	**-1.5**
	7.4nm,0.2s,SNR=9.8						
AAK	**Ala-Archa**	**1.43**	**50**	⇓P	**Pn**	**15 04 46.4**	**-0.4**
	6.5nm,0.1s,SNR=6.6						
AAK				⇑S	**Sb**	**15 05 05.0**	**-0.2**
	7.2nm,0.2s						
AAK	**Ala-Archa**	**1.43**	**50**	⇓P	**Pn**	**15 04 45.4**	**-1.4**
	3.2nm,0.3s						
AAK				⇑S	**Sb**	**15 05 04.4**	**-0.8**
	4.8nm,0.5s						
KZA	**Kyzart**	**1.71**	**77**	⇑P	**Pn**	**15 04 50.7**	**-0.1**
	8.9nm,0.2s,SNR=9.2						
KZA				⇓S	**Sn**	**15 05 13.1**	**+0.2**
	42nm,0.5s						
KBK	**Karagaybulak**	**1.72**	**56**	⇑P	**Pn**	**15 04 51.1**	**+0.2**
	13nm,0.2s,SNR=22						
KBK				⇑S	**Sn**	**15 05 14.0**	**+1.0**
	14nm,0.2s						
CHMS	**Chumysh**	**1.82**	**45**	⇑P	**Pn**	**15 04 52.7**	**+0.4**
	15nm,0.3s,SNR=11						
CHMS				⇑S	**Sn**	**15 05 16.7**	**+1.1**
	9.2nm,0.2s						
USP	**Ospenovka**	**1.90**	**35**	⇓P	**Pn**	**15 04 54.0**	**+0.5**
	8.5nm,0.2s,SNR=19						
USP				⇓S	**Sn**	**15 05 19.5**	**+1.8**
	36nm,0.3s						
TKM2	**Tokmak 2**	**2.26**	**57**	⇑P	**Pn**	**15 04 59.8**	**+1.1**
	5.3nm,0.1s,SNR=11						
TKM2				⇑S	**Sn**	**15 05 29.2**	**+2.3**
	20nm,0.4s						
KK31	**Karatay Array**	**2.31**	**308**	⇑Pn	**Pn**	**15 04 60.0**	**+0.6**
	1.7nm,0.4s,baz=115,slow=12,SNR=28						
KK31				⇑Lg		15 05 31.0	
	7.5nm,0.5s,baz=130,slow=29,SNR=15						

*NIED **05** 15:31:00, 46.70N×153.50E, h5km, Mw4.0 Best double couple: M0 1.12×1015 NP1:φs65°, δ47°, λ103°. NP2:φs226°, δ45°, λ77°.*
*IDC **05** 15:31:47.3±25.0, 46.05N×153.37E, mb4.0/5, mb1 4.1/5, mb1mx3.8/21, mbtmp4.0/5, Error ellipse: s-maj=590.4km s-min=66.4km az=157.0*
*MOS **05** 15:32:05.4±0.8, 47.25N×152.19E, h92km, mb4.0/4, Error ellipse: s-maj=49.9km s-min=26.8km az=70.2*
ISC 05 15:32:04.0±3.7, 47.0N±0.7×152.6E±1.0, h94km±30km, n12, σ0§16/13, mb3.9/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.37**	**31**	*e*PN	**P**	**15 33 09.5**	**0.0**
YUK	**Yuzh-Kuril'sk**	**5.58**	**241**	*e*PN	**P**	**15 33 26.0**	**0.0**
YUK				*e*S	**S**	**15 34 22.0**	**-7.4**
YUK				smax			
	comp=E,170nm,0.5s						
YUK				smax			
	comp=Z,150nm,0.5s						
MKAR	**Makanchi Array**	**46.52**	**297**	P	**P**	**15 40 23.1**	**-0.2**
	comp=Z,1.3nm,0.8s,mb3.7,baz=58,slow=5.9,SNR=9.9						
MKAR	**Makanchi Array**	**46.52**	**297**	P	**P**	**15 40 23.2**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BVAR	**Borovoye Array**	**50.44**	**309**	P	**P**	**15 40 53.9**	**+0.3**
	comp=Z,0.8nm,0.6s,mb3.8,baz=51,slow=9.2,SNR=4.6						
FINES	**FINESS Array B**	**63.68**	**334**	P	**P**	**15 42 26.8**	**-0.2**
	comp=Z,2.7nm,1.0s,mb4.0,baz=45,slow=5.4,SNR=6.5						
FINES	**FINESS Array B**	**63.68**	**334**	P	**P**	**15 42 26.8**	**-0.2**
FINES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
NB2	**NORSAR Subarra**	**67.90**	**341**	P	**P**	**15 42 53.8**	**0.0**
	comp=Z,0.9nm,0.6s,mb3.8,baz=27,slow=6.5						
NOA	**NORSAR Array B**	**67.90**	**341**	P	**P**	**15 42 53.9**	**+0.1**
	comp=Z,1.3nm,0.7s,mb3.9,baz=27,slow=6.2,SNR=5.1						
NOA	**NORSAR Array B**	**67.90**	**341**	P	**P**	**15 42 53.9**	**+0.1**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
HFS	**Hagfors**	**68.12**	**339**	P	**P**	**15 42 55.2**	**+0.1**
	comp=Z,2.4nm,0.7s,mb4.1,baz=45,slow=6.3,SNR=6.9						
HFS	**Hagfors**	**68.12**	**339**	P	**P**	**15 42 55.2**	**0.0**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.7s						

*IDC **05** 16:30:59.2±0.8, 6.74N×92.70E, mb4.1/12, mb1 4.3/12, mb1mx4.1/23, mbtmp4.1/12, Error ellipse: s-maj=41.4km s-min=16.7km az=52.0*
*NEIC **05** 16:31:03.7±0.4, 6.74N×92.70E, h30km, mb4.4/2, Error ellipse: s-maj=14.7km s-min=6.1km az=225.0*
ISC 05 16:31:01.9±0.7, 6.7N±0.1×92.7E±0.1, h30km, n22, σ0§63/20, mb4.1/14, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**8.00**	**100**	*e*Pn	**Pn**	**16 32 57.9**	**-1.2**
KSM	**Kuching**	**18.28**	**106**	*e*P	**P**	**16 35 16.9**	**+1.6**
LSA	**Lhasa**	**22.91**	**356**	*e*P	**P**	**16 36 05.4**	**+0.8**
	6.2nm,0.8s,mb4.1						
FITZ	**Fitzroy Crossi**	**40.78**	**128**	P	**P**	**16 38 42.4**	**0.0**
	5.5nm,0.8s,mb4.3,baz=329,slow=4.8,SNR=4.6						
MKAR	**Makanchi Array**	**40.93**	**349**	P	**P**	**16 38 43.0**	**-0.4**
	0.8nm,0.7s,mb3.5,baz=173,slow=7.5,SNR=6.2						
MKAR	**Makanchi Array**	**40.93**	**349**	P	**P**	**16 38 43.0**	**-0.4**
SONM	**Songino Array**	**42.60**	**14**	P	**P**	**16 38 57.1**	**+0.1**
	0.3nm,0.3s,mb3.5,baz=194,slow=6.1,SNR=3.5						
ZAL	**Zalesovo**	**47.52**	**354**	P	**P**	**16 39 36.0**	**-0.4**
	1.0nm,0.3s,mb4.3,baz=77,slow=3.7,SNR=3.4						
ZAL	**Zalesovo**	**47.52**	**354**	P	**P**	**16 39 36.0**	**-0.4**
WRA	**Warramunga Arr**	**48.75**	**124**	P	**P**	**16 39 46.5**	**+0.2**
	3.1nm,0.8s,mb4.4,baz=302,slow=9.0,SNR=16						
WRAB	**Tennant Creek**	**48.76**	**124**	*e*P	**P**	**16 39 46.4**	**0.0**
	3.9nm,0.6s,mb4.6						
WB2	**Warramunga Arr**	**48.76**	**124**	*e*P	**P**	**16 39 46.1**	**-0.3**
BVAR	**Borovoye Array**	**49.65**	**342**	P	**P**	**16 39 52.5**	**-0.3**
	1.2nm,0.8s,mb4.0,baz=141,slow=9.5,SNR=4.7						
STKA	**Stephens Creek**	**60.34**	**132**	P	**P**	**16 41 10.4**	**-0.3**
	2.3nm,0.8s,mb4.2,baz=344,slow=5.5,SNR=4.8						
MLR	**Muntele Rosu**	**69.03**	**316**	P	**P**	**16 42 07.2**	**+0.3**
	2.6nm,0.9s,mb4.2,baz=108,slow=3.2,SNR=2.9						
FINES	**FINESS Array B**	**73.08**	**333**	P	**P**	**16 42 30.0**	**-1.0**
	1.8nm,0.8s,mb4.0,baz=141,slow=18,SNR=3.2						
GERES	**GERESS Array B**	**77.76**	**318**	P	**P**	**16 42 58.1**	**+0.3**
	1.1nm,0.7s,mb3.9,baz=90,slow=4.0,SNR=11						
DAVOX	**Davos**	**80.25**	**316**	P	**P**	**16 43 11.3**	**-0.1**
	3.3nm,0.8s,mb4.3,baz=131,slow=9.3,SNR=2.8						
DAVOX	**Davos**	**80.25**	**316**	P	**P**	**16 43 11.3**	**-0.1**
EKA	**Eskdalemuir Ar**	**87.88**	**325**	P	**P**	**16 43 50.5**	**+0.7**
	1.7nm,0.9s,mb4.3,baz=97,slow=5.7,SNR=3.2						
CPUP	**Villa Florida**	**145.46**	**232**	PKPbc	PKPbc	16 50 39.7	+1.3
	2.5nm,1.0s,baz=101,slow=5.2,SNR=3.9						
CPUP	**Villa Florida**	**145.46**	**232**	PKPbc	PKPbc	16 50 39.7	+1.3

*MOS **05** 16:32:36.0±1.4, 51.64N×16.00E, h10km, mb4.3/5, Error ellipse: s-maj=5.9km s-min=3.3km az=73.4*
*BGR **05** 16:32:37.3±0.5, 51.54N×16.23E, h1km, ML4.2, Error ellipse: s-maj=4.4km s-min=4.4km az=145.0*
*LDG **05** 16:32:37.2±0.3, 51.55N×16.20E, h1km, Md4.0/3, Ml4.1/20, Error ellipse: s-maj=8.1km s-min=2.9km az=4.0, Suspected Mining induced.*
*NEIC **05** 16:32:37.8±0.4, 51.59N×16.04E, h5km, mb4.2/2, ML4.0(VIE), ML3.5(BRG), ML3.4(CLL), Error ellipse: s-maj=4.9km s-min=4.2km az=165.0*
*IDC **05** 16:32:38.9±0.6, 51.49N×15.96E, mb3.9/3, mb1 3.9/11, mb1mx3.8/24, mbtmp3.8/11, ML3.7/7, Error ellipse: s-maj=9.8km s-min=5.6km az=107.0*
*CSEM **05** 16:32:38.0±0.1, 51.54N×16.15E, h2km, mb4.2/2, ML4.2/28, Error ellipse: s-maj=1.2km s-min=0.9km az=10.0*
*IPEC **05** 16:32:38.3±0.2, 51.55N×16.19E, h8km±1km, ML3.5/4, Error ellipse: s-maj=1.6km s-min=0.6km az=29.0*
*WAR **05** 16:32:39.4, 51.51N×16.09E, h1km, ML3.8, Mining Induced*
ISC 05 16:32:36.6±0.2, 51.46N±0.02×16.09E±0.02, n194, σ1§43/331, mb4.0/6, MS3.8/1, 13C-8D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.63**	**168**	⇓*i*PG	**Pg**	**16 32 51.8**	**+2.7**
KSP				⇓*e*SG	**Sg**	**16 33 01.8**	**+4.3**
KSP	**Ksiaz**	**0.63**	**168**	*e*Pg	**Pg**	**16 32 51.8**	**+2.7**
KSP				*e*Sg	**Sg**	**16 33 01.0**	**+3.5**
KSP	**Ksiaz**	**0.63**	**168**	*e*Pg	**Pg**	**16 32 51.7**	**+2.6**
KSP				*e*Sg	**Sg**	**16 33 00.5**	**+3.0**
KSP				*e*S	**Sg**	**16 33 06.3**	**+8.8**
KSP	**Ksiaz**	**0.63**	**168**	⇓*i*Pg	**Pg**	**16 32 51.8**	**+2.7**
KSP				*e*Sg	**Sg**	**16 33 00.9**	**+3.4**
KSP				*e*		16 33 06.3	
KSP	**Ksiaz**	**0.63**	**168**	⇓*i*P	**Pg**	**16 32 51.8**	**+2.7**
KSP				*e*		16 33 06.3	
UPC	**Upice**	**0.95**	**183**	*e*PG	**Pg**	**16 32 58.1**	**+2.5**
UPC	**Upice**	**0.95**	**183**	*e*Pg	**Pg**	**16 32 58.0**	**+2.4**
DPC	**Dobruska-Polom**	**1.12**	**172**	*e*PG	**Pg**	**16 33 00.6**	**+1.7**
DPC				*e*SG	**Sg**	**16 33 15.8**	**+2.0**
	1μm,0.8s						
DPC	**Dobruska-Polom**	**1.12**	**172**	*e*Pg	**Pg**	**16 33 00.5**	**+1.6**
DPC				Sg	**Sg**	**16 33 15.8**	**+2.0**
	1μm,0.8s						
DPC	**Dobruska-Polom**	**1.12**	**172**	*e*P	**Pg**	**16 33 00.6**	**+1.7**
DPC				*e*		16 33 15.8	
DPC				smax			
	comp=N,1μm,0.8s						
PVCC	**Panska Ves**	**1.34**	**227**	*e*Pg	**Pg**	**16 33 04.7**	**+1.4**
PVCC				*e*Sg	**Sg**	**16 33 23.5**	**+2.4**
BRG	**Berggiesshubel**	**1.47**	**247**	*e*Pg	**Pg**	**16 33 05.7**	**-0.3**
BRG				*e*Sg	**Sg**	**16 33 27.6**	**+1.9**
BRG	**Berggiesshubel**	**1.47**	**247**	Pg	**Pg**	**16 33 07.2**	**+1.2**
BRG				*e*Sg	**Sg**	**16 33 26.7**	**+1.1**
BRG				S	**Sb**	**16 33 27.2**	**+3.4**
	comp=N,610nm,0.4s						
BRG	**Berggiesshubel**	**1.47**	**247**	Pn	**Pn**	**16 33 05.7**	**+1.2**
BRG				Pg	**Pg**	**16 33 07.2**	**+1.2**
BRG				Sg	**Sg**	**16 33 27.2**	**+1.5**
BRG	**Berggiesshubel**	**1.47**	**247**	P	**Pn**	**16 33 05.7**	**+1.2**
BRG						16 33 27.2	
BRG				smax			
	comp=N,610nm,0.4s						
PRA	**Prague**	**1.74**	**218**	PG	**Pg**	**16 33 10.0**	**-1.4**
PRA				SG	**Sg**	**16 33 34.0**	**-0.6**
RUE	**Ruedersdorf**	**1.76**	**307**	*e*Pn	**Pn**	**16 33 08.7**	**+0.1**
RUE				*e*Sg	**Sg**	**16 33 34.9**	**-0.2**
RUE	**Ruedersdorf**	**1.76**	**307**	*e*Pn	**Pn**	**16 33 08.6**	**+0.1**
RUE				Sg	**Sg**	**16 33 34.9**	**-0.2**
RUE	**Ruedersdorf**	**1.76**	**307**	*e*Pn	**Pn**	**16 33 08.7**	**+0.2**
RUE				*e*Sg	**Sg**	**16 33 34.9**	**-0.2**
PRU	**Pruhonice**	**1.77**	**214**	*e*PN	**Pn**	**16 33 10.3**	**+1.6**
PRU				*e*PG	**Pg**	**16 33 12.5**	**+0.6**
PRU				*ex*	x	16 33 16.0	
PRU				*ex*	x	16 33 29.6	
PRU				*e*SG	**Sg**	**16 33 36.7**	**+1.2**
	comp=N,677nm,0.7s						
PRU	**Pruhonice**	**1.77**	**214**	*e*Pg	**Pg**	**16 33 12.5**	**+0.6**
PRU				*e*S	**Sn**	**16 33 29.6**	**-2.6**
	comp=N,677nm,0.7s						
PRU				Sg	**Sg**	**16 33 36.7**	**+1.2**
	comp=N,677nm,0.7s						
PRU	**Pruhonice**	**1.77**	**214**	*e*P	**Pn**	**16 33 10.3**	**+1.6**
PRU				*e*		16 33 29.6	
PRU				smax			
	comp=N,677nm,0.7s						
FBE	**Freiberg**	**1.80**	**254**	Pn	**Pn**	**16 33 10.2**	**+1.0**
FBE				Sg	**Sg**	**16 33 36.8**	**+0.2**
RAC	**Raciborz**	**1.92**	**135**	*e*PN	**Pn**	**16 33 12.0**	**+1.2**
RAC				*e*PN	**Pn**	**16 33 15.0**	**+4.2**
RAC				*e*SN	**Sn**	**16 33 35.0**	**-1.0**
RAC				*e*SN	**Sn**	**16 33 42.0**	**+6.0**
RAC	**Raciborz**	**1.92**	**135**	*e*Pg	**Pg**	**16 33 15.1**	**+0.2**
RAC				*e*Sg	**Sg**	**16 33 41.6**	**+1.2**
MORC	**Moravsky Berou**	**1.92**	**151**	*e*Pn	**Pn**	**16 33 12.0**	**+1.2**
MORC				*e*S	**Sn**	**16 33 38.0**	**+2.0**
MORC				*e*Sg	**Sg**	**16 33 39.8**	**-0.7**
	comp=N,312nm,0.4s						
MORC	**Moravsky Berou**	**1.92**	**151**	*e*Pn	**Pn**	**16 33 12.0**	**+1.2**
MORC				*e*Sn	**Sn**	**16 33 38.0**	**+2.0**
CLL	**Collm**	**1.94**	**267**	*e*Pn	**Pn**	**16 33 11.9**	**+0.8**
CLL				*i* Pg	**Pg**	**16 33 14.9**	**-0.4**
CLL				*e*Sg	**Sg**	**16 33 41.5**	**+0.3**
CLL	**Collm**	**1.94**	**267**	*i* PN	**Pn**	**16 33 11.7**	**+0.6**
CLL				*i* PG	**Pg**	**16 33 14.9**	**-0.4**
CLL				*e*		16 33 19.0	
CLL				*i* SG	**Sg**	**16 33 41.2**	**0.0**
CLL	**Collm**	**1.94**	**267**	*e*Pn	**Pn**	**16 33 11.7**	**+0.6**
CLL	**Collm**	**1.94**	**267**	Pg	**Pg**	**16 33 14.9**	**-0.4**
CLL				Sg	**Sg**	**16 33 41.5**	**+0.3**
CLL	**Collm**	**1.94**	**267**	*i* Pn	**Pn**	**16 33 11.7**	**+0.6**
CLL				*i* Pg	**Pg**	**16 33 14.9**	**-0.4**
CLL				*i* Sg	**Sg**	**16 33 41.2**	**0.0**
CLL	**Collm**	**1.94**	**267**	*i* P	**Pn**	**16 33 11.7**	**+0.6**
CLL				*i*		16 33 41.2	
GKP	**Gorka Klasztor**	**1.95**	**21**	*e*Pn	**Pn**	**16 33 12.7**	**+1.5**
GKP				*e*Pg	**Pg**	**16 33 20.1**	**+4.7**
GKP				*e*Sn	**Sn**	**16 33 40.1**	**+3.3**
GKP				*e*Sg	**Sg**	**16 33 45.0**	**+3.6**
GKP	**Gorka Klasztor**	**1.95**	**21**	*e*Pn	**Pn**	**16 33 12.7**	**+1.5**
GKP				*e*S	**Sn**	**16 33 40.1**	**+3.4**
GKP	**Gorka Klasztor**	**1.95**	**21**	*e*Pn	**Pn**	**16 33 12.7**	**+1.5**
GKP				*e*Pg	**Pg**	**16 33 20.1**	**+4.7**
GKP				*e*Sn	**Sn**	**16 33 40.1**	**+3.4**
GKP				*e*Sg	**Sg**	**16 33 45.0**	**+3.6**
OKC	**Ostrava-Krasne**	**2.08**	**140**	*e*PN	**Pn**	**16 33 14.3**	**+1.1**
OKC				*e*PG	**Pg**	**16 33 18.7**	**+0.5**
OKC				*e*SG	**Sg**	**16 33 46.6**	**+0.6**
	comp=N,512nm,0.5s						
OKC	**Ostrava-Krasne**	**2.08**	**140**	*e*Pn	**Pn**	**16 33 14.1**	**+0.9**
OKC	**Ostrava-Krasne**	**2.08**	**140**	*e*Pg	**Pg**	**16 33 18.7**	**+0.5**
OKC				*e*Sg	**Sg**	**16 33 44.3**	**-1.7**
OKC	**Ostrava-Krasne**	**2.08**	**140**	*e*P	**Pn**	**16 33 14.3**	**+1.1**
OKC				*e*		16 33 46.6	
OKC				smax			
	comp=N,512nm,0.5s						
VRAC	**Vranov**	**2.17**	**171**	Pn	**Pn**	**16 33 16.7**	**+2.2**
	comp=N,7.9nm,0.3s,baz=350,slow=14,SNR=34						
VRAC				Pg	**Pg**	**16 33 20.7**	**+0.7**
	comp=N,17nm,0.3s,baz=348,slow=16,SNR=38						
VRAC				Lg		16 33 48.8	
	comp=N,26nm,0.3s,baz=84,slow=21,SNR=4.8						
VRAC	**Vranov**	**2.17**	**171**	*e*Pn	**Pn**	**16 33 16.5**	**+2.0**
VRAC	**Vranov**	**2.17**	**171**	Pg	**Pg**	**16 33 20.7**	**+0.7**
VRAC				*e*Sg	**Sg**	**16 33 48.5**	**-0.5**
	comp=N,175nm,0.6s						
VRAC	**Vranov**	**2.17**	**171**	P	**Pn**	**16 33 16.7**	**+2.2**
VRAC						16 33 48.8	
KRUC	**Moravsky**	**2.41**	**175**	*e*Pg	**Pg**	**16 33 23.8**	**-0.8**
KRUC				*e*Sg	**Sg**	**16 33 56.1**	**-0.6**
	comp=N,263nm,0.6s						
TANN	**Tannenbergstha**	**2.52**	**247**	*e*Pn	**Pn**	**16 33 20.7**	**+1.3**
TANN				*e*Sg	**Sg**	**16 34 00.3**	**-0.3**
WERD	**Werda**	**2.60**	**249**	*e*Pn	**Pn**	**16 33 21.9**	**+1.4**
WERD				*e*Sg	**Sg**	**16 34 03.2**	**+0.1**
NKC	**Novy Kostel**	**2.62**	**243**	*e*PN	**Pn**	**16 33 22.3**	**+1.5**
NKC				*e*PG	**Pg**	**16 33 28.8**	**0.0**
NKC				*e*SG	**Sg**	**16 34 04.8**	**+1.2**
	comp=N,368nm,0.3s						
NKC	**Novy Kostel**	**2.62**	**243**	*e*Pn	**Pn**	**16 33 22.1**	**+1.3**
NKC	**Novy Kostel**	**2.62**	**243**	*e*P	**Pn**	**16 33 22.3**	**+1.5**
GUNZ	**Gunzen**	**2.62**	**247**	*e*Pn	**Pn**	**16 33 22.2**	**+1.3**
GUNZ				*e*Sg	**Sg**	**16 34 05.0**	**+1.2**
OJC	**Ojcow**	**2.66**	**116**	*e*PN	**Pn**	**16 33 21.0**	**-0.4**
OJC				*e*PG	**Pg**	**16 33 28.0**	**-1.6**
OJC				*e*SG	**Sg**	**16 34 04.0**	**-1.0**
OJC	**Ojcow**	**2.66**	**116**	*e*Pn	**Pn**	**16 33 20.7**	**-0.7**
OJC	**Oj

SOP				*e*S		**Sn**	**16 34 35.7 +12**
MOA	**Molln**	**3.80**	**199**	⇑*i*PN		**Pn**	**16 33 39.0 +1.3**
MOA				*i* SG		**Sg**	**16 34 43.5 +0.4**
	comp=N,128nm,0.7s						
HROE	**Hohe Rhon--Fla**	**3.86**	**258**	⇓*i*Pn		**Pn**	**16 33 38.8 +0.3**
STHS	**Stebnicka Huta**	**3.88**	**120**	*e*PN		**Pn**	**16 33 39.5 +0.8**
STHS				*e*PG		**Pg**	**16 33 53.4 -0.6**
STHS				*e*SG		**Sg**	**16 34 48.6 +3.0**
KECS	**Kecovo**	**4.11**	**135**	*e*PN		**Pn**	**16 33 42.2 +0.1**
KECS				*e*PG		**Pg**	**16 33 57.7 -1.0**
KECS				*e*SG		**Sg**	**16 34 54.2 +0.7**
ARSA	**Arzberg**	**4.23**	**185**	⇑*i*PN		**Pn**	**16 33 45.7 +2.0**
ARSA				*i* SG		**Sg**	**16 34 54.1 -3.2**
	comp=N,210nm,0.8s						
CRVS	**Cervenica-Dubn**	**4.29**	**124**	*e*PN		**Pn**	**16 33 45.3 +0.6**
CRVS				*e*PG		**Pg**	**16 34 01.5 -0.8**
CRVS				*e*SG		**Sg**	**16 34 57.8 -1.8**
PSZ	**Piszkesteto**	**4.32**	**144**	*e*Pn		**Pn**	**16 33 45.7 +0.7**
PSZ	**Piszkesteto**	**4.32**	**144**	*e*Pn		**Pn**	**16 33 45.7 +0.7**
KOLS	**Kolonicke sedl**	**4.71**	**120**	*e*PN		**Pn**	**16 33 51.0 +0.5**
KBA	**Koelnbreinsper**	**4.74**	**203**	⇑*i*PN		**Pn**	**16 33 52.3 +1.3**
KBA				*i* SG		**Sg**	**16 35 11.7 -2.6**
	comp=N,76nm,0.6s						
UZH	**Uzhgorod**	**4.90**	**123**	*e*P		**Pn**	**16 34 01.0 +7.8**
UZH				MLR		MLR	
	comp=Z,2μm,1.1s						
OBKA	**Obir**	**5.05**	**192**	⇑*i*Pn		**Pn**	**16 33 56.8 +1.3**
	comp=Z,55nm,0.6s						
OBKA				*i* Sg		**Sg**	**16 35 20.7 -4.2**
	comp=Z,55nm,0.6s						
WATA	**Walderalm**	**5.07**	**217**	⇑*i*PN		**Pn**	**16 33 57.1 +1.4**
WATA				*i* SG		**Sg**	**16 35 22.8 -2.6**
	comp=Z,58nm,0.7s						
WATA	**Walderalm**	**5.07**	**217**	⇑*i*Pn		**Pn**	**16 33 57.1 +1.4**
	comp=Z,58nm,0.7s						
WATA				*i* Sg		**Sg**	**16 35 22.8 -2.6**
WTTA	**Wattenberg**	**5.11**	**216**	⇑*i*Pn		**Pn**	**16 33 57.6 +1.4**
	comp=Z,38nm,0.6s						
WTTA				*i* Sg		**Sg**	**16 35 24.6 -2.0**
	comp=Z,38nm,0.6s						
STU	**Stuttgart**	**5.19**	**241**	*e*Pn		**Pn**	**16 33 56.5 -0.8**
	comp=Z,16nm,0.4s						
STU	**Stuttgart**	**5.19**	**241**	*e*Pg		**Pg**	**16 34 18.3 -1.8**
STU	**Stuttgart**	**5.19**	**241**	*e*Pn		**Pn**	**16 33 56.5 -0.8**
	comp=Z,16nm,0.4s						
STU				*e*Pg		**Pg**	**16 34 18.3 -1.9**
STU	**Stuttgart**	**5.19**	**241**	*e*P		**Pn**	**16 33 56.5 -0.8**
STU				pmax		pmax	
	comp=Z,16nm,0.4s						
MOTA	**Moosalm**	**5.25**	**220**	⇑*i*Pn		**Pn**	**16 33 58.6 +0.4**
	comp=Z,82nm,0.7s						
MOTA				*i* Sg		**Sg**	**16 35 27.4 -3.9**
	comp=Z,82nm,0.7s						
SCE	**Schlegeis**	**5.27**	**215**	*e*Pn		**Pn**	**16 33 59.7 +1.2**
SQTA	**Sankt Quirin**	**5.31**	**219**	⇓*i*Pn		**Pn**	**16 34 00.3 +1.3**
	comp=Z,40nm,0.7s						
SQTA				*i* Sg		**Sg**	**16 35 31.1 -2.1**
	comp=Z,40nm,0.7s						
LVV	**L'vov**	**5.31**	**105**	*e*P		**Pn**	**16 34 00.4 +1.3**
LVV				*e*S		**Sn**	**16 35 00.0 -1.9**
LVV				MLR		MLR	
	comp=N,250nm,2.0s						
LVV				MLR		MLR	
	comp=E,240nm,2.0s						
LVV				MLR		MLR	
	comp=Z,230nm,2.0s						
CADS	**Cadrg**	**5.46**	**197**	⇓*e*Pn		**Pn**	**16 34 01.4 +0.3**
CADS				*i* Sn		**Sg**	**16 35 33.5 -4.9**
	comp=Z,192nm,1.1s						
RHK1	**Bakonya**	**5.52**	**166**	⇑*e*P		**Pn**	**16 34 03.1 +1.0**
VOY	**Vojsko**	**5.62**	**196**	*e*Pn		**Pn**	**16 34 04.3 +0.9**
VOY				*e*			16 34 29.8
VOY				*e*Sn		**Sg**	**16 35 42.5 -1.2**
DAVA	**Damuels**	**5.82**	**227**	⇑*i*Pn		**Pn**	**16 34 06.1 -0.1**
	comp=Z,85nm,0.8s						
DAVA				*i* Sg		**Sg**	**16 35 48.2 -2.1**
	comp=Z,85nm,0.8s						
DAVOX	**Davos**	**6.21**	**223**	Pn		**Pn**	**16 34 11.0 -0.7**
	comp=Z,1.6nm,0.3s,baz=29,slow=12,SNR=12						
DAVOX				Lg			16 35 56.4
	comp=Z,1.5nm,0.3s,baz=189,slow=23,SNR=4.2						
CDF	**Champ du Feu**	**6.46**	**245**	*e*Pn		**Pn**	**16 34 13.4 -1.8**
CDF				*e*Pg		**Pg**	**16 34 39.4 -6.0**
CDF				*e*Sg		**Sg**	**16 36 04.2 -7.3**
	comp=Z,66nm,0.7s						
WLF	**Walferdange**	**6.58**	**258**	P		**Pn**	**16 34 18.0 +1.0**
WLF	**Walferdange**	**6.58**	**258**	Pn		**Pn**	**16 34 18.0 +1.0**
HINF	**Hinteralfeld**	**7.02**	**242**	*e*Pn		**Pn**	**16 34 19.0 -4.1**
HINF				*e*Sg		**Sg**	**16 36 19.5 -11**
	comp=Z,86nm,0.9s						
HAU	**Haudompre**	**7.20**	**245**	*e*Pg		**Pg**	**16 34 52.4 -7.9**
HAU				*e*Sg		**Sg**	**16 36 25.9 -10**
	comp=Z,196nm,1.4s						
GIVF	**Givet**	**7.27**	**264**	*e*Pn		**Pn**	**16 34 23.1 -3.6**
GIVF				*e*Sg		**Sg**	**16 36 28.5 -10**
	comp=Z,41nm,0.8s						
BAIF	**Baives**	**7.67**	**264**	*e*Pn		**Pn**	**16 34 28.7 -3.5**
BAIF				*e*Sg		**Sg**	**16 36 38.3 -14**
	comp=Z,22nm,0.8s						
MEZF	**Maizieres J'vi**	**7.71**	**252**	*e*Sg		**Sg**	**16 36 41.7 -11**
	comp=Z,15nm,0.5s						
SFTF	**Sexfontaines**	**7.85**	**250**	*e*Pn		**Pn**	**16 34 31.3 -3.5**
SFTF				*e*Sg		**Sg**	**16 36 45.5 -13**
	comp=Z,130nm,1.2s						
GRAM		**8.05**	**212**	P		**P**	**16 34 37.2 -0.4**
GRAM		**8.05**	**212**	P		**P**	**16 34 37.2 -0.4**
TRAV		**8.13**	**226**	P		**P**	**16 34 43.9 +5.3**
CABF	**La Chapelle**	**8.17**	**237**	*e*Pn		**P**	**16 34 36.0 -3.2**
CABF				*e*Pg		P	16 35 10.4 +31
CABF				*e*Sg		**Sg**	**16 36 56.7 -12**
	comp=Z,129nm,1.3s						
CODM		**8.22**	**213**	P		**P**	**16 34 41.8 +1.9**
CODM		**8.22**	**213**	P		**P**	**16 34 41.9 +2.0**
SARO	**Sassorosso**	**8.22**	**210**	P		**P**	**16 34 41.1 +1.2**
SARO	**Sassorosso**	**8.22**	**210**	P		**P**	**16 34 41.1 +1.2**
BACM		**8.24**	**212**	P		**P**	**16 34 40.0 -0.2**
BACM		**8.24**	**212**	P		**P**	**16 34 40.0 -0.3**
AKASG	**Malin Array Be**	**8.31**	**90**	Pn		**P**	**16 34 37.9 -3.3**
	comp=Z,3.9nm,0.3s,baz=278,slow=12,SNR=23						
AKASG				Sn		**Sn**	**16 36 09.9 -6.9**
	comp=Z,1.9nm,0.3s,baz=270,slow=23,SNR=5.8						
AKASG				Lg			16 37 06.8
	comp=Z,0.8nm,0.3s,baz=274,slow=27,SNR=4.9						
MAIM		**8.44**	**209**	P		**P**	**16 34 41.9 -1.0**
PCP	**Pian Castagno**	**8.57**	**219**	P		**P**	**16 34 45.5 +0.7**
PCP	**Pian Castagno**	**8.57**	**219**	P		**P**	**16 34 45.5 +0.7**
LPL	**La Plagne**	**8.60**	**230**	*e*Pn		**P**	**16 34 42.7 -2.5**
LPL				*e*Pg		P	16 35 18.2 +33
LPL				*e*Sg		**Sg**	**16 37 10.7 -12**
	comp=Z,7.4nm,0.7s						
LPG	**La Plagne**	**8.60**	**230**	*e*Pn		**P**	**16 34 42.8 -2.5**
LPG				*e*Pg		P	16 35 19.1 +34
LPG				*e*Sg		**Sg**	**16 37 11.5 -11**
	comp=Z,35nm,0.8s						
RSP	**Reno Superiore**	**8.63**	**226**	P		**P**	**16 34 47.8 +2.2**
RSP	**Reno Superiore**	**8.63**	**226**	P		**P**	**16 34 47.8 +2.2**
HFS	**Hagfors**	**8.80**	**352**	Pn		**P**	**16 34 44.6 -3.4**
	comp=Z,0.1nm,0.3s,baz=170,slow=18,SNR=4.3						
HFS				Sn		**Sn**	**16 36 21.1 -8.0**
	comp=Z,0.1nm,0.3s,baz=180,slow=20,SNR=3.1						
BHB	**Bricherasio**	**8.86**	**225**	P		**P**	**16 34 49.2 +0.3**
BHB	**Bricherasio**	**8.86**	**225**	P		**P**	**16 34 49.2 +0.3**
BNI	**Bardonecchia**	**8.97**	**228**	*e*Pn		**P**	**16 34 49.8 -0.5**
BNI	**Bardonecchia**	**8.97**	**228**	*e*Pn		**P**	**16 34 49.8 -0.6**
FIN	**Finale Ligure**	**8.98**	**219**	P		**P**	**16 34 50.6 +0.1**
FIN	**Finale Ligure**	**8.98**	**219**	P		**P**	**16 34 50.6 +0.1**
KONO	**Kongsberg**	**8.99**	**338**	*e*P		**P**	**16 34 46.6 -4.1**
LOR	**Lormes**	**9.01**	**247**	*e*Pn		**P**	**16 34 47.3 -3.7**
LOR				*e*Sg		**Sg**	**16 37 23.8 -13**
	comp=Z,28nm,0.8s						
RRL	**Cesana Torines**	**9.02**	**227**	P		**P**	**16 34 51.9 +0.9**
RRL	**Cesana Torines**	**9.02**	**227**	P		**P**	**16 34 51.9 +0.8**
ROB	**Roburent**	**9.04**	**221**	P		**P**	**16 34 51.3 -0.1**
ROB	**Roburent**	**9.04**	**221**	P		**P**	**16 34 51.2 -0.1**
MBDF	**Montbardon**	**9.17**	**226**	*e*Pn		**P**	**16 34 50.2 -3.0**
MBDF				*e*Sg		**Sg**	**16 37 28.0 -14**
	comp=Z,11nm,1.0s						
ENR	**Entracque**	**9.29**	**222**	P		**P**	**16 34 53.4 -1.3**
VSU	**Vasula**	**9.30**	**37**	*e*P		**P**	**16 34 49.2 -5.8**
STV	**Sta Anna Valdi**	**9.31**	**223**	P		**P**	**16 34 54.0 -1.1**
SSF	**Saint Saulge**	**9.33**	**247**	*e*Pn		**P**	**16 34 51.1 -4.2**
SSF				*e*Sg		**Sg**	**16 37 31.3 -16**
	comp=Z,4.2nm,0.6s						
IMI	**Imperia**	**9.36**	**219**	P		**P**	**16 34 55.1 -0.6**
IMI	**Imperia**	**9.36**	**219**	P		**P**	**16 34 55.1 -0.6**
SMF	**Signal de Mont**	**9.37**	**244**	*e*Pn		**P**	**16 34 52.1 -3.8**
SMF				*e*Pg		P	16 35 32.1 +36
SMF				*e*Sg		**Sg**	**16 37 33.4 -15**
	comp=Z,30nm,0.9s						
ORIF	**Oris-en-Rattie**	**9.45**	**230**	*e*Pn		**P**	**16 34 54.1 -2.8**
ORIF				*e*Sg		**Sg**	**16 37 35.4 -16**
	comp=Z,18nm,0.8s						
NEGI	**Negi**	**9.48**	**220**	P		**P**	**16 34 55.7 -1.8**
AVF	**Avril sur Loir**	**9.56**	**246**	*e*Pn		**P**	**16 34 54.6 -3.9**
AVF				*e*Pg		P	16 35 35.8 +37
AVF				*e*Sg		**Sg**	**16 37 39.6 -15**
	comp=Z,10nm,0.7s						
SBF	**Sospel**	**9.58**	**221**	*e*Pn		**P**	**16 34 55.6 -3.1**
SBF				*e*Pg		P	16 35 35.6 +37
NOA	**NORSAR Array B**	**9.98**	**346**	Pn		**P**	**16 34 59.3 -4.8**
	comp=Z,0.3nm,0.3s,baz=161,slow=11,SNR=3.5						
NOA				Sn		**Sn**	**16 36 41.2 -17**
	comp=Z,0.2nm,0.3s,baz=210,slow=8.8,SNR=2.7						
NOA				Lg			16 38 00.1
	comp=Z,0.4nm,0.3s,baz=194,slow=12,SNR=4.7						
NOA	**NORSAR Array B**	**9.98**	**346**	Pn		**P**	**16 34 59.3 -4.8**
NOA				Sn		**Sn**	**16 36 41.2 -17**
NOA				Lg			16 38 00.1
VIVF	**Saint-Julien-l**	**10.08**	**234**	*e*Pn		**P**	**16 35 02.4 -3.2**
VIVF				*e*Sg		S	16 37 54.3 +54
	comp=Z,19nm,0.8s						
FRF	**La Foret Royal**	**10.15**	**223**	*e*Pn		**P**	**16 35 03.6 -3.0**
FINES	**FINESS Array B**	**11.42**	**25**	Pn		**P**	**16 35 19.2 -4.6**
	comp=Z,0.7nm,0.3s,baz=207,slow=10,SNR=20						
FINES				Sn		**S**	**16 37 19.8 -13**
	comp=Z,0.3nm,0.3s,baz=225,slow=22,SNR=3.6						
EKA	**Eskdalemuir Ar**	**12.12**	**296**	Pn		**P**	**16 35 28.0 -5.4**
	comp=Z,0.4nm,0.3s,baz=104,slow=14,SNR=7.0						
OBN	**Obninsk**	**12.78**	**65**	*e*P		**P**	**16 35 36.1 -6.1**
OBN				*i* S		**S**	**16 37 54.7 -12**
OBN				pmax		pmax	
	comp=Z,15nm,1.1s						
MOS	**Moscow**	**13.47**	**63**	*e*P		**P**	**16 35 41.8 -10**
MOS				pmax		pmax	
	comp=Z,50nm,0.8s						
SOC	**Sochi**	**17.74**	**107**	*e*S		**S**	**16 40 01.2 -1.6**
SOC	**Sochi**	**17.74**	**107**	*e*P		**P**	**16 36 44.2 -2.2**
SOC				*e*			16 40 01.2
SOC				pmax		pmax	
	comp=Z,11nm,1.1s						
SOC				pmax		pmax	
	comp=N,7.0nm,0.9s						
SOC				pmax		pmax	
	comp=E,9.0nm,0.9s						
ARCES	**ARCESS Array B**	**18.68**	**10**	Pn		**P**	**16 36 52.7 -5.1**
	comp=E,0.4nm,0.3s,baz=191,slow=14,SNR=15						
GOF	**Gofitskoye**	**18.98**	**99**	⇓*i*P		**P**	**16 36 58.1 -3.6**
GOF				pmax		pmax	
	comp=Z,20nm,1.3s						
KIV	**Kislovodsk**	**19.33**	**102**	*e*P		**P**	**16 37 10.8 +5.0**
KIV				pmax		pmax	
	comp=Z,7.0nm,1.3s						
ZEI	**Tsey**	**20.72**	**104**	*e*P		**P**	**16 37 13.5 -7.4**
ZEI				pmax		pmax	
	comp=Z,5.0nm,0.6s						
GNI	**Garni**	**22.80**	**108**	*e*P		**P**	**16 37 39.9 -1.9**
GNI				pmax		pmax	
	comp=Z,6.0nm,1.0s						
ARU	**Arti**	**25.17**	**62**	*i* P		**P**	**16 38 04.0 -0.6**
	comp=Z,6.0nm,1.0s,mb4.3						
ARU	**Arti**	**25.17**	**62**	*e*P		**P**	**16 38 03.9 -0.8**
	comp=Z,4.6nm,0.8s,mb4.3						
ARU	**Arti**	**25.17**	**62**	⇑*i*P		**P**	**16 38 04.0 -0.6**
ARU				*e*PPP		PPP	16 38 44.9 -8.7
ARU				*e*S		**S**	**16 42 31.9 +3.9**
ARU				*e*SS		SS	16 43 22.3 -5.0
ARU				*e*SSS		SSS	16 43 39.8 -3.7
ARU				pmax		pmax	
	comp=Z,6.0nm,1.0s,mb4.3						
SVE	**Sverdlovsk**	**26.26**	**61**	*e*P		**P**	**16 38 14.5 -0.3**
SVE				*e*			16 38 50.0
BVAR	**Borovoye Array**	**32.62**	**65**	P		**P**	**16 39 11.4 -0.3**
	comp=Z,0.9nm,0.5s,mb3.9,baz=297,slow=6.6,SNR=5.8						
KURK	**Kurchatov**	**38.22**	**66**	*e*P		**P**	**16 39 57.9 -1.6**
	comp=Z,6.0nm,1.1s,mb4.2						
KURK	**Kurchatov**	**38.22**	**66**	*e*P		**P**	**16 39 57.9 -1.6**
	comp=Z,5.7nm,1.1s,mb4.2						
KURK	**Kurchatov**	**38.22**	**66**	*e*P		**P**	**16 39 57.9 -1.6**
KURK				pmax		pmax	
	comp=Z,6.0nm,1.1s,mb4.2						
NVS	**Novosibirsk**	**39.02**	**58**	*e*P		**P**	**16 40 01.2 -5.0**
AAK	**Ala-Archa**	**39.80**	**79**	*e*P		**P**	**16 40 09.5 -3.2**
AAK				pmax		pmax	
	comp=Z,5.0nm,1.6s,mb3.9						
AAK				MLR		MLR	
	comp=Z,100nm,13.0s,MS3.8						
SONM	**Songino Array**	**54.95**	**55**	P		**P**	**16 42 11.5 +0.3**
	comp=Z,0.5nm,0.3s,mb4.0,baz=284,slow=6.1,SNR=5.4						
YKA	**Yellowknife Ar**	**59.90**	**336**	P		**P**	**16 42 44.5 -1.5**
	comp=Z,1.0nm,0.6s,mb4.0,baz=29,slow=6.4,SNR=5.7						
YKA	**Yellowknife Ar**	**59.90**	**336**	P		**P**	**16 42 44.5 -1.5**

NNC 05 16:34:21.8±5.7, 37.00N×70.93E, h249km±77km, mpv3.9, 2C-2D, Error ellipse: s-maj=61.5km s-min=36.4km az=10.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.55**	**22**	P	P	16 35 44.3	-0.7
	SNR=96						
UCH	**Uchtor**	**5.91**	**27**	P	P	16 35 48.9	-0.5
	SNR=9.1						
EKS2	**Erkin-Say**	**6.06**	**20**	P	P	16 35 50.7	-0.7
	SNR=5.0						
KZA	**Kyzart**	**6.07**	**32**	P	P	16 35 50.6	-0.8
	SNR=12						
KK31	**Karatay Array**	**6.10**	**357**	P	P	16 35 51.4	-0.4
	7.0nm,0.5s,baz=176,slow=12,SNR=92						
KK31				⇑S	S	16 37 02.4	+0.1
	11nm,0.7s,baz=179,slow=19,SNR=9.3						
AAK	**Ala-Archa**	**6.26**	**25**	P	P	16 35 53.2	-0.6
	SNR=6.7						
AAK	**Ala-Archa**	**6.26**	**25**	⇓P	P	16 35 53.1	-0.7
	3.0nm,0.3s						
AAK				⇑S	S	16 37 07.8	+2.1
	26nm,0.7s						
ULHL	**Ulahol**	**6.65**	**36**	P	P	16 35 57.4	-1.4
	SNR=7.7						
USP	**Ospenovka**	**6.83**	**22**	P	P	16 35 59.0	-1.9
	SNR=6.1						
TKM2	**Tokmak 2**	**6.91**	**30**	P	P	16 36 01.0	-1.1
	SNR=5.6						
MK31	**Makanchi Array**	**12.92**	**37**	P	P	16 37 14.9	-2.8
	2.5nm,0.8s,baz=201,slow=24,SNR=23						
AB31	**Akbulak array**	**14.62**	**330**	⇓P	P	16 37 38.7	+0.1
	0.6nm,0.7s,baz=137,slow=12,SNR=7.4						

*ISK **05** 16:34:50.8, 36.91N×27.80E, h17km, MD3.2*
*ATH **05** 16:34:51.9, 36.85N×27.80E, h27km±3km, MD3.0/4*
*NEIC **05** 16:34:51.9, 36.85N×27.80E, h27km, MD3.2(ISK), MD3.0(ATH), After ATH.*
*CSEM **05** 16:34:51.5±0.1, 36.95N×27.82E, h20km, MD3.2, Error ellipse: s-maj=1.5km s-min=1.1km az=88.0*

ISC 05 16:34:51.9±0.6, 36.91N±0.04×27.78E±0.04, h19km±7km, n20, σ0°99/29, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.31**	**301**	*i* P	**Pb**	**16 34 59.0**	**+0.4**
BDRM				*i* S	**Sb**	**16 35 04.3**	**+1.1**
MLSB	**Milas**	**0.39**	**0**	PG	**Pb**	**16 34 59.6**	**-0.3**
BODT	**Bodrum**	**0.40**	**293**	PG	**Pb**	**16 34 59.8**	**-0.4**
YER	**Yerkesik**	**0.47**	**61**	*i* PG	**Pb**	**16 35 00.6**	**-0.7**
YER				*i* SG	**Sb**	**16 35 07.1**	**-0.6**
NISR	**Nisiros**	**0.60**	**241**	*e*PN	**Pn**	**16 35 04.0**	**-1.2**
DALT	**Dalyan (Mudla)**	**0.70**	**101**	PG	**Pb**	**16 35 04.5**	**-0.8**
ARG	**Arkhangelos**	**0.74**	**158**	*e*PN	**Pn**	**16 35 06.0**	**-1.3**
AYDN	**Tasoluk**	**0.76**	**6**	*i* P	**Pb**	**16 35 06.3**	**+0.1**
AYDN				*i* S	**Sb**	**16 35 15.7**	**-0.4**
SMG	**Samos**	**1.09**	**317**	*e*PB	**Pb**	**16 35 13.0**	**+1.0**
SMG				*e*SN	**Sn**	**16 35 30.4**	**+3.4**
DNZL	**Cakiroluk**	**1.28**	**52**	*i* P	**Pn**	**16 35 15.2**	**+0.2**
DNZL				*i* S	**Sb**	**16 35 31.6**	**+0.4**
DENT	**Denizli**	**1.31**	**49**	PN	**Pn**	**16 35 15.4**	**0.0**
KARP	**Karpathos**	**1.45**	**200**	*e*PN	**Pn**	**16 35 17.6**	**+0.3**
KARP				*e*SN	**Sn**	**16 35 36.4**	**+0.5**
GOLH	**Golhisar**	**1.47**	**76**	*i* P	**Pn**	**16 35 19.5**	**+1.8**
GOLH				*i* S	**Sn**	**16 35 39.4**	**+3.0**
IZM	**Izmir**	**1.54**	**345**	*e*PN	**Pn**	**16 35 18.3**	**-0.4**
BLCB	**Balcova**	**1.59**	**339**	*e*PN	**Pn**	**16 35 18.8**	**-0.6**
AKAS	**Kas**	**1.62**	**114**	*i* P	**Pn**	**16 35 20.7**	**+0.9**
AKAS				*i* S	**Sn**	**16 35 45.1**	**+4.7**
MANT	**Manisa**	**1.70**	**21**	*i* P	**Pn**	**16 35 22.5**	**+1.6**
MANT				*i* S	**Sn**	**16 35 40.2**	**-2.1**
ELL	**Elmali**	**1.72**	**95**	*e*PN	**Pn**	**16 35 21.1**	**-0.2**
APE	**Apeiranthos**	**1.80**	**276**	*e*PN	**Pn**	**16 35 21.6**	**-0.9**
AKS	**Akhisar**	**1.97**	**1**	PN	**Pn**	**16 35 24.3**	**-0.5**

MAN 05 16:53:33.3, 14.33N×121.10E, h9km, mb3.9, ML2.7, MS2.3, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBPH	**Los Banos**	**0.19**	**157**	*e*P	Pg	16 53 37.8	+0.4
ARP	**Angono**	**0.21**	**13**	*e*P	Pg	16 53 38.2	+0.4
TGY	**Tagaytay City**	**0.28**	**215**	⇓*i*P	Pg	16 53 40.0	+1.0
TGY				*i* S	Sg	16 53 45.4	+2.5
QVPH	**Quezon City--P**	**0.32**	**352**	*e*P	Pg	16 53 40.7	+0.8
NZB	**Bigte**	**0.53**	**360**	*e*P	Pg	16 53 44.2	+0.2
NBP	**Mount Natib**	**0.78**	**302**	*e*P	Pb	16 53 48.0	-0.6
POLP	**Polilio Island**	**0.90**	**64**	*e*P	Pb	16 53 50.1	-0.5
POLP				*e*S	Sb	16 54 01.2	-1.3
LUBP	**Lubang**	**1.02**	**235**	*e*P	Pb	16 53 51.6	-1.0
LUBP				*e*S	Sb	16 54 05.9	-0.1
BOAC	**Boac**	**1.13**	**140**	*e*P	Pb	16 53 54.3	-0.1
BOAC				*e*S	Sb	16 54 11.0	+2.0
PCPH	**Palayan**	**1.23**	**360**	*e*P	Pb	16 54 13.0	+17
BALP	**Baler**	**1.48**	**18**	*e*P	Pn	16 54 00.2	+0.1
BALP				*e*S	Sb	16 54 19.4	+0.2
AUQP	**San Andres**	**1.83**	**123**	*e*P	Pn	16 54 04.7	-0.5
SJMP	**San Jose**	**1.86**	**180**	*e*P	Pn	16 54 06.0	+0.4
SJMP				*e*S	Sn	16 54 31.3	+1.9
OTRP	**Odiongan**	**2.15**	**155**	*e*P	Pn	16 54 08.4	-1.4

*IDC **05** 17:13:31.5±1.4, 6.39N×93.29E, mb3.9/7, mb1 4.1/7, mb1mx3.9/20, mbtmp3.9/7, Error ellipse: s-maj=64.0km s-min=18.6km az=56.0*
*NEIC **05** 17:13:35.2±0.6, 6.25N×92.98E, mb4.1/4, Error ellipse: s-maj=16.8km s-min=9.0km az=218.0*

ISC 05 17:13:32.9±0.7, 6.2N±0.1×92.9E±0.1, h30km, h30km±.8km: pP-P, n13, σ0°69/13, mb4.0/11, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.72**	**96**	*e*Pn	**Pn**	**17 15 26.3**	**0.0**
PALK	**Pallekele**	**12.20**	**276**	*e*Pn	**P**	**17 16 27.5**	**-0.3**
LSA	**Lhasa**	**23.46**	**356**	*e*P	**P**	**17 18 41.4**	**+0.5**
	5.3nm,0.7s,mb4.1						
FITZ	**Fitzroy Crossi**	**40.29**	**127**	P	**P**	**17 21 09.0**	**-0.4**
	4.0nm,0.7s,mb4.3,baz=286,slow=6.5,SNR=5.2						
MKAR	**Makanchi Array**	**41.49**	**349**	P	**P**	**17 21 18.8**	**-0.1**
	1.1nm,0.7s,mb3.6,baz=172,slow=8.6,SNR=8.3						
SONM	**Songino Array**	**43.07**	**13**	P	**P**	**17 21 31.3**	**-0.6**
	0.6nm,0.7s,mb3.4,baz=198,slow=9.1,SNR=2.0						
KURK	**Kurchatov**	**45.98**	**347**	*e*P	**P**	**17 21 55.0**	**-0.2**
	1.8nm,1.0s,mb4.0						
KURK				*e*pP	pP	17 22 04.4	+0.3
WRA	**Warramunga Arr**	**48.29**	**124**	P	**P**	**17 22 14.3**	**+0.5**
	2.1nm,0.7s,mb4.2,baz=301,slow=8.8,SNR=11						
WRAB	**Tennant Creek**	**48.29**	**124**	*e*P	**P**	**17 22 14.2**	**+0.4**
	3.4nm,0.7s,mb4.5						
WRAB				*e*pP	pP	17 22 22.8	-0.1
BVAR	**Borovoye Array**	**50.22**	**342**	P	**P**	**17 22 27.9**	**-0.2**
	1.1nm,0.8s,mb4.0,baz=143,slow=7.4,SNR=8.3						
BRVK	**Borovoye**	**50.28**	**342**	*e*P	**P**	**17 22 28.3**	**-0.3**
	0.8nm,0.7s,mb3.9						
BRVK				*e*pP	pP	17 22 37.3	-0.3
STKA	**Stephens Creek**	**59.83**	**132**	P	**P**	**17 23 37.5**	**-0.7**
	1.3nm,0.7s,mb4.1,baz=326,slow=11,SNR=3.8						
GERES	**GERESS Array B**	**78.29**	**318**	P	**P**	**17 25 34.7**	**+2.9**
	0.9nm,0.7s,mb3.8,baz=90,slow=5.3,SNR=8.4						

*BJI **05** 18:07:12.1, 9.71N×108.42E, h26km, mB5.3, mb4.4, Ms

JOW	Kunigami	25.19	46	LR	LR	18 20 56.5
	comp=Z,449nm,20.6s,MS4.0,baz=103,slow=32					
LSA	Lhasa	25.37	323	P	P	18 12 43.0 +1.9
LSA				S	S	18 17 12.8 +8.0
LSA				LR	LR	
	comp=N,410nm,15.6s,MS4.5					
LSA				LR	LR	
	comp=E,970nm,16.7s,MS4.5					
LSA	Lhasa	25.37	323	eP	P	18 12 42.7 +1.6
	comp=E,8.7nm,0.8s,mb4.3					
LSA	Lhasa	25.37	323	eP	P	18 12 42.7 +1.6
LSA				pmax	pmax	
	comp=Z,9.0nm,0.8s,mb4.3					
GTA	Gaotai	30.28	347	eP	P	18 13 26.8 +1.1
GTA				AP	pP	18 13 32.7 +4.1
GTA				XP	sP	18 13 35.3 +5.4
GTA				AMB	AMB	
	comp=Z,5.0nm,0.8s,mb4.3					
SONM	Songino Array	37.76	358	P	P	18 14 31.3 +1.4
	comp=Z,3.3nm,1.0s,mb4.0,baz=179,slow=8.1,SNR=8.6					
SONM				LR	LR	18 32 21.1
	comp=Z,508nm,19.0s,MS4.3,baz=0.9,slow=40					
MAJO	Matsushiro	37.80	41	P	P	18 14 29.4 -1.0
	comp=Z,2.7nm,0.4s,mb4.3					
MAJO	Matsushiro	37.80	41	P	P	18 14 29.4 -1.0
MAJO				pmax	pmax	
	comp=Z,3.0nm,0.4s,mb4.4					
MDJ	Mudanjiang	39.07	24	P	P	18 14 42.0 +1.0
MDJ				AMB	AMB	
	comp=Z,6.0nm,1.0s,mb4.3					
MDJ				AMB	AMB	
	comp=Z,146nm,5.6s					
WRA	Warramunga Arr	39.22	139	P	P	18 14 43.2 +0.7
	comp=Z,2.7nm,0.7s,mb4.1,baz=321,slow=9.1,SNR=13					
WRAB	Tennant Creek	39.22	139	eP	P	18 14 42.4 -0.1
	comp=Z,14nm,1.1s,mb4.6					
WRAB	Tennant Creek	39.22	139	eP	P	18 14 42.4 -0.1
WRAB				pmax	pmax	
	comp=Z,14nm,1.1s,mb4.6					
ZAK	Zakamensk	40.49	355	⇓iP	P	18 14 53.0 +0.3
ZAK				pmax	pmax	
	comp=Z,1.0nm,1.2s,mb3.4					
MKAR	Makanchi Array	42.85	334	P	P	18 15 12.5 +0.4
	comp=Z,2.2nm,0.9s,mb3.9,baz=143,slow=7.8,SNR=17					
MKAR				PcP	PcP	18 17 04.1 +0.4
	comp=Z,1.3nm,0.8s,baz=146,slow=5.2,SNR=3.9					
MKAR				LR	LR	18 34 29.6
	comp=Z,273nm,19.8s,MS4.2,baz=360,slow=38					
MKAR	Makanchi Array	42.85	334	P	P	18 15 12.5 +0.4
MKAR				PcP	PcP	18 17 04.1 +0.4
MKAR				LR	LR	18 34 29.6
MKAR	Makanchi Array	42.85	334	eP	P	18 15 12.5 +0.4
KLR	Kul'dur	43.72	22	eP	P	18 15 18.0 -1.1
KLR				MLR	MLR	
	comp=E,600nm,11.5s					
KLR				MLR	MLR	
	comp=Z,1μm,11.5s,MS5.1					
AAK	Ala-Archa	43.96	324	eP	P	18 15 21.3 +0.2
AAK				pmax	pmax	
	comp=Z,5.0nm,1.1s,mb4.2					
AAK				MLR	MLR	
	comp=Z,200nm,20.0s,MS4.0					
KURK	Kurchatov	47.41	335	eP	P	18 15 48.6 0.0
	comp=Z,8.2nm,0.9s,mb4.7					
KURK	Kurchatov	47.41	335	eP	P	18 15 48.6 +0.1
KURK				pmax	pmax	
	comp=Z,8.0nm,0.9s,mb4.7					
ZAL	Zalesovo	47.72	341	P	P	18 15 50.9 0.0
	comp=Z,2.9nm,0.8s,mb4.3,baz=328,slow=5.6,SNR=16					
ZAL				LR	LR	18 37 12.6
	comp=Z,212nm,18.0s,MS4.2,baz=67,slow=38					
BOD	Bodaibo	47.92	4	eP	P	18 15 52.3 -0.1
STKA	Stephens Creek	52.38	144	P	P	18 16 26.4 -0.4
	comp=Z,1.0nm,0.6s,mb4.0,baz=326,slow=15,SNR=4.3					
STKA				LR	LR	18 38 53.0
	comp=Z,119nm,20.8s,MS3.9,baz=288,slow=36					
BVAR	Borovoye Array	52.67	332	P	P	18 16 29.3 +0.5
	comp=Z,1.9nm,1.0s,mb4.0,baz=127,slow=7.4,SNR=7.3					
BRVK	Borovoye	52.74	332	eP	P	18 16 27.8 -1.5
	comp=Z,1.6nm,0.9s,mb4.0					
BRVK	Borovoye	52.74	332	eP	P	18 16 27.8 -1.5
BRVK				pmax	pmax	
	comp=Z,2.0nm,0.9s,mb4.0					
YAK	Yakutsk	54.23	12	eP	P	18 16 39.8 -0.2
YAK				pmax	pmax	
	comp=Z,9.0nm,0.7s,mb4.8					
YAK				MLR	MLR	
	comp=Z,400nm,20.0s,MS4.5					
SVE	Sverdlovsk	59.46	332	eP	P	18 17 17.5 +0.1
ARU	Arti	60.23	331	eP	P	18 17 22.8 +0.1
SEY	Seymchan	61.49	21	eP	P	18 17 32.6 +1.4
KIV	Kislovodsk	65.66	314	c iP	P	18 17 58.2 -0.6
KIV				pmax	pmax	
	comp=Z,5.0nm,1.2s,mb4.4					
KIV				MLR	MLR	
	comp=Z,100nm,21.0s,MS4.0					
OPO	Ambohidratompo	66.67	245	P	P	18 18 05.1 -0.7
	comp=Z,4.3nm,1.1s,mb4.4,baz=88,slow=9.3,SNR=3.6					
BILL	Bilibino	69.12	20	i P	P	18 18 20.3 +0.1
BILL				pmax	pmax	
	comp=Z,11nm,1.6s,mb4.5					
BILL				MLR	MLR	
	comp=Z,100nm,16.0s,MS4.2					
ANN	Anapa	69.51	314	eP	P	18 18 18.8 -4.2
ANN				pmax	pmax	
	comp=Z,42nm,1.3s,mb5.2					
KMBO	Kilima Mbogo	71.61	265	P	P	18 18 36.2 -0.1
	comp=Z,1.3nm,0.6s,mb4.1,baz=66,slow=12,SNR=6.0					
KMBO				LR	LR	18 50 11.9
	comp=Z,211nm,18.2s,MS4.4,baz=91,slow=36					
KMBO	Kilima Mbogo	71.61	265	P	P	18 18 36.2 -0.1
KMBO				LR	LR	18 50 11.9
AKASG	Malin Array Be	75.46	320	P	P	18 18 58.0 -0.2
	comp=Z,0.1nm,0.3s,mb3.3,baz=80,slow=5.5,SNR=6.4					
AKASG	Malin Array Be	75.46	320	i P	P	18 18 58.0 -0.1
FINES	FINESS Array B	77.61	331	LR	LR	18 54 53.6
	comp=Z,97nm,18.7s,MS4.2,baz=102,slow=37					
MLR	Muntele Rosu	77.65	314	P	P	18 19 11.5 +1.0
	comp=Z,3.6nm,0.8s,mb4.3,baz=217,slow=5.1,SNR=4.7					
ARCES	ARCESS Array B	78.21	339	LR	LR	18 57 53.0
	comp=Z,165nm,19.1s,MS4.4,baz=65,slow=39					
KOLS	Kolonicke sedl	79.99	318	eP	P	18 19 24.6 +1.4
STHS	Stebnicka Huta	80.63	319	eP	P	18 19 23.9 -2.7
KECS	Kecovo	81.21	318	eP	P	18 19 24.2 -5.4
MAW	Mawson	83.94	196	LR	LR	18 50 31.4
	comp=Z,70nm,20.9s,MS4.0,baz=59,slow=31					
MATP	Matopo	84.10	248	P	P	18 19 45.1 -0.1
	comp=Z,3.0nm,1.1s,mb4.3,baz=53,slow=10,SNR=3.9					
NOA	NORSAR Array B	84.79	331	P	P	18 19 48.3 +0.6
	comp=Z,1.3nm,0.9s,mb4.1,baz=77,slow=5.9,SNR=2.8					
NOA				LR	LR	19 05 08.0
	comp=Z,78nm,18.4s,MS4.1,baz=90,slow=41					
NOA	NORSAR Array B	84.79	331	P	P	18 19 48.3 +0.6
NOA				LR	LR	19 05 08.0
GERES	GERESS Array B	85.62	319	P	P	18 19 53.9 +1.8
	comp=Z,1.0nm,0.8s,mb4.1,baz=90,slow=5.3,SNR=7.9					
GERES				LR	LR	19 02 48.4
	comp=Z,88nm,18.2s,MS4.2,baz=86,slow=39					
BOSA	Boshof	88.75	241	LR	LR	18 58 30.6
	comp=Z,143nm,18.4s,MS4.4,baz=165,slow=35					
VNDA	Vanda	92.33	170	LR	LR	19 00 51.5
	comp=Z,69nm,21.5s,MS4.1,baz=334,slow=35					
DLBC	Dease Lake	97.19	27	LR	LR	19 05 36.7
	comp=Z,98nm,19.4s,MS4.3,baz=110,slow=36					

*IDC **05** 18:17:04.9±1.0, 17.50N×46.54W, mb3.9/8, mb1 4.2/8, mb1mx3.9/24, mbtmp3.9/8, MS3.4/10, Ms1 3.4/10, ms1mx3.2/28, Error ellipse: s-maj=38.2km s-min=19.3km az=98.0*

*NEIC **05** 18:17:06.5±0.7, 17.50N×46.56W, h10km, mb4.5/8, Error ellipse: s-maj=22.8km s-min=11.1km az=88.0*

ISC 05 18:17:04.8±0.9, 17.50N±0.09×46.6W±0.2, h10km, n23, σ0§93/16, mb4.1/15, MS3.4/10, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	Santo Domingo	24.91	253	LR	LR	18 31 29.8	
	comp=Z,41nm,19.0s,MS3.0,baz=208,slow=35						
SAML	Samuel	30.98	213	eP	P	18 23 25.2	+0.4
	4.5nm,0.8s,mb4.3						
BDFB	Brasília	32.96	183	LR	LR	18 35 55.7	
	comp=Z,57nm,19.1s,MS3.3,baz=14,slow=34						
SIV	San Ignacio	36.22	204	P	P	18 24 10.8	+0.8
	0.3nm,0.3s,mb3.6,baz=42,slow=12,SNR=5.3						
SADO	Sadowa	38.49	322	LR	LR	18 36 31.6	
	comp=Z,46nm,19.3s,MS3.3,baz=136,slow=30						
LPAZ	La Paz	39.73	213	P	P	18 24 40.9	+1.5
	2.0nm,0.7s,mb3.9,baz=19,slow=9.3,SNR=3.2						
LPAZ				LR	LR	18 40 02.0	
	comp=Z,68nm,19.3s,MS3.5,baz=339,slow=35						
LPAZ	La Paz	39.73	213	eP	P	18 24 40.4	+1.0
	2.9nm,0.9s,mb4.0						
DBIC	Dimbokro	42.11	100	LR	LR	18 38 48.0	
	comp=Z,84nm,20.9s,MS3.6,baz=344,slow=31						
CPUP	Villa Florida	44.80	194	P	P	18 25 18.9	-2.1
	3.4nm,0.8s,mb4.2,baz=37,slow=11,SNR=8.0						
CPUP				LR	LR	18 42 00.3	
	comp=Z,31nm,19.7s,MS3.2,baz=24,slow=33						
LVC	Limon Verde	45.46	210	eP	P	18 25 26.2	+0.1
	6.9nm,0.9s,mb4.5						
WMOK	Wichita Mounta	49.36	301	P	P	18 25 55.9	-0.7
	1.5nm,0.8s,mb4.1						
ULM	Lac du Bonnet	51.04	321	LR	LR	18 45 55.8	
	comp=Z,36nm,18.6s,MS3.4,baz=353,slow=34						
CFAA	Coronel Fontan	53.06	203	P	P	18 26 23.7	-1.0
	0.6nm,0.9s,mb3.5,baz=11,slow=5.1,SNR=6.0						
TXAR	Lajitas Array	53.23	294	P	P	18 26 26.6	+0.7
	1.0nm,1.0s,mb3.7,baz=108,slow=7.9,SNR=6.8						
TXAR				PcP	PcP	18 27 34.0	+0.3
	0.4nm,0.5s,baz=108,slow=4.0,SNR=4.0						
TXAR				LR	LR	18 46 36.2	
	comp=Z,37nm,21.4s,MS3.4,baz=255,slow=33						
MNTX	Cornudas Mount	54.71	297	eP	P	18 26 36.6	-0.2
	1.1nm,0.4s,mb4.2						
PDAR	Pinedale Array	58.56	310	LR	LR	18 49 21.9	
	comp=Z,34nm,21.7s,MS3.4,baz=327,slow=33						
IMW	Indian Meadow	59.66	311	eP	P	18 27 11.6	-0.1
	7.2nm,1.0s,mb4.7						
RRI2	Red Ridge	59.90	310	eP	P	18 27 13.7	+0.4
	3.5nm,0.8s,mb4.4						
PLCA	Paso Flores	62.07	200	LR	LR	18 57 00.2	
	comp=Z,68nm,18.1s,MS3.9,baz=186,slow=39						
ELK	Elko	62.72	307	eP	P	18 27 32.8	+0.3
	2.6nm,1.1s,mb4.3						
ELK				e		18 27 40.9	
YKA	Yellowknife Ar	64.50	332	P	P	18 27 41.6	-2.1
	1.7nm,1.0s,mb4.0,baz=103,slow=7.4,SNR=5.2						
BRTR	Keskin Array B	71.63	53	P	P	18 28 29.4	+0.7
	0.7nm,0.6s,mb3.8,baz=297,slow=6.4,SNR=4.7						
ILAR	Eielson Array	78.64	335	P	P	18 29 08.8	+0.7
	3.2nm,0.9s,mb4.2,baz=68,slow=4.4,SNR=15						

MEX 05 19:02:45.3±0.4, 17.29N×100.52W, h43km±6km, MD3.5, 1D, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.34	135	⇓iP	P	19 02 52.8	-1.5
CAIG				i S	S	19 02 58.9	-1.7
ACX	Acapulco	0.71	126	eP	P	19 02 57.6	-1.4
ACX				i S	S	19 03 06.8	-2.3
PLIG	Platanillo	1.46	41	i P	P	19 03 07.8	-1.9
PLIG				i S	S	19 03 25.4	-2.5
PPM	Popocatepetl	2.52	45	eP	P	19 03 29.0	+4.2
PPM				i S	S	19 04 01.0	+6.5

NEIC 05 19:12:22.3, 51.20N×178.02W, h24km, ML3.8(AEIC), After AEIC., Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIMD	Kanaga Island	0.74	41	P	Pb	19 12 36.1	-0.3
KIMD				S	Sb	19 12 47.1	+0.9
KIWB	Kanaga Island	0.85	39	P	Pb	19 12 38.0	-0.2
KIKV	Kanaga Island	0.86	38	P	Pb	19 12 38.0	-0.4
KIKV				S	Sb	19 12 50.3	+0.9
KINC	Kanaga Island	0.92	37	P	Pb	19 12 39.1	-0.3
ADAG	Mount Adagdak	1.18	48	P	Pn	19 12 42.6	-0.9
ADAG				S	Sb	19 12 57.8	-0.9
GSTD	Great Sitkin T	1.45	53	P	Pn	19 12 46.5	-0.8
GSTD				S	Sn	19 13 05.4	-0.3
GSMY	Great Sitkin M	1.48	55	P	Pn	19 12 47.3	-0.5
GSMY				S	Sn	19 13 06.7	+0.1
GSTR	Great Sitkin T	1.51	53	P	Pn	19 12 47.9	-0.3
ATKA	Atka Island	2.58	66	P	Pn	19 13 02.7	-0.8
ATKA				S	Sn	19 13 35.6	+1.1
NIKO	Nikolski	5.92	69	P	Pn	19 13 49.1	-1.8

*IDC **05** 19:13:20.6±2.2, 15.96S×175.07W, h285km±17km, mb3.3/4, mb1 3.7/5, mb1mx3.4/13, mbtmp3.9/5, Error ellipse: s-maj=117.3km s-min=20.6km az=153.0*

*NEIC **05** 19:13:21.7±1.5, 15.75S×175.16W, h290km±15km, mb3.6/1, Error ellipse: s-maj=104.3km s-min=18.2km az=154.0*

ISC 05 19:13:20.6±1.8, 15.7S±0.8×175.2W±0.4, h290km±18km, n7, σ0§34/9, mb3.6/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	3.79	62	P	P	19 14 24.8	+0.3
	11nm,0.3s,baz=243,slow=14,SNR=14						
AFI				S	S	19 15 14.1	-0.2
	17nm,0.3s,baz=67,slow=21,SNR=8.0						
AFI	Afiamalu	3.79	62	P	P	19 14 24.8	+0.3
AFI				S	S	19 15 14.1	-0.2
WRAB	Tennant Creek	48.04	257	eP	P	19 21 33.6	+0.4
	1.4nm,0.4s,mb3.6						
WRA	Warramunga Arr	48.05	257	P	P	19 21 32.7	-0.6
	1.0nm,0.3s,mb3.6,baz=96,slow=8.1,SNR=31						
TXAR	Lajitas Array	82.26	57	P	P	19 25 11.5	+0.2
	0.3nm,0.6s,mb3.2,baz=233,slow=6.3,SNR=3.5						
ILAR	Eielson Array	83.10	12	P	P	19 25 15.0	+0.2
	0.5nm,0.5s,mb3.6,baz=238,slow=5.4,SNR=4.9						
PDAR	Pinedale Array	83.68	42	P	P	19 25 17.9	-0.4
	0.6nm,0.3s,mb3.9,baz=135,slow=2.1,SNR=5.2						

IDC 05 19:27:59.8±7.4, 5.07N×123.27E, h513km±102km, mb2.7/4, mb1 2.8/4, mb1mx2.7/19, mbtmp3.6/4, Error ellipse: s-maj=133.4km s-min=25.9km az=67.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	27.14	157	P	P	19 33 01.6	-1.5
	0.2nm,0.5s,baz=332,slow=10,SNR=2.1						
SONM	Songino Array	44.99	344	P	P	19 35 28.1	-2.2
	0.2nm,0.4s,baz=153,slow=4.3,SNR=4.0						
MKAR	Makanchi Array	54.51	326	P	P	19 36 39.2	-1.5
	1.7nm,0.4s,baz=120,slow=7.9,SNR=35						
MKAR				PcP	PcP	19 37 34.0	-2.3
	0.4nm,0.5s,baz=135,slow=3.4,SNR=5.0						
BVAR	Borovoye Array	64.33	328	P	P	19 37 44.8	-1.4
	0.3nm,0.4s,baz=72,slow=4.6,SNR=5.1						

*IDC **05** 19:58:35.1±1.0, 3.96S×128.74E, mb4.1/6, mb1 4.3/8, mb1mx4.1/18, mbtmp4.1/8, ML3.7/2, MS3.3/1, Ms1 3.3/1, ms1mx2.8/18, Error ellipse: s-maj=54.2km s-min=21.3km az=61.0*

*NEIC **05** 19:58:39.2±0.5, 3.96S×128.92E, mb4.3/5, Error ellipse: s-maj=21.1km s-min=7.8km az=74.0*

ISC 05 19:58:37.3±0.6, 4.02S±0.08×128.8E±0.2, h29km, (h29km±4km:pP-P), n16, σ0§80/16, mb4.1/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	9.37	157	eP	P	20 01 00.7	+7.1
	3.8nm,0.3s						
FITZ	Fitzroy Crossi	14.32	192	eP	P	20 02 02.9	+2.5
	8.6nm,0.7s						
FITZ	Fitzroy Crossi	14.32	192	Pn	P	20 01 60.0	-0.4
	0.2nm,0.3s,baz=4.8,slow=12,SNR=4.0						
FITZ				LR	LR	20 06 46.0	
	comp=Z,114nm,19.9s,baz=283,slow=34						
WRAB	Tennant Creek	16.73	161	eP	P	20 02 30.8	-0.6
	26nm,1.1s						
WRA	Warramunga Arr	16.74	161	Pn	P	20 02 30.8	-0.7
	0.3nm,0.3s,baz=339,slow=13,SNR=12						
WB2	Warramunga Arr	16.74	161	eP	P	20 02 30.7	-0.8
MBWA	Marble Bar	19.16	206	P	P	20 03 01.6	+0.3
	16nm,1.1s						
CTA	Charters Tower	23.36	135	P	P	20 03 46.8	+2.3
	6.5nm,1.1s,mb4.0,baz=309,slow=15,SNR=2.0						
SONM	Songino Array	55.24	342	P	P	20 08 10.1	0.0
	0.5nm,0.6s,mb3.7,baz=166,slow=6.1,SNR=5.1						
MKAR	Makanchi Array	65.07	327	P	P	20 09 17.5	+0.1
	2.3nm,0.7s,mb4.3,baz=127,slow=7.6,SNR=30						
ZAL	Zalesovo	68.38	334	P	P	20 09 37.6	-0.6
	1.1nm,0.3s,mb4.3,baz=357,slow=5.6,SNR=6.7						
KURK	Kurchatov	69.34	329	eP	P	20 09 44.0	-0.3
	5.4nm,0.9s,mb4.5						
KURK				ePP	pP	20 09 53.4	-0.1
BVAR	Borovoye Array	74.90	328	P	P	20 10 17.5	+0.3
	2.0nm,0.9s,mb4.1,baz=135,slow=6.3,SNR=14						
BRVK	Borovoye	74.97	328	eP	P	20 10 17.7	+0.1
	0.8nm,0.6s,mb3.8						
BRVK				ePP	pP	20 10 26.9	0.0
ARU	Arti	82.54	328	eP	P	20 10 58.9	+0.2
	3.1nm,0.7s,mb4.5						
ARU				ePP	pP	20 11 08.0	-0.1
ILAR	Eielson Array	91.20	25	P	P	20 11 40.4	-0.3
	0.6nm,0.6s,mb4.1,baz=246,slow=5.5,SNR=4.9						

*CSEM **05** 20:10:41.9±0.3, 41.08N×20.04E, h0km±1km, MD2.9, Error ellipse: s-maj=4.8km s-min=3.2km az=68.0*

*TIR **05** 20:10:42.2, 41.18N×20.13E, h18km, Ml3.0*

*PDG **05** 20:10:45.7±0.2, 41.24N×19.86E, h10km*

*NEIC **05** 20:10:45.7, 41.24N×19.86E, h10km, MD2.9(PDG), After PDG.*

*ATH **05** 20:11:01.5, 39.33N×20.07E, h10km, MD3.2/3*

ISC 05 20:10:43.7±0.5, 41.14N±0.02×20.02E±0.04, h10km, n21, σ1§44/39, 1C-4D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	Tirane	0.24	330	⇓iPg	Pg	20 10 48.5	-0.4
TIR				i Sg	Sg	20 10 53.0	+0.7
QSH	Qafa e Shtames	0.39	347	i Pg	Pg	20 10 51.5	-0.3
QSH				i Sg	Sg	20 10 55.0	-2.1
OHR	Ohrid	0.59	93	i Pg	Pg	20 10 54.8	-0.8
OHR				i Sg	Sg	20 11 03.5	0.0
PUK	Puka	0.91	354	i Pg	Pg	20 10 59.8	-2.1
PUK				i Sg	Sg	20 11 14.8	+0.7
KKS	Kukesi	0.98	17	i Pg	Pg	20 11 00.7	-2.7
KKS				i Sg	Sg	20 11 17.9	+1.4
ULC	Ulcinj	1.01	325	ePg	Pg	20 11 01.8	-2.1
ULC				eSg	Sg	20 11 15.2	-2.2
BCI	Bajram Curri	1.23	1	i pn?	Pn	20 11 07.5	+0.6
BCI				i Sn	Sn	20 11 26.5	+2.9
SRN	Sarande	1.26	181	i Pn	Pn	20 11 07.3	-0.1
SRN				i Sn	Sn	20 11 25.6	+1.1
SKO	Skopje	1.35	51	⇑iPn	Pn	20 11 08.1	-0.6
SKO				i Sn	Sn	20 11 26.5	-0.3
SKO				Lg		20 11 30.0	
	comp=Z,0.1nm,0.6s						
TTG	Podgorica	1.41	336	ePg	Pg	20 11 09.3	-2.6
TTG				eSg	Sg	20 11 29.3	-1.5
BUM	Brajici-Budva	1.43	324	⇓iPg	Pg	20 11 09.4	-3.0
BUM				eSg	Sg	20 11 29.8	-1.7
KEK	Kerkira	1.44	187	ePB	Pb	20 11 10.0	-0.2
PVY	Plav	1.45	359	⇓iPg	Pg	20 11 10.5	-2.3
PVY				eSg	Sg	20 11 32.2	-0.1
JAN	Janina	1.61	157	ePB	Pb	20 11 14.4	+1.3
IVA	Berane	1.73	357	ePn	Pn	20 11 15.9	+1.7
IVA				eSn	Sn	20 11 39.5	+3.0
HCY	Herceg Novi	1.73	319	ePn	Pn	20 11 15.0	+0.8
HCY				eSn	Sn	20 11 38.3	+1.8
NKY	Niksic	1.84	336	ePn	Pn	20 11 16.4	+0.7
NKY				eSn	Sn	20 11 41.1	+1.9
BRY	Bratogost	2.08	328	ePn	Pn	20 11 20.1	+1.0
BRY				eSn	Sn	20 11 46.7	+1.5
UPM	Unac-Piva	2.22	338	ePn	Pn	20 11 21.7	+0.5
UPM				eSn	Sn	20 11 49.9	+1.0
PLE	Pljevlja	2.24	348	⇓iPn	Pn	20 11 22.1	+0.6
PLE				eSn	Sn	20 11 50.9	+1.5
EVR	Evrytania	2.61	148	ePB	Pb	20 11 28.0	-2.2

IDC 05 20:21:25.3±1.5, 5.03N×122.17E, mb3.8/3, mb1 3.9/3, mb1mx3.7/17, mbtmp3.8/3, Error ellipse: s-maj=181.5km s-min=27.5km az=65.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	27.55	155	P	P	20 27 14.2	-1.9
	0.5nm,0.5s,baz=333,slow=10.0,SNR=4.7						
SONM	Songino Array	44.74	345	P	P	20 29 40.3	-1.9
	0.2nm,0.4s,baz=158,slow=7.8,SNR=3.8						
MKAR	Makanchi Array	53.95	327	P	P	20 30 50.9	-2.1
	1.0nm,0.4s,baz=122,slow=7.6,SNR=25						

*NEIC **05** 20:25:15.3, 36.24S×177.63E, h245km, MG4.6(WEL), After WEL.*

WEL 05 20:25:15.5±0.4, 36.22S×177.64E, h242km±7km, ML3.9/9, Error ellipse: s-maj=10.3km s-min=8.9km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.44	159	PN	P	20 25 52.6	-0.3
MXZ				SN	S	20 26 21.3	-0.7
MXZ	Matakaoa Point	1.44	159	P	P	20 25 52.6	-0.3
MXZ				S	S	20 26 21.3	-0.7
PUZ	Puketiti	1.91	165	PN	P	20 25 56.5	-0.3
PUZ				SN	S	20 26 28.1	-0.7
PUZ	Puketiti	1.91	165	P	P	20 25 56.5	-0.3
PUZ				S	S	20 26 28.1	-0.7
URZ	Urewera	2.08	192	PN	P	20 25 58.4	0.0
URZ				SN	S	20 26 31.2	-0.4
URZ	Urewera	2.08	192	P	P	20 25 58.4	0.0
MWZ	Matawai	2.11	182	PN	P	20 25 58.9	+0.2
MWZ				SN	S	20 26 31.9	-0.3
MWZ	Matawai	2.11	182	P	P	20 25 58.9	+0.2
BKZ	Black Stump Fm	3.08	197	PN	P	20 26 08.0	-0.8
BKZ	Black Stump Fm	3.08	197	P	P	20 26 08.0	-0.8
WNVZ	Wahianoa	3.50	207	PN	P	20 26 12.9	-0.7
WNVZ	Wahianoa	3.50	207	P	P	20 26 12.9	-0.7
PWZ	Pawanui	3.85	189	PN	P	20 26 15.1	-2.6
TSZ	Takapari Road	4.06	199	PN	P	20 26 18.2	-1.9
TSZ	Takapari Road	4.06	199	P	P	20 26 18.2	-1.9
MRZ	Mangatainoka R	4.72	199	PN	P	20 26 25.2	-3.0
MRZ				SN	S	20 27 21.7	-3.1
MRZ	Mangatainoka R	4.72	199	eP	P	20 26 25.2	-3.0
CAW	Cannon Point	5.28	202	PN	P	20 26 31.5	-3.6
CAW	Cannon Point	5.28	202	P	P	20 26 31.0	-4.1
NNZ	Nelson	6.00

CPUP	Villa Florida	15.43 130	LR	LR	20 49 37.8	
	comp=Z,750nm,18.5s,baz=334,slow=42					
FCH	Farellones	16.50 180	*e*P	P	20 42 50.4	+0.5
BDFB	Brasilia	21.52 90	LR	LR	20 52 43.4	
	comp=Z,309nm,21.6s,MS3.7,baz=153,slow=38					
TRQA	Tornquist	22.47 162	*e*P	P	20 43 55.9	-1.6
	52nm,1.5s,mb4.7					
PLCA	Paso Flores	23.89 180	P	P	20 44 09.7	-1.7
	7.9nm,1.1s,mb4.1,baz=357,slow=11,SNR=5.9					
PLCA			LR	LR	20 53 48.7	
	comp=Z,349nm,19.7s,MS3.8,baz=341,slow=38					
PLCA	Paso Flores	23.89 180	*e*P	P	20 44 11.2	-0.2
	46nm,1.7s,mb4.6					
TXAR	Lajitas Array	55.96 325	P	P	20 48 37.4	-0.4
	1.0nm,0.7s,mb4.0,baz=148,slow=9.0,SNR=11					
TXAR			LR	LR	21 11 31.2	
	comp=Z,98nm,18.4s,MS3.9,baz=170,slow=35					
MNTX	Cornudas Mount	58.72 325	*e*P	P	20 48 56.3	-1.0
	3.6nm,0.9s,mb4.4					
SDCO	Great Sand Dun	63.47 329	*e*P	P	20 49 29.2	-0.1
	9.0nm,1.0s,mb4.8					
VNA3	Neumayer Olymp	65.00 162		P	20 49 38.8	0.0
PV01	Paradox Valley	65.31 328	*e*P	P	20 49 41.8	+0.4
VNA2	Neumayer--Watz	65.57 161		P	20 49 42.3	-0.1
NEN	Nelson	67.00 322	P	P	20 49 53.2	+1.0
SNAA	Sanae	67.20 162	P	P	20 49 48.8	-4.0
	3.4nm,0.9s,mb4.4					
RSSD	Black Hills	67.94 334	*e*P	P	20 50 00.0	+2.1
	2.9nm,0.7s,mb4.4					
DBIC	Dimbokro	68.83 76	LR	LR	21 18 22.1	
	comp=Z,290nm,20.5s,MS4.5,baz=223,slow=34					
DUG	Dugway	69.05 326	P	P	20 50 04.7	-0.2
	8.9nm,1.3s,mb4.5					
BW06	Boulder Array	69.32 330	*e*P	P	20 50 06.3	-0.2
	4.3nm,1.2s,mb4.2					
PDAR	Pinedale Array	69.32 330	P	P	20 50 06.1	-0.4
	0.7nm,0.5s,mb3.9,baz=90,slow=3.0,SNR=4.8					
PDAR			LR	LR	21 22 41.4	
	comp=Z,55nm,18.9s,MS3.8,baz=267,slow=38					
HWUT	Hardware Ranch	69.44 328	*e*P	P	20 50 07.4	+0.1
	5.4nm,0.9s,mb4.5					
ULM	Lac du Bonnet	70.39 343	P	P	20 50 11.7	-1.3
	4.6nm,0.7s,mb4.5,baz=132,slow=3.6,SNR=4.5					
ULM			LR	LR	21 20 33.5	
	comp=Z,54nm,18.5s,MS3.8,baz=136,slow=35					
ULM	Lac du Bonnet	70.39 343	*e*P	P	20 50 13.8	+0.8
	4.5nm,0.6s,mb4.6					
TPAW	Teton Pass	70.53 330	P	P	20 50 13.7	-0.2
	5.3nm,1.1s,mb4.4					
RRI2	Red Ridge	70.61 330	*e*P	P	20 50 14.9	+0.5
	9.5nm,1.0s,mb4.7					
RRI2			*e*		20 50 58.6	
ELK	Elko	70.74 325	P	P	20 50 15.8	+0.6
	0.8nm,0.5s,mb3.9					
MCMT	McKenzie Canyo	72.44 330	P	P	20 50 26.1	+0.8
BOZ	Bozeman (W)	72.47 331	P	P	20 50 24.9	-0.6
	7.8nm,1.4s,mb4.5					
WVOR	Wild Horse Val	73.76 325	*e*P	P	20 50 30.5	-2.6
	3.4nm,0.6s,mb4.5					
BMO	Blue Mountains	74.69 327	*e*P	P	20 50 38.8	+0.3
	6.4nm,1.2s,mb4.4					
PPT	Papeete	75.08 256	LR	LR	21 15 04.2	
	comp=Z,64nm,19.1s,MS3.9,baz=52,slow=29					
VNDA	Vanda	81.25 190	P	P	20 51 15.0	+1.0
	0.5nm,0.7s,mb3.6,baz=155,slow=9.3,SNR=2.6					
TSUM	Tsumeb	82.78 108	LR	LR	21 25 16.0	
	comp=Z,134nm,18.3s,MS4.3,baz=284,slow=34					
ESDC	Sonseca Array	83.48 45	P	P	20 51 25.7	-0.5
	0.2nm,0.4s,mb3.5,baz=246,slow=5.7,SNR=4.5					
YKA	Yellowknife Ar	86.27 341	P	P	20 51 40.5	+0.9
	2.6nm,0.9s,mb4.5,baz=130,slow=4.7,SNR=10					
YKA	Yellowknife Ar	86.27 341	P	P	20 51 40.5	+0.9
BOSA	Boshof	86.93 119	LR	LR	21 25 49.6	
	comp=Z,112nm,20.6s,MS4.3,baz=345,slow=32					
LBTB	Lobatse	88.29 115	LR	LR	21 29 23.0	
	comp=Z,127nm,18.6s,MS4.4,baz=98,slow=34					
MAW	Mawson	89.25 164	P	P	20 51 54.3	+0.4
	2.3nm,0.9s,mb4.5,baz=260,slow=2.9,SNR=6.5					
MATP	Matopo	92.26 112	LR	LR	21 31 25.7	
	comp=Z,170nm,19.1s,MS4.5,baz=256,slow=34					
DAVOX	Davos	95.56 43	LR	LR	21 32 48.3	
	comp=Z,111nm,21.2s,MS4.3,baz=253,slow=34					
JMIC	Jan Mayen	97.05 17	LR	LR	21 31 13.5	
	comp=Z,32nm,18.7s,MS3.8,baz=54,slow=32					
GERES	GERESS Array B	98.62 42	LR	LR	21 38 14.1	
	comp=Z,32nm,18.2s,MS3.9,baz=150,slow=36					
ILAR	Eielson Array	99.38 335	LR	LR	21 39 45.6	
	comp=Z,58nm,18.4s,MS4.1,baz=357,slow=37					
WRA	Warramunga Arr	136.18 215	PKP	PKPdf	20 58 21.2	-1.2
	1.0nm,0.9s,baz=157,slow=1.4,SNR=5.3					
ZAL	Zalesovo	138.18 22	PKhKP		20 58 20.8	
	1.6nm,0.3s,baz=266,slow=2.8,SNR=6.4					
ZAL			PKP	PKPdf	20 58 23.9	-1.3
	2.3nm,0.8s,baz=242,slow=2.6,SNR=1.1					
MKAR	Makanchi Array	142.47 31	PhKKP		20 58 29.2	
	0.5nm,0.8s,baz=297,slow=2.7,SNR=4.1					
WMQ	Urumqi	147.25 30	*e*PKP	PKPdf	20 58 42.0	+0.7
MAT	Matsushiro	147.92 313	PKP	PKPdf	20 58 44.2	+1.6
MAT	Matsushiro	147.92 313	*e*PKP	PKPdf	20 58 44.0	+1.4
SONM	Songino Array	148.90 4	PKPbc	PKPdf	20 58 45.9	+2.2
	2.0nm,0.6s,baz=337,slow=1.8,SNR=18					

IDC ***05*** *20:40:59.8±1.4,27.59N×92.62E,mb3.5/4,mb1 3.9/4, mb1mx3.6/19,mbtmp3.6/4,Error ellipse: s-maj=53.3km s-min=24.9km az=58.0*

ISC 05 21:41:02.5±1.0,27.56N±0.08×92.6E±0.2,h33km,n6, σ0°14/7,mb3.7/3,Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	Shillong	2.07	197	*i* PN	Pn	20 41 42.0	+6.2
SHL				*e*SN	Sn	20 42 00.7	0.0
IMP	Imphal	3.03	155	*e*P	P	20 42 02.0	+13
MKAR	Makanchi Array	20.83	340	P	P	20 45 43.5	-0.2
	0.6nm,0.5s,baz=144,slow=12,SNR=14						
SONM	Songino Array	22.95	24	P	P	20 46 04.9	+0.2
	0.2nm,0.4s,mb2.9,baz=204,slow=14,SNR=3.1						
WRA	Warramunga Arr	62.18	135	P	P	20 51 23.1	-0.1
	1.7nm,0.7s,mb4.3,baz=318,slow=7.8,SNR=16						
GERES	GERESS Array B	62.68	313	P	P	20 51 26.3	+0.1
	0.5nm,0.5s,mb3.9,baz=76,slow=5.5,SNR=6.8						

NIED ***05*** *20:44:00,33.30N×142.50E,h8km,Mw3.7 Best double couple: M0 3.83×10^14 NP1:φs170°,δ71°,λ-101°. NP2: φs20°,δ22°,λ-62°.*
IDC ***05*** *20:44:36.0±1.2,33.31N×142.48E,mb3.7/5,mb1 4.1/6, mb1mx3.8/18,mbtmp3.8/6,Error ellipse: s-maj=32.6km s-min=23.5km az=156.0*
JMA ***05*** *20:44:38.6±0.4,33.30N×142.53E,h66km,M3.6*
NEIC ***05*** *20:44:38.5±8.7,33.31N×142.57E,h16km±53km,mb3.8/1, Error ellipse: s-maj=23.2km s-min=19.1km az=112.0*
MOS ***05*** *20:44:38.9±1.5,33.30N×142.52E,h33km,mb4.0/1,Error ellipse: s-maj=32.0km s-min=15.6km az=123.2*

ISC 05 20:44:37.7±1.8,33.36N±0.05×142.52E±0.06,h23km±14km, n28,σ1°05/40,mb3.7/7,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	1.82	316	P	Pn	20 45 08.9	+0.7
BSO1				S	Sn	20 45 31.9	+1.1
BSO2	Boso 2	2.02	314	S	Sn	20 45 37.0	+1.1
BSO3	Boso 3	2.21	311	P	Pn	20 45 14.1	+0.4
BSO3				S	Sn	20 45 40.6	0.0
JHJ2	Mitsune	2.28	265	P	Pn	20 45 15.2	+0.4
JHJ2				S	Sn	20 45 42.5	0.0
JHJ	Hachijo jima 2	2.31	265	Pn	Pn	20 45 14.8	-0.4
	58nm,0.3s,baz=78,slow=14,SNR=26						
JHJ				Sn	Sn	20 45 42.4	-0.8
	71nm,0.3s,baz=68,slow=23,SNR=7.3						
BSO4	Boso 4	2.44	313	P	Pn	20 45 18.4	+1.4
BSO4				S	Sn	20 45 48.3	+1.9
JIM2	Oshima 3	2.90	299	P	Pn	20 45 22.7	-1.0
JOD2	Odawara 2	3.42	305	P	Pn	20 45 31.5	+0.5
JOD2				S	Sn	20 46 10.4	-0.9
JYN	Shimob	3.92	304	P	Pn	20 45 38.4	+0.3
JYN				S	Sn	20 46 25.0	+1.0
JAG	Ashikaga	3.96	321	P	Pn	20 45 38.8	0.0
JAG				S	Sn	20 46 22.8	-2.3
JRY	Ryogami san	3.99	313	P	Pn	20 45 39.0	-0.1
JRY				S	Sn	20 46 24.8	-1.0
JMM	Marumori	4.71	343	P	Pn	20 45 47.1	-2.3
MAJO	Matsushiro	4.76	313	*e*Pn	Pn	20 45 49.8	-0.2
MAT	Matsushiro	4.76	313	P	Pn	20 45 51.2	+1.2
MAT				S	Sn	20 46 43.2	-2.0
MAT	Matsushiro	4.76	313	P	Pn	20 45 51.2	+1.2
MAT				S	Sn	20 46 43.3	-1.9
MAT	Matsushiro	4.76	313	*e*P	Pn	20 45 51.0	+1.0
MAT				*e*S	Sn	20 46 43.0	-2.2
JMK	Ichinoseki	5.68	350	P	Pn	20 46 02.2	-0.8
SONM	Songino Array	30.70	309	P	P	20 50 56.2	+3.3
	0.5nm,0.7s,mb3.4,baz=99,slow=9.2,SNR=3.9						
BOD	Bodaibo	31.14	330	*e*P	P	20 51 02.3	+5.5
MKAR	Makanchi Array	46.91	305	P	P	20 53 08.0	-0.2
	0.3nm,0.7s,mb3.3,baz=84,slow=9.8,SNR=3.3						
MKAR	Makanchi Array	46.91	305	P	P	20 53 08.0	-0.2
KURK	Kurchatov	48.97	311	*e*P	P	20 53 24.4	+0.3
	0.7nm,0.6s,mb3.9						
KURK				*e*		20 53 43.8	
KURK	Kurchatov	48.97	311	*e*P	P	20 53 24.5	+0.3
KURK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
IMA	Indian Mountai	49.42	29	*e*P	P	20 53 26.8	-0.7
ILAR	Eielson Array	52.14	31	P	P	20 53 47.8	-0.4
	comp=Z,0.9nm,0.6s,mb3.9,baz=262,slow=5.6,SNR=5.5						
WRA	Warramunga Arr	53.57	190	P	P	20 53 58.2	-1.2
	comp=Z,0.4nm,0.4s,mb3.7,baz=7.4,slow=7.8,SNR=6.2						
NOA	NORSAR Array B	77.92	338	P	P	20 56 35.8	+0.8
	comp=Z,0.8nm,0.7s,mb3.8,baz=38,slow=5.6,SNR=3.6						
TXAR	Lajitas Array	91.62	53	P	P	20 57 46.0	+1.5
	comp=Z,0.5nm,0.6s,mb4.0,baz=291,slow=3.5,SNR=7.6						

MEX 05 20:56:30.9±0.7,15.55N×95.78W,h15km,MD3.7,Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.39	305	*i* P	Pb	20 56 37.4	-1.5
HUIG				*i* S	Sb	20 56 42.9	-1.4
CMIG	Matias Romero	1.76	29	*e*P	Pn	20 56 57.8	-3.4
CMIG				*i* S	Sn	20 57 18.0	-5.5
VHO	Vista Hermosa	1.77	329	*i* P	Pn	20 56 58.6	-2.7
VHO				*i* S	Sn	20 57 19.1	-4.6
OXX	Oaxaca	1.78	329	*i* P	Pn	20 56 59.0	-2.4
OXX				*i* S	Sn	20 57 19.0	-4.8

ROM ***05*** *21:13:00.5±0.4,38.42N×17.48E,h39km,Md2.9/6,Ml2.8/4, Error ellipse: s-maj=6.5km s-min=5.0km az=53.0*
CSEM ***05*** *21:13:01.1±0.1,38.42N×17.50E,h40km,ML3.3/3,Error ellipse: s-maj=4.4km s-min=2.5km az=165.0*
ATH ***05*** *21:13:22.7,39.17N×19.37E,h27km,MD3.3/4*

ISC 05 21:13:01.2±0.5,38.42N±0.05×17.48E±0.04,h40km,n22, σ1°04/26,2C-1D,Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRI	Girifalco	0.92	296	Pg	P	21 13 18.4	+0.6
GRI				Sg	S	21 13 32.1	+2.0
	263nm,0.6s						
TIP	Timpagrande	0.94	323	⇓*i* Pg	P	21 13 18.5	+0.4
TIP				Sg	S	21 13 31.3	+0.7
	70nm,0.7s						
SOI	Samo	1.18	253	⇑*i* Pg	P	21 13 22.0	+0.6
SOI				Sg	S	21 13 36.8	+0.3
	89nm,0.9s						
MTTG	Motta San Giov	1.47	254	⇑*i* Pg	P	21 13 26.0	+0.3
	65nm,0.2s						
MMME	Mongiuffi-Meli	1.82	255	Pg	P	21 13 31.4	+0.7
KEK	Kerkira	2.22	54	*e*PN	P	21 13 35.5	-0.8
KEK	Kerkira	2.22	54	Pg	P	21 13 35.8	-0.5
	53nm,0.1s						
KEK	Kerkira	2.22	54	Pg	P	21 13 35.8	-0.5
	53nm,0.1s						
MGR	Morigerati	2.27	319	Pg	P	21 13 37.0	-0.1
	16nm,0.4s						
SSY	Sortino	2.29	237	Pg	P	21 13 35.3	-2.1
	341nm,0.1s						
PZI	Palazzolo	2.43	237	Pg	P	21 13 37.7	-1.6
	251nm,0.1s						
VLS	Valsamata	2.46	95	*e*PN	P	21 13 48.5	+8.7
IGT	Igoumenitsa	2.48	63	*e*P	P	21 13 39.9	-0.3
SG1	Sgolgore (BA)	2.49	346	*e*Pn	P	21 13 39.3	-1.0
SGO	Sicignano	2.72	322	Pn	P	21 13 43.3	-0.2
	7.0nm,0.2s						
CDT	Castel del Mon	2.81	341	*e*Pn	P	21 13 43.5	-1.4
JAN	Janina	2.90	64	*e*PN	P	21 13 46.3	+0.2
EVR	Evrytania	3.42	80	*e*PN	P	21 13 55.0	+1.5
FNA	Florina	3.82	51	*e*P	P	21 13 59.0	-0.2
AGG	Agios Georgios	3.84	80	*e*P	P	21 14 00.7	+1.3
LIT	Litokhoron	4.23	65	*e*P	P	21 14 05.6	+0.6
BOJS	Bojanci	7.27	348	*i* Pn	P	21 14 45.4	-2.2
BOJS				*i* Sn	S	21 16 00.5	-9.2

IDC ***05*** *21:13:13.0±9.7,3.76S×67.43E,mb4.0/4,mb1 4.1/4, mb1mx3.7/17,mbtmp4.0/4,MS3.7/3,Ms1 3.6/3, ms1mx3.1/21,Error ellipse: s-maj=295.2km s-min=36.7km az=66.0*
NEIC ***05*** *21:13:15.2±3.2,3.71S×67.54E,h10km,mb4.4/2,Error ellipse: s-maj=91.9km s-min=25.7km az=66.0*

ISC 05 21:13:11.1±4.2,3.9S±0.4×67.2E±0.8,h10km,n8,σ0°34/6, mb4.2/6,MS3.6/3,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	Arta Tunnel	28.61	303	LR	LR	21 27 57.0	
	comp=Z,34nm,21.2s,MS2.9,baz=355,slow=31						
LSA	Lhasa	40.54	33	*e*P	P	21 20 52.3	0.0
	11nm,1.1s,mb4.4						
BOSA	Boshof	46.77	234	LR	LR	21 40 29.9	
	comp=Z,110nm,18.2s,MS3.9,baz=347,slow=35						
MKAR	Makanchi Array	52.19	13	P	P	21 22 24.5	+0.2
	0.6nm,0.8s,mb3.5,baz=197,slow=9.2,SNR=4.7						
KURK	Kurchatov	55.26	9	*e*P	P	21 22 47.2	+0.3
	3.2nm,1.0s,mb4.3						
ZAL	Zalesovo	59.46	12	P	P	21 23 16.1	-0.5
	0.8nm,0.6s,mb3.9,baz=238,slow=6.7,SNR=6.0						
SONM	Songino Array	61.90	29	P	P	21 23 33.2	0.0
	4.9nm,0.9s,mb4.6,baz=222,slow=6.2,SNR=29						
SONM				LR	LR	21 49 39.5	
	comp=Z,132nm,19.0s,MS4.1,baz=74,slow=36						
WRA	Warramunga Arr	67.26	110	P	P	21 24 08.5	0.0
	1.6nm,0.8s,mb4.1,baz=283,slow=6.0,SNR=6.8						

NIED ***05*** *21:25:00,33.40N×142.60E,h5km,Mw4.2 Best double couple: M0 2.42×10^15 NP1:φs169°,δ70°,λ-91°. NP2: φs353°,δ20°,λ-86°.*
BJI ***05*** *21:25:14.1,33.20N×142.90E,h32km,mB5.0,mb4.4*
IDC ***05*** *21:25:14.8±0.7,33.41N×142.57E,mb4.1/12,mb1 4.3/14, mb1mx4.1/23,mbtmp4.1/14,ML3.4/1,MS3.1/2,Ms1 3.1/2, ms1mx2.6/28,Error ellipse: s-maj=19.3km s-min=16.6km az=129.0*
JMA ***05*** *21:25:16.0±0.3,33.38N×142.58E,h71km,M4.0*
NEIC ***05*** *21:25:16.6±7.0,33.44N×142.61E,h12km±43km,mb4.6/3, MW4.2(NIED),Error ellipse: s-maj=19.3km s-min=10.9km az=93.0*
MOS ***05*** *21:25:17.4±0.9,33.37N×142.48E,h33km,mb4.6/6,Error ellipse: s-maj=23.4km s-min=10.4km az=122.8*

ISC 05 21:25:14.7±1.4,33.48N±0.04×142.56E±0.05,h13km±9km, n56,σ1°15/65,mb4.2/17,1C,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	1.76	312	P	Pn	21 25 45.9	+0.7
BSO1				S	Sn	21 26 09.5	+1.9
BSO2	Boso 2	1.97	311	S	Sn	21 26 14.4	+1.6
BSO3	Boso 3	2.15	308	P	Pn	21 25 51.5	+0.7
BSO3				S	Sn	21 26 19.0	+1.4
JHJ2	Mitsune	2.33	262	P	Pn	21 25 53.5	+0.2
JHJ2				S	Sn	21 26 20.8	-1.2
JHJ	Hachijo jima 2	2.35	262	Pn	Pn	21 25 52.5	-1.1
	53nm,0.3s,baz=141,slow=5.7,SNR=32						
JHJ				Sn	Sn	21 26 23.1	+0.4
	59nm,0.3s,baz=65,slow=23,SNR=6.0						
JHJ				LR	LR	21 26 45.6	
	comp=Z,701nm,18.1s,baz=321,slow=39						
BSO4	Boso 4	2.38	310	P	Pn	21 25 55.3	+1.2
KTR	Katsuura	2.50	313	S	Sn	21 26 25.5	+0.2
JIM2	Oshima 3	2.88	296	P	Pn	21 26 00.4	-0.8
JIM2				S	Sn	21 26 34.1	-1.9
JOD2	Odawara 2	3.38	303	P	Pn	21 26 08.0	-0.3
JOD2				S	Sn	21 26 48.5	-0.2
JYN	Shimob	3.88	302	P	Pn	21 26 16.4	+1.0
JYN				S	Sn	21 27 01.3	-0.1
JAG	Ashikaga	3.90	320	P	Pn	21 26 15.9	+0.3
JAG				S	Sn	21 26 59.5	-2.2
JRY	Ryogami san	3.94	311	P	Pn	21 26 16.4	+0.2
JRY				S	Sn	21 27 01.3	-1.5
TK01	Tokai 1	4.16	275	P	Pn	21 26 18.2	-1.2
JMM	Marumori	4.61	342	P	Pn	21 26 24.2	-1.6
MAJO	Matsushiro	4.70	312	*e*Pn	Pn	21 26 27.9	+0.8
MAT	Matsushiro	4.70	312	P	Pn	21 26 26.7	-0.4
MAT				S	Sn	21 27 13.8	-8.4
MAT	Matsushiro	4.70	312	P	Pn	21 26 28.4	+1.3
MAT	Matsushiro	4.70	312	*e*P	Pn	21 26 27.0	-0.1
MAT				*e*S	Sn	21 27 14.0	-8.2
JGM	Miyama	5.30	296	P	Pn	21 26 36.2	+0.6
JMK	Ichinoseki	5.57	349	P	Pn	21 26 37.5	-1.8
JYK	Kaneyama	5.71	342	P	Pn	21 26 40.3	-1.1
JYK				S	Sn	21 27 44.3	-3.3
JNU	Nakatsue	9.79	271	Pn	P	21 27 39.1	+0.9
	0.3nm,0.3s,baz=72,slow=7.6,SNR=7.8						
JNU				LR	LR	21 29 59.3	
	comp=Z,50nm,21.4s,baz=329,slow=29						
YSS	Yuzh-Sakhalins	13.46	1	*e*Pn	P	21 28 24.9	-3.0
	25nm,0.8s						
YSS	Yuzh-Sakhalins	13.46	1	*e*P	P	21 28 24.8	-3.1
HHC	Hu-ho-hao-te	25.68	296	*e*P	P	21 30 49.2	+3.3
HHC				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
SONM	Songino Array	30.65	309	P	P	21 31 33.2	+2.4
	comp=Z,2.4nm,0.8s,mb4.1,baz=108,slow=8.4,SNR=14						
BOD	Bodaibo	31.06	330	*e*P	P	21 31 40.6	+6.3
BOD				pmax	pmax		
	comp=Z,4.0nm,1.5s,mb4.0						
ZAK	Zakamensk	33.29	312	⇑*i* P	P	21 31 55.1	+1.2
ZAK				*e*		21 33 18.6	
NVS	Novosibirsk	46.02	316	*e*P	P	21 33 39.2	-0.1
MKAR	Makanchi Array	46.87	305	P	P	21 33 47.1	+0.9
	comp=Z,1.2nm,0.8s,mb3.9,baz=90,slow=9.7,SNR=6.0						
MKAR	Makanchi Array	46.87	305	P	P	21 33 48.4	+2.2
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KURK	Kurchatov	48.91	311	*e*P	P	21 34 02.3	+0.2
	comp=Z,8.8nm,0.9s,mb4.8						
KURK	Kurchatov	48.91	311	P	P	21 34 02.2	+0.1
KURK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
ILAR	Eielson Array	52.03	31	P	P	21 34 25.7	0.0
	comp=Z,2.5nm,0.9s,mb4.2,baz=263,slow=6.3,SNR=18						
VOSK	Vostochnaya	53.39	314	P	P	21 34 35.4	-0.6
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
WRAB	Tennant Creek	53.68	190	*e*P	P	21 34 37.3	-1.3
	comp=Z,7.2nm,0.7s,mb4.7						
WRAB	Tennant Creek	53.68	190	*e*P	P	21 34 37.3	-1.3
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7						
BVAR	Borovoye Array	53.69	314	P	P	21 34 38.1	-0.1
	comp=Z,0.4nm,0.5s,mb3.6,baz=88,slow=7.6,SNR=4.5						
WRA	Warramunga Arr	53.69	190	P	P	21 34 37.2	-1.5
	comp=Z,1.2nm,0.6s,mb4.0,baz=8.4,slow=7.7,SNR=12						
FITZ	Fitzroy Crossi	53.77	200	P	P	21 34 38.3	-0.9
	comp=Z,3.7nm,0.7s,mb4.4,baz=179,slow=6.8,SNR=5.6						
KKAR	Karatay Array	55.77	303	*i* P	P	21 34 53.5	0.0
INK	Inuvik	57.14	26	P	P	21 35 03.2	+0.2
	comp=Z,3.2nm,0.9s,mb4.3,baz=298,slow=6.1,SNR=4.7						
INK	Inuvik	57.14	26	P	P	21 35 03.2	+0.2
AB31	Akbulak array	60.98	312	P	P	21 35 28.1	-1.7
STKA	Stephens Creek	65.01	181	P	P	21 35 57.6	+0.8
	comp=Z,2.0nm,0.7s,mb4.2,baz=337,slow=7.7,SNR=4.5						
YKA	Yellowknife Ar	66.42	30	P	P	21 36 05.4	+0.2
	comp=Z,2.6nm,0.9s,mb4.3,baz=292,slow=6.2,SNR=7.4						
YKA	Yellowknife Ar	66.42	30	P	P	21 36 05.4	+0.2
FINES	FINESS Array B	72.40	333	P	P	21 36 42.0	0.0
	comp=Z,2.2nm,0.9s,mb4.1,baz=164,slow=10,SNR=2.8						
NB2	NORSAR Subarra	77.83	338	P	P	21 37 13.3	+0.4
	comp=Z,0.8nm,0.7s,mb3.8,baz=40,slow=5.6						
NB2	NORSAR Subarra	77.83	338	P	P	21 37 13.3	+0.4
NB2				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
NOA	NORSAR Array B	77.83	338	P	P	21 37 13.9	+1.0
	comp=Z,1.6nm,0.8s,mb4.0,baz=39,slow=5.8,SNR=5.4						
CLL	Collm	84.65	331	P	P	21 37 50.0	+1.1
TXAR	Lajitas Array	91.53	53	P	P	21 38 24.4	+1.9
	comp=Z,0.9nm,0.7s,mb4.2,baz=300,slow=3.2,SNR=14						
MIR	Mirnyy	106.62	199	*e*P	Pdif	21 39 36.0	+6.4
MIR				pmax	pmax		
	comp=Z,21nm,1.0s						
LPAZ	La Paz	147.49	66	PKPbc	PKPdf	21 45 01.7	+1.9
	comp=Z,2.0nm,0.7s,baz=311,slow=3.9,SNR=8.1						
LPAZ	La Paz	147.49	66	PKP2	PKPdf	21 45 01.7	+1.9
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.7s						

NIED ***05*** *21:35:00,33.50N×142.30E,h5km,Mw4.0 Best double couple: M0 9.65×10^14 NP1:φs173°,δ73°,λ-87°. NP2: φs343°,δ17°,λ-99°.*
IDC ***05*** *21:35:05.3±0.9,33.28N×142.57E,mb3.9/8,mb1 4.1/9, mb1mx4.0/20,mbtmp3.9/9,ML3.6/1,MS3.3/1,Ms1 3.3/1, ms1mx2.5/27,Error

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.51**	**161**	*i* P	P	22 12 46.8	-1.4
CMIG				*i* S	S	22 13 00.3	-1.9
TUIG	**Tuzandepetl**	**0.76**	**53**	*i* P	P	22 12 48.8	-1.1
TUIG				*i* S	S	22 13 02.8	-2.6
EVV	**El Vigia**	**0.92**	**343**	*i* P	P	22 12 49.5	-2.0
EVV				*i* S	S	22 13 06.0	-1.8
OXX	**Oaxaca**	**1.66**	**253**	*eP*	P	22 12 58.0	-1.6
OXX				*i* S	S	22 13 20.5	-1.8
VHO	**Vista Hermosa**	**1.67**	**253**	*i* P	P	22 12 58.0	-1.8
VHO				*i* S	S	22 13 21.2	-1.4
HUIG	**Huatulco**	**2.06**	**209**	*i* P	P	22 13 02.1	-2.4
HUIG				*i* S	S	22 13 27.1	-3.8
SCX	**San Cristobal**	**2.47**	**109**	*eP*	P	22 13 08.8	-1.1
SCX				*i* S	S	22 13 38.0	-2.3
IISM	**Ciudad Serdan**	**2.61**	**303**	*i* P	P	22 13 11.0	-0.8
IISM				*i* S	S	22 13 40.0	-3.7
CCIG	**Comitan**	**3.08**	**114**	*i* P	P	22 13 16.2	-1.9
CCIG				*i* S	S	22 13 52.0	-2.7
PPM	**Popocatepetl**	**3.70**	**294**	*eP*	P	22 13 26.0	-0.3
YAIG	**Yautepec**	**4.02**	**289**	*i* P	P	22 13 28.5	-2.0
YAIG				*i* S	S	22 14 14.5	-2.7
PLIG	**Platanillo**	**4.30**	**282**	*i* P	P	22 13 31.9	-2.6
ACX	**Acapulco**	**4.69**	**262**	*eP*	P	22 13 33.0	-6.7

IDC 05 22:51:13.1±1.9, 17.09S×177.85W, mb3.8/3, mb1 4.1/3, mb1mx3.8/12, mbtmp3.8/3, Error ellipse: s-maj=162.3km s-min=33.7km az=155.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.49**	**240**	P	P	22 58 45.7	-1.5
	0.8nm,0.3s,baz=83,slow=12,SNR=6.4						
WRA	**Warramunga Arr**	**45.31**	**259**	P	P	22 59 32.9	-2.0
	0.9nm,0.3s,baz=95,slow=7.4,SNR=13						
TXAR	**Lajitas Array**	**85.11**	**57**	P	P	23 03 51.5	-1.2
	0.2nm,0.7s,baz=231,slow=5.8,SNR=3.8						

*NEIC **05** 23:02:29.4, 12.18N×86.09W, MD4.2(CASC), After CASC.*

CASC 05 23:02:44.3±2.2, 11.27N×85.48W, h1km±5km, MD4.0, ML3.9, 11C-9D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MADN	**Villa Maderas**	**0.15**	**338**	⇑*iP*	Pg	23 02 49.0	+1.7
MADN				*eS*	Sg	23 02 50.1	+0.8
CONN	**Concepcion**	**0.33**	**333**	⇑*iP*	Pg	23 02 51.8	+1.0
SSNN	**San Juan del S**	**0.37**	**273**	⇑*eP*	Pg	23 02 52.7	+1.0
LIM1	**Limonal**	**0.60**	**159**	⇑*eP*	Pg	23 02 56.6	+0.3
LIM1				*i* S	Sg	23 03 05.9	+1.4
APON	**Apoyo**	**0.87**	**318**	⇓*eP*	Pg	23 03 01.7	+0.1
MASN	**Masaya**	**0.97**	**317**	⇑*eP*	Pb	23 03 02.8	-0.8
TICN	**Ticuantepe**	**1.06**	**316**	⇑*eP*	Pb	23 03 06.1	+1.0
TICN				*eS*	Sb	23 03 20.1	+0.7
CRUN	**El Crucero**	**1.08**	**311**	⇑*eP*	Pb	23 03 05.3	0.0
JTS	**JuntasAbangare**	**1.10**	**152**	*ePn*	Pn	23 03 04.3	-2.3
FORC	**Fortuna**	**1.12**	**135**	*eP*	Pb	23 03 06.4	+0.3
WILN	**Americas 2**	**1.13**	**322**	⇑*eP*	Pb	23 03 05.2	-1.1
VCR	**Vista de Mar**	**1.15**	**188**	*eP*	Pb	23 03 06.4	-0.1
VCR	**Vista de Mar**	**1.15**	**188**	*eP*	Pb	23 03 06.0	-0.6
MGAN	**Managua**	**1.16**	**319**	⇓*eP*	Pb	23 03 06.0	-0.7
MGAN				*eS*	Sb	23 03 21.9	-0.1
MGAN				*eS*	Sb	23 03 23.2	+1.2
	comp=E,3μm,0.5s						
XAVN	**Gruta Xavier**	**1.21**	**316**	⇓*eP*	Pb	23 03 07.2	-0.4
PYTN	**Playitas**	**1.39**	**336**	⇓*eP*	Pb	23 03 09.6	-1.1
COPN	**Copaltepe**	**1.42**	**310**	⇑*eP*	Pb	23 03 09.9	-1.4
MOMJ	**Momotombo**	**1.54**	**317**	⇓*eP*	Pn	23 03 11.3	-1.6
VPS2	**Volcan Poas 2**	**1.62**	**131**	*eP*	Pn	23 03 13.1	-1.0
VPS2				*eS*	Sb	23 03 38.6	+3.0
VPS2	**Volcan Poas 2**	**1.62**	**131**	*eP*	Pn	23 03 13.6	-0.6
MIRN	**Miramar**	**1.68**	**314**	⇓*eP*	Pn	23 03 15.3	+0.3
CNGN	**Cerro Negro**	**1.71**	**316**	⇑*eP*	Pn	23 03 15.6	+0.2
PRS1	**Puriscal**	**1.71**	**138**	*eP*	Pn	23 03 16.0	+0.5
PRS1				*eS*	Sb	23 03 41.4	+3.1
PRS1	**Puriscal**	**1.71**	**138**	*eP*	Pn	23 03 16.0	+0.6
LEON	**Leon**	**1.80**	**310**	⇑*eP*	Pn	23 03 16.6	-0.1
TEL3	**Telica 3**	**1.86**	**314**	⇓*eP*	Pn	23 03 16.4	-1.2
TELN	**Telica**	**1.88**	**315**	⇓*eP*	Pn	23 03 18.1	+0.3
SJS	**Escuela Geolog**	**1.92**	**133**	*eP*	Pn	23 03 18.4	0.0
SJS				*eS*	Sn	23 03 46.5	+2.9
SJS	**Escuela Geolog**	**1.92**	**133**	*eP*	Pn	23 03 17.9	-0.5
SJS				*eS*	Sn	23 03 56.5	+13
LCR2	**La Lucha 2**	**2.10**	**136**	*eP*	Pn	23 03 20.1	-0.8
LCR2				*eS*	Sn	23 03 51.0	+3.0
LCR2	**La Lucha 2**	**2.10**	**136**	*eP*	Pn	23 03 20.1	-0.8
CRIN	**San Cristobal**	**2.10**	**313**	⇓*eP*	Pn	23 03 21.2	+0.2
BUS	**Buena Vista**	**2.40**	**135**	*eP*	Pn	23 03 26.6	+1.3
BUS				*eS*	Sn	23 03 59.0	+3.4
BUS	**Buena Vista**	**2.40**	**135**	*eP*	Pn	23 03 25.7	+0.5
CNCH	**Conchagua**	**3.05**	**311**	*eP*	Pn	23 03 50.6	+16
CNCH				*eS*	Sn	23 04 28.2	+16
LCBS	**La Ceiba**	**4.16**	**305**	*eP*	Pn	23 03 59.4	+9.1
LCBS				*eS*	Sn	23 04 50.1	+10
LFRS	**El Faro**	**4.21**	**304**	*eP*	Pn	23 04 00.7	+10
LFRS				*eS*	Sn	23 04 51.3	+10

*CSEM **05** 23:39:22.8±0.8, 39.01N×29.43W, ML2.3, Error ellipse: s-maj=58.2km s-min=8.1km az=43.0, After PDA*
*PDA **05** 23:39:22.8±0.8, 39.01N×29.43W, MD3.3, ML2.3, Error ellipse: s-maj=58.2km s-min=8.1km az=43.0*

SVSA 05 23:39:22.8±0.8, 39.01N×29.43W, MD3.3, ML2.3, Error ellipse: s-maj=58.2km s-min=8.1km az=43.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.69**	**124**	*eP*	Pg	23 39 34.6	-1.9
PCED				*eS*	Sg	23 39 43.5	-2.2
	34nm,0.3s						
CALA	**Caldeira**	**0.71**	**127**	*eP*	Pg	23 39 35.3	-1.8
CALA				*eS*	Sg	23 39 44.6	-2.0
HOR	**Horta**	**0.79**	**127**	*eS*	Sg	23 39 46.5	-2.7
PICO	**Pico**	**0.94**	**123**	*i* P	Pg	23 39 38.7	-2.8
PICO				*eS*	Sg	23 39 50.3	-3.7

*IDC **05** 23:40:54.8±1.1, 26.50N×102.88E, mb3.9/9, mb1 4.1/9, mb1mx4.0/18, mbtmp4.0/9, MS3.5/2, Ms1 3.5/2, ms1mx2.9/36, Error ellipse: s-maj=58.4km s-min=21.5km az=58.0*
*BJI **05** 23:40:56.5, 26.50N×103.04E, h12km, mB4.7, mb4.1, ML4.0, Ms4.0, Msz3.9*
*NEIC **05** 23:40:57.1±1.4, 26.48N×102.88E, h14km±10km, mb4.5/9, Error ellipse: s-maj=10.2km s-min=8.9km az=73.0*

ISC 05 23:40:54.6±0.4, 26.50N±0.04×102.95E±0.06, h10km, n36, σ0§93/40, mb4.2/19, MS3.4/2, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**1.39**	**188**	PG	**Pg**	**23 41 23.1**	**+0.7**
KMI				SG	**Sg**	**23 41 41.0**	**+0.1**
KMI				Smax			
	comp=N,2μm,0.7s						
KMI				Smax			
	comp=E,3μm,1.0s						
KMI				LR	LR		
	comp=N,6μm,4.4s						
KMI				LR	LR		
	comp=E,5μm,3.8s						
GYA	**Guiyang**	**3.33**	**90**	P	**Pn**	**23 41 50.8**	**+2.9**
GYA				PG	**Pg**	**23 41 58.3**	**-2.8**
GYA				SG	**Sg**	**23 42 30.4**	**-15**
GYA				LR	LR		
	comp=N,2μm,7.2s						
GYA				LR	LR		
	comp=E,2μm,7.8s						
GYA				LR	LR		
	comp=Z,2μm,8.1s						
CD2	**Chengdu**	**4.45**	**9**	P	**Pn**	**23 42 06.1**	**+2.3**
CD2				PG	**Pg**	**23 42 18.4**	**-5.0**
CD2				SG	**Sg**	**23 43 12.8**	**-10**
CD2				Smax			
	comp=N,351nm,1.4s						
CD2				Smax			
	comp=E,230nm,1.1s						
CD2				LR	LR		
	comp=E,1μm,4.7s						
CD2				LR	LR		
	comp=Z,720nm,5.8s						
ENH	**Enshi**	**6.87**	**55**	*e*Pn	**Pn**	**23 42 38.7**	**+0.7**
	comp=Z,56nm,0.9s						
XAN	**Xi'an**	**9.11**	**33**	P	**P**	**23 43 08.3**	**-0.9**
XAN				AP		23 43 18.1	
XAN				AMB	AMB		
	comp=Z,5.0nm,1.0s						
XAN				LR	LR		
	comp=N,470nm,6.7s						
XAN				LR	LR		
	comp=E,354nm,6.7s						
XAN				LR	LR		
	comp=Z,619nm,8.1s						
PKI	**Pulchoki**	**15.67**	**278**	*eP*	**P**	**23 44 36.4**	**-0.8**
	comp=Z,12nm,0.7s						
KKN	**Kakani**	**15.78**	**279**	*eP*	**P**	**23 44 38.9**	**+0.2**
	comp=Z,59nm,1.2s						
HHC	**Hu-ho-hao-te**	**15.99**	**24**	*eP*	**P**	**23 44 45.8**	**+4.5**
GKN	**Gorkha**	**16.36**	**279**	*eP*	**P**	**23 44 45.1**	**-0.9**
	comp=Z,50nm,1.1s						
KOLN	**Koldanda**	**17.27**	**279**	*eP*	**P**	**23 44 51.0**	**-6.6**
WMQ	**Urumqi**	**21.25**	**328**	*eP*	**P**	**23 45 42.6**	**-0.5**
WMQ				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.1						
SONM	**Songino Array**	**21.46**	**6**	P	**P**	**23 45 45.5**	**+0.2**
	comp=Z,3.7nm,0.8s,mb3.8,baz=189,slow=10,SNR=14						
SONM				LR	LR	23 54 55.4	
	comp=Z,61nm,19.2s,MS3.0,baz=183,slow=39						
MKAR	**Makanchi Array**	**26.03**	**326**	P	**P**	**23 46 30.4**	**+0.9**
	comp=Z,3.2nm,1.0s,mb3.8,baz=130,slow=10,SNR=14						
MKAR	**Makanchi Array**	**26.03**	**326**	P	**P**	**23 46 30.4**	**+0.9**
KURK	**Kurchatov**	**30.49**	**329**	*eP*	**P**	**23 47 09.7**	**-0.2**
	comp=Z,4.5nm,0.8s,mb4.2						
BVAR	**Borovoye Array**	**35.91**	**326**	P	**P**	**23 47 57.5**	**+0.6**
	comp=Z,0.4nm,0.4s,mb3.8,baz=119,slow=9.5,SNR=6.2						
BVAR				PcP	PcP	23 50 23.4	-0.7
	comp=Z,0.4nm,0.6s,baz=180,slow=3.0,SNR=4.1						
BRVK	**Borovoye**	**35.98**	**326**	*eP*	**P**	**23 47 58.0**	**+0.5**
	comp=Z,0.7nm,0.5s,mb3.9						
ARU	**Arti**	**43.55**	**326**	*eP*	**P**	**23 49 00.5**	**+0.5**
	comp=Z,5.2nm,0.9s,mb4.3						
WRAB	**Tennant Creek**	**55.31**	**143**	*eP*	**P**	**23 50 31.0**	**0.0**
	comp=Z,3.0nm,0.7s,mb4.4						
WRA	**Warramunga Arr**	**55.31**	**143**	P	**P**	**23 50 30.9**	**-0.1**
	comp=Z,3.2nm,0.7s,mb4.5,baz=332,slow=8.4,SNR=16						
AKASG	**Malin Array Be**	**59.85**	**315**	P	**P**	**23 51 01.7**	**-0.9**
	comp=Z,0.3nm,0.3s,mb3.8,baz=79,slow=5.7,SNR=6.8						
FINES	**FINESS Array B**	**60.85**	**328**	P	**P**	**23 51 08.4**	**-0.8**
	comp=Z,2.2nm,0.9s,mb4.3,baz=117,slow=8.5,SNR=3.7						
ARCES	**ARCESS Array B**	**61.05**	**337**	P	**P**	**23 51 08.6**	**-2.0**
	comp=Z,3.1nm,0.9s,mb4.4,baz=78,slow=8.3,SNR=3.9						
KWP	**Kalwaria**	**64.15**	**315**	*eP*	**P**	**23 51 31.3**	**-0.1**
	comp=Z,2.1nm,0.5s,mb4.4						
NOA	**NORSAR Array B**	**68.00**	**328**	P	**P**	**23 51 54.1**	**-1.7**
	comp=Z,1.4nm,0.8s,mb4.0,baz=76,slow=6.3,SNR=3.6						
GERES	**GERESS Array B**	**70.06**	**315**	P	**P**	**23 52 08.6**	**-0.1**
	comp=Z,0.5nm,0.6s,mb3.6,baz=72,slow=6.2,SNR=7.1						
CABF	**La Chapelle**	**75.66**	**315**	*eP*	**P**	**23 52 41.9**	**+0.2**
LPG	**La Plagne**	**75.67**	**314**	*eP*	**P**	**23 52 42.7**	**+0.9**
	comp=Z,10nm,0.8s,mb4.5						
LPL	**La Plagne**	**75.68**	**314**	*eP*	**P**	**23 52 42.7**	**+0.9**
	comp=Z,10nm,0.7s,mb4.5						
LOR	**Lormes**	**76.79**	**316**	*eP*	**P**	**23 52 48.3**	**+0.3**
SMF	**Signal de Mont**	**77.06**	**316**	*eP*	**P**	**23 52 49.5**	**-0.1**
SSF	**Saint Saulge**	**77.09**	**316**	*eP*	**P**	**23 52 49.7**	**0.0**
AVF	**Avril sur Loir**	**77.30**	**316**	*eP*	**P**	**23 52 50.8**	**-0.1**
	comp=Z,8.6nm,0.9s,mb4.4						
TCF	**Toulx Ste Croi**	**78.23**	**316**	*eP*	**P**	**23 52 56.5**	**+0.5**
	comp=Z,10nm,1.0s,mb4.4						
RJF	**Les Rejaudoux**	**79.10**	**315**	*eP*	**P**	**23 53 01.7**	**+0.9**
MATP	**Matopo**	**85.91**	**245**	LR	LR	00 29 54.1	
	comp=Z,40nm,18.5s,MS3.9,baz=357,slow=34						

*NEIC **05** 23:49:18.2, 11.42N×85.39W, h13km, MD3.8(CASC), After CASC.*

CASC 05 23:49:19.1±1.9, 11.27N×85.43W, h5km±4km, MD3.6, ML3.4, 13C-6D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MADN	**Villa Maderas**	**0.18**	**323**	⇑*iP*	Pg	23 49 23.9	+1.2
CONN	**Concepcion**	**0.35**	**326**	⇑*iP*	Pg	23 49 26.7	+0.5
SSNN	**San Juan del S**	**0.42**	**273**	⇑*eP*	Pg	23 49 27.8	+0.3
LIM1	**Limonal**	**0.59**	**163**	⇑*eP*	Pg	23 49 31.0	+0.1
LIM1				*eS*	Sg	23 49 40.2	+1.5
APON	**Apoyo**	**0.90**	**316**	⇓*eP*	Pb	23 49 36.3	-0.6
APON				*eS*	Sb	23 49 50.5	+1.5
MASN	**Masaya**	**1.01**	**315**	⇓*eP*	Pb	23 49 38.3	-0.4
JTS	**JuntasAbangare**	**1.07**	**154**	*ePn*	Pn	23 49 39.0	-1.8
FORC	**Fortuna**	**1.08**	**137**	⇑*eP*	Pb	23 49 39.9	-0.1
FORC	**Fortuna**	**1.08**	**137**	*eP*	Pb	23 49 39.7	-0.3
FORC				*eS*	Sb	23 49 55.1	+0.8
TICN	**Ticuantepe**	**1.10**	**314**	⇑*eP*	Pb	23 49 39.3	-0.9
TICN				*eS*	Sb	23 49 55.5	+0.8
CRUN	**El Crucero**	**1.11**	**310**	*eP*	Pb	23 49 40.2	-0.3
VCR	**Vista de Mar**	**1.15**	**190**	*eP*	Pb	23 49 40.6	-0.6
VCR	**Vista de Mar**	**1.15**	**190**	*eP*	Pb	23 49 40.5	-0.6
WILN	**Americas 2**	**1.16**	**320**	*eP*	Pb	23 49 40.4	-0.9
MGAN	**Managua**	**1.19**	**317**	⇑*eP*	Pb	23 49 40.6	-1.1
MGAN				*eS*	Sb	23 49 57.0	-0.3
MGAN				*i*		23 50 02.0	
	comp=E,762nm,0.4s						
XAVN	**Gruta Xavier**	**1.24**	**315**	⇓*eP*	Pb	23 49 42.0	-0.7
PYTN	**Playitas**	**1.41**	**334**	⇑*eP*	Pn	23 49 44.4	-1.1
PYTN				*eS*	Sb	23 50 02.7	-0.9
COPN	**Copaltepe**	**1.46**	**309**	⇓*eP*	Pn	23 49 44.5	-1.7
COPN				*eS*	Sb	23 50 05.0	-0.2
VPS2	**Volcan Poas 2**	**1.58**	**132**	*eP*	Pn	23 49 46.7	-1.4
PRS1	**Puriscal**	**1.68**	**139**	⇑*eP*	Pn	23 49 50.4	+1.0
PRS1				*eS*	Sn	23 50 14.6	+3.0
PRS1	**Puriscal**	**1.68**	**139**	*eP*	Pn	23 49 50.4	+0.9
PRS1				*eS*	Sn	23 50 15.4	+3.8
MIRN	**Miramar**	**1.72**	**313**	⇓*eP*	Pn	23 49 50.7	+0.8
CNGN	**Cerro Negro**	**1.75**	**315**	⇑*eP*	Pn	23 49 50.1	-0.3
CNGN				*eS*	Sn	23 50 14.3	+1.0
LEON	**Leon**	**1.83**	**309**	⇑*eP*	Pn	23 49 51.1	-0.6
SJS	**Escuela Geolog**	**1.89**	**134**	*eP*	Pn	23 49 51.9	-0.5
SJS				*eS*	Sn	23 50 14.6	-2.2
TEL3	**Telica 3**	**1.90**	**313**	*eP*	Pn	23 49 51.3	-1.2
TELN	**Telica**	**1.91**	**314**	*eP*	Pn	23 49 52.7	0.0
LCR2	**La Lucha 2**	**2.06**	**137**	⇑*eP*	Pn	23 49 55.0	+0.2
LCR2				*eS*	Sn	23 50 22.4	+1.1
LCR2	**La Lucha 2**	**2.06**	**137**	*eP*	Pn	23 49 54.1	-0.8
CRIN	**San Cristobal**	**2.13**	**312**	⇑*eP*	Pn	23 49 56.1	+0.2
CRIN				*eS*	Sn	23 50 22.8	-0.3
BUS	**Buena Vista**	**2.36**	**136**	⇓*eP*	Pn	23 49 58.7	-0.4

*ATH **05** 23:52:52.7, 39.04N×23.41E, h22km±15km, MD3.0/5, ML3.2*
*THE **05** 23:52:52.6, 38.99N×23.32E, h6km, ML2.8*
*CSEM **05** 23:52:52.6±0.1, 38.97N×23.31E, h8km, ML2.8, Error ellipse: s-maj=3.0km s-min=1.8km az=70.0*
*NEIC **05** 23:52:53.6, 38.99N×23.27E, h39km, MD3.0(ATH), After ATH.*

ISC 05 23:52:52.1±0.6, 39.01N±0.03×23.33E±0.05, h7km±6km, n15, σ0§85/26, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XOR	**Xorichti**	**0.37**	**344**	*ePg*	**Pg**	**23 53 00.2**	**+0.5**
XOR				*eSg*	**Sg**	**23 53 06.0**	**+1.2**
AOS	**Alonnisos**	**0.46**	**69**	*ePg*	**Pg**	**23 53 01.7**	**+0.3**
AOS				*eSg*	**Sg**	**23 53 08.2**	**+0.6**
AGG	**Agios Georgios**	**0.78**	**271**	*ePg*	**Pg**	**23 53 06.7**	**-1.1**
AGG				*eSg*	**Sg**	**23 53 18.4**	**+0.3**
MPAR	**Parnis Oros**	**0.91**	**159**	*ePB*	**Pb**	**23 53 09.8**	**0.0**
MPAR				*eSN*	**Sn**	**23 53 23.0**	**-1.6**
PTL	**Penteli**	**1.04**	**156**	*ePN*	**Pn**	**23 53 13.0**	**0.0**
PTL				*eSN*	**Sn**	**23 53 27.5**	**-0.4**
PTL	**Penteli**	**1.04**	**156**	*ePn*	**Pn**	**23 53 13.3**	**+0.3**
ATH	**Athens Observa**	**1.08**	**163**	*ePN*	**Pn**	**23 53 13.5**	**0.0**
ATH				*eSN*	**Sn**	**23 53 28.0**	**-0.7**
ATH	**Athens Observa**	**1.08**	**163**	*ePn*	**Pn**	**23 53 13.9**	**+0.4**
ATH				Sn	**Sn**	**23 53 28.0**	**-0.7**
NSAL	**Nisos Salamina**	**1.10**	**174**	*ePN*	**Pn**	**23 53 14.0**	**+0.1**
NSAL				*eSN*	**Sn**	**23 53 30.5**	**+1.1**
NAIG	**Nisos Aigina**	**1.25**	**174**	*ePN*	**Pn**	**23 53 16.5**	**+0.5**
NAIG				*eSN*	**Sn**	**23 53 35.0**	**+1.8**
NAIG	**Nisos Aigina**	**1.25**	**174**	*ePn*	**Pn**	**23 53 16.0**	**0.0**
LIT	**Litokhoron**	**1.27**	**330**	*ePg*	**Pg**	**23 53 16.5**	**-1.0**
LIT				*eSg*	**Sg**	**23 53 34.7**	**+0.2**
PLG	**Polygyros**	**1.37**	**4**	*ePN*	**Pn**	**23 53 17.6**	**-0.1**
OUR	**Ouranopolis**	**1.42**	**21**	*ePg*	**Pg**	**23 53 18.3**	**-2.2**
KNT	**Kendrikon**	**2.18**	**351**	*ePn*	**Pn**	**23 53 29.6**	**+0.3**
KNT				*eSn*	**Sn**	**23 53 56.6**	**-0.1**

*NIED **05** 23:53:00, 32.30N×141.90E, h5km, Mw3.9 Best double couple: M0:8.92×10^14 NP1:φs=168°, δ47°, λ82°. NP2:φs=359°, δ43°, λ99°.*
*JMA **05** 23:53:25.6±0.4, 32.31N×141.86E, M4.1*
*IDC **05** 23:53:26.6±2.4, 32.43N×141.66E, mb3.9/10, mb1 4.1/10, mb1mx4.0/18, mbtmp3.9/10, Error ellipse: s-maj=77.6km s-min=22.0km az=8.0*
*NEIC **05** 23:53:38.5±6.0, 32.77N×141.52E, h79km±32km, mb4.4/3, Error ellipse: s-maj=79.7km s-min=16.1km az=181.0*
*MOS **05** 23:53:44.9±1.0, 33.47N×141.40E, h121km, mb3.9/4, Error ellipse: s-maj=39.9km s-min=11.5km az=126.3*

ISC 05 23:53:27.8±2.0, 32.20N±0.06×141.80E±0.09, h29km±14km, n36, σ1§14/45, mb4.0/15, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.90**	**299**	P	**Pn**	**23 53 59.7**	**+0.7**
JHJ	**Hachijo jima 2**	**1.93**	**299**	**Pn**	**Pn**	**23 53 59.5**	**+0.1**
	70nm,0.3s,baz=70,slow=23,SNR=20						
JHJ				Sn	**Sn**	**23 54 24.8**	**+1.8**
	135nm,0.3s,baz=250,slow=24,SNR=7.2						
BSO1	**Boso 1**	**2.54**	**344**	P	**Pn**	**23 54 07.2**	**-0.9**
BSO1				*eS*	**Sn**	**23 54 38.3**	**-0.1**
BSO2	**Boso 2**	**2.69**	**341**	*eS*	**Sn**	**23 54 43.4**	**+1.2**
BSO3	**Boso 3**	**2.81**	**338**	P	**Pn**	**23 54 12.4**	**+0.5**
BSO3				*eS*	**Sn**	**23 54 46.1**	**+0.9**
BSO4	**Boso 4**	**3.04**	**337**	P	**Pn**	**23 54 14.9**	**-0.3**
BSO4				*eS*	**Sn**	**23 54 51.6**	**+0.6**
JIM2	**Oshima 3**	**3.20**	**322**	P	**Pn**	**23 54 17.1**	**-0.3**
JIM2				*eS*	**Sn**	**23 54 55.4**	**+0.4**
JOD2	**Odawara 2**	**3.80**	**324**	P	**Pn**	**23 54 27.1**	**+1.1**
JYN	**Shimob**	**4.26**	**321**	P	**Pn**	**23 54 33.5**	**+0.9**
JYN				*eS*	**Sn**	**23 55 26.0**	**+4.0**
JRY	**Ryogami san**	**4.50**	**328**	P	**Pn**	**23 54 36.3**	**+0.3**
JRY				*eS*	**Sn**	**23 55 27.1**	**-1.0**
JAG	**Ashikaga**	**4.64**	**336**	P	**Pn**	**23 54 36.3**	**-1.6**
JAG				*eS*	**Sn**	**23 55 29.2**	**-2.3**
JIE	**Ise**	**4.79**	**298**	P	**Pn**	**23 54 40.6**	**+0.5**
MAJO	**Matsushiro**	**5.25**	**327**	*ePn*	**Pn**	**23 54 46.3**	**-0.3**
MAT	**Matsushiro**	**5.25**	**327**	P	**Pn**	**23 54 46.3**	**-0.3**
MAT				S	**Sn**	**23 55 31.0**	**-16**
MAT	**Matsushiro**	**5.25**	**327**	*eP*	**Pn**	**23 54 46.0**	**-0.6**
MAT				*eS*	**Sn**	**23 55 31.0**	**-16**
SONM	**Songino Array**	**30.97**	**311**	P	**P**	**23 59 42.8**	**-1.9**
	1.7nm,0.8s,mb3.9,baz=105,slow=9.9,SNR=7.4						
ZAK	**Zakamensk**	**33.69**	**314**	*eP*	**P**	**00 00 05.0**	**-3.4**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.7						
NVS	**Novosibirsk**	**46.50**	**317**	*eP*	**P**	**00 01 53.2**	**-0.9**
MKAR	**Makanchi Array**	**47.09**	**306**	P	**P**	**00 01 59.0**	**+0.1**
	comp=Z,1.8nm,0.4s,mb4.3,baz=90,slow=9.5,SNR=36						
KURK	**Kurchatov**	**49.27**	**312**	*eP*	**P**	**00 02 15.2**	**-0.6**
	comp=Z,6.2nm,1.0s,mb4.6						
KURK				*e*pP	pP	00 02 22.4	-2.2
KURK	**Kurchatov**	**49.27**	**312**	*eP*	**P**	**00 02 15.2**	**-0.6**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
ILAR	**Eielson Array**	**53.44**	**30**	P	**P**	**00 02 48.4**	**+1.2**
	comp=Z,0.5nm,0.8s,mb3.5,baz=280,slow=5.5,SNR=3.8						
BVAR	**Borovoye Array**	**54.13**	**315**	P	**P**	**00 02 51.9**	**-0.5**
	comp=Z,1.5nm,0.6s,mb4.1,baz=100,slow=8.8,SNR=13						
BRVK	**Borovoye**	**54.19**	**315**	*eP*	**P**	**00 02 51.3**	**-1.5**
	comp=Z,0.8nm,0.6s,mb3.8						
BRVK	**Borovoye**	**54.19**	**315**	*eP*	**P**	**00 02 51.3**	**-1.5**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
ARU	**Arti**	**60.24**	**321**	*eP*	**P**	**00 03 33.9**	**-1.7**
	comp=Z,2.3nm,0.6s,mb4.4						
ARU	**Arti**	**60.24**	**321**	*eP*	**P**	**00 03 33.9**	**-1.7**
ARU				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
FINES	**FINESS Array B**	**73.24**	**333**	P	**P**	**00 04 56.8**	**-1.0**
	comp=Z,0.6nm,0.4s,mb3

HNR pmax pmax
comp=Z,30nm,0.3s
HNR smax
comp=E,13nm,0.3s
KAKA Kakadu 14.79 241⇑ *iP* **P 00 00 28.7 +8.0**
comp=E,188nm,0.5s
WRAB Tennant Creek 17.96 217 *eP* **P 00 00 58.1 -1.8**
comp=E,159nm,0.8s
WRAB Tennant Creek 17.96 217 *diP* **P 00 00 58.3 -1.6**
WB2 Warramunga Arr 17.97 217 *eP* **P 00 00 58.1 -1.9**
WRA Warramunga Arr 17.98 217 P **P 00 00 59.2 -0.9**
comp=E,2.8nm,0.3s,baz=41,slow=12,SNR=63
WRA pP 00 01 22.2
comp=E,4.8nm,0.3s,baz=41,slow=11,SNR=8.3
WRA PcP PcP 00 05 30.7 +0.7
comp=E,0.8nm,0.3s,baz=11,slow=1.7,SNR=5.7
WRA PKIKP 00 13 19.7
comp=E,0.2nm,0.3s,baz=319,slow=1.2,SNR=7.6
FITZ Fitzroy Crossi 23.12 236 *eP* **P 00 01 52.2 -0.6**
comp=E,97nm,0.6s,mb5.3
FITZ Fitzroy Crossi 23.12 236 P **P 00 01 52.5 -0.3**
comp=E,127nm,0.7s,mb5.4,baz=55,slow=6.3,SNR=40
FITZ S **S 00 06 05.0 +13**
comp=E,32nm,1.0s,baz=159,slow=5.3,SNR=1.8
FITZ LR LR 00 12 21.7
comp=E,480nm,20.4s,baz=75,slow=40
ARMA Armidale 25.32 168 *eP* **P 00 02 03.2 -11**
DZM Mont Dzumac 25.96 131 *eP* **P 00 02 17.9 -1.8**
DZM Mont Dzumac 25.96 131 P **P 00 02 17.9 -1.8**
comp=E,31nm,0.6s,mb4.9,baz=336,slow=7.5,SNR=35
STKA Stephens Creek 26.40 188 *eP* **P 00 02 22.8 -1.0**
comp=E,20nm,0.5s,mb4.8
STKA *i* pP 00 02 48.2 -0.5
STKA Stephens Creek 26.40 188 P **P 00 02 23.7 -0.1**
comp=E,26nm,0.5s,mb4.9,baz=358,slow=8.3,SNR=56
STKA S **S 00 06 57.5 +11**
comp=E,6.6nm,1.1s,baz=331,slow=18,SNR=2.3
MBWA Marble Bar 29.46 236 *eP* **P 00 02 50.9 -0.6**
CNB Canberra Magne 29.76 174 *eP* **P 00 02 53.9 -0.1**
comp=E,53nm,0.7s,mb5.3
KKM Kota Kinabalu 31.55 291 *eP* **P 00 03 09.5 -0.4**
TOO Toolangi 31.81 180 *eP* **P 00 03 12.3 +0.3**
comp=E,24nm,0.8s,mb5.0
TOO Toolangi 31.81 180 *eP* **P 00 03 12.3 +0.3**
TOO pmax pmax
comp=Z,24nm,0.8s,mb5.0
CBIJ Chichi jima 32.68 354 P **P 00 03 17.4 -2.2**
comp=Z,190nm,0.5s,mb6.2,baz=282,slow=19,SNR=8.8
CBIJ LR LR 00 15 00.4
comp=Z,228nm,20.1s,baz=182,slow=33
KSM Kuching 35.95 280 *eP* **P 00 03 48.4 +0.8**
JOW Kunigami 36.36 333 P **P 00 03 50.8 -0.1**
comp=Z,32nm,0.5s,mb5.5,baz=134,slow=12,SNR=11
KLBR Kellerberrin 36.72 222⇓ *iP* **P 00 03 54.0 +0.1**
comp=Z,15nm,0.4s,mb5.3
KLBR *e* 00 06 13.9
NWAO Narrogin (SRO) 37.91 221 P **P 00 04 04.3 +0.5**
comp=Z,7.8nm,0.5s,mb4.8,baz=24,slow=6.4,SNR=7.5
NWAO LR LR 00 20 23.9
comp=Z,170nm,18.2s,baz=218,slow=37
NWAO Narrogin (SRO) 37.91 221 P **P 00 04 04.3 +0.5**
NWAO LR LR 00 20 23.9
NWAO Narrogin (SRO) 37.91 221 P **P 00 04 04.3 +0.5**
NWAO pmax pmax
comp=Z,8.0nm,0.5s
NWAO MLR MLR
comp=Z,170nm,18.2s
MUN Mundaring 38.00 223 *eP* **P 00 04 04.9 +0.3**
comp=Z,9.5nm,0.9s,mb4.6
MUN Mundaring 38.00 223 *eP* **P 00 04 04.9 +0.3**
MUN pmax pmax
comp=Z,10.0nm,0.9s,mb4.7
JHJ Hachijo jima 2 38.91 352 P **P 00 04 09.8 -2.3**
comp=Z,121nm,0.4s,mb6.1,baz=74,slow=22,SNR=9.2
JNU Nakatsue 40.98 341 P **P 00 04 29.1 0.0**
comp=Z,44nm,1.0s,mb5.3,baz=206,slow=5.6
MAJO Matsushiro 42.50 351 *eP* **P 00 04 40.3 -1.3**
comp=Z,155nm,1.1s,mb5.7
MAJO Matsushiro 42.50 351 *eP* **P 00 04 40.3 -1.3**
MAJO pmax pmax
comp=Z,155nm,1.1s,mb5.7
MAT Matsushiro 42.50 351 P **P 00 04 40.0 -1.6**
MAT *e*S **S 00 10 50.0 -4.5**
MAT Matsushiro 42.50 351 *eP* **P 00 04 40.0 -1.6**
comp=Z,148nm,1.2s,mb5.6
MAT S **S 00 10 50.0 -4.5**
MAT Matsushiro 42.50 351 *eP* **P 00 04 40.0 -1.6**
MAT S **S 00 10 50.0 -4.5**
MAT pmax pmax
comp=Z,148nm,1.2s,mb5.6
AFI Afiamalu 42.74 104 LR LR 00 20 38.1
comp=Z,205nm,19.1s,baz=90,slow=33
QIZ Qiongzhong 42.90 306⇑ *iP* **P 00 04 45.5 +0.4**
comp=Z,55nm,1.1s,mb5.2
URZ Urewera 43.29 143 LR LR 00 22 03.5
comp=Z,396nm,18.3s,baz=178,slow=35
RPZ Rata Peaks 44.07 153 LR LR 00 21 18.7
comp=Z,403nm,19.6s,baz=74,slow=33
KS15 Wonju Array Si 45.91 340 *eP* **P 00 05 08.7 -0.3**
KULM Kulim 46.18 283⇑ *iP* **P 00 05 11.7 +0.3**
KULM *e*PcP PcP 00 06 46.4 +0.6
ENH Enshi 49.70 318 *eP* **P 00 05 38.2 -0.3**
comp=Z,60nm,1.1s,mb5.4
ENH LR LR
comp=Z,369nm,21.0s
NST Nakhon Sawan 49.74 296 ⇓P **P 00 05 39.9 +0.9**
comp=Z,88nm,1.0s,mb5.7
BDT Bhumibol Dam 51.33 297 P **P 00 06 00.0 +8.9**
CHG Chiang Mai 51.99 299 ⇑P **P 00 05 56.9 +0.9**
comp=Z,72nm,0.9s,mb5.7
YSS Yuzh-Sakhalins 52.39 358⇑ *iP* **P 00 05 57.9 -0.7**
comp=Z,168nm,0.9s,mb6.1
YSS Yuzh-Sakhalins 52.39 358α *iP* **P 00 05 58.0 -0.6**
YSS *e*S **S 00 13 14.0 +0.3**
YSS pmax pmax
comp=N,80nm,1.0s
YSS pmax pmax
comp=Z,150nm,1.0s,mb6.0
YSS MLR MLR
comp=Z,200nm,15.0s
KLR Kul'dur 55.93 349 *i* P **P 00 06 20.9 -3.6**
KLR pmax pmax
comp=N,24nm,0.9s
KLR pmax pmax
comp=E,28nm,0.9s
KLR pmax pmax
comp=Z,52nm,0.9s,mb5.6
SKR Severo-Kuril's 56.79 8 *eP* **P 00 06 26.5 -4.0**
SKR pmax pmax
comp=Z,220nm,1.0s,mb6.1
LZH Lanzhou 57.02 320 ⇑P **P 00 06 33.0 +0.7**
comp=Z,73nm,1.5s,mb5.5
LZH pP pP 00 07 07.5 +7.2
LZH sP sP 00 07 14.5 +1.3
LZH LR LR
comp=Z,800nm,19.3s
LZH Lanzhou 57.02 320 ⇑P **P 00 06 33.0 +0.7**
LZH pmax pmax
comp=Z,73nm,1.5s,mb5.5
LZH MLR MLR
comp=Z,800nm,19.3s
HIA Hailar 59.12 341⇑ *iP* **P 00 06 45.9 -0.8**
comp=Z,110nm,1.4s,mb5.7
HIA Hailar 59.12 341c *iP* **P 00 06 46.1 -0.7**
PET Petropavlovsk 59.45 9⇑ *iP* **P 00 06 48.1 -0.9**
comp=Z,94nm,0.9s,mb5.8
PET Petropavlovsk 59.45 9 *i* P **P 00 06 48.3 -0.7**
PET pmax pmax
comp=Z,98nm,0.7s,mb6.0
KIP Kipapa 61.43 62 *eP* **P 00 07 03.7 +0.8**
comp=Z,200nm,1.2s,mb6.0
KIP Kipapa 61.43 62 *eP* **P 00 07 03.7 +0.8**
KIP pmax pmax
comp=Z,200nm,1.2s,mb6.0
FX1 Attu Island--F 62.77 18⇑ *iP* **P 00 07 11.9 +0.5**
LSA Lhasa 62.90 307⇑ *iP* **P 00 07 13.9 +1.2**
comp=Z,68nm,0.6s,mb5.8
LSA LR LR
comp=Z,150nm,19.0s
LSA Lhasa 62.90 307⇑ *iP* **P 00 07 13.9 +1.3**
LSA pmax pmax
comp=Z,68nm,0.6s,mb5.8
LSA MLR MLR
comp=Z,150nm,19.0s
ULN Ulaanbaatar 63.11 332⇑ *iP* **P 00 07 13.9 +0.2**
comp=Z,60nm,1.2s,mb5.4
ULN *e*pP pP 00 07 43.4 +1.1
ULN Ulaanbaatar 63.11 332⇑ *iP* **P 00 07 13.9 +0.2**
ULN *e**PP pP 00 07 43.4 +1.1
ULN pmax pmax
comp=Z,59nm,1.2s,mb5.4
SONM Songino Array 63.40 332 P **P 00 07 15.6 0.0**
comp=Z,11nm,0.5s,mb5.1,baz=154,slow=6.6,SNR=79
SONM pP pP 00 07 44.2 +0.1
comp=Z,5.8nm,0.8s,baz=159,slow=6.4,SNR=2.8
SONM LR LR 00 34 59.7
comp=Z,160nm,20.6s,baz=256,slow=36
SONM PKP2bc 00 36 14.8
comp=Z,2.3nm,1.0s,baz=304,slow=1.6,SNR=9.8
SONM Songino Array 63.40 332 P **P 00 07 15.6 0.0**
SONM pP pP 00 07 44.2 +0.1
SONM LR LR 00 34 59.7
SONM ⇑*e* 00 36 14.8
SONM Songino Array 63.40 332 P **P 00 07 15.6 0.0**
SONM *PP pP 00 07 44.2 0.0
SONM pmax pmax
comp=Z,11nm,0.5s
SONM pmax pmax
comp=Z,6.0nm,0.8s
SONM MLR MLR
comp=Z,160nm,20.6s
SONM pmax pmax
comp=Z,2.0nm,1.0s
CIT Chita 63.58 339 *eP* **P 00 07 17.0 +0.3**
CIT *e* 00 07 31.4
CIT *e* pP 00 07 47.7 +2.4
CIT pmax pmax
comp=Z,153nm,1.7s,mb5.5
PPT Papeete 64.33 107 *eS* **S 00 15 50.1 +0.9**
PPT *e*LR LR 00 26 54.8
comp=Z,146nm,28.5s
CLNS Chul'man 64.50 348 *eP* **P 00 07 22.1 -0.5**
CLNS *e**PP pP 00 07 35.5 -16
CLNS *e* pP 00 07 52.4 +1.2
CLNS *e* 00 09 40.2
CLNS *e*PPP PPP 00 11 13.9 -7.4
CLNS *e*S **S 00 15 52.9 +2.3**
CLNS *e**SS 00 16 22.6
CLNS *e* 00 17 10.8
CLNS pmax pmax
comp=Z,141nm,1.0s,mb5.8
CLNS pmax pmax
comp=N,58nm,0.8s
CLNS pmax pmax
comp=E,25nm,1.0s
CLNS pmax pmax
comp=N,11nm,0.7s
CLNS pmax pmax
comp=E,7.0nm,0.7s
CLNS pmax pmax
comp=Z,7.0nm,0.7s,mb4.6
CLNS smax
comp=N,60nm,9.9s
CLNS smax
comp=Z,34nm,16.6s
CLNS smax
comp=E,47nm,12.4s
TBI Tubuai 64.79 113 *eS* **S 00 15 57.0 +2.2**
TBI *e*LQ 00 24 23.9
TBI *e*LR LR 00 27 01.8
comp=E,418nm,36.8s
MA2 Magadan 65.11 3⇑ *iP* **P 00 07 25.7 -0.8**
comp=E,121nm,0.8s,mb5.8
MA2 Magadan 65.11 3 *eP* **P 00 07 26.4 -0.1**
CASY Casey 65.27 195⇑ *iP* **P 00 07 27.1 -0.4**
CASY *i* pP 00 07 53.7 -2.5
VIS Vishakhapatnam 65.68 292 *eP* **P 00 07 30.8 -0.1**
VIS AMb AMB 00 07 34.4
comp=Z,72nm,1.5s,mb5.3
PMOR Pomariorio Ree 65.89 104 *eP* **P 00 07 32.8 +0.6**
comp=Z,71nm,0.9s,mb5.5
PMOR *e*pP pP 00 08 02.5 +1.6
comp=Z,44nm,1.0s
PALK Pallekele 66.02 280 *eP* **P 00 07 33.0 -0.1**
PALK *e*PcP PcP 00 08 03.1 +0.5
VAH Vaihoa 66.15 104 *eP* **P 00 07 33.8 -0.1**
comp=Z,36nm,1.0s,mb5.2
ZAK Zakamensk 66.64 332⇓ *iP* **P 00 07 35.9 -0.5**
ZAK *e* pP 00 08 06.6 +1.4
ZAK pmax pmax
comp=Z,56nm,1.0s,mb5.3
ZAK pmax pmax
comp=Z,20nm,1.0s,mb4.9
PKI Pulchoki 66.77 303 *eP* **P 00 07 38.1 +0.4**
comp=Z,220nm,1.1s,mb5.9
KKN Kakani 66.96 303 *eP* **P 00 07 39.5 +0.7**
comp=Z,312nm,0.9s,mb6.2
DMN Daman 67.04 303 *eP* **P 00 07 40.3 +1.0**
comp=Z,284nm,0.7s,mb6.2
TLY Talaya 67.37 333⇑ *iP* **P 00 07 40.9 -0.1**
comp=Z,35nm,1.1s,mb5.1
TLY LR LR
comp=Z,29nm,20.0s
TLY Talaya 67.37 333 *eP* **P 00 07 40.2 -0.8**
TLY *e*S S 00 16 21.5 -4.0
TLY *e*PS PS 00 17 11.3 +4.9
TLY pmax pmax
comp=Z,31nm,1.1s,mb5.0
IRK Irkutsk 67.48 334 *eP* **P 00 07 40.6 -1.1**
IRK pmax pmax
comp=Z,67nm,1.1s,mb5.4
GKN Gorkha 67.56 303 *eP* **P 00 07 43.2 +0.6**
comp=Z,229nm,0.6s,mb6.2
BOD Bodaibo 68.18 342 *eP* **P 00 07 44.6 -1.3**
BOD pmax pmax
comp=Z,3.0nm,0.9s
KOLN Koldanda 68.35 303 *eP* **P 00 07 48.0 +0.5**
comp=Z,311nm,0.9s,mb6.2
SEY Seymchan 68.54 3 *i* P **P 00 07 47.7 -0.3**
SEY *e* 00 10 15.7
SEY *e*S S 00 16 39.0 -0.3
SEY *e**SS 00 17 22.5
SEY SS SS 00 21 04.3 -3.0
SEY *e*SSS SSS 00 24 04.8 -5.1
SEY pmax pmax
comp=N,10.0nm,0.8s
SEY pmax pmax
comp=Z,30nm,0.8s,mb5.2
SEY pmax pmax
comp=E,20nm,1.3s
SEY smax
comp=N,60nm,6.2s
SEY smax
comp=E,10.0nm,5.3s
SEY MLR MLR
comp=N,60nm,19.0s
SEY MLR MLR
comp=E,40nm,19.0s
SEY MLR MLR
comp=Z,80nm,19.0s
YAK Yakutsk 68.56 352⇑ *iP* **P 00 07 47.0 -1.1**
comp=Z,91nm,0.9s,mb5.6
YAK Yakutsk 68.56 352 P **P 00 07 47.9 -0.2**
YAK pmax pmax
comp=Z,91nm,0.9s,mb5.6
MOY Mondy 68.58 332 *eP* **P 00 07 49.1 +0.7**
MOY pmax pmax
comp=Z,556nm,1.1s,mb6.3
NIKO Nikolski 69.86 27⇑ *iP* **P 00 07 55.4 -0.9**
TRD Trivandrum 69.87 281 *eP* **P 00 07 56.4 -0.6**
TRD AMb AMB 00 08 01.0
comp=Z,64nm,1.5s,mb5.2
HYB Hyderabad 70.03 291⇑ *eP* **P 00 07 58.0 +0.1**
comp=Z,80nm,1.0s,mb5.5
HYB Hyderabad 70.03 291⇑ *eP* **P 00 07 58.0 +0.1**
HYB pmax pmax
comp=Z,80nm,1.0s,mb5.5
NGP Nagpur 70.44 295 *eP* **P 00 08 00.3 0.0**
NGP AMb AMB 00 08 01.8
comp=Z,40nm,1.0s,mb5.2
MIR Mirnyy 70.68 200c *iP* **P 00 08 01.0 +0.1**
MIR *i* pP 00 08 28.0 -2.1
MIR pmax pmax
comp=Z,99nm,1.2s,mb5.5
UNV Unalaska Valle 71.50 28⇑ *iP* **P 00 08 05.5 -0.6**
comp=Z,115nm,0.6s,mb5.9
AKL Akola 72.19 294 *ex* x 00 10 17.3
VNDA Vanda 72.39 176 P **P 00 08 11.3 +0.4**
comp=Z,12nm,0.8s,mb4.8,baz=328,slow=6.5,SNR=69
VNDA LR LR 00 36 01.3
comp=Z,168nm,21.6s,baz=353,slow=32
VNDA Vanda 72.39 176⇑ *iP* **P 00 08 11.3 +0.3**
comp=Z,16nm,0.9s,mb4.9
BHPL Bhopal 72.42 296 *eP* **P 00 08 12.5 +0.5**
BHPL AMb AMB 00 08 13.3
comp=Z,63nm,0.7s,mb5.5
SBA Scott Base 73.05 175 *eP* **P 00 08 16.2 +1.4**
comp=Z,12nm,0.1s,mb5.7
SBA Scott Base 73.05 175 *eP* **P 00 08 16.2 +1.4**
SBA pmax pmax
comp=Z,12nm,0.1s,mb5.7
NDI New Delhi 74.00 302 *eP* **P 00 08 20.5 -0.7**
NDI AMb AMB 00 08 21.8
comp=Z,163nm,0.7s,mb5.9
KAD Karad 74.09 290 *eP* **P 00 08 20.8 -1.2**
KAD AMb AMB 00 08 24.6
comp=Z,98nm,1.1s,mb5.5
POO Poona 74.64 291 *eP* **P 00 08 24.8 -0.3**
POO AMb AMB 00 08 27.9
comp=Z,89nm,2.0s,mb5.1
BILL Bilibino 74.91 8⇑ *iP* **P 00 08 25.6 -0.1**
comp=Z,100nm,1.1s,mb5.5
BILL Bilibino 74.91 8 P **P 00 08 25.7 +0.1**
BILL pmax pmax
comp=Z,100nm,1.1s,mb5.5
MKAR Makanchi Array 76.32 321 P **P 00 08 34.6 +0.5**
comp=Z,52nm,0.8s,mb5.3,baz=102,slow=6.9,SNR=432
MKAR pP pP 00 09 04.1 +0.5
comp=Z,15nm,0.7s,baz=101,slow=6.2,SNR=3.5
MKAR S S 00 18 10.0 +2.2
comp=Z,0.4nm,0.6s,baz=95,slow=11,SNR=4.3
MKAR PKKPbc 00 27 47.2
comp=Z,0.5nm,0.7s,baz=310,slow=3.2,SNR=7.0
MKAR PKPPKP 00 35 47.7
comp=Z,0.5nm,0.8s,baz=252,slow=3.8,SNR=4.0
MKAR Makanchi Array 76.32 321 P **P 00 08 34.6 +0.5**
MKAR pP pP 00 09 04.1 +0.5
MKAR S S 00 18 10.0 +2.2
MKAR PKKPbc 00 27 47.2
MKAR P'P' 00 35 47.7
MKAR Makanchi Array 76.32 321 P **P 00 08 34.6 +0.6**
MKAR *PP pP 00 09 04.1 +0.5
MKAR S S 00 18 10.0 +2.3
MKAR pmax pmax
comp=Z,52nm,0.8s
MKAR pmax pmax
comp=Z,15nm,0.7s
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR pmax pmax
comp=Z,1.0nm,0.8s
TIXI Tiksi 77.89 355 *eP* **P 00 08 40.8 -1.5**
TIXI pmax pmax
comp=Z,21nm,1.0s,mb4.8
ZAL Zalesovo 77.95 328 P **P 00 08 42.0 -1.0**
comp=Z,30nm,0.6s,mb5.2,baz=357,slow=5.5,SNR=121
ZAL S S 00 18 22.8 -2.4
comp=Z,0.7nm,0.2s,baz=358,slow=21,SNR=3.1
ZAL PKKPbc 00 27 42.9
comp=Z,1.1nm,0.6s,baz=212,slow=3.3,SNR=5.5
ZAL PKPPKP 00 35 49.4
comp=Z,2.5nm,1.1s,baz=204,slow=2.8,SNR=10.0
ZAL LR LR 00 43 34.4
comp=Z,97nm,18.0s,baz=358,slow=36
ZAL Zalesovo 77.95 328 P **P 00 08 42.0 -1.0**
ZAL S S 00 18 22.8 -2.4
ZAL PKKPbc 00 27 42.9
ZAL P'P' 00 35 49.4
ZAL LR LR 00 43 34.4
ZAL Zalesovo 77.95 328 P **P 00 08 42.0 -0.9**
ZAL S S 00 18 22.8 -2.4
ZAL pmax pmax
comp=Z,30nm,0.6s
ZAL smax
comp=E,1.0nm,0.2s
ZAL pmax pmax
comp=Z,1.0nm,0.6s
ZAL pmax pmax
comp=Z,3.0nm,1.1s
ZAL MLR MLR
comp=Z,97nm,18.0s
RKT Rikitea 78.10 112 *eP* **P 00 08 45.1 +0.7**
comp=Z,93nm,0.8s,mb5.5
RKT Rikitea 78.10 112 *e*LR LR 00 33 26.0
comp=Z,404nm,42.8s
ULHL Ulahol 78.73 315 P **P 00 08 49.0 +1.5**
SNR=19
NVS Novosibirsk 79.18 329⇑ *iP* **P 00 08 48.7 -0.9**
NVS *i* *PP pP 00 09 19.1 -0.2
NVS *e*S S 00 18 38.2 0.0
NVS *e**SS 00 19 22.9
NVS pmax pmax
comp=N,26nm,1.0s
NVS pmax pmax
comp=E,45nm,1.0s
NVS pmax pmax
comp=Z,74nm,1.0s,mb5.5
NVS smax
comp=N,27nm,2.5s
NVS smax
comp=E,76nm,2.8s
KZA Kyzart 79.39 314 P **P 00 08 53.4 +2.4**
SNR=108
TKM2 Tokmak 2 79.40 315 P **P 00 08 52.3 +1.2**
SNR=94
BHJ Bhuj 79.40 295 *eP* **P 00 08 51.7 +0.3**
BHJ AMb AMB 00 08 54.1
comp=Z,214nm,1.6s,mb5.7
KBK Karagaybulak 79.77 315 P **P 00 08 54.4 +1.3**
SNR=26
UCH Uchtor 79.95 314 P **P 00 08 56.3 +2.3**
SNR=15
CHMS Chumysh 80.01 315 P **P 00 08 55.1 +0.8**
SNR=40
FRU Bishkek 80.06 315 *eP* **P 00 08 55.0 +0.4**
FRU *e* 00 09 17.0
FRU pmax pmax
comp=Z,120nm,2.0s,mb5.4
KURK Kurchatov 80.07 324⇑ *iP* **P 00 08 54.5 0.0**
comp=Z,79nm,0.8s,mb5.6
KURK Kurchatov 80.07 324⇑ *iP* **P 00 08 54.5 0.0**
KURK pmax pmax
comp=Z,79nm,0.8s,mb5.6
AAK Ala-Archa 80.08 315 P **P 00 08 55.7 +1.0**
SNR=20
AAK Ala-Archa 80.08 315⇑ *iP* **P 00 08 54.6 -0.2**
comp=Z,45nm,0.9s,mb5.3
AAK LR LR
comp=Z,25nm,19.0s
AAK Ala-Archa 80.08 315 P **P 00 08 54.8 0.0**
AAK pmax pmax
comp=Z,45nm,0.9s,mb5.3
KDAK Kodiak Island 80.22 29 *eP* **P 00 08 54.6 -0.5**
comp=Z,157nm,1.3s,mb5.7
USP Ospenovka 80.27 315 P **P 00 08 56.7 +1.0**
SNR=117
AML Almayashu 80.51 314 P **P 00 08 58.9 +1.9**
SNR=168
EKS2 Erkin-Say 80.60 315 P **P 00 08 58.9 +1.4**
SNR=76
RSO Redoubt South 81.37 26 *eP* **P 00 09 00.2 -1.0**
SPU Mount Spurr 82.01 26 *eP* **P 00 09 03.2 -1.3**
MAW Mawson 82.08 203⇑ *iP* **P 00 09 05.1 +0.4**
comp=Z,22nm,0.8s,mb5.0
MAW Mawson 82.08 203 P **P 00 09 05.3 +0.6**
comp=Z,22nm,0.7s,mb5.1,baz=89,slow=6.6,SNR=86
MAW PKKPbc 00 27 32.5
comp=Z,2.5nm,0.7s,baz=272,slow=4.6,SNR=8.8
MAW Mawson 82.08 203 P **P 00 09 05.3 +0.6**
MAW pmax pmax
comp=Z,22nm,0.7s
MAW pmax pmax
comp=Z,3.0nm,0.7s
SLKM Skilak Lake 82.52 27 *eP* **P 00 09 06.6 -0.5**
FIB Fire Island 82.82 26⇑ *iP* **P 00 09 08.6 0.0**
FIB Fire Island 82.82 26 P **P 00 09 08.8 +0.2**
KKAR Karatay Array 83.03 315 *i* P **P 00 09 10.5 +0.4**
KKAR pmax pmax
comp=Z,21nm,0.7s,mb5.1
PMR Palmer 83.46 26 *eP* **P 00 09 12.8 +1.0**
comp=Z,118nm,1.4s,mb5.5
PMR Palmer 83.46 26 *eP* **P 00 09 12.8 +1.0**
PMR pmax pmax
comp=Z,118nm,1.4s,mb5.5
SML Sawmill 83.89 26⇑ *iP* **P 00 09 13.9 0.0**
QSPA South Pole Qui 84.36 180 *eP* **P 00 09 16.9 +1.0**
comp=Z,41nm,0.7s,mb5.4

MCK McKinley 84.43 24⇑ *i*P P 00 09 16.0 -0.6
comp=Z,149nm,1.2s,mb5.7
MCK LR LR
comp=Z,51nm,19.0s
MCK McKinley 84.43 24 P P 00 09 16.1 -0.5
MCK pmax pmax
comp=Z,150nm,1.1s,mb5.7
EYAK Cordova Ski Ar 84.56 28 *e*P P 00 09 17.6 +0.2
DIV Divide 84.77 27⇑ *i*P P 00 09 18.8 +0.5
comp=Z,558nm,1.2s,mb6.4
DIV pP pP 00 09 47.9 -0.6
VOSK Vostochnaya 85.22 324 P P 00 09 19.9 -0.9
VOSK pmax pmax
comp=Z,21nm,0.8s,mb5.1
BVA0 Borovoye Array 85.64 324 *i* P P 00 09 22.8 0.0
BVA0 pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
BVAR Borovoye Array 85.64 324 P P 00 09 22.9 0.0
comp=Z,52nm,0.6s,mb5.6,baz=111,slow=6.5,SNR=370
BVAR pP pP 00 09 53.0 -0.1
comp=Z,8.0nm,0.6s,baz=101,slow=7.6,SNR=2.4
BVAR PKKPbc 00 27 26.6
comp=Z,1.3nm,0.7s,baz=297,slow=3.3,SNR=8.0
BVAR PKPPKP 00 35 34.0
comp=Z,1.0nm,0.9s,baz=270,slow=4.4,SNR=4.8
BVAR Borovoye Array 85.64 324 P P 00 09 22.9 +0.1
BVAR *PP pP 00 09 53.0 0.0
BVAR pmax pmax
comp=Z,52nm,0.6s
BVAR pmax pmax
comp=Z,8.0nm,0.6s
BVAR pmax pmax
comp=Z,1.0nm,0.7s
BVAR pmax pmax
comp=Z,1.0nm,0.9s
ILAR Eielson Array 85.67 23 P P 00 09 21.6 -1.1
comp=Z,113nm,0.7s,mb5.9,baz=254,slow=5.1,SNR=615
ILAR pP pP 00 09 51.9 -1.0
comp=Z,22nm,0.8s,baz=250,slow=5.7,SNR=3.4
ILAR PKKPbc 00 27 24.6
comp=Z,0.3nm,0.5s,baz=89,slow=0.4,SNR=4.1
ILAR LR LR 00 48 14.1
comp=Z,30nm,18.1s,baz=359,slow=36
ILAR Eielson Array 85.67 23 P P 00 09 21.6 -1.1
ILAR *PP pP 00 09 51.9 -1.0
ILAR pmax pmax
comp=Z,113nm,0.7s
ILAR pmax pmax
comp=Z,22nm,0.8s
ILAR MLR MLR
comp=Z,30nm,18.1s
BRVK Borovoye 85.71 324⇑ *i*P P 00 09 23.1 -0.1
comp=Z,30nm,0.8s,mb5.3
BRVK Borovoye 85.71 324⇑ *i*P P 00 09 23.1 -0.1
BRVK pmax pmax
comp=Z,30nm,0.8s,mb5.3
SYO Syowa Base 90.48 200 ⇓P P 00 09 44.8 -0.8
SYO Syowa Base 90.48 200 ⇑pP pP 00 10 12.8 -3.3
AB31 Akbulak array 91.38 319 *i* P P 00 09 49.0 -1.2
AB31 pmax pmax
comp=Z,15nm,0.6s,mb5.3
DLBC Dease Lake 91.78 32 P P 00 09 51.9 +0.1
comp=Z,6.2nm,0.6s,mb5.0,baz=265,slow=6.2,SNR=10
DLBC Dease Lake 91.78 32 *e*P P 00 09 52.2 +0.3
INK Inuvik 91.80 22 P P 00 09 51.1 -0.6
comp=Z,49nm,1.0s,mb5.7,baz=262,slow=3.5,SNR=44
INK Inuvik 91.80 22⇑ *i*P P 00 09 51.1 -0.6
comp=Z,61nm,1.1s,mb5.7
INK *e*pP pP 00 10 21.8 -0.5
INK Inuvik 91.80 22 P P 00 09 51.1 -0.6
INK pmax pmax
comp=Z,49nm,1.0s
SVE Sverdlovsk 91.90 327 *e*P P 00 09 51.0 -1.4
SVE *e* pP 00 10 21.0 -1.9
SVE pmax pmax
comp=Z,40nm,1.5s,mb5.4
SVE MLR MLR
comp=N,100nm,14.0s
SVE MLR MLR
comp=Z,200nm,14.0s
ARU Arti 93.00 326⇑ *i*P P 00 09 55.7 -1.8
comp=Z,17nm,0.9s,mb5.4
ARU *e*pP pP 00 10 26.4 -1.6
ARU Arti 93.00 326⇑ *i*P P 00 09 56.0 -1.4
ARU *e* pP 00 10 25.6 -2.4
ARU *e* 00 13 40.0
ARU *e*PPP PPP 00 15 38.6 -8.6
ARU *e*S 00 20 18.9
ARU *e*SS SS 00 27 11.6 +0.1
ARU pmax pmax
comp=Z,20nm,1.1s,mb5.4
KCPM Cahto Peak 94.16 51 *e*P P 00 10 03.7 +0.6
KCPM *e*pP pP 00 10 32.2 -1.5
KIPM Iron Peak 94.25 51 *e*P P 00 10 03.9 +0.4
HUMO Hull Mountain 94.81 48 *e*P P 00 10 07.1 +1.1
comp=Z,7.5nm,0.9s,mb5.1
YBH Yreka Blue Hor 94.94 49 P P 00 10 07.4 +0.7
comp=Z,2.7nm,0.7s,mb4.8,baz=301,slow=2.2,SNR=7.6
YBH Yreka Blue Hor 94.94 49 *e*P P 00 10 07.6 +0.9
comp=Z,12nm,1.4s,mb5.1
YBH Yreka Blue Hor 94.94 49 P P 00 10 07.4 +0.7
YBH pmax pmax
comp=Z,3.0nm,0.7s
RPW Rockport 96.07 42 P P 00 10 12.1 +0.6
OPO Ambohidratompo 96.17 251 P P 00 10 13.8 +1.0
comp=Z,10nm,1.1s,mb5.2,baz=117,slow=4.7,SNR=6.0
CMB Columbia Colle 96.57 52 *e*P P 00 10 14.0 -0.2
comp=Z,15nm,1.4s,mb5.2
CMB Columbia Colle 96.57 52 P P 00 10 14.7 +0.5
CMB pmax pmax
comp=Z,15nm,1.4s,mb5.2
TBM Table Mountain 96.65 43 P P 00 10 14.9 +0.6
EBG Ellensburg 96.67 44 P P 00 10 15.3 +0.9
EPH Ephrata 97.34 43 P P 00 10 18.0 +0.5
HAWA Hanford 97.38 44⇑ *i*P P 00 10 17.7 +0.1
comp=Z,1.2nm,0.9s
REDWA Red Mountain 97.44 44 P P 00 10 18.8 +0.9
H2OWA Water 97.45 44 P P 00 10 18.9 +0.9
OD2 Odessa Site #2 97.94 43 P P 00 10 20.7 +0.6
WVOR Wild Horse Val 98.00 48 *e*P P 00 10 20.6 +0.1
comp=Z,6.8nm,1.0s,mb5.1
WVOR Wild Horse Val 98.00 48 P P 00 10 21.1 +0.6
WVOR pmax pmax
comp=Z,7.0nm,1.0s,mb5.2
BMO Blue Mountains 98.95 46 *e*P P 00 10 24.0 -0.8
comp=Z,15nm,1.3s,mb5.4
BMO Blue Mountains 98.95 46 P P 00 10 24.9 +0.1
BMO pmax pmax
comp=Z,15nm,1.2s,mb5.4
NEW Newport 98.99 42 P P 00 10 24.8 -0.2
comp=Z,4.8nm,0.6s,mb5.2,baz=262,slow=4.1,SNR=7.6
NEW Newport 98.99 42 *e*P P 00 10 24.7 -0.2
comp=Z,3.6nm,0.5s,mb5.2
NEW Newport 98.99 42 P P 00 10 24.8 -0.2
NEW pmax pmax
comp=Z,5.0nm,0.6s
YKW3 Yellowknife Ar 99.46 28 *e*P P 00 10 26.2 -0.5
YKA Yellowknife Ar 99.47 28 P P 00 10 26.3 -0.4
comp=Z,9.6nm,0.8s,mb5.4,baz=275,slow=4.8,SNR=40
YKA PP PP 00 14 29.1 -4.4
comp=Z,2.1nm,0.9s,baz=272,slow=7.5,SNR=6.0
YKA PKKPbc 00 26 48.9
comp=Z,1.8nm,0.6s,baz=96,slow=2.8,SNR=13
YKA LR LR 00 58 45.8
comp=Z,43nm,18.0s,baz=285,slow=37
YKA Yellowknife Ar 99.47 28 P P 00 10 26.3 -0.4
YKA PP PP 00 14 29.1 -4.4
YKA PKKPbc 00 26 48.9
YKA LR LR 00 58 45.8
YKA Yellowknife Ar 99.47 28 P P 00 10 26.3 -0.5
YKA 00 14 29.1
YKA pmax pmax
comp=Z,10.0nm,0.8s
YKA pmax pmax
comp=Z,2.0nm,0.9s
YKA pmax pmax
comp=Z,2.0nm,0.6s
YKA MLR MLR
comp=Z,43nm,18.0s
UMR Umm Al-Rimmam 99.60 299 *e*P P 00 10 28.4 +0.2
UMR AMb AMB 00 10 29.2
comp=Z,27nm,0.7s,mb6.0
RDF Al-Radifah 99.73 298 *e*P P 00 10 28.6 -0.1
RDF AMb AMB 00 10 31.2
comp=Z,42nm,0.9s,mb6.1
MIB Mutribah 99.93 299 *e*P P 00 10 29.2 -0.5
MIB AMb AMB 00 10 30.2
comp=Z,48nm,0.5s,mb6.4
NAY Al-Naaiem 100.01 299 *e*P P 00 10 29.6 -0.4
NAY AMb AMB 00 10 30.6
comp=Z,30nm,0.6s
SNAA Sanae 100.15 190 *e* P 00 10 36.6 +7.0
SNAA Sanae 100.15 190⇑ *i*P P 00 10 29.7 +0.1
SNAA *e* 00 10 36.6
ELK Elko 100.57 50 *e*P P 00 10 31.7 -0.6
comp=Z,3.0nm,1.0s
ELK Elko 100.57 50 *e*P P 00 10 31.7 -0.5
ELK pmax pmax
comp=Z,3.0nm,1.0s
VNA2 Neumayer--Watz 101.53 189 *e* P 00 10 42.2 +6.4
VNA2 Neumayer--Watz 101.53 189⇑ *i*P P 00 10 36.2 +0.4
VNA2 *e* 00 10 42.2
VNA3 Neumayer Olymp 101.57 188 *e* P 00 10 42.5 +6.5
VNA3 Neumayer Olymp 101.57 188⇑ *i*P P 00 10 36.0 0.0
VNA3 *e* 00 10 42.5
GNI Garni 101.90 310 P P 00 10 42.6 +4.4
comp=Z,2.9nm,0.6s,baz=331,slow=13,SNR=3.9
GNI Garni 101.90 310 P P 00 10 42.6 +4.4
GNI pmax pmax
comp=Z,3.0nm,0.6s
VNA1 Neumayer--Stat 101.91 189 P 00 10 38.0 +0.5
MCMT McKenzie Canyo 102.12 45 *e*Pdif Pdif 00 10 39.9 +0.9
ZEI Tsey 102.38 312 *e*P Pdif 00 10 36.1 -4.1
ZEI *i* 00 14 53.7
GOF Gofitskoye 102.83 315 *e*P Pdif 00 10 39.3 -2.8
BOZ Bozeman (W) 102.91 45 *e*Pdif Pdif 00 10 42.7 +0.2
comp=Z,4.5nm,1.0s
BOZ Bozeman (W) 102.91 45 P Pdif 00 10 43.0 +0.5
BOZ pmax pmax
comp=Z,5.0nm,1.0s
RRI2 Red Ridge 103.33 47 *e*Pdif Pdif 00 10 44.5 +0.1
comp=Z,3.4nm,0.9s
PDAR Pinedale Array 104.67 47 Pdiff Pdif 00 10 50.4 +0.1
comp=Z,1.8nm,0.5s,baz=201,slow=1.8,SNR=20
PDAR PKKPbc 00 26 35.5
comp=Z,0.5nm,0.7s,baz=90,slow=5.9,SNR=4.5
ARCES ARCESS Array B 105.45 342 Pdiff Pdif 00 10 52.0 -1.1
comp=Z,5.6nm,0.7s,baz=69,slow=7.7,SNR=16
ARCES PKiKP 00 15 05.5
comp=Z,2.1nm,0.7s,baz=180,slow=1.2,SNR=6.0
ARCES PKKPbc 00 26 31.2
comp=Z,1.2nm,0.5s,baz=264,slow=2.6,SNR=11
ARCES ARCESS Array B 105.45 342 P Pdif 00 10 52.1 -1.0
ARCES pmax pmax
comp=Z,6.0nm,0.7s
ARCES pmax pmax
comp=Z,2.0nm,0.7s
ARCES pmax pmax
comp=Z,1.0nm,0.5s
PV10 Paradox Valley 105.49 52 *e*Pdif Pdif 00 10 54.7 +0.7
MALT Malatya 106.93 308 *e*Pdif Pdif 00 11 00.3 0.0
comp=Z,3.1nm,0.8s
MALT Malatya 106.93 308 *e*P Pdif 00 11 00.4 0.0
MALT pmax pmax
comp=Z,3.0nm,0.8s
SMCO Snowmass 107.01 51 *e*Pdif Pdif 00 11 01.2 +0.5
ANMO Albuquerque 107.88 55 PKKPab 00 26 41.0
comp=Z,2.4nm,0.8s,baz=145,slow=5.5,SNR=8.5
KMBO Kilima Mbogo 108.15 267 Pdiff Pdif 00 11 08.4 +2.2
comp=Z,2.7nm,0.9s,baz=54,slow=7.4,SNR=5.6
KMBO PKiKP 00 15 14.8
comp=Z,2.3nm,0.9s,baz=194,slow=21,SNR=5.5
KMBO Kilima Mbogo 108.15 267 Pdif Pdif 00 11 08.4 +2.2
KMBO PKPdf 00 15 14.8
KMBO Kilima Mbogo 108.15 267 P Pdif 00 11 08.5 +2.2
KMBO pmax pmax
comp=Z,3.0nm,1.0s
KMBO pmax pmax
comp=Z,2.0nm,0.9s
FINES FINESS Array B 108.72 334 Pdiff Pdif 00 11 06.3 -1.3
comp=Z,1.5nm,0.7s,baz=90,slow=5.7,SNR=8.3
FINES PKiKP 00 15 11.9
comp=Z,1.4nm,0.6s,baz=117,slow=4.3,SNR=7.6
FINES FINESS Array B 108.72 334 Pdif Pdif 00 11 06.3 -1.3
FINES PKPdf 00 15 11.9
FINES FINESS Array B 108.72 334 P Pdif 00 11 06.3 -1.3
FINES pmax pmax
comp=Z,2.0nm,0.7s
FINES pmax pmax
comp=Z,1.0nm,0.6s
MNTX Cornudas Mount 109.09 59 *e*PKP 00 15 13.7
BRTR Keskin Array B 110.43 310 Pdiff Pdif 00 11 15.3 -0.3
comp=Z,0.7nm,0.7s,baz=101,slow=6.3,SNR=3.9
BRTR PKiKP 00 15 17.4
comp=Z,0.6nm,0.7s,baz=99,slow=1.9,SNR=4.3
BRTR PKKPbc 00 26 18.2
comp=Z,1.1nm,0.8s,baz=235,slow=3.3,SNR=5.7
BRTR Keskin Array B 110.43 310 P Pdif 00 11 15.4 -0.3
BRTR *i* 00 15 17.4
BRTR 00 26 18.3
BRTR pmax pmax
comp=Z,1.0nm,0.7s
BRTR pmax pmax
comp=Z,1.0nm,0.7s
BRTR pmax pmax
comp=Z,1.0nm,0.8s
TXAR Lajitas Array 110.78 61 PKiKP 00 15 17.0
comp=Z,1.3nm,0.9s,baz=340,slow=1.6,SNR=11
TXAR PKKPbc 00 26 17.9
comp=Z,0.6nm,0.6s,baz=114,slow=5.8,SNR=13
TXAR PKKPab 00 26 27.5
comp=Z,2.0nm,0.8s,baz=115,slow=6.6,SNR=16
TXAR Lajitas Array 110.78 61 *i* PKIKP PKPdf 00 15 17.0 +1.3
TXAR 00 26 27.5
TXAR pmax pmax
comp=Z,1.0nm,0.9s
TXAR pmax pmax
comp=Z,1.0nm,0.6s
TXAR pmax pmax
comp=Z,2.0nm,0.8s
AKASG Malin Array Be 110.87 322 PKiKP 00 15 15.7
comp=Z,1.1nm,0.6s,baz=50,slow=2.5,SNR=5.1
AKASG PKKPbc 00 26 14.9
comp=Z,1.2nm,0.6s,baz=265,slow=4.0,SNR=8.5
AKASG Malin Array Be 110.87 322 *i* PKIKP PKPdf 00 15 15.7 +0.4
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKASG pmax pmax
comp=Z,1.0nm,0.6s
MATP Matopo 113.06 245 PKiKP 00 15 22.8
comp=Z,5.9nm,0.4s,baz=85,slow=1.2,SNR=42
MATP PKKPbc 00 26 08.3
comp=Z,1.5nm,0.7s,baz=254,slow=4.5,SNR=6.5
MATP PKKPab 00 26 17.8
comp=Z,7.2nm,1.1s,baz=254,slow=3.4,SNR=5.2
MATP Matopo 113.06 245 PKPdf PKPdf 00 15 22.8 +2.4
MATP PKPbc 00 26 08.3
MATP PKKPab 00 26 17.8
CFR Carcaliu 113.17 317 ⇑P PKPdf 00 15 20.2 +0.2
CFR Carcaliu 113.17 317 ⇑P PKPdf 00 15 20.2 +0.2
BOSA Boshof 113.33 236 PKiKP 00 15 23.2
comp=Z,1.7nm,0.6s,baz=72,slow=3.2,SNR=7.6
BOSA PKKPbc 00 26 06.8
comp=Z,1.4nm,0.6s,baz=45,slow=1.4,SNR=3.7
BOSA Boshof 113.33 236 *e*PKP PKPdf 00 15 22.9 +2.2
BOSA Boshof 113.33 236 *i* PKIKP PKPdf 00 15 23.3 +2.6
BOSA pmax pmax
comp=Z,2.0nm,0.6s
BOSA pmax pmax
comp=Z,1.0nm,0.6s
VRI Vrincioaia 113.91 318 ⇓P PKPdf 00 15 23.1 +1.7
VRI Vrincioaia 113.91 318 ⇓P PKPdf 00 15 23.1 +1.7
JCT Junction City 113.98 59 *e*PKP PKPdf 00 15 22.5 +0.5
JCT Junction City 113.98 59 PKiKP PKPdf 00 15 23.0 +1.0
WMOK Wichita Mounta 114.16 54 *e*PKP PKPdf 00 15 22.1 -0.1
LBTB Lobatse 114.26 240 PKP PKPdf 00 15 24.8 +2.1
comp=Z,2.4nm,0.6s,baz=128,slow=3.7,SNR=9.8
LBTB Lobatse 114.26 240 *e*PKP PKPdf 00 15 24.9 +2.3
LBTB Lobatse 114.26 240 PKIKP PKPdf 00 15 24.8 +2.1
LBTB pmax pmax
comp=Z,2.0nm,0.6s
MLR Muntele Rosu 114.55 318 PKP PKPdf 00 15 23.9 +1.2
comp=Z,4.9nm,0.7s,baz=1.1,slow=2.1,SNR=12
MLR *e*PKP 00 15 55.1
comp=Z,3.8nm,0.8s,baz=124,slow=2.6,SNR=2.6
MLR Muntele Rosu 114.55 318 ⇑P PKPdf 00 15 23.9 +1.1
MLR Muntele Rosu 114.55 318 ⇑P PKPdf 00 15 23.9 +1.1
MLR Muntele Rosu 114.55 318 PKIKP PKPdf 00 15 23.9 +1.1
MLR pmax pmax
comp=Z,5.0nm,0.7s
MLR pmax pmax
comp=Z,4.0nm,0.8s
HFS Hagfors 114.63 336 PKKPbc 00 26 01.8
comp=Z,0.8nm,0.5s,baz=233,slow=7.2,SNR=5.2
LSZ Lusaka 114.64 250 *e*PKP PKPdf 00 15 26.4 +2.8
MBAR Mbarara 114.68 267 *e*PKP PKPdf 00 15 25.5 +1.7
NB2 NORSAR Subarra 115.07 337 PKPdf PKPdf 00 15 23.3 -0.1
comp=Z,2.2nm,0.9s,baz=55,slow=1.9
NB2 NORSAR Subarra 115.07 337 PKPdf PKPdf 00 15 23.3 -0.1
NOA NORSAR Array B 115.07 337 PKP PKPdf 00 15 23.8 +0.4
comp=Z,1.1nm,0.7s,baz=54,slow=2.0,SNR=4.3
NOA PKKPbc 00 26 01.6
comp=Z,0.7nm,0.7s,baz=52,slow=2.9,SNR=3.4
NOA NORSAR Array B 115.07 337 PKP PKPdf 00 15 23.8 +0.4
NOA PKKPbc 00 26 01.6
NOA NORSAR Array B 115.07 337 PKIKP PKPdf 00 15 23.8 +0.4
NOA 00 26 01.6
NOA pmax pmax
comp=Z,1.0nm,0.7s
NOA pmax pmax
comp=Z,1.0nm,0.7s
SUR Sutherland 115.40 230 PKP PKPdf 00 15 27.9 +3.2
comp=Z,4.0nm,0.7s,baz=90,slow=2.0,SNR=5.3
OKC Ostrava-Krasne 117.77 324 *e*PKP PKPdf 00 15 30.3 +1.5
OKC AMS AMS 01 07 00.0
comp=Z,100nm,25.4s
MORC Moravsky Berou 118.15 325 *e*PKPdf PKPdf 00 15 30.9 +1.4
IDI Anoyia 118.15 307 PKP PKPdf 00 15 32.4 +2.5
comp=Z,16nm,0.9s,baz=18,slow=4.2,SNR=4.7
DPC Dobruska-Polom 118.57 326 *e*PKP PKPdf 00 15 31.8 +1.4
DPC AMS AMS 01 03 50.0
comp=Z,100nm,23.1s
UPC Upice 118.67 326 *e*PKP PKPdf 00 15 31.7 +1.1
CCM Cathedral Cave 119.29 49 *e*PKPdf PKPdf 00 15 31.8 -0.3
PVCC Panska Ves 119.46 326 *e*PKP PKPdf 00 15 33.4 +1.3
PVCC AMS AMS 01 07 50.0
comp=Z,100nm,20.8s
PRU Pruhonice 119.75 326 *e*PKP PKPdf 00 15 33.8 +1.2
PRU AMS AMS 01 07 40.0
comp=Z,100nm,20.9s
BSEG Bad Segeberg 119.77 331 *e*PKPdf PKPdf 00 15 34.0 +1.4
CLL Collm 119.90 328 *i* PKIKP PKPdf 00 15 33.7 +0.8
comp=Z,logA/T=1.1
CLL *e**PPKP 00 16 09.0
CLL *e*PP PP 00 16 54.0 -8.5
CLL Collm 119.90 328 *i* PKP PKPdf 00 15 33.7 +0.8
CLL *e*pPKP 00 16 00.0
KHC Kasperske Hory 120.72 325 *e*PKP PKPdf 00 15 35.8 +1.2
KHC *e*x x 00 16 05.5
KHC AMS AMS 01 08 10.0
comp=Z,100nm,19.2s
KHC Kasperske Hory 120.72 325 *e*PKIKP PKPdf 00 15 35.8 +1.2
KHC MLR MLR
comp=Z,100nm,19.2s
NKC Novy Kostel 120.77 327 *e*PKP PKPdf 00 15 35.6 +0.9
NKC AMS AMS 01 07 30.0
comp=Z,100nm,17.4s
GEC2 GERESS Array S 120.80 325 *e*PKPdf PKPdf 00 15 35.8 +1.1
GERES GERESS Array B 120.80 325 PKP PKPdf 00 15 35.9 +1.1
comp=Z,3.7nm,0.6s,baz=90,slow=2.0,SNR=3.4
GERES pPKP 00 16 07.2
comp=Z,2.4nm,0.7s,baz=45,slow=1.9,SNR=4.6
GERES PKKPbc 00 25 40.9
comp=Z,0.6nm,0.6s,baz=180,slow=5.3,SNR=4.2
GERES GERESS Array B 120.80 325 PKIKP PKPdf 00 15 35.9 +1.2
GERES pmax pmax
comp=Z,4.0nm,0.6s
GERES pmax pmax
comp=Z,2.0nm,0.7s
GERES pmax pmax
comp=Z,1.0nm,0.6s
CLZ Clausthal 120.97 329 *e*PKPdf PKPdf 00 15 36.5 +1.5
MOX Moxa 121.00 328 *i* P PKPdf 00 15 35.9 +0.8
PERS Pernice 121.04 322 *i* PKPdf PKPdf 00 15 35.9 +0.7
WET Wettzell 121.11 326 *e*PKPdf PKPdf 00 15 36.4 +1.1
BOJS Bojanci 121.48 321 *e*PKPdf PKPdf 00 15 37.3 +1.1
LJU Ljubljana 121.68 322 *i* PKPdf PKPdf 00 15 37.6 +1.1
GRA1 Grafenberg Arr 121.73 327 *e*PKPdf PKPdf 00 15 37.3 +0.8
GRF Grafenberg Arr 121.73 327 *e*PKP PKPdf 00 15 37.3 +0.8
BLO Bloomington 122.41 47 *e*PKPdf PKPdf 00 15 38.1 +0.1
BLO Bloomington 122.41 47 PKIKP PKPdf 00 15 38.7 +0.6
WVT Waverly 122.47 50 *e*PKPdf PKPdf 00 15 37.6 -0.6
FUR Furstenfeldbru 122.53 325 *e*PKPdf PKPdf 00 15 39.2 +1.1
TNS Taunus Mts 122.90 329 *e*PKPdf PKPdf 00 15 39.8 +1.1
WCI Wyandotte Cave 122.92 48 *e*PKPdf PKPdf 00 15 38.8 -0.3
TIP Timpagrande 123.12 314 *e*PKPdf PKPdf 00 15 40.9 +1.5
PLCA Paso Flores 123.20 148 PKP PKPdf 00 15 42.2 +2.7
comp=Z,37nm,0.7s,baz=226,slow=2.5,SNR=101
PLCA Paso Flores 123.20 148 *e*PKIKP PKPdf 00 15 42.0 +2.4
TSUM Tsumeb 123.21 243 PKP PKPdf 00 15 43.1 +3.0
comp=Z,6.3nm,0.8s,baz=134,slow=2.6,SNR=17
TSUM pPKP 00 16 12.6
comp=Z,5.8nm,0.9s,baz=136,slow=2.3,SNR=4.6
TSUM PKKPbc 00 25 32.3
comp=Z,2.9nm,0.7s,baz=278,slow=5.7,SNR=17
TSUM Tsumeb 123.21 243 *e*PKPdf PKPdf 00 15 42.5 +2.4
TSUM *e*pPKPdf 00 16 12.3
STU Stuttgart 123.35 327 *e*PKPdf PKPdf 00 15 40.0 +0.3
BFO Black Forest 124.07 327 *e*PKPdf PKPdf 00 15 41.8 +0.7
DAVOX Davos 124.08 325 PKP PKPdf 00 15 42.3 +1.1
comp=Z,8.9nm,0.7s,baz=148,slow=2.8,SNR=23
DAVOX pPKP 00 16 13.8
comp=Z,5.2nm,0.7s,baz=23,slow=3.7,SNR=3.3
LRAL Lakeview Retre 124.08 54 *e*PKPdf PKPdf 00 15 41.2 -0.3
SCHQ Schefferville 124.41 22 PKP PKPdf 00 15 42.0 +0.5
comp=Z,5.9nm,0.8s,baz=316,slow=2.9,SNR=8.6
WLF Walferdange 124.42 329 *e*PKPdf PKPdf 00 15 43.5 +1.8
EKA Eskdalemuir Ar 124.47 339 PKP PKPdf 00 15 42.8 +1.1
comp=Z,3.2nm,0.6s,baz=23,slow=2.8,SNR=17
EKA pPKP 00 16 13.0
comp=Z,3.5nm,1.0s,baz=117,slow=1.6,SNR=3.0
EKA PKKPbc 00 25 26.6
comp=Z,1.3nm,0.6s,baz=220,slow=3.3,SNR=5.1
EKA Eskdalemuir Ar 124.47 339 PKIKP PKPdf 00 15 42.8 +1.1
EKA pmax pmax
comp=Z,3.0nm,0.6s
EKA pmax pmax
comp=Z,4.0nm,1.0s
EKA pmax pmax
comp=Z,1.0nm,0.6s
ESK Eskdalemuir 124.50 339 *e*PKPdf PKPdf 00 15 42.3 +0.5
ACSO Alum Creek Sta 124.50 44 *e*PKPdf PKPdf 00 15 41.9 -0.3
CDF Champ du Feu 124.59 327 *e*PKIKP PKPdf 00 15 42.5 +0.4
comp=Z,6.9nm,0.9s
GIVF Givet 124.81 330 *e*PKIKP PKPdf 00 15 43.5 +1.0
comp=Z,23nm,0.9s
BAIF Baives 125.14 331 *e*PKIKP PKPdf 00 15 44.0 +0.9
comp=Z,33nm,1.3s
HINF Hinteralfeld 125.18 327 *e*PKIKP PKPdf 00 15 43.8 +0.6
comp=Z,19nm,0.8s
HAU Haudompre 125.34 328 *e*PKIKP PKPdf 00 15 44.2 +0.7
comp=Z,28nm,0.8s
HAU *e*R
comp=Z,55nm,21.8s
MYNC Murphy 125.67 50 *e*PKPdf PKPdf 00 15 44.6 +0.1
MEZF Maizieres J'vi 125.71 329 *e*PKIKP PKPdf 00 15 45.4 +1.2
comp=Z,14nm,0.8s
CABF La Chapelle 126.32 326 *e*PKIKP PKPdf 00 15 46.7 +1.3
comp=Z,32nm,0.9s
LPG La Plagne 126.60 325 *e*PKIKP PKPdf 00 15 47.4 +1.4
comp=Z,9.9nm,0.8s
LPL La Plagne 126.60 325 *e*PKIKP PKPdf 00 15 47.3 +1.3
comp=Z,9.8nm,0.8s
PGF Pioggiola 126.86 321 *e*PKIKP PKPdf 00 15 47.6 +1.0
comp=Z,42nm,1.0s
BNI Bardonecchia 126.90 324 *e*PKPdf PKPdf 00 15 48.1 +1.6
MBDF Montbardon 127.03 324 *e*PKIKP PKPdf 00 15 47.6 +0.8
comp=Z,9.1nm,0.8s
LOR Lormes 127.11 328 *e*PKIKP PKPdf 00 15 47.9 +1.0
comp=Z,7.5nm,0.8s
LOR *e*R
comp=Z,53nm,21.0s
SBF Sospel 127.12 323 *e*PKIKP PKPdf 00 15 47.8 +0.7
comp=Z,20nm,0.9s
SSF Saint Saulge 127.43 328 *e*PKIKP PKPdf 00 15 48.6 +1.0
comp=Z,23nm,1.1s
ORIF Oris-en-Rattie 127.44 325 *e*PKIKP PKPdf 00 15 48.8 +1.1
comp=Z,10nm,0.8s
ORIF *e*R
comp=Z,44nm,22.2s
SMF Signal de Mont 127.52 327 *e*PKIKP PKPdf 00 15 48.6 +0.8
comp=Z,33nm,1.1s
AVF Avril sur Loir 127.69 328 *e*PKIKP PKPdf 00 15 48.8 +0.7
comp=Z,5.6nm,0.8s
HYF Humbligny 127.75 329 *e*PKIKP PKPdf 00 15 49.7 +1.5
FRF La Foret Royal 127.76 323 *e*PKIKP PKPdf 00 15 49.3 +0.9

	comp=Z,20nm,1.0s						
LMR	La Mourre	127.97	323	ePKIKP	PKPdf	00 15 49.7	+0.9
	comp=Z,5.7nm,0.7s						
SMRF	Simiane la Rot	128.16	324	ePKIKP	PKPdf	00 15 50.6	+1.5
	comp=Z,21nm,1.0s						
VIVF	Saint-Julien-l	128.16	325	ePKIKP	PKPdf	00 15 50.2	+1.1
	comp=Z,35nm,1.4s						
BINY	Binghamton	128.17	39	ePKPdf	PKPdf	00 15 49.1	0.0
FLN	La Foliniere	128.27	332	ePKIKP	PKPdf	00 15 49.9	+0.7
FLN				eR			
	comp=Z,51nm,20.2s						
TCF	Toulx Ste Croi	128.61	328	ePKIKP	PKPdf	00 15 51.0	+1.1
	comp=Z,18nm,0.8s						
GRR	Gorron	128.71	332	ePKIKP	PKPdf	00 15 51.0	+1.0
	comp=Z,12nm,0.7s						
LASF	Ste Croix	129.10	325	ePKIKP	PKPdf	00 15 52.0	+1.1
	comp=Z,17nm,1.1s						
TRQA	Tornquist	129.55	152	ePKPdf	PKPdf	00 15 53.8	+1.9
CAF	Calviac	129.57	327	ePKIKP	PKPdf	00 15 53.4	+1.6
	comp=Z,16nm,1.1s						
SGMF	Saint Gilles	129.59	333	ePKIKP	PKPdf	00 15 52.6	+0.9
MFF	Saint Martin d	129.61	330	ePKIKP	PKPdf	00 15 52.8	+1.0
	comp=Z,4.4nm,0.6s						
RJF	Les Rejaudoux	129.62	327	ePKIKP	PKPdf	00 15 53.7	+1.9
RJF				eR			
	comp=Z,55nm,20.5s						
QUIF	Quistinic	130.12	333	ePKIKP	PKPdf	00 15 53.5	+0.8
LFF	La Frestale	130.28	328	ePKIKP	PKPdf	00 15 54.6	+1.5
EPF	Esparros	131.74	326	ePKIKP	PKPdf	00 15 57.4	+1.5
ETSF	Etsaut	132.33	326	ePKIKP	PKPdf	00 15 58.9	+1.8
	comp=Z,15nm,0.9s						
SJPF	Ste Jean	132.55	327	ePKIKP	PKPdf	00 15 59.5	+2.0
	comp=Z,8.3nm,0.8s						
LVC	Limon Verde	136.10	131	ePKPdf	PKPdf	00 16 07.7	+3.1
ESDC	Sonseca Array	136.39	325	PKP	PKPdf	00 16 05.9	+1.3
	comp=Z,0.5nm,0.5s,baz=16,slow=2.6,SNR=6.4						
ESDC				PP	PP	00 18 52.2	+2.1
	comp=Z,2.4nm,1.0s,baz=42,slow=7.5,SNR=5.1						
LPAZ	La Paz	140.15	124	PKhKP		00 16 07.6	
	comp=Z,5.7nm,0.8s,baz=249,slow=3.5,SNR=24						
LPAZ				PKP	PKPdf	00 16 13.0	+0.9
	comp=Z,8.7nm,0.8s,baz=258,slow=1.2,SNR=18						
LPAZ	La Paz	140.15	124	ePKPpre		00 16 06.1	
LPAZ				PKP	PKPdf	00 16 13.0	+0.9
LPAZ				ePKPdf	PKPdf	00 16 15.5	+3.5
LPAZ	La Paz	140.15	124	PKHKP		00 16 07.6	
LPAZ						00 16 13.0	
LPAZ				pmax	pmax		
	comp=Z,6.0nm,0.8s						
LPAZ				pmax	pmax		
	comp=Z,9.0nm,0.8s						
ROSC	El Rosal	140.22	89	PKhKP		00 16 10.2	
	comp=Z,5.2nm,0.5s,baz=254,slow=2.1,SNR=3.0						
ROSC				PKP	PKPdf	00 16 14.8	+2.5
	comp=Z,4.8nm,0.5s,baz=245,slow=2.3,SNR=6.3						
CPUP	Villa Florida	141.24	146	PKhKP		00 16 08.8	
	comp=Z,4.3nm,0.5s,baz=258,slow=4.7,SNR=14						
CPUP				PKP	PKPdf	00 16 16.6	+2.7
	comp=Z,44nm,0.8s,baz=298,slow=1.5,SNR=53						
CPUP	Villa Florida	141.24	146	ePKPpre		00 16 08.1	
CPUP				ePKPdf	PKPdf	00 16 15.8	+1.9
CPUP				PKP	PKPdf	00 16 16.6	+2.7
SDV	Santo Domingo	143.91	83	ePKPpre		00 16 17.9	
SJG	San Juan	146.60	65	PKPbc	PKPbc	00 16 25.5	+0.7
	comp=Z,97nm,0.7s,baz=20,slow=2.1,SNR=27						
SJG	San Juan	146.60	65	PKIKP	PKPdf	00 16 25.5	+2.2
SJG				pmax	pmax		
	comp=Z,97nm,0.7s						
SAML	Samuel	147.86	117	ePKPdf	PKPdf	00 16 26.9	+1.4
SAML				ePKPbc	PKPdf	00 16 30.1	+4.6
DBIC	Dimbokro	150.62	274	PKP	PKPdf	00 16 31.9	+2.0
	comp=Z,5.3nm,0.8s,baz=321,slow=3.7,SNR=9.1						
DBIC				PKPbc	PKPdf	00 16 38.1	+8.3
	comp=Z,277nm,0.8s,baz=77,slow=2.3,SNR=288						
DBIC	Dimbokro	150.62	274	ePKPdf	PKPdf	00 16 31.7	+1.9
DBIC				ePKPbc	PKPdf	00 16 38.0	+8.1
LIC	Lamto	150.79	273⇑	iPKIKP	PKPdf	00 16 38.5	+8.4
	comp=Z,788nm,0.7s						
LZG	Guadaloupe-1	151.18	67	eP	PKPdf	00 16 37.2	+6.7
MGG	Marie-Galante	151.67	67	eP	PKPdf	00 16 38.4	+7.1
CAM3	Guarapari	153.14	167	eP	PKPdf	00 16 33.3	0.0
CAM3				i		00 16 39.4	
CAM3				i		00 16 46.4	
CAM3				i		00 17 09.5	
BDFB	Brasilia	154.94	148	PKP	PKPdf	00 16 39.1	+3.3
	comp=Z,27nm,1.0s,baz=244,slow=1.2,SNR=22						
BDFB				PKPbc	PKPdf	00 16 47.2	+11
	comp=Z,46nm,0.7s,baz=235,slow=1.4,SNR=29						
BDFB				pPKPbc		00 17 16.4	
	comp=Z,17nm,0.9s,baz=334,slow=3.5,SNR=2.7						
BDFB	Brasilia	154.94	148	PKIKP	PKPdf	00 16 39.1	+3.3
BDFB				pmax	pmax		
	comp=Z,27nm,1.0s						
BDFB				pmax	pmax		
	comp=Z,46nm,0.7s						
BDFB				pmax	pmax		
	comp=Z,17nm,0.9s						
BAO	Brasilia Array	154.96	148	PKPdf	PKPdf	00 16 39.0	+3.2

*IDC **06** 00:11:20.8±1.1, 22.23S×179.56W, h586^{km}±11^{km}, mb3.8/12, mb1 4.0/15, mb1mx3.8/20, mbtmp4.8/15, Error ellipse: s-maj=14.6km s-min=12.5km az=149.0*
*NEIC **06** 00:11:20.7±0.8, 22.20S×179.53W, h588^{km}±8^{km}, mb4.5/8, Error ellipse: s-maj=10.7km s-min=8.7km az=145.0*

ISC 06 00:11:19.8±1.0, 22.29S±0.09×179.59W±0.08, h581^{km}±12^{km}, n104, σ=10/46, mb4.5/20, 4C-11D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	7.09	168	P	P	00 13 11.4	+0.9
	32nm,0.3s,baz=52,slow=19,SNR=3.2						
AFI	Afiamalu	11.16	43	P	P	00 13 48.7	-1.5
	1.5nm,0.3s,baz=52,slow=18,SNR=2.9						
DZM	Mont Dzumac	12.94	268	eP	P	00 14 10.5	+2.5
DZM	Mont Dzumac	12.94	268	P	P	00 14 10.3	+2.3
	1.7nm,0.3s,baz=85,slow=16,SNR=20						
DZM	Mont Dzumac	12.94	268	eP	P	00 14 10.5	+2.5
URZ	Urewera	16.17	189	P	P	00 14 37.7	-1.8
	4.9nm,0.3s,baz=343,slow=5.2,SNR=18						
RPZ	Rata Peaks	22.73	198	P	P	00 15 38.2	-2.0
	7.5nm,0.7s,mb4.4,baz=4.5,slow=17,SNR=4.2						
ARMA	Armidale	26.97	246	⇓iP	P	00 16 08.7	-9.2
CNB	Canberra Magne	30.01	237	⇓iP	P	00 16 45.3	+1.4
	20nm,0.6s,mb4.9						
CTA	Charters Tower	31.88	268	⇓iP	P	00 17 00.9	+1.0
	18nm,0.4s,mb5.1						
CTA	Charters Tower	31.88	268	P	P	00 17 00.7	+0.8
	23nm,0.4s,mb5.2,baz=94,slow=11,SNR=56						
CTA				PcP	PcP	00 19 31.5	-1.5
	3.6nm,0.5s,baz=282,slow=9.3,SNR=4.8						
TOO	Toolangi	33.65	235	⇓iP	P	00 17 15.6	+1.0
	12nm,0.6s,mb4.7						
PMG	Port Moresby	34.36	287	P	P	00 17 21.4	+0.7
	27nm,0.8s,mb5.0,baz=113,slow=6.3,SNR=6.7						
STKA	Stephens Creek	35.69	246	⇓iP	P	00 17 32.6	+1.1
	8.3nm,0.4s,mb4.6						
STKA	Stephens Creek	35.69	246	P	P	00 17 32.2	+0.7
	12nm,0.5s,mb4.7,baz=91,slow=9.0,SNR=37						
STKA				ScP		00 22 34.2	
	5.9nm,1.2s,baz=128,slow=10,SNR=3.2						
ADE	Adelaide	38.46	241	eP	P	00 17 54.1	0.0
WB2	Warramunga Arr	42.90	264	⇓iP	P	00 18 29.4	-0.4
WRAB	Tennant Creek	42.91	264	eP	P	00 18 28.4	-1.4
	54nm,0.6s,mb5.2						
WRA	Warramunga Arr	42.91	264	P	P	00 18 29.5	-0.3
	18nm,0.3s,mb5.1,baz=96,slow=8.3,SNR=318						
WRA				ScP		00 23 00.3	
	2.7nm,0.9s,baz=101,slow=3.9,SNR=6.6						
KAKA	Kakadu	46.56	273	⇓iP	P	00 19 04.4	+6.3
	40nm,0.3s,mb5.4						
FITZ	Fitzroy Crossi	51.34	264	P	P	00 19 30.9	-2.6
	19nm,0.5s,mb4.8,baz=47,slow=3.5,SNR=19						
KLBR	Kellerberrin	55.97	246	eP	P	00 20 04.9	-0.9
	22nm,0.8s,mb4.4						
SBA	Scott Base	56.00	183	eP	P	00 20 06.8	+1.3
	22nm,1.5s,mb4.2						
VNDA	Vanda	56.01	185	P	P	00 20 05.5	-0.1
	2.6nm,0.7s,mb3.6,baz=357,slow=7.0,SNR=20						
VNDA				PcP	PcP	00 20 54.2	-1.1
	1.4nm,0.7s,baz=244,slow=1.3,SNR=4.2						
VNDA	Vanda	56.01	185	P	P	00 20 05.5	-0.1
VNDA				PcP	PcP	00 20 54.2	-1.1
NWAO	Narrogin (SRO)	56.25	245	P	P	00 20 07.1	-0.7
	9.9nm,0.6s,mb4.2,baz=87,slow=6.9,SNR=8.6						
NWAO	Narrogin (SRO)	56.25	245	P	P	00 20 07.1	-0.7
MUN	Mundaring	57.23	246	eP	P	00 20 13.7	-0.7
	8.4nm,0.5s,mb4.2						
CASY	Casey	61.72	206	⇓iP	P	00 20 42.7	-1.0
QSPA	South Pole Qui	67.79	180	⇓iP	P	00 21 22.0	+0.6
	12nm,0.6s,mb4.5						
KSM	Kuching	72.21	279	eP	P	00 21 48.0	-0.5
MAW	Mawson	79.38	200	⇓iP	P	00 22 26.7	-0.1
	4.2nm,0.6s,mb4.0						
MAW	Mawson	79.38	200	P	P	00 22 26.9	+0.1
	5.6nm,0.7s,mb4.0,baz=124,slow=6.7,SNR=24						
SNAA	Sanae	86.26	179	e	P	00 23 02.8	+1.9
SNAA	Sanae	86.26	179	⇑iP	P	00 22 59.8	-1.1
SNAA				e		00 23 02.8	
VNA3	Neumayer Olymp	86.46	177	e	P	00 23 03.5	+1.6
VNA3	Neumayer Olymp	86.46	177	⇑iP	P	00 23 01.2	-0.7
VNA3				e		00 23 03.5	
VNA3				e		00 23 27.5	
VNA3				e		00 26 41.5	
VNA3				e		00 27 05.6	
VNA2	Neumayer--Watz	86.88	177	e	P	00 23 06.3	+2.5
VNA2	Neumayer--Watz	86.88	177	⇑iP	P	00 23 03.5	-0.3
VNA2				e		00 23 06.3	
VNA2				e		00 23 29.9	
VNA2				e		00 26 42.1	
VNA2				e		00 27 07.3	
VNA1	Neumayer--Stat	87.11	177	⇑i	P	00 23 04.9	0.0
TXAR	Lajitas Array	89.26	58	P	P	00 23 16.8	+0.7
	1.4nm,0.9s,mb3.8,baz=208,slow=6.0,SNR=11						
TXAR				PKKPbc		00 40 48.7	
	0.2nm,0.5s,baz=90,slow=3.8,SNR=3.9						
TXAR	Lajitas Array	89.26	58	P	P	00 23 16.8	+0.7
TXAR				PKKPbc		00 40 48.7	
ANMO	Albuquerque	89.67	52	P	P	00 23 18.0	+0.3
	0.3nm,0.3s,mb3.6,baz=149,slow=6.2,SNR=3.9						
ANMO	Albuquerque	89.67	52	P	P	00 23 18.0	+0.2
PDAR	Pinedale Array	91.28	44	P	P	00 23 25.3	+0.4
	0.5nm,0.8s,mb3.5,baz=180,slow=1.5,SNR=3.6						
SDCO	Great Sand Dun	91.64	50	eP	P	00 23 27.0	+0.3
MKAR	Makanchi Array	111.34	313	PKiKP		00 28 47.0	
	0.8nm,0.5s,baz=180,slow=1.0,SNR=17						
BVAR	Borovoye Array	119.47	319	PKP	PKPdf	00 29 03.0	-0.6
	3.3nm,0.4s,baz=116,slow=1.9,SNR=26						
BOSA	Boshof	124.00	206	PKP	PKPdf	00 29 13.3	+0.3
	1.3nm,0.7s,baz=92,slow=20,SNR=3.3						
BOSA	Boshof	124.00	206	PKP	PKPdf	00 29 13.3	+0.3
MATP	Matopo	129.46	215	PKP	PKPdf	00 29 23.1	-0.6
	1.0nm,0.4s,baz=206,slow=2.8,SNR=6.7						
MATP				SKPbc		00 31 51.1	
	12nm,0.8s,baz=143,slow=4.1,SNR=27						
ARCES	ARCESS Array B	130.39	349	PKP	PKPdf	00 29 23.4	-0.7
	2.8nm,0.7s,baz=92,slow=1.2,SNR=15						
ARCES				SKPbc		00 31 53.0	
	4.4nm,1.0s,baz=14,slow=5.0,SNR=5.7						
FINES	FINESS Array B	137.04	342	PKhKP		00 29 24.3	
	0.4nm,0.4s,baz=27,slow=4.3,SNR=7.1						
FINES				PKP	PKPdf	00 29 36.1	-0.5
	0.7nm,0.3s,baz=91,slow=4.1,SNR=6.9						
FINES				SKPbc		00 32 14.9	
	1.0nm,0.6s,slow=1.9,SNR=4.9						
KMBO	Kilima Mbogo	137.19	242	PKP	PKPdf	00 29 40.2	+2.0
	0.7nm,0.6s,baz=52,slow=22,SNR=3.7						
NB2	NORSAR Subarra	140.55	352	PKPabc	PKPdf	00 29 37.6	-5.3
	1.1nm,0.5s,baz=25,slow=3.1						
NB2	NORSAR Subarra	140.55	352	PKPab	PKPdf	00 29 37.6	-5.3
NOA	NORSAR Array B	140.55	352	PKhKP		00 29 38.0	
	0.6nm,0.5s,baz=2.4,slow=5.7,SNR=4.3						
HFS	Hagfors	141.04	349	PKhKP		00 29 38.2	
	5.1nm,0.3s,baz=63,slow=3.3,SNR=64						
MALT	Malatya	143.78	305	ePKP	PKPdf	00 29 50.0	+0.8
AKASG	Malin Array Be	143.81	329	PKP	PKPdf	00 29 47.9	-0.9
	6.4nm,0.4s,baz=44,slow=4.3,SNR=54						
AKASG				SKPbc		00 32 33.1	
	1.2nm,0.6s,baz=43,slow=2.3,SNR=5.5						
AKASG	Malin Array Be	143.81	329	PKP	PKPdf	00 29 47.9	-0.9
AKASG				SKPbc		00 32 33.1	
SUW	Suwalki	143.94	337	ePKP	PKPdf	00 29 49.1	+0.1
SUW	Suwalki	143.94	337	eP	PKPbc	00 29 49.1	+0.4
ASF	Jabal al Asfar	146.23	295	PKPbc	PKPbc	00 29 57.1	+1.7
	7.1nm,0.6s,baz=354,slow=2.8,SNR=22						
GKP	Gorka Klasztor	146.51	342	ePKP	PKPdf	00 29 57.2	+3.8
GKP	Gorka Klasztor	146.51	342	eP	PKPdf	00 29 57.2	+3.8
BR131	Keskin Array S	146.88	309	ePKPdf	PKPdf	00 29 55.2	+0.8
BR131				ePKPbc	PKPbc	00 29 57.9	+1.2
BRTR	Keskin Array B	146.88	309	PKPbc	PKPbc	00 29 57.6	+1.0
	4.6nm,0.6s,baz=137,slow=5.0,SNR=20						
EKA	Eskdalemuir Ar	146.89	4	PKPbc	PKPbc	00 29 56.5	+0.3
	2.5nm,0.6s,baz=354,slow=2.2,SNR=16						
BSEG	Bad Segeberg	147.52	349	ePKPbc	PKPdf	00 29 59.1	+4.1
KWP	Kalwaria	147.53	333	ePKP	PKPdf	00 29 59.6	+4.4
KWP	Kalwaria	147.53	333	eP	PKPdf	00 29 59.6	+4.4
KOLS	Kolonicke sedl	148.25	332	ePKP	PKPdf	00 30 02.3	+6.0
STHS	Stebnicka Huta	148.31	334	ePKP	PKPdf	00 30 02.5	+6.1
NIE	Niedzica	148.68	335	ePKP	PKPdf	00 30 03.6	+6.7
KSP	Ksiaz	148.91	340	ePKP	PKPdf	00 30 03.5	+6.3
KSP	Ksiaz	148.91	340	ePKP	PKPdf	00 30 03.4	+6.2
OKC	Ostrava-Krasne	149.15	337	ePKPbc	PKPdf	00 30 03.8	+6.1
OKC				ePKPab	PKPab	00 30 11.0	-1.0
UPC	Upice	149.29	340	ePKPbc	PKPdf	00 30 04.3	+6.4
DPC	Dobruska-Polom	149.33	340	ePKPbc	PKPdf	00 30 04.6	+6.7
KECS	Kecovo	149.35	333	ePKP	PKPdf	00 30 05.4	+7.4
KECS				e		00 30 12.0	
MORC	Moravsky Berou	149.42	338	ePKPbc	PKPdf	00 30 04.2	+6.1
CLL	Collm	149.42	344	⇓iPKP1	PKPdf	00 30 04.1	+6.1
CLL				iPKP2	PKPab	00 30 11.6	-1.5
CLZ	Clausthal	149.51	348	ePKPbc	PKPdf	00 30 04.7	+6.5
CLZ				ePKPab	PKPab	00 30 12.3	-1.1
BRG	Berggiesshubel	149.57	343	i PKP	PKPdf	00 30 04.9	+6.6
BRG				i		00 30 12.7	
PVCC	Panska Ves	149.71	342	ePKPbc	PKPdf	00 30 05.5	+7.0
VYHS	Vyhne	150.00	335	ePKP	PKPdf	00 30 06.1	+7.0
VYHS				e		00 30 15.0	
PRU	Pruhonice	150.20	342	ePKPbc	PKPdf	00 30 05.9	+6.6
PRU				ePKPab	PKPab	00 30 15.2	-1.1
NKC	Novy Kostel	150.55	344	ePKPbc	PKPdf	00 30 07.2	+7.4
KHC	Kasperske Hory	151.25	342	ePKPbc	PKPdf	00 30 08.7	+7.8
KHC				ePKPab	PKPab	00 30 19.8	-0.9
GRA1	Grafenberg Arr	151.35	345	ePKPbc	PKPdf	00 30 08.4	+7.4
GRA1				ePKPab	PKPab	00 30 20.7	-0.5
GRF	Grafenberg Arr	151.35	345	ePKP	PKPdf	00 30 08.4	+7.4
GRF				ePKP	PKPab	00 30 20.7	-0.5
TNS	Taunus Mts	151.41	349	ePKPbc	PKPdf	00 30 08.4	+7.3
TNS				ePKPab	PKPab	00 30 20.2	-1.2
WET	Wettzell	151.43	343	ePKPab	PKPab	00 30 20.7	-0.8
GEC2	GERESS Array S	151.47	341	ePKPbc	PKPdf	00 30 08.9	+7.7
GERES	GERESS Array B	151.47	341	PKPbc	PKPdf	00 30 08.4	+7.2
	6.5nm,1.1s,baz=23,slow=2.3,SNR=17						
GIVF	Givet	152.03	354	ePKIKP	PKPdf	00 30 10.2	+8.3
	21nm,0.8s						
BAIF	Baives	152.12	355	ePKIKP	PKPdf	00 30 10.4	+8.3
FUR	Furstenfeldbru	152.75	344	ePKPab	PKPab	00 30 26.4	-0.7
BFO	Black Forest	153.25	348	ePKPab	PKPab	00 30 27.8	-1.4
CDF	Champ du Feu	153.36	350	ePKIKP	PKPdf	00 30 12.9	+9.1
	5.8nm,0.9s						
FLN	La Foliniere	153.57	1	ePKIKP	PKPdf	00 30 13.8	+10
HAU	Haudompre	153.90	351	ePKIKP	PKPdf	00 30 13.9	+9.4
DAVOX	Davos	154.39	345	PKPbc	PKPdf	00 30 15.4	+10
	1.7nm,0.6s,baz=18,slow=19,SNR=5.1						
DAVOX				PKPab	PKPab	00 30 33.0	-1.1
	4.1nm,0.6s,baz=43,slow=5.0,SNR=7.6						

IGQ 06 00:15:27.6, 0.40N×78.16W, h8^{km}±2^{km}, mb4.2, 7C-8D, Error ellipse: s-maj=1.1km s-min=0.9km az=0.7, Colombia-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COTA	Cotacachi	0.19	250	⇑P	Pg	00 15 32.6	+0.9
CAYA	Cayambe	0.37	153	⇓P	Pg	00 15 35.6	+0.4
ECEN	Cerro Negro	0.46	24	⇓P	Pg	00 15 36.6	-0.4
JOR1	San Jorge 1	0.62	230	⇓P	Pg	00 15 42.7	+2.5
YANA	Yana	0.66	219	⇓P	Pg	00 15 40.6	-0.4
YANA				S	Sg	00 15 50.6	+0.9
CONE	Cono NE Rev Vo	0.70	132	P	Pb	00 15 41.9	+0.3
PINO	Pino	0.71	219	⇓P	Pb	00 15 41.7	-0.2
GGP	Refugio Guagua	0.72	217	⇑P	Pb	00 15 41.6	-0.4
TERV	Terraza Guagua	0.72	218	⇓P	Pb	00 15 42.1	0.0
ECOPE	Copete-Rev Vol	0.74	133	⇓P	Pb	00 15 42.1	-0.2
JUA2	San Juan 2	0.76	216	⇑P	Pb	00 15 42.4	-0.3
ANTI	Antisana	0.84	180	⇓P	Pb	00 15 44.5	+0.3
VC1	Cotopaxi 1	1.06	193	⇑P	Pb	00 15 48.5	+0.6
VC1				S	Sb	00 16 03.7	+2.0
NAS1	Nasa	1.08	197	⇑P	Pb	00 15 49.0	+0.9
NAS1				S	Sb	00 16 05.3	+3.2
TAMB	Tambo	1.11	191	P	Pb	00 15 49.3	+0.7
LORE	San Lorenzo	1.12	322	⇑P	Pb	00 15 49.0	+0.1
LORE				S	Sb	00 16 04.3	+0.9
CAMI	Rancho Maria	1.12	198	P	Pb	00 15 49.8	+0.9
QIL1	Quilotoa	1.46	212	P	Pn	00 15 55.8	+1.3
PISA	Pisayambo	1.47	189	P	Pn	00 15 56.1	+1.6
ULBA	Ulba	1.85	188	P	Pn	00 16 02.8	+2.8
ARRY	Arrayan	1.92	189	⇑P	Pn	00 16 04.1	+3.1

*NEIC **06** 00:58:15.8, 38.91S×175.48E, h214^{km}, MG3.7(WEL), After WEL.*

WEL 06 00:58:15.5±0.3, 38.81S×175.34E, h211^{km}±2^{km}, ML3.8/17, 2C, Error ellipse: s-maj=5.3km s-min=5.0km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NGZ	Ngauruhoe	0.42	151	PN	P	00 58 43.7	-0.2
WNVZ	Wahianoa	0.56	159	PN	P	00 58 44.3	-0.1
WNVZ				SN	S	00 59 05.8	-1.0
WNVZ	Wahianoa	0.56	159	P	P	00 58 44.4	0.0
MTVZ	Mangateitei	0.59	170	PN	P	00 58 44.3	-0.2
MTVZ				SN	S	00 59 06.3	-0.6
MTVZ				SN	S	00 59 06.6	-0.4
MOVZ	Moawhango	0.68	152	PN	P	00 58 44.5	-0.4
MOVZ				SN	S	00 59 06.3	-1.4
MOVZ	Moawhango	0.68	152	P	P	00 58 44.5	-0.4
BKZ	Black Stump Fm	0.97	112	PN	P	00 58 46.6	+0.2
BKZ				SN	S	00 59 10.0	-0.3
BKZ	Black Stump Fm	0.97	112	eP	P	00 58 46.7	+0.3
WAZ	Wanganui	0.98	196	PN	P	00 58 45.9	-0.5
WAZ	Wanganui	0.98	196	P	P	00 58 46.0	-0.5
WAZ				S	S	00 59 09.8	-0.7
TSZ	Takapari Road	1.34	159	PN	P	00 58 47.8	-1.4
URZ	Urewera	1.49	69	PN	P	00 58 49.7	-0.8
URZ				SN	S	00 59 15.5	-2.1
URZ	Urewera	1.49	69	eP	P	00 58 49.7	-0.8
PWZ	Pawanui	1.70	136	PN	P	00 58 52.1	-0.2
PWZ				SN	S	00 59 20.4	-0.2
PWZ	Pawanui	1.70	136	eP	P	00 58 52.2	-0.1
KNZ	Kokohu	1.83	97	ePN	P	00 58 53.8	+0.2
MRZ	Mangatainoka R	1.86	174	PN	P	00 58 52.4	-1.4
MRZ	Mangatainoka R	1.86	174	P	P	00 58 52.5	-1.3
BFZ	Birch Farm	2.00	160	PN	P	00 58 54.0	-1.1
BFZ	Birch Farm	2.00	160	P	P	00 58 54.1	-1.1
KIW	Kapiti Island	2.08	189	PN	P	00 58 53.9	-2.1
KIW	Kapiti Island	2.08	189	P	P	00 58 53.9	-2.1
DUWZ	D'Urville Isla	2.27	208	PN	P	00 58 55.1	-3.0
CAW	Cannon Point	2.31	185	⇑PN	P	00 58 56.3	-2.2
CAW	Cannon Point	2.31	185	P	P	00 58 56.3	-2.1
MTW	Mount Morrison	2.35	177	PN	P	00 58 56.6	-2.4
MTW	Mount Morrison	2.35	177	P	P	00 58 56.8	-2.1
PUZ	Puketiti	2.41	73	PN	P	00 58 58.4	-1.1
PUZ	Puketiti	2.41	73	eP	P	00 58 58.5	-1.0
MRW	Makara Radio	2.47	191	PN	P	00 58 57.6	-2.6
MRW	Makara Radio	2.47	191	P	P	00 58 57.6	-2.6
WEL	Wellington	2.51	190	PN	P	00 58 57.9	-2.8
WEL	Wellington	2.51	190	P	P	00 58 58.0	-2.7
TCW	Tory Channel	2.54	198	PN	P	00 58 58.3	-2.7
TCW	Tory Channel	2.54	198	P	P	00 58 57.0	-4.0
SNZO	South Karori	2.55	191	PN	P	00 58 58.2	-2.9
SNZO	South Karori	2.55	191	P	P	00 58 58.2	-2.9
PAWZ	Paruwai Farm	2.57	179	PN	P	00 58 58.9	-2.4
TRWZ	Traveller	2.60	174	PN	P	00 58 59.3	-2.4
MSWZ	Moikau Station	2

BFZ				SN	Sn	01 19 06.4	+1.5
BFZ				SN	Sn	01 19 06.5	+1.6
MOVZ	**Moawhango**	**1.00**	**302** ⇓	PN	Pn	01 18 54.7	-0.3
MOVZ				SN	Sn	01 19 07.1	-1.1
KNZ	**Kokohu**	**1.12**	**35** *e*	PN	Pn	01 18 55.4	-1.2
TUVZ	**Tukino**	**1.14**	**306**	PN	Pn	01 18 57.5	+0.5
TUVZ				PN	Pn	01 18 57.6	+0.6
TUVZ				SN	Sn	01 19 12.6	+0.8
WNVZ	**Wahianoa**	**1.15**	**302** ⇓	PN	Pn	01 18 57.6	+0.6
WNVZ				SN	Sn	01 19 12.2	+0.3
DRZ	**Dome Shelter**	**1.20**	**303**	PN	Pn	01 18 58.4	+0.7
HATZ	**Hinemaiaia**	**1.20**	**330**	PN	Pn	01 18 58.2	+0.4
OTVZ	**Oturere**	**1.20**	**310**	PN	Pn	01 18 58.5	+0.7
OTVZ				SN	Sn	01 19 13.6	+0.4
MTVZ	**Mangateitei**	**1.20**	**297**	PN	Pn	01 18 58.5	+0.7
MTVZ				SN	Sn	01 19 14.8	+1.5
MRZ	**Mangatainoka R**	**1.21**	**233** ⇑	PN	Pn	01 18 57.6	-0.3
FWVZ	**Far West T-bar**	**1.22**	**304**	PN	Pn	01 18 58.6	+0.6
RITZ	**Rihia Road**	**1.23**	**321**	PN	Pn	01 18 59.2	+0.9
NGZ	**Ngauruhoe**	**1.23**	**308**	PN	Pn	01 18 59.1	+0.8
WPVZ	**Whakapapa**	**1.25**	**306**	PN	Pn	01 18 59.3	+0.8
CNZ	**Chateau**	**1.25**	**306** ⇑	PN	Pn	01 18 59.4	+0.9
WTVZ	**West Tongariro**	**1.28**	**310**	PN	Pn	01 18 59.7	+0.8
TWVZ	**Taurewa**	**1.40**	**308**	PN	Pn	01 19 01.6	+1.0
WAZ	**Wanganui**	**1.45**	**277**	PN	Pn	01 19 02.5	+1.1
WATZ	**Wairara**	**1.50**	**324** *e*	PN	Pn	01 19 04.0	+1.8
MTW	**Mount Morrison**	**1.59**	**220**	PN	Pn	01 19 01.8	-1.6
MWZ	**Matawai**	**1.69**	**18**	PN	Pn	01 19 03.8	-0.9
URZ	**Urewera**	**1.69**	**7**	PN	Pn	01 19 03.6	-1.2
TRWZ	**Traveller**	**1.71**	**211**	PN	Pn	01 19 03.2	-1.8
KIW	**Kapiti Island**	**1.75**	**238**	PN	Pn	01 19 04.6	-1.0
CAW	**Cannon Point**	**1.79**	**229**	PN	Pn	01 19 04.6	-1.6
PAWZ	**Paruwai Farm**	**1.80**	**217**	PN	Pn	01 19 04.6	-1.8
MSWZ	**Moikau Station**	**1.91**	**219**	PN	Pn	01 19 05.5	-2.4
MRW	**Makara Radio**	**2.08**	**231** *e*	PN	Pn	01 19 08.3	-2.2

BJI ***06*** *01:20:55.7, 56.50S×27.40W, h92km, mB4.9*
NEIC ***06*** *01:20:57.2±1.7, 56.46S×27.41W, h92km±15km, mb4.7/8, Error ellipse: s-maj=11.1km s-min=7.1km az=45.0*
IDC ***06*** *01:20:59.0±0.6, 56.47S×27.36W, h108km±5km, mb4.1/11, mb1 4.2/12, mb1mx4.1/16, mbtmp4.4/12, MS3.4/2, Ms1 3.3/2, ms1mx2.9/13, Error ellipse: s-maj=18.1km s-min=11.3km az=45.0*

ISC 06 01:20:54.5±3.5, 56.44S±0.09×27.4W±0.2, h78km±34km, h111km±2.1km: pP-P, n67, σ1§02/46, mb4.5/14, 5C-6D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**16.48**	**157**	⇓*i*	**P**	**01 24 42.2**	**+0.6**
VNA1	**Neumayer--Stat**	**16.48**	**157**	*e*	**P**	**01 24 44.2**	**+2.6**
VNA1	**Neumayer--Stat**	**16.48**	**157**	*e*	**P**	**01 24 48.7**	**+7.1**
VNA1	**Neumayer--Stat**	**16.48**	**157**	*e*	**P**	**01 24 52.2**	**+11**
VNA1	**Neumayer--Stat**	**16.48**	**157**	⇓*iP*	**P**	**01 24 42.2**	**+0.6**
VNA1				*e*		01 24 44.2	
VNA1				*e*		01 24 48.7	
VNA1				*e*		01 24 52.2	
VNA1				*e*		01 26 02.8	
VNA3	**Neumayer Olymp**	**16.66**	**160**	⇓*i*	**P**	**01 24 43.7**	**-0.1**
VNA3	**Neumayer Olymp**	**16.66**	**160**	*e*	**P**	**01 24 45.9**	**+2.1**
VNA3	**Neumayer Olymp**	**16.66**	**160**	*e*	**P**	**01 24 50.2**	**+6.4**
VNA3	**Neumayer Olymp**	**16.66**	**160**	*e*	**P**	**01 24 53.9**	**+10**
VNA3	**Neumayer Olymp**	**16.66**	**160**	*e*	PcP	01 29 28.6	-1.8
VNA3	**Neumayer Olymp**	**16.66**	**160**	⇓*iP*	**P**	**01 24 43.7**	**-0.1**
VNA3				*e*		01 24 45.9	
VNA3				*e*		01 24 50.2	
VNA3				*e*		01 24 53.9	
VNA3				*e*		01 26 08.6	
VNA3				*e*		01 29 28.6	
VNA2	**Neumayer--Watz**	**16.88**	**157**	⇓*i*	**P**	**01 24 46.3**	**-0.2**
VNA2	**Neumayer--Watz**	**16.88**	**157**	*e*	**P**	**01 24 48.6**	**+2.1**
VNA2	**Neumayer--Watz**	**16.88**	**157**	*e*	**P**	**01 24 52.6**	**+6.1**
VNA2	**Neumayer--Watz**	**16.88**	**157**	*e*	**P**	**01 24 56.5**	**+10**
VNA2	**Neumayer--Watz**	**16.88**	**157**	*e*	PcP	01 29 29.3	-1.4
VNA2	**Neumayer--Watz**	**16.88**	**157**	⇓*iP*	**P**	**01 24 46.3**	**-0.2**
VNA2				*e*		01 24 48.6	
VNA2				*e*		01 24 52.6	
VNA2				*e*		01 24 56.5	
VNA2				*e*		01 26 10.6	
VNA2				*e*		01 29 29.3	
SNAA	**Sanae**	**18.43**	**155**	⇑*i*	**P**	**01 25 04.7**	**-0.9**
SNAA	**Sanae**	**18.43**	**155**	⇑*i*	**P**	**01 25 04.7**	**-0.9**
SNAA	**Sanae**	**18.43**	**155**	*e*	**P**	**01 25 10.1**	**+4.5**
SNAA	**Sanae**	**18.43**	**155**	*e*	**P**	**01 25 13.5**	**+7.9**
SNAA	**Sanae**	**18.43**	**155**	*e*	PcP	01 29 31.6	-1.6
SNAA	**Sanae**	**18.43**	**155**	P	**P**	**01 25 04.8**	**-0.8**
SNAA	1.1nm,0.3s,baz=306,slow=9.9,SNR=90			ScP		01 32 54.1	
	0.1nm,0.3s,baz=320,slow=2.2,SNR=7.2						
SNAA	**Sanae**	**18.43**	**155**	⇑*iP*	**P**	**01 25 04.7**	**-0.9**
SNAA				*e*		01 25 10.1	
SNAA				*e*		01 25 13.5	
SNAA				*e*		01 26 23.2	
SNAA				*e*		01 29 31.6	
PMSA	**Palmer Station**	**19.55**	**230**	*e*P	**P**	**01 25 17.5**	**-0.4**
	9.2nm,0.8s						
SYO	**Syowa Base**	**31.36**	**140**	⇑P	**P**	**01 27 06.2**	**-3.0**
PLCA	**Paso Flores**	**31.95**	**281**	P	**P**	**01 27 13.8**	**-0.8**
	4.3nm,1.2s,mb4.1,baz=120,slow=14,SNR=2.5						
PLCA				PcP	PcP	01 30 01.9	-1.4
	1.7nm,0.9s,baz=350,slow=7.0,SNR=3.8						
PLCA	**Paso Flores**	**31.95**	**281**	P	**P**	**01 27 13.4**	**-1.1**
QSPA	**South Pole Qui**	**33.81**	**180**	*e*P	**P**	**01 27 30.8**	**+0.4**
	13nm,0.9s,mb4.8						
CPUP	**Villa Florida**	**36.98**	**312**	P	**P**	**01 27 57.9**	**+0.2**
	7.0nm,0.6s,mb4.8,baz=164,slow=9.8,SNR=42						
CPUP				pP	pP	01 28 22.9	+6.2
	1.3nm,0.7s,baz=166,slow=13,SNR=1.8						
CPUP				PcP	PcP	01 30 16.1	-1.7
	3.9nm,0.7s,baz=129,slow=6.5,SNR=11						
CPUP	**Villa Florida**	**36.98**	**312**	*e*P	**P**	**01 27 57.6**	**-0.2**
	5.7nm,0.6s,mb4.7						
CPUP				*e*PcP	PcP	01 30 16.5	-1.4
CFAA	**Coronel Fontan**	**37.60**	**294**	P	**P**	**01 28 02.0**	**-0.9**
	0.5nm,0.6s,mb3.6,baz=144,slow=7.0,SNR=9.0						
CFAA				pP	pP	01 28 28.6	+6.8
	0.2nm,0.4s,baz=168,slow=8.6,SNR=3.1						
CFAA				PcP	PcP	01 30 17.5	-2.2
	0.2nm,0.5s,baz=108,slow=6.4,SNR=3.2						
MAW	**Mawson**	**39.91**	**143**	⇑*iP*	**P**	**01 28 21.0**	**-0.7**
	3.8nm,0.7s,mb4.3						
MAW	**Mawson**	**39.91**	**143**	P	**P**	**01 28 21.2**	**-0.5**
	4.1nm,0.7s,mb4.4,baz=236,slow=7.5,SNR=17						
MAW				pP	pP	01 28 45.9	+5.2
	1.5nm,0.7s,baz=216,slow=11,SNR=2.4						
BDFB	**Brasilia**	**43.64**	**331**	P	**P**	**01 28 54.3**	**+1.5**
	3.6nm,0.6s,mb4.3,baz=172,slow=3.4,SNR=6.6						
BDFB				LR	LR	01 43 31.1	
	comp=Z,40nm,19.9s,baz=235,slow=31						
BDFB	**Brasilia**	**43.64**	**331**	P	**P**	**01 28 54.3**	**+1.5**
BDFB				LR	LR	01 43 31.1	
LVC	**Limon Verde**	**45.39**	**301**	*e*P	**P**	**01 29 07.2**	**+0.5**
	19nm,0.7s,mb4.9						
SBA	**Scott Base**	**45.68**	**184**	P	**P**	**01 29 09.1**	**+0.8**
VNDA	**Vanda**	**46.17**	**183**	P	**P**	**01 29 12.6**	**+0.4**
	5.9nm,0.8s,mb4.4,baz=191,slow=6.3,SNR=34						
VNDA				pP	pP	01 29 38.8	+7.3
	1.6nm,0.7s,baz=151,slow=3.2,SNR=2.3						
VNDA				ScP		01 34 26.4	
	0.8nm,0.7s,baz=119,slow=2.5,SNR=3.7						
VNDA	**Vanda**	**46.17**	**183**	*e*P	**P**	**01 29 12.4**	**+0.2**
	4.6nm,0.7s,mb4.3						
BOSA	**Boshof**	**46.19**	**76**	P	**P**	**01 29 13.9**	**+0.9**
	1.2nm,0.5s,mb3.9,baz=169,slow=7.0,SNR=3.8						
BOSA				LR	LR	01 44 12.1	
	comp=Z,52nm,18.8s,baz=99,slow=30						
LBTB	**Lobatse**	**49.25**	**73**	P	**P**	**01 29 36.1**	**-0.7**
	3.5nm,0.6s,mb4.4,baz=234,slow=9.4,SNR=6.6						
LPAZ	**La Paz**	**50.50**	**306**	P	**P**	**01 29 47.9**	**+1.4**
	21nm,0.5s,mb5.4,baz=125,slow=5.7,SNR=154						
LPAZ				PcP	PcP	01 31 03.8	+0.1
	2.3nm,0.6s,baz=122,slow=2.3,SNR=2.1						
LPAZ	**La Paz**	**50.50**	**306**	*e*P	**P**	**01 29 47.6**	**+1.1**
	21nm,0.5s,mb5.4						
LPAZ				*e*PcP	PcP	01 31 03.5	-0.2
CASY	**Casey**	**53.58**	**160**	*e*P	**P**	**01 30 07.7**	**-1.2**
SAML	**Samuel**	**54.99**	**315**	*e*P	**P**	**01 30 18.7**	**-1.2**
	6.8nm,0.8s,mb4.7						
DBIC	**Dimbokro**	**65.58**	**25**	P	**P**	**01 31 31.5**	**-0.5**
	5.1nm,0.7s,mb4.5,baz=159,slow=7.9,SNR=11						
DBIC	**Dimbokro**	**65.58**	**25**	P	**P**	**01 31 31.5**	**-0.5**
STKA	**Stephens Creek**	**91.53**	**171**	P	**P**	**01 33 54.6**	**+1.5**
	0.7nm,0.3s,mb4.4,baz=307,slow=16,SNR=4.3						
PDAR	**Pinedale Array**	**120.44**	**302**	PKP	PKPdf	01 39 35.5	-0.7
	0.4nm,0.5s,baz=136,slow=4.8,SNR=4.2						
FINES	**FINESS Array B**	**124.79**	**28**	PKP	PKPdf	01 39 44.0	0.0
	1.5nm,0.5s,baz=180,slow=3.8,SNR=15						
ARCES	**ARCESS Array B**	**131.36**	**22**	PKP	PKPdf	01 39 57.0	+0.6
	1.0nm,0.6s,baz=225,slow=1.7,SNR=7.4						
KMI	**Kunming**	**132.52**	**110**	PKP	PKPdf	01 40 01.2	+1.4
KMI				LR	LR		
	comp=Z,33nm,17.5s						
YKA	**Yellowknife Ar**	**136.38**	**318**	PKP	PKPdf	01 40 05.7	-0.2
	comp=Z,2.1nm,0.7s,baz=125,slow=2.4,SNR=10						
WMQ	**Urumqi**	**138.11**	**79**	*e*PKP	PKPdf	01 40 09.6	0.0
INK	**Inuvik**	**146.02**	**320**	*e*PKP	PKPdf	01 40 23.8	+1.2
DAWY	**Dawson**	**146.96**	**312**	*e*PKPbc	PKPbc	01 40 26.9	+0.9
EYAK	**Cordova Ski Ar**	**148.56**	**303**	*e*PKPbc	PKPdf	01 40 32.3	+5.3
DIV	**Divide**	**148.77**	**305**	*e*PKPbc	PKPdf	01 40 32.7	+5.4
SML	**Sawmill**	**150.15**	**305**	*e*PKPbc	PKPdf	01 40 35.4	+6.0
ILAR	**Eielson Array**	**150.28**	**311**	PKP	PKPdf	01 40 27.8	-1.8
	comp=Z,0.8nm,0.8s,baz=321,slow=2.3,SNR=6.6						
ILAR				PKPbc	PKPdf	01 40 35.8	+6.2
	comp=Z,16nm,0.8s,baz=136,slow=1.9,SNR=92						
ILAR				pPKPbc		01 41 04.0	
	comp=Z,2.7nm,0.8s,baz=152,slow=2.0,SNR=2.7						
SLKM	**Skilak Lake**	**150.64**	**302**	*e*PKPbc	PKPdf	01 40 36.8	+6.5
KDAK	**Kodiak Island**	**150.88**	**296**	*e*PKPbc	PKPdf	01 40 37.6	+6.9
SONM	**Songino Array**	**150.88**	**87**	PKP	PKPdf	01 40 29.7	-1.3
	comp=Z,1.5nm,0.6s,baz=135,slow=2.1,SNR=3.8						
SONM				PKPbc	PKPdf	01 40 37.6	+6.6
	comp=Z,1.5nm,0.5s,baz=240,slow=3.3,SNR=14						
SONM				pPKPbc		01 41 05.1	
	comp=Z,1.0nm,0.5s,baz=221,slow=3.2,SNR=5.5						
MCK	**McKinley**	**150.92**	**309**	*e*PKPbc	PKPdf	01 40 37.8	+7.2
RSO	**Redoubt South**	**151.82**	**301**	PKPbc	PKPdf	01 40 39.5	+7.5
CN2	**Changchun**	**158.66**	**115**	*e*PKP	PKPdf	01 40 41.8	+0.2

MAN 06 01:23:58.1, 13.53N×121.67E, h31km, mb3.6, ML2.3, MS1.8, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOAC	**Boac**	**0.19**	**112**	*e*P	Pb	01 24 05.9	+1.6
BOAC				*e*S	Sb	01 24 11.6	+3.1
PGP	**Puerto Galera**	**0.69**	**268**	*e*P	Pb	01 24 09.5	-2.1
	171μm,34.0s						
PGP				*e*S	Sb	01 24 17.2	-3.8
SJMP	**San Jose**	**1.19**	**207**	*e*P	Pn	01 24 18.7	-0.1
SJMP				*e*S	Sn	01 24 34.3	+0.2
OTRP	**Odiongan**	**1.21**	**163**	*e*P	Pn	01 24 17.8	-1.4
LUBP	**Lubang**	**1.39**	**279**	*e*P	Pn	01 24 21.5	-0.3
LUBP				*e*S	Sn	01 24 38.9	-0.4
LUBP	**Lubang**	**1.39**	**279**	*e*P	Pn	01 24 21.1	-0.7
BUSP	**Coron**	**2.08**	**223**	*e*P	Pn	01 24 31.4	-0.3

IDC ***06*** *01:38:00.3±6.2, 3.00S×148.43E, h38km±53km, mb4.2/10, mb1 4.3/11, mb1mx4.3/13, mbtmp4.4/11, ML2.6/1, MS4.1/11, Ms1 4.1/11, ms1mx4.1/12, Error ellipse: s-maj=37.9km s-min=20.5km az=85.0*
BJI ***06*** *01:38:02.9, 3.30S×148.50E, h64km, mB5.3, mb4.7, Ms4.2, Msz3.9*
NEIC ***06*** *01:38:02.9±2.3, 3.30S×148.51E, h75km±21km, mb4.7/8, Error ellipse: s-maj=24.3km s-min=13.4km az=99.0*

ISC 06 01:38:01.6±2.7, 3.23S±0.09×148.4E±0.2, h66km±25km, n39, σ1§22/38, mb4.6/20, 1C, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.25**	**191**	Pn	**P**	**01 39 33.7**	**+0.5**
	0.8nm,0.3s,baz=308,slow=9.1,SNR=3.3						
PMG				Sn	**S**	**01 40 51.7**	**+7.6**
	0.9nm,0.3s,baz=112,slow=20,SNR=4.6						
PMG				LR	LR	01 41 44.5	
	comp=Z,617nm,18.7s,baz=203,slow=34						
PMG	**Port Moresby**	**6.25**	**191**	P	**P**	**01 39 32.5**	**-0.7**
	67nm,0.9s						
CTA	**Charters Tower**	**16.88**	**187**	*e*P	**P**	**01 41 57.1**	**+2.1**
	9.1nm,1.0s						
CTA	**Charters Tower**	**16.88**	**187**	LR	LR	01 48 00.0	
	comp=Z,623nm,19.7s,baz=10,slow=35						
KAKA	**Kakadu**	**18.35**	**238**	⇑*iP*	**P**	**01 42 18.3**	**+5.1**
	37nm,0.8s						
WRAB	**Tennant Creek**	**21.51**	**218**	*e*P	**P**	**01 42 45.9**	**-1.0**
	71nm,0.9s,mb5.0						
WB2	**Warramunga Arr**	**21.51**	**218**	*e*P	**P**	**01 42 46.1**	**-0.8**
WRA	**Warramunga Arr**	**21.52**	**218**	P	**P**	**01 42 45.8**	**-1.2**
	27nm,0.9s,mb4.6,baz=46,slow=11,SNR=43						
WRA				PcP	PcP	01 46 48.3	+0.1
	1.9nm,0.9s,baz=29,slow=2.2,SNR=4.5						
DZM	**Mont Dzumac**	**25.68**	**138**	LR	LR	01 51 56.2	
	comp=Z,900nm,19.5s,baz=22,slow=32						
FITZ	**Fitzroy Crossi**	**26.72**	**235**	*e*P	**P**	**01 43 36.9**	**-0.1**
	27nm,0.8s,mb4.8						
FITZ	**Fitzroy Crossi**	**26.72**	**235**	P	**P**	**01 43 37.0**	**0.0**
	31nm,0.8s,mb4.9,baz=59,slow=5.7,SNR=17						
FITZ				LR	LR	01 54 51.3	
	comp=Z,405nm,20.9s,baz=77,slow=38						
STKA	**Stephens Creek**	**29.20**	**192**	*e*P	**P**	**01 44 00.6**	**+1.4**
	4.3nm,0.9s,mb4.1						
STKA	**Stephens Creek**	**29.20**	**192**	P	**P**	**01 44 00.4**	**+1.1**
	2.3nm,0.8s,mb3.9,baz=19,slow=17,SNR=5.0						
STKA				LR	LR	01 56 22.7	
	comp=Z,622nm,20.3s,baz=9.7,slow=37						
JNU	**Nakatsue**	**39.76**	**337**	P	**P**	**01 45 28.1**	**-1.4**
	19nm,0.8s,mb5.0,baz=141,slow=7.2,SNR=9.2						
MDJ	**Mudanjiang**	**50.50**	**343**	P	**P**	**01 46 57.0**	**+1.8**
MDJ				S	**S**	**01 54 05.2**	**+2.5**
MDJ				AMB	AMB		
	comp=Z,7.0nm,0.6s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,146nm,4.1s						
MDJ				LR	LR		
	comp=N,142nm,25.0s						
MDJ				LR	LR		
	comp=E,109nm,23.6s						
MDJ				LR	LR		
	comp=Z,230nm,29.2s						
NST	**Nakhon Sawan**	**51.26**	**293**	P	**P**	**01 47 00.0**	**-1.3**
NANT	**Nan**	**51.74**	**297**	P	**P**	**01 47 05.0**	**+0.1**
KMI	**Kunming**	**52.45**	**305**	P	**P**	**01 47 15.6**	**+5.5**
KMI				S	**S**	**01 54 24.9**	**-4.8**
KMI				AMB	AMB		
	comp=Z,12nm,1.4s,mb4.7						
KMI				LR	LR		
	comp=Z,143nm,31.0s						
HIA	**Hailar**	**57.87**	**338**	*e*P	**P**	**01 47 48.0**	**-1.0**
	comp=Z,24nm,1.0s,mb5.2						
GTA	**Gaotai**	**61.53**	**319**	*e*P	**P**	**01 48 15.2**	**+1.0**
GTA				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.6						
PPT	**Papeete**	**62.42**	**108**	*e*LR	LR	02 07 09.8	
	comp=Z,141nm,26.2s						
SONM	**Songino Array**	**62.68**	**330**	P	**P**	**01 48 21.5**	**-0.3**
	comp=Z,2.8nm,0.8s,mb4.3,baz=149,slow=6.0,SNR=16						
SONM				LR	LR	02 16 04.8	
	comp=Z,132nm,18.6s,baz=106,slow=36						
LSA	**Lhasa**	**63.71**	**305**	P	**P**	**01 48 30.0**	**+1.1**
PKI	**Pulchoki**	**67.83**	**301**	*e*P	**P**	**01 48 56.4**	**+1.2**
DMN	**Daman**	**68.10**	**301**	*e*P	**P**	**01 48 58.2**	**+1.3**
	comp=Z,35nm,1.0s,mb5.1						
CASY	**Casey**	**68.27**	**195**	P	**P**	**01 48 54.3**	**-3.0**
GKN	**Gorkha**	**68.61**	**302**	*e*P	**P**	**01 49 00.1**	**+0.1**
	comp=Z,36nm,1.2s,mb5.1						
KOLN	**Koldanda**	**69.43**	**301**	*e*P	**P**	**01 49 06.0**	**+0.9**
	comp=Z,24nm,1.0s,mb5.0						
VNDA	**Vanda**	**74.59**	**177**	P	**P**	**01 49 37.4**	**+2.5**
	comp=Z,1.9nm,0.9s,mb3.8,baz=294,slow=7.6,SNR=5.1						
VNDA				LR	LR	02 18 17.4	
	comp=Z,91nm,21.1s,baz=352,slow=32						
VNDA	**Vanda**	**74.59**	**177**	P	**P**	**01 49 33.8**	**-1.1**
	comp=Z,8.5nm,1.5s,mb4.2						
VNDA				P		01 49 37.4	
VNDA				LR	LR	02 18 17.4	
MKAR	**Makanchi Array**	**76.25**	**320**	P	**P**	**01 49 44.9**	**0.0**
	comp=Z,6.4nm,1.1s,mb4.3,baz=104,slow=5.0,SNR=11						
MKAR				LR	LR	02 24 00.9	
	comp=Z,133nm,18.1s,baz=172,slow=36						
ZAL	**Zalesovo**	**77.42**	**327**	P	**P**	**01 49 49.7**	**-1.6**
	comp=Z,3.5nm,1.1s,mb4.0,slow=9.1,SNR=6.8						
ZAL				LR	LR	02 25 15.8	
	comp=Z,266nm,21.5s,baz=2.7,slow=37						
ZAL	**Zalesovo**	**77.42**	**327**	P	**P**	**01 49 49.7**	**-1.6**
ZAL				LR	LR	02 25 15.8	
KURK	**Kurchatov**	**79.82**	**323**	*e*P	**P**	**01 50 04.5**	**+0.1**
	comp=Z,12nm,1.1s,mb4.6						
ILAR	**Eielson Array**	**82.42**	**23**	P	**P**	**01 50 15.2**	**-2.5**
	comp=Z,1.6nm,0.7s,mb3.9,baz=253,slow=5.5,SNR=9.3						
MAW	**Mawson**	**85.31**	**203**	LR	LR	02 25 55.3	
	comp=Z,164nm,20.3s,baz=59,slow=34						
BVAR	**Borovoye Array**	**85.34**	**324**	P	**P**	**01 50 32.5**	**-0.2**
	comp=Z,1.8nm,0.6s,mb4.2,baz=106,slow=6.6,SNR=10.0						
YKA	**Yellowknife Ar**	**96.10**	**28**	P	**P**	**01 51 23.4**	**+0.6**
	comp=Z,1.3nm,0.7s,mb4.5,baz=277,slow=4.4,SNR=3.7						
YKA				LR	LR	02 33 47.6	
	comp=Z,60nm,20.2s,baz=290,slow=35						
YKA	**Yellowknife Ar**	**96.10**	**28**	P	**P**	**01 51 23.4**	**+0.6**
YKA				LR	LR	02 33 47.6	

CASC 06 01:45:30.3±1.8, 8.31N×82.75W, h8km±6km, MD4.0, MW4.2, 4C-1D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVD	**David**	**0.33**	**67**	⇓*iP*	Pg	01 45 37.4	+0.5
PTP1	**Petroterminal**	**0.34**	**108**	⇑*iP*	Pg	01 45 34.0	-3.2
PTP1				*e*S	Sg	01 45 37.1	-4.7
BRU2	**Volcan**	**0.49**	**7**	⇑*iP*	Pg	01 45 40.3	+0.2
BRU2				*e*S	Sg	01 45 48.8	+2.1
BRU	**Baru**	**0.53**	**21**	⇑*iP*	Pg	01 45 41.5	+0.5
BRU				*e*S	Sg	01 45 50.3	+2.2
SFX2	**San Felix**	**0.88**	**91**	*e*P	Pb	01 45 45.6	-1.7
SFX2				*e*S	Sb	01 45 57.5	-1.4
CNI	**Changuinola**	**1.12**	**12**	*e*P	Pb	01 45 50.5	-1.0
LCR2	**La Lucha 2**	**1.88**	**319**	⇑*iP*	Pn	01 46 02.3	-0.8
LCR2				*e*S	Sn	01 46 27.5	+0.3
PRS1	**Puriscal**	**2.27**	**317**	*e*P	Pn	01 46 06.6	-2.0
PRS1				*e*S	Sn	01 46 36.7	-0.3
AZU	**Azuero**	**2.51**	**102**	*e*P	Pn	01 46 12.0	-0.1
AZU				*e*S	Sn	01 46 44.2	+1.0

CSEM ***06*** *02:19:06.1±0.6, 38.68N×29.01W, h1km±10km, ML2.4, Error ellipse: s-maj=11.2km s-min=8.1km az=31.0, After PDA*
PDA ***06*** *02:19:06.1±0.6, 38.68N×29.01W, h1km±10km, MD3.2, ML2.4, Error ellipse: s-maj=11.2km s-min=8.1km az=31.0*

SVSA 06 02:19:06.1±0.6, 38.68N×29.01W, h1km±10km, MD3.2, ML2.4, Error ellipse: s-maj=11.2km s-min=8.1km az=31.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.25**	**101**	*e*P	Pg	02 19 10.7	-0.3
PCED				*e*S	Sg	02 19 14.3	0.0
	86nm,0.2s						
CALA	**Caldeira**	**0.26**	**111**	*e*P	Pg	02 19 11.0	-0.3
CALA				*e*S	Sg	02 19 14.4	-0.4
HOR	**Horta**	**0.33**	**116**	*e*S	Sg	02 19 17.0	-0.2
PICO	**Pico**	**0.49**	**111**	*e*P	Pg	02 19 14.9	-1.0
PICO				*e*S	Sg	02 19 21.7	-0.8

NNC ***06*** *02:44:10.4±4.8, 40.89N×74.06E, mpv3.2, Error ellipse: s-maj=43.0km s-min=16.8km az=140.0*

ISC 06 02:44:12.1±3.3, 41.0N±0.2×74.0E±0.1, h10km, n12, σ1§16/12, 1C-4D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**1.20**	**348**	P	**Pb**	**02 44 33.9**	**-0.7**
	211nm,0.2s,SNR=408						
UCH	**Uchtor**	**1.32**	**16**	P	**Pb**	**02 44 35.4**	**-1.2**
	SNR=28						
KZA	**Kyzart**	**1.45**	**39**	P	**Pn**	**02 44 36.5**	**-2.0**
	SNR=15						
AAK	**Ala-Archa**	**1.71**	**11**	P	**Pn**	**02 44 42.7**	**+0.4**
	SNR=41						
AAK	**Ala-Archa**	**1.71**	**11**	⇓Pg	**Pg**	**02 44 42.5**	**-3.9**
	54nm,0.6s						
AAK				⇑Lg		02 45 06.9	
	22nm,0.3s						
**KB

```
TRG                                  e                    02 53 24.6
TRG                                  pmax     pmax
     comp=Z,201nm,0.1s
TRG                                  smax
     comp=N,2μm,0.2s
MXMB Maximikha        0.86  77  ePg      Pg     02 53 18.8 -1.2
MXMB                              eSg      Sg     02 53 29.9 -1.5
MXMB                              eSb      Sb     02 53 32.6 +1.0
MXMB                                 Pmax
     comp=N,76nm,0.1s
MXMB                                 max
     comp=N,795nm,0.5s
TRTB Turuntaevo       0.87 169⇑iPg      Pg     02 53 18.2 -2.0
TRTB                              ePb      Pb     02 53 19.8 -0.3
TRTB                              i Sg     Sg     02 53 28.8 -2.9
TRTB                              eSb      Sb     02 53 32.1 +0.3
TRTB                                 Pmax
     comp=N,362nm,0.2s
TRTB                                 max
     comp=N,2μm,0.2s
FFNB Fofonovo         1.09 199  ePg      Pg     02 53 22.7 -2.0
FFNB                              eSg      Sg     02 53 36.5 -2.8
FFNB                                 Pmax
     comp=N,727nm,0.1s
FFNB                                 Smax
     comp=N,3μm,0.2s
KAB  Kabansk          1.12 203  ePg      Pg     02 53 23.1 -2.0
KAB                               eSg      Sg     02 53 38.1 -1.9
KAB                                  Pmax
     comp=N,233nm,0.4s
KAB                                  Smax
     comp=N,4μm,0.6s
KAB  Kabansk          1.12 203  ePG      Pg     02 53 23.1 -2.0
KAB                               e                02 53 38.3
KAB                                  pmax     pmax
     comp=Z,236nm,0.3s
KAB                                  smax
     comp=N,4μm,0.4s
HRMR Khuramsha        1.47 190  ePg      Pg     02 53 28.7 -3.5
HRMR                              eSg      Sg     02 53 48.2 -3.7
SYVR Suvo             1.69  69  ePg      Pg     02 53 33.2 -3.3
SYVR                              eSg      Sg     02 53 55.5 -3.6
SYVR                                 Pmax
     comp=N,23nm,0.3s
SYVR                                 Smax
     comp=N,160nm,0.4s
LSTR Listvyanka       1.96 233⇓iPn      Pn     02 53 36.0 -1.2
LSTR                              ePg      Pg     02 53 37.6 -4.4
LSTR                              eSn      Sn     02 54 00.0 -2.5
LSTR                              eSg      Sg     02 54 02.7 -5.4
LSTR                                 Pmax
     comp=N,26nm,0.4s
LSTR                                 Smax
     comp=N,254nm,0.8s
LSTR Listvyanka       1.96 233  ePN      Pn     02 53 36.1 -1.1
LSTR                              e                02 54 01.5
LSTR                                 pmax     pmax
     comp=Z,24nm,0.2s
LSTR                                 smax
     comp=E,213nm,0.3s
IRK  Irkutsk          2.05 247  eSg      Sg     02 54 06.0 -5.2
IRK                                  Smax
     comp=E,2μm,0.5s
IRK  Irkutsk          2.05 247  ePN      Pn     02 53 38.3 -0.2
IRK                               e                02 54 05.8
IRK                                  pmax     pmax
     comp=Z,157nm,0.2s
IRK                                  smax
     comp=N,2μm,0.5s
TLY  Talaya           2.67 240  ePn      Pn     02 53 47.0 -0.3
TLY                               ePg      Pg     02 53 50.2 -5.9
TLY                               eSn      Sn     02 54 18.9 -1.6
TLY                               eSg      Sg     02 54 24.4 -7.3
TLY                                  Pmax
     comp=N,16nm,0.2s
TLY                                  Smax
     comp=N,195nm,0.4s
TLY  Talaya           2.67 240  ePN      Pn     02 53 47.0 -0.3
TLY                               e                02 53 51.2
TLY                               eS       Sn     02 54 18.2 -2.3
TLY                               e                02 54 24.3
TLY                                  pmax     pmax
     comp=Z,14nm,0.1s
TLY                                  smax
     comp=N,198nm,0.4s
YLYR Ulyunkhan        2.88  50  ePn      Pn     02 53 47.9 -2.5
YLYR                              ePg      Pg     02 53 53.2 -7.1
YLYR                              eSg      Sg     02 54 30.8 -7.9
YLYR                                 Pmax
     comp=N,9.0nm,0.6s
YLYR                                 Smax
     comp=N,78nm,2.0s
NIZ  Nizh Angarsk     2.99  24  ePn      Pn     02 53 51.1 -0.8
NIZ                               ePg      Pg     02 53 55.5 -7.0
NIZ                               eSn      Sn     02 54 26.4 -2.2
NIZ                               eSg      Sg     02 54 35.1 -7.2
NIZ                                  Pmax
     comp=N,20nm,0.5s
NIZ                                  Smax
     comp=N,114nm,0.8s
NIZ  Nizh Angarsk     2.99  24  ePN      Pn     02 53 51.0 -0.9
NIZ                               e                02 53 58.1
NIZ                               eS       Sn     02 54 26.5 -2.1
NIZ                               e                02 54 35.2
NIZ                                  pmax     pmax
     comp=Z,15nm,0.3s
NIZ                                  smax
     comp=N,90nm,0.4s
ARS  Arshan           3.23 251  ePn      Pn     02 53 54.3 -1.0
ARS                               ePg      Pg     02 54 00.3 -6.9
ARS                               e                02 54 33.5
ARS                               eSg      Sg     02 54 41.2 -9.1
ARS                                  Pmax
     comp=N,50nm,0.6s
ARS                                  Smax
     comp=N,609nm,0.7s
ARS  Arshan           3.23 251  ePN      Pn     02 54 01.6 +6.3
ARS                               e                02 54 40.7
ARS                                  pmax     pmax
     comp=Z,24nm,0.2s
ARS                                  smax
     comp=E,609nm,0.4s
KMO  Kumora           3.60  37  ePg      Pg     02 54 06.5 -8.2
KMO                               eSg      Sg     02 54 52.7 -10
KMO                                  Pmax
     comp=E,13nm,0.3s
KMO                                  Smax
     comp=E,116nm,1.0s
KMO  Kumora           3.60  37  ePN      Pn     02 53 59.1 -1.5
KMO                               e                02 54 07.2
KMO                               eS       Sn     02 54 40.9 -3.2
KMO                               e                02 54 53.0
KMO                                  pmax     pmax
     comp=Z,9.0nm,0.5s
KMO                                  smax
     comp=N,116nm,1.3s
ZAK  Zakamensk        3.70 225  ePn      Pn     02 54 00.3 -1.7
ZAK                               ePg      Pg     02 54 09.2 -7.5
ZAK                               eSn      Sn     02 54 43.6 -3.1
ZAK                               eSg      Sg     02 54 58.0 -8.0
ZAK                                  Pmax
     comp=N,9.0nm,0.6s
ZAK                                  Smax
     comp=N,73nm,0.5s
CIT  Chita            3.93 103  ePg      Pg     02 54 13.3 -8.0
CIT                               eSg      Sg     02 55 04.0 -10
CIT                                  Pmax
     comp=N,18nm,0.4s
CIT                                  Smax
     comp=N,122nm,1.4s
MOY  Mondy            4.14 253  ePn      Pn     02 54 08.5 +0.2
MOY                               ePg      Pg     02 54 18.0 -7.5
MOY                               eSg      Sg     02 55 11.4 -9.4
MOY                                  Pmax
     comp=N,15nm,0.4s
MOY                                  Smax
     comp=N,116nm,1.2s
UKT  Uakit            4.40  54  ePn      Pn     02 54 12.8 +0.9
UKT                               ePg      Pg     02 54 22.4 -8.2
UKT                               eSg      Sg     02 55 19.4 -10
UKT                                  Pmax
     comp=N,6.0nm,1.0s
UKT                                  Smax
     comp=N,33nm,1.7s
ORL  Orlik            4.61 266  ePn      Pn     02 54 14.7 -0.2
ORL                               eSn      Sn     02 55 06.8 -2.8
ORL                               eSg      Sg     02 55 25.4 -11
ORL                                  Smax
     comp=N,49nm,0.8s
NLYR Nelyaty          5.92  51  e        Pn     02 54 52.8 +19
NLYR                              eSg      Sg     02 56 07.5 -12
NLYR                                 Smax
     comp=N,39nm,1.5s
TUP  Tupik            7.59  75  e        Pn     02 54 51.6 -5.4
TUP                               eSg      Sg     02 56 57.9 -18
TUP                                  Smax
     comp=N,33nm,2.1s
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NIED ***06*** *03:04:00,41.50N×142.90E,h23km,Mw3.9 Best double couple: M0 9.07×10^14 NP1:φ0 265°,δ69°,λ49°. NP2:φ0 153°, δ45°,λ150°.*
IDC ***06*** *03:04:28.1±1.0,41.50N×142.94E,mb3.9/10,mb1 4.1/10, mb1mx3.9/21,mbtmp3.9/10,MS3.0/1,Ms1 3.0/1, ms1mx2.1/23,Error ellipse: s-maj=24.3km s-min=23.9km az=4.0*
MOS ***06*** *03:04:31.7±1.8,41.50N×142.95E,h33km,mb4.2/9,Error ellipse: s-maj=20.0km s-min=10.8km az=77.9*
JMA ***06*** *03:04:32.6±0.2,41.53N×142.94E,h30km±4km,M4.3*
JMA Felt I J1.
NEIC ***06*** *03:04:36.4±1.7,41.51N×142.90E,h63km±16km,mb4.1/1, Error ellipse: s-maj=15.6km s-min=12.2km az=77.0*
NEIC Recorded [1 JMA] in south-central Hokkaido and in Aomori Prefecture, Honshu.
ISC 06 03:04:32.7±0.6,41.53N±0.04×142.96E±0.06,h46km±6km, n41,σ0 85/52,mb3.9/11,1C-2D,Hokkaido region

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Code Station Name     Δ°   AZ°  Phase ID          Time      Res
                                Op    ISC         h m s     ISC
JNBK Urakawa-nobuka   0.77 348  ⇑P    P           03 04 46.7 -0.5
JNBK                            eS    S           03 04 56.8 -1.0
JCH  Churui           1.12  15  ⇓P    P           03 04 52.6 +0.4
JBT2 Biratori 2       1.33 341  P     P           03 04 55.3 +0.1
JBT2                            eS    S           03 05 13.4 +1.5
JOT  Ohata            1.45 265  P     P           03 04 56.9 0.0
JOT                             eS    S           03 05 15.1 +0.2
JKB  Kayabe           1.49 285  P     P           03 04 57.1 -0.4
JKB                             eS    S           03 05 14.9 -1.0
JOB  Onbets           1.52  25  P     P           03 04 59.4 +1.5
JANG Nango            1.59 224  P     P           03 04 59.1 +0.2
JTM  Tenmabayashi     1.61 243  ⇓P    P           03 05 00.0 +0.8
JTM                             eS    S           03 05 19.7 +0.8
JFR  Furan            1.66 351  P     P           03 05 00.3 +0.5
JFR                             eS    S           03 05 19.9 -0.1
JNB  Noboribetsu      1.71 304  P     P           03 05 00.5 -0.1
JNB                             eS    S           03 05 20.5 -1.0
JEW  Eniwo            1.73 320  P     P           03 05 00.4 -0.4
JEW                             eS    S           03 05 22.4 +0.6
YUK  Yuzh-Kuril'sk    3.29  39  P     P           03 05 22.5 -0.5
YUK                             eS    S           03 05 59.0 -2.3
YUK                                   pmax     pmax
     comp=N,210nm,0.5s
YUK                                   pmax     pmax
     comp=E,190nm,0.5s
YUK                                   pmax     pmax
     comp=Z,190nm,0.5s
YUK                                   smax
     comp=N,960nm,0.5s
YUK                                   smax
     comp=E,420nm,0.6s
YSS  Yuzh-Sakhalins   5.43 358  eP    P           03 05 57.0 +3.9
MAJO Matsushiro       6.20 218  eP    P           03 06 03.6 -0.4
     comp=E,13nm,0.5s
MAJO Matsushiro       6.20 218  eP    P           03 06 03.6 -0.4
MAJO                                  pmax     pmax
     comp=Z,13nm,0.5s
MAT  Matsushiro       6.20 218  P     P           03 06 05.7 +1.7
MAT                             eS    S           03 07 12.8 -1.7
MAT  Matsushiro       6.20 218  eP    P           03 06 06.0 +2.0
     comp=Z,13nm,0.9s
MAT                             S     S           03 07 13.0 -1.5
MAT  Matsushiro       6.20 218  eP    P           03 06 06.0 +2.0
MAT                             S     S           03 07 13.0 -1.5
MAT                                   pmax     pmax
     comp=Z,13nm,0.9s
JNU  Nakatsue        12.75 233  LR    LR          03 12 24.1
     comp=Z,67nm,20.3s,baz=334,slow=37
SONM Songino Array   26.57 296  P     P           03 10 07.9 -0.2
     comp=Z,0.4nm,0.5s,mb3.2,baz=64,slow=7.5,SNR=6.5
ZAL  Zalesovo        39.93 308  P     P           03 12 05.1 +1.4
     comp=Z,2.1nm,0.4s,mb4.2,baz=76,slow=6.0,SNR=3.5
ZAL  Zalesovo        39.93 308  P     P           03 12 05.1 +1.4
ZAL                                   pmax     pmax
     comp=Z,2.0nm,0.4s
MKAR Makanchi Array  42.90 298  P     P           03 12 27.8 -0.3
     comp=Z,1.4nm,0.6s,mb3.9,baz=82,slow=9.5,SNR=18
MKAR Makanchi Array  42.90 298  P     P           03 12 27.8 -0.3
MKAR                                  pmax     pmax
     comp=Z,1.0nm,0.6s
KURK Kurchatov       44.23 305  eP    P           03 12 38.8 -0.1
     comp=Z,2.9nm,0.8s,mb4.1
KURK Kurchatov       44.23 305  eP    P           03 12 38.8 -0.1
KURK                                  pmax     pmax
     comp=Z,3.0nm,0.8s,mb4.1
ILAR Eielson Array   45.09  35  P     P           03 12 46.6 +1.1
     comp=Z,1.3nm,0.7s,mb3.9,baz=266,slow=5.6,SNR=8.7
ILAR Eielson Array   45.09  35  P     P           03 12 46.6 +1.1
ILAR                                  pmax     pmax
     comp=Z,1.0nm,0.7s
BVAR Borovoye Array  48.53 310  P     P           03 13 12.6 -0.2
     comp=Z,0.7nm,0.4s,mb4.0,baz=80,slow=8.2,SNR=6.4
BVAR Borovoye Array  48.53 310  P     P           03 13 12.6 -0.2
BVAR                                  pmax     pmax
     comp=Z,1.0nm,0.4s
INK  Inuvik          49.86  29  P     P           03 13 23.2 +0.5
     comp=Z,0.9nm,0.6s,mb4.0,baz=306,slow=9.2,SNR=5.6
INK  Inuvik          49.86  29  P     P           03 13 23.3 +0.5
INK                                   pmax     pmax
     comp=Z,1.0nm,0.6s
WRAB Tennant Creek   61.67 189  P     P           03 14 47.3 -1.0
WRA  Warramunga Arr  61.68 189  P     P           03 14 47.9 -0.5
     comp=Z,0.8nm,0.5s,mb4.1,baz=5.3,slow=6.9,SNR=19
WRA  Warramunga Arr  61.68 189  P     P           03 14 47.9 -0.5
WRA                                   pmax     pmax
     comp=Z,1.0nm,0.5s
FINES FINESS Array B 65.41 332  P     P           03 15 11.8 -0.4
     comp=Z,1.1nm,0.8s,mb3.9,baz=172,slow=27,SNR=9.9
FINES FINESS Array B 65.41 332  P     P           03 15 11.8 -0.5
FINES FINESS Array B 65.41 332  P     P           03 15 11.8 -0.4
FINES                                 pmax     pmax
     comp=Z,1.0nm,0.8s
NOA  NORSAR Array B  70.51 337  P     P           03 15 44.0 +0.1
     comp=Z,0.6nm,0.9s,mb3.5,baz=54,slow=4.9,SNR=2.7
NOA  NORSAR Array B  70.51 337  P     P           03 15 44.0 0.0
NOA                                   pmax     pmax
     comp=Z,1.0nm,0.9s
TXAR Lajitas Array   86.45  53  P     P           03 17 11.7 +0.1
     comp=Z,0.3nm,0.8s,mb3.6,baz=286,slow=2.2,SNR=4.5
```

NEIC ***06*** *03:14:09.3±2.1,36.43N×70.92E,h131km±17km,mb4.1/9, Error ellipse: s-maj=18.3km s-min=10.0km az=201.0*
BJI ***06*** *03:14:10.1,36.56N×70.87E,h123km,mb4.3*
IDC ***06*** *03:14:10.4±5.2,36.32N×70.92E,h145km±45km,mb3.7/10, mb1 3.8/12,mb1mx3.6/22,mbtmp4.1/12,Error ellipse: s-maj=31.0km s-min=16.8km az=3.0*
MOS ***06*** *03:14:11.4±1.5,36.53N×70.98E,h164km,mb3.9/12,Error ellipse: s-maj=13.4km s-min=7.0km az=93.3*
NNC ***06*** *03:14:13.1±2.7,36.75N×70.68E,h139km±32km,mpv4.4, Error ellipse: s-maj=22.2km s-min=18.3km az=14.0*
ISC 06 03:14:08.3±0.7,36.38N±0.03×70.93E±0.06,h138km±8km, n84,σ1 9 15/99,mb3.9/15,8C-8D,Hindu Kush region

```
Code Station Name     Δ°   AZ°  Phase ID          Time      Res
                                Op    ISC         h m s     ISC
KSH  Kashi            5.07  50  ⇓P    P           03 15 27.5 +4.1
KSH                             S     S           03 16 23.8 +2.4
KSH                                   Smax
     comp=N,640nm,0.6s
KSH                                   Smax
     comp=E,680nm,1.0s
AML  Almayashu        6.13  20  P     P           03 15 37.7 0.0
     SNR=131
UCH  Uchtor           6.47  24  P     P           03 15 42.5 +0.3
     SNR=9.6
KZA  Kyzart           6.61  29  P     P           03 15 46.1 +2.0
     SNR=10
KK31 Karatay Array    6.73 357  ⇓P    P           03 15 44.6 -1.1
     comp=E,7.6nm,0.3s,baz=189,slow=17,SNR=178
KK31                            ⇑S    S           03 16 55.9 -5.5
     comp=E,26nm,0.5s,baz=183,slow=19,SNR=8.5
KK31 Karatay Array    6.73 357  ⇓P    P           03 15 44.6 -1.1
     comp=E,7.6nm,0.3s
KK31                            S     S           03 16 55.9 -5.5
KKAR Karatay Array    6.73 357  ePN   P           03 15 44.7 -1.1
KKAR                                  pmax     pmax
     comp=Z,2.0nm,0.2s
AAK  Ala-Archa        6.83  23  P     P           03 15 47.5 +0.3
     SNR=16
AAK  Ala-Archa        6.83  23  P     P           03 15 47.0 -0.1
     comp=Z,22nm,0.6s
AAK                             ⇑S    S           03 17 02.1 -1.8
     comp=Z,80nm,0.8s
AAK  Ala-Archa        6.83  23  P     P           03 15 47.0 -0.1
     comp=Z,22nm,0.6s
AAK                             S     S           03 17 02.1 -1.8
AAK  Ala-Archa        6.83  23  PN    P           03 15 47.0 -0.1
AAK                             S     S           03 17 02.1 -1.8
AAK                                   pmax     pmax
     comp=Z,23nm,0.6s
CHMS Chumysh          7.24  23  P     P           03 15 52.4 -0.3
     SNR=12
USP  Ospenovka        7.41  21  P     P           03 15 54.9 -0.1
     SNR=14
TKM2 Tokmak 2         7.46  27  P     P           03 15 55.9 +0.2
     SNR=29
KLP  Kalpa            7.76 126  eP    P           03 16 00.5 +0.8
KLP                             eS    S           03 17 23.4 -3.0
KLP                                   AML      AML 03 17 35.2
     comp=N,400nm,0.3s
KLP                                   AML      AML 03 17 35.7
     comp=E,538nm,0.4s
KHET Khetri           9.25 152  eP    P           03 16 19.4 0.0
KHET                            eS    S           03 17 58.4 -3.5
KHET                                  AML      AML 03 18 01.4
     comp=E,63nm,0.2s
KHET                                  AML      AML 03 18 01.6
     comp=N,53nm,0.3s
NDI  New Delhi        9.32 144  eP    P           03 16 22.0 +1.6
NDI                             eS    S           03 17 57.0 -6.7
KUDL Kundal           9.46 149  eP    P           03 16 22.1 -0.1
KUDL                            eS    S           03 18 02.0 -4.9
KUDL                                  AML      AML 03 18 07.4
     comp=Z,39nm,0.5s
PTH  Pithoragarh     10.35 128  eS    S           03 18 25.0 -3.1
PTH                             ex    x           03 19 42.0
AGRA Agra            10.89 145  eS    S           03 18 33.4 -7.5
AGRA                                  AML      AML 03 18 39.2
     comp=E,63nm,0.4s
AGRA                                  AML      AML 03 18 39.8
     comp=N,115nm,0.3s
MK31 Makanchi Array  13.42  36  ⇑P    P           03 17 15.5 +1.4
     comp=N,12nm,0.7s,baz=219,slow=16,SNR=95
MK31 Makanchi Array  13.42  36  ⇑P    P           03 17 15.5 +1.4
     comp=N,12nm,0.6s
MKAR Makanchi Array  13.42  36  P     P           03 17 15.2 +1.1
     comp=N,0.3nm,0.3s,baz=219,slow=16,SNR=33
KOLN Koldanda        13.73 125  eP    P           03 17 18.3 +0.1
     comp=N,31nm,0.5s
GKN  Gorkha          14.28 122  eP    P           03 17 25.4 +0.3
     comp=N,82nm,0.5s
WMQ  Urumqi          14.81  55  eP    P           03 17 32.8 +1.0
WMQ                                   AMB      AMB
     comp=Z,15nm,0.8s
DMN  Daman           14.85 122  eP    P           03 17 32.9 +0.5
     comp=Z,48nm,0.5s
KKN  Kakani          14.86 121  eP    P           03 17 32.3 -0.2
     comp=Z,88nm,0.6s
PKI  Pulchoki        15.09 122  eP    P           03 17 35.3 0.0
     comp=Z,64nm,0.6s
AB31 Akbulak array   15.17 331  ⇓P    P           03 17 35.1 -1.1
     comp=Z,1.6nm,0.3s,baz=142,slow=12,SNR=103
AB31 Akbulak array   15.17 331  ⇓P    P           03 17 35.0 -1.1
     comp=Z,1.6nm,0.3s
AB31 Akbulak array   15.17 331  P     P           03 17 35.0 -1.2
AB31                            eS    S           03 20 10.1 -10
AB31                                  pmax     pmax
     comp=Z,1.0nm,0.2s
AB31                                  smax
     comp=E,1.0nm,0.3s
KURK Kurchatov       15.37  19  eP    P           03 17 36.8 -1.8
     comp=E,17nm,3.3s
KURK Kurchatov       15.37  19  P     P           03 17 40.2 +1.5
KURK                                  pmax     pmax
     comp=Z,4.0nm,0.9s
VOSK Vostochnaya     16.35   0  ⇓P    P           03 17 49.1 -1.8
     comp=Z,7.7nm,1.0s
VOSK Vostochnaya     16.35   0  P     P           03 17 49.1 -1.7
VOSK                                  pmax     pmax
     comp=Z,8.0nm,1.0s
BVA0 Borovoye Array  16.65 359  ⇑P    P           03 17 53.9 -0.7
     comp=Z,0.7nm,0.8s,baz=176,slow=12,SNR=41
BVA0 Borovoye Array  16.65 359  ⇑P    P           03 17 53.9 -0.7
     comp=Z,0.7nm,0.8s
BVA0 Borovoye Array  16.65 359  ⇑P    P           03 17 53.9 -0.7
BVA0                                  pmax     pmax
     comp=Z,1.0nm,0.8s
BVAR Borovoye Array  16.65 359  P     P           03 17 53.9 -0.7
     comp=Z,0.6nm,0.3s,baz=173,slow=12,SNR=20
BVAR                            S     S           03 20 50.1 -3.8
     comp=Z,0.5nm,0.3s,baz=164,slow=23,SNR=5.0
BVAR Borovoye Array  16.65 359  P     P           03 17 53.9 -0.7
BVAR                            S     S           03 20 50.1 -3.9
BVAR                                  pmax     pmax
     comp=Z,1.0nm,0.3s
BVAR                                  smax
     comp=E,1.0nm,0.3s
BRVK Borovoye        16.69 359  eP    P           03 17 52.3 -2.7
     comp=E,3.5nm,0.7s
BRVK Borovoye        16.69 359  eP    P           03 17 52.3 -2.7
BRVK                                  pmax     pmax
     comp=Z,4.0nm,0.7s
LSA  Lhasa           18.20 106  P     P           03 18 18.0 +5.0
LSA  Lhasa           18.20 106  P     P           03 18 12.5 -0.5
     comp=Z,13nm,0.7s
LSA  Lhasa           18.20 106  P     P           03 18 12.5 -0.5
LSA                                   pmax     pmax
     comp=Z,13nm,0.7s
ZAL  Zalesovo        20.03  24  P     P           03 18 31.6 -0.5
     comp=Z,48nm,0.5s,baz=251,slow=8.5,SNR=124
ZAL  Zalesovo        20.03  24  P     P           03 18 31.7 -0.5
ZAL                                   pmax     pmax
     comp=Z,48nm,0.5s
NVS  Novosibirsk     20.32  21  ⇓iP   P           03 18 34.3 -0.7
NVS                             i PPP    PPP      03 19 01.6 -10
NVS                             eS    S           03 22 07.2 -2.6
NVS                                   pmax     pmax
     comp=Z,28nm,0.8s
NVS                                   pmax     pmax
     comp=N,24nm,0.7s
NVS                                   pmax     pmax
     comp=E,8.0nm,0.7s
NVS                                   smax
     comp=N,22nm,1.9s
UMR  Umm Al-Rimmam   20.61 257  eP    P           03 18 37.3 -0.8
UMR                                   AMb      AMB 03 18 45.2
     comp=Z,22nm,0.4s
MIB  Mutribah        20.80 258  eP    P           03 18 40.4 +0.4
MIB                                   AMb      AMB 03 18 47.0
     comp=Z,68nm,0.8s
QRN  Al-Qurain       20.81 255  eP    P           03 18 39.9 -0.2
GNI  Garni           20.88 288  P     P           03 18 42.9 +2.1
     comp=Z,27nm,1.0s,baz=9.6,slow=23,SNR=6.6
GNI  Garni           20.88 288  eP    P           03 18 43.0 +2.2
GNI                                   pmax     pmax
     comp=Z,29nm,1.7s
RDF  Al-Radifah      21.01 256  eP    P           03 18 42.0 -0.2
RDF                                   AMb      AMB 03 18 47.0
     comp=Z,42nm,1.0s,mb4.7
NAY  Al-Naaiem       21.11 257  eP    P           03 18 43.2 0.0
NAY                                   AMb      AMB 03 18 44.3
     comp=Z,9.6nm,0.5s,mb4.4
ARU  Arti            21.73 341  eP    P           03 18 49.4 +0.3
     comp=Z,4.0nm,0.4s,mb4.2
ARU  Arti            21.73 341  ⇓iP   P           03 18 51.2 +2.1
ARU                             e                 03 19 20.1
ARU                             eS    S           03 22 47.2 +11
ARU                             eSSS     SSS      03 23 27.5 -19
ARU                                   pmax     pmax
     comp=Z,7.0nm,0.9s,mb4.1
ZEI  Tsey            21.74 295  eP    P           03 18 51.4 +2.1
ZEI                                   pmax     pmax
```

comp=Z,3.0nm,0.3s,mb4.2
KIV Kislovodsk 22.80 298 ⇑*i*P **P 03 19 01.2 +1.7**
KIV pmax pmax
comp=Z,5μm,1.1s
GTA Gaotai 22.95 74 *e*P **P 03 19 06.6 +5.6**
GTA AMB AMB
comp=Z,4.0nm,1.0s,mb3.8
ZAK Zakamensk 27.11 49 *e*P **P 03 19 41.2 +1.3**
ZAK *e* pP 03 20 11.0 +2.0
ZAK pmax pmax
comp=Z,1.0nm,1.3s,mb3.3
ZAK pmax pmax
comp=Z,1.0nm,1.1s,mb3.4
SONM Songino Array 28.45 55 P **P 03 19 53.4 +1.3**
comp=Z,0.9nm,0.8s,mb3.5,baz=256,slow=11,SNR=5.3
SONM Songino Array 28.45 55 P **P 03 19 53.4 +1.3**
SONM pmax pmax
comp=Z,1.0nm,0.8s
AKASG Malin Array Be 32.98 309 P **P 03 20 30.3 -1.5**
comp=Z,0.9nm,0.4s,mb3.8,baz=80,slow=7.4,SNR=7.6
AKASG Malin Array Be 32.98 309 P **P 03 20 30.3 -1.5**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
MLR Muntele Rosu 34.80 299 P **P 03 20 47.4 +0.1**
comp=Z,1.7nm,0.5s,mb4.0,baz=195,slow=5.6,SNR=4.6
MLR Muntele Rosu 34.80 299 P **P 03 20 47.4 +0.1**
MLR pmax pmax
comp=Z,2.0nm,0.5s
FINES FINESS Array B 37.56 326 P **P 03 21 10.1 -0.3**
comp=Z,0.5nm,0.4s,mb3.5,baz=120,slow=8.5,SNR=7.8
FINES FINESS Array B 37.56 326 P **P 03 21 10.1 -0.3**
FINES pmax pmax
comp=Z,1.0nm,0.4s
ARCES ARCESS Array B 41.24 338 P **P 03 21 41.0 +0.3**
comp=Z,2.0nm,0.6s,mb3.9,baz=118,slow=8.1,SNR=17
ARCES ARCESS Array B 41.24 338 P **P 03 21 41.0 +0.3**
ARCES pmax pmax
comp=Z,2.0nm,0.6s
NB2 NORSAR Subarra 44.45 323 P **P 03 22 07.0 +0.3**
comp=Z,0.6nm,0.5s,mb3.5,baz=95,slow=7.4
NB2 NORSAR Subarra 44.45 323 P **P 03 22 07.0 +0.3**
NB2 pmax pmax
comp=Z,1.0nm,0.5s,mb3.7
NOA NORSAR Array B 44.45 323 P **P 03 22 06.4 -0.3**
comp=Z,0.8nm,0.5s,mb3.6,baz=98,slow=7.8,SNR=4.5
NOA NORSAR Array B 44.45 323 P **P 03 22 06.4 -0.3**
NOA pmax pmax
comp=Z,1.0nm,0.5s
MA2 Magadan 54.49 38 *e*P **P 03 23 15.2 -8.2**
MA2 pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
INK Inuvik 74.04 9 P **P 03 25 30.5 +0.6**
baz=337,slow=7.6
INK Inuvik 74.04 9 P **P 03 25 30.5 +0.6**
ILAR Eielson Array 74.91 16 P **P 03 25 35.2 +0.3**
comp=Z,1.4nm,0.9s,mb3.6,baz=317,slow=4.6,SNR=12
ILAR Eielson Array 74.91 16 P **P 03 25 35.3 +0.3**
ILAR pmax pmax
comp=Z,1.0nm,0.9s
WRA Warramunga Arr 81.97 122 P **P 03 26 13.3 -1.0**
comp=Z,0.9nm,0.7s,mb3.5,baz=323,slow=5.2,SNR=6.9
WRA Warramunga Arr 81.97 122 P **P 03 26 13.3 -1.0**
WRA pmax pmax
comp=Z,1.0nm,0.7s
WRAB Tennant Creek 81.97 122 P **P 03 26 13.6 -0.7**

IDC 06 03:23:58.6±4.2, 10.45N×91.39E, mb3.6/3, mb1 3.7/3, mb1mx3.4/18, mbtmp3.6/3, Error ellipse: s-maj=150.0km s-min=30.9km az=64.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.04**	**350**	P	P	03 31 10.2	-1.8
	0.6nm,0.8s,baz=180,slow=9.7,SNR=5.5						
SONM	**Songino Array**	**39.35**	**16**	P	P	03 31 29.7	-1.7
	0.3nm,0.5s,baz=206,slow=9.6,SNR=4.1						
WRA	**Warramunga Arr**	**51.95**	**126**	P	P	03 33 09.8	-2.2
	0.9nm,0.7s,baz=305,slow=8.5,SNR=6.1						

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*CSEM **06** 03:35:25.4±0.5, 40.34N×29.61W, ML2.9, Error ellipse: s-maj=10.0km s-min=9.7km az=101.0, After PDA*
*PDA **06** 03:35:25.4±1.1, 40.34N×29.61W, MD3.8, ML2.9, Error ellipse: s-maj=15.6km s-min=9.5km az=77.0*
SVSA 06 03:35:25.4±1.1, 40.34N×29.61W, MD3.8, ML2.9, Error ellipse: s-maj=15.6km s-min=9.5km az=77.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STGR	**Santa Cruz**	**1.77**	**135**	*e*P	Pn	03 35 53.4	-4.1
CALA	**Caldeira**	**1.90**	**158**	*e*P	Pn	03 35 54.8	-4.5
CALA				*e*S	Sn	03 36 15.5	-8.7
ASBA	**Santa Barbara**	**2.40**	**132**	*e*P	Pn	03 36 01.3	-5.2
ASBA				*e*S	Sn	03 36 27.8	-9.2
	14nm,0.2s						
PBIS	**Biscoitos**	**2.41**	**130**	*e*P	Pn	03 36 01.6	-5.1
PPAD	**Pico dos Padre**	**2.43**	**132**	*e*P	Pn	03 36 01.6	-5.4
PVNV	**Vila Nova**	**2.47**	**129**	*e*P	Pn	03 36 01.8	-5.7
ADH	**Angra Heroismo**	**2.49**	**132**	*e*P	Pn	03 36 02.2	-5.7
RIB2	**Ribeirinha**	**2.52**	**131**	*e*P	Pn	03 36 02.7	-5.5
PSCM	**Serra do Cume**	**2.53**	**130**	*e*P	Pn	03 36 02.6	-5.8
PSCM				*e*S	Sn	03 36 31.8	-8.6
	19nm,0.3s						
PFAV	**Pico das Favas**	**2.54**	**129**	*e*P	Pn	03 36 04.1	-4.5
SET4	**Mosteiros**	**3.85**	**129**	*e*P	Pn	03 36 22.5	-4.7
SET2	**Ginetes**	**3.87**	**129**	*e*P	Pn	03 36 23.5	-4.0
PFET	**Feteiras**	**3.90**	**129**	*e*P	Pn	03 36 23.9	-3.9
FAC	**Faja de Cima**	**4.01**	**129**	*e*P	Pn	03 36 24.8	-4.6
CML	**Cha da Macela**	**4.07**	**128**	*e*P	Pn	03 36 26.5	-3.8

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*NEIC **06** 03:43:29.7±1.2, 15.79N×145.43E, h68km±27km, mb4.2/2, Error ellipse: s-maj=88.0km s-min=14.2km az=85.0*
*IDC **06** 03:43:48.6±25.0, 15.62N×144.40E, h216km±223km, mb3.5/6, mb1 3.6/6, mb1mx3.4/17, mbtmp4.0/6, Error ellipse: s-maj=199.2km s-min=27.3km az=77.0*
ISC 06 03:43:28.1±3.4, 15.8N±0.1×145.1E±0.7, h60km±51km, n11, σ0°75/11, mb4.1/8, 1D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAPN	**Saipan**	**0.81**	**133**	⇓*e*P	**P**	**03 43 43.6**	**-0.2**
SAPN				*e*		03 43 56.7	
MAJO	**Matsushiro**	**21.59**	**345**	*e*P	**P**	**03 48 15.3**	**+0.8**
MAT	**Matsushiro**	**21.59**	**345**	P	**P**	**03 48 15.1**	**+0.6**
MAT	**Matsushiro**	**21.59**	**345**	P	**P**	**03 48 15.0**	**+0.5**
	5.0nm,1.0s,mb3.9						
WRA	**Warramunga Arr**	**37.04**	**197**	P	**P**	**03 50 34.9**	**+0.8**
	0.9nm,0.6s,mb3.8,baz=12,slow=9.5,SNR=4.9						
SONM	**Songino Array**	**45.12**	**323**	P	**P**	**03 51 40.9**	**+0.7**
	0.9nm,0.8s,mb3.6,baz=138,slow=6.8,SNR=5.3						
ZAL	**Zalesovo**	**60.03**	**324**	P	**P**	**03 53 29.1**	**-1.7**
	1.1nm,0.4s,mb4.3,baz=12,slow=12,SNR=3.1						
MKAR	**Makanchi Array**	**60.12**	**315**	P	**P**	**03 53 31.5**	**-0.1**
	0.7nm,0.8s,mb3.8,baz=104,slow=7.7,SNR=6.1						
KURK	**Kurchatov**	**63.10**	**319**	*e*P	**P**	**03 53 50.7**	**-0.9**
	8.5nm,1.3s,mb4.7						
BVAR	**Borovoye Array**	**68.39**	**321**	P	**P**	**03 54 25.1**	**-0.1**
	1.9nm,0.7s,mb4.2,baz=90,slow=7.4,SNR=12						
FINES	**FINESS Array B**	**89.30**	**335**	P	**P**	**03 56 18.7**	**+0.1**
	3.0nm,0.9s,mb4.6,baz=22,slow=10,SNR=5.5						

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*BJI **06** 04:02:29.3, 85.29N×97.52E, h9km, mB5.6, mb5.1, Ms5.5, Msz5.1*
*MOS **06** 04:02:30.7±0.9, 85.18N×97.70E, h10km, mb5.5/141, MS4.9/55, Error ellipse: s-maj=31.5km s-min=4.3km az=88.8*
*IDC **06** 04:02:31.1±0.4, 85.26N×97.50E, mb5.0/30, mb1 5.1/31, mb1mx5.1/31, mbtmp5.0/31, ML4.4/1, MS4.8/25, Ms1 4.8/25, ms1mx4.7/30, Error ellipse: s-maj=13.8km s-min=9.5km az=138.0*
*NEIC **06** 04:02:33.0±0.1, 85.26N×97.16E, h10km, mb5.4/204, MS4.9/48, MW5.4, Error ellipse: s-maj=3.3km s-min=1.5km az=153.0, Moment Tensor Solution. s38 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.30; $M_{\theta\theta}$0.60; $M_{\phi\phi}$0.70; $M_{r\theta}$0.45; $M_{\theta\phi}$-0.71; $M_{\phi r}$-0.17; Best double couple: $M_0$1.4×10^{17} NP1:ϕ_s146°, δ37°, λ-76°. NP2:ϕ_s308°, δ55°, λ-100°. Principal axes: T 1.44, Plg9°, Azm46°; N -.03, Plg9°, Azm314°; P -1.41, Plg77°, Azm182°;*
*HRVD **06** 04:02:33.0±0.1, 85.22N×96.17E, h12km, MW5.5/74, Centroid moment Tensor Solution. LP body waves: s56,c103; Mantle waves: s74,c186; Half duration: 1s3 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.80±.03; $M_{\theta\theta}$1.20±.02; $M_{\phi\phi}$0.60±.03; $M_{r\theta}$0.34±.06; $M_{\theta\phi}$-1.00±.02; $M_{\phi r}$-0.35±.08; Best double couple: $M_0$1.933×10^{17} NP1: ϕ_s124°, δ38°, λ-94°. NP2:ϕ_s309°, δ52°, λ-87°. Principal axes: T 2.002, Plg7°, Azm37°; N -.135, Plg2°, Azm127°; P -1.864, Plg82°, Azm236°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*CRAAG **06** 04:02:34.2, 85.23N×97.14E, Mb5.4*
ISC 06 04:02:30.4±0.7, 85.21N±0.02×97.6E±0.2, h7km±4km, h18km±2.3km: pP-P, n949, σ1°01/974, mb5.3/284, MS4.9/114, 41C-148D, North of Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**11.79**	**289**	*e*P	**P**	**04 05 18.1**	**-3.7**
KBS				*e*Sn	**S**	**04 07 30.0**	**-4.8**
KBS				AMS	AMS	04 09 15.2	
	comp=Z,827nm,20.5s						
KBS	**Kingsbay**	**11.79**	**289**	*e*P	**P**	**04 05 18.9**	**-3.0**
HSP	**Hornsund**	**13.28**	**283**	*e*P	**P**	**04 05 36.8**	**-4.9**
TIXI	**Tiksi**	**14.55**	**139**	*e*P	**P**	**04 05 58.4**	**+0.2**
TIXI				*e*S	**S**	**04 08 40.5**	**-0.2**
TIXI				pmax	pmax		
	comp=Z,34nm,1.0s						
DAG	**Danmarks Havn**	**16.03**	**312**	*i* P	**P**	**04 06 15.0**	**-2.4**
	comp=Z,73nm,1.1s						
DAG	**Danmarks Havn**	**16.03**	**312**	*e*P	**P**	**04 06 15.0**	**-2.4**
	comp=Z,73nm,1.1s						
DAG	**Danmarks Havn**	**16.03**	**312**	*e*P	**P**	**04 06 15.0**	**-2.4**
DAG				pmax	pmax		
	comp=Z,73nm,1.1s						
KEV	**Kevo**	**19.29**	**264**	*e*p	**P**	**04 06 56.6**	**-1.3**
	comp=Z,44nm,0.7s						
KEV	**Kevo**	**19.29**	**264**	*e*P	**P**	**04 06 56.6**	**-1.3**
KEV				pmax	pmax		
	comp=Z,44nm,0.7s						
ARCES	**ARCESS Array B**	**19.63**	**265**	P	**P**	**04 07 00.1**	**-1.7**
	comp=Z,1.4nm,0.3s,baz=23,slow=7.5,SNR=29						
ARCES				S	**S**	**04 10 28.4**	**-9.0**
	comp=Z,1.1nm,0.3s,baz=28,slow=26,SNR=7.0						
ARCES				LR	LR	04 14 56.0	
	comp=Z,4μm,18.3s,baz=9.5,slow=38						
ARCES	**ARCESS Array B**	**19.63**	**265**	P	**P**	**04 07 00.1**	**-1.7**
ARCES				S	**S**	**04 10 28.4**	**-9.0**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ARCES				smax			
	comp=E,1.0nm,0.3s						
ARCES				MLR	MLR		
	comp=Z,4μm,18.3s						
ARE0	**ARCESS Array S**	**19.63**	**265**	*e*P	**P**	**04 06 59.8**	**-2.0**
TRO	**Tromso**	**20.09**	**272**	*e*P	**P**	**04 07 05.8**	**-1.0**
TRO				*e*S	**S**	**04 10 52.4**	**+5.3**
TRO				AMS	AMS	04 14 22.7	
	comp=Z,994nm,21.7s,MS4.1						
TRO	**Tromso**	**20.09**	**272**	*e*P	**P**	**04 07 05.8**	**-1.0**
TRO				LR	LR		
	comp=Z,994μm,21.7s						
RES	**Resolute Bay**	**20.15**	**10**	*e*P	**P**	**04 07 06.7**	**-0.7**
	comp=Z,32nm,0.6s						
RES	**Resolute Bay**	**20.15**	**10**	*e*P	**P**	**04 07 06.7**	**-0.8**
RES				pmax	pmax		
	comp=Z,32nm,0.6s						
KTK1	**Kautokeino**	**20.33**	**267**	*e*P	**P**	**04 07 08.4**	**-1.0**
KTK1				AMb	AMB	04 07 28.0	
	comp=Z,316nm,1.5s						
KTK1	**Kautokeino**	**20.33**	**267**	*e*P	**P**	**04 07 08.4**	**-1.0**
	comp=Z,316nm,1.5s						
LVZ	**Lovozero**	**20.47**	**254**	*c* *i*P	**P**	**04 07 10.2**	**-0.7**
LVZ				pmax	pmax		
	comp=Z,5μm,6.8s						
LVZ				pmax	pmax		
	comp=N,4μm,6.2s						
LVZ				pmax	pmax		
	comp=E,2μm,7.8s						
LVZ				pmax	pmax		
	comp=Z,241nm,1.3s						
LVZ				pmax	pmax		
	comp=N,79nm,1.2s						
LVZ				pmax	pmax		
	comp=E,40nm,1.1s						
BILL	**Bilibino**	**20.81**	**99**	*e*P	**P**	**04 07 15.7**	**+1.4**
	comp=E,179nm,1.5s						
BILL				LR	LR		
	comp=Z,1μm,21.0s,MS4.3						
BILL	**Bilibino**	**20.81**	**99**	*e*P	**P**	**04 07 16.2**	**+1.9**
BILL				pmax	pmax		
	comp=Z,84nm,1.4s						
BILL				MLR	MLR		
	comp=Z,1μm,17.0s,MS4.4						
APA	**Apatity**	**20.90**	**256**	⇑*i*P	**P**	**04 07 15.6**	**+0.3**
APA				*i* S	**S**	**04 11 08.0**	**+4.4**
APA				pmax	pmax		
	comp=Z,120nm,1.1s						
APA				MLR	MLR		
	comp=Z,4μm,16.0s,MS4.9						
JMIC	**Jan Mayen**	**20.97**	**298**	P	**P**	**04 07 13.7**	**-2.3**
	comp=Z,15nm,0.4s,baz=178,slow=6.2,SNR=2.2						
JMIC				LR	LR	04 13 46.4	
	comp=Z,702nm,19.4s,MS4.0,baz=170,slow=32						
JMIC	**Jan Mayen**	**20.97**	**298**	*e*P	**P**	**04 07 18.4**	**+2.5**
JMIC				AMS	AMS	04 13 59.5	
	comp=Z,575nm,17.6s,MS4.0						
JMIC	**Jan Mayen**	**20.97**	**298**	P	**P**	**04 07 13.7**	**-2.3**
JMIC				*e*P		04 07 18.4	
JMIC				LR	LR	04 13 46.4	
SUMG	**Summit**	**21.27**	**325**	*e*P	**P**	**04 07 18.7**	**-0.3**
	comp=Z,234nm,1.3s,mb5.3						
LOF	**Lofoten**	**22.00**	**276**	*e*P	**P**	**04 07 30.3**	**+3.8**
LOF				AMb	AMB	04 07 39.1	
	comp=Z,164nm,1.1s,mb5.4						
LOF	**Lofoten**	**22.00**	**276**	*e*P	**P**	**04 07 30.3**	**+3.8**
	comp=Z,164nm,1.1s,mb5.4						
SCO	**Scoresbysund**	**22.40**	**310**	*i* P	**P**	**04 07 32.9**	**+2.6**
	comp=Z,23nm,1.0s,mb4.6						
SCO	**Scoresbysund**	**22.40**	**310**	*i* P	**P**	**04 07 32.9**	**+2.6**
SCO				pmax	pmax		
	comp=Z,23nm,1.0s,mb4.6						
MOR8	**Moi Rana**	**23.85**	**274**	*e*P	**P**	**04 07 42.8**	**-1.5**
MOR8				AMb	AMB	04 08 05.1	
	comp=Z,156nm,1.8s,mb5.1						
MOR8	**Moi Rana**	**23.85**	**274**	*e*P	**P**	**04 07 42.8**	**-1.5**
	comp=Z,156nm,1.8s,mb5.1						
YAK	**Yakutsk**	**24.17**	**142**	*e*P	**P**	**04 07 48.8**	**+1.4**
	comp=Z,64nm,0.7s,mb5.2						
YAK	**Yakutsk**	**24.17**	**142**	*e*P	**P**	**04 07 48.8**	**+1.4**
YAK				pmax	pmax		
	comp=Z,64nm,0.7s,mb5.2						
SEY	**Seymchan**	**24.73**	**117**	*e*P	**P**	**04 07 56.1**	**+3.2**
SEY	**Seymchan**	**24.73**	**117**	*e*P	**P**	**04 07 56.4**	**+3.5**
SEY				*e*		04 08 41.9	
SEY				SS	SS	04 13 26.9	+18
SEY				pmax	pmax		
	comp=Z,110nm,1.2s,mb5.3						
SEY				pmax	pmax		
	comp=N,30nm,1.1s						
SEY				pmax	pmax		
	comp=E,10.0nm,1.1s						
INK	**Inuvik**	**25.12**	**43**	P	**P**	**04 07 56.9**	**+0.3**
	comp=E,154nm,1.1s,mb5.5,baz=0.1,slow=12,SNR=121						
INK				LR	LR	04 17 26.3	
	comp=E,464nm,21.2s,MS4.0,baz=15,slow=36						
INK	**Inuvik**	**25.12**	**43**	*e*P	**P**	**04 07 57.1**	**+0.5**
	comp=E,343nm,1.1s,mb5.8						
INK	**Inuvik**	**25.12**	**43**	P	**P**	**04 07 56.9**	**+0.3**
INK				pmax	pmax		
	comp=Z,154nm,1.1s						
INK				MLR	MLR		
	comp=Z,464nm,21.2s						
NSS	**Namsos**	**25.68**	**276**	*e*P	**P**	**04 08 00.4**	**-1.4**
NSS				*e*S	**S**	**04 12 32.0**	**+3.9**
NSS				AMS	AMS	04 17 51.8	
	comp=Z,674nm,19.0s,MS4.2						
IMA	**Indian Mountai**	**26.01**	**62**	*e*P	**P**	**04 08 07.3**	**+2.4**
	comp=Z,65nm,0.8s,mb5.2						
IMA	**Indian Mountai**	**26.01**	**62**	*e*P	**P**	**04 08 07.3**	**+2.4**
IMA				pmax	pmax		
	comp=Z,65nm,0.8s,mb5.2						
KAF	**Kangasniemi**	**26.86**	**260**	*e*p	**P**	**04 08 11.6**	**-1.2**
	comp=Z,84nm,1.1s,mb5.2,baz=12,slow=8.8						
KAF	**Kangasniemi**	**26.86**	**260**	*e*P	**P**	**04 08 11.6**	**-1.2**
KAF				pmax	pmax		
	comp=Z,84nm,1.1s,mb5.2						
SFJD	**Kangerlussuaq**	**27.36**	**333**	*i* P	**P**	**04 08 16.9**	**-0.4**
	comp=Z,68nm,1.1s,mb5.1						
SFJD				*i* S	**S**	**04 12 56.1**	**+0.4**
	comp=Z,2μm,18.0s						
SFJD	**Kangerlussuaq**	**27.36**	**333**	*i* P	**P**	**04 08 16.9**	**-0.4**
SFJD				*i* S	**S**	**04 12 56.1**	**+0.4**
SFJD				pmax	pmax		
	comp=Z,68nm,1.1s,mb5.1						
SFJD				MLR	MLR		
	comp=Z,2μm,18.0s,MS4.8						
FINES	**FINESS Array B**	**27.54**	**260**	P	**P**	**04 08 18.6**	**-0.3**
	comp=Z,126nm,1.2s,mb5.4,baz=18,slow=6.0,SNR=70						
FINES				PcP	PcP	04 11 36.4	-1.0
	comp=Z,7.4nm,0.9s,baz=90,slow=1.4,SNR=5.9						
FINES				LR	LR	04 19 44.7	
	comp=Z,2μm,18.8s,MS4.6,baz=188,slow=38						
FINES	**FINESS Array B**	**27.54**	**260**	P	**P**	**04 08 18.6**	**-0.4**
FINES						04 11 36.4	
FINES				pmax	pmax		
	comp=Z,126nm,1.2s						
FINES				MLR	MLR		
	comp=Z,2μm,18.8s						
BOD	**Bodaibo**	**27.76**	**161**	*e*P	**P**	**04 08 18.3**	**-2.7**
BOD				pmax	pmax		
	comp=Z,34nm,1.6s,mb4.7						
ILAR	**Eielson Array**	**27.78**	**56**	P	**P**	**04 08 22.1**	**+1.0**
	comp=Z,23nm,1.0s,mb4.8,baz=350,slow=8.1,SNR=101						
ILAR				PcP	PcP	04 11 36.5	-1.5
	comp=Z,4.2nm,1.0s,baz=329,slow=2.9,SNR=4.7						
ILAR				LR	LR	04 18 26.2	
	comp=Z,1μm,20.8s,MS4.5,baz=9.9,slow=34						
ILAR	**Eielson Array**	**27.78**	**56**	P	**P**	**04 08 22.1**	**+1.0**
ILAR						04 11 36.5	
ILAR				pmax	pmax		
	comp=Z,23nm,1.0s						
ILAR				MLR	MLR		
	comp=Z,1μm,20.8s						
MA2	**Magadan**	**27.94**	**120**	*e*P	**P**	**04 08 23.6**	**+0.9**
	comp=Z,5.9nm,0.9s						
MA2	**Magadan**	**27.94**	**120**	*de*P	**P**	**04 08 23.9**	**+1.2**
MA2				*e*S	**S**	**04 13 04.5**	**-0.7**
MA2				*e*SS	SS	04 14 26.1	0.0
MA2				*e*SSS	SSS	04 14 47.9	+3.7
MA2				pmax	pmax		
	comp=Z,20nm,1.6s,mb4.5						
BORG	**Borgarnes**	**28.03**	**307**	PFAKE		04 08 30.0	+6.6
BORG				LR	LR		
	comp=Z,185nm,20.0s						
MCK	**McKinley**	**28.66**	**58**	*e*P	**P**	**04 08 29.9**	**+0.8**
	comp=Z,20nm,1.2s,mb4.7						
MCK	**McKinley**	**28.66**	**58**	*e*P	**P**	**04 08 29.9**	**+0.8**
MCK				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.7						
PUL	**Pulkovo**	**28.85**	**255**	⇑*i*P	**P**	**04 08 30.4**	**-0.4**
PUL	**Pulkovo**	**28.85**	**255**	*i* P	**P**	**04 08 29.7**	**-1.1**
PUL				*i* PPP	PPP	04 09 26.4	-10
PUL				*i* S	**S**	**04 13 16.3**	**-3.5**
PUL				pmax	pmax		
	comp=Z,86nm,0.6s,mb5.7						
PUL				pmax	pmax		
	comp=N,201nm,1.0s						
PUL				pmax	pmax		
	comp=E,73nm,0.9s						
PUL				smax			
	comp=E,333nm,11.7s						
PUL				smax			
	comp=Z,294nm,14.4s						
PUL				smax			
	comp=N,1μm,16.8s						
PUL				MLR	MLR		
	comp=Z,2μm,17.0s,MS4.8						
PUL				MLR	MLR		
	comp=N,2μm,16.0s,MS4.9						
PUL				MLR	MLR		
	comp=E,1μm,13.0s,MS4.9						
TTA	**Tatalina**	**28.93**	**65**	*e*P	**P**	**04 08 33.9**	**+2.4**
DAWY	**Dawson**	**28.98**	**50**	*e*P	**P**	**04 08 32.1**	**+0.1**
CLNS	**Chul'man**	**29.13**	**149**	*e*P	**P**	**04 08 32.4**	**-1.0**
CLNS				*e**PP	pP	04 08 38.2	+2.8
CLNS				*e*PPP	PPP	04 09 30.3	-10
CLNS				*e*		04 11 42.1	
CLNS				*e*S	**S**	**04 13 19.5**	**-4.7**
CLNS				pmax	pmax		
	comp=Z,41nm,1.2s,mb5.0						
CLNS				pmax	pmax		
	comp=N,35nm,1.1s						
CLNS				pmax	pmax		
	comp=E,7.0nm,0.8s						
CLNS				smax			
	comp=E,72nm,13.6s						
CLNS				smax			
	comp=Z,247nm,13.1s						
CLNS				smax			
	comp=N,583nm,12.9s						
CLNS				MLR	MLR		
	comp=Z,2μm,13.0s,MS4.9						
CLNS				MLR	MLR		
	comp=N,1μm,12.0s,MS4.7						
CLNS				MLR	MLR		
	comp=E,100nm,11.0s,MS4.7						
NB2	**NORSAR Subarra**	**29.18**	**275**	P	**P**	**04 08 32.8**	**-1.0**
	comp=E,93nm,1.4s,mb5.3,baz=10.0,slow=8.6						
NB2	**NORSAR Subarra**	**29.18**	**275**	P	**P**	**04 08 32.8**	**-1.0**
	baz=10,slow=9.3						
NB2	**NORSAR Subarra**	**29.18**	**275**	P	**P**	**04 08 32.8**	**-1.0**
NB2				pmax	pmax		
	comp=Z,93nm,1.4s,mb5.3						
NOA	**NORSAR Array B**	**29.18**	**275**	P	**P**	**04 08 33.4**	**-0.4**
	comp=Z,40nm,1.2s,mb5.0,baz=12,slow=8.7,SNR=13						
NOA				LR	LR	04 19 49.0	
	comp=Z,929nm,20.5s,MS4.4,baz=5.0,slow=36						
NOA	**NORSAR Array B**	**29.18**	**275**	P	**P**	**04 08 33.4**	**-0.4**
NOA				LR	LR	04 19 49.0	
NOA	**NORSAR Array B**	**29.18**	**275**	P	**P**	**04 08 33.4**	**-0.4**
NOA				pmax	pmax		
	comp=Z,40nm,1.3s						
NOA				MLR	MLR		
	comp=Z,929nm,20.5s						
NAO01	**NORSAR Array S**	**29.40**	**275**	*e*P	**P**	**04 08 33.4**	**-2.4**
	comp=Z,55nm,1.4s,mb5.1						
SVE	**Sverdlovsk**	**29.62**	**222**	⇓*e*P	**P**	**04 08 38.2**	**+0.4**
SVE				*e*		04 09 36.0	
SVE				*e*S	**S**	**04 13 36.0**	**+3.9**
SVE				pmax	pmax		
	comp=Z,100nm,1.9s,mb5.2						
SVE				pmax	pmax		
	comp=N,500nm,6.0s						
SVE				pmax	pmax		
	comp=E,300nm,6.0s						
SVE				pmax	pmax		
	comp=Z,600nm,6.0s						
SVE				MLR	MLR		
	comp=N,4μm,15.0s,MS5.2						
SVE				MLR	MLR		
	comp=E,700nm,15.0s,MS5.2						
SVE				MLR	MLR		
	comp=Z,6μm,15.0s,MS5.3						
MENT	**Mentasta**	**29.82**	**54**	*e*P	**P**	**04 08 41.4**	**+1.9**
HFS	**Hagfors**	**29.87**	**272**	P	**P**	**04 08 38.8**	**-1.2**
	comp=Z,7.4nm,0.8s,mb4.5,baz=27,slow=9.9,SNR=10						
HFS				LR	LR	04 20 06.4	
	comp=Z,1μm,21.6s,MS4.5,baz=7.8,slow=35						
HFS	**Hagfors**	**29.87**	**272**	P	**P**	**04 08 38.8**	**-1.2**
HFS				pmax	pmax		
	comp=Z,7.0nm,0.8s						
HFS				MLR	MLR		
	comp=Z,1μm,21.6s						
ARU	**Arti**	**30.13**	**224**	*e*P	**P**	**04 08 40.7**	**-1.7**
	comp=Z,44nm,1.0s,mb5.1						
ARU	**Arti**	**30.13**	**224**	⇓*i*P	**P**	**04 08 41.5**	**-0.9**
ARU				*e*		04 09 36.5	
ARU				*e*		04 11 42.0	
ARU				*e*S	**S**	**04 13 41.7**	**+1.5**
ARU				*e*SS	SS	04 15 19.6	+

BER Bergen 30.32 281 *e*P **P** **04 08 43.6 -0.4**
BER AMS AMS 04 19 50.3
comp=Z,508nm,20.0s,MS4.2
VSU Vasula 30.43 259 *i* P **P** **04 08 43.8 -1.2**
SML Sawmill 30.61 58 *e*P **P** **04 08 47.0 +0.5**
NVS Novosibirsk 30.69 196⇓*i*P **P** **04 08 45.4 -1.9**
NVS *e*S **S** **04 13 50.4 +1.4**
NVS pmax pmax
comp=Z,86nm,2.1s,mb5.2
NVS pmax pmax
comp=N,35nm,1.8s
NVS smax
comp=N,82nm,2.6s
NVS smax
comp=E,128nm,2.8s
KONO Kongsberg 30.69 276 *e*P **P** **04 08 46.4 -0.9**
KONO *e*S **S** **04 13 46.2 -2.8**
KONO Kongsberg 30.69 276 *e*P **P** **04 08 46.8 -0.5**
PMR Palmer 30.77 59 *e*P **P** **04 08 48.4 +0.5**
PMR LR LR
comp=Z,2μm,19.0s,MS4.7
SVW2 Sparrevohn 30.78 65 *e*P **P** **04 08 50.3 +2.3**
FIB Fire Island 31.12 60 PFAKE 04 09 00.0 +9.0
FIB LR LR
comp=Z,1μm,21.0s,MS4.6
PECR Pechory 31.20 240⇑*i*P **P** **04 08 51.2 -0.6**
PECR pmax pmax
comp=Z,600nm,6.0s
PECR MLR MLR
comp=Z,4μm,20.0s,MS5.1
PECR MLR MLR
comp=E,2μm,18.0s
DIV Divide 31.47 56 PFAKE 04 09 10.0 +16
DIV LR LR
comp=Z,5μm,21.0s,MS5.1
ZAL Zalesovo 31.56 194 P **P** **04 08 54.0 -1.0**
comp=Z,3.8nm,0.5s,mb4.5,baz=116,slow=9.3,SNR=21
ZAL PcP PcP 04 11 46.4 -1.2
comp=Z,11nm,0.9s,baz=73,slow=2.0,SNR=5.4
ZAL LR LR 04 23 14.9
comp=Z,6μm,18.6s,MS5.3,baz=104,slow=39
ZAL Zalesovo 31.56 194 P **P** **04 08 54.0 -1.0**
ZAL PcP PcP 04 11 46.4 -1.2
ZAL LR LR 04 23 14.9
ZAL Zalesovo 31.56 194 P **P** **04 08 54.0 -0.9**
ZAL 04 11 46.4
ZAL pmax pmax
comp=Z,4.0nm,0.5s
ZAL MLR MLR
comp=Z,6μm,18.6s
RSO Redoubt South 31.63 63 *e*P **P** **04 08 56.6 +1.2**
YKW3 Yellowknife Ar 31.78 28 *e*P **P** **04 08 55.3 -1.5**
YKA Yellowknife Ar 31.84 28 P **P** **04 08 56.2 -1.1**
comp=Z,36nm,1.0s,mb5.2,baz=353,slow=8.3,SNR=59
YKA PcP PcP 04 11 47.3 -1.1
comp=Z,4.9nm,0.8s,baz=348,slow=3.4,SNR=4.7
YKA LR LR 04 22 01.8
comp=Z,3μm,18.8s,MS4.9,slow=37
YKA Yellowknife Ar 31.84 28 P **P** **04 08 56.2 -1.1**
YKA PcP PcP 04 11 47.3 -1.1
YKA LR LR 04 22 01.8
YKA Yellowknife Ar 31.84 28 P **P** **04 08 56.2 -1.2**
YKA 04 11 47.3
YKA pmax pmax
comp=Z,36nm,1.0s
YKA MLR MLR
comp=Z,3μm,18.8s
EYAK Cordova Ski Ar 32.05 56 *e*P **P** **04 09 00.2 +1.1**
MOS Moscow 32.26 247κ *i*P **P** **04 09 01.1 0.0**
MOS *e* 04 09 07.6
MOS *e* 04 10 11.3
MOS *e*PPP PPP 04 10 22.4 -1.2
MOS *e*S **S** **04 14 14.8 +1.2**
MOS pmax pmax
comp=Z,124nm,1.3s,mb5.6
MOS MLR MLR
comp=Z,3μm,20.7s,MS4.9
MOS MLR MLR
comp=N,2μm,18.4s
BRVK Borovoye 32.90 211 *e*P **P** **04 09 06.5 -0.1**
comp=N,28nm,0.9s,mb5.2
BRVK LR LR
comp=Z,502nm,19.0s,MS4.2
BRVK Borovoye 32.90 211 *e*P **P** **04 09 06.5 -0.2**
BRVK pmax pmax
comp=Z,28nm,0.9s,mb5.2
BRVK MLR MLR
comp=Z,502nm,19.0s,MS4.2
BVA0 Borovoye Array 32.93 211 *i* P **P** **04 09 06.3 -0.6**
BVA0 pmax pmax
comp=Z,24nm,1.3s,mb5.0
BVAR Borovoye Array 32.93 211 P **P** **04 09 06.2 -0.7**
comp=Z,30nm,1.0s,mb5.2,baz=354,slow=8.7,SNR=2.6
BVAR Borovoye Array 32.93 211 P **P** **04 09 06.2 -0.7**
BVAR pmax pmax
comp=Z,30nm,1.0s
OBN Obninsk 32.97 247 *e*P **P** **04 09 06.5 -0.7**
comp=Z,266nm,1.4s,mb6.0
OBN Obninsk 32.97 247κ *i*P **P** **04 09 06.2 -1.0**
OBN *i* 04 09 14.5
OBN 04 10 13.0
OBN *e*S **S** **04 14 29.6 +5.0**
OBN 04 19 34.0
OBN pmax pmax
comp=Z,159nm,1.4s,mb5.8
IRK Irkutsk 33.16 172 *e*P **P** **04 09 07.9 -1.0**
IRK *e* 04 10 23.1
IRK pmax pmax
comp=Z,156nm,1.4s,mb5.8
CIT Chita 33.55 162 *e*P **P** **04 09 12.6 +0.3**
CIT pmax pmax
comp=Z,135nm,2.2s,mb5.5
MOY Mondy 33.70 176 *e*P **P** **04 09 14.0 +0.3**
MOY pmax pmax
comp=Z,115nm,2.1s,mb5.4
TLY Talaya 33.71 173 *e*P **P** **04 09 12.6 -1.2**
comp=Z,27nm,1.1s,mb5.1
TLY Talaya 33.71 173*d i*P **P** **04 09 12.1 -1.6**
TLY *e*PPP PPP 04 10 27.9 -16
TLY *e*S **S** **04 14 34.9 -1.3**
TLY *e*SSS SSS 04 16 42.6 -24
TLY pmax pmax
comp=Z,19nm,1.4s,mb4.8
TLY MLR MLR
comp=Z,2μm,15.0s,MS5.0
MUD Monsted U'grnd 33.89 276⇓*i*P **P** **04 09 15.1 -0.2**
comp=Z,51nm,1.0s,mb5.4
MUD *i* S **S** **04 14 45.8 +6.9**
comp=Z,1μm,16.0s
MNK Minsk 34.27 256 *e*P **P** **04 09 16.0 -2.6**
KDAK Kodiak Island 34.30 63 PFAKE 04 09 30.0 +11
KDAK LR LR
comp=Z,521nm,19.0s,MS4.3
COP Copenhagen 34.38 272 *i* P **P** **04 09 20.0 +0.5**
COP *i* 04 10 37.4
COP *i* S **S** **04 14 39.6 -6.9**
comp=Z,470nm,22.0s
BSD Bornholm Skovb 34.74 270 *i* P **P** **04 09 18.2 -4.4**
comp=Z,34nm,0.9s,mb5.3
BSD Bornholm Skovb 34.74 270 *e*P **P** **04 09 18.2 -4.4**
comp=Z,34nm,0.9s,mb5.3
BSD Bornholm Skovb 34.74 270 *e*P **P** **04 09 18.2 -4.4**
BSD pmax pmax
comp=Z,34nm,0.9s,mb5.3
KURK Kurchatov 34.94 201 *e*P **P** **04 09 23.6 -0.8**
comp=Z,19nm,0.8s,mb5.1
KURK Kurchatov 34.94 201 *e*P **P** **04 09 23.6 -0.7**
KURK pmax pmax
comp=Z,19nm,0.8s,mb5.1
ZAK Zakamensk 35.01 174 *e*P **P** **04 09 24.8 -0.1**
PET Petropavlovsk 35.05 113 *e*P **P** **04 09 24.7 -0.5**
PET *e* 04 10 46.2
PET *e*S **S** **04 14 59.7 +2.9**
PET pmax pmax
comp=Z,300nm,4.8s
PET pmax pmax
comp=Z,100nm,6.3s
PET pmax pmax
comp=Z,300nm,10.9s
PET pmax pmax
comp=Z,400nm,12.4s
PET smax
comp=E,300nm,12.9s
PET smax
comp=E,300nm,13.3s

PET MLR MLR
comp=Z,1μm,18.0s,MS4.7
PET MLR MLR
comp=Z,1μm,18.0s
SUW Suwalki 35.14 261 *e*P **P** **04 09 23.3 -2.7**
SUW *e*pP pP 04 09 24.8 -3.3
SUW *e*S **S** **04 14 54.6 -3.7**
SUW MLR MLR 04 23 22.4
comp=Z,3μm,21.3s,MS5.0
SUW Suwalki 35.14 261 *e*P **P** **04 09 23.3 -2.7**
SUW *e*pP pP 04 09 24.8 -3.3
SUW *e*S **S** **04 14 54.6 -3.7**
DLBC Dease Lake 35.15 42 *e*P **P** **04 09 27.1 +1.1**
CHGN Chignik 35.32 69 *e*P **P** **04 09 28.0 +0.5**
EKA Eskdalemuir Ar 36.02 287 P **P** **04 09 33.5 +0.1**
comp=Z,13nm,0.8s,mb4.9,baz=10.0,slow=7.5,SNR=26
EKA Eskdalemuir Ar 36.02 287 P **P** **04 09 33.6 +0.1**
EKA pmax pmax
comp=Z,13nm,0.8s
ESK Eskdalemuir 36.04 287 *e*P **P** **04 09 32.4 -1.3**
comp=Z,32nm,1.0s,mb5.2
ESK LR LR
comp=Z,164nm,22.0s
ESK Eskdalemuir 36.04 287 *e*P **P** **04 09 32.4 -1.2**
ESK pmax pmax
comp=Z,32nm,1.0s,mb5.2
ESK MLR MLR
comp=Z,164nm,22.0s
VOR Voronezh 36.12 244 *e*P **P** **04 09 33.5 -0.9**
VOR *e* 04 09 42.0
VOR pmax pmax
comp=N,380nm,1.5s
VOR pmax pmax
comp=Z,250nm,1.5s,mb5.9
FCC Fort Churchill 36.15 10 *e*P **P** **04 09 33.0 -1.5**
comp=Z,76nm,1.1s,mb5.5
FCC Fort Churchill 36.15 10 *e*P **P** **04 09 33.0 -1.5**
FCC pmax pmax
comp=Z,76nm,1.1s,mb5.5
BSEG Bad Segeberg 36.30 274 *e*P **P** **04 09 35.9 +0.1**
GKP Gorka Klasztor 36.38 267 *e*P **P** **04 09 36.3 -0.2**
GKP *e*pP pP 04 09 44.5 +5.9
GKP *e*S **S** **04 15 15.7 -1.7**
GKP MLR MLR 04 23 57.2
comp=Z,2μm,23.5s,MS4.8
GKP Gorka Klasztor 36.38 267 *e*P **P** **04 09 36.3 -0.2**
GKP *e*pP pP 04 09 44.4 +5.8
GKP *e*S **S** **04 15 15.7 -1.7**
GKP LR LR
comp=Z,2μm,23.5s,MS4.8
HIA Hailar 36.49 155 *e*P **P** **04 09 38.2 +0.7**
comp=Z,17nm,1.0s,mb4.9
HIA LR LR
comp=Z,982nm,21.0s,MS4.6
HIA Hailar 36.49 155 *e*P **P** **04 09 38.2 +0.7**
HIA pmax pmax
comp=Z,17nm,1.0s
HIA MLR MLR
comp=Z,982nm,21.0s
VRHR Novokhopersk 36.58 241 *e*P **P** **04 09 35.8 -2.4**
VRHR *e*S **S** **04 15 13.7 -6.8**
VRHR pmax pmax
comp=Z,190nm,1.3s,mb5.8
VRHR pmax pmax
comp=N,240nm,1.2s
VRHR pmax pmax
comp=E,100nm,2.0s
VRHR smax
comp=N,70nm,0.9s
VRHR smax
comp=E,40nm,0.9s
VRHR smax
comp=Z,10.0nm,0.5s
VRHR MLR MLR
comp=E,2μm,19.0s,MS5.2
VRHR MLR MLR
comp=Z,3μm,19.0s,MS5.1
VRHR MLR MLR
comp=N,2μm,17.0s,MS5.2
VRSR Storozhevoye 36.64 244 *i* P **P** **04 09 37.7 -1.0**
VRSR *e**PP pP 04 09 46.9 +6.1
VRSR *e*S **S** **04 15 17.0 -4.4**
VRSR pmax pmax
comp=Z,180nm,1.5s,mb5.7
VRSR pmax pmax
comp=N,240nm,1.0s
VRSR pmax pmax
comp=E,30nm,1.0s
VRSR smax
comp=N,230nm,4.6s
VRSR smax
comp=Z,190nm,5.2s
VRSR smax
comp=E,180nm,3.5s
VRSR MLR MLR
comp=N,2μm,21.0s,MS5.0
VRSR MLR MLR
comp=Z,2μm,21.0s,MS5.0
VRSR MLR MLR
comp=E,1μm,16.0s,MS5.0
VORD Divnogorie 36.88 244 *e*P **P** **04 09 40.0 -0.7**
VORD pmax pmax
comp=Z,70nm,0.7s,mb5.6
VORD pmax pmax
comp=N,240nm,1.2s
VORD pmax pmax
comp=E,20nm,1.1s
VORD MLR MLR
comp=Z,3μm,22.0s,MS5.0
VORD MLR MLR
comp=N,2μm,17.0s,MS5.2
VORD MLR MLR
comp=E,2μm,14.0s,MS5.2
KLR Kul'dur 37.05 142 *e*P **P** **04 09 39.0 -3.2**
KLR *e* 04 11 13.0
KLR *e*S **S** **04 15 34.0 +6.3**
KLR pmax pmax
comp=Z,25nm,1.2s,mb4.9
KLR pmax pmax
comp=Z,800nm,6.5s
KLR smax
comp=N,1μm,13.0s
KLR smax
comp=E,900nm,13.0s
KLR MLR MLR
comp=E,1μm,14.0s
KLR MLR MLR
comp=Z,2μm,14.0s,MS5.0
WAR Warsaw 37.08 263 *e*P **P** **04 09 42.8 +0.4**
WAR *e*pP pP 04 09 48.5 +4.0
WAR *e*S **S** **04 15 25.0 -3.1**
WAR MLR MLR 04 24 22.7
comp=Z,2μm,23.7s,MS4.9
WAR Warsaw 37.08 263 *e*P **P** **04 09 42.8 +0.4**
WAR *e*pP pP 04 09 48.5 +4.0
WAR *e*S **S** **04 15 25.0 -3.1**
UNV Unalaska Valle 37.10 78 *e*P **P** **04 09 43.1 +0.5**
comp=Z,154nm,1.1s,mb5.8
SONM Songino Array 37.59 170 P **P** **04 09 47.4 +0.7**
comp=Z,14nm,0.8s,mb4.7,baz=350,slow=8.7,SNR=83
SONM PcP PcP 04 12 05.3 +0.3
comp=Z,6.0nm,0.8s,baz=331,slow=2.4,SNR=5.1
SONM LR LR 04 25 53.0
comp=Z,2μm,18.2s,MS5.0,baz=355,slow=37
SONM Songino Array 37.59 170 P **P** **04 09 47.4 +0.6**
SONM 04 12 05.3
SONM pmax pmax
comp=Z,14nm,0.8s
SONM MLR MLR
comp=Z,2μm,18.2s
AKASG Malin Array Be 37.93 254 P **P** **04 09 48.5 -1.1**
comp=Z,39nm,0.8s,mb5.2,baz=8.5,slow=8.4,SNR=93
AKASG PcP PcP 04 12 04.3 -1.8
comp=Z,5.4nm,0.8s,baz=360,slow=3.6,SNR=5.8
AKASG Malin Array Be 37.93 254 P **P** **04 09 48.5 -1.1**
AKASG PcP PcP 04 12 04.3 -1.8
AKASG Malin Array Be 37.93 254 P **P** **04 09 48.5 -1.1**
AKASG 04 12 04.3
AKASG pmax pmax
comp=Z,39nm,0.8s
DLF Lyons Farm 38.31 290⇑*i*P **P** **04 09 56.3 +3.5**
DCN Croghan 38.32 291⇑*i*P **P** **04 09 53.2 +0.4**
CLZ Clausthal 38.37 273 *e*P **P** **04 09 53.5 +0.3**
comp=Z,129nm,1.4s,mb5.5
CLZ Clausthal 38.37 273 *e*P **P** **04 09 53.5 +0.3**
CLZ pmax pmax
comp=Z,129nm,1.4s,mb5.5
WTSB Winterswijk 38.54 277⇓*e*P **P** **04 09 54.7 0.0**
comp=Z,96nm,1.6s,mb5.3
WTSB *e*x x 04 10 03.1
CLL Collm 38.68 271 ⇓P **P** **04 09 55.3 -0.5**
comp=Z,logA/T=1.8,mb5.3
CLL *i* *PP pP 04 10 03.9 +5.9
CLL *e**SP sP 04 10 08.0 +9.2
CLL *e* 04 10 39.0
CLL *e*PP PP 04 11 22.0 -6.0
CLL *e* 04 11 56.0
CLL *e*PCP PcP 04 12 11.0 +2.6
CLL *e*S **S** **04 15 50.0 -2.5**
CLL *e*SS SS 04 18 34.0 +0.6
CLL Collm 38.68 271⇓*i*P **P** **04 09 55.3 -0.5**
comp=Z,88nm,1.4s,mb5.3
CLL *i* pP pP 04 10 03.9 +5.9
CLL *e*PcP PcP 04 12 11.0 +2.6
CLL Collm 38.68 271⇓*i*P **P** **04 09 55.3 -0.5**
CLL *i* *PP pP 04 10 03.9 +5.9
CLL *e* 04 12 11.0
CLL pmax pmax
comp=Z,88nm,1.4s,mb5.3
MKAR Makanchi Array 38.76 197 P **P** **04 09 55.5 -1.0**
comp=Z,28nm,1.0s,mb5.0,baz=11,slow=6.2,SNR=102
MKAR PcP PcP 04 12 07.3 -1.4
comp=Z,12nm,0.9s,baz=27,slow=3.2,SNR=3.9
MKAR LR LR 04 27 06.6
comp=Z,3μm,18.3s,MS5.1,baz=359,slow=38
MKAR Makanchi Array 38.76 197 P **P** **04 09 55.6 -1.0**
MKAR 04 12 07.3
MKAR pmax pmax
comp=Z,28nm,1.0s
MKAR MLR MLR
comp=Z,3μm,18.3s
KSP Ksiaz 38.86 267 *e*P **P** **04 09 57.3 -0.1**
KSP *e*pP pP 04 10 04.2 +4.7
KSP *e*S **S** **04 15 54.5 -0.7**
KSP MLR MLR 04 25 23.6
comp=Z,2μm,23.3s,MS4.9
KSP Ksiaz 38.86 267⇓*e*P **P** **04 09 57.1 -0.3**
KSP *e*pP pP 04 10 03.4 +3.9
KSP *e*PP PP 04 11 24.0 -6.2
KSP *e*S **S** **04 15 54.0 -1.3**
KSP *e*SS SS 04 18 37.0 -0.5
KSP LR LR
comp=Z,3μm,17.0s,MS5.2
BRG Berggiesshubel 39.03 270 *i* P **P** **04 09 58.6 -0.2**
comp=Z,78nm,1.4s,mb5.2
BRG *i* 04 10 08.5
BRG PP PP 04 11 24.0 -8.2
BRG S **S** **04 15 56.0 -1.8**
BRG SS SS 04 18 41.0 -0.2
BRG Berggiesshubel 39.03 270 *i* P **P** **04 09 58.6 -0.2**
BRG S **S** **04 15 56.0 -1.8**
BRG SS SS 04 18 41.0 -0.2
BRG pmax pmax
comp=Z,78nm,1.4s,mb5.2
OJC Ojcow 39.19 264⇓*i*P **P** **04 10 00.2 +0.1**
OJC *e*sP sP 04 10 08.1 +5.0
OJC *e*PP PP 04 11 33.4 -0.5
OJC *e*S **S** **04 16 01.1 +0.9**
OJC MLR MLR 04 30 26.1
comp=Z,2μm,16.7s,MS5.0
UPC Upice 39.22 267⇑*i*P **P** **04 10 00.4 0.0**
LVV L'vov 39.23 259*d i*P **P** **04 10 00.1 -0.4**
LVV *e* 04 11 29.9
LVV *i* S **S** **04 15 58.5 -2.4**
LVV MLR MLR
comp=Z,2μm,17.3s,MS4.9
LVV MLR MLR
comp=N,1μm,17.5s,MS4.9
LVV MLR MLR
comp=E,450nm,16.0s,MS4.9
PVCC Panska Ves 39.32 269⇑*i*P **P** **04 10 01.8 +0.6**
PVCC *e*x x 04 10 10.7
PVCC *e*PP PP 04 11 29.5 -5.8
PVCC *e*S **S** **04 16 04.6 +2.4**
PVCC AMS AMS 04 32 40.0
comp=E,2μm,12.8s
MOX Moxa 39.45 272 *i* P **P** **04 10 03.0 +0.7**
comp=E,logA/T=2.0,mb5.5
MOX S **S** **04 16 10.0 +5.8**
MOX L 04 28 33.0
MOX Moxa 39.45 272 *e*P **P** **04 10 03.0 +0.7**
comp=E,165nm,1.7s,mb5.5
MOX LR LR
comp=Z,500nm,18.0s,MS4.4
MOX Moxa 39.45 272 *e*P **P** **04 10 03.0 +0.7**
MOX pmax pmax
comp=Z,165nm,1.7s,mb5.5
MOX MLR MLR
comp=Z,500nm,18.0s,MS4.4
RAC Raciborz 39.46 265 *e*P **P** **04 10 03.0 +0.7**
RAC *e*S **S** **04 16 05.3 +1.0**
RAC MLR MLR 04 26 21.7
comp=Z,2μm,22.0s,MS5.0
KWP Kalwaria 39.53 260 *e*P **P** **04 10 03.1 +0.2**
KWP *e*pP pP 04 10 11.0 +5.9
KWP *e*PP PP 04 11 38.3 +0.7
KWP MLR MLR 04 26 36.4
comp=Z,3μm,20.4s,MS5.1
KWP Kalwaria 39.53 260 *e*P **P** **04 10 03.1 +0.1**
KWP *e*pP pP 04 10 11.0 +5.9
KWP *e*PP PP 04 11 38.3 +0.7
OKC Ostrava-Krasne 39.70 265⇑*i*P **P** **04 10 05.1 +0.7**
OKC *e*x x 04 10 14.1
OKC *e*PP PP 04 11 37.9 -1.6
OKC *e*S **S** **04 16 08.9 +0.9**
OKC AMS AMS 04 26 30.0
comp=Z,2μm,19.1s
NKC Novy Kostel 39.79 271⇑*i*P **P** **04 10 06.2 +1.1**
NKC *e*x x 04 10 14.0
NKC *e*PP PP 04 11 38.5 -2.0
NKC *e*S **S** **04 16 10.7 +1.4**
NKC AMS AMS 04 32 50.0
comp=Z,1μm,14.1s
HGN Heimansgroeve 39.81 277⇓*e*P **P** **04 10 04.6 -0.6**
comp=Z,64nm,1.3s,mb5.2
HGN *e*x x 04 10 13.2
HGN *e*PP PP 04 11 40.0 -0.7
HGN *e*S **S** **04 15 51.8 -18**
HGN *e*x x 04 19 11.2
HGN *e*x x 04 21 36.8
MORC Moravsky Berou 39.81 266 *e*P **P** **04 10 04.8 -0.5**
comp=Z,125nm,1.3s,mb5.5
MORC Moravsky Berou 39.81 266 *e*P **P** **04 10 04.8 -0.5**
MORC pmax pmax
comp=Z,125nm,1.3s,mb5.5
PRU Pruhonice 39.86 269⇑*i*P **P** **04 10 06.5 +0.8**
PRU *e*x x 04 10 14.4
PRU *e*PP PP 04 11 42.1 +0.9
PRU *e*S **S** **04 16 12.8 +2.5**
PRU AMS AMS 04 33 20.0
comp=Z,2μm,12.3s
PRU Pruhonice 39.86 269⇑*i*P **P** **04 10 06.5 +0.8**
PRU *e* 04 10 14.4
PRU *e*PP PP 04 11 42.1 +0.9
PRU *e*S **S** **04 16 12.8 +2.5**
PRU LR LR
comp=Z,2μm,12.3s,MS5.1
STHS Stebnicka Huta 39.86 262 *i* P **P** **04 10 07.2 +1.5**
NIE Niedzica 39.94 263 *e*P **P** **04 10 07.7 +1.4**
YSS Yuzh-Sakhalins 39.95 131 *e*P **P** **04 10 07.3 +0.8**
comp=Z,38nm,1.1s,mb5.0
YSS Yuzh-Sakhalins 39.95 131*d i*P **P** **04 10 07.6 +1.1**
YSS *e* 04 11 42.0
YSS *e*S **S** **04 16 15.0 +3.2**
YSS pmax pmax
comp=N,150nm,1.8s
YSS pmax pmax
comp=Z,270nm,1.8s,mb5.7
YSS pmax pmax
comp=Z,600nm,7.5s
YSS smax
comp=E,700nm,8.0s
YSS MLR MLR
comp=N,1μm,17.0s,MS4.8
YSS MLR MLR
comp=E,500nm,17.0s,MS4.8
YSS MLR MLR
comp=Z,900nm,17.0s,MS4.7
SCHQ Schefferville 40.02 346 P **P** **04 10 06.1 -0.8**
comp=Z,5.4nm,0.6s,mb4.5,baz=7.9,slow=13,SNR=11

SCHQ LR LR 04 26 41.1
comp=Z,870nm,18.1s,MS4.6,baz=198,slow=36
SCHQ Schefferville 40.02 346 *e*P **P 04 10 06.6 -0.4**
comp=Z,43nm,1.3s,mb5.0
FFC Flin Flon 40.03 18 *e*P **P 04 10 06.0 -1.1**
comp=Z,15nm,0.9s,mb4.7
FFC Flin Flon 40.03 18 *e*P **P 04 10 06.0 -1.1**
FFC pmax pmax
comp=Z,15nm,0.9s,mb4.7
TNS Taunus Mts 40.14 275 *e*P **P 04 10 08.0 0.0**
comp=Z,75nm,1.5s,mb5.2
TNS Taunus Mts 40.14 275 *e*P **P 04 10 08.0 0.0**
TNS pmax pmax
comp=Z,75nm,1.5s,mb5.2
KOLS Kolonicke sedl 40.26 261 *i*P **P 04 10 09.7 +0.7**
CRVS Cervenica-Dubn 40.36 262 *e*P **P 04 10 11.0 +1.2**
VRAC Vranov 40.36 267 P **P 04 10 10.6 +0.8**
comp=Z,43nm,1.1s,mb5.1,baz=12,slow=9.4,SNR=36
VRAC Vranov 40.36 267 P **P 04 10 10.6 +0.8**
VRAC pmax pmax
comp=Z,43nm,1.1s
GRA1 Grafenberg Arr 40.43 272 *e*P **P 04 10 11.0 +0.6**
comp=Z,219nm,1.5s,mb5.7
GRF Grafenberg Arr 40.43 272 *e*P **P 04 10 11.0 +0.6**
comp=Z,219nm,1.5s,mb5.7
GRF LR LR
comp=Z,600nm,20.3s,MS4.4
GRF Grafenberg Arr 40.43 272 *e*P **P 04 10 11.0 +0.6**
GRF pmax pmax
comp=Z,219nm,1.5s,mb5.7
GRF MLR MLR
comp=Z,600nm,20.3s,MS4.4
ABH Alteburg 40.55 276 *e*P **P 04 10 12.1 +0.7**
ABH Alteburg 40.55 276 *e*P **P 04 10 12.4 +1.0**
UZH Uzhgorod 40.56 261 *e*P **P 04 10 12.0 +0.6**
UZH *e*S **S 04 16 21.0 +0.2**
UZH MLR MLR
comp=E,3μm,16.0s
GIVF Givet 40.56 278⇓*i*P **P 04 10 11.2 -0.2**
comp=E,146nm,1.2s,mb5.2
GIVF Givet 40.56 278⇓*i*P **P 04 10 11.2 -0.2**
GIVF pmax pmax
comp=Z,73nm,1.2s,mb5.2
BAIF Baives 40.65 279⇓*i*P **P 04 10 12.2 0.0**
comp=Z,238nm,1.3s,mb5.4
BAIF Baives 40.65 279⇓*i*P **P 04 10 12.2 0.0**
BAIF pmax pmax
comp=Z,119nm,1.3s,mb5.4
TOD Tromm 40.72 274 *e*P **P 04 10 13.4 +0.6**
TOD Tromm 40.72 274 *e*P **P 04 10 13.8 +1.0**
RUP Ruppelstein 40.77 276 *e*P **P 04 10 14.5 +1.3**
KHC Kasperske Hory 40.79 270⇑*i*P **P 04 10 14.5 +1.2**
KHC *e*x x 04 10 22.2
KHC *e*PP PP 04 11 56.0 +5.3
KHC *e*S **S 04 16 27.1 +2.9**
KHC AMS AMS 04 33 20.0
comp=Z,1μm,13.4s
KHC Kasperske Hory 40.79 270⇑*i*P **P 04 10 14.5 +1.2**
KHC *e* 04 10 22.2
KHC *e*PP PP 04 11 56.0 +5.3
KHC *e*S **S 04 16 27.1 +2.9**
KHC LR LR
comp=Z,1μm,13.4s,MS5.0
WET Wettzell 40.84 270 *e*P **P 04 10 14.3 +0.6**
comp=Z,72nm,1.5s,mb5.1
WET Wettzell 40.84 270 *e*P **P 04 10 14.3 +0.6**
WET pmax pmax
comp=Z,72nm,1.5s,mb5.1
SWS Schriesheim 40.85 274 *e*P **P 04 10 14.2 +0.4**
KECS Kecovo 40.85 263 *e*P **P 04 10 14.4 +0.5**
WLF Walferdange 40.88 277 *e*P **P 04 10 14.0 -0.1**
comp=Z,48nm,1.2s,mb5.0
WLF Walferdange 40.88 277 *e*P **P 04 10 14.0 -0.1**
WLF pmax pmax
comp=Z,48nm,1.2s,mb5.0
SIND Sindeldorf 40.91 274⇓*e*P **P 04 10 14.4 +0.1**
KOLL Kolacno 40.93 265 *i*P **P 04 10 15.5 +1.0**
VYHS Vyhne 40.98 264 *i*P **P 04 10 15.2 +0.3**
GEC2 GERESS Array S 41.06 269 *e*P **P 04 10 16.1 +0.5**
comp=Z,114nm,1.5s,mb5.3
GEC2 GERESS Array S 41.06 269 *e*P **P 04 10 16.1 +0.5**
GEC2 pmax pmax
comp=Z,114nm,1.5s,mb5.3
GERES GERESS Array B 41.06 269 P **P 04 10 15.8 +0.3**
comp=Z,14nm,0.9s,mb4.6,baz=9.5,slow=8.1,SNR=114
GERES PP PP 04 11 50.0 -3.5
comp=Z,8.0nm,1.2s,baz=18,slow=6.2,SNR=2.2
GERES LR LR 04 30 00.6
comp=Z,689nm,19.4s,MS4.5,baz=1.2,slow=40
GERES GERESS Array B 41.06 269 P **P 04 10 15.8 +0.2**
GERES 04 11 50.0
GERES pmax pmax
comp=Z,14nm,0.9s
GERES pmax pmax
comp=Z,8.0nm,1.2s
GERES MLR MLR
comp=Z,689nm,19.4s
KTD Kalmit 41.06 275 *e*P **P 04 10 16.0 +0.4**
KTD Kalmit 41.06 275 *e*P **P 04 10 16.8 +1.2**
EDM Edmonton 41.17 28 *e*P **P 04 10 16.4 0.0**
VKA Vienna 41.42 267⇑*i*P **P 04 10 20.3 +1.8**
comp=Z,194nm,2.0s,mb5.4
VKA Vienna 41.42 267⇑*i*P **P 04 10 20.3 +1.8**
VKA pmax pmax
comp=Z,194nm,2.0s,mb5.4
ZST Bratislava 41.42 266 *e*P **P 04 10 19.6 +1.1**
LANF Langenberg 41.42 275 *e*P **P 04 10 19.5 +1.0**
PSZ Piszkesteto 41.46 263⇓*e*P **P 04 10 20.0 +1.1**
PSZ Piszkesteto 41.46 263 *e*P **P 04 10 19.4 +0.5**
comp=Z,153nm,1.3s,mb5.5
PSZ Piszkesteto 41.46 263 *e*P **P 04 10 19.4 +0.5**
PSZ pmax pmax
comp=Z,153nm,1.3s,mb5.5
STU Stuttgart 41.51 274 *e*P **P 04 10 19.5 +0.4**
comp=Z,60nm,1.1s,mb5.1
STU Stuttgart 41.51 274 *e*P **P 04 10 19.5 +0.4**
STU pmax pmax
comp=Z,60nm,1.1s,mb5.1
MDJ Mudanjiang 41.55 145 P **P 04 10 19.7 +0.3**
MDJ AP pP 04 10 22.8 +1.3
MDJ XP sP 04 10 24.4 +2.0
MDJ PP PP 04 11 56.6 -2.1
MDJ S **S 04 16 35.2 -0.1**
MDJ XS 04 16 45.9
MDJ SS SS 04 19 34.1 -0.6
MDJ SCS ScS 04 20 21.1 -0.5
MDJ AMB AMB
comp=Z,54nm,1.1s,mb5.1
MDJ AMB AMB
comp=Z,439nm,3.9s
MDJ LR LR
comp=N,1μm,16.2s,MS4.9
MDJ LR LR
comp=E,786nm,19.1s,MS4.9
MDJ LR LR
comp=Z,1μm,14.7s,MS5.0
MDJ Mudanjiang 41.55 145 *e*P **P 04 10 20.6 +1.2**
comp=Z,262nm,1.8s,mb5.6
HDH Heidenheim 41.62 273 *e*P **P 04 10 20.6 +0.7**
WMQ Urumqi 41.62 191 P **P 04 10 21.0 +0.9**
WMQ XP sP 04 10 28.0 +4.9
WMQ PP PP 04 12 01.0 +1.5
WMQ SCP 04 16 07.0
WMQ S **S 04 16 37.0 +0.5**
WMQ SS SS 04 19 36.0 -0.2
WMQ AMB AMB
comp=Z,31nm,1.0s,mb4.9
WMQ AMB AMB
comp=Z,142nm,8.0s
WMQ LR LR
comp=N,3μm,20.0s,MS5.3
WMQ LR LR
comp=E,2μm,20.0s,MS5.3
WMQ LR LR
comp=Z,4μm,20.0s,MS5.3
KIS Kishinev 41.64 254κ *i*P **P 04 10 18.0 -2.2**
KIS *e*PPP PPP 04 12 22.0 -8.2
KIS *e*S **S 04 16 32.0 -4.7**
KIS *e*SS SS 04 19 30.0 -6.5
KIS *e*SSS SSS 04 20 20.0 +2.2
KIS pmax pmax
comp=Z,600nm,6.0s
KIS MLR MLR
comp=N,2μm,15.0s,MS5.2
KIS MLR MLR
comp=Z,2μm,15.0s,MS5.2
KIS MLR MLR
comp=E,1μm,14.0s,MS5.2
KIS MLR MLR
comp=Z,2μm,16.0s
LBG Lerchenberg 41.65 274⇓*e*P **P 04 10 21.0 +0.8**
SRO Srobarova 41.70 265 *e*P **P 04 10 22.2 +1.6**
SRO1 Iza 41.76 265 *e*P **P 04 10 22.6 +1.5**
FUR Furstenfeldbru 41.94 272 *e*P **P 04 10 23.2 +0.6**
comp=Z,222nm,2.0s,mb5.5
FUR Furstenfeldbru 41.94 272 *e*P **P 04 10 23.2 +0.6**
FUR pmax pmax
comp=Z,222nm,2.0s,mb5.5
MOA Molln 42.00 269⇓*i*P **P 04 10 23.8 +0.7**
comp=Z,134nm,1.6s,mb5.3
WLS Welschbruch 42.02 276 *e*P **P 04 10 24.7 +1.4**
BFO Black Forest 42.03 275 *e*P **P 04 10 23.8 +0.5**
comp=Z,55nm,1.5s,mb5.0
BFO Black Forest 42.03 275 *e*P **P 04 10 23.8 +0.5**
BFO pmax pmax
comp=Z,55nm,1.5s,mb5.0
CDF Champ du Feu 42.03 276⇓*i*P **P 04 10 23.8 +0.5**
comp=Z,217nm,1.3s,mb5.3
CDF Champ du Feu 42.03 276⇓*i*P **P 04 10 23.8 +0.5**
CDF pmax pmax
comp=Z,108nm,1.3s,mb5.3
MEZF Maizieres J'vi 42.13 278⇓*i*P **P 04 10 24.3 +0.2**
comp=Z,193nm,1.7s,mb5.2
CN2 Changchun 42.17 150⇑P **P 04 10 25.6 +1.0**
CN2 *e*AP pP 04 10 30.4 +3.7
CN2 PCP PcP 04 12 21.9 +2.3
CN2 *e*S **S 04 16 49.9 +5.3**
CN2 SS SS 04 19 49.7 +3.2
CN2 AMB AMB
comp=Z,40nm,1.3s,mb4.9
CN2 AMB AMB
comp=Z,1μm,5.0s
CN2 LR LR
comp=N,2μm,14.0s,MS5.4
CN2 LR LR
comp=E,2μm,14.0s,MS5.4
CN2 LR LR
comp=Z,3μm,16.0s,MS5.2
SPAK Spaichingen 42.21 274 *e*P **P 04 10 25.8 +1.0**
GUT Gutenstein 42.22 274⇓*e*P **P 04 10 25.6 +0.7**
ECH Echery 42.24 276 *e*P **P 04 10 26.4 +1.4**
LIBD Limburg 42.27 275 *e*P **P 04 10 26.3 +1.0**
LIBD Limburg 42.27 275 *e*P **P 04 10 26.6 +1.3**
THEF They Montfort 42.32 277 *e*P **P 04 10 27.1 +1.4**
FLN La Foliniere 42.33 283⇓*i*P **P 04 10 25.0 -0.8**
comp=Z,122nm,1.2s,mb5.1
FLN *e*R
comp=Z,706nm,19.8s
FLN La Foliniere 42.33 283⇓*i*P **P 04 10 25.0 -0.8**
FLN pmax pmax
comp=Z,61nm,1.2s,mb5.1
FLN MLR MLR
comp=Z,710nm,19.8s,MS4.5
KIZ Kirchzarten 42.43 275 *e*P **P 04 10 27.2 +0.6**
GOF Gofitskoye 42.48 239⇑*i*P **P 04 10 25.0 -2.1**
GOF pmax pmax
comp=Z,230nm,1.3s,mb5.7
FELD Feldberg 42.50 275 *e*P **P 04 10 27.8 +0.6**
FELD Feldberg 42.50 275 *e*P **P 04 10 28.2 +1.0**
HAU Haudompre 42.51 277⇓*i*P **P 04 10 27.7 +0.4**
comp=Z,188nm,0.9s,mb5.5
HAU *e*R
comp=Z,998nm,19.8s
HAU Haudompre 42.51 277⇓*i*P **P 04 10 27.7 +0.4**
HAU pmax pmax
comp=Z,94nm,0.9s,mb5.5
HAU MLR MLR
comp=Z,1μm,19.8s,MS4.7
USP Ospenovka 42.52 205 P **P 04 10 28.3 +0.9**
SNR=27
UBR Uberruh 42.52 273⇓*e*P **P 04 10 28.3 +0.9**
SLE Schleitheim 42.57 274⇓*i*P **P 04 10 27.9 +0.1**
MOF Molkenrain 42.60 276 *e*P **P 04 10 29.0 +1.0**
STEIN Stein am Rhein 42.64 274⇓*i*P **P 04 10 28.6 +0.3**
HINF Hinteralfeld 42.66 276⇓*i*P **P 04 10 28.5 0.0**
comp=Z,157nm,1.5s,mb5.2
HINF Hinteralfeld 42.66 276⇓*i*P **P 04 10 28.5 0.0**
HINF pmax pmax
comp=Z,78nm,1.5s,mb5.2
TRULL Truellikon 42.67 274⇓*i*P **P 04 10 27.8 -0.8**
GRR Gorron 42.73 284⇓*i*P **P 04 10 28.4 -0.7**
comp=Z,187nm,1.3s,mb5.4
GRR Gorron 42.73 284⇓*i*P **P 04 10 28.4 -0.7**
GRR pmax pmax
comp=Z,94nm,1.3s,mb5.4
FLACH Flaach 42.76 274⇓*i*P **P 04 10 28.8 -0.5**
MOTA Moosalm 42.77 272⇓*i*P **P 04 10 30.1 +0.7**
comp=Z,41nm,1.4s,mb5.0
MOTA Moosalm 42.77 272⇓*i*P **P 04 10 30.1 +0.7**
MOTA pmax pmax
comp=Z,41nm,1.4s,mb5.0
CHMS Chumysh 42.78 205 P **P 04 10 31.3 +1.8**
SNR=7.8
WTTA Wattenberg 42.81 271⇑*i*P **P 04 10 30.9 +1.2**
comp=Z,270nm,2.0s,mb5.6
WTTA Wattenberg 42.81 271⇑*i*P **P 04 10 30.9 +1.2**
WTTA pmax pmax
comp=Z,270nm,2.0s,mb5.6
TKM2 Tokmak 2 42.83 204 P **P 04 10 31.4 +1.5**
SNR=18
KKAR Karatay Array 42.84 209 *i*P **P 04 10 30.2 +0.2**
KKAR Karatay Array 42.84 209 P **P 04 10 30.1 +0.1**
SULZ Sulz-Cheisache 42.84 275⇓*i*P **P 04 10 30.1 +0.1**
WILA Wila 42.89 274⇓*i*P **P 04 10 30.7 +0.3**
DAVA Damuels 42.93 273⇓*i*P **P 04 10 31.7 +1.0**
comp=Z,118nm,1.7s,mb5.3
VRI Vrincioaia 42.94 256⇑P **P 04 10 30.8 0.0**
VRI Vrincioaia 42.94 256⇑P **P 04 10 30.8 0.0**
FRU Bishkek 42.95 205⇓*e*P **P 04 10 32.0 +1.1**
FRU *e* 04 12 12.0
FRU *e* 04 17 00.0
FRU pmax pmax
comp=Z,130nm,2.0s,mb5.3
FRU MLR MLR
comp=N,12μm,16.0s
FRU MLR MLR
comp=Z,11μm,16.0s,MS5.9
BBS Basel-Blauen 42.95 275⇓*e*P **P 04 10 31.4 +0.5**
BBS Basel-Blauen 42.95 275 *e*P **P 04 10 31.6 +0.7**
LIENZ Alp Oberkamor 42.95 273⇓*i*P **P 04 10 31.6 +0.7**
ROSF Rostrenen 42.98 286⇓*i*P **P 04 10 30.6 -0.5**
comp=Z,21nm,0.8s,mb4.6
ROSF Rostrenen 42.98 286⇓*i*P **P 04 10 30.6 -0.5**
ROSF pmax pmax
comp=Z,11nm,0.8s,mb4.6
SGMF Saint Gilles 43.00 285⇓*i*P **P 04 10 31.0 -0.3**
comp=Z,165nm,1.0s,mb5.4
SGMF Saint Gilles 43.00 285⇓*i*P **P 04 10 31.0 -0.3**
SGMF pmax pmax
comp=Z,83nm,1.0s,mb5.4
BALST Balsthal 43.07 275⇓*i*P **P 04 10 31.9 +0.1**
KBK Karagaybulak 43.11 205 P **P 04 10 34.4 +2.2**
SNR=6.2
LOMF Lomont 43.12 276 *e*P **P 04 10 33.2 +0.9**
PERS Pernice 43.14 268⇓*e*P **P 04 10 33.2 +0.8**
EKS2 Erkin-Say 43.15 206 P **P 04 10 33.2 +0.6**
SNR=6.8
AAK Ala-Archa 43.15 205 P **P 04 10 34.3 +1.7**
SNR=10
AAK Ala-Archa 43.15 205 *e*P **P 04 10 33.0 +0.4**
comp=Z,67nm,1.3s,mb5.2
AAK LR LR
comp=Z,2μm,19.0s,MS5.1
AAK Ala-Archa 43.15 205 *e*P **P 04 10 33.0 +0.4**
AAK pmax pmax
comp=Z,67nm,1.3s,mb5.2
AAK MLR MLR
comp=Z,2μm,19.0s,MS5.1
ANN Anapa 43.15 245 *e*P **P 04 10 31.4 -1.1**
PLONS Phons 43.21 273⇓*i*P **P 04 10 33.2 +0.2**
SIM Simferopol' 43.26 248 *d*P **P 04 10 33.4 0.0**
SIM *e* 04 12 14.0
SIM *i*S **S 04 17 03.8 +3.4**
SIM *e*SS SS 04 20 10.0 +3.2
SIM pmax pmax
comp=Z,260nm,11.1s
SIM MLR MLR
comp=Z,2μm,17.3s,MS5.0
OBKA Obir 43.31 268⇑*i*P **P 04 10 35.0 +1.2**
comp=Z,162nm,1.4s,mb5.6
MUO Muotathal 43.35 274⇓*i*P **P 04 10 34.9 +0.8**
MLR Muntele Rosu 43.37 256 P **P 04 10 35.3 +1.0**
comp=Z,70nm,1.1s,mb5.3,baz=348,slow=5.0,SNR=33
MLR Muntele Rosu 43.37 256⇑P **P 04 10 35.5 +1.2**
MLR Muntele Rosu 43.37 256⇑P **P 04 10 35.5 +1.2**
MLR Muntele Rosu 43.37 256 P **P 04 10 35.3 +1.0**
MLR pmax pmax
comp=Z,70nm,1.1s
QUIF Quistinic 43.39 286⇓*i*P **P 04 10 34.2 -0.2**
comp=Z,239nm,1.3s,mb5.5
QUIF Quistinic 43.39 286⇓*i*P **P 04 10 34.2 -0.2**
QUIF pmax pmax
comp=Z,120nm,1.3s,mb5.5
DAVOX Davos 43.43 273 P **P 04 10 35.7 +0.9**
comp=Z,18nm,0.8s,mb4.8,baz=348,slow=8.3,SNR=34
DAVOX Davos 43.43 273⇓*i*P **P 04 10 36.1 +1.3**
LLS Linth-Limmern 43.44 274⇓*i*P **P 04 10 35.5 +0.6**
LLS Linth-Limmern 43.44 274⇓*i*P **P 04 10 35.6 +0.7**
LOR Lormes 43.45 279⇓*i*P **P 04 10 34.5 -0.5**
comp=Z,160nm,1.3s,mb5.3
LOR *e*R
comp=Z,880nm,18.0s
LOR Lormes 43.45 279⇓*i*P **P 04 10 34.5 -0.5**
LOR pmax pmax
comp=Z,80nm,1.3s,mb5.3
LOR MLR MLR
comp=Z,880nm,18.0s,MS4.7
BNALP Bannalp 43.47 274⇓*i*P **P 04 10 35.6 +0.5**
CFR Carcaliu 43.51 254⇑P **P 04 10 34.5 -0.9**
CFR Carcaliu 43.51 254⇑P **P 04 10 34.5 -0.9**
SNX Sinaia 43.54 257⇑P **P 04 10 37.2 +1.5**
SNX Sinaia 43.54 257⇑P **P 04 10 37.2 +1.4**
HYF Humbligny 43.55 280⇓*i*P **P 04 10 35.8 0.0**
FUORN Ofenpass 43.56 272⇓*e*P **P 04 10 37.3 +1.5**
FUORN Ofenpass 43.56 272⇓*e*P **P 04 10 37.2 +1.4**
BRANT Les Verrieres 43.56 276⇓*i*P **P 04 10 36.4 +0.5**
DOBS Dobrina 43.59 267⇓*e*P **P 04 10 36.4 +0.3**
KIV Kislovodsk 43.60 239 *e*P **P 04 10 36.9 +0.6**
comp=Z,233nm,1.1s,mb5.8
KIV Kislovodsk 43.60 239 *e*P **P 04 10 36.9 +0.7**
KIV pmax pmax
comp=Z,233nm,1.1s,mb5.8
HASLI Hasliberg 43.60 275⇓*i*P **P 04 10 36.5 +0.3**
CADS Cadrg 43.66 269⇓*e*P **P 04 10 36.8 +0.2**
KZA Kyzart 43.68 204 P **P 04 10 39.0 +2.2**
SNR=14
AML Almayashu 43.68 206 P **P 04 10 39.1 +2.2**
SNR=25
TORNY Torny 43.69 276⇓*i*P **P 04 10 37.5 +0.6**
SSF Saint Saulge 43.69 279⇓*i*P **P 04 10 36.5 -0.4**
comp=Z,53nm,0.9s,mb5.3
SSF Saint Saulge 43.69 279⇓*i*P **P 04 10 36.5 -0.4**
SSF pmax pmax
comp=Z,53nm,0.9s,mb5.3
MTUR Matau 43.71 257⇓P **P 04 10 38.5 +1.4**
MTUR Matau 43.71 257⇓P **P 04 10 38.5 +1.5**
WIMIS Wimmis 43.74 275⇓*i*P **P 04 10 37.8 +0.5**
LJU Ljubljana 43.77 268⇓*e*P **P 04 10 38.2 +0.6**
LJU *e* 04 12 23.7
LJU *e*S **S 04 17 12.5 +4.6**
LJU *e* 04 20 26.9
BERNI Berninapass 43.79 273⇓*i*P **P 04 10 39.2 +1.5**
VOY Vojsko 43.84 269 *e*P **P 04 10 38.8 +0.7**
VOY *e* 04 10 46.7
FUSIO Fusio 43.86 274⇓*i*P **P 04 10 39.3 +1.0**
CABF La Chapelle 43.92 277⇓*i*P **P 04 10 38.9 +0.1**
comp=Z,190nm,1.5s,mb5.3
CABF La Chapelle 43.92 277⇓*i*P **P 04 10 38.9 +0.1**
CABF pmax pmax
comp=Z,95nm,1.5s,mb5.3
AVF Avril sur Loir 43.97 279⇓*i*P **P 04 10 38.7 -0.5**
comp=Z,185nm,1.3s,mb5.4
AVF Avril sur Loir 43.97 279⇓*i*P **P 04 10 38.7 -0.5**
AVF pmax pmax
comp=Z,92nm,1.3s,mb5.3
HARR Harsova 44.01 254⇑P **P 04 10 39.0 -0.5**
SNY Shenyang 44.06 152⇑P **P 04 10 41.0 +1.0**
SNY S **S 04 17 14.5 +2.3**
SNY AMB AMB
comp=Z,50nm,1.1s,mb5.2
SNY AMB AMB
comp=Z,560nm,6.0s
SNY LR LR
comp=N,1μm,15.0s,MS5.1
SNY LR LR
comp=E,1μm,15.0s,MS5.1
SNY LR LR
comp=Z,880nm,13.5s,MS4.8
SENIN Lac Senin 44.06 275⇓*i*P **P 04 10 40.8 +0.9**
SMF Signal de Mont 44.07 279⇓*i*P **P 04 10 39.4 -0.6**
comp=Z,164nm,1.4s,mb5.3
SMF Signal de Mont 44.07 279⇓*i*P **P 04 10 39.4 -0.6**
SMF pmax pmax
comp=Z,82nm,1.4s,mb5.3
AIGLE Aigle 44.12 276⇓*i*P **P 04 10 40.5 +0.1**
SOC Sochi 44.19 242 *d*P **P 04 10 40.2 -0.8**
SOC *e* 04 12 25.3
SOC *e*PPP PPP 04 13 00.8 -2.5
SOC *i*S **S 04 17 11.8 -2.2**
SOC *e*SS SS 04 20 22.0 -1.7
SOC pmax pmax
comp=N,27nm,1.3s
SOC pmax pmax
comp=Z,35nm,1.3s,mb4.9
SOC pmax pmax
comp=E,19nm,1.2s
SOC MLR MLR
comp=N,2μm,21.0s,MS5.2
SOC MLR MLR
comp=Z,5μm,21.0s,MS5.4
SOC MLR MLR
comp=E,2μm,19.0s,MS5.2
GRYON Gryon 44.19 275⇓*e*P **P 04 10 41.5 +0.5**
GRYON Gryon 44.19 275⇓*e*P **P 04 10 41.6 +0.6**
MAK Makhachkala 44.25 234 *e*P **P 04 10 43.0 +1.5**
MAK *e* 04 12 26.0
MAK *e*S **S 04 17 10.0 -4.9**
MAK *e* 04 20 41.0
MAK pmax pmax
comp=Z,2μm,6.0s
MAK smax
comp=N,500nm,8.0s
MAK smax
comp=E,2μm,8.0s
SALAN Lac Salanfe 44.31 276⇓*i*P **P 04 10 42.5 +0.6**
MMK Mattmark 44.32 275⇓*i*P **P 04 10 43.2 +1.2**
DIX Grande Dixence 44.34 275⇓*i*P **P 04 10 43.1 +0.9**
MUGIO Muggio 44.36 273⇓*i*P **P 04 10 42.5 +0.2**
LCHF La Chataignera 44.43 283 *e*P **P 04 10 43.9 +1.0**
MFF Saint Martin d 44.45 283⇓*i*P **P 04 10 42.7 -0.3**
comp=E,180nm,1.2s,mb5.4
MFF Saint Martin d 44.45 283⇓*i*P **P 04 10 42.7 -0.3**
MFF pmax pmax
comp=Z,90nm,1.2s,mb5.4
OG05 Jujurieux 44.54 277 *e*P **P 04 10 44.5 +0.7**
TCF Toulx Ste Croi 44.56 280⇓*i*P **P 04 10 43.6 -0.4**
comp=Z,179nm,1.0s,mb5.6
TCF Toulx Ste Croi 44.56 280⇓*i*P **P 04 10 43.6 -0.4**
TCF pmax pmax
comp=Z,90nm,1.0s,mb5.5
LRYF La Roche-sur-Y 44.58 284 *e*P **P 04 10 44.8 +0.6**
ULM Lac du Bonnet 44.65 12 P **P 04 10 44.0 -0.6**
comp=Z,14nm,1.0s,mb4.7,baz=356,slow=8.9,SNR=8.3
ULM PcP PcP 04 12 26.7 -1.1
comp=Z,11nm,0.7s,baz=351,slow=3.6,SNR=4.6
ULM LR LR 04 29 51.7
comp=Z,2μm,18.1s,MS5.0,baz=359,slow=37
ULM Lac du Bonnet 44.65 12 *e*P **P 04 10 43.0 -1.5**
comp=Z,35nm,1.2s,mb5.1
HHC Hu-ho-hao-te 44.67 165 *e*P **P 04 10 44.5 -0.4**
HHC AP pP 04 10 47.6 +0.5
HHC PP PP 04 12 29.0 -1.4
HHC PCS 04 16 20.9
HHC S **S 04 17 19.1 -1.9**
HHC SCS ScS 04 20 37.8 -3.0
HHC AMB AMB
comp=Z,18nm,1.6s,mb4.7
HHC AMB AMB
comp=Z,550nm,8.3s
HHC LR LR
comp=N,2μm,16.1s,MS5.3
HHC LR LR
comp=E,3μm,16.0s,MS5.3
HHC LR LR

comp=Z,2µm,16.7s,MS5.2
ZEI Tsey 44.69 238 *e*P P 04 10 42.7 -2.4
ZEI *i* *PP pP 04 10 45.1 -2.1
ZEI *i* 04 12 27.1
ZEI pmax pmax
comp=Z,35nm,1.1s,mb5.1
AGO Saint Agoulin 44.72 279 *e*P P 04 10 46.9 +1.6
ORX Oropa 44.73 274 P **P 04 10 45.1 -0.2**
PLDF La Plantade 44.76 279 *e*P P 04 10 46.9 +1.3
TRAV 44.87 275 P **P 04 10 46.8 +0.3**
ONI Oni 44.91 238 P **P 04 10 46.1 -0.8**
SVIS Svilajnac 44.95 261 ⇑*i*P **P 04 10 46.8 -0.3**
LPL La Plagne 44.95 276 ⇓*i*P **P 04 10 47.8 +0.7**
comp=Z,75nm,1.2s,mb5.1
LPL La Plagne 44.95 276 ⇓*i*P **P 04 10 47.8 +0.7**
LPL pmax pmax
comp=Z,38nm,1.2s,mb5.1
LPG La Plagne 44.97 276 ⇓*i*P **P 04 10 48.1 +0.8**
comp=Z,123nm,1.2s,mb5.3
LPG La Plagne 44.97 276 ⇓*i*P **P 04 10 48.1 +0.8**
LPG pmax pmax
comp=Z,62nm,1.2s,mb5.3
LSD Ceresole Reale 44.98 275 P **P 04 10 47.9 +0.5**
PYM Petit Puy Mans 45.03 279 *e*P P 04 10 49.9 +2.1
VERF Verneugheol 45.08 280 *e*P P 04 10 49.1 +1.0
COLF Collangettes 45.20 279 *e*P P 04 10 50.3 +1.2
NVLJ Novalja 45.22 267 *i*P P 04 10 48.7 -0.5
DIVS Divcibare 45.25 262 ⇓*i*P **P 04 10 49.0 -0.5**
RSP Reno Superiore 45.27 275 P **P 04 10 49.9 +0.2**
PGC Sidney 45.27 38 *e*P P 04 10 49.4 -0.2
comp=Z,88nm,1.1s,mb5.5
MCW Mount Constitu 45.27 37 P **P 04 10 50.2 +0.5**
WALA Waterton Lakes 45.31 29 *e*P P 04 10 50.0 +0.1
comp=Z,73nm,1.3s,mb5.3
GRN Grenoble 45.31 277 *e*P P 04 10 51.1 +1.2
GDM Grand'Maison 45.31 276 *e*P P 04 10 51.5 +1.5
BOLS Boljevac 45.35 260 *i*P P 04 10 49.5 -0.8
GRUS Gruza 45.40 261 *i*P P 04 10 50.2 -0.5
BNI Bardonecchia 45.42 276 *e*P P 04 10 50.0 -0.8
comp=Z,78nm,1.5s,mb5.3
BNI Bardonecchia 45.42 276 *e*P P 04 10 50.0 -0.8
BNI pmax pmax
comp=Z,78nm,1.5s,mb5.3
FRNF Fournols 45.43 280 *e*P P 04 10 52.8 +1.9
BBLS Bajina Basta - 45.53 263 *i*P P 04 10 53.0 +1.3
LBL Lubilhac 45.53 279 *e*P P 04 10 53.7 +2.0
RRL Cesana Torines 45.54 276 P **P 04 10 52.2 +0.4**
BHB Bricherasio 45.58 275 P **P 04 10 51.6 -0.5**
RJF Les Rejaudoux 45.60 281 ⇓*i*P **P 04 10 52.0 -0.2**
comp=Z,183nm,0.9s,mb5.7
RJF *e*R
comp=Z,975nm,18.5s
RJF Les Rejaudoux 45.60 281 ⇓*i*P **P 04 10 52.0 -0.2**
RJF pmax pmax
comp=Z,92nm,0.9s,mb5.7
RJF MLR MLR
comp=Z,970nm,18.5s,MS4.8
ORIF Oris-en-Rattie 45.62 276 ⇓*i*P **P 04 10 52.7 +0.3**
comp=Z,84nm,0.8s,mb5.4
ORIF *e*R
comp=Z,522nm,20.5s
OG22 Abries 45.62 275 *e*P P 04 10 54.1 +1.6
TI2 Plekhanov 45.66 237 *i*P P 04 10 48.0 -4.8
TI2 *e* 04 12 26.0
TI2 pmax pmax
comp=Z,30nm,0.4s,mb5.6
TI2 pmax pmax
comp=Z,1µm,4.0s
GRAM 45.69 272 P **P 04 10 53.3 +0.3**
MBDF Montbardon 45.73 276 ⇓*i*P **P 04 10 54.1 +0.8**
comp=Z,115nm,0.9s,mb5.5
MBDF Montbardon 45.73 276 ⇓*i*P **P 04 10 54.1 +0.8**
MBDF pmax pmax
comp=Z,57nm,0.9s,mb5.5
PCP Pian Castagno 45.77 274 P **P 04 10 52.8 -0.8**
VIVF Saint-Julien-I 45.78 278 ⇓*i*P **P 04 10 53.5 -0.2**
comp=Z,139nm,1.5s,mb5.4
VIVF Saint-Julien-I 45.78 278 ⇓*i*P **P 04 10 53.5 -0.2**
VIVF pmax pmax
comp=Z,69nm,1.5s,mb5.4
CODM 45.81 272 P **P 04 10 54.2 +0.3**
VALM 45.82 272 P **P 04 10 53.7 -0.3**
ZAPS Zavoj/Pirot 45.83 259 ⇓*i*P **P 04 10 53.2 -0.8**
OBC Olympics--Boni 45.85 38 P **P 04 10 55.9 +1.7**
GENL Genova Univers 45.87 273 P **P 04 10 53.3 -1.1**
BACM 45.90 272 P **P 04 10 54.0 -0.7**
CAF Calviac 45.93 280 ⇓*i*P **P 04 10 54.8 -0.1**
comp=Z,54nm,1.3s,mb5.0
CAF Calviac 45.93 280 ⇓*i*P **P 04 10 54.8 -0.1**
CAF pmax pmax
comp=Z,27nm,1.3s,mb5.0
GTA Gaotai 45.96 178 *e*P P 04 10 56.7 +1.5
GTA AP pP 04 10 59.6 +2.3
GTA XP sP 04 11 03.1 +4.9
GTA PCP PcP 04 12 32.1 -0.4
GTA PP PP 04 12 43.6 +0.3
GTA PPP PPP 04 13 27.0 +0.6
GTA SCP 04 16 23.1
GTA PCS 04 16 25.0
GTA S **S 04 17 41.6 +2.1**
GTA XS 04 17 48.1
GTA SS SS 04 20 58.6 +2.3
GTA AMB AMB
comp=Z,22nm,2.0s,mb4.7
GTA AMB AMB
comp=Z,756nm,6.1s
GTA LR LR
comp=N,3µm,16.4s,MS5.5
GTA LR LR
comp=E,3µm,18.0s,MS5.5
GTA LR LR
comp=Z,3µm,18.0s,MS5.3
NEW Newport 45.96 32 *e*P P 04 10 55.6 +0.6
comp=Z,89nm,1.1s,mb5.6
NEW Newport 45.96 32 *e*P P 04 10 55.6 +0.5
NEW pmax pmax
comp=Z,89nm,1.1s
SARO Sassorosso 45.97 272 P **P 04 10 54.9 -0.2**
SURF Saint Ours 45.98 275 *e*P P 04 10 57.1 +1.9
VLC Villacollemand 45.99 272 *e*P P 04 10 55.1 -0.3
comp=Z,42nm,1.0s,mb5.3
NLW Nelson Butte 46.00 35 P **P 04 10 56.0 +0.7**
LFF La Frestale 46.02 282 ⇓*i*P **P 04 10 55.6 0.0**
comp=Z,131nm,1.3s,mb5.4
LFF La Frestale 46.02 282 ⇓*i*P **P 04 10 55.6 0.0**
LFF pmax pmax
comp=Z,66nm,1.3s,mb5.4
VINC Vinca 46.03 272 P **P 04 10 54.7 -1.0**
ROB Roburent 46.07 274 P **P 04 10 54.9 -1.0**
OSD Olympics--Snow 46.09 38 P **P 04 10 57.8 +1.7**
FIN Finale Ligure 46.13 274 P **P 04 10 54.8 -1.6**
OCWA Octopus Mounta 46.13 39 *e*P P 04 10 57.3 +0.8
comp=Z,151nm,1.6s,mb5.7
OOW Octopus West 46.15 39 P **P 04 10 58.3 +1.7**
STV Sta Anna Valdi 46.17 275 P **P 04 10 55.2 -1.6**
BCA Borcka 46.17 240 P **P 04 10 56.7 -0.1**
ENR Entracque 46.18 275 P **P 04 10 55.0 -1.8**
KSH Kashi 46.21 203 P **P 04 10 58.4 +1.2**
KSH *e*AP pP 04 11 00.0 +0.7
KSH *e*XP sP 04 11 04.8 +4.6
KSH *e*PCP PcP 04 12 35.2 +1.8
KSH *e*PP PP 04 12 45.0 -0.8
KSH *e*PPP PPP 04 13 28.1 -1.6
KSH *e*SCP 04 16 27.1
KSH *e*PCS 04 16 28.3
KSH *e*S **S 04 17 42.2 -0.9**
KSH *e*SCS ScS 04 20 51.3 +0.6
KSH *e*SS SS 04 20 56.2 -4.5
KSH AMB AMB
comp=Z,700nm,5.9s
KSH LR LR
comp=N,6µm,18.6s,MS5.7
KSH LR LR
comp=E,5µm,15.2s,MS5.7
MAIM 46.23 272 P **P 04 10 56.4 -0.8**
DGMT Dagmar 46.23 20 *e*P P 04 10 57.0 -0.2
comp=E,69nm,1.1s,mb5.5
DGMT LR LR
comp=Z,2µm,20.0s,MS5.0
BZK Bozkurt 46.24 248 *e*P P 04 10 57.9 +0.6
MONE Monesi 46.29 274 P **P 04 10 56.4 -1.3**
GNW Green Mountain 46.39 37 P **P 04 10 59.4 +1.0**
OSR Olympics--Salm 46.39 38 P **P 04 10 60.0 +1.5**
TOUF Mont Tournerai 46.40 275 *e*P P 04 10 59.6 +1.0

SAOF Saorge 46.40 275 *e*P P 04 10 58.7 +1.0
AUTN L'Aution 46.41 275 *e*P P 04 10 59.9 +1.3
ARTV Artvin 46.41 239 *i*P P 04 10 59.7 +1.0
IMI Imperia 46.45 274 P **P 04 10 57.7 -1.3**
BSMT Bassoo Peak 46.48 30 P **P 04 11 00.2 +1.1**
MVIF Mont Vial 46.53 275 *e*P P 04 11 00.2 +0.6
STOF St-Etienne Org 46.53 276 *e*P P 04 11 00.5 +0.9
SBF Sospel 46.54 275 ⇓*i*P **P 04 10 59.2 -0.5**
comp=Z,291nm,1.4s,mb5.7
SBF Sospel 46.54 275 ⇓*i*P **P 04 10 59.2 -0.5**
SBF pmax pmax
comp=Z,145nm,1.4s,mb5.7
RMW Rattlesnake Mo 46.54 36 P **P 04 10 60.0 +0.3**
SMRF Simiane la Rot 46.58 277 ⇓*i*P **P 04 11 00.3 +0.3**
comp=Z,59nm,1.1s,mb5.1
LASF Ste Croix 46.62 278 ⇓*i*P **P 04 11 00.9 +0.5**
comp=Z,188nm,1.1s,mb5.7
VILF Villemus 46.69 276 *e*P P 04 11 01.0 +0.1
CALN Calern 46.69 275 *e*P P 04 11 01.9 +1.0
BOYT Boyabat 46.70 247 *i*P P 04 11 01.1 0.0
LTY Liberty 46.80 35 P **P 04 11 01.6 -0.1**
TBM Table Mountain 46.89 35 P **P 04 11 02.8 +0.3**
TAVF Tavernes 46.90 276 *e*P P 04 11 03.6 +1.1
FRF La Foret Royal 46.90 275 ⇓*i*P **P 04 11 02.2 -0.4**
comp=Z,160nm,1.1s,mb5.6
FRF La Foret Royal 46.90 275 ⇓*i*P **P 04 11 02.2 -0.4**
FRF pmax pmax
comp=Z,80nm,1.1s,mb5.6
DL2 Dalian 46.91 154 P **P 04 11 04.2 +1.5**
DL2 PP PP 04 12 51.5 -1.3
DL2 S **S 04 17 58.8 +5.8**
DL2 AMB AMB
comp=Z,250nm,4.9s
DL2 LR LR
comp=N,840nm,14.7s,MS5.0
DL2 LR LR
comp=E,700nm,13.3s,MS5.0
DL2 LR LR
comp=Z,740nm,13.3s,MS4.8
TWW Teanaway 46.91 36 P **P 04 11 03.4 +0.8**
KVT Kavak 46.95 245 P **P 04 11 01.4 -1.6**
CPW Capitol Peak 46.96 38 P **P 04 11 04.6 +1.6**
PUYF Puyloubier 47.01 276 *e*P P 04 11 04.5 +1.1
SAFT Safranbolu 47.06 249 P **P 04 11 03.5 -0.4**
FMW Mount Fremont 47.08 36 P **P 04 11 04.4 +0.5**
LMR La Mourre 47.14 276 ⇓*i*P **P 04 11 04.0 -0.5**
comp=Z,136nm,1.4s,mb5.4
LMR La Mourre 47.14 276 ⇓*i*P **P 04 11 04.0 -0.5**
LMR pmax pmax
comp=Z,68nm,1.4s,mb5.4
EBG Ellensburg 47.15 35 P **P 04 11 05.2 +0.7**
GELF Grande-Etoile 47.18 277 *e*P P 04 11 05.9 +1.1
BERF Bertagne 47.23 276 *e*P P 04 11 06.7 +1.5
SKO Skopje 47.24 260 *e*Pn P 04 11 05.3 0.0
GNI Garni 47.24 236 *e*P P 04 11 05.3 0.0
GNI Garni 47.24 236 P **P 04 11 06.7 +1.4**
comp=Z,6.2nm,0.5s,mb4.8,baz=165,slow=13,SNR=15
GNI LR LR 04 35 19.8
comp=Z,1µm,18.0s,MS4.9,baz=354,slow=42
GNI Garni 47.24 236 *e*P P 04 11 06.4 +1.1
comp=Z,80nm,1.3s,mb5.5
GNI LR LR
comp=Z,1µm,22.0s,MS4.8
GNI Garni 47.24 236 P **P 04 11 06.7 +1.4**
GNI pmax pmax
comp=Z,6.0nm,0.5s
GNI MLR MLR
comp=Z,1µm,18.0s
GUMT Gumushane 47.31 242 *e*P P 04 11 06.2 +0.3
WPW White Pass 47.32 36 P **P 04 11 06.7 +0.9**
LOCW Locke Island 47.40 34 P **P 04 11 07.3 +0.8**
BMW Boistfort Moun 47.45 38 P **P 04 11 08.4 +1.5**
CHMT Chamberlain Mo 47.47 28 *e*P P 04 11 06.6 -0.5
MTLF Montolieu 47.49 280 ⇓*i*P **P 04 11 07.1 -0.1**
comp=Z,75nm,1.2s,mb5.2
MTLF Montolieu 47.49 280 ⇓*i*P **P 04 11 07.1 -0.1**
MTLF pmax pmax
comp=Z,38nm,1.2s,mb5.2
MSO Missoula 47.53 29 *e*P P 04 11 07.3 -0.3
comp=Z,46nm,1.0s,mb5.5
AQU L'Aquila 47.53 269 *e*P P 04 11 07.9 +0.3
comp=Z,153nm,1.1s,mb5.9
AQU L'Aquila 47.53 269 *e*P P 04 11 07.9 +0.3
AQU pmax pmax
comp=Z,153nm,1.1s,mb5.9
HENT Hendek 47.61 251 *i*P P 04 11 07.4 -0.8
TDL Tradedollar La 47.63 37 P **P 04 11 09.3 +1.0**
TOKT Tokat 47.67 245 P **P 04 11 09.9 +1.2**
PGF Pioggiola 47.71 273 ⇓*i*P **P 04 11 08.6 -0.4**
comp=Z,163nm,1.1s,mb5.7
PGF Pioggiola 47.71 273 ⇓*i*P **P 04 11 08.6 -0.4**
PGF pmax pmax
comp=Z,81nm,1.1s,mb5.7
HRT Hereke 47.71 252 *e*P P 04 11 07.9 -1.1
RSW Rattlesnake Hi 47.72 34 P **P 04 11 09.9 +0.9**
HAWA Hanford 47.72 34 *e*P P 04 11 09.4 +0.4
comp=Z,2.5nm,0.9s
H2OWA Water 47.72 34 P **P 04 11 09.9 +0.9**
ERZM Erzurum 47.73 240 *i*P P 04 11 09.4 +0.2
EZM Erzurum 47.73 240 P **P 04 11 10.7 +1.6**
HRY Holter Researc 47.73 27 *e*P P 04 11 08.8 -0.3
ELDT Eldivan 47.74 248 *i*P P 04 11 08.6 -0.7
SGKT Sivrigoynuk 47.77 249 *i*P P 04 11 09.9 +0.4
REDWA Red Mountain 47.82 34 P **P 04 11 10.7 +1.0**
OSSF Osses 47.86 283 *e*P P 04 11 10.4 +0.2
LRDF Laroque-de-Fa 47.86 279 *e*P P 04 11 11.4 +1.2
ORDF Ordiarp 47.88 283 *e*P P 04 11 10.4 +0.1
SRS Serrai 47.91 258 *e*P P 04 11 10.2 -0.4
EALK Alkurruntz 47.92 283 P **P 04 11 10.6 0.0**
comp=Z,118nm,1.1s,mb5.8
KNT Kendrikon 47.92 259 *e*P P 04 11 11.2 +0.5
ALN Alexandroupoli 47.93 256 *e*P P 04 11 09.8 -0.9
LAO LASA Array 47.95 22 *e*P P 04 11 11.1 +0.3
comp=Z,145nm,1.1s,mb5.9
EPF Esparros 47.95 282 ⇓*i*P **P 04 11 10.1 -0.8**
comp=Z,146nm,1.2s,mb5.6
EPF Esparros 47.95 282 ⇓*i*P **P 04 11 10.1 -0.8**
EPF pmax pmax
comp=Z,73nm,1.2s,mb5.6
CORM Corum 47.96 247 P **P 04 11 11.0 0.0**
LABF Labassere 47.96 282 *e*P P 04 11 10.6 -0.3
YLV Yalova 47.99 252 *e*P P 04 11 07.4 -3.8
SJPF Ste Jean 48.00 283 ⇓*i*P **P 04 11 10.6 -0.6**
comp=Z,37nm,1.2s,mb5.0
SJPF Ste Jean 48.00 283 ⇓*i*P **P 04 11 10.6 -0.6**
SJPF pmax pmax
comp=Z,19nm,1.2s,mb5.0
SVSK Karacayir 48.04 244 P **P 04 11 11.9 +0.4**
ELAN Lanestosa 48.06 285 P **P 04 11 11.6 -0.1**
comp=Z,85nm,1.4s,mb5.6
YPT Yellepit 48.09 34 P **P 04 11 12.8 +0.9**
VIEF Viey 48.12 282 *e*P P 04 11 13.6 +1.4
EARI Arriondas 48.14 287 P **P 04 11 12.8 +0.5**
comp=Z,144nm,1.5s,mb5.8
SALF Salau 48.15 281 *e*P P 04 11 12.9 +0.5
ETSF Etsaut 48.16 282 ⇓*i*P **P 04 11 12.3 -0.2**
comp=Z,106nm,1.5s,mb5.3
ETSF Etsaut 48.16 282 ⇓*i*P **P 04 11 12.3 -0.2**
ETSF pmax pmax
comp=Z,53nm,1.5s,mb5.3
RESF Ens 48.17 282 *e*P P 04 11 14.1 +1.5
SVST Sivas 48.19 244 *i*P P 04 11 14.8 +2.1
FILF Fillols 48.24 279 *e*P P 04 11 14.7 +1.6
EPON Pontenova 48.27 289 P **P 04 11 13.7 +0.4**
comp=Z,308nm,3.3s
CLDR Caldiran 48.30 237 P **P 04 11 13.8 +0.2**
EBIE Bielsa 48.31 282 P **P 04 11 14.8 +1.1**
comp=Z,72nm,1.0s,mb5.7
EJON La Jonquera 48.32 279 P **P 04 11 14.2 +0.5**
comp=Z,60nm,0.9s,mb5.6
LOD Lodumlu 48.39 249 P **P 04 11 15.1 +0.8**
ANTO Ankara 48.41 249 P **P 04 11 12.5 -1.9**
FNA Florina 48.42 260 *e*P P 04 11 14.2 -0.4
ULDT Uludag 48.43 252 *i*P P 04 11 14.1 -0.5
VALF Valcebollere 48.44 280 *e*P P 04 11 16.1 +1.5
BR131 Keskin Array S 48.49 248 *e*P P 04 11 15.2 +0.2
comp=Z,56nm,1.1s,mb5.5
BR131 LR LR
comp=Z,815nm,22.0s,MS4.7
BRTR Keskin Array B 48.49 248 P **P 04 11 16.0 +1.0**
comp=Z,36nm,0.9s,mb5.4,baz=14,slow=5.1,SNR=113
BRTR PcP PcP 04 12 41.7 +0.2
comp=Z,4.8nm,0.9s,baz=360,slow=3.1,SNR=2.0
BRTR Keskin Array B 48.49 248 P **P 04 11 16.0 +1.0**

BRTR 04 12 41.7
BRTR pmax pmax
comp=Z,36nm,1.0s
CDAG Cicekdag 48.53 247 *i*P **P 04 11 15.6 +0.2**
VLL Laurance Lake 48.54 36 P **P 04 11 16.8 +1.4**
HOOD Mount Hood Mea 48.69 36 P **P 04 11 17.5 +1.0**
VFP Flag Point 48.70 36 P **P 04 11 17.6 +1.0**
TDH Tom, Dick, Har 48.71 37 P **P 04 11 17.9 +1.2**
CANB Canakkale 48.72 254 P **P 04 11 15.8 -1.0**
GCMT Greycliff 48.73 25 P **P 04 11 17.2 +0.3**
EGRA Graus 48.78 282 P **P 04 11 18.2 +0.9**
comp=Z,23nm,0.8s,mb5.2
EMAZ Mazaricos 48.79 291 P **P 04 11 16.8 -0.5**
comp=Z,216nm,1.7s,mb5.9
BOZ Bozeman (W) 48.80 27 *e*P P 04 11 17.7 +0.3
comp=Z,77nm,1.1s,mb5.6
BOZ LR LR
comp=Z,2µm,21.0s,MS5.0
BOZ Bozeman (W) 48.80 27 *e*P P 04 11 17.7 +0.3
BOZ pmax pmax
comp=Z,77nm,1.1s,mb5.7
BOZ MLR MLR
comp=Z,2µm,21.0s,MS5.0
KAMT Kaman 48.84 248 *e*P P 04 11 17.6 -0.1
PTK Pertek 48.88 242 P **P 04 11 16.6 -1.4**
ESKT Eskisehir 48.91 251 P **P 04 11 17.5 -0.8**
ESKT Eskisehir 48.91 251 *i*P P 04 11 17.9 -0.4
TVAN Van 48.95 237 *i*P P 04 11 19.4 +0.8
EMIR Miracle 48.96 280 P **P 04 11 19.3 +0.7**
comp=Z,87nm,1.7s,mb5.5
BALB Balikesir 49.03 254 P **P 04 11 18.1 -1.1**
CROR Criterion Ridg 49.06 36 P **P 04 11 20.3 +0.9**
ELZG Elazig 49.30 242 *i*P P 04 11 21.6 +0.2
LZH Lanzhou 49.30 173 ⇓P **P 04 11 22.6 +1.2**
LZH AP pP 04 11 31.4 +7.9
LZH XP sP 04 11 34.4 +10
LZH PP PP 04 13 13.3 -2.5
LZH S **S 04 18 33.3 +6.5**
LZH AMB AMB
comp=Z,1µm,4.0s
LZH LR LR
comp=N,7µm,17.0s
LZH LR LR
comp=Z,5µm,17.6s,MS5.5
ESAC San Caprasio 49.32 282 P **P 04 11 21.0 -0.4**
comp=Z,160nm,1.9s,mb5.7
AVNT Avonos 49.33 246 *i*P P 04 11 21.6 0.0
COR Corvallis 49.34 38 PFAKE 04 11 30.0 +8.5
COR LR LR
comp=Z,2µm,20.0s,MS5.0
BMO Blue Mountains 49.36 32 *e*P P 04 11 22.1 +0.4
comp=Z,48nm,1.2s,mb5.4
BMO LR LR
comp=Z,2µm,19.0s,MS5.1
BTMT Batman 49.42 239 *e*P P 04 11 23.1 +0.9
TIA Tai'an 49.44 159 *e*P P 04 11 20.9 -1.6
TIA AMB AMB
comp=Z,125nm,1.3s,mb5.8
GDZ Gediz 49.45 252 *i*P P 04 11 21.9 -0.5
KIZT Kizilcal 49.46 249 P **P 04 11 22.6 0.0**
MYA Malataya 49.51 243 *e*P P 04 11 23.3 +0.3
MALT Malatya 49.52 243 *e*P P 04 11 24.1 +1.1
comp=Z,69nm,1.4s,mb5.5
MALT Malatya 49.52 243 *e*P P 04 11 24.1 +1.0
MALT pmax pmax
comp=Z,69nm,1.4s,mb5.5
EPOB Poblet 49.56 281 P **P 04 11 23.4 +0.1**
comp=Z,132nm,1.2s,mb5.8
MCMT McKenzie Canyo 49.57 28 *e*P P 04 11 24.1 +0.8
ECAL Calabor 49.61 288 P **P 04 11 24.2 +0.6**
comp=Z,208nm,1.2s,mb6.0
QLMT Earthquake Lak 49.63 27 *e*P P 04 11 24.3 +0.6
XOR Xorichti 49.68 258 *e*P P 04 11 24.2 0.0
BROR Big Rock Looko 49.70 37 P **P 04 11 25.1 +0.8**
BEST Besiri 49.73 240 *i*P P 04 11 25.6 +0.9
PBRG Braganca 49.75 288 *e*P P 04 11 25.4 +0.7
comp=Z,72nm,1.4s,mb5.5
FRIS Frissel Point 49.77 37 P **P 04 11 26.2 +1.4**
YNR Norris Junctio 49.77 26 *e*P P 04 11 26.0 +1.2
ELOB Lobios 49.79 290 P **P 04 11 25.0 0.0**
comp=Z,73nm,1.1s,mb5.6
KDHN Kadinhani 49.80 249 *i*P P 04 11 33.4 +8.2
YMR Madison River 49.80 27 *e*P P 04 11 25.7 +0.6
HAKT HAKKARI 49.89 237 *i*P P 04 11 26.1 +0.2
LKWY Lake 49.93 26 *e*P P 04 11 27.0 +0.9
comp=Z,50nm,1.2s,mb5.4
LKWY Lake 49.93 26 *e*P P 04 11 27.0 +0.9
LKWY pmax pmax
comp=Z,50nm,1.2s,mb5.4
IRO Indian Ridge 49.97 37 P **P 04 11 27.3 +0.9**
MSNY Massena 49.98 353 *e*P P 04 11 26.2 -0.2
MSNY *e* 04 11 35.2
ERTA Horta de San J 50.01 281 P **P 04 11 27.0 +0.2**
comp=Z,98nm,1.2s,mb5.7
YFT Old Faithful 50.03 26 *e*P P 04 11 27.8 +1.0
MAJO Matsushiro 50.05 137 *e*P P 04 11 26.6 -0.5
comp=Z,20nm,1.2s,mb5.0
MAJO Matsushiro 50.05 137 *e*P P 04 11 26.6 -0.5
MAJO pmax pmax
comp=Z,20nm,1.2s,mb5.0
MAT Matsushiro 50.05 137 P **P 04 11 26.5 -0.6**
MAT S **S 04 18 36.0 -1.2**
MAT Matsushiro 50.05 137 *e*P P 04 11 27.0 -0.1
comp=Z,84nm,1.9s,mb5.5
MAT *e*S **S 04 18 37.0 -0.2**
MAT Matsushiro 50.05 137 *e*P P 04 11 27.0 -0.1
MAT *e*S **S 04 18 37.0 -0.2**
MAT pmax pmax
comp=Z,84nm,1.9s,mb5.5
AGG Agios Georgios 50.09 259 *e*P P 04 11 26.7 -0.7
MANT Manisa 50.12 253 *i*P P 04 11 27.1 -0.5
HBO Huckleberry Mo 50.12 37 P **P 04 11 28.4 +0.8**
FRNY Flat Rock 50.13 352 *e*P P 04 11 25.8 -1.8
KDAG Bornova 50.31 254 *i*P P 04 11 27.9 -1.2
IZM Izmir 50.31 254 *e*P P 04 11 27.0 -2.1
KAHT Ahir Dag 50.32 244 *i*P P 04 11 30.1 +0.9
MARD Mardin 50.34 240 *i*P P 04 11 28.6 -0.8
MARD Mardin 50.34 240 *i*P P 04 11 30.4 +1.0
PVRL Vila Real 50.35 289 *e*P P 04 11 29.6 +0.3
comp=Z,57nm,1.4s,mb5.4
URFA Urfa 50.36 242 P **P 04 11 28.7 -0.8**
URLA Izmir 50.40 255 *i*P P 04 11 27.1 -2.7
TIP Timpagrande 50.40 265 *e*P P 04 11 29.1 -0.7
TKTP Tekketepe 50.42 251 *i*P P 04 11 28.8 -1.1
GZT Gaziantep 50.54 243 *i*P P 04 11 31.0 +0.1
IMW Indian Meadow 50.58 27 *e*P P 04 11 31.7 +0.7
comp=Z,50nm,1.1s,mb5.4
RSSD Black Hills 50.58 20 *e*P P 04 11 30.7 -0.4
comp=Z,40nm,0.9s,mb5.3
RSSD Black Hills 50.58 20 *e*P P 04 11 30.7 -0.4
RSSD pmax pmax
comp=Z,40nm,0.9s,mb5.3
ISP Isparta 50.60 251 *e*P P 04 11 29.5 -1.8
ISP Isparta 50.60 251 *e*P P 04 11 31.0 -0.3
comp=Z,78nm,1.2s,mb5.5
ISP Isparta 50.60 251 *e*P P 04 11 31.0 -0.3
ISP pmax pmax
comp=Z,78nm,1.2s,mb5.5
EMOS Mosqueruela 50.67 282 P **P 04 11 31.3 -0.5**
comp=Z,75nm,1.5s,mb5.4
LBNH Lisbon 50.70 350 *e*P P 04 11 31.2 -0.8
comp=Z,48nm,1.1s,mb5.3
LBNH Lisbon 50.70 350 *e*P P 04 11 31.2 -0.8
LBNH pmax pmax
comp=Z,48nm,1.1s,mb5.3
GAZ Gaziantep 50.75 244 *e*P P 04 11 33.5 +1.1
LOHW Long Hollow 50.87 26 *e*P P 04 11 33.2 0.0
comp=Z,34nm,1.2s,mb5.2
MIV Mineville/With 50.89 352 *e*P P 04 11 32.8 -0.6
TPAW Teton Pass 50.98 27 *e*P P 04 11 34.5 +0.4
comp=Z,76nm,1.2s,mb5.5
ETOS Mallorca 50.99 279 P **P 04 11 34.8 +0.6**
comp=Z,52nm,1.6s,mb5.2
NCB Newcomb 51.00 352 *e*P P 04 11 33.6 -0.6
comp=Z,23nm,1.0s,mb5.1
SNOW Snow King Moun 51.02 26 *e*P P 04 11 34.8 +0.4
comp=Z,25nm,1.1s,mb5.1
BBOR Butler Butte 51.06 38 P **P 04 11 35.3 +0.6**
RRI2 Red Ridge 51.11 27 *e*P P 04 11 34.9 -0.1
comp=Z,66nm,1.2s,mb5.4
REDW Red Top Meadow 51.11 26 *e*P P 04 11 35.1 0.0
comp=Z,44nm,1.3s,mb5.2
MSL Mosul 51.20 238 *e*P P 04 11 43.0 +7.2
MTE Manteigas 51.21 289 *e*P P 04 11 36.1 +0.3

comp=Z,60nm,1.4s,mb5.3
MTE eS S 04 18 59.0 +5.9
MTE Manteigas 51.21 289 eP P 04 11 35.0 -0.9
comp=Z,62nm,1.4s,mb5.3
HNH Hanover 51.24 351 eP P 04 11 35.5 -0.6
comp=Z,4.4nm,1.3s
GOLH Golhisar 51.28 252 i P P 04 11 38.0 +1.5
HDMB Hadim 51.32 249 P P 04 11 35.8 -0.9
HUMO Hull Mountain 51.33 38 eP P 04 11 37.2 +0.5
comp=Z,59nm,1.1s,mb5.4
XAN Xi'an 51.41 168 P P 04 11 36.9 -0.6
XAN AMB AMB
comp=Z,22nm,1.6s,mb4.8
COBT Iskenderun 51.47 245 i P P 04 11 38.4 +0.5
FFD Franklin Falls 51.47 350 P P 04 11 36.5 -1.3
comp=Z,35nm,1.0s,mb5.2
ECHE Chera 51.48 282 P P 04 11 38.2 +0.3
comp=Z,30nm,1.3s,mb5.1
ECHE Chera 51.48 282 P P 04 11 38.2 +0.3
ECHE pmax pmax
comp=Z,30nm,1.3s,mb5.1
YER Yerkesik 51.48 253 eP P 04 11 37.4 -0.6
ACCN Adirondack Com 51.58 352 eP P 04 11 37.8 -0.9
ERMK Ermenek 51.61 248 i P P 04 11 37.6 -1.3
ERMK Ermenek 51.61 248 i P P 04 11 43.3 +4.4
BDRM Kayabasi 51.62 254 i P P 04 11 39.2 +0.2
ESDC Sonseca Array 51.64 285 P P 04 11 38.5 -0.7
comp=Z,11nm,0.8s,mb4.8,baz=3.8,slow=8.2,SNR=44
ESDC Sonseca Array 51.64 285 P P 04 11 39.3 +0.1
comp=Z,12nm,0.8s,mb4.9
ESLA Sonseca Array 51.64 285 eP P 04 11 37.8 -1.3
comp=Z,23nm,1.5s,mb4.9
ESLA LR LR
comp=Z,4μm,19.0s,MS5.5
VSP Spence Mountai 51.64 37 P P 04 11 40.4 +1.3
BUOR Burton Butte 51.69 37 P P 04 11 40.6 +1.1
AHID Auburn Hatcher 51.70 27 eP P 04 11 38.2 -1.3
comp=Z,34nm,1.1s,mb5.2
AHID LR LR
comp=Z,921nm,22.0s,MS4.8
WVOR Wild Horse Val 51.71 34 eP P 04 11 39.9 +0.2
comp=Z,69nm,1.3s,mb5.4
WVOR Wild Horse Val 51.71 34 eP P 04 11 39.9 +0.2
WVOR pmax pmax
comp=Z,69nm,1.3s,mb5.4
ELL Elmali 51.74 251 P P 04 11 39.8 -0.1
BW06 Boulder Array 51.76 25 eP P 04 11 39.2 -0.8
comp=Z,22nm,1.0s,mb5.0
BW06 LR LR
comp=Z,2μm,20.0s,MS5.2
PDAR Pinedale Array 51.76 25 P P 04 11 39.1 -0.9
comp=Z,8.8nm,0.9s,mb4.7,slow=4.4,SNR=29
PDAR PP PP 04 13 41.0 +2.6
comp=Z,4.0nm,1.1s,slow=7.2,SNR=3.4
PDAR LR LR 04 34 23.4
comp=Z,2μm,18.7s,MS5.2,baz=12,slow=37
PCBR Castelo Branco 51.76 289 eP P 04 11 39.9 -0.1
comp=Z,114nm,1.7s,mb5.5
APE Apeiranthos 51.77 256 P P 04 11 38.3 -1.9
APE Apeiranthos 51.77 256 d iP P 04 11 38.8 -1.4
DALT Dalyan (Mudla) 51.82 252 P P 04 11 39.1 -1.4
EIBI Ibiza 51.85 280 P P 04 11 41.4 +0.7
comp=Z,108nm,1.2s,mb5.7
IKL Isikli 51.95 247 eP P 04 11 40.0 -1.5
KTRM Thompson Ridge 52.00 38 P P 04 11 43.2 +1.3
PTOM Tomar 52.05 290 eP P 04 11 42.1 -0.2
comp=Z,56nm,1.5s,mb5.3
MOD Modoc 52.16 35 eP P 04 11 44.1 +1.1
comp=Z,71nm,1.2s,mb5.5
YBH Yreka Blue Hor 52.21 38 eP P 04 11 43.4 -0.1
comp=Z,21nm,1.3s,mb4.9
YBH Yreka Blue Hor 52.21 38 eP P 04 11 43.4 0.0
YBH pmax pmax
comp=Z,21nm,1.3s
GENY Geneseo 52.24 356 eP P 04 11 43.2 -0.5
AKAS Kas 52.27 251 i P P 04 11 42.2 -1.8
VAE Valguarnera 52.29 267 LR LR 04 37 02.4
comp=Z,694nm,18.8s,MS4.7,baz=94,slow=40
ETOB Tobarra 52.46 283 P P 04 11 45.6 +0.3
comp=Z,185nm,2.2s,mb5.6
EVIA Vianos 52.55 284 P P 04 11 46.9 +0.9
comp=Z,38nm,0.7s,mb5.4
EVIA Vianos 52.55 284 P P 04 11 46.9 +0.9
EVIA pmax pmax
comp=Z,38nm,0.7s,mb5.4
WES Weston 52.55 350 eP P 04 11 45.3 -0.7
HVU Hansel Valley 52.62 28 eP P 04 11 46.0 -0.5
QUA2 Belchertown 52.67 351 eP P 04 11 46.5 -0.4
comp=Z,61nm,1.0s,mb5.5
BINY Binghamton 52.79 354 eP P 04 11 46.4 -1.4
comp=Z,61nm,1.1s,mb5.4
BINY LR LR
comp=Z,3μm,19.0s,MS5.3
EBAD Badajoz 52.80 288 P P 04 11 47.8 -0.1
comp=Z,88nm,1.4s,mb5.5
LTIM Timbered Crate 52.83 37 P P 04 11 49.0 +1.0
PLOU Loures 52.84 290 eP P 04 11 48.1 -0.1
comp=Z,91nm,1.2s,mb5.6
HWUT Hardware Ranch 52.84 27 eP P 04 11 47.8 -0.4
comp=Z,57nm,1.0s,mb5.5
RWWY Rawlins 52.91 23 eP P 04 11 47.9 -0.8
comp=Z,58nm,1.0s,mb5.5
KHMM Horse Mountain 53.01 39 eP P 04 11 49.3 -0.1
JNU Nakatsue 53.06 145 LR LR 04 36 04.0
comp=Z,478nm,18.3s,MS4.6,baz=202,slow=38
SPUT South Promonto 53.10 28 eP P 04 11 49.5 -0.7
EBAN Banos Encina 53.12 285 P P 04 11 51.0 +0.6
comp=Z,38nm,1.0s,mb5.3
EBAN Banos Encina 53.12 285 P P 04 11 51.0 +0.7
EBAN pmax pmax
comp=Z,38nm,1.0s,mb5.3
LBCM Butte Creek Ri 53.17 37 P P 04 11 51.2 +0.6
EADA Adamuz 53.19 286 P P 04 11 51.3 +0.5
comp=Z,92nm,1.3s,mb5.5
CSS Prodhromos 53.24 247 eP P 04 11 50.6 -0.7
comp=Z,71nm,1.0s,mb5.5
TCUT Toone Canyon 53.33 27 eP P 04 11 51.3 -0.5
PHWY Pilot Hill 53.36 22 eP P 04 11 50.8 -1.2
ALLY Alegheny Colle 53.37 358 eP P 04 11 50.4 -1.7
WDC Whiskeytown Da 53.37 38 eP P 04 11 51.1 -0.9
comp=Z,34nm,1.1s,mb5.2
WDC Whiskeytown Da 53.37 38 eP P 04 11 51.2 -0.9
WDC pmax pmax
comp=Z,34nm,1.1s,mb5.2
EHUE Huescar 53.37 284 P P 04 11 53.0 +0.9
comp=Z,64nm,1.4s,mb5.6
EHUE Huescar 53.37 284 P P 04 11 53.0 +0.8
EHUE pmax pmax
comp=Z,64nm,1.4s,mb5.4
EQES Quesada 53.42 284 P P 04 11 53.5 +0.9
comp=Z,78nm,1.3s,mb5.5
ELK Elko 53.55 31 eP P 04 11 53.8 +0.4
comp=Z,19nm,1.1s,mb4.9
ELK LR LR
comp=Z,2μm,20.0s,MS5.2
ELK Elko 53.55 31 eP P 04 11 53.8 +0.4
ELK pmax pmax
comp=Z,19nm,1.1s
ELK MLR MLR
comp=Z,2μm,20.0s
PBEJ Beja 53.59 289 eP P 04 11 53.9 +0.2
comp=Z,34nm,1.4s,mb5.1
IDI Anoyia 53.59 256 P P 04 11 50.1 -3.7
comp=Z,33nm,1.1s,mb5.2,baz=13,slow=12,SNR=6.3
IDI LR LR 04 38 03.2
comp=Z,877nm,20.1s,MS4.8,baz=352,slow=40
NJ2 Nanjing 53.64 158 eP P 04 11 50.1 -4.1
NJ2 AP pP 04 12 00.5 +4.1
NJ2 XP sP 04 12 03.8 +6.6
NJ2 PP PP 04 13 51.3 -5.3
NJ2 XS 04 19 33.0
NJ2 AMB AMB
comp=Z,30nm,0.9s,mb5.2
NJ2 AMB AMB
comp=Z,1μm,5.2s
NJ2 LR LR
comp=N,5μm,13.6s,MS5.8
NJ2 LR LR
comp=E,3μm,15.7s,MS5.8
NJ2 LR LR
comp=Z,3μm,15.9s,MS5.4
CTU Camp Tracy 53.74 28 eP P 04 11 54.5 -0.3
EMIN Mina Concepcio 53.75 288 P P 04 11 54.7 -0.2
comp=Z,52nm,1.8s,mb5.2
BMN Battle Mountai 53.77 33 eP P 04 11 55.4 +0.4
comp=Z,32nm,1.1s,mb5.2
BMN LR LR
comp=Z,1μm,19.0s,MS5.0
BMN Battle Mountai 53.77 33 eP P 04 11 55.4 +0.4
BMN pmax pmax
comp=Z,32nm,1.1s,mb5.2
BMN MLR MLR
comp=Z,1μm,19.0s,MS5.0
JLU Jordanelle 53.85 27 eP P 04 11 54.9 -0.6
PAL Palisades 53.96 352 eP P 04 11 55.8 -0.6
comp=Z,56nm,1.0s,mb5.5
PAL Palisades 53.96 352 eP P 04 11 55.8 -0.6
PAL pmax pmax
comp=Z,56nm,1.0s,mb5.5
DAU Daniels Canyon 54.04 27 eP P 04 11 56.6 -0.4
EGRO El Granado 54.05 289 P P 04 11 56.7 -0.3
comp=Z,117nm,2.2s,mb5.4
KIPM Iron Peak 54.09 39 eP P 04 11 56.9 -0.4
BHD Baghdad 54.11 236 eP P 04 11 55.0 -2.6
BHL Bhannes 54.12 245 eP P 04 11 57.2 -0.4
ELOJ Sierra Loja 54.16 285 P P 04 11 58.5 +0.6
comp=Z,14nm,1.1s,mb4.8
ELOJ Sierra Loja 54.16 285 P P 04 11 58.5 +0.6
ELOJ pmax pmax
comp=Z,14nm,1.1s,mb4.8
BEKR Beckwourth 54.19 36 eP P 04 11 58.1 0.0
comp=Z,62nm,1.2s,mb5.4
DUG Dugway 54.20 29 PFAKE 04 12 10.0 +12
DUG LR LR
comp=Z,1μm,19.0s,MS5.0
KCPM Cahto Peak 54.20 39 eP P 04 11 58.1 -0.1
ERON Agron 54.26 285 P P 04 11 59.2 +0.5
comp=Z,39nm,1.0s,mb5.3
EBER Berja 54.31 284 P P 04 11 59.0 0.0
comp=Z,103nm,1.8s,mb5.5
PAHR Pah Rah Range 54.40 35 eP P 04 11 59.4 -0.2
comp=Z,13nm,0.7s,mb5.0
MPU Maple Canyon 54.42 27 eP P 04 11 59.4 -0.4
CD2 Chengdu 54.46 173 P P 04 12 00.6 +0.4
CD2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.0
EMHD Djebel Mahouad 54.52 278 P P 04 12 02.0 +1.4
EBNR Beni Rached 54.55 280 P P 04 12 03.0 +2.2
ESPR Espera 54.58 287 P P 04 12 01.8 +0.8
comp=Z,80nm,1.2s,mb5.6
SSE Sheshan 54.67 155 P P 04 11 59.9 -1.9
SSE AP pP 04 12 06.3 +2.4
SSE XP sP 04 12 08.8 +4.0
SSE S S 04 19 39.6 -0.8
SSE XS 04 19 50.5
SSE SS SS 04 23 24.3 +1.3
SSE AMB AMB
comp=Z,36nm,1.0s,mb5.4
SSE AMB AMB
comp=Z,1μm,4.8s
SSE LR LR
comp=N,114nm,24.1s,MS4.6
SSE LR LR
comp=E,562nm,24.1s,MS4.6
SSE LR LR
comp=Z,552nm,19.9s,MS4.6
ECHA Ech Chlef 54.70 280 P P 04 12 04.0 +2.1
HRI Mount Hermon 54.74 245 P P 04 12 02.0 -0.3
ACSO Alum Creek Sta 54.78 1 eP P 04 12 00.7 -1.8
comp=Z,16nm,1.0s,mb5.0
ACSO LR LR
comp=Z,1μm,21.0s,MS4.9
EMIJ Mijas 54.79 286 P P 04 12 02.4 -0.2
comp=Z,170nm,1.5s,mb5.8
KSDI Kefar Szold 54.82 245 P P 04 12 02.6 -0.2
ISCO Idaho Springs 54.85 22 eP P 04 12 02.1 -0.8
comp=Z,26nm,1.2s,mb5.1
ISCO Idaho Springs 54.85 22 eP P 04 12 02.1 -0.9
ISCO pmax pmax
comp=Z,25nm,1.2s,mb5.1
HOPS Hopland 54.92 38 eP P 04 12 02.1 -1.4
comp=Z,62nm,1.4s,mb5.4
HNTI Hanita 54.97 245 P P 04 12 03.4 -0.5
KSHT Keshet 55.02 245 P P 04 12 04.0 -0.3
TMUT Trail Mountain 55.16 27 eP P 04 12 04.6 -0.6
CMLA Cha da Macela 55.16 306 PFAKE 04 12 20.0 +15
CMLA LR LR
comp=Z,3μm,20.0s,MS5.4
ENH Enshi 55.18 167 eP P 04 12 05.3 -0.3
comp=Z,312nm,1.8s,mb6.0
ENH LR LR
comp=Z,2μm,19.0s,MS5.1
HAF Haifa 55.28 245 P P 04 12 05.3 -0.9
SRU San Rafael 55.37 26 eP P 04 12 06.2 -0.5
NSHM Saint Helena R 55.42 38 eP P 04 12 06.9 -0.2
SMCO Snowmass 55.43 23 eP P 04 12 06.8 -0.3
OFRI 'Ofer 55.44 245 P P 04 12 06.6 -0.8
ETRT Tiaret 55.46 280 P P 04 12 08.0 +0.5
MMLI Mount Malkishu 55.59 245 P P 04 12 08.1 -0.3
LSA Lhasa 55.67 187 P P 04 12 11.4 +2.3
LSA Lhasa 55.67 187 eP P 04 12 09.7 +0.7
comp=Z,44nm,1.2s,mb5.4
LSA Lhasa 55.67 187 eP P 04 12 09.7 +0.6
LSA pmax pmax
comp=Z,44nm,1.2s,mb5.4
ASF Jabal al Asfar 55.74 243 P P 04 12 09.2 -0.3
comp=Z,53nm,1.0s,mb5.5,baz=242,slow=2.8,SNR=53
ASF LR LR 04 41 00.5
comp=Z,637nm,19.8s,MS4.7,baz=234,slow=41
ASF Jabal al Asfar 55.74 243 P P 04 12 09.2 -0.3
ASF pmax pmax
comp=Z,53nm,1.0s
ASF MLR MLR
comp=Z,637nm,19.8s
KSU1 Kansas State U 55.78 13 eP P 04 12 07.5 -2.2
SLTI Sal'it 55.81 245 P P 04 12 09.6 -0.5
BLO Bloomington 55.83 4 eP P 04 12 09.3 -0.7
comp=Z,16nm,0.9s,mb5.0
BLO Bloomington 55.83 4 eP P 04 12 09.3 -0.8
BLO pmax pmax
comp=Z,16nm,0.9s,mb5.0
MSU Marysvale 55.90 28 eP P 04 12 10.5 -0.1
CBKS Cedar Bluff 55.99 16 eP P 04 12 09.4 -1.8
comp=Z,35nm,1.1s,mb5.3
CBKS LR LR
comp=Z,2μm,22.0s,MS5.1
CBKS Cedar Bluff 55.99 16 eP P 04 12 09.5 -1.8
CBKS pmax pmax
comp=Z,35nm,1.1s,mb5.3
CBKS MLR MLR
comp=Z,2μm,22.0s,MS5.1
CMB Columbia Colle 56.01 36 eP P 04 12 10.9 -0.5
comp=Z,14nm,0.9s,mb5.0
CMB LR LR
comp=Z,1μm,21.0s,MS4.9
CMB Columbia Colle 56.01 36 eP P 04 12 10.9 -0.5
CMB pmax pmax
comp=Z,14nm,0.9s,mb5.0
CMB MLR MLR
comp=Z,1μm,21.0s,MS4.9
PTH Pithoragarh 56.02 198 eP P 04 12 10.0 -1.6
TPH Tonopah 56.12 33 eP P 04 12 11.4 -0.8
comp=Z,37nm,1.1s,mb5.3
TPH Tonopah 56.12 33 eP P 04 12 11.4 -0.8
TPH pmax pmax
comp=Z,37nm,1.1s,mb5.3
PV10 Paradox Valley 56.16 25 eP P 04 12 12.2 -0.2
PV01 Paradox Valley 56.41 25 eP P 04 12 13.8 -0.5
MKRJ Makawir 56.45 245 P P 04 12 14.1 -0.5
QURS Qurayyt al Mil 56.49 243 P P 04 12 14.9 0.0
OMM Old Mammoth Mi 56.49 35 eP P 04 12 15.1 +0.2
ARUT Antelope Range 56.57 29 eP P 04 12 15.3 -0.1
MZDA Masada 56.71 245 P P 04 12 15.9 -0.6
WCI Wyandotte Cave 56.77 4 eP P 04 12 14.9 -2.0
comp=Z,18nm,1.0s,mb5.1
WCI Wyandotte Cave 56.77 4 eP P 04 12 14.9 -2.0
WCI pmax pmax
comp=Z,18nm,1.0s,mb5.1
MTUM Tungsten Hills 56.78 34 eP P 04 12 16.0 -0.9
CBN Corbin 56.79 355 PFAKE 04 12 30.0 +13
CBN LR LR
comp=Z,2μm,19.0s,MS5.3
SDCO Great Sand Dun 56.90 22 eP P 04 12 16.8 -1.1
comp=Z,17nm,1.1s,mb5.0
CCM Cathedral Cave 56.90 8 eP P 04 12 14.7 -3.1
comp=Z,47nm,1.2s,mb5.4
CCM LR LR
comp=Z,1μm,20.0s,MS5.0
CCM Cathedral Cave 56.90 8 eP P 04 12 14.7 -3.1
CCM pmax pmax
comp=Z,47nm,1.2s,mb5.4
CCM MLR MLR
comp=Z,1μm,20.0s,MS5.0
NDI New Delhi 56.97 201 eP P 04 12 16.8 -1.6
NDI AMb AMB 04 12 19.9
comp=Z,74nm,0.9s,mb5.7
NDI ex x 04 14 44.0
BHGR Bahadurgarh 56.97 202 eP P 04 12 16.8 -1.6
MASH Mash'abbe Sade 57.07 246 P P 04 12 18.3 -0.8
BISR Bishrakh 57.07 201 eP P 04 12 18.2 -0.9
BISR AMb AMB 04 12 20.5
comp=Z,141nm,0.4s,mb6.3
KZIT Kziot 57.19 246 P P 04 12 18.8 -1.1
SAO San Andreas Ge 57.23 37 eP P 04 12 18.6 -1.5
comp=Z,28nm,1.1s,mb5.2
SAO San Andreas Ge 57.23 37 eP P 04 12 18.6 -1.5
SAO pmax pmax
comp=Z,28nm,1.1s,mb5.2
MIB Mutribah 57.35 233 eP P 04 12 20.0 -1.1
MIB AMb AMB 04 12 22.1
comp=Z,126nm,1.2s,mb5.8
SONA Sohna 57.41 202 eP P 04 12 19.1 -2.4
SONA AMb AMB 04 12 22.6
comp=Z,35nm,0.5s,mb5.6
GKN Gorkha 57.46 194 eP P 04 12 20.5 -1.4
comp=Z,430nm,1.5s,mb6.3
ZFRI Zfri 57.48 245 P P 04 12 21.1 -0.9
KUDL Kundal 57.53 202 eP P 04 12 21.2 -1.1
KUDL AMb AMB 04 12 23.8
comp=Z,93nm,0.8s,mb5.9
UMR Umm Al-Rimmam 57.57 232 eP P 04 12 22.3 -0.4
UMR AMb AMB 04 12 24.2
comp=Z,138nm,0.8s,mb6.0
LRV Little Rabbit 57.59 37 eP P 04 12 22.4 -0.2
KKN Kakani 57.66 193 eP P 04 12 22.3 -1.0
comp=Z,170nm,1.2s,mb6.0
PRNI Paran 57.69 245 P P 04 12 22.8 -0.7
KOLN Koldanda 57.71 195 eP P 04 12 21.8 -1.8
comp=Z,220nm,1.3s,mb6.0
ELN Prospectdale 57.78 358 eP P 04 12 22.4 -1.6
BLA Blacksburg 57.80 358 eP P 04 12 22.5 -1.6
comp=Z,33nm,1.2s,mb5.2
BLA LR LR
comp=Z,1μm,19.0s,MS5.1
BLA Blacksburg 57.80 358 eP P 04 12 22.5 -1.6
BLA pmax pmax
comp=Z,33nm,1.2s,mb5.2
BLA MLR MLR
comp=Z,1μm,19.0s,MS5.1
DMN Daman 57.84 193 eP P 04 12 23.6 -0.9
comp=Z,328nm,1.4s,mb6.2
PKI Pulchoki 57.88 193 eP P 04 12 23.5 -1.3
comp=Z,160nm,1.2s,mb5.9
DAC Darwin (Calif) 57.90 33 eP P 04 12 25.0 +0.2
comp=Z,27nm,1.1s,mb5.2
DAC LR LR
comp=Z,2μm,20.0s,MS5.2
DAC Darwin (Calif) 57.90 33 eP P 04 12 25.0 +0.2
DAC pmax pmax
comp=Z,27nm,1.1s,mb5.2
DAC MLR MLR
comp=Z,2μm,20.0s,MS5.2
KBD Kabd 57.95 232 eP P 04 12 25.1 -0.1
KBD AMb AMB 04 12 27.1
comp=Z,430nm,1.2s,mb6.3
RDF Al-Radifah 58.21 232 eP P 04 12 26.3 -0.8
RDF AMb AMB 04 12 28.4
comp=Z,126nm,1.2s,mb5.8
EIL Elat 58.37 245 P P 04 12 27.4 -0.8
PTRM Twissleman Ran 58.39 36 eP P 04 12 28.3 0.0
AGRA Agra 58.39 201 eP P 04 12 27.0 -1.4
TZTN Tazewell 58.47 1 eP P 04 12 26.1 -2.7
PVMO Portageville 58.56 7 P P 04 12 28.5 -0.9
UTMT University of 58.64 6 eP P 04 12 28.5 -1.5
comp=Z,57nm,0.8s,mb5.7
NEN Nelson 58.65 31 eP P 04 12 29.8 -0.3
GLAT Glass 58.71 6 eP P 04 12 29.4 -1.0
ALWS Ilw as Safayha 58.72 245 P P 04 12 30.7 0.0
JMOS Jabal al Moall 58.86 245 P P 04 12 31.7 0.0
WVT Waverly 58.86 5 eP P 04 12 29.5 -2.1
comp=Z,21nm,1.1s,mb5.1
WVT Waverly 58.86 5 eP P 04 12 29.5 -2.0
WVT pmax pmax
comp=Z,21nm,1.1s,mb5.1
GYA Guiyang 58.93 170 ||iP P 04 12 32.6 +0.4
GYA AP pP 04 12 39.2 +4.8
GYA PP PP 04 14 44.4 +0.1
GYA S S 04 20 35.7 -1.1
GYA PS PS 04 20 51.3 -0.1
GYA SS SS 04 24 30.2 -2.0
GYA AMB AMB
comp=Z,80nm,1.2s,mb5.6
GYA AMB AMB
comp=Z,600nm,5.7s
GYA LR LR
comp=N,350nm,17.5s,MS4.6
GYA LR LR
comp=E,210nm,18.0s,MS4.6
GYA LR LR
comp=Z,280nm,18.2s,MS4.4
HAQS Haql 58.98 245 P P 04 12 32.4 -0.1
LDFC Landfair 59.20 31 eP P 04 12 33.0 -1.0
AJM Ajmer 59.25 204 i P P 04 12 33.0 -1.4
HBAR Harrisburg 59.41 8 eP P 04 12 32.2 -3.1
TAYS Tayyib Ism 59.49 245 P P 04 12 36.0 0.0
CPCT Cooper Cave 59.56 2 P P 04 12 34.0 -2.3
BDAS Al Bad' 59.59 245 P P 04 12 36.8 +0.1
ANMO Albuquerque 59.66 23 eP P 04 12 36.2 -0.9
comp=Z,35nm,1.2s,mb5.3
ANMO ePP PP 04 14 47.2 -3.6
ANMO LR LR
comp=Z,3μm,21.0s,MS5.4
ANMO Albuquerque 59.66 23 eP P 04 12 36.2 -0.9
ANMO e 04 14 47.2
ANMO pmax pmax
comp=Z,35nm,1.2s
ANMO MLR MLR
comp=Z,3μm,21.0s
CBIJ Chichi jima 59.68 134 LR LR 04 39 56.4
comp=Z,327nm,21.2s,MS4.4,baz=227,slow=38
TBKS Tabuk 59.69 243 P P 04 12 37.5 +0.2
SHL Shillong 59.78 186 eP P 04 12 36.7 -1.4
SWET Sewanee 59.78 3 eP P 04 12 34.2 -3.7
MET Memphis--Engin 59.85 7 P P 04 12 36.2 -2.1
MWC Mount Wilson 59.92 34 eP P 04 12 38.9 0.0
PLAL Pickwick Lake 60.00 5 eP P 04 12 37.5 -2.0
comp=Z,22nm,1.0s,mb5.2
WMOK Wichita Mounta 60.08 16 eP P 04 12 37.7 -2.3
comp=Z,42nm,1.1s,mb5.4
WMOK Wichita Mounta 60.08 16 eP P 04 12 37.7 -2.3
WMOK pmax pmax
comp=Z,42nm,1.1s,mb5.4
HILS Ha'il 60.14 238 P P 04 12 40.5 +0.1
UALR University of 60.16 9 eP P 04 12 38.5 -2.0
comp=Z,35nm,1.1s,mb5.3
KMI Kunming 60.22 175 P P 04 12 41.3 +0.2
KMI AP pP 04 12 45.1 +1.8
KMI XP sP 04 12 46.4 +2.3
KMI PP PP 04 14 55.3 -0.6
KMI PPP PPP 04 16 24.4 +2.1
KMI S S 04 20 57.0 +3.6
KMI SCS ScS 04 22 30.2 +1.7
KMI SS SS 04 24 50.2 -1.6
KMI AMB AMB
comp=Z,45nm,1.8s,mb5.2
KMI AMB AMB
comp=Z,889nm,4.5s
KMI LR LR
comp=N,2μm,18.1s,MS5.3
KMI LR LR
comp=E,2μm,22.4s,MS5.3
KMI LR LR
comp=Z,2μm,17.5s,MS5.3
OXF Oxford 60.46 7 eP P 04 12 41.1 -1.5
comp=Z,129nm,1.1s,mb5.9
OXF Oxford 60.46 7 eP P 04 12 41.1 -1.5
OXF pmax pmax
comp=Z,129nm,1.1s,mb5.9
PFO Pinyon Flat Ob 60.61 32 eP P 04 12 42.9 -0.7
comp=Z,29nm,1.3s,mb5.2
PFO Pinyon Flat Ob 60.61 32 eP P 04 12 42.9 -0.7
PFO pmax pmax
comp=Z,29nm,1.3s,mb5.2
JSC Jenkinsville 60.72 359 eP P 04 12 42.4 -2.0
BAR Barrett 61.52 33 eP P 04 12 48.7 -1.1
GOGA Godfrey 61.59 1 PFAKE 04 13 00.0 +10

GOGA LR LR
comp=Z,2μm,20.0s,MS5.2
HASS Wahat al Ahsa' 61.78 230 P **P 04 12 51.3 -0.3**
NHSC New Hope 61.89 358 *eP* **P 04 12 50.7 -1.7**
comp=Z,89nm,1.2s,mb5.8
NHSC *e*pP pP 04 12 57.3 +2.8
KBRS Khaybar 61.90 240 P **P 04 12 52.6 +0.1**
LRAL Lakeview Retre 61.95 4 *eP* **P 04 12 50.2 -2.5**
comp=Z,30nm,1.3s,mb5.3
TUC Tucson 62.14 27 *eP* **P 04 12 53.5 -0.5**
comp=Z,26nm,1.3s,mb5.2
TUC Tucson 62.14 27 *eP* **P 04 12 53.5 -0.5**
TUC pmax pmax
comp=Z,26nm,1.3s,mb5.2
BHPL Bhopal 62.38 201 *eP* **P 04 12 54.3 -1.4**
BHPL AMb AMB 04 12 56.4
comp=Z,162nm,1.1s,mb6.1
BBSR BB Station 62.41 343 PFAKE 04 13 10.0 +14
BBSR LR LR
comp=Z,510nm,20.0s,MS4.7
UMJS Umm Lajj 62.60 242 P **P 04 12 57.8 +0.7**
MNTX Cornudas Mount 62.94 22 *eP* **P 04 12 57.4 -1.8**
comp=Z,18nm,1.2s,mb5.1
NATX Nacogdoches 63.13 12 *eP* **P 04 12 59.5 -1.1**
JCT Junction City 64.31 17 *eP* **P 04 13 06.5 -1.7**
comp=Z,29nm,0.9s,mb5.3
JCT Junction City 64.31 17 *eP* **P 04 13 06.5 -1.7**
JCT pmax pmax
comp=Z,29nm,0.9s,mb5.3
NGP Nagpur 64.41 199 *eP* **P 04 13 07.6 -1.4**
NGP AMb AMB 04 13 09.2
comp=Z,84nm,1.1s,mb5.7
AKL Akola 64.92 201 *ex* x 04 15 17.8
LTX Lajitas 65.34 20 *eP* **P 04 13 13.3 -1.6**
comp=Z,34nm,1.1s,mb5.3
LTX Lajitas 65.34 20 *eP* **P 04 13 13.3 -1.6**
LTX pmax pmax
comp=Z,34nm,1.1s,mb5.3
TXAR Lajitas Array 65.34 20 P **P 04 13 13.7 -1.2**
comp=Z,3.0nm,0.5s,mb4.8,baz=8.3,slow=3.4,SNR=71
TXAR PKP2bc 04 42 00.2
comp=Z,1.3nm,1.1s,baz=153,slow=2.8,SNR=6.6
TXAR LR LR 04 42 18.9
comp=Z,2μm,19.5s,MS5.3,baz=10.0,slow=37
TXAR Lajitas Array 65.34 20 P **P 04 13 13.7 -1.2**
TXAR ⇑*e* 04 42 00.2
TXAR LR LR 04 42 18.9
CHRT Chiangrai 65.43 178 ⇓P **P 04 13 13.0 -2.6**
comp=Z,132nm,0.9s,mb6.0
QIZ Qiongzhong 66.38 167 P **P 04 13 22.6 +1.0**
QIZ S S 04 22 15.3 +4.9
QIZ SCS ScS 04 23 19.0 +4.0
QIZ AMB AMB
comp=Z,52nm,1.4s,mb5.4
QIZ AMB AMB
comp=Z,357nm,6.0s
QIZ LR LR
comp=N,950nm,16.1s
QIZ LR LR
comp=Z,841nm,18.6s,MS5.0
QIZ Qiongzhong 66.38 167 *eP* **P 04 13 21.9 +0.3**
comp=Z,26nm,1.0s,mb5.2
CHG Chiang Mai 66.48 179 ⇓P **P 04 13 21.5 -0.8**
comp=Z,32nm,1.0s,mb5.3
NANT Nan 66.50 177 ⇑P **P 04 13 20.0 -2.4**
comp=Z,125nm,0.9s,mb5.9
DWPF Disney 66.88 359 PFAKE 04 13 40.0 +15
DWPF LR LR
comp=Z,1μm,19.0s,MS5.2
KAMS Al Khamasin 66.96 235 P **P 04 13 25.4 +0.1**
POO Poona 67.18 204 *eP* **P 04 13 25.2 -1.6**
POO AMb AMB 04 13 28.0
comp=Z,73nm,1.0s,mb5.7
LTHS Al Lith 67.29 239 P **P 04 13 28.1 +0.6**
BLJS Baljurashi 67.60 238 P **P 04 13 29.7 +0.4**
TATS Tathlith 67.80 236 P **P 04 13 31.6 +0.9**
BDT Bhumibol Dam 68.04 179 P **P 04 13 40.0 +7.8**
HYB Hyderabad 68.14 200⇑*iP* **P 04 13 31.0 -1.8**
HYB Hyderabad 68.14 200⇑*eP* **P 04 13 31.0 -1.8**
KAD Karad 68.38 204 *eP* **P 04 13 33.5 -0.9**
KAD AMb AMB 04 13 35.6
comp=Z,129nm,0.8s,mb6.0
KKTK Khon Kaen 68.96 175 P **P 04 13 37.1 -0.8**
comp=Z,247nm,1.0s,mb6.1
NST Nakhon Sawan 69.61 177 P **P 04 13 41.0 -0.9**
NNT Nongplab 72.67 178 P **P 04 14 01.5 +1.2**
MGV Manicaragua 72.85 358 *eP* **P 04 14 01.1 -0.1**
GUMO Guam 73.25 132 PFAKE 04 14 20.0 +16
GUMO LR LR
comp=Z,476nm,19.0s,MS4.8
ATD Arta Tunnel 75.79 236 P **P 04 14 19.0 +0.7**
comp=Z,4.5nm,0.4s,mb4.8,baz=118,slow=21,SNR=7.5
SNG Songkhla 78.05 177 P **P 04 14 31.0 +0.1**
comp=Z,38nm,0.7s,mb5.4
KKM Kota Kinabalu 79.42 161 P **P 04 14 39.7 +1.3**
KKM Kota Kinabalu 79.42 161 *eP* **P 04 14 39.1 +0.7**
KULM Kulim 79.93 177 *eP* **P 04 14 40.9 -0.2**
IPM Ipoh 80.63 177 P **P 04 14 46.0 +1.1**
TSM Tawau 81.21 160 P **P 04 14 48.7 +0.8**
KGM Kluang 83.20 174 P **P 04 14 59.9 +1.7**
KSM Kuching 83.83 167 *eP* **P 04 15 02.0 +0.6**
DBIC Dimbokro 84.44 283 P **P 04 15 04.8 +0.3**
comp=Z,7.2nm,0.8s,mb4.8,baz=352,slow=8.3,SNR=5.8
DBIC LR LR 04 55 31.2
comp=Z,205nm,21.8s,MS4.5,baz=352,slow=38
DBIC Dimbokro 84.44 283 P **P 04 15 04.8 +0.4**
DBIC pmax pmax
comp=Z,7.0nm,0.9s
DBIC MLR MLR
comp=Z,205nm,21.8s
LIC Lamto 84.89 283⇓*iP* **P 04 15 06.2 -0.5**
comp=Z,98nm,1.2s,mb5.5
SDV Santo Domingo 85.90 348 P **P 04 15 11.2 -0.5**
comp=Z,9.9nm,0.8s,mb5.1,baz=352,slow=12,SNR=6.9
SDV Santo Domingo 85.90 348 *eP* **P 04 15 11.3 -0.5**
comp=Z,24nm,0.9s,mb5.4
SDV *e*pP pP 04 15 15.9 +1.9
MBAR Mbarara 88.70 247 *eP* **P 04 15 24.3 -1.0**
comp=Z,8.0nm,1.1s,mb5.0
MBAR Mbarara 88.70 247 *eP* **P 04 15 24.3 -1.0**
MBAR pmax pmax
comp=Z,8.0nm,1.1s,mb5.0
KMBO Kilima Mbogo 88.73 240 P **P 04 15 25.9 +0.4**
comp=Z,0.6nm,0.4s,mb4.3,baz=35,slow=17,SNR=4.0
KMBO LR LR 05 01 37.2
comp=Z,419nm,19.6s,MS4.9,baz=95,slow=40
KMBO Kilima Mbogo 88.73 240 *iP* **P 04 15 28.3 +2.8**
KMBO pmax pmax
comp=Z,1.0nm,0.4s
ROSC El Rosal 89.95 352 P **P 04 15 32.7 +1.4**
comp=Z,7.6nm,0.8s,mb5.1,baz=102,slow=9.3,SNR=3.3
ROSC LR LR 04 57 18.6
comp=Z,410nm,19.7s,MS4.9,baz=9.6,slow=37
DGAR Diego Garcia 92.99 205 PFAKE 04 16 00.0 +15
DGAR LR LR
comp=Z,428nm,21.0s,MS4.9
WRA Warramunga Arr 105.93 144 Pdiff Pdif 04 16 46.3 +3.0
comp=Z,1.9nm,1.0s,baz=360,slow=4.7,SNR=6.2
WRA Warramunga Arr 105.93 144 P Pdif 04 16 46.3 +3.0
WRA pmax pmax
comp=Z,2.0nm,1.0s
PPT Papeete 109.27 69 *e*PS PS 04 30 51.9 -3.6
PPT Papeete 109.27 69 *e*SS SS 04 37 02.7 +11
PPT *e*LR LR 04 53 15.5
comp=Z,996nm,24.5s,baz=354
TBI Tubuai 115.01 69 *e*PS PS 04 31 49.5 -1.3
TBI Tubuai 115.01 69 *e*SS SS 04 38 26.1 +18
TBI *e*LR LR 04 55 58.2
comp=Z,870nm,24.2s,baz=349
RKT Rikitea 115.86 54 *e*PS PS 04 31 57.4 -0.9
RKT Rikitea 115.86 54 *e*SS SS 04 38 38.5 +19
RKT *e*LR LR 04 56 18.7
comp=Z,737nm,36.0s
BOSA Boshof 116.89 250 PFAKE 04 21 30.0 +12
BOSA LR LR
comp=Z,491nm,22.0s,MS5.1
STKA Stephens Creek 118.18 138 PKP PKPdf 04 21 17.6 -2.5
comp=Z,2.7nm,1.0s,baz=315,slow=10.0,SNR=5.8
CPUP Villa Florida 120.53 334 PKP PKPdf 04 21 24.6 -0.2
comp=Z,3.2nm,1.0s,baz=78,slow=5.9,SNR=3.7
CPUP Villa Florida 120.53 334 PKP PKPdf 04 21 24.6 -0.2
CPUP LR LR
comp=Z,373nm,20.0s,MS5.0
CFAA Coronel Fontan 126.10 345 PKP PKPdf 04 21 34.3 -1.0
comp=Z,0.5nm,0.7s,baz=314,slow=4.8,SNR=8.3
PLCA Paso Flores 135.26 347 PKP PKPdf 04 21 51.8 -0.7
comp=Z,3.2nm,0.8s,baz=8.3,slow=2.3,SNR=8.4
PLCA Paso Flores 135.26 347 PKIKP PKPdf 04 21 51.8 -0.7
PLCA pmax pmax
comp=Z,3.0nm,0.8s
USHA Ushuaia 149.31 344 PKPbc PKPdf 04 22 19.9 +3.7
comp=Z,26nm,1.0s,baz=63,slow=0.6,SNR=5.1
CASY Casey 151.41 169 *e*PKPbc PKPdf 04 22 24.2 +5.0
CASY LR LR
comp=Z,493nm,22.0s,MS5.3
MIR Mirnyy 151.60 184*c iP*KIKP PKPdf 04 22 24.8 +5.4
MIR pmax pmax
comp=Z,86nm,1.6s
MAW Mawson 153.37 209 PKPbc PKPdf 04 22 29.0 +7.1
comp=Z,11nm,1.0s,baz=12,slow=2.1,SNR=16
MAW PKPab PKPab 04 22 41.9 +0.6
comp=Z,19nm,0.9s,baz=350,slow=6.5,SNR=14
SYO Syowa Base 155.99 229⇓P PKPab 04 22 51.5 -0.9
VNA1 Neumayer--Stat 161.28 272⇑*iP* PKPab 04 23 15.9 +0.7
VNA1 Neumayer--Stat 161.28 272 *e* 04 23 21.8
VNA2 Neumayer--Watz 161.48 271⇑*iP* PKPab 04 23 16.2 +0.2
VNA2 Neumayer--Watz 161.48 271 *e* 04 23 23.0
SNAA Sanae 161.82 266⇑*iP* PKPab 04 23 17.6 +0.1
SNAA Sanae 161.82 266 *e* 04 23 23.6
SNAA Sanae 161.82 266 PKPbc PKPdf 04 22 42.7 +11
comp=Z,0.7nm,1.0s,baz=20,slow=3.0,SNR=4.8
SNAA PKPab PKPab 04 23 17.9 +0.4
comp=Z,3.3nm,1.1s,baz=27,slow=5.0,SNR=12
VNA3 Neumayer Olymp 161.98 273⇑*iP* PKPab 04 23 16.1 -2.1
VNDA Vanda 164.72 132 PKP PKPdf 04 22 35.6 +0.7
comp=Z,1.2nm,1.1s,baz=328,slow=3.5,SNR=2.4
VNDA PKPab PKPab 04 23 29.9 -0.2
comp=Z,3.4nm,1.0s,baz=320,slow=5.5,SNR=8.6

*IDC **06** 04:22:04.4±3.3, 5.50S×148.75E, h162km±29km, mb3.9/4, mb1 4.1/5, mb1mx3.6/12, mbtmp4.4/5, Error ellipse: s-maj=30.6km s-min=23.8km az=155.0*
ISC 06 04:22:03.8±3.1, 5.55N±0.2×148.7E±0.2, h172km±24km, n10, σ0:75/11, mb4.5/5, 3C, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.17**	**201**	P	**P**	**04 23 06.3**	**-1.3**
	16nm,0.3s,slow=7.1,SNR=26						
PMG				S	**S**	**04 23 58.0**	**+1.1**
	42nm,0.3s,baz=334,slow=14,SNR=10.0						
KAKA	**Kakadu**	**17.57**	**245**	⇑*iP*	**P**	**04 26 05.7**	**+6.2**
	16nm,0.3s						
WB2	**Warramunga Arr**	**20.02**	**223**	⇑*iP*	**P**	**04 26 25.3**	**+0.2**
WRA	**Warramunga Arr**	**20.03**	**223**	P	**P**	**04 26 25.5**	**+0.2**
	15nm,0.3s,baz=47,slow=10,SNR=201						
DZM	**Mont Dzumac**	**23.79**	**136**	P	**P**	**04 27 02.4**	**+0.3**
	6.6nm,0.7s,mb4.3,baz=297,slow=18,SNR=7.0						
FITZ	**Fitzroy Crossi**	**25.77**	**239**	⇑*iP*	**P**	**04 27 20.9**	**+0.3**
	17nm,0.3s,mb5.2						
FITZ				*e*		04 27 23.7	
FITZ	**Fitzroy Crossi**	**25.77**	**239**	P	**P**	**04 27 20.9**	**+0.3**
	134nm,0.5s,mb5.8,baz=39,slow=6.9,SNR=101						
STKA	**Stephens Creek**	**27.07**	**193**	P	**P**	**04 27 31.3**	**-1.1**
	2.3nm,0.9s,mb3.8,baz=24,slow=12,SNR=3.1						
KLBR	**Kellerberrin**	**38.90**	**224**	*eP*	**P**	**04 29 13.9**	**-0.4**
	40nm,1.4s,mb4.9						
ILAR	**Eielson Array**	**84.36**	**23**	P	**P**	**04 34 18.1**	**+0.7**
	1.8nm,0.6s,mb4.0,baz=252,slow=4.7,SNR=24						

*ISK **06** 04:39:55.6, 39.37N×33.13E, h7km, MD3.5*
*CSEM **06** 04:39:55.6, 39.37N×33.13E, h7km, MD3.5, After ISK*
ISC 06 04:39:56.1±0.3, 39.37N±0.03×33.11E±0.03, h7km, n34, σ0:87/50, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAMT	**Kaman**	**0.47**	**90**	*i*PG	**Pg**	**04 40 04.7**	**-0.9**
ANTO	**Ankara**	**0.56**	**334**	*i*PG	**Pg**	**04 40 06.9**	**-0.4**
ANTO				*i*SG	**Sg**	**04 40 15.2**	**+0.4**
ANTO	**Ankara**	**0.56**	**334**	*i*P	**Pg**	**04 40 07.3**	**0.0**
ANTO				*i*S	**Sg**	**04 40 15.7**	**+0.9**
LOD	**Lodumlu**	**0.59**	**333**	*i*PG	**Pg**	**04 40 07.7**	**-0.2**
CDAG	**Cicekdag**	**1.01**	**75**	*i*P	**Pb**	**04 40 13.3**	**-2.3**
CDAG				*i*S	**Sb**	**04 40 27.9**	**-1.0**
KIZT	**Kizilcal**	**1.07**	**243**	PN	**Pn**	**04 40 16.8**	**-0.7**
KDHN	**Kadinhani**	**1.15**	**223**	*i*P	**Pb**	**04 40 17.3**	**-0.5**
KDHN				*i*S	**Sb**	**04 40 33.2**	**+0.4**
ELDT	**Eldivan**	**1.15**	**12**	*i*P	**Pb**	**04 40 16.9**	**-1.0**
ELDT				*i*S	**Sb**	**04 40 32.1**	**-0.7**
CANT	**Cankiri**	**1.30**	**17**	PN	**Pn**	**04 40 20.6**	**-0.1**
CANT				SN	**Sn**	**04 40 38.9**	**+0.4**
CORM	**Corum**	**1.43**	**55**	PN	**Pn**	**04 40 22.2**	**-0.3**
CORM				SN	**Sn**	**04 40 42.0**	**+0.3**
SGKT	**Sivrigoynuk**	**1.45**	**326**	*i*P	**Pn**	**04 40 23.1**	**+0.2**
SGKT				*i*S	**Sb**	**04 40 46.2**	**+4.5**
AVNT	**Avonos**	**1.48**	**113**	*i*P	**Pn**	**04 40 23.7**	**+0.4**
AVNT				*i*S	**Sb**	**04 40 43.5**	**+1.0**
KONT	**Konya--Tatoy**	**1.54**	**203**	PN	**Pn**	**04 40 24.5**	**+0.4**
NIG	**Nigde**	**1.72**	**136**	*e*PN	**Pn**	**04 40 27.4**	**+0.7**
YOZ	**Yozgat**	**1.73**	**80**	PN	**Pn**	**04 40 27.3**	**+0.4**
ESKT	**Eskisehir**	**1.76**	**276**	PN	**Pn**	**04 40 27.2**	**-0.1**
ESKT	**Eskisehir**	**1.76**	**276**	*i*P	**Pn**	**04 40 28.0**	**+0.7**
ESKT				*i*S	**Sn**	**04 40 56.1**	**+6.0**
CTKT	**Corum**	**1.80**	**45**	*i*P	**Pn**	**04 40 28.5**	**+0.6**
CTKT				*i*S	**Sn**	**04 40 56.1**	**+4.9**
TOS	**Tosya**	**1.81**	**22**	PN	**Pn**	**04 40 28.0**	**0.0**
MDU	**Mudurnu**	**1.82**	**308**	*e*PN	**Pn**	**04 40 28.5**	**+0.3**
SAFT	**Safranbolu**	**1.90**	**350**	PN	**Pn**	**04 40 29.4**	**+0.1**
BORA	**Eskisehir**	**2.12**	**285**	*i*P	**Pn**	**04 40 32.4**	**-0.1**
BORA				*i*S	**Sg**	**04 41 07.7**	**+1.1**
BALT	**Daday**	**2.17**	**5**	*i*P	**Pn**	**04 40 35.6**	**+2.3**
BALT				*i*S	**Sn**	**04 41 06.0**	**+5.3**
BNN	**Bunyan**	**2.19**	**103**	*e*PN	**Pn**	**04 40 33.4**	**-0.1**
GPA	**Golpazari**	**2.34**	**294**	PN	**Pn**	**04 40 35.5**	**-0.2**
ALT	**Altintas**	**2.35**	**263**	*e*PN	**Pn**	**04 40 36.0**	**+0.2**
HDMB	**Hadim**	**2.45**	**192**	*e*PN	**Pn**	**04 40 36.9**	**-0.3**
BOYT	**Boyabat**	**2.47**	**33**	*i*P	**Pn**	**04 40 40.1**	**+2.6**
BOYT				*i*S	**Sn**	**04 41 13.2**	**+5.0**
BZK	**Bozkurt**	**2.68**	**14**	*e*PN	**Pn**	**04 40 40.4**	**-0.1**
TOKT	**Tokat**	**2.81**	**69**	*e*PN	**Pn**	**04 40 42.0**	**-0.4**
SVSK	**Karacayir**	**3.05**	**78**	*e*PN	**Pn**	**04 40 45.5**	**-0.3**
YLV	**Yalova**	**3.11**	**294**	*e*PN	**Pn**	**04 40 46.6**	**0.0**
ULDT	**Uludag**	**3.16**	**285**	*i*P	**Pn**	**04 40 55.2**	**+7.9**
ULDT				*i*S	**Sg**	**04 41 38.7**	**-2.7**
BTOK	**Tokmak**	**3.94**	**277**	*i*P	**Pg**	**04 41 11.4**	**-3.5**
BTOK				*i*S	**Sg**	**04 42 02.3**	**-5.2**

*IDC **06** 04:42:52.4±2.0, 15.79N×144.82E, mb4.2/8, mb1 4.3/8, mb1mx4.1/19, mbtmp4.2/8, MS4.1/1, Ms1 4.1/1, ms1mx3.0/29, Error ellipse: s-maj=86.5km s-min=17.4km az=77.0*
*BJI **06** 04:42:55.2, 16.15N×144.95E, h18km, mB5.1, mb4.8*
*NEIC **06** 04:42:56.5±2.4, 15.79N×145.05E, h35km±32km, mb4.5/3, Error ellipse: s-maj=40.2km s-min=8.2km az=78.0*
ISC 06 04:42:55.1±4.0, 15.8N±0.1×144.9E±0.4, h34km±48km, n18, σ0:60/17, mb4.4/13, MS4.1/1, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAPN	**Saipan**	**0.97**	**127**	*e*P	**P**	**04 43 12.4**	**0.0**
JNU	**Nakatsue**	**21.44**	**326**	P	**P**	**04 47 42.0**	**-0.5**
	14nm,1.0s,mb4.2,baz=106,slow=14,SNR=4.9						
MAJO	**Matsushiro**	**21.51**	**345**	*e*P	**P**	**04 47 42.3**	**-0.8**
MAT	**Matsushiro**	**21.51**	**345**	P	**P**	**04 47 43.8**	**+0.7**
MAT	**Matsushiro**	**21.51**	**345**	P	**P**	**04 47 44.0**	**+0.9**
	7.6nm,1.1s,mb4.0						
PMG	**Port Moresby**	**25.14**	**175**	P	**P**	**04 48 19.7**	**+0.9**
	16nm,0.8s,mb4.6,baz=350,slow=11,SNR=4.0						
WRAB	**Tennant Creek**	**37.00**	**197**	*e*P	**P**	**04 50 02.5**	**-1.0**
	4.8nm,0.7s,mb4.4						
WRA	**Warramunga Arr**	**37.02**	**197**	P	**P**	**04 50 03.8**	**+0.1**
	5.8nm,1.1s,mb4.3,baz=17,slow=9.3,SNR=9.0						
FITZ	**Fitzroy Crossi**	**38.68**	**210**	P	**P**	**04 50 17.7**	**+0.1**
	17nm,1.1s,mb4.7,baz=14,slow=9.3,SNR=4.7						
LZH	**Lanzhou**	**41.73**	**307**	*e*P	**P**	**04 50 43.5**	**+0.8**
LZH				AP	pP	04 50 53.5	+0.7
LZH				XP	sP	04 50 58.5	+1.4
LZH				AMB	AMB		
	comp=Z,30nm,1.5s,mb4.7						
SONM	**Songino Array**	**44.99**	**324**	P	**P**	**04 51 09.2**	**+0.2**
	comp=Z,3.3nm,1.0s,mb4.1,baz=132,slow=7.5,SNR=15						
SONM				PcP	PcP	04 52 50.4	+0.2
	comp=Z,1.3nm,1.0s,baz=153,slow=3.2,SNR=4.0						
STKA	**Stephens Creek**	**47.51**	**184**	P	**P**	**04 51 28.7**	**-0.4**
	comp=Z,1.6nm,0.8s,mb4.1,slow=5.1,SNR=2.1						
AFI	**Afiamalu**	**51.98**	**122**	LR	LR	05 13 05.4	
	comp=Z,166nm,19.1s,MS4.1,baz=12,slow=35						
WMQ	**Urumqi**	**55.69**	**313**	*e*P	**P**	**04 52 31.0**	**+0.5**
WMQ				AP	pP	04 52 42.0	+1.1
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
MKAR	**Makanchi Array**	**59.97**	**315**	P	**P**	**04 53 00.6**	**0.0**
	comp=Z,0.4nm,0.5s,mb3.7,baz=82,slow=8.6,SNR=7.0						
MKAR	**Makanchi Array**	**59.97**	**315**	P	**P**	**04 53 00.6**	**0.0**
KURK	**Kurchatov**	**62.96**	**319**	*e*P	**P**	**04 53 19.6**	**-1.0**
	comp=Z,16nm,1.4s,mb5.0						
BRTR	**Keskin Array B**	**95.60**	**314**	P	**P**	**04 56 18.4**	**+0.1**
	comp=Z,0.5nm,0.5s,mb4.2,baz=127,slow=7.2,SNR=4.8						

*MOS **06** 04:58:42.8±1.1, 51.57N×179.61E, h42km, mb4.3/11, Error ellipse: s-maj=21.0km s-min=14.9km az=115.2*
*NEIC **06** 04:58:43.3±1.2, 51.14N×179.60E, h49km±6km, mb4.1/2, ML3.8(AEIC), Error ellipse: s-maj=26.2km s-min=5.9km az=184.0*
*IDC **06** 04:58:45.8±4.2, 51.53N×179.59E, h53km±34km, mb3.7/11, mb1 3.9/12, mb1mx3.7/24, mbtmp4.0/12, ML3.9/1, MS3.3/1, Ms1 3.3/1, ms1mx2.6/39, Error ellipse: s-maj=42.5km s-min=16.0km az=180.0*
ISC 06 04:58:42.5±1.4, 51.3N±0.2×179.55E±0.08, h54km±8km, n49, σ0:89/48, mb4.0/15, MS3.2/1, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIMD	**Kanaga Island**	**2.07**	**75**	P	**P**	**04 59 15.3**	**-0.3**
KIKV	**Kanaga Island**	**2.14**	**72**	P	**P**	**04 59 16.5**	**0.0**
KIWB	**Kanaga Island**	**2.14**	**73**	*e*P	**P**	**04 59 17.3**	**+0.7**
GSMY	**Great Sitkin M**	**2.84**	**73**	P	**P**	**04 59 25.8**	**-0.8**
SMY	**Shemya**	**3.67**	**295**	P	**P**	**04 59 38.1**	**0.0**
ATKA	**Atka Island**	**4.00**	**74**	P	**P**	**04 59 42.2**	**-0.7**
FX1	**Attu Island--F**	**4.25**	**295**	P	**P**	**04 59 46.9**	**+0.5**
	23nm,0.3s,baz=225,slow=4.4,SNR=66						
FX1				S	**S**	**05 00 43.4**	**+8.1**
	42nm,0.3s,baz=50,slow=20,SNR=9.8						
FX1	**Attu Island--F**	**4.25**	**295**	*e*P	**P**	**04 59 47.2**	**+0.8**
FX1	**Attu Island--F**	**4.25**	**295**	P	**P**	**04 59 46.9**	**+0.5**
FX1				S	**S**	**05 00 43.4**	**+8.1**
FX1				pmax	pmax		
	comp=Z,23nm,0.3s						
FX1				smax			
	comp=E,42nm,0.3s						
SPU	**Mount Spurr**	**18.49**	**47**	*e*P	**P**	**05 02 57.6**	**+1.5**
ILAR	**Eielson Array**	**21.98**	**39**	P	**P**	**05 03 32.5**	**-0.5**
	comp=E,0.7nm,0.7s,mb3.2,baz=251,slow=11,SNR=7.3						
ILAR	**Eielson Array**	**21.98**	**39**	P	**P**	**05 03 32.5**	**-0.5**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
DAWY	**Dawson**	**24.89**	**43**	*e*P	**P**	**05 04 02.7**	**+1.5**
INK	**Inuvik**	**28.14**	**35**	P	**P**	**05 04 30.8**	**-0.4**
	comp=Z,0.8nm,0.6s,mb3.5,baz=128,slow=12,SNR=6.6						
INK				PcP	PcP	05 07 44.7	+0.4
	comp=Z,0.6nm,0.7s,baz=225,slow=10.0,SNR=3.6						
INK	**Inuvik**	**28.14**	**35**	P	**P**	**05 04 30.8**	**-0.4**
INK				PcP	PcP	05 07 44.7	+0.4
INK	**Inuvik**	**28.14**	**35**	P	**P**	**05 04 30.8**	**-0.3**
INK						05 07 44.7	
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KLR	**Kul'dur**	**30.21**	**285**	*e*P	**P**	**05 04 46.0**	**-3.7**
YKA	**Yellowknife Ar**	**36.05**	**46**	P	**P**	**05 05 40.1**	**-0.1**
	comp=Z,0.5nm,0.4s,mb3.8,baz=280,slow=7.9,SNR=3.5						
YKA	**Yellowknife Ar**	**36.05**	**46**	P	**P**	**05 05 40.1**	**-0.1**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BOD	**Bodaibo**	**37.20**	**306**	*e*P	**P**	**05 05 48.4**	**-1.5**
BOD				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.5						
YBH	**Yreka Blue Hor**	**39.92**	**81**	LR	LR	05 20 15.5	
	comp=Z,37nm,19.8s,MS3.2,baz=253,slow=32						
MCMT	**McKenzie Canyo**	**44.19**	**71**	*e*P	**P**	**05 06 46.9**	**-0.7**
BOZ	**Bozeman (W)**	**44.46**	**69**	*e*P	**P**	**05 06 49.2**	**-0.5**
	comp=Z,2.9nm,1.2s,mb3.9						
BOZ	**Bozeman (W)**	**44.46**	**69**	*e*P	**P**	**05 06 49.2**	**-0.5**
BOZ				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb3.9						
SONM	**Songino Array**	**45.76**	**296**	P	**P**	**05 07 01.4**	**+1.4**
	comp=Z,1.3nm,0.6s,mb4.0,baz=56,slow=8.5,SNR=14						
SONM	**Songino Array**	**45.76**	**296**	P	**P**	**05 07 01.4**	**+1.4**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZAK	**Zakamensk**	**46.11**	**300**	*e*P	**P**	**05 07 03.9**	**+1.2**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.0						
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.8						
BW06	**Boulder Array**	**47.33**	**71**	*e*P	**P**	**05 07 11.3**	**-1.1**
	comp=Z,3.8nm,1.0s,mb4.3						
PDAR	**Pinedale Array**	**47.33**	**71**	P	**P**	**05 07 12.0**	**-0.4**
	comp=Z,3.5nm,0.9s,mb4.3,baz=317,slow=4.5,SNR=31						
PV10	**Paradox Valley**	**50.33**	**75**	P	**P**	**05 07 35.8**	**+0.2**
SDCO	**Great Sand Dun**	**52.87**	**74**	P	**P**	**05 07 55.8**	**+1.0**
NVS	**Novosibirsk**	**53.50**	**314**	*e*P	**P**	**05 07 58.3**	**-0.9**
ARCES	**ARCESS Array B**	**58.01**	**350**	P	**P**	**05 08 30.0**	**-1.4**
	comp=Z,3.1nm,0.9s,mb4.3,baz=12,slow=8.3,SNR=5.3						
ARCES	**ARCESS Array B**	**58.01**	**350**	P	**P**	**05 08 30.0**	**-1.4**
ARCES	**ARCESS Array B**	**58.01**	**350**	P	**P**	**05 08 30.0**	**-1.4**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MKAR	**Makanchi Array**	**59.28**	**308**	P	**P**	**05 08 39.8**	**-0.7**
	comp=Z,1.3nm,0.5s,mb4.2,baz=51,slow=6.0,SNR=12						
MKAR	**Makanchi Array**	**59.28**	**308**	P	**P**	**05 08 39.8**	**-0.7**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TXAR	**Lajitas Array**	**59.70**	**80**	P	**P**	**05 08 45.2**	**+1.6**
	comp=Z,0.2nm,0.5s,mb3.4,baz=312,slow=5.9,SNR=5.9						
TXAR	**Lajitas Array**	**59.70**	**80**	P	**P**	**05 08 45.2**	**+1.6**
BVAR	**Borovoye Array**	**60.29**	**319**	P	**P**	**05 08 47.7**	**+0.3**
	comp=Z,2.7nm,0.6s,mb4.5,baz=54,slow=7.0,SNR=16						
BVAR	**Borovoye Array**	**60.29**	**319**	P	**P**	**05 08 47.7**	**+0.3**
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
NB2	**NORSAR Subarra**	**67.64**	**354**	P	**P**	**05 09 34.6**	**-0.5**
	comp=Z,1.6nm,0.7s,mb4.2,baz=9.0,slow=6.5						
NOA	**NORSAR Array B**	**67.64**	**354**	P	**P**	**05 09 35.2**	**+0.1**
	comp=Z,1.9nm,0.7s,mb4.2,baz=9.1,slow=6.4,SNR=7.9						
NOA	**NORSAR Array B**	**

FITZ	Fitzroy Crossi	21.41 188	P		P	05 17 55.0	-3.4
	6.0nm,0.9s,baz=355,slow=12,SNR=2.9						
WRA	Warramunga Arr	23.74 166	P		P	05 18 21.3	-0.2
	6.6nm,0.7s,baz=347,slow=10,SNR=34						
SONM	Songino Array	48.34 340	P		P	05 21 50.1	-1.8
	0.3nm,0.4s,baz=164,slow=7.8,SNR=4.0						
MKAR	Makanchi Array	58.99 325	P		P	05 23 08.3	-2.0
	1.4nm,0.5s,baz=118,slow=8.4,SNR=22						
BVAR	Borovoye Array	68.71 327	P		P	05 24 11.7	-2.4
	0.9nm,0.5s,baz=104,slow=6.1,SNR=5.6						

*IDC **06** 05:23:15.1±1.4, 10.12N×108.24E, mb4.0/6, mb1 4.2/6, mb1mx3.9/17, mbtmp4.0/6, MS3.9/9, Ms1 3.9/9, ms1mx3.6/30, Error ellipse: s-maj=94.3km s-min=23.2km az=59.0*

ISC 06 05:23:16.8±1.2, **10.20N**±0.08×**107.7E**±0.1, **h10**km, **n17**, σ0§**89**/12, **mb3.8**/6, **MS3.9**/9, **Vietnam**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UBT	Ubonrachathani	5.67	332	P	Sb	05 26 05.0	+0.5
SNG	Songkhla	7.66	247	P	Pn	05 25 11.0	-0.2
	138nm,0.8s						
KKTK	Khon Kaen	7.75	322	PN	Pg	05 25 52.0	+0.4
KKTK				SG	Sg	05 27 27.5	-7.5
NNT	Nongplab	8.20	288	P	P	05 25 19.5	+0.7
NST	Nakhon Sawan	9.20	307	P	Sn	05 27 14.0	-3.2
	138nm,1.0s						
JNU	Nakatsue	31.20	40	LR	LR	05 43 09.0	
	comp=Z,153nm,18.1s,MS3.7,baz=11,slow=39						
SONM	Songino Array	37.53	359	P	P	05 30 32.1	-0.7
	1.2nm,1.0s,mb3.6,baz=194,slow=7.1,SNR=5.7						
SONM				LR	LR	05 48 13.5	
	comp=Z,269nm,18.1s,MS4.1,baz=187,slow=40						
WRA	Warramunga Arr	39.79	139	P	P	05 30 46.9	-5.1
	1.7nm,0.8s,mb3.8,baz=320,slow=9.1,SNR=10						
MKAR	Makanchi Array	42.39	334	P	P	05 31 13.7	+0.6
	1.1nm,0.7s,mb3.6,baz=134,slow=8.6,SNR=9.3						
MKAR				LR	LR	05 50 30.7	
	comp=Z,143nm,19.9s,MS3.9,baz=181,slow=38						
NWAO	Narrogin (SRO)	43.83	168	LR	LR	05 49 37.5	
	comp=Z,180nm,20.9s,MS4.0,baz=179,slow=36						
ZAL	Zalesovo	47.32	342	P	P	05 31 51.5	-1.1
	2.0nm,0.3s,mb4.5,baz=308,slow=4.9,SNR=7.0						
ZAL				LR	LR	05 53 22.1	
	comp=Z,89nm,19.5s,MS3.7,baz=122,slow=38						
BVAR	Borovoye Array	52.20	332	P	P	05 32 29.7	-0.3
	0.3nm,0.4s,mb3.6,baz=146,slow=5.3,SNR=4.1						
STKA	Stephens Creek	52.91	144	LR	LR	05 56 58.1	
	comp=Z,158nm,21.3s,MS4.0,baz=202,slow=38						
FINES	FINESS Array B	77.12	331	LR	LR	06 11 42.2	
	comp=Z,60nm,18.0s,MS4.0,baz=134,slow=38						
ARCES	ARCESS Array B	77.79	339	LR	LR	06 14 02.1	
	comp=Z,102nm,18.4s,MS4.2,baz=79,slow=39						
NOA	NORSAR Array B	84.31	331	LR	LR	06 19 00.2	
	comp=Z,44nm,18.3s,MS3.9,baz=45,slow=40						
GERES	GERESS Array B	85.05	319	P	P	05 35 55.2	+1.1
	0.9nm,0.9s,mb3.9,baz=104,slow=4.0,SNR=5.0						

*BJI **06** 05:36:02.9, 7.69S×67.29E, h10km, mB5.1, mb4.6, Ms4.6, Msz4.2*
*IDC **06** 05:36:08.6±1.0, 7.17S×67.87E, mb4.1/9, mb1 4.2/9, mb1mx4.0/17, mbtmp4.1/9, MS3.8/7, Ms1 3.8/7, ms1mx3.6/20, Error ellipse: s-maj=33.1km s-min=23.9km az=54.0*
*NEIC **06** 05:36:10.5±0.3, 7.10S×67.88E, h10km, mb4.8/25, Error ellipse: s-maj=10.5km s-min=8.4km az=81.0*

ISC 06 05:36:09.0±0.5, **7.07S**±0.09×**67.84E**±0.10, **h10**km, (**h24**km±2.7km:**pP-P**), **n72**, σ0§**87**/54, **mb4.6**/34, **MS3.9**/8, **2C, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGAR	Diego Garcia	4.59	95	ePn	Pn	05 37 12.4	-7.7
PALK	Pallekele	19.17	42	P	P	05 40 29.9	-5.6
	19nm,1.2s						
ATD	Arta Tunnel	30.98	306	LR	LR	05 51 47.9	
	comp=Z,76nm,20.7s,MS3.3,baz=185,slow=30						
KMBO	Kilima Mbogo	31.06	280	LR	LR	05 52 21.4	
	comp=Z,152nm,21.6s,MS3.6,baz=89,slow=31						
LSZ	Lusaka	39.69	255	eP	P	05 43 43.9	+0.5
	13nm,1.2s,mb4.5						
LSZ				e		05 43 49.8	
LSA	Lhasa	42.88	30	eP	P	05 44 12.0	+2.5
	3.5nm,0.5s,mb4.3						
LSA				e		05 44 31.1	
BOSA	Boshof	45.52	237	LR	LR	06 00 51.6	
	comp=Z,154nm,18.6s,MS4.0,baz=148,slow=33						
KMI	Kunming	46.66	45	P	P	05 44 41.0	+1.1
KMI				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.6						
KSH	Kashi	46.95	9	eP	P	05 44 42.1	+0.1
KSH				eAP	pP	05 44 51.0	+6.0
KSH				eXP	sP	05 44 55.2	+9.0
KSH				AMB	AMB		
	comp=Z,90nm,2.6s,mb5.2						
AAK	Ala-Archa	49.83	6	eP	P	05 45 04.7	+0.4
	comp=Z,11nm,1.2s,mb4.8						
AAK				e		05 45 11.6	
MBWA	Marble Bar	52.01	111	P	P	05 45 12.4	-8.8
	comp=Z,86nm,2.1s,mb5.3						
MALT	Malatya	52.79	331	eP	P	05 45 28.1	+1.3
	comp=Z,7.6nm,1.4s,mb4.4						
WMQ	Urumqi	53.74	18	eP	P	05 45 33.0	-0.7
WMQ				XP	sP	05 45 40.0	+2.0
WMQ				PP	PP	05 47 36.0	-0.3
WMQ				S	S	05 53 05.0	-1.3
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,20nm,7.0s						
WMQ				LR	LR		
	comp=N,182nm,20.0s,MS4.2						
WMQ				LR	LR		
	comp=E,119nm,20.0s,MS4.2						
WMQ				LR	LR		
	comp=Z,181nm,20.0s,MS4.1						
GTA	Gaotai	54.90	30	eP	P	05 45 44.4	+2.1
GTA				AP	pP	05 45 49.1	+3.7
GTA				XP	sP	05 45 52.0	+5.5
GTA				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.4						
MKAR	Makanchi Array	55.14	12	P	P	05 45 42.7	-1.3
	comp=Z,1.6nm,0.7s,mb4.2,baz=205,slow=8.7,SNR=17						
MKAR				LR	LR	06 08 27.7	
	comp=Z,78nm,20.2s,MS3.8,baz=180,slow=35						
MKAR	Makanchi Array	55.14	12	P	P	05 45 42.7	-1.3
MKAR				LR	LR	06 08 27.7	
BRTR	Keskin Array B	56.27	329	P	P	05 45 51.6	-0.6
	comp=Z,4.1nm,1.0s,mb4.4,baz=140,slow=9.6,SNR=7.5						
KURK	Kurchatov	58.30	8	eP	P	05 46 05.5	-0.8
	comp=Z,15nm,0.9s,mb5.0						
KURK				e		05 46 11.7	
BRVK	Borovoye	59.93	2	P	P	05 46 15.4	-2.2
	comp=Z,6.3nm,1.3s,mb4.5						
BRVK				e		05 46 23.8	
ZAL	Zalesovo	62.43	11	P	P	05 46 33.8	-0.8
	comp=Z,1.2nm,0.4s,mb4.4,baz=275,slow=10,SNR=5.2						
ZAL				LR	LR	06 14 57.9	
	comp=Z,86nm,18.1s,MS4.0,baz=120,slow=37						
ARU	Arti	63.73	354	eP	P	05 46 42.5	-0.6
	comp=Z,4.1nm,0.4s,mb4.8						
ARU				e		05 46 49.5	
ARU				e		05 46 55.8	
SONM	Songino Array	64.36	28	P	P	05 46 47.8	+0.4
	comp=Z,2.1nm,0.9s,mb4.2,baz=218,slow=5.8,SNR=12						
SONM				LR	LR	06 14 10.1	
	comp=Z,178nm,21.7s,MS4.2,baz=250,slow=35						
SONM	Songino Array	64.36	28	P	P	05 46 47.8	+0.4
SONM				LR	LR	06 14 10.1	
WRA	Warramunga Arr	65.56	109	P	P	05 46 54.1	-1.4
	comp=Z,1.2nm,0.7s,mb4.0,baz=279,slow=5.8,SNR=10						
TLY	Talaya	66.07	23	P	P	05 46 59.2	+0.9
	comp=Z,2.7nm,0.8s,mb4.3						
AKASG	Malin Array Be	66.49	334	P	P	05 47 00.4	-0.6
	comp=Z,0.4nm,0.3s,mb3.9,baz=135,slow=5.2,SNR=5.7						
PGF	Pioggiola	72.71	319	eP	P	05 47 39.3	0.0
	comp=Z,40nm,1.4s,mb4.9						
KHC	Kasperske Hory	73.22	326	eP	P	05 47 42.5	+0.3
DBIC	Dimbokro	73.79	279	P	P	05 47 46.0	-0.2
	comp=Z,8.2nm,1.0s,mb4.6,baz=96,slow=10,SNR=3.7						
DBIC				LR	LR	06 19 48.6	
	comp=Z,59nm,21.0s,MS3.9,baz=131,slow=36						
DBIC	Dimbokro	73.79	279	P	P	05 47 45.5	-0.7
	comp=Z,7.3nm,1.0s,mb4.6						
DBIC				e		05 47 53.2	
LIC	Lamto	73.89	279	eP	P	05 47 45.4	-1.4
	comp=Z,71nm,1.4s,mb5.1						
SBF	Sospel	74.33	319	eP	P	05 47 48.9	+0.2
CLL	Collm	74.71	328	P	P	05 47 51.0	+0.2
CLL				i *SP	sP	05 47 58.0	+3.0
GRA1	Grafenberg Arr	74.83	326	eP	P	05 47 51.2	-0.3
	comp=Z,12nm,1.0s,mb4.8						
GRA1				epP	pP	05 47 59.1	+4.5
GRA1				e		05 48 05.4	
GRF	Grafenberg Arr	74.83	326	eP	P	05 47 51.2	-0.3
	comp=Z,12nm,1.0s,mb4.8						
GRF				epP	pP	05 47 59.1	+4.5
GRF				e		05 48 05.4	
MOX	Moxa	75.10	327	eP	P	05 47 52.0	-1.0
MBDF	Montbardon	75.13	320	eP	P	05 47 53.2	-0.1
	comp=Z,12nm,1.2s,mb4.4						
LPG	La Plagne	75.49	321	eP	P	05 47 56.0	+0.7
LPL	La Plagne	75.51	321	eP	P	05 47 56.4	+0.9
	comp=Z,23nm,1.2s,mb4.7						
SMRF	Simiane la Rot	75.59	319	eP	P	05 47 55.7	-0.2
	comp=Z,17nm,1.0s,mb4.6						
FINES	FINESS Array B	75.61	341	P	P	05 47 56.4	+0.7
	comp=Z,2.7nm,1.1s,mb4.1,baz=153,slow=9.3,SNR=3.6						
ORIF	Oris-en-Rattie	75.79	320	eP	P	05 47 56.8	-0.3
	comp=Z,19nm,1.1s,mb4.7						
ORIF				eR			
	comp=Z,61nm,23.0s						
CABF	La Chapelle	76.39	321	eP	P	05 48 01.2	+0.8
SNAA	Sanae	77.30	198	e	P	05 48 11.9	+6.9
SNAA	Sanae	77.30	198	↑iP	P	05 48 05.1	+0.1
SNAA				e		05 48 11.9	
MTLF	Montolieu	77.57	317	eP	P	05 48 07.0	0.0
	comp=Z,23nm,1.3s,mb4.6						
LOR	Lormes	78.05	321	eP	P	05 48 10.2	+0.6
	comp=Z,25nm,1.3s,mb4.7						
LOR				eR			
	comp=Z,48nm,22.0s						
SSF	Saint Saulge	78.19	321	eP	P	05 48 10.8	+0.5
	comp=Z,11nm,0.9s,mb4.5						
VNA2	Neumayer--Watz	78.55	199		P	05 48 04.9	-7.0
VNA2	Neumayer--Watz	78.55	199	e	P	05 48 12.5	+0.6
RJF	Les Rejaudoux	78.77	319	eP	P	05 48 13.4	-0.2
	comp=Z,21nm,1.1s,mb4.7						
RJF				eR			
	comp=Z,52nm,20.0s						
LFF	La Frestale	79.15	318	eP	P	05 48 15.8	+0.1
	comp=Z,32nm,1.2s,mb4.8						
VNA3	Neumayer Olymp	79.33	199	e	P	05 48 23.3	+7.1
VNA3	Neumayer Olymp	79.33	199	↑iP	P	05 48 16.8	+0.6
VNA3				e		05 48 23.3	
VNDA	Vanda	84.02	167	P	P	05 48 40.2	-0.3
	comp=Z,1.5nm,1.2s,mb4.0,baz=300,slow=6.8,SNR=3.7						
VNDA	Vanda	84.02	167	eP	P	05 48 40.3	-0.2
	comp=Z,4.8nm,1.3s,mb4.5						
VNDA				e		05 48 48.0	
PDAR	Pinedale Array	144.37	357	PKP	PKPdf	05 55 45.4	-3.4
	comp=Z,0.6nm,0.6s,baz=95,slow=3.4,SNR=6.1						
LRAL	Lakeview Retre	145.18	321	ePKPdf	PKPdf	05 55 48.5	-2.0
WDC	Whiskeytown Da	145.36	14	ePKPdf	PKPdf	05 55 48.0	-2.6
PHWY	Pilot Hill	145.39	351	ePKPdf	PKPdf	05 55 49.3	-1.3
DAU	Daniels Canyon	146.79	359	ePKPdf	PKPdf	05 55 53.4	+0.4
DUG	Dugway	147.01	1	ePKPdf	PKPdf	05 55 53.3	-0.1
SMCO	Snowmass	147.69	352	ePKPbc	PKPdf	05 55 56.2	+1.7
CMB	Columbia Colle	148.28	12	ePKPdf	PKPdf	05 55 54.3	-1.2
MSU	Marysvale	148.69	0	ePKPbc	PKPdf	05 55 59.2	+3.1
PV10	Paradox Valley	148.70	355	ePKPdf	PKPdf	05 55 55.8	-0.3
PV01	Paradox Valley	148.90	355	ePKPbc	PKPdf	05 55 59.0	+2.6
WMOK	Wichita Mounta	149.83	338	ePKPdf	PKPdf	05 55 59.5	+1.4
WMOK				ePKPbc	PKPdf	05 56 07.2	+9.1
WMOK				ePKPab	PKPab	05 56 14.7	+7.2
DAC	Darwin (Calif)	150.50	9	ePKPab	PKPab	05 56 10.3	0.0
NEN	Nelson	151.44	5	ePKPdf	PKPdf	05 55 59.8	-0.7
NEN				ePKPbc	PKPdf	05 56 05.9	+5.4
NEN				ePKPab	PKPab	05 56 13.3	-0.9
GSC	Goldstone	151.58	8	ePKPdf	PKPdf	05 56 02.2	+1.5
GSC				ePKPbc	PKPdf	05 56 06.6	+5.9
GSC				ePKPab	PKPab	05 56 14.1	-0.7
TXAR	Lajitas Array	156.45	341	PKPab	PKPab	05 56 35.0	-0.6
	comp=Z,2.1nm,1.1s,baz=63,slow=2.8,SNR=9.1						

*NEIC **06** 05:40:33.5, 36.14N×118.05W, ML4.3(PAS), After PAS.*
*IDC **06** 05:40:39.9±3.4, 36.22N×117.82W, h32km±26km, mb3.8/4, mb1 3.9/10, mb1mx3.7/27, mbtmp3.7/10, ML3.5/5, MS3.2/5, Ms1 3.2/5, ms1mx3.0/25, Error ellipse: s-maj=22.9km s-min=13.5km az=44.0*

ISC 06 05:40:32.6±0.4, **36.18N**±0.04×**118.03W**±0.04, **h10**km, **n59**, σ1§**23**/60, **mb3.8**/4, **MS3.0**/1, **Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAC	Darwin (Calif)	0.36	75	eP	Pg	05 40 40.6	+0.5
MTUM	Tungsten Hills	1.25	340	eP	Pb	05 40 56.5	+0.7
OMM	Old Mammoth Mi	1.63	332	eP	Pn	05 41 03.1	+1.6
PTRM	Twissleman Ran	1.85	254	eP	Pn	05 41 05.4	+0.7
MWC	Mount Wilson	1.95	181	eP	Pn	05 41 07.0	+0.9
TPH	Tonopah	2.00	19	eP	Pn	05 41 08.3	+1.4
LRV	Little Rabbit	2.43	277	ePn	Pn	05 41 12.3	-0.7
LDFC	Landfair	2.62	114	ePn	Pn	05 41 14.7	-1.0
NEN	Nelson	2.64	101	ePn	Pn	05 41 16.0	0.0
CMB	Columbia Colle	2.64	315	ePn	Pn	05 41 15.6	-0.5
SAO	San Andreas Ge	2.82	283	ePn	Pn	05 41 18.5	0.0
PFO	Pinyon Flat Ob	2.87	153	ePn	Pn	05 41 19.1	-0.2
BAR	Barrett	3.67	162	ePn	Pn	05 41 30.3	-0.3
SAC	San Andreas	3.79	293	ePn	Pn	05 41 31.6	-0.8
ARUT	Antelope Range	4.01	65	ePn	Pn	05 41 36.2	+0.7
BEKR	Beckwourth	4.12	334	ePn	Pn	05 41 36.1	-0.9
BMN	Battle Mountai	4.29	8	ePn	Pn	05 41 39.7	+0.2
NSHM	Saint Helena R	4.33	304	Pn	Pn	05 41 39.1	-0.9
HOPS	Hopland	4.89	307	Pn	Pn	05 41 47.5	-0.5
ELK	Elko	5.05	25	Pn	Pn	05 41 51.6	+1.3
	1.7nm,0.3s,baz=212,slow=11,SNR=133						
ELK				Pg	Pg	05 42 08.5	-5.0
	2.7nm,0.3s,baz=219,slow=14,SNR=14						
ELK				Lg		05 43 14.0	
	4.4nm,0.3s,baz=65,slow=9.7,SNR=7.8						
ELK				LR	LR	05 44 14.5	
	comp=Z,322nm,18.2s,baz=201,slow=43						
ELK	Elko	5.05	25	ePn	Pn	05 41 50.8	+0.4
MSU	Marysvale	5.21	62	ePn	Pn	05 41 53.8	+1.3
DUG	Dugway	5.74	44	ePn	Pn	05 41 58.4	-1.6
MOD	Modoc	5.98	343	Pn	Pn	05 42 02.3	-1.0
TMUT	Trail Mountain	6.23	58	Pn	Pn	05 42 06.9	-0.1
WVOR	Wild Horse Val	6.26	356	Pn	Pn	05 42 04.8	-2.6
SRU	San Rafael	6.63	62	Pn	Pn	05 42 11.2	-1.3
YBH	Yreka Blue Hor	6.64	328	Pn	Pn	05 42 16.4	+3.8
	0.2nm,0.3s,baz=172,slow=9.7,SNR=5.7						
YBH				Lg		05 43 55.6	
	0.3nm,0.3s,baz=176,slow=13,SNR=2.8						
YBH				LR	LR	05 44 55.4	
	comp=Z,115nm,18.9s,baz=186,slow=38						
SPUT	South Promonto	6.72	39	ePn	Pn	05 42 13.7	-0.2
JLU	Jordanelle	6.79	48	Pn	Pn	05 42 15.5	+0.7
DAU	Daniels Canyon	6.80	50	ePn	Pn	05 42 15.2	+0.3
HVU	Hansel Valley	6.93	35	Pn	Pn	05 42 14.7	-2.0
TUC	Tucson	7.13	121	ePn	Pn	05 42 16.0	-3.6
TCUT	Toone Canyon	7.15	44	Pn	Pn	05 42 18.0	-1.8
PV10	Paradox Valley	7.49	70	ePn	Pn	05 42 24.3	-0.3
PV01	Paradox Valley	7.80	73	Pn	Pn	05 42 28.3	-0.6
AHID	Auburn Hatcher	8.48	37	Pn	P	05 42 37.9	-0.5
RRI2	Red Ridge	8.82	34	ePn	P	05 42 41.7	-1.5
TPAW	Teton Pass	9.10	35	Pn	P	05 42 48.0	+0.9
SMCO	Snowmass	9.26	68	ePn	P	05 42 48.6	-0.6
PDAR	Pinedale Array	9.28	42	Pn	P	05 42 52.0	+2.6
	0.1nm,0.3s,baz=225,slow=8.4,SNR=13						
PDAR				Lg		05 45 25.9	
	0.1nm,0.3s,baz=218,slow=16,SNR=3.8						
LOHW	Long Hollow	9.36	35	Pn	P	05 42 52.2	+1.6
IMW	Indian Meadow	9.43	33	Pn	P	05 42 48.4	-3.2
MCMT	McKenzie Canyo	9.49	23	Pn	P	05 42 51.4	-1.0
ANMO	Albuquerque	9.50	94	Pn	P	05 42 54.5	+1.9
	baz=281,slow=13,SNR=4.6						
ANMO				Lg		05 45 32.9	
	baz=18,slow=19,SNR=2.9						
ANMO				LR	LR	05 46 54.0	
	comp=Z,222nm,18.3s,slow=40						
ANMO	Albuquerque	9.50	94	ePn	P	05 42 50.5	-2.1
SDCO	Great Sand Dun	10.14	77	Pn	P	05 43 01.7	+0.3
BOZ	Bozeman (W)	10.62	25	Pn	P	05 43 06.4	-1.5
CHMT	Chamberlain Mo	11.30	17	Pn	P	05 43 17.1	0.0
NEW	Newport	12.09	3	Pn	P	05 43 32.1	+4.2
	0.1nm,0.3s,baz=138,slow=14,SNR=2.7						
TXAR	Lajitas Array	13.87	115	Pn	P	05 43 55.1	+3.5
	0.1nm,0.3s,baz=295,slow=12,SNR=10						
TXAR				LR	LR	05 49 26.5	
	comp=Z,98nm,19.0s,baz=310,slow=38						
DGMT	Dagmar	15.95	35	Pn	P	05 44 21.1	+2.5
EDM	Edmonton	17.35	9	eP	P	05 44 37.2	+0.9
ULM	Lac du Bonnet	21.30	42	P	P	05 45 21.9	+0.4
	6.1nm,0.9s,mb4.0,baz=239,slow=10,SNR=4.1						
ULM	Lac du Bonnet	21.30	42	P	P	05 45 21.9	+0.4
DLBC	Dease Lake	23.63	344	P	P	05 45 48.0	+3.6
	2.3nm,0.9s,mb3.6,baz=164,slow=15,SNR=5.3						
YKA	Yellowknife Ar	26.42	4	P	P	05 46 13.0	+2.1
	2.1nm,0.9s,mb3.7,baz=185,slow=9.5,SNR=7.3						
YKA				LR	LR	05 58 46.8	
	comp=Z,36nm,18.2s,MS3.0,baz=220,slow=41						
YKA	Yellowknife Ar	26.42	4	P	P	05 46 13.0	+2.1
YKA				LR	LR	05 58 46.8	
ILAR	Eielson Array	33.41	338	P	P	05 47 15.7	+2.5
	2.0nm,0.8s,mb4.1,baz=150,slow=7.3,SNR=14						

NEIC 06 05:42:24.2, 36.15N×118.07W, h5km, ML3.5(PAS), **After PAS., Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAC	Darwin (Calif)	0.40	72	eP	Pg	05 42 31.5	-0.8
DAC				eS	Sg	05 42 37.3	-0.4
ISA	Isabella	0.59	214	eP	Pg	05 42 35.0	-1.0
MTUM	Tungsten Hills	1.27	342	eP	Pb	05 42 47.5	-0.6
OMM	Old Mammoth Mi	1.64	333	eP	Pn	05 42 54.4	+0.4
CMB	Columbia Colle	2.64	316	Pn	Pn	05 43 05.6	-2.6
PFO	Pinyon Flat Ob	2.86	152	Pn	Pn	05 43 10.4	-1.0

*MAN **06** 05:49:27.9, 5.73N×125.73E, h3km, mb4.5, ML3.4, MS3.3*
*IDC **06** 05:49:33.6±5.3, 5.93N×125.71E, h141km±50km, mb4.2/13, mb1 4.3/13, mb1mx4.1/21, mbtmp4.6/13, Error ellipse: s-maj=24.9km s-min=11.7km az=77.0*
*BJI **06** 05:49:35.3, 5.78N×125.68E, h162km, mB4.7, mb4.4*
*NEIC **06** 05:49:35.5±3.1, 5.83N×125.67E, h159km±30km, mb4.6/18, Error ellipse: s-maj=15.6km s-min=7.1km az=82.0*

ISC 06 05:49:30.2±0.5, **5.86N**±0.05×**125.79E**±0.06, **h123**km±5km, **n54**, σ1§**09**/57, **mb4.4**/28, **5D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	1.18	23	eP	P	05 49 54.0	-0.6
MATI				eS	S	05 50 11.2	-1.7
KCP	Kidapawan	1.34	329	↓eP	P	05 49 56.7	+0.3
KCP				i S	S	05 50 17.1	+0.8
CTBH	Cotabato--PC H	2.05	312	↓eP	P	05 50 04.6	-0.3
CTBH				i S	S	05 50 29.2	-1.9
BUKP	Musuan	2.13	340	eP	P	05 50 06.7	+0.7
BUKP				eS	S	05 50 34.9	+1.8
BIPH	Bislig	2.38	14	↓iP	P	05 50 09.8	+0.5
BIPH				i S	S	05 50 37.3	-1.4
CGP	Cagayan de Oro	2.80	337	↓eP	P	05 50 15.1	+0.3
CGP				eS	S	05 50 59.7	+11
BUTP	Butuan	3.10	357	eP	P	05 50 19.7	+1.0
PAGZ	Pagadian	3.10	310	eP	P	05 50 18.9	0.0
SCPH	Surigao	3.91	356	eP	P	05 50 30.3	+0.6
SNPH	Sibulan	4.29	324	eP	P	05 50 38.5	+3.7
TATO	Taipei	19.45	348	P	P	05 53 46.0	-3.7
	246nm,1.4s						
KAKA	Kakadu	19.60	160	eP	P	05 53 57.9	+6.7
	31nm,0.6s						
FITZ	Fitzroy Crossi	23.81	180	eP	P	05 54 34.0	+1.1
	31nm,0.6s,mb4.8						
FITZ	Fitzroy Crossi	23.81	180	P	P	05 54 34.1	+1.1
	35nm,0.6s,mb4.9,baz=3.9,slow=7.3,SNR=54						
PMG	Port Moresby	26.14	125	P	P	05 54 55.4	+0.4
	28nm,0.7s,mb4.8,baz=301,slow=7.3,SNR=6.4						
PMG	Port Moresby	26.14	125	eP	P	05 54 54.4	-0.7
	36nm,0.8s,mb4.8						
WRAB	Tennant Creek	26.98	162	eP	P	05 55 01.9	-0.6
	14nm,0.4s,mb4.8						
WRAB				e		05 55 07.7	
WRA	Warramunga Arr	26.98	162	P	P	05 55 02.0	-0.6
	6.3nm,0.9s,mb4.2,baz=333,slow=11,SNR=26						
WB2	Warramunga Arr	26.99	162	eP	P	05 55 02.1	-0.6
MBWA	Marble Bar	27.50	192	eP	P	05 55 06.2	-1.1
	4.9nm,0.6s,mb4.2						
JNU	Nakatsue	27.54	9	P	P	05 55 07.0	-0.6
	10nm,0.8s,mb4.4,baz=25,slow=13,SNR=6.5						
KMI	Kunming	29.23	313	P	P	05 55 24.9	+2.1
KMI				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.3						
KS15	Wonju Array Si	31.49	3	eP	P	05 55 44.7	+2.1
CTAO	Charters Tower	32.71	143	eP	P	05 55 54.2	+0.8
	comp=Z,11nm,0.9s,mb4.7						
KLBR	Kellerberrin	38.02	191

LDG.
CSEM **06** 06:13:20.0±0.1, 46.81N×3.45W, h2km, ML2.9/18, Error ellipse: s-maj=1.5km s-min=1.0km az=64.0

LDG 06 06:13:20.0±0.1, 46.81N×3.45W, h2km, Md2.8/3, Ml2.8/20, Error ellipse: s-maj=1.6km s-min=0.9km az=68.0, Bay of Biscay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUIF	**Quistinic**	**1.13**	**10**	*e*Pn	Pn	06 13 41.3	-1.4
QUIF				*e*Sg	Sg	06 13 56.2	-1.3
	38nm,0.1s						
ROSF	**Rostrenen**	**1.54**	**4**	*e*Pn	Pn	06 13 47.0	-1.5
ROSF				*e*Pg	Pg	06 13 48.7	-1.9
ROSF				*e*Sg	Sg	06 14 08.1	-3.0
	37nm,0.2s						
SGMF	**Saint Gilles**	**1.57**	**22**	*e*Pn	Pn	06 13 46.9	-2.1
SGMF				*e*Pg	Pg	06 13 49.5	-1.8
SGMF				*e*Sg	Sg	06 14 09.1	-3.2
	16nm,0.2s						
MFF	**Saint Martin d**	**2.28**	**94**	*e*Pn	Pn	06 13 57.2	-2.0
MFF				*e*Pg	Pg	06 14 02.9	-2.7
MFF				*e*Sg	Sg	06 14 31.8	-4.2
	9.4nm,0.2s						
GRR	**Gorron**	**2.36**	**47**	*e*Pn	Pn	06 13 57.6	-2.8
GRR				*e*Pg	Pg	06 14 03.7	-3.5
GRR				*e*Sg	Sg	06 14 34.5	-4.2
	9.0nm,0.2s						
FLN	**La Foliniere**	**2.80**	**45**	*e*Pn	Pn	06 14 03.5	-3.1
FLN				*e*Pg	Pg	06 14 12.0	-3.9
FLN				*e*Sn	Sn	06 14 36.1	-5.3
FLN				*e*Sg	Sg	06 14 47.5	-5.7
	15nm,0.3s						
LFF	**La Frestale**	**3.47**	**121**	*e*Pn	Pn	06 14 12.9	-3.3
LFF				*e*Sg	Sg	06 15 09.3	-6.3
	6.6nm,0.2s						
ELAN	**Lanestosa**	**3.58**	**180**	Pn	Pn	06 14 13.4	-4.2
	0.4nm,0.1s,SNR=4.0						
ELAN				Sn	Sn	06 14 51.5	-10
	1.0nm,0.3s,SNR=4.0						
ELAN	**Lanestosa**	**3.58**	**180**	P	Pn	06 14 13.4	-4.2
ELAN				S	Sn	06 14 51.5	-10
EARI	**Arriondas**	**3.72**	**200**	P	Pn	06 14 16.1	-3.6
	0.4nm,0.2s,SNR=4.0						
EARI				S	Sn	06 14 55.1	-10
	0.1nm,0.1s,SNR=7.9						
EARI	**Arriondas**	**3.72**	**200**	Pn	Pn	06 14 16.9	-2.8
	0.4nm,0.2s,SNR=4.0						
EARI				Sn	Sn	06 14 53.7	-11
	0.1nm,0.1s,SNR=7.9						
EARI	**Arriondas**	**3.72**	**200**	P	Pn	06 14 16.9	-2.8
EARI				S	Sn	06 14 53.7	-11
RJF	**Les Rejaudoux**	**3.77**	**112**	*e*Sn	Sn	06 14 59.2	-6.8
RJF				*e*Sg	Sg	06 15 18.0	-7.5
	4.7nm,0.2s						
EALK	**Alkurruntz**	**3.84**	**158**	Pn	Pn	06 14 17.6	-3.8
	0.6nm,0.1s,SNR=4.0						
EALK				Sn	Sn	06 15 02.3	-5.5
	1.2nm,0.2s,SNR=4.0						
EALK	**Alkurruntz**	**3.84**	**158**	P	Pn	06 14 17.6	-3.8
EALK				S	Sn	06 15 02.3	-5.5
TCF	**Toulx Ste Croi**	**3.94**	**96**	*e*Pn	Pn	06 14 19.8	-3.0
TCF				*e*Pg	Pg	06 14 32.9	-5.8
TCF				*e*Sn	Sn	06 15 02.7	-7.6
	2.3nm,0.2s						
TCF				*e*Sg	Sg	06 15 23.7	-7.5
TCF	**Toulx Ste Croi**	**3.94**	**96**	Pn	Pn	06 14 19.8	-3.0
TCF				Sn	Sn	06 15 02.7	-7.6
	1.1nm,0.2s						
TCF				Lg		06 15 23.7	
SJPF	**Ste Jean**	**4.02**	**156**	*e*Pn	Pn	06 14 20.3	-3.6
SJPF				*e*Sn	Sn	06 15 05.6	-6.6
	2.8nm,0.3s						
HYF	**Humbligny**	**4.19**	**81**	*e*Pn	Pn	06 14 22.9	-3.5
CAF	**Calviac**	**4.29**	**114**	*e*Pn	Pn	06 14 24.4	-3.4
CAF				*e*Sn	Sn	06 15 10.8	-8.3
	1.4nm,0.1s						
CAF				*e*Sg	Sg	06 15 34.9	-7.8
EPON	**Pontenova**	**4.36**	**218**	P	Pn	06 14 23.2	-5.5
	0.6nm,0.2s,SNR=7.9						
EPON				S	Sn	06 15 08.6	-12
	2.4nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**4.36**	**218**	Pn	Pn	06 14 23.2	-5.5
	0.6nm,0.2s,SNR=7.9						
EPON				Sn	Sn	06 15 08.1	-13
	2.4nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**4.36**	**218**	P	Pn	06 14 23.2	-5.5
EPON				S	Sn	06 15 08.1	-13
EPF	**Esparros**	**4.64**	**143**	*e*Pn	Pn	06 14 28.6	-4.1
EPF				*e*Sn	Sn	06 15 19.9	-8.0
EPF				*e*Sg	Sg	06 15 45.9	-8.5
	2.2nm,0.2s						
AVF	**Avril sur Loir**	**4.67**	**88**	*e*Pn	Pn	06 14 29.5	-3.7
AVF				*e*Sn	Sn	06 15 20.9	-8.0
AVF				*e*Sg	Sg	06 15 46.0	-10
	1.6nm,0.3s						
SSF	**Saint Saulge**	**4.77**	**84**	*e*Pn	Pn	06 14 30.9	-3.8
SSF				*e*Sn	Sn	06 15 22.8	-8.6
SSF				*e*Sg	Sg	06 15 49.5	-9.4
	2.0nm,0.5s						
EBIE	**Bielsa**	**4.85**	**147**	P	Pn	06 14 32.5	-3.2
	0.3nm,0.1s,SNR=7.9						
EBIE				S	Sn	06 15 25.2	-8.1
	0.3nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**4.85**	**147**	Pn	Pn	06 14 32.5	-3.2
	0.3nm,0.1s,SNR=7.9						
EBIE				Sn	Sn	06 15 26.0	-7.3
	0.3nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**4.85**	**147**	P	Pn	06 14 32.5	-3.2
EBIE				S	Sn	06 15 26.1	-7.3
SMF	**Signal de Mont**	**5.02**	**89**	*e*Pn	Pn	06 14 34.2	-3.9
SMF				*e*Sn	Sn	06 15 29.7	-7.8
	1.0nm,0.2s						
SMF				*e*Sg	Sg	06 15 56.9	-10
LOR	**Lormes**	**5.02**	**82**	*e*Pn	Pn	06 14 34.1	-4.0
LOR				*e*Pg	Pg	06 14 52.8	-7.4
LOR				*e*Sn	Sn	06 15 29.0	-8.6
LOR				*e*Sg	Sg	06 15 57.2	-10
	5.1nm,0.5s						
LOR	**Lormes**	**5.02**	**82**	Pn	Pn	06 14 34.1	-4.0
LOR				Sn	Sn	06 15 29.0	-8.6
LOR				Lg		06 15 57.2	
	2.5nm,0.5s						
MTLF	**Montolieu**	**5.30**	**129**	*e*Pn	Pn	06 14 38.1	-4.0
MTLF				*e*Sn	Sn	06 15 35.9	-8.8
	1.4nm,0.2s						
MTLF				*e*Sg	Sg	06 16 06.1	-10
ECAL	**Calabor**	**5.40**	**207**	P	Pn	06 14 36.6	-7.0
	0.3nm,0.1s,SNR=7.9						
ECAL				S	Sn	06 15 34.9	-12
	1.2nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**5.40**	**207**	Pn	Pn	06 14 36.6	-7.0
	0.3nm,0.1s,SNR=7.9						
ECAL				Sn	Sn	06 15 33.7	-14
	1.2nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**5.40**	**207**	P	Pn	06 14 36.6	-7.0
ECAL				S	Sn	06 15 33.7	-14
LASF	**Ste Croix**	**5.82**	**115**	*e*Pn	Pn	06 14 45.1	-4.4
LASF				*e*Pg	Pg	06 15 07.7	-8.5
LASF				*e*Sn	Sn	06 15 48.1	-10
	1.1nm,0.2s						
LASF	**Ste Croix**	**5.82**	**115**	Pn	Pn	06 14 45.1	-4.4
LASF				Sn	Sn	06 15 48.1	-10
	0.6nm,0.2s						
ELOB	**Lobios**	**5.94**	**215**	P	Pn	06 14 45.7	-5.4
	0.3nm,0.1s,SNR=7.9						
BAIF	**Baives**	**6.05**	**55**	*e*Pn	Pn	06 14 48.0	-4.6
BAIF				*e*Sn	Sn	06 15 54.1	-9.3
	1.3nm,0.3s						

IDC 06 06:35:43.8±4.4, 2.32N×98.25E, mb3.5/3, mb1 3.7/3, mb1mx3.5/17, mbtmp3.5/3, Error ellipse: s-maj=170.9km s-min=28.8km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.76**	**124**	P	P	06 43 35.0	-1.8
	0.7nm,0.4s,baz=305,slow=9.0,SNR=13						
SONM	**Songino Array**	**45.88**	**8**	P	P	06 44 08.7	-1.0
	0.2nm,0.2s,baz=191,slow=7.3,SNR=5.2						
MKAR	**Makanchi Array**	**46.43**	**345**	P	P	06 44 11.5	-2.6
	0.2nm,0.4s,baz=148,slow=8.9,SNR=3.8						

BJI **06** 06:38:31.4, 0.53N×98.15E, h34km, mB5.1, mb4.8, Ms4.7, Msz4.4
IDC **06** 06:38:32.3±0.5, 1.10N×97.96E, mb4.5/17, mb1 4.6/17, mb1mx4.5/21, mbtmp4.5/17, MS3.5/2, Ms1 3.5/2, ms1mx3.0/20, Error ellipse: s-maj=22.0km s-min=14.1km az=59.0
MOS **06** 06:38:35.8±0.8, 1.19N×98.05E, h33km, mb5.0/35, Error ellipse: s-maj=16.5km s-min=7.4km az=116.4
NEIC **06** 06:38:36.7±0.2, 1.05N×97.96E, h30km, mb4.9/25, Error ellipse: s-maj=6.9km s-min=5.0km az=224.0

ISC 06 06:38:35.5±0.3, 1.12N±0.05×98.05E±0.05, h32km, h32km±2.1km: pP-P, n136, σ0.93/123, mb4.8/59, MS3.8/5, 3C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**4.55**	**41**	P	**Pn**	**06 39 48.3**	**+4.4**
KULM	**Kulim**	**4.89**	**32**	*e*P	**Pn**	**06 39 51.7**	**+2.9**
KGM	**Kluang**	**5.35**	**80**	P	**Pn**	**06 39 59.0**	**+3.8**
KSM	**Kuching**	**12.26**	**88**	P	**P**	**06 41 30.5**	**-0.5**
KKM	**Kota Kinabalu**	**18.78**	**74**	*e*P	**P**	**06 42 54.9**	**+0.2**
KMI	**Kunming**	**24.29**	**10**	P	**P**	**06 43 53.5**	**+2.1**
KMI				AP		06 44 06.4	
KMI				S	**S**	**06 48 07.6**	**+2.4**
KMI				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.2						
KMI				LR	LR		
	comp=Z,247nm,16.1s,MS3.8						
PKI	**Pulchoki**	**28.96**	**336**	*e*P	**P**	**06 44 33.9**	**-0.5**
	comp=Z,17nm,0.7s,mb4.9						
GUN	**Gumba**	**29.08**	**337**	*e*P	**P**	**06 44 36.2**	**+0.7**
	comp=Z,67nm,0.5s,mb5.6						
DMN	**Daman**	**29.12**	**336**	*e*P	**P**	**06 44 36.2**	**+0.4**
	comp=Z,24nm,0.8s,mb5.0						
LSA	**Lhasa**	**29.18**	**348**	P	**P**	**06 44 37.8**	**+1.5**
LSA	**Lhasa**	**29.18**	**348**	*e*P	**P**	**06 44 37.4**	**+1.1**
	comp=Z,13nm,0.5s,mb4.9						
LSA	**Lhasa**	**29.18**	**348**	*e*P	**P**	**06 44 37.4**	**+1.1**
LSA				pmax	pmax		
	comp=Z,13nm,0.5s,mb4.9						
KKN	**Kakani**	**29.21**	**336**	*e*P	**P**	**06 44 37.1**	**+0.5**
	comp=Z,34nm,0.7s,mb5.2						
GKN	**Gorkha**	**29.66**	**336**	*e*P	**P**	**06 44 40.8**	**+0.1**
	comp=Z,18nm,0.5s,mb5.0						
KOLN	**Koldanda**	**29.90**	**334**	*e*P	**P**	**06 44 42.9**	**+0.1**
	comp=Z,28nm,0.8s,mb5.1						
MBWA	**Marble Bar**	**30.66**	**137**	*e*P	**P**	**06 44 50.1**	**+0.6**
	comp=Z,14nm,1.2s,mb4.7						
MBWA				*e*	pP	06 44 59.8	+0.7
ENH	**Enshi**	**30.97**	**19**	*e*P	**P**	**06 44 51.1**	**-1.1**
FITZ	**Fitzroy Crossi**	**33.20**	**126**	⇑*i*P	**P**	**06 45 10.4**	**-1.3**
	comp=Z,5.3nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**33.20**	**126**	P	**P**	**06 45 10.4**	**-1.4**
	comp=Z,8.9nm,0.7s,mb4.8,baz=148,slow=0.6,SNR=12						
NJ2	**Nanjing**	**36.50**	**30**	*e*P	**P**	**06 45 38.1**	**-1.8**
NJ2				AP	pP	06 45 47.4	-2.2
NJ2				XP	sP	06 45 51.1	-2.6
NJ2				S	**S**	**06 51 16.0**	**-3.2**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,60nm,5.0s						
NJ2				LR	LR		
	comp=Z,710nm,14.7s,MS4.6						
SSE	**Sheshan**	**37.00**	**34**	P	**P**	**06 45 41.6**	**-2.5**
SSE				AP	pP	06 45 50.5	-3.3
SSE				XP	sP	06 45 54.2	-3.7
SSE				S	**S**	**06 51 23.1**	**-3.8**
SSE				SS	SS	06 54 04.4	+7.5
SSE				AMB	AMB		
	comp=Z,50nm,0.7s,mb5.5						
SSE				AMB	AMB		
	comp=Z,1μm,4.7s						
GTA	**Gaotai**	**38.15**	**2**	*e*P	**P**	**06 45 54.4**	**+0.8**
GTA				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.4						
NWAO	**Narrogin (SRO)**	**38.40**	**154**	*e*P	**P**	**06 45 55.7**	**-0.1**
WRA	**Warramunga Arr**	**41.27**	**122**	P	**P**	**06 46 19.5**	**-0.2**
	comp=Z,3.8nm,0.4s,mb4.3,baz=303,slow=9.0,SNR=49						
WRA				PcP	PcP	06 48 18.9	+0.3
	comp=Z,1.3nm,0.5s,baz=314,slow=2.7,SNR=9.3						
WRA	**Warramunga Arr**	**41.27**	**122**	P	**P**	**06 46 19.5**	**-0.2**
WRA						06 48 18.9	
WRA				pmax	pmax		
	comp=Z,4.0nm,0.4s						
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRAB	**Tennant Creek**	**41.28**	**122**	*e*P	**P**	**06 46 19.6**	**-0.2**
	comp=Z,6.6nm,0.6s,mb4.4						
WRAB	**Tennant Creek**	**41.28**	**122**	*e*P	**P**	**06 46 19.6**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.5						
WB2	**Warramunga Arr**	**41.28**	**122**	*e*P	**P**	**06 46 19.5**	**-0.3**
WMQ	**Urumqi**	**43.51**	**349**	*e*P	**P**	**06 46 39.0**	**+1.2**
WMQ				PP	PP	06 48 23.0	+2.2
WMQ				S	**S**	**06 53 03.0**	**-0.9**
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
JNU	**Nakatsue**	**44.31**	**41**	P	**P**	**06 46 45.1**	**+0.7**
	comp=Z,12nm,0.8s,mb4.7,baz=188,slow=6.8,SNR=6.6						
KS15	**Wonju Array Si**	**45.41**	**34**	*e*P	**P**	**06 46 54.0**	**+0.8**
AAK	**Ala-Archa**	**46.42**	**336**	*e*P	**P**	**06 47 00.8**	**-0.2**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
SONM	**Songino Array**	**47.10**	**8**	P	**P**	**06 47 07.1**	**+0.8**
	comp=Z,3.3nm,0.4s,mb4.7,baz=190,slow=9.3,SNR=42						
SONM				PcP	PcP	06 48 38.2	0.0
	comp=Z,1.1nm,0.5s,baz=180,slow=3.8,SNR=4.2						
SONM	**Songino Array**	**47.10**	**8**	P	**P**	**06 47 07.1**	**+0.8**
SONM						06 48 38.2	
SONM				pmax	pmax		
	comp=Z,3.0nm,0.4s						
SONM				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**47.53**	**345**	P	**P**	**06 47 09.9**	**+0.1**
	comp=Z,6.7nm,0.6s,mb4.8,baz=159,slow=8.7,SNR=70						
MKAR				LR	LR	07 09 39.9	
	comp=Z,32nm,18.6s,MS3.3,baz=183,slow=39						
MKAR	**Makanchi Array**	**47.53**	**345**	*e*P	**P**	**06 47 09.7**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
GUMO	**Guam**	**47.95**	**73**	P	**P**	**06 47 05.9**	**-7.6**
	comp=Z,68nm,0.7s,mb5.8						
KKAR	**Karatay Array**	**48.51**	**333**	*e*P	**P**	**06 47 17.3**	**-0.1**
CN2	**Changchun**	**49.00**	**26**	*e*P	**P**	**06 47 21.3**	**+0.1**
CN2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.2						
TLY	**Talaya**	**50.60**	**5**	⇑*i*P	**P**	**06 47 34.5**	**+1.1**
TLY				*e*		06 49 23.0	
TLY				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
TLY				MLR	MLR		
	comp=Z,68nm,19.0s,MS3.7						
HIA	**Hailar**	**51.45**	**18**	*e*P	**P**	**06 47 40.0**	**+0.2**
	comp=Z,12nm,0.7s,mb4.9						
HIA				*e*		06 47 47.1	
HIA	**Hailar**	**51.45**	**18**	*e*P	**P**	**06 47 40.0**	**+0.2**
HIA				*e*		06 47 47.2	
HIA				pmax	pmax		
	comp=Z,12nm,0.7s						
CTAO	**Charters Tower**	**51.71**	**117**	*e*P	**P**	**06 47 42.5**	**+0.3**
CTAO				*e*	pP	06 47 51.4	-0.7
KURK	**Kurchatov**	**52.09**	**344**	*e*P	**P**	**06 47 44.1**	**-0.6**
	comp=Z,5.1nm,0.8s,mb4.5						
KURK	**Kurchatov**	**52.09**	**344**	P	**P**	**06 47 43.8**	**-0.9**
KURK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
STKA	**Stephens Creek**	**52.67**	**133**	P	**P**	**06 47 50.2**	**+0.9**
	comp=Z,2.7nm,0.8s,mb4.2,baz=279,slow=8.0,SNR=5.3						
STKA	**Stephens Creek**	**52.67**	**133**	P	**P**	**06 47 48.3**	**-1.0**
ZAL	**Zalesovo**	**53.77**	**350**	P	**P**	**06 47 56.3**	**-0.7**
	comp=Z,7.9nm,0.4s,mb5.0,baz=313,slow=4.6,SNR=9.6						
ZAL	**Zalesovo**	**53.77**	**350**	P	**P**	**06 47 56.3**	**-0.7**
ZAL				pmax	pmax		
	comp=Z,8.0nm,0.4s						
KLR	**Kul'dur**	**55.95**	**26**	*e*P	**P**	**06 48 09.2**	**-3.8**
VOSK	**Vostochnaya**	**56.16**	**341**	P	**P**	**06 48 12.7**	**-1.7**
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
BVAR	**Borovoye Array**	**56.61**	**340**	P	**P**	**06 48 16.3**	**-1.4**
	comp=Z,4.6nm,0.6s,mb4.7,baz=140,slow=8.2,SNR=25						
BVAR	**Borovoye Array**	**56.61**	**340**	P	**P**	**06 48 16.3**	**-1.4**
BVAR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
BRVK	**Borovoye**	**56.67**	**340**	P	**P**	**06 48 14.9**	**-3.2**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
BOD	**Bodaibo**	**57.94**	**10**	*e*P	**P**	**06 48 26.1**	**-0.9**
BOD				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8						
KMBO	**Kilima Mbogo**	**60.83**	**268**	P	**P**	**06 48 47.5**	**-0.1**
	comp=Z,0.6nm,0.2s,mb4.3,baz=219,slow=24,SNR=5.8						
KMBO				LR	LR	07 09 32.2	
	comp=Z,60nm,21.2s,MS3.7,baz=98,slow=31						
ARU	**Arti**	**63.59**	**337**	*e*P	**P**	**06 49 03.2**	**-2.2**
GOF	**Gofitskoye**	**65.17**	**320**	*e*P	**P**	**06 49 23.0**	**+7.2**
YAK	**Yakutsk**	**65.27**	**16**	⇓*i*P	**P**	**06 49 15.7**	**-0.5**
YAK				pmax	pmax		
	comp=Z,28nm,0.8s,mb5.3						
SOC	**Sochi**	**66.75**	**318**	*e*P	**P**	**06 49 23.5**	**-2.5**
SOC				*e*		06 49 48.9	
SOC				*e*S	S	06 58 15.6	+1.4
SOC				pmax	pmax		
	comp=N,6.0nm,0.6s						
SOC				pmax	pmax		
	comp=E,3.0nm,0.6s						
SOC				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb5.0						
TIXI	**Tiksi**	**73.12**	**10**	*e*P	**P**	**06 50 03.4**	**-0.9**
TIXI				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
OBN	**Obninsk**	**73.14**	**328**	P	**P**	**06 50 03.7**	**-1.0**
OBN				*e*		06 50 20.7	
OBN				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
SEY	**Seymchan**	**73.51**	**23**	⇑*i*P	**P**	**06 50 06.8**	**+0.1**
BOSA	**Boshof**	**75.47**	**240**	P	**P**	**06 50 18.1**	**-0.6**
	comp=Z,1.4nm,0.6s,mb4.1,baz=244,slow=16,SNR=5.4						
BOSA	**Boshof**	**75.47**	**240**	*e*P	**P**	**06 50 18.8**	**0.0**
	comp=Z,66nm,2.3s,mb5.2						
BOSA	**Boshof**	**75.47**	**240**	P	**P**	**06 50 18.1**	**-0.6**
BOSA				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
AKASG	**Malin Array Be**	**75.84**	**322**	P	**P**	**06 50 19.1**	**-1.3**
	comp=Z,1.2nm,0.4s,mb4.2,baz=87,slow=4.8,SNR=12						
AKASG	**Malin Array Be**	**75.84**	**322**	P	**P**	**06 50 19.1**	**-1.3**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**80.47**	**332**	P	**P**	**06 50 45.5**	**0.0**
	comp=Z,1.7nm,0.4s,mb4.3,baz=103,slow=5.9,SNR=27						
FINES	**FINESS Array B**	**80.47**	**332**	P	**P**	**06 50 45.5**	**0.0**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KAF	**Kangasniemi**	**80.54**	**333**	*e*p	**P**	**06 50 45.6**	**-0.3**
	comp=Z,2.8nm,0.4s,mb4.5						
KAF	**Kangasniemi**	**80.54**	**333**	*e*P	**P**	**06 50 45.6**	**-0.3**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.6						
ARCES	**ARCESS Array B**	**82.90**	**340**	P	**P**	**06 50 58.5**	**+0.5**
	comp=Z,4.8nm,0.8s,mb4.6,baz=93,slow=5.3,SNR=18						
ARCES	**ARCESS Array B**	**82.90**	**340**	P	**P**	**06 50 58.5**	**+0.5**
ARCES				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BRG	**Berggiesshubel**	**85.41**	**321**	*e*P	**P**	**06 51 11.5**	**+0.4**
BRG				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.4						
GERES	**GERESS Array B**	**85.43**	**319**	P	**P**	**06 51 12.1**	**+0.8**
	comp=Z,2.8nm,0.9s,mb4.4,baz=90,slow=4.0,SNR=15						
GERES	**GERESS Array B**	**85.43**	**319**	P	**P**	**06 51 12.1**	**+0.9**
GERES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
VNDA	**Vanda**	**85.58**	**169**	P	**P**	**06 51 12.8**	**+1.4**
	comp=Z,0.7nm,0.7s,mb4.0,baz=303,slow=5.5,SNR=5.2						
VNDA	**Vanda**	**85.58**	**169**	*e*P	**P**	**06 51 12.3**	**+1.0**
	comp=Z,0.7nm,0.8s,mb3.9						
VNDA				*e*	pP	06 51 24.7	+2.9
VNDA	**Vanda**	**85.58**	**169**	*e*P	**P**	**06 51 12.3**	**+0.9**
VNDA				*e*	pP	06 51 24.7	+2.9
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SBA	**Scott Base**	**86.67**	**169**	*e*P	**P**	**06 51 18.3**	**+1.5**
SBA				*e*		06 51 23.8	
GRA1	**Grafenberg Arr**	**87.10**	**320**	*e*P	**P**	**06 51 20.4**	**+1.0**
	comp=Z,5.0nm,0.9s,mb4.7						
GRF	**Grafenberg Arr**	**87.10**	**320**	*e*P	**P**	**06 51 20.4**	**+1.0**
	comp=Z,5.0nm,0.9s,mb4.7						
GRF	**Grafenberg Arr**	**87.10**	**320**	*e*P	**P**	**06 51 20.4**	**+1.0**
GRF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.7						
GRF	**Grafenberg Arr**	**87.10**	**320**	*e*P	**P**	**06 51 20.4**	**+1.0**
GRF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.7						
NB2	**NORSAR Subarra**	**87.49**	**331**	P	**P**	**06 51 20.9**	**-0.1**
	comp=Z,3.8nm,0.7s,mb4.7,baz=96,slow=4.6						
NB2	**NORSAR Subarra**	**87.49**	**331**	P	**P**	**06 51 20.9**	**-0.1**
NB2				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.8						
NOA	**NORSAR Array B**	**87.49**	**331**	P	**P**	**06 51 21.4**	**+0.3**
	comp=Z,3.6nm,0.8s,mb4.7,baz=96,slow=4.8,SNR=11						
NOA	**NORSAR Array B**	**87.49**	**331**	P	**P**	**06 51 21.4**	**+0.4**
NOA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
DAVOX	**Davos**	**87.94**	**317**	P	**P**	**06 51 24.3**	**+0.8**
	comp=Z,4.9nm,0.7s,mb4.9,baz=120,slow=8.1,SNR=11						
PGF	**Pioggiola**	**88.55**	**312**	*e*P	**P**	**06 51 27.0**	**+0.4**
SBF	**Sospel**	**89.68**	**314**	*e*P	**P**	**06 51 31.9**	**0.0**
	comp=Z,12nm,0.7s,mb5.1						
SBF	**Sospel**	**89.68**	**314**	*e*P	**P**	**06 51 31.9**	**0.0**
SBF				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb5.1						
CDF	**Champ du Feu**	**89.69**	**318**	*e*P	**P**	**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
LAO	**LASA Array**	**127.84**	**21**	*e*PKPdf	PKPdf	06 57 39.7	-4.0
LAO				*e*		06 57 47.2	
PDAR	**Pinedale Array**	**129.75**	**26**	PKP	PKPdf	06 57 44.0	-3.4
	comp=Z,0.4nm,0.5s,baz=141,slow=1.7,SNR=5.2						
PV10	**Paradox Valley**	**133.45**	**30**	*e*PKPdf	PKPdf	06 57 51.9	-2.6
TXAR	**Lajitas Array**	**143.29**	**33**	PKP	PKPdf	06 58 07.2	-5.3
	comp=Z,0.6nm,0.6s,baz=85,slow=0.7,SNR=13						
TXAR	**Lajitas Array**	**143.29**	**33**	PKP	PKPdf	06 58 07.2	-5.3
TXAR	**Lajitas Array**	**143.29**	**33**	PKIKP	PKPdf	06 58 07.2	-5.3
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BDFB	**Brasilia**	**143.54**	**245**	PKP	PKPdf	06 58 07.8	-5.5
	comp=Z,0.7nm,0.3s,baz=171,slow=5.8,SNR=3.6						
BDFB	**Brasilia**	**143.54**	**245**	PKIKP	PKPdf	06 58 07.8	-5.5
BDFB				pmax	pmax		
	comp=Z,1.0nm,0.3s						
JCT	**Junction City**	**144.28**	**27**	*e*PKPdf	PKPdf	06 58 08.8	-5.5
CPUP	**Villa Florida**	**145.51**	**221**	PKPbc	PKPbc	06 58 13.2	+1.4
	comp=Z,3.9nm,0.7s,baz=90,slow=2.8,SNR=16						
CPUP	**Villa Florida**	**145.51**	**221**	PKP2	PKPab	06 58 13.2	-0.3
CPUP				pmax	pmax		
	comp=Z,4.0nm,0.7s						
LRAL	**Lakeview Retre**	**145.70**	**8**	*e*PKPdf	PKPdf	06 58 12.8	-3.8
CFAA	**Coronel Fontan**	**147.02**	**202**	PKPbc	PKPdf	06 58 17.7	-1.2
	comp=Z,0.5nm,0.6s,baz=139,slow=3.5,SNR=15						
CFAA	**Coronel Fontan**	**147.02**	**202**	PKPbc	PKPdf	06 58 17.7	-1.2
SIV	**San Ignacio**	**154.66**	**233**	PKPbc	PKPdf	06 58 34.9	+4.2
	comp=Z,0.5nm,0.6s,baz=131,slow=6.6,SNR=4.2						
LPAZ	**La Paz**	**159.68**	**221**	PKP	PKPdf	06 58 34.6	-2.5
	comp=Z,1.1nm,0.9s,baz=30,slow=9.9,SNR=4.2						
LPAZ	**La Paz**	**159.68**	**221**	PKIKP	PKPdf	06 58 34.6	-2.5
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.9s						

IDC ***06*** *07:02:35.2±3.1, 33.85N×25.15E, mb3.7/1, mb1 3.8/3, mb1mx3.5/20, mbtmp3.6/3, ML4.1/2, Error ellipse: s-maj=49.1km s-min=21.6km az=61.0*
ATH ***06*** *07:02:39.7, 34.14N×25.14E, h25km, MD3.5/4*
NEIC ***06*** *07:02:39.7, 34.14N×25.14E, h25km, MD3.5(ATH), After ATH.*
CSEM ***06*** *07:02:39.7±0.1, 34.03N×25.30E, h30km, ML3.4, Error ellipse: s-maj=6.8km s-min=2.6km az=77.0*
HLW ***06*** *07:02:40.0, 34.17N×25.26E, h33km, Mb3.4*
ISC 06 07:02:39.9±0.6, 34.00N±0.04×25.20E±0.10, h45km±15km, n16, σ0§91/18, mb3.5/1, 1C-3D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
XRY	**Khrisi**	**0.96**	**25**	*e*PN	**P**	**07 02 56.5**	**-0.7**
GVD	**Gavdhos**	**1.24**	**312**	*e*P	**P**	**07 03 00.3**	**-0.9**
GVD	**Gavdhos**	**1.24**	**312**	*e*P	**P**	**07 03 00.3**	**-0.9**
NPS	**Neapolis**	**1.30**	**15**	*e*PN	**P**	**07 03 02.0**	**-0.1**
IDI	**Anoyia**	**1.31**	**349**	Pg	**P**	**07 03 02.1**	**-0.1**
	24nm,0.3s,baz=172,slow=18,SNR=74						
IDI				Lg		07 03 21.8	
	32nm,0.3s,baz=354,slow=19,SNR=11						
VAM	**Vamos**	**1.63**	**330**	*e*PN	**P**	**07 03 07.0**	**+0.3**
KARP	**Karpathos**	**2.23**	**46**	*e*PN	**P**	**07 03 16.6**	**+1.4**
SLUM		**2.50**	**180**	⇑P	**P**	**07 03 20.9**	**+1.8**
HMAT	**Matruh**	**3.31**	**151**	⇓P	**P**	**07 03 31.3**	**+0.7**
HMAT				S	**S**	**07 04 09.0**	**-0.1**
SWA1		**4.75**	**175**	⇓P	**P**	**07 03 51.6**	**+0.8**
SWA1				S	**S**	**07 04 43.6**	**-1.7**
SWA2		**4.75**	**177**	P	**P**	**07 03 51.4**	**+0.4**
GLL	**Jalalah**	**7.08**	**127**	P	**P**	**07 04 23.2**	**-0.3**
SUZ		**7.70**	**121**	⇓P	**P**	**07 04 30.4**	**-1.7**
AKASG	**Malin Array Be**	**16.95**	**9**	Pn	**P**	**07 06 34.5**	**-0.6**
	0.8nm,0.3s,baz=199,slow=10,SNR=6.5						
GERES	**GERESS Array B**	**17.12**	**333**	P	**P**	**07 06 37.4**	**0.0**
	0.2nm,0.3s,baz=148,slow=13,SNR=9.3						
MKAR	**Makanchi Array**	**44.39**	**56**	P	**P**	**07 10 48.5**	**+0.8**
	0.5nm,0.5s,mb3.5,baz=273,slow=6.9,SNR=8.7						

IDC ***06*** *07:21:13.3±0.9, 25.90S×70.98E, mb4.1/7, mb1 4.2/7, mb1mx4.0/18, mbtmp4.1/7, MS3.6/4, Ms1 3.5/4, ms1mx3.3/29, Error ellipse: s-maj=30.1km s-min=22.4km az=175.0*
NEIC ***06*** *07:21:14.9±0.6, 25.92S×70.98E, h10km, mb4.3/1, Error ellipse: s-maj=21.6km s-min=15.6km az=173.0*
ISC 06 07:21:13.1±0.7, 25.9S±0.2×71.0E±0.1, h10km, n13, σ0§78/10, mb4.0/8, MS3.6/4, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATP	**Matopo**	**39.35**	**269**	P	**P**	**07 28 45.2**	**+0.8**
	0.7nm,0.7s,mb3.5,baz=100,slow=9.5,SNR=4.7						
BOSA	**Boshof**	**40.58**	**256**	P	**P**	**07 28 54.8**	**+0.2**
	1.9nm,0.7s,mb3.9,baz=74,slow=7.4,SNR=4.9						
BOSA				LR	LR	07 44 12.9	
	comp=Z,56nm,18.2s,MS3.5,baz=104,slow=34						
NWAO	**Narrogin (SRO)**	**40.59**	**111**	LR	LR	07 42 44.1	
	comp=Z,82nm,20.4s,MS3.6,baz=203,slow=32						
KMBO	**Kilima Mbogo**	**40.82**	**302**	LR	LR	07 42 30.4	
	comp=Z,36nm,19.2s,MS3.2,baz=99,slow=31						
MAW	**Mawson**	**41.98**	**185**	LR	LR	07 42 23.6	
	comp=Z,180nm,20.4s,MS3.9,baz=65,slow=30						
FITZ	**Fitzroy Crossi**	**50.93**	**93**	P	**P**	**07 30 17.9**	**+1.0**
	3.5nm,0.9s,mb4.3,baz=277,slow=4.4,SNR=3.3						
WRA	**Warramunga Arr**	**58.13**	**98**	P	**P**	**07 31 09.9**	**+0.4**
	3.9nm,0.7s,mb4.5,baz=254,slow=7.2,SNR=24						
VNDA	**Vanda**	**65.05**	**166**	P	**P**	**07 31 54.0**	**-1.3**
	0.8nm,0.9s,mb3.8,baz=272,slow=7.6,SNR=4.3						
VNDA	**Vanda**	**65.05**	**166**	P	**P**	**07 31 54.0**	**-1.3**
MKAR	**Makanchi Array**	**73.10**	**8**	P	**P**	**07 32 44.4**	**-1.0**
	1.4nm,0.7s,mb4.0,baz=196,slow=6.3,SNR=16						
MKAR	**Makanchi Array**	**73.10**	**8**	P	**P**	**07 32 44.4**	**-1.0**
KURK	**Kurchatov**	**76.61**	**5**	*e*P	**P**	**07 33 04.9**	**-0.5**
	2.4nm,0.9s,mb4.1						
SONM	**Songino Array**	**80.02**	**23**	P	**P**	**07 33 24.5**	**+0.3**
	1.4nm,0.9s,mb3.9,baz=210,slow=5.4,SNR=5.7						

PRU ***06*** *07:23:33.9, 51.45N×16.10E*
WAR ***06*** *07:23:34.3, 51.45N×16.08E, h1km, ML2.6, Mining Induced*
ISC 06 07:23:31.3±0.9, 51.47N±0.05×16.10E±0.05, n11, σ1§08/25, 2D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.64**	**169**	⇓*i*PG	**Pg**	**07 23 45.7**	**+1.7**
KSP				⇓*e*SG	**Sg**	**07 23 54.7**	**+2.2**
KSP	**Ksiaz**	**0.64**	**169**	*e*Pg	**Pg**	**07 23 45.7**	**+1.6**
KSP				*e*Sg	**Sg**	**07 23 54.6**	**+2.0**
UPC	**Upice**	**0.96**	**183**	*e*PG	**Pg**	**07 23 51.5**	**+1.0**
DPC	**Dobruska-Polom**	**1.13**	**173**	*e*PG	**Pg**	**07 23 54.5**	**+0.7**
DPC				*e*SG	**Sg**	**07 24 08.9**	**0.0**
PVCC	**Panska Ves**	**1.35**	**226**	*e*PG	**Pg**	**07 23 58.8**	**+0.6**
PRU	**Pruhonice**	**1.78**	**214**	*e*PN	**Pn**	**07 24 04.6**	**+1.0**
PRU				*e*PG	**Pg**	**07 24 06.4**	**-0.4**
PRU				*e*x	x	07 24 09.9	
PRU				*e*x	x	07 24 23.3	
PRU				*e*SG	**Sg**	**07 24 29.4**	**-1.2**
	7.1nm,0.3s						
CLL	**Collm**	**1.94**	**266**	*e*PN	**Pn**	**07 24 06.0**	**+0.1**
CLL				*i* PG	**Pg**	**07 24 09.4**	**-0.7**
CLL				*e*SG	**Sg**	**07 24 36.0**	**0.0**
OKC	**Ostrava-Krasne**	**2.09**	**141**	*e*PG	**Pg**	**07 24 12.3**	**-0.7**
OKC				*e*SG	**Sg**	**07 24 39.5**	**-1.4**
	20nm,0.8s						
NKC	**Novy Kostel**	**2.62**	**243**	*e*PN	**Pn**	**07 24 16.6**	**+1.0**
NKC				*e*PG	**Pg**	**07 24 22.9**	**-0.7**
NKC				*e*SG	**Sg**	**07 24 58.5**	**-0.1**
	14nm,0.2s						
OJC	**Ojcow**	**2.66**	**117**	*e*PG	**Pg**	**07 24 24.0**	**-0.4**
OJC				*e*SG	**Sg**	**07 24 59.0**	**-0.8**
KHC	**Kasperske Hory**	**2.84**	**216**	*e*PN	**Pn**	**07 24 20.0**	**+1.3**
KHC				*e*PG	**Pg**	**07 24 25.4**	**-2.6**
KHC				*e*SN	**Sn**	**07 24 54.5**	**+0.3**
KHC				*e*SG	**Sg**	**07 25 02.9**	**-3.0**
	4.0nm,0.4s						

CRAAG ***06*** *07:36:16.0, 17.36S×69.52W, Mb5.7*
CSEM ***06*** *07:36:17.4, 16.93S×69.41W, h30km, mb5.6*
LDG ***06*** *07:36:26.6±0.4, 16.93S×69.29W, h112km, Mb5.5/42, Ms4.2/6, Error ellipse: s-maj=24.2km s-min=8.1km az=67.0*
IDC ***06*** *07:36:28.9±0.5, 17.38S×69.51W, h136km±4km, mb5.1/24, mb1 5.2/25, mb1mx5.2/26, mbtmp5.6/25, MS4.3/7, Ms1 4.2/7, ms1mx3.8/25, Error ellipse: s-maj=13.4km s-min=8.7km az=71.0*
BJI ***06*** *07:36:29.4, 17.40S×69.50W, h130km, mB5.6*
HRVD ***06*** *07:36:29.4±0.2, 17.58S×69.74W, h149km±1km, MW5.4/68, Centroid moment Tensor Solution. LP body waves: s62,c115;Mantle waves: s68,c154; Half duration: 1§2 Moment tensor: Scale 10^17Nm; Mrr-0.89±.03; Mθθ-0.11±.03; Mφφ 1.00±.04; Mrθ 0.85±.02; Mφφ-0.31±.03; Mφr-0.61±.03; Best double couple: M0 1.444×10^17 NP1: φs190°, δ30°, λ-43°. NP2:φs319°, δ70°, λ-113°. Principal axes: T 1.402, Plg22°, Azm66°; N .083, Plg21°, Azm327°; P -1.485, Plg59°, Azm197°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***06*** *07:36:29.4±0.1, 17.36S×69.48W, mb5.4/189, MW5.3 Error ellipse: s-maj=4.4km s-min=3.3km az=210.0, Moment Tensor Solution. s11 Moment tensor: Scale 10^17 Nm; Mrr 0.00; Mθθ 0.00; Mφφ 0.00; Mrθ 0.00; Mφr 0.00; Best double couple: M0 1×10^17 NP1:φs188°, δ26°, λ-54°. NP2:φs329°, δ69°, λ-106°. Principal axes: T 1.13, Plg23°, Azm71°; N -.18, Plg15°, Azm335°; P -.95, Plg62°, Azm214°;*
MOS ***06*** *07:36:29.8±1.0, 17.09S×69.57W, h147km, mb5.5/90 Error ellipse: s-maj=7.3km s-min=5.0km az=78.6*
ISC 06 07:36:27.9±0.1, 17.40S±0.03×69.57W±0.03, h141km, h141km±1.0km: pP-P, n671, σ1§06/543, mb5.2/213, 50C-35D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**1.77**	**51**	P	**P**	**07 37 03.1**	**+3.0**
	2μm,0.3s,baz=234,slow=7.2						
LPAZ				S	**S**	**07 37 27.9**	**+3.2**
	84nm,0.3s,baz=343,slow=22,SNR=8.4						
LPAZ				LR	LR	07 37 46.4	
	comp=Z,12μm,18.4s,baz=162,slow=45						
LPAZ	**La Paz**	**1.77**	**51**	⇑*e*P	**P**	**07 37 03.1**	**+3.0**
LPAZ	**La Paz**	**1.77**	**51**	P	**P**	**07 37 03.1**	**+3.0**
LPAZ				S	**S**	**07 37 28.0**	**+3.2**
LPAZ				smax			
	comp=E,84nm,0.3s						
ARE	**Arequipa**	**2.06**	**297**	⇑*i*P	**P**	**07 37 03.0**	**-0.6**
ARE				*e*S	**S**	**07 37 30.0**	**-1.0**
LVC	**Limon Verde**	**5.22**	**173**	P	**P**	**07 37 42.6**	**-2.5**
	comp=E,274nm,0.3s,baz=346,slow=8.8,SNR=1706						
LVC				S	**S**	**07 38 37.3**	**-7.4**
	comp=E,822nm,0.3s,baz=151,slow=19,SNR=36						
LVC	**Limon Verde**	**5.22**	**173**	*e*P	**P**	**07 37 42.6**	**-2.4**
LVC				*i* S	**S**	**07 38 36.6**	**-8.1**
LVC	**Limon Verde**	**5.22**	**173**	*e*P	**P**	**07 37 43.0**	**-2.0**
	comp=E,3μm,0.4s						
SPCH	**San Pedro de A**	**5.63**	**167**	*e*P	**P**	**07 37 48.8**	**-1.7**
SPCH				*i* S	**S**	**07 38 50.2**	**-4.3**
ANCH	**Antofagasta**	**6.30**	**187**	⇑*i*P	**P**	**07 37 54.0**	**-5.5**
ANCH				*i* S	**S**	**07 38 56.5**	**-14**
SIV	**San Ignacio**	**8.26**	**81**	P	**P**	**07 38 23.8**	**-2.1**
	comp=E,554nm,0.3s,baz=270,slow=11,SNR=847						
NNA	**Nana**	**8.86**	**306**	*e*P	**P**	**07 38 30.6**	**-3.2**
	comp=E,105nm,0.4s						
CPCH	**Copiapo**	**9.94**	**184**	*e*P	**P**	**07 38 40.4**	**-7.7**
CPCH				*i* S	**S**	**07 40 22.8**	**-15**
SAML	**Samuel**	**10.45**	**37**	⇑*e*P	**P**	**07 38 53.1**	**-1.9**
	comp=E,13nm,1.2s						
CFAA	**Coronel Fontan**	**14.19**	**175**	P	**P**	**07 39 38.4**	**-5.2**
	comp=E,2.4nm,0.3s,baz=355,slow=13,SNR=376						
CPUP	**Villa Florida**	**14.41**	**130**	P	**P**	**07 39 43.2**	**-3.1**
	comp=E,0.9nm,0.3s,baz=322,slow=12,SNR=32						
CPUP	**Villa Florida**	**14.41**	**130**	*e*P	**P**	**07 39 43.2**	**-3.2**
	comp=E,1.3nm,0.4s						
CPUP	**Villa Florida**	**14.41**	**130**	P	**P**	**07 39 43.3**	**-3.1**
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MDZ	**Mendoza**	**15.43**	**178**	*e*P	**P**	**07 39 57.7**	**-1.4**
LPA	**La Plata**	**20.29**	**151**	*de*P	**P**	**07 40 53.0**	**-1.4**
LPA				*es*P		07 41 33.0	
LPA				*e*S	**S**	**07 44 32.0**	**+3.1**
LPA				*e*S	**S**	**07 44 39.0**	**+10**
LPA				*e*SCS	ScS	07 52 10.0	+3.9
BDFB	**Brasilia**	**20.74**	**88**	P	**P**	**07 40 57.6**	**-1.4**
	comp=Z,284nm,0.5s,baz=268,slow=10,SNR=78						
BDFB	**Brasilia**	**20.74**	**88**	P	**P**	**07 40 57.6**	**-1.4**
BDFB				pmax	pmax		
	comp=Z,285nm,0.5s						
BAO	**Brasilia Array**	**20.76**	**88**	P	**P**	**07 40 58.0**	**-1.2**
TRQA	**Tornquist**	**21.63**	**164**	*e*P	**P**	**07 41 06.0**	**-1.6**
	comp=Z,426nm,1.2s,mb5.8						
ROSC	**El Rosal**	**22.61**	**348**	P	**P**	**07 41 18.1**	**+0.6**
	comp=Z,23nm,0.7s,mb4.7,baz=89,slow=13,SNR=11						
PLCA	**Paso Flores**	**23.27**	**182**	P	**P**	**07 41 23.2**	**-0.4**
	comp=Z,287nm,0.7s,mb5.8,baz=359,slow=11,SNR=544						
PLCA				PcP	PcP	07 45 08.1	-0.5
	comp=Z,31nm,0.9s,baz=358,slow=3.8,SNR=5.0						
PLCA				ScP		07 48 34.8	
	comp=Z,8.9nm,1.1s,baz=315,slow=4.7,SNR=3.8						
PLCA	**Paso Flores**	**23.27**	**182**	*e*P	**P**	**07 41 23.3**	**-0.3**
	comp=Z,225nm,0.8s,mb5.7						
PLCA				*e*PcP	PcP	07 45 08.1	-0.5
PLCA	**Paso Flores**	**23.27**	**182**	P	**P**	**07 41 23.2**	**-0.4**
PLCA						07 45 08.1	
PLCA				pmax	pmax		
	comp=Z,287nm,0.7s						
PLCA				pmax	pmax		
	comp=Z,31nm,0.9s						
PLCA				pmax	pmax		
	comp=E,9.0nm,1.1s						
SDV	**Santo Domingo**	**26.14**	**358**	P	**P**	**07 41 48.9**	**-2.0**
	comp=E,38nm,0.4s,mb5.3,baz=191,slow=4.8,SNR=38						
SDV	**Santo Domingo**	**26.14**	**358**	*e*P	**P**	**07 41 48.1**	**-2.8**
	comp=E,45nm,0.6s,mb5.3						
CAM3	**Guarapari**	**27.63**	**102**	*i*	**P**	**07 42 05.3**	**+0.7**
TBH	**Brigand Hill**	**28.95**	**17**	*e*P	**P**	**07 42 16.4**	**+0.1**
TRN	**Trinidad (W)**	**29.01**	**17**	*e*P	**P**	**07 42 15.8**	**-1.2**
GRW	**Mount Saint Ca**	**30.39**	**15**	*e*P	**P**	**07 42 28.6**	**-0.5**
GRHS	**Sauteurs**	**30.46**	**15**	*e*P	**P**	**07 42 29.0**	**-0.8**
JTS	**JuntasAbangare**	**31.44**	**330**	P	**P**	**07 42 37.1**	**-1.3**
	comp=E,10nm,0.5s,mb4.8,baz=115,slow=6.2,SNR=14						
JTS	**JuntasAbangare**	**31.44**	**330**	*e*P	**P**	**07 42 37.9**	**-0.4**
	comp=E,19nm,0.8s,mb4.9						
JTS	**JuntasAbangare**	**31.44**	**330**	*e*P	**P**	**07 42 37.9**	**-0.4**
JTS				pmax	pmax		
	comp=Z,19nm,0.8s						
BBL	**Barber's Block**	**33.68**	**14**	*e*P	**P**	**07 42 53.5**	**-4.1**
TBG	**Guadaloupe-3**	**33.95**	**14**	*e*P	**P**	**07 42 55.9**	**-4.1**
LZG	**Guadaloupe-1**	**34.20**	**13**	*e*P	**P**	**07 42 56.9**	**-5.2**
DEG	**La Desirade**	**34.53**	**15**	*e*P	**P**	**07 42 59.4**	**-5.5**
SJG	**San Juan**	**35.45**	**6**	P	**P**	**07 43 09.6**	**-3.0**
	comp=Z,105nm,0.5s,mb5.7,baz=176,slow=4.7,SNR=55						
SJG				pP	pP	07 43 43.8	+0.2
	comp=Z,142nm,0.9s,baz=250,slow=3.0,SNR=9.6						
SJG	**San Juan**	**35.45**	**6**	P	**P**	**07 43 09.6**	**-3.0**
SJG				*PP	pP	07 43 43.8	+0.2
SJG				pmax	pmax		
	comp=Z,105nm,0.5s						
SJG				pmax	pmax		
	comp=Z,142nm,0.9s						
USHA	**Ushuaia**	**37.37**	**179**	P	**P**	**07 43 27.7**	**-0.6**
	comp=Z,104nm,0.7s,mb5.6,baz=352,slow=6.2,SNR=53						
USHA				PcP	PcP	07 45 44.0	-0.9
	comp=Z,38nm,0.8s,baz=318,slow=3.8,SNR=6.1						
RPN	**Rapa Nui**	**37.92**	**248**	P	**P**	**07 43 33.2**	**0.0**
	comp=Z,190nm,1.1s,mb5.6,baz=88,slow=3.3,SNR=4.3						
RPN				LR	LR	07 56 04.5	
	comp=Z,1μm,18.3s,baz=113,slow=31						
DWPF	**Disney**	**46.68**	**346**	*e*P	**P**	**07 44 42.7**	**-1.6**
	comp=Z,19nm,0.6s,mb4.9						
PMSA	**Palmer Station**	**47.48**	**177**	*e*P	**P**	**07 44 49.9**	**-0.1**
	comp=Z,85nm,0.7s,mb5.5						
BBSR	**BB Station**	**49.71**	**5**	*e*P	**P**	**07 45 05.3**	**-2.4**
	comp=Z,42nm,0.8s,mb5.1						
RGRS	**Roger Stewart**	**51.05**	**348**	*e*P	**P**	**07 45 16.1**	**-1.8**
NHSC	**New Hope**	**51.24**	**349**	*e*P	**P**	**07 45 17.3**	**-2.0**
	comp=Z,70nm,0.9s,mb5.3						
NHSC				*e*PcP	PcP	07 46 31.9	-0.6
COW	**Cow Castle Cre**	**51.60**	**348**	*e*P	**P**	**07 45 19.8**	**-2.3**
JSC	**Jenkinsville**	**52.59**	**348**	*e*P	**P**	**07 45 27.3**	**-2.0**
JSC				*e*pP	pP	07 46 00.3	-1.8
JSC				*e*PcP	PcP	07 46 37.2	-0.4
LRAL	**Lakeview Retre**	**52.85**	**342**	*e*P	**P**	**07 45 28.9**	**-2.4**
	comp=Z,12nm,0.4s,mb5.0						
MYNC	**Murphy**	**53.99**	**345**	*e*P	**P**	**07 45 37.0**	**-2.6**
	comp=Z,12nm,0.5s,mb4.9						
MYNC				*e*PcP	PcP	07 46 42.5	-0.4
MYNC	**Murphy**	**53.99**	**345**	*e*P	**P**	**07 45 37.0**	**-2.6**
MYNC				*e*		07 46 42.5	
MYNC				pmax	pmax		
	comp=Z,12nm,0.5s,mb4.9						
CPCT	**Cooper Cave**	**54.44**	**345**	*e*P	**P**	**07 45 40.3**	**-2.7**
CPCT				*e*PcP	PcP	07 46 43.9	-0.7
NATX	**Nacogdoches**	**54.49**	**334**	*e*P	**P**	**07 45 43.6**	**+0.3**
	comp=Z,66nm,0.6s,mb5.5						
SWET	**Sewanee**	**54.59**	**344**	*e*P	**P**	**07 45 40.3**	**-3.7**
OXF	**Oxford**	**54.97**	**340**	*e*P	**P**	**07 45 44.5**	**-2.3**
	comp=Z,29nm,0.4s,mb5.4						
OXF	**Oxford**	**54.97**	**340**	*e*P	**P**	**07 45 44.5**	**-2.3**
OXF				pmax	pmax		
	comp=Z,29nm,0.4s,mb5.4						
PLAL	**Pickwick Lake**	**54.98**	**341**	*e*P	**P**	**07 45 43.9**	**-3.0**
	comp=Z,10nm,0.4s,mb4.9						
TZTN	**Tazewell**	**55.26**	**346**	*e*P	**P**	**07 45 45.6**	**-3.2**
BLA	**Blacksburg**	**55.27**	**349**	*e*P	**P**	**07 45 47.3**	**-1.6**
	comp=Z,11nm,0.6s,mb4.8						
BLA	**Blacksburg**	**55.27**	**349**	*e*P	**P**	**07 45 47.3**	**-1.7**
BLA				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.8						
ELN	**Prospectdale**	**55.35**	**349**	*e*P	**P**	**07 45 47.9**	**-1.6**
ELN				*e*	pP	07 46 21.5	-1.1
FWV	**Forest Hill**	**55.70**	**349**	*e*P	**P**	**07 45 49.9**	**-2.2**
FWV				*e*PcP	PcP	07 46 49.3	-0.2
JCT	**Junction City**	**55.80**	**328**	*e*P	**P**	**07 45 51.7**	**-1.1**
	comp=Z,63nm,0.7s,mb5.5						
JCT				*e*PcP	PcP	07 46 49.8	-0.1
JCT	**Junction City**	**55.80**	**328**	*e*P	**P**	**07 45 51.7**	**-1.1**
JCT				*e*		07 46 49.8	
JCT				pmax	pmax		
	comp=Z,63nm,0.7s,mb5.5						
WVT	**Waverly**	**55.98**	**342**	*e*P	**P**	**07 45 50.8**	**-3.2**
	comp=Z,26nm,0.4s,mb5.4						
WVT	**Waverly**	**55.98**	**342**	*e*P	**P**	**07 45 50.8**	**-3.2**
WVT				pmax	pmax		
	comp=Z,26nm,0.4s,mb5.4						
UALR	**University of**	**56.23**	**337**	*e*P	**P**	**07 45 53.8**	**-2.1**
	comp=Z,54nm,1.0s,mb5.3						
HALT	**Halls**	**56.23**	**341**	*e*P	**P**	**07 45 53.2**	**-2.6**
HBAR	**Harrisburg**	**56.34**	**339**	*e*P	**P**	**07 45 54.7**	**-1.9**
HBAR				*e*	pP	07 46 28.7	-1.0
HBAR				*e*		07 46 52.0	
UTMT	**University of**	**56.48**	**341**	*e*P	**P**	**07 45 55.1**	**-2.5**
	comp=Z,72nm,0.8s,mb5.5						
GNAR	**Gosnell**	**56.50**	**340**	*e*P	**P**	**07 45 55.8**	**-1.9**
GNAR				*e*PcP	PcP	07 46 52.0	-0.5
SDMD	**Soldier's Deli**	**56.92**	**353**	*e*P	**P**	**07 46 15.6**	**+15**
LTX	**Lajitas**	**56.94**	**324**	*e*P	**P**	**07 46 00.1**	**-0.8**
	comp=Z,20nm,0.9s,mb4.9						
LTX				*e*		07 46 11.2	
LTX	**Lajitas**	**56.94**	**324**	*e*P	**P**	**07 46 00.1**	**-0.8**
LTX				pmax	pmax		
	comp=Z,19nm,0.9s,mb4.9						
TXAR	**Lajitas Array**	**56.94**	**324**	P	**P**	**07 45 59.9**	**-1.0**
	comp=Z,14nm,0.7s,mb4.9,baz=149,slow=8.9,SNR=198						
TXAR				pP	pP	07 46 32.8	-1.3
	comp=Z,11nm,1.0s,baz=188,slow=8.8,SNR=4.2						
TXAR				PcP	PcP	07 46 54.2	-0.1
	comp=Z,7.8nm,0.8s,baz=150,slow=7.8,SNR=5.6						
TXAR				PKPPKP		08 15 49.6	
	comp=Z,0.9nm,0.9s,baz=304,slow=4.5,SNR=7.2						
TXAR	**Lajitas Array**	**56.94**	**324**	P	**P**	**07 45 59.9**	**-1.0**
TXAR				*PP	pP	07 46 32.8	-1.3
TXAR						07 46 54.3	
TXAR				pmax	pmax		
	comp=Z,14nm,0.7s						
TXAR				pmax	pmax		
	comp=Z,11nm,1.0s						
TXAR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
WCI	**Wyandotte Cave**	**57.52**	**344**	*e*P	**P**	**07 46 01.9**	**-3.0**
	comp=Z,21nm,0.4s,mb5.3						
WCI	**Wyandotte Cave**	**57.52**	**344**	*e*P	**P**	**07 46 01.9**	**-2.9**
WCI				pmax	pmax		
	comp=Z,21nm,0.4s,mb5.3						
PAL	**Palisades**	**58.25**	**356**	*e*P	**P**	**07 46 07.5**	**-2.3**
	comp=Z,7.8nm,0.6s,mb4.7						
PAL				*e*		07 46 18.0	
PAL	**Palisades**	**58.25**	**356**	*e*P	**P**	**07 46 07.5**	**-2.4**
PAL				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.7						
BLO	**

TUC pmax pmax
comp=Z,11nm,0.8s,mb4.7
VNA3 Neumayer Olymp 64.14 162 *e* tx 07 53 29.4
VNA3 Neumayer Olymp 64.14 162 ⇓*iP* **P 07 46 48.0 -1.0**
VNA3 *e* pP 07 47 20.7 -2.3
VNA3 *e* pP 07 47 22.9 -0.1
VNA3 *e* 07 47 36.8
VNA3 *e* 07 49 04.9
VNA3 *e* 07 53 29.4
VNA3 *e* 08 15 41.0
VNA3 *e* 08 15 48.3
VNA1 Neumayer--Stat 64.34 161 *e* tx 07 53 30.5
VNA1 Neumayer--Stat 64.34 161 ⇓*iP* **P 07 46 49.8 -0.5**
VNA1 *e* pP 07 47 23.6 -0.7
VNA1 *e* pP 07 47 25.6 +1.3
VNA1 *e* 07 47 41.5
VNA1 *e* 07 49 07.0
VNA1 *e* 07 53 30.5
VNA1 *e* 08 15 42.4
SDCO Great Sand Dun 64.43 329 *eP* **P 07 46 51.5 +0.1**
comp=Z,87nm,0.9s,mb5.6
SDCO *e* pP 07 47 25.2 -0.2
VNA2 Neumayer--Watz 64.71 161 *e* tx 07 53 30.0
VNA2 Neumayer--Watz 64.71 161 ⇓*iP* **P 07 46 51.7 -1.0**
VNA2 *e* pP 07 47 24.4 -2.3
VNA2 *e* pP 07 47 27.4 +0.7
VNA2 *e* 07 47 40.5
VNA2 *e* 07 49 14.1
VNA2 *e* 07 53 30.0
VNA2 *e* 08 15 39.6
VNA2 *e* 08 15 46.1
ISCO Idaho Springs 66.09 330 *eP* **P 07 47 02.0 -0.1**
comp=Z,53nm,0.9s,mb5.4
ISCO *e* pP 07 47 31.7 -4.5
ISCO Idaho Springs 66.09 330 *eP* **P 07 47 02.0 -0.1**
ISCO *e* pP 07 47 31.7 -4.5
ISCO pmax pmax
comp=Z,53nm,0.9s,mb5.4
SMCO Snowmass 66.27 329 *eP* **P 07 47 03.0 -0.3**
PV01 Paradox Valley 66.28 327 *eP* **P 07 47 03.5 +0.2**
PV01 *e* pP 07 47 37.4 -0.1
SNAA Sanae 66.34 161 *e* tx 07 47 35.4
SNAA Sanae 66.34 161 *e* tx 07 47 38.4
SNAA Sanae 66.34 161 *e* tx 07 47 50.9
SNAA Sanae 66.34 161 *e* tx 07 53 27.4
SNAA Sanae 66.34 161 P **P 07 47 02.0 -1.1**
comp=Z,41nm,0.7s,mb5.4,baz=281,slow=6.2,SNR=574
SNAA pP pP 07 47 35.4 -1.9
comp=Z,9.8nm,1.0s,baz=97,slow=2.1,SNR=2.1
SNAA Sanae 66.34 161 ⇓*iP* **P 07 47 01.9 -1.3**
SNAA *e* pP 07 47 35.4 -1.9
SNAA *e* pP 07 47 38.4 +1.1
SNAA *e* 07 47 50.9
SNAA *e* 07 49 07.0
SNAA *e* 07 53 27.4
SNAA *e* 08 15 35.1
SNAA *e* 08 15 43.6
PV10 Paradox Valley 66.70 327 *eP* **P 07 47 05.3 -0.7**
BAR Barrett 67.15 318 *eP* **P 07 47 09.2 +0.3**
BAR *e* pP 07 47 44.1 +1.0
BAR *e* 07 47 59.0
CHIE El Hierro 67.16 49 ⇓P **P 07 47 08.3 -0.8**
comp=Z,63nm,1.1s,mb5.4
PHWY Pilot Hill 67.21 331 *eP* **P 07 47 09.2 0.0**
PHWY *e* 07 47 36.0
PHWY *e* pP 07 47 44.6 +1.2
PFO Pinyon Flat Ob 67.61 319 *eP* **P 07 47 12.4 +0.6**
comp=Z,48nm,0.8s,mb5.3
PFO *e* 07 47 38.0
PFO Pinyon Flat Ob 67.61 319 *eP* **P 07 47 12.4 +0.6**
PFO *e* 07 47 38.0
PFO pmax pmax
comp=Z,48nm,0.8s,mb5.3
EHIG Higuera 67.76 48 ⇓P **P 07 47 12.5 -0.3**
LDFC Landfair 67.76 321 *eP* **P 07 47 13.7 +1.0**
LIC Lamto 67.91 76 ⇑*iP* **P 07 47 12.5 -1.4**
comp=Z,228nm,0.5s,mb5.9
EGOM La Gomera 67.95 49 ⇑P **P 07 47 12.5 -1.5**
comp=Z,138nm,1.1s,mb5.6
NEN Nelson 67.99 321 *eP* **P 07 47 14.3 +0.2**
NEN *e* pP 07 47 48.9 +0.6
SRU San Rafael 68.02 327 *eP* **P 07 47 14.3 +0.1**
SRU *e* 07 47 39.0
SRU *e* pP 07 47 48.9 +0.5
DBIC Dimbokro 68.23 75 P **P 07 47 14.8 -1.1**
comp=Z,466nm,0.6s,baz=229,slow=6.5,SNR=1000
DBIC LR LR 08 16 32.5
comp=Z,484nm,18.9s,baz=225,slow=35
RWWY Rawlins 68.33 331 *eP* **P 07 47 16.1 +0.1**
comp=Z,27nm,0.8s,mb5.0
RWWY *e* 07 47 40.5
CCAN Las Canadas 68.43 49 P **P 07 47 16.7 -0.2**
comp=Z,5.4nm,0.5s,mb4.5
MSU Marysvale 68.47 325 *eP* **P 07 47 17.7 +0.7**
MSU *e* 07 47 41.6
MSU *e* pP 07 47 52.2 +1.0
TMUT Trail Mountain 68.52 326 *eP* **P 07 47 17.7 +0.4**
ARUT Antelope Range 68.66 324 *eP* **P 07 47 19.2 +1.1**
ARUT *e* pP 07 47 53.9 +1.5
RSSD Black Hills 68.86 334 *eP* **P 07 47 19.2 0.0**
comp=Z,39nm,0.8s,mb5.2
RSSD *e* 07 47 42.6
RSSD *e* pP 07 47 54.6 +1.0
RSSD Black Hills 68.86 334 *eP* **P 07 47 19.3 +0.1**
RSSD *e* 07 47 42.6
RSSD *e* pP 07 47 54.6 +1.0
RSSD pmax pmax
comp=Z,39nm,0.8s,mb5.2
MWC Mount Wilson 69.03 318 *eP* **P 07 47 20.7 +0.3**
MWC *e* 07 47 43.1
MPU Maple Canyon 69.27 327 *eP* **P 07 47 22.2 +0.4**
MPU *e* pP 07 47 56.9 +0.7
DAU Daniels Canyon 69.36 327 *eP* **P 07 47 23.2 +0.8**
JLU Jordanelle 69.60 327 *eP* **P 07 47 24.4 +0.6**
JLU *e* pP 07 47 58.6 +0.4
JLU *e* 07 48 16.0
CTU Camp Tracy 69.82 327 *eP* **P 07 47 25.2 +0.1**
TCUT Toone Canyon 69.96 328 *eP* **P 07 47 26.6 +0.6**
TCUT *e*PcP PcP 07 47 47.4 -0.1
NOQ North Oquirrh 69.98 327 *eP* **P 07 47 26.0 -0.2**
DUG Dugway 70.02 326 *eP* **P 07 47 26.7 +0.3**
comp=Z,30nm,0.8s,mb5.1
DUG *e* pP 07 48 01.3 +0.5
DUG Dugway 70.02 326 *eP* **P 07 47 26.7 +0.3**
DUG *e* pP 07 48 01.3 +0.4
DUG pmax pmax
comp=Z,30nm,0.8s,mb5.1
BW06 Boulder Array 70.27 330 *eP* **P 07 47 26.9 -0.9**
comp=Z,32nm,0.9s,mb5.0
PDAR Pinedale Array 70.27 330 P **P 07 47 27.4 -0.4**
comp=Z,12nm,0.5s,mb4.9,baz=127,slow=8.0,SNR=129
PDAR PKP2bc 08 15 25.9
comp=Z,1.5nm,1.0s,baz=315,slow=2.1,SNR=10
PDAR LR LR 08 19 19.2
comp=Z,66nm,19.9s,baz=26,slow=37
PDAR Pinedale Array 70.27 330 P **P 07 47 27.4 -0.4**
PDAR ⇑*e* 08 15 25.9
PDAR LR LR 08 19 19.2
CFTV Fuerteventura 70.38 50 ⇑P **P 07 47 27.4 -1.3**
comp=Z,17nm,0.8s,mb4.8
SPUT South Promonto 70.63 327 *eP* **P 07 47 30.2 +0.2**
SPUT *e* 07 47 50.0
SPUT *e* pP 07 48 04.7 +0.2
MAIT Maitri 70.84 160 ⇓*iP* **P 07 47 30.5 -0.3**
MAIT *e*PcP PcP 07 48 04.1 +13
NVL N'lazarevskaya 70.87 160 ⇑*iP* **P 07 47 28.2 -2.8**
NVL *i* 07 47 50.2
NVL *i* *PP pP 07 48 04.0 -1.5
NVL *i* *SP sP 07 48 19.8 -1.1
NVL *i* 07 50 11.4
NVL *i* PPP PPP 07 51 56.4 +3.4
NVL *i* S S 07 56 36.2 +3.1
NVL *i* 07 57 31.7
NVL pmax pmax
comp=Z,20nm,1.0s,mb4.8
NVL MLR MLR
comp=Z,20nm,16.2s
AHID Auburn Hatcher 71.02 329 *eP* **P 07 47 32.4 +0.1**
comp=Z,29nm,0.7s,mb5.1
TPH Tonopah 71.03 322 *eP* **P 07 47 33.4 +0.9**
comp=Z,32nm,0.8s,mb5.1
TPH Tonopah 71.03 322 *eP* **P 07 47 33.4 +0.9**

TPH pmax pmax
comp=Z,32nm,0.8s,mb5.1
HVU Hansel Valley 71.14 327 *eP* **P 07 47 33.1 +0.1**
EFAM Famara 71.17 50 P **P 07 47 30.2 -3.2**
ULM Lac du Bonnet 71.24 343 P **P 07 47 32.3 -1.2**
comp=Z,105nm,0.4s,mb5.9,baz=152,slow=6.2,SNR=183
ULM pP pP 07 48 05.7 -2.4
comp=Z,9.7nm,0.5s,baz=140,slow=5.8,SNR=1.7
ULM LR LR 08 21 50.0
comp=Z,73nm,18.9s,baz=96,slow=38
ULM Lac du Bonnet 71.24 343 *eP* **P 07 47 32.1 -1.4**
comp=Z,111nm,0.4s,mb5.9
ULM *e* pP 07 48 08.1 0.0
PTRM Twissleman Ran 71.30 318 *eP* **P 07 47 35.0 +0.9**
REDW Red Top Meadow 71.34 329 *eP* **P 07 47 34.5 +0.2**
comp=Z,22nm,0.7s,mb5.0
MTUM Tungsten Hills 71.36 321 *eP* **P 07 47 35.4 +0.9**
SNOW Snow King Moun 71.37 330 *eP* **P 07 47 34.6 +0.2**
comp=Z,23nm,0.7s,mb5.0
LOHW Long Hollow 71.41 330 *eP* **P 07 47 34.9 +0.3**
comp=Z,21nm,0.7s,mb5.0
TPAW Teton Pass 71.48 330 *eP* **P 07 47 35.4 +0.3**
comp=Z,34nm,1.1s,mb5.0
RRI2 Red Ridge 71.56 329 *eP* **P 07 47 36.0 +0.5**
RRI2 *e* pP 07 48 10.4 +0.2
ELK Elko 71.72 325 P **P 07 47 36.9 +0.4**
comp=Z,24nm,0.8s,mb5.0,baz=126,slow=4.7,SNR=130
ELK Elko 71.72 325 *eP* **P 07 47 36.9 +0.4**
comp=Z,17nm,0.8s,mb4.8
ELK *e* pP 07 48 11.5 +0.3
ELK Elko 71.72 325 P **P 07 47 36.9 +0.4**
ELK pmax pmax
comp=Z,24nm,0.8s
IMW Indian Meadow 71.78 330 *eP* **P 07 47 37.4 +0.6**
comp=Z,29nm,0.6s,mb5.2
OMM Old Mammoth Mi 71.79 321 *eP* **P 07 47 38.2 +1.2**
OMM *e* pP 07 48 12.8 +1.1
LAO LASA Array 71.84 334 *eP* **P 07 47 36.9 -0.2**
comp=Z,24nm,0.6s,mb5.1
LAO *e* 07 47 51.4
LAO *e* pP 07 48 12.1 +0.3
SCHQ Schefferville 71.98 2 P **P 07 47 36.4 -1.4**
comp=Z,13nm,0.7s,mb4.8,baz=213,slow=4.0,SNR=18
SCHQ Schefferville 71.98 2 *eP* **P 07 47 36.1 -1.7**
comp=Z,39nm,1.1s,mb5.0
SCHQ *e* 07 47 54.8
LKWY Lake 72.03 331 *eP* **P 07 47 39.9 +1.7**
comp=Z,72nm,0.8s,mb5.5
LKWY Lake 72.03 331 *eP* **P 07 47 39.9 +1.6**
LKWY pmax pmax
comp=Z,72nm,0.8s,mb5.5
YFT Old Faithful 72.15 330 *eP* **P 07 47 40.7 +1.8**
YNR Norris Junctio 72.27 331 *eP* **P 07 47 40.7 +1.0**
LRV Little Rabbit 72.29 319 *eP* **P 07 47 40.9 +0.9**
YMR Madison River 72.37 330 *eP* **P 07 47 41.6 +1.3**
DGMT Dagmar 72.48 337 *eP* **P 07 47 41.3 +0.5**
comp=Z,64nm,0.6s,mb5.5
DGMT *e* pP 07 48 16.4 +0.9
BMN Battle Mountai 72.61 324 *eP* **P 07 47 42.0 +0.2**
comp=Z,4.8nm,0.6s,mb4.4
BMN Battle Mountai 72.61 324 *eP* **P 07 47 42.0 +0.2**
BMN pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
QLMT Earthquake Lak 72.71 330 *eP* **P 07 47 43.4 +1.1**
QSPA South Pole Qui 72.77 180 ⇓*iP* **P 07 47 42.1 +0.1**
comp=Z,91nm,0.7s,mb5.6
SAO San Andreas Ge 72.77 319 *eP* **P 07 47 43.1 +0.3**
comp=Z,18nm,0.9s,mb4.8
SAO San Andreas Ge 72.77 319 *eP* **P 07 47 43.1 +0.3**
SAO pmax pmax
comp=Z,18nm,0.9s,mb4.8
CMB Columbia Colle 72.91 320 *eP* **P 07 47 43.4 -0.1**
PAHR Pah Rah Range 73.37 322 *eP* **P 07 47 47.7 +1.4**
comp=Z,72nm,0.8s,mb5.5
PAHR *e* pP 07 48 22.0 +0.9
MCMT McKenzie Canyo 73.39 329 *eP* **P 07 47 47.4 +1.1**
MCMT *e* pP 07 48 21.9 +0.8
BOZ Bozeman (W) 73.42 331 *eP* **P 07 47 46.1 -0.3**
comp=Z,18nm,0.8s,mb4.8
BOZ *e* pP 07 48 21.5 +0.3
BOZ Bozeman (W) 73.42 331 *eP* **P 07 47 46.1 -0.3**
BOZ *e* pP 07 48 21.5 +0.3
BOZ pmax pmax
comp=Z,18nm,0.8s,mb4.8
SAC San Andreas 73.88 319 *eP* **P 07 47 50.3 +1.0**
BEKR Beckwourth 74.05 322 *eP* **P 07 47 51.2 +1.0**
comp=Z,28nm,0.8s,mb5.0
TBI Tubuai 74.27 250 *e*LQ 08 07 50.4
TBI *e*LR LR 08 10 40.1
comp=Z,265nm,37.5s
VAH Vaihoa 74.44 259 *ep*P pP 07 48 25.3 -2.5
comp=Z,122nm,1.5s
NSHM Saint Helena R 74.58 319 *eP* **P 07 47 54.1 +0.9**
PMOR Pomariorio Ree 74.74 259 *eP* **P 07 47 55.7 +1.1**
comp=Z,182nm,1.0s,mb5.7
PMOR *ep*P pP 07 48 27.6 -2.0
comp=Z,25nm,0.9s
CHMT Chamberlain Mo 75.11 331 *eP* **P 07 47 56.6 +0.6**
HOPS Hopland 75.15 320 *eP* **P 07 47 57.5 +1.0**
comp=Z,28nm,1.1s,mb4.8
MOD Modoc 75.32 323 *eP* **P 07 47 58.3 +0.9**
comp=Z,32nm,0.7s,mb5.0
TVO Taravao 75.34 256 *eP* **P 07 47 59.2 +1.3**
comp=Z,214nm,1.4s,mb5.6
MSO Missoula 75.37 330 *eP* **P 07 47 58.3 +0.8**
comp=Z,53nm,1.4s,mb5.0
BMO Blue Mountains 75.65 327 *eP* **P 07 47 59.8 +0.6**
comp=Z,49nm,0.7s,mb5.2
BMO *e* pP 07 48 34.4 +0.2
PAE Paea 75.67 256 *eP* **P 07 48 01.0 +1.2**
comp=Z,177nm,1.0s,mb5.6
PPT Papeete 75.69 256 *eP* **P 07 48 01.1 +1.2**
comp=Z,98nm,1.5s,mb5.2
PPT Papeete 75.69 256 *e*LQ 08 08 19.7
PPT *e*LR LR 08 11 11.6
comp=Z,107nm,20.5s
PPT Papeete 75.69 256 LR LR 08 15 27.4
comp=Z,364nm,18.6s,baz=109,slow=31
WDC Whiskeytown Da 75.80 321 *eP* **P 07 47 59.1 -0.9**
comp=Z,44nm,0.6s,mb5.3
WDC Whiskeytown Da 75.80 321 *eP* **P 07 47 59.2 -0.9**
WDC pmax pmax
comp=Z,44nm,0.6s,mb5.3
KCPM Cahto Peak 75.89 320 *eP* **P 07 48 01.5 +0.9**
KIPM Iron Peak 75.90 320 *eP* **P 07 48 01.9 +1.3**
KIPM *e* 07 48 10.1
YBH Yreka Blue Hor 76.61 322 P **P 07 48 04.2 -0.5**
comp=Z,20nm,0.7s,mb4.9,baz=87,slow=3.0,SNR=57
YBH Yreka Blue Hor 76.61 322 *eP* **P 07 48 03.5 -1.1**
comp=Z,14nm,0.7s,mb4.7
YBH *e* pP 07 48 39.2 -0.5
YBH Yreka Blue Hor 76.61 322 *eP* **P 07 48 03.5 -1.1**
YBH *e* pP 07 48 39.3 -0.5
YBH pmax pmax
comp=Z,14nm,0.7s
KHMM Horse Mountain 76.69 321 *eP* **P 07 48 06.5 +1.4**
LNOR Lincton Mounta 76.85 327 ⇓P **P 07 48 06.0 +0.1**
WALA Waterton Lakes 76.98 332 *eP* **P 07 48 06.9 +0.4**
comp=Z,24nm,0.7s,mb4.9
VIPM Ingram Point 77.19 325 ⇓P **P 07 48 09.3 +1.5**
KRMB Red Mountain 77.19 321 *eP* **P 07 48 08.2 +0.4**
KRMB *ep*P pP 07 48 43.1 +0.1
HUMO Hull Mountain 77.30 323 *eP* **P 07 48 08.0 -0.4**
comp=Z,8.7nm,0.6s,mb4.6
CROR Criterion Ridg 77.69 325 ⇓P **P 07 48 12.2 +1.7**
KBO Bosley Butte 77.80 322 *eP* **P 07 48 10.4 -0.8**
HAWA Hanford 77.84 327 *eP* **P 07 48 12.3 +1.0**
HAWA *e* pP 07 48 47.4 +0.8
NEW Newport 77.91 330 P **P 07 48 11.6 -0.1**
comp=Z,9.2nm,0.8s,mb4.5,baz=135,slow=7.1,SNR=17
NEW Newport 77.91 330 *eP* **P 07 48 11.7 0.0**
comp=Z,16nm,0.8s,mb4.7
NEW Newport 77.91 330 *eP* **P 07 48 11.7 0.0**
NEW pmax pmax
comp=Z,16nm,0.8s
WAH2 Wahluke Slope 78.10 327 ⇓P **P 07 48 13.8 +1.0**
DPW Davenport 78.17 329 ⇓P **P 07 48 14.0 +1.0**
KEBM Edson Butte 78.26 322 *eP* **P 07 48 15.1 +1.4**
SSOR Sweet Springs 78.42 325 ⇓P **P 07 48 15.0 +0.5**
FCC Fort Churchill 78.52 347 *eP* **P 07 48 13.6 -1.1**
comp=Z,84nm,1.3s,mb5.2
FCC Fort Churchill 78.52 347 *eP* **P 07 48 13.6 -1.2**
FCC pmax pmax
comp=Z,84nm,1.3s,mb5.2
RNO Roman Nose 78.55 323 P **P 07 48 16.5 +1.3**

SAW Saint Andrews 78.65 328 P **P 07 48 16.9 +1.2**
COR Corvallis 78.72 324 *eP* **P 07 48 17.1 +1.0**
comp=Z,52nm,0.7s,mb5.3
COR Corvallis 78.72 324 *eP* **P 07 48 17.1 +1.0**
COR pmax pmax
comp=Z,52nm,0.7s,mb5.3
EBG Ellensburg 78.72 327 P **P 07 48 17.6 +1.5**
ASR Mount Adams--S 78.77 326 ⇓P **P 07 48 17.8 +1.4**
WTV Waterville 78.93 328 ⇓P **P 07 48 18.1 +0.9**
PTEO Sao Teotonio 79.08 45 *eP* **P 07 48 19.3 +1.0**
comp=Z,222nm,1.4s,mb5.6
LON Longmire 79.27 326 ⇓P **P 07 48 19.6 +0.5**
FMW Mount Fremont 79.31 327 P **P 07 48 20.1 +0.8**
KMOR Kings Mountain 79.47 325 P **P 07 48 21.9 +1.7**
PLOU Loures 79.51 44 *eP* **P 07 48 19.8 -0.7**
comp=Z,96nm,1.6s,mb5.2
SBA Scott Base 79.73 190 *eP* **P 07 48 21.8 +0.8**
comp=Z,104nm,1.1s,mb5.4
SBA Scott Base 79.73 190 *eP* **P 07 48 21.8 +0.8**
SBA pmax pmax
comp=Z,104nm,1.1s,mb5.4
EDM Edmonton 79.80 335 *eP* **P 07 48 21.4 -0.4**
EDM *e* pP 07 48 57.2 +0.1
BMW Boistfort Moun 79.85 326 P **P 07 48 23.6 +1.4**
PBEJ Beja 79.91 45 *eP* **P 07 48 23.4 +0.7**
comp=Z,73nm,1.2s,mb5.2
EGRO El Granado 79.92 46 ⇑P **P 07 48 23.6 +0.8**
comp=Z,71nm,0.7s,mb5.4
JCW Jim Creek 80.26 327 P **P 07 48 24.6 +0.2**
PTOM Tomar 80.39 43 *eP* **P 07 48 25.6 +0.4**
comp=Z,130nm,1.1s,mb5.5
SYO Syowa Base 80.54 160 ⇑P **P 07 48 23.9 -1.6**
SYO Syowa Base 80.54 160 ⇑PcP PcP 07 48 28.6 -3.6
SYO Syowa Base 80.54 160 ⇓pP pP 07 48 56.2 -4.6
EMIN Mina Concepcio 80.59 46 ⇑P **P 07 48 26.9 +0.6**
comp=Z,94nm,1.0s,mb5.4
ESPR Espera 80.70 47 ⇑P **P 07 48 27.9 +0.9**
comp=Z,100nm,1.2s,mb5.3
VNDA Vanda 80.76 190 P **P 07 48 27.4 +0.9**
comp=Z,50nm,0.8s,mb5.2,baz=130,slow=4.8,SNR=299
VNDA LR LR 08 22 04.0
comp=Z,76nm,20.8s,baz=135,slow=34
VNDA Vanda 80.76 190 *eP* **P 07 48 27.1 +0.5**
comp=Z,65nm,0.9s,mb5.3
EBAD Badajoz 80.86 45 ⇑P **P 07 48 28.5 +0.7**
comp=Z,59nm,0.6s,mb5.4
MCW Mount Constitu 81.03 327 P **P 07 48 29.6 +1.2**
PCBR Castelo Branco 81.12 44 *eP* **P 07 48 29.1 0.0**
comp=Z,47nm,1.1s,mb5.0
STW Striped Peak 81.13 327 P **P 07 48 30.6 +1.6**
OCWA Octopus Mounta 81.15 326 *eP* **P 07 48 30.1 +1.1**
comp=Z,132nm,1.1s,mb5.5
SUR Sutherland 81.19 121 *eP* **P 07 48 30.0 +0.4**
comp=Z,25nm,0.9s,mb4.8
EMIJ Mijas 81.31 47 ⇑P **P 07 48 30.3 +0.2**
comp=Z,44nm,0.6s,mb5.3
PGC Sidney 81.33 327 *eP* **P 07 48 30.5 +0.5**
comp=Z,336nm,0.8s,mb6.0
PGC *e* pP 07 49 05.5 +0.1
MTE Manteigas 81.36 43 *eP* **P 07 48 30.5 +0.1**
comp=Z,64nm,0.9s,mb5.2
MTE *e*S S 07 58 18.4 -9.4
MTE Manteigas 81.36 43 *eP* **P 07 48 30.1 -0.2**
comp=Z,62nm,0.8s,mb5.3
ECAB El Cabril 81.60 46 P **P 07 48 31.8 +0.2**
comp=Z,20nm,0.7s,mb4.9
PVRL Vila Real 81.71 42 *eP* **P 07 48 32.3 +0.1**
comp=Z,68nm,0.9s,mb5.3
ELOB Lobios 81.80 42 ⇓P **P 07 48 32.8 +0.2**
comp=Z,58nm,0.8s,mb5.3
EMAZ Mazaricos 81.81 40 ⇑P **P 07 48 32.6 0.0**
comp=Z,33nm,0.6s,mb5.1
TSUM Tsumeb 81.83 108 *eP* **P 07 48 33.2 0.0**
comp=Z,46nm,0.8s,mb5.2
ELOJ Sierra Loja 82.03 47 ⇑P **P 07 48 35.0 +1.1**
comp=Z,33nm,0.4s,mb5.3
ELOJ Sierra Loja 82.03 47 ⇑P **P 07 48 35.0 +1.1**
ELOJ pmax pmax
comp=Z,33nm,0.4s,mb5.3
ELUQ Luque 82.15 47 P **P 07 48 35.5 +1.0**
comp=Z,45nm,0.6s,mb5.3
ELUQ Luque 82.15 47 P **P 07 48 35.5 +1.0**
ELUQ pmax pmax
comp=Z,45nm,0.6s,mb5.3
ERON Agron 82.21 47 ⇑P **P 07 48 35.3 +0.5**
comp=Z,29nm,0.5s,mb5.2
EADA Adamuz 82.23 46 ⇑P **P 07 48 35.2 +0.4**
comp=Z,26nm,0.5s,mb5.1
EALB Alboran 82.25 49 ⇑P **P 07 48 35.0 0.0**
comp=Z,78nm,0.4s,mb5.7
EGUA Guajares 82.29 48 P **P 07 48 35.6 +0.4**
ECOG Cogollos-Vega 82.50 47 P **P 07 48 37.2 +0.9**
comp=Z,3.2nm,0.3s,mb4.5
ECOG Cogollos-Vega 82.50 47 P **P 07 48 37.2 +0.9**
ECOG pmax pmax
comp=Z,3.0nm,0.3s,mb4.5
PBRG Braganca 82.61 42 *eP* **P 07 48 37.2 +0.4**
comp=Z,71nm,1.6s,mb5.2
ECAL Calabor 82.68 42 ⇑P **P 07 48 37.7 +0.6**
comp=Z,174nm,1.4s,mb5.6
EBAN Banos Encina 82.77 46 ⇑P **P 07 48 38.5 +0.9**
comp=Z,29nm,0.5s,mb5.3
EBAN Banos Encina 82.77 46 ⇑P **P 07 48 38.6 +0.9**
EBAN pmax pmax
comp=Z,29nm,0.5s,mb5.3
EBER Berja 82.80 48 P **P 07 48 38.6 +0.7**
comp=Z,35nm,0.6s,mb5.3
EQES Quesada 83.10 47 ⇑P **P 07 48 39.7 +0.4**
comp=Z,56nm,0.5s,mb5.5
EPON Pontenova 83.14 41 P **P 07 48 39.9 +0.5**
comp=Z,77nm,0.7s,mb5.5
ENIJ Nijar 83.32 48 ⇓P **P 07 48 40.6 +0.2**
comp=Z,1.5nm,0.5s
ENIJ Nijar 83.32 48 ⇓P **P 07 48 40.6 +0.2**
ENIJ pmax pmax
comp=Z,2.0nm,0.5s
ESLA Sonseca Array 83.38 45 *eP* **P 07 48 41.2 +0.5**
comp=Z,4.5nm,0.6s,mb4.4
ESDC Sonseca Array 83.38 45 P **P 07 48 42.1 +1.4**
comp=Z,6.3nm,0.6s,mb4.5,baz=254,slow=5.3,SNR=11
ESDC Sonseca Array 83.38 45 P **P 07 48 42.0 +1.3**
EHUE Huescar 83.44 47 ⇓P **P 07 48 41.4 +0.3**
comp=Z,34nm,0.5s,mb5.3
EHUE Huescar 83.44 47 ⇓P **P 07 48 41.4 +0.4**
EHUE pmax pmax
comp=Z,34nm,0.5s,mb5.3
EVIA Vianos 83.88 46 ⇑P **P 07 48 44.4 +1.1**
comp=Z,84nm,0.7s,mb5.6
EVIA Vianos 83.88 46 ⇑P **P 07 48 44.4 +1.1**
EVIA pmax pmax
comp=Z,84nm,0.7s,mb5.6
EARI Arriondas 84.35 41 ⇑P **P 07 48 46.3 +0.9**
comp=Z,83nm,0.8s,mb5.5
EMUR La Murta 84.40 48 ⇑P **P 07 48 45.5 -0.3**
comp=Z,41nm,0.8s,mb5.2
CART Cartagena 84.45 48 *eP* **P 07 48 45.5 -0.7**
comp=Z,28nm,0.8s,mb5.0
ETOB Tobarra 84.55 47 ⇑P **P 07 48 47.6 +1.0**
comp=Z,138nm,0.6s,mb5.9
SFJD Kangerlussuaq 85.32 7 *i P* **P 07 48 49.3 -0.4**
comp=Z,23nm,0.9s,mb4.9
SFJD Kangerlussuaq 85.32 7 *i P* **P 07 48 49.3 -0.4**
SFJD pmax pmax
comp=Z,23nm,0.9s,mb4.9
ECHE Chera 85.38 46 P **P 07 48 52.2 +1.5**
comp=Z,65nm,0.6s,mb5.5
ECHE Chera 85.38 46 P **P 07 48 52.2 +1.5**
ECHE pmax pmax
comp=Z,65nm,0.6s,mb5.5
ELAN Lanestosa 85.44 42 P **P 07 48 52.0 +1.1**
comp=Z,80nm,0.8s,mb5.5
EBEN Beniarda 85.50 47 P **P 07 48 52.3 +1.0**
comp=Z,27nm,0.7s,mb5.1
ECRI Cripan 85.74 43 ⇓P **P 07 48 53.6 +1.2**
comp=Z,41nm,0.6s,mb5.3
ECRI Cripan 85.74 43 ⇓P **P 07 48 53.6 +1.2**
ECRI pmax pmax
comp=Z,41nm,0.6s,mb5.3
BBB Bella Bella 85.84 328 P **P 07 48 52.8 +0.2**
comp=Z,51nm,0.8s,mb5.3,baz=125,slow=1.9,SNR=20
BOSA Boshof 85.93 119 P **P 07 48 53.4 -0.3**
comp=Z,20nm,0.7s,mb5.0,baz=253,slow=3.9,SNR=36
BOSA PKKPbc 08 06 53.6
comp=Z,2.6nm,0.8s,baz=88,slow=8.7,SNR=3.6
BOSA LR LR 08 25 50.9
comp=Z,172nm,19.7s,baz=72,slow=34
BOSA Boshof 85.93 119 *eP* **P 07 48 52.9 -0.8**

comp=Z,39nm,1.1s,mb5.0
BOSA e 07 49 03.4
EMOS Mosqueruela 86.07 46 P **P 07 48 55.1 +1.1**
comp=Z,47nm,0.6s,mb5.4
VAL Valentia 86.09 32 eP **P 07 48 53.8 0.0**
EALK Alkurruntz 86.68 43 P **P 07 48 58.1 +1.2**
comp=Z,20nm,0.7s,mb5.1
ESAC San Caprasio 86.68 44 P **P 07 48 58.1 +1.2**
comp=Z,63nm,0.5s,mb5.7
SJPF Ste Jean 86.81 43 eP **P 07 48 58.0 +0.5**
comp=Z,62nm,0.7s,mb5.3
SJPF Ste Jean 86.81 43 eP **P 07 48 58.0 +0.5**
SJPF pmax pmax
comp=Z,31nm,0.7s,mb5.2
OSSF Osses 86.85 43 eP **P 07 48 58.2 +0.5**
ERTA Horta de San J 86.88 45 ⇑P **P 07 48 59.0 +1.1**
comp=Z,37nm,0.8s,mb5.3
LARF Larrau 86.93 43 eP **P 07 48 59.4 +1.3**
FDAF Les Forges d'A 87.11 43 eP **P 07 49 00.1 +1.1**
YKA Yellowknife Ar 87.13 341 P **P 07 48 59.1 +0.5**
comp=Z,135nm,0.6s,mb6.0,baz=134,slow=4.8,SNR=621
YKA pP pP 07 49 34.4 -0.1
comp=Z,19nm,0.8s,baz=132,slow=4.6,SNR=2.2
YKA PKKPbc 08 06 49.8
comp=Z,1.2nm,0.5s,baz=323,slow=3.3,SNR=6.5
YKA Yellowknife Ar 87.13 341 P **P 07 48 59.1 +0.5**
YKA pP pP 07 49 34.4 -0.1
YKA PKKPbc 08 06 49.8
YKA Yellowknife Ar 87.13 341 P **P 07 48 59.1 +0.5**
YKA *PP pP 07 49 34.4 -0.2
YKA pmax pmax
comp=Z,135nm,0.6s
YKA pmax pmax
comp=Z,19nm,0.8s
YKA pmax pmax
comp=Z,1.0nm,0.5s
ETSF Etsaut 87.15 43 eP **P 07 48 59.7 +0.5**
comp=Z,98nm,0.6s,mb5.5
ETSF Etsaut 87.15 43 eP **P 07 48 59.7 +0.5**
ETSF pmax pmax
comp=Z,49nm,0.6s,mb5.5
YKW3 Yellowknife Ar 87.19 341 eP **P 07 48 59.3 +0.4**
YKW3 e pP 07 49 35.0 +0.1
LBTB Lobatse 87.31 115 eP **P 07 49 00.4 0.0**
comp=Z,18nm,0.8s,mb4.9
LBTB Lobatse 87.31 115 eP **P 07 49 00.4 +0.1**
LBTB pmax pmax
comp=Z,17nm,0.8s,mb4.9
REYF Montagne du Re 87.33 43 eP **P 07 49 01.1 +1.0**
EGRA Graus 87.41 44 P **P 07 49 01.6 +1.1**
comp=Z,19nm,0.5s,mb5.2
EBIE Bielsa 87.52 44 P **P 07 49 02.0 +1.1**
comp=Z,46nm,0.5s,mb5.6
VIEF Viey 87.53 44 eP **P 07 49 02.0 +1.0**
EPOB Poblet 87.56 45 P **P 07 49 01.6 +0.4**
comp=Z,8.6nm,0.5s,mb4.8
LABF Labassere 87.63 43 eP **P 07 49 02.7 +1.2**
EPF Esparros 87.80 44 eP **P 07 49 02.5 +0.2**
comp=Z,64nm,0.8s,mb5.2
EPF Esparros 87.80 44 eP **P 07 49 02.5 +0.2**
EPF pmax pmax
comp=Z,32nm,0.8s,mb5.2
QUIF Quistinic 87.87 38 eP **P 07 49 01.5 -1.0**
comp=Z,51nm,0.8s,mb5.1
QUIF Quistinic 87.87 38 eP **P 07 49 01.5 -1.0**
QUIF pmax pmax
comp=Z,25nm,0.8s,mb5.1
ROSF Rostrenen 88.01 38 eP **P 07 49 02.4 -0.8**
comp=Z,91nm,0.8s,mb5.3
ROSF Rostrenen 88.01 38 eP **P 07 49 02.4 -0.8**
ROSF pmax pmax
comp=Z,45nm,0.8s,mb5.3
EMIR Miracle 88.10 45 P **P 07 49 03.9 +0.1**
comp=Z,23nm,0.6s,mb5.2
SALF Salau 88.24 44 eP **P 07 49 05.3 +0.9**
DCN Croghan 88.38 32 eP **P 07 49 04.9 +0.1**
DCN Croghan 88.38 32 eP **P 07 49 02.1 -2.7**
DCN eP 07 49 04.9
SGMF Saint Gilles 88.39 38 eP **P 07 49 03.9 -1.1**
comp=Z,37nm,0.7s,mb5.0
SGMF Saint Gilles 88.39 38 eP **P 07 49 03.9 -1.1**
SGMF pmax pmax
comp=Z,18nm,0.7s,mb5.0
MAW Mawson 88.42 164 ⇓iP **P 07 49 05.1 +0.5**
comp=Z,97nm,0.6s,mb5.8
MAW Mawson 88.42 164 P **P 07 49 05.2 +0.5**
comp=Z,118nm,0.6s,mb5.9,baz=214,slow=5.9,SNR=440
MAW PKKPbc 08 06 46.3
comp=Z,1.3nm,0.5s,baz=12,slow=5.5,SNR=6.5
MAW Mawson 88.42 164 P **P 07 49 05.2 +0.6**
MAW pmax pmax
comp=Z,118nm,0.6s
MAW pmax pmax
comp=Z,1.0nm,0.5s
SET Setif 88.54 51 P **P 07 49 18.0 +12**
CKHR Kef el Ahmar 88.55 52 P **P 07 49 07.5 +1.5**
DLF Lyons Farm 88.73 32 eP **P 07 49 06.5 +0.1**
DLF Lyons Farm 88.73 32 eP **P 07 49 03.6 -2.8**
DLF eP 07 49 06.5
LCHF La Chataignera 88.74 40 eP **P 07 49 06.4 -0.3**
DSB Dublin 88.78 32 eP **P 07 49 06.5 -0.2**
comp=Z,23nm,0.8s,mb5.2
LFF La Frestale 88.90 42 eP **P 07 49 07.1 -0.3**
comp=Z,159nm,0.7s,mb5.8
LFF La Frestale 88.90 42 eP **P 07 49 07.1 -0.3**
LFF pmax pmax
comp=Z,80nm,0.7s,mb5.8
DFRA Djebel Bou Aff 89.03 51 P **P 07 49 08.5 +0.3**
FILF Fillols 89.07 45 eP **P 07 49 08.6 +0.3**
MFF Saint Martin d 89.08 40 eP **P 07 49 07.6 -0.6**
comp=Z,64nm,0.8s,mb5.3
MFF Saint Martin d 89.08 40 eP **P 07 49 07.6 -0.6**
MFF pmax pmax
comp=Z,32nm,0.8s,mb5.3
MTLF Montolieu 89.17 44 eP **P 07 49 08.3 -0.5**
comp=Z,80nm,0.8s,mb5.4
MTLF Montolieu 89.17 44 eP **P 07 49 08.3 -0.5**
MTLF pmax pmax
comp=Z,40nm,0.8s,mb5.4
EJON La Jonquera 89.25 45 P **P 07 49 09.9 +0.7**
comp=Z,16nm,0.6s,mb5.1
CASM Ain Smara 89.38 52 P **P 07 49 11.0 +1.1**
GRR Gorron 89.45 38 eP **P 07 49 09.0 -1.0**
comp=Z,162nm,0.7s,mb5.8
GRR Gorron 89.45 38 eP **P 07 49 09.0 -1.0**
GRR pmax pmax
comp=Z,81nm,0.7s,mb5.8
RJF Les Rejaudoux 89.55 42 eP **P 07 49 09.9 -0.6**
comp=Z,74nm,0.8s,mb5.4
RJF eR
comp=Z,234nm,20.5s
RJF Les Rejaudoux 89.55 42 eP **P 07 49 09.9 -0.6**
RJF pmax pmax
comp=Z,37nm,0.8s,mb5.4
RJF MLR MLR
comp=Z,230nm,20.5s
CKFL Kef-Lekhel 89.60 52 P **P 07 49 11.5 +0.6**
CAF Calviac 89.74 42 eP **P 07 49 11.1 -0.3**
comp=Z,77nm,0.8s,mb5.4
CAF Calviac 89.74 42 eP **P 07 49 11.1 -0.3**
CAF pmax pmax
comp=Z,39nm,0.8s,mb5.4
BORG Borgarnes 89.75 19 P **P 07 49 12.7 +1.7**
comp=Z,9.3nm,0.6s,mb4.9,baz=185,slow=2.1,SNR=7.5
FLN La Foliniere 89.85 38 eP **P 07 49 11.0 -0.8**
comp=Z,108nm,0.8s,mb5.5
FLN eR
comp=Z,156nm,20.2s
FLN La Foliniere 89.85 38 eP **P 07 49 11.0 -0.8**
FLN pmax pmax
comp=Z,54nm,0.8s,mb5.5
FLN MLR MLR
comp=Z,160nm,20.3s
ABSA Djebel Ababsia 90.12 52 P **P 07 49 14.0 +0.6**
CMAH Djebel Manchou 90.21 52 P **P 07 49 14.5 +0.7**
DLBC Dease Lake 90.30 333 P **P 07 49 14.7 +1.1**
comp=Z,55nm,0.8s,mb5.5,baz=100,slow=2.4,SNR=156
DLBC pP pP 07 49 50.6 +0.8
comp=Z,24nm,1.0s,baz=177,slow=3.8,SNR=4.0
DLBC PKKPbc 08 06 43.2
comp=Z,0.8nm,0.4s,baz=283,slow=14,SNR=3.1
DLBC Dease Lake 90.30 333 eP **P 07 49 14.2 +0.5**
DLBC e pP 07 49 50.6 +0.8
VERF Verneugheol 90.36 42 eP **P 07 49 14.5 +0.2**
TCF Toulx Ste Croi 90.41 41 eP **P 07 49 13.7 -0.8**
comp=Z,39nm,0.7s,mb5.1
TCF Toulx Ste Croi 90.41 41 eP **P 07 49 13.7 -0.8**
TCF pmax pmax
comp=Z,19nm,0.7s,mb5.1
LASF Ste Croix 90.56 44 eP **P 07 49 15.1 -0.2**
comp=Z,32nm,0.6s,mb5.2
LBL Lubilhac 90.63 42 eP **P 07 49 17.4 +1.8**
PYM Petit Puy Mans 90.69 42 eP **P 07 49 17.2 +1.4**
AGO Saint Agoulin 90.89 42 eP **P 07 49 18.1 +1.3**
COLF Collangettes 91.03 42 eP **P 07 49 18.2 +0.7**
HYF Humbligny 91.09 40 eP **P 07 49 17.0 -0.7**
PLDF La Plantade 91.17 42 eP **P 07 49 19.5 +1.4**
AVF Avril sur Loir 91.33 41 eP **P 07 49 17.8 -1.0**
comp=Z,37nm,0.7s,mb5.2
AVF Avril sur Loir 91.33 41 eP **P 07 49 17.8 -1.0**
AVF pmax pmax
comp=Z,18nm,0.7s,mb5.2
VIVF Saint-Julien-l 91.40 43 eP **P 07 49 19.3 +0.1**
comp=Z,69nm,0.8s,mb5.4
VIVF Saint-Julien-l 91.40 43 eP **P 07 49 19.3 +0.1**
VIVF pmax pmax
comp=Z,35nm,0.8s,mb5.4
EKA Eskdalemuir Ar 91.47 32 P **P 07 49 18.5 -0.7**
comp=Z,12nm,0.8s,mb5.0,baz=242,slow=6.8,SNR=36
EKA Eskdalemuir Ar 91.47 32 P **P 07 49 18.5 -0.7**
EKA pmax pmax
comp=Z,12nm,0.8s
SSF Saint Saulge 91.54 41 eP **P 07 49 18.5 -1.3**
comp=Z,15nm,0.8s,mb5.1
SSF Saint Saulge 91.54 41 eP **P 07 49 18.5 -1.3**
SSF pmax pmax
comp=Z,15nm,0.8s,mb5.1
SMF Signal de Mont 91.58 41 eP **P 07 49 19.3 -0.7**
comp=Z,72nm,0.8s,mb5.5
SMF Signal de Mont 91.58 41 eP **P 07 49 19.3 -0.7**
SMF pmax pmax
comp=Z,36nm,0.8s,mb5.5
SMRF Simiane la Rot 91.66 44 eP **P 07 49 20.7 +0.3**
comp=Z,42nm,0.7s,mb5.3
LOR Lormes 91.84 41 eP **P 07 49 20.0 -1.1**
comp=Z,26nm,0.6s,mb5.1
LOR eR
comp=Z,191nm,22.2s
LOR Lormes 91.84 41 eP **P 07 49 20.0 -1.1**
LOR pmax pmax
comp=Z,13nm,0.6s,mb5.1
LOR MLR MLR
comp=Z,190nm,22.3s
LMR La Mourre 92.04 45 eP **P 07 49 21.9 -0.2**
comp=Z,30nm,0.6s,mb5.2
LMR La Mourre 92.04 45 eP **P 07 49 21.9 -0.2**
LMR pmax pmax
comp=Z,15nm,0.6s,mb5.2
SUMG Summit 92.13 9 eP **P 07 49 22.8 +0.9**
comp=Z,49nm,1.0s,mb5.5
FRF La Foret Royal 92.22 45 eP **P 07 49 22.7 -0.2**
comp=Z,23nm,0.6s,mb5.1
FRF La Foret Royal 92.22 45 eP **P 07 49 22.7 -0.2**
FRF pmax pmax
comp=Z,11nm,0.6s,mb5.1
ORIF Oris-en-Rattie 92.22 43 eP **P 07 49 23.4 +0.5**
comp=Z,128nm,0.7s,mb5.8
ORIF eR
comp=Z,372nm,19.2s
GRN Grenoble 92.25 43 eP **P 07 49 24.0 +0.9**
OG05 Jujurieux 92.37 42 eP **P 07 49 23.8 +0.2**
CALN Calern 92.45 45 eP **P 07 49 25.0 +1.0**
LSZ Lusaka 92.67 107 eP **P 07 49 25.8 +0.2**
comp=Z,7.7nm,0.7s,mb4.9
LSZ Lusaka 92.67 107 eP **P 07 49 25.8 +0.2**
LSZ pmax pmax
comp=Z,8.0nm,0.7s,mb5.0
SURF Saint Ours 92.67 44 eP **P 07 49 26.3 +1.3**
MVIF Mont Vial 92.68 45 eP **P 07 49 25.9 +0.8**
MBDF Montbardon 92.73 44 eP **P 07 49 25.6 +0.3**
comp=Z,30nm,0.8s,mb5.2
MBDF Montbardon 92.73 44 eP **P 07 49 25.6 +0.3**
MBDF pmax pmax
comp=Z,15nm,0.8s,mb5.2
REVF Revere 92.77 45 eP **P 07 49 26.0 +0.5**
TOUF Mont Tournerai 92.79 45 eP **P 07 49 26.3 +0.7**
BNI Bardonecchia 92.79 44 eP **P 07 49 25.7 +0.2**
comp=Z,22nm,1.3s,mb5.1
BNI Bardonecchia 92.79 44 eP **P 07 49 25.7 +0.1**
BNI pmax pmax
comp=Z,22nm,1.3s,mb5.1
RRL Cesana Torines 92.81 44 P **P 07 49 26.4 +0.7**
SBF Sospel 92.86 45 eP **P 07 49 25.7 -0.2**
comp=Z,40nm,0.7s,mb5.4
SBF Sospel 92.86 45 eP **P 07 49 25.7 -0.2**
SBF pmax pmax
comp=Z,20nm,0.7s,mb5.4
AUTN L'Aution 92.90 45 eP **P 07 49 26.5 +0.4**
STV Sta Anna Valdi 92.93 44 P **P 07 49 26.6 +0.4**
ENR Entracque 92.98 45 P **P 07 49 26.4 -0.1**
SAOF Saorge 92.99 45 eP **P 07 49 27.1 +0.6**
CABF La Chapelle 92.99 42 eP **P 07 49 26.1 -0.3**
comp=Z,20nm,0.7s,mb5.0
CABF La Chapelle 92.99 42 eP **P 07 49 26.1 -0.3**
CABF pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
LPL La Plagne 93.00 43 eP **P 07 49 27.1 +0.6**
comp=Z,65nm,0.8s,mb5.5
LPL La Plagne 93.00 43 eP **P 07 49 27.1 +0.6**
LPL pmax pmax
comp=Z,33nm,0.8s,mb5.5
LPG La Plagne 93.01 43 eP **P 07 49 27.3 +0.8**
comp=Z,74nm,0.8s,mb5.6
LPG La Plagne 93.01 43 eP **P 07 49 27.3 +0.8**
LPG pmax pmax
comp=Z,37nm,0.8s,mb5.6
NEGI Negi 93.04 45 P **P 07 49 27.3 +0.6**
FENE Fenestrelle 93.04 44 P **P 07 49 27.2 +0.5**
MEZF Maizieres J'vi 93.07 40 eP **P 07 49 26.0 -0.7**
comp=Z,62nm,0.6s,mb5.6
BHB Bricherasio 93.10 44 P **P 07 49 26.3 -0.7**
MONE Monesi 93.16 45 P **P 07 49 28.1 +0.9**
BAIF Baives 93.17 38 eP **P 07 49 26.3 -0.8**
comp=Z,22nm,0.7s,mb5.1
BAIF Baives 93.17 38 eP **P 07 49 26.3 -0.8**
BAIF pmax pmax
comp=Z,11nm,0.7s,mb5.1
IMI Imperia 93.19 45 P **P 07 49 27.1 -0.3**
RSP Reno Superiore 93.21 44 P **P 07 49 27.7 +0.2**
LSD Ceresole Reale 93.26 43 P **P 07 49 28.7 +1.0**
ROB Roburent 93.31 45 P **P 07 49 27.3 -0.6**
PGF Pioggiola 93.46 47 eP **P 07 49 28.9 +0.2**
comp=Z,17nm,0.7s,mb5.0
PGF Pioggiola 93.46 47 eP **P 07 49 28.9 +0.2**
PGF pmax pmax
comp=Z,9.0nm,0.7s,mb5.0
FIN Finale Ligure 93.51 45 P **P 07 49 28.2 -0.6**
THEF They Montfort 93.54 40 eP **P 07 49 28.6 -0.3**
GIVF Givet 93.55 38 eP **P 07 49 28.3 -0.6**
comp=Z,71nm,0.7s,mb5.6
GIVF Givet 93.55 38 eP **P 07 49 28.3 -0.6**
GIVF pmax pmax
comp=Z,35nm,0.7s,mb5.6
TRAV 93.67 43 P **P 07 49 29.1 -0.4**
HAU Haudompre 93.68 41 eP **P 07 49 28.8 -0.7**
comp=Z,25nm,0.9s,mb5.1
HAU eR
comp=Z,205nm,21.5s
HAU Haudompre 93.68 41 eP **P 07 49 28.8 -0.7**
HAU pmax pmax
comp=Z,13nm,0.9s,mb5.1
HAU MLR MLR
comp=Z,200nm,21.5s
PCP Pian Castagno 93.85 45 P **P 07 49 29.8 -0.6**
ORX Oropa 93.86 43 P **P 07 49 28.7 -1.7**
HINF Hinteralfeld 93.93 41 eP **P 07 49 29.7 -0.9**
comp=Z,24nm,0.7s,mb5.2
HINF Hinteralfeld 93.93 41 eP **P 07 49 29.7 -0.9**
HINF pmax pmax
comp=Z,12nm,0.7s,mb5.1
MOF Molkenrain 94.12 41 eP **P 07 49 30.9 -0.6**
WLF Walferdange 94.18 39 eP **P 07 49 31.9 +0.2**
comp=Z,38nm,1.4s,mb5.3
WLF Walferdange 94.18 39 eP **P 07 49 32.0 +0.3**
WLF pmax pmax
comp=Z,38nm,1.4s,mb5.3
ECH Echery 94.26 41 eP **P 07 49 30.2 -1.9**
CDF Champ du Feu 94.41 41 eP **P 07 49 32.2 -0.6**
comp=Z,34nm,0.8s,mb5.2
CDF Champ du Feu 94.41 41 eP **P 07 49 32.2 -0.6**
CDF pmax pmax
comp=Z,17nm,0.8s,mb5.2
WLS Welschbruch 94.46 41 eP **P 07 49 32.6 -0.4**
FELD Feldberg 94.67 41 eP **P 07 49 33.7 -0.3**
CODM 94.67 45 P **P 07 49 35.9 +1.8**
RUP Ruppelstein 94.74 39 eP **P 07 49 34.3 0.0**
VINC Vinca 94.80 45 P **P 07 49 33.0 -1.7**
GRAM 94.85 45 P **P 07 49 35.1 +0.1**
LANF Langenberg 94.94 40 eP **P 07 49 35.4 +0.2**
MAIM 94.95 46 P **P 07 49 34.3 -1.1**
SARO Sassorosso 94.98 45 P **P 07 49 34.6 -0.9**
BFO Black Forest 95.04 41 eP **P 07 49 35.9 +0.2**
comp=Z,8.0nm,0.9s,mb5.0
BFO Black Forest 95.04 41 eP **P 07 49 35.9 +0.2**
BFO pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
ABH Alteburg 95.10 39 eP **P 07 49 35.9 0.0**
KTD Kalmit 95.23 40 eP **P 07 49 36.6 +0.1**
MIR Mirnyy 95.29 173 eP **P 07 49 36.0 -0.4**
MIR pmax pmax
comp=Z,23nm,1.6s,mb5.2
DAVOX Davos 95.50 43 P **P 07 49 38.6 +0.8**
comp=Z,19nm,0.7s,mb5.5,baz=205,slow=3.9,SNR=31
DAVOX PKKPbc 08 06 28.9
comp=Z,3.4nm,0.7s,baz=166,slow=22,SNR=5.2
DAVA Damuels 95.66 42⇑iP **P 07 49 39.3 +0.8**
comp=Z,45nm,1.5s,mb5.6
STU Stuttgart 95.73 41 eP **P 07 49 38.0 -0.8**
comp=Z,35nm,0.8s,mb5.7
STU Stuttgart 95.73 41 eP **P 07 49 38.0 -0.8**
STU pmax pmax
comp=Z,35nm,0.8s,mb5.7
TNS Taunus Mts 95.77 39 eP **P 07 49 39.4 +0.5**
comp=Z,26nm,0.8s,mb5.6
TNS Taunus Mts 95.77 39 eP **P 07 49 39.4 +0.5**
TNS pmax pmax
comp=Z,26nm,0.8s,mb5.6
MOTA Moosalm 96.47 42⇑iP **P 07 49 42.6 +0.4**
comp=Z,10nm,1.0s,mb5.1
MOTA Moosalm 96.47 42⇑iP **P 07 49 42.6 +0.4**
MOTA pmax pmax
comp=Z,10.0nm,1.0s,mb5.1
SQTA Sankt Quirin 96.50 43⇑iP **P 07 49 43.0 +0.7**
comp=Z,14nm,0.9s,mb5.3
SQTA Sankt Quirin 96.50 43⇑iP **P 07 49 43.0 +0.7**
SQTA pmax pmax
comp=Z,15nm,0.9s,mb5.3
CASY Casey 96.57 180⇓iP **P 07 49 42.7 +0.5**
WATA Walderalm 96.77 43⇑iP **P 07 49 44.2 +0.6**
comp=Z,6.9nm,0.9s,mb5.0
WATA Walderalm 96.77 43⇑iP **P 07 49 44.2 +0.6**
WATA pmax pmax
comp=Z,7.0nm,0.9s,mb5.0
WTTA Wattenberg 96.79 43⇓iP **P 07 49 44.4 +0.7**
comp=Z,24nm,1.0s,mb5.5
WTTA Wattenberg 96.79 43⇓iP **P 07 49 44.4 +0.7**
WTTA pmax pmax
comp=Z,24nm,1.0s,mb5.5
INK Inuvik 96.89 340 PKKPbc 08 06 25.1
comp=Z,5.0nm,0.6s,baz=327,slow=3.5,SNR=25
INK Inuvik 96.89 340 eP **P 07 49 43.2 -0.5**
comp=Z,14nm,0.8s,mb5.3
INK epP pP 07 50 15.7 -4.2
INK Inuvik 96.89 340 eP **P 07 49 43.2 -0.5**
INK pmax pmax
comp=Z,14nm,0.8s
DAWY Dawson 97.02 335 eP **P 07 49 43.5 -0.8**
DAWY epP pP 07 50 16.9 -3.7
GRA1 Grafenberg Arr 97.28 40 eP **P 07 49 46.5 +0.6**
comp=Z,20nm,0.8s,mb5.5
GRA1 ePKKP PKKP 08 06 24.1 +17
GRF Grafenberg Arr 97.28 40 eP **P 07 49 46.5 +0.6**
comp=Z,20nm,0.8s,mb5.5
GRF ePKKP PKKP 08 06 24.1 +17
GRF Grafenberg Arr 97.28 40 eP **P 07 49 46.5 +0.6**
GRF pmax pmax
comp=Z,20nm,0.8s,mb5.5
GRF Grafenberg Arr 97.28 40 eP **P 07 49 46.5 +0.6**
GRF pmax pmax
comp=Z,20nm,0.8s,mb5.5
CLZ Clausthal 97.45 38 eP **P 07 49 47.3 +0.7**
comp=Z,21nm,0.9s,mb5.5
CLZ Clausthal 97.45 38 eP **P 07 49 47.3 +0.7**
CLZ pmax pmax
comp=Z,21nm,0.9s,mb5.5
MOX Moxa 97.82 39 iP **P 07 49 48.8 +0.6**
MOX Moxa 97.82 39 eP **P 07 49 48.8 +0.6**
KBA Koelnbreinsper 97.84 43⇑iP **P 07 49 48.8 +0.3**
comp=Z,35nm,1.9s,mb5.5
KBA Koelnbreinsper 97.84 43⇑iP **P 07 49 48.8 +0.3**
KBA pmax pmax
comp=Z,35nm,1.9s,mb5.5
BSEG Bad Segeberg 98.08 36 eP **P 07 49 49.8 +0.5**
WET Wettzell 98.15 41 eP **P 07 49 50.1 +0.3**
comp=Z,10.0nm,0.9s,mb5.2
WET Wettzell 98.15 41 eP **P 07 49 50.1 +0.3**
WET pmax pmax
comp=Z,10.0nm,0.9s,mb5.2
NKC Novy Kostel 98.20 40 eP **P 07 49 50.8 +0.8**
NKC AMS AMS 08 31 10.0
comp=Z,200nm,18.5s
OBKA Obir 98.47 44⇑iP **P 07 49 52.6 +1.3**
comp=Z,8.7nm,0.8s,mb5.2
GEC2 GERESS Array S 98.58 42 eP **P 07 49 51.9 +0.1**
comp=Z,10.0nm,0.8s,mb5.3
GEC2 GERESS Array S 98.58 42 eP **P 07 49 51.9 +0.1**
GEC2 pmax pmax
comp=Z,10.0nm,0.8s,mb5.3
GERES GERESS Array B 98.58 42 P **P 07 49 51.8 +0.1**
comp=Z,7.4nm,0.8s,mb5.2,baz=241,slow=3.5,SNR=41
GERES PP PP 07 53 51.5 -4.7
comp=Z,1.5nm,0.9s,baz=252,slow=4.2,SNR=3.6
GERES PKKPbc 08 06 19.7
comp=Z,1.2nm,0.7s,baz=90,slow=4.0,SNR=8.1
GERES GERESS Array B 98.58 42 P **P 07 49 51.8 0.0**
GERES 07 53 51.5
GERES pmax pmax
comp=Z,7.0nm,0.8s
GERES pmax pmax
comp=Z,2.0nm,0.9s
GERES pmax pmax
comp=Z,1.0nm,0.7s
KHC Kasperske Hory 98.58 41 eP **P 07 49 52.3 +0.5**
KHC AMS AMS 08 36 10.0
comp=Z,100nm,22.1s
MOA Molln 98.66 43⇑iP **P 07 49 52.2 0.0**
comp=Z,5.0nm,0.9s,mb4.9
CLL Collm 98.85 39 ⇑P **P 07 49 53.4 +0.4**
comp=Z,logA/T=1.3,mb5.5
CLL Collm 98.85 39⇑iP **P 07 49 53.4 +0.4**
comp=Z,15nm,0.8s,mb5.5
CLL Collm 98.85 39⇑iP **P 07 49 53.4 +0.4**
CLL pmax pmax
comp=Z,15nm,0.8s,mb5.5
BRG Berggiesshubel 99.30 40 eP **P 07 49 55.2 +0.2**
comp=Z,4.8nm,1.0s,mb4.9
BRG Berggiesshubel 99.30 40 eP **P 07 49 55.2 +0.2**
BRG pmax pmax
comp=Z,5.0nm,1.0s,mb4.9
PRU Pruhonice 99.43 41 eP **P 07 49 56.1 +0.5**
PRU AMS AMS 08 31 50.0
comp=Z,100nm,23.8s
PVCC Panska Ves 99.59 40 AMS AMS 08 32 00.0
comp=Z,300nm,25.2s
SML Sawmill 99.98 332 Pdif **P 07 49 56.9 -0.9**
ILAR Eielson Array 100.30 335 P P 07 49 59.0 -0.1
comp=Z,1.5nm,0.8s,baz=128,slow=3.1,SNR=12
ILAR pP 07 50 35.1
comp=Z,0.3nm,0.5s,baz=243,slow=18,SNR=1.5
ILAR PP PP 07 53 56.1 -13
comp=Z,1.1nm,0.7s,baz=97,slow=7.8,SNR=4.6
ILAR PKKPbc 08 06 14.7
comp=Z,1.3nm,0.6s,baz=288,slow=3.6,SNR=15
UPC Upice 100.47 40 eP P 07 50 01.1 +0.8
VRAC Vranov 100.54 42 P P 07 50 00.9 +0.3
comp=Z,3.9nm,0.7s,baz=233,slow=2.7,SNR=4.1
VRAC Vranov 100.54 42 P P 07 50 00.9 +0.3
VRAC pmax pmax
comp=Z,4.0nm,0.7s
DPC Dobruska-Polom 100.63 41 eP P 07 50 02.2 +1.2
DPC AMS AMS 08 33 40.0
comp=Z,100nm,20.4s
NB2 NORSAR Subarra100.67 29 P P 07 50 01.9 +1.0
comp=Z,2.9nm,1.0s,baz=248,slow=4.5
NB2 NORSAR Subarra100.67 29 P P 07 50 01.9 +1.0
baz=248,slow=4.6
NB2 NORSAR Subarra100.67 29 P P 07 50 01.9 +1.0

NB2 pmax pmax
comp=Z,3.0nm,1.0s
NOA NORSAR Array B 100.67 29 P P 07 50 01.9 +0.9
comp=Z,1.6nm,0.8s,baz=251,slow=4.2,SNR=6.2
NOA PKKPbc 08 06 14.4
comp=Z,1.4nm,0.7s,baz=259,slow=3.1,SNR=4.8
NOA NORSAR Array B 100.67 29 P P 07 50 01.9 +1.0
NOA pmax pmax
comp=Z,2.0nm,0.8s
NOA pmax pmax
comp=Z,1.0nm,0.7s
MORC Moravsky Berou 101.25 41 Pdif P 07 50 04.4 +0.6
comp=Z,6.4nm,0.8s
MORC Moravsky Berou 101.25 41 P P 07 50 04.4 +0.6
MORC pmax pmax
comp=Z,6.0nm,0.8s
HFS Hagfors 101.61 30 P P 07 50 05.4 +0.2
comp=Z,3.3nm,0.7s,baz=207,slow=3.3,SNR=5.8
HFS PKKPbc 08 06 11.3
comp=Z,2.5nm,0.7s,baz=124,slow=5.3,SNR=5.1
HFS Hagfors 101.61 30 P P 07 50 05.4 +0.3
HFS pmax pmax
comp=Z,3.0nm,0.7s
HFS pmax pmax
comp=Z,3.0nm,0.7s
OKC Ostrava-Krasne 101.65 41 AMS AMS 08 38 20.0
comp=Z,100nm,15.7s
FINES FINESS Array B 107.81 30 PKiKP 07 54 38.1
comp=Z,1.6nm,0.8s,baz=270,slow=7.6,SNR=4.4
FINES PKKPbc 08 05 52.6
comp=Z,2.8nm,0.8s,baz=90,slow=7.6,SNR=3.8
FINES PKKP PKKP 08 06 06.6 +19
comp=Z,1.5nm,0.7s,baz=90,slow=3.8,SNR=5.5
ARCES ARCESS Array B 107.94 22 PKKPbc 08 05 52.4
comp=Z,4.7nm,0.5s,baz=90,slow=2.4,SNR=4.7
ARCES PKKP PKKP 08 06 05.3 +18
comp=Z,3.2nm,0.7s,baz=90,slow=7.3,SNR=5.2
AKASG Malin Array Be 108.80 42 PKiKP 07 54 40.8
comp=Z,1.1nm,0.4s,baz=272,slow=2.6,SNR=7.8
AKASG PP PP 07 55 05.0 -8.3
comp=Z,0.3nm,0.3s,baz=259,slow=7.2,SNR=4.5
AKASG PKKPbc 08 05 50.2
comp=Z,1.5nm,0.6s,baz=69,slow=3.6,SNR=7.5
AKASG PKKP PKKP 08 06 02.6 +16
comp=Z,0.8nm,0.6s,baz=76,slow=3.8,SNR=4.7
AKASG Malin Array Be 108.80 42 PKPdf 07 54 40.8
AKASG PP PP 07 55 05.0 -8.3
AKASG PKKPbc 08 05 50.2
AKASG PKKP PKKP 08 06 02.6 +16
BRTR Keskin Array B 110.94 54 PKKPbc 08 05 43.5
comp=Z,0.7nm,0.5s,baz=117,slow=5.5,SNR=3.5
BRTR PKKP PKKP 08 05 53.8 +11
comp=Z,3.5nm,0.8s,baz=108,slow=3.9,SNR=11
ASF Jabal al Asfar 112.77 62 PKiKP 07 54 50.5
comp=Z,1.2nm,0.4s,baz=91,slow=2.1,SNR=5.3
ASF Jabal al Asfar 112.77 62 *i* PKIKP PKPdf 07 54 50.5 +2.4
ASF pmax pmax
comp=Z,1.0nm,0.4s
OBN Obninsk 113.31 37 *e*PKP PKPdf 07 54 49.9 +1.3
OBN Obninsk 113.31 37⇑ *i*PKIKP PKPdf 07 54 50.0 +1.4
OBN 07 55 40.0
OBN *e* 07 58 14.7
OBN pmax pmax
comp=Z,11nm,0.6s
OBN MLR MLR
comp=Z,200nm,19.0s
MALT Malatya 114.55 55 *e*PKPdf PKPdf 07 54 53.0 +1.5
SOC Sochi 115.68 50*c i*PKIKP PKPdf 07 54 55.1 +1.5
SOC *e* 07 56 02.7
SOC *e* 08 01 36.3
SOC pmax pmax
comp=N,7.0nm,0.5s
SOC pmax pmax
comp=E,7.0nm,0.5s
SOC pmax pmax
comp=Z,17nm,0.5s
KIV Kislovodsk 117.82 49 *i* PKIKP PKPdf 07 54 59.0 +1.4
KIV 07 56 12.0
BILL Bilibino 118.50 339 *i* PKIKP PKPdf 07 55 00.1 +1.7
ZEI Tsey 118.76 50 *e*PKIKP PKPdf 07 55 01.5 +2.0
ZEI *i* 07 56 18.7
GNI Garni 119.48 53 *e*PKP PKPdf 07 55 03.1 +2.1
STKA Stephens Creek 122.61 212⇓ *i*P PKPdf 07 55 08.4 +1.2
comp=Z,20nm,0.6s
STKA Stephens Creek 122.61 212 PKP PKPdf 07 55 08.6 +1.3
comp=Z,24nm,0.6s,baz=108,slow=2.8,SNR=56
STKA PKKPbc 08 05 02.1
comp=Z,4.0nm,0.7s,baz=317,slow=7.4,SNR=6.2
TIXI Tiksi 124.67 353 *e*PKP PKPdf 07 55 10.8 +0.6
ARU Arti 125.08 32 *i* PKIKP PKPdf 07 55 12.9 +1.5
ARU *e* 07 57 05.4
ARU *e* 08 02 10.0
ARU *e*SS SS 08 13 53.3 +5.1
SVE Sverdlovsk 125.95 31 *e*PKIKP PKPdf 07 55 14.8 +1.8
SVE *e* 07 55 52.5
SVE *e* 07 57 05.0
SEY Seymchan 126.10 338 *e*PKP PKPdf 07 55 15.5 +2.4
SEY Seymchan 126.10 338 *e*PKIKP PKPdf 07 55 15.2 +2.1
SEY *e* 08 14 04.4
SEY pmax pmax
comp=Z,8.0nm,0.9s
SEY pmax pmax
comp=E,5.0nm,1.0s
PET Petropavlovsk 128.40 325 *e*PKP PKPdf 07 55 19.0 +1.1
CTA Charters Tower 128.77 225⇓ *i*P PKPdf 07 55 20.8 +1.3
comp=E,20nm,0.7s
CTAO Charters Tower 128.77 225 *e*PKPdf PKPdf 07 55 20.8 +1.3
MA2 Magadan 128.78 335 *e*PKP PKPdf 07 55 19.6 +1.2
NWAO Narrogin (SRO) 129.54 187 PKP PKPdf 07 55 21.2 +0.6
comp=E,28nm,0.8s,baz=167,slow=3.9,SNR=10.0
NWAO SKPbc 07 58 32.1
comp=E,18nm,1.1s,baz=218,slow=5.7,SNR=3.4
NWAO Narrogin (SRO) 129.54 187 PKP PKPdf 07 55 21.2 +0.6
NWAO SKPbc 07 58 32.1
NWAO Narrogin (SRO) 129.54 187 PKIKP PKPdf 07 55 21.2 +0.6
NWAO pmax pmax
comp=Z,28nm,0.8s
NWAO pmax pmax
comp=E,18nm,1.1s
MUN Mundaring 130.59 186⇓ *i*P PKPdf 07 55 23.5 +0.9
comp=E,12nm,0.5s
KLBR Kellerberrin 130.78 188⇓ *i*P PKPdf 07 55 23.8 +0.8
comp=E,29nm,0.6s
SKR Severo-Kuril's 130.82 323 *e*PKIKP PKPdf 07 55 20.5 -2.0
BRVK Borovoye 132.65 32 *e*PKPdf PKPdf 07 55 27.8 +1.9
BVAR Borovoye Array 132.72 32 SKPbc 07 58 43.9
comp=E,8.3nm,0.9s,baz=315,slow=2.1,SNR=15
BVAR SKKPbc 08 08 04.2
comp=E,1.7nm,0.7s,baz=108,slow=4.6,SNR=6.8
YAK Yakutsk 133.40 348 *e*PKP PKPdf 07 55 28.2 +1.1
WB2 Warramunga Arr 136.08 213 *i* PKPdf 07 55 34.6 +1.5
WB2 *e*S 07 59 05.6
WRA Warramunga Arr 136.09 213 PKP PKPdf 07 55 34.5 +1.3
comp=E,44nm,0.6s,baz=150,slow=1.8,SNR=57
WRA SKPbc 07 58 55.9
comp=E,4.6nm,0.8s,baz=140,slow=2.7,SNR=5.7
WRA Warramunga Arr 136.09 213 PKIKP PKPdf 07 55 34.5 +1.3
WRA pmax pmax
comp=Z,44nm,0.6s
WRA pmax pmax
comp=E,5.0nm,0.8s
WRAB Tennant Creek 136.09 213 *e*PKPdf PKPdf 07 55 34.7 +1.6
NVS Novosibirsk 137.20 23⇓ *i*PKIKP PKPdf 07 55 35.8 +1.6
NVS *i* 07 56 13.3
NVS pmax pmax
comp=E,14nm,1.1s
NVS pmax pmax
comp=Z,38nm,1.1s
KURK Kurchatov 138.18 30 *e*PKPdf PKPdf 07 55 37.5 +1.3
ZAL Zalesovo 138.48 23 PKP PKPdf 07 55 38.3 +1.7
comp=Z,21nm,0.8s,baz=183,slow=2.4,SNR=34
ZAL pPKP 07 56 14.9
comp=Z,7.4nm,0.9s,baz=115,slow=1.5,SNR=2.1
ZAL SKPbc 07 59 01.0
comp=Z,11nm,0.7s,baz=169,slow=3.8,SNR=14
ZAL Zalesovo 138.48 23 PKIKP PKPdf 07 55 38.3 +1.7
ZAL 07 56 14.9
ZAL pmax pmax
comp=Z,21nm,0.8s
ZAL pmax pmax
comp=Z,7.0nm,0.9s
ZAL pmax pmax
comp=E,11nm,0.7s
BOD Bodaibo 139.56 357 *e*PKHKP 07 55 29.9
BOD *e* 07 55 39.2
BOD pmax pmax
comp=Z,4.0nm,0.7s
BOD pmax pmax
comp=Z,11nm,1.5s
EKS2 Erkin-Say 139.97 43 P PKPdf 07 55 42.8 +3.1
SNR=28
USP Ospenovka 140.15 42 P PKPdf 07 55 42.7 +2.7
SNR=8.2
AML Almayashu 140.16 44 P PKPdf 07 55 43.6 +3.6
SNR=22
YSS Yuzh-Sakhalins 140.29 325 *e*PKPdf PKPdf 07 55 42.0 +1.9
FRU Bishkek 140.44 43 *e*PKIKP PKPdf 07 55 41.0 +0.5
AAK Ala-Archa 140.45 43 P PKPdf 07 55 43.7 +3.2
SNR=6.5
AAK Ala-Archa 140.45 43 *e*PKPdf PKPdf 07 55 42.7 +2.2
AAK *e* 07 56 22.9
MBWA Marble Bar 140.61 194 *e*PKPdf PKPdf 07 55 42.6 +1.2
TKM2 Tokmak 2 141.02 42 P PKPdf 07 55 44.4 +2.8
SNR=8.4
KZA Kyzart 141.21 43 P PKPdf 07 55 45.5 +3.6
SNR=7.9
FITZ Fitzroy Crossi 141.68 204⇑ *i*P PKPdf 07 55 38.2 -5.2
comp=Z,66nm,0.7s
ULHL Ulahol 141.77 42 P PKPdf 07 55 45.8 +3.0
SNR=14
MKAR Makanchi Array 142.60 32 PKhKP 07 55 41.4
comp=Z,6.0nm,0.7s,baz=326,slow=3.0,SNR=44
MKAR PKP PKPdf 07 55 45.7 +1.5
comp=Z,7.5nm,0.6s,baz=311,slow=1.9,SNR=28
MKAR SKPbc 07 59 11.0
comp=Z,6.2nm,0.6s,baz=297,slow=2.7,SNR=10.0
MKAR Makanchi Array 142.60 32 PKP PKPdf 07 55 41.4 -2.8
MKAR PKP PKPdf 07 55 45.7 +1.5
MKAR SKPbc 07 59 11.0
MKAR Makanchi Array 142.60 32 PKIKP PKPdf 07 55 41.4 -2.7
MKAR pmax pmax
comp=Z,6.0nm,0.7s
MKAR pmax pmax
comp=Z,8.0nm,0.6s
MKAR pmax pmax
comp=E,6.0nm,0.6s
KSH Kashi 142.88 46 *e*PKP PKPdf 07 55 45.0 +0.2
KSH *e*APKP 07 56 27.0
KSH *e*PP PP 07 59 06.8 +8.2
KSH *e*PKS PKS 07 59 19.0 -0.4
KSH *e*SKKS 08 05 38.0
KSH PP PP
comp=Z,200nm,3.8s
KSH LR LR
comp=N,200nm,5.3s
KSH LR LR
comp=E,180nm,5.2s
KAKA Kakadu 143.02 217⇑ *i*P PKPdf 07 55 49.4 +3.6
comp=E,54nm,0.6s
KLR Kul'dur 143.86 336 *e*PKHKP 07 55 40.9
KLR pmax pmax
comp=N,24nm,1.4s
KLR pmax pmax
comp=Z,38nm,1.4s
IRK Irkutsk 144.90 7 *e*PKIKP PKPdf 07 55 48.7 +0.8
IRK *e* 07 56 25.9
IRK pmax pmax
comp=Z,215nm,1.4s
MOY Mondy 145.00 10 *e*PKIKP PKPdf 07 55 50.8 +2.7
MOY *e* 07 56 27.8
MOY pmax pmax
comp=Z,146nm,1.4s
POO Poona 145.22 82 *e*P PKPdf 07 55 50.6 +1.1
POO AMb AMB 07 55 52.4
comp=Z,56nm,1.0s
CIT Chita 145.37 357 *e*PKIKP PKPdf 07 55 51.5 +2.7
CIT *e* 07 56 28.5
CIT *e* 07 59 17.1
CIT pmax pmax
comp=Z,275nm,1.6s
TLY Talaya 145.38 7 *e*PKPdf PKPdf 07 55 51.5 +2.8
TLY *e* 07 56 28.6
KAD Karad 145.43 85 *i* P PKPdf 07 55 51.0 +1.1
TRD Trivandrum 146.25 101 *e*P PKPdf 07 55 54.2 +2.8
TRD AMb AMB 07 55 56.5
comp=Z,112nm,1.5s
ZAK Zakamensk 146.60 8 *e*PKP2 PKPab 07 55 53.2 -3.1
ZAK pmax pmax
comp=Z,33nm,1.1s
ZAK pmax pmax
comp=Z,24nm,1.3s
HIA Hailar 147.33 349 *e*PKPdf PKPdf 07 55 54.0 +1.9
HIA *e*PKPbc PKPdf 07 55 56.6 +4.5
WMQ Urumqi 147.41 31 PKP PKPdf 07 55 55.0 +2.6
WMQ PP PP 07 59 27.0 +1.4
WMQ SKS SKS 08 02 49.0 +4.1
WMQ SKKS 08 06 02.0
WMQ SS SS 08 18 16.0 +1.6
WMQ PP PP
comp=Z,78nm,10.0s
WMQ LR LR
comp=N,79nm,20.0s
WMQ LR LR
comp=E,72nm,20.0s
WMQ LR LR
comp=Z,84nm,21.0s
NDI New Delhi 147.54 64 *e*P PKPdf 07 55 52.0 -1.1
MDJ Mudanjiang 148.45 333 PKP PKPdf 07 55 55.6 +1.5
MDJ APKP 07 56 27.2
MDJ PP PP 07 59 31.4 0.0
MDJ SKS SKS 08 02 46.0 -0.4
MDJ PP PP
comp=Z,109nm,4.5s
MDJ LR LR
comp=N,107nm,35.1s
MDJ LR LR
comp=E,88nm,42.8s
MDJ LR LR
comp=Z,80nm,27.5s
MDJ Mudanjiang 148.45 333 *e*PKPdf PKPdf 07 55 55.8 +1.7
MDJ *e*PKPbc PKPdf 07 55 59.6 +5.5
MDJ *e*PKPab PKPab 07 56 03.0 -0.7
BHPL Bhopal 148.55 74 *e*P PKPdf 07 55 57.0 +2.0
BHPL AMb AMB 07 56 04.5
comp=Z,47nm,0.9s
MAJO Matsushiro 148.93 313 *e*PKPdf PKPdf 07 55 57.2 +2.0
MAJO *e*PKPbc PKPdf 07 56 01.2 +6.1
MAT Matsushiro 148.93 313 PKP PKPdf 07 55 56.8 +1.7
MAT Matsushiro 148.93 313 *e*PKP PKPdf 07 55 57.0 +1.9
CBIJ Chichi jima 149.14 294 PKPbc PKPdf 07 56 00.8 +5.0
comp=Z,60nm,0.4s,baz=269,slow=22,SNR=4.8
JHJ Hachijo jima 2 149.32 306 PKPbc PKPdf 07 56 01.8 +6.0
comp=Z,264nm,0.7s,baz=243,slow=7.9,SNR=11
SONM Songino Array 149.47 5 PKP PKPdf 07 55 58.1 +2.5
comp=Z,35nm,0.6s,baz=334,slow=1.1,SNR=47
SONM PKPbc PKPdf 07 56 02.3 +6.7
comp=Z,35nm,0.6s,baz=318,slow=1.5,SNR=71
SONM pPKPbc 07 56 39.2
comp=Z,20nm,0.9s,baz=349,slow=2.0,SNR=3.2
SONM Songino Array 149.47 5 PKHKP 07 55 58.1
SONM pmax pmax
comp=Z,35nm,0.6s
SONM pmax pmax
comp=Z,35nm,0.6s
SONM pmax pmax
comp=Z,20nm,0.9s
HYB Hyderabad 149.60 85 *i* PKP PKPdf 07 55 59.0 +2.3
HYB *e* 07 56 02.0
HYB *e*pPKP 07 56 40.0
HYB Hyderabad 149.60 85 *e*P PKPdf 07 55 59.0 +2.3
HYB *e* 07 56 02.0
HYB *e* 07 56 40.0
CN2 Changchun 150.78 337 *e*PKP PKPdf 07 55 58.7 +1.0
CN2 PP PP 07 59 45.7 +0.8
CN2 PP PP
comp=Z,200nm,4.0s
KOLN Koldanda 153.22 63 *e*P PKPdf 07 56 03.3 +1.6
comp=Z,17nm,0.6s
GKN Gorkha 154.02 61 *e*P PKPdf 07 56 04.5 +1.7
comp=Z,18nm,0.5s
VIS Vishakhapatnam 154.16 85 *ex* x 07 56 23.0
VIS AMb AMB 07 56 25.4
comp=Z,51nm,0.7s
DMN Daman 154.54 62 *e*P PKPdf 07 56 05.3 +1.8
comp=Z,9.6nm,0.5s
KKN Kakani 154.63 62 *e*P PKPdf 07 56 05.3 +1.6
comp=Z,27nm,0.6s
PKI Pulchoki 154.81 62 *e*P PKPdf 07 56 05.3 +1.4
comp=Z,19nm,0.9s
KS15 Wonju Array Si 154.81 326 *e*PKPdf PKPdf 07 56 05.8 +2.2
KS15 *e*PKPbc PKPdf 07 56 14.7 +11
KS15 *e*PKPab PKPab 07 56 30.7 +0.2
BOK Bokaro 156.18 70 *e*P PKPdf 07 56 05.3 -0.5
BOK *ex* x 07 56 24.7
GTA Gaotai 156.20 21 *e*PKP PKPdf 07 56 08.3 +3.0
GTA PKP2 PKPab 07 56 40.4 +3.9
GTA PKS PKS 07 59 42.2 +3.7
GTA PP PP 08 00 14.7 -0.6
GTA SKS SKS 08 03 00.8 +5.1
GTA SKKS 08 06 52.9
GTA SS SS 08 19 58.1 +7.6
GTA PP PP
comp=Z,162nm,5.3s
GTA LR LR
comp=N,256nm,21.0s
GTA LR LR
comp=E,313nm,21.0s
GTA LR LR
comp=Z,66nm,22.5s
DL2 Dalian 156.45 338 PKP PKPdf 07 56 08.0 +2.3
HHC Hu-ho-hao-te 156.61 358 *e*PKP PKPdf 07 56 09.1 +3.2
HHC SKS SKS 08 02 58.3 +2.2
LSA Lhasa 158.54 52 PKP PKPdf 07 56 12.0 +3.3
LSA Lhasa 158.54 52 *e*PKPdf PKPdf 07 56 12.3 +3.5
LZH Lanzhou 160.49 16 *e*PKP PKPdf 07 56 13.5 +2.8
SHL Shillong 160.94 62 *e*P PKPdf 07 56 15.0 +3.6
SHL *ex* x 07 57 34.0
NJ2 Nanjing 163.54 334 *e*PKP PKPdf 07 56 15.6 +1.8
NJ2 PKP2 PKPab 07 57 08.4 0.0
NJ2 PP PP 08 00 54.0 -0.8
NJ2 PP PP
comp=Z,642nm,8.2s
NJ2 LR LR
comp=N,2μm,23.0s
NJ2 LR LR
comp=E,1μm,20.3s
NJ2 LR LR
comp=Z,2μm,24.7s
KSM Kuching 164.17 180 *e*PKPdf PKPdf 07 56 17.1 +2.1
WHN Wuhan 166.44 345 *e*PKP PKPdf 07 56 19.0 +2.5
ENH Enshi 167.16 4 *e*PKPdf PKPdf 07 56 19.2 +2.2
KMI Kunming 169.49 42 PKP PKPdf 07 56 21.4 +2.8
KMI PKP2 PKPab 07 57 34.4 -0.2
KMI PKS PKS 07 59 52.3 +2.1
KMI PP PP 08 01 27.0 +1.8
KMI SKKS 08 07 58.3
KMI PP PP
comp=Z,119nm,6.1s
KMI LR LR
comp=N,82nm,38.9s
KMI LR LR
comp=E,101nm,40.3s
KMI LR LR
comp=Z,98nm,33.2s
GYA Guiyang 170.33 21 *i* PKP PKPdf 07 56 21.4 +2.3
GYA APKP 07 56 53.2
GYA XPKP 07 57 08.6
GYA PKS PKS 07 59 52.7 +2.1
GYA PP PP
comp=Z,110nm,7.4s
GYA LR LR
comp=N,240nm,21.0s
GYA LR LR
comp=E,310nm,20.8s
GYA LR LR
comp=Z,270nm,21.9s

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*THR **06** 07:38:28.1±0.7,34.60N×53.30E,h15km±6km, ML3.4*
*CSEM **06** 07:38:29.6±0.1,34.59N×53.15E,h18km, ML3.9, Error ellipse: s-maj=2.5km s-min=1.9km az=80.0*
*TEH **06** 07:38:31.0,34.59N×53.10E,h10km, Mn3.9*
ISC 06 07:38:29.5±0.4,**34.65N**±0.03×**53.16E**±0.04,**h10**km,**n23,**
σ0°**99**/26,**Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAS	**Lasjerd**	**0.75**	**347**	Pg	**Pg**	**07 38 44.8**	**+0.3**
IANJ	**Anjiloo**	**1.02**	**37**	Pg	**Pg**	**07 38 48.6**	**-1.4**
IFIR	**Firoozkooh**	**1.04**	**342**	Pg	**Pg**	**07 38 50.1**	**-0.3**
IFIR				Sg	**Sg**	**07 39 05.8**	**+1.5**
ISHM	**Shahmirzad**	**1.16**	**5**	Pg	**Pg**	**07 38 52.3**	**-0.4**
IVRN	**Varamin**	**1.23**	**287**	Pg	**Pg**	**07 38 52.6**	**-1.4**
IVRN				Sg	**Sg**	**07 39 09.2**	**-1.2**
IDMV	**Damavand**	**1.31**	**315**	Pg	**Pg**	**07 38 54.8**	**-0.8**
QAM	**Qamsar**	**1.35**	**237**	Pn	**Pg**	**07 38 59.0**	**+2.5**
DAMV	**Damavand**	**1.38**	**315**	*e*PG	**Pg**	**07 38 56.0**	**-1.1**
DAMV				*e*Sg	**Sg**	**07 39 16.0**	**+0.5**
DAMV				AML	AML	07 39 25.3	
comp=N,465nm,0.6s							
IAFJ	**Afjeh**	**1.69**	**316**	Pn	**Pn**	**07 39 01.3**	**+2.0**
IKLH	**Kalahroud**	**1.87**	**225**	Pn	**Pn**	**07 39 01.4**	**-0.5**
NASN	**Na'in**	**1.87**	**189**	*e*PG	**Pn**	**07 39 01.8**	**-0.2**
NASN				*e*SG	**Sn**	**07 39 26.7**	**+0.9**
IZEF	**Zefreh**	**1.88**	**202**	Pn	**Pn**	**07 39 02.1**	**0.0**
IMHD	**Mahdasht**	**2.29**	**298**	Pn	**Pn**	**07 39 08.9**	**+1.0**
IMHD	**Mahdasht**	**2.29**	**298**	Lg		07 39 41.6	
IGAR	**Garneh**	**2.53**	**199**	Pn	**Pn**	**07 39 10.6**	**-0.8**
ICHK	**Chekchek**	**2.62**	**156**	Pn	**Pn**	**07 39 13.0**	**+0.4**
IMEH	**Mehriz**	**3.47**	**159**	Pn	**Pn**	**07 39 16.2**	**-8.6**
IBAF	**Bafgh**	**3.66**	**146**	Pn	**Pn**	**07 39 27.2**	**-0.2**
SHGO	**Shushtar**	**4.44**	**236**	*e*Pn	**Pn**	**07 39 37.6**	**-0.9**
SNGE	**Sanandaj**	**4.80**	**277**	*e*PN	**Pn**	**07 39 44.3**	**+0.7**
SNGE				AML	AML	07 41 14.5	
comp=N,30nm,0.7s							
IKRD	**Kardeh**	**4.85**	**63**	Pn	**Pb**	**07 39 55.3**	**+1.0**
IPAY	**Payeh**	**5.09**	**68**	Pn	**Pn**	**07 39 48.0**	**+0.3**
IMYA	**Miamay**	**5.91**	**71**	Pn	**Pn**	**07 39 58.3**	**-1.0**

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*IDC **06** 08:12:27.1±1.5, 13.44N×89.91W, mb3.8/7, mb1 4.0/9, mb1mx3.9/22, mbtmp3.8/9, ML3.8/2, Error ellipse: s-maj=51.8km s-min=15.9km az=40.0*
*CASC **06** 08:12:31.0±2.0, 13.23N×90.33W, h14km±8km, MD4.3, mb4.0(NEIC)*
*NEIC **06** 08:12:33.5±0.9, 13.19N×89.91W, h63km±11km, mb4.0/13, Error ellipse: s-maj=16.8km s-min=7.6km az=214.0*
*MEX **06** 08:12:37.9±0.6, 13.07N×90.82W, h26km±999km, MD4.6*
ISC 06 08:12:31.1±0.5,**13.22N**±0.06×**90.35W**±0.05,**h33**km,**n82,**
σ1°**15**/79,**mb4.0**/15,**10C-15D,Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**0.94**	**49**⇓	*i*P	Px	08 13 01.7	
SBLS				*e*S	Sx	08 13 14.8	
IXG	**Ixpaco**	**0.95**	**354**⇓	*e*P	**P**	**08 12 48.2**	**+0.1**
IXG				*e*S	**S**	**08 13 00.7**	**0.0**
RTR	**El Retiro**	**0.96**	**46**⇓	*i*P	Px	08 13 02.2	
RTR				*e*S	Sx	08 13 15.3	
SNJE	**San Jose**	**0.97**	**48**	*i* P	Px	08 13 02.3	
SNJE				*e*S	Sx	08 13 16.9	
RBDL	**Robledal**	**1.10**	**36**⇑	*i*P	Px	08 13 04.4	
RBDL				*e*S	Sx	08 13 19.5	
BOQS	**Boqueron**	**1.16**	**64**⇓	*e*P	Px	08 13 04.7	
BOQS				*e*S	Sx	08 13 20.9	
SNET	**Serv Nac Est T**	**1.19**	**67**⇓	*e*P	Px	08 13 05.0	
SNET				*e*S	Sx	08 13 20.1	
PCG	**Pacaya**	**1.19**	**348**⇓	*e*P	**P**	**08 12 52.9**	**+1.4**
PCG				*e*S	**S**	**08 13 11.4**	**+4.6**
FUG	**Fuego 3**	**1.31**	**339**⇓	*e*P	**P**	**08 12 53.3**	**+0.1**
LFU	**La Fuente**	**1.31**	**66**⇑	*e*P	Px	08 13 07.2	
LFU				*e*S	Sx	08 13 24.5	
LFRS	**El Faro**	**1.32**	**72**⇓	*e*P	Px	08 13 06.5	
LFRS				*e*S	Sx	08 13 25.0	
LBRS	**Las Brisas**	**1.37**	**68**⇓	*e*P	Px	08 13 07.9	
LBRS				*e*S	Sx	08 13 26.0	
LCBS	**La Ceiba**	**1.41**	**72**⇓	*e*P	Px	08 13 07.8	
LCBS				*e*S	Sx	08 13 27.8	
MTO2	**Montecristo 2**	**1.52**	**39**	*e*P	Px	08 13 10.3	
MTO2				*e*S	Sx	08 13 30.0	
SNVI	**San Vicente**	**1.52**	**75**⇓	*e*P	Px	08 13 09.8	
SNVI				*e*S	Sx	08 13 30.2	
MRL	**Marmol**	**1.94**	**19**⇑	*e*P	**P**	**08 13 03.8**	**+1.5**
MRL				*e*S	**S**	**08 13 28.9**	**+3.2**
VSM	**San Miguel**	**2.03**	**84**⇓	*e*P	Px	08 13 17.8	
VSM				*e*S	Sx	08 13 43.6	
BLLM	**Bellamira**	**2.07**	**84**⇑	*e*P	Px	08 13 17.7	
BLLM				*e*S	Sx	08 13 44.3	
CNCH	**Conchagua**	**2.45**	**88**⇑	*e*P	Px	08 13 22.9	
CNCH				*e*S	Sx	08 13 53.0	
CRIN	**San Cristobal**	**3.26**	**99**⇑	*e*P	**P**	**08 13 22.2**	**+1.1**

CRIN			eS	S	08 14 01.9	+2.6
LEON	**Leon**	**3.47 103**	eP	P	08 13 24.7	+0.7
TEL3	**Telica 3**	**3.48 100⇑**	eP	P	08 13 24.5	+0.2
TELN	**Telica**	**3.49 100**	eP	P	08 13 23.7	-0.6
CCIG	**Comitan**	**3.50 331**	eP	P	08 13 27.9	+3.5
CCIG			i S	S	08 14 07.9	+2.7
CCIG	**Comitan**	**3.50 331**	eP	P	08 13 27.0	+2.5
CCIG			i S	S	08 14 10.7	+5.5
CNGN	**Cerro Negro**	**3.64 101**	eP	P	08 13 26.3	-0.2
MIRN	**Miramar**	**3.64 102⇑**	eP	P	08 13 25.9	-0.5
MOMJ	**Momotombo**	**3.81 102**	eP	P	08 13 28.4	-0.4
COPN	**Copaltepe**	**3.81 105⇑**	eP	P	08 13 28.9	0.0
XAVN	**Gruta Xavier**	**4.07 105⇓**	eP	P	08 13 32.8	+0.2
SCX	**San Cristobal**	**4.13 328**	eP	P	08 13 38.0	+4.5
CRUN	**El Crucero**	**4.14 107**	eP	P	08 13 33.5	-0.1
MGAN	**Managua**	**4.15 104**	eP	P	08 13 33.7	0.0
MGAN			eS	S	08 14 22.2	+0.5
WILN	**Americas 2**	**4.20 104**	eS	S	08 14 23.4	+0.4
APON	**Apoyo**	**4.38 107**	eP	P	08 13 36.3	-0.8
CONN	**Concepcion**	**4.90 109**	eP	P	08 13 43.6	-0.8
CMIG	**Matias Romero**	**5.82 312**	i P	P	08 13 59.2	+1.8
CMIG			i S	S	08 15 00.2	-3.7
JTS	**JuntasAbangare**	**6.04 118**	Pn	Pn	08 13 55.5	-5.1
	2.4nm,0.3s,baz=310,slow=22,SNR=14					
JTS			Pg	P	08 14 10.6	+10
	13nm,0.3s,baz=296,slow=20,SNR=28					
JTS			Lg		08 15 32.5	
	1.5nm,0.3s,baz=324,slow=23,SNR=5.6					
JTS	**JuntasAbangare**	**6.04 118**	ePn	Pn	08 13 53.7	-6.8
	61nm,0.6s					
FORC	**Fortuna**	**6.20 116⇓**	eP	P	08 14 03.5	+0.8
PRS1	**Puriscal**	**6.74 118**	eP	P	08 14 10.8	+0.6
LCR2	**La Lucha 2**	**7.12 118⇓**	eP	P	08 14 16.8	+1.2
LCR2			eS	S	08 15 36.1	-0.1
OXX	**Oaxaca**	**7.25 303**	eP	P	08 14 25.0	+7.6
VHO	**Vista Hermosa**	**7.25 303**	eP	P	08 14 17.4	0.0
VHO			i S	S	08 15 35.7	-3.8
VHO	**Vista Hermosa**	**7.25 303**	eP	P	08 14 22.4	+5.0
VHO			i S	S	08 15 41.7	+2.2
BUS	**Buena Vista**	**7.42 119⇑**	eP	P	08 14 19.2	-0.5
BUS			eS	S	08 15 43.8	+0.1
PPM	**Popocatepetl**	**9.85 307**	eP	P	08 14 58.0	+4.5
PLIG	**Platanillo**	**10.19 301**	eP	P	08 14 59.8	+1.5
PLIG	**Platanillo**	**10.19 301**	i P	P	08 15 02.8	+4.6
MOIG	**Morelia**	**12.21 303**	eP	P	08 15 27.2	+1.6
MOIG	**Morelia**	**12.21 303**	i P	P	08 15 31.7	+6.1
NATX	**Nacogdoches**	**18.87 349**	eP	P	08 16 50.2	-1.0
	19nm,0.6s					
SDV	**Santo Domingo**	**19.82 101**	P	P	08 16 56.2	-5.8
	0.4nm,0.3s,baz=48,slow=20,SNR=2.2					
LRAL	**Lakeview Retre**	**19.96 8**	eP	P	08 17 02.3	-1.0
LTX	**Lajitas**	**20.24 324**	eP	P	08 17 08.1	+1.8
	3.1nm,0.7s					
TXAR	**Lajitas Array**	**20.24 324**	P	P	08 17 06.9	+0.6
	1.2nm,0.4s,baz=145,slow=11,SNR=46					
TXAR			PcP	PcP	08 21 18.0	-1.3
	0.2nm,0.6s,baz=136,slow=4.9,SNR=3.9					
TXAR	**Lajitas Array**	**20.24 324**	P	P	08 17 06.9	+0.6
TXAR			PcP	PcP	08 21 18.0	-1.3
PLAL	**Pickwick Lake**	**21.76 5**	eP	P	08 17 21.1	-0.7
	4.5nm,0.5s,mb4.2					
SWET	**Sewanee**	**22.26 10**	eP	P	08 17 24.4	-2.3
WMOK	**Wichita Mounta**	**22.74 342**	eP	P	08 17 32.7	+1.2
	1.5nm,0.6s,mb3.6					
CPCT	**Cooper Cave**	**22.75 12**	eP	P	08 17 30.4	-1.2
WVT	**Waverly**	**22.92 5**	eP	P	08 17 31.7	-1.6
	2.5nm,0.5s,mb3.9					
MNTX	**Cornudas Mount**	**22.99 326**	eP	P	08 17 34.5	+0.5
	15nm,1.1s,mb4.3					
SIUC	**Southern Illin**	**24.41 2**	eP	P	08 17 46.5	-1.3
WCI	**Wyandotte Cave**	**25.16 8**	eP	P	08 17 52.6	-2.4
	12nm,0.6s,mb4.6					
ANMO	**Albuquerque**	**26.08 329**	P	P	08 18 04.2	+0.6
	0.6nm,0.5s,mb3.4,baz=141,slow=9.4,SNR=4.1					
ANMO	**Albuquerque**	**26.08 329**	eP	P	08 18 04.2	+0.5
	0.6nm,0.5s,mb3.4					
PV10	**Paradox Valley**	**30.05 330**	P	P	08 18 38.8	-0.7
DUG	**Dugway**	**33.34 328**	P	P	08 19 07.7	-0.5
	1.0nm,0.8s,mb3.8					
PDAR	**Pinedale Array**	**33.80 334**	P	P	08 19 10.9	-1.2
	0.4nm,0.6s,mb3.5,baz=135,slow=10,SNR=3.5					
PDAR			PcP	PcP	08 21 49.3	-1.7
	0.3nm,0.6s,baz=122,slow=4.3,SNR=4.0					
SAML	**Samuel**	**34.83 128**	eP	P	08 19 16.6	-4.8
	1.4nm,0.8s,mb3.9					
SNOW	**Snow King Moun**	**34.88 334**	eP	P	08 19 21.1	-0.3
	6.3nm,0.9s,mb4.5					
ELK	**Elko**	**35.02 326**	eP	P	08 19 22.9	+0.3
	1.7nm,0.8s,mb4.0					
MCMT	**McKenzie Canyo**	**36.88 333**	eP	P	08 19 38.4	+0.1
ULM	**Lac du Bonnet**	**37.20 354**	P	P	08 19 39.3	-1.7
	4.1nm,0.6s,mb4.5,baz=175,slow=10.0,SNR=4.2					
EDM	**Edmonton**	**43.89 340**	eP	P	08 20 34.5	-1.7
SCHQ	**Schefferville**	**45.41 19**	P	P	08 20 44.0	-4.3
	2.9nm,0.6s,mb4.3,baz=221,slow=7.1,SNR=7.9					
SCHQ	**Schefferville**	**45.41 19**	eP	P	08 20 43.3	-5.0
INK	**Inuvik**	**61.64 343**	P	P	08 22 45.0	-2.7
	0.8nm,0.7s,mb4.0,baz=96,slow=3.4,SNR=5.0					
INK	**Inuvik**	**61.64 343**	eP	P	08 22 43.5	-4.2
	1.6nm,0.9s,mb4.2					
ILAR	**Eielson Array**	**64.18 337**	P	P	08 23 02.5	-2.0
	0.3nm,0.6s,mb3.5,baz=176,slow=5.3,SNR=4.8					
WRA	**Warramunga Arr**	**136.75 255**	PKP	PKPdf	08 31 53.0	+1.8
	0.8nm,0.8s,baz=87,slow=2.6,SNR=11					

*ATH **06** 08:17:38.5,38.83N×23.40E,h30km,MD3.3/8,ML3.3*
*THE **06** 08:17:38.2,38.83N×23.25E,h10km,ML2.8*
*NEIC **06** 08:17:38.5,38.83N×23.40E,h30km,MD3.3(ATH),After ATH.*
*CSEM **06** 08:17:38.5±0.1,38.81N×23.26E,h5km,ML2.8,Error ellipse: s-maj=2.5km s-min=1.8km az=68.0*
ISC 06 08:17:36.8±0.7,38.79N±0.03×23.29E±0.05,h5km±6km, n21,σ0§97/31,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XOR	**Xorichti**	**0.58**	**353**	ePg	**Pg**	08 17 49.0	+0.6
XOR				eSg	**Sg**	08 17 56.0	-0.1
AOS	**Alonnisos**	**0.60**	**50**	ePg	**Pg**	08 17 49.6	+0.8
AOS				eSg	**Sg**	08 17 58.5	+1.8
MPAR	**Parnis Oros**	**0.73**	**151**	ePN	**Pn**	08 17 52.5	-0.9
MPAR				eSN	**Sn**	08 18 03.5	-1.5
AGG	**Agios Georgios**	**0.78**	**287**	ePg	**Pg**	08 17 52.2	-0.3
AGG				eSg	**Sg**	08 18 02.9	0.0
MGER	**Gerania Oros**	**0.81**	**182**	ePN	**Pn**	08 17 54.8	+0.3
MGER				eSN	**Sn**	08 18 07.0	+0.1
PTL	**Penteli**	**0.87**	**148**	ePN	**Pn**	08 17 55.0	-0.4
ATH	**Athens Observa**	**0.89**	**158**	ePN	**Pn**	08 17 55.9	+0.2
ATH				eSN	**Sn**	08 18 08.5	-0.4
ATH	**Athens Observa**	**0.89**	**158**	ePn	**Pn**	08 17 55.9	+0.2
ATH				eSn	**Sn**	08 18 09.0	+0.1
NSAL	**Nisos Salamina**	**0.90**	**171**	ePN	**Pn**	08 17 56.0	+0.2
NSAL				eSN	**Sn**	08 18 10.0	+0.8
NSAL	**Nisos Salamina**	**0.90**	**171**	ePn	**Pn**	08 17 54.5	-1.3
EVR	**Evrytania**	**1.16**	**277**	ePN	**Pn**	08 18 01.7	+2.1
LIT	**Litokhoron**	**1.45**	**335**	ePg	**Pg**	08 18 04.0	-1.7
LIT				eSg	**Sg**	08 18 24.9	-0.1
PLG	**Polygyros**	**1.58**	**4**	ePN	**Pn**	08 18 05.5	-0.1
OUR	**Ouranopolis**	**1.63**	**19**	ePg	**Pg**	08 18 06.7	-2.7
VLI	**Veliai**	**2.09**	**188**	ePN	**Pn**	08 18 14.5	+1.6
GRG	**Griva**	**2.27**	**343**	ePn	**Pn**	08 18 15.6	+0.2
GRG				eSn	**Sn**	08 18 44.5	+0.4
KNT	**Kendrikon**	**2.39**	**353**	ePn	**Pn**	08 18 17.6	+0.5
APE	**Apeiranthos**	**2.47**	**133**	ePN	**Pn**	08 18 18.4	+0.1
MMB	**Musomiste**	**2.81**	**7**	P	**Pn**	08 18 21.5	-1.7
KKB	**Krupnik**	**3.08**	**357**	i P	**Pn**	08 18 26.5	-0.5
VTS	**Vitosha**	**3.80**	**359**	P	**Pn**	08 18 37.5	+0.3

*ISK **06** 08:17:43.8,39.38N×33.14E,h6km,MD3.5*
*CSEM **06** 08:17:43.8,39.38N×33.14E,h6km,MD3.5,After ISK*
ISC 06 08:17:44.1±0.4,39.36N±0.03×33.11E±0.04,h6km,n22, σ1§01/32,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAMT	**Kaman**	**0.47**	**89**	i PG	**Pg**	08 17 52.8	-0.7
ANTO	**Ankara**	**0.56**	**335**	i PG	**Pg**	08 17 55.2	-0.2
ANTO				i SG	**Sg**	08 18 03.0	+0.1
LOD	**Lodumlu**	**0.59**	**333**	i PG	**Pg**	08 17 55.7	-0.2
CDAG	**Cicekdag**	**1.01**	**75**	i P	**Pb**	08 18 01.2	-2.5
CDAG				i S	**Sb**	08 18 14.9	-2.1
KIZT	**Kizilcal**	**1.07**	**244**	PN	**Pn**	08 18 05.0	-0.5
KDHN	**Kadinhani**	**1.14**	**223**	i P	**Pb**	08 18 05.1	-0.7
KDHN				i S	**Sb**	08 18 21.0	+0.3
ELDT	**Eldivan**	**1.15**	**12**	i P	**Pb**	08 18 04.7	-1.4
ELDT				i S	**Sb**	08 18 21.3	+0.2
CANT	**Cankiri**	**1.30**	**17**	PN	**Pn**	08 18 08.6	-0.3
CORM	**Corum**	**1.43**	**55**	PN	**Pn**	08 18 10.5	-0.2
SGKT	**Sivrigoynuk**	**1.46**	**327**	i P	**Pn**	08 18 10.6	-0.4
SGKT				i S	**Sb**	08 18 35.8	+5.9
AVNT	**Avonos**	**1.48**	**113**	i P	**Pn**	08 18 11.5	+0.2
AVNT				i S	**Sb**	08 18 32.2	+1.7
KONT	**Konya--Tatoy**	**1.53**	**203**	PN	**Pn**	08 18 13.2	+1.1
YOZ	**Yozgat**	**1.73**	**80**	ePN	**Pn**	08 18 14.2	-0.8
ESKT	**Eskisehir**	**1.76**	**276**	i P	**Pn**	08 18 14.6	-0.7
ESKT				i S	**Sn**	08 18 43.5	+5.3
ESKT	**Eskisehir**	**1.76**	**276**	ePn	**Pn**	08 18 15.5	+0.2
CTKT	**Corum**	**1.81**	**45**	i P	**Pn**	08 18 16.1	+0.1
CTKT				i S	**Sn**	08 18 41.4	+1.9
TOS	**Tosya**	**1.81**	**22**	ePN	**Pn**	08 18 16.3	+0.1
MDU	**Mudurnu**	**1.83**	**308**	ePN	**Pn**	08 18 16.5	+0.2
SAFT	**Safranbolu**	**1.90**	**350**	ePN	**Pn**	08 18 17.3	-0.1
BALT	**Daday**	**2.18**	**5**	i P	**Pn**	08 18 23.7	+2.3
BALT				i S	**Sn**	08 18 53.3	+4.3
BOYT	**Boyabat**	**2.47**	**33**	i P	**Pn**	08 18 26.4	+0.8
BOYT				i S	**Sn**	08 19 00.0	+3.6
SVSK	**Karacayir**	**3.06**	**78**	ePN	**Pn**	08 18 34.4	+0.5

*IDC **06** 08:21:20.2±1.0,56.88S×24.82W,mb4.1/4,mb1 4.3/4, mb1mx4.0/13,mbtmp4.1/4,MS3.8/5,Ms1 3.8/5, ms1mx3.5/16,Error ellipse: s-maj=58.7km s-min=21.5km az=51.0*
*NEIC **06** 08:21:21.6±7.4,56.91S×24.83W,h11km±45km,mb4.4/4, Error ellipse: s-maj=43.9km s-min=11.2km az=50.0*
ISC 06 08:21:19.1±1.4,56.7S±0.3×24.5W±0.7,h10km,n31, σ1§15/21,mb4.2/6,MS3.8/5,5C,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**15.62**	**160**	e	**P**	**08 25 05.7**	**+5.2**
VNA1	**Neumayer--Stat**	**15.62**	**160**	e	**P**	**08 25 11.7**	**+11**
VNA1	**Neumayer--Stat**	**15.62**	**160**	⇑i P	**P**	**08 25 00.3**	**-0.2**
VNA1				e		08 25 05.7	
VNA1				e		08 25 11.7	
VNA3	**Neumayer Olymp**	**15.86**	**162**	e	**P**	**08 25 07.8**	**+4.1**
VNA3	**Neumayer Olymp**	**15.86**	**162**	e	**P**	**08 25 13.5**	**+10**
VNA3	**Neumayer Olymp**	**15.86**	**162**	e	tx	08 26 08.8	
VNA3	**Neumayer Olymp**	**15.86**	**162**	⇑i P	**P**	**08 25 02.2**	**-1.5**
VNA3				e		08 25 07.8	
VNA3				e		08 25 13.5	
VNA3				e		08 26 08.8	
VNA2	**Neumayer--Watz**	**16.01**	**160**	e	**P**	**08 25 09.5**	**+4.0**
VNA2	**Neumayer--Watz**	**16.01**	**160**	e	**P**	**08 25 15.6**	**+10**
VNA2	**Neumayer--Watz**	**16.01**	**160**	e	tx	08 26 14.8	
VNA2	**Neumayer--Watz**	**16.01**	**160**	⇑i P	**P**	**08 25 04.9**	**-0.6**
VNA2				e		08 25 09.5	
VNA2				e		08 25 15.6	
VNA2				e		08 26 14.8	
SNAA	**Sanae**	**17.52**	**157**	⇑i	**P**	**08 25 25.6**	**+1.0**
SNAA	**Sanae**	**17.52**	**157**	e	**P**	**08 25 31.1**	**+6.5**
SNAA	**Sanae**	**17.52**	**157**	e	**P**	**08 25 37.5**	**+13**
SNAA	**Sanae**	**17.52**	**157**	eP	**P**	**08 25 25.0**	**+0.4**
	10nm,1.2s						
PLCA	**Paso Flores**	**33.61**	**278**	LR	LR	08 40 19.1	
	comp=Z,133nm,19.6s,MS3.7,baz=155,slow=34						
CPUP	**Villa Florida**	**38.41**	**308**	P	**P**	**08 28 42.2**	**-0.1**
	1.9nm,0.8s,mb3.9,baz=161,slow=11,SNR=4.5						
CPUP				LR	LR	08 43 10.4	
	comp=Z,71nm,18.7s,MS3.5,baz=194,slow=34						
CPUP	**Villa Florida**	**38.41**	**308**	P	**P**	**08 28 42.2**	**-0.1**
CPUP				LR	LR	08 43 10.4	
MAW	**Mawson**	**38.69**	**142**	P	**P**	**08 28 44.7**	**+0.5**
	1.2nm,0.6s,mb3.8,baz=211,slow=12,SNR=4.3						
BOSA	**Boshof**	**44.70**	**72**	LR	LR	08 44 39.6	
	comp=Z,112nm,18.3s,MS3.8,baz=168,slow=31						
VNDA	**Vanda**	**45.95**	**182**	P	**P**	**08 29 42.9**	**-0.2**
	0.9nm,0.5s,mb3.9,baz=178,slow=8.4,SNR=9.6						
LPAZ	**La Paz**	**52.01**	**303**	P	**P**	**08 30 31.6**	**+0.9**
	3.9nm,0.5s,mb4.6,baz=151,slow=6.3,SNR=33						
LPAZ	**La Paz**	**52.01**	**303**	⇑eP	**P**	**08 30 31.4**	**+0.7**
	9.0nm,0.8s,mb4.8						
CASY	**Casey**	**52.74**	**159**	eP	**P**	**08 30 34.2**	**-1.4**
	6.7nm,1.2s,mb4.5						
SAML	**Samuel**	**56.37**	**312**	eP	**P**	**08 31 02.4**	**-0.3**
	2.8nm,0.8s,mb4.3						
KMBO	**Kilima Mbogo**	**73.89**	**66**	LR	LR	09 00 36.8	
	comp=Z,53nm,20.6s,MS3.8,baz=94,slow=32						
PPT	**Papeete**	**92.99**	**231**	LR	LR	09 10 11.0	
	comp=Z,110nm,19.3s,MS4.3,baz=179,slow=32						
YKA	**Yellowknife Ar**	**137.70**	**316**	PKP	PKPdf	08 40 43.2	-2.1
	0.4nm,0.5s,baz=135,slow=3.0,SNR=3.7						
YKA	**Yellowknife Ar**	**137.70**	**316**	PKP	PKPdf	08 40 43.2	-2.2
SONM	**Songino Array**	**149.26**	**86**	PKPbc	PKPdf	08 41 10.3	+4.8
	1.0nm,0.4s,baz=210,slow=2.8,SNR=9.6						
ILAR	**Eielson Array**	**151.71**	**310**	PKPbc	PKPdf	08 41 14.6	+5.8
	3.5nm,1.0s,baz=131,slow=1.3,SNR=26						

*ISK **06** 08:56:57.4,39.37N×33.14E,h8km,MD3.5*
*CSEM **06** 08:56:57.4,39.37N×33.14E,h8km,MD3.5,After ISK*
ISC 06 08:56:57.8±0.4,39.35N±0.03×33.12E±0.04,h8km,n24, σ1§10/35,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAMT	**Kaman**	**0.46**	**88**	i PG	**Pg**	**08 57 06.5**	**-0.6**
ANTO	**Ankara**	**0.57**	**334**	i PG	**Pg**	**08 57 08.1**	**-1.3**
ANTO				i SG	**Sg**	**08 57 17.2**	**+0.1**
LOD	**Lodumlu**	**0.60**	**333**	i PG	**Pg**	**08 57 09.4**	**-0.6**
CDAG	**Cicekdag**	**1.00**	**74**	i P	**Pb**	**08 57 14.9**	**-2.1**
CDAG				i S	**Sb**	**08 57 28.1**	**-2.2**
KIZT	**Kizilcal**	**1.07**	**244**	i PN	**Pn**	**08 57 19.1**	**0.0**
KDHN	**Kadinhani**	**1.14**	**224**	i P	**Pb**	**08 57 18.6**	**-0.8**
KDHN				i S	**Sb**	**08 57 34.6**	**+0.4**
ELDT	**Eldivan**	**1.16**	**12**	i P	**Pb**	**08 57 17.9**	**-1.8**
ELDT				i S	**Sb**	**08 57 35.0**	**+0.3**
CANT	**Cankiri**	**1.31**	**17**	PN	**Pn**	**08 57 22.6**	**+0.2**
CORM	**Corum**	**1.43**	**54**	PN	**Pn**	**08 57 24.2**	**0.0**
AVNT	**Avonos**	**1.47**	**112**	i P	**Pn**	**08 57 25.2**	**+0.5**
AVNT				i S	**Sb**	**08 57 45.5**	**+1.9**
SGKT	**Sivrigoynuk**	**1.47**	**326**	i P	**Pn**	**08 57 24.0**	**-0.8**
SGKT				i S	**Sb**	**08 57 47.3**	**+3.6**
KONT	**Konya--Tatoy**	**1.53**	**203**	PN	**Pn**	**08 57 25.3**	**-0.3**
YOZ	**Yozgat**	**1.73**	**80**	PN	**Pn**	**08 57 27.9**	**-0.5**
ESKT	**Eskisehir**	**1.77**	**276**	i P	**Pn**	**08 57 24.9**	**-4.1**
ESKT				i S	**Sn**	**08 57 56.8**	**+4.9**
CTKT	**Corum**	**1.80**	**45**	i P	**Pn**	**08 57 29.1**	**-0.4**
CTKT				i S	**Sn**	**08 57 55.0**	**+2.3**
TOS	**Tosya**	**1.82**	**22**	PN	**Pn**	**08 57 29.1**	**-0.6**
MDU	**Mudurnu**	**1.84**	**308**	PN	**Pn**	**08 57 30.4**	**+0.3**
SAFT	**Safranbolu**	**1.91**	**350**	ePN	**Pn**	**08 57 31.7**	**+0.6**
BNN	**Bunyan**	**2.18**	**102**	ePN	**Pn**	**08 57 35.0**	**+0.1**
BALT	**Daday**	**2.19**	**5**	i P	**Pn**	**08 57 36.8**	**+1.7**
BALT				i S	**Sn**	**08 58 07.1**	**+4.6**
BYBT	**Boyabat**	**2.46**	**30**	ePN	**Pn**	**08 57 38.9**	**0.0**
BOYT	**Boyabat**	**2.47**	**33**	i P	**Pn**	**08 57 40.0**	**+0.9**
BOYT				i S	**Sn**	**08 58 10.9**	**+1.1**
TKTP	**Tekketepe**	**2.56**	**240**	i P	**Pn**	**08 57 39.3**	**-1.0**
TKTP				i S	**Sn**	**08 58 14.8**	**+2.9**
SVSK	**Karacayir**	**3.05**	**78**	ePN	**Pn**	**08 57 47.9**	**+0.6**

*MOS **06** 09:01:11.5±0.9,27.18N×140.14E,h477km,mb4.3/25, Error ellipse: s-maj=19.0km s-min=7.5km az=111.3*
*JMA **06** 09:01:13.8±0.1,27.40N×140.56E,h485km,M4.3*
*IDC **06** 09:01:13.2±0.5,27.26N×140.37E,h480km±5km,mb3.7/14, mb1 3.9/17,mb1mx3.7/24,mbtmp4.6/17,Error ellipse: s-maj=15.4km s-min=10.5km az=69.0*
*BJI **06** 09:01:15.4,27.30N×140.23E,h526km,mB5.1,mb4.7*
*NEIC **06** 09:01:17.7±2.4,27.71N×140.15E,h506km±15km, mb4.3/12,Error ellipse: s-maj=37.2km s-min=14.3km az=155.0*
ISC 06 09:01:12.7±0.4,27.23N±0.04×140.35E±0.07,h489km±3km, n121,σ1§07/130,mb4.2/41,6C-8D,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.64**	**94**	P	**P**	**09 02 16.2**	**+0.6**
	109nm,0.3s,baz=287,slow=22,SNR=14						
CBIJ				S	**S**	**09 03 04.3**	**-1.1**
	157nm,0.3s,baz=309,slow=24,SNR=10						
CBIJ	**Chichi jima**	**1.64**	**94**	P	**P**	**09 02 15.6**	**0.0**
CBIJ				eS	**S**	**09 03 04.2**	**-1.2**
JHHJ	**Haha-jima-NKT**	**1.74**	**110**	P	**P**	**09 02 16.1**	**+0.1**
JHHJ				eS	**S**	**09 03 06.3**	**+0.1**
JHJ2	**Mitsune**	**5.88**	**356**	P	**P**	**09 02 46.6**	**-1.7**
JHJ2				eS	**S**	**09 04 03.3**	**-0.7**
JHJ	**Hachijo jima 2**	**5.89**	**355**	P	**P**	**09 02 46.8**	**-1.7**
	21nm,0.3s,baz=258,slow=22,SNR=6.5						
JHJ				S	**S**	**09 04 05.7**	**+1.5**
	25nm,0.3s,baz=252,slow=24,SNR=5.4						
BSO1	**Boso 1**	**7.42**	**4**	P	**P**	**09 03 03.7**	**-0.2**
BSO1				eS	**S**	**09 04 33.4**	**+1.2**
JWZ	**Kozaga**	**7.45**	**329**	P	**P**	**09 03 05.6**	**+1.4**
JIM2	**Oshima 3**	**7.51**	**354**	P	**P**	**09 03 05.1**	**+0.3**
JIM2				eS	**S**	**09 04 32.6**	**-1.2**
JIE	**Ise**	**7.80**	**337**	P	**P**	**09 03 08.9**	**+1.0**
JOD2	**Odawara 2**	**8.08**	**353**	P	**P**	**09 03 10.5**	**-0.4**
JOD2				eS	**S**	**09 04 46.7**	**+2.0**
JTO	**Tosashimizu**	**8.62**	**312**	P	**P**	**09 03 18.1**	**+1.5**
JRY	**Ryogami san**	**8.85**	**352**	P	**P**	**09 03 18.1**	**-1.0**
JRY				eS	**S**	**09 04 56.0**	**-3.4**
MAJO	**Matsushiro**	**9.46**	**349**	ePn	**P**	**09 03 23.2**	**-2.4**
	12nm,0.8s						
MAJO				eSn	**S**	**09 04 56.5**	**-15**
MAJO	**Matsushiro**	**9.46**	**349**	eP	**P**	**09 03 23.2**	**-2.4**
MAJO				pmax	pmax		
	comp=Z,12nm,0.8s						
MAT	**Matsushiro**	**9.46**	**349**	P	**P**	**09 03 24.9**	**-0.7**
MAT				eS	**S**	**09 05 08.6**	**-2.7**
MAT	**Matsushiro**	**9.46**	**349**	P	**P**	**09 03 23.5**	**-2.1**
MAT				eS	**S**	**09 05 10.2**	**-1.1**
MAT	**Matsushiro**	**9.46**	**349**	eP	**P**	**09 03 25.0**	**-0.6**
	comp=Z,11nm,0.9s						
MAT				S	**S**	**09 05 09.0**	**-2.3**
MAT	**Matsushiro**	**9.46**	**349**	eP	**P**	**09 03 25.0**	**-0.6**
MAT				S	**S**	**09 05 09.0**	**-2.3**
MAT				pmax	pmax		
	comp=Z,11nm,0.9s						
JAM	**Amami Oshima**	**9.59**	**280**	P	**P**	**09 03 28.8**	**+1.9**
JNU	**Nakatsue**	**10.08**	**308**	P	**P**	**09 03 32.8**	**+0.6**
	comp=Z,1.3nm,0.3s,baz=79,slow=12,SNR=15						
JOW	**Kunigami**	**10.77**	**271**	P	**P**	**09 03 40.7**	**+1.2**
	comp=Z,10nm,0.3s,baz=130,slow=8.1,SNR=22						
JOW	**Kunigami**	**10.77**	**271**	P	**P**	**09 03 40.6**	**+1.1**
JMK	**Ichinoseki**	**11.71**	**3**	P	**P**	**09 03 50.0**	**+0.6**
JOT	**Ohata**	**14.13**	**2**	P	**P**	**09 04 15.4**	**+0.8**
JKB	**Kayabe**	**14.63**	**2**	P	**P**	**09 04 20.5**	**+0.8**
KS15	**Wonju Array Si**	**14.64**	**317**	P	**P**	**09 04 19.5**	**-0.3**
INCN	**Inchon**	**15.44**	**315**	P	**P**	**09 04 25.9**	**-1.9**
	comp=Z,19nm,0.6s						
JTKR	**Abashiri--Toko**	**16.95**	**9**	P	**P**	**09 04 45.3**	**+2.4**
MDJ	**Mudanjiang**	**19.38**	**336**	P	**P**	**09 05 08.0**	**+1.5**
MDJ				AMB	AMB		
	comp=Z,7.0nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,54nm,3.6s						
YSS	**Yuzh-Sakhalins**	**19.78**	**5**	i P	**P**	**09 05 11.2**	**+0.9**
YSS				pmax	pmax		
	comp=Z,9.0nm,1.3s						
SNY	**Shenyang**	**20.02**	**321**	⇓P	**P**	**09 05 12.5**	**-0.1**
SNY				AMB	AMB		
	comp=Z,40nm,0.5s						
CN2	**Changchun**	**20.45**	**328**	eP	**P**	**09 05 19.1**	**+2.5**
TIA	**Tai'an**	**21.65**	**300**	⇑P	**P**	**09 05 27.2**	**-0.6**
HIA	**Hailar**	**27.15**	**330**	P	**P**	**09 06 14.1**	**-2.9**
	comp=Z,8.6nm,0.7s,mb4.3						
HIA	**Hailar**	**27.15**	**330**	P	**P**	**09 06 14.1**	**-2.9**
HIA				pmax	pmax		
	comp=Z,9.0nm,0.7s						
ENH	**Enshi**	**27.19**	**284**	eP	**P**	**09 06 16.8**	**-0.8**
	comp=Z,8.0nm,0.6s,mb4.3						
SONM	**Songino Array**	**33.49**	**317**	P	**P**	**09

NVS	**Novosibirsk**	**49.39 320**	*e*P		**P**	**09 09 16.1**	**-2.0**
KOLN	**Koldanda**	**49.94 284**	*e*P		**P**	**09 09 22.8**	**+0.2**
	comp=Z,27nm,0.7s,mb4.7						
KURK	**Kurchatov**	**51.73 315**	⇓*i*P		**P**	**09 09 34.4**	**-1.0**
	comp=Z,22nm,0.9s,mb4.5						
KURK			*e*PcP	PcP		09 10 39.3	-1.3
KURK	**Kurchatov**	**51.73 315**	⇓*i*P		**P**	**09 09 34.4**	**-1.0**
KURK			*e*			09 10 39.3	
KURK			pmax	pmax			
	comp=Z,22nm,0.9s,mb4.5						
ULHL	**Ulahol**	**53.59 304**	P		**P**	**09 09 49.4**	**+0.5**
	SNR=7.4						
TKM2	**Tokmak 2**	**54.00 305**	P		**P**	**09 09 52.5**	**+0.7**
	SNR=7.9						
KZA	**Kyzart**	**54.34 304**	P		**P**	**09 09 55.6**	**+1.4**
	SNR=6.9						
AAK	**Ala-Archa**	**54.84 305**	*e*P		**P**	**09 09 56.4**	**-1.3**
	comp=Z,6.4nm,0.9s,mb4.0						
AAK	**Ala-Archa**	**54.84 305**	*e*P		**P**	**09 09 56.4**	**-1.3**
AAK			pmax	pmax			
	comp=Z,6.0nm,0.9s,mb3.9						
EKS2	**Erkin-Say**	**55.36 305**	P		**P**	**09 10 01.3**	**-0.1**
	SNR=5.7						
AML	**Almayashu**	**55.48 304**	P		**P**	**09 10 03.4**	**+1.1**
	SNR=11						
VOSK	**Vostochnaya**	**56.49 317**	P		**P**	**09 10 07.8**	**-1.3**
VOSK			pmax	pmax			
	comp=Z,3.0nm,0.7s,mb3.7						
BVA0	**Borovoye Array**	**56.84 317**	*i* P		**P**	**09 10 10.7**	**-0.7**
BVA0			pmax	pmax			
	comp=Z,2.0nm,0.5s,mb3.7						
BRVK	**Borovoye**	**56.90 317**	⇓*i*P		**P**	**09 10 11.0**	**-0.8**
	comp=Z,9.2nm,0.7s,mb4.2						
BRVK			*e*PcP	PcP		09 10 59.4	-1.1
BRVK	**Borovoye**	**56.90 317**	⇓*i*P		**P**	**09 10 11.0**	**-0.9**
BRVK			*e*			09 10 59.4	
BRVK			pmax	pmax			
	comp=Z,9.0nm,0.7s,mb4.2						
MCK	**McKinley**	**57.42 30**	*e*P		**P**	**09 10 15.2**	**-0.1**
	comp=Z,3.0nm,1.0s,mb3.6						
MCK	**McKinley**	**57.42 30**	*e*P		**P**	**09 10 15.2**	**-0.1**
MCK			pmax	pmax			
	comp=Z,3.0nm,1.0s,mb3.6						
KKAR	**Karatay Array**	**57.68 306**	*i* P		**P**	**09 10 16.7**	**-0.6**
KKAR			pmax	pmax			
	comp=Z,3.0nm,0.4s,mb4.0						
ILAR	**Eielson Array**	**58.38 29**	P		**P**	**09 10 21.0**	**-0.7**
	comp=Z,1.2nm,0.9s,mb3.2,baz=257,slow=6.0,SNR=12						
ILAR	**Eielson Array**	**58.38 29**	P		**P**	**09 10 21.0**	**-0.7**
ILAR			pmax	pmax			
	comp=Z,1.0nm,0.9s						
ARU	**Arti**	**63.31 322**	⇓*i*P		**P**	**09 10 53.4**	**-0.9**
ARU			*e*			09 13 18.8	
ARU			pmax	pmax			
	comp=Z,13nm,0.7s,mb4.6						
INK	**Inuvik**	**63.59 24**	P		**P**	**09 10 55.9**	**0.0**
	comp=Z,0.4nm,0.4s,mb3.3,baz=279,slow=3.7,SNR=5.5						
INK	**Inuvik**	**63.59 24**	*e*P		**P**	**09 10 55.3**	**-0.5**
	comp=Z,0.8nm,0.7s,mb3.4						
AB31	**Akbulak array**	**63.83 314**	P		**P**	**09 10 56.8**	**-0.9**
AB31			pmax	pmax			
	comp=Z,3.0nm,0.5s,mb4.1						
KEV	**Kevo**	**72.31 340**	*e*p		**P**	**09 11 48.5**	**-0.3**
	comp=Z,3.2nm,0.4s,mb4.2						
KEV	**Kevo**	**72.31 340**	*e*P		**P**	**09 11 48.5**	**-0.3**
KEV			pmax	pmax			
	comp=Z,3.0nm,0.4s,mb4.2						
ARCES	**ARCESS Array B**	**72.88 340**	P		**P**	**09 11 52.5**	**+0.6**
	comp=Z,3.0nm,0.5s,mb4.1,baz=72,slow=8.0,SNR=27						
ARCES	**ARCESS Array B**	**72.88 340**	P		**P**	**09 11 52.5**	**+0.6**
ARCES			pmax	pmax			
	comp=Z,3.0nm,0.5s						
OBN	**Obninsk**	**75.49 325**	⇑*e*P		**P**	**09 12 07.2**	**+0.3**
OBN			S		S	09 21 09.0	+2.2
OBN			pmax	pmax			
	comp=Z,17nm,1.2s,mb4.5						
KAF	**Kangasniemi**	**76.64 334**	*e*p		**P**	**09 12 12.5**	**-0.5**
	comp=Z,8.7nm,0.4s,mb4.6,baz=55,slow=5.1						
KAF	**Kangasniemi**	**76.64 334**	*e*P		**P**	**09 12 12.5**	**-0.5**
KAF			pmax	pmax			
	comp=Z,9.0nm,0.4s,mb4.7						
KIV	**Kislovodsk**	**76.76 313**	⇓*e*P		**P**	**09 12 13.3**	**-0.8**
KIV			pmax	pmax			
	comp=Z,19nm,1.2s,mb4.5						
FINES	**FINESS Array B**	**77.10 333**	P		**P**	**09 12 15.7**	**+0.1**
	comp=Z,10nm,0.3s,mb4.8,baz=64,slow=5.5,SNR=164						
FINES	**FINESS Array B**	**77.10 333**	P		**P**	**09 12 15.7**	**+0.1**
FINES			pmax	pmax			
	comp=Z,10.0nm,0.4s						
AKASG	**Malin Array Be**	**81.54 323**	P		**P**	**09 12 38.5**	**-0.6**
	comp=Z,0.8nm,0.5s,mb3.5,baz=45,slow=6.3,SNR=4.2						
AKASG	**Malin Array Be**	**81.54 323**	P		**P**	**09 12 38.6**	**-0.5**
AKASG			pmax	pmax			
	comp=Z,1.0nm,0.5s						
SIM	**Simferopol'**	**81.74 316**	*e*P		**P**	**09 12 41.2**	**+1.0**
SIM			pmax	pmax			
	comp=Z,32nm,0.8s,mb4.9						
HFS	**Hagfors**	**82.65 336**	P		**P**	**09 12 44.1**	**-0.4**
	comp=Z,4.1nm,0.4s,mb4.3,baz=107,slow=2.3,SNR=48						
HFS	**Hagfors**	**82.65 336**	P		**P**	**09 12 44.1**	**-0.4**
HFS			pmax	pmax			
	comp=Z,4.0nm,0.4s						
NB2	**NORSAR Subarra**	**82.88 338**	P		**P**	**09 12 45.1**	**-0.5**
	comp=Z,3.7nm,0.4s,mb4.3,baz=56,slow=5.0						
NOA	**NORSAR Array B**	**82.88 338**	P		**P**	**09 12 45.3**	**-0.3**
	comp=Z,4.1nm,0.5s,mb4.2,baz=46,slow=4.8,SNR=5.7						
NOA	**NORSAR Array B**	**82.88 338**	P		**P**	**09 12 45.3**	**-0.3**
NOA			pmax	pmax			
	comp=Z,4.0nm,0.5s						
KIS	**Kishinev**	**83.80 320**	*e*P		**P**	**09 12 49.0**	**-1.5**
KIS			*e*		pP	09 14 36.0	-3.3
OKC	**Ostrava-Krasne**	**87.73 327**	*e*P		**P**	**09 13 09.5**	**+0.2**
OKC			*ex*		x	09 18 14.0	
DPC	**Dobruska-Polom**	**88.27 328**	*e*P		**P**	**09 13 12.2**	**+0.4**
UPC	**Upice**	**88.31 328**	*e*P		**P**	**09 13 21.1**	**+9.1**
PRU	**Pruhonice**	**89.35 328**	*e*P		**P**	**09 13 17.8**	**+0.9**
PRU			*ex*		x	09 18 32.6	
KHC	**Kasperske Hory**	**90.40 328**	*e*P		**P**	**09 13 21.9**	**+0.1**
KHC			*ex*		x	09 18 21.1	
GERES	**GERESS Array B**	**90.54 328**	P		**P**	**09 13 22.3**	**-0.1**
	comp=Z,1.2nm,0.5s,mb4.1,baz=34,slow=4.8,SNR=8.2						
GERES	**GERESS Array B**	**90.54 328**	P		**P**	**09 13 22.3**	**-0.1**
GERES			pmax	pmax			
	comp=Z,1.0nm,0.5s						
TXAR	**Lajitas Array**	**96.83 52**	P		**P**	**09 13 53.0**	**+1.3**
	comp=Z,0.2nm,0.5s,mb3.6,baz=270,slow=2.5,SNR=3.5						
SNAA	**Sanae**	**131.09 195**	⇑*i*P		PKPdf	09 19 29.2	+1.8
VNA2	**Neumayer--Watz**	**132.64 194**	⇑*i*P		PKPdf	09 19 32.7	+2.4
VNA3	**Neumayer Olymp**	**132.85 193**	⇑*i*P		PKPdf	09 19 33.0	+2.3
VNA1	**Neumayer--Stat**	**133.03 194**	⇑*i*P		PKPdf	09 19 34.7	+3.7
PLCA	**Paso Flores**	**151.22 126**	PKPbc		PKPdf	09 20 12.9	+10
	comp=Z,1.4nm,0.5s,baz=162,slow=3.7,SNR=4.9						
LPAZ	**La Paz**	**151.46 73**	PKPbc		PKPdf	09 20 14.5	+10
	comp=Z,1.6nm,0.7s,baz=298,slow=6.1,SNR=8.9						

*ISK **06** 09:09:27.7, 39.35N×33.10E, h6km, ML4.7*
*CSEM **06** 09:09:27.3±0.1, 39.36N×33.12E, h5km, mb4.2/7, Ms3.4, Error ellipse: s-maj=1.7km s-min=1.3km az=178.0*
*MOS **06** 09:09:28.3±1.2, 39.39N×33.11E, h10km, mb4.1/12, Error ellipse: s-maj=9.1km s-min=6.6km az=127.8*
*IDC **06** 09:09:29.2±1.6, 39.38N×33.19E, mb3.9/5, mb1 3.9/8, mb1mx3.8/20, mbtmp3.8/8, ML3.7/3, MS3.6/14, Ms1 3.6/14, ms1mx3.5/30, Error ellipse: s-maj=19.0km s-min=8.9km az=161.0*
*NEIC **06** 09:09:29.9±0.6, 39.39N×33.18E, h10km, mb4.1/9, ML4.6(ISK), Error ellipse: s-maj=9.5km s-min=7.0km az=160.0*
ISC 06 09:09:28.1±0.2, 39.39N±0.02×33.10E±0.02, h6km, n133, σ1§13/160, mb3.8/8, MS3.5/9, 2C-4D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAMT	**Kaman**	**0.48**	**92**	*i* PG	**Pg**	**09 09 37.0**	**-0.7**
ANTO	**Ankara**	**0.54**	**334**	*i* PG	**Pg**	**09 09 38.9**	**0.0**
ANTO				*i* SG	**Sg**	**09 09 47.7**	**+1.6**
ANTO	**Ankara**	**0.54**	**334**	*i* P	**Pg**	**09 09 39.3**	**+0.4**
ANTO				*i* S	**Sg**	**09 09 47.2**	**+1.1**
BR131	**Keskin Array S**	**0.54**	**51**	*e*P	**Pg**	**09 09 38.4**	**-0.6**
BR131	**Keskin Array S**	**0.54**	**51**	*e*P	**Pg**	**09 09 38.4**	**-0.6**
BRTR	**Keskin Array B**	**0.54**	**51**	Pg	**Pg**	**09 09 38.4**	**-0.5**
	459nm,0.3s,baz=218,slow=19,SNR=4553						
BRTR				Lg		09 09 45.7	
	1μm,0.3s,baz=218,slow=29,SNR=49						
BRTR	**Keskin Array B**	**0.54**	**51**	P	**Pg**	**09 09 38.4**	**-0.5**
BRTR						09 09 45.7	
BRTR				pmax	pmax		
	comp=Z,459nm,0.3s						
BRTR				smax			
	comp=Z,1.0nm,0.3s						
LOD	**Lodumlu**	**0.56**	**333**	PG	**Pg**	**09 09 40.0**	**+0.5**
CDAG	**Cicekdag**	**1.01**	**76**	*i* P	**Pb**	**09 09 45.7**	**-2.0**
CDAG				*i* S	**Sb**	**09 09 53.5**	**-7.5**
KIZT	**Kizilcal**	**1.07**	**242**	PG	**Pg**	**09 09 48.8**	**-0.8**
ELDT	**Eldivan**	**1.13**	**13**	*i* P	**Pb**	**09 09 48.8**	**-1.0**
ELDT				*i* S	**Sb**	**09 10 06.7**	**+2.1**
KDHN	**Kadinhani**	**1.15**	**222**	*i* P	**Pb**	**09 09 49.7**	**-0.4**
KDHN				*i* S	**Sb**	**09 10 05.9**	**+0.8**
CANT	**Cankiri**	**1.28**	**18**	PN	**Pn**	**09 09 53.2**	**+0.6**
CORM	**Corum**	**1.42**	**56**	PN	**Pn**	**09 09 54.7**	**+0.1**
SGKT	**Sivrigoynuk**	**1.43**	**326**	*i* P	**Pn**	**09 09 54.9**	**+0.1**
SGKT				*i* S	**Sb**	**09 10 13.6**	**+0.4**
AVNT	**Avonos**	**1.50**	**113**	*i* P	**Pn**	**09 09 55.9**	**+0.3**
AVNT				*i* S	**Sb**	**09 10 15.4**	**+0.3**
BSTP	**Nigde**	**1.64**	**151**	*i* P	**Pn**	**09 09 58.4**	**+0.7**
BSTP				*i* S	**Sb**	**09 10 20.6**	**+1.5**
YOZ	**Yozgat**	**1.74**	**81**	PN	**Pn**	**09 09 59.7**	**+0.6**
NIG	**Nigde**	**1.74**	**137**	PN	**Pn**	**09 09 58.8**	**-0.3**
ESKT	**Eskisehir**	**1.75**	**275**	PN	**Pn**	**09 09 59.7**	**+0.5**
ESKT	**Eskisehir**	**1.75**	**275**	*i* P	**Pn**	**09 09 58.6**	**-0.6**
ESKT				*i* S	**Sn**	**09 10 27.3**	**+5.2**
CTKT	**Corum**	**1.79**	**46**	*i* P	**Pn**	**09 09 59.5**	**-0.4**
CTKT				*i* S	**Sn**	**09 10 26.5**	**+3.2**
TOS	**Tosya**	**1.79**	**23**	PN	**Pn**	**09 10 00.3**	**-0.4**
MDU	**Mudurnu**	**1.81**	**307**	PN	**Pn**	**09 10 00.3**	**+0.2**
SAFT	**Safranbolu**	**1.88**	**350**	PN	**Pn**	**09 10 00.9**	**-0.2**
BORA	**Eskisehir**	**2.10**	**284**	*i* P	**Pn**	**09 10 04.8**	**+0.4**
BORA				*i* S	**Sn**	**09 10 39.3**	**+8.2**
BALT	**Daday**	**2.16**	**6**	*i* P	**Pn**	**09 10 04.2**	**-0.9**
BALT				*i* S	**Sn**	**09 10 37.3**	**+4.8**
BNN	**Bunyan**	**2.20**	**103**	PN	**Pn**	**09 10 05.9**	**+0.1**
HENT	**Hendek**	**2.21**	**311**	*i* P	**Pn**	**09 10 10.4**	**+4.4**
HENT				*i* S	**Sn**	**09 10 42.9**	**+8.9**
GPA	**Golpazari**	**2.33**	**294**	PN	**Pn**	**09 10 08.1**	**+0.5**
ALT	**Altintas**	**2.34**	**263**	PN	**Pn**	**09 10 06.9**	**-0.9**
BYBT	**Boyabat**	**2.44**	**31**	PN	**Pn**	**09 10 10.2**	**+1.0**
BOYT	**Boyabat**	**2.46**	**34**	*i* P	**Pn**	**09 10 08.5**	**-0.9**
BOYT				*i* S	**Sn**	**09 10 41.0**	**+0.9**
ISP	**Isparta**	**2.55**	**234**	PN	**Pn**	**09 10 10.9**	**+0.2**
ISP	**Isparta**	**2.55**	**234**	*e*P	**Pn**	**09 10 11.5**	**+0.8**
ISP	**Isparta**	**2.55**	**234**	*e*P	**Pn**	**09 10 11.5**	**+0.8**
EYL	**Eskiyayla**	**2.55**	**298**	PN	**Pn**	**09 10 11.5**	**+0.8**
TKTP	**Tekketepe**	**2.56**	**239**	*i* P	**Pn**	**09 10 10.9**	**+0.1**
TKTP				*i* S	**Sn**	**09 10 52.7**	**+10**
BZK	**Bozkurt**	**2.66**	**15**	PN	**Pn**	**09 10 12.2**	**-0.2**
ERMK	**Ermenek**	**2.74**	**183**	*i* P	**Pn**	**09 10 08.4**	**-5.1**
ERMK				*i* S	**Sn**	**09 10 55.1**	**+7.7**
BCK	**Bucak**	**2.75**	**227**	PN	**Pn**	**09 10 12.8**	**-0.8**
TOKT	**Tokat**	**2.81**	**70**	PN	**Pn**	**09 10 15.5**	**+1.0**
KVT	**Kavak**	**2.82**	**52**	PN	**Pn**	**09 10 14.8**	**+0.2**
GDZ	**Gediz**	**2.83**	**265**	*i* P	**Pg**	**09 10 20.9**	**-3.7**
GDZ				*i* S	**Sg**	**09 11 00.2**	**-2.0**
MEST	**Erdemli**	**2.91**	**163**	*i* P	**Pn**	**09 10 16.7**	**+0.8**
MEST				*i* S	**Sn**	**09 10 49.7**	**-2.0**
KHL	**Karahalli**	**2.99**	**250**	PN	**Pn**	**09 10 16.8**	**-0.2**
HRT	**Hereke**	**3.00**	**300**	PN	**Pn**	**09 10 17.8**	**+0.7**
SVST	**Sivas**	**3.00**	**81**	*i* P	**Pn**	**09 10 17.4**	**+0.2**
SVST				*i* S	**Sn**	**09 11 02.9**	**+8.9**
SVSK	**Karacayir**	**3.06**	**79**	PN	**Pn**	**09 10 17.9**	**-0.1**
YLV	**Yalova**	**3.10**	**294**	PN	**Pn**	**09 10 18.6**	**+0.1**
ULDT	**Uludag**	**3.15**	**285**	*i* P	**Pn**	**09 10 18.0**	**-1.2**
ULDT				*i* S	**Sg**	**09 11 10.0**	**-2.9**
IKL	**Isikli**	**3.18**	**171**	PN	**Pn**	**09 10 18.8**	**-0.9**
GOLH	**Golhisar**	**3.51**	**233**	*i* P	**Pn**	**09 10 25.0**	**+0.6**
GOLH				*i* S	**Sg**	**09 11 34.0**	**+8.9**
MANT	**Manisa**	**3.65**	**257**	*i* P	**Pn**	**09 10 26.7**	**+0.3**
MANT				*i* S	**Sg**	**09 11 31.9**	**+2.2**
COBT	**Iskenderun**	**3.80**	**138**	*i* P	**Pn**	**09 10 27.1**	**-1.3**
COBT				*i* S	**Sn**	**09 11 28.7**	**+15**
BTOK	**Tokmak**	**3.93**	**277**	*i* P	**Pg**	**09 10 43.5**	**-3.2**
BTOK				*i* S	**Sg**	**09 11 40.6**	**+1.4**
GZT	**Gaziantep**	**4.05**	**119**	*i* P	**Pn**	**09 10 35.0**	**+2.8**
GZT				*i* S	**Sg**	**09 11 44.5**	**+1.4**
AKAS	**Kas**	**4.19**	**222**	*i* P	**Pn**	**09 10 35.9**	**+1.8**
AKAS				*i* S	**Sn**	**09 11 28.0**	**+4.0**
MALT	**Malatya**	**4.30**	**103**	*e*P	**Pn**	**09 10 36.0**	**+0.4**
CSS	**Prodhromos**	**4.42**	**178**	*e*P	**Pn**	**09 10 36.5**	**-0.8**
CSS	**Prodhromos**	**4.42**	**178**	*e*P	**Pn**	**09 10 36.5**	**-0.8**
KDAG	**Bornova**	**4.66**	**260**	*i* P	**Pg**	**09 10 54.5**	**-6.6**
KDAG				*i* S	**Sg**	**09 12 05.6**	**+2.5**
ELZG	**Elazig**	**4.67**	**99**	*i* P	**Pn**	**09 10 37.4**	**-3.6**
ELZG				*i* S	**Sg**	**09 11 57.5**	**-6.3**
AYVA	**Ayvalik**	**4.97**	**271**	*i* P	**Pg**	**09 11 04.8**	**-2.5**
AYVA				*i* S	**Sg**	**09 12 10.5**	**-3.0**
URLA	**Izmir**	**5.18**	**261**	*i* P	**Pg**	**09 11 05.6**	**-5.9**
URLA				*i* S	**Sg**	**09 12 23.6**	**+3.1**
SIM	**Simferopol'**	**5.61**	**7**	*e*P	**Pb**	**09 11 05.1**	**-1.3**
SIM				*e*S	**Sn**	**09 11 55.2**	**-4.6**
SIM				pmax	pmax		
	comp=Z,23nm,0.8s						
SIM				MLR	MLR		
	comp=Z,230nm,16.7s						
BNGL	**BINGOL**	**6.27**	**91**	*i* P	**Pb**	**09 11 20.6**	**+2.9**
BNGL				*i* S	**Sg**	**09 12 46.9**	**-10**
MARD	**Mardin**	**6.38**	**107**	*i* P	**Pg**	**09 11 25.9**	**-10**
MARD				*i* S	**Sg**	**09 12 54.2**	**-6.3**
SOC	**Sochi**	**6.50**	**48**	*e*P	**Pn**	**09 11 05.2**	**-1.5**
	comp=Z,268nm,17.0s						
SOC	**Sochi**	**6.50**	**48**	*e*P	**Pn**	**09 11 05.2**	**-1.5**
SOC				pmax	pmax		
	comp=Z,9.0nm,0.7s						
SOC				pmax	pmax		
	comp=N,6.0nm,0.5s						
SOC				pmax	pmax		
	comp=E,9.0nm,0.7s						
SOC				MLR	MLR		
	comp=Z,314nm,16.0s						
SOC				MLR	MLR		
	comp=N,268nm,17.0s						
SOC				MLR	MLR		
	comp=E,364nm,15.0s						
HARR	**Harsova**	**6.55**	**326**	⇓P	**Pn**	**09 11 19.0**	**+12**
HARR	**Harsova**	**6.55**	**326**	⇓P	**Pn**	**09 11 19.1**	**+12**
ARTV	**Artvin**	**6.99**	**72**	*i* P	**Pb**	**09 11 30.3**	**+0.4**
ARTV				*i* S	Sx	09 13 05.3	
IDI	**Anoyia**	**7.71**	**241**	Pn	**Pn**	**09 11 24.3**	**+0.6**
	comp=E,1.2nm,0.3s,baz=41,slow=17,SNR=5.5						
IDI				LR	LR	09 14 58.7	
	comp=E,403nm,19.1s,baz=82,slow=42						
ASF	**Jabal al Asfar**	**7.83**	**156**	LR	LR	09 14 47.4	
	comp=E,503nm,20.3s,baz=62,slow=41						
VRI	**Vrincioaia**	**8.00**	**326**	⇑P	**P**	**09 11 46.3**	**+19**
VRI	**Vrincioaia**	**8.00**	**326**	⇑P	**P**	**09 11 46.3**	**+19**
MLR	**Muntele Rosu**	**8.07**	**321**	Pn	**P**	**09 11 28.1**	**-0.7**
	comp=E,0.2nm,0.3s,baz=266,slow=9.5,SNR=3.5						
MLR				Sn	**Sn**	**09 13 01.6**	**+0.3**
	comp=E,2.2nm,0.3s,baz=174,slow=20,SNR=5.1						
MLR				LR	LR	09 15 16.7	
	comp=E,684nm,19.1s,baz=137,slow=43						
MLR	**Muntele Rosu**	**8.07**	**321**	⇓P	**P**	**09 11 43.4**	**+15**
MLR	**Muntele Rosu**	**8.07**	**321**	P	**P**	**09 11 28.1**	**-0.7**
MLR						09 13 01.6	
MLR				smax			
	comp=E,2.0nm,0.3s						
MLR				MLR	MLR		
	comp=Z,685nm,19.1s						
KIV	**Kislovodsk**	**8.50**	**54**	P	**P**	**09 11 41.0**	**+6.2**
KIV				MLR	MLR		
	comp=Z,300nm,12.0s						
ZEI	**Tsey**	**8.83**	**64**	*e*P	**P**	**09 11 38.5**	**-0.8**
GNI	**Garni**	**9.00**	**81**	LR	LR	09 15 35.6	
	comp=Z,717nm,20.5s,baz=249,slow=41						
GNI	**Garni**	**9.00**	**81**	*i* P	**P**	**09 11 46.0**	**+4.3**
AKASG	**Malin Array Be**	**11.64**	**348**	Pn	**P**	**09 12 16.6**	**-1.1**
	comp=Z,0.8nm,0.3s,baz=171,slow=12,SNR=3.8						
AKASG				Sn	**S**	**09 14 21.7**	**-7.5**
	comp=Z,0.9nm,0.3s,baz=165,slow=22,SNR=4.4						
AKASG	**Malin Array Be**	**11.64**	**348**	P	**P**	**09 12 16.7**	**-1.1**
AKASG						09 14 21.7	
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG				smax			
	comp=E,1.0nm,0.3s						
OBN	**Obninsk**	**15.91**	**7**	P	**P**	**09 13 15.0**	**+1.0**
	comp=E,100nm,14.0s						
OBN	**Obninsk**	**15.91**	**7**	⇓P	**P**	**09 13 15.0**	**+1.0**
OBN				pmax	pmax		
	comp=Z,6.0nm,0.7s						
OBN				MLR	MLR		
	comp=Z,100nm,14.0s						
PGF	**Pioggiola**	**18.46**	**288**	*e*P	**P**	**09 13 47.6**	**+1.4**
	comp=Z,29nm,1.1s						
PGF	**Pioggiola**	**18.46**	**288**	*e*P	**P**	**09 13 47.6**	**+1.4**
PGF				pmax	pmax		
	comp=Z,15nm,1.1s						
DAVOX	**Davos**	**18.46**	**301**	LR	LR	09 22 03.4	
	comp=Z,251nm,18.2s,baz=84,slow=41						
FRF	**La Foret Royal**	**20.22**	**290**	*e*P	**P**	**09 14 05.2**	**-1.3**
	comp=Z,26nm,1.0s						
FRF	**La Foret Royal**	**20.22**	**290**	*e*P	**P**	**09 14 05.2**	**-1.3**
FRF				pmax	pmax		
	comp=Z,13nm,1.0s						
MBDF	**Montbardon**	**20.22**	**294**	*e*P	**P**	**09 14 05.9**	**-0.6**
BNI	**Bardonecchia**	**20.32**	**295**	*e*P	**P**	**09 14 08.8**	**+1.2**
	comp=Z,19nm,1.2s						
BNI	**Bardonecchia**	**20.32**	**295**	*e*P	**P**	**09 14 08.8**	**+1.2**
	comp=Z,19nm,1.2s						
BNI	**Bardonecchia**	**20.32**	**295**	*e*P	**P**	**09 14 08.8**	**+1.2**
BNI				pmax	pmax		
	comp=Z,19nm,1.2s						
LPG	**La Plagne**	**20.33**	**296**	*e*P	**P**	**09 14 08.2**	**+0.5**
	comp=Z,12nm,0.8s						
LPG	**La Plagne**	**20.33**	**296**	*e*P	**P**	**09 14 08.2**	**+0.5**
LPG				pmax	pmax		
	comp=Z,6.0nm,0.8s						
LPL	**La Plagne**	**20.35**	**296**	*e*P	**P**	**09 14 08.1**	**+0.3**
	comp=Z,16nm,1.0s						
LPL	**La Plagne**	**20.35**	**296**	*e*P	**P**	**09 14 08.1**	**+0.3**
LPL				pmax	pmax		
	comp=Z,8.0nm,1.0s						
CDF	**Champ du Feu**	**20.60**	**304**	*e*P	**P**	**09 14 10.6**	**+0.2**
HINF	**Hinteralfeld**	**20.71**	**303**	*e*P	**P**	**09 14 11.4**	**-0.2**
	comp=Z,3.3nm,0.5s						
HINF	**Hinteralfeld**	**20.71**	**303**	*e*P	**P**	**09 14 11.4**	**-0.2**
HINF				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ORIF	**Oris-en-Rattie**	**20.87**	**294**	*e*P	**P**	**09 14 12.8**	**-0.5**
ORIF				*e*R			
	comp=Z,348nm,19.5s						
CABF	**La Chapelle**	**20.97**	**299**	*e*P	**P**	**09 14 13.5**	**-0.7**
VIVF	**Saint-Julien-I**	**21.72**	**294**	*e*P	**P**	**09 14 20.7**	**-1.2**
	comp=Z,7.9nm,0.8s,mb3.9						
VIVF	**Saint-Julien-I**	**21.72**	**294**	*e*P	**P**	**09 14 20.7**	**-1.2**
VIVF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb3.9						
SMF	**Signal de Mont**	**22.50**	**298**	*e*P	**P**	**09 14 28.8**	**-0.8**
FINES	**FINESS Array B**	**22.51**	**351**	P	**P**	**09 14 30.4**	**+0.9**
	comp=Z,1.9nm,0.5s,mb3.8,baz=149,slow=11,SNR=12						
FINES				LR	LR	09 25 10.0	
	comp=Z,104nm,18.7s,MS3.3,baz=138,slow=42						
FINES	**FINESS Array B**	**22.51**	**351**	P	**P**	**09 14 30.4**	**+0.9**
FINES				LR	LR	09 25 10.0	
FINES	**FINESS Array B**	**22.51**	**351**	P	**P**	**09 14 30.4**	**+0.9**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
FINES				MLR	MLR		
	comp=Z,104nm,18.7s						
LOR	**Lormes**	**22.59**	**300**	*e*P	**P**	**09 14 29.8**	**-0.6**
	comp=Z,20nm,1.1s,mb4.2						
LOR				*e*R			
	comp=Z,216nm,19.2s						
SSF	**Saint Saulge**	**22.79**	**299**	*e*P	**P**	**09 14 31.3**	**-1.1**
AVF	**Avril sur Loir**	**22.85**	**299**	*e*P	**P**	**09 14 31.9**	**-1.2**
KAF	**Kangasniemi**	**23.13**	**352**	*e*p	**P**	**09 14 36.1**	**+0.5**
CAF	**Calviac**	**23.58**	**294**	*e*P	**P**	**09 14 38.7**	**-1.4**
ARU	**Arti**	**23.91**	**36**	*e*P	**P**	**09 14 42.0**	**-1.2**
HFS	**Hagfors**	**24.08**	**336**	P	**P**	**09 14 47.2**	**+2.4**
	comp=Z,1.9nm,0.6s,mb3.7,baz=135,slow=14,SNR=4.0						
HFS				LR	LR	09 25 06.5	
	comp=Z,151nm,21.6s,MS3.4,baz=264,slow=39						
HFS	**Hagfors**	**24.08**	**336**	P	**P**	**09 14 47.2**	**+2.4**
HFS

TERO Sg **Sg** **09 32 08.9 +1.7**
1μm,0.6s
LAV9 Lanuvio 0.61 228 Pg **Pg** 09 31 59.7 -0.1
2μm,0.3s
ROM9 Roma 0.64 246 Pg **Pg** **09 32 00.7 +0.3**
2μm,0.6s
RNI2 Rionero Sannit 0.74 121 Pg **Pg** **09 32 01.8 -0.7**
1μm,0.7s
CII Carovilli 0.83 116 *e*P **Pb** **09 32 04.3 +1.2**
CII *e*S **Sb** **09 32 16.9 +3.0**
CII Carovilli 0.83 116 *e*P **Pb** **09 32 04.3 +1.2**
CII *e*S **Sb** **09 32 16.9 +2.9**
MIDA Miranda 0.84 122 Pg **Pg** **09 32 02.2 -2.2**
743nm,0.7s
RFI Roccamonfina 0.94 147 Pg **Pg** **09 32 05.8 -0.5**
28nm,0.3s
TOLF Tolfa 0.97 269 Pn **Pn** **09 32 05.8 -0.6**
341nm,0.7s
VAGA Valle Agricola 0.97 134 Pg **Pg** **09 32 05.7 -1.2**
TRIV Trivento 0.99 109 Pg **Pg** **09 32 05.9 -1.4**
MSC Monte Massico 1.03 150 Pn **Pn** **09 32 07.3 0.0**
SGG Gregorio Mates 1.07 131 Pn **Pn** **09 32 07.6 -0.3**
BSSO Busso 1.11 119 Pn **Pn** **09 32 09.4 +1.0**
931nm,1.4s
SACS San Casciano d 1.28 307 Pn **Pn** **09 32 12.6 +1.7**
356nm,1.1s
CING Cingoli 1.29 357 Pn **Pn** **09 32 11.8 +0.8**
354nm,0.6s
PSB1 Pescosannita 1.42 127 Pn **Pn** **09 32 14.9 +1.9**
368nm,1.1s
ARV Arcevia 1.43 350 Pn **Pn** **09 32 14.4 +1.3**
222nm,0.8s
ARCI Arcidosso 1.55 300 Pn **Pn** **09 32 16.7 +1.9**
105nm,1.4s
FSSB Fossombrone 1.65 347 Pn **Pn** **09 32 18.3 +2.1**
120nm,0.4s
MCRV Calabrutti - M 1.92 132 Pn **Pn** **09 32 21.1 +1.1**
130nm,1.2s
GRFL Gerfalco 2.02 302 Pn **Pn** **09 32 22.8 +1.4**
10.0nm,0.4s
SFI Santa Sofia 2.11 330 Pn **Pn** **09 32 25.1 +2.4**
35nm,0.6s
PGD Poggio Sodo 2.13 328 Pn **Pn** **09 32 24.7 +1.6**
26nm,0.5s
PGF Pioggiola 3.22 280 *e*Pn **Pn** **09 32 39.3 +0.7**
PGF *e*Sn **Sn** **09 33 15.0 -2.1**
5.0nm,0.4s
OBKA Obir 4.51 11⇑*i*PN **Pn** **09 32 57.6 +0.6**
OBKA *i* SN **Sn** **09 33 50.9 +1.1**
SBF Sospel 4.65 294 *e*Pn **Pn** **09 32 57.8 -1.2**
SBF *e*Sn **Sn** **09 33 49.7 -3.7**
1.8nm,0.2s
SBF *e*Sg **Sg** **09 34 15.0 -7.4**
FRF La Foret Royal 5.11 289 *e*Pn **Pn** **09 33 03.7 -1.7**
FRF *e*Pg **Pg** **09 33 23.0 -6.4**
FRF *e*Sn **Sn** **09 33 59.8 -5.1**
3.5nm,0.5s
LMR La Mourre 5.16 286 *e*Pn **Pn** **09 33 04.9 -1.2**
LMR *e*Sn **Sn** **09 34 02.7 -3.3**
14nm,0.7s
MOA Molln 5.80 6⇑*i*PN **Pn** **09 33 16.3 +1.1**
MOA *i* SN **Sn** **09 34 23.0 +0.7**
LPG La Plagne 5.84 308 *e*Pn **Pn** **09 33 15.2 -0.5**
LPG *e*P 09 33 19.0
LPG *e*Sn **Sn** **09 34 18.2 -4.9**
1.4nm,0.3s
LPG La Plagne 5.84 308 *e*Pn **Pn** **09 33 15.2 -0.5**
LPG *e*Sn **Sn** **09 34 18.2 -4.9**
0.7nm,0.3s
LPL La Plagne 5.86 308 *e*Pn **Pn** **09 33 14.8 -1.2**
LPL *e*P 09 33 19.2
SMRF Simiane la Rot 5.97 291 *e*Pn **Pn** **09 33 15.7 -1.8**
ORIF Oris-en-Rattie 6.09 300 *e*Pn **Pn** **09 33 17.6 -1.7**
ORIF *e*P 09 33 22.7
ORIF *e*Sn **Sn** **09 34 23.7 -5.8**
3.7nm,0.5s
ORIF Oris-en-Rattie 6.09 300 *e*Pn **Pn** **09 33 17.6 -1.7**
ORIF *e*Sn **Sn** **09 34 23.7 -5.8**
1.9nm,0.5s
CABF La Chapelle 6.87 314 *e*Pn **Pn** **09 33 28.7 -1.5**
CABF *e*P 09 33 33.2
HINF Hinteralfeld 7.33 324 *e*Sn **Sn** **09 34 53.5 -6.9**
1.4nm,0.3s
CDF Champ du Feu 7.62 328 *e*Pn **Pn** **09 33 38.8 -1.9**
CDF *e*Sn **Sn** **09 35 00.6 -7.0**
2.3nm,0.5s
HAU Haudompre 7.70 323 *e*Pn **Pn** **09 33 40.4 -1.4**
BR131 Keskin Array S 15.56 92 *e*P **P** **09 35 35.5 +7.6**
22nm,0.3s

NNC 06 09:48:33.9±7.2,39.55N×72.59E,mpv3.4,1C-3D,Error ellipse: s-maj=61.7km s-min=27.4km az=157.0, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**3.40**	**24**	⇑Pg	Pg	09 49 37.6	-4.2
	8.3nm,0.7s						
AAK				Lg		09 50 22.8	
	18nm,0.8s						
KK31	**Karatay Array**	**3.88**	**337**	⇓Pn	Pn	09 49 34.4	-1.7
	2.1nm,0.5s,baz=153,slow=12,SNR=115						
KK31				⇓Pg	Pg	09 49 45.6	-5.7
	5.6nm,0.4s,baz=158,slow=14,SNR=11						
KK31				⇓Lg		09 50 36.1	
	14nm,0.6s,baz=153,slow=29,SNR=5.2						
AB31	**Akbulak array**	**13.25**	**321**	P	P	09 51 38.0	-7.7
	1.5nm,0.5s,baz=130,slow=14,SNR=26						

MOS ***06*** *09:56:04.9±0.9, 19.48S×175.82W, h133km, mb5.5/41, MS4.9/8, Error ellipse: s-maj=8.8km s-min=6.1km az=55.3*
BJI ***06*** *09:56:12.5, 19.24S×175.52W, h206km, mB5.7, mb5.7*
HRVD ***06*** *09:56:13.5±0.1, 19.60S×175.35W, h218km, MW6.0/78, Centroid moment Tensor Solution. LP body waves: s76, c186; Mantle waves: s78, c205; Half duration: 2s3 Moment tensor: Scale 10^18 Nm; Mrr=0.39±.01; Mθθ=0.31±.01; Mφφ=0.07±.01; Mrθ=-0.12±.01; Mφθ=0.59±.01; Mφr=-0.83±.01; Best double couple: M0=1.086×10^18 NP1: φs=267°, δ34°, λ=-23°. NP2: φs=16°, δ78°, λ=-122°. Principal axes: T 1.097, Plg26°, Azm130°; N -.021, Plg31°, Azm23°; P -1.076, Plg47°, Azm252°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***06*** *09:56:13.5±0.1, 19.61S×175.85W, mb5.3/85, MW5.9 Error ellipse: s-maj=6.0km s-min=3.4km az=141.0, Moment Tensor Solution. s42 Moment tensor: Scale 10^18 Nm; Mrr=0.00; Mθθ=0.00; Mφφ=0.00; Mrθ=0.00; Mφθ=0.00; Mφr=0.00; Best double couple: M0=1×10^18 NP1: φs=228°, δ17°, λ=-63°. NP2: φs=20°, δ75°, λ=-98°. Principal axes: T 1, Plg30°, Azm116°; N .01, Plg8°, Azm22°; P -1.02, Plg59°, Azm279°;*
BGS ***06*** *09:56:14.3, 19.61S×175.85W, h205km*
IDC ***06*** *09:56:14.8±0.5, 19.60S×175.91W, h210km±3km, mb5.2/21, mb1 5.3/21, mb1mx5.2/22, mbtmp5.7/21, Error ellipse: s-maj=11.1km s-min=8.4km az=155.0*

ISC 06 09:56:12.0±0.1,19.72S±0.02×175.81W±0.03,h206km, **h206**km±.8km**:pP-P,n876,**σ1§**03**/415,**mb5.4**/133,**43C-87D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.95**	**34**	P	**P**	**09 57 44.9**	**-7.5**
	306nm,0.3s,baz=184,slow=2.0,SNR=269						
AFI				S	**S**	**09 58 54.2**	**-16**
	841nm,0.3s,baz=47,slow=23,SNR=12						
AFI	**Afiamalu**	**6.95**	**34**	*e*P	**P**	**09 57 44.3**	**-8.0**
	2μm,0.8s						
AFI				*e*S	**S**	**09 58 51.1**	**-20**
AFI	**Afiamalu**	**6.95**	**34**	P	**P**	**09 57 44.9**	**-7.4**
AFI				S	**S**	**09 58 54.2**	**-16**
AFI				pmax	pmax		
	comp=Z,306nm,0.3s						
AFI				smax			
	comp=E,841nm,0.3s						
RAO	**Raoul Island**	**9.68**	**191**	P	**P**	**09 58 26.8**	**-1.1**
	comp=E,182nm,0.3s,baz=292,slow=22,SNR=8.7						
RAO				S	**S**	**10 00 13.8**	**-0.4**
	comp=E,348nm,0.3s,baz=259,slow=23,SNR=14						
RAO	**Raoul Island**	**9.68**	**191**	*e*P	**P**	**09 58 26.6**	**-1.3**
	comp=E,560nm,0.5s						
RAO	**Raoul Island**	**9.68**	**191**	P	**P**	**09 58 26.8**	**-1.1**
RAO				S	**S**	**10 00 13.8**	**-0.5**
RAO				pmax	pmax		
	comp=Z,182nm,0.3s						
RAO				smax			
	comp=E,348nm,0.3s						
RAR	**Rarotonga**	**15.11**	**98**	*e*P	**P**	**09 59 32.1**	**-4.4**
	comp=E,2μm,1.4s						
RAR	**Rarotonga**	**15.11**	**98**	*e*P	**P**	**09 59 32.1**	**-4.4**
RAR				pmax	pmax		
	comp=Z,2μm,1.4s						
DZM	**Mont Dzumac**	**16.75**	**259**	*e*P	**P**	**09 59 59.2**	**+2.9**
DZM	**Mont Dzumac**	**16.75**	**259**	P	**P**	**09 59 59.4**	**+3.1**
	comp=Z,66nm,0.3s,baz=86,slow=13,SNR=204						
DZM				S	**S**	**10 03 07.5**	**+13**
	baz=54,slow=23,SNR=1.9						
DZM	**Mont Dzumac**	**16.75**	**259**	*e*P	**P**	**09 59 59.2**	**+2.9**
OUZ	**Omahuta**	**18.06**	**209**	PN	**P**	**10 00 11.5**	**+1.1**
WCZ	**Waipu Caves**	**18.34**	**206**	PN	**P**	**10 00 14.8**	**+1.5**
MXZ	**Matakaoa Point**	**18.51**	**195**	PN	**P**	**10 00 15.4**	**+0.4**
KUZ	**Kuaotunu**	**18.52**	**202**	PN	**P**	**10 00 16.7**	**+1.6**
WIZ	**White Island**	**18.77**	**198**	PN	**P**	**10 00 18.6**	**+0.9**
MYRZ	**Mayor Island**	**18.83**	**200**	PN	**P**	**10 00 20.9**	**+2.6**
MTAZ	**Motutapu**	**18.85**	**204**	PN	**P**	**10 00 20.7**	**+2.1**
OTAZ	**Otara**	**18.99**	**203**	PN	**P**	**10 00 22.0**	**+2.0**
PUZ	**Puketiti**	**19.00**	**194**	PN	**P**	**10 00 18.0**	**-2.1**
PUZ				SN	**S**	**10 03 36.0**	**-4.2**
WTAZ	**Waiatarua**	**19.11**	**204**	PN	**P**	**10 00 22.5**	**+1.3**
MWZ	**Matawai**	**19.43**	**196**	*e*PN	**P**	**10 00 22.1**	**-2.5**
MWZ				SN	**S**	**10 03 48.0**	**-0.2**
EDRZ	**Edgecumbe**	**19.44**	**198**	PN	**P**	**10 00 25.2**	**+0.7**
LIRZ	**Lichensteins R**	**19.45**	**199**	*e*PN	**P**	**10 00 24.8**	**+0.1**
URZ	**Urewera**	**19.47**	**197**	P	**P**	**10 00 23.7**	**-1.2**
	comp=Z,92nm,0.3s,baz=15,slow=3.6,SNR=223						
URZ				S	**S**	**10 03 48.5**	**-0.5**
	comp=Z,18nm,0.3s,baz=295,slow=21,SNR=11						
URZ	**Urewera**	**19.47**	**197**	*e*PN	**P**	**10 00 22.8**	**-2.2**
URZ				SN	**S**	**10 03 46.9**	**-2.1**
TOZ	**Tahuroa Road**	**19.48**	**201**	PN	**P**	**10 00 27.6**	**+2.5**
TAZ	**Tarawera**	**19.62**	**198**	PN	**P**	**10 00 26.8**	**+0.3**
UTU	**Utuhina**	**19.66**	**199**	PN	**P**	**10 00 28.6**	**+1.7**
HIZ	**Hauiti**	**20.41**	**201**	PN	**P**	**10 00 36.0**	**+1.7**
BKZ	**Black Stump Fm**	**20.49**	**197**	PN	**P**	**10 00 33.0**	**-2.3**
NGZ	**Ngauruhoe**	**20.76**	**199**	PN	**P**	**10 00 37.2**	**-0.7**
TUVZ	**Tukino**	**20.83**	**199**	PN	**P**	**10 00 38.1**	**-0.4**
FWVZ	**Far West T-bar**	**20.85**	**199**	PN	**P**	**10 00 37.9**	**-0.9**
WNVZ	**Wahianoa**	**20.90**	**199**	PN	**P**	**10 00 38.4**	**-0.9**
MOVZ	**Moawhango**	**20.93**	**199**	PN	**P**	**10 00 37.9**	**-1.7**
VRZ	**Vera Road**	**20.99**	**201**	PN	**P**	**10 00 40.6**	**+0.5**
MTVZ	**Mangateitei**	**21.00**	**199**	*e*PN	**P**	**10 00 39.0**	**-1.2**
PWZ	**Pawanui**	**21.20**	**196**	PN	**P**	**10 00 41.7**	**-0.5**
RAEZ	**Rainy Point**	**21.26**	**201**	*e*PN	**P**	**10 00 45.2**	**+2.5**
NEZ	**North Egmont**	**21.35**	**202**	PN	**P**	**10 00 46.3**	**+2.7**
BFZ	**Birch Farm**	**21.97**	**196**	PN	**P**	**10 00 50.9**	**+1.2**
BFZ				SN	**S**	**10 04 38.5**	**+4.6**
MRZ	**Mangatainoka R**	**22.14**	**198**	*e*PN	**P**	**10 00 49.7**	**-1.6**
KIW	**Kapiti Island**	**22.52**	**199**	*e*PN	**P**	**10 00 54.1**	**-0.9**
MTW	**Mount Morrison**	**22.62**	**197**	*e*PN	**P**	**10 00 54.1**	**-2.0**
CAW	**Cannon Point**	**22.70**	**198**	*e*PN	**P**	**10 00 55.8**	**-1.0**
DUWZ	**D'Urville Isla**	**22.78**	**200**	*e*PN	**P**	**10 00 55.9**	**-1.6**
TRWZ	**Traveller**	**22.79**	**197**	PN	**P**	**10 00 57.4**	**-0.3**
PAWZ	**Paruwai Farm**	**22.85**	**197**	SN	**S**	**10 04 54.4**	**+5.5**
MRW	**Makara Radio**	**22.92**	**199**	PN	**P**	**10 00 58.8**	**-0.1**
SNZO	**South Karori**	**22.99**	**199**	PN	**P**	**10 00 59.8**	**+0.2**
SNZO	**South Karori**	**22.99**	**199**	*e*P	**P**	**10 00 59.5**	**-0.1**
	comp=Z,451nm,0.8s,mb6.0						
TCW	**Tory Channel**	**23.03**	**199**	PN	**P**	**10 00 59.1**	**-0.9**
QRZ	**Quartz Range**	**23.28**	**203**	*e*PN	**P**	**10 01 02.4**	**0.0**
NNZ	**Nelson**	**23.33**	**201**	PN	**P**	**10 00 59.3**	**-3.5**
TUWZ	**Tuamarina**	**23.34**	**200**	PN	**P**	**10 01 01.7**	**-1.2**
THZ	**Tophouse**	**23.98**	**201**	PN	**P**	**10 01 08.5**	**-0.4**
THZ				SN	**S**	**10 05 11.4**	**+3.5**
DSZ	**Denniston Nort**	**24.35**	**203**	PN	**P**	**10 01 12.7**	**+0.3**
KHZ	**Kahutara**	**24.36**	**199**	PN	**P**	**10 01 12.5**	**0.0**
TBI	**Tubuai**	**24.77**	**103**	*e*P	**P**	**10 01 15.7**	**-0.8**
	comp=Z,326nm,1.2s,mb5.8						
TBI				*e*pP		10 01 54.6	
	comp=Z,648nm,1.3s						
PAE	**Paea**	**24.93**	**90**	*e*P	**P**	**10 01 16.2**	**-1.8**
	comp=Z,458nm,1.0s,mb6.0						
PAE				*e*pP		10 01 56.9	
	comp=Z,634nm,1.5s						
PPT	**Papeete**	**24.95**	**89**	*e*P	**P**	**10 01 16.6**	**-1.6**
	comp=Z,324nm,1.1s,mb5.9						
PPT				*e*pP		10 01 56.6	
	comp=Z,199nm,1.5s						
PPT	**Papeete**	**24.95**	**89**	P	**P**	**10 01 17.1**	**-1.1**
	comp=Z,278nm,1.0s,mb5.8,baz=230,slow=3.1,SNR=25						
PPT	**Papeete**	**24.95**	**89**	P	**P**	**10 01 17.1**	**-1.1**
PPT				pmax	pmax		
	comp=Z,278nm,1.0s						
LTZ	**Lake Taylor**	**25.10**	**201**	PN	**P**	**10 01 18.4**	**-0.9**
TVO	**Taravao**	**25.22**	**90**	*e*P	**P**	**10 01 19.1**	**-1.6**
	comp=Z,895nm,1.5s,mb6.2						
TVO				*e*pP	pP	10 02 00.7	-0.3
	comp=Z,1μm,1.6s						
HNR	**Honiara**	**25.55**	**290**	P	**P**	**10 01 24.2**	**+0.3**
	comp=Z,643nm,1.0s,mb6.2,baz=184,slow=3.1,SNR=24						
HNR	**Honiara**	**25.55**	**290**	*e*P	**P**	**10 01 21.6**	**-2.3**
	comp=Z,794nm,1.0s,mb6.3						
HNR	**Honiara**	**25.55**	**290**	P	**P**	**10 01 24.2**	**+0.3**
HNR				pmax	pmax		
	comp=Z,643nm,1.0s,mb6.2						
MQZ	**McQueen's Vall**	**25.80**	**199**	*e*PN	**P**	**10 01 25.9**	**+0.1**
WVZ	**Waitaha Valley**	**25.90**	**203**	*e*PN	**P**	**10 01 25.7**	**-1.0**
RPZ	**Rata Peaks**	**26.34**	**202**	P	**P**	**10 01 31.7**	**+0.9**
	comp=Z,269nm,0.7s,mb6.0,baz=344,slow=0.9,SNR=33						
RPZ	**Rata Peaks**	**26.34**	**202**	*e*PN	**P**	**10 01 29.7**	**-1.0**
FOZ	**Fox Glacier**	**26.71**	**204**	*e*PN	**P**	**10 01 31.1**	**-3.1**
PMOR	**Pomariorio Ree**	**27.04**	**84**	*e*P	**P**	**10 01 35.1**	**-2.3**
	comp=Z,483nm,1.3s,mb6.0						
PMOR				*e*pP	pP	10 02 18.9	+0.5
	comp=Z,482nm,1.5s						
LBZ	**Lake Benmore**	**27.23**	**202**	PN	**P**	**10 01 37.0**	**-1.8**
VAH	**Vaihoa**	**27.23**	**85**	*e*P	**P**	**10 01 36.2**	**-3.0**
	comp=Z,255nm,1.2s,mb5.7						
VAH				*e*pP	pP	10 02 20.8	+0.6
	comp=Z,270nm,1.5s						
JCZ	**Jackson Bay**	**27.50**	**205**	PN	**P**	**10 01 40.6**	**-0.6**
ODZ	**Otahua Downs**	**27.65**	**201**	PN	**P**	**10 01 41.8**	**-0.8**
WKZ	**Wanaka**	**28.04**	**203**	PN	**P**	**10 01 44.4**	**-1.7**
EAZ	**Earnscleugh**	**28.27**	**203**	PN	**P**	**10 01 47.1**	**-1.1**
TUZ	**Tuapeka**	**28.79**	**201**	PN	**P**	**10 01 53.1**	**+0.3**
MLZ	**Mavora Lakes**	**28.79**	**204**	PN	**P**	**10 01 52.5**	**-0.3**
DCZ	**Deep Cove**	**29.30**	**205**	PN	**P**	**10 01 57.0**	**-0.3**
WHZ	**Wether Hill Ro**	**29.34**	**203**	*e*PN	**P**	**10 01 57.2**	**-0.5**
RIV	**Riverview**	**32.51**	**238**	*e*P	**P**	**10 02 26.3**	**+0.9**
CNB	**Canberra Magne**	**34.36**	**236**⇓*i*P		**P**	**10 02 41.8**	**+0.6**
	comp=Z,339nm,0.9s,mb5.9						
CNB				*e*PCP	PcP	10 05 14.0	+1.5
CNB				*e*S	**S**	**10 07 57.0**	**+4.1**
CNB				*e*SCS	ScS	10 12 48.2	+10
CTA	**Charters Tower**	**35.62**	**263**⇓*i*P		**P**	**10 02 52.7**	**+0.7**
	comp=Z,1μm,0.6s						
CTA				*i* PCP	PcP	10 05 18.3	+2.0
CTA				*e*S	**S**	**10 08 13.5**	**+1.3**
CTA				*e*SCP		10 08 48.5	
CTA	**Charters Tower**	**35.62**	**263**	ScP		10 08 47.6	
	comp=Z,30nm,1.0s,baz=39,slow=0.8,SNR=4.7						
CTA	**Charters Tower**	**35.62**	**263**⇓*i*P		**P**	**10 02 52.7**	**+0.7**
CTA				*i*		10 05 18.3	
CTA				*e*S	**S**	**10 08 13.5**	**+1.3**
CTA				pmax	pmax		
	comp=Z,1μm,0.6s						
CTAO	**Charters Tower**	**35.62**	**263**	*e*P	**P**	**10 02 52.4**	**+0.4**
	comp=Z,3μm,0.9s						
CTAO	**Charters Tower**	**35.62**	**263**	P	**P**	**10 02 52.8**	**+0.8**
CTAO				pmax	pmax		
	comp=Z,3μm,0.9s						
PMG	**Port Moresby**	**37.20**	**281**	P	**P**	**10 03 05.7**	**+0.4**
	comp=Z,1μm,1.0s,mb6.4,baz=90,slow=5.2,SNR=71						
PMG				PcP	PcP	10 05 21.7	+0.6
	comp=Z,70nm,0.8s,baz=29,slow=6.6,SNR=3.0						
PMG				S	**S**	**10 08 34.2**	**-2.1**
	comp=Z,15nm,0.9s,baz=128,slow=9.4,SNR=2.3						
PMG	**Port Moresby**	**37.20**	**281**	*e*P	**P**	**10 03 05.2**	**-0.1**
	comp=Z,1μm,1.0s,mb6.4						
PMG				*e*pP	pP	10 03 50.3	+1.7
PMG				*e*PcP	PcP	10 05 20.6	-0.5
PMG	**Port Moresby**	**37.20**	**281**	P	**P**	**10 03 05.7**	**+0.4**
PMG						10 05 21.7	
PMG				S	**S**	**10 08 34.2**	**-2.1**
PMG				pmax	pmax		
	comp=Z,70nm,0.9s						
PMG				smax			
	comp=E,15nm,0.9s						
TOO	**Toolangi**	**38.01**	**234**⇓*i*P		**P**	**10 03 12.0**	**+0.1**
	comp=E,86nm,0.7s,mb5.4						
TOO	**Toolangi**	**38.01**	**234**⇓*i*P		**P**	**10 03 12.0**	**+0.1**
TOO				pmax	pmax		
	comp=Z,86nm,0.7s,mb5.4						
RKT	**Rikitea**	**38.09**	**103**	*e*P	**P**	**10 03 12.1**	**-0.5**
	comp=Z,573nm,1.0s,mb6.0						
RKT				*e*pP	pP	10 03 55.4	-0.7
	comp=Z,145nm,1.3s						
TAU	**Tasmania Unive**	**38.62**	**225**	*e*P	**P**	**10 03 17.0**	**+0.1**
	comp=Z,122nm,1.1s,mb5.3						
TAU	**Tasmania Unive**	**38.62**	**225**	P	**P**	**10 03 17.4**	**+0.5**
TAU				pmax	pmax		
	comp=Z,120nm,1.1s,mb5.3						
STKA	**Stephens Creek**	**39.98**	**244**⇓*i*P		**P**	**10 03 28.5**	**+0.4**
	comp=Z,176nm,1.1s,mb5.4						
STKA				*i* PCP	PcP	10 05 31.7	+2.0
STKA				*i* S	**S**	**10 09 20.5**	**+2.7**
STKA	**Stephens Creek**	**39.98**	**244**	P	**P**	**10 03 28.7**	**+0.6**
	comp=Z,182nm,1.0s,mb5.5,baz=82,slow=8.6,SNR=70						
STKA				PcP	PcP	10 05 30.6	+0.9
	comp=Z,56nm,0.8s,baz=21,slow=3.0,SNR=5.5						
STKA				ScP		10 09 03.0	
	comp=Z,5.0nm,0.7s,baz=82,slow=3.0,SNR=2.8						
WAKE	**Wake Island**	**42.40**	**335**	*e*P	**P**	**10 03 46.5**	**-1.6**
	comp=Z,285nm,1.2s,mb5.6						
ADE	**Adelaide**	**42.79**	**240**	P	**P**	**10 03 51.2**	**+0.1**
KIP	**Kipapa**	**44.44**	**24**	*e*P	**P**	**10 04 03.4**	**-1.0**
	comp=Z,61nm,0.9s,mb4.9						
KIP	**Kipapa**	**44.44**	**24**	*e*P	**P**	**10 04 03.4**	**-1.0**
KIP				pmax	pmax		
	comp=Z,61nm,0.9s,mb4.9						
WB2	**Warramunga Arr**	**46.74**	**261**⇓*i*P		**P**	**10 04 21.7**	**-0.7**
WB2				*e*S	**S**	**10 10 53.0**	**-2.5**
WB2				*e*SCS	ScS	10 13 56.1	+3.6
WRAB	**Tennant Creek**	**46.74**	**261**⇓*i*P		**P**	**10 04 21.5**	**-0.9**
	comp=Z,578nm,0.7s,mb6.0						
WRAB				*e*PcP	PcP	10 05 52.7	-0.2
WRAB				*e*PP	PP	10 06 15.7	+1.6
WRAB				*e*ScP		10 09 25.9	
WRAB				*e*S	**S**	**10 10 54.5**	**-1.0**
WRAB	**Tennant Creek**	**46.74**	**261**⇓*i*P		**P**	**10 04 21.5**	**-1.0**
WRAB				*e*		10 05 52.7	
WRAB				*e*		10 06 15.7	
WRAB				*e*S	**S**	**10 10 54.5**	**-1.0**
WRAB				pmax	pmax		
	comp=Z,578nm,0.7s,mb6.0						
WRA	**Warramunga Arr**	**46.75**	**261**	P	**P**	**10 04 21.4**	**-1.1**
	comp=Z,277nm,0.5s,mb5.8,baz=96,slow=5.7,SNR=465						
WRA				PcP	PcP	10 05 53.2	+0.4
	comp=Z,63nm,1.0s,baz=93,slow=4.0,SNR=6.5						
WRA				ScP		10 09 31.4	
	comp=Z,22nm,1.1s,baz=96,slow=4.4,SNR=9.3						
WRA				S	**S**	**10 10 55.5**	**-0.1**
	comp=Z,16nm,0.9s,baz=97,slow=13,SNR=6.1						
WRA	**Warramunga Arr**	**46.75**	**261**	P	**P**	**10 04 21.4**	**-1.1**
WRA						10 05 53.2	
WRA				S	**S**	**10 10 55.5**	**-0.2**
WRA				pmax	pmax		
	comp=Z,277nm,0.5s						
WRA				pmax	pmax		
	comp=Z,63nm,1.0s						
WRA				pmax	pmax		
	comp=E,22nm,1.1s						
WRA				smax			
	comp=E,16nm,0.9s						
KAKA	**Kakadu**	**50.02**	**270**⇓*i*P		**P**	**10 04 54.1**	**+6.4**
	comp=E,648nm,0.6s,mb6.1						
DRV	**Dumont d'Urvil**	**54.78**	**200**	P	**P**	**10 05 19.0**	**-3.2**
DRV				S	**S**	**10 12 46.0**	**+1.0**
DRV				L		10 19 00.0	
FITZ	**Fitzroy Crossi**	**55.17**	**261**⇓*i*P		**P**	**10 05 25.1**	**-0.6**
	comp=E,441nm,0.8s,mb6.0						
FITZ				*e*S	**S**	**10 12 57.0**	**+6.1**
FITZ	**Fitzroy Crossi**	**55.17**	**261**	P	**P**	**10 05 25.2**	**-0.5**
	comp=E,422nm,0.7s,mb6.1,baz=109,slow=2.8,SNR=98						
FITZ				S	**S**	**10 12 53.4**	**+2.5**
	comp=E,18nm,1.2s,baz=2.9,slow=21,SNR=2.2						
SBA	**Scott Base**	**58.79**	**184**	*e*P	**P**	**10 05 53.1**	**+2.7**
	comp=E,79nm,0.9s,mb5.3						
SBA	**Scott Base**	**58.79**	**184**	*e*P	**P**	**10 05 53.1**	**+2.7**
SBA				pmax	pmax		
	comp=Z,79nm,0.9s,mb5.3						
VNDA	**Vanda**	**58.88**	**186**	P	**P**	**10 05 53.0**	**+2.0**
	comp=Z,34nm,0.8s,mb5.0,baz=2.7,slow=6.4,SNR=78						
VNDA	**Vanda**	**58.88**	**186**⇓*i*P		**P**	**10 05 52.9**	**+1.9**
	comp=Z,90nm,1.3s,mb5.2						
VNDA	**Vanda**	**58.88**	**186**	*e*P	**P**	**10 05 53.1**	**+2.1**
VNDA				pmax	pmax		
	comp=Z,90nm,1.2s						
MBWA	**Marble Bar**	**60.03**	**256**⇓*i*P		**P**	**10 05 58.2**	**-1.3**
	comp=Z,513nm,1.0s,mb6.1						
MBWA				*e*PP	PP	10 08 13.3	-3.0
KLBR	**Kellerberrin**	**60.25**	**244**⇓*i*P		**P**	**10 05 59.9**	**-1.0**
	comp=Z,864nm,1.1s,mb6.3						
NWAO	**Narrogin (SRO)**	**60.55**	**243**	P	**P**	**10 06 02.3**	**-0.6**
	comp=Z,135nm,1.0s,mb5.5,baz=94,slow=6.9,SNR=21						
NWAO	**Narrogin (SRO)**	**60.55**	**243**⇓*e*P		**P**	**10 06 01.6**	**-1.3**
	comp=Z,311nm,1.3s,mb5.8						
NWAO	**Narrogin (SRO)**	**60.55**	**243**	P	**P**	**10 06 02.7**	**-0.2**
NWAO				pmax	pmax		
	comp=Z,310nm,1.2s						
MUN	**Mundaring**	**61.51**	**244**⇓*i*P		**P**	**10 06 08.6**	**-0.8**
	comp=Z,199nm,1.1s,mb5.7						
MUN	**Mundaring**	**61.51**	**244**⇓*i*P		**P**	**10 06 08.6**	**-0.8**
MUN				pmax	pmax		
	comp=Z,199nm,1.1s,mb5.7						
MATI	**Mati**	**62.85**	**289**	*e*P	**P**	**10 06 16.5**	**-2.0**
BUTP	**Butuan**	**

MIR pmax pmax
comp=Z,182nm,1.4s,mb5.5
SMY Shemya 72.67 354 eP **P 10 07 17.8 -1.1**
SMY LR LR
comp=Z,600nm,19.0s
SMY Shemya 72.67 354 P **P 10 07 17.9 -1.0**
SMY pmax pmax
comp=Z,240nm,0.9s,mb5.8
FX1 Attu Island--F 72.92 353 eP **P 10 07 18.6 -1.8**
JNU Nakatsue 73.14 315 P **P 10 07 21.6 -0.4**
comp=Z,51nm,0.7s,mb5.2,baz=50,slow=5.9,SNR=34
UNV Unalaska Valle 73.70 6 eP **P 10 07 22.4 -2.4**
comp=Z,301nm,1.2s,mb5.8
SKR Severo-Kuril's 74.33 342 eP **P 10 07 23.0 -5.5**
SKR ePPP PPP 10 12 10.0 +5.0
SKR eS S 10 16 42.0 -2.1
SKR e 10 17 14.0
SKR eSS SS 10 21 32.0 -5.3
SKR eSSS SSS 10 24 46.0 -6.3
SKR pmax pmax
comp=N,110nm,1.0s
SKR pmax pmax
comp=E,110nm,1.0s
SKR pmax pmax
comp=Z,220nm,1.0s,mb5.7
SKR pmax pmax
comp=N,1μm,4.0s
SKR pmax pmax
comp=E,1μm,4.0s
SKR pmax pmax
comp=Z,1μm,4.0s
SKR smax
comp=N,1μm,12.0s
SKR smax
comp=E,2μm,12.0s
SKR MLR MLR
comp=Z,1μm,18.0s
NACB Ninganchiao 74.96 303⇓eP **P 10 07 31.3 -1.4**
KSM Kuching 75.35 277⇓iP **P 10 07 35.0 -0.1**
KSM epP pP 10 08 21.8 -2.5
KSM ePP PP 10 10 19.4 -8.7
TATO Taipei 75.44 304⇓eP **P 10 07 34.9 -0.4**
comp=Z,765nm,1.4s,mb6.1
PET Petropavlovsk 75.75 344⇓eP **P 10 07 34.9 -1.6**
comp=Z,147nm,1.4s,mb5.4
PET Petropavlovsk 75.75 344 eP **P 10 07 35.5 -1.0**
PET e*PP pP 10 08 23.2 -2.6
PET eS S 10 16 57.1 -2.5
PET eSP SP 10 17 31.6 -6.7
PET pmax pmax
comp=Z,80nm,0.9s,mb5.3
PET pmax pmax
comp=Z,1μm,4.8s
PET pmax pmax
comp=Z,700nm,15.1s
PET pmax pmax
comp=Z,300nm,13.1s
PET pmax pmax
comp=Z,500nm,18.8s
PET smax
comp=E,2μm,9.0s
PET smax
comp=E,1μm,18.9s
SAO San Andreas Ge 76.06 42⇓eP **P 10 07 39.5 +0.9**
comp=E,37nm,0.9s,mb5.0
SAO ⇓epP pP 10 08 29.3 +1.4
SAO San Andreas Ge 76.06 42⇓eP **P 10 07 39.5 +0.9**
SAO e*PP pP 10 08 29.3 +1.4
SAO pmax pmax
comp=Z,37nm,0.9s,mb5.0
LRV Little Rabbit 76.13 43 eP **P 10 07 38.6 -0.4**
YSS Yuzh-Sakhalins 76.14 332⇓eP **P 10 07 38.7 -0.1**
comp=Z,350nm,1.1s,mb5.9
YSS Yuzh-Sakhalins 76.14 332κ iP **P 10 07 38.8 0.0**
YSS e 10 08 23.0
YSS e 10 10 40.0
YSS iS S 10 17 07.0 +3.0
YSS e 10 17 36.0
YSS pmax pmax
comp=Z,310nm,1.1s,mb5.8
YSS pmax pmax
comp=N,110nm,1.3s
YSS pmax pmax
comp=E,110nm,1.1s
YSS smax
comp=E,2μm,12.0s
YSS smax
comp=E,2μm,4.0s
PTRM Twissleman Ran 76.18 44 eP **P 10 07 39.7 +0.4**
HOPS Hopland 76.45 40⇓eP **P 10 07 40.9 +0.2**
comp=E,20nm,0.9s,mb4.7
KCPM Cahto Peak 76.59 39 eP **P 10 07 42.2 +0.8**
KCPM epP pP 10 08 32.6 +1.8
MWC Mount Wilson 76.78 46 eP **P 10 07 42.3 -0.3**
MWC epP pP 10 08 30.9 -1.2
BAR Barrett 76.86 48 eP **P 10 07 43.2 +0.1**
BAR epP pP 10 08 31.1 -1.4
CHGN Chignik 77.13 10 eP **P 10 07 43.9 -0.2**
CMB Columbia Colle 77.50 42 eP **P 10 07 45.9 -0.7**
comp=E,19nm,0.8s,mb4.8
CMB epP pP 10 08 36.9 +0.8
CMB Columbia Colle 77.50 42 eP **P 10 07 45.9 -0.6**
CMB e*PP pP 10 08 36.9 +0.9
CMB pmax pmax
comp=Z,19nm,0.8s,mb4.8
PFO Pinyon Flat Ob 77.53 47 eP **P 10 07 46.2 -0.6**
comp=Z,11nm,0.8s,mb4.5
PFO epP pP 10 08 34.8 -1.5
PFO Pinyon Flat Ob 77.53 47 eP **P 10 07 46.2 -0.6**
PFO e*PP pP 10 08 34.8 -1.5
PFO pmax pmax
comp=Z,11nm,0.8s,mb4.5
KS15 Wonju Array Si 77.70 317 eP **P 10 07 47.5 -0.1**
QZH Quanzhou 77.72 302⇑iP **P 10 07 48.5 +0.5**
QZH S S 10 17 24.2 +2.8
QZH AMB AMB
comp=Z,520nm,0.9s,mb6.2
QZH AMB AMB
comp=Z,2μm,5.4s
WDC Whiskeytown Da 77.77 39 eP **P 10 07 48.5 +0.6**
comp=Z,85nm,1.4s,mb5.2
WDC epP pP 10 08 38.7 +1.2
WDC Whiskeytown Da 77.77 39 eP **P 10 07 48.5 +0.6**
WDC e*PP pP 10 08 38.7 +1.2
WDC pmax pmax
comp=Z,85nm,1.4s,mb5.2
OMM Old Mammoth Mi 78.14 43 eP **P 10 07 49.9 -0.1**
OMM epP pP 10 08 39.4 -0.2
MTUM Tungsten Hills 78.26 43 eP **P 10 07 50.6 0.0**
MTUM epP pP 10 08 40.2 -0.1
DAC Darwin (Calif) 78.27 45 eP **P 10 07 50.3 -0.5**
comp=Z,69nm,1.7s,mb5.0
DAC epP pP 10 08 40.0 -0.3
DAC Darwin (Calif) 78.27 45 eP **P 10 07 50.3 -0.4**
DAC e*PP pP 10 08 40.0 -0.4
DAC pmax pmax
comp=Z,69nm,1.7s,mb5.0
YBH Yreka Blue Hor 78.41 38 P **P 10 07 51.7 +0.3**
comp=Z,10nm,0.6s,mb4.7,baz=167,slow=1.9,SNR=32
YBH pP pP 10 08 44.0 +3.0
comp=Z,24nm,1.0s,baz=199,slow=4.7,SNR=5.4
YBH Yreka Blue Hor 78.41 38 eP **P 10 07 50.9 -0.4**
comp=Z,89nm,1.4s,mb5.2
YBH epP pP 10 08 41.8 +0.8
YBH Yreka Blue Hor 78.41 38 eP **P 10 07 50.9 -0.5**
YBH e*PP pP 10 08 41.8 +0.8
YBH pmax pmax
comp=Z,89nm,1.4s
INCN Inchon 78.53 317 eP **P 10 07 53.0 +0.9**
comp=Z,170nm,1.1s,mb5.6
BEKR Beckwourth 78.64 40⇓eP **P 10 07 52.5 -0.1**
comp=Z,19nm,0.7s,mb4.8
BEKR epP pP 10 08 43.1 +0.8
LBCM Butte Creek Ri 78.64 39 P **P 10 07 52.8 +0.1**
LTIM Timbered Crate 78.77 39 P **P 10 07 54.7 +1.3**
SSE Sheshan 78.78 309 P **P 10 07 53.5 -0.1**
SSE AP pP 10 08 41.7 -1.6
SSE XP sP 10 09 03.2 -1.7
SSE PP PP 10 10 55.2 -1.1
SSE S S 10 17 36.4 +3.9
SSE XS 10 19 01.0
SSE AMB AMB
comp=Z,70nm,1.1s,mb5.2
SSE AMB AMB
comp=Z,679nm,5.9s
SSE LR LR
comp=N,667nm,20.0s
SSE LR LR
comp=E,799nm,20.0s
SSE LR LR
comp=Z,657nm,24.9s
HUMO Hull Mountain 78.83 37⇓eP **P 10 07 53.8 +0.2**
comp=Z,15nm,1.0s,mb4.6
HUMO epP pP 10 08 41.7 -1.6
BUOR Burton Butte 79.02 37 P **P 10 07 54.8 +0.1**
HOG Hogback Mounta 79.31 38 P **P 10 07 56.9 +0.7**
TPH Tonopah 79.54 43⇓eP **P 10 07 57.4 -0.1**
comp=Z,26nm,0.7s,mb5.0
TPH epP pP 10 08 49.1 +1.7
TPH Tonopah 79.54 43⇓eP **P 10 07 57.4 -0.1**
TPH e*PP pP 10 08 49.1 +1.7
TPH pmax pmax
comp=Z,27nm,0.7s,mb5.0
KDAK Kodiak Island 79.60 12 eP **P 10 07 57.8 +0.4**
KDAK LR LR
comp=Z,500nm,21.0s
NEN Nelson 79.76 46 eP **P 10 07 58.8 0.0**
NEN epP pP 10 08 48.0 -0.6
MOD Modoc 79.92 39 eP **P 10 07 58.9 -0.6**
comp=Z,28nm,0.7s,mb5.0
MOD epP pP 10 08 49.7 +0.4
HBO Huckleberry Mo 79.98 36 P **P 10 08 00.8 +1.1**
TUC Tucson 80.89 51⇑iP **P 10 08 05.3 +0.5**
comp=Z,49nm,1.3s,mb5.0
TUC epP pP 10 08 53.0 -1.8
TUC Tucson 80.89 51⇑iP **P 10 08 05.3 +0.5**
TUC e*PP pP 10 08 53.0 -1.8
TUC pmax pmax
comp=Z,49nm,1.3s,mb5.0
BMN Battle Mountai 80.90 41 eP **P 10 08 04.3 -0.4**
comp=Z,24nm,0.9s,mb4.8
BMN epP pP 10 08 55.1 +0.4
BMN Battle Mountai 80.90 41 eP **P 10 08 04.3 -0.4**
BMN e*PP pP 10 08 55.2 +0.5
BMN pmax pmax
comp=Z,24nm,0.9s,mb4.8
NJ2 Nanjing 80.98 309 eP **P 10 08 03.9 -1.4**
NJ2 AP pP 10 08 58.0 +2.7
NJ2 XP sP 10 09 20.8 +4.0
NJ2 PP PP 10 11 11.2 -3.6
NJ2 S S 10 17 52.0 -3.4
NJ2 XS 10 19 25.0
NJ2 AMB AMB
comp=Z,150nm,0.8s,mb5.7
NJ2 AMB AMB
comp=Z,406nm,4.0s
NJ2 LR LR
comp=N,5μm,17.4s
NJ2 LR LR
comp=E,3μm,17.4s
NJ2 LR LR
comp=Z,11μm,15.4s
MDJ Mudanjiang 81.08 324 P **P 10 08 06.4 +0.8**
MDJ AP pP 10 08 54.7 -0.9
MDJ XP sP 10 09 16.5 -0.6
MDJ PP PP 10 11 14.4 -0.9
MDJ S S 10 17 59.4 +3.3
MDJ AMB AMB
comp=Z,469nm,0.8s,mb6.2
MDJ AMB AMB
comp=Z,1μm,3.3s
MDJ LR LR
comp=N,799nm,24.1s
MDJ LR LR
comp=E,436nm,27.3s
MDJ LR LR
comp=Z,612nm,21.9s
MDJ Mudanjiang 81.08 324⇓eP **P 10 08 06.2 +0.7**
comp=Z,445nm,1.0s,mb6.0
GZH Guangzhou 81.14 298 P **P 10 08 06.8 +0.5**
BMW Boistfort Moun 81.19 34 P **P 10 08 07.3 +1.2**
WVOR Wild Horse Val 81.22 39 eP **P 10 08 06.0 -0.3**
comp=Z,102nm,1.6s,mb5.2
WVOR epP pP 10 08 55.3 -1.1
WVOR Wild Horse Val 81.22 39 eP **P 10 08 06.0 -0.3**
WVOR e*PP pP 10 08 55.3 -1.1
WVOR pmax pmax
comp=Z,102nm,1.6s,mb5.2
CROR Criterion Ridg 81.44 36 P **P 10 08 08.5 +1.1**
OOW Octopus West 81.53 32 P **P 10 08 09.6 +1.8**
OCWA Octopus Mounta 81.54 32⇑eP **P 10 08 08.8 +0.9**
comp=Z,44nm,0.8s,mb5.1
TDL Tradedollar La 81.64 34 P **P 10 08 09.0 +0.6**
ARUT Antelope Range 81.87 45 eP **P 10 08 10.8 +1.0**
ARUT epP pP 10 08 60.0 +0.1
RSO Redoubt South 82.06 11 eP **P 10 08 09.0 -1.2**
KGM Kluang 82.08 275 P **P 10 08 12.6 +1.3**
LON Longmire 82.11 34 P **P 10 08 11.6 +0.9**
SVW2 Sparrevohn 82.17 10 eP **P 10 08 10.8 +0.1**
WPW White Pass 82.22 34 P **P 10 08 12.6 +1.2**
FMW Mount Fremont 82.30 34 P **P 10 08 13.2 +1.4**
ELK Elko 82.32 42 eP **P 10 08 11.9 -0.1**
comp=Z,26nm,0.9s,mb4.9
ELK epP pP 10 09 00.9 -1.2
ELK Elko 82.32 42 eP **P 10 08 11.9 -0.1**
ELK e*PP pP 10 09 01.0 -1.1
ELK pmax pmax
comp=Z,26nm,0.9s
QIZ Qiongzhong 82.42 293 P **P 10 08 14.1 +1.2**
QIZ XP sP 10 09 26.8 +2.2
QIZ S S 10 18 11.1 +0.9
QIZ PS PS 10 19 26.9 -3.7
QIZ AMB AMB
comp=Z,41nm,1.3s,mb4.9
QIZ AMB AMB
comp=Z,884nm,8.5s
PGC Sidney 82.50 32 eP **P 10 08 12.3 -0.4**
comp=Z,67nm,0.7s,mb5.5
PGC epP pP 10 09 02.2 -0.7
SLKM Skilak Lake 82.59 12 eP **P 10 08 12.3 -0.7**
SLKM Skilak Lake 82.59 12 P **P 10 08 13.0 +0.1**
DL2 Dalian 82.59 316 PR 10 08 14.0
DL2 XP sP 10 09 28.3 +3.2
DL2 S S 10 18 15.6 +4.1
DL2 AMB AMB
comp=Z,90nm,1.1s,mb5.4
DL2 AMB AMB
comp=Z,580nm,5.6s
SPU Mount Spurr 82.85 11 eP **P 10 08 12.7 -1.6**
SPU epP pP 10 09 04.0 -0.6
KLR Kul'dur 82.92 328 eP **P 10 08 11.0 -3.9**
KLR eS S 10 18 13.5 -1.1
KLR pmax pmax
comp=N,42nm,1.8s
KLR pmax pmax
comp=E,64nm,1.8s
KLR pmax pmax
comp=Z,110nm,1.8s,mb5.3
KLR pmax pmax
comp=E,500nm,7.0s
KLR pmax pmax
comp=Z,1μm,7.0s
KLR smax
comp=N,1μm,15.0s
KLR smax
comp=E,1μm,15.0s
SNY Shenyang 82.95 319⇓P **P 10 08 14.4 -0.8**
SNY S S 10 18 21.6 +6.5
SNY AMB AMB
comp=Z,120nm,1.8s,mb5.3
SNY AMB AMB
comp=Z,1μm,7.1s
CN2 Changchun 82.95 321 eP **P 10 08 15.7 +0.5**
CN2 eAP pP 10 09 04.3 -1.1
CN2 eXP sP 10 09 22.5 -4.4
CN2 eS S 10 18 18.8 +3.7
CN2 AMB AMB
comp=Z,370nm,1.2s,mb6.0
CN2 AMB AMB
comp=Z,2μm,3.0s
JCW Jim Creek 82.97 33 P **P 10 08 16.0 +0.8**
MAW Mawson 82.98 199⇓iP **P 10 08 16.3 +1.4**
comp=Z,36nm,1.1s,mb5.0
MAW Mawson 82.98 199 P **P 10 08 16.4 +1.5**
comp=Z,31nm,0.7s,mb5.2,baz=132,slow=6.4,SNR=57
MAW Mawson 82.98 199 P **P 10 08 16.4 +1.5**
MAW pmax pmax
comp=Z,31nm,0.7s
MSU Marysvale 83.09 45 eP **P 10 08 17.1 +1.0**
MSU epP pP 10 09 07.9 +1.6
HAWA Hanford 83.11 35 eP **P 10 08 15.5 -0.5**
comp=Z,2.3nm,0.9s
HAWA epP pP 10 09 06.8 +0.6
BMO Blue Mountains 83.44 38 eP **P 10 08 17.0 -0.7**
comp=Z,104nm,1.7s,mb5.3
BMO epP pP 10 09 06.8 -1.0
LNOR Lincton Mounta 83.48 36 P **P 10 08 18.7 +0.8**
DUG Dugway 83.57 43 eP **P 10 08 18.3 -0.1**
comp=Z,10nm,0.8s,mb4.6
DUG epP pP 10 09 05.8 -2.9
DUG Dugway 83.57 43 eP **P 10 08 18.3 -0.1**
DUG e*PP pP 10 09 05.8 -2.9
DUG pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
MA2 Magadan 83.60 344⇓eP **P 10 08 16.7 -1.4**
comp=Z,97nm,1.0s,mb5.5
MA2 Magadan 83.60 344 P **P 10 08 17.5 -0.6**
MA2 pmax pmax
comp=Z,97nm,1.0s,mb5.5
EYAK Cordova Ski Ar 83.61 14 eP **P 10 08 16.9 -1.2**
EYAK epP pP 10 09 05.6 -2.8
WHN Wuhan 83.65 305⇑P **P 10 08 20.0 +0.9**
WTV Waterville 83.69 34 P **P 10 08 20.0 +1.1**
PMR Palmer 83.80 12 eP **P 10 08 18.1 -0.9**
PMR LR LR
comp=Z,400nm,19.0s
TTA Tatalina 83.84 9 eP **P 10 08 20.0 +0.8**
DIV Divide 84.11 14⇓eP **P 10 08 19.6 -1.0**
comp=Z,185nm,0.9s,mb5.8
DIV epP pP 10 09 11.0 +0.1
TMUT Trail Mountain 84.15 45⇑eP **P 10 08 21.9 +0.5**
TMUT epP pP 10 09 12.1 +0.5
SML Sawmill 84.16 13 eP **P 10 08 20.1 -0.7**
SML epP pP 10 09 08.8 -2.4
OD2 Odessa Site #2 84.17 35 P **P 10 08 22.1 +0.9**
MPU Maple Canyon 84.24 44 eP **P 10 08 23.0 +1.2**
MPU epP pP 10 09 13.1 +1.0
NOQ North Oquirrh 84.26 43 eP **P 10 08 23.2 +1.3**
TIA Tai'an 84.28 312⇓P **P 10 08 21.9 -0.2**
TIA AMB AMB
comp=Z,170nm,1.4s,mb5.6
SPUT South Promonto 84.40 43 eP **P 10 08 22.1 -0.4**
SPUT epP pP 10 09 12.3 -0.5
HVU Hansel Valley 84.44 42 eP **P 10 08 22.5 -0.2**
HVU epP pP 10 09 14.0 +0.9
SRU San Rafael 84.51 45 eP **P 10 08 23.0 -0.1**
SRU epP pP 10 09 12.6 -0.9
CTU Camp Tracy 84.52 43 eP **P 10 08 23.5 +0.4**
CTU epP pP 10 09 14.0 +0.5
MNTX Cornudas Mount 84.63 54⇑eP **P 10 08 23.9 0.0**
comp=Z,60nm,0.9s,mb5.3
MNTX epP pP 10 09 13.4 -0.9
JLU Jordanelle 84.67 44 eP **P 10 08 23.8 -0.1**
JLU epP pP 10 09 12.3 -2.0
DAU Daniels Canyon 84.69 44 eP **P 10 08 25.2 +1.2**
DAU Daniels Canyon 84.69 44 P **P 10 08 25.0 +1.0**
LTX Lajitas 84.91 57⇑eP **P 10 08 25.8 +0.4**
comp=Z,44nm,0.9s,mb5.2
LTX epP pP 10 09 17.5 +1.8
LTX Lajitas 84.91 57⇑eP **P 10 08 25.8 +0.4**
LTX e*PP pP 10 09 17.5 +1.8
LTX pmax pmax
comp=Z,44nm,0.9s,mb5.2
TXAR Lajitas Array 84.91 57 P **P 10 08 26.0 +0.6**
comp=Z,28nm,0.8s,mb5.0,baz=216,slow=7.7,SNR=157
TXAR pP pP 10 09 18.3 +2.6
comp=Z,4.3nm,0.8s,baz=225,slow=5.3,SNR=1.5
TXAR PKKPbc 10 26 31.5
comp=Z,0.4nm,0.8s,baz=90,slow=3.8,SNR=4.0
TXAR PKPPKP 10 34 34.9
comp=Z,0.4nm,0.9s,slow=3.8,SNR=3.5
TCUT Toone Canyon 84.96 43⇓eP **P 10 08 25.8 +0.4**
TCUT epP pP 10 09 16.4 +0.6
IPM Ipoh 85.11 277 P **P 10 08 27.9 +1.1**
PV10 Paradox Valley 85.14 46 eP **P 10 08 26.1 -0.2**
ANMO Albuquerque 85.32 50 eP **P 10 08 27.4 +0.1**
comp=Z,31nm,0.8s,mb5.1
ANMO epP pP 10 09 16.4 -1.3
ANMO Albuquerque 85.32 50 eP **P 10 08 27.4 +0.1**
ANMO e*PP pP 10 09 16.4 -1.3
ANMO pmax pmax
comp=Z,31nm,0.8s
PV01 Paradox Valley 85.35 47 eP **P 10 08 27.2 -0.1**
PV01 epP pP 10 09 16.2 -1.6
NEW Newport 85.55 35 P **P 10 08 27.8 -0.2**
comp=Z,9.9nm,0.7s,mb4.7,baz=239,slow=4.1,SNR=38
NEW pP pP 10 09 19.5 +1.0
comp=Z,5.0nm,0.7s,baz=271,slow=5.2,SNR=2.7
NEW Newport 85.55 35⇓eP **P 10 08 27.0 -1.1**
comp=Z,11nm,0.7s,mb4.7
NEW epP pP 10 09 18.5 0.0
NEW Newport 85.55 35⇓eP **P 10 08 27.0 -1.1**
NEW e*PP pP 10 09 18.5 0.0
NEW pmax pmax
comp=Z,11nm,0.7s
KULM Kulim 85.71 277⇓eP **P 10 08 30.0 +0.3**
KULM ePP PP 10 11 47.7 -5.1
MCK McKinley 85.78 12 eP **P 10 08 27.7 -1.1**
comp=Z,48nm,0.9s,mb5.2
MCK epP pP 10 09 19.6 +0.3
MCK McKinley 85.78 12 eP **P 10 08 27.7 -1.1**
MCK e*PP pP 10 09 19.6 +0.3
MCK pmax pmax
comp=Z,48nm,0.9s,mb5.2
AHID Auburn Hatcher 86.02 42 eP **P 10 08 30.5 0.0**
comp=Z,12nm,1.0s,mb4.6
MCMT McKenzie Canyo 86.04 39 eP **P 10 08 30.9 +0.3**
SEY Seymchan 86.10 346 eP **P 10 08 30.1 -0.3**
SEY Seymchan 86.10 346 eP **P 10 08 30.5 +0.1**
SEY 10 11 53.7
SEY eS S 10 18 44.0 -1.2
SEY *SS 10 20 19.4
SEY eSS SS 10 24 29.6 -2.7
SEY eSSS SSS 10 28 08.9 +5.5
SEY pmax pmax
comp=E,40nm,0.9s
SEY pmax pmax
comp=Z,320nm,0.9s,mb6.0
SEY pmax pmax
comp=N,90nm,1.0s
SEY smax
comp=N,350nm,6.4s
SEY smax
comp=E,2μm,9.6s
MENT Mentasta 86.17 14 eP **P 10 08 31.3 +0.6**
RRI2 Red Ridge 86.18 41 P **P 10 08 31.5 +0.2**
comp=E,20nm,0.8s,mb4.9
RRI2 epP pP 10 09 21.6 -0.2
SNG Songkhla 86.38 279 P **P 10 08 33.0 +0.1**
comp=E,98nm,0.7s,mb5.7
REDW Red Top Meadow 86.48 41⇓eP **P 10 08 32.4 -0.3**
comp=E,20nm,1.1s,mb4.8
REDW epP pP 10 09 22.1 -1.1
TPAW Teton Pass 86.49 41 eP **P 10 08 33.0 +0.3**
comp=E,144nm,1.9s,mb5.4
TPAW epP pP 10 09 21.4 -1.8
MSO Missoula 86.50 37 eP **P 10 08 31.6 -1.1**
comp=E,51nm,1.8s,mb5.0
MSO epP pP 10 09 21.8 -1.4
DLBC Dease Lake 86.54 22 eP **P 10 08 33.4 +0.7**
DLBC epP pP 10 09 22.6 -0.5
SNOW Snow King Moun 86.59 41 eP **P 10 08 33.3 0.0**
comp=E,28nm,1.0s,mb5.0
SNOW epP pP 10 09 23.1 -0.7
IMW Indian Meadow 86.71 41 eP **P 10 08 34.2 +0.5**
comp=E,18nm,0.8s,mb4.9
IMW epP pP 10 09 23.8 -0.5
LOHW Long Hollow 86.77 41⇓eP **P 10 08 33.4 -0.6**
comp=E,79nm,1.9s,mb5.1
LOHW epP pP 10 09 23.2 -1.4
QLMT Earthquake Lak 86.89 40 eP **P 10 08 35.0 +0.4**
QLMT epP pP 10 09 25.9 +0.7
CHMT Chamberlain Mo 86.94 38 eP **P 10 08 34.1 -0.7**
CHMT epP pP 10 09 25.5 +0.1
SMCO Snowmass 86.94 47 eP **P 10 08 34.8 -0.2**
SMCO epP pP 10 09 24.5 -1.1
PDAR Pinedale Array 86.99 42 P **P 10 08 34.8 -0.4**
comp=E,7.7nm,0.7s,mb4.6,baz=214,slow=3.0,SNR=71
PDAR pP pP 10 09 27.0 +1.3
comp=E,3.5nm,0.8s,baz=227,slow=3.2,SNR=2.1
PDAR PKKPbc 10 26 27.9
comp=E,1.4nm,0.8s,baz=82,slow=5.0,SNR=7.7
PDAR PKPPKP 10 34 37.6

comp=E,1.1nm,0.9s,baz=117,slow=6.6,SNR=5.5
YFT Old Faithful 87.06 41 *e*P **P 10 08 37.2 +1.8**
YMR Madison River 87.09 40 *e*P **P 10 08 36.4 +0.8**
ILAR Eielson Array 87.11 12 P **P 10 08 34.1 -1.0**
comp=E,22nm,1.1s,mb4.8,baz=223,slow=5.0,SNR=82
ILAR pP pP 10 09 27.4 +1.7
comp=E,8.6nm,1.0s,baz=248,slow=4.4,SNR=2.5
ILAR S S 10 18 51.4 -3.3
comp=E,2.2nm,1.2s,baz=207,slow=9.6,SNR=11
ILAR PKKPbc 10 26 26.4
comp=E,0.9nm,0.9s,baz=224,slow=4.4,SNR=4.2
ILAR Eielson Array 87.11 12 P **P 10 08 34.2 -1.0**
ILAR *PP pP 10 09 27.5 +1.7
ILAR S S 10 18 51.4 -3.3
ILAR pmax pmax
comp=Z,22nm,1.1s
ILAR pmax pmax
comp=Z,9.0nm,1.0s
ILAR smax
comp=E,2.0nm,1.2s
ILAR pmax pmax
comp=Z,1.0nm,0.9s
BOZ Bozeman (W) 87.20 39 *e*P **P 10 08 36.1 0.0**
comp=Z,99nm,1.9s,mb5.2
BOZ *e*pP pP 10 09 26.1 -0.6
BOZ Bozeman (W) 87.20 39 *e*P **P 10 08 36.1 0.0**
BOZ *e**PP pP 10 09 26.1 -0.6
BOZ pmax pmax
comp=Z,99nm,1.9s,mb5.2
SDCO Great Sand Dun 87.30 48 *e*P **P 10 08 37.1 +0.4**
comp=Z,12nm,0.8s,mb4.7
ENH Enshi 87.31 303 *e*P **P 10 08 36.8 -0.2**
comp=Z,478nm,1.1s,mb6.1
LKWY Lake 87.38 41 *e*P **P 10 08 38.8 +1.8**
comp=Z,7.4nm,0.7s,mb4.5
LKWY *e*pP pP 10 09 28.8 +1.2
LKWY Lake 87.38 41 *e*P **P 10 08 38.8 +1.8**
LKWY *e**PP pP 10 09 28.8 +1.2
LKWY pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
KKTK Khon Kaen 87.59 288 ⇑P **P 10 08 39.0 +0.4**
comp=Z,741nm,1.0s
HRY Holter Researc 87.65 38 *e*P **P 10 08 38.2 +0.1**
HRY *e*pP pP 10 09 29.6 +0.8
WALA Waterton Lakes 87.75 36 *e*P **P 10 08 38.3 -0.3**
comp=Z,25nm,0.8s,mb5.1
WALA *e*pP pP 10 09 29.5 +0.3
SYO Syowa Base 87.93 192 ⇑P **P 10 08 39.0 0.0**
SYO Syowa Base 87.93 192 ⇑PcP PcP 10 08 40.0 -0.9
RWWY Rawlins 87.98 44 *e*P **P 10 08 40.5 +0.6**
comp=Z,11nm,0.7s,mb4.8
RWWY *e*pP pP 10 09 31.6 +1.1
GYA Guiyang 88.06 299⇓*i*P **P 10 08 41.3 +0.7**
GYA AP pP 10 09 31.7 +0.4
GYA XP sP 10 09 53.2 +0.4
GYA PP PP 10 12 09.0 -3.1
GYA SKS SKS 10 18 45.8 -1.3
GYA AMB AMB
comp=Z,40nm,1.2s,mb5.1
GYA AMB AMB
comp=Z,890nm,7.2s
GYA LR LR
comp=N,540nm,18.4s
GYA LR LR
comp=E,630nm,18.9s
GYA LR LR
comp=Z,490nm,18.0s
DAWY Dawson 88.16 15 *e*P **P 10 08 40.1 0.0**
DAWY *e*pP pP 10 09 30.7 -0.1
ISCO Idaho Springs 88.16 46 *e*P **P 10 08 40.6 -0.1**
comp=Z,6.4nm,0.7s,mb4.6
ISCO *e*pP pP 10 09 29.9 -1.5
ISCO Idaho Springs 88.16 46 *e*P **P 10 08 40.6 -0.2**
ISCO *e**PP pP 10 09 29.9 -1.5
ISCO pmax pmax
comp=Z,6.0nm,0.7s,mb4.5
PLCA Paso Flores 88.31 133 P **P 10 08 43.6 +2.2**
comp=Z,9.9nm,0.7s,mb4.8,baz=233,slow=4.2,SNR=24
PLCA pP pP 10 09 34.1 +2.0
comp=Z,5.5nm,0.9s,baz=242,slow=5.7,SNR=2.8
JCT Junction City 88.43 57 *e*P **P 10 08 41.4 -0.9**
comp=Z,9.3nm,0.8s,mb4.7
JCT Junction City 88.43 57 *e*P **P 10 08 41.4 -0.9**
JCT pmax pmax
comp=Z,9.0nm,0.8s,mb4.7
BILL Bilibino 88.48 353⇓*e*P **P 10 08 40.9 -0.7**
comp=Z,69nm,1.3s,mb5.3
BILL Bilibino 88.48 353 P **P 10 08 41.8 +0.2**
BILL pmax pmax
comp=Z,69nm,1.2s,mb5.4
SNAA Sanae 88.72 178 *e* 10 26 21.8
SNAA Sanae 88.72 178⇓*i*P **P 10 08 43.4 +0.8**
SNAA *e* 10 08 53.5
SNAA *e* 10 09 09.3
SNAA *e* 10 09 40.3
SNAA *e* 10 26 21.8
VNA3 Neumayer Olymp 88.77 176 *e* 10 26 22.2
VNA3 Neumayer Olymp 88.77 176⇓*i*P **P 10 08 44.1 +1.2**
VNA3 *e* 10 08 56.5
VNA3 *e* 10 09 12.7
VNA3 *e* 10 09 41.2
VNA3 *e* 10 19 14.6
VNA3 *e* 10 26 22.2
VNA3 *e* 10 34 24.7
PHWY Pilot Hill 88.96 45 *e*P **P 10 08 45.3 +0.8**
NNT Nongplab 89.07 284 P **P 10 08 46.5 +0.9**
VNA2 Neumayer--Watz 89.24 176 *e* 10 26 21.1
VNA2 Neumayer--Watz 89.24 176⇓*i*P **P 10 08 46.5 +1.4**
VNA2 *e* 10 08 57.1
VNA2 *e* 10 09 14.1
VNA2 *e* 10 09 43.4
VNA2 *e* 10 19 18.4
VNA2 *e* 10 26 21.1
VNA2 *e* 10 34 23.6
HIA Hailar 89.27 324⇓*e*P **P 10 08 45.9 +0.2**
comp=Z,164nm,1.4s,mb5.7
HIA Hailar 89.27 324⇓*e*P **P 10 08 45.9 +0.2**
HIA pmax pmax
comp=Z,164nm,1.4s
XAN Xi'an 89.31 307 P **P 10 08 47.3 +1.0**
XAN AMB AMB
comp=Z,335nm,1.3s,mb6.0
VNA1 Neumayer--Stat 89.45 176 *e* 10 26 18.3
VNA1 Neumayer--Stat 89.45 176⇓*i*P **P 10 08 47.8 +1.7**
VNA1 *e* 10 08 58.6
VNA1 *e* 10 09 15.2
VNA1 *e* 10 19 17.2
VNA1 *e* 10 26 16.3
VNA1 *e* 10 34 25.3
MAIT Maitri 89.59 182 *e*P **P 10 08 47.9 +1.1**
NVL N'lazarevskaya 89.60 183⇑*i*P **P 10 08 48.3 +1.5**
NVL *i* 10 09 22.5
NVL *i* 10 14 25.4
NVL *e* 10 18 59.4
NVL pmax pmax
comp=Z,3.0nm,0.9s
NST Nakhon Sawan 89.77 287 ⇑P **P 10 08 50.4 +1.6**
comp=Z,98nm,1.3s,mb5.5
HHC Hu-ho-hao-te 90.29 314 *e*P **P 10 08 52.1 +1.4**
HHC AP pP 10 09 44.4 +2.8
HHC XP sP 10 10 04.7 +1.5
HHC PP PP 10 12 28.6 -0.8
HHC SKS SKS 10 19 04.8 +4.5
HHC S S 10 19 30.3 +5.8
HHC AMB AMB
comp=Z,212nm,1.4s,mb5.8
HHC AMB AMB
comp=Z,1μm,5.4s
EDM Edmonton 90.35 32⇓*e*P **P 10 08 49.1 -1.5**
EDM *e*pP pP 10 09 41.8 +0.3
NANT Nan 90.35 290 ⇓P **P 10 08 51.0 -0.5**
comp=Z,1μm,1.0s
KMI Kunming 90.83 296 ⇓P **P 10 08 55.4 +1.8**
KMI AP pP 10 09 43.6 -0.9
KMI XP sP 10 10 06.7 +0.6
KMI PP PP 10 12 35.6 +1.4
KMI PPP PPP 10 14 39.2 +3.5
KMI SKS SKS 10 19 08.6 +4.8
KMI S S 10 19 32.3 +2.6
KMI XS 10 21 00.6
KMI PS PS 10 21 10.0 -0.2
KMI SS SS 10 25 41.0 -0.2
KMI AMB AMB
comp=Z,121nm,1.3s,mb5.7
KMI AMB AMB
comp=Z,630nm,3.1s
KMI LR LR
comp=N,775nm,22.8s
KMI LR LR
comp=E,512nm,22.2s
KMI LR LR
comp=Z,582nm,40.7s
CLNS Chul'man 90.90 332 *e*P **P 10 08 53.3 +0.2**
CLNS pmax pmax
comp=Z,140nm,1.4s,mb5.7
CLNS pmax pmax
comp=N,43nm,1.0s
CLNS pmax pmax
comp=E,24nm,0.9s
WMOK Wichita Mounta 90.92 53 *e*P **P 10 08 53.2 -0.6**
comp=E,16nm,1.3s,mb4.8
WMOK *e*pP pP 10 09 43.8 -0.9
WMOK Wichita Mounta 90.92 53 *e*P **P 10 08 53.2 -0.6**
WMOK *e**PP pP 10 09 43.8 -0.9
WMOK pmax pmax
comp=Z,16nm,1.3s,mb4.8
LAO LASA Array 90.98 40 *e*P **P 10 08 54.5 +0.8**
comp=Z,33nm,0.8s,mb5.3
RSSD Black Hills 91.17 43 *e*P **P 10 08 54.4 -0.3**
comp=Z,15nm,1.0s,mb4.9
RSSD *e*pP pP 10 09 43.8 -1.8
RSSD Black Hills 91.17 43 *e*P **P 10 08 54.4 -0.3**
RSSD *e**PP pP 10 09 43.8 -1.8
RSSD pmax pmax
comp=Z,15nm,1.0s,mb4.9
BTO Baotou 91.24 313 *e*P **P 10 08 55.8 +0.7**
BTO AMB AMB
comp=Z,65nm,1.3s,mb5.4
BDT Bhumibol Dam 91.33 288 P **P 10 09 06.5 +10**
comp=Z,76nm,0.9s,mb5.6
CHRT Chiangrai 91.54 290 ⇑P **P 10 08 56.0 -1.0**
comp=Z,763nm,0.7s
CBKS Cedar Bluff 91.85 49 *e*P **P 10 08 57.4 -0.6**
comp=Z,31nm,1.2s,mb5.1
CBKS *e*pP pP 10 09 46.8 -2.1
CBKS Cedar Bluff 91.85 49 *e*P **P 10 08 57.4 -0.6**
CBKS *e**PP pP 10 09 46.8 -2.1
CBKS pmax pmax
comp=Z,31nm,1.2s,mb5.1
CHG Chiang Mai 91.92 289 ⇑P **P 10 08 59.9 +1.1**
comp=Z,132nm,0.8s,mb5.9
CD2 Chengdu 92.11 302 P **P 10 09 00.8 +1.4**
CD2 AMB AMB
comp=Z,20nm,0.5s,mb5.3
YAK Yakutsk 92.17 337 *e*P **P 10 08 57.4 -1.6**
comp=Z,88nm,0.7s,mb5.8
YAK Yakutsk 92.17 337 P **P 10 08 58.3 -0.6**
YAK pmax pmax
comp=Z,88nm,0.7s,mb5.8
INK Inuvik 92.99 15 P **P 10 09 02.2 -0.3**
comp=Z,22nm,0.9s,mb5.2,baz=211,slow=5.2,SNR=48
INK pP pP 10 09 55.2 +1.6
comp=Z,6.4nm,0.8s,baz=280,slow=2.9,SNR=1.6
INK Inuvik 92.99 15 *e*P **P 10 09 01.6 -1.0**
comp=Z,39nm,1.0s,mb5.4
INK *e*pP pP 10 09 53.8 +0.3
INK Inuvik 92.99 15 *e*P **P 10 09 01.6 -1.0**
INK *e**PP pP 10 09 53.8 +0.3
INK pmax pmax
comp=Z,39nm,1.0s
NATX Nacogdoches 92.99 57 *e*P **P 10 09 03.4 0.0**
comp=Z,28nm,0.8s,mb5.3
NATX *e*pP pP 10 09 56.6 +2.2
DGMT Dagmar 93.02 39 *e*P **P 10 09 02.8 -0.3**
comp=Z,40nm,0.7s,mb5.6
DGMT *e*pP pP 10 09 56.4 +2.3
LZH Lanzhou 93.94 307 ⇑P **P 10 09 09.6 +2.0**
LZH AP pP 10 09 58.8 +0.2
LZH PP PP 10 12 56.0 -2.6
LZH SKS SKS 10 19 23.2 +2.2
LZH S S 10 20 02.2 +5.8
LZH XS 10 21 25.0
LZH AMB AMB
comp=Z,340nm,1.5s,mb6.2
LZH AMB AMB
comp=Z,860nm,4.3s
LZH LR LR
comp=N,790nm,18.9s
LZH LR LR
comp=Z,580nm,20.3s
CIT Chita 94.05 324 *e*P **P 10 09 08.0 +0.3**
CIT *e* 10 12 53.8
CIT *e* 10 19 23.9
CIT *e* 10 20 05.4
CIT *e* 10 21 20.1
CIT pmax pmax
comp=Z,177nm,2.0s,mb5.8
KSU1 Kansas State U 94.21 50 *e*P **P 10 09 08.4 -0.3**
KSU1 *e*pP pP 10 09 59.9 +0.2
JTS JuntasAbangare 94.21 81 *e*P **P 10 09 10.3 +1.0**
comp=Z,16nm,0.8s,mb5.1
JTS JuntasAbangare 94.21 81 *i*P **P 10 09 09.8 +0.5**
JTS *i**PP pP 10 10 02.2 +1.9
YKA Yellowknife Ar 94.95 24 P **P 10 09 11.3 -0.3**
comp=Z,6.6nm,0.8s,mb4.8,baz=239,slow=4.2,SNR=29
YKA pP pP 10 10 02.8 +0.3
comp=Z,0.8nm,0.5s,baz=204,slow=10,SNR=1.0
YKA Yellowknife Ar 94.95 24 P **P 10 09 11.3 -0.3**
YKA *PP pP 10 10 02.8 +0.2
YKA pmax pmax
comp=Z,7.0nm,0.8s
YKA pmax pmax
comp=Z,1.0nm,0.5s
UALR University of 95.87 55 P **P 10 09 14.8 -1.6**
comp=Z,8.5nm,0.8s,mb5.0
UALR *e*pP pP 10 10 09.9 +2.5
BOD Bodaibo 96.45 330 *e*P **P 10 09 16.7 -1.8**
BOD pmax pmax
comp=Z,13nm,1.6s,mb4.9
SONM Songino Array 96.52 318 P **P 10 09 19.6 +0.5**
comp=Z,47nm,1.2s,mb5.6,baz=121,slow=2.6,SNR=74
SONM PP PP 10 13 10.0 -8.0
comp=Z,6.5nm,1.3s,baz=108,slow=4.7,SNR=4.4
SONM PKKPbc 10 26 03.5
comp=Z,0.9nm,0.7s,baz=248,slow=2.4,SNR=5.1
SONM Songino Array 96.52 318 P **P 10 09 19.6 +0.5**
SONM 10 13 10.0
SONM pmax pmax
comp=Z,47nm,1.3s
SONM pmax pmax
comp=Z,7.0nm,1.3s
SONM pmax pmax
comp=Z,1.0nm,0.7s
CCM Cathedral Cave 97.79 52 *e*P **P 10 09 25.2 +0.2**
comp=Z,3.5nm,0.8s,mb4.7
CCM *e*pP pP 10 10 17.1 +1.1
CCM Cathedral Cave 97.79 52 *e*P **P 10 09 25.3 +0.2**
CCM *e**PP pP 10 10 17.1 +1.1
CCM pmax pmax
comp=Z,3.0nm,0.8s,mb4.7
GTA Gaotai 98.08 309 P **P 10 09 27.5 +1.1**
GTA AP pP 10 10 12.8 -4.5
GTA PP PP 10 13 33.2 +2.7
GTA SKS SKS 10 19 44.7 +1.8
GTA S S 10 20 37.3 +5.9
GTA XS 10 22 05.1
GTA AMB AMB
comp=Z,32nm,1.2s,mb5.5
GTA AMB AMB
comp=Z,340nm,4.6s
GTA LR LR
comp=N,444nm,22.9s
GTA LR LR
comp=E,459nm,21.8s
GTA LR LR
comp=Z,428nm,27.9s
TIXI Tiksi 98.53 345 *e*P **P 10 09 27.8 +0.1**
TIXI Tiksi 98.53 345 *e*P **P 10 09 27.7 0.0**
TIXI pmax pmax
comp=Z,27nm,1.4s,mb5.4
ZAK Zakamensk 99.34 320⇓*e*P **P 10 09 31.6 -0.3**
ZAK pmax pmax
comp=Z,8.0nm,1.2s,mb4.9
ZAK pmax pmax
comp=Z,2.0nm,1.5s
IRK Irkutsk 99.38 322 *e*P **P 10 09 31.4 -0.6**
IRK pmax pmax
comp=Z,27nm,2.1s,mb5.2
TLY Talaya 99.56 321 *e*Pdif **P 10 09 32.6 -0.2**
comp=Z,12nm,1.0s,mb5.3
TLY Talaya 99.56 321 *e*P **P 10 09 38.4 +5.6**
TLY *e* 10 19 52.9
TLY *e*S S 10 20 47.2 +3.8
TLY *e*PS PS 10 22 22.2 -20
TLY *e*PPS PPS 10 23 02.2 -31
TLY *e* 10 23 34.1
TLY *e*SS SS 10 27 57.5 +15
TLY *e*SSS SSS 10 31 31.3 -3.8
TLY pmax pmax
comp=Z,13nm,0.9s,mb5.4
LPAZ La Paz 100.45 111 PP PP 10 13 46.1 -2.8
comp=Z,4.3nm,1.2s,baz=322,slow=4.2,SNR=4.1
LPAZ PKKPbc 10 25 53.4
comp=Z,5.4nm,0.8s,baz=107,slow=0.7,SNR=13
LPAZ La Paz 100.45 111 *e*Pdif P 10 09 34.3 -3.3
comp=Z,11nm,0.6s
LPAZ La Paz 100.45 111 *e*P P 10 09 34.3 -3.3
LPAZ pmax pmax
comp=Z,11nm,0.6s
WMQ Urumqi 107.97 311 *e*PDIF Pdif 10 10 10.0 -0.2
WMQ PP PP 10 14 43.0 -1.0
WMQ SS SS 10 29 40.0 +1.9
WMQ PP PP
comp=Z,125nm,10.0s
WMQ LR LR
comp=N,1μm,22.0s
WMQ LR LR
comp=E,452nm,21.0s
WMQ LR LR
comp=Z,458nm,21.0s
MKAR Makanchi Array 112.15 313 Pdiff Pdif 10 10 29.1 +0.6
comp=Z,1.7nm,1.0s,baz=79,slow=6.2,SNR=6.4
MKAR PKiKP 10 14 23.5
comp=Z,4.7nm,0.5s,baz=161,slow=0.9,SNR=29
MKAR PKKPbc 10 25 17.1
comp=Z,2.5nm,0.6s,baz=273,slow=3.7,SNR=18
MKAR Makanchi Array 112.15 313 P Pdif 10 10 29.2 +0.7
MKAR *i* 10 14 23.5
MKAR pmax pmax
comp=Z,2.0nm,1.0s
MKAR pmax pmax
comp=Z,5.0nm,0.5s
MKAR pmax pmax
comp=Z,3.0nm,0.6s
ULHL Ulahol 116.11 308 P PKPdf 10 14 32.3 +1.6
SNR=12
KSH Kashi 116.12 305 *e*PKP PKPdf 10 14 32.0 +1.3
KSH *e*PKS PKS 10 18 07.1 +1.0
KSH *e*SKS SKS 10 21 26.0 +25
KSH PP PP
comp=Z,390nm,5.9s
KSH LR LR
comp=N,280nm,4.7s
KSH LR LR
comp=E,270nm,4.9s
TKM2 Tokmak 2 116.63 309 P PKPdf 10 14 32.9 +1.2
SNR=23
KZA Kyzart 116.84 308 P PKPdf 10 14 34.4 +2.3
SNR=8.1
KBK Karagaybulak 117.09 309 P PKPdf 10 14 35.3 +2.8
SNR=6.0
CHMS Chumysh 117.25 309 P PKPdf 10 14 33.7 +0.9
SNR=14
FRU Bishkek 117.34 309⇓*i*PKIKP PKPdf 10 14 34.5 +1.5
FRU pmax pmax
comp=Z,40nm,2.0s
AAK Ala-Archa 117.42 308 P PKPdf 10 14 35.9 +2.8
SNR=6.3
AAK Ala-Archa 117.42 308 *e*PKPdf PKPdf 10 14 32.7 -0.5
AAK Ala-Archa 117.42 308 *i* PKIKP PKPdf 10 14 34.4 +1.3
USP Ospenovka 117.44 309 P PKPdf 10 14 34.4 +1.2
SNR=26
BDFB Brasilia 117.80 121 PKP PKPdf 10 14 35.2 +0.8
comp=Z,5.1nm,0.6s,baz=268,slow=3.2,SNR=7.3
BDFB PKKPbc 10 24 58.7
comp=Z,4.3nm,0.5s,baz=114,slow=4.6,SNR=6.3
BDFB Brasilia 117.80 121 PKIKP PKPdf 10 14 35.2 +0.8
BDFB pmax pmax
comp=Z,5.0nm,0.6s
BDFB pmax pmax
comp=Z,4.0nm,0.5s
EKS2 Erkin-Say 117.95 308 P PKPdf 10 14 35.9 +1.7
SNR=10
AML Almayashu 118.00 308 P PKPdf 10 14 36.3 +2.1
SNR=17
VOSK Vostochnaya 119.47 320 PKIKP PKPdf 10 14 36.5 -0.4
VOSK pmax pmax
comp=Z,21nm,1.0s
BVA0 Borovoye Array 119.80 320 *i* PKIKP PKPdf 10 14 37.9 +0.4
BVA0 pmax pmax
comp=Z,3.0nm,0.7s
BVAR Borovoye Array 119.80 320 PKP PKPdf 10 14 38.3 +0.8
comp=Z,15nm,0.6s,baz=90,slow=1.9,SNR=47
BVAR PKKPbc 10 24 50.9
comp=Z,1.3nm,0.6s,baz=270,slow=5.9,SNR=7.0
BVAR Borovoye Array 119.80 320 PKIKP PKPdf 10 14 38.3 +0.8
BVAR pmax pmax
comp=Z,15nm,0.6s
BVAR pmax pmax
comp=Z,1.0nm,0.6s
BRVK Borovoye 119.85 320 *e*PKPdf PKPdf 10 14 38.4 +0.8
KKAR Karatay Array 120.36 309 *i* PKIKP PKPdf 10 14 39.0 +0.2
KKAR pmax pmax
comp=Z,7.0nm,0.6s
KBS Kingsbay 120.63 358 *e*PKPdf PKPdf 10 14 39.2 +0.6
SUMG Summit 121.91 14 *e*PKPdf PKPdf 10 14 41.3 +0.1
OPO Ambohidratompo 123.19 231 PKP PKPdf 10 14 47.7 +2.8
comp=Z,13nm,0.9s,baz=132,slow=1.0,SNR=9.3
SVE Sverdlovsk 124.50 326 *e*PKIKP PKPdf 10 14 48.0 +1.5
SVE *e* 10 15 41.2
SVE *e* 10 16 41.5
SVE *e*PPP 10 21 44.0
SVE pmax pmax
comp=Z,64nm,1.1s
ARU Arti 125.71 326 *i* PKIKP PKPdf 10 14 49.6 +0.8
ARU *e* 10 16 42.0
AB31 Akbulak array 126.92 317 *i* PKIKP PKPdf 10 14 51.6 +0.3
AB31 pmax pmax
comp=Z,24nm,1.0s
BOSA Boshof 127.82 204 PKP PKPdf 10 14 55.9 +2.2
comp=Z,14nm,0.8s,baz=121,slow=4.0,SNR=17
BOSA PP PP 10 16 60.0 -2.3
comp=Z,7.3nm,1.0s,baz=184,slow=9.7,SNR=3.8
BOSA Boshof 127.82 204 *e*PKPdf PKPdf 10 14 56.0 +2.3
BOSA Boshof 127.82 204 PKIKP PKPdf 10 14 55.9 +2.2
BOSA 10 17 00.0
BOSA pmax pmax
comp=Z,14nm,0.9s
BOSA pmax pmax
comp=Z,7.0nm,1.0s
JMIC Jan Mayen 128.17 5 *e* PKPdf 10 14 48.2 -5.0
ARCES ARCESS Array B 128.51 351 PKP PKPdf 10 14 55.9 +2.0
comp=Z,20nm,0.5s,baz=17,slow=1.6,SNR=65
ARCES SKPbc 10 17 57.2
comp=Z,15nm,1.0s,slow=2.4,SNR=9.7
ARCES ARCESS Array B 128.51 351 PKIKP PKPdf 10 14 55.9 +2.0
ARCES pmax pmax
comp=Z,20nm,0.5s
ARCES pmax pmax
comp=E,15nm,1.0s
ARE0 ARCESS Array S 128.51 351 *e*PKPdf PKPdf 10 14 53.6 -0.2
ARE0 *e*SKP 10 17 57.8
APA Apatity 128.70 346⇓*i*PKIKP PKPdf 10 14 55.3 +1.0
APA pmax pmax
comp=Z,29nm,0.7s
TRO Tromso 129.28 353 *e* 10 14 44.0
TRO *i* 10 17 04.7
TRO *e* 10 33 53.9
KAF Kangasniemi 134.94 346 *e*p PKPdf 10 15 06.7 +0.6
comp=Z,17nm,0.6s
FINES FINESS Array B 135.57 345 PKhKP 10 14 55.1
comp=Z,0.8nm,0.4s,baz=47,slow=3.0,SNR=12
FINES PKP PKPdf 10 15 08.4 +1.0
comp=Z,10nm,0.5s,baz=90,slow=1.9,SNR=18
FINES SKPbc 10 18 22.1
comp=Z,8.4nm,1.0s,baz=72,slow=8.8,SNR=3.2
FINES FINESS Array B 135.57 345 PKP PKPdf 10 15 08.4 +1.0
FINES SKPbc 10 18 22.1
MOS Moscow 136.15 333 *e*PKIKP PKPdf 10 15 08.8 +0.2
MOS *e* 10 17 48.7
MOS pmax pmax
comp=Z,62nm,1.1s
MOS pmax pmax
comp=Z,200nm,2.1s
MAK Makhachkala 136.96 312 *e*PKIKP PKPdf 10 15 12.0 +1.6

MAK e 10 16 01.0
MAK e 10 17 59.0
MAK pmax pmax
comp=Z,500nm,4.0s
MAK pmax pmax
comp=Z,500nm,8.0s
MAK pmax pmax
comp=N,400nm,8.0s
MAK pmax pmax
comp=E,400nm,8.0s
OBN Obninsk 137.02 333 ePKPdf PKPdf 10 15 11.1 +1.0
OBN ePP PP 10 17 50.5 -8.7
OBN Obninsk 137.02 333 d iPKHKP 10 15 00.4
OBN i 10 15 12.1
OBN i 10 17 54.2
OBN eSS SS 10 35 43.3 -2.4
OBN pmax pmax
comp=Z,12nm,0.6s
OBN pmax pmax
comp=Z,62nm,1.1s
VRHR Novokhopersk 137.05 326 ePKIKP PKPdf 10 15 11.9 +1.6
VRHR pmax pmax
comp=Z,30nm,1.1s
VRHR pmax pmax
comp=N,20nm,1.7s
VRHR pmax pmax
comp=E,60nm,1.7s
VOR Voronezh 137.94 328 PKIKP PKPdf 10 15 12.0 +0.1
VOR pmax pmax
comp=Z,70nm,1.5s
LSZ Lusaka 137.97 216 ePKPpre 10 15 06.6
LSZ ePP PP 10 17 56.0 -11
VRSR Storozhevoye 138.25 327 ePKIKP PKPdf 10 15 14.1 +1.6
VRSR pmax pmax
comp=Z,70nm,1.9s
VRSR pmax pmax
comp=N,7.0nm,0.9s
VRSR pmax pmax
comp=E,8.0nm,0.9s
VRSR pmax pmax
comp=Z,70nm,1.9s
VRSR pmax pmax
comp=N,7.0nm,0.9s
VRSR pmax pmax
comp=E,8.0nm,0.9s
NB2 NORSAR Subarra 138.42 355 PKPabc PKPdf 10 15 04.3 -8.3
comp=E,3.6nm,0.9s,baz=16,slow=2.5
NB2 NORSAR Subarra 138.42 355 PKPab PKPdf 10 15 04.3 -8.3
NOA NORSAR Array B 138.42 355 PKHKP 10 15 04.8
comp=E,2.7nm,0.8s,baz=11,slow=4.5,SNR=7.0
NOA PKP PKPdf 10 15 14.4 +1.8
comp=E,14nm,0.8s,baz=14,slow=3.7,SNR=20
NOA SKPbc 10 18 30.1
comp=E,18nm,1.2s,baz=15,slow=4.4,SNR=5.2
NOA NORSAR Array B 138.42 355 PKP PKPdf 10 15 14.4 +1.8
NOA SKPbc 10 18 30.1
NAO01 NORSAR Array S 138.64 355 ePKPpre 10 15 01.4
NAO01 eSKP 10 18 30.7
HFS Hagfors 139.06 353 PKHKP 10 15 05.2
comp=E,7.7nm,0.5s,baz=56,slow=3.4,SNR=34
HFS PKP PKPdf 10 15 15.1 +1.4
comp=E,23nm,0.8s,baz=225,slow=4.1,SNR=9.0
HFS SKPbc 10 18 31.9
comp=E,7.5nm,1.0s,baz=90,slow=1.5,SNR=5.5
HFS Hagfors 139.06 353 PKP PKPdf 10 15 15.1 +1.4
HFS SKPbc 10 18 31.9
TSUM Tsumeb 139.15 200 ePKPpre 10 15 07.8
GOF Gofitskoye 139.17 317 ⇑ i PKHKP 10 15 06.0
GOF pmax pmax
comp=Z,30nm,1.3s
TI2 Plekhanov 139.29 312 ePKHKP 10 15 00.0
ZEI Tsey 139.51 314 ePKHKP 10 15 10.2
GNI Garni 139.82 309 PKHKP 10 15 09.5
comp=Z,2.2nm,0.3s,baz=32,slow=12,SNR=5.3
GNI PKP PKPdf 10 15 17.8 +2.1
comp=Z,5.3nm,0.4s,baz=30,slow=14,SNR=7.2
GNI Garni 139.82 309 ePKPpre 10 15 09.1
GNI ePKP PKPdf 10 15 14.6 -1.1
GNI PKP PKPdf 10 15 17.8 +2.0
GNI eSKP 10 18 36.7
GNI Garni 139.82 309 PKHKP 10 15 09.5
GNI 10 15 17.8
GNI pmax pmax
comp=Z,2.0nm,0.4s
GNI pmax pmax
comp=Z,5.0nm,0.4s
KIV Kislovodsk 139.86 316 i PKP PKPdf 10 15 16.2 +0.5
KIV Kislovodsk 139.86 316 PKHKP 10 15 08.0
KIV i 10 18 13.2
KIV pmax pmax
comp=Z,5.0nm,0.6s
KIV pmax pmax
comp=Z,17nm,1.2s
KIV MLR MLR
comp=Z,200nm,22.0s
HKR Hakkari 141.33 306 P PKPdf 10 15 15.1 -3.3
HAKT HAKKARI 141.36 306 i P PKPdf 10 15 14.2 -4.3
KMBO Kilima Mbogo 141.52 241 PKHKP 10 15 17.2
comp=Z,5.9nm,0.6s,baz=71,slow=4.6,SNR=13
KMBO Kilima Mbogo 141.52 241 PKHKP 10 15 17.2
KMBO pmax pmax
comp=Z,6.0nm,0.6s
SOC Sochi 141.96 317 i PKHKP 10 15 16.3
SOC pmax pmax
comp=Z,32nm,0.8s
SOC pmax pmax
comp=N,9.0nm,0.9s
SOC pmax pmax
comp=E,9.0nm,0.7s
ATD Arta Tunnel 141.96 264 PKHKP 10 15 19.8
comp=E,20nm,0.8s,baz=141,slow=23,SNR=4.6
ERZM Erzurum 142.34 310 i P PKPdf 10 15 17.8 -2.2
EZM Erzurum 142.34 310 P PKPdf 10 15 18.6 -1.4
ANN Anapa 142.79 320 i PKHKP 10 15 18.4
ANN i 10 18 30.0
ANN e 10 22 10.4
ANN pmax pmax
comp=Z,132nm,1.7s
SUW Suwalki 142.79 341 ePKP PKPdf 10 15 19.4 -1.0
SUW Suwalki 142.79 341 ePKP PKPdf 10 15 19.4 -1.0
BNGL BINGOL 142.84 309 i P PKPdf 10 15 19.2 -1.7
BEST Besiri 143.10 307 i P PKPbc 10 15 20.4 +0.6
MUD Monsted U'grnd 143.13 355 i P PKPbc 10 15 20.8 +1.6
comp=Z,42nm,1.0s
AKASG Malin Array Be 143.28 333 PKHKP 10 15 19.2
comp=Z,26nm,0.6s,baz=39,slow=4.0,SNR=109
AKASG SKPbc 10 18 40.7
comp=Z,5.2nm,0.8s,baz=42,slow=3.6,SNR=4.4
AKASG Malin Array Be 143.28 333 PKHKP 10 15 19.2
AKASG 10 18 40.7
AKASG pmax pmax
comp=Z,26nm,0.6s
AKASG pmax pmax
comp=E,5.0nm,0.8s
EAU Auchinoon 143.47 7 eP PKPbc 10 15 21.5 +1.2
EAU AMb AMB 10 15 23.4
comp=Z,153nm,1.3s
COP Copenhagen 143.55 352 i P PKPbc 10 15 18.5 -2.0
comp=Z,29nm,0.6s
MARD Mardin 143.66 307 i P PKPbc 10 15 20.7 -0.7
BSD Bornholm Skovb 143.74 350 ⇑ i P PKPbc 10 15 22.0 +0.9
comp=Z,137nm,0.7s
DIY Diyarbakir 143.88 308 P PKPbc 10 15 23.4 +1.4
EKA Eskdalemuir Ar 144.01 7 PKHKP 10 15 21.6
comp=Z,34nm,0.8s,baz=334,slow=2.9,SNR=67
EKA Eskdalemuir Ar 144.01 7 PKIKP PKPdf 10 15 21.6 -0.9
EKA pmax pmax
comp=Z,34nm,0.8s
ESK Eskdalemuir 144.02 7 eP PKPbc 10 15 22.2 +0.3
ESK AMb AMB 10 15 23.3
comp=Z,53nm,0.9s
ESK Eskdalemuir 144.02 7 ePKPdf PKPdf 10 15 21.2 -1.3
ECK Cauldkaine Hil 144.16 7 eP PKPbc 10 15 23.3 +1.0
ECK AMb AMB 10 15 23.8
comp=Z,51nm,0.9s
GMM Mts of Mourne 144.68 10 eP PKPdf 10 15 23.8 +0.2
SIM Simferopol' 144.68 322 eP PKPdf 10 15 24.6 +0.6
SIM Simferopol' 144.68 322 i PKIKP PKPdf 10 15 24.8 +0.8
SIM pmax pmax
comp=Z,369nm,1.0s
LCP Cassop 144.78 6 eP PKPdf 10 15 24.1 +0.3
BLJS Baljurashi 144.84 277 P PKPdf 10 15 28.2 +3.2
WIM Isle of Man 144.97 9 eP PKPdf 10 15 24.8 +0.7
WIM AMb AMB 10 15 26.9
comp=Z,140nm,0.7s

WAR Warsaw 144.98 342 ePKP PKPdf 10 15 26.2 +2.0
WAR e 10 15 27.1
WAR Warsaw 144.98 342 ePKP PKPdf 10 15 26.2 +2.0
WAR e 10 15 27.1
GKP Gorka Klasztor 145.02 346 ePKP PKPdf 10 15 25.3 +1.0
GKP e 10 15 26.6
GKP Gorka Klasztor 145.02 346 ePKP PKPdf 10 15 25.3 +1.0
GKP e 10 15 26.6
MYA Malataya 145.05 309 P PKPdf 10 15 28.0 +3.2
LWH Whinny Nab 145.25 5 eP PKPdf 10 15 25.8 +1.2
DCN Croghan 145.29 12 ⇓ i P PKPdf 10 15 26.1 +1.4
SVSK Karacayir 145.42 313 P PKPdf 10 15 28.9 +3.5
DLF Lyons Farm 145.47 11 ⇓ i P PKPdf 10 15 26.7 +1.7
SVST Sivas 145.51 313 i P PKPdf 10 15 29.1 +3.5
BSEG Bad Segeberg 145.52 354 ePKP2 PKPab 10 15 27.6 -0.9
KVT Kavak 145.53 315 P PKPdf 10 15 27.6 +2.0
TOKT Tokat 145.55 314 P PKPdf 10 15 28.9 +3.3
DSB Dublin 145.55 11 ePKPdf PKPdf 10 15 27.0 +1.9
LDU Leeds Universi 145.69 6 eP PKPdf 10 15 27.6 +2.2
WCB1 Church Bay 145.73 9 eP PKPdf 10 15 27.0 +1.5
WCB1 AMb AMB 10 15 29.4
comp=Z,330nm,0.8s
WME Myndd Eilian 145.75 9 eP PKPdf 10 15 27.5 +2.0
WME AMb AMB 10 15 29.5
comp=Z,148nm,1.1s
WLF1 Llynfaes 145.84 9 eP PKPdf 10 15 27.7 +2.0
WLF1 AMb AMB 10 15 29.8
comp=Z,465nm,0.8s
YRC Rhoscolyn 145.85 9 eP PKPdf 10 15 27.4 +1.7
YRC AMb AMB 10 15 29.6
comp=Z,330nm,1.1s
LHO Holmfirth 145.91 6 eP PKPdf 10 15 27.5 +1.7
VAL Valentia 145.91 16 eP PKPdf 10 15 28.1 +2.3
WPM1 Penmaenmawr 145.94 9 eP PKPdf 10 15 28.0 +2.2
WPM1 AMb AMB 10 15 30.3
comp=Z,450nm,1.1s
LTHS Al Lith 146.00 277 P PKPdf 10 15 30.5 +3.5
YLL Llanberis 146.02 9 eP PKPdf 10 15 28.2 +2.2
YLL AMb AMB 10 15 30.2
comp=Z,300nm,1.4s
LVV L'vov 146.05 337 ePKP2 PKPab 10 15 28.7 -2.0
LVV e 10 18 51.1
GZT Gaziantep 146.05 308 i P PKPdf 10 15 29.0 +2.4
BOYT Boyabat 146.11 316 i P PKPdf 10 15 28.8 +2.2
YRE Yr Eifl 146.13 9 eP PKPdf 10 15 28.2 +2.1
YRE AMb AMB 10 15 32.2
comp=Z,175nm,1.0s
KIS Kishinev 146.17 329 κ i PKIKP PKPdf 10 15 28.0 +1.6
KIS e 10 18 50.0
KIS pmax pmax
comp=Z,400nm,0.8s
KIS pmax pmax
comp=Z,2μm,10.0s
KBI1 Birley Grange 146.24 6 eP PKPdf 10 15 28.5 +2.2
SBD1 Bryn Du 146.37 8 eP PKPdf 10 15 29.2 +2.6
GAZ Gaziantep 146.38 308 P PKPdf 10 15 30.8 +3.7
BZK Bozkurt 146.41 318 P PKPdf 10 15 30.8 +3.8
KWE Weaver Farm 146.44 7 eP PKPdf 10 15 29.1 +2.4
KAHT Ahir Dag 146.45 309 i P PKPdf 10 15 30.8 +3.6
RUE Ruedersdorf 146.46 349 ePKPdf PKPdf 10 15 29.9 +3.2
CTKT Corum 146.59 315 i P PKPdf 10 15 29.2 +1.8
KWP Kalwaria 146.68 338 ePKP PKPdf 10 15 30.5 +3.3
KWP e 10 15 31.7
KWP Kalwaria 146.68 338 ePKP PKPdf 10 15 30.5 +3.3
KWP e 10 15 31.7
BNN Bunyan 146.68 312 P PKPdf 10 15 31.4 +3.8
HLM1 Long Mynd 146.80 8 eP PKPdf 10 15 29.9 +2.6
HLM1 AMb AMB 10 15 32.7
comp=Z,314nm,0.9s
SSP1 Stoney Pound 146.87 8 eP PKPdf 10 15 29.7 +2.2
SSP1 AMb AMB 10 15 33.0
comp=Z,335nm,1.0s
TOS Tosya 146.88 316 eP PKPdf 10 15 33.5 +5.7
CORM Corum 146.91 315 eP PKPdf 10 15 31.9 +4.1
WIT Witteveen 146.91 357 ePKP PKPdf 10 15 31.1 +3.7
comp=Z,751nm,1.1s
WIT epPKP 10 16 26.3
DRWC Darouich 146.99 308 ⇓ i P PKPdf 10 15 31.2 +3.1
BALT Daday 147.03 318 i P PKPdf 10 15 30.4 +2.4
MBAR Mbarara 147.05 235 ePKPdf PKPdf 10 15 30.1 +1.2
MBAR ePKPbc PKPdf 10 15 33.2 +4.3
OJC Ojcow 147.13 341 ePKP PKPdf 10 15 30.7 +2.8
OJC e 10 16 26.8
OJC Ojcow 147.13 341 ePKP PKPdf 10 15 30.7 +2.8
OJC i 10 16 26.8
KBRS Khaybar 147.16 287 P PKPdf 10 15 33.8 +5.1
HTR Trewern Hill 147.18 8 eP PKPdf 10 15 30.2 +2.3
HTR AMb AMB 10 15 33.5
comp=Z,130nm,0.7s
MCH1 Michaelchurch 147.30 8 P PKPdf 10 15 30.6 +2.4
MCH1 Michaelchurch 147.30 8 P PKPdf 10 15 31.7 +3.6
MCH1 Michaelchurch 147.30 8 eP PKPdf 10 15 29.3 +1.2
MCH1 eP 10 15 30.6
MCH1 eP 10 15 31.7
HAE Alders End 147.32 8 eP PKPdf 10 15 30.8 +2.6
HAE AMb AMB 10 15 36.5
comp=Z,345nm,1.3s
COBT Iskenderun 147.33 308 i P PKPdf 10 15 32.4 +3.7
CDAG Cicekdag 147.35 314 i P PKPdf 10 15 31.8 +3.2
BTCH Batrach 147.36 307 ⇓ i P PKPdf 10 15 31.1 +2.3
CANT Cankiri 147.37 316 P PKPdf 10 15 31.4 +2.8
STHS Stebnicka Huta 147.37 339 ePKP PKPdf 10 15 31.7 +3.4
STHS e 10 15 34.2
AVNT Avonos 147.41 312 i P PKPdf 10 15 33.0 +4.3
KOLS Kolonicke sedl 147.42 338 ePKP PKPdf 10 15 31.4 +3.0
KOLS e 10 15 34.7
KSP Ksiaz 147.50 346 ePKP PKPdf 10 15 31.2 +2.7
KSP e 10 15 34.2
KSP e 10 16 29.6
KSP Ksiaz 147.50 346 ePKP PKPdf 10 15 31.1 +2.6
KSP ePKPdf PKPdf 10 15 34.1 +5.6
KSP epPKP 10 16 27.2
KSP ePP PP 10 18 58.0 -4.8
KSP eSS SS 10 37 46.5 +0.3
KSP Ksiaz 147.50 346 ePKIKP PKPdf 10 15 31.1 +2.6
KSP e 10 15 34.1
KSP e 10 18 58.0
KSP eSS SS 10 37 46.5 +0.3
CEYT Ceyhan 147.52 309 eP PKPdf 10 15 33.8 +4.8
ELDT Eldivan 147.55 316 i P PKPdf 10 15 32.9 +3.9
HTY Hatay 147.57 307 eP PKPdf 10 15 34.5 +5.4
CLZ Clausthal 147.58 353 ePKPdf PKPdf 10 15 30.7 +2.1
CLZ ePKPbc PKPdf 10 15 33.9 +5.3
SAFT Safranbolu 147.63 318 P PKPdf 10 15 30.5 +1.4
NIE Niedzica 147.67 340 ePKP PKPdf 10 15 33.9 +5.1
HGH Gray Hill 147.67 8 eP PKPdf 10 15 31.1 +2.3
HGH AMb AMB 10 15 34.9
comp=Z,270nm,1.0s
SLNF Slenfeh 147.69 306 ⇓ i P PKPdf 10 15 34.3 +5.0
CLL Collm 147.72 350 ePKIKP PKPdf 10 15 31.0 +2.2
CLL i PKP1 PKPdf 10 15 33.9 +5.1
CLL i PKP2 PKPab 10 15 36.9 -0.2
CLL i *PPKP 10 16 28.6
CLL e 10 16 48.0
CLL e 10 18 02.0
CLL i 10 18 55.0
CLL eSS SS 10 37 41.0 -7.6
CLL e*SSS 10 39 02.0
CLL Collm 147.72 350 ePKP PKPdf 10 15 31.0 +2.2
CLL ⇑ iPKP PKPdf 10 15 33.9 +5.1
CRVS Cervenica-Dubn 147.74 338 ePKP PKPdf 10 15 35.9 +6.9
CRVS e 10 15 39.2
WTSB Winterswijk 147.75 357 ePKP PKPdf 10 15 31.8 +2.9
comp=Z,167nm,1.1s
WTSB epPKP 10 16 29.0
CFR Carcaliu 147.78 327 ⇑ P PKPdf 10 15 32.5 +3.3
CFR Carcaliu 147.78 327 ⇑ P PKPdf 10 15 32.5 +3.3
BRTR Keskin Array B 147.79 315 PKP PKPdf 10 15 31.1 +1.7
comp=Z,55nm,0.9s,baz=135,slow=1.7,SNR=40
BRTR PKPbc PKPdf 10 15 34.7 +5.3
comp=Z,54nm,0.9s,baz=127,slow=2.1,SNR=37
BRTR Keskin Array B 147.79 315 PKIKP PKPdf 10 15 31.1 +1.7
BRTR 10 15 34.7
BRTR pmax pmax
comp=Z,55nm,0.9s
BRTR pmax pmax
comp=Z,54nm,0.9s
UPC Upice 147.87 346 ePKPDF PKPdf 10 15 31.8 +2.7
UPC ⇑ ePKPB PKPdf 10 15 35.5 +6.4
UPC ePKPAB PKPab 10 15 39.2 +1.4
UPC epPKP 10 16 26.2

NIG Nigde 147.88 311 eP PKPdf 10 15 35.9 +6.3
KAMT Kaman 147.92 314 eP PKPdf 10 15 35.1 +5.6
OKC Ostrava-Krasne 147.95 343 ePKPDF PKPdf 10 15 32.5 +3.2
OKC ⇑ ePKPB PKPdf 10 15 35.6 +6.3
OKC ePKPAB PKPab 10 15 39.2 +1.1
OKC epPKP 10 16 29.3
OKC eSS SS 10 37 49.4 -1.7
OKC Ostrava-Krasne 147.95 343 ePKIKP PKPdf 10 15 32.5 +3.2
OKC e 10 15 35.6
OKC eSS SS 10 37 49.4 -1.7
DPC Dobruska-Polom 147.95 345 ePKPDF PKPdf 10 15 31.8 +2.6
DPC ⇑ ePKPB PKPdf 10 15 35.9 +6.7
DPC epPKP 10 16 30.1
DPC eSKKS 10 30 30.7
DPC ex x 10 34 24.4
DPC eSS SS 10 37 53.5 +2.4
DPC ex x 10 39 19.3
BRG Berggiesshubel 147.97 348 i PKP PKPdf 10 15 31.2 +1.9
VRI Vrincioaia 147.98 330 ⇑ P PKPdf 10 15 35.0 +5.5
BRD Bordesti 148.07 329 ⇓ P PKPdf 10 15 36.3 +6.7
HEX Exmoor 148.09 10 eP PKPdf 10 15 32.3 +2.8
MORC Moravsky Berou 148.17 344 ePKPdf PKPdf 10 15 31.4 +1.8
MORC ePKPbc PKPdf 10 15 35.5 +5.9
PVCC Panska Ves 148.17 347 ePKPDF PKPdf 10 15 31.8 +2.2
PVCC ⇑ ePKPB PKPdf 10 15 36.3 +6.7
PVCC epPKP 10 16 31.3
PVCC ex x 10 40 08.2
ASF Jabal al Asfar 148.21 300 PKP PKPdf 10 15 32.9 +2.6
comp=Z,51nm,0.9s,baz=334,slow=1.4,SNR=35
ASF PKPbc PKPdf 10 15 36.5 +6.2
comp=Z,144nm,0.8s,baz=300,slow=0.9,SNR=75
ASF Jabal al Asfar 148.21 300 PKIKP PKPdf 10 15 32.9 +2.6
ASF 10 15 36.5
ASF pmax pmax
comp=Z,51nm,0.9s
ASF pmax pmax
comp=Z,144nm,0.9s
HARR Harsova 148.23 327 ⇓ P PKPdf 10 15 34.5 +4.6
HARR Harsova 148.23 327 ⇓ P PKPdf 10 15 34.5 +4.6
ANTO Ankara 148.28 315 eP PKPdf 10 15 32.0 +1.8
LOD Lodumlu 148.29 316 eP PKPdf 10 15 32.7 +2.5
BSTP Nigde 148.31 311 i P PKPdf 10 15 34.8 +4.6
LIKS Likavka 148.37 341 ePKP PKPdf 10 15 37.8 +7.8
LIKS e 10 15 41.9
SGKT Sivrigoynuk 148.39 317 i P PKPdf 10 15 31.1 +0.8
KECS Kecovo 148.43 339 ePKP PKPdf 10 15 36.1 +6.0
KECS e 10 15 41.2
MOX Moxa 148.58 351 i P PKPdf 10 15 32.0 +1.7
comp=Z,logA/T=2.2
MOX PP2 10 15 36.0
MOX pPKP 10 16 32.0
MOX L 10 29 13.0
MOX Moxa 148.58 351 ePKP PKPdf 10 15 32.0 +1.7
MOX ePKP PKPdf 10 15 36.4 +6.1
MOX epPKP 10 16 31.8
MOX LR LR
comp=Z,200nm,20.0s
MOX Moxa 148.58 351 ePKIKP PKPdf 10 15 32.0 +1.7
MOX e 10 15 36.4
MOX MLR MLR
comp=Z,200nm,20.0s
MLR Muntele Rosu 148.63 330 PKP PKPdf 10 15 33.5 +2.9
comp=Z,44nm,0.6s,baz=287,slow=2.6,SNR=7.8
MLR PKPbc PKPdf 10 15 37.7 +7.2
comp=Z,64nm,0.8s,baz=45,slow=2.1,SNR=28
MLR pPKPbc 10 16 31.5
comp=Z,43nm,1.1s,baz=275,slow=22,SNR=1.7
MLR Muntele Rosu 148.63 330 ⇑ P PKPdf 10 15 33.1 +2.6
MLR Muntele Rosu 148.63 330 ⇑ P PKPdf 10 15 33.1 +2.6
MLR Muntele Rosu 148.63 330 PKIKP PKPdf 10 15 33.5 +3.0
MLR 10 15 37.7
MLR pmax pmax
comp=Z,44nm,0.6s
MLR pmax pmax
comp=Z,64nm,0.8s
MLR pmax pmax
comp=Z,43nm,1.1s
CPZ Penzance 148.65 12 eP PKPdf 10 15 31.8 +1.4
CCA1 Carnmenellis 148.69 12 eP PKPdf 10 15 32.7 +2.2
PRU Pruhonice 148.69 347 ePKPDF PKPdf 10 15 33.3 +2.9
PRU ⇑ ePKPB PKPdf 10 15 37.4 +7.0
PRU ePKPAB PKPab 10 15 41.5 +0.4
PRU epPKP 10 16 31.4
PRU eSS SS 10 37 56.4 -2.8
PRU Pruhonice 148.69 347 ePKP PKPdf 10 15 33.3 +2.9
PRU e 10 15 37.4
PRU e 10 15 41.5
PRU e 10 16 31.4
PRU eSS SS 10 37 56.4 -2.8
BHL Bhannes 148.71 303 eP PKPdf 10 15 37.2 +6.2
CRQ2 Rosemanowes 2 148.72 12 eP PKPdf 10 15 33.1 +2.6
HRI Mount Hermon 148.84 302 P PKPdf 10 15 37.8 +6.6
VRAC Vranov 148.84 344 PKPbc PKPdf 10 15 37.9 +7.1
comp=Z,36nm,1.0s,baz=19,slow=5.9,SNR=39
VRAC Vranov 148.84 344 PKP2 PKPab 10 15 37.9 -3.8
VRAC pmax pmax
comp=Z,36nm,1.0s
NKC Novy Kostel 148.85 350 ePKPDF PKPdf 10 15 32.6 +1.9
NKC ⇑ ePKPB PKPdf 10 15 38.1 +7.4
NKC ePKPAB PKPab 10 15 42.2 +0.5
NKC epPKP 10 16 31.3
NKC eSS SS 10 38 08.6 +7.6
NKC Novy Kostel 148.85 350 ePKIKP PKPdf 10 15 32.6 +1.9
NKC e 10 15 38.1
NKC eSS SS 10 38 08.6 +7.6
KSHT Keshet 148.87 302 P PKPdf 10 15 37.9 +6.6
MEST Erdemli 148.87 309 i P PKPdf 10 15 36.5 +5.4
KSDI Kefar Szold 148.92 302 P PKPdf 10 15 38.1 +6.7
SNX Sinaia 148.94 330 ⇓ P PKPdf 10 15 37.9 +6.9
VYHS Vyhne 148.95 341 ePKP PKPdf 10 15 33.1 +2.2
VYHS e 10 15 38.0
UMJS Umm Lajj 148.95 286 i P PKPdf 10 15 38.7 +7.0
HENT Hendek 148.99 319 i P PKPdf 10 15 35.4 +4.2
HGN Heimansgroeve 148.99 358 ePKP PKPdf 10 15 36.6 +5.7
comp=Z,121nm,2.2s
HGN epPKP 10 16 36.2
MDU Mudurnu 148.99 318 eP PKPdf 10 15 37.9 +6.6
PSZ Piszkesteto 149.12 339 ⇓ ePKP/p PKPdf 10 15 37.4 +6.2
PSZ Piszkesteto 149.12 339 ePKPdf PKPdf 10 15 32.8 +1.6
PSZ ePKPbc PKPdf 10 15 37.7 +6.5
PSZ epPKPdf 10 16 30.0
MTUR Matau 149.24 330 ⇓ P PKPdf 10 15 37.6 +6.1
TBKS Tabuk 149.31 292 P PKPdf 10 15 39.2 +7.1
MMLI Mount Malkishu 149.34 301 P PKPdf 10 15 39.2 +7.1
HNTI Hanita 149.34 302 P PKPdf 10 15 38.7 +6.6
IKL Isikli 149.35 309 eP PKPdf 10 15 38.2 +6.2
TNS Taunus Mts 149.37 355 ePKP2 PKPab 10 15 38.6 -5.3
KIZT Kizilcal 149.40 315 eP PKPdf 10 15 38.6 +6.6
MKRJ Makawir 149.40 299 P PKPdf 10 15 39.2 +7.0
KDHN Kadinhani 149.42 314 i P PKPdf 10 15 36.3 +4.3
PRD Provadia 149.53 325 i P PKPdf 10 15 38.5 +6.5
KONT Konya--Tatoy 149.53 313 eP PKPdf 10 15 38.2 +6.0
HAF Haifa 149.56 302 P PKPdf 10 15 39.0 +6.6
GRA1 Grafenberg Arr 149.57 351 ePKPdf PKPdf 10 15 34.2 +2.3
GRA1 ePKPbc PKPdf 10 15 39.1 +7.2
GRA1 ePKPab PKPab 10 15 45.3 +0.6
GRA1 epPKPbc 10 16 36.0
GRF Grafenberg Arr 149.57 351 ePKP PKPdf 10 15 34.2 +2.3
PHNC Paralimni 149.58 306 P PKPdf 10 15 38.1 +5.7
EYL Eskiyayla 149.59 319 eP PKPdf 10 15 39.5 +7.3
OFRI 'Ofer 149.64 301 P PKPdf 10 15 39.2 +6.7
GIVF Givet 149.68 359 ePKIKP PKPdf 10 15 33.2 +1.2
MZDA Masada 149.69 299 P PKPdf 10 15 39.7 +7.0
KHC Kasperske Hory 149.70 348 ePKPDF PKPdf 10 15 33.8 +1.7
KHC ⇑ ePKPB PKPdf 10 15 40.2 +8.1
KHC ePKPAB PKPab 10 15 46.1 +0.8
KHC epPKP 10 16 34.1
KHC ePP PP 10 19 12.0 -3.1
KHC eSS SS 10 38 08.4 -1.9
KHC Kasperske Hory 149.70 348 ePKP PKPdf 10 15 33.8 +1.7
KHC e 10 15 40.2
KHC e 10 15 46.1
KHC e 10 16 34.1
KHC e 10 19 12.0
KHC eSS SS 10 38 08.4 -1.9
KHC Kasperske Hory 149.70 348 ePKIKP PKPdf 10 15 33.8 +1.7
KHC e 10 19 12.0
KHC eSS SS 10 38 08.4 -1.9
SLTI Sal'it 149.70 301 P PKPdf 10 15 39.8 +7.1
SRO Srobarova 149.72 341 ePKP PKPdf 10 15 40.2 +8.0
SRO e 10 15 46.4

BAIF	Baives	149.73	360	ePKIKP	PKPdf	10 15 33.3 +1.2
ZST	Bratislava	149.73	343	ePKP	PKPdf	10 15 35.2 +3.0
ZST				e		10 15 39.6
ERMK	Ermenek	149.74	310	i P	PKPdf	10 15 37.7 +5.1
ESKT	Eskisehir	149.74	316	eP	PKPdf	10 15 39.2 +6.7
ESKT	Eskisehir	149.74	316	i P	PKPdf	10 15 37.9 +5.4
HRT	Hereke	149.75	320	eP	PKPdf	10 15 38.4 +5.9
BUD	Budapest	149.78	340⇑	ePKP/p	PKPdf	10 15 39.3 +7.0
ABH	Alteburg	149.78	356⇓	eP	PKPdf	10 15 39.1 +6.9
ABH	Alteburg	149.78	356	PKP	PKPdf	10 15 34.5 +2.3
JMQS	Jabal Moqyreh	149.78	294	P	PKPdf	10 15 40.2 +7.3
SRO1	Iza	149.78	341	ePKP	PKPdf	10 15 35.6 +3.3
SRO1				e		10 15 39.4
WET	Wettzell	149.82	349	ePKP2	PKPab	10 15 39.6 -6.2
VKA	Vienna	149.88	344⇑	iPKP	PKPdf	10 15 33.9 +1.5
VKA				i		10 15 39.2
HDMB	Hadim	149.90	311	eP	PKPdf	10 15 39.5 +6.7
GEC2	GERESS Array S	149.95	347	ePKPdf	PKPdf	10 15 35.0 +2.5
GEC2				ePKPbc	PKPdf	10 15 39.8 +7.3
GEC2				ePKPab	PKPab	10 15 46.9 +0.6
GERES	GERESS Array B	149.95	347	PKPbc	PKPdf	10 15 39.6 +7.1
	comp=Z,56nm,0.9s,baz=27,slow=2.2,SNR=85					
GERES	GERESS Array B	149.95	347	PKP2	PKPab	10 15 39.6 -6.7
GERES				pmax	pmax	
	comp=Z,56nm,0.9s					
TOD	Tromm	149.95	354⇓	eP	PKPdf	10 15 39.4 +6.9
TOD	Tromm	149.95	354	PKP	PKPdf	10 15 34.1 +1.6
ISK	Istanbul-Kandi	149.97	321	eP	PKPdf	10 15 31.9 -0.9
RUP	Ruppelstein	150.00	356	PKP	PKPdf	10 15 35.0 +2.5
ZFRI	Zfri	150.03	297	P	PKPdf	10 15 40.6 +7.4
YLV	Yalova	150.08	319	eP	PKPdf	10 15 33.3 +0.3
WLF	Walferdange	150.08	357	ePKPdf	PKPdf	10 15 32.8 +0.1
WLF				ePKPbc	PKPdf	10 15 39.9 +7.2
JLP	Les Platons	150.11	8	eP	PKPdf	10 15 34.5 +1.8
SIND	Sindeldorf	150.12	353	eP	PKPdf	10 15 39.6 +6.9
CSS	Prodhromos	150.12	307	P	PKPdf	10 15 40.4 +7.2
	comp=Z,2.8nm,0.9s					
CSS	Prodhromos	150.12	307	ePKPdf	PKPdf	10 15 34.1 +0.8
CSS				ePKPbc	PKPdf	10 15 40.4 +7.2
MAMC	Mammari	150.13	307	P	PKPdf	10 15 40.6 +7.4
JSA	Saint Aubin	150.16	8	eP	PKPdf	10 15 35.6 +2.8
JQE	Queens East	150.16	8	eP	PKPdf	10 15 35.6 +2.8
JRS	Jersey	150.16	8	eP	PKPdf	10 15 35.5 +2.6
PRNI	Paran	150.22	297	P	PKPdf	10 15 41.2 +7.7
MASH	Mash'abbe Sade	150.25	298	P	PKPdf	10 15 40.9 +7.4
SZH	Strazhica	150.25	327	i P	PKPdf	10 15 43.5 +10
KTD	Kalmit	150.30	355	eP	PKPdf	10 15 40.3 +7.3
RTMM	Retamin	150.32	298	P	PKPdf	10 15 40.9 +7.3
JMOS	Jabal al Moall	150.39	295	P	PKPdf	10 15 41.6 +7.8
LEF	Lefka	150.40	307	eP	PKPdf	10 15 40.8 +7.2
ALWS	Ilw as Safayha	150.40	295	P	PKPdf	10 15 41.7 +7.9
EIL	Elat	150.42	296	P	PKPdf	10 15 41.5 +7.7
ULDT	Uludag	150.48	319	i P	PKPdf	10 15 39.9 +6.3
ALT	Altintas	150.48	316	eP	PKPdf	10 15 42.0 +8.4
BDAS	Al Bad'	150.54	293	P	PKPdf	10 15 42.0 +8.0
SZAC	Souni-Zanaja	150.54	306	P	PKPdf	10 15 41.4 +7.5
HAQS	Haql	150.57	294	P	PKPdf	10 15 41.9 +7.8
KZIT	Kziot	150.59	298	P	PKPdf	10 15 41.8 +7.7
PVL	Pavlikeni	150.59	328	i P	PKPdf	10 15 42.3 +8.6
ALFC	Alevga	150.60	307	⇑P	PKPdf	10 15 40.9 +7.0
	comp=Z,3.0nm,0.6s					
LANF	Langenberg	150.66	355	PKP	PKPdf	10 15 35.8 +2.2
TAYS	Tayyib Ism	150.72	293	P	PKPdf	10 15 42.4 +8.1
STU	Stuttgart	150.73	353	ePKPdf	PKPdf	10 15 35.7 +2.0
STU				ePKPbc	PKPdf	10 15 41.6 +7.9
MOA	Molln	150.77	346⇓	iP	PKPdf	10 15 34.4 +0.6
MOA				i		10 15 41.6
FLN	La Foliniere	150.78	6	ePKIKP	PKPdf	10 15 34.9 +1.1
	comp=Z,78nm,1.1s					
FLN				eR		
	comp=Z,244nm,21.0s					
HDH	Heidenheim	150.79	352⇓	eP	PKPdf	10 15 41.3 +7.5
EDRB	Edirne	150.80	324	eP	PKPdf	10 15 35.7 +1.7
ROSF	Rostrenen	150.82	10	ePKIKP	PKPdf	10 15 34.6 +0.8
ISP	Isparta	150.85	314	eP	PKPdf	10 15 32.8 -1.4
ISP	Isparta	150.85	314	ePKPdf	PKPdf	10 15 36.8 +2.6
ISP				ePKPbc	PKPdf	10 15 41.2 +7.0
GDZ	Gediz	150.87	317	i P	PKPdf	10 15 40.1 +5.9
TKTP	Tekketepe	150.88	314	i P	PKPdf	10 15 40.6 +6.4
LBG	Lerchenberg	150.88	354	eP	PKPdf	10 15 41.4 +7.5
PPCY	Paphos	150.90	307	P	PKPdf	10 15 42.2 +7.8
SGMF	Saint Gilles	151.01	9	ePKIKP	PKPdf	10 15 35.1 +1.0
ARSA	Arzberg	151.02	344⇑	iP	PKPdf	10 15 35.7 +1.5
ARSA				i		10 15 42.0
FUR	Furstenfeldbru	151.04	350	ePKPdf	PKPdf	10 15 37.2 +3.0
FUR				ePKPbc	PKPdf	10 15 42.4 +8.2
FUR				ePKPab	PKPab	10 15 51.5 +0.6
STR	Strasbourg	151.06	355	PKP	PKPdf	10 15 36.9 +2.7
BNT	Bandirma	151.09	320	eP	PKPdf	10 15 42.0 +7.5
GRR	Gorron	151.11	7	ePKIKP	PKPdf	10 15 35.5 +1.2
MRMT	Marmara Adasi	151.12	321	eP	PKPdf	10 15 41.8 +7.2
QUIF	Quistinic	151.24	10	ePKIKP	PKPdf	10 15 35.4 +0.9
WLS	Welschbruch	151.26	356	PKP	PKPdf	10 15 36.1 +1.6
BFO	Black Forest	151.26	354	ePKIKP	PKPdf	10 15 42.7 +8.2
KHL	Karahalli	151.26	316	eP	PKPdf	10 15 40.5 +5.6
CDF	Champ du Feu	151.27	356	ePKIKP	PKPdf	10 15 35.5 +1.0
MEZF	Maizieres J'vi	151.28	359	ePKIKP	PKPdf	10 15 35.9 +1.4
DIM	Dimitrovgrad	151.32	326	i P	PKPdf	10 15 43.0 +8.2
GUT	Gutenstein	151.44	353⇓	eP	PKPdf	10 15 42.4 +7.6
SPAK	Spaichingen	151.44	354	eP	PKPdf	10 15 42.8 +8.0
ECH	Echery	151.47	356	PKP	PKPdf	10 15 37.6 +2.8
LIBD	Limburg	151.50	355	eP	PKPdf	10 15 43.5 +8.6
LIBD	Limburg	151.50	355	PKP	PKPdf	10 15 38.0 +3.1
THEF	They Montfort	151.52	357	PKP	PKPdf	10 15 37.6 +2.7
BEO	Belgrade	151.55	335⇑	iPKP	PKPdf	10 15 42.6 +7.6
KDZ	Kurdzhali	151.66	325	P	PKPdf	10 15 43.7 +8.4
KIZ	Kirchzarten	151.67	355⇓	eP	PKPdf	10 15 43.0 +7.9
PGB	Panagyurishte	151.67	328	i P	PKPdf	10 15 43.0 +7.7
SVIS	Svilajnac	151.67	334⇑	iPKP	PKPdf	10 15 43.2 +8.0
UBR	Uberruh	151.69	352	eP	PKPdf	10 15 43.3 +8.1
KBA	Koelnbreinsper	151.70	347⇑	iP	PKPdf	10 15 36.8 +1.6
KBA				i		10 15 43.4
PLD	Plovdiv	151.72	327	P	PKPdf	10 15 43.0 +7.6
HAU	Haudompre	151.73	357	ePKIKP	PKPdf	10 15 36.3 +1.1
HAU				eR		
	comp=Z,267nm,22.0s					
FELD	Feldberg	151.74	355	eP	PKPdf	10 15 43.2 +8.0
FELD	Feldberg	151.74	355	PKP	PKPdf	10 15 36.7 +1.5
MANT	Manisa	151.80	317	i P	PKPdf	10 15 43.8 +8.1
WATA	Walderalm	151.80	349⇓	iP	PKPdf	10 15 38.1 +2.8
WATA				i		10 15 43.6
CANB	Canakkale	151.81	321	eP	PKPdf	10 15 42.5 +7.0
ELL	Elmali	151.82	312	eP	PKPdf	10 15 44.4 +8.7
MOF	Molkenrain	151.83	356	PKP	PKPdf	10 15 37.1 +1.7
ZAPS	Zavoj/Pirot	151.85	331⇓	iPKP	PKPdf	10 15 37.6 +2.1
WTTA	Wattenberg	151.86	349⇑	iP	PKPdf	10 15 37.6 +2.2
WTTA				i		10 15 44.1
MOTA	Moosalm	151.87	350⇓	iP	PKPdf	10 15 37.1 +1.7
MOTA				i		10 15 43.6
HINF	Hinteralfeld	151.89	356	ePKIKP	PKPdf	10 15 36.5 +1.1
DNZL	Cakiroluk	151.92	315	i P	PKPdf	10 15 44.7 +8.8
OBKA	Obir	151.96	345⇑	iP	PKPdf	10 15 36.8 +1.2
OBKA				i		10 15 43.8
SQTA	Sankt Quirin	151.97	350⇓	iP	PKPdf	10 15 37.4 +1.8
SQTA				i		10 15 43.8
RZN	Rozhen	152.01	326	i P	PKPdf	10 15 43.5 +7.7
AKS	Akhisar	152.05	318	eP	PKPdf	10 15 44.1 +8.2
VTS	Vitosha	152.11	329	i P	PKPdf	10 15 44.3 +8.4
DAVA	Damuels	152.11	352⇑	iP	PKPdf	10 15 38.8 +3.0
DAVA				i		10 15 45.0
BBS	Basel-Blauen	152.19	355	eP	PKPdf	10 15 44.3 +8.4
BBS	Basel-Blauen	152.19	355	PKP	PKPdf	10 15 36.3 +0.4
GRUS	Gruza	152.21	334	i PKP	PKPdf	10 15 44.4 +8.3
AKAS	Kas	152.29	312	i P	PKPdf	10 15 42.8 +6.4
DIVS	Divcibare	152.33	335⇓	iPKP	PKPdf	10 15 36.6 +0.4
LOMF	Lomont	152.35	356	PKP	PKPdf	10 15 38.4 +2.3
EZN	Ezine	152.37	321	P	PKPdf	10 15 45.4 +9.0
LJU	Ljubljana	152.40	344	ePKPdf	PKPdf	10 15 37.8 +1.6
LJU				ePKPbc	PKPdf	10 15 44.8 +8.6
LJU				e		10 16 40.0
LJU				e		10 19 23.9
LJU	Ljubljana	152.40	344	ePKIKP	PKPdf	10 15 37.8 +1.6
LJU				e		10 19 23.9
HYF	Humbligny	152.49	2	ePKIKP	PKPdf	10 15 37.9 +1.6
LOR	Lormes	152.52	0	ePKIKP	PKPdf	10 15 37.7 +1.3
	comp=Z,67nm,1.2s					
LOR				eR		
	comp=Z,324nm,21.8s					
VOY	Vojsko	152.56	345	ePKPdf	PKPdf	10 15 38.2 +1.7
VOY				ePKPbc	PKPdf	10 15 44.9 +8.4
VOY				e		10 16 08.1
VOY				e		10 16 41.3
MMB	Musomiste	152.59	327	i P	PKPdf	10 15 45.0 +8.3
DAVOX	Davos	152.61	351	PKPbc	PKPdf	10 15 45.5 +9.0
	comp=Z,85nm,0.5s,baz=266,slow=4.5,SNR=86					
DAVOX				pPKPbc		10 16 41.4
	comp=Z,41nm,1.0s,baz=353,slow=1.1,SNR=2.1					
IZM	Izmir	152.68	318	eP	PKPdf	10 15 44.6 +7.8
BOJS	Bojanci	152.70	343	ePKPdf	PKPdf	10 15 38.8 +2.1
BOJS				ePKPbc	PKPdf	10 15 46.0 +9.3
BOJS				ePKPab	PKPab	10 15 58.3 +0.3
BOJS				e		10 16 41.4
CEY	Cerknica	152.71	344	ePKPdf	PKPdf	10 15 38.8 +2.1
KKB	Krupnik	152.72	328	i P	PKPdf	10 15 45.0 +8.2
SSF	Saint Saulge	152.72	1	ePKIKP	PKPdf	10 15 38.0 +1.3
	comp=Z,46nm,1.0s					
YER	Yerkesik	152.73	315	P	PKPdf	10 15 46.0 +9.0
BBLS	Bajina Basta -	152.76	335	i PKP	PKPdf	10 15 47.8 +11
LCHF	La Chataignera	152.82	7	PKP	PKPdf	10 15 41.3 +4.5
MFF	Saint Martin d	152.95	7	ePKIKP	PKPdf	10 15 38.1 +1.1
	comp=Z,46nm,1.2s					
MLSB	Milas	152.98	315	eP	PKPdf	10 15 46.9 +10
AVF	Avril sur Loir	152.99	1	ePKIKP	PKPdf	10 15 38.0 +1.0
	comp=Z,20nm,1.1s					
CABF	La Chapelle	153.13	357	ePKIKP	PKPdf	10 15 39.1 +1.9
	comp=Z,41nm,1.1s					
SMF	Signal de Mont	153.14	1	ePKIKP	PKPdf	10 15 38.3 +1.1
	comp=Z,41nm,1.2s					
TCF	Toulx Ste Croi	153.45	3	ePKIKP	PKPdf	10 15 38.9 +1.2
	comp=Z,38nm,1.1s					
AGO	Saint Agoulin	153.72	2	PKP	PKPdf	10 15 41.2 +3.2
OG05	Jujurieux	153.73	358	PKP	PKPdf	10 15 42.2 +4.2
OG05	Jujurieux	153.73	358	PKP	PKPdf	10 15 41.1 +3.1
OG05				PKP	PKPdf	10 15 42.2 +4.2
PLDF	La Plantade	153.81	1	PKP	PKPdf	10 15 41.6 +3.5
VERF	Verneugheol	154.00	3	PKP	PKPdf	10 15 40.7 +2.3
PYM	Petit Puy Mans	154.02	2	PKP	PKPdf	10 15 41.9 +3.5
LPL	La Plagne	154.19	356	ePKIKP	PKPdf	10 15 40.7 +2.1
LPG	La Plagne	154.20	356	ePKIKP	PKPdf	10 15 40.9 +2.2
	comp=Z,22nm,1.0s					
EMAZ	Mazaricos	154.32	23	PKP	PKPdf	10 15 41.4 +2.5
RJF	Les Rejaudoux	154.39	4	ePKIKP	PKPdf	10 15 40.2 +1.3
	comp=Z,20nm,0.9s					
RJF				eR		
	comp=Z,226nm,21.0s					
LBL	Lubilhac	154.54	2	PKP	PKPdf	10 15 43.2 +4.1
EPON	Pontenova	154.60	20	PKP	PKPdf	10 15 42.0 +2.7
BNI	Bardonecchia	154.65	356	ePKPdf	PKPdf	10 15 41.8 +2.5
BNI				ePKPbc	PKPdf	10 15 50.9 +12
BNI				ePKPab	PKPab	10 16 05.0 -1.2
BNI	Bardonecchia	154.65	356	ePKIKP	PKPdf	10 15 41.8 +2.5
BNI				e		10 16 05.0
LFF	La Frestale	154.69	6	ePKIKP	PKPdf	10 15 41.2 +1.9
CAF	Calviac	154.80	4	ePKIKP	PKPdf	10 15 41.1 +1.6
ORIF	Oris-en-Rattie	154.83	357	ePKIKP	PKPdf	10 15 41.3 +1.8
	comp=Z,21nm,1.1s					
ORIF				eR		
	comp=Z,241nm,19.0s					
VIVF	Saint-Julien-l	154.93	359	ePKIKP	PKPdf	10 15 41.5 +1.9
	comp=Z,40nm,1.3s					
MBDF	Montbardon	154.97	356	ePKIKP	PKPdf	10 15 41.5 +1.8
	comp=Z,16nm,1.0s					
SANT	Santorini	155.03	316	ePKPab	PKPab	10 16 06.2 -1.9
EARI	Arriondas	155.19	17	PKP	PKPdf	10 15 41.7 +1.7
SURF	Saint Ours	155.21	356	PKP	PKPdf	10 15 43.3 +3.3
SAOF	Saorge	155.64	354	PKP	PKPdf	10 15 42.8 +2.2
TOUF	Mont Tournerai	155.64	355	PKP	PKPdf	10 15 44.1 +3.5
AUTN	L'Aution	155.64	354	PKP	PKPdf	10 15 44.6 +4.0
ELAN	Lanestosa	155.69	14	PKP	PKPdf	10 15 43.3 +2.6
LASF	Ste Croix	155.71	1	ePKIKP	PKPdf	10 15 42.7 +2.0
	comp=Z,35nm,1.2s					
SMRF	Simiane la Rot	155.78	358	ePKIKP	PKPdf	10 15 43.1 +2.3
VILF	Villemus	155.90	357	PKP	PKPdf	10 15 55.3 +14
CALN	Calern	155.93	355	PKP	PKPdf	10 15 43.4 +2.4
PRAF	Pradon	155.97	358	PKP	PKPdf	10 15 55.3 +14
ECAL	Calabor	155.99	20	PKP	PKPdf	10 15 43.5 +2.3
IDI	Anoyia	156.04	315	PKPab	PKPab	10 16 12.6 +0.2
	comp=Z,32nm,0.6s,baz=29,slow=5.1,SNR=7.9					
EALK	Alkurruntz	156.08	10	PKP	PKPdf	10 15 44.7 +3.4
PBRG	Braganca	156.11	20	ePKPdf	PKPdf	10 15 44.5 +3.1
TAVF	Tavernes	156.12	357	PKP	PKPdf	10 15 55.5 +14
SJPF	Ste Jean	156.23	10	ePKIKP	PKPdf	10 15 42.3 +0.8
PVRL	Vila Real	156.24	23	ePKPdf	PKPdf	10 15 45.0 +3.5
PVRL				ePKPab	PKPab	10 16 13.0 -0.1
MTLF	Montolieu	156.39	4	ePKIKP	PKPdf	10 15 43.2 +1.5
	comp=Z,30nm,1.2s					
VLI	Velial	156.41	320	ePG	PKPab	10 16 12.0 -2.0
VAM	Vamos	156.43	316	ePB	PKPab	10 16 13.0 -1.1
BERF	Bertagne	156.44	357	PKP	PKPdf	10 15 57.7 +16
ECRI	Cripan	156.49	12	PKP	PKPdf	10 15 44.9 +3.1
EPF	Esparros	156.53	7	ePKIKP	PKPdf	10 15 43.6 +1.7
ETSF	Etsaut	156.54	9	ePKIKP	PKPdf	10 15 42.9 +1.0
	comp=Z,11nm,0.7s					
KYTH	Kithira	156.63	319	ePB	PKPab	10 16 11.0 -3.9
EBIE	Bielsa	156.85	8	PKP	PKPdf	10 15 45.0 +2.7
MTE	Manteigas	157.06	23	ePKPdf	PKPdf	10 15 46.3 +3.6
MTE				eSS	SS	10 39 36.9 +6.5
MTE	Manteigas	157.06	23	ePKPdf	PKPdf	10 15 45.7 +3.0
MTE				ePKPbc	PKPdf	10 15 54.9 +12
MTE				ePKPab	PKPab	10 16 14.6 -2.0
EJON	La Jonquera	157.31	2	PKP	PKPdf	10 15 43.2 +0.3
EJON				PKPab	PKPab	10 16 17.2 -0.4
EGRA	Graus	157.35	7	PKP	PKPdf	10 15 45.8 +2.9
PTOM	Tomar	157.39	26	ePKPdf	PKPdf	10 15 46.6 +3.5
PTOM				ePKPab	PKPab	10 16 17.4 -0.7
PCBR	Castelo Branco	157.58	24	ePKPdf	PKPdf	10 15 46.8 +3.5
PCBR				ePKPab	PKPab	10 16 17.7 -1.2
ESAC	San Caprasio	157.71	9	PKP	PKPdf	10 15 45.7 +2.3
ESAC				PKPab	PKPab	10 16 18.4 -1.0
EMIR	Miracle	157.76	5	PKP	PKPdf	10 15 44.6 +1.1
EMIR				PKPab	PKPab	10 16 17.7 -1.9
TIP	Timpagrande	157.77	333	ePKPdf	PKPdf	10 15 46.1 +2.5
TIP				ePKPbc	PKPdf	10 15 57.6 +14
TIP				ePKPab	PKPab	10 16 18.2 -1.5
EPOB	Poblet	158.27	6	PKP	PKPdf	10 15 42.7 -1.5
EPOB				PKPab	PKPab	10 16 18.6 -3.2
EVO	Evora	158.47	27	ePKIKP	PKPdf	10 15 45.8 +1.3
	comp=Z,58nm,1.2s					
EBAD	Badajoz	158.69	25	PKP	PKPdf	10 15 47.0 +2.2
ESDC	Sonseca Array	158.91	18	PKP	PKPdf	10 15 47.3 +2.3
	comp=Z,2.2nm,0.7s,baz=350,slow=3.1,SNR=14					
ESDC				PKPab	PKPab	10 16 24.4 -0.2
	comp=Z,12nm,1.0s,baz=343,slow=5.7,SNR=4.4					
ESDC				pPKPab		10 17 17.6
	comp=Z,4.1nm,0.9s,baz=346,slow=4.4,SNR=4.3					
ESDC	Sonseca Array	158.91	18	PKP	PKPdf	10 15 47.0 +2.0
ESDC				PKPab	PKPab	10 16 24.0 -0.7
ESLA	Sonseca Array	158.91	18	ePKPdf	PKPdf	10 15 46.2 +1.2
ESLA				ePKPab	PKPab	10 16 23.7 -0.9
PBEJ	Beja	158.96	27	ePKPdf	PKPdf	10 15 47.6 +2.5
PBEJ				ePKPab	PKPab	10 16 23.8 -1.1
PTEO	Sao Teotonio	158.97	30	ePKPdf	PKPdf	10 15 49.1 +4.0
EMOS	Mosqueruela	159.04	10	PKP	PKPdf	10 15 47.2 +2.1
EMOS				PKPab	PKPab	10 16 25.6 +0.4
EGRO	El Granado	159.54	27	PKP	PKPdf	10 15 47.4 +1.6
EMIN	Mina Concepcio	159.68	25	PKP	PKPdf	10 15 47.3 +1.4
EMIN				PKPab	PKPab	10 16 26.6 -1.4
ECHE	Chera	159.70	12	PKP	PKPdf	10 15 48.9 +3.1
ECAB	El Cabril	159.89	23	PKP	PKPdf	10 15 47.1 +0.9
ETOS	Mallorca	159.98	3	PKPab	PKPab	10 16 27.2 -2.1
EADA	Adamuz	160.10	21	PKP	PKPdf	10 15 49.0 +2.6
EADA				PKPab	PKPab	10 16 26.6 -3.2
EVIA	Vianos	160.27	16	PKP	PKPdf	10 15 48.5 +1.9
EBAN	Banos Encina	160.36	19	PKP	PKPdf	10 15 46.4 -0.2
ETOB	Tobarra	160.50	14	PKP	PKPdf	10 15 47.1 +0.4
ELUQ	Luque	160.75	21	PKP	PKPdf	10 15 49.1 +2.1
ESPR	Espera	160.78	25	PKP	PKPdf	10 15 48.8 +1.7
ESPR				PKPab	PKPab	10 16 31.1 -1.6
EQES	Quesada	160.90	18	PKP	PKPdf	10 15 49.4 +2.2
EQES				PKPab	PKPab	10 16 33.6 +0.3
EHUE	Huescar	161.03	17	PKP	PKPdf	10 15 49.6 +2.3
EHUE				PKPab	PKPab	10 16 32.4 -1.4
ELOJ	Sierra Loja	161.16	21	PKP	PKPdf	10 15 50.1 +2.6
ELOJ				PKPab	PKPab	10 16 34.0 -0.4
ERON	Agron	161.40	20	PKP	PKPdf	10 15 51.0 +3.3
ERON				PKPab	PKPab	10 16 32.7 -2.7
EBER	Berja	161.80	18	PKP	PKPdf	10 15 50.9 +2.8
LIC	Lamto	163.87	145	ePKIKP	PKPdf	10 15 51.6 +0.8
	comp=Z,40nm,0.9s					
DBIC	Dimbokro	164.34	145	PKP	PKPdf	10 15 52.6 +1.4
	comp=Z,9.0nm,0.8s,baz=17,slow=4.4,SNR=7.8					
DBIC				PKPab	PKPab	10 16 50.0 +1.1
	comp=Z,30nm,0.8s,baz=190,slow=4.2,SNR=20					
DBIC	Dimbokro	164.34	145	PKIKP	PKPdf	10 15 52.7 +1.4
DBIC						10 16 50.0
DBIC				pmax	pmax	
	comp=Z,9.0nm,0.8s					
DBIC				pmax	pmax	
	comp=Z,30nm,0.8s					

*BJI **06** 09:57:57.3, 11.56N×126.04E, h27km, mB5.2, mb4.4, Msz5.0*
*MAN **06** 09:57:59.3, 11.93N×125.92E, h9km, mb4.9, ML3.8, MS3.8*
*NEIC **06** 09:58:02.2±8.8, 11.78N×125.76E, h30km±58km, mb4.7/9, Error ellipse: s-maj=34.9km s-min=12.2km az=79.0*
*IDC **06** 09:58:06.2±9.6, 11.73N×125.68E, h64km±83km, mb4.2/10, mb1 4.4/10, mb1mx4.2/20, mbtmp4.5/10, Error ellipse: s-maj=95.6km s-min=19.6km az=73.0*

ISC 06 09:57:57.2±0.5, 11.99N±0.03×126.10E±0.05, h10km, n53, σ1§09/59, mb4.7/24, 3C-4D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	Borongan	0.75	239	eP	Pg	09 58 10.6	-1.8
BESP				eS	Sg	09 58 18.3	-4.2
PLP	Palo	1.37	233	eP	Pb	09 58 20.2	-2.3
CNP	Catarman	1.49	290	eP	Pn	09 58 24.2	0.0
CNP				eS	Sb	09 58 42.9	-0.6
MSLP	Maasin	2.21	213	eP	Pn	09 58 35.3	+0.8
MSLP				eS	Sn	09 59 05.9	+3.8
SCPH	Surigao	2.28	195	eP	Pn	09 58 34.5	-1.0
SCPH				eS	Sn	09 59 06.3	+2.5
PVCP	Virac	2.48	310	eP	Pn	09 58 38.8	+0.5
PVCP				eS	Sg	09 59 21.5	+1.8
LLP	Lapu-Lapu	2.67	232	eP	Pn	09 58 41.6	+0.4
LLP				eS	Sn	09 59 15.2	+1.3
BUTP	Butuan	3.04	189	eP	Pn	09 58 47.9	+1.5
TBP	Tagbilaran	3.17	224	eP	Pn	09 58 47.5	-0.7
TBP				eS	Sn	09 59 28.1	+1.6
RCP	Roxas	3.31	263⇓	eP	Pn	09 58 50.0	-0.2
KALP	Kalibo	3.69	266⇓	eP	Pg	09 59 06.5	-4.5
GUIM	Jordan	3.70	249	eP	Pn	09 58 55.2	-0.6
SNPH	Sibulan	3.85	227	eP	Pn	09 58 58.0	+0.1
OTRP	Odiongan	4.00	276	eP	Pn	09 59 02.4	+2.3
GQP	Guinayangan	4.04	299	eP	Pn	09 59 00.5	0.0
BUKP	Musuan	4.21	194	eP	Pn	09 59 03.5	+0.5
DCPH	Dipolog City	4.33	219⇑	eP	Pn	09 59 03.3	-1.4
PAGZ	Pagadian	4.91	213	eP	Pn	09 59 13.1	+0.2
LBPH	Los Banos	5.25	295⇓	eP	Pn	09 59 17.5	-0.3
ARP	Angono	5.44	298⇑	eP	Pn	09 59 19.6	-0.7
NZB	Bigte	5.64	301⇑	eP	Pn	09 59 22.8	-0.4
NBP	Mount Natib	6.17	297⇓	eP	Pn	09 59 30.3	-0.3
CAUP	Cauayan	6.43	320	eP	Pn	09 59 34.9	+0.5
KSM	Kuching	18.82	237	eP	P	10 02 15.5	-4.1
ENH	Enshi	23.84	322	eP	P	10 03 12.9	+1.4
	16nm,0.7s,mb4.5						
FITZ	Fitzroy Crossi	29.91	181	P	P	10 04 05.7	-2.0
	8.7nm,0.5s,mb4.7,baz=10,slow=8.1,SNR=16						
GTA	Gaotai	35.88	324	eP	P	10 05 01.3	+1.8
GTA				AP	pP	10 05 04.5	+2.0
GTA				XP	sP	10 05 07.7	+4.0
GTA				AMB

VLI	Veliai	2.16	154	*e*PN	Pn	10 12 46.7	+0.3
GRG	Griva	2.33	12	*e*Pn	Pn	10 12 48.7	0.0
GRG				*e*Sn	Sn	10 13 19.1	+0.9
OUR	Ouranopolis	2.38	45	*e*Pn	Pn	10 12 49.1	-0.4
SOH	Sokhos	2.46	29	*e*Pn	Pn	10 12 51.3	+0.5
KNT	Kendrikon	2.63	19	*e*Pn	Pn	10 12 53.2	+0.2
NVR	Nevrokopi	3.12	30	*e*PN	Pn	10 13 00.2	+0.2
QSH	Qafa e Shtames	3.18	334	*i* p	Pg	10 13 12.0	-0.5
SKO	Skopje	3.30	356	*e*P	Pn	10 13 05.5	+2.9
TIP	Timpagrande	3.94	279	*e*P	Pn	10 13 09.1	-2.6
TIP	Timpagrande	3.94	279	*e*P	Pn	10 13 09.1	-2.6
IDI	Anoyia	4.21	143	P	Pn	10 13 20.0	+4.5
	0.8nm,0.3s,baz=18,slow=22,SNR=4.3						
VAE	Valguarnera	5.93	261	LR	LR	10 16 21.0	
	comp=Z,165nm,19.6s,baz=90,slow=40						
MLR	Muntele Rosu	7.48	23	P	Pn	10 14 01.1	-0.6
	1.5nm,0.3s,baz=243,slow=6.8,SNR=7.0						
BRTR	Keskin Array B	9.28	80	P	P	10 14 26.6	0.0
	0.3nm,0.3s,baz=260,slow=12,SNR=3.9						
ELZG	Elazig	13.47	85	*i* P	P	10 15 25.2	+1.6
URFA	Urfa	13.50	90	P	P	10 15 27.4	+3.5
PTK	Pertek	13.75	84	P	P	10 15 23.6	-3.6
GUMT	Gumushane	13.78	77	P	P	10 15 21.7	-5.9
SWS	Schriesheim	14.29	323	*e*P	P	10 15 39.5	+5.3
HFS	Hagfors	22.08	349	P	P	10 17 06.0	-0.6
	2.5nm,0.5s,mb3.9,baz=153,slow=9.7,SNR=4.4						
FINES	FINESS Array B	22.95	5	P	P	10 17 16.5	+1.4
	1.5nm,0.5s,mb3.7,baz=172,slow=9.8,SNR=4.2						
NB2	NORSAR Subarra	23.34	347	P	P	10 17 15.6	-3.3
	2.6nm,1.0s,mb3.6,baz=157,slow=9.3						
NOA	NORSAR Array B	23.34	347	P	P	10 17 18.5	-0.4
	0.7nm,0.6s,mb3.3,baz=158,slow=8.7,SNR=3.2						
ARCES	ARCESS Array B	30.98	3	P	P	10 18 26.6	-2.7
	2.3nm,0.8s,mb4.1,baz=194,slow=11,SNR=4.7						
MKAR	Makanchi Array	44.20	59	P	P	10 20 19.3	-1.4
	1.0nm,0.5s,mb3.8,baz=277,slow=7.2,SNR=11						

IDC ***06*** *10:23:36.9±3.6, 40.84N×139.75E, h136km±38km, mb3.3/5, mb1 3.4/6, mb1mx3.2/22, mbtmp3.8/6, Error ellipse: s-maj=29.0km s-min=21.8km az=68.0*
JMA ***06*** *10:23:40.0±0.1, 41.02N×140.00E, h166km±1km, M2.5*
ISC 06 10:23:38.8±0.5, 41.00N±0.05×139.9E±0.1, h169km±4km, n20, σ0§78/28, mb3.5/5, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSI2	Shiura 2	0.39	81	P	P	10 24 02.6	+0.3
JSI2				*e*S	S	10 24 19.3	-1.1
JIW	Iwasaki	0.41	168	P	P	10 24 03.2	+0.8
JIW				*e*S	S	10 24 20.7	+0.2
JSR	Shiriuchi	0.66	36	P	P	10 24 03.6	+0.2
JSR				*e*S	S	10 24 21.6	-0.9
JTM	Tenmabayashi	0.91	103	P	P	10 24 05.3	+0.4
JTM				*e*S	S	10 24 24.1	-1.0
JOT	Ohata	0.95	66	P	P	10 24 05.5	+0.3
JAH	Hinai	0.99	145	P	P	10 24 06.2	+0.8
JOSM	Okushiri--Mats	1.13	344	P	P	10 24 07.3	+0.6
JOSM				*e*S	S	10 24 27.7	-0.5
JYM2	Yakumo 2	1.17	17	P	P	10 24 07.6	+0.5
JYM2				*e*S	S	10 24 28.9	0.0
JKB	Kayabe	1.23	43	P	P	10 24 07.8	+0.2
JANG	Nango	1.38	116	P	P	10 24 08.7	-0.3
JOM	Ohasama	1.86	145	P	P	10 24 14.0	+0.1
JOM				*e*S	S	10 24 41.0	0.0
JYK	Kaneyama	2.11	170	P	P	10 24 17.4	+0.7
JMK	Ichinoseki	2.28	153	P	P	10 24 18.4	-0.4
MAT	Matsushiro	4.64	197	P	P	10 24 49.8	+1.2
JHJ	Hachijo jima 2	7.87	181	P	P	10 25 28.0	-3.2
	6.7nm,0.3s,baz=50,slow=21,SNR=4.6						
JHJ				S	S	10 26 51.0	-8.0
	4.4nm,0.3s,baz=129,slow=11,SNR=2.5						
SONM	Songino Array	24.75	297	P	P	10 28 44.6	-1.2
	0.2nm,0.4s,mb3.0,baz=84,slow=13,SNR=2.3						
FX1	Attu Island--F	25.39	51	P	P	10 28 52.8	+1.1
	3.5nm,0.6s,mb4.1,baz=90,slow=20,SNR=2.8						
MKAR	Makanchi Array	41.11	298	P	P	10 31 07.4	+0.2
	0.7nm,0.7s,mb3.4,baz=84,slow=8.8,SNR=5.4						
BVAR	Borovoye Array	47.09	309	P	P	10 31 55.0	+0.1
	0.5nm,0.4s,mb3.5,baz=80,slow=8.8,SNR=3.6						
WRA	Warramunga Arr	60.85	186	P	P	10 33 33.9	-1.6
	0.4nm,0.7s,mb3.4,baz=2.6,slow=7.0,SNR=6.6						

BJI ***06*** *10:44:04.5, 0.43N×97.39E, h30km, mB5.2, mb4.7, Ms4.5, Msz4.3*
IDC ***06*** *10:44:08.1±1.4, 1.19N×96.83E, mb4.2/9, mb1 4.3/9, mb1mx4.0/18, mbtmp4.2/9, MS3.9/1, Ms1 3.9/1, ms1mx3.2/24, Error ellipse: s-maj=69.2km s-min=17.7km az=54.0*
NEIC ***06*** *10:44:13.0±0.7, 1.33N×97.04E, h30km, mb4.3/1, Error ellipse: s-maj=20.1km s-min=12.1km az=58.0*
MOS ***06*** *10:44:19.3±2.0, 2.44N×97.17E, h33km, mb4.6/11, Error ellipse: s-maj=27.4km s-min=11.5km az=98.9*
ISC 06 10:44:11.2±0.8, 1.3N±0.1×97.1E±0.1, h31km, h31km±4.9km: pP-P, n39, σ1§03/38, mb4.4/22, MS4.2/3, 2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.34	42	*e*P	Pn	10 45 31.0	0.0
KMI	Kunming	24.31	13	⇓P	P	10 49 29.5	+2.1
KMI				AP		10 49 39.7	
KMI				S	S	10 53 47.0	+5.6
KMI				AMB	AMB		
	comp=Z,21nm,1.4s,mb4.4						
KMI				LR	LR		
	comp=N,622nm,12.2s,MS4.4						
KMI				LR	LR		
	comp=E,385nm,12.2s,MS4.4						
KMI				LR	LR		
	comp=Z,654nm,13.3s,MS4.3						
FITZ	Fitzroy Crossi	34.11	126	P	P	10 50 54.7	-0.9
	comp=Z,6.3nm,0.9s,mb4.6,baz=15,slow=1.8,SNR=3.8						
NJ2	Nanjing	36.85	32	*e*P	P	10 51 15.6	-3.2
NJ2				AP	pP	10 51 26.0	-2.0
NJ2				XP	sP	10 51 29.8	-2.1
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
SSE	Sheshan	37.41	35	P	P	10 51 19.2	-4.3
SSE				AMB	AMB		
	comp=Z,53nm,0.7s						
SSE				AMB	AMB		
	comp=Z,73nm,12.0s						
GTA	Gaotai	38.01	3	*e*P	P	10 51 29.2	+0.8
GTA				AP	pP	10 51 33.6	-4.1
GTA				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.3						
WRA	Warramunga Arr	42.22	122	P	P	10 52 04.2	+0.7
	comp=Z,1.8nm,0.7s,mb3.8,baz=301,slow=9.1,SNR=17						
WRAB	Tennant Creek	42.22	122	*i* P	pP	10 52 16.6	+3.8
WMQ	Urumqi	43.14	350	*e*P	P	10 52 11.5	+0.8
WMQ				AP	pP	10 52 21.5	+1.5
WMQ				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.5						
KS15	Wonju Array Si	45.81	35	P	P	10 52 30.6	-1.6
AAK	Ala-Archa	45.84	337	*i* P	P	10 52 36.1	+3.7
AAK				pmax	pmax		
	comp=Z,4.0nm,1.7s,mb4.1						
SONM	Songino Array	47.05	9	P	P	10 52 42.3	+0.5
	comp=Z,5.1nm,0.9s,mb4.4,baz=194,slow=7.9,SNR=26						
SONM				LR	LR	11 15 30.3	
	comp=Z,128nm,18.7s,MS3.9,baz=146,slow=40						
SONM	Songino Array	47.05	9	P	P	10 52 42.3	+0.4
SONM				pmax	pmax		
	comp=Z,5.0nm,0.9s						
SONM				MLR	MLR		
	comp=Z,128nm,18.7s						
MKAR	Makanchi Array	47.10	346	P	P	10 52 42.8	+0.4
	comp=Z,2.0nm,0.5s,mb4.3,baz=159,slow=8.6,SNR=33						
MKAR	Makanchi Array	47.10	346	P	P	10 52 42.8	+0.5
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ZAK	Zakamensk	49.18	5	*e*P	P	10 52 58.5	+0.1
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.9						
TLY	Talaya	50.50	5	*e*P	P	10 53 09.1	+0.6
TLY				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
KURK	Kurchatov	51.65	345	*e*P	P	10 53 16.4	-0.9
	comp=Z,3.4nm,0.9s,mb4.3						
KURK	Kurchatov	51.65	345	*e*P	P	10 53 16.4	-0.9
KURK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
ZAL	Zalesovo	53.42	351	P	P	10 53 30.2	-0.2
	comp=Z,2.3nm,0.4s,mb4.4,baz=38,slow=7.9,SNR=10.0						
ZAL	Zalesovo	53.42	351	P	P	10 53 30.2	-0.2
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.4s						
STKA	Stephens Creek	53.54	132	P	P	10 53 32.5	+0.9
	comp=Z,3.0nm,0.7s,mb4.3,baz=317,slow=8.3,SNR=4.8						
STKA	Stephens Creek	53.54	132	P	P	10 53 32.5	+0.9
BOD	Bodaibo	57.93	11	*e*P	P	10 54 01.0	-1.9
YSS	Yuzh-Sakhalins	60.34	34	*e*P	P	10 54 20.4	+0.7
YSS				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.9						
ARU	Arti	63.03	337	⇓*i* P	P	10 54 36.0	-1.6
ARU				*e*		10 56 50.6	
ARU				*e*S	S	11 02 54.5	-10
ARU				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.5						
KIV	Kislovodsk	64.13	319	P	P	10 54 50.0	+4.9
KIV						10 55 31.0	
KIV				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.7						
KIV				MLR	MLR		
	comp=Z,200nm,18.0s,MS4.3						
YAK	Yakutsk	65.36	16	*e*P	P	10 54 52.1	-0.6
YAK				pmax	pmax		
	comp=Z,21nm,0.9s,mb5.2						
OBN	Obninsk	72.45	328	P	P	10 55 42.8	+6.2
OBN				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
TIXI	Tiksi	73.11	10	*i* P	P	10 55 40.7	+0.5
TIXI				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
SEY	Seymchan	73.72	23	*e*P	P	10 55 44.2	+0.3
AKASG	Malin Array Be	75.08	322	P	P	10 55 51.3	-0.7
	comp=Z,0.1nm,0.3s,baz=93,slow=3.9,SNR=4.1						
VSU	Vasula	78.68	330	*e*P	P	10 56 20.2	+8.3
FINES	FINESS Array B	79.84	333	P	P	10 56 18.0	-0.1
	comp=Z,1.3nm,0.8s,mb3.9,baz=117,slow=3.1,SNR=4.4						
FINES	FINESS Array B	79.84	333	*i* P	P	10 56 18.8	+0.7
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ARCES	ARCESS Array B	82.39	340	P	P	10 56 31.8	+0.5
	comp=Z,2.1nm,0.9s,mb4.1,baz=90,slow=6.1,SNR=5.1						
ARCES	ARCESS Array B	82.39	340	P	P	10 56 31.8	+0.5
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
CPUP	Villa Florida	144.98	223	PKP	PKPdf	11 03 55.6	+4.2
	comp=Z,3.6nm,1.0s,baz=148,slow=5.6,SNR=5.7						
CPUP	Villa Florida	144.98	223	PKIKP	PKPdf	11 03 55.6	+4.2
CPUP				pmax	pmax		
	comp=Z,4.0nm,1.0s						

NNC ***06*** *11:11:28.5±13.0, 37.45N×70.80E, h89km±325km, mpv4.0, Error ellipse: s-maj=102.7km s-min=80.8km az=5.0*
ISC 06 11:11:25.6±2.2, 37.3N±0.1×71.6E±0.2, h216km±40km, n14, σ0§81/18, 1C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	5.14	18	P	P	11 12 42.6	-0.2
	SNR=35						
KZA	Kyzart	5.59	29	P	P	11 12 47.0	-1.5
	SNR=17						
AAK	Ala-Archa	5.82	22	P	P	11 12 52.6	+1.1
	SNR=14						
AAK	Ala-Archa	5.82	22	⇓P	P	11 12 52.2	+0.7
	16nm,0.5s						
AAK				⇓S	S	11 13 58.3	-0.1
	16nm,1.0s						
KK31	Karatay Array	5.91	352	⇓P	P	11 12 51.8	-0.8
	3.7nm,0.3s,baz=183,slow=14,SNR=31						
KK31				⇑S	S	11 13 55.5	-4.8
	5.0nm,0.5s,baz=183,slow=25,SNR=4.7						
CHMS	Chumysh	6.23	22	P	P	11 12 57.2	+0.4
	SNR=17						
USP	Ospenovka	6.41	19	P	P	11 12 59.2	+0.1
	SNR=9.6						
TKM2	Tokmak 2	6.44	27	P	P	11 13 00.6	+1.1
	SNR=16						
KOLN	Koldanda	13.84	130	*e*P	P	11 14 33.6	-0.3
	7.0nm,0.3s						
KOLN				*e*S	S	11 16 58.1	-4.7
GKN	Gorkha	14.33	126	*e*P	P	11 14 39.6	-0.4
	15nm,0.5s						
AB31	Akbulak array	14.68	329	⇓P	P	11 14 45.8	+1.6
	0.1nm,0.2s,baz=139,slow=13,SNR=9.3						
AB31				S	S	11 17 20.5	-0.9
	1.0nm,0.7s,baz=150,slow=22,SNR=4.6						
KKN	Kakani	14.89	125	*e*P	P	11 14 47.1	+0.2
	7.0nm,0.3s						
DMN	Daman	14.90	126	*e*P	P	11 14 46.4	-0.6
	6.5nm,0.4s						
PKI	Pulchoki	15.12	126	*e*P	P	11 14 50.4	+0.6
	4.7nm,0.2s						

IDC ***06*** *11:34:56.7±0.9, 11.71N×125.83E, mb4.0/10, mb1 4.1/10, mb1mx4.0/20, mbtmp4.0/10, Error ellipse: s-maj=57.8km s-min=16.5km az=74.0*
MAN ***06*** *11:34:58.1, 11.98N×125.93E, h3km, mb4.9, ML3.8, MS3.8*
NEIC ***06*** *11:34:58.2±0.5, 11.72N×125.83E, h10km, mb4.7/1, Error ellipse: s-maj=31.1km s-min=9.9km az=75.0*
ISC 06 11:34:58.7±2.3, 11.91N±0.07×125.98E±0.09, h20km±16km, n21, σ1§07/26, mb4.1/11, 1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	Borongan	0.61	240	*e*P	Pb	11 35 10.2	-0.4
BESP				*e*S	Sb	11 35 18.4	-0.3
PLP	Palo	1.23	233	*i* P	Pn	11 35 20.0	-0.8
PLP				*i* S	Sb	11 35 36.0	-0.5
CNP	Catarman	1.42	295	*e*P	Pn	11 35 23.9	+0.3
CNP				*e*S	Sn	11 35 42.5	+0.6
MSLP	Maasin	2.08	212	*e*P	Pn	11 35 35.0	+1.9
PVCP	Virac	2.45	313	*e*P	Pn	11 35 38.3	-0.1
PVCP				*e*S	Sn	11 36 07.4	-0.5
TBP	Tagbilaran	3.03	224	*e*P	Pn	11 35 48.9	+2.3
TBP				*e*S	Sn	11 36 27.1	+4.4
RCP	Roxas	3.19	264	⇓*e*P	Pn	11 35 49.6	+0.7
GUIM	Jordan	3.56	249	*e*P	Pn	11 35 51.8	-2.4
KALP	Kalibo	3.57	267	*e*P	Pn	11 36 07.4	+13
BUKP	Musuan	4.10	193	*e*P	Pn	11 36 03.4	+1.5
JNU	Nakatsue	21.59	11	P	P	11 39 50.2	+0.9
	9.0nm,1.0s,mb4.2,baz=23,slow=18,SNR=3.0						
FITZ	Fitzroy Crossi	29.82	181	P	P	11 41 03.1	-3.9
	5.5nm,0.8s,mb4.3,baz=359,slow=7.1,SNR=3.7						
WRA	Warramunga Arr	32.70	165	P	P	11 41 29.8	-2.4
	0.4nm,0.7s,mb3.4,baz=345,slow=9.3,SNR=2.9						
SONM	Songino Array	39.40	339	P	P	11 42 29.0	+0.2
	0.6nm,0.6s,mb3.5,baz=157,slow=11,SNR=2.5						
STKA	Stephens Creek	46.03	161	P	P	11 43 22.1	-0.8
	2.9nm,0.7s,mb4.3,baz=338,slow=11,SNR=3.7						
MKAR	Makanchi Array	50.56	322	P	P	11 43 58.5	+0.6
	3.6nm,0.9s,mb4.3,baz=117,slow=8.1,SNR=19						
KURK	Kurchatov	54.57	325	*e*P	P	11 44 26.8	-0.9
	8.6nm,1.0s,mb4.7						
BVAR	Borovoye Array	60.17	325	P	P	11 45 07.1	-0.3
	0.6nm,0.5s,mb3.9,baz=124,slow=5.3,SNR=5.9						
BRTR	Keskin Array B	84.28	309	P	P	11 47 30.4	-0.2
	0.8nm,0.5s,mb4.1,baz=76,slow=5.1,SNR=4.2						
FINES	FINESS Array B	84.32	332	P	P	11 47 31.0	+0.7
	0.8nm,0.7s,mb4.0,baz=90,slow=1.9,SNR=5.7						
AKASG	Malin Array Be	85.12	321	P	P	11 47 34.3	-0.3
	1.5nm,0.6s,mb4.3,baz=60,slow=5.3,SNR=7.4						

THR ***06*** *11:38:38.3±0.4, 38.41N×48.81E, h15km±6km, ML2.8*
CSEM ***06*** *11:38:38.6±0.3, 38.35N×48.71E, h6km±2km, ML2.8, Error ellipse: s-maj=2.2km s-min=1.1km az=30.0*
TEH ***06*** *11:38:42.0, 38.32N×48.71E, h10km, Mn3.3*
ISC 06 11:38:39.2±1.0, 38.4N±0.1×48.8E±0.1, h10km, n13, σ0§91/13, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRMI	Germi	0.78	302	*e*PG	Pg	11 38 54.1	-0.8
GRMI				*e*SG	Sg	11 39 05.3	-0.2
GRMI				AML	AML	11 39 06.6	
	comp=N,730nm,0.3s						
ITBZ	Tabriz	2.05	266	Pn	Pn	11 39 11.9	-2.3
IMRD	Marand	2.41	278	Pn	Pn	11 39 20.7	+1.4
ISHB	Shabestar	2.46	268	Pn	Pn	11 39 21.7	+1.6
THKV	Tehran--Karaj	3.01	145	*e*PN	Pn	11 39 27.2	-0.7
IRAZ	Razeghan	3.14	162	Pn	Pn	11 39 30.2	+0.5
MAKU	Maku	3.31	288	*e*PN	Pn	11 39 32.5	+0.3
SNGE	Sanandaj	3.49	199	*e*PN	Pn	11 39 34.6	-0.1
SNGE				AML	AML	11 39 44.3	
	comp=N,9.5nm,0.7s						
IDMV	Damavand	3.85	136	Pn	Pn	11 39 40.3	+0.4
ASAO	Ashtian	3.98	165	*e*PN	Pn	11 39 41.1	-0.6
IVRN	Varamin	4.16	144	Pn	Pn	11 39 44.2	0.0
IVRN	Varamin	4.16	144	Lg		11 40 49.9	
IFIR	Firoozkooh	4.23	129	Pn	Pn	11 39 45.5	+0.3

MAN 06 11:47:07.8, 12.01N×126.20E, h1km, mb4.7, ML3.6, MS3.6, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	Borongan	0.85	241	*e*P	Pg	11 47 23.7	-1.0
BESP				*e*S	Sg	11 47 31.9	-4.2
CNP	Catarman	1.58	288	*e*P	Pn	11 47 37.2	+0.2
PVCP	Virac	2.54	308	*e*P	Pn	11 47 51.0	+0.2
BUTP	Butuan	3.08	191	*e*P	Pn	11 47 59.8	+1.4
RCP	Roxas	3.41	263	⇓*e*P	Pn	11 48 04.0	+0.8

IDC ***06*** *11:49:31.5±0.7, 8.18N×92.50E, mb4.0/11, mb1 4.3/11, mb1mx4.1/22, mbtmp4.0/11, MS3.9/3, Ms1 3.9/3, ms1mx3.4/29, Error ellipse: s-maj=29.1km s-min=17.7km az=52.0*
NEIC ***06*** *11:49:35.7±0.7, 8.13N×92.42E, h30km, mb4.5/1, Error ellipse: s-maj=26.7km s-min=16.2km az=50.0*
ISC 06 11:49:34.5±0.7, 8.1N±0.1×92.5E±0.2, h33km, n17, σ1§01/14, mb4.0/13, MS4.0/3, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	39.50	349	P	P	11 57 03.8	+0.2
	0.3nm,0.5s,mb3.3,baz=160,slow=9.4,SNR=2.7						
SONM	Songino Array	41.30	14	P	P	11 57 18.2	-0.3
	0.8nm,0.8s,mb3.4,baz=195,slow=8.3,SNR=5.3						
FITZ	Fitzroy Crossi	41.85	129	P	P	11 57 23.9	+0.5
	6.6nm,1.0s,mb4.2,baz=346,slow=8.3,SNR=3.8						
ZAL	Zalesovo	46.10	354	P	P	11 57 57.4	+0.1
	1.1nm,0.3s,mb4.2,baz=12,slow=2.7,SNR=2.4						
BVAR	Borovoye Array	48.23	342	P	P	11 58 12.0	-2.0
	0.5nm,0.6s,mb3.7,baz=79,slow=7.3,SNR=3.3						
WRA	Warramunga Arr	49.76	125	P	P	11 58 25.6	-0.6
	0.8nm,0.5s,mb4.0,baz=301,slow=8.9,SNR=11						
WRA				PcP	PcP	11 59 46.9	-0.2
	0.3nm,0.7s,baz=45,slow=1.9,SNR=2.5						
KMBO	Kilima Mbogo	55.81	263	P	P	11 59 10.3	-1.1
	2.8nm,0.8s,mb4.3,baz=51,slow=23,SNR=2.4						
KMBO				LR	LR	12 18 12.0	
	comp=Z,88nm,19.8s,MS3.9,baz=84,slow=31						
KMBO	Kilima Mbogo	55.81	263	P	P	11 59 10.3	-1.1
KMBO				LR	LR	12 18 12.0	
BRTR	Keskin Array B	61.02	311	P	P	11 59 44.0	-3.3
	0.5nm,0.4s,mb4.0,baz=76,slow=5.9,SNR=3.1						
MLR	Muntele Rosu	67.84	316	P	P	12 00 32.4	+0.9
	2.6nm,0.7s,mb4.3,baz=146,slow=6.5,SNR=3.8						
GERES	GERESS Array B	76.54	318	P	P	12 01 24.1	+0.9
	1.9nm,0.9s,mb4.0,baz=90,slow=4.0,SNR=7.5						
HFS	Hagfors	77.41	330	LR	LR	12 37 23.5	
	comp=Z,31nm,18.2s,MS3.7,baz=217,slow=37						
DAVOX	Davos	79.06	316	P	P	12 01 38.3	+1.1
	2.6nm,0.6s,mb4.3,baz=149,slow=15,SNR=2.6						
LPG	La Plagne	81.27	315	*e*P	P	12 01 53.9	+4.9
	6.4nm,0.6s,mb4.4						
EKA	Eskdalemuir Ar	86.58	325	P	P	12 02 16.4	+0.9
	1.5nm,0.9s,mb4.2,baz=204,slow=28,SNR=3.3						
RPZ	Rata Peaks	87.40	135	LR	LR	12 38 52.8	
	comp=Z,186nm,21.9s,MS4.5,baz=14,slow=34						
LPAZ	La Paz	159.40	245	PKPab	PKPab	12 10 13.2	+2.8
	0.9nm,0.8s,baz=57,slow=9.7,SNR=3.9						

ISK ***06*** *11:50:38.9, 39.38N×33.14E, h2km, ML3.7*
ISC 06 11:50:39.6±0.3, 39.38N±0.03×33.15E±0.03, h2km, n35, σ1§00/51, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAMT	Kaman	0.44	92	*i* PG	Pg	11 50 48.4	0.0
ANTO	Ankara	0.56	331	*i* PG	Pg	11 50 50.2	-0.5
ANTO				*i* SG	Sg	11 50 59.0	+0.9
ANTO	Ankara	0.56	331	*i* P	Pg	11 50 50.8	0.0
ANTO				*i* S	Sg	11 50 59.1	+1.0
LOD	Lodumlu	0.58	330	*i* PG	Pg	11 50 51.4	0.0
CDAG	Cicekdag	0.98	75	*i* P	Pb	11 50 56.6	-2.3
CDAG				*i* S	Sb	11 51 09.3	-2.8
KIZT	Kizilcal	1.11	243	*i* PN	Pn	11 51 00.4	-1.7
ELDT	Eldivan	1.12	11	*i* P	Pb	11 51 00.7	-0.8
ELDT				*i* S	Sb	11 51 17.3	+0.9
CANT	Cankiri	1.27	16	*i* PN	Pn	11 51 04.6	+0.1
CORM	Corum	1.39	55	*i* PN	Pn	11 51 06.0	-0.1
SGKT	Sivrigoynuk	1.45	325	*i* P	Pn	11 51 06.0	-1.0
SGKT				*i* S	Sb	11 51 18.8	-7.2
KONT	Konya--Tatoy	1.56	203	PN	Pn	11 51 09.0	+0.4
BSTP	Nigde	1.62	152	*i* P	Pn	11 51 10.9	+1.5
BSTP				*i* S	Sb	11 51 31.2	+0.5
YOZ	Yozgat	1.70	81	PN	Pn	11 51 10.8	+0.3
NIG	Nigde	1.71	138	PN	Pn	11 51 11.0	+0.3
CTKT	Corum	1.77	45	*i* P	Pn	11 51 11.2	-0.2
CTKT				*i* S	Sn	11 51 35.4	+0.5
TOS	Tosya	1.78	22	PN	Pn	11 51 11.7	0.0
ESKT	Eskisehir	1.78	275	PN	Pn	11 51 12.4	+0.7
ESKT	Eskisehir	1.78

EVR	Evrytania	0.25	267	*e*PG	Pg	11 52 35.5	-1.1
XOR	Xorichti	0.94	62	*e*Pg	Pg	11 52 50.0	+0.1
XOR				*e*Sg	Sg	11 53 02.9	+0.4
LIT	Litokhoron	1.20	14	*e*Pg	Pg	11 52 54.3	-0.9
LIT				*e*Sg	Sg	11 53 11.3	-0.1
JAN	Janina	1.23	307	*e*PN	Pn	11 52 54.5	+0.6
AOS	Alonnisos	1.39	79	*e*Pg	Pg	11 52 56.6	-2.3
IGT	Igoumenitsa	1.52	294	*e*Pg	Pg	11 53 01.4	0.0
IGT				*e*Sg	Sg	11 53 22.9	+1.2
ITM	Ithomi	1.75	185	*e*PB	Pb	11 53 03.8	+1.2
FNA	Florina	1.94	343	*e*Pb	Pb	11 53 05.0	-0.8
FNA				*e*Sb	Sb	11 53 29.9	+0.2
KEK	Kerkira	1.97	294	*e*PN	Pg	11 53 09.0	-1.4
KEK	Kerkira	1.97	294	*e*Pn	Pg	11 53 09.5	-0.9
OUR	Ouranopolis	2.01	45	*e*Pb	Pb	11 53 05.2	-1.7
OUR	Ouranopolis	2.01	45	*e*Pb	Pb	11 53 05.2	-1.7
KNT	Kendrikon	2.31	15	*e*Pn	Pn	11 53 10.6	+1.2
KNT				*e*Sn	Sn	11 53 38.2	+0.4

IDC ***06*** *11:54:40.3±1.0, 41.97S×171.92E, mb4.3/3, mb1 4.4/4, mb1mx4.1/10, mbtmp4.2/4, ML3.4/1, Error ellipse: s-maj=32.1km s-min=26.3km az=132.0*

NEIC ***06*** *11:54:43.7, 41.95S×171.68E, h9km, mb4.2/1, ML4.8(WEL), After WEL.*

NEIC Felt at Greymouth, Inangahua and Westport.

WEL ***06*** *11:54:43.5±0.1, 41.96S×171.67E, h5km, ML4.8/45, Error ellipse: s-maj=1.0km s-min=0.5km az=90.0*

WEL Felt from Nelson to Otago, maximum reported intensity MM 5.

ISC 06 11:54:42.0±0.8,**41.95S**±0.03×**171.56E**±0.05,**h12**km±6km, **n109**,σ0§**94**/101,**mb4.2**/4,**6C-3D**,**South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSZ	**Denniston Nort**	**0.27**	**42**	⇑PG	**Pg**	**11 54 48.3**	**+0.5**
DSZ				SG	**Sg**	**11 54 51.3**	**-0.3**
DSZ				SG	**Sg**	**11 54 51.4**	**-0.2**
DSZ	**Denniston Nort**	**0.27**	**42**	P	**Pg**	**11 54 48.3**	**+0.6**
LTZ	**Lake Taylor**	**0.99**	**148**	⇓P*	**Pb**	**11 55 01.8**	**+1.3**
LTZ	**Lake Taylor**	**0.99**	**148**	P	**Pb**	**11 55 01.6**	**+1.1**
THZ	**Tophouse**	**1.02**	**80**	⇓P*	**Pb**	**11 55 01.1**	**0.0**
THZ				S*	**Sb**	**11 55 13.9**	**-0.3**
THZ	**Tophouse**	**1.02**	**80**	P	**Pb**	**11 55 01.2**	**+0.1**
WVZ	**Waitaha Valley**	**1.28**	**208**	P*	**Pb**	**11 55 06.8**	**+1.2**
WVZ	**Waitaha Valley**	**1.28**	**208**	P	**Pb**	**11 55 06.8**	**+1.2**
QRZ	**Quartz Range**	**1.33**	**33**	⇑P*	**Pb**	**11 55 06.5**	**0.0**
QRZ	**Quartz Range**	**1.33**	**33**	P	**Pb**	**11 55 06.5**	**0.0**
KHZ	**Kahutara**	**1.54**	**108**	⇑PN	**Pn**	**11 55 10.1**	**+0.5**
KHZ	**Kahutara**	**1.54**	**108**	P	**Pn**	**11 55 10.1**	**+0.6**
BSWZ	**Blackbirch Sta**	**1.75**	**83**	PN	**Pn**	**11 55 13.1**	**+0.7**
BSWZ	**Blackbirch Sta**	**1.75**	**83**	P	**Pn**	**11 55 13.3**	**+0.9**
CRLZ	**Canterbury Las**	**1.81**	**155**	PN	**Pn**	**11 55 13.1**	**-0.1**
CRLZ	**Canterbury Las**	**1.81**	**155**	P	**Pn**	**11 55 13.3**	**0.0**
RPZ	**Rata Peaks**	**1.81**	**192**	Pn	**Pn**	**11 55 14.7**	**+1.4**
	206nm,0.3s,baz=342,slow=1.8,SNR=850						
RPZ	**Rata Peaks**	**1.81**	**192**	⇑PN	**Pn**	**11 55 14.6**	**+1.3**
RPZ	**Rata Peaks**	**1.81**	**192**	P	**Pn**	**11 55 14.7**	**+1.4**
TUWZ	**Tuamarina**	**1.86**	**75**	PN	**Pn**	**11 55 14.3**	**+0.3**
MQZ	**McQueen's Vall**	**1.93**	**156**	PN	**Pn**	**11 55 14.6**	**-0.5**
MQZ	**McQueen's Vall**	**1.93**	**156**	P	**Pn**	**11 55 14.7**	**-0.4**
CMWZ	**Cape Campbell**	**1.99**	**85**	PN	**Pn**	**11 55 17.2**	**+1.3**
CMWZ	**Cape Campbell**	**1.99**	**85**	P	**Pn**	**11 55 17.8**	**+1.9**
DUWZ	**D'Urville Isla**	**2.11**	**58**	Pn	**Pn**	**11 55 17.7**	**+0.1**
FOZ	**Fox Glacier**	**2.12**	**220**	PN	**Pn**	**11 55 17.2**	**-0.7**
FOZ	**Fox Glacier**	**2.12**	**220**	P	**Pn**	**11 55 17.3**	**-0.5**
TCW	**Tory Channel**	**2.17**	**71**	P	**Pn**	**11 55 19.7**	**+1.3**
SNZO	**South Karori**	**2.44**	**76**	PN	**Pn**	**11 55 22.6**	**+0.2**
SNZO	**South Karori**	**2.44**	**76**	P	**Pn**	**11 55 22.7**	**+0.3**
MRW	**Makara Radio**	**2.46**	**74**	PN	**Pn**	**11 55 23.0**	**+0.4**
MRW	**Makara Radio**	**2.46**	**74**	P	**Pn**	**11 55 23.1**	**+0.4**
WEL	**Wellington**	**2.49**	**76**	P	**Pn**	**11 55 23.6**	**+0.5**
BHW	**Baring Head**	**2.54**	**79**	PN	**Pn**	**11 55 23.3**	**-0.5**
BHW	**Baring Head**	**2.54**	**79**	P	**Pn**	**11 55 23.6**	**-0.1**
LBZ	**Lake Benmore**	**2.64**	**202**	PN	**Pn**	**11 55 25.6**	**+0.4**
LBZ	**Lake Benmore**	**2.64**	**202**	P	**Pn**	**11 55 25.9**	**+0.7**
KIW	**Kapiti Island**	**2.74**	**68**	PN	**Pn**	**11 55 27.3**	**+0.7**
KIW	**Kapiti Island**	**2.74**	**68**	P	**Pn**	**11 55 27.4**	**+0.7**
CAW	**Cannon Point**	**2.76**	**74**	PN	**Pn**	**11 55 26.6**	**-0.4**
CAW	**Cannon Point**	**2.76**	**74**	P	**Pn**	**11 55 26.7**	**-0.3**
MSWZ	**Moikau Station**	**2.81**	**80**	PN	**Pn**	**11 55 26.6**	**-1.1**
MSWZ	**Moikau Station**	**2.81**	**80**	P	**Pn**	**11 55 26.7**	**-1.0**
PAWZ	**Paruwai Farm**	**2.95**	**80**	PN	**Pn**	**11 55 28.8**	**-0.8**
JCZ	**Jackson Bay**	**2.96**	**223**	PN	**Pn**	**11 55 29.3**	**-0.5**
JCZ	**Jackson Bay**	**2.96**	**223**	P	**Pn**	**11 55 29.8**	**+0.1**
MTW	**Mount Morrison**	**3.06**	**76**	PN	**Pn**	**11 55 29.7**	**-1.5**
MTW	**Mount Morrison**	**3.06**	**76**	P	**Pn**	**11 55 29.9**	**-1.3**
TRWZ	**Traveller**	**3.14**	**81**	*e*PN	**Pn**	**11 55 30.7**	**-1.6**
ODZ	**Otahua Downs**	**3.17**	**192**	⇑PN	**Pn**	**11 55 32.2**	**-0.5**
ODZ	**Otahua Downs**	**3.17**	**192**	P	**Pn**	**11 55 32.3**	**-0.4**
NRZ	**Ngariki Road**	**3.17**	**35**	P	**Pn**	**11 55 33.4**	**+0.6**
NWEZ	**Newall Road**	**3.19**	**34**	P	**Pn**	**11 55 33.4**	**+0.3**
DFE	**Dawson Falls**	**3.25**	**37**	P	**Pn**	**11 55 34.7**	**+0.8**
MRZ	**Mangatainoka R**	**3.29**	**68**	PN	**Pn**	**11 55 33.1**	**-1.4**
MRZ	**Mangatainoka R**	**3.29**	**68**	P	**Pn**	**11 55 33.4**	**-1.0**
NEZ	**North Egmont**	**3.30**	**37**	P	**Pn**	**11 55 35.3**	**+0.8**
PKE	**Pukeiti**	**3.31**	**35**	P	**Pn**	**11 55 35.2**	**+0.4**
WAZ	**Wanganui**	**3.40**	**51**	P	**Pn**	**11 55 37.0**	**+1.0**
WKZ	**Wanaka**	**3.42**	**212**	P	**Pn**	**11 55 36.5**	**+0.1**
EAZ	**Earnscleugh**	**3.67**	**206**	*e*P	**Pn**	**11 55 38.9**	**-0.9**
VRZ	**Vera Road**	**3.73**	**42**	P	**Pn**	**11 55 40.5**	**-0.1**
BFZ	**Birch Farm**	**3.75**	**72**	*e*P	**Pn**	**11 55 38.8**	**-2.2**
MSZ	**Milford Sound**	**3.80**	**223**	*e*P	**Pn**	**11 55 41.8**	**+0.1**
TSZ	**Takapari Road**	**3.83**	**62**	P	**Pn**	**11 55 40.7**	**-1.4**
WNVZ	**Wahianoa**	**4.03**	**51**	P	**Pn**	**11 55 45.7**	**+0.7**
FWVZ	**Far West T-bar**	**4.06**	**50**	P	**Pn**	**11 55 46.5**	**+1.2**
MOVZ	**Moawhango**	**4.07**	**53**	P	**Pn**	**11 55 45.3**	**-0.3**
WPVZ	**Whakapapa**	**4.09**	**49**	P	**Pn**	**11 55 46.8**	**+1.0**
CNZ	**Chateau**	**4.09**	**49**	P	**Pn**	**11 55 46.5**	**+0.6**
TUVZ	**Tukino**	**4.11**	**51**	P	**Pn**	**11 55 46.6**	**+0.6**
NGZ	**Ngauruhoe**	**4.14**	**49**	P	**Pn**	**11 55 47.0**	**+0.5**
WTVZ	**West Tongariro**	**4.17**	**49**	P	**Pn**	**11 55 48.1**	**+1.1**
MLZ	**Mavora Lakes**	**4.20**	**215**	*e*P	**Pn**	**11 55 47.3**	**0.0**
TUZ	**Tuapeka**	**4.24**	**199**	P	**Pn**	**11 55 46.9**	**-1.1**
HIZ	**Hauiti**	**4.26**	**37**	P	**Pn**	**11 55 47.1**	**-1.1**
BKZ	**Black Stump Fm**	**4.67**	**55**	*e*P	**Pn**	**11 55 52.4**	**-1.7**
WHZ	**Wether Hill Ro**	**4.73**	**212**	*e*P	**Pn**	**11 55 54.0**	**-0.9**
DCZ	**Deep Cove**	**4.76**	**221**	*e*P	**Pn**	**11 55 54.2**	**-1.1**
TOZ	**Tahuroa Road**	**5.19**	**37**	*e*P	**Pn**	**11 56 01.3**	**-0.1**
WTAZ	**Waiatarua**	**5.52**	**26**	P	**Pn**	**11 56 05.7**	**-0.4**
URZ	**Urewera**	**5.63**	**51**	Pn	**Pn**	**11 56 04.0**	**-3.5**
	1.2nm,0.3s,baz=246,slow=8.7,SNR=9.5						
MWZ	**Matawai**	**5.82**	**54**	*e*P	**Pn**	**11 56 06.4**	**-3.9**
KUZ	**Kuaotunu**	**6.11**	**33**	*e*P	**Pn**	**11 56 13.1**	**-1.3**
WCZ	**Waipu Caves**	**6.38**	**21**	*e*P	**Pn**	**11 56 16.9**	**-1.3**
OUZ	**Omahuta**	**6.90**	**14**	*e*P	**Pn**	**11 56 24.9**	**-0.6**
STKA	**Stephens Creek**	**25.87**	**283**	P	**P**	**12 00 14.6**	**-0.5**
	3.8nm,0.8s,mb4.0,baz=110,slow=14,SNR=3.2						
WRA	**Warramunga Arr**	**38.31**	**293**	P	**P**	**12 02 05.2**	**+1.0**
	4.9nm,0.8s,mb4.3,baz=135,slow=7.1,SNR=44						
WRA				PcP	PcP	12 04 16.6	-2.1
	1.0nm,0.8s,baz=125,slow=3.1,SNR=6.6						
CASY	**Casey**	**40.95**	**213**	*e*P	**P**	**12 02 25.4**	**-0.3**
	3.2nm,0.6s,mb4.1						
FITZ	**Fitzroy Crossi**	**45.63**	**287**	P	**P**	**12 03 05.6**	**+1.4**
	2.8nm,0.6s,mb4.4,baz=159,slow=13,SNR=5.5						
SYO	**Syowa Base**	**63.80**	**197**	⇑P	**P**	**12 05 13.1**	**-2.5**
SYO	**Syowa Base**	**63.80**	**197**	⇓P	**P**	**12 05 22.0**	**+6.4**
SNAA	**Sanae**	**66.62**	**182**		**P**	**12 05 32.8**	**-0.9**
SNAA	**Sanae**	**66.62**	**182**		**P**	**12 05 36.9**	**+3.2**
VNA3	**Neumayer Olymp**	**67.12**	**180**		**P**	**12 05 38.5**	**+1.6**
VNA2	**Neumayer--Watz**	**67.44**	**180**		**P**	**12 05 40.5**	**+1.6**
VNA2	**Neumayer--Watz**	**67.44**	**180**		**P**	**12 05 44.7**	**+5.8**
VNA1	**Neumayer--Stat**	**67.72**	**180**		**P**	**12 05 37.0**	**-3.7**
MKAR	**Makanchi Array**	**118.51**	**309**	PKiKP		12 13 28.9	
	0.6nm,0.6s,baz=225,slow=4.1,SNR=3.8						
BVAR	**Borovoye Array**	**128.17**	**311**	PKP	PKPdf	12 13 47.0	-4.0
	0.5nm,0.4s,baz=135,slow=4.2,SNR=3.9						
DBIC	**Dimbokro**	**144.73**	**186**	PKP	PKPdf	12 14 17.2	-5.1
	1.2nm,0.3s,baz=124,slow=7.3,SNR=9.4						
KEV	**Kevo**	**146.71**	**338**	*e*p	PKPbc	12 14 22.4	+0.2
	4.4nm,0.5s						
ARCES	**ARCESS Array B**	**147.25**	**339**	PKPbc	PKPdf	12 14 24.4	-0.6
	7.9nm,0.5s,baz=49,slow=1.2,SNR=78						
BRTR	**Keskin Array B**	**148.31**	**280**	PKPbc	PKPdf	12 14 28.4	+0.9
	3.6nm,0.8s,baz=145,slow=5.9,SNR=11						
KAF	**Kangasniemi**	**151.16**	**326**	*e*p	PKPdf	12 14 33.8	+2.5
	3.4nm,0.5s						
FINES	**FINESS Array B**	**151.57**	**325**	PKPbc	PKPdf	12 14 35.4	+3.5
	2.4nm,0.4s,baz=68,slow=3.0,SNR=21						
HFS	**Hagfors**	**157.28**	**331**	PKPab	PKPab	12 15 08.9	-1.2
	2.1nm,0.8s,baz=54,slow=4.8,SNR=4.3						
NB2	**NORSAR Subarra**	**157.47**	**335**	P	PKPab	12 15 09.5	-1.4
	1.3nm,0.8s,baz=47,slow=4.6						
NOA	**NORSAR Array B**	**157.47**	**335**	PKPab	PKPab	12 15 09.6	-1.3
	1.5nm,0.8s,baz=40,slow=4.5,SNR=6.5						

IDC ***06*** *11:58:39.9±0.5, 11.77N×125.80E, mb4.7/24, mb1 4.7/25, mb1mx4.7/28, mbtmp4.7/25, ML3.6/1, MS4.0/13, Ms1 4.0/13, ms1mx3.9/28, Error ellipse: s-maj=24.7km s-min=11.8km az=72.0*

MAN ***06*** *11:58:41.2, 11.88N×125.98E, h11km, mb5.6, ML4.6, MS4.9*

BJI ***06*** *11:58:42.1, 11.92N×125.84E, h20km, mB5.1, mb4.8, Ms4.6, Msz4.4*

MOS ***06*** *11:58:43.2±1.0, 11.71N×125.72E, h35km, mb5.2/48, MS4.1/13, Error ellipse: s-maj=15.2km s-min=6.0km az=115.7*

HRVD ***06*** *11:58:44.0±0.5, 11.77N×126.00E, h24km, MW5.0/50, Centroid moment Tensor Solution. LP body waves: s17,c19;Mantle waves: s50,c72; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.84±.26; Mθθ-0.28±.17; Mφφ-3.56±.16; Mrθ0.29±.26; Mrφ0.47±.10; Mθφ2.29±.22; Best double couple: M0=4.386×10^16 NP1:φs165°,δ30°,λ78°. NP2:φs359°,δ61°,λ97°. Principal axes: T 4.525, Plg73°, Azm287°; N -.283, Plg6°, Azm176°; P -4.247, Plg16°, Azm84°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***06*** *11:58:44.0±0.2, 11.71N×125.72E, mb5.0/29 Error ellipse: s-maj=7.1km s-min=4.3km az=83.0*

NEIC Felt at Borongan.

ISC 06 11:58:42.3±0.2,**11.85N**±0.02×**125.98E**±0.03,**h29**km, **h29**km±1.1km:**pP-P**,**n243**,σ1§**05**/235,**mb4.9**/88,**MS4.2**/44, **22C-8D**,**Samar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.58**	**245**	*e*P	**Pb**	**11 58 53.0**	**-0.9**
BESP				*e*S	**Sb**	**11 59 01.1**	**-0.8**
CNP	**Cataraman**	**1.44**	**297**	*e*P	**Pn**	**11 59 06.9**	**0.0**
CNP				*e*S	**Sn**	**11 59 25.9**	**+0.9**
MSLP	**Maasin**	**2.03**	**213**	*e*P	**Pn**	**11 59 17.9**	**+2.7**
MSLP				*e*S	**Sn**	**11 59 45.9**	**+6.0**
SCPH	**Surigao**	**2.11**	**193**	*e*P	**Pn**	**11 59 17.7**	**+1.2**
SCPH				*e*S	**Sn**	**11 59 44.8**	**+2.8**
PVCP	**Virac**	**2.49**	**314**	*e*P	**Pn**	**11 59 21.1**	**-0.8**
LLP	**Lapu-Lapu**	**2.49**	**233**	⇓*e*P	**Pn**	**11 59 22.9**	**+1.0**
LLP				*e*S	**Sn**	**11 59 56.7**	**+5.0**
BUTP	**Butuan**	**2.88**	**187**	*e*P	**Pn**	**11 59 29.6**	**+2.1**
TBP	**Tagbilaran**	**2.99**	**224**	*e*P	**Pn**	**11 59 30.3**	**+1.4**
TBP				*e*S	**Sn**	**12 00 05.1**	**+0.9**
RCP	**Roxas**	**3.18**	**265**	⇑*e*P	**Pn**	**11 59 32.4**	**+0.7**
RCP				*e*S	**Sn**	**12 00 11.8**	**+2.8**
GUIM	**Jordan**	**3.54**	**250**	*e*P	**Pn**	**11 59 37.3**	**+0.5**
AUQP	**San Andres**	**3.54**	**295**	*e*P	**Pn**	**11 59 38.7**	**+1.9**
KALP	**Kalibo**	**3.57**	**268**	⇑*e*P	**Pn**	**11 59 42.0**	**+4.8**
BIPH	**Bislig**	**3.66**	**174**	*e*P	**Pn**	**11 59 38.0**	**-0.5**
BIPH				*e*S	**Sn**	**12 00 18.6**	**-2.7**
SNPH	**Sibulan**	**3.67**	**228**	*e*P	**Pn**	**11 59 38.9**	**+0.3**
OTRP	**Odiongan**	**3.90**	**278**	*e*P	**Pn**	**11 59 43.0**	**+1.1**
GQP	**Guinayangan**	**4.00**	**301**	*e*P	**Pn**	**11 59 42.8**	**-0.6**
BUKP	**Musuan**	**4.05**	**193**	*e*P	**Pn**	**11 59 44.8**	**+0.8**
DCPH	**Dipolog City**	**4.15**	**219**	⇑*e*P	**Pn**	**11 59 45.5**	**+0.1**
BOAC	**Boac**	**4.34**	**292**	*e*P	**Pn**	**11 59 49.3**	**+1.1**
PAGZ	**Pagadian**	**4.73**	**213**	*e*P	**Pn**	**11 59 53.7**	**+0.1**
DAV	**Davao City (W)**	**4.76**	**185**	*e*P	**Pn**	**12 00 11.0**	**+17**
SJMP	**San Jose**	**4.79**	**278**	*e*P	**Pn**	**11 59 56.6**	**+2.1**
POLP	**Polilio Island**	**4.86**	**306**	*e*P	**Pn**	**11 59 58.6**	**+3.0**
KCP	**Kidapawan**	**4.89**	**190**	⇓*e*P	**Pn**	**12 00 01.3**	**+5.3**
CUYO	**Cuyo Island**	**4.96**	**259**	*e*P	**Pn**	**11 59 57.6**	**+0.6**
LBPH	**Los Banos**	**5.21**	**297**	⇑*e*P	**Pn**	**12 00 00.0**	**-0.4**
IPIL	**Ipil**	**5.25**	**220**	*e*P	**Pn**	**12 00 00.6**	**-0.4**
ARP	**Angono**	**5.41**	**300**	⇑*e*P	**Pn**	**12 00 02.3**	**-0.9**
NZB	**Bigte**	**5.61**	**303**	⇑*e*P	**Pn**	**12 00 05.4**	**-0.7**
BALP	**Baler**	**5.76**	**313**	*e*P	**Pn**	**12 00 07.6**	**-0.7**
LUBP	**Lubang**	**5.90**	**289**	*e*P	**Pn**	**12 00 09.8**	**-0.3**
PCPH	**Palayan**	**6.01**	**308**	*e*P	**Pn**	**12 00 10.2**	**-1.5**
NBP	**Mount Natib**	**6.13**	**299**	⇓*e*P	**Pn**	**12 00 12.9**	**-0.5**
CAUP	**Cauayan**	**6.47**	**322**	*e*P	**Pn**	**12 00 17.2**	**-1.0**
CVP	**Callao Caves**	**7.07**	**326**	*e*P	**Pn**	**12 00 25.0**	**-1.7**
KKM	**Kota Kinabalu**	**11.23**	**240**	P	**P**	**12 01 25.4**	**+1.2**
KKM	**Kota Kinabalu**	**11.23**	**240**	P	**P**	**12 01 17.4**	**-6.9**
JOW	**Kunigami**	**15.06**	**8**	Pn	**P**	**12 02 16.7**	**+1.6**
	0.5nm,0.3s,baz=329,slow=17,SNR=2.8						
JOW				LR	LR	12 06 35.8	
	comp=Z,648nm,18.4s,baz=237,slow=31						
QIZ	**Qiongzhong**	**17.10**	**297**	P	**P**	**12 02 41.3**	**+0.1**
QIZ				PPP	PPP	12 03 02.9	-0.6
QIZ				S	**S**	**12 05 45.4**	**-3.5**
QIZ				XS		12 05 57.2	
QIZ				AMB	AMB		
	comp=Z,248nm,8.2s						
QIZ				LR	LR		
	comp=N,750nm,17.9s						
QIZ				LR	LR		
	comp=E,821nm,16.9s						
QIZ				LR	LR		
	comp=Z,1μm,17.9s						
KSM	**Kuching**	**18.65**	**238**	*e*P	**P**	**12 03 00.6**	**+0.2**
SSE	**Sheshan**	**19.66**	**348**	P	**P**	**12 03 07.8**	**-4.2**
SSE				AP		12 03 16.0	
SSE				XP		12 03 19.9	
SSE				S	**S**	**12 06 41.7**	**-4.8**
SSE				XS		12 06 57.3	
SSE				AMB	AMB		
	comp=Z,67nm,0.8s						
SSE				AMB	AMB		
	comp=Z,576nm,4.2s						
SSE				LR	LR		
	comp=N,95nm,17.0s						
SSE				LR	LR		
	comp=E,405nm,17.0s						
SSE				LR	LR		
	comp=Z,274nm,17.6s						
NJ2	**Nanjing**	**21.15**	**343**	*e*P	**P**	**12 03 28.6**	**+1.1**
NJ2				AP		12 03 37.2	
NJ2				XP		12 03 41.5	
NJ2				PP	PP	12 03 49.8	-1.1
NJ2				S	**S**	**12 07 08.0**	**-8.3**
NJ2				XS		12 07 24.0	
NJ2				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,332nm,3.6s						
NJ2				LR	LR		
	comp=N,770nm,13.5s,MS4.5						
NJ2				LR	LR		
	comp=E,1μm,17.1s,MS4.5						
CBIJ	**Chichi jima**	**21.49**	**43**	LR	LR	12 11 00.6	
	comp=E,447nm,18.1s,MS3.9,baz=228,slow=34						
WHN	**Wuhan**	**21.50**	**332**	⇑P	**P**	**12 03 32.0**	**+0.9**
JNU	**Nakatsue**	**21.64**	**11**	LR	LR	12 10 32.2	
	comp=E,242nm,19.1s,MS3.6,baz=7.0,slow=33						
GYA	**Guiyang**	**23.27**	**311**	⇑*i*P	**P**	**12 03 48.7**	**0.0**
GYA				AP		12 03 57.8	
GYA				XP		12 04 01.6	
GYA				PP	PP	12 04 23.2	+3.2
GYA				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.4						
GYA				AMB	AMB		
	comp=Z,210nm,6.0s						
GYA				LR	LR		
	comp=N,1μm,18.0s,MS4.5						
GYA				LR	LR		
	comp=E,870nm,19.5s,MS4.5						
GYA				LR	LR		
	comp=Z,1μm,16.5s,MS4.5						
ENH	**Enshi**	**23.88**	**323**	*e*P	**P**	**12 03 54.7**	**+0.2**
	comp=Z,99nm,1.1s,mb5.2						
ENH				*e*		12 04 00.8	
ENH				LR	LR		
	comp=Z,808nm,19.0s,MS4.2						
KGM	**Kluang**	**24.50**	**248**	P	**P**	**12 04 00.5**	**-0.2**
JHJ	**Hachijo jima 2**	**24.66**	**29**	LR	LR	12 12 44.8	
	comp=Z,304nm,18.9s,MS3.8,baz=283,slow=34						
NANT	**Nan**	**25.32**	**289**	⇑P	**P**	**12 04 05.0**	**-3.5**
	comp=Z,169nm,1.0s,mb5.5						
NST	**Nakhon Sawan**	**25.38**	**282**	P	**P**	**12 04 04.7**	**-4.4**
TIA	**Tai'an**	**25.54**	**343**	⇓P	**P**	**12 04 10.7**	**+0.3**
KS15	**Wonju Array Si**	**25.54**	**4**	*e*P	**P**	**12 04 11.2**	**+0.8**
KS15				*e*	pP	12 04 19.1	+0.4
KMI	**Kunming**	**25.63**	**304**	P	**P**	**12 04 11.6**	**+0.2**
KMI				AP	pP	12 04 18.6	-1.1
KMI				XP	sP	12 04 21.7	-1.8
KMI				PP	PP	12 04 50.4	-1.0
KMI				PPP	PPP	12 05 02.8	-0.2
KMI				S	**S**	**12 08 38.9**	**+3.6**
KMI				XS		12 08 51.7	
KMI				SS	SS	12 09 39.8	+0.2
KMI				SSS	SSS	12 09 54.6	-2.0
KMI				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.5						
KMI				AMB	AMB		
	comp=Z,185nm,3.9s						
KMI				LR	LR		
	comp=N,810nm,14.9s,MS4.5						
KMI				LR	LR		
	comp=E,738nm,12.9s,MS4.5						
KMI				LR	LR		
	comp=Z,694nm,15.8s,MS4.3						
IPM	**Ipoh**	**25.71**	**256**	P	**P**	**12 04 12.0**	**-0.3**
KULM	**Kulim**	**25.86**	**258**	*e*P	**P**	**12 04 11.3**	**-2.3**
CHRT	**Chiangrai**	**26.40**	**291**	⇓P	**P**	**12 04 17.0**	**-1.5**
	comp=Z,132nm,0.6s,mb5.6						
MAJO	**Matsushiro**	**26.95**	**22**	P	**P**	**12 04 24.7**	**+1.3**
MAJO				LR	LR		
	comp=Z,442nm,19.0s,MS4.0						
XAN	**Xi'an**	**27.02**	**328**	P	**P**	**12 04 23.5**	**-0.6**
XAN				AP	pP	12 04 31.5	-0.9
XAN				AMB	AMB		
	comp=Z,34nm,1.2s,mb4.8						
CD2	**Chengdu**	**27.97**	**316**	⇓*i*P	**P**	**12 04 32.0**	**-0.7**
CD2				S	**S**	**12 09 19.1**	**+5.8**
CD2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.7						
CD2				LR	LR		
	comp=E,920nm,18.0s						
CD2				LR	LR		
	comp=Z,890nm,18.0s,MS4.4						
FITZ	**Fitzroy Crossi**	**29.76**	**181**	*e*P	**P**	**12 04 47.8**	**-1.2**
	comp=Z,31nm,1.1s,mb5.0						
FITZ	**Fitzroy Crossi**	**29.76**	**181**	P	**P**	**12 04 47.8**	**-1.1**
	comp=Z,9.7nm,0.5s,mb4.8,baz=8.2,slow=12,SNR=14						
PMG	**Port Moresby**	**29.82**	**134**	LR	LR	12 16 37.6	
	comp=Z,190nm,19.7s,MS3.7,baz=265,slow=36						
PMG	**Port Moresby**	**29.82**	**134**	PFAKE		12 05 00.0	+10
PMG				LR	LR		
	comp=Z,266nm,21.0s,MS3.9						
SNY	**Shenyang**	**29.94**	**356**	⇑P	**P**	**12 04 50.3**	**0.0**
SNY				S	**S**	**12 09 49.8**	**+5.1**
SNY				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.8						
SNY				LR	LR		
	comp=E,800nm,14.4s						
SNY				LR	LR		
	comp=Z,470nm,15.6s,MS4.2						
LZH	**Lanzhou**	**31.33**	**324**	*e*P	**P**	**12 05 02.5**	**-0.1**
LZH				AP	pP	12 05 12.5	+1.5
LZH				XP	sP	12 05 17.5	+2.8
LZH				AMB	AMB		
	comp=Z,42nm,1.5s,mb5.0						
CN2	**Changchun**	**31.84**	**359**	*e*P	**P**	**12 05 11.3**	**+4.3**
CN2				*e*XP	sP	12 05 23.3	+4.2
CN2				*e*S	**S**	**12 10 19.6**	**+5.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
CN2				AMB	AMB		
	comp=Z,320nm,5.0s						
CN2				LR	LR		

YSS Yuzh-Sakhalins 37.75 19 PFAKE 12 06 10.0 +12
YSS LR LR
comp=Z,231nm,20.0s,MS4.0
YSS Yuzh-Sakhalins 37.75 19 *e*P **P** **12 06 04.2 +6.7**
SONM Songino Array 39.45 339 P **P** **12 06 12.2 +0.5**
comp=Z,1.8nm,0.8s,mb3.9,baz=154,slow=9.1,SNR=15
SONM LR LR 12 23 57.7
comp=Z,288nm,18.1s,MS4.2,baz=253,slow=38
SONM Songino Array 39.45 339 P **P** **12 06 12.2 +0.5**
SONM pmax pmax
comp=Z,2.0nm,0.8s
SONM MLR MLR
comp=Z,288nm,18.1s
PKI Pulchoki 41.05 298 *e*P **P** **12 06 24.4 -0.8**
comp=Z,90nm,1.1s,mb5.3
KKN Kakani 41.22 299 *e*P **P** **12 06 25.8 -0.7**
comp=Z,121nm,1.1s,mb5.4
CIT Chita 41.31 348 *e*P **P** **12 06 27.4 +0.4**
DMN Daman 41.33 298 *e*P **P** **12 06 26.7 -0.7**
comp=Z,102nm,1.1s,mb5.4
GKN Gorkha 41.82 299 *e*P **P** **12 06 30.4 -1.1**
comp=Z,115nm,1.1s,mb5.4
KOLN Koldanda 42.66 298 *e*P **P** **12 06 37.5 -0.9**
comp=Z,114nm,1.0s,mb5.6
ZAK Zakamensk 42.70 339 *e*P **P** **12 06 38.3 -0.1**
ZAK pmax pmax
comp=Z,2.0nm,1.0s
ZAK pmax pmax
comp=Z,2.0nm,1.4s
TLY Talaya 43.66 340 *e*P **P** **12 06 46.9 +0.7**
comp=Z,15nm,1.3s,mb4.6
TLY *e* pP 12 06 55.9 +1.1
TLY LR LR
comp=Z,60nm,19.0s,MS3.5
TLY Talaya 43.66 340 *e*P **P** **12 06 47.1 +0.9**
TLY *e* pP 12 06 56.5 +1.8
TLY *e*S **S** **12 13 17.3 +3.7**
TLY pmax pmax
comp=Z,19nm,1.3s,mb4.7
TLY MLR MLR
comp=Z,207nm,19.0s,MS4.1
KLBR Kellerberrin 43.91 190 *e*P **P** **12 06 47.2 -1.3**
comp=Z,17nm,1.0s,mb4.7
IRK Irkutsk 43.93 341 *e*P **P** **12 06 49.2 +0.8**
IRK pmax pmax
comp=Z,38nm,3.6s
MOY Mondy 44.58 338 *e*P **P** **12 06 55.2 +1.5**
MOY pmax pmax
comp=Z,46nm,1.7s,mb5.0
NWAO Narrogin (SRO) 45.30 190 P **P** **12 06 58.2 -1.4**
comp=Z,5.7nm,0.5s,mb4.7,baz=16,slow=11,SNR=6.2
NWAO Narrogin (SRO) 45.30 190 P **P** **12 06 58.6 -1.1**
comp=Z,21nm,1.0s,mb4.9
NWAO Narrogin (SRO) 45.30 190 P **P** **12 06 58.6 -1.1**
NWAO pmax pmax
comp=Z,21nm,1.0s
WMQ Urumqi 45.81 321 P **P** **12 07 04.0 +0.4**
WMQ AP pP 12 07 14.0 +1.9
WMQ XP sP 12 07 18.0 +2.3
WMQ PP PP 12 08 51.0 -0.2
WMQ SCP 12 12 30.0
WMQ S **S** **12 13 44.0 -0.8**
WMQ SS SS 12 17 00.0 -1.1
WMQ AMB AMB
comp=Z,25nm,1.0s,mb5.1
WMQ AMB AMB
comp=Z,54nm,8.0s
WMQ LR LR
comp=N,465nm,16.0s,MS4.7
WMQ LR LR
comp=E,487nm,18.0s,MS4.7
WMQ LR LR
comp=Z,410nm,16.0s,MS4.5
STKA Stephens Creek 45.98 161 *e*P **P** **12 07 05.4 +0.4**
comp=Z,10nm,0.6s,mb4.9
STKA Stephens Creek 45.98 161 P **P** **12 07 05.3 +0.2**
comp=Z,9.8nm,0.6s,mb4.9,baz=334,slow=7.2,SNR=17
BOD Bodaibo 46.77 351 *e*P **P** **12 07 11.0 0.0**
BOD *e* pP 12 07 19.4 -0.2
BOD pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
BOD pmax pmax
comp=Z,14nm,1.0s,mb4.8
PET Petropavlovsk 48.67 26 *e*P **P** **12 07 27.9 +2.0**
comp=Z,53nm,1.2s,mb5.4
PET *e* pP 12 07 37.2 +2.7
PET Petropavlovsk 48.67 26 *e*P **P** **12 07 30.0 +4.2**
PET *e*S **S** **12 14 35.3 +10**
PET pmax pmax
comp=Z,34nm,1.4s,mb5.2
PET smax
comp=E,100nm,15.7s
PET smax
comp=N,200nm,18.7s
PET MLR MLR
comp=Z,100nm,19.0s,MS3.8
YAK Yakutsk 50.17 2 P **P** **12 07 37.0 -0.2**
YAK LR LR
comp=Z,163nm,19.0s,MS4.1
YAK Yakutsk 50.17 2*d i*P **P** **12 07 37.8 +0.6**
YAK pmax pmax
comp=Z,26nm,1.3s,mb5.1
MKAR Makanchi Array 50.61 322 P **P** **12 07 41.2 +0.4**
comp=Z,38nm,0.9s,mb5.3,baz=117,slow=8.1,SNR=179
MKAR PcP PcP 12 08 57.6 -0.7
comp=Z,6.7nm,0.9s,baz=124,slow=4.4,SNR=3.7
MKAR LR LR 12 30 39.8
comp=Z,271nm,18.5s,MS4.3,baz=159,slow=38
MKAR Makanchi Array 50.61 322 P **P** **12 07 41.2 +0.4**
MKAR PcP PcP 12 08 57.6 -0.7
MKAR LR LR 12 30 39.8
MKAR Makanchi Array 50.61 322 P **P** **12 07 41.2 +0.4**
MKAR 12 08 57.6
MKAR pmax pmax
comp=Z,38nm,0.9s
MKAR pmax pmax
comp=Z,7.0nm,0.9s
MKAR MLR MLR
comp=Z,271nm,18.5s
MA2 Magadan 51.10 16 PFAKE 12 08 00.0 +16
MA2 LR LR
comp=Z,114nm,20.0s,MS3.9
MA2 Magadan 51.10 16 *i*P **P** **12 07 49.5 +5.2**
MA2 pmax pmax
comp=Z,15nm,1.3s,mb4.8
ULHL Ulahol 52.67 315 P **P** **12 07 57.0 +0.6**
SNR=15
ZAL Zalesovo 53.12 331 P **P** **12 07 58.9 -0.7**
comp=Z,3.1nm,0.4s,mb4.5,baz=360,slow=7.1,SNR=19
ZAL LR LR 12 32 44.0
comp=Z,337nm,18.1s,MS4.4,baz=176,slow=38
ZAL Zalesovo 53.12 331 P **P** **12 07 58.9 -0.7**
ZAL pmax pmax
comp=Z,3.0nm,0.4s
ZAL MLR MLR
comp=Z,337nm,18.1s
KZA Kyzart 53.30 314 P **P** **12 08 02.2 +1.1**
SNR=25
TKM2 Tokmak 2 53.34 315 P **P** **12 08 01.9 +0.5**
SNR=6.7
UCH Uchtor 53.87 314 P **P** **12 08 07.0 +1.7**
SNR=9.8
CHMS Chumysh 53.95 315 P **P** **12 08 05.1 -0.7**
SNR=11
FRU Bishkek 53.99 315 *e*P **P** **12 08 05.5 -0.6**
FRU pmax pmax
comp=Z,20nm,1.8s,mb4.8
AAK Ala-Archa 54.01 314 *e*P **P** **12 08 04.7 -1.5**
comp=Z,4.2nm,0.7s,mb4.5
AAK LR LR
comp=Z,133nm,20.0s,MS4.0
AAK Ala-Archa 54.01 314 *e*P **P** **12 08 04.7 -1.6**
AAK pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
AAK MLR MLR
comp=Z,133nm,20.0s,MS4.0
USP Ospenovka 54.22 315 P **P** **12 08 07.8 0.0**
SNR=14
SEY Seymchan 54.37 14 *e*P **P** **12 08 19.4 +11**
SEY pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
SEY pmax pmax
comp=N,10.0nm,1.2s
SEY pmax pmax
comp=E,7.0nm,1.2s
NVS Novosibirsk 54.39 331⇑ *i*P **P** **12 08 07.4 -1.5**
NVS pmax pmax
comp=N,10.0nm,1.1s
NVS pmax pmax
comp=E,13nm,1.1s
NVS pmax pmax
comp=Z,19nm,1.1s,mb4.9
AML Almayashu 54.42 314 P **P** **12 08 10.2 +0.9**
SNR=13
EKS2 Erkin-Say 54.52 314 P **P** **12 08 10.5 +0.4**
SNR=14
KURK Kurchatov 54.61 325⇑ *i*P **P** **12 08 10.2 -0.4**
comp=Z,74nm,1.8s,mb5.4
KURK *e* pP 12 08 17.9 -1.5
KURK LR LR
comp=Z,72nm,19.0s,MS3.8
KURK Kurchatov 54.61 325⇑ *i*P **P** **12 08 10.2 -0.4**
KURK *e* pP 12 08 17.9 -1.4
KURK pmax pmax
comp=Z,74nm,1.8s,mb5.4
KURK MLR MLR
comp=Z,72nm,19.0s,MS3.8
FX1 Attu Island--F 55.56 33 P **P** **12 08 17.3 -0.1**
comp=Z,7.6nm,1.0s,mb4.7,baz=280,slow=12,SNR=2.1
FX1 LR LR 12 26 43.9
comp=Z,4.2nm,21.3s,baz=55,slow=30
FX1 Attu Island--F 55.56 33 P **P** **12 08 18.6 +1.1**
FX1 *e* pP 12 08 28.5 +2.3
KKAR Karatay Array 56.95 314 *i*P **P** **12 08 26.5 -1.1**
KKAR pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
TIXI Tiksi 59.79 1 *i*P **P** **12 08 46.6 -0.4**
TIXI pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
BVA0 Borovoye Array 60.21 325 *i*P **P** **12 08 49.2 -0.9**
BVA0 pmax pmax
comp=Z,10.0nm,1.3s,mb4.7
BVAR Borovoye Array 60.21 325 P **P** **12 08 50.1 0.0**
comp=Z,18nm,1.0s,mb5.0,baz=112,slow=8.0,SNR=56
BVAR Borovoye Array 60.21 325 P **P** **12 08 50.1 0.0**
BVAR pmax pmax
comp=Z,18nm,1.0s
BRVK Borovoye 60.28 325⇑ *i*P **P** **12 08 50.1 -0.5**
comp=Z,26nm,1.1s,mb5.2
BRVK LR LR
comp=Z,46nm,20.0s,MS3.6
BRVK Borovoye 60.28 325⇑ *i*P **P** **12 08 50.1 -0.5**
BRVK pmax pmax
comp=Z,26nm,1.1s,mb5.2
BRVK MLR MLR
comp=Z,46nm,20.0s,MS3.6
BILL Biilibino 61.97 16 *e*P **P** **12 09 03.1 +1.2**
comp=Z,6.0nm,0.4s,mb5.1
BILL LR LR
comp=Z,120nm,21.0s,MS4.0
BILL Biilibino 61.97 16 *i*P **P** **12 09 05.6 +3.7**
BILL pmax pmax
comp=Z,12nm,1.7s,mb4.8
AB31 Akbulak array 65.50 319 P **P** **12 09 24.2 -1.0**
AB31 pmax pmax
comp=Z,11nm,0.8s,mb4.9
SVE Sverdlovsk 66.74 327⇑ *e*P **P** **12 09 32.6 -0.4**
SVE *e* 12 10 01.5
SVE *e*PPP PPP 12 13 38.0 -0.3
SVE *e*S S 12 18 22.0 +0.5
SVE *e*SS SS 12 22 39.0 -2.1
SVE pmax pmax
comp=Z,68nm,1.3s,mb5.5
AFI Afiamalu 66.80 111 LR LR 12 32 15.6
comp=Z,203nm,21.7s,MS4.3,baz=223,slow=30
ARU Arti 67.76 326⇑ *i*P **P** **12 09 38.6 -0.8**
ARU *e* 12 10 05.6
ARU *e* 12 12 08.0
ARU *e*PPP PPP 12 13 43.2 -4.5
ARU pmax pmax
comp=Z,22nm,1.0s,mb5.1
RAO Raoul Island 67.80 128 LR LR 12 33 25.8
comp=Z,130nm,19.8s,MS4.2,baz=12,slow=31
URZ Urewera 69.03 139 LR LR 12 38 54.5
comp=Z,179nm,19.4s,MS4.3,baz=10.0,slow=35
GNI Garni 75.80 309 P **P** **12 10 28.6 +0.9**
comp=Z,3.5nm,0.4s,mb4.6,baz=215,slow=19,SNR=9.4
GNI Garni 75.80 309 *e*P **P** **12 10 26.6 -1.0**
comp=Z,44nm,1.4s,mb5.2
GNI Garni 75.80 309 *e*P **P** **12 10 26.6 -1.1**
GNI pmax pmax
comp=Z,44nm,1.4s
ZEI Tsey 76.27 311 *e*P **P** **12 10 28.5 -1.8**
ZEI pmax pmax
comp=Z,21nm,0.8s,mb5.1
GOF Gofitskoye 76.75 314⇑ *i*P **P** **12 10 31.1 -1.8**
GOF pmax pmax
comp=Z,20nm,1.3s,mb4.9
KIV Kislovodsk 77.07 313 *e*P **P** **12 10 33.2 -1.5**
comp=Z,24nm,0.7s,mb5.2
KIV *e* pP 12 10 43.7 -0.1
KIV Kislovodsk 77.07 313 *e*P **P** **12 10 33.2 -1.5**
KIV *e* pP 12 10 43.7 -0.1
KIV pmax pmax
comp=Z,25nm,0.7s,mb5.2
PMR Palmer 77.24 29 PFAKE 12 10 50.0 +15
PMR LR LR
comp=Z,118nm,19.0s,MS4.2
MCK McKinley 77.29 27 *e*P **P** **12 10 36.0 +0.4**
comp=Z,12nm,1.3s,mb4.7
MCK *e* pP 12 10 45.6 +1.1
MCK McKinley 77.29 27 *e*P **P** **12 10 36.0 +0.5**
MCK *e* pP 12 10 45.7 +1.1
MCK pmax pmax
comp=Z,12nm,1.3s,mb4.7
VRHR Novokhopersk 77.34 320 *e*P **P** **12 10 35.1 -1.0**
VRHR pmax pmax
comp=Z,50nm,1.3s,mb5.3
VRHR pmax pmax
comp=N,5.0nm,0.4s
VRHR pmax pmax
comp=E,10.0nm,0.6s
MSL Mosul 77.40 305 *e*P **P** **12 10 43.0 +6.3**
COLA College 77.74 26 PFAKE 12 10 50.0 +12
COLA LR LR
comp=Z,9.0nm,20.0s,MS3.1
ILAR Eielson Array 78.15 26 P **P** **12 10 42.0 +1.7**
comp=Z,1.2nm,0.8s,mb3.9,baz=244,slow=6.2,SNR=14
ILAR Eielson Array 78.15 26 P **P** **12 10 42.0 +1.7**
ILAR pmax pmax
comp=Z,1.0nm,0.8s
CASY Casey 78.75 186 *e*P **P** **12 10 42.8 -0.7**
comp=Z,7.2nm,0.8s,mb4.7
VOR Voronezh 78.81 321 *e*P **P** **12 10 44.0 -0.1**
VOR pmax pmax
comp=Z,70nm,1.4s,mb5.4
VRSR Storozhevoye 78.86 320 *e*P **P** **12 10 43.7 -0.7**
VRSR pmax pmax
comp=Z,30nm,1.3s,mb5.1
VRSR pmax pmax
comp=N,9.0nm,0.8s
VRSR pmax pmax
comp=E,20nm,1.0s
VRSR pmax pmax
comp=Z,30nm,1.3s,mb5.1
VRSR pmax pmax
comp=N,9.0nm,0.8s
VRSR pmax pmax
comp=E,20nm,1.0s
SOC Sochi 79.25 312 *e*P **P** **12 10 45.0 -1.7**
SOC *e*PPP PPP 12 15 35.8 -2.6
SOC pmax pmax
comp=Z,20nm,0.8s,mb5.1
SOC pmax pmax
comp=N,4.0nm,0.6s
SOC pmax pmax
comp=E,12nm,0.7s
MOS Moscow 79.39 325 *e*P **P** **12 10 46.1 -1.1**
MOS pmax pmax
comp=Z,60nm,1.0s,mb5.5
OBN Obninsk 80.05 324 *e*P **P** **12 10 50.2 -0.5**
comp=Z,36nm,0.9s,mb5.3
OBN *e* pP 12 10 59.9 +0.1
OBN Obninsk 80.05 324*c i*P **P** **12 10 50.6 -0.2**
OBN *e* pP 12 10 59.8 0.0
OBN *e* 12 20 51.9
OBN pmax pmax
comp=Z,44nm,1.2s,mb5.3
OBN MLR MLR
comp=Z,200nm,16.0s,MS4.6
APA Apatity 80.12 337⇑ *i*P **P** **12 10 51.2 +0.3**
APA pmax pmax
comp=Z,21nm,1.0s,mb5.0
ANN Anapa 80.74 314⇓ *i*P **P** **12 10 53.2 -1.4**
ANN *e* pP 12 11 02.7 -1.0
ANN *e* 12 13 53.0
ANN pmax pmax
comp=Z,43nm,1.0s,mb5.3
ANN pmax pmax
comp=N,6.0nm,0.6s
MALT Malatya 80.86 307 *e*P **P** **12 10 56.1 +0.7**
comp=N,26nm,1.0s,mb5.1
MALT Malatya 80.86 307 *e*P **P** **12 10 56.1 +0.7**
MALT pmax pmax
comp=Z,26nm,1.0s,mb5.1
DAWY Dawson 81.46 26 *e*P **P** **12 10 59.5 +1.4**
MIR Mirnyy 81.85 193 *e*P **P** **12 10 59.0 -1.0**
MIR pmax pmax
comp=Z,26nm,1.2s,mb5.0
ARCES ARCESS Array B 82.62 340 P **P** **12 11 05.0 +1.0**
comp=Z,15nm,1.0s,mb5.0,baz=100,slow=7.4,SNR=12
ARCES ARCESS Array B 82.62 340 P **P** **12 11 05.0 +1.0**
ARCES ARCESS Array B 82.62 340 P **P** **12 11 05.0 +1.1**
ARCES pmax pmax
comp=Z,15nm,1.0s
INK Inuvik 82.93 22 P **P** **12 11 07.2 +1.6**
comp=Z,3.4nm,1.0s,mb4.3,baz=256,slow=8.6,SNR=5.0
INK Inuvik 82.93 22 *e*P **P** **12 11 06.8 +1.2**
comp=Z,9.9nm,1.2s,mb4.7
INK Inuvik 82.93 22 P **P** **12 11 07.2 +1.6**
INK pmax pmax
comp=Z,3.0nm,1.0s
ASF Jabal al Asfar 83.03 301 P **P** **12 11 07.8 +1.0**
comp=Z,13nm,0.9s,mb4.9,baz=336,slow=2.4,SNR=11
ASF Jabal al Asfar 83.03 301 P **P** **12 11 07.8 +1.0**
ASF pmax pmax
comp=Z,13nm,0.9s
SIM Simferopol' 83.05 314 *e*P **P** **12 11 06.4 -0.2**
SIM pmax pmax
comp=Z,26nm,1.0s,mb5.2
KAF Kangasniemi 84.10 332 *e*p **P** **12 11 11.7 +0.1**
comp=Z,20nm,1.2s,mb5.1,baz=73,slow=4.8
KAF Kangasniemi 84.10 332 *e*P **P** **12 11 11.7 +0.1**
KAF pmax pmax
comp=Z,20nm,1.2s,mb5.1
BR131 Keskin Array S 84.31 309 *e*P **P** **12 11 12.6 -0.7**
comp=Z,3.9nm,0.6s,mb4.7
BRTR Keskin Array B 84.31 309 P **P** **12 11 13.3 +0.1**
comp=Z,6.4nm,0.8s,mb4.8,baz=104,slow=5.1,SNR=24
BRTR Keskin Array B 84.31 309 P **P** **12 11 13.3 +0.1**
BRTR pmax pmax
comp=Z,6.0nm,0.8s
FINES FINESS Array B 84.37 332 P **P** **12 11 13.8 +0.8**
comp=Z,18nm,1.0s,mb5.1,baz=90,slow=7.6,SNR=25
FINES FINESS Array B 84.37 332 P **P** **12 11 13.8 +0.8**
FINES pmax pmax
comp=Z,18nm,1.0s
VSU Vasula 84.78 329*c i*P **P** **12 11 15.4 +0.3**
AKASG Malin Array Be 85.17 321 P **P** **12 11 17.0 -0.2**
comp=Z,22nm,0.9s,mb5.3,baz=63,slow=4.6,SNR=67
AKASG Malin Array Be 85.17 321 P **P** **12 11 17.0 -0.2**
AKASG pmax pmax
comp=Z,22nm,0.9s
CSS Prodhromos 85.45 305 *e*P **P** **12 11 19.1 +0.1**
comp=Z,62nm,1.0s,mb5.7
DLBC Dease Lake 87.19 31 P **P** **12 11 29.5 +2.5**
comp=Z,0.7nm,0.5s,mb4.2,baz=356,slow=4.1,SNR=3.7
DLBC Dease Lake 87.19 31 *e*P **P** **12 11 29.7 +2.7**
DLBC *e* pP 12 11 38.8 +2.6
SUW Suwalki 87.90 325 *e*P **P** **12 11 29.9 -0.5**
comp=Z,72nm,1.0s,mb5.8
SUW Suwalki 87.90 325 *e*P **P** **12 11 30.0 -0.5**
SUW pmax pmax
comp=Z,72nm,1.0s,mb5.9
PPT Papeete 88.33 108 *e*LR LR 12 39 27.5
comp=Z,149nm,22.8s
MLR Muntele Rosu 88.56 316 P **P** **12 11 33.8 -0.1**
comp=Z,7.3nm,0.9s,mb5.0,baz=167,slow=4.5,SNR=8.6
MLR Muntele Rosu 88.56 316 P **P** **12 11 33.8 -0.1**
MLR pmax pmax
comp=Z,7.0nm,0.9s
KMBO Kilima Mbogo 88.98 269 P **P** **12 11 36.4 -0.2**
comp=Z,2.5nm,1.0s,mb4.5,baz=63,slow=8.7,SNR=4.9
KMBO Kilima Mbogo 88.98 269 P **P** **12 11 36.4 -0.2**
KMBO Kilima Mbogo 88.98 269 P **P** **12 11 36.4 -0.2**
KMBO pmax pmax
comp=Z,3.0nm,1.0s
TBI Tubuai 89.72 114 *e*LR LR 12 40 06.6
comp=Z,198nm,25.5s
STHS Stebnicka Huta 90.46 321 *e*P **P** **12 11 44.3 +1.6**
CRVS Cervenica-Dubn 90.49 320 *e*P **P** **12 11 44.5 +1.6**
HFS Hagfors 90.53 332 P **P** **12 11 42.6 -0.1**
comp=Z,2.2nm,0.6s,mb4.7,baz=63,slow=3.3,SNR=7.6
HFS Hagfors 90.53 332 P **P** **12 11 42.6 -0.1**
HFS pmax pmax
comp=Z,2.0nm,0.6s
NIE Niedzica 91.04 321 *e*P **P** **12 11 46.9 +1.6**
OJC Ojcow 91.08 322 *e*P **P** **12 11 45.9 +0.4**
NB2 NORSAR Subarra 91.22 334 P **P** **12 11 45.4 -0.5**
comp=Z,3.5nm,1.1s,mb4.6,baz=69,slow=4.5
NB2 NORSAR Subarra 91.22 334 P **P** **12 11 45.4 -0.5**
NB2 pmax pmax
comp=Z,4.0nm,1.1s,mb4.7
NOA NORSAR Array B 91.22 334 P **P** **12 11 44.7 -1.2**
comp=Z,1.2nm,0.9s,mb4.2,baz=61,slow=5.1,SNR=2.5
NOA LR LR 12 54 53.1
comp=Z,136nm,20.3s,MS4.4,baz=90,slow=37
NOA NORSAR Array B 91.22 334 P **P** **12 11 44.7 -1.2**
NOA pmax pmax
comp=Z,1.0nm,0.9s
NOA MLR MLR
comp=Z,136nm,20.3s
KECS Kecovo 91.24 320 *i*P **P** **12 11 46.8 +0.5**
KECS *e*pP pP 12 11 54.9 -0.6
VNDA Vanda 91.52 173 P **P** **12 11 43.1 -3.9**
comp=Z,1.3nm,0.5s,mb4.5,baz=72,slow=6.4,SNR=8.1
VNDA Vanda 91.52 173 *e*P **P** **12 11 42.6 -4.3**
comp=Z,6.1nm,1.0s,mb4.9
VNDA Vanda 91.52 173 P **P** **12 11 43.1 -3.9**
VNDA pmax pmax
comp=Z,1.0nm,0.5s
GERES GERESS Array B 95.28 322 P **P** **12 12 04.1 -0.7**
comp=Z,1.1nm,0.9s,mb4.3,baz=37,slow=6.7,SNR=5.9
GERES GERESS Array B 95.28 322 P **P** **12 12 04.1 -0.8**
GERES pmax pmax
comp=Z,1.0nm,0.9s
PDKS Podkum 95.60 319 *e*P **P** **12 12 06.6 +0.2**
CEY Cerknica 96.10 319 *e*P **P** **12 12 08.9 +0.2**
NEW Newport 98.29 37 PFAKE 12 12 30.0 +12
NEW LR LR
comp=Z,230nm,21.0s,MS4.7
DAVOX Davos 98.50 321 P **P** **12 12 20.2 +0.8**
comp=Z,3.9nm,1.0s,mb4.9,baz=183,slow=6.6,SNR=4.4
RKT Rikitea 102.79 111 *e*LR LR 12 46 10.0
comp=Z,222nm,37.8s
TPH Tonopah 102.89 46 PFAKE 12 12 50.0 +11
TPH LR LR
comp=Z,168nm,20.0s,MS4.6
ELK Elko 103.03 43 PFAKE 12 12 50.0 +10
ELK LR LR
comp=Z,193nm,19.0s,MS4.7
HWUT Hardware Ranch 105.01 41 PFAKE 12 17 20.0
HWUT LR LR
comp=Z,246nm,19.0s,MS4.8
BW06 Boulder Array 105.66 39 PFAKE 12 17 20.0
BW06 LR LR
comp=Z,250nm,19.0s,MS4.8
SCHQ Schefferville 112.70 8 PFAKE 12 17 30.0 +9.0
SCHQ LR LR
comp=Z,250nm,20.0s,MS4.8
PLCA Paso Flores 147.76 156 PKPbc PKPdf 12 18 27.3 +0.5
comp=Z,2.2nm,0.8s,baz=174,slow=5.4,SNR=4.8
PLCA Paso Flores 147.76 156 *e*PKPdf PKPdf 12 18 24.0 -2.8
PLCA *e*PKPbc PKPdf 12 18 27.5 +0.7
CPUP Villa Florida 165.26 168 PKP PKPdf 12 18 47.1 -2.3
comp=Z,3.7nm,1.0s,baz=236,slow=3.6,SNR=4.1
CPUP Villa Florida 165.26 168 PKIKP PKPdf 12 18 47.1 -2.4
CPUP pmax pmax
comp=Z,4.0nm,1.0s
LPAZ La Paz 165.62 109 PKP PKPdf 12 18 48.7 -1.3
comp=Z,1.1nm,0.7s,baz=37,slow=6.3,SNR=4.3
LPAZ La Paz 165.62 109 *e*PKPdf PKPdf 12 18 47.3 -2.7
SAML Samuel 170.54 73 *e*PKPdf PKPdf 12 18 50.9 -2.4
SAML *e* 12 19 01.0

MAN 06 12:05:42.1, 11.85N×126.18E, h7km, mb4.6, ML3.5, MS3.4,

1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.76**	**252**	*e*P	Pb	12 05 56.5	-0.8
CNP	**Catarman**	**1.62**	**294**	*e*P	Pn	12 06 10.4	-0.9
CNP				*e*S	Sb	12 06 29.4	-3.1
SCPH	**Surigao**	**2.16**	**198**	*e*P	Pn	12 06 21.0	+1.9
SCPH				*e*S	Sn	12 06 47.9	+1.6
PVCP	**Virac**	**2.63**	**312**	*e*P	Pn	12 06 25.6	-0.1
PVCP				*e*S	Sn	12 06 58.4	+0.1
RCP	**Roxas**	**3.37**	**266**	⇑*e*P	Pn	12 06 36.6	+0.3
SNPH	**Sibulan**	**3.81**	**230**	*e*P	Pn	12 06 48.0	+5.4
BUKP	**Musuan**	**4.09**	**196**	*e*P	Pn	12 06 44.2	-2.3

SKHL 06 12:07:21.7±0.1, 50.12N×134.91E, h12km±2km, mb3.7/3, 1D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRNR	**Gornyy**	**1.17**	**56**	⇓*i*Pg	Pg	12 07 42.8	-2.3
GRNR				AMB	AMB	12 07 43.0	
	33nm,0.5s						
GRNR				AMB	AMB	12 07 43.0	
	44nm,0.5s						
GRNR				pPg		12 07 46.2	
GRNR				*e*Sg	Sg	12 07 58.0	-2.6
GRNR				A		12 08 02.6	
	285nm,0.5s						
GRNR				A		12 08 02.6	
	237nm,0.5s						
KLR	**Kul'dur**	**2.24**	**248**	*e*Pg	Pg	12 08 02.0	-4.4
KLR				*e*Sg	Sg	12 08 30.8	-5.5
EKMR	**Ekimchan**	**3.20**	**338**	*e*Pn	Pn	12 08 13.0	+0.2
EKMR				*e*Pg	Pg	12 08 19.7	-5.9
EKMR				AMB	AMB	12 08 21.4	
	15nm,0.5s						
EKMR				sPg		12 08 25.9	
EKMR				*e*Sg	Sg	12 09 01.4	-6.8
EKMR				A		12 09 04.6	
	34nm,0.3s						
EKMR				A		12 09 04.6	
	22nm,0.3s						
NKL	**Nikolayevsk**	**4.70**	**48**	*e*Sg	Sg	12 09 50.0	-8.3
YASR	**Yasnyy**	**5.35**	**309**	*e*Pn	Pn	12 08 42.3	-1.1
YASR				AMB	AMB	12 08 42.7	
	3.0nm,0.4s						
YASR				*e*Sg	Sg	12 10 08.7	-11
YASR				A		12 10 17.0	
	7.0nm,0.5s						
BMKR	**Bomnak**	**5.91**	**323**	*e*rx	rx	12 09 11.0	
BMKR				*e*Sg	Sg	12 10 25.5	-13
BMKR				A		12 10 34.5	
	6.0nm,0.5s						
KROS	**Kirovskiy**	**6.51**	**315**	*e*Sg	Sg	12 10 45.0	-13
KROS				A		12 10 51.8	
	4.0nm,0.6s						

MAN 06 12:12:21.4, 11.70N×125.52E, h25km, mb3.9, ML2.6, MS2.2, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.13**	**219**	*e*P	Pb	12 12 26.9	+0.6
BESP				*e*S	Sb	12 12 33.8	+4.3
PLP	**Palo**	**0.75**	**225**	*i*P	Pb	12 12 36.8	+1.1
PLP				*i*S	Sb	12 12 51.7	+6.1
CNP	**Catarman**	**1.16**	**314**	*e*P	Pn	12 12 41.7	-0.5
CNP				*e*S	Sb	12 12 57.3	0.0

NNC 06 12:24:11.8±6.0, 38.96N×71.68E, h175km±164km, mpv3.2, 1C-1D, Error ellipse: s-maj=97.5km s-min=29.2km az=5.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.23**	**348**	⇑P	P	12 25 16.1	-0.2
	1.0nm,0.2s,baz=168,slow=12,SNR=15						
KK31				S	S	12 26 06.2	0.0
	5.1nm,0.6s,baz=170,slow=22,SNR=4.1						
AAK	**Ala-Archa**	**4.24**	**29**	⇓P	P	12 25 16.0	-0.6
	2.8nm,0.4s						
AAK				S	S	12 26 06.0	-0.6
	5.0nm,0.6s						
AB31	**Akbulak array**	**13.28**	**325**	P	P	12 27 11.5	-2.9
	6.8nm,2.0s,baz=116,slow=0.9,SNR=3.7						

*IDC **06** 12:29:47.9±4.0, 23.43S×177.05W, h63km±36km, mb3.8/3, mb1 4.2/5, mb1mx3.8/13, mbtmp4.3/5, ML3.4/2, Error ellipse: s-maj=55.3km s-min=22.4km az=143.0*
*NEIC **06** 12:29:47.6±1.6, 23.56S×176.96W, h68km±17km, mb4.6/3, Error ellipse: s-maj=28.1km s-min=12.6km az=126.0*

ISC 06 12:29:44.8±2.8, 23.5S±0.2×177.1W±0.2, h51km±32km, n12, σ0§80/10, mb4.4/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**10.77**	**29**	P	**P**	**12 32 19.0**	**-0.1**
	2.9nm,0.3s,baz=220,slow=23,SNR=8.2						
AFI	**Afiamalu**	**10.77**	**29**	P	**P**	**12 32 19.0**	**-0.1**
URZ	**Urewera**	**15.54**	**197**	P	**P**	**12 33 22.1**	**+0.1**
	0.9nm,0.3s,baz=35,slow=23,SNR=7.7						
STKA	**Stephens Creek**	**37.36**	**248**	*e*P	**P**	**12 36 55.1**	**+0.8**
	2.5nm,0.4s,mb4.4						
STKA	**Stephens Creek**	**37.36**	**248**	P	**P**	**12 36 55.2**	**+0.9**
	2.2nm,0.4s,mb4.3,baz=95,slow=12,SNR=14						
WB2	**Warramunga Arr**	**45.10**	**265**	*e*P	**P**	**12 37 58.0**	**0.0**
WRA	**Warramunga Arr**	**45.11**	**265**	P	**P**	**12 37 58.1**	**0.0**
	1.2nm,0.3s,mb4.2,baz=94,slow=8.4,SNR=130						
FITZ	**Fitzroy Crossi**	**53.53**	**264**	*e*P	**P**	**12 39 03.5**	**+0.6**
	4.1nm,0.9s,mb4.4						
KLBR	**Kellerberrin**	**57.61**	**247**	*e*P	**P**	**12 39 30.0**	**-2.1**
	44nm,1.5s,mb5.3						
TXAR	**Lajitas Array**	**87.95**	**57**	P	**P**	**12 42 31.1**	**+0.3**
	0.6nm,0.8s,mb3.9,baz=210,slow=7.3,SNR=7.0						
ARCES	**ARCESS Array B**	**132.00**	**350**	PKP	PKPdf	12 48 51.3	-1.0
	1.2nm,0.8s,baz=22,slow=4.9,SNR=4.1						
AKASG	**Malin Array Be**	**146.02**	**330**	PKPbc	PKPbc	12 49 20.0	+1.1
	4.9nm,0.6s,baz=41,slow=4.3,SNR=22						

*BJI **06** 12:40:33.5, 11.43N×126.08E, h38km, mB5.4, mb4.8, Ms5.3, Msz5.1*
*IDC **06** 12:40:33.9±0.4, 11.69N×125.48E, mb4.7/22, mb1 4.8/22, mb1mx4.7/25, mbtmp4.7/22, MS4.9/22, Ms1 4.9/22, ms1mx4.8/28, Error ellipse: s-maj=26.0km s-min=11.1km az=69.0*
*MOS **06** 12:40:36.9±1.1, 11.73N×125.62E, h33km, mb5.3/51, MS4.9/27, Error ellipse: s-maj=13.2km s-min=5.6km az=113.4*
*NEIC **06** 12:40:38.0±0.2, 11.71N×125.65E, mb5.1/37, MS4.8/32, Error ellipse: s-maj=8.4km s-min=5.1km az=81.0*
*HRVD **06** 12:40:38.0±0.2, 11.86N×125.90E, h15km, MW5.5/73, Centroid moment Tensor Solution. LP body waves: s61,c122;Mantle waves: s73,c152; Half duration: 1§4 Moment tensor: Scale 10^{17}Nm; M_{rr}1.05±.02; $M_{\theta\theta}$0.04±.02; $M_{\phi\phi}$-1.09±.02; $M_{r\theta}$-0.20±.06; $M_{\theta\phi}$0.19±.01; $M_{\phi r}$2.18±.05; Best double couple: $M_0$2.444×10^{17} NP1:ϕ_s166°,δ13°,λ82°. NP2:ϕ_s354°,δ77°,λ92°. Principal axes: T 2.41, Plg58°, Azm267°; N .064, Plg2°, Azm174°; P -2.477, Plg32°, Azm83°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 06 12:40:36.0±0.2, 11.88N±0.02×125.95E±0.03, h28km, h28km±1.0km: pP-P, n320, σ1§17/311, mb5.0/94, MS5.0/83, 23C-13D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.57**	**241**	*e*P	**Pb**	**12 40 46.5**	**-0.9**
BESP				*e*S	**Sb**	**12 40 55.1**	**-0.1**
PLP	**Palo**	**1.18**	**233**	*i*S	**Sn**	**12 41 10.4**	**-1.8**
CNP	**Catarman**	**1.41**	**297**	*e*P	**Pn**	**12 41 00.3**	**+0.3**
CNP				*e*S	**Sn**	**12 41 19.7**	**+1.9**
MSLP	**Maasin**	**2.04**	**212**	*e*P	**Pn**	**12 41 10.6**	**+1.5**
SCPH	**Surigao**	**2.13**	**192**	*e*P	**Pn**	**12 41 10.2**	**-0.2**
SCPH				*e*S	**Sn**	**12 41 38.8**	**+2.6**
PVCP	**Virac**	**2.45**	**315**	*e*P	**Pn**	**12 41 14.5**	**-0.4**
LLP	**Lapu-Lapu**	**2.49**	**232**	⇓*e*P	**Pn**	**12 41 16.1**	**+0.5**
LLP				*e*S	**Sn**	**12 41 50.1**	**+4.8**
BUTP	**Butuan**	**2.91**	**186**	*e*P	**Pn**	**12 41 22.9**	**+1.3**
TBP	**Tagbilaran**	**2.99**	**224**	*e*P	**Pn**	**12 41 23.1**	**+0.5**
RCP	**Roxas**	**3.15**	**265**	⇑*e*P	**Pn**	**12 41 25.5**	**+0.5**
AUQP	**San Andres**	**3.50**	**295**	*e*P	**Pn**	**12 41 32.0**	**+2.0**
GUIM	**Jordan**	**3.52**	**250**	*e*P	**Pn**	**12 41 30.9**	**+0.7**
GUIM				*e*S	**Sn**	**12 42 17.3**	**+5.9**
KALP	**Kalibo**	**3.54**	**267**	*e*P	**Pn**	**12 41 36.1**	**+5.5**
CGP	**Cagayan de Oro**	**3.62**	**200**	⇓*e*P	**Pn**	**12 41 31.6**	**+0.1**
BIPH	**Bislig**	**3.69**	**174**	⇑*e*P	**Pn**	**12 41 31.3**	**-1.4**
OTRP	**Odiongan**	**3.87**	**278**	*e*P	**Pn**	**12 41 36.0**	**+0.8**
BUKP	**Musuan**	**4.07**	**192**	*e*P	**Pn**	**12 41 38.9**	**+0.9**
DCPH	**Dipolog City**	**4.15**	**218**	⇓*e*P	**Pn**	**12 41 39.2**	**0.0**
DCPH				*e*S	**Sn**	**12 42 31.0**	**+3.5**
BOAC	**Boac**	**4.30**	**292**	*e*P	**Pn**	**12 41 43.3**	**+1.9**
PAGZ	**Pagadian**	**4.73**	**213**	*e*P	**Pn**	**12 41 47.6**	**+0.2**
SJMP	**San Jose**	**4.76**	**278**	*e*P	**Pn**	**12 41 49.8**	**+2.0**
DAV	**Davao City (W)**	**4.79**	**184**	*e*P	**Pn**	**12 41 51.0**	**+2.8**
POLP	**Polilio Island**	**4.82**	**306**	*e*P	**Pn**	**12 41 51.1**	**+2.4**
MATI	**Mati**	**4.91**	**176**	*e*P	**Pn**	**12 41 53.8**	**+3.9**
KCP	**Kidapawan**	**4.91**	**190**	⇓*e*P	**Pn**	**12 41 53.0**	**+3.0**
CTBH	**Cotabato--PC H**	**4.92**	**200**	*e*P	**Pn**	**12 41 52.8**	**+2.7**
CTBH				*i*S	**Sn**	**12 42 56.7**	**+10**
CUYO	**Cuyo Island**	**4.94**	**259**	*e*P	**Pn**	**12 41 51.3**	**+0.9**
LBPH	**Los Banos**	**5.17**	**296**	⇑*e*P	**Pn**	**12 41 53.7**	**+0.1**
IPIL	**Ipil**	**5.25**	**220**	*e*P	**Pn**	**12 41 55.4**	**+0.7**
ARP	**Angono**	**5.37**	**300**	⇓*e*P	**Pn**	**12 41 55.8**	**-0.5**
NZB	**Bigte**	**5.57**	**303**	⇑*e*P	**Pn**	**12 41 59.3**	**+0.1**
BUSP	**Coron**	**5.63**	**272**	*e*P	**Pn**	**12 42 01.5**	**+1.4**
BALP	**Baler**	**5.73**	**313**	*e*P	**Pn**	**12 42 02.2**	**+0.7**
LUBP	**Lubang**	**5.86**	**289**	*e*P	**Pn**	**12 42 04.2**	**+0.9**
PCPH	**Palayan**	**5.97**	**308**	*e*P	**Pn**	**12 42 03.5**	**-1.4**
NBP	**Mount Natib**	**6.09**	**298**	⇑*e*P	**Pn**	**12 42 06.6**	**0.0**
ZMPH	**Zamboanga City**	**6.21**	**218**	*e*P	**Pn**	**12 42 06.9**	**-1.4**
ENPP	**El Nido**	**6.43**	**265**	*e*P	**Pn**	**12 42 12.6**	**+1.3**
CAUP	**Cauayan**	**6.43**	**322**	*e*P	**Pn**	**12 42 10.6**	**-0.7**
BCPH	**Baguio City Da**	**6.87**	**311**	⇓*i*P	**Pn**	**12 42 16.7**	**-0.8**
CVP	**Callao Caves**	**7.03**	**326**	⇓*e*P	**Pn**	**12 42 19.0**	**-0.9**
APYP	**Conner**	**7.49**	**323**	*e*P	**Pn**	**12 42 25.8**	**-0.5**
ABRA	**Dolores**	**7.65**	**319**	*e*P	**Pn**	**12 42 29.8**	**+1.3**
KKM	**Kota Kinabalu**	**11.22**	**240**	P	**P**	**12 43 18.4**	**+0.5**
KKM	**Kota Kinabalu**	**11.22**	**240**	P	**P**	**12 43 10.6**	**-7.2**
HKC	**Hong Kong**	**15.29**	**314**	P	**P**	**12 44 14.0**	**+2.1**
HKC				S	**S**	**12 47 20.0**	**+19**
GZH	**Guangzhou**	**16.38**	**315**	P	**P**	**12 44 31.5**	**+5.7**
GZH				LR	LR		
	comp=N,11μm,18.3s						
GZH				LR	LR		
	comp=E,11μm,17.1s						
GZH				LR	LR		
	comp=Z,8μm,15.2s						
QIZ	**Qiongzhong**	**17.07**	**297**	⇑*i*P	**P**	**12 44 33.3**	**-1.1**
QIZ				XP		12 44 46.7	
QIZ				S	**S**	**12 47 41.6**	**-0.3**
QIZ				SS	SS	12 48 04.9	+1.9
QIZ				AMB	AMB		
	comp=Z,1μm,9.6s						
QIZ				LR	LR		
	comp=E,6μm,16.9s						
QIZ				LR	LR		
	comp=Z,7μm,19.3s						
QIZ	**Qiongzhong**	**17.07**	**297**	P	**P**	**12 44 28.2**	**-6.2**
KSM	**Kuching**	**18.64**	**237**	*e*P	**P**	**12 44 53.9**	**-0.1**
SSE	**Sheshan**	**19.63**	**348**	P	**P**	**12 45 03.9**	**-1.5**
SSE				AP		12 45 12.0	
SSE				XP		12 45 16.2	
SSE				S	**S**	**12 48 44.3**	**+4.8**
SSE				XS		12 48 58.2	
SSE				AMB	AMB		
	comp=Z,56nm,1.0s						
SSE				AMB	AMB		
	comp=Z,2μm,7.4s						
SSE				LR	LR		
	comp=N,465nm,17.5s						
SSE				LR	LR		
	comp=E,2μm,17.5s						
SSE				LR	LR		
	comp=Z,2μm,16.3s						
NJ2	**Nanjing**	**21.12**	**343**	*e*P	**P**	**12 45 20.4**	**-0.5**
NJ2				AP		12 45 28.9	
NJ2				XP		12 45 33.6	
NJ2				PP	PP	12 45 43.1	-1.1
NJ2				S	**S**	**12 49 07.0**	**-2.5**
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.5						
NJ2				AMB	AMB		
	comp=Z,462nm,3.8s						
NJ2				LR	LR		
	comp=N,6μm,12.6s,MS5.4						
NJ2				LR	LR		
	comp=E,7μm,12.2s,MS5.4						
NJ2				LR	LR		
	comp=Z,1μm,12.3s,MS4.5						
WHN	**Wuhan**	**21.46**	**332**	⇓P	**P**	**12 45 26.5**	**+2.1**
WHN				AP		12 45 35.2	
WHN				S	**S**	**12 49 24.6**	**+8.6**
WHN				AMB	AMB		
	comp=Z,2μm,11.5s						
WHN				LR	LR		
	comp=N,7μm,15.6s,MS5.4						
WHN				LR	LR		
	comp=E,9μm,15.0s,MS5.4						
WHN				LR	LR		
	comp=Z,12μm,14.9s,MS5.4						
CBIJ	**Chichi jima**	**21.49**	**43**	LR	LR	12 52 24.2	
	comp=Z,3μm,19.0s,MS4.7,baz=229,slow=32						
JNU	**Nakatsue**	**21.62**	**11**	P	**P**	**12 45 29.6**	**+3.6**
	comp=Z,10nm,0.9s,mb4.2,baz=45,slow=1.4,SNR=3.1						
JNU				LR	LR	12 51 58.4	
	comp=Z,1μm,21.5s,MS4.3,baz=16,slow=31						
JNU	**Nakatsue**	**21.62**	**11**	P	**P**	**12 45 29.6**	**+3.6**
JNU				LR	LR	12 51 58.4	
KKTK	**Khon Kaen**	**22.86**	**284**	⇑P	**P**	**12 45 37.4**	**-1.1**
GYA	**Guiyang**	**23.24**	**311**	⇑*i*P	**P**	**12 45 41.9**	**-0.2**
GYA				AP		12 45 50.0	
GYA				XP		12 45 53.2	
GYA				PP	PP	12 46 13.8	+0.6
GYA				S	**S**	**12 49 54.7**	**+6.4**
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.5						
GYA				AMB	AMB		
	comp=Z,970nm,9.3s						
GYA				LR	LR		
	comp=N,3μm,14.7s,MS5.2						
GYA				LR	LR		
	comp=E,5μm,16.8s,MS5.2						
GYA				LR	LR		
	comp=Z,7μm,17.7s,MS5.2						
ENH	**Enshi**	**23.84**	**323**	*e*P	**P**	**12 45 48.1**	**+0.3**
	comp=Z,130nm,1.3s,mb5.2						
KGM	**Kluang**	**24.48**	**248**	P	**P**	**12 45 54.3**	**0.0**
JHJ	**Hachijo jima 2**	**24.65**	**29**	LR	LR	12 53 47.9	
	comp=Z,2μm,18.4s,MS4.7,baz=15,slow=32						
NANT	**Nan**	**25.28**	**289**	⇑P	**P**	**12 45 58.5**	**-3.4**
	comp=Z,299nm,1.0s,mb5.8						
NST	**Nakhon Sawan**	**25.35**	**282**	P	**P**	**12 46 01.8**	**-0.7**
INCN	**Inchon**	**25.50**	**1**	PFAKE		12 46 20.0	+16
INCN				LR	LR		
	comp=Z,2μm,20.0s,MS4.6						
TIA	**Tai'an**	**25.51**	**343**	⇑P	**P**	**12 46 04.2**	**+0.4**
TIA				S	**S**	**12 50 28.0**	**+1.2**
TIA				LR	LR		
	comp=N,561nm,13.0s,MS4.9						
TIA				LR	LR		
	comp=E,2μm,12.0s,MS4.9						
KS15	**Wonju Array Si**	**25.52**	**4**	*e*P	**P**	**12 46 04.6**	**+0.7**
KMI	**Kunming**	**25.60**	**304**	P	**P**	**12 46 05.0**	**+0.2**
KMI				XP	sP	12 46 18.4	+1.8
KMI				PCP	PcP	12 49 31.9	-4.1
KMI				S	**S**	**12 50 35.0**	**+6.6**
KMI				XS		12 50 50.7	
KMI				AMB	AMB		
	comp=Z,23nm,1.3s,mb4.5						
KMI				AMB	AMB		
	comp=Z,720nm,8.1s						
KMI				LR	LR		
	comp=N,5μm,19.7s,MS5.2						
KMI				LR	LR		
	comp=E,5μm,15.1s,MS5.2						
KMI				LR	LR		
	comp=Z,4μm,14.8s,MS5.1						
IPM	**Ipoh**	**25.69**	**256**	P	**P**	**12 46 05.3**	**-0.5**
KULM	**Kulim**	**25.84**	**257**	*e*P	**P**	**12 46 06.6**	**-0.6**
CHRT	**Chiangrai**	**26.37**	**291**	⇑P	**P**	**12 46 10.0**	**-1.9**
	comp=Z,158nm,1.2s,mb5.4						
MAJO	**Matsushiro**	**26.93**	**22**	P	**P**	**12 46 21.0**	**+4.0**
MAJO				LR	LR		
	comp=Z,3μm,20.0s,MS4.8						
MAT	**Matsushiro**	**26.93**	**22**	P	**P**	**12 46 15.0**	**-1.9**
MAT				S	**S**	**12 50 48.0**	**-2.4**
MAT	**Matsushiro**	**26.93**	**22**	P	**P**	**12 46 15.0**	**-1.9**
	comp=Z,29nm,2.0s,mb4.5						
MAT				*e*S	**S**	**12 50 49.0**	**-1.4**
MAT				LR	LR		
	comp=Z,2μm,20.0s,MS4.8						
MAT	**Matsushiro**	**26.93**	**22**	P	**P**	**12 46 15.0**	**-1.9**
MAT				*e*S	**S**	**12 50 49.0**	**-1.4**
MAT				pmax	pmax		
	comp=Z,29nm,2.0s,mb4.5						
MAT				MLR	MLR		
	comp=Z,2μm,20.0s,MS4.8						
XAN	**Xi'an**	**26.98**	**328**	P	**P**	**12 46 15.8**	**-1.6**
XAN				AP	pP	12 46 26.5	+0.9
XAN				S	**S**	**12 50 45.9**	**-5.3**
XAN				AMB	AMB		
	comp=Z,41nm,1.5s,mb4.7						
XAN				LR	LR		
	comp=N,3μm,14.8s,MS5.2						
XAN				LR	LR		
	comp=E,4μm,15.8s,MS5.2						
XAN				LR	LR		
	comp=Z,8μm,14.0s,MS5.4						
CD2	**Chengdu**	**27.93**	**316**	P	**P**	**12 46 25.2**	**-0.9**
CD2				AP	pP	12 46 36.6	+2.3
CD2				XP	sP	12 46 41.2	+3.3
CD2				S	**S**	**12 51 01.0**	**-5.5**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
CD2				AMB	AMB		
	comp=Z,300nm,4.7s						
CD2				LR	LR		
	comp=E,6μm,18.0s						
CD2				LR	LR		
	comp=Z,5μm,17.4s,MS5.2						
FITZ	**Fitzroy Crossi**	**29.79**	**181**	*e*P	**P**	**12 46 40.9**	**-2.0**
	comp=Z,42nm,1.0s,mb5.1						
FITZ	**Fitzroy Crossi**	**29.79**	**181**	P	**P**	**12 46 41.5**	**-1.5**
	comp=Z,30nm,0.9s,mb5.0,baz=5.4,slow=8.3,SNR=9.4						
SNY	**Shenyang**	**29.91**	**356**	⇑P	**P**	**12 46 44.6**	**+0.8**
SNY				S	**S**	**12 51 39.7**	**+1.7**
SNY				AMB	AMB		
	comp=Z,40nm,1.2s,mb5.0						
SNY				LR	LR		
	comp=N,2μm,13.8s,MS5.2						
SNY				LR	LR		
	comp=E,4μm,15.0s,MS5.2						
SNY				LR	LR		
	comp=Z,2μm,16.8s,MS4.8						
LZH	**Lanzhou**	**31.29**	**324**	P	**P**	**12 46 56.1**	**+0.1**
LZH				AP	pP	12 47 06.4	+2.1
LZH				XP	sP	12 47 09.6	+1.7
LZH				PP	PP	12 48 02.2	+2.6
LZH				S	**S**	**12 52 01.3**	**+1.4**
LZH				XS		12 52 16.5	
LZH				SS	SS	12 53 51.0	+3.9
LZH				AMB	AMB		
	comp=Z,80nm,1.3s,mb5.4						
LZH				AMB	AMB		
	comp=Z,770nm,4.0s						
LZH				LR	LR		
	comp=N,13μm,14.4s						
LZH				LR	LR		
	comp=Z,15μm,15.0s,MS5.8						
HHC	**Hu-ho-hao-te**	**31.51**	**339**	*e*P	**P**	**12 46 58.8**	**+0.9**
HHC				AP	pP	12 47 08.5	+2.4
HHC				XP	sP	12 47 11.4	+1.6
HHC				PP	PP	12 48 04.4	+2.0
HHC				PCP	PcP	12 49 50.8	+0.3
HHC				S	**S**	**12 52 05.2**	**+2.0**
HHC				XS		12 52 20.2	
HHC				PCS		12 53 33.1	
HHC				SS	SS	12 53 55.4	+3.1
HHC				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.8						
HHC				AMB	AMB		
	comp=Z,467nm,9.3s						
HHC				LR	LR		
	comp=N,2μm,13.7s,MS5.0						
HHC				LR	LR		
	comp=E,2μm,16.0s,MS5.0						
HHC				LR	LR		
	comp=Z,2μm,14.9s,MS4.9						
CN2	**Changchun**	**31.81**	**359**	*e*P	**P**	**12 47 02.9**	**+2.4**
CN2				*e*XP	sP	12 47 14.9	+2.5
CN2				*e*S	**S**	**12 52 11.6**	**+3.7**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
CN2				AMB	AMB		
	comp=Z,350nm,4.0s						
CN2				LR	LR		
	comp=N,1μm,16.0s,MS5.0						
CN2				LR	LR		
	comp=E,2μm,16.0s,MS5.0						
CN2				LR	LR		
	comp=Z,910nm,13.0s,MS4.6						
BTO	**Baotou**	**31.87**	**337**	*e*P	**P**	**12 47 00.8**	**-0.3**
BTO				LR	LR		
	comp=N,2μm,13.8s,MS5.2						
BTO				LR	LR		
	comp=E,3μm,14.7s,MS5.2						
WRAB	**Tennant Creek**	**32.67**	**165**	*e*P	**P**	**12 47 07.9**	**-0.3**
	comp=E,46nm,1.3s,mb5.2						
WRAB				*e*	pP	12 47 15.2	-1.3
WRAB	**Tennant Creek**	**32.67**	**165**	*e*P	**P**	**12 47 07.9**	**-0.3**
WRAB				*e*	pP	12 47 15.2	-1.3
WRAB				pmax	pmax		
	comp=Z,46nm,1.3s,mb5.2						
WRA	**Warramunga Arr**	**32.68**	**165**	P	**P**	**12 47 07.7**	**-0.6**
	comp=Z,8.3nm,1.0s,mb4.6,baz=344,slow=10.0,SNR=14						
WRA				PcP	PcP	12 49 53.4	-0.5
	comp=Z,6.5nm,0.8s,baz=341,slow=3.3,SNR=7.1						
WRA	**Warramunga Arr**	**32.68**	**165**	P	**P**	**12 47 07.7**	**-0.6**
WRA						12 49 53.4	
WRA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
WRA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
WB2	**Warramunga Arr**	**32.68**	**165**	*e*P	**P**	**12 47 08.1**	**-0.2**
MDJ	**Mudanjiang**	**32.77**	**5**	P	**P**	**12 47 09.8**	**+0.9**
MDJ				AP	pP	12 47 16.6	-0.5
MDJ				XP	sP	12 47 19.5	-1.2
MDJ				PP	PP	12 48 24.5	+5.8
MDJ				S	**S**	**12 52 21.6**	**-1.3**
MDJ				SS	SS	12 54 29.6	+7.8
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,69nm,3.2s						
MDJ				LR	LR		
	comp=N,683nm,13.4s,MS5.0						
MDJ				LR	LR		
	comp=E,2μm,13.9s,MS5.0						
MDJ				LR	LR		
	comp=Z,1μm,13.4s,MS4.9						
MDJ	**Mudanjiang**	**32.77**	**5**	*e*P	**P**	**12 47 09.7**	**+0.8**
	comp=Z,35nm,1.4s,mb5.1						
MBWA	**Marble Bar**	**33.39**	**191**	*e*P	**P**	**12 47 09.6**	**-4.9**
	comp=Z,18nm,1.0s,mb5.0						
GTA	**Gaotai**	**35.89**	**324**	⇑P	**P**	**12 47 36.0**	**+0.2**
GTA				AP	pP	12 47 41.5	-2.6
GTA			

LSA XS 12 53 46.4
LSA AMB AMB
comp=Z,10.0nm,1.6s,mb4.4
LSA AMB AMB
comp=Z,590nm,12.7s
LSA LR LR
comp=N,2μm,14.6s,MS5.0
LSA LR LR
comp=E,2μm,16.5s,MS5.0
LSA LR LR
comp=Z,2μm,18.3s,MS5.0
LSA Lhasa 36.85 304 *e*P **P 12 47 44.1 +0.2**
comp=Z,27nm,0.9s,mb5.1
LSA LR LR
comp=Z,326nm,21.0s,MS4.1
LSA Lhasa 36.85 304 *e*P **P 12 47 44.1 +0.2**
LSA pmax pmax
comp=Z,27nm,0.9s,mb5.1
LSA MLR MLR
comp=Z,326nm,21.0s,MS4.1
CTA Charters Tower 37.53 148 *e*P **P 12 47 48.3 -1.4**
comp=Z,7.6nm,0.8s,mb4.5
CTA Charters Tower 37.53 148 P **P 12 47 50.7 +1.0**
comp=Z,6.7nm,0.8s,mb4.4,baz=337,slow=12,SNR=6.3
CTA PcP PcP 12 50 09.2 +1.3
comp=Z,6.5nm,0.8s,baz=67,slow=2.9,SNR=3.7
CTA Charters Tower 37.53 148 P **P 12 47 50.7 +1.0**
CTA 12 50 09.3
CTA pmax pmax
comp=Z,7.0nm,0.8s
CTA pmax pmax
comp=Z,7.0nm,0.8s
CTAO Charters Tower 37.53 148 *e*P **P 12 47 48.2 -1.5**
comp=Z,17nm,1.0s,mb4.7
CTAO *e* 12 47 58.9
CTAO LR LR
comp=Z,2μm,20.0s,MS4.8
CTAO Charters Tower 37.53 148 *e*P **P 12 47 48.2 -1.5**
CTAO *e* 12 47 58.9
CTAO pmax pmax
comp=Z,17nm,1.0s,mb4.7
CTAO MLR MLR
comp=Z,2μm,20.0s,MS4.8
KLR Kul'dur 37.55 6 *e*P **P 12 47 43.2 -6.4**
KLR *e* 12 47 57.0
KLR *e* 12 49 21.5
KLR *e*S **S 12 53 34.0 -2.5**
KLR *e*SS SS 12 56 22.0 +11
KLR MLR MLR
comp=N,2μm,14.5s,MS5.0
KLR MLR MLR
comp=E,800nm,14.5s,MS5.0
HIA Hailar 37.63 353 P **P 12 47 50.2 -0.1**
comp=E,16nm,1.0s,mb4.7
HIA *e* pP 12 47 59.7 +1.1
HIA LR LR
comp=Z,2μm,19.0s,MS4.8
HIA Hailar 37.63 353 P **P 12 47 50.2 0.0**
HIA *e* pP 12 47 59.7 +1.1
HIA pmax pmax
comp=Z,16nm,1.0s
HIA MLR MLR
comp=Z,2μm,19.0s
YSS Yuzh-Sakhalins 37.73 19 P **P 12 47 53.2 +2.1**
comp=Z,6.9nm,0.8s,mb4.4
YSS Yuzh-Sakhalins 37.73 19 *e*P **P 12 47 55.0 +3.9**
YSS *e*PPP PPP 12 49 44.0 +2.1
YSS *e*S **S 12 53 42.0 +2.7**
SONM Songino Array 39.41 339 P **P 12 48 06.0 +0.8**
comp=Z,1.3nm,0.4s,mb4.0,baz=156,slow=9.2,SNR=14
SONM LR LR 13 05 09.6
comp=Z,1μm,18.9s,MS4.8,baz=262,slow=37
SONM Songino Array 39.41 339 P **P 12 48 06.0 +0.8**
SONM pmax pmax
comp=Z,1.0nm,0.4s
SONM MLR MLR
comp=Z,1μm,18.9s
HNR Honiara 39.88 121 LR LR 13 02 27.6
comp=Z,3μm,20.9s,MS5.0,baz=298,slow=33
PKI Pulchoki 41.02 298 *e*P **P 12 48 17.5 -1.1**
comp=Z,128nm,1.2s,mb5.4
KKN Kakani 41.18 299 *e*P **P 12 48 19.0 -0.9**
comp=Z,126nm,0.9s,mb5.5
CIT Chita 41.27 348 *e*P **P 12 48 21.6 +1.2**
CIT *e* pP 12 48 30.6 +1.8
DMN Daman 41.29 298 *e*P **P 12 48 20.1 -0.7**
comp=Z,153nm,1.2s,mb5.5
GKN Gorkha 41.79 299 *e*P **P 12 48 23.5 -1.5**
comp=Z,116nm,1.1s,mb5.4
KOLN Koldanda 42.62 298 *e*P **P 12 48 30.7 -1.2**
comp=Z,122nm,0.9s,mb5.6
ZAK Zakamensk 42.66 339 *e*P **P 12 48 32.2 +0.3**
ZAK *e* 12 50 24.4
ZAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.0
ZAK pmax pmax
comp=Z,4.0nm,1.2s,mb4.0
ZAK pmax pmax
comp=Z,1.0nm,1.5s
TLY Talaya 43.62 340 *e*P **P 12 48 40.4 +0.8**
comp=Z,25nm,1.2s,mb4.8
TLY *e* pP 12 48 48.4 +0.3
TLY Talaya 43.62 340 *e*P **P 12 48 40.5 +0.9**
TLY *e* 12 48 51.0
TLY *e*S **S 12 55 08.4 +1.5**
TLY *e*SS SS 12 58 29.5 +15
TLY *e*SSS SSS 12 59 15.3 +8.0
TLY pmax pmax
comp=Z,36nm,1.8s,mb4.8
TLY MLR MLR
comp=Z,1μm,16.0s,MS4.9
IRK Irkutsk 43.90 341 *e*P **P 12 48 43.4 +1.6**
IRK pmax pmax
comp=Z,50nm,1.8s,mb4.9
KLBR Kellerberrin 43.93 190 *e*P **P 12 48 41.0 -1.4**
comp=Z,75nm,1.5s,mb5.2
MOY Mondy 44.55 338 *e*P **P 12 48 48.2 +1.1**
MOY pmax pmax
comp=Z,115nm,2.5s,mb5.3
MUN Mundaring 44.59 192 *e*P **P 12 48 46.0 -1.8**
comp=Z,15nm,0.9s,mb4.8
MUN Mundaring 44.59 192 *e*P **P 12 48 46.0 -1.8**
MUN pmax pmax
comp=Z,15nm,0.9s,mb4.8
PALK Pallekele 44.81 268 PFAKE 12 49 00.0 +10
PALK LR LR
comp=Z,245nm,19.0s,MS4.2
CLNS Chul'man 44.87 359 *e*P **P 12 48 59.2 +10**
CLNS *e**PP pP 12 49 04.9 +6.9
CLNS *e* 12 50 36.6
CLNS *e*PPP PPP 12 51 19.9 +4.1
CLNS *e*S 12 55 40.7
CLNS *e*SS SS 12 58 42.4 +4.7
CLNS pmax pmax
comp=Z,45nm,0.9s,mb5.3
CLNS pmax pmax
comp=N,18nm,1.0s
CLNS pmax pmax
comp=E,5.0nm,0.8s
CLNS pmax pmax
comp=Z,11nm,0.6s,mb4.9
CLNS pmax pmax
comp=N,12nm,0.7s
CLNS pmax pmax
comp=E,7.0nm,0.7s
CLNS smax
comp=N,265nm,12.5s
CLNS smax
comp=Z,28nm,9.7s
CLNS smax
comp=E,42nm,11.1s
CLNS MLR MLR
comp=N,800nm,14.0s,MS4.8
CLNS MLR MLR
comp=Z,900nm,14.0s,MS4.8
CLNS MLR MLR
comp=E,200nm,13.0s,MS4.8
NWAO Narrogin (SRO) 45.32 190 P **P 12 48 51.7 -1.9**
comp=E,16nm,0.9s,mb4.8,baz=351,slow=7.8,SNR=7.6
NWAO LR LR 13 08 35.4
comp=E,531nm,19.9s,MS4.5,baz=16,slow=37
NWAO Narrogin (SRO) 45.32 190 *e*P **P 12 48 51.1 -2.5**
comp=E,47nm,1.0s,mb5.3
NWAO Narrogin (SRO) 45.32 190 P **P 12 48 51.7 -1.9**
NWAO pmax pmax
comp=Z,16nm,1.0s
NWAO MLR MLR
comp=Z,531nm,19.9s
WMQ Urumqi 45.77 321 P **P 12 48 57.5 +0.5**
WMQ AP pP 12 49 07.5 +2.1
WMQ XP sP 12 49 11.5 +2.7
WMQ PP PP 12 50 44.5 -0.1
WMQ SCP 12 54 23.5
WMQ S **S 12 55 37.5 -0.5**
WMQ SS SS 12 58 53.5 -0.8
WMQ AMB AMB
comp=Z,30nm,1.0s,mb5.2
WMQ AMB AMB
comp=Z,58nm,8.0s
WMQ LR LR
comp=N,3μm,15.0s,MS5.5
WMQ LR LR
comp=E,3μm,16.0s,MS5.5
WMQ LR LR
comp=Z,3μm,16.0s,MS5.3
STKA Stephens Creek 46.01 161 *e*P **P 12 48 58.6 -0.4**
comp=Z,61nm,0.9s,mb5.5
STKA Stephens Creek 46.01 161 P **P 12 48 58.7 -0.4**
comp=Z,32nm,0.8s,mb5.3,baz=334,slow=7.7,SNR=34
STKA LR LR 13 10 45.7
comp=Z,1μm,19.8s,MS4.8,baz=88,slow=39
HYB Hyderabad 46.09 283 *i* P **P 12 48 59.0 -0.9**
HYB Hyderabad 46.09 283 *e*P **P 12 48 59.0 -0.9**
BOD Bodaibo 46.74 351 *e*P **P 12 49 03.6 -0.8**
BOD pmax pmax
comp=Z,19nm,1.4s,mb4.8
PET Petropavlovsk 48.66 26 *e*P **P 12 49 20.2 +0.7**
comp=Z,16nm,0.8s,mb5.1
PET LR LR
comp=Z,824nm,20.0s,MS4.7
PET Petropavlovsk 48.66 26 *i* P **P 12 49 20.8 +1.3**
PET pmax pmax
comp=Z,23nm,1.7s,mb4.9
PET MLR MLR
comp=Z,800nm,22.0s,MS4.7
YAK Yakutsk 50.15 2 P **P 12 49 31.1 +0.4**
comp=Z,68nm,1.0s,mb5.6
YAK *e* pP 12 49 39.9 +0.6
YAK Yakutsk 50.15 2 *e*P **P 12 49 31.1 +0.3**
YAK *i* *PP pP 12 49 39.9 +0.6
YAK *e*S **S 12 56 36.8 -2.6**
YAK *e* 12 59 13.7
YAK pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
YAK pmax pmax
comp=Z,109nm,8.8s
YAK pmax pmax
comp=N,45nm,8.0s
YAK smax
comp=E,282nm,13.1s
YAK smax
comp=N,52nm,9.8s
MKAR Makanchi Array 50.57 322 P **P 12 49 34.2 0.0**
comp=N,24nm,0.8s,mb5.2,baz=117,slow=8.1,SNR=180
MKAR LR LR 13 12 33.9
comp=N,2μm,19.0s,MS5.0,baz=157,slow=38
MKAR Makanchi Array 50.57 322 P **P 12 49 34.2 0.0**
MKAR pmax pmax
comp=Z,24nm,0.8s
MKAR MLR MLR
comp=Z,2μm,19.0s
MA2 Magadan 51.08 16 *e*P **P 12 49 35.3 -2.6**
MA2 *e* 12 50 52.9
MA2 *e*S **S 12 56 45.5 -6.8**
MA2 *i* PS PS 12 56 58.9 -5.7
MA2 *e*SS SS 13 00 25.4 0.0
MA2 *e*SSS SSS 13 02 09.5 +7.9
MA2 pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
MA2 MLR MLR
comp=Z,1μm,21.0s,MS4.8
KSH Kashi 51.94 311⇑ *i*P **P 12 49 44.5 -0.2**
KSH *e*AP pP 12 49 51.2 -2.1
KSH *e*PCP PcP 12 50 57.3 +0.2
KSH *e*PP PP 12 51 42.0 -1.3
KSH *e*PPP PPP 12 52 44.1 -2.8
KSH *e*SCP 12 54 50.0
KSH *e*PCS 12 54 53.3
KSH *e*S **S 12 57 03.0 -1.4**
KSH *e*SCS ScS 12 59 29.2 -0.3
KSH AMB AMB
comp=Z,500nm,3.8s
KSH LR LR
comp=N,2μm,13.7s,MS5.5
KSH LR LR
comp=E,3μm,14.8s,MS5.5
DZM Mont Dzumac 52.11 130 P **P 12 49 48.3 +2.1**
comp=E,17nm,1.1s,mb4.9,baz=315,slow=18,SNR=3.9
TOO Toolangi 52.49 160 *e*P **P 12 49 50.3 +1.4**
comp=E,26nm,1.1s,mb5.1
TOO Toolangi 52.49 160 *e*P **P 12 49 50.3 +1.4**
TOO pmax pmax
comp=Z,27nm,1.1s,mb5.1
ULHL Ulahol 52.63 315 P **P 12 49 49.9 0.0**
SNR=19
ZAL Zalesovo 53.08 331 LR LR 13 14 38.1
comp=Z,2μm,18.8s,MS5.2,baz=337,slow=39
ZAL Zalesovo 53.08 331 *i* P **P 12 49 52.3 -0.7**
ZAL pmax pmax
comp=Z,3.0nm,0.4s
KZA Kyzart 53.27 314 P **P 12 49 55.5 +0.9**
SNR=23
TKM2 Tokmak 2 53.30 315 P **P 12 49 55.3 +0.4**
SNR=13
KBK Karagaybulak 53.67 315 P **P 12 49 58.3 +0.8**
SNR=11
UCH Uchtor 53.83 314 P **P 12 50 00.6 +1.9**
SNR=7.3
CHMS Chumysh 53.92 315 P **P 12 49 58.9 -0.4**
SNR=9.8
FRU Bishkek 53.95 315 *e*P **P 12 49 59.0 -0.6**
FRU *e* 12 57 38.0
FRU *e* 12 57 44.0
FRU pmax pmax
comp=Z,300nm,3.0s
FRU MLR MLR
comp=Z,2μm,20.0s,MS5.3
AAK Ala-Archa 53.98 314 *e*P **P 12 49 58.7 -1.0**
comp=Z,43nm,1.5s,mb5.2
AAK LR LR
comp=Z,728nm,19.0s,MS4.8
AAK Ala-Archa 53.98 314 *e*P **P 12 49 58.7 -1.0**
AAK pmax pmax
comp=Z,43nm,1.5s,mb5.2
AAK MLR MLR
comp=Z,728nm,19.0s,MS4.8
USP Ospenovka 54.18 315 P **P 12 50 00.9 -0.3**
SNR=19
NVS Novosibirsk 54.35 331 *e*P **P 12 50 01.0 -1.3**
NVS *e* 12 52 12.6
NVS *e*S **S 12 57 37.2 +0.3**
NVS pmax pmax
comp=N,26nm,1.6s
NVS pmax pmax
comp=E,25nm,1.6s
NVS pmax pmax
comp=Z,40nm,1.6s,mb5.1
NVS pmax pmax
comp=Z,42nm,2.9s,mb4.9
NVS pmax pmax
comp=N,16nm,2.6s
NVS pmax pmax
comp=E,29nm,2.9s
NVS smax
comp=N,23nm,2.4s
NVS smax
comp=E,27nm,2.4s
SEY Seymchan 54.35 15 *e*P **P 12 50 04.4 +2.2**
SEY 12 51 03.8
SEY *e*S **S 12 57 45.1 +8.3**
SEY 12 59 47.1
SEY *e*SS SS 13 01 27.2 +8.5
SEY pmax pmax
comp=N,10.0nm,1.2s
SEY pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
SEY pmax pmax
comp=E,2.0nm,0.7s
SEY smax
comp=N,1μm,25.0s
SEY smax
comp=E,2μm,21.7s
AML Almayashu 54.38 314 P **P 12 50 03.6 +0.9**
SNR=36
EKS2 Erkin-Say 54.49 314 P **P 12 50 04.1 +0.6**
SNR=15
KURK Kurchatov 54.58 325 *e*P **P 12 50 03.2 -0.9**
comp=E,101nm,0.9s,mb5.8
KURK *e* pP 12 50 13.1 +0.4
KURK Kurchatov 54.58 325 *e*P **P 12 50 03.2 -0.9**
KURK *e* pP 12 50 13.1 +0.5
KURK pmax pmax
comp=Z,101nm,0.9s,mb5.8
FX1 Attu Island--F 55.56 33 *e*P **P 12 50 12.8 +1.7**
FX1 *e* pP 12 50 20.3 +0.5
KKAR Karatay Array 56.91 314 *i* P **P 12 50 20.1 -1.0**
KKAR pmax pmax
comp=Z,19nm,0.8s,mb5.2
TIXI Tiksi 59.76 1 *i* P **P 12 50 40.1 -0.5**
TIXI pmax pmax
comp=Z,15nm,1.7s,mb4.8
TIXI MLR MLR
comp=Z,900nm,17.0s,MS5.0
BVA0 Borovoye Array 60.17 325 *i* P **P 12 50 41.9 -1.7**
BVA0 pmax pmax
comp=Z,71nm,2.1s,mb5.3
BVAR Borovoye Array 60.17 325 P **P 12 50 43.2 -0.4**
comp=Z,10nm,0.9s,mb4.9,baz=121,slow=8.6,SNR=54
BVAR Borovoye Array 60.17 325 P **P 12 50 43.2 -0.4**
BVAR pmax pmax
comp=Z,10.0nm,0.9s
BRVK Borovoye 60.25 325 *e*P **P 12 50 43.0 -1.1**
comp=Z,27nm,0.9s,mb5.3
BRVK *e* pP 12 50 52.3 -0.5
BRVK LR LR
comp=Z,252nm,19.0s,MS4.4
BRVK Borovoye 60.25 325 *e*P **P 12 50 43.0 -1.1**
BRVK *e* pP 12 50 52.3 -0.5
BRVK pmax pmax
comp=Z,27nm,0.9s,mb5.3
BRVK MLR MLR
comp=Z,252nm,19.0s,MS4.4
BILL Bilibino 61.95 16 P **P 12 50 55.5 0.0**
BILL LR LR
comp=Z,608nm,19.0s,MS4.8
BILL Bilibino 61.95 16*d* *i*P **P 12 50 57.1 +1.6**
BILL pmax pmax
comp=Z,25nm,2.5s,mb4.9
BILL MLR MLR
comp=Z,700nm,17.0s,MS4.9
AB31 Akbulak array 65.46 319 P **P 12 51 17.3 -1.4**
AB31 pmax pmax
comp=Z,31nm,1.1s,mb5.2
SVE Sverdlovsk 66.70 327 *e*P **P 12 51 26.0 -0.5**
SVE *e* 12 51 42.2
SVE *e* 12 53 48.0
SVE *e*S S 13 00 13.0 -1.9
SVE *e* 13 01 15.0
SVE *e*SS SS 13 04 38.0 +3.7
SVE pmax pmax
comp=Z,175nm,1.5s,mb5.9
SVE MLR MLR
comp=N,1μm,14.0s,MS5.3
SVE MLR MLR
comp=E,1μm,14.0s,MS5.3
SVE MLR MLR
comp=Z,1μm,14.0s,MS5.3
ARU Arti 67.72 326⇑ *i*P **P 12 51 31.6 -1.3**
ARU *e* 12 51 57.7
ARU *e* 12 54 01.3
ARU *e*PPP PPP 12 55 37.8 -3.3
ARU *i* S S 13 00 28.2 +1.1
ARU *e* 13 01 30.5
ARU *e*SS SS 13 04 49.7 -0.2
ARU pmax pmax
comp=Z,23nm,0.9s,mb5.2
ARU MLR MLR
comp=Z,1μm,17.0s,MS5.1
ARU MLR MLR
comp=N,100nm,16.0s,MS5.0
ARU MLR MLR
comp=E,800nm,17.0s,MS5.0
RPZ Rata Peaks 68.89 147 P **P 12 51 42.3 +1.9**
comp=E,11nm,0.7s,mb4.9,baz=323,slow=7.6,SNR=5.4
MAK Makhachkala 73.57 311*c* *i*P **P 12 52 10.0 +1.4**
MAK *e* 12 52 28.0
MAK *e* 12 54 52.0
MAK *e*PPP PPP 12 56 32.0 -6.7
MAK *e*S S 13 01 36.0 +0.6
MAK *e*PS PS 13 02 20.0 +7.8
MAK pmax pmax
comp=Z,600nm,4.0s
MAK smax
comp=N,800nm,10.0s
MAK smax
comp=E,1μm,10.0s
TI2 Plekhanov 75.66 310 *e*P **P 12 52 12.0 -8.6**
GNI Garni 75.76 309 P **P 12 52 22.2 +1.0**
comp=E,4.5nm,0.4s,mb4.8,slow=20,SNR=11
GNI Garni 75.76 309 *e*P **P 12 52 21.2 0.0**
comp=E,39nm,1.0s,mb5.3
GNI Garni 75.76 309 *e*P **P 12 52 21.2 0.0**
GNI pmax pmax
comp=Z,39nm,1.0s
ZEI Tsey 76.23 311 *e*P **P 12 52 20.4 -3.4**
ZEI *i* *PP pP 12 52 27.4 -5.2
ZEI pmax pmax
comp=Z,26nm,0.8s,mb5.2
GOF Gofitskoye 76.71 314⇑ *i*P **P 12 52 25.5 -1.0**
GOF *i* 12 52 44.0
GOF pmax pmax
comp=Z,40nm,1.3s,mb5.2
HAKT HAKKARI 76.75 306 *i* P **P 12 52 24.7 -2.2**
KIV Kislovodsk 77.03 313 *e*P **P 12 52 27.4 -0.8**
comp=Z,45nm,1.0s,mb5.3
KIV LR LR
comp=Z,241nm,19.0s,MS4.5
KIV Kislovodsk 77.03 313 *e*P **P 12 52 27.5 -0.8**
KIV pmax pmax
comp=Z,45nm,1.0s,mb5.3
KIV MLR MLR
comp=Z,241nm,19.0s,MS4.5
PMR Palmer 77.23 29 P **P 12 52 31.8 +2.8**
comp=Z,4.7nm,0.9s,mb4.4
PMR LR LR
comp=Z,322nm,20.0s,MS4.6
PMR Palmer 77.23 29 P **P 12 52 31.8 +2.8**
PMR pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
PMR MLR MLR
comp=Z,322nm,20.0s,MS4.6
MCK McKinley 77.28 27 *e*P **P 12 52 29.3 +0.1**
comp=Z,9.7nm,1.0s,mb4.7
MCK *e* pP 12 52 36.5 -1.6
MCK LR LR
comp=Z,197nm,19.0s,MS4.5
MCK McKinley 77.28 27 *e*P **P 12 52 29.3 +0.1**
MCK *e* pP 12 52 36.5 -1.6
MCK pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
MCK MLR MLR
comp=Z,197nm,19.0s,MS4.5
VRHR Novokhopersk 77.31 320 *e*P **P 12 52 28.3 -1.3**
VRHR pmax pmax
comp=Z,20nm,0.7s,mb5.2
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.7s
KAMS Al Khamasin 77.97 288 P **P 12 52 32.3 -1.6**
ILAR Eielson Array 78.14 26 P **P 12 52 36.7 +2.8**
comp=E,1.6nm,0.7s,mb4.1,baz=241,slow=6.0,SNR=19
ILAR LR LR 13 25 42.1
comp=E,324nm,20.9s,MS4.6,baz=78,slow=34
CASY Casey 78.77 186 *e*P **P 12 52 35.9 -1.5**
comp=E,21nm,0.9s,mb5.1
VRSR Storozhevoye 78.83 320 *e*P **P 12 52 37.5 -0.5**
VRSR pmax pmax
comp=Z,20nm,1.0s,mb5.0
VRSR pmax pmax
comp=N,8.0nm,0.8s
VRSR pmax pmax
comp=E,20nm,1.0s
VRSR pmax pmax
comp=Z,20nm,1.0s,mb5.0
VRSR pmax pmax
comp=N,8.0nm,0.8s
VRSR pmax pmax

comp=E,20nm,1.0s
AFFS 'Afif 78.91 292 P **P 12 52 38.4 -0.6**
MARD Mardin 79.10 306 *i* P **P 12 52 38.2 -1.6**
TATS Tathlith 79.11 288 P **P 12 52 39.3 -0.8**
SOC Sochi 79.21 312 *c i* P **P 12 52 38.2 -2.0**
SOC *e* pP 12 52 46.0 -3.1
SOC *e* PPP PPP 12 57 30.5 -1.3
SOC *i* S S 13 02 33.2 -3.7
SOC *e* 13 02 56.2
SOC *e* SSS SSS 13 11 06.6 +0.7
SOC pmax pmax
comp=N,7.0nm,0.7s
SOC pmax pmax
comp=E,6.0nm,0.7s
SOC pmax pmax
comp=Z,17nm,0.7s,mb5.1
SOC MLR MLR
comp=N,706nm,17.0s,MS5.4
SOC MLR MLR
comp=E,1μm,17.0s,MS5.4
SOC MLR MLR
comp=Z,1μm,17.0s,MS5.3
DJNS Zahran al Janu 79.33 286 P **P 12 52 41.3 -0.1**
MOS Moscow 79.35 325 *e* P **P 12 52 40.0 -0.7**
MOS *e* pP 12 52 48.8 -0.8
MOS *e* S S 13 02 36.6 -1.5
MOS pmax pmax
comp=Z,65nm,1.1s,mb5.5
MOS MLR MLR
comp=Z,2μm,23.1s,MS5.3
HILS Ha'il 79.50 296 P **P 12 52 42.1 -0.1**
OBN Obninsk 80.01 324 *e* P **P 12 52 43.7 -0.6**
comp=Z,83nm,1.4s,mb5.5
OBN *e* pP 12 52 53.9 +0.7
OBN LR LR
comp=Z,247nm,20.0s,MS4.5
OBN Obninsk 80.01 324 *c i* P **P 12 52 43.4 -0.9**
OBN *i* pP 12 52 54.0 +0.8
OBN *e* 12 57 39.0
OBN *i* S S 13 02 43.6 -1.5
OBN *i* 13 02 51.2
OBN *i* 13 03 02.2
OBN SS SS 13 07 51.0 -7.3
OBN pmax pmax
comp=Z,68nm,1.7s,mb5.3
OBN MLR MLR
comp=Z,1μm,16.0s,MS5.4
APA Apatity 80.09 337 ⇓ *i* P **P 12 52 45.0 +0.5**
APA *i* pP 12 52 53.5 +0.1
APA *i* S S 13 02 50.0 +4.4
APA pmax pmax
comp=Z,14nm,0.8s,mb4.9
APA MLR MLR
comp=Z,2μm,17.0s,MS5.5
ELZG Elazig 80.36 307 *i* P **P 12 52 46.2 -0.4**
ANN Anapa 80.70 314 *e* P **P 12 52 46.3 -1.9**
ANN *i* *PP pP 12 52 56.7 -0.4
ANN *e* 12 52 58.4
ANN *e* S S 13 02 50.8 -1.6
ANN pmax pmax
comp=Z,71nm,1.2s,mb5.5
MALT Malatya 80.82 307 *e* P **P 12 52 48.9 -0.1**
comp=Z,22nm,0.9s,mb5.1
MALT Malatya 80.82 307 *e* P **P 12 52 48.9 0.0**
MALT pmax pmax
comp=Z,22nm,0.9s,mb5.1
DAWY Dawson 81.45 26 *e* P **P 12 52 52.9 +1.2**
GZT Gaziantep 81.63 306 *i* P **P 12 52 52.7 -0.5**
MIR Mirnyy 81.87 193 *e* P **P 12 52 52.0 -1.8**
MIR pmax pmax
comp=Z,22nm,1.2s,mb5.0
KEV Kevo 82.03 340 *e p* **P 12 52 56.0 +1.4**
ARCES ARCESS Array B 82.59 340 P **P 12 52 58.1 +0.6**
comp=Z,5.1nm,0.7s,mb4.7,baz=72,slow=6.1,SNR=15
ARCES LR LR 13 35 59.7
comp=Z,677nm,18.6s,MS5.0,baz=194,slow=40
QURS Qurayyt al Mil 82.76 300 P **P 12 53 00.2 +1.0**
INK Inuvik 82.92 22 *e* P **P 12 53 00.3 +1.0**
comp=Z,9.1nm,0.9s,mb4.8
INK Inuvik 82.92 22 *e* P **P 12 53 00.3 +1.1**
INK pmax pmax
comp=Z,9.0nm,0.9s
SIM Simferopol' 83.01 314 *d i* P **P 12 52 59.8 -0.4**
SIM *i* S S 13 03 16.0 -0.1
SIM pmax pmax
comp=Z,29nm,0.8s,mb5.4
SIM MLR MLR
comp=Z,850nm,19.1s,MS5.1
BOYT Boyabat 83.03 311 *i* P **P 12 52 59.3 -1.1**
OPO Ambohidratompo 83.32 250 P **P 12 53 01.0 -1.3**
comp=Z,3.8nm,0.7s,mb4.5,baz=50,slow=4.0,SNR=5.4
AVNT Avonos 83.52 308 *i* P **P 12 53 02.7 -0.3**
CDAG Cicekdag 83.74 309 *i* P **P 12 53 02.7 -1.4**
UMJS Umm Lajj 83.81 294 P **P 12 53 05.7 +0.9**
KAF Kangasniemi 84.07 332 *e p* **P 12 53 04.4 -0.8**
comp=Z,15nm,1.0s,mb5.1,baz=72,slow=4.7
KAF Kangasniemi 84.07 332 *e* P **P 12 53 04.4 -0.8**
KAF pmax pmax
comp=Z,15nm,1.0s,mb5.1
BALT Daday 84.13 311 *i* P **P 12 53 05.1 -0.9**
BR131 Keskin Array S 84.28 309 *e* P **P 12 53 06.5 -0.3**
comp=Z,7.5nm,0.7s,mb4.9
BRTR Keskin Array B 84.28 309 P **P 12 53 06.4 -0.4**
comp=Z,9.1nm,0.7s,mb5.0,baz=109,slow=4.6,SNR=36
BRTR Keskin Array B 84.28 309 P **P 12 53 06.4 -0.4**
BRTR pmax pmax
comp=Z,9.0nm,0.7s
ELDT Eldivan 84.30 310 *i* P **P 12 53 05.6 -1.3**
FINES FINESS Array B 84.34 332 P **P 12 53 07.1 +0.6**
comp=Z,7.4nm,0.9s,mb4.8,baz=72,slow=6.0,SNR=23
FINES LR LR 13 34 01.7
comp=Z,722nm,18.1s,MS5.1,baz=258,slow=38
FINES FINESS Array B 84.34 332 P **P 12 53 07.1 +0.6**
FINES pmax pmax
comp=Z,7.0nm,0.9s
FINES MLR MLR
comp=Z,722nm,18.1s
JMQS Jabal Moqyreh 84.42 298 P **P 12 53 08.2 +0.5**
MEST Erdemli 84.46 306 *i* P **P 12 53 07.3 -0.5**
VSU Vasula 84.75 329 *e* P **P 12 53 08.9 +0.2**
JMOS Jabal al Moall 85.03 299 P **P 12 53 11.0 +0.2**
AKASG Malin Array Be 85.13 321 P **P 12 53 10.5 -0.3**
comp=Z,18nm,0.8s,mb5.2,baz=63,slow=4.7,SNR=50
AKASG Malin Array Be 85.13 321 P **P 12 53 10.5 -0.2**
AKASG pmax pmax
comp=Z,18nm,0.8s
BDAS Al Bad' **85.18 298** P **P 12 53 11.7 +0.1**
SGKT Sivrigoynuk 85.31 310 *i* P **P 12 53 09.9 -2.0**
TAYS Tayyib Ism 85.35 298 P **P 12 53 12.6 +0.1**
CSS Prodhromos 85.42 305 *e* P **P 12 53 12.3 -0.3**
comp=Z,56nm,0.8s,mb5.8
ERMK Ermenek 85.42 306 *i* P **P 12 53 10.7 -1.9**
KIS Kishinev 86.22 317 *e* P **P 12 53 14.0 -2.3**
KIS *e* 12 56 40.0
KIS *e* 12 58 30.0
KIS *e* S S 13 03 45.0 -2.7
KIS MLR MLR
comp=Z,500nm,18.0s,MS5.0
KIS MLR MLR
comp=Z,500nm,20.0s
CFR Carcaliu 87.11 315 ⇑ P **P 12 53 21.4 +0.7**
CFR Carcaliu 87.11 315 ⇑ P **P 12 53 21.4 +0.7**
DLBC Dease Lake 87.18 31 P **P 12 53 23.4 +2.7**
SUW Suwalki 87.86 325 P **P 12 53 23.8 -0.2**
VRI Vrincioaia 87.90 316 ⇓ P **P 12 53 25.9 +1.5**
VRI Vrincioaia 87.90 316 ⇓ P **P 12 53 25.9 +1.5**
PPT Papeete 88.36 108 *e* S S 13 03 49.1 -20
PPT *e* LR LR 13 21 18.8
comp=Z,803nm,23.0s,baz=294
PPT Papeete 88.36 108 LR LR 13 25 21.0
comp=Z,501nm,21.2s,MS4.9,baz=266,slow=30
MLR Muntele Rosu 88.53 316 LR LR 13 35 20.1
comp=Z,1μm,19.3s,MS5.3,baz=63,slow=37
MLR Muntele Rosu 88.53 316 ⇑ P **P 12 53 28.5 +1.1**
MLR Muntele Rosu 88.53 316 ⇑ P **P 12 53 28.5 +1.0**
LVV L'vov 88.58 321 *e* P **P 12 53 27.9 +0.3**
KMBO Kilima Mbogo 88.95 269 P **P 12 53 29.0 -1.3**
comp=Z,0.9nm,0.5s,mb4.4,baz=46,slow=14,SNR=4.5
KMBO LR LR 13 34 19.5
comp=Z,1μm,18.1s,MS5.3,baz=278,slow=36
KMBO Kilima Mbogo 88.95 269 P **P 12 53 29.0 -1.3**
KMBO pmax pmax
comp=Z,1.0nm,0.5s
KMBO MLR MLR
comp=Z,1μm,18.1s
TBI Tubuai 89.76 114 *e* S 13 04 00.6
TBI *e* LR LR 13 21 54.2
comp=Z,1μm,25.0s,baz=295
STHS Stebnicka Huta 90.43 321 *e* P **P 12 53 38.2 +1.9**
STHS *e p* P pP 12 53 47.4 +2.1
CRVS Cervenica-Dubn 90.45 320 *e* P **P 12 53 39.0 +2.6**
CRVS *e p* P pP 12 53 46.5 +1.1
NIE Niedzica 91.00 321 *e* P **P 12 53 39.0 +0.1**
OJC Ojcow 91.04 322 *e* P **P 12 53 39.5 +0.4**
MAW Mawson 91.09 200 P **P 12 53 37.5 -1.4**
comp=Z,0.9nm,0.4s,mb4.5,baz=293,slow=13,SNR=3.0
MAW LR LR 13 34 25.8
comp=Z,240nm,18.7s,MS4.7,baz=62,slow=36
MAW Mawson 91.09 200 P **P 12 53 37.5 -1.4**
MAW pmax pmax
comp=Z,1.0nm,0.4s
MAW MLR MLR
comp=Z,241nm,18.7s
NB2 NORSAR Subarra 91.19 334 P **P 12 53 39.1 -0.4**
comp=Z,14nm,1.7s,mb5.0,baz=69,slow=4.5
NB2 NORSAR Subarra 91.19 334 P **P 12 53 39.1 -0.4**
baz=69,slow=4.6
NB2 NORSAR Subarra 91.19 334 P **P 12 53 39.1 -0.4**
NB2 pmax pmax
comp=Z,14nm,1.7s,mb5.0
NOA NORSAR Array B 91.19 334 P **P 12 53 38.9 -0.6**
comp=Z,1.2nm,0.8s,mb4.3,baz=63,slow=4.6,SNR=5.3
NOA LR LR 13 36 36.8
comp=Z,851nm,19.7s,MS5.2,baz=80,slow=37
NOA NORSAR Array B 91.19 334 P **P 12 53 38.9 -0.6**
NOA pmax pmax
comp=Z,1.0nm,0.8s
NOA MLR MLR
comp=Z,851nm,19.7s
KECS Kecovo 91.20 320 *e* P **P 12 53 39.9 0.0**
VNDA Vanda 91.55 173 P **P 12 53 41.5 +0.6**
comp=Z,3.9nm,0.9s,mb4.7,baz=312,slow=6.0,SNR=16
VNDA LR LR 13 37 29.1
comp=Z,351nm,18.9s,MS4.8,baz=340,slow=37
VNDA Vanda 91.55 173 *e* P **P 12 53 40.3 -0.6**
comp=Z,15nm,1.2s,mb5.2
VNDA *e* pP 12 53 50.0 +0.1
VNDA Vanda 91.55 173 *e* P **P 12 53 40.3 -0.6**
VNDA *e* pP 12 53 50.0 +0.1
VNDA pmax pmax
comp=Z,15nm,1.2s
VYHS Vyhne 92.23 320 *e* P **P 12 53 47.1 +2.5**
VYHS *e p* P pP 12 53 55.7 +2.1
YKA Yellowknife Ar 92.43 24 LR LR 13 34 05.3
comp=Z,251nm,21.6s,MS4.6,baz=310,slow=35
CLL Collm 94.61 325 P **P 12 53 56.0 +0.5**
CLL *i* *PP pP 12 54 01.9 -2.5
CLL *i* *SP sP 12 54 05.5 -1.8
CLL *e* S S 13 05 07.0 +3.7
GERES GERESS Array B 95.24 322 P **P 12 53 58.6 +0.2**
comp=Z,1.0nm,0.8s,mb4.3,baz=333,slow=6.0,SNR=6.1
GERES LR LR 13 43 19.8
comp=Z,842nm,18.2s,MS5.2,baz=242,slow=40
MOX Moxa 95.69 324 *i* P **P 12 54 07.2 +6.8**
comp=Z,logA/T=1.0,mb5.2
MOX L 13 41 16.0
LJU Ljubljana 95.87 319 *e* P **P 12 54 01.8 +0.4**
CEY Cerknica 96.06 319 *e* P **P 12 54 01.9 -0.4**
GRA1 Grafenberg Arr 96.34 324 *e* P **P 12 54 03.8 +0.4**
comp=Z,16nm,1.6s,mb5.2
GRA1 *e p* P pP 12 54 13.6 +1.2
GRF Grafenberg Arr 96.34 324 *e* P **P 12 54 03.8 +0.4**
comp=Z,16nm,1.6s,mb5.2
GRF *e p* P pP 12 54 13.6 +1.2
GRF Grafenberg Arr 96.34 324 *e* P **P 12 54 03.8 +0.4**
GRF *e* *PP pP 12 54 13.6 +1.2
GRF pmax pmax
comp=Z,16nm,1.6s,mb5.2
GRF Grafenberg Arr 96.34 324 *e* P **P 12 54 03.8 +0.4**
GRF *e* *PP pP 12 54 13.6 +1.2
GRF pmax pmax
comp=Z,16nm,1.6s,mb5.2
NEW Newport 98.28 37 PFAKE 12 54 30.0 +18
NEW LR LR
comp=Z,439nm,19.0s,MS5.0
DAVOX Davos 98.46 321 LR LR 13 40 08.9
comp=Z,750nm,18.5s,MS5.2,baz=84,slow=36
VAE Valguarnera 99.32 311 LR LR 13 44 11.2
comp=Z,257nm,18.4s,MS4.8,baz=300,slow=38
SYO Syowa Base 99.69 201 ⇑ Pdiff **P 12 54 18.8 +0.7**
SYO Syowa Base 99.69 201 ⇑ pPdiff 12 54 24.0
CMB Columbia Colle 100.65 47 PFAKE 12 54 40.0 +17
CMB LR LR
comp=Z,573nm,21.0s,MS5.1
QSPA South Pole Qui 101.73 180 PFAKE 12 54 40.0 +13
QSPA LR LR
comp=Z,637nm,20.0s,MS5.1
RKT Rikitea 102.83 111 *e* PS PS 13 07 47.8 -7.7
RKT Rikitea 102.83 111 *e* SS SS 13 13 24.7 -1.8
RKT *e* LR LR 13 27 51.1
comp=Z,629nm,34.2s,baz=290
TPH Tonopah 102.89 46 PFAKE 12 54 50.0 +17
TPH LR LR
comp=Z,495nm,20.0s,MS5.0
ISA Isabella 103.03 49 PFAKE 12 54 50.0 +16
ISA LR LR
comp=Z,176nm,21.0s,MS4.6
ELK Elko 103.03 43 PFAKE 12 54 50.0 +16
ELK LR LR
comp=Z,489nm,22.0s,MS5.0
DUG Dugway 104.92 43 PFAKE 12 59 10.0
DUG LR LR
comp=Z,495nm,22.0s,MS5.0
HWUT Hardware Ranch 105.01 41 PFAKE 12 59 10.0
HWUT LR LR
comp=Z,589nm,20.0s,MS5.1
BW06 Boulder Array 105.66 39 PFAKE 12 59 10.0
BW06 LR LR
comp=Z,798nm,21.0s,MS5.2
ISCO Idaho Springs 109.78 40 PFAKE 12 59 20.0
ISCO LR LR
comp=Z,582nm,20.0s,MS5.2
SDCO Great Sand Dun 111.04 42 PFAKE 12 59 20.0 +8.1
SDCO LR LR
comp=Z,627nm,22.0s,MS5.2
ANMO Albuquerque 111.96 45 PFAKE 12 59 20.0 +6.3
ANMO LR LR
comp=Z,322nm,20.0s,MS4.9
SCHQ Schefferville 112.68 8 PFAKE 12 59 20.0 +5.3
SCHQ LR LR
comp=Z,655nm,19.0s,MS5.2
LTX Lajitas 117.01 48 PFAKE 12 59 30.0 +6.2
LTX LR LR
comp=Z,445nm,20.0s,MS5.1
TXAR Lajitas Array 117.01 48 PKP PKPdf 12 59 21.5 -2.3
comp=Z,0.5nm,0.9s,SNR=5.1
TXAR Lajitas Array 117.01 48 PKIKP PKPdf 12 59 21.5 -2.3
TXAR pmax pmax
comp=Z,1.0nm,0.9s
WMOK Wichita Mounta 117.18 41 PFAKE 12 59 30.0 +6.0
WMOK LR LR
comp=Z,584nm,22.0s,MS5.2
DBIC Dimbokro 127.72 288 PKhKP 12 59 37.2
comp=Z,4.6nm,1.0s,baz=70,slow=15,SNR=2.1
JTS JuntasAbangare 142.21 56 PFAKE 13 00 20.0 +8.2
JTS LR LR
comp=Z,74nm,21.0s,MS4.4
PLCA Paso Flores 147.80 156 PKPbc PKPdf 13 00 19.0 -1.5
comp=Z,9.1nm,0.9s,baz=217,slow=5.1,SNR=9.7
PLCA Paso Flores 147.80 156 *e* PKPdf PKPdf 13 00 18.9 -1.7
PLCA Paso Flores 147.80 156 PKP2 PKPab 13 00 19.0 -4.1
PLCA pmax pmax
comp=Z,9.0nm,0.9s
SDV Santo Domingo 153.60 39 *e* PKPdf PKPdf 13 00 27.4 -2.6
SDV *e* PKPbc PKPdf 13 00 35.4 +5.3
SDV *e* PKPab PKPab 13 00 46.8 -1.1
NNA Nana 157.70 93 PFAKE 13 00 40.0 +4.5
NNA LR LR
comp=Z,104nm,19.0s,MS4.7
CPUP Villa Florida 165.29 168 PKP PKPdf 13 00 40.4 -2.8
comp=Z,4.1nm,0.8s,baz=178,slow=2.8,SNR=8.0
CPUP Villa Florida 165.29 168 PKIKP PKPdf 13 00 40.4 -2.8
CPUP pmax pmax
comp=Z,4.0nm,0.8s
LPAZ La Paz 165.66 109 PFAKE 13 00 50.0 +6.3
LPAZ LR LR
comp=Z,410nm,20.0s
SAML Samuel 170.56 73 *e* PKPdf PKPdf 13 00 44.8 -2.2
SIV San Ignacio 172.05 122 PKP PKPdf 13 00 45.0 -2.8
comp=Z,3.7nm,1.1s,baz=107,slow=0.5,SNR=9.0

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*IDC **06** 12:42:48.9±7.5, 7.57S×128.69E, h150km±79km, mb3.5/3, mb1 3.5/5, mb1mx3.5/13, mbtmp3.9/5, Error ellipse: s-maj=80.3km s-min=28.4km az=56.0*
*NEIC **06** 12:42:48.2±4.9, 7.49S×128.77E, h142km±53km, mb4.2/1, Error ellipse: s-maj=52.6km s-min=23.6km az=47.0*
ISC 06 12:42:56.0±2.1, 8.0S±0.1×128.4E±0.1, h249km±24km, n10, σ1§22/13, mb3.6/3, 1C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.16**	**140**	⇑ *i* P	**P**	**12 44 28.8**	**+2.0**
KAKA	12nm,0.2s			*e* S	**S**	**12 45 37.3**	**-0.4**
FITZ	**Fitzroy Crossi**	**10.42**	**195**	*e* P	**P**	**12 45 21.6**	**+0.8**
FITZ	2.6nm,0.4s **Fitzroy Crossi**	**10.42**	**195**	P	**P**	**12 45 21.4**	**+0.6**
FITZ	0.5nm,0.3s,baz=356,slow=12,SNR=13			S	**S**	**12 47 14.4**	**-0.2**
WRA	1.2nm,0.3s,baz=12,slow=6.6,SNR=2.8 **Warramunga Arr**	**13.21**	**155**	P	**P**	**12 45 54.3**	**-1.5**
WRA	0.2nm,0.3s,baz=334,slow=14,SNR=19			S	**S**	**12 48 17.9**	**+0.1**
WB2	1.7nm,0.3s,baz=336,slow=23,SNR=9.3 **Warramunga Arr**	**13.22**	**155**	*e* P	**P**	**12 45 53.9**	**-1.9**
WB2				*e*		12 46 00.9	
STKA	**Stephens Creek**	**26.77**	**154**	P	**P**	**12 48 17.7**	**+2.6**
STKA	1.7nm,0.6s,mb3.9,baz=336,slow=11,SNR=4.6 **Stephens Creek**	**26.77**	**154**	P	**P**	**12 48 17.7**	**+2.6**
SONM	**Songino Array**	**58.88**	**343**	P	**P**	**12 52 30.8**	**-0.1**
	0.5nm,0.4s,mb3.5,baz=146,slow=8.6,SNR=2.8						
MKAR	**Makanchi Array**	**68.18**	**328**	P	**P**	**12 53 30.8**	**-0.6**
	0.6nm,0.3s,mb3.6,baz=120,slow=6.9,SNR=6.7						
MKAR	**Makanchi Array**	**68.18**	**328**	P	**P**	**12 53 30.8**	**-0.6**

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*IDC **06** 12:55:01.1±1.0, 39.57N×143.38E, mb4.2/12, mb1 4.4/12, mb1mx4.2/21, mbtmp4.2/12, MS4.6/5, Ms1 4.5/5, ms1mx4.0/32, Error ellipse: s-maj=25.5km s-min=22.3km az=177.0*
*BJI **06** 12:55:02.0, 39.76N×143.30E, h13km, mB5.2, mb4.7, Ms4.7, Msz4.4*
*JMA **06** 12:55:03.4±0.2, 39.81N×143.50E, h27km, M4.3*
*MOS **06** 12:55:03.6±0.9, 39.90N×143.22E, h15km, mb4.7/39, Error ellipse: s-maj=10.8km s-min=5.8km az=106.1*
*NEIC **06** 12:55:05.4±0.4, 39.74N×143.38E, mb4.6/25, Error ellipse: s-maj=10.2km s-min=7.1km az=141.0*
ISC 06 12:55:03.8±0.3, 39.78N±0.03×143.41E±0.04, h21km, h21km±1.5km: pP-P, n152, σ1§02/165, mb4.5/55, MS4.5/13, 4C-3D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.20**	**278**	P	**Pn**	**12 55 25.6**	**+0.1**
JTH				*e* S	**Sb**	**12 55 41.4**	**+0.6**
MIYJ	**Miyakonagasawa**	**1.24**	**261**	P	**Pn**	**12 55 26.6**	**+0.5**
MIYJ				*e* S	**Sb**	**12 55 43.1**	**+1.1**
JANG	**Nango**	**1.57**	**293**	P	**Pn**	**12 55 30.8**	**0.0**
JOM	**Ohasama**	**1.66**	**260**	P	**Pn**	**12 55 33.2**	**+1.1**
JOM				*e* S	**Sn**	**12 55 54.6**	**+1.6**
JMK	**Ichinoseki**	**1.89**	**245**	P	**Pn**	**12 55 35.7**	**+0.4**
JMK				*e* S	**Sn**	**12 55 59.2**	**+0.5**
JTM	**Tenmabayashi**	**2.06**	**300**	P	**Pn**	**12 55 38.4**	**+0.6**
JTM				*e* S	**Sn**	**12 56 04.1**	**+1.1**
JIO	**Ouri**	**2.08**	**231**	P	**Pn**	**12 55 37.6**	**-0.5**
JIO				*e* S	**Sn**	**12 56 03.0**	**-0.5**
JOT	**Ohata**	**2.41**	**313**	P	**Pn**	**12 55 43.4**	**+0.6**
JOT				*e* S	**Sn**	**12 56 13.3**	**+1.3**
JYK	**Kaneyama**	**2.52**	**251**	P	**Pn**	**12 55 44.9**	**+0.6**
JNBK	**Urakawa-nobuka**	**2.55**	**349**	P	**Pn**	**12 55 45.3**	**+0.5**
JNBK				*e* S	**Sn**	**12 56 16.7**	**+1.1**
JKB	**Kayabe**	**2.77**	**320**	P	**Pn**	**12 55 48.2**	**+0.1**
JMM	**Marumori**	**2.79**	**228**	P	**Pn**	**12 55 47.2**	**-1.1**
JMM				*e* S	**Sn**	**12 56 20.5**	**-1.3**
JCH	**Churui**	**2.84**	**359**	P	**Pn**	**12 55 48.4**	**-0.5**
JCH				*e* S	**Sn**	**12 56 21.1**	**-1.7**
YUK	**Yuzh-Kuril'sk**	**4.63**	**22**	*e* P	**Pn**	**12 56 11.4**	**-3.0**
YUK				S	**Sn**	**12 57 00.5**	**-7.8**
YUK	comp=N,120nm,0.5s			pmax	pmax		
YUK	comp=E,110nm,0.5s			pmax	pmax		
YUK	comp=Z,190nm,0.5s			pmax	pmax		
YUK	comp=N,4μm,2.0s			smax			
YUK	comp=N,190nm,0.5s			smax			
YUK	comp=E,810nm,0.5s			smax			
MAJO	**Matsushiro**	**5.22**	**233**	*e* P	**Pn**	**12 56 22.6**	**0.0**
MAJO	comp=E,3μm,1.4s **Matsushiro**	**5.22**	**233**	*e* P	**Pn**	**12 56 22.6**	**-0.1**
MAJO	comp=Z,3μm,1.4s			pmax	pmax		
MAT	**Matsushiro**	**5.22**	**233**	P	**Pn**	**12 56 22.6**	**-0.1**
MAT				S	**Sn**	**12 57 26.0**	**+3.0**
MAT	**Matsushiro**	**5.22**	**233**	*e* P	**Pn**	**12 56 23.0**	**+0.3**
MAT	comp=Z,45nm,0.9s			S	**Sb**	**12 57 43.0**	**+6.0**
MAT	**Matsushiro**	**5.22**	**233**	*e* P	**Pn**	**12 56 23.0**	**+0.3**
MAT	comp=Z,45nm,0.9s			pmax	pmax		
KUR	**Kuril'sk**	**6.37**	**30**	⇑ *i* P	**Pn**	**12 56 34.1**	**-4.9**
KUR				*i* S	**Sn**	**12 57 43.1**	**-8.8**
KUR	comp=N,60nm,0.8s			pmax	pmax		
KUR	comp=E,30nm,0.8s			pmax	pmax		
KUR	comp=Z,110nm,0.8s			pmax	pmax		
KUR	comp=N,230nm,0.5s			smax			
KUR	comp=E,240nm,0.5s			smax			
YSS	**Yuzh-Sakhalins**	**7.19**	**356**	*e* Pn	**Pn**	**12 56 50.0**	**-0.5**
YSS	comp=E,27nm,1.0s **Yuzh-Sakhalins**	**7.19**	**356**	*i* P	**Pn**	**12 56 50.7**	**+0.2**
YSS	comp=Z,18nm,1.0s			pmax	pmax		
MDJ	**Mudanjiang**	**11.33**	**300**	P	**P**	**12 57 46.0**	**-1.6**
MDJ				PP	PP	12 57 53.9	-2.2
MDJ	comp=Z,15nm,1.0s			AMB	AMB		
MDJ	comp=Z,790nm,7.7s			AMB	AMB		
MDJ	**Mudanjiang**	**11.33**	**300**	*e* P	**P**	**12 57 47.9**	**+0.4**
KS15	comp=Z,11nm,1.1s **Wonju Array Si**	**12.37**	**264**	*e* P	**P**	**12 58 02.6**	**+1.0**
KLR	**Kul'dur**	**12.58**	**323**	*e* P	**P**	**12 58 02.8**	**-1.6**
CN2	**Changchun**	**13.99**	**293**	*e* P	**P**	**12 58 23.1**	**+0.1**
PET	**Petropavlovsk**	**16.87**	**33**	*e* P	**P**	**12 59 02.4**	**+2.3**
PET	comp=Z,30nm,1.2s			*e*		12 59 10.8	
PET	**Petropavlovsk**	**16.87**	**33**	*e* P	**P**	**12 59 02.4**	**+2.3**
PET	comp=Z,30nm,1.2s			pmax	pmax		
HIA	**Hailar**	**19.29**	**307**	*e* P	**P**	**12 59 26.9**	**-3.0**
HIA	comp=Z,14nm,0.8s			*e*		12 59 34.2	
HIA	**Hailar**	**19.29**	**307**	*e* P	**P**	**12 59 26.9**	**-3.0**
HIA	comp=Z,14nm,0.8s			pmax	pmax		
SSE	**Sheshan**	**20.03**	**251**	P	**P**	**12 59 34.7**	**-3.5**
SSE				AMB	AMB		
SSE	comp=Z,34nm,0.7s			AMB	AMB		
MA2	comp=Z,2μm,12.0s **Magadan**	**20.36**	**11**	⇓ *i* P	**P**	**12 59 41.1**	**-0.4**
MA2	comp=Z,22nm,0.9s **Magadan**	**20.36**	**11**	⇓ *i* P	**P**	**12 59 41.1**	**-0.3**
MA2	comp=Z,21nm,0.9s			pmax	pmax		
CLNS	**Chul'man**	**20.93**	**331**	*e* P	**P**	**12 59 46.0**	**-1.4**
CLNS				*e* *PP		12 59 49.6	
CLNS				*e* PPP	PPP	13 00 08.3	-11
CLNS				*e* S	**S**	**13 03 31.0**	**-3.8**
CLNS				*e*		13 03 52.6	
CLNS				*e* SS	SS	13 04 03.7	-3.4
CLNS				pmax	pmax		
	comp=Z,19nm,0.8s						

CLNS			pmax	pmax		
	comp=N,15nm,1.2s					
CLNS			pmax	pmax		
	comp=E,4.0nm,1.0s					
CLNS			pmax	pmax		
	comp=Z,16nm,0.9s					
CLNS			pmax	pmax		
	comp=N,7.0nm,0.7s					
CLNS			pmax	pmax		
	comp=E,14nm,1.1s					
CLNS			smax			
	comp=N,9.0nm,1.0s					
CLNS			smax			
	comp=Z,7.0nm,0.9s					
CLNS			smax			
	comp=E,10.0nm,0.8s					
NJ2	**Nanjing**	**21.29 256**	*e*P	**P**	**12 59 49.0**	**-2.1**
NJ2			AP		12 59 58.0	
NJ2			XP		13 00 02.2	
NJ2			PP	PP	13 00 12.1	-2.8
NJ2			S	**S**	**13 03 36.0**	**-5.7**
NJ2			XS		13 03 48.0	
NJ2			AMB	AMB		
	comp=Z,30nm,0.8s,mb4.7					
NJ2			AMB	AMB		
	comp=Z,252nm,3.8s					
NJ2			LR	LR		
	comp=N,2μm,13.6s,MS5.0					
NJ2			LR	LR		
	comp=E,3μm,11.2s,MS5.0					
NJ2			LR	LR		
	comp=Z,2μm,13.3s,MS4.7					
YAK	**Yakutsk**	**23.80 344**	*e*P	**P**	**13 00 14.7**	**-1.0**
	comp=Z,36nm,0.8s,mb4.9					
YAK	**Yakutsk**	**23.80 344**	*e*P	**P**	**13 00 14.2**	**-1.4**
YAK			*i* *PP		13 00 22.8	
YAK			*i* PPP	PPP	13 00 52.8	-6.3
YAK			*e*S	**S**	**13 04 28.4**	**+1.6**
YAK			*i* SSS	SSS	13 05 17.4	-16
YAK			pmax	pmax		
	comp=N,9.0nm,1.0s					
YAK			pmax	pmax		
	comp=Z,11nm,1.0s,mb4.2					
YAK			pmax	pmax		
	comp=N,23nm,0.9s					
YAK			smax			
	comp=N,5.0nm,1.0s					
YAK			MLR	MLR		
	comp=Z,300nm,14.0s,MS3.9					
SEY	**Seymchan**	**23.81 10**	*e*P	**P**	**13 00 16.2**	**+0.5**
CIT	**Chita**	**23.93 311**	*e*P	**P**	**13 00 16.3**	**-0.7**
CIT			*e*		13 00 22.1	
FX1	**Attu Island--F**	**24.17 47**	P	**P**	**13 00 14.1**	**-5.2**
HHC	**Hu-ho-hao-te**	**24.24 283**	*e*P	**P**	**13 00 20.4**	**+0.3**
HHC			AMB	AMB		
	comp=Z,12nm,0.8s,mb4.4					
WHN	**Wuhan**	**25.39 258**	⇑P	**P**	**13 00 30.6**	**-0.6**
BOD	**Bodaibo**	**26.16 323**	*e*P	**P**	**13 00 36.1**	**-2.0**
BOD			pmax	pmax		
	comp=Z,14nm,0.9s,mb4.5					
SONM	**Songino Array**	**27.69 299**	P	**P**	**13 00 52.3**	**+0.1**
	comp=Z,6.8nm,1.0s,mb4.2,baz=84,slow=7.8,SNR=34					
SONM	**Songino Array**	**27.69 299**	P	**P**	**13 00 52.3**	**+0.1**
SONM			pmax	pmax		
	comp=Z,7.0nm,1.0s					
ENH	**Enshi**	**29.21 262**	*e*P	**P**	**13 01 04.5**	**-1.5**
	comp=Z,29nm,1.1s,mb4.9					
ENH			*e*	pP	13 01 10.6	-1.7
TLY	**Talaya**	**29.83 307**	*e*P	**P**	**13 01 11.9**	**+0.4**
TLY			*e*		13 02 18.7	
TLY			pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.4					
TLY			MLR	MLR		
	comp=Z,589nm,17.0s,MS4.3					
ZAK	**Zakamensk**	**29.91 304**	⇑*i*P	**P**	**13 01 11.6**	**-0.6**
ZAK			*e*		13 02 11.3	
ZAK			pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.1					
ZAK			pmax	pmax		
	comp=Z,2.0nm,1.1s,mb3.8					
BILL	**Bilibino**	**30.96 17**	*i* P	**P**	**13 01 21.1**	**-0.1**
BILL			pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.4					
LZH	**Lanzhou**	**31.25 276**	*e*P	**P**	**13 01 24.1**	**0.0**
LZH			PP	PP	13 02 30.0	+2.6
LZH			*e*S	**S**	**13 06 27.0**	**-1.3**
LZH			AMB	AMB		
	comp=Z,60nm,1.3s,mb5.3					
LZH			AMB	AMB		
	comp=Z,250nm,4.0s					
LZH			LR	LR		
	comp=N,2μm,12.6s					
LZH			LR	LR		
	comp=Z,3μm,13.6s,MS5.0					
TIXI	**Tiksi**	**32.78 352**	*i* P	**P**	**13 01 36.2**	**-1.0**
TIXI			pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5					
GYA	**Guiyang**	**33.28 258**	⇑*i*P	**P**	**13 01 40.7**	**-1.3**
GYA			AP	pP	13 01 52.6	+4.4
GYA			PP	PP	13 02 51.3	-2.3
GYA			AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0					
GYA			AMB	AMB		
	comp=Z,70nm,2.8s,mb5.1					
GYA			LR	LR		
	comp=N,240nm,16.8s,MS4.2					
GYA			LR	LR		
	comp=E,280nm,16.0s,MS4.2					
GYA			LR	LR		
	comp=Z,300nm,16.4s,MS4.1					
GTA	**Gaotai**	**33.35 284**	*e*P	**P**	**13 01 42.8**	**+0.4**
GTA			AP	pP	13 01 48.9	+0.2
GTA			XP	sP	13 01 51.8	+0.4
GTA			AMB	AMB		
	comp=Z,11nm,1.0s,mb4.7					
KMI	**Kunming**	**36.97 259**	P	**P**	**13 02 12.2**	**-1.2**
KMI			AP	pP	13 02 22.7	+2.9
KMI			AMB	AMB		
	comp=Z,8.0nm,1.3s,mb4.4					
KMI			LR	LR		
	comp=Z,463nm,21.4s,MS4.2					
WMQ	**Urumqi**	**41.07 294**	P	**P**	**13 02 48.0**	**+0.7**
WMQ			PP	PP	13 04 26.0	+0.8
WMQ			SCP		13 08 34.0	
WMQ			S	**S**	**13 08 56.0**	**-2.6**
WMQ			AMB	AMB		
	comp=Z,19nm,0.9s,mb4.7					
WMQ			AMB	AMB		
	comp=Z,307nm,8.0s					
WMQ			LR	LR		
	comp=N,645nm,18.0s,MS4.6					
WMQ			LR	LR		
	comp=E,389nm,18.0s,MS4.6					
WMQ			LR	LR		
	comp=Z,472nm,18.0s,MS4.4					
ZAL	**Zalesovo**	**41.30 310**	P	**P**	**13 02 48.9**	**-0.2**
	comp=Z,4.0nm,0.7s,mb4.2,baz=26,slow=8.1,SNR=16					
ZAL	**Zalesovo**	**41.30 310**	P	**P**	**13 02 48.9**	**-0.2**
ZAL			pmax	pmax		
	comp=Z,4.0nm,0.7s					
NVS	**Novosibirsk**	**42.14 312**	*e*P	**P**	**13 02 54.9**	**-1.0**
NVS			pmax	pmax		
	comp=N,5.0nm,1.5s					
NVS			pmax	pmax		
	comp=E,13nm,1.5s					
NVS			pmax	pmax		
	comp=Z,11nm,1.5s,mb4.3					
MKAR	**Makanchi Array**	**44.05 300**	P	**P**	**13 03 11.4**	**-0.2**
	comp=Z,5.1nm,0.8s,mb4.3,baz=84,slow=9.2,SNR=36					
MKAR	**Makanchi Array**	**44.05 300**	P	**P**	**13 03 11.4**	**-0.2**
MKAR			pmax	pmax		
	comp=Z,5.0nm,0.8s					
KURK	**Kurchatov**	**45.53 306**	*e*P	**P**	**13 03 23.2**	**-0.2**
	comp=Z,19nm,1.0s,mb5.0					
KURK	**Kurchatov**	**45.53 306**	*e*P	**P**	**13 03 23.2**	**-0.2**
KURK			pmax	pmax		
	comp=Z,19nm,1.0s,mb5.0					
ILAR	**Eielson Array**	**46.35 34**	P	**P**	**13 03 29.6**	**0.0**
	comp=Z,1.4nm,0.7s,mb4.0,baz=263,slow=7.1,SNR=14					
ILAR	**Eielson Array**	**46.35 34**	P	**P**	**13 03 29.7**	**+0.1**
ILAR			pmax	pmax		
	comp=Z,1.0nm,0.7s					
KKN	**Kakani**	**49.00 275**	*e*P	**P**	**13 03 50.9**	**0.0**
	comp=Z,53nm,0.8s,mb5.6					
PKI	**Pulchoki**	**49.01 274**	*e*P	**P**	**13 03 50.9**	**-0.1**
	comp=Z,13nm,0.6s,mb5.1					
DMN	**Daman**	**49.23 274**	*e*P	**P**	**13 03 52.9**	**+0.2**
GKN	**Gorkha**	**49.39 275**	*e*P	**P**	**13 03 53.5**	**-0.4**
	comp=Z,27nm,0.8s,mb5.3					
VOSK	**Vostochnaya**	**49.66 310**	P	**P**	**13 03 54.3**	**-1.4**
VOSK			pmax	pmax		
	comp=Z,11nm,1.2s,mb4.8					
BVA0	**Borovoye Array**	**49.92 311**	*i* P	**P**	**13 03 56.5**	**-1.2**
BVA0			pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.9					
BVAR	**Borovoye Array**	**49.92 311**	P	**P**	**13 03 57.4**	**-0.3**
	comp=Z,3.5nm,0.6s,mb4.5,baz=79,slow=7.6,SNR=19					
BVAR	**Borovoye Array**	**49.92 311**	P	**P**	**13 03 57.4**	**-0.3**
BVAR			pmax	pmax		
	comp=Z,4.0nm,0.6s					
BRVK	**Borovoye**	**49.98 311**	*e*P	**P**	**13 03 57.3**	**-0.8**
	comp=Z,4.5nm,0.9s,mb4.5					
BRVK	**Borovoye**	**49.98 311**	*e*P	**P**	**13 03 57.3**	**-0.8**
BRVK			pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5					
KOLN	**Koldanda**	**50.30 275**	*e*P	**P**	**13 04 00.8**	**-0.1**
	comp=Z,36nm,1.1s,mb5.3					
FRU	**Bishkek**	**50.45 297**	*e*P	**P**	**13 04 01.0**	**-0.8**
AAK	**Ala-Archa**	**50.61 297**	*e*P	**P**	**13 04 01.2**	**-1.8**
	comp=Z,7.6nm,0.8s,mb4.7					
AAK			*e*	pP	13 04 08.8	-0.8
AAK	**Ala-Archa**	**50.61 297**	*e*P	**P**	**13 04 01.2**	**-1.8**
AAK			*e*	pP	13 04 08.8	-0.7
AAK			pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7					
INK	**Inuvik**	**51.24 28**	P	**P**	**13 04 07.7**	**+0.3**
	comp=Z,0.8nm,0.4s,mb4.0,baz=322,slow=1.9,SNR=6.8					
INK	**Inuvik**	**51.24 28**	P	**P**	**13 04 07.7**	**+0.3**
INK			pmax	pmax		
	comp=Z,1.0nm,0.4s					
KKAR	**Karatay Array**	**53.14 299**	P	**P**	**13 04 29.6**	**+7.5**
KKAR			pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0					
SVE	**Sverdlovsk**	**54.16 318**	*e*P	**P**	**13 04 28.8**	**-0.5**
SVE			*e*		13 06 35.6	
SVE			MLR	MLR		
	comp=N,300nm,14.0s,MS4.7					
SVE			MLR	MLR		
	comp=E,300nm,14.0s,MS4.7					
SVE			MLR	MLR		
	comp=Z,400nm,14.0s,MS4.6					
ARU	**Arti**	**55.37 318**	*e*P	**P**	**13 04 37.2**	**-1.0**
	comp=Z,11nm,1.1s,mb4.8					
ARU	**Arti**	**55.37 318**	⇓*i*P	**P**	**13 04 37.4**	**-0.8**
ARU			*e*		13 06 41.3	
ARU			*e*S	**S**	**13 12 22.7**	**+3.1**
ARU			*e*SS	SS	13 16 09.1	+4.9
ARU			pmax	pmax		
	comp=Z,13nm,1.3s,mb4.8					
AB31	**Akbulak array**	**57.39 309**	*i* P	**P**	**13 04 51.4**	**-1.4**
AB31			pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5					
WRAB	**Tennant Creek**	**59.99 190**	*e*P	**P**	**13 05 12.6**	**+1.3**
WRAB			*e*	pP	13 05 18.4	+0.5
WRA	**Warramunga Arr**	**60.01 190**	P	**P**	**13 05 08.0**	**-3.4**
	comp=Z,1.0nm,0.8s,mb3.9,baz=8.0,slow=6.9,SNR=9.6					
WRA	**Warramunga Arr**	**60.01 190**	*i* P	**P**	**13 05 08.9**	**-2.5**
WRA			pmax	pmax		
	comp=Z,1.0nm,0.8s					
OBN	**Obninsk**	**66.84 323**	P	**P**	**13 05 55.0**	**-0.8**
OBN			pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.9					
FINES	**FINESS Array B**	**67.12 332**	P	**P**	**13 05 57.0**	**-0.4**
	comp=Z,2.4nm,0.7s,mb4.4,baz=56,slow=6.9,SNR=11					
FINES	**FINESS Array B**	**67.12 332**	P	**P**	**13 05 57.1**	**-0.4**
FINES			pmax	pmax		
	comp=Z,2.0nm,0.7s					
KIV	**Kislovodsk**	**70.29 311**	*e*P	**P**	**13 06 17.0**	**-0.4**
	comp=Z,10nm,0.6s,mb4.9					
KIV	**Kislovodsk**	**70.29 311**	*e*P	**P**	**13 06 17.0**	**-0.4**
KIV			pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.9					
GNI	**Garni**	**71.32 307**	*i* P	**P**	**13 06 22.0**	**-1.7**
GNI			pmax	pmax		
	comp=Z,10.0nm,1.3s					
NB2	**NORSAR Subarra**	**72.26 338**	P	**P**	**13 06 28.2**	**-0.7**
	comp=Z,6.5nm,0.8s,mb4.6,baz=38,slow=5.8					
NB2	**NORSAR Subarra**	**72.26 338**	P	**P**	**13 06 28.2**	**-0.7**
NB2			pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6					
NOA	**NORSAR Array B**	**72.26 338**	P	**P**	**13 06 28.6**	**-0.4**
	comp=Z,4.4nm,0.8s,mb4.5,baz=38,slow=6.0,SNR=16					
NOA	**NORSAR Array B**	**72.26 338**	P	**P**	**13 06 28.6**	**-0.3**
NOA			pmax	pmax		
	comp=Z,4.0nm,0.8s					
ANN	**Anapa**	**72.75 314**	*e*P	**P**	**13 06 23.2**	**-8.9**
ANN			*i* *PP	pP	13 06 33.5	-5.2
ANN			pmax	pmax		
	comp=Z,14nm,0.7s,mb5.0					
AKASG	**Malin Array Be**	**73.08 323**	P	**P**	**13 06 33.3**	**-0.6**
	comp=Z,1.7nm,0.6s,mb4.1,baz=38,slow=5.7,SNR=10					
AKASG	**Malin Array Be**	**73.08 323**	P	**P**	**13 06 33.3**	**-0.6**
AKASG			pmax	pmax		
	comp=Z,2.0nm,0.6s					
DUG	**Dugway**	**74.39 51**	*e*P	**P**	**13 06 43.5**	**+1.8**
	comp=Z,9.5nm,1.5s,mb4.5					
DUG	**Dugway**	**74.39 51**	*e*P	**P**	**13 06 43.5**	**+1.8**
DUG			pmax	pmax		
	comp=Z,9.0nm,1.5s,mb4.5					
BW06	**Boulder Array**	**74.64 47**	*e*P	**P**	**13 06 45.1**	**+2.1**
	comp=Z,3.0nm,1.2s,mb4.1					
PDAR	**Pinedale Array**	**74.64 47**	P	**P**	**13 06 44.0**	**+0.9**
	comp=Z,0.6nm,0.7s,mb3.6,baz=297,slow=3.3,SNR=6.0					
PDAR			LR	LR	13 35 21.5	
	comp=Z,688nm,21.6s,MS4.9,baz=322,slow=32					
MALT	**Malatya**	**76.31 309**	*e*P	**P**	**13 06 53.6**	**+0.9**
	comp=Z,7.9nm,1.2s,mb4.5					
MALT			*e*	pP	13 07 00.9	+1.5
MALT	**Malatya**	**76.31 309**	*e*P	**P**	**13 06 53.6**	**+0.9**
MALT			*e*	pP	13 07 00.9	+1.5
MALT			pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.5					
ULM	**Lac du Bonnet**	**76.36 35**	LR	LR	13 45 49.1	
	comp=Z,213nm,19.0s,MS4.5,baz=308,slow=40					
SRU	**San Rafael**	**76.44 50**	P	**P**	**13 06 53.7**	**+0.3**
SRU			*e*	pP	13 06 59.7	-0.4
OJC	**Ojcow**	**77.62 327**	*e*P	**P**	**13 07 00.3**	**+0.6**
PV10	**Paradox Valley**	**77.80 50**	*e*P	**P**	**13 07 02.4**	**+1.4**
OKC	**Ostrava-Krasne**	**78.61 327**	*e*pP	pP	13 07 15.4	+3.5
OKC			*e*x	x	13 07 21.9	
OKC			AMS	AMS	13 39 00.0	
	comp=Z,800nm,17.0s					
MORC	**Moravsky Berou**	**78.91 328**	*e*P	**P**	**13 07 06.9**	**+0.2**
	comp=Z,4.2nm,1.0s,mb4.3					
MORC			*e*	pP	13 07 13.7	+0.1
MORC	**Moravsky Berou**	**78.91 328**	*e*P	**P**	**13 07 06.9**	**+0.1**
MORC			*e*	pP	13 07 13.7	+0.2
MORC			pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3					
DPC	**Dobruska-Polom**	**78.96 329**	*e*P	**P**	**13 07 08.4**	**+1.4**
DPC			*e*x	x	13 07 25.2	
DPC			AMS	AMS	13 39 30.0	
	comp=Z,1μm,17.2s					
UPC	**Upice**	**78.96 329**	*e*P	**P**	**13 07 08.2**	**+1.2**
UPC			*e*pP	pP	13 07 11.7	-2.1
BRG	**Berggiesshubel**	**79.48 330**	*e*P	**P**	**13 07 11.0**	**+1.2**
	comp=Z,6.7nm,1.3s,mb4.4					
BRG	**Berggiesshubel**	**79.48 330**	*e*P	**P**	**13 07 11.0**	**+1.1**
BRG			pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.4					
CLL	**Collm**	**79.49 331**	P	**P**	**13 07 10.0**	**+0.1**
CLL	**Collm**	**79.49 331**	P	**P**	**13 07 10.0**	**+0.1**
CLL			*e**PP	pP	13 07 16.0	-0.6
PVCC	**Panska Ves**	**79.51 330**	AMS	AMS	13 39 40.0	
	comp=Z,1μm,15.4s					
PRU	**Pruhonice**	**79.95 329**	*e*P	**P**	**13 07 13.3**	**+0.9**
PRU			*e*pP	pP	13 07 19.3	+0.1
PRU			AMS	AMS	13 40 10.0	
	comp=Z,1μm,15.8s					
NKC	**Novy Kostel**	**80.56 331**	AMS	AMS	13 41 00.0	
	comp=Z,2μm,16.9s					
KHC	**Kasperske Hory**	**81.01 329**	*e*P	**P**	**13 07 18.8**	**+0.7**
KHC			*e*pP	pP	13 07 25.0	+0.2
KHC			AMS	AMS	13 42 40.0	
	comp=Z,700nm,19.1s					
KHC	**Kasperske Hory**	**81.01 329**	*e*P	**P**	**13 07 18.8**	**+0.7**
KHC			*e*	pP	13 07 25.0	+0.2
GERES	**GERESS Array B**	**81.19 329**	P	**P**	**13 07 19.3**	**+0.3**
	comp=Z,0.7nm,0.6s,mb3.8,baz=18,slow=4.2,SNR=4.8					
GERES	**GERESS Array B**	**81.19 329**	P	**P**	**13 07 19.3**	**+0.3**
GERES			pmax	pmax		
	comp=Z,1.0nm,0.6s					
GRA1	**Grafenberg Arr**	**81.46 331**	*e*P	**P**	**13 07 21.6**	**+1.2**
	comp=Z,9.0nm,1.1s,mb4.6					
GRA1			*e*	pP	13 07 27.8	+0.6
GRF	**Grafenberg Arr**	**81.46 331**	*e*P	**P**	**13 07 21.6**	**+1.2**
	comp=Z,9.0nm,1.1s,mb4.6					
GRF			*e*	pP	13 07 27.8	+0.6
GRF	**Grafenberg Arr**	**81.46 331**	*e*P	**P**	**13 07 21.6**	**+1.2**
GRF			*e*	pP	13 07 27.8	+0.6
GRF			pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6					
GRF	**Grafenberg Arr**	**81.46 331**	*e*P	**P**	**13 07 21.6**	**+1.2**
GRF			*e*	pP	13 07 27.8	+0.6
GRF			pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6					
ANMO	**Albuquerque**	**81.63 51**	*e*P	**P**	**13 07 26.0**	**+4.3**
	comp=Z,3.2nm,1.0s,mb4.2					
ANMO	**Albuquerque**	**81.63 51**	*e*P	**P**	**13 07 26.0**	**+4.4**
ANMO			pmax	pmax		
	comp=Z,3.0nm,1.0s					
SCHQ	**Schefferville**	**82.27 17**	LR	LR	13 50 09.3	
	comp=Z,202nm,20.7s,MS4.5,baz=314,slow=40					
CDF	**Champ du Feu**	**83.97 332**	*e*P	**P**	**13 07 33.9**	**+0.6**
	comp=Z,13nm,1.2s,mb4.7					
CDF	**Champ du Feu**	**83.97 332**	*e*P	**P**	**13 07 33.9**	**+0.6**
CDF			pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.7					
LOR	**Lormes**	**86.15 334**	*e*P	**P**	**13 07 44.7**	**+0.5**
	comp=Z,8.4nm,0.8s,mb4.7					
LOR	**Lormes**	**86.15 334**	*e*P	**P**	**13 07 44.7**	**+0.5**
LOR			pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.7					
SSF	**Saint Saulge**	**86.45 334**	*e*P	**P**	**13 07 46.2**	**+0.5**
	comp=Z,3.0nm,0.8s,mb4.6					
SSF	**Saint Saulge**	**86.45 334**	*e*P	**P**	**13 07 46.2**	**+0.5**
SSF			pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.6					
LPL	**La Plagne**	**86.62 331**	*e*P	**P**	**13 07 47.6**	**+1.0**
	comp=Z,11nm,1.0s,mb4.7					
LPL	**La Plagne**	**86.62 331**	*e*P	**P**	**13 07 47.6**	**+1.0**
LPL			pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.7					
LPG	**La Plagne**	**86.63 331**	*e*P	**P**	**13 07 47.7**	**+1.1**
	comp=Z,4.4nm,0.7s,mb4.5					
LPG	**La Plagne**	**86.63 331**	*e*P	**P**	**13 07 47.7**	**+1.1**
LPG			pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.5					
GRR	**Gorron**	**86.67 337**	*e*P	**P**	**13 07 47.5**	**+0.8**
SMF	**Signal de Mont**	**86.69 333**	*e*P	**P**	**13 07 47.5**	**+0.6**
AVF	**Avril sur Loir**	**86.73 334**	*e*P	**P**	**13 07 47.8**	**+0.7**
	comp=Z,16nm,1.0s,mb4.9					
AVF	**Avril sur Loir**	**86.73 334**	*e*P	**P**	**13 07 47.8**	**+0.7**
AVF			pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.9					
RPZ	**Rata Peaks**	**86.78 160**	LR	LR	13 42 09.4	
	comp=Z,391nm,18.8s,MS4.8,baz=22,slow=33					
TXAR	**Lajitas Array**	**87.22 54**	LR	LR	13 47 33.0	
	comp=Z,295nm,18.9s,MS4.7,baz=165,slow=36					
MFF	**Saint Martin d**	**88.05 336**	*e*P	**P**	**13 07 54.3**	**+0.9**

*IDC **06** 13:01:23.0±0.5, 11.85N×125.91E, mb4.5/18, mb1 4.6/18, mb1mx4.5/22, mbtmp4.5/18, MS4.4/9, Ms1 4.4/9, ms1mx4.1/33, Error ellipse: s-maj=35.1km s-min=12.0km az=69.0*

*MAN **06** 13:01:23.1, 11.95N×125.99E, h2km, mb5.4, ML4.4, MS4.7*

MAN PALO LEYTE - INTENSITY II.

*BJI **06** 13:01:23.7, 11.45N×125.94E, h35km, mB5.4, mb4.8, Ms4.9, Msz4.6*

*MOS **06** 13:01:26.2±0.8, 11.71N×125.82E, h37km, mb5.1/38, Error ellipse: s-maj=18.6km s-min=6.3km az=116.5*

*HRVD **06** 13:01:27.1±0.4, 11.95N×125.93E, h21km±1km, MW5.0/61, Centroid moment Tensor Solution. LP body waves: s22,c27;Mantle waves: s61,c95; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.52±.29; Mθθ-0.13±.14; Mφφ-3.39±.19; Mrθ0.02±.22; Mθφ0.58±.08; Mφr2.70±.27; Best double couple: M0=4.424×10^16 NP1:φs164°, δ27°, λ79° NP2:φs356°, δ64°, λ95°. Principal axes: T 4.459, Plg71°, Azm278°; N -.069, Plg5°, Azm174°; P -4.388, Plg19°, Azm82°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **06** 13:01:27.1±0.2, 11.78N×125.89E, mb5.0/29, MS4.3/17 Error ellipse: s-maj=10.3km s-min=5.0km az=76.0*

NEIC Felt [II PIVS] at Palo, Leyte.

ISC 06 13:01:25.6±0.2,**11.86N**±0.02×**125.96E**±0.03,**h29**km, **h29**km±1.2km:**pP-P,n206,σ0s95/198,mb4.9/73,MS4.4/31, 20C-6D,Samar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.57**	**244**	*e*P	**Pb**	**13 01 35.7**	**-1.3**
BESP				*e*S	**Sb**	**13 01 45.2**	**+0.4**
PLP	**Palo**	**1.18**	**234**	*i* P	**Pn**	**13 01 46.2**	**-0.2**
PLP				*i* S	**Sn**	**13 01 59.2**	**-2.3**
CNP	**Catarman**	**1.42**	**297**	*e*P	**Pn**	**13 01 49.8**	**-0.1**
CNP				*e*S	**Sn**	**13 02 09.1**	**+1.3**
MSLP	**Maasin**	**2.02**	**212**	*e*P	**Pn**	**13 02 00.7**	**+2.3**
SCPH	**Surigao**	**2.11**	**193**	*e*P	**Pn**	**13 02 00.6**	**+0.9**
SCPH				*e*S	**Sn**	**13 02 29.6**	**+4.3**
PVCP	**Virac**	**2.47**	**315**	*e*P	**Pn**	**13 02 04.5**	**-0.3**
LLP	**Lapu-Lapu**	**2.48**	**232**‖	*e*P	**Pn**	**13 02 06.3**	**+1.3**
LLP				*e*S	**Sn**	**13 02 42.1**	**+7.5**
BUTP	**Butuan**	**2.89**	**187**	*e*P	**Pn**	**13 02 12.9**	**+2.2**
TBP	**Tagbilaran**	**2.98**	**224**	*e*P	**Pn**	**13 02 13.7**	**+1.6**
RCP	**Roxas**	**3.16**	**265**⇑	*e*P	**Pn**	**13 02 15.5**	**+0.8**
AUQP	**San Andres**	**3.52**	**295**	*e*P	**Pn**	**13 02 21.8**	**+2.0**
KALP	**Kalibo**	**3.55**	**268**	*e*P	**Pn**	**13 02 25.1**	**+4.9**
SNPH	**Sibulan**	**3.66**	**227**⇑	*e*P	**Pn**	**13 02 22.0**	**+0.3**
BIPH	**Bislig**	**3.67**	**174**	*e*P	**Pn**	**13 02 22.5**	**+0.6**
OTRP	**Odiongan**	**3.88**	**278**	*e*P	**Pn**	**13 02 25.7**	**+0.8**
GQP	**Guinayangan**	**3.98**	**301**	*e*P	**Pn**	**13 02 25.4**	**-0.9**
BUKP	**Musuan**	**4.05**	**193**	*e*P	**Pn**	**13 02 28.7**	**+1.4**
DCPH	**Dipolog City**	**4.14**	**218**⇑	*e*P	**Pn**	**13 02 29.2**	**+0.6**
BOAC	**Boac**	**4.32**	**292**	*e*P	**Pn**	**13 02 31.2**	**+0.1**
PAGZ	**Pagadian**	**4.72**	**213**	*e*P	**Pn**	**13 02 37.9**	**+1.1**
SJMP	**San Jose**	**4.77**	**278**	*e*P	**Pn**	**13 02 39.3**	**+1.8**
DAV	**Davao City (W)**	**4.77**	**184**	*e*P	**Pn**	**13 02 47.0**	**+9.5**
POLP	**Polilio Island**	**4.84**	**307**	*e*P	**Pn**	**13 02 43.8**	**+5.2**
MATI	**Mati**	**4.89**	**176**	*e*P	**Pn**	**13 02 43.3**	**+4.1**
KCP	**Kidapawan**	**4.89**	**190**‖	*e*P	**Pn**	**13 02 45.3**	**+6.1**
CUYO	**Cuyo Island**	**4.94**	**259**	*e*P	**Pn**	**13 02 40.5**	**+0.5**
ARP	**Angono**	**5.38**	**300**⇑	*e*P	**Pn**	**13 02 45.3**	**-0.8**
NZB	**Bigte**	**5.59**	**303**⇑	*e*P	**Pn**	**13 02 48.1**	**-1.0**
BALP	**Baler**	**5.75**	**313**	*e*P	**Pn**	**13 02 50.3**	**-1.0**
PCPH	**Palayan**

GYA	**Guiyang**	**23.26 311**	⇑*i*P	**P**	**13 06 32.0 +0.2**
GYA			AP		13 06 39.4
GYA			XP		13 06 42.8
GYA			PP	PP	13 07 03.6 +0.6
GYA			S	**S**	**13 10 36.8 -1.3**
GYA			AMB	AMB	
	comp=Z,20nm,1.2s,mb4.4				
GYA			AMB	AMB	
	comp=Z,760nm,8.0s				
GYA			LR	LR	
	comp=N,2µm,17.1s,MS4.7				
GYA			LR	LR	
	comp=E,2µm,16.5s,MS4.7				
GYA			LR	LR	
	comp=Z,2µm,16.8s,MS4.6				
ENH	**Enshi**	**23.86 323**	*e*P	**P**	**13 06 38.1 +0.5**
	comp=Z,41nm,0.9s,mb4.9				
ENH			*e*		13 06 44.0
ENH			LR	LR	
	comp=Z,1µm,19.0s,MS4.4				
KGM	**Kluang**	**24.48 248**	P	**P**	**13 06 43.7 -0.2**
JHJ	**Hachijo jima 2**	**24.67 29**	LR	LR	13 14 19.7
	comp=Z,670nm,19.5s,MS4.2,baz=220,slow=31				
KS15	**Wonju Array Si**	**25.54 4**	*e*P	**P**	**13 06 54.4 +0.8**
KS15			*e*	pP	13 07 03.7 +1.7
KMI	**Kunming**	**25.61 304**	P	**P**	**13 06 54.5 0.0**
KMI			AP	pP	13 07 04.3 +1.5
KMI			AMB	AMB	
	comp=Z,17nm,1.5s,mb4.3				
KMI			AMB	AMB	
	comp=Z,513nm,5.0s				
IPM	**Ipoh**	**25.69 256**	P	**P**	**13 06 54.4 -0.9**
XAN	**Xi'an**	**27.00 328**	P	**P**	**13 07 06.4 -0.8**
XAN			AP	pP	13 07 14.8 -0.7
XAN			AMB	AMB	
	comp=Z,28nm,1.3s,mb4.6				
CD2	**Chengdu**	**27.95 316**	P	**P**	**13 07 15.4 -0.4**
CD2			AMB	AMB	
	comp=Z,20nm,0.5s,mb5.0				
FITZ	**Fitzroy Crossi**	**29.77 181**	*e*P	**P**	**13 07 31.7 -0.6**
	comp=Z,11nm,0.6s,mb4.8				
FITZ	**Fitzroy Crossi**	**29.77 181**	P	**P**	**13 07 31.1 -1.2**
	comp=Z,10nm,0.6s,mb4.8,baz=6.2,slow=8.8,SNR=21				
PMG	**Port Moresby**	**29.84 134**	P	**P**	**13 07 32.7 -0.3**
	comp=Z,14nm,0.9s,mb4.7,baz=346,slow=17,SNR=2.3				
PMG	**Port Moresby**	**29.84 134**	P	**P**	**13 07 32.7 -0.3**
PMG			pmax	pmax	
	comp=Z,14nm,0.9s				
SNY	**Shenyang**	**29.93 356**	⇓P	**P**	**13 07 34.6 +1.1**
SNY			AMB	AMB	
	comp=Z,20nm,1.2s,mb4.7				
LZH	**Lanzhou**	**31.31 324**	*e*P	**P**	**13 07 45.5 -0.2**
LZH			AP	pP	13 07 53.5 -0.7
LZH			XP	sP	13 07 57.0 -0.9
LZH			AMB	AMB	
	comp=Z,42nm,1.5s,mb5.0				
HHC	**Hu-ho-hao-te**	**31.54 339**	*e*P	**P**	**13 07 48.1 +0.5**
HHC			XP	sP	13 07 58.6 -1.2
HHC			PP	PP	13 08 51.5 -0.7
HHC			S	**S**	**13 12 53.5 +0.4**
HHC			AMB	AMB	
	comp=Z,10.0nm,0.6s,mb4.8				
HHC			AMB	AMB	
	comp=Z,883nm,7.4s				
CN2	**Changchun**	**31.83 359**	*e*P	**P**	**13 07 55.9 +5.7**
CN2			*e*XP	sP	13 08 08.0 +5.6
CN2			*e*S	**S**	**13 13 06.7 +9.0**
CN2			AMB	AMB	
	comp=Z,10.0nm,0.8s,mb4.7				
CN2			AMB	AMB	
	comp=Z,330nm,4.0s				
CN2			LR	LR	
	comp=N,290nm,14.0s,MS4.3				
CN2			LR	LR	
	comp=E,330nm,14.0s,MS4.3				
CN2			LR	LR	
	comp=Z,300nm,15.0s,MS4.1				
WRAB	**Tennant Creek**	**32.65 165**	*e*P	**P**	**13 07 56.1 -1.4**
	comp=Z,6.5nm,0.7s,mb4.7				
WRAB	**Tennant Creek**	**32.65 165**	*e*P	**P**	**13 07 56.1 -1.5**
WRAB			pmax	pmax	
	comp=Z,7.0nm,0.7s,mb4.7				
WRA	**Warramunga Arr**	**32.66 165**	P	**P**	**13 07 55.9 -1.7**
	comp=Z,1.3nm,0.7s,mb4.0,baz=346,slow=9.0,SNR=11				
WRA			PcP	PcP	13 10 42.8 -0.5
	comp=Z,2.8nm,0.8s,baz=344,slow=3.0,SNR=8.1				
WRA	**Warramunga Arr**	**32.66 165**	P	**P**	**13 07 55.9 -1.7**
WRA					13 10 42.8
WRA			pmax	pmax	
	comp=Z,1.0nm,0.7s				
WRA			pmax	pmax	
	comp=Z,3.0nm,0.9s				
WB2	**Warramunga Arr**	**32.66 165**	*e*P	**P**	**13 07 56.0 -1.6**
MDJ	**Mudanjiang**	**32.80 5**	P	**P**	**13 08 00.4 +1.8**
MDJ			AP	pP	13 08 05.9 -1.1
MDJ			XP	sP	13 08 08.4 -2.3
MDJ			AMB	AMB	
	comp=Z,7.0nm,0.7s,mb4.7				
MDJ	**Mudanjiang**	**32.80 5**	PFAKE		13 08 10.0 +11
MDJ			LR	LR	
	comp=Z,504nm,20.0s,MS4.2				
MBWA	**Marble Bar**	**33.37 191**	*e*P	**P**	**13 08 02.2 -1.7**
	comp=Z,14nm,1.1s,mb4.8				
GTA	**Gaotai**	**35.91 324**	⇑P	**P**	**13 08 26.1 +0.6**
GTA			PP	PP	13 09 48.3 +1.1
GTA			PCP	PcP	13 10 53.1 +0.7
GTA			AMB	AMB	
	comp=Z,13nm,1.3s,mb4.7				
LSA	**Lhasa**	**36.87 304**	P	**P**	**13 08 34.4 +0.8**
LSA	**Lhasa**	**36.87 304**	*e*P	**P**	**13 08 33.8 +0.2**
	comp=Z,37nm,1.3s,mb5.0				
LSA			*e*	pP	13 08 44.1 +2.0
LSA			LR	LR	
	comp=Z,558nm,22.0s,MS4.3				
LSA	**Lhasa**	**36.87 304**	*e*P	**P**	**13 08 33.8 +0.2**
LSA			*e*	pP	13 08 44.1 +2.0
LSA			pmax	pmax	
	comp=Z,37nm,1.3s,mb5.0				
LSA			MLR	MLR	
	comp=Z,558nm,22.0s,MS4.3				
CTA	**Charters Tower**	**37.51 148**	P	**P**	**13 08 39.0 0.0**
	comp=Z,5.1nm,0.9s,mb4.3,baz=291,slow=8.6,SNR=4.2				
CTA	**Charters Tower**	**37.51 148**	P	**P**	**13 08 39.0 0.0**
CTA			pmax	pmax	
	comp=Z,5.0nm,0.9s				
CTAO	**Charters Tower**	**37.51 148**	P	**P**	**13 08 36.3 -2.7**
	comp=Z,7.2nm,0.9s,mb4.4				
CTAO	**Charters Tower**	**37.51 148**	P	**P**	**13 08 36.3 -2.7**
CTAO			pmax	pmax	
	comp=Z,7.0nm,0.9s,mb4.4				
HIA	**Hailar**	**37.65 353**	P	**P**	**13 08 40.2 +0.3**
	comp=Z,9.9nm,1.1s,mb4.5				
HIA	**Hailar**	**37.65 353**	P	**P**	**13 08 40.2 +0.2**
HIA			pmax	pmax	
	comp=Z,10.0nm,1.1s				
YSS	**Yuzh-Sakhalins**	**37.75 19**	PFAKE		13 08 50.0 +9.2
YSS			LR	LR	
	comp=Z,361nm,20.0s,MS4.2				
YSS	**Yuzh-Sakhalins**	**37.75 19**	P	**P**	**13 08 48.0 +7.2**
SONM	**Songino Array**	**39.44 339**	P	**P**	**13 08 55.7 +0.8**
	comp=Z,2.4nm,0.8s,mb4.0,baz=156,slow=8.6,SNR=10				
SONM	**Songino Array**	**39.44 339**	P	**P**	**13 08 55.7 +0.8**
SONM			pmax	pmax	
	comp=Z,2.0nm,0.8s				
PKI	**Pulchoki**	**41.03 298**	*e*P	**P**	**13 09 07.5 -0.7**
	comp=Z,40nm,0.7s,mb5.1				
KKN	**Kakani**	**41.20 299**	*e*P	**P**	**13 09 08.9 -0.7**
	comp=Z,64nm,0.9s,mb5.2				
DMN	**Daman**	**41.30 298**	*e*P	**P**	**13 09 09.9 -0.6**
	comp=Z,42nm,0.7s,mb5.2				
GKN	**Gorkha**	**41.80 299**	*e*P	**P**	**13 09 13.6 -1.0**
	comp=Z,104nm,1.2s,mb5.3				
KOLN	**Koldanda**	**42.64 298**	*e*P	**P**	**13 09 20.9 -0.6**
	comp=Z,84nm,0.9s,mb5.5				
ZAK	**Zakamensk**	**42.69 339**	⇑*e*P	**P**	**13 09 21.9 +0.3**
ZAK			*e*		13 11 04.2
ZAK			pmax	pmax	
	comp=Z,2.0nm,1.4s				
ZAK			pmax	pmax	
	comp=Z,2.0nm,1.3s				
TLY	**Talaya**	**43.65 340**	*e*P	**P**	**13 09 30.1 +0.8**
	comp=Z,16nm,1.2s,mb4.6				
TLY			LR	LR	
	comp=Z,82nm,20.0s,MS3.6				
TLY	**Talaya**	**43.65 340**	*e*P	**P**	**13 09 30.1 +0.8**
TLY			pmax	pmax	
	comp=Z,16nm,1.2s,mb4.6				
TLY			MLR	MLR	
	comp=Z,82nm,20.0s,MS3.6				
KLBR	**Kellerberrin**	**43.91 190**	*e*P	**P**	**13 09 31.1 -0.6**
	comp=Z,72nm,1.7s,mb5.1				
IRK	**Irkutsk**	**43.92 341**	*e*P	**P**	**13 09 32.4 +0.9**
IRK			pmax	pmax	
	comp=Z,27nm,2.6s,mb4.5				
MOY	**Mondy**	**44.57 338**	*e*P	**P**	**13 09 37.8 +1.0**
MOY			pmax	pmax	
	comp=Z,38nm,2.4s,mb4.8				
NWAO	**Narrogin (SRO)**	**45.30 190**	P	**P**	**13 09 42.2 -0.8**
	comp=Z,7.0nm,0.6s,mb4.7,baz=37,slow=8.2,SNR=8.2				
NWAO	**Narrogin (SRO)**	**45.30 190**	*e*P	**P**	**13 09 41.4 -1.5**
	comp=Z,43nm,1.4s,mb5.1				
NWAO	**Narrogin (SRO)**	**45.30 190**	*e*P	**P**	**13 09 41.4 -1.5**
NWAO			pmax	pmax	
	comp=Z,43nm,1.4s				
WMQ	**Urumqi**	**45.80 321**	P	**P**	**13 09 48.0 +1.3**
WMQ			AP	pP	13 09 58.0 +2.7
WMQ			XP	sP	13 10 02.0 +3.2
WMQ			PP	PP	13 11 35.0 +0.7
WMQ			SCP		13 15 14.0
WMQ			S	**S**	**13 16 28.0 +0.2**
WMQ			AMB	AMB	
	comp=Z,25nm,1.0s,mb5.1				
WMQ			AMB	AMB	
	comp=Z,54nm,7.0s				
WMQ			LR	LR	
	comp=N,465nm,16.0s,MS4.7				
WMQ			LR	LR	
	comp=E,485nm,16.0s,MS4.7				
WMQ			LR	LR	
	comp=Z,437nm,16.0s,MS4.5				
STKA	**Stephens Creek**	**45.99 161**	⇑*i*P	**P**	**13 09 48.8 +0.4**
	comp=Z,14nm,0.8s,mb4.9				
STKA	**Stephens Creek**	**45.99 161**	P	**P**	**13 09 48.5 +0.1**
	comp=Z,10nm,0.6s,mb4.9,baz=355,slow=7.8,SNR=18				
BOD	**Bodaibo**	**46.77 351**	*e*P	**P**	**13 09 54.6 +0.5**
BOD			*e*		13 10 01.2
BOD			pmax	pmax	
	comp=Z,7.0nm,1.1s,mb4.5				
BOD			pmax	pmax	
	comp=Z,14nm,1.2s,mb4.8				
PET	**Petropavlovsk**	**48.68 26**	P	**P**	**13 10 10.8 +1.6**
PET			LR	LR	
	comp=Z,307nm,20.0s,MS4.3				
YAK	**Yakutsk**	**50.17 2**	*e*P	**P**	**13 10 20.6 +0.1**
	comp=Z,49nm,1.1s,mb5.5				
YAK			*e*	pP	13 10 29.5 +0.3
YAK			LR	LR	
	comp=Z,364nm,19.0s,MS4.4				
YAK	**Yakutsk**	**50.17 2**	*e*P	**P**	**13 10 20.6 +0.1**
YAK			*e*	pP	13 10 29.5 +0.3
YAK			pmax	pmax	
	comp=Z,49nm,1.1s,mb5.5				
YAK			MLR	MLR	
	comp=Z,364nm,19.0s,MS4.4				
POO	**Poona**	**50.58 284**	*e*P	**P**	**13 10 24.0 -0.2**
MKAR	**Makanchi Array**	**50.59 322**	P	**P**	**13 10 24.4 +0.4**
	comp=Z,24nm,0.9s,mb5.1,baz=117,slow=8.1,SNR=120				
MKAR			LR	LR	13 33 42.4
	comp=Z,334nm,19.8s,MS4.3,baz=164,slow=38				
MKAR	**Makanchi Array**	**50.59 322**	P	**P**	**13 10 24.4 +0.5**
MKAR			pmax	pmax	
	comp=Z,24nm,0.9s				
MKAR			MLR	MLR	
	comp=Z,334nm,19.8s				
MA2	**Magadan**	**51.10 16**	*i* P	**P**	**13 10 35.0 +7.4**
MA2			pmax	pmax	
	comp=Z,6.0nm,1.0s,mb4.5				
KSH	**Kashi**	**51.95 311**	*e*P	**P**	**13 10 34.0 -0.4**
KSH			*e*AP	pP	13 10 41.9 -1.2
KSH			*e*XP	sP	13 10 44.4 -2.1
KSH			*e*PCP	PcP	13 11 47.0 +0.3
KSH			*e*PP	PP	13 12 32.3 -0.7
KSH			*e*PPP	PPP	13 13 35.4 -1.3
KSH			*e*SCP		13 15 40.5
KSH			*e*PCS		13 15 44.1
KSH			AMB	AMB	
	comp=Z,340nm,8.9s				
KSH			LR	LR	
	comp=N,520nm,8.0s				
KSH			LR	LR	
	comp=E,630nm,8.8s				
ULHL	**Ulahol**	**52.65 315**	P	**P**	**13 10 40.1 +0.5**
SNR=15					
ZAL	**Zalesovo**	**53.10 331**	P	**P**	**13 10 42.0 -0.7**
	comp=E,2.3nm,0.4s,mb4.5,baz=1.6,slow=7.2,SNR=14				
ZAL			LR	LR	13 33 57.2
	comp=E,390nm,20.0s,MS4.5,baz=320,slow=37				
ZAL	**Zalesovo**	**53.10 331**	P	**P**	**13 10 42.1 -0.6**
ZAL			pmax	pmax	
	comp=Z,2.0nm,0.4s				
ZAL			MLR	MLR	
	comp=Z,390nm,20.0s				
KZA	**Kyzart**	**53.29 314**	P	**P**	**13 10 45.5 +1.2**
SNR=14					
TKM2	**Tokmak 2**	**53.33 315**	P	**P**	**13 10 44.9 +0.3**
SNR=7.9					
KBK	**Karagaybulak**	**53.69 315**	P	**P**	**13 10 48.0 +0.8**
SNR=7.3					
UCH	**Uchtor**	**53.85 314**	P	**P**	**13 10 49.7 +1.4**
SNR=5.5					
CHMS	**Chumysh**	**53.94 315**	P	**P**	**13 10 48.7 -0.3**
SNR=8.6					
FRU	**Bishkek**	**53.98 315**	*e*P	**P**	**13 10 48.5 -0.7**
AAK	**Ala-Archa**	**54.00 314**	*e*P	**P**	**13 10 48.1 -1.3**
	comp=Z,7.4nm,1.2s,mb4.5				
AAK			LR	LR	
	comp=Z,137nm,22.0s,MS4.0				
AAK	**Ala-Archa**	**54.00 314**	*e*P	**P**	**13 10 48.1 -1.3**
AAK			pmax	pmax	
	comp=Z,7.0nm,1.2s,mb4.5				
AAK			MLR	MLR	
	comp=Z,137nm,22.0s,MS4.0				
USP	**Ospenovka**	**54.20 315**	P	**P**	**13 10 50.9 0.0**
SNR=14					
SEY	**Seymchan**	**54.37 15**	*e*P	**P**	**13 10 59.2 +7.3**
NVS	**Novosibirsk**	**54.37 331**	*e*P	**P**	**13 10 50.7 -1.3**
NVS			pmax	pmax	
	comp=N,8.0nm,1.1s				
NVS			pmax	pmax	
	comp=E,7.0nm,1.1s				
NVS			pmax	pmax	
	comp=Z,13nm,1.1s,mb4.8				
AML	**Almayashu**	**54.40 314**	P	**P**	**13 10 53.4 +0.9**
SNR=11					
EKS2	**Erkin-Say**	**54.51 314**	P	**P**	**13 10 53.7 +0.5**
SNR=12					
KURK	**Kurchatov**	**54.60 325**	*e*P	**P**	**13 10 53.6 -0.1**
	comp=Z,62nm,1.0s,mb5.6				
KURK	**Kurchatov**	**54.60 325**	P	**P**	**13 10 53.5 -0.2**
KURK			pmax	pmax	
	comp=Z,58nm,1.3s,mb5.5				
KKAR	**Karatay Array**	**56.93 314**	*i* P	**P**	**13 11 09.8 -0.9**
KKAR			pmax	pmax	
	comp=Z,12nm,0.7s,mb5.0				
VOSK	**Vostochnaya**	**59.75 325**	P	**P**	**13 11 29.1 -1.1**
VOSK			pmax	pmax	
	comp=Z,11nm,1.1s,mb4.8				
TIXI	**Tiksi**	**59.78 1**	*d i*P	**P**	**13 11 30.3 +0.1**
TIXI			pmax	pmax	
	comp=Z,8.0nm,1.0s,mb4.7				
BRVK	**Borovoye**	**60.27 325**	*e*P	**P**	**13 11 33.1 -0.6**
	comp=Z,20nm,1.1s,mb5.1				
BRVK			*e*	pP	13 11 41.8 -0.9
BRVK			*e*		13 11 44.7
BRVK	**Borovoye**	**60.27 325**	*e*P	**P**	**13 11 33.1 -0.7**
BRVK			*e*		13 11 44.7
BRVK			pmax	pmax	
	comp=Z,21nm,1.1s,mb5.1				
BILL	**Bilibino**	**61.97 16**	P	**P**	**13 11 42.9 -2.3**
BILL			LR	LR	
	comp=Z,320nm,21.0s,MS4.5				
BILL	**Bilibino**	**61.97 16**	*i* P	**P**	**13 11 51.2 +6.0**
BILL			pmax	pmax	
	comp=Z,17nm,1.7s,mb4.9				
AB31	**Akbulak array**	**65.48 319**	P	**P**	**13 12 07.5 -0.9**
AB31			pmax	pmax	
	comp=Z,10.0nm,0.8s,mb4.9				
SVE	**Sverdlovsk**	**66.72 327**	⇑*e*P	**P**	**13 12 16.0 -0.1**
SVE			*e*		13 12 45.0
SVE			pmax	pmax	
	comp=Z,60nm,2.0s,mb5.3				
SVE			MLR	MLR	
	comp=N,400nm,13.0s,MS4.9				
SVE			MLR	MLR	
	comp=E,200nm,13.0s,MS4.9				
SVE			MLR	MLR	
	comp=Z,500nm,13.0s,MS4.9				
AFI	**Afiamalu**	**66.82 111**	LR	LR	13 37 58.8
	comp=Z,309nm,18.8s,MS4.5,baz=308,slow=33				
ARU	**Arti**	**67.74 326**	⇑*i*P	**P**	**13 12 21.8 -0.8**
ARU			*e*		13 14 51.8
ARU			*e*PPP	PPP	13 16 25.7 -5.1
ARU			*e*S	S	13 21 19.2 +2.3
ARU			*e*SS	SS	13 25 40.9 +1.2
ARU			pmax	pmax	
	comp=Z,14nm,0.9s,mb5.0				
RAO	**Raoul Island**	**67.82 128**	LR	LR	13 36 08.9
	comp=Z,217nm,20.1s,MS4.4,baz=61,slow=31				
GNI	**Garni**	**75.78 309**	*e*P	**P**	**13 13 11.6 +0.8**
	comp=Z,38nm,1.4s,mb5.1				
GNI			LR	LR	
	comp=Z,369nm,19.0s,MS4.7				
GNI	**Garni**	**75.78 309**	*c i*P	**P**	**13 13 09.7 -1.1**
GNI			pmax	pmax	
	comp=Z,44nm,1.7s				
GOF	**Gofitskoye**	**76.73 314**	*i* P	**P**	**13 13 14.5 -1.6**
GOF			pmax	pmax	
	comp=Z,20nm,1.3s,mb4.9				
KIV	**Kislovodsk**	**77.05 313**	*e*P	**P**	**13 13 17.6 -0.3**
	comp=Z,33nm,0.8s,mb5.3				
KIV			*e*	pP	13 13 26.9 -0.1
KIV			LR	LR	
	comp=Z,75nm,21.0s,MS4.0				
KIV	**Kislovodsk**	**77.05 313**	*e*P	**P**	**13 13 17.6 -0.3**
KIV			*e*	pP	13 13 26.9 -0.1
KIV			pmax	pmax	
	comp=Z,33nm,0.8s,mb5.3				
KIV			MLR	MLR	
	comp=Z,75nm,21.0s,MS4.0				
MCK	**McKinley**	**77.30 27**	*e*P	**P**	**13 13 19.7 +0.9**
	comp=Z,8.1nm,1.4s,mb4.5				
MCK			LR	LR	
	comp=Z,91nm,21.0s,MS4.1				
MCK	**McKinley**	**77.30 27**	*e*P	**P**	**13 13 19.7 +0.9**
MCK			pmax	pmax	
	comp=Z,8.0nm,1.4s,mb4.5				
MCK			MLR	MLR	
	comp=Z,91nm,21.0s,MS4.1				
VRHR	**Novokhopersk**	**77.33 320**	*e*P	**P**	**13 13 18.4 -0.9**
VRHR			pmax	pmax	
	comp=Z,30nm,1.1s,mb5.1				
VRHR			pmax	pmax	
	comp=N,6.0nm,0.5s				
VRHR			pmax	pmax	
	comp=E,20nm,0.8s				
ILAR	**Eielson Array**	**78.16 26**	P	**P**	**13 13 22.4 -1.1**
	comp=E,0.6nm,0.8s,baz=240,slow=5.8,SNR=5.8				
ILAR	**Eielson Array**	**78.16 26**	P	**P**	**13 13 22.5 -1.0**
ILAR			pmax	pmax	
	comp=Z,1.0nm,0.8s				
CASY	**Casey**	**78.75 186**	*e*P	**P**	**13 13 26.0 -0.8**
	comp=Z,9.8nm,0.9s,mb4.7				
CASY			LR	LR	
	comp=Z,380nm,20.0s,MS4.7				
VRSR	**Storozhevoye**	**78.85 320**	*e*P	**P**	**13 13 27.1 -0.5**
VRSR			pmax	pmax	
	comp=Z,10.0nm,1.1s,mb4.7				
VRSR			pmax	pmax	
	comp=N,10.0nm,0.8s				
VRSR			pmax	pmax	
	comp=E,20nm,1.2s				
VRSR			pmax	pmax	
	comp=Z,10.0nm,1.1s,mb4.7				
VRSR			pmax	pmax	
	comp=N,10.0nm,0.8s				
VRSR			pmax	pmax	
	comp=E,20nm,1.2s				
MOS	**Moscow**	**79.37 325**	*e*P	**P**	**13 13 29.2 -1.2**
OBN	**Obninsk**	**80.03 324**	*e*P	**P**	**13 13 33.6 -0.3**
	comp=E,66nm,1.3s,mb5.4				
OBN	**Obninsk**	**80.03 324**	*c i*P	**P**	**13 13 33.6 -0.3**
OBN			*e*	pP	13 13 42.7 -0.3
OBN			pmax	pmax	
	comp=Z,52nm,1.7s,mb5.2				
APA	**Apatity**	**80.11 337**	⇑*i*P	**P**	**13 13 34.0 -0.1**
APA			*i* S	S	13 23 38.0 +2.7
APA			pmax	pmax	
	comp=Z,36nm,1.2s,mb5.2				
MALT	**Malatya**	**80.84 307**	*e*P	**P**	**13 13 39.1 +0.5**
	comp=Z,23nm,1.2s,mb5.0				
MALT	**Malatya**	**80.84 307**	*e*P	**P**	**13 13 39.1 +0.5**
MALT			pmax	pmax	
	comp=Z,23nm,1.2s,mb5.0				
MIR	**Mirnyy**	**81.85 193**	*e*P	**P**	**13 13 42.0 -1.2**
MIR			pmax	pmax	
	comp=Z,21nm,1.2s,mb4.9				
ARCES	**ARCESS Array B**	**82.61 340**	P	**P**	**13 13 47.9 +0.7**
	comp=Z,8.6nm,0.9s,mb4.8,baz=81,slow=5.8,SNR=11				
ARCES	**ARCESS Array B**	**82.61 340**	P	**P**	**13 13 47.9 +0.8**
ARCES			pmax	pmax	
	comp=Z,9.0nm,0.9s				
ARE0	**ARCESS Array S**	**82.61 340**	*e*P	**P**	**13 13 48.1 +1.0**
KBS	**Kingsbay**	**82.92 350**	*e*P	**P**	**13 13 48.8 +0.1**
	comp=Z,66nm,1.9s,mb5.3				
KBS			*e*	pP	13 13 57.9 +0.1
KBS	**Kingsbay**	**82.92 350**	*e*P	**P**	**13 13 48.8 +0.1**
KBS			*e*	pP	13 13 57.9 +0.1
KBS			pmax	pmax	
	comp=Z,66nm,1.9s,mb5.3				
INK	**Inuvik**	**82.94 22**	P	**P**	**13 13 50.4 +1.6**
	comp=Z,0.7nm,0.7s,mb3.8,baz=297,slow=2.3,SNR=4.0				
INK	**Inuvik**	**82.94 22**	P	**P**	**13 13 48.2 -0.7**
	comp=Z,3.4nm,0.9s,mb4.4				
INK	**Inuvik**	**82.94 22**	P	**P**	**13 13 50.4 +1.5**
INK			pmax	pmax	
	comp=Z,1.0nm,0.7s				
SIM	**Simferopol'**	**83.03 314**	*e*P	**P**	**13 13 49.4 -0.4**
SIM			pmax	pmax	
	comp=Z,19nm,0.8s,mb5.2				
KAF	**Kangasniemi**	**84.09 332**	*e*p	**P**	**13 13 54.6 -0.2**
	comp=Z,19nm,1.2s,mb5.1,baz=73,slow=4.8				
KAF	**Kangasniemi**	**84.09 332**	*e*P	**P**	**13 13 54.6 -0.2**
KAF			pmax	pmax	
	comp=Z,19nm,1.2s,mb5.1				
BR131	**Keskin Array S**	**84.30 309**	*e*P	**P**	**13 13 56.0 -0.4**
	comp=Z,3.0nm,0.6s,mb4.6				
BR131			*e*		13 14 01.4
BRTR	**Keskin Array B**	**84.30 309**	P	**P**	**13 13 56.5 +0.1**
	comp=Z,4.8nm,0.7s,mb4.7,baz=102,slow=4.3,SNR=19				
BRTR	**Keskin Array B**	**84.30 309**	P	**P**	**13 13 56.5 +0.1**
BRTR			pmax	pmax	
	comp=Z,5.0nm,0.7s				
FINES	**FINESS Array B**	**84.36 332**	P	**P**	**13 13 56.5 +0.3**
	comp=Z,13nm,1.0s,mb5.0,baz=67,slow=4.4,SNR=23				
FINES	**FINESS Array B**	**84.36 332**	P	**P**	**13 13 56.5 +0.3**
FINES			pmax	pmax	
	comp=Z,13nm,1.0s				
VSU	**Vasula**	**84.77 329**	*c i*P	**P**	**13 13 58.7 +0.4**
AKASG	**Malin Array Be**	**85.15 321**	P	**P**	**13 14 00.3 -0.1**
	comp=Z,13nm,0.8s,mb5.1,baz=62,slow=4.7,SNR=39				
AKASG	**Malin Array Be**	**85.15 321**	P	**P**	**13 14 00.3 -0.1**
AKASG			pmax	pmax	
	comp=Z,13nm,0.8s				
CSS	**Prodhromos**	**85.43 305**	*e*P	**P**	**13 14 02.1 -0.1**
	comp=Z,59nm,1.0s,mb5.7				
CSS			*e*	pP	13 14 09.6 -1.8
HARR	**Harsova**	**87.39 315**	⇑P	**P**	**13 14 11.6 +0.1**
HARR	**Harsova**	**87.39 315**	⇑P	**P**	**13 14 11.6 0.0**
SUW	**Suwalki**	**87.88 325**	*e*P	**P**	**13 14 13.1 -0.6**
	comp=Z,50nm,1.0s,mb5.7				
SUW	**Suwalki**	**87.88 325**	*e*P	**P**	**13 14 13.1 -0.5**
SUW			pmax	pmax	
	comp=Z,50nm,1.0s,mb5.7				
VRI	**Vrincioaia**	**87.92 316**	⇑P	**P**	**13 14 15.0 +1.0**
PPT	**Papeete**	**88.35 108**	LR	LR	13 45 14.3
	comp=Z,286nm,21.3s,MS4.7,baz=82,slow=30				
MLR	**Muntele Rosu**	**88.55 316**	⇑P	**P**	**13 14 16.0 -1.1**
NIE	**Niedzica**	**91.02 321**	*e*P	**P**	**13 14 29.9 +1.4**
OJC	**Ojcow**	**91.06 322**	*e*P	**P**	**13 14 29.4 +0.7**
NB2	**NORSAR Subarra**	**91.21 334**	P	**P**	**13 14 28.6 -0.5**
	comp=Z,4.7nm,0.9s,mb4.8,baz=65,slow=4.5				
NB2	**NORSAR Subarra**	**91.21 334**	P	**P**	**13 14 28.6 -0.5**
	baz=65,slow=4.6				
NB2	**NORSAR Subarra**	**91.21 334**	P	**P**	**13 14 28.6 -0.5**
NB2			pmax	pmax	
	comp=Z,5.0nm,0.9s,mb4.8				
NOA	**NORSAR Array B**	**91.21 334**	P	**P**	**13 14 28.9 -0.2**

comp=Z,1.1nm,0.9s,mb4.2,baz=65,slow=4.5,SNR=3.1
NOA NORSAR Array B 91.21 334 P **P** **13 14 28.9 -0.2**
NOA pmax pmax
comp=Z,1.0nm,0.9s
VNDA Vanda 91.53 173 P **P** **13 14 31.5 +1.2**
comp=Z,2.3nm,1.0s,mb4.5,baz=306,slow=5.7,SNR=9.6
VNDA Vanda 91.53 173 *e*P **P** **13 14 30.8 +0.5**
comp=Z,4.1nm,0.9s,mb4.8
VNDA LR LR
comp=Z,313nm,20.0s,MS4.8
VNDA Vanda 91.53 173 *e*P **P** **13 14 30.8 +0.5**
VNDA pmax pmax
comp=Z,4.0nm,0.9s
VNDA MLR MLR
comp=Z,313nm,20.0s
MBAR Mbarara 95.23 270 PFAKE 13 15 00.0 +11
MBAR LR LR
comp=Z,65nm,19.0s,MS4.1
GERES GERESS Array B 95.26 322 P **P** **13 14 48.6 +0.6**
comp=Z,0.3nm,0.4s,mb4.1,baz=90,slow=6.9,SNR=4.2
YBH Yreka Blue Hor 97.54 45 LR LR 13 54 26.0
comp=Z,167nm,19.4s,MS4.5,baz=335,slow=33
DUG Dugway 104.93 43 PFAKE 13 20 00.0
DUG LR LR
comp=Z,288nm,19.0s,MS4.8
WMOK Wichita Mounta 117.19 41 PFAKE 13 20 20.0 +6.4
WMOK LR LR
comp=Z,369nm,20.0s,MS5.0
PLCA Paso Flores 147.77 156 PKPbc PKPdf 13 21 10.9 +0.8
comp=Z,4.0nm,0.9s,baz=167,slow=8.9,SNR=5.7
PLCA Paso Flores 147.77 156 PKP2 PKPdf 13 21 10.9 +0.8
PLCA pmax pmax
comp=Z,4.0nm,0.9s
CPUP Villa Florida 165.27 168 PKP PKPdf 13 21 30.1 -2.6
comp=Z,4.6nm,1.1s,baz=45,slow=7.1,SNR=4.2
CPUP Villa Florida 165.27 168 PKIKP PKPdf 13 21 30.1 -2.6
CPUP pmax pmax
comp=Z,5.0nm,1.1s
LPAZ La Paz 165.64 109 PKP PKPdf 13 21 32.4 -0.9
comp=Z,1.5nm,0.8s,baz=238,slow=4.8,SNR=5.7
LPAZ La Paz 165.64 109 PKP PKPdf 13 21 32.4 -0.9
LPAZ LR LR
comp=Z,410nm,20.0s

*IDC **06** 13:08:03.8±0.7, 11.80N×125.83E, mb4.4/12, mb1 4.5/13, mb1mx4.4/20, mbtmp4.4/13, ML4.4/1, Error ellipse: s-maj=43.8km s-min=13.9km az=75.0*
*MAN **06** 13:08:06.1, 11.89N×125.88E, h10km, mb5.2, ML4.1, MS4.3*
*BJI **06** 13:08:06.4, 11.84N×125.82E, h26km, mB5.2, mb4.7, Ms4.7, Msz4.5*
*MOS **06** 13:08:06.7±0.8, 11.75N×125.74E, h33km, mb4.8/21, Error ellipse: s-maj=21.0km s-min=9.0km az=108.9*
*NEIC **06** 13:08:07.8±0.3, 11.77N×125.81E, mb4.7/14, Error ellipse: s-maj=12.2km s-min=5.7km az=84.0*
ISC 06 13:08:06.5±0.3, 11.89N±0.03×125.95E±0.04, h28km, h28km±1.8km:pP-P, n103, σ1º06/107, mb4.6/42, MS4.5/3, 3C-4D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.58**	**240**	*e*P	**Pb**	**13 08 16.7**	**-1.3**
BESP				*e*S	**Sb**	**13 08 24.3**	**-1.6**
CNP	**Catarman**	**1.40**	**296**	*e*P	**Pn**	**13 08 30.4**	**0.0**
CNP				*e*S	**Sn**	**13 08 48.3**	**+0.2**
SCPH	**Surigao**	**2.15**	**192**	*e*P	**Pn**	**13 08 41.1**	**0.0**
SCPH				*e*S	**Sn**	**13 08 54.8**	**-12**
PVCP	**Virac**	**2.43**	**314**	*e*P	**Pn**	**13 08 44.9**	**-0.4**
PVCP				*e*S	**Sn**	**13 09 27.4**	**+13**
LLP	**Lapu-Lapu**	**2.50**	**231**	||*e*P	**Pn**	**13 08 46.6**	**+0.4**
LLP				*e*S	**Sn**	**13 09 19.3**	**+3.3**
BUTP	**Butuan**	**2.92**	**186**	*e*P	**Pn**	**13 08 54.0**	**+1.8**
TBP	**Tagbilaran**	**3.00**	**223**	*e*P	**Pn**	**13 08 54.1**	**+0.8**
RCP	**Roxas**	**3.15**	**264**	||*e*P	**Pn**	**13 08 56.0**	**+0.5**
GUIM	**Jordan**	**3.53**	**249**	*e*P	**Pn**	**13 09 01.1**	**+0.3**
KALP	**Kalibo**	**3.54**	**267**	*e*P	**Pn**	**13 09 15.2**	**+14**
SNPH	**Sibulan**	**3.68**	**227**	*e*P	**Pn**	**13 09 03.0**	**+0.1**
OTRP	**Odiongan**	**3.87**	**277**	*e*P	**Pn**	**13 09 05.7**	**0.0**
GQP	**Guinayangan**	**3.96**	**301**	*e*P	**Pn**	**13 09 07.7**	**+0.8**
BUKP	**Musuan**	**4.08**	**192**	*e*P	**Pn**	**13 09 09.7**	**+1.0**
BOAC	**Boac**	**4.30**	**292**	*e*P	**Pn**	**13 09 12.9**	**+1.1**
PAGZ	**Pagadian**	**4.75**	**212**	*e*P	**Pn**	**13 09 18.3**	**+0.2**
SJMP	**San Jose**	**4.75**	**277**	*e*P	**Pn**	**13 09 20.0**	**+1.8**
MATI	**Mati**	**4.92**	**176**	*e*P	**Pn**	**13 09 22.2**	**+1.5**
CUYO	**Cuyo Island**	**4.94**	**258**	*e*P	**Pn**	**13 09 22.4**	**+1.5**
LBPH	**Los Banos**	**5.16**	**296**	||*e*P	**Pn**	**13 09 23.8**	**-0.2**
IPIL	**Ipil**	**5.26**	**220**	*e*P	**Pn**	**13 09 26.3**	**+1.0**
NZB	**Bigte**	**5.56**	**303**	||*e*P	**Pn**	**13 09 28.8**	**-0.8**
PCPH	**Palayan**	**5.96**	**308**	*e*P	**Pn**	**13 09 39.4**	**+4.2**
NBP	**Mount Natib**	**6.08**	**298**	||*e*P	**Pn**	**13 09 36.7**	**-0.3**
JOW	**Kunigami**	**15.02**	**8**	Pn	**P**	**13 11 39.1**	**+0.4**
	3.0nm,0.3s,baz=163,slow=19,SNR=7.6						
SSE	**Sheshan**	**19.61**	**348**	P	**P**	**13 12 33.6**	**-2.1**
SSE				AMB	AMB		
	comp=Z,33nm,0.8s						
SSE				AMB	AMB		
	comp=Z,1μm,9.2s						
NJ2	**Nanjing**	**21.10**	**343**	*e*P	**P**	**13 12 50.6**	**-0.6**
NJ2				AP		13 12 59.2	
NJ2				XP		13 13 04.4	
NJ2				PP	PP	13 13 12.8	-1.7
NJ2				S	**S**	**13 16 38.0**	**-1.6**
NJ2				XS		13 16 50.0	
NJ2				AMB	AMB		
	comp=Z,30nm,0.8s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,442nm,4.0s						
NJ2				LR	LR		
	comp=N,1μm,12.4s,MS4.7						
NJ2				LR	LR		
	comp=E,1μm,14.0s,MS4.7						
NJ2				LR	LR		
	comp=Z,2μm,13.3s,MS4.6						
WHN	**Wuhan**	**21.45**	**332**	P	**P**	**13 12 56.5**	**+1.7**
ENH	**Enshi**	**23.82**	**323**	*e*P	**P**	**13 13 18.9**	**+0.7**
	comp=Z,25nm,0.9s,mb4.7						
ENH				*e*		13 13 24.4	
KMI	**Kunming**	**25.59**	**304**	P	**P**	**13 13 35.3**	**+0.2**
KMI				AP	pP	13 13 45.2	+1.9
KMI				XP	sP	13 13 48.7	+1.7
KMI				PP	PP	13 14 15.1	+0.1
KMI				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.2						
FITZ	**Fitzroy Crossi**	**29.80**	**181**	*e*P	**P**	**13 14 11.8**	**-1.8**
	comp=Z,10nm,1.0s,mb4.5						
FITZ	**Fitzroy Crossi**	**29.80**	**181**	P	**P**	**13 14 11.7**	**-1.9**
	comp=Z,11nm,0.8s,mb4.7,baz=356,slow=11,SNR=12						
HHC	**Hu-ho-hao-te**	**31.50**	**339**	*e*P	**P**	**13 14 29.6**	**+1.3**
HHC				XP	sP	13 14 40.0	-0.2
HHC				PP	PP	13 15 34.1	+1.4
HHC				AMB	AMB		
	comp=Z,13nm,0.7s,mb4.9						
CN2	**Changchun**	**31.80**	**359**	*e*P	**P**	**13 14 35.4**	**+4.5**
WRA	**Warramunga Arr**	**32.70**	**165**	P	**P**	**13 14 36.5**	**-2.4**
	comp=Z,1.0nm,0.7s,mb3.9,baz=345,slow=9.4,SNR=7.9						
WRA				PcP	PcP	13 17 23.5	-0.8
	comp=Z,2.4nm,0.8s,baz=341,slow=3.4,SNR=9.0						
WRA	**Warramunga Arr**	**32.70**	**165**	P	**P**	**13 14 36.5**	**-2.4**
WRA						13 17 23.5	
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MDJ	**Mudanjiang**	**32.76**	**5**	P	**P**	**13 14 41.0**	**+1.8**
MDJ				AP	pP	13 14 47.5	0.0
MDJ				XP	sP	13 14 49.6	-1.5
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.4s,mb4.8						
MBWA	**Marble Bar**	**33.41**	**191**	P	**P**	**13 14 41.7**	**-3.4**
	comp=Z,7.4nm,0.9s,mb4.6						
GTA	**Gaotai**	**35.88**	**324**	*e*P	**P**	**13 15 07.1**	**+1.0**
GTA				AP	pP	13 15 11.0	-3.5
GTA				XP	sP	13 15 13.9	-4.1
GTA				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.4						
LSA	**Lhasa**	**36.84**	**304**	*e*P	**P**	**13 15 13.1**	**-1.2**
HIA	**Hailar**	**37.62**	**353**	P	**P**	**13 15 20.3**	**-0.3**
	comp=Z,5.6nm,0.9s,mb4.3						
HIA	**Hailar**	**37.62**	**353**	P	**P**	**13 15 20.3**	**-0.3**
HIA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
SONM	**Songino Array**	**39.40**	**339**	P	**P**	**13 15 36.3**	**+0.7**
	comp=Z,1.1nm,0.6s,mb3.8,baz=159,slow=7.9,SNR=5.5						
SONM	**Songino Array**	**39.40**	**339**	P	**P**	**13 15 36.3**	**+0.8**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
PKI	**Pulchoki**	**41.01**	**298**	*e*P	**P**	**13 15 48.1**	**-0.9**
	comp=Z,27nm,0.7s,mb5.0						
KKN	**Kakani**	**41.17**	**299**	*e*P	**P**	**13 15 50.2**	**-0.1**
DMN	**Daman**	**41.28**	**298**	*e*P	**P**	**13 15 50.4**	**-0.8**
	comp=Z,18nm,0.6s,mb4.9						
GKN	**Gorkha**	**41.78**	**299**	*e*P	**P**	**13 15 54.3**	**-1.1**
	comp=Z,57nm,1.1s,mb5.1						
KOLN	**Koldanda**	**42.61**	**298**	*e*P	**P**	**13 16 01.2**	**-1.1**
	comp=Z,39nm,0.9s,mb5.1						
TLY	**Talaya**	**43.61**	**340**	*e*P	**P**	**13 16 09.8**	**-0.2**
	comp=Z,6.9nm,1.2s,mb4.3						
TLY				*e*	pP	13 16 19.6	+1.2
TLY	**Talaya**	**43.61**	**340**	*e*P	**P**	**13 16 09.8**	**-0.2**
TLY				*e*	pP	13 16 19.6	+1.2
TLY				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.3						
KLBR	**Kellerberrin**	**43.94**	**190**	*e*P	**P**	**13 16 11.5**	**-1.5**
	comp=Z,5.0nm,0.5s,mb4.5						
NWAO	**Narrogin (SRO)**	**45.34**	**190**	P	**P**	**13 16 23.1**	**-1.1**
	comp=Z,8.5nm,0.9s,mb4.6,baz=99,slow=7.9,SNR=4.6						
NWAO	**Narrogin (SRO)**	**45.34**	**190**	P	**P**	**13 16 23.1**	**-1.1**
NWAO				pmax	pmax		
	comp=Z,9.0nm,0.9s						
WMQ	**Urumqi**	**45.76**	**321**	*e*P	**P**	**13 16 29.0**	**+1.6**
WMQ				AP	pP	13 16 39.0	+3.2
WMQ				XP	sP	13 16 43.0	+3.7
WMQ				PP	PP	13 18 16.0	+1.1
WMQ				S	**S**	**13 23 09.0**	**+0.7**
WMQ				SS	SS	13 26 25.0	+0.5
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,27nm,7.0s						
WMQ				LR	LR		
	comp=N,252nm,16.0s,MS4.4						
WMQ				LR	LR		
	comp=E,241nm,16.0s,MS4.4						
WMQ				LR	LR		
	comp=Z,268nm,16.0s,MS4.3						
STKA	**Stephens Creek**	**46.03**	**161**	*e*P	**P**	**13 16 29.3**	**-0.4**
	comp=Z,6.5nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**46.03**	**161**	P	**P**	**13 16 29.1**	**-0.6**
	comp=Z,8.3nm,0.7s,mb4.8,baz=333,slow=9.4,SNR=16						
BOD	**Bodaibo**	**46.73**	**351**	*e*P	**P**	**13 16 34.2**	**-0.6**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.3						
PET	**Petropavlovsk**	**48.65**	**26**	P	**P**	**13 16 51.8**	**+1.9**
	comp=Z,21nm,1.2s,mb5.0						
PET	**Petropavlovsk**	**48.65**	**26**	P	**P**	**13 16 51.8**	**+1.9**
PET				pmax	pmax		
	comp=Z,21nm,1.2s,mb5.0						
YAK	**Yakutsk**	**50.13**	**2**	P	**P**	**13 17 01.6**	**+0.5**
	comp=Z,15nm,0.9s,mb5.0						
YAK				*e*	pP	13 17 10.8	+1.1
YAK	**Yakutsk**	**50.13**	**2**	P	**P**	**13 17 01.6**	**+0.4**
YAK				*e*	pP	13 17 10.8	+1.1
YAK				pmax	pmax		
	comp=Z,15nm,0.9s,mb5.0						
MKAR	**Makanchi Array**	**50.55**	**322**	P	**P**	**13 17 05.0**	**+0.4**
	comp=Z,13nm,0.9s,mb4.9,baz=118,slow=8.6,SNR=55						
MKAR	**Makanchi Array**	**50.55**	**322**	P	**P**	**13 17 05.0**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,13nm,0.9s						
MA2	**Magadan**	**51.07**	**16**	P	**P**	**13 17 08.5**	**+0.2**
MA2	**Magadan**	**51.07**	**16**	*e*P	**P**	**13 17 08.8**	**+0.5**
MA2				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
KSH	**Kashi**	**51.92**	**311**	*e*P	**P**	**13 17 15.1**	**0.0**
KSH				*e*AP	pP	13 17 22.3	-1.4
KSH				*e*XP	sP	13 17 25.3	-1.7
KSH				*e*PCP	PcP	13 18 28.0	+0.4
KSH				*e*PP	PP	13 19 13.0	-0.7
KSH				AMB	AMB		
	comp=Z,890nm,11.9s						
ZAL	**Zalesovo**	**53.06**	**331**	P	**P**	**13 17 22.6**	**-0.8**
	comp=Z,1.3nm,0.6s,mb4.1,baz=345,slow=6.9,SNR=7.3						
ZAL	**Zalesovo**	**53.06**	**331**	P	**P**	**13 17 22.6**	**-0.8**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AAK	**Ala-Archa**	**53.96**	**314**	P	**P**	**13 17 29.4**	**-0.7**
AAK	**Ala-Archa**	**53.96**	**314**	*i* P	**P**	**13 17 28.8**	**-1.3**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
NVS	**Novosibirsk**	**54.34**	**331**	*e*P	**P**	**13 17 31.3**	**-1.4**
NVS				pmax	pmax		
	comp=N,4.0nm,1.2s						
NVS				pmax	pmax		
	comp=E,4.0nm,1.2s						
NVS				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.5						
SEY	**Seymchan**	**54.34**	**15**	*e*P	**P**	**13 17 34.3**	**+1.7**
KURK	**Kurchatov**	**54.56**	**325**	*e*P	**P**	**13 17 34.4**	**-0.1**
	comp=Z,33nm,1.0s,mb5.3						
KURK				*e*	pP	13 17 43.1	+0.1
KURK	**Kurchatov**	**54.56**	**325**	*e*P	**P**	**13 17 34.4**	**0.0**
KURK				*e*	pP	13 17 43.1	+0.1
KURK				pmax	pmax		
	comp=Z,33nm,1.0s,mb5.3						
TIXI	**Tiksi**	**59.74**	**1**	*e*P	**P**	**13 18 07.8**	**-3.1**
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
BRVK	**Borovoye**	**60.23**	**325**	*e*P	**P**	**13 18 13.8**	**-0.7**
	comp=Z,12nm,1.2s,mb4.8						
BRVK				*e*	pP	13 18 22.5	-0.7
BRVK	**Borovoye**	**60.23**	**325**	*e*P	**P**	**13 18 13.8**	**-0.7**
BRVK				*e*	pP	13 18 22.5	-0.7
BRVK				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.8						
SVE	**Sverdlovsk**	**66.68**	**327**	*e*P	**P**	**13 18 56.7**	**-0.2**
SVE				*e*		13 19 18.3	
SVE				MLR	MLR		
	comp=N,200nm,14.0s,MS4.5						
SVE				MLR	MLR		
	comp=E,100nm,14.0s,MS4.5						
SVE				MLR	MLR		
	comp=Z,400nm,14.0s,MS4.8						
ARU	**Arti**	**67.71**	**326**	||*i*P	**P**	**13 19 02.1**	**-1.2**
ARU				*e*PPP	PPP	13 23 04.1	-7.4
ARU				*e*S	S	13 27 56.3	-1.2
ARU				*e*SS	SS	13 32 18.5	-1.7
ARU				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
GNI	**Garni**	**75.75**	**309**	*i* P	**P**	**13 19 49.0**	**-2.6**
GNI				pmax	pmax		
	comp=Z,10.0nm,1.3s						
KIV	**Kislovodsk**	**77.02**	**313**	*e*P	**P**	**13 19 58.6**	**0.0**
	comp=Z,20nm,1.0s,mb5.0						
KIV	**Kislovodsk**	**77.02**	**313**	*e*P	**P**	**13 19 58.7**	**0.0**
KIV				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.0						
MCK	**McKinley**	**77.27**	**27**	P	**P**	**13 19 59.5**	**-0.2**
	comp=Z,2.2nm,0.9s,mb4.1						
MCK	**McKinley**	**77.27**	**27**	P	**P**	**13 19 59.5**	**-0.1**
MCK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
ILAR	**Eielson Array**	**78.13**	**26**	P	**P**	**13 20 05.0**	**+0.7**
	comp=Z,0.6nm,0.8s,mb3.6,baz=234,slow=6.5,SNR=7.9						
ILAR	**Eielson Array**	**78.13**	**26**	P	**P**	**13 20 05.1**	**+0.8**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
DRV	**Dumont d'Urvil**	**79.02**	**174**	L		13 21 00.0	
OBN	**Obninsk**	**80.00**	**324**	||*e*P	**P**	**13 20 14.7**	**0.0**
OBN				pmax	pmax		
	comp=Z,17nm,1.2s,mb4.8						
ARCES	**ARCESS Array B**	**82.57**	**340**	P	**P**	**13 20 28.9**	**+0.9**
	comp=Z,2.6nm,0.6s,mb4.4,baz=76,slow=5.3,SNR=11						
ARCES	**ARCESS Array B**	**82.57**	**340**	P	**P**	**13 20 28.9**	**+1.0**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.6s						
INK	**Inuvik**	**82.90**	**22**	*e*P	**P**	**13 20 30.4**	**+0.7**
	comp=Z,3.8nm,1.1s,mb4.3						
INK	**Inuvik**	**82.90**	**22**	*e*P	**P**	**13 20 30.4**	**+0.7**
INK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
SIM	**Simferopol'**	**83.00**	**314**	*e*P	**P**	**13 20 30.4**	**-0.2**
SIM				pmax	pmax		
	comp=Z,15nm,0.7s,mb5.1						
BR131	**Keskin Array S**	**84.26**	**309**	*e*P	**P**	**13 20 37.0**	**-0.2**
BR131				*e*	pP	13 20 46.0	-0.2
BRTR	**Keskin Array B**	**84.26**	**309**	P	**P**	**13 20 37.1**	**-0.1**
	comp=Z,3.3nm,0.8s,mb4.5,baz=96,slow=4.2,SNR=9.2						
BRTR	**Keskin Array B**	**84.26**	**309**	P	**P**	**13 20 37.1**	**-0.1**
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
FINES	**FINESS Array B**	**84.32**	**332**	P	**P**	**13 20 37.5**	**+0.6**
	comp=Z,6.0nm,0.9s,mb4.7,baz=90,slow=5.7,SNR=14						
FINES	**FINESS Array B**	**84.32**	**332**	P	**P**	**13 20 37.5**	**+0.5**
FINES				pmax	pmax		
	comp=Z,6.0nm,0.9s						
AKASG	**Malin Array Be**	**85.11**	**321**	P	**P**	**13 20 40.9**	**-0.3**
	comp=Z,7.2nm,0.6s,mb5.0,baz=60,slow=4.9,SNR=25						
AKASG	**Malin Array Be**	**85.11**	**321**	P	**P**	**13 20 40.9**	**-0.3**
AKASG				pmax	pmax		
	comp=Z,7.0nm,0.6s						
PLCA	**Paso Flores**	**147.81**	**156**	PKPbc	PKPdf	13 27 51.8	+0.8
	comp=Z,2.0nm,0.8s,baz=206,slow=8.5,SNR=4.9						
PLCA	**Paso Flores**	**147.81**	**156**	PKP2	PKPdf	13 27 51.8	+0.7
PLCA				pmax	pmax		
	comp=Z,2.0nm,0.8s						

SKHL 06 13:11:52.5±0.3, 52.75N×142.67E, h10km, mb3.8/1, Sakhalin Island

*NEIC **06** 13:31:26.0±1.2, 50.58N×18.63E, h5km, MG2.8(WAR), Error ellipse: s-maj=16.1km s-min=6.5km az=0.0*
*PRU **06** 13:31:28.5, 50.34N×18.78E*
WAR 06 13:31:28.8, 50.26N×18.86E, h0km, ML2.7, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.46**	**248**	*e*PG	Pg	13 31 38.0	0.0
RAC				*e*SG	Sg	13 31 46.0	+1.8
OJC	**Ojcow**	**0.60**	**93**	*e*PG	Pg	13 31 40.0	-0.9
OJC				*e*SG	Sg	13 31 49.0	+0.1
OKC	**Ostrava-Krasne**	**0.62**	**228**	*e*PG	Pg	13 31 40.7	-0.5
OKC				*e*SG	Sg	13 31 50.0	+0.5
	14nm,0.3s						
MORC	**Moravsky Berou**	**0.98**	**241**	*e*P	Pb	13 31 46.5	-1.7
MORC				*e*S	Sg	13 31 59.6	-1.7
NIE	**Niedzica**	**1.26**	**131**	*e*PG	Pg	13 31 53.0	-1.0
NIE				*e*SG	Sg	13 32 10.0	-0.8
DPC	**Dobruska-Polom**	**1.63**	**274**	*e*PG	Pg	13 31 57.6	-3.7
DPC				*e*SG	Sg	13 32 18.6	-4.4
	44nm,0.6s						
KSP	**Ksiaz**	**1.74**	**291**	*e*PG	Pg	13 32 01.0	-2.5
KSP				*e*SG	Sg	13 32 23.0	-3.6
STHS	**Stebnicka Huta**	**1.76**	**118**	*e*PN	Pn	13 32 02.0	+1.3
STHS				*e*SN	Sn	13 32 27.1	+3.0
VYHS	**Vyhne**	**1.77**	**180**	*e*PN	Pn	13 31 59.7	-1.1
VYHS				*e*SN	Sn	13 32 22.2	-2.1
KECS	**Kecovo**	**2.07**	**148**	*e*PN	Pn	13 32 07.5	+2.3
KECS				*e*SN	Sn	13 32 29.1	-2.9
CRVS	**Cervenica-Dubn**	**2.17**	**128**	*e*PN	Pn	13 32 09.6	+3.0
CRVS				*e*SN	Sn	13 32 33.7	-0.9
PSZ	**Piszkesteto**	**2.44**	**163**	*e*P	Pn	13 32 11.4	+0.9
KWP	**Kalwaria**	**2.56**	**103**	*e*PG	Pg	13 32 19.0	-1.0
KWP				*e*SG	Sg	13 32 59.0	+4.8
KWP	**Kalwaria**	**2.56**	**103**	*e*Pg	Pg	13 32 19.2	-0.8
KWP				*e*Sg	Sg	13 32 58.9	+4.7
KOLS	**Kolonicke sedl**	**2.59**	**120**	*e*PN	Pn	13 32 13.4	+0.8
KOLS				*e*SN	Sn	13 32 43.5	-1.6
PVCC	**Panska Ves**	**2.76**	**277**	*e*PG	Pg	13 32 16.3	-7.6
PRU	**Pruhonice**	**2.79**	**266**	*e*PG	Pg	13 32 16.3	-8.2
PRU				*e*SG	Sg	13 32 54.5	-7.2
	19nm,0.9s						
KHC	**Kasperske Hory**	**3.61**	**254**	*e*PN	Pn	13 32 25.0	-2.1
KHC				*e*PG	Pg	13 32 32.0	-8.8
KHC				*e*SG	Sg	13 33 22.1	-6.8
	11nm,0.6s						
CLL	**Collm**	**3.86**	**288**	*e*SG	Sg	13 33 32.0	-5.4
NKC	**Novy Kostel**	**4.11**	**272**	*e*SG	Sg	13 33 37.0	-8.8

*CNRM **06** 13:35:02.6, 35.27N×4.07W, h3km, MD3.7*
*MDD **06** 13:35:03.6±0.7, 34.77N×4.02W, h27km±5km, mbLg1.6/11, Error ellipse: s-maj=7.6km s-min=5.7km az=106.0, PRXIMO*
*NEIC **06** 13:35:05.3, 35.08N×4.02W, MG3.4(MDD), After MDD.*
CSEM 06 13:35:03.3±0.2, 35.13N×4.00W, h2km, MD3.7, Error ellipse: s-maj=4.6km s-min=3.3km az=85.0, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAL	**Palemas**	**0.11**	**27**	*i* P	Pg	13 35 04.0	-1.6
TOU	**Touzarine**	**0.26**	**128**	P	Pg	13 35 10.0	+1.5
TOU				S	Sg	13 35 16.0	+4.0
TOU	**Touzarine**	**0.26**	**128**	*i* P	Pg	13 35 10.0	+1.5
EMEL	**Melilla**	**0.88**	**78**	P	Pg	13 35 21.4	+0.7
	400nm,0.7s,SNR=6.7						
EMEL				S	Sg	13 35 34.8	+2.4
	26nm,0.2s,SNR=5.9						
EMLI	**Melilla**	**0.88**	**78**	P	Pg	13 35 21.4	+0.5
	400nm,0.7s,SNR=6.7						
EMLI				S	Sg	13 35 34.8	+2.2
	26nm,0.2s,SNR=5.9						
ZAI	**Zaio**	**1.04**	**98**	P	Pb	13 35 22.0	-1.7
ZAI	**Zaio**	**1.04**	**98**	*i* S	Sb	13 35 39.0	+1.3
TZK	**Tazeka**	**1.04**	**188**	*i* P	Pb	13 35 26.0	+2.2
TZK				*i* S	Sb	13 35 42.0	+4.3
EALB	**Alboran**	**1.13**	**44**	P	Pb	13 35 26.1	+0.8
	16nm,0.2s,SNR=7.9						
EALB				S	Sb	13 35 42.4	+2.0
	8.6nm,0.2s,SNR=7.9						
EALB	**Alboran**	**1.13**	**44**	P	Pb	13 35 26.1	+0.8
	16nm,0.2s,SNR=7.9						
EALB				S	Sb	13 35 41.2	+0.9
	8.6nm,0.2s,SNR=7.9						
EALB	**Alboran**	**1.13**	**44**	P	Pb	13 35 26.1	+0.8
EALB				S	Sb	13 35 41.2	+0.9
EMIJ	**Mijas**	**1.57**	**337**	P	Pn	13 35 32.4	+0.1
	12nm,0.5s,SNR=7.4						
EMIJ				S	Sb	13 35 55.0	+2.1
	2.8nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**1.57**	**337**	P	Pn	13 35 32.2	-0.1
	12nm,0.5s,SNR=7.4						
EMIJ				S	Sb	13 35 53.8	+0.9
	2.8nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**1.57**	**337**	P	Pn	13 35 32.2	-0.1

EADA				S	Sn	13 36 31.5	-0.1
	0.0nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**3.07 352**		P	Pn	13 35 54.5	+0.7
	4.5nm,0.8s,SNR=5.6						
EADA				S	Sn	13 36 30.5	-1.1
	SNR=7.9						
EADA	**Adamuz**	**3.07 352**		P	Pn	13 35 54.5	+0.7
EADA				S	Sn	13 36 30.5	-1.1
ZFT	**Errachidia**	**3.10 185**	*e*P		Pn	13 35 54.0	-0.1
ZFT			*i* S		Sn	13 36 31.0	-1.3
ECAB	**El Cabril**	**3.16 339**		P	Pn	13 35 55.3	+0.3
	0.3nm,0.2s,SNR=7.9						
ECAB				S	Sn	13 36 32.8	-1.0
	0.6nm,0.3s,SNR=7.9						
ECAB	**El Cabril**	**3.16 339**		P	Pn	13 35 55.3	+0.3
	0.3nm,0.2s,SNR=7.9						
ECAB				S	Sn	13 36 32.8	-1.0
	0.6nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.40 322**		P	Pn	13 35 58.1	-0.4
	0.9nm,0.2s,SNR=9.2						
EMIN				S	Sn	13 36 37.6	-2.4
	0.1nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.40 322**		P	Pn	13 35 58.1	-0.4
	0.9nm,0.2s,SNR=9.2						
EMIN				S	Sn	13 36 38.0	-2.0
	0.1nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.40 322**		P	Pn	13 35 58.1	-0.4
EMIN				S	Sn	13 36 38.0	-2.0
EMUR	**La Murta**	**3.51 39**		S	Sn	13 36 41.5	-1.2
	0.5nm,0.2s,SNR=4.0						
EGRO	**El Granado**	**3.70 312**		P	Pn	13 36 01.8	-0.8
	0.4nm,0.4s,SNR=7.9						
EGRO				S	Sn	13 36 45.3	-2.2
	0.7nm,0.3s,SNR=7.9						
EGRO	**El Granado**	**3.70 312**		P	Pn	13 36 01.9	-0.8
EGRO				S	Sn	13 36 45.3	-2.2
	0.7nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**4.03 29**		P	Pn	13 36 08.4	+1.1
	2.4nm,0.4s,SNR=7.4						
ETOB				S	Sn	13 36 54.4	-1.3
	0.2nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**4.03 29**		P	Pn	13 36 09.0	+1.6
	2.4nm,0.4s,SNR=7.4						
ETOB				S	Sn	13 36 54.4	-1.4
	0.2nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**4.03 29**		P	Pn	13 36 09.0	+1.6
ETOB				S	Sn	13 36 54.4	-1.3
PBEJ	**Beja**	**4.25 314**	*e*Pn		Pn	13 36 11.1	+0.6
PBEJ			*e*Sn		Sn	13 37 01.1	-0.3
EBAD	**Badajoz**	**4.35 327**		P	Pn	13 36 11.8	-0.1
	1.5nm,0.4s,SNR=6.9						
EBAD				S	Sn	13 36 59.6	-4.4
	0.1nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**4.35 327**		P	Pn	13 36 12.4	+0.4
	1.5nm,0.4s,SNR=6.9						
EBAD				S	Sn	13 36 59.4	-4.6
	0.1nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**4.35 327**		P	Pn	13 36 12.4	+0.5
EBAD				S	Sn	13 36 59.4	-4.6
ESDC	**Sonseca Array**	**4.54 0**		P	Pn	13 36 15.0	+0.3
	1.2nm,0.5s,baz=181,slow=12,SNR=9.1						
ESDC	**Sonseca Array**	**4.54 0**		P	Pn	13 36 15.0	+0.3
PCBR	**Castelo Branco**	**5.46 331**	*e*Pn		Pn	13 36 27.0	-0.6
PTOM	**Tomar**	**5.69 323**	*e*Pn		Pn	13 36 30.6	-0.4

*NNC **06** 13:53:14.9±4.6, 43.97N×86.10E, mpv3.5, Error ellipse: s-maj=73.8km s-min=39.6km az=47.0*
*BJI **06** 13:53:16.8, 44.03N×85.80E, h15km, ML3.6*
*IDC **06** 13:53:23.6±4.2, 44.70N×85.64E, mb1 3.6/3, mb1mx3.3/20, mbtmp3.5/3, ML3.3/2, Error ellipse: s-maj=41.3km s-min=30.8km az=180.0*
ISC 06 13:53:18.6±1.5, 44.4N±0.2×86.1E±0.2, h15km, n6, σ1§55/11, 4C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**1.30**	**117**	PG		**Pg**	**13 53 43.2**	**-1.4**
WMQ				SG		**Sg**	**13 54 02.4**	**+0.4**
WMQ				Smax				
	comp=N,107nm,0.5s							
WMQ				Smax				
	comp=E,132nm,0.5s							
MK31	**Makanchi Array**	**3.58**	**313**	⇑Pn		**Pn**	**13 54 16.8**	**+2.1**
	comp=E,1.6nm,0.5s,baz=138,slow=14,SNR=267							
MK31				⇓Pg		**Pg**	**13 54 25.0**	**-5.1**
	comp=E,34nm,0.8s,baz=130,slow=16,SNR=9.6							
MK31				⇑Lg			13 55 20.0	
	comp=E,20nm,0.4s,baz=142,slow=30,SNR=9.0							
MKAR	**Makanchi Array**	**3.58**	**313**	Pn		**Pn**	**13 54 16.8**	**+2.1**
	comp=E,1.0nm,0.3s,baz=134,slow=14,SNR=41							
MKAR				Pg		**Pg**	**13 54 25.9**	**-4.1**
	comp=E,9.7nm,0.3s,baz=132,slow=16,SNR=56							
MKAR				Sn		**Sn**	**13 54 55.4**	**-1.8**
	comp=E,7.8nm,0.3s,baz=134,slow=15,SNR=7.8							
MKAR				Lg			13 55 14.0	
	comp=E,14nm,0.3s,baz=141,slow=31,SNR=8.8							
KURK	**Kurchatov**	**8.07**	**324**	⇑Pn		**P**	**13 55 17.7**	**-0.5**
	comp=E,0.6nm,0.4s							
KURK				⇑Lg			13 57 42.0	
	comp=E,8.9nm,0.8s							
ZAL	**Zalesovo**	**9.57**	**355**	Pn		**P**	**13 55 39.8**	**+1.0**
	comp=E,1.5nm,0.3s,baz=293,slow=11,SNR=21							
ZAL				Sn		**Sn**	**13 57 23.4**	**-3.7**
	comp=E,0.4nm,0.3s,baz=259,slow=13,SNR=1.9							
SONM	**Songino Array**	**14.48**	**69**	Pn		**P**	**13 56 53.7**	**+8.9**
	baz=261,slow=10,SNR=4.3							

*MOS **06** 14:29:40.3±0.9, 16.64S×172.91W, h10km, mb4.8/19, Error ellipse: s-maj=16.7km s-min=12.4km az=57.9*
*IDC **06** 14:29:40.3±0.7, 16.51S×172.91W, mb4.3/12, mb1 4.5/13, mb1mx4.4/19, mbtmp4.3/13, MS4.1/8, Ms1 4.1/8, ms1mx3.8/18, Error ellipse: s-maj=31.2km s-min=15.3km az=131.0*
*BJI **06** 14:29:45.5, 16.70S×172.90W, h39km, mB5.1, mb4.8, Ms5.0, Msz4.7*
*NEIC **06** 14:29:45.5±0.2, 16.66S×172.90W, mb4.7/18, Error ellipse: s-maj=11.7km s-min=6.8km az=135.0*
ISC 06 14:29:44.1±0.3, 16.70S±0.07×172.93W±0.08, h34km, h34km±1.2km: pP-P, n115, σ1§03/84, mb4.6/35, MS4.2/10, 1C-3D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.98**	**22**	Pn		**P**	**14 30 24.4**	**-5.8**
	14nm,0.3s,baz=326,slow=1.9,SNR=44							
AFI				Sn		**S**	**14 30 58.5**	**-6.7**
	74nm,0.3s,baz=212,slow=18,SNR=7.2							
AFI	**Afiamalu**	**2.98**	**22**	*e*Pn		**P**	**14 30 24.4**	**-5.8**
AFI	**Afiamalu**	**2.98**	**22**	P		**P**	**14 30 24.4**	**-5.8**
AFI							14 30 58.5	
AFI				pmax	pmax			
	comp=Z,14nm,0.3s							
AFI				smax				
	comp=E,74nm,0.3s							
DZM	**Mont Dzumac**	**20.17**	**251**	P		**P**	**14 34 18.5**	**0.0**
	comp=E,5.8nm,0.7s,baz=98,slow=21,SNR=3.7							
PPT	**Papeete**	**22.33**	**96**	LR		LR	14 41 31.2	
	comp=E,311nm,20.9s,MS3.7,baz=263,slow=32							
URZ	**Urewera**	**23.20**	**200**	P		**P**	**14 34 49.3**	**+0.5**
	comp=E,11nm,0.4s,mb4.7,baz=57,slow=3.1,SNR=21							
URZ				S		**S**	**14 38 52.3**	**-2.0**
	comp=E,9.2nm,0.8s,baz=316,slow=12,SNR=3.7							
PMOR	**Pomariorio Ree**	**24.14**	**90**	*e*P		**P**	**14 34 52.6**	**-5.6**
	comp=E,40nm,1.1s,mb4.8							
HNR	**Honiara**	**27.37**	**282**	LR		LR	14 44 46.5	
	comp=E,628nm,21.3s,MS4.2,baz=295,slow=33							
RPZ	**Rata Peaks**	**30.17**	**203**	P		**P**	**14 35 58.8**	**+5.6**
	comp=E,8.2nm,0.6s,mb4.7,baz=180,slow=11,SNR=7.5							
CTA	**Charters Tower**	**38.81**	**259**	P		**P**	**14 37 06.8**	**-0.8**
	comp=E,4.6nm,0.7s,mb4.3,baz=81,slow=12,SNR=3.5							
CTA	**Charters Tower**	**38.81**	**259**	P		**P**	**14 37 06.8**	**-0.8**
CTA				pmax	pmax			
	comp=Z,5.0nm,0.7s							
CTAO	**Charters Tower**	**38.81**	**259**	P		**P**	**14 37 07.1**	**-0.5**
	comp=Z,6.3nm,0.8s,mb4.4							
CTAO	**Charters Tower**	**38.81**	**259**	P		**P**	**14 37 07.1**	**-0.5**
CTAO				pmax	pmax			
	comp=Z,6.0nm,0.8s,mb4.4							
STKA	**Stephens Creek**	**43.80**	**241**	*e*P		**P**	**14 37 47.6**	**-1.0**
	comp=Z,5.6nm,0.9s,mb4.3							
STKA	**Stephens Creek**	**43.80**	**241**	P		**P**	**14 37 48.1**	**-0.5**
	comp=Z,6.5nm,0.9s,mb4.3,baz=51,slow=6.5,SNR=7.1							

WB2	**Warramunga Arr**	**49.99**	**258**	*e*P		**P**	**14 38 36.6**	**-0.8**
WRAB	**Tennant Creek**	**49.99**	**258**	*e*P		**P**	**14 38 36.0**	**-1.4**
	comp=Z,9.6nm,0.9s,mb4.8							
WRAB	**Tennant Creek**	**49.99**	**258**	*i* P		**P**	**14 38 36.3**	**-1.1**
WRA	**Warramunga Arr**	**50.00**	**258**	P		**P**	**14 38 36.1**	**-1.4**
	comp=Z,4.5nm,0.9s,mb4.5,baz=94,slow=7.2,SNR=19							
WRA	**Warramunga Arr**	**50.00**	**258**	P		**P**	**14 38 36.1**	**-1.4**
WRA				pmax	pmax			
	comp=Z,5.0nm,0.9s							
FITZ	**Fitzroy Crossi**	**58.39**	**259**	*e*P		**P**	**14 39 38.3**	**-0.6**
	comp=Z,3.1nm,0.6s,mb4.5							
SBA	**Scott Base**	**62.00**	**185**	*e*P		**P**	**14 40 02.0**	**-0.8**
	comp=Z,9.2nm,0.9s,mb4.9							
SBA				*e*		pP	14 40 13.4	+0.1
SBA	**Scott Base**	**62.00**	**185**	*e*P		**P**	**14 40 02.0**	**-0.8**
SBA				pmax	pmax			
	comp=Z,9.0nm,0.9s,mb4.9							
VNDA	**Vanda**	**62.14**	**186**	P		**P**	**14 40 04.1**	**+0.4**
	comp=Z,2.7nm,0.8s,mb4.4,baz=6.4,slow=8.0,SNR=3.8							
VNDA	**Vanda**	**62.14**	**186**	*e*P		**P**	**14 40 04.0**	**+0.2**
	comp=Z,5.9nm,1.0s,mb4.7							
VNDA	**Vanda**	**62.14**	**186**	P		**P**	**14 40 04.1**	**+0.3**
VNDA				pmax	pmax			
	comp=Z,3.0nm,0.9s							
KLBR	**Kellerberrin**	**64.04**	**243**	*e*P		**P**	**14 40 17.0**	**0.0**
	comp=Z,58nm,1.8s,mb5.3							
MUN	**Mundaring**	**65.32**	**242**	*e*P		**P**	**14 40 26.0**	**+0.7**
	comp=Z,11nm,0.8s,mb5.0							
MUN	**Mundaring**	**65.32**	**242**	*e*P		**P**	**14 40 26.0**	**+0.7**
MUN				pmax	pmax			
	comp=Z,11nm,0.8s,mb4.9							
CASY	**Casey**	**69.43**	**205**	*e*P		**P**	**14 40 49.3**	**-1.1**
	comp=Z,15nm,1.4s,mb4.7							
MAJO	**Matsushiro**	**70.22**	**320**	*e*P		**P**	**14 40 57.0**	**+1.3**
	comp=Z,7.3nm,0.9s,mb4.6							
MAJO	**Matsushiro**	**70.22**	**320**	*e*P		**P**	**14 40 57.0**	**+1.3**
MAJO				pmax	pmax			
	comp=Z,7.0nm,0.9s,mb4.6							
MAT	**Matsushiro**	**70.22**	**320**	P		**P**	**14 40 56.3**	**+0.6**
MAT	**Matsushiro**	**70.22**	**320**	*e*P		**P**	**14 40 56.0**	**+0.3**
QSPA	**South Pole Qui**	**73.36**	**180**	*e*P		**P**	**14 41 13.0**	**-0.7**
	comp=Z,11nm,1.0s,mb4.7							
CMB	**Columbia Colle**	**73.44**	**41**	*e*P		**P**	**14 41 13.7**	**-1.2**
	comp=Z,5.5nm,0.9s,mb4.5							
CMB	**Columbia Colle**	**73.44**	**41**	*e*P		**P**	**14 41 13.7**	**-1.3**
CMB				pmax	pmax			
	comp=Z,5.0nm,0.9s,mb4.4							
YBH	**Yreka Blue Hor**	**74.36**	**37**	P		**P**	**14 41 19.4**	**-0.8**
	comp=Z,2.7nm,0.9s,mb4.2,baz=221,slow=7.6,SNR=5.9							
YBH	**Yreka Blue Hor**	**74.36**	**37**	P		**P**	**14 41 19.4**	**-0.8**
YBH				pmax	pmax			
	comp=Z,3.0nm,0.9s							
YSS	**Yuzh-Sakhalins**	**74.83**	**330**	*e*P		**P**	**14 41 23.5**	**+0.7**
	comp=Z,17nm,1.0s,mb4.9							
YSS				*e*		pP	14 41 34.5	+1.2
YSS				*e*			14 41 40.0	
YSS	**Yuzh-Sakhalins**	**74.83**	**330**	*e*P		**P**	**14 41 23.5**	**+0.7**
YSS				*e*		pP	14 41 34.5	+1.1
YSS				pmax	pmax			
	comp=Z,17nm,1.0s,mb4.9							
NEN	**Nelson**	**75.70**	**46**	P		**P**	**14 41 28.8**	**+0.7**
MIR	**Mirnyy**	**76.44**	**204**	*e*P		**P**	**14 41 34.0**	**+2.4**
MIR				pmax	pmax			
	comp=Z,24nm,1.4s,mb4.9							
WVOR	**Wild Horse Val**	**77.16**	**38**	*e*P		**P**	**14 41 35.4**	**-0.8**
	comp=Z,6.8nm,1.3s,mb4.4							
WVOR	**Wild Horse Val**	**77.16**	**38**	*e*P		**P**	**14 41 35.4**	**-0.8**
WVOR				pmax	pmax			
	comp=Z,7.0nm,1.3s,mb4.4							
KSM	**Kuching**	**77.75**	**275**	*e*P		**P**	**14 41 42.0**	**+1.9**
ELK	**Elko**	**78.25**	**41**	*e*P		**P**	**14 41 41.5**	**-0.7**
	comp=Z,3.4nm,1.0s,mb4.2							
ELK	**Elko**	**78.25**	**41**	*e*P		**P**	**14 41 41.5**	**-0.7**
ELK				pmax	pmax			
	comp=Z,3.0nm,1.0s							
MSU	**Marysvale**	**79.03**	**44**	*e*P		**P**	**14 41 47.1**	**+0.5**
DUG	**Dugway**	**79.50**	**42**	*e*P		**P**	**14 41 48.5**	**-0.6**
MDJ	**Mudanjiang**	**80.32**	**322**	P		**P**	**14 41 55.5**	**+2.1**
MDJ				AP		pP	14 42 06.2	+2.1
MDJ				XP		sP	14 42 11.1	+3.3
MDJ				PP		PP	14 44 59.3	+1.3
MDJ				S		S	14 52 00.0	+4.9
MDJ				SS		SS	14 57 08.8	-1.0
MDJ				AMB		AMB		
	comp=Z,7.0nm,0.6s,mb4.8							
MDJ				AMB		AMB		
	comp=Z,35nm,3.7s							
MDJ				LR		LR		
	comp=N,18nm,20.8s,MS3.8							
MDJ				LR		LR		
	comp=E,42nm,19.6s,MS3.8							
MDJ				LR		LR		
	comp=Z,82nm,24.7s							
TXAR	**Lajitas Array**	**80.96**	**56**	P		**P**	**14 41 56.3**	**-0.8**
	comp=Z,0.8nm,0.9s,mb3.6,baz=207,slow=8.4,SNR=7.1							
TXAR				LR		LR	15 11 36.1	
	comp=Z,61nm,18.8s,MS4.0,baz=170,slow=31							
PV10	**Paradox Valley**	**81.08**	**46**	*e*P		**P**	**14 41 58.6**	**+1.0**
PV01	**Paradox Valley**	**81.29**	**46**	*e*P		**P**	**14 42 01.5**	**+2.9**
MCMT	**McKenzie Canyo**	**81.98**	**39**	*e*P		**P**	**14 42 02.1**	**0.0**
MCK	**McKinley**	**82.31**	**11**	*e*P		**P**	**14 42 02.7**	**-0.6**
	comp=Z,11nm,0.9s,mb4.8							
MCK				*e*		pP	14 42 12.4	-1.6
MCK	**McKinley**	**82.31**	**11**	*e*P		**P**	**14 42 02.7**	**-0.6**
MCK				pmax	pmax			
	comp=Z,11nm,0.9s,mb4.8							
IMW	**Indian Meadow**	**82.64**	**40**	*e*P		**P**	**14 42 05.7**	**+0.2**
	comp=Z,7.8nm,1.1s,mb4.7							
IMW				*e*		pP	14 42 15.8	-0.3
IMW				*e*			14 42 21.9	
QLMT	**Earthquake Lak**	**82.83**	**39**	*e*P		**P**	**14 42 06.8**	**+0.4**
QLMT				*e*		pP	14 42 17.4	+0.2
SMCO	**Snowmass**	**82.88**	**46**	*e*P		**P**	**14 42 07.2**	**+0.5**
SMCO				*e*		pP	14 42 17.5	-0.1
CHMT	**Chamberlain Mo**	**82.89**	**37**	*e*P		**P**	**14 42 06.0**	**-0.6**
CHMT				*e*		pP	14 42 15.4	-2.0
PDAR	**Pinedale Array**	**82.93**	**42**	P		**P**	**14 42 05.8**	**-1.1**
	comp=Z,1.0nm,0.5s,mb4.1,baz=243,slow=3.3,SNR=8.4							
PDAR				LR		LR	15 14 43.9	
	comp=Z,138nm,18.5s,MS4.4,baz=267,slow=33							
BOZ	**Bozeman (W)**	**83.14**	**38**	*e*P		**P**	**14 42 07.5**	**-0.4**
	comp=Z,5.4nm,1.2s,mb4.5							
BOZ				*e*		pP	14 42 18.2	-0.5
BOZ				*e*			14 42 22.9	
BOZ	**Bozeman (W)**	**83.14**	**38**	*e*P		**P**	**14 42 07.5**	**-0.5**
BOZ				pmax	pmax			
	comp=Z,5.0nm,1.2s,mb4.4							
HRY	**Holter Researc**	**83.59**	**37**	*e*P		**P**	**14 42 09.4**	**-0.9**
HRY				*e*		pP	14 42 20.3	-0.7
HRY				*e*			14 42 26.1	
ILAR	**Eielson Array**	**83.62**	**11**	P		**P**	**14 42 08.7**	**-1.2**
	comp=Z,0.5nm,0.7s,mb3.7,baz=292,slow=30,SNR=7.9							
ILAR				LR		LR	15 15 28.1	
	comp=Z,88nm,18.0s,MS4.2,baz=359,slow=33							
SEY	**Seymchan**	**83.88**	**345**	*e*P		**P**	**14 42 11.5**	**+0.2**
SEY				pmax	pmax			
	comp=Z,6.0nm,0.8s,mb4.8							
DAWY	**Dawson**	**84.56**	**14**	*e*P		**P**	**14 42 14.5**	**-0.2**
DAWY				*e*		pP	14 42 25.6	+0.1
DAWY				*e*			14 42 29.4	
BILL	**Bilibino**	**85.85**	**352**	*i* P		**P**	**14 42 21.8**	**+0.8**
BILL				pmax	pmax			
	comp=Z,8.0nm,1.3s,mb4.8							
MAW	**Mawson**	**86.72**	**199**	P		**P**	**14 42 26.9**	**+1.7**
	comp=Z,5.4nm,0.8s,mb4.8,baz=104,slow=6.0,SNR=9.0							
MAW	**Mawson**	**86.72**	**199**	P		**P**	**14 42 26.9**	**+1.7**
MAW				pmax	pmax			
	comp=Z,5.0nm,0.9s							
ENH	**Enshi**	**87.99**	**302**	*e*P		**P**	**14 42 32.7**	**+0.4**
PLCA	**Paso Flores**	**88.31**	**132**	LR		LR	15 12 24.3	
	comp=Z,117nm,20.6s,MS4.3,baz=182,slow=29							
HIA	**Hailar**	**88.50**	**323**	*e*P		**P**	**14 42 32.9**	**-1.3**
GYA	**Guiyang**	**89.05**	**298**	⇓*i*P		**P**	**14 42 41.7**	**+4.3**
GYA				AP		pP	14 42 55.2	+6.9
GYA				S		S	14 53 28.0	+6.7
GYA				AMB		AMB		
	comp=Z,20nm,1.1s,mb5.4							
GYA				AMB		AMB		
	comp=Z,70nm,2.9s,mb5.5							
GYA				LR		LR		
	comp=N,270nm,18.2s,MS4.8							
GYA				LR		LR		
	comp=E,210nm,18.7s,MS4.8							
GYA				LR		LR		
	comp=Z,330nm,18.0s,MS4.8							

INK	**Inuvik**	**89.41**	**14**	P		**P**	**14 42 38.0**	**-0.2**
INK				*e*		pP	14 42 48.1	-0.9
YAK	**Yakutsk**	**90.47**	**337**	*i* P		**P**	**14 42 43.9**	**+0.6**
YAK				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.7							
SYO	**Syowa Base**	**91.42**	**191**	⇓P		**P**	**14 42 41.0**	**-6.6**
SYO	**Syowa Base**	**91.42**	**191**	⇓PcP		PcP	14 42 48.5	-0.2
VNA3	**Neumayer Olymp**	**91.53**	**175**			**P**	**14 42 50.5**	**+2.5**
SNAA	**Sanae**	**91.60**	**177**			**P**	**14 42 48.3**	**0.0**
KMI	**Kunming**	**91.99**	**295**	⇑P		**P**	**14 42 55.6**	**+4.4**
KMI				AMB		AMB		
	comp=Z,10.0nm,1.1s,mb5.1							
VNA2	**Neumayer--Watz**	**92.03**	**175**			**P**	**14 42 53.0**	**+2.7**
VNA1	**Neumayer--Stat**	**92.23**	**175**			**P**	**14 42 50.6**	**-0.6**
ULM	**Lac du Bonnet**	**94.65**	**39**	LR		LR	15 22 19.5	
	comp=Z,182nm,18.8s,MS4.6,baz=240,slow=33							
SONM	**Songino Array**	**96.11**	**318**	P		**P**	**14 43 09.2**	**-0.2**
	comp=Z,0.7nm,0.9s,mb4.1,baz=90,slow=2.9,SNR=2.6							
SONM	**Songino Array**	**96.11**	**318**	P		**P**	**14 43 09.2**	**-0.2**
SONM				pmax	pmax			
	comp=Z,1.0nm,0.9s							
LPAZ	**La Paz**	**98.95**	**110**	LR		LR	15 16 43.5	
	comp=Z,44nm,21.7s,MS3.9,baz=74,slow=28							
MKAR	**Makanchi Array**	**112.05**	**314**	PKiKP			14 48 16.6	
	comp=Z,0.4nm,0.7s,baz=72,slow=4.6,SNR=3.7							
MKAR	**Makanchi Array**	**112.05**	**314**	*i* PKIKP		PKPdf	14 48 16.6	+0.7
FINES	**FINESS Array B**	**133.30**	**348**	*i* PKIKP		PKPdf	14 48 58.4	+1.9
LVV	**L'vov**	**144.22**	**341**	*e*PKIKP		PKPdf	14 49 26.7	+10
MALT	**Malatya**	**145.09**	**314**	*e*PKPdf		PKPdf	14 49 21.7	+3.4
MALT				*e*			14 49 31.2	
CLL	**Collm**	**145.15**	**353**	*e*PKIKP		PKPdf	14 49 22.0	+4.1
CLL				*i* *PPKP			14 49 30.7	
KMBO	**Kilima Mbogo**	**145.36**	**242**	PKPbc		PKPbc	14 49 22.9	+2.9
	comp=Z,10nm,0.9s,baz=34,slow=3.2,SNR=19							
KMBO	**Kilima Mbogo**	**145.36**	**242**	PKIKP		PKPdf	14 49 22.9	+3.4
KMBO				pmax	pmax			
	comp=Z,10.0nm,1.0s							
MOX	**Moxa**	**145.94**	**355**	*i* P		PKPdf	14 49 22.4	+3.1
	comp=Z,logA/T=1.0							
MOX	**Moxa**	**145.94**	**355**	*e*PKP2		PKPab	14 49 22.4	-0.2
MOX				pmax	pmax			
	comp=Z,12nm,1.1s							
TNS	**Taunus Mts**	**146.54**	**358**	*e*PKP2		PKPab	14 49 26.3	+1.4
GRF	**Grafenberg Arr**	**146.92**	**355**	*e*PKP2		PKPab	14 49 25.9	-0.5
WLF	**Walferdange**	**147.11**	**1**	*e*PKPbc		PKPdf	14 49 26.6	+5.3
BR131	**Keskin Array S**	**147.44**	**320**	*e*PKPbc		PKPdf	14 49 27.2	+5.0
BRTR	**Keskin Array B**	**147.44**	**320**	PKPbc		PKPdf	14 49 27.1	+4.9
	comp=Z,5.5nm,0.9s,baz=135,slow=1.7,SNR=17							
BRTR	**Keskin Array B**	**147.44**	**320**	PKP2		PKPab	14 49 27.1	-1.7
BRTR				pmax	pmax			
	comp=Z,6.0nm,0.9s							
GERES	**GERESS Array B**	**147.48**	**352**	PKPbc		PKPdf	14 49 26.9	+4.9
	comp=Z,1.6nm,0.7s,baz=27,slow=3.0,SNR=7.8							
GERES	**GERESS Array B**	**147.48**	**352**	PKP2		PKPab	14 49 26.9	-1.8
GERES				pmax	pmax			
	comp=Z,2.0nm,0.7s							
CDF	**Champ du Feu**	**148.37**	**360**	*e*PKP2		PKPab	14 49 27.4	-4.8
	comp=Z,1.6nm,1.1s							
BFO	**Black Forest**	**148.44**	**358**	*e*PKP2		PKPab	14 49 32.1	-0.4
LOR	**Lormes**	**149.40**	**4**	*e*PKP2		PKPab	14 49 31.3	-5.2
SSF	**Saint Saulge**	**149.58**	**5**	*e*PKP2		PKPab	14 49 31.9	-5.3
	comp=Z,12nm,1.0s							
AVF	**Avril sur Loir**	**149.83**	**5**	*e*PKP2		PKPab	14 49 33.1	-5.2
MBAR	**Mbarara**	**151.01**	**236**	*i* PKIKP		PKPab	14 49 39.3	-4.9
LPL	**La Plagne**	**151.27**	**0**	*e*PKP2		PKPab	14 49 39.4	-4.9
LPG	**La Plagne**	**151.28**	**0**	*e*PKP2		PKPab	14 49 39.3	-5.1
	comp=Z,12nm,1.0s							
ORIF	**Oris-en-Rattie**	**151.85**	**2**	*e*PKP2		PKPab	14 49 40.9	-5.9

MAN 06 14:45:15.4, 11.94N×125.92E, h12km, mb4.4, ML3.2, MS3.0, Samar

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.58**	**235**	*e*P		Pb	14 45 27.0	-0.1
BESP				*e*S		Sb	14 45 34.2	-0.7
PLP	**Palo**	**1.21**	**230**	*e*P		Pb	14 45 36.8	-0.9
PLP				*i* S		Sb	14 45 51.4	-1.6
CNP	**Catarman**	**1.36**	**295**	*e*P		Pn	14 45 40.8	+0.6
C

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZA				⇓S	Sn	15 14 00.2	-0.6
	81nm,0.3s						
KBK	**Karagaybulak**	**2.31**	**50**	⇑P	**Pn**	**15 13 35.0**	**+0.4**
	18nm,0.1s,SNR=22						
KBK				⇓S	Sn	15 14 05.0	+1.7
	150nm,0.2s						
KK31	**Karatay Array**	**2.43**	**322**	⇑Pn	**Pn**	**15 13 38.6**	**+2.3**
	7.0nm,0.4s,baz=135,slow=12,SNR=93						
KK31				⇓Pg	Pg	15 13 41.5	-2.9
	7.3nm,0.2s						
KK31				⇑Lg		15 14 14.9	
	6.6nm,0.2s,baz=144,slow=29,SNR=7.7						
CHMS	**Chumysh**	**2.44**	**42**	⇑P	**Pn**	**15 13 36.5**	**+0.2**
	19nm,0.2s,SNR=12						
CHMS				⇑S	Sn	15 14 07.5	+1.0
	78nm,0.4s						
USP	**Ospenovka**	**2.53**	**34**	⇑P	**Pn**	**15 13 37.5**	**-0.2**
	18nm,0.2s,SNR=16						
USP				⇓S	Sn	15 14 10.7	+1.8
	98nm,0.2s						
TKM2	**Tokmak 2**	**2.85**	**52**	⇓P	**Pn**	**15 13 41.9**	**-0.4**
	16nm,0.2s,SNR=18						
ULHL	**Ulahol**	**2.96**	**68**	⇓P	**Pn**	**15 13 44.0**	**+0.1**
	2.0nm,0.1s,SNR=9.9						

IDC 06 15:15:13.8±5.4, 1.23N×97.14E, mb3.3/3, mb1 3.5/3, mb1mx3.3/17, mbtmp3.3/3, Error ellipse: s-maj=205.1km s-min=30.8km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.10**	**122**	P	P	15 23 07.9	-1.7
	0.7nm,1.1s,baz=303,slow=9.2,SNR=2.8						
SONM	**Songino Array**	**47.11**	**9**	P	P	15 23 47.6	-1.9
	0.3nm,0.6s,baz=190,slow=8.7,SNR=3.7						
MKAR	**Makanchi Array**	**47.20**	**346**	P	P	15 23 48.3	-1.9
	0.3nm,0.5s,baz=172,slow=8.6,SNR=3.6						

*BJI **06** 15:37:22.1, 3.88S×67.99E, h10km, mB5.2, mb4.8, Ms4.7, Msz4.3*
*IDC **06** 15:37:27.3±0.7, 3.42S×68.42E, mb4.2/13, mb1 4.3/13, mb1mx4.1/21, mbtmp4.2/13, MS3.9/1, Ms1 3.7/1, ms1mx3.1/16, Error ellipse: s-maj=19.3km s-min=18.5km az=160.0*
*NEIC **06** 15:37:29.5±0.3, 3.38S×68.44E, h10km, mb4.9/13, Error ellipse: s-maj=9.7km s-min=9.2km az=116.0*
ISC 06 15:37:27.3±0.4, 3.40S±0.06×68.42E±0.07, h10km, n67, σ0§99/59, mb4.7/37, MS4.1/4, 3C, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGAR	**Diego Garcia**	**5.65**	**135**	P	**Pn**	**15 38 52.5**	**-1.0**
	90nm,0.6s						
TRD	**Trivandrum**	**14.57**	**36**	*e*P	**P**	**15 40 48.8**	**-7.0**
KMBO	**Kilima Mbogo**	**31.23**	**273**	P	**P**	**15 43 50.0**	**+0.5**
	1.1nm,0.5s,mb4.0,baz=58,slow=17,SNR=3.7						
KULM	**Kulim**	**33.33**	**75**	P	**P**	**15 44 08.2**	**+0.4**
KULM				*e*		15 44 21.0	
KOLN	**Koldanda**	**34.27**	**24**	*e*P	**P**	**15 44 16.5**	**+0.6**
	109nm,2.0s,mb5.4						
DMN	**Daman**	**34.77**	**27**	*e*P	**P**	**15 44 21.1**	**+0.9**
	41nm,0.9s,mb5.3						
PKI	**Pulchoki**	**34.88**	**27**	*e*P	**P**	**15 44 21.4**	**+0.3**
	94nm,1.7s,mb5.5						
GKN	**Gorkha**	**34.91**	**26**	*e*P	**P**	**15 44 22.1**	**+0.7**
	54nm,1.0s,mb5.4						
KKN	**Kakani**	**35.01**	**27**	*e*P	**P**	**15 44 22.7**	**+0.5**
	37nm,0.9s,mb5.3						
LSA	**Lhasa**	**39.46**	**32**	P	**P**	**15 45 02.0**	**+2.3**
LSA	**Lhasa**	**39.46**	**32**	⇑*e*P	**P**	**15 45 01.8**	**+2.1**
	33nm,1.3s,mb4.9						
LSA				*e*		15 45 13.8	
LSZ	**Lusaka**	**41.33**	**251**	*e*P	**P**	**15 45 15.2**	**0.0**
	14nm,1.2s,mb4.5						
MATP	**Matopo**	**42.40**	**243**	P	**P**	**15 45 23.4**	**-0.6**
	4.2nm,0.9s,mb4.1,baz=66,slow=11,SNR=6.4						
KMI	**Kunming**	**43.74**	**48**	P	**P**	**15 45 36.6**	**+1.7**
KMI				AP	pP	15 45 42.5	+4.6
KMI				XP	sP	15 45 44.8	+5.7
KMI				PP	PP	15 47 21.9	+3.3
KMI				S	**S**	**15 52 08.6**	**+4.0**
KMI				SS	SS	15 55 22.1	+9.4
KMI				AMB	AMB		
	comp=Z,9.0nm,1.6s,mb4.2						
KMI				AMB	AMB		
	comp=Z,242nm,3.9s						
KMI				LR	LR		
	comp=N,239nm,16.0s,MS4.3						
KMI				LR	LR		
	comp=E,177nm,18.9s,MS4.3						
KMI				LR	LR		
	comp=Z,174nm,17.2s,MS4.0						
AAK	**Ala-Archa**	**46.15**	**6**	*e*P	**P**	**15 45 54.0**	**0.0**
	comp=Z,3.7nm,0.8s,mb4.4						
GYA	**Guiyang**	**47.41**	**49**	⇑*i*P	**P**	**15 46 04.1**	**0.0**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.6						
BOSA	**Boshof**	**48.07**	**234**	P	**P**	**15 46 08.4**	**-0.9**
	comp=Z,3.1nm,0.9s,mb4.3,baz=162,slow=18,SNR=3.0						
BOSA				LR	LR	16 05 03.5	
	comp=Z,110nm,18.9s,MS3.9,baz=64,slow=34						
BOSA	**Boshof**	**48.07**	**234**	*e*P	**P**	**15 46 08.5**	**-0.7**
	comp=Z,8.5nm,1.1s,mb4.7						
MALT	**Malatya**	**49.93**	**329**	P	**P**	**15 46 24.9**	**+1.5**
	comp=Z,4.2nm,1.1s,mb4.4						
MALT				*e*		15 46 35.9	
WMQ	**Urumqi**	**50.10**	**18**	*e*P	**P**	**15 46 25.0**	**+0.3**
WMQ				XP	sP	15 46 32.0	+3.1
WMQ				PP	PP	15 48 21.0	+0.1
WMQ				SCP		15 51 39.0	
WMQ				S	**S**	**15 53 34.0**	**-0.8**
WMQ				SS	SS	15 57 04.0	-0.8
WMQ				AMB	AMB		
	comp=Z,14nm,1.0s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,28nm,8.0s						
WMQ				LR	LR		
	comp=N,156nm,20.0s,MS4.1						
WMQ				LR	LR		
	comp=E,98nm,20.0s,MS4.1						
WMQ				LR	LR		
	comp=Z,170nm,20.0s,MS4.0						
LZH	**Lanzhou**	**51.36**	**37**	*e*P	**P**	**15 46 34.0**	**-0.4**
LZH				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.9						
MKAR	**Makanchi Array**	**51.46**	**12**	P	**P**	**15 46 33.5**	**-1.4**
	comp=Z,0.9nm,0.8s,mb3.8,baz=188,slow=8.6,SNR=9.0						
GTA	**Gaotai**	**51.47**	**31**	*e*P	**P**	**15 46 35.7**	**+0.5**
GTA				AP	pP	15 46 40.6	+2.4
GTA				XP	sP	15 46 43.1	+3.7
GTA				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.5						
GTA				AMB	AMB		
	comp=Z,79nm,5.0s						
GTA				LR	LR		
	comp=N,173nm,16.8s,MS4.2						
GTA				LR	LR		
	comp=E,98nm,19.5s,MS4.2						
GTA				LR	LR		
	comp=Z,204nm,17.2s,MS4.2						
ENH	**Enshi**	**51.57**	**47**	*e*P	**P**	**15 46 35.1**	**-0.9**
	comp=Z,33nm,1.4s,mb5.1						
ENH				*e*		15 46 47.5	
XAN	**Xi'an**	**53.31**	**42**	P	**P**	**15 46 47.7**	**-1.3**
XAN				AMB	AMB		
	comp=Z,19nm,1.1s,mb4.9						
BRTR	**Keskin Array B**	**53.50**	**327**	P	**P**	**15 46 49.3**	**-1.0**
	comp=Z,0.5nm,0.4s,mb3.8,baz=112,slow=6.7,SNR=5.2						
KURK	**Kurchatov**	**54.61**	**8**	*e*P	**P**	**15 46 56.4**	**-1.9**
	comp=Z,8.8nm,1.0s,mb4.7						
BVAR	**Borovoye Array**	**56.24**	**1**	P	**P**	**15 47 09.2**	**-0.9**
	comp=Z,0.2nm,0.3s,mb3.6,baz=180,slow=8.6,SNR=3.3						
FITZ	**Fitzroy Crossi**	**57.84**	**109**	P	**P**	**15 47 20.5**	**-1.4**
	comp=Z,12nm,1.1s,mb4.8,baz=326,slow=7.3,SNR=2.1						
ZAL	**Zalesovo**	**58.75**	**11**	P	**P**	**15 47 25.9**	**-1.9**
	comp=Z,1.5nm,0.9s,mb4.0,baz=259,slow=7.6,SNR=9.9						
HHC	**Hu-ho-hao-te**	**59.06**	**37**	*e*P	**P**	**15 47 28.8**	**-1.3**
HHC				AMB	AMB		
	comp=Z,13nm,0.5s,mb5.2						
SONM	**Songino Array**	**60.88**	**28**	P	**P**	**15 47 42.8**	**+0.3**
	comp=Z,9.5nm,0.9s,mb4.9,baz=223,slow=6.4,SNR=59						
TLY	**Talaya**	**62.51**	**24**	P	**P**	**15 47 53.9**	**+0.5**
	comp=Z,43nm,2.5s,mb5.1						
WRA	**Warramunga Arr**	**66.22**	**110**	P	**P**	**15 48 18.2**	**+0.1**
	comp=Z,4.4nm,0.9s,mb4.5,baz=285,slow=6.0,SNR=17						
WB2	**Warramunga Arr**	**66.23**	**110**	*e*P	**P**	**15 48 19.5**	**+1.3**
SYO	**Syowa Base**	**68.28**	**191**	⇑pP	pP	15 48 38.8	+5.4
HIA	**Hailar**	**68.64**	**33**	*e*P	**P**	**15 48 33.3**	**+0.4**
	comp=Z,49nm,2.3s,mb5.0						
DAVOX	**Davos**	**71.63**	**322**	P	**P**	**15 48 50.9**	**-0.2**
	comp=Z,4.6nm,1.1s,mb4.3,baz=251,slow=3.3,SNR=2.8						
MDJ	**Mudanjiang**	**72.39**	**41**	P	**P**	**15 48 55.9**	**+0.2**
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,74nm,3.7s						
MDJ	**Mudanjiang**	**72.39**	**41**	*e*P	**P**	**15 48 56.3**	**+0.6**
	comp=Z,11nm,1.1s,mb4.7						
MAJO	**Matsushiro**	**75.94**	**51**	P	**P**	**15 49 17.0**	**+0.6**
	comp=Z,231nm,3.8s						
MAJO				*e*		15 49 28.7	
MAJO				*e*		15 49 33.9	
MAT	**Matsushiro**	**75.94**	**51**	P	**P**	**15 49 15.6**	**-0.9**
MAT	**Matsushiro**	**75.94**	**51**	P	**P**	**15 49 16.0**	**-0.5**
CTAO	**Charters Tower**	**77.41**	**110**	P	**P**	**15 49 25.3**	**+0.3**
	comp=Z,30nm,1.8s,mb4.9						
ESDC	**Sonseca Array**	**78.72**	**311**	P	**P**	**15 49 32.5**	**+0.8**
	comp=Z,1.7nm,0.9s,mb4.0,baz=89,slow=5.5,SNR=8.4						
YAK	**Yakutsk**	**79.96**	**25**	P	**P**	**15 49 37.6**	**-0.4**
	comp=Z,11nm,0.6s,mb5.0						
SNAA	**Sanae**	**80.95**	**198**		**P**	**15 49 46.5**	**+3.4**
SNAA	**Sanae**	**80.95**	**198**		**P**	**15 49 56.4**	**+13**
SNAA	**Sanae**	**80.95**	**198**	P	**P**	**15 49 39.8**	**-3.3**
SNAA				P		15 49 46.5	
YSS	**Yuzh-Sakhalins**	**81.85**	**42**	*e*P	**P**	**15 49 48.0**	**-0.3**
	comp=Z,24nm,1.6s,mb4.9						
VNA2	**Neumayer--Watz**	**82.18**	**199**		**P**	**15 49 52.4**	**+2.9**
VNA2	**Neumayer--Watz**	**82.18**	**199**		**P**	**15 50 04.2**	**+15**
VNA1	**Neumayer--Stat**	**82.40**	**199**		**P**	**15 49 53.3**	**+2.6**
VNA1	**Neumayer--Stat**	**82.40**	**199**		**P**	**15 50 01.0**	**+10**
VNA3	**Neumayer Olymp**	**82.97**	**199**		**P**	**15 49 56.0**	**+2.4**
VNA3	**Neumayer Olymp**	**82.97**	**199**		**P**	**15 50 08.2**	**+15**
VNA3	**Neumayer Olymp**	**82.97**	**199**		**P**	**15 50 08.7**	**+15**
VNDA	**Vanda**	**87.45**	**167**	P	**P**	**15 50 15.5**	**-0.3**
	comp=Z,0.9nm,0.9s,mb4.0,baz=276,slow=6.2,SNR=4.2						
EYAK	**Cordova Ski Ar**	**117.35**	**18**	PKP	PKPdf	15 56 15.3	-0.8
SMCO	**Snowmass**	**144.14**	**354**	PKP	PKPdf	15 57 06.2	-0.7
MSU	**Marysvale**	**145.05**	**1**	*e*PKP	PKPdf	15 57 08.0	-0.4
PV10	**Paradox Valley**	**145.11**	**357**	*e*PKPbc	PKPbc	15 57 09.2	+3.3
PV01	**Paradox Valley**	**145.32**	**356**	*e*PKP	PKPdf	15 57 09.3	+0.4
SDCO	**Great Sand Dun**	**145.37**	**352**	*e*PKP	PKPdf	15 57 09.3	+0.3
WMOK	**Wichita Mounta**	**146.63**	**341**	*e*PKP	PKPdf	15 57 12.1	+0.8
MNTX	**Cornudas Mount**	**151.25**	**349**	*e*PKPbc	PKPdf	15 57 23.9	+5.2
TXAR	**Lajitas Array**	**153.14**	**345**	PKPbc	PKPdf	15 57 28.4	+7.0
	comp=Z,1.8nm,1.1s,baz=135,slow=1.8,SNR=8.4						
TXAR				PKPab	PKPab	15 57 40.5	+0.6
	comp=Z,1.6nm,1.0s,baz=63,slow=2.8,SNR=6.6						

*BJI **06** 15:38:07.2, 3.87S×67.29E, h10km, mB5.1, mb4.6, Ms4.2, Msz4.0*
*IDC **06** 15:38:15.6±1.0, 3.29S×68.29E, mb4.3/7, mb1 4.4/7, mb1mx4.0/18, mbtmp4.3/7, Error ellipse: s-maj=33.2km s-min=20.6km az=140.0*
*NEIC **06** 15:38:17.5±0.5, 3.18S×68.23E, h10km, mb4.9/4, Error ellipse: s-maj=22.2km s-min=11.7km az=131.0*
ISC 06 15:38:15.9±0.6, 3.1S±0.1×68.2E±0.1, h10km, n18, σ1§08/18, mb4.5/12, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRD	**Trivandrum**	**14.47**	**37**	*i*S	**S**	**15 44 12.8**	**-12**
KMBO	**Kilima Mbogo**	**31.01**	**273**	P	**P**	**15 44 36.9**	**+0.6**
	2.3nm,0.9s,mb4.0,baz=54,slow=14,SNR=4.1						
LSA	**Lhasa**	**39.33**	**32**	*e*P	**P**	**15 45 49.2**	**+2.1**
	38nm,1.1s,mb5.0						
LSZ	**Lusaka**	**41.24**	**250**	*e*P	**P**	**15 46 02.9**	**-0.1**
	19nm,0.4s,mb5.1						
MATP	**Matopo**	**42.35**	**243**	P	**P**	**15 46 11.5**	**-0.7**
	3.5nm,0.7s,mb4.1,baz=78,slow=10.0,SNR=5.6						
MATP	**Matopo**	**42.35**	**243**	P	**P**	**15 46 11.5**	**-0.7**
BOSA	**Boshof**	**48.08**	**234**	P	**P**	**15 46 56.6**	**-1.2**
	3.1nm,0.8s,mb4.4,baz=62,slow=10.0,SNR=3.7						
MKAR	**Makanchi Array**	**51.23**	**12**	P	**P**	**15 47 21.4**	**-0.4**
	1.7nm,0.7s,mb4.1,baz=198,slow=7.5,SNR=9.4						
KURK	**Kurchatov**	**54.36**	**8**	*e*P	**P**	**15 47 44.5**	**-0.6**
	9.6nm,1.0s,mb4.7						
ZAL	**Zalesovo**	**58.52**	**11**	P	**P**	**15 48 13.8**	**-1.0**
	3.4nm,0.8s,mb4.4,baz=269,slow=8.5,SNR=9.3						
SONM	**Songino Array**	**60.73**	**29**	P	**P**	**15 48 31.0**	**+1.0**
	11nm,0.9s,mb5.0,baz=222,slow=6.9,SNR=14						
WRA	**Warramunga Arr**	**66.50**	**110**	P	**P**	**15 49 06.9**	**-1.6**
	2.4nm,1.0s,mb4.2,baz=288,slow=5.7,SNR=2.6						
MDJ	**Mudanjiang**	**72.31**	**41**	P	**P**	**15 49 43.8**	**0.0**
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,46nm,3.3s						
SNAA	**Sanae**	**81.15**	**198**		**P**	**15 50 31.9**	**-0.8**
SNAA	**Sanae**	**81.15**	**198**		**P**	**15 50 46.3**	**+14**
YSS	**Yuzh-Sakhalins**	**81.77**	**42**	*e*P	**P**	**15 50 35.8**	**-0.6**
	comp=Z,12nm,1.0s,mb4.8						
VNA2	**Neumayer--Watz**	**82.38**	**199**		**P**	**15 50 40.8**	**+1.7**
VNA3	**Neumayer Olymp**	**83.17**	**199**		**P**	**15 50 44.9**	**+1.7**

*IDC **06** 16:02:45.6±0.8, 11.23N×85.53W, mb4.1/14, mb1 4.3/17, mb1mx4.2/23, mbtmp4.1/17, ML4.0/3, MS4.3/12, Ms1 4.3/12, ms1mx4.1/21, Error ellipse: s-maj=28.4km s-min=8.9km az=60.0*
*NEIC **06** 16:02:46.2, 11.27N×85.40W, mb4.6/20, MD4.8(CASC), After CASC.*
*CASC **06** 16:02:47.2±2.0, 11.26N×85.47W, h12km±5km, MD4.3, ML4.4, mb4.6(NEIC)*
ISC 06 16:02:46.5±0.5, 11.24N±0.03×85.46W±0.04, h11km±3km, n95, σ1§14/110, mb4.3/31, MS4.3/10, 15C-13D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MADN	**Villa Maderas**	**0.18**	**336**	⇓*i*P	**Pg**	**16 02 50.6**	**0.0**
MADN				*e*S	**Sg**	**16 02 54.3**	**+1.0**
CONN	**Concepcion**	**0.36**	**333**	⇓*e*P	**Pg**	**16 02 53.5**	**-0.5**
SSNN	**San Juan del S**	**0.39**	**277**	⇑*e*P	**Pg**	**16 02 54.0**	**-0.4**
SSNN				*e*S	**Sg**	**16 03 00.8**	**+1.0**
APON	**Apoyo**	**0.90**	**318**	⇑*e*P	**Pb**	**16 03 03.4**	**-0.2**
MASN	**Masaya**	**1.01**	**318**	⇓*e*P	**Pb**	**16 03 05.5**	**0.0**
MASN				*e*S	**Sb**	**16 03 19.4**	**+0.9**
JTS	**JuntasAbangare**	**1.07**	**152**	Pg	**Pg**	**16 03 06.2**	**-1.7**
	871nm,0.3s,baz=335,slow=17,SNR=1542						
JTS				Lg		16 03 21.5	
	2μm,0.3s,baz=267,slow=19,SNR=17						
JTS	**JuntasAbangare**	**1.07**	**152**	*e*P	**Pb**	**16 03 06.0**	**-0.5**
FORC	**Fortuna**	**1.09**	**135**	*i*P	**Pb**	**16 03 07.4**	**+0.5**
FORC				⇓*e*P		16 03 07.4	
FORC	**Fortuna**	**1.09**	**135**	*e*P	**Pb**	**16 03 06.4**	**-0.4**
TICN	**Ticuantepe**	**1.09**	**316**	⇑*e*P	**Pb**	**16 03 06.8**	**-0.2**
CRUN	**El Crucero**	**1.11**	**312**	⇓*e*P	**Pb**	**16 03 07.7**	**+0.5**
VCR	**Vista de Mar**	**1.12**	**189**	⇓*e*P	**Pb**	**16 03 07.5**	**0.0**
VCR	**Vista de Mar**	**1.12**	**189**	*e*P	**Pb**	**16 03 07.8**	**+0.4**
VCR				*e*S	**Sb**	**16 03 25.9**	**+4.1**
WILN	**Americas 2**	**1.16**	**322**	⇑*e*P	**Pb**	**16 03 07.3**	**-0.8**
WILN				*e*S	**Sb**	**16 03 23.3**	**+0.3**
MGAN	**Managua**	**1.19**	**319**	⇑*e*P	**Pb**	**16 03 07.8**	**-0.8**
MGAN				*e*S	**Sb**	**16 03 24.8**	**+1.1**
	comp=E,12μm,0.3s						
MGAN				*e*S	**Sb**	**16 03 26.2**	**+2.4**
	comp=Z,7μm,0.4s						
XAVN	**Gruta Xavier**	**1.24**	**317**	⇓*e*P	**Pb**	**16 03 09.3**	**-0.2**
XAVN				*e*S	**Sb**	**16 03 27.1**	**+1.8**
PYTN	**Playitas**	**1.42**	**336**	⇑*e*P	**Pn**	**16 03 11.4**	**-0.9**
PYTN				*e*S	**Sb**	**16 03 29.5**	**-0.9**
COPN	**Copaltepe**	**1.45**	**310**	⇓*e*P	**Pn**	**16 03 12.2**	**-0.6**
COPN				*e*S	**Sb**	**16 03 31.5**	**0.0**
MOMJ	**Momotombo**	**1.57**	**318**	⇑*e*P	**Pn**	**16 03 13.3**	**-1.2**
MOMJ				*e*S	**Sb**	**16 03 35.3**	**+0.4**
VPS2	**Volcan Poas 2**	**1.59**	**131**	⇑*e*P	**Pn**	**16 03 14.9**	**+0.1**
VPS2	**Volcan Poas 2**	**1.59**	**131**	*e*P	**Pn**	**16 03 15.2**	**+0.4**
PRS1	**Puriscal**	**1.68**	**138**	⇓*e*P	**Pn**	**16 03 17.5**	**+1.4**
PRS1	**Puriscal**	**1.68**	**138**	*e*P	**Pn**	**16 03 17.4**	**-1.3**
PRS1				*e*S	**Sn**	**16 03 42.1**	**+4.2**
MIRN	**Miramar**	**1.71**	**314**	⇑*e*P	**Pn**	**16 03 16.2**	**-0.3**
MIRN				*e*S	**Sn**	**16 03 38.2**	**-0.4**
CNGN	**Cerro Negro**	**1.74**	**316**	⇑*e*P	**Pn**	**16 03 17.6**	**+0.6**
CNGN				*e*S	**Sn**	**16 03 39.8**	**+0.4**
LEON	**Leon**	**1.83**	**310**	⇓*e*P	**Pn**	**16 03 17.9**	**-0.3**
SJS	**Escuela Geolog**	**1.89**	**133**	⇑*e*P	**Pn**	**16 03 19.8**	**+0.7**
SJS				*e*S	**Sn**	**16 03 47.4**	**+4.3**
SJS	**Escuela Geolog**	**1.89**	**133**	⇑*e*P	**Pn**	**16 03 20.0**	**+0.9**
SJS				*e*S	**Sn**	**16 03 46.6**	**+3.4**
TEL3	**Telica 3**	**1.90**	**314**	⇓*e*P	**Pn**	**16 03 18.9**	**-0.3**
TELN	**Telica**	**1.91**	**315**	⇑*e*P	**Pn**	**16 03 19.4**	**0.0**
LCR2	**La Lucha 2**	**2.06**	**136**	⇓*e*P	**Pn**	**16 03 21.9**	**+0.3**
LCR2	**La Lucha 2**	**2.06**	**136**	*e*P	**Pn**	**16 03 21.6**	**0.0**
CRIN	**San Cristobal**	**2.13**	**313**	⇑*e*P	**Pn**	**16 03 22.5**	**0.0**
CRIN				*e*S	**Sn**	**16 03 48.0**	**-1.1**
BUS	**Buena Vista**	**2.37**	**135**	⇑*e*P	**Pn**	**16 03 26.2**	**+0.3**
BUS	**Buena Vista**	**2.37**	**135**	*e*P	**Pn**	**16 03 26.5**	**+0.6**
BUS				*e*S	**Sn**	**16 03 57.0**	**+1.8**
LIO	**Limon**	**2.68**	**117**	*e*P	**Pn**	**16 03 28.3**	**-2.1**
SOR	**Soroa**	**11.72**	**11**	*e*P	**P**	**16 05 38.2**	**+1.4**
MGV	**Manicaragua**	**12.01**	**25**	*e*P	**P**	**16 05 40.8**	**+0.1**
ROSC	**El Rosal**	**12.71**	**119**	Pn	**P**	**16 05 50.2**	**+0.1**
	comp=Z,0.8nm,0.3s,baz=89,slow=23,SNR=4.6						
ROSC				LR	LR	16 10 46.5	
	comp=Z,2μm,19.2s,baz=1.3,slow=38						
HLGC	**Holguin**	**13.17**	**42**	*e*P	**P**	**16 06 04.6**	**+8.4**
SDV	**Santo Domingo**	**14.78**	**98**	Pn	**P**	**16 06 17.5**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=283,slow=12,SNR=2.2						
SDV				Sn	**S**	**16 08 53.2**	**-9.0**
	comp=Z,0.7nm,0.3s,baz=335,slow=19,SNR=2.9						
SDV	**Santo Domingo**	**14.78**	**98**	*e*P	**P**	**16 06 21.7**	**+4.1**
SDV				Sn	**S**	**16 08 53.2**	**-9.0**
SJG	**San Juan**	**19.88**	**68**	P	**P**	**16 07 19.7**	**-1.2**
	comp=Z,1.8nm,0.3s,baz=338,slow=17,SNR=3.4						
SJG				LR	LR	16 13 43.2	
	comp=Z,577nm,20.3s,baz=243,slow=33						
LRAL	**Lakeview Retre**	**21.74**	**357**	*e*P	**P**	**16 07 42.7**	**+2.8**
	comp=Z,56nm,1.4s,mb4.8						
JSC	**Jenkinsville**	**23.25**	**9**	*e*P	**P**	**16 07 54.1**	**-0.9**
JCT	**Junction City**	**23.32**	**327**	*e*P	**P**	**16 07 55.9**	**+0.3**
	comp=Z,7.7nm,0.9s,mb4.1						
OXF	**Oxford**	**23.44**	**352**	*e*P	**P**	**16 07 58.7**	**+1.9**
	comp=Z,55nm,1.2s,mb4.9						
PLAL	**Pickwick Lake**	**23.75**	**355**	*e*P	**P**	**16 08 01.1**	**+1.3**
	comp=Z,20nm,1.3s,mb4.4						
SWET	**Sewanee**	**23.87**	**359**	*e*P	**P**	**16 08 04.3**	**+3.4**
CPCT	**Cooper Cave**	**24.11**	**2**	*e*P	**P**	**16 08 06.1**	**+2.8**
UALR	**University of**	**24.25**	**346**	*e*P	**P**	**16 08 05.4**	**+0.7**
	comp=Z,12nm,0.8s,mb4.4						
LTX	**Lajitas**	**24.75**	**319**	*e*P	**P**	**16 08 09.0**	**-0.6**
	comp=Z,5.8nm,0.6s,mb4.3						
TXAR	**Lajitas Array**	**24.75**	**319**	P	**P**	**16 08 08.8**	**-0.8**
	comp=Z,5.1nm,0.6s,mb4.2,baz=141,slow=11,SNR=54						
TXAR				LR	LR	16 19 56.7	
	comp=Z,421nm,20.7s,MS3.9,baz=130,slow=42						
TXAR	**Lajitas Array**	**24.75**	**319**	P	**P**	**16 08 08.8**	**-0.8**
TXAR				LR	LR	16 19 56.7	
WVT	**Waverly**	**24.87**	**355**	*e*P	**P**	**16 08 13.3**	**+2.7**
	comp=Z,7.9nm,0.8s,mb4.3						
ELN	**Prospectdale**	**26.22**	**9**	P	**P**	**16 08 24.0**	**+0.7**
WMOK	**Wichita Mounta**	**26.35**	**335**	*e*P	**P**	**16 08 23.4**	**-1.1**
	comp=Z,19nm,1.1s,mb4.5						
CCM	**Cathedral Cave**	**27.20**	**350**	*e*P	**P**	**16 08 29.9**	**-2.4**
	comp=Z,11nm,0.9s,mb4.4						
SAML	**Samuel**	**29.89**	**131**	*e*P	**P**	**16 08 58.2**	**+1.4**
	comp=Z,4.1nm,1.1s,mb4.1						
ANMO	**Albuquerque**	**30.37**	**324**	P	**P**	**16 09 00.9**	**+0.1**
	comp=Z,0.7nm,0.7s,mb3.5,baz=200,slow=10,SNR=2.9						
SDCO	**Great Sand Dun**	**31.93**	**329**	*e*P	**P**	**16 09 14.8**	**+0.2**
	comp=Z,3.8nm,0.8s,mb4.3						
LPAZ	**La Paz**	**32.28**	**148**	LR	LR	16 23 13.6	
	comp=Z,798nm,20.1s,MS4.4,baz=171,slow=38						
SADO	**Sadowa**	**33.85**	**8**	P	**P**	**16 09 30.9**	**-0.2**
	comp=Z,6.1nm,0.6s,mb4.7,baz=206,slow=11,SNR=4.1						
PV10	**Paradox Valley**	**34.27**	**326**	*e*P	**P**	**16 09 34.4**	**-0.4**
PDAR	**Pinedale Array**	**37.

MW4.7(NIED) Error ellipse: s-maj=5.2km s-min=4.6km az=176.0

NEIC Felt [IV] at Zushi and [III] at Tokyo, Yokohama and Yokosuka. Felt in other parts of east-central Honshu. Recorded [4 JMA] in Kanagawa and Tokyo; [3 JMA] in Chiba, Saitama and Shizuoka; [2 JMA] in Ibaraki, Tochigi and Yamanashi; [1 JMA] in Gumma and Nagano Prefectures.

*IDC **06** 16:05:25.0±0.6,35.44N×139.98E,h70km±5km,mb4.4/19, mb1 4.6/21,mb1mx4.5/23,mbtmp4.7/21,MS3.7/4, Ms1 3.7/4,ms1mx3.2/25,Error ellipse: s-maj=15.9km s-min=7.4km az=88.0*

*MOS **06** 16:05:27.4±0.7,35.92N×139.87E,h83km,mb4.9/64,Error ellipse: s-maj=10.8km s-min=5.0km az=114.9*

ISC 06 16:05:24.2±0.3,35.47N±0.03×140.03E±0.03,h75km±2km, h64km±2.1km:pP-P,n314,σ0995/307,mb4.7/104,18C-10D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
JCN	**Nagara**	**0.15**	**108**	⇑P		**P**	**16 05 35.2**	**0.0**
JCN				S		**S**	**16 05 44.2**	**+0.9**
TOK	**Tokyo**	**0.31**	**315**	P		**P**	**16 05 36.2**	**+0.1**
TOK				S		**S**	**16 05 45.1**	**+0.2**
BSO3	**Boso 3**	**0.77**	**149**	⇑P		**P**	**16 05 40.2**	**-0.3**
JOD2	**Odawara 2**	**0.79**	**256**	⇓P		**P**	**16 05 41.1**	**+0.4**
JOD2				S		**S**	**16 05 53.2**	**+0.2**
JIM2	**Oshima 3**	**0.89**	**213**	⇓P		**P**	**16 05 42.0**	**+0.2**
JIM2				S		**S**	**16 05 55.4**	**+0.4**
JAG	**Ashikaga**	**1.06**	**334**	⇓P		**P**	**16 05 43.1**	**-0.9**
JAG				S		**S**	**16 05 56.9**	**-1.9**
JRY	**Ryogami san**	**1.07**	**301**	⇓P		**P**	**16 05 44.4**	**+0.3**
JRY				S		**S**	**16 05 59.6**	**+0.7**
BSO1	**Boso 1**	**1.12**	**136**	P		**P**	**16 05 43.9**	**-0.9**
JIZS	**Izushimoda**	**1.20**	**232**	⇓P		**P**	**16 05 46.4**	**+0.6**
JIZS				S		**S**	**16 06 02.6**	**+0.6**
JYN	**Shimob**	**1.21**	**272**	⇓P		**P**	**16 05 46.5**	**+0.6**
JKT	**Katashina**	**1.44**	**334**	⇓P		**P**	**16 05 47.9**	**-1.2**
JKT				S		**S**	**16 06 06.0**	**-1.5**
JMY	**Miyakejima3**	**1.45**	**197**	P		**P**	**16 05 49.3**	**0.0**
MAJO	**Matsushiro**	**1.83**	**307**	*e*P		**P**	**16 05 54.2**	**0.0**
MAT	**Matsushiro**	**1.83**	**307**	P		**P**	**16 05 54.2**	**0.0**
MAT				*e*S		**S**	**16 06 17.7**	**+1.4**
MAT	**Matsushiro**	**1.83**	**307**	*e*P		**P**	**16 05 54.0**	**-0.2**
MAT				S		**S**	**16 06 18.0**	**+1.7**
JHJ	**Hachijo jima 2**	**2.35**	**185**	P		**P**	**16 06 01.8**	**+0.2**
	581nm,0.3s,baz=220,slow=1.6,SNR=59							
JHJ				S		**S**	**16 06 28.6**	**-0.6**
	642nm,0.3s,baz=244,slow=23,SNR=14							
JNU	**Nakatsue**	**7.92**	**255**	P		**P**	**16 07 19.6**	**+0.7**
	6.8nm,0.3s,baz=65,slow=15,SNR=37							
CBIJ	**Chichi jima**	**8.54**	**167**	P		**P**	**16 07 23.8**	**-3.6**
	62nm,0.3s,baz=287,slow=18,SNR=8.1							
CBIJ				S		**S**	**16 08 49.6**	**-13**
	16nm,0.3s,baz=298,slow=23,SNR=3.3							
KS15	**Wonju Array Si**	**9.98**	**285**	*e*P		**P**	**16 07 47.7**	**+0.9**
INCN	**Inchon**	**10.97**	**284**	*e*P		**P**	**16 07 59.7**	**-0.6**
	19nm,0.8s							
YSS	**Yuzh-Sakhalins**	**11.66**	**9**	*e*P		**P**	**16 08 04.3**	**-5.1**
	14nm,0.4s							
YSS	**Yuzh-Sakhalins**	**11.66**	**9**	*e*P		**P**	**16 08 05.0**	**-4.4**
YSS				*e*S		**S**	**16 10 12.8**	**-5.7**
YSS				pmax		pmax		
	comp=Z,30nm,1.0s							
YSS				MLR		MLR		
	comp=Z,200nm,12.0s							
MDJ	**Mudanjiang**	**12.13**	**322**	P		**P**	**16 08 15.3**	**-0.5**
MDJ				AP			16 08 28.2	
MDJ				S		**S**	**16 10 32.3**	**+2.4**
MDJ				SS		SS	16 10 48.8	+2.4
MDJ				AMB		AMB		
	comp=Z,43nm,0.9s							
MDJ				AMB		AMB		
	comp=Z,44nm,3.3s							
MDJ				LR		LR		
	comp=N,321nm,22.5s							
MDJ				LR		LR		
	comp=E,175nm,23.5s							
MDJ				LR		LR		
	comp=Z,286nm,25.6s							
MDJ	**Mudanjiang**	**12.13**	**322**	*e*P		**P**	**16 08 14.5**	**-1.2**
	comp=Z,55nm,1.1s							
JOW	**Kunigami**	**13.23**	**233**	P		**P**	**16 08 33.2**	**+2.9**
	comp=Z,5.8nm,0.3s,baz=68,slow=9.7,SNR=13							
JOW				S		**S**	**16 10 52.0**	**-4.1**
JOW				LR		LR	16 13 10.3	
	comp=Z,178nm,19.6s,baz=199,slow=35							
CN2	**Changchun**	**13.97**	**311**	*e*P		**P**	**16 08 40.4**	**+0.6**
CN2				*e*XP			16 09 03.0	
CN2				*e*S		**S**	**16 11 15.3**	**+1.9**
CN2				AMB		AMB		
	comp=Z,30nm,1.0s							
CN2				AMB		AMB		
	comp=Z,180nm,4.0s							
CN2				LR		LR		
	comp=N,270nm,13.0s							
CN2				LR		LR		
	comp=E,180nm,13.0s							
CN2				LR		LR		
	comp=Z,320nm,14.0s							
KLR	**Kul'dur**	**15.04**	**339**	*e*P		**P**	**16 08 47.4**	**-6.2**
DL2	**Dalian**	**15.06**	**289**	P		**P**	**16 08 57.7**	**+3.7**
DL2				XP			16 09 15.1	
DL2				*e*S		**S**	**16 11 46.6**	**+7.4**
DL2				XS			16 12 04.2	
DL2				AMB		AMB		
	comp=Z,20nm,0.8s							
DL2				LR		LR		
	comp=E,210nm,16.1s							
DL2				LR		LR		
	comp=Z,380nm,23.3s							
HIA	**Hailar**	**20.28**	**319**	*e*P		**P**	**16 09 52.4**	**-3.6**
	comp=Z,11nm,0.7s							
HIA	**Hailar**	**20.28**	**319**	*e*P		**P**	**16 09 52.4**	**-3.6**
HIA				pmax		pmax		
	comp=Z,11nm,0.7s							
PET	**Petropavlovsk**	**21.94**	**31**	*i* P		**P**	**16 10 12.9**	**+0.3**
PET				pmax		pmax		
	comp=Z,21nm,1.7s,mb4.2							
WHN	**Wuhan**	**22.06**	**264**	⇑P		**P**	**16 10 14.8**	**+0.8**
HHC	**Hu-ho-hao-te**	**22.96**	**292**	*e*P		**P**	**16 10 24.6**	**+1.9**
HHC				AP			16 10 38.8	
HHC				XP			16 10 45.9	
HHC				PP		PP	16 10 56.0	+1.3
HHC				S		**S**	**16 14 27.7**	**+4.3**
HHC				XS			16 14 47.9	
HHC				SS		SS	16 15 15.9	+2.9
HHC				AMB		AMB		
	comp=Z,18nm,0.9s,mb4.4							
HHC				AMB		AMB		
	comp=Z,122nm,5.6s							
HHC				LR		LR		
	comp=N,159nm,21.4s							
HHC				LR		LR		
	comp=E,177nm,25.0s							
HHC				LR		LR		
	comp=Z,209nm,32.7s							
CLNS	**Chul'man**	**23.70**	**339**	*e*P		**P**	**16 10 29.8**	**+0.2**
CLNS				*e*			16 10 49.8	
CLNS				*e*PPP		PPP	16 10 57.2	-18
CLNS				*e*			16 14 17.7	
CLNS				*e*S		**S**	**16 14 33.1**	**-3.0**
CLNS				*e*SS		SS	16 15 18.0	-12
CLNS				pmax		pmax		
	comp=Z,31nm,0.8s,mb4.7							
CLNS				pmax		pmax		
	comp=N,18nm,0.9s							
CLNS				pmax		pmax		
	comp=E,9.0nm,0.9s							
CLNS				pmax		pmax		
	comp=N,15nm,0.7s							
CLNS				pmax		pmax		
	comp=Z,16nm,0.7s,mb4.5							
CLNS				pmax		pmax		
	comp=E,10.0nm,0.9s							
CLNS				smax				
	comp=N,157nm,13.4s							
CLNS				smax				
	comp=Z,61nm,13.0s							
CLNS				smax				
	comp=E,48nm,12.9s							
CLNS				MLR		MLR		
	comp=Z,200nm,15.0s							
CLNS				MLR		MLR		
	comp=N,80nm,13.0s							
CLNS				MLR		MLR		
	comp=E,50nm,12.0s							
MA2	**Magadan**	**25.12**	**13**	*e*P		**P**	**16 10 42.2**	**-1.1**
	comp=E,32nm,0.8s,mb4.8							
MA2	**Magadan**	**25.12**	**13**	*i* P		**P**	**16 10 43.0**	**-0.4**
MA2				pmax		pmax		
	comp=Z,30nm,0.9s,mb4.7							
XAN	**Xi'an**	**25.55**	**276**	P		**P**	**16 10 46.7**	**-0.9**
XAN				AMB		AMB		
	comp=Z,18nm,1.1s,mb4.4							
ENH	**Enshi**	**26.11**	**267**	*e*P		**P**	**16 10 51.7**	**-1.2**
	comp=Z,59nm,0.7s,mb5.1							
YAK	**Yakutsk**	**27.38**	**349**	*e*P		**P**	**16 11 02.2**	**-2.0**
	comp=Z,31nm,0.8s,mb4.9							
YAK	**Yakutsk**	**27.38**	**349**	*e*P		**P**	**16 11 02.2**	**-2.0**
YAK				pmax		pmax		
	comp=Z,31nm,0.8s,mb4.9							
SONM	**Songino Array**	**27.78**	**307**	P		**P**	**16 11 06.3**	**-1.6**
	comp=Z,5.8nm,0.7s,mb4.2,baz=108,slow=8.9,SNR=38							
SONM				PcP		PcP	16 14 22.4	-0.5
	comp=Z,1.4nm,0.7s,baz=124,slow=2.6,SNR=4.6							
SONM				ScP			16 17 57.1	
	comp=Z,0.8nm,0.9s,baz=180,slow=3.0,SNR=4.2							
SONM				LR		LR	16 22 22.6	
	comp=Z,258nm,19.8s,baz=111,slow=37							
SONM	**Songino Array**	**27.78**	**307**	P		**P**	**16 11 06.3**	**-1.7**
SONM							16 14 22.4	
SONM				pmax		pmax		
	comp=Z,6.0nm,0.7s							
SONM				pmax		pmax		
	comp=Z,1.0nm,0.7s							
SONM				pmax		pmax		
	comp=E,1.0nm,0.9s							
SONM				MLR		MLR		
	comp=Z,258nm,19.8s							
BOD	**Bodaibo**	**28.30**	**330**	*e*P		**P**	**16 11 10.6**	**-1.9**
BOD				pmax		pmax		
	comp=Z,18nm,0.9s,mb4.6							
SEY	**Seymchan**	**28.55**	**12**	*i* P		**P**	**16 11 14.1**	**-0.6**
FX1	**Attu Island--F**	**29.11**	**43**	P		**P**	**16 11 19.4**	**-0.4**
LZH	**Lanzhou**	**29.26**	**282**	*e*P		**P**	**16 11 22.5**	**+1.2**
LZH				AMB		AMB		
	comp=Z,20nm,1.0s,mb4.7							
GYA	**Guiyang**	**29.87**	**262**	⇑*i*P		**P**	**16 11 24.5**	**-2.4**
GYA				AP		pP	16 11 39.3	-5.2
GYA				XP		sP	16 11 46.6	-6.7
GYA				PP		PP	16 12 21.7	-5.0
GYA				PCP		PcP	16 14 27.8	-0.6
GYA				S		**S**	**16 16 14.1**	**-3.1**
GYA				SCP			16 18 03.6	
GYA				AMB		AMB		
	comp=Z,20nm,0.9s,mb4.8							
GYA				AMB		AMB		
	comp=Z,120nm,3.0s							
GYA				LR		LR		
	comp=N,420nm,16.2s							
GYA				LR		LR		
	comp=E,390nm,16.0s							
GYA				LR		LR		
	comp=Z,510nm,16.6s							
ZAK	**Zakamensk**	**30.40**	**311**	⇑*e*P		**P**	**16 11 29.3**	**-2.0**
ZAK				*e*			16 14 27.9	
ZAK				pmax		pmax		
	comp=Z,3.0nm,0.8s,mb4.0							
ZAK				pmax		pmax		
	comp=Z,2.0nm,1.0s,mb3.7							
TLY	**Talaya**	**30.55**	**313**	*i* P		**P**	**16 11 30.9**	**-1.7**
TLY				pmax		pmax		
	comp=Z,5.0nm,0.7s,mb4.3							
GTA	**Gaotai**	**31.99**	**289**	*e*P		**P**	**16 11 45.0**	**-0.3**
GTA				AP		pP	16 11 59.9	-3.3
GTA				XP		sP	16 12 07.1	-5.1
GTA				PP		PP	16 12 52.9	-0.5
GTA				PCP		PcP	16 14 34.0	+0.2
GTA				S		**S**	**16 16 49.2**	**-1.1**
GTA				XS			16 17 15.9	
GTA				AMB		AMB		
	comp=Z,11nm,0.7s,mb4.7							
GTA				AMB		AMB		
	comp=Z,105nm,4.6s							
GTA				LR		LR		
	comp=N,105nm,14.5s							
GTA				LR		LR		
	comp=E,181nm,20.6s							
GTA				LR		LR		
	comp=Z,167nm,16.8s							
KMI	**Kunming**	**33.63**	**263**	⇑P		**P**	**16 12 00.5**	**+0.8**
KMI				AP		pP	16 12 16.0	-1.7
KMI				S		**S**	**16 17 16.5**	**+0.6**
KMI				AMB		AMB		
	comp=Z,15nm,1.3s,mb4.7							
KMI				AMB		AMB		
	comp=Z,242nm,3.3s							
KMI				LR		LR		
	comp=N,121nm,23.4s							
KMI				LR		LR		
	comp=E,113nm,23.8s							
KMI				LR		LR		
	comp=Z,114nm,31.8s							
BILL	**Bilibino**	**35.85**	**17**	*i* P		**P**	**16 12 17.6**	**-0.6**
BILL				pmax		pmax		
	comp=Z,3.0nm,0.7s,mb4.3							
BILL				MLR		MLR		
	comp=Z,100nm,20.0s							
NANT	**Nan**	**38.45**	**255**	⇑P		**P**	**16 12 38.0**	**-2.4**
	comp=Z,194nm,1.0s							
WMQ	**Urumqi**	**40.57**	**298**	P		**P**	**16 12 59.0**	**+1.3**
WMQ				AP		pP	16 13 14.0	-2.1
WMQ				XP		sP	16 13 22.0	-2.9
WMQ				PP		PP	16 14 37.0	+1.4
WMQ				S		**S**	**16 19 04.0**	**+2.7**
WMQ				XS			16 19 31.0	
WMQ				SS		SS	16 22 01.0	+2.1
WMQ				AMB		AMB		
	comp=Z,40nm,1.0s,mb5.2							
WMQ				AMB		AMB		
	comp=Z,28nm,7.0s							
WMQ				LR		LR		
	comp=N,108nm,20.0s							
WMQ				LR		LR		
	comp=E,87nm,20.0s							
WMQ				LR		LR		
	comp=Z,81nm,20.0s							
BDT	**Bhumibol Dam**	**40.65**	**254**	P		**P**	**16 13 07.0**	**+8.3**
LSA	**Lhasa**	**41.25**	**276**	*e*P		**P**	**16 13 04.2**	**+0.7**
	comp=Z,12nm,0.8s,mb4.8							
LSA	**Lhasa**	**41.25**	**276**	*e*P		**P**	**16 13 04.2**	**+0.7**
LSA				pmax		pmax		
	comp=Z,12nm,0.8s,mb4.8							
ZAL	**Zalesovo**	**42.18**	**314**	P		**P**	**16 13 10.0**	**-0.8**
	comp=Z,12nm,0.8s,mb4.7,baz=15,slow=7.8,SNR=74							
ZAL				PcP		PcP	16 15 02.8	-1.7
	comp=Z,6.0nm,0.7s,baz=356,slow=3.8,SNR=6.9							
ZAL				LR		LR	16 30 07.1	
	comp=Z,59nm,20.3s,baz=184,slow=35							
ZAL	**Zalesovo**	**42.18**	**314**	P		**P**	**16 13 10.0**	**-0.8**
ZAL				PcP		PcP	16 15 02.8	-1.7
ZAL				LR		LR	16 30 07.0	
ZAL	**Zalesovo**	**42.18**	**314**	P		**P**	**16 13 10.0**	**-0.7**
ZAL							16 15 02.8	
ZAL				pmax		pmax		
	comp=Z,12nm,0.8s							
ZAL				pmax		pmax		
	comp=Z,6.0nm,0.7s							
ZAL				MLR		MLR		
	comp=Z,59nm,20.3s							
NVS	**Novosibirsk**	**43.13**	**315**	*e*P		**P**	**16 13 17.3**	**-1.3**
NVS				pmax		pmax		
	comp=N,4.0nm,1.1s							
NVS				pmax		pmax		
	comp=E,23nm,1.1s							
NVS				pmax		pmax		
	comp=Z,27nm,1.1s,mb4.9							
KSM	**Kuching**	**43.66**	**226**	*e*P		**P**	**16 13 21.9**	**-1.5**
MKAR	**Makanchi Array**	**44.02**	**303**	P		**P**	**16 13 25.8**	**-0.1**
	comp=Z,21nm,0.7s,mb5.0,baz=87,slow=9.9,SNR=195							
MKAR				PcP		PcP	16 15 10.2	-0.6
	comp=Z,2.5nm,0.7s,baz=83,slow=6.1,SNR=3.3							
MKAR				ScP			16 18 56.0	
	comp=Z,0.5nm,0.7s,baz=72,slow=4.6,SNR=3.9							
MKAR				LR		LR	16 32 15.7	
	comp=Z,124nm,20.3s,baz=84,slow=37							
MKAR	**Makanchi Array**	**44.02**	**303**	P		**P**	**16 13 25.8**	**-0.1**
MKAR							16 15 10.2	
MKAR				pmax		pmax		
	comp=Z,21nm,0.7s							
MKAR				pmax		pmax		
	comp=Z,3.0nm,0.7s							
MKAR				pmax		pmax		
	comp=E,1.0nm,0.7s							
MKAR				MLR		MLR		
	comp=Z,124nm,20.3s							
KURK	**Kurchatov**	**46.03**	**309**	*e*P		**P**	**16 13 40.8**	**-1.1**
	comp=Z,68nm,0.8s,mb5.4							
KURK	**Kurchatov**	**46.03**	**309**	*e*P		**P**	**16 13 40.8**	**-1.1**
KURK				pmax		pmax		
	comp=Z,68nm,0.8s,mb5.4							
PKI	**Pulchoki**	**46.72**	**276**	*e*P		**P**	**16 13 47.3**	**-0.3**
	comp=Z,34nm,0.8s,mb5.1							
KKN	**Kakani**	**46.74**	**277**	*e*P		**P**	**16 13 47.6**	**-0.2**
	comp=Z,48nm,0.8s,mb5.3							
DMN	**Daman**	**46.95**	**276**	*e*P		**P**	**16 13 49.2**	**-0.2**
	comp=Z,31nm,0.9s,mb5.0							
GKN	**Gorkha**	**47.18**	**277**	*e*P		**P**	**16 13 50.9**	**-0.3**
	comp=Z,95nm,0.8s,mb5.6							
KOLN	**Koldanda**	**48.11**	**277**	*e*P		**P**	**16 13 58.2**	**-0.3**
	comp=Z,34nm,0.8s,mb5.2							
KAKA	**Kakadu**	**48.45**	**190**	*e*P		**P**	**16 14 07.2**	**+6.0**
	comp=Z,35nm,0.6s,mb5.4							
RSO	**Redoubt South**	**48.83**	**37**	*e*P		**P**	**16 14 03.5**	**0.0**
ULHL	**Ulahol**	**49.11**	**298**	P		**P**	**16 14 06.2**	**+0.3**
	SNR=7.8							
TKM2	**Tokmak 2**	**49.40**	**299**	P		**P**	**16 14 08.9**	**+0.7**
	SNR=30							
KZA	**Kyzart**	**49.86**	**298**	P		**P**	**16 14 12.7**	**+0.9**
	SNR=11							
KBK	**Karagaybulak**	**49.93**	**299**	P		**P**	**16 14 12.7**	**+0.4**
	SNR=18							
CHMS	**Chumysh**	**49.98**	**300**	P		**P**	**16 14 12.9**	**+0.2**
	SNR=8.8							
KSH	**Kashi**	**50.03**	**295**	*e*P		**P**	**16 14 13.0**	**-0.1**
KSH				*e*AP		pP	16 14 28.0	-3.9
KSH				*e*XP		sP	16 14 35.1	-5.1
KSH				*e*PCP		PcP	16 15 33.1	+0.9
KSH				*e*PP		PP	16 16 09.1	-0.4
KSH				*e*PPP		PPP	16 17 05.0	-2.0
KSH				*e*SCP			16 19 22.1	
KSH				*e*PCS			16 19 28.0	
KSH				*e*S		**S**	**16 21 16.1**	**-0.9**
KSH				*e*XS			16 21 43.1	
KSH				*e*SCS		ScS	16 23 55.2	+1.2
KSH				AMB		AMB		
	comp=Z,80nm,2.6s,mb5.2							
KSH				LR		LR		
	comp=N,150nm,4.2s							
KSH				LR		LR		
	comp=E,200nm,6.0s							
USP	**Ospenovka**	**50.10**	**300**	P		**P**	**16 14 13.5**	**-0.1**
	SNR=12							
FRU	**Bishkek**	**50.12**	**299**	⇑*e*P		**P**	**16 14 13.0**	**-0.8**
FRU				pmax		pmax		
	comp=Z,40nm,1.2s,mb5.2							
AAK	**Ala-Archa**	**50.26**	**299**	*e*P		**P**	**16 14 13.5**	**-1.3**
	comp=Z,7.1nm,0.6s,mb4.8							
AAK	**Ala-Archa**	**50.26**	**299**	*c i*P		**P**	**16 14 13.8**	**-1.0**
AAK				pmax		pmax		
	comp=Z,16nm,1.3s,mb4.8							
AAK				MLR		MLR		
	comp=Z,100nm,21.0s							
EKS2	**Erkin-Say**	**50.76**	**299**	P		**P**	**16 14 18.5**	**-0.2**
	SNR=8.7							
BVA0	**Borovoye Array**	**50.81**	**313**	*i* P		**P**	**16 14 18.4**	**-0.4**
BVA0				pmax		pmax		
	comp=Z,1.0nm,0.5s,mb4.1							
BVAR	**Borovoye Array**	**50.81**	**313**	P		**P**	**16 14 17.8**	**-1.0**
	comp=Z,3.0nm,0.4s,mb4.7,baz=76,slow=6.1,SNR=22							
BVAR				PcP		PcP	16 15 34.0	-0.9
	comp=Z,3.6nm,0.6s,baz=75,slow=4.4,SNR=5.5							
BVAR	**Borovoye Array**	**50.81**	**313**	P		**P**	**16 14 17.8**	**-1.0**
BVAR							16 15 34.0	
BVAR				pmax		pmax		
	comp=Z,3.0nm,0.4s							
BVAR				pmax		pmax		
	comp=Z,4.0nm,0.6s							
BRVK	**Borovoye**	**50.87**	**313**	*e*P		**P**	**16 14 18.0**	**-1.3**
	comp=Z,11nm,1.0s,mb4.8							
BRVK	**Borovoye**	**50.87**	**313**	*e*P		**P**	**16 14 18.0**	**-1.3**
BRVK				pmax		pmax		
	comp=Z,11nm,1.0s,mb4.8							
SML	**Sawmill**	**50.92**	**35**	*e*P		**P**	**16 14 17.6**	**-1.9**
AML	**Almayashu**	**50.97**	**299**	P		**P**	**16 14 20.9**	**+0.7**
	SNR=47							
ILAR	**Eielson Array**	**51.42**	**32**	P		**P**	**16 14 21.7**	**-1.6**
	comp=Z,2.6nm,0.7s,mb4.3,baz=272,slow=6.3,SNR=32							
ILAR	**Eielson Array**	**51.42**	**32**	P		**P**	**16 14 21.7**	**-1.5**
ILAR				pmax		pmax		
	comp=Z,3.0nm,0.7s							
KKAR	**Karatay Array**	**52.95**	**301**	*i* P		**P**	**16 14 34.0**	**-1.1**
KKAR				pmax		pmax		
	comp=Z,1.0nm,0.4s,mb4.2							
FITZ	**Fitzroy Crossi**	**54.99**	**197**	*e*P		**P**	**16 14 49.3**	**-1.0**
	comp=Z,28nm,0.5s,mb5.6							
WRAB	**Tennant Creek**	**55.36**	**186**	*e*P		**P**	**16 14 50.3**	**-2.7**
	comp=Z,26nm,0.6s,mb5.4							
WRAB	**Tennant Creek**	**55.36**	**186**	*i* P		**P**	**16 14 51.0**	**-1.9**
WB2	**Warramunga Arr**	**55.37**	**186**	⇑*i*P		**P**	**16 14 51.2**	**-1.8**
WRA	**Warramunga Arr**	**55.37**	**187**	P		**P**	**16 14 51.4**	**-1.6**
	comp=Z,18nm,0.4s,mb5.4,baz=1.9,slow=7.5,SNR=702							
WRA				ScP			16 19 45.1	
	comp=Z,1.4nm,0.9s,baz=2.3,slow=4.4,SNR=5.8							
WRA	**Warramunga Arr**	**55.37**	**187**	P		**P**	**16 14 51.4**	**-1.6**
WRA				pmax		pmax		
	comp=Z,18nm,0.4s							
WRA				pmax		pmax		
	comp=E,1.0nm,0.9s							
SVE	**Sverdlovsk**	**55.59**	**319**	⇑*e*P		**P**	**16 14 53.6**	**-0.5**
SVE				*e*		pP	16 15 13.0	-0.2
INK	**Inuvik**	**56.29**	**26**	P		**P**	**16 14 58.3**	**-0.7**
	comp=E,2.7nm,0.6s,mb4.4,baz=257,slow=5.4,SNR=6.4							
INK	**Inuvik**	**56.29**	**26**	P		**P**	**16 14 58.3**	**-0.7**
INK				pmax		pmax		
	comp=Z,3.0nm,0.6s							
ARU	**Arti**	**56.80**	**319**	*e*P		**P**	**16 15 01.3**	**-1.4**
	comp=Z,24nm,0.7s,mb5.3							
ARU	**Arti**	**56.80**	**319**	⇑*i*P		**P**	**16 15 01.4**	**-1.4**
ARU				*e*			16 15 55.3	
ARU				*e*			16 17 04.3	
ARU				*e*PPP		PPP	16 18 21.8	-9.0
ARU				*e*S		**S**	**16 22 53.5**	**+5.2**
ARU				pmax		pmax		
	comp=Z,20nm,0.7s,mb5.3							
AB31	**Akbulak array**	**58.10**	**311**	*i* P		**P**	**16 15 10.6**	**-1.4**
AB31				pmax		pmax		
	comp=Z,4.0nm,0.5s,mb4.7							
MBWA	**Marble Bar**	**59.51**	**202**	*e*P		**P**	**16 15 20.8**	**-1.3**
	comp=Z,44nm,0.8s,mb5.5							
APA	**Apatity**	**63.66**	**336**	⇑*i*P		**P**	**16 15 48.2**	**-1.1**
APA				pmax		pmax		
	comp=Z,13nm,0.6s,mb4.9							
KEV	**Kevo**	**64.51**	**339**	*e*p		**P**	**16 15 53.6**	**-1.2**
	comp=Z,3.0nm,0.5s,mb4.4							
KEV	**Kevo**	**64.51**	**339**	*e*P		**P**	**16 15 53.6**	**-1.2**
KEV				pmax		pmax		
	comp=Z,3.0nm,0.5s,mb4.4							
ARCES	**ARCESS Array B**	**65.07**	**339**	P		**P**	**16 15 57.5**	**-0.9**
	comp=Z,7.8nm,0.7s,mb4.7,baz=58,slow=6.8,SNR=30							
ARCES				PcP		PcP	16 16 29.9	-0.5
	comp=Z,1.3nm,0.5s,baz=74,slow=6.6,SNR=3.7							
ARCES	**ARCESS Array B**	**65.07**	**339**	P		**P**	**16

comp=Z,9.5nm,0.5s,mb4.9,baz=51,slow=5.8
KAF Kangasniemi 69.18 333 *e*P **P 16 16 22.9 -1.4**
KAF pmax pmax
comp=Z,10.0nm,0.5s,mb4.9
FINES FINESS Array B 69.68 332 P **P 16 16 26.4 -1.0**
comp=Z,14nm,0.7s,mb4.9,baz=67,slow=6.2,SNR=51
FINES pP pP 16 16 45.8 -1.4
comp=Z,1.9nm,0.4s,baz=63,slow=6.2,SNR=2.3
FINES FINESS Array B 69.68 332 P **P 16 16 26.4 -0.9**
FINES *PP pP 16 16 45.8 -1.4
FINES pmax pmax
comp=Z,15nm,0.7s
FINES pmax pmax
comp=Z,2.0nm,0.4s
KLBR Kellerberrin 69.91 200⇓ *i*P **P 16 16 28.1 -1.2**
comp=Z,14nm,0.7s,mb4.9
GOF Gofitskoye 70.30 312⇓ *i*P **P 16 16 29.3 -2.1**
GOF pmax pmax
comp=Z,20nm,1.3s,mb4.8
KIV Kislovodsk 71.08 311 *e*P **P 16 16 35.5 -0.7**
comp=Z,29nm,1.1s,mb5.0
KIV Kislovodsk 71.08 311 *de*P **P 16 16 35.2 -0.9**
KIV pmax pmax
comp=Z,26nm,1.0s,mb5.0
VSU Vasula 71.23 329 *i*P **P 16 16 36.7 -0.1**
SUMG Summit 72.25 360 *e*P **P 16 16 42.7 +0.1**
comp=Z,15nm,0.8s,mb4.9
ANN Anapa 73.81 314 *e*P **P 16 16 51.1 -1.0**
ANN pmax pmax
comp=Z,30nm,1.5s,mb4.8
BMO Blue Mountains 73.82 46 *e*P **P 16 16 52.5 +0.3**
comp=Z,4.9nm,1.0s,mb4.2
AKASG Malin Array Be 74.85 322 P **P 16 16 56.8 -1.3**
comp=Z,3.4nm,0.4s,mb4.5,baz=46,slow=5.9,SNR=51
AKASG pP pP 16 17 18.1 0.0
comp=Z,2.1nm,0.5s,baz=48,slow=6.1,SNR=3.4
AKASG Malin Array Be 74.85 322 P **P 16 16 56.8 -1.3**
AKASG pP pP 16 17 18.1 0.0
AKASG Malin Array Be 74.85 322 P **P 16 16 56.8 -1.2**
AKASG *PP pP 16 17 18.1 0.0
AKASG pmax pmax
comp=Z,3.0nm,0.4s
AKASG pmax pmax
comp=Z,2.0nm,0.5s
NB2 NORSAR Subarra 75.19 337 P **P 16 16 59.1 -0.7**
comp=Z,7.9nm,0.6s,mb4.6,baz=42,slow=5.8
NB2 NORSAR Subarra 75.19 337 P **P 16 16 59.1 -0.7**
NB2 pmax pmax
comp=Z,8.0nm,0.6s,mb4.6
NOA NORSAR Array B 75.19 337 P **P 16 16 59.3 -0.4**
comp=Z,11nm,0.8s,mb4.6,baz=40,slow=5.7,SNR=32
NOA NORSAR Array B 75.19 337 P **P 16 16 59.3 -0.5**
NOA pmax pmax
comp=Z,11nm,0.8s
SUW Suwalki 75.60 327 *e*P **P 16 17 02.2 -0.1**
SUW Suwalki 75.60 327 *e*P **P 16 17 02.2 0.0**
BOZ Bozeman (W) 76.62 43 *e*P **P 16 17 08.6 +0.4**
comp=Z,2.7nm,0.8s,mb4.0
BOZ *ep*P pP 16 17 24.4 -4.0
BOZ Bozeman (W) 76.62 43 *e*P **P 16 17 08.6 +0.4**
BOZ *e*PP pP 16 17 24.4 -3.9
BOZ pmax pmax
comp=Z,3.0nm,0.8s,mb4.1
MALT Malatya 76.85 308 *e*P **P 16 17 10.5 +0.8**
comp=Z,7.9nm,1.0s,mb4.4
MALT Malatya 76.85 308 *e*P **P 16 17 10.5 +0.8**
MALT pmax pmax
comp=Z,8.0nm,1.0s,mb4.4
QLMT Earthquake Lak 77.22 44 *e*P **P 16 17 12.3 +0.7**
ELK Elko 77.42 49 *e*P **P 16 17 13.7 +0.9**
comp=Z,16nm,0.4s,mb5.1
ELK Elko 77.42 49 *e*P **P 16 17 13.7 +0.9**
ELK pmax pmax
comp=Z,16nm,0.4s
IMW Indian Meadow 78.08 44 *e*P **P 16 17 18.4 +2.1**
comp=Z,5.3nm,0.6s,mb4.5
IMW *e* pP 16 17 41.9 +5.5
HVU Hansel Valley 78.30 47 *e*P **P 16 17 18.0 +0.4**
TPAW Teton Pass 78.32 45 *e*P **P 16 17 19.3 +1.6**
comp=Z,4.2nm,0.6s,mb4.3
KWP Kalwaria 78.74 324 *e*P **P 16 17 20.3 +0.5**
KWP Kalwaria 78.74 324 *e*P **P 16 17 20.3 +0.5**
BR131 Keskin Array S 79.04 311 *e*P **P 16 17 22.2 +0.5**
comp=Z,2.9nm,0.7s,mb4.2
BRTR Keskin Array B 79.04 311 P **P 16 17 21.7 0.0**
comp=Z,4.0nm,0.7s,mb4.3,baz=107,slow=4.0,SNR=13
BRTR Keskin Array B 79.04 311 P **P 16 17 21.7 0.0**
BRTR pmax pmax
comp=Z,4.0nm,0.7s
DUG Dugway 79.23 48 *e*P **P 16 17 23.2 +0.5**
comp=Z,2.9nm,0.6s,mb4.3
DUG Dugway 79.23 48 *e*P **P 16 17 23.3 +0.6**
DUG pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
KOLS Kolonicke sedl 79.42 324 *e*P **P 16 17 24.2 +0.6**
BW06 Boulder Array 79.57 45 *e*P **P 16 17 24.6 +0.2**
comp=Z,1.6nm,0.7s,mb4.0
PDAR Pinedale Array 79.57 45 P **P 16 17 24.6 +0.1**
comp=Z,2.5nm,0.6s,mb4.2,baz=286,slow=2.1,SNR=26
STHS Stebnicka Huta 79.59 324 *e*P **P 16 17 25.0 +0.6**
OJC Ojcow 79.71 326 *e*P **P 16 17 25.1 0.0**
NIE Niedzica 80.03 325 *e*P **P 16 17 27.9 +1.1**
DAU Daniels Canyon 80.04 47 *e*P **P 16 17 28.5 +1.5**
KECS Kecovo 80.59 324 *e*P **P 16 17 30.0 +0.2**
MSU Marysvale 80.65 49 *e*P **P 16 17 32.2 +1.8**
OKC Ostrava-Krasne 80.73 326 *e*P **P 16 17 30.7 +0.2**
OKC AMS AMS 16 52 50.0
comp=Z,300nm,22.8s
HILS Ha'il 80.78 297 P **P 16 17 31.6 +0.3**
KSP Ksiaz 80.83 328 *e*P **P 16 17 31.4 +0.4**
KSP Ksiaz 80.83 328 *e*P **P 16 17 31.3 +0.2**
KSP *ep*P pP 16 17 48.2 -3.1
BSEG Bad Segeberg 80.94 333 *e*P **P 16 17 31.3 -0.3**
MORC Moravsky Berou 81.05 326 *e*P **P 16 17 32.4 +0.2**
comp=Z,6.4nm,0.9s,mb4.5
MORC Moravsky Berou 81.05 326 *e*P **P 16 17 32.4 +0.2**
MORC pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
DPC Dobruska-Polom 81.18 327 *e*P **P 16 17 33.4 +0.5**
DPC AMS AMS 16 51 10.0
comp=Z,200nm,19.3s
UPC Upice 81.20 328 *e*P **P 16 17 33.5 +0.5**
BAR Barrett 81.26 56 *e*P **P 16 17 34.0 +0.3**
PSZ Piszkesteto 81.27 324 *e*P **P 16 17 33.2 -0.2**
comp=Z,11nm,1.1s,mb4.6
PSZ Piszkesteto 81.27 324 *e*P **P 16 17 33.3 -0.1**
PSZ pmax pmax
comp=Z,11nm,1.1s,mb4.6
SRU San Rafael 81.29 48 *e*P **P 16 17 34.7 +1.0**
VYHS Vyhne 81.37 325 *e*P **P 16 17 34.9 +1.0**
ULM Lac du Bonnet 81.43 33 P **P 16 17 33.0 -1.1**
comp=Z,1.3nm,0.6s,mb4.0,baz=315,slow=4.3,SNR=3.1
PVCC Panska Ves 81.81 328 *e*P **P 16 17 36.7 +0.5**
PVCC AMS AMS 16 50 00.0
comp=Z,200nm,21.0s
CLL Collm 81.89 330 ⇑P **P 16 17 36.3 -0.2**
comp=Z,logA/T=1.3,mb4.9
CLL *i* *PP pP 16 17 53.0 -3.9
CLL *i* *SP sP 16 18 02.2 -2.9
CLL Collm 81.89 330⇑ *i*P **P 16 17 36.3 -0.2**
comp=Z,18nm,0.9s,mb4.9
CLL *i* pP pP 16 17 53.0 -3.9
CLL Collm 81.89 330⇑ *i*P **P 16 17 36.3 -0.2**
CLL pmax pmax
comp=Z,18nm,0.9s,mb4.9
PRU Pruhonice 82.22 328 *e*P **P 16 17 38.4 +0.1**
PRU *ep*P pP 16 17 56.6 -2.0
PRU AMS AMS 16 54 20.0
comp=Z,200nm,18.9s
CLZ Clausthal 82.54 331 *e*P **P 16 17 40.1 +0.2**
comp=Z,12nm,0.9s,mb4.7
CLZ Clausthal 82.54 331 *e*P **P 16 17 40.1 +0.2**
CLZ pmax pmax
comp=Z,12nm,0.9s,mb4.7
PV10 Paradox Valley 82.65 48 *e*P **P 16 17 42.6 +1.9**
MKRJ Makawir 82.67 304 P **P 16 17 41.6 +0.6**
KAMS Al Khamasin 82.73 290 P **P 16 17 41.2 -0.2**
NKC Novy Kostel 82.93 329 *ep*P pP 16 17 54.9 -7.4
NKC AMS AMS 16 49 20.0
comp=Z,200nm,24.1s
MOX Moxa 82.96 330 *i*P **P 16 17 41.9 -0.1**
MOX Moxa 82.96 330 *e*P **P 16 17 41.9 -0.1**
ZAPS Zavoj/Pirot 83.09 319 *e*P **P 16 17 42.9 0.0**
PV01 Paradox Valley 83.09 48 *e*P **P 16 17 44.5 +1.6**
KHC Kasperske Hory 83.28 328 *e*P **P 16 17 44.2 +0.5**

KHC *ep*P pP 16 18 04.3 +0.2
KHC AMS AMS 16 51 40.0
comp=Z,200nm,21.9s
SMCO Snowmass 83.37 46 *e*P **P 16 17 46.1 +1.8**
SMCO *ep*P pP 16 18 02.7 -2.0
GEC2 GERESS Array S 83.44 328 *e*P **P 16 17 44.4 -0.1**
comp=Z,4.0nm,0.9s,mb4.2
GEC2 GERESS Array S 83.44 328 *e*P **P 16 17 44.4 -0.1**
GEC2 pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
GERES GERESS Array B 83.44 328 P **P 16 17 44.5 0.0**
comp=Z,2.3nm,0.6s,mb4.2,baz=45,slow=3.8,SNR=16
GERES GERESS Array B 83.44 328 P **P 16 17 44.5 0.0**
GERES pmax pmax
comp=Z,2.0nm,0.6s
WET Wettzell 83.58 328 *e*P **P 16 17 45.5 +0.4**
comp=Z,7.0nm,1.1s,mb4.4
WET Wettzell 83.58 328 *e*P **P 16 17 45.5 +0.4**
WET pmax pmax
comp=Z,7.0nm,1.1s,mb4.4
ZFRI Zfri 83.59 303 P **P 16 17 46.5 +0.9**
PRNI Paran 83.83 303 P **P 16 17 47.7 +0.8**
GRA1 Grafenberg Arr 83.86 329 *e*P **P 16 17 47.1 +0.6**
comp=Z,20nm,0.9s,mb5.0
GRA1 *ep*P pP 16 18 04.8 -2.1
GRF Grafenberg Arr 83.86 329 *e*P **P 16 17 47.1 +0.6**
comp=Z,20nm,0.9s,mb5.0
GRF *ep*P pP 16 18 04.8 -2.1
GRF Grafenberg Arr 83.86 329 *e*P **P 16 17 47.1 +0.6**
GRF *e*PP pP 16 18 04.8 -2.1
GRF pmax pmax
comp=Z,20nm,0.9s,mb5.0
GRF Grafenberg Arr 83.86 329 *e*P **P 16 17 47.1 +0.6**
GRF *e*PP pP 16 18 04.8 -2.1
GRF pmax pmax
comp=Z,20nm,0.9s,mb5.0
KZIT Kziot 83.91 304 P **P 16 17 47.9 +0.7**
TATS Tathlith 84.02 290 P **P 16 17 48.8 +0.8**
TBKS Tabuk 84.04 300 P **P 16 17 48.5 +0.5**
JMQS Jabal Moqyreh 84.11 301 P **P 16 17 49.0 +0.7**
EIL Elat 84.28 302 P **P 16 17 49.5 +0.4**
ALWS Ilw as Safayha 84.42 302 P **P 16 17 50.6 +0.7**
PERS Pernice 84.45 325 *i*P **P 16 17 50.0 +0.4**
JMOS Jabal al Moall 84.47 302 P **P 16 17 50.7 +0.6**
TNS Taunus Mts 84.57 331 *e*P **P 16 17 50.4 +0.4**
GCIS Gornji Cirnik 84.78 325 *e*P **P 16 17 51.4 +0.2**
BDAS Al Bad' 84.93 301 P **P 16 17 52.8 +0.4**
FUR Furstenfeldbru 85.01 328 *e*P **P 16 17 52.7 +0.4**
comp=Z,21nm,0.6s,mb5.2
FUR Furstenfeldbru 85.01 328 *e*P **P 16 17 52.7 +0.4**
FUR pmax pmax
comp=Z,21nm,0.6s,mb5.2
TAYS Tayyib Ism 85.02 302 P **P 16 17 53.4 +0.6**
DJNS Zahran al Janu 85.02 288 P **P 16 17 54.5 +1.5**
DBAS Duba 85.05 300 P **P 16 17 53.4 +0.3**
SDCO Great Sand Dun 85.18 46 *e*P **P 16 17 54.6 +1.2**
comp=Z,7.6nm,1.3s,mb4.5
SDCO *ep*P pP 16 18 12.6 -1.3
BLJS Baljurashi 85.26 291 P **P 16 17 55.4 +1.2**
UMJS Umm Lajj 85.29 298 P **P 16 17 55.1 +0.8**
GIVF Givet 86.05 333 *e*P **P 16 17 57.2 -0.2**
BFO Black Forest 86.11 330 *e*P **P 16 17 57.7 0.0**
comp=Z,10.0nm,0.9s,mb4.8
BFO Black Forest 86.11 330 *e*P **P 16 17 57.7 0.0**
BFO pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
BAIF Baives 86.31 333 *e*P **P 16 17 57.8 -0.9**
ANMO Albuquerque 86.45 49 pP pP 16 18 20.3 0.0
comp=Z,5.5nm,1.1s,baz=296,slow=5.6,SNR=6.1
ANMO Albuquerque 86.45 49 *e*P **P 16 18 01.6 +1.9**
comp=Z,4.2nm,1.0s,mb4.3
ANMO *ep*P pP 16 18 17.9 -2.3
ANMO Albuquerque 86.45 49 *e*P **P 16 18 01.6 +1.9**
ANMO pmax pmax
comp=Z,4.0nm,1.0s
CDF Champ du Feu 86.47 331 *e*P **P 16 17 59.6 +0.1**
comp=Z,17nm,0.8s,mb4.7
CDF Champ du Feu 86.47 331 *e*P **P 16 17 59.6 +0.1**
CDF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
HINF Hinteralfeld 87.12 331 *e*P **P 16 18 02.2 -0.5**
comp=Z,3.6nm,0.7s,mb4.1
HINF Hinteralfeld 87.12 331 *e*P **P 16 18 02.2 -0.5**
HINF pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
SCHQ Schefferville 87.15 15 P **P 16 18 03.4 +0.8**
comp=Z,3.1nm,0.6s,mb4.4,baz=319,slow=3.3,SNR=6.2
HAU Haudompre 87.17 331 *e*P **P 16 18 02.6 -0.3**
comp=Z,9.1nm,0.7s,mb4.5
HAU Haudompre 87.17 331 *e*P **P 16 18 02.6 -0.3**
HAU pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
MEZF Maizieres J'vi 87.27 332 *e*P **P 16 18 02.7 -0.7**
CABF La Chapelle 88.40 330 *e*P **P 16 18 10.0 +1.2**
comp=Z,19nm,1.0s,mb4.8
CABF La Chapelle 88.40 330 *e*P **P 16 18 10.0 +1.2**
CABF pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
LOR Lormes 88.74 332 *e*P **P 16 18 10.8 +0.4**
comp=Z,10nm,1.0s,mb4.5
LOR Lormes 88.74 332 *e*P **P 16 18 10.8 +0.4**
LOR pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
LPL La Plagne 89.02 329 *e*P **P 16 18 12.0 +0.2**
comp=Z,7.1nm,0.8s,mb4.4
LPL La Plagne 89.02 329 *e*P **P 16 18 12.0 +0.2**
LPL pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
LPG La Plagne 89.03 329 *e*P **P 16 18 12.1 +0.3**
comp=Z,7.9nm,0.7s,mb4.6
LPG La Plagne 89.03 329 *e*P **P 16 18 12.1 +0.3**
LPG pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
SSF Saint Saulge 89.05 332 *e*P **P 16 18 12.2 +0.3**
comp=Z,4.5nm,0.8s,mb4.5
SSF Saint Saulge 89.05 332 *e*P **P 16 18 12.2 +0.3**
SSF pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
FLN La Foliniere 89.07 335 *e*P **P 16 18 11.8 -0.1**
AVF Avril sur Loir 89.33 332 *e*P **P 16 18 13.1 -0.1**
comp=Z,13nm,0.8s,mb4.7
AVF Avril sur Loir 89.33 332 *e*P **P 16 18 13.1 -0.1**
AVF pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
GRR Gorron 89.52 335 *e*P **P 16 18 14.1 +0.1**
comp=Z,22nm,0.8s,mb5.0
GRR Gorron 89.52 335 *e*P **P 16 18 14.1 +0.1**
GRR pmax pmax
comp=Z,11nm,0.8s,mb5.0
MBDF Montbardon 89.64 329 *e*P **P 16 18 15.0 +0.3**
SBF Sospel 90.04 328 *e*P **P 16 18 15.8 -0.8**
comp=Z,25nm,0.8s,mb5.1
SBF Sospel 90.04 328 *e*P **P 16 18 15.8 -0.8**
SBF pmax pmax
comp=Z,12nm,0.8s,mb5.1
TCF Toulx Ste Croi 90.19 332 *e*P **P 16 18 17.6 +0.4**
SGMF Saint Gilles 90.21 336 *e*P **P 16 18 16.9 -0.4**
comp=Z,8.9nm,0.6s,mb4.8
SGMF Saint Gilles 90.21 336 *e*P **P 16 18 16.9 -0.4**
SGMF pmax pmax
comp=Z,4.0nm,0.6s,mb4.7
ROSF Rostrenen 90.37 336 *e*P **P 16 18 18.4 +0.4**
comp=Z,31nm,1.0s,mb5.1
ROSF Rostrenen 90.37 336 *e*P **P 16 18 18.4 +0.4**
ROSF pmax pmax
comp=Z,15nm,1.0s,mb5.1
VIVF Saint-Julien-l 90.40 330 *e*P **P 16 18 18.2 -0.1**
comp=Z,8.4nm,0.8s,mb4.6
VIVF Saint-Julien-l 90.40 330 *e*P **P 16 18 18.2 -0.1**
VIVF pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
MFF Saint Martin d 90.80 334 *e*P **P 16 18 20.4 +0.3**
comp=Z,24nm,0.9s,mb5.0
MFF Saint Martin d 90.80 334 *e*P **P 16 18 20.4 +0.3**
MFF pmax pmax
comp=Z,12nm,0.9s,mb5.0
RJF Les Rejaudoux 91.28 332 *e*P **P 16 18 22.8 +0.4**
comp=Z,13nm,0.8s,mb4.8
RJF Les Rejaudoux 91.28 332 *e*P **P 16 18 22.8 +0.4**
RJF pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
LASF Ste Croix 91.38 330 *e*P **P 16 18 23.1 +0.2**
comp=Z,9.7nm,0.9s,mb4.6
CAF Calviac 91.39 332 *e*P **P 16 18 23.6 +0.7**
comp=Z,12nm,0.9s,mb4.7

CAF Calviac 91.39 332 *e*P **P 16 18 23.6 +0.7**
CAF pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
LFF La Frestale 91.88 332 *e*P **P 16 18 25.7 +0.6**
comp=Z,24nm,0.9s,mb5.2
LFF La Frestale 91.88 332 *e*P **P 16 18 25.7 +0.6**
LFF pmax pmax
comp=Z,12nm,0.9s,mb5.1
TXAR Lajitas Array 91.97 52 P **P 16 18 27.3 +1.4**
comp=Z,0.9nm,0.8s,mb4.1,baz=310,slow=2.2,SNR=7.2
TXAR pP pP 16 18 46.2 -0.4
comp=Z,2.1nm,0.8s,baz=288,slow=4.0,SNR=8.4
TXAR Lajitas Array 91.97 52 P **P 16 18 27.3 +1.4**
TXAR *PP pP 16 18 46.3 -0.4
TXAR pmax pmax
comp=Z,1.0nm,0.8s
TXAR pmax pmax
comp=Z,2.0nm,0.8s
MTLF Montolieu 92.65 331 *e*P **P 16 18 29.1 +0.4**
comp=Z,7.7nm,0.9s,mb4.8
MTLF Montolieu 92.65 331 *e*P **P 16 18 29.1 +0.4**
MTLF pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
EPF Esparros 93.65 332 *e*P **P 16 18 33.2 -0.1**
comp=Z,9.3nm,1.0s,mb4.8
EPF Esparros 93.65 332 *e*P **P 16 18 33.2 -0.1**
EPF pmax pmax
comp=Z,5.0nm,1.0s,mb4.8
ETSF Etsaut 94.11 332 *e*P **P 16 18 36.1 +0.8**
comp=Z,20nm,1.2s,mb5.0
ETSF Etsaut 94.11 332 *e*P **P 16 18 36.1 +0.8**
ETSF pmax pmax
comp=Z,10.0nm,1.2s,mb5.0
LBTB Lobatse 123.31 261 PKP PKPdf 16 24 14.2 +1.3
comp=Z,4.3nm,0.8s,baz=355,slow=2.2
LBTB Lobatse 123.31 261 PKIKP PKPdf 16 24 14.2 +1.3
LBTB pmax pmax
comp=Z,4.0nm,0.8s
BOSA Boshof 125.16 258 PKP PKPdf 16 24 17.7 +1.3
comp=Z,2.0nm,0.8s,baz=45,slow=1.4,SNR=3.1
BOSA Boshof 125.16 258 PKIKP PKPdf 16 24 17.7 +1.2
BOSA pmax pmax
comp=Z,2.0nm,0.8s
DBIC Dimbokro 126.63 315 PKP PKPdf 16 24 20.6 +1.0
comp=Z,3.1nm,0.5s,baz=37,slow=3.3,SNR=9.9
DBIC Dimbokro 126.63 315 PKIKP PKPdf 16 24 20.6 +1.0
DBIC pmax pmax
comp=Z,3.0nm,0.5s
SDV Santo Domingo 127.25 39 *e*PKP PKPdf 16 24 21.6 +0.8
SNAA Sanae 138.92 197 PKPdf 16 24 34.7 -6.5
SNAA Sanae 138.92 197 PKPdf 16 24 42.0 +0.8
SNAA Sanae 138.92 197 PKPdf 16 25 00.7 +20
SNAA Sanae 138.92 197 PKhKP 16 24 31.6
comp=Z,0.5nm,0.6s,baz=188,slow=7.2,SNR=10
SNAA Sanae 138.92 197 PKHKP 16 24 31.6
SNAA pmax pmax
comp=Z,1.0nm,0.6s
VNA2 Neumayer--Watz 140.50 196 PKPdf 16 24 41.7 -2.2
VNA2 Neumayer--Watz 140.50 196 PKPdf 16 24 46.7 +2.8
VNA2 Neumayer--Watz 140.50 196 PKPdf 16 24 51.1 +7.2
VNA2 Neumayer--Watz 140.50 196 PKPdf 16 24 57.1 +13
VNA2 Neumayer--Watz 140.50 196 PKPdf 16 25 04.1 +20
VNA2 Neumayer--Watz 140.50 196 P PKPdf 16 24 46.7 +2.8
VNA3 Neumayer Olymp 140.76 195 PKPdf 16 24 50.6 +6.2
VNA3 Neumayer Olymp 140.76 195 PKPdf 16 24 57.6 +13
VNA3 Neumayer Olymp 140.76 195 PKPdf 16 25 12.8 +28
VNA1 Neumayer--Stat 140.90 196 PKPdf 16 24 44.4 -0.2
VNA1 Neumayer--Stat 140.90 196 PKPdf 16 24 49.7 +5.1
VNA1 Neumayer--Stat 140.90 196 PKPdf 16 24 57.6 +13
VNA1 Neumayer--Stat 140.90 196 PKPdf 16 25 02.1 +17
VNA1 Neumayer--Stat 140.90 196 PKPdf 16 25 19.5 +35
SAML Samuel 146.15 44 *e*PKP PKPdf 16 24 56.8 +1.5
LPAZ La Paz 148.45 60 PKP PKPdf 16 25 02.4 +3.4
comp=Z,3.0nm,0.7s,baz=265,slow=3.6,SNR=18
LPAZ PKPbc PKPdf 16 25 05.5 +6.6
comp=Z,3.0nm,0.7s,baz=309,slow=5.2,SNR=21
LPAZ La Paz 148.45 60 *e*PKPdf PKPdf 16 25 01.6 +2.7
LPAZ *e*PKPbc PKPdf 16 25 05.2 +6.2
LPAZ La Paz 148.45 60 PKIKP PKPdf 16 25 02.4 +3.4
LPAZ 16 25 05.6
LPAZ pmax pmax
comp=Z,3.0nm,0.7s
LPAZ pmax pmax
comp=Z,3.0nm,0.7s

NEIC ***06*** *16:12:48.9, 11.60N×85.62W, h34km, MD3.7(CASC), After CASC.*
CASC 06 16:12:51.2±2.5, 11.25N×85.42W, MD3.5, ML3.5, 6C-6D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CONN	**Concepcion**	**0.37**	**327⇑**	*e*P	Pg	16 13 00.2	+1.5
SSNN	**San Juan del S**	**0.43**	**275⇑**	*e*P	Pg	16 13 00.6	+0.9
APON	**Apoyo**	**0.92**	**316**	*e*S	Sg	16 13 23.9	+2.1
FORC	**Fortuna**	**1.07**	**136**	*i*P	Pb	16 13 12.5	+0.2
FORC				*e*P		16 13 12.7	
FORC	**Fortuna**	**1.07**	**136**	*e*P	Pb	16 13 13.0	+0.8
TICN	**Ticuantepe**	**1.12**	**314⇑**	*e*P	Pb	16 13 12.8	-0.3
TICN				*e*S	Sb	16 13 28.2	+0.2
CRUN	**El Crucero**	**1.13**	**310⇑**	*e*P	Pb	16 13 13.8	+0.4
VCR	**Vista de Mar**	**1.14**	**191**	*e*P	Pb	16 13 12.0	-1.4
VCR				*e*S	Sb	16 13 31.6	+3.0
VCR	**Vista de Mar**	**1.14**	**191**	*e*P	Pb	16 13 13.0	-0.4
WILN	**Americas 2**	**1.18**	**320**	*e*S	Sb	16 13 30.2	+0.3
WILN				*e*S	Sb	16 13 30.5	+0.6
MGAN	**Managua**	**1.21**	**318⇓**	*e*P	Pb	16 13 14.2	-0.4
MGAN				*e*		16 13 33.2	
	comp=N,829nm,0.3s						
MGAN				*e*		16 13 33.3	
	comp=E,973nm,0.3s						
XAVN	**Gruta Xavier**	**1.26**	**315⇑**	*e*P	Pb	16 13 15.9	+0.4
XAVN				*e*S	Sb	16 13 33.5	+1.3
COPN	**Copaltepe**	**1.48**	**309⇑**	*e*P	Pn	16 13 18.3	-0.9
VPS2	**Volcan Poas 2**	**1.57**	**132**	*e*P	Pn	16 13 19.4	-1.0
VPS2				*e*S	Sb	16 13 43.1	+2.0
PRS1	**Puriscal**	**1.66**	**139⇓**	*e*P	Pn	16 13 22.2	+0.5
PRS1				*e*S	Sb	16 13 47.8	+4.0
PRS1	**Puriscal**	**1.66**	**139**	*e*P	Pn	16 13 22.0	+0.2
PRS1				*e*S	Sb	16 13 47.7	+3.9
MIRN	**Miramar**	**1.73**	**313⇓**	*e*P	Pn	16 13 23.3	+0.5
SJS	**Escuela Geolog**	**1.87**	**134**	*e*S	Sn	16 13 51.7	+2.3
TEL3	**Telica 3**	**1.92**	**313⇓**	*e*P	Pn	16 13 24.8	-0.7
LCR2	**La Lucha 2**	**2.04**	**137⇓**	*e*P	Pn	16 13 26.9	-0.3
LCR2				*e*S	Sn	16 13 56.4	+2.6
LCR2	**La Lucha 2**	**2.04**	**137**	*e*P	Pn	16 13 26.7	-0.6
BUS	**Buena Vista**	**2.34**	**136⇓**	*e*P	Pn	16 13 32.2	+0.7
BUS	**Buena Vista**	**2.34**	**136**	*e*P	Pn	16 13 32.2	+0.7

BJI ***06*** *16:22:18.9, 34.80N×30.87E, h91km, mB4.7, mb4.4*
ISK ***06*** *16:22:24.5, 35.72N×31.08E, h60km, ML3.9*
CSEM ***06*** *16:22:24.3±0.0, 35.79N×31.03E, h59km±1km, mb4.9/2, Mw3.4, Error ellipse: s-maj=1.6km s-min=0.9km az=61.0*
NIC ***06*** *16:22:25.7±0.3, 36.07N×31.30E, h33km, mb4.2, ML3.9, MW3.4*
IDC ***06*** *16:22:25.7±1.4, 35.80N×31.00E, h47km±16km, mb3.6/7, mb1 3.7/10, mb1mx3.6/21, mbtmp3.8/10, ML3.6/3, Error ellipse: s-maj=15.6km s-min=11.7km az=174.0*
HLW ***06*** *16:22:26.1, 35.71N×30.98E, h16km, Mb3.9*
NEIC ***06*** *16:22:27.1±0.8, 35.38N×31.09E, h89km±9km, mb4.0/5, Error ellipse: s-maj=20.1km s-min=8.9km az=203.0*
ATH ***06*** *16:23:12.4, 35.49N×27.30E, h10km, MD3.3/3*
ISC 06 16:22:25.2±0.2, 35.71N±0.02×31.11E±0.02, h71km±4km, h74km±1.8km: pP-P, n118, σ1§14/164, mb4.0/11, 3C-4D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKMC	**Akamas**	**1.21**	**124**	P	**P**	**16 22 47.7**	**+0.9**
ANTB	**Antalya**	**1.24**	**343**	PN	**P**	**16 22 46.4**	**-0.9**
ANTB				SN	**S**	**16 23 03.2**	**-0.4**
PPCY	**Paphos**	**1.30**	**129**	P	**P**	**16 22 50.1**	**+1.9**
PPCY				S	**S**	**16 23 08.1**	**+2.9**
AKAS	**Kas**	**1.33**	**294**	*i*P	**P**	**16 22 52.3**	**+3.8**
AKAS				*i*S	**S**	**16 23 13.2**	**+7.5**
ALFC	**Alevga**	**1.34**	**114**	P	**P**	**16 22 48.3**	**-0.3**
	54nm,0.2s						
ALFC				S	**S**	**16 23 06.6**	**+0.7**
ELL	**Elmali**	**1.42**	**317**	*e*PN	**P**	**16 22 48.7**	**-1.0**
LEF	**Lefka**	**1.57**	**111**	PN	**P**	**16 22 51.0**	**-0.7**

LEF SN **S** 16 23 11.8 +0.6
HDMB Hadim 1.68 41 PN **P** 16 22 52.2 -0.9
ERMK Ermenek 1.73 57 *i* P **P** 16 22 53.3 -0.5
ERMK *i* S **S** 16 23 18.2 +3.2
SZAC Souni-Zanaja 1.74 123 P **P** 16 22 55.6 +1.7
SZAC S **S** 16 23 18.0 +2.9
BCK Bucak 1.80 347 PN **P** 16 22 54.3 -0.5
MAMC Mammari 1.81 107 P **P** 16 22 54.7 -0.2
CSS Prodhromos 1.96 112 P **P** 16 22 56.7 -0.3
8.0nm,0.3s
CSS S **S** 16 23 21.7 +1.2
CSS Prodhromos 1.96 112 *eP* **P** 16 22 56.4 -0.6
CSS S **S** 16 23 21.7 +1.2
GOLH Golhisar 1.97 321 *i* P **P** 16 22 58.2 +1.1
GOLH *i* S **S** 16 23 31.5 +11
ISP Isparta 2.18 347 *e*PN **P** 16 22 58.9 -1.2
ISP Isparta 2.18 347 *eP* **P** 16 23 06.9 +6.8
DALT Dalyan (Mudla) 2.26 299 *e*PN **P** 16 23 00.6 -0.6
TKTP Tekketepe 2.41 345 *i* P **P** 16 23 04.0 +0.6
TKTP *i* S **S** 16 23 34.5 +2.8
KONT Konya--Tatoy 2.45 24 *e*PN **P** 16 23 03.3 -0.6
DNZL Cakiroluk 2.58 321 *i* P **P** 16 23 07.6 +1.9
DNZL *i* S **S** 16 23 42.1 +6.2
MEST Erdemli 2.61 69 *i* P **P** 16 23 08.3 +2.2
MEST *i* S **S** 16 23 38.4 +1.7
DENT Denizli 2.63 321 *e*PN **P** 16 23 05.2 -1.3
YER Yerkesik 2.69 303 *e*PN **P** 16 23 05.9 -1.3
KHL Karahalli 2.90 335 *e*PN **P** 16 23 09.4 -0.8
KDHN Kadinhani 2.92 16 *i* P **P** 16 23 09.6 -0.9
KDHN *i* S **S** 16 23 48.1 +3.5
MLSB Milas 3.12 302 *e*PN **P** 16 23 13.2 0.0
KARP Karpathos 3.22 268 *e*PG **P** 16 23 15.5 +0.8
KIZT Kizilcal 3.23 11 *e*PN **P** 16 23 14.9 +0.1
BDRM Kayabasi 3.25 296 *i* P **P** 16 23 15.9 +0.8
BDRM *i* S **S** 16 23 51.3 -1.5
BODT Bodrum 3.35 295 *e*PN **P** 16 23 16.2 -0.3
ALT Altintas 3.43 347 *e*PN **P** 16 23 16.9 -0.8
MANT Manisa 3.44 324 *i* P **P** 16 23 20.8 +3.0
MANT *i* S **S** 16 24 02.1 +4.5
GDZ Gediz 3.61 339 *i* P **P** 16 23 19.3 -0.9
GDZ *i* S **S** 16 23 59.1 -2.8
ESKT Eskisehir 3.81 357 *i* P **P** 16 23 22.2 -0.7
ESKT *i* S **S** 16 24 02.4 -4.4
ESKT Eskisehir 3.81 357 *e*Pn **P** 16 23 22.3 -0.6
ARNB Al Arnab 3.96 86 ⇑*i*P **P** 16 23 25.5 +0.5
CEYT Ceyhan 3.96 70 *e*PN **P** 16 23 24.8 -0.3
HTY Hatay 4.10 83 *e*PN **P** 16 23 27.5 +0.5
AKS Akhisar 4.11 321 *e*PN **P** 16 23 26.4 -0.7
BHL Bhannes 4.15 114 Sn **S** 16 24 12.4 -2.9
SLNF Slenfeh 4.17 90 ⇓*i*P **P** 16 23 28.5 +0.6
KAMT Kaman 4.20 29 *e*PN **P** 16 23 28.5 +0.2
BLCB Balcova 4.21 311 *e*PN **P** 16 23 27.9 -0.6
HWQ Hawqa 4.22 108 *e*Pn **P** 16 23 30.0 +1.3
HWQ Sn **S** 16 24 16.0 -1.0
COBT Iskenderun 4.25 78 *i* P **P** 16 23 28.1 -0.8
COBT *i* S **S** 16 24 14.8 -2.8
HNTI Hanita 4.26 127 Pn **P** 16 23 29.4 +0.2
HNTI Sn **S** 16 24 16.6 -1.5
BIDA Albida 4.32 98 ⇑*i*P **P** 16 23 31.0 +1.0
WRDH Warideh 4.33 91 ⇑*i*P **P** 16 23 31.5 +1.4
BTCH Batrach 4.36 84 ⇑*i*P **P** 16 23 31.4 +0.8
HAF Haifa 4.37 131 Pn **P** 16 23 30.5 -0.2
HAF Sn **S** 16 24 19.1 -1.6
OFRI 'Ofer 4.45 133 Pn **P** 16 23 31.6 -0.3
OFRI Sn **S** 16 24 21.4 -1.4
BR131 Keskin Array S 4.48 26 *eP* **P** 16 23 32.3 0.0
BRTR Keskin Array B 4.48 26 P **P** 16 23 32.1 -0.1
2.4nm,0.3s,baz=188,slow=16,SNR=27
BRTR S **S** 16 24 21.2 -2.4
0.7nm,0.3s,baz=14,slow=12,SNR=2.7
KSDI Kefar Szold 4.52 122 Pn **P** 16 23 33.8 +1.0
KSDI Sn **S** 16 24 23.8 -0.8
HRI Mount Hermon 4.53 121 Sn **S** 16 24 24.0 -0.8
DRWC Darouich 4.59 77 ⇑*i*P **P** 16 23 34.0 +0.2
BRBR Barbar 4.61 118 ⇑*i*P **P** 16 23 35.4 +1.4
CDAG Cicekdag 4.69 33 *i* P **P** 16 23 35.0 -0.1
CDAG *i* S **S** 16 24 29.2 +0.5
ULDT Uludag 4.69 341 *i* P **P** 16 23 35.6 +0.4
ULDT *i* S **S** 16 24 23.3 -5.6
KSHT Keshet 4.75 124 Pn **P** 16 23 37.6 +1.6
KSHT Sn **S** 16 24 30.2 0.0
MDU Mudurnu 4.75 1 *e*PN **P** 16 23 36.3 +0.3
SLTI Sal'it 4.76 136 Pn **P** 16 23 36.5 +0.4
SLTI Sn **S** 16 24 28.5 -2.0
MMLI Mount Malkishu 4.84 131 Pn **P** 16 23 38.0 +0.7
MMLI Sn **S** 16 24 30.9 -1.7
SGKT Sivrigoynuk 4.91 8 *i* P **P** 16 23 37.1 -1.1
SGKT *i* S **S** 16 24 29.1 -5.2
KAHT Ahir Dag 5.02 66 *i* P **P** 16 23 40.2 +0.5
KAHT *i* S **S** 16 24 35.0 -1.9
IDI Anoyia 5.09 267 P **P** 16 23 40.0 -0.7
6.8nm,0.3s,baz=96,slow=14,SNR=45
IDI S **S** 16 24 34.6 -4.1
2.9nm,0.3s,baz=180,slow=20,SNR=3.3
ELDT Eldivan 5.11 20 *i* P **P** 16 23 39.6 -1.4
ELDT *i* S **S** 16 24 27.5 -12
GAZ Gaziantep 5.13 72 *e*PN **P** 16 23 41.2 -0.1
GZT Gaziantep 5.45 71 *i* P **P** 16 23 44.5 -1.2
GZT *i* S **S** 16 24 43.3 -4.5
KZIT Kziot 5.52 149 Pn **P** 16 23 47.4 +0.8
KZIT Sn **S** 16 24 47.2 -2.4
RTMM Retamin 5.53 146 Sn **S** 16 24 48.5 -1.1
MKRJ Makawir 5.61 136 Pn **P** 16 23 49.2 +1.4
MASH Mash'abbe Sade 5.62 146 Pn **P** 16 23 48.7 +0.8
MASH Sn **S** 16 24 50.1 -1.8
MZDA Masada 5.65 140 Pn **P** 16 23 48.8 +0.5
MZDA Sn **S** 16 24 50.8 -1.8
HMAT Matruh 5.69 217 ⇓P **P** 16 23 48.6 -0.4
HMAT S **S** 16 24 49.3 -4.5
KOT Kottamia 5.80 174 P **P** 16 23 51.2 +0.8
HHAG Hagoal 5.80 171 P **P** 16 23 51.0 +0.5
SQR 5.81 179 P **P** 16 23 51.4 +0.8
HMYD Mayadein 5.90 183 P **P** 16 23 52.5 +0.7
HMYD Mayadein 5.90 183 P **P** 16 23 52.5 +0.6
ASF Jabal al Asfar 5.97 125 P **P** 16 23 54.4 +1.7
0.7nm,0.3s,baz=27,slow=3.2,SNR=3.0
ASF S **S** 16 25 01.0 +0.5
2.1nm,0.3s,baz=227,slow=20,SNR=3.1
AYT Al 'Ayyat 5.99 180 P **P** 16 23 53.9 +0.9
FYM Al Fayyum 6.00 181 ⇓P **P** 16 23 53.6 +0.4
FYM S **S** 16 24 57.4 -4.0
SUZ 6.03 166 ⇓P **P** 16 23 54.5 +0.8
HNAT Natroun 6.07 184 P **P** 16 23 54.8 +0.5
HSAF As Saff 6.08 176 ⇑P **P** 16 23 55.1 +0.6
GLL Jalalah 6.13 175 ⇑P **P** 16 23 55.8 +0.7
PRNI Paran 6.26 147 Pn **P** 16 23 57.3 +0.3
PRNI Sn **S** 16 25 06.4 -1.5
MALT Malatya 6.41 64 *eP* **P** 16 23 58.4 -0.6
4.1nm,0.5s
MALT Malatya 6.41 64 *eP* **P** 16 23 58.4 -0.6
4.1nm,0.5s
SLUM 6.47 231 ⇑P **P** 16 23 59.1 -0.8
SLUM S **S** 16 25 07.0 -6.0
EIL Elat 6.84 151 Pn **P** 16 24 05.2 +0.2
EIL Sn **S** 16 25 20.3 -1.7
SWA1 7.88 217 P **P** 16 24 18.6 -0.7
SWA1 S **S** 16 25 41.0 -6.7
SWA2 8.02 218 P **P** 16 24 20.3 -0.9
HSFG 9.43 164 P **P** 16 24 40.5 +0.1
HDK1 Dakhla 10.24 189 P **P** 16 24 51.0 -0.5
AKASG Malin Array Be 15.05 355 P **P** 16 25 59.0 +4.1
0.7nm,0.3s,baz=178,slow=9.7,SNR=8.3
KWP Kalwaria 15.21 339 P **P** 16 26 01.8 +4.8
13nm,0.3s
GERES GERESS Array B 18.33 321 P **P** 16 26 38.3 +2.4
0.1nm,0.3s,baz=129,slow=8.5,SNR=5.5
GRA1 Grafenberg Arr 20.14 320 *eP* **P** 16 26 56.1 +0.3
5.0nm,1.0s
GRF Grafenberg Arr 20.14 320 *eP* **P** 16 26 56.1 +0.3
5.0nm,1.0s
MOX Moxa 20.52 323 *i* P **P** 16 27 01.3 +1.6
logA/T=0.9
MOX L 16 54 32.0
MOX Moxa 20.52 323 *eP* **P** 16 27 01.3 +1.6
13nm,1.6s
MOX LR LR
comp=Z,100nm,20.0s
FINES FINESS Array B 25.95 354 P **P** 16 27 52.0 -0.4
comp=Z,1.3nm,0.7s,mb3.5,baz=161,slow=10,SNR=6.9
HFS Hagfors 26.91 341 P **P** 16 28 01.2 0.0
comp=Z,2.7nm,0.9s,mb3.8,baz=150,slow=12,SNR=5.5

ARU Arti 27.83 33 *eP* **P** 16 28 09.3 -0.3
comp=Z,1.9nm,0.3s,mb4.1
ARU Arti 27.83 33 *eP* **P** 16 28 09.3 -0.4
comp=Z,1.9nm,0.3s,mb4.1
NOA NORSAR Array B 28.35 340 P **P** 16 28 13.7 -0.5
comp=Z,0.6nm,0.7s,mb3.3,baz=142,slow=9.5,SNR=2.3
ESK Eskdalemuir 30.57 321 P **P** 16 28 35.2 +1.2
comp=Z,367nm,3.9s
ESK Eskdalemuir 30.57 321 P **P** 16 28 35.2 +1.1
comp=Z,367nm,3.9s
ARCES ARCESS Array B 34.02 356 P **P** 16 29 03.8 -0.2
comp=Z,1.3nm,0.7s,mb3.9,baz=170,slow=7.4,SNR=6.8
MKAR Makanchi Array 39.40 57 P **P** 16 29 51.4 +2.0
comp=Z,0.9nm,0.5s,mb3.8,baz=280,slow=6.4,SNR=11
MKAR pP pP 16 30 08.3 +1.3
comp=Z,1.0nm,0.9s,baz=281,slow=6.2,SNR=3.9
ZAL Zalesovo 41.10 46 P **P** 16 30 03.8 +0.5
comp=Z,0.8nm,0.4s,mb3.9,baz=191,slow=9.3,SNR=3.4
WMQ Urumqi 43.51 61 *eP* **P** 16 30 20.0 -3.1
WMQ AP pP 16 30 39.0 -1.8
WMQ AMB AMB
comp=Z,12nm,1.0s,mb4.6
WMQ AMB AMB
comp=Z,21nm,7.0s
SONM Songino Array 55.34 52 P **P** 16 31 55.1 +1.2
comp=Z,0.5nm,0.5s,mb3.8,baz=285,slow=6.5,SNR=4.6
HHC Hu-ho-hao-te 61.25 59 *eP* **P** 16 32 35.4 +0.3
HHC AP pP 16 32 54.9 +1.1
HHC XP sP 16 33 02.5 +0.6
HHC S **S** 16 40 55.5 +7.7
HHC SS SS 16 44 56.4 +5.8
HHC AMB AMB
comp=Z,15nm,0.6s,mb5.2
HHC AMB AMB
comp=Z,133nm,4.4s
KMI Kunming 61.46 78 P **P** 16 32 30.3 -6.4
KMI AP pP 16 32 49.9 -5.5
KMI AMB AMB
comp=Z,6.0nm,1.8s,mb4.3

*NEIC **06** 16:22:29.4, 11.67N×85.52W, h74km, MD4.2(CASC), After CASC.*
CASC 06 16:22:34.1±1.5, 11.24N×85.43W, h5km±4km, MD3.9, ML3.7, 8C-10D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MADN	**Villa Maderas**	**0.20**	**328**	⇑*eP*		Pg	16 22 39.3	+1.2
MADN				*eS*		Sg	16 22 42.6	+1.8
CONN	**Concepcion**	**0.38**	**329**	⇑*eP*		Pg	16 22 42.1	+0.4
SSNN	**San Juan del S**	**0.42**	**276**	⇑*eP*		Pg	16 22 42.7	+0.2
APON	**Apoyo**	**0.92**	**317**	⇓*eP*		Pb	16 22 51.8	-0.3
MASN	**Masaya**	**1.03**	**316**	⇓*eP*		Pb	16 22 53.2	-0.7
JTS	**JuntasAbangare**	**1.05**	**154**	*e*Pn		Pn	16 22 53.5	-1.8
JTS				*e*Sn		Sn	16 23 10.8	+0.3
FORC	**Fortuna**	**1.07**	**136**	*i* P		Pb	16 22 54.0	-0.7
FORC				*eP*			16 22 54.1	
FORC	**Fortuna**	**1.07**	**136**	*eP*		Pb	16 22 51.6	-3.1
FORC				*eS*		Sb	16 23 14.2	+5.5
TICN	**Ticuantepe**	**1.11**	**315**	*eP*		Pb	16 22 54.5	-0.9
VCR	**Vista de Mar**	**1.13**	**190**	⇑*eP*		Pb	16 22 54.6	-1.0
VCR				*eS*		Sb	16 23 11.9	+1.5
VCR	**Vista de Mar**	**1.13**	**190**	*eP*		Pb	16 22 54.7	-0.9
CRUN	**El Crucero**	**1.13**	**311**	⇑*eP*		Pb	16 22 55.5	-0.2
WILN	**Americas 2**	**1.18**	**321**	⇓*eP*		Pb	16 22 55.6	-1.0
MGAN	**Managua**	**1.21**	**318**	⇓*eP*		Pb	16 22 56.0	-1.0
MGAN				*eS*		Sb	16 23 12.8	0.0
MGAN				*e*			16 23 14.6	
	comp=E,1μm,0.4s							
MGAN				*e*			16 23 14.7	
	comp=E,3μm,0.3s							
MGAN				*e*			16 23 19.2	
	comp=N,1μm,0.4s							
XAVN	**Gruta Xavier**	**1.26**	**316**	*eP*		Pb	16 22 57.3	-0.6
XAVN				*eS*		Sb	16 23 14.3	0.0
PYTN	**Playitas**	**1.43**	**334**	⇑*eP*		Pn	16 22 59.6	-1.1
COPN	**Copaltepe**	**1.47**	**309**	⇑*eP*		Pn	16 22 60.0	-1.4
VPS2	**Volcan Poas 2**	**1.57**	**132**	⇑*i*P		Pn	16 23 02.2	-0.6
VPS2				*eS*		Sb	16 23 25.7	+2.5
VPS2	**Volcan Poas 2**	**1.57**	**132**	*eP*		Pn	16 23 02.2	-0.5
VPS2				*eS*		Sb	16 23 25.0	+1.7
MOMJ	**Momotombo**	**1.59**	**317**	⇓*eP*		Pn	16 23 01.4	-1.7
PRS1	**Puriscal**	**1.66**	**139**	⇓*eP*		Pn	16 23 04.1	0.0
PRS1	**Puriscal**	**1.66**	**139**	*eP*		Pn	16 23 03.8	-0.3
PRS1				*eS*		Sb	16 23 30.6	+4.6
MIRN	**Miramar**	**1.73**	**314**	⇓*eP*		Pn	16 23 04.1	-0.9
MIRN				*eS*		Sn	16 23 26.8	-1.0
CNGN	**Cerro Negro**	**1.77**	**315**	*eP*		Pn	16 23 05.2	-0.3
SJS	**Escuela Geolog**	**1.87**	**134**	*eP*		Pn	16 23 06.4	-0.6
SJS				*eS*		Sn	16 23 31.9	+0.6
LAJ	**Bijagual**	**1.88**	**137**	*eP*		Pn	16 23 05.1	-2.0
TEL3	**Telica 3**	**1.92**	**314**	⇓*eP*		Pn	16 23 06.5	-1.2
TELN	**Telica**	**1.93**	**315**	*eS*		Sn	16 23 33.6	+0.8
LCR2	**La Lucha 2**	**2.04**	**137**	⇓*eP*		Pn	16 23 08.8	-0.7
LCR2				*eS*		Sn	16 23 37.1	+1.4
LCR2	**La Lucha 2**	**2.04**	**137**	*eP*		Pn	16 23 08.7	-0.9
LCR2				*eS*		Sn	16 23 38.2	+2.5
BUS	**Buena Vista**	**2.34**	**135**	⇓*eP*		Pn	16 23 13.7	-0.2
BUS				*eS*		Sn	16 23 45.4	+2.0
BUS	**Buena Vista**	**2.34**	**135**	*eP*		Pn	16 23 13.4	-0.4
BUS				*eS*		Sn	16 23 43.7	+0.4

*NEIC **06** 16:28:44.8, 24.80S×69.13W, h70km, After GUC.*
GUC 06 16:28:44.8±0.7, 24.80S×69.13W, h70km±30km, ML3.4, 3C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CPN1	**Cerro Paranal**	**1.17**	**278**	⇑*i*P		P	16 29 06.5	+0.8
CPN1				*i* S		S	16 29 23.1	+1.8
CPN1				AMP			16 29 24.2	
	comp=E,1μm,0.4s							
ANCH	**Antofagasta**	**1.61**	**313**	⇑*i*P		P	16 29 12.2	+0.4
ANCH				*i* S		S	16 29 31.9	+0.3
ANCH				AMP			16 29 36.5	
	comp=E,887nm,0.4s							
CRCH	**Chaqaral**	**2.04**	**221**	*eP*		P	16 29 17.7	0.0
CRCH				*i* S		S	16 29 42.6	+0.7
CRCH				AMP			16 29 46.1	
	comp=N,454nm,0.9s							
LVC	**Limon Verde**	**2.19**	**5**	⇑*i*P		P	16 29 20.5	+0.8
LVC				*i* S		S	16 29 47.3	+1.8
LVC				AMP			16 29 52.0	
	comp=N,216nm,0.4s							

*ATH **06** 16:40:07.8, 38.87N×26.30E, h24km±4km, MD3.4/4*
*ISK **06** 16:40:07.9, 38.91N×26.66E, h29km, ML3.7*
*NEIC **06** 16:40:07.7, 38.88N×26.34E, h24km, MD3.4(ATH), ML3.6(ISK), After ATH.*
*CSEM **06** 16:40:07.2±0.1, 38.93N×26.68E, h20km, MD3.4, Error ellipse: s-maj=2.8km s-min=1.7km az=36.0*
ISC 06 16:40:06.8±0.3, 38.95N±0.02×26.65E±0.03, h10km, n44, σ0:99/59, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AYVA	**Ayvalik**	**0.36**	**5**	*i* P		**Pg**	**16 40 14.3**	**0.0**
AYVA				*i* S		**Sg**	**16 40 19.8**	**+0.6**
PRK	**Paraskevi**	**0.42**	**315**	*e*PB		**Pb**	**16 40 15.7**	**-0.2**
PRK				*e*SB		**Sb**	**16 40 22.3**	**+0.4**
KDAG	**Bornova**	**0.73**	**138**	*i* P		**Pb**	**16 40 20.2**	**-0.9**
KDAG				*i* S		**Sb**	**16 40 33.2**	**+2.3**
IZM	**Izmir**	**0.73**	**139**	*i* PG		**Pg**	**16 40 21.8**	**+0.3**
AKS	**Akhisar**	**0.91**	**94**	*i* PG		**Pg**	**16 40 24.5**	**-0.6**
EZN	**Ezine**	**0.91**	**344**	*i* PG		**Pg**	**16 40 25.3**	**+0.2**
EZN				*i* SG		**Sg**	**16 40 38.5**	**+1.2**
BALB	**Balikesir**	**1.18**	**54**	*i* PN		**Pn**	**16 40 29.4**	**0.0**
BALB				*i* SN		**Sn**	**16 40 44.5**	**-1.0**
SMG	**Samos**	**1.25**	**173**	*e*PN		**Pn**	**16 40 31.0**	**+0.7**
SMG				*e*SN		**Sn**	**16 40 49.0**	**+1.7**
SMG	**Samos**	**1.25**	**173**	*e*Pb		**Pb**	**16 40 30.0**	**0.0**
SMG				*e*Sn		**Sn**	**16 40 49.4**	**+2.1**
BTOK	**Tokmak**	**1.34**	**52**	*i* P		**Pb**	**16 40 31.6**	**-0.1**
BTOK				*i* S		**Sb**	**16 40 50.5**	**+1.7**
LPK	**Lapseki**	**1.43**	**3**	*i* PN		**Pn**	**16 40 33.5**	**+0.6**
LIA	**Limnos Island**	**1.48**	**310**	*e*PN		**Pn**	**16 40 33.6**	**-0.1**
LIA	**Limnos Island**	**1.48**	**310**	*e*Pn		**Pn**	**16 40 34.1**	**+0.4**
MANT	**Manisa**	**1.56**	**106**	*i* P		**Pn**	**16 40 34.5**	**-0.3**
MANT				*i* S		**Sb**	**16 40 56.9**	**+1.8**

LOS	**Limnos**	**1.56**	**310**	*eP*		**Pn**	**16 40 35.7**	**+0.8**
AYDN	**Tasoluk**	**1.61**	**143**	*i* P		**Pn**	**16 40 37.8**	**+2.3**
AYDN				*i* S		**Sn**	**16 40 60.0**	**+3.5**
DST	**Dursunbey**	**1.67**	**66**	PN		**Pn**	**16 40 35.8**	**-0.6**
BNT	**Bandirma**	**1.71**	**34**	PN		**Pn**	**16 40 36.8**	**-0.2**
MRMT	**Marmara Adasi**	**1.81**	**23**	PN		**Pn**	**16 40 37.6**	**-0.7**
MLSB	**Milas**	**1.87**	**151**	PN		**Pn**	**16 40 38.9**	**-0.4**
MFT	**Murefte**	**1.90**	**15**	PN		**Pn**	**16 40 39.1**	**-0.6**
BDRM	**Kayabasi**	**1.98**	**161**	*i* P		**Pn**	**16 40 41.1**	**+0.2**
BDRM				*i* S		**Sn**	**16 41 15.6**	**+10**
ALN	**Alexandroupoli**	**2.00**	**347**	*e*P		**Pn**	**16 40 41.3**	**+0.2**
ORLT	**Orhaneli**	**2.05**	**57**	PN		**Pn**	**16 40 41.9**	**0.0**
APE	**Apeiranthos**	**2.08**	**206**	*e*PN		**Pn**	**16 40 40.8**	**-1.4**
DENT	**Denizli**	**2.22**	**122**	PN		**Pn**	**16 40 43.3**	**-1.0**
YER	**Yerkesik**	**2.22**	**144**	PN		**Pn**	**16 40 42.9**	**-1.4**
ULDT	**Uludag**	**2.26**	**57**	*i* P		**Pn**	**16 40 43.4**	**-1.4**
ULDT				*i* S		**Sn**	**16 41 15.4**	**+2.4**
DNZL	**Cakiroluk**	**2.27**	**123**	*i* P		**Pn**	**16 40 42.4**	**-2.5**
DNZL				*i* S		**Sn**	**16 41 21.5**	**+8.4**
RDO	**Rodhopi**	**2.35**	**339**	*e*PN		**Pn**	**16 40 46.5**	**+0.3**
RDO	**Rodhopi**	**2.35**	**339**	*e*Pn		**Pn**	**16 40 46.1**	**-0.1**
OUR	**Ouranopolis**	**2.48**	**305**	*e*P		**Pn**	**16 40 48.0**	**0.0**
CTT	**Catalca**	**2.59**	**31**	PN		**Pn**	**16 40 48.4**	**-1.1**
YLV	**Yalova**	**2.65**	**52**	*e*PN		**Pn**	**16 40 50.1**	**-0.3**
BADT	**Buyukada**	**2.69**	**44**	*e*PN		**Pn**	**16 40 50.6**	**-0.3**
EDRB	**Edirne**	**2.90**	**1**	*e*PN		**Pn**	**16 40 53.5**	**-0.4**
HRT	**Hereke**	**2.98**	**50**	*e*PN		**Pn**	**16 40 54.7**	**-0.4**
TKTP	**Tekketepe**	**3.02**	**106**	*i* P		**Pn**	**16 40 54.6**	**-1.1**
TKTP				*i* S		**Sn**	**16 41 49.1**	**+17**
SRS	**Serrai**	**3.19**	**314**	*e*P		**Pn**	**16 40 57.9**	**-0.2**
ESKT	**Eskisehir**	**3.31**	**79**	*e*PN		**Pn**	**16 40 59.9**	**+0.1**
ESKT	**Eskisehir**	**3.31**	**79**	*i* P		**Pn**	**16 41 08.7**	**+8.9**
ESKT				*i* S		**Sn**	**16 41 53.5**	**+14**
ELL	**Elmali**	**3.39**	**129**	*e*PN		**Pn**	**16 40 59.8**	**-1.1**
KNT	**Kendrikon**	**3.63**	**309**	*e*P		**Pn**	**16 41 05.1**	**+0.8**
KIZT	**Kizilcal**	**4.08**	**89**	*e*PN		**Pn**	**16 41 10.6**	**-0.1**

*IDC **06** 16:40:32.1±1.0, 84.07N×0.53W, mb3.6/7, mb1 3.9/8, mb1mx3.7/20, mbtmp3.7/8, ML3.3/1, MS3.7/7, Ms1 3.7/7, ms1mx3.3/29, Error ellipse: s-maj=30.3km s-min=18.1km az=50.0*
NEIC 06 16:40:33.3±0.7, 84.02N×0.53E, h10km, mb3.9/1, Error ellipse: s-maj=16.6km s-min=10.7km az=67.0, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**5.37**	**156**	*eP*		Pn	16 41 51.7	-3.9
	15nm,0.7s							
KBS				*e*S		Sn	16 42 48.4	-10
DAG	**Danmarks Havn**	**7.87**	**214**	*i* P		Pn	16 42 29.0	-1.7
	0.8nm,0.9s							
DAG	**Danmarks Havn**	**7.87**	**214**	*eP*		Pn	16 42 29.0	-1.7
	0.8nm,0.9s							
ARCES	**ARCESS Array B**	**15.33**	**146**	Pn		P	16 44 08.0	-3.0
	0.2nm,0.3s,baz=353,slow=9.8,SNR=6.5							
ARCES	**ARCESS Array B**	**15.33**	**146**	Pn		P	16 44 08.0	-3.0
NB2	**NORSAR Subarra**	**23.23**	**167**	P		P	16 45 40.2	-0.6
	2.9nm,0.7s,baz=358,slow=10							
NOA	**NORSAR Array B**	**23.23**	**167**	P		P	16 45 40.5	-0.3
	1.8nm,0.8s,baz=356,slow=8.7,SNR=3.7							
NOA	**NORSAR Array B**	**23.23**	**167**	P		P	16 45 40.5	-0.3
INK	**Inuvik**	**26.36**	**323**	P		P	16 46 08.4	-2.1
	2.2nm,1.0s,baz=25,slow=9.3,SNR=3.7							
ILAR	**Eielson Array**	**30.61**	**333**	P		P	16 46 46.0	-3.0
	0.7nm,1.0s,baz=3.9,slow=5.9,SNR=5.1							
YKA	**Yellowknife Ar**	**30.67**	**305**	LR		LR	16 59 07.2	
	comp=Z,107nm,18.6s,baz=90,slow=36							
GERES	**GERESS Array B**	**35.50**	**165**	P		P	16 47 31.1	-0.5
	0.5nm,0.4s,baz=354,slow=12,SNR=4.7							
ZAL	**Zalesovo**	**36.08**	**87**	P		P	16 47 35.5	-1.0
	0.7nm,0.5s,baz=122,slow=7.9,SNR=3.6							
MLR	**Muntele Rosu**	**39.33**	**152**	LR		LR	17 04 30.9	
	comp=Z,131nm,19.3s,baz=162,slow=36							
ULM	**Lac du Bonnet**	**40.98**	**283**	LR		LR	17 05 33.1	
	comp=Z,96nm,18.0s,baz=357,slow=37							
SONM	**Songino Array**	**44.31**	**68**	P		P	16 48 44.0	-0.3
	1.4nm,1.0s,baz=338,slow=7.0,SNR=7.6							
IDI	**Anoyia**	**49.45**	**154**	LR		LR	17 09 27.4	
	comp=Z,40nm,18.9s,baz=86,slow=35							
PDAR	**Pinedale Array**	**49.74**	**295**	P		P	16 49 24.9	-2.2
	0.2nm,0.3s,baz=23,slow=6.9,SNR=3.1							
YBH	**Yreka Blue Hor**	**51.95**	**307**	LR		LR	17 10 48.1	
	comp=Z,69nm,20.1s,baz=353,slow=35							
TXAR	**Lajitas Array**	**62.47**	**287**	LR		LR	17 18 42.1	
	comp=Z,98nm,18.5s,baz=305,slow=37							
SDV	**Santo Domingo**	**79.28**	**252**	LR		LR	17 25 43.4	
	comp=Z,36nm,18.3s,baz=15,slow=34							

*NNC **06** 16:45:28.8±2.6, 44.20N×85.87E, mpv2.7, Error ellipse: s-maj=50.0km s-min=22.0km az=50.0*
BJI 06 16:45:27.5, 44.07N×85.77E, h13km, ML3.2, 4C, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**1.41**	**99**	PG		Pg	16 45 52.3	-3.5
WMQ				SG		Sg	16 46 10.5	-4.2
WMQ				Smax				
	comp=N,108nm,0.5s							
WMQ				Smax				
	comp=E,136nm,0.5s							
MK31	**Makanchi Array**	**3.66**	**319**	⇑Pn		Pn	16 46 26.0	+0.8
	comp=E,0.3nm,0.3s,baz=136,slow=14,SNR=56							
MK31				⇑Pg		Pg	16 46 34.8	-5.9
	comp=E,1.5nm,0.3s,baz=142,slow=16,SNR=7.2							
MK31				⇑Lg			16 47 23.2	
	comp=E,12nm,0.4s,baz=130,slow=29,SNR=15							
KURK	**Kurchatov**	**8.23**	**326**	⇑Lg			16 49 49.3	
	comp=E,5.2nm,0.9s							

*NEIC **06** 16:46:54.2, 16.92N×94.26W, h142km, MD4.0(MEX), After MEX.*
MEX 06 16:46:54.0±1.1, 16.99N×94.26W, h144km±12km, MD4.0, Oaxaca

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

UNM				*i* P			16 50 18.1	
UNM				*e*S		**S**	**16 50 43.0**	**+0.3**
UNM	**Universidad Na**	**2.10**	**64**	*i* P		**P**	**16 50 18.1**	**+0.3**
UNM				*e*S		**S**	**16 50 44.0**	**+1.2**
PPM	**Popocatepetl**	**2.50**	**74**	*i* P		**P**	**16 50 24.9**	**+1.5**
PPM				*i* S		**S**	**16 50 53.1**	**+0.3**
SFJM	**Santa Fe**	**2.71**	**320**	*i* P		**P**	**16 50 26.5**	**+0.1**
SFJM				*i* S		**S**	**16 50 59.2**	**+1.1**
CJM	**Chamela**	**3.82**	**287**	*e*P		**P**	**16 50 43.8**	**+1.9**
CJM				*i* S		**S**	**16 51 24.9**	**-0.9**
CJM	**Chamela**	**3.82**	**287**	*i* P		**P**	**16 50 41.6**	**-0.2**
VHO	**Vista Hermosa**	**4.44**	**107**	*e*P		**P**	**16 50 51.1**	**+0.6**
VHO				*e*S		**S**	**16 51 40.7**	**-0.6**
OXX	**Oaxaca**	**4.44**	**107**	*e*P		**P**	**16 50 50.6**	**0.0**
OXX				*i* S		**S**	**16 51 41.0**	**-0.4**
ZAIG	**Zacatecas**	**4.53**	**344**	*e*P		**P**	**16 50 51.6**	**-0.2**
ZAIG				*i* S		**S**	**16 51 42.9**	**-0.7**
TXAR	**Lajitas Array**	**11.11**	**349**	Pn		**P**	**16 52 23.8**	**+1.6**
	0.2nm,0.3s,baz=167,slow=15,SNR=15							
TXAR				Lg			16 55 46.9	
	0.0nm,0.3s,baz=162,slow=28,SNR=3.4							
TXAR				LR		LR	16 57 07.1	
	comp=Z,170nm,20.4s,baz=170,slow=39							
TXAR	**Lajitas Array**	**11.11**	**349**	Pn		**P**	**16 52 23.8**	**+1.6**
TXAR				Lg			16 55 46.9	
TXAR				LR		LR	16 57 07.1	
JCT	**Junction City**	**12.08**	**6**	*e*P		**P**	**16 52 36.2**	**+0.9**
	7.1nm,0.7s							
MNTX	**Cornudas Mount**	**13.77**	**345**	*e*P		**P**	**16 52 59.1**	**+1.7**
	7.7nm,0.9s							
NATX	**Nacogdoches**	**14.54**	**23**	*e*P		**P**	**16 53 08.1**	**+0.6**
	71nm,0.9s							
WMOK	**Wichita Mounta**	**16.41**	**7**	*e*P		**P**	**16 53 29.0**	**-2.2**
	11nm,1.3s							
WMOK				pP			16 53 44.3	
ANMO	**Albuquerque**	**17.14**	**345**	P		**P**	**16 53 42.5**	**+2.1**
	baz=152,slow=12,SNR=13							
ANMO				LR		LR	17 00 43.6	
	comp=Z,179nm,18.4s,baz=313,slow=38							
ANMO	**Albuquerque**	**17.14**	**345**	*e*P		**P**	**16 53 42.5**	**+2.1**
	5.8nm,0.9s							
LRAL	**Lakeview Retre**	**19.34**	**38**	P		**P**	**16 54 04.6**	**-1.9**
SDCO	**Great Sand Dun**	**19.64**	**350**	*e*P		**P**	**16 54 09.2**	**-0.5**
	9.5nm,0.8s							
PLAL	**Pickwick Lake**	**20.20**	**33**	*e*P		**P**	**16 54 12.9**	**-2.8**
	15nm,1.0s							
KSU1	**Kansas State U**	**21.00**	**10**	*e*P		**P**	**16 54 21.8**	**-2.0**
WVT	**Waverly**	**21.23**	**31**	P		**P**	**16 54 22.5**	**-3.6**
	9.6nm,1.0s,mb4.1							
SMCO	**Snowmass**	**21.30**	**348**	*e*P		**P**	**16 54 27.9**	**+1.1**
CCM	**Cathedral Cave**	**21.41**	**22**	P		**P**	**16 54 25.4**	**-2.5**
	8.0nm,0.8s,mb4.1							
ISCO	**Idaho Springs**	**21.66**	**351**	*e*P		**P**	**16 54 30.2**	**-0.2**
	7.4nm,0.6s,mb4.2							
PHWY	**Pilot Hill**	**23.11**	**352**	*e*P		**P**	**16 54 45.4**	**+0.9**
WCI	**Wyandotte Cave**	**23.64**	**30**	*e*P		**P**	**16 54 47.2**	**-2.5**
JSC	**Jenkinsville**	**23.77**	**44**	*e*P		**P**	**16 54 50.6**	**-0.4**
PDAR	**Pinedale Array**	**25.30**	**345**	P		**P**	**16 55 05.2**	**-0.4**
	9.7nm,0.9s,mb4.2,baz=143,slow=7.4,SNR=40							
HVU	**Hansel Valley**	**25.32**	**339**	*e*P		**P**	**16 55 05.1**	**-0.7**
ELK	**Elko**	**25.33**	**334**	LR		LR	17 06 08.7	
	comp=Z,114nm,19.2s,baz=175,slow=39							
FWV	**Forest Hill**	**26.13**	**39**	P		**P**	**16 55 11.0**	**-2.5**
RRI2	**Red Ridge**	**26.30**	**343**	*e*P		**P**	**16 55 14.3**	**-0.7**
	10nm,0.9s,mb4.3							
TPAW	**Teton Pass**	**26.33**	**344**	*e*P		**P**	**16 55 15.8**	**+0.5**
	14nm,0.8s,mb4.5							
LOHW	**Long Hollow**	**26.36**	**344**	*e*P		**P**	**16 55 14.7**	**-0.7**
	9.8nm,0.7s,mb4.3							
SJG	**San Juan**	**33.23**	**85**	P		**P**	**16 56 17.2**	**+0.4**
	20nm,0.8s,mb5.0,baz=270,slow=8.7,SNR=5.9							
INK	**Inuvik**	**53.87**	**346**	P		**P**	**16 59 00.5**	**-1.6**
	3.1nm,0.8s,mb4.4,baz=156,slow=5.8,SNR=6.8							
INK	**Inuvik**	**53.87**	**346**	P		**P**	**16 59 00.5**	**-1.6**
ILAR	**Eielson Array**	**55.41**	**338**	P		**P**	**16 59 12.3**	**-1.0**
	3.9nm,1.0s,mb4.4,baz=148,slow=6.1,SNR=21							
ILAR				PcP		PcP	17 00 12.9	+0.3
	1.5nm,0.6s,baz=150,slow=2.6,SNR=10							
RSO	**Redoubt South**	**55.60**	**332**	*e*P		**P**	**16 59 13.3**	**-1.4**
PPT	**Papeete**	**59.52**	**236**	LR		LR	17 16 50.6	
	comp=Z,167nm,21.9s,baz=113,slow=28							
EKA	**Eskdalemuir Ar**	**79.52**	**35**	P		**P**	**17 01 44.1**	**-0.5**
	1.3nm,0.8s,mb3.8,baz=262,slow=5.9,SNR=4.4							
QUIF	**Quistinic**	**81.77**	**42**	*e*P		**P**	**17 01 57.5**	**+0.8**
GRR	**Gorron**	**83.07**	**41**	*e*P		**P**	**17 02 03.6**	**+0.2**
	7.0nm,0.6s,mb4.4							
FLN	**La Foliniere**	**83.18**	**41**	*e*P		**P**	**17 02 04.3**	**+0.4**
	26nm,1.1s,mb4.7							
ESDC	**Sonseca Array**	**83.83**	**50**	P		**P**	**17 02 08.1**	**+0.7**
	1.1nm,0.7s,mb3.8,baz=305,slow=5.4,SNR=8.8							
MFF	**Saint Martin d**	**84.14**	**43**	*e*P		**P**	**17 02 08.9**	**+0.1**
	3.7nm,0.7s,mb4.0							
NB2	**NORSAR Subarra**	**84.37**	**27**	P		**P**	**17 02 10.7**	**+1.1**
	0.8nm,0.6s,mb3.7,baz=297,slow=4.8							
NOA	**NORSAR Array B**	**84.37**	**27**	P		**P**	**17 02 10.5**	**+1.0**
	1.0nm,0.6s,mb3.8,baz=297,slow=5.0,SNR=5.1							
NOA	**NORSAR Array B**	**84.37**	**27**	P		**P**	**17 02 10.5**	**+1.0**
ARCES	**ARCESS Array B**	**84.59**	**16**	P		**P**	**17 02 10.6**	**+0.1**
	4.6nm,0.7s,mb4.5,baz=333,slow=5.4,SNR=11							
ARCES	**ARCESS Array B**	**84.59**	**16**	P		**P**	**17 02 10.6**	**+0.1**
ETSF	**Etsaut**	**85.16**	**46**	*e*P		**P**	**17 02 14.8**	**+0.8**
	4.8nm,0.7s,mb4.2							
LFF	**La Frestale**	**85.31**	**44**	*e*P		**P**	**17 02 15.2**	**+0.5**
BAIF	**Baives**	**85.55**	**39**	*e*P		**P**	**17 02 16.4**	**+0.7**
	12nm,1.0s,mb4.5							
RJF	**Les Rejaudoux**	**85.69**	**44**	*e*P		**P**	**17 02 16.8**	**+0.3**
	54nm,1.3s,mb5.0							
EPF	**Esparros**	**85.73**	**46**	*e*P		**P**	**17 02 17.6**	**+0.8**
	22nm,1.2s,mb4.7							
TCF	**Toulx Ste Croi**	**85.77**	**43**	*e*P		**P**	**17 02 17.2**	**+0.3**
	18nm,0.9s,mb4.7							
SSF	**Saint Saulge**	**86.30**	**42**	*e*P		**P**	**17 02 19.8**	**+0.4**
	17nm,0.8s,mb4.7							
AVF	**Avril sur Loir**	**86.31**	**42**	*e*P		**P**	**17 02 19.5**	**0.0**
	7.6nm,0.7s,mb4.4							
LOR	**Lormes**	**86.44**	**41**	*e*P		**P**	**17 02 20.7**	**+0.6**
	25nm,0.6s,mb5.0							
SMF	**Signal de Mont**	**86.68**	**42**	*e*P		**P**	**17 02 21.2**	**-0.1**
	7.4nm,0.7s,mb4.4							
MEZF	**Maizieres J'vi**	**86.68**	**40**	*e*P		**P**	**17 02 22.0**	**+0.7**
MTLF	**Montolieu**	**86.89**	**45**	*e*P		**P**	**17 02 22.9**	**+0.4**
	18nm,1.2s,mb4.6							
HAU	**Haudompre**	**87.68**	**40**	*e*P		**P**	**17 02 26.9**	**+0.8**
	4.8nm,0.6s,mb4.4							
LASF	**Ste Croix**	**87.70**	**44**	*e*P		**P**	**17 02 27.0**	**+0.7**
	17nm,1.0s,mb4.7							
CABF	**La Chapelle**	**88.10**	**41**	*e*P		**P**	**17 02 28.2**	**0.0**
	18nm,1.1s,mb4.7							

*BJI **06** 16:58:45.6, 8.40S×119.30E, h102km, mb4.8*
*IDC **06** 16:58:47.6±4.8, 8.38S×119.37E, h104km±45km, mb4.2/13, mb1 4.3/15, mb1mx4.2/21, mbtmp4.6/15, Error ellipse: s-maj=30.6km s-min=14.1km az=79.0*
*NEIC **06** 16:58:47.6±1.8, 8.39S×119.27E, h102km±17km, mb4.9/6, Error ellipse: s-maj=14.9km s-min=9.8km az=69.0*
ISC 06 16:58:49.5±2.0, 8.43S±0.08×119.43E±0.08, h143km±20km, n43, σ0991/43, mb4.5/21, 2C, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.35**	**148**	*e*P	**P**	**17 01 27.9**	**-0.5**
	43nm,0.4s						
FITZ				*e*S	**S**	**17 03 26.5**	**-6.4**
FITZ	**Fitzroy Crossi**	**11.35**	**148**	P	**P**	**17 01 28.5**	**+0.1**
	14nm,0.3s,baz=348,slow=7.6,SNR=160						
FITZ				S	**S**	**17 03 26.1**	**-6.8**
	18nm,0.3s,baz=182,slow=19,SNR=13						
MBWA	**Marble Bar**	**12.66**	**179**	*e*Pn	**P**	**17 01 44.8**	**-0.6**
	16nm,0.4s						
MBWA				*e*		17 03 52.2	
KSM	**Kuching**	**13.40**	**317**	*e*P	**P**	**17 02 03.1**	**+8.1**
KAKA	**Kakadu**	**13.48**	**110**	*e*P	**P**	**17 02 04.5**	**+8.5**
	39nm,0.4s						
KAKA				*e*S	**S**	**17 04 24.3**	**+1.7**
WRA	**Warramunga Arr**	**18.41**	**130**	P	**P**	**17 02 57.2**	**+0.7**
	1.1nm,0.3s,baz=305,slow=12,SNR=51						
WRA				S	**S**	**17 06 12.3**	**-1.6**
	1.6nm,0.3s,baz=310,slow=23,SNR=8.9						
WB2	**Warramunga Arr**	**18.43**	**130**	⇑*i*P	**P**	**17 02 57.2**	**+0.6**
WB2				*e*S	**S**	**17 06 12.8**	**-1.3**
NWAO	**Narrogin (SRO)**	**24.46**	**184**	P	**P**	**17 03 55.7**	**-0.9**
	3.9nm,0.7s,mb4.0,baz=131,slow=8.0,SNR=4.2						
NWAO	**Narrogin (SRO)**	**24.46**	**184**	P	**P**	**17 03 55.7**	**-0.9**
STKA	**Stephens Creek**	**31.12**	**142**	*e*P	**P**	**17 04 57.9**	**+1.0**
	6.0nm,1.5s,mb4.1						
STKA	**Stephens Creek**	**31.12**	**142**	P	**P**	**17 04 55.4**	**-1.5**
	2.9nm,0.7s,mb4.1,baz=261,slow=3.6,SNR=5.7						
PKI	**Pulchoki**	**48.63**	**319**	*e*P	**P**	**17 07 20.3**	**-0.7**
	15nm,0.4s,mb5.0						
DMN	**Daman**	**48.86**	**318**	*e*P	**P**	**17 07 22.2**	**-0.6**
	28nm,0.7s,mb5.0						
KKN	**Kakani**	**48.87**	**319**	*e*P	**P**	**17 07 22.2**	**-0.6**
	30nm,0.7s,mb5.0						
GKN	**Gorkha**	**49.43**	**318**	*e*P	**P**	**17 07 26.5**	**-0.6**
	28nm,0.3s,mb5.3						
KOLN	**Koldanda**	**49.97**	**317**	*e*P	**P**	**17 07 30.3**	**-0.9**
	12nm,0.3s,mb5.0						
GTA	**Gaotai**	**50.96**	**340**	⇑P	**P**	**17 07 40.2**	**+1.6**
GTA				AMB	AMB		
	comp=Z,11nm,0.6s,mb4.7						
SONM	**Songino Array**	**57.20**	**350**	P	**P**	**17 08 24.6**	**+0.7**
	comp=Z,5.5nm,0.7s,mb4.5,baz=165,slow=8.7,SNR=69						
TLY	**Talaya**	**61.40**	**349**	*e*P	**P**	**17 08 52.9**	**+0.1**
	comp=Z,4.4nm,0.9s,mb4.3						
ULHL	**Ulahol**	**64.02**	**326**	P	**P**	**17 09 23.9**	**+14**
	SNR=6.9						
MKAR	**Makanchi Array**	**64.15**	**333**	P	**P**	**17 09 10.6**	**-0.4**
	comp=Z,20nm,0.6s,mb5.1,baz=142,slow=7.6,SNR=150						
MKAR	**Makanchi Array**	**64.15**	**333**	P	**P**	**17 09 10.6**	**-0.4**
KZA	**Kyzart**	**64.47**	**325**	P	**P**	**17 09 13.3**	**+0.2**
	SNR=7.5						
TKM2	**Tokmak 2**	**64.82**	**326**	P	**P**	**17 09 14.9**	**-0.5**
	SNR=6.8						
KBK	**Karagaybulak**	**65.02**	**325**	P	**P**	**17 09 16.9**	**+0.2**
	SNR=5.3						
AML	**Almayashu**	**65.40**	**324**	P	**P**	**17 09 19.0**	**-0.2**
	SNR=11						
USP	**Ospenovka**	**65.66**	**326**	P	**P**	**17 09 20.2**	**-0.6**
	SNR=5.5						
EKS2	**Erkin-Say**	**65.68**	**325**	P	**P**	**17 09 20.6**	**-0.3**
	SNR=9.2						
ZAL	**Zalesovo**	**68.66**	**339**	P	**P**	**17 09 38.1**	**-1.3**
	comp=Z,12nm,0.5s,mb4.9,baz=339,slow=4.6,SNR=54						
KURK	**Kurchatov**	**68.68**	**334**	*e*P	**P**	**17 09 38.6**	**-0.9**
	comp=Z,14nm,0.8s,mb4.7						
MAW	**Mawson**	**69.91**	**200**	P	**P**	**17 09 47.9**	**+1.2**
	comp=Z,2.1nm,0.7s,mb4.0,baz=82,slow=9.3,SNR=3.1						
OPO	**Ambohidratompo**	**70.59**	**253**	P	**P**	**17 09 52.6**	**+1.0**
	comp=Z,3.3nm,0.7s,mb4.2,baz=94,slow=8.2,SNR=7.8						
VNDA	**Vanda**	**72.48**	**171**	P	**P**	**17 10 03.3**	**+1.4**
	comp=Z,0.4nm,0.4s,mb3.5,baz=300,slow=4.6,SNR=7.0						
BVAR	**Borovoye Array**	**74.00**	**332**	P	**P**	**17 10 10.8**	**-0.3**
	comp=Z,3.8nm,0.8s,mb4.2,baz=135,slow=8.4,SNR=20						
ATD	**Arta Tunnel**	**78.69**	**284**	P	**P**	**17 10 38.9**	**+0.8**
	comp=Z,5.2nm,0.5s,mb4.4,baz=237,slow=22,SNR=3.3						
KMBO	**Kilima Mbogo**	**82.10**	**270**	P	**P**	**17 10 57.4**	**+1.2**
	comp=Z,4.9nm,0.8s,mb4.2,baz=57,slow=9.7,SNR=12						
ASF	**Jabal al Asfar**	**88.17**	**303**	P	**P**	**17 11 27.3**	**+1.4**
	comp=Z,1.3nm,0.3s,mb4.2,baz=264,slow=1.4,SNR=3.9						
FINES	**FINESS Array B**	**98.95**	**331**	P	**P**	**17 12 14.9**	**+0.2**
	comp=Z,0.7nm,0.6s,mb4.2,baz=117,slow=3.1,SNR=4.4						
DBIC	**Dimbokro**	**124.78**	**272**	PKP	PKPdf	17 17 35.5	+2.1
	comp=Z,1.2nm,0.4s,baz=76,slow=1.7,SNR=4.4						
CPUP	**Villa Florida**	**145.30**	**185**	PKPbc	PKPbc	17 18 14.3	+2.8
	comp=Z,2.7nm,0.6s,baz=190,slow=3.3,SNR=7.3						
CPUP	**Villa Florida**	**145.30**	**185**	PKPbc	PKPbc	17 18 14.3	+2.8
LRAL	**Lakeview Retre**	**145.41**	**41**	*e*PKP	PKPdf	17 18 14.0	+3.0
SIV	**San Ignacio**	**155.73**	**179**	PKPbc	PKPdf	17 18 39.9	+13
	comp=Z,1.4nm,0.4s,baz=191,slow=1.3,SNR=8.1						

*NIED **06** 17:29:00, 46.60N×153.10E, h50km, Mw4.9 Best double couple: M0=2.45×10^16 NP1:φ=88°, δ=55°, λ=105°. NP2:φ=243°, δ=37°, λ=70°.*
*IDC **06** 17:29:03.2±0.6, 46.70N×152.81E, mb4.3/20, mb1 4.5/21, mb1mx4.5/25, mbtmp4.3/21, ML4.5/1, MS3.7/23, Ms1 3.8/23, ms1mx3.7/35, Error ellipse: s-maj=19.2km s-min=12.5km az=163.0*
*BJI **06** 17:29:04.3, 46.93N×153.59E, h42km, mB4.6, mb4.5, Ms4.0, Msz3.8*
*SKHL **06** 17:29:05.8±1.1, 46.55N×153.21E, h57km±10km, mb4.8/6, Ms4.1/4, msh4.9/3*
*MOS **06** 17:29:06.3±0.8, 46.61N×152.96E, h33km, mb4.7/41, Error ellipse: s-maj=9.6km s-min=6.0km az=84.1*
*NEIC **06** 17:29:09.6±0.1, 46.70N×152.88E, mb4.7/40, MS4.1/1, Error ellipse: s-maj=4.6km s-min=3.4km az=152.0*
ISC 06 17:29:07.4±0.3, 46.69N±0.05×152.94E±0.04, h39km, h39km±3.2km: pP-P, n207, σ0995/193, mb4.5/63, MS3.8/27, 3C-6D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.83**	**249**	⇓*i*P	**P**	**17 30 04.2**	**-1.3**
KUR				*i* P		17 30 04.2	
KUR				AMB	AMB	17 30 07.1	
	150nm,0.5s						
KUR				AMB	AMB	17 30 07.1	
	90nm,0.5s						
KUR				AMB	AMB	17 30 07.1	
	300nm,0.5s						
KUR				AMB	AMB	17 30 12.4	
	1μm,1.0s						
KUR				AMB	AMB	17 30 12.4	
	800nm,1.0s						
KUR				AMB	AMB	17 30 12.4	
	2μm,1.0s						
KUR				*e*S	**S**	**17 30 48.2**	**-1.6**
KUR				A		17 30 54.0	
	6μm,1.6s						
KUR				A		17 30 54.0	
	4μm,1.6s						
KUR				A		17 31 03.1	
	990nm,0.5s						
KUR				A		17 31 03.1	
	610nm,0.5s						
KUR	**Kuril'sk**	**3.83**	**249**	*i*PN	**P**	**17 30 04.2**	**-1.3**
KUR				*e*S	**S**	**17 30 48.2**	**-1.6**
KUR				pmax	pmax		
	comp=N,150nm,0.5s						
KUR				pmax	pmax		
	comp=E,90nm,0.5s						
KUR				pmax	pmax		
	comp=Z,300nm,0.5s						
KUR				pmax	pmax		
	comp=N,1μm,1.0s						
KUR				pmax	pmax		
	comp=E,800nm,1.0s						
KUR				pmax	pmax		
	comp=Z,2μm,1.0s						
KUR				smax			
	comp=N,6μm,1.6s						
KUR				smax			
	comp=E,4μm,1.6s						
KUR				smax			
	comp=N,990nm,0.5s						
KUR				smax			
	comp=E,610nm,0.5s						
SKR	**Severo-Kuril's**	**4.51**	**27**	*e*P	**P**	**17 30 12.5**	**-2.7**
SKR				A		17 31 08.0	
	comp=E,1μm,4.0s						
SKR				A		17 31 08.0	
	comp=E,1μm,4.0s						
SKR				A		17 31 08.0	
	comp=E,1μm,4.0s						
SKR				A		17 31 23.0	
	comp=E,230nm,0.7s						
SKR				A		17 31 23.0	
	comp=E,520nm,0.7s						
SKR				A		17 31 23.0	
	comp=E,240nm,0.7s						
SKR				AMS	AMS	17 32 08.0	
	comp=E,1μm,14.0s						
SKR				AMS	AMS	17 32 08.0	
	comp=E,2μm,14.0s						
SKR				AMS	AMS	17 32 08.0	
	comp=E,2μm,14.0s						
YUK	**Yuzh-Kuril'sk**	**5.65**	**245**	*e*P	**P**	**17 30 30.5**	**-0.6**
YUK				AMB	AMB	17 30 33.5	
	comp=E,170nm,0.5s						
YUK				AMB	AMB	17 30 33.5	
	comp=E,190nm,0.5s						
YUK				AMB	AMB	17 30 33.5	
	comp=E,350nm,0.5s						
YUK				*e*S	**S**	**17 31 51.2**	**+15**
YUK				A		17 31 53.9	
	comp=E,6μm,1.0s						
YUK				A		17 31 59.5	
	comp=E,1μm,0.5s						
YUK				A		17 31 59.5	
	comp=E,3μm,0.5s						
YSS	**Yuzh-Sakhalins**	**7.00**	**276**	*e*P	**P**	**17 30 51.7**	**+1.7**
	comp=E,39nm,0.6s						
YSS				*e*S	**S**	**17 32 10.9**	**+1.7**
YSS	**Yuzh-Sakhalins**	**7.00**	**276**	⇓*e*PN	**P**	**17 30 52.3**	**+2.3**
YSS				pmax	pmax		
	comp=E,30nm,1.0s						
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS				pmax	pmax		
	comp=E,60nm,0.9s						
YSS				pmax	pmax		
	comp=Z,50nm,0.9s						
YSS				MLR	MLR		
	comp=N,500nm,14.0s						
YSS				MLR	MLR		
	comp=E,500nm,14.0s						
YSS				MLR	MLR		
	comp=Z,500nm,14.0s						
PET	**Petropavlovsk**	**7.33**	**28**	*e*P	**P**	**17 30 54.5**	**-0.2**
PET				*e*S	**S**	**17 32 15.0**	**-2.6**
PET				A		17 32 23.9	
	comp=Z,830nm,4.5s						
PET				A		17 32 27.0	
	comp=Z,630nm,1.9s						
PET				A		17 32 32.9	
	comp=Z,280nm,1.3s						
PET				AMS	AMS	17 33 55.4	
	comp=Z,500nm,16.0s						
PET	**Petropavlovsk**	**7.33**	**28**	*e*P	**P**	**17 30 53.3**	**-1.4**
	comp=Z,47nm,0.7s						
PET				*e*S	**S**	**17 32 16.5**	**-1.0**
PET	**Petropavlovsk**	**7.33**	**28**	*e*PN	**P**	**17 30 54.5**	**-0.2**
PET				pmax	pmax		
	comp=Z,40nm,1.0s						
PET				MLR	MLR		
	comp=Z,500nm,16.0s						
UGL	**Uglegorsk**	**7.69**	**292**	AMS	AMS	17 34 28.0	
	comp=Z,600nm,14.0s						
UGL				AMS	AMS	17 34 28.0	
	comp=Z,400nm,14.0s						
UGL				AMS	AMS	17 34 28.0	
	comp=Z,500nm,14.0s						
TYV	**Tymovskoe**	**7.97**	**305**	*e*P	**P**	**17 31 03.5**	**-0.1**
TYV				AMB	AMB	17 31 08.6	
	comp=Z,20nm,0.9s						
TYV				*e*S	**S**	**17 32 31.5**	**-2.0**
TYV				A		17 32 47.0	
	comp=Z,60nm,1.0s						
TYV				AMS	AMS	17 34 30.5	
	comp=Z,900nm,13.0s						
GRNR	**Gornyy**	**11.64**	**297**	*e*P	**P**	**17 31 52.8**	**-1.1**
GRNR				AMB	AMB	17 31 54.0	
	comp=Z,47nm,1.0s						
MA2	**Magadan**	**12.97**	**355**	*e*P	**P**	**17 32 12.7**	**+1.0**
	comp=Z,8.4nm,0.5s						
MA2	**Magadan**	**12.97**	**355**	*e*PN	**P**	**17 32 12.6**	**+1.0**
MA2				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MA2				pmax	pmax		
	comp=N,7.0nm,0.9s						
EKMR	**Ekimchan**	**14.36**	**304**	*e*P	**P**	**17 32 30.3**	**+0.6**
EKMR				AMB	AMB	17 32 37.0	
	comp=N,4.0nm,0.6s						
KLR	**Kul'dur**	**14.42**	**288**	*e*P	**P**	**17 32 37.3**	**+6.7**
KLR				MLR	MLR		
	comp=E,500nm,14.0s						
KLR				MLR	MLR		
	comp=Z,600nm,14.0s						
FX1	**Attu Island--F**	**14.43**	**57**	Pn	**P**	**17 32 29.1**	**-1.6**
	comp=Z,7.8nm,0.3s,baz=311,slow=5.3,SNR=38						
FX1				Sn	**S**	**17 34 53.9**	**-16**
	comp=Z,0.5nm,0.3s,baz=93,slow=11,SNR=2.4						
FX1				LR	LR	17 37 06.5	
	comp=Z,12nm,20.7s,baz=280,slow=33						
FX1	**Attu Island--F**	**14.43**	**57**	*e*P	**P**	**17 32 29.2**	**-1.5**
MAJO	**Matsushiro**	**14.95**	**233**	*e*P	**P**	**17 32 34.8**	**-2.8**
	comp=Z,41nm,0.9s						
MAJO	**Matsushiro**	**14.95**	**233**	*e*P	**P**	**17 32 34.8**	**-2.8**
MAJO				pmax	pmax		
	comp=Z,41nm,0.9s						
MAT	**Matsushiro**	**14.95**	**233**	P	**P**	**17 32 34.5**	**-3.1**
MAT				*e*S	**S**	**17 35 29.0**	**+6.4**
MAT	**Matsushiro**	**14.95**	**233**	*e*P	**P**	**17 32 35.0**	**-2.6**
	comp=Z,10nm,0.9s						
MAT				S	**S**	**17 35 29.0**	**+6.4**
MAT	**Matsushiro**	**14.95**	**233**	*e*P	**P**	**17 32 35.0**	**-2.6**
MAT				S	**S**	**17 35 29.0**	**+6.4**
MAT				pmax	pmax		
	comp=Z,10.0nm,0.9s						
SEY	**Seymchan**	**16.28**	**359**	*e*P	**P**	**17 32 58.3**	**+3.9**
SEY				*e*S	**S**	**17 36 02.5**	**+9.2**
SEY				pmax	pmax		
	comp=Z,3.0nm,0.6s						
SEY				smax			
	comp=N,70nm,6.4s						
SEY				smax			
	comp=E,70nm,6.4s						
SEY				MLR	MLR		
	comp=Z,800nm,12.0s						
SEY				MLR	MLR		
	comp=N,630nm,13.0s						
SEY				MLR	MLR		
	comp=E,200nm,11.0s						
MDJ	**Mudanjiang**	**16.45**	**271**	P	**P**	**17 32 57.6**	**+0.9**
MDJ				AP		17 33 06.6	
MDJ				XP		17 33 11.1	
MDJ				S	**S**	**17 35 59.3**	**+2.0**
MDJ				AMB	AMB		
	comp=Z,4.0nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,80nm,5.2s						
MDJ				LR	LR		
	comp=N,103nm,19.4s						
MDJ				LR	LR		
	comp=E,166nm,21.6s						
MDJ				LR	LR		
	comp=Z,252nm,22.0s						
KROS	**Kirovskiy**	**18.15**	**305**	*e*P	**P**	**17 33 17.5**	**-0.4**
KROS				AMB	AMB	17 33 21.

BILL MLR MLR
comp=Z,600nm,22.0s,MS4.0
NJ2 Nanjing 29.87 253 *e*P **P** **17 35 13.3 0.0**
NJ2 AP pP 17 35 28.0 +4.0
NJ2 XP sP 17 35 35.0 +6.0
NJ2 PP PP 17 36 09.0 -2.4
NJ2 S **S** **17 40 06.0 -0.4**
NJ2 XS 17 40 31.0
NJ2 AMB AMB
comp=Z,10.0nm,1.1s,mb4.5
NJ2 LR LR
comp=Z,180nm,14.4s,MS3.9
HHC Hu-ho-hao-te 30.18 274 *e*P **P** **17 35 15.2 -0.8**
HHC XP sP 17 35 29.6 -2.2
HHC PP PP 17 36 12.5 -2.8
HHC *e*S **S** **17 40 10.9 -0.3**
HHC AMB AMB
comp=Z,17nm,0.4s,mb5.1
HHC AMB AMB
comp=Z,68nm,5.4s
SONM Songino Array 31.24 289 P **P** **17 35 23.6 -1.7**
comp=Z,0.5nm,0.8s,mb3.4,baz=90,slow=4.4,SNR=4.9
SONM PcP PcP 17 38 19.4 +0.1
comp=Z,0.5nm,0.7s,baz=71,slow=4.6,SNR=3.4
SONM LR LR 17 48 45.9
comp=Z,144nm,20.7s,MS3.6,baz=76,slow=38
SONM Songino Array 31.24 289 P **P** **17 35 23.6 -1.7**
SONM 17 38 19.4
SONM pmax pmax
comp=Z,1.0nm,0.8s
SONM pmax pmax
comp=Z,1.0nm,0.7s
SONM MLR MLR
comp=Z,144nm,20.7s
ZAK Zakamensk 32.60 295 *e*P **P** **17 35 33.8 -3.3**
ZAK *e* 17 38 22.9
ZAK pmax pmax
comp=Z,1.0nm,1.1s,mb3.7
ZAK pmax pmax
comp=Z,1.0nm,1.0s,mb3.7
MCK McKinley 35.77 40 *e*P **P** **17 36 03.9 -0.3**
comp=Z,4.7nm,1.0s,mb4.4
MCK McKinley 35.77 40 *e*P **P** **17 36 03.9 -0.4**
MCK pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
SML Sawmill 36.09 44⇑ *e*P **P** **17 36 06.7 -0.3**
ILAR Eielson Array 36.67 39 P **P** **17 36 11.6 -0.3**
comp=Z,4.1nm,1.0s,mb4.2,baz=260,slow=7.6,SNR=29
ILAR LR LR 17 52 52.1
comp=Z,123nm,19.2s,MS3.7,baz=100,slow=39
ILAR Eielson Array 36.67 39 P **P** **17 36 11.6 -0.2**
ILAR pmax pmax
comp=Z,4.0nm,1.0s
ILAR MLR MLR
comp=Z,123nm,19.2s
INK Inuvik 41.76 32 P **P** **17 36 53.7 -0.3**
comp=Z,9.3nm,0.9s,mb4.4,baz=288,slow=7.6,SNR=13
INK Inuvik 41.76 32 *e*P **P** **17 36 54.9 +1.0**
comp=Z,13nm,1.0s,mb4.5
INK Inuvik 41.76 32 P **P** **17 36 53.7 -0.2**
INK pmax pmax
comp=Z,9.0nm,0.9s
ZAL Zalesovo 42.56 306 PcP PcP 17 38 52.3 -0.9
comp=Z,1.3nm,0.5s,baz=17,slow=2.6,SNR=7.5
ZAL LR LR 17 56 50.4
comp=Z,292nm,20.1s,MS4.2,baz=311,slow=39
WMQ Urumqi 44.84 291 *e*P **P** **17 37 21.0 +1.8**
WMQ AP pP 17 37 31.0 +0.7
WMQ XP sP 17 37 35.0 -0.1
WMQ PP PP 17 39 07.0 +1.9
WMQ S **S** **17 43 56.0 +2.6**
WMQ SS SS 17 47 10.0 +3.8
WMQ AMB AMB
comp=Z,14nm,1.0s,mb4.8
WMQ AMB AMB
comp=Z,20nm,6.0s
WMQ LR LR
comp=N,89nm,18.0s,MS3.9
WMQ LR LR
comp=E,78nm,18.0s,MS3.9
WMQ LR LR
comp=Z,86nm,18.0s,MS3.7
KMI Kunming 45.12 259 P **P** **17 37 21.0 -0.7**
KMI AP pP 17 37 29.6 -3.2
KMI XP sP 17 37 34.3 -3.3
KMI PP PP 17 39 05.6 -2.5
KMI S **S** **17 43 57.6 -0.1**
KMI SS SS 17 47 14.6 +3.0
KMI AMB AMB
comp=Z,4.0nm,1.0s,mb4.2
KMI AMB AMB
comp=Z,196nm,3.4s
KMI LR LR
comp=N,127nm,18.6s,MS4.1
KMI LR LR
comp=E,146nm,19.0s,MS4.1
KMI LR LR
comp=Z,176nm,18.5s,MS4.0
DLBC Dease Lake 45.72 46 P **P** **17 37 28.1 +2.1**
comp=Z,2.5nm,0.8s,mb4.2,baz=306,slow=9.9,SNR=8.0
DLBC LR LR 17 55 37.6
comp=Z,71nm,18.5s,MS3.6,baz=118,slow=35
DLBC Dease Lake 45.72 46 *e*P **P** **17 37 27.9 +1.9**
MKAR Makanchi Array 46.86 297 P **P** **17 37 34.4 -0.8**
comp=Z,1.4nm,0.7s,mb4.0,baz=70,slow=7.7,SNR=14
MKAR PcP PcP 17 39 07.7 -0.4
comp=Z,1.5nm,0.7s,baz=55,slow=4.8,SNR=5.0
MKAR LR LR 17 58 13.9
comp=Z,185nm,19.5s,MS4.0,baz=79,slow=37
MKAR Makanchi Array 46.86 297 P **P** **17 37 34.4 -0.8**
MKAR 17 39 07.7
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR MLR MLR
comp=Z,185nm,19.5s
KURK Kurchatov 47.30 304 *e*P **P** **17 37 37.2 -1.4**
comp=Z,2.6nm,0.8s,mb4.2
KURK Kurchatov 47.30 304 *e*P **P** **17 37 37.3 -1.3**
KURK pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
BBB Bella Bella 49.24 53 LR LR 17 57 13.5
comp=Z,57nm,18.1s,MS3.6,baz=329,slow=34
LSA Lhasa 50.16 273 P **P** **17 38 03.2 +2.2**
LSA Lhasa 50.16 273 *e*P **P** **17 38 02.8 +1.8**
comp=Z,9.2nm,0.6s,mb5.0
LSA Lhasa 50.16 273 *e*P **P** **17 38 02.8 +1.8**
LSA pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
BVAR Borovoye Array 50.80 309 P **P** **17 38 05.0 -0.6**
comp=Z,0.5nm,0.3s,mb3.9,baz=60,slow=11,SNR=5.4
BVAR PcP PcP 17 39 21.4 -0.8
comp=Z,2.6nm,0.8s,baz=63,slow=3.3,SNR=6.2
BVAR Borovoye Array 50.80 309 P **P** **17 38 05.0 -0.6**
BVAR 17 39 21.4
BVAR pmax pmax
comp=Z,1.0nm,0.3s
BVAR pmax pmax
comp=Z,3.0nm,0.8s
YKA Yellowknife Ar 51.04 37 P **P** **17 38 06.7 -0.6**
comp=Z,4.5nm,0.8s,mb4.4,baz=299,slow=7.7,SNR=12
YKA PcP PcP 17 39 22.6 -0.4
comp=Z,1.5nm,0.9s,baz=326,slow=3.4,SNR=2.6
YKA LR LR 18 03 00.8
comp=Z,85nm,20.3s,MS3.8,baz=95,slow=40
YKA Yellowknife Ar 51.04 37 P **P** **17 38 06.7 -0.6**
YKA 17 39 22.6
YKA pmax pmax
comp=Z,5.0nm,0.9s
YKA pmax pmax
comp=Z,2.0nm,0.9s
YKA MLR MLR
comp=Z,85nm,20.3s
ARU Arti 54.98 317 P **P** **17 38 34.3 -2.2**
comp=Z,4.9nm,0.8s,mb4.6
ARU Arti 54.98 317⇑ *i*P **P** **17 38 37.5 +1.0**
ARU *e* 17 40 38.4
ARU *e*PPP PPP 17 41 52.6 -1.6
ARU *e*S **S** **17 46 18.4 +4.4**
ARU *e*SS SS 17 50 03.8 +6.3
ARU pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
KKN Kakani 55.38 275 *e*P **P** **17 38 40.6 +0.7**
comp=Z,24nm,0.7s,mb5.4
PKI Pulchoki 55.43 275 *e*P **P** **17 38 40.5 +0.3**
comp=Z,14nm,0.7s,mb5.1
DMN Daman 55.61 275 *e*P **P** **17 38 42.1 +0.6**
comp=Z,26nm,0.7s,mb5.4
GKN Gorkha 55.68 276 *e*P **P** **17 38 42.4 +0.3**
comp=Z,29nm,0.6s,mb5.5
PMG Port Moresby 56.08 187 LR LR 17 59 31.6
comp=Z,76nm,20.1s,MS3.8,baz=57,slow=33
HNR Honiara 56.22 172 LR LR 17 57 31.4
comp=Z,88nm,21.7s,MS3.8,baz=353,slow=30
EDM Edmonton 56.44 46 P **P** **17 38 46.7 -0.4**
KOLN Koldanda 56.54 276 *e*P **P** **17 38 48.9 +0.7**
comp=Z,14nm,0.7s,mb5.1
NEW Newport 57.30 53 P **P** **17 38 52.4 -1.0**
comp=Z,2.2nm,0.6s,mb4.4,baz=346,slow=4.4,SNR=4.8
NEW LR LR 18 04 13.4
comp=Z,46nm,19.7s,MS3.6,baz=313,slow=37
NEW Newport 57.30 53 *e*P **P** **17 38 52.8 -0.6**
comp=Z,3.7nm,0.9s,mb4.4
NEW Newport 57.30 53 P **P** **17 38 52.4 -1.0**
NEW pmax pmax
comp=Z,2.0nm,0.6s
NEW MLR MLR
comp=Z,46nm,19.7s
ARCES ARCESS Array B 57.87 341 P **P** **17 38 55.9 -1.2**
comp=Z,0.6nm,0.4s,mb3.9,baz=26,slow=6.7,SNR=10
ARCES LR LR 18 05 45.8
comp=Z,103nm,20.7s,MS3.9,baz=179,slow=38
ARCES ARCESS Array B 57.87 341 P **P** **17 38 55.9 -1.2**
ARCES pmax pmax
comp=Z,1.0nm,0.4s
ARCES MLR MLR
comp=Z,103nm,20.7s
YBH Yreka Blue Hor 57.87 62 LR LR 17 58 15.3
comp=Z,65nm,21.6s,MS3.7,baz=330,slow=30
WALA Waterton Lakes 58.57 50 *e*P **P** **17 39 02.6 +0.4**
comp=Z,30nm,1.5s,mb5.1
MOD Modoc 59.22 60 *e*P **P** **17 39 06.6 -0.2**
comp=Z,6.5nm,1.0s,mb4.6
MOD *e* pP 17 39 17.0 -1.3
WVOR Wild Horse Val 59.89 59 *e*P **P** **17 39 11.8 +0.3**
comp=Z,6.8nm,1.0s,mb4.6
WVOR Wild Horse Val 59.89 59 *e*P **P** **17 39 11.8 +0.4**
WVOR pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
MSO Missoula 59.89 52 *e*P **P** **17 39 11.3 -0.1**
comp=Z,10.0nm,1.2s,mb4.7
SUMG Summit 60.77 4 *e*P **P** **17 39 16.6 -0.4**
comp=Z,14nm,0.9s,mb5.1
FFC Flin Flon 60.86 40 *e*P **P** **17 39 18.0 +0.1**
comp=Z,11nm,1.0s,mb4.9
FFC Flin Flon 60.86 40 *e*P **P** **17 39 18.0 +0.1**
FFC pmax pmax
comp=Z,11nm,1.0s,mb4.9
CMB Columbia Colle 61.53 64 *e*P **P** **17 39 22.6 -0.1**
comp=Z,2.2nm,1.0s,mb4.2
CMB *e* 17 39 38.9
CMB Columbia Colle 61.53 64 *e*P **P** **17 39 22.6 -0.1**
CMB *e* 17 39 38.9
CMB pmax pmax
comp=Z,2.0nm,1.0s,mb4.2
MCMT McKenzie Canyo 61.73 54 *e*P **P** **17 39 24.3 +0.5**
ELK Elko 62.93 59 P **P** **17 39 32.0 +0.1**
comp=Z,1.6nm,0.9s,mb4.1,baz=196,slow=17,SNR=6.9
ELK Elko 62.93 59 *e*P **P** **17 39 32.5 +0.5**
comp=Z,2.3nm,1.0s,mb4.3
ELK Elko 62.93 59 P **P** **17 39 32.1 +0.1**
ELK pmax pmax
comp=Z,2.0nm,0.9s
KAF Kangasniemi 63.45 335 *e*p **P** **17 39 33.3 -1.8**
comp=Z,1.2nm,0.4s,mb4.4
KAF Kangasniemi 63.45 335 *e*P **P** **17 39 33.3 -1.8**
KAF pmax pmax
comp=Z,1.0nm,0.4s,mb4.3
TPAW Teton Pass 63.63 54 *e*P **P** **17 39 37.6 +1.2**
comp=Z,21nm,1.3s,mb5.0
FINES FINESS Array B 64.04 335 P **P** **17 39 37.5 -1.3**
comp=Z,2.1nm,0.4s,mb4.5,baz=33,slow=7.9,SNR=26
FINES LR LR 18 10 33.1
comp=Z,99nm,20.1s,MS4.0,baz=206,slow=39
FINES FINESS Array B 64.04 335 *i*P **P** **17 39 37.9 -0.9**
FINES pmax pmax
comp=Z,2.0nm,0.4s
DUG Dugway 64.70 58 *e*P **P** **17 39 43.1 -0.4**
comp=Z,14nm,1.4s,mb4.8
DUG Dugway 64.70 58 *e*P **P** **17 39 43.1 -0.4**
DUG pmax pmax
comp=Z,14nm,1.4s,mb4.8
BW06 Boulder Array 64.88 54 *e*P **P** **17 39 45.0 +0.5**
comp=Z,14nm,1.5s,mb4.8
PDAR Pinedale Array 64.88 54 P **P** **17 39 44.9 +0.3**
comp=Z,3.1nm,0.8s,mb4.4,baz=307,slow=2.5,SNR=21
PDAR LR LR 18 11 30.4
comp=Z,46nm,18.1s,MS3.7,baz=140,slow=39
OBN Obninsk 65.29 325 P **P** **17 39 46.0 -1.0**
OBN MLR MLR
comp=Z,100nm,18.0s,MS4.1
ULM Lac du Bonnet 66.64 41 P **P** **17 39 55.7 0.0**
comp=Z,1.4nm,0.5s,mb4.3,baz=329,slow=10.0,SNR=3.2
ULM LR LR 18 11 51.5
comp=Z,45nm,18.8s,MS3.7,baz=134,slow=38
ULM Lac du Bonnet 66.64 41 P **P** **17 39 55.7 0.0**
ULM LR LR 18 11 51.5
LDFC Landfair 66.69 63 P **P** **17 39 55.1 -1.1**
SRU San Rafael 66.75 57 *e*P **P** **17 39 57.0 +0.5**
RSSD Black Hills 66.95 50 *e*P **P** **17 39 58.1 +0.4**
comp=Z,6.5nm,1.3s,mb4.5
RSSD Black Hills 66.95 50 *e*P **P** **17 39 58.1 +0.4**
RSSD pmax pmax
comp=Z,7.0nm,1.3s,mb4.5
PV10 Paradox Valley 68.10 57 *e*P **P** **17 40 06.3 +1.2**
AFI Afiamalu 68.14 143 LR LR 18 03 04.0
comp=Z,99nm,21.0s,MS4.0,baz=322,slow=30
NB2 NORSAR Subarra 68.25 341 P **P** **17 40 04.9 -0.6**
comp=Z,13nm,0.8s,mb5.0,baz=28,slow=6.2
NB2 NORSAR Subarra 68.25 341 P **P** **17 40 04.9 -0.6**
NB2 pmax pmax
comp=Z,13nm,0.8s,mb5.0
NOA NORSAR Array B 68.25 341 P **P** **17 40 04.5 -1.0**
comp=Z,10nm,0.8s,mb4.9,baz=27,slow=6.2,SNR=27
NOA LR LR 18 12 56.1
comp=Z,77nm,20.2s,MS3.9,baz=30,slow=39
NOA NORSAR Array B 68.25 341 P **P** **17 40 04.5 -1.0**
NOA pmax pmax
comp=Z,11nm,0.8s
NOA MLR MLR
comp=Z,77nm,20.2s
WRA Warramunga Arr 68.42 199 P **P** **17 40 05.7 -1.6**
comp=Z,1.8nm,0.9s,mb4.1,baz=14,slow=6.4,SNR=7.0
WRA Warramunga Arr 68.42 199 *i*P **P** **17 40 05.9 -1.4**
WRA pmax pmax
comp=Z,2.0nm,1.0s
PV01 Paradox Valley 68.53 57 P **P** **17 40 08.6 +0.9**
ISCO Idaho Springs 69.07 54 P **P** **17 40 10.9 -0.1**
comp=Z,9.7nm,1.4s,mb4.5
ISCO Idaho Springs 69.07 54 P **P** **17 40 10.9 -0.1**
ISCO pmax pmax
comp=Z,10.0nm,1.4s,mb4.5
SDCO Great Sand Dun 70.56 55 *e*P **P** **17 40 20.8 +0.7**
comp=Z,2.1nm,1.1s,mb4.0
KIV Kislovodsk 70.76 314 P **P** **17 40 20.7 -0.5**
comp=Z,4.1nm,0.4s,mb4.7
KIV Kislovodsk 70.76 314 P **P** **17 40 20.7 -0.5**
KIV pmax pmax
comp=Z,4.0nm,0.4s,mb4.7
AKASG Malin Array Be 71.53 326 P **P** **17 40 24.9 -0.8**
comp=Z,3.1nm,0.5s,mb4.5,baz=32,slow=6.2,SNR=18
AKASG Malin Array Be 71.53 326 P **P** **17 40 24.9 -0.8**
AKASG pmax pmax
comp=Z,3.0nm,0.5s
ANMO Albuquerque 71.96 58 P **P** **17 40 29.8 +1.2**
comp=Z,0.6nm,0.4s,mb3.8,baz=294,slow=7.0,SNR=4.1
ANMO Albuquerque 71.96 58 P **P** **17 40 29.0 +0.5**
comp=Z,6.9nm,1.7s,mb4.3
ANMO Albuquerque 71.96 58 P **P** **17 40 29.0 +0.5**
ANMO pmax pmax
comp=Z,7.0nm,1.7s
SOC Sochi 72.48 316 *e*P **P** **17 40 30.0 -1.5**
SOC *e* 17 40 48.3
SOC *e*PPP PPP 17 44 57.3 0.0
SOC *e*S S 17 49 48.4 -3.2
SOC *e* 17 50 41.8
SOC pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
SOC pmax pmax
comp=N,7.0nm,0.8s
SOC pmax pmax
comp=E,10.0nm,0.9s
SCHQ Schefferville 73.41 23 LR LR 18 12 38.0
comp=E,76nm,20.0s,MS4.0,baz=68,slow=36
KWP Kalwaria 74.81 329 *e*P **P** **17 40 45.5 +0.6**
OJC Ojcow 75.31 331 *e*P **P** **17 40 48.0 +0.2**
STHS Stebnicka Huta 75.51 330 *e*P **P** **17 40 50.0 +1.1**
KOLS Kolonicke sedl 75.55 329 *e*P **P** **17 40 49.8 +0.6**
OKC Ostrava-Krasne 76.19 332 *e*P **P** **17 40 53.2 +0.4**
OKC AMS AMS 18 17 30.0
comp=E,300nm,24.5s
UPC Upice 76.28 333 *e*P **P** **17 40 54.0 +0.7**
DPC Dobruska-Polom 76.32 333 *e*P **P** **17 40 53.9 +0.4**
DPC *e*pP pP 17 41 06.2 +1.0
DPC AMS AMS 18 19 00.0
comp=E,200nm,18.9s
MORC Moravsky Berou 76.44 332⇓ *e*P **P** **17 40 54.4 +0.2**
comp=E,6.9nm,0.9s,mb4.6
MORC Moravsky Berou 76.44 332⇓ *e*P **P** **17 40 54.4 +0.2**
MORC pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
CLL Collm 76.47 335 P **P** **17 40 53.8 -0.5**
comp=Z,logA/T=1.1,mb4.8
CLL Collm 76.47 335 *i*P **P** **17 40 53.8 -0.5**
comp=Z,12nm,0.9s,mb4.8
CLL *i* 17 41 00.7
CLL Collm 76.47 335 *i*P **P** **17 40 53.8 -0.5**
CLL *i* 17 41 00.7
CLL pmax pmax
comp=Z,12nm,0.9s,mb4.8
KECS Kecovo 76.56 330 *e*P **P** **17 40 55.5 +0.6**
BRG Berggiesshubel 76.58 335 *i*P **P** **17 40 55.3 +0.3**
comp=Z,6.8nm,1.1s,mb4.5
BRG Berggiesshubel 76.58 335 *i*P **P** **17 40 55.3 +0.3**
BRG pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
PVCC Panska Ves 76.70 334 *e*P **P** **17 40 56.0 +0.3**
PVCC *e*pP pP 17 41 08.7 +1.3
PVCC AMS AMS 18 17 10.0
comp=Z,200nm,17.7s
MALT Malatya 77.11 313 *e*P **P** **17 41 00.0 +1.8**
comp=Z,2.7nm,0.9s,mb4.2
MALT Malatya 77.11 313 *e*P **P** **17 41 00.0 +1.8**
MALT pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
VYHS Vyhne 77.12 331 *e*P **P** **17 40 58.2 +0.1**
VYHS *e*PP PP 17 43 52.2 -1.2
PRU Pruhonice 77.19 334 *e*P **P** **17 40 58.3 -0.1**
PRU AMS AMS 18 18 50.0
comp=Z,100nm,19.4s
PSZ Piszkesteto 77.25 330 *e*P **P** **17 40 58.9 +0.1**
comp=Z,5.3nm,1.0s,mb4.4
PSZ Piszkesteto 77.25 330 *e*P **P** **17 40 58.9 +0.1**
PSZ pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
MOX Moxa 77.46 336 *e*P **P** **17 41 00.0 +0.1**
NKC Novy Kostel 77.59 335 *e*P **P** **17 41 00.4 -0.2**
NKC AMS AMS 18 21 20.0
comp=Z,100nm,21.3s
TXAR Lajitas Array 77.62 60 P **P** **17 41 01.9 +0.7**
comp=Z,2.4nm,0.7s,mb4.2,baz=301,slow=4.1,SNR=35
TXAR Lajitas Array 77.62 60 P **P** **17 41 01.9 +0.7**
TXAR Lajitas Array 77.62 60 P **P** **17 41 01.9 +0.6**
TXAR pmax pmax
comp=Z,2.0nm,0.7s
KHC Kasperske Hory 78.24 334 *e*P **P** **17 41 04.7 +0.5**
KHC *e*pP pP 17 41 16.7 +0.7
KHC AMS AMS 18 18 00.0
comp=Z,100nm,22.3s
BRTR Keskin Array B 78.35 317 P **P** **17 41 05.7 +0.6**
comp=Z,2.9nm,0.9s,mb4.2,baz=76,slow=5.1,SNR=11
BRTR Keskin Array B 78.35 317 P **P** **17 41 05.7 +0.7**
BRTR pmax pmax
comp=Z,3.0nm,0.9s
GRA1 Grafenberg Arr 78.42 336 *e*P **P** **17 41 05.2 0.0**
comp=Z,10.0nm,1.0s,mb4.7
GRF Grafenberg Arr 78.42 336 *e*P **P** **17 41 05.2 0.0**
comp=Z,10.0nm,1.0s,mb4.7
GRF Grafenberg Arr 78.42 336 *e*P **P** **17 41 05.2 0.0**
GRF pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
GRF Grafenberg Arr 78.42 336 *e*P **P** **17 41 05.2 0.0**
GRF pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
GERES GERESS Array B 78.46 334 P **P** **17 41 05.1 -0.3**
comp=Z,1.8nm,0.7s,mb4.1,baz=34,slow=4.8,SNR=22
GERES LR LR 18 20 34.5
comp=Z,98nm,18.3s,MS4.2,baz=215,slow=39
GERES GERESS Array B 78.46 334 P **P** **17 41 05.1 -0.3**
GERES pmax pmax
comp=Z,2.0nm,0.7s
GERES MLR MLR
comp=Z,98nm,18.3s
STU Stuttgart 79.82 337 *e*P **P** **17 41 14.0 +1.1**
comp=Z,13nm,1.1s,mb4.8
STU Stuttgart 79.82 337 *e*P **P** **17 41 14.0 +1.2**
STU pmax pmax
comp=Z,13nm,1.1s,mb4.8
BAIF Baives 79.90 340 *e*P **P** **17 41 13.0 -0.2**
comp=Z,28nm,1.4s,mb4.7
BAIF Baives 79.90 340 *e*P **P** **17 41 13.0 -0.2**
BAIF pmax pmax
comp=Z,14nm,1.4s,mb4.7
PERS Pernice 79.97 332 *e*P **P** **17 41 14.4 +0.7**
GCIS Gornji Cirnik 80.48 331 *e*P **P** **17 41 16.7 +0.3**
CDF Champ du Feu 80.67 338 *e*P **P** **17 41 17.4 +0.1**
comp=Z,9.6nm,1.0s,mb4.4
CDF Champ du Feu 80.67 338 *e*P **P** **17 41 17.4 +0.1**
CDF pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
MEZF Maizieres J'vi 81.15 339 *e*P **P** **17 41 20.1 +0.2**
HAU Haudompre 81.28 338 *e*P **P** **17 41 20.2 -0.4**
HAU *e*R
comp=Z,133nm,23.0s
DAVOX Davos 81.44 335 LR LR 18 23 24.1
comp=Z,70nm,18.7s,MS4.0,baz=86,slow=40
GRR Gorron 82.59 343 *e*P **P** **17 41 27.4 +0.1**
AVF Avril sur Loir 83.16 339 *e*P **P** **17 41 30.6 +0.3**
comp=Z,13nm,1.0s,mb4.6
AVF Avril sur Loir 83.16 339 *e*P **P** **17 41 30.6 +0.3**
AVF pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
SMF Signal de Mont 83.18 339 *e*P **P** **17 41 30.7 +0.4**
comp=Z,35nm,1.2s,mb5.0
SMF Signal de Mont 83.18 339 *e*P **P** **17 41 30.7 +0.4**
SMF pmax pmax
comp=Z,18nm,1.2s,mb5.0
LPL La Plagne 83.48 337 *e*P **P** **17 41 33.0 +1.1**
LPG La Plagne 83.49 337 *e*P **P** **17 41 33.2 +1.2**
VNDA Vanda 124.06 178 PKP PKPdf 17 48 01.2 +0.6
comp=Z,0.7nm,0.8s,SNR=4.5
VNDA Vanda 124.06 178 PKIKP PKPdf 17 48 01.3 +0.6
VNDA pmax pmax
comp=Z,1.0nm,0.8s
BDFB Brasilia 144.46 36 PKP PKPdf 17 48 39.0 -0.7
comp=Z,1.0nm,0.4s,baz=335,slow=1.2,SNR=6.0
BDFB Brasilia 144.46 36 PKIKP PKPdf 17 48 39.0 -0.7
BDFB pmax pmax
comp=Z,1.0nm,0.4s
PLCA Paso Flores 148.32 95 PKPbc PKPdf 17 48 51.4 +6.0
comp=Z,4.7nm,0.8s,baz=209,slow=6.1,SNR=6.6
PLCA Paso Flores 148.32 95 PKPbc PKPdf 17 48 50.5 +5.1
CPUP Villa Florida 148.60 60 PKPbc PKPdf 17 48 51.9 +5.5
comp=Z,2.2nm,0.8s,baz=349,slow=5.6,SNR=3.4
CPUP Villa Florida 148.60 60 PKP2 PKPab 17 48 51.9 -3.9
CPUP pmax pmax
comp=Z,2.0nm,0.8s
SNAA Sanae 152.47 196 P PKPdf 17 48 59.4 +8.5
SNAA Sanae 152.47 196 PKPdf 17 49 13.4 +23
SNAA Sanae 152.47 196 PKPdf 17 49 19.9 +29
SNAA Sanae 152.47 196 PKPdf 17 49 30.9 +40
SNAA Sanae 152.47 196 PKPbc PKPdf 17 48 59.3 +8.5
comp=Z,1.0nm,0.6s,baz=186,slow=2.1,SNR=26
SNAA Sanae 152.47 196 *e*PKPbc PKPdf 17 48 58.9 +8.1
VNA2 Neumayer--Watz 153.92 195 P PKPdf 17 49 05.0 +12
VNA2 Neumayer--Watz 153.92 195 PKPdf 17 49 13.1 +20
VNA2 Neumayer--Watz 153.92 195 PKPdf 17 49 20.2 +27
VNA2 Neumayer--Watz 153.92 195 PKPdf 17 49 27.5 +35
VNA3 Neumayer Olymp 154.01 193 P PKPdf 17 49 05.1 +12
VNA3 Neumayer Olymp 154.01 193 PKPdf 17 49 19.0 +26
VNA3 Neumayer Olymp 154.01 193 PKPdf 17 49 26.2 +33
VNA3 Neumayer Olymp 154.01 193 PKPdf 17 49 32.4 +39
VNA3 Neumayer Olymp 154.01 193 PKPdf 17 49 40.9 +48

CASC 06 18:01:30.1±2.4, 11.25N×85.48W, h1$^{km}_{\pm 5km}$, MD3.5,

ML2.9,5C-1D,Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MADN	**Villa Maderas**	**0.16**	**342↑**	*eP*	Pg	18 01 34.7	+1.3
MADN				*eS*	Sg	18 01 36.3	+0.8
CONN	**Concepcion**	**0.34**	**336↑**	*eP*	Pg	18 01 37.4	+0.5
SSNN	**San Juan del S**	**0.36**	**276↑**	*eP*	Pg	18 01 38.2	+0.8
SSNN				*eS*	Sg	18 01 44.1	+1.9
FORC	**Fortuna**	**1.11**	**134**	*eP*	Pb	18 01 51.1	-0.7
VCR	**Vista de Mar**	**1.13**	**187**	*eP*	Pb	18 01 51.7	-0.3
MGAN	**Managua**	**1.16**	**320**	*e*	Sb	18 02 09.1	+0.9
	comp=E,186nm,0.2s						
MGAN				*e*		18 02 10.1	
	comp=N,319nm,0.3s						
PRS1	**Puriscal**	**1.71**	**137↑**	*eP*	Pn	18 02 01.5	+0.4
PRS1				*eS*	Sb	18 02 27.6	+3.8
LCR2	**La Lucha 2**	**2.09**	**136↓**	*eP*	Pn	18 02 05.9	-0.8
LCR2				*eS*	Sn	18 02 35.4	+1.8
BUS	**Buena Vista**	**2.39**	**135↑**	*eP*	Pn	18 02 11.7	+0.7
BUS				*eS*	Sn	18 02 43.6	+2.3

IDC 06 18:44:33.5±24.0,19.64S×179.83E,h646km±219km, mb2.6/2,mb1 3.0/2,mb1mx2.7/11,mbtmp3.6/2,Error ellipse: s-maj=328.1km s-min=69.8km az=136.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.71**	**262**	P	P	18 51 36.7	-1.6
	0.2nm,0.3s,baz=96,slow=7.5,SNR=12						
ILAR	**Eielson Array**	**87.94**	**14**	P	P	18 56 16.0	-1.3
	0.4nm,0.5s,baz=216,slow=5.3,SNR=4.1						
ARCES	**ARCESS Array B**	**127.70**	**349**	PKP	PKPdf	19 02 25.5	-1.2
	2.5nm,0.9s,baz=27,slow=2.0,SNR=6.9						
AKASG	**Malin Array Be**	**141.26**	**330**	PKP	PKPdf	19 02 49.8	-2.4
	0.7nm,0.4s,baz=40,slow=4.0,SNR=8.7						
GERES	**GERESS Array B**	**148.79**	**342**	PKPbc	PKPdf	19 03 10.6	+5.7
	0.4nm,0.6s,baz=27,slow=3.0,SNR=5.9						

*IDC **06** 19:02:28.8±2.0,43.69N×105.44W,mb4.1/1,mb1 4.0/3, mb1mx3.5/21,mbtmp3.9/3,ML3.5/2,Error ellipse: s-maj=52.4km s-min=9.0km az=151.0*
*NEIC **06** 19:02:29.0±0.5,43.70N×105.32W,ML3.0,Error ellipse: s-maj=6.7km s-min=5.6km az=150.0,Suspected Mining explosion.*
NEIC 0.0 [ ]. 70 km [40 miles] SSE of Gillette.

ISC 06 19:02:27.6±0.6,43.74N±0.05×105.31W±0.07,n23, σ1§24/23,mb4.2/1,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.00**	**67**	*eP*	**Pb**	**19 02 49.1**	**+1.6**
PHWY	**Pilot Hill**	**2.43**	**183**	*eP*	**Pn**	**19 03 10.3**	**+1.1**
RWWY	**Rawlins**	**2.48**	**215**	*eP*	**Pn**	**19 03 10.5**	**+0.7**
LAO	**LASA Array**	**3.02**	**348**	*eP*	**Pn**	**19 03 19.5**	**+1.9**
BW06	**Boulder Array**	**3.25**	**254**	*e*Pn	**Pn**	**19 03 22.8**	**+2.0**
PDAR	**Pinedale Array**	**3.25**	**254**	Pn	**Pn**	**19 03 22.9**	**+2.1**
	4.1nm,0.3s,baz=77,slow=17,SNR=47						
PDAR				Lg		19 04 07.0	
	12nm,0.3s,baz=76,slow=34,SNR=9.4						
LKWY	**Lake**	**3.75**	**285**	P	**Pn**	**19 03 28.6**	**+0.7**
LOHW	**Long Hollow**	**3.84**	**270**	Pn	**Pn**	**19 03 29.1**	**-0.1**
ISCO	**Idaho Springs**	**3.94**	**183**	Pn	**Pn**	**19 03 29.4**	**-1.2**
SNOW	**Snow King Moun**	**3.96**	**268**	P	**Pn**	**19 03 31.7**	**+0.8**
YFT	**Old Faithful**	**4.04**	**282**	P	**Pn**	**19 03 31.9**	**-0.2**
REDW	**Red Top Meadow**	**4.04**	**267**	P	**Pn**	**19 03 32.6**	**+0.5**
IMW	**Indian Meadow**	**4.07**	**274**	*e*Pn	**Pn**	**19 03 33.0**	**+0.5**
TPAW	**Teton Pass**	**4.10**	**269**	P	**Pn**	**19 03 32.2**	**-0.7**
AHID	**Auburn Hatcher**	**4.34**	**259**	P	**Pn**	**19 03 35.7**	**-0.5**
RRI2	**Red Ridge**	**4.38**	**267**	P	**Pn**	**19 03 37.2**	**+0.3**
SMCO	**Snowmass**	**4.72**	**196**	P	**Pn**	**19 03 41.0**	**-0.7**
BOZ	**Bozeman (W)**	**4.89**	**295**	Pn	**Pn**	**19 03 43.5**	**-0.7**
MCMT	**McKenzie Canyo**	**5.52**	**284**	P	**Pn**	**19 03 51.3**	**-1.7**
SRU	**San Rafael**	**6.05**	**222**	*e*Pn	**Pn**	**19 03 58.4**	**-2.1**
CHMT	**Chamberlain Mo**	**6.43**	**302**	Pn	**Pn**	**19 04 03.9**	**-2.0**
ULM	**Lac du Bonnet**	**9.16**	**41**	Pn	**P**	**19 04 41.6**	**-2.4**
	1.4nm,0.3s,baz=229,slow=13,SNR=7.2						
ULM				Lg		19 07 12.4	
	0.3nm,0.3s,baz=305,slow=6.9,SNR=1.8						
ARCES	**ARCESS Array B**	**61.43**	**18**	P	**P**	**19 12 47.0**	**-0.4**
	2.2nm,1.0s,mb4.2,baz=333,slow=8.1,SNR=5.3						

IDC 06 19:20:38.8±1.2,1.97N×128.85E,mb4.0/6,mb1 4.1/6, mb1mx3.9/16,mbtmp4.0/6,Error ellipse: s-maj=84.0km s-min=17.7km az=72.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.19**	**189**	*eP*	P	19 25 15.5	-2.6
	10.0nm,1.6s						
FITZ	**Fitzroy Crossi**	**20.19**	**189**	P	P	19 25 15.2	-2.9
	3.7nm,0.6s,baz=10,slow=10,SNR=7.6						
WRA	**Warramunga Arr**	**22.43**	**166**	P	P	19 25 39.5	-1.3
	2.8nm,0.6s,baz=347,slow=11,SNR=25						
WB2	**Warramunga Arr**	**22.43**	**166**	*eP*	P	19 25 39.5	-1.3
STKA	**Stephens Creek**	**35.76**	**161**	*eP*	P	19 27 40.3	-1.4
	4.6nm,0.9s						
STKA	**Stephens Creek**	**35.76**	**161**	P	P	19 27 39.9	-1.8
	1.7nm,0.4s,baz=337,slow=9.5,SNR=9.5						
SONM	**Songino Array**	**49.65**	**340**	P	P	19 29 33.1	-1.1
	0.4nm,0.5s,baz=156,slow=8.2,SNR=7.5						
MKAR	**Makanchi Array**	**60.21**	**325**	P	P	19 30 49.1	-2.0
	2.0nm,0.7s,baz=123,slow=8.3,SNR=22						
BVAR	**Borovoye Array**	**69.95**	**327**	P	P	19 31 51.4	-2.5
	1.4nm,0.7s,baz=127,slow=7.4,SNR=8.7						

*IDC **06** 19:56:39.7±2.1,16.96S×178.94W,h503km±29km,mb3.6/3, mb1 3.9/5,mb1mx3.5/14,mbtmp4.6/5,Error ellipse: s-maj=87.3km s-min=16.9km az=152.0*
*NEIC **06** 19:56:39.7±0.8,17.08S×178.87W,h511km±12km, mb4.5/10,Error ellipse: s-maj=38.8km s-min=9.5km az=152.0*

ISC 06 19:56:39.2±1.3,17.3S±0.3×178.8W±0.2,h521km±22km, n20,σ0§98/17,mb4.3/11,1C-3D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.51**	**64**	P	**P**	**19 58 31.5**	**-0.6**
	8.1nm,0.3s,baz=260,slow=6.1,SNR=6.8						
AFI	**Afiamalu**	**7.51**	**64**	*eP*	**P**	**19 58 31.3**	**-0.8**
	45nm,0.6s						
DZM	**Mont Dzumac**	**14.74**	**249**	P	**P**	**19 59 47.5**	**+1.0**
	1.4nm,0.3s,baz=72,slow=20,SNR=12						
CTA	**Charters Tower**	**33.24**	**260**	*eP*	**P**	**20 02 34.4**	**+0.2**
	4.5nm,0.5s,mb4.2						
CNB	**Canberra Magne**	**33.56**	**231**	*eP*	**P**	**20 02 37.3**	**+0.5**
	13nm,0.5s,mb4.7						
PMG	**Port Moresby**	**34.04**	**279**	*eP*	**P**	**20 02 42.8**	**+1.7**
TOO	**Toolangi**	**37.32**	**230**	*eP*	**P**	**20 03 08.6**	**+0.7**
	11nm,0.8s,mb4.5						
STKA	**Stephens Creek**	**38.65**	**240↓**	*iP*	**P**	**20 03 19.5**	**+0.7**
	9.0nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**38.65**	**240**	P	**P**	**20 03 19.6**	**+0.8**
	9.3nm,0.5s,mb4.6,baz=90,slow=9.2,SNR=17						
WB2	**Warramunga Arr**	**44.42**	**259↓**	*iP*	**P**	**20 04 04.1**	**-0.9**
WRAB	**Tennant Creek**	**44.42**	**259**	*eP*	**P**	**20 04 03.5**	**-1.4**
	9.5nm,0.6s,mb4.5						
WRA	**Warramunga Arr**	**44.43**	**259**	P	**P**	**20 04 04.2**	**-0.9**
	5.7nm,0.4s,mb4.4,baz=97,slow=7.2,SNR=181						
KAKA	**Kakadu**	**47.27**	**269↑**	*iP*	**P**	**20 04 34.2**	**+7.2**
	17nm,0.3s,mb5.0						
FITZ	**Fitzroy Crossi**	**52.81**	**260↓**	*iP*	**P**	**20 05 07.4**	**-0.4**
	5.9nm,0.4s,mb4.3						
KLBR	**Kellerberrin**	**58.82**	**243**	*eP*	**P**	**20 05 47.8**	**-1.4**
	16nm,0.7s,mb4.3						
MUN	**Mundaring**	**60.12**	**243**	*eP*	**P**	**20 05 57.2**	**-0.6**
	12nm,1.4s,mb4.0						
TXAR	**Lajitas Array**	**85.94**	**58**	P	**P**	**20 08 26.4**	**+1.4**
	0.6nm,0.7s,mb3.3,baz=220,slow=6.8,SNR=8.0						
MLR	**Muntele Rosu**	**145.13**	**329**	PKP	PKPdf	20 15 19.7	+2.9
	2.0nm,0.8s,baz=326,slow=16,SNR=3.9						
GERES	**GERESS Array B**	**146.93**	**345**	PKPbc	PKPbc	20 15 23.6	+1.8
	0.6nm,0.6s,baz=14,slow=4.0,SNR=7.5						
DAVOX	**Davos**	**149.73**	**348**	PKPbc	PKPdf	20 15 31.1	+6.9
	1.3nm,0.5s,baz=177,slow=7.8,SNR=4.1						

*CSEM **06** 19:59:18.2±0.5,13.67N×45.72E,h4km,ML3.6,Error ellipse: s-maj=10.2km s-min=6.8km az=107.0,After DHMR*

DHMR 06 19:59:18.2±0.9,13.67N×45.72E,h5km±3km,ML3.6,5C-2D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDHA	**Al Bayda'**	**0.34**	**333↑**	*iP*	Pg	19 59 24.4	-0.6
BDHA				*i* S	Sg	19 59 29.7	+0.1
BDHA				AML	AML	19 59 29.9	
	comp=E,7μm,0.3s						
BDHA	**Al Bayda'**	**0.34**	**333↑**	*iP*	Pg	19 59 24.4	-0.6
BDHA				*i* S	Sg	19 59 29.7	+0.1
	comp=E,3μm,0.3s						
LBOS		**0.50**	**293↓**	*iP*	Pg	19 59 27.9	-0.3
LBOS				*i* S	Sg	19 59 35.4	+0.4
DHBB	**Dhamar BB**	**1.57**	**305↑**	*iP*	Pn	19 59 47.5	+0.6
DHBB				*i* S	Sb	20 00 09.7	+2.1
TRBA	**At Turbah**	**1.62**	**255↑**	*iP*	Pn	19 59 47.6	-0.1
TRBA				*i* S	Sb	20 00 10.8	+1.8
TRBA				AML	AML	20 00 16.9	
	comp=N,347nm,0.4s						
UDYN	**Al 'Udayn**	**1.73**	**280↑**	*iP*	Pn	19 59 49.6	+0.4
UDYN				*i* S	Sn	20 00 13.8	+1.9
UDYN				AML	AML	20 00 15.0	
	comp=E,417nm,0.6s						
SANA	**San'a**	**2.25**	**319↓**	*iP*	Pn	19 59 58.0	+1.3
SANA				*i* S	Sn	20 00 28.8	+3.7
SANA				AML	AML	20 00 32.3	
	comp=E,2μm,0.2s						
HAJJ	**Hajjah**	**2.88**	**315**	*i* P	Pn	20 00 08.0	+2.4
HAJJ				*i* S	Sn	20 00 46.5	+5.4
HAJJ				AML	AML	20 00 52.9	
	comp=E,259nm,0.4s						

IDC 06 20:17:56.0±7.9,5.61N×90.55E,mb3.6/5,mb1 3.8/5, mb1mx3.6/19,mbtmp3.6/5,Error ellipse: s-maj=171.9km s-min=67.1km az=148.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**41.64**	**351**	P	P	20 25 46.5	-1.1
	0.3nm,0.5s,baz=168,slow=9.5,SNR=6.0						
SONM	**Songino Array**	**44.20**	**15**	P	P	20 26 06.9	-1.7
	1.0nm,0.8s,baz=195,slow=8.6,SNR=10						
ZAL	**Zalesovo**	**48.40**	**355**	P	P	20 26 39.5	-2.3
	0.7nm,0.4s,baz=217,slow=2.1,SNR=2.7						
BVAR	**Borovoye Array**	**50.07**	**344**	P	P	20 26 52.0	-2.6
	0.1nm,0.4s,baz=227,slow=37,SNR=2.6						
GERES	**GERESS Array B**	**77.14**	**319**	P	P	20 29 51.9	-1.3
	0.5nm,0.7s,baz=108,slow=4.2,SNR=4.2						

*IDC **06** 20:25:24.6±0.5,19.12N×121.08E,mb4.8/21,mb1 4.8/23, mb1mx4.8/26,mbtmp4.8/23,ML4.3/2,MS4.2/25,Ms1 4.2/25, ms1mx4.0/42,Error ellipse: s-maj=19.4km s-min=11.5km az=70.0*
*BJI **06** 20:25:28.9,19.35N×121.03E,h17km,mB5.0,mb4.8, ML4.5,Ms4.6,Msz4.4*
*MOS **06** 20:25:28.9±1.0,19.31N×121.11E,h30km,mb5.1/59, MS4.3/30,Error ellipse: s-maj=11.1km s-min=5.5km az=112.9*
*MAN **06** 20:25:29.3,19.20N×121.03E,h26km,mb5.7,ML4.7, MS5.1*
*HRVD **06** 20:25:30.3±0.5,19.24N×121.04E,h12km,MW4.9/53, Centroid moment Tensor Solution. LP body waves: s23,c27;Mantle waves: s53,c88; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.55±.09; $M_{\theta\theta}$-0.07±.07; $M_{\phi\phi}$1.62±.09; $M_{r\theta}$-1.51±.24; $M_{\theta\phi}$-1.82±.06; $M_{\phi r}$-1.24±.24; Best double couple: $M_0$3.07×10^{16} NP1:ϕ_s114°, δ55°, λ-145°. NP2:ϕ_s2°, δ62°, λ-40°. Principal axes: T 2.798, Plg4°, Azm59°; N .545, Plg42°, Azm153°; P -3.342, Plg47°, Azm325°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **06** 20:25:30.3±0.2,19.16N×121.16E,mb5.0/51 Error ellipse: s-maj=6.5km s-min=5.0km az=95.0*

ISC 06 20:25:29.3±0.2,19.31N±0.02×121.14E±0.03,h33km, h33km±.8km:pP-P,n305,σ1§11/283,mb4.9/96,MS4.2/64, 10C-21D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**1.37**	**141**	*eP*	**Pn**	**20 25 52.4**	**-0.1**
SGCP				*eS*	**Sn**	**20 26 10.2**	**+0.6**
APYP	**Conner**	**1.45**	**176**	*eP*	**Pn**	**20 25 52.7**	**-0.8**
APYP				*eS*	**Sn**	**20 26 10.6**	**-0.9**
ABRA	**Dolores**	**1.70**	**194**	*eP*	**Pn**	**20 25 55.0**	**-2.2**
CAUP	**Cauayan**	**2.44**	**164**	*eP*	**Pn**	**20 26 10.2**	**+2.4**
BCPH	**Baguio City Da**	**2.96**	**190**	*eP*	**Pn**	**20 26 15.4**	**+0.2**
BCPH				*i* S	**Sn**	**20 26 54.6**	**+4.5**
BOLP	**Bolinao**	**3.14**	**202**	*eP*	**Pn**	**20 26 14.3**	**-3.4**
BALP	**Baler**	**3.58**	**173**	*eP*	**Pn**	**20 26 24.9**	**+0.9**
SCZP	**Santa Cruz**	**3.71**	**199**	*eP*	**Pn**	**20 26 25.9**	**+0.1**
PCPH	**Palayan**	**3.73**	**181**	*eP*	**Pn**	**20 26 28.1**	**+2.1**
NZB	**Bigte**	**4.42**	**180↓**	*eP*	**Pn**	**20 26 36.7**	**+0.7**
NBP	**Mount Natib**	**4.60**	**189↑**	*eP*	**Pn**	**20 26 39.9**	**+1.5**
POLP	**Polilio Island**	**4.62**	**170**	*eP*	**Pn**	**20 26 39.6**	**+0.9**
ARP	**Angono**	**4.75**	**180↑**	*eP*	**Pn**	**20 26 41.3**	**+0.7**
NACB	**Ninganchiao**	**4.86**	**5**	*eP*	**Pn**	**20 26 42.6**	**+0.5**
NACB				*eS*	**Sn**	**20 27 35.5**	**-2.5**
LBPH	**Los Banos**	**5.13**	**180↑**	*eP*	**Pn**	**20 26 49.2**	**+3.3**
GQP	**Guinayangan**	**5.52**	**167↑**	*eP*	**Pn**	**20 26 51.3**	**-0.2**
TATO	**Taipei**	**5.65**	**3**	*eP*	**Pn**	**20 26 54.8**	**+1.6**
	395nm,0.8s						
TATO				*eS*	**Sn**	**20 27 54.7**	**-3.0**
QZH	**Quanzhou**	**6.08**	**338**	P	**Pn**	**20 26 57.4**	**-1.9**
QZH				S	**Sn**	**20 28 03.0**	**-5.5**
QZH				Smax			
	comp=N,140nm,0.8s						
QZH				Smax			
	comp=E,280nm,1.2s						
QZH				LR	LR		
	comp=N,5μm,13.4s						
QZH				LR	LR		
	comp=E,9μm,19.0s						
QZH				LR	LR		
	comp=Z,5μm,13.7s						
GZH	**Guangzhou**	**8.18**	**299**	P	**P**	**20 27 23.6**	**-5.2**
GZH				Smax			
	comp=N,141nm,0.7s						
GZH				Smax			
	comp=E,161nm,0.7s						
JOW	**Kunigami**	**9.96**	**40**	Pn	**P**	**20 27 52.0**	**-1.4**
	comp=E,6.5nm,0.3s,baz=250,slow=12,SNR=17						
JOW				Sn	**Sn**	**20 29 38.4**	**-6.6**
	comp=E,0.5nm,0.3s,baz=237,slow=23,SNR=2.1						
JOW				LR	LR	20 32 07.6	
	comp=E,2μm,20.2s,baz=327,slow=40						
QIZ	**Qiongzhong**	**10.68**	**270**	*e*Pn	**P**	**20 27 57.2**	**-6.0**
	comp=E,46nm,0.7s						
QIZ				*e*Pn		20 28 05.3	
QIZ				*e*S	**S**	**20 29 46.9**	**-16**
SSE	**Sheshan**	**11.73**	**0**	P	**P**	**20 28 15.9**	**-1.7**
SSE				AMB	AMB		
	comp=Z,41nm,1.1s						
SSE				LR	LR		
	comp=N,233nm,24.4s						
SSE				LR	LR		
	comp=E,505nm,24.5s						
SSE				LR	LR		
	comp=Z,405nm,22.8s						
NJ2	**Nanjing**	**12.85**	**351**	*eP*	**P**	**20 28 33.2**	**+0.7**
NJ2				AP		20 28 40.6	
NJ2				PP	PP	20 28 43.0	+0.7
NJ2				XP		20 28 45.8	
NJ2				S	**S**	**20 30 54.0**	**-1.4**
NJ2				XS		20 31 05.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
NJ2				AMB	AMB		
	comp=Z,242nm,3.5s						
NJ2				LR	LR		
	comp=N,860nm,12.3s						
NJ2				LR	LR		
	comp=E,3μm,15.4s						
GYA	**Guiyang**	**15.11**	**301**	P	**P**	**20 29 00.6**	**-1.6**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.4s						
GYA				AMB	AMB		
	comp=Z,380nm,4.8s						
GYA				LR	LR		
	comp=N,960nm,13.5s						
GYA				LR	LR		
	comp=E,1μm,15.9s						
GYA				LR	LR		
	comp=Z,2μm,15.6s						
ENH	**Enshi**	**15.18**	**318**	*eP*	**P**	**20 29 03.6**	**+0.4**
	comp=Z,105nm,1.2s						
JNU	**Nakatsue**	**16.28**	**30**	Pn	**P**	**20 29 18.6**	**+1.4**
	comp=Z,0.7nm,0.3s,baz=199,slow=8.4,SNR=28						
JNU				LR	LR	20 36 21.6	
	comp=Z,463nm,19.2s,baz=40,slow=40						
TIA	**Tai'an**	**17.20**	**349**	*eP*	**P**	**20 29 32.4**	**+3.6**
TIA				AMB	AMB		
	comp=Z,55nm,1.6s						
KKTK	**Khon Kaen**	**17.68**	**263**	PCN	**P**	**20 29 34.7**	**-0.2**
KKTK				SG	x	20 29 52.0	
KMI	**Kunming**	**17.98**	**292**	P	**P**	**20 29 38.5**	**-0.1**
KMI				AP		20 29 48.0	
KMI				XP		20 29 52.1	
KMI				S	**S**	**20 32 58.2**	**+3.1**
KMI				XS		20 33 10.6	
KMI				AMB	AMB		
	comp=Z,23nm,1.4s						
KMI				AMB	AMB		
	comp=Z,237nm,3.8s						
KMI				LR	LR		
	comp=N,4μm,17.8s						
KMI				LR	LR		
	comp=E,2μm,13.8s						
KMI				LR	LR		
	comp=Z,2μm,14.3s						
XAN	**Xi'an**	**18.26**	**326**	P	**P**	**20 29 42.3**	**+0.3**
XAN				AP		20 29 51.6	
XAN				AMB	AMB		
	comp=Z,37nm,1.5s						
KS15	**Wonju Array Si**	**19.00**	**17**	*eP*	**P**	**20 29 50.4**	**-0.6**
NANT	**Nan**	**19.32**	**272**	⇑P	**P**	**20 29 52.0**	**-2.8**
	comp=Z,138nm,1.0s						
CD2	**Chengdu**	**19.49**	**310↑**	*iP*	**P**	**20 29 55.8**	**-0.8**
CD2				AP		20 30 02.5	
CD2				XP		20 30 08.0	
CD2				AMB	AMB		
	comp=Z,70nm,1.1s						
CD2				AMB	AMB		
	comp=Z,270nm,4.0s						
CD2				LR	LR		
	comp=N,1μm,19.0s						
CD2				LR	LR		
	comp=Z,740nm,16.0s						
DL2	**Dalian**	**19.53**	**1**	P	**P**	**20 29 58.1**	**+1.1**
DL2				S	**S**	**20 33 36.9**	**+7.0**
DL2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
DL2				LR	LR		
	comp=E,900nm,13.7s						
DL2				LR	LR		
	comp=Z,510nm,12.2s						
KSM	**Kuching**	**20.66**	**212**	P	**P**	**20 30 06.1**	**-2.9**
CBIJ	**Chichi jima**	**20.82**	**64**	P	**P**	**20 30 09.2**	**-1.5**
	comp=Z,75nm,0.4s,baz=266,slow=20,SNR=6.2						
CBIJ				LR	LR	20 37 29.0	
	comp=Z,246nm,18.7s,MS3.6,baz=78,slow=35						
CHG	**Chiang Mai**	**20.98**	**272**	⇓P	**P**	**20 30 11.3**	**-1.0**
	comp=Z,41nm,1.3s						
BDT	**Bhumibol Dam**	**21.12**	**268**	P	**P**	**20 30 21.5**	**+7.8**
	comp=Z,16nm,0.9s,mb4.3						
JHJ	**Hachijo jima 2**	**21.61**	**47**	P	**P**	**20 30 18.4**	**-0.2**
	comp=Z,212nm,0.8s,mb5.6,baz=202,slow=8.2,SNR=7.5						
JHJ				LR	LR	20 37 17.5	
	comp=Z,473nm,19.0s,MS3.9,baz=281,slow=33						
NNT	**Nongplab**	**21.62**	**255**	P	**P**	**20 30 17.8**	**-1.0**
LZH	**Lanzhou**	**22.60**	**321**	P	**P**	**20 30 30.0**	**+1.5**
LZH				AP		20 30 38.3	
LZH				XP		20 30 42.6	
LZH				AMB	AMB		
	comp=Z,170nm,1.0s,mb5.4						
LZH				AMB	AMB		
	comp=Z,730nm,4.5s						
LZH				LR	LR		
	comp=N,2μm,13.1s						
LZH				LR	LR		
	comp=Z,2μm,16.2s,MS4.7						
MAJO	**Matsushiro**	**22.79**	**38**	*eP*	**P**	**20 30 29.9**	**-0.4**
MAJO				LR	LR		
	comp=Z,418nm,19.0s,MS3.9						
MAT	**Matsushiro**	**22.79**	**38**	P	**P**	**20 30 29.5**	**-0.8**
MAT				*eS*	**S**	**20 34 32.0**	**-0.6**
MAT	**Matsushiro**	**22.79**	**38**	*eP*	**P**	**20 30 30.0**	**-0.3**
	comp=Z,42nm,1.3s,mb4.7						
MAT				S	**S**	**20 34 32.0**	**-0.6**
MAT	**Matsushiro**	**22.79**	**38**	*eP*	**P**	**20 30 30.0**	**-0.3**
MAT				S	**S**	**20 34 32.0**	**-0.6**
MAT				pmax	pmax		
	comp=Z,42nm,1.3s,mb4.7						
BTO	**Baotou**	**23.27**	**338**	*eP*	**P**	**20 30 35.4**	**+0.5**
BTO				AMB	AMB		
	comp=Z,32nm,1.2s,mb4.6						
GUMO	**Guam**	**23.45**	**100**	*eP*	**P**	**20 30 26.1**	**-11**
GUMO				LR	LR		
	comp=Z,127nm,20.0s,MS3.4						
KULM	**Kulim**	**24.34**	**238**	*eP*	**P**	**20 30 43.8**	**-1.8**
CN2	**Changchun**	**24.68**	**7**	*eP*	**P**	**20 30 49.6**	**+1.0**
CN2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.7						
CN2				AMB	AMB		
	comp=Z,280nm,3.0s						
CN2				LR	LR		
	comp=N,760nm,16.0s,MS4.6						
CN2				LR	LR		
	comp=E,1μm,16.0s,MS4.6						
CN2				LR	LR		
	comp=Z,750nm,18.0s,MS4.2						
IMP	**Imphal**	**25.77**	**287**	*eP*	**P**	**20 30 59.0**	**-0.1**
MDJ	**Mudanjiang**	**26.20**	**14**	P	**P**	**20 31 02.5**	**-0.3**
MDJ				AP	pP	20 31 11.3	-1.1
MDJ				XP	sP	20 31 15.7	-1.0
MDJ				PP	PP	20 31 45.1	-0.1
MDJ				PPP	PPP	20 31 59.7	+2.5
MDJ				S	**S**	**20 35 35.6**	**+5.1**
MDJ				XS		20 35 50.3	
MDJ				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,143nm,3.6s						
MDJ				LR	LR		
	comp=N,303nm,21.1s,MS4.4						
MDJ				LR	LR		
	comp=E,1μm,19.3s,MS4.4						
MDJ				LR	LR		
	comp=Z,550nm,18.0s,MS4.1						
MDJ	**Mudanjiang**	**26.20**	**14**	*eP*	**P**	**20 31 02.0**	**-0.8**
	comp=Z,26nm,1.1s,mb4.7						
MDJ				LR	LR		
	comp=Z,507nm,20.0s,MS4.1						
GTA	**Gaotai**	**27.20**	**322**	*eP*	**P**	**20 31 12.6**	**+0.6**
GTA				AP	pP	20 31 18.8	-2.8
GTA				XP	sP	20 31 21.9	-4.

comp=Z,11nm,0.8s,mb4.7,baz=158,slow=9.3,SNR=74
SONM LR LR 20 45 47.2
comp=Z,545nm,18.0s,MS4.2,baz=152,slow=39
SONM Songino Array 30.88 340 P **P** **20 31 45.5 +0.6**
SONM pmax pmax
comp=Z,11nm,0.9s
SONM MLR MLR
comp=Z,545nm,18.0s
KLR Kul'dur 31.05 14 *e*P **P** **20 31 41.0 -5.3**
YSS Yuzh-Sakhalins 32.76 28 *e*P **P** **20 31 58.7 -2.7**
comp=Z,26nm,1.0s,mb5.1
YSS LR LR
comp=Z,247nm,21.0s,MS3.9
YSS Yuzh-Sakhalins 32.76 28 *e*P **P** **20 32 01.0 -0.4**
YSS *e* 20 32 07.0
PKI Pulchoki 33.70 291 *e*P **P** **20 32 09.2 -0.6**
comp=Z,60nm,1.2s,mb5.4
KKN Kakani 33.84 291 *e*P **P** **20 32 10.4 -0.5**
comp=Z,48nm,0.8s,mb5.5
DMN Daman 33.97 291 *e*P **P** **20 32 11.6 -0.5**
comp=Z,51nm,0.9s,mb5.4
ZAK Zakamensk 34.10 340⇑ *i*P **P** **20 32 12.8 -0.2**
ZAK pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
GKN Gorkha 34.43 292 *e*P **P** **20 32 15.2 -0.8**
comp=Z,58nm,0.9s,mb5.5
TLY Talaya 35.11 341 *e*P **P** **20 32 21.9 +0.3**
comp=Z,12nm,0.8s,mb4.9
TLY LR LR
comp=Z,98nm,20.0s,MS3.6
TLY Talaya 35.11 341 *e*P **P** **20 32 22.2 +0.6**
TLY *e* 20 38 00.9
TLY *e* 20 40 12.4
TLY pmax pmax
comp=Z,27nm,1.8s,mb4.9
TLY MLR MLR
comp=Z,359nm,20.0s,MS4.1
KOLN Koldanda 35.32 291 *e*P **P** **20 32 23.1 -0.5**
comp=Z,54nm,0.9s,mb5.5
IRK Irkutsk 35.41 342 *e*P **P** **20 32 25.0 +0.8**
IRK pmax pmax
comp=Z,41nm,2.2s,mb5.0
MOY Mondy 35.96 339 *e*P **P** **20 32 29.8 +1.0**
MOY pmax pmax
comp=Z,28nm,2.0s,mb4.8
WMQ Urumqi 37.13 319 ⇑P **P** **20 32 40.0 +1.3**
WMQ AP pP 20 32 50.0 +1.5
WMQ XP sP 20 32 54.0 +1.4
WMQ PP PP 20 34 08.0 +2.1
WMQ S **S** **20 38 24.0 +1.6**
WMQ SCP 20 38 44.0
WMQ SS SS 20 40 56.0 +2.6
WMQ AMB AMB
comp=Z,18nm,1.0s,mb4.9
WMQ AMB AMB
comp=Z,24nm,8.0s
WMQ LR LR
comp=N,487nm,18.0s,MS4.5
WMQ LR LR
comp=E,389nm,18.0s,MS4.5
WMQ LR LR
comp=Z,397nm,17.0s,MS4.3
FITZ Fitzroy Crossi 37.44 173 *e*P **P** **20 32 38.8 -2.8**
comp=Z,7.0nm,0.8s,mb4.5
FITZ Fitzroy Crossi 37.44 173 P **P** **20 32 38.0 -3.6**
comp=Z,8.3nm,0.9s,mb4.6,baz=345,slow=11,SNR=4.9
BOD Bodaibo 38.81 354 *e*P **P** **20 32 53.2 +0.5**
BOD pmax pmax
comp=Z,6.0nm,1.3s,mb4.2
PALK Pallekele 41.02 259 PFAKE 20 33 20.0 +8.6
PALK LR LR
comp=Z,69nm,20.0s,MS3.5
WRAB Tennant Creek 41.10 161 *e*P **P** **20 33 08.3 -3.7**
comp=Z,20nm,1.0s,mb4.7
WRAB Tennant Creek 41.10 161 *i*P **P** **20 33 11.4 -0.5**
WRA Warramunga Arr 41.10 161 P **P** **20 33 07.8 -4.2**
comp=Z,4.6nm,0.7s,mb4.2,baz=342,slow=8.8,SNR=12
WRA PcP PcP 20 35 10.7 -1.1
comp=Z,5.1nm,0.9s,baz=343,slow=3.6,SNR=8.3
WRA Warramunga Arr 41.10 161 P **P** **20 33 07.8 -4.2**
WRA 20 35 10.7
WRA pmax pmax
comp=Z,5.0nm,0.7s
WRA pmax pmax
comp=Z,5.0nm,0.9s
WB2 Warramunga Arr 41.10 161 *e*P **P** **20 33 08.2 -3.8**
MKAR Makanchi Array 41.91 320 P **P** **20 33 19.6 +1.2**
comp=Z,24nm,0.9s,mb4.8,baz=114,slow=9.0,SNR=187
MKAR LR LR 20 51 28.2
comp=Z,278nm,20.1s,MS4.1,baz=261,slow=37
MKAR Makanchi Array 41.91 320 P **P** **20 33 19.6 +1.3**
MKAR pmax pmax
comp=Z,25nm,0.9s
MKAR MLR MLR
comp=Z,278nm,20.1s
YAK Yakutsk 43.09 6 *e*P **P** **20 33 27.6 -0.2**
comp=Z,18nm,0.7s,mb4.9
YAK *e*pP pP 20 33 37.0 -0.6
YAK LR LR
comp=Z,276nm,19.0s,MS4.2
YAK Yakutsk 43.09 6 *e*P **P** **20 33 27.6 -0.2**
YAK *e**PP pP 20 33 37.0 -0.6
YAK pmax pmax
comp=Z,19nm,0.7s,mb4.9
YAK MLR MLR
comp=Z,276nm,19.0s,MS4.2
KSH Kashi 43.66 307 *e*P **P** **20 33 34.1 +1.4**
KSH *e*AP pP 20 33 43.1 +0.6
KSH *e*XP sP 20 33 47.1 +0.5
KSH AMB AMB
comp=Z,210nm,4.5s
ULHL Ulahol 44.20 311 P **P** **20 33 38.7 +1.7**
SNR=11
ZAL Zalesovo 44.36 330 P **P** **20 33 38.5 +0.3**
comp=Z,11nm,0.9s,mb4.6,baz=354,slow=6.8,SNR=68
ZAL LR LR 20 53 45.5
comp=Z,639nm,18.8s,MS4.6,baz=344,slow=38
ZAL Zalesovo 44.36 330 P **P** **20 33 38.5 +0.3**
ZAL pmax pmax
comp=Z,11nm,0.9s
ZAL MLR MLR
comp=Z,639nm,18.8s
PET Petropavlovsk 44.40 32 *e*P **P** **20 33 38.1 -0.4**
comp=Z,30nm,1.0s,mb5.0
PET LR LR
comp=Z,228nm,20.0s,MS4.1
PET Petropavlovsk 44.40 32 *e*P **P** **20 33 38.7 +0.2**
PET *e*S **S** **20 40 11.9 +1.6**
PET pmax pmax
comp=Z,200nm,2.3s,mb5.4
PET pmax pmax
comp=Z,31nm,1.6s,mb4.8
PET smax
comp=N,100nm,17.1s
PET smax
comp=E,100nm,26.3s
PET MLR MLR
comp=Z,200nm,15.0s,MS4.2
PET MLR MLR
comp=Z,200nm,19.0s
TKM2 Tokmak 2 44.85 312 P **P** **20 33 43.4 +1.1**
SNR=9.1
KZA Kyzart 44.85 311 P **P** **20 33 44.8 +2.4**
SNR=18
KBK Karagaybulak 45.23 311 P **P** **20 33 47.2 +1.9**
SNR=8.8
CHMS Chumysh 45.47 312 P **P** **20 33 48.3 +1.1**
SNR=9.3
MA2 Magadan 45.51 21 PFAKE 20 34 00.0 +13
MA2 LR LR
comp=Z,315nm,20.0s,MS4.2
MA2 Magadan 45.51 21 *d i*P **P** **20 33 45.8 -1.5**
MA2 pmax pmax
comp=Z,12nm,1.3s,mb4.7
FRU Bishkek 45.51 312 *e*P **P** **20 33 48.5 +0.9**
FRU *e* 20 35 36.0
FRU pmax pmax
comp=Z,40nm,2.0s,mb5.0
FRU MLR MLR
comp=Z,500nm,14.0s,MS4.6
AAK Ala-Archa 45.55 311 *e*P **P** **20 33 47.6 -0.2**
comp=Z,12nm,1.2s,mb4.7
AAK LR LR
comp=Z,125nm,19.0s,MS3.9
AAK Ala-Archa 45.55 311 *e*P **P** **20 33 47.6 -0.2**
AAK pmax pmax
comp=Z,12nm,1.2s,mb4.7
AAK MLR MLR
comp=Z,125nm,19.0s,MS3.9
NVS Novosibirsk 45.64 330 *e*P **P** **20 33 47.7 -0.6**
NVS pmax pmax
comp=N,18nm,1.3s
NVS pmax pmax
comp=E,22nm,1.3s
NVS pmax pmax
comp=Z,29nm,1.3s,mb5.0
USP Ospenovka 45.72 312 P **P** **20 33 50.4 +1.2**
SNR=9.1
KURK Kurchatov 45.87 323 *e*P **P** **20 33 50.6 +0.4**
comp=Z,55nm,0.9s,mb5.5
KURK LR LR
comp=Z,78nm,22.0s,MS3.6
KURK Kurchatov 45.87 323 *e*P **P** **20 33 50.6 +0.4**
KURK pmax pmax
comp=Z,55nm,0.9s,mb5.5
KURK MLR MLR
comp=Z,78nm,22.0s,MS3.6
AML Almayashu 45.98 310 P **P** **20 33 53.5 +2.3**
SNR=38
CTA Charters Tower 46.25 146 P **P** **20 33 51.5 -2.1**
comp=Z,7.4nm,1.0s,mb4.5,baz=321,slow=10.0,SNR=3.6
CTA LR LR 20 52 22.1
comp=Z,244nm,21.6s,MS4.1,baz=326,slow=35
CTA Charters Tower 46.25 146 P **P** **20 33 51.6 -2.1**
CTA pmax pmax
comp=Z,7.0nm,1.0s
CTA MLR MLR
comp=Z,244nm,21.6s
CTAO Charters Tower 46.25 146 PFAKE 20 34 00.0 +6.3
CTAO LR LR
comp=Z,319nm,19.0s,MS4.3
SEY Seymchan 48.57 18 *e*P **P** **20 34 12.4 +1.1**
SEY 20 35 35.9
SEY *e*S **S** **20 41 16.9 +7.3**
SEY *e* 20 44 00.7
SEY pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
SEY smax
comp=N,440nm,36.4s
SEY smax
comp=E,310nm,32.6s
SEY MLR MLR
comp=Z,270nm,19.0s,MS4.2
SEY MLR MLR
comp=N,260nm,21.0s,MS4.2
SEY MLR MLR
comp=E,120nm,20.0s,MS4.2
KLBR Kellerberrin 50.72 184 *e*P **P** **20 34 25.3 -2.8**
comp=E,44nm,1.5s,mb5.2
BVAR Borovoye Array 51.47 323 P **P** **20 34 34.0 +0.4**
comp=E,6.9nm,0.8s,mb4.6,baz=113,slow=11,SNR=59
BVAR PcP PcP 20 35 45.7 -2.0
comp=E,4.4nm,0.8s,baz=117,slow=6.6,SNR=6.0
BVAR Borovoye Array 51.47 323 P **P** **20 34 34.0 +0.4**
BVAR 20 35 45.7
BVAR pmax pmax
comp=Z,7.0nm,0.8s
BVAR pmax pmax
comp=Z,4.0nm,0.8s
BRVK Borovoye 51.54 323 *e*P **P** **20 34 34.3 +0.2**
comp=Z,31nm,1.2s,mb5.1
BRVK LR LR
comp=Z,54nm,22.0s,MS3.5
BRVK Borovoye 51.54 323 *e*P **P** **20 34 34.3 +0.2**
BRVK pmax pmax
comp=Z,31nm,1.2s,mb5.1
BRVK MLR MLR
comp=Z,54nm,22.0s,MS3.5
NWAO Narrogin (SRO) 52.08 184 P **P** **20 34 35.1 -3.4**
comp=Z,6.0nm,0.7s,mb4.7,baz=358,slow=5.0,SNR=4.4
NWAO LR LR 20 55 37.8
comp=Z,186nm,21.0s,MS4.1,baz=21,slow=35
NWAO Narrogin (SRO) 52.08 184 P **P** **20 34 35.1 -3.4**
NWAO pmax pmax
comp=Z,6.0nm,0.7s
NWAO MLR MLR
comp=Z,186nm,21.0s
TIXI Tiksi 52.54 3 *e*P **P** **20 34 36.4 -5.0**
TIXI *e*S **S** **20 42 11.4 +7.1**
TIXI pmax pmax
comp=Z,27nm,0.9s,mb5.2
TIXI MLR MLR
comp=Z,168nm,15.0s,MS4.2
STKA Stephens Creek 54.55 159 *e*P **P** **20 34 54.7 -2.0**
comp=Z,3.6nm,0.9s,mb4.4
STKA Stephens Creek 54.55 159 P **P** **20 34 54.1 -2.6**
comp=Z,6.0nm,1.1s,mb4.5,baz=311,slow=10,SNR=5.8
BILL Bilibino 56.28 19 *e*P **P** **20 35 07.9 -0.9**
comp=Z,21nm,1.0s,mb5.1
BILL LR LR
comp=Z,308nm,19.0s,MS4.4
BILL Bilibino 56.28 19 *e*P **P** **20 35 07.9 -0.8**
BILL pmax pmax
comp=Z,21nm,1.0s,mb5.1
BILL MLR MLR
comp=Z,308nm,19.0s,MS4.4
SVE Sverdlovsk 57.98 326⇓ *e*P **P** **20 35 20.9 0.0**
SVE *e*S **S** **20 43 12.0 -5.2**
SVE *e* 20 45 08.0
SVE pmax pmax
comp=Z,46nm,1.9s,mb5.2
SVE MLR MLR
comp=N,200nm,14.0s,MS4.6
SVE MLR MLR
comp=E,300nm,14.0s,MS4.6
SVE MLR MLR
comp=Z,400nm,14.0s,MS4.7
ARU Arti 59.00 325 *e*P **P** **20 35 27.2 -0.8**
comp=Z,35nm,0.8s,mb5.4
ARU LR LR
comp=Z,67nm,21.0s,MS3.7
ARU Arti 59.00 325⇓ *i*P **P** **20 35 27.5 -0.6**
ARU *e* 20 36 12.4
ARU *e* 20 37 36.7
ARU *e*S **S** **20 43 34.2 +3.6**
ARU *e*SS SS 20 47 25.1 -1.2
ARU pmax pmax
comp=Z,32nm,0.8s,mb5.4
ARU MLR MLR
comp=Z,300nm,17.0s,MS4.5
ARU MLR MLR
comp=N,100nm,15.0s,MS4.5
ARU MLR MLR
comp=E,300nm,18.0s,MS4.5
HASS Wahat al Ahsa' 65.70 290 P **P** **20 36 12.3 -1.0**
GNI Garni 67.58 306 LR LR 21 09 41.8
comp=E,153nm,18.5s,MS4.3,baz=264,slow=39
GNI Garni 67.58 306 *d i*P **P** **20 36 24.8 -0.1**
GNI pmax pmax
comp=Z,21nm,1.7s
ZEI Tsey 67.91 309 *e*P **P** **20 36 25.3 -1.6**
ZEI pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
ONI Oni 68.26 309 P **P** **20 36 29.5 +0.4**
GOF Gofitskoye 68.29 312⇓ *i*P **P** **20 36 27.3 -2.0**
GOF pmax pmax
comp=Z,20nm,1.3s,mb5.0
KIV Kislovodsk 68.66 311 *e*P **P** **20 36 31.0 -0.6**
comp=Z,18nm,0.8s,mb5.0
KIV *e*pP pP 20 36 41.6 -0.1
KIV LR LR
comp=Z,43nm,19.0s,MS3.7
KIV Kislovodsk 68.66 311 *d i*P **P** **20 36 31.7 +0.1**
KIV *i* pP 20 36 41.4 -0.4
KIV *i* 20 36 51.7
KIV pmax pmax
comp=Z,26nm,1.0s,mb5.1
KIV MLR MLR
comp=Z,200nm,16.0s,MS4.5
VRHR Novokhopersk 68.68 318 *e*P **P** **20 36 30.2 -1.4**
VRHR pmax pmax
comp=Z,30nm,0.8s,mb5.3
VRHR pmax pmax
comp=N,20nm,0.9s
VRHR pmax pmax
comp=E,30nm,1.4s
CHGN Chignik 68.88 36 *e*P **P** **20 36 30.9 -1.8**
TTA Tatalina 69.75 29 *e*P **P** **20 36 39.0 +1.1**
SVW2 Sparrevohn 70.06 31 *e*P **P** **20 36 40.3 +0.5**
VRSR Storozhevoye 70.20 319 *e*P **P** **20 36 40.1 -0.7**
VRSR pmax pmax
comp=Z,20nm,1.0s,mb5.0
VRSR pmax pmax
comp=N,7.0nm,0.8s
VRSR pmax pmax
comp=E,20nm,1.0s
VRSR pmax pmax
comp=Z,20nm,1.0s,mb5.0
VRSR pmax pmax
comp=N,7.0nm,0.8s
VRSR pmax pmax
comp=E,20nm,1.0s
SOC Sochi 70.84 310 *e*P **P** **20 36 44.4 -0.5**
SOC *e* 20 37 01.2
SOC *e*S S 20 45 54.0 -2.3
SOC *e* 20 46 44.6
SOC *e*SS SS 20 50 32.3 +1.4
SOC *e*SSS SSS 20 53 42.4 +5.7
SOC pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
SOC pmax pmax
comp=N,7.0nm,0.8s
SOC pmax pmax
comp=E,2.0nm,0.5s
SOC MLR MLR
comp=Z,208nm,18.0s,MS4.4
SOC MLR MLR
comp=N,264nm,21.0s,MS4.5
SOC MLR MLR
comp=E,121nm,18.0s,MS4.5
OBN Obninsk 71.31 323 *e*P **P** **20 36 46.0 -1.5**
comp=E,38nm,1.2s,mb5.2
OBN *e*pP pP 20 36 57.5 -0.3
OBN LR LR
comp=Z,62nm,19.0s,MS3.9
OBN Obninsk 71.31 323κ *i*P **P** **20 36 46.6 -0.9**
OBN *i* pP 20 36 57.2 -0.6
OBN *e* 20 46 42.4
OBN pmax pmax
comp=Z,35nm,1.7s,mb5.0
OBN MLR MLR
comp=Z,300nm,17.0s,MS4.6
KAMS Al Khamasin 71.37 286 P **P** **20 36 46.6 -1.9**
APA Apatity 71.46 336⇓ *i*P **P** **20 36 48.5 +0.3**
APA pmax pmax
comp=Z,26nm,1.0s,mb5.1
RSO Redoubt South 71.50 31 *e*P **P** **20 36 49.0 +0.4**
SPU Mount Spurr 71.76 31 *e*P **P** **20 36 49.5 -0.6**
KDAK Kodiak Island 71.92 34 *e*P **P** **20 36 50.3 -0.8**
comp=Z,18nm,0.7s,mb5.1
AFFS 'Afif 71.92 290 P **P** **20 36 51.1 -0.6**
HILS Ha'il 72.20 293 P **P** **20 36 53.1 -0.2**
ANN Anapa 72.27 312 *e*P **P** **20 36 51.8 -1.6**
ANN *e* 20 46 14.6
ANN pmax pmax
comp=Z,24nm,1.2s,mb5.0
ANN MLR MLR
comp=N,204nm,21.0s,MS4.6
ANN MLR MLR
comp=E,294nm,21.0s,MS4.6
ANN MLR MLR
comp=Z,281nm,21.0s,MS4.5
TATS Tathlith 72.56 285 P **P** **20 36 54.8 -0.9**
MALT Malatya 72.71 305 *e*P **P** **20 36 56.5 +0.3**
comp=Z,17nm,1.1s,mb4.9
MALT Malatya 72.71 305 *e*P **P** **20 36 56.5 +0.3**
MALT pmax pmax
comp=Z,17nm,1.1s,mb4.9
MCK McKinley 72.85 28 *e*P **P** **20 36 56.6 +0.1**
comp=Z,15nm,1.0s,mb4.9
MCK LR LR
comp=Z,53nm,21.0s,MS3.8
MCK McKinley 72.85 28 *e*P **P** **20 36 56.6 +0.1**
MCK pmax pmax
comp=Z,15nm,1.0s,mb4.9
MCK MLR MLR
comp=Z,53nm,21.0s,MS3.8
DJNS Zahran al Janu 72.97 283 P **P** **20 36 58.0 -0.1**
PMR Palmer 73.09 30 *e*P **P** **20 36 57.2 -0.7**
PMR LR LR
comp=Z,100nm,21.0s,MS4.1
COLA College 73.14 26 PFAKE 20 37 10.0 +12
COLA LR LR
comp=Z,18nm,21.0s,MS3.3
SML Sawmill 73.43 30 *e*P **P** **20 36 59.5 -0.4**
KEV Kevo 73.47 339 *e*p **P** **20 36 59.2 -0.8**
comp=Z,7.6nm,0.7s,mb4.7
KEV Kevo 73.47 339 *e*P **P** **20 36 59.2 -0.8**
KEV pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
ILAR Eielson Array 73.56 27 P **P** **20 36 58.9 -1.7**
comp=Z,3.5nm,0.8s,mb4.3,baz=284,slow=5.5,SNR=28
ILAR Eielson Array 73.56 27 P **P** **20 36 58.9 -1.7**
ILAR pmax pmax
comp=Z,4.0nm,0.8s
ARCES ARCESS Array B 74.03 339 P **P** **20 37 01.9 -1.4**
comp=Z,5.9nm,0.8s,mb4.6,baz=80,slow=7.4,SNR=12
ARCES LR LR 21 13 30.9
comp=Z,299nm,19.6s,MS4.6,baz=170,slow=39
ARCES ARCESS Array B 74.03 339 P **P** **20 37 01.9 -1.3**
ARCES pmax pmax
comp=Z,6.0nm,0.8s
ARCES MLR MLR
comp=Z,299nm,19.6s
ARE0 ARCESS Array S 74.03 339 *e*P **P** **20 37 03.1 -0.1**
BLJS Baljurashi 74.18 286 P **P** **20 37 04.9 -0.1**
SIM Simferopol' 74.56 313 *d i*P **P** **20 37 05.6 -1.1**
SIM pmax pmax
comp=Z,17nm,0.8s,mb5.0
DIV Divide 74.77 30 *e*P **P** **20 37 06.7 -0.9**
comp=Z,105nm,1.2s,mb5.6
EYAK Cordova Ski Ar 74.91 31 *e*P **P** **20 37 08.2 -0.2**
ASF Jabal al Asfar 75.25 299 LR LR 21 14 36.9
comp=Z,112nm,20.2s,MS4.2,baz=199,slow=39
MENT Mentasta 75.31 28 *e*P **P** **20 37 11.4 +0.7**
KAF Kangasniemi 75.36 331 *e*p **P** **20 37 09.9 -1.1**
comp=Z,6.5nm,0.8s,mb4.6,baz=73,slow=5.3
KAF Kangasniemi 75.36 331 *e*P **P** **20 37 09.9 -1.1**
KAF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
FINES FINESS Array B 75.62 330 P **P** **20 37 11.2 -1.4**
comp=Z,6.9nm,0.8s,mb4.6,baz=104,slow=7.9,SNR=20
FINES FINESS Array B 75.62 330 P **P** **20 37 11.2 -1.3**
FINES pmax pmax
comp=Z,7.0nm,0.8s
VSU Vasula 76.02 327 *i*P **P** **20 37 14.4 -0.4**
BRTR Keskin Array B 76.05 307 P **P** **20 37 12.8 -2.6**
comp=Z,2.7nm,1.0s,mb4.1,baz=129,slow=7.9,SNR=9.9
BRTR Keskin Array B 76.05 307 P **P** **20 37 12.9 -2.5**
BRTR pmax pmax
comp=Z,3.0nm,1.0s
AKASG Malin Array Be 76.49 319 P **P** **20 37 15.7 -2.0**
comp=Z,9.3nm,0.8s,mb4.8,baz=60,slow=5.6,SNR=26
AKASG Malin Array Be 76.49 319 P **P** **20 37 15.7 -1.9**
AKASG pmax pmax
comp=Z,9.0nm,0.8s
UMJS Umm Lajj 76.62 292 P **P** **20 37 19.7 +0.8**
DBAS Duba 77.26 295 P **P** **20 37 22.4 0.0**
ALWS Iiw as Safayha 77.49 297 P **P** **20 37 23.8 +0.2**
JMOS Jabal al Moall 77.49 297 P **P** **20 37 23.9 +0.3**
RPZ Rata Peaks 77.61 145 P **P** **20 37 21.5 -2.5**
comp=Z,24nm,0.8s,mb5.2,baz=0.9,slow=2.3,SNR=5.7
INK Inuvik 77.75 22 LR LR 21 14 53.7
comp=Z,92nm,20.0s,MS4.1,baz=92,slow=38
INK Inuvik 77.75 22 *e*P **P** **20 37 23.8 -0.5**
comp=Z,29nm,1.1s,mb5.1
INK Inuvik 77.75 22 *e*P **P** **20 37 23.8 -0.4**
INK pmax pmax
comp=Z,29nm,1.1s
TAYS Tayyib Ism 77.85 296 P **P** **20 37 25.5 -0.1**
SUW Suwalki 79.15 323 *e*P **P** **20 37 31.9 -0.3**
SUW Suwalki 79.15 323 *e*P **P** **20 37 31.9 -0.3**
MLR Muntele Rosu 80.01 315 LR LR 21 14 25.5
comp=Z,185nm,21.6s,MS4.4,baz=57,slow=37
KWP Kalwaria 80.81 319 *e*P **P** **20 37 41.4 +0.2**
KWP Kalwaria 80.81 319 *e*P **P** **20 37 41.4 +0.2**
SIT Sitka 81.11 33 *e*P **P** **20 37 44.2 +1.6**
STHS Stebnicka Huta 81.78 319 *e*P **P** **20 37 47.0 +0.8**
HFS Hagfors 81.78 331 LR LR 21 13 48.8
comp=Z,164nm,20.9s,MS4.4,baz=87,slow=36
CRVS Cervenica-Dubn 81.82 319 *e*P **P** **20 37 49.1 +2.6**
NIE Niedzica 82.35 320 *e*P **P** **20 37 50.3 +1.1**
OJC Ojcow 82.38 321 *e*P **P** **20 37 49.7 +0.4**
NB2 NORSAR Subarra 82.50 333 P **P** **20 37 48.2 -1.5**
comp=Z,6.4nm,0.9s,mb4.5,baz=63,slow=5.3
NB2 NORSAR Subarra 82.50 333 P **P** **20 37 48.2 -1.5**
NB2 pmax pmax

comp=Z,6.0nm,0.9s,mb4.5
NOA NORSAR Array B 82.50 333 P **P** **20 37 48.7 -1.0**
comp=Z,4.8nm,0.8s,mb4.5,baz=64,slow=5.2,SNR=12
NOA PP PP 20 40 56.8 -4.3
comp=Z,1.2nm,0.9s,baz=164,slow=6.5,SNR=3.3
NOA LR LR 21 17 51.9
comp=Z,301nm,18.7s,MS4.7,baz=70,slow=38
NOA NORSAR Array B 82.50 333 P **P** **20 37 48.7 -1.1**
NOA PP PP 20 40 56.8 -4.3
NOA LR LR 21 17 51.9
NOA NORSAR Array B 82.50 333 P **P** **20 37 48.7 -1.0**
NOA 20 40 56.8
NOA pmax pmax
comp=Z,5.0nm,0.8s
NOA pmax pmax
comp=Z,1.0nm,0.9s
NOA MLR MLR
comp=Z,301nm,18.7s
KECS Kecovo 82.57 319 *eP* **P** **20 37 51.1 +0.7**
DLBC Dease Lake 83.16 30 LR LR 21 17 19.6
comp=Z,106nm,18.6s,MS4.2,baz=110,slow=37
DLBC Dease Lake 83.16 30 *eP* **P** **20 37 54.4 +1.3**
RES Resolute Bay 83.46 9 *eP* **P** **20 37 55.9 +1.4**
JMIC Jan Mayen 83.51 345 LR LR 21 17 51.2
comp=Z,141nm,19.1s,MS4.4,baz=295,slow=38
OKC Ostrava-Krasne 83.51 321 *eS* S 20 48 34.2 +21
OKC AMS AMS 21 20 20.0
comp=Z,200nm,18.7s
VYHS Vyhne 83.59 319 *eP* **P** **20 37 56.5 +0.9**
MORC Moravsky Berou 83.89 321 *eP* **P** **20 37 56.8 -0.4**
comp=Z,6.0nm,1.0s,mb4.7
MORC Moravsky Berou 83.89 321 *eP* **P** **20 37 56.8 -0.3**
MORC pmax pmax
comp=Z,6.0nm,1.0s,mb4.7
IDI Anoyia 83.97 305 LR LR 21 19 10.1
comp=Z,55nm,21.9s,MS3.9,baz=312,slow=38
KSP Ksiaz 84.21 322 *eP* **P** **20 37 59.5 +0.8**
KSP *e* pP 20 38 10.3 +1.1
KSP Ksiaz 84.21 322 *eP* **P** **20 37 59.4 +0.7**
KSP *ep*P pP 20 38 09.6 +0.4
DPC Dobruska-Polom 84.39 322 *eP* **P** **20 38 00.3 +0.7**
DPC *ep*P pP 20 38 11.6 +1.5
DPC AMS AMS 21 19 00.0
comp=Z,200nm,18.1s
UPC Upice 84.51 322 *eP* **P** **20 38 00.8 +0.6**
UPC *ep*P pP 20 38 12.0 +1.3
KMBO Kilima Mbogo 84.59 267 P **P** **20 38 02.0 +0.5**
comp=Z,6.7nm,1.0s,mb4.7,baz=36,slow=9.3,SNR=5.8
KMBO LR LR 21 14 01.9
comp=Z,112nm,18.3s,MS4.3,baz=97,slow=34
KMBO Kilima Mbogo 84.59 267 *i* P **P** **20 38 03.2 +1.7**
KMBO pmax pmax
comp=Z,7.0nm,1.0s
ZST Bratislava 84.77 319 *eP* **P** **20 38 02.7 +1.1**
PVCC Panska Ves 85.34 322 *eP* **P** **20 38 05.2 +0.9**
PVCC *ep*P pP 20 38 16.2 +1.3
PVCC AMS AMS 21 20 30.0
comp=Z,200nm,14.2s
BRG Berggiesshubel 85.56 323 *eP* **P** **20 38 06.3 +0.9**
BRG *e* pP 20 38 17.1 +1.2
BRG pmax pmax
comp=Z,13nm,1.0s,mb5.1
BRG pmax pmax
comp=Z,11nm,1.1s,mb5.0
BRG MLR MLR
comp=N,178nm,16.5s,MS4.7
BRG MLR MLR
comp=E,220nm,17.8s,MS4.7
BRG MLR MLR
comp=Z,291nm,15.8s,MS4.8
PRU Pruhonice 85.58 322 *eP* **P** **20 38 06.5 +0.9**
PRU *ep*P pP 20 38 16.8 +0.7
PRU *ex* x 20 48 21.3
PRU AMS AMS 21 19 40.0
comp=Z,200nm,15.4s
CASY Casey 85.70 184 *eP* **P** **20 38 06.1 +0.3**
comp=Z,22nm,1.1s,mb5.3
CLL Collm 85.91 323 ⇓P **P** **20 38 07.1 0.0**
comp=Z,logA/T=1.0,mb5.0
CLL *i* *P pP 20 38 18.2 +0.6
CLL Collm 85.91 323 ⇓*i*P **P** **20 38 07.1 0.0**
comp=Z,13nm,1.2s,mb5.0
CLL *i* pP pP 20 38 18.2 +0.6
CLL Collm 85.91 323 ⇓*i*P **P** **20 38 07.1 0.0**
CLL *i* *PP pP 20 38 18.2 +0.6
CLL pmax pmax
comp=Z,13nm,1.2s,mb5.0
ARSA Arzberg 86.13 319 ⇓*i*P **P** **20 38 08.7 +0.4**
comp=Z,8.2nm,1.1s,mb4.9
KHC Kasperske Hory 86.52 321 *eP* **P** **20 38 10.8 +0.6**
KHC *ep*P pP 20 38 21.6 +0.9
KHC *eS* S 20 48 41.7 -0.8
KHC AMS AMS 21 19 20.0
comp=Z,200nm,22.0s
GERES GERESS Array B 86.57 321 P **P** **20 38 09.9 -0.6**
comp=Z,3.8nm,0.8s,mb4.7,baz=56,slow=4.8,SNR=35
GERES GERESS Array B 86.57 321 P **P** **20 38 09.9 -0.6**
GERES pmax pmax
comp=Z,4.0nm,0.8s
GOLS Golise 86.58 318 *eP* **P** **20 38 10.9 +0.4**
MOA Molln 86.65 320 ⇑*i*P **P** **20 38 11.8 +0.9**
comp=Z,9.6nm,1.0s,mb5.0
NKC Novy Kostel 86.70 322 *eP* **P** **20 38 11.7 +0.7**
NKC *ep*P pP 20 38 22.6 +1.0
NKC *eS* S 20 48 51.8 +7.6
NKC AMS AMS 21 20 10.0
comp=Z,300nm,17.3s
PDKS Podkum 86.95 318 *eP* **P** **20 38 12.5 +0.1**
MOX Moxa 86.99 323 *eP* **P** **20 38 14.0 +1.6**
MOX L 21 18 53.0
SUMG Summit 87.32 354 P **P** **20 38 15.1 +1.5**
comp=Z,10nm,1.0s,mb5.0
YKW3 Yellowknife Ar 87.42 23 *eP* **P** **20 38 15.0 +0.8**
YKA Yellowknife Ar 87.46 23 P **P** **20 38 15.6 +1.2**
comp=Z,23nm,0.8s,mb5.5,baz=314,slow=4.7,SNR=89
GRA1 Grafenberg Arr 87.65 322 *eP* **P** **20 38 16.0 +0.4**
comp=Z,6.0nm,1.0s,mb4.8
GRF Grafenberg Arr 87.65 322 *eP* **P** **20 38 16.1 +0.5**
comp=Z,6.0nm,1.0s,mb4.8
GRF Grafenberg Arr 87.65 322 *eP* **P** **20 38 16.0 +0.4**
GRF pmax pmax
comp=Z,6.0nm,1.0s,mb4.8
GRF Grafenberg Arr 87.65 322 *eP* **P** **20 38 16.1 +0.5**
GRF pmax pmax
comp=Z,6.0nm,1.0s,mb4.8
MIR Mirnyy 88.16 191 *eP* **P** **20 38 18.0 +0.3**
MIR pmax pmax
comp=Z,34nm,1.6s,mb5.3
WTTA Wattenberg 88.51 320 ⇓*i*P **P** **20 38 19.9 +0.1**
comp=Z,12nm,1.2s,mb5.1
WTTA Wattenberg 88.51 320 ⇓*i*P **P** **20 38 19.9 +0.1**
WTTA pmax pmax
comp=Z,12nm,1.2s,mb5.1
SQTA Sankt Quirin 88.79 320 ⇓*i*P **P** **20 38 21.1 -0.1**
comp=Z,3.1nm,1.0s,mb4.6
SQTA Sankt Quirin 88.79 320 ⇓*i*P **P** **20 38 21.1 -0.1**
SQTA pmax pmax
comp=Z,3.0nm,1.0s,mb4.6
DAVA Damuels 89.56 321 ⇓*i*P **P** **20 38 24.9 +0.1**
comp=Z,8.8nm,1.1s,mb5.0
DAVOX Davos 89.80 320 LR LR 21 23 08.8
comp=Z,207nm,18.7s,MS4.6,baz=74,slow=38
BORG Borgarnes 91.39 345 LR LR 21 19 39.4
comp=Z,193nm,19.8s,MS4.5,baz=30,slow=36
LPG La Plagne 92.33 320 *eP* **P** **20 38 38.1 +0.5**
comp=Z,24nm,1.0s,mb5.2
LPG La Plagne 92.33 320 *eP* **P** **20 38 38.1 +0.5**
LPG pmax pmax
comp=Z,12nm,1.0s,mb5.2
LPL La Plagne 92.33 320 *eP* **P** **20 38 38.0 +0.4**
comp=Z,26nm,1.0s,mb5.2
LPL La Plagne 92.33 320 *eP* **P** **20 38 38.0 +0.4**
LPL pmax pmax
comp=Z,13nm,1.0s,mb5.2
PGF Pioggiola 92.38 317 *eP* **P** **20 38 37.2 -0.7**
comp=Z,32nm,1.0s,mb5.3
PGF Pioggiola 92.38 317 *eP* **P** **20 38 37.2 -0.7**
PGF pmax pmax
comp=Z,16nm,1.0s,mb5.3
SBF Sospel 92.73 318 *eP* **P** **20 38 38.3 -1.2**
comp=Z,31nm,1.0s,mb5.4
SBF Sospel 92.73 318 *eP* **P** **20 38 38.3 -1.2**
SBF pmax pmax
comp=Z,15nm,1.0s,mb5.4
LOR Lormes 93.10 323 *eP* **P** **20 38 40.4 -0.7**
comp=Z,27nm,1.5s,mb5.2
LOR Lormes 93.10 323 *eP* **P** **20 38 40.4 -0.7**
LOR pmax pmax
comp=Z,14nm,1.5s,mb5.2
SSF Saint Saulge 93.41 323 *eP* **P** **20 38 42.0 -0.6**
SMF Signal de Mont 93.45 322 *eP* **P** **20 38 42.2 -0.5**
AVF Avril sur Loir 93.65 322 *eP* **P** **20 38 43.0 -0.7**
comp=Z,7.7nm,1.0s,mb4.8
AVF Avril sur Loir 93.65 322 *eP* **P** **20 38 43.0 -0.7**
AVF pmax pmax
comp=Z,4.0nm,1.0s,mb4.8
EDM Edmonton 93.86 29 P **P** **20 38 45.1 +0.7**
TCF Toulx Ste Croi 94.58 322 *eP* **P** **20 38 47.7 -0.3**
comp=Z,5.6nm,0.9s,mb4.7
TCF Toulx Ste Croi 94.58 322 *eP* **P** **20 38 47.7 -0.3**
TCF pmax pmax
comp=Z,3.0nm,0.9s,mb4.7
PPT Papeete 95.02 107 LR LR 21 15 46.3
comp=Z,37nm,18.4s,MS3.9,baz=329,slow=32
NEW Newport 95.02 35 *eP* **P** **20 38 51.2 +1.3**
comp=Z,9.0nm,1.0s,mb5.2
NEW LR LR
comp=Z,104nm,19.0s,MS4.3
NEW Newport 95.02 35 *eP* **P** **20 38 51.3 +1.4**
NEW pmax pmax
comp=Z,9.0nm,1.0s
NEW MLR MLR
comp=Z,104nm,19.0s
WALA Waterton Lakes 96.22 33 *eP* **P** **20 38 57.4 +2.0**
comp=Z,14nm,1.4s,mb5.2
MAW Mawson 96.50 199 LR LR 21 20 48.3
comp=Z,51nm,19.9s,MS4.0,baz=230,slow=34
MOD Modoc 96.80 41 *eP* **P** **20 38 59.4 +1.2**
comp=Z,8.1nm,1.0s,mb5.1
BMO Blue Mountains 96.92 38 *eP* **P** **20 39 00.1 +1.4**
comp=Z,2.3nm,1.0s,mb4.6
CMB Columbia Colle 98.85 45 PFAKE 20 39 20.0 +12
CMB LR LR
comp=Z,80nm,19.0s,MS4.2
VNDA Vanda 99.50 172 LR LR 21 26 36.5
comp=Z,57nm,19.8s,MS4.1,baz=323,slow=37
VNDA Vanda 99.50 172 *e*PcP PcP 20 39 10.5 +0.7
comp=Z,1.7nm,0.6s
VNDA Vanda 99.50 172⇑*eP* **P** **20 39 10.5 +0.8**
VNDA pmax pmax
comp=Z,2.0nm,0.6s
TPH Tonopah 100.90 43 PFAKE 20 39 30.0 +13
TPH LR LR
comp=Z,97nm,19.0s,MS4.3
ISA Isabella 101.44 46 PFAKE 20 39 30.0 +11
ISA LR LR
comp=Z,35nm,20.0s,MS3.9
TPNV Topopah Spring 102.18 44 PFAKE 20 39 30.0 +7.5
TPNV LR LR
comp=Z,6.0nm,21.0s,MS3.1
HWUT Hardware Ranch 102.22 38 PFAKE 20 39 30.0 +7.4
HWUT LR LR
comp=Z,96nm,19.0s,MS4.3
DUG Dugway 102.38 39 PFAKE 20 39 30.0 +6.7
DUG LR LR
comp=Z,72nm,19.0s,MS4.2
SCHQ Schefferville 105.84 5 PFAKE 20 44 00.0
SCHQ LR LR
comp=Z,269nm,20.0s,MS4.8
ANMO Albuquerque 109.62 40 PFAKE 20 44 10.0
ANMO LR LR
comp=Z,87nm,19.0s,MS4.3
TXAR Lajitas Array 115.14 43 PKP PKPdf 20 44 09.8 -3.3
comp=Z,1.9nm,0.8s,baz=214,slow=0.7,SNR=18
TXAR Lajitas Array 115.14 43 PKIKP PKPdf 20 44 09.8 -3.3
TXAR pmax pmax
comp=Z,2.0nm,0.8s
VNA2 Neumayer--Watz 120.26 197 P PKPdf 20 44 19.5 -2.5
VNA2 Neumayer--Watz 120.26 197 PKPdf 20 44 28.8 +6.8
VNA2 Neumayer--Watz 120.26 197 PKPdf 20 44 30.2 +8.2
VNA2 Neumayer--Watz 120.26 197 PKPdf 20 44 35.2 +13
VNA3 Neumayer Olymp 120.71 197 P PKPdf 20 44 21.1 -1.8
VNA3 Neumayer Olymp 120.71 197 PKPdf 20 44 23.2 +0.3
VNA3 Neumayer Olymp 120.71 197 PKPdf 20 44 28.0 +5.1
VNA3 Neumayer Olymp 120.71 197 PKPdf 20 44 31.2 +8.3
VNA3 Neumayer Olymp 120.71 197 PKPdf 20 44 40.4 +17
SDV Santo Domingo 149.68 24 *eP* PKPdf 20 45 14.5 -2.8
ROSC El Rosal 151.56 34 PKPbc PKPdf 20 45 23.4 +3.3
comp=Z,6.2nm,0.5s,baz=104,slow=19,SNR=7.1
PLCA Paso Flores 156.42 157 PKPbc PKPdf 20 45 32.6 +6.6
comp=Z,1.6nm,0.8s,baz=28,slow=2.7,SNR=3.1
PLCA PKPab PKPab 20 45 48.5 -3.1
comp=Z,4.1nm,0.9s,baz=290,slow=7.0,SNR=3.2
LPAZ La Paz 170.68 73 PKP PKPdf 20 45 37.0 -2.8
comp=Z,1.5nm,1.1s,baz=110,slow=2.6,SNR=3.8
LPAZ La Paz 170.68 73 PKIKP PKPdf 20 45 37.0 -2.8
LPAZ pmax pmax
comp=Z,2.0nm,1.1s

NEIC ***06*** *20:35:35.7, 11.62N×85.66W, h20km, MD4.2(CASC), After CASC.*
CASC 06 20:35:40.4±2.5, 11.30N×85.49W, h6km±7km, MD3.5, ML3.4, 3C-7D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MADN	**Villa Maderas**	**0.12**	**338**	⇓*i*P	Pg	20 35 44.0	+1.0
CONN	**Concepcion**	**0.30**	**333**	⇓*e*P	Pg	20 35 46.8	+0.4
CONN				*e*S	Sg	20 35 50.1	-0.4
LIM1	**Limonal**	**0.64**	**159**	*i* P	Pg	20 35 52.7	-0.5
LIM1				*i* S	Sg	20 36 02.4	+0.7
APON	**Apoyo**	**0.84**	**317**	⇓*e*P	Pb	20 35 58.1	+1.2
TICN	**Tícuantepe**	**1.03**	**315**	*e*P	Pb	20 36 00.6	+0.3
TICN				*e*S	Sb	20 36 13.3	-0.5
CRUN	**El Crucero**	**1.05**	**311**	*e*P	Pb	20 35 57.9	-2.6
WILN	**Americas 2**	**1.10**	**321**	*e*P	Pb	20 36 01.1	-0.3
WILN				*e*S	Sb	20 36 15.1	-0.7
WILN				*e*S	Sb	20 36 15.6	-0.2
MGAN	**Managua**	**1.12**	**319**	⇑*e*P	Pb	20 36 01.5	-0.3
MGAN				*e*		20 36 20.1	
	comp=E,785nm,0.6s						
JTS	**JuntasAbangare**	**1.13**	**152**	*e*Pn	Pn	20 36 00.5	-2.1
JTS				*e*		20 36 15.0	
FORC	**Fortuna**	**1.15**	**135**	*e*P	Pb	20 36 00.2	-2.1
VCR	**Vista de Mar**	**1.17**	**187**	⇑*e*P	Pb	20 36 01.1	-1.6
VCR				*e*S	Sb	20 36 20.7	+2.8
VCR	**Vista de Mar**	**1.17**	**187**	*e*P	Pb	20 36 01.0	-1.7
XAVN	**Gruta Xavier**	**1.18**	**316**	*e*P	Pb	20 36 01.8	-0.9
PYTN	**Playitas**	**1.35**	**336**	⇓*e*P	Pb	20 36 04.7	-1.0
PYTN				*e*S	Sb	20 36 22.1	-1.1
COPN	**Copaltepe**	**1.39**	**309**	⇑*e*P	Pn	20 36 04.8	-1.6
COPN				*e*S	Sb	20 36 22.6	-1.6
MOMJ	**Momotombo**	**1.51**	**317**	*e*P	Pn	20 36 08.4	+0.3
MIRN	**Miramar**	**1.65**	**314**	*e*P	Pn	20 36 09.1	-1.0
VPS2	**Volcan Poas 2**	**1.65**	**132**	*e*P	Pn	20 36 08.6	-1.5
VPS2	**Volcan Poas 2**	**1.65**	**132**	*e*P	Pn	20 36 08.6	-1.6
CNGN	**Cerro Negro**	**1.68**	**315**	⇓*e*P	Pn	20 36 11.3	+0.8
PRS1	**Puriscal**	**1.75**	**138**	⇓*e*P	Pn	20 36 11.1	-0.4
PRS1	**Puriscal**	**1.75**	**138**	*e*P	Pn	20 36 11.0	-0.5
PRS1				*e*S	Sn	20 36 38.6	+4.3
TEL3	**Telica 3**	**1.83**	**314**	*e*P	Pn	20 36 11.7	-1.1
TELN	**Telica**	**1.85**	**315**	*e*P	Pn	20 36 10.7	-2.3
SJS	**Escuela Geolog**	**1.95**	**134**	*e*S	Sn	20 36 41.3	+1.8
SJS	**Escuela Geolog**	**1.95**	**134**	*e*P	Pn	20 36 15.2	+0.8
SJS				*e*S	Sn	20 36 40.5	+1.0
LCR2	**La Lucha 2**	**2.13**	**136**	*e*P	Pn	20 36 15.9	-1.1
LCR2				*e*S	Sn	20 36 43.9	-0.1
LCR2	**La Lucha 2**	**2.13**	**136**	*e*P	Pn	20 36 15.2	-1.7
BUS	**Buena Vista**	**2.43**	**135**	⇓*e*P	Pn	20 36 20.2	-1.0
BUS				*e*S	Sn	20 36 53.6	+2.0
BUS	**Buena Vista**	**2.43**	**135**	*e*P	Pn	20 36 20.0	-1.3

IDC ***06*** *20:39:06.0±1.2, 18.97N×121.01E, mb3.8/6, mb1 4.1/8, mb1mx3.9/20, mbtmp4.0/8, ML3.8/2, MS3.0/1, Ms1 3.0/1, ms1mx2.5/30, Error ellipse: s-maj=38.6km s-min=23.3km az=67.0*
NEIC ***06*** *20:39:07.5±0.8, 18.97N×121.02E, h10km, mb4.3/1, Error ellipse: s-maj=15.5km s-min=14.2km az=117.0*
ISC 06 20:39:09.2±1.0, 19.0N±0.1×121.1E±0.1, h33km, n9, σ0°98/9, mb3.8/7, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**10.20**	**39**	Pn	**P**	**20 41 34.6**	**-1.8**
	1.8nm,0.3s,baz=99,slow=25,SNR=4.7						
JOW				LR	LR	20 45 34.3	
	comp=Z,84nm,20.9s,baz=191,slow=38						
JNU	**Nakatsue**	**16.54**	**30**	Pn	**P**	**20 43 01.7**	**+1.4**
	0.3nm,0.3s,baz=63,slow=4.6,SNR=4.1						
SONM	**Songino Array**	**31.13**	**341**	P	**P**	**20 45 26.7**	**-0.3**
	0.4nm,0.7s,mb3.4,baz=169,slow=9.4,SNR=4.4						
WRA	**Warramunga Arr**	**40.84**	**161**	P	**P**	**20 46 49.5**	**-0.2**
	1.9nm,1.2s,mb3.6,baz=341,slow=9.1,SNR=3.5						
MKAR	**Makanchi Array**	**42.10**	**320**	P	**P**	**20 47 00.1**	**+0.3**
	1.9nm,0.8s,mb3.8,baz=115,slow=9.0,SNR=17						
ZAL	**Zalesovo**	**44.59**	**330**	P	**P**	**20 47 20.0**	**+0.1**
	0.8nm,0.4s,mb3.9,baz=1.1,slow=10.0,SNR=4.6						
KURK	**Kurchatov**	**46.08**	**323**	*e*P	**P**	**20 47 32.1**	**+0.3**
	3.2nm,0.8s,mb4.3						
BVAR	**Borovoye Array**	**51.68**	**323**	P	**P**	**20 48 13.6**	**-1.4**
	0.5nm,0.6s,mb3.6,baz=117,slow=9.9,SNR=5.6						
YKA	**Yellowknife Ar**	**87.73**	**23**	P	**P**	**20 51 56.8**	**+1.3**
	1.2nm,0.6s,mb4.3,baz=308,slow=4.7,SNR=8.9						

IDC 06 20:58:36.2±2.9, 13.12S×167.36E, mb4.2/3, mb1 4.3/3, mb1mx3.9/12, mbtmp4.1/3, Error ellipse: s-maj=102.7km s-min=41.5km az=127.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**30.12**	**227**	P	P	21 04 48.5	-1.5
	3.2nm,0.5s,baz=52,slow=10,SNR=16						
WRA	**Warramunga Arr**	**32.34**	**253**	P	P	21 05 06.7	-2.9
	0.7nm,0.5s,baz=85,slow=9.5,SNR=14						
MKAR	**Makanchi Array**	**96.10**	**316**	P	P	21 12 07.3	+0.2
	0.5nm,0.7s,baz=90,slow=5.8,SNR=3.8						
ARCES	**ARCESS Array B**	**118.72**	**346**	PKP	PKPdf	21 17 24.2	-3.7
	3.3nm,1.2s,baz=90,slow=0.9,SNR=3.6						

NIED ***06*** *21:01:00, 44.00N×147.80E, h23km, Mw3.7 Best double couple: M0:4.32×10^14 NP1:φ=85°, δ=81°, λ=-102°. NP2: φ=318°, δ=14°, λ=-37°.*
JMA ***06*** *21:01:01.1±0.3, 44.01N×147.84E, M4.5*
ISC 06 21:01:02.4±1.8, 44.0N±0.2×148.1E±0.2, h71km±45km, n12, σ0°48/17, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.80**	**251**	P	**P**	**21 01 31.7**	**-0.3**
NEM2				*e*S	**S**	**21 01 53.9**	**+0.1**
JRA	**Rausu**	**2.14**	**270**	P	**P**	**21 01 36.0**	**-0.6**
JRA				*e*S	**S**	**21 02 01.5**	**-0.4**
JNK	**Nakash**	**2.47**	**262**	P	**P**	**21 01 41.0**	**-0.2**
JNK				*e*S	**S**	**21 02 10.0**	**-0.2**
JAK	**Akkeshi**	**2.65**	**249**	P	**P**	**21 01 43.6**	**-0.2**
JAK				*e*S	**S**	**21 02 15.1**	**+0.2**
JTKR	**Abashiri--Toko**	**3.01**	**271**	P	**P**	**21 01 49.0**	**+0.1**
JAR	**Ashorobuto**	**3.20**	**259**	P	**P**	**21 01 51.7**	**+0.1**
JOB	**Onbets**	**3.27**	**252**	P	**P**	**21 01 53.0**	**+0.4**
JOB				*e*S	**S**	**21 02 30.6**	**+0.1**
JMP	**Maruseppu**	**3.41**	**272**	P	**P**	**21 01 54.5**	**+0.1**
JCH	**Churui**	**3.70**	**250**	P	**P**	**21 01 58.4**	**-0.2**
JFR	**Furan**	**4.07**	**260**	P	**P**	**21 02 05.3**	**+1.6**
JNBK	**Urakawa-nobuka**	**4.25**	**248**	P	**P**	**21 02 06.1**	**-0.1**
MAT	**Matsushiro**	**10.58**	**229**	P	**P**	**21 03 32.6**	**-0.6**

NEIC ***06*** *21:04:00.3, 62.68N×148.80W, h55km, ML4.0(PMR), ML3.8(AEIC), After AEIC.*
IDC ***06*** *21:04:04.6±1.7, 64.25N×150.78W, mb3.7/8, mb1 3.9/9, mb1mx3.7/20, mbtmp3.8/9, ML3.8/1, Error ellipse: s-maj=38.0km s-min=15.4km az=6.0*
ISC 06 21:03:59.6±0.2, 62.69N±0.02×148.82W±0.06, h64km±4km, n78, σ0°66/87, mb3.9/7, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUR	**Hurricane**	**0.48**	**308**	P	**P**	**21 04 12.0**	**+0.2**
HUR				S	**S**	**21 04 20.9**	**+0.2**
RND	**Reindeer**	**0.72**	**359**	P	**P**	**21 04 14.9**	**+0.4**
RND				S	**S**	**21 04 25.4**	**-0.1**
CUT	**Chulitna**	**0.73**	**248**	P	**P**	**21 04 14.5**	**-0.1**
SML	**Sawmill**	**0.91**	**165**	P	**P**	**21 04 16.4**	**-0.4**
SML				S	**S**	**21 04 29.4**	**-0.3**
GHO	**Glory Hole Cre**	**0.92**	**183**	P	**P**	**21 04 16.8**	**-0.2**
GHO				S	**S**	**21 04 30.0**	**+0.1**
MCK	**McKinley**	**1.05**	**357**	P	**P**	**21 04 19.2**	**+0.5**
MCK				S	**S**	**21 04 33.5**	**+0.6**
SCM	**Sheep Creek Mo**	**1.10**	**140**	P	**P**	**21 04 19.0**	**-0.4**
PMR	**Palmer**	**1.11**	**188**	P	**P**	**21 04 19.1**	**-0.4**
PMR				S	**S**	**21 04 34.0**	**-0.2**
KNK	**Knik Glacier**	**1.29**	**172**	P	**P**	**21 04 22.3**	**+0.3**
SDG	**Sourdough**	**1.52**	**95**	P	**P**	**21 04 25.8**	**+0.5**
PAX	**Paxson**	**1.56**	**78**	P	**P**	**21 04 26.4**	**+0.6**
CFI	**College Fiord**	**1.59**	**161**	P	**P**	**21 04 26.4**	**+0.3**
FIB	**Fire Island**	**1.66**	**203**	P	**P**	**21 04 28.6**	**+1.5**
RC01	**Rabbit Creek A**	**1.66**	**196**	P	**P**	**21 04 27.6**	**+0.5**
TZL	**Tazlina**	**1.71**	**111**	P	**P**	**21 04 28.7**	**+0.9**
KLU	**Klutina**	**1.81**	**130**	P	**P**	**21 04 29.5**	**+0.3**
WRH	**Wood River Hil**	**1.82**	**10**	P	**P**	**21 04 29.3**	**0.0**
PWL	**Port Wells**	**1.85**	**173**	P	**P**	**21 04 30.1**	**+0.5**
HDA	**Harding Lake**	**1.92**	**25**	P	**P**	**21 04 30.8**	**+0.2**
JPK	**Jack Peak**	**1.95**	**146**	P	**P**	**21 04 31.1**	**+0.1**
VLZ	**Valdez**	**1.95**	**142**	P	**P**	**21 04 30.9**	**-0.2**
VLZ				S	**S**	**21 04 54.4**	**-0.1**
GLI	**Glacier Island**	**1.99**	**155**	P	**P**	**21 04 31.3**	**-0.3**
GLI				S	**S**	**21 04 55.7**	**+0.4**
CCB	**Clear Creek Bu**	**2.02**	**12**	P	**P**	**21 04 31.8**	**-0.2**
DIV	**Divide**	**2.13**	**136**	P	**P**	**21 04 33.1**	**-0.4**
SPU	**Mount Spurr**	**2.15**	**227**	*e*P	**P**	**21 04 34.1**	**+0.2**
WACK	**Wrangell Chich**	**2.21**	**107**	P	**P**	**21 04 35.4**	**+0.7**
MPA	**Moose Pass**	**2.22**	**187**	P	**P**	**21 04 35.4**	**+0.5**
CKL	**Chakachamna La**	**2.24**	**230**	P	**P**	**21 04 35.9**	**+0.8**
COLA	**College**	**2.24**	**11**	P	**P**	**21 04 35.1**	**0.0**
FID	**Port Fidalgo**	**2.24**	**149**	P	**P**	**21 04 35.0**	**-0.2**
IL1	**Eielson Array**	**2.26**	**21**	P	**P**	**21 04 35.1**	**-0.3**
ILAR	**Eielson Array**	**2.26**	**21**	Pn	**P**	**21 04 35.1**	**-0.4**
	20nm,0.3s,baz=202,slow=15,SNR=128						
ILAR				Sn	**S**	**21 05 00.9**	**-1.2**
	70nm,0.3s,baz=207,slow=23,SNR=32						
SLKM	**Skilak Lake**	**2.29**	**198**	P	**P**	**21 04 36.5**	**+0.7**
MENT	**Mentasta**	**2.35**	**82**	P	**P**	**21 04 37.4**	**+0.6**
DOT	**Dot Lake**	**2.36**	**64**	P	**P**	**21 04 37.7**	**+0.8**
GLM	**Gilmore Dome**	**2.40**	**15**	P	**P**	**21 04 37.2**	**-0.1**
HIN	**Hinchinbrook I**	**2.55**	**153**	P	**P**	**21 04 39.2**	**-0.4**
EYAK	**Cordova Ski Ar**	**2.60**	**144**	P	**P**	**21 04 40.2**	**-0.1**
SEW	**Seward**	**2.61**	**187**	P	**P**	**21 04 41.2**	**+0.8**
BMRM	**Bremner River**	**2.64**	**129**	P	**P**	**21 04 40.1**	**-0.7**
GLB	**Gilahina Butte**	**2.67**	**116**	P	**P**	**21 04 41.3**	**+0.1**
LTI	**Latouche**	**2.70**	**170**	P	**P**	**21 04 40.6**	**-1.0**
RDT	**Redoubt**	**2.73**	**221**	P	**P**	**21 04 42.2**	**+0.1**
RSO	**Redoubt South**	**2.92**	**222**	*e*P	**P**	**21 04 44.8**	**0.0**
RAGM	**Ragged Mountai**	**3.04**	**137**	P	**P**	**21 04 45.9**	**-0.7**
BRLK	**Bradley Lake**	**3.10**	**200**	P	**P**	**21 04 47.5**	**+0.2**
BC01	**Beaver Creek A**	**3.22**	**80**	P	**P**	**21 04 48.8**	**-0.2**
ILIM	**Iliamna**	**3.29**	**219**	P	**P**	**21 04 50.2**	**+0.3**
TTA	**Tatalina**	**3.31**	**277**	P	**P**	**21 04 49.7**	**-0.6**
INE	**Iliamna NE**	**3.33**	**220**	P	**P**	**21 04 50.9**	**+0.3**
ILW	**Iliamna West**	**3.36**	**220**	P	**P**	**21 04 51.3**	**+0.4**
CNPM	**China Poot**	**3.38**	**201**	P	**P**	**21 04 51.5**	**+0.2**
TGL	**Tana Glacier**	**3.44**	**122**	P	**P**	**21 04 52.7**	**+0.5**
BALM	**Baldy**	**3.48**	**115**	P	**P**	**21 04 52.1**	**-0.6**
MID	**Middleton Isla**	**3.48**	**159**	*e*P	**P**	**21 04 51.8**	**-0.9**
SVW2	**Sparrevohn**	**3.58**	**247**	P	**P**	**21 04 53.5**	**-0.5**
WAX	**Waxell Ridge**	**3.63**	**126**	P	**P**	**21 04 54.7**	**0.0**
IM3	**Indian Mountai**	**3.94**	**329**	P	**P**	**21 04 58.5**	**-0.6**
AUI	**Augustine Isla**	**4.04**	**216**	P	**P**	**21 05 00.8**	**+0.3**
COLD	**Coldfoot**	**4.60**	**353**	P	**P**	**21 05 07.8**	**-0.5**
KAHC	**Katmai Hardscr**	**5.07**	**220**	P	**P**	**21 05 14.1**	**-0.7**
BM3	**Burnt Mountain**	**5.08**	**19**	P	**P**	**21 05 14.2**	**-0.7**
**KDAK

ARCES	ARCESS Array B	48.00	3	P		P	21 12 33.4 +0.3
	0.9nm,0.6s,mb4.0,baz=9.5,slow=7.4,SNR=8.9						
SONM	Songino Array	54.81	307	P		P	21 13 24.1 -0.5
	0.5nm,0.7s,mb3.6,baz=357,slow=5.1,SNR=5.1						
FINES	FINESS Array B	56.13	3	P		P	21 13 34.8 +0.8
	0.4nm,0.5s,mb3.7,baz=356,slow=9.3,SNR=5.4						
HFS	Hagfors	56.78	10	P		P	21 13 39.2 +0.5
	2.3nm,0.9s,mb4.2,baz=45,slow=13,SNR=4.9						
HFS	Hagfors	56.78	10	P		P	21 13 39.2 +0.5
EKA	Eskdalemuir Ar	59.30	22	P		P	21 13 58.3 +2.0
	0.8nm,0.3s,mb4.2,baz=333,slow=5.3,SNR=9.1						
BVAR	Borovoye Array	60.58	334	P		P	21 14 03.3 -1.8
	0.3nm,0.3s,mb3.9,baz=37,slow=7.4,SNR=6.2						
MKAR	Makanchi Array	63.53	323	P		P	21 14 24.9 +0.1
	0.4nm,0.5s,mb3.7,baz=45,slow=6.1,SNR=4.9						

MAN 06 21:14:21.5, 11.71N×126.01E, h25km, mb4.6, ML3.5, MS3.4, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
BESP	Borongan	0.57	259	*e*P		Pb	21 14 33.6	+0.8
BESP				*e*S		Sb	21 14 43.2	+2.7
PLP	Palo	1.14	242	*e*P		Pn	21 14 43.3	+1.1
PLP				*i* S		Sb	21 14 57.5	+0.6
CNP	Catarman	1.54	301	*e*P		Pn	21 14 47.3	-0.4
CNP				*e*S		Sn	21 15 07.1	+0.1
SCPH	Surigao	1.98	195	*e*P		Pn	21 14 53.4	-0.7
SCPH				*e*S		Sn	21 15 23.5	+5.2
PVCP	Virac	2.60	316	*e*P		Pn	21 15 07.9	+4.9

*IDC **06** 21:18:21.0±0.5, 19.15N×121.03E, mb4.3/21, mb1 4.4/23, mb1mx4.4/26, mbtmp4.4/23, ML4.2/2, MS3.9/13, Ms1 3.9/13, ms1mx3.8/24, Error ellipse: s-maj=21.9km s-min=13.2km az=62.0*

*MOS **06** 21:18:24.6±1.2, 19.16N×121.26E, h33km, mb4.8/38, Error ellipse: s-maj=12.2km s-min=6.3km az=108.3*

*BJI **06** 21:18:25.9, 19.52N×121.01E, h18km, mB4.9, mb4.6, ML4.2, Ms4.3, Msz4.0*

*NEIC **06** 21:18:29.5±0.4, 19.41N×121.18E, mb4.8/27, Error ellipse: s-maj=9.2km s-min=7.4km az=153.0*

ISC 06 21:18:25.7±0.3, 19.32N±0.03×121.17E±0.04, h35km, h35km±4.1km: pP-P, n198, σ1º04/199, mb4.6/67, MS4.0/23, 5C-3D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
BCPH	Baguio City Da	2.98	191	⇑*i*P		P	21 19 10.6	-1.1
BCPH				*i* S		S	21 19 47.3	+0.6
PCPH	Palayan	3.74	181	*e*P		P	21 19 13.6	-9.0
NACB	Ninganchiao	4.84	5	*e*Pn		P	21 19 37.7	-0.4
NACB				*e*Sn		S	21 20 32.3	-1.4
TATO	Taipei	5.63	3	*e*Pn		P	21 19 50.7	+1.5
	231nm,0.7s							
TATO				*e*Sn		S	21 20 54.0	+0.3
QZH	Quanzhou	6.08	337	P		P	21 19 53.4	-2.1
QZH				S		S	21 20 58.7	-6.1
QZH				Smax				
	comp=N,140nm,0.8s							
QZH				Smax				
	comp=E,200nm,0.7s							
GZH	Guangzhou	8.20	299	P		P	21 20 19.6	-5.6
GZH				S		S	21 21 46.8	-11
GZH				Smax				
	comp=N,75nm,0.8s							
GZH				Smax				
	comp=E,74nm,0.9s							
JOW	Kunigami	9.93	40	Pn		P	21 20 47.1	-2.0
	comp=E,5.1nm,0.3s,baz=252,slow=12,SNR=12							
JOW				LR		LR	21 25 03.1	
	comp=E,757nm,20.4s,baz=304,slow=40							
QIZ	Qiongzhong	10.71	270	*e*P		P	21 20 52.7	-7.1
	comp=E,16nm,0.6s							
QIZ				*e*S		S	21 22 42.7	-17
SSE	Sheshan	11.72	0	P		P	21 21 09.9	-3.6
SSE				S		S	21 23 17.5	-6.7
SSE				AMB		AMB		
	comp=Z,37nm,0.9s							
SSE				AMB		AMB		
	comp=Z,556nm,4.4s							
SSE				LR		LR		
	comp=N,178nm,20.6s							
SSE				LR		LR		
	comp=E,384nm,20.6s							
SSE				LR		LR		
	comp=Z,160nm,19.9s							
NJ2	Nanjing	12.84	351	*e*P		P	21 21 27.2	-1.4
NJ2				AP			21 21 34.9	
NJ2				XP			21 21 37.6	
NJ2				PP		PP	21 21 39.5	+1.0
NJ2				S		S	21 23 49.0	-2.3
NJ2				XS			21 24 02.0	
NJ2				AMB		AMB		
	comp=Z,10.0nm,0.6s							
NJ2				AMB		AMB		
	comp=Z,360nm,3.8s							
NJ2				LR		LR		
	comp=N,2μm,12.7s							
NJ2				LR		LR		
	comp=E,3μm,13.9s							
GYA	Guiyang	15.13	301	P		P	21 21 57.0	-1.6
GYA				S		S	21 24 39.6	-6.0
GYA				AMB		AMB		
	comp=Z,10.0nm,1.3s							
GYA				AMB		AMB		
	comp=Z,310nm,4.8s							
GYA				LR		LR		
	comp=N,590nm,12.0s							
GYA				LR		LR		
	comp=E,530nm,15.3s							
GYA				LR		LR		
	comp=Z,470nm,15.3s							
ENH	Enshi	15.20	318	*e*P		P	21 21 58.1	-1.3
	comp=Z,20nm,0.9s							
JNU	Nakatsue	16.25	30	Pn		P	21 22 13.6	+0.6
	comp=Z,0.7nm,0.3s,baz=205,slow=8.6,SNR=18							
JNU				LR		LR	21 29 26.5	
	comp=Z,120nm,19.5s,baz=53,slow=40							
TIA	Tai'an	17.20	349	*e*P		P	21 22 28.3	+3.4
KMI	Kunming	18.00	292	P		P	21 22 36.2	+1.2
KMI				AP			21 22 41.9	
KMI				XP			21 22 44.0	
KMI				PP		PP	21 22 51.1	+1.2
KMI				PPP		PPP	21 23 02.4	+3.5
KMI				S		S	21 25 55.2	+3.4
KMI				XS			21 26 02.5	
KMI				AMB		AMB		
	comp=Z,13nm,1.6s							
KMI				AMB		AMB		
	comp=Z,150nm,5.0s							
KMI				LR		LR		
	comp=N,2μm,17.3s							
KMI				LR		LR		
	comp=E,1μm,18.0s							
KMI				LR		LR		
	comp=Z,699nm,17.3s							
XAN	Xi'an	18.27	326	P		P	21 22 38.4	+0.1
XAN				AP			21 22 46.3	
XAN				AMB		AMB		
	comp=Z,12nm,1.3s							
KS15	Wonju Array Si	18.98	17	*e*P		P	21 22 46.1	-0.8
CD2	Chengdu	19.50	310	⇑*i*P		P	21 22 51.8	-1.0
CD2				PP		PP	21 23 06.4	-4.4
CD2				AMB		AMB		
	comp=Z,40nm,1.0s							
CD2				AMB		AMB		
	comp=Z,160nm,5.1s							
CD2				LR		LR		
	comp=N,630nm,12.6s							
CD2				LR		LR		
	comp=Z,450nm,12.3s							
DL2	Dalian	19.52	1	P		P	21 22 53.9	+1.0
DL2				S		S	21 26 33.4	+7.6
DL2				AMB		AMB		
	comp=Z,10.0nm,0.7s							
DL2				LR		LR		
	comp=E,340nm,11.9s							
DL2				LR		LR		
	comp=Z,330nm,15.5s							
NST	Nakhon Sawan	20.39	263	P		P	21 23 02.0	-0.3
CHG	Chiang Mai	21.01	272	⇑P		P	21 23 09.1	+0.3
	comp=Z,22nm,1.2s,mb4.4							
BDT	Bhumibol Dam	21.15	268	P		P	21 23 18.0	+7.9
JHJ	Hachijo jima 2	21.58	47	LR		LR	21 30 32.9	
	comp=Z,248nm,21.3s,MS3.6,baz=200,slow=34							
NNT	Nongplab	21.66	255	P		P	21 23 14.0	-1.3
LZH	Lanzhou	22.61	321	P		P	21 23 26.1	+1.4
LZH				AMB		AMB		
	comp=Z,100nm,1.2s,mb5.1							
LZH				AMB		AMB		
	comp=Z,510nm,4.0s							
LZH				LR		LR		
	comp=Z,870nm,18.7s,MS4.2							
MAJO	Matsushiro	22.76	38	*e*P		P	21 23 26.5	+0.4
	comp=Z,25nm,1.1s,mb4.5							
MAJO	Matsushiro	22.76	38	*e*P		P	21 23 26.5	+0.4
MAJO				pmax		pmax		
	comp=Z,25nm,1.1s,mb4.6							
MAT	Matsushiro	22.76	38	P		P	21 23 26.3	+0.2
MAT				*e*S		S	21 27 39.0	+11
MAT	Matsushiro	22.76	38	*e*P		P	21 23 26.0	-0.1
	comp=Z,20nm,1.2s,mb4.4							
MAT				S		S	21 27 40.0	+12
MAT	Matsushiro	22.76	38	*e*P		P	21 23 26.0	-0.1
MAT				pmax		pmax		
	comp=Z,20nm,1.2s,mb4.4							
HHC	Hu-ho-hao-te	22.98	341	*e*P		P	21 23 29.0	+0.8
HHC				XP			21 23 37.3	
HHC				PP		PP	21 23 58.3	-0.1
HHC				PCP		PcP	21 27 20.4	+1.4
HHC				S		S	21 27 33.2	+1.3
HHC				XS			21 27 42.9	
HHC				SS		SS	21 28 17.4	+0.3
HHC				AMB		AMB		
	comp=Z,31nm,1.2s,mb4.6							
HHC				LR		LR		
	comp=N,517nm,16.1s,MS4.2							
HHC				LR		LR		
	comp=E,614nm,17.2s,MS4.2							
HHC				LR		LR		
	comp=Z,379nm,25.0s							
BTO	Baotou	23.27	338	*e*P		P	21 23 30.9	-0.1
CN2	Changchun	24.67	7	*e*P		P	21 23 44.6	0.0
CN2				*e*AP			21 23 56.3	
CN2				*e*S		S	21 28 01.3	+0.1
CN2				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.4							
CN2				AMB		AMB		
	comp=Z,210nm,4.0s							
CN2				LR		LR		
	comp=N,440nm,13.0s,MS4.3							
CN2				LR		LR		
	comp=E,470nm,13.0s,MS4.3							
CN2				LR		LR		
	comp=Z,460nm,15.0s,MS4.1							
MDJ	Mudanjiang	26.18	14	P		P	21 24 00.6	+1.7
MDJ				AP		pP	21 24 05.9	-2.6
MDJ				S		S	21 28 35.9	+10
MDJ				AMB		AMB		
	comp=Z,16nm,0.9s,mb4.5							
MDJ				AMB		AMB		
	comp=Z,109nm,4.2s							
MDJ				LR		LR		
	comp=N,103nm,22.5s,MS4.0							
MDJ				LR		LR		
	comp=E,460nm,22.5s,MS4.0							
MDJ				LR		LR		
	comp=Z,153nm,22.5s,MS3.5							
MDJ	Mudanjiang	26.18	14	*e*P		P	21 23 59.8	+0.9
	comp=Z,11nm,0.8s,mb4.4							
GTA	Gaotai	27.21	322	*e*P		P	21 24 08.9	+0.6
GTA				AP		pP	21 24 19.0	+0.9
GTA				XP		sP	21 24 23.4	+1.0
GTA				AMB		AMB		
	comp=Z,5.0nm,1.1s,mb4.0							
GTA				AMB		AMB		
	comp=Z,105nm,4.6s							
GTA				LR		LR		
	comp=N,214nm,15.3s,MS4.2							
GTA				LR		LR		
	comp=E,430nm,13.4s,MS4.2							
GTA				LR		LR		
	comp=Z,406nm,17.2s,MS4.0							
LSA	Lhasa	29.12	297	P		P	21 24 28.0	+2.4
LSA	Lhasa	29.12	297	*e*P		P	21 24 26.6	+0.9
	comp=Z,8.8nm,1.0s,mb4.4							
LSA	Lhasa	29.12	297	*e*P		P	21 24 26.6	+1.0
LSA				pmax		pmax		
	comp=Z,9.0nm,1.0s,mb4.5							
HIA	Hailar	29.89	358	*e*P		P	21 24 31.6	-0.7
	comp=Z,14nm,0.9s,mb4.7							
HIA	Hailar	29.89	358	*e*P		P	21 24 31.6	-0.7
HIA				pmax		pmax		
	comp=Z,14nm,0.9s							
SONM	Songino Array	30.87	340	P		P	21 24 41.1	0.0
	comp=Z,5.0nm,0.8s,mb4.4,baz=157,slow=9.5,SNR=45							
SONM				LR		LR	21 37 53.9	
	comp=Z,238nm,21.4s,MS3.8,baz=40,slow=38							
SONM	Songino Array	30.87	340	P		P	21 24 41.1	+0.1
SONM				pmax		pmax		
	comp=Z,5.0nm,0.8s							
SONM				MLR		MLR		
	comp=Z,238nm,21.4s							
YSS	Yuzh-Sakhalins	32.73	28	*e*P		P	21 24 57.8	+0.5
YSS	Yuzh-Sakhalins	32.73	28	*e*P		P	21 24 57.5	+0.1
PKI	Pulchoki	33.73	291	*e*P		P	21 25 05.3	-0.8
	comp=Z,21nm,0.8s,mb5.1							
KKN	Kakani	33.86	291	*e*P		P	21 25 06.6	-0.7
	comp=Z,28nm,0.9s,mb5.2							
DMN	Daman	34.00	291	*e*P		P	21 25 07.7	-0.7
	comp=Z,28nm,1.0s,mb5.2							
ZAK	Zakamensk	34.10	339	⇑*e*P		P	21 25 09.0	-0.1
ZAK				*e*			21 27 47.2	
ZAK				pmax		pmax		
	comp=Z,3.0nm,1.1s,mb4.1							
ZAK				pmax		pmax		
	comp=Z,1.0nm,1.1s,mb3.7							
ZAK				pmax		pmax		
	comp=Z,1.0nm,1.2s,mb3.6							
GKN	Gorkha	34.45	292	*e*P		P	21 25 11.2	-1.2
	comp=Z,31nm,0.9s,mb5.2							
TLY	Talaya	35.11	341	*e*P		P	21 25 18.9	+1.1
	comp=Z,10nm,0.9s,mb4.8							
TLY	Talaya	35.11	341	*e*P		P	21 25 19.3	+1.6
TLY				*e*		pP	21 25 27.3	-0.4
TLY				*e*			21 30 47.1	
TLY				pmax		pmax		
	comp=Z,9.0nm,0.9s,mb4.7							
TLY				MLR		MLR		
	comp=Z,193nm,22.0s,MS3.8							
KOLN	Koldanda	35.34	291	*e*P		P	21 25 19.0	-1.0
	comp=Z,27nm,0.9s,mb5.2							
IRK	Irkutsk	35.41	342	*e*P		P	21 25 21.2	+0.9
IRK				pmax		pmax		
	comp=Z,17nm,2.5s,mb4.5							
MOY	Mondy	35.96	339	*e*P		P	21 25 26.9	+1.9
WMQ	Urumqi	37.14	319	P		P	21 25 36.0	+1.0
WMQ				AP		pP	21 25 42.0	-3.1
WMQ				XP		sP	21 25 45.0	-4.5
WMQ				PP		PP	21 27 03.0	+0.7
WMQ				S		S	21 31 21.0	+2.4
WMQ				SS		SS	21 33 52.0	+2.1
WMQ				AMB		AMB		
	comp=Z,14nm,1.0s,mb4.8							
WMQ				AMB		AMB		
	comp=Z,21nm,7.0s							
WMQ				LR		LR		
	comp=N,241nm,19.0s,MS4.1							
WMQ				LR		LR		
	comp=E,154nm,19.0s,MS4.1							
WMQ				LR		LR		
	comp=Z,149nm,17.0s,MS3.9							
FITZ	Fitzroy Crossi	37.45	173	P		P	21 25 35.0	-2.8
	comp=Z,3.9nm,0.7s,mb4.4,baz=56,slow=1.7,SNR=4.4							
BOD	Bodaibo	38.80	354	*e*P		P	21 25 50.6	+1.9
WRAB	Tennant Creek	41.10	161	P		P	21 26 03.3	-4.9
WRAB				*e*PcP		PcP	21 28 07.3	-0.6
WRA	Warramunga Arr	41.10	161	P		P	21 26 03.9	-4.3
	comp=Z,1.6nm,0.7s,mb3.8,baz=342,slow=9.1,SNR=11							
WRA				PcP		PcP	21 28 06.5	-1.4
	comp=Z,1.7nm,0.5s,baz=343,slow=3.1,SNR=12							
WRA	Warramunga Arr	41.10	161	P		P	21 26 03.9	-4.3
WRA							21 28 06.5	
WRA				pmax		pmax		
	comp=Z,2.0nm,0.7s							
WRA				pmax		pmax		
	comp=Z,2.0nm,0.5s							
MKAR	Makanchi Array	41.92	320	P		P	21 26 14.8	+0.2
	comp=Z,11nm,0.9s,mb4.5,baz=114,slow=8.9,SNR=65							
MKAR				LR		LR	21 44 24.2	
	comp=Z,124nm,20.3s,MS3.8,baz=250,slow=37							
MKAR	Makanchi Array	41.92	320	P		P	21 26 14.8	+0.2
MKAR				LR		LR	21 44 24.2	
MKAR	Makanchi Array	41.92	320	P		P	21 26 14.8	+0.2
MKAR				pmax		pmax		
	comp=Z,11nm,0.9s							
MKAR				MLR		MLR		
	comp=Z,124nm,20.3s							
YAK	Yakutsk	43.08	6	*e*P		P	21 26 21.7	-2.2
	comp=Z,22nm,0.8s,mb4.9							
YAK	Yakutsk	43.08	6	*d i*P		P	21 26 23.8	-0.1
YAK				pmax		pmax		
	comp=Z,16nm,0.7s,mb4.9							
ZAL	Zalesovo	44.37	330	P		P	21 26 34.0	-0.4
	comp=Z,5.3nm,1.0s,mb4.2,baz=353,slow=9.8,SNR=23							
ZAL				LR		LR	21 45 10.9	
	comp=Z,301nm,22.0s,MS4.2,baz=344,slow=36							
ZAL	Zalesovo	44.37	330	P		P	21 26 34.0	-0.4
ZAL				pmax		pmax		
	comp=Z,5.0nm,1.0s							
ZAL				MLR		MLR		
	comp=Z,301nm,22.0s							
PET	Petropavlovsk	44.37	32	P		P	21 26 34.4	0.0
	comp=Z,14nm,0.9s,mb4.7							
PET	Petropavlovsk	44.37	32	*e*P		P	21 26 30.4	-4.1
PET				*e*S		S	21 32 58.2	-7.8
PET				pmax		pmax		
	comp=Z,14nm,0.8s,mb4.7							
PET				MLR		MLR		
	comp=Z,100nm,20.0s,MS3.7							
MA2	Magadan	45.49	21	P		P	21 26 42.4	-0.9
	comp=Z,15nm,1.2s,mb4.7							
MA2	Magadan	45.49	21	P		P	21 26 42.4	-0.9
MA2				pmax		pmax		
	comp=Z,15μm,1.2s							
AAK	Ala-Archa	45.56	311	P		P	21 26 44.3	+0.2
AAK	Ala-Archa	45.56	311	*i* P		P	21 26 45.2	+1.1
AAK				pmax		pmax		
	comp=Z,5.0nm,1.3s,mb4.3							
NVS	Novosibirsk	45.64	330	*e*P		P	21 26 44.0	-0.6
NVS				pmax		pmax		
	comp=N,8.0nm,1.3s							
NVS				pmax		pmax		
	comp=E,12nm,1.3s							
NVS				pmax		pmax		
	comp=Z,14nm,1.3s,mb4.7							
KURK	Kurchatov	45.88	323	*e*P		P	21 26 47.1	+0.6
	comp=Z,21nm,0.9s,mb5.1							
KURK	Kurchatov	45.88	323	*e*P		P	21 26 47.1	+0.6
KURK				pmax		pmax		
	comp=Z,21nm,0.9s,mb5.1							
HNR	Honiara	47.72	123	LR		LR	21 43 45.8	
	comp=Z,143nm,19.7s,MS4.0,baz=326,slow=32							
SEY	Seymchan	48.55	18	*i* P		P	21 27 07.8	+0.5
BVAR	Borovoye Array	51.48	323	P		P	21 27 29.5	-0.2
	comp=Z,3.0nm,0.8s,mb4.3,baz=108,slow=9.4,SNR=20							
BVAR	Borovoye Array	51.48	323	P		P	21 27 29.5	-0.3
BVAR				pmax		pmax		
	comp=Z,3.0nm,0.8s							
BRVK	Borovoye	51.55	323	*e*P		P	21 27 30.3	0.0
	comp=Z,14nm,1.2s,mb4.8							
BRVK	Borovoye	51.55	323	*e*P		P	21 27 30.3	0.0
BRVK				pmax		pmax		
	comp=Z,14nm,1.2s,mb4.8							
FX1	Attu Island--F	52.12	37	P		P	21 27 34.9	+0.3
	comp=Z,4.3nm,0.6s,mb4.6,baz=227,slow=10,SNR=4.6							
FX1	Attu Island--F	52.12	37	P		P	21 27 34.9	+0.3
FX1				pmax		pmax		
	comp=Z,4.0nm,0.6s							
TIXI	Tiksi	52.52	3	*d i*P		P	21 27 36.8	-0.6
TIXI				pmax		pmax		
	comp=Z,22nm,1.0s,mb5.0							
STKA	Stephens Creek	54.55	159	P		P	21 27 51.2	-1.6
	comp=Z,2.5nm,0.7s,mb4.3,baz=322,slow=20,SNR=3.8							
STKA	Stephens Creek	54.55	159	*e*P		P	21 27 50.7	-2.2
BILL	Bilibino	56.26	19	P		P	21 28 03.7	-1.0
	comp=Z,34nm,1.5s,mb5.2							
BILL	Bilibino	56.26	19	*i* P		P	21 28 03.9	-0.8
BILL				*i* *PP		pP	21 28 16.1	+0.9
BILL				pmax		pmax		
	comp=Z,12nm,1.3s,mb4.8							
SVE	Sverdlovsk	57.98	326	*e*P		P	21 28 16.5	-0.6
SVE				*e*		pP	21 28 25.0	-2.6
SVE				*e*			21 29 15.0	
SVE				pmax		pmax		
	comp=Z,44nm,1.1s,mb5.4							
SVE				MLR		MLR		
	comp=N,100nm,16.0s,MS4.2							
SVE				MLR		MLR		
	comp=E,100nm,16.0s,MS4.2							
SVE				MLR		MLR		
	comp=Z,200nm,16.0s,MS4.3							
ARU	Arti	59.01	325	*e*P		P	21 28 23.6	-0.7
	comp=Z,28nm,1.3s,mb5.1							
ARU	Arti	59.01	325	⇓*i*P		P	21 28 23.9	-0.4
ARU				*e*			21 30 32.9	
ARU				*e*PPP		PPP	21 31 58.8	-2.3
ARU				*e*S		S	21 36 29.5	+2.8
ARU				*e*SS		SS	21 40 25.4	+2.9
ARU				pmax		pmax		
	comp=Z,19nm,1.5s,mb4.9							
GNI	Garni	67.59	306	P		P	21 29 21.9	+0.8
	comp=Z,0.7nm,0.3s,mb4.1,baz=344,slow=21,SNR=3.7							
GNI	Garni	67.59	306	*i* P		P	21 29 22.6	+1.6
GNI				pmax		pmax		
	comp=Z,15nm,1.7s							
GOF	Gofitskoye	68.31	312	*e*P		P	21 29 33.8	+8.4
KIV	Kislovodsk	68.67	311	*c e*P		P	21 29 28.3	+0.6
KIV				*e*		pP	21 29 37.8	-0.6
KIV				*i*			21 29 49.1	
KIV				pmax		pmax		
	comp=Z,8.0nm,1.0s,mb4.6							
KIV				MLR		MLR		
	comp=Z,100nm,18.0s,MS4.1							
OBN	Obninsk	71.32	323	P		P	21 29 41.3	-2.3
	comp=Z,17nm,1.1s,mb4.9							
OBN	Obninsk	71.32	323	P		P	21 29 43.2	-0.4
OBN				*e*		pP	21 29 54.9	+0.6
OBN				pmax		pmax		
	comp=Z,12nm,1.2s,mb4.7							
OBN				MLR		MLR		
	comp=Z,100nm,16.0s,MS4.2							
KAMS	Al Khamasin	71.39	286	P		P	21 29 43.2	-1.4
RSO	Redoubt South	71.47	31	*e*P		P	21 29 44.6	+0.2
KDAK	Kodiak Island	71.89	34	*e*P		P	21 29 46.5	-0.4
	comp=Z,14nm,0.7s,mb5.0							
AFFS	'Afif	71.95	290	P		P	21 29 47.4	-0.4
HILS	Ha'il	72.22	293	P		P	21 29 49.0	-0.4
ANN	Anapa	72.28	312	*e*P		P	21 29 42.2	-7.3
ANN				*e*			21 29 48.5	
ANN				pmax		pmax		
	comp=Z,15nm,1.4s,mb4.7							
ANN				MLR		MLR		
	comp=N,164nm,19.0s,MS4.5							
ANN				MLR		MLR		
	comp=E,170nm,19.0s,MS4.5							
ANN				MLR		MLR		
	comp=Z,164nm,19.0s,MS4.3							
TATS	Tathlith	72.59	285	P		P	21 29 51.3	-0.5
MALT	Malatya	72.73	305	*e*P		P	21 29 52.7	+0.4
	comp=Z,3.2nm,0.9s,mb4.2							
MALT	Malatya	72.73	305	*e*P		P	21 29 52.7	+0.4
MALT				pmax		pmax		
	comp=Z,3.0nm,0.9s,mb4.2							
MCK	McKinley	72.82	28	*e*P		P	21 29 52.0	-0.4
	comp=Z,14nm,1.1s,mb4.8							
MCK	McKinley	72.82	28	*e*P		P	21 29 52.0	-0.3
MCK				pmax		pmax		
	comp=Z,15nm,1.1s,mb4.8							
DJNS	Zahran al Janu	73.00	283	P		P	21 29 54.4	0.0
PMR	Palmer	73.07	30	*e*P		P	21 29 51.7	-2.1
	comp=Z,9.5nm,0.7s,mb4.8							
PMR	Palmer	73.07	30	*e*P		P	21 29 51.7	-2.1
PMR				pmax		pmax		
	comp=Z,9.0nm,0.7s,mb4.8							
SML	Sawmill	73.41	30	*e*P		P	21 29 55.6	-0.2
ILAR	Eielson Array	73.53	27	P		P	21 29 55.7	-0.8
	comp=Z,2.0nm,0.9s,mb4.0,baz=266,slow=4.8,SNR=16							
ILAR	Eiel

AFI Afiamalu 73.80 111 P **P** **21 29 59.3 +0.3**
AFI pmax pmax
comp=Z,5.0nm,0.2s,mb5.1
ARCES ARCESS Array B 74.03 339 P **P** **21 29 58.2 -1.1**
comp=Z,2.7nm,0.8s,mb4.2,baz=72,slow=7.7,SNR=6.0
ARCES LR LR 22 06 26.9
comp=Z,134nm,18.2s,MS4.3,baz=274,slow=39
ARCES ARCESS Array B 74.03 339 P **P** **21 29 58.2 -1.1**
ARCES LR LR 22 06 26.9
ARCES ARCESS Array B 74.03 339 P **P** **21 29 58.2 -1.1**
ARCES pmax pmax
comp=Z,3.0nm,0.8s
ARCES MLR MLR
comp=Z,134nm,18.2s
BLJS Baljurashi 74.21 286 P **P** **21 30 01.4 +0.1**
DIV Divide 74.74 30 *e*P **P** **21 30 03.8 +0.2**
comp=Z,66nm,1.3s,mb5.4
FINES FINESS Array B 75.63 330 P **P** **21 30 07.2 -1.4**
comp=Z,2.2nm,0.8s,mb4.1,baz=45,slow=2.7,SNR=6.5
FINES FINESS Array B 75.63 330 *i* P **P** **21 30 10.1 +1.5**
FINES pmax pmax
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 76.07 307 P **P** **21 30 10.8 -0.8**
comp=Z,0.6nm,0.6s,mb3.7,baz=45,slow=5.2,SNR=4.3
BRTR Keskin Array B 76.07 307 P **P** **21 30 10.8 -0.8**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 76.50 319 P **P** **21 30 11.9 -1.9**
comp=Z,2.3nm,0.7s,mb4.2,baz=60,slow=5.4,SNR=12
AKASG Malin Array Be 76.50 319 P **P** **21 30 11.9 -1.9**
AKASG pmax pmax
comp=Z,2.0nm,0.7s
TBKS Tabuk 76.53 295 P **P** **21 30 14.8 +0.3**
DBAS Duba 77.28 295 P **P** **21 30 18.8 +0.1**
ALWS Ilw as Safayha 77.51 297 P **P** **21 30 20.7 +0.7**
JMOS Jabal al Moall 77.51 297 P **P** **21 30 19.2 -0.8**
BDAS Al Bad' 77.71 296 P **P** **21 30 20.6 -0.4**
INK Inuvik 77.72 22 *e*P **P** **21 30 20.5 +0.2**
comp=Z,13nm,1.1s,mb4.8
INK Inuvik 77.72 22 *e*P **P** **21 30 20.5 +0.2**
INK pmax pmax
comp=Z,13nm,1.1s
TAYS Tayyib Ism 77.88 296 P **P** **21 30 22.6 +0.7**
SUW Suwalki 79.16 323 *e*P **P** **21 30 28.3 -0.2**
SUW Suwalki 79.16 323 *e*P **P** **21 30 28.3 -0.2**
KWP Kalwaria 80.82 319 *e*P **P** **21 30 38.0 +0.6**
KWP Kalwaria 80.82 319 *e*P **P** **21 30 38.0 +0.6**
KOLS Kolonicke sedl 81.32 319 *e*P **P** **21 30 40.0 -0.1**
HFS Hagfors 81.79 331 P **P** **21 30 40.8 -1.5**
comp=Z,1.2nm,0.6s,mb4.0,baz=90,slow=10,SNR=4.1
HFS Hagfors 81.79 331 P **P** **21 30 40.8 -1.5**
HFS pmax pmax
comp=Z,1.0nm,0.6s
CRVS Cervenica-Dubn 81.83 319 *e*P **P** **21 30 43.9 +1.2**
OJC Ojcow 82.39 321 *e*P **P** **21 30 45.8 +0.2**
NB2 NORSAR Subarra 82.50 333 P **P** **21 30 45.4 -0.5**
comp=Z,3.8nm,1.2s,mb4.3,baz=64,slow=5.6
NB2 NORSAR Subarra 82.50 333 P **P** **21 30 45.4 -0.5**
NB2 pmax pmax
comp=Z,4.0nm,1.2s,mb4.3
NOA NORSAR Array B 82.50 333 P **P** **21 30 44.7 -1.2**
comp=Z,0.8nm,0.8s,mb3.8,baz=149,slow=15,SNR=3.3
NOA LR LR 22 13 37.6
comp=Z,120nm,18.6s,MS4.3,baz=55,slow=40
NOA NORSAR Array B 82.50 333 P **P** **21 30 44.7 -1.2**
NOA pmax pmax
comp=Z,1.0nm,0.8s
NOA MLR MLR
comp=Z,121nm,18.6s
DLBC Dease Lake 83.13 30 *e*P **P** **21 30 50.8 +1.6**
OKC Ostrava-Krasne 83.52 321 *e*P **P** **21 30 53.2 +1.9**
OKC AMS AMS 22 13 20.0
comp=Z,100nm,18.5s
VYHS Vyhne 83.60 319 *e*P **P** **21 30 53.1 +1.3**
DPC Dobruska-Polom 84.40 322 *e*P **P** **21 30 54.6 -1.2**
DPC AMS AMS 22 12 00.0
comp=Z,100nm,22.3s
UPC Upice 84.52 322 *e*pP pP 21 31 07.0 -0.2
KMBO Kilima Mbogo 84.63 267 P **P** **21 30 56.5 -1.2**
comp=Z,2.2nm,0.9s,mb4.3,baz=37,slow=9.3,SNR=3.7
KMBO Kilima Mbogo 84.63 267 *i* P **P** **21 30 59.5 +1.7**
KMBO pmax pmax
comp=Z,2.0nm,0.9s
VRAC Vranov 84.66 320 P **P** **21 30 56.9 -0.2**
comp=Z,4.7nm,0.7s,mb4.7,baz=60,slow=5.3,SNR=6.7
VRAC Vranov 84.66 320 P **P** **21 30 56.9 -0.2**
VRAC pmax pmax
comp=Z,5.0nm,0.7s
PVCC Panska Ves 85.35 322 *e*P **P** **21 31 01.5 +1.0**
PVCC AMS AMS 22 13 20.0
comp=Z,100nm,15.9s
BRG Berggiesshubel 85.57 323 *e*P **P** **21 31 02.4 +0.8**
comp=Z,7.6nm,1.2s,mb4.8
BRG Berggiesshubel 85.57 323 *e*P **P** **21 31 02.4 +0.9**
BRG pmax pmax
comp=Z,8.0nm,1.2s,mb4.8
PRU Pruhonice 85.59 322 *e*P **P** **21 31 02.4 +0.7**
PRU *e*pP pP 21 31 15.8 +3.2
PRU AMS AMS 22 10 00.0
comp=Z,100nm,22.2s
CLL Collm 85.92 323 P **P** **21 31 05.0 +1.8**
CLL Collm 85.92 323 P **P** **21 31 05.0 +1.8**
KHC Kasperske Hory 86.53 321 *e*P **P** **21 31 06.9 +0.6**
KHC *e*pP pP 21 31 22.8 +5.6
KHC AMS AMS 22 10 40.0
comp=Z,100nm,21.8s
GERES GERESS Array B 86.58 321 P **P** **21 31 06.3 -0.2**
comp=Z,1.2nm,0.8s,mb4.2,baz=63,slow=6.0,SNR=12
GERES LR LR 22 12 26.3
comp=Z,114nm,19.4s,MS4.3,baz=340,slow=38
GERES GERESS Array B 86.58 321 P **P** **21 31 06.3 -0.2**
GERES pmax pmax
comp=Z,1.0nm,0.8s
GERES MLR MLR
comp=Z,114nm,19.4s
NKC Novy Kostel 86.70 322 *e*P **P** **21 31 09.7 +2.6**
NKC *e*pP pP 21 31 25.0 +7.0
NKC AMS AMS 22 13 00.0
comp=Z,200nm,10.3s
SUMG Summit 87.31 354 *e*P **P** **21 31 12.1 +2.5**
comp=Z,13nm,1.0s,mb5.1
YKW3 Yellowknife Ar 87.39 23 *e*P **P** **21 31 11.1 +1.0**
YKA Yellowknife Ar 87.44 23 P **P** **21 31 11.5 +1.2**
comp=Z,14nm,0.7s,mb5.3,baz=313,slow=4.7,SNR=61
YKA LR LR 22 16 45.9
comp=Z,40nm,18.2s,MS3.9,baz=275,slow=40
DAVOX Davos 89.81 320 P **P** **21 31 22.1 0.0**
comp=Z,3.5nm,1.0s,mb4.7,baz=359,slow=6.9,SNR=4.4
BAIF Baives 91.40 325 *e*P **P** **21 31 29.1 -0.3**
LPG La Plagne 92.33 320 *e*P **P** **21 31 34.1 +0.3**
comp=Z,9.8nm,1.1s,mb4.8
LPG La Plagne 92.33 320 *e*P **P** **21 31 34.1 +0.3**
LPG pmax pmax
comp=Z,5.0nm,1.1s,mb4.8
LPL La Plagne 92.34 320 *e*P **P** **21 31 33.9 +0.1**
comp=Z,16nm,1.2s,mb4.9
LPL La Plagne 92.34 320 *e*P **P** **21 31 33.9 +0.1**
LPL pmax pmax
comp=Z,8.0nm,1.2s,mb4.9
LASF Ste Croix 94.83 320 *e*P **P** **21 31 44.9 -0.4**
comp=Z,26nm,1.2s,mb5.2
NEW Newport 94.99 35 *e*P **P** **21 31 46.8 +0.9**
comp=Z,2.9nm,1.0s,mb4.7
NEW Newport 94.99 35 *e*P **P** **21 31 46.8 +0.9**
NEW pmax pmax
comp=Z,3.0nm,1.0s
PPT Papeete 94.99 107 LR LR 22 13 27.4
comp=Z,64nm,18.2s,MS4.1,baz=41,slow=35
WALA Waterton Lakes 96.19 33 *e*P **P** **21 31 51.7 +0.4**
MAW Mawson 96.53 199 LR LR 22 14 01.1
comp=Z,62nm,19.0s,MS4.1,baz=85,slow=35
TXAR Lajitas Array 115.11 43 PKP PKPdf 21 37 05.5 +1.6
comp=Z,0.9nm,0.6s,baz=294,slow=0.6,SNR=15
TXAR Lajitas Array 115.11 43 PKP PKPdf 21 37 05.5 +1.6
TXAR Lajitas Array 115.11 43 PKIKP PKPdf 21 37 05.5 +1.6
TXAR pmax pmax
comp=Z,1.0nm,0.6s
VNA2 Neumayer--Watz 120.28 197 P PKPdf 21 37 16.4 +3.5
VNA2 Neumayer--Watz 120.28 197 PKPdf 21 37 25.0 +12
VNA2 Neumayer--Watz 120.28 197 PKPdf 21 37 32.9 +20
VNA3 Neumayer Olymp 120.73 197 P PKPdf 21 37 16.6 +2.8
VNA3 Neumayer Olymp 120.73 197 PKPdf 21 37 25.6 +12
VNA3 Neumayer Olymp 120.73 197 PKPdf 21 37 31.8 +18
SDV Santo Domingo 149.65 24 PKP PKPdf 21 38 09.0 +1.0
comp=Z,3.5nm,0.7s,baz=320,slow=7.9,SNR=3.8
SDV PKPbc PKPdf 21 38 14.8 +6.8
comp=Z,11nm,0.9s,baz=318,slow=2.9,SNR=3.6
SDV Santo Domingo 149.65 24 *e*PKPdf PKPdf 21 38 11.0 +3.0
SDV *e*PKPbc PKPdf 21 38 14.4 +6.5
ROSC El Rosal 151.54 34 PKPbc PKPdf 21 38 20.1 +9.2
comp=Z,6.0nm,0.5s,baz=115,slow=17,SNR=4.3
SAML Samuel 168.86 23 *e*PKPdf PKPdf 21 38 31.9 +2.3

*BJI **06** 21:27:33.1, 10.92N×125.78E, h10km, mB4.9, mb4.3, Ms4.5, Msz4.3*
*MAN **06** 21:27:39.6, 12.03N×126.06E, h1km, mb5.0, ML3.9, MS4.0*
*IDC **06** 21:27:40.8±1.1, 11.81N×125.54E, mb4.0/11, mb1 4.1/11, mb1mx4.0/19, mbtmp4.0/11, Error ellipse: s-maj=83.1km s-min=16.5km az=71.0*
*NEIC **06** 21:27:42.9±0.6, 11.80N×125.27E, h10km, mb4.6/3, Error ellipse: s-maj=31.1km s-min=10.5km az=72.0*
ISC 06 21:27:38.6±0.6, 12.04N±0.05×126.08E±0.07, h1km, n33, σ1§22/37, mb4.3/18, MS3.6/1, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.77**	**235**	*e*P	**Pg**	**21 27 54.3**	**+0.3**
PLP	**Palo**	**1.39**	**231**	*e*P	**Pb**	**21 28 03.9**	**-1.2**
PLP				*i* S	**Sb**	**21 28 20.5**	**-2.7**
CNP	**Catarman**	**1.46**	**289**	*e*P	**Pn**	**21 28 06.3**	**+0.1**
MSLP	**Maasin**	**2.25**	**212**	*e*P	**Pn**	**21 28 18.9**	**+1.5**
PVCP	**Virac**	**2.43**	**310**	*e*P	**Pn**	**21 28 20.6**	**+0.5**
PVCP				*e*S	**Sn**	**21 29 01.7**	**+11**
LLP	**Lapu-Lapu**	**2.69**	**231**	*e*P	**Pn**	**21 28 24.5**	**+0.7**
LLP				*e*S	**Sn**	**21 28 59.6**	**+2.0**
RCP	**Roxas**	**3.30**	**262**	*e*P	**Pn**	**21 28 32.6**	**+0.1**
GUIM	**Jordan**	**3.70**	**248**	*e*P	**Pn**	**21 28 38.2**	**0.0**
OTRP	**Odiongan**	**3.98**	**275**	*e*P	**Pn**	**21 28 42.9**	**+0.7**
PAGZ	**Pagadian**	**4.95**	**213**	*e*P	**Pn**	**21 28 55.9**	**+0.1**
IPIL	**Ipil**	**5.46**	**220**	*e*P	**Pn**	**21 29 04.5**	**+1.4**
CAUP	**Cauayan**	**6.38**	**320**	*e*P	**Pn**	**21 29 16.7**	**+0.6**
ENH	**Enshi**	**23.79**	**322**	P	**P**	**21 32 51.6**	**-2.2**
	14nm,1.1s,mb4.4						
KMI	**Kunming**	**25.61**	**304**	P	**P**	**21 33 09.4**	**-1.9**
KMI				XP	sP	21 33 14.0	+2.2
KMI				AMB	AMB		
	comp=Z,3.0nm,1.2s,mb3.8						
FITZ	**Fitzroy Crossi**	**29.96**	**181**	P	**P**	**21 33 49.1**	**-1.9**
	comp=Z,5.0nm,0.8s,mb4.4,baz=354,slow=0.9,SNR=6.5						
HHC	**Hu-ho-hao-te**	**31.40**	**339**	*e*P	**P**	**21 34 05.0**	**+1.5**
HHC				XP	sP	21 34 10.6	+6.7
HHC				PP	PP	21 35 11.2	+4.3
HHC				AMB	AMB		
	comp=Z,19nm,0.6s,mb5.2						
HHC				AMB	AMB		
	comp=Z,308nm,7.4s						
MDJ	**Mudanjiang**	**32.60**	**5**	P	**P**	**21 34 16.8**	**+2.9**
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.4						
WRA	**Warramunga Arr**	**32.81**	**166**	P	**P**	**21 34 15.4**	**-0.5**
	comp=Z,0.8nm,1.0s,mb3.6,baz=348,slow=9.3,SNR=3.3						
YSS	**Yuzh-Sakhalins**	**37.53**	**19**	P	**P**	**21 35 01.2**	**+5.2**
	comp=Z,18nm,1.5s,mb4.6						
SONM	**Songino Array**	**39.30**	**339**	P	**P**	**21 35 12.3**	**+1.5**
	comp=Z,0.4nm,0.7s,mb3.2,baz=162,slow=7.6,SNR=2.4						
TLY	**Talaya**	**43.51**	**340**	*e*P	**P**	**21 35 45.5**	**+0.1**
WMQ	**Urumqi**	**45.73**	**321**	*e*P	**P**	**21 36 02.0**	**-1.2**
WMQ				XP	sP	21 36 09.0	+5.3
WMQ				PP	PP	21 37 48.0	-2.9
WMQ				S	**S**	**21 42 42.0**	**-4.8**
WMQ				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,21nm,6.0s						
WMQ				LR	LR		
	comp=N,45nm,17.0s,MS3.7						
WMQ				LR	LR		
	comp=E,59nm,20.0s,MS3.7						
WMQ				LR	LR		
	comp=Z,42nm,15.0s,MS3.5						
STKA	**Stephens Creek**	**46.13**	**162**	P	**P**	**21 36 06.5**	**-0.1**
	comp=Z,3.3nm,0.9s,mb4.3,baz=342,slow=19,SNR=4.2						
STKA	**Stephens Creek**	**46.13**	**162**	P	**P**	**21 36 09.1**	**+2.5**
MKAR	**Makanchi Array**	**50.52**	**322**	P	**P**	**21 36 41.1**	**+0.6**
	comp=Z,3.2nm,0.7s,mb4.3,baz=118,slow=8.4,SNR=33						
ZAL	**Zalesovo**	**53.00**	**331**	P	**P**	**21 36 58.6**	**-0.6**
	comp=Z,0.7nm,0.3s,mb4.1,baz=181,slow=11,SNR=3.8						
KURK	**Kurchatov**	**54.51**	**325**	*e*P	**P**	**21 37 10.5**	**+0.2**
	comp=Z,12nm,1.0s,mb4.9						
KURK				*e*		21 37 19.5	
BVAR	**Borovoye Array**	**60.11**	**325**	P	**P**	**21 37 48.7**	**-1.2**
	comp=Z,0.8nm,0.6s,mb3.9,baz=135,slow=10,SNR=8.2						
ARU	**Arti**	**67.65**	**326**	*e*P	**P**	**21 38 38.1**	**-1.3**
ARCES	**ARCESS Array B**	**82.48**	**340**	P	**P**	**21 40 05.0**	**+1.1**
	comp=Z,1.6nm,0.8s,mb4.2,baz=80,slow=7.4,SNR=6.2						
FINES	**FINESS Array B**	**84.25**	**332**	P	**P**	**21 40 13.4**	**+0.4**
	comp=Z,0.6nm,0.5s,mb4.1,baz=73,slow=4.2,SNR=8.9						
AKASG	**Malin Array Be**	**85.08**	**321**	P	**P**	**21 40 16.9**	**-0.5**
	comp=Z,1.5nm,0.8s,mb4.3,baz=62,slow=4.5,SNR=6.2						
KMBO	**Kilima Mbogo**	**89.09**	**269**	P	**P**	**21 40 36.0**	**-1.8**
	comp=Z,0.4nm,0.3s,mb4.1,baz=220,slow=23,SNR=3.4						

IDC 06 21:47:57.3±3.8, 9.77S×112.98E, mb3.5/4, mb1 3.9/5, mb1mx3.7/15, mbtmp3.7/5, ML4.6/1, Error ellipse: s-maj=155.9km s-min=15.0km az=42.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**14.81**	**125**	*e*P	P	21 51 28.1	-1.9
	4.7nm,0.4s						
FITZ				*e*S	S	21 53 59.3	-17
FITZ	**Fitzroy Crossi**	**14.81**	**125**	Pn	P	21 51 28.5	-1.5
	2.1nm,0.3s,baz=310,slow=5.2,SNR=23						
FITZ				Sn	S	21 53 59.3	-17
	0.7nm,0.3s,baz=1.1,slow=23,SNR=5.5						
WRA	**Warramunga Arr**	**22.96**	**119**	P	P	21 53 04.3	-0.3
	0.4nm,0.7s,baz=290,slow=12,SNR=2.5						
WRA				S	S	21 57 15.9	+4.7
	0.6nm,0.7s,baz=288,slow=25,SNR=4.0						
SONM	**Songino Array**	**57.65**	**355**	P	P	21 57 49.8	-1.9
	1.0nm,0.5s,baz=177,slow=7.3,SNR=7.8						
MKAR	**Makanchi Array**	**62.62**	**337**	P	P	21 58 24.1	-1.7
	0.4nm,0.6s,baz=147,slow=7.5,SNR=10						
ZAL	**Zalesovo**	**67.81**	**342**	P	P	21 58 55.6	-3.5
	0.4nm,0.5s,baz=180,slow=6.1,SNR=2.9						

*LDG **06** 22:20:05.0±0.3, 39.42N×2.65W, h5km, Ml2.8/9, Error ellipse: s-maj=10.6km s-min=2.4km az=142.0*
*NEIC **06** 22:20:05.0, 39.39N×2.61W, h5km, ML2.8(LDG), MN2.7(MDD), After MDD.*
*CSEM **06** 22:20:05.0±0.0, 39.39N×2.61W, h10km, ML2.7/22, Error ellipse: s-maj=1.1km s-min=0.7km az=123.0*
MDD 06 22:20:04.8±0.5, 39.38N×2.63W, h19km±5km, mbLg2.7/34, 1D, Error ellipse: s-maj=4.8km s-min=3.5km az=119.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVIA	**Vianos**	**0.75**	**173**	Pg	Pb	22 20 19.2	+0.2
	34nm,0.2s,SNR=34						
EVIA				Lg		22 20 28.7	
	97nm,0.2s,SNR=11						
ESDC	**Sonseca Array**	**1.07**	**286**	Pg	Pb	22 20 24.7	+0.1
	16nm,0.1s,baz=104,slow=15,SNR=7.9						
ESDC				Lg		22 20 38.6	
	13nm,0.2s,baz=104,slow=27,SNR=7.9						
ESDC	**Sonseca Array**	**1.07**	**286**	Pg	Pb	22 20 24.7	+0.1
	SNR=7.9						
ESLA	**Sonseca Array**	**1.07**	**286**	*e*P	Pb	22 20 24.7	+0.1
ESLA				*e*S	Sb	22 20 38.6	+0.4
ESLA	**Sonseca Array**	**1.07**	**286**	*e*P	Pb	22 20 24.7	+0.1
ESLA				*e*S	Sb	22 20 38.6	+0.4
ETOB	**Tobarra**	**1.12**	**131**	⇓Pg	Pb	22 20 25.3	0.0
	1.9nm,0.1s,SNR=18						
ETOB				Lg		22 20 40.6	
	233nm,0.1s,SNR=9.1						
ETOB	**Tobarra**	**1.12**	**131**	Pg	Pb	22 20 25.3	0.0
	1.9nm,0.1s,SNR=18						
ECHE	**Chera**	**1.30**	**80**	Pg	Pn	22 20 28.4	+0.2
	2.4nm,0.1s,SNR=25						
ECHE				Lg		22 20 46.2	
	26nm,0.2s,SNR=13						
EBAN	**Banos Encina**	**1.52**	**217**	Pn	Pn	22 20 31.0	-0.3
	1.7nm,0.1s,SNR=7.9						
EBAN				Pg	Pn	22 20 33.1	+1.8
	35nm,0.2s,SNR=127						
EBAN				Lg		22 20 52.5	
	51nm,0.2s,SNR=17						
EHUE	**Huescar**	**1.56**	**179**	Pg	Pn	22 20 34.0	+2.0
	20nm,0.1s,SNR=28						
EHUE				Lg		22 20 54.1	
	31nm,0.2s,SNR=8.4						
EHUE	**Huescar**	**1.56**	**179**	Pg	Pn	22 20 34.3	+2.3
	20nm,0.1s,SNR=28						
EHUE	**Huescar**	**1.56**	**179**	Pg	Pn	22 20 34.3	+2.3
EHUE				Lg		22 20 54.1	
EQES	**Quesada**	**1.61**	**193**	Pn	Pn	22 20 32.7	0.0
	0.2nm,0.1s,SNR=7.9						
EQES				Pg	Pn	22 20 34.9	+2.2
	8.2nm,0.2s,SNR=213						
EQES				Lg		22 20 55.4	
	122nm,0.4s,SNR=13						
EQES	**Quesada**	**1.61**	**193**	Pn	Pn	22 20 32.7	0.0
	0.2nm,0.1s,SNR=7.9						
EQES	**Quesada**	**1.61**	**193**	Pg	Pn	22 20 34.9	+2.2
	8.2nm,0.2s,SNR=213						
EMUR	**La Murta**	**1.88**	**144**	Pn	Pn	22 20 36.1	-0.4
	0.0nm,0.1s,SNR=7.9						
EMUR				Pg	Pn	22 20 39.7	+3.2
	5.9nm,0.2s,SNR=60						
EMUR				Lg		22 21 04.2	
	32nm,0.3s,SNR=14						
EMUR	**La Murta**	**1.88**	**144**	Pn	Pn	22 20 36.1	-0.4
	SNR=7.9						
EMUR	**La Murta**	**1.88**	**144**	Pg	Pn	22 20 39.7	+3.2
	5.9nm,0.2s,SNR=60						
EMUR	**La Murta**	**1.88**	**144**	Pn	Pn	22 20 36.1	-0.5
EMUR				Pg	Pn	22 20 39.7	+3.2
EMUR				Lg		22 21 04.6	
EMOS	**Mosqueruela**	**1.93**	**59**	Pn	Pn	22 20 37.4	+0.3
	2.5nm,0.2s,SNR=22						
EMOS				Sn	Sn	22 21 00.5	-0.5
	3.5nm,0.1s,SNR=7.9						
EMOS				Lg		22 21 05.8	
	29nm,0.3s,SNR=12						
EMOS	**Mosqueruela**	**1.93**	**59**	Pn	Pn	22 20 37.6	+0.5
	2.5nm,0.2s,SNR=22						
EMOS				Sn	Sn	22 20 59.8	-1.2
	SNR=7.9						
EMOS	**Mosqueruela**	**1.93**	**59**	Pn	Pn	22 20 37.6	+0.5
EMOS				Sn	Sn	22 20 59.9	-1.2
EMOS				Lg		22 21 04.7	
EADA	**Adamuz**	**1.95**	**232**	Pn	Pn	22 20 37.1	-0.4
	0.1nm,0.1s,SNR=7.9						
EADA				Pg	Pn	22 20 40.1	+2.6
	16nm,0.3s,SNR=94						
EADA				Lg		22 21 06.5	
	42nm,0.1s,SNR=18						
EADA	**Adamuz**	**1.95**	**232**	Pn	Pn	22 20 37.1	-0.4
	0.1nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**1.95**	**232**	Pg	Pn	22 20 40.1	+2.6
	16nm,0.3s,SNR=94						
EADA	**Adamuz**	**1.95**	**232**	Pn	Pn	22 20 37.1	-0.4
EADA				Pg	Pn	22 20 40.1	+2.6
EADA				Lg		22 21 05.5	
EBEN	**Beniarda**	**1.99**	**109**	Pn	Pn	22 20 37.6	-0.4
	12nm,0.7s,SNR=12						
EBEN				Pg	Pn	22 20 41.4	+3.4
	1.7nm,0.2s,SNR=9.7						
EBEN				Lg		22 21 09.0	
	13nm,0.7s,SNR=6.8						
EBEN	**Beniarda**	**1.99**	**109**	Pn	Pn	22 20 37.6	-0.4
	12nm,0.7s,SNR=12						
EBEN	**Beniarda**	**1.99**	**109**	Pg	Pn	22 20 41.4	+3.4
	1.7nm,0.2s,SNR=9.7						
ECOG	**Cogollos-Vega**	**2.23**	**200**	Pg	Pn	22 20 46.0	+4.5
	4.1nm,0.1s,SNR=11						
ECOG				Lg		22 21 15.9	
	17nm,0.2s,SNR=7.2						
ELUQ	**Luque**	**2.23**	**216**	Pg	Pn	22 20 45.8	+4.3
	6.7nm,0.2s,SNR=7.9						
ELUQ				Lg		22 21 16.3	
	20nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**2.27**	**197**	Pn	Pn	22 20 42.9	+0.9
	0.2nm,0.2s,SNR=4.0						
EQUE				Pg	Pn	22 20 46.4	+4.4
	0.5nm,0.2s,SNR=7.9						
EQUE				Lg		22 21 17.0	
	14nm,0.3s,SNR=7.9						
EBER	**Berja**	**2.49**	**185**	Pg	Pn	22 20 51.1	+5.8
	8.9nm,0.4s,SNR=11						
EBER				Sn	Sn	22 21 15.6	+0.2
	2.7nm,0.2s,SNR=7.9						
EBER				Lg		22 21 25.5	
	24nm,0.3s,SNR=5.0						
EBER	**Berja**	**2.49**	**185**	Pg	Pn	22 20 51.9	+6.7
	8.9nm,0.4s,SNR=11						
EBER	**Berja**	**2.49**	**185**	Pg	Pn	22 20 51.9	+6.7
EBER				Lg		22 21 27.1	
ELOJ	**Sierra Loja**	**2.53**	**209**	Pn	Pn	22 20 45.1	-0.8
	2.9nm,0.3s,SNR=12						
ELOJ				Pg	Pn	22 20 50.8	+5.0
	2.2nm,0.3s,SNR=4.6						
ELOJ				Sn	Sn	22 21 17.2	+0.7
	2.4nm,0.2s,SNR=5.3						
ELOJ				Lg		22 21 26.0	
	6.4nm,0.5s,SNR=4.6						
ELOJ	**Sierra Loja**	**2.53**	**209**	Pg	Pn	22 20 53.1	+7.2
	2.2nm,0.3s,SNR=4.6						
ELOJ				Sn	Sn	22 21 17.2	+0.7
	2.4nm,0.2s,SNR=5.3						
ELOJ	**Sierra Loja**	**2.53**	**209**	Pn	Pn	22 20 48.5	+2.7
ELOJ				Pg	Pn	22 20 53.1	+7.3
ELOJ				Sn	Sn	22 21 17.2	+0.7
ELOJ				Lg		22 21 26.0	
ERON	**Agron**	**2.54**	**202**	Pn	Pn	22 20 45.6	-0.3
	7.7nm,0.3s,SNR=17						
ERON				Pg	Pn	22 20 51.3	+5.4
	6.4nm,0.4s,SNR=7.9						
ERON				Sn	Sn	22 21 15.9	-0.7
	1.2nm,0.4s,SNR=4.0						
ERON				Lg		22 21 26.2	
	7.4nm,0.3s,SNR=4.0						
ERON	**Agron**	**2.54**	**202**	Pn	Pn	22 20 46.2	+0.3
	7.7nm,0.3s,SNR=17						
ERON	**Agron**	**2.54**	**202**	Pg	Pn	22 20 51.3	+5.4
	6.4nm,0.4s,SNR=7.9						
ERON				Sn	Sn	22 21 15.9	-0.7
	1.2nm,0.4s,SNR=4.0						
ERON	**Agron**	**2.54**	**202**	Pn	Pn	22 20 46.2	+0.3
ERON				Pg	Pn	22 20 51.3	+5.4
ERON				Sn	Sn	22 21 15.9	-0.7
ERON				Lg		22 21 26.2	
ERTA	**Horta de San J**	**2.76**	**54**	Pn	Pn	22 20 48.7	-0.4
	4.6nm,0.6s,SNR=7.7						
ERTA				Pg	Pn	22 20 54.9	+5.9
	3.3nm,0.4s,SNR=5.5						
ERTA				Sn	Sn	22 21 21.7	-0.5
	5.9nm,0.3s,SNR=5.8						
ERTA				Lg		22 21 30.3	
	14nm,0.5s,SNR=9.3						
ERTA	**Horta de San J**	**2.76**	**54**	Pn	Pn	22 20 48.7	-0.4
	4.6nm,0.6s,SNR=7.7						
ERTA	**Horta de San J**	**2.76**	**54**	Pg	Pn	22 20 54.9	+5.8
	3.3nm,0.4s,SNR=5.5						
ERTA				Sn	Sn	22 21 21.7	-0.5
	5.9nm,0.3s,SNR=5.8						
ERTA	**Horta de San J**	**2.76**	**54**	Pn	Pn	22 20 48.7	-0.4
ERTA				Pg	Pn	22 20 54.9	+5.9
ERTA				Sn	Sn	22 21 21.7	-0.5
ERTA				Lg		22 21 30.2	
ESAC	**San Caprasio**	**2.86**	**34**	Pg

0.1nm,0.1s,SNR=7.9
ECRI Sn Sn 22 21 32.5 -1.5
0.5nm,0.3s,SNR=7.9
ECRI Lg 22 21 47.3
3.5nm,0.2s,SNR=7.9
EMIJ Mijas 3.29 212 Pn Pn 22 20 55.7 -0.8
0.1nm,0.2s,SNR=6.9
EMIJ Pg Pn 22 21 04.3 +7.8
0.3nm,0.3s,SNR=7.9
EMIJ Sn Sn 22 21 34.0 -1.5
0.6nm,0.1s,SNR=7.9
EMIJ Lg 22 21 50.6
8.7nm,0.3s,SNR=5.0
EMIJ Mijas 3.29 212 Pn Pn 22 20 57.2 +0.7
0.1nm,0.2s,SNR=6.9
EMIJ Mijas 3.29 212 Pg Pn 22 21 04.3 +7.8
0.3nm,0.3s,SNR=7.9
EMIJ Sn Sn 22 21 34.0 -1.5
0.6nm,0.1s,SNR=7.9
EMIJ Mijas 3.29 212 Pn Pn 22 20 57.2 +0.6
EMIJ Pg Pn 22 21 04.3 +7.8
EMIJ Sn Sn 22 21 34.0 -1.5
EMIJ Lg 22 21 51.9
EPOB Poblet 3.45 54 Pn Pn 22 20 57.5 -1.3
4.4nm,1.1s,SNR=8.0
EPOB Sn Sn 22 21 37.7 -1.9
2.1nm,0.2s,SNR=7.9
EPOB Lg 22 21 52.1
3.1nm,0.3s,SNR=7.9
EPOB Poblet 3.45 54 Pn Pn 22 20 57.5 -1.3
4.4nm,1.1s,SNR=8.0
EPOB Sn Sn 22 21 37.2 -2.4
2.1nm,0.2s,SNR=7.9
EPOB Poblet 3.45 54 Pn Pn 22 20 57.5 -1.3
EPOB Sn Sn 22 21 37.2 -2.4
EPOB Lg 22 21 52.1
EBAD Badajoz 3.47 261 Pn Pn 22 20 57.5 -1.7
1.8nm,0.7s,SNR=8.4
EBAD Sn Sn 22 21 39.0 -1.3
2.5nm,0.2s,SNR=7.9
EBAD Lg 22 21 54.8
28nm,0.2s,SNR=7.7
EBAD Badajoz 3.47 261 Pn Pn 22 20 57.5 -1.7
1.8nm,0.7s,SNR=8.4
EBAD Sn Sn 22 21 38.2 -2.1
2.5nm,0.2s,SNR=7.9
EBAD Badajoz 3.47 261 Pn Pn 22 20 57.5 -1.7
EBAD Sn Sn 22 21 38.2 -2.1
EBAD Lg 22 21 51.9
EARA Aranguren 3.48 13 Pn Pn 22 20 58.7 -0.6
0.6nm,0.2s,SNR=7.9
EARA Pg Pn 22 21 08.9 +10
0.7nm,0.5s,SNR=7.9
EARA Sn Sn 22 21 38.1 -2.3
8.1nm,0.7s,SNR=7.9
EARA Lg 22 21 55.1
45nm,0.2s,SNR=7.9
EARA Aranguren 3.48 13 Pg Pn 22 21 09.6 +10
0.7nm,0.5s,SNR=7.9
EARA Sn Sn 22 21 37.6 -2.8
8.1nm,0.7s,SNR=7.9
EMIN Mina Concepcio 3.56 244 Pn Pn 22 20 59.7 -0.7
0.9nm,0.3s,SNR=6.1
EMIN Sn Sn 22 21 40.5 -2.0
0.5nm,0.3s,SNR=7.9
EMIN Lg 22 21 54.6
4.5nm,0.1s,SNR=7.0
EMIN Mina Concepcio 3.56 244 Pn Pn 22 20 59.7 -0.7
0.9nm,0.3s,SNR=6.1
EMIN Sn Sn 22 21 40.5 -1.9
0.5nm,0.3s,SNR=7.9
ESPR Espera 3.58 226 Pn Pn 22 21 00.5 -0.1
0.9nm,0.4s,SNR=4.0
ESPR Sn Sn 22 21 41.8 -1.1
0.8nm,0.2s,SNR=7.9
ESPR Lg 22 21 58.4
6.0nm,0.2s,SNR=7.9
ESPR Espera 3.58 226 Pn Pn 22 21 02.2 +1.5
0.9nm,0.4s,SNR=4.0
ESPR Sn Sn 22 21 41.8 -1.1
0.8nm,0.2s,SNR=7.9
ESPR Espera 3.58 226 Pn Pn 22 21 02.2 +1.5
ESPR Sn Sn 22 21 41.8 -1.1
ESPR Lg 22 22 00.1
EGRA Graus 3.59 38 Pn Pn 22 20 59.6 -1.2
2.6nm,0.3s,SNR=8.3
EGRA Pg Pn 22 21 10.4 +10
2.6nm,0.3s,SNR=9.2
EGRA Graus 3.59 38 Pn Pn 22 21 00.7 -0.2
2.6nm,0.3s,SNR=8.3
EGRA Graus 3.59 38 Pn Pn 22 21 00.7 -0.2
EGRA Pg Pn 22 21 10.4 +10
ETSF Etsaut 3.84 23 *e*Pn Pn 22 21 03.0 -1.5
ETSF *e*Pg Pn 22 21 15.6 +11
ETSF *e*Sn Sn 22 21 45.6 -4.1
4.0nm,0.3s
SJPF Ste Jean 3.87 15 *e*Pn Pn 22 21 03.3 -1.6
SJPF *e*Pg Pn 22 21 16.6 +12
SJPF *e*Sn Sn 22 21 46.4 -4.0
3.1nm,0.2s
ELAN Lanestosa 3.89 351 Pg Pn 22 21 16.3 +11
4.2nm,0.2s,SNR=20
ELAN Sn Sn 22 21 48.8 -2.1
1.1nm,0.2s,SNR=7.9
ELAN Lg 22 22 08.4
3.1nm,0.2s,SNR=7.9
ELAN Lanestosa 3.89 351 Pg Pn 22 21 16.3 +11
4.2nm,0.2s,SNR=20
ELAN Sn Sn 22 21 48.0 -2.9
1.1nm,0.2s,SNR=7.9
ELAN Lanestosa 3.89 351 Pg Pn 22 21 16.3 +11
ELAN Sn Sn 22 21 48.0 -2.9
ELAN Lg 22 22 06.8
EBIE Bielsa 3.91 31 Pn Pn 22 21 04.0 -1.4
2.6nm,0.9s,SNR=7.9
EBIE Pg Pn 22 21 16.7 +11
2.1nm,0.4s,SNR=9.1
EBIE Sn Sn 22 21 47.0 -4.3
1.6nm,0.3s,SNR=7.9
EBIE Lg 22 22 09.2
2.7nm,0.3s,SNR=4.0
EBIE Bielsa 3.91 31 Pn Pn 22 21 04.0 -1.4
2.6nm,0.9s,SNR=7.9
EBIE Bielsa 3.91 31 Pg Pn 22 21 16.7 +11
2.1nm,0.4s,SNR=9.1
EALK Alkurruntz 3.92 12 Pn Pn 22 21 04.4 -1.3
0.4nm,0.1s,SNR=6.3
EALK Pg Pn 22 21 16.6 +11
4.9nm,0.4s,SNR=6.5
EALK Sn Sn 22 21 48.5 -3.2
3.8nm,0.3s,SNR=5.8
EALK Lg 22 22 09.7
11nm,0.4s,SNR=7.9
ECAL Calabor 4.04 311 Pn Pn 22 21 06.0 -1.3
0.4nm,0.1s,SNR=4.0
ECAL Pg Pn 22 21 19.4 +12
1.3nm,0.2s,SNR=4.0
ECAL Lg 22 22 12.8
10nm,0.2s,SNR=7.7
ECAL Calabor 4.04 311 Pn Pn 22 21 06.0 -1.3
ECAL Calabor 4.04 311 Pg Pn 22 21 22.6 +15
ECAL Calabor 4.04 311 Pn Pn 22 21 06.0 -1.3
ECAL Pg Pn 22 21 22.6 +15
ECAL Lg 22 22 11.8
EMIR Miracle 4.04 50 Pn Pn 22 21 05.7 -1.6
2.9nm,0.6s,SNR=7.9
EMIR Sn Sn 22 21 51.3 -3.5
0.7nm,0.4s,SNR=7.9
EMIR Lg 22 22 09.5
6.0nm,0.2s,SNR=5.0
EMIR Miracle 4.04 50 Pn Pn 22 21 05.8 -1.6
EMIR Sn Sn 22 21 51.3 -3.5
0.7nm,0.4s,SNR=7.9
ETOS Mallorca 4.22 83 Pn Pn 22 21 08.1 -1.7
0.3nm,0.3s,SNR=7.9
ETOS Sn Sn 22 21 57.2 -2.0
0.8nm,0.4s,SNR=7.9
ETOS Mallorca 4.22 83 Pn Pn 22 21 08.1 -1.7
ETOS Sn Sn 22 21 55.1 -4.1
ETOS Mallorca 4.22 83 Pn Pn 22 21 08.2 -1.7
ETOS Sn Sn 22 21 55.1 -4.2
EGRO El Granado 4.24 246 Pn Pn 22 21 08.9 -1.1
2.0nm,0.8s,SNR=6.3
EGRO Sn Sn 22 21 57.7 -1.9
0.1nm,0.4s,SNR=7.9
EGRO Lg 22 22 19.0
4.7nm,0.2s,SNR=7.9
EGRO El Granado 4.24 246 Pn Pn 22 21 08.9 -1.2
EGRO Sn Sn 22 21 56.9 -2.7
EGRO El Granado 4.24 246 Pn Pn 22 21 08.9 -1.1
EGRO Sn Sn 22 21 56.9 -2.7
EGRO Lg 22 22 18.1
EPF Esparros 4.28 31 *e*Pn Pn 22 21 08.6 -2.0
EPF *e*Pg Pn 22 21 23.7 +13
EPF *e*Sn Sn 22 21 55.5 -5.1
EPF *e*Sg Sn 22 22 17.4 +17
5.8nm,0.3s
EVO Évora 4.29 260 *e*Pn Pn 22 21 09.6 -1.2
EVO *e*Sn Sn 22 21 58.5 -2.4
EVO *e*Sg Sn 22 22 20.4 +20
19nm,0.4s
EARI Arriondas 4.37 334 Pn Pn 22 21 10.5 -1.5
5.9nm,0.8s,SNR=6.8
EARI Pg Pn 22 21 25.5 +14
0.9nm,0.2s,SNR=7.9
EARI Sn Sn 22 21 57.1 -5.9
1.6nm,0.5s,SNR=7.9
EARI Lg 22 22 21.1
5.9nm,0.3s,SNR=7.9
EARI Arriondas 4.37 334 Pn Pn 22 21 11.3 -0.7
EARI Arriondas 4.37 334 Pg Pn 22 21 26.3 +14
EARI Arriondas 4.37 334 Pn Pn 22 21 11.3 -0.7
EARI Pg Pn 22 21 26.3 +14
EARI Sn Sn 22 21 57.1 -5.9
EARI Lg 22 22 21.1
EPON Pontenova 5.21 321 Sn Sn 22 22 18.3 -5.8
1.0nm,0.2s,SNR=4.0
EPON Lg 22 22 49.2
5.0nm,0.2s,SNR=5.1
MTLF Montolieu 5.38 41 *e*Sn Sn 22 22 21.9 -6.4
MTLF *e*Sg Sn 22 22 52.5 +24
2.8nm,0.5s
LFF La Frestale 6.09 23 *e*Sn Sn 22 22 39.4 -6.8
1.7nm,0.3s
CAF Calviac 6.54 31 *e*Pn Pn 22 21 39.1 -3.5
CAF *e*Sn Sn 22 22 49.3 -8.2
1.1nm,0.3s
RJF Les Rejaudoux 6.67 26 *e*Sn Sn 22 22 51.9 -8.7
0.4nm,0.2s
MFF Saint Martin d 7.44 13 *e*Sn Sn 22 23 10.4 -10
0.3nm,0.2s

*IDC **06** 22:27:40.5±3.6, 13.95S×170.53E, h604km±48km, mb3.6/7, mb1 3.8/8, mb1mx3.5/14, mbtmp4.3/8, Error ellipse: s-maj=55.3km s-min=26.0km az=158.0*
*NEIC **06** 22:27:40.1±2.0, 13.91S×170.46E, h590km±25km, mb4.6/6, Error ellipse: s-maj=34.4km s-min=17.8km az=160.0*
ISC 06 22:27:39.3±0.8, 14.0S±0.2×170.5E±0.2, h600km, n41, σ0§90/15, mb4.2/10, 2C, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.89**	**205**	P	**P**	**22 29 49.7**	**+2.2**
0.3nm,0.3s,baz=69,slow=22,SNR=2.8							
ARMA	**Armidale**	**23.85**	**244**	*e*P	Px	22 31 56.9	
CTA	**Charters Tower**	**23.94**	**252**	*e*P	**P**	**22 32 09.8**	**-0.2**
5.4nm,0.6s,mb4.3							
CTA	**Charters Tower**	**23.94**	**252**	P	**P**	**22 32 09.9**	**-0.1**
6.4nm,0.6s,mb4.4,baz=87,slow=12,SNR=10.0							
STKA	**Stephens Creek**	**31.85**	**231**	⇑*e*P	**P**	**22 33 18.1**	**-0.1**
16nm,0.8s,mb4.7							
STKA	**Stephens Creek**	**31.85**	**231**	P	**P**	**22 33 18.1**	**0.0**
17nm,0.5s,mb4.9,baz=54,slow=7.9,SNR=59							
TOO	**Toolangi**	**32.32**	**219**	*e*P	**P**	**22 33 21.1**	**-0.9**
8.9nm,0.6s,mb4.6							
WB2	**Warramunga Arr**	**35.02**	**255**	⇑*e*P	**P**	**22 33 44.4**	**-0.3**
WRAB	**Tennant Creek**	**35.02**	**255**	*e*P	**P**	**22 33 44.5**	**-0.2**
18nm,0.8s,mb4.7							
WRA	**Warramunga Arr**	**35.03**	**255**	P	**P**	**22 33 44.6**	**-0.2**
13nm,0.7s,mb4.7,baz=86,slow=8.9,SNR=80							
KAKA	**Kakadu**	**37.03**	**267**	*e*P	Px	22 34 09.5	
7.4nm,0.5s							
FITZ	**Fitzroy Crossi**	**43.22**	**258**	*e*P	**P**	**22 34 50.4**	**-0.4**
15nm,0.9s,mb4.5							
FX1	**Attu Island--F**	**66.67**	**2**	*e*P	**P**	**22 37 34.9**	**+1.7**
ILAR	**Eielson Array**	**84.92**	**17**	P	**P**	**22 39 11.8**	**-0.9**
1.5nm,0.6s,mb3.8,baz=237,slow=4.4,SNR=9.8							
TXAR	**Lajitas Array**	**93.20**	**61**	P	**P**	**22 39 51.1**	**-0.9**
0.2nm,0.5s,mb3.4,baz=229,slow=4.9,SNR=3.9							
YKA	**Yellowknife Ar**	**95.50**	**27**	P	**P**	**22 40 01.3**	**-0.2**
0.5nm,0.5s,mb3.9,baz=259,slow=4.4,SNR=4.6							
MKAR	**Makanchi Array**	**98.86**	**316**	P	**P**	**22 40 18.1**	**+1.0**
0.2nm,0.6s,mb3.6,baz=83,slow=6.2,SNR=4.2							
ARCES	**ARCESS Array B**	**120.33**	**346**	PKP	PKPdf	22 45 23.2	+0.5
1.1nm,0.5s,baz=66,slow=1.7,SNR=25							
FINES	**FINESS Array B**	**126.19**	**340**	PKP	PKPdf	22 45 35.1	+1.0
0.9nm,0.9s,baz=45,slow=2.7,SNR=5.9							
CDF	**Champ du Feu**	**143.00**	**341**	*e*PKP1	PKPbc	22 46 05.6	+1.7
22nm,0.9s							
MEZF	**Maizieres J'vi**	**143.57**	**344**	*e*PKP1	PKPbc	22 46 07.8	+2.2
26nm,0.8s							
HAU	**Haudompre**	**143.65**	**342**	*e*PKP1	PKPbc	22 46 07.7	+1.8
27nm,1.0s							
HINF	**Hinterzarfeld**	**143.66**	**341**	*e*PKP1	PKPbc	22 46 07.5	+1.6
5.4nm,0.7s							
FLN	**La Foliniere**	**144.57**	**350**	*e*PKP1	PKPbc	22 46 10.2	+1.7
16nm,0.8s							
CABF	**La Chapelle**	**144.97**	**341**	*e*PKP1	PKPbc	22 46 12.2	+2.5
11nm,0.7s							
GRR	**Gorron**	**144.99**	**350**	*e*PKP1	PKPbc	22 46 11.5	+1.8
14nm,0.7s							
LOR	**Lormes**	**145.03**	**344**	*e*PKP1	PKPbc	22 46 11.9	+2.1
18nm,1.1s							
SSF	**Saint Saulge**	**145.31**	**344**	*e*PKP1	PKPbc	22 46 12.7	+2.1
6.1nm,0.7s							
SGMF	**Saint Gilles**	**145.39**	**352**	*e*PKP1	PKPbc	22 46 12.6	+1.9
AVF	**Avril sur Loir**	**145.60**	**344**	*e*PKP1	PKPbc	22 46 12.5	+1.2
5.9nm,0.7s							
SMF	**Signal de Mont**	**145.60**	**344**	*e*PKP1	PKPbc	22 46 12.9	+1.6
LPL	**La Plagne**	**145.73**	**340**	*e*PKP1	PKPbc	22 46 14.4	+2.7
11nm,1.1s							
LPG	**La Plagne**	**145.74**	**340**	*e*PKP1	PKPbc	22 46 14.5	+2.8
6.5nm,0.8s							
TCF	**Toulx Ste Croi**	**146.36**	**345**	*e*PKP1	PKPbc	22 46 15.4	+2.3
3.5nm,0.6s							
ORIF	**Oris-en-Rattie**	**146.54**	**340**	*e*PKP1	PKPbc	22 46 16.1	+2.5
11nm,1.0s							
MFF	**Saint Martin d**	**146.58**	**348**	*e*PKP1	PKPbc	22 46 16.0	+2.4
18nm,1.0s							
RJF	**Les Rejaudoux**	**147.45**	**345**	*e*PKP1	PKPdf	22 46 18.3	+5.2
CAF	**Calviac**	**147.67**	**345**	*e*PKP1	PKPdf	22 46 19.0	+5.6
EPF	**Esparros**	**149.88**	**346**	*e*PKP1	PKPdf	22 46 24.7	+7.8
ETSF	**Etsaut**	**150.21**	**347**	*e*PKP1	PKPdf	22 46 25.5	+8.1
3.9nm,0.6s							
ESDC	**Sonseca Array**	**153.99**	**350**	PKPab	PKPab	22 46 48.6	-2.0
0.5nm,0.7s,baz=4.7,slow=4.2,SNR=5.6							

*IDC **06** 22:33:09.1±1.8, 27.85S×177.10W, mb3.8/1, mb1 4.3/2, mb1mx3.9/11, mbtmp4.1/2, ML3.9/1, MS3.3/4, Ms1 3.4/4, ms1mx3.0/23, Error ellipse: s-maj=64.8km s-min=27.8km az=110.0*
*NEIC **06** 22:33:13.4±0.8, 27.99S×177.08W, h30km, mb4.5/1, Error ellipse: s-maj=38.7km s-min=16.4km az=111.0*
ISC 06 22:33:11.9±1.8, 27.9S±0.1×177.0W±0.3, h33km, n16, σ0§55/7, mb4.2/2, MS3.4/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.58**	**210**	Pn	**Pn**	**22 33 38.7**	**+0.6**
2μm,0.3s,baz=73,slow=5.4,SNR=136							
RAO				Sn	**Sn**	**22 33 57.1**	**-0.6**
4μm,0.3s,baz=84,slow=22,SNR=41							
RAO	**Raoul Island**	**1.58**	**210**	*e*P	**P**	**22 33 38.7**	**+0.7**
RAO				Sn	**Sn**	**22 33 57.1**	**-0.6**
URZ	**Urewera**	**11.47**	**204**	Pn	**P**	**22 35 51.8**	**-4.6**
0.8nm,0.3s,baz=341,slow=6.3,SNR=4.8							
PPT	**Papeete**	**27.25**	**74**	LR	LR	22 47 21.1	
comp=Z,20nm,18.3s,MS2.7,baz=232,slow=31							
WRA	**Warramunga Arr**	**44.93**	**269**	P	**P**	**22 41 25.4**	**-0.2**
0.9nm,0.6s,mb3.8,baz=109,slow=7.8,SNR=6.8							
QSPA	**South Pole Qui**	**62.23**	**180**	P	**P**	**22 43 31.8**	**-0.5**
2.9nm,0.7s,mb4.5							
YBH	**Yreka Blue Hor**	**85.52**	**38**	LR	LR	23 14 36.2	
comp=Z,25nm,21.9s,MS3.6,baz=213,slow=29							
ANMO	**Albuquerque**	**91.33**	**51**	LR	LR	23 17 33.3	
comp=Z,18nm,19.6s,MS3.5,baz=92,slow=29							
PDAR	**Pinedale Array**	**93.71**	**43**	LR	LR	23 21 02.4	
comp=Z,32nm,19.3s,MS3.8,baz=260,slow=31							
ELN	**Prospectdale**	**110.93**	**58**	P	PKPdf	22 51 43.4	+1.7
KMBO	**Kilima Mbogo**	**136.25**	**235**	PKP	PKPdf	22 52 34.6	+3.7
0.9nm,0.6s,baz=233,slow=20,SNR=3.2							
ARCES	**ARCESS Array B**	**136.30**	**349**	PKP	PKPdf	22 52 32.5	+2.9
2.5nm,1.0s,baz=37,slow=6.1,SNR=4.0							
KAF	**Kangasniemi**	**142.44**	**342**	*e*p	PKPdf	22 52 37.8	-2.8
FINES	**FINESS Array B**	**143.05**	**342**	PKhKP		22 52 39.2	
1.6nm,0.9s,baz=55,slow=6.1,SNR=8.5							
HFS	**Hagfors**	**146.93**	**350**	PKPbc	PKPbc	22 52 51.8	+1.9
1.6nm,0.6s,baz=45,slow=4.1,SNR=7.7							
AKASG	**Malin Array Be**	**149.75**	**326**	PKPbc	PKPdf	22 52 59.0	+5.7
0.2nm,0.3s,baz=40,slow=2.6,SNR=4.2							

*IDC **06** 22:58:46.8±0.8, 9.03S×113.27E, mb4.4/8, mb1 4.5/9, mb1mx4.2/16, mbtmp4.4/9, ML4.4/1, MS3.8/15, Ms1 3.8/15, ms1mx3.7/24, Error ellipse: s-maj=46.9km s-min=16.3km az=62.0*
*BJI **06** 22:58:50.0, 9.10S×113.30E, h25km, mB5.1, mb4.9*
*NEIC **06** 22:58:50.7±0.6, 9.09S×113.29E, h25km, mb4.8/7, Error ellipse: s-maj=23.8km s-min=9.8km az=58.0*
ISC 06 22:58:48.1±0.6, 9.2S±0.1×113.1E±0.1, h26km, h26km±4.5km:pP-P, n37, σ0§99/29, mb4.7/22, MS3.9/14, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.03**	**127**	Pn	**P**	**23 02 19.3**	**-1.5**
1.3nm,0.3s,baz=304,slow=4.2,SNR=14							
FITZ				Sn	**S**	**23 04 59.4**	**-7.7**
0.5nm,0.3s,baz=172,slow=15,SNR=5.3							
FITZ				LR	LR	23 07 35.8	
comp=Z,369nm,20.9s,baz=280,slow=35							
WRA	**Warramunga Arr**	**23.12**	**120**	P	**P**	**23 03 53.9**	**+0.5**
3.5nm,0.7s,mb3.9,baz=293,slow=12,SNR=9.4							
NWAO	**Narrogin (SRO)**	**23.88**	**171**	P	**P**	**23 04 05.5**	**+4.8**
8.1nm,1.1s,mb4.1,baz=100,slow=11,SNR=2.3							
NWAO				LR	LR	23 13 01.2	
comp=Z,262nm,19.8s,MS3.7,baz=311,slow=36							
CTA	**Charters Tower**	**33.77**	**112**	LR	LR	23 19 31.7	
comp=Z,140nm,20.1s,MS3.7,baz=51,slow=37							
STKA	**Stephens Creek**	**34.72**	**135**	P	**P**	**23 05 38.3**	**0.0**
1.7nm,0.6s,mb4.2,baz=307,slow=10,SNR=4.6							
STKA				LR	LR	23 19 28.1	
comp=Z,380nm,21.6s,MS4.1,baz=118,slow=36							
JOW	**Kunigami**	**38.76**	**22**	LR	LR	23 24 00.9	
comp=Z,36nm,18.6s,MS3.2,baz=244,slow=39							
LSA	**Lhasa**	**44.10**	**332**	P	**P**	**23 06 59.8**	**+3.5**
LSA	**Lhasa**	**44.10**	**332**	*e*P	**P**	**23 06 58.2**	**+1.9**
9.4nm,0.8s,mb4.6							
PKI	**Pulchoki**	**45.37**	**325**	*e*P	**P**	**23 07 07.0**	**+0.6**
7.9nm,0.6s,mb4.7							
DMN	**Daman**	**45.57**	**324**	*e*P	**P**	**23 07 07.8**	**-0.2**
15nm,0.7s,mb5.0							
KKN	**Kakani**	**45.60**	**325**	*e*P	**P**	**23 07 07.5**	**-0.8**
LZH	**Lanzhou**	**45.92**	**350**	*e*P	**P**	**23 07 12.5**	**+1.9**
LZH				AMB	AMB		
comp=Z,26nm,1.0s,mb5.1							
GKN	**Gorkha**	**46.14**	**324**	*e*P	**P**	**23 07 11.4**	**-1.1**
comp=Z,10nm,0.5s,mb5.0							
KOLN	**Koldanda**	**46.57**	**323**	*e*P	**P**	**23 07 15.1**	**-0.8**
comp=Z,12nm,0.5s,mb5.0							
GTA	**Gaotai**	**49.95**	**347**	*e*P	**P**	**23 07 44.3**	**+2.3**
GTA				AP	pP	23 07 49.0	-1.1
GTA				XP	sP	23 07 52.2	-1.0
GTA				AMB	AMB		
comp=Z,7.0nm,0.7s,mb4.8							
MAJO	**Matsushiro**	**51.30**	**26**	*e*P	**P**	**23 07 51.9**	**-0.4**
comp=Z,7.4nm,0.8s,mb4.7							
MAT	**Matsushiro**	**51.30**	**26**	P	**P**	**23 07 52.1**	**-0.2**
MAT				X		23 11 22.0	
MAT	**Matsushiro**	**51.30**	**26**	*e*P	**P**	**23 07 52.0**	**-0.3**
comp=Z,5.5nm,0.7s,mb4.6							
SONM	**Songino Array**	**57.13**	**355**	P	**P**	**23 08 35.0**	**+0.1**
comp=Z,12nm,0.7s,mb5.0,baz=176,slow=8.6,SNR=118							
SONM				LR	LR	23 35 22.6	
comp=Z,86nm,18.1s,MS3.9,baz=357,slow=39							
SONM	**Songino Array**	**57.13**	**355**	P	**P**	**23 08 35.0**	**+0.1**
SONM				LR	LR	23 35 22.6	
WMQ	**Urumqi**	**57.62**	**338**	*e*P	**P**	**23 08 39.0**	**+0.5**
WMQ				AP	pP	23 08 49.0	+2.4
WMQ				AMB	AMB		
comp=Z,10.0nm,1.0s,mb4.8							
KSH	**Kashi**	**59.48**	**327**	*e*P	**P**	**23 08 50.1**	**-1.4**
KSH				*e*AP	pP	23 08 59.1	-0.6
KSH				*e*XP	sP	23 09 03.1	+0.5
KSH				AMB	AMB		
comp=Z,180nm,4.3s							
RPZ	**Rata Peaks**	**60.69**	**135**	LR	LR	23 34 11.1	
comp=Z,275nm,18.8s,MS4.4,baz=211,slow=35							
MKAR	**Makanchi Array**	**62.18**	**337**	P	**P**	**23 09 09.4**	**-0.3**
comp=Z,7.5nm,0.5s,mb5.1,baz=146,slow=7.3,SNR=100							
MKAR				LR	LR	23 40 24.5	
comp=Z,54nm,21.2s,MS3.7,baz=271,slow=40							
AAK	**Ala-Archa**	**62.50**	**329**	*e*P	**P**	**23 09 11.2**	**-0.8**
comp=Z,8.4nm,1.0s,mb4.8							
KURK	**Kurchatov**	**66.78**	**337**	*e*P	**P**	**23 09 39.1**	**-0.4**
comp=Z,7.0nm,0.8s,mb4.7							
MAW	**Mawson**	**67.09**	**199**	LR	LR	23 32 53.7	
comp=Z,58nm,19.4s,MS3.8,baz=262,slow=30							
ZAL	**Zalesovo**	**67.34**	**342**	P	**P**	**23 09 42.4**	**-0.6**
comp=Z,6.1nm,0.6s,mb4.8,baz=326,slow=5.6,SNR=36							
YAK	**Yakutsk**	**72.22**	**8**	*e*P	**P**	**23 10 13.2**	**+0.5**
comp=Z,26nm,1.1s,mb5.1							
VNDA	**Vanda**	**72.71**	**170**	P	**P**	**23 10 17.4**	**+2.1**
comp=Z,0.3nm,0.3s,mb3.6,baz=250,slow=4.8,SNR=3.5							
VNDA				LR	LR	23 42 00.3	
comp=Z,109nm,19.2s,MS4.1,baz=284,slow=36							
ARU	**Arti**	**79.30**	**333**	*e*P	**P**	**23 10 53.1**	**+0.2**
comp=Z,12nm,1.0s,mb4.8							
MATP	**Matopo**	**81.81**	**251**	LR	LR	23 42 19.3	
comp=Z,46nm,18.1s,MS3.9,baz=137,slow=32							
BOSA	**Boshof**	**83.76**	**242**	LR	LR	23 40 52.6	
comp=Z,57nm,19.2s,MS4.0,baz=91,slow=30							
BRTR	**Keskin Array B**	**87.83**	**311**	P	**P**	**23 11 36.5**	**-0.2**
comp=Z,1.8nm,0.9s,mb4.3,baz=117,slow=5.5,SNR=8.1							
SNAA	**Sanae**	**89.16**	**197**	LR	LR	23 46 46.6	
comp=Z,25nm,18.9s,MS3.7,baz=83,slow=32							
FINES	**FINESS Array B**	**96.61**	**331**	LR	LR	23 58 50.0	
comp=Z,42nm,21.3s,MS3.9,baz=166,slow=37							
ARCES	**ARCESS Array B**	**97.74**	**339**	LR	LR	23 59 24.6	
comp=Z,46nm,18.1s,MS4.0,baz=272,slow=37							

*NIED **06** 23:09:00, 33.40N×142.60E, h5km, Mw4.0 Best double couple: M0 1.05×10^15 NP1:φs 181°, δ70°, λ-91°. NP2:φs 4°, δ20°, λ-87°.*
*IDC **06** 23:09:10.6±0.8, 33.30N×142.94E, mb3.9/13, mb1 4.1/14, mb1mx4.1/20, mbtmp3.9/14, ML3.3/1, MS2.9/2, Ms1 2.9/2, ms1mx2.6/21, Error ellipse: s-maj=21.5km s-min=20.8km az=114.0*
*NEIC **06** 23:09:13.4±11.0, 33.33N×142.75E, h18km±68km, mb4.4/2, Error ellipse: s-maj=29.0km s-min=19.5km az=127.0*
*JMA **06** 23:09:14.2±0.5, 33.40N×142.56E, h64km, M3.7*
*MOS **06** 23:09:14.2±2.0, 33.46N×142.69E, h33km, mb4.3/11, Error ellipse: s-maj=19.7km s-min=10.1km az=113.7*
ISC 06 23:09:15.8±0.6, 33.73N±0.05×142.69E±0.05, h33km, n54, σ1§38/62, mb3.9/17, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.69**	**303**	P	**P**	**23 09 43.6**	**+0.2**
BSO1				S	**S**	**23 10 05.7**	**+1.6**
BSO2	**Boso 2**	**1.90**	**303**	S	**S**	**23 10 12.7**	**+3.3**
BSO3	**Boso 3**	**2.10**	**301**	P	**P**	**23 09 49.4**	**+0.2**
BSO4	**Boso 4**	**2.32**	**304**	P	**P**	**23 09 53.2**	**+0.8**
BSO4				S	**S**	**23 10 21.3**	**+1.3**
JHJ2	**Mitsune**	**2.48**	**256**	P	**P**	**23 09 50.8**	**-3.9**
JHJ	**Hachijo jima 2**	**2.50**	**257**	Pn	**Pn**	**23 09 50.9**	**-4.4**
48nm,0.3s,baz=183,slow=7.0,SNR=16							
JHJ				Sn	**Sn**	**23 10 19.3**	**-5.7**
49nm,0.3s,baz=60,slow=23,SNR=9.3							
JHJ				LR	LR	23 10 45.7	
comp=Z,302nm,19.6s,baz=314,slow=36							
JOD2	**Odawara 2**	**3.34**	**298**	P	**P**	**23 10 05.8**	**-1.2**
JOD2				S	**S**	**23 10 44.8**	**-1.3**
JAG	**Ashikaga**	**

MAT				eS	S	23 11 15.7	-2.7
MAT	**Matsushiro**	**4.62**	**309**	P	P	23 10 26.0	+0.8
MAT	**Matsushiro**	**4.62**	**309**	eP	P	23 10 25.0	-0.2
MAT				S	S	23 11 16.0	-2.4
JMK	**Ichinoseki**	**5.34**	**348**	P	P	23 10 34.8	-0.6
JMK				S	S	23 11 35.6	-1.0
JYK	**Kaneyama**	**5.51**	**341**	P	P	23 10 37.9	+0.3
JYK				S	S	23 11 40.2	-0.5
JSD	**Sado**	**5.60**	**321**	P	P	23 10 38.7	-0.3
JNU	**Nakatsue**	**9.89**	**270**	Pn	P	23 11 37.5	-1.2
	0.2nm,0.3s,baz=96,slow=18,SNR=4.2						
JNU				LR	LR	23 15 18.1	
	comp=Z,65nm,21.3s,baz=88,slow=36						
YSS	**Yuzh-Sakhalins**	**13.21**	**0**	eP	P	23 12 22.0	-1.6
PET	**Petropavlovsk**	**22.41**	**26**	P	P	23 14 16.9	+4.2
SONM	**Songino Array**	**30.57**	**308**	P	P	23 15 29.9	+1.3
	2.3nm,0.7s,mb4.1,baz=104,slow=9.2,SNR=11						
SONM	**Songino Array**	**30.57**	**308**	P	P	23 15 29.9	+1.4
SONM				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BOD	**Bodaibo**	**30.89**	**330**	eP	P	23 15 31.3	+0.1
BOD				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.3						
ZAK	**Zakamensk**	**33.20**	**312**	eP	P	23 15 53.7	+2.2
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.2s,mb3.6						
ZAL	**Zalesovo**	**44.96**	**315**	P	P	23 17 32.0	+2.8
	comp=Z,0.7nm,0.5s,mb3.8,baz=184,slow=4.8,SNR=1.9						
ZAL	**Zalesovo**	**44.96**	**315**	P	P	23 17 32.0	+2.8
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**46.81**	**305**	P	P	23 17 44.3	+0.3
	comp=Z,0.4nm,0.4s,mb3.7,baz=90,slow=8.5,SNR=4.6						
KURK	**Kurchatov**	**48.83**	**311**	eP	P	23 17 59.3	-0.4
	comp=Z,6.1nm,0.8s,mb4.7						
KURK				e	pP	23 18 07.6	-2.0
KURK	**Kurchatov**	**48.83**	**311**	eP	P	23 17 59.3	-0.4
KURK				e	pP	23 18 07.6	-2.0
KURK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
COLA	**College**	**51.35**	**31**	eP	P	23 18 18.4	-0.3
	comp=Z,1.5nm,0.7s,mb4.0						
COLA	**College**	**51.35**	**31**	eP	P	23 18 18.4	-0.3
COLA				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
ILAR	**Eielson Array**	**51.76**	**31**	P	P	23 18 21.0	-0.8
	comp=Z,0.9nm,0.6s,mb3.9,baz=260,slow=5.8,SNR=9.0						
ILAR	**Eielson Array**	**51.76**	**31**	P	P	23 18 21.0	-0.8
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	**Warramunga Arr**	**53.96**	**190**	P	P	23 18 32.7	-6.2
	comp=Z,0.8nm,0.6s,mb3.8,baz=9.2,slow=7.7,SNR=8.8						
WRA	**Warramunga Arr**	**53.96**	**190**	P	P	23 18 32.7	-6.2
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FITZ	**Fitzroy Crossi**	**54.05**	**200**	P	P	23 18 34.3	-5.2
	comp=Z,4.6nm,0.8s,mb4.5,baz=17,slow=9.2,SNR=5.1						
YKA	**Yellowknife Ar**	**66.15**	**30**	P	P	23 19 59.5	-2.1
	comp=Z,0.4nm,0.5s,mb3.7,baz=300,slow=6.7,SNR=4.6						
YKA	**Yellowknife Ar**	**66.15**	**30**	P	P	23 19 59.5	-2.1
FINES	**FINESS Array B**	**72.22**	**333**	P	P	23 20 38.4	-0.6
	comp=Z,3.5nm,1.1s,mb4.2,baz=146,slow=34,SNR=3.6						
FINES	**FINESS Array B**	**72.22**	**333**	P	P	23 20 38.4	-0.5
FINES				pmax	pmax		
	comp=Z,4.0nm,1.1s						
AKASG	**Malin Array Be**	**77.56**	**323**	P	P	23 21 11.6	+1.8
	comp=Z,0.2nm,0.4s,mb3.4,baz=27,slow=2.1,SNR=3.2						
NB2	**NORSAR Subarra**	**77.63**	**338**	P	pP	23 21 22.1	+1.7
	comp=Z,1.4nm,0.8s,baz=37,slow=5.6						
NOA	**NORSAR Array B**	**77.63**	**338**	P	P	23 21 11.0	+0.9
	comp=Z,0.5nm,0.7s,mb3.5,baz=127,slow=2.2,SNR=2.5						
NOA	**NORSAR Array B**	**77.63**	**338**	P	P	23 21 11.0	+1.0
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
PDAR	**Pinedale Array**	**79.23**	**46**	P	P	23 21 18.6	-0.5
	comp=Z,0.5nm,0.7s,mb3.6,baz=135,slow=2.1,SNR=4.9						
BRTR	**Keskin Array B**	**81.83**	**313**	P	P	23 21 35.0	+1.9
	comp=Z,0.5nm,0.6s,mb3.7,baz=45,slow=1.7,SNR=3.4						
BRTR	**Keskin Array B**	**81.83**	**313**	P	P	23 21 35.0	+2.0
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
PV10	**Paradox Valley**	**82.17**	**49**	eP	P	23 21 36.1	+1.3
TXAR	**Lajitas Array**	**91.29**	**53**	P	P	23 22 20.7	+1.2
	comp=Z,0.7nm,0.6s,mb4.2,baz=310,slow=3.4,SNR=14						
TXAR	**Lajitas Array**	**91.29**	**53**	P	P	23 22 20.7	+1.2
TXAR	**Lajitas Array**	**91.29**	**53**	P	P	23 22 20.7	+1.2
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
LPAZ	**La Paz**	**147.29**	**66**	eP	PKPdf	23 28 51.8	-2.3
SIV	**San Ignacio**	**152.24**	**56**	PKPab	PKPab	23 29 19.5	-1.2
	comp=Z,1.4nm,0.8s,baz=336,slow=4.0,SNR=6.8						

*IDC **06** 23:54:39.1±5.8, 19.24N×121.15E, mb3.9/5, mb1 4.1/5, mb1mx3.8/18, mbtmp3.9/5, MS3.2/3, Ms1 3.3/3, ms1mx2.9/26, Error ellipse: s-maj=157.5km s-min=52.2km az=18.0*
*MAN **06** 23:54:42.5, 19.32N×120.86E, h25km, mb4.7, ML3.6, MS3.6*
ISC 06 23:54:43.4±1.5, 19.25N±0.07×120.9E±0.2, h36km±22km, n13, σ0°74/13, mb3.8/5, MS3.2/2, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**1.41**	**168**	eP	P	23 55 06.0	-1.1
APYP				eS	S	23 55 23.8	-0.8
BBP	**Basco**	**1.53**	**39**	eP	P	23 55 08.4	-0.4
BBP				eS	S	23 55 27.8	+0.2
ABRA	**Dolores**	**1.61**	**187**	eP	P	23 55 10.1	+0.3
CVP	**Callao Caves**	**1.76**	**151**	eP	P	23 55 12.0	+0.1
CAUP	**Cauayan**	**2.44**	**160**	eP	P	23 55 24.7	+2.9
BALP	**Baler**	**3.54**	**170**	eP	P	23 55 38.0	+0.6
JOW	**Kunigami**	**10.13**	**40**	LR	LR	00 00 49.5	
	comp=Z,156nm,19.8s,baz=180,slow=37						
SONM	**Songino Array**	**30.87**	**341**	P	P	00 00 57.9	-0.7
	0.4nm,0.7s,mb3.4,baz=163,slow=10,SNR=5.3						
SONM				LR	LR	00 13 31.7	
	comp=Z,36nm,19.3s,MS3.0,baz=86,slow=37						
MKAR	**Makanchi Array**	**41.83**	**320**	P	P	00 02 31.6	+0.2
	1.5nm,0.8s,mb3.7,baz=111,slow=8.9,SNR=13						
ZAL	**Zalesovo**	**44.32**	**330**	P	P	00 02 51.5	0.0
	0.8nm,0.3s,mb3.9,baz=2.9,slow=8.2,SNR=2.9						
BVAR	**Borovoye Array**	**51.40**	**323**	P	P	00 03 46.9	+0.2
	0.6nm,0.7s,mb3.7,baz=100,slow=9.0,SNR=5.4						
NOA	**NORSAR Array B**	**82.46**	**332**	LR	LR	00 47 23.9	
	comp=Z,20nm,21.8s,MS3.4,baz=90,slow=38						
YKA	**Yellowknife Ar**	**87.59**	**23**	P	P	00 07 28.6	0.0
	1.8nm,0.7s,mb4.4,baz=312,slow=4.6,SNR=16						

CASC 06 23:55:37.9±1.9, 9.20N×82.55W, h11km±12km, MD3.7, MW4.3, 2C-2D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNI	**Changuinola**	**0.22**	**9**	‖ iP	Pg	23 55 43.1	+0.4
CNI				eS	Sg	23 55 47.0	+1.2
BRU	**Baru**	**0.39**	**182**	eP	Pg	23 55 47.0	+1.1
BRU				eS	Sg	23 55 53.7	+2.4
BRU2	**Volcan**	**0.43**	**199**	‖ iP	Pg	23 55 47.6	+1.0
BRU2				eS	Sg	23 55 55.6	+3.1
DVD	**David**	**0.77**	**173**	eP	Pb	23 55 52.5	-0.3
SFX2	**San Felix**	**1.12**	**143**	eP	Pb	23 56 04.4	+5.5
SFX2				eS	Sb	23 56 12.3	-1.1
BUS	**Buena Vista**	**1.24**	**287**	⇑ eP	Pb	23 56 00.4	-0.6
BUS				eS	Sb	23 56 18.1	+1.2
LCR2	**La Lucha 2**	**1.53**	**291**	eP	Pn	23 56 04.6	-0.8
LCR2				eS	Sb	23 56 26.3	+1.1
PRS1	**Puriscal**	**1.90**	**294**	⇑ eP	Pn	23 56 10.3	-0.4
PRS1				eS	Sn	23 56 36.3	+1.4
AZU	**Azuero**	**2.65**	**122**	eP	Pn	23 56 20.0	-1.4

MAN 07 00:01:09.3, 12.07N×126.08E, h7km, mb4.8, ML3.7, MS3.6, 2C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.78**	**234**	eP	Pb	00 01 24.2	-0.5
BESP				eS	Sb	00 01 33.3	-2.0
PLP	**Palo**	**1.40**	**230**	i P	Pn	00 01 33.9	-1.4
PLP				i S	Sb	00 01 49.7	-3.7
CNP	**Cataraman**	**1.45**	**288**	eP	Pn	00 01 36.0	-0.1
MSLP	**Maasin**	**2.26**	**212**	eP	Pn	00 01 48.4	+0.7
MSLP				eS	Sn	00 02 19.1	+2.9
SCPH	**Surigao**	**2.34**	**194**	⇑ eP	Pn	00 01 48.7	-0.1
PVCP	**Virac**	**2.42**	**309**	eP	Pn	00 01 49.1	-0.7
RCP	**Roxas**	**3.30**	**262**	⇑ eP	Pn	00 02 03.5	+1.0
GUIM	**Jordan**	**3.71**	**248**	eP	Pn	00 02 07.4	-0.8

*IDC **07** 00:18:02.1±0.7, 1.64S×125.95E, mb4.2/7, mb1 4.4/9, mb1mx4.2/18, mbtmp4.3/9, ML4.2/2, Error ellipse: s-maj=69.7km s-min=15.2km az=65.0*
*NEIC **07** 00:18:13.9±2.5, 1.58S×126.08E, h95km±24km, mb4.3/5, Error ellipse: s-maj=24.0km s-min=11.8km az=63.0*
ISC 07 00:18:12.2±0.6, 1.68S±0.07×126.0E±0.2, h100km, n22, σ1§20/22, mb4.0/9, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**12.70**	**150**	eP	P	00 21 11.4	+1.1
	11nm,0.8s						
FITZ	**Fitzroy Crossi**	**16.32**	**181**	eP	P	00 21 59.0	+2.2
	8.0nm,0.7s						
FITZ	**Fitzroy Crossi**	**16.32**	**181**	Pn	P	00 21 54.6	-2.1
	0.3nm,0.3s,baz=9.8,slow=14,SNR=3.4						
FITZ				Sn	S	00 24 52.9	-1.2
	0.1nm,0.3s,baz=192,slow=17,SNR=2.6						
FITZ	**Fitzroy Crossi**	**16.32**	**181**	eP	P	00 21 59.0	+2.2
FITZ				Sn	S	00 24 52.9	-1.2
WRAB	**Tennant Creek**	**19.91**	**156**	eP	P	00 22 34.0	-4.2
	40nm,1.1s						
WRA	**Warramunga Arr**	**19.91**	**156**	P	P	00 22 34.8	-3.5
	1.5nm,0.3s,baz=339,slow=12,SNR=23						
WB2	**Warramunga Arr**	**19.92**	**156**	eP	P	00 22 34.0	-4.3
MBWA	**Marble Bar**	**20.30**	**197**	eP	P	00 22 43.6	+1.4
	10.0nm,0.7s						
CTA	**Charters Tower**	**26.98**	**134**	P	P	00 23 47.2	+0.6
	2.7nm,0.6s,mb3.9,baz=300,slow=9.5,SNR=8.9						
CTA	**Charters Tower**	**26.98**	**134**	P	P	00 23 47.2	+0.5
CTAO	**Charters Tower**	**26.98**	**134**	eP	P	00 23 47.3	+0.7
	5.1nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**33.46**	**155**	P	P	00 24 42.1	-1.7
	2.5nm,0.6s,mb4.2,baz=336,slow=12,SNR=6.0						
SONM	**Songino Array**	**52.19**	**343**	P	P	00 27 14.2	-0.6
	1.4nm,0.7s,mb4.1,baz=156,slow=8.5,SNR=11						
MKAR	**Makanchi Array**	**61.60**	**327**	P	P	00 28 21.9	+0.4
	1.9nm,0.5s,mb4.3,baz=115,slow=7.7,SNR=24						
ZAL	**Zalesovo**	**65.08**	**335**	P	P	00 28 43.5	-0.7
	0.6nm,0.3s,mb3.9,baz=296,slow=3.2,SNR=4.9						
KURK	**Kurchatov**	**65.92**	**329**	eP	P	00 28 49.5	-0.2
	5.9nm,0.8s,mb4.5						
BVAR	**Borovoye Array**	**71.45**	**328**	P	P	00 29 23.7	+0.1
	0.6nm,0.4s,mb3.8,baz=141,slow=9.5,SNR=7.6						
BRVK	**Borovoye**	**71.52**	**328**	eP	P	00 29 24.0	0.0
	1.2nm,0.8s,mb3.8						
VNDA	**Vanda**	**78.20**	**173**	P	P	00 30 03.2	+1.4
	1.3nm,0.8s,mb3.7,baz=298,slow=7.5,SNR=8.7						
VNDA	**Vanda**	**78.20**	**173**	P	P	00 30 03.2	+1.4
CPUP	**Villa Florida**	**151.97**	**174**	PKPbc	PKPdf	00 37 60.0	+10
	3.1nm,0.6s,baz=190,slow=1.9,SNR=9.4						
CPUP				PKPab	PKPab	00 38 10.2	+2.0
	1.4nm,0.7s,baz=149,slow=5.9,SNR=4.8						
CPUP	**Villa Florida**	**151.97**	**174**	ePKPbc	PKPdf	00 38 00.1	+10
CPUP				PKPab	PKPab	00 38 10.2	+2.0

*TIF **07** 00:29:40.9, 43.44N×45.00E, h23km±1km*
*MOS **07** 00:29:40.4±1.4, 43.41N×44.95E, h11km, mb3.5/1, Error ellipse: s-maj=12.7km s-min=9.5km az=15.2*
ISC 07 00:29:40.0±0.8, 43.48N±0.04×45.05E±0.05, h10km, n15, σ1§33/30, 4C, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARNR	**Ardon**	**0.64**	**243**	ePG	Pg	00 29 54.2	+1.3
ARNR				eS	Sg	00 30 04.2	+2.7
LACR	**Lac**	**0.86**	**220**	ePG	Pg	00 29 56.8	-0.5
LACR				eS	Sb	00 30 08.8	+0.8
LSNR	**Lesken**	**0.93**	**257**	ePG	Pg	00 29 57.8	-0.8
LSNR				eS	Sb	00 30 10.6	+0.7
ZEI	**Tsey**	**1.11**	**230**	ePG	Pg	00 29 59.9	-2.3
ZEI				eS	Sb	00 30 14.2	-0.9
BTLR	**Botlikh**	**1.19**	**133**	ePG	Pg	00 30 01.7	-2.1
BTLR				i S	Sb	00 30 19.0	+1.6
BTLR				pmax	pmax		
	comp=Z,40nm,0.2s						
DIGR	**Digorskoe uzhe**	**1.23**	**242**	ePG	Pg	00 30 01.7	-2.9
DIGR				eS	Sb	00 30 17.5	-1.1
KUBR	**Kubataba**	**1.23**	**285**	⇑ ePG	Pg	00 30 03.6	-1.2
KUBR				eS	Sb	00 30 20.3	+1.5
ONI	**Oni**	**1.48**	**233**	P	Pn	00 30 06.2	-0.7
ONI				S	Sb	00 30 25.0	-1.0
PYA	**Pyatigorsk**	**1.55**	**292**	ePG	Pg	00 30 08.7	-2.3
PYA				eS	Sb	00 30 28.5	+0.6
SHAR	**Shatzhatmas**	**1.75**	**279**	⇑ ePN	Pn	00 30 11.3	+0.5
SHAR				eS	Sn	00 30 33.2	-0.1
TBLG	**Delisi**	**1.77**	**188**	P	Pn	00 30 11.6	+0.6
TBLG				S	Sn	00 30 35.4	+1.7
KIV0	**Kislovodsk Arr**	**1.77**	**286**	⇑ ePN	Pn	00 30 11.7	+0.6
KIV0				eS	Sn	00 30 34.2	+0.3
KIV	**Kislovodsk**	**1.78**	**286**	⇑ iPN	Pn	00 30 11.6	+0.4
KIV				eS	Sn	00 30 34.4	+0.4
NAGR	**Nagutskaya**	**1.92**	**301**	ePN	Pn	00 30 15.5	+2.4
NAGR				eS	Sn	00 30 41.7	+4.2
GOF	**Gofitskoye**	**2.14**	**318**	ePN	Pn	00 30 14.0	-2.3
GOF				i S	Sn	00 30 49.0	+5.8
GOF				smax			
	comp=N,40nm,0.8s						

*IDC **07** 01:23:29.0±0.6, 0.31N×98.30E, mb4.3/12, mb1 4.4/12, mb1mx4.3/17, mbtmp4.3/12, MS3.7/4, Ms1 3.7/4, ms1mx3.3/15, Error ellipse: s-maj=29.1km s-min=15.4km az=55.0*
*MOS **07** 01:23:32.2±1.1, 0.42N×98.49E, h33km, mb4.8/17, Error ellipse: s-maj=23.0km s-min=11.2km az=107.9*
*BJI **07** 01:23:33.6, 0.40N×98.04E, h35km, mB4.9, mb4.9, Ms4.3, Msz3.7*
*NEIC **07** 01:23:35.3±2.6, 0.22N×98.26E, h46km±22km, mb4.8/10, Error ellipse: s-maj=18.8km s-min=9.8km az=57.0*
ISC 07 01:23:31.4±0.4, 0.17N±0.06×98.20E±0.06, h30km, h30km±3.8km: pP-P, n83, σ1§23/78, mb4.6/39, MS3.9/8, 1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.21**	**33**	P	Pn	01 24 51.1	+1.6
KGM	**Kluang**	**5.44**	**70**	P	Pn	01 24 54.6	+2.0
KULM	**Kulim**	**5.65**	**26**	eP	Pn	01 24 55.7	+0.2
SNG	**Songkhla**	**7.37**	**19**	P	Pn	01 25 19.0	-0.8
	206nm,0.8s						
NST	**Nakhon Sawan**	**15.53**	**7**	P	P	01 27 11.0	+0.9
KKTK	**Khon Kaen**	**16.70**	**16**	P	P	01 27 20.5	-4.6
NANT	**Nan**	**18.68**	**7**	P	P	01 27 40.5	-9.2
KKM	**Kota Kinabalu**	**18.90**	**72**	P	P	01 27 52.5	+0.1
KKM	**Kota Kinabalu**	**18.90**	**72**	eP	P	01 27 53.2	+0.8
TSM	**Tawau**	**20.08**	**78**	P	P	01 28 05.3	-0.2
KMI	**Kunming**	**25.20**	**10**	P	P	01 28 56.8	+0.6
KMI				AP	pP	01 29 06.1	+1.1
KMI				XP	sP	01 29 10.0	+0.9
KMI				S	S	01 33 07.4	-9.3
KMI				SS	SS	01 34 16.7	-1.2
KMI				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.2						
KMI				AMB	AMB		
	comp=Z,233nm,4.3s						
KMI				LR	LR		
	comp=N,314nm,18.5s,MS4.1						
KMI				LR	LR		
	comp=E,522nm,18.5s,MS4.1						
KMI				LR	LR		
	comp=Z,202nm,17.5s,MS3.7						
MBWA	**Marble Bar**	**29.86**	**137**	eP	P	01 29 39.5	+0.7
PKI	**Pulchoki**	**29.89**	**337**	eP	P	01 29 43.5	+4.6
DMN	**Daman**	**30.04**	**336**	eP	P	01 29 44.2	+3.9
	comp=Z,30nm,0.8s,mb5.1						
LSA	**Lhasa**	**30.13**	**348**	P	P	01 29 40.6	-0.4
LSA	**Lhasa**	**30.13**	**348**	eP	P	01 29 40.0	-1.0
	comp=Z,13nm,0.8s,mb4.7						
LSA	**Lhasa**	**30.13**	**348**	eP	P	01 29 40.0	-1.0
LSA				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.7						
KKN	**Kakani**	**30.13**	**337**	eP	P	01 29 45.6	+4.5
	comp=Z,48nm,0.9s,mb5.2						
GKN	**Gorkha**	**30.58**	**336**	eP	P	01 29 47.0	+2.0
	comp=Z,39nm,0.8s,mb5.3						
KOLN	**Koldanda**	**30.81**	**334**	eP	P	01 29 46.2	-0.9
	comp=Z,27nm,0.9s,mb5.1						
ENH	**Enshi**	**31.81**	**19**	eP	P	01 29 54.6	-1.2
	comp=Z,9.9nm,0.6s,mb4.8						
FITZ	**Fitzroy Crossi**	**32.52**	**125**	eP	P	01 30 00.7	-1.4
	comp=Z,5.6nm,0.9s,mb4.5						
FITZ	**Fitzroy Crossi**	**32.52**	**125**	P	P	01 30 01.0	-1.1
	comp=Z,4.2nm,0.8s,mb4.5,baz=348,slow=9.4,SNR=5.2						
XAN	**Xi'an**	**35.16**	**16**	P	P	01 30 23.5	-1.3
XAN				AMB	AMB		
	comp=Z,17nm,0.7s,mb5.1						
LZH	**Lanzhou**	**36.12**	**8**	eP	P	01 30 34.0	+1.1
LZH				AP	pP	01 30 40.5	-1.4
LZH				XP	sP	01 30 45.5	-0.3
LZH				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.9						
GTA	**Gaotai**	**39.08**	**2**	eP	P	01 30 57.5	-0.2
GTA				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.2						
GTA				AMB	AMB		
	comp=Z,105nm,5.0s						
GTA				LR	LR		
	comp=N,136nm,17.2s,MS4.1						
GTA				LR	LR		
	comp=E,192nm,19.1s,MS4.1						
GTA				LR	LR		
	comp=Z,86nm,16.1s,MS3.7						
WRA	**Warramunga Arr**	**40.64**	**122**	P	P	01 31 09.8	-0.9
	comp=Z,2.6nm,0.4s,mb4.2,baz=302,slow=9.0,SNR=24						
WRA				PcP	PcP	01 33 13.9	+1.0
	comp=Z,0.8nm,0.4s,baz=314,slow=2.6,SNR=6.0						
WRA	**Warramunga Arr**	**40.64**	**122**	P	P	01 31 09.8	-1.0
WRA						01 33 13.9	
WRA				pmax	pmax		
	comp=Z,3.0nm,0.4s						
WRA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRAB	**Tennant Creek**	**40.65**	**122**	eP	P	01 31 09.8	-1.0
	comp=Z,32nm,1.4s,mb4.8						
WRAB	**Tennant Creek**	**40.65**	**122**	eP	P	01 31 09.8	-1.0
WRAB				pmax	pmax		
	comp=Z,32nm,1.4s,mb4.8						
WB2	**Warramunga Arr**	**40.65**	**122**	‖ iP	P	01 31 09.8	-1.1
HHC	**Hu-ho-hao-te**	**42.27**	**15**	eP	P	01 31 27.3	+3.3
HHC				AMB	AMB		
	comp=Z,18nm,0.7s,mb4.8						
HHC				AMB	AMB		
	comp=Z,134nm,6.4s						
WMQ	**Urumqi**	**44.46**	**349**	P	P	01 31 42.0	+0.2
WMQ				AP	pP	01 31 53.0	+2.1
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
JNU	**Nakatsue**	**44.93**	**40**	P	P	01 31 46.8	+1.1
	comp=Z,13nm,0.8s,mb4.8,baz=291,slow=5.9,SNR=8.5						
KS15	**Wonju Array Si**	**46.11**	**33**	P	P	01 31 54.3	-0.6
SONM	**Songino Array**	**48.01**	**7**	P	P	01 32 09.8	0.0
	comp=Z,3.6nm,0.5s,mb4.6,baz=183,slow=9.7,SNR=29						
SONM				PcP	PcP	01 33 37.9	+0.1
	comp=Z,2.9nm,0.7s,baz=187,slow=3.9,SNR=4.5						
SONM				LR	LR	01 55 47.7	
	comp=Z,80nm,20.4s,MS3.7,baz=356,slow=40						
SONM	**Songino Array**	**48.01**	**7**	P	P	01 32 09.8	+0.1
SONM						01 33 37.9	
SONM				pmax	pmax		
	comp=Z,4.0nm,0.5s						
SONM				pmax	pmax		
	comp=Z,3.0nm,0.7s						
SONM				MLR	MLR		
	comp=Z,80nm,20.4s						
MKAR	**Makanchi Array**	**48.48**	**345**	P	P	01 32 13.1	-0.3
	comp=Z,17nm,0.6s,mb5.2,baz=154,slow=7.6,SNR=166						
MKAR				PcP	PcP	01 33 39.2	-0.3
	comp=Z,0.8nm,0.7s,baz=170,slow=8.8,SNR=2.1						
MKAR				LR	LR	01 55 03.6	
	comp=Z,70nm,20.4s,MS3.6,baz=2.7,slow=39						
MKAR	**Makanchi Array**	**48.48**	**345**	P	P	01 32 13.1	-0.3
MKAR				PcP	PcP	01 33 39.2	-0.3
MKAR				LR	LR	01 55 03.6	
MKAR	**Makanchi Array**	**48.48**	**345**	P	P	01 32 13.1	-0.3
MKAR						01 33 39.2	
MKAR				pmax	pmax		
	comp=Z,17nm,0.6s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR				MLR	MLR		
	comp=Z,70nm,20.5s						
CN2	**Changchun**	**49.78**	**26**	eP	P	01 32 24.1	+0.6
CN2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.3						
CN2				LR	LR		
	comp=N,210nm,16.0s,MS4.4						
CN2				LR	LR		
	comp=E,260nm,16.0s,MS4.4						
ZAK	**Zakamensk**	**50.21**	**4**	eP	P	01 32 25.7	-1.0
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.1						
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.9						
TLY	**Talaya**	**51.53**	**4**	eP	P	01 32 39.1	+2.4
TLY				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
TLY				MLR	MLR		
	comp=Z,77nm,15.0s,MS3.9						
STKA	**Stephens Creek**	**51.92**	**132**	eP	P	01 32 40.1	+0.2
	comp=Z,6.6nm,0.4s,mb4.9						
STKA	**Stephens Creek**	**51.92**	**132**	P	P	01 32 40.5	+0.6
	comp=Z,7.9nm,0.5s,mb4.9,baz=310,slow=8.1,SNR=37						
STKA				LR	LR	01 54 27.6	
	comp=Z,170nm,21.2s,MS4.0,baz=343,slow=36				

comp=Z,2.5nm,0.6s,mb4.3,baz=135,slow=5.4,SNR=6.3
FINES FINESS Array B 81.37 332 P **P 01 35 46.1 -0.4**
FINES pmax pmax
comp=Z,3.0nm,0.6s
KAF Kangasniemi 81.45 333 *ep* **P 01 35 45.8 -1.1**
comp=Z,4.0nm,0.6s,mb4.5
ARCES ARCESS Array B 83.84 340 P **P 01 35 58.4 -0.6**
comp=Z,3.3nm,0.8s,mb4.5,baz=98,slow=6.4,SNR=5.9
ARCES ARCESS Array B 83.84 340 P **P 01 35 58.4 -0.6**
ARCES ARCESS Array B 83.84 340 P **P 01 35 58.4 -0.7**
ARCES pmax pmax
comp=Z,3.0nm,0.8s
GERES GERESS Array B 86.25 319 P **P 01 36 12.1 +0.5**
comp=Z,0.8nm,1.1s,mb3.9,baz=108,slow=4.2,SNR=6.6
GERES GERESS Array B 86.25 319 P **P 01 36 12.1 +0.5**
GERES GERESS Array B 86.25 319 P **P 01 36 12.1 +0.6**
GERES pmax pmax
comp=Z,1.0nm,1.1s
LPG La Plagne 90.90 315 *eP* **P 01 36 39.6 +5.8**
comp=Z,6.0nm,0.8s,mb4.7
LPG La Plagne 90.90 315 *eP* **P 01 36 39.6 +5.8**
LPG pmax pmax
comp=Z,3.0nm,0.8s,mb4.7
PDAR Pinedale Array 130.52 27 PKP PKPdf 01 42 43.0 -1.9
comp=Z,0.3nm,0.4s,baz=281,slow=7.6,SNR=3.5
TXAR Lajitas Array 143.99 34 PKP PKPdf 01 43 05.5 -4.3
comp=Z,0.5nm,0.5s,baz=245,slow=1.2,SNR=10
TXAR Lajitas Array 143.99 34 PKIKP PKPdf 01 43 05.6 -4.2
TXAR pmax pmax
comp=Z,1.0nm,0.5s
CPCT Cooper Cave 144.48 4 *eP* PKPbc 01 43 06.5 +1.4
JCT Junction City 145.04 28 *e*PKP PKPdf 01 43 07.8 -3.9

NEIC ***07*** *01:34:30.6, 34.90N×26.51E, h8km, MD3.5(ATH), After ATH.*
CSEM ***07*** *01:34:30.6, 34.90N×26.51E, h8km, MD3.5/7, After ATH*
ATH 07 01:34:30.7, 34.89N×26.51E, h5km±2km, MD3.4/6, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.67**	**269**	*e*PB	Pb	01 34 43.5	-1.0
XRY				*e*SB	Sb	01 34 53.0	-0.8
XRY	**Khrisi**	**0.67**	**269**	*e*Pb	Pb	01 34 43.0	-1.5
NPS	**Neapolis**	**0.82**	**297**	*e*PB	Pb	01 34 46.0	-1.1
NPS				*e*SB	Sb	01 34 57.0	-1.3
NPS	**Neapolis**	**0.82**	**297**	*e*Pg	Pg	01 34 46.0	-1.2
NPS				*e*Sb	Sb	01 34 57.9	-0.4
KARP	**Karpathos**	**0.84**	**39**	*e*PG	Pg	01 34 46.2	-1.4
KARP				*e*SB	Sb	01 34 59.0	+0.1
SANT	**Santorini**	**1.71**	**330**	*e*P	Pn	01 35 00.1	-1.2
ARG	**Arkhangelos**	**1.87**	**44**	*e*PN	Pn	01 35 05.5	+1.9
ARG	**Arkhangelos**	**1.87**	**44**	*e*Pg	Pg	01 35 06.4	-1.6
VAM	**Vamos**	**1.96**	**286**	*e*PG	Pg	01 35 07.3	-2.6
VAM				*e*SN	Sn	01 35 33.5	+3.2
APE	**Apeiranthos**	**2.31**	**340**	*e*PN	Pn	01 35 11.0	+0.9
APE	**Apeiranthos**	**2.31**	**340**	*e*Pb	Pb	01 35 10.1	-2.5
VLI	**Veliai**	**3.43**	**303**	*e*Pn	Pn	01 35 25.0	-0.9

NIED ***07*** *01:56:00, 27.50N×128.80E, h47km, Mw3.9 Best double couple: M0=7.29×10^14 NP1:φs=135°, δ69°, λ43°. NP2:φs=26°, δ51°, λ152°.*
JMA ***07*** *01:56:12.1, 27.48N×128.78E, h53km±1km, M3.7*
JMA Felt I J1.
IDC ***07*** *01:56:12.5±0.9, 27.46N×128.64E, h56km±12km, mb3.7/8, mb1 3.9/9, mb1mx3.7/19, mbtmp4.0/9, Error ellipse: s-maj=41.4km s-min=14.2km az=118.0*
NEIC ***07*** *01:56:13.1±0.8, 27.48N×128.51E, h60km±9km, mb4.1/2, Error ellipse: s-maj=20.1km s-min=9.8km az=136.0*
NEIC Recorded [1 JMA] on Okino-erabu-shima.
ISC 07 01:56:11.6±0.4, 27.55N±0.06×128.70E±0.09, h62km±4km, n30, σ0§86/44, mb3.9/12, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.32**	**44**	P	**P**	**01 56 21.9**	**-0.3**
JTK				S	**S**	**01 56 28.9**	**-1.0**
JOW	**Kunigami**	**0.81**	**208**	P	**P**	**01 56 27.1**	**-0.3**
	394nm,0.3s,baz=87,slow=19,SNR=1081						
JOW				S	**S**	**01 56 38.4**	**-0.8**
	1μm,0.3s,baz=133,slow=19,SNR=123						
JOW	**Kunigami**	**0.81**	**208**	P	**P**	**01 56 27.1**	**-0.3**
JOW				S	**S**	**01 56 38.1**	**-1.1**
JIH	**Iheya**	**0.83**	**232**	P	**P**	**01 56 28.1**	**+0.4**
JIH				S	**S**	**01 56 39.8**	**+0.2**
JAM	**Amami Oshima**	**1.17**	**43**	P	**P**	**01 56 32.6**	**+0.3**
JAM				S	**S**	**01 56 47.8**	**+0.1**
JZK	**Kikaishima**	**1.36**	**56**	P	**P**	**01 56 35.1**	**+0.1**
JZK				S	**S**	**01 56 53.1**	**+0.8**
JAGN	**Aguni-jima**	**1.61**	**234**	P	**P**	**01 56 38.9**	**+0.5**
JAGN				S	**S**	**01 56 59.7**	**+1.5**
NAH1	**Naha**	**1.62**	**214**	P	**P**	**01 56 38.5**	**0.0**
NAH1				S	**S**	**01 56 58.1**	**-0.2**
JJT2	**Tamagusuku 2**	**1.64**	**211**	P	**P**	**01 56 38.7**	**-0.2**
JJT2				*e*S	**S**	**01 56 59.6**	**+0.6**
JKE	**Kume jima 2**	**2.10**	**235**	P	**P**	**01 56 45.1**	**-0.1**
JKE				*e*S	**S**	**01 57 10.7**	**+0.7**
JNN	**Nakanoshima**	**2.50**	**24**	P	**P**	**01 56 51.2**	**+0.3**
JNN				S	**S**	**01 57 20.8**	**+0.5**
JKC	**Kuchinoerabu**	**3.18**	**24**	P	**P**	**01 57 00.8**	**+0.3**
JKC				S	**S**	**01 57 37.3**	**-0.1**
JTN	**Tanegashima 3**	**3.68**	**32**	P	**P**	**01 57 07.7**	**+0.2**
JTN				S	**S**	**01 57 48.2**	**-1.8**
JNU	**Nakatsue**	**5.86**	**18**	P	**P**	**01 57 39.2**	**+1.4**
	3.1nm,0.3s,baz=180,slow=3.0,SNR=18						
JNU				S	**S**	**01 58 45.5**	**+1.0**
	0.6nm,0.3s,baz=72,slow=20,SNR=4.2						
TATO	**Taipei**	**6.96**	**250**	P	**P**	**01 57 50.1**	**-3.1**
NACB	**Ninganchiao**	**7.23**	**244**	*e*P	**P**	**01 57 53.5**	**-3.4**
MKAR	**Makanchi Array**	**40.98**	**311**	P	**P**	**02 03 49.9**	**0.0**
	0.4nm,0.6s,mb3.2,baz=84,slow=11,SNR=4.6						
KURK	**Kurchatov**	**44.16**	**316**	*e*P	**P**	**02 04 14.6**	**-1.1**
	1.9nm,0.6s,mb4.0						
BRVK	**Borovoye**	**49.64**	**318**	*e*P	**P**	**02 04 56.8**	**-2.0**
	1.8nm,0.9s,mb4.1						
ILAR	**Eielson Array**	**63.08**	**29**	P	**P**	**02 06 33.9**	**-0.7**
	0.4nm,0.6s,mb3.7,baz=290,slow=9.0,SNR=6.1						
KEV	**Kevo**	**68.36**	**338**	*ep*	**P**	**02 07 07.4**	**-0.7**
	1.0nm,0.3s,mb4.3						
ARCES	**ARCESS Array B**	**68.93**	**338**	P	**P**	**02 07 11.4**	**-0.3**
	1.5nm,0.6s,mb4.1,baz=67,slow=8.0,SNR=19						
KAF	**Kangasniemi**	**71.55**	**331**	*ep*	**P**	**02 07 27.0**	**-0.6**
	0.3nm,0.3s,mb3.7						
FINES	**FINESS Array B**	**71.92**	**330**	P	**P**	**02 07 29.8**	**0.0**
	1.2nm,0.3s,mb4.2,baz=59,slow=5.9,SNR=28						
AKASG	**Malin Array Be**	**74.80**	**319**	P	**P**	**02 07 46.9**	**+0.1**
	1.0nm,0.3s,mb4.2,baz=56,slow=6.8,SNR=8.5						
YKA	**Yellowknife Ar**	**77.16**	**25**	P	**P**	**02 08 01.0**	**+1.1**
	0.5nm,0.5s,mb3.7,baz=296,slow=5.2,SNR=5.3						
YKA	**Yellowknife Ar**	**77.16**	**25**	P	**P**	**02 08 01.0**	**+1.1**
NB2	**NORSAR Subarra**	**78.31**	**334**	P	**P**	**02 08 06.9**	**+0.6**
	1.0nm,0.5s,mb4.0,baz=54,slow=5.6						
NOA	**NORSAR Array B**	**78.31**	**334**	P	**P**	**02 08 06.6**	**+0.3**
	1.2nm,0.5s,mb4.0,baz=52,slow=5.7,SNR=5.1						
GERES	**GERESS Array B**	**84.40**	**323**	P	**P**	**02 08 40.0**	**+1.6**
	0.3nm,0.5s,mb3.7,baz=68,slow=7.2,SNR=4.2						

IDC ***07*** *02:12:17.7±1.1, 43.37N×85.23E, mb3.6/5, mb1 3.8/8, mb1mx3.6/20, mbtmp3.6/8, ML3.1/3, Error ellipse: s-maj=34.6km s-min=14.8km az=51.0*
NEIC ***07*** *02:12:20.0±7.8, 43.46N×85.13E, h13km±47km, Error ellipse: s-maj=31.6km s-min=12.4km az=196.0*
BJI ***07*** *02:12:21.3, 43.97N×85.79E, h15km, mb4.1, ML3.8, Ms3.9, Msz3.4*
NNC ***07*** *02:12:25.4±4.2, 44.19N×85.79E, h32km±22km, mpv3.9, Error ellipse: s-maj=65.3km s-min=24.3km az=60.0*
ISC 07 02:12:21.1±0.9, 43.7N±0.1×85.4E±0.1, h33km, n15, σ1§54/21, mb3.6/5, 7C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**1.67**	**83**	PG	**P**	**02 12 46.5**	**-1.8**
WMQ				SG	**S**	**02 13 05.3**	**-3.4**
WMQ				Smax			
	comp=N,546nm,0.4s						
WMQ				Smax			
	comp=E,801nm,0.4s						
MK31	**Makanchi Array**	**3.84**	**326**	⇓Pn	**P**	**02 13 20.9**	**+1.6**
	comp=E,67nm,0.8s,baz=133,slow=14,SNR=329						
MK31				⇑Pg	**P**	**02 13 31.2**	**+12**
	comp=E,8.1nm,0.2s,baz=128,slow=16,SNR=66						
MK31				⇑Lg		02 14 18.7	
	comp=E,38nm,0.5s,baz=124,slow=29,SNR=8.3						
MKAR	**Makanchi Array**	**3.84**	**326**	Pn	**P**	**02 13 20.8**	**+1.5**
	comp=E,1.6nm,0.3s,baz=134,slow=15,SNR=52						
MKAR				Pg	**P**	**02 13 30.8**	**+12**
	comp=E,14nm,0.3s,baz=127,slow=16,SNR=60						
MKAR				Sn	**S**	**02 14 10.7**	**+6.8**
	comp=E,7.6nm,0.3s,baz=117,slow=16,SNR=3.9						
MKAR				Lg		02 14 24.6	
	comp=E,34nm,0.3s,baz=135,slow=27,SNR=9.3						
KURK	**Kurchatov**	**8.44**	**329**	⇓Pn	**P**	**02 14 21.4**	**-2.5**
	comp=E,2.6nm,0.8s						
KURK				⇑Sn	**S**	**02 15 54.5**	**-4.5**
	comp=E,1.8nm,0.5s						
KURK				⇑Lg		02 16 46.2	
	comp=E,14nm,0.8s						
KURK	**Kurchatov**	**8.44**	**329**	*e*P	**P**	**02 14 21.4**	**-2.5**
	comp=E,5.6nm,0.6s						
GTA	**Gaotai**	**11.60**	**106**	*e*P	**P**	**02 15 06.9**	**-0.3**
GTA				PP	PP	02 15 16.8	+0.8
GTA				AMB	AMB		
	comp=Z,3.0nm,0.7s						
GTA				LR	LR		
	comp=N,103nm,5.3s						
GTA				LR	LR		
	comp=E,224nm,6.1s						
GTA				LR	LR		
	comp=Z,96nm,6.5s						
VOSK	**Vostochnaya**	**13.21**	**318**	⇓Pn	**P**	**02 15 26.5**	**-2.2**
	comp=Z,2.1nm,0.9s						
VOSK				⇑Sn	**S**	**02 17 48.6**	**-6.7**
	comp=Z,2.0nm,1.0s						
VOSK				⇑Lg		02 19 15.9	
	comp=Z,8.4nm,1.2s						
BVAR	**Borovoye Array**	**13.68**	**319**	Pn	**P**	**02 15 33.4**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=114,slow=14,SNR=3.0						
SONM	**Songino Array**	**15.23**	**67**	Pn	**P**	**02 15 58.4**	**+3.3**
	comp=Z,0.1nm,0.3s,baz=269,slow=11,SNR=12						
AB31	**Akbulak array**	**18.38**	**297**	⇑P	**P**	**02 16 37.0**	**+2.1**
	comp=Z,0.5nm,0.6s,baz=99,slow=11,SNR=15						
BRTR	**Keskin Array B**	**38.35**	**282**	P	**P**	**02 19 39.6**	**-0.8**
	comp=Z,0.3nm,0.6s,mb3.2,baz=22,slow=16,SNR=2.1						
ARCES	**ARCESS Array B**	**39.48**	**331**	P	**P**	**02 19 50.1**	**+0.7**
	comp=Z,1.4nm,0.9s,mb3.7,baz=96,slow=7.7,SNR=8.4						
NOA	**NORSAR Array B**	**45.81**	**319**	P	**P**	**02 20 41.7**	**+0.7**
	comp=Z,0.7nm,0.8s,mb3.6,baz=76,slow=7.8,SNR=2.9						
ILAR	**Eielson Array**	**64.46**	**22**	P	**P**	**02 22 57.0**	**+1.3**
	comp=Z,0.5nm,0.8s,mb3.6,baz=330,slow=4.0,SNR=5.3						
WRA	**Warramunga Array**	**77.56**	**133**	P	**P**	**02 24 15.4**	**-0.1**
	comp=Z,0.3nm,0.3s,mb3.7,baz=337,slow=5.6,SNR=7.7						

BJI ***07*** *02:17:44.9, 46.48S×32.73E, h9km, mB6.0, mb5.5, Ms6.0, Msz5.6*
IDC ***07*** *02:17:44.7±0.4, 47.15S×33.65E, mb5.1/23, mb1 5.2/23, mb1mx5.2/23, mbtmp5.1/23, MS5.6/22, Ms1 5.6/22, ms1mx5.6/23, Error ellipse: s-maj=15.6km s-min=12.8km az=76.0*
MOS ***07*** *02:17:45.1±1.5, 47.15S×33.62E, h10km, mb5.8/59, MS5.8/28, Error ellipse: s-maj=18.4km s-min=5.7km az=97.3*
HRVD ***07*** *02:17:46.0±0.1, 46.80S×33.62E, h16km, MW6.2/77, Centroid moment Tensor Solution. LP body waves: s75,c186; Mantle waves: s77,c324; Half duration: 3§0 Moment tensor: Scale 10^18 Nm; Mrr=0.26±.02; Mθθ 1.25±.02; Mφφ-0.99±.02; Mrθ 0.44±.05; Mφ 1.77±.01; Mφr-0.45±.05; Best double couple: M0=2.197×10^18 NP1: φs17°, δ75°, λ-170°. NP2:φs285°, δ81°, λ-16°. Principal axes: T 2.236, Plg4°, Azm332°; N -.082, Plg72°, Azm74°; P -2.157, Plg18°, Azm240°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***07*** *02:17:46.0±0.2, 47.09S×33.62E, h10km, mb5.7/103, MS5.8/27, MW6.0 Error ellipse: s-maj=8.9km s-min=5.8km az=83.0, Moment Tensor Solution. s11 Moment tensor: Scale 10^18 Nm; Mrr 0.16; Mθθ 0.86; Mφφ-1.02; Mrθ 0.40; Mθφ 0.33; Mφr 0.06; Best double couple: M0=1.1×10^18 NP1: φs33°, δ73°, λ163°. NP2:φs128°, δ74°, λ17°. Principal axes: T 1.09, Plg23°, Azm350°; N -.02, Plg67°, Azm169°; P -1.07, Plg1°, Azm260°;*
CRAAG ***07*** *02:17:51.5, 46.22S×34.17E, Mb5.5*
ISC 07 02:17:45.0±0.2, 47.14S±0.03×33.74E±0.07, h10km, (h13km±1.6km:pP-P), n610, σ1§36/432, mb5.5/135, MS5.7/68, 31C-7D, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**17.75**	**322**	P	**P**	**02 21 47.4**	**-6.3**
	30nm,0.3s,baz=138,slow=9.4,SNR=99						
SUR				LR	LR	02 27 58.2	
	comp=Z,10μm,19.5s,baz=153,slow=35						
SUR	**Sutherland**	**17.75**	**322**	*e*P	**P**	**02 21 46.9**	**-6.8**
	1μm,1.1s						
BOSA	**Boshof**	**19.65**	**337**	P	**P**	**02 22 10.1**	**-6.6**
	24nm,0.3s,baz=159,slow=13,SNR=135						
BOSA				LR	LR	02 28 05.2	
	comp=Z,34μm,20.4s,baz=167,slow=32						
BOSA	**Boshof**	**19.65**	**337**	*e*P	**P**	**02 22 10.2**	**-6.5**
	65nm,1.4s						
BOSA	**Boshof**	**19.65**	**337**	*e*P	**P**	**02 22 10.2**	**-6.5**
BOSA				pmax	pmax		
	comp=Z,65nm,1.4s						
SYO	**Syowa Base**	**22.12**	**174**	⇓P	**P**	**02 22 41.3**	**-0.7**
SYO	**Syowa Base**	**22.12**	**174**	⇓P	**P**	**02 22 43.1**	**+1.1**
LBTB	**Lobatse**	**23.02**	**341**	P	**P**	**02 22 47.5**	**-3.6**
	comp=Z,928nm,1.1s,mb6.1,baz=177,slow=8.6,SNR=143						
LBTB				LR	LR	02 30 30.1	
	comp=Z,17μm,19.5s,MS5.5,baz=181,slow=33						
LBTB	**Lobatse**	**23.02**	**341**	⇑*e*P	**P**	**02 22 46.3**	**-4.8**
	comp=Z,528nm,0.5s,mb6.2						
LBTB				LR	LR		
	comp=Z,23μm,22.0s,MS5.6						
LBTB	**Lobatse**	**23.02**	**341**	P	**P**	**02 22 47.5**	**-3.6**
LBTB				pmax	pmax		
	comp=Z,928nm,1.2s,mb6.1						
LBTB				MLR	MLR		
	comp=Z,17μm,19.5s,MS5.5						
MAW	**Mawson**	**25.38**	**154**	⇑*i*P	**P**	**02 23 15.0**	**+1.6**
	comp=Z,167nm,0.9s,mb5.6						
MAW	**Mawson**	**25.38**	**154**	P	**P**	**02 23 14.0**	**+0.5**
	comp=Z,130nm,0.9s,mb5.4,baz=312,slow=9.2,SNR=116						
MAW				LR	LR	02 31 19.0	
	comp=Z,9μm,18.1s,MS5.3,baz=318,slow=32						
MAW	**Mawson**	**25.38**	**154**	P	**P**	**02 23 14.0**	**+0.6**
MAW				pmax	pmax		
	comp=Z,130nm,1.0s						
MAW				MLR	MLR		
	comp=Z,9μm,18.1s						
NVL	**N'lazarevskaya**	**25.93**	**196**	⇑*i*P	**P**	**02 23 18.2**	**-0.3**
NVL				*i* *PP	pP	02 23 25.4	+4.0
NVL				*e*PPP	PPP	02 24 00.5	-11
NVL				*i* S	**S**	**02 27 42.6**	**-3.7**
NVL				*i* SSS	SSS	02 29 10.1	+1.1
NVL				pmax	pmax		
	comp=Z,5.0nm,1.0s						
NVL				MLR	MLR		
	comp=Z,170nm,16.2s						
MAIT	**Maitri**	**25.95**	**196**	*e*P	**P**	**02 23 16.7**	**-2.1**
MAIT				*e*S	**S**	**02 27 59.0**	**+12**
MATP	**Matopo**	**26.99**	**349**	P	**P**	**02 23 24.2**	**-4.6**
	comp=Z,42nm,0.6s,mb5.1,baz=173,slow=9.2,SNR=88						
MATP				LR	LR	02 32 40.1	
	comp=Z,19μm,18.6s,MS5.7,baz=179,slow=33						
SNAA	**Sanae**	**29.93**	**202**	*e*	**P**	**02 23 57.9**	**+3.1**
SNAA	**Sanae**	**29.93**	**202**	*e*	**P**	**02 23 59.7**	**+4.9**
SNAA	**Sanae**	**29.93**	**202**	*e*S	**S**	**02 28 50.4**	**-0.5**
SNAA	**Sanae**	**29.93**	**202**	P	**P**	**02 23 53.1**	**-1.8**
	comp=Z,14nm,1.0s,mb4.6,baz=82,slow=7.3,SNR=118						
SNAA	**Sanae**	**29.93**	**202**	⇑*i*P	**P**	**02 23 54.7**	**-0.1**
SNAA				*e*	pP	02 23 57.9	+0.1
SNAA				*e*		02 23 59.7	
SNAA				*e*		02 24 50.5	
SNAA				*e*		02 25 02.3	
SNAA				*e*		02 27 00.3	
SNAA				*e*S	**S**	**02 28 50.4**	**-0.5**
SNAA				*e*		02 49 31.8	
OPO	**Ambohidratompo**	**30.56**	**26**	P	**P**	**02 23 59.5**	**-1.5**
	comp=Z,26nm,0.9s,mb5.0,baz=208,slow=7.5,SNR=20						
VNA2	**Neumayer--Watz**	**30.77**	**205**	*e*	**P**	**02 24 05.8**	**+3.5**
VNA2	**Neumayer--Watz**	**30.77**	**205**	*e*	**P**	**02 24 07.4**	**+5.1**
VNA2	**Neumayer--Watz**	**30.77**	**205**	*e*S	**S**	**02 29 03.6**	**-0.7**
VNA2	**Neumayer--Watz**	**30.77**	**205**	⇑*i*P	**P**	**02 24 02.4**	**+0.1**
VNA2				*e*	pP	02 24 05.8	+0.5
VNA2				*e*		02 24 07.4	
VNA2				*e*		02 25 01.9	
VNA2				*e*		02 25 12.0	
VNA2				*e*		02 27 05.8	
VNA2				*e*S	**S**	**02 29 03.6**	**-0.7**
VNA2				*e*		02 49 32.2	
TSUM	**Tsumeb**	**30.85**	**329**	P	**P**	**02 23 59.6**	**-3.8**
	comp=Z,100nm,0.8s,mb5.7,baz=150,slow=9.6,SNR=85						
TSUM				LR	LR	02 35 08.6	
	comp=Z,36μm,19.8s,MS6.0,baz=154,slow=34						
TSUM	**Tsumeb**	**30.85**	**329**	⇑*e*P	**P**	**02 23 59.0**	**-4.4**
	comp=Z,303nm,1.2s,mb6.0						
TSUM				LR	LR		
	comp=Z,35μm,19.0s,MS6.0						
VNA1	**Neumayer--Stat**	**30.90**	**206**	*e*	**P**	**02 24 07.4**	**+4.0**
VNA1	**Neumayer--Stat**	**30.90**	**206**	*e*	**P**	**02 24 09.0**	**+5.6**
VNA1	**Neumayer--Stat**	**30.90**	**206**	⇑*i*P	**P**	**02 24 04.0**	**+0.6**
VNA1				*e*	pP	02 24 07.4	+1.0
VNA1				*e*		02 24 09.0	
VNA1				*e*		02 24 59.3	
VNA1				*e*		02 25 10.4	
VNA3	**Neumayer Olymp**	**31.58**	**205**	*e*	**P**	**02 24 12.4**	**+3.0**
VNA3	**Neumayer Olymp**	**31.58**	**205**	*e*	**P**	**02 24 14.0**	**+4.6**
VNA3	**Neumayer Olymp**	**31.58**	**205**	*e*S	**S**	**02 29 08.4**	**-8.5**
VNA3	**Neumayer Olymp**	**31.58**	**205**	⇑*i*P	**P**	**02 24 09.0**	**-0.4**
VNA3				*e*	pP	02 24 12.4	0.0
VNA3				*e*		02 24 14.0	
VNA3				*e*		02 25 06.3	
VNA3				*e*		02 25 17.8	
VNA3				*e*		02 27 12.6	
VNA3				*e*S	**S**	**02 29 08.4**	**-8.5**
VNA3				*e*		02 49 27.4	
LSZ	**Lusaka**	**32.11**	**350**	⇑*e*P	**P**	**02 24 09.8**	**-4.7**
	comp=Z,265nm,1.0s,mb6.0						
LSZ				LR	LR		
	comp=Z,17μm,19.0s,MS5.8						
LSZ	**Lusaka**	**32.11**	**350**	⇑*e*P	**P**	**02 24 09.8**	**-4.8**
LSZ				pmax	pmax		
	comp=Z,265nm,1.0s,mb6.0						
LSZ				MLR	MLR		
	comp=Z,17μm,19.0s,MS5.8						
TRIS	**Tristan da Cun**	**35.17**	**270**	PFAKE		02 24 50.0	+9.2
TRIS				LR	LR		
	comp=Z,9μm,22.0s,MS5.5						
MIR	**Mirnyy**	**35.97**	**144**	*e*P	**P**	**02 24 48.0**	**+0.6**
MIR				*i*		02 26 14.0	
MIR				*e*S	**S**	**02 30 32.0**	**+6.8**
MIR				pmax	pmax		
	comp=E,600nm,5.0s						
MIR				smax			
	comp=N,980nm,14.0s						
MIR				MLR	MLR		
	comp=N,3μm,16.0s,MS5.3						
MIR				MLR	MLR		
	comp=E,2μm,16.0s,MS5.3						
MIR				MLR	MLR		
	comp=Z,7μm,16.0s,MS5.5						
CASY	**Casey**	**43.00**	**145**	⇑*i*P	**P**	**02 25 46.4**	**+0.9**
QSPA	**South Pole Qui**	**43.08**	**180**	*e*P	**P**	**02 25 46.2**	**+0.2**
	comp=Z,312nm,1.3s,mb5.9						
KMBO	**Kilima Mbogo**	**45.93**	**5**	P	**P**	**02 26 09.3**	**-0.6**
	comp=Z,25nm,0.7s,mb5.2,baz=192,slow=5.2,SNR=36						
KMBO				LR	LR	02 43 50.7	
	comp=Z,8μm,18.3s,MS5.7,baz=166,slow=34						
MBAR	**Mbarara**	**46.43**	**356**	*e*P	**P**	**02 26 10.8**	**-3.0**
	comp=Z,154nm,1.8s,mb5.6						
MBAR				LR	LR		
	comp=Z,2μm,19.0s,MS5.2						
MBAR	**Mbarara**	**46.43**	**356**	*e*P	**P**	**02 26 15.7**	**+2.0**
VNDA	**Vanda**	**51.56**	**167**	P	**P**	**02 26 52.8**	**+0.1**
	comp=Z,70nm,0.9s,mb5.6,baz=246,slow=7.5,SNR=314						
VNDA				LR	LR	02 47 09.3	
	comp=Z,11μm,21.6s,MS5.9,baz=219,slow=34						
VNDA	**Vanda**	**51.56**	**167**	⇑*e*P	**P**	**02 26 52.5**	**-0.1**
	comp=Z,63nm,0.8s,mb5.6						
VNDA	**Vanda**	**51.56**	**167**	⇑*e*P	**P**	**02 26 52.5**	**-0.1**
VNDA				pmax	pmax		
	comp=Z,63nm,0.8s						
PMSA	**Palmer Station**	**51.64**	**213**	*e*P	**P**	**02 26 52.9**	**-0.4**
	comp=Z,145nm,1.3s,mb5.8						
PMSA				LR	LR		
	comp=Z,5μm,21.0s,MS5.5						
SBA	**Scott Base**	**52.01**	**169**	*e*P	**P**	**02 26 57.0**	**+1.0**
	comp=Z,263nm,1.3s,mb6.0						
SBA	**Scott Base**	**52.01**	**169**	*e*P	**P**	**02 26 57.0**	**+1.0**
SBA				pmax	pmax		
	comp=Z,263nm,1.3s,mb6.0						
DRV	**Dumont d'Urvil**	**53.55**	**152**	P	**P**	**02 27 09.0**	**+1.4**
MUN	**Mundaring**	**62.53**	**108**	*e*P	**P**	**02 28 10.6**	**-0.5**
	comp=Z,98nm,0.9s,mb5.9						
MUN	**Mundaring**	**62.53**	**108**	*e*P	**P**	**02 28 10.6**	**-0.5**
MUN				pmax	pmax		
	comp=Z,98nm,0.9s,mb5.9						
NWAO	**Narrogin (SRO)**	**62.59**	**110**	P	**P**	**02 28 11.0**	**-0.5**
	comp=Z,41nm,0.9s,mb5.6,baz=232,slow=7.6,SNR=17						
NWAO	**Narrogin (SRO)**	**62.59**	**110**	*e*P	**P**	**02 28 10.6**	**-0.8**
	comp=Z,77nm,0.9s,mb5.8						
NWAO	**Narrogin (SRO)**	**62.59**	**110**	P	**P**	**02 28 11.0**	**-0.5**
NWAO				pmax	pmax		
	comp=Z,41nm,0.9s						
LIC	**Lamto**	**63.23**	**316**	*e*P	**P**	**02 28 12.4**	**-3.5**
	comp=Z,208nm,1.1s,mb5.9						
DBIC	**Dimbokro**	**63.54**	**316**	P	**P**	**02 28 15.2**	**-2.8**
	comp=Z,52nm,0.8s,mb5.6,baz=133,slow=8.3,SNR=30						
DBIC				LR	LR	02 52 00.0	
	comp=Z,3μm,18.6s,MS5.5,baz=140,slow=32						
DBIC	**Dimbokro**	**63.54**	**316**	*e*P	**P**	**02 28 14.2**	**-3.8**
	comp=Z,110nm,1.0s,mb5.8						
KLBR	**Kellerberrin**	**63.79

HYB	**Hyderabad**	75.82	44	*i* P		**P**	02 29 34.0 +0.9
HYB				*e*S		S	02 39 16.0 +2.1
HYB				LR		LR	02 54 44.0
comp=Z,7.1nm,20.0s							
HYB	**Hyderabad**	75.82	44	*e*P		**P**	02 29 34.0 +0.9
HYB				*e*S		S	02 39 16.0 +2.1
TOO	**Toolangi**	75.95	130	*e*P		**P**	02 29 34.0 +0.5
comp=Z,28nm,0.9s,mb5.2							
TOO	**Toolangi**	75.95	130	*e*P		**P**	02 29 34.0 +0.5
TOO				pmax		pmax	
comp=Z,29nm,0.9s,mb5.2							
JMOS	**Jabal al Moall**	75.97	1	P		**P**	02 29 33.5 -0.2
ALWS	**Ilw as Safayha**	76.11	1	P		**P**	02 29 34.5 0.0
EIL	**Elat**	76.46	1	P		**P**	02 29 35.8 -0.7
RDF	**Al-Radifah**	76.73	12	*e*P		**P**	02 29 39.3 +1.2
RDF				AMb		AMB	02 29 49.3
comp=Z,356nm,1.0s,mb6.2							
KBD	**Kabd**	77.00	12	*e*P		**P**	02 29 40.1 +0.6
KBD				AMb		AMB	02 29 50.8
comp=Z,538nm,1.1s,mb6.4							
NAY	**Al-Naaiem**	77.01	12	*e*P		**P**	02 29 40.7 +1.1
NAY				AMb		AMB	02 29 50.6
comp=Z,173nm,1.1s,mb5.9							
PRNI	**Paran**	77.14	1	P		**P**	02 29 40.0 -0.3
BHJ	**Bhuj**	77.20	34	*e*x		x	02 29 53.5
BHJ				*e*x		x	02 39 41.1
UMR	**Umm Al-Rimmam**	77.37	12	*e*P		**P**	02 29 43.0 +1.4
UMR				AMb		AMB	02 29 53.0
comp=Z,490nm,1.0s,mb6.4							
MIB	**Mutribah**	77.57	12	*e*P		**P**	02 29 44.5 +1.9
MIB				AMb		AMB	02 29 54.6
comp=Z,293nm,1.0s,mb6.2							
KZIT	**Kziot**	77.69	1	P		**P**	02 29 42.9 -0.4
STKA	**Stephens Creek**	78.11	124	*e*P		**P**	02 29 45.5 -0.1
comp=Z,31nm,0.8s,mb5.3							
STKA	**Stephens Creek**	78.11	124	P		**P**	02 29 45.7 +0.1
comp=Z,29nm,0.9s,mb5.2,baz=230,slow=3.7,SNR=27							
STKA				LR		LR	02 59 17.4
comp=Z,4μm,18.6s,MS5.8,baz=214,slow=32							
FITZ	**Fitzroy Crossi**	78.22	104	*e*P		**P**	02 29 46.7 +0.3
comp=Z,92nm,0.9s,mb5.7							
FITZ	**Fitzroy Crossi**	78.22	104	P		**P**	02 29 47.1 +0.7
comp=Z,51nm,0.8s,mb5.5,baz=195,slow=6.9,SNR=30							
QURS	**Qurayyt al Mii**	78.23	3	P		**P**	02 29 46.2 -0.1
MKRJ	**Makawir**	78.35	2	P		**P**	02 29 46.6 -0.3
KULM	**Kulim**	78.48	69	*e*P		**P**	02 29 47.8 -0.2
ASF	**Jabal al Asfar**	79.00	3	P		**P**	02 29 50.3 -0.2
comp=Z,26nm,1.0s,mb5.1,baz=42,slow=2.7,SNR=20							
ASF	**Jabal al Asfar**	79.00	3	P		**P**	02 29 50.3 -0.2
ASF				pmax		pmax	
comp=Z,26nm,1.0s							
NGP	**Nagpur**	79.28	42	*e*P		**P**	02 29 51.8 -0.4
HAF	**Haifa**	79.56	1	P		**P**	02 29 52.8 -0.7
CNB	**Canberra Magne**	79.68	131	*e*P		**P**	02 29 54.9 +0.8
comp=Z,61nm,1.2s,mb5.4							
BHPL	**Bhopal**	80.37	40	*e*P		**P**	02 29 57.5 -0.5
BHPL				AMb		AMB	02 30 10.0
comp=Z,157nm,1.3s,mb5.8							
BHD	**Baghdad**	80.62	9	*e*P		**P**	02 29 57.0 -2.1
BHD	**Baghdad**	80.62	9	*e*S		S	02 40 06.0 +1.1
BHL	**Bhannes**	80.69	2	*e*P		**P**	02 29 57.4 -2.1
JASL	**Jaisalmer**	80.99	33	*e*P		**P**	02 29 59.7 -1.5
CSS	**Prodhromos**	81.73	360	*e*P		**P**	02 30 04.6 -0.4
comp=Z,34nm,0.6s,mb5.5							
LVC	**Limon Verde**	81.88	246	LR		LR	03 02 14.7
comp=Z,2μm,20.9s,MS5.4,baz=148,slow=33							
LVC	**Limon Verde**	81.88	246	*e*P		**P**	02 30 05.9 0.0
comp=Z,48nm,1.0s,mb5.4							
KSM	**Kuching**	81.96	79	P		**P**	02 30 06.9 +0.4
RPZ	**Rata Peaks**	81.98	150	LR		LR	03 04 28.6
comp=Z,4μm,18.3s,MS5.9,baz=227,slow=34							
AJM	**Ajmer**	82.05	36	*e*P		**P**	02 30 03.4 -3.3
AJM				AML		AML	02 30 18.8
comp=Z,88nm,0.6s							
NPS	**Neapolis**	82.36	353	*e*P		**P**	02 30 08.0 -0.2
IDI	**Anoyia**	82.44	353	P		**P**	02 30 08.0 -0.6
comp=Z,10nm,0.8s,mb4.8,baz=162,slow=21,SNR=1.5							
KARP	**Karpathos**	82.53	355	*e*P		**P**	02 30 09.0 0.0
WRA	**Warramunga Arr**	82.55	111	P		**P**	02 30 08.5 -1.0
comp=Z,5.0nm,0.9s,mb4.6,baz=221,slow=4.1,SNR=25							
WRA	**Warramunga Arr**	82.55	111	P		**P**	02 30 08.5 -0.9
WRA				pmax		pmax	
comp=Z,5.0nm,0.9s							
WB2	**Warramunga Arr**	82.56	111	*e*P		**P**	02 30 08.4 -1.1
WRAB	**Tennant Creek**	82.56	111	*e*P		**P**	02 30 08.5 -1.0
comp=Z,158nm,1.5s,mb5.8							
WRAB	**Tennant Creek**	82.56	111	*i* P		**P**	02 30 09.0 -0.5
ARG	**Arkhangelos**	83.14	355	*e*P		**P**	02 30 05.0 -7.2
ERMK	**Ermenek**	83.41	359	*i* P		**P**	02 30 11.0 -2.6
KHET	**Khetri**	83.93	37	*e*P		**P**	02 30 15.7 -0.7
KHET				AMb		AMB	02 30 20.9
comp=Z,47nm,1.3s,mb5.4							
VLI	**Velíai**	84.05	351	*e*P		**P**	02 30 20.5 +3.8
GOLH	**Golhisar**	84.09	357	*i* P		**P**	02 30 10.6 -6.4
APE	**Apeiranthos**	84.16	353	*e*P		**P**	02 30 15.0 -2.3
GZT	**Gaziantep**	84.19	3	*i* P		**P**	02 30 16.1 -1.4
KUDL	**Kundal**	84.27	37	*e*P		**P**	02 30 17.5 -0.6
KUDL				AMb		AMB	02 30 29.9
comp=Z,132nm,1.0s,mb6.0							
DNZL	**Cakiroluk**	84.56	356	*i* P		**P**	02 30 19.8 +0.5
ITM	**Ithomi**	84.61	351	*e*P		**P**	02 30 19.0 -0.6
SONA	**Sohna**	84.61	37	*e*P		**P**	02 30 18.6 -1.2
SONA				AMb		AMB	02 30 31.3
comp=Z,105nm,1.2s,mb5.8							
ISP	**Isparta**	84.66	357	*e*P		**P**	02 30 17.9 -1.9
comp=Z,84nm,1.1s,mb5.8							
ISP	**Isparta**	84.66	357	*e*P		**P**	02 30 17.9 -1.9
ISP				pmax		pmax	
comp=Z,84nm,1.1s,mb5.8							
SMG	**Samos**	84.70	355	*e*P		**P**	02 30 20.0 0.0
HAKT	**HAKKARI**	84.79	8	*i* P		**P**	02 30 19.3 -1.1
TKTP	**Tekketepe**	84.86	357	*i* P		**P**	02 30 19.3 -1.5
BEST	**Besiri**	84.92	6	*i* P		**P**	02 30 21.3 +0.2
BHGR	**Bahadurgarh**	84.94	37	*e*P		**P**	02 30 21.3 -0.1
CAL	**Calcutta**	85.00	49	*e*x		x	02 30 48.6
NAIG	**Nisos Aigina**	85.02	352	*e*P		**P**	02 30 13.5 -8.1
BISR	**Bishrakh**	85.04	38	*e*P		**P**	02 30 22.1 +0.1
NDI	**New Delhi**	85.05	37	*e*P		**P**	02 30 22.2 +0.2
NDI				AMb		AMB	02 30 26.4
comp=Z,74nm,1.2s,mb5.7							
NSAL	**Nisos Salamina**	85.17	352	*e*P		**P**	02 30 21.5 -0.8
ATH	**Athens Observa**	85.21	352	*e*P		**P**	02 30 25.0 +2.5
PTL	**Penteli**	85.27	352	*e*P		**P**	02 30 25.0 +2.2
KDAG	**Bornova**	85.36	355	*i* P		**P**	02 30 22.7 -0.6
URLA	**Izmir**	85.36	354	*i* P		**P**	02 30 21.1 -2.1
MANT	**Manisa**	85.38	356	*i* P		**P**	02 30 23.4 0.0
MPAR	**Parnis Oros**	85.39	352	*e*P		**P**	02 30 23.5 +0.1
ELZG	**Elazig**	85.39	4	*i* P		**P**	02 30 22.6 -0.8
AVNT	**Avonos**	85.55	1	*i* P		**P**	02 30 23.2 -1.0
GDZ	**Gediz**	85.94	357	*i* P		**P**	02 30 25.8 -0.4
BNGL	**BINGOL**	85.97	6	*i* P		**P**	02 30 31.2 +4.9
VAE	**Valguarnera**	86.00	345	P		**P**	02 30 24.8 -1.7
comp=Z,7.6nm,0.8s,mb5.0,baz=184,slow=14,SNR=2.0							
LPAZ	**La Paz**	86.06	250	P		**P**	02 30 27.7 +0.5
comp=Z,5.0nm,0.7s,mb4.8,baz=121,slow=5.6,SNR=20							
LPAZ				LR		LR	03 05 52.5
comp=Z,3μm,18.3s,MS5.7,baz=288,slow=34							
LPAZ	**La Paz**	86.06	250	*e*P		**P**	02 30 27.6 +0.4
comp=Z,65nm,1.4s,mb5.7							
PRK	**Paraskevi**	86.27	354	*e*P		**P**	02 30 28.0 +0.2
ABSA	**Djebel Ababsia**	86.32	339	P		**P**	02 30 33.0 +4.9
ESKT	**Eskisehir**	86.32	358	*i* P		**P**	02 30 25.8 -2.2
EVR	**Evrytania**	86.34	351	*e*P		**P**	02 30 29.0 +0.9
CTEI	**Djebel Teioual**	86.39	338	P		**P**	02 30 30.0 +1.6
BR131	**Keskin Array S**	86.49	360	*e*P		**P**	02 30 26.9 -1.9
comp=Z,25nm,1.1s,mb5.4							
BRTR	**Keskin Array B**	86.49	360	P		**P**	02 30 27.9 -0.9
comp=Z,9.5nm,1.0s,mb5.0,baz=173,slow=8.0,SNR=20							
BRTR	**Keskin Array B**	86.49	360	P		**P**	02 30 27.9 -0.9
BRTR				pmax		pmax	
comp=Z,10.0nm,1.0s							
CASM	**Ain Smara**	86.55	338	P		**P**	02 30 32.0 +2.8
CKHR	**Kef el Ahmar**	86.57	337	P		**P**	02 30 30.0 +0.6
KAKA	**Kakadu**	86.61	105	*e*P		**P**	02 30 37.1 +7.1
comp=Z,16nm,0.7s,mb5.3							
CKFL	**Kef-Lekhel**	86.63	338	P		**P**	02 30 33.0 +3.4
CMAH	**Djebel Manchou**	86.67	339	P		**P**	02 30 34.0 +4.2
BTOK	**Tokmak**	86.67	356	*i* P		**P**	02 30 29.6 -0.2
CFTV	**Fuerteventura**	86.69	319	P		**P**	02 30 33.1 +3.0
BORA	**Eskisehir**	86.69	357	*i* P		**P**	02 30 29.4 -0.4
SET	**Setif**	86.78	337	P		**P**	02 30 31.0 +0.7
ERZM	**Erzurum**	86.93	6	*i* P		**P**	02 30 32.7 +1.7
CAEH	**'Ain El Ouahch**	86.95	339	P		**P**	02 30 34.0 +2.8
DFRA	**Djebel Bou Aff**	86.98	338	P		**P**	02 30 35.0 +3.7
ULDT	**Uludag**	87.00	356	*i* P		**P**	02 30 29.9 -1.5
AKET	**Djebel Ketaf**	87.04	336	P		**P**	02 30 32.9 +1.3
EOSO	**Osorio**	87.06	318	P		**P**	02 30 35.1 +3.2
comp=Z,37nm,1.0s,mb5.6							
KOLN	**Koldanda**	87.06	43	*e*P		**P**	02 30 30.9 -1.0
comp=Z,233nm,1.5s,mb6.2							
JAN	**Janina**	87.18	350	*e*P		**P**	02 30 36.0 +3.8
ELDT	**Eldivan**	87.25	360	*i* P		**P**	02 30 30.3 -2.2
ADJB	**Djebel Djouab**	87.27	336	P		**P**	02 30 30.3 -2.4
TIP	**Timpagrande**	87.27	347	*e*P		**P**	02 30 32.7 0.0
SGKT	**Sivrigoynuk**	87.35	359	*i* P		**P**	02 30 33.0 +0.1
GNI	**Garni**	87.46	8	*e*P		**P**	02 30 33.3 -0.3
comp=Z,90nm,1.3s,mb5.8							
GNI	**Garni**	87.46	8	⇓*i*P		**P**	02 30 34.3 +0.7
GNI				pmax		pmax	
comp=Z,82nm,1.6s							
HENT	**Hendek**	87.62	358	*i* P		**P**	02 30 32.2 -2.1
DMN	**Daman**	87.63	44	*e*P		**P**	02 30 33.7 -1.0
comp=Z,54nm,1.0s,mb5.7							
GKN	**Gorkha**	87.74	43	*e*P		**P**	02 30 34.0 -1.2
comp=Z,158nm,1.4s,mb6.0							
PKI	**Pulchoki**	87.74	44	*e*P		**P**	02 30 36.7 +1.5
comp=Z,131nm,1.7s,mb5.9							
KKN	**Kakani**	87.86	44	*e*P		**P**	02 30 37.1 +1.3
comp=Z,20nm,0.6s,mb5.5							
ABA	**Alger-Bouzarea**	87.98	336	P		**P**	02 30 36.0 -0.1
SAML	**Samuel**	88.19	259	*e*P		**P**	02 30 36.0 -1.6
comp=Z,71nm,1.6s,mb5.7							
ARTV	**Artvin**	88.25	6	*i* P		**P**	02 30 41.1 +3.9
VAY	**Valandovo**	88.64	352	⇑*i*P		**P**	02 30 40.7 +1.5
URZ	**Urewera**	88.89	152	LR		LR	03 07 43.7
comp=Z,5μm,20.0s,MS5.9,baz=212,slow=34							
TBLG	**Delisi**	89.03	8	P		**P**	02 30 42.9 +1.8
TI2	**Plekhanov**	89.03	8	⇑*i*P		**P**	02 30 30.0 -11
TI2				*i* S		S	02 41 18.0 -9.3
TI2				pmax		pmax	
comp=Z,500nm,1.0s							
TI2				pmax		pmax	
comp=Z,1μm,2.0s							
TI2				MLR		MLR	
comp=E,4μm,16.0s							
TI2				MLR		MLR	
comp=Z,5μm,16.0s,MS6.0							
EALB	**Alboran**	89.05	331	P		**P**	02 30 43.8 +2.6
comp=Z,46nm,1.1s,mb5.7							
SHL	**Shillong**	89.32	50	*e*P		**P**	02 30 42.0 -0.8
SKO	**Skopje**	89.40	351	*e*P		**P**	02 30 45.5 +2.7
ONI	**Oni**	89.75	7	P		**P**	02 30 46.0 +1.6
CTA	**Charters Tower**	89.78	120	LR		LR	03 06 45.2
comp=Z,6μm,18.3s,MS6.0,baz=214,slow=33							
EBER	**Berja**	89.87	331	P		**P**	02 30 48.2 +3.1
comp=Z,218nm,1.3s,mb6.3							
CART	**Cartagena**	89.90	333	*e*P		**P**	02 30 43.8 -1.4
comp=Z,95nm,1.3s,mb6.0							
ZEI	**Tsey**	89.98	7	*e*P		**P**	02 30 48.2 +2.7
ZEI				pmax		pmax	
comp=Z,19nm,0.9s,mb5.4							
EGUA	**Guajares**	90.03	331	P		**P**	02 30 48.6 +2.7
comp=Z,0.1nm,0.5s							
CII	**Carovilli**	90.15	346	P		**P**	02 30 43.5 -2.8
comp=Z,148nm,2.0s,mb6.0							
EMIJ	**Mijas**	90.20	330	P		**P**	02 30 48.1 +1.5
comp=Z,31nm,0.9s,mb5.6							
EMUR	**La Murta**	90.21	333	P		**P**	02 30 47.0 +0.4
comp=Z,28nm,0.9s,mb5.6							
ERON	**Agron**	90.28	331	P		**P**	02 30 48.2 +1.2
comp=Z,62nm,0.9s,mb5.9							
SOC	**Sochi**	90.50	4	⇑*i*P		**P**	02 30 45.8 -2.0
SOC	**Sochi**	90.50	4	*e*P		**P**	02 30 46.1 -1.7
SOC				*e*		pP	02 30 49.1 -1.9
SOC				*e*S		S	02 41 14.8 -26
SOC				*e*SSS		SSS	02 51 23.8 +2.8
SOC				pmax		pmax	
comp=Z,6.0nm,0.6s,mb5.1							
SOC				pmax		pmax	
comp=N,1.0nm,0.3s							
SOC				pmax		pmax	
comp=E,2.0nm,0.4s							
SOC				MLR		MLR	
comp=Z,2μm,16.0s,MS5.6							
SOC				MLR		MLR	
comp=N,843nm,18.0s,MS5.4							
SOC				MLR		MLR	
comp=E,918nm,16.0s,MS5.4							
ELOJ	**Sierra Loja**	90.52	331	P		**P**	02 30 47.8 -0.3
comp=E,17nm,1.0s,mb5.3							
ELOJ	**Sierra Loja**	90.52	331	P		**P**	02 30 47.8 -0.3
ELOJ				pmax		pmax	
comp=Z,17nm,1.0s,mb5.3							
EIBI	**Ibiza**	90.53	335	P		**P**	02 30 45.8 -2.4
comp=Z,125nm,2.1s,mb5.9							
MAK	**Makhachkala**	90.54	10	*e*P		**P**	02 30 50.0 +1.9
MAK				*e*PPP		PPP	02 36 32.0 +7.1
MAK				*e*			02 41 22.0
MAK				*i* S		S	02 41 47.0 +6.0
MAK				pmax		pmax	
comp=Z,600nm,3.0s							
MAK				smax			
comp=N,900nm,6.0s							
MAK				smax			
comp=E,1μm,6.0s							
MAK				MLR		MLR	
comp=N,2μm,15.0s,MS5.6							
MAK				MLR		MLR	
comp=E,800nm,15.0s,MS5.6							
MAK				MLR		MLR	
comp=Z,4μm,15.0s,MS6.0							
ZAPS	**Zavoj/Pirot**	90.59	352	⇑*i*P		**P**	02 30 46.9 -1.4
EHUE	**Huescar**	90.61	332	P		**P**	02 30 49.0 +0.5
comp=Z,46nm,1.5s,mb5.6							
EHUE	**Huescar**	90.61	332	P		**P**	02 30 49.0 +0.5
EHUE				pmax		pmax	
comp=Z,46nm,1.5s,mb5.6							
EQES	**Quesada**	90.75	332	P		**P**	02 30 51.5 +2.3
comp=Z,16nm,0.9s,mb5.3							
ESPR	**Espera**	90.84	329	P		**P**	02 30 53.0 +3.4
comp=Z,16nm,0.9s,mb5.4							
AQU	**L'Aquila**	90.92	345	*e*P		**P**	02 30 49.2 -0.6
comp=Z,58nm,1.1s,mb5.8							
AQU	**L'Aquila**	90.92	345	*e*P		**P**	02 30 49.2 -0.6
AQU				pmax		pmax	
comp=Z,58nm,1.1s,mb5.8							
ETOB	**Tobarra**	91.04	333	P		**P**	02 30 52.4 +2.0
comp=Z,12nm,0.9s,mb5.2							
KIV	**Kislovodsk**	91.06	6	*e*P		**P**	02 30 49.4 -1.0
comp=Z,113nm,1.3s,mb6.0							
KIV	**Kislovodsk**	91.06	6	⇓*i*P		**P**	02 30 50.8 +0.4
KIV				*e*			02 34 25.3
KIV				pmax		pmax	
comp=Z,76nm,1.2s,mb5.9							
KIV				MLR		MLR	
comp=Z,3μm,18.0s,MS5.8							
BOLS	**Boljevac**	91.19	351	*i* P		**P**	02 30 53.3 +2.4
EBAN	**Banos Encina**	91.31	331	P		**P**	02 30 50.9 -0.8
comp=Z,6.0nm,0.8s,mb5.0							
EBAN	**Banos Encina**	91.31	331	P		**P**	02 30 50.9 -0.8
EBAN				pmax		pmax	
comp=Z,6.0nm,0.8s,mb5.0							
EVIA	**Vianos**	91.33	332	P		**P**	02 30 52.1 +0.3
comp=Z,6.6nm,0.8s,mb5.0							
EVIA	**Vianos**	91.33	332	P		**P**	02 30 52.1 +0.3
EVIA				pmax		pmax	
comp=Z,7.0nm,0.8s,mb5.0							
GRUS	**Gruza**	91.38	351	*i* P		**P**	02 30 54.8 +2.9
BBLS	**Bajina Basta -**	91.51	350	*i* P		**P**	02 30 56.5 +4.0
EADA	**Adamuz**	91.58	331	P		**P**	02 30 52.1 -0.8
comp=Z,59nm,1.1s,mb5.8							
HARR	**Harsova**	91.59	356	⇑P		**P**	02 30 51.5 -1.3
HARR	**Harsova**	91.59	356	⇑P		**P**	02 30 51.5 -1.3
ANN	**Anapa**	91.62	3	*e*P		**P**	02 30 53.8 +0.9
ANN	**Anapa**	91.62	3	*c i*P		**P**	02 30 53.0 +0.1
ANN				*i*			02 34 37.2
ANN				*e*			02 41 23.8
ANN				*i*			02 41 59.4
ANN				*i* SS		SS	02 48 02.7 +2.0
ANN				*e*SSS		SSS	02 51 45.1 +6.8
ANN				pmax		pmax	
comp=Z,61nm,1.2s,mb5.8							
DIVS	**Divcibare**	91.66	350	⇑*i*P		**P**	02 30 53.1 -0.1
SIM	**Simferopol'**	91.71	0	*d i*P		**P**	02 30 55.5 +2.1
SIM				*e*			02 34 34.0
SIM				*e*S		S	02 41 53.0 +1.7
SIM				*e*PS		PS	02 43 35.0 +28
SIM				*e*SS		SS	02 48 09.0 +7.1
SIM				pmax		pmax	
comp=Z,230nm,12.8s							
ECHE	**Chera**	91.73	334	P		**P**	02 30 54.7 +1.1
comp=Z,13nm,0.9s,mb5.3							
ECHE	**Chera**	91.73	334	P		**P**	02 30 54.7 +1.1
ECHE				pmax		pmax	
comp=Z,13nm,0.9s,mb5.3							
EMIN	**Mina Concepcio**	91.94	329	P		**P**	02 30 56.6 +2.1
comp=Z,6.8nm,0.9s,mb5.0							
PGF	**Pioggiola**	91.96	342	*e*P		**P**	02 30 53.1 -1.5
comp=Z,93nm,1.2s,mb5.7							
PGF	**Pioggiola**	91.96	342	*e*P		**P**	02 30 53.1 -1.5
PGF				pmax		pmax	
comp=Z,46nm,1.2s,mb5.7							
EGRO	**El Granado**	92.02	328	P		**P**	02 30 56.4 +1.4
comp=Z,3.4nm,0.8s,mb4.7							
CFR	**Carcaliu**	92.07	356	⇑P		**P**	02 30 56.7 +1.7
GOF	**Gofitskoye**	92.18	7	⇑*i*P		**P**	02 30 55.0 -0.5
GOF				pmax		pmax	
comp=Z,57nm,1.2s,mb5.8							
EMOS	**Mosqueruela**	92.30	335	P		**P**	02 30 56.0 -0.2
comp=Z,17nm,0.9s,mb5.4							
LSA	**Lhasa**	92.31	47	P		**P**	02 30 56.4 -0.1
LSA				AMB		AMB	
comp=Z,10.0nm,1.6s,mb4.9							
LSA				LR		LR	
comp=N,760nm,28.9s,MS5.2							
LSA				LR		LR	
comp=E,960nm,24.3s,MS5.2							
LSA				LR		LR	
comp=Z,2μm,27.8s,MS5.4							
LSA	**Lhasa**	92.31	47	*e*P		**P**	02 30 55.3 -1.2
comp=Z,40nm,1.1s,mb5.7							
LSA				LR		LR	
comp=Z,4μm,21.0s,MS5.8							
LSA	**Lhasa**	92.31	47	*e*P		**P**	02 30 55.3 -1.2
LSA				pmax		pmax	
comp=Z,40nm,1.1s,mb5.7							
LSA				MLR		MLR	
comp=Z,4μm,21.0s,MS5.8							
MLR	**Muntele Rosu**	92.50	355	P		**P**	02 30 57.6 +0.6
comp=Z,18nm,1.0s,mb5.5,baz=130,slow=2.8,SNR=11							
MLR				LR		LR	03 15 33.6
comp=Z,4μm,19.6s,MS5.9,baz=63,slow=38							
MLR	**Muntele Rosu**	92.50	355	P		**P**	02 30 57.6 +0.6
MLR				pmax		pmax	
comp=Z,18nm,1.0s							
MLR				MLR		MLR	
comp=Z,4μm,19.6s							
PBEJ	**Beja**	92.59	328	*e*P		**P**	02 30 59.1 +1.5
ERTA	**Horta de San J**	92.61	335	P		**P**	02 30 57.5 -0.1
comp=Z,61nm,1.4s,mb5.8							
ESDC	**Sonseca Array**	92.74	332	P		**P**	02 30 59.7 +1.5
comp=Z,16nm,1.0s,mb5.4,baz=156,slow=3.9,SNR=29							
ESDC				PP		PP	02 34 40.0 -3.0
comp=Z,2.9nm,1.1s,baz=162,slow=9.1,SNR=4.0							
ESDC	**Sonseca Array**	92.74	332	P		**P**	02 30 56.7 -1.6
comp=Z,33nm,1.4s,mb5.6							
ESLA	**Sonseca Array**	92.74	332	*e*P		**P**	02 30 57.9 -0.4
comp=Z,26nm,1.3s,mb5.5							
EPOB	**Poblet**	92.77	336	P		**P**	02 30 57.0 -1.3
comp=Z,27nm,1.1s,mb5.6							
VRI	**Vrincioaia**	92.83	355	⇓P		**P**	02 30 57.2 -1.3
EBAD	**Badajoz**	92.94	329	P		**P**	02 31 00.0 +0.8
comp=Z,8.4nm,1.0s,mb5.1							
MAIM		92.97	343	P		**P**	02 30 55.5 -3.7
EVO	**Evora**	93.09	328	*e*P		**P**	02 31 01.5 +1.6
comp=Z,135nm,1.7s,mb5.8							
EVO				*e*R			
comp=Z,6μm,23.0s							
SARO	**Sassorosso**	93.25	343	P		**P**	02 30 57.7 -2.8
LMR	**La Mourre**	93.26	340	*e*P		**P**	02 30 59.7 -0.8
comp=Z,257nm,1.5s,mb6.1							
LMR	**La Mourre**	93.26	340	*e*P		**P**	02 30 59.7 -0.8
LMR				pmax		pmax	
comp=Z,128nm,1.5s,mb6.1							
BACM		93.40	343	P		**P**	02 30 59.6 -1.5
VALM		93.44	343	P		**P**	02 30 59.6 -1.7
FRF	**La Foret Royal**	93.44	341	*e*P		**P**	02 31 00.6 -0.8
comp=Z,204nm,1.4s,mb6.0							
FRF	**La Foret Royal**	93.44	341	*e*P		**P**	02 31 00.6 -0.8
FRF				pmax		pmax	
comp=Z,102nm,1.4s,mb6.1							
IMI	**Imperia**	93.50	342	P		**P**	02 31 02.5 +0.9
CODM		93.55	343	P		**P**	02 30 59.5 -2.4
SBF	**Sospel**	93.55	341	*e*P		**P**

ETSF				pmax	pmax		
	comp=Z,38nm,1.3s,mb5.7						
QIZ	**Qiongzhong**	**94.69**	**67**	P	**P**	**02 31 08.7**	**+1.1**
QIZ				XP	sP	02 31 21.1	+9.2
QIZ				S	S	02 42 18.4	+0.7
QIZ				SS	SS	02 48 45.5	+0.3
QIZ				AMB	AMB		
	comp=Z,20nm,1.6s,mb5.3						
QIZ				LR	LR		
	comp=N,1μm,28.4s,MS5.6						
QIZ				LR	LR		
	comp=E,2μm,26.9s,MS5.6						
QIZ				LR	LR		
	comp=Z,5μm,31.4s,MS5.8						
QIZ	**Qiongzhong**	**94.69**	**67**	PFAKE		02 31 20.0	+12
QIZ				LR	LR		
	comp=Z,2μm,19.0s,MS5.5						
RRL	**Cesana Torines**	**94.70**	**341**	P	**P**	**02 31 08.2**	**+1.1**
FENE	**Fenestrelle**	**94.75**	**341**	P	**P**	**02 31 07.2**	**-0.1**
REYF	**Montagne du Re**	**94.77**	**336**	*eP*	**P**	**02 31 07.8**	**+0.3**
OBKA	**Obir**	**94.77**	**347** ⇑	*iP*	**P**	**02 31 08.8**	**+1.4**
	comp=Z,44nm,1.2s,mb5.8						
RSP	**Reno Superiore**	**94.82**	**342**	P	**P**	**02 31 10.5**	**+2.8**
BNI	**Bardonecchia**	**94.85**	**341**	*eP*	**P**	**02 31 08.6**	**+0.8**
	comp=Z,71nm,1.3s,mb5.9						
BNI	**Bardonecchia**	**94.85**	**341**	*eP*	**P**	**02 31 08.6**	**+0.8**
BNI				pmax	pmax		
	comp=Z,71nm,1.3s,mb5.9						
ORIF	**Oris-en-Rattie**	**94.90**	**341**	*eP*	**P**	**02 31 06.9**	**-1.2**
	comp=Z,41nm,1.2s,mb5.5						
ORIF				*eR*			
	comp=Z,13μm,21.8s						
KMI	**Kunming**	**94.98**	**58**	P	**P**	**02 31 11.6**	**+2.7**
KMI				AP	pP	02 31 16.0	+3.9
KMI				XP	sP	02 31 18.2	+5.1
KMI				PP	PP	02 34 59.3	-1.0
KMI				PPP	PPP	02 36 59.1	-6.1
KMI				SKS	SKS	02 41 44.1	-3.9
KMI				S	S	02 42 22.8	+2.8
KMI				XS		02 42 30.2	
KMI				PS	PS	02 43 40.1	-3.4
KMI				SS	SS	02 48 53.4	+4.2
KMI				SSS	SSS	02 52 38.5	+7.3
KMI				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb5.0						
KMI				AMB	AMB		
	comp=Z,141nm,3.7s						
KMI				LR	LR		
	comp=N,2μm,19.6s,MS5.7						
KMI				LR	LR		
	comp=E,1μm,18.7s,MS5.7						
KMI				LR	LR		
	comp=Z,4μm,36.5s						
SJPF	**Ste Jean**	**95.05**	**335**	*eP*	**P**	**02 31 07.5**	**-1.3**
	comp=Z,68nm,1.4s,mb5.6						
SJPF	**Ste Jean**	**95.05**	**335**	*eP*	**P**	**02 31 07.5**	**-1.3**
SJPF				pmax	pmax		
	comp=Z,34nm,1.4s,mb5.6						
TRAV		**95.06**	**342**	P	**P**	**02 31 09.8**	**+1.0**
ORX	**Oropa**	**95.12**	**342**	P	**P**	**02 31 08.9**	**-0.1**
VIVF	**Saint-Julien-l**	**95.12**	**340**	*eP*	**P**	**02 31 07.6**	**-1.5**
	comp=Z,54nm,1.5s,mb5.5						
VIVF	**Saint-Julien-l**	**95.12**	**340**	*eP*	**P**	**02 31 07.6**	**-1.5**
VIVF				pmax	pmax		
	comp=Z,27nm,1.5s,mb5.5						
LSD	**Ceresole Reale**	**95.13**	**342**	P	**P**	**02 31 11.6**	**+2.5**
LPG	**La Plagne**	**95.26**	**341**	*eP*	**P**	**02 31 08.6**	**-1.1**
	comp=Z,26nm,1.0s,mb5.3						
LPG	**La Plagne**	**95.26**	**341**	*eP*	**P**	**02 31 08.6**	**-1.1**
LPG				pmax	pmax		
	comp=Z,13nm,1.0s,mb5.3						
LPL	**La Plagne**	**95.28**	**341**	*eP*	**P**	**02 31 08.6**	**-1.2**
	comp=Z,43nm,1.2s,mb5.5						
LPL	**La Plagne**	**95.28**	**341**	*eP*	**P**	**02 31 08.6**	**-1.2**
LPL				pmax	pmax		
	comp=Z,22nm,1.2s,mb5.5						
ARSA	**Arzberg**	**95.35**	**348** ⇑	*iP*	**P**	**02 31 10.8**	**+0.8**
	comp=Z,35nm,1.2s,mb5.7						
PSZ	**Piszkesteto**	**95.44**	**351**	P	**P**	**02 31 08.6**	**-1.9**
	comp=Z,38nm,1.4s,mb5.6						
PSZ	**Piszkesteto**	**95.44**	**351**	P	**P**	**02 31 08.6**	**-1.9**
PSZ				pmax	pmax		
	comp=Z,38nm,1.4s,mb5.6						
SRO	**Srobarova**	**95.53**	**350**	*eP*	**P**	**02 31 11.0**	**+0.2**
SRO				*e*pP	pP	02 31 14.9	+0.8
SOP	**Sopron**	**95.63**	**348**	*e*	**P**	**02 31 14.2**	**+2.9**
ECAL	**Calabor**	**95.69**	**331**	P	**P**	**02 31 11.0**	**-0.8**
	comp=Z,11nm,1.0s,mb5.2						
ELAN	**Lanestosa**	**95.81**	**334**	P	**P**	**02 31 12.7**	**+0.4**
	comp=Z,20nm,1.1s,mb5.5						
DAVOX	**Davos**	**95.84**	**344**	P	**P**	**02 31 14.3**	**+1.9**
	comp=Z,3.4nm,0.9s,mb4.8,baz=150,slow=10.0,SNR=6.9						
DAVOX				PP	PP	02 35 03.7	-2.9
	comp=Z,5.7nm,0.9s,baz=126,slow=8.9,SNR=6.7						
DAVOX	**Davos**	**95.84**	**344**	P	**P**	**02 31 14.3**	**+1.9**
DAVOX				PP	PP	02 35 03.7	-2.9
UZH	**Uzhgorod**	**95.91**	**352**	*eP*	**P**	**02 31 13.0**	**+0.4**
KECS	**Kecovo**	**95.94**	**351**	*eP*	**P**	**02 31 10.4**	**-2.3**
SQTA	**Sankt Quirin**	**96.02**	**345** ⇑	*iP*	**P**	**02 31 13.2**	**+0.1**
	comp=Z,41nm,1.8s,mb5.6						
SQTA	**Sankt Quirin**	**96.02**	**345** ⇑	*iP*	**P**	**02 31 13.2**	**+0.1**
SQTA				pmax	pmax		
	comp=Z,41nm,1.8s,mb5.6						
ZST	**Bratislava**	**96.06**	**349**	*eP*	**P**	**02 31 13.9**	**+0.6**
ZST				*e*SS	SS	02 48 59.9	-3.8
MOA	**Molln**	**96.12**	**347** ⇑	*iP*	**P**	**02 31 14.5**	**+0.9**
	comp=Z,33nm,1.2s,mb5.6						
VYHS	**Vyhne**	**96.13**	**350**	*eP*	**P**	**02 31 15.0**	**+1.4**
VYHS				*e*PP	PP	02 35 05.5	-3.4
VYHS				*e*S		02 41 52.9	
VYHS				*e*		02 43 57.2	
VYHS				*e*SS	SS	02 48 56.7	-8.1
MOTA	**Moosalm**	**96.16**	**345** ⇑	*iP*	**P**	**02 31 13.2**	**-0.6**
	comp=Z,44nm,1.7s,mb5.6						
MOTA	**Moosalm**	**96.16**	**345** ⇑	*iP*	**P**	**02 31 13.2**	**-0.6**
MOTA				pmax	pmax		
	comp=Z,44nm,1.7s,mb5.6						
LFF	**La Frestale**	**96.19**	**337**	*eP*	**P**	**02 31 12.6**	**-1.4**
KOLS	**Kolonicke sedl**	**96.21**	**352**	*eP*	**P**	**02 31 12.3**	**-1.6**
CRVS	**Cervenica-Dubn**	**96.26**	**352**	*eP*	**P**	**02 31 16.8**	**+2.6**
CRVS				*e*PP	PP	02 35 06.1	-3.8
CRVS				*e*S		02 41 52.6	
CRVS				*e*		02 44 00.7	
CRVS				*e*SS	SS	02 48 59.2	-7.3
RJF	**Les Rejaudoux**	**96.33**	**338**	*eP*	**P**	**02 31 13.0**	**-1.6**
RJF				*eR*			
	comp=Z,6μm,18.2s						
AAK	**Ala-Archa**	**96.40**	**29**	*eP*	**P**	**02 31 16.4**	**+1.4**
	comp=Z,0.6nm,1.3s						
AAK	**Ala-Archa**	**96.40**	**29**	*eP*	**P**	**02 31 16.4**	**+1.4**
AAK				pmax	pmax		
	comp=Z,1.0nm,1.3s						
CABF	**La Chapelle**	**96.46**	**341**	*eP*	**P**	**02 31 13.5**	**-1.6**
	comp=Z,59nm,1.1s,mb5.6						
CABF	**La Chapelle**	**96.46**	**341**	*eP*	**P**	**02 31 13.5**	**-1.6**
CABF				pmax	pmax		
	comp=Z,30nm,1.1s,mb5.6						
AGO	**Saint Agoulin**	**96.62**	**339**	*eP*	**P**	**02 31 25.2**	**+9.3**
FRU	**Bishkek**	**96.62**	**29**	*eP*	**P**	**02 31 18.0**	**+2.0**
FRU				*e*		02 35 10.0	
STHS	**Stebnicka Huta**	**96.79**	**352**	*eP*	**P**	**02 31 17.0**	**+0.5**
KWP	**Kalwaria**	**96.86**	**353**	*eP*	**P**	**02 31 18.4**	**+1.6**
KWP				MLR	MLR	03 08 10.2	
	comp=Z,4μm,31.8s,MS5.7						
KWP	**Kalwaria**	**96.86**	**353**	*eP*	**P**	**02 31 14.7**	**-2.2**
	comp=Z,30nm,1.4s,mb5.5						
NIE	**Niedzica**	**96.88**	**351**	*eP*	**P**	**02 31 17.5**	**+0.5**
LOMF	**Lomont**	**97.00**	**342**	*eP*	**P**	**02 31 20.8**	**+3.2**
SMF	**Signal de Mont**	**97.01**	**340**	*eP*	**P**	**02 31 15.8**	**-1.8**
	comp=Z,68nm,1.4s,mb5.6						
SMF	**Signal de Mont**	**97.01**	**340**	*eP*	**P**	**02 31 15.8**	**-1.8**
SMF				pmax	pmax		
	comp=Z,34nm,1.4s,mb5.6						
TCF	**Toulx Ste Croi**	**97.07**	**339**	*eP*	**P**	**02 31 16.3**	**-1.6**
	comp=Z,42nm,1.6s,mb5.3						
TCF	**Toulx Ste Croi**	**97.07**	**339**	*eP*	**P**	**02 31 16.3**	**-1.6**
TCF				pmax	pmax		
	comp=Z,21nm,1.6s,mb5.3						
GERES	**GERESS Array B**	**97.18**	**347**	P	**P**	**02 31 19.4**	**+1.1**
	comp=Z,2.4nm,1.0s,mb4.6,baz=162,slow=4.2,SNR=11						
GERES				PP	PP	02 35 11.8	-5.4
	comp=Z,0.2nm,0.4s,baz=23,slow=41,SNR=2.9						
GERES				LR	LR	03 16 37.7	
	comp=Z,3μm,18.8s,MS5.8,baz=354,slow=36						
GERES	**GERESS Array B**	**97.18**	**347**	P	**P**	**02 31 19.4**	**+1.1**
GERES						02 35 11.8	
GERES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
GERES				MLR	MLR		
	comp=Z,3μm,18.8s						
AVF	**Avril sur Loir**	**97.26**	**339**	*eP*	**P**	**02 31 17.1**	**-1.6**
	comp=Z,69nm,1.4s,mb5.6						
AVF	**Avril sur Loir**	**97.26**	**339**	*eP*	**P**	**02 31 17.1**	**-1.6**
AVF				pmax	pmax		
	comp=Z,35nm,1.4s,mb5.6						
FELD	**Feldberg**	**97.26**	**343**	*eP*	**P**	**02 31 21.5**	**+2.8**
HINF	**Hinteralfeld**	**97.44**	**342**	*eP*	**P**	**02 31 17.6**	**-1.9**
	comp=Z,24nm,1.2s,mb5.2						
HINF	**Hinteralfeld**	**97.44**	**342**	*eP*	**P**	**02 31 17.6**	**-1.9**
HINF				pmax	pmax		
	comp=Z,12nm,1.2s,mb5.2						
SSF	**Saint Saulge**	**97.48**	**340**	*eP*	**P**	**02 31 17.8**	**-1.9**
	comp=Z,22nm,1.5s,mb5.4						
SSF	**Saint Saulge**	**97.48**	**340**	*eP*	**P**	**02 31 17.8**	**-1.9**
SSF				pmax	pmax		
	comp=Z,23nm,1.5s,mb5.4						
KHC	**Kasperske Hory**	**97.48**	**347**	*eP*	**P**	**02 31 20.3**	**+0.7**
KHC				*e*PP	PP	02 35 14.4	-5.2
KHC				*ex*	x	02 42 07.8	
KHC				*e*PS	PS	02 44 07.5	-2.2
KHC				*e*SS	SS	02 49 14.4	-9.2
KHC				AMS	AMS	03 13 40.0	
	comp=Z,4μm,19.8s						
KHC	**Kasperske Hory**	**97.48**	**347**	*eP*	**P**	**02 31 20.3**	**+0.7**
KHC				*e*		02 35 14.4	
KHC				*e*PS	PS	02 44 07.5	-2.2
KHC				MLR	MLR		
	comp=Z,4μm,19.8s,MS5.9						
OKC	**Ostrava-Krasne**	**97.54**	**350**	*eP*	**P**	**02 31 19.3**	**-0.6**
OKC				*e*PP	PP	02 35 30.0	+10
OKC				*e*SKS	SKS	02 42 03.2	+2.2
OKC				*e*PS	PS	02 44 11.2	+0.9
OKC				*e*SS	SS	02 49 27.6	+3.2
OKC				AMS	AMS	03 13 10.0	
	comp=Z,2μm,19.7s						
OKC	**Ostrava-Krasne**	**97.54**	**350**	*eP*	**P**	**02 31 19.3**	**-0.6**
OKC				*e*S	SKS	02 42 03.2	+2.2
OKC				*e*PS	PS	02 44 11.2	+0.9
OKC				*e*SS	SS	02 49 27.6	+3.2
AKASG	**Malin Array Be**	**97.54**	**357**	P	**P**	**02 31 20.8**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=187,slow=4.5,SNR=7.4						
AKASG				PP	PP	02 35 18.9	-1.3
	comp=Z,0.2nm,0.5s,baz=194,slow=7.2,SNR=4.0						
AKASG	**Malin Array Be**	**97.54**	**357**	P	**P**	**02 31 20.8**	**+0.9**
AKASG				PP	PP	02 35 18.9	-1.3
AKASG	**Malin Array Be**	**97.54**	**357**	P	**P**	**02 31 20.8**	**+0.9**
AKASG						02 35 18.9	
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MORC	**Moravsky Berou**	**97.55**	**349**	*eP*	**P**	**02 31 19.2**	**-0.8**
	comp=Z,17nm,1.3s,mb5.4						
MORC	**Moravsky Berou**	**97.55**	**349**	*eP*	**P**	**02 31 19.2**	**-0.8**
MORC				pmax	pmax		
	comp=Z,17nm,1.3s,mb5.4						
LOR	**Lormes**	**97.59**	**340**	*eP*	**P**	**02 31 18.5**	**-1.7**
	comp=Z,74nm,1.3s,mb5.8						
LOR				*eR*			
	comp=Z,11μm,22.0s						
LOR	**Lormes**	**97.59**	**340**	*eP*	**P**	**02 31 18.5**	**-1.7**
LOR				pmax	pmax		
	comp=Z,37nm,1.3s,mb5.8						
LOR				MLR	MLR		
	comp=Z,11μm,22.0s,MS6.3						
OJC	**Ojcow**	**97.73**	**351**	*eP*	**P**	**02 31 22.1**	**+1.4**
OJC				*e*PP	PP	02 35 17.8	-3.8
OJC				*e*SKS	SKS	02 41 59.9	-2.1
OJC				*e*PS	PS	02 44 12.5	+0.3
OJC				*e*SS	SS	02 49 22.4	-4.7
OJC				MLR	MLR	03 15 44.3	
	comp=Z,3μm,20.5s,MS5.8						
HAU	**Haudompre**	**97.73**	**342**	*eP*	**P**	**02 31 18.9**	**-1.9**
	comp=Z,31nm,1.2s,mb5.4						
HAU				*eR*			
	comp=Z,5μm,18.0s						
HAU	**Haudompre**	**97.73**	**342**	*eP*	**P**	**02 31 18.9**	**-1.9**
HAU				pmax	pmax		
	comp=Z,16nm,1.2s,mb5.4						
HAU				MLR	MLR		
	comp=Z,5μm,18.0s,MS6.0						
CDF	**Champ du Feu**	**97.92**	**343**	*eP*	**P**	**02 31 19.5**	**-2.1**
VRSR	**Storozhevoye**	**98.09**	**3**	*eP*	**P**	**02 31 25.9**	**+3.6**
VRSR				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb5.0						
VRSR				pmax	pmax		
	comp=N,8.0nm,0.9s						
VRSR				pmax	pmax		
	comp=E,4.0nm,0.9s						
VRSR				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb5.0						
VRSR				pmax	pmax		
	comp=N,8.0nm,0.9s						
VRSR				pmax	pmax		
	comp=E,4.0nm,0.9s						
VRSR				MLR	MLR		
	comp=Z,950nm,17.0s,MS5.3						
VRSR				MLR	MLR		
	comp=N,1μm,18.0s,MS5.5						
VRSR				MLR	MLR		
	comp=E,450nm,15.0s,MS5.5						
VRSR				MLR	MLR		
	comp=Z,950nm,17.0s						
VRSR				MLR	MLR		
	comp=N,1μm,18.0s						
VRSR				MLR	MLR		
	comp=E,450nm,15.0s						
PRU	**Pruhonice**	**98.17**	**348**	*eP*	**P**	**02 31 24.2**	**+1.5**
PRU				*e*PP	PP	02 35 09.6	-15
PRU				*e*SKS	SKS	02 42 08.2	+3.9
PRU				*e*PS	PS	02 44 15.8	-0.9
PRU				*e*SS	SS	02 49 23.6	-10
PRU				AMS	AMS	03 13 10.0	
	comp=E,3μm,19.5s						
PRU	**Pruhonice**	**98.17**	**348**	*eP*	**P**	**02 31 24.2**	**+1.5**
PRU				*e*PS	PS	02 44 15.8	-0.9
PRU				MLR	MLR		
	comp=Z,3μm,19.5s,MS5.8						
PRA	**Prague**	**98.26**	**348**	AMS	AMS	03 21 20.0	
DPC	**Dobruska-Polom**	**98.27**	**349**	*eP*	**P**	**02 31 19.1**	**-4.1**
DPC				*e*pP	pP	02 31 27.1	+0.7
DPC				*ex*	x	02 31 34.3	
DPC				*ex*	x	02 32 05.7	
DPC				*e*PP	PP	02 35 22.1	-3.6
DPC				*ex*	x	02 39 57.0	
DPC				*e*SKS	SKS	02 42 07.1	+2.3
DPC				*e*SP	SP	02 44 17.9	+1.3
DPC				*e*SS	SS	02 49 29.9	-4.8
DPC				AMS	AMS	03 19 40.0	
	comp=Z,3μm,16.9s						
GRA1	**Grafenberg Arr**	**98.41**	**345**	*eP*	**P**	**02 31 23.6**	**-0.2**
	comp=Z,22nm,1.2s,mb5.6						
GRA1				*e*PP	PP	02 35 19.5	-7.2
GRA1				*e*		02 39 11.3	
GRF	**Grafenberg Arr**	**98.41**	**345**	*eP*	**P**	**02 31 23.6**	**-0.2**
	comp=Z,22nm,1.2s,mb5.6						
GRF				*e*PP	PP	02 35 19.5	-7.2
GRF				*e*		02 39 11.3	
GRF				LR	LR		
	comp=Z,6μm,21.0s,MS6.0						
GRF	**Grafenberg Arr**	**98.41**	**345**	*eP*	**P**	**02 31 23.6**	**-0.2**
GRF				pmax	pmax		
	comp=Z,22nm,1.2s,mb5.6						
GRF	**Grafenberg Arr**	**98.41**	**345**	*eP*	**P**	**02 31 23.6**	**-0.2**
GRF				pmax	pmax		
	comp=Z,22nm,1.2s,mb5.6						
GRF				MLR	MLR		
	comp=Z,6μm,21.0s,MS6.0						
UPC	**Upice**	**98.47**	**349**	*eP*	**P**	**02 31 26.9**	**+2.9**
UPC				*e*PP	PP	02 35 22.6	-4.5
MEZF	**Maizieres J'vi**	**98.48**	**341**	*eP*	**P**	**02 31 22.8**	**-1.4**
PMG	**Port Moresby**	**98.57**	**114**	LR	LR	03 13 50.7	
	comp=Z,3μm,18.2s,MS5.9,baz=220,slow=34						
PVCC	**Panska Ves**	**98.69**	**348**	*eP*	**P**	**02 31 26.7**	**+1.7**
PVCC				*e*PP	PP	02 35 19.6	-9.0
PVCC				*e*SKS	SKS	02 42 07.6	+0.7
PVCC				*e*PS	PS	02 44 22.3	-0.1
PVCC				*e*SS	SS	02 49 39.2	-1.3
PVCC				AMS	AMS	03 20 00.0	
	comp=Z,3μm,17.4s						
PVCC	**Panska Ves**	**98.69**	**348**	*eP*	**P**	**02 31 26.7**	**+1.7**
PVCC				*e*S	SKS	02 42 07.6	+0.7
PVCC				*e*PS	PS	02 44 22.3	-0.1
PVCC				*e*SS	SS	02 49 39.2	-1.3
PVCC				MLR	MLR		
	comp=Z,3μm,17.4s,MS5.8						
NKC	**Novy Kostel**	**98.73**	**346**	*eP*	**P**	**02 31 28.1**	**+2.9**
NKC				*e*PP	PP	02 35 23.5	-5.4
NKC				*e*SKS	SKS	02 42 11.0	+3.9
NKC				*e*PS	PS	02 44 24.7	+1.8
NKC				*e*SS	SS	02 49 24.5	-17
NKC				AMS	AMS	03 13 50.0	
	comp=Z,5μm,21.3s						
NKC	**Novy Kostel**	**98.73**	**346**	*eP*	**P**	**02 31 28.1**	**+2.9**
NKC				*e*		02 35 23.5	
NKC				*e*PS	PS	02 44 24.7	+1.8
KSP	**Ksiaz**	**98.76**	**349**	*eP*	**P**	**02 31 27.6**	**+2.2**
KSP				*e*PP	PP	02 35 26.2	-2.9
KSP				MLR	MLR	03 16 07.9	
	comp=Z,6μm,19.5s,MS6.1						
KSP	**Ksiaz**	**98.76**	**349**	*eP*	**P**	**02 31 28.3**	**+3.0**
KSP				*e*PP	PP	02 35 20.0	-9.1
KSP				*e*SKS	SKS	02 42 07.5	+0.2
KSP				*e*SP	SP	02 44 21.0	-0.9
KSP				*e*SS	SS	02 49 33.0	-8.5
KSP				LR	LR		
	comp=Z,8μm,19.5s,MS6.2						
KSP	**Ksiaz**	**98.76**	**349**	*eP*	**P**	**02 31 28.3**	**+3.0**
KSP				*e*		02 42 07.5	
KSP				*e*SP	SP	02 44 21.0	-0.9
KSP				MLR	MLR		
	comp=Z,8μm,19.5s,MS6.2						
TOD	**Tromm**	**98.76**	**344**	*eP*	**P**	**02 31 28.4**	**+3.0**
RPN	**Rapa Nui**	**98.91**	**213**	LR	LR	03 05 47.9	
	comp=Z,2μm,19.8s,MS5.5,baz=155,slow=29						
BRG	**Berggiesshubel**	**99.12**	**347**	*eP*	**P**	**02 31 34.0**	**+7.0**
	comp=Z,14nm,1.8s,mb5.2						
BRG				PP	PP	02 35 28.0	-3.7
BRG				SKS	SKS	02 42 10.0	+0.9
BRG				S	S	02 42 58.0	+3.6
BRG				SP	SP	02 44 23.0	-2.7
BRG				SS	SS	02 49 41.0	-5.5
BRG				LR	LR		
	comp=Z,5μm,17.9s,MS6.0						
BRG	**Berggiesshubel**	**99.12**	**347**	*eP*	**P**	**02 31 34.0**	**+7.0**
BRG						02 35 28.0	
BRG						02 42 10.0	
BRG				S	S	02 42 58.0	+3.6
BRG				SP	SP	02 44 23.0	-2.7
BRG				SS	SS	02 49 41.0	-5.5
BRG				pmax	pmax		
	comp=Z,14nm,1.8s,mb5.2						
BRG				MLR	MLR		
	comp=Z,5μm,17.9s,MS6.0						
MOX	**Moxa**	**99.26**	**346**	*i* P	**P**	**02 31 30.5**	**+2.9**
	comp=Z,logA/T=1.0,mb5.3						
MOX				PP	PP	02 35 31.0	-1.9
MOX				SKS	SKS	02 42 00.0	-10
MOX				PS	PS	02 44 30.0	+1.6
MOX				SS	SS	02 49 48.0	-0.5
MOX				LQ		02 56 00.0	
MOX				LR	LR	03 04 00.0	
MOX				L		03 16 55.0	
MOX	**Moxa**	**99.26**	**346**	*eP*	**P**	**02 31 30.5**	**+2.9**
	comp=Z,15nm,1.6s,mb5.3						
MOX				LR	LR		
	comp=Z,5μm,22.0s,MS6.0						
MOX	**Moxa**	**99.26**	**346**	*eP*	**P**	**02 31 30.5**	**+2.9**
MOX				pmax	pmax		
	comp=Z,15nm,1.6s,mb5.3						
MOX				MLR	MLR		
	comp=Z,5μm,22.0s,MS6.0						
CLL	**Collm**	**99.68**	**347**	P	**P**	**02 31 29.6**	**0.0**
	comp=Z,logA/T=1.4,mb5.6						
CLL				*e*		02 35 12.0	
CLL				*e*PP	PP	02 35 32.0	-4.2
CLL				*e*		02 42 12.0	
CLL				*e*S	S	02 43 08.0	+8.9
CLL				*e*PS	PS	02 44 32.0	-0.6
CLL				*e*SS	SS	02 49 50.0	-4.4
CLL				*e*		02 51 33.0	
CLL				*e*		02 57 02.0	
CLL				*e*		02 58 51.0	
CLL	**Collm**	**99.68**	**347**	*i* P	**P**	**02 31 29.6**	**0.0**
	comp=Z,65nm,2.6s,mb5.6						
CLL				*e*SKS	SKS	02 42 12.0	+0.2
CLL				*e*S	S	02 43 08.0	+8.9
CLL				LR	LR		
	comp=Z,5μm,21.0s,MS6.0						
CLL	**Collm**	**99.68**	**347**	*i* P	**P**	**02 31 29.6**	**0.0**
CLL				*e*		02 42 12.0	
CLL				*e*S	S	02 43 08.0	+8.9
CLL				pmax	pmax		
	comp=Z,65nm,2.6s,mb5.6						
CLL				MLR	MLR		
	comp=Z,5μm,21.0s,MS6.0						
CMLA	**Cha da Macela**	**99.74**	**316**	PFAKE		02 31 40.0	+10
CMLA				LR	LR		
	comp=Z,5μm,21.0s,MS6.0						
CD2	**Chengdu**	**99.96**	**55**	*eP*	**P**	**02 31 31.1**	**-0.3**
CD2				PP	PP	02 35 40.0	+1.0
CD2				S	S	02 42 56.0	-6.0
CD2				AMB	AMB		
	comp=Z,10.0nm,1.7s,mb5.0						
CD2				LR	LR		
	comp=E,1μm,18.0s						
CD2				LR	LR		
	comp=Z,1μm,20.4s,MS5.4						
GIVF	**Givet**	**100.04**	**342**	*eP*	P	02 31 29.9	-1.3
BAIF	**Baives**	**100.13**	**341**	*eP*	P	02 31 30.3	-1.4
	comp=Z,54nm,1.6s						
BAIF	**Baives**	**100.13**	**341**	*eP*	P	02 31 30.3	-1.4
BAIF				pmax	pmax		
	comp=Z,27nm,1.6s						
HGN	**Heimansgroeve**	**100.43**	**342**	*eP*	PP	02 35 36.3	-5.9
HGN				*ex*	x	02 35 53.4	
HGN				*e*SKS	x	02 41 00.4	
HGN				*e*S	SKS	02 42 20.1	+4.6
HGN				*e*PS	PS	02 44 44.8	+4.3
HGN				*e*SS	SS	02 50 03.7	-1.2
OBN	**Obninsk**	**101.91**	**2**	*i* P	P	02 31 38.9	-0.6
OBN				pmax	pmax		
	comp=Z,12μm,1.5s						
OBN				MLR	MLR		
	comp=Z,2μm,20.0s,MS5.6						
WMQ	**Urumqi**	**102.33**	**37**	*eP*	Pdif	02 31 42.0	+0.3
WMQ				PP	PP	02 35 57.0	+0.4
WMQ				SKS	SKS	02 42 20.0	-4.8
WMQ				S	S	02 43 21.0	-0.4
WMQ				PS	PS	02 45 00.0	-0.5
WMQ				SS	SS	02 50 31.0	-0.6
WMQ				A

MUD *i* S PS 02 45 33.6 +3.4
comp=Z,2μm,20.0s
ARU Arti 105.27 14 PFAKE 02 36 20.0
ARU LR LR
comp=Z,790nm,21.0s,MS5.2
SVE Sverdlovsk 106.01 15 *e*P Pdif 02 32 07.0 +9.4
SVE *e* 02 36 20.5
SVE *e* 02 38 40.0
SVE *e* 02 45 40.0
SVE *e* 02 51 19.0
KONO Kongsberg 108.25 347 *e*PP PP 02 36 36.6 -4.0
KONO *e*SKSa 02 42 54.9
KONO *e* 02 45 41.8
KONO *e*SS SS 02 51 45.7 -6.2
RKT Rikitea 109.33 191 *e*PS PS 02 46 20.8 +10
RKT Rikitea 109.33 191 *e*S 02 43 56.6
RKT *e*SS SS 02 52 08.9 +1.7
RKT *e*LR LR 03 07 50.1
comp=Z,2μm,31.5s
NB2 NORSAR Subarra109.36 349 PKiKP 02 36 20.0
comp=Z,16nm,1.7s,baz=164,slow=1.9
NB2 NORSAR Subarra109.36 349 PKiK 02 36 20.0
baz=164,slow=1.9
BER Bergen 109.64 345 *e*PP PP 02 36 46.8 -4.2
BER *e* 02 46 14.3
BER AMS AMS 03 22 33.6
comp=Z,3μm,20.8s,MS5.8
NJ2 Nanjing 109.67 64 *e*PDIF Pdif 02 32 10.4 -3.9
NJ2 PP PP 02 36 49.0 -2.9
NJ2 PP PP
comp=Z,480nm,6.7s
NJ2 LR LR
comp=N,6μm,27.6s,MS6.2
NJ2 LR LR
comp=E,7μm,30.8s,MS6.2
NJ2 LR LR
comp=Z,810nm,28.5s,MS5.1
TBI Tubuai 109.78 177 *e*PS PS 02 46 08.2 -7.1
TBI Tubuai 109.78 177 *e*SS SS 02 52 16.0 +2.5
TBI *e*LR LR 03 08 44.3
comp=Z,8μm,26.0s
SSE Sheshan 110.45 66 *e*PKP PKPdf 02 36 19.7 -0.6
SSE PP PP 02 37 00.1 +2.6
SSE SS SS 02 52 28.6 +6.3
SSE PP PP
comp=Z,270nm,4.1s
SSE LR LR
comp=N,1μm,23.4s,MS5.5
SSE LR LR
comp=E,903nm,23.4s,MS5.5
SSE LR LR
comp=Z,2μm,27.2s,MS5.6
NSS Namsos 112.63 350 *e* PS 02 46 48.9 +7.1
SONM Songino Array 113.76 45 PKiKP 02 36 23.7
comp=Z,0.4nm,0.7s,baz=202,slow=7.8,SNR=3.0
SONM PP PP 02 37 21.5 +0.3
comp=Z,3.0nm,1.0s,baz=225,slow=4.2,SNR=5.8
SONM PKKPbc 02 47 04.0
comp=Z,0.5nm,0.9s,baz=315,slow=2.0,SNR=3.6
SONM PKKPab 02 47 11.0
comp=Z,0.6nm,0.6s,baz=32,slow=3.0,SNR=4.2
SONM Songino Array 113.76 45 *i* PKIKP PKPdf 02 36 23.7 -2.6
SONM 02 37 21.5
SONM pmax pmax
comp=Z,3.0nm,1.0s
SONM pmax pmax
comp=Z,1.0nm,0.9s
SONM pmax pmax
comp=Z,1.0nm,0.6s
ZAK Zakamensk 114.12 41 *e*PKIKP PKPdf 02 36 22.9 -4.0
ZAK pmax pmax
comp=Z,2.0nm,1.1s
TLY Talaya 115.20 40 *i* PKIKP PKPdf 02 36 28.1 -0.9
TLY *e*PPS PS 02 47 05.3 -1.3
TLY pmax pmax
comp=Z,4.0nm,1.1s
PPT Papeete 115.52 176 *e*PP PP 02 37 31.1 -3.1
PPT Papeete 115.52 176 *e*PS PS 02 47 01.0 -9.2
PPT Papeete 115.52 176 *e*SS SS 02 53 28.6 -0.8
PPT *e*LR LR 03 11 25.3
comp=Z,9μm,27.5s
DL2 Dalian 115.94 60 *e*PKP PKPdf 02 36 30.4 -0.4
DL2 PP PP
comp=Z,320nm,7.1s
DL2 LR LR
comp=N,800nm,20.5s,MS5.5
DL2 LR LR
comp=E,930nm,20.6s,MS5.5
DL2 LR LR
comp=Z,2μm,28.6s
ARCES ARCESS Array B 116.52 357 PKP PKPdf 02 36 29.1 -2.1
comp=Z,1.7nm,0.8s,baz=39,slow=7.8,SNR=4.4
ARCES PKKPbc 02 46 59.4
comp=Z,2.6nm,0.9s,baz=101,slow=6.2,SNR=6.7
ARCES ARCESS Array B 116.52 357 PKIKP PKPdf 02 36 29.1 -2.1
ARCES pmax pmax
comp=Z,2.0nm,0.8s
ARCES pmax pmax
comp=Z,3.0nm,1.0s
TRO Tromso 116.97 354 *e*PP PP 02 37 40.7 -2.4
TRO *e* 02 47 24.5
TRO *e*SS SS 02 53 52.8 +5.8
TRO AMS AMS 03 30 49.8
comp=Z,1μm,18.5s,MS5.6
CN2 Changchun 121.25 58 *e*PKP PKPdf 02 36 36.0 -5.0
CN2 PP PP 02 38 12.2 -0.5
CN2 SS SS 02 54 42.0 -1.3
CN2 LR LR
comp=N,1μm,21.0s,MS5.6
CN2 LR LR
comp=E,820nm,21.0s,MS5.6
CN2 LR LR
comp=Z,2μm,19.0s,MS5.8
HIA Hailar 121.40 50 PFAKE 02 36 50.0 +8.9
HIA LR LR
comp=Z,2μm,21.0s,MS5.8
JMIC Jan Mayen 121.66 345 *e*PP PP 02 38 10.7 -4.3
JMIC *e* 02 48 06.2
JMIC AMS AMS 03 28 42.5
comp=Z,2μm,20.0s,MS5.7
BOD Bodaibo 123.75 39 *e*PKIKP PKPdf 02 36 39.6 -5.8
BOD pmax pmax
comp=Z,12nm,1.5s
TAOE Nuku Hiva Isla 123.99 187 *e*PP PP 02 38 30.2 -2.4
TAOE Nuku Hiva Isla 123.99 187 *e*LR LR 03 15 23.9
comp=Z,5μm,23.7s
MDJ Mudanjiang 124.14 59 PDIF Pdif 02 33 20.2 +2.5
MDJ PP PP 02 38 31.5 -1.3
MDJ SS SS 02 55 21.8 +2.0
MDJ PP PP
comp=Z,197nm,9.5s
MDJ LR LR
comp=N,2μm,27.7s
MDJ LR LR
comp=E,1μm,37.5s
MDJ LR LR
comp=Z,2μm,34.3s
MDJ Mudanjiang 124.14 59 PFAKE 02 37 00.0 +13
MDJ LR LR
comp=Z,2μm,20.0s,MS5.8
MAT Matsushiro 124.79 72 PKP PKPdf 02 36 47.1 -0.8
KBS Kingsbay 126.47 355 *e*PP PP 02 38 44.3 -2.6
KBS *e*SS SS 02 55 48.8 +0.5
KBS AMS AMS 03 34 24.4
comp=Z,2μm,19.4s,MS5.7
KBS Kingsbay 126.47 355 PKPdf PKPdf 02 36 50.7 +0.7
KLR Kul'dur 127.89 55 *e*PKIKP PKPdf 02 36 48.7 -4.9
KLR *e* 02 48 55.0
DAG Danmarks Havn 127.97 347 ‖ *i*P PKPdf 02 36 54.6 +1.5
comp=Z,6.3nm,1.2s
comp=Z,3μm,23.0s
CLNS Chul'man 128.17 44 *e*PKIKP PKPdf 02 36 55.9 +2.0
CLNS pmax pmax
comp=Z,14nm,1.4s
CLNS pmax pmax
comp=N,7.0nm,0.9s
CLNS pmax pmax
comp=E,6.0nm,0.7s
WES Weston 128.48 294 *e*PKPdf PKPdf 02 36 51.4 -3.5
WVL Waterville 128.62 297 *e*PKPdf PKPdf 02 36 52.9 -2.2
HRV Harvard--Oak R 128.69 294 *e*PKPdf PKPdf 02 36 51.6 -3.7
QUA2 Belchertown 129.07 293 *e*P PKPdf 02 36 53.9 -2.1
SUMG Summit 129.34 338 *e*PKPdf PKPdf 02 36 57.0 +1.3
COW Cow Castle Cre 129.53 279 PKPdf PKPdf 02 36 54.7 -2.4
FRNY Flat Rock 131.16 296 PKPdf PKPdf 02 36 57.4 -2.5

BINY Binghamton 131.32 291 *e*PKPdf PKPdf 02 36 57.5 -2.8
BLA Blacksburg 131.54 283 *e*P Pdif 02 33 52.2 +1.8
ELN Prospectdale 131.77 283 PKPdf PKPdf 02 36 57.6 -3.7
SCHQ Schefferville 131.95 310 PKP PKPdf 02 37 00.2 -0.9
comp=E,4.8nm,0.8s,baz=25,slow=2.1,SNR=4.1
FWV Forest Hill 132.00 283 *e*PKPdf PKPdf 02 36 59.2 -2.5
MCWV Mont Chateau 132.48 286 PFAKE 02 37 10.0 +7.4
MCWV LR LR
comp=Z,2μm,20.0s,MS5.8
MYNC Murphy 132.83 279 *e*PKPdf PKPdf 02 37 00.6 -2.7
YSS Yuzh-Sakhalins 133.21 63 *e*PKIKP PKPdf 02 37 07.5 +3.8
YSS *e* 02 42 23.0
YSS MLR MLR
comp=Z,700nm,19.0s,MS5.4
YSS MLR MLR
comp=E,800nm,20.0s
ALLY Alegheny Colle 133.71 289 PKPdf PKPdf 02 37 02.0 -2.6
SWET Sewanee 134.12 278 *e*PKPdf PKPdf 02 37 03.2 -2.5
WVT Waverly 135.92 278 *e*PKPdf PKPdf 02 37 05.7 -3.3
WCI Wyandotte Cave 136.01 281 *e*PKPdf PKPdf 02 37 07.4 -1.7
OXF Oxford 136.09 275 *e*PKPdf PKPdf 02 37 06.5 -2.9
OXF Oxford 136.09 275 PKIKP PKPdf 02 37 07.3 -2.0
BLO Bloomington 136.65 282 PKPdf PKPdf 02 37 07.3 -2.9
UALR University of 138.24 273 PKPdf PKPdf 02 37 09.1 -4.3
CCM Cathedral Cave 139.25 273 *e*PKPdf PKPdf 02 37 12.4 -2.6
JCT Junction City 140.79 262 *e*PKPpre 02 37 11.4
JCT Junction City 140.79 262 PKIKP PKPdf 02 37 12.4 -5.6
MA2 Magadan 141.90 47 *e*PKPpre 02 37 10.9
MA2 Magadan 141.90 47 *c i*PKIKP PKPdf 02 37 19.1 +0.1
MA2 pmax pmax
comp=Z,10.0nm,1.4s
TXAR Lajitas Array 142.65 257 PKhKP 02 37 15.4
comp=Z,5.5nm,0.9s,baz=146,slow=4.5,SNR=34
TXAR PKP PKPdf 02 37 20.9 -0.3
comp=Z,16nm,1.1s,baz=143,slow=4.5,SNR=22
TXAR Lajitas Array 142.65 257 PKIKP PKPdf 02 37 15.4 -5.8
TXAR 02 37 20.9
TXAR pmax pmax
comp=Z,6.0nm,0.9s
TXAR pmax pmax
comp=Z,16nm,1.1s
LTX Lajitas 142.66 257 *e*PKPdf PKPdf 02 37 15.0 -6.2
LTX Lajitas 142.66 257 PKIKP PKPdf 02 37 16.0 -5.2
SKR Severo-Kuril's 142.78 63 *e*PKIKP PKPdf 02 37 26.0 +5.2
SKR MLR MLR
comp=N,1μm,20.0s,MS5.9
SKR MLR MLR
comp=E,2μm,20.0s,MS5.9
SKR MLR MLR
comp=Z,2μm,20.0s,MS5.8
SEY Seymchan 143.08 42 *e*PKP PKPdf 02 37 19.1 -1.8
SEY Seymchan 143.08 42 *e*PKIKP PKPdf 02 37 18.2 -2.7
SEY pmax pmax
comp=Z,20nm,1.0s
KSU1 Kansas State U 143.41 276 *e*PKPdf PKPdf 02 37 19.5 -2.7
RES Resolute Bay 144.86 339 PKP PKPdf 02 37 21.2 -2.5
PET Petropavlovsk 144.92 60 *e*PKPdf PKPdf 02 37 21.6 -2.8
PET Petropavlovsk 144.92 60 *i* PKIKP PKPdf 02 37 21.9 -2.5
PET *e* 02 40 44.3
PET *e* 02 44 25.7
PET *e*PPS PPS 02 53 10.7 -5.1
PET *e*SS SS 02 59 27.3 -2.1
PET *e*SSS SSS 03 04 56.2 -0.3
PET pmax pmax
comp=Z,400nm,7.8s
PET pmax pmax
comp=Z,300nm,9.9s
PET pmax pmax
comp=Z,75nm,1.4s
PET pmax pmax
comp=Z,800nm,2.5s
PET pmax pmax
comp=Z,124nm,1.7s
PET pmax pmax
comp=Z,200nm,2.7s
PET pmax pmax
comp=Z,500nm,11.1s
PET pmax pmax
comp=Z,400nm,11.6s
PET pmax pmax
comp=Z,300nm,13.5s
PET pmax pmax
comp=Z,200nm,4.3s
PET MLR MLR
comp=Z,800nm,16.0s,MS5.6
MNTX Cornudas Mount 145.29 258 *e*PKP PKPdf 02 37 22.1 -3.7
CBKS Cedar Bluff 145.40 273 *e*PKP PKPdf 02 37 22.1 -3.6
ULM Lac du Bonnet 147.11 294 PKPbc PKPdf 02 37 26.8 -1.4
comp=Z,17nm,0.9s,baz=77,slow=1.9,SNR=9.8
ULM Lac du Bonnet 147.11 294 *e*PKP PKPdf 02 37 25.8 -2.4
FCC Fort Churchill 147.34 310 *e*PKPab PKPab 02 37 28.3 -3.4
FCC Fort Churchill 147.34 310 PKP2 PKPab 02 37 29.4 -2.3
ANMO Albuquerque 147.95 262 *e*PKPbc PKPdf 02 37 29.9 -0.1
ANMO Albuquerque 147.95 262 PKP2 PKPab 02 37 30.3 -4.5
BILL Bilibino 148.28 32 *e*PKPdf PKPdf 02 37 28.8 -0.8
BILL Bilibino 148.28 32 *e*PKIKP PKPdf 02 37 28.8 -0.8
SDCO Great Sand Dun 148.80 267 *e*PKPbc PKPdf 02 37 31.1 -0.2
TUC Tucson 149.26 254 *e*PKPdf PKPdf 02 37 31.0 -1.2
PHWY Pilot Hill 150.44 274 *e*PKPbc PKPdf 02 37 37.5 +3.7
SMCO Snowmass 150.51 269 *e*PKPdf PKPdf 02 37 33.1 -0.9
RSSD Black Hills 150.58 280 *e*PKPdf PKPdf 02 37 32.6 -1.3
PV01 Paradox Valley 151.09 266 *e*PKPdf PKPdf 02 37 33.3 -1.6
PV10 Paradox Valley 151.53 266 *e*PKPdf PKPdf 02 37 35.1 -0.4
RWWY Rawlins 151.80 273 *e*PKPdf PKPdf 02 37 34.2 -1.7
DGMT Dagmar 151.97 288 PKPbc PKPdf 02 37 39.1 +3.2
LAO LASA Array 152.85 284 *e*PKPdf PKPdf 02 37 35.6 -1.5
SRU San Rafael 152.90 266 *e*PKPdf PKPdf 02 37 34.8 -2.6
BAR Barrett 153.29 248 *e*PKPdf PKPdf 02 37 37.1 -1.1
TMUT Trail Mountain 153.46 266 *e*PKPdf PKPdf 02 37 37.7 -0.6
FX1 Attu Island--F 153.57 62 *e*PKPbc PKPdf 02 37 43.9 +6.0
MSU Marysvale 153.73 263 *e*PKPdf PKPdf 02 37 37.7 -0.9
PFO Pinyon Flat Ob 153.76 250 *e*PKPbc PKPdf 02 37 43.5 +4.7
LDFC Landfair 153.80 254 *e*PKP PKPdf 02 37 40.3 +1.5
BW06 Boulder Array 153.82 274 *e*PKPdf PKPdf 02 37 36.9 -1.7
PDAR Pinedale Array 153.82 274 PKP PKPdf 02 37 37.2 -1.4
comp=Z,2.8nm,1.0s,baz=108,slow=4.7,SNR=9.1
PDAR PKPbc PKPdf 02 37 45.3 +6.7
comp=Z,4.6nm,0.9s,baz=108,slow=2.9,SNR=20
PDAR PKPab PKPab 02 37 56.2 -2.8
comp=Z,9.8nm,0.9s,baz=117,slow=2.0,SNR=16
NEN Nelson 153.96 255 *e*PKPdf PKPdf 02 37 37.7 -1.4
DAU Daniels Canyon 154.01 268 *e*PKPdf PKPdf 02 37 36.1 -2.8
MPU Maple Canyon 154.08 267 *e*PKPbc PKPdf 02 37 46.0 +7.0
MPU *e*PKPab PKPab 02 37 57.7 -2.5
ARUT Antelope Range 154.21 261 PKPdf PKPdf 02 37 38.3 -1.0
TCUT Toone Canyon 154.42 269 PKPdf PKPdf 02 37 38.5 -0.9
CTU Camp Tracy 154.47 268 PKPdf PKPdf 02 37 38.5 -1.0
HWUT Hardware Ranch 154.73 270 *e*PKPdf PKPdf 02 37 35.0 -4.9
LOHW Long Hollow 154.84 275 *e*PKPdf PKPdf 02 37 38.3 -1.7
AHID Auburn Hatcher 154.87 273 *e*PKPbc PKPdf 02 37 48.0 +7.9
AHID LR LR
comp=Z,2μm,20.0s,MS5.9
SNOW Snow King Moun 154.90 275 *e*PKPbc PKPdf 02 37 45.9 +5.8
REDW Red Top Meadow 154.93 274 *e*PKPdf PKPdf 02 37 38.3 -1.8
TPAW Teton Pass 155.04 275 *e*PKPdf PKPdf 02 37 39.2 -1.0
IMW Indian Meadow 155.17 276 *e*PKPdf PKPdf 02 37 38.4 -2.0
SPUT South Promonto 155.21 269 *e*PKPdf PKPdf 02 37 39.7 -0.8
RRI2 Red Ridge 155.24 274 PKP PKPdf 02 37 43.0 +2.5
YFT Old Faithful 155.29 277 *e*PKPbc PKPdf 02 37 44.7 +4.2
QLMT Earthquake Lak 155.81 277 PKPdf PKPdf 02 37 41.1 -0.1
DAC Darwin (Calif) 156.13 253 *e*PKPdf PKPdf 02 37 40.7 -1.2
BOZ Bozeman (W) 156.18 279 *e*PKPdf PKPdf 02 37 39.5 -2.1
YKW3 Yellowknife Ar 156.47 323 *e*PKPdf PKPdf 02 37 36.2 -5.3
YKA Yellowknife Ar 156.50 322 PKP PKPdf 02 37 40.5 -1.0
comp=Z,6.7nm,1.1s,baz=49,slow=1.5,SNR=16
YKA PKPab PKPab 02 38 08.8 -0.9
comp=Z,5.8nm,0.6s,baz=43,slow=2.2,SNR=9.6
YKA Yellowknife Ar 156.50 322 PKP PKPdf 02 37 40.5 -1.0
YKA PKPab PKPab 02 38 08.8 -0.9
YKA Yellowknife Ar 156.50 322 PKIKP PKPdf 02 37 40.5 -1.0
YKA pmax pmax
comp=Z,7.0nm,1.1s
YKA pmax pmax
comp=Z,6.0nm,0.6s
MCMT McKenzie Canyo 156.77 277 *e*PKPdf PKPdf 02 37 39.0 -3.5
ELK Elko 156.87 265 *e*PKPdf PKPdf 02 37 41.4 -1.3
TPH Tonopah 156.90 257 PKIKP PKPdf 02 37 48.5 +5.6
MTUM Tungsten Hills 157.39 254 *e*PKPdf PKPdf 02 37 42.3 -1.3
CHMT Chamberlain Mo 157.59 282 PKPdf PKPdf 02 37 40.8 -2.7
INK Inuvik 157.81 347 PKP PKPdf 02 37 40.6 -2.5
comp=Z,4.4nm,1.0s,baz=335,slow=5.5,SNR=4.3
INK PKPab PKPab 02 38 14.5 -0.8
comp=Z,44nm,1.1s,baz=21,slow=7.1,SNR=14

INK Inuvik 157.81 347 *e*PKPdf PKPdf 02 37 39.4 -3.7
INK Inuvik 157.81 347 PKIKP PKPdf 02 37 40.6 -2.5
INK 02 38 14.5
INK pmax pmax
comp=Z,4.0nm,1.0s
INK pmax pmax
comp=Z,44nm,1.1s
OMM Old Mammoth Mi 157.82 254 *e*PKPdf PKPdf 02 37 42.0 -2.2
BMN Battle Mountai 158.07 263 PKIKP PKPdf 02 37 48.5 +4.2
EDM Edmonton 158.20 298 *e*PKPdf PKPdf 02 37 40.2 -3.9
EDM Edmonton 158.20 298 PKIKP PKPdf 02 37 43.7 -0.4
WALA Waterton Lakes 158.40 287 *e*PKPdf PKPdf 02 37 40.8 -3.7
CMB Columbia Colle 158.97 254 PFAKE 02 37 50.0 +4.5
CMB LR LR
comp=Z,2μm,20.0s,MS6.0
BMO Blue Mountains 159.81 274 *e*PKPdf PKPdf 02 37 44.1 -2.1
NEW Newport 160.41 284 PKPab PKPab 02 38 27.6 +0.5
comp=Z,11nm,1.2s,baz=136,slow=6.3,SNR=6.4
NEW Newport 160.41 284 PKP2 PKPab 02 38 27.6 +0.6
NEW pmax pmax
comp=Z,11nm,1.2s
IMA Indian Mountai 160.62 9 *e*P PKPdf 02 37 47.5 +1.1
MOD Modoc 160.81 264 *e*PKPdf PKPdf 02 37 45.9 -1.5
WDC Whiskeytown Da 161.72 258 *e*PKPdf PKPdf 02 37 44.4 -3.9
ILAR Eielson Array 162.33 1 PKP PKPdf 02 37 44.5 -3.6
comp=Z,4.1nm,1.1s,baz=126,slow=0.2,SNR=9.9
ILAR PKPab PKPab 02 38 35.1 +0.2
comp=Z,5.4nm,0.8s,baz=339,slow=3.4,SNR=11
ILAR Eielson Array 162.33 1 PKIKP PKPdf 02 37 44.5 -3.6
ILAR 02 38 35.1
ILAR pmax pmax
comp=Z,4.0nm,1.1s
ILAR pmax pmax
comp=Z,5.0nm,0.8s
SVW2 Sparrevohn 165.01 18 *e*P PKPdf 02 37 53.0 +2.1
DLBC Dease Lake 165.07 325 PKPab PKPab 02 38 48.1 +1.1
comp=Z,21nm,1.0s,baz=336,slow=5.3,SNR=11
DLBC Dease Lake 165.07 325 *e*PKPdf PKPdf 02 37 47.6 -3.4
DLBC PKPab PKPab 02 38 48.1 +1.1
UNV Unalaska Valle 165.50 55 PFAKE 02 38 00.0 +8.4
UNV LR LR
comp=Z,5μm,21.0s
DIV Divide 165.98 359 PKPdf PKPdf 02 37 48.9 -2.9

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*IDC **07** 02:32:28.0±3.6, 10.64S×164.60E, h69km±31km, mb3.7/6, mb1 4.0/8, mb1mx3.9/15, mbtmp4.2/8, ML4.7/2, Error ellipse: s-maj=30.4km s-min=21.7km az=66.0*
*NEIC **07** 02:32:29.3±1.8, 10.69S×164.62E, h83km±15km, mb4.0/2, Error ellipse: s-maj=20.0km s-min=13.4km az=58.0*
ISC 07 02:32:28.3±2.4, 10.77S±0.09×164.7E±0.1, h93km±20km, n15, σ0=91/17, mb4.0/9, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.84**	**286**	P	**P**	**02 33 38.5**	**-1.8**
	119nm,0.3s,baz=144,slow=4.0,SNR=15						
HNR				S	**S**	**02 34 37.2**	**+1.6**
	78nm,0.3s,baz=199,slow=22,SNR=6.6						
HNR	**Honiara**	**4.84**	**286**	*e*P	**P**	**02 33 39.6**	**-0.7**
HNR				S	**S**	**02 34 37.2**	**+1.6**
DZM	**Mont Dzumac**	**11.36**	**172**	P	**P**	**02 35 09.2**	**+0.2**
	1.2nm,0.3s,baz=328,slow=18,SNR=14						
DZM				S	**S**	**02 37 14.3**	**-0.3**
	1.0nm,0.3s,baz=248,slow=12,SNR=4.7						
WRAB	**Tennant Creek**	**30.59**	**249**	*e*P	**P**	**02 38 34.8**	**-1.0**
	0.8nm,0.4s,mb3.8						
WRA	**Warramunga Arr**	**30.60**	**249**	P	**P**	**02 38 34.9**	**-1.0**
	0.5nm,0.4s,mb3.6,baz=69,slow=9.2,SNR=10						
FITZ	**Fitzroy Crossi**	**38.44**	**254**	P	**P**	**02 39 42.4**	**-0.5**
	3.6nm,0.5s,mb4.4,baz=36,slow=8.7,SNR=7.6						
VNDA	**Vanda**	**66.75**	**181**	P	**P**	**02 43 13.5**	**+2.1**
	1.0nm,0.8s,mb3.7,baz=295,slow=4.9,SNR=5.7						
VNDA	**Vanda**	**66.75**	**181**	*e*P	**P**	**02 43 13.3**	**+1.9**
SBA	**Scott Base**	**67.08**	**180**	*e*P	**P**	**02 43 14.3**	**+0.8**
	2.6nm,0.9s,mb4.1						
SONM	**Songino Array**	**77.83**	**324**	P	**P**	**02 44 17.2**	**-0.1**
	0.4nm,0.7s,mb3.3,baz=139,slow=5.4,SNR=3.8						
SONM	**Songino Array**	**77.83**	**324**	P	**P**	**02 44 17.2**	**-0.1**
IMA	**Indian Mountai**	**82.53**	**16**	*e*P	**P**	**02 44 42.2**	**+0.3**
	58nm,1.0s,mb5.4						
ILAR	**Eielson Array**	**83.59**	**19**	P	**P**	**02 44 46.9**	**-0.4**
	1.7nm,0.7s,mb4.0,baz=231,slow=5.0,SNR=9.4						
MKAR	**Makanchi Array**	**92.61**	**317**	P	**P**	**02 45 30.7**	**-0.1**
	0.7nm,0.7s,mb4.1,baz=103,slow=4.1,SNR=7.9						
ESDC	**Sonseca Array**	**149.50**	**343**	PKPbc	PKPdf	02 52 10.8	+8.4
	0.9nm,0.7s,baz=6.4,slow=3.9,SNR=5.3						

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*NEIC **07** 02:47:21.8±1.9, 14.04S×170.43E, h606km±27km, mb4.4/6, Error ellipse: s-maj=45.3km s-min=11.5km az=168.0*
*IDC **07** 02:47:24.3±2.5, 14.31S×170.41E, h649km±38km, mb3.3/5, mb1 3.7/7, mb1mx3.3/15, mbtmp4.5/7, Error ellipse: s-maj=58.9km s-min=13.4km az=161.0*
ISC 07 02:47:21.7±2.9, 14.1S±0.5×170.4E±0.2, h628km±52km, n37, σ0=50/15, mb4.2/8, 2C-1D, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.78**	**205**	P	**P**	**02 49 30.1**	**+0.6**
	0.3nm,0.3s,baz=139,slow=20,SNR=3.9						
AFI	**Afiamalu**	**17.28**	**92**	P	**P**	**02 50 50.3**	**-0.6**
	13nm,0.3s,baz=112,slow=4.7,SNR=10						
CTA	**Charters Tower**	**23.84**	**252**	*e*P	**P**	**02 51 50.6**	**+0.2**
	2.8nm,0.4s,mb4.2						
CTA	**Charters Tower**	**23.84**	**252**	P	**P**	**02 51 50.6**	**+0.2**
	4.6nm,0.6s,mb4.3,baz=88,slow=10,SNR=6.5						
CTAO	**Charters Tower**	**23.84**	**252**	*e*P	**P**	**02 51 50.1**	**-0.3**
	5.1nm,0.7s,mb4.3						
STKA	**Stephens Creek**	**31.74**	**231**	⇑ *i*P	**P**	**02 52 58.1**	**-0.2**
	12nm,0.3s,mb5.0						
STKA	**Stephens Creek**	**31.74**	**231**	P	**P**	**02 52 58.1**	**-0.2**
	13nm,0.3s,mb5.0,baz=61,slow=8.1,SNR=60						
WB2	**Warramunga Arr**	**34.92**	**255**	‖ *i*P	**P**	**02 53 24.7**	**-0.1**
WRAB	**Tennant Creek**	**34.92**	**255**	*e*P	**P**	**02 53 24.0**	**-0.8**
	5.8nm,0.8s,mb4.3						
WRA	**Warramunga Arr**	**34.94**	**255**	P	**P**	**02 53 24.6**	**-0.3**
	5.6nm,0.6s,mb4.3,baz=83,slow=7.8,SNR=94						
WRA				S	**S**	**02 58 11.0**	**-4.7**
	0.7nm,0.9s,baz=87,slow=15,SNR=3.3						
KAKA	**Kakadu**	**36.94**	**268**	⇑ *i*P	**P**	**02 53 49.7**	**+8.2**
	58nm,1.9s,mb4.8						
FITZ	**Fitzroy Crossi**	**43.13**	**259**	*e*P	**P**	**02 54 31.6**	**+0.7**
	4.3nm,0.6s,mb4.2						
ILAR	**Eielson Array**	**85.01**	**17**	P	**P**	**02 58 53.6**	**+0.3**
	0.8nm,0.6s,mb3.5,baz=238,slow=4.7,SNR=10						
TXAR	**Lajitas Array**	**93.30**	**61**	P	**P**	**02 59 33.0**	**+0.4**
	0.2nm,0.7s,mb3.3,baz=214,slow=4.5,SNR=3.5						
ARCES	**ARCESS Array B**	**120.38**	**346**	PKP	PKPdf	03 05 03.5	+0.9
	1.0nm,0.5s,baz=63,slow=2.0,SNR=22						
CDF	**Champ du Feu**	**143.05**	**341**	*e*PKP1	PKPbc	03 05 45.8	+1.9
	7.3nm,0.6s						
DAVOX	**Davos**	**143.56**	**337**	PKP	PKPdf	03 05 48.4	+2.1
	6.3nm,0.6s,baz=45,slow=1.4,SNR=22						
MEZF	**Maizieres J'vi**	**143.62**	**344**	*e*PKP1	PKPbc	03 05 48.1	+2.5
	18nm,0.8s						
HAU	**Haudompre**	**143.70**	**342**	*e*PKP1	PKPbc	03 05 47.9	+2.0
	19nm,1.0s						
HINF	**Hinteralfeld**	**143.71**	**341**	*e*PKP1	PKPbc	03 05 47.8	+1.9
	5.5nm,0.7s						
FLN	**La Foliniere**	**144.63**	**350**	*e*PKP1	PKPbc	03 05 50.3	+1.8
CABF	**La Chapelle**	**145.02**	**341**	*e*PKP1	PKPbc	03 05 52.4	+2.7
	9.0nm,0.8s						
GRR	**Gorron**	**145.05**	**350**	*e*PKP1	PKPbc	03 05 51.8	+2.1
	18nm,0.9s						
LOR	**Lormes**	**145.08**	**344**	*e*PKP1	PKPbc	03 05 52.1	+2.3
	3.4nm,0.7s						
SSF	**Saint Saulge**	**145.36**	**344**	*e*PKP1	PKPbc	03 05 52.9	+2.4
	3.3nm,0.7s						
AVF	**Avril sur Loir**	**145.65**	**344**	*e*PKP1	PKPbc	03 05 53.0	+1.8
LPL	**La Plagne**	**145.78**	**339**	*e*PKP1	PKPbc	03 05 54.7	+3.1
	3.7nm,0.8s						
LPG	**La Plagne**	**145.78**	**339**	*e*PKP1	PKPbc	03 05 54.8	+3.2
	4.3nm,0.7s						
TCF	**Toulx Ste Croi**	**146.41**	**345**	*e*PKP1	PKPbc	03 05 55.7	+2.6
MFF	**Saint Martin d**	**146.64**	**348**	*e*PKP1	PKPbc	03 05 56.2	+2.6
	3.5nm,0.6s						
RJF	**Les Rejaudoux**	**147.50**	**345**	*e*PKP1	PKPdf	03 05 59.8	+6.9
CAF	**Calviac**	**147.72**	**344**	*e*PKP1	PKPdf	03 05 59.3	+6.0
LFF	**La Frestale**	**148.03**	**346**	*e*PKP1	PKPdf	03 06 01.0	+7.2
	17nm,1.0s						
MTLF	**Montolieu**	**149.14**	**343**	*e*PKP1	PKPdf	03 06 01.8	+6.2
	18nm,1.2s						
EPF	**Esparros**	**149.93**	**345**	*e*PKP1	PKPdf	03 06 05.5	+8.7
SJPF	**Ste Jean**	**150.20**	**348**	*e*PKP1	PKPdf	03 06 05.0	+7.8

ETSF	**Etsaut** 7.5nm,0.8s	**150.26 347**	*e*PKP1	PKPdf	03 06 05.7 +8.4

MAN 07 03:00:56.9, 11.87N×126.00E, h11km, mb3.5, ML2.2, MS1.7, 1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**1.22**	**235**	*i* P	Pb	03 01 18.6	-0.8
PLP				*e*S	Sb	03 01 34.5	-0.5
SCPH	**Surigao**	**2.13**	**194**	⇓*e*P	Pn	03 01 32.4	-0.5

*NEIC **07** 03:25:10.7, 19.79N×98.62W, h5km, MD4.0(MEX), After MEX.*

MEX 07 03:25:09.9±1.0, 19.74N×98.61W, h7km±9km, MD4.0, 1C, Central Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPM	**Popocatepetl**	**0.67**	**181**	⇑*i*P	Pg	03 25 21.2	-2.1
PPM				*i* P		03 25 22.0	
PPM				*i* S	Sg	03 25 31.3	-0.9
PPM	**Popocatepetl**	**0.67**	**181**	*i* P	Pg	03 25 21.3	-2.0
UNM	**Universidad Na**	**0.67**	**233**	*i* P	Pg	03 25 22.1	-1.2
UNM				*i* S	Sg	03 25 32.0	-0.4
UNM	**Universidad Na**	**0.67**	**233**	*i* P	Pg	03 25 23.2	-0.1
UNM				*i* S	Sg	03 25 33.2	+0.8
YAIG	**Yautepec**	**0.97**	**207**	*i* P	Pb	03 25 27.0	-1.7
YAIG				*i* S	Sb	03 25 38.2	-3.3
YAIG	**Yautepec**	**0.97**	**207**	*i* P	Pb	03 25 27.0	-1.7
YAIG				*i* S	Sb	03 25 41.2	-0.3
PLIG	**Platanillo**	**1.58**	**212**	*i* P	Pn	03 25 35.8	-2.8
PLIG				*i* S	Sb	03 25 54.6	-4.6
LVIG	**Laguna Verde**	**2.06**	**90**	*i* P	Pn	03 25 42.9	-2.5
LVIG				*i* S	Sn	03 26 06.5	-5.2
LVIG	**Laguna Verde**	**2.06**	**90**	*i* P	Pn	03 25 43.9	-1.6
LVIG				*i* S	Sn	03 26 09.0	-2.7
MOIG	**Morelia**	**2.43**	**269**	*i* P	Pn	03 25 47.6	-3.1
MOIG				*i* S	Sn	03 26 18.9	-2.2
MOIG	**Morelia**	**2.43**	**269**	*i* P	Pn	03 25 46.0	-4.8
MOIG				*i* S	Sn	03 26 11.1	-10
CAIG	**El Cayaco**	**3.10**	**211**	*e*P	Pn	03 25 57.8	-2.5
CAIG				*i* S	Sn	03 26 32.0	-6.0
CAIG	**El Cayaco**	**3.10**	**211**	*i* P	Pn	03 26 00.8	+0.5
CAIG				*i* S	Sn	03 26 34.2	-3.8
ACX	**Acapulco**	**3.11**	**204**	*i* P	Pn	03 25 58.0	-2.4
ACX				*i* S	Sn	03 26 33.5	-4.8
ACX	**Acapulco**	**3.11**	**204**	*i* P	Pn	03 26 06.0	+5.6
ACX				*i* S	Sn	03 26 45.0	+6.7
OXX	**Oaxaca**	**3.19**	**146**	*i* P	Pn	03 26 00.0	-1.5
OXX				*i* S	Sn	03 26 39.0	-1.3
OXX	**Oaxaca**	**3.19**	**146**	*i* P	Pn	03 26 04.0	+2.5
VHO	**Vista Hermosa**	**3.19**	**146**	*e*P	Pn	03 25 59.0	-2.6
VHO				*i* S	Sn	03 26 35.1	-5.2
VHO	**Vista Hermosa**	**3.19**	**146**	*i* P	Pn	03 26 01.3	-0.3
VHO				*e*S	Sn	03 26 38.8	-1.5
PNIG	**Pinotepa**	**3.36**	**172**	*e*P	Pn	03 26 01.3	-2.6
PNIG				*i* S	Sn	03 26 39.2	-5.3
PNIG	**Pinotepa**	**3.36**	**172**	*i* P	Pn	03 26 02.4	-1.5
PNIG				*i* S	Sn	03 26 41.9	-2.6
ZAIG	**Zacatecas**	**4.77**	**310**	*e*P	Pn	03 26 20.6	-3.3
ZAIG				*i* S	Sn	03 27 15.1	-5.1
ZAIG	**Zacatecas**	**4.77**	**310**	*e*P	Pn	03 26 19.3	-4.6
ZAIG				*e*S	Sn	03 27 12.7	-7.5

*IDC **07** 03:39:56.8±2.1, 56.05N×157.18W, mb3.7/7, mb1 4.0/9, mb1mx3.8/20, mbtmp3.8/9, ML3.8/2, MS4.7/1, Ms1 4.6/1, ms1mx3.6/29, Error ellipse: s-maj=42.4km s-min=25.4km az=56.0*
*NEIC **07** 03:40:08.5, 56.29N×156.09W, h44km, ML3.3(AEIC), After AEIC.*

ISC 07 03:40:05.8±0.6, 56.25N±0.05×156.01W±0.07, h57km±10km, n58, σ0°91/69, mb3.8/7, MS4.6/1, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANPK	**Aniakchak Peak**	**1.31**	**298**	P	**P**	**03 40 28.9**	**+0.4**
ANPK				S	**S**	**03 40 44.6**	**-0.6**
CHGN	**Chignik**	**1.34**	**273**	P	**P**	**03 40 29.3**	**+0.5**
ANPB	**Aniakchak Plen**	**1.37**	**295**	P	**P**	**03 40 29.7**	**+0.5**
ANPB				S	**S**	**03 40 45.9**	**-0.7**
KJL	**Kejulik**	**1.82**	**7**	P	**P**	**03 40 36.4**	**+1.0**
KJL				S	**S**	**03 40 58.1**	**+0.7**
CAHL	**Cahill**	**1.85**	**12**	P	**P**	**03 40 36.7**	**+0.9**
KABR	**Katmai Barrier**	**1.97**	**16**	P	**P**	**03 40 38.6**	**+1.1**
KABR				S	**S**	**03 41 01.8**	**+0.8**
ANCK	**Angle Creek**	**1.98**	**8**	P	**P**	**03 40 38.3**	**+0.8**
ANCK				S	**S**	**03 41 01.1**	**0.0**
ACHA	**Angle Creek He**	**2.00**	**10**	P	**P**	**03 40 38.7**	**+0.8**
MGLS	**Mageik LS**	**2.00**	**10**	P	**P**	**03 40 38.0**	**+0.1**
MGLS				S	**S**	**03 41 00.9**	**-0.8**
CNTC	**Contact Creek**	**2.02**	**2**	P	**P**	**03 40 38.7**	**+0.5**
KARR	**Katmai Rainbow**	**2.36**	**17**	P	**P**	**03 40 43.7**	**+0.6**
KDAK	**Kodiak Island**	**2.42**	**49**	P	**P**	**03 40 45.0**	**+1.0**
KDAK				S	**S**	**03 41 11.4**	**-1.1**
KAHC	**Katmai Hardscr**	**2.47**	**12**	P	**P**	**03 40 45.0**	**+0.4**
KAPH	**Katmai Pasha**	**2.52**	**20**	P	**P**	**03 40 46.3**	**+1.0**
SDPT	**Sand Point**	**2.68**	**252**	P	**P**	**03 40 47.9**	**+0.3**
PVV	**Pavlof Volcano**	**3.38**	**257**	P	**P**	**03 40 57.5**	**+0.1**
AUI	**Augustine Isla**	**3.39**	**23**	P	**P**	**03 40 58.1**	**+0.5**
AGU	**Augustine-Summ**	**3.41**	**23**	P	**P**	**03 40 58.6**	**+0.8**
AUH	**Augustine H**	**3.41**	**23**	P	**P**	**03 40 58.7**	**+0.8**
PN6	**Pavlof North-6**	**3.42**	**259**	P	**P**	**03 40 59.2**	**+1.1**
BLHA	**Black Hill**	**3.45**	**263**	P	**P**	**03 40 58.3**	**-0.1**
HAG	**Hague Volcano**	**3.46**	**257**	P	**P**	**03 40 59.0**	**+0.4**
HAG				S	**S**	**03 41 37.9**	**-0.7**
PN7A	**Pavlof North-7**	**3.47**	**259**	P	**P**	**03 40 59.5**	**+0.8**
DOL	**Dolgoi Island**	**3.49**	**254**	P	**P**	**03 40 58.6**	**-0.4**
DOL				S	**S**	**03 41 37.9**	**-1.5**
DTNA	**Dutton South F**	**3.70**	**255**	P	**P**	**03 41 01.8**	**-0.1**
OPT	**Oil Point**	**3.72**	**22**	P	**P**	**03 41 02.9**	**+0.7**
DT1	**Dutton Round H**	**3.73**	**255**	P	**P**	**03 41 02.1**	**-0.3**
DRIA	**Deer Island**	**3.77**	**253**	P	**P**	**03 41 02.1**	**-0.8**
IVS	**Iliamna South**	**4.08**	**21**	P	**P**	**03 41 07.7**	**+0.4**
ILW	**Iliamna West**	**4.11**	**21**	P	**P**	**03 41 08.2**	**+0.4**
CNPM	**China Poot**	**4.16**	**36**	P	**P**	**03 41 08.6**	**+0.2**
ILIM	**Iliamna**	**4.17**	**22**	P	**P**	**03 41 08.9**	**+0.4**
RSO	**Redoubt South**	**4.56**	**21**	P	**P**	**03 41 14.6**	**+0.6**
SVW2	**Sparrevohn**	**4.87**	**2**	P	**P**	**03 41 17.2**	**-1.1**
SEW	**Seward**	**5.20**	**39**	P	**P**	**03 41 21.5**	**-1.4**
SLKM	**Skilak Lake**	**5.25**	**33**	P	**P**	**03 41 23.5**	**0.0**
CKL	**Chakachamna La**	**5.32**	**20**	P	**P**	**03 41 24.7**	**+0.2**
SPU	**Mount Spurr**	**5.36**	**21**	P	**P**	**03 41 24.7**	**-0.4**
MPA	**Moose Pass**	**5.50**	**37**	P	**P**	**03 41 26.2**	**-0.9**
LTI	**Latouche**	**5.75**	**45**	P	**P**	**03 41 30.0**	**-0.6**
RC01	**Rabbit Creek A**	**5.85**	**31**	P	**P**	**03 41 31.2**	**-0.8**
HIN	**Hinchinbrook I**	**6.51**	**46**	P	**P**	**03 41 40.3**	**-0.9**
EYAK	**Cordova Ski Ar**	**6.90**	**47**	*e*P	**P**	**03 41 45.4**	**-1.3**
VLZ	**Valdez**	**7.03**	**42**	P	**P**	**03 41 46.9**	**-1.5**
SGAM	**Sherman Glacie**	**7.10**	**49**	P	**P**	**03 41 48.0**	**-1.4**
SCM	**Sheep Creek Mo**	**7.17**	**35**	P	**P**	**03 41 48.9**	**-1.5**
KLU	**Klutina**	**7.41**	**41**	P	**P**	**03 41 52.5**	**-1.3**
WAX	**Waxell Ridge**	**8.10**	**53**	P	**P**	**03 42 01.8**	**-1.4**
BALM	**Baldy**	**8.58**	**50**	P	**P**	**03 42 09.0**	**-0.9**
ILAR	**Eielson Array** 0.6nm,0.3s,baz=223,slow=13,SNR=14	**9.65**	**24**	Pn	**P**	**03 42 18.7**	**-5.6**
ILAR				Sn	**S**	**03 44 00.5**	**-12**
	0.2nm,0.3s,baz=193,slow=28,SNR=3.8						
INK	**Inuvik** 0.1nm,0.3s,baz=226,slow=12,SNR=3.6	**15.85**	**31**	Pn	**P**	**03 43 45.2**	**-1.0**
INK				Sn	**S**	**03 46 49.2**	**+9.2**
	0.1nm,0.3s,baz=247,slow=30,SNR=5.3						
YKA	**Yellowknife Ar** 0.3nm,0.3s,mb3.2,baz=275,slow=9.9,SNR=4.7	**21.68**	**56**	P	**P**	**03 44 53.8**	**+0.8**
PDAR	**Pinedale Array** 0.8nm,0.5s,mb3.8,baz=312,slow=5.6,SNR=11	**32.38**	**95**	P	**P**	**03 46 33.4**	**+1.7**
ULM	**Lac du Bonnet** 1.1nm,0.4s,mb4.2,baz=239,slow=3.1,SNR=3.3	**35.45**	**74**	P	**P**	**03 46 59.5**	**+1.4**
ULM				LR	LR	04 02 25.6	
	comp=Z,1μm,21.6s,MS4.6,baz=284,slow=37						
TXAR	**Lajitas Array** 0.6nm,0.7s,mb3.6,baz=306,slow=5.7,SNR=11	**45.40**	**104**	P	**P**	**03 48 22.7**	**+2.5**
ARCES	**ARCESS Array B** 0.9nm,0.8s,mb3.9,baz=2.9,slow=7.1,SNR=3.8	**54.52**	**359**	P	**P**	**03 49 25.3**	**-4.0**
FINES	**FINESS Array B** 1.0nm,0.8s,mb4.0,baz=346,slow=7.9,SNR=4.7	**62.64**	**359**	P	**P**	**03 50 23.9**	**-2.0**
ESDC	**Sonseca Array**	**81.54**	**21**	P	**P**	**03 52 18.9**	**+0.8**

0.7nm,0.6s,mb3.7,baz=343,slow=5.4,SNR=4.8

IDC 07 03:49:13.8±7.2, 4.09S×127.54E, h221km±73km, mb3.5/2, mb1 3.7/4, mb1mx3.3/16, mbtmp4.2/4, Error ellipse: s-maj=91.8km s-min=21.6km az=61.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi** 1.0nm,0.3s,baz=7.6,slow=11,SNR=13	**14.05**	**187**	P	P	03 52 23.5	-1.3
WRA	**Warramunga Arr** 0.8nm,0.3s,baz=336,slow=11,SNR=76	**17.09**	**158**	P	P	03 52 59.0	-2.2
WRA				S	S	03 56 07.0	+4.3
	0.2nm,0.3s,baz=335,slow=18,SNR=5.8						
STKA	**Stephens Creek** 2.2nm,0.4s,baz=332,slow=10,SNR=7.2	**30.63**	**156**	P	P	03 55 06.9	-2.7
MKAR	**Makanchi Array** 0.7nm,0.5s,baz=116,slow=7.8,SNR=6.7	**64.47**	**327**	P	P	03 59 26.9	-1.8

CASC 07 03:51:19.1±2.1, 11.36N×85.38W, h2km±5km, MD3.5, ML3.4, 7C-11D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MADN	**Villa Maderas**	**0.16**	**287**	⇑*i*P	Pg	03 51 23.8	+1.5
CONN	**Concepcion**	**0.32**	**310**	⇑*i*P	Pg	03 51 26.7	+1.3
SSNN	**San Juan del S**	**0.47**	**261**	⇑*e*P	Pg	03 51 29.2	+0.7
SSNN				*e*S	Sg	03 51 35.9	+1.2
LIM1	**Limonal**	**0.67**	**170**	*i* P	Pg	03 51 32.3	-0.2
APON	**Apoyo**	**0.87**	**309**	⇓*e*P	Pg	03 51 36.4	-0.1
APON				*e*S	Sg	03 51 48.9	+0.7
TICN	**Ticuantepe**	**1.07**	**309**	⇓*e*P	Pb	03 51 39.9	-0.1
CRUN	**El Crucero**	**1.09**	**304**	⇓*e*P	Pb	03 51 41.0	+0.6
CRUN				*e*S	Sb	03 51 55.6	+0.6
WILN	**Americas 2**	**1.12**	**315**	*e*S	Sb	03 51 56.1	+0.3
FORC	**Fortuna**	**1.13**	**142**	*i* P	Pb	03 51 40.2	-0.7
FORC				⇑*e*P		03 51 40.6	
FORC				*e*S	Sb	03 51 57.7	+1.8
MGAN	**Managua**	**1.16**	**313**	⇓*e*P	Pb	03 51 41.0	-0.4
MGAN				*e*S	Sb	03 51 57.8	+1.1
MGAN				*i*		03 51 59.0	
	comp=N,1μm,0.5s						
XAVN	**Gruta Xavier**	**1.21**	**310**	⇓*e*P	Pb	03 51 42.3	-0.2
XAVN				*e*S	Sb	03 52 01.5	+3.1
VCR	**Vista de Mar**	**1.25**	**191**	⇓*e*P	Pb	03 51 42.1	-1.1
PYTN	**Playitas**	**1.34**	**330**	⇓*e*P	Pb	03 51 44.3	-0.4
COPN	**Copaltepe**	**1.44**	**304**	⇓*e*P	Pb	03 51 45.3	-1.0
COPN				*e*S	Sb	03 52 05.6	+0.5
MOMJ	**Momotombo**	**1.54**	**313**	*e*P	Pn	03 51 47.2	-0.5
MIRN	**Miramar**	**1.69**	**310**	⇓*e*P	Pn	03 51 49.3	-0.5
MIRN				*e*S	Sb	03 52 11.3	-0.9
MIRN				*i*		03 52 16.1	
	comp=Z,320nm,0.4s						
CNGN	**Cerro Negro**	**1.72**	**311**	*e*P	Pn	03 51 49.0	-1.3
PRS1	**Puriscal**	**1.73**	**142**	⇓*e*P	Pn	03 51 51.0	+0.7
PRS1				*e*S	Sn	03 52 16.0	+2.8
LEON	**Leon**	**1.81**	**305**	⇓*e*P	Pn	03 51 51.7	0.0
TEL3	**Telica 3**	**1.87**	**310**	⇓*e*P	Pn	03 51 52.8	+0.3
LCR2	**La Lucha 2**	**2.10**	**140**	⇓*e*P	Pn	03 51 55.7	0.0
LCR2				*e*S	Sn	03 52 24.3	+1.5
CRIN	**San Cristobal**	**2.11**	**309**	*e*P	Pn	03 51 54.3	-1.5
BUS	**Buena Vista**	**2.40**	**138**	⇓*e*P	Pn	03 52 01.1	+1.1
BUS				*e*S	Sn	03 52 33.5	+3.1

*BJI **07** 04:16:33.5, 5.96S×102.01E, h41km, mB5.4, mb4.9*
*IDC **07** 04:16:35.4±0.6, 5.17S×102.47E, mb4.5/17, mb1 4.5/17, mb1mx4.4/21, mbtmp4.4/17, Error ellipse: s-maj=25.1km s-min=13.9km az=43.0*
*NEIC **07** 04:16:39.9±0.3, 5.13S×102.53E, h30km, mb4.5/7, Error ellipse: s-maj=15.0km s-min=6.3km az=224.0*

ISC 07 04:16:39.2±6.7, 5.1S±0.1×102.6E±0.1, h37km±60km, n39, σ0°75/34, mb4.5/26, 1C-1D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar** 5.1nm,0.5s,mb4.2	**23.05**	**135**	*e*P	**P**	**04 21 43.3**	**+0.8**
FITZ	**Fitzroy Crossi** 8.7nm,0.7s,mb4.4	**25.97**	**122**	*e*P	**P**	**04 22 10.8**	**+0.3**
FITZ	**Fitzroy Crossi** 9.5nm,0.7s,mb4.4,baz=265,slow=3.1,SNR=7.8	**25.97**	**122**	P	**P**	**04 22 10.0**	**-0.5**
WRA	**Warramunga Arr** 1.9nm,0.7s,mb4.1,baz=307,slow=8.8,SNR=25	**34.23**	**118**	P	**P**	**04 23 23.2**	**-0.7**
WRAB	**Tennant Creek** 7.5nm,0.7s,mb4.7	**34.24**	**118**	*e*P	**P**	**04 23 23.5**	**-0.5**
WB2	**Warramunga Arr**	**34.24**	**118**	*e*P	**P**	**04 23 23.4**	**-0.6**
PKI	**Pulchoki**	**36.49**	**334**	*e*P	**P**	**04 23 43.4**	**+0.4**
DMN	**Daman** 14nm,0.8s,mb4.8	**36.66**	**334**	*e*P	**P**	**04 23 45.0**	**+0.6**
KKN	**Kakani** 5.9nm,0.4s,mb4.8	**36.73**	**334**	*e*P	**P**	**04 23 45.5**	**+0.4**
GKN	**Gorkha** 36nm,1.0s,mb5.2	**37.20**	**333**	*e*P	**P**	**04 23 49.5**	**+0.5**
KOLN	**Koldanda** 22nm,0.9s,mb5.0	**37.48**	**332**	*e*P	**P**	**04 23 51.7**	**+0.3**
PMG	**Port Moresby** 14nm,0.8s,mb4.7,baz=252,slow=3.4,SNR=4.4	**44.41**	**98**	P	**P**	**04 24 48.8**	**+0.2**
PMG	**Port Moresby** 16nm,0.6s,mb4.9	**44.41**	**98**	*e*P	**P**	**04 24 48.2**	**-0.4**
CTA	**Charters Tower** 5.8nm,0.8s,mb4.5	**44.98**	**113**	*e*P	**P**	**04 24 53.6**	**+0.5**
CTA	**Charters Tower** 8.3nm,0.8s,mb4.6,baz=273,slow=11,SNR=6.7	**44.98**	**113**	P	**P**	**04 24 53.5**	**+0.3**
STKA	**Stephens Creek** 10nm,0.6s,mb4.8	**45.17**	**131**	⇑*i*P	**P**	**04 24 55.3**	**+0.8**
STKA	**Stephens Creek** 17nm,0.7s,mb5.0,baz=302,slow=7.6,SNR=41	**45.17**	**131**	P	**P**	**04 24 54.9**	**+0.4**
WMQ	**Urumqi**	**50.54**	**346**	⇓P	**P**	**04 25 36.8**	**+0.6**
WMQ				AP	pP	04 25 47.8	+1.0
WMQ				AMB	AMB		
	comp=Z,16nm,1.0s,mb4.9						
SONM	**Songino Array** comp=Z,5.3nm,0.8s,mb4.5,baz=180,slow=9.2,SNR=35	**52.84**	**3**	P	**P**	**04 25 53.9**	**+0.5**
MKAR	**Makanchi Array** comp=Z,2.2nm,0.4s,mb4.5,baz=147,slow=8.6,SNR=30	**54.73**	**343**	P	**P**	**04 26 06.6**	**-0.8**
MKAR	**Makanchi Array**	**54.73**	**343**	P	**P**	**04 26 06.6**	**-0.8**
KURK	**Kurchatov** comp=Z,2.6nm,0.8s,mb4.3	**59.32**	**343**	*e*P	**P**	**04 26 38.1**	**-1.8**
ZAL	**Zalesovo** comp=Z,3.1nm,0.4s,mb4.8,baz=0.1,slow=4.0,SNR=11	**60.71**	**348**	P	**P**	**04 26 47.9**	**-1.5**
BVAR	**Borovoye Array** comp=Z,1.7nm,0.6s,mb4.3,baz=141,slow=9.5,SNR=12	**63.99**	**339**	P	**P**	**04 27 09.9**	**-1.3**
ARU	**Arti** comp=Z,3.6nm,0.8s,mb4.3	**71.08**	**336**	*e*P	**P**	**04 27 54.8**	**-0.8**
MATP	**Matopo** comp=Z,3.3nm,1.1s,mb4.2,baz=78,slow=12,SNR=4.0	**73.31**	**250**	P	**P**	**04 28 09.3**	**-0.2**
MATP	**Matopo**	**73.31**	**250**	P	**P**	**04 28 09.3**	**-0.2**
BOSA	**Boshof** comp=Z,2.4nm,0.7s,mb4.2,baz=286,slow=7.7,SNR=2.8	**76.43**	**242**	P	**P**	**04 28 26.9**	**-0.4**
BRTR	**Keskin Array B** comp=Z,2.4nm,0.9s,mb4.1,baz=121,slow=7.2,SNR=9.7	**77.31**	**312**	P	**P**	**04 28 31.9**	**-0.1**
FX1	**Attu Island--F** comp=Z,4.0nm,0.7s,mb4.6,baz=91,slow=22,SNR=2.5	**82.53**	**35**	P	**P**	**04 29 00.5**	**+0.9**
AKASG	**Malin Array Be** comp=Z,1.9nm,0.8s,mb4.2,baz=93,slow=4.3,SNR=7.4	**83.51**	**322**	P	**P**	**04 29 04.7**	**0.0**
FINES	**FINESS Array B** comp=Z,3.0nm,1.0s,mb4.5,baz=135,slow=2.7,SNR=4.2	**88.06**	**332**	P	**P**	**04 29 27.0**	**+0.2**
ARCES	**ARCESS Array B** comp=Z,1.8nm,0.9s,mb4.4,baz=63,slow=8.1,SNR=3.6	**90.27**	**340**	P	**P**	**04 29 38.4**	**+1.3**
GERES	**GERESS Array B** comp=Z,0.5nm,0.7s,mb4.1,baz=90,slow=5.3,SNR=6.0	**93.08**	**319**	P	**P**	**04 29 51.6**	**+1.1**
CCM	**Cathedral Cave**	**144.89**	**19**	*e*PKPdf	PKPdf	04 36 12.7	-0.2
CCM				*e*		04 36 25.2	
LTX	**Lajitas**	**145.43**	**43**	*e*PKPdf	PKPdf	04 36 16.1	+2.0
LTX				*e*		04 36 28.1	
TXAR	**Lajitas Array** comp=Z,1.9nm,0.4s,baz=268,slow=1.0,SNR=55	**145.43**	**43**	PKPbc	PKPbc	04 36 16.5	+1.8
JCT	**Junction City**	**147.14**	**37**	*e*PKPbc	PKPdf	04 36 21.2	+4.2
WVT	**Waverly**	**147.70**	**16**	*e*PKPbc	PKPdf	04 36 21.9	+4.3

*SOF **07** 04:35:54.7, 41.94N×23.21E, h10km, MD2.5*
*CSEM **07** 04:35:54.5±0.1, 42.00N×23.23E, h2km, MD2.5, Error ellipse: s-maj=2.6km s-min=1.7km az=108.0*
*THE **07** 04:35:58.7, 41.85N×23.14E, h20km, ML3.1*

ISC 07 04:35:54.1±0.6, 41.96N±0.03×23.11E±0.07, h3km±10km, n16, σ0°78/21, 1C, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKB	**Krupnik**	**0.09**	**192**	*i* Pg	**Sg**	**04 35 58.0**	**+0.7**
MMB	**Musomiste**	**0.59**	**128**	*i* Pg	**Pg**	**04 36 06.0**	**+0.1**
VTS	**Vitosha**	**0.64**	**7**	*i* Pg	**Pg**	**04 36 08.0**	**+1.2**
KNT	**Kendrikon**	**0.81**	**191**	*e*Pg	**Pg**	**04 36 10.7**	**+0.4**
KNT				*e*Sg	**Sg**	**04 36 21.1**	**0.0**
SRS	**Serrai**	**0.92**	**156**	*e*Pg	**Pg**	**04 36 12.2**	**-0.1**
SRS				*e*Sg	**Sg**	**04 36 25.2**	**+0.7**
SRS	**Serrai**	**0.92**	**156**	*e*Pg	**Pg**	**04 36 12.2**	**-0.1**
SRS				*e*Sg	**Sg**	**04 36 25.2**	**+0.7**
PGB	**Panagyurishte**	**0.98**	**53**	*e*Pg	**Pg**	**04 36 13.0**	**-0.7**
PGB				*e*P		04 36 13.5	
PGB	**Panagyurishte**	**0.98**	**53**	*e*P	**Pb**	**04 36 13.5**	**+0.1**
GRG	**Griva**	**1.13**	**208**	*e*Pg	**Pg**	**04 36 17.4**	**+0.7**
GRG				*e*Sg	**Sg**	**04 36 31.1**	**-0.7**
PLD	**Plovdiv**	**1.20**	**82**	*i* P	**Pb**	**04 36 17.5**	**+0.5**
RZN	**Rozhen**	**1.23**	**102**	*i* P	**Pb**	**04 36 17.5**	**-0.1**
THE	**Thessaloniki**	**1.33**	**185**	*e*Pg	**Pg**	**04 36 19.8**	**-0.8**
ZAPS	**Zavoj/Pirot**	**1.39**	**345**	⇑*i*Pg	**Pg**	**04 36 20.8**	**-0.9**
ZAPS				Sg	**Sg**	**04 36 40.5**	**+0.3**
OUR	**Ouranopolis**	**1.75**	**158**	*e*Pb	**Pb**	**04 36 25.2**	**-1.3**
KDZ	**Kurdzhali**	**1.75**	**99**	*e*Pg	**Pn**	**04 36 27.0**	**+1.4**
DIM	**Dimitrovgrad**	**1.81**	**86**	*e*P	**Pg**	**04 36 28.8**	**-1.4**

IDC 07 04:50:32.1±25.0, 12.86S×168.87E, h630km±158km, mb3.1/2, mb1 3.3/2, mb1mx2.9/12, mbtmp4.1/2, Error ellipse: s-maj=1409.0km s-min=66.3km az=126.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek** 4.0nm,0.3s,baz=62,slow=8.4,SNR=29	**31.38**	**228**	P	P	04 56 04.1	-1.5
ILAR	**Eielson Array** 0.3nm,0.6s,baz=235,slow=5.3,SNR=5.2	**84.28**	**17**	P	P	05 01 58.8	-1.1
ARCES	**ARCESS Array B** 0.3nm,0.3s,baz=45,slow=2.6,SNR=6.4	**118.83**	**346**	PKP	PKPdf	05 08 09.6	-0.3

*CSEM **07** 04:51:32.7, 7.24S×119.60E, h400km, mb5.5*
*MOS **07** 04:51:33.6±1.0, 7.16S×119.57E, h406km, mb4.9/47, Error ellipse: s-maj=10.4km s-min=6.2km az=111.3*
*BJI **07** 04:51:34.4, 7.20S×119.60E, h412km, mB4.7, mb5.2*
*NEIC **07** 04:51:34.9±0.1, 7.22S×119.63E, mb5.0/41, Error ellipse: s-maj=5.7km s-min=3.5km az=64.0*
*HRVD **07** 04:51:34.9±1.0, 7.30S×119.72E, h420km±5km, MW5.4/23, Centroid moment Tensor Solution. LP body waves: s23,c28; Half duration: 1±2 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.65±.14; $M_{\theta\theta}$-0.23±.21; $M_{\phi\phi}$0.87±.26; $M_{r\theta}$0.43±.24; $M_{\theta\phi}$-0.18±.18; $M_{\phi r}$1.50±.17; Best double couple: $M_0$1.755×10^{17} NP1:ϕ_s324°, δ18°, λ-139°. NP2: ϕ_s194°, δ78°, λ-76°. Principal axes: T 1.799, Plg32°, Azm272°; N -.089, Plg13°, Azm11°; P -1.71, Plg55°, Azm121°; nsta1 refers to body waves, cutoff=40s.*
*IDC **07** 04:51:35.1±0.5, 7.18S×119.69E, h410km±4km, mb4.6/31, mb1 4.5/32, mb1mx4.5/32, mbtmp5.3/32 Error ellipse: s-maj=9.5km s-min=5.6km az=57.0*

ISC 07 04:51:34.1±0.1, 7.22S±0.03×119.63E±0.04, h414km, h414km±1.8km: pP-P, n389, σ1°03/289, mb5.0/122, 48C-22D, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSM	**Tawau**	**11.57**	**351**	P	**P**	**04 54 12.5**	**+1.3**
FITZ	**Fitzroy Crossi** 90nm,0.3s	**12.30**	**152**	⇓*i*P	**P**	**04 54 18.1**	**-1.3**
FITZ				*e*S	**S**	**04 56 30.4**	**-0.8**
FITZ	**Fitzroy Crossi** 14nm,0.3s,baz=351,slow=7.5,SNR=180	**12.30**	**152**	P	**P**	**04 54 18.2**	**-1.2**
FITZ				S	**S**	**04 56 29.9**	**-1.2**
	baz=350,slow=23,SNR=9.4						
KSM	**Kuching**	**12.69**	**313**	⇑*i*P	**P**	**04 54 24.0**	**+0.3**
KKM	**Kota Kinabalu**	**13.61**	**345**	P	**P**	**04 54 33.4**	**-0.5**
KKM	**Kota Kinabalu**	**13.61**	**345**	⇑*i*P	**P**	**04 54 33.2**	**-0.6**
KAKA	**Kakadu**	**13.74**	**114**	⇓*i*P	**P**	**04 54 40.2**	**+5.0**
MBWA	**Marble Bar** 49nm,0.7s	**13.86**	**180**	⇑*i*P	**P**	**04 54 34.9**	**-1.6**
KGM	**Kluang**	**18.68**	**299**	P	**P**	**04 55 28.1**	**+2.8**
WRA	**Warramunga Arr** 29nm,0.3s,

WRA ScP 05 02 30.1
baz=300,slow=2.5,SNR=5.2
WRA Warramunga Arr 19.07 133 P P 04 55 29.4 +0.3
WRA S **S** 04 58 40.6 +1.6
WRA pmax pmax
comp=Z,29nm,0.3s
WRA smax
comp=N,2.0nm,0.3s
WRAB Tennant Creek 19.07 133⇓ *i*P **P 04 55 29.4 +0.3**
comp=N,2μm,0.9s
WRAB *e*S **S 04 58 38.9 -0.1**
WRAB Tennant Creek 19.07 133⇓ *i*P **P 04 55 29.4 +0.3**
WRAB *e*S **S 04 58 38.9 -0.1**
WRAB pmax pmax
comp=Z,2μm,0.9s
WB2 Warramunga Arr 19.07 133⇓ *i*P **P 04 55 29.4 +0.2**
WB2 *e*S **S 04 58 41.2 +2.1**
WB2 *i* SCS ScS 05 06 09.0 -2.1
BUSP Coron 19.10 2 *e*P **P 04 55 33.7 +4.2**
SJMP San Jose 19.61 4 *e*P **P 04 55 36.4 +2.1**
PPI Padang Panjang 20.32 288 P **P 04 55 41.6 +0.3**
comp=Z,166nm,0.9s
BOAC Boac 20.66 6 *e*P **P 04 55 47.2 +2.7**
LBPH Los Banos 21.29 4 *e*P **P 04 55 50.8 +0.3**
NBP Mount Natib 21.83 2 *e*P **P 04 55 55.8 +0.1**
IPM Ipoh 21.96 302 P **P 04 55 58.0 +1.1**
NZB Bigte 21.99 4 *e*P **P 04 55 57.4 +0.3**
KULM Kulim 22.65 303⇑ *i*P **P 04 56 03.5 +0.1**
KULM *e*pP 04 57 09.8
KULM *e*ScP 05 02 39.9
SNG Songkhla 23.75 307 P **P 04 56 13.0 -0.3**
comp=Z,236nm,0.8s,mb5.7
KLBR Kellerberrin 24.31 184 *e*P **P 04 56 17.4 -0.8**
comp=Z,25nm,0.3s,mb5.1
MUN Mundaring 24.84 187⇑ *i*P **P 04 56 22.3 -0.7**
comp=Z,28nm,1.3s,mb4.5
MUN *e*pP 04 57 28.3
MUN Mundaring 24.84 187⇑ *i*P **P 04 56 22.3 -0.7**
MUN pmax pmax
comp=Z,28nm,1.3s,mb4.5
NWAO Narrogin (SRO) 25.68 185 P **P 04 56 30.0 -0.5**
comp=Z,57nm,0.8s,mb5.0,baz=11,slow=9.8,SNR=37
NWAO Narrogin (SRO) 25.68 185 *e*P **P 04 56 29.6 -0.9**
comp=Z,38nm,0.7s,mb4.9
NWAO Narrogin (SRO) 25.68 185 P **P 04 56 30.0 -0.5**
NWAO pmax pmax
comp=Z,57nm,0.8s
PMG Port Moresby 27.32 96 P **P 04 56 44.5 -0.9**
comp=Z,28nm,0.7s,mb4.8,baz=287,slow=6.1,SNR=8.1
PMG Port Moresby 27.32 96 P **P 04 56 44.5 -0.8**
PMG pmax pmax
comp=Z,28nm,0.7s
QIZ Qiongzhong 27.81 340 P **P 04 56 50.0 +0.4**
QIZ S **S 05 01 04.7 +2.5**
QIZ AMB AMB
comp=Z,115nm,0.9s,mb5.2
QIZ Qiongzhong 27.81 340⇑ *e*P **P 04 56 49.9 +0.3**
comp=Z,207nm,1.3s,mb5.3
KKTK Khon Kaen 28.71 325 ⇑P **P 04 56 57.5 0.0**
comp=Z,4μm,0.4s
CTA Charters Tower 28.80 119⇓ *i*P **P 04 56 57.4 -0.8**
comp=Z,68nm,0.9s,mb5.0
CTA *i* pP 04 58 13.5
CTA Charters Tower 28.80 119 P **P 04 56 57.5 -0.7**
comp=Z,93nm,0.9s,mb5.1,baz=296,slow=10.0,SNR=52
CTA PcP PcP 04 59 55.6 -0.7
comp=Z,17nm,0.7s,baz=243,slow=4.5,SNR=4.9
CTA ScP 05 02 56.8
comp=Z,17nm,1.0s,baz=320,slow=1.4,SNR=3.2
CTA Charters Tower 28.80 119 P **P 04 56 57.5 -0.7**
CTA 04 59 55.6
CTA pmax pmax
comp=Z,93nm,0.9s
CTA pmax pmax
comp=Z,17nm,0.7s
CTA pmax pmax
comp=N,17nm,1.0s
CTAO Charters Tower 28.80 119 *e*P **P 04 56 57.4 -0.8**
comp=N,133nm,1.0s,mb5.2
CTAO *e*pP 04 58 11.3
CTAO *e*PcP PcP 04 59 55.8 -0.5
CTAO *e*ScP 05 02 56.8
CTAO Charters Tower 28.80 119 *e*P **P 04 56 57.4 -0.8**
CTAO *e**PP 04 58 11.3
CTAO *e* 04 59 55.8
CTAO pmax pmax
comp=Z,133nm,1.0s,mb5.2
NST Nakhon Sawan 29.84 320⇓ P **P 04 57 08.5 +1.3**
comp=Z,222nm,0.7s,mb5.6
GZH Guangzhou 30.74 349 P **P 04 57 19.6 +4.6**
GZH AMB AMB
comp=Z,198nm,0.8s,mb5.5
BDT Bhumibol Dam 31.73 320⇑ P **P 04 57 34.0 +11**
comp=Z,167nm,0.8s,mb5.4
NANT Nan 31.89 324 PG **P 04 57 24.0 -0.9**
STKA Stephens Creek 31.96 143⇓ *i*P **P 04 57 24.9 -0.5**
comp=Z,155nm,0.9s,mb5.3
STKA *e*PCP PcP 05 00 03.7 -0.8
STKA *e*S **S 05 02 10.4 +3.8**
STKA *e*SCP 05 03 06.7
STKA Stephens Creek 31.96 143 P **P 04 57 25.1 -0.2**
comp=Z,135nm,0.5s,mb5.5,baz=315,slow=8.5,SNR=250
STKA PcP PcP 05 00 03.2 -1.2
comp=Z,21nm,0.5s,baz=298,slow=0.6,SNR=4.0
STKA ScP 05 03 06.4
comp=Z,38nm,0.8s,baz=323,slow=5.8,SNR=9.1
ADE Adelaide 32.72 150⇑ *i*P **P 04 57 32.1 +0.3**
CHRT Chiangrai 33.26 324⇑ P **P 04 57 36.0 -0.6**
comp=Z,2μm,1.0s
JOW Kunigami 34.87 14 P **P 04 57 50.2 +0.1**
comp=Z,13nm,0.5s,mb4.5,baz=69,slow=22,SNR=4.8
GYA Guiyang 35.76 340⇑ *i*P **P 04 57 59.0 +1.4**
GYA AP pP 04 59 17.2 +1.5
GYA XP sP 05 00 03.4 +1.6
GYA S **S 05 03 09.6 +4.8**
GYA AMB AMB
comp=Z,140nm,0.8s,mb5.3
GYA AMB AMB
comp=Z,300nm,5.6s
KMI Kunming 36.11 333 P **P 04 58 03.0 +2.5**
KMI AMB AMB
comp=Z,94nm,1.2s,mb5.0
WHN Wuhan 37.89 353 *e*P **P 04 58 16.4 +1.3**
SSE Sheshan 38.12 2⇓ P **P 04 58 18.5 +1.4**
SSE AMB AMB
comp=Z,57nm,0.9s,mb4.9
SSE AMB AMB
comp=Z,277nm,4.7s
TOO Toolangi 38.26 146 *e*P **P 04 58 19.1 +1.0**
comp=Z,32nm,0.5s,mb4.9
TOO *i* PCP PcP 05 00 22.9 -0.2
TOO *i* SCP 05 03 30.6
TOO Toolangi 38.26 146 *e*P **P 04 58 19.1 +1.0**
TOO *i* 05 00 22.9
TOO pmax pmax
comp=Z,32nm,0.5s,mb4.9
ENH Enshi 38.53 346⇑ *i*P **P 04 58 20.8 +0.5**
comp=Z,186nm,0.6s,mb5.6
NJ2 Nanjing 39.06 359 *e*P **P 04 58 25.9 +1.2**
NJ2 AP pP 04 59 39.1 -4.9
NJ2 PP PP 05 00 07.9 +3.0
NJ2 S **S 05 03 57.0 +3.2**
NJ2 AMB AMB
comp=Z,110nm,0.7s,mb5.3
NJ2 AMB AMB
comp=Z,3μm,10.0s
CNB Canberra Magne 39.06 140⇓ *i*P **P 04 58 25.1 +0.4**
comp=Z,43nm,0.9s,mb4.8
RIV Riverview 39.36 137⇓ *i*P **P 04 58 28.5 +1.3**
HNR Honiara 39.94 96 P **P 04 58 31.4 -0.7**
comp=Z,489nm,0.8s,mb5.9,baz=240,slow=7.1,SNR=6.7
HNR Honiara 39.94 96 P **P 04 58 31.4 -0.7**
HNR pmax pmax
comp=Z,489nm,0.9s,mb5.8
IMP Imphal 40.48 323 *e*P **P 04 58 36.0 -0.4**
CBIJ Chichi jima 40.51 32 P **P 04 58 36.3 -0.3**
comp=Z,139nm,0.5s,mb5.6,baz=279,slow=6.8,SNR=7.6
CD2 Chengdu 40.85 339⇑ *i*P **P 04 58 39.7 +0.4**
CD2 AMB AMB
comp=Z,240nm,0.8s,mb5.6
PALK Pallekele 41.41 290 *e*P **P 04 58 43.0 -0.9**
comp=Z,25nm,1.0s,mb4.5
JNU Nakatsue 41.52 14 P **P 04 58 43.6 -1.1**
comp=Z,4.7nm,0.5s,mb4.1,baz=170,slow=3.2,SNR=3.8
XAN Xi'an 42.27 347 P **P 04 58 50.6 -0.1**
XAN AMB AMB
comp=Z,132nm,0.9s,mb5.3
SHL Shillong 42.31 321 *ex* x 05 03 47.5
TIA Tai'an 43.26 357 *e*P **P 04 58 58.0 -0.6**
VIS Vishakhapatnam 43.58 305 *e*P **P 04 59 01.3 -0.1**
VIS AMb AMB 04 59 03.1
comp=Z,189nm,0.9s,mb5.4
JHJ Hachijo jima 2 44.46 24 P **P 04 59 05.8 -2.3**
comp=Z,50nm,0.8s,mb4.9,baz=110,slow=10,SNR=3.3
KS15 Wonju Array Si 45.09 9 *e*P **P 04 59 12.6 -0.5**
BOK Bokaro 45.12 314 *e*P **P 04 59 13.6 +0.1**
BOK AMb AMB 04 59 15.6
comp=Z,59nm,1.0s,mb4.9
SALM Salem 45.27 294 *e*P **P 04 59 14.0 -0.7**
TRD Trivandrum 45.31 289 *e*P **P 04 59 14.2 -0.8**
TRD AMb AMB 04 59 14.8
comp=Z,113nm,0.7s,mb5.3
LZH Lanzhou 45.56 342 ⇑P **P 04 59 17.5 +0.8**
LZH AP pP 05 00 40.5 +2.4
LZH PCP PcP 05 00 49.0 +1.4
LZH XP sP 05 01 22.5 -1.0
LZH SCP 05 04 01.5
LZH S **S 05 05 27.0 -0.2**
LZH XS 05 07 53.0
LZH SCS ScS 05 08 27.5 +2.3
LZH SS SS 05 08 55.0 +1.0
LZH AMB AMB
comp=Z,140nm,1.0s,mb5.2
LZH AMB AMB
comp=Z,480nm,4.0s
LSA Lhasa 45.79 325 P **P 04 59 20.0 +1.4**
LSA AMB AMB
comp=Z,200nm,1.1s,mb5.4
LSA Lhasa 45.79 325⇑ *i*P **P 04 59 19.9 +1.3**
comp=Z,184nm,0.8s,mb5.5
LSA Lhasa 45.79 325⇑ *i*P **P 04 59 19.9 +1.3**
LSA pmax pmax
comp=Z,184nm,0.8s,mb5.5
DL2 Dalian 45.93 2 P **P 04 59 19.0 -0.5**
DL2 AMB AMB
comp=Z,30nm,0.7s,mb4.7
MAJO Matsushiro 46.89 21⇑ *i*P **P 04 59 25.5 -1.5**
comp=Z,19nm,0.7s,mb4.5
MAJO Matsushiro 46.89 21⇑ *i*P **P 04 59 25.5 -1.5**
MAJO pmax pmax
comp=Z,19nm,0.7s,mb4.5
MAT Matsushiro 46.89 21 P **P 04 59 25.2 -1.8**
MAT S **S 05 05 40.0 -5.9**
MAT Matsushiro 46.89 21 *e*P **P 04 59 25.0 -2.0**
comp=Z,12nm,0.7s,mb4.3
MAT Matsushiro 46.89 21 *e*P **P 04 59 25.0 -2.0**
MAT pmax pmax
comp=Z,12nm,0.7s,mb4.3
HYB Hyderabad 47.40 302⇑ *i*P **P 04 59 29.5 -1.6**
comp=Z,140nm,1.0s,mb5.2
HYB Hyderabad 47.40 302⇑ *e*P **P 04 59 29.5 -1.6**
comp=Z,140nm,1.0s,mb5.2
HYB Hyderabad 47.40 302⇑ *e*P **P 04 59 29.5 -1.6**
HYB pmax pmax
comp=Z,140nm,1.0s,mb5.2
DZM Mont Dzumac 47.43 113 *e*P **P 04 59 30.7 -0.6**
DZM Mont Dzumac 47.43 113 P **P 04 59 31.3 0.0**
comp=Z,105nm,0.9s,mb5.2,baz=264,slow=9.0,SNR=46
DZM Mont Dzumac 47.43 113 *e*P **P 04 59 30.7 -0.6**
PKI Pulchoki 47.87 318 *e*P **P 04 59 34.3 -0.3**
DMN Daman 48.10 317 *e*P **P 04 59 36.3 0.0**
comp=Z,523nm,0.9s,mb5.8
KKN Kakani 48.10 318 *e*P **P 04 59 35.8 -0.5**
comp=Z,350nm,0.9s,mb5.7
HHC Hu-ho-hao-te 48.40 352 *e*P **P 04 59 38.4 0.0**
HHC AP pP 05 01 00.9 -0.1
HHC PP PP 05 01 39.5 +4.6
HHC XP sP 05 01 46.7 +0.6
HHC PCS 05 04 54.6
HHC S **S 05 06 06.5 -0.2**
HHC XS 05 08 33.1
HHC SS SS 05 09 39.8 -1.6
HHC AMB AMB
comp=Z,38nm,0.6s,mb4.9
HHC AMB AMB
comp=Z,158nm,4.9s
BTO Baotou 48.40 350 *e*P **P 04 59 38.0 -0.5**
BTO AMB AMB
comp=Z,23nm,0.7s,mb4.6
GKN Gorkha 48.67 318 *e*P **P 04 59 40.3 -0.3**
comp=Z,194nm,0.4s,mb5.8
NGP Nagpur 48.80 306 *e*P **P 04 59 40.7 -1.0**
NGP AMb AMB 04 59 41.7
comp=Z,87nm,0.5s,mb5.4
MNGI Mangalore 48.81 294 *ex* x 05 00 21.8
SNY Shenyang 48.94 4⇑P **P 04 59 41.4 -1.1**
SNY S **S 05 06 12.3 -1.7**
SNY AMB AMB
comp=Z,30nm,0.8s,mb4.7
KOLN Koldanda 49.22 317 *e*P **P 04 59 44.4 -0.4**
comp=Z,324nm,0.7s,mb5.7
GTA Gaotai 49.89 340⇑ *i*P **P 04 59 50.8 +1.1**
GTA PCP PcP 05 01 05.7 +2.5
GTA AP pP 05 01 14.6 +1.8
GTA PP PP 05 01 53.4 +4.1
GTA XP sP 05 01 57.6 -0.2
GTA SCP 05 04 20.3
GTA S **S 05 06 28.8 +1.7**
GTA SCS ScS 05 08 55.7 +1.7
GTA XS 05 08 57.3
GTA SS SS 05 10 07.5 +1.9
GTA AMB AMB
comp=Z,167nm,0.7s,mb5.5
GTA AMB AMB
comp=Z,211nm,4.6s
AKL Akola 50.23 304 *ex* x 05 01 57.3
AKL AMb AMB 05 01 58.8
comp=Z,164nm,0.9s,mb5.3
CN2 Changchun 51.05 5 *e*P **P 04 59 56.7 -1.5**
CN2 *e*AP pP 05 01 19.7 -2.1
CN2 *e*S **S 05 06 42.7 -0.1**
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.2
CN2 AMB AMB
comp=Z,300nm,3.0s
BHPL Bhopal 51.17 308 *e*P **P 04 59 57.6 -1.8**
BHPL AMb AMB 04 59 58.1
comp=Z,52nm,1.2s,mb4.7
POO Poona 51.90 300 *e*P **P 05 00 00.0 -4.8**
MDJ Mudanjiang 52.37 9 P **P 05 00 07.3 -0.6**
MDJ AP pP 05 01 32.8 +0.7
MDJ PP PP 05 02 12.9 +1.2
MDJ XP sP 05 02 17.4 +0.6
MDJ SCP 05 04 29.2
MDJ PCS 05 05 11.8
MDJ S **S 05 06 58.7 -1.9**
MDJ AMB AMB
comp=Z,18nm,0.8s,mb4.3
MDJ AMB AMB
comp=Z,53nm,5.2s
MDJ Mudanjiang 52.37 9 *e*P **P 05 00 07.2 -0.8**
comp=Z,11nm,0.6s,mb4.3
PTH Pithoragarh 52.65 316 *e*P **P 05 00 08.0 -2.2**
NDI New Delhi 54.27 313 *e*P **P 05 00 18.6 -3.3**
SONM Songino Array 56.05 349 P **P 05 00 34.1 0.0**
comp=Z,54nm,0.7s,mb5.0,baz=168,slow=8.0,SNR=382
SONM pP pP 05 01 59.2 -0.6
comp=Z,13nm,1.0s,baz=175,slow=7.6,SNR=3.6
SONM ScP 05 04 45.8
comp=Z,6.5nm,1.1s,baz=163,slow=3.6,SNR=6.4
SONM S **S 05 07 50.8 +1.6**
comp=Z,3.9nm,1.2s,baz=167,slow=11,SNR=6.4
SONM PKPPKP 05 30 26.7
comp=Z,1.1nm,0.8s,baz=312,slow=4.6,SNR=9.4
SONM Songino Array 56.05 349 P **P 05 00 34.1 0.0**
SONM *PP pP 05 01 59.2 -0.6
SONM S **S 05 07 50.8 +1.6**
SONM pmax pmax
comp=Z,54nm,0.7s
SONM pmax pmax
comp=Z,13nm,1.0s
SONM pmax pmax
comp=N,7.0nm,1.1s
SONM smax
comp=N,4.0nm,1.2s
SONM pmax pmax
comp=Z,1.0nm,0.8s
HIA Hailar 56.25 0 *e*P **P 05 00 34.6 -0.8**
comp=Z,12nm,0.5s,mb4.5
HIA Hailar 56.25 0 *e*P **P 05 00 34.6 -0.9**
HIA pmax pmax
comp=Z,12nm,0.5s
KLR Kul'dur 57.20 9 *e*P **P 05 00 38.0 -4.0**
KLR *e* pP 05 02 03.5 -4.7
RPZ Rata Peaks 57.69 138 P **P 05 00 44.4 -1.0**
comp=Z,311nm,0.8s,mb5.7,baz=250,slow=2.7,SNR=130
YSS Yuzh-Sakhalins 57.72 19 *e*P **P 05 00 44.0 -1.6**
YSS *e* 05 01 32.5
YSS *e* pP 05 02 11.0 -1.0
WMQ Urumqi 58.44 333⇑ *i*P **P 05 00 51.0 +0.5**
WMQ PCP PcP 05 01 37.0 +1.0
WMQ AP pP 05 02 18.0 +0.7
WMQ XP sP 05 03 02.0 +0.8
WMQ PP PP 05 03 08.0 +1.6
WMQ SCP 05 04 56.0
WMQ S **S 05 08 21.0 +0.9**
WMQ SCS ScS 05 09 55.0 +0.3
WMQ XS 05 10 52.0
WMQ SS SS 05 12 22.0 -0.8
WMQ AMB AMB
comp=Z,68nm,1.0s,mb4.9
WMQ AMB AMB
comp=Z,32nm,8.0s
ZAK Zakamensk 59.09 348⇓ *e*P **P 05 00 54.4 -0.4**
ZAK *e* 05 03 11.2
ZAK pmax pmax
comp=Z,29nm,0.8s,mb4.7
ZAK pmax pmax
comp=Z,3.0nm,1.1s
ZAK pmax pmax
comp=Z,4.0nm,1.0s
CIT Chita 59.23 356 *e*P **P 05 00 56.1 +0.4**
CIT *e* pP 05 02 21.1 -1.8
CIT *e* 05 03 08.1
CIT *e* 05 08 31.9
CIT pmax pmax
comp=Z,79nm,1.7s,mb4.8
CASY Casey 59.30 184⇓ *i*P **P 05 00 54.5 -1.4**
SNZO South Karori 59.34 134 *e*P **P 05 00 54.7 -1.8**
comp=Z,171nm,1.1s,mb5.3
URZ Urewera 60.21 130 P **P 05 01 01.1 -1.3**
comp=Z,114nm,0.7s,mb5.4,baz=299,slow=2.7,SNR=35
TLY Talaya 60.25 349⇑ *i*P **P 05 01 02.8 +0.4**
comp=Z,60nm,0.8s,mb5.1
TLY Talaya 60.25 349⇑ *i*P **P 05 01 02.8 +0.3**
TLY pmax pmax
comp=Z,60nm,0.8s,mb5.1
IRK Irkutsk 60.67 349 *e*P **P 05 01 04.9 -0.3**
IRK *e* 05 03 16.3
IRK *e* 05 08 50.0
IRK pmax pmax
comp=Z,60nm,2.0s,mb4.7
MOY Mondy 60.80 347 *e*P **P 05 01 06.9 +0.8**
MOY pmax pmax
comp=Z,60nm,2.6s,mb4.6
KSH Kashi 61.56 323⇑ *i*P **P 05 01 11.0 -0.3**
KSH *e*PCP PcP 05 01 48.3 -0.3
KSH *e*AP pP 05 02 39.1 -0.4
KSH *e*XP sP 05 03 22.1 -0.8
KSH *e*PP PP 05 03 34.1 -0.1
KSH *e*SCP 05 05 09.0
KSH *e*PCS 05 05 50.4
KSH *e*S **S 05 08 53.4 -6.1**
KSH *e*SCS ScS 05 10 17.1 -1.0
KSH XS 05 11 32.2
KSH *e*SS SS 05 13 09.2 -2.0
KSH AMB AMB
comp=Z,280nm,1.8s,mb5.5
MIR Mirnyy 62.01 192*c* *i*P **P 05 01 13.2 -0.6**
MIR pmax pmax
comp=Z,49nm,1.4s,mb4.8
ULHL Ulahol 63.14 325 P **P 05 01 21.4 -0.1**
SNR=15
MKAR Makanchi Array 63.17 332 P **P 05 01 21.7 0.0**
comp=Z,51nm,0.6s,mb5.3,baz=140,slow=7.5,SNR=383
MKAR pP pP 05 02 48.5 -1.9
comp=Z,7.6nm,0.8s,baz=135,slow=6.9,SNR=2.9
MKAR S **S 05 09 19.3 0.0**
comp=Z,0.6nm,0.7s,baz=131,slow=15,SNR=3.3
MKAR PKP2bc 05 30 21.3
comp=Z,1.4nm,0.9s,baz=315,slow=1.7,SNR=6.1
MKAR Makanchi Array 63.17 332 P **P 05 01 21.7 0.0**
MKAR pP pP 05 02 48.5 -1.9
MKAR S **S 05 09 19.3 0.0**
MKAR ⇑*e* 05 30 21.3
MKAR Makanchi Array 63.17 332 P **P 05 01 21.7 0.0**
MKAR *PP pP 05 02 48.5 -1.9
MKAR S **S 05 09 19.3 0.0**
MKAR pmax pmax
comp=Z,51nm,0.6s
MKAR pmax pmax
comp=Z,8.0nm,0.8s
MKAR smax
comp=N,1.0nm,0.7s
MKAR pmax pmax
comp=Z,1.0nm,1.0s
KZA Kyzart 63.60 324 P **P 05 01 25.2 +0.6**
SNR=38
TKM2 Tokmak 2 63.94 325 P **P 05 01 26.7 0.0**
SNR=30
UCH Uchtor 64.12 324 P **P 05 01 28.6 +0.7**
SNR=5.3
KBK Karagaybulak 64.14 325 P **P 05 01 28.3 +0.3**
SNR=16
AAK Ala-Archa 64.39 325 P **P 05 01 29.9 +0.3**
SNR=24
AAK Ala-Archa 64.39 325⇑ *i*P **P 05 01 28.6 -1.0**
comp=Z,44nm,0.8s,mb5.0
AAK *e*pP pP 05 02 57.3 -1.4
AAK Ala-Archa 64.39 325⇑ *i*P **P 05 01 28.6 -1.0**
AAK *e**PP pP 05 02 57.3 -1.4
AAK pmax pmax
comp=Z,44nm,0.8s,mb5.0
FRU Bishkek 64.44 325 *e*P **P 05 01 29.0 -0.9**
FRU pmax pmax
comp=Z,60nm,1.8s,mb4.8
CHMS Chumysh 64.47 325 P **P 05 01 29.5 -0.5**
SNR=8.6
AML Almayashu 64.54 324 P **P 05 01 31.2 +0.7**
SNR=6.9
USP Ospenovka 64.78 325 P **P 05 01 31.7 -0.4**
SNR=46
EKS2 Erkin-Say 64.82 324 P **P 05 01 32.5 +0.2**
SNR=31
BOD Bodaibo 64.98 357⇓ *i*P **P 05 01 32.4 -0.7**
BOD pmax pmax
comp=Z,19nm,0.9s,mb4.7
SKR Severo-Kuril's 65.72 25 *e*P **P 05 01 34.7 -3.2**
SKR pmax pmax
comp=Z,130nm,0.7s,mb5.7
KKAR Karatay Array 67.01 323 *i* P **P 05 01 44.9 -1.1**
KKAR pmax pmax
comp=Z,6.0nm,0.6s,mb4.4
AFI Afiamalu 67.58 102 P **P 05 01 50.4 +0.5**
comp=Z,47nm,1.0s,mb5.1,baz=179,slow=19,SNR=5.2
AFI Afiamalu 67.58 102 *e*P **P 05 01 50.4 +0.5**
comp=Z,114nm,1.3s,mb5.3
AFI Afiamalu 67.58 102 P **P 05 01 50.4 +0.5**
AFI pmax pmax
comp=Z,47nm,1.0s,mb5.1
ZAL Zalesovo 67.61 339 P **P 05 01 48.4 -1.1**
comp=Z,43nm,0.5s,mb5.4,baz=346,slow=4.3,SNR=88
ZAL pP pP 05 03 16.9 -2.8
comp=Z,4.4nm,0.8s,baz=360,slow=4.0,SNR=2.5
ZAL PP PP 05 04 21.8 -4.0
comp=Z,4.0nm,0.6s,baz=333,slow=10.0,SNR=3.7
ZAL S S 05 10 09.9 -2.5
comp=Z,2.6nm,0.5s,baz=112,slow=20,SNR=9.9
ZAL Zalesovo 67.61 339 P **P 05 01 48.4 -1.1**
ZAL *PP pP 05 03 16.9 -2.8
ZAL 05 04 21.8
ZAL S S 05 10 09.9 -2.5
ZAL pmax pmax
comp=Z,43nm,0.5s
ZAL pmax pmax
comp=Z,4.0nm,0.8s
ZAL pmax pmax
comp=Z,4.0nm,0.6s
ZAL smax
comp=N,3.0nm,0.5s
KURK Kurchatov 67.69 333⇑ *i*P **P 05 01 49.6 -0.4**
comp=N,74nm,0.8s,mb5.4
KURK Kurchatov 67.69 333⇑ *i*P **P 05 01 49.6 -0.5**
KURK pmax pmax

comp=Z,74nm,0.8s,mb5.4
PET Petropavlovsk 68.52 24 *d iP* **P 05 01 55.2 +0.1**
PET pmax pmax
comp=Z,55nm,1.3s,mb5.0
NVS Novosibirsk 68.89 338 *eP* **P 05 01 55.6 -1.7**
NVS *eS* S 05 10 23.0 -4.3
NVS pmax pmax
comp=N,31nm,1.2s
NVS pmax pmax
comp=E,34nm,1.2s
NVS pmax pmax
comp=Z,55nm,1.2s,mb5.1
NVS smax
comp=N,28nm,1.7s
NVS smax
comp=E,57nm,1.7s
YAK Yakutsk 69.48 5 *eP* **P 05 01 59.9 -0.8**
comp=E,29nm,0.8s,mb5.0
YAK Yakutsk 69.48 5 *eP* **P 05 02 00.2 -0.5**
YAK *e**PP PcP 05 02 25.1 +3.9
YAK *eS* S 05 10 30.8 -3.3
YAK *e**SS 05 11 13.8
YAK pmax pmax
comp=N,2.0nm,0.9s
YAK pmax pmax
comp=Z,9.0nm,0.9s,mb4.4
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK pmax pmax
comp=Z,4.0nm,0.9s,mb4.0
YAK pmax pmax
comp=N,2.0nm,1.0s
YAK smax
comp=E,9.0nm,1.2s
YAK smax
comp=N,6.0nm,1.1s
MA2 Magadan 71.05 16 *eP* **P 05 02 09.4 -0.7**
comp=N,12nm,0.8s,mb4.5
MA2 Magadan 71.05 16 *d iP* **P 05 02 10.5 +0.4**
MA2 pmax pmax
comp=Z,18nm,1.3s,mb4.4
MAW Mawson 71.11 200 *eP* **P 05 02 10.3 0.0**
comp=Z,12nm,0.8s,mb4.5
MAW Mawson 71.11 200 P **P 05 02 10.5 +0.2**
comp=Z,25nm,1.0s,mb4.7,baz=69,slow=7.1,SNR=28
MAW Mawson 71.11 200 P **P 05 02 10.5 +0.2**
MAW pmax pmax
comp=Z,25nm,1.0s
OPO Ambohidratompo 71.13 253 P **P 05 02 11.6 +0.4**
comp=Z,13nm,0.8s,mb4.5,baz=73,slow=3.6,SNR=12
VOSK Vostochnaya 72.56 331 P **P 05 02 18.3 -0.8**
VOSK pmax pmax
comp=Z,16nm,0.7s,mb4.7
BVA0 Borovoye Array 73.03 331 *i P* **P 05 02 21.5 -0.3**
BVA0 pmax pmax
comp=Z,7.0nm,1.0s,mb4.2
BVAR Borovoye Array 73.03 331 P **P 05 02 21.5 -0.3**
comp=Z,22nm,0.7s,mb4.8,baz=143,slow=7.4,SNR=118
BVAR pP pP 05 03 52.0 -1.5
comp=Z,5.3nm,0.8s,baz=127,slow=7.4,SNR=4.1
BVAR S S 05 11 13.1 -1.1
comp=Z,0.7nm,0.7s,baz=119,slow=15,SNR=4.1
BVAR Borovoye Array 73.03 331 P **P 05 02 21.5 -0.3**
BVAR *PP pP 05 03 52.0 -1.6
BVAR S S 05 11 13.1 -1.1
BVAR pmax pmax
comp=Z,22nm,0.7s
BVAR pmax pmax
comp=Z,5.0nm,0.8s
BVAR smax
comp=N,1.0nm,0.7s
BRVK Borovoye 73.10 331⇑ *iP* **P 05 02 21.8 -0.4**
comp=N,44nm,1.3s,mb4.8
BRVK Borovoye 73.10 331⇑ *iP* **P 05 02 21.8 -0.4**
BRVK pmax pmax
comp=Z,44nm,1.3s,mb4.8
VNDA Vanda 73.64 171 P **P 05 02 24.8 0.0**
comp=Z,19nm,0.9s,mb4.7,baz=317,slow=5.3,SNR=19
VNDA Vanda 73.64 171 P **P 05 02 24.8 0.0**
VNDA pmax pmax
comp=Z,19nm,0.9s
SEY Seymchan 74.29 15 *eP* **P 05 02 29.3 +0.6**
SBA Scott Base 74.63 171⇓ *eP* **P 05 02 31.2 +0.7**
comp=Z,30nm,0.9s,mb4.9
SBA Scott Base 74.63 171⇓ *eP* **P 05 02 31.2 +0.8**
SBA pmax pmax
comp=Z,29nm,0.9s,mb4.9
FX1 Attu Island--F 75.04 30 *eP* **P 05 02 34.2 +1.1**
HASS Wahat al Ahsa' 75.19 298 P **P 05 02 34.1 -0.5**
HASS Wahat al Ahsa' 75.19 298 P pP 05 04 05.3 -1.6
SMY Shemya 75.43 31 *eP* **P 05 02 36.5 +1.2**
comp=Z,89nm,0.5s,mb5.7
SMY Shemya 75.43 31 *eP* **P 05 02 36.5 +1.2**
SMY pmax pmax
comp=Z,89nm,0.5s,mb5.7
AB31 Akbulak array 76.48 324 P **P 05 02 40.9 -0.3**
AB31 pmax pmax
comp=Z,26nm,0.7s,mb5.0
QRN Al-Qurain 77.66 301 *eP* **P 05 02 48.4 +0.3**
QRN AMb AMB 05 02 49.4
comp=Z,148nm,0.7s,mb5.7
KBD Kabd 77.97 302 *eP* **P 05 02 49.4 -0.3**
RDF Al-Radifah 78.02 301 *eP* **P 05 02 49.7 -0.4**
RDF AMb AMB 05 02 50.6
comp=Z,114nm,0.5s,mb5.8
UMR Umm Al-Rimmam 78.05 302 *eP* **P 05 02 50.1 -0.1**
UMR AMb AMB 05 02 51.3
comp=Z,108nm,0.3s,mb6.0
MIB Mutribah 78.43 302 *eP* **P 05 02 52.6 +0.4**
MIB AMb AMB 05 02 53.8
comp=Z,145nm,0.6s,mb5.8
ATD Arta Tunnel 78.61 283 P **P 05 02 54.6 +1.3**
comp=Z,26nm,0.9s,mb4.9,baz=79,slow=5.5,SNR=16
TIXI Tiksi 78.94 3 *i P* **P 05 02 55.0 +1.0**
TIXI pmax pmax
comp=Z,14nm,0.8s,mb4.6
DJNS Zahran al Janu 79.06 290 P **P 05 02 57.2 +1.4**
DJNS Zahran al Janu 79.06 290 P pP 05 04 30.3 +1.3
TATS Tathlith 79.49 291 P **P 05 02 59.0 +1.1**
TATS Tathlith 79.49 291 P pP 05 04 32.1 +0.9
SYO Syowa Base 79.73 201⇓ P **P 05 02 57.4 -0.9**
SYO Syowa Base 79.73 201⇑ PcP PcP 05 03 04.5 -0.4
SVE Sverdlovsk 79.82 331⇑ *eP* **P 05 02 59.0 0.0**
SVE *e* pP 05 04 33.8 +1.5
SVE *e* 05 06 08.5
ARU Arti 80.63 330⇑ *iP* **P 05 03 02.1 -1.1**
comp=Z,38nm,1.1s,mb5.0
ARU *e*pP pP 05 04 35.4 -1.3
ARU Arti 80.63 330⇑ *iP* **P 05 03 02.5 -0.7**
ARU *i* pP 05 04 35.5 -1.2
ARU *i* 05 06 11.9
ARU *eS* S 05 12 31.0 -3.8
ARU pmax pmax
comp=Z,33nm,1.2s,mb4.9
AFFS 'Afif 80.81 296 P **P 05 03 05.7 +0.8**
BLJS Baljurashi 81.29 291 P **P 05 03 09.1 +1.7**
BLJS Baljurashi 81.29 291 P pP 05 04 42.5 +1.4
BILL Bilibino 81.92 16 *eP* **P 05 03 09.7 +0.1**
BILL pmax pmax
comp=Z,3.0nm,0.9s,mb4.0
KMBO Kilima Mbogo 82.30 270 P **P 05 03 13.1 +0.4**
comp=Z,13nm,0.7s,mb4.7,baz=70,slow=7.0,SNR=33
KMBO pP pP 05 04 46.0 -0.6
comp=Z,2.4nm,0.8s,baz=39,slow=16,SNR=3.2
KMBO Kilima Mbogo 82.30 270 P **P 05 03 13.1 +0.4**
KMBO pP pP 05 04 46.0 -0.6
KMBO Kilima Mbogo 82.30 270 P **P 05 03 13.1 +0.5**
KMBO *PP pP 05 04 46.0 -0.6
KMBO pmax pmax
comp=Z,13nm,0.7s
KMBO pmax pmax
comp=Z,2.0nm,0.8s
HILS Ha'il 82.60 299 P **P 05 03 15.5 +1.6**
HILS Ha'il 82.60 299 P pP 05 04 48.6 +0.7
QSPA South Pole Qui 82.76 180 *eP* **P 05 03 14.1 +0.4**
comp=Z,30nm,1.0s,mb5.0
GNI Garni 83.22 312 P **P 05 03 17.4 +0.6**
comp=Z,5.2nm,0.5s,mb4.5,baz=286,slow=22,SNR=9.4
GNI Garni 83.22 312 *eP* **P 05 03 17.0 +0.2**
comp=Z,26nm,0.9s,mb5.0
GNI Garni 83.22 312 *eP* **P 05 03 17.0 +0.2**
GNI pmax pmax
comp=Z,26nm,0.9s
KBRS Khaybar 84.51 297 P **P 05 03 25.1 +1.5**
KBRS Khaybar 84.51 297 P pP 05 04 59.1 +1.0

ZEI Tsey 84.51 314 *eP* **P 05 03 22.6 -0.6**
ZEI *i* 05 06 40.1
ZEI pmax pmax
comp=Z,21nm,0.9s,mb4.9
KIV Kislovodsk 85.67 315 *eP* **P 05 03 29.2 +0.5**
comp=Z,12nm,0.8s,mb4.7
KIV Kislovodsk 85.67 315 *c iP* **P 05 03 28.8 +0.1**
KIV pmax pmax
comp=Z,22nm,1.2s,mb4.8
GOF Gofitskoye 85.70 316⇓ *iP* **P 05 03 29.0 +0.1**
GOF pmax pmax
comp=Z,154nm,1.3s,mb5.6
UMJS Umm Lajj 86.15 296 P **P 05 03 33.0 +1.5**
UMJS Umm Lajj 86.15 296 P pP 05 05 07.9 +1.5
QURS Qurayyt al Mil 87.20 302 P **P 05 03 37.8 +1.5**
QURS Qurayyt al Mil 87.20 302 P pP 05 05 12.6 +1.1
TBKS Tabuk 87.32 299 P **P 05 03 38.7 +1.7**
TBKS Tabuk 87.32 299 P pP 05 05 13.0 +0.8
MALT Malatya 87.58 309 *eP* **P 05 03 37.0 -0.9**
comp=Z,8.8nm,1.0s,mb4.4
MALT *e*pP pP 05 05 12.2 -1.0
MALT Malatya 87.58 309 *eP* **P 05 03 37.1 -0.9**
MALT *e**PP pP 05 05 12.2 -1.0
MALT pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
SOC Sochi 87.68 314 *eP* **P 05 03 37.1 -1.2**
SOC *eS* S 05 13 25.3 -18
SOC *e* 05 13 52.5
SOC *e*SS SS 05 19 40.7 -4.0
SOC *e*SSS SSS 05 23 17.0 -3.6
SOC pmax pmax
comp=Z,20nm,0.8s,mb4.9
SOC pmax pmax
comp=N,7.0nm,0.7s
SOC pmax pmax
comp=E,13nm,0.9s
ASF Jabal al Asfar 87.69 303 P **P 05 03 40.1 +1.4**
comp=E,14nm,0.7s,mb4.8,baz=334,slow=2.1,SNR=20
ASF pP pP 05 05 14.2 +0.3
comp=E,34nm,1.1s,baz=22,slow=0.8,SNR=11
ASF Jabal al Asfar 87.69 303 P **P 05 03 40.1 +1.4**
ASF *PP pP 05 05 14.2 +0.3
ASF pmax pmax
comp=Z,15nm,0.7s
ASF pmax pmax
comp=Z,34nm,1.2s
PAE Paea 88.59 108 *eP* **P 05 03 45.6 +2.4**
comp=Z,71nm,1.3s,mb5.2
PPT Papeete 88.61 107 *eP* **P 05 03 45.4 +2.1**
comp=Z,40nm,1.2s,mb5.0
PPT Papeete 88.61 107 P **P 05 03 45.6 +2.3**
comp=Z,8.0nm,0.4s,mb4.8,baz=206,slow=6.8,SNR=4.3
PPT Papeete 88.61 107 P **P 05 03 45.6 +2.3**
PPT pmax pmax
comp=Z,8.0nm,0.4s
JMOS Jabal al Moall 88.72 299 P **P 05 03 44.7 +1.1**
JMOS Jabal al Moall 88.72 299 P pP 05 05 19.1 +0.1
ALWS Ilw as Safayha 88.78 300 P **P 05 03 44.6 +0.8**
ALWS Ilw as Safayha 88.78 300 P pP 05 05 20.2 +0.9
MBAR Mbarara 88.83 270⇑ *eP* **P 05 03 43.4 -1.0**
comp=Z,5.8nm,0.7s,mb4.4
MBAR *e*pP pP 05 05 18.6 -1.3
MBAR Mbarara 88.83 270⇑ *eP* **P 05 03 43.4 -1.0**
MBAR *e**PP pP 05 05 18.6 -1.3
MBAR pmax pmax
comp=Z,6.0nm,0.7s,mb4.4
HAQS Haql 88.86 299 P **P 05 03 45.4 +1.2**
HAQS Haql 88.86 299 P pP 05 05 20.6 +1.0
TVO Taravao 88.89 108 *eP* **P 05 03 47.1 +2.5**
comp=Z,98nm,1.1s,mb5.5
LSZ Lusaka 89.51 255 *eP* **P 05 03 47.1 -0.3**
comp=Z,4.7nm,0.4s,mb4.7
LSZ Lusaka 89.51 255 *eP* **P 05 03 47.2 -0.3**
LSZ pmax pmax
comp=Z,5.0nm,0.4s,mb4.7
ANN Anapa 89.53 315 *eP* **P 05 03 43.3 -3.6**
ANN *i* *PP pP 05 05 21.1 -1.4
ANN *e* 05 13 34.0
ANN *e* 05 13 56.8
ANN pmax pmax
comp=Z,35nm,0.9s,mb5.2
BOSA Boshof 90.40 241 P **P 05 03 51.6 +0.3**
comp=Z,4.9nm,0.5s,mb4.6,baz=82,slow=2.6,SNR=18
BOSA Boshof 90.40 241 P **P 05 03 51.6 +0.2**
BOSA pmax pmax
comp=Z,5.0nm,0.5s,mb4.6
PMOR Pomariorio Ree 90.53 105 *eP* **P 05 03 54.7 +2.5**
comp=Z,73nm,0.9s,mb5.5
VAH Vaihoa 90.76 105 *eP* **P 05 03 55.4 +2.2**
comp=Z,59nm,1.0s,mb5.4
BR131 Keskin Array S 91.49 310 *eP* **P 05 03 55.3 -0.8**
comp=Z,1.6nm,0.6s,mb4.0
BRTR Keskin Array B 91.49 310 P **P 05 03 55.9 -0.3**
comp=Z,3.6nm,0.8s,mb4.3,baz=116,slow=4.8,SNR=16
BRTR pP pP 05 05 30.2 -1.8
comp=Z,3.9nm,1.0s,baz=127,slow=6.2,SNR=7.4
BRTR PP PP 05 07 44.7 +2.5
comp=Z,2.2nm,0.8s,baz=127,slow=6.2,SNR=3.7
BRTR Keskin Array B 91.49 310 P **P 05 03 55.9 -0.2**
BRTR *PP pP 05 05 30.2 -1.8
BRTR 05 07 44.7
BRTR pmax pmax
comp=Z,4.0nm,0.8s
BRTR pmax pmax
comp=Z,4.0nm,1.0s
BRTR pmax pmax
comp=Z,2.0nm,0.8s
OBN Obninsk 91.91 325 *c iP* **P 05 03 57.1 -0.6**
OBN *e**PP pP 05 05 28.0 -5.6
OBN *e* 05 13 50.1
OBN pmax pmax
comp=Z,19nm,0.8s,mb5.1
SNAA Sanae 92.87 196 *e* **P 05 04 09.5 +7.7**
SNAA Sanae 92.87 196 *e* tx 05 04 56.9
SNAA Sanae 92.87 196 *e* tx 05 06 19.0
SNAA Sanae 92.87 196 P **P 05 04 02.1 +0.3**
comp=Z,2.4nm,0.7s,mb4.2,baz=128,slow=3.6,SNR=46
SNAA Sanae 92.87 196⇑ *iP* **P 05 04 02.5 +0.7**
SNAA *e* 05 04 09.5
SNAA *e* 05 04 56.9
SNAA *e* pP 05 05 40.5 +2.8
SNAA *e* 05 06 19.0
SNAA *e* 05 08 42.4
SNAA Sanae 92.87 196⇑ *iP* **P 05 04 02.5 +0.7**
SNAA *e* pP 05 05 40.5 +2.8
SNAA *e* 05 06 19.0
VNA2 Neumayer--Watz 94.50 195 *e* **P 05 04 18.2 +9.0**
VNA2 Neumayer--Watz 94.50 195 *e* tx 05 05 02.4
VNA2 Neumayer--Watz 94.50 195 *e* PP 05 08 06.5 +1.7
VNA2 Neumayer--Watz 94.50 195⇑ *iP* **P 05 04 10.0 +0.8**
VNA2 *e* 05 04 18.2
VNA2 *e* 05 05 02.4
VNA2 *e* pP 05 05 48.3 +3.2
VNA2 *e* 05 06 20.1
VNA2 *e* 05 08 06.5
VNA2 *e* 05 08 50.2
VNA2 *e* 05 21 05.6
VNA3 Neumayer Olymp 94.89 195 *e* **P 05 04 19.5 +8.5**
VNA3 Neumayer Olymp 94.89 195 *e* tx 05 05 02.8
VNA3 Neumayer Olymp 94.89 195 *e* PP 05 08 09.2 +1.8
VNA3 Neumayer Olymp 94.89 195⇑ *iP* **P 05 04 11.6 +0.6**
VNA3 *e* 05 04 19.5
VNA3 *e* 05 05 02.8
VNA3 *e* pP 05 05 49.4 +2.5
VNA3 *e* 05 06 21.4
VNA3 *e* 05 08 09.2
VNA3 *e* 05 08 53.1
VNA3 *e* 05 21 06.4
VNA1 Neumayer--Stat 94.90 195 *e* **P 05 04 21.6 +11**
VNA1 Neumayer--Stat 94.90 195⇑ *iP* **P 05 04 13.3 +2.2**
VNA1 *e* 05 04 21.6
VNA1 *e* pP 05 05 51.3 +4.3
RSO Redoubt South 95.05 30 *eP* **P 05 04 12.2 +0.2**
AKASG Malin Array Be 95.78 320 P **P 05 04 14.1 -1.5**
comp=Z,4.2nm,0.7s,mb4.7,baz=78,slow=4.5,SNR=15
AKASG pP pP 05 05 49.7 -1.8
comp=Z,2.1nm,0.8s,baz=79,slow=4.3,SNR=4.5
AKASG PP PP 05 08 14.5 -0.3
comp=Z,6.8nm,1.0s,baz=79,slow=6.7,SNR=12
AKASG Malin Array Be 95.78 320 P **P 05 04 14.1 -1.5**
AKASG *PP pP 05 05 49.7 -1.8
AKASG 05 08 14.5
AKASG pmax pmax
comp=Z,4.0nm,0.7s

AKASG pmax pmax
comp=Z,2.0nm,0.8s
AKASG pmax pmax
comp=Z,7.0nm,1.0s
SLKM Skilak Lake 96.30 30 *eP* **P 05 04 17.1 -0.6**
PMR Palmer 96.89 29 *eP* **P 05 04 19.2 -1.1**
comp=Z,12nm,1.1s,mb4.9
PMR Palmer 96.89 29 *eP* **P 05 04 19.2 -1.1**
PMR pmax pmax
comp=Z,12nm,1.1s,mb4.9
MCK McKinley 97.06 27 *eP* **P 05 04 20.6 -0.4**
comp=Z,6.7nm,1.1s,mb4.7
MCK McKinley 97.06 27 *eP* **P 05 04 20.6 -0.4**
MCK pmax pmax
comp=Z,7.0nm,1.1s,mb4.7
SML Sawmill 97.27 29 *eP* **P 05 04 21.9 -0.2**
COLA College 97.56 25 *i P* **P 05 04 23.8 +0.5**
MLR Muntele Rosu 97.68 315 P **P 05 04 22.5 -1.8**
comp=Z,2.8nm,0.8s,mb4.6,baz=161,slow=18,SNR=11
MLR PP PP 05 08 23.6 -6.3
comp=Z,5.3nm,0.8s,baz=319,slow=2.8,SNR=5.3
MLR Muntele Rosu 97.68 315 P **P 05 04 22.5 -1.8**
MLR 05 08 23.6
MLR pmax pmax
comp=Z,3.0nm,0.8s
MLR pmax pmax
comp=Z,5.0nm,0.8s
ILAR Eielson Array 97.97 26 P **P 05 04 23.6 -1.6**
comp=Z,0.7nm,0.7s,mb4.0,baz=261,slow=3.7,SNR=11
ILAR PKKPbc 05 20 57.4
comp=Z,0.3nm,0.5s,baz=105,slow=2.4,SNR=4.1
IDI Anoyia 97.98 305 P **P 05 04 25.4 -0.5**
comp=Z,7.3nm,0.8s,mb5.0,baz=181,slow=9.2,SNR=5.1
FINES FINESS Array B 97.99 331 P **P 05 04 24.2 -1.1**
comp=Z,1.5nm,0.8s,mb4.3,baz=58,slow=4.4,SNR=3.2
FINES PP PP 05 08 26.0 -6.0
comp=Z,1.9nm,0.8s,baz=95,slow=10,SNR=3.4
FINES PKiKP 05 08 57.0
comp=Z,1.5nm,0.8s,baz=45,slow=2.7,SNR=4.0
FINES PKKPbc 05 20 56.8
comp=Z,0.4nm,0.5s,baz=180,slow=1.9,SNR=6.6
FINES FINESS Array B 97.99 331 P **P 05 04 24.2 -1.1**
FINES 05 08 26.0
FINES pmax pmax
comp=Z,2.0nm,0.8s
FINES pmax pmax
comp=Z,2.0nm,0.9s
FINES pmax pmax
comp=Z,2.0nm,0.9s
ARCES ARCESS Array B 98.16 339 P **P 05 04 25.5 -0.5**
comp=Z,1.5nm,0.8s,mb4.3,baz=90,slow=7.3,SNR=5.0
ARCES PP PP 05 08 27.3 -5.7
comp=Z,2.1nm,0.9s,baz=90,slow=7.2,SNR=3.2
ARCES PKiKP 05 08 56.3
comp=Z,1.7nm,0.8s,baz=180,slow=1.2,SNR=7.3
ARCES PKKPbc 05 20 56.5
comp=Z,1.2nm,0.9s,baz=288,slow=2.9,SNR=4.5
ARCES ARCESS Array B 98.16 339 P **P 05 04 25.5 -0.5**
ARCES 05 08 27.3
ARCES pmax pmax
comp=Z,2.0nm,0.8s
ARCES pmax pmax
comp=Z,2.0nm,0.9s
ARCES pmax pmax
comp=Z,2.0nm,0.8s
ARCES pmax pmax
comp=Z,1.0nm,0.9s
NIE Niedzica 101.50 319 *eP* PP 05 08 52.2 -6.4
OJC Ojcow 101.80 320 *eP* PP 05 08 54.8 -5.8
INK Inuvik 102.88 21 P Pdif 05 04 47.4 +0.6
comp=Z,1.3nm,0.6s,baz=270,slow=5.1
INK PKiKP 05 09 04.4
comp=Z,0.7nm,0.5s,baz=236,slow=2.1,SNR=4.6
INK PKKPbc 05 20 42.8
comp=Z,1.9nm,0.8s,baz=18,slow=5.9,SNR=4.0
INK Inuvik 102.88 21 P Pdif 05 04 47.4 +0.6
INK Inuvik 102.88 21 P Pdif 05 04 47.4 +0.6
INK *i* 05 09 04.4
INK pmax pmax
comp=Z,1.0nm,0.6s
INK pmax pmax
comp=Z,1.0nm,0.5s
INK pmax pmax
comp=Z,2.0nm,0.9s
HFS Hagfors 104.15 330 Pdiff Pdif 05 04 52.3 -0.3
comp=Z,2.8nm,0.9s,baz=90,slow=4.4,SNR=5.0
HFS Hagfors 104.15 330 P Pdif 05 04 52.3 -0.3
HFS pmax pmax
comp=Z,3.0nm,0.9s
NOA NORSAR Array B 105.17 331 Pdiff Pdif 05 04 57.0 0.0
comp=Z,0.7nm,0.7s,baz=214,slow=20,SNR=2.6
NOA PP PP 05 09 23.8 -1.8
comp=Z,1.3nm,0.8s,baz=76,slow=7.5,SNR=3.6
GERES GERESS Array B 105.88 319 PP PP 05 09 25.8 -5.0
comp=Z,1.6nm,0.9s,baz=90,slow=5.3,SNR=5.0
GERES PKKPbc 05 20 34.9
comp=Z,0.5nm,0.7s,baz=270,slow=2.0,SNR=5.2
CLL Collm 105.98 321 *e*PP PP 05 09 27.0 -4.4
HAU Haudompre 110.84 319 *e*PP PP 05 10 03.9 -3.2
LPG La Plagne 111.10 316 *e*PP PP 05 10 03.1 -5.8
comp=Z,20nm,0.8s
LPL La Plagne 111.11 316 *e*PP PP 05 10 03.2 -5.8
comp=Z,19nm,0.8s
CABF La Chapelle 111.32 317 *e*PP PP 05 10 08.1 -2.3
comp=Z,37nm,1.4s
YKA Yellowknife Ar 112.32 24 PKiKP 05 09 22.3
comp=Z,2.9nm,0.4s,baz=308,slow=1.8,SNR=18
YKA SKP 05 12 17.8
comp=Z,1.8nm,0.7s,baz=307,slow=2.0,SNR=7.4
YKA PKKPbc 05 20 13.2
comp=Z,0.2nm,0.3s,baz=116,slow=3.2,SNR=4.6
YKA Yellowknife Ar 112.32 24 PKPdf PKPdf 05 09 22.3 +1.2
YKA SKP 05 12 17.8
YKA PKKPbc 05 20 13.2
YKA Yellowknife Ar 112.32 24 *i* PKIKP PKPdf 05 09 22.3 +1.2
YKA pmax pmax
comp=Z,3.0nm,0.4s
YKA pmax pmax
comp=N,2.0nm,0.7s
SMF Signal de Mont 112.82 318 *e*PP PP 05 10 16.6 -5.0
comp=N,22nm,1.0s
SSF Saint Saulge 112.94 318 *e*PP PP 05 10 17.6 -4.9
comp=N,18nm,0.9s
AVF Avril sur Loir 113.11 318 *e*PP PP 05 10 17.6 -6.1
comp=N,18nm,1.1s
TCF Toulx Ste Croi 114.00 318 *e*PP PP 05 10 26.2 -3.7
comp=N,21nm,1.1s
WVOR Wild Horse Val 118.05 46 *e*PKPdf PKPdf 05 09 34.6 +1.9
WALA Waterton Lakes 118.81 37 *e*PKPdf PKPdf 05 09 34.9 +0.8
MTUM Tungsten Hills 119.48 51 *e*PKPdf PKPdf 05 09 38.0 +2.3
MSO Missoula 119.69 39 *e*PKPdf PKPdf 05 09 37.1 +1.3
CHMT Chamberlain Mo 120.09 39 *e*PKPdf PKPdf 05 09 38.0 +1.4
ESDC Sonseca Array 120.20 312 PP PP 05 11 10.3 -1.6
comp=N,1.3nm,0.8s,baz=68,slow=6.5,SNR=4.7
DAC Darwin (Calif) 120.50 52 *e*PKPdf PKPdf 05 09 40.0 +2.2
ELK Elko 121.00 46 *e*PKPdf PKPdf 05 09 40.5 +1.9
BOZ Bozeman (W) 121.64 40 *e*PKPdf PKPdf 05 09 41.6 +1.9
HVU Hansel Valley 122.39 45 *e*PKPdf PKPdf 05 09 43.4 +2.2
FCC Fort Churchill 122.46 20 *e*PKPdf PKPdf 05 09 41.8 +0.9
LDFC Landfair 122.77 53 *e*PKPdf PKPdf 05 09 44.8 +2.7
RRI2 Red Ridge 122.78 42 *e*PKPdf PKPdf 05 09 43.9 +2.0
IMW Indian Meadow 122.81 42 *e*PKPdf PKPdf 05 09 44.1 +2.2
NEN Nelson 122.82 52 *e*PKPdf PKPdf 05 09 44.5 +2.3
TPAW Teton Pass 122.97 42 *e*PKPdf PKPdf 05 09 44.9 +2.6
REDW Red Top Meadow 123.08 42 *e*PKPdf PKPdf 05 09 45.1 +2.6
SNOW Snow King Moun 123.11 42 *e*PKPdf PKPdf 05 09 45.2 +2.7
HWUT Hardware Ranch 123.29 44 *e*PKPdf PKPdf 05 09 44.5 +1.5
MSU Marysvale 123.97 48 *e*PKPdf PKPdf 05 09 47.1 +2.7
PDAR Pinedale Array 124.19 42 PKP PKPdf 05 09 46.5 +1.7
comp=N,1.2nm,0.5s,baz=115,slow=1.3,SNR=17
PDAR PP PP 05 11 35.9 -3.2
comp=N,1.1nm,0.8s,baz=270,slow=1.5,SNR=5.3
PDAR PKKPbc 05 19 33.1
comp=N,1.0nm,0.7s,baz=115,slow=6.6,SNR=9.7
TMUT Trail Mountain 124.40 47 *e*PKPdf PKPdf 05 09 47.5 +2.3
LAO LASA Array 124.49 37 *e*PKPdf PKPdf 05 09 47.7 +2.5
DBIC Dimbokro 124.92 273 PKP PKPdf 05 09 48.0 +1.1
comp=N,1.2nm,0.3s,baz=270,slow=1.0,SNR=8.8
DBIC Dimbokro 124.92 273 PKIKP PKPdf 05 09 48.1 +1.2
DBIC pmax pmax
comp=Z,1.0nm,0.3s
SRU San Rafael 124.96 47 *e*PKPdf PKPdf 05 09 48.2 +1.9
PV10 Paradox Valley 126.31 47 *e*PKPdf PKPdf 05 09 51.2 +2.3
PV01 Paradox Valley 126.75 47 *e*PKPdf PKPdf 05 09 51.6 +1.9
TUC Tucson 127.00 55 *e*PKPdf PKPdf 05 09 52.9 +2.5
RSSD Black Hills 127.12 39 *e*PKPdf PKPdf 05 09 51.3 +1.0

SMCO	**Snowmass**	**127.47**	**45**	*e*PKPdf	PKPdf	05 09 52.6	+1.5
ULM	**Lac du Bonnet**	**127.90**	**28**	PKP	PKPdf	05 09 53.1	+1.5
	comp=Z,1.9nm,0.5s,baz=341,slow=2.8,SNR=3.1						
ULM				SKPbc		05 12 31.9	
	comp=Z,4.4nm,0.7s,baz=291,slow=6.3,SNR=5.9						
ANMO	**Albuquerque**	**129.53**	**50**	*i* PKIKP	PKPdf	05 09 57.7	+2.5
PLCA	**Paso Flores**	**131.37**	**170**	PKP	PKPdf	05 10 00.5	+1.9
	comp=Z,2.8nm,0.7s,baz=228,slow=4.7,SNR=5.9						
PLCA				SKPbc		05 12 46.5	
	comp=Z,6.7nm,0.9s,baz=207,slow=3.8,SNR=7.4						
PLCA	**Paso Flores**	**131.37**	**170**	PKP	PKPdf	05 10 00.5	+1.9
PLCA				SKPbc		05 12 46.5	
PLCA	**Paso Flores**	**131.37**	**170**	PKIKP	PKPdf	05 10 00.5	+1.9
PLCA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
PLCA				pmax	pmax		
	comp=N,7.0nm,0.9s						
MNTX	**Cornudas Mount**	**131.54**	**54**	*e*PKPdf	PKPdf	05 10 00.6	+1.4
MNTX				*e*SKP		05 12 46.5	
SCHQ	**Schefferville**	**132.24**	**5**	PKP	PKPdf	05 10 01.2	+1.5
	comp=N,3.4nm,0.4s,baz=326,slow=0.7,SNR=14						
SCHQ				SKPbc		05 12 48.4	
	comp=N,14nm,0.9s,baz=358,slow=4.0,SNR=11						
TXAR	**Lajitas Array**	**133.74**	**56**	PKhKP		05 09 49.6	
	comp=N,0.2nm,0.5s,baz=235,slow=2.1,SNR=5.7						
TXAR				PKP	PKPdf	05 10 05.8	+2.5
	comp=N,2.3nm,0.8s,baz=223,slow=1.6,SNR=17						
TXAR				SKPbc		05 12 55.2	
	comp=N,3.3nm,0.9s,baz=270,slow=3.8,SNR=13						
TXAR	**Lajitas Array**	**133.74**	**56**	PKHKP		05 09 49.7	
TXAR						05 10 05.8	
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
TXAR				pmax	pmax		
	comp=N,3.0nm,0.9s						
KSU1	**Kansas State U**	**134.51**	**40**	*e*PKPdf	PKPdf	05 10 05.4	+1.0
KSU1				*e*SKP		05 12 56.2	
JCT	**Junction City**	**136.44**	**53**	PKPdf	PKPdf	05 10 09.5	+1.3
JCT				*e*SKP		05 13 02.1	
CCM	**Cathedral Cave**	**138.49**	**38**	*e*PKPpre		05 10 01.9	
CCM				*e*SKP		05 13 07.1	
UALR	**University of**	**139.79**	**42**	*e*PKPpre		05 10 09.5	
BLO	**Bloomington**	**140.43**	**33**	*e*PKPpre		05 10 10.1	
CFAA	**Coronel Fontan**	**140.67**	**163**	PKhKP		05 10 10.8	
	comp=N,1.0nm,0.4s,baz=184,slow=3.0,SNR=29						
CFAA				PKP	PKPdf	05 10 16.9	+0.9
	comp=N,1.5nm,0.7s,baz=254,slow=1.7,SNR=12						
CFAA				SKPbc		05 13 14.4	
	comp=N,2.6nm,1.0s,baz=203,slow=3.4,SNR=11						
CFAA	**Coronel Fontan**	**140.67**	**169**	PKP	PKPdf	05 10 10.8	-5.1
CFAA				PKP	PKPdf	05 10 16.9	+0.9
CFAA				SKPbc		05 13 14.4	
UTMT	**University of**	**141.05**	**38**	*e*PKPpre		05 10 12.2	
WCI	**Wyandotte Cave**	**141.23**	**33**	*e*PKPpre		05 10 12.3	
WVT	**Waverly**	**141.82**	**37**	*e*PKPpre		05 10 14.5	
OXF	**Oxford**	**141.88**	**40**	*e*PKPpre		05 10 15.2	
BINY	**Binghamton**	**142.52**	**19**	*e*PKPpre		05 10 16.6	
BINY				*e*SKP		05 13 18.0	
FFD	**Franklin Falls**	**142.56**	**14**	*e*PKPpre		05 10 17.4	
MCWV	**Mont Chateau**	**143.27**	**25**	*e*PKPpre		05 10 19.6	
SWET	**Sewanee**	**143.57**	**37**	*e*PKPpre		05 10 18.6	
SWET				*e*SKP		05 13 19.3	
WES	**Weston**	**143.66**	**14**	*e*PKP	PKPdf	05 10 21.0	+0.3
TZTN	**Tazewell**	**143.95**	**33**	*e*PKP	PKPdf	05 10 21.6	+0.2
CPCT	**Cooper Cave**	**144.22**	**35**	*e*PKP	PKPdf	05 10 22.5	+0.6
PAL	**Palisades**	**144.26**	**18**	⇓*i*PKP	PKPdf	05 10 22.7	+1.0
BRNJ	**Basking Ridge**	**144.35**	**19**	*e*PKP	PKPdf	05 10 23.4	+1.5
LRAL	**Lakeview Retre**	**144.37**	**40**	⇓*i*PKP	PKPdf	05 10 23.1	+0.9
CPNY	**Central Park**	**144.44**	**18**	*e*PKP	PKPdf	05 10 23.5	+1.5
FWV	**Forest Hill**	**144.53**	**29**	*e*PKP	PKPdf	05 10 23.3	+1.0
MYNC	**Murphy**	**144.71**	**35**	*e*PKP	PKPdf	05 10 24.2	+1.5
MYNC				*e*SKPbc		05 13 23.8	
ELN	**Prospectdale**	**144.84**	**29**	*e*PKP	PKPdf	05 10 24.1	+1.2
BLA	**Blacksburg**	**145.01**	**29**	*e*PKP	PKPdf	05 10 24.6	+1.5
CBN	**Corbin**	**145.53**	**24**	*e*P	PKPdf	05 10 26.5	+2.5
CPUP	**Villa Florida**	**146.52**	**185**	PKPbc	PKPbc	05 10 30.1	+2.3
	comp=N,35nm,0.7s,baz=162,slow=2.7,SNR=85						
CPUP	**Villa Florida**	**146.52**	**185**	*e*PKPdf	PKPdf	05 10 27.7	+1.7
CPUP				*e*PKPbc	PKPbc	05 10 29.8	+1.9
JSC	**Jenkinsville**	**146.88**	**33**	*e*PKPbc	PKPbc	05 10 30.5	+2.1
COW	**Cow Castle Cre**	**147.87**	**33**	*e*PKPbc	PKPdf	05 10 33.5	+5.5
LVC	**Limon Verde**	**149.20**	**164**	PKP	PKPdf	05 10 33.2	+2.7
	comp=N,36nm,0.7s,baz=222,slow=3.4,SNR=5.5						
LVC				PKPbc	PKPdf	05 10 38.1	+7.6
	comp=N,36nm,0.7s,baz=226,slow=0.7,SNR=70						
LVC				PKPab	PKPab	05 10 43.3	-0.3
	comp=N,19nm,0.5s,baz=46,slow=1.6,SNR=10.0						
LVC	**Limon Verde**	**149.20**	**164**	PKPdf	PKPdf	05 10 32.6	+2.1
LVC				*e*PKPbc	PKPdf	05 10 37.9	+7.4
SOR	**Soroa**	**153.28**	**52**	*e*P	PKPdf	05 10 46.6	+10
BDFB	**Brasilia**	**154.20**	**208**	PKP	PKPdf	05 10 40.0	+2.2
	comp=N,6.8nm,0.9s,baz=212,slow=2.0,SNR=9.0						
BDFB				PKPbc	PKPdf	05 10 48.8	+11
	comp=N,1.3nm,0.3s,baz=120,slow=3.3,SNR=5.1						
BDFB				PKPab	PKPab	05 11 04.5	-0.2
	comp=N,1.6nm,0.4s,baz=102,slow=0.6,SNR=3.4						
BDFB	**Brasilia**	**154.20**	**208**	PKIKP	PKPdf	05 10 40.0	+2.1
BDFB						05 11 04.5	
BDFB				pmax	pmax		
	comp=Z,7.0nm,0.9s						
BDFB				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BDFB				pmax	pmax		
	comp=Z,2.0nm,0.4s						
LPAZ	**La Paz**	**155.41**	**162**	PKP	PKPdf	05 10 43.0	+3.6
	comp=Z,4.7nm,0.9s,baz=1.6,slow=0.5,SNR=18						
LPAZ				PKPbc	PKPdf	05 10 51.6	+12
	comp=Z,6.8nm,1.1s,baz=34,slow=3.6,SNR=5.1						
LPAZ				PKPab	PKPab	05 11 10.4	+0.5
	comp=Z,29nm,0.7s,baz=179,slow=3.8,SNR=35						
LPAZ	**La Paz**	**155.41**	**162**	*e*PKPdf	PKPdf	05 10 42.4	+3.0
LPAZ				*e*PKPdif		05 10 51.1	
LPAZ				*e*PKPab	PKPab	05 11 09.6	-0.3
SIV	**San Ignacio**	**156.93**	**178**	PKP	PKPdf	05 10 43.5	+2.2
	comp=Z,5.3nm,1.0s,baz=191,slow=2.0,SNR=21						
SIV				PKPab	PKPab	05 11 16.2	-0.2
	comp=Z,14nm,0.8s,baz=178,slow=4.3,SNR=29						
SAML	**Samuel**	**163.70**	**170**	*e*PKPdf	PKPdf	05 10 50.0	+1.2
SAML				*e*PKPab	PKPab	05 11 44.9	-0.8
ROSC	**El Rosal**	**165.92**	**99**	PKP	PKPdf	05 10 53.4	+2.5
	comp=Z,1.6nm,0.4s,baz=75,slow=1.3,SNR=5.3						
ROSC				PKPab	PKPab	05 11 56.3	+0.8
	comp=Z,3.2nm,0.5s,baz=124,slow=3.6,SNR=5.8						
SDV	**Santo Domingo**	**169.70**	**80**	PKP	PKPdf	05 10 54.8	+1.5
	comp=Z,3.8nm,0.6s,baz=328,slow=6.6,SNR=4.0						
SDV				PKPab	PKPab	05 12 12.6	+0.6
	comp=Z,18nm,0.8s,baz=307,slow=3.3,SNR=18						

MAN 07 04:52:25.7, 13.35N×120.16E, h3km, mb3.8, ML2.6, MS2.1, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.39**	**12**	*e*P	Pg	04 52 33.9	+0.4
LUBP				*e*S	Sg	04 52 38.9	+0.2
LBPH	**Los Banos**	**1.27**	**51**	*e*P	Pb	04 52 49.6	-0.3
SJMP	**San Jose**	**1.28**	**133**	*e*P	Pb	04 52 50.1	-0.1
SJMP				*e*S	Sb	04 53 07.1	+0.1
NBP	**Mount Natib**	**1.40**	**10**	*e*P	Pb	04 52 51.4	-0.9
ARP	**Angono**	**1.52**	**39**	*e*P	Pn	04 52 53.0	-1.0
ENPP	**El Nido**	**2.25**	**199**	*e*P	Pn	04 53 04.0	-0.4

IDC 07 05:23:11.6±16.0, 17.76S×179.30W, h607km±206km, mb3.0/4, mb1 3.2/4, mb1mx3.0/13, mbtmp4.0/4, Error ellipse: s-maj=117.8km s-min=29.9km az=13.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**20.67**	**188**	P	P	05 27 10.9	-1.5
	23nm,1.1s,baz=75,slow=12,SNR=6.4						
STKA	**Stephens Creek**	**37.96**	**241**	P	P	05 29 38.9	-1.7
	2.8nm,0.9s,baz=98,slow=7.1,SNR=3.8						
WRA	**Warramunga Arr**	**43.83**	**259**	P	P	05 30 25.8	-1.5
	0.4nm,0.3s,baz=95,slow=7.7,SNR=12						
TXAR	**Lajitas Array**	**86.63**	**58**	P	P	05 34 52.1	-1.3
	0.2nm,0.6s,baz=208,slow=5.7,SNR=4.8						
GERES	**GERESS Array B**	**147.24**	**344**	PKPbc	PKPdf	05 41 47.5	+3.4
	0.3nm,0.5s,baz=27,slow=3.0,SNR=4.6						

*IDC **07** 05:28:34.1±0.7, 45.28N×112.76W, mb3.5/1, mb1 3.7/7, mb1mx3.5/25, mbtmp3.4/7, ML3.7/5, MS2.7/1, Ms1 2.7/1, ms1mx2.3/24, Error ellipse: s-maj=11.0km s-min=6.6km az=56.0*

*NEIC **07** 05:28:34.4±0.1, 45.38N×112.55W, h5km, ML3.7, MW3.6(SLM), Error ellipse: s-maj=2.5km s-min=1.8km az=222.0*

NEIC Felt [IV] at Dillon. Also felt at Bozeman, Ennis, Livingston, Sheridan, Three Forks, Twin Bridges and Virginia City.

ISC 07 05:28:33.0±0.3, 45.37N±0.03×112.62W±0.04, h5km, n66, σ0°99/68, mb3.1/1, 1D, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCMT	**McKenzie Canyo**	**0.56**	**197**	*e*P	**Pg**	**05 28 44.9**	**+0.6**
BOZ	**Bozeman (W)**	**0.75**	**68**	*e*P	**Pg**	**05 28 47.4**	**-0.7**
QLMT	**Earthquake Lak**	**1.00**	**122**	*e*P	**Pb**	**05 28 52.1**	**-0.3**
YMR	**Madison River**	**1.36**	**120**	*e*P	**Pb**	**05 28 59.1**	**+0.4**
HRY	**Holter Researc**	**1.45**	**22**	*e*P	**Pn**	**05 29 01.0**	**+0.9**
YNR	**Norris Junctio**	**1.52**	**115**	*e*P	**Pn**	**05 29 02.0**	**+0.9**
YFT	**Old Faithful**	**1.56**	**125**	*e*P	**Pn**	**05 29 02.4**	**+0.8**
CHMT	**Chamberlain Mo**	**1.61**	**344**	*e*P	**Pn**	**05 29 03.6**	**+1.3**
MSO	**Missoula**	**1.73**	**328**	⇓*e*Pn	**Pn**	**05 29 05.0**	**+0.9**
LKWY	**Lake**	**1.77**	**116**	*e*Pn	**Pn**	**05 29 05.7**	**+1.2**
IMW	**Indian Meadow**	**1.90**	**140**	*e*Pn	**Pn**	**05 29 07.5**	**+1.1**
GCMT	**Greycliff**	**2.12**	**77**	*e*Pn	**Pn**	**05 29 10.3**	**+0.8**
RRI2	**Red Ridge**	**2.22**	**155**	*e*Pn	**Pn**	**05 29 12.3**	**+1.2**
TPAW	**Teton Pass**	**2.22**	**147**	*e*Pn	**Pn**	**05 29 12.9**	**+1.8**
LOHW	**Long Hollow**	**2.27**	**140**	*e*Pn	**Pn**	**05 29 12.8**	**+1.0**
SNOW	**Snow King Moun**	**2.32**	**144**	*e*Pn	**Pn**	**05 29 14.4**	**+1.9**
REDW	**Red Top Meadow**	**2.37**	**147**	*e*Pn	**Pn**	**05 29 14.9**	**+1.8**
BMO	**Blue Mountains**	**3.36**	**263**	*e*Pn	**Pn**	**05 29 27.1**	**-0.1**
PDAR	**Pinedale Array**	**3.41**	**139**	Pn	**Pn**	**05 29 32.9**	**+4.9**
	2.9nm,0.3s,baz=336,slow=14,SNR=54						
PDAR				Pg	**Pg**	**05 29 36.3**	**-4.7**
	4.2nm,0.3s,baz=335,slow=15,SNR=67						
PDAR				Lg		05 30 18.2	
	5.4nm,0.3s,baz=340,slow=28,SNR=8.4						
HVU	**Hansel Valley**	**3.58**	**182**	*e*Pn	**Pn**	**05 29 30.7**	**+0.3**
WALA	**Waterton Lakes**	**3.80**	**347**	*e*Pn	**Pn**	**05 29 34.1**	**+0.6**
HWUT	**Hardware Ranch**	**3.83**	**168**	Pn	**Pn**	**05 29 34.1**	**+0.1**
LNOR	**Lincton Mounta**	**4.01**	**279**	P	**Pn**	**05 29 37.9**	**+1.4**
SPUT	**South Promonto**	**4.06**	**178**	Pn	**Pn**	**05 29 37.0**	**-0.2**
NEW	**Newport**	**4.24**	**315**	Pn	**Pn**	**05 29 40.0**	**+0.2**
	2.3nm,0.3s,baz=132,slow=12,SNR=19						
NEW				Lg		05 30 48.0	
	22nm,0.3s,baz=240,slow=23,SNR=12						
NEW				LR	LR	05 31 35.4	
	comp=Z,90nm,18.2s,baz=316,slow=43						
NEW	**Newport**	**4.24**	**315**	*e*Pn	**Pn**	**05 29 39.6**	**-0.2**
TCUT	**Toone Canyon**	**4.34**	**168**	Pn	**Pn**	**05 29 41.2**	**0.0**
BGU	**Big Grassy Mou**	**4.45**	**184**	*e*Pn	**Pn**	**05 29 42.5**	**-0.3**
LAO	**LASA Array**	**4.65**	**71**	*e*Pn	**Pn**	**05 29 44.5**	**-1.1**
CTU	**Camp Tracy**	**4.71**	**172**	*e*Pn	**Pn**	**05 29 46.0**	**-0.5**
NOQ	**North Oquirrh**	**4.72**	**175**	Pn	**Pn**	**05 29 45.6**	**-1.0**
HAWA	**Hanford**	**4.94**	**284**	*e*Pn	**Pn**	**05 29 49.3**	**-0.3**
RSW	**Rattlesnake Hi**	**4.98**	**284**	P	**Pn**	**05 29 50.4**	**+0.2**
ELK	**Elko**	**5.00**	**203**	Pn	**Pn**	**05 29 51.2**	**+0.6**
	0.4nm,0.3s,baz=20,slow=14,SNR=7.1						
ELK				Pg	**Pg**	**05 29 58.5**	**-14**
	4.6nm,0.3s,baz=22,slow=13,SNR=47						
ELK				Lg		05 31 07.8	
	4.5nm,0.3s,baz=250,slow=15,SNR=3.9						
ELK	**Elko**	**5.00**	**203**	*e*Pn	**Pn**	**05 29 50.8**	**+0.3**
	38nm,0.7s						
SNIWA	**Snively Ranch**	**5.04**	**285**	P	**Pn**	**05 29 51.3**	**+0.2**
DAU	**Daniels Canyon**	**5.05**	**168**	Pn	**Pn**	**05 29 51.2**	**0.0**
SAW	**Saint Andrews**	**5.23**	**299**	P	**Pn**	**05 29 53.2**	**-0.6**
WVOR	**Wild Horse Val**	**5.24**	**238**	*e*Pn	**Pn**	**05 29 53.8**	**-0.2**
	27nm,0.6s						
RWWY	**Rawlins**	**5.38**	**131**	Pn	**Pn**	**05 29 55.7**	**-0.2**
MPU	**Maple Canyon**	**5.39**	**172**	*e*Pn	**Pn**	**05 29 55.2**	**-0.9**
WTV	**Waterville**	**5.57**	**297**	P	**Pn**	**05 29 58.2**	**-0.5**
EBG	**Ellensburg**	**5.74**	**288**	P	**Pn**	**05 30 01.3**	**+0.3**
TBM	**Table Mountain**	**5.82**	**291**	P	**Pn**	**05 30 01.7**	**-0.4**
BMN	**Battle Mountai**	**5.98**	**216**	Pn	**Pn**	**05 30 04.0**	**-0.4**
TWW	**Teanaway**	**5.99**	**290**	P	**Pn**	**05 30 04.9**	**+0.3**
RSSD	**Black Hills**	**6.24**	**98**	Pn	**Pn**	**05 30 06.6**	**-1.4**
ASR	**Mount Adams--S**	**6.33**	**280**	P	**Pn**	**05 30 09.7**	**+0.4**
SRU	**San Rafael**	**6.44**	**165**	*e*Pn	**Pn**	**05 30 10.3**	**-0.6**
FMW	**Mount Fremont**	**6.48**	**287**	P	**Pn**	**05 30 11.0**	**-0.5**
LON	**Longmire**	**6.54**	**285**	P	**Pn**	**05 30 12.1**	**-0.2**
DGMT	**Dagmar**	**6.55**	**59**	*e*Pn	**Pn**	**05 30 10.5**	**-2.0**
MOD	**Modoc**	**6.56**	**241**	Pn	**Pn**	**05 30 12.2**	**-0.4**
PHWY	**Pilot Hill**	**6.61**	**125**	Pn	**Pn**	**05 30 12.3**	**-1.0**
MSU	**Marysvale**	**6.86**	**177**	Pn	**Pn**	**05 30 15.1**	**-1.6**
SMCO	**Snowmass**	**7.46**	**144**	*e*Pn	**Pn**	**05 30 23.6**	**-1.6**
PV10	**Paradox Valley**	**7.47**	**158**	Pn	**Pn**	**05 30 23.8**	**-1.6**
ARUT	**Antelope Range**	**7.59**	**185**	Pn	**Pn**	**05 30 25.2**	**-1.9**
PV01	**Paradox Valley**	**7.83**	**156**	Pn	**Pn**	**05 30 29.8**	**-0.6**
EDM	**Edmonton**	**7.88**	**357**	*e*Pn	**Pn**	**05 30 28.8**	**-2.3**
TPH	**Tonopah**	**8.05**	**207**	Pn	**P**	**05 30 33.2**	**-0.4**
ANMO	**Albuquerque**	**11.41**	**154**	Pn	**P**	**05 31 22.2**	**+2.4**
	baz=300,slow=9.1,SNR=3.2						
ULM	**Lac du Bonnet**	**12.27**	**61**	Pn	**P**	**05 31 28.1**	**-3.1**
	0.3nm,0.3s,baz=247,slow=13,SNR=2.2						
ULM				Pg	P	05 32 19.4	+48
	0.9nm,0.3s,baz=252,slow=15,SNR=5.1						
ULM				Lg		05 34 51.0	
	0.7nm,0.3s,baz=172,slow=20,SNR=4.4						
YKA	**Yellowknife Ar**	**17.20**	**357**	Pn	**P**	**05 32 30.8**	**-4.6**
	0.2nm,0.3s,baz=174,slow=12,SNR=6.6						
YKA				Lg		05 37 28.6	
	0.2nm,0.3s,baz=171,slow=27,SNR=8.4						
TXAR	**Lajitas Array**	**17.49**	**153**	P	**P**	**05 32 39.9**	**+0.6**
	0.0nm,0.3s,baz=337,slow=13,SNR=2.8						
ILAR	**Eielson Array**	**27.07**	**328**	P	**P**	**05 34 18.9**	**+1.0**
	0.5nm,0.7s,mb3.1,baz=127,slow=8.8,SNR=5.6						

*CASC **07** 05:29:40.6±2.1, 11.22N×85.48W, h6km±7km, MD3.7, ML3.1*

*NEIC **07** 05:29:45.5±8.9, 10.89N×85.32W, h10km±22km, MD3.9(CASC), Error ellipse: s-maj=86.8km s-min=15.6km az=164.0*

ISC 07 05:29:40.5±0.7, 11.21N±0.05×85.51W±0.06, h6km±5km, n28, σ0°92/39, 6C-8D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MADN	**Villa Maderas**	**0.20**	**353**	⇑*e*P	**Pg**	**05 29 45.1**	**+0.6**
SSNN	**San Juan del S**	**0.34**	**283**	⇓*e*P	**Pg**	**05 29 48.6**	**+1.2**
CONN	**Concepcion**	**0.37**	**342**	⇓*e*P	**Pg**	**05 29 48.2**	**+0.4**
LIM1	**Limonal**	**0.57**	**154**	*i* P	**Pg**	**05 29 51.7**	**-0.2**
LIM1				*i* S	**Sg**	**05 29 59.6**	**+0.2**
APON	**Apoyo**	**0.89**	**322**	⇑*e*P	**Pb**	**05 29 57.9**	**+0.1**
JTS	**JuntasAbangare**	**1.07**	**149**	*e*P	**Pb**	**05 29 58.6**	**-2.3**
JTS				*e*S	**Sb**	**05 30 14.8**	**-0.2**
TICN	**Ticuantepe**	**1.08**	**319**	⇓*e*P	**Pb**	**05 30 01.9**	**+0.7**
VCR	**Vista de Mar**	**1.08**	**186**	*e*P	**Pb**	**05 30 01.4**	**+0.2**
VCR	**Vista de Mar**	**1.08**	**186**	*e*P	**Pb**	**05 30 01.3**	**+0.1**
CRUN	**El Crucero**	**1.09**	**315**	⇓*e*P	**Pb**	**05 30 02.1**	**+0.8**
CRUN				*e*S	**Sb**	**05 30 16.1**	**+0.5**
FORC	**Fortuna**	**1.11**	**132**	⇑*e*P	**Pb**	**05 30 00.2**	**-1.4**
FORC				*e*S	**Sb**	**05 30 16.3**	**+0.2**
FORC	**Fortuna**	**1.11**	**132**	*e*P	**Pb**	**05 30 00.4**	**-1.2**
FORC				*e*S	**Sb**	**05 30 17.0**	**+0.9**
WILN	**Americas 2**	**1.15**	**325**	⇑*e*P	**Pb**	**05 30 02.1**	**-0.3**
MGAN	**Managua**	**1.18**	**322**	⇑*e*P	**Pb**	**05 30 02.1**	**-0.7**
MGAN				*i*		05 30 21.2	
	comp=E,406nm,0.4s						
XAVN	**Gruta Xavier**	**1.23**	**319**	⇓*e*P	**Pb**	**05 30 03.8**	**+0.1**
PYTN	**Playitas**	**1.42**	**338**	⇓*e*P	**Pn**	**05 30 06.8**	**-0.2**
COPN	**Copaltepe**	**1.43**	**312**	⇓*e*P	**Pn**	**05 30 06.5**	**-0.6**
COPN				*e*S	**Sb**	**05 30 25.2**	**-0.3**
VPS2	**Volcan Poas 2**	**1.61**	**129**	*e*P	**Pn**	**05 30 08.1**	**-1.6**
MIRN	**Miramar**	**1.69**	**316**	*e*P	**Pn**	**05 30 10.3**	**-0.5**
PRS1	**Puriscal**	**1.70**	**136**	*e*P	**Pn**	**05 30 10.1**	**-0.8**
PRS1				*e*S	**Sn**	**05 30 35.6**	**+2.5**
PRS1	**Puriscal**	**1.70**	**136**	*e*P	**Pn**	**05 30 10.1**	**-0.7**
PRS1				*e*S	**Sn**	**05 30 36.1**	**+3.0**
TEL3	**Telica 3**	**1.88**	**316**	*e*P	**Pn**	**05 30 12.7**	**-0.8**
SJS	**Escuela Geolog**	**1.91**	**131**	*e*S	**Sn**	**05 30 38.9**	**+0.4**
SJS	**Escuela Geolog**	**1.91**	**131**	*e*P	**Pn**	**05 30 14.5**	**+0.6**
SJS				*e*S	**Sn**	**05 30 37.3**	**-1.2**
LCR2	**La Lucha 2**	**2.08**	**134**	⇓*e*P	**Pn**	**05 30 16.2**	**-0.2**
LCR2				*e*S	**Sn**	**05 30 43.8**	**+1.0**
LCR2	**La Lucha 2**	**2.08**	**134**	*e*P	**Pn**	**05 30 15.2**	**-1.1**
BUS	**Buena Vista**	**2.38**	**134**	⇑*e*P	**Pn**	**05 30 21.3**	**+0.6**
BUS				*e*S	**Sn**	**05 30 53.4**	**+2.9**
BUS	**Buena Vista**	**2.38**	**134**	*e*P	**Pn**	**05 30 21.2**	**+0.5**

WEL 07 06:11:20.5±0.1, 38.98S×176.27E, h85km±1km, ML3.5/6, Error ellipse: s-maj=0.8km s-min=0.8km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATZ	**Hinemaiaia**	**0.17**	**303**	P*	P	06 11 32.4	-0.3
HATZ				S*	S	06 11 40.9	-0.9
BKZ	**Black Stump Fm**	**0.25**	**137**	P*	P	06 11 33.1	+0.1
BKZ				S*	S	06 11 42.4	-0.1
BKZ				S*	S	06 11 42.5	0.0
RITZ	**Rihia Road**	**0.32**	**271**	P*	P	06 11 33.5	0.0
RITZ				S*	S	06 11 43.2	-0.1
RATZ	**Rangitukua**	**0.41**	**286**	P*	P	06 11 33.8	-0.2
OTVZ	**Oturere**	**0.51**	**249**	P*	P	06 11 34.9	0.0
OTVZ				S*	S	06 11 45.3	-0.3
WTVZ	**West Tongariro**	**0.55**	**256**	P*	P	06 11 35.0	-0.3
NGZ	**Ngauruhoe**	**0.56**	**250**	P*	P	06 11 35.2	-0.1
TUVZ	**Tukino**	**0.56**	**239**	P*	P	06 11 35.3	-0.1
MOVZ	**Moawhango**	**0.58**	**223**	P*	P	06 11 35.2	-0.4
MOVZ				S*	S	06 11 45.7	-1.1
CNZ	**Chateau**	**0.60**	**249**	P*	P	06 11 35.5	-0.3
WPVZ	**Whakapapa**	**0.61**	**248**	P*	P	06 11 35.6	-0.2
FWVZ	**Far West T-bar**	**0.62**	**244**	P*	P	06 11 35.8	-0.1
DRZ	**Dome Shelter**	**0.62**	**242**	P*	P	06 11 36.0	0.0
WNVZ	**Wahianoa**	**0.63**	**237**	P*	P	06 11 35.8	-0.2
TRVZ	**Turoa**	**0.65**	**241**	P*	P	06 11 36.1	-0.1
MTVZ	**Mangateitei**	**0.74**	**237**	P*	P	06 11 36.9	-0.3
PKVZ	**Pokaka**	**0.78**	**247**	P*	P	06 11 37.3	-0.3
URZ	**Urewera**	**0.98**	**42**	P*	P	06 11 39.4	-0.3
KNZ	**Kokohu**	**1.09**	**92**	PN	P	06 11 41.0	-0.1
TSZ	**Takapari Road**	**1.10**	**193**	PN	P	06 11 40.6	-0.7
MWZ	**Matawai**	**1.18**	**57**	P*	P	06 11 42.0	-0.3
VRZ	**Vera Road**	**1.19**	**263**	P*	P	06 11 42.0	-0.4
HIZ	**Hauiti**	**1.20**	**292**	PN	P	06 11 42.3	-0.3
WAZ	**Wanganui**	**1.26**	**232**	PN	P	06 11 43.1	-0.2
BFZ	**Birch Farm**	**1.70**	**181**	PN	P	06 11 47.4	-1.6
MRZ	**Mangatainoka R**	**1.76**	**197**	PN	P	06 11 47.9	-2.0
KIW	**Kapiti Island**	**2.15**	**209**	PN	P	06 11 52.6	-2.6

*IDC **07** 06:36:31.9±1.9, 2.84N×95.72E, mb3.8/6, mb1 3.9/6, mb1mx3.7/17, mbtmp3.8/6, Error ellipse: s-maj=74.6km s-min=30.7km az=54.0*

*NEIC **07** 06:36:37.1±1.3, 3.03N×95.98E, h30km, Error ellipse: s-maj=30.8km s-min=19.1km az=203.0*

ISC 07 06:36:35.5±1.3, 3.1N±0.2×96.0E±0.1, h30km, n8, σ0°86/8, mb3.7/6, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.13**	**64**	⇑*e*P	**Pn**	**06

PLP	Palo	1.04 235	*i* P		Pb	06 50 23.5	+0.3
PLP			*i* S		Sb	06 50 38.7	+2.1
SCPH	Surigao	2.01 190⇑	*e*P		Pn	06 50 37.3	-0.6

*IDC **07** 07:03:23.4±1.6, 0.77N×97.00E, mb3.8/6, mb1 4.0/6, mb1mx3.8/15, mbtmp3.8/6, Error ellipse: s-maj=69.9km s-min=28.2km az=50.0*
*NEIC **07** 07:03:29.0±0.8, 0.99N×97.18E, h30km, mb4.1/1, Error ellipse: s-maj=21.3km s-min=14.5km az=52.0*
ISC 07 07:03:27.5±1.0, 1.0N±0.1×97.2E±0.2, h30km, n9, σ0§55/9, mb3.8/7, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.44	39⇑	*e*P	Pn	07 04 48.6	-0.3
WRA	Warramunga Arr	41.93	122	P	P	07 11 16.5	-1.0
1.0nm,0.7s,mb3.5,baz=299,slow=9.2,SNR=6.3							
WRAB	Tennant Creek	41.93	122	*e*P	P	07 11 18.7	+1.1
SONM	Songino Array	47.30	8	P	P	07 12 00.7	+0.4
1.4nm,0.8s,mb3.9,baz=189,slow=9.6,SNR=11							
MKAR	Makanchi Array	47.41	346	P	P	07 12 01.4	+0.2
1.2nm,0.7s,mb4.0,baz=155,slow=8.0,SNR=16							
KURK	Kurchatov	51.96	345	*e*P	P	07 12 36.1	+0.1
2.9nm,1.2s,mb4.1							
FINES	FINESS Array B	80.16	333	P	P	07 15 36.2	-0.1
2.5nm,0.9s,mb4.1,baz=170,slow=23,SNR=2.4							
ARCES	ARCESS Array B	82.70	340	P	P	07 15 49.5	+0.1
1.1nm,0.8s,mb3.9,baz=90,slow=3.6,SNR=4.2							
GERES	GERESS Array B	84.95	319	P	P	07 16 00.7	-0.5
0.1nm,0.5s,mb3.2,baz=137,slow=29,SNR=2.2							

*IDC **07** 07:11:08.8±5.8, 5.45S×152.42E, h61km±54km, mb3.8/7, mb1 4.1/8, mb1mx3.9/13, mbtmp4.1/8, ML3.2/1, MS3.3/2, Ms1 3.3/2, ms1mx3.1/13, Error ellipse: s-maj=56.4km s-min=30.9km az=137.0*
*NEIC **07** 07:11:08.8±3.1, 5.33S×152.32E, h55km±27km, mb4.3/2, Error ellipse: s-maj=48.0km s-min=19.4km az=125.0*
ISC 07 07:11:06.7±4.3, 5.2S±0.2×152.2E±0.3, h43km±36km, n15, σ0§77/15, mb4.1/8, MS3.5/1, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.51	230	P	P	07 12 42.6	+0.3
3.0nm,0.3s,baz=33,slow=13,SNR=5.3							
PMG				S	S	07 13 56.1	0.0
11nm,0.3s,baz=117,slow=15,SNR=8.4							
PMG	Port Moresby	6.51	230	*e*P	P	07 12 42.2	-0.1
PMG				S	S	07 13 56.1	-0.1
HNR	Honiara	8.78	119	LR	LR	07 16 13.1	
comp=Z,119nm,18.2s,baz=271,slow=36							
WRAB	Tennant Creek	22.71	228	P	P	07 16 06.0	0.0
5.9nm,0.6s,mb4.2							
WB2	Warramunga Arr	22.72	228	*e*P	P	07 16 07.2	+1.1
WRA	Warramunga Arr	22.73	228	P	P	07 16 05.9	-0.2
2.6nm,0.6s,mb3.9,baz=55,slow=10,SNR=15							
FITZ	Fitzroy Crossi	28.93	241	*e*P	P	07 17 03.4	-0.9
5.0nm,0.5s,mb4.5							
FITZ	Fitzroy Crossi	28.93	241	P	P	07 17 02.8	-1.5
6.9nm,0.6s,mb4.5,baz=64,slow=2.9,SNR=9.4							
SONM	Songino Array	66.33	328	P	P	07 21 53.6	+0.6
1.0nm,0.6s,mb4.0,baz=144,slow=5.2,SNR=7.8							
VNDA	Vanda	72.46	178	LR	LR	07 48 05.2	
comp=Z,30nm,20.2s,MS3.5,baz=203,slow=31							
MKAR	Makanchi Array	80.22	319	P	P	07 23 14.1	-0.3
0.3nm,0.5s,mb3.5,baz=98,slow=6.6,SNR=4.5							
ILAR	Eielson Array	82.75	22	P	P	07 23 25.7	-1.5
1.5nm,0.7s,mb4.1,baz=249,slow=5.2,SNR=19							
BVAR	Borovoye Array	89.19	323	P	P	07 23 59.5	+0.4
1.4nm,0.6s,mb4.5,baz=124,slow=5.3,SNR=11							
YKA	Yellowknife Ar	96.06	28	P	P	07 24 31.4	+1.0
0.3nm,0.7s,mb3.9,baz=267,slow=4.7,SNR=6.8							
YKA	Yellowknife Ar	96.06	28	P	P	07 24 31.4	+1.0

*IDC **07** 07:18:51.2±6.1, 5.72S×152.73E, h52km±59km, mb3.7/7, mb1 3.9/8, mb1mx3.8/14, mbtmp4.0/8, ML2.7/1, Error ellipse: s-maj=38.2km s-min=27.5km az=2.0*
*NEIC **07** 07:18:52.2±2.5, 5.76S×152.78E, h64km±23km, mb4.1/1, Error ellipse: s-maj=19.4km s-min=15.3km az=198.0*
ISC 07 07:18:49.8±4.2, 5.8S±0.2×152.7E±0.1, h53km±38km, n10, σ0§98/12, mb3.9/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.60	236	P	P	07 20 27.9	+1.4
1.0nm,0.3s,baz=6.8,slow=6.7,SNR=2.8							
PMG				S	S	07 21 39.7	-1.5
5.0nm,0.3s,baz=54,slow=17,SNR=7.9							
PMG	Port Moresby	6.60	236	*e*P	P	07 20 27.4	+0.8
PMG				S	S	07 21 39.7	-1.5
DZM	Mont Dzumac	20.94	142	P	P	07 23 29.5	-1.0
8.8nm,1.0s,baz=236,slow=7.0,SNR=2.9							
WRAB	Tennant Creek	22.75	230	*e*P	P	07 23 49.7	+1.2
4.5nm,0.6s,mb4.1							
WRA	Warramunga Arr	22.76	230	P	P	07 23 50.2	+1.5
1.1nm,0.6s,mb3.5,baz=54,slow=9.9,SNR=15							
FITZ	Fitzroy Crossi	29.15	243	P	P	07 24 47.9	-0.4
4.4nm,0.6s,mb4.4,baz=13,slow=9.5,SNR=6.6							
SONM	Songino Array	67.11	328	P	P	07 29 38.7	-1.2
0.7nm,0.6s,mb3.9,baz=139,slow=7.2,SNR=6.1							
MKAR	Makanchi Array	81.01	319	P	P	07 31 00.4	-0.1
0.2nm,0.3s,mb3.5,baz=101,slow=7.3,SNR=3.6							
ILAR	Eielson Array	83.08	22	P	P	07 31 11.2	+0.4
0.9nm,0.7s,mb3.9,baz=235,slow=5.7,SNR=13							
BVAR	Borovoye Array	89.97	323	P	P	07 31 44.7	+0.1
0.9nm,0.5s,mb4.4,baz=117,slow=6.4,SNR=9.1							

*IDC **07** 07:23:58.3±1.6, 10.29N×126.90E, mb3.8/6, mb1 3.9/6, mb1mx3.7/17, mbtmp3.8/6, Error ellipse: s-maj=131.8km s-min=20.7km az=75.0*
*MAN **07** 07:24:01.4, 10.13N×126.62E, h33km, mb4.4, ML3.3, MS3.1*
ISC 07 07:24:01.8±0.8, 10.15N±0.06×126.61E±0.07, h33km, n12, σ1§11/16, mb3.7/6, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	Surigao	1.16	252⇑	*e*P	P	07 24 21.2	-0.5
SCPH				*e*S	S	07 24 36.4	-0.3
BUTP	Butuan	1.52	220	*e*P	P	07 24 26.7	-0.2
PLP	Palo	1.89	302	*i* P	P	07 24 32.8	+0.5
PLP				*i* S	S	07 24 54.8	-0.4
BIPH	Bislig	1.97	187⇓	*e*P	P	07 24 32.1	-1.2
BIPH				*i* S	S	07 24 52.3	-4.8
CGP	Cagayan de Oro	2.53	228	*e*P	P	07 25 00.1	+19
CGP				*e*S	S	07 25 11.9	+0.5
BUKP	Musuan	2.72	214	*e*P	P	07 24 47.0	+2.9
FITZ	Fitzroy Crossi	28.09	182	P	P	07 29 54.2	+1.4
6.9nm,1.0s,mb4.2,baz=5.2,slow=7.3,SNR=3.3							
WRA	Warramunga Arr	30.86	166	P	P	07 30 16.1	-1.4
0.3nm,0.6s,mb3.3,baz=350,slow=9.3,SNR=3.0							
SONM	Songino Array	41.25	339	P	P	07 31 46.2	+0.8
0.6nm,0.7s,mb3.3,baz=153,slow=7.0,SNR=4.6							
MKAR	Makanchi Array	52.32	323	P	P	07 33 10.8	-1.7
0.3nm,0.6s,mb3.4,baz=128,slow=8.5,SNR=4.1							
ARCES	ARCESS Array B	84.42	340	P	P	07 36 33.6	+1.7
0.4nm,0.4s,mb3.9,baz=78,slow=5.6,SNR=5.8							
FINES	FINESS Array B	86.16	332	P	P	07 36 40.1	-0.5
0.6nm,0.6s,mb4.0,baz=90,slow=4.2,SNR=4.3							

*NNC **07** 07:44:40.9±4.2, 38.71N×71.25E, mpv3.5, Error ellipse: s-maj=46.7km s-min=33.9km az=101.0*
ISC 07 07:44:39.2±4.2, 38.2N±0.2×71.3E±0.3, h109km±61km, n8, σ1§06/10, 3C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	4.31	25	P	P	07 45 43.6	-0.4
SNR=50							
EKS2	Erkin-Say	4.81	23	P	P	07 45 49.5	-1.3
SNR=8.6							
KK31	Karatay Array	4.90	353	⇓Pn	P	07 45 51.0	-0.9
3.1nm,0.3s,baz=169,slow=12,SNR=101							
KK31				⇑Sn	S	07 46 49.0	+1.2
16nm,0.7s,baz=169,slow=28,SNR=6.2							
AAK	Ala-Archa	5.03	28	P	P	07 45 54.4	+0.7
SNR=8.7							
CHMS	Chumysh	5.44	28	P	P	07 45 58.8	-0.4
SNR=12							
ULHL	Ulahol	5.52	42	P	P	07 46 01.8	+1.5
SNR=5.7							
USP	Ospenovka	5.59	25	P	P	07 46 00.3	-0.9
SNR=16							
AB31	Akbulak array	13.71	327	⇑Pn	P	07 47 51.5	+1.7
1.0nm,0.6s,baz=129,slow=14,SNR=14							
AB31				⇑Sn	S	07 50 18.7	-1.0
0.6nm,0.5s,baz=138,slow=22,SNR=4.8							

*IDC **07** 07:47:26.6±6.5, 5.52S×152.55E, h49km±64km, mb3.5/4, mb1 3.7/5, mb1mx3.6/12, mbtmp3.8/5, ML2.6/1, MS2.7/1, Ms1 2.7/1, ms1mx2.5/12, Error ellipse: s-maj=70.7km s-min=43.1km az=131.0*
ISC 07 07:47:24.7±4.9, 5.4S±0.3×152.4E±0.4, h39km±40km, n8, σ0§37/8, mb3.9/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.57	232	P	P	07 49 01.2	-0.1
0.8nm,0.3s,baz=54,slow=15,SNR=2.8							
PMG				S	S	07 50 15.9	+0.1
5.0nm,0.3s,baz=5.7,slow=20,SNR=7.7							
HNR	Honiara	8.49	119	LR	LR	07 52 22.2	
comp=Z,54nm,20.4s,baz=130,slow=36							
WB2	Warramunga Arr	22.77	229	*e*P	P	07 52 25.5	+0.5
WRA	Warramunga Arr	22.78	229	P	P	07 52 24.9	-0.2
0.7nm,0.5s,mb3.4,baz=54,slow=10.0,SNR=13							
FITZ	Fitzroy Crossi	29.05	242	*e*P	P	07 53 23.3	-0.4
5.9nm,0.9s,mb4.3							
SONM	Songino Array	66.60	328	P	P	07 58 13.5	+0.3
0.4nm,0.6s,mb3.6,baz=155,slow=6.6,SNR=4.1							
ILAR	Eielson Array	82.83	22	P	P	07 59 46.1	0.0
0.6nm,0.7s,mb3.7,baz=252,slow=5.8,SNR=6.0							
BVAR	Borovoye Array	89.46	323	P	P	08 00 18.7	-0.2
0.6nm,0.5s,mb4.2,baz=117,slow=6.4,SNR=4.6							

*IPEC **07** 08:24:54.9±0.3, 51.56N×15.91E, ML2.1/4, Error ellipse: s-maj=4.5km s-min=2.1km az=73.0*
*WAR **07** 08:24:55.9, 51.58N×15.99E, h1km, ML2.7, Mining Induced*
*PRU **07** 08:24:56.5, 51.52N×15.98E*
*NEIC **07** 08:24:56.2±1.6, 51.54N×15.89E, h5km, ML2.8(VIE), ML2.2(CLL), Error ellipse: s-maj=19.6km s-min=8.2km az=205.0*
*CSEM **07** 08:24:56.1±0.2, 51.54N×15.95E, h2km, ML3.1/9, Error ellipse: s-maj=4.3km s-min=1.8km az=30.0*
ISC 07 08:24:54.4±0.8, 51.51N±0.04×15.96E±0.04, n24, σ1§25/53, 1C-4D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.70	162⇓	*i*PG	Pg	08 25 09.9	+1.6
KSP				⇓*e*SG	Sg	08 25 20.9	+3.3
KSP	Ksiaz	0.70	162	*e*Pg	Pg	08 25 09.9	+1.6
KSP				*e*Sg	Sg	08 25 20.1	+2.5
KSP	Ksiaz	0.70	162⇓	*i*Pg	Pg	08 25 09.9	+1.6
KSP				*e*Sg	Sg	08 25 19.1	+1.5
KSP	Ksiaz	0.70	162⇓	*i*Pg	Pg	08 25 09.9	+1.6
KSP				*e*		08 25 11.9	
KSP				*e*Sg	Sg	08 25 20.0	+2.4
UPC	Upice	1.00	178	*e*PG	Pg	08 25 15.7	+1.3
DPC	Dobruska-Polom	1.18	169	*e*PG	Pg	08 25 18.7	+0.7
DPC				*e*SG	Sg	08 25 35.2	+1.5
13nm,0.2s							
PVCC	Panska Ves	1.32	222	*e*PG	Pg	08 25 21.9	+1.2
BRG	Berggiesshubel	1.42	244	Pn	Pn	08 25 22.4	+0.9
BRG	Berggiesshubel	1.42	244	Pg	Pg	08 25 23.1	+0.4
BRG	Berggiesshubel	1.42	244	Pn	Pn	08 25 22.4	+0.9
BRG				Pg	Pg	08 25 23.1	+0.4
BRG				Sg	Sg	08 25 43.1	+1.4
PRU	Pruhonice	1.77	211	*e*PN	Pn	08 25 27.3	+0.8
PRU				*e*PG	Pg	08 25 29.2	-0.5
PRU				*ex*	x	08 25 33.5	
PRU				*e*SG	Sg	08 25 54.0	+0.8
15nm,0.2s							
CLL	Collm	1.86	265	*i* PN	Pn	08 25 27.4	-0.4
logA/T=1.4							
CLL				*e*PG	Pg	08 25 31.0	-0.6
CLL				*i*		08 25 34.4	
CLL				*i* SG	Sg	08 25 55.5	-0.9
MORC	Moravsky Berou	2.00	149	*e*P	Pn	08 25 29.9	+0.1
MORC	Moravsky Berou	2.00	149	*e*Pn	Pn	08 25 30.2	+0.4
MORC				*e*Sg	Sg	08 25 59.4	-1.7
5.4nm,0.2s							
MORC				*e*S	Sn	08 25 59.9	+3.9
MORC	Moravsky Berou	2.00	149	*e*P	Pn	08 25 29.9	+0.1
MORC				*e*S	Sn	08 25 59.9	+4.0
OKC	Ostrava-Krasne	2.17	139	*e*PN	Pn	08 25 35.8	+3.5
OKC				*e*PG	Pg	08 25 37.4	-0.4
OKC				*e*SG	Sg	08 26 05.7	-1.1
21nm,0.5s							
VRAC	Vranov	2.24	169	*e*Pn	Pn	08 25 33.7	+0.5
VRAC				*e*Sg	Sg	08 26 07.1	-1.8
10.0nm,0.5s							
KRUC	Moravsky	2.46	173	*e*Pn	Pn	08 25 37.7	+1.3
KRUC				*e*Sg	Sg	08 26 12.9	-3.5
16nm,0.7s							
NKC	Novy Kostel	2.57	242	*e*PN	Pn	08 25 38.6	+0.7
NKC				*e*PG	Pg	08 25 45.0	-0.6
NKC				*e*SG	Sg	08 26 19.4	-0.4
30nm,0.3s							
OJC	Ojcow	2.75	116	*e*PG	Pg	08 25 47.0	-2.3
OJC				*e*SG	Sg	08 26 23.0	-3.0
KHC	Kasperske Hory	2.83	214	*e*PN	Pn	08 25 42.7	+1.1
KHC				*e*PG	Pg	08 25 48.2	-2.6
KHC				*e*SN	Sn	08 26 17.5	+0.6
KHC				*e*SG	Sg	08 26 26.7	-1.8
5.6nm,0.4s							
MOX	Moxa	2.87	254	*i* P	Pn	08 25 41.8	-0.5
MOX				Pg	Pg	08 25 50.0	-1.7
MOX				Sg	Sg	08 26 29.0	-1.0
MOX	Moxa	2.87	254	*e*Pn	Pn	08 25 41.8	-0.5
MOX				*e*Pg	Pg	08 25 50.5	-1.2
MOX				*e*Sg	Sg	08 26 29.4	-0.6
MOA	Molln	3.82	197⇑	*i*PN	Pn	08 25 56.3	+0.5
MOA				*i* SG	Sg	08 27 00.3	-1.4
5.7nm,0.5s							

*NEIC **07** 08:25:19.3±0.6, 16.76S×69.34W, h184km±7km, mb4.2/3, Error ellipse: s-maj=11.8km s-min=9.9km az=221.0*
*IDC **07** 08:25:20.4±0.9, 16.89S×69.24W, h191km±6km, mb3.4/5, mb1 3.6/8, mb1mx3.4/19, mbtmp4.0/8, Error ellipse: s-maj=17.7km s-min=11.7km az=100.0*
ISC 07 08:25:18.3±0.5, 16.85S±0.05×69.34W±0.05, h196km±5km, n22, σ1§32/29, mb3.6/5, 1C-1D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	1.28	64	P	P	08 25 52.5	+2.3
456nm,0.3s,baz=271,slow=7.7							
LPAZ				S	S	08 26 16.0	+1.2
LPAZ	La Paz	1.28	64⇓	*i*Pn	P	08 25 52.4	+2.3
LPAZ				*e*Sn	S	08 26 14.8	+0.1
LPAZ				S	S	08 26 16.0	+1.2
ARE	Arequipa	2.10	280⇑	*i*P	P	08 25 58.0	0.0
ARE				*e*S	S	08 26 28.0	-0.5
LVC	Limon Verde	5.75	176	P	P	08 26 44.5	+1.5
5.0nm,0.3s,baz=350,slow=7.9,SNR=18							
LVC				S	S	08 27 47.0	-1.8
19nm,0.3s,baz=125,slow=20,SNR=32							
LVC	Limon Verde	5.75	176	*e*Pn	P	08 26 44.4	+1.5
LVC				*e*Sn	S	08 27 35.6	-13
LVC				S	S	08 27 47.0	-1.8
SIV	San Ignacio	7.98	85	P	P	08 27 11.3	-0.7
5.8nm,0.3s,baz=269,slow=11,SNR=76							
SIV				S	S	08 28 39.2	-1.8
0.3nm,0.3s,baz=342,slow=22,SNR=6.5							
NNA	Nana	8.73	303	*e*P	P	08 27 20.1	-1.8
36nm,0.6s							
SAML	Samuel	9.88	38	*e*P	P	08 27 35.3	-1.6
CPUP	Villa Florida	14.61	132	P	P	08 28 37.3	+0.3
0.1nm,0.3s,baz=327,slow=14,SNR=4.3							
CPUP	Villa Florida	14.61	132	*e*P	P	08 28 37.0	+0.1
CFAA	Coronel Fontan	14.73	176	P	P	08 28 39.0	+0.7
0.1nm,0.3s,baz=0.3,slow=13,SNR=14							
CFAA				S	S	08 31 15.1	-1.4
0.1nm,0.3s,baz=196,slow=17,SNR=8.8							
BDFB	Brasilia	20.51	90	P	P	08 29 43.7	+1.2
5.7nm,0.4s,baz=268,slow=13,SNR=10.0							
PLCA	Paso Flores	23.82	182	P	P	08 30 17.5	+2.9
3.8nm,0.7s,mb4.1,baz=358,slow=12,SNR=10							
PLCA	Paso Flores	23.82	182	*e*P	P	08 30 17.4	+2.9
4.1nm,0.7s,mb4.2							
TXAR	Lajitas Array	56.62	324	P	P	08 34 43.1	0.0
0.1nm,0.7s,mb2.6,baz=150,slow=8.2,SNR=4.8							
DBIC	Dimbokro	67.88	75	P	P	08 35 58.0	+0.1
2.0nm,0.4s,mb4.1,baz=209,slow=8.7,SNR=8.0							
MSU	Marysvale	68.14	325	*e*P	P	08 36 01.1	+1.9
PDAR	Pinedale Array	69.90	330	P	P	08 36 10.5	+0.6
0.3nm,0.5s,mb3.2,baz=135,slow=8.4,SNR=4.1							
PDAR	Pinedale Array	69.90	330	P	P	08 36 10.5	+0.6
BOZ	Bozeman (W)	73.04	330	*e*P	P	08 36 27.0	-1.5
2.4nm,0.7s,mb3.9							
WRA	Warramunga Arr	136.67	213	PKP	PKPdf	08 44 21.5	+3.6
0.3nm,0.4s,baz=146,slow=1.7,SNR=8.9							
SONM	Songino Array	148.90	6	PKPbc	PKPdf	08 44 46.3	+8.0
0.4nm,0.4s,baz=331,slow=2.5,SNR=5.9							

IDC 07 08:47:55.4±2.9, 30.64S×177.52W, mb4.2/2, mb1 4.3/3, mb1mx3.9/12, mbtmp4.2/3, ML3.1/1, Error ellipse: s-maj=67.3km s-min=24.4km az=107.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.42	346	Pn	Pn	08 48 21.9	-0.7
150nm,0.3s,baz=54,slow=22,SNR=9.6							
RAO				Sn	Sn	08 48 36.0	-6.3
593nm,0.3s,baz=72,slow=22,SNR=13							
URZ	Urewera	8.80	209	Pn	P	08 50 01.9	-4.9
0.2nm,0.3s,baz=273,slow=19,SNR=2.7							
URZ				Sn	Sn	08 51 42.9	-5.0
1.2nm,0.3s,baz=51,slow=16,SNR=8.0							
STKA	Stephens Creek	34.83	257	P	P	08 54 50.0	-0.1
3.1nm,0.7s,baz=94,slow=12,SNR=4.5							
WRA	Warramunga Arr	44.52	272	P	P	08 56 08.1	-2.6
0.9nm,0.3s,baz=110,slow=8.1,SNR=49							
FINES	FINESS Array B	145.51	340	PKPbc	PKPbc	09 07 34.4	-0.9
1.7nm,0.5s,baz=45,slow=3.9,SNR=13							

*NIED **07** 09:08:00, 34.40N×141.60E, h8km, Mw4.2 Best double couple: M_0:2.37×10^15 NP1:ϕ_s19°, δ67°, λ95°. NP2:ϕ_s186°, δ24°, λ78°.*
*MOS **07** 09:08:00.3±0.9, 34.35N×141.63E, h10km, mb4.3/11, Error ellipse: s-maj=26.3km s-min=11.4km az=115.8*
*JMA **07** 09:08:03.5±0.3, 34.37N×141.64E, h29km±1km, M3.5*
*IDC **07** 09:08:07.9±3.7, 34.35N×141.52E, h46km±34km, mb3.7/9, mb1 3.8/9, mb1mx3.7/18, mbtmp4.0/9, MS3.6/6, Ms1 3.6/6, ms1mx3.2/27, Error ellipse: s-maj=30.3km s-min=22.4km az=87.0*
*NEIC **07** 09:08:07.1±2.1, 34.30N×141.39E, h37km±18km, mb4.1/1, Error ellipse: s-maj=19.5km s-min=13.3km az=73.0*
ISC 07 09:08:03.4±0.6, 34.38N±0.04×141.68E±0.07, h29km, n42, σ0§74/45, mb4.0/14, MS3.6/5, 1C, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	0.64	295	P	Pb	09 08 15.4	-0.6
BSO3	Boso 3	1.05	294	P	Pn	09 08 22.3	0.0
BSO3				*e*S	Sn	09 08 35.3	-0.8
BSO4	Boso 4	1.26	299	P	Pn	09 08 25.9	+0.6
KTR	Katsuura	1.36	305	P	Pn	09 08 27.2	+0.5
CHOJ	Chosi	1.48	333	P	Pn	09 08 28.9	+0.4
CHOJ				S	Sn	09 08 46.9	-0.1
JMY	Miyakejima3	1.82	261	P	Pn	09 08 33.3	0.0
JHJ2	Mitsune	2.00	231	P	Pn	09 08 37.0	+1.1
JHJ	Hachijo jima 2	2.02	232	P	Pn	09 08 37.0	+0.9
97nm,0.3s,baz=86,slow=21,SNR=60							
JHJ				S	Sn	09 09 00.3	-0.4
104nm,0.3s,baz=72,slow=24,SNR=7.4							
JOD2	Odawara 2	2.31	293	P	Pn	09 08 39.6	-0.7
JIZS	Izushimoda	2.33	279	P	Pn	09 08 40.0	-0.7
MAT	Matsushiro	3.56	308	P	Pn	09 08 58.4	+0.3
MAT				S	Sn	09 09 41.4	+1.7
MAT	Matsushiro	3.56	308	*e*P	Pn	09 08 58.0	-0.1
MAT				*e*S	Sn	09 09 41.0	+1.3
JNU	Nakatsue	9.08	265	LR	LR	09 13 29.7	
comp=Z,164nm,21.9s,baz=229,slow=36							
YSS	Yuzh-Sakhalins	12.59	3	*e*P	P	09 11 02.0	-1.3
SONM	Songino Array	29.51	308	P	P	09 14 07.3	+0.1
2.5nm,0.9s,mb4.0,baz=103,slow=7.6,SNR=15							
SONM				LR	LR	09 26 58.0	
comp=Z,137nm,18.7s,MS3.6,baz=78,slow=38							
SONM	Songino Array	29.51	308	P	P	09 14 07.3	0.0
SONM				pmax	pmax		
comp=Z,3.0nm,0.9s							
SONM				MLR	MLR		
comp=Z,137nm,18.7s							
BOD	Bodaibo	29.91	330	*e*P	P	09 14 09.4	-1.3
BOD				pmax	pmax		
comp=Z,5.0nm,0.8s,mb4.3							
ZAK	Zakamensk	32.14	312⇑	*i*P	P	09 14 29.8	-0.5
ZAK				pmax	pmax		
comp=Z,3.0nm,1.0s,mb4.1							
MKAR	Makanchi Array	45.75	304	P	P	09 16 24.0	+0.2
comp=Z,1.0nm,0.5s,mb4.0,baz=90,slow=9.7,SNR=9.5							
MKAR				LR	LR	09 37 00.5	
comp=Z,35nm,19.9s,MS3.3,baz=270,slow=38							
MKAR	Makanchi Array	45.75	304	P	P	09 16 24.0	+0.2
MKAR				pmax	pmax		
comp=Z,1.0nm,0.5s							
MKAR				MLR	MLR		
comp=Z,35nm,19.9s							
KURK	Kurchatov	47.77	310	*e*P	P	09 16 39.2	-0.5
comp=Z,12nm,0.9s,mb4.9							
KURK	Kurchatov	47.77	310	*e*P	P	09 16 39.2	-0.5
KURK				pmax	pmax		
comp=Z,12nm,0.9s,mb4.9							
ILAR	Eielson Array	51.63	31	P	P	09 17 10.4	+1.3
comp=Z,0.3nm,0.7s,mb3.4,baz=274,slow=5.3,SNR=8.1							
BVAR	Borovoye Array	52.54	314	P	P	09 17 15.7	-0.4
comp=Z,0.7nm,0.4s,mb3.9,baz=90,slow=7.4,SNR=9.6							
BVAR				PcP	PcP	09 18 26.4	+0.3
comp=Z,0.9nm

BRTR Keskin Array B 80.78 312 P P 09 20 16.6 +1.0
BRTR pmax pmax
comp=Z,1.0nm,0.4s
PV10 Paradox Valley 82.37 48 *e*P **P 09 20 28.2 +4.3**
TXAR Lajitas Array 91.56 53 P **P 09 21 15.8 +7.0**
comp=Z,0.2nm,0.6s,mb3.6,baz=292,slow=4.9,SNR=3.7

IDC 07 09:09:16.9±3.5, 4.03S×107.10E, mb3.9/4, mb1 4.0/4, mb1mx3.7/15, mbtmp3.9/4, Error ellipse: s-maj=218.9km s-min=25.5km az=52.0, Java Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.91**	**129**	P	P	09 14 22.2	-1.6
	3.0nm,0.5s,baz=349,slow=5.2,SNR=4.0						
WRA	**Warramunga Arr**	**30.90**	**123**	P	P	09 15 35.8	-1.9
	0.5nm,0.4s,baz=297,slow=10,SNR=7.4						
STKA	**Stephens Creek**	**42.59**	**135**	P	P	09 17 15.0	-1.6
	0.8nm,0.4s,baz=299,slow=9.6,SNR=6.0						
MKAR	**Makanchi Array**	**55.15**	**339**	P	P	09 18 51.1	-2.4
	0.5nm,0.4s,baz=161,slow=8.8,SNR=6.3						

*IDC **07** 09:40:11.8±1.5, 38.68S×74.77W, mb3.6/4, mb1 3.8/6, mb1mx3.8/15, mbtmp3.5/6, ML3.3/1, MS3.0/2, Ms1 3.0/2, ms1mx2.6/19, Error ellipse: s-maj=36.7km s-min=27.2km az=35.0*
*NEIC **07** 09:40:17.0±0.8, 38.71S×74.69W, h35km, mb4.0/4, Error ellipse: s-maj=19.2km s-min=14.0km az=64.0*
ISC 07 09:40:15.5±0.9, 38.57S±0.06×74.6W±0.1, h33km, n20, σ1§10/17, mb3.7/5, 3C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.82**	**126**	Pn	**Pn**	**09 41 12.8**	**-0.7**
	0.5nm,0.3s,baz=305,slow=11,SNR=6.4						
PLCA				Sn	**Sn**	**09 41 59.5**	**+1.7**
	1.8nm,0.3s,baz=6.6,slow=4.4,SNR=3.0						
PLCA				LR	LR	09 42 36.6	
	comp=Z,167nm,20.3s,baz=17,slow=38						
PLCA	**Paso Flores**	**3.82**	**126**	*e*P	**P**	**09 41 12.2**	**-1.1**
PLCA				Sn	**Sn**	**09 41 59.5**	**+1.7**
PLCA				LR	LR	09 42 36.6	
CFAA	**Coronel Fontan**	**8.70**	**39**	Pn	**P**	**09 42 20.4**	**-1.6**
	0.1nm,0.3s,baz=214,slow=9.0,SNR=19						
CFAA				Sn	**Sn**	**09 44 00.6**	**+0.5**
	0.2nm,0.3s,baz=296,slow=21,SNR=8.0						
TRQA	**Tornquist**	**9.96**	**91**	*e*P	**P**	**09 42 39.0**	**-0.2**
CPUP	**Villa Florida**	**18.99**	**55**	LR	LR	09 52 45.7	
	comp=Z,48nm,18.2s,baz=129,slow=39						
LPAZ	**La Paz**	**22.92**	**16**	P	**P**	**09 45 21.3**	**+3.7**
	0.9nm,0.8s,mb3.3,baz=191,slow=5.2,SNR=4.3						
LPAZ	**La Paz**	**22.92**	**16**	*e*P	**P**	**09 45 21.7**	**+4.0**
	1.7nm,0.7s,mb3.6						
PMSA	**Palmer Station**	**26.97**	**170**	P	**P**	**09 45 52.3**	**-3.4**
	2.5nm,0.6s,mb3.9						
VNA3	**Neumayer Olymp**	**45.98**	**156**	*e*	pP	09 48 46.4	-0.3
VNA3	**Neumayer Olymp**	**45.98**	**156**	*e*	sP	09 48 56.4	+5.6
VNA3	**Neumayer Olymp**	**45.98**	**156**	⇑*i*P	**P**	**09 48 44.9**	**+8.1**
VNA3				*e*	pP	09 48 46.4	-0.3
VNA3				*e*	sP	09 48 56.4	+5.6
VNA2	**Neumayer--Watz**	**46.67**	**155**	*e*	pP	09 48 50.4	-1.7
VNA2	**Neumayer--Watz**	**46.67**	**155**	*e*	sP	09 48 59.3	+3.1
VNA2	**Neumayer--Watz**	**46.67**	**155**	⇑*i*P	**P**	**09 48 48.8**	**+6.6**
VNA2				*e*	pP	09 48 50.4	-1.7
VNA2				*e*	sP	09 48 59.3	+3.1
SNAA	**Sanae**	**48.20**	**156**	⇑*i*P	**P**	**09 48 54.2**	**0.0**
SNAA				*e*	pP	09 49 04.0	0.0
TXAR	**Lajitas Array**	**72.80**	**334**	P	**P**	**09 51 42.2**	**-0.3**
	0.7nm,0.6s,mb3.8,baz=156,slow=8.7,SNR=12						
ANMO	**Albuquerque**	**78.87**	**334**	P	**P**	**09 52 17.6**	**+0.7**
	0.9nm,0.8s,mb3.8,baz=157,slow=5.3,SNR=4.7						
ANMO	**Albuquerque**	**78.87**	**334**	*e*P	**P**	**09 52 17.7**	**+0.8**
	1.4nm,1.0s,mb3.9						
PDAR	**Pinedale Array**	**86.95**	**335**	P	**P**	**09 52 59.2**	**+1.1**
	0.2nm,0.5s,mb3.6,baz=132,slow=11,SNR=2.7						
SONM	**Songino Array**	**170.71**	**356**	PKPab	PKPab	10 01 38.0	-1.2
	0.3nm,0.8s,slow=1.4,SNR=4.0						

*IDC **07** 09:42:08.1±0.8, 27.83N×53.85E, mb4.3/19, mb1 4.4/19, mb1mx4.4/22, mbtmp4.3/19, Error ellipse: s-maj=19.8km s-min=16.7km az=170.0*
*THR **07** 09:42:09.1±1.3, 27.51N×53.65E, h44km±9km, ML4.1*
*CSEM **07** 09:42:11.9±0.1, 27.81N×53.82E, h40km, mb4.4/38, Ms3.2, Error ellipse: s-maj=2.6km s-min=2.1km az=149.0*
*TEH **07** 09:42:13.5, 27.88N×53.77E, h10km, Mn4.2*
*MOS **07** 09:42:14.9±0.8, 27.90N×53.83E, h62km, mb4.5/42, Error ellipse: s-maj=9.9km s-min=5.0km az=121.1*
*NEIC **07** 09:42:15.1±1.0, 27.91N×53.84E, h49km±6km, mb4.3/33, Error ellipse: s-maj=9.9km s-min=6.2km az=178.0*
ISC 07 09:42:13.1±0.6, 27.85N±0.04×53.81E±0.04, h48km±4km, n179, σ0§98/181, mb4.3/55, MS3.6/1, 24C, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**0.85**	**301**	*e*Pg	**P**	**09 42 28.6**	**-0.2**
GHIR				*e*Sg	**S**	**09 42 41.3**	**+0.8**
GHIR				AML	AML	09 42 47.1	
	comp=N,4μm,0.5s						
GHIR	**Ghir-Karzin**	**0.85**	**301**	*e*Pg	**P**	**09 42 28.6**	**-0.2**
	SNR=109						
GHIR				*e*Sg	**S**	**09 42 41.3**	**+0.8**
	SNR=109						
IMOK	**Mook**	**1.54**	**321**	Pn	**P**	**09 42 40.1**	**+1.5**
ISRV	**Sarvestan**	**1.65**	**338**	Pn	**P**	**09 42 42.1**	**+1.9**
IPAR	**Pars**	**2.10**	**342**	Pn	**P**	**09 42 48.2**	**+1.7**
SHI	**Shiraz**	**2.12**	**328**	Pn	**P**	**09 42 48.3**	**+1.5**
BNDS	**Bandar-Abbas**	**2.14**	**101**	*e*PG	**P**	**09 42 48.9**	**+1.8**
BNDS				AML	AML	09 43 29.4	
	comp=N,947nm,0.4s						
KRBR	**Kerman**	**3.35**	**50**	*e*Pn	**P**	**09 43 06.0**	**+1.7**
KRBR				AML	AML	09 43 58.4	
	comp=N,507nm,0.5s						
IMEH	**Mehriz**	**3.60**	**11**	Pn	**P**	**09 43 08.7**	**+0.8**
IBAF	**Bafgh**	**4.03**	**22**	Pn	**P**	**09 43 12.3**	**-1.6**
ISAD	**Sadrabad**	**4.05**	**359**	Pn	**P**	**09 43 14.4**	**+0.1**
ICHK	**Chekchek**	**4.41**	**7**	Pn	**P**	**09 43 18.9**	**-0.4**
HASS	**Wahat al Ahsa'**	**4.54**	**235**	P	**P**	**09 43 23.1**	**+2.0**
IGAR	**Garneh**	**4.60**	**343**	Pn	**P**	**09 43 22.3**	**+0.3**
NASN	**Na'in**	**5.01**	**350**	*e*Pn	**P**	**09 43 27.6**	**-0.1**
IZEF	**Zefreh**	**5.19**	**346**	Pn	**P**	**09 43 27.9**	**-2.3**
IKLH	**Kalahroud**	**5.78**	**341**	Pn	**P**	**09 43 35.9**	**-2.6**
ZHSF	**Zahedan**	**6.36**	**72**	*e*PN	**P**	**09 43 45.6**	**-1.0**
IVRN	**Varamin**	**7.35**	**347**	Pn	**P**	**09 43 58.8**	**-1.6**
IVRN				Sn	**S**	**09 45 17.4**	**-5.8**
ASAO	**Ashtian**	**7.42**	**335**	*e*PN	**P**	**09 44 00.3**	**-1.1**
IDMV	**Damavand**	**7.85**	**349**	Pn	**P**	**09 44 05.6**	**-1.8**
DAMV	**Damavand**	**7.92**	**349**	*e*Pn	**P**	**09 44 07.2**	**-1.1**
IRAZ	**Razeghan**	**8.23**	**337**	Pn	**P**	**09 44 12.0**	**-0.5**
SNGE	**Sanandaj**	**9.09**	**324**	*e*Pn	**P**	**09 44 21.7**	**-2.7**
AFFS	**'Afif**	**10.48**	**251**	P	**P**	**09 44 41.5**	**-2.1**
KAMS	**Al Khamasin**	**11.28**	**230**	P	**P**	**09 44 52.4**	**-2.0**
TATS	**Tathlith**	**12.56**	**231**	P	**P**	**09 45 09.6**	**-2.0**
DJNS	**Zahran al Janu**	**13.83**	**225**	P	**P**	**09 45 27.8**	**-0.5**
GNI	**Garni**	**14.38**	**331**	Pn	**P**	**09 45 41.6**	**+6.2**
	comp=N,2.0nm,0.3s,baz=358,slow=6.6,SNR=7.5						
GNI	**Garni**	**14.38**	**331**	P	**P**	**09 45 41.6**	**+6.2**
GNI				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MALT	**Malatya**	**16.57**	**313**	*e*P	**P**	**09 46 07.0**	**+3.6**
	comp=Z,14nm,0.8s						
MALT	**Malatya**	**16.57**	**313**	*e*P	**P**	**09 46 07.0**	**+3.6**
MALT				pmax	pmax		
	comp=Z,15nm,0.8s						
ZEI	**Tsey**	**16.93**	**334**	*e*P	**P**	**09 46 09.0**	**+1.1**
KIV	**Kislovodsk**	**18.40**	**334**	*e*P	**P**	**09 46 27.8**	**+1.5**
	comp=Z,6.9nm,0.6s						
KIV	**Kislovodsk**	**18.40**	**334**	*e*P	**P**	**09 46 27.8**	**+1.5**
	comp=Z,6.9nm,0.6s						
KIV	**Kislovodsk**	**18.40**	**334**	*e*P	**P**	**09 46 27.8**	**+1.5**
KIV				pmax	pmax		
	comp=Z,7.0nm,0.6s						
KKAR	**Karatay Array**	**20.36**	**37**	*i* P	**P**	**09 46 46.6**	**-1.4**
	comp=Z,3.0nm,0.6s						
KKAR	**Karatay Array**	**20.36**	**37**	*i* P	**P**	**09 46 46.6**	**-1.4**
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BR131	**Keskin Array S**	**20.48**	**311**	*e*P	**P**	**09 46 49.0**	**-0.3**
	comp=Z,4.4nm,0.6s						
BRTR	**Keskin Array B**	**20.48**	**311**	P	**P**	**09 46 48.7**	**-0.6**
	comp=Z,6.0nm,0.7s,baz=131,slow=13,SNR=11						
BRTR	**Keskin Array B**	**20.48**	**311**	P	**P**	**09 46 48.7**	**-0.6**
BRTR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
AB31	**Akbulak array**	**21.89**	**11**	*e*P	**P**	**09 47 03.4**	**-0.1**
ISP	**Isparta**	**21.92**	**303**	*e*P	**P**	**09 47 05.9**	**+2.1**
	comp=Z,7.2nm,0.9s,mb4.1						
ISP	**Isparta**	**21.92**	**303**	*e*P	**P**	**09 47 05.9**	**+2.1**
ISP				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.1						
AAK	**Ala-Archa**	**22.35**	**43**	*e*P	**P**	**09 47 11.9**	**+3.9**
	comp=Z,13nm,1.3s,mb4.2						
AAK	**Ala-Archa**	**22.35**	**43**	*e*P	**P**	**09 47 11.9**	**+3.8**
AAK				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.2						
VRHR	**Novokhopersk**	**24.98**	**342**	*e*P	**P**	**09 47 34.8**	**+1.2**
VRHR				pmax	pmax		
	comp=Z,30nm,0.6s,mb5.0						
VRHR				pmax	pmax		
	comp=N,20nm,0.4s						
VRHR				pmax	pmax		
	comp=E,20nm,0.6s						
IDI	**Anoyia**	**25.67**	**294**	P	**P**	**09 47 41.4**	**+1.1**
	comp=E,8.2nm,0.6s,mb4.4,baz=88,slow=8.7,SNR=12						
VRSR	**Storozhevoye**	**25.82**	**339**	*e*P	**P**	**09 47 41.6**	**+0.1**
	comp=E,30nm,0.9s,mb4.8						
VRSR	**Storozhevoye**	**25.82**	**339**	*e*P	**P**	**09 47 41.6**	**+0.1**
VRSR				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.3						
VRSR				pmax	pmax		
	comp=N,30nm,0.9s						
VRSR				pmax	pmax		
	comp=E,10.0nm,0.7s						
VRSR				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.3						
VRSR				pmax	pmax		
	comp=N,30nm,0.9s						
VRSR				pmax	pmax		
	comp=E,10.0nm,0.7s						
VOSK	**Vostochnaya**	**27.94**	**23**	P	**P**	**09 48 00.6**	**-0.3**
	comp=E,4.0nm,0.9s,mb4.0						
VOSK	**Vostochnaya**	**27.94**	**23**	P	**P**	**09 48 00.6**	**-0.3**
VOSK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.0						
BRVK	**Borovoye**	**27.99**	**21**	*e*P	**P**	**09 48 01.3**	**-0.1**
	comp=Z,1.8nm,0.6s,mb3.9						
BRVK	**Borovoye**	**27.99**	**21**	*e*P	**P**	**09 48 01.3**	**-0.1**
	comp=Z,1.8nm,0.6s,mb3.9						
BRVK	**Borovoye**	**27.99**	**21**	*e*P	**P**	**09 48 01.3**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.9						
BVA0	**Borovoye Array**	**28.00**	**22**	*i* P	**P**	**09 48 01.5**	**+0.1**
	comp=Z,1.0nm,0.6s,mb3.6						
BVA0	**Borovoye Array**	**28.00**	**22**	*i* P	**P**	**09 48 01.5**	**+0.1**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.6						
BVAR	**Borovoye Array**	**28.00**	**22**	P	**P**	**09 48 01.3**	**-0.1**
	comp=Z,4.9nm,0.6s,mb4.3,baz=210,slow=7.8,SNR=27						
BVAR	**Borovoye Array**	**28.00**	**22**	P	**P**	**09 48 01.3**	**-0.1**
BVAR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MLR	**Muntele Rosu**	**28.25**	**316**	P	**P**	**09 48 04.1**	**+0.4**
	comp=Z,3.0nm,0.6s,mb4.1,baz=9.1,slow=7.5,SNR=6.9						
MLR	**Muntele Rosu**	**28.25**	**316**	P	**P**	**09 48 04.1**	**+0.4**
MLR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MK02	**Makanchi Array**	**29.26**	**42**	P	**P**	**09 48 12.6**	**-0.1**
	comp=Z,1.0nm,0.5s,mb3.8						
MK02	**Makanchi Array**	**29.26**	**42**	P	**P**	**09 48 12.6**	**-0.1**
MK02				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.8						
MKAR	**Makanchi Array**	**29.26**	**42**	P	**P**	**09 48 12.4**	**-0.4**
	comp=Z,1.4nm,0.5s,mb4.0,baz=228,slow=9.3,SNR=14						
MKAR	**Makanchi Array**	**29.26**	**42**	P	**P**	**09 48 12.4**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**29.47**	**327**	P	**P**	**09 48 12.9**	**-1.6**
	comp=Z,1.0nm,0.5s,mb3.8,baz=136,slow=7.6,SNR=6.7						
AKASG	**Malin Array Be**	**29.47**	**327**	P	**P**	**09 48 12.9**	**-1.6**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KURK	**Kurchatov**	**29.58**	**33**	*e*P	**P**	**09 48 15.2**	**-0.3**
KURK	**Kurchatov**	**29.58**	**33**	*e*P	**P**	**09 48 15.2**	**-0.4**
LVV	**L'vov**	**31.59**	**322**	*e*P	**P**	**09 48 35.5**	**+2.2**
LVV				*e*		09 53 38.3	
LVV				*e*		09 55 52.7	
KOLS	**Kolonicke sedl**	**32.11**	**320**	*e*P	**P**	**09 48 39.3**	**+1.4**
KECS	**Kecovo**	**32.95**	**318**	*e*P	**P**	**09 48 45.9**	**+0.7**
PSZ	**Piszkesteto**	**33.06**	**317**	*e*P	**P**	**09 48 43.7**	**-2.4**
	comp=Z,4.7nm,0.7s,mb4.5						
PSZ	**Piszkesteto**	**33.06**	**317**	*e*P	**P**	**09 48 43.7**	**-2.4**
	comp=Z,4.7nm,0.7s,mb4.5						
PSZ	**Piszkesteto**	**33.06**	**317**	*e*P	**P**	**09 48 43.7**	**-2.4**
PSZ				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
OJC	**Ojcow**	**34.15**	**320**	*e*P	**P**	**09 48 55.7**	**+0.3**
OKC	**Ostrava-Krasne**	**34.92**	**319**	*e*P	**P**	**09 49 02.1**	**0.0**
MORC	**Moravsky Berou**	**35.25**	**318**	*e*P	**P**	**09 49 04.8**	**-0.1**
	comp=Z,3.7nm,0.7s,mb4.4						
MORC	**Moravsky Berou**	**35.25**	**318**	*e*P	**P**	**09 49 04.8**	**-0.1**
	comp=Z,3.7nm,0.7s,mb4.4						
MORC	**Moravsky Berou**	**35.25**	**318**	*e*P	**P**	**09 49 04.8**	**-0.1**
MORC				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
DPC	**Dobruska-Polom**	**36.20**	**319**	*e*P	**P**	**09 49 13.1**	**+0.1**
UPC	**Upice**	**36.45**	**319**	*e*P	**P**	**09 49 15.4**	**+0.3**
GERES	**GERESS Array B**	**37.23**	**315**	P	**P**	**09 49 21.2**	**-0.4**
	comp=Z,0.6nm,0.5s,mb3.7,baz=112,slow=7.2,SNR=8.1						
GERES	**GERESS Array B**	**37.23**	**315**	P	**P**	**09 49 21.2**	**-0.4**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KHC	**Kasperske Hory**	**37.40**	**316**	*e*P	**P**	**09 49 23.2**	**+0.1**
WTTA	**Wattenberg**	**38.08**	**312**	⇑*i*P	**P**	**09 49 29.0**	**+0.3**
	comp=Z,5.8nm,0.5s,mb4.6						
WTTA	**Wattenberg**	**38.08**	**312**	⇑*i*P	**P**	**09 49 29.0**	**+0.3**
WTTA				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.6						
SQTA	**Sankt Quirin**	**38.35**	**312**	⇑*i*P	**P**	**09 49 31.1**	**+0.2**
	comp=Z,7.7nm,0.4s,mb4.8						
SQTA	**Sankt Quirin**	**38.35**	**312**	⇑*i*P	**P**	**09 49 31.1**	**+0.2**
SQTA				pmax	pmax		
	comp=Z,8.0nm,0.4s,mb4.8						
FINES	**FINESS Array B**	**38.36**	**339**	P	**P**	**09 49 30.8**	**-0.2**
	comp=Z,4.3nm,0.6s,mb4.3,baz=143,slow=9.9,SNR=23						
FINES	**FINESS Array B**	**38.36**	**339**	P	**P**	**09 49 30.8**	**-0.1**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MOTA	**Moosalm**	**38.45**	**312**	⇑*i*P	**P**	**09 49 31.6**	**-0.2**
	comp=Z,2.6nm,0.4s,mb4.3						
MOTA	**Moosalm**	**38.45**	**312**	⇑*i*P	**P**	**09 49 31.6**	**-0.2**
MOTA				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.4						
CLL	**Collm**	**38.52**	**319**	P	**P**	**09 49 33.0**	**+0.7**
KAF	**Kangasniemi**	**38.80**	**340**	*e*p	**P**	**09 49 34.6**	**+0.1**
	comp=Z,0.9nm,0.3s,mb4.0						
GRA1	**Grafenberg Arr**	**39.04**	**316**	*e*P	**P**	**09 49 37.0**	**+0.3**
	comp=Z,2.0nm,0.9s,mb3.9						
GRF	**Grafenberg Arr**	**39.04**	**316**	*e*P	**P**	**09 49 37.0**	**+0.3**
	comp=Z,2.0nm,0.9s,mb3.9						
GRF	**Grafenberg Arr**	**39.04**	**316**	*e*P	**P**	**09 49 37.0**	**+0.3**
GRF				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.9						
GRF	**Grafenberg Arr**	**39.04**	**316**	*e*P	**P**	**09 49 37.0**	**+0.3**
GRF				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.9						
DAVA	**Damuels**	**39.24**	**312**	⇑*i*P	**P**	**09 49 38.6**	**+0.2**
	comp=Z,21nm,0.5s,mb5.1						
MBDF	**Montbardon**	**40.88**	**307**	*e*P	**P**	**09 49 52.1**	**+0.1**
	comp=Z,12nm,0.7s,mb4.3						
MBDF	**Montbardon**	**40.88**	**307**	*e*P	**P**	**09 49 52.1**	**+0.1**
MBDF				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.3						
LPG	**La Plagne**	**41.01**	**308**	*e*P	**P**	**09 49 53.2**	**+0.1**
	comp=Z,13nm,0.8s,mb4.3						
LPG	**La Plagne**	**41.01**	**308**	*e*P	**P**	**09 49 53.2**	**+0.1**
LPG				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.3						
LPL	**La Plagne**	**41.03**	**308**	⇑*i*P	**P**	**09 49 53.2**	**0.0**
	comp=Z,8.9nm,0.6s,mb4.3						
LPL	**La Plagne**	**41.03**	**308**	⇑*i*P	**P**	**09 49 53.2**	**0.0**
LPL				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.2						
CDF	**Champ du Feu**	**41.20**	**313**	*e*P	**P**	**09 49 53.8**	**-0.8**
HINF	**Hinteralfeld**	**41.36**	**312**	*e*P	**P**	**09 49 55.4**	**-0.5**
	comp=Z,3.1nm,0.4s,mb4.0						
HINF	**Hinteralfeld**	**41.36**	**312**	*e*P	**P**	**09 49 55.4**	**-0.5**
HINF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.1						
CABF	**La Chapelle**	**41.65**	**310**	⇑*i*P	**P**	**09 49 58.6**	**+0.4**
	comp=Z,12nm,0.6s,mb4.4						
CABF	**La Chapelle**	**41.65**	**310**	⇑*i*P	**P**	**09 49 58.6**	**+0.4**
CABF				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.4						
HAU	**Haudompre**	**41.73**	**312**	*e*P	**P**	**09 49 58.3**	**-0.6**
HAU				*e*R			
	comp=Z,65nm,18.2s						
VIVF	**Saint-Julien-l**	**42.38**	**307**	*e*P	**P**	**09 50 04.0**	**-0.3**
MEZF	**Maizieres J'vi**	**42.67**	**312**	*e*P	**P**	**09 50 05.9**	**-0.7**
LASF	**Ste Croix**	**42.88**	**306**	*e*P	**P**	**09 50 08.5**	**+0.1**
GIVF	**Givet**	**43.14**	**315**	*e*P	**P**	**09 50 09.1**	**-1.3**
SMF	**Signal de Mont**	**43.18**	**310**	⇑*i*P	**P**	**09 50 10.6**	**-0.2**
	comp=Z,15nm,0.8s,mb4.5						
SMF	**Signal de Mont**	**43.18**	**310**	⇑*i*P	**P**	**09 50 10.6**	**-0.2**
SMF				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.4						
LOR	**Lormes**	**43.26**	**310**	⇑*i*P	**P**	**09 50 11.0**	**-0.4**
LOR				*e*R			
	comp=Z,58nm,19.0s						
SSF	**Saint Saulge**	**43.47**	**310**	*e*P	**P**	**09 50 12.4**	**-0.7**
	comp=Z,2.5nm,0.5s,mb4.2						
SSF	**Saint Saulge**	**43.47**	**310**	*e*P	**P**	**09 50 12.4**	**-0.7**
SSF				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.3						
ZAK	**Zakamensk**	**43.50**	**45**	*e*P	**P**	**09 50 14.3**	**+0.9**
	comp=Z,1.0nm,0.8s,mb3.6						
ZAK	**Zakamensk**	**43.50**	**45**	*e*PcP	PcP	09 52 00.0	-1.2
	comp=Z,1.0nm,1.0s						
ZAK	**Zakamensk**	**43.50**	**45**	*e*P	**P**	**09 50 14.3**	**+0.9**
ZAK				*e*		09 52 00.0	
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.6						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.5						
AVF	**Avril sur Loir**	**43.53**	**310**	*e*P	**P**	**09 50 13.4**	**-0.3**
	comp=Z,3.4nm,0.7s,mb3.9						
AVF	**Avril sur Loir**	**43.53**	**310**	*e*P	**P**	**09 50 13.4**	**-0.3**
AVF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.0						
NB2	**NORSAR Subarra**	**43.68**	**332**	P	**P**	**09 50 13.9**	**-0.8**
	comp=Z,1.5nm,0.5s,mb4.0,baz=121,slow=7.9						
NB2	**NORSAR Subarra**	**43.68**	**332**	P	**P**	**09 50 13.9**	**-0.8**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.1						
NOA	**NORSAR Array B**	**43.68**	**332**	P	**P**	**09 50 13.8**	**-0.8**
	comp=Z,2.2nm,0.6s,mb4.0,baz=119,slow=8.0,SNR=9.7						
NOA	**NORSAR Array B**	**43.68**	**332**	P	**P**	**09 50 13.9**	**-0.8**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MTLF	**Montolieu**	**44.02**	**305**	*e*P	**P**	**09 50 18.5**	**+0.9**
	comp=Z,3.5nm,0.5s,mb4.0						
MTLF	**Montolieu**	**44.02**	**305**	*e*P	**P**	**09 50 18.5**	**+0.9**
MTLF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.1						
CAF	**Calviac**	**44.23**	**307**	*e*P	**P**	**09 50 19.7**	**+0.3**
	comp=Z,10.0nm,0.7s,mb4.3						
CAF	**Calviac**	**44.23**	**307**	*e*P	**P**	**09 50 19.7**	**+0.3**
CAF				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.3						
TCF	**Toulx Ste Croi**	**44.26**	**309**	⇑*i*P	**P**	**09 50 19.6**	**+0.1**
	comp=Z,6.6nm,0.6s,mb4.3						
TCF	**Toulx Ste Croi**	**44.26**	**309**	⇑*i*P	**P**	**09 50 19.6**	**+0.1**
TCF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.2						
RJF	**Les Rejaudoux**	**44.65**	**307**	⇑*i*P	**P**	**09 50 23.2**	**+0.5**
	comp=Z,16nm,0.7s,mb4.7						
RJF				*e*R			
	comp=Z,69nm,18.2s						
RJF	**Les Rejaudoux**	**44.65**	**307**	⇑*i*P	**P**	**09 50 23.2**	**+0.5**
RJF				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.7						
RJF				MLR	MLR		
	comp=Z,70nm,18.3s,MS3.6						
KEV	**Kevo**	**44.71**	**347**	*e*p	**P**	**09 50 22.4**	**-0.4**
	comp=Z,1.0nm,0.4s,mb4.0						
ARCES	**ARCESS Array B**	**44.83**	**346**	P	**P**	**09 50 23.9**	**+0.1**
	comp=Z,2.5nm,0.7s,mb4.2,baz=147,slow=7.4,SNR=29						
ARCES	**ARCESS Array B**	**44.83**	**346**	P	**P**	**09 50 24.0**	**+0.2**

IGQ 07 09:52:49.5, 1.02S×78.02W, h12km±2km, mb4.1, 8C-12D, Error ellipse: s-maj=2.1km s-min=0.9km az=8.2, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PISA	**Pisayambo**	**0.36**	**263**	⇓P	Pg	09 52 57.3	+0.3
TAMB	**Tambo**	**0.47**	**313**	⇓P	Pg	09 52 59.5	+0.4
VC1	**Cotopaxi 1**	**0.53**	**314**	⇓P	Pb	09 53 00.7	+0.5
RUN5	**Runtun**	**0.56**	**225**	⇑P	Pb	09 53 00.8	+0.1
ULBA	**Ulba**	**0.58**	**222**	⇑P	Pb	09 53 00.8	-0.1
ANTI	**Antisana**	**0.58**	**346**	⇑P	Pb	09 53 01.1	+0.1
CAMI	**Rancho Maria**	**0.59**	**305**	⇓P	Pb	09 53 01.6	+0.5
NAS1	**Nasa**	**0.59**	**310**	⇓P	Pb	09 53 01.8	+0.6
JUIV	**Juive**	**0.60**	**227**	⇑P	Pb	09 53 01.3	-0.1
RETU	**Refugio**	**0.60**	**224**	P	Pb	09 53 01.5	+0.1
CUSU	**Cusua**	**0.62**	**227**	⇑P	Pb	09 53 01.8	+0.1
ARRY	**Arrayan**	**0.65**	**222**	⇑P	Pb	09 53 02.2	-0.1
QIL1	**Quilotoa**	**0.93**	**281**	⇓P	Pb	09 53 07.8	+0.8
JUA2	**San Juan 2**	**0.99**	**324**	⇓P	Pb	09 53 09.0	+1.0
JUA2				S	Sb	09 53 21.9	+1.2
GGP	**Refugio Guagua**	**1.01**	**326**	⇓P	Pb	09 53 09.5	+1.1
TERV	**Terraza Guagua**	**1.02**	**325**	⇓P	Pb	09 53 09.7	+1.2
PINO	**Pino**	**1.03**	**326**	⇓P	Pb	09 53 09.9	+1.1
YANA	**Yana**	**1.05**	**328**	⇓P	Pb	09 53 10.0	+1.0
YANA				S	Sb	09 53 23.4	+1.0
CAYA	**Cayambe**	**1.08**	**2**	⇑P	Pb	09 53 10.6	+1.0
CAYA				S	Sb	09 53 24.9	+1.4
JOR1	**San Jorge 1**	**1.18**	**329**	⇓P	Pb	09 53 09.1	-2.2
COTA	**Cotacachi**	**1.38**	**347**	⇑P	Pn	09 53 16.6	+2.0

*IDC **07** 09:55:36.7±1.9, 43.52N×85.33E, mb3.5/1, mb1 3.4/3, mb1mx3.2/19, mbtmp3.1/3, ML2.9/2, Error ellipse: s-maj=54.6km s-min=19.6km az=49.0*
*NNC **07** 09:55:38.5±7.7, 44.03N×85.98E, h6km±17km, mpv3.9, Error ellipse: s-maj=90.9km s-min=52.0km az=75.0*
*BJI **07** 09:55:40.2, 43.97N×85.77E, h15km, ML3.4*
ISC 07 09:55:39.8±1.5, 43.5N±0.2×85.4E±0.1, h33km, n6, σ0§98/9, mb3.2/1, 3C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**1.71**	**77**	PG	**P**	**09 56 06.0**	**-1.6**
WMQ				SG	**S**	**09 56 24.6**	**-3.9**
WMQ				Smax			
	comp=N,226nm,0.3s						
WMQ				Smax			
	comp=E,289nm,0.3s						
MK31	**Makanchi Array**	**3.99**	**328**	⇑Pn	**Pn**	**09 56 40.2**	**-0.1**
	comp=E,29nm,0.9s,baz=129,slow=15						
MK31				⇓Pg	**P**	**09 56 48.1**	**+8.0**
	baz=132,slow=17						
MK31				⇑Lg		09 57 37.9	
	comp=E,15nm,0.4s,baz=139,slow=31						
MKAR	**Makanchi Array**	**3.99**	**328**	Pn	**Pn**	**09 56 40.1**	**-0.2**
	comp=E,0.7nm,0.3s,baz=134,slow=15,SNR=20						
MKAR				Pg	**P**	**09 56 47.4**	**+7.3**
	comp=E,5.5nm,0.3s,baz=131,slow=16,SNR=51						
MKAR				Lg		09 57 36.5	
	comp=E,11nm,0.3s,baz=122,slow=30,SNR=10						
KURK	**Kurchatov**	**8.60**	**330**	⇑Lg		10 00 03.7	
	comp=E,7.7nm,1.2s						
SONM	**Songino Array**	**15.31**	**66**	Pn	**P**	**09 59 15.6**	**+0.7**
	comp=E,0.1nm,0.3s,baz=262,slow=10,SNR=2.9						
SONM				Sn	**S**	**10 02 04.7**	**+0.9**
	comp=E,0.0nm,0.3s,baz=259,slow=22,SNR=2.3						
WRA	**Warramunga Arr**	**77.44**	**133**	P	**P**	**10 07 34.1**	**+0.6**
	comp=E,0.3nm,0.9s,mb3.2,baz=337,slow=6.4,SNR=5.4						

*NIED **07** 10:03:00, 31.30N×142.00E, h5km, Mw4.8 Best double couple: M0.61×10^16 NP1:φ±20°, δ53°, λ107°. NP2:φ±173°, δ40°, λ69°.*
*JMA **07** 10:03:10.9±0.2, 31.26N×142.02E, M4.6*
*BJI **07** 10:03:12.6, 31.24N×141.93E, h23km, mB4.8, mb4.8, Ms4.8, Msz4.5*
*MOS **07** 10:03:12.4±1.0, 31.28N×141.90E, h10km, mb5.1/53, MS4.5/22, Error ellipse: s-maj=10.2km s-min=5.2km az=105.2*
*IDC **07** 10:03:16.0±4.2, 31.29N×141.90E, h23km±27km, mb4.5/20, mb1 4.6/22, mb1mx4.6/25, mbtmp4.6/22, ML4.2/2, MS4.3/20, Ms1 4.3/20, ms1mx4.2/35, Error ellipse: s-maj=16.0km s-min=13.4km az=72.0*
*NEIC **07** 10:03:18.5±1.0, 31.22N×141.89E, h42km±8km, mb4.8/44, MS4.3/4, MW4.7(NIED), Error ellipse: s-maj=6.9km s-min=5.8km az=147.0*
ISC 07 10:03:14.8±0.2, 31.25N±0.02×141.92E±0.03, h25km, h25km±2.1km: pP-P, n266, σ1§15/285, mb4.8/83, MS4.5/39, 11C-6D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.57**	**317**	P	**Pn**	**10 03 55.5**	**-0.4**
JHJ	**Hachijo jima 2**	**2.60**	**316**	Pn	**Pn**	**10 03 55.5**	**-0.7**
	43nm,0.3s,baz=177,slow=13,SNR=21						
JHJ				Sn	**Sn**	**10 04 26.2**	**-1.2**
	63nm,0.3s,baz=239,slow=23,SNR=7.6						
JHJ				LR	LR	10 04 56.8	
	comp=Z,4μm,19.5s,baz=146,slow=40						
BSO1	**Boso 1**	**3.49**	**347**	P	**Pn**	**10 04 08.2**	**-0.7**
BSO1				*e*S	**Sn**	**10 04 52.1**	**+2.3**
BSO3	**Boso 3**	**3.73**	**342**	P	**Pn**	**10 04 11.6**	**-0.8**
BSO3				S	**Sn**	**10 04 57.0**	**+0.9**
TATJ	**Tateyama 2**	**4.14**	**336**	P	**Pn**	**10 04 20.1**	**+2.0**
TATJ				S	**Sn**	**10 05 07.3**	**+0.9**
CBIJ	**Chichi jima**	**4.14**	**177**	Pn	**Pn**	**10 04 16.8**	**-1.5**
	34nm,0.3s,baz=274,slow=20,SNR=6.5						
CBIJ				Sn	**Sn**	**10 05 02.1**	**-4.4**
	80nm,0.3s,baz=257,slow=23,SNR=5.6						
CBIJ	**Chichi jima**	**4.14**	**177**	P	**Pn**	**10 04 16.9**	**-1.3**
JYO	**Yokosk**	**4.39**	**335**	P	**Pn**	**10 04 23.5**	**+1.8**
JYO				S	**Sn**	**10 05 13.2**	**+0.5**
CHOJ	**Chosi**	**4.53**	**349**	P	**Pn**	**10 04 23.5**	**-0.2**
CHOJ				*e*S	**Sn**	**10 05 16.4**	**+0.1**
JHHJ	**Haha-jima-NKT**	**4.61**	**177**	P	**Pn**	**10 04 24.3**	**-0.5**
JOD2	**Odawara 2**	**4.65**	**330**	P	**Pn**	**10 04 26.8**	**+1.4**
JOD2				*e*S	**Sn**	**10 05 21.7**	**+2.4**
JHU	**Hanno**	**5.09**	**335**	P	**Pn**	**10 04 30.7**	**-0.9**
JHU				*e*S	**Sn**	**10 05 30.9**	**+0.5**
JRY	**Ryogami san**	**5.38**	**333**	P	**Pn**	**10 04 36.2**	**+0.5**
JRY				S	**Sn**	**10 05 37.4**	**-0.2**
JIE	**Ise**	**5.39**	**307**	P	**Pn**	**10 04 36.9**	**+1.1**
JHO	**Hitachi**	**5.46**	**349**	P	**Pn**	**10 04 34.2**	**-2.7**
JAG	**Ashikaga**	**5.55**	**339**	P	**Pn**	**10 04 37.2**	**-1.0**
JNT	**Takato**	**5.59**	**327**	P	**Pn**	**10 04 41.2**	**+2.6**
JWZ	**Kozaga**	**5.72**	**295**	P	**Pn**	**10 04 42.0**	**+1.5**
JSB	**Shiboa**	**5.94**	**344**	P	**Pn**	**10 04 41.5**	**-2.1**
JSB				S	**Sn**	**10 05 47.6**	**-4.1**
JNG	**Nsakai**	**6.05**	**329**	P	**Pn**	**10 04 46.2**	**+1.1**
MAJO	**Matsushiro**	**6.12**	**331**	⇑*e*P	**Pn**	**10 04 46.1**	**+0.1**
	73nm,0.6s						
MAJO	**Matsushiro**	**6.12**	**331**	⇑*e*P	**Pn**	**10 04 46.1**	**0.0**
MAJO				pmax	pmax		
	comp=Z,73nm,0.6s						
MAT	**Matsushiro**	**6.12**	**331**	P	**Pn**	**10 04 45.8**	**-0.3**
MAT				S	**Sn**	**10 05 56.1**	**+0.1**
MAT	**Matsushiro**	**6.12**	**331**	*e*P	**Pn**	**10 04 46.0**	**-0.1**
	comp=Z,64nm,0.7s						
MAT				*e*S	**Sn**	**10 05 56.0**	**0.0**
MAT	**Matsushiro**	**6.12**	**331**	*e*P	**Pn**	**10 04 46.0**	**-0.1**
MAT				*e*S	**Sn**	**10 05 56.0**	**0.0**
MAT				pmax	pmax		
	comp=Z,64nm,0.7s						
JFT	**Otama**	**6.39**	**349**	P	**Pn**	**10 04 47.9**	**-2.0**
JFT				*e*S	**Sn**	**10 05 57.9**	**-5.0**
JFY	**Yanaizu**	**6.41**	**344**	P	**Pn**	**10 04 48.2**	**-2.0**
JHK	**Hiroka**	**6.45**	**339**	P	**Pn**	**10 04 49.3**	**-1.5**
JHK				S	**Sn**	**10 06 01.4**	**-2.9**
JMM	**Marumori**	**6.67**	**352**	P	**Pn**	**10 04 50.2**	**-3.6**
JMK	**Ichinoseki**	**7.71**	**356**	P	**Pn**	**10 05 05.4**	**-3.0**
JMK				*e*S	**Sn**	**10 06 28.6**	**-7.2**
JNU	**Nakatsue**	**9.54**	**284**	Pn	**P**	**10 05 35.6**	**+1.8**
	comp=Z,0.5nm,0.3s,baz=71,slow=15,SNR=20						
JNU				LR	LR	10 09 16.4	
	comp=Z,1μm,18.4s,baz=101,slow=38						
JOW	**Kunigami**	**12.72**	**253**	LR	LR	10 10 56.6	
	comp=Z,839nm,18.6s,baz=126,slow=36						
KS15	**Wonju Array Si**	**13.13**	**302**	*e*P	**P**	**10 06 22.3**	**-0.2**
YUK	**Yuzh-Kuril'sk**	**13.14**	**13**	*e*P	**P**	**10 06 19.7**	**-2.8**
YUK				pmax	pmax		
	comp=Z,190nm,0.5s						
INCN	**Inchon**	**14.07**	**300**	P	**P**	**10 06 36.1**	**+1.4**
	comp=Z,58nm,0.9s						
YSS	**Yuzh-Sakhalins**	**15.70**	**2**	*e*P	**P**	**10 06 51.7**	**-4.3**
	comp=Z,35nm,1.0s						
YSS	**Yuzh-Sakhalins**	**15.70**	**2**	⇑*e*P	**P**	**10 06 53.0**	**-3.0**
YSS				*e*S	**S**	**10 09 43.0**	**-6.4**
YSS				pmax	pmax		
	comp=N,40nm,1.0s						
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS				MLR	MLR		
	comp=Z,1μm,14.0s						
YSS				MLR	MLR		
	comp=N,1μm,15.0s						
MDJ	**Mudanjiang**	**16.48**	**328**	P	**P**	**10 07 04.5**	**-1.5**
MDJ				AP		10 07 12.8	
MDJ				XP		10 07 15.4	
MDJ				S	**S**	**10 10 03.7**	**-3.9**
MDJ				XS		10 10 19.5	
MDJ				PCP	PcP	10 11 56.3	-1.5
MDJ				SCP		10 15 29.8	
MDJ				PCS		10 15 32.5	
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.2s						
MDJ				AMB	AMB		
	comp=Z,120nm,7.7s						
MDJ				LR	LR		
	comp=N,1μm,18.3s						
MDJ				LR	LR		
	comp=E,927nm,14.7s						
MDJ				LR	LR		
	comp=Z,1μm,18.9s						
MDJ	**Mudanjiang**	**16.48**	**328**	*e*P	**P**	**10 07 04.5**	**-1.5**
	comp=Z,44nm,1.0s						
SSE	**Sheshan**	**17.74**	**275**	*e*P	**P**	**10 07 20.2**	**-1.7**
SSE				AP		10 07 30.0	
SSE				XP		10 07 33.6	
SSE				S	**S**	**10 10 37.9**	**+1.4**
SSE				AMB	AMB		
	comp=Z,31nm,0.7s						
SSE				AMB	AMB		
	comp=Z,188nm,3.6s						
SSE				LR	LR		
	comp=N,555nm,16.2s						
SSE				LR	LR		
	comp=E,1μm,16.2s						
SSE				LR	LR		
	comp=Z,1μm,15.8s						
UGL	**Uglegorsk**	**17.81**	**0**	P	**P**	**10 07 24.0**	**+1.4**
UGL				MLR	MLR		
	comp=Z,900nm,15.0s						
UGL				MLR	MLR		
	comp=N,800nm,14.0s						
UGL				MLR	MLR		
	comp=E,1μm,14.0s						
CN2	**Changchun**	**18.06**	**319**	*e*P	**P**	**10 07 27.0**	**+1.2**
CN2				XP		10 07 37.0	
CN2				*e*S	**S**	**10 10 44.0**	**+0.4**
CN2				AMB	AMB		
	comp=Z,40nm,1.1s						
CN2				AMB	AMB		
	comp=Z,190nm,8.0s						
CN2				LR	LR		
	comp=N,930nm,16.0s						
CN2				LR	LR		
	comp=E,1μm,16.0s						
CN2				LR	LR		
	comp=Z,1μm,17.0s						
SNY	**Shenyang**	**18.09**	**311**	⇓P	**P**	**10 07 25.5**	**-0.7**
SNY				AP		10 07 31.5	
SNY				XP		10 07 35.4	
SNY				XS		10 10 58.6	
SNY				AMB	AMB		
	comp=Z,80nm,0.8s						
SNY				AMB	AMB		
	comp=Z,300nm,6.1s						
SNY				LR	LR		
	comp=N,2μm,14.1s						
SNY				LR	LR		
	comp=Z,1μm,15.9s						
NACB	**Ninganchiao**	**19.31**	**254**	*e*P	**P**	**10 07 38.1**	**-2.8**
KLR	**Kul'dur**	**19.53**	**340**	*e*P	**P**	**10 07 36.8**	**-6.5**
KLR				MLR	MLR		
	comp=E,700nm,12.5s						
KLR				MLR	MLR		
	comp=Z,1μm,12.5s						
NJ2	**Nanjing**	**19.65**	**278**	*e*P	**P**	**10 07 45.6**	**+0.9**
NJ2				AP		10 07 51.5	
NJ2				XP		10 07 56.6	
NJ2				PP	PP	10 08 04.4	+1.5
NJ2				PPP	PPP	10 08 13.4	+1.5
NJ2				S	**S**	**10 11 24.0**	**+4.7**
NJ2				XS		10 11 33.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.9s						
NJ2				AMB	AMB		
	comp=Z,670nm,4.9s						
NJ2				LR	LR		
	comp=N,2μm,15.0s						
NJ2				LR	LR		
	comp=E,2μm,12.6s						
NJ2				LR	LR		
	comp=Z,8μm,20.9s						
SKR	**Severo-Kuril's**	**22.11**	**24**	*e*P	**P**	**10 08 17.0**	**+7.1**
SKR				*e*		10 08 40.0	
SKR				*e*S	**S**	**10 12 07.0**	**-0.2**
SKR				*e*		10 12 16.0	
SKR				smax			
	comp=N,2μm,10.0s						
SKR				smax			
	comp=E,1μm,10.0s						
SKR				MLR	MLR		
	comp=N,1μm,14.0s,MS4.6						
SKR				MLR	MLR		
	comp=E,1μm,14.0s,MS4.6						
SKR				MLR	MLR		
	comp=Z,2μm,14.0s,MS4.6						
HIA	**Hailar**	**24.55**	**323**	*e*P	**P**	**10 08 33.9**	**+0.1**
	comp=Z,46nm,0.9s,mb5.0						
HIA				LR	LR		
	comp=Z,810nm,20.0s,MS4.2						
HIA	**Hailar**	**24.55**	**323**	*e*P	**P**	**10 08 33.9**	**+0.1**
HIA				pmax	pmax		
	comp=Z,46nm,0.9s						
HIA				MLR	MLR		
	comp=Z,810nm,20.0s						
PET	**Petropavlovsk**	**24.93**	**24**	*e*P	**P**	**10 08 36.5**	**-0.8**
PET				*e*		10 09 11.6	
PET				*e*S	**S**	**10 12 53.4**	**-3.0**
PET				pmax	pmax		
	comp=Z,100nm,5.3s						
PET				pmax	pmax		
	comp=Z,200nm,6.6s						
PET				MLR	MLR		
	comp=Z,900nm,17.0s,MS4.3						
PET				MLR	MLR		
	comp=Z,800nm,17.0s						
HHC	**Hu-ho-hao-te**	**26.23**	**300**	*e*P	**P**	**10 08 48.2**	**-1.4**
HHC				XP	sP	10 08 57.6	-2.6
HHC				PP	PP	10 09 29.1	-3.0
HHC				S	**S**	**10 13 15.1**	**-3.2**
HHC				SS	SS	10 14 24.6	-2.3
HHC				PCS		10 15 56.2	
HHC				SCS	ScS	10 19 37.7	-4.2
HHC				LR	LR		
	comp=N,620nm,17.2s,MS4.4						
HHC				LR	LR		
	comp=E,717nm,15.5s,MS4.4						
HHC				LR	LR		
	comp=Z,1μm,14.9s,MS4.6						
GZH	**Guangzhou**	**26.63**	**259**	P	**P**	**10 08 48.4**	**-5.1**
GZH				S	**S**	**10 13 22.0**	**-3.0**
GZH				LR	LR		
	comp=N,449nm,11.8s,MS4.5						
GZH				LR	LR		
	comp=E,924nm,16.7s,MS4.5						
GZH				LR	LR		
	comp=Z,899nm,13.0s,MS4.5						
BTO	**Baotou**	**27.34**	**299**	*e*P	**P**	**10 08 58.2**	**-1.6**
BTO				AMB	AMB		
	comp=Z,39nm,1.0s,mb4.9						
BTO				LR	LR		
	comp=N,912nm,14.3s,MS4.8						
BTO				LR	LR		
	comp=E,2μm,15.7s,MS4.8						
ENH	**Enshi**	**27.83**	**276**	*e*P	**P**	**10 09 03.1**	**-1.3**
	comp=E,6.0nm,0.6s,mb4.4						
ENH				LR	LR		
	comp=Z,875nm,20.0s,MS4.3						
XAN	**Xi'an**	**27.86**	**285**	P	**P**	**10 09 01.9**	**-2.6**
XAN				AP	pP	10 09 14.1	+2.3
XAN				AMB	AMB		
	comp=Z,27nm,1.0s,mb4.8						
CLNS	**Chul'man**	**28.20**	**340**	*e*P	**P**	**10 09 06.9**	**-0.4**
CLNS				*e**PP	pP	10 09 13.8	-0.8
CLNS				*e*		10 09 58.5	
CLNS				*e*PPP	PPP	10 10 14.0	+3.6
CLNS				pmax	pmax		
	comp=Z,23nm,1.0s,mb4.8						
CLNS				pmax	pmax		
	comp=N,12nm,0.9s						
CLNS				pmax	pmax		
	comp=E,6.0nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,16nm,0.8s,mb4.7						
CLNS				pmax	pmax		
	comp=N,10.0nm,0.9s						
CLNS				pmax	pmax		
	comp=E,18nm,0.9s						
MA2	**Magadan**	**28.95**	**9**	P	**P**	**10 09 12.2**	**-1.8**
MA2	**Magadan**	**28.95**	**9**	*i* P	**P**	**10 09 12.9**	**-1.2**
MA2				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.4						
GYA	**Guiyang**	**31.16**	**270**	⇑*i*P	**P**	**10 09 35.0**	**+0.9**
GYA				AP	pP	10 09 42.2	+0.8
GYA				XP	sP	10 09 45.8	+1.2
GYA				PP	PP	10 10 38.4	+1.4
GYA				S	**S**	**10 14 38.5**	**+1.2**
GYA				SCP		10 16 09.4	
GYA				SS	SS	10 16 24.5	+1.2
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0						
GYA				AMB	AMB		
	comp=Z,100nm,2.9s,mb5.1						
GYA				LR	LR		
	comp=N,460nm,15.8s,MS4.3						
GYA				LR	LR		
	comp=E,380nm,16.0s,MS4.3						
GYA				LR	LR		
	comp=Z,510nm,16.2s,MS4.3						
FX1	**Attu Island--F**	**31.31**	**37**	P	**P**	**10 09 34.6**	**-0.5**
	comp=Z,14nm,0.7s,mb4.9,baz=91,slow=9.4,SNR=5.4						
FX1	**Attu Island--F**	**31.31**	**37**	P	**P**	**10 09 34.7**	**-0.4**
FX1				pmax	pmax		
	comp=Z,14nm,0.7s						
SONM	**Songino Array**	**31.67**	**312**	P	**P**	**10 09 37.9**	**-0.4**
	comp=Z,23nm,1.0s,mb5.0,baz=119,slow=7.7,SNR=89						
SONM				PcP	PcP	10 12 30.0	0.0
	comp=Z,2.2nm,1.0s,baz=68,slow=2.0,SNR=4.5						
SONM				LR	LR	10 23 07.4	
	comp=Z,956nm,18.2s,MS4.5,baz=112,slow=38						
SONM	**Songino Array**	**31.67**	**312**	P	**P**	**10 09 37.9**	**-0.4**
SONM						10 12 30.0	
SONM				pmax	pmax		
	comp=Z,23nm,1.0s						
SONM				pmax	pmax		
	comp=Z,2.0nm,1.0s						
SONM				MLR	MLR		
	comp=Z,956nm,18.2s						
YAK	**Yakutsk**	**31.80**	**349**	*e*P	**P**	**10 09 37.9**	**-1.5**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.7						
YAK				pmax	pmax		
	comp=N,5.0nm,1.2s						
YAK				MLR	MLR		
	comp=N,321nm,13.0s,MS4.2						
YAK				MLR	MLR		
	comp=E,183nm,13.0s,MS4.2						
YAK				MLR	MLR		
	comp=Z,363nm,13.0s,MS4.2						
LZH	**Lanzhou**	**31.91**	**289**	*e*P	**P**	**10 09 38.7**	**-1.9**
LZH				AP	pP	10 09 50.0	+2.1
LZH				XP	sP	10 09 53.8	+2.7
LZH				S	**S**	**10 14 53.2**	**+4.2**
LZH				XS		10 15 07.0	
LZH				AMB	AMB		
	comp=Z,60nm,1.1s,mb5.3						
LZH				AMB	AMB		
	comp=Z,300nm,4.2s						
LZH				LR	LR		
	comp=E,2μm,14.4s						
LZH				LR	LR		
	comp=Z,1μm,18.8s,MS4.6						
SEY	**Seymchan**	**32.40**	**9**	*i* P	**P**	**10 09 44.3**	**-0.3**
CD2	**Chengdu**	**32.58**	**280**	P	**P**	**10 09 47.0**	**+0.6**
BOD	**Bodaibo**	**32.74**	**332**	*e*P	**P**	**10 09 44.9**	**-2.7**
BOD				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
ZAK	**Zakamensk**	**34.43**	**315**	⇓*e*P	**P**	**10 10 03.1**	**+0.8**
ZAK				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.7						
IRK	**Irkutsk**	**34.51**	**318**	*e*P	**P**	**10 10 02.6**	**-0.3**
IRK				pmax	pmax		
	comp=Z,36nm,2.1s,mb4.9						
TLY	**Talaya**	**34.66**	**317**	*e*P	**P**	**10 10 04.0**	**-0.2**
	comp=Z,11nm,0.8s,mb4.8						
TLY	**Talaya**	**34.66**	**317**	*e*P	**P**	**10 10 03.9**	**-0.3**
TLY				*e*		10 11 24.1	
TLY				*e*S	**S**	**10 15 31.8**	**+0.4**
TLY				*e*SS	SS	10 17 46.4	+2.1
TLY				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
KMI	**Kunming**	**34.94**	**270**	P	**P**	**10 10 08.2**	**+1.3**
KMI				AP	pP	10 10 14.4	+0.2
KMI				XP	sP	10 10 17.5	+0.1
KMI				PP	PP	10 11 26.9	+1.8
KMI				S	**S**	**10 15 37.3**	**+1.3**
KMI				XS		10 15 49.1	
KMI				AMB	AMB		
	comp=Z,8.0nm,0.6s,mb4.8						
KMI				AMB	AMB		
	comp=Z,69nm,4.6s						
KMI				LR	LR		
	comp=N,563nm,13.3s,MS4.6						
KMI				LR	LR		
	comp=E,504nm,15.1s,MS4.6						
KMI				LR	LR		
	comp=Z,602nm,14.4s,MS4.5						
GTA	**Gaotai**	**35.05**	**295**	*e*P	**P**	**10 10 06.1**	**-1.6**
GTA				AP	pP	10 10 14.2	-0.9
GTA				XP	sP	10 10 17.5	-0.7
GTA				PP	PP	10 11 24.1	-2.3
GTA				PCP	PcP	10 12 39.9	+0.3
GTA				S	**S**	**10 15 34.5**	**-3.1**
GTA				XS		10 15 46.4	
GTA				SCP		10 16 22.2	
GTA				SS	SS	10 17 48.5	-4.9
GTA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
GTA				AMB	AMB		
	comp=Z,131nm,5.3s						
GTA				LR	LR		
	comp=N,639nm,14.9s,MS4.8						
GTA				LR	LR		
	comp=E,1μm,15.3s,MS4.8						
GTA				LR	LR		
	comp=Z,1μm,15.3s,MS4.7						
BILL	**Bilibino**	**39.49**	**14**	*e*P	**P**	**10 10 43.7**	**-1.0**
BILL				*e*		10 12 51.6	
BILL				*e*S	**S**	**10 16 43.9**	**-1.2**
BILL				*e*SS	SS	10 19 39.5	+6.8
BILL				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.2						
BILL				MLR	MLR		
	comp=Z,400nm,16.0s,MS4.3						
KSM	**Kuching**	**42.07**	**231**	*e*P	**P**	**10 11 06.2**	**-0.4**
WMQ	**Urumqi**	**44.06**	**302**	P	**P**	**10 11 23.0**	**+0.6**
WMQ				AP	pP	10 11 31.0	+1.2
WMQ				XP	sP	10 11 34.0	+1.1
WMQ				PP	PP	10 13 07.0	+0.4
WMQ				S	**S**	**10 17 53.0**	**+0.2**
WMQ				XS		10 18 05.0	
WMQ				SS	SS	10 21 03.0	+0.8
WMQ				AMB	AMB		
	comp=Z,25nm,1.0s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,31nm,8.0s						
WMQ				LR	LR		
	comp=N,305nm,20.0s,MS4.4						

WMQ LR LR
comp=E,268nm,17.0s,MS4.4
WMQ LR LR
comp=Z,258nm,17.0s,MS4.2
NVS Novosibirsk 47.27 318 *i* P **P 10 11 46.5 -1.2**
NVS pmax pmax
comp=Z,28nm,1.0s,mb5.2
NVS pmax pmax
comp=N,6.0nm,0.8s
NVS pmax pmax
comp=E,16nm,0.8s
MK02 Makanchi Array 47.72 307 P **P 10 11 51.1 -0.3**
MK02 pmax pmax
comp=Z,22nm,0.9s,mb5.2
MKAR Makanchi Array 47.73 307 P **P 10 11 50.3 -1.2**
comp=Z,21nm,0.9s,mb5.2,baz=88,slow=8.2,SNR=88
MKAR PcP PcP 10 13 19.5 -1.4
comp=Z,4.3nm,0.9s,baz=76,slow=5.9,SNR=2.5
MKAR ScP 10 17 12.3
comp=Z,0.5nm,0.9s,baz=135,slow=4.1,SNR=3.6
MKAR LR LR 10 32 59.1
comp=Z,321nm,19.4s,MS4.3,baz=92,slow=37
MKAR Makanchi Array 47.73 307 P **P 10 11 50.3 -1.2**
MKAR 10 13 19.5
MKAR pmax pmax
comp=Z,21nm,0.9s
MKAR pmax pmax
comp=Z,4.0nm,1.0s
MKAR pmax pmax
comp=N,1.0nm,0.9s
MKAR MLR MLR
comp=Z,321nm,19.4s
KURK Kurchatov 49.97 312⇑ *e*P **P 10 12 07.7 -1.1**
comp=Z,39nm,0.9s,mb5.4
KURK Kurchatov 49.97 312⇑ *e*P **P 10 12 07.7 -1.0**
KURK pmax pmax
comp=Z,39nm,0.9s,mb5.4
CTA Charters Tower 51.21 175 *e*P **P 10 12 20.4 +1.9**
comp=Z,11nm,1.8s,mb4.5
CTA Charters Tower 51.21 175 P **P 10 12 18.9 +0.4**
comp=Z,2.5nm,0.5s,mb4.4,baz=0.3,slow=9.8,SNR=7.9
CTA LR LR 10 29 54.9
comp=Z,190nm,21.5s,MS4.1,baz=225,slow=31
CTA Charters Tower 51.21 175 *e*P **P 10 12 20.4 +1.9**
CTA pmax pmax
comp=Z,11nm,1.8s
CTAO Charters Tower 51.21 175 *e*P **P 10 12 17.9 -0.7**
comp=Z,2.3nm,0.4s,mb4.5
CTAO Charters Tower 51.21 175 *e*P **P 10 12 17.9 -0.6**
CTAO pmax pmax
comp=Z,2.0nm,0.4s,mb4.4
WRAB Tennant Creek 51.40 189 *e*P **P 10 12 18.2 -1.8**
comp=Z,57nm,1.2s,mb5.4
WRAB Tennant Creek 51.40 189 *i* P **P 10 12 18.4 -1.6**
WB2 Warramunga Arr 51.41 189 *e*P **P 10 12 18.4 -1.7**
WRA Warramunga Arr 51.41 189 P **P 10 12 17.9 -2.2**
comp=Z,10.0nm,0.6s,mb5.0,baz=6.4,slow=7.7,SNR=124
WRA Warramunga Arr 51.41 189 P **P 10 12 17.9 -2.2**
WRA pmax pmax
comp=Z,10.0nm,0.6s
FITZ Fitzroy Crossi 51.50 200 *e*P **P 10 12 18.8 -1.9**
comp=Z,12nm,1.0s,mb4.8
FITZ Fitzroy Crossi 51.50 200 LR LR 10 32 12.5
comp=Z,176nm,18.9s,MS4.1,baz=287,slow=34
TKM2 Tokmak 2 52.92 303 P **P 10 12 31.8 +0.7**
SNR=10
KSH Kashi 53.33 298 *e*P **P 10 12 35.1 +0.9**
KSH *e*AP pP 10 12 42.6 +0.8
KSH *e*XP sP 10 12 45.3 +0.6
KSH *e*PCP PcP 10 13 42.0 +0.5
KSH *e*PP PP 10 14 36.0 0.0
KSH *e*PPP PPP 10 15 44.1 +1.0
KSH *e*SCP 10 17 36.0
KSH PCS 10 17 39.2
KSH S **S 10 20 03.1 +0.4**
KSH XS 10 20 16.0
KSH SCS ScS 10 22 19.0 +0.3
KSH SS SS 10 23 43.0 +0.9
KSH AMB AMB
comp=Z,130nm,3.8s
KSH LR LR
comp=N,210nm,5.3s
KSH LR LR
comp=E,280nm,5.2s
KZA Kyzart 53.33 302 P **P 10 12 35.7 +1.5**
SNR=10
KBK Karagaybulak 53.44 302 P **P 10 12 35.5 +0.5**
SNR=7.4
SML Sawmill 53.48 34 *e*P **P 10 12 34.2 -0.8**
CHMS Chumysh 53.52 303 P **P 10 12 35.0 -0.5**
SNR=8.2
FRU Bishkek 53.64 303 *e*P **P 10 12 36.0 -0.4**
USP Ospenovka 53.65 303 P **P 10 12 36.2 -0.2**
SNR=12
AAK Ala-Archa 53.77 302 P **P 10 12 37.6 +0.2**
SNR=6.2
AAK Ala-Archa 53.77 302 *e*P **P 10 12 36.2 -1.2**
comp=E,13nm,0.9s,mb4.9
AAK Ala-Archa 53.77 302⇓ *i*P **P 10 12 36.0 -1.4**
AAK pmax pmax
comp=Z,15nm,1.1s,mb4.8
AAK MLR MLR
comp=Z,600nm,18.0s,MS4.7
ILAR Eielson Array 54.22 30 P **P 10 12 38.8 -1.5**
comp=Z,6.0nm,0.9s,mb4.5,baz=268,slow=6.5,SNR=29
ILAR LR LR 10 34 11.8
comp=Z,103nm,19.1s,MS3.9,baz=187,slow=34
EKS2 Erkin-Say 54.28 303 P **P 10 12 40.8 -0.4**
SNR=12
AML Almayashu 54.45 302 P **P 10 12 43.1 +0.7**
SNR=26
VOSK Vostochnaya 54.56 315 P **P 10 12 41.9 -1.1**
VOSK pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
DIV Divide 54.72 35 *e*P **P 10 12 42.7 -1.3**
comp=Z,51nm,1.1s,mb5.5
BVA0 Borovoye Array 54.88 316 *i* P **P 10 12 44.7 -0.7**
BVA0 pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
BVAR Borovoye Array 54.88 316 P **P 10 12 44.6 -0.8**
comp=Z,14nm,0.9s,mb5.0,baz=90,slow=7.4,SNR=40
BVAR Borovoye Array 54.88 316 P **P 10 12 44.6 -0.8**
BVAR pmax pmax
comp=Z,14nm,0.9s
BRVK Borovoye 54.94 316 *e*P **P 10 12 44.9 -1.0**
comp=Z,9.4nm,0.9s,mb4.8
BRVK Borovoye 54.94 316 *e*P **P 10 12 44.9 -0.9**
BRVK pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
KKAR Karatay Array 56.53 304 *i* P **P 10 12 56.8 -0.6**
KKAR pmax pmax
comp=Z,31nm,0.8s,mb5.4
DAWY Dawson 57.49 31 *e*P **P 10 13 04.6 +0.7**
INK Inuvik 59.38 25 P **P 10 13 16.2 -0.8**
comp=Z,4.3nm,1.0s,mb4.4,baz=264,slow=11,SNR=5.0
INK Inuvik 59.38 25 *e*P **P 10 13 16.5 -0.6**
comp=Z,4.9nm,0.9s,mb4.5
INK Inuvik 59.38 25 *e*P **P 10 13 16.5 -0.6**
INK pmax pmax
comp=Z,5.0nm,0.9s
SVE Sverdlovsk 59.83 321 *e*P **P 10 13 19.4 -0.9**
SVE *e* 10 21 31.0
SVE pmax pmax
comp=Z,40nm,1.0s,mb5.4
SVE MLR MLR
comp=N,300nm,12.0s,MS4.8
SVE MLR MLR
comp=E,300nm,12.0s,MS4.8
SVE MLR MLR
comp=Z,400nm,12.0s,MS4.8
ARU Arti 61.03 321 *e*P **P 10 13 27.4 -1.2**
comp=Z,42nm,0.9s,mb5.6
ARU Arti 61.03 321⇑ *i*P **P 10 13 27.5 -1.0**
ARU *e* 10 14 08.5
ARU *e* 10 15 41.4
ARU *e*S **S 10 21 45.4 +1.5**
ARU *e*SS SS 10 25 46.2 +1.1
ARU pmax pmax
comp=Z,46nm,1.0s,mb5.6
ARU MLR MLR
comp=Z,300nm,17.0s,MS4.5
ARU MLR MLR
comp=N,200nm,16.0s,MS4.6
ARU MLR MLR
comp=E,300nm,20.0s,MS4.6
ARMA Armidale 62.02 171 *e*P **P 10 13 27.0 -8.6**

AB31 Akbulak array 62.08 313 *i* P **P 10 13 34.6 -1.1**
AB31 pmax pmax
comp=Z,1.0nm,0.4s,mb4.3
STKA Stephens Creek 62.78 180 *e*P **P 10 13 41.5 +0.9**
comp=Z,8.5nm,3.0s
STKA Stephens Creek 62.78 180 P **P 10 13 40.7 +0.1**
comp=Z,4.0nm,0.7s,mb4.6,baz=17,slow=6.9,SNR=7.7
DLBC Dease Lake 62.98 36 *e*P **P 10 13 42.1 +0.6**
AFI Afiamalu 63.18 128 LR LR 10 36 48.1
comp=Z,282nm,18.7s,MS4.5,baz=292,slow=32
APA Apatity 68.14 337⇑ *i*P **P 10 14 14.5 0.0**
APA pmax pmax
comp=Z,23nm,1.0s,mb5.2
YKA Yellowknife Ar 68.62 29 P **P 10 14 16.2 -1.3**
comp=Z,3.2nm,1.0s,mb4.2,baz=294,slow=6.0,SNR=15
KEV Kevo 69.00 340 *e*p **P 10 14 16.6 -3.2**
comp=Z,0.4nm,0.4s,mb3.7
ARCES ARCESS Array B 69.56 340 P **P 10 14 21.8 -1.4**
comp=Z,8.4nm,0.9s,mb4.7,baz=68,slow=6.5,SNR=16
ARCES LR LR 10 52 16.6
comp=Z,289nm,18.1s,MS4.6,baz=59,slow=42
ARE0 ARCESS Array S 69.56 340 *e*P **P 10 14 23.0 -0.2**
OBN Obninsk 73.01 325 *i* P **P 10 14 43.8 -0.2**
OBN *i* 10 14 56.3
OBN *e*SS SS 10 28 50.3 -1.3
OBN pmax pmax
comp=Z,14nm,0.9s,mb4.9
OBN MLR MLR
comp=Z,500nm,18.0s,MS4.8
YBH Yreka Blue Hor 73.60 51 P **P 10 14 48.0 +0.2**
comp=Z,5.3nm,1.0s,mb4.4,baz=299,slow=2.4,SNR=5.4
YBH Yreka Blue Hor 73.60 51 P **P 10 14 48.0 +0.2**
YBH pmax pmax
comp=Z,5.0nm,1.0s
KAF Kangasniemi 73.65 334 *e*p **P 10 14 46.5 -1.1**
comp=Z,0.8nm,0.4s,mb4.0
EDM Edmonton 73.65 37 *e*P **P 10 14 47.8 -0.1**
NEW Newport 74.03 43 P **P 10 14 50.4 +0.3**
baz=304,slow=7.6
NEW Newport 74.03 43 *e*P **P 10 14 50.3 +0.2**
comp=Z,8.7nm,1.1s,mb4.6
FINES FINESS Array B 74.14 333 P **P 10 14 49.4 -1.0**
comp=Z,6.8nm,0.9s,mb4.6,baz=63,slow=4.3,SNR=9.8
FINES LR LR 10 52 37.8
comp=Z,134nm,18.8s,MS4.3,baz=1.8,slow=40
FINES FINESS Array B 74.14 333 P **P 10 14 49.4 -1.0**
FINES LR LR 10 52 37.8
FINES FINESS Array B 74.14 333 P **P 10 14 49.4 -1.1**
FINES pmax pmax
comp=Z,7.0nm,0.9s
FINES MLR MLR
comp=Z,134nm,18.8s
ZEI Tsey 74.85 311 *e*P **P 10 14 53.5 -1.5**
ZEI *i* *PP pP 10 14 59.1 -3.7
ZEI pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
KIV Kislovodsk 75.06 312 *e*P **P 10 14 58.4 +2.2**
comp=Z,16nm,0.8s,mb5.0
KIV LR LR
comp=Z,54nm,19.0s,MS3.9
KIV Kislovodsk 75.06 312 *i* P **P 10 14 56.5 +0.3**
KIV *e* pP 10 15 02.9 -1.1
KIV *e* 10 17 42.6
KIV pmax pmax
comp=Z,17nm,0.8s,mb5.0
KIV MLR MLR
comp=Z,200nm,18.0s,MS4.5
WALA Waterton Lakes 75.47 41 *e*P **P 10 14 58.6 +0.2**
comp=Z,7.7nm,0.8s,mb4.7
GNI Garni 75.55 308 LR LR 10 51 28.6
comp=Z,252nm,18.1s,MS4.6,baz=164,slow=38
BMO Blue Mountains 75.59 46 *e*P **P 10 14 59.4 +0.2**
comp=Z,18nm,1.6s,mb4.7
VSU Vasula 75.67 331 *i* P **P 10 15 00.1 +0.8**
BEKR Beckwourth 76.06 52 *e*P **P 10 15 01.9 0.0**
comp=Z,7.7nm,0.9s,mb4.6
CMB Columbia Colle 76.93 53 *e*P **P 10 15 06.8 0.0**
comp=Z,11nm,1.0s,mb4.7
CMB LR LR
comp=Z,236nm,19.0s,MS4.5
CMB Columbia Colle 76.93 53 *e*P **P 10 15 06.9 0.0**
CMB pmax pmax
comp=Z,11nm,1.0s,mb4.7
CMB MLR MLR
comp=Z,236nm,19.0s,MS4.5
CHMT Chamberlain Mo 76.97 43 *e*P **P 10 15 06.8 -0.1**
SOC Sochi 77.11 313 *e*P **P 10 15 07.8 +0.1**
SOC *e*S S 10 24 54.6 +0.8
SOC pmax pmax
comp=N,14nm,1.1s
SOC pmax pmax
comp=Z,22nm,1.1s,mb5.0
SOC pmax pmax
comp=E,8.0nm,0.8s
SOC MLR MLR
comp=N,185nm,15.0s,MS4.6
SOC MLR MLR
comp=E,143nm,15.0s,MS4.6
SOC MLR MLR
comp=Z,212nm,15.0s,MS4.6
ANN Anapa 77.88 315 *e*P **P 10 15 11.6 -0.3**
ANN *i* 10 15 23.0
ANN *e*S S 10 25 04.6 +2.6
ANN pmax pmax
comp=Z,39nm,1.4s,mb5.1
HRY Holter Researc 77.90 43 *e*P **P 10 15 12.8 +0.7**
MCMT McKenzie Canyo 78.32 45 *e*P **P 10 15 14.8 +0.4**
BOZ Bozeman (W) 78.60 43 *e*P **P 10 15 16.1 +0.2**
comp=Z,7.6nm,1.0s,mb4.6
BOZ Bozeman (W) 78.60 43 *e*P **P 10 15 16.1 +0.2**
BOZ pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
ELK Elko 78.99 49 P **P 10 15 18.2 +0.1**
comp=Z,2.6nm,0.9s,mb4.1,baz=291,slow=3.1,SNR=10
ELK Elko 78.99 49 *e*P **P 10 15 19.0 +0.8**
comp=Z,4.4nm,1.0s,mb4.3
ELK Elko 78.99 49 *e*P **P 10 15 19.0 +0.9**
ELK pmax pmax
comp=Z,4.0nm,1.0s
AKASG Malin Array Be 79.15 323 P **P 10 15 17.9 -0.9**
comp=Z,1.7nm,0.5s,mb4.2,baz=48,slow=5.7,SNR=15
AKASG Malin Array Be 79.15 323 P **P 10 15 17.9 -0.9**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
QLMT Earthquake Lak 79.16 44 *e*P **P 10 15 19.6 +0.6**
YMR Madison River 79.53 44 *e*P **P 10 15 22.3 +1.3**
GCMT Greycliff 79.66 42 *e*P **P 10 15 22.4 +0.8**
NB2 NORSAR Subarra 79.68 338 P **P 10 15 21.0 -0.4**
comp=Z,16nm,1.1s,mb4.9,baz=40,slow=5.3
NB2 NORSAR Subarra 79.68 338 P **P 10 15 21.0 -0.4**
NB2 pmax pmax
comp=Z,16nm,1.1s,mb4.9
NOA NORSAR Array B 79.68 338 P **P 10 15 21.2 -0.2**
comp=Z,6.8nm,0.9s,mb4.6,baz=40,slow=5.2,SNR=10.0
NOA LR LR 10 57 07.4
comp=Z,202nm,18.5s,MS4.5,baz=60,slow=41
DAC Darwin (Calif) 79.74 54 *e*P **P 10 15 22.0 -0.3**
comp=Z,3.6nm,1.0s,mb4.3
DAC Darwin (Calif) 79.74 54 *e*P **P 10 15 22.0 -0.3**
DAC pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
IMW Indian Meadow 79.97 45 *e*P **P 10 15 24.9 +1.5**
comp=Z,12nm,0.9s,mb4.8
SUW Suwalki 80.00 328 *e*P **P 10 15 25.2 +1.9**
SUW Suwalki 80.00 328 *e*P **P 10 15 25.2 +1.9**
HVU Hansel Valley 80.01 47 *e*P **P 10 15 23.1 -0.5**
RRI2 Red Ridge 80.05 45 *e*P **P 10 15 24.9 +1.2**
comp=Z,9.8nm,0.9s,mb4.7
TPAW Teton Pass 80.19 45 *e*P **P 10 15 25.6 +1.0**
comp=Z,11nm,0.9s,mb4.8
SNOW Snow King Moun 80.33 45 *e*P **P 10 15 26.4 +1.2**
comp=Z,9.0nm,1.0s,mb4.7
MALT Malatya 80.70 309 *e*P **P 10 15 28.8 +1.4**
comp=Z,15nm,1.0s,mb4.9
MALT Malatya 80.70 309 *e*P **P 10 15 28.8 +1.4**
MALT pmax pmax
comp=Z,15nm,1.0s,mb4.9
HWUT Hardware Ranch 80.86 47 *e*P **P 10 15 28.3 +0.2**
comp=Z,15nm,1.0s,mb4.9
LAO LASA Array 81.09 40 *e*P **P 10 15 29.8 +0.6**
comp=Z,16nm,1.3s,mb4.8
TCUT Toone Canyon 81.23 47 *e*P **P 10 15 31.1 +1.0**
CTU Camp Tracy 81.25 48 *e*P **P 10 15 30.9 +0.7**
PDAR Pinedale Array 81.44 45 P **P 10 15 31.4 +0.3**
comp=Z,3.3nm,0.8s,mb4.3,baz=298,slow=3.1,SNR=23
PDAR LR LR 10 48 34.4

comp=Z,128nm,18.4s,MS4.3,baz=152,slow=33
JLU Jordanelle 81.49 48 *e*P **P 10 15 31.9 +0.4**
PPT Papeete 81.69 116 LR LR 10 51 02.9
comp=Z,318nm,18.5s,MS4.7,baz=196,slow=35
MPU Maple Canyon 81.70 48 *e*P **P 10 15 33.6 +1.1**
DAU Daniels Canyon 81.72 48 *e*P **P 10 15 33.7 +1.1**
ARUT Antelope Range 81.75 51 *e*P **P 10 15 33.6 +0.7**
PFO Pinyon Flat Ob 81.93 56 *e*P **P 10 15 33.1 -0.8**
comp=Z,11nm,1.0s,mb4.7
PFO Pinyon Flat Ob 81.93 56 *e*P **P 10 15 33.1 -0.8**
PFO pmax pmax
comp=Z,11nm,1.0s,mb4.7
NEN Nelson 81.97 53 *e*P **P 10 15 34.6 +0.6**
MSU Marysvale 82.19 50 *e*P **P 10 15 36.1 +1.1**
LVV L'vov 82.31 325 *e*P **P 10 15 40.7 +5.2**
LVV *i* S S 10 25 41.9 -6.4
LVV *e*PS PS 10 26 34.5 -7.1
LVV MLR MLR
comp=Z,300nm,17.0s,MS4.7
SRU San Rafael 82.92 48 *e*P **P 10 15 39.2 +0.3**
BR131 Keskin Array S 83.03 312 *e*P **P 10 15 40.6 +1.2**
comp=Z,14nm,1.0s,mb4.9
BRTR Keskin Array B 83.03 312 P **P 10 15 40.5 +1.1**
comp=Z,15nm,1.0s,mb5.0,baz=117,slow=2.8,SNR=29
BRTR Keskin Array B 83.03 312 P **P 10 15 40.6 +1.2**
BRTR pmax pmax
comp=Z,15nm,1.0s
KOLS Kolonicke sedl 83.76 325 *e*P **P 10 15 44.0 +1.1**
STHS Stebnicka Huta 83.94 326 *e*P **P 10 15 46.7 +2.9**
OJC Ojcow 84.08 327 *e*P **P 10 15 45.0 +0.5**
ULM Lac du Bonnet 84.11 33 LR LR 10 51 20.0
comp=Z,150nm,19.1s,MS4.4,baz=324,slow=34
HILS Ha'il 84.13 298 P **P 10 15 46.6 +1.3**
PV10 Paradox Valley 84.29 48 *e*P **P 10 15 47.0 +1.1**
PV10 *e* 10 15 59.9
NIE Niedzica 84.39 326 *e*P **P 10 15 47.4 +1.3**
PV01 Paradox Valley 84.73 48 *e*P **P 10 15 48.8 +0.7**
PV01 *e* 10 16 01.6
KECS Kecovo 84.94 325 *e*P **P 10 15 52.3 +3.5**
AFFS 'Afif 85.03 295 P **P 10 15 50.7 +0.9**
OKC Ostrava-Krasne 85.12 327 *e*P **P 10 15 51.5 +1.8**
OKC *e*S S 10 26 23.5 +7.2
OKC AMS AMS 11 03 00.0
comp=Z,300nm,15.5s
SMCO Snowmass 85.12 47 *e*P **P 10 15 50.4 +0.4**
KSP Ksiaz 85.24 329 *e*P **P 10 15 51.1 +0.8**
KSP Ksiaz 85.24 329 *e*P **P 10 15 51.0 +0.7**
KSP *e*S S 10 26 19.0 +1.5
MORC Moravsky Berou 85.44 328 *e*P **P 10 15 52.0 +0.7**
comp=Z,6.3nm,1.1s,mb4.7
MORC Moravsky Berou 85.44 328 *e*P **P 10 15 52.0 +0.7**
MORC pmax pmax
comp=Z,6.0nm,1.1s,mb4.6
DPC Dobruska-Polom 85.58 328 *e*P **P 10 15 53.1 +1.1**
DPC *e*pP pP 10 16 07.9 +7.9
DPC *e*S S 10 26 23.0 +2.2
DPC AMS AMS 11 00 10.0
comp=Z,300nm,15.1s
UPC Upice 85.61 329 *e*P **P 10 15 53.9 +1.8**
VYHS Vyhne 85.73 326 *e*P **P 10 15 53.1 +0.3**
ISP Isparta 86.11 312 *i* P **P 10 15 57.4 +2.4**
PVCC Panska Ves 86.23 329 *e*P **P 10 15 52.1 -3.1**
PVCC *e*S S 10 26 33.2 +6.2
PVCC AMS AMS 10 57 40.0
comp=Z,300nm,17.3s
CLL Collm 86.32 331 ⇓P **P 10 15 56.2 +0.5**
comp=Z,logA/T=1.1,mb5.1
CLL *i* pP 10 16 03.4 -0.2
CLL *e*PP pP 10 16 11.0 +7.4
CLL *e* 10 16 46.0
CLL Collm 86.32 331⇓ *i*PKP **P 10 15 56.2 +0.5**
comp=Z,23nm,1.7s,mb5.1
CLL *i* pP 10 16 03.4 -0.2
CLL *e* 10 16 11.0
CLL Collm 86.32 331⇓ *i*P **P 10 15 56.2 +0.5**
CLL *i* pP 10 16 03.4 -0.2
CLL pmax pmax
comp=Z,23nm,1.7s,mb5.1
PRU Pruhonice 86.64 329 *e*P **P 10 16 01.2 +4.0**
PRU *e*S S 10 26 26.7 -4.2
PRU AMS AMS 10 59 10.0
comp=Z,300nm,13.8s
SDCO Great Sand Dun 86.91 47 *e*P **P 10 15 59.8 +0.9**
comp=Z,8.2nm,1.2s,mb4.8
TATS Tathlith 86.96 291 P **P 10 16 01.5 +1.9**
NKC Novy Kostel 87.36 330 *e*SKS SKS 10 26 21.9 -10
NKC AMS AMS 11 03 40.0
comp=Z,300nm,17.5s
MOX Moxa 87.40 331 *e*P **P 10 16 05.0 +4.1**
MOX L 10 16 53.0
JMQS Jabal Moqyreh 87.68 302 P **P 10 16 03.0 +0.2**
KHC Kasperske Hory 87.69 329 *e*P **P 10 16 02.0 -0.4**
KHC *e*S S 10 26 47.1 +6.2
KHC AMS AMS 11 00 00.0
comp=Z,300nm,15.6s
GERES GERESS Array B 87.85 329 P **P 10 16 03.0 -0.1**
comp=Z,1.3nm,1.0s,mb4.1,baz=27,slow=3.0,SNR=6.0
GERES PP PP 10 19 28.7 -3.0
comp=Z,0.4nm,0.7s,baz=16,slow=9.7,SNR=4.1
GERES LR LR 11 00 56.9
comp=Z,245nm,18.7s,MS4.7,baz=166,slow=39
DJNS Zahran al Janu 87.87 289 P **P 10 16 06.3 +2.4**
ANMO Albuquerque 87.99 50 LR LR 10 52 33.1
comp=Z,414nm,18.6s,MS4.9,baz=292,slow=34
ANMO Albuquerque 87.99 50 *i* P **P 10 16 03.7 -0.4**
HAQS Haql 88.26 303 P **P 10 16 05.8 +0.3**
BLJS Baljurashi 88.27 292 P **P 10 16 06.8 +1.0**
BDAS Al Bad' 88.49 303 P **P 10 16 06.8 +0.1**
CDF Champ du Feu 90.92 332 *e*P **P 10 16 17.5 -0.1**
comp=Z,13nm,1.2s,mb4.8
CDF Champ du Feu 90.92 332 *e*P **P 10 16 17.5 -0.1**
CDF pmax pmax
comp=Z,7.0nm,1.2s,mb4.9
DAVOX Davos 91.10 329 LR LR 11 01 30.1
comp=Z,235nm,19.0s,MS4.7,baz=268,slow=38
LOR Lormes 93.20 333 *e*P **P 10 16 27.0 -1.1**
LTX Lajitas 93.30 53 *e*P **P 10 16 29.9 +0.9**
comp=Z,16nm,0.9s,mb5.5
LTX Lajitas 93.30 53 *e*P **P 10 16 29.9 +0.9**
LTX pmax pmax
comp=Z,16nm,0.9s,mb5.5
TXAR Lajitas Array 93.30 53 P **P 10 16 29.8 +0.8**
comp=Z,9.5nm,0.8s,mb5.3,baz=298,slow=3.2,SNR=58
TXAR Lajitas Array 93.30 53 P **P 10 16 29.8 +0.8**
TXAR pmax pmax
comp=Z,10.0nm,0.8s
LPL La Plagne 93.45 330 *e*P **P 10 16 29.5 +0.2**
LPG La Plagne 93.45 330 *e*P **P 10 16 29.7 +0.4**
comp=Z,14nm,1.0s,mb5.0
LPG La Plagne 93.45 330 *e*P **P 10 16 29.7 +0.4**
LPG pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
SSF Saint Saulge 93.51 333 *e*P **P 10 16 29.4 -0.1**
comp=Z,6.6nm,1.1s,mb5.0
SSF Saint Saulge 93.51 333 *e*P **P 10 16 29.4 -0.1**
SSF pmax pmax
comp=Z,7.0nm,1.1s,mb5.0
SMF Signal de Mont 93.72 333 *e*P **P 10 16 29.5 -1.0**
AVF Avril sur Loir 93.79 333 *e*P **P 10 16 30.8 0.0**
comp=Z,24nm,1.1s,mb5.2
AVF Avril sur Loir 93.79 333 *e*P **P 10 16 30.8 0.0**
AVF pmax pmax
comp=Z,12nm,1.1s,mb5.2
CCM Cathedral Cave 95.08 39 *e*P **P 10 16 36.1 -0.9**
comp=Z,6.6nm,1.0s,mb5.0
CCM Cathedral Cave 95.08 39 *e*P **P 10 16 36.1 -0.9**
CCM pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
SADO Sadowa 95.61 28 LR LR 11 01 21.5
comp=Z,173nm,18.6s,MS4.5,baz=116,slow=36
VNA2 Neumayer--Watz 136.86 194⇑ *i*PKPdf PKPdf 10 22 34.2 -5.0
VNA2 *e* 10 25 17.8
VNA3 Neumayer Olymp 137.06 193⇑ *i*PKPdf PKPdf 10 22 34.6 -5.0
VNA3 *e* 10 25 12.5
VNA1 Neumayer--Stat 137.25 194⇑ *i*P PKPdf 10 22 39.9 -0.1
SAML Samuel 147.78 52 *e*PKPdf PKPdf 10 22 57.7 -2.2
LPAZ La Paz 148.86 68 PKPbc PKPdf 10 23 00.4 -1.1
comp=Z,2.9nm,0.9s,baz=312,slow=3.0,SNR=4.5
LPAZ La Paz 148.86 68 *e*PKPdf PKPdf 10 22 59.7 -1.8
LPAZ *e*PKPab PKPab 10 23 07.4 +0.4

IDC ***07*** *10:27:24.0±9.9, 5.05N×127.08E, h111km±92km, mb3.8/9,*

mb1 3.9/9, mb1mx3.8/17, mbtmp4.1/9, Error ellipse: s-maj=55.1km s-min=16.2km az=68.0
*NEIC **07** 10:27:28.9±6.9, 5.08N×127.00E, h154km±66km, mb4.3/4, Error ellipse: s-maj=42.2km s-min=11.9km az=67.0*
ISC 07 10:27:22.5±1.2, 5.01N±0.10×126.7E±0.2, h107km±11km, n19, σ0°89/20, mb4.0/12, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.96**	**349**	*eP*	**P**	**10 27 55.7**	**+0.4**
GSPH	**General Santos**	**2.00**	**302**	||*iP*	**P**	**10 27 54.1**	**-1.8**
KCP	**Kidapawan**	**2.52**	**322**	||*eP*	**P**	**10 28 03.4**	**+0.5**
BUKP	**Musuan**	**3.26**	**331**	*eP*	**P**	**10 28 13.4**	**+0.5**
BUKP				*eS*	**S**	**10 28 58.1**	**+7.1**
BUKP	**Musuan**	**3.26**	**331**	*eP*	**P**	**10 28 13.4**	**+0.5**
FITZ	**Fitzroy Crossi**	**22.99**	**182**	P	**P**	**10 32 20.1**	**+1.4**
	14nm,0.8s,mb4.3,baz=8.4,slow=4.7,SNR=7.4						
WRAB	**Tennant Creek**	**25.92**	**163**	*eP*	**P**	**10 32 47.8**	**+1.1**
	6.5nm,0.6s,mb4.2						
WRA	**Warramunga Arr**	**25.93**	**163**	P	**P**	**10 32 45.3**	**-1.4**
	3.2nm,0.5s,mb4.0,baz=344,slow=10,SNR=35						
WB2	**Warramunga Arr**	**25.93**	**163**	*eP*	**P**	**10 32 46.9**	**+0.1**
STKA	**Stephens Creek**	**39.35**	**160**	P	**P**	**10 34 41.0**	**-2.0**
	2.6nm,0.4s,mb4.4,baz=326,slow=7.8,SNR=7.1						
STKA	**Stephens Creek**	**39.35**	**160**	*eP*	**P**	**10 34 42.9**	**-0.1**
SONM	**Songino Array**	**46.07**	**341**	P	**P**	**10 35 38.2**	**+0.8**
	1.6nm,0.6s,mb3.9,baz=157,slow=7.9,SNR=15						
SONM				PcP	PcP	10 37 12.4	0.0
	0.5nm,0.6s,baz=154,slow=3.8,SNR=4.1						
MKAR	**Makanchi Array**	**56.47**	**325**	P	**P**	**10 36 55.5**	**-0.2**
	1.1nm,0.6s,mb4.1,baz=115,slow=8.5,SNR=17						
KURK	**Kurchatov**	**60.62**	**327**	*eP*	**P**	**10 37 24.9**	**+0.5**
	3.0nm,0.7s,mb4.4						
BVAR	**Borovoye Array**	**66.21**	**327**	P	**P**	**10 38 01.3**	**+0.2**
	1.8nm,0.6s,mb4.0,baz=127,slow=7.4,SNR=10						
BRVK	**Borovoye**	**66.28**	**327**	P	**P**	**10 38 01.2**	**-0.3**
	1.5nm,0.7s,mb3.9						
ILAR	**Eielson Array**	**83.99**	**25**	P	**P**	**10 39 40.6**	**-1.2**
	0.3nm,0.6s,mb3.3,baz=245,slow=5.0,SNR=12						
VNDA	**Vanda**	**84.70**	**173**	P	**P**	**10 39 45.6**	**+0.4**
	0.3nm,0.5s,mb3.5,baz=340,slow=3.4,SNR=3.5						
ARCES	**ARCESS Array B**	**89.23**	**340**	P	**P**	**10 40 06.7**	**-0.4**
	1.8nm,0.7s,mb4.2,baz=79,slow=6.3,SNR=14						

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*IDC **07** 10:44:56.2±2.0, 19.29N×69.15W, h81km±22km, mb3.7/10, mb1 4.0/13, mb1mx3.7/25, mbtmp4.0/13, MS3.7/1, Ms1 3.7/1, ms1mx2.9/24, Error ellipse: s-maj=17.1km s-min=13.6km az=52.0*
*RSPR **07** 10:44:58.3, 19.76N×68.94W, h65km±24km, MD4.2/11, MD4.2/11*
*NEIC **07** 10:44:58.4±0.5, 19.37N×69.04W, h109km±7km, mb4.2/13, MD4.2(RSPR), Error ellipse: s-maj=10.1km s-min=5.3km az=61.0*
*SSNC **07** 10:46:02.5±129.0, 19.18N×72.52W, h25km±999km, MD3.9, ML2.8*
ISC 07 10:44:53.2±0.5, 19.23N±0.06×69.48W±0.03, h56km±6km, n58, σ1°29/75, mb4.1/20, MS3.7/1, 10C-1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPR	**Mayaguez**	**2.44**	**114**	||*eP*	**P**	**10 45 33.3**	**+1.7**
MPR				*eS*	**S**	**10 46 01.2**	**+1.0**
LSP	**Las Mesas**	**2.50**	**114**	||*eP*	**P**	**10 45 33.8**	**+1.5**
CRPR	**Cabo Rojo, PR**	**2.55**	**118**	||*eP*	**P**	**10 45 35.4**	**+2.2**
CRPR				*eS*	**S**	**10 46 03.7**	**+0.6**
MGP	**Maguayo**	**2.57**	**118**	||*eP*	**P**	**10 45 35.7**	**+2.3**
MGP				*eS*	**S**	**10 46 04.6**	**+1.1**
LRS	**Lares**	**2.66**	**110**	||*eP*	**P**	**10 45 35.4**	**+0.7**
AOPR	**Arecibo Observ**	**2.73**	**108**	||*eP*	**P**	**10 45 35.5**	**-0.2**
AOPR				*eS*	**S**	**10 46 05.4**	**-2.2**
ICM	**Isla Caja Muer**	**3.10**	**115**	||*eP*	**P**	**10 45 43.1**	**+2.2**
ICM				*eS*	**S**	**10 46 17.4**	**+0.3**
SJG	**San Juan**	**3.35**	**109**	P	**P**	**10 45 44.1**	**-0.3**
	12nm,0.3s,baz=312,slow=8.7,SNR=12						
SJG				S	**S**	**10 46 18.3**	**-4.9**
	105nm,0.3s,baz=258,slow=23,SNR=21						
CBYP	**Canovanas**	**3.56**	**105**	||*eP*	**P**	**10 45 46.8**	**-0.6**
CBYP				*eS*	**S**	**10 46 25.0**	**-3.6**
MTP	**Monte Pirata**	**3.89**	**106**	||*eP*	**P**	**10 45 51.2**	**-0.8**
MTP				*eS*	**S**	**10 46 32.6**	**-4.1**
STVI	**Saint Thomas**	**4.37**	**101**	||*eP*	**P**	**10 45 57.3**	**-1.4**
STVI				*eS*	**S**	**10 46 43.4**	**-5.5**
MASC	**Masc**	**4.58**	**283**	*eP*	**P**	**10 46 02.6**	**+1.0**
MASC				*eS*	**S**	**10 46 53.6**	**-0.5**
	comp=N,5.2nm,0.1s						
	comp=E,3.9nm,0.2s						
CDVI	**St. Croix**	**4.71**	**107**	||*eP*	**P**	**10 46 03.4**	**-0.1**
CDVI				*eS*	**S**	**10 46 53.0**	**-4.4**
MOAC	**Moa**	**5.35**	**286**	*eP*	**P**	**10 46 11.6**	**-0.8**
MOAC				*eS*	**S**	**10 47 10.8**	**-2.7**
	comp=N,12nm,0.4s						
	comp=E,28nm,0.6s						
RCC	**Rio Carpintero**	**5.91**	**278**	*eP*	**P**	**10 46 20.4**	**+0.2**
RCC				*eS*	**S**	**10 47 26.6**	**-0.8**
	comp=N,154nm,0.4s						
	comp=E,252nm,0.6s						
SABT	**Saba**	**6.13**	**104**	*eP*	**S**	**10 47 28.9**	**-4.0**
HLGC	**Holguin**	**6.40**	**286**	*eP*	**P**	**10 46 25.9**	**-1.2**
HLGC				*eS*	**S**	**10 47 23.1**	**-17**
	comp=N,18nm,0.4s						
	comp=E,19nm,0.4s						
STAT	**Sint Eustatius**	**6.41**	**105**	*e*	**S**	**10 47 36.4**	**-3.4**
LMGC	**Las Mercedes**	**7.14**	**278**	*eP*	**P**	**10 46 35.7**	**-1.7**
LMGC				*eS*	**S**	**10 47 52.3**	**-5.7**
	comp=N,5.0nm,0.4s						
	comp=E,5.9nm,0.5s						
LZG	**Guadaloupe-1**	**7.96**	**111**	*eP*	**P**	**10 46 48.7**	**0.0**
MGV	**Manicaragua**	**10.24**	**288**	*eP*	**S**	**10 49 07.8**	**-6.6**
SDV	**Santo Domingo**	**10.34**	**186**	P	**P**	**10 47 25.2**	**+3.7**
	comp=E,1.0nm,0.3s,baz=3.4,slow=9.1,SNR=7.0						
SDV				S	**S**	**10 49 18.5**	**+1.7**
	comp=E,1.5nm,0.3s,baz=120,slow=23,SNR=6.7						
SDV	**Santo Domingo**	**10.34**	**186**	*eP*	**P**	**10 47 26.6**	**+5.1**
	comp=E,5.3nm,0.6s						
SDV				*eS*	**S**	**10 49 04.0**	**-13**
SOR	**Soroa**	**13.12**	**288**	*eP*	**S**	**10 50 13.4**	**-10**
DWPF	**Disney**	**14.07**	**311**	P	**P**	**10 48 16.5**	**+5.3**
DWPF				*eS*	S	10 50 22.8	-24
ROSC	**El Rosal**	**15.05**	**199**	S	**S**	**10 51 16.0**	**+6.4**
	comp=E,0.5nm,0.3s,baz=107,slow=20,SNR=2.7						
JTS	**JuntasAbangare**	**17.39**	**241**	P	**P**	**10 48 58.8**	**+5.2**
	comp=E,0.6nm,0.3s,baz=88,slow=10,SNR=4.2						
LRAL	**Lakeview Retre**	**20.85**	**315**	*eP*	**P**	**10 49 32.4**	**-0.2**
	comp=E,1.3nm,1.1s						
PLAL	**Pickwick Lake**	**22.75**	**317**	*eP*	**P**	**10 49 51.4**	**-0.1**
	comp=E,7.8nm,0.8s,mb4.2						
OXF	**Oxford**	**23.34**	**315**	*eP*	**P**	**10 49 58.4**	**+1.1**
	comp=E,27nm,0.9s,mb4.7						
CCM	**Cathedral Cave**	**26.66**	**319**	*eP*	**P**	**10 50 28.2**	**-0.6**
SAML	**Samuel**	**28.68**	**167**	*eP*	**P**	**10 50 45.4**	**-1.8**
	comp=E,7.2nm,0.6s,mb4.6						
LTX	**Lajitas**	**32.64**	**295**	P	**P**	**10 51 21.9**	**-0.2**
	comp=E,1.6nm,0.6s,mb4.1						
TXAR	**Lajitas Array**	**32.64**	**295**	P	**P**	**10 51 22.7**	**+0.6**
	comp=E,1.7nm,0.7s,mb4.1,baz=108,slow=9.0,SNR=25						
MNTX	**Cornudas Mount**	**34.55**	**298**	*eP*	**P**	**10 51 38.3**	**-0.2**
	comp=E,8.2nm,0.8s,mb4.7						
LPAZ	**La Paz**	**35.31**	**178**	P	**P**	**10 51 44.6**	**-0.5**
	comp=E,1.2nm,0.3s,mb4.2,baz=359,slow=6.7,SNR=12						
LPAZ	**La Paz**	**35.31**	**178**	*eP*	**P**	**10 51 45.6**	**+0.5**
	comp=E,1.7nm,0.6s,mb4.2						
ANMO	**Albuquerque**	**36.22**	**303**	P	**P**	**10 51 53.8**	**+1.1**
	comp=E,0.8nm,0.8s,mb3.7,baz=117,slow=8.8,SNR=6.0						
SDCO	**Great Sand Dun**	**36.35**	**308**	*eP*	**P**	**10 51 54.1**	**+0.4**
	comp=E,1.7nm,0.6s,mb4.2						
PV10	**Paradox Valley**	**39.20**	**308**	*eP*	**P**	**10 52 18.6**	**+1.1**
SRU	**San Rafael**	**40.53**	**308**	*eP*	**P**	**10 52 29.7**	**+1.2**
PDAR	**Pinedale Array**	**41.07**	**314**	P	**P**	**10 52 33.4**	**+0.4**
	comp=E,1.4nm,0.8s,mb3.7,baz=115,slow=9.1,SNR=15						
TMUT	**Trail Mountain**	**41.09**	**308**	*eP*	**P**	**10 52 34.6**	**+1.5**
DAU	**Daniels Canyon**	**41.46**	**310**	*eP*	**P**	**10 52 37.5**	**+1.4**
LVC	**Limon Verde**	**41.59**	**179**	*eP*	**P**	**10 52 36.5**	**-1.0**
	comp=E,2.7nm,0.6s,mb4.0						
JLU	**Jordanelle**	**41.66**	**310**	*eP*	**P**	**10 52 38.9**	**+1.1**
HWUT	**Hardware Ranch**	**42.06**	**311**	*eP*	**P**	**10 52 41.1**	**+0.1**
	comp=E,3.0nm,0.8s,mb4.0						
LOHW	**Long Hollow**	**42.10**	**315**	*eP*	**P**	**10 52 41.4**	**0.0**
	comp=E,2.9nm,0.6s,mb4.1						
TPAW	**Teton Pass**	**42.29**	**314**	*eP*	**P**	**10 52 43.5**	**+0.6**
	comp=E,3.0nm,0.7s,mb4.0						
QLMT	**Earthquake Lak**	**43.11**	**316**	*eP*	**P**	**10 52 51.3**	**+1.6**
MCMT	**McKenzie Canyo**	**44.05**	**315**	*eP*	**P**	**10 52 58.2**	**+1.0**
ELK	**Elko**	**44.46**	**309**	P	**P**	**10 53 01.0**	**+0.4**
	comp=E,1.2nm,0.7s,mb3.7,baz=86,slow=5.6,SNR=7.7						
CPUP	**Villa Florida**	**46.80**	**165**	P	**P**	**10 53 17.0**	**-2.3**
	comp=E,3.5nm,0.6s,mb4.5,baz=14,slow=8.0,SNR=8.3						
CPUP	**Villa Florida**	**46.80**	**165**	P	**P**	**10 53 17.0**	**-2.3**
NEW	**Newport**	**48.02**	**318**	P	**P**	**10 53 27.9**	**-0.7**
	comp=E,1.0nm,0.7s,mb4.0,baz=118,slow=4.6,SNR=6.2						
NEW				LR	LR	11 13 15.1	
	comp=E,74nm,18.3s,MS3.7,baz=38,slow=35						
YKA	**Yellowknife Ar**	**53.17**	**336**	P	**P**	**10 54 05.3**	**-2.2**
	comp=E,0.2nm,0.3s,mb3.6,baz=116,slow=7.3,SNR=4.4						
ESDC	**Sonseca Array**	**59.31**	**55**	P	**P**	**10 54 49.3**	**-2.4**
	comp=E,0.2nm,0.5s,mb3.4,baz=273,slow=7.9,SNR=6.1						
PLCA	**Paso Flores**	**59.66**	**181**	P	**P**	**10 54 52.6**	**-1.5**
	comp=E,3.1nm,0.7s,mb4.4,baz=357,slow=5.4,SNR=5.9						

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*NEIC **07** 11:06:50.9, 16.04N×98.18W, h5km, MD4.0(MEX), After MEX.*
MEX 07 11:06:51.3±0.9, 16.08N×98.26W, h15km±7km, MD4.1, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.34**	**22**	*iP*	Pb	11 06 56.6	-1.8
PNIG				*iS*	Sb	11 07 02.9	-0.4
VHO	**Vista Hermosa**	**1.77**	**56**	*eP*	Pn	11 07 18.9	-2.7
VHO				*iS*	Sn	11 07 38.8	-5.1
VHO	**Vista Hermosa**	**1.77**	**56**	*eP*	Pn	11 07 18.9	-2.7
VHO				*iS*	Sn	11 07 40.2	-3.7
ACX	**Acapulco**	**1.77**	**296**	*iP*	Pn	11 07 18.5	-3.3
ACX				*iS*	Sn	11 07 39.0	-5.1
ACX	**Acapulco**	**1.77**	**296**	*iP*	Pn	11 07 19.0	-2.8
ACX				*iS*	Sn	11 07 43.5	-0.6
OXX	**Oaxaca**	**1.78**	**56**	*iP*	Pn	11 07 18.0	-3.8
OXX				*iS*	Sn	11 07 39.0	-5.2
OXX	**Oaxaca**	**1.78**	**56**	*iP*	Pn	11 07 21.0	-0.8
OXX				*iS*	Sn	11 07 45.0	+0.8
HUIG	**Huatulco**	**2.09**	**98**	*iP*	Pn	11 07 23.1	-3.2
HUIG				*iS*	Sn	11 07 46.8	-5.4
PLIG	**Platanillo**	**2.59**	**333**	*eP*	Pn	11 07 29.7	-3.7
PLIG				*iS*	Sn	11 07 59.4	-5.4
PLIG	**Platanillo**	**2.59**	**333**	*eP*	Pn	11 07 32.7	-0.7
PLIG				*iS*	Sn	11 08 04.9	0.0
YAIG	**Yautepec**	**2.87**	**345**	*eP*	Pn	11 07 33.5	-4.0
YAIG				*iS*	Sn	11 08 07.4	-4.7
YAIG	**Yautepec**	**2.87**	**345**	*iP*	Pn	11 07 39.2	+1.7
YAIG				*iS*	Sn	11 08 11.7	-0.3
PPM	**Popocatepetl**	**2.99**	**353**	*eP*	Pn	11 07 42.0	+2.8
UNM	**Universidad Na**	**3.35**	**345**	*eP*	Pn	11 07 42.4	-1.8
UNM				*iS*	Sn	11 08 20.8	-3.3
UNM	**Universidad Na**	**3.35**	**345**	*iP*	Pn	11 07 53.6	+9.3
UNM				*iS*	Sn	11 08 32.6	+8.6
CMIG	**Matias Romero**	**3.39**	**72**	*iP*	Pn	11 07 41.2	-3.6
CMIG				*iS*	Sn	11 08 22.6	-2.5
LVIG	**Laguna Verde**	**4.03**	**26**	*iP*	Pn	11 08 06.3	+12
LVIG				*iS*	Sn	11 08 38.2	-3.0
MOIG	**Morelia**	**4.54**	**322**	*iS*	Sn	11 08 50.9	-3.4

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*IDC **07** 11:20:28.5±4.5, 7.98S×80.04W, h27km±31km, mb4.7/18, mb1 4.9/23, mb1mx4.8/27, mbtmp4.9/23, ML4.6/3, MS4.6/6, Ms1 4.6/6, ms1mx4.3/28, Error ellipse: s-maj=15.4km s-min=8.3km az=61.0*
*BJI **07** 11:20:29.3, 8.00S×80.00W, h33km, mB5.3, Ms5.7, Msz5.5*
*HRVD **07** 11:20:29.4±0.2, 8.18S×80.20W, h32km±1km, MW5.4/54, Centroid moment Tensor Solution. LP body waves: s38,c73;Mantle waves: s54,c105; Half duration: 1s3 Moment tensor: Scale 10^{17}Nm; M_{rr}0.13±.04; $M_{\theta\theta}$1.08±.03; $M_{\phi\phi}$-1.21±.04; $M_{r\theta}$0.72±.06; $M_{\theta\phi}$-0.97±.03; $M_{r\phi}$0.13±.06; Best double couple: $M_0$1.672×10^{17} NP1:φs157°,δ65°,λ7°. NP2:φs64°,δ83°,λ155°. Principal axes: T 1.695, Plg22°, Azm17°; N -.048, Plg64°, Azm230°; P -1.65, Plg13°, Azm113°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **07** 11:20:29.4±0.2, 8.02S×80.03W, mb5.2/106, MS4.5/9, ML4.9(LIM) Error ellipse: s-maj=6.9km s-min=3.6km az=52.0*
NEIC Felt [IV] at Ascope. Felt at Monsefu, Trujillo and Viru.
*MOS **07** 11:20:29.1±1.0, 8.00S×80.12W, h44km, mb5.3/50, MS4.6/8, Error ellipse: s-maj=10.3km s-min=5.6km az=108.7*
ISC 07 11:20:28.0±0.2, 8.01S±0.04×80.10W±0.05, h36km, h36km±1.5km: pP-P, n328, σ1°01/304, mb5.1/113, MS4.8/14, 49C-3D, Off coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**5.08**	**141**	||*ePn*	**P**	**11 21 41.3**	**-2.5**
	1μm,0.3s						
NNA				*e*Sn	**S**	**11 22 34.1**	**-8.0**
ARE	**Arequipa**	**11.88**	**136**	*eP*	**P**	**11 23 19.0**	**+1.0**
ARE				*e*		11 23 28.0	
ROSC	**El Rosal**	**14.02**	**24**	Pn	**P**	**11 23 45.9**	**-0.6**
	2.2nm,0.3s,baz=273,slow=20,SNR=3.2						
ROSC				Sn	**S**	**11 26 27.4**	**+5.7**
	1.8nm,0.3s,baz=228,slow=16,SNR=2.1						
LPAZ	**La Paz**	**14.29**	**126**	Pn	**P**	**11 23 49.4**	**-0.7**
	0.7nm,0.3s,baz=302,slow=10.0,SNR=38						
LPAZ	**La Paz**	**14.29**	**126**	*eP*	**P**	**11 23 48.1**	**-1.9**
	3.0nm,0.4s						
LPAZ	**La Paz**	**14.29**	**126**	P	**P**	**11 23 49.4**	**-0.6**
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SAML	**Samuel**	**16.75**	**94**	*eP*	**P**	**11 24 14.2**	**-7.5**
	comp=Z,2.7nm,1.3s						
LVC	**Limon Verde**	**18.07**	**145**	P	**P**	**11 24 38.5**	**+0.4**
	comp=Z,5.9nm,0.3s,baz=309,slow=9.4,SNR=80						
LVC				S	**S**	**11 27 55.6**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=146,slow=19,SNR=2.0						
LVC				LR	LR	11 32 34.1	
	comp=Z,3μm,18.2s,baz=309,slow=40						
LVC	**Limon Verde**	**18.07**	**145**	*eP*	**P**	**11 24 39.0**	**+1.0**
	comp=Z,302nm,1.2s						
JTS	**JuntasAbangare**	**18.82**	**345**	P	**P**	**11 24 47.7**	**+0.3**
	comp=Z,0.8nm,0.3s,baz=142,slow=4.5,SNR=28						
JTS				S	**S**	**11 28 16.3**	**+3.9**
	baz=176,slow=19,SNR=1.5						
JTS				LR	LR	11 30 49.2	
	comp=Z,3μm,21.2s,baz=174,slow=33						
JTS	**JuntasAbangare**	**18.82**	**345**	*eP*	**P**	**11 24 49.4**	**+2.0**
	comp=Z,489nm,1.4s						
JTS	**JuntasAbangare**	**18.82**	**345**	P	**P**	**11 24 47.7**	**+0.3**
JTS				S	**S**	**11 28 16.3**	**+4.0**
JTS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
JTS				MLR	MLR		
	comp=Z,3μm,21.2s						
SDV	**Santo Domingo**	**19.25**	**30**	P	**P**	**11 24 51.8**	**-0.6**
	comp=Z,7.3nm,0.3s,baz=224,slow=7.0,SNR=109						
SDV				S	**S**	**11 28 25.8**	**+3.5**
	comp=Z,0.6nm,0.3s,baz=36,slow=13,SNR=1.6						
SDV	**Santo Domingo**	**19.25**	**30**	||*eP*	**P**	**11 24 51.1**	**-1.3**
	comp=Z,454nm,1.1s						
SIV	**San Ignacio**	**20.21**	**115**	P	**P**	**11 25 00.7**	**-2.1**
	comp=Z,104nm,0.8s,baz=295,slow=11,SNR=278						
SIV				S	**S**	**11 28 48.9**	**+6.3**
	comp=Z,8.8nm,0.7s,baz=216,slow=19,SNR=2.1						
CFAA	**Coronel Fontan**	**25.94**	**156**	P	**P**	**11 25 58.6**	**-0.5**
	comp=Z,3.3nm,0.9s,baz=336,slow=8.1,SNR=39						
CFAA				LR	LR	11 34 18.7	
	comp=Z,180nm,21.1s,baz=60,slow=32						
TRN	**Trinidad (W)**	**26.27**	**45**	*eP*	**P**	**11 26 05.4**	**+3.3**
TBH	**Brigand Hill**	**26.39**	**46**	*eP*	**P**	**11 26 05.8**	**+2.5**
LMGC	**Las Mercedes**	**28.07**	**6**	*eP*	**P**	**11 26 20.1**	**+1.5**
CPUP	**Villa Florida**	**28.28**	**133**	P	**P**	**11 26 18.9**	**-1.5**
	comp=Z,38nm,1.1s,mb5.0,baz=334,slow=13,SNR=38						
CPUP				LR	LR	11 40 11.3	
	comp=Z,2μm,18.4s,MS4.8,baz=340,slow=42						
CPUP	**Villa Florida**	**28.28**	**133**	*eP*	**P**	**11 26 19.3**	**-1.1**
	comp=Z,69nm,1.2s,mb5.2						
CPUP				LR	LR		
	comp=Z,2μm,19.0s,MS4.7						
CPUP	**Villa Florida**	**28.28**	**133**	*eP*	**P**	**11 26 19.3**	**-1.1**
CPUP				pmax	pmax		
	comp=Z,69nm,1.2s						
CPUP				MLR	MLR		
	comp=Z,2μm,19.0s						
HLGC	**Holguin**	**29.00**	**8**	*eP*	**P**	**11 26 28.2**	**+1.4**
SJG	**San Juan**	**29.39**	**28**	P	**P**	**11 26 30.2**	**-0.1**
	comp=Z,67nm,0.9s,mb5.4,baz=238,slow=4.4,SNR=16						
SJG	**San Juan**	**29.39**	**28**	P	**P**	**11 26 30.2**	**-0.1**
SJG				pmax	pmax		
	comp=Z,67nm,0.9s						
MGV	**Manicaragua**	**29.94**	**0**	*eP*	**P**	**11 26 35.3**	**+0.1**
SOR	**Soroa**	**30.75**	**355**	*eP*	**P**	**11 26 43.1**	**+0.7**
BDFB	**Brasilia**	**32.27**	**107**	P	**P**	**11 26 54.1**	**-1.8**
	comp=Z,28nm,0.9s,mb5.1,baz=282,slow=11,SNR=29						
BDFB				LR	LR	11 40 50.5	
	comp=Z,4μm,19.7s,MS5.1,baz=279,slow=38						
BDFB	**Brasilia**	**32.27**	**107**	P	**P**	**11 26 54.1**	**-1.7**
BDFB				pmax	pmax		
	comp=Z,28nm,0.9s						
BDFB				MLR	MLR		
	comp=Z,4μm,19.7s						
BAO	**Brasilia Array**	**32.29**	**107**	P	**P**	**11 26 55.0**	**-1.0**
PLCA	**Paso Flores**	**33.67**	**167**	P	**P**	**11 27 07.1**	**-0.6**
	comp=Z,33nm,1.0s,mb5.2,baz=338,slow=10,SNR=35						
PLCA	**Paso Flores**	**33.67**	**167**	*eP*	**P**	**11 27 07.1**	**-0.6**
	comp=Z,56nm,1.1s,mb5.4						
PLCA				LR	LR		
	comp=Z,1μm,20.0s,MS4.6						
LRAL	**Lakeview Retre**	**41.34**	**351**	*eP*	**P**	**11 28 11.8**	**-0.4**
	comp=Z,94nm,1.0s,mb5.4						
NATX	**Nacogdoches**	**41.93**	**341**	*eP*	**P**	**11 28 18.2**	**+1.1**
	comp=Z,392nm,1.1s,mb6.0						
JSC	**Jenkinsville**	**42.08**	**359**	*eP*	**P**	**11 28 17.4**	**-0.9**
JSC				*es*P	sP	11 28 32.6	-0.6
MYNC	**Murphy**	**43.02**	**355**	*eP*	**P**	**11 28 24.8**	**-1.2**
	comp=Z,106nm,1.5s,mb5.3						
MYNC	**Murphy**	**43.02**	**355**	*eP*	**P**	**11 28 24.8**	**-1.2**
MYNC				pmax	pmax		
	comp=Z,106nm,1.5s,mb5.3						
OXF	**Oxford**	**43.20**	**349**	*eP*	**P**	**11 28 26.7**	**-0.9**
	comp=Z,156nm,1.4s,mb5.5						
OXF				LR	LR		
	comp=Z,578nm,21.0s,MS4.5						
OXF	**Oxford**	**43.20**	**349**	*eP*	**P**	**11 28 26.7**	**-0.8**
OXF				pmax	pmax		
	comp=Z,156nm,1.4s,mb5.5						
OXF				MLR	MLR		
	comp=Z,578nm,21.0s,MS4.5						
SWET	**Sewanee**	**43.35**	**353**	*eP*	**P**	**11 28 26.7**	**-2.0**
PLAL	**Pickwick Lake**	**43.42**	**350**	*eP*	**P**	**11 28 28.0**	**-1.3**
	comp=Z,73nm,1.3s,mb5.2						
PLAL				LR	LR		
	comp=Z,562nm,19.0s,MS4.5						
CPCT	**Cooper Cave**	**43.43**	**355**	*eP*	**P**	**11 28 27.7**	**-1.6**
LTX	**Lajitas**	**43.52**	**330**	*eP*	**P**	**11 28 30.6**	**+0.4**
	comp=Z,19nm,1.2s,mb4.7						
LTX				LR	LR		
	comp=Z,718nm,20.0s,MS4.6						
LTX	**Lajitas**	**43.52**	**330**	*eP*	**P**	**11 28 30.6**	**+0.4**
LTX				pmax	pmax		
	comp=Z,19nm,1.2s,mb4.7						
LTX				MLR	MLR		
	comp=Z,718nm,20.0s,MS4.6						
TXAR	**Lajitas Array**	**43.52**	**330**	P	**P**	**11 28 30.9**	**+0.8**
	comp=Z,3.8nm,1.0s,mb4.1,baz=150,slow=10,SNR=34						
TXAR	**Lajitas Array**	**43.52**	**330**	P	**P**	**11 28 30.9**	**+0.7**
TXAR	**Lajitas Array**	**43.52**	**330**	P	**P**	**11 28 30.9**	**+0.7**
TXAR				pmax	pmax		
	comp=Z,4.0nm,1.0s						
UALR	**University of**	**44.10**	**345**	*eP*	**P**	**11 28 33.8**	**-1.0**
	comp=Z,277nm,1.4s,mb5.8						
TZTN	**Tazewell**	**44.44**	**356**	*eP*	**P**	**11 28 36.3**	**-1.2**
HBAR	**Harrisburg**	**44.46**	**348**	*eP*	**P**	**11 28 37.7**	**+0.1**
WVT	**Waverly**	**44.51**	**351**	*eP*	**P**	**11 28 36.2**	**-1.8**
	comp=Z,52nm,1.1s,mb5.3						
WVT				LR	LR		
	comp=Z,526nm,20.0s,MS4.5						
WVT	**Waverly**	**44.51**	**351**	*eP*	**P**	**11 28 36.2**	**-1.8**
WVT				pmax	pmax		
	comp=Z,51nm,1.1s,mb5.3						
WVT				MLR	MLR		
	comp=Z,526nm,20.0s,MS4.5						
GNAR	**Gosnell**	**44.73**	**349**	*eP*	**P**	**11 28 40.0**	**+0.2**
UTMT	**University of**	**44.88**	**350**	*eP*	**P**	**11 28 39.9**	**-1.1**
	comp=Z,59nm,0.8s,mb5.5						
GLAT	**Glass**	**44.89**	**349**	*eP*	**P**	**11 28 41.1**	**0.0**
BLA	**Blacksburg**	**44.99**	**360**	*eP*	**P**	**

comp=Z,14nm,1.0s,mb4.8
PFO Pinyon Flat Ob 53.89 322 *e*P **P 11 29 50.4 +0.1**
PFO pmax pmax
comp=Z,14nm,1.0s,mb4.8
LDFC Landfair 54.12 324 *e*P **P 11 29 52.8 +0.8**
PHWY Pilot Hill 54.32 337 *e*P **P 11 29 53.0 -0.3**
NEN Nelson 54.38 325 *e*P **P 11 29 54.4 +0.6**
SRU San Rafael 54.73 331 *e*P **P 11 29 56.2 -0.2**
MSU Marysvale 55.08 329 *e*P **P 11 29 59.8 +0.9**
MSU *e*pP pP 11 30 09.9 +0.2
MSU *e*sP sP 11 30 14.2 +0.3
MSU Marysvale 55.08 329 *e*P **P 11 29 59.8 +0.9**
MSU *e**SP sP 11 30 14.2 +0.3
ARUT Antelope Range 55.18 328 *e*P **P 11 30 00.8 +1.2**
ARUT *e*sP sP 11 30 15.6 +0.9
TMUT Trail Mountain 55.21 331 *e*P **P 11 30 00.6 +0.8**
MWC Mount Wilson 55.29 322 *e*P **P 11 30 01.1 +0.6**
RWWY Rawlins 55.36 335⇑*i*P **P 11 30 01.1 +0.2**
comp=Z,68nm,1.1s,mb5.6
DAU Daniels Canyon 56.11 332 *e*P **P 11 30 06.6 +0.3**
RSSD Black Hills 56.23 339 *e*P **P 11 30 06.7 -0.4**
comp=Z,47nm,1.1s,mb5.4
RSSD *e*pP pP 11 30 17.9 0.0
RSSD Black Hills 56.23 339 *e*P **P 11 30 06.7 -0.4**
RSSD *e**PP pP 11 30 17.9 0.0
RSSD pmax pmax
comp=Z,47nm,1.1s,mb5.4
JLU Jordanelle 56.35 332 *e*P **P 11 30 07.6 -0.3**
DAC Darwin (Calif) 56.40 324 *e*P **P 11 30 08.0 -0.5**
comp=Z,11nm,1.0s,mb4.8
DAC Darwin (Calif) 56.40 324 *e*P **P 11 30 08.0 -0.4**
DAC pmax pmax
comp=Z,11nm,1.0s,mb4.8
CTU Camp Tracy 56.56 331 *e*P **P 11 30 09.7 +0.2**
NOQ North Oquirrh 56.70 331 P **P 11 30 11.3 +0.7**
TCUT Toone Canyon 56.73 332 P **P 11 30 10.6 -0.2**
HWUT Hardware Ranch 57.19 332 *e*P **P 11 30 13.5 -0.5**
comp=Z,31nm,0.8s,mb5.4
PDAR Pinedale Array 57.23 334 P **P 11 30 13.7 -0.6**
comp=Z,8.9nm,1.1s,mb4.7,baz=135,slow=6.3,SNR=47
SPUT South Promonto 57.37 331⇑*e*P **P 11 30 15.0 -0.3**
TPH Tonopah 57.44 326 *e*P **P 11 30 16.0 +0.2**
comp=Z,16nm,1.1s,mb5.0
TPH Tonopah 57.44 326 *e*P **P 11 30 16.0 +0.2**
TPH pmax pmax
comp=Z,16nm,1.1s,mb5.0
PTRM Twissleman Ran 57.56 322 *e*P **P 11 30 17.5 +0.9**
PTRM *e* 11 30 32.9
MTUM Tungsten Hills 57.71 324 *e*P **P 11 30 18.6 +0.9**
PMSA Palmer Station 57.79 172 *e*P **P 11 30 17.4 -0.5**
comp=Z,63nm,1.3s,mb5.5
HVU Hansel Valley 57.89 332 *e*P **P 11 30 19.0 +0.1**
HVU *e*pP pP 11 30 28.8 -0.9
AHID Auburn Hatcher 57.90 333 *e*P **P 11 30 18.9 -0.1**
comp=Z,34nm,1.2s,mb5.2
AHID *e*pP pP 11 30 29.0 -0.7
OMM Old Mammoth Mi 58.14 324 *e*P **P 11 30 20.2 -0.5**
REDW Red Top Meadow 58.27 334 *e*P **P 11 30 21.0 -0.5**
comp=Z,82nm,1.5s,mb5.5
REDW *e*pP pP 11 30 30.7 -1.6
SNOW Snow King Moun 58.31 334 *e*P **P 11 30 21.2 -0.6**
comp=Z,14nm,0.7s,mb5.1
ELK Elko 58.31 329 P **P 11 30 22.3 +0.5**
comp=Z,11nm,0.8s,mb4.9,baz=118,slow=3.9,SNR=61
ELK Elko 58.31 329⇑*e*P **P 11 30 21.8 -0.1**
comp=Z,17nm,0.8s,mb5.1
ELK *e*pP pP 11 30 32.6 0.0
ELK *e*sP sP 11 30 36.9 0.0
ELK Elko 58.31 329⇑*e*P **P 11 30 21.8 -0.1**
ELK *e**PP pP 11 30 32.6 -0.1
ELK *e**SP sP 11 30 36.9 0.0
ELK pmax pmax
comp=Z,17nm,0.8s
LOHW Long Hollow 58.36 334 *e*P **P 11 30 21.0 -1.1**
comp=Z,22nm,1.1s,mb5.1
LOHW *e*sP sP 11 30 37.3 +0.1
TPAW Teton Pass 58.41 334 *e*P **P 11 30 22.1 -0.4**
comp=Z,34nm,1.3s,mb5.2
RRI2 Red Ridge 58.46 334⇑*e*P **P 11 30 22.2 -0.6**
comp=Z,30nm,0.8s,mb5.4
LRV Little Rabbit 58.55 322 *e*P **P 11 30 24.2 +0.6**
LRV *e*sP sP 11 30 38.6 0.0
IMW Indian Meadow 58.73 334 *e*P **P 11 30 24.1 -0.7**
comp=Z,17nm,1.0s,mb5.0
LKWY Lake 59.05 335 *e*P **P 11 30 28.2 +1.3**
comp=Z,12nm,0.8s,mb5.0
LKWY Lake 59.05 335 *e*P **P 11 30 28.2 +1.3**
LKWY pmax pmax
comp=Z,12nm,0.8s,mb5.0
BMN Battle Mountai 59.12 328 *e*P **P 11 30 27.8 +0.3**
comp=Z,19nm,1.0s,mb5.1
BMN *e*sP sP 11 30 42.3 -0.2
BMN Battle Mountai 59.12 328 *e*P **P 11 30 27.8 +0.3**
BMN *e**SP sP 11 30 42.3 -0.2
BMN pmax pmax
comp=Z,19nm,1.0s,mb5.1
YFT Old Faithful 59.14 335 *e*P **P 11 30 29.3 +1.7**
LAO LASA Array 59.23 339 *e*P **P 11 30 27.7 -0.5**
comp=Z,32nm,1.2s,mb5.2
LAO *e*sP sP 11 30 42.1 -1.0
CMB Columbia Colle 59.23 324 *e*P **P 11 30 28.4 +0.1**
comp=Z,10nm,1.1s,mb4.8
CMB *e*sP sP 11 30 42.5 -0.8
CMB Columbia Colle 59.23 324 *e*P **P 11 30 28.4 +0.1**
CMB *e**SP sP 11 30 42.6 -0.7
CMB pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
YMR Madison River 59.37 335 *e*P **P 11 30 28.8 -0.4**
ULM Lac du Bonnet 59.62 348 P **P 11 30 29.5 -1.4**
comp=Z,47nm,1.0s,mb5.5,baz=165,slow=6.8,SNR=37
ULM Lac du Bonnet 59.62 348 *e*P **P 11 30 29.1 -1.7**
comp=Z,69nm,1.0s,mb5.6
ULM *e*sP sP 11 30 44.1 -1.7
QLMT Earthquake Lak 59.69 335 *e*P **P 11 30 32.1 +0.8**
DGMT Dagmar 60.11 342 *e*P **P 11 30 33.6 -0.6**
comp=Z,24nm,1.0s,mb5.2
DGMT *e*sP sP 11 30 47.1 -2.1
MCMT McKenzie Canyo 60.30 334 *e*P **P 11 30 36.4 +0.8**
MCMT *e*sP sP 11 30 50.9 +0.3
BOZ Bozeman (W) 60.43 335 *e*P **P 11 30 35.5 -1.0**
comp=Z,36nm,1.3s,mb5.2
BOZ Bozeman (W) 60.43 335 *e*P **P 11 30 35.5 -0.9**
BOZ pmax pmax
comp=Z,36nm,1.3s,mb5.2
WVOR Wild Horse Val 61.29 328 *e*P **P 11 30 41.8 -0.5**
comp=Z,40nm,1.3s,mb5.4
WVOR Wild Horse Val 61.29 328 *e*P **P 11 30 41.8 -0.5**
WVOR pmax pmax
comp=Z,39nm,1.3s,mb5.4
HRY Holter Researc 61.37 336 *e*P **P 11 30 42.9 +0.1**
HRY *e*sP sP 11 30 58.2 +0.4
MOD Modoc 61.80 327⇑*e*P **P 11 30 45.8 +0.1**
comp=Z,31nm,1.0s,mb5.4
LTIM Timbered Crate 61.97 326 P **P 11 30 47.4 +0.6**
CHMT Chamberlain Mo 62.12 335 *e*P **P 11 30 47.2 -0.6**
LASM Arnica Sink 62.30 326 P **P 11 30 49.7 +0.7**
MSO Missoula 62.35 334⇑*e*P **P 11 30 48.8 -0.5**
comp=Z,34nm,1.3s,mb5.3
BMO Blue Mountains 62.38 331 *e*P **P 11 30 48.4 -1.2**
comp=Z,13nm,1.3s,mb4.9
HOG Hogback Mounta 62.80 326 P **P 11 30 53.3 +0.9**
VSP Spence Mountai 63.00 326 P **P 11 30 54.5 +0.8**
YBH Yreka Blue Hor 63.02 325 P **P 11 30 52.6 -1.3**
comp=Z,8.5nm,0.9s,mb4.9,baz=110,slow=3.9,SNR=14
YBH Yreka Blue Hor 63.02 325 *e*P **P 11 30 53.2 -0.6**
comp=Z,12nm,0.9s,mb5.0
YBH Yreka Blue Hor 63.02 325 *e*P **P 11 30 53.2 -0.7**
YBH pmax pmax
comp=Z,12nm,0.9s
BUOR Burton Butte 63.12 326 P **P 11 30 55.1 +0.6**
SCHQ Schefferville 63.59 9 P **P 11 30 56.0 -1.4**
comp=Z,9.4nm,0.9s,mb4.8,baz=223,slow=3.5,SNR=8.1
SCHQ LR LR 11 56 34.4
comp=Z,322nm,21.6s,MS4.5,baz=322,slow=34
SCHQ Schefferville 63.59 9⇑*e*P **P 11 30 56.0 -1.5**
comp=Z,26nm,1.2s,mb5.1
SCHQ *e*sP sP 11 31 10.8 -1.7
BBOR Butler Butte 63.77 326 P **P 11 30 58.4 -0.4**
VIPM Ingram Point 63.77 329 P **P 11 30 60.0 +1.2**
WALA Waterton Lakes 64.09 336 *e*P **P 11 31 00.3 -0.4**
comp=Z,16nm,0.6s,mb5.2
WALA *e*sP sP 11 31 14.8 -1.0
HBO Huckleberry Mo 64.21 327 P **P 11 31 01.9 +0.2**
VTHM Trough 64.22 329 P **P 11 31 03.1 +1.5**

CROR Criterion Ridg 64.29 329 P **P 11 31 03.5 +1.4**
BROR Big Rock Looko 64.57 328 P **P 11 31 04.0 +0.1**
NEW Newport 64.83 334 P **P 11 31 05.3 -0.3**
comp=Z,16nm,1.1s,mb5.0,baz=143,slow=5.8,SNR=19
NEW Newport 64.83 334⇑*e*P **P 11 31 04.5 -1.1**
comp=Z,25nm,1.2s,mb5.1
NEW Newport 64.83 334 P **P 11 31 05.3 -0.3**
NEW pmax pmax
comp=Z,16nm,1.1s
OD2 Odessa Site #2 64.90 332⇓*i*P **P 11 31 06.9 +0.8**
EBG Ellensburg 65.44 331 P **P 11 31 10.8 +1.3**
WTV Waterville 65.71 332 P **P 11 31 12.0 +0.8**
WPW White Pass 65.77 330 P **P 11 31 12.1 +0.5**
LON Longmire 65.93 330 P **P 11 31 12.9 +0.3**
PNT Penticton 66.72 333 P **P 11 31 18.7 +1.1**
EDM Edmonton 67.21 339⇑*e*P **P 11 31 19.0 -1.6**
FCC Fort Churchill 67.50 352 *e*P **P 11 31 21.9 -0.5**
comp=Z,70nm,1.1s,mb5.6
FCC pP pP 11 31 30.9 -2.5
FCC *e*sP sP 11 31 35.5 -1.8
FCC Fort Churchill 67.50 352 *e*P **P 11 31 21.9 -0.5**
FCC *e**SP sP 11 31 35.6 -1.8
FCC pmax pmax
comp=Z,70nm,1.1s,mb5.6
YKA Yellowknife Ar 75.15 344 P **P 11 32 07.5 -0.7**
comp=Z,2.4nm,0.5s,mb4.4,baz=139,slow=6.3,SNR=48
YKA Yellowknife Ar 75.15 344 P **P 11 32 07.5 -0.7**
YKA Yellowknife Ar 75.15 344 P **P 11 32 07.5 -0.7**
YKA pmax pmax
comp=Z,2.0nm,0.5s
YKW3 Yellowknife Ar 75.21 344⇑*e*P **P 11 32 07.4 -1.1**
LIC Lamto 76.19 82 *e*P **P 11 32 12.9 -2.1**
comp=Z,29nm,1.0s,mb4.9
VNA3 Neumayer Olymp 76.21 162 *e* **P 11 32 18.5 +4.5**
VNA3 Neumayer Olymp 76.21 162 *e* **P 11 32 25.1 +11**
VNA3 Neumayer Olymp 76.21 162 *e* **P 11 32 28.2 +14**
VNA3 Neumayer Olymp 76.21 162 *e* **P 11 32 32.2 +18**
VNA3 Neumayer Olymp 76.21 162 P **P 11 32 12.9 -1.1**
VNA3 *e* 11 32 18.5
VNA3 *e* *p*P 11 32 25.1 0.0
VNA3 *e* 11 32 28.2
VNA3 *e* 11 32 32.2
VNA3 *e* 11 35 00.1
DBIC Dimbokro 76.43 81 P **P 11 32 15.8 -0.7**
comp=Z,10.0nm,0.7s,mb4.9,baz=190,slow=4.3,SNR=14
DBIC Dimbokro 76.43 81 *e*P **P 11 32 16.3 -0.1**
comp=Z,16nm,0.7s,mb5.1
DBIC *e*sP sP 11 32 30.9 -0.6
DBIC Dimbokro 76.43 81 *e*P **P 11 32 16.3 -0.1**
DBIC *e**SP sP 11 32 30.9 -0.6
DBIC pmax pmax
comp=Z,16nm,0.7s
VNA1 Neumayer--Stat 76.50 161 *e* **P 11 32 20.4 +4.7**
VNA1 Neumayer--Stat 76.50 161 *e* **P 11 32 28.3 +13**
VNA1 Neumayer--Stat 76.50 161 *e* **P 11 32 32.7 +17**
VNA1 Neumayer--Stat 76.50 161 *e* tx 11 32 35.9
VNA1 Neumayer--Stat 76.50 161⇑*i*P **P 11 32 15.4 -0.3**
VNA1 *e* 11 32 20.4
VNA1 *e* *p*P 11 32 28.3 +1.6
VNA1 *e* 11 32 32.7
VNA1 *e* 11 32 35.9
VNA1 *e* 11 35 02.8
VNA2 Neumayer--Watz 76.84 161 *e* **P 11 32 21.9 +4.3**
VNA2 Neumayer--Watz 76.84 161 *e* **P 11 32 28.1 +10**
VNA2 Neumayer--Watz 76.84 161 *e* **P 11 32 31.8 +14**
VNA2 Neumayer--Watz 76.84 161 *e* **P 11 32 36.1 +18**
VNA2 Neumayer--Watz 76.84 161⇑*i*P **P 11 32 16.8 -0.8**
VNA2 *e* 11 32 21.9
VNA2 *e* *p*P 11 32 28.1 -0.6
VNA2 *e* 11 32 31.8
VNA2 *e* 11 32 36.1
VNA2 *e* 11 35 05.2
DLBC Dease Lake 77.44 336 *e*P **P 11 32 21.6 +0.4**
SNAA Sanae 78.43 162 *e* **P 11 32 30.6 +4.2**
SNAA Sanae 78.43 162 *e* **P 11 32 36.8 +10**
SNAA Sanae 78.43 162 *e* **P 11 32 40.8 +14**
SNAA Sanae 78.43 162 *e* **P 11 32 44.0 +18**
SNAA Sanae 78.43 162⇑*i*P **P 11 32 25.1 -1.3**
SNAA *e* 11 32 30.6
SNAA *e* *p*P 11 32 36.8 -0.7
SNAA *e* 11 32 40.8
SNAA *e* 11 32 44.0
SNAA *e* 11 35 13.2
SNAA Sanae 78.43 162⇑*i*P **P 11 32 25.1 -1.3**
SNAA *e* *p*P 11 32 36.8 -0.7
SNAA *e* 11 32 40.8
SNAA *e* 11 32 44.0
EVO Evora 81.20 49 *e*P **P 11 32 41.1 -0.8**
comp=Z,21nm,1.0s,mb4.7
EGRO El Granado 81.30 50 P **P 11 32 42.3 -0.2**
comp=Z,7.9nm,0.7s,mb4.8
EMIN Mina Concepcio 81.98 50 P **P 11 32 47.4 +1.4**
comp=Z,3.8nm,0.7s,mb4.4
EBAD Badajoz 82.01 49 P **P 11 32 48.7 +2.6**
comp=Z,3.7nm,0.8s,mb4.4
QSPA South Pole Qui 82.09 180⇑*i*P **P 11 32 47.1 +1.3**
comp=Z,26nm,0.9s,mb5.2
QSPA ⇓*i*P pP 11 33 00.3 +3.4
QSPA *e*P 11 33 11.1
ESPR Espera 82.36 51 P **P 11 32 50.9 +2.9**
comp=Z,6.3nm,0.8s,mb4.6
ECAB El Cabril 83.02 50 P **P 11 32 49.8 -1.5**
comp=Z,2.6nm,1.2s,mb4.1
EMIJ Mijas 83.11 52 P **P 11 32 51.8 -0.1**
comp=Z,20nm,0.6s,mb5.3
ECAL Calabor 83.14 46 P **P 11 32 52.9 +1.0**
comp=Z,6.9nm,0.8s,mb4.7
EPON Pontenova 83.27 45 P **P 11 32 53.7 +1.3**
comp=Z,16nm,0.9s,mb5.0
EADA Adamuz 83.69 50 P **P 11 32 55.3 +0.5**
comp=Z,5.4nm,0.9s,mb4.7
ELOJ Sierra Loja 83.75 51 P **P 11 32 57.2 +2.1**
comp=Z,16nm,0.7s,mb5.3
ELOJ Sierra Loja 83.75 51 P **P 11 32 57.2 +2.1**
ELOJ pmax pmax
comp=Z,16nm,0.7s,mb5.3
ELUQ Luque 83.77 51 P **P 11 32 55.3 +0.1**
comp=Z,6.2nm,0.7s,mb4.8
ELUQ Luque 83.77 51 P **P 11 32 55.3 +0.1**
ELUQ pmax pmax
comp=Z,6.0nm,0.7s,mb4.8
ERON Agron 83.98 51 P **P 11 32 59.1 +2.8**
comp=Z,9.6nm,0.5s,mb5.2
EBAN Banos Encina 84.29 50 P **P 11 32 59.4 +1.6**
comp=Z,3.5nm,0.6s,mb4.7
EBAN Banos Encina 84.29 50 P **P 11 32 59.4 +1.6**
EBAN pmax pmax
comp=Z,4.0nm,0.6s,mb4.7
DAWY Dawson 84.38 338⇑*e*P **P 11 32 57.2 -0.4**
ESDC Sonseca Array 84.54 49 P **P 11 32 59.9 +0.9**
comp=Z,4.9nm,1.0s,mb4.6,baz=264,slow=4.3,SNR=22
ESDC Sonseca Array 84.54 49 P **P 11 33 00.2 +1.2**
comp=Z,4.1nm,0.8s,mb4.6
ESLA Sonseca Array 84.54 49 *e*P **P 11 32 60.0 +1.0**
comp=Z,18nm,1.5s,mb5.0
EARI Arriondas 84.61 45 P **P 11 32 59.4 +0.1**
comp=Z,18nm,1.1s,mb5.1
EBER Berja 84.66 52 P **P 11 33 01.7 +2.0**
comp=Z,12nm,0.9s,mb5.0
EQES Quesada 84.74 51 P **P 11 33 01.5 +1.4**
comp=Z,12nm,0.9s,mb5.0
SUMG Summit 84.78 12 *e*P **P 11 33 00.7 +1.2**
comp=Z,30nm,0.9s,mb5.4
INK Inuvik 84.79 343⇑*e*P **P 11 32 59.0 -0.5**
comp=Z,49nm,1.3s,mb5.5
INK Inuvik 84.79 343⇑*e*P **P 11 32 59.0 -0.6**
INK pmax pmax
comp=Z,49nm,1.3s
EHUE Huescar 85.11 51 P **P 11 33 02.9 +0.9**
comp=Z,4.8nm,0.7s,mb4.7
EHUE Huescar 85.11 51 P **P 11 33 02.9 +1.0**
EHUE pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
EVIA Vianos 85.38 50 P **P 11 33 06.8 +3.6**
comp=Z,4.6nm,0.6s,mb4.8
EVIA Vianos 85.38 50 P **P 11 33 06.8 +3.6**
EVIA pmax pmax
comp=Z,5.0nm,0.6s,mb4.8
ELAN Lanestosa 85.84 45 P **P 11 33 08.5 +3.1**
comp=Z,11nm,1.1s,mb5.0
ETOB Tobarra 86.11 50 P **P 11 33 11.4 +4.6**
comp=Z,6.7nm,0.8s,mb4.9
EMUR La Murta 86.16 51 P **P 11 33 05.5 -1.6**
comp=Z,7.6nm,1.0s,mb4.9

DCN Croghan 86.30 35 *e*P **P 11 33 07.1 -0.2**
ECRI Cripan 86.34 46 P **P 11 33 08.8 +0.9**
comp=Z,5.7nm,0.7s,mb4.9
ECRI Cripan 86.34 46 P **P 11 33 08.8 +1.0**
ECRI pmax pmax
comp=Z,6.0nm,0.7s,mb4.9
DLF Lyons Farm 86.71 35 *e*P **P 11 33 06.8 -2.5**
ECHE Chera 86.77 49 P **P 11 33 11.9 +1.9**
comp=Z,2.3nm,0.8s,mb4.5
ECHE Chera 86.77 49 P **P 11 33 11.9 +1.9**
ECHE pmax pmax
comp=Z,2.0nm,0.8s,mb4.4
SML Sawmill 86.99 334 *e*P **P 11 33 09.8 -0.7**
ROSF Rostrenen 87.28 41 *e*P **P 11 33 12.7 +0.5**
SJPF Ste Jean 87.38 46 *e*P **P 11 33 13.7 +0.8**
comp=Z,18nm,0.9s,mb5.0
SJPF Ste Jean 87.38 46 *e*P **P 11 33 13.7 +0.8**
SJPF pmax pmax
comp=Z,9.0nm,0.9s,mb5.0
ILAR Eielson Array 87.58 337 P **P 11 33 13.4 +0.1**
comp=Z,11nm,0.9s,mb5.1,baz=150,slow=3.6,SNR=104
ILAR PP PP 11 36 39.1 -2.0
comp=Z,2.1nm,1.0s,baz=116,slow=6.7,SNR=6.1
ILAR Eielson Array 87.58 337 P **P 11 33 13.5 +0.2**
ILAR 11 36 39.1
ILAR pmax pmax
comp=Z,11nm,0.9s
ILAR pmax pmax
comp=Z,2.0nm,1.0s
ETSF Etsaut 87.81 46 *e*P **P 11 33 15.7 +0.8**
MCK McKinley 87.99 335 *e*P **P 11 33 15.7 +0.4**
comp=Z,6.2nm,1.0s,mb4.8
MCK McKinley 87.99 335 *e*P **P 11 33 15.7 +0.4**
MCK pmax pmax
comp=Z,6.0nm,1.0s,mb4.8
ERTA Horta de San J 88.04 48 P **P 11 33 14.8 -1.3**
comp=Z,12nm,0.8s,mb5.2
VNDA Vanda 88.06 191 P **P 11 33 16.1 +0.7**
comp=Z,1.0nm,0.9s,mb4.0,baz=119,slow=4.2,SNR=7.2
VNDA Vanda 88.06 191 P **P 11 33 16.1 +0.7**
VNDA pmax pmax
comp=Z,1.0nm,0.9s
EBIE Bielsa 88.27 47 P **P 11 33 21.8 +4.7**
comp=Z,8.2nm,0.7s,mb5.1
EGRA Graus 88.29 47 P **P 11 33 20.7 +3.4**
comp=Z,12nm,0.7s,mb5.2
SPU Mount Spurr 88.43 333 *e*P **P 11 33 17.4 0.0**
EPF Esparros 88.48 46 *e*P **P 11 33 18.6 +0.5**
RSO Redoubt South 88.51 332 *e*P **P 11 33 18.1 +0.2**
GRR Gorron 88.85 41 *e*P **P 11 33 20.0 +0.2**
comp=Z,66nm,1.5s,mb5.5
GRR Gorron 88.85 41 *e*P **P 11 33 20.0 +0.2**
GRR pmax pmax
comp=Z,33nm,1.5s,mb5.4
MFF Saint Martin d 88.92 43 *e*P **P 11 33 20.4 +0.3**
comp=Z,29nm,0.8s,mb5.4
MFF Saint Martin d 88.92 43 *e*P **P 11 33 20.4 +0.3**
MFF pmax pmax
comp=Z,15nm,0.8s,mb5.4
LFF La Frestale 89.17 45 *e*P **P 11 33 21.6 +0.2**
FLN La Foliniere 89.18 41 *e*P **P 11 33 21.7 +0.4**
comp=Z,35nm,0.9s,mb5.4
FLN La Foliniere 89.18 41 *e*P **P 11 33 21.7 +0.4**
FLN pmax pmax
comp=Z,17nm,0.9s,mb5.4
RJF Les Rejaudoux 89.78 44 *e*P **P 11 33 24.3 +0.1**
comp=Z,14nm,0.8s,mb5.0
RJF Les Rejaudoux 89.78 44 *e*P **P 11 33 24.3 +0.1**
RJF pmax pmax
comp=Z,7.0nm,0.8s,mb5.0
SVW2 Sparrevohn 90.03 332 *e*P **P 11 33 24.8 -0.2**
CAF Calviac 90.09 45 *e*P **P 11 33 25.9 +0.2**
comp=Z,37nm,1.3s,mb5.2
CAF Calviac 90.09 45 *e*P **P 11 33 25.9 +0.2**
CAF pmax pmax
comp=Z,19nm,1.3s,mb5.3
TCF Toulx Ste Croi 90.45 43 *e*P **P 11 33 27.4 +0.1**
comp=Z,22nm,1.2s,mb5.1
TCF Toulx Ste Croi 90.45 43 *e*P **P 11 33 27.4 +0.1**
TCF pmax pmax
comp=Z,11nm,1.2s,mb5.1
AVF Avril sur Loir 91.32 43 *e*P **P 11 33 31.1 -0.3**
comp=Z,13nm,0.9s,mb4.9
AVF Avril sur Loir 91.32 43 *e*P **P 11 33 31.1 -0.3**
AVF pmax pmax
comp=Z,6.0nm,0.9s,mb4.9
SMF Signal de Mont 91.62 43 *e*P **P 11 33 32.8 0.0**
comp=Z,57nm,1.6s,mb5.3
SMF Signal de Mont 91.62 43 *e*P **P 11 33 32.8 0.0**
SMF pmax pmax
comp=Z,28nm,1.6s,mb5.3
LOR Lormes 91.74 43 *e*P **P 11 33 33.3 0.0**
SYO Syowa Base 92.72 162⇑*i*P **P 11 33 35.5 -1.8**
SYO Syowa Base 92.72 162⇑*s*P sP 11 33 48.0 -4.4
GIVF Givet 92.84 40 *e*P **P 11 33 38.8 +0.5**
CDF Champ du Feu 94.19 42 *e*P **P 11 33 44.7 +0.3**
TSUM Tsumeb 94.58 110 *e*P **P 11 33 47.7 +0.8**
comp=Z,11nm,1.1s,mb5.2
TSUM pP pP 11 33 58.0 -0.2
TSUM *e*sP sP 11 34 02.6 +0.7
BRG Berggiesshubel 98.70 40 *e*P **P 11 34 07.0 +2.1**
BRG pmax pmax
comp=Z,5.0nm,1.2s,mb4.9
YAK Yakutsk 121.83 344 *i*PKP PKPdf 11 39 18.4 +0.1
BRVK Borovoye 129.06 23 *i*PKP PKPdf 11 39 34.4 +2.0
KURK Kurchatov 133.91 19 *e*P PKPdf 11 39 43.2 +1.4
MDJ Mudanjiang 135.35 330 PKP PKPdf 11 39 46.2 +1.7
WB2 Warramunga Arr 136.17 230 *e*P PKPdf 11 39 46.0 -0.7
WRAB Tennant Creek 136.17 230 *e*PKPdf PKPdf 11 39 47.8 +1.2
WRA Warramunga Arr 136.18 230 PKP PKPdf 11 39 48.0 +1.3
comp=Z,2.4nm,0.8s,baz=121,slow=2.1,SNR=11
WRA Warramunga Arr 136.18 230 PKIKP PKPdf 11 39 48.0 +1.3
WRA pmax pmax
comp=Z,2.0nm,0.9s
TLY Talaya 136.36 357 *i*PKIKP PKPdf 11 39 40.3 -5.9
ZAK Zakamensk 137.68 357 *e*PKIKP PKPdf 11 39 50.4 +1.8
ZAK pmax pmax
comp=Z,3.0nm,1.2s
ZAK pmax pmax
comp=Z,1.0nm,1.1s
CN2 Changchun 137.95 332 *e*PKP PKPdf 11 39 50.3 +1.0
MKAR Makanchi Array 138.52 18 PKP PKPdf 11 39 51.5 +1.3
comp=Z,2.7nm,1.0s,baz=315,slow=1.7,SNR=11
MKAR Makanchi Array 138.52 18 PKIKP PKPdf 11 39 51.5 +1.2
MKAR pmax pmax
comp=Z,3.0nm,1.0s
AAK Ala-Archa 138.91 29 *i*PKP PKPdf 11 39 52.0 +0.9
AAK Ala-Archa 138.91 29 *i*PKIKP PKPdf 11 39 52.9 +1.8
AAK MLR MLR
comp=Z,3μm,17.0s
SONM Songino Array 139.94 353 PKhKP 11 39 45.0
comp=Z,1.1nm,1.0s,baz=345,slow=3.1,SNR=6.9
SONM PKP PKPdf 11 39 54.6 +1.8
comp=Z,2.7nm,1.1s,baz=78,slow=0.9,SNR=8.4
SONM PP PP 11 42 48.2 -5.2
comp=Z,1.7nm,1.1s,baz=333,slow=3.3,SNR=5.5
SONM Songino Array 139.94 353 PKP PKPdf 11 39 45.0 -7.8
SONM PKP PKPdf 11 39 54.6 +1.8
SONM PP PP 11 42 48.2 -5.2
SONM Songino Array 139.94 353 PKHKP 11 39 45.0
SONM 11 39 54.6
SONM 11 42 48.2
SONM pmax pmax
comp=Z,1.0nm,1.0s
SONM pmax pmax
comp=Z,3.0nm,1.1s
SONM pmax pmax
comp=Z,2.0nm,1.1s
WMQ Urumqi 142.77 15 *e*PKP PKPdf 11 39 58.0 +0.1
WMQ PP PP 11 43 10.0 -0.6
WMQ SKS SKS 11 47 03.0 +1.0
WMQ SKKS 11 49 56.0
WMQ SS SS 12 01 42.0 -0.2
WMQ PP PP
comp=Z,35nm,10.0s
WMQ LR LR
comp=N,923nm,20.0s,MS5.7
WMQ LR LR
comp=E,785nm,20.0s,MS5.7
WMQ LR LR
comp=Z,796nm,20.0s,MS5.5
FITZ Fitzroy Crossi 143.68 224 *e*P PKPbc 11 40 00.6 +1.7
comp=Z,22nm,1.0s
MBWA Marble Bar 145.07 214 *e*PKP PKPdf 11 40 02.9 +0.3
HHC Hu-ho-hao-te 145.69 344 *e*PKP PKPdf 11 40 04.5 +1.5

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
HHC				XPKP			11 40 14.4	
HHC				SKS	SKS		11 47 07.7	+1.3
HHC				PP	PP			
	comp=Z,120nm,6.6s							
HHC				LR	LR			
	comp=N,540nm,17.3s,MS5.6							
HHC				LR	LR			
	comp=E,834nm,17.8s,MS5.6							
HHC				LR	LR			
	comp=Z,839nm,17.2s,MS5.6							
BTO	**Baotou**	**146.31**	**346**	*e*PKP	PKPdf		11 40 06.7	+2.6
GTA	**Gaotai**	**148.74**	**0**	*e*PKP	PKPdf		11 40 10.3	+2.2
GTA				APKP			11 40 25.6	
SSE	**Sheshan**	**149.63**	**322**	*e*PKP	PKPdf		11 40 12.1	+2.3
SSE				PP	PP		11 43 53.6	+2.4
SSE				PP	PP			
	comp=Z,203nm,4.2s							
NJ2	**Nanjing**	**150.29**	**326**	*e*PKP	PKPdf		11 40 17.0	+6.2
NJ2				PKS	PKS		11 43 47.0	+2.5
NJ2				PP	PP		11 43 58.0	+2.9
NJ2				SKS	SKS		11 47 14.0	+1.0
NJ2				PP	PP			
	comp=Z,190nm,10.8s							
NJ2				LR	LR			
	comp=Z,1μm,22.4s,MS5.6							
CD2	**Chengdu**	**156.94**	**352**	PKP	PKPdf		11 40 20.5	+0.4
GYA	**Guiyang**	**160.56**	**342**	PKP	PKPdf		11 40 24.6	+0.1
GYA				APKP			11 40 35.2	
GYA				XPKP			11 40 39.0	
GYA				PKP2	PKPab		11 41 07.4	-0.9
GYA				PP	PP		11 44 51.0	-0.9
GYA				PP	PP			
	comp=Z,120nm,7.0s							
GYA				LR	LR			
	comp=N,380nm,20.4s							
GYA				LR	LR			
	comp=E,460nm,21.2s							
GYA				LR	LR			
	comp=Z,370nm,21.4s							
KMI	**Kunming**	**162.77**	**351**	PKP	PKPdf		11 40 28.0	+1.3
KMI				PKP2	PKPab		11 41 17.1	-0.9
KMI				PP	PP		11 45 03.3	-0.1
KMI				PP	PP			
	comp=Z,155nm,5.5s							
KMI				LR	LR			
	comp=Z,795nm,18.0s							

*IDC **07** 11:34:26.2±2.6, 15.90S×174.35W, h141km±23km, mb3.5/6, mb1 3.9/7, mb1mx3.7/13, mbtmp4.0/7, Error ellipse: s-maj=80.7km s-min=18.7km az=146.0*

*NEIC **07** 11:34:26.2±1.4, 15.72S×174.50W, h139km±13km, mb3.6/1, Error ellipse: s-maj=31.6km s-min=13.8km az=138.0*

ISC 07 11:34:24.6±1.9, 15.8S±0.2×174.5W±0.2, h138km±18km, n15, σ0°75/13, mb3.5/7, 1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
AFI	**Afiamalu**	**3.19**	**55**	P	**P**		**11 35 15.9**	**+1.0**
	114nm,0.3s,baz=48,slow=2.0,SNR=286							
AFI				S	**S**		**11 35 49.2**	**-3.9**
	321nm,0.3s,baz=64,slow=20,SNR=18							
AFI	**Afiamalu**	**3.19**	**55**	‖ *i*P	**P**		**11 35 15.7**	**+0.9**
STKA	**Stephens Creek**	**42.96**	**240**	P	**P**		**11 42 11.5**	**-0.2**
	2.2nm,0.3s,mb4.2,baz=118,slow=6.4,SNR=4.7							
WRA	**Warramunga Arr**	**48.76**	**257**	P	**P**		**11 42 57.4**	**-0.2**
	3.9nm,1.0s,mb4.0,baz=95,slow=6.9,SNR=10							
VNDA	**Vanda**	**62.91**	**186**	*e*P	**P**		**11 44 37.9**	**-0.1**
	0.3nm,0.4s,mb3.5							
ELK	**Elko**	**78.54**	**42**	P	**P**		**11 46 12.2**	**-0.1**
TXAR	**Lajitas Array**	**81.67**	**56**	P	**P**		**11 46 30.0**	**+0.8**
	0.1nm,0.7s,mb2.5,baz=225,slow=8.8,SNR=3.9							
TXAR	**Lajitas Array**	**81.67**	**56**	P	**P**		**11 46 30.0**	**+0.8**
ILAR	**Eielson Array**	**83.01**	**12**	P	**P**		**11 46 35.7**	**+0.4**
	0.9nm,0.6s,mb3.7,baz=224,slow=5.8,SNR=26							
PDAR	**Pinedale Array**	**83.23**	**42**	P	**P**		**11 46 36.3**	**-0.6**
	0.4nm,0.7s,mb3.3,baz=225,slow=4.2,SNR=5.8							
YKA	**Yellowknife Ar**	**90.84**	**24**	P	**P**		**11 47 12.9**	**-0.2**
	0.4nm,1.0s,mb3.4,baz=233,slow=3.5,SNR=5.0							
YKA	**Yellowknife Ar**	**90.84**	**24**	P	**P**		**11 47 12.9**	**-0.2**
KMBO	**Kilima Mbogo**	**144.45**	**245**	PKP	PKPdf		11 53 46.4	+1.0
	2.1nm,0.7s,baz=48,slow=5.6,SNR=5.9							
KMBO	**Kilima Mbogo**	**144.45**	**245**	PKP	PKPdf		11 53 46.4	+1.0
BRTR	**Keskin Array B**	**145.79**	**320**	PKPbc	PKPbc		11 53 50.1	+2.2
	2.3nm,0.8s,baz=79,slow=2.0,SNR=9.9							

*IDC **07** 11:35:24.3±0.5, 14.40S×177.20W, mb5.0/21, mb1 5.1/22, mb1mx5.1/23, mbtmp5.0/22, ML3.7/1, MS5.7/20, Ms1 5.7/20, ms1mx5.7/23, Error ellipse: s-maj=21.5km s-min=12.5km az=151.0*

*MOS **07** 11:35:25.9±1.3, 14.30S×177.23W, h10km, mb5.6/41, MS6.0/28, Error ellipse: s-maj=9.2km s-min=6.8km az=58.5*

*BJI **07** 11:35:26.1, 14.40S×177.30W, h9km, mB5.9, mb5.2, Ms6.0, Msz5.7*

*NEIC **07** 11:35:26.1±0.1, 14.45S×177.29W, h10km, mb5.7/69, MS5.9/130, MW6.0, Error ellipse: s-maj=7.6km s-min=4.1km az=145.0, Moment Tensor Solution. s25 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.04; $M_{\theta\theta}$0.09; $M_{\phi\phi}$-0.06; $M_{r\theta}$0.08; $M_{\theta\phi}$1.10; $M_{\phi r}$0.27; Best double couple: $M_0$1.1×10^{18} NP1:ϕ_s92°, δ76°, λ3°. NP2:ϕ_s2°, δ87°, λ166°. Principal axes: T 1.17, Plg12°, Azm316°; N -.07, Plg76°, Azm171°; P -1.11, Plg8°, Azm48°;*

*HRVD **07** 11:35:26.1±0.1, 14.26S×177.10W, h12km, MW6.0/78, Centroid moment Tensor Solution. LP body waves: s71,c167;Mantle waves: s78,c298; Half duration: 2s3 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.06±.01; $M_{\theta\theta}$0.17±.01; $M_{\phi\phi}$-0.11±.01; $M_{r\theta}$-0.05±.02; $M_{\theta\phi}$1.01±.01; $M_{\phi r}$-0.07±.02; Best double couple: $M_0$1.023×10^{18} NP1: ϕ_s274°, δ86°, λ2°. NP2:ϕ_s184°, δ88°, λ176°. Principal axes: T 1.058, Plg4°, Azm139°; N -.069, Plg86°, Azm333°; P -.989, Plg1°, Azm229°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*CRAAG **07** 11:35:34.0, 13.31S×177.05W, Mb5.7*

ISC 07 11:35:25.2±0.2, 14.41S±0.05×177.23W±0.04, h11km, h11km±1.5km:pP-P, n685, σ1°00/325, mb5.4/103, MS5.8/166, 26C-14D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
AFI	**Afiamalu**	**5.31**	**85**	Pn	**Pn**		**11 36 41.5**	**-5.0**
	baz=225,slow=21,SNR=2.2							
AFI				Sn	**Sn**		**11 37 33.0**	**-16**
	23nm,0.3s,baz=136,slow=21,SNR=2.3							
AFI				LR	LR		11 38 18.7	
	comp=Z,88μm,22.0s,baz=268,slow=33							
AFI	**Afiamalu**	**5.31**	**85**	*e*P	**Pn**		**11 36 41.9**	**-4.6**
AFI				*e*S	**Sn**		**11 37 34.0**	**-15**
RAO	**Raoul Island**	**14.78**	**182**	LR	LR		11 43 30.5	
	comp=Z,21μm,18.2s,baz=207,slow=33							
DZM	**Mont Dzumac**	**17.27**	**241**	*e*P	**P**		**11 39 31.5**	**+3.3**
DZM	**Mont Dzumac**	**17.27**	**241**	P	**P**		**11 39 29.4**	**+1.3**
	0.2nm,0.3s,baz=70,slow=12,SNR=21							
DZM	**Mont Dzumac**	**17.27**	**241**	*e*P	**P**		**11 39 31.5**	**+3.3**
NOUC	**Port Laguerre**	**17.40**	**242**	*e*P	**P**		**11 39 32.0**	**+2.2**
RAR	**Rarotonga**	**17.93**	**115**	*e*P	**P**		**11 39 36.5**	**0.0**
	548nm,1.9s							
RAR	**Rarotonga**	**17.93**	**115**	*e*P	**P**		**11 39 36.5**	**0.0**
RAR				pmax	pmax			
	comp=Z,548nm,1.9s							
HNR	**Honiara**	**22.87**	**280**	P	**P**		**11 40 30.1**	**-0.1**
	comp=Z,155nm,1.0s,mb5.4,baz=280,slow=2.1,SNR=2.6							
HNR				LR	LR		11 47 53.1	
	comp=Z,37μm,19.8s,MS5.8,baz=115,slow=33							
HNR	**Honiara**	**22.87**	**280**	*e*P	**P**		**11 40 28.6**	**-1.6**
	comp=Z,551nm,1.2s,mb5.9							
HNR				LR	LR			
	comp=Z,33μm,20.0s,MS5.8							
HNR	**Honiara**	**22.87**	**280**	P	**P**		**11 40 30.1**	**0.0**
HNR				pmax	pmax			
	comp=Z,155nm,1.0s,mb5.4							
HNR				MLR	MLR			
	comp=Z,37μm,19.8s,MS5.8							
URZ	**Urewera**	**24.28**	**191**	P	**P**		**11 40 40.2**	**-3.5**
	comp=Z,11nm,0.8s,baz=68,slow=5.4,SNR=2.9							
URZ				LR	LR		11 48 37.3	
	comp=Z,24μm,19.8s,MS5.7,baz=211,slow=33							
PPT	**Papeete**	**26.76**	**100**	*e*P	**P**		**11 41 07.8**	**+0.6**
	comp=Z,76nm,1.3s,mb5.1							
PPT	**Papeete**	**26.76**	**100**	*e*LQ			11 46 18.3	
PPT				*e*LR	LR		11 47 25.4	
	comp=Z,15μm,26.0s,baz=261							
PPT	**Papeete**	**26.76**	**100**	P	**P**		**11 41 06.5**	**-0.6**
	comp=Z,15nm,0.9s,mb4.5,baz=9.1,slow=23,SNR=3.5							
PPT				LR	LR		11 48 57.7	
	comp=Z,4μm,20.1s,MS5.0,baz=272,slow=30							
PAE	**Paea**	**26.76**	**101**	*e*P	**P**		**11 41 07.5**	**+0.3**
	comp=Z,151nm,1.3s,mb5.4							
TVO	**Taravao**	**27.08**	**101**	*e*P	**P**		**11 41 10.7**	**+0.6**
	comp=Z,199nm,1.3s,mb5.5							
KWAJ	**Kwajalein Atol**	**27.53**	**326**	PFAKE			11 41 30.0	+16
KWAJ				LR	LR			
	comp=Z,11μm,19.0s,MS5.4							
TBI	**Tubuai**	**27.70**	**113**	*e*LQ			11 46 45.3	
TBI				*e*LR	LR		11 47 54.3	
	comp=Z,24μm,27.2s,baz=285							
SNZO	**South Karori**	**27.70**	**193**	PFAKE			11 41 30.0	+14
SNZO				LR	LR			
	comp=Z,23μm,21.0s,MS5.7							
PMOR	**Pomariorio Ree**	**28.37**	**95**	*e*P	**P**		**11 41 22.1**	**+0.3**
	comp=Z,154nm,1.3s,mb5.5							
RIV	**Riverview**	**34.52**	**230**	*e*P	**P**		**11 42 19.5**	**+3.7**
PMG	**Port Moresby**	**35.17**	**274**	P	**P**		**11 42 22.1**	**+0.5**
	comp=Z,136nm,1.1s,mb5.8,baz=196,slow=3.0,SNR=14							
PMG				LR	LR		11 53 46.7	
	comp=Z,14μm,19.2s,MS5.8,baz=295,slow=31							
PMG	**Port Moresby**	**35.17**	**274**	*e*P	**P**		**11 42 21.0**	**-0.6**
	comp=Z,206nm,1.3s,mb5.9							
PMG				LR	LR			
	comp=Z,15μm,19.0s,MS5.8							
PMG	**Port Moresby**	**35.17**	**274**	*i* P	**P**		**11 42 22.2**	**+0.6**
CTA	**Charters Tower**	**35.28**	**256**	*e*P	**P**		**11 42 23.4**	**+1.0**
	comp=Z,18nm,1.4s,mb4.8							
CTA				*e*S	**S**		**11 47 58.6**	**+3.3**
CTA				*e*SS	SS		11 50 25.1	+13
CTA	**Charters Tower**	**35.28**	**256**	P	**P**		**11 42 23.1**	**+0.7**
	comp=Z,11nm,1.0s,mb4.8,baz=85,slow=12,SNR=3.1							
CTA	**Charters Tower**	**35.28**	**256**	*e*P	**P**		**11 42 23.4**	**+1.0**
CTA				*e*S	**S**		**11 47 58.6**	**+3.3**
CTA				pmax	pmax			
	comp=Z,18nm,1.4s							
CTAO	**Charters Tower**	**35.28**	**256**	PFAKE			11 42 30.0	+7.6
CTAO				LR	LR			
	comp=Z,7μm,19.0s,MS5.5							
CNB	**Canberra Magne**	**36.50**	**229**	*e*P	**P**		**11 42 31.4**	**-1.2**
	comp=Z,81nm,1.5s,mb5.3							
TAOE	**Nuku Hiva Isla**	**36.70**	**86**	*e*P	**P**		**11 42 34.8**	**+0.3**
	comp=Z,896nm,1.4s,mb6.4							
TAOE				*e*LR	LR		11 52 01.3	
	comp=Z,77μm,26.2s							
WAKE	**Wake Island**	**37.05**	**334**	PFAKE			11 42 50.0	+13
WAKE				LR	LR			
	comp=Z,18μm,20.0s,MS5.8							
POHA	**Pohakuloa**	**40.11**	**33**	PFAKE			11 43 10.0	+7.1
POHA				LR	LR			
	comp=Z,60μm,20.0s,MS6.4							
TOO	**Toolangi**	**40.29**	**228**	*e*P	**P**		**11 43 01.4**	**-2.8**
	comp=Z,23nm,1.1s,mb4.8							
TOO				*e*S	**S**		**11 49 13.5**	**+2.1**
TOO	**Toolangi**	**40.29**	**228**	*e*P	**P**		**11 43 01.4**	**-2.8**
TOO				*e*S	**S**		**11 49 13.5**	**+2.1**
TOO				pmax	pmax			
	comp=Z,23nm,1.1s,mb4.8							
KIP	**Kipapa**	**40.30**	**28**	PFAKE			11 43 20.0	+16
KIP				LR	LR			
	comp=Z,13μm,20.0s,MS5.8							
RKT	**Rikitea**	**40.82**	**109**	*e*LQ			11 52 54.6	
RKT				*e*LR	LR		11 53 57.8	
	comp=Z,15μm,25.5s,baz=279							
STKA	**Stephens Creek**	**41.37**	**238**	*e*P	**P**		**11 43 13.0**	**-0.1**
	comp=Z,45nm,1.0s,mb5.0							
STKA				*e*S	**S**		**11 49 36.4**	**+8.9**
STKA	**Stephens Creek**	**41.37**	**238**	P	**P**		**11 43 12.0**	**-1.1**
	comp=Z,76nm,1.1s,mb5.2,baz=59,slow=6.4,SNR=16							
STKA				LR	LR		11 58 35.4	
	comp=Z,25μm,19.7s,MS6.1,baz=64,slow=34							
TAU	**Tasmania Unive**	**41.61**	**220**	PFAKE			11 43 30.0	+15
TAU				LR	LR			
	comp=Z,2μm,20.0s,MS5.1							
MIDW	**Midway**	**42.38**	**360**	*e*P	**P**		**11 43 21.1**	**-0.4**
	comp=Z,207nm,1.3s,mb5.6							
MIDW				LR	LR			
	comp=Z,7μm,20.0s,MS5.5							
WB2	**Warramunga Arr**	**46.46**	**256**	*e*P	**P**		**11 43 52.9**	**-1.6**
WRAB	**Tennant Creek**	**46.47**	**256**	*e*P	**P**		**11 43 51.8**	**-2.7**
	comp=Z,40nm,1.2s,mb5.2							
WRAB	**Tennant Creek**	**46.47**	**256**	*i* P	**P**		**11 43 54.6**	**+0.1**
WRA	**Warramunga Arr**	**46.48**	**256**	P	**P**		**11 43 52.1**	**-2.5**
	comp=Z,8.9nm,1.1s,mb4.6,baz=91,slow=6.7,SNR=14							
WRA				PP	PP		11 45 44.1	+0.3
	comp=Z,11nm,1.1s,baz=85,slow=9.4,SNR=7.2							
WRA	**Warramunga Arr**	**46.48**	**256**	P	**P**		**11 43 52.1**	**-2.5**
WRA							11 45 44.1	
WRA				pmax	pmax			
	comp=Z,9.0nm,1.1s							
WRA				pmax	pmax			
	comp=Z,11nm,1.1s							
KAKA	**Kakadu**	**48.88**	**266**	*e*P	**P**		**11 44 20.1**	**+6.7**
	comp=Z,42nm,1.4s,mb5.3							
FITZ	**Fitzroy Crossi**	**54.79**	**258**	*e*P	**P**		**11 44 59.0**	**+1.1**
FITZ				*e*S	**S**		**11 52 43.6**	**+6.8**
FITZ	**Fitzroy Crossi**	**54.79**	**258**	P	**P**		**11 44 56.3**	**-1.6**
	comp=Z,11nm,1.0s,mb4.8,baz=80,slow=2.6,SNR=5.1							
DRV	**Dumont d'Urvil**	**59.32**	**198**	P	**P**		**11 45 30.0**	**+0.6**
DRV				S	**S**		**11 53 39.0**	**+3.0**
DRV				L			12 00 00.0	
MBWA	**Marble Bar**	**60.08**	**254**	PFAKE			11 45 50.0	+15
MBWA				LR	LR			
	comp=Z,7μm,20.0s,MS5.8							
BIPH	**Bislig**	**60.28**	**288**	*e*P	**P**		**11 45 28.9**	**-7.8**
BUKP	**Musuan**	**61.37**	**287**	*e*P	**P**		**11 45 47.2**	**+3.1**
KLBR	**Kellerberrin**	**61.43**	**242**	*e*P	**P**		**11 45 41.8**	**-2.5**
	comp=Z,109nm,1.2s,mb5.9							
NWAO	**Narrogin (SRO)**	**61.88**	**240**	PFAKE			11 46 00.0	+13
NWAO				LR	LR			
	comp=Z,11μm,19.0s,MS6.0							
MSLP	**Maasin**	**62.38**	**290**	*e*P	**P**		**11 45 50.1**	**-0.8**
JHJ	**Hachijo jima 2**	**62.59**	**320**	P	**P**		**11 45 50.6**	**-1.4**
	comp=Z,102nm,0.9s,mb6.0,baz=175,slow=8.7,SNR=7.3							
MUN	**Mundaring**	**62.75**	**241**	*e*P	**P**		**11 45 51.5**	**-1.6**
	comp=Z,21nm,1.2s,mb5.1							
MUN				*e*S	**S**		**11 54 31.5**	**+11**
MUN	**Mundaring**	**62.75**	**241**	*e*P	**P**		**11 45 51.5**	**-1.6**
MUN				*e*S	**S**		**11 54 31.5**	**+11**
MUN				pmax	pmax			
	comp=Z,21nm,1.2s,mb5.1							
SBA	**Scott Base**	**63.96**	**184**	*e*P	**P**		**11 45 58.4**	**-2.0**
	comp=Z,89nm,1.5s,mb5.6							
SBA				LR	LR			
	comp=Z,3μm,21.0s,MS5.4							
SBA	**Scott Base**	**63.96**	**184**	*e*P	**P**		**11 45 58.4**	**-2.0**
SBA				pmax	pmax			
	comp=Z,89nm,1.5s,mb5.6							
SBA				MLR	MLR			
	comp=Z,3μm,21.0s,MS5.4							
VNDA	**Vanda**	**64.00**	**185**	P	**P**		**11 45 59.4**	**-1.3**
	comp=Z,17nm,1.2s,mb4.9,baz=13,slow=7.4,SNR=12							
VNDA				LR	LR		12 09 07.8	
	comp=Z,2μm,20.9s,MS5.3,baz=31,slow=32							
VNDA	**Vanda**	**64.00**	**185**	*e*P	**P**		**11 45 59.4**	**-1.3**
	comp=Z,40nm,1.5s,mb5.2							
VNDA				LR	LR			
	comp=Z,2μm,21.0s,MS5.3							
VNDA	**Vanda**	**64.00**	**185**	P	**P**		**11 46 00.1**	**-0.6**
VNDA				pmax	pmax			
	comp=Z,40nm,1.5s							
RPN	**Rapa Nui**	**64.08**	**113**	LR	LR		12 07 21.4	
	comp=Z,2μm,18.3s,MS5.3,baz=85,slow=30							
MAJO	**Matsushiro**	**65.84**	**322**	*e*P	**P**		**11 46 11.4**	**-1.8**
	comp=Z,76nm,1.5s,mb5.5							
MAJO				LR	LR			
	comp=Z,5μm,21.0s,MS5.7							
MAJO	**Matsushiro**	**65.84**	**322**	P	**P**		**11 46 13.4**	**+0.2**
MAJO				pmax	pmax			
	comp=Z,76nm,1.5s,mb5.5							
MAT	**Matsushiro**	**65.84**	**322**	P	**P**		**11 46 11.9**	**-1.3**
MAT				S	S		11 55 03.0	+4.6
MAT	**Matsushiro**	**65.84**	**322**	*e*P	**P**		**11 46 12.0**	**-1.2**
	comp=Z,28nm,1.2s,mb5.2							
MAT				*e*S	S		11 55 03.0	+4.6
MAT				LR	LR			
	comp=Z,5μm,20.0s,MS5.7							
MAT	**Matsushiro**	**65.84**	**322**	*e*P	**P**		**11 46 12.0**	**-1.2**
MAT				*e*S	S		11 55 03.0	+4.6
MAT				pmax	pmax			
	comp=Z,28nm,1.2s,mb5.2							
MAT				MLR	MLR			
	comp=Z,5μm,20.0s,MS5.7							
YUK	**Yuzh-Kuril'sk**	**67.20**	**332**	*e*P	**P**		**11 46 17.0**	**-4.7**
YUK				*e*S	S		11 55 21.0	+6.2
YUK				*e*PS	PS		11 55 42.0	+3.0
YUK				*e*			11 56 21.0	
YUK				pmax	pmax			
	comp=N,2μm,2.5s							
YUK				pmax	pmax			
	comp=E,2μm,2.5s							
YUK				pmax	pmax			
	comp=Z,2μm,2.5s							
YUK				smax				
	comp=N,4μm,9.0s							
YUK				smax				
	comp=E,3μm,9.0s							
SMY	**Shemya**	**67.28**	**354**	PFAKE			11 46 30.0	+7.9
SMY				LR	LR			
	comp=Z,8μm,19.0s,MS6.0							
FX1	**Attu Island--F**	**67.53**	**354**	*e*P	**P**		**11 46 22.1**	**-1.5**
UNV	**Unalaska Valle**	**68.60**	**7**	PFAKE			11 46 40.0	+10
UNV				LR	LR			
	comp=Z,8μm,22.0s,MS5.9							
SKR	**Severo-Kuril's**	**68.90**	**342**	*e*P	**P**		**11 46 29.0**	**-3.2**
SKR				*e*			11 46 59.0	
SKR				*e*PPP	PPP		11 50 44.0	-0.6
SKR				*e*S	S		11 55 40.0	+5.2
SKR				*e*PS	PS		11 56 04.0	+2.4
SKR				*e*			11 56 24.0	
SKR				*e*SS	SS		12 00 04.0	+2.0
SKR				pmax	pmax			
	comp=N,1μm,6.0s							
SKR				pmax	pmax			
	comp=E,1μm,6.0s							
SKR				pmax	pmax			
	comp=Z,1μm,6.0s							
SKR				smax				
	comp=N,3μm,14.0s							
SKR				smax				
	comp=E,3μm,14.0s							
SKR				MLR	MLR			
	comp=N,5μm,18.0s,MS5.8							
SKR				MLR	MLR			
	comp=E,3μm,18.0s,MS5.8							
SKR				MLR	MLR			
	comp=Z,6μm,18.0s,MS5.8							
CASY	**Casey**	**69.77**	**204**	*e*P	**P**		**11 46 35.0**	**-2.3**
CASY				LR	LR			
	comp=Z,6μm,21.0s,MS5.8							
PET	**Petropavlovsk**	**70.30**	**345**	PFAKE			11 46 50.0	+9.3
PET				LR	LR			
	comp=Z,7μm,21.0s,MS5.9							
PET	**Petropavlovsk**	**70.30**	**345**	*c i*P	**P**		**11 46 38.6**	**-2.1**
PET				*e*			11 46 57.5	
PET				*e*S	S		11 55 56.6	+5.2
PET				*e*PS	PS		11 56 25.7	+5.9
PET				*e*PPS	PPS		11 56 37.7	+4.9
PET				*e*SS	SS		12 00 27.6	+4.2
PET				pmax	pmax			
	comp=Z,500nm,16.8s							
PET				pmax	pmax			
	comp=Z,59nm,2.6s,mb5.1							
PET				pmax	pmax			
	comp=Z,900nm,3.0s							
PET				pmax	pmax			
	comp=Z,400nm,4.1s							
PET				smax				
	comp=E,2μm,14.8s							
PET				smax				
	comp=N,2μm,13.6s							
YSS	**Yuzh-Sakhalins**	**70.84**	**332**	*e*P	**P**		**11 46 42.6**	**-1.5**
	comp=N,198nm,1.6s,mb5.8							
YSS	**Yuzh-Sakhalins**	**70.84**	**332**	*j e*P	**P**		**11 46 44.0**	**-0.1**
YSS				*e*			11 47 07.0	
YSS				*i* S	S		11 56 04.0	+6.2
YSS				*e*PS	PS		11 56 20.0	-7.0
YSS				*e*PPS	PPS		11 56 34.0	-6.0
YSS				*e*			12 00 24.0	
YSS				pmax	pmax			
	comp=E,600nm,2.5s							
YSS				pmax	pmax			
	comp=Z,630nm,2.5s,mb6.1							
YSS				pmax	pmax			
	comp=Z,800nm,4.0s							
YSS				smax				
	comp=N,2μm,12.0s							
YSS				MLR	MLR			
	comp=N,5μm,18.0s,MS5.9							
YSS				MLR	MLR			
	comp=E,4μm,18.0s,MS5.9							
YSS				MLR	MLR			
	comp=Z,5μm,18.0s,MS5.8							
SDPT	**Sand Point**	**70.92**	**10**	*e*P	**P**		**11 46 42.4**	**-2.0**
TATO	**Taipei**	**71.42**	**303**	PFAKE			11 47 00.0	+12
TATO				LR	LR			
	comp=Z,5μm,20.0s,MS5.8							
SNCC	**San Nicolas Is**	**72.61**	**48**	PFAKE			11 47 10.0	+15
SNCC				LR	LR			
	comp=Z,5μm,19.0s,MS5.8							
KS15	**Wonju Array Si**	**72.91**	**317**	*e*P	**P**		**11 46 58.8**	**+2.1**
SAO	**San Andreas Ge**	**73.13**	**44**	*e*P	**P**		**11 46 57.6**	**-0.4**
	comp=Z,37nm,1.3s,mb5.2							
SAO				LR	LR			
	comp=Z,6μm,20.0s,MS5.9							
SAO	**San Andreas Ge**	**73.13**	**44**	P	**P**		**11 46 58.9**	**+0.9**
SAO				pmax	pmax			
	comp=Z,37nm,1.2s,mb5.2							
LRV	**Little Rabbit**	**73.24**	**44**	*e*P	**P**		**11 46 58.6**	**0.0**
HOPS	**Hopland**	**73.31**	**41**	*e*P	**P**		**11 46 57.7**	**-1.3**
	comp=Z,74nm,1.4s,mb5.4							
HOPS				LR	LR			
	comp=Z,13μm,20.0s,MS6.2							
PTRM	**Twissleman Ran**	**73.38**	**45**	*e*P	**P**		**11 46 59.5**	**0.0**
KSM	**Kuching**	**73.41**	**276**	*e*P	**P**		**11 47 00.1**	**0.0**
KIPM	**Iron Peak**	**73.52**	**40**	*e*P	**P**		**11 47 00.4**	**+0.2**
INCN	**Inchon**	**73.76**	**317**	PFAKE			11 47 10.0	+8.4
INCN				LR	LR			
	comp=Z,5μm,20.0s,MS5.8							
QZH	**Quanzhou**	**73.78**	**302**	⇑ *i*P	**P**		**11 47 03.2**	**+1.2**
QZH				S	S		11 56 35.0	+3.3
QZH				PS	PS		11 57 09.8	+3

comp=Z,1μm,21.0s,MS5.2
KDAK Kodiak Island 74.76 13 *e*P **P 11 47 07.4 +0.4**
KTRM Thompson Ridge 74.81 39 P **P 11 47 08.6 +0.9**
PFO Pinyon Flat Ob 75.02 49 *e*P **P 11 47 08.2 -0.8**
comp=Z,60nm,1.8s,mb5.2
PFO LR LR
comp=Z,2μm,20.0s,MS5.5
PFO Pinyon Flat Ob 75.02 49 *e*P **P 11 47 08.8 -0.2**
PFO pmax pmax
comp=Z,60nm,1.7s,mb5.2
YBH Yreka Blue Hor 75.11 39 P **P 11 47 09.2 -0.2**
comp=Z,44nm,1.3s,mb5.2,baz=153,slow=6.2,SNR=16
YBH LR LR 12 12 38.1
comp=Z,9μm,21.0s,MS6.0,baz=225,slow=30
YBH Yreka Blue Hor 75.11 39 *e*P **P 11 47 09.1 -0.2**
comp=Z,90nm,1.5s,mb5.5
YBH Yreka Blue Hor 75.11 39 P **P 11 47 10.2 +0.8**
YBH pmax pmax
comp=Z,90nm,1.5s
OMM Old Mammoth Mi 75.25 44 *e*P **P 11 47 10.2 0.0**
MTUM Tungsten Hills 75.40 45 *e*P **P 11 47 11.2 +0.1**
HUMO Hull Mountain 75.47 38 *e*P **P 11 47 11.4 +0.1**
comp=Z,78nm,1.5s,mb5.4
HUMO LR LR
comp=Z,7μm,20.0s,MS5.9
DAC Darwin (Calif) 75.52 46 *e*P **P 11 47 11.7 -0.1**
comp=Z,48nm,1.6s,mb5.2
DAC LR LR
comp=Z,6μm,20.0s,MS5.9
DAC Darwin (Calif) 75.52 46 *e*P **P 11 47 12.2 +0.4**
DAC pmax pmax
comp=Z,48nm,1.5s,mb5.2
BEKR Beckwourth 75.54 42 *e*P **P 11 47 10.7 -1.2**
comp=Z,82nm,1.6s,mb5.4
LTIM Timbered Crate 75.55 40 P **P 11 47 11.8 0.0**
QSPA South Pole Qui 75.62 180 *e*P **P 11 47 10.7 -0.9**
comp=Z,179nm,1.6s,mb5.8
BUOR Burton Butte 75.71 39 P **P 11 47 12.9 +0.2**
LASM Arnica Sink 75.73 40 P **P 11 47 13.1 +0.2**
BBOR Butler Butte 75.80 38 P **P 11 47 13.4 +0.2**
VSP Spence Mountai 75.92 39 P **P 11 47 14.7 +0.7**
GLA Glamis 75.95 50 *e*P **P 11 47 13.9 -0.4**
HOG Hogback Mounta 76.02 39 P **P 11 47 14.7 +0.2**
MDJ Mudanjiang 76.02 324 P **P 11 47 14.3 -0.2**
MDJ AP pP 11 47 17.5 -0.3
MDJ PCP PcP 11 47 26.2 -1.0
MDJ PP PP 11 50 04.8 -2.1
MDJ S S 11 57 05.0 +8.8
MDJ SCS ScS 11 57 30.5 +4.8
MDJ AMB AMB
comp=Z,41nm,2.7s,mb4.9
MDJ AMB AMB
comp=Z,807nm,7.1s
MDJ LR LR
comp=N,2μm,34.5s,MS5.6
MDJ LR LR
comp=E,5μm,33.9s,MS5.6
MDJ LR LR
comp=Z,7μm,35.1s,MS5.7
MDJ Mudanjiang 76.02 324 *e*P **P 11 47 13.3 -1.2**
comp=Z,610nm,2.6s,mb6.1
MDJ LR LR
comp=Z,6μm,20.0s,MS5.9
COR Corvallis 76.43 36 P **P 11 47 16.3 -0.4**
comp=Z,80nm,1.4s,mb5.5
COR LR LR
comp=Z,6μm,20.0s,MS5.9
COR Corvallis 76.43 36 P **P 11 47 18.1 +1.3**
COR pmax pmax
comp=Z,80nm,1.4s,mb5.5
HBO Huckleberry Mo 76.57 37 P **P 11 47 17.9 +0.3**
NJ2 Nanjing 76.64 308 *e*P **P 11 47 20.2 +2.0**
NJ2 AP pP 11 47 25.4 +3.9
NJ2 XP sP 11 47 28.1 +5.4
NJ2 PP PP 11 50 14.3 +2.2
NJ2 S S 11 57 02.0 -1.2
NJ2 XS 11 57 10.0
NJ2 AMB AMB
comp=Z,40nm,1.0s,mb5.3
NJ2 AMB AMB
comp=Z,430nm,3.9s
NJ2 LR LR
comp=N,2μm,22.4s,MS5.4
NJ2 LR LR
comp=E,2μm,25.9s,MS5.4
NJ2 LR LR
comp=Z,1μm,12.4s
TPH Tonopah 76.68 45 *e*P **P 11 47 18.5 +0.2**
comp=Z,82nm,1.4s,mb5.5
TPH LR LR
comp=Z,5μm,21.0s,MS5.8
TPH Tonopah 76.68 45 P **P 11 47 18.9 +0.6**
TPH pmax pmax
comp=Z,82nm,1.3s,mb5.5
MOD Modoc 76.69 40 *e*P **P 11 47 17.2 -1.1**
comp=Z,69nm,1.4s,mb5.4
MOD LR LR
comp=Z,8μm,20.0s,MS6.0
LDFC Landfair 76.69 48 *e*P **P 11 47 18.2 -0.2**
IRO Indian Ridge 76.70 37 P **P 11 47 18.6 +0.3**
MIR Mirnyy 76.80 204 *e*P **P 11 47 20.0 +1.6**
MIR *i* 11 47 32.0
MIR *e*S S 11 57 08.0 +3.7
MIR pmax pmax
comp=E,404nm,4.0s
MIR smax
comp=E,700nm,7.0s
MIR MLR MLR
comp=N,890nm,16.0s,MS5.5
MIR MLR MLR
comp=E,2μm,16.0s,MS5.5
MIR MLR MLR
comp=Z,4μm,16.0s,MS5.8
FRIS Frissel Point 76.91 37 P **P 11 47 19.5 0.0**
KMOR Kings Mountain 76.95 36 P **P 11 47 20.1 +0.5**
NEN Nelson 77.16 48 *e*P **P 11 47 20.8 -0.2**
RSO Redoubt South 77.17 12 *e*P **P 11 47 19.3 -1.2**
BKCOR Black Crater 77.20 37 P **P 11 47 21.4 +0.3**
SVW2 Sparrevohn 77.21 11 *e*P **P 11 47 20.0 -0.8**
BEND Bend 77.28 38 P **P 11 47 21.9 +0.4**
GZH Guangzhou 77.46 298 P **P 11 47 23.2 +0.3**
GZH S S 11 57 17.9 +5.6
GZH LR LR
comp=N,2μm,19.0s,MS5.6
GZH LR LR
comp=E,2μm,18.0s,MS5.6
GZH LR LR
comp=Z,3μm,21.8s,MS5.6
BMW Boistfort Moun 77.59 35 P **P 11 47 23.9 +0.7**
RVW Rose Valley 77.67 35 P **P 11 47 24.2 +0.6**
TDH Tom, Dick, Har 77.71 37 P **P 11 47 23.8 0.0**
GMO Grizzlie Mount 77.71 38 P **P 11 47 24.4 +0.6**
KLR Kul'dur 77.72 329 *e*P **P 11 47 21.2 -2.6**
KLR *e*S S 11 57 14.5 0.0
KLR pmax pmax
comp=E,110nm,2.8s
KLR pmax pmax
comp=Z,240nm,2.8s,mb5.6
KLR smax
comp=N,3μm,10.0s
KLR smax
comp=E,900nm,10.0s
SLKM Skilak Lake 77.75 13 *e*P **P 11 47 22.5 -1.3**
SLKM Skilak Lake 77.75 13 P **P 11 47 23.1 -0.6**
OOW Octopus West 77.83 33 P **P 11 47 25.7 +1.2**
OCWA Octopus Mounta 77.85 33 PFAKE 11 47 40.0 +15
OCWA LR LR
comp=Z,3μm,20.0s,MS5.6
DL2 Dalian 77.87 316 P **P 11 47 25.0 +0.1**
DL2 S S 11 57 18.8 +2.4
DL2 AMB AMB
comp=Z,20nm,1.1s,mb5.0
DL2 AMB AMB
comp=Z,420nm,7.4s
DL2 LR LR
comp=N,2μm,18.3s,MS5.5
DL2 LR LR
comp=E,2μm,22.0s,MS5.5
DL2 LR LR
comp=Z,3μm,23.5s,MS5.5
BMN Battle Mountai 77.88 43 *e*P **P 11 47 25.1 +0.2**
comp=Z,61nm,1.5s,mb5.3
BMN LR LR
comp=Z,8μm,21.0s,MS6.0
BMN Battle Mountai 77.88 43 P **P 11 47 25.5 +0.6**
BMN pmax pmax
comp=Z,61nm,1.5s,mb5.3
VFP Flag Point 77.92 37 P **P 11 47 25.4 +0.4**
FL2 Flat Top 2 77.92 36 P **P 11 47 25.7 +0.7**
VIPM Ingram Point 77.95 38 P **P 11 47 25.3 +0.1**
SPU Mount Spurr 77.96 12 *e*P **P 11 47 23.3 -1.6**
CN2 Changchun 77.98 321 *e*P **P 11 47 26.6 +1.2**
CN2 *e*XP sP 11 47 33.0 +3.2
CN2 *e*S S 11 57 17.9 +0.4
CN2 AMB AMB
comp=Z,50nm,2.0s,mb5.1
CN2 AMB AMB
comp=Z,1μm,3.0s
CN2 LR LR
comp=N,3μm,19.0s,MS5.9
CN2 LR LR
comp=E,4μm,19.0s,MS5.9
CN2 LR LR
comp=Z,4μm,19.0s,MS5.8
ERK Elk Rock 77.99 35 P **P 11 47 25.7 +0.3**
CROR Criterion Ridg 78.00 37 P **P 11 47 25.2 -0.3**
WVOR Wild Horse Val 78.02 40 *e*P **P 11 47 25.4 -0.2**
comp=Z,50nm,1.3s,mb5.3
WVOR LR LR
comp=Z,16μm,21.0s,MS6.3
WVOR Wild Horse Val 78.02 40 *e*P **P 11 47 25.7 +0.1**
WVOR pmax pmax
comp=Z,49nm,1.3s,mb5.3
TDL Tradedollar La 78.09 35 P **P 11 47 26.4 +0.5**
OSD Olympics--Snow 78.14 34 P **P 11 47 26.7 +0.5**
MA2 Magadan 78.15 344 *e*P **P 11 47 25.1 -0.9**
comp=Z,654nm,2.5s,mb6.1
MA2 LR LR
comp=Z,5μm,20.0s,MS5.8
MA2 Magadan 78.15 344 P **P 11 47 25.7 -0.3**
MA2 pmax pmax
comp=Z,650nm,2.5s,mb6.1
ASR Mount Adams--S 78.32 36 P **P 11 47 27.4 +0.3**
FIB Fire Island 78.35 13 PFAKE 11 47 40.0 +13
FIB LR LR
comp=Z,1μm,22.0s,MS5.2
GLK Glacier Lake 78.55 36 P **P 11 47 28.5 0.0**
WPW White Pass 78.66 35 P **P 11 47 29.0 -0.1**
TUC Tucson 78.68 52 PFAKE 11 47 40.0 +11
TUC LR LR
comp=Z,8μm,20.0s,MS6.1
TUC Tucson 78.68 52 P **P 11 47 30.3 +0.9**
TUC pmax pmax
comp=Z,77nm,1.5s,mb5.4
FMW Mount Fremont 78.73 35 P **P 11 47 30.0 +0.6**
PGC Sidney 78.78 33 *e*P **P 11 47 28.6 -1.1**
comp=Z,165nm,1.4s,mb5.8
GSM Grass Mountain 78.82 35 P **P 11 47 30.0 +0.1**
EYAK Cordova Ski Ar 78.85 15 *e*P **P 11 47 28.9 -0.9**
CRAG Craig 78.88 24 *e*P **P 11 47 30.2 +0.2**
PMR Palmer 78.96 13 *e*P **P 11 47 27.8 -2.5**
PMR LR LR
comp=Z,2μm,19.0s,MS5.6
RMW Rattlesnake Mo 78.96 35 P **P 11 47 30.6 0.0**
QIZ Qiongzhong 79.11 293 P **P 11 47 32.6 +0.6**
QIZ S S 11 57 31.9 +1.9
QIZ XS 11 57 38.6
QIZ LR LR
comp=E,2μm,21.1s
QIZ LR LR
comp=Z,4μm,22.5s,MS5.8
QIZ Qiongzhong 79.11 293 PFAKE 11 47 40.0 +8.0
QIZ LR LR
comp=Z,5μm,22.0s,MS5.8
MCW Mount Constitu 79.13 33 P **P 11 47 32.3 +0.8**
ARUT Antelope Range 79.16 46 *e*P **P 11 47 32.2 +0.2**
ARUT Antelope Range 79.16 46 P **P 11 47 32.8 +0.9**
HTW Haystack Looko 79.18 34 P **P 11 47 31.6 -0.3**
SIT Sitka 79.23 22 *e*P **P 11 47 32.1 +0.2**
comp=Z,110nm,1.8s,mb5.5
SIT LR LR
comp=Z,12μm,20.0s,MS6.2
SIT Sitka 79.23 22 P **P 11 47 33.0 +1.1**
SIT pmax pmax
comp=Z,110nm,1.7s,mb5.5
TWW Teanaway 79.30 35 P **P 11 47 33.3 +0.8**
SML Sawmill 79.33 14 *e*P **P 11 47 30.4 -1.9**
SML Sawmill 79.33 14 P **P 11 47 32.0 -0.4**
EBG Ellensburg 79.34 36 P **P 11 47 33.0 +0.3**
ELK Elko 79.34 43 PFAKE 11 47 40.0 +7.1
ELK LR LR
comp=Z,8μm,21.0s,MS6.0
ELK Elko 79.34 43 P **P 11 47 32.9 0.0**
ELK pmax pmax
comp=Z,58nm,1.6s
DIV Divide 79.34 15 *e*P **P 11 47 31.1 -1.4**
comp=Z,354nm,1.4s,mb6.1
DIV LR LR
comp=Z,5μm,19.0s,MS5.9
CMW Cultus Mountai 79.36 34 P **P 11 47 33.1 +0.3**
PRW Prosser 79.45 37 P **P 11 47 33.8 +0.5**
LTY Liberty 79.48 35 P **P 11 47 33.3 -0.1**
WHN Wuhan 79.49 305 *e*P **P 11 47 36.6 +2.7**
BENWA Benson Ranch 79.60 36 P **P 11 47 34.6 +0.4**
RSW Rattlesnake Hi 79.60 36 P **P 11 47 34.7 +0.5**
SNIWA Snively Ranch 79.60 36 P **P 11 47 34.6 +0.4**
REDWA Red Mountain 79.64 37 P **P 11 47 34.7 +0.4**
MBW Mount Baker 79.69 34 P **P 11 47 34.9 +0.3**
VDB Vedder Mountai 79.72 33 P **P 11 47 34.4 -0.3**
GBL Gable Mountain 79.79 36 P **P 11 47 35.6 +0.4**
ETW Entiat 79.86 35 P **P 11 47 35.7 +0.2**
TNA Tin City 80.04 4 PFAKE 11 47 50.0 +14
TNA LR LR
comp=Z,2μm,19.0s,MS5.5
LNOR Lincton Mounta 80.08 37 P **P 11 47 36.2 -0.5**
BMO Blue Mountains 80.12 39 *e*P **P 11 47 36.1 -0.8**
comp=Z,91nm,1.8s,mb5.4
BMO LR LR
comp=Z,9μm,20.0s,MS6.1
WTV Waterville 80.13 35 P **P 11 47 36.6 -0.3**
MSU Marysvale 80.37 46 *e*P **P 11 47 39.0 +0.5**
MSU Marysvale 80.37 46 P **P 11 47 39.2 +0.7**
SEY Seymchan 80.65 346 *i* P **P 11 47 38.8 -0.6**
SEY Seymchan 80.65 346 *e*P **P 11 47 39.1 -0.3**
SEY *e* 11 50 47.0
SEY *e*PPP PPP 11 52 35.8 -0.5
SEY *e*S S 11 57 40.0 -5.3
SEY *e* 11 57 48.5
SEY *e**SS 11 58 25.2
SEY pmax pmax
comp=Z,200nm,2.1s,mb5.7
SEY pmax pmax
comp=N,50nm,1.8s
SEY pmax pmax
comp=E,50nm,2.5s
SEY MLR MLR
comp=Z,4μm,20.0s,MS5.8
SEY MLR MLR
comp=N,2μm,19.0s,MS5.6
SEY MLR MLR
comp=E,1μm,22.0s,MS5.6
MCK McKinley 80.90 12 *e*P **P 11 47 39.4 -1.4**
comp=E,78nm,1.5s,mb5.4
MCK LR LR
comp=Z,2μm,19.0s,MS5.4
MCK McKinley 80.90 12 P **P 11 47 40.0 -0.7**
MCK pmax pmax
comp=Z,78nm,1.5s,mb5.4
PNT Penticton 81.22 34 P **P 11 47 42.6 -0.1**
NOQ North Oquirrh 81.39 44 *e*P **P 11 47 44.0 +0.3**
TMUT Trail Mountain 81.40 46 *e*P **P 11 47 44.6 +0.8**
MPU Maple Canyon 81.43 45 *e*P **P 11 47 43.7 -0.3**
SPUT South Promonto 81.47 44 *e*P **P 11 47 44.3 +0.2**
HVU Hansel Valley 81.47 43 *e*P **P 11 47 44.5 +0.3**
HVU Hansel Valley 81.47 43 P **P 11 47 44.9 +0.7**
CTU Camp Tracy 81.65 44 *e*P **P 11 47 45.3 +0.1**
SRU San Rafael 81.80 46 *e*P **P 11 47 44.0 -1.9**
SRU San Rafael 81.80 46 P **P 11 47 44.9 -1.0**
JLU Jordanelle 81.82 45 *e*P **P 11 47 46.4 +0.4**
DAU Daniels Canyon 81.86 45 *e*P **P 11 47 46.8 +0.6**
DAU Daniels Canyon 81.86 45 P **P 11 47 47.2 +1.0**
NEW Newport 82.03 36 P **P 11 47 45.6 -1.3**
comp=Z,5.3nm,1.0s,mb4.4,baz=245,slow=1.8,SNR=15
NEW Newport 82.03 36 *e*P **P 11 47 45.4 -1.5**
comp=Z,32nm,1.5s,mb5.0
NEW LR LR
comp=Z,4μm,21.0s,MS5.8
NEW Newport 82.03 36 P **P 11 47 46.7 -0.2**
NEW pmax pmax
comp=Z,32nm,1.4s
TCUT Toone Canyon 82.08 44 *e*P **P 11 47 47.9 +0.6**
DLBC Dease Lake 82.19 23 P **P 11 47 47.3 -0.2**
comp=Z,23nm,1.3s,mb5.0,baz=211,slow=5.9,SNR=30
DLBC Dease Lake 82.19 23 *e*P **P 11 47 47.0 -0.5**
HWUT Hardware Ranch 82.19 44 *e*P **P 11 47 47.6 -0.3**
comp=Z,102nm,1.8s,mb5.5
HWUT LR LR
comp=Z,8μm,20.0s,MS6.1
ILAR Eielson Array 82.25 13 P **P 11 47 46.3 -1.4**
comp=Z,18nm,1.1s,mb4.9,baz=226,slow=5.6,SNR=59
ILAR LR LR 12 19 04.4
comp=Z,1μm,19.0s,MS5.3,baz=30,slow=32
PV10 Paradox Valley 82.53 47 *e*P **P 11 47 50.2 +0.4**
MNTX Cornudas Mount 82.65 55 *e*P **P 11 47 50.5 +0.1**
comp=Z,99nm,1.6s,mb5.6
MNTX LR LR
comp=Z,8μm,20.0s,MS6.1
PV01 Paradox Valley 82.76 48 *e*P **P 11 47 51.1 +0.1**
MCMT McKenzie Canyo 82.86 40 *e*P **P 11 47 51.3 0.0**
AHID Auburn Hatcher 83.03 43 *e*P **P 11 47 52.5 +0.3**
comp=Z,98nm,1.8s,mb5.5
AHID LR LR
comp=Z,4μm,21.0s,MS5.8
ANMO Albuquerque 83.04 51 P **P 11 47 52.7 +0.3**
comp=Z,31nm,1.3s,mb5.2,baz=237,slow=4.5,SNR=46
ANMO Albuquerque 83.04 51 *e*P **P 11 47 53.0 +0.5**
comp=Z,78nm,1.5s,mb5.5
ANMO LR LR
comp=Z,9μm,20.0s,MS6.2
ANMO Albuquerque 83.04 51 P **P 11 47 53.6 +1.1**
ANMO pmax pmax
comp=Z,77nm,1.5s
BILL Bilibino 83.09 354 *e*P **P 11 47 52.4 +0.4**
comp=Z,290nm,2.1s,mb5.9
BILL LR LR
comp=Z,2μm,20.0s,MS5.6
BILL Bilibino 83.09 354 *e*P **P 11 47 53.5 +1.5**
BILL pmax pmax
comp=Z,290nm,2.1s,mb5.9
RRI2 Red Ridge 83.14 42 *e*P **P 11 47 52.8 0.0**
comp=Z,89nm,1.3s,mb5.6
MSO Missoula 83.15 38 *e*P **P 11 47 52.1 -0.7**
comp=Z,41nm,1.6s,mb5.2
MSO LR LR
comp=Z,5μm,20.0s,MS5.9
BSMT Bassoo Peak 83.16 37 P **P 11 47 52.5 -0.3**
LTX Lajitas 83.17 58 *e*P **P 11 47 54.3 +1.1**
comp=Z,221nm,1.7s,mb5.9
LTX LR LR
comp=Z,13μm,19.0s,MS6.3
LTX Lajitas 83.17 58 P **P 11 47 54.9 +1.6**
LTX pmax pmax
comp=Z,220nm,1.7s,mb5.9
TXAR Lajitas Array 83.17 58 P **P 11 47 53.3 0.0**
comp=Z,25nm,1.2s,mb5.1,baz=225,slow=5.3,SNR=74
TXAR LR LR 12 18 29.8
comp=Z,11μm,18.7s,MS6.3,baz=200,slow=31
ENH Enshi 83.28 303 *e*P **P 11 47 54.7 +0.9**
comp=Z,91nm,1.4s,mb5.6
ENH LR LR
comp=Z,4μm,20.0s,MS5.8
DAWY Dawson 83.43 16 *e*P **P 11 47 53.3 -0.5**
TPAW Teton Pass 83.45 42 *e*P **P 11 47 54.0 -0.4**
comp=Z,84nm,1.3s,mb5.6
REDW Red Top Meadow 83.46 42 *e*P **P 11 47 55.0 +0.6**
comp=Z,122nm,1.4s,mb5.7
SNOW Snow King Moun 83.56 42 *e*P **P 11 47 54.6 -0.3**
comp=Z,150nm,1.6s,mb5.9
CHMT Chamberlain Mo 83.61 38 *e*P **P 11 47 54.2 -0.9**
IMW Indian Meadow 83.64 42 *e*P **P 11 47 55.9 +0.5**
comp=Z,71nm,1.2s,mb5.7
LOHW Long Hollow 83.73 42 *e*P **P 11 47 55.5 -0.4**
comp=Z,92nm,1.7s,mb5.6
QLMT Earthquake Lak 83.75 41 *e*P **P 11 47 57.0 +1.1**
YFT Old Faithful 83.96 41 *e*P **P 11 47 58.9 +2.0**
YMR Madison River 83.97 41 *e*P **P 11 47 57.8 +0.8**
BOZ Bozeman (W) 84.00 40 *e*P **P 11 47 56.4 -0.7**
comp=Z,500nm,2.6s,mb6.2
BOZ LR LR
comp=Z,12μm,20.0s,MS6.3
BOZ Bozeman (W) 84.00 40 P **P 11 47 57.4 +0.3**
BOZ pmax pmax
comp=Z,500nm,2.5s,mb6.2
BW06 Boulder Array 84.05 43 PFAKE 11 48 10.0 +13
BW06 LR LR
comp=Z,6μm,21.0s,MS6.0
PDAR Pinedale Array 84.05 43 P **P 11 47 57.4 0.0**
comp=Z,9.1nm,0.8s,mb4.9,baz=207,slow=3.3,SNR=50
PDAR LR LR 12 22 52.7
comp=Z,6μm,18.2s,MS6.0,baz=250,slow=34
YNR Norris Junctio 84.17 41 *e*P **P 11 47 58.7 +0.6**
HIA Hailar 84.20 324 *e*P **P 11 47 57.8 -0.2**
comp=Z,351nm,2.3s,mb6.1
HIA LR LR
comp=Z,12μm,21.0s,MS6.3
HIA Hailar 84.20 324 *e*P **P 11 47 57.8 -0.3**
HIA pmax pmax
comp=Z,351nm,2.3s
HIA MLR MLR
comp=Z,12μm,21.0s
WALA Waterton Lakes 84.27 36 *e*P **P 11 47 57.6 -0.7**
comp=Z,208nm,2.2s,mb5.9
LKWY Lake 84.29 41 *e*P **P 11 48 00.0 +1.4**
comp=Z,83nm,1.5s,mb5.6
LKWY LR LR
comp=Z,6μm,20.0s,MS6.0
LKWY Lake 84.29 41 P **P 11 48 01.1 +2.5**
LKWY pmax pmax
comp=Z,83nm,1.5s,mb5.6
GYA Guiyang 84.32 299 ||*i*P **P 11 48 02.3 +3.1**
GYA AP pP 11 48 06.8 +4.2
GYA XP sP 11 48 09.6 +5.9
GYA PP PP 11 51 20.9 +5.1
GYA S S 11 58 31.3 +7.9
GYA AMB AMB
comp=Z,70nm,1.6s,mb5.5
GYA AMB AMB
comp=Z,410nm,4.5s
GYA LR LR
comp=N,1μm,19.5s,MS5.6
GYA LR LR
comp=E,2μm,20.7s,MS5.6
GYA LR LR
comp=Z,2μm,21.6s,MS5.5
SMCO Snowmass 84.33 47 *e*P **P 11 47 59.2 +0.2**
HRY Holter Researc 84.37 39 *e*P **P 11 47 59.1 +0.2**
KKTK Khon Kaen 84.65 288 P **P 11 48 00.0 -1.0**
SDCO Great Sand Dun 84.83 49 *e*P **P 11 48 01.6 +0.1**
comp=Z,60nm,1.6s,mb5.5
SDCO LR LR
comp=Z,8μm,20.0s,MS6.1
RWWY Rawlins 85.17 45 *e*P **P 11 48 01.1 -2.0**
comp=Z,130nm,1.4s,mb5.9
CLNS Chul'man 85.61 332 *e*P **P 11 48 06.7 +1.8**
CLNS pmax pmax
comp=Z,16nm,1.1s,mb5.2
CLNS pmax pmax
comp=N,5.0nm,0.7s
CLNS pmax pmax
comp=E,8.0nm,0.7s
HHC Hu-ho-hao-te 85.66 314 *e*P **P 11 48 06.8 +1.2**
HHC XP sP 11 48 13.6 +3.6
HHC PP PP 11 51 28.0 +1.8
HHC S S 11 58 36.5 +0.3
HHC XS 11 58 45.7
HHC PS PS 11 59 33.9 -1.9
HHC SS SS 12 04 14.6 -1.3
HHC AMB AMB
comp=Z,76nm,1.4s,mb5.7
HHC AMB AMB
comp=Z,1μm,4.2s
HHC LR LR
comp=N,2μm,20.8s,MS5.7
HHC LR LR
comp=E,2μm,23.2s,MS5.7
PHWY Pilot Hill 86.23 46 *e*P **P 11 48 08.1 -0.3**
PMSA Palmer Station 86.56 157 PFAKE 11 48 20.0 +11
PMSA LR LR
comp=Z,3μm,20.0s,MS5.7
EDM Edmonton 86.62 33 *e*P **P 11 48 09.2 -0.8**
EDM Edmonton 86.62 33 P **P 11 48 09.6 -0.4**
BTO Baotou 86.65 313 *e*P **P 11 48 13.2 +2.7**
BTO S S 11 58 43.3 -2.4
BTO AMB AMB
comp=Z,86nm,2.7s,mb5.5

YAK	**Yakutsk**	**86.78 338**	⇑	*i*P	**P**	**11 48 09.5**	**-1.0**
YAK	**Yakutsk**	**86.78 338**		*e*P	**P**	**11 48 10.4**	**-0.1**
YAK				*e*S	S	11 58 45.3	-1.1
YAK				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb5.0						
YAK				pmax	pmax		
	comp=N,2.0nm,1.0s						
NST	**Nakhon Sawan**	**86.95 287**		P	**P**	**11 48 14.0**	**+1.6**
KMI	**Kunming**	**87.27 297**		P	**P**	**11 48 15.3**	**+1.5**
KMI				AP	pP	11 48 25.8	+8.6
KMI				PP	PP	11 51 37.2	-3.2
KMI				PPP	PPP	11 53 31.9	-5.8
KMI				SKS	SKS	11 58 36.6	-7.2
KMI				S	S	11 58 50.2	-1.8
KMI				XS		11 59 05.7	
KMI				PS	PS	11 59 56.7	+0.9
KMI				AMB	AMB		
	comp=Z,43nm,2.0s,mb5.3						
KMI				AMB	AMB		
	comp=Z,957nm,3.4s						
KMI				LR	LR		
	comp=N,2μm,17.3s						
KMI				LR	LR		
	comp=E,2μm,24.8s						
KMI				LR	LR		
	comp=Z,4μm,24.8s						
MAW	**Mawson**	**87.52 199**		*e*P	**P**	**11 48 13.1**	**-0.9**
	comp=Z,38nm,1.3s,mb5.5						
MAW	**Mawson**	**87.52 199**		P	**P**	**11 48 13.3**	**-0.7**
	comp=Z,28nm,1.0s,mb5.5,baz=115,slow=5.7,SNR=15						
MAW				LR	LR	12 22 38.6	
	comp=Z,3μm,21.6s,MS5.7,baz=116,slow=32						
LAO	**LASA Array**	**87.84 41**		*e*P	**P**	**11 48 16.1**	**+0.1**
	comp=Z,214nm,1.6s,mb6.1						
LAO				LR	LR		
	comp=Z,8μm,21.0s,MS6.1						
CD2	**Chengdu**	**88.15 302**		P	**P**	**11 48 19.5**	**+1.6**
CD2				SKS	SKS	11 58 43.7	-5.6
CD2				S	S	11 59 08.7	+8.6
CD2				PS	PS	11 59 30.3	-36
CD2				SS	SS	12 04 53.4	+1.1
CD2				AMB	AMB		
	comp=Z,30nm,2.5s,mb5.1						
CD2				AMB	AMB		
	comp=Z,380nm,4.0s						
CD2				LR	LR		
	comp=E,1μm,20.4s						
CD2				LR	LR		
	comp=Z,2μm,19.2s,MS5.4						
INK	**Inuvik**	**88.23 15**		P	**P**	**11 48 15.6**	**-1.9**
	comp=Z,1.8nm,0.9s,baz=231,slow=9.0,SNR=6.9						
INK				LR	LR	12 29 14.2	
	comp=Z,3μm,18.2s,MS5.7,baz=210,slow=37						
INK	**Inuvik**	**88.23 15**		*e*P	**P**	**11 48 15.4**	**-2.0**
	comp=Z,395nm,3.0s						
INK	**Inuvik**	**88.23 15**		P	**P**	**11 48 18.8**	**+1.4**
INK				pmax	pmax		
	comp=Z,400nm,2.9s						
RSSD	**Black Hills**	**88.27 44**		*e*P	**P**	**11 48 17.6**	**-0.6**
	comp=Z,76nm,1.5s,mb5.7						
RSSD				LR	LR		
	comp=Z,6μm,19.0s,MS6.0						
RSSD	**Black Hills**	**88.27 44**		P	**P**	**11 48 18.2**	**0.0**
RSSD				pmax	pmax		
	comp=Z,76nm,1.5s,mb5.7						
CHRT	**Chiangrai**	**88.41 291**	⇓	P	**P**	**11 48 20.0**	**+0.6**
	comp=Z,158nm,0.7s,mb6.3						
CBKS	**Cedar Bluff**	**89.45 50**		*e*P	**P**	**11 48 24.4**	**+0.5**
CBKS				LR	LR		
	comp=Z,6μm,21.0s,MS6.0						
LZH	**Lanzhou**	**89.67 307**		*e*P	**P**	**11 48 26.0**	**+1.0**
LZH				AP	pP	11 48 31.5	+3.1
LZH				XP	sP	11 48 35.1	+5.6
LZH				SKS	SKS	11 58 57.1	-1.4
LZH				S	S	11 59 16.0	+1.9
LZH				XS		11 59 25.0	
LZH				AMB	AMB		
	comp=Z,60nm,1.4s,mb5.7						
LZH				AMB	AMB		
	comp=Z,620nm,5.0s						
LZH				LR	LR		
	comp=E,5μm,17.5s						
LZH				LR	LR		
	comp=Z,7μm,18.0s,MS6.1						
DGMT	**Dagmar**	**89.80 40**		*e*P	**P**	**11 48 25.7**	**+0.4**
	comp=Z,213nm,1.6s,mb6.2						
DGMT				LR	LR		
	comp=Z,7μm,21.0s,MS6.1						
YKA	**Yellowknife Ar**	**90.70 24**		P	**P**	**11 48 28.5**	**-0.6**
	comp=Z,1.1nm,0.8s,baz=243,slow=4.8,SNR=13						
YKA				LR	LR	12 23 30.5	
	comp=Z,6μm,19.4s,MS6.1,baz=235,slow=32						
BOD	**Bodaibo**	**91.21 330**		*e*P	**P**	**11 48 30.8**	**-0.8**
BOD				pmax	pmax		
	comp=Z,12nm,2.7s,mb4.8						
NATX	**Nacogdoches**	**91.31 58**		*e*P	**P**	**11 48 31.5**	**-1.2**
NATX				LR	LR		
	comp=Z,9μm,19.0s,MS6.2						
SONM	**Songino Array**	**91.66 319**		P	**P**	**11 48 33.8**	**-0.1**
	comp=Z,3.8nm,1.0s,mb4.7,baz=92,slow=2.9,SNR=16						
SONM				PP	PP	11 52 14.7	-0.3
	comp=Z,3.3nm,1.2s,baz=135,slow=6.3,SNR=3.9						
SONM				LR	LR	12 24 44.4	
	comp=Z,4μm,21.8s,MS5.8,baz=118,slow=32						
SONM	**Songino Array**	**91.66 319**		P	**P**	**11 48 33.8**	**-0.1**
SONM						11 52 14.7	
SONM				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SONM				pmax	pmax		
	comp=Z,3.0nm,1.2s						
KSU1	**Kansas State U**	**91.86 50**		*e*P	**P**	**11 48 35.4**	**+0.3**
SYO	**Syowa Base**	**92.80 192**	⇑	P	**P**	**11 48 35.5**	**-3.1**
SYO	**Syowa Base**	**92.80 192**	⇑	PcP	PcP	11 48 38.5	-1.1
PLCA	**Paso Flores**	**92.90 133**		LR	LR	12 22 44.7	
	comp=Z,3μm,19.3s,MS5.8,baz=213,slow=31						
PLCA	**Paso Flores**	**92.90 133**		PFAKE		11 48 50.0	+10
PLCA				LR	LR		
	comp=Z,3μm,21.0s,MS5.8						
TIXI	**Tiksi**	**93.08 345**		PFAKE		11 48 50.0	+10
TIXI				LR	LR		
	comp=Z,5μm,22.0s,MS5.9						
TIXI	**Tiksi**	**93.08 345**		*e*P	**P**	**11 48 37.8**	**-2.1**
TIXI				*e**SS		11 59 52.8	
TIXI				pmax	pmax		
	comp=Z,24nm,1.2s,mb5.5						
TIXI				MLR	MLR		
	comp=Z,2μm,17.0s,MS5.6						
GTA	**Gaotai**	**93.69 310**		*e*P	**P**	**11 48 45.7**	**+2.2**
GTA				AP	pP	11 48 48.9	+2.1
GTA				XP	sP	11 48 51.5	+3.6
GTA				PP	PP	11 52 31.4	0.0
GTA				SKS	SKS	11 59 18.5	-3.0
GTA				S	S	11 59 54.3	+4.8
GTA				XS		12 00 01.5	
GTA				PS	PS	12 01 14.5	+4.7
GTA				SS	SS	12 06 14.5	+2.9
GTA				AMB	AMB		
	comp=Z,8.0nm,1.5s,mb4.9						
GTA				AMB	AMB		
	comp=Z,209nm,4.0s						
GTA				LR	LR		
	comp=N,1μm,29.4s,MS5.8						
GTA				LR	LR		
	comp=E,4μm,26.0s,MS5.8						
GTA				LR	LR		
	comp=Z,8μm,27.1s,MS6.0						
UALR	**University of**	**93.97 55**		*e*P	**P**	**11 48 44.6**	**-0.2**
	comp=Z,44nm,1.5s,mb5.7						
SNAA	**Sanae**	**94.04 178**	⇓	*i*P	**P**	**11 48 43.1**	**-1.2**
SNAA	**Sanae**	**94.04 178**	⇓	*i*P	**P**	**11 48 43.1**	**-1.2**
SNAA	**Sanae**	**94.04 178**		*e*	**P**	**11 48 44.9**	**+0.6**
SNAA	**Sanae**	**94.04 178**		*e*	**P**	**11 48 48.7**	**+4.4**
SNAA	**Sanae**	**94.04 178**		P	**P**	**11 48 42.9**	**-1.4**
SNAA				pmax	pmax		
	comp=Z,61nm,1.5s						
VNA3	**Neumayer Olymp**	**94.13 176**		*e*	**P**	**11 48 45.6**	**+0.9**
VNA3	**Neumayer Olymp**	**94.13 176**		*e*	**P**	**11 48 49.5**	**+4.8**
VNA3	**Neumayer Olymp**	**94.13 176**	⇓	*i*P	**P**	**11 48 43.9**	**-0.8**
VNA3				*e*	pP	11 48 45.6	-2.5
VNA3				*e*		11 48 49.5	
IRK	**Irkutsk**	**94.37 323**		*e*P	**P**	**11 48 48.0**	**+1.7**
IRK				*e*		11 52 33.6	
IRK				pmax	pmax		
	comp=Z,70nm,3.6s						
ZAK	**Zakamensk**	**94.41 321**	⇓	*e*P	**P**	**11 48 46.6**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.6						
TLY	**Talaya**	**94.57 322**	⇑	*i*P	**P**	**11 48 47.2**	**0.0**
TLY				LR	LR		
	comp=Z,1μm,20.0s,MS5.3						
TLY	**Talaya**	**94.57 322**		*e*P	**P**	**11 48 48.0**	**+0.8**
TLY				*e*		11 59 17.6	
TLY				*e*S	S	12 00 06.1	+9.3
TLY				pmax	pmax		
	comp=Z,10.0nm,1.9s,mb4.9						
VNA2	**Neumayer--Watz**	**94.59 177**		*e*	**P**	**11 48 47.9**	**+1.1**
VNA2	**Neumayer--Watz**	**94.59 177**		*e*	**P**	**11 48 51.8**	**+5.0**
VNA2	**Neumayer--Watz**	**94.59 177**	⇓	*i*P	**P**	**11 48 46.4**	**-0.4**
VNA2				*e*	pP	11 48 47.9	-2.3
VNA2				*e*		11 48 51.8	
JTS	**JuntasAbangare**	**94.69 81**		LR	LR	12 21 02.5	
	comp=Z,4μm,20.7s,MS5.9,baz=225,slow=29						
JTS	**JuntasAbangare**	**94.69 81**		PFAKE		11 49 00.0	+11
JTS				LR	LR		
	comp=Z,1μm,19.0s,MS5.4						
JTS	**JuntasAbangare**	**94.69 81**		*i*P	**P**	**11 48 50.8**	**+2.2**
VNA1	**Neumayer--Stat**	**94.81 176**		*e*	**P**	**11 48 49.5**	**+1.6**
VNA1	**Neumayer--Stat**	**94.81 176**		*e*	**P**	**11 48 53.6**	**+5.7**
VNA1	**Neumayer--Stat**	**94.81 176**	⇓	*i*P	**P**	**11 48 47.2**	**-0.7**
VNA1				*e*	pP	11 48 49.5	-1.7
VNA1				*e*		11 48 53.6	
ULM	**Lac du Bonnet**	**95.52 40**		P	**P**	**11 48 49.4**	**-2.2**
	comp=Z,9.7nm,1.2s,mb5.1,baz=234,slow=3.8,SNR=5.5						
ULM				LR	LR	12 25 18.4	
	comp=Z,5μm,20.6s,MS6.0,baz=249,slow=31						
ULM	**Lac du Bonnet**	**95.52 40**		*e*P	**P**	**11 48 49.4**	**-2.2**
	comp=Z,19nm,1.4s,mb5.3						
ULM				LR	LR		
	comp=Z,8μm,21.0s,MS6.2						
CCM	**Cathedral Cave**	**95.64 52**		PFAKE		11 49 00.0	+7.5
CCM				LR	LR		
	comp=Z,8μm,20.0s,MS6.2						
CCM	**Cathedral Cave**	**95.64 52**		P	**P**	**11 48 51.9**	**-0.6**
CCM				pmax	pmax		
	comp=Z,31nm,1.5s,mb5.5						
OXF	**Oxford**	**96.26 56**		*e*P	**P**	**11 48 55.5**	**+0.1**
	comp=Z,35nm,1.3s,mb5.6						
OXF				LR	LR		
	comp=Z,9μm,20.0s,MS6.2						
OXF	**Oxford**	**96.26 56**		P	**P**	**11 48 57.0**	**+1.6**
OXF				pmax	pmax		
	comp=Z,56nm,1.3s,mb5.8						
PARMO	**Parma**	**96.47 54**		*e*P	**P**	**11 48 56.0**	**-0.3**
NNA	**Nana**	**96.89 104**		PFAKE		11 49 10.0	+11
NNA				LR	LR		
	comp=Z,432nm,20.0s,MS4.9						
PLAL	**Pickwick Lake**	**97.44 56**		*e*P	**P**	**11 49 00.3**	**-0.3**
	comp=Z,47nm,1.6s,mb5.7						
PLAL				LR	LR		
	comp=Z,8μm,20.0s,MS6.2						
LRAL	**Lakeview Retre**	**97.90 58**		PFAKE		11 49 10.0	+7.2
LRAL				LR	LR		
	comp=Z,5μm,22.0s,MS6.0						
LSA	**Lhasa**	**98.38 298**		PFAKE		11 49 20.0	+15
LSA				LR	LR		
	comp=Z,3μm,21.0s,MS5.7						
WCI	**Wyandotte Cave**	**99.49 53**		PFAKE		11 49 20.0	+10
WCI				LR	LR		
	comp=Z,5μm,19.0s,MS6.0						
TRQA	**Tornquist**	**100.05 134**		PFAKE		11 49 20.0	+7.6
TRQA				LR	LR		
	comp=Z,3μm,22.0s,MS5.8						
MYNC	**Murphy**	**100.63 56**		PFAKE		11 49 30.0	+15
MYNC				LR	LR		
	comp=Z,9μm,20.0s,MS6.3						
LVC	**Limon Verde**	**100.77 117**		PFAKE		11 49 30.0	+14
LVC				LR	LR		
	comp=Z,4μm,22.0s,MS5.8						
DWPF	**Disney**	**101.67 64**		PFAKE		11 49 30.0	+10
DWPF				LR	LR		
	comp=Z,2μm,19.0s,MS5.5						
PALK	**Pallekele**	**103.42 274**		PFAKE		11 49 40.0	+12
PALK				LR	LR		
	comp=Z,722nm,20.0s,MS5.2						
LPAZ	**La Paz**	**103.62 111**		PFAKE		11 49 40.0	+11
LPAZ				LR	LR		
	comp=Z,1μm,21.0s,MS5.4						
BLA	**Blacksburg**	**103.92 55**		PFAKE		11 49 40.0	+10
BLA				LR	LR		
	comp=Z,8μm,20.0s,MS6.2						
MCWV	**Mont Chateau**	**104.67 52**		PFAKE		11 49 40.0	+7.0
MCWV				LR	LR		
	comp=Z,8μm,20.0s,MS6.3						
CBN	**Corbin**	**106.44 54**		PFAKE		11 54 00.0	
CBN				LR	LR		
	comp=Z,13μm,20.0s,MS6.5						
MKAR	**Makanchi Array**	**107.51 315**		Pdiff	Pdif	11 49 45.3	+0.1
	comp=Z,1.1nm,0.9s,baz=124,slow=4.4,SNR=6.9						
MKAR				PKiKP		11 53 53.3	
	comp=Z,1.7nm,0.8s,baz=72,slow=3.8,SNR=10						
MKAR	**Makanchi Array**	**107.51 315**		P	Pdif	11 49 45.3	0.0
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
DGAR	**Diego Garcia**	**107.58 257**		PFAKE		11 54 10.0	
DGAR				LR	LR		
	comp=Z,2μm,22.0s,MS5.5						
BINY	**Binghamton**	**107.81 50**		PFAKE		11 54 10.0	
BINY				LR	LR		
	comp=Z,7μm,20.0s,MS6.2						
SDV	**Santo Domingo**	**108.14 85**		PFAKE		11 54 10.0	
SDV				LR	LR		
	comp=Z,2μm,20.0s,MS5.7						
CPUP	**Villa Florida**	**108.93 125**		PFAKE		11 54 10.0	
CPUP				LR	LR		
	comp=Z,3μm,21.0s,MS5.8						
KURK	**Kurchatov**	**109.97 319**		PFAKE		11 54 10.0	
KURK				LR	LR		
	comp=Z,979nm,21.0s,MS5.4						
SAML	**Samuel**	**110.60 105**		PFAKE		11 54 10.0	+8.2
SAML				LR	LR		
	comp=Z,3μm,20.0s,MS5.8						
LBNH	**Lisbon**	**110.84 48**		PFAKE		11 54 10.0	+8.4
LBNH				LR	LR		
	comp=Z,7μm,19.0s,MS6.3						
HRV	**Harvard--Oak R**	**111.10 50**		PFAKE		11 54 10.0	+7.9
HRV				LR	LR		
	comp=Z,8μm,21.0s,MS6.3						
WES	**Weston**	**111.28 50**		PFAKE		11 54 10.0	+7.6
WES				LR	LR		
	comp=Z,10μm,22.0s,MS6.4						
KSH	**Kashi**	**111.92 307**		*e*PKP	PKPdf	11 53 57.0	-6.7
KSH				*e*PKS	PKS	11 57 32.0	-4.4
KSH				PP	PP		
	comp=Z,320nm,4.6s						
KSH				LR	LR		
	comp=N,3μm,21.6s						
KSH				LR	LR		
	comp=E,2μm,16.1s						
WVL	**Waterville**	**112.46 48**		PFAKE		11 54 10.0	+5.3
WVL				LR	LR		
	comp=Z,31μm,19.0s,MS6.9						
AAK	**Ala-Archa**	**113.03 310**		*i*PKP	PKPdf	11 54 01.3	-4.6
AAK				LR	LR		
	comp=Z,705nm,19.0s,MS5.3						
SCHQ	**Schefferville**	**113.40 36**		PFAKE		11 54 20.0	+14
SCHQ				LR	LR		
	comp=Z,3μm,20.0s,MS5.9						
PQI	**Presque Isle**	**113.51 45**		PFAKE		11 54 20.0	+13
PQI				LR	LR		
	comp=Z,30μm,19.0s,MS6.9						
BRVK	**Borovoye**	**114.89 322**		*i*PKP	PKPdf	11 54 06.3	-2.9
BRVK				LR	LR		
	comp=Z,1μm,22.0s,MS5.4						
KBS	**Kingsbay**	**115.31 358**		*e*	tx	11 55 21.4	
KBS				*i*		12 02 59.9	
KBS				*e*SS	SS	12 11 05.0	-1.2
KBS				AMS	AMS	12 38 05.1	
	comp=Z,954nm,20.8s,MS5.4						
KBS	**Kingsbay**	**115.31 358**		PFAKE		11 54 20.0	+10
KBS				LR	LR		
	comp=Z,2μm,22.0s,MS5.6						
BBSR	**BB Station**	**116.49 61**		PFAKE		11 54 20.0	+7.1
BBSR				LR	LR		
	comp=Z,2μm,21.0s,MS5.7						
SVE	**Sverdlovsk**	**119.34 328**		*i*PKIKP	PKPdf	11 54 15.0	-2.8
SVE				*e*		12 01 12.0	
SVE				*e*PS	PS	12 05 18.0	-6.5
SVE				*e*		12 06 40.0	
SVE				MLR	MLR		
	comp=N,2μm,20.0s,MS6.2						
SVE				MLR	MLR		
	comp=E,5μm,20.0s,MS6.2						
SVE				MLR	MLR		
	comp=Z,6μm,20.0s,MS6.2						
ARU	**Arti**	**120.55 328**		*e*PKPdf	PKPdf	11 54 16.7	-3.5
ARU				LR	LR		
	comp=Z,2μm,22.0s,MS5.7						
ARU	**Arti**	**120.55 328**		*i*PKIKP	PKPdf	11 54 18.2	-2.0
ARU				*e*		11 55 45.7	
ARU				*e*		12 01 20.6	
ARU				*e*SS	SS	12 12 11.7	-3.0
ARU				MLR	MLR		
	comp=Z,8μm,22.0s,MS6.3						
ARU				MLR	MLR		
	comp=N,2μm,20.5s,MS6.2						
ARU				MLR	MLR		
	comp=E,6μm,23.0s,MS6.2						
KEV	**Kevo**	**122.64 350**		PFAKE		11 54 30.0	+6.2
KEV				LR	LR		
	comp=Z,3μm,20.0s,MS6.0						
JMIC	**Jan Mayen**	**123.03 4**		AMS	AMS	12 49 31.8	
	comp=Z,1μm,18.9s,MS5.5						
ARCES	**ARCESS Array B**	**123.08 351**		PKP	PKPdf	11 54 22.0	-2.7
	comp=Z,4.3nm,0.9s,baz=45,slow=1.7,SNR=9.8						
ARCES	**ARCESS Array B**	**123.08 351**		PKIKP	PKPdf	11 54 22.0	-2.7
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
TRO	**Tromso**	**123.88 353**		*e*PP	PP	11 56 02.9	-8.5
TRO				*e*SS	SS	12 13 01.7	+4.8
TRO				AMS	AMS	12 54 28.4	
	comp=Z,2μm,19.4s,MS5.8						
BORG	**Borgarnes**	**127.07 13**		PFAKE		11 54 40.0	+7.6
BORG				LR	LR		
	comp=Z,568nm,19.0s,MS5.3						
NSS	**Namsos**	**129.54 355**		*e*PP	PP	11 56 44.2	-4.3
NSS				AMS	AMS	12 57 54.7	
	comp=Z,2μm,19.3s,MS5.9						
FINES	**FINESS Array B**	**130.13 346**		PKP	PKPdf	11 54 36.6	-1.8
	comp=Z,2.6nm,0.9s,baz=153,slow=4.3,SNR=5.2						
FINES	**FINESS Array B**	**130.13 346**		PKIKP	PKPdf	11 54 36.7	-1.8
FINES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
SUR	**Sutherland**	**130.37 200**		PFAKE		11 54 50.0	+10
SUR				LR	LR		
	comp=Z,440nm,19.0s,MS5.2						
MOS	**Moscow**	**130.82 335**		*e*PKIKP	PKPdf	11 54 38.1	-1.8
MOS				*e*		11 57 00.1	
MOS				*e*PPP	PPP	11 59 43.9	-2.1
MOS				MLR	MLR		
	comp=Z,5μm,22.7s,MS6.1						
MOS				MLR	MLR		
	comp=N,4μm,22.1s						
OBN	**Obninsk**	**131.69 335**		*i*PKIKP	PKPdf	11 54 39.8	-1.8
OBN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
OBN				MLR	MLR		
	comp=Z,4μm,21.0s,MS6.1						
BOSA	**Boshof**	**132.01 207**		PKP	PKPdf	11 54 39.1	-3.9
	comp=Z,2.1nm,1.0s,baz=190,slow=6.1,SNR=1.7						
BOSA	**Boshof**	**132.01 207**		PKP	PKPdf	11 54 39.1	-3.9
BOSA				LR	LR		
	comp=Z,2μm,21.0s,MS5.8						
MAK	**Makhachkala**	**132.32 316**		*e*PKIKP	PKPdf	11 54 44.0	+0.8
MAK				pmax	pmax		
	comp=Z,600nm,3.0s						
MAK				pmax	pmax		
	comp=Z,900nm,4.0s						
MAK				pmax	pmax		
	comp=N,1μm,6.0s						
MAK				pmax	pmax		
	comp=E,1μm,6.0s						
VOR	**Voronezh**	**132.73 330**		PKIKP	PKPdf	11 54 40.0	-3.7
VOR				pmax	pmax		
	comp=Z,200nm,3.0s						
NOA	**NORSAR Array B**	**133.04 354**		PKP	PKPdf	11 54 42.0	-2.0
	comp=Z,1.2nm,0.8s,baz=81,slow=6.1,SNR=3.5						
NOA	**NORSAR Array B**	**133.04 354**		PKIKP	PKPdf	11 54 42.0	-2.0
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
VRSR	**Storozhevoye**	**133.05 329**		*e*PKIKP	PKPdf	11 54 41.4	-2.9
VRSR				*e*		11 57 10.1	
VRSR				pmax	pmax		
	comp=Z,10.0nm,1.8s						
VRSR				pmax	pmax		
	comp=N,10.0nm,0.9s						
VRSR				pmax	pmax		
	comp=E,7.0nm,0.8s						
VRSR				pmax	pmax		
	comp=Z,10.0nm,1.8s						
VRSR				pmax	pmax		
	comp=N,10.0nm,0.9s						
VRSR				pmax	pmax		
	comp=E,7.0nm,0.8s						
VRSR				MLR	MLR		
	comp=Z,7μm,22.0s,MS6.3						
VRSR				MLR	MLR		
	comp=N,4μm,21.0s,MS6.2						
VRSR				MLR	MLR		
	comp=E,4μm,22.0s,MS6.2						
VRSR				MLR	MLR		
	comp=Z,7μm,22.0s						
VRSR				MLR	MLR		
	comp=N,4μm,21.0s						
VRSR				MLR	MLR		
	comp=E,4μm,22.0s						
NAO01	**NORSAR Array S**	**133.26 355**		PFAKE		11 54 50.0	+5.6
NAO01				LR	LR		
	comp=Z,3μm,20.0s,MS6.0						
BER	**Bergen**	**134.06 358**		*e*PP	PP	11 57 13.2	-4.6
BER				*e*SS	SS	12 15 07.5	+4.4
BER				AMS	AMS	12 57 26.3	
	comp=Z,1μm,18.7s,MS5.7						
KONO	**Kongsberg**	**134.56 355**		*e*	tx	11 57 54.7	
KONO				*e*SS	SS	12 15 09.3	+0.3
KONO	**Kongsberg**	**134.56 355**		PFAKE		11 55 00.0	+13
KONO				LR	LR		
	comp=Z,3μm,19.0s,MS6.0						
TI2	**Plekhanov**	**134.68 315**		*e*PKHKP		11 54 32.0	
LBTB	**Lobatse**	**134.93 210**		PFAKE		11 55 00.0	+11
LBTB				LR	LR		
	comp=Z,2μm,20.0s,MS5.8						
KIV	**Kislovodsk**	**135.06 319**		PFAKE		11 55 00.0	+12
KIV				LR	LR		
	comp=Z,878nm,20.0s,MS5.5						
GNI	**Garni**	**135.32 313**		PFAKE		11 55 00.0	+11
GNI				LR	LR		
	comp=Z,2μm,19.0s,MS5.9						
RCBR	**Riachuelo**	**136.69 115**		PFAKE		11 55 00.0	+8.1
RCBR				LR	LR		
	comp=Z,3μm,21.0s,MS6.0						
HAKT	**HAKKARI**	**137.04 310**		*i*P	PKPdf	11 54 52.4	+0.5
SOC	**Sochi**	**137.11 320**		*i*PKIKP	PKPdf	11 54 52.5	+0.6
SOC				*e*		11 57 33.9	
SOC				pmax	pmax		
	comp=Z,12nm,0.7s						
SOC				pmax	pmax		
	comp=N,25nm,1.0s						
SOC				pmax	pmax		
	comp=E,11nm,0.7s						
SOC				MLR	MLR		
	comp=Z,4μm,22.0s,MS6.1						
SOC				MLR	MLR		
	comp=N,1μm,20.0s,MS5.8						
SOC				MLR	MLR		
	comp=E,1μm,22.0s,MS5.8						
ANN	**Anapa**	**137.82 323**		*e*PKIKP	PKPdf	11 54 48.2	-5.1
ANN				pmax	pmax		
	comp=Z,100nm,5.4s						
BHD	**Baghdad**	**137.90 304**		*e*PKP	PKPdf	11 54 53.0	-0.8
AKASG	**Malin Array Be**	**137.95 335**		PKP	PKPdf	11 54 51.1	-2.3
	comp=Z,7.6nm,0.9s,baz=33,slow=1.7,SNR=8.7						
AKASG	**Malin Array Be**	**137.95 335**		PKIKP	PKPdf	11 54 51.1	-2.2
AKASG				pmax	pmax		
	comp=Z,8.0nm,0.9s						
MSL	**Mosul**	**137.96 309**		*e

SIM MLR MLR
comp=Z,3μm,17.8s,MS6.1
LVV L'vov 140.66 338 *i* PKIKP PKPdf 11 54 57.9 -0.3
LVV *e* 11 57 55.1
KIS Kishinev 140.91 332 *e*PKIKP PKPdf 11 54 55.0 -3.8
LSZ Lusaka 141.25 221 PFAKE 11 55 10.0 +10
LSZ LR LR
comp=Z,3μm,20.0s,MS6.0
OJC Ojcow 141.69 342 *e*PKP PKPdf 11 54 58.9 -1.1
OJC *e*PP PP 11 57 52.2 -13
STHS Stebnicka Huta 141.95 340 *e*PKP PKPdf 11 54 57.9 -2.6
STHS *e* 11 55 09.6
KOLS Kolonicke sedl 142.02 339 *e*PKP PKPdf 11 54 57.7 -2.9
KSP Ksiaz 142.05 346 *e*PKP PKPdf 11 55 00.5 -0.1
KSP *e*SS SS 12 16 36.0 -1.9
KSP LR LR
comp=Z,8μm,19.9s,MS6.5
NIE Niedzica 142.25 341 *e*PKP PKPdf 11 55 03.8 +2.8
CLL Collm 142.28 349 *i* PKP PKPdf 11 54 56.8 -4.2
CLL *e*PP PP 11 58 12.0 +3.7
CLL *e*SKS SKS 12 02 23.0 +13
CLL LR LR
comp=Z,4μm,20.4s,MS6.1
CLL Collm 142.28 349 *i* PKIKP PKPdf 11 54 56.8 -4.2
CLL *e* 11 58 12.0
CLL MLR MLR
comp=Z,4μm,20.4s,MS6.1
UPC Upice 142.43 346 *e*PKPDF PKPdf 11 54 59.3 -2.0
DPC Dobruska-Polom 142.50 346 *e*PKPDF PKPdf 11 54 56.0 -5.4
DPC *e*pPKP 11 55 02.8
DPC *e*x x 11 55 17.2
DPC *e*PP PP 11 58 08.6 -1.1
DPC *e*SS SS 12 16 45.4 +2.5
DPC AMS AMS 12 57 20.0
comp=Z,4μm,21.9s
OKC Ostrava-Krasne 142.50 344 *e*PKPDF PKPdf 11 54 58.3 -3.1
OKC *e*SS SS 12 16 53.9 +11
OKC AMS AMS 12 55 30.0
comp=Z,3μm,22.1s
BRG Berggiesshubel 142.53 348 *e*P PKPdf 11 54 57.8 -3.6
BRG PP PP 11 58 09.0 -0.8
BRG LR LR
comp=Z,3μm,22.0s,MS6.0
KMBO Kilima Mbogo 142.53 249 PKP PKPdf 11 54 59.0 -3.6
comp=Z,0.9nm,0.5s,baz=74,slow=7.0,SNR=4.5
KMBO Kilima Mbogo 142.53 249 PKIKP PKPdf 11 54 59.0 -3.6
KMBO pmax pmax
comp=Z,1.0nm,0.5s
PVCC Panska Ves 142.73 348 *e*PKPDF PKPdf 11 54 58.5 -3.3
PVCC *e*SS SS 12 16 49.4 +4.0
PVCC AMS AMS 12 54 40.0
comp=Z,3μm,24.7s
KECS Kecovo 143.01 340 *e*PKP PKPdf 11 54 58.4 -3.9
BR131 Keskin Array S 143.02 319 *e*PKPpre 11 54 58.5
BR131 LR LR
comp=Z,2μm,22.0s,MS5.8
BRTR Keskin Array B 143.02 319 PKP PKPdf 11 54 57.9 -4.7
comp=Z,6.6nm,0.9s,baz=122,slow=1.9,SNR=13
BRTR Keskin Array B 143.02 319 PKIKP PKPdf 11 54 57.9 -4.7
BRTR pmax pmax
comp=Z,7.0nm,0.9s
MOX Moxa 143.16 351 *i* P PKPbc 11 54 59.4 +1.9
comp=Z,logA/T=1.3
MOX PP PP 11 58 24.0 +10
MOX SS SS 12 16 49.0 -1.3
MOX L 12 59 25.0
MOX Moxa 143.16 351 *e*PKP PKPdf 11 54 59.4 -3.1
MOX LR LR
comp=Z,3μm,22.0s,MS6.0
PRU Pruhonice 143.24 347 *e*PKPDF PKPdf 11 54 57.9 -4.8
PRU *e*SS SS 12 16 52.7 +1.4
PRU AMS AMS 12 55 20.0
comp=Z,3μm,23.5s
NKC Novy Kostel 143.42 350 *e*PKPDF PKPdf 11 55 04.9 +2.0
NKC *e*SS SS 12 16 48.4 -5.0
NKC AMS AMS 12 59 50.0
comp=Z,3μm,23.7s
ANTO Ankara 143.47 320 *e*P PKPbc 11 54 57.0 -1.9
SGKT Sivrigoynuk 143.51 321 *i* P PKPbc 11 54 55.1 -3.8
VYHS Vyhne 143.52 342 *e*PKP PKPdf 11 55 00.5 -2.7
TSUM Tsumeb 143.55 204 PFAKE 11 55 10.0 +10
TSUM LR LR
comp=Z,2μm,21.0s,MS5.9
PSZ Piszkesteto 143.70 340 *e*PKP/D PKPdf 11 54 59.4 -4.1
PSZ Piszkesteto 143.70 340 *e*PKPpre 11 54 57.3
HENT Hendek 144.05 322 *i* P PKPbc 11 55 00.4 -0.2
GRA1 Grafenberg Arr 144.15 351 *e*PKP PKPdf 11 54 59.9 -4.3
GRA1 *e*PP PP 11 58 16.5 -3.0
GRA1 *e*SS SS 12 17 02.4 +0.4
GRF Grafenberg Arr 144.15 351 *e*PKP PKPdf 11 54 59.9 -4.3
GRF *e*PP PP 11 58 16.5 -3.0
GRF *e*SS SS 12 17 02.4 +0.4
GRF LR LR
comp=Z,3μm,21.9s,MS6.1
QURS Qurayyt al Mil 144.16 304 P PKPbc 11 55 03.9 +2.8
ADH Angra Heroismo 144.18 42 *e*LR LR 12 42 20.0
KHC Kasperske Hory 144.26 348 *e*PKPDF PKPdf 11 55 00.7 -3.8
KHC *e*SS SS 12 17 00.6 -2.7
KHC AMS AMS 12 55 00.0
comp=Z,3μm,22.4s
ZST Bratislava 144.28 344 *e*PKP PKPdf 11 55 01.5 -3.0
GIVF Givet 144.37 358 *e*PKP1 PKPbc 11 55 02.8 +1.7
PRD Provadia 144.37 328 *e*P PKPbc 11 55 02.0 +0.7
ABH Alteburg 144.41 355⇑ *e*P PKPbc 11 55 01.6 +0.4
ABH Alteburg 144.41 355 PKP PKPdf 11 55 01.8 -2.9
BAIF Baives 144.43 358 *e*PKP1 PKPbc 11 55 00.8 -0.5
comp=Z,75nm,1.3s
VKA Vienna 144.43 344⇓ *i*PKP PKPdf 11 55 01.5 -3.3
BHL Bhannes 144.50 309 *e*P PKPbc 11 55 03.1 +1.1
GERES GERESS Array B 144.50 348 PKP PKPdf 11 55 01.9 -3.0
comp=Z,3.7nm,1.0s,baz=90,slow=2.7,SNR=18
GERES GERESS Array B 144.50 348 PKIKP PKPdf 11 55 01.9 -3.0
GERES pmax pmax
comp=Z,4.0nm,1.0s
TOD Tromm 144.56 353 *e*P PKPbc 11 55 02.1 +0.5
TOD Tromm 144.56 353 PKP PKPdf 11 55 02.0 -3.0
KIZT Kizilcal 144.62 319 *e*P PKPbc 11 55 02.3 +0.1
RUP Ruppelstein 144.63 355⇑ *e*P PKPbc 11 55 02.8 +0.9
RUP Ruppelstein 144.63 355 PKP PKPdf 11 55 02.5 -2.6
KDHN Kadinhani 144.68 318 *i* P PKPbc 11 55 03.9 +1.5
SWS Schriesheim 144.69 353 *e*P PKPbc 11 55 02.4 +0.4
SIND Sindeldorf 144.71 352⇑ *e*P PKPbc 11 55 02.4 +0.3
WLF Walferdange 144.74 356 *e*PKP PKPdf 11 55 02.8 -2.5
KSHT Keshet 144.76 307 P PKPbc 11 55 03.5 +0.8
HRT Hereke 144.77 323 *e*P PKPbc 11 54 59.8 -2.7
KSDI Kefar Szold 144.79 308 P PKPbc 11 55 03.0 +0.2
KONT Konya--Tatoy 144.84 317 *e*P PKPbc 11 55 02.3 -0.5
ESKT Eskisehir 144.89 321 *e*P PKPbc 11 55 00.7 -2.2
ESKT Eskisehir 144.89 321 *i* P PKPbc 11 55 02.7 -0.2
SOP Sopron 144.90 344⇓ *e*PKP/p 11 55 03.4
KTD Kalmit 144.92 354 *e*P PKPbc 11 55 03.3 +0.6
ISK Istanbul-Kandi 144.96 324 *e*P PKPbc 11 55 03.2 +0.1
SZH Strazhica 145.05 330 *e*P PKPbc 11 55 03.5 +0.3
YLV Yalova 145.11 323 *e*P PKPbc 11 55 02.3 -1.2
HNTI Hanita 145.20 308 P PKPbc 11 55 04.1 +0.2
CTT Catalca 145.26 325 *e*P PKPbc 11 55 02.3 -1.5
MMLI Mount Malkishu 145.27 307 P PKPbc 11 55 04.8 +0.7
LANF Langenberg 145.28 354 PKP PKPdf 11 55 03.7 -2.6
HDMB Hadim 145.30 316 *e*P PKPbc 11 55 05.7 +1.6
JMB Yambol 145.31 328 *e*P PKPbc 11 55 05.5 +1.6
MOA Molln 145.32 346⇑ *i*P PKPbc 11 55 04.3 +0.6
STU Stuttgart 145.33 353 *e*PKP PKPdf 11 55 04.5 -1.9
STU Stuttgart 145.33 353 PKIKP PKPdf 11 55 06.4 0.0
PVL Pavlikeni 145.38 330 *e*P PKPbc 11 55 08.0 +4.0
HDH Heidenheim 145.38 351⇑ *e*P PKPbc 11 55 04.9 +1.0
MKRJ Makawir 145.44 305 P PKPbc 11 55 05.2 +0.6
LBG Lerchenberg 145.49 353⇑ *e*P PKPbc 11 55 05.3 +1.2
DJES Djerdap 145.51 335 *i* PKP PKPdf 11 55 09.3 +2.5
OFRI 'Ofer 145.54 307 P PKPbc 11 55 05.1 +0.3
ARSA Arzberg 145.57 345⇑ *i*P PKPbc 11 55 05.4 +1.0
FLN La Foliniere 145.64 4 *e*PKP1 PKPbc 11 55 04.5 0.0
comp=Z,423nm,1.6s
FLN *e*R
comp=Z,5μm,22.5s
SLTI Sal'it 145.65 307 P PKPbc 11 55 05.5 +0.4
EDRB Edirne 145.68 327 *e*P PKPbc 11 55 02.3 -2.6
STR Strasbourg 145.68 354 PKP PKPdf 11 55 06.1 -0.9
PDA Ponta Delgada 145.71 42 *e* 12 47 00.0
CSS Prodhromos 145.73 312 *e*P PKPbc 11 55 07.2 +2.0
CSS Prodhromos 145.73 312 *e*PKP PKPdf 11 55 05.4 -2.1
MZDA Masada 145.75 305 P PKPbc 11 55 06.0 +0.6
CMLA Cha da Macela 145.79 42 PFAKE 11 55 20.0 +15

CMLA LR LR
comp=Z,5μm,22.0s,MS6.2
TBKS Tabuk 145.80 299 P PKPbc 11 55 09.1 +3.5
ROSF Rostrenen 145.81 7 *e*PKP1 PKPbc 11 55 05.2 +0.3
comp=Z,369nm,1.6s
UMJS Umm Lajj 145.86 294 P PKPbc 11 55 13.8 +8.0
WLS Welschbruch 145.89 355 PKP PKPdf 11 55 05.5 -1.8
CDF Champ du Feu 145.90 355 *e*PKP1 PKPbc 11 55 05.9 +0.7
comp=Z,486nm,1.7s
MEZF Maizieres J'vi 145.96 357 *e*PKP1 PKPbc 11 55 06.2 +0.9
comp=Z,560nm,1.8s
LEF Lefka 145.97 313 *e*P PKPbc 11 55 02.3 -3.5
SGMF Saint Gilles 145.97 6 *e*PKP1 PKPbc 11 55 05.7 +0.3
comp=Z,668nm,1.7s
GDZ Gediz 145.99 321 *i* P PKPbc 11 55 05.6 -0.1
GRR Gorron 145.99 4 *e*PKP1 PKPbc 11 55 05.9 +0.5
comp=Z,543nm,1.8s
GUT Gutenstein 146.03 352⇑ *e*P PKPbc 11 55 07.1 +1.6
SPAK Spaichingen 146.04 353⇑ *e*P PKPbc 11 55 07.1 +1.6
SPAK Spaichingen 146.04 353 PKP PKPdf 11 55 07.2 -0.4
MRMT Marmara Adasi 146.09 325 *e*P PKPbc 11 55 05.2 -0.7
ECH Echery 146.10 355 PKP PKPdf 11 55 07.4 -0.3
ISP Isparta 146.10 319 *e*P PKPbc 11 55 07.7 +1.7
ISP Isparta 146.10 319 *e*PKP PKPdf 11 55 06.7 -1.3
KOGS Kog 146.12 343 *e*PKPdf PKPdf 11 55 08.2 +0.4
LIBD Limburg 146.12 354⇑ *e*P PKPbc 11 55 07.7 +2.0
LIBD Limburg 146.12 354 PKP PKPdf 11 55 07.2 -0.5
MFT Murefte 146.14 326 *e*P PKPbc 11 55 05.0 -1.0
JMQS Jabal Moqyreh 146.16 301 P PKPbc 11 55 08.7 +2.2
BEO Belgrade 146.17 337⇓ *i*PKP PKPdf 11 55 07.5 -0.4
ZFRI Zfri 146.18 304 P PKPbc 11 55 07.5 +1.1
THEF They Montfort 146.18 356 PKP PKPdf 11 55 06.6 -1.2
QUIF Quistinic 146.23 7 *e*PKP1 PKPbc 11 55 06.4 +0.4
comp=Z,460nm,1.9s
PERS Pernice 146.25 345 *e*PKPdf PKPdf 11 55 08.7 +0.7
KBA Koelnbreinsper 146.26 347⇓ *i*P PKPbc 11 55 06.8 +0.7
UBR Uberruh 146.27 351⇑ *e*P PKPbc 11 55 07.9 +1.8
KIZ Kirchzarten 146.28 354⇑ *e*P PKPbc 11 55 07.7 +1.6
SVIS Svinjajnac 146.32 336⇓ *i*PKP PKPdf 11 55 07.2 -1.0
FELD Feldberg 146.35 354⇑ *e*P PKPbc 11 55 08.3 +2.0
FELD Feldberg 146.35 354 PKP PKPdf 11 55 07.0 -1.1
WATA Walderalm 146.37 349⇑ *i*P PKPbc 11 55 07.8 +1.5
HAU Haudompre 146.38 356 *e*PKP1 PKPbc 11 55 07.5 +1.2
comp=Z,362nm,1.7s
HAU *e*R
comp=Z,4μm,21.2s
PRNI Paran 146.39 304 P PKPbc 11 55 08.1 +1.2
BOLS Boljevac 146.40 335 *i* PKP PKPdf 11 55 07.4 -1.0
WTTA Wattenberg 146.42 349⇑ *i*P PKPbc 11 55 07.6 +1.2
PGB Panagyurishte 146.44 331 *e*P PKPbc 11 55 08.0 +1.4
MOTA Moosalm 146.44 350⇑ *i*P PKPbc 11 55 07.3 +0.8
MOF Molkenrain 146.46 355 PKP PKPdf 11 55 07.4 -0.9
HINF Hinteralfeld 146.52 355 *e*PKP1 PKPbc 11 55 07.8 +1.2
comp=Z,286nm,1.9s
SQTA Sankt Quirin 146.54 350⇑ *i*P PKPbc 11 55 07.6 +0.9
ANTB Antalya 146.55 317 *e*P PKPbc 11 55 10.3 +3.2
ZAPS Zavoj/Pirot 146.56 333⇑ *i*PKP PKPdf 11 55 07.2 -1.5
BALB Balikesir 146.58 323 *e*P PKPbc 11 55 07.6 +0.6
EIL Elat 146.67 302 P PKPbc 11 55 09.0 +1.4
DAVA Damuels 146.69 351⇑ *i*P PKPbc 11 55 08.0 +0.9
ALWS Ilw as Safayha 146.70 302 P PKPbc 11 55 08.4 +0.8
KMTI Karmit 146.70 303 P PKPbc 11 55 09.0 +1.4
JMOS Jabal al Moall 146.71 302 P PKPbc 11 55 10.6 +2.9
CANB Canakkale 146.79 325 *e*P PKPbc 11 55 08.6 +1.0
RDO Rodhopi 146.81 328 *e*P PKPbc 11 55 08.5 +1.0
BBS Basel-Blauen 146.81 354⇑ *e*P PKPbc 11 55 09.4 +2.1
BBS Basel-Blauen 146.81 354 PKP PKPdf 11 55 07.6 -1.3
RZN Rozhen 146.83 329 *e*P PKPbc 11 55 08.0 +0.4
VTS Vitosha 146.85 332 *e*P PKPbc 11 55 08.0 +0.4
GRUS Gruza 146.86 336 *i* PKP PKPdf 11 55 09.1 -0.1
HAQS Haql 146.90 301 P PKPbc 11 55 09.4 +1.2
LJU Ljubljana 146.95 345 *e*PKPdf PKPdf 11 55 08.0 -1.2
LJU *e* 11 55 36.9
LJU *e* 11 56 39.0
BDAS Al Bad' **146.95 300** P PKPbc 11 55 09.8 +1.6
DIVS Divcibare 146.96 337 *i* PKP PKPdf 11 55 10.6 +1.3
LOMF Lomont 146.99 355 PKP PKPdf 11 55 08.3 -0.9
VOY Vojsko 147.12 346 *e*PKPdf PKPdf 11 55 11.8 +2.3
VOY *e* 11 55 42.7
LOR Lormes 147.23 359 *e*PKP1 PKPdf 11 55 09.9 +0.3
comp=Z,159nm,1.7s
LOR *e*R
comp=Z,6μm,21.2s
HYF Humbligny 147.24 0 *e*PKP1 PKPdf 11 55 10.2 +0.6
CEY Cerknica 147.26 345 *e*PKPdf PKPdf 11 55 12.3 +2.5
BOJS Bojanci 147.26 344 *e*PKPdf PKPdf 11 55 10.7 +1.0
BBLS Bajina Basta - 147.38 337 *i* PKP PKPdf 11 55 12.1 +2.1
MMB Musomiste 147.38 330 *e*P PKPdf 11 55 07.0 -3.1
SSF Saint Saulge 147.44 359 *e*PKP1 PKPdf 11 55 10.6 +0.6
comp=Z,199nm,1.5s
KKB Krupnik 147.48 331 *e*P PKPdf 11 55 09.0 -1.2
AVF Avril sur Loir 147.72 359 *e*PKP1 PKPdf 11 55 10.9 +0.5
comp=Z,78nm,1.3s
IZM Izmir 147.76 322 *e*P PKPdf 11 55 10.3 -0.5
PRK Paraskevi 147.76 325 *e*P PKPdf 11 55 11.5 +0.8
CABF La Chapelle 147.78 356 *e*PKP1 PKPdf 11 55 11.9 +1.4
comp=Z,470nm,1.9s
MFF Saint Martin d 147.82 4 *e*PKP1 PKPdf 11 55 11.3 +0.7
comp=Z,206nm,1.5s
SMF Signal de Mont 147.85 359 *e*PKP1 PKPdf 11 55 11.4 +0.8
comp=Z,186nm,1.7s
DALT Dalyan (Mudla) 147.94 319 *e*P PKPdf 11 55 13.9 +2.8
YER Yerkesik 147.94 320 *e*P PKPdf 11 55 12.9 +1.8
SKO Skopje 148.14 333 *i* P PKPdf 11 55 12.3 +1.1
VAY Valandovo 148.14 331 *i* P PKPdf 11 55 12.7 +1.4
MLSB Milas 148.16 320 *e*P PKPdf 11 55 14.4 +3.0
URLA Izmir 148.18 323 *i* P PKPdf 11 55 10.9 -0.5
TCF Toulx Ste Croi 148.22 1 *e*PKP1 PKPdf 11 55 12.3 +1.1
comp=Z,272nm,1.9s
PLG Polygyros 148.45 329 *e*P PKPdf 11 55 15.0 +3.2
SMG Samos 148.47 322 *e*P PKPdf 11 55 10.5 -1.4
PLDF La Plantade 148.53 359 PKP PKPdf 11 55 18.8 +7.1
MBAR Mbarara 148.56 244 *e*PKPab PKPab 11 55 17.2 -1.8
MBAR LR LR
comp=Z,457nm,21.0s,MS5.2
BODT Bodrum 148.59 320 *e*P PKPdf 11 55 12.6 +0.5
PYM Petit Puy Mans 148.76 360 PKP PKPdf 11 55 18.3 +6.2
LPL La Plagne 148.82 355 *e*PKP1 PKPdf 11 55 15.2 +3.0
comp=Z,74nm,1.2s
LPG La Plagne 148.83 355 *e*PKP1 PKPdf 11 55 15.4 +3.2
comp=Z,67nm,1.0s
STON Ston 148.86 339 *i* P PKPdf 11 55 12.7 +0.4
OHR Ohrid 149.12 333 *i* P PKPdf 11 55 12.3 -0.5
OHR *i* 11 55 17.5
GRN Grenoble 149.17 356 PKP PKPdf 11 55 12.6 -0.2
GDM Grand'Maison 149.18 355 PKP PKPdf 11 55 15.1 +2.3
RJF Les Rejaudoux 149.19 2 *e*PKP1 PKPdf 11 55 15.0 +2.2
comp=Z,380nm,1.9s
RJF *e*R
comp=Z,5μm,23.0s
LBL Lubilhac 149.28 359 PKP PKPdf 11 55 17.6 +4.6
BNI Bardonecchia 149.28 355 *e*PKPbc PKPdf 11 55 15.5 +2.5
KZN Kozani 149.31 331 *e*P PKPdf 11 55 17.0 +3.8
ORIF Oris-en-Rattie 149.48 356 *e*PKP1 PKPdf 11 55 16.5 +3.2
comp=Z,137nm,1.6s
ORIF *e*R
comp=Z,4μm,20.5s
LFF La Frestale 149.53 3 *e*PKP1 PKPdf 11 55 15.9 +2.5
comp=Z,197nm,1.6s
CAF Calviac 149.58 1 *e*PKP1 PKPdf 11 55 16.3 +2.8
comp=Z,128nm,1.6s
MBDF Montbardon 149.59 354 *e*PKP1 PKPdf 11 55 16.6 +3.1
comp=Z,28nm,0.8s
VIVF Saint-Julien-l 149.61 357 *e*PKP1 PKPdf 11 55 16.5 +3.0
comp=Z,140nm,1.5s
KARP Karpathos 149.63 318 *e*P PKPdf 11 55 10.5 +1.1
APE Apeiranthos 149.67 322 *e*P PKPdf 11 55 12.9 -0.9
APE Apeiranthos 149.67 322 *e*P PKPdf 11 55 16.0 +2.1
APE Apeiranthos 149.67 322 *i* PKP2 PKPab 11 55 15.9 -6.9
EMAZ Mazaricos 149.82 17 PKP PKPdf 11 55 16.2 +2.3
SURF Saint Ours 149.84 354 PKP PKPdf 11 55 13.8 -0.1
EPON Pontenova 149.95 15 PKP PKPdf 11 55 16.6 +2.5
SANT Santorini 150.17 321 PKPbc PKPdf 11 55 16.2 +1.5
SAOF Saorge 150.24 353 PKP PKPdf 11 55 18.1 +3.6
AUTN L'Aution 150.25 353 PKP PKPdf 11 55 18.3 +3.8
TOUF Mont Tournerai 150.25 353 PKP PKPdf 11 55 18.6 +4.1
JAN Janina 150.26 331 *e*P PKPdf 11 55 19.0 +4.3
MGER Gerania Oros 150.32 326 *e*P PKPdf 11 55 16.0 +1.2
EVR Evrytania 150.38 329 *e*P PKPdf 11 55 19.0 +4.1
MVIF Mont Vial 150.38 354 PKP PKPdf 11 55 18.8 +4.1
EARI Arriondas 150.41 12 PKP PKPdf 11 55 15.5 +0.7
LASF Ste Croix 150.42 358 *e*PKP1 PKPdf 11 55 18.6 +3.8
comp=Z,256nm,1.8s
SMRF Simiane la Rot 150.44 356 *e*PKP1 PKPdf 11 55 18.9 +4.1
comp=Z,325nm,1.8s
CALN Calern 150.55 354 PKP PKPdf 11 55 19.1 +4.1
PRAF Pradon 150.64 356 PKP PKPdf 11 55 20.6 +5.5
AQU L'Aquila 150.68 344 *e*PKPbc PKPdf 11 55 19.4 +4.2
KEK Kerkira 150.70 333 *e*P PKPdf 11 55 20.0 +4.6
TAVF Tavernes 150.76 355 PKP PKPdf 11 55 20.4 +5.1
FRF La Foret Royal 150.76 354 *e*PKP1 PKPdf 11 55 18.8 +3.5
comp=Z,262nm,1.8s
NPS Neapolis 150.80 319 *e*P PKPdf 11 55 20.5 +4.9
PUYF Puyloubier 150.87 356 PKP PKPdf 11 55 20.0 +4.5
CII Carovilli 151.01 342 *e*PKPbc PKPdf 11 55 20.9 +5.1
EALK Alkurruntz 151.06 6 PKP PKPdf 11 55 17.2 +1.4
MTLF Montolieu 151.17 1 *e*PKP1 PKPdf 11 55 20.1 +4.2
comp=Z,202nm,1.9s
LARF Larrau 151.29 6 PKP PKPdf 11 55 15.4 -0.7
ECAL Calabor 151.36 15 PKP PKPdf 11 55 17.5 +1.2
EPF Esparros 151.41 4 *e*PKP1 PKPdf 11 55 20.5 +4.2
VLI Veliai 151.41 325 *e*P PKPdf 11 55 21.0 +4.5
ETSF Etsaut 151.47 5 *e*PKP1 PKPdf 11 55 21.1 +4.7
comp=Z,205nm,1.6s
PBRG Braganca 151.49 15 *e*PKPdf PKPdf 11 55 17.8 +1.3
ECRI Cripan 151.54 8 PKP PKPdf 11 55 16.4 -0.1
VAM Vamos 151.58 321 *e*P PKPdf 11 55 22.0 +5.2
ITM Ithomi 151.63 327 *e*P PKPdf 11 55 21.0 +4.2
PVRL Vila Real 151.72 17 *e*PKPdf PKPdf 11 55 20.3 +3.5
TIP Timpagrande 152.42 336 *e*PKPbc PKPdf 11 55 23.2 +5.2
MTE Manteigas 152.58 17 *e*PKPdf PKPdf 11 55 18.6 +0.5
MTE *e*SS SS 12 18 43.6 +7.5
MTE *e*- 12 38 29.2
MTE *e*LR LR 12 48 09.8
comp=Z,4μm,20.0s
MTE Manteigas 152.58 17 *e*PKPdf PKPdf 11 55 16.8 -1.3
PTOM Tomar 153.04 19 *e*PKPdf PKPdf 11 55 19.7 +0.9
PCBR Castelo Branco 153.12 18 *e*PKPdf PKPdf 11 55 20.0 +1.1
PLOU Loures 153.45 21 *e*PKPdf PKPdf 11 55 19.4 +0.1
ESDC Sonseca Array 154.15 12 PKP PKPdf 11 55 18.3 -1.9
comp=Z,0.6nm,0.7s,baz=342,slow=4.1,SNR=3.7
ESDC PKPbc PKPdf 11 55 27.5 +7.2
comp=Z,1.3nm,0.8s,baz=335,slow=2.9,SNR=6.9
ESDC PKPab PKPab 11 55 38.1 -3.5
comp=Z,4.0nm,1.1s,baz=355,slow=3.9,SNR=6.7
ESDC Sonseca Array 154.15 12 PKP PKPdf 11 55 18.5 -1.8
ESLA Sonseca Array 154.15 12 *e*PKPdf PKPdf 11 55 19.3 -1.0
ESLA LR LR
comp=Z,17μm,20.0s,MS6.9
EBAD Badajoz 154.26 18 PKP PKPdf 11 55 20.7 +0.2
PBEJ Beja 154.66 20 *e*PKPdf PKPdf 11 55 24.5 +3.5
PTEO Sao Teotonio 154.79 22 *e*PKPdf PKPdf 11 55 24.7 +3.5
EGRO El Granado 155.23 20 PKP PKPdf 11 55 25.1 +3.4
EMIN Mina Concepcio 155.27 18 PKP PKPdf 11 55 21.3 -0.5
ECAB El Cabril 155.34 16 PKP PKPdf 11 55 21.1 -0.7
EVIA Vianos 155.42 10 PKP PKPdf 11 55 22.2 +0.2
EADA Adamuz 155.46 14 PKP PKPdf 11 55 22.6 +0.6
ETOB Tobarra 155.56 8 PKP PKPdf 11 55 21.4 -0.8
ELUQ Luque 156.11 14 PKP PKPdf 11 55 22.6 -0.3
EQES Quesada 156.13 11 PKP PKPdf 11 55 21.5 -1.4
EBNR Beni Rached 158.19 3 P PKPdf 11 55 35.0 +9.3
EMHD Djebel Mahouad 158.30 360 P PKPdf 11 55 27.0 +1.1
EANR 'Ain N'Sour 158.50 4 P PKPdf 11 55 28.0 +1.9
DBIC Dimbokro 169.26 135 PFAKE 11 55 50.0 +14
DBIC LR LR
comp=Z,3μm,21.0s

NEIC ***07*** *12:01:50.8±0.9, 6.24N×72.20W, h60km±11km, mb3.6/3, Error ellipse: s-maj=12.6km s-min=8.8km az=90.0*
IDC ***07*** *12:01:51.6±1.8, 6.23N×72.14W, h68km±18km, mb3.2/4, mb1 3.7/7, mb1mx3.4/24, mbtmp3.7/7, MS3.0/1, Ms1 3.0/1, ms1mx3.0/9, Error ellipse: s-maj=19.8km s-min=13.8km az=126.0*

ISC 07 12:01:50.5±1.1, 6.29N±0.07×72.13W±0.08, h71km±13km, n14, σ0=84/16, mb3.5/6, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.61**	**237**	P	**P**	**12 02 29.7**	**-1.8**
	13nm,0.3s,baz=98,slow=19,SNR=19						
ROSC				S	**S**	**12 03 02.9**	**+0.9**
	63nm,0.3s,baz=270,slow=20,SNR=6.8						
ROSC				LR	LR	12 03 39.8	
	comp=Z,273nm,19.0s,baz=33,slow=42						
SDV	**Santo Domingo**	**2.98**	**30**	P	**P**	**12 02 38.0**	**+1.4**
	41nm,0.3s,baz=189,slow=3.4,SNR=132						
SDV				S	**S**	**12 03 16.6**	**+5.3**
	51nm,0.3s,baz=278,slow=9.8,SNR=3.4						
SDV	**Santo Domingo**	**2.98**	**30**	*e*P	**P**	**12 02 37.7**	**+1.1**
SDV				S	**S**	**12 03 16.6**	**+5.3**
SJG	**San Juan**	**13.12**	**26**	P	**P**	**12 04 54.3**	**-1.2**
	3.6nm,0.3s,baz=199,slow=18,SNR=7.1						
SAML	**Samuel**	**17.57**	**149**	*e*P	**P**	**12 05 52.0**	**-0.4**
	2.1nm,0.5s						
LPAZ	**La Paz**	**22.78**	**170**	P	**P**	**12 06 48.7**	**+0.7**
	0.6nm,0.5s,mb3.2,baz=326,slow=11,SNR=4.1						
LPAZ	**La Paz**	**22.78**	**170**	P	**P**	**12 06 48.7**	**+0.7**
SIV	**San Ignacio**	**24.69**	**154**	P	**P**	**12 07 06.6**	**0.0**
	0.5nm,0.5s,mb3.2,baz=4.4,slow=13,SNR=3.9						
TXAR	**Lajitas Array**	**37.55**	**311**	P	**P**	**12 08 59.5**	**-0.3**
	0.4nm,0.5s,mb3.5,baz=129,slow=9.6,SNR=11						
TXAR	**Lajitas Array**	**37.55**	**311**	P	**P**	**12 08 59.5**	**-0.3**
MNTX	**Cornudas Mount**	**40.05**	**313**	*e*P	**P**	**12 09 20.6**	**+0.1**
	1.3nm,0.5s,mb4.0						
SDCO	**Great Sand Dun**	**43.58**	**321**	*e*P	**P**	**12 09 49.6**	**+0.1**
	0.6nm,0.6s,mb3.5						
YKA	**Yellowknife Ar**	**64.10**	**340**	P	**P**	**12 12 19.5**	**+0.2**
	0.3nm,0.5s,mb3.3,baz=129,slow=6.6,SNR=3.4						
WRA	**Warramunga Arr**	**150.93**	**240**	PKPbc	PKPdf	12 21 36.3	+6.1
	0.2nm,0.6s,baz=109,slow=2.9,SNR=5.6						

KRSC 07 12:10:27.9±1.8, 55.00N×163.20E, h26km±5km, ML4.0, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.96**	**243**	*e*P	Pb	12 10 45.1	-0.7
MKZ				*e*S	Sb	12 10 58.1	0.0
KBTR	**Krutoberegovo**	**1.23**	**350**	*i* P	Pn	12 10 48.4	-1.3
KBTR				*e*S	Sn	12 11 04.2	-1.3
BKI	**Bering**	**1.61**	**82**	*e*P	Pn	12 10 54.5	-0.5
BKI				*e*S	Sn	12 11 13.8	-1.3
BKI				Smax			
	150nm,0.4s						
ZLN	**Zelenaya**	**1.70**	**308**	*e*P	Pn	12 10 56.9	+0.5
ZLN				*e*S	Sn	12 11 18.1	+0.6
CIRR	**Tsirk**	**1.79**	**310**	*e*P	Pn	12 10 57.8	+0.2
CIRR				*e*S	Sn	12 11 21.0	+1.3
LGNR	**Loginova**	**1.79**	**308**	*e*P	Pn	12 10 58.6	+0.9
LGNR				*e*S	Sn	12 11 21.5	+1.7
KMNR	**Kamenistaya**	**1.85**	**295**	*e*P	Pn	12 10 59.2	+0.6
KMNR				*e*S	Sn	12 11 23.1	+1.7
KRSR	**Krestovskiy**	**1.93**	**310**	*e*P	Pn	12 10 59.7	0.0
KRSR				*e*S	Sn	12 11 23.1	-0.2
KPT	**Kopyto**	**1.95**	**301**	*e*P	Pn	12 11 00.6	+0.6
KLY	**Klyuchi**	**1.95**	**313**	*e*P	Pn	12 10 58.8	-1.2
KLY				*e*S	Sn	12 11 23.7	-0.2
KOZ	**Kozyrevsk**	**2.17**	**301**	*e*P	Pn	12 11 04.1	+1.0
SRDR	**Sredinnyy**	**2.37**	**305**	*e*P	Pn	12 11 07.1	+1.1
SRDR				*e*S	Sn	12 11 36.8	+2.2
SPN	**Mys Shipunski**	**2.67**	**226**	*e*P	Pn	12 11 08.9	-1.4
SPN				*e*S	Sn	12 11 39.7	-2.5
ESO	**Esso**	**2.73**	**292**	*e*P	Pn	12 11 10.3	-0.7
ESO				*e*S	Sn	12 11 41.4	-2.1
ESO				Smax			
	90

GRL	**Gorelyy**	**3.91 233**	P	Pn	12 11 30.2	+2.4
APC	**Apacha**	**4.13 242**	P	Pn	12 11 31.4	+0.4
APC			*e*S	Sn	12 12 18.7	-0.4
APC			Smax			
	20nm,0.9s					

*KNET **07** 13:03:50.2±0.3, 42.28N×75.93E, h16km±3km, ml2.5, Error ellipse: s-maj=2.8km s-min=1.8km az=142.0*
*NNC **07** 13:03:56.6±8.5, 42.71N×76.20E, mpv2.8, Error ellipse: s-maj=131.1km s-min=13.6km az=157.0*
ISC 07 13:03:51.4±0.7,**42.30N**±0.05×**75.96E**±0.04,**h7**km±6km,**n9,** σ0**65/17,13C-5D,Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**0.22 105**		⇑P	**Pg**	**13 03 56.2**	**+0.3**
	89nm,0.1s,SNR=865						
ULHL				⇑S	**Sg**	**13 03 59.7**	**+0.7**
	384nm,0.1s						
KZA	**Kyzart**	**0.57 247**		⇑P	**Pg**	**13 04 02.3**	**-0.6**
	24nm,0.2s,SNR=49						
KZA				⇑S	**Sg**	**13 04 10.0**	**-0.6**
	56nm,0.1s						
TKM2	**Tokmak 2**	**0.68 337**		⇓P	**Pg**	**13 04 04.7**	**-0.3**
	93nm,0.1s,SNR=109						
TKM2				⇑S	**Sg**	**13 04 14.4**	**+0.4**
	422nm,0.1s						
CHMS	**Chumysh**	**1.13 308**		⇓P	**Pb**	**13 04 12.3**	**-0.5**
	10.0nm,0.2s,SNR=18						
CHMS				⇓S	**Sb**	**13 04 28.0**	**+0.4**
	68nm,0.2s						
AAK	**Ala-Archa**	**1.13 288**		⇑P	**Pb**	**13 04 12.1**	**-0.8**
	15nm,0.2s,SNR=11						
AAK				⇓S	**Sb**	**13 04 27.5**	**-0.2**
	112nm,0.3s						
USP	**Ospenovka**	**1.44 312**		⇑P	**Pn**	**13 04 18.1**	**0.0**
	20nm,0.2s,SNR=21						
USP				⇑S	**Sb**	**13 04 37.5**	**+0.8**
	62nm,0.2s						
AML	**Almayashu**	**1.69 265**		⇑P	**Pn**	**13 04 22.3**	**+0.7**
	6.8nm,0.2s,SNR=17						
AML				⇓S	**Sn**	**13 04 44.6**	**+1.0**
	40nm,0.3s						
KK31	**Karatay Array**	**4.09 283**		⇑Pn	**Pn**	**13 05 05.4**	**+10**
	0.7nm,0.3s,baz=98,slow=15,SNR=29						
KK31				⇑Sn	**Sn**	**13 05 57.8**	**+13**
	5.3nm,0.5s,baz=101,slow=30,SNR=14						
MK31	**Makanchi Array**	**6.37**	**43**	⇑Sn	**Sn**	**13 06 40.7**	**-1.2**
	1.3nm,0.8s,baz=223,slow=23,SNR=6.1						
MK31				⇑Lg		13 07 07.8	
	1.1nm,0.7s						

IDC 07 13:05:54.3±2.6,**1.03S**×**100.51E,mb3.6/**5,**mb1 3.7/**5, **mb1mx3.6/**16,**mbtmp3.6/**5,**Error ellipse: s-maj=114.3km s-min=26.9km az=52.0,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.06 122**		P	P	13 13 14.8	-1.8
	0.1nm,0.3s,baz=307,slow=9.2,SNR=7.6						
SONM	**Songino Array**	**48.94**	**5**	P	P	13 14 43.4	-0.8
	0.3nm,0.6s,baz=190,slow=8.8,SNR=3.1						
MKAR	**Makanchi Array**	**50.24 344**		P	P	13 14 52.8	-1.5
	0.3nm,0.3s,baz=156,slow=9.0,SNR=8.0						
BVAR	**Borovoye Array**	**59.46 339**		P	P	13 15 58.1	-3.2
	0.6nm,0.5s,baz=138,slow=8.4,SNR=5.1						
ARCES	**ARCESS Array B**	**85.74 340**		P	P	13 18 34.1	-2.1
	0.7nm,0.8s,baz=101,slow=6.2,SNR=4.1						

*IDC **07** 13:10:02.0±1.9, 18.66N×69.01W, h99km±26km, mb3.7/10, mb1 4.0/13, mb1mx3.7/24, mbtmp4.2/13, MS3.1/1, Ms1 3.1/1, ms1mx3.0/25, Error ellipse: s-maj=29.6km s-min=15.4km az=170.0*
*RSPR **07** 13:10:02.6, 19.00N×68.69W, h162km±5km, MD4.5/11, MD4.5/11*
*NEIC **07** 13:10:02.9±0.6, 18.63N×68.98W, h111km±9km, mb4.2/1, MD4.5(RSPR), Error ellipse: s-maj=10.6km s-min=7.4km az=140.0*
ISC 07 13:10:01.5±0.6,**18.67N**±0.08×**69.03W**±0.05,**h111**km±8km, **n38,**σ1**09/**49,**mb3.9/**11,**10C-1D,Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPR	**Mayaguez**	**1.85 104**		⇑*e*P	**P**	**13 10 34.9**	**+1.8**
MPR				*e*S	**S**	**13 10 59.6**	**+2.8**
LSP	**Las Mesas**	**1.91 105**		⇑*e*P	**P**	**13 10 34.7**	**+0.9**
CRPR	**Cabo Rojo, PR**	**1.94 110**		⇓*e*P	**P**	**13 10 34.5**	**+0.4**
CRPR				*e*S	**S**	**13 11 03.2**	**+4.5**
MGP	**Maguayo**	**1.96 109**		⇑*e*P	**P**	**13 10 34.7**	**+0.3**
LRS	**Lares**	**2.10 100**		⇑*e*P	**P**	**13 10 37.4**	**+1.0**
AOPR	**Arecibo Observ**	**2.19 98**		⇑*e*P	**P**	**13 10 37.9**	**+0.5**
AOPR				*e*S	**S**	**13 11 06.0**	**+1.5**
ICM	**Isla Caja Muer**	**2.50 108**		⇑*e*P	**P**	**13 10 42.0**	**+0.3**
ICM				*e*S	**S**	**13 11 13.7**	**+1.6**
SJG	**San Juan**	**2.79 101**		P	**P**	**13 10 44.5**	**-1.1**
	128nm,0.3s,baz=312,slow=9.1,SNR=140						
SJG				S	**S**	**13 11 17.9**	**-0.9**
	82nm,0.3s,baz=275,slow=22,SNR=5.0						
SJG				LR	LR	13 11 41.0	
	comp=Z,318nm,18.7s,baz=314,slow=36						
CBYP	**Canovanas**	**3.04**	**97**	⇑*e*P	**P**	**13 10 48.0**	**-0.9**
MTP	**Monte Pirata**	**3.34**	**99**	⇑*e*P	**P**	**13 10 53.0**	**-0.1**
MTP				*e*S	**S**	**13 11 30.9**	**-1.5**
STVI	**Saint Thomas**	**3.87**	**94**	⇑*e*P	**P**	**13 10 59.1**	**-1.2**
STVI				*e*S	**S**	**13 11 42.0**	**-3.1**
CDVI	**St. Croix**	**4.15 102**		⇑*e*P	**P**	**13 11 03.3**	**-0.8**
CDVI				*e*S	**S**	**13 11 49.9**	**-2.1**
MASC	**Masc**	**5.13 288**		*e*P	**P**	**13 11 15.8**	**-1.6**
	baz=139						
MASC				*e*S	**S**	**13 12 11.2**	**-4.7**
	comp=N,2.3nm,0.2s						
	comp=E,4.6nm,0.3s						
HLGC	**Holguin**	**6.98 290**		*e*P	**P**	**13 11 40.0**	**-2.6**
	baz=108						
HLGC				*e*S	**S**	**13 12 55.1**	**-5.9**
	comp=N,5.8nm,0.3s						
	comp=E,6.0nm,0.3s						
LZG	**Guadaloupe-1**	**7.37 109**		*e*P	**P**	**13 11 47.5**	**-0.3**
SEG	**Port Louis**	**7.52 106**		*e*P	**P**	**13 11 50.2**	**+0.3**
MGG	**Marie-Galante**	**7.86 109**		*e*P	**P**	**13 11 54.7**	**+0.2**
BBL	**Barber's Block**	**7.87 112**		*e*P	**P**	**13 11 53.8**	**-1.0**
DEG	**La Desirade**	**7.96 106**		*e*P	**P**	**13 11 55.8**	**0.0**
SDV	**Santo Domingo**	**9.85 189**		P	**P**	**13 12 20.9**	**-0.5**
	comp=E,15nm,0.3s,baz=54,slow=5.9,SNR=48						
SDV				S	**S**	**13 13 59.3**	**-11**
	comp=E,1.2nm,0.3s,baz=4.2,slow=15,SNR=2.6						
ROSC	**El Rosal**	**14.68 201**		P	**P**	**13 13 25.9**	**+1.2**
	comp=E,1.7nm,0.3s,baz=106,slow=20,SNR=4.1						
FWV	**Forest Hill**	**21.48 334**		*e*P	**P**	**13 14 43.9**	**+1.6**
TZTN	**Tazewell**	**21.92 327**		*e*P	**P**	**13 14 47.9**	**+1.2**
WVT	**Waverly**	**24.03 320**		*e*P	**P**	**13 15 07.9**	**+0.7**
	comp=E,5.9nm,0.6s,mb4.1						
SADO	**Sadowa**	**27.36 344**		P	**P**	**13 15 37.2**	**-1.0**
	comp=E,3.7nm,0.8s,mb4.0,baz=148,slow=9.5,SNR=3.6						
SADO	**Sadowa**	**27.36 344**		P	**P**	**13 15 37.2**	**-1.0**
TXAR	**Lajitas Array**	**33.26 295**		P	**P**	**13 16 30.1**	**-0.3**
	comp=E,0.4nm,0.4s,mb3.6,baz=116,slow=8.0,SNR=13						
SCHQ	**Schefferville**	**36.13**	**2**	P	**P**	**13 16 55.6**	**+1.1**
	comp=E,8.3nm,0.6s,mb4.8,baz=190,slow=7.2,SNR=17						
ANMO	**Albuquerque**	**36.88 304**		P	**P**	**13 17 01.9**	**+0.9**
	comp=E,0.3nm,0.4s,mb3.6,baz=63,slow=2.3,SNR=3.1						
PDAR	**Pinedale Array**	**41.76 314**		P	**P**	**13 17 41.8**	**+0.5**
	comp=E,0.3nm,0.5s,mb3.3,baz=107,slow=11,SNR=3.6						
HRY	**Holter Researc**	**44.80 318**		P	**P**	**13 18 06.3**	**+0.5**
YKA	**Yellowknife Ar**	**53.85 336**		P	**P**	**13 19 13.7**	**-1.2**
	comp=E,2.9nm,0.6s,mb4.5,baz=116,slow=7.2,SNR=10						
YKA	**Yellowknife Ar**	**53.85 336**		P	**P**	**13 19 13.7**	**-1.2**
ESDC	**Sonseca Array**	**59.28**	**54**	P	**P**	**13 19 53.7**	**-0.1**
	comp=E,0.4nm,0.6s,mb3.6,baz=276,slow=7.2,SNR=4.5						
ILAR	**Eielson Array**	**68.10 333**		P	**P**	**13 20 50.4**	**-0.7**
	comp=E,1.0nm,0.8s,mb3.7,baz=108,slow=4.4,SNR=14						
ARCES	**ARCESS Array B**	**74.25**	**21**	P	**P**	**13 21 27.8**	**+0.1**
	comp=E,1.4nm,0.5s,mb3.9,baz=288,slow=3.8,SNR=20						
FINES	**FINESS Array B**	**76.20**	**30**	P	**P**	**13 21 39.2**	**+0.4**
	comp=E,1.4nm,0.5s,mb4.0,baz=274,slow=5.2,SNR=14						
FINES	**FINESS Array B**	**76.20**	**30**	P	**P**	**13 21 39.2**	**+0.4**

*ATH **07** 13:26:52.8, 39.97N×19.64E, h7km±2km, MD3.4/4*

*NEIC **07** 13:26:52.8, 39.97N×19.64E, h7km, MD3.4(ATH), After ATH.*
*THE **07** 13:26:54.0, 39.86N×19.66E, h10km, ML3.1*
*CSEM **07** 13:26:55.7±0.6, 39.87N×19.77E, h5km, MD3.4, Error ellipse: s-maj=11.0km s-min=6.0km az=110.0*
ISC 07 13:26:53.9±1.3,**39.93N**±0.04×**19.70E**±0.09,**h5**km,**n11,** σ1**03/**19,**Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEK	**Kerkira**	**0.23 160**		*e*PG	**Pg**	**13 26 58.3**	**-0.2**
KEK				*e*SG	**Sg**	**13 27 02.7**	**+1.1**
SRN	**Sarande**	**0.24 101**		*i* Pg	**Pg**	**13 26 57.5**	**-1.2**
SRN				*i* Sg	**Sg**	**13 27 00.7**	**-1.2**
IGT	**Igoumenitsa**	**0.63 128**		*e*Pg	**Pg**	**13 27 05.3**	**-1.2**
IGT				*e*Sg	**Sg**	**13 27 14.4**	**-0.5**
JAN	**Janina**	**0.93 106**		*e*PG	**Pg**	**13 27 11.1**	**-1.3**
JAN				*e*SB	**Sb**	**13 27 24.7**	**+0.2**
FNA	**Florina**	**1.54 56**		*e*Pg	**Pg**	**13 27 22.8**	**-1.9**
FNA				*e*Sg	**Sg**	**13 27 45.3**	**0.0**
KZN	**Kozani**	**1.64 76**		*e*PB	**Pb**	**13 27 24.4**	**+0.2**
EVR	**Evrytania**	**1.92 121**		*e*PN	**Pn**	**13 27 28.9**	**+1.3**
LIT	**Litokhoron**	**2.15 84**		*e*Pn	**Pn**	**13 27 31.4**	**+0.5**
LIT				*e*Sn	**Sn**	**13 28 00.5**	**+2.2**
AGG	**Agios Georgios**	**2.23 113**		*e*Pn	**Pn**	**13 27 31.9**	**-0.1**
AGG				*e*Sn	**Sn**	**13 28 00.8**	**+0.6**
GRG	**Griva**	**2.31 63**		*e*Pn	**Pn**	**13 27 33.5**	**+0.3**
GRG				*e*Sn	**Sn**	**13 28 03.8**	**+1.6**
KNT	**Kendrikon**	**2.73 62**		*e*Pn	**Pn**	**13 27 39.0**	**-0.2**

*IDC **07** 13:31:35.5±1.7, 14.97S×177.20W, mb3.8/5, mb1 4.1/6, mb1mx4.0/13, mbtmp3.8/6, MS4.0/3, Ms1 4.0/3, ms1mx3.8/20, Error ellipse: s-maj=80.7km s-min=26.7km az=163.0*
*NEIC **07** 13:31:36.4±1.3, 15.27S×177.01W, h10km, Error ellipse: s-maj=70.8km s-min=18.5km az=168.0*
ISC 07 13:31:37.4±1.5,**15.6S**±0.5×**176.9W**±0.1,**h33**km,**n16,** σ1**26/**11,**mb3.8/**5,**MS4.0/**2,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.20**	**72**	Pn	**Pn**	**13 32 54.9**	**-0.1**
	5.4nm,0.3s,baz=260,slow=17,SNR=4.5						
AFI				Sn	**Sn**	**13 33 44.7**	**-10**
	6.9nm,0.3s,baz=38,slow=19,SNR=2.7						
AFI				LR	LR	13 34 37.3	
	comp=Z,946nm,20.8s,baz=266,slow=34						
AFI	**Afiamalu**	**5.20**	**72**	*e*P	**P**	**13 32 53.4**	**-1.5**
AFI				Sn	**Sn**	**13 33 44.7**	**-10**
AFI				LR	LR	13 34 37.2	
HNR	**Honiara**	**23.43 282**		LR	LR	13 44 04.4	
	comp=Z,845nm,19.8s,MS4.2,baz=138,slow=33						
PPT	**Papeete**	**26.23**	**98**	*e*LR	LR	13 43 41.8	
	580nm,29.2s						
PPT	**Papeete**	**26.23**	**98**	LR	LR	13 45 26.9	
	comp=Z,281nm,19.6s,MS3.8,baz=32,slow=31						
TBI	**Tubuai**	**26.94 111**		*e*LR	LR	13 44 04.5	
	939nm,27.0s						
TAOE	**Nuku Hiva Isla**	**36.47**	**84**	*e*LR	LR	13 48 11.6	
	3μm,32.7s						
RKT	**Rikitea**	**40.12 107**		*e*LR	LR	13 50 07.2	
	376nm,26.2s						
WRA	**Warramunga Arr**	**46.54 257**		P	**P**	**13 40 03.3**	**-0.8**
	0.1nm,0.7s,mb2.9,baz=95,slow=6.3,SNR=3.4						
PV10	**Paradox Valley**	**83.06**	**47**	*e*P	**P**	**13 44 03.4**	**+2.2**
PV01	**Paradox Valley**	**83.29**	**48**	*e*P	**P**	**13 44 03.5**	**+1.1**
ILAR	**Eielson Array**	**83.31**	**12**	P	**P**	**13 44 00.4**	**-1.5**
	2.6nm,1.1s,mb4.2,baz=229,slow=6.0,SNR=12						
TXAR	**Lajitas Array**	**83.51**	**57**	P	**P**	**13 44 07.0**	**+3.3**
	0.6nm,0.8s,mb3.8,baz=233,slow=6.3,SNR=7.7						
PDAR	**Pinedale Array**	**84.66**	**43**	P	**P**	**13 44 09.8**	**+0.6**
	0.9nm,1.0s,mb3.9,baz=225,slow=2.1,SNR=5.8						
SONM	**Songino Array**	**92.77 319**		P	**P**	**13 44 47.3**	**-0.4**
	0.7nm,0.8s,mb4.1,baz=143,slow=2.2,SNR=4.9						
BRTR	**Keskin Array B**	**144.12 318**		PKP	PKPdf	13 51 13.2	+3.2
	0.7nm,0.6s,baz=135,slow=2.0,SNR=3.8						

*CSEM **07** 13:34:21.6±1.2, 31.87N×48.95E, h30km, ML2.7, Error ellipse: s-maj=41.0km s-min=6.6km az=23.0*
*THR **07** 13:34:22.2±0.3, 31.87N×48.81E, h29km±1km, ML2.7*
*TEH **07** 13:34:25.8, 32.13N×49.26E, h10km, Mn3.0*
ISC 07 13:34:21.9±2.9,**31.9N**±0.2×**49.0E**±0.2,**h24**km±13km,**n14,** σ1**25/**15,**Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGO	**Shushtar**	**0.29 329**		*e*Pg	**Pb**	**13 34 28.6**	**0.0**
SHGO				AML	AML	13 34 34.7	
	comp=N,984nm,0.4s						
SHGO	**Shushtar**	**0.29 329**		*e*Pg	**Pb**	**13 34 28.6**	**-0.1**
	SNR=134						
SHGR	**Shooshtar-Gavs**	**0.29 329**		*e*PG	**Pb**	**13 34 28.6**	**0.0**
SHGR				*e*SG	**Sb**	**13 34 33.3**	**+0.1**
SHGR	**Shooshtar-Gavs**	**0.29 329**		*e*Pg	**Pb**	**13 34 28.6**	**-0.1**
	SNR=134						
SHGR				*e*Sg	**Sb**	**13 34 33.3**	**0.0**
	SNR=134						
IKLH	**Kalahroud**	**2.63**	**56**	Pn	**Pn**	**13 35 05.3**	**+1.4**
IGAR	**Garneh**	**2.76**	**81**	Pn	**Pn**	**13 35 04.2**	**-1.5**
ASAO	**Ashtian**	**2.82**	**18**	*e*PN	**Pn**	**13 35 08.3**	**+1.7**
IZEF	**Zefreh**	**3.02**	**69**	Pn	**Pn**	**13 35 09.5**	**+0.2**
NASN	**Na'in**	**3.37**	**73**	*e*PN	**Pn**	**13 35 17.3**	**+2.9**
SNGE	**Sanandaj**	**3.50 338**		*e*PN	**Pn**	**13 35 16.2**	**0.0**
SNGE				AML	AML	13 36 07.8	
	comp=N,18nm,0.6s						
IRAZ	**Razeghan**	**3.62**	**12**	Pn	**Pn**	**13 35 26.6**	**+8.7**
IVRN	**Varamin**	**3.88**	**36**	Pn	**Pn**	**13 35 19.8**	**-1.8**
IVRN	**Varamin**	**3.88**	**36**	Lg		13 36 15.6	
IDMV	**Damavand**	**4.50**	**34**	Pn	**Pn**	**13 35 28.8**	**-1.5**

*IDC **07** 13:54:23.5±0.7, 14.24S×177.27W, mb4.4/9, mb1 4.6/10, mb1mx4.5/14, mbtmp4.4/10, ML3.5/1, MS4.8/17, Ms1 4.8/17, ms1mx4.7/26, Error ellipse: s-maj=33.0km s-min=18.7km az=127.0*
*BJI **07** 13:54:25.2, 14.30S×177.20W, h8km, mB5.3, mb4.8, Ms5.4, Msz5.1*
*HRVD **07** 13:54:25.3±0.2, 14.14S×177.08W, h13km±1km, MW5.4/70, Centroid moment Tensor Solution. LP body waves: s55,c116;Mantle waves: s70,c145; Half duration: 1s2 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.16±.03; $M_{\theta\theta}$0.19±.03; $M_{\phi\phi}$-0.03±.03; $M_{r\theta}$-0.02±.06; $M_{\phi\theta}$1.34±.03; M_{rf}0.03±.05; Best double couple: $M_0$1.345×10^{17} NP1: ϕ_s92°, δ89°, λ-1°. NP2:ϕ_s182°, δ89°, λ-179°. Principal axes: T 1.423, Plg0°, Azm317°; N -.155, Plg88°, Azm219°; P -1.268, Plg2°, Azm47°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **07** 13:54:25.3±0.2, 14.25S×177.15W, h10km, mb5.0/21, MS5.1/14 Error ellipse: s-maj=14.9km s-min=6.8km az=130.0*
*MOS **07** 13:54:26.4±2.6, 14.13S×176.61W, h10km, mb5.0/12, MS5.0/16, Error ellipse: s-maj=17.6km s-min=11.1km az=58.2*
ISC 07 13:54:23.9±0.3,**14.35S**±0.07×**177.05W**±0.08,**h10**km, **(h17**km±4.5km:**pP-P),n142,**σ1**19/**97,**mb4.7/**36,**MS4.9/**33, 3D,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.13**	**86**	Pn	**Pn**	**13 55 37.3**	**-5.5**
	10nm,0.3s,baz=170,slow=1.2,SNR=19						
AFI				Sn	**Sn**	**13 56 32.0**	**-11**
	59nm,0.3s,baz=55,slow=20,SNR=7.0						
AFI				LR	LR	13 57 05.3	
	comp=Z,7μm,19.4s,baz=263,slow=30						
AFI	**Afiamalu**	**5.13**	**86**	*e*P	**Pn**	**13 55 38.0**	**-4.8**
	207nm,0.6s						
AFI				*e*S	**Sn**	**13 56 27.3**	**-16**
AFI	**Afiamalu**	**5.13**	**86**	*e*P	**Pn**	**13 55 38.0**	**-4.8**
AFI				*e*S	**Sn**	**13 56 27.3**	**-16**
AFI				pmax	pmax		
	comp=Z,207nm,0.6s						
DZM	**Mont Dzumac**	**17.45 241**		*e*P	**P**	**13 58 28.8**	**-0.5**
DZM	**Mont Dzumac**	**17.45 241**		P	**P**	**13 58 28.2**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=78,slow=14,SNR=10						
NOUC	**Port Laguerre**	**17.58 242**		*e*P	**P**	**13 58 31.4**	**+0.6**
HNR	**Honiara**	**23.03 280**		LR	LR	14 06 51.2	
	comp=Z,5μm,20.2s,MS4.9,baz=115,slow=33						

URZ	**Urewera**	**24.38 191**		P	**P**	**13 59 43.4**	**0.0**
	comp=Z,21nm,1.0s,mb4.5,baz=49,slow=9.3,SNR=3.7					
URZ				LR	LR	14 07 38.1	
	comp=Z,3μm,20.0s,MS4.8,baz=28,slow=32					
PPT	**Papeete**	**26.60 101**		*e*LQ		14 05 29.6	
PPT				*e*LR	LR	14 06 40.9	
	comp=Z,2μm,27.2s,baz=262					
PPT	**Papeete**	**26.60 101**		LR	LR	14 07 43.7	
	comp=Z,699nm,19.6s,MS4.2,baz=272,slow=30					
TBI	**Tubuai**	**27.56 113**		*e*LQ		14 05 57.8	
TBI				*e*LR	LR	14 07 07.3	
	comp=Z,3μm,27.8s,baz=282					
RPZ	**Rata Peaks**	**30.99 197**		LR	LR	14 10 43.3	
	comp=Z,2μm,20.9s,MS4.8,baz=12,slow=32					
TAOE	**Nuku Hiva Isla**	**36.53**	**86**	*e*LR	LR	14 11 00.8	
	comp=Z,8μm,26.0s					
RKT	**Rikitea**	**40.67 109**		*e*LQ		14 11 54.6	
RKT				*e*LR	LR	14 13 11.2	
	comp=Z,2μm,25.5s,baz=279					
STKA	**Stephens Creek**	**41.55 238**		P	**P**	**14 02 11.5**	**-2.0**
	comp=Z,4.8nm,0.7s,mb4.2,baz=53,slow=9.8,SNR=7.9					
STKA				LR	LR	14 17 35.4	
	comp=Z,3μm,19.2s,MS5.2,baz=115,slow=34					
STKA	**Stephens Creek**	**41.55 238**		*e*P	**P**	**14 02 11.3**	**-2.2**
WRA	**Warramunga Arr**	**46.66 256**		P	**P**	**14 02 52.6**	**-2.2**
	comp=Z,1.1nm,0.7s,mb3.9,baz=90,slow=8.4,SNR=14					
WRA	**Warramunga Arr**	**46.66 256**		P	**P**	**14 02 52.6**	**-2.2**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s					
JHJ	**Hachijo jima 2**	**62.65 320**		LR	LR	14 32 00.1	
	comp=Z,812nm,18.3s,MS4.9,baz=65,slow=36					
SBA	**Scott Base**	**64.04 184**		*e*P	**P**	**14 04 59.7**	**0.0**
	comp=Z,124nm,2.5s,mb5.5					
SBA				LR	LR		
	comp=Z,630nm,20.9s,MS4.8					
SBA	**Scott Base**	**64.04 184**		*e*P	**P**	**14 04 59.7**	**0.0**
SBA				pmax	pmax		
	comp=Z,124nm,2.5s,mb5.5					
SBA				MLR	MLR		
	comp=Z,630nm,20.9s,MS4.8					
VNDA	**Vanda**	**64.09 185**		P	**P**	**14 04 59.6**	**-0.4**
	comp=Z,3.0nm,1.0s,mb4.3,baz=30,slow=5.3,SNR=8.8					
VNDA				LR	LR	14 27 50.4	
	comp=Z,577nm,19.3s,MS4.8,baz=302,slow=31					
VNDA	**Vanda**	**64.09 185**		*e*P	**P**	**14 04 59.2**	**-0.8**
	comp=Z,5.8nm,1.2s,mb4.5					
VNDA				LR	LR		
	comp=Z,598nm,18.6s,MS4.8					
VNDA	**Vanda**	**64.09 185**		*e*P	**P**	**14 04 59.2**	**-0.8**
VNDA				pmax	pmax		
	comp=Z,6.0nm,1.2s					
VNDA				MLR	MLR		
	comp=Z,598nm,18.6s					
JOW	**Kunigami**	**67.03 308**		LR	LR	14 32 49.6	
	comp=Z,451nm,19.1s,MS4.7,baz=101,slow=34					
FX1	**Attu Island--F**	**67.48 354**		P	**P**	**14 05 21.6**	**-0.6**
JNU	**Nakatsue**	**68.53 315**		LR	LR	14 30 09.3	
	comp=Z,566nm,21.1s,MS4.8,baz=304,slow=31					
YSS	**Yuzh-Sakhalins**	**70.86 332**		P	**P**	**14 05 38.0**	**-5.1**
	comp=Z,22nm,1.1s,mb5.0					
YSS				LR	LR		
	comp=Z,918nm,22.0s,MS5.0					
YSS	**Yuzh-Sakhalins**	**70.86 332**		*e*P	**P**	**14 05 41.0**	**-2.1**
YSS				*e*		14 05 47.0	
YSS				MLR	MLR		
	comp=Z,500nm,19.0s,MS4.8						
CMB	**Columbia Colle**	**74.36**	**43**	*e*P	**P**	**14 06 02.9**	**-1.0**
	comp=Z,12nm,1.3s,mb4.7						
CMB				LR	LR		
	comp=Z,1μm,20.8s,MS5.1						
CMB	**Columbia Colle**	**74.36**	**43**	*e*P	**P**	**14 06 02.9**	**-1.0**
CMB				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.7						
CMB				MLR	MLR		
	comp=Z,1μm,20.8s,MS5.1						
OMM	**Old Mammoth Mi**	**75.08**	**44**	P	**P**	**14 06 07.3**	**-0.8**
DAC	**Darwin (Calif)**	**75.35**	**46**	*e*P	**P**	**14 06 10.0**	**+0.3**
	comp=Z,16nm,1.7s,mb4.7						
DAC				LR	LR		
	comp=Z,768nm,21.0s,MS5.0						
DAC	**Darwin (Calif)**	**75.35**	**46**	*e*P	**P**	**14 06 10.0**	**+0.4**
DAC				pmax	pmax		
	comp=Z,16nm,1.7s,mb4.7						
DAC				MLR	MLR		
	comp=Z,768nm,21.0s,MS5.0						
BEKR	**Beckwourth**	**75.38**	**42**	*e*P	**P**	**14 06 09.6**	**-0.1**
	comp=Z,7.2nm,1.1s,mb4.5						
QSPA	**South Pole Qui**	**75.69 180**		*e*P	**P**	**14 06 10.9**	**+0.2**
	comp=Z,21nm,1.1s,mb5.0						
MDJ	**Mudanjiang**	**76.07 324**		P	**P**	**14 06 14.1**	**+0.6**
MDJ				AP	pP	14 06 17.3	+0.6
MDJ				XP	sP	14 06 18.4	+0.6
MDJ				PCP	PcP	14 06 25.8	-0.4
MDJ				S	S	14 15 58.4	+2.8
MDJ				SCS	ScS	14 16 26.5	+1.5
MDJ				SS	SS	14 20 55.1	+3.4
MDJ				AMB	AMB		
	comp=Z,3.0nm,1.3s,mb4.1						
MDJ				AMB	AMB		
	comp=Z,172nm,5.4s						
MDJ				LR	LR		
	comp=N,387nm,34.3s,MS4.7						
MDJ				LR	LR		
	comp=E,594nm,33.5s,MS4.7						
MDJ				LR	LR		
	comp=Z,844nm,36.7s,MS4.8						
LDFC	**Landfair**	**76.52**	**48**	*e*P	**P**	**14

ELK Elko 79.18 43 *e*P **P 14 06 30.4 -0.4**
ELK pmax pmax
comp=Z,34nm,2.0s
ELK MLR MLR
comp=Z,920nm,18.6s
SML Sawmill 79.22 13 *e*P **P 14 06 28.8 -1.8**
DIV Divide 79.24 15 *e*P **P 14 06 29.8 -0.9**
comp=Z,96nm,1.4s,mb5.5
MSU Marysvale 80.20 46 *e*P **P 14 06 35.4 -1.0**
SEY Seymchan 80.63 346 *i*P **P 14 06 36.9 -1.2**
MCK McKinley 80.80 12 P **P 14 06 37.2 -1.8**
comp=Z,7.8nm,0.9s,mb4.6
MCK McKinley 80.80 12 P **P 14 06 37.2 -1.8**
MCK pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
TMUT Trail Mountain 81.23 46 *e*P **P 14 06 42.3 +0.6**
MENT Mentasta 81.29 15 *e*P **P 14 06 43.2 +1.6**
SRU San Rafael 81.62 46 *e*P **P 14 06 43.0 -0.8**
JLU Jordanelle 81.65 44 *e*P **P 14 06 44.9 +0.9**
DAU Daniels Canyon 81.69 45 *e*P **P 14 06 44.9 +0.8**
TCUT Toone Canyon 81.91 44 *e*P **P 14 06 46.1 +0.8**
ILAR Eielson Array 82.14 13 P **P 14 06 44.1 -1.9**
comp=Z,5.8nm,1.0s,mb4.5,baz=229,slow=6.8,SNR=24
ILAR LR LR 14 39 04.1
comp=Z,187nm,20.2s,MS4.4,baz=32,slow=33
PV10 Paradox Valley 82.36 47 P **P 14 06 48.8 +1.2**
MNTX Cornudas Mount 82.47 55 *e*P **P 14 06 49.4 +1.1**
comp=Z,20nm,1.4s,mb4.8
PV01 Paradox Valley 82.59 48 *e*P **P 14 06 47.9 -1.0**
MCMT McKenzie Canyo 82.69 40 *e*P **P 14 06 49.1 -0.1**
ANMO Albuquerque 82.87 51 *i*P **P 14 06 52.1 +1.7**
RRI2 Red Ridge 82.98 42 *e*P **P 14 06 49.6 -1.2**
comp=Z,33nm,1.4s,mb5.2
LTX Lajitas 82.99 57 *e*P **P 14 06 52.6 +1.5**
comp=Z,39nm,1.6s,mb5.2
LTX LR LR
comp=Z,1μm,20.0s,MS5.3
LTX Lajitas 82.99 57 *e*P **P 14 06 52.6 +1.5**
LTX pmax pmax
comp=Z,39nm,1.6s,mb5.2
LTX MLR MLR
comp=Z,1μm,20.0s,MS5.3
TXAR Lajitas Array 82.99 57 P **P 14 06 52.1 +1.0**
comp=Z,3.2nm,0.9s,mb4.3,baz=225,slow=3.5,SNR=17
TXAR LR LR 14 37 26.4
comp=Z,1μm,18.7s,MS5.3,baz=295,slow=31
TPAW Teton Pass 83.28 42 *e*P **P 14 06 53.0 +0.7**
comp=Z,18nm,1.2s,mb5.0
DAWY Dawson 83.32 16 *e*P **P 14 06 50.5 -1.6**
IMW Indian Meadow 83.47 42 *e*P **P 14 06 51.9 -1.4**
comp=Z,22nm,1.4s,mb5.0
QLMT Earthquake Lak 83.59 41 *e*P **P 14 06 55.4 +1.5**
BOZ Bozeman (W) 83.84 40 *e*P **P 14 06 53.9 -1.3**
comp=Z,21nm,1.6s,mb5.0
BOZ LR LR
comp=Z,1μm,20.0s,MS5.3
BOZ Bozeman (W) 83.84 40 *e*P **P 14 06 53.9 -1.2**
BOZ pmax pmax
comp=Z,21nm,1.6s,mb5.0
BOZ MLR MLR
comp=Z,1μm,20.0s,MS5.3
BW06 Boulder Array 83.88 43 *e*P **P 14 06 54.8 -0.6**
comp=Z,22nm,1.5s,mb5.1
BW06 LR LR
comp=Z,735nm,20.0s,MS5.1
PDAR Pinedale Array 83.88 43 P **P 14 06 56.5 +1.1**
comp=Z,0.8nm,0.8s,mb3.9,baz=270,slow=1.5,SNR=9.2
PDAR LR LR 14 41 49.1
comp=Z,609nm,18.5s,MS5.0,baz=220,slow=34
SMCO Snowmass 84.16 47 *e*P **P 14 06 56.7 -0.2**
HHC Hu-ho-hao-te 85.74 314 *e*P **P 14 07 01.6 -3.2**
HHC S S 14 17 30.1 -5.7
HHC AMB AMB
comp=Z,162nm,6.4s
HHC LR LR
comp=N,246nm,23.2s,MS4.7
HHC LR LR
comp=E,301nm,25.0s,MS4.7
HHC LR LR
comp=Z,571nm,24.4s,MS4.9
KMI Kunming 87.40 297 P **P 14 07 18.2 +5.0**
KMI AMB AMB
comp=Z,7.0nm,2.0s,mb4.5
KMI LR LR
comp=Z,544nm,37.8s,MS4.7
MAW Mawson 87.64 199 P **P 14 07 13.6 +0.2**
comp=Z,13nm,1.1s,mb5.1,baz=129,slow=3.7,SNR=7.8
MAW LR LR 14 45 22.1
comp=Z,564nm,18.6s,MS5.0,baz=208,slow=35
MAW Mawson 87.64 199 P **P 14 07 13.6 +0.2**
MAW pmax pmax
comp=Z,13nm,1.1s
MAW MLR MLR
comp=Z,564nm,18.6s
LAO LASA Array 87.68 41 *e*P **P 14 07 15.5 +1.5**
comp=Z,25nm,1.4s,mb5.2
CD2 Chengdu 88.26 302 P **P 14 07 18.0 +0.8**
LZH Lanzhou 89.77 307 *e*P **P 14 07 27.4 +3.1**
LZH AP pP 14 07 36.2 +8.7
LZH XP sP 14 07 39.8 +11
LZH PP PP 14 11 02.0 +3.0
LZH SKS SKS 14 17 51.0 -6.9
LZH *e*S S 14 18 17.5 +3.6
LZH XS 14 18 27.0
LZH PS PS 14 19 29.2 +5.6
LZH AMB AMB
comp=Z,70nm,1.4s,mb5.8
LZH AMB AMB
comp=Z,220nm,4.0s
LZH LR LR
comp=E,1μm,18.2s
LZH LR LR
comp=Z,900nm,21.2s,MS5.2
SONM Songino Array 91.72 319 P **P 14 07 32.7 -0.3**
comp=Z,0.9nm,0.9s,mb4.1,baz=63,slow=3.2,SNR=5.0
SONM Songino Array 91.72 319 P **P 14 07 32.7 -0.3**
SONM pmax pmax
comp=Z,1.0nm,0.9s
PLCA Paso Flores 92.82 133 LR LR 14 40 07.3
comp=Z,511nm,20.0s,MS5.0,baz=346,slow=30
SYO Syowa Base 92.90 192 ⇓P **P 14 07 36.8 -1.1**
SNAA Sanae 94.10 178 **P 14 07 44.2 +0.8**
SNAA Sanae 94.10 178 **P 14 08 03.8 +20**
VNA3 Neumayer Olymp 94.19 176 **P 14 07 44.7 +0.9**
VNA3 Neumayer Olymp 94.19 176 **P 14 07 49.5 +5.7**
VNA3 Neumayer Olymp 94.19 176 **P 14 07 53.2 +9.4**
VNA3 Neumayer Olymp 94.19 176 **P 14 07 57.8 +14**
ZAK Zakamensk 94.47 321 *e*P **P 14 07 47.3 +1.8**
ZAK pmax pmax
comp=Z,1.0nm,1.5s,mb4.0
VNA2 Neumayer--Watz 94.64 177 **P 14 07 47.8 +1.9**
VNA2 Neumayer--Watz 94.64 177 **P 14 07 53.1 +7.2**
VNA2 Neumayer--Watz 94.64 177 **P 14 08 01.6 +16**
ULM Lac du Bonnet 95.35 40 LR LR 14 44 14.8
comp=Z,608nm,20.2s,MS5.1,baz=96,slow=31
CFAA Coronel Fontan 97.95 125 LR LR 14 41 57.3
comp=Z,82nm,20.3s,MS4.2,baz=203,slow=29
AKASG Malin Array Be 137.96 335 PKP PKPdf 14 13 51.2 -0.8
comp=Z,0.1nm,0.2s,baz=315,slow=1.3,SNR=3.6
AKASG Malin Array Be 137.96 335 PKIKP PKPdf 14 13 51.3 -0.8
CLL Collm 142.25 350 *e*PKIKP PKPdf 14 13 56.0 -3.7
BRTR Keskin Array B 143.09 319 PKhKP 14 13 56.0
comp=Z,1.3nm,0.8s,SNR=4.4
BRTR Keskin Array B 143.09 319 PKHKP 14 13 56.0
BRTR pmax pmax
comp=Z,1.0nm,0.8s
GRF Grafenberg Arr 144.11 351 *e*PKP PKPdf 14 13 53.8 -9.1
GRF LR LR
comp=Z,400nm,21.5s,MS5.2
KHC Kasperske Hory 144.23 348 *e*PKP PKPdf 14 14 02.0 -1.1
KHC *ex* x 14 14 31.0
BAIF Baives 144.37 359 *e*PKP1 PKPbc 14 14 00.1 +0.2
comp=Z,49nm,1.5s
GERES GERESS Array B 144.48 348 PKP PKPdf 14 14 02.3 -1.3
comp=Z,0.6nm,0.7s,slow=2.7,SNR=6.8
GERES GERESS Array B 144.48 348 PKIKP PKPdf 14 14 02.3 -1.3
GERES pmax pmax
comp=Z,1.0nm,0.7s
FLN La Foliniere 145.57 4 *e*PKP1 PKPbc 14 14 05.3 +2.2
comp=Z,86nm,1.3s
FLN *e*R
comp=Z,621nm,23.0s
ROSF Rostrenen 145.72 7 *e*PKP1 PKPbc 14 14 07.4 +3.9
comp=Z,240nm,1.7s
CDF Champ du Feu 145.84 355 *e*PKP1 PKPbc 14 14 05.5 +1.7
SGMF Saint Gilles 145.88 7 *e*PKP1 PKPbc 14 14 08.1 +4.2
comp=Z,196nm,1.7s
MEZF Maizieres J'vi 145.90 358 *e*PKP1 PKPbc 14 14 05.8 +1.8
comp=Z,147nm,1.6s
GRR Gorron 145.91 5 *e*PKP1 PKPbc 14 14 06.7 +2.7
comp=Z,158nm,1.5s
BEO Belgrade 146.18 337 ⇓*i*PKP PKPdf 14 14 07.9 +1.2
HAU Haudompre 146.32 356 *e*PKP1 PKPbc 14 14 07.1 +2.1
comp=Z,97nm,1.5s
HAU *e*R
comp=Z,521nm,21.5s
ZAPS Zavoj/Pirot 146.57 334 ⇓*i*PKP PKPdf 14 14 06.6 -0.8
LOR Lormes 147.17 359 *e*PKP1 PKPdf 14 14 09.3 +1.0
LOR *e*R
comp=Z,639nm,21.5s
SSF Saint Saulge 147.38 359 *e*PKP1 PKPdf 14 14 10.3 +1.7
comp=Z,48nm,1.3s
AVF Avril sur Loir 147.65 359 *e*PKP1 PKPdf 14 14 12.2 +3.1
comp=Z,43nm,1.4s
CABF La Chapelle 147.73 356 *e*PKP1 PKPdf 14 14 11.6 +2.4
comp=Z,42nm,1.2s
MFF Saint Martin d 147.74 4 *e*PKP1 PKPdf 14 14 12.7 +3.5
comp=Z,69nm,1.4s
SMF Signal de Mont 147.79 359 *e*PKP1 PKPdf 14 14 12.2 +2.9
comp=Z,40nm,1.4s
TCF Toulx Ste Croi 148.15 1 *e*PKP1 PKPdf 14 14 12.2 +2.3
RJF Les Rejaudoux 149.12 2 *e*PKP1 PKPdf 14 14 14.9 +3.5
comp=Z,96nm,1.7s
RJF *e*R
comp=Z,496nm,21.2s
BNI Bardonecchia 149.23 355 *e*PKPbc PKPdf 14 14 15.1 +3.5
ORIF Oris-en-Rattie 149.43 356 *e*PKP1 PKPdf 14 14 17.8 +5.8
ORIF *e*R
comp=Z,556nm,23.0s
LFF La Frestale 149.45 3 *e*PKP1 PKPdf 14 14 15.6 +3.6
comp=Z,59nm,1.4s
MBDF Montbardon 149.55 355 *e*PKP1 PKPdf 14 14 17.5 +5.3
comp=Z,48nm,1.4s
VIVF Saint-Julien-l 149.56 358 *e*PKP1 PKPdf 14 14 18.9 +6.7
comp=Z,44nm,1.3s
MTLF Montolieu 151.10 1 *e*PKP1 PKPdf 14 14 22.4 +7.8
EPF Esparros 151.33 4 *e*PKP1 PKPdf 14 14 23.0 +8.1
comp=Z,47nm,1.6s
ETSF Etsaut 151.39 5 *e*PKP1 PKPdf 14 14 23.2 +8.2
comp=Z,55nm,1.4s

NIED ***07*** *14:28:00,41.50N×142.90E,h29km,Mw4.5 Best double couple: M0 6.68×10^15 NP1:φs262°,δ61°,λ53°. NP2:φs140°, δ46°,λ137°.*
BJI ***07*** *14:28:52.8,41.79N×143.36E,h41km,mB4.9,mb4.6, Ms4.5,Msz4.4*
MOS ***07*** *14:28:53.7±1.2,41.64N×142.81E,h29km,mb4.6/28,Error ellipse: s-maj=11.5km s-min=6.2km az=84.3*
JMA ***07*** *14:28:54.3±0.2,41.54N×142.93E,h29km±3km,M4.6*
JMA Felt II J1.
NEIC ***07*** *14:28:54.9±0.3,41.65N×142.80E,mb4.6/17, MW4.5(NIED),Error ellipse: s-maj=8.7km s-min=5.4km az=138.0*
NEIC Recorded [2 JMA] in south-central Hokkaido and [1 JMA] in Aomori Prefecture, Honshu.
IDC ***07*** *14:28:55.9±6.1,41.52N×142.78E,h34km±49km,mb4.0/16, mb1 4.2/18,mb1mx4.1/23,mbtmp4.2/18,ML3.6/2,Error ellipse: s-maj=17.9km s-min=17.3km az=48.0*
ISC 07 14:28:55.1±0.5,41.60N±0.03×142.89E±0.04,h40km±4km, n133,σ1§20/141,mb4.4/43,MS4.5/2,3C-8D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JEM	**Erimo**	**0.46**	**26**		⇓P		**P**	**14 29 04.6**	**-0.6**
JEM					*e*S		**S**	**14 29 11.7**	**-0.7**
JNBK	**Urakawa-nobuka**	**0.68**	**351**		⇑P		**P**	**14 29 08.3**	**0.0**
JNBK					*e*S		**S**	**14 29 18.0**	**0.0**
JCH	**Churui**	**1.07**	**19**		⇓P		**P**	**14 29 14.4**	**+0.6**
JCH					*e*S		**S**	**14 29 29.3**	**+1.7**
JBT2	**Biratori 2**	**1.24**	**342**		⇓P		**P**	**14 29 16.9**	**+0.7**
JBT2					*e*S		**S**	**14 29 35.0**	**+3.0**
JOT	**Ohata**	**1.40**	**262**		⇓P		**P**	**14 29 18.6**	**0.0**
JOT					*e*S		**S**	**14 29 36.9**	**+0.8**
JKB	**Kayabe**	**1.42**	**282**		P		**P**	**14 29 18.7**	**-0.2**
JKB					*e*S		**S**	**14 29 36.8**	**+0.2**
JOB	**Onbets**	**1.48**	**28**		⇓P		**P**	**14 29 21.0**	**+1.4**
JFR	**Furan**	**1.57**	**352**		⇓P		**P**	**14 29 21.3**	**+0.3**
JFR					*e*S		**S**	**14 29 41.5**	**+1.1**
JTM	**Tenmabayashi**	**1.60**	**240**		⇓P		**P**	**14 29 21.6**	**+0.2**
JTM					*e*S		**S**	**14 29 41.1**	**+0.1**
JANG	**Nango**	**1.61**	**221**		⇓P		**P**	**14 29 20.8**	**-0.8**
JANG					*e*S		**S**	**14 29 42.1**	**+0.8**
JNB	**Noboribetsu**	**1.63**	**303**		P		**P**	**14 29 22.0**	**+0.2**
JNB					*e*S		**S**	**14 29 42.8**	**+1.0**
YUK	**Yuzh-Kuril'sk**	**3.27**	**41**		*e*P		**P**	**14 29 43.7**	**-1.4**
YUK					*i*S		**S**	**14 30 20.2**	**-3.0**
YUK					pmax		pmax		
	comp=Z,1μm,0.3s								
YUK					smax				
	comp=N,9μm,0.5s								
YUK					smax				
	comp=E,4μm,0.5s								
YUK					smax				
	comp=N,12μm,0.5s								
YUK					smax				
	comp=E,8μm,0.5s								
KUR	**Kuril'sk**	**5.13**	**43**		*e*P		**P**	**14 30 08.9**	**-2.5**
KUR					*e*S		**S**	**14 31 07.5**	**-2.7**
KUR					pmax		pmax		
	comp=N,150nm,1.0s								
KUR					pmax		pmax		
	comp=Z,360nm,1.0s								
KUR					pmax		pmax		
	comp=Z,2μm,1.6s								
KUR					smax				
	comp=N,2μm,1.2s								
KUR					smax				
	comp=E,2μm,1.2s								
KUR					smax				
	comp=N,1μm,1.0s								
KUR					smax				
	comp=E,580nm,1.0s								
YSS	**Yuzh-Sakhalins**	**5.35**	**359**		*e*P		**P**	**14 30 14.2**	**-0.3**
	comp=E,33nm,0.4s								
YSS	**Yuzh-Sakhalins**	**5.35**	**359**		⇑*i*P		**P**	**14 30 15.0**	**+0.5**
YSS					S		**S**	**14 31 15.0**	**-0.8**
YSS					pmax		pmax		
	comp=Z,20nm,0.8s								
YSS					smax				
	comp=E,50nm,0.9s								
MAJO	**Matsushiro**	**6.23**	**217**		*e*P		**P**	**14 30 27.0**	**+0.2**
	comp=E,48nm,0.6s								
MAJO	**Matsushiro**	**6.23**	**217**		*e*P		**P**	**14 30 27.0**	**+0.1**
MAJO					pmax		pmax		
	comp=Z,48nm,0.6s								
MAT	**Matsushiro**	**6.23**	**217**		P		**P**	**14 30 27.1**	**+0.2**
MAT					*e*S		**S**	**14 31 41.1**	**+3.3**
MAT	**Matsushiro**	**6.23**	**217**		*e*P		**P**	**14 30 27.0**	**+0.1**
	comp=Z,43nm,0.8s								
MAT					S		**S**	**14 31 41.0**	**+3.2**
MAT	**Matsushiro**	**6.23**	**217**		*e*P		**P**	**14 30 27.0**	**+0.1**
MAT					S		**S**	**14 31 41.0**	**+3.2**
MAT					pmax		pmax		
	comp=Z,43nm,0.8s								
UGL	**Uglegorsk**	**7.50**	**356**		P		**P**	**14 30 46.0**	**+1.4**
UGL					MLR		MLR		
	comp=N,600nm,18.0s								
UGL					MLR		MLR		
	comp=E,600nm,18.0s								
UGL					MLR		MLR		
	comp=Z,900nm,18.0s								
JHJ	**Hachijo jima 2**	**8.82**	**197**		Pn		**P**	**14 30 59.4**	**-3.6**
	comp=Z,14nm,0.3s,baz=328,slow=19,SNR=6.7								
JHJ					Sn		**S**	**14 32 31.4**	**-11**
	comp=Z,5.8nm,0.3s,baz=90,slow=20,SNR=3.3								
MDJ	**Mudanjiang**	**10.18**	**292**		P		**P**	**14 31 17.3**	**-4.4**
	comp=Z,20nm,1.0s								
KLR	**Kul'dur**	**10.92**	**318**		*e*P		**P**	**14 31 30.2**	**-1.5**
KS15	**Wonju Array Si**	**12.31**	**255**		*e*P		**P**	**14 31 50.1**	**-0.5**
JNU	**Nakatsue**	**12.76**	**232**		Pn		**P**	**14 31 53.5**	**-3.1**
	comp=Z,0.1nm,0.3s,baz=23,slow=15,SNR=2.0								
CN2	**Changchun**	**13.02**	**286**		*e*P		**P**	**14 31 58.8**	**-1.2**
CN2					*e*XP			14 32 13.0	
CN2					*e*S		**S**	**14 34 21.0**	**-3.4**
CN2					AMB		AMB		
	comp=Z,10.0nm,0.6s								
CN2					AMB		AMB		
	comp=Z,200nm,3.0s								
CN2					LR		LR		
	comp=N,600nm,13.0s								
CN2					LR		LR		
	comp=E,600nm,13.0s								
CN2					LR		LR		
	comp=Z,800nm,14.0s								
PET	**Petropavlovsk**	**15.60**	**38**		*e*P		**P**	**14 32 34.6**	**+1.0**
MA2	**Magadan**	**18.65**	**13**		*e*P		**P**	**14 33 09.3**	**-2.4**
	comp=Z,11nm,0.7s								
MA2	**Magadan**	**18.65**	**13**		*e*P		**P**	**14 33 09.3**	**-2.4**
MA2					pmax		pmax		
	comp=Z,11nm,0.7s								
CLNS	**Chul'man**	**19.16**	**329**		*e*P		**P**	**14 33 15.1**	**-2.5**
CLNS					pmax		pmax		
	comp=Z,22nm,0.9s								
CLNS					pmax		pmax		
	comp=N,11nm,0.8s								
CLNS					pmax		pmax		
	comp=N,17nm,1.0s								
CLNS					pmax		pmax		
	comp=N,7.0nm,0.8s								
CLNS					MLR		MLR		
	comp=Z,500nm,17.0s								
CLNS					MLR		MLR		
	comp=N,500nm,18.0s								
CLNS					MLR		MLR		
	comp=E,100nm,18.0s								
YAK	**Yakutsk**	**21.94**	**343**		P		**P**	**14 33 40.6**	**-5.9**
YAK	**Yakutsk**	**21.94**	**343**		*e*P		**P**	**14 33 41.9**	**-4.6**
YAK					*e*S		**S**	**14 37 35.5**	**-5.9**
YAK					*e*			14 37 39.3	
YAK					pmax		pmax		
	comp=Z,9.0nm,0.9s,mb4.2								
YAK					pmax		pmax		
	comp=N,2.0nm,0.8s								
YAK					smax				
	comp=N,11nm,0.9s								
YAK					smax				
	comp=Z,5.0nm,0.9s								
YAK					smax				
	comp=E,6.0nm,1.1s								
SEY	**Seymchan**	**22.09**	**12**		*e*P		**P**	**14 33 44.2**	**-3.8**
SEY					pmax		pmax		
	comp=N,10.0nm,0.6s								
SEY					pmax		pmax		
	comp=Z,20nm,0.6s,mb4.7								
FX1	**Attu Island--F**	**23.26**	**51**		*e*P		**P**	**14 34 00.3**	**+0.8**
HHC	**Hu-ho-hao-te**	**23.51**	**279**		*e*P		**P**	**14 34 02.4**	**+0.3**
HHC					AP			14 34 13.1	
HHC					XP			14 34 19.6	
HHC					PP		PP	14 34 34.5	-0.3
HHC					AMB		AMB		
	comp=Z,14nm,0.7s,mb4.5								
HHC					AMB		AMB		
	comp=Z,199nm,4.8s								
SONM	**Songino Array**	**26.49**	**296**		P		**P**	**14 34 30.1**	**-0.3**
	comp=Z,2.1nm,0.6s,mb3.8,baz=74,slow=7.8,SNR=18								
SONM	**Songino Array**	**26.49**	**296**		P		**P**	**14 34 30.1**	**-0.2**
SONM					pmax		pmax		
	comp=Z,2.0nm,0.6s								
ZAK	**Zakamensk**	**28.59**	**301**		*e*P		**P**	**14 34 48.2**	**-1.2**
ZAK					pmax		pmax		
	comp=Z,1.0nm,0.8s,mb3.6								
BILL	**Bilibino**	**29.33**	**18**		*e*P		**P**	**14 34 54.2**	**-1.5**
BILL					*e*			14 35 48.8	
BILL					pmax		pmax		
	comp=Z,4.0nm,0.9s,mb4.2								
GYA	**Guiyang**	**33.34**	**255**		P		**P**	**14 35 31.6**	**+0.2**
GYA					AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.8								
KMI	**Kunming**	**36.97**	**256**		P		**P**	**14 36 02.4**	**0.0**
KMI					AMB		AMB		
	comp=Z,6.0nm,0.8s,mb4.5								
ZAL	**Zalesovo**	**39.84**	**308**		P		**P**	**14 36 25.4**	**-0.6**
	comp=Z,2.0nm,0.7s,mb3.9,baz=20,slow=8.3,SNR=12								
ZAL	**Zalesovo**	**39.84**	**308**		P		**P**	**14 36 25.4**	**-0.6**
ZAL	**Zalesovo**	**39.84**	**308**		P		**P**	**14 36 25.4**	**-0.6**
ZAL					pmax		pmax		
	comp=Z,2.0nm,0.7s								
WMQ	**Urumqi**	**39.98**	**292**		*e*P		**P**	**14 36 28.0**	**+0.7**
WMQ					AP		pP	14 36 40.0	+1.5
WMQ					XP		sP	14 36 46.0	+2.6
WMQ					PP		PP	14 38 04.0	+0.8
WMQ					SCP			14 42 18.0	
WMQ					S		**S**	**14 42 29.0**	**-0.8**
WMQ					SS		SS	14 45 20.0	-1.7
WMQ					AMB		AMB		
	comp=Z,13nm,1.0s,mb4.6								
WMQ					AMB		AMB		
	comp=Z,65nm,8.0s								
WMQ					LR		LR		
	comp=N,157nm,18.0s,MS4.2								
WMQ					LR		LR		
	comp=E,302nm,21.0s,MS4.2								
WMQ					LR		LR		
	comp=Z,328nm,21.0s,MS4.2								
NVS	**Novosibirsk**	**40.65**	**310**		*e*P		**P**	**14 36 31.2**	**-1.5**
MKAR	**Makanchi Array**	**42.81**	**298**		P		**P**	**14 36 50.5**	**0.0**
	comp=Z,4.5nm,0.6s,mb4.4								
MKAR	**Makanchi Array**	**42.81**	**298**		P		**P**	**14 36 50.5**	**0.0**
MKAR					pmax		pmax		
	comp=Z,5.0nm,0.6s								
KURK	**Kurchatov**	**44.15**	**305**		*e*P		**P**	**14 37 00.2**	**-1.0**
	comp=Z,12nm,0.8s,mb4.7								
KURK	**Kurchatov**	**44.15**	**305**		*e*P		**P**	**14 37 00.2**	**-1.0**
KURK					pmax		pmax		
	comp=Z,12nm,0.8s,mb4.7								
MCK	**McKinley**	**44.24**	**36**		*e*P		**P**	**14 37 01.8**	**0.0**
	comp=Z,4.2nm,0.6s,mb4.3								
MCK					*e*			14 37 07.8	
MCK	**McKinley**	**44.24**	**36**		*e*P		**P**	**14 37 01.8**	**0.0**
MCK					*e*			14 37 07.9	
MCK					pmax		pmax		
	comp=Z,4.0nm,0.6s,mb4.3								
PMR	**Palmer**	**44.32**	**39**		*e*P		**P**	**14 37 02.8**	**+0.3**
	comp=Z,7.7nm,0.8s,mb4.5								
PMR	**Palmer**	**44.32**	**39**		*e*P		**P**	**14 37 02.8**	**+0.3**
PMR					pmax		pmax		
	comp=Z,8.0nm,0.8s,mb4.5								
SML	**Sawmill**	**44.68**	**39**		*e*P		**P**	**14 37 05.5**	**+0.2**
ILAR	**Eielson Array**	**45.06**	**35**		P		**P**	**14 37 08.2**	**-0.1**
	comp=Z,6.5nm,0.5s,mb4.7,baz=256,slow=5.3,SNR=123								
ILAR	**Eielson Array**	**45.06**	**35**		P		**P**	**14 37 08.2**	**-0.1**
ILAR					pmax		pmax		
	comp=Z,7.0nm,0.5s								
DIV	**Divide**	**45.99**	**40**		*e*P		**P**	**14 37 16.2**	**+0.4**
	comp=Z,18nm,0.6s,mb5.2								
DAWY	**Dawson**	**48.38**	**35**		*e*P		**P**	**14 37 34.4**	**-0.1**
BRVK	**Borovoye**	**48.50**	**310**		*e*P		**P**	**14 37 35.1**	**-0.4**
	comp=Z,2.7nm,0.8s,mb4.3								
BRVK	**Borovoye**	**48.50**	**310**		*e*P		**P**	**14 37 35.1**	**-0.4**
BRVK					pmax		pmax		
	comp=Z,3.0nm,0.8s,mb4.4								
KKN	**Kakani**	**48.50**	**273**		*e*P		**P**	**14 37 40.4**	**+4.5**
PKI	**Pulchoki**	**48.52**	**272**		*e*P		**P**	**14 37 40.6**	**+4.6**
DMN	**Daman**	**48.72**	**273**		*e*P		**P**	**14 37 41.4**	**+3.8**
GKN	**Gorkha**	**48.86**	**273**		*e*P		**P**	**14 37 41.4**	**+2.7**
AAK	**Ala-Archa**	**49.45**	**295**		*i*P		**P**	**14 37 47.1**	**+4.1**
AAK					pmax		pmax		
	comp=Z,2.0nm,0.6s,mb4.3								
KOLN	**Koldanda**	**49.77**	**274**		*e*P		**P**	**14 37 46.9**	**+1.2**
INK	**Inuvik**	**49.82**	**29**		P		**P**	**14 37 45.3**	**-0.2**
	comp=Z,3.4nm,0.5s,mb4.6,baz=293,slow=7.6,SNR=15								
INK	**Inuvik**	**49.82**	**29**		*e*P		**P**	**14 37 44.6**	**-0.9**
	comp=Z,3.9nm,0.6s,mb4.6								
INK	**Inuvik**	**49.82**	**29**		P		**P**	**14 37 45.3**	**-0.2**
INK					pmax		pmax		
	comp=Z,3.0nm,0.5s								
ARU	**Arti**	**53.76**	**317**		*e*P		**P**	**14 38 14.2**	**-1.1**
	comp=Z,9.6nm,0.9s,mb4.7								
ARU	**Arti**	**53.76**	**317**		⇑*i*P		**P**	**14 38 14.6**	**-0.7**
ARU					*e*			14 39 20.5	
ARU					*e*			14 40 10.6	
ARU					pmax		pmax		
	comp=Z,5.0nm,0.7s,mb4.5								
DLBC	**Dease Lake**	**54.36**	**40**		*e*P		**P**	**14 38 20.1**	**+0.4**
RES	**Resolute Bay**	**57.90**	**15**		*e*P		**P**	**14 38 43.4**	**-1.4**
	comp=Z,13nm,0.8s,mb5.0								
RES	**Resolute Bay**	**57.90**	**15**		*e*P		**P**	**14 38 43.4**	**-1.4**
RES					pmax		pmax		
	comp=Z,13nm,0.8s,mb5.0								
YKA	**Yellowknife Ar**	**59.31**	**32**		P		**P**	**14 38 54.4**	**-0.4**
	comp=Z,2.3nm,0.7s,mb4.3,baz=306,slow=6.7,SNR=6.6								

YKA	**Yellowknife Ar**	**59.31**	**32**	*i* P	**P**	**14 38 54.9**	**+0.1**
YKA				pmax	pmax		
comp=Z,2.0nm,0.7s							
KEV	**Kevo**	**59.59**	**339**	*ep*	**P**	**14 38 54.6**	**-2.1**
comp=Z,3.7nm,0.6s,mb4.6							
ARCES	**ARCESS Array B**	**60.14**	**339**	P	**P**	**14 38 59.1**	**-1.3**
comp=Z,1.0nm,0.5s,mb4.1,baz=44,slow=7.8,SNR=17							
ARCES	**ARCESS Array B**	**60.14**	**339**	P	**P**	**14 38 59.1**	**-1.3**
ARCES				pmax	pmax		
comp=Z,1.0nm,0.5s							
WRAB	**Tennant Creek**	**61.73**	**189**	*eP*	**P**	**14 39 10.2**	**-1.7**
comp=Z,4.3nm,0.7s,mb4.7							
WRAB	**Tennant Creek**	**61.73**	**189**	*eP*	**P**	**14 39 10.2**	**-1.6**
WRAB				pmax	pmax		
comp=Z,4.0nm,0.7s,mb4.7							
WRA	**Warramunga Arr**	**61.74**	**189**	P	**P**	**14 39 10.2**	**-1.7**
comp=Z,3.4nm,0.6s,mb4.7,baz=5.8,slow=6.9,SNR=71							
WRA	**Warramunga Arr**	**61.74**	**189**	P	**P**	**14 39 10.2**	**-1.7**
WRA				pmax	pmax		
comp=Z,3.0nm,0.6s							
KAF	**Kangasniemi**	**64.79**	**332**	*ep*	**P**	**14 39 29.7**	**-1.6**
comp=Z,0.7nm,0.4s,mb4.0							
EDM	**Edmonton**	**65.08**	**40**	*eP*	**P**	**14 39 34.2**	**+0.9**
EDM				*e*		14 39 40.0	
OBN	**Obninsk**	**65.15**	**323**	*eP*	**P**	**14 39 32.9**	**-0.8**
OBN				*e*		14 40 07.9	
OBN				pmax	pmax		
comp=Z,3.0nm,0.9s,mb4.3							
FINES	**FINESS Array B**	**65.32**	**332**	P	**P**	**14 39 34.4**	**-0.3**
comp=Z,3.9nm,0.6s,mb4.6,baz=52,slow=7.7,SNR=22							
FINES	**FINESS Array B**	**65.32**	**332**	*i* P	**P**	**14 39 34.2**	**-0.5**
FINES				pmax	pmax		
comp=Z,4.0nm,0.6s							
SUMG	**Summit**	**66.12**	**0**	*eP*	**P**	**14 39 40.0**	**+0.4**
comp=Z,12nm,0.8s,mb5.0							
YBH	**Yreka Blue Hor**	**66.70**	**54**	P	**P**	**14 39 45.0**	**+1.2**
comp=Z,1.0nm,0.6s,mb4.1,baz=7.5,slow=11,SNR=4.3							
YBH	**Yreka Blue Hor**	**66.70**	**54**	P	**P**	**14 39 45.0**	**+1.2**
YBH				pmax	pmax		
comp=Z,1.0nm,0.6s							
KIV	**Kislovodsk**	**68.81**	**310**	*i* P	**P**	**14 39 58.7**	**+1.8**
KIV				pmax	pmax		
comp=Z,11nm,1.7s,mb4.5							
BEKR	**Beckwourth**	**69.24**	**55**	*eP*	**P**	**14 40 00.7**	**+1.0**
comp=Z,3.8nm,0.7s,mb4.4							
HRY	**Holter Researc**	**69.88**	**45**	*eP*	**P**	**14 40 04.8**	**+1.3**
NB2	**NORSAR Subarra**	**70.42**	**337**	P	**P**	**14 40 05.8**	**-0.7**
comp=Z,3.5nm,0.8s,mb4.3,baz=36,slow=6.2							
NB2	**NORSAR Subarra**	**70.42**	**337**	P	**P**	**14 40 05.8**	**-0.7**
NB2				pmax	pmax		
comp=Z,4.0nm,0.8s,mb4.4							
NOA	**NORSAR Array B**	**70.42**	**337**	P	**P**	**14 40 06.2**	**-0.3**
comp=Z,1.2nm,0.6s,mb4.0,baz=35,slow=6.2,SNR=5.6							
NOA	**NORSAR Array B**	**70.42**	**337**	P	**P**	**14 40 06.2**	**-0.3**
NOA	**NORSAR Array B**	**70.42**	**337**	P	**P**	**14 40 06.2**	**-0.3**
NOA				pmax	pmax		
comp=Z,1.0nm,0.6s							
BOZ	**Bozeman (W)**	**70.67**	**46**	*eP*	**P**	**14 40 09.6**	**+1.3**
comp=Z,2.7nm,0.5s,mb4.4							
BOZ				*e*		14 40 16.6	
BOZ	**Bozeman (W)**	**70.67**	**46**	*eP*	**P**	**14 40 09.6**	**+1.3**
BOZ				*e*		14 40 16.6	
BOZ				pmax	pmax		
comp=Z,3.0nm,0.5s,mb4.5							
SOC	**Sochi**	**70.72**	**311**	*eP*	**P**	**14 40 05.4**	**-3.2**
SOC				*eS*	S	14 49 14.6	-4.2
SOC				MLR	MLR		
comp=E,238nm,16.0s							
SOC				MLR	MLR		
comp=Z,490nm,16.0s,MS4.9							
AKASG	**Malin Array Be**	**71.40**	**322**	P	**P**	**14 40 11.8**	**-0.7**
comp=Z,1.9nm,0.5s,mb4.2,baz=42,slow=5.9,SNR=15							
AKASG	**Malin Array Be**	**71.40**	**322**	P	**P**	**14 40 11.8**	**-0.7**
AKASG	**Malin Array Be**	**71.40**	**322**	P	**P**	**14 40 11.8**	**-0.8**
AKASG				pmax	pmax		
comp=Z,2.0nm,0.5s							
IMW	**Indian Meadow**	**72.18**	**47**	*eP*	**P**	**14 40 18.4**	**+1.1**
comp=Z,5.3nm,1.2s,mb4.3							
RRI2	**Red Ridge**	**72.33**	**47**	P	**P**	**14 40 20.9**	**+2.7**
comp=Z,4.8nm,0.9s,mb4.4							
RRI2				*e*		14 40 29.4	
STKA	**Stephens Creek**	**73.12**	**181**	P	**P**	**14 40 21.2**	**-1.9**
comp=Z,2.3nm,0.8s,mb4.2,baz=350,slow=6.1,SNR=3.0							
PDAR	**Pinedale Array**	**73.68**	**47**	P	**P**	**14 40 27.1**	**+1.0**
comp=Z,0.8nm,0.5s,mb3.9,baz=257,slow=0.7,SNR=12							
SRU	**San Rafael**	**75.58**	**50**	*eP*	**P**	**14 40 37.6**	**+0.4**
PV10	**Paradox Valley**	**76.93**	**50**	*eP*	**P**	**14 40 46.1**	**+1.3**
CLL	**Collm**	**77.70**	**330**	P	**P**	**14 40 50.0**	**+1.1**
CLL				*e**PP	pP	14 40 55.0	-5.8
GERES	**GERESS Array B**	**79.43**	**329**	P	**P**	**14 40 59.2**	**+0.9**
comp=Z,0.3nm,0.6s,mb3.4,baz=59,slow=5.7,SNR=2.9							
SSF	**Saint Saulge**	**84.64**	**333**	*eP*	**P**	**14 41 26.0**	**+0.7**
LPL	**La Plagne**	**84.84**	**331**	*eP*	**P**	**14 41 27.7**	**+1.4**
LPG	**La Plagne**	**84.84**	**331**	*eP*	**P**	**14 41 28.4**	**+2.0**
comp=Z,2.1nm,0.5s,mb4.3							
LPG	**La Plagne**	**84.84**	**331**	*eP*	**P**	**14 41 28.4**	**+2.0**
LPG				pmax	pmax		
comp=Z,1.0nm,0.4s,mb4.3							
TXAR	**Lajitas Array**	**86.45**	**53**	P	**P**	**14 41 36.4**	**+1.7**
comp=Z,1.2nm,0.7s,mb4.2,baz=294,slow=3.5,SNR=20							
TXAR	**Lajitas Array**	**86.45**	**53**	P	**P**	**14 41 36.4**	**+1.7**
TXAR				pmax	pmax		
comp=Z,1.0nm,0.7s							
SNAA	**Sanae**	**145.44**	**198**		PKPdf	14 48 32.6	+5.1
SNAA	**Sanae**	**145.44**	**198**		PKPdf	14 48 38.3	+11
SNAA	**Sanae**	**145.44**	**198**		PKPdf	14 48 44.0	+17
SNAA	**Sanae**	**145.44**	**198**	PKPdf	PKPdf	14 48 28.8	+1.3
SNAA				P		14 48 32.6	
SNAA				P		14 48 38.3	
SNAA				P		14 48 44.0	
VNA2	**Neumayer--Watz**	**147.02**	**197**		PKPdf	14 48 37.9	+7.7
VNA2	**Neumayer--Watz**	**147.02**	**197**		PKPdf	14 48 46.0	+16
VNA2	**Neumayer--Watz**	**147.02**	**197**		PKPdf	14 48 51.6	+21
VNA2	**Neumayer--Watz**	**147.02**	**197**		PKPdf	14 49 04.8	+35
VNA2	**Neumayer--Watz**	**147.02**	**197**	PKPdf	PKPdf	14 48 34.4	+4.2
VNA2				P		14 48 37.9	
VNA2				P		14 48 46.0	
VNA2				P		14 48 51.6	
VNA3	**Neumayer Olymp**	**147.27**	**196**		PKPdf	14 48 36.9	+6.3
VNA3	**Neumayer Olymp**	**147.27**	**196**		PKPdf	14 48 46.4	+16
VNA3	**Neumayer Olymp**	**147.27**	**196**	PKPdf	PKPdf	14 48 34.9	+4.3
VNA3				P		14 48 36.9	
VNA3				P		14 48 46.4	

*IDC **07** 14:31:08.0±1.4, 14.54S×176.96W, mb4.0/4, mb1 4.3/5, mb1mx4.1/12, mbtmp4.1/5, Error ellipse: s-maj=61.6km s-min=28.0km az=153.0*

*NEIC **07** 14:31:09.4±1.0, 14.66S×176.88W, h10km, mb4.4/1, Error ellipse: s-maj=45.3km s-min=18.5km az=166.0*

ISC 07 14:31:08.8±7.8, 14.8S±0.4×176.7W±0.2, h16km±57km, n8, σ1§39/10, mb3.9/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.89**	**80**	Pn	**Pn**	**14 32 24.0**	**+0.4**
6.6nm,0.3s,baz=105,slow=4.0,SNR=19							
AFI				Sn	**Sn**	**14 33 18.1**	**-2.3**
19nm,0.3s,baz=62,slow=20,SNR=6.9							
AFI	**Afiamalu**	**4.89**	**80**	*eP*	**Pn**	**14 32 23.7**	**+0.2**
AFI				*eS*	**Sn**	**14 33 15.8**	**-4.6**
STKA	**Stephens Creek**	**41.58**	**238**	P	**P**	**14 38 57.3**	**-0.4**
7.9nm,1.0s,mb4.3,baz=54,slow=7.5,SNR=6.1							
MNTX	**Cornudas Mount**	**82.48**	**55**	P	**P**	**14 43 34.1**	**+1.8**
5.1nm,1.5s,mb4.2							
ILAR	**Eielson Array**	**82.52**	**12**	P	**P**	**14 43 30.9**	**-0.9**
1.0nm,0.9s,mb3.9,baz=227,slow=6.1,SNR=8.6							
TXAR	**Lajitas Array**	**82.98**	**57**	P	**P**	**14 43 38.8**	**+3.9**
0.4nm,0.8s,mb3.5,baz=210,slow=7.3,SNR=3.6							
PDAR	**Pinedale Array**	**84.00**	**43**	P	**P**	**14 43 41.6**	**+1.7**
0.5nm,0.8s,mb3.7,baz=259,slow=4.6,SNR=4.3							
SONM	**Songino Array**	**92.26**	**319**	P	**P**	**14 44 17.8**	**-1.6**
0.7nm,1.1s,mb3.9,baz=117,slow=3.2,SNR=4.4							

*IDC **07** 14:40:59.3±0.5, 14.48S×177.22W, mb4.7/18, mb1 4.8/18, mb1mx4.7/21, mbtmp4.7/18, MS5.4/21, Ms1 5.4/21, ms1mx5.3/29, Error ellipse: s-maj=20.3km s-min=13.6km az=147.0*

*BJI **07** 14:41:00.1, 14.06S×176.66W, h15km, mB5.6, mb4.9, Ms6.0, Msz5.7*

*MOS **07** 14:41:00.7±1.7, 14.34S×177.20W, h10km, mb5.1/33, MS5.7/21, Error ellipse: s-maj=10.2km s-min=8.3km az=53.8*

*NEIC **07** 14:41:01.0±0.2, 14.44S×177.24W, h10km, mb5.3/50, MS5.6/126, MW5.8, Error ellipse: s-maj=9.5km s-min=6.0km az=142.0, Moment Tensor Solution. s9 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.11; $M_{\theta\theta}$-0.41; $M_{\phi\phi}$0.52; $M_{r\theta}$-0.27; $M_{\theta\phi}$6.25; $M_{\phi r}$1.74; Best double couple: $M_0$6.5×10^{17} NP1:ϕ_s88°, δ74°, λ-2°. NP2:ϕ_s178°, δ88°, λ-164°. Principal axes: T 6.51, Plg10°, Azm312°; N .01, Plg74°, Azm185°; P -6.51, Plg12°, Azm44°;*

*HRVD **07** 14:41:01.0±0.1, 14.29S×177.16W, h15km, MW5.7/75, Centroid moment Tensor Solution. LP body waves: s64,c129;Mantle waves: s75,c222; Half duration: 1§7 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.20±.06; $M_{\theta\theta}$-1.61±.06; $M_{\phi\phi}$1.81±.06; $M_{r\theta}$-0.73±.17; $M_{\theta\phi}$3.99±.04; $M_{\phi r}$0.15±.18; Best double couple: $M_0$4.406×10^{17} NP1: ϕ_s169°, δ81°, λ-176°. NP2:ϕ_s78°, δ86°, λ-9°. Principal axes: T 4.457, Plg3°, Azm124°; N -.104, Plg80°, Azm233°; P -4.355, Plg9°, Azm33°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISC 07 14:40:59.6±0.2, 14.49S±0.05×177.17W±0.04, h10km, (h19km±4.3km:pP-P), n389, σ1§18/197, mb5.1/76, MS5.6/150, 7C-9D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.26**	**84**	Pn	**Pn**	**14 42 14.9**	**-5.4**
36nm,0.3s,baz=269,slow=12,SNR=60							
AFI				Sn	**Sn**	**14 43 07.0**	**-15**
91nm,0.3s,baz=45,slow=20,SNR=9.1							
AFI				LR	LR	14 43 51.6	
comp=Z,16μm,19.4s,baz=268,slow=32							
AFI	**Afiamalu**	**5.26**	**84**	*e*Pn	**Pn**	**14 42 13.4**	**-6.9**
477nm,0.6s							
AFI				*e*		14 42 26.5	
AFI				*e*S	**Sn**	**14 43 06.9**	**-15**
RAO	**Raoul Island**	**14.71**	**183**	LR	LR	14 49 11.6	
comp=Z,19μm,19.9s,baz=1.2,slow=34							
DZM	**Mont Dzumac**	**17.28**	**242**	*eP*	**P**	**14 45 03.3**	**+0.6**
DZM	**Mont Dzumac**	**17.28**	**242**	P	**P**	**14 45 07.8**	**+5.1**
0.2nm,0.3s,baz=76,slow=16,SNR=8.8							
DZM	**Mont Dzumac**	**17.28**	**242**	*eP*	**P**	**14 45 03.3**	**+0.6**
NOUC	**Port Laguerre**	**17.41**	**242**	*eP*	**P**	**14 45 07.9**	**+3.6**
RAR	**Rarotonga**	**17.86**	**114**	*eP*	**P**	**14 45 11.3**	**+1.4**
1μm,2.4s							
RAR	**Rarotonga**	**17.86**	**114**	*eP*	**P**	**14 45 11.3**	**+1.4**
RAR				pmax	pmax		
comp=Z,1μm,2.4s							
HNR	**Honiara**	**22.93**	**280**	P	**P**	**14 46 03.9**	**-1.3**
comp=Z,88nm,1.0s,mb5.2,baz=182,slow=22,SNR=5.9							
HNR				LR	LR	14 53 27.6	
comp=Z,18μm,20.5s,MS5.5,baz=116,slow=33							
HNR	**Honiara**	**22.93**	**280**	P	**P**	**14 46 03.4**	**-1.8**
comp=Z,328nm,1.4s,mb5.6							
HNR				LR	LR		
comp=Z,18μm,20.0s,MS5.5							
HNR	**Honiara**	**22.93**	**280**	P	**P**	**14 46 03.9**	**-1.3**
HNR				pmax	pmax		
comp=Z,88nm,1.0s,mb5.1							
HNR				MLR	MLR		
comp=Z,18μm,20.5s,MS5.5							
URZ	**Urewera**	**24.21**	**191**	P	**P**	**14 46 16.1**	**-1.4**
comp=Z,18nm,1.0s,mb4.5,baz=5.9,slow=18,SNR=2.9							
PAE	**Paea**	**26.69**	**101**	*eP*	**P**	**14 46 39.7**	**-1.3**
comp=Z,49nm,1.2s,mb4.9							
PPT	**Papeete**	**26.69**	**100**	*eP*	**P**	**14 46 39.9**	**-1.1**
comp=Z,34nm,1.3s,mb4.7							
PPT	**Papeete**	**26.69**	**100**	*e*LQ		14 52 07.9	
PPT				*e*LR	LR	14 53 07.6	
comp=Z,11μm,28.8s,baz=261							
PPT	**Papeete**	**26.69**	**100**	P	**P**	**14 46 40.6**	**-0.4**
comp=Z,20nm,1.0s,mb4.6,baz=219,slow=17,SNR=2.6							
PPT	**Papeete**	**26.69**	**100**	P	**P**	**14 46 40.6**	**-0.4**
PPT				pmax	pmax		
comp=Z,20nm,1.0s							
TVO	**Taravao**	**27.01**	**101**	*eP*	**P**	**14 46 43.1**	**-0.8**
comp=Z,102nm,1.2s,mb5.2							
TBI	**Tubuai**	**27.62**	**113**	*e*LQ		14 52 35.3	
TBI				*e*LR	LR	14 53 41.0	
comp=Z,19μm,27.0s,baz=284							
KWAJ	**Kwajalein Atol**	**27.62**	**326**	PFAKE		14 47 00.0	+10
KWAJ				LR	LR		
comp=Z,4μm,19.0s,MS5.0							
SNZO	**South Karori**	**27.64**	**193**	PFAKE		14 47 00.0	+11
SNZO				LR	LR		
comp=Z,18μm,20.0s,MS5.7							
PMOR	**Pomariorio Ree**	**28.31**	**95**	*eP*	**P**	**14 46 54.5**	**-1.2**
comp=Z,95nm,1.3s,mb5.3							
VAH	**Vaihoa**	**28.56**	**95**	*eP*	**P**	**14 46 56.2**	**-1.7**
comp=Z,79nm,1.1s,mb5.3							
RPZ	**Rata Peaks**	**30.82**	**197**	LR	LR	14 57 17.6	
comp=Z,7μm,21.8s,MS5.3,baz=31,slow=32							
PMG	**Port Moresby**	**35.23**	**274**	P	**P**	**14 47 55.9**	**-0.6**
comp=Z,58nm,1.2s,mb5.4,baz=48,slow=7.1,SNR=5.1							
PMG	**Port Moresby**	**35.23**	**274**	P	**P**	**14 47 54.5**	**-2.0**
comp=Z,90nm,1.4s,mb5.5							
PMG				LR	LR		
comp=Z,4μm,20.0s,MS5.2							
PMG	**Port Moresby**	**35.23**	**274**	P	**P**	**14 47 55.9**	**-0.6**
PMG				pmax	pmax		
comp=Z,58nm,1.3s							
CTA	**Charters Tower**	**35.31**	**256**	P	**P**	**14 47 56.6**	**-0.5**
comp=Z,5.7nm,0.9s,mb4.5,baz=86,slow=15,SNR=2.6							
CTA				LR	LR	15 00 41.5	
comp=Z,2μm,18.2s,MS5.0,baz=81,slow=34							
CTAO	**Charters Tower**	**35.31**	**256**	P	**P**	**14 47 56.4**	**-0.7**
comp=Z,22nm,1.2s,mb5.0							
CTAO				LR	LR		
comp=Z,3μm,21.0s,MS5.0							
CTAO	**Charters Tower**	**35.31**	**256**	P	**P**	**14 47 56.4**	**-0.7**
CTAO				pmax	pmax		
comp=Z,22nm,1.2s,mb5.0							
CTAO				MLR	MLR		
comp=Z,3μm,21.0s,MS5.0							
TAOE	**Nuku Hiva Isla**	**36.66**	**85**	*e*LR	LR	14 57 51.7	
comp=Z,9μm,24.4s							
WAKE	**Wake Island**	**37.14**	**334**	PFAKE		14 48 20.0	+7.4
WAKE				LR	LR		
comp=Z,6μm,20.0s,MS5.4							
POHA	**Pohakuloa**	**40.14**	**33**	PFAKE		14 48 50.0	+12
POHA				LR	LR		
comp=Z,44μm,21.0s,MS6.3							
KIP	**Kipapa**	**40.34**	**28**	PFAKE		14 48 50.0	+11
KIP				LR	LR		
comp=Z,6μm,20.0s,MS5.5							
RKT	**Rikitea**	**40.74**	**109**	*e*LQ		14 58 45.5	
RKT				*e*LR	LR	14 59 45.3	
comp=Z,8μm,26.8s,baz=277							
STKA	**Stephens Creek**	**41.38**	**238**	*eP*	**P**	**14 48 47.6**	**0.0**
comp=Z,16nm,1.0s,mb4.6							
STKA	**Stephens Creek**	**41.38**	**238**	P	**P**	**14 48 47.5**	**-0.1**
comp=Z,14nm,1.0s,mb4.5,baz=78,slow=8.4,SNR=13							
STKA				LR	LR	15 04 08.7	
comp=Z,11μm,19.8s,MS5.7,baz=70,slow=34							
TAU	**Tasmania Unive**	**41.59**	**220**	PFAKE		14 49 00.0	+11
TAU				LR	LR		
comp=Z,2μm,20.0s,MS4.9							
MIDW	**Midway**	**42.45**	**360**	PFAKE		14 49 10.0	+13
MIDW				LR	LR		
comp=Z,3μm,21.0s,MS5.2							
WB2	**Warramunga Arr**	**46.50**	**256**	*eP*	**P**	**14 49 34.7**	**+5.5**
WRAB	**Tennant Creek**	**46.50**	**256**	PFAKE		14 49 40.0	+11
WRAB				LR	LR		
comp=Z,2μm,21.0s,MS5.0							
WRAB	**Tennant Creek**	**46.50**	**256**	*eP*	**P**	**14 49 35.0**	**+5.8**
WRA	**Warramunga Arr**	**46.51**	**256**	P	**P**	**14 49 27.6**	**-1.7**
comp=Z,0.6nm,0.6s,baz=93,slow=6.1,SNR=9.2							
WRA	**Warramunga Arr**	**46.51**	**256**	P	**P**	**14 49 27.6**	**-1.7**
WRA				pmax	pmax		
comp=Z,1.0nm,0.6s							
GUMO	**Guam**	**46.80**	**305**	PFAKE		14 49 40.0	+8.4
GUMO				LR	LR		
comp=Z,247nm,22.0s							
CBIJ	**Chichi jima**	**57.14**	**316**	LR	LR	15 12 45.3	
comp=Z,9μm,19.8s,MS5.8,baz=78,slow=33							
DRV	**Dumont d'Urvil**	**59.27**	**198**	S	**S**	**14 59 25.0**	**+15**
DRV				L		15 06 00.0	
MBWA	**Marble Bar**	**60.11**	**254**	PFAKE		14 51 20.0	+10
MBWA				LR	LR		
comp=Z,4μm,20.0s,MS5.6							
KLBR	**Kellerberrin**	**61.45**	**242**	*eP*	**P**	**14 51 16.7**	**-2.1**
comp=Z,18nm,0.9s,mb5.2							
NWAO	**Narrogin (SRO)**	**61.90**	**240**	PFAKE		14 51 30.0	+8.2
NWAO				LR	LR		
comp=Z,5μm,19.0s,MS5.7							
SBA	**Scott Base**	**63.89**	**184**	*eP*	**P**	**14 51 34.4**	**0.0**
comp=Z,147nm,2.1s,mb5.7							
SBA				LR	LR		
comp=Z,2μm,20.0s,MS5.2							
SBA	**Scott Base**	**63.89**	**184**	*eP*	**P**	**14 51 34.4**	**0.0**
SBA				pmax	pmax		
comp=Z,147nm,2.1s,mb5.7							
SBA				MLR	MLR		
comp=Z,2μm,20.0s,MS5.2							
VNDA	**Vanda**	**63.94**	**185**	P	**P**	**14 51 33.9**	**-0.8**
comp=Z,8.4nm,1.2s,mb4.6,baz=16,slow=6.7,SNR=9.6							
VNDA				LR	LR	15 16 16.6	
comp=Z,1μm,18.8s,MS5.1,baz=33,slow=33							
VNDA	**Vanda**	**63.94**	**185**	*eP*	**P**	**14 51 33.5**	**-1.2**
comp=Z,16nm,1.4s,mb4.8							
VNDA				LR	LR		
comp=Z,1μm,20.0s,MS5.1							
MAJO	**Matsushiro**	**65.93**	**322**	*eP*	**P**	**14 51 47.1**	**-1.1**
comp=Z,22nm,1.4s,mb5.0							
MAJO				LR	LR		
comp=Z,5μm,21.0s,MS5.7							
MAJO	**Matsushiro**	**65.93**	**322**	*eP*	**P**	**14 51 47.1**	**-1.1**
MAJO				pmax	pmax		
comp=Z,22nm,1.4s,mb5.0							
MAJO				MLR	MLR		
comp=Z,5μm,21.0s,MS5.7							
MAT	**Matsushiro**	**65.93**	**322**	P	**P**	**14 51 46.4**	**-1.8**
MAT				S	S	15 00 32.0	-2.0
MAT	**Matsushiro**	**65.93**	**322**	*eP*	**P**	**14 51 46.0**	**-2.2**
comp=Z,50nm,1.5s,mb5.3							
MAT				*e*S	S	15 00 32.0	-2.0
MAT	**Matsushiro**	**65.93**	**322**	*eP*	**P**	**14 51 46.0**	**-2.2**
MAT				*e*S	S	15 00 32.0	-2.0
MAT				pmax	pmax		
comp=Z,50nm,1.5s,mb5.3							
JOW	**Kunigami**	**67.02**	**308**	LR	LR	15 18 23.4	
comp=Z,6μm,18.6s,MS5.8,baz=308,slow=34							
ERM	**Erimo**	**67.05**	**329**	PFAKE		14 52 10.0	+15
ERM				LR	LR		
comp=Z,1.0nm,19.0s							
SMY	**Shemya**	**67.36**	**354**	PFAKE		14 52 10.0	+13
SMY				LR	LR		
comp=Z,4μm,19.0s,MS5.7							
FX1	**Attu Island--F**	**67.61**	**354**	*eP*	**P**	**14 51 57.5**	**-1.1**
JNU	**Nakatsue**	**68.54**	**315**	P	**P**	**14 52 03.5**	**-1.2**
comp=Z,17nm,1.1s,mb4.9,baz=149,slow=8.1,SNR=5.8							
UNV	**Unalaska Valle**	**68.67**	**7**	PFAKE		14 52 20.0	+15
UNV				LR	LR		
comp=Z,6μm,20.0s,MS5.8							
SKR	**Severo-Kuril's**	**68.98**	**342**	*eP*	**P**	**14 52 05.0**	**-2.1**
SKR				*e*		14 54 42.0	
SKR				*e*S	S	15 01 14.0	+3.6
SKR				smax			
comp=N,1μm,14.0s							
SKR				smax			
comp=E,2μm,14.0s							
CASY	**Casey**	**69.72**	**204**	*eP*	**P**	**14 52 12.0**	**+0.6**
PET	**Petropavlovsk**	**70.38**	**345**	PFAKE		14 52 30.0	+14
PET				LR	LR		
comp=Z,3μm,22.0s,MS5.5							
YSS	**Yuzh-Sakhalins**	**70.93**	**332**	*eP*	**P**	**14 52 20.3**	**+1.1**
comp=Z,43nm,1.3s,mb5.2							
YSS				LR	LR		
comp=Z,5μm,19.0s,MS5.8							
YSS	**Yuzh-Sakhalins**	**70.93**	**332**	*eP*	**P**	**14 52 19.0**	**-0.1**
YSS				*e*		14 52 38.0	
YSS				*e*S	S	15 01 38.0	+4.7
YSS				*e*PPS	PPS	15 02 10.0	-5.6
YSS				*e*SS	SS	15 06 08.0	-0.1
YSS				pmax	pmax		
comp=Z,190nm,2.0s,mb5.7							
YSS				smax			
comp=N,1μm,10.0s							
YSS				MLR	MLR		
comp=Z,4μm,15.0s,MS5.8							
YSS				MLR	MLR		
comp=N,3μm,16.0s,MS5.7							
YSS				MLR	MLR		
comp=E,3μm,19.0s,MS5.7							
TATO	**Taipei**	**71.50**	**303**	PFAKE		14 52 30.0	+7.1
TATO				LR	LR		
comp=Z,5μm,19.0s,MS5.8							
CHGN	**Chignik**	**72.25**	**11**	*eP*	**P**	**14 52 26.6**	**-0.2**
SNCC	**San Nicolas Is**	**72.62**	**48**	PFAKE		14 52 40.0	+10
SNCC				LR	LR		
comp=Z,3μm,20.0s,MS5.5							
SAO	**San Andreas Ge**	**73.15**	**44**	PFAKE		14 52 40.0	+7.5
SAO				LR	LR		
comp=Z,3μm,20.0s,MS5.5							
HOPS	**Hopland**	**73.33**	**41**	PFAKE		14 52 40.0	+6.5
HOPS				LR	LR		
comp=Z,6μm,20.0s,MS5.9							
PTRM	**Twissleman Ran**	**73.39**	**45**	P	**P**	**14 52 34.5**	**+0.6**
INCN	**Inchon**	**73.85**	**317**	PFAKE		14 52 50.0	+13
INCN				LR	LR		
comp=Z,9μm,20.0s,MS6.1							
QZH	**Quanzhou**	**73.86**	**302**	*eP*	**P**	**14 52 36.0**	**-0.9**
QZH				S	S	15 02 15.2	+8.1
QZH				LR	LR		
comp=N,5μm,15.0s,MS6.1							
QZH				LR	LR		
comp=E,4μm,12.1s,MS6.1							
QZH				LR	LR		
comp=Z,11μm,18.6s							
MWC	**Mount Wilson**	**74.17**	**48**	*eP*	**P**	**14 52 37.9**	**-0.6

DAC Darwin (Calif) 75.53 46 PFAKE 14 53 00.0 +14
DAC LR LR
comp=Z,3µm,20.0s,MS5.5
QSPA South Pole Qui 75.55 180 *e*P **P 14 52 46.1 +0.5**
comp=Z,68nm,1.5s,mb5.4
QSPA LR LR
comp=Z,2µm,21.0s,MS5.5
BEKR Beckwourth 75.56 42 *e*P **P 14 52 45.6 -0.7**
comp=Z,23nm,1.3s,mb4.9
BBOR Butler Butte 75.82 38 P **P 14 52 57.8 +10**
MDJ Mudanjiang 76.11 324 P **P 14 52 49.9 +0.5**
MDJ AP pP 14 52 53.2 +0.6
MDJ XP sP 14 52 54.6 +1.0
MDJ PCP PcP 14 53 01.7 -0.3
MDJ PP PP 14 55 40.7 -1.4
MDJ S S 15 02 38.6 +6.9
MDJ AMB AMB
comp=Z,13nm,2.0s,mb4.5
MDJ AMB AMB
comp=Z,161nm,6.2s
MDJ LR LR
comp=N,7µm,22.5s
MDJ LR LR
comp=E,4µm,29.8s
MDJ LR LR
comp=Z,13µm,17.2s
MDJ Mudanjiang 76.11 324 PFAKE 14 53 00.0 +11
MDJ LR LR
comp=Z,4µm,22.0s,MS5.7
COR Corvallis 76.45 36 PFAKE 14 53 00.0 +8.7
COR LR LR
comp=Z,3µm,20.0s,MS5.6
TPH Tonopah 76.69 45 *e*P **P 14 52 52.8 -0.1**
comp=Z,33nm,1.3s,mb5.1
TPH LR LR
comp=Z,2µm,21.0s,MS5.5
TPH Tonopah 76.69 45 *e*P **P 14 52 52.8 0.0**
TPH pmax pmax
comp=Z,33nm,1.3s,mb5.1
TPH MLR MLR
comp=Z,2µm,21.0s,MS5.5
LDFC Landfair 76.70 48 *e*P **P 14 52 52.4 -0.6**
MOD Modoc 76.71 40 *e*P **P 14 52 52.2 -0.6**
comp=Z,33nm,1.3s,mb5.1
MOD LR LR
comp=Z,4µm,20.0s,MS5.7
NJ2 Nanjing 76.72 308 *e*P **P 14 52 53.9 +0.8**
NJ2 AP pP 14 52 58.6 +2.3
NJ2 XP sP 14 53 01.9 +4.5
NJ2 PCP PcP 14 53 04.4 -0.5
NJ2 S S 15 02 41.0 +2.3
NJ2 XS 15 02 50.0
NJ2 AMB AMB
comp=Z,60nm,1.3s,mb5.4
NJ2 AMB AMB
comp=Z,240nm,8.3s
NJ2 LR LR
comp=N,2µm,16.2s,MS5.7
NJ2 LR LR
comp=E,3µm,18.6s,MS5.7
NJ2 LR LR
comp=Z,1µm,16.6s,MS5.4
MIR Mirnyy 76.76 204 *e*P **P 14 52 54.0 +1.4**
MIR pmax pmax
comp=Z,800nm,5.0s
MIR MLR MLR
comp=N,690nm,16.0s,MS5.3
MIR MLR MLR
comp=E,890nm,16.0s,MS5.3
MIR MLR MLR
comp=Z,2µm,16.0s,MS5.5
NEN Nelson 77.17 48 *e*P **P 14 52 53.3 -2.2**
RSO Redoubt South 77.22 12 *e*P **P 14 52 55.2 -0.1**
SVW2 Sparrevohn 77.27 11 *e*P **P 14 52 54.6 -0.9**
TDH Tom, Dick, Har 77.74 36 P **P 14 53 00.2 +1.8**
KLR Kul'dur 77.81 329 *e*P **P 14 52 53.5 -5.2**
SLKM Skilak Lake 77.81 13 *e*P **P 14 52 57.7 -0.8**
OCWA Octopus Mounta 77.88 33 PFAKE 14 53 10.0 +11
OCWA LR LR
comp=Z,2µm,21.0s,MS5.4
BMN Battle Mountai 77.90 43 *e*P **P 14 52 57.9 -1.5**
comp=Z,21nm,1.2s,mb4.9
BMN LR LR
comp=Z,4µm,20.0s,MS5.7
BMN Battle Mountai 77.90 43 *e*P **P 14 52 57.9 -1.5**
BMN pmax pmax
comp=Z,21nm,1.2s,mb4.9
BMN MLR MLR
comp=Z,4µm,20.0s,MS5.7
DL2 Dalian 77.96 316 *e*P **P 14 53 02.3 +2.5**
DL2 AMB AMB
comp=Z,20nm,0.8s,mb5.1
DL2 LR LR
comp=N,820nm,12.3s,MS5.5
DL2 LR LR
comp=E,1µm,13.7s,MS5.5
DL2 LR LR
comp=Z,1µm,14.9s,MS5.3
VIPM Ingram Point 77.98 38 P **P 14 53 01.8 +2.0**
SPU Mount Spurr 78.02 12 *e*P **P 14 52 58.9 -0.7**
CROR Criterion Ridg 78.03 37 P **P 14 53 01.9 +1.9**
WVOR Wild Horse Val 78.04 40 P **P 14 53 00.4 +0.2**
comp=Z,25nm,1.1s,mb5.1
WVOR LR LR
comp=Z,7µm,20.0s,MS6.0
WVOR Wild Horse Val 78.04 40 P **P 14 53 00.4 +0.2**
WVOR pmax pmax
comp=Z,25nm,1.1s,mb5.1
WVOR MLR MLR
comp=Z,7µm,20.0s,MS6.0
CN2 Changchun 78.08 321 *e*P **P 14 52 59.6 -0.7**
CN2 *e*XP sP 14 53 07.0 +2.5
CN2 *e*S S 15 02 53.0 0.0
CN2 AMB AMB
comp=Z,10.0nm,1.3s,mb4.6
CN2 AMB AMB
comp=Z,310nm,5.0s
CN2 LR LR
comp=N,1µm,14.0s,MS5.6
CN2 LR LR
comp=E,1µm,14.0s,MS5.6
CN2 LR LR
comp=Z,3µm,15.0s,MS5.7
TDL Tradedollar La 78.11 35 P **P 14 53 00.8 +0.4**
OSD Olympics--Snow 78.17 34 P **P 14 53 03.2 +2.4**
MA2 Magadan 78.24 344 PFAKE 14 53 10.0 +9.1
MA2 LR LR
comp=Z,2µm,22.0s,MS5.3
GNW Green Mountain 78.50 34 P **P 14 53 02.7 +0.2**
TUC Tucson 78.68 52 *e*P **P 14 53 04.2 +0.3**
comp=Z,15nm,1.1s,mb4.8
TUC LR LR
comp=Z,3µm,20.0s,MS5.7
TUC Tucson 78.68 52 *e*P **P 14 53 04.2 +0.3**
TUC pmax pmax
comp=Z,15nm,1.1s,mb4.8
TUC MLR MLR
comp=Z,3µm,20.0s,MS5.7
WPW White Pass 78.69 35 P **P 14 53 05.7 +2.0**
FMW Mount Fremont 78.76 35 P **P 14 53 06.0 +2.1**
RMW Rattlesnake Mo 78.99 35 P **P 14 53 05.2 0.0**
PMR Palmer 79.02 13 *e*P **P 14 53 04.2 -0.9**
comp=Z,34nm,1.4s,mb5.1
PMR LR LR
comp=Z,2µm,19.0s,MS5.4
PMR Palmer 79.02 13 *e*P **P 14 53 04.2 -0.9**
PMR pmax pmax
comp=Z,34nm,1.4s,mb5.1
PMR MLR MLR
comp=Z,2µm,19.0s,MS5.4
QIZ Qiongzhong 79.19 293 P **P 14 53 09.5 +2.6**
QIZ S S 15 03 09.3 +3.9
QIZ AMB AMB
comp=Z,28nm,1.8s,mb4.9
QIZ LR LR
comp=E,1µm,21.8s
QIZ LR LR
comp=Z,2µm,22.5s,MS5.4
QIZ Qiongzhong 79.19 293 PFAKE 14 53 20.0 +13
QIZ LR LR
comp=Z,2µm,20.0s,MS5.5
SIT Sitka 79.28 22 PFAKE 14 53 20.0 +13
SIT LR LR
comp=Z,7µm,20.0s,MS6.0
ELK Elko 79.36 43 *e*P **P 14 53 07.1 -0.4**
comp=Z,16nm,1.4s,mb4.8
ELK LR LR
comp=Z,3µm,20.0s,MS5.7
ELK Elko 79.36 43 *e*P **P 14 53 07.1 -0.3**
ELK pmax pmax
comp=Z,16nm,1.4s
ELK MLR MLR
comp=Z,3µm,20.0s
EBG Ellensburg 79.36 36 P **P 14 53 09.4 +2.1**
SML Sawmill 79.39 13 *e*P **P 14 53 05.6 -1.5**
DIV Divide 79.40 15 *e*P **P 14 53 06.2 -1.0**
comp=Z,80nm,1.0s,mb5.6
DIV LR LR
comp=Z,5µm,20.0s,MS5.8
SNIWA Snively Ranch 79.63 36 P **P 14 53 10.8 +2.1**
RSW Rattlesnake Hi 79.63 36 P **P 14 53 10.7 +1.9**
TNA Tin City 80.11 4 PFAKE 14 53 20.0 +9.1
TNA LR LR
comp=Z,1µm,21.0s,MS5.3
BMO Blue Mountains 80.14 39 *e*P **P 14 53 11.0 -0.5**
comp=Z,16nm,1.2s,mb4.8
BMO LR LR
comp=Z,4µm,20.0s,MS5.8
WTV Waterville 80.16 35 P **P 14 53 13.1 +1.5**
MSU Marysvale 80.38 46 *e*P **P 14 53 13.4 +0.4**
OD2 Odessa Site #2 80.69 36 P **P 14 53 16.1 +1.8**
SEY Seymchan 80.74 346 *e*P **P 14 53 15.6 +1.3**
SEY *e* 15 03 17.3
SEY pmax pmax
comp=Z,40nm,1.4s,mb5.2
SEY pmax pmax
comp=E,20nm,1.9s
MCK McKinley 80.96 12 *e*P **P 14 53 14.2 -1.2**
comp=E,11nm,1.0s,mb4.8
MCK LR LR
comp=Z,2µm,20.0s,MS5.3
MCK McKinley 80.96 12 *e*P **P 14 53 14.2 -1.3**
MCK pmax pmax
comp=Z,11nm,1.0s,mb4.7
MCK MLR MLR
comp=Z,2µm,20.0s,MS5.3
TMUT Trail Mountain 81.41 46 *e*P **P 14 53 18.1 -0.3**
MPU Maple Canyon 81.44 45 *e*P **P 14 53 17.0 -1.5**
MENT Mentasta 81.45 15 *e*P **P 14 53 20.3 +2.2**
HVU Hansel Valley 81.48 43 *e*P **P 14 53 17.1 -1.5**
CTU Camp Tracy 81.67 44 P **P 14 53 20.4 +0.7**
SRU San Rafael 81.81 46 *e*P **P 14 53 19.9 -0.5**
JLU Jordanelle 81.83 45 *e*P **P 14 53 21.2 +0.7**
DAU Daniels Canyon 81.88 45 *e*P **P 14 53 21.8 +1.1**
NEW Newport 82.06 36 P **P 14 53 20.4 -1.1**
comp=Z,5.3nm,1.1s,mb4.4,baz=243,slow=3.8,SNR=7.4
NEW LR LR 15 22 08.6
comp=Z,2µm,21.5s,MS5.5,baz=224,slow=30
NEW Newport 82.06 36 *e*P **P 14 53 20.2 -1.3**
comp=Z,16nm,1.4s,mb4.8
NEW LR LR
comp=Z,2µm,22.0s,MS5.5
TCUT Toone Canyon 82.09 44 *e*P **P 14 53 21.7 -0.1**
HWUT Hardware Ranch 82.21 44 *e*P **P 14 53 22.5 0.0**
comp=Z,58nm,1.9s,mb5.2
HWUT LR LR
comp=Z,4µm,21.0s,MS5.7
DLBC Dease Lake 82.23 23 P **P 14 53 22.5 +0.3**
comp=Z,11nm,1.2s,mb4.7,baz=212,slow=7.6,SNR=15
DLBC LR LR 15 24 26.8
comp=Z,5µm,19.1s,MS5.9,baz=148,slow=32
DLBC Dease Lake 82.23 23 *e*P **P 14 53 21.8 -0.4**
ILAR Eielson Array 82.31 13 P **P 14 53 21.1 -1.3**
comp=Z,13nm,1.1s,mb4.8,baz=230,slow=6.2,SNR=24
ILAR LR LR 15 23 56.5
comp=Z,1µm,19.4s,MS5.3,baz=231,slow=31
PV10 Paradox Valley 82.54 47 *e*P **P 14 53 24.7 +0.5**
MNTX Cornudas Mount 82.64 55 *e*P **P 14 53 24.5 -0.4**
comp=Z,34nm,1.5s,mb5.2
MNTX LR LR
comp=Z,3µm,20.0s,MS5.7
PV01 Paradox Valley 82.77 48 *e*P **P 14 53 25.7 +0.2**
MCMT McKenzie Canyo 82.88 40 *e*P **P 14 53 25.9 +0.1**
AHID Auburn Hatcher 83.04 43 PFAKE 14 53 40.0 +13
AHID LR LR
comp=Z,2µm,21.0s,MS5.5
ANMO Albuquerque 83.05 51 P **P 14 53 27.4 +0.5**
comp=Z,5.8nm,1.0s,mb4.6,baz=260,slow=5.8,SNR=18
ANMO Albuquerque 83.05 51 *e*P **P 14 53 25.1 -1.8**
comp=Z,37nm,1.5s,mb5.2
ANMO LR LR
comp=Z,4µm,20.0s,MS5.8
ANMO Albuquerque 83.05 51 P **P 14 53 27.5 +0.6**
ANMO pmax pmax
comp=Z,6.0nm,1.0s
RRI2 Red Ridge 83.16 42 *e*P **P 14 53 27.7 +0.4**
comp=Z,44nm,1.3s,mb5.3
LTX Lajitas 83.17 57 *e*P **P 14 53 28.8 +1.2**
comp=Z,159nm,1.9s,mb5.7
LTX LR LR
comp=Z,4µm,20.0s,MS5.8
LTX Lajitas 83.17 57 *e*P **P 14 53 28.8 +1.1**
LTX pmax pmax
comp=Z,159nm,1.9s,mb5.7
LTX MLR MLR
comp=Z,4µm,20.0s,MS5.8
TXAR Lajitas Array 83.17 57 P **P 14 53 28.1 +0.5**
comp=Z,3.4nm,0.9s,mb4.4,baz=227,slow=7.0,SNR=25
TXAR LR LR 15 23 46.8
comp=Z,4µm,19.0s,MS5.8,baz=205,slow=31
BILL Bilibino 83.17 354 PFAKE 14 53 40.0 +13
BILL LR LR
comp=Z,2µm,21.0s,MS5.4
BILL Bilibino 83.17 354⇓ *e*P **P 14 53 28.3 +1.4**
BILL pmax pmax
comp=Z,100nm,3.1s
MSO Missoula 83.18 38 *e*P **P 14 53 25.3 -2.0**
comp=Z,21nm,1.5s,mb5.0
MSO LR LR
comp=Z,2µm,20.0s,MS5.6
ENH Enshi 83.36 303 PFAKE 14 53 40.0 +11
ENH LR LR
comp=Z,3µm,20.0s,MS5.7
TPAW Teton Pass 83.47 42 *e*P **P 14 53 27.2 -1.7**
comp=Z,25nm,1.1s,mb5.2
REDW Red Top Meadow 83.47 42 *e*P **P 14 53 29.7 +0.7**
comp=Z,64nm,1.5s,mb5.4
DAWY Dawson 83.49 16 *e*P **P 14 53 27.7 -0.9**
SNOW Snow King Moun 83.58 42 *e*P **P 14 53 29.9 +0.4**
comp=Z,203nm,2.0s,mb5.9
CHMT Chamberlain Mo 83.63 38 *e*P **P 14 53 29.1 -0.5**
IMW Indian Meadow 83.66 42 *e*P **P 14 53 29.8 -0.1**
comp=Z,28nm,1.2s,mb5.3
LOHW Long Hollow 83.75 42 *e*P **P 14 53 30.6 +0.3**
comp=Z,120nm,2.1s,mb5.7
QLMT Earthquake Lak 83.77 41 *e*P **P 14 53 28.8 -1.6**
YFT Old Faithful 83.98 41 P **P 14 53 30.1 -1.4**
YMR Madison River 83.99 41 *e*P **P 14 53 32.7 +1.1**
BOZ Bozeman (W) 84.02 40 *e*P **P 14 53 31.4 -0.3**
comp=Z,59nm,1.6s,mb5.5
BOZ LR LR
comp=Z,5µm,20.0s,MS5.9
BOZ Bozeman (W) 84.02 40 *e*P **P 14 53 31.4 -0.3**
BOZ pmax pmax
comp=Z,59nm,1.6s,mb5.5
BOZ MLR MLR
comp=Z,5µm,20.0s,MS5.9
BW06 Boulder Array 84.06 43 PFAKE 14 53 40.0 +8.1
BW06 LR LR
comp=Z,3µm,20.0s,MS5.7
PDAR Pinedale Array 84.06 43 P **P 14 53 32.0 +0.1**
comp=Z,4.8nm,0.9s,mb4.6,baz=225,slow=2.1,SNR=27
PDAR LR LR 15 24 00.3
comp=Z,2µm,20.5s,MS5.6,baz=254,slow=31
YNR Norris Junctio 84.19 41 *e*P **P 14 53 34.9 +2.3**
HIA Hailar 84.30 324 *e*P **P 14 53 31.4 -1.5**
comp=Z,3.8nm,0.7s,mb4.6
HIA LR LR
comp=Z,8µm,19.0s,MS6.1
HIA Hailar 84.30 324 *e*P **P 14 53 31.4 -1.6**
HIA pmax pmax
comp=Z,4.0nm,0.7s
HIA MLR MLR
comp=Z,8µm,19.0s
LKWY Lake 84.31 41 *e*P **P 14 53 33.9 +0.8**
comp=Z,21nm,1.1s,mb5.2
LKWY LR LR
comp=Z,3µm,20.0s,MS5.7
LKWY Lake 84.31 41 *e*P **P 14 53 33.9 +0.8**
LKWY pmax pmax
comp=Z,21nm,1.1s,mb5.2
LKWY MLR MLR
comp=Z,3µm,20.0s,MS5.7
SMCO Snowmass 84.34 47 P **P 14 53 33.3 -0.1**
HRY Holter Researc 84.39 39 *e*P **P 14 53 32.9 -0.6**
HRY *e* 14 53 48.4
SDCO Great Sand Dun 84.84 49 *e*P **P 14 53 36.0 0.0**
comp=Z,19nm,1.4s,mb5.0
SDCO LR LR
comp=Z,3µm,20.0s,MS5.7
RWWY Rawlins 85.19 45 *e*P **P 14 53 37.1 -0.5**
comp=Z,126nm,1.7s,mb5.8
GCMT Greycliff 85.31 40 *e*P **P 14 53 38.9 +0.8**
HHC Hu-ho-hao-te 85.75 314 *e*P **P 14 53 40.5 +0.1**
HHC XP sP 14 53 46.7 +2.0
HHC PP PP 14 57 00.0 -1.3
HHC S S 15 04 11.5 -0.1
HHC AMB AMB
comp=Z,25nm,1.8s,mb5.1
HHC AMB AMB
comp=Z,286nm,3.7s
HHC LR LR
comp=N,1µm,19.0s,MS5.5
HHC LR LR
comp=E,2µm,18.4s,MS5.5
HHC LR LR
comp=Z,2µm,23.8s
PMSA Palmer Station 86.47 157 PFAKE 14 54 00.0 +17
PMSA LR LR
comp=Z,2µm,20.0s,MS5.4
EDM Edmonton 86.66 33 *e*P **P 14 53 42.3 -2.3**
BTO Baotou 86.74 313 *e*P **P 14 53 47.7 +2.4**
BTO AMB AMB
comp=Z,17nm,0.9s,mb5.3
YAK Yakutsk 86.86 338 PFAKE 14 54 00.0 +15
YAK LR LR
comp=Z,4µm,19.0s,MS5.8
YAK Yakutsk 86.86 338 *i*P **P 14 53 45.6 +0.2**
KMI Kunming 87.35 297 P **P 14 53 49.2 +0.5**
KMI AP pP 14 54 00.0 +8.1
KMI XP sP 14 54 05.6 +13
KMI SKS SKS 15 04 10.7 -8.0
KMI S S 15 04 22.6 -4.7
KMI XS 15 04 39.7
KMI AMB AMB
comp=Z,12nm,1.8s,mb4.8
KMI AMB AMB
comp=Z,187nm,3.6s
KMI LR LR
comp=N,4µm,18.2s,MS6.0
KMI LR LR
comp=E,4µm,15.5s,MS6.0
KMI LR LR
comp=Z,5µm,16.4s,MS6.0
MAW Mawson 87.46 199 *e*P **P 14 53 48.1 -0.1**
comp=Z,15nm,1.3s,mb5.1
MAW Mawson 87.46 199 P **P 14 53 48.4 +0.2**
comp=Z,14nm,1.0s,mb5.2,baz=120,slow=5.3,SNR=8.8
MAW LR LR 15 32 27.3
comp=Z,3µm,18.1s,MS5.8,baz=110,slow=35
MAW Mawson 87.46 199 P **P 14 53 48.4 +0.2**
MAW pmax pmax
comp=Z,14nm,1.0s
MAW MLR MLR
comp=Z,3µm,18.1s
LAO LASA Array 87.86 41 *e*P **P 14 53 50.5 -0.1**
comp=Z,60nm,1.3s,mb5.7
LAO LR LR
comp=Z,4µm,22.0s,MS5.8
CD2 Chengdu 88.23 302⇑ *i*P **P 14 53 54.8 +2.0**
CD2 SKS SKS 15 04 20.7 -3.5
CD2 S S 15 04 32.7 -2.7
CD2 PS PS 15 05 53.3 +12
CD2 SS SS 15 10 32.9 +5.0
CD2 AMB AMB
comp=Z,10.0nm,1.8s,mb4.7
CD2 AMB AMB
comp=Z,160nm,12.2s
CD2 LR LR
comp=N,3µm,15.6s
CD2 LR LR
comp=Z,3µm,18.0s,MS5.7
RSSD Black Hills 88.28 44 *e*P **P 14 53 52.1 -0.6**
comp=Z,26nm,1.3s,mb5.3
RSSD LR LR
comp=Z,3µm,19.0s,MS5.7
RSSD Black Hills 88.28 44 *e*P **P 14 53 52.1 -0.6**
RSSD pmax pmax
comp=Z,26nm,1.3s,mb5.3
RSSD MLR MLR
comp=Z,3µm,19.0s,MS5.7
INK Inuvik 88.29 15 LR LR 15 33 15.0
comp=Z,1µm,18.4s,MS5.4,baz=220,slow=36
CBKS Cedar Bluff 89.46 50 PFAKE 14 54 10.0 +12
CBKS LR LR
comp=Z,2µm,20.0s,MS5.6
LZH Lanzhou 89.76 307 *e*P **P 14 54 01.0 +1.1**
LZH AP pP 14 54 10.2 +7.1
LZH XP sP 14 54 15.6 +11
LZH PP PP 14 57 36.0 +1.5
LZH SKS SKS 15 04 28.0 -5.4
LZH S S 15 04 51.0 +1.6
LZH XS 15 05 01.3
LZH PS PS 15 06 02.4 +3.3
LZH SS SS 15 10 53.0 +3.0
LZH AMB AMB
comp=Z,90nm,1.5s,mb5.9
LZH AMB AMB
comp=Z,150nm,4.0s
LZH LR LR
comp=E,6µm,16.0s
LZH LR LR
comp=Z,5µm,17.6s,MS6.0
DGMT Dagmar 89.82 40 P **P 14 54 00.7 +0.9**
comp=Z,48nm,1.3s,mb5.7
DGMT LR LR
comp=Z,4µm,21.0s,MS5.8
YKA Yellowknife Ar 90.74 24 LR LR 15 28 35.3
comp=Z,4µm,20.1s,MS5.9,baz=245,slow=32
NATX Nacogdoches 91.30 58 *e*P **P 14 54 07.1 0.0**
NATX LR LR
comp=Z,3µm,19.0s,MS5.8
SONM Songino Array 91.75 319 P **P 14 54 08.2 -0.6**
comp=Z,5.7nm,1.2s,mb4.8,baz=45,slow=2.1,SNR=19
SONM Songino Array 91.75 319 P **P 14 54 08.2 -0.6**
SONM pmax pmax
comp=Z,6.0nm,1.2s
SYO Syowa Base 92.74 192⇑ P **P 14 54 10.5 -2.3**
SYO Syowa Base 92.74 192⇓ PcP PcP 14 54 12.0 -1.8
PLCA Paso Flores 92.81 133 LR LR 15 26 09.9
comp=Z,2µm,21.6s,MS5.5,baz=193,slow=29
PLCA Paso Flores 92.81 133 PFAKE 14 54 30.0 +16
PLCA LR LR
comp=Z,3µm,22.0s,MS5.7
GTA Gaotai 93.78 310 *e*P **P 14 54 19.8 +1.5**
GTA AP pP 14 54 24.2 +2.7
GTA XP sP 14 54 26.3 +3.8
GTA SKS SKS 15 04 55.5 -0.9
GTA AMB AMB
comp=Z,5.0nm,1.6s,mb4.7
GTA AMB AMB
comp=Z,270nm,6.1s
GTA LR LR
comp=N,2µm,20.6s,MS6.0
GTA LR LR
comp=E,5µm,18.0s,MS6.0
GTA LR LR
comp=Z,7µm,18.0s,MS6.1
SNAA Sanae 93.97 178 P **P 14 54 18.0 -0.4**
SNAA Sanae 93.97 178 P **P 14 54 26.9 +8.5**
SNAA Sanae 93.97 178 P **P 14 54 38.3 +20**
VNA3 Neumayer Olymp 94.06 176 P **P 14 54 20.1 +1.3**
VNA3 Neumayer Olymp 94.06 176 P **P 14 54 22.2 +3.4**
ZAK Zakamensk 94.50 321 *e*P **P 14 54 19.8 -1.5**
ZAK pmax pmax
comp=Z,2.0nm,1.5s,mb4.3
VNA2 Neumayer--Watz 94.51 177 P **P 14 54 21.8 +0.9**
VNA2 Neumayer--Watz 94.51 177 **P 14 54 24.6 +3.7**
JTS JuntasAbangare 94.65 81 LR LR 15 29 07.3
comp=Z,1µm,18.3s,MS5.3,baz=325,slow=30
JTS JuntasAbangare 94.65 81 PFAKE 14 54 30.0 +7.1
JTS LR LR
comp=Z,291nm,19.0s,MS4.8
TLY Talaya 94.67 322 PFAKE 14 54 30.0 +7.9
TLY LR LR
comp=Z,1µm,19.0s,MS5.4
TLY Talaya 94.67 322⇓ *e*P **P 14 54 23.8 +1.7**

TLY					pmax	pmax			
	comp=Z,5.0nm,1.4s,mb4.8								
VNA1	**Neumayer--Stat**	**94.73**	**176**		P	**P**		**14 54 24.3**	**+2.4**
ULM	**Lac du Bonnet**	**95.54**	**40**		LR	LR		15 30 54.0	
	comp=Z,2μm,20.8s,MS5.7,baz=243,slow=31								
ULM	**Lac du Bonnet**	**95.54**	**40**		PFAKE			14 54 40.0	+14
ULM					LR	LR			
	comp=Z,4μm,21.0s,MS5.8								
CCM	**Cathedral Cave**	**95.64**	**52**		PFAKE			14 54 40.0	+13
CCM					LR	LR			
	comp=Z,3μm,22.0s,MS5.8								
OXF	**Oxford**	**96.26**	**56**		PFAKE			14 54 40.0	+10
OXF					LR	LR			
	comp=Z,3μm,20.0s,MS5.8								
NNA	**Nana**	**96.81**	**104**		PFAKE			14 54 40.0	+7.3
NNA					LR	LR			
	comp=Z,251nm,21.0s,MS4.7								
PLAL	**Pickwick Lake**	**97.43**	**56**		PFAKE			14 54 50.0	+15
PLAL					LR	LR			
	comp=Z,3μm,19.0s,MS5.8								
WVT	**Waverly**	**97.87**	**55**		PFAKE			14 54 50.0	+13
WVT					LR	LR			
	comp=Z,3μm,19.0s,MS5.7								
LRAL	**Lakeview Retre**	**97.89**	**58**		PFAKE			14 54 50.0	+13
LRAL					LR	LR			
	comp=Z,2μm,22.0s,MS5.7								
CFAA	**Coronel Fontan**	**97.97**	**125**		LR	LR		15 28 33.3	
	comp=Z,462nm,21.5s,MS4.9,baz=172,slow=29								
LSA	**Lhasa**	**98.46**	**298**		PFAKE			14 54 50.0	+10
LSA					LR	LR			
	comp=Z,2μm,19.0s,MS5.5								
WCI	**Wyandotte Cave**	**99.49**	**53**		PFAKE			14 55 00.0	+16
WCI					LR	LR			
	comp=Z,2μm,19.0s,MS5.6								
TRQA	**Tornquist**	**99.96**	**134**		PFAKE			14 55 00.0	+14
TRQA					LR	LR			
	comp=Z,2μm,20.0s,MS5.5								
MYNC	**Murphy**	**100.63**	**56**		PFAKE			14 55 00.0	+10
MYNC					LR	LR			
	comp=Z,4μm,20.0s,MS5.9								
LVC	**Limon Verde**	**100.69**	**117**		PFAKE			14 55 00.0	+10
LVC					LR	LR			
	comp=Z,2μm,19.0s,MS5.7								
DWPF	**Disney**	**101.66**	**64**		PFAKE			14 55 10.0	+16
DWPF					LR	LR			
	comp=Z,636nm,20.0s,MS5.1								
PALK	**Pallekele**	**103.48**	**274**		PFAKE			14 55 10.0	+7.2
PALK					LR	LR			
	comp=Z,390nm,21.0s,MS4.9								
LPAZ	**La Paz**	**103.55**	**111**		PFAKE			14 55 20.0	+17
LPAZ					LR	LR			
	comp=Z,770nm,20.0s,MS5.2								
BLA	**Blacksburg**	**103.92**	**55**		PFAKE			14 55 20.0	+16
BLA					LR	LR			
	comp=Z,3μm,21.0s,MS5.8								
MCWV	**Mont Chateau**	**104.68**	**52**		PFAKE			14 55 20.0	+13
MCWV					LR	LR			
	comp=Z,4μm,20.0s,MS5.9								
CBN	**Corbin**	**106.44**	**54**		PFAKE			14 59 40.0	
CBN					LR	LR			
	comp=Z,5μm,20.0s,MS6.0								
DGAR	**Diego Garcia**	**107.61**	**257**		PFAKE			14 59 40.0	
DGAR					LR	LR			
	comp=Z,601nm,20.0s,MS5.2								
BINY	**Binghamton**	**107.82**	**50**		PFAKE			14 59 40.0	
BINY					LR	LR			
	comp=Z,3μm,20.0s,MS5.9								
SDV	**Santo Domingo**	**108.10**	**85**		PFAKE			14 59 40.0	
SDV					LR	LR			
	comp=Z,557nm,20.0s,MS5.1								
CPUP	**Villa Florida**	**108.84**	**125**		PFAKE			14 59 40.0	
CPUP					LR	LR			
	comp=Z,2μm,21.0s,MS5.6								
KURK	**Kurchatov**	**110.06**	**319**		PFAKE			14 59 40.0	+5.8
KURK					LR	LR			
	comp=Z,737nm,20.0s,MS5.3								
SAML	**Samuel**	**110.53**	**105**		PFAKE			14 59 50.0	+14
SAML					LR	LR			
	comp=Z,1μm,22.0s,MS5.4								
LBNH	**Lisbon**	**110.85**	**48**		PFAKE			14 59 50.0	+14
LBNH					LR	LR			
	comp=Z,4μm,19.0s,MS6.0								
HRV	**Harvard--Oak R**	**111.11**	**50**		PFAKE			14 59 50.0	+14
HRV					LR	LR			
	comp=Z,3μm,21.0s,MS5.9								
WES	**Weston**	**111.28**	**50**		PFAKE			14 59 50.0	+13
WES					LR	LR			
	comp=Z,5μm,22.0s,MS6.1								
WVL	**Waterville**	**112.47**	**48**		PFAKE			14 59 50.0	+11
WVL					LR	LR			
	comp=Z,14μm,20.0s,MS6.5								
AAK	**Ala-Archa**	**113.11**	**310**		PFAKE			14 59 50.0	+10
AAK					LR	LR			
	comp=Z,2μm,20.0s,MS5.7								
SCHQ	**Schefferville**	**113.42**	**36**		PFAKE			14 59 50.0	+9.2
SCHQ					LR	LR			
	comp=Z,2μm,19.0s,MS5.8								
PQI	**Presque Isle**	**113.52**	**45**		PFAKE			14 59 50.0	+8.8
PQI					LR	LR			
	comp=Z,15μm,19.0s,MS6.6								
BRVK	**Borovoye**	**114.98**	**322**		PFAKE			14 59 50.0	+6.3
BRVK					LR	LR			
	comp=Z,509nm,20.0s,MS5.1								
KBS	**Kingsbay**	**115.39**	**358**		PFAKE			14 59 50.0	+5.9
KBS					LR	LR			
	comp=Z,1μm,20.0s,MS5.5								
BBSR	**BB Station**	**116.47**	**61**		PFAKE			15 00 00.0	+13
BBSR					LR	LR			
	comp=Z,775nm,20.0s,MS5.3								
ARU	**Arti**	**120.64**	**328**		PFAKE			15 00 00.0	+5.3
ARU					LR	LR			
	comp=Z,846nm,22.0s,MS5.3								
ARU	**Arti**	**120.64**	**328**	*i*	PKIKP	PKPdf		14 59 54.6	-0.1
ARU				*e*				15 06 43.0	
ARU				*e*SS		SS		15 17 48.4	-1.9
KEV	**Kevo**	**122.72**	**350**		PFAKE			15 00 10.0	+12
KEV					LR	LR			
	comp=Z,2μm,19.0s,MS5.8								
ARCES	**ARCESS Array B**	**123.16**	**351**		PKP	PKPdf		14 59 58.2	-1.0
	comp=Z,1.7nm,0.7s,baz=90,slow=2.4,SNR=5.7								
ARCES	**ARCESS Array B**	**123.16**	**351**		PKIKP	PKPdf		14 59 58.3	-0.9
ARCES					pmax	pmax			
	comp=Z,2.0nm,0.7s								
OBN	**Obninsk**	**131.78**	**335**		PFAKE			15 00 30.0	+14
OBN					LR	LR			
	comp=Z,400nm,20.0s,MS5.1								
OBN	**Obninsk**	**131.78**	**335**	*e*	PKHKP			14 59 59.1	
OBN					pmax	pmax			
	comp=Z,5.0nm,0.9s								
BOSA	**Boshof**	**131.97**	**207**		PFAKE			15 00 30.0	+13
BOSA					LR	LR			
	comp=Z,992nm,21.0s,MS5.5								
VOR	**Voronezh**	**132.82**	**330**		PKIKP	PKPdf		15 00 17.0	-1.2
VOR					pmax	pmax			
	comp=Z,90nm,2.5s								
NAO01	**NORSAR Array S**	**133.34**	**355**		PFAKE			15 00 30.0	+11
NAO01					LR	LR			
	comp=Z,3μm,19.0s,MS6.0								
KONO	**Kongsberg**	**134.64**	**355**		PFAKE			15 00 30.0	+8.7
KONO					LR	LR			
	comp=Z,3μm,19.0s,MS6.0								
LBTB	**Lobatse**	**134.89**	**210**		PFAKE			15 00 30.0	+7.2
LBTB					LR	LR			
	comp=Z,907nm,20.0s,MS5.5								
KIV	**Kislovodsk**	**135.15**	**319**		PFAKE			15 00 30.0	+7.2
KIV					LR	LR			
	comp=Z,492nm,22.0s,MS5.2								
GNI	**Garni**	**135.41**	**313**		PFAKE			15 00 30.0	+6.6
GNI					LR	LR			
	comp=Z,1μm,19.0s,MS5.7								
RCBR	**Riachuelo**	**136.61**	**115**		PFAKE			15 00 40.0	+14
RCBR					LR	LR			
	comp=Z,1μm,21.0s,MS5.7								
AKASG	**Malin Array Be**	**138.04**	**335**		PKP	PKPdf		15 00 26.7	-1.1
	comp=Z,0.3nm,0.5s,baz=36,slow=1.4,SNR=8.6								
ESK	**Eskdalemuir**	**138.99**	**5**		PFAKE			15 00 40.0	+11
ESK					LR	LR			
	comp=Z,457nm,19.0s,MS5.2								
LSZ	**Lusaka**	**141.23**	**221**		PFAKE			15 00 40.0	+5.4
LSZ					LR	LR			
	comp=Z,1μm,19.0s,MS5.6								
STHS	**Stebnicka Huta**	**142.04**	**340**	*e*	PKP	PKPdf		15 00 32.9	-2.1
KOLS	**Kolonicke sedl**	**142.11**	**339**	*e*	PKP	PKPdf		15 00 36.6	+1.5
CLL	**Collm**	**142.37**	**350**	*e*	PKIKP	PKPdf		15 00 31.0	-4.5
	comp=Z,logA/T=0.7								
CLL				*i*				15 00 38.6	
CLL				*i*				15 00 44.4	
CLL				*e*				15 10 34.0	
CLL				*e*SS		SS		15 22 07.0	-8.9
CLL				*e*				15 24 23.0	
UPC	**Upice**	**142.51**	**346**	*e*	PKPdf	PKPdf		15 00 33.7	-2.1
DPC	**Dobruska-Polom**	**142.59**	**346**	*e*	PKPdf	PKPdf		15 00 36.8	+0.9
OKC	**Ostrava-Krasne**	**142.59**	**344**	*e*	PKPdf	PKPdf		15 00 34.1	-1.8
OKC				*ex*		x		15 06 40.3	
BRG	**Berggiesshubel**	**142.61**	**348**	*e*	P	PKPdf		15 00 35.1	-0.8
BRG					LR	LR			
	comp=Z,2μm,14.2s,MS6.1								
PVCC	**Panska Ves**	**142.81**	**348**	*e*	PKPdf	PKPdf		15 00 37.3	+1.0
PVCC				*e*SKP				15 04 05.3	
PVCC				*ex*		x		15 07 14.3	
KECS	**Kecovo**	**143.10**	**340**	*e*	PKP	PKPdf		15 00 35.5	-1.3
BR131	**Keskin Array S**	**143.11**	**319**		PFAKE			15 00 50.0	+18
BR131					LR	LR			
	comp=Z,887nm,19.0s,MS5.5								
BRTR	**Keskin Array B**	**143.11**	**319**		PKP	PKPdf		15 00 33.3	-3.9
	comp=Z,2.7nm,1.0s,baz=27,slow=3.2,SNR=3.7								
BRTR	**Keskin Array B**	**143.11**	**319**		PKIKP	PKPdf		15 00 33.3	-3.9
BRTR					pmax	pmax			
	comp=Z,3.0nm,1.0s								
MOX	**Moxa**	**143.24**	**351**	*i*	P	PKPbc		15 00 56.7	+25
	comp=Z,logA/T=1.2								
PRU	**Pruhonice**	**143.33**	**347**	*e*	PKPdf	PKPdf		15 00 36.9	-0.3
PRU				*e*PP		PP		15 03 56.4	+7.3
PRU				*e*SKS		SKS		15 07 46.6	+0.5
MLR	**Muntele Rosu**	**143.45**	**332**		PKP	PKPdf		15 00 37.5	0.0
	comp=Z,4.0nm,0.8s,baz=34,slow=2.8,SNR=4.8								
MLR	**Muntele Rosu**	**143.45**	**332**		PKIKP	PKPdf		15 00 37.5	0.0
MLR					pmax	pmax			
	comp=Z,4.0nm,0.8s								
NKC	**Novy Kostel**	**143.50**	**350**	*e*	PKPdf	PKPdf		15 00 39.2	+1.7
NKC				*e*PP		PP		15 03 51.4	+1.3
NKC				*ex*		x		15 06 53.7	
TSUM	**Tsumeb**	**143.51**	**204**		PFAKE			15 00 50.0	+16
TSUM					LR	LR			
	comp=Z,1μm,21.0s,MS5.7								
VYHS	**Vyhne**	**143.60**	**342**	*e*	PKP	PKPdf		15 00 37.6	-0.1
GRA1	**Grafenberg Arr**	**144.23**	**351**	*e*	PKP	PKPdf		15 00 35.6	-3.1
GRF	**Grafenberg Arr**	**144.23**	**351**	*e*	PKP	PKPdf		15 00 35.6	-3.1
GRF					LR	LR			
	comp=Z,2μm,18.4s,MS6.0								
KHC	**Kasperske Hory**	**144.34**	**348**	*e*	PKPdf	PKPdf		15 00 38.1	-0.9
KHC				*e*SKP				15 04 10.4	
KHC				*ex*		x		15 07 23.3	
ZST	**Bratislava**	**144.37**	**344**	*e*	PKP	PKPdf		15 00 38.2	-0.9
GIVF	**Givet**	**144.44**	**358**	*e*	PKP1	PKPbc		15 00 36.8	+1.1
BAIF	**Baives**	**144.51**	**358**	*e*	PKP1	PKPbc		15 00 37.3	+1.4
GERES	**GERESS Array B**	**144.59**	**348**		PKP	PKPdf		15 00 37.4	-2.0
	comp=Z,0.9nm,0.7s,baz=45,slow=1.9,SNR=9.1								
GERES	**GERESS Array B**	**144.59**	**348**		PKIKP	PKPdf		15 00 37.4	-2.0
GERES					pmax	pmax			
	comp=Z,1.0nm,0.7s								
TOD	**Tromm**	**144.64**	**353**		PKP	PKPdf		15 00 37.4	-2.1
RUP	**Ruppelstein**	**144.71**	**355**		PKP	PKPdf		15 00 38.2	-1.4
WLF	**Walferdange**	**144.81**	**356**	*e*	PKP1	PKPbc		15 00 38.8	-1.0
LANF	**Langenberg**	**145.36**	**354**		PKP	PKPdf		15 00 43.6	+2.8
MOA	**Molln**	**145.41**	**346**	⇑ *i*	P	PKPbc		15 00 38.4	0.0
ARSA	**Arzberg**	**145.66**	**345**	⇑ *i*	P	PKPbc		15 00 40.4	+1.4
FLN	**La Foliniere**	**145.71**	**4**	*e*	PKP1	PKPbc		15 00 38.5	-0.6
	comp=Z,149nm,1.5s								
CMLA	**Cha da Macela**	**145.81**	**42**		PFAKE			15 00 50.0	+10
CMLA					LR	LR			
	comp=Z,4μm,19.0s,MS6.2								
CSS	**Prodhromos**	**145.82**	**312**	*e*	PKP	PKPdf		15 00 41.8	-0.2
WLS	**Welschbruch**	**145.97**	**355**		PKP	PKPdf		15 00 42.3	+0.5
CDF	**Champ du Feu**	**145.97**	**355**	*e*	PKP1	PKPbc		15 00 39.8	0.0
	comp=Z,272nm,1.9s								
MEZF	**Maizieres J'vi**	**146.03**	**357**	*e*	PKP1	PKPbc		15 00 40.2	+0.3
	comp=Z,217nm,1.8s								
SGMF	**Saint Gilles**	**146.04**	**6**	*e*	PKP1	PKPbc		15 00 39.9	0.0
	comp=Z,171nm,1.5s								
GRR	**Gorron**	**146.06**	**4**	*e*	PKP1	PKPbc		15 00 40.0	0.0
	comp=Z,96nm,1.4s								
ECH	**Echery**	**146.18**	**355**		PKP	PKPdf		15 00 41.3	-0.9
ISP	**Isparta**	**146.19**	**319**	*e*	PKPdf	PKPdf		15 00 41.2	-1.4
THEF	**They Montfort**	**146.26**	**356**		PKP	PKPdf		15 00 41.3	-1.0
BEO	**Belgrade**	**146.26**	**337**	⇓ *i*	PKP	PKPdf		15 00 43.0	+0.5
FELD	**Feldberg**	**146.43**	**354**		PKP	PKPdf		15 00 42.3	-0.3
WATA	**Walderalm**	**146.45**	**349**	⇑ *i*	P	PKPbc		15 00 43.6	+2.7
HAU	**Haudompre**	**146.45**	**356**	*e*	PKP1	PKPbc		15 00 41.4	+0.5
	comp=Z,185nm,1.8s								
BOLS	**Boljevac**	**146.49**	**335**	*i*	PKP	PKPdf		15 00 41.7	-1.2
MOTA	**Moosalm**	**146.52**	**350**	⇓ *i*	P	PKPbc		15 00 44.0	+2.9
PGB	**Panagyurishte**	**146.53**	**331**	*e*	P	PKPbc		15 00 44.5	+3.2
MOF	**Molkenrain**	**146.54**	**355**		PKP	PKPdf		15 00 42.5	-0.3
HINF	**Hinteralfeld**	**146.60**	**355**	*e*	PKP1	PKPbc		15 00 41.8	+0.5
SQTA	**Sankt Quirin**	**146.62**	**350**	⇓ *i*	P	PKPbc		15 00 44.2	+2.9
ZAPS	**Zavoj/Pirot**	**146.65**	**333**	⇓ *i*	PKP	PKPdf		15 00 42.8	-0.4
DAVA	**Damuels**	**146.77**	**351**	⇓ *i*	P	PKPbc		15 00 44.9	+3.2
GCIS	**Gornji Cirnik**	**146.91**	**344**	*e*	PKP	PKPdf		15 00 44.6	+1.1
RZN	**Rozhen**	**146.92**	**329**	*e*	P	PKPbc		15 00 42.0	-0.2
GRUS	**Gruza**	**146.95**	**336**	*e*	PKP	PKPdf		15 00 39.6	-4.0
LJU	**Ljubljana**	**147.03**	**345**	*e*	PKP	PKPdf		15 00 45.0	+1.3
LJU				*e*				15 00 54.8	
LJU				*e*				15 02 46.1	
LJU				*e*				15 03 12.6	
DIVS	**Divcibare**	**147.05**	**337**	*e*	PKP	PKPdf		15 00 39.7	-4.1
LOMF	**Lomont**	**147.06**	**355**		PKP	PKPdf		15 00 43.9	+0.2
DAVOX	**Davos**	**147.27**	**351**		PKPbc	PKPdf		15 00 44.0	-0.1
	comp=Z,11nm,0.9s,baz=342,slow=3.2,SNR=12								
LOR	**Lormes**	**147.31**	**359**	*e*	PKP1	PKPdf		15 00 43.8	-0.3
	comp=Z,14nm,0.8s								
BBLS	**Bajina Basta -**	**147.47**	**337**	*i*	PKP	PKPdf		15 00 45.4	+0.9
MMB	**Musomiste**	**147.47**	**330**	*e*	P	PKPdf		15 00 44.5	-0.1
SSF	**Saint Saulge**	**147.52**	**359**	*e*	PKP1	PKPdf		15 00 44.5	0.0
	comp=Z,94nm,1.6s								
KKB	**Krupnik**	**147.57**	**331**	*e*	P	PKPdf		15 00 45.5	+0.8
AVF	**Avril sur Loir**	**147.79**	**359**	*e*	PKP1	PKPdf		15 00 44.9	0.0
	comp=Z,28nm,1.3s								
CABF	**La Chapelle**	**147.86**	**356**	*e*	PKP1	PKPdf		15 00 45.8	+0.8
	comp=Z,120nm,1.6s								
SMF	**Signal de Mont**	**147.93**	**359**	*e*	PKP1	PKPdf		15 00 45.3	+0.2
	comp=Z,38nm,1.2s								
SKO	**Skopje**	**148.23**	**333**	*e*	P	PKPdf		15 00 49.0	+3.2
TCF	**Toulx Ste Croi**	**148.29**	**1**	*e*	PKP1	PKPdf		15 00 46.4	+0.7
	comp=Z,49nm,1.5s								
MBAR	**Mbarara**	**148.57**	**244**		PFAKE			15 01 00.0	+13
MBAR					LR	LR			
	comp=Z,331nm,21.0s,MS5.1								
MBAR	**Mbarara**	**148.57**	**244**	⇑ *i*	PKIKP	PKPdf		15 00 47.9	+0.7
LPL	**La Plagne**	**148.89**	**355**	*e*	PKP1	PKPdf		15 00 47.6	+0.9
	comp=Z,126nm,1.8s								
LPG	**La Plagne**	**148.91**	**355**	*e*	PKP1	PKPdf		15 00 47.7	+1.0
	comp=Z,169nm,1.8s								
BNI	**Bardonecchia**	**149.36**	**355**	*e*	PKPab	PKPab		15 00 53.4	-2.4
LFF	**La Frestale**	**149.59**	**3**	*e*	PKP1	PKPdf		15 00 49.9	+2.0
	comp=Z,169nm,1.8s								
SURF	**Saint Ours**	**149.91**	**354**		PKP	PKPdf		15 00 54.9	+6.5
SAOF	**Saorge**	**150.32**	**353**		PKP	PKPdf		15 00 51.8	+2.8
AUTN	**L'Aution**	**150.33**	**353**		PKP	PKPdf		15 00 51.6	+2.6
AQU	**L'Aquila**	**150.77**	**344**	*e*	PKPbc	PKPdf		15 00 55.0	+5.2
IDI	**Anoyia**	**151.32**	**320**		PKPbc	PKPdf		15 00 57.0	+6.2
	comp=Z,30nm,1.1s,baz=339,slow=8.6,SNR=4.9								
MTE	**Manteigas**	**152.64**	**17**	*e*	PKPbc	PKPdf		15 00 59.9	+7.3
ESDC	**Sonseca Array**	**154.21**	**12**		PKP	PKPdf		15 00 56.6	+1.9
	comp=Z,0.7nm,0.9s,slow=1.5,SNR=4.1								
ESDC					PKPbc	PKPdf		15 01 02.8	+8.1
	comp=Z,1.1nm,0.8s,SNR=5.9								
ESLA	**Sonseca Array**	**154.21**	**12**		PFAKE			15 01 00.0	+5.3
ESLA					LR	LR			
	comp=Z,12μm,20.0s								
DBIC	**Dimbokro**	**169.17**	**135**		PFAKE			15 01 20.0	+9.3
DBIC					LR	LR			
	comp=Z,1μm,19.0s								

NIED ***07*** *15:06:00, 36.40N×141.50E, h26km, Mw5.4 Best double couple: M0 1.33×10^17 NP1:φs28°, δ70°, λ90°. NP2:φs208°, δ20°, λ89°.*

BJI ***07*** *15:06:41.9, 36.40N×141.31E, h25km, mB5.5, mb5.6, Ms5.4, Ms25.2*

MOS ***07*** *15:06:42.7±0.7, 36.57N×141.37E, h21km, mb5.8/120, MS5.5/40, Error ellipse: s-maj=7.1km s-min=3.7km az=111.2*

JMA ***07*** *15:06:43.8±0.2, 36.34N×141.45E, h46km±4km, M5.6 Broadband fault plane solution: P waves. NP1:φs209°, δ18°, λ114°. NP2:φs4°, δ73°, λ82°. Principal axes: T Plg61°, Azm263°; N Plg7°, Azm6°; P Plg28°, Azm100°;*

JMA Felt III J1.

HRVD ***07*** *15:06:45.5±0.3, 36.25N×141.60E, h32km, MW5.5/68, Centroid moment Tensor Solution. LP body waves: s51,c92;Mantle waves: s68,c136; Half duration: 1±3 Moment tensor: Scale 10^17Nm; Mrr1.22±.06; Mθθ-0.08±.05; Mφφ-1.14±.05; Mrθ0.51±.07; Mθφ-0.65±.04; Mφr1.49±.06; Best double couple: M0 2.064×10^17 NP1: φs213°, δ21°, λ102°. NP2:φs20°, δ70°, λ86°. Principal axes: T 1.957, Plg65°, Azm283°; N .214, Plg4°, Azm21°; P -2.171, Plg25°, Azm113°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

IDC ***07*** *15:06:45.7±0.4, 36.34N×141.42E, h39km±3km, mb5.2/26, mb1 5.3/29, mb1mx5.3/29, mbtmp5.4/29, ML4.3/3, MS5.1/14, Ms1 5.1/14, ms1mx4.9/32 Error ellipse: s-maj=12.4km s-min=9.5km az=76.0*

NEIC ***07*** *15:06:45.5±0.1, 36.33N×141.37E, mb5.5/181, MS5.2/16, MW5.3(NIED), Error ellipse: s-maj=3.5km s-min=2.4km az=170.0*

NEIC Felt [III] at Tokyo. Felt in Chiba, Fukushima, Ibaraki and Tochigi Prefectures. Recorded [3 JMA] in Chiba, Fukushima, Ibaraki and Tochigi; [2 JMA] in Gumma, Saitama, Tokyo, Yamagata and Yamanashi; [1 JMA] in Akita, Aomori, Iwate, Kanagawa, Nagano and Shizuoka Prefectures.

BGS ***07*** *15:06:50.5, 36.67N×139.19E, h39km, mb5.4*

ISC 07 15:06:44.1±0.1, 36.35N±0.02×141.43E±0.02, h38km, h38km±.7km:pP-P, n932, σ0:84/920, mb5.6/263, MS5.3/75, 257C-60D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.74**	**291**	⇓P		**P**		**15 06 58.2**	**+0.1**
JHO				*e*S		S		15 07 06.5	-1.9
CHOJ	**Chosi**	**0.79**	**216**	⇓P		**P**		**15 06 58.7**	**-0.1**
CHOJ				*e*S		**S**		**15 07 10.1**	**+0.4**
ONAJ	**Iwakimizuishiy**	**0.91**	**326**	⇓P		**P**		**15 07 00.1**	**-0.3**
JYT	**Yasato**	**1.01**	**264**	⇓P		**P**		**15 07 01.7**	**-0.2**
JFK	**Kawauchi**	**1.11**	**336**	⇓P		**P**		**15 07 02.9**	**-0.4**
JSB	**Shiboa**	**1.36**	**297**	⇓P		**P**		**15 07 07.9**	**+0.9**
JFT	**Otama**	**1.46**	**323**	⇓P		**P**		**15 07 09.1**	**+0.7**
JFT				S		**S**		**15 07 27.6**	**+1.1**
TOK	**Tokyo**	**1.51**	**245**	P		**P**		**15 07 09.7**	**+0.6**
JAG	**Ashikaga**	**1.60**	**273**	⇓P		**P**		**15 07 10.4**	**0.0**
JAG				S		**S**		**15 07 30.0**	**0.0**
JMM	**Marumori**	**1.60**	**342**	⇓P		**P**		**15 07 09.9**	**-0.5**
JMM				S		**S**		**15 07 29.6**	**-0.4**
BSO3	**Boso 3**	**1.72**	**206**	⇑P		**P**		**15 07 12.3**	**+0.3**
BSO1	**Boso 1**	**1.73**	**192**	P		**P**		**15 07 11.8**	**-0.4**
JFY	**Yanaizu**	**1.74**	**308**	⇓P		**P**		**15 07 13.1**	**+0.7**
JFY				*e*S		**S**		**15 07 36.5**	**+2.9**
JKT	**Katashina**	**1.81**	**284**	⇓P		**P**		**15 07 14.1**	**+0.8**
JKT				S		**S**		**15 07 35.8**	**+0.6**
JRY	**Ryogami san**	**2.07**	**262**	⇓P		**P**		**15 07 17.1**	**0.0**
JIO	**Ouri**	**2.10**	**358**	⇓P		**P**		**15 07 16.5**	**-1.0**
JOU	**Okura**	**2.10**	**343**	⇓P		**P**		**15 07 17.4**	**-0.2**
JHK	**Hiroka**	**2.14**	**296**	⇓P		**P**		**15 07 19.1**	**+1.1**
JYS	**Shirataka**	**2.16**	**330**	⇓P		**P**		**15 07 19.1**	**+0.7**
JOD2	**Odawara 2**	**2.19**	**241**	⇓P		**P**		**15 07 20.0**	**+1.2**
JNS	**Sasagawa**	**2.24**	**312**	⇓P		**P**		**15 07 19.9**	**+0.4**
JGK	**Kuni**	**2.26**	**276**	⇓P		**P**		**15 07 20.4**	**+0.6**
JIZZ	**Izumozaki**	**2.48**	**299**	⇓P		**P**		**15 07 24.5**	**+1.6**
JYN	**Shimob**	**2.49**	**251**	⇓P		**P**		**15 07 24.3**	**+1.2**
JMK	**Ichinoseki**	**2.60**	**356**	P		**P**		**15 07 24.1**	**-0.6**
MAJO	**Matsushiro**	**2.61**	**275**	⇓*e*P		**P**		**15 07 25.1**	**+0.3**
MAT	**Matsushiro**	**2.61**	**275**	P		**P**		**15 07 24.6**	**-0.2**
MAT				S		**S**		**15 07 58.4**	**+2.9**
MAT	**Matsushiro**	**2.61**	**275**	P		**P**		**15 07 25.2**	**+0.4**
MAT	**Matsushiro**	**2.61**	**275**	*e*P		**P**		**15 07 25.0**	**+0.2**
MAT				*e*S		**S**		**15

YSS			pmax	pmax		
	comp=N,220nm,0.9s					
YSS			pmax	pmax		
	comp=Z,220nm,0.9s					
YSS			pmax	pmax		
	comp=N,330nm,1.0s					
YSS			smax			
	comp=E,180nm,1.0s					
YSS			smax			
	comp=Z,2μm,4.0s					
YSS			MLR	MLR		
	comp=N,5μm,18.0s					
YSS			MLR	MLR		
	comp=Z,4μm,18.0s					
YSS			MLR	MLR		
	comp=E,4μm,19.0s					
KS15	**Wonju Array Si**	**10.91 280**	⇑*e*P	**P**	**15 09 21.7**	**+1.1**
INCN	**Inchon**	**11.90 280**	*e*P	**P**	**15 09 34.6**	**+0.5**
	comp=E,152nm,0.9s					
MDJ	**Mudanjiang**	**12.21 316**	P	**P**	**15 09 36.6**	**-1.7**
MDJ			AP		15 09 44.4	
MDJ			XP		15 09 48.9	
MDJ			S	**S**	**15 11 52.7**	**-1.5**
MDJ			PCP	PcP	15 15 18.1	-1.3
MDJ			SCP		15 18 48.9	
MDJ			PCS		15 18 52.4	
MDJ			AMB	AMB		
	comp=Z,22nm,1.3s					
MDJ			AMB	AMB		
	comp=Z,578nm,7.3s					
MDJ			LR	LR		
	comp=N,6μm,17.3s					
MDJ			LR	LR		
	comp=E,6μm,18.8s					
MDJ			LR	LR		
	comp=Z,13μm,16.8s					
MDJ	**Mudanjiang**	**12.21 316**	*e*P	**P**	**15 09 36.9**	**-1.4**
	comp=Z,174nm,0.8s					
UGL	**Uglegorsk**	**12.73 2**	P	**P**	**15 09 40.0**	**-5.2**
UGL			pmax	pmax		
	comp=N,67nm,1.0s					
UGL			pmax	pmax		
	comp=E,135nm,1.0s					
UGL			pmax	pmax		
	comp=Z,500nm,6.0s					
UGL			MLR	MLR		
	comp=N,6μm,18.0s					
UGL			MLR	MLR		
	comp=E,11μm,18.0s					
UGL			MLR	MLR		
	comp=Z,7μm,18.0s					
CN2	**Changchun**	**14.31 306**	*e*P	**P**	**15 10 04.4**	**-1.5**
CN2			*e*AP		15 10 13.0	
CN2			PP	PP	15 10 16.7	-0.5
CN2			*e*XP		15 10 19.6	
CN2			*e*S	**S**	**15 12 41.3**	**-3.0**
CN2			AMB	AMB		
	comp=Z,70nm,1.4s					
CN2			AMB	AMB		
	comp=Z,1μm,10.0s					
CN2			LR	LR		
	comp=N,8μm,14.0s					
CN2			LR	LR		
	comp=E,10μm,14.0s					
CN2			LR	LR		
	comp=Z,11μm,16.0s					
JOW	**Kunigami**	**14.67 233**	Pn	**P**	**15 10 08.6**	**-2.2**
	comp=Z,0.5nm,0.3s,baz=44,slow=8.0,SNR=4.8					
KLR	**Kul'dur**	**14.69 334**	*e*P	**P**	**15 10 04.8**	**-6.0**
KLR			MLR	MLR		
	comp=N,8μm,14.0s					
KLR			MLR	MLR		
	comp=E,4μm,14.0s					
KLR			MLR	MLR		
	comp=Z,10μm,14.0s					
SNY	**Shenyang**	**14.90 297**	⇑P	**P**	**15 10 13.0**	**-0.6**
SNY			XP		15 10 18.4	
SNY			PP	PP	15 10 25.4	0.0
SNY			AMB	AMB		
	comp=Z,150nm,1.2s					
SNY			AMB	AMB		
	comp=Z,2μm,12.3s					
SNY			LR	LR		
	comp=N,6μm,10.8s					
SNY			LR	LR		
	comp=E,8μm,14.4s					
SNY			LR	LR		
	comp=Z,10μm,21.0s					
DL2	**Dalian**	**15.90 285**	⇑P	**P**	**15 10 26.9**	**+0.4**
DL2			XP		15 10 39.6	
DL2			*e*S	**S**	**15 13 22.3**	**+0.9**
DL2			AMB	AMB		
	comp=Z,110nm,1.2s					
DL2			AMB	AMB		
	comp=Z,600nm,5.7s					
DL2			LR	LR		
	comp=N,2μm,12.0s					
DL2			LR	LR		
	comp=E,5μm,15.3s					
DL2			LR	LR		
	comp=Z,7μm,16.3s					
SSE	**Sheshan**	**17.63 259**	*e*P	**P**	**15 10 47.2**	**-1.2**
SSE			AP		15 10 58.9	
SSE			S	**S**	**15 14 01.2**	**0.0**
SSE			AMB	AMB		
	comp=Z,58nm,0.8s					
SSE			AMB	AMB		
	comp=Z,811nm,6.9s					
SSE			LR	LR		
	comp=N,6μm,23.4s					
SSE			LR	LR		
	comp=E,2μm,23.4s					
SSE			LR	LR		
	comp=Z,7μm,20.9s					
SKR	**Severo-Kuril's**	**17.80 32**	*e*P	**P**	**15 10 41.5**	**-8.9**
SKR			pmax	pmax		
	comp=N,1μm,2.0s					
SKR			pmax	pmax		
	comp=E,1μm,2.0s					
SKR			pmax	pmax		
	comp=Z,1μm,2.0s					
SKR			pmax	pmax		
	comp=N,50nm,0.7s					
SKR			pmax	pmax		
	comp=Z,70nm,0.7s					
SKR			pmax	pmax		
	comp=E,110nm,1.0s					
SKR			MLR	MLR		
	comp=N,2μm,18.0s					
SKR			MLR	MLR		
	comp=E,3μm,18.0s					
SKR			MLR	MLR		
	comp=Z,3μm,18.0s					
NJ2	**Nanjing**	**19.15 264**	*e*P	**P**	**15 11 03.8**	**-3.1**
NJ2			AP		15 11 12.6	
NJ2			XP		15 11 15.5	
NJ2			S	**S**	**15 14 37.0**	**+1.5**
NJ2			XS		15 14 47.0	
NJ2			AMB	AMB		
	comp=Z,60nm,0.7s					
NJ2			AMB	AMB		
	comp=Z,290nm,5.5s					
NJ2			LR	LR		
	comp=N,10μm,16.8s					
NJ2			LR	LR		
	comp=E,12μm,19.0s					
NJ2			LR	LR		
	comp=Z,6μm,20.1s					
TIA	**Tai'an**	**19.59 277**	P	**P**	**15 11 07.7**	**-4.0**
TIA			AMB	AMB		
	comp=Z,183nm,1.2s					
TIA			LR	LR		
	comp=N,3μm,12.0s					
TIA			LR	LR		
	comp=E,4μm,12.0s					
HIA	**Hailar**	**20.40 316**	*e*P	**P**	**15 11 15.2**	**-5.0**
	comp=E,57nm,0.6s					
HIA	**Hailar**	**20.40 316**	*e*P	**P**	**15 11 15.2**	**-5.1**
HIA			pmax	pmax		
	comp=Z,57nm,0.6s					
TATO	**Taipei**	**20.52 242**	PFAKE		15 11 30.0	+8.3
TATO			LR	LR		
	comp=Z,5μm,19.0s,MS4.9					
PET	**Petropavlovsk**	**20.59 31**	*e*P	**P**	**15 11 20.8**	**-1.4**
	comp=Z,122nm,0.9s					
PET			LR	LR		
	comp=Z,3μm,22.0s,MS4.6					
PET	**Petropavlovsk**	**20.59 31**	*e*P	**P**	**15 11 20.9**	**-1.3**
PET			pmax	pmax		
	comp=Z,123nm,1.1s					
PET			MLR	MLR		
	comp=Z,3μm,23.0s,MS4.6					
NACB	**Ninganchiao**	**20.95 240**	*e*P	**P**	**15 11 20.6**	**-5.5**
QZH	**Quanzhou**	**22.64 246**	⇓*i*P	**P**	**15 11 40.1**	**-2.9**
QZH			S	**S**	**15 15 44.0**	**+0.2**
QZH			AMB	AMB		
	comp=Z,280nm,1.0s,mb5.7					
QZH			LR	LR		
	comp=N,10μm,23.9s,MS5.4					
QZH			LR	LR		
	comp=E,11μm,19.4s,MS5.4					
QZH			LR	LR		
	comp=Z,11μm,18.5s,MS5.3					
GUMO	**Guam**	**22.87 171**	*e*P	**P**	**15 11 47.0**	**+1.7**
WHN	**Wuhan**	**23.29 263**	⇑P	**P**	**15 11 47.5**	**-1.7**
WHN			S	**S**	**15 15 59.0**	**+3.8**
WHN			LR	LR		
	comp=N,7μm,13.1s,MS5.5					
WHN			LR	LR		
	comp=E,7μm,12.2s,MS5.5					
WHN			LR	LR		
	comp=Z,13μm,21.0s					
CLNS	**Chul'man**	**23.32 337**	*e*P	**P**	**15 11 46.0**	**-3.2**
CLNS			*e**PP		15 11 49.1	
CLNS			*e*PPP	PPP	15 12 20.9	-10
CLNS			*e*		15 15 32.6	
CLNS			*e*S	**S**	**15 15 52.6**	**-2.8**
CLNS			*e*SS	SS	15 16 36.6	-6.5
CLNS			*e*SSS	SSS	15 16 56.9	-2.4
CLNS			*e*		15 23 01.0	
CLNS			pmax	pmax		
	comp=N,25nm,0.8s					
CLNS			pmax	pmax		
	comp=Z,45nm,0.8s,mb5.0					
CLNS			pmax	pmax		
	comp=E,20nm,1.0s					
CLNS			pmax	pmax		
	comp=N,108nm,1.0s					
CLNS			pmax	pmax		
	comp=Z,128nm,1.0s,mb5.3					
CLNS			pmax	pmax		
	comp=E,56nm,0.8s					
CLNS			smax			
	comp=N,73nm,1.0s					
CLNS			smax			
	comp=E,12nm,0.9s					
CLNS			smax			
	comp=Z,21nm,0.9s					
CLNS			MLR	MLR		
	comp=N,4μm,14.0s,MS5.0					
CLNS			MLR	MLR		
	comp=Z,6μm,14.0s,MS5.2					
CLNS			MLR	MLR		
	comp=E,400nm,16.0s,MS5.0					
HHC	**Hu-ho-hao-te**	**23.71 290**	*e*P	**P**	**15 11 50.2**	**-3.0**
HHC			AP		15 12 00.7	
HHC			XP		15 12 04.2	
HHC			PP	PP	15 12 20.9	-5.8
HHC			S	**S**	**15 15 55.6**	**-6.9**
HHC			XS		15 16 16.4	
HHC			AMB	AMB		
	comp=Z,40nm,1.1s,mb4.8					
HHC			AMB	AMB		
	comp=Z,764nm,4.5s					
HHC			LR	LR		
	comp=N,3μm,16.7s,MS5.0					
HHC			LR	LR		
	comp=E,4μm,15.5s,MS5.0					
HHC			LR	LR		
	comp=Z,5μm,16.1s,MS5.1					
MA2	**Magadan**	**24.02 12**	⇑*i*P	**P**	**15 11 55.8**	**-0.2**
	comp=Z,158nm,0.9s,mb5.4					
MA2			LR	LR		
	comp=Z,2μm,22.0s,MS4.5					
MA2	**Magadan**	**24.02 12**	⇑*i*P	**P**	**15 11 55.8**	**-0.2**
MA2			pmax	pmax		
	comp=Z,158nm,0.9s,mb5.4					
MA2			MLR	MLR		
	comp=Z,2μm,22.0s,MS4.5					
BTO	**Baotou**	**24.88 289**	*e*P	**P**	**15 12 02.1**	**-2.5**
BTO			AMB	AMB		
	comp=Z,43nm,1.0s,mb4.9					
BTO			LR	LR		
	comp=N,1μm,12.7s,MS5.1					
BTO			LR	LR		
	comp=E,4μm,15.1s,MS5.1					
CVP	**Callao Caves**	**25.41 228**	*e*P	**P**	**15 12 16.0**	**+6.2**
XAN	**Xi'an**	**26.60 275**	P	**P**	**15 12 18.5**	**-2.3**
XAN			AP	pP	15 12 28.3	-2.8
XAN			PP	PP	15 12 59.5	-5.8
XAN			AMB	AMB		
	comp=Z,201nm,1.5s,mb5.4					
XAN			AMB	AMB		
	comp=Z,490nm,6.7s					
XAN			LR	LR		
	comp=N,788nm,16.8s,MS4.9					
XAN			LR	LR		
	comp=E,3μm,17.7s,MS4.9					
XAN			LR	LR		
	comp=Z,5μm,17.2s,MS5.1					
YAK	**Yakutsk**	**26.74 348**	⇑*i*P	**P**	**15 12 20.0**	**-1.7**
	comp=Z,352nm,0.8s,mb5.9					
YAK			LR	LR		
	comp=Z,4μm,19.0s,MS5.0					
YAK	**Yakutsk**	**26.74 348**	*c i*P	**P**	**15 12 20.4**	**-1.3**
YAK			*e**PP	pP	15 12 29.9	-2.2
YAK			*e*		15 12 59.9	
YAK			*e*		15 15 46.1	
YAK			*e*S	**S**	**15 16 51.1**	**-1.8**
YAK			*e*SSS	SSS	15 18 08.3	-16
YAK			pmax	pmax		
	comp=Z,430nm,1.0s,mb5.9					
YAK			pmax	pmax		
	comp=N,146nm,0.9s					
YAK			pmax	pmax		
	comp=E,77nm,1.1s					
YAK			pmax	pmax		
	comp=N,36nm,1.1s					
YAK			pmax	pmax		
	comp=Z,44nm,1.1s,mb4.9					
YAK			pmax	pmax		
	comp=E,23nm,0.8s					
YAK			smax			
	comp=N,13nm,1.2s					
YAK			smax			
	comp=E,19nm,1.2s					
YAK			MLR	MLR		
	comp=Z,2μm,15.0s,MS4.9					
YAK			MLR	MLR		
	comp=N,3μm,18.0s,MS5.0					
YAK			MLR	MLR		
	comp=E,2μm,17.0s,MS5.0					
ENH	**Enshi**	**27.30 266**	⇑*i*P	**P**	**15 12 25.2**	**-2.0**
	comp=E,517nm,0.8s,mb6.1					
SEY	**Seymchan**	**27.46 11**	*e*P	**P**	**15 12 28.1**	**-0.2**
GZH	**Guangzhou**	**27.63 249**	P	**P**	**15 12 24.8**	**-5.5**
GZH			S	**S**	**15 17 01.1**	**-6.6**
GZH			LR	LR		
	comp=N,4μm,16.5s,MS5.1					
GZH			LR	LR		
	comp=E,2μm,16.9s,MS5.1					
GZH			LR	LR		
	comp=Z,4μm,14.0s,MS5.2					
FX1	**Attu Island--F**	**27.68 43**	LR	LR	15 23 42.4	
	comp=Z,73nm,18.0s,baz=12,slow=37					
FX1	**Attu Island--F**	**27.68 43**	*e*P	**P**	**15 12 31.2**	**+0.8**
WAKE	**Wake Island**	**27.92 121**	PFAKE		15 12 40.0	+7.1
WAKE			LR	LR		
	comp=Z,4μm,19.0s,MS5.0					
SMY	**Shemya**	**28.15 44**	PFAKE		15 12 50.0	+15
SMY			LR	LR		
	comp=Z,4μm,19.0s,MS5.1					
SONM	**Songino Array**	**28.18 305**	P	**P**	**15 12 33.8**	**-1.2**
	comp=Z,80nm,0.6s,mb5.5,baz=107,slow=9.4,SNR=454					
SONM			LR	LR	15 24 13.9	
	comp=Z,4μm,18.9s,MS5.0,baz=102,slow=37					
SONM	**Songino Array**	**28.18 305**	P	**P**	**15 12 33.8**	**-1.2**
SONM			pmax	pmax		
	comp=Z,80nm,0.6s					
SONM			MLR	MLR		
	comp=Z,4μm,18.9s					
LZH	**Lanzhou**	**30.20 281**	P	**P**	**15 12 51.8**	**-1.3**
LZH			AP	pP	15 13 02.5	-1.2
LZH			XP	sP	15 13 06.2	-2.4
LZH			S	**S**	**15 17 57.0**	**+8.4**
LZH			AMB	AMB		
	comp=Z,210nm,1.0s,mb5.8					
LZH			AMB	AMB		
	comp=Z,1μm,5.8s					
LZH			LR	LR		
	comp=E,14μm,16.3s					
LZH			LR	LR		
	comp=Z,17μm,18.1s,MS5.7					
IRK	**Irkutsk**	**30.57 313**	*e*P	**P**	**15 12 55.0**	**-1.2**
IRK			pmax	pmax		
	comp=Z,149nm,2.2s,mb5.4					
ZAK	**Zakamensk**	**30.71 309**	*e*P	**P**	**15 12 56.0**	**-1.4**
ZAK			pmax	pmax		
	comp=Z,95nm,1.0s,mb5.6					
ZAK			pmax	pmax		
	comp=Z,14nm,1.0s,mb4.8					
TLY	**Talaya**	**30.79 312**	*e*P	**P**	**15 12 56.1**	**-2.0**
	comp=Z,198nm,1.1s,mb5.8					
TLY			LR	LR		
	comp=Z,1μm,19.0s,MS4.6					
TLY	**Talaya**	**30.79 312**	*e*P	**P**	**15 12 56.6**	**-1.6**
TLY			*e*		15 14 16.3	
TLY			pmax	pmax		
	comp=Z,176nm,1.1s,mb5.8					
TLY			MLR	MLR		
	comp=Z,7μm,16.0s,MS5.4					
GYA	**Guiyang**	**31.13 261**	⇑*i*P	**P**	**15 12 58.2**	**-3.2**
GYA			AP	pP	15 13 09.4	-2.6
GYA			XP	sP	15 13 15.5	-1.4
GYA			PP	PP	15 13 59.8	-4.7
GYA			PCP	PcP	15 15 58.3	+2.2
GYA			S	**S**	**15 18 00.4**	**-2.8**
GYA			XS		15 18 16.0	
GYA			SCP		15 19 33.5	
GYA			AMB	AMB		
	comp=Z,350nm,1.1s,mb6.1					
GYA			LR	LR		
	comp=N,2μm,18.3s,MS5.0					
GYA			LR	LR		
	comp=E,2μm,21.2s,MS5.0					
GYA			LR	LR		
	comp=Z,2μm,21.3s,MS4.8					
CD2	**Chengdu**	**31.70 271**	P	**P**	**15 13 04.1**	**-2.2**
CD2			PP	PP	15 14 10.5	-1.4
CD2			PPP	PPP	15 14 22.5	-4.4
CD2			S	**S**	**15 18 06.6**	**-5.5**
CD2			SS	SS	15 19 59.4	-4.0
CD2			AMB	AMB		
	comp=Z,170nm,0.9s,mb5.9					
CD2			LR	LR		
	comp=N,3μm,14.4s					
CD2			LR	LR		
	comp=Z,3μm,18.0s,MS5.0					
MOY	**Mondy**	**32.40 311**	*e*P	**P**	**15 13 11.6**	**-0.6**
MOY			pmax	pmax		
	comp=Z,124nm,1.8s,mb5.4					
QIZ	**Qiongzhong**	**32.66 247**	P	**P**	**15 13 15.1**	**+0.2**
QIZ			S	**S**	**15 18 22.4**	**-4.9**
QIZ			AMB	AMB		
	comp=Z,39nm,1.0s,mb5.3					
QIZ			LR	LR		
	comp=E,2μm,15.4s					
QIZ			LR	LR		
	comp=Z,2μm,15.6s,MS5.0					
QIZ	**Qiongzhong**	**32.66 247**	*e*P	**P**	**15 13 13.1**	**-1.8**
	comp=Z,47nm,1.1s,mb5.3					
GTA	**Gaotai**	**32.78 288**	P	**P**	**15 13 14.6**	**-1.2**
GTA			AP	pP	15 13 24.4	-2.0
GTA			XP	sP	15 13 29.2	-2.1
GTA			PP	PP	15 14 25.0	-0.9
GTA			PPP	PPP	15 14 41.0	-0.8
GTA			PCP	PcP	15 16 00.8	+0.4
GTA			S	**S**	**15 18 26.6**	**-2.4**
GTA			XS		15 18 48.4	
GTA			SCP		15 19 41.2	
GTA			PCS		15 19 44.9	
GTA			SS	SS	15 20 23.8	-4.8
GTA			SCS	ScS	15 23 40.3	+1.7
GTA			AMB	AMB		
	comp=Z,109nm,0.8s,mb5.8					
GTA			AMB	AMB		
	comp=Z,561nm,6.1s					
GTA			LR	LR		
	comp=N,2μm,17.2s,MS5.3					
GTA			LR	LR		
	comp=E,5μm,17.6s,MS5.3					
GTA			LR	LR		
	comp=Z,7μm,18.0s,MS5.4					
BILL	**Bilibino**	**34.68 16**	*e*P	**P**	**15 13 30.0**	**-1.8**
	comp=Z,55nm,1.1s,mb5.4					
BILL	**Bilibino**	**34.68 16**	*i* P	**P**	**15 13 30.3**	**-1.5**
BILL			*e*		15 16 05.2	
BILL			pmax	pmax		
	comp=Z,43nm,0.9s,mb5.4					
BILL			MLR	MLR		
	comp=Z,2μm,15.0s,MS4.9					
KMI	**Kunming**	**34.88 262**	P	**P**	**15 13 32.6**	**-1.3**
KMI			AP	pP	15 13 44.6	0.0
KMI			XP	sP	15 13 48.7	-0.8
KMI			PP	PP	15 14 52.2	-0.1
KMI			PPP	PPP	15 15 13.6	+3.3
KMI			PCP	PcP	15 16 06.5	0.0
KMI			S	**S**	**15 19 01.2**	**-0.4**
KMI			XS		15 19 19.4	
KMI			SS	SS	15 21 11.8	-5.1
KMI			SSS	SSS	15 21 44.4	+0.4
KMI			AMB	AMB		
	comp=Z,217nm,1.0s,mb6.0					
KMI			AMB	AMB		
	comp=Z,603nm,3.1s					
KMI			LR	LR		
	comp=N,4μm,18.3s,MS5.4					
KMI			LR	LR		
	comp=E,5μm,16.3s,MS5.4					
KMI			LR	LR		
	comp=Z,5μm,17.3s,MS5.3					
TIXI	**Tiksi**	**35.97 353**	*e*P	**P**	**15 13 37.8**	**-5.0**
TIXI			*e*S	**S**	**15 19 11.4**	**-6.6**
KKM	**Kota Kinabalu**	**37.99 224**	P	**P**	**15 14 11.4**	**+11**
KKM	**Kota Kinabalu**	**37.99 224**	P	**P**	**15 13 56.2**	**-4.1**
TSM	**Tawau**	**38.57 220**	P	**P**	**15 14 04.0**	**-1.1**
KKTK	**Khon Kaen**	**39.59 250**	⇑P	**P**	**15 14 12.0**	**-1.5**
	comp=Z,1μm,0.5s					
NANT	**Nan**	**39.77 255**	PG	**P**	**15 14 12.0**	**-3.0**
CHRT	**Chiangrai**	**39.90 257**	⇑P	**P**	**15 14 14.0**	**-2.1**
	comp=Z,1μm,0.7s					
WMQ	**Urumqi**	**41.17 298**	⇑*i*P	**P**	**15 14 27.0**	**+0.7**
WMQ			AP	pP	15 14 39.0	+1.9
WMQ			PP	PP	15 16 06.0	+1.6
WMQ			SS	SS	15 23 35.0	-1.0
WMQ			AMB	AMB		
	comp=Z,106nm,1.0s,mb5.4					
WMQ			AMB	AMB		
	comp=Z,175nm,7.0s					
WMQ			LR	LR		
	comp=N,2μm,18.0s,MS5.2					
WMQ			LR	LR		
	comp=E,3μm,20.0s,MS5.2					
WMQ			LR	LR		
	comp=Z,3μm,20.0s,MS5.2					
BDT	**Bhumibol Dam**	**41.98 255**	P	**P**	**15 14 41.5**	**+8.2**
	comp=Z,78nm,0.8s,mb5.4					
NST	**Nakhon Sawan**	**42.04 252**	⇓P	**P**	**15 14 33.0**	**-0.8**
	comp=Z,175nm,1.2s,mb5.6					
IMP	**Imphal**	**42.12 268**	*e*P	**P**	**15 14 32.0**	**-2.3**
LSA	**Lhasa**	**42.29 276**	P	**P**	**15 14 36.2**	**+0.5**
LSA			AMB	AMB		
	comp=Z,130nm,1.3s,mb5.4					
LSA			LR	LR		
	comp=N,990nm,17.8s,MS5.3					
LSA			LR	LR		
	comp=E,3μm,15.8s,MS5.3					
LSA			LR	LR		
	comp=Z,5μm,13.8s,MS5.5					
LSA	**Lhasa**	**42.29 276**	*e*P	**P**	**15 14 36.7**	**+1.0**
	comp=Z,162nm,1.0s,mb5.6					
LSA	**Lhasa**	**42.29 276**	*e*P	**P**	**15 14 36.7**	**+1.0**
LSA			pmax	pmax		
	comp=Z,162nm,1.0s,mb5.6					
ZAL	**Zalesovo**	**42.40 313**	P	**P**	**15 14 35.2**	**-1.0**
	comp=Z,86nm,0.6s,mb5.6,baz=22,slow=7.8,SNR=428					
ZAL	**Zalesovo**	**42.40 313**	P	**P**	**15 14 35.2**	**-1.1**
ZAL	**Zalesovo**	**42.40 313**	P	**P**	**15 14 35.2**	**-1.1**

ZAL pmax pmax
comp=Z,86nm,0.6s
NVS Novosibirsk 43.33 314 *i* P **P 15 14 43.0 -0.8**
NVS *e*S **S 15 20 58.2 -10**
NVS pmax pmax
comp=N,51nm,1.3s
NVS pmax pmax
comp=E,135nm,1.3s
NVS pmax pmax
comp=Z,318nm,1.3s,mb5.9
NVS smax
comp=N,23nm,2.0s
NVS smax
comp=E,47nm,1.7s
SHL Shillong 43.42 270 *e*P **P 15 14 45.0 0.0**
comp=E,90nm,1.0s,mb5.5
SHL *e*S **S 15 21 12.0 +1.9**
NNT Nongplab 44.25 249 P **P 15 14 50.8 -1.0**
MK02 Makanchi Array 44.49 303 P **P 15 14 53.1 -0.2**
MK02 pmax pmax
comp=Z,139nm,0.8s,mb5.7
MKAR Makanchi Array 44.50 303 P **P 15 14 53.2 -0.1**
comp=Z,141nm,0.8s,mb5.7,baz=85,slow=9.0,SNR=582
MKAR ScP 15 20 26.3
comp=Z,5.9nm,1.0s,baz=76,slow=5.9,SNR=3.9
MKAR LR LR 15 34 11.0
comp=Z,3μm,18.4s,MS5.3,baz=3.3,slow=37
MKAR Makanchi Array 44.50 303 P **P 15 14 53.2 -0.1**
MKAR ScP 15 20 26.3
MKAR LR LR 15 34 11.0
MKAR Makanchi Array 44.50 303 P **P 15 14 53.2 -0.2**
MKAR pmax pmax
comp=Z,141nm,0.8s
MKAR pmax pmax
comp=N,6.0nm,1.0s
MKAR MLR MLR
comp=Z,3μm,18.4s
KSM Kuching 45.09 227 *e*P **P 15 14 57.8 -0.8**
PMG Port Moresby 45.83 172 P **P 15 15 04.7 +0.3**
comp=Z,30nm,1.1s,mb5.2,baz=288,slow=5.0,SNR=4.4
PMG pP pP 15 15 14.4 -0.9
comp=Z,55nm,1.0s,baz=359,slow=9.0,SNR=7.9
PMG LR LR 15 30 57.0
comp=Z,654nm,20.1s,MS4.6,baz=194,slow=32
PMG Port Moresby 45.83 172 *e*P **P 15 15 04.3 -0.1**
comp=Z,46nm,0.9s,mb5.4
PMG Port Moresby 45.83 172 P **P 15 15 04.7 +0.3**
PMG *PP pP 15 15 14.4 -0.9
PMG pmax pmax
comp=Z,31nm,1.1s
PMG pmax pmax
comp=Z,55nm,1.0s
SVW2 Sparrevohn 46.06 37 *e*P **P 15 15 06.8 +1.2**
KURK Kurchatov 46.37 309⇑ *i*P **P 15 15 07.2 -1.0**
comp=Z,208nm,0.8s,mb6.1
KURK Kurchatov 46.37 309 P **P 15 15 06.4 -1.8**
KURK pmax pmax
comp=Z,210nm,0.8s,mb6.1
SNG Songkhla 47.19 242 P **P 15 15 15.0 -0.2**
comp=Z,164nm,0.8s,mb6.0
RSO Redoubt South 47.43 38 *e*P **P 15 15 16.0 -0.4**
KDAK Kodiak Island 47.60 42 *e*P **P 15 15 17.4 -0.4**
KDAK LR LR
comp=Z,1μm,18.0s,MS4.9
CAL Calcutta 47.70 268 *e*x x 15 22 29.8
PKI Pulchoki 47.76 276 *e*P **P 15 15 19.4 -0.1**
comp=Z,660nm,1.1s,mb6.6
SPU Mount Spurr 47.77 37 *e*P **P 15 15 19.2 +0.1**
KKN Kakani 47.77 276 *e*P **P 15 15 19.6 0.0**
comp=Z,806nm,1.0s
DMN Daman 47.99 276 *e*P **P 15 15 21.1 -0.2**
comp=Z,464nm,1.2s,mb6.4
GKN Gorkha 48.20 277 *e*P **P 15 15 22.7 -0.2**
comp=Z,2μm,1.1s
KULM Kulim 48.49 240 *e*P **P 15 15 24.3 -1.0**
SLKM Skilak Lake 48.69 38 *e*P **P 15 15 24.8 -1.3**
SLKM Skilak Lake 48.69 38 P **P 15 15 26.1 -0.1**
IPM Ipoh 48.73 239 P **P 15 15 26.5 -0.6**
HNR Honiara 48.76 155 pP pP 15 15 35.5 -2.7
comp=Z,50nm,0.8s,baz=11,slow=18,SNR=2.4
HNR LR LR 15 32 45.0
comp=Z,2μm,19.8s,MS5.0,baz=153,slow=32
KGM Kluang 49.05 235 P **P 15 15 29.6 0.0**
KOLN Koldanda 49.13 277 *e*P **P 15 15 30.1 +0.1**
comp=Z,959nm,1.3s
PMR Palmer 49.17 36 *e*P **P 15 15 28.5 -1.4**
PMR LR LR
comp=Z,2μm,18.0s,MS5.1
MCK McKinley 49.20 33 *e*P **P 15 15 29.2 -0.8**
comp=Z,14nm,0.9s,mb5.0
MCK McKinley 49.20 33 P **P 15 15 30.1 0.0**
MCK pmax pmax
comp=Z,14nm,0.9s,mb5.0
KAKA Kakadu 49.53 192⇑ *i*P **P 15 15 38.9 +5.6**
comp=Z,130nm,0.9s,mb6.0
SML Sawmill 49.54 36 *e*P **P 15 15 31.7 -1.0**
SML Sawmill 49.54 36 P **P 15 15 32.2 -0.5**
ULHL Ulahol 49.70 298 P **P 15 15 37.0 +2.8**
SNR=8.4
TKM2 Tokmak 2 49.97 299 P **P 15 15 37.1 +0.8**
SNR=190
ILAR Eielson Array 50.07 32 P **P 15 15 35.9 -0.9**
comp=Z,41nm,0.8s,mb5.5,baz=268,slow=6.1,SNR=408
ILAR Eielson Array 50.07 32 P **P 15 15 35.9 -0.8**
ILAR pmax pmax
comp=Z,41nm,0.8s
KZA Kyzart 50.45 298 P **P 15 15 41.6 +1.6**
SNR=63
KBK Karagaybulak 50.50 299 P **P 15 15 40.9 +0.5**
SNR=143
CHMS Chumysh 50.55 299 P **P 15 15 40.7 0.0**
SNR=41
USP Ospenovka 50.65 300 P **P 15 15 41.4 -0.1**
SNR=140
FRU Bishkek 50.69 299⇑ *i*P **P 15 15 41.5 -0.3**
FRU *i* pP 15 15 51.0 -1.7
FRU pmax pmax
comp=Z,360nm,1.6s,mb6.0
FRU MLR MLR
comp=Z,6μm,16.0s,MS5.7
KSH Kashi 50.70 295⇑ *i*P **P 15 15 43.1 +1.2**
KSH AP pP 15 15 54.3 +1.4
KSH XP sP 15 15 59.1 +1.6
KSH PCP PcP 15 16 59.3 +0.3
KSH PP PP 15 17 39.1 +0.2
KSH PPP PPP 15 18 37.3 -0.5
KSH SCP 15 20 50.1
KSH PCS 15 20 55.0
KSH S **S 15 22 53.4 +0.3**
KSH PS PS 15 23 07.0 +0.2
KSH XS 15 23 13.2
KSH SCS ScS 15 25 25.2 -1.2
KSH SS SS 15 26 23.1 -2.0
KSH AMB AMB
comp=Z,860nm,3.4s
KSH LR LR
comp=N,4μm,16.1s,MS5.6
KSH LR LR
comp=E,3μm,17.5s,MS5.6
VOSK Vostochnaya 50.75 312 *i* P **P 15 15 41.2 -0.9**
DIV Divide 50.81 37 *e*P **P 15 15 42.5 0.0**
comp=E,307nm,1.3s,mb6.1
AAK Ala-Archa 50.83 299 P **P 15 15 42.9 +0.1**
SNR=29
AAK Ala-Archa 50.83 299 *e*P **P 15 15 41.2 -1.7**
comp=E,89nm,0.9s,mb5.7
AAK Ala-Archa 50.83 299*c* *i*P **P 15 15 41.9 -1.0**
AAK pmax pmax
comp=Z,126nm,1.4s,mb5.7
AAK MLR MLR
comp=Z,9μm,22.0s,MS5.7
BWNR Bhubaneshwar 50.85 267 *e*x x 15 15 48.9
BWNR AMb AMB 15 15 53.0
comp=Z,168nm,1.3s,mb5.8
EYAK Cordova Ski Ar 50.89 37 *e*P **P 15 15 42.9 -0.1**
BVA0 Borovoye Array 51.05 313 P **P 15 15 43.6 -0.7**
BVA0 pmax pmax
comp=Z,35nm,1.2s,mb5.2
BVAR Borovoye Array 51.05 313 S **S 15 23 00.2 +2.6**
comp=Z,0.9nm,0.8s,baz=138,slow=19,SNR=2.3
BRVK Borovoye 51.10 313⇑ *i*P **P 15 15 43.9 -0.9**
comp=Z,83nm,1.0s,mb5.6
BRVK Borovoye 51.10 313⇑ *i*P **P 15 15 43.9 -0.9**
BRVK pmax pmax
comp=Z,83nm,1.0s,mb5.6
EKS2 Erkin-Say 51.33 299 P **P 15 15 46.6 0.0**
SNR=76
AML Almayashu 51.55 298 P **P 15 15 49.2 +0.9**
SNR=302
MENT Mentasta 51.59 34 *e*P **P 15 15 48.9 +0.6**
BLSP Bilaspur 52.90 272 *e*P **P 15 15 57.6 -1.1**
BLSP *e*x x 15 16 08.7
DAWY Dawson 53.37 33 *e*P **P 15 16 01.0 -0.6**
KKAR Karatay Array 53.48 301 *i* P **P 15 16 02.0 -0.7**
VIS Vishakhapatnam 54.19 266 *e*P **P 15 16 07.9 -0.3**
VIS AMb AMB 15 16 09.6
comp=Z,234nm,1.1s,mb6.0
INK Inuvik 54.99 27 P **P 15 16 13.1 -0.3**
comp=Z,47nm,0.8s,mb5.6,baz=290,slow=6.2,SNR=82
INK S **S 15 23 41.9 -9.2**
comp=Z,1.9nm,0.8s,baz=238,slow=9.5,SNR=3.8
INK Inuvik 54.99 27⇑ *e*P **P 15 16 12.8 -0.7**
comp=Z,55nm,0.8s,mb5.6
INK Inuvik 54.99 27 P **P 15 16 13.1 -0.3**
INK S **S 15 23 41.9 -9.1**
INK pmax pmax
comp=Z,47nm,0.8s
INK smax
comp=N,2.0nm,0.8s
SVE Sverdlovsk 55.67 319⇑ *i*P **P 15 16 17.5 -1.0**
SVE *e*S **S 15 24 05.0 +4.7**
SVE *e*PS PS 15 24 18.0 +0.9
SVE pmax pmax
comp=Z,500nm,1.9s,mb6.2
SVE MLR MLR
comp=N,2μm,15.0s,MS5.7
SVE MLR MLR
comp=E,4μm,15.0s,MS5.7
SVE MLR MLR
comp=Z,9μm,15.0s,MS6.0
BHPL Bhopal 56.15 275 *e*P **P 15 16 20.9 -1.5**
BHPL AMb AMB 15 16 22.3
comp=Z,129nm,1.3s,mb5.8
BHPL *e*x x 15 23 41.0
FITZ Fitzroy Crossi 56.17 198⇑ *i*P **P 15 16 21.4 -1.2**
comp=Z,42nm,0.6s,mb5.6
CTA Charters Tower 56.31 175⇑ *i*P **P 15 16 22.5 -1.1**
comp=Z,5.0nm,0.6s,mb4.7
CTA Charters Tower 56.31 175⇑ *i*P **P 15 16 22.5 -1.1**
CTA pmax pmax
comp=Z,5.0nm,0.6s
WRAB Tennant Creek 56.37 188 *e*P **P 15 16 21.5 -2.5**
comp=Z,116nm,0.9s,mb5.9
WRAB Tennant Creek 56.37 188⇑ *i*P **P 15 16 22.3 -1.7**
WB2 Warramunga Arr 56.38 188⇑ *i*P **P 15 16 21.7 -2.4**
WRA Warramunga Arr 56.38 188 P **P 15 16 21.8 -2.3**
comp=Z,27nm,0.8s,mb5.3,baz=6.1,slow=6.5,SNR=119
WRA ScP 15 21 16.8
comp=Z,6.1nm,1.1s,baz=9.1,slow=4.7,SNR=6.3
WRA S **S 15 24 17.8 +7.5**
comp=Z,1.5nm,0.7s,baz=9.1,slow=13,SNR=5.1
WRA PKPPKP 15 46 25.1
comp=Z,1.3nm,1.0s,baz=188,slow=1.9,SNR=4.1
WRA Warramunga Arr 56.38 188 P **P 15 16 21.8 -2.3**
WRA S **S 15 24 17.8 +7.5**
WRA pmax pmax
comp=Z,27nm,0.8s
WRA pmax pmax
comp=N,6.0nm,1.1s
WRA smax
comp=N,2.0nm,0.7s
WRA pmax pmax
comp=Z,1.0nm,1.0s
AJM Ajmer 56.85 280 *i* P **P 15 16 26.0 -1.3**
ARU Arti 56.88 319⇑ *i*P **P 15 16 25.9 -1.3**
comp=Z,243nm,0.9s,mb6.2
ARU Arti 56.88 319⇑ *i*P **P 15 16 26.1 -1.1**
ARU *i* 15 17 19.9
ARU *e* 15 18 33.3
ARU *e*PPP PPP 15 19 47.0 -7.8
ARU *e*S **S 15 24 19.0 +2.6**
ARU *e* 15 26 10.3
ARU *e*SS SS 15 28 07.8 +1.9
ARU pmax pmax
comp=Z,261nm,1.1s,mb6.2
ARU MLR MLR
comp=Z,3μm,17.0s,MS5.4
ARU MLR MLR
comp=N,600nm,16.0s,MS5.4
ARU MLR MLR
comp=E,2μm,16.5s,MS5.4
AKL Akola 57.74 273⇑ *i*x x 15 18 39.7
AKL *i* x x 15 20 12.5
HYB Hyderabad 58.20 269 *i* P **P 15 16 36.0 -0.9**
comp=E,200nm,1.0s,mb6.1
HYB *e*pP pP 15 16 45.0 -3.1
HYB Hyderabad 58.20 269 *e*P **P 15 16 36.0 -0.9**
comp=E,200nm,1.0s,mb6.1
HYB *e* pP 15 16 45.0 -3.1
HYB Hyderabad 58.20 269 *e*P **P 15 16 36.0 -0.9**
HYB *e* pP 15 16 45.0 -3.1
HYB pmax pmax
comp=Z,200nm,1.0s,mb6.1
AB31 Akbulak array 58.39 310 P **P 15 16 36.7 -1.2**
AB31 pmax pmax
comp=Z,67nm,0.7s,mb5.8
DLBC Dease Lake 59.16 38 *e*P **P 15 16 43.4 +0.3**
MBWA Marble Bar 60.76 203 *e*P **P 15 16 52.8 -1.8**
comp=Z,38nm,0.7s,mb5.6
KBS Kingsbay 61.33 350 *e*P **P 15 16 57.0 -0.7**
KBS *e*S **S 15 25 14.8 +0.9**
KBS AMS AMS 15 45 56.1
comp=Z,665nm,19.0s,MS4.8
KBS Kingsbay 61.33 350 *e*P **P 15 16 57.0 -0.7**
KBS LR LR
comp=Z,665μm,19.0s
SALM Salem 61.67 264 *e*P **P 15 17 00.0 -0.7**
KAD Karad 61.79 271 *e*P **P 15 17 00.4 -1.1**
KAD AMb AMB 15 17 01.8
comp=Z,197nm,1.7s,mb6.0
HSP Hornsund 62.11 348 *e*P **P 15 17 02.6 -0.3**
PALK Pallekele 62.24 258⇑ *e*P **P 15 17 03.9 -0.6**
comp=Z,71nm,1.1s,mb5.7
DZM Mont Dzumac 62.73 154 P **P 15 17 07.1 -0.7**
comp=Z,12nm,1.1s,mb4.9,baz=29,slow=10,SNR=2.2
DZM pP pP 15 17 17.8 -1.3
comp=Z,53nm,1.1s,baz=37,slow=7.7,SNR=7.7
LVZ Lovozero 62.74 336⇑ *i*P **P 15 17 05.8 -1.4**
LVZ Lovozero 62.74 336*c* *i*P **P 15 17 06.4 -0.8**
LVZ *i* PPP PPP 15 20 50.3 -7.3
LVZ *i* S **S 15 25 26.4 -5.2**
LVZ pmax pmax
comp=N,28nm,1.2s
LVZ pmax pmax
comp=Z,71nm,1.2s,mb5.7
LVZ pmax pmax
comp=E,10.0nm,1.1s
LVZ smax
comp=E,150nm,10.6s
LVZ smax
comp=Z,214nm,20.4s
LVZ smax
comp=N,438nm,20.1s
LVZ MLR MLR
comp=Z,3μm,19.0s,MS5.5
LVZ MLR MLR
comp=N,1μm,18.0s,MS5.4
LVZ MLR MLR
comp=E,3μm,22.0s,MS5.4
GOA Goa 63.05 270 *e*P **P 15 17 09.0 -1.0**
RES Resolute Bay 63.26 14⇑ *e*P **P 15 17 09.1 -1.5**
comp=E,106nm,1.1s,mb5.9
RES Resolute Bay 63.26 14 P **P 15 17 09.8 -0.8**
RES pmax pmax
comp=Z,110nm,1.0s,mb5.9
APA Apatity 63.32 336⇓ *i*P **P 15 17 10.2 -0.9**
APA *i* S **S 15 25 42.0 +3.2**
APA pmax pmax
comp=Z,82nm,0.8s,mb5.9
APA MLR MLR
comp=Z,3μm,16.0s,MS5.6
KEV Kevo 64.09 339 *e*p **P 15 17 14.2 -1.7**
comp=Z,3.3nm,0.5s,mb4.6
KEV Kevo 64.09 339⇑ *i*P **P 15 17 15.2 -0.7**
comp=Z,112nm,0.9s,mb5.9
KEV Kevo 64.09 339⇑ *i*P **P 15 17 15.2 -0.7**
KEV pmax pmax
comp=Z,112nm,0.9s,mb5.9
YKW3 Yellowknife Ar 64.36 30⇑ *e*P **P 15 17 16.6 -1.1**
PECR Pechory 64.38 322⇓ *i*P **P 15 17 17.6 -0.4**
PECR *e* 15 17 52.0
PECR *e* 15 19 37.0
PECR *e* 15 21 13.3
PECR pmax pmax
comp=Z,2μm,1.4s
PECR pmax pmax
comp=Z,600nm,4.0s
PECR MLR MLR
comp=Z,2μm,19.0s,MS5.3
PECR MLR MLR
comp=N,1μm,16.0s,MS5.2
PECR MLR MLR
comp=E,1μm,16.0s,MS5.2
PECR MLR MLR
comp=E,2μm,15.0s
PECR MLR MLR
comp=Z,2μm,15.0s
PECR MLR MLR
comp=N,600nm,14.0s
YKA Yellowknife Ar 64.39 30 P **P 15 17 16.6 -1.3**
comp=N,16nm,0.9s,mb5.0,baz=298,slow=6.5,SNR=29
YKA pP pP 15 17 27.8 -1.6
comp=N,17nm,0.8s,baz=305,slow=6.6,SNR=13
YKA Yellowknife Ar 64.39 30 P **P 15 17 16.6 -1.4**
YKA *PP pP 15 17 27.8 -1.6
YKA pmax pmax
comp=Z,16nm,0.9s
YKA pmax pmax
comp=Z,17nm,0.8s
TRD Trivandrum 64.48 262 *e*P **P 15 17 17.7 -1.6**
TRD AMb AMB 15 17 20.1
comp=Z,99nm,1.1s,mb5.8
ARCES ARCESS Array B 64.64 340 P **P 15 17 19.0 -0.5**
comp=Z,66nm,0.8s,mb5.7,baz=51,slow=7.8,SNR=164
ARCES LR LR 15 49 37.8
comp=Z,2μm,18.3s,MS5.4,baz=29,slow=40
ARCES ARCESS Array B 64.64 340 P **P 15 17 19.0 -0.5**
ARCES pmax pmax
comp=Z,66nm,0.8s
ARCES MLR MLR
comp=Z,2μm,18.3s
ARE0 ARCESS Array S 64.64 340⇑ *i*P **P 15 17 18.7 -0.8**
TRO Tromso 66.37 341 *e*P **P 15 17 29.8 -0.8**
TRO *e*S S 15 26 13.5 -2.7
TRO AMS AMS 15 51 34.0
comp=Z,2μm,17.4s,MS5.3
TRO Tromso 66.37 341 *e*P **P 15 17 29.8 -0.8**
TRO LR LR
comp=Z,1608μm,17.4s
DAG Danmarks Havn 66.46 355⇓ *i*P **P 15 17 30.4 -0.7**
comp=Z,85nm,1.1s,mb5.7
DAG Danmarks Havn 66.46 355⇓ *i*P **P 15 17 30.4 -0.7**
DAG pmax pmax
comp=Z,85nm,1.1s,mb5.7
AFI Afiamalu 66.69 130 P **P 15 17 34.1 +0.6**
comp=Z,23nm,0.9s,mb5.2,baz=229,slow=19,SNR=2.5
AFI Afiamalu 66.69 130 P **P 15 17 34.1 +0.7**
AFI pmax pmax
comp=Z,23nm,1.0s,mb5.2
OCWA Octopus Mounta 66.81 47 *e*P **P 15 17 35.2 +1.4**
comp=Z,30nm,1.1s,mb5.2
OSR Olympics--Salm 67.06 47 P **P 15 17 36.5 +1.2**
ARMA Armidale 67.10 170⇑ *i*P **P 15 17 24.5 -11**
MOS Moscow 67.81 324α *i*P **P 15 17 39.4 -0.4**
MOS *e* 15 18 02.9
MOS *e* 15 20 07.1
MOS *e*PPP PPP 15 21 50.2 +1.7
MOS *e*S S 15 26 32.4 -1.3
MOS pmax pmax
comp=Z,600nm,1.6s,mb6.4
MOS pmax pmax
comp=Z,403nm,1.3s,mb6.3
MOS MLR MLR
comp=Z,3μm,15.1s,MS5.6
MOS MLR MLR
comp=N,2μm,16.7s,MS5.4
MOS MLR MLR
comp=E,1μm,19.5s,MS5.4
STKA Stephens Creek 67.87 180⇑ *i*P **P 15 17 39.2 -1.4**
comp=E,7.2nm,0.6s,mb4.9
STKA Stephens Creek 67.87 180 P **P 15 17 39.4 -1.2**
comp=E,11nm,0.9s,mb4.9,baz=354,slow=9.7,SNR=12
STKA LR LR 15 44 19.1
comp=E,1μm,21.7s,MS5.0,baz=100,slow=33
JCW Jim Creek 67.91 46 ⇓P **P 15 17 41.1 +0.6**
VRHR Novokhopersk 68.21 318 *e*P **P 15 17 40.4 -2.0**
VRHR *e**PP pP 15 17 47.6 -6.2
VRHR *e**SP sP 15 17 51.5 -6.5
VRHR *e*S S 15 26 37.3 -1.3
VRHR pmax pmax
comp=Z,170nm,0.8s,mb6.1
VRHR pmax pmax
comp=N,40nm,0.7s
VRHR pmax pmax
comp=E,90nm,1.7s
VRHR smax
comp=N,50nm,0.7s
VRHR smax
comp=Z,10.0nm,1.1s
VRHR smax
comp=E,10.0nm,0.7s
VRHR MLR MLR
comp=Z,3μm,16.0s,MS5.6
VRHR MLR MLR
comp=N,500nm,19.0s,MS5.5
VRHR MLR MLR
comp=E,2μm,15.0s,MS5.5
OBN Obninsk 68.65 323 *e*P **P 15 17 44.1 -1.0**
comp=E,221nm,1.0s,mb6.0
OBN Obninsk 68.65 323*c* *i*P **P 15 17 44.3 -0.8**
OBN pmax pmax
comp=Z,264nm,1.2s,mb6.0
OBN MLR MLR
comp=Z,3μm,17.0s,MS5.6
FMW Mount Fremont 68.70 47 P **P 15 17 46.0 +0.5**
PUL Pulkovo 68.79 330 *i* P **P 15 17 44.6 -1.3**
PUL pmax pmax
comp=Z,192nm,0.6s,mb6.2
PUL pmax pmax
comp=N,672nm,1.0s
PUL pmax pmax
comp=E,604nm,0.9s
PUL MLR MLR
comp=Z,3μm,18.0s,MS5.5
PUL MLR MLR
comp=N,1μm,16.0s,MS5.4
PUL MLR MLR
comp=E,2μm,16.0s,MS5.4
KAF Kangasniemi 68.92 333 *e*p **P 15 17 45.0 -1.7**
comp=E,8.1nm,0.5s,mb4.9,baz=50,slow=5.9
TWW Teanaway 69.06 46 P **P 15 17 48.5 +0.7**
KEBM Edson Butte 69.13 52 *e*P **P 15 17 49.0 +0.7**
ASR Mount Adams--S 69.14 48 P **P 15 17 48.6 +0.3**
VOR Voronezh 69.16 319 *e*P **P 15 17 47.7 -0.6**
VOR *e* 15 17 55.5
VOR pmax pmax
comp=N,120nm,1.1s
VOR pmax pmax
comp=E,180nm,1.1s
VOR pmax pmax
comp=Z,270nm,1.1s,mb6.1
TBM Table Mountain 69.20 46 P **P 15 17 49.0 +0.3**
WTV Waterville 69.30 46 P **P 15 17 49.0 -0.2**
EBG Ellensburg 69.36 47 P **P 15 17 50.0 +0.4**
FINES FINESS Array B 69.43 332 P **P 15 17 49.1 -0.6**
comp=Z,100nm,0.8s,mb5.8,baz=72,slow=6.0,SNR=182
FINES LR LR 15 50 37.9
comp=Z,2μm,19.1s,MS5.5,baz=37,slow=38
FINES FINESS Array B 69.43 332 P **P 15 17 49.1 -0.7**
FINES pmax pmax
comp=Z,101nm,0.8s
FINES MLR MLR
comp=Z,2μm,19.1s
VRSR Storozhevoye 69.45 319 *e*P **P 15 17 49.4 -0.7**
VRSR *e**PP pP 15 17 57.1 -4.4
VRSR *e**SP sP 15 18 00.1 -5.6
VRSR *e*S 15 27 44.6
VRSR pmax pmax
comp=N,150nm,1.0s
VRSR pmax pmax
comp=Z,260nm,1.0s,mb6.1
VRSR pmax pmax
comp=E,130nm,0.9s
VRSR pmax pmax
comp=N,150nm,1.0s
VRSR pmax pmax
comp=Z,260nm,1.0s,mb6.1

VRSR pmax pmax
comp=E,130nm,0.9s
VRSR smax
comp=N,40nm,3.1s
VRSR smax
comp=Z,40nm,3.3s
VRSR smax
comp=E,50nm,3.8s
VRSR smax
comp=N,40nm,3.1s
VRSR smax
comp=Z,40nm,3.3s
VRSR smax
comp=E,50nm,3.8s
VRSR MLR MLR
comp=Z,13µm,49.0s,MS5.8
VRSR MLR MLR
comp=N,2µm,18.0s
VRSR MLR MLR
comp=E,2µm,16.0s
VRSR MLR MLR
comp=Z,13µm,49.0s
VRSR MLR MLR
comp=N,2µm,18.0s
VRSR MLR MLR
comp=E,2µm,16.0s
VORD Divnogorie 69.53 319 *e*P **P 15 17 49.4 -1.1**
VORD pmax pmax
comp=Z,190nm,1.2s,mb5.9
VORD pmax pmax
comp=N,70nm,0.8s
VORD pmax pmax
comp=E,110nm,0.9s
MXC Moxie City 69.69 47 P **P 15 17 52.2 +0.6**
MELSS Ber_school_2 69.70 341 *e*P **P 15 17 50.7 -0.6**
MELSS *e*pP pP 15 18 03.1 +0.3
EDM Edmonton 69.88 38 *e*P **P 15 17 51.8 -0.8**
EDM Edmonton 69.88 38 P **P 15 17 52.5 -0.1**
MOR8 Moi Rana 70.01 340 *e*P **P 15 17 51.6 -1.6**
MOR8 AMb AMB 15 17 52.9
comp=Z,269nm,1.1s,mb6.1
MOR8 *e*pP pP 15 18 03.1 -1.6
MOR8 Moi Rana 70.01 340 *e*P **P 15 17 51.6 -1.6**
comp=Z,269nm,1.1s,mb6.1
HUMO Hull Mountain 70.14 51 *e*P **P 15 17 54.5 +0.1**
comp=Z,23nm,1.1s,mb5.0
OD2 Odessa Site #2 70.18 45 P **P 15 17 54.3 -0.3**
DPW Davenport 70.22 45 P **P 15 17 54.9 +0.1**
KHMM Horse Mountain 70.55 53 *e*P **P 15 17 58.4 +1.4**
GOF Gofitskoye 70.57 312⇓ *i*P **P 15 17 56.5 -0.5**
GOF pmax pmax
comp=Z,400nm,1.2s,mb6.2
VIPM Ingram Point 70.59 49 P **P 15 17 57.6 +0.5**
NEW Newport 70.61 44 *e*P **P 15 17 56.6 -0.6**
comp=Z,19nm,0.8s,mb5.1
NEW Newport 70.61 44 P **P 15 17 57.4 +0.2**
NEW pmax pmax
comp=Z,19nm,0.8s
YBH Yreka Blue Hor 70.75 52 *e*P **P 15 17 58.8 +0.6**
comp=Z,33nm,1.0s,mb5.2
YBH Yreka Blue Hor 70.75 52 P **P 15 17 59.4 +1.2**
YBH pmax pmax
comp=Z,33nm,1.0s
BUOR Burton Butte 70.76 51 P **P 15 17 58.9 +0.7**
JMIC Jan Mayen 70.82 350 *e*S S 15 27 08.8 -0.2
JMIC AMS AMS 15 50 17.9
comp=Z,645nm,19.7s,MS4.9
VSU Vasula 71.05 330⇑ *i*P **P 15 17 59.5 -0.2**
VSU Vasula 71.05 330*c i*P **P 15 17 59.4 -0.3**
KLBR Kellerberrin 71.13 201 *e*P **P 15 17 59.0 -1.7**
comp=Z,91nm,1.3s,mb5.5
LNOR Lincton Mounta 71.25 47 P **P 15 18 01.6 +0.5**
ZEI Tsey 71.26 310 *e*P **P 15 17 58.9 -2.3**
ZEI *i* *PP pP 15 18 09.5 -3.1
ZEI pmax pmax
comp=Z,54nm,0.8s,mb5.5
MTA Mtatsminda 71.27 308 P **P 15 18 01.1 -0.2**
TBLG Delisi 71.28 308 P **P 15 18 01.1 -0.3**
KIV Kislovodsk 71.37 311 *e*P **P 15 18 01.6 -0.3**
comp=Z,298nm,0.9s,mb6.2
KIV *e* pP 15 18 12.3 -1.0
KIV Kislovodsk 71.37 311 *e*P **P 15 18 01.6 -0.2**
KIV *e* pP 15 18 12.3 -1.0
KIV pmax pmax
comp=Z,298nm,0.9s,mb6.2
SUMG Summit 71.37 360⇑ *e*P **P 15 18 01.9 +0.5**
comp=Z,135nm,1.1s,mb5.8
WDC Whiskeytown Da 71.47 53 *e*P **P 15 18 02.5 0.0**
comp=Z,43nm,1.1s,mb5.3
WDC Whiskeytown Da 71.47 53 P **P 15 18 03.1 +0.6**
WDC pmax pmax
comp=Z,43nm,1.0s,mb5.3
ONI Oni 71.64 310 P **P 15 18 03.4 0.0**
CNB Canberra Magne 71.68 173 *e*P **P 15 18 09.9 +6.1**
comp=Z,25nm,1.3s,mb5.0
NSS Namsos 71.93 339 *e*P **P 15 18 03.1 -1.7**
NSS AMS AMS 15 53 22.0
comp=Z,2µm,17.6s,MS5.5
WALA Waterton Lakes 71.94 42 *e*P **P 15 18 04.5 -0.6**
comp=Z,15nm,1.0s,mb4.9
MUN Mundaring 71.96 202 *e*P **P 15 18 03.8 -1.7**
comp=Z,14nm,1.0s,mb4.8
MUN Mundaring 71.96 202 *e*P **P 15 18 03.8 -1.7**
MUN pmax pmax
comp=Z,14nm,1.0s,mb4.8
GNI Garni 72.13 307 P **P 15 18 07.4 +1.0**
comp=Z,25nm,0.6s,mb5.3,baz=11,slow=1.4,SNR=28
GNI Garni 72.13 307 *e*P **P 15 18 04.5 -1.8**
comp=Z,118nm,1.0s,mb5.8
GNI Garni 72.13 307 P **P 15 18 07.4 +1.0**
GNI pmax pmax
comp=Z,25nm,0.6s
MOD Modoc 72.18 51 *e*P **P 15 18 06.3 -0.3**
comp=Z,42nm,1.1s,mb5.3
BMO Blue Mountains 72.39 47 *e*P **P 15 18 07.9 +0.1**
comp=Z,43nm,1.2s,mb5.2
NWAO Narrogin (SRO) 72.54 201 *e*P **P 15 18 07.8 -1.1**
comp=Z,88nm,1.2s,mb5.6
NWAO Narrogin (SRO) 72.54 201 P **P 15 18 08.0 -1.0**
NWAO pmax pmax
comp=Z,88nm,1.2s
WVOR Wild Horse Val 72.93 50 *e*P **P 15 18 11.1 0.0**
comp=Z,66nm,1.5s,mb5.3
WVOR *e* pP 15 18 23.2 +0.6
WVOR Wild Horse Val 72.93 50 *e*P **P 15 18 11.1 0.0**
WVOR *e* pP 15 18 23.2 +0.7
WVOR pmax pmax
comp=Z,66nm,1.5s,mb5.3
IZAR Zarasai 72.99 328 *e*P **P 15 18 10.9 -0.3**
IZAR AMb AMB 15 18 13.1
comp=Z,68nm,1.3s,mb5.4
IDID Didziasalis 73.06 327 *e*P **P 15 18 11.3 -0.3**
IDID AMb AMB 15 18 13.5
comp=Z,69nm,1.2s,mb5.5
IDID *e*pP pP 15 18 23.4 +0.4
MNK Minsk 73.09 326 *i* P **P 15 18 10.0 -1.8**
ISAL Salakas 73.16 328 *e*P **P 15 18 11.9 -0.3**
MSO Missoula 73.20 44 *e*P **P 15 18 11.6 -1.0**
comp=Z,20nm,1.3s,mb4.9
CLDR Caldiran 73.21 306 P **P 15 18 12.6 -0.3**
BEKR Beckwourth 73.26 53 *e*P **P 15 18 13.1 -0.1**
comp=Z,50nm,0.9s,mb5.5
BEKR *e* pP 15 18 25.2 +0.6
SOC Sochi 73.37 312*c i*P **P 15 18 13.2 -0.5**
SOC *e* pP 15 18 24.3 -0.8
SOC *e* 15 20 52.6
SOC *e*S S 15 27 36.9 -1.7
SOC pmax pmax
comp=N,16nm,1.0s
SOC pmax pmax
comp=Z,132nm,1.0s,mb5.8
SOC pmax pmax
comp=E,46nm,1.3s
SOC pmax pmax
comp=Z,158nm,0.9s,mb5.9
SOC MLR MLR
comp=Z,4µm,24.0s,MS5.6
SOC MLR MLR
comp=N,2µm,21.0s,MS5.5
SOC MLR MLR
comp=E,2µm,22.0s,MS5.5
BCA Borcka 73.40 309 *e*P **P 15 18 13.8 -0.1**
CHMT Chamberlain Mo 73.54 44 *e*P **P 15 18 13.8 -0.7**
ANN Anapa 74.02 314*c i*P **P 15 18 16.7 -0.7**
ANN *i* *PP pP 15 18 27.5 -1.3
ANN *i* 15 18 32.2
ANN *e*S S 15 27 48.8 +3.0
ANN pmax pmax
comp=Z,325nm,1.5s,mb6.0
CMB Columbia Colle 74.26 54 *e*P **P 15 18 18.9 0.0**
comp=Z,54nm,1.0s,mb5.4
CMB Columbia Colle 74.26 54 P **P 15 18 19.2 +0.3**
CMB pmax pmax
comp=Z,54nm,1.0s,mb5.4
SAO San Andreas Ge 74.26 56 *e*P **P 15 18 19.4 +0.4**
comp=Z,31nm,1.1s,mb5.2
SAO San Andreas Ge 74.26 56 P **P 15 18 21.0 +2.0**
SAO pmax pmax
comp=Z,31nm,1.1s,mb5.2
ERZM Erzurum 74.42 308 *i* P **P 15 18 19.9 +0.1**
EZM Erzurum 74.43 308 P **P 15 18 20.5 +0.7**
HRY Holter Researc 74.44 43 *e*P **P 15 18 19.9 0.0**
FCC Fort Churchill 74.61 26 *e*P **P 15 18 19.8 -0.7**
comp=Z,59nm,1.2s,mb5.4
FCC Fort Churchill 74.61 26 P **P 15 18 20.5 0.0**
FCC pmax pmax
comp=Z,59nm,1.1s,mb5.4
DOMB Dombas 74.69 339 *e*P **P 15 18 20.8 -0.1**
DOMB AMb AMB 15 18 22.4
comp=Z,180nm,1.2s,mb5.9
DOMB *e*pP pP 15 18 32.7 +0.3
DOMB Dombas 74.69 339 *e*P **P 15 18 20.8 -0.1**
comp=Z,180nm,1.2s,mb5.9
NB2 NORSAR Subarra 74.82 337 P **P 15 18 21.4 -0.3**
comp=Z,176nm,0.9s,mb6.0,baz=39,slow=5.8
NB2 NORSAR Subarra 74.82 337 P **P 15 18 21.4 -0.3**
baz=39,slow=5.9
NB2 NORSAR Subarra 74.82 337 P **P 15 18 21.4 -0.3**
NB2 pmax pmax
comp=Z,176nm,0.9s,mb6.0
NOA NORSAR Array B 74.82 337 P **P 15 18 21.6 -0.1**
comp=Z,121nm,0.9s,mb5.8,baz=38,slow=5.7,SNR=193
NOA LR LR 15 54 34.0
comp=Z,2µm,18.7s,MS5.5,baz=40,slow=38
NOA NORSAR Array B 74.82 337 P **P 15 18 21.6 -0.1**
NOA pmax pmax
comp=Z,121nm,0.9s
NOA MLR MLR
comp=Z,2µm,18.7s
AKASG Malin Array Be 74.85 322 P **P 15 18 21.6 -0.5**
comp=Z,128nm,0.7s,mb6.0,baz=46,slow=6.1,SNR=559
AKASG Malin Array Be 74.85 322 P **P 15 18 21.6 -0.5**
AKASG pmax pmax
comp=Z,128nm,0.7s
BMN Battle Mountai 74.93 51 *e*P **P 15 18 23.5 +0.7**
comp=Z,42nm,1.0s,mb5.3
BMN Battle Mountai 74.93 51 P **P 15 18 24.0 +1.2**
BMN pmax pmax
comp=Z,41nm,1.0s,mb5.3
MCMT McKenzie Canyo 74.99 45 *e*P **P 15 18 22.8 -0.2**
NAO01 NORSAR Array S 75.08 337 *e*P **P 15 18 22.6 -0.6**
comp=Z,84nm,0.9s,mb5.7
BOZ Bozeman (W) 75.19 44 *e*P **P 15 18 24.5 +0.3**
comp=Z,27nm,0.8s,mb5.2
BOZ Bozeman (W) 75.19 44 *e*P **P 15 18 24.5 +0.3**
BOZ pmax pmax
comp=Z,27nm,0.8s,mb5.2
GUMT Gumushane 75.29 309 P **P 15 18 25.5 +0.6**
MSL Mosul 75.34 304 *e*P **P 15 18 32.0 +6.8**
MSL *e* pP 15 18 43.0 +6.3
OMM Old Mammoth Mi 75.40 54 *e*P **P 15 18 25.7 +0.2**
SUW Suwalki 75.47 328⇑ *e*P **P 15 18 25.2 -0.4**
comp=Z,400nm,1.1s,mb6.3
SUW *e*PP PP 15 21 13.5 -3.4
SUW *e*S S 15 28 01.9 +0.1
SUW MLR MLR 15 54 44.5
comp=Z,2µm,20.1s,MS5.4
SUW Suwalki 75.47 328⇑ *e*P **P 15 18 25.2 -0.4**
SUW *e*PP PP 15 21 13.5 -3.4
SUW *e*S S 15 28 01.9 0.0
PTRM Twissleman Ran 75.71 56 *e*P **P 15 18 28.1 +0.8**
QLMT Earthquake Lak 75.80 45 *e*P **P 15 18 28.3 +0.7**
SIM Simferopol' 75.83 316*c i*P **P 15 18 27.2 -0.6**
SIM *i* pP 15 18 38.0 -1.3
SIM pmax pmax
comp=Z,184nm,0.9s,mb6.0
SIM MLR MLR
comp=Z,1µm,16.0s,MS5.3
MTUM Tungsten Hills 75.83 54 *e*P **P 15 18 28.9 +0.9**
UMR Umm Al-Rimmam 75.88 296 *e*P **P 15 18 28.1 -0.3**
UMR AMb AMB 15 18 32.5
comp=Z,163nm,1.4s,mb5.8
ELK Elko 75.98 50 *e*P **P 15 18 29.2 +0.5**
comp=Z,35nm,1.1s,mb5.2
ELK Elko 75.98 50 P **P 15 18 29.7 +0.9**
ELK pmax pmax
comp=Z,35nm,1.1s
KBD Kabd 76.10 296 *e*P **P 15 18 29.3 -0.4**
KBD AMb AMB 15 18 30.8
comp=Z,948nm,1.1s,mb6.6
BHD Baghdad 76.16 301 *e*P **P 15 18 27.5 -2.5**
BHD *i* PcP PcP 15 18 38.0 -4.3
BHD *e*S S 15 28 25.0 +15
TPH Tonopah 76.29 53 *e*P **P 15 18 31.0 +0.4**
comp=Z,53nm,1.1s,mb5.4
TPH Tonopah 76.29 53 P **P 15 18 31.6 +1.0**
TPH pmax pmax
comp=Z,53nm,1.0s,mb5.4
YNR Norris Junctio 76.29 44 *e*P **P 15 18 32.1 +1.7**
RDF Al-Radifah 76.35 296 *e*P **P 15 18 30.8 -0.3**
RDF AMb AMB 15 18 32.1
comp=Z,595nm,0.8s,mb6.5
YFT Old Faithful 76.37 45 *e*P **P 15 18 33.0 +2.1**
KONO Kongsberg 76.42 337 *e*P **P 15 18 30.4 -0.4**
KONO *e*S S 15 28 13.9 +1.9
KONO *e*SS SS 15 33 09.7 -0.2
KONO Kongsberg 76.42 337 P **P 15 18 30.5 -0.3**
KONO pmax pmax
comp=Z,81nm,1.1s,mb5.6
LKWY Lake 76.54 44 *e*P **P 15 18 34.0 +2.1**
comp=Z,51nm,1.1s,mb5.4
LKWY Lake 76.54 44 *e*P **P 15 18 34.0 +2.1**
LKWY pmax pmax
comp=Z,51nm,1.1s,mb5.4
SFJD Kangerlussuaq 76.57 5 *i* P **P 15 18 31.7 +0.1**
comp=Z,54nm,0.8s,mb5.5
SFJD *i* pP 15 18 45.2 +2.2
comp=Z,3µm,16.0s
SFJD Kangerlussuaq 76.57 5 *i* P **P 15 18 31.7 +0.1**
SFJD *i* pP 15 18 45.2 +2.2
SFJD pmax pmax
comp=Z,54nm,0.8s,mb5.5
SFJD MLR MLR
comp=Z,3µm,16.0s,MS5.6
IMW Indian Meadow 76.65 45 *e*P **P 15 18 33.5 +1.0**
comp=Z,32nm,0.9s,mb5.2
ELZG Elazig 76.75 308 *i* P **P 15 18 33.2 0.0**
RRI2 Red Ridge 76.76 46 *e*P **P 15 18 34.1 +0.9**
comp=Z,112nm,1.4s,mb5.6
HVU Hansel Valley 76.86 48 *e*P **P 15 18 33.7 -0.1**
HVU Hansel Valley 76.86 48 P **P 15 18 35.0 +1.3**
TPAW Teton Pass 76.89 45 *e*P **P 15 18 34.6 +0.7**
comp=Z,66nm,1.3s,mb5.4
LOHW Long Hollow 77.01 45 *e*P **P 15 18 35.1 +0.5**
comp=Z,24nm,1.3s,mb5.0
SNOW Snow King Moun 77.02 45 *e*P **P 15 18 35.7 +1.1**
comp=Z,36nm,1.1s,mb5.2
REDW Red Top Meadow 77.02 45 *e*P **P 15 18 35.0 +0.3**
comp=Z,39nm,1.2s,mb5.2
KVT Kavak 77.03 312 P **P 15 18 34.5 -0.3**
DAC Darwin (Calif) 77.09 54 *e*P **P 15 18 34.8 -0.3**
comp=Z,20nm,0.9s,mb5.0
DAC Darwin (Calif) 77.09 54 P **P 15 18 35.3 +0.1**
DAC pmax pmax
comp=Z,20nm,1.0s,mb5.0
BER Bergen 77.10 339 AMS AMS 15 56 10.2
comp=Z,2µm,18.4s,MS5.6
SVSK Karacayir 77.15 310 P **P 15 18 36.4 +1.0**
TOKT Tokat 77.19 311 P **P 15 18 36.5 +0.8**
MYA Malataya 77.20 308 P **P 15 18 37.0 +1.3**
MALT Malatya 77.21 308⇑ *e*P **P 15 18 36.7 +0.9**
comp=Z,106nm,1.1s,mb5.7
MALT Malatya 77.21 308⇑ *e*P **P 15 18 36.7 +0.9**
MALT pmax pmax
comp=Z,106nm,1.1s,mb5.7
AHID Auburn Hatcher 77.25 46 *e*P **P 15 18 35.6 -0.3**
comp=Z,25nm,1.0s,mb5.1
AHID *e* pP 15 18 47.2 -0.2
DGMT Dagmar 77.37 38 *e*P **P 15 18 36.0 -0.4**
comp=Z,26nm,1.0s,mb5.1
DGMT *e*pP pP 15 18 48.9 +1.0
KIS Kishinev 77.42 320 *e*P **P 15 18 35.0 -1.8**
KIS *i* pP 15 18 47.0 -1.3
KIS *e* 15 21 37.0
KIS *e*S S 15 28 23.0 -0.3
KIS *e*SS SS 15 33 23.0 -2.3
KIS MLR MLR
comp=N,4µm,16.0s,MS6.0
KIS MLR MLR
comp=E,4µm,16.0s,MS6.0
KIS MLR MLR
comp=Z,5µm,16.0s,MS6.0
KIS MLR MLR
comp=Z,6µm,16.0s
URFA Urfa 77.47 307 P **P 15 18 37.3 +0.1**
LAO LASA Array 77.48 41 *e*P **P 15 18 37.1 0.0**
comp=Z,70nm,1.1s,mb5.5
BOYT Boyabat 77.52 312 *i* P **P 15 18 37.3 -0.1**
BYBT Boyabat 77.57 313 P **P 15 18 38.2 +0.5**
WAR Warsaw 77.64 327 *e*P **P 15 18 38.4 +0.6**
comp=Z,600nm,0.9s,mb6.5
WAR *e*pP pP 15 18 48.9 -0.4
WAR *e*S S 15 28 25.8 +0.4
WAR *e*SKS SKS 15 28 43.1 +0.1
WAR MLR MLR 15 57 03.5
comp=Z,3µm,17.6s,MS5.6
WAR Warsaw 77.64 327 *e*P **P 15 18 38.4 +0.6**
WAR *e*pP pP 15 18 48.9 -0.4
WAR *e*S S 15 28 25.8 +0.3
WAR *e*SKS SKS 15 28 43.1 +0.1
HWUT Hardware Ranch 77.68 47 *e*P **P 15 18 38.7 +0.4**
comp=Z,67nm,1.3s,mb5.4
BZK Bozkurt 77.72 313 P **P 15 18 38.8 +0.3**
ATAB Bozova 77.79 308 *i* P **P 15 18 39.2 +0.2**
NOQ North Oquirrh 77.94 48 *e*P **P 15 18 40.6 +0.9**
LVV L'vov 77.94 324*c i*P **P 15 18 39.5 0.0**
LVV *i* pP 15 18 50.7 -0.4
LVV *i* 15 21 36.5
LVV *i* S S 15 28 28.1 -0.7
LVV *i* PS PS 15 29 34.9 +20
LVV MLR MLR
comp=N,800nm,17.0s,MS5.5
LVV MLR MLR
comp=Z,2µm,17.0s,MS5.4
LVV MLR MLR
comp=E,2µm,16.0s,MS5.5
MWC Mount Wilson 77.98 56 *e*P **P 15 18 40.0 -0.1**
MWC Mount Wilson 77.98 56 P **P 15 18 40.2 +0.1**
BSD Bornholm Skovb 78.06 332⇑ *i*P **P 15 18 39.5 -0.6**
comp=E,96nm,0.9s,mb5.7
BSD *i* pP 15 18 51.8 +0.2
BSD Bornholm Skovb 78.06 332⇑ *i*P **P 15 18 39.5 -0.6**
BSD *i* pP 15 18 51.8 +0.2
BSD pmax pmax
comp=Z,96nm,0.9s,mb5.7
CTKT Corum 78.07 312 *i* P **P 15 18 39.6 -0.8**
TCUT Toone Canyon 78.08 48 *e*P **P 15 18 40.7 +0.2**
CTU Camp Tracy 78.13 48 *e*P **P 15 18 41.2 +0.4**
PDAR Pinedale Array 78.14 45 P **P 15 18 40.6 -0.1**
comp=Z,6.8nm,0.8s,mb4.7,baz=282,slow=2.4,SNR=76
PDAR pP pP 15 18 53.7 +1.4
comp=Z,13nm,0.8s,baz=270,slow=0.9,SNR=20
PDAR PKKPbc 15 37 48.4
comp=Z,0.8nm,0.6s,baz=170,slow=5.5,SNR=8.0
TOS Tosya 78.28 313 *e*P **P 15 18 42.5 +1.0**
GZT Gaziantep 78.33 308 *i* P **P 15 18 42.3 +0.4**
BORG Borgarnes 78.33 353 P **P 15 18 43.4 +2.0**
baz=28,slow=4.7
BALT Daday 78.34 313 *i* P **P 15 18 41.8 -0.2**
JLU Jordanelle 78.37 48 *e*P **P 15 18 42.6 +0.5**
CORM Corum 78.44 312 P **P 15 18 43.5 +1.1**
GKP Gorka Klasztor 78.51 330⇑ *e*P **P 15 18 42.7 +0.2**
comp=Z,500nm,2.5s,mb6.0
GKP *e*PP PP 15 21 39.5 -2.7
GKP *e*S S 15 28 39.0 +4.3
GKP *e*SKS SKS 15 28 49.3 +0.1
GKP MLR MLR 15 57 57.0
comp=Z,3µm,18.6s,MS5.6
GKP Gorka Klasztor 78.51 330⇑ *e*P **P 15 18 42.7 +0.1**
comp=Z,0.5nm,2.5s
GKP *e*PP PP 15 21 39.5 -2.7
GKP *e*S S 15 28 39.0 +4.3
GKP *e*SKS SKS 15 28 49.3 +0.1
GKP LR LR
comp=Z,3µm,18.6s,MS5.6
GKP Gorka Klasztor 78.51 330⇑ *e*P **P 15 18 42.7 +0.1**
GKP *e* 15 21 39.5
GKP *e*S S 15 28 39.0 +4.3
GKP *e* 15 28 49.3
GKP pmax pmax
comp=Z,1.0nm,2.5s
GKP MLR MLR
comp=Z,3µm,18.6s,MS5.6
COP Copenhagen 78.54 333⇑ *i*P **P 15 18 42.9 +0.2**
comp=Z,115nm,1.0s,mb5.8
COP *i* pP 15 18 54.7 +0.4
COP *i* 15 39 49.6
comp=Z,850nm,17.0s
COP Copenhagen 78.54 333⇑ *i*P **P 15 18 42.9 +0.2**
COP *i* pP 15 18 54.7 +0.4
COP pmax pmax
comp=Z,115nm,1.0s,mb5.8
COP MLR MLR
comp=Z,850nm,17.0s,MS5.1
DAU Daniels Canyon 78.60 48 *e*P **P 15 18 44.2 +0.8**
DAU Daniels Canyon 78.60 48 P **P 15 18 44.4 +1.0**
MPU Maple Canyon 78.62 49 *e*P **P 15 18 44.2 +0.7**
GAZ Gaziantep 78.66 308 P **P 15 18 44.9 +1.1**
KWP Kalwaria 78.69 324⇑ *e*P **P 15 18 44.5 +0.8**
comp=Z,800nm,1.3s,mb6.5
KWP *e*pP pP 15 18 51.4 -3.9
KWP *e*PcP PcP 15 18 55.3 +2.4
KWP *e*S S 15 28 38.9 +2.1
KWP MLR MLR 15 57 00.8
comp=Z,4µm,17.5s,MS5.8
KWP Kalwaria 78.69 324⇑ *e*P **P 15 18 44.4 +0.7**
KWP *e*pP pP 15 18 51.3 -3.9
KWP *e*PcP PcP 15 18 55.3 +2.5
KWP *e*S S 15 28 38.9 +2.1
ARUT Antelope Range 78.86 51 *e*P **P 15 18 45.6 +0.7**
ARUT Antelope Range 78.86 51 P **P 15 18 45.9 +1.0**
CDAG Cicekdag 78.94 311 *i* P **P 15 18 44.5 -0.7**
SAFT Safranbolu 78.94 313 P **P 15 18 45.7 +0.5**
CFR Carcaliu 78.97 319 ⇓P **P 15 18 43.8 -1.5**
CFR Carcaliu 78.97 319 ⇓P **P 15 18 43.8 -1.5**
MUD Monsted U'grnd 79.08 335⇑ *i*P **P 15 18 45.8 +0.1**
comp=Z,58nm,0.9s,mb5.5
comp=Z,2µm,19.0s
MSU Marysvale 79.21 50 *e*P **P 15 18 47.8 +1.0**
MSU Marysvale 79.21 50 P **P 15 18 47.9 +1.1**
NEN Nelson 79.26 54 *e*P **P 15 18 47.0 0.0**
VRI Vrincioaia 79.26 320 ⇓P **P 15 18 47.0 +0.1**
VRI Vrincioaia 79.26 320 ⇓P **P 15 18 47.0 +0.2**
BR131 Keskin Array S 79.32 312 *e*P **P 15 18 47.3 0.0**
comp=Z,55nm,0.9s,mb5.5
BRTR Keskin Array B 79.32 312 P **P 15 18 47.5 +0.2**
comp=Z,58nm,0.8s,mb5.5,baz=108,slow=3.9,SNR=151
BRTR Keskin Array B 79.32 312 P **P 15 18 47.6 +0.3**
BRTR pmax pmax
comp=Z,58nm,0.9s
TMUT Trail Mountain 79.32 49 *e*P **P 15 18 47.8 +0.5**
KOLS Kolonicke sedl 79.39 324 *i* P **P 15 18 47.7 +0.2**
KOLS *e*PP PP 15 21 47.2 -2.1
HARR Harsova 79.40 318 ⇑P **P 15 18 46.8 -0.9**
HARR Harsova 79.40 318 ⇑P **P 15 18 46.8 -0.9**
PFO Pinyon Flat Ob 79.41 56 *e*P **P 15 18 48.2 +0.2**
comp=Z,41nm,1.3s,mb5.2
PFO Pinyon Flat Ob 79.41 56 P **P 15 18 48.1 +0.1**
PFO pmax pmax
comp=Z,41nm,1.2s,mb5.2
LDFC Landfair 79.43 54 *e*P **P 15 18 46.3 -1.7**
KAMT Kaman 79.49 311 P **P 15 18 48.1 -0.2**
STHS Stebnicka Huta 79.53 325 *i* P **P 15 18 49.0 +0.8**
OJC Ojcow 79.62 326⇑ *i*P **P 15 18 49.2 +0.5**
OJC *e*PcP PcP 15 19 01.3 +4.5
OJC *e*PP PP 15 21 48.8 -2.3
OJC *e*S S 15 28 46.9 +0.4
OJC MLR MLR 15 57 46.1
comp=Z,3µm,17.6s,MS5.7
CEYT Ceyhan 79.69 308 P **P 15 18 50.9 +1.5**
NIG Nigde 79.72 310 P **P 15 18 51.1 +1.6**
SGKT Sivrigoynuk 79.73 313 *i* P **P 15 18 49.2 -0.3**
CRVS Cervenica-Dubn 79.79 324 *e*P **P 15 18 50.1 +0.4**

BAR Barrett 79.82 57 *eP* **P 15 18 50.1 -0.1**
SRU San Rafael 79.85 49 *eP* **P 15 18 50.7 +0.5**
SRU San Rafael 79.85 49 P **P 15 18 50.9 +0.7**
ISR Istrita 79.85 319 ⇑P **P 15 18 50.3 +0.2**
ISR Istrita 79.85 319 ⇑P **P 15 18 50.3 +0.2**
MLR Muntele Rosu 79.92 320 P **P 15 18 50.7 +0.2**
comp=Z,19nm,0.8s,mb5.1,baz=356,slow=5.4,SNR=23
MLR Muntele Rosu 79.92 320 ⇓P **P 15 18 51.0 +0.6**
MLR Muntele Rosu 79.92 320 P **P 15 18 50.7 +0.3**
MLR pmax pmax
comp=Z,19nm,0.8s
NIE Niedzica 79.96 325⇑*i*P **P 15 18 51.3 +0.8**
ULM Lac du Bonnet 80.07 33 P **P 15 18 50.5 -0.6**
comp=Z,12nm,0.9s,mb4.8,baz=314,slow=5.8,SNR=12
ULM pP pP 15 19 02.1 -0.6
comp=Z,7.8nm,0.6s,baz=309,slow=5.2,SNR=6.6
ULM Lac du Bonnet 80.07 33 *eP* **P 15 18 50.2 -0.9**
comp=Z,50nm,1.4s,mb5.3
RWWY Rawlins 80.17 45 *eP* **P 15 18 51.9 +0.1**
comp=Z,44nm,1.0s,mb5.3
MDU Mudurnu 80.29 313 P **P 15 18 52.9 +0.4**
RSSD Black Hills 80.33 42 *eP* **P 15 18 52.3 -0.4**
comp=Z,28nm,1.2s,mb5.1
RSSD Black Hills 80.33 42 *eP* **P 15 18 53.0 +0.3**
RSSD pmax pmax
comp=Z,28nm,1.2s,mb5.1
RAC Raciborz 80.43 327 *eP* **P 15 18 54.0 +1.0**
RAC MLR MLR 16 03 24.5
comp=Z,2µm,18.0s,MS5.5
RUE Ruedersdorf 80.49 331 *eP* **P 15 18 53.4 +0.1**
comp=Z,140nm,1.2s,mb5.8
RUE *e* pP 15 19 05.3 +0.5
KECS Kecovo 80.54 325 *i*P **P 15 18 54.1 +0.4**
KECS *e*PP PP 15 21 56.7 -2.4
OKC Ostrava-Krasne 80.63 327⇑*i*P **P 15 18 54.5 +0.4**
OKC *e*pP pP 15 19 06.6 +0.9
OKC AMS AMS 15 57 50.0
comp=Z,1µm,16.3s
PRD Provadia 80.67 317 *i*P **P 15 18 54.0 -0.5**
BSEG Bad Segeberg 80.68 333 *eP* **P 15 18 54.5 +0.2**
KSP Ksiaz 80.69 328⇑*eP* **P 15 18 54.9 +0.4**
comp=Z,400nm,1.2s,mb6.2
KSP *e*pP pP 15 19 05.7 -0.3
KSP *e*PP PP 15 21 57.0 -3.4
KSP *e*S S 15 28 59.7 +2.0
KSP *e*SKS SKS 15 29 06.4 +1.6
KSP MLR MLR 15 57 50.0
comp=Z,5µm,18.3s,MS5.9
KSP Ksiaz 80.69 328⇑*i*P **P 15 18 54.8 +0.4**
KSP *e*pP pP 15 19 05.5 -0.5
KSP *e*SKS SKS 15 29 16.0 +11
KSP LR LR
comp=Z,6µm,18.3s,MS5.9
KSP Ksiaz 80.69 328⇑*i*P **P 15 18 54.8 +0.4**
KSP *e**PP pP 15 19 05.5 -0.5
KSP MLR MLR
comp=Z,6µm,18.3s,MS5.9
LIKS Likavka 80.77 326 *eP* **P 15 18 55.3 +0.4**
GLA Glamis 80.84 56 *eP* **P 15 18 55.9 +0.3**
GLA *e* pP 15 19 07.8 +0.7
KIZT Kizilcal 80.91 312 P **P 15 18 56.0 +0.1**
MORC Moravsky Berou 80.94 327⇑*i*P **P 15 18 56.0 +0.3**
comp=Z,86nm,1.0s,mb5.6
MORC *e* pP 15 19 07.3 0.0
MORC Moravsky Berou 80.94 327⇑*i*P **P 15 18 56.0 +0.2**
MORC *e* pP 15 19 07.3 0.0
MORC pmax pmax
comp=Z,86nm,1.0s,mb5.6
HRT Hereke 80.96 314 *eP* **P 15 18 56.0 0.0**
KDHN Kadinhani 80.99 311 *i*P **P 15 18 55.4 -0.9**
DPC Dobruska-Polom 81.05 328⇑*i*P **P 15 18 57.0 +0.7**
DPC *e*pP pP 15 19 09.0 +1.1
DPC *e*PP PP 15 21 59.2 -4.4
DPC AMS AMS 15 58 00.0
comp=Z,2µm,16.6s
UPC Upice 81.06 328⇑*i*P **P 15 18 57.0 +0.6**
UPC *e*pP pP 15 19 09.1 +1.1
ESKT Eskisehir 81.11 313 *i*P **P 15 18 46.9 -10**
BORA Eskisehir 81.11 313 *i*P **P 15 18 48.0 -8.9**
KONT Konya--Tatoy 81.21 311 P **P 15 18 57.7 +0.2**
PV10 Paradox Valley 81.22 49 *eP* **P 15 18 58.2 +0.8**
PSZ Piszkesteto 81.22 325⇑*eP* **P 15 18 57.9 +0.6**
PSZ Piszkesteto 81.22 325⇑*i*P **P 15 18 57.7 +0.5**
comp=Z,153nm,1.1s,mb5.8
PSZ Piszkesteto 81.22 325⇑*i*P **P 15 18 57.7 +0.4**
PSZ pmax pmax
comp=Z,153nm,1.1s,mb5.8
VYHS Vyhne 81.30 325 *i*P **P 15 18 58.4 +0.7**
VYHS *e*PP PP 15 22 02.6 -3.0
YLV Yalova 81.30 314 P **P 15 18 57.5 -0.3**
PHWY Pilot Hill 81.42 44 *eP* **P 15 18 58.4 0.0**
SZH Strazhica 81.42 318 *i*P **P 15 18 59.0 +0.6**
KOLL Kolacno 81.43 326 *i*P **P 15 18 59.1 +0.7**
IKL Isikli 81.47 309 *eP* **P 15 18 58.9 +0.1**
JMB Yambol 81.61 317 *eP* **P 15 19 00.0 +0.6**
BRG Berggiesshubel 81.65 329 *i*P **P 15 18 59.6 +0.2**
BRG *i* pP 15 19 11.8 +0.8
BRG *e* 15 22 07.2
BRG pmax pmax
comp=Z,72nm,1.0s,mb5.6
BRG pmax pmax
comp=Z,93nm,1.2s,mb5.6
BRG pmax pmax
comp=Z,22nm,1.4s,mb4.9
BRG MLR MLR
comp=N,2µm,14.5s,MS5.7
BRG MLR MLR
comp=E,2µm,17.7s,MS5.7
BRG MLR MLR
comp=Z,2µm,14.2s,MS5.7
PVCC Panska Ves 81.65 329⇑*i*P **P 15 19 00.1 +0.6**
PVCC *e*pP pP 15 19 12.0 +0.9
PVCC AMS AMS 15 58 10.0
comp=Z,3µm,17.6s
PV01 Paradox Valley 81.66 48 *eP* **P 15 19 00.2 +0.4**
BHL Bhannes 81.66 306 *eP* **P 15 18 60.0 +0.1**
CLL Collm 81.70 330 ⇑P **P 15 18 59.6 -0.1**
comp=Z,logA/T=2.1,mb5.8
CLL *i* *PP pP 15 19 11.4 +0.1
CLL *e*S S 15 29 13.0 +4.9
CLL *e*PS PS 15 30 03.0 +1.2
CLL Collm 81.70 330⇑*i*P **P 15 18 59.6 -0.1**
comp=Z,137nm,1.1s,mb5.8
CLL *i* pP pP 15 19 11.4 +0.1
CLL *e*S S 15 29 13.0 +4.9
CLL LR LR
comp=Z,2µm,15.7s,MS5.6
CLL Collm 81.70 330⇑*i*P **P 15 18 59.6 -0.1**
CLL *i* *PP pP 15 19 11.4 +0.1
CLL *e*S S 15 29 13.0 +4.9
CLL pmax pmax
comp=Z,137nm,1.1s,mb5.8
CLL MLR MLR
comp=Z,2µm,15.7s,MS5.6
MVH1 Achvaich 81.75 342⇑*eP* **P 15 19 00.1 +0.3**
HDMB Hadim 81.76 310 *eP* **P 15 19 00.2 -0.1**
PVL Pavlikeni 81.78 318 *eP* **P 15 19 01.0 +0.7**
ALT Altintas 81.85 313 *eP* **P 15 19 01.3 +0.6**
ASF Jabal al Asfar 81.90 304 P **P 15 19 01.9 +0.8**
comp=Z,37nm,0.9s,mb5.3,baz=306,slow=1.3,SNR=28
ASF LR LR 15 59 27.0
comp=Z,866nm,18.2s,MS5.2,baz=96,slow=39
ASF Jabal al Asfar 81.90 304 P **P 15 19 01.9 +0.8**
ASF pmax pmax
comp=Z,37nm,0.9s
ASF MLR MLR
comp=Z,866nm,18.2s
ORLT Orhaneli 81.92 314 *eP* **P 15 19 01.9 +0.8**
SMCO Snowmass 81.93 47 *eP* **P 15 19 01.9 +0.7**
EDRB Edirne 81.94 317 *eP* **P 15 19 01.5 +0.4**
MME1 Meikle Cairn 81.98 341⇑*eP* **P 15 19 01.0 0.0**
SRO Srobarova 82.03 325 *eP* **P 15 19 02.6 +1.1**
PRU Pruhonice 82.08 329⇑*i*P **P 15 19 02.1 +0.5**
PRU *e*pP pP 15 19 14.0 +0.7
PRU AMS AMS 15 59 20.0
comp=Z,2µm,16.9s
KSDI Kefar Szold 82.10 305 P **P 15 19 02.7 +0.6**
SRO1 Iza 82.11 325 *eP* **P 15 19 02.6 +0.7**
GDZ Gediz 82.20 313 *i*P **P 15 19 02.1 -0.4**
MDO Dochfour 82.22 342⇑*eP* **P 15 19 02.2 0.0**
ZST Bratislava 82.30 326 *eP* **P 15 19 03.8 +0.9**
ZST *e*S S 15 29 20.6 +6.3
CLZ Clausthal 82.31 332 *eP* **P 15 19 03.3 +0.5**
comp=Z,111nm,1.1s,mb5.7
CLZ Clausthal 82.31 332 *eP* **P 15 19 03.3 +0.5**
CLZ pmax pmax
comp=Z,111nm,1.1s,mb5.7
TKTP Tekketepe 82.39 312 *i*P **P 15 19 02.6 -0.9**
KAC Achnashellach 82.40 343⇑*i*P **P 15 19 03.8 +0.6**
ISP Isparta 82.40 312 P **P 15 19 02.7 -0.9**
ISP Isparta 82.40 312 *eP* **P 15 19 03.0 -0.6**
comp=Z,98nm,1.0s,mb5.7
ISP Isparta 82.40 312 *eP* **P 15 19 03.0 -0.6**
ISP pmax pmax
comp=Z,99nm,1.0s,mb5.7
DIM Dimitrovgrad 82.47 317 *i*P **P 15 19 05.0 +1.2**
HNTI Hanita 82.48 306 P **P 15 19 04.8 +0.7**
CSS Prodhromos 82.50 308 *eP* **P 15 19 04.2 +0.1**
comp=Z,64nm,0.8s,mb5.6
VKA Vienna 82.60 327⇑*i*P **P 15 19 05.0 +0.6**
comp=Z,299nm,2.0s,mb6.0
VKA Vienna 82.60 327⇑*i*P **P 15 19 05.0 +0.6**
VKA pmax pmax
comp=Z,299nm,2.0s,mb6.0
KPL Plockton 82.63 343⇑*i*P **P 15 19 04.7 +0.4**
KHL Karahalli 82.68 313 P **P 15 19 05.2 +0.2**
KSB Sheil Bridge 82.69 343⇑*i*P **P 15 19 05.1 +0.4**
MMLI Mount Malkishu 82.72 305 P **P 15 19 06.3 +1.0**
NKC Novy Kostel 82.75 330⇑*i*P **P 15 19 05.4 +0.3**
NKC *e*pP pP 15 19 17.6 +0.9
NKC AMS AMS 15 59 20.0
comp=Z,3µm,16.0s
KSK Scoval 82.76 343⇑*eP* **P 15 19 05.9 +0.9**
MOX Moxa 82.77 330⇑*i*P **P 15 19 05.3 +0.1**
comp=Z,logA/T=1.8,mb5.6
MOX pP pP 15 19 17.0 +0.2
MOX PP PP 15 22 16.0 -1.3
MOX pPP 15 22 28.0
MOX L 16 00 14.0
MOX Moxa 82.77 330 *eP* **P 15 19 05.3 +0.1**
comp=Z,96nm,1.6s,mb5.6
MOX *e* pP 15 19 16.6 -0.2
MOX LR LR
comp=Z,2µm,20.0s,MS5.4
MOX Moxa 82.77 330 *eP* **P 15 19 05.3 +0.1**
MOX *e* pP 15 19 16.6 -0.2
MOX pmax pmax
comp=Z,96nm,1.6s,mb5.6
MOX MLR MLR
comp=Z,2µm,20.0s,MS5.4
BALB Balikesir 82.77 314 *eP* **P 15 19 05.8 +0.4**
KDZ Kurdzhali 82.80 317 *i*P **P 15 19 06.5 +1.0**
PGB Panagyurishte 82.86 319 *eP* **P 15 19 06.5 +0.7**
WIT Witteveen 82.89 334⇑*eP* **P 15 19 06.2 +0.5**
comp=Z,545nm,1.4s,mb6.4
SOP Sopron 82.93 326⇑*eP* **P 15 19 06.7 +0.6**
ALN Alexandroupoli 82.97 316 *eP* **P 15 19 06.9 +0.5**
KAR1 Arisaig 83.05 343⇑*eP* **P 15 19 07.1 +0.6**
RDO Rodhopi 83.08 317 *eP* **P 15 19 08.0 +1.0**
SLTI Sal'it 83.09 305 P **P 15 19 08.0 +0.8**
BOLS Boljevac 83.12 321 *i*P **P 15 19 06.8 -0.4**
MKRJ Makawir 83.12 304 P **P 15 19 08.3 +0.9**
KHC Kasperske Hory 83.14 329⇑*i*P **P 15 19 07.6 +0.5**
KHC *e*pP pP 15 19 19.7 +1.0
KHC AMS AMS 15 59 10.0
comp=Z,3µm,17.8s
RZN Rozhen 83.16 318 *i*P **P 15 19 18.5 +11**
ZAPS Zavoj/Pirot 83.16 320⇑*i*P **P 15 19 07.9 +0.6**
BEO Belgrade 83.17 322⇓*i*P **P 15 19 07.2 -0.2**
GEC2 GERESS Array S 83.30 328 *eP* **P 15 19 08.1 +0.2**
comp=Z,48nm,1.0s,mb5.5
GEC2 GERESS Array S 83.30 328 *eP* **P 15 19 08.1 +0.2**
GEC2 pmax pmax
comp=Z,48nm,1.0s,mb5.5
GERES GERESS Array B 83.30 328 P **P 15 19 08.1 +0.2**
comp=Z,24nm,0.8s,mb5.3,baz=34,slow=4.8,SNR=141
GERES pP pP 15 19 21.8 +2.2
comp=Z,24nm,0.8s,baz=90,slow=1.3,SNR=13
GERES PP PP 15 22 21.0 -0.6
comp=Z,3.2nm,0.8s,baz=51,slow=8.5,SNR=3.6
GERES PKKPbc 15 37 26.3
comp=Z,0.8nm,0.9s,baz=90,slow=1.0,SNR=4.6
GERES LR LR 15 59 38.2
comp=Z,2µm,18.3s,MS5.5,baz=21,slow=38
GERES GERESS Array B 83.30 328 P **P 15 19 08.1 +0.2**
GERES *PP pP 15 19 21.8 +2.2
GERES 15 22 21.0
GERES pmax pmax
comp=Z,24nm,0.8s
GERES pmax pmax
comp=Z,24nm,0.9s
GERES pmax pmax
comp=Z,3.0nm,0.8s
GERES pmax pmax
comp=Z,1.0nm,0.9s
GERES MLR MLR
comp=Z,2µm,18.3s
AKS Akhisar 83.31 314 *eP* **P 15 19 08.7 +0.5**
VTS Vitosha 83.34 319 *i*P **P 15 19 09.0 +0.7**
DENT Denizli 83.34 312 P **P 15 19 08.9 +0.5**
DNZL Cakiroluk 83.38 312 *i*P **P 15 19 09.6 +1.0**
EAU Auchinoon 83.41 341⇑*eP* **P 15 19 08.8 +0.5**
EAU AMb AMB 15 19 17.7
comp=Z,76nm,1.5s,mb5.5
WET Wettzell 83.42 329 *eP* **P 15 19 09.1 +0.6**
comp=Z,59nm,1.1s,mb5.5
WET Wettzell 83.42 329 *eP* **P 15 19 09.1 +0.6**
WET pmax pmax
comp=Z,59nm,1.1s,mb5.5
MZDA Masada 83.46 304 P **P 15 19 09.8 +0.7**
ELL Elmali 83.48 311 *eP* **P 15 19 09.2 +0.1**
KAMS Al Khamasin 83.50 290 P **P 15 19 09.4 -0.1**
WTSB Winterswijk 83.53 334⇑*i*P **P 15 19 08.6 -0.3**
comp=Z,78nm,2.2s,mb5.5
WTSB *e*pP pP 15 19 20.2 -0.4
GRA1 Grafenberg Arr 83.67 330 *eP* **P 15 19 10.6 +0.9**
GRA1 *e*pP pP 15 19 22.5 +1.1
GRF Grafenberg Arr 83.67 330 *eP* **P 15 19 10.6 +0.9**
comp=Z,229nm,1.2s,mb6.2
GRF *e*pP pP 15 19 22.5 +1.1
GRF Grafenberg Arr 83.67 330 *eP* **P 15 19 10.6 +0.9**
GRF *e**PP pP 15 19 22.5 +1.1
GRF pmax pmax
comp=Z,229nm,1.2s,mb6.2
AYVA Ayvalik 83.67 315 *i*P **P 15 19 10.3 +0.2**
GRUS Gruza 83.71 321 *i*P **P 15 19 10.4 +0.3**
ARSA Arzberg 83.72 326⇑*i*P **P 15 19 10.5 +0.5**
comp=Z,227nm,2.3s,mb5.9
SDCO Great Sand Dun 83.75 47 *eP* **P 15 19 11.2 +0.8**
comp=Z,48nm,1.5s,mb5.4
MMB Musomiste 83.76 318 *i*P **P 15 19 21.0 +11**
ESK Eskdalemuir 83.81 341⇑*i*P **P 15 19 10.7 +0.4**
ESK AMb AMB 15 19 13.1
comp=Z,59nm,2.4s,mb5.3
ESK Eskdalemuir 83.81 341 *eP* **P 15 19 10.6 +0.3**
comp=Z,24nm,0.9s,mb5.3
ESK Eskdalemuir 83.81 341 *eP* **P 15 19 10.6 +0.3**
ESK pmax pmax
comp=Z,24nm,0.9s,mb5.3
MOA Molln 83.82 327⇑*i*P **P 15 19 11.0 +0.5**
comp=Z,129nm,1.6s,mb5.8
PMOR Pomariorio Ree 83.89 113 *eP* **P 15 19 18.5 +6.9**
comp=Z,38nm,0.9s,mb5.5
ECK Cauldkaine Hil 83.91 340⇑*eP* **P 15 19 11.2 +0.5**
ECK AMb AMB 15 19 13.7
comp=Z,49nm,1.0s,mb5.6
KKB Krupnik 83.91 319 *i*P **P 15 19 12.0 +0.8**
DIVS Divcibare 83.93 322 *i*P **P 15 19 11.4 +0.2**
IZM Izmir 83.96 314 P **P 15 19 11.7 +0.2**
TUC Tucson 83.97 54 *eP* **P 15 19 12.2 +0.5**
comp=Z,44nm,1.5s,mb5.4
TUC Tucson 83.97 54 P **P 15 19 12.3 +0.6**
TUC pmax pmax
comp=Z,44nm,1.5s,mb5.4
KOGS Kog 83.99 325 *eP* **P 15 19 11.3 -0.2**
KOGS *e*pP pP 15 19 22.4 -0.7
ZFRI Zfri 84.06 304 P **P 15 19 12.8 +0.6**
BLCB Balcova 84.09 314 P **P 15 19 12.2 +0.1**
KBRS Khaybar 84.15 298 P **P 15 19 13.6 +0.9**
LOS Limnos 84.16 316 *eP* **P 15 19 12.7 +0.3**
SRS Serrai 84.16 318 *eP* **P 15 19 12.2 -0.2**
YER Yerkesik 84.20 312 P **P 15 19 13.7 +1.0**
DALT Dalyan (Mudla) 84.23 312 P **P 15 19 12.2 -0.7**
PRNI Paran 84.30 304 P **P 15 19 14.0 +0.6**
PPT Papeete 84.31 116 *eP* **P 15 19 20.9 +7.2**
comp=Z,39nm,1.3s,mb5.4
PPT Papeete 84.31 116 pP pP 15 19 26.0 +0.6
comp=Z,26nm,1.1s,baz=308,slow=2.6,SNR=4.5
PPT LR LR 15 51 12.3
comp=Z,1µm,19.2s,MS5.3,baz=348,slow=32
TNS Taunus Mts 84.34 332 *eP* **P 15 19 13.5 +0.4**
comp=Z,44nm,1.1s,mb5.5
TNS Taunus Mts 84.34 332 *eP* **P 15 19 13.5 +0.4**
TNS pmax pmax
comp=Z,44nm,1.1s,mb5.5
KZIT Kziot 84.36 304 P **P 15 19 14.1 +0.4**
PERS Pernice 84.37 326 *e*PKP **P 15 19 13.6 +0.2**
PAE Paea 84.37 117 *eP* **P 15 19 21.1 +7.1**
comp=Z,88nm,1.3s,mb5.7
BBLS Bajina Basta - 84.38 322 *eP* **P 15 19 10.8 -2.7**
MLSB Milas 84.39 313 P **P 15 19 14.5 +0.8**
GMK Mull of Kintyr 84.41 342 *eP* **P 15 19 13.8 +0.5**
OUR Ouranopolis 84.49 317 *eP* **P 15 19 14.6 +0.5**
KNT Kendrikon 84.51 318 *eP* **P 15 19 14.4 +0.2**
TBKS Tabuk 84.57 301 P **P 15 19 15.3 +0.5**
VAY Valandovo 84.57 318⇑*i*P **P 15 19 15.0 +0.5**
SIND Sindeldorf 84.59 331⇑*eP* **P 15 19 14.5 +0.1**
GAL1 Galloway 84.61 341⇑*i*P **P 15 19 14.8 +0.5**
JMQS Jabal Moqyreh 84.62 302 P **P 15 19 15.6 +0.6**
KMTI Karmit 84.64 304 P **P 15 19 15.4 +0.3**
SMG Samos 84.67 314 *eP* **P 15 19 16.0 +0.9**
TVO Taravao 84.69 116 *eP* **P 15 19 22.6 +7.0**
comp=Z,124nm,1.2s,mb5.9
TOD Tromm 84.70 331⇑*eP* **P 15 19 15.2 +0.3**
SKO Skopje 84.71 320⇑*i*P **P 15 19 16.2 +1.0**
OBKA Obir 84.72 326⇑*i*P **P 15 19 14.9 -0.2**
comp=Z,178nm,2.5s,mb5.8
PLG Polygyros 84.76 317 *eP* **P 15 19 16.0 +0.5**
EIL Elat 84.76 303 P **P 15 19 16.0 +0.3**
PLE Pljevlja 84.78 322⇑*i*P **P 15 19 16.6 +1.1**
GCL Cushendall 84.78 342⇑*i*P **P 15 19 15.9 +0.7**
TATS Tathlith 84.79 290 P **P 15 19 16.9 +0.8**
LEGS Legarje 84.79 326 *i*PKP **P 15 19 15.3 -0.1**
KBA Koelnbreinsper 84.81 327⇑*i*P **P 15 19 15.8 +0.3**
comp=Z,152nm,2.1s,mb5.8
KBA Koelnbreinsper 84.81 327⇑*i*P **P 15 19 15.8 +0.3**
KBA pmax pmax
comp=Z,152nm,2.1s,mb5.8
BODT Bodrum 84.83 313 P **P 15 19 15.2 -0.6**
HGN Heimansgroeve 84.83 333⇑*i*P **P 15 19 15.4 -0.1**
comp=Z,67nm,1.1s,mb5.7
HGN *i* pP pP 15 19 26.1 -1.1
comp=Z,79nm,2.3s
SWS Schriesheim 84.83 331⇑*eP* **P 15 19 15.7 +0.1**
FUR Furstenfeldbru 84.85 329 *eP* **P 15 19 16.3 +0.6**
comp=Z,116nm,0.9s,mb6.0
FUR Furstenfeldbru 84.85 329 *eP* **P 15 19 16.3 +0.6**
FUR pmax pmax
comp=Z,116nm,0.9s,mb6.0
IVA Berane 84.86 321⇑*i*P **P 15 19 16.8 +0.9**
ARG Arkhangelos 84.90 312 *eP* **P 15 19 17.0 +0.7**
ALWS Ilw as Safayha 84.91 303 P **P 15 19 17.0 +0.5**
GRG Griva 84.92 318 *eP* **P 15 19 15.8 -0.4**
ABH Alteburg 84.95 332⇑*eP* **P 15 19 16.5 +0.3**
ABH Alteburg 84.95 332⇑*eP* **P 15 19 16.3 +0.1**
HDH Heidenheim 84.95 330⇑*eP* **P 15 19 16.1 -0.1**
JMOS Jabal al Moall 84.97 303 P **P 15 19 17.2 +0.4**
ANMO Albuquerque 85.01 50 *eP* **P 15 19 17.5 +0.6**
comp=Z,20nm,1.0s,mb5.2
ANMO Albuquerque 85.01 50*c i*P **P 15 19 18.0 +1.1**
PVY Plav 85.02 321⇑*i*P **P 15 19 16.6 0.0**
LJU Ljubljana 85.08 326 *eP* **P 15 19 16.6 -0.3**
UPM Unac-Piva 85.12 322⇑*i*P **P 15 19 16.8 -0.3**
KBI1 Birley Grange 85.15 339 *eP* **P 15 19 17.3 +0.2**
BOJS Bojanci 85.16 325 *eP* **P 15 19 17.1 -0.2**
BOJS *e*pP pP 15 19 26.9 -2.0
HAQS Haql 85.16 303 P **P 15 19 18.1 +0.4**
KTD Kalmit 85.20 331 *eP* **P 15 19 17.5 +0.1**
KTD Kalmit 85.20 331⇑*eP* **P 15 19 17.8 +0.4**
STU Stuttgart 85.21 331 *eP* **P 15 19 17.6 +0.1**
comp=Z,106nm,0.9s,mb6.0
STU *e*pP pP 15 19 29.4 +0.2
STU Stuttgart 85.21 331 *eP* **P 15 19 17.6 +0.1**
STU *e**PP pP 15 19 29.4 +0.2
STU pmax pmax
comp=Z,106nm,0.9s,mb6.0
RUP Ruppelstein 85.28 332⇑*eP* **P 15 19 18.1 +0.3**
RUP Ruppelstein 85.28 332⇑*eP* **P 15 19 18.2 +0.4**
NKY Niksic 85.36 321⇑*i*P **P 15 19 17.6 -0.7**
WATA Walderalm 85.37 328⇑*i*P **P 15 19 18.5 +0.2**
comp=Z,125nm,2.2s,mb5.7
WATA Walderalm 85.37 328⇑*i*P **P 15 19 18.5 +0.2**
WATA pmax pmax
comp=Z,125nm,2.2s,mb5.7
VOY Vojsko 85.38 326 *eP* **P 15 19 17.7 -0.6**
VOY *e* pP 15 19 30.7 +0.7
WTTA Wattenberg 85.40 328⇑*i*P **P 15 19 18.7 +0.2**
comp=Z,262nm,2.7s,mb5.9
WTTA Wattenberg 85.40 328⇑*i*P **P 15 19 18.7 +0.2**
WTTA pmax pmax
comp=Z,262nm,2.7s,mb5.9
BDAS Al Bad' 85.44 302 P **P 15 19 19.3 +0.2**
KWE Weaver Farm 85.45 339⇑*eP* **P 15 19 19.0 +0.4**
LBG Lerchenberg 85.45 331⇑*eP* **P 15 19 19.0 +0.3**
LIT Litokhoron 85.47 318 *eP* **P 15 19 18.4 -0.6**
GMM Mts of Mourne 85.49 341⇑*i*P **P 15 19 19.2 +0.4**
TTG Podgorica 85.50 321⇑*i*P **P 15 19 19.2 +0.2**
BRY Bratogost 85.52 322⇑*i*P **P 15 19 18.6 -0.5**
MOTA Moosalm 85.56 329⇑*i*P **P 15 19 19.5 +0.3**
comp=Z,50nm,1.3s,mb5.6
MOTA Moosalm 85.56 329⇑*i*P **P 15 19 19.5 +0.3**
MOTA pmax pmax
comp=Z,50nm,1.3s,mb5.6
LANF Langenberg 85.59 331⇑*eP* **P 15 19 19.5 +0.2**
FNA Florina 85.59 319 *eP* **P 15 19 19.5 0.0**
XOR Xorichti 85.60 317 *eP* **P 15 19 19.5 -0.1**
SQTA Sankt Quirin 85.62 329⇑*i*P **P 15 19 19.7 +0.2**
comp=Z,36nm,1.4s,mb5.4
SQTA Sankt Quirin 85.62 329⇑*i*P **P 15 19 19.7 +0.2**
SQTA pmax pmax
comp=Z,37nm,1.4s,mb5.4
WLF Walferdange 85.65 333 *eP* **P 15 19 20.0 +0.4**
comp=Z,158nm,1.7s,mb6.0
WLF *e*pP pP 15 19 31.4 +0.1
WLF Walferdange 85.65 333 *eP* **P 15 19 20.0 +0.4**
WLF *e**PP pP 15 19 31.4 +0.1
WLF pmax pmax
comp=Z,158nm,1.7s,mb6.0
OHR Ohrid 85.66 319⇑*i*P **P 15 19 19.9 0.0**
UBR Uberruh 85.71 329⇑*eP* **P 15 19 19.9 -0.1**
GIVF Givet 85.78 334⇑*i*P **P 15 19 20.2 0.0**
comp=Z,114nm,1.2s,mb5.7
GIVF Givet 85.78 334⇑*i*P **P 15 19 20.2 0.0**
GIVF pmax pmax
comp=Z,57nm,1.3s,mb5.6
BUM Brajici-Budva 85.78 321⇑*i*P **P 15 19 20.4 0.0**
GUT Gutenstein 85.81 330⇑*eP* **P 15 19 20.3 -0.1**
DJNS Zahran al Janu 85.83 289 P **P 15 19 22.4 +1.2**
QSH Qafa e Shtames 85.83 320 *i*p **P 15 19 20.0 -0.7**
ULC Ulcinj 85.85 321⇑*i*P **P 15 19 20.9 +0.1**
APE Apeiranthos 85.87 314 *eP* **P 15 19 18.8 -2.1**
APE Apeiranthos 85.87 314 *eP* **P 15 19 20.0 -1.0**
APE Apeiranthos 85.87 314 *i*P **P 15 19 20.2 -0.8**
HCY Herceg Novi 85.88 321⇑*i*P **P 15 19 20.8 -0.1**
UMJS Umm Lajj 85.88 298 P **P 15 19 22.2 +0.9**
BFO Black Forest 85.91 331 *eP* **P 15 19 21.2 +0.3**
comp=Z,98nm,1.1s,mb6.0
BFO Black Forest 85.91 331 *eP* **P 15 19 21.2 +0.3**
BFO pmax pmax
comp=Z,98nm,1.1s,mb6.0
SPAK Spaichingen 85.91 330 *eP* **P 15 19 21.2 +0.3**
SPAK Spaichingen 85.91 330⇑*eP* **P 15 19 21.0 +0.1**
STR Strasbourg 85.92 331⇑*eP* **P 15 19 21.5 +0.5**
KARP Karpathos 85.93 312 *eP* **P 15 19 22.0 +0.7**
SBD1 Bryn Du 85.96 339⇑*i*P **P 15 19 21.9 +0.8**
SCHQ Schefferville 85.99 16 P **P 15 19 21.8 +0.6**
comp=Z,22nm,0.9s,mb5.4,baz=338,slow=4.9,SNR=15
SCHQ pP pP 15 19 33.8 +0.9
comp=Z,17nm,0.8s,baz=355,slow=2.6,SNR=7.1
SCHQ Schefferville 85.99 16 *eP* **P 15 19 21.3 +0.2**
comp=Z,39nm,1.0s,mb5.6
SCHQ *e* pP 15 19 33.6 +0.7
BLJS Baljurashi 86.00 292 P **P 15 19 23.1 +1.1**
BAIF Baives 86.03 334⇑*i*P **P 15 19 21.4 0.0**
comp=Z,71nm,1.0s,mb5.5
BAIF Baives 86.03 334⇑*i*P **P 15 19 21.4 0.0**
BAIF pmax pmax
comp=Z,35nm,1.0s,mb5.5
DAVA Damuels 86.12 329⇑*i*P **P 15 19 22.3 +0.3**
comp=Z,109nm,1.3s,mb5.9

HLM1 Long Mynd 86.19 339⇑ eP P 15 19 22.6 +0.4
HLM1 AMb AMB 15 19 24.1
comp=Z,46nm,1.5s,mb5.5
WLS Welschbruch 86.22 331⇑ eP P 15 19 22.6 +0.2
CDF Champ du Feu 86.25 331⇑ iP P 15 19 22.6 0.0
comp=Z,152nm,1.1s,mb5.8
CDF Champ du Feu 86.25 331⇑ iP P 15 19 22.6 0.0
CDF pmax pmax
comp=Z,76nm,1.1s,mb5.8
MENF Mencas 86.32 335⇑ eP P 15 19 22.9 +0.1
AGG Agios Georgios 86.32 317 eP P 15 19 22.3 -0.9
LIBD Limburg 86.34 331⇑ eP P 15 19 23.5 +0.5
LIBD Limburg 86.34 331⇑ eP P 15 19 23.2 +0.2
SSP1 Stoney Pound 86.35 339 eP P 15 19 23.4 +0.5
KIZ Kirchzarten 86.37 331⇑ eP P 15 19 23.1 -0.1
SANT Santorini 86.39 313 eP P 15 19 22.1 -1.5
comp=Z,77nm,1.0s,mb5.9
FELD Feldberg 86.41 331⇑ eP P 15 19 23.4 +0.1
FELD Feldberg 86.41 331⇑ eP P 15 19 23.2 -0.1
ECH Echery 86.46 331⇑ eP P 15 19 23.6 0.0
BDHA Al Bayda' 86.47 285⇑ eP P 15 19 25.0 +0.6
DLF Lyons Farm 86.50 341⇑ iP P 15 19 23.8 +0.2
DLF Lyons Farm 86.50 341⇑ iP pP 15 19 36.4 +1.1
DSB Dublin 86.50 341 eP P 15 19 24.1 +0.4
comp=Z,49nm,0.7s,mb5.8
HAE Alders End 86.52 339⇑ iP P 15 19 24.3 +0.5
HAE AMb AMB 15 19 25.8
comp=Z,160nm,1.2s,mb6.1
DCN Croghan 86.64 342⇑ iP P 15 19 24.3 0.0
DCN Croghan 86.64 342⇑ iP pP 15 19 37.2 +1.1
LTHS Al Lith 86.65 293 P **P 15 19 26.1 +0.9**
JAN Janina 86.67 318 eP P 15 19 25.0 +0.1
MCH1 Michaelchurch 86.69 339⇑ iP P 15 19 25.2 +0.5
MCH1 ⇑ iP 15 19 25.2
HTR Trewern Hill 86.69 339⇑ iP P 15 19 25.3 +0.6
HTR AMb AMB 15 19 27.4
comp=Z,112nm,1.5s,mb5.9
MOF Molkenrain 86.77 331⇑ eP P 15 19 24.9 -0.2
LBOS 86.78 285⇑ eP P 15 19 26.5 +0.6
THEF They Montfort 86.90 332⇑ eP P 15 19 25.8 +0.1
HINF Hinteralfeld 86.90 331⇑ iP P 15 19 25.3 -0.5
comp=Z,43nm,1.1s,mb5.3
HINF Hinteralfeld 86.90 331⇑ iP P 15 19 25.3 -0.5
HINF pmax pmax
comp=Z,21nm,1.1s,mb5.3
BBS Basel-Blauen 86.93 331⇑ eP P 15 19 26.0 +0.1
BBS Basel-Blauen 86.93 331⇑ eP P 15 19 25.6 -0.3
HAU Haudompre 86.94 332⇑ iP P 15 19 25.6 -0.4
comp=Z,71nm,1.0s,mb5.5
HAU eR
comp=Z,3µm,18.5s
HAU Haudompre 86.94 332⇑ iP P 15 19 25.6 -0.4
HAU pmax pmax
comp=Z,36nm,1.0s,mb5.6
HAU MLR MLR
comp=Z,3µm,18.5s,MS5.7
HGH Gray Hill 86.95 339⇑ iP P 15 19 26.2 +0.3
HGH AMb AMB 15 19 27.0
comp=Z,122nm,0.8s,mb6.2
MEZF Maizieres J'vi 87.02 333⇑ iP P 15 19 26.7 +0.4
comp=Z,185nm,1.4s,mb5.8
IGT Igoumenitsa 87.04 318 eP P 15 19 26.0 -0.7
LOMF Lomont 87.30 331⇑ eP P 15 19 27.5 -0.2
IDI Anoyia 87.47 313 P **P 15 19 28.2 -0.6**
comp=Z,72nm,1.1s,mb5.8,baz=36,slow=8.0,SNR=14
HEX Exmoor 87.75 339⇑ eP P 15 19 30.1 +0.3
VAM Vamos 87.79 313 eP P 15 19 31.0 +0.6
KSU1 Kansas State U 87.81 41 eP P 15 19 30.2 -0.2
MNTX Cornudas Mount 87.84 52 eP P 15 19 30.5 -0.3
comp=Z,24nm,1.6s,mb5.2
ITM Ithomi 87.85 316 eP P 15 19 30.0 -0.6
CABF La Chapelle 88.19 331⇑ iP P 15 19 31.8 -0.2
comp=Z,24nm,0.9s,mb5.1
CABF La Chapelle 88.19 331⇑ iP P 15 19 31.8 -0.2
CABF pmax pmax
comp=Z,12nm,0.9s,mb5.1
AQU L'Aquila 88.43 324 eP P 15 19 33.9 +0.7
comp=Z,75nm,0.8s,mb6.0
AQU L'Aquila 88.43 324 eP P 15 19 33.9 +0.6
AQU pmax pmax
comp=Z,75nm,0.8s,mb6.0
CII Carovilli 88.48 323 eP P 15 19 33.9 +0.3
comp=Z,112nm,1.3s,mb5.9
LOR Lormes 88.50 333⇑ iP P 15 19 33.4 0.0
comp=Z,160nm,1.5s,mb5.7
LOR eR
comp=Z,3µm,19.5s
LOR Lormes 88.50 333⇑ iP P 15 19 33.4 0.0
LOR pmax pmax
comp=Z,80nm,1.5s,mb5.7
LOR MLR MLR
comp=Z,3µm,19.5s,MS5.7
VAL Valentia 88.66 343⇓ iP P 15 19 33.8 -0.3
FLN La Foliniere 88.74 336⇑ iP P 15 19 34.5 -0.1
comp=Z,172nm,1.5s,mb5.8
FLN eR
comp=Z,2µm,21.0s
FLN La Foliniere 88.74 336⇑ iP P 15 19 34.5 -0.1
FLN pmax pmax
comp=Z,86nm,1.5s,mb5.9
FLN MLR MLR
comp=Z,2µm,21.0s,MS5.6
SSF Saint Saulge 88.80 333⇑ iP P 15 19 34.9 0.0
comp=Z,20nm,1.1s,mb5.4
SSF Saint Saulge 88.80 333⇑ iP P 15 19 34.9 0.0
SSF pmax pmax
comp=Z,20nm,1.1s,mb5.4
LPL La Plagne 88.83 330⇑ iP P 15 19 35.1 0.0
comp=Z,30nm,0.8s,mb5.4
LPL La Plagne 88.83 330⇑ iP P 15 19 35.1 0.0
LPL pmax pmax
comp=Z,15nm,0.8s,mb5.4
LPG La Plagne 88.84 330⇑ iP P 15 19 35.3 +0.2
comp=Z,41nm,0.8s,mb5.5
LPG La Plagne 88.84 330⇑ iP P 15 19 35.3 +0.2
LPG pmax pmax
comp=Z,20nm,0.8s,mb5.5
HYF Humbligny 88.94 333 eP P 15 19 36.0 +0.4
SMF Signal de Mont 89.02 332⇑ iP P 15 19 36.0 0.0
comp=Z,132nm,1.3s,mb5.8
SMF Signal de Mont 89.02 332⇑ iP P 15 19 36.0 0.0
SMF pmax pmax
comp=Z,66nm,1.3s,mb5.8
AVF Avril sur Loir 89.08 333⇑ iP P 15 19 36.4 +0.1
comp=Z,110nm,1.0s,mb5.8
AVF Avril sur Loir 89.08 333⇑ iP P 15 19 36.4 +0.1
AVF pmax pmax
comp=Z,55nm,1.0s,mb5.8
TIP Timpagrande 89.18 320 eP P 15 19 36.6 -0.4
GRR Gorron 89.19 336⇑ iP P 15 19 36.9 +0.2
comp=Z,79nm,0.9s,mb5.7
GRR Gorron 89.19 336⇑ iP P 15 19 36.9 +0.2
GRR pmax pmax
comp=Z,39nm,0.9s,mb5.7
BNI Bardonecchia 89.24 330 eP P 15 19 36.6 -0.4
comp=Z,82nm,1.8s,mb5.8
BNI Bardonecchia 89.24 330 P **P 15 19 37.4 +0.4**
BNI pmax pmax
comp=Z,82nm,1.7s,mb5.8
MBDF Montbardon 89.47 330⇑ iP P 15 19 37.3 -0.8
comp=Z,32nm,0.8s,mb5.4
MBDF Montbardon 89.47 330⇑ iP P 15 19 37.3 -0.8
MBDF pmax pmax
comp=Z,16nm,0.8s,mb5.4
ORIF Oris-en-Rattie 89.67 330⇑ iP P 15 19 38.8 -0.3
comp=Z,22nm,0.9s,mb5.2
ORIF eR
comp=Z,2µm,21.5s
SGMF Saint Gilles 89.86 337⇑ iP P 15 19 39.9 0.0
comp=Z,88nm,1.0s,mb5.8
SGMF Saint Gilles 89.86 337⇑ iP P 15 19 39.9 0.0
SGMF pmax pmax
comp=Z,44nm,1.0s,mb5.7
SBF Sospel 89.89 329⇑ iP P 15 19 39.2 -1.0
comp=Z,118nm,1.3s,mb5.8
SBF Sospel 89.89 329⇑ iP P 15 19 39.2 -1.0
SBF pmax pmax
comp=Z,59nm,1.3s,mb5.8
TCF Toulx Ste Croi 89.93 333⇑ iP P 15 19 40.5 +0.2
comp=Z,70nm,1.2s,mb5.5
TCF Toulx Ste Croi 89.93 333⇑ iP P 15 19 40.5 +0.2
TCF pmax pmax
comp=Z,35nm,1.2s,mb5.6
ROSF Rostrenen 90.01 337⇑ iP P 15 19 40.8 +0.2
comp=Z,76nm,0.9s,mb5.7
ROSF Rostrenen 90.01 337⇑ iP P 15 19 40.8 +0.2
ROSF pmax pmax
comp=Z,38nm,0.9s,mb5.7
VIVF Saint-Julien-l 90.20 331⇑ iP P 15 19 41.5 -0.1
comp=Z,39nm,0.9s,mb5.4
VIVF Saint-Julien-l 90.20 331⇑ iP P 15 19 41.5 -0.1
VIVF pmax pmax
comp=Z,19nm,0.9s,mb5.4
PGF Pioggiola 90.28 327⇑ iP P 15 19 41.3 -0.7
comp=Z,79nm,1.0s,mb5.7
PGF Pioggiola 90.28 327⇑ iP P 15 19 41.3 -0.7
PGF pmax pmax
comp=Z,39nm,1.0s,mb5.7
QUIF Quistinic 90.35 337⇑ iP P 15 19 42.1 -0.1
comp=Z,31nm,0.8s,mb5.4
QUIF Quistinic 90.35 337⇑ iP P 15 19 42.1 -0.1
QUIF pmax pmax
comp=Z,16nm,0.8s,mb5.4
FRF La Foret Royal 90.47 329⇑ iP P 15 19 42.0 -0.9
comp=Z,118nm,1.2s,mb5.8
FRF La Foret Royal 90.47 329⇑ iP P 15 19 42.0 -0.9
FRF pmax pmax
comp=Z,59nm,1.2s,mb5.8
MFF Saint Martin d 90.50 335⇑ iP P 15 19 43.1 +0.2
comp=Z,105nm,1.0s,mb5.8
MFF Saint Martin d 90.50 335⇑ iP P 15 19 43.1 +0.2
MFF pmax pmax
comp=Z,52nm,1.0s,mb5.8
LTX Lajitas 90.53 52 eP P 15 19 43.6 +0.1
comp=Z,20nm,1.2s,mb5.3
LTX Lajitas 90.53 52 P **P 15 19 44.2 +0.7**
LTX pmax pmax
comp=Z,20nm,1.1s,mb5.4
TXAR Lajitas Array 90.53 52 P **P 15 19 43.9 +0.4**
comp=Z,6.7nm,0.8s,mb5.0,baz=288,slow=4.0,SNR=81
TXAR pP pP 15 19 57.0 +1.7
comp=Z,5.8nm,0.8s,baz=302,slow=2.6,SNR=10
TXAR PKKPbc 15 37 10.7
comp=Z,0.3nm,0.5s,baz=153,slow=4.0,SNR=4.7
TXAR LR LR 15 54 37.0
comp=Z,735nm,19.8s,MS5.1,baz=15,slow=32
SMRF Simiane la Rot 90.57 330⇑ iP P 15 19 43.3 0.0
comp=Z,90nm,1.4s,mb5.6
LMR La Mourre 90.72 329⇑ iP P 15 19 43.3 -0.7
comp=Z,109nm,1.1s,mb5.8
LMR La Mourre 90.72 329⇑ iP P 15 19 43.3 -0.7
LMR pmax pmax
comp=Z,54nm,1.1s,mb5.8
RJF Les Rejaudoux 91.02 333⇑ iP P 15 19 45.6 +0.2
comp=Z,81nm,1.0s,mb5.7
RJF eR
comp=Z,2µm,22.5s
RJF Les Rejaudoux 91.02 333⇑ iP P 15 19 45.6 +0.2
RJF pmax pmax
comp=Z,40nm,1.0s,mb5.7
RJF MLR MLR
comp=Z,2µm,22.5s,MS5.5
CAF Calviac 91.14 332⇑ iP P 15 19 46.5 +0.5
comp=Z,96nm,1.1s,mb5.8
LASF Ste Croix 91.17 331⇑ iP P 15 19 46.3 +0.2
comp=Z,64nm,1.1s,mb5.6
CCM Cathedral Cave 91.39 39 eP P 15 19 46.9 -0.4
comp=Z,17nm,0.8s,mb5.4
CCM Cathedral Cave 91.39 39 eP P 15 19 47.1 -0.2
CCM pmax pmax
comp=Z,17nm,0.9s,mb5.4
LFF La Frestale 91.62 333⇑ iP P 15 19 48.5 +0.3
comp=Z,115nm,1.0s,mb5.8
LFF La Frestale 91.62 333⇑ iP P 15 19 48.5 +0.3
LFF pmax pmax
comp=Z,57nm,1.0s,mb5.9
MTLF Montolieu 92.43 332⇑ iP P 15 19 52.2 +0.3
comp=Z,63nm,1.1s,mb5.6
MTLF Montolieu 92.43 332⇑ iP P 15 19 52.2 +0.3
MTLF pmax pmax
comp=Z,32nm,1.1s,mb5.6
SIUC Southern Illin 92.67 38 P **P 15 19 52.8 -0.3**
EJON La Jonquera 92.92 331 P **P 15 19 54.2 0.0**
comp=Z,14nm,1.1s,mb5.3
MLS Moulis 93.19 332⇑ eP P 15 19 55.8 +0.4
PARMO Parma 93.22 39 eP P 15 19 55.4 -0.3
EPF Esparros 93.41 333⇑ iP P 15 19 56.1 -0.3
comp=Z,31nm,1.1s,mb5.3
EPF Esparros 93.41 333⇑ iP P 15 19 56.1 -0.3
EPF pmax pmax
comp=Z,15nm,1.1s,mb5.3
EBIE Bielsa 93.78 332 P **P 15 19 57.1 -1.0**
comp=Z,15nm,1.0s,mb5.4
ETSF Etsaut 93.85 333⇑ iP P 15 19 59.0 +0.6
comp=Z,39nm,1.0s,mb5.5
ETSF Etsaut 93.85 333⇑ iP P 15 19 59.0 +0.6
ETSF pmax pmax
comp=Z,19nm,1.0s,mb5.5
EALK Alkurruntz 93.92 334 P **P 15 19 57.2 -1.5**
comp=Z,6.3nm,0.8s,mb5.1
EGRA Graus 94.14 332 P **P 15 19 57.7 -2.0**
comp=Z,16nm,0.7s,mb5.6
EPOB Poblet 94.57 331 P **P 15 20 01.5 -0.2**
comp=Z,8.6nm,0.9s,mb5.2
ELAN Lanestosa 94.58 335 P **P 15 20 01.1 -0.6**
comp=Z,17nm,1.2s,mb5.3
WVT Waverly 94.60 38 eP P 15 20 01.4 -0.6
comp=Z,4.0nm,0.9s,mb4.8
WVT Waverly 94.60 38 eP P 15 20 02.2 +0.2
WVT pmax pmax
comp=Z,4.0nm,1.0s,mb4.8
ECRI Cripan 94.81 334 P **P 15 20 04.2 +1.4**
comp=Z,4.0nm,0.6s,mb5.0
ECRI Cripan 94.81 334 P **P 15 20 04.2 +1.4**
ECRI pmax pmax
comp=Z,4.0nm,0.6s,mb5.0
ESAC San Caprasio 94.84 332 P **P 15 20 03.5 +0.5**
comp=Z,16nm,0.7s,mb5.6
ERTA Horta de San J 95.19 331 P **P 15 20 04.7 +0.1**
comp=Z,14nm,0.9s,mb5.4
ETOS Mallorca 95.22 329 P **P 15 20 07.0 +2.3**
comp=Z,15nm,1.2s,mb5.3
EMOS Mosqueruela 96.02 332 P **P 15 20 08.8 +0.5**
comp=Z,11nm,0.9s,mb5.3
TZTN Tazewell 96.32 35 P **P 15 20 09.7 -0.1**
CPCT Cooper Cave 96.75 36 eP P 15 20 10.8 -1.0
ECAL Calabor 96.82 337 P **P 15 20 09.7 -2.3**
comp=Z,6.0nm,0.9s,mb5.0
BLA Blacksburg 97.17 32 eP P 15 20 13.9 +0.2
comp=Z,17nm,0.9s,mb5.5
BLA Blacksburg 97.17 32 P **P 15 20 14.3 +0.6**
BLA pmax pmax
comp=Z,17nm,1.0s,mb5.4
EBEN Beniarda 97.35 331 P **P 15 20 14.5 0.0**
comp=Z,9.3nm,1.0s,mb5.2
ESDC Sonseca Array 97.91 334 P **P 15 20 16.4 -0.5**
comp=Z,3.3nm,0.8s,mb4.9,baz=19,slow=4.8,SNR=12
ESDC pP pP 15 20 28.9 +0.1
comp=Z,3.2nm,0.8s,baz=20,slow=4.4,SNR=8.9
ESDC Sonseca Array 97.91 334 P **P 15 20 16.7 -0.2**
comp=Z,2.8nm,0.8s,mb4.8
ETOB Tobarra 97.92 332 P **P 15 20 16.9 -0.1**
comp=Z,4.2nm,1.0s,mb4.9
EVIA Vianos 98.29 332 P **P 15 20 19.4 +0.7**
comp=Z,6.7nm,0.9s,mb5.2
EVIA Vianos 98.29 332 P **P 15 20 19.4 +0.7**
EVIA pmax pmax
comp=Z,7.0nm,0.9s,mb5.2
EMUR La Murta 98.50 331 P **P 15 20 18.1 -1.5**
comp=Z,5.9nm,1.2s,mb5.0
EBAN Banos Encina 99.18 333 P **P 15 20 21.3 -1.4**
comp=Z,1.1nm,0.4s,mb4.7
EBAN Banos Encina 99.18 333 P **P 15 20 21.3 -1.4**
EBAN pmax pmax
comp=Z,1.0nm,0.4s,mb4.7
EQES Quesada 99.23 332 P **P 15 20 22.8 -0.2**
comp=Z,5.3nm,1.1s,mb5.0
EADA Adamuz 99.47 333 P **P 15 20 22.6 -1.5**
comp=Z,2.9nm,1.1s,mb4.7
ECAB El Cabril 99.85 334 P **P 15 20 25.1 -0.7**
comp=Z,8.4nm,1.2s,mb5.0
ELUQ Luque 99.89 333 P **P 15 20 25.5 -0.5**
comp=Z,1.1nm,0.5s,mb4.5
ELUQ Luque 99.89 333 P **P 15 20 25.5 -0.5**
ELUQ pmax pmax
comp=Z,1.0nm,0.5s,mb4.5
EBER Berja 99.96 332 P **P 15 20 26.0 -0.3**
comp=Z,4.9nm,0.8s,mb5.0
ERON Agron 100.20 332 P P 15 20 26.9 -0.6
comp=Z,2.5nm,0.9s
EMIN Mina Concepcio 100.56 335 P P 15 20 25.1 -4.0
comp=Z,2.9nm,0.6s
EGRO El Granado 101.05 335 P P 15 20 30.4 -0.8
comp=Z,2.7nm,0.8s
KMBO Kilima Mbogo 102.08 278 P Pdif 15 20 35.7 -0.7
comp=Z,2.5nm,1.0s,baz=44,slow=5.6,SNR=4.8
KMBO Kilima Mbogo 102.08 278 P Pdif 15 20 35.7 -0.7
KMBO Kilima Mbogo 102.08 278 *i* P Pdif 15 20 36.9 +0.5
KMBO pmax pmax
comp=Z,3.0nm,1.0s
VNDA Vanda 114.29 175 PKP PKPdf 15 25 18.9 +0.1
comp=Z,1.3nm,0.9s,baz=341,slow=3.2,SNR=7.7
VNDA pPKP 15 25 32.2
comp=Z,1.1nm,0.8s,baz=312,slow=3.6,SNR=4.3
VNDA Vanda 114.29 175 PKIKP PKPdf 15 25 18.9 +0.1
VNDA pmax pmax
comp=Z,1.0nm,0.9s
VNDA pmax pmax
comp=Z,1.0nm,0.8s
LBTB Lobatse 124.56 263 *e*PKPdf PKPdf 15 25 40.8 +0.9
LBTB Lobatse 124.56 263 PKIKP PKPdf 15 25 41.5 +1.6
SDV Santo Domingo 125.84 40 PKP PKPdf 15 25 43.7 +1.2
comp=Z,12nm,0.8s,baz=20,slow=1.5,SNR=16
SDV pPKP 15 25 56.2
comp=Z,11nm,0.7s,baz=183,slow=1.1,SNR=4.9
SDV Santo Domingo 125.84 40 *e*PKPdf PKPdf 15 25 43.1 +0.5
QSPA South Pole Qui 126.09 180 *eP* PKPdf 15 25 42.0 +0.6
BOSA Boshof 126.46 259 PKP PKPdf 15 25 44.8 +1.4
comp=Z,15nm,0.9s,baz=59,slow=1.4,SNR=15
BOSA pPKP 15 25 57.6
comp=Z,8.3nm,0.9s,baz=148,slow=3.3,SNR=4.6
BOSA Boshof 126.46 259 PKIKP PKPdf 15 25 44.8 +1.4
BOSA pmax pmax
comp=Z,15nm,0.9s
BOSA pmax pmax
comp=Z,8.0nm,0.9s
DBIC Dimbokro 126.80 316 PKP PKPdf 15 25 44.5 0.0
comp=Z,13nm,0.9s,baz=46,slow=2.2,SNR=10
DBIC pPKP 15 25 58.8
comp=Z,5.3nm,0.6s,baz=58,slow=5.1,SNR=3.4
DBIC Dimbokro 126.80 316 *e*PKPdf PKPdf 15 25 45.1 +0.6
DBIC Dimbokro 126.80 316 PKIKP PKPdf 15 25 44.5 0.0
DBIC pmax pmax
comp=Z,13nm,0.9s
DBIC pmax pmax
comp=Z,5.0nm,0.6s
ROSC El Rosal 127.10 47 PKP PKPdf 15 25 46.9 +1.9
comp=Z,8.7nm,0.7s,baz=88,slow=20,SNR=7.2
SYO Syowa Base 127.60 206 ⇓PKPdf PKPdf 15 25 43.6 -0.9
TSUM Tsumeb 128.16 273 *e*PKPdf PKPdf 15 25 48.5 +1.5
TSUM *ep*PKPdf 15 26 00.5
NVL N'lazarevskaya 136.66 202 ⇓ *i* PKIKP PKPdf 15 26 03.5 +2.0
NVL *i* PPP PP 15 28 49.0 +1.5
NVL pmax pmax
comp=Z,1.0nm,1.0s
SNAA Sanae 140.10 197 PKPdf 15 26 07.5 -0.2
SNAA Sanae 140.10 197 PKPdf 15 26 13.1 +5.4
SNAA Sanae 140.10 197 PKPdf 15 26 21.3 +14
SNAA Sanae 140.10 197 PKHKP 15 25 59.9
SNAA 15 26 07.5
SNAA 15 26 13.1
VNA2 Neumayer--Watz 141.66 196 PKPdf 15 26 15.6 +5.2
VNA2 Neumayer--Watz 141.66 196 PKPdf 15 26 27.8 +17
VNA2 Neumayer--Watz 141.66 196 PKPdf PKPdf 15 26 08.6 -1.8
VNA2 P 15 26 15.6
VNA2 P 15 26 27.8
VNA3 Neumayer Olymp 141.91 195 PKPdf 15 26 15.3 +4.5
VNA3 Neumayer Olymp 141.91 195 PKPdf 15 26 27.1 +16
VNA3 Neumayer Olymp 141.91 195 PKPdf PKPdf 15 26 07.6 -3.2
VNA3 P 15 26 15.3
VNA3 P 15 26 27.1
VNA1 Neumayer--Stat 142.06 196 PKPdf 15 26 15.6 +4.5
VNA1 Neumayer--Stat 142.06 196 PKPdf 15 26 24.3 +13
VNA1 Neumayer--Stat 142.06 196 PKPdf PKPdf 15 26 09.7 -1.4
VNA1 P 15 26 15.6
VNA1 P 15 26 24.3
SIV San Ignacio 151.51 51 PKPbc PKPdf 15 26 35.6 +7.4
comp=Z,42nm,0.9s,baz=15,slow=0.6,SNR=13
SIV PKPab PKPab 15 26 45.0 -0.2
comp=Z,20nm,0.8s,baz=325,slow=5.1,SNR=5.7
USHA Ushuaia 152.42 142 PKPbc PKPdf 15 26 37.5 +9.2
comp=Z,27nm,0.9s,baz=304,slow=2.8,SNR=8.1
USHA PKPab PKPab 15 26 46.9 -0.9
comp=Z,25nm,1.0s,baz=191,slow=3.8,SNR=6.9
USHA pPKPbc 15 26 50.0
comp=Z,28nm,0.9s,baz=288,slow=4.5,SNR=5.4
PLCA Paso Flores 154.68 110 PKPab PKPab 15 26 56.7 -1.2
comp=Z,2.8nm,0.8s,baz=259,slow=5.4,SNR=4.5
PLCA pPKPab 15 27 10.0
comp=Z,12nm,0.9s,baz=250,slow=4.9,SNR=10
PLCA Paso Flores 154.68 110 PKP2 PKPab 15 26 56.7 -1.2
PLCA pmax pmax
comp=Z,3.0nm,0.8s
PLCA pmax pmax
comp=Z,12nm,0.9s
CFAA Coronel Fontan 155.00 88 PKP PKPdf 15 26 33.5 +0.9
comp=Z,0.2nm,0.5s,baz=250,slow=8.2,SNR=3.3
CFAA PKPbc PKPdf 15 26 42.7 +10
comp=Z,0.3nm,0.5s,baz=298,slow=3.4,SNR=4.6
CFAA PKPab PKPab 15 26 57.6 -1.9
comp=Z,1.0nm,0.8s,baz=325,slow=1.4,SNR=9.4
CFAA pPKPab 15 27 10.1
comp=Z,2.7nm,0.8s,baz=272,slow=4.1,SNR=12
BDFB Brasilia 157.72 25 PKP PKPdf 15 26 38.0 +1.3
comp=Z,1.8nm,0.4s,baz=260,slow=6.1,SNR=3.1
BDFB PKPab PKPab 15 27 11.4 -0.2
comp=Z,4.5nm,0.9s,slow=2.0,SNR=5.1
BDFB Brasilia 157.72 25 PKIKP PKPdf 15 26 38.0 +1.3
BDFB pmax pmax
comp=Z,2.0nm,0.4s
BDFB pmax pmax
comp=Z,5.0nm,0.9s
BAO Brasilia Array 157.73 25 PKPdf PKPdf 15 26 39.0 +2.3

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*IDC **07** 15:14:37.5±1.0, 47.20N×153.93E, mb4.2/18, mb1 4.4/18, mb1mx4.3/25, mbtmp4.2/18, Error ellipse: s-maj=26.5km s-min=20.6km az=164.0*
*NEIC **07** 15:14:44.8±1.7, 47.34N×154.00E, h49km±11km, mb4.6/4, Error ellipse: s-maj=19.2km s-min=10.8km az=153.0*
*MOS **07** 15:14:45.9±1.4, 47.49N×153.88E, h70km, mb4.4/18, Error ellipse: s-maj=15.9km s-min=9.9km az=99.0*
ISC 07 15:14:45.3±1.9, 47.7N±0.1×153.8E±0.2, h54km±13km, n63, σ1§16/64, mb4.4/28, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.39**	**26**	*e*PN	**P**	**15 15 33.5**	**-3.6**
SKR				*e*S	**S**	**15 16 15.7**	**-0.8**
SKR				pmax	pmax		
	comp=N,40nm,0.5s						
SKR				pmax	pmax		
	comp=E,30nm,0.5s						
SKR				pmax	pmax		
	comp=Z,70nm,0.5s						
SKR				smax			
	comp=N,80nm,0.5s						
SKR				smax			
	comp=E,130nm,0.5s						
KUR	**Kuril'sk**	**4.77**	**242**	*e*PN	**P**	**15 15 58.7**	**+2.3**
KUR				pmax	pmax		
	comp=Z,100nm,0.8s						
PET	**Petropavlovsk**	**6.21**	**28**	*eP*	**P**	**15 16 16.1**	**-0.4**
PET	**Petropavlovsk**	**6.21**	**28**	*e*PN	**P**	**15 16 18.1**	**+1.5**
PET				pmax	pmax		
	comp=Z,28nm,1.3s						
YUK	**Yuzh-Kuril'sk**	**6.62**	**240**	PN	**P**	**15 16 15.0**	**-7.4**
YSS	**Yuzh-Sakhalins**	**7.55**	**269**	*eP*	**P**	**15 16 35.7**	**+0.4**
YSS	**Yuzh-Sakhalins**	**7.55**	**269**	*i* PN	**P**	**15 16 36.1**	**+0.8**
YSS				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MA2	**Magadan**	**12.09**	**353**	*eP*	**P**	**15 17 38.0**	**+1.1**
YAK	**Yakutsk**	**19.84**	**325**	*eP*	**P**	**15 19 14.3**	**+0.3**
	comp=Z,9.4nm,0.6s						
YAK	**Yakutsk**	**19.84**	**325**	*eP*	**P**	**15 19 14.3**	**+0.3**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.6s						
BILL	**Bilibino**	**21.41**	**13**	*eP*	**P**	**15 19 26.6**	**-3.5**
BILL				pmax	pmax		
	comp=Z,11nm,2.1s,mb3.8						
SONM	**Songino Array**	**31.50**	**288**	P	**P**	**15 21 03.0**	**-1.0**
	comp=Z,1.2nm,0.6s,mb3.9,baz=70,slow=8.4,SNR=4.9						
SONM	**Songino Array**	**31.50**	**288**	P	**P**	**15 21 03.0**	**-0.9**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ILAR	**Eielson Array**	**35.55**	**39**	P	**P**	**15 21 38.1**	**-0.6**

comp=Z,0.8nm,0.6s,mb3.8,baz=257,slow=8.8,SNR=12
ILAR Eielson Array 35.55 39 P **P 15 21 38.1 -0.6**
ILAR pmax pmax
comp=Z,1.0nm,0.6s
INK Inuvik 40.64 33 P **P 15 22 22.2 +1.0**
comp=Z,2.7nm,0.8s,mb3.9,baz=277,slow=5.2,SNR=3.2
INK Inuvik 40.64 33 P **P 15 22 22.2 +1.0**
INK Inuvik 40.64 33 P **P 15 22 22.2 +1.0**
INK pmax pmax
comp=Z,3.0nm,0.8s
ZAL Zalesovo 42.49 305 P **P 15 22 35.5 -0.9**
comp=Z,2.5nm,0.5s,mb4.1,baz=147,slow=7.0,SNR=6.9
ZAL Zalesovo 42.49 305 P **P 15 22 35.6 -0.8**
ZAL pmax pmax
comp=Z,3.0nm,0.5s
MKAR Makanchi Array 46.96 297 P **P 15 23 11.4 -0.9**
comp=Z,2.7nm,0.6s,mb4.3,baz=66,slow=7.8,SNR=13
MKAR Makanchi Array 46.96 297 P **P 15 23 11.4 -0.8**
MKAR pmax pmax
comp=Z,3.0nm,0.6s
KURK Kurchatov 47.27 303 *eP* **P 15 23 13.4 -1.3**
comp=Z,10.0nm,0.7s,mb4.8
KURK Kurchatov 47.27 303 *eP* **P 15 23 13.4 -1.3**
KURK pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
BVAR Borovoye Array 50.66 309 P **P 15 23 40.6 -0.2**
comp=Z,1.9nm,0.3s,mb4.4,baz=54,slow=7.9,SNR=12
BVAR Borovoye Array 50.66 309 P **P 15 23 40.6 -0.2**
BVAR pmax pmax
comp=Z,2.0nm,0.4s
AAK Ala-Archa 53.87 296 *i* P **P 15 24 03.4 -1.5**
AAK pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
KKN Kakani 55.88 275 *eP* **P 15 24 18.7 -1.0**
comp=Z,20nm,0.7s,mb5.3
PKI Pulchoki 55.94 275 *eP* **P 15 24 19.2 -0.9**
comp=Z,44nm,1.3s,mb5.3
DMN Daman 56.12 275 *eP* **P 15 24 21.2 -0.2**
comp=Z,46nm,0.9s,mb5.5
GKN Gorkha 56.17 276 *eP* **P 15 24 21.0 -0.8**
comp=Z,34nm,0.6s,mb5.5
KOLN Koldanda 57.02 276 *eP* **P 15 24 27.2 -0.7**
comp=Z,28nm,0.8s,mb5.3
ARCES ARCESS Array B 57.16 341 P **P 15 24 28.4 0.0**
comp=Z,0.6nm,0.5s,mb3.9,baz=31,slow=7.1,SNR=4.8
ARCES ARCESS Array B 57.16 341 P **P 15 24 28.4 +0.1**
ARCES pmax pmax
comp=Z,1.0nm,0.5s
KAF Kangasniemi 62.83 335 *ep* **P 15 25 06.0 -1.2**
comp=Z,0.3nm,0.4s,mb3.8
FINES FINESS Array B 63.43 335 P **P 15 25 10.8 -0.4**
comp=Z,1.7nm,0.5s,mb4.5,baz=32,slow=8.0,SNR=18
FINES FINESS Array B 63.43 335 P **P 15 25 10.8 -0.4**
FINES FINESS Array B 63.43 335 P **P 15 25 10.8 -0.4**
FINES pmax pmax
comp=Z,2.0nm,0.5s
NB2 NORSAR Subarra 67.53 341 P **P 15 25 37.6 +0.3**
comp=Z,2.0nm,0.6s,mb4.3,baz=26,slow=6.2
NB2 NORSAR Subarra 67.53 341 P **P 15 25 37.6 +0.3**
NB2 pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
NOA NORSAR Array B 67.53 341 P **P 15 25 37.4 +0.1**
comp=Z,3.6nm,0.7s,mb4.5,baz=26,slow=6.4,SNR=9.2
NOA NORSAR Array B 67.53 341 P **P 15 25 37.4 +0.1**
NOA pmax pmax
comp=Z,4.0nm,0.7s
WRA Warramunga Arr 69.52 200 P **P 15 25 45.2 -5.1**
comp=Z,0.8nm,0.9s,mb3.6,baz=18,slow=6.6,SNR=2.6
WRA Warramunga Arr 69.52 200 P **P 15 25 45.2 -5.0**
WRA pmax pmax
comp=Z,1.0nm,0.9s
AKASG Malin Array Be 71.06 326 P **P 15 25 58.6 -0.5**
comp=Z,4.0nm,0.5s,mb4.6,baz=34,slow=6.2,SNR=21
AKASG Malin Array Be 71.06 326 P **P 15 25 58.6 -0.5**
AKASG pmax pmax
comp=Z,4.0nm,0.5s
GNI Garni 72.31 311 *i* P **P 15 26 01.9 -4.8**
CLL Collm 75.84 336 P **P 15 26 28.2 +1.3**
comp=Z,logA/T=1.1,mb4.8
CLL Collm 75.84 336 *i* P **P 15 26 28.2 +1.3**
comp=Z,9.0nm,0.8s,mb4.8
CLL Collm 75.84 336 *i* P **P 15 26 28.2 +1.3**
CLL pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
MLR Muntele Rosu 76.60 325 P **P 15 26 32.9 +1.5**
comp=Z,4.0nm,0.5s,mb4.6,baz=323,slow=1.8,SNR=6.4
MLR Muntele Rosu 76.60 325 P **P 15 26 32.9 +1.6**
MLR pmax pmax
comp=Z,4.0nm,0.5s
TXAR Lajitas Array 76.64 61 P **P 15 26 30.4 -1.5**
comp=Z,0.8nm,0.7s,mb3.8,baz=297,slow=4.1,SNR=5.3
TXAR Lajitas Array 76.64 61 P **P 15 26 30.4 -1.5**
TXAR pmax pmax
comp=Z,1.0nm,0.7s
KHC Kasperske Hory 77.64 335 *eP* **P 15 26 38.5 +1.5**
GERES GERESS Array B 77.86 334 P **P 15 26 38.9 +0.7**
comp=Z,0.7nm,0.6s,mb3.8,baz=34,slow=4.8,SNR=4.9
GERES GERESS Array B 77.86 334 P **P 15 26 38.9 +0.7**
GERES pmax pmax
comp=Z,1.0nm,0.6s
BRTR Keskin Array B 78.06 317 P **P 15 26 41.0 +1.4**
comp=Z,2.2nm,0.9s,mb4.1,baz=54,slow=3.6,SNR=5.3
BRTR Keskin Array B 78.06 317 P **P 15 26 41.0 +1.5**
BRTR pmax pmax
comp=Z,2.0nm,0.9s
DAVOX Davos 80.82 336 P **P 15 26 55.7 +1.4**
comp=Z,1.8nm,0.5s,mb4.2,baz=354,slow=10,SNR=3.9
ASF Jabal al Asfar 82.48 310 P **P 15 27 05.0 +1.7**
comp=Z,2.8nm,0.8s,mb4.2,baz=12,slow=9.3,SNR=3.6
ASF Jabal al Asfar 82.48 310 P **P 15 27 05.0 +1.8**
ASF pmax pmax
comp=Z,3.0nm,0.8s
IDI Anoyia 85.63 320 P **P 15 27 21.3 +2.4**
comp=Z,7.2nm,0.9s,mb4.9,baz=23,slow=14,SNR=4.7

*IDC **07** 15:23:18.8±0.8, 16.75S×70.62W, mb4.2/6, mb1 4.5/9, mb1mx4.2/19, mbtmp4.3/9, ML4.1/2, MS3.9/1, Ms1 4.1/1, ms1mx3.5/27, Error ellipse: s-maj=25.0km s-min=18.8km az=57.0*
*NEIC **07** 15:23:19.8±1.5, 16.74S×70.56W, h7km±10km, mb4.5/5, Error ellipse: s-maj=10.4km s-min=8.0km az=224.0*
ISC 07 15:23:18.4±0.5, 16.68S±0.07×70.46W±0.05, h10km, n32, σ0.84/30, mb4.2/9, 2C, Southern Peru

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**1.02**	**282**	⇑*iP*		**Pb**	**15 23 37.5**	**-0.2**
ARE				*i* S		**Sb**	**15 23 50.5**	**-0.4**
LPAZ	**La Paz**	**2.26**	**80**	Pn		**Pn**	**15 24 01.9**	**+5.4**
	29nm,0.3s,baz=254,slow=14,SNR=859							
LPAZ				Sn		**Sn**	**15 24 32.9**	**+8.2**
	24nm,0.3s,baz=103,slow=25,SNR=4.1							
LPAZ				LR		LR	15 25 10.6	
	comp=Z,3μm,20.4s,baz=254,slow=46							
LPAZ	**La Paz**	**2.26**	**80**	⇑*eP*		**Pn**	**15 24 01.8**	**+5.3**
LPAZ				*e*S		**Sn**	**15 24 26.5**	**+1.8**
LPAZ				Sn		**Sn**	**15 24 32.9**	**+8.2**
LVC	**Limon Verde**	**6.08**	**166**	Pn		**Pn**	**15 24 50.6**	**0.0**
	7.4nm,0.3s,baz=334,slow=9.7,SNR=38							
LVC				Sn		**Sn**	**15 26 06.1**	**+5.1**
	5.0nm,0.3s,baz=226,slow=22,SNR=4.1							
LVC	**Limon Verde**	**6.08**	**166**	*eP*		**Pn**	**15 24 50.4**	**-0.2**
LVC				Sn		**Sn**	**15 26 06.1**	**+5.1**
SIV	**San Ignacio**	**9.03**	**87**	Pn		**P**	**15 25 31.2**	**-0.7**
	1.7nm,0.3s,baz=271,slow=12,SNR=60							
SAML	**Samuel**	**10.45**	**44**	*eP*		**P**	**15 25 50.6**	**-1.0**
CFAA	**Coronel Fontan**	**14.99**	**173**	Pn		**P**	**15 26 51.4**	**-0.9**
	0.1nm,0.3s,baz=343,slow=12,SNR=7.2							
PLCA	**Paso Flores**	**23.97**	**180**	P		**P**	**15 28 35.0**	**+1.2**
	6.6nm,0.9s,mb4.1,baz=348,slow=11,SNR=3.8							
PLCA	**Paso Flores**	**23.97**	**180**	*eP*		**P**	**15 28 34.7**	**+0.8**
	25nm,1.3s,mb4.5							
TXAR	**Lajitas Array**	**55.86**	**325**	P		**P**	**15 32 59.6**	**+0.8**
	0.4nm,0.6s,mb3.6,baz=152,slow=9.4,SNR=6.6							
MNTX	**Cornudas Mount**	**58.62**	**325**	*eP*		**P**	**15 33 17.0**	**-1.3**
	2.5nm,1.0s,mb4.2							
ANMO	**Albuquerque**	**61.69**	**327**	*eP*		**P**	**15 33 39.4**	**+0.2**
	5.3nm,1.5s,mb4.5							
PV01	**Paradox Valley**	**65.21**	**328**	*eP*		**P**	**15 34 03.1**	**+0.7**
SRU	**San Rafael**	**66.96**	**327**	*eP*		**P**	**15 34 14.2**	**+0.6**
MSU	**Marysvale**	**67.40**	**326**	*eP*		**P**	**15 34 17.9**	**+1.6**
BW06	**Boulder Array**	**69.22**	**330**	*eP*		**P**	**15 34 28.1**	**+0.5**
	1.8nm,1.0s,mb4.0							
PDAR	**Pinedale Array**	**69.22**	**330**	P		**P**	**15 34 28.1**	**+0.4**
	0.7nm,0.6s,mb3.8,baz=143,slow=7.4,SNR=8.3							
ULM	**Lac du Bonnet**	**70.30**	**343**	P		**P**	**15 34 33.1**	**-1.0**
	5.2nm,0.6s,mb4.6,baz=152,slow=5.0,SNR=7.7							
ULM	**Lac du Bonnet**	**70.30**	**343**	*eP*		**P**	**15 34 32.1**	**-1.9**
	35nm,1.7s,mb5.0							
EDM	**Edmonton**	**78.80**	**335**	*eP*		**P**	**15 35 22.0**	**-0.9**
YKA	**Yellowknife Ar**	**86.18**	**341**	P		**P**	**15 36 01.3**	**+0.4**
	0.8nm,0.5s,mb4.2,baz=131,slow=4.8,SNR=5.2							
YKA	**Yellowknife Ar**	**86.18**	**341**	P		**P**	**15 36 01.3**	**+0.4**
MAW	**Mawson**	**89.34**	**164**	P		**P**	**15 36 16.0**	**0.0**
	1.9nm,0.5s,mb4.7,baz=278,slow=7.1,SNR=3.9							
WRA	**Warramunga Arr**	**136.21**	**215**	PKP		PKPdf	15 42 41.9	-2.2
	0.3nm,0.7s,baz=146,slow=1.8,SNR=4.4							
ZAL	**Zalesovo**	**138.13**	**22**	PKP		PKPdf	15 42 45.2	-1.5
	3.2nm,1.1s,baz=197,slow=3.5,SNR=10							
ZAL	**Zalesovo**	**138.13**	**22**	PKP		PKPdf	15 42 45.2	-1.6
MKAR	**Makanchi Array**	**142.44**	**31**	PKP		PKPdf	15 42 52.2	-2.4
	0.7nm,0.9s,baz=315,slow=2.0,SNR=5.1							
MKAR	**Makanchi Array**	**142.44**	**31**	PKP		PKPdf	15 42 52.2	-2.4
MAT	**Matsushiro**	**147.82**	**314**	P		PKPdf	15 43 06.2	+2.1
MAT	**Matsushiro**	**147.82**	**314**	*eP*		PKPdf	15 43 06.0	+1.9
SONM	**Songino Array**	**148.82**	**4**	PKPbc		PKPdf	15 43 08.4	+3.1
	3.5nm,0.6s,baz=329,slow=1.6,SNR=28							

*IDC **07** 15:36:30.6±1.2, 15.28N×93.99E, mb4.1/5, mb1 4.3/5, mb1mx3.8/19, mbtmp4.1/5, Error ellipse: s-maj=112.1km s-min=19.7km az=53.0*
ISC 07 15:36:24.9±4.0, 13.9N±0.9×91E±, h33km, n9, σ0.74/7, mb4.2/3, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PKI	**Pulchoki**	**14.62**	**340**	*eP*		**P**	**15 39 50.1**	**-1.2**
	5.1nm,0.3s							
DMN	**Daman**	**14.76**	**339**	*eP*		**P**	**15 39 53.1**	**0.0**
GKN	**Gorkha**	**15.29**	**338**	*eP*		**P**	**15 39 59.6**	**-0.4**
KOLN	**Koldanda**	**15.49**	**334**	*eP*		**P**	**15 40 03.1**	**+0.6**
	5.8nm,0.3s							
MKAR	**Makanchi Array**	**33.63**	**349**	P		**P**	**15 43 05.8**	**+1.3**
	1.2nm,0.7s,mb3.9,baz=162,slow=7.7,SNR=11							
FITZ	**Fitzroy Crossi**	**46.59**	**132**	P		**P**	**15 44 52.1**	**+0.2**
	4.2nm,0.5s,mb4.6,baz=342,slow=7.5,SNR=11							
WRA	**Warramunga Arr**	**54.22**	**127**	P		**P**	**15 45 49.5**	**-0.5**
	0.9nm,0.6s,mb3.9,baz=309,slow=7.6,SNR=30							
WRA				PcP		PcP	15 46 56.1	+2.1
	0.4nm,0.7s,baz=322,slow=3.4,SNR=5.7							
FINES	**FINESS Array B**	**66.04**	**332**	P		pP	15 47 21.1	+0.5
	2.5nm,1.0s,baz=127,slow=6.9,SNR=4.5							
GERES	**GERESS Array B**	**71.40**	**317**	P		pP	15 47 57.8	+3.9
	0.4nm,0.7s,baz=80,slow=6.0,SNR=3.3							

*BJI **07** 15:45:43.0, 12.90N×88.20W, h81km, mB4.7, Ms5.0, Msz4.8*
*IDC **07** 15:45:43.4±0.6, 13.01N×88.01W, h69km±4km, mb4.1/16, mb1 4.3/18, mb1mx4.1/23, mbtmp4.4/18, MS4.1/4, Ms1 4.1/4, ms1mx3.8/24, Error ellipse: s-maj=21.0km s-min=9.6km az=61.0*
*CASC **07** 15:45:43.4±3.3, 12.82N×88.27W, h52km±41km, MD4.7, ML5.0, mb4.7(NEIC)*
*NEIC **07** 15:45:44.4±0.3, 12.89N×88.21W, mb4.7/27, MD5.2(SNET), Error ellipse: s-maj=10.8km s-min=4.0km az=51.0*
NEIC Felt [II] at San Salvador.
*MEX **07** 15:45:45.7±3.1, 12.43N×88.69W, h20km, MD4.8*
ISC 07 15:45:42.8±0.3, 12.83N±0.04×88.24W±0.03, h85km±3km, h74km±3.3km: pP-P, n147, σ0.97/147, mb4.5/39, 13C-22D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.60**	**42**	⇓*eP*		Px	15 46 02.5	
CNCH				*e*S		Sx	15 46 14.2	
BLLM	**Bellamira**	**0.61**	**1**	⇓*iP*		Px	15 46 02.4	
BLLM				*e*S		Sx	15 46 13.8	
SNVI	**San Vicente**	**0.97**	**323**	⇑*eP*		Px	15 46 06.5	
SNVI				*e*S		Sx	15 46 19.9	
LCBS	**La Ceiba**	**1.09**	**319**	⇓*eP*		Px	15 46 08.1	
LCBS				*e*S		Sx	15 46 23.3	
LFRS	**El Faro**	**1.12**	**315**	⇓*eP*		Px	15 46 08.4	
LFRS				*e*S		Sx	15 46 22.8	
CRIN	**San Cristobal**	**1.17**	**96**	⇓*iP*		**P**	**15 46 05.0**	**+0.6**
CRIN				*e*S		**S**	**15 46 20.1**	**-0.7**
LBRS	**Las Brisas**	**1.19**	**319**	⇓*eP*		Px	15 46 09.8	
LBRS				*e*S		Sx	15 46 24.1	
CHIN	**Chinandega**	**1.20**	**99**	⇓*eP*		**P**	**15 45 57.3**	**-7.5**
CHIN				*e*S		**S**	**15 46 09.1**	**-12**
CHIN				*i*			15 46 11.1	
	comp=Z,64μm,0.5s							
LFU	**La Fuente**	**1.24**	**317**	⇓*eP*		Px	15 46 10.5	
LFU				*e*S		Sx	15 46 28.9	
SNET	**Serv Nac Est T**	**1.28**	**312**	*eP*		Px	15 46 10.3	
SNET				*e*S		Sx	15 46 25.9	
SNET				*i*			15 46 28.4	
	comp=Z,36μm,0.3s							
BOQS	**Boqueron**	**1.35**	**312**	⇑*eP*		Px	15 46 11.9	
BOQS				*e*S		Sx	15 46 27.7	
LEON	**Leon**	**1.38**	**107**	⇓*iP*		**P**	**15 46 06.3**	**-0.9**
LEON				*e*S		**S**	**15 46 25.2**	**-0.1**
TELS	**Telica 3**	**1.39**	**101**	⇓*iP*		**P**	**15 46 07.1**	**-0.3**
TELN	**Telica**	**1.40**	**99**	⇓*eP*		**P**	**15 46 07.4**	**0.0**
TELN				*e*S		**S**	**15 46 24.2**	**-1.5**
CNGN	**Cerro Negro**	**1.54**	**102**	⇓*eP*		**P**	**15 46 09.1**	**-0.3**
CNGN				*e*S		**S**	**15 46 29.0**	**0.0**
MIRN	**Miramar**	**1.55**	**104**	⇑*iP*		**P**	**15 46 08.7**	**-0.7**
SBLS	**San Blas**	**1.68**	**307**	⇓*eP*		Px	15 46 16.1	
SBLS				*e*S		Sx	15 46 38.4	
SNJE	**San Jose**	**1.68**	**308**	⇓*eP*		Px	15 46 16.2	
SNJE				*e*S		Sx	15 46 34.8	
MOMJ	**Momotombo**	**1.72**	**104**	⇓*eP*		**P**	**15 46 11.4**	**-0.2**
MOMJ				*e*S		**S**	**15 46 32.6**	**-0.1**
COPN	**Copaltepe**	**1.74**	**112**	⇑*iP*		**P**	**15 46 11.4**	**-0.5**
COPN				*e*S		**S**	**15 46 33.3**	**0.0**
RBDL	**Robledal**	**1.90**	**312**	⇑*eP*		Px	15 46 19.0	
RBDL				*e*S		Sx	15 46 41.1	
XAVN	**Gruta Xavier**	**1.99**	**110**	⇓*eP*		**P**	**15 46 14.9**	**-0.3**
MGAN	**Managua**	**2.07**	**109**	⇑*eP*		**P**	**15 46 16.1**	**-0.2**
MGAN				⇓*eP*			15 46 16.1	
MGAN				*e*S		**S**	**15 46 41.2**	**+0.2**
	comp=E,14μm,0.3s							
WILN	**Americas 2**	**2.12**	**108**	⇑*eP*		**P**	**15 46 16.9**	**-0.1**
WILN				⇑*eP*			15 46 17.0	
WILN				*e*S		**S**	**15 46 42.0**	**-0.2**
WILN				*e*S		**S**	**15 46 42.4**	**+0.2**
TICN	**Ticuantepe**	**2.12**	**112**	⇓*eP*		**P**	**15 46 16.9**	**-0.1**
PYTN	**Playitas**	**2.15**	**98**	⇓*eP*		**P**	**15 46 17.4**	**-0.1**
PYTN				*e*S		**S**	**15 46 44.5**	**+1.3**
MASN	**Masaya**	**2.21**	**112**	⇑*eP*		**P**	**15 46 18.1**	**-0.2**
MASN				*e*S		**S**	**15 46 46.2**	**+1.6**
APON	**Apoyo**	**2.31**	**113**	⇓*eP*		**P**	**15 46 19.1**	**-0.6**
IXG	**Ixpaco**	**2.53**	**302**	⇓*eP*		**P**	**15 46 21.6**	**-1.2**
IXG				*e*S		**S**	**15 46 52.9**	**+0.3**
MRL	**Marmol**	**2.63**	**328**	*eP*		**P**	**15 46 24.1**	**0.0**
MRL				*e*S		**S**	**15 46 55.4**	**+0.4**
PCG	**Pacaya**	**2.77**	**304**	*eP*		**P**	**15 46 26.8**	**+0.7**
SSNN	**San Juan del S**	**2.80**	**123**	*eP*		**P**	**15 46 26.6**	**+0.1**
SSNN				*e*S		**S**	**15 46 58.9**	**-0.4**
CONN	**Concepcion**	**2.85**	**116**	⇑*eP*		**P**	**15 46 26.8**	**-0.4**
FUG	**Fuego 3**	**2.99**	**303**	*eP*		**P**	**15 46 28.9**	**-0.3**
FUG				*e*S		**S**	**15 47 05.3**	**+1.2**
MADN	**Villa Maderas**	**3.00**	**118**	*eP*		**P**	**15 46 29.2**	**-0.2**
TP2	**Tecpan 2**	**3.32**	**306**	⇓*eP*		**P**	**15 46 33.8**	**0.0**
JTS	**JuntasAbangare**	**4.10**	**128**	P		**P**	**15 46 43.8**	**-0.7**
	comp=E,11nm,0.3s,baz=316,slow=8.9,SNR=48							
JTS				LR		LR	15 48 15.1	
	comp=E,414nm,21.7s,baz=308,slow=38							
JTS	**JuntasAbangare**	**4.10**	**128**	*e*Pn		**P**	**15 46 43.2**	**-1.2**
FORC	**Fortuna**	**4.22**	**123**	*eP*		**P**	**15 46 47.4**	**+1.3**
FORC	**Fortuna**	**4.22**	**123**	*eP*		**P**	**15 46 48.7**	**+2.6**
VPS2	**Volcan Poas 2**	**4.72**	**123**	*eP*		**P**	**15 46 56.2**	**+3.1**
VPS2	**Volcan Poas 2**	**4.72**	**123**	*eP*		**P**	**15 46 56.4**	**+3.3**
PRS1	**Puriscal**	**4.78**	**126**	⇑*eP*		**P**	**15 46 56.1**	**+2.2**
PRS1	**Puriscal**	**4.78**	**126**	*eP*		**P**	**15 46 56.2**	**+2.2**
SJS	**Escuela Geolog**	**5.01**	**125**	*eP*		**P**	**15 46 60.0**	**+2.9**
SJS				*e*S		**S**	**15 47 58.1**	**+3.8**
SJS	**Escuela Geolog**	**5.01**	**125**	*eP*		**P**	**15 46 59.5**	**+2.3**
SJS				*e*S		**S**	**15 47 58.7**	**+4.4**
CCIG	**Comitan**	**5.10**	**313**	*i* P		**P**	**15 46 59.7**	**+1.4**
CCIG				*i* S		**S**	**15 47 55.9**	**-0.4**
LCR2	**La Lucha 2**	**5.17**	**126**	⇑*eP*		**P**	**15 46 60.0**	**+0.7**
LCR2	**La Lucha 2**	**5.17**	**126**	*eP*		**P**	**15 46 58.9**	**-0.3**
LCR2				*e*S		**S**	**15 48 01.7**	**+3.5**
BUS	**Buena Vista**	**5.47**	**126**	⇑*eP*		**P**	**15 47 04.3**	**+0.9**
BUS				*e*S		**S**	**15 48 05.7**	**0.0**
BRU	**Baru**	**6.87**	**125**	*eP*		**P**	**15 47 23.6**	**+0.9**
DVD	**David**	**7.18**	**127**	*eP*		**P**	**15 47 26.7**	**-0.3**
PTP1	**Petroterminal**	**7.34**	**128**	*eP*		**P**	**15 47 23.6**	**-5.6**
CMIG	**Matias Romero**	**7.69**	**304**	*i* P		**P**	**15 47 33.1**	**-0.8**
CMIG				*i* S		**S**	**15 48 58.5**	**-1.7**
OXX	**Oaxaca**	**9.22**	**298**	*eP*		**P**	**15 47 54.0**	**-0.8**
VHO	**Vista Hermosa**	**9.22**	**298**	*i* P		**P**	**15 47 53.5**	**-1.3**
VHO				*i* S		**S**	**15 49 31.4**	**-6.3**
SOR	**Soroa**	**11.09**	**26**	*eP*		**P**	**15 48 23.7**	**+3.6**
YAIG	**Yautepec**	**12.01**	**301**	*i* P		**P**	**15 48 32.4**	**-0.1**
HLGC	**Holguin**	**14.14**	**54**	*eP*		**P**	**15 49 05.7**	**+5.3**
MOAC	**Moa**	**14.91**	**57**	*eP*		**P**	**15 49 09.0**	**-1.3**
ROSC	**El Rosal**	**15.86**	**119**	P		**P**	**15 49 25.5**	**+3.1**
	baz=102,slow=20,SNR=7.4							
SFJM	**Santa Fe**	**16.08**	**300**	*eP*		**P**	**15 49 25.0**	**-0.2**
SDV	**Santo Domingo**	**17.73**	**101**	P		**P**	**15 49 44.9**	**-0.9**
	comp=E,2.3nm,0.3s,baz=311,slow=7.4,SNR=20							
SDV				LR		LR	15 56 14.3	
	comp=E,572nm,21.7s,baz=321,slow=36							
SDV	**Santo Domingo**	**17.73**	**101**	*eP*		**P**	**15 49 44.4**	**-1.4**
	comp=E,27nm,0.8s							
LRAL	**Lakeview Retre**	**20.14**	**3**	*eP*		**P**	**15 50 13.3**	**+0.8**
	comp=E,22nm,0.9s							
HBF	**Harts Bluff**	**21.26**	**19**	P		**P**	**15 50 21.9**	**-2.0**
OXF	**Oxford**	**21.61**	**357**	*eP*		**P**	**15 50 27.2**	**-0.1**
	comp=E,14nm,0.4s,mb4.6							
OXF				*e*pP			15 50 46.3	
LTX	**Lajitas**	**21.79**	**321**	*eP*		**P**	**15 50 30.2**	**+1.1**
	comp=E,23nm,0.7s,mb4.6							
TXAR	**Lajitas Array**	**21.79**	**321**	P		**P**	**15 50 29.7**	**+0.6**
	comp=E,16nm,0.6s,mb4.5,baz=141,slow=9.2,SNR=126							
TXAR				ScP			15 58 00.9	
	comp=E,0.4nm,0.6s,baz=152,slow=5.2,SNR=6.2							
SJG	**San Juan**	**21.92**	**73**	P		**P**	**15 50 29.8**	**-0.7**
	comp=E,7.8nm,0.5s,mb4.3,baz=225,slow=6.5,SNR=3.8							
PLAL	**Pickwick Lake**	**22.05**	**0**	*eP*		**P**	**15 50 32.0**	**+0.4**
	comp=E,29nm,1.4s,mb4.4							
UALR	**University of**	**22.16**	**351**	*eP*		**P**	**15 50 34.1**	**+1.3**
	comp=E,32nm,1.1s,mb4.6							
JSC	**Jenkinsville**	**22.28**	**15**	*eP*		**P**	**15 50 36.0**	**+2.1**
SWET	**Sewanee**	**22.38**	**5**	*eP*		**P**	**15 50 34.2**	**-0.7**
MYNC	**Murphy**	**22.45**	**9**	*eP*		**P**	**15 50 37.1**	**+1.5**
	comp=E,15nm,0.8s,mb4.4							
CPCT	**Cooper Cave**	**22.77**	**8**	*eP*		**P**	**15 50 39.6**	**+0.9**
WVT	**Waverly**	**23.20**	**1**	*eP*		**P**	**15 50 43.4**	**+0.5**
	comp=E,16nm,1.1s,mb4.3							
TZTN	**Tazewell**	**23.98**	**9**	*eP*		**P**	**15 50 51.2**	**+0.8**
MNTX	**Cornudas Mount**	**24.51**	**323**	*eP*		**P**	**15 50 55.6**	**0.0**
	comp=E,34nm,1.5s,mb4.6							
ELN	**Prospectdale**	**25.20**	**14**	P		**P**	**15 51 01.4**	**-0.7**
CCM	**Cathedral Cave**	**25.26**	**354**	*eP*		**P**	**15 51 01.9**	**-0.8**
	comp=E,14nm,0.9s,mb4.4							
BLA	**Blacksburg**	**25.27**	**15**	*eP*		**P**	**15 51 02.4**	**-0.3**
	comp=E,71nm,2.1s,mb4.7							
WCI	**Wyandotte Cave**	**25.35**	**4**	*eP*		**P**	**15 51 02.7**	**-0.9**
	comp=E,13nm,0.8s,mb4.4							
WCI				LR		LR		
	comp=Z,246nm,22.0s							
FWV	**Forest Hill**	**25.53**	**14**	*eP*		**P**	**15 51 05.8**	**+0.6**
ANMO	**Albuquerque**	**27.51**	**326**	P		**P**	**15 51 24.7**	**+1.2**
	comp=Z,1.7nm,0.8s,mb3.7,baz=130,slow=12,SNR=9.5							
ANMO	**Albuquerque**	**27.51**	**326**	*eP*		**P**	**15 51 24.0**	**+0.5**
	comp=Z,2.0nm,0.7s,mb3.8							
SDCO	**Great Sand Dun**	**29.20**	**331**	*eP*		**P**	**15 51 39.0**	**+0.5**
	comp=Z,17nm,1.3s,mb4.5							
PV01	**Paradox Valley**	**31.02**	**328**	*eP*		**P**	**15 51 54.9**	**+0.2**
SMCO	**Snowmass**	**31.04**	**331**	*eP*		**P**	**15 51 54.7**	**-0.1**
BINY	**Binghamton**	**31.14**	**18**	PFAKE			15 52 10.0	+14
BINY				LR		LR		
	comp=Z,μm,19.0s							
PV10	**Paradox Valley**	**31.45**	**328**	*eP*		**P**	**15 51 58.3**	**-0.1**
SADO	**Sadowa**	**32.77**	**12**	P		**P**	**15 52 08.4**	**-1.3**
	comp=Z,8.3nm,0.3s,mb5.0,baz=204,slow=12,SNR=9.5							
SRU	**San Rafael**	**32.77**	**327**	*eP*		**P**	**15 52 09.4**	**-0.5**
WES	**Weston**	**32.91**	**23**	PFAKE			15 52 20.0	+9.0
WES				LR		LR		
	comp=Z,μm,20.0s							
HRV	**Harvard--Oak R**	**32.92**	**23**	PFAKE			15 52 20.0	+8.8
HRV				LR		LR		
	comp=Z,1μm,20.0s							
SAML	**Samuel**	**32.98**	**130**	*eP*		**P**	**15 52 09.8**	**-2.2**
	comp=Z,7.3nm,0.8s,mb4.6							
NEN	**Nelson**	**33.03**	**318**	*eP*		**P**	**15 52 12.8**	**+0.6**
**D

comp=Z,0.8nm,0.7s,mb3.6,baz=234,slow=14,SNR=2.5
NOA pP pP 15 58 19.5 -5.0
comp=Z,1.2nm,0.9s,baz=319,slow=6.7,SNR=3.7
NOA LR LR 16 33 42.0
comp=Z,194nm,20.5s,baz=220,slow=35
ARCES ARCESS Array B 86.08 19 P **P 15 58 15.8 +1.0**
comp=Z,0.4nm,0.4s,mb3.7,baz=292,slow=4.8,SNR=9.3
ARCES ARCESS Array B 86.08 19 P **P 15 58 15.8 +1.0**
MKAR Makanchi Array 120.05 8 PKhKP 16 04 22.8
comp=Z,0.1nm,0.3s,baz=342,slow=2.8,SNR=4.7
MKAR PKP PKPdf 16 04 27.3 +3.5
comp=Z,0.1nm,0.3s,baz=351,slow=2.8,SNR=4.2
MKAR Makanchi Array 120.05 8 PKP PKPdf 16 04 22.8 -1.0
MKAR PKP PKPdf 16 04 27.3 +3.5
WMQ Urumqi 123.50 4 *e*PKP PKPdf 16 04 30.0 -0.6
WRA Warramunga Arr 138.63 254 PKhKP 16 04 56.4
comp=Z,0.2nm,0.3s,baz=89,slow=3.6,SNR=17
WRA PKP PKPdf 16 05 02.9 +3.1
comp=Z,1.0nm,0.5s,baz=88,slow=2.5,SNR=26
WRA pPKP 16 05 22.4
comp=Z,2.6nm,0.8s,baz=89,slow=1.8,SNR=6.6
WRA SKPbc 16 08 32.9
comp=Z,0.4nm,0.7s,baz=90,slow=3.2,SNR=4.8
KMI Kunming 140.78 344 PKP PKPdf 16 05 04.3 +0.7
FITZ Fitzroy Crossi 146.96 257 PKPbc PKPbc 16 05 19.7 +3.7
comp=Z,2.3nm,0.4s,baz=151,slow=7.2,SNR=13
FITZ pPKPbc 16 05 38.9
comp=Z,18nm,0.9s,baz=190,slow=4.4,SNR=5.0

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*CSEM **07** 16:03:47.6, 36.64N×58.50E, h10km, ML3.7, After TEH*
TEH 07 16:03:47.6, 36.64N×58.50E, h10km, Mn3.7, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKRD	**Kardeh**	**0.14**	**7**	Pg	Pg	16 04 04.2	+13
IQHU	**Quchan**	**0.43**	**5**	Pg	Pg	16 03 53.6	-2.8
IPAY	**Payeh**	**0.44**	**115**	Pg	Pg	16 03 55.6	-1.0
ISFR	**Esferayen**	**0.57**	**316**	Pg	Pg	16 03 56.5	-2.6
IEMG	**Emamqoli**	**0.78**	**9**	Pg	Pg	16 04 01.4	-1.9
MHI	**Mashhad**	**0.85**	**112**	Pg	Pg	16 04 03.1	-1.6
IMYA	**Miamay**	**1.32**	**102**	Pg	Pg	16 04 11.7	-2.4
IANJ	**Anjiloo**	**3.89**	**254**	Pn	Pn	16 04 46.9	-2.0
IKIA	**Kiasar**	**3.91**	**265**	Pn	Pn	16 04 48.3	-0.7
IGLO	**Galoogah**	**4.05**	**267**	Pn	Pn	16 04 45.5	-5.5
ISHM	**Shahmirzad**	**4.29**	**260**	Pn	Pn	16 04 52.8	-1.7
ILAS	**Lasjerd**	**4.66**	**256**	Pn	Pn	16 04 56.0	-3.8
IFIR	**Firoozkooh**	**4.75**	**260**	Lg		16 06 15.8	
IFIR	**Firoozkooh**	**4.75**	**260**	Pn	Pn	16 04 58.6	-2.5
IPRN	**Paran-Amol**	**5.06**	**267**	Pn	Pn	16 05 03.0	-2.4
IDMV	**Damavand**	**5.34**	**261**	Pn	Pn	16 05 06.6	-2.8
ICHK	**Chekchek**	**5.53**	**219**	Pn	Pn	16 05 08.7	-3.4
IAFJ	**Afjeh**	**5.54**	**264**	Pn	Pn	16 05 11.2	-1.0
IBAF	**Bafgh**	**5.59**	**207**	Pn	Pn	16 05 10.2	-2.7
IVRN	**Varamin**	**5.74**	**255**	Pn	Pn	16 05 11.9	-3.1
IMEH	**Mehriz**	**6.15**	**213**	Pn	Pn	16 05 16.7	-4.0
ISAD	**Sadrabad**	**6.17**	**222**	Pn	Pn	16 05 17.5	-3.5
IKLH	**Kalahroud**	**6.57**	**242**	Pn	Pn	16 05 21.4	-5.4

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*UCR **07** 16:08:30.5, 8.71N×83.51W, h2km, MD3.8*
*NEIC **07** 16:08:31.8, 8.54N×83.55W, h17km, MD3.9(CASC), After CASC.*
*UPA **07** 16:08:32.1, 8.80N×83.51W, h1km*
CASC 07 16:08:32.9±2.6, 8.74N×83.50W, MD3.9, 6C-8D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.34**	**104⇓**	*e*P	Pg	16 08 40.1	+0.4
ACR				eS	Sg	16 08 46.0	+1.7
ACR	**Cerro Adams**	**0.34**	**104⇓**	*e*P	Pg	16 08 40.1	+0.4
BRU2	**Volcan**	**0.81**	**86⇓**	*e*P	Pg	16 08 48.9	-0.1
BRU2				*i* P		16 08 48.9	
BRU2				eS	Sg	16 09 02.3	+2.6
BUS	**Buena Vista**	**0.85**	**343⇑**	*e*P	Pg	16 08 49.8	-0.1
BUS				eS	Sg	16 09 04.1	+2.8
BUS	**Buena Vista**	**0.85**	**343**	*e*P	Pg	16 08 49.7	-0.2
BUS				eS	Sg	16 09 07.3	+6.0
BRU	**Baru**	**0.94**	**86⇓**	*e*P	Pg	16 08 52.4	+0.9
DVD	**David**	**1.08**	**106⇓**	*e*P	Pb	16 08 54.1	-0.1
LCR2	**La Lucha 2**	**1.11**	**334⇓**	*e*P	Pb	16 08 53.8	-0.9
LCR2				eS	Sb	16 09 10.9	+1.2
LCR2	**La Lucha 2**	**1.11**	**334**	*e*P	Pb	16 08 53.7	-1.1
CNI	**Changuinola**	**1.19**	**55⇑**	*e*P	Pb	16 08 57.0	+1.0
PTP1	**Petroterminal**	**1.19**	**116⇑**	*e*P	Pb	16 08 49.3	-6.7
PTP1				eS	Sb	16 09 03.7	-8.1
SJS	**Escuela Geolog**	**1.31**	**336⇑**	*e*P	Pb	16 08 57.4	-0.8
SJS				eS	Sb	16 09 17.9	+2.5
SJS	**Escuela Geolog**	**1.31**	**336**	*e*P	Pb	16 08 57.4	-0.7
SJS				eS	Sb	16 09 17.1	+1.7
PRS1	**Puriscal**	**1.47**	**327⇓**	*e*P	Pn	16 08 58.8	-2.0
PRS1				eS	Sb	16 09 19.0	-1.1
PRS1	**Puriscal**	**1.47**	**327**	*e*P	Pn	16 08 58.4	-2.3
VPS2	**Volcan Poas 2**	**1.61**	**334⇓**	*e*P	Pn	16 09 02.7	-0.1
VPS2				eS	Sb	16 09 26.9	+2.8
VPS2	**Volcan Poas 2**	**1.61**	**334**	*e*P	Pn	16 09 02.7	-0.1
VPS2				eS	Sb	16 09 25.3	+1.1
FORC	**Fortuna**	**2.07**	**326⇑**	*e*P	Pn	16 09 09.9	+0.6
FORC				eS	Sn	16 09 38.6	+2.4
FORC	**Fortuna**	**2.07**	**326**	*e*P	Pn	16 09 09.7	+0.4
JTS	**JuntasAbangare**	**2.10**	**317**	*e*Pn	Pn	16 09 09.0	-0.8
JTS				eS	Sn	16 09 42.5	+5.4
AZU	**Azuero**	**3.33**	**106⇑**	*e*P	Pn	16 09 28.8	+1.4

IDC 07 16:17:08.9±1.9, 2.68S×139.08E, mb3.9/3, mb1 3.9/4, mb1mx3.8/11, mbtmp3.8/4, Error ellipse: s-maj=108.3km s-min=27.4km az=77.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**17.77**	**195**	*e*P	P	16 21 20.6	+1.0
WRA	**Warramunga Arr**	**17.77**	**195**	P	P	16 21 17.8	-1.8
0.3nm,0.3s,baz=17,slow=13,SNR=18							
MKAR	**Makanchi Array**	**69.99**	**322**	P	P	16 28 22.7	-1.8
1.0nm,0.5s,baz=110,slow=7.8,SNR=8.9							
VNDA	**Vanda**	**75.78**	**175**	P	P	16 28 56.4	-1.6
0.4nm,0.5s,baz=317,slow=8.1,SNR=4.2							
BVAR	**Borovoye Array**	**79.50**	**325**	P	P	16 29 17.3	-1.7
0.8nm,0.6s,baz=117,slow=6.4,SNR=5.0							

IDC 07 16:22:58.3±8.3, 9.99N×93.28E, mb3.8/4, mb1 4.0/4, mb1mx3.6/19, mbtmp3.8/4, Error ellipse: s-maj=291.3km s-min=28.7km az=74.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**39.31**	**14**	P	P	16 30 29.0	-1.7
0.5nm,0.5s,baz=190,slow=8.8,SNR=2.7							
FITZ	**Fitzroy Crossi**	**42.42**	**131**	P	P	16 30 54.6	-2.1
2.1nm,0.7s,baz=342,slow=15,SNR=2.2							
WRA	**Warramunga Arr**	**50.19**	**126**	P	P	16 31 56.2	-2.0
0.6nm,0.7s,baz=305,slow=3.5,SNR=4.7							
STKA	**Stephens Creek**	**62.18**	**134**	P	P	16 33 21.9	-2.1
1.5nm,0.7s,baz=287,slow=11,SNR=2.7							

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*BJI **07** 16:28:10.7, 7.79N×93.93E, h30km, mB5.0, mb4.6*
*NEIC **07** 16:28:11.8±0.3, 7.84N×93.86E, h30km, mb4.4/5, Error ellipse: s-maj=11.7km s-min=6.8km az=48.0*
*IDC **07** 16:28:13.1±2.8, 7.84N×93.91E, h40km±23km, mb4.0/17, mb1 4.1/17, mb1mx4.0/21, mbtmp4.2/17, Error ellipse: s-maj=23.8km s-min=11.6km az=54.0*
ISC 07 16:28:12.1±1.6, 7.77N±0.07×93.84E±0.08, h47km±15km, n42, σ0986/38, mb4.3/29, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.20**	**110**	*e*P	**P**	**16 29 57.2**	**0.0**
PALK	**Pallekele**	**13.04**	**269**	*e*P	**P**	**16 31 16.4**	**-0.6**
PALK				eS	**S**	**16 33 26.7**	**-15**
PKI	**Pulchoki**	**21.26**	**339**	*e*P	**P**	**16 32 57.1**	**+0.7**
15nm,0.5s,mb4.6							
DMN	**Daman**	**21.40**	**338**	*e*P	**P**	**16 32 59.0**	**+1.1**
33nm,0.7s,mb4.8							
KKN	**Kakani**	**21.50**	**339**	*e*P	**P**	**16 33 00.3**	**+1.4**
32nm,0.7s,mb4.8							
GKN	**Gorkha**	**21.93**	**338**	*e*P	**P**	**16 33 03.6**	**+0.5**
45nm,0.6s,mb5.1							
LSA	**Lhasa**	**21.96**	**354**	P	**P**	**16 33 04.0**	**+0.5**
LSA	**Lhasa**	**21.96**	**354**	*e*P	**P**	**16 33 03.5**	**+0.1**
8.5nm,0.6s,mb4.3							
KOLN	**Koldanda**	**22.13**	**335**	*e*P	**P**	**16 33 06.0**	**+0.8**
19nm,0.7s,mb4.6							
GTA	**Gaotai**	**31.96**	**9**	*e*P	**P**	**16 34 36.6**	**+0.8**
GTA				AP	pP	16 34 43.5	-4.8
GTA				XP	sP	16 34 47.0	-7.3
GTA				AMB	AMB		
comp=Z,2.0nm,0.8s,mb4.0							
MBWA	**Marble Bar**	**38.38**	**139**	*e*P	**P**	**16 35 30.8**	**+0.2**
MKAR	**Makanchi Array**	**40.13**	**348**	P	**P**	**16 35 44.2**	**-0.7**
comp=Z,1.1nm,0.7s,mb3.7,baz=169,slow=7.7,SNR=4.5							
MKAR	**Makanchi Array**	**40.13**	**348**	P	**P**	**16 35 44.2**	**-0.7**
FITZ	**Fitzroy Crossi**	**40.57**	**130**	P	**P**	**16 35 48.1**	**-0.8**
comp=Z,7.8nm,0.9s,mb4.3,baz=14,slow=15,SNR=8.0							
SONM	**Songino Array**	**41.33**	**13**	P	**P**	**16 35 55.5**	**+0.6**
comp=Z,2.0nm,0.7s,mb3.9,baz=195,slow=8.3,SNR=14							
SONM				PcP	PcP	16 37 54.5	+1.3
comp=Z,1.7nm,0.6s,baz=197,slow=3.5,SNR=9.5							
KURK	**Kurchatov**	**44.64**	**346**	*e*P	**P**	**16 36 21.5**	**-0.2**
comp=Z,2.9nm,0.9s,mb4.1							
NWAO	**Narrogin (SRO)**	**46.19**	**152**	P	**P**	**16 36 34.8**	**+0.5**
comp=Z,7.3nm,0.6s,mb4.8,baz=353,slow=5.6,SNR=6.7							
NWAO	**Narrogin (SRO)**	**46.19**	**152**	*e*P	**P**	**16 36 35.1**	**+0.8**
comp=Z,8.5nm,0.8s,mb4.7							
ZAL	**Zalesovo**	**46.62**	**353**	P	**P**	**16 36 37.4**	**+0.1**
comp=Z,3.3nm,0.5s,mb4.5,baz=310,slow=5.1,SNR=9.0							
WRA	**Warramunga Arr**	**48.44**	**125**	P	**P**	**16 36 51.8**	**-0.3**
comp=Z,4.0nm,0.6s,mb4.7,baz=303,slow=9.0,SNR=95							
WRA				PcP	PcP	16 38 17.7	-0.4
comp=Z,0.8nm,0.5s,baz=315,slow=2.8,SNR=6.8							
WRA				S	**S**	**16 43 49.5**	**+1.2**
comp=Z,0.1nm,0.5s,baz=287,slow=13,SNR=2.6							
WRAB	**Tennant Creek**	**48.44**	**125**	*e*P	**P**	**16 36 51.8**	**-0.3**
comp=Z,7.5nm,0.6s,mb4.9							
WB2	**Warramunga Arr**	**48.45**	**125**	*e*P	**P**	**16 36 51.7**	**-0.4**
BVAR	**Borovoye Array**	**49.00**	**341**	P	**P**	**16 36 54.1**	**-1.8**
comp=Z,0.8nm,0.7s,mb3.9,baz=117,slow=13,SNR=4.9							
BVAR				PcP	PcP	16 38 19.3	-0.4
comp=Z,1.2nm,0.5s,baz=168,slow=3.8,SNR=6.4							
BVAR				ScP		16 42 12.1	
comp=Z,0.3nm,0.5s,baz=112,slow=8.0,SNR=3.8							
BRVK	**Borovoye**	**49.06**	**341**	*e*P	**P**	**16 36 55.7**	**-0.7**
comp=Z,1.3nm,0.8s,mb4.0							
KMBO	**Kilima Mbogo**	**57.12**	**264**	P	**P**	**16 37 57.7**	**+1.0**
comp=Z,1.1nm,0.7s,mb4.0,baz=52,slow=17,SNR=3.5							
STKA	**Stephens Creek**	**60.24**	**133**	P	**P**	**16 38 17.7**	**-0.5**
comp=Z,3.1nm,0.8s,mb4.4,baz=179,slow=20,SNR=4.2							
BRTR	**Keskin Array B**	**62.28**	**311**	P	**P**	**16 38 30.6**	**-1.1**
comp=Z,0.4nm,0.4s,mb3.9,baz=135,slow=5.2,SNR=3.3							
FINES	**FINESS Array B**	**72.67**	**332**	P	**P**	**16 39 34.5**	**-2.0**
comp=Z,3.1nm,0.8s,mb4.3,baz=124,slow=6.9,SNR=8.0							
KAF	**Kangasniemi**	**72.75**	**333**	*e*p	**P**	**16 39 35.1**	**-1.8**
comp=Z,0.3nm,0.3s,mb3.7							
KEV	**Kevo**	**74.84**	**341**	*e*p	**P**	**16 39 49.4**	**+0.4**
comp=Z,3.3nm,0.6s,mb4.4							
ARCES	**ARCESS Array B**	**75.27**	**340**	P	**P**	**16 39 50.8**	**-0.6**
comp=Z,3.3nm,0.6s,mb4.4,baz=106,slow=4.9,SNR=37							
BOSA	**Boshof**	**75.28**	**238**	P	**P**	**16 39 53.7**	**+1.4**
comp=Z,1.5nm,0.7s,mb4.0,baz=152,slow=5.8,SNR=4.6							
GERES	**GERESS Array B**	**77.71**	**318**	P	**P**	**16 40 05.6**	**0.0**
comp=Z,0.7nm,0.6s,mb3.8,baz=90,slow=5.3,SNR=8.9							
NOA	**NORSAR Array B**	**79.68**	**331**	P	**P**	**16 40 15.9**	**-0.2**
comp=Z,0.7nm,0.6s,mb3.8,baz=95,slow=4.9,SNR=3.2							
VNDA	**Vanda**	**92.88**	**168**	P	**P**	**16 41 21.5**	**+0.8**
comp=Z,0.4nm,0.8s,mb3.9,baz=304,slow=8.9,SNR=2.6							
ILAR	**Eielson Array**	**94.95**	**22**	P	**P**	**16 41 30.4**	**+0.2**
comp=Z,0.4nm,0.8s,mb3.9,baz=307,slow=3.6,SNR=4.7							
ULM	**Lac du Bonnet**	**121.61**	**7**	PKP	PKPdf	16 47 02.8	+2.0
comp=Z,1.9nm,0.6s,baz=356,slow=4.5,SNR=2.8							
PDAR	**Pinedale Array**	**125.37**	**21**	PKP	PKPdf	16 47 09.9	+1.7
comp=Z,0.9nm,0.7s,baz=17,slow=1.6,SNR=7.0							
TXAR	**Lajitas Array**	**139.44**	**24**	PKP	PKPdf	16 47 37.4	+2.4
comp=Z,0.5nm,0.5s,baz=264,slow=0.4,SNR=12							
TXAR	**Lajitas Array**	**139.44**	**24**	PKP	PKPdf	16 47 37.4	+2.4
PLCA	**Paso Flores**	**144.35**	**201**	PKP	PKPdf	16 47 45.2	+1.9
comp=Z,2.1nm,0.9s,baz=194,slow=8.3,SNR=2.9							
PLCA	**Paso Flores**	**144.35**	**201**	*e*PKP	PKPdf	16 47 43.4	+0.1
PLCA				PKP	PKPdf	16 47 45.2	+1.9

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*NNC **07** 16:29:06.1±5.2, 43.84N×85.44E, h32km±31km, mpv2.9, Error ellipse: s-maj=95.5km s-min=32.0km az=56.0*
BJI 07 16:29:03.5, 43.73N×85.68E, h20km, ML3.2, 3C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**1.46**	**86**	PG	Pn	16 29 29.5	+0.4
WMQ				SG	Sn	16 29 49.2	+1.4
WMQ				Smax			
comp=N,137nm,0.5s							
WMQ				Smax			
comp=E,241nm,0.5s							
MK31	**Makanchi Array**	**3.89**	**323**	⇓Pn	Pn	16 30 03.8	+0.1
comp=E,1.7nm,0.6s,baz=140,slow=14,SNR=49							
MK31				⇑Pg	Pn	16 30 13.7	+10
baz=133,slow=17							
MK31				⇑Lg		16 31 04.2	
comp=E,39nm,0.7s,baz=146,slow=30,SNR=18							
KURK	**Kurchatov**	**8.48**	**328**	⇑Lg		16 33 29.4	
comp=E,5.2nm,1.3s							

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*NEIC **07** 16:40:59.0, 19.77N×68.98W, h25km±24km, MD3.7/6, After RSPR.*
RSPR 07 16:40:59.0, 19.77N×68.98W, h25km±24km, MD3.7/6, MD3.7/6, 5C-1D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSP	**Las Mesas**	**2.39**	**131⇑**	*e*P	Pn	16 41 35.5	-2.0
LSP				eS	Sn	16 42 02.8	-3.4
CRPR	**Cabo Rojo, PR**	**2.49**	**135⇑**	*e*P	Pn	16 41 36.4	-2.5
CRPR				eS	Sn	16 42 05.2	-3.6
LRS	**Lares**	**2.49**	**126⇓**	*e*P	Pn	16 41 36.0	-3.0
LRS				eS	Sn	16 42 04.8	-4.1
MGP	**Maguayo**	**2.50**	**134⇑**	*e*P	Pn	16 41 36.0	-3.1
MGP				eS	Sn	16 42 05.5	-3.6
AOPR	**Arecibo Observ**	**2.54**	**124**	*e*S	Sn	16 42 06.6	-3.4
CBYP	**Canovanas**	**3.31**	**116⇑**	*e*P	Pn	16 41 47.6	-2.9
CBYP				eS	Sn	16 42 25.4	-4.1
MTP	**Monte Pirata**	**3.64**	**117⇑**	*e*P	Pn	16 41 52.1	-3.1
MTP				eS	Sn	16 42 34.0	-3.9
STVI	**Saint Thomas**	**4.05**	**110**	*e*S	Sn	16 42 44.8	-3.5

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*BJI **07** 17:06:40.6, 4.50N×95.20E, h20km, mB5.3, mb4.5, Ms4.7, Msz4.5*
*MOS **07** 17:06:40.5±1.0, 4.55N×95.34E, h33km, mb4.7/22, Error ellipse: s-maj=17.9km s-min=9.0km az=107.5*
*NEIC **07** 17:06:40.6±0.4, 4.46N×95.23E, mb4.6/7, Error ellipse: s-maj=14.3km s-min=7.3km az=217.0*
*IDC **07** 17:06:41.8±3.2, 4.50N×95.34E, h30km±22km, mb4.1/18, mb1 4.2/18, mb1mx4.1/25, mbtmp4.3/18, MS3.8/1, Ms1 3.8/1, ms1mx3.4/17, Error ellipse: s-maj=24.2km s-min=14.3km az=47.0*
ISC 07 17:06:40.3±0.4, 4.44N±0.06×95.23E±0.05, h33km, n79, σ1920/81, mb4.3/41, MS3.9/2, 1C-2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.47**	**81⇓**	*e*P	**P**	**17 08 02.0**	**+0.4**
KULM				eS	**S**	**17 09 04.9**	**+0.8**
PPI	**Padang Panjang**	**7.10**	**133**	P	**P**	**17 08 25.1**	**+0.7**
121nm,0.8s							
KSM	**Kuching**	**15.35**	**101**	P	**P**	**17 10 17.6**	**+1.4**
KMI	**Kunming**	**21.79**	**19**	P	**P**	**17 11 35.1**	**+3.8**
KMI				AP		17 11 41.8	
KMI				XP		17 11 46.0	
KMI				PP	PP	17 11 53.9	-2.9
KMI				AMB	AMB		
comp=Z,9.0nm,1.0s,mb4.2							
KMI				AMB	AMB		
comp=Z,114nm,5.2s							
KMI				LR	LR		
comp=N,388nm,10.2s,MS4.2							
KMI				LR	LR		
comp=E,455nm,14.4s,MS4.2							
KMI				LR	LR		
comp=Z,453nm,12.7s,MS4.1							
GYA	**Guiyang**	**24.48**	**25⇑**	*i*P	**P**	**17 11 59.8**	**+2.1**
GYA				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.3							
DMN	**Daman**	**24.98**	**338**	*e*P	**P**	**17 12 05.8**	**+3.3**
KKN	**Kakani**	**25.08**	**339**	*e*P	**P**	**17 12 05.2**	**+1.7**
comp=Z,14nm,0.8s,mb4.5							
LSA	**Lhasa**	**25.42**	**352**	P	**P**	**17 12 09.0**	**+2.3**
LSA	**Lhasa**	**25.42**	**352**	*e*P	**P**	**17 12 06.5**	**-0.2**
comp=Z,7.2nm,0.7s,mb4.3							
LSA	**Lhasa**	**25.42**	**352**	*e*P	**P**	**17 12 06.5**	**-0.2**
LSA				pmax	pmax		
comp=Z,7.0nm,0.7s,mb4.3							
GKN	**Gorkha**	**25.51**	**338**	*e*P	**P**	**17 12 08.5**	**+1.0**
comp=Z,32nm,1.0s,mb4.8							
KOLN	**Koldanda**	**25.71**	**336**	*e*P	**P**	**17 12 10.6**	**+1.2**
comp=Z,5.5nm,0.4s,mb4.5							
CD2	**Chengdu**	**27.53**	**16**	*e*P	**P**	**17 12 24.4**	**-1.7**
CD2				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.5							
GTA	**Gaotai**	**35.06**	**6**	*e*P	**P**	**17 13 32.9**	**+0.7**
GTA				AMB	AMB		
comp=Z,3.0nm,1.1s,mb4.1							
FITZ	**Fitzroy Crossi**	**37.43**	**128**	*e*P	**P**	**17 13 50.9**	**-1.6**
comp=Z,7.2nm,0.6s,mb4.7							
FITZ				*e*		17 13 57.7	
FITZ	**Fitzroy Crossi**	**37.43**	**128**	P	**P**	**17 13 50.6**	**-1.9**
comp=Z,9.2nm,0.6s,mb4.8,baz=315,slow=5.1,SNR=5.1							
KSH	**Kashi**	**39.02**	**336**	*e*P	**P**	**17 14 03.6**	**-1.9**
KSH				*e*AP	pP	17 14 13.2	-2.1
KSH				*e*XP	sP	17 14 17.1	-2.4
KSH				AMB	AMB		
comp=Z,530nm,4.3s							
AAK	**Ala-Archa**	**42.26**	**337**	*e*P	**P**	**17 14 32.6**	**+0.3**
comp=Z,11nm,0.9s,mb4.5							
AAK	**Ala-Archa**	**42.26**	**337**	*e*P	**P**	**17 14 32.6**	**+0.3**
AAK				pmax	pmax		
comp=Z,11nm,0.9s,mb4.5							
MKAR	**Makanchi Array**	**43.65**	**347**	P	**P**	**17 14 42.5**	**-1.0**
comp=Z,3.3nm,0.7s,mb4.2,baz=170,slow=7.0,SNR=31							
MKAR				ScP		17 20 20.7	
comp=Z,0.5nm,0.5s,baz=166,slow=9.2,SNR=6.1							
MKAR				LR	LR	17 36 17.9	
comp=Z,102nm,19.2s,MS3.8,baz=216,slow=41							
MKAR	**Makanchi Array**	**43.65**	**347**	P	**P**	**17 14 42.6**	**-1.0**
MKAR				pmax	pmax		
comp=Z,3.0nm,0.7s							
MKAR				pmax	pmax		
comp=N,1.0nm,0.5s							
MKAR				MLR	MLR		
comp=Z,102nm,19.3s							
SONM	**Songino Array**	**44.28**	**11**	P	**P**	**17 14 48.1**	**-0.5**
comp=Z,1.1nm,0.8s,mb3.7,baz=173,slow=7.1,SNR=7.0							
SONM				PcP	PcP	17 16 33.7	+0.6
comp=Z,0.5nm,0.5s,baz=162,slow=4.6,SNR=3.3							
SONM				ScP		17 20 20.6	
comp=Z,0.2nm,0.4s,baz=190,slow=8.9,SNR=4.3							
SONM	**Songino Array**	**44.28**	**11**	P	**P**	**17 14 48.1**	**-0.5**
SONM						17 16 33.7	
SONM				pmax	pmax		
comp=Z,1.0nm,0.8s							
SONM				pmax	pmax		
comp=Z,1.0nm,0.5s							
WRA	**Warramunga Arr**	**45.44**	**124**	P	**P**	**17 14 57.6**	**-0.7**
comp=Z,11nm,0.6s,mb4.8,baz=302,slow=9.2,SNR=47							
WRA	**Warramunga Arr**	**45.44**	**124**	P	**P**	**17 14 57.6**	**-0.7**
WRA				pmax	pmax		
comp=Z,11nm,0.6s							
WRAB	**Tennant Creek**	**45.44**	**124**	*e*P	**P**	**17 14 57.8**	**-0.5**
comp=Z,67nm,0.9s,mb5.5							
WRAB				*e*		17 15 04.4	
WRAB	**Tennant Creek**	**45.44**	**124**	*e*P	**P**	**17 14 57.8**	**-0.5**
WRAB				*e*		17 15 04.4	
WRAB				pmax	pmax		
comp=Z,67nm,0.9s,mb5.5							
WB2	**Warramunga Arr**	**45.45**	**124**	*e*P	**P**	**17 14 57.8**	**-0.5**
WB2				*e*		17 15 04.7	
ZAK	**Zakamensk**	**46.28**	**7**	*e*P	**P**	**17 15 10.6**	**+6.1**
ZAK				*e*		17 16 40.6	
ZAK				pmax	pmax		
comp=Z,1.0nm,1.4s,mb3.5							
ZAK				pmax	pmax		
comp=Z,1.0nm,1.0s,mb3.7							
ZAK				pmax	pmax		
comp=Z,1.0nm,1.0s,mb3.7							
CN2	**Changchun**	**47.40**	**30**	*e*P	**P**	**17 15 12.8**	**-0.6**
CN2				AMB	AMB		
comp=Z,10.0nm,0.6s,mb4.9							
KURK	**Kurchatov**	**48.18**	**346**	P	**P**	**17 15 18.5**	**-0.9**
comp=Z,7.0nm,1.1s,mb4.6							
KURK	**Kurchatov**	**48.18**	**346**	P	**P**	**17 15 18.5**	**-0.9**
KURK				pmax	pmax		
comp=Z,7.0nm,1.1s,mb4.6							
ZAL	**Zalesovo**	**50.07**	**352**	P	**P**	**17 15 33.1**	**-0.8**
comp=Z,1.7nm,0.6s,mb4.3,baz=306,slow=7.3,SNR=8.3							
ZAL	**Zalesovo**	**50.07**	**352**	P	**P**	**17 15 33.1**	**-0.8**
ZAL				pmax	pmax		
comp=Z,2.0nm,0.6s							
NVS	**Novosibirsk**	**51.18**	**351**	*i* P	**P**	**17 15 42.0**	**-0.3**
BVA0	**Borovoye Array**	**52.56**	**341**	*i* P	**P**	**17 15 52.5**	**-0.2**
BVA0				pmax	pmax

comp=Z,1.0nm,0.5s
KAF Kangasniemi 76.32 333 *e*p **P 17 18 25.8 -1.6**
comp=Z,0.4nm,0.4s,mb3.7
KEV Kevo 78.41 341 *e*p **P 17 18 37.4 -1.5**
comp=Z,0.2nm,0.3s,mb3.5
ARCES ARCESS Array B 78.84 340 P **P 17 18 41.7 +0.4**
comp=Z,1.0nm,0.5s,mb4.0,baz=92,slow=5.8,SNR=26
ARCES ARCESS Array B 78.84 340 P **P 17 18 41.7 +0.4**
ARCES pmax pmax
comp=Z,1.0nm,0.5s
BILL Bilibino 78.86 21 *e*P **P 17 18 43.4 +1.9**
BILL *e* 17 21 34.0
BILL pmax pmax
comp=Z,2μm,0.7s
GERES GERESS Array B 81.09 319 P **P 17 18 54.8 +1.1**
comp=Z,2.0nm,0.9s,mb4.0,baz=104,slow=5.5,SNR=12
GERES GERESS Array B 81.09 319 P **P 17 18 54.8 +1.0**
GERES pmax pmax
comp=Z,2.0nm,0.9s
HFS Hagfors 81.95 330 P **P 17 18 57.2 -0.8**
comp=Z,1.9nm,0.8s,mb4.1,baz=90,slow=13,SNR=4.1
HFS Hagfors 81.95 330 P **P 17 18 57.2 -0.8**
HFS pmax pmax
comp=Z,2.0nm,0.8s
GRF Grafenberg Arr 82.75 319 *e*P **P 17 19 09.9 +7.6**
comp=Z,7.0nm,1.4s,mb4.5
GRF Grafenberg Arr 82.75 319 *e*P **P 17 19 09.8 +7.5**
GRF pmax pmax
comp=Z,7.0nm,1.4s,mb4.5
GRF Grafenberg Arr 82.75 319 *e*P **P 17 19 09.9 +7.6**
GRF pmax pmax
comp=Z,7.0nm,1.4s,mb4.5
NOA NORSAR Array B 83.23 331 P **P 17 19 06.0 +1.5**
comp=Z,1.0nm,0.8s,mb3.9,baz=161,slow=14,SNR=3.4
NOA NORSAR Array B 83.23 331 P **P 17 19 06.0 +1.5**
NOA pmax pmax
comp=Z,1.0nm,0.8s
EKA Eskdalemuir Ar 91.14 326 P **P 17 19 43.5 +0.5**
comp=Z,2.5nm,0.9s,mb4.5,baz=106,slow=6.1,SNR=3.7
EKA Eskdalemuir Ar 91.14 326 P **P 17 19 43.5 +0.5**
EKA pmax pmax
comp=Z,3.0nm,1.0s

IDC 07 17:13:36.1±3.0, 4.58N×95.42E, mb3.7/5, mb1 3.8/5, mb1mx3.6/19, mbtmp3.7/5, Error ellipse: s-maj=175.9km s-min=26.3km az=52.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**43.56**	**347**	P	P	17 21 42.0	-1.5
	0.3nm,0.3s,baz=169,slow=7.4,SNR=5.8						
WRA	**Warramunga Arr**	**45.35**	**124**	P	P	17 21 56.4	-1.9
	0.9nm,0.6s,baz=301,slow=9.2,SNR=11						
BVAR	**Borovoye Array**	**52.50**	**341**	P	P	17 22 50.0	-3.1
	0.5nm,0.6s,baz=149,slow=8.6,SNR=5.3						
FINES	**FINESS Array B**	**76.20**	**332**	P	P	17 25 26.3	-1.5
	1.2nm,0.9s,baz=90,slow=1.9,SNR=3.2						
ARCES	**ARCESS Array B**	**78.78**	**340**	P	P	17 25 40.8	-1.1
	0.4nm,0.5s,baz=83,slow=7.3,SNR=6.9						

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*THR **07** 17:23:44.9±0.6, 36.74N×58.70E, h15km±10km, ML4.4*
*BJI **07** 17:23:46.2, 36.73N×58.11E, h20km, mB5.0, mb4.7, Ms4.8, Msz4.4*
*IDC **07** 17:23:47.0±0.9, 36.46N×58.43E, mb4.2/18, mb1 4.4/22, mb1mx4.4/27, mbtmp4.3/22, ML3.6/1, MS4.1/12, Ms1 4.1/12, ms1mx3.8/33, Error ellipse: s-maj=21.1km s-min=14.1km az=3.0*
*MOS **07** 17:23:47.1±1.2, 36.61N×58.54E, h10km, mb4.6/27, Error ellipse: s-maj=7.6km s-min=5.4km az=123.5*
*CSEM **07** 17:23:47.2±0.1, 36.64N×58.52E, h16km, mb4.2/6, Error ellipse: s-maj=2.6km s-min=1.8km az=122.0*
*NEIC **07** 17:23:47.5±0.8, 36.62N×58.52E, h2km±5km, mb4.5/21, ML4.8(TEH), Error ellipse: s-maj=5.0km s-min=4.2km az=171.0*
NEIC Felt at Mashad.
*TEH **07** 17:23:49.9, 36.58N×58.49E, h10km, Mn4.8*
*NNC **07** 17:23:55.3±3.1, 37.25N×58.81E, Error ellipse: s-maj=31.7km s-min=17.2km az=173.0*
ISC 07 17:23:45.3±0.6, 36.59N±0.02×58.55E±0.02, h0km±4km, h18km±3.6km: pP-P, n239, σ1§21/262, mb4.5/55, MS4.1/28, 8C-10D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IKRD	**Kardeh**	**0.18**	**353**	Pg	**Sg**	**17 24 08.0**	**+17**
IPAY	**Payeh**	**0.39**	**111**	Pg	**Sg**	**17 23 57.5**	**-0.7**
IQHU	**Quchan**	**0.47**	**359**	Pg	**Pg**	**17 23 54.1**	**-0.7**
ISFR	**Esferayen**	**0.63**	**316**	Pg	**Pg**	**17 23 55.8**	**-2.1**
MHI	**Mashhad**	**0.80**	**111**	Pg	**Pg**	**17 24 05.3**	**+4.1**
IEMG	**Emamqoli**	**0.82**	**6**	Pg	**Pg**	**17 24 00.7**	**-1.0**
IMYA	**Miamay**	**1.28**	**101**	Pg	**Pg**	**17 24 13.6**	**+2.8**
IANJ	**Anjiloo**	**3.92**	**255**	Pn	**Pn**	**17 24 49.2**	**+1.1**
ISHM	**Shahmirzad**	**4.32**	**261**	Pn	**Pn**	**17 24 55.2**	**+1.4**
ILAS	**Lasjerd**	**4.69**	**257**	Pn	**Pn**	**17 24 59.2**	**+0.1**
IFIR	**Firoozkooh**	**4.79**	**260**	Pn	**Pn**	**17 25 00.8**	**+0.4**
IFIR				Lg		17 26 16.5	
IDMV	**Damavand**	**5.37**	**261**	Pn	**Pn**	**17 25 07.7**	**-1.0**
DAMV	**Damavand**	**5.41**	**262**	*e*PN	**Pn**	**17 25 09.5**	**+0.3**
DAMV				*e*Sg	**Sb**	**17 26 36.6**	**+10**
DAMV				AML	AML	17 27 01.7	
	comp=N,233nm,0.8s						
ICHK	**Chekchek**	**5.53**	**219**	Pn	**Pn**	**17 25 10.8**	**0.0**
IBAF	**Bafgh**	**5.57**	**207**	Pn	**Pn**	**17 25 11.6**	**+0.1**
IAFJ	**Afjeh**	**5.58**	**264**	Pn	**Pn**	**17 25 11.8**	**+0.2**
IVRN	**Varamin**	**5.77**	**256**	Pn	**Pn**	**17 25 13.7**	**-0.6**
NASN	**Na'in**	**6.06**	**233**	*e*PN	**Pn**	**17 25 19.1**	**+0.8**
NASN				AML	AML	17 27 14.2	
	comp=N,74nm,0.8s						
IMEH	**Mehriz**	**6.13**	**213**	Pn	**Pn**	**17 25 19.0**	**-0.4**
ISAD	**Sadrabad**	**6.16**	**222**	Pn	**Pn**	**17 25 19.4**	**-0.4**
THKV	**Tehran--Karaj**	**6.24**	**266**	*e*PN	**Pn**	**17 25 21.2**	**+0.4**
KRBR	**Kerman**	**6.76**	**193**	*e*PN	**Pn**	**17 25 28.8**	**+0.5**
KRBR				SN	**Sn**	**17 26 44.1**	**-2.9**
IRAZ	**Razeghan**	**7.09**	**263**	Pn	**Pb**	**17 25 45.3**	**-4.1**
ZHSF	**Zahedan**	**7.21**	**164**	*e*PN	**Pn**	**17 25 33.5**	**-1.0**
ASAO	**Ashtian**	**7.24**	**256**	*e*PN	**Pn**	**17 25 34.1**	**-0.9**
GRMI	**Germi**	**8.73**	**288**	*e*PN	**P**	**17 25 54.2**	**-1.6**
SHGR	**Shooshtar-Gavs**	**9.21**	**244**	*e*PN	**P**	**17 26 02.1**	**-0.4**
SNGE	**Sanandaj**	**9.22**	**264**	*e*PN	**P**	**17 26 01.2**	**-1.3**
BNDS	**Bandar-Abbas**	**9.38**	**193**	*e*PN	**P**	**17 26 04.4**	**-0.4**
GHIR	**Ghir-Karzin**	**9.52**	**211**	*e*PN	**P**	**17 26 06.4**	**-0.3**
KK31	**Karatay Array**	**11.26**	**51**	P	**P**	**17 26 29.1**	**-1.5**
	comp=N,22nm,0.7s,baz=236,slow=16,SNR=167						
KK31				⇑S	**S**	**17 28 30.9**	**-7.3**
	comp=N,13nm,0.5s,baz=250,slow=16,SNR=3.8						
KKAR	**Karatay Array**	**11.26**	**51**	P	**P**	**17 26 29.0**	**-1.5**
	comp=N,8.0nm,0.5s						
KKAR	**Karatay Array**	**11.26**	**51**	P	**P**	**17 26 29.0**	**-1.5**
KKAR				*i* S	**S**	**17 28 31.2**	**-7.1**
KKAR				pmax	pmax		
	comp=Z,8.0nm,0.5s						
KKAR				smax			
	comp=N,5.0nm,0.4s						
CEP	**Cherat**	**11.27**	**100**	P	**P**	**17 26 32.0**	**+1.2**
MAKU	**Maku**	**11.29**	**288**	*e*PN	**P**	**17 26 29.2**	**-1.7**
GNI	**Garni**	**11.40**	**292**	Pn	**P**	**17 26 32.2**	**-0.3**
	comp=N,4.2nm,0.3s,baz=62,slow=2.3,SNR=15						
GNI				Sn	**S**	**17 28 43.2**	**+1.3**
	comp=N,1.4nm,0.3s,baz=122,slow=13,SNR=2.0						
GNI				LR	LR	17 32 20.8	
	comp=N,1μm,18.3s,baz=238,slow=45						
GNI	**Garni**	**11.40**	**292**	*e*P	**P**	**17 26 32.0**	**-0.6**
	comp=N,94nm,0.8s						
GNI	**Garni**	**11.40**	**292**	P	**P**	**17 26 32.2**	**-0.3**
GNI						17 28 43.2	
GNI				pmax	pmax		
	comp=Z,4.0nm,0.3s						
GNI				smax			
	comp=N,1.0nm,0.3s						
GNI				MLR	MLR		
	comp=Z,1μm,18.3s						
THW	**Thamme Wali**	**11.50**	**105**	P	**P**	**17 26 34.4**	**+0.5**
TBLG	**Delisi**	**11.88**	**300**	P	**P**	**17 26 41.1**	**+2.1**
TBLG				S	**S**	**17 28 46.9**	**-6.6**
BHD	**Baghdad**	**12.09**	**258**	*e*P	x	17 26 38.0	
BHD				*e*S	x	17 29 02.5	
BHD				*e*LQ		17 30 24.0	
BHD				*e*LR	LR	17 30 40.0	
CHCP	**Chirah Chowk**	**12.40**	**99**	P	**P**	**17 26 46.7**	**+0.7**
MSL	**Mosul**	**12.46**	**273**	*e*	x	17 26 43.0	
AB31	**Akbulak array**	**12.70**	**4**	P	**P**	**17 26 47.1**	**-2.8**
	comp=Z,9.9nm,0.5s,baz=182,slow=13,SNR=63						
AB31				⇑S	**S**	**17 29 04.5**	**-8.8**
	comp=Z,21nm,0.5s,baz=204,slow=14,SNR=11						
AB31	**Akbulak array**	**12.70**	**4**	P	**P**	**17 26 47.1**	**-2.9**
AB31				S	**S**	**17 29 04.4**	**-8.9**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.4s						
AB31				smax			
	comp=N,20nm,0.5s						
AB31				smax			
	comp=Z,400nm,5.0s						
ZEI	**Tsey**	**12.86**	**303**	*e*P	**P**	**17 26 49.2**	**-2.9**
AML	**Almayashu**	**12.95**	**60**	P	**P**	**17 26 53.4**	**0.0**
SNR=37							
EKS2	**Erkin-Say**	**13.20**	**58**	P	**P**	**17 26 56.2**	**-0.5**
SNR=63							
UCH	**Uchtor**	**13.56**	**61**	P	**P**	**17 27 02.7**	**+1.3**
SNR=7.1							
AAK	**Ala-Archa**	**13.69**	**59**	P	**P**	**17 27 03.6**	**+0.6**
SNR=14							
AAK	**Ala-Archa**	**13.69**	**59**	*e*P	**P**	**17 27 02.6**	**-0.4**
	comp=Z,500nm,18.0s						
AAK	**Ala-Archa**	**13.69**	**59**	*e*P	**P**	**17 27 02.2**	**-0.8**
	comp=Z,38nm,0.6s						
AAK	**Ala-Archa**	**13.69**	**59**	*e*P	**P**	**17 27 02.6**	**-0.4**
AAK				pmax	pmax		
	comp=Z,45nm,1.2s						
AAK				MLR	MLR		
	comp=Z,500nm,18.0s						
FRU	**Bishkek**	**13.84**	**58**	*e*P	**P**	**17 27 05.0**	**-0.1**
FRU				*e*S	**S**	**17 29 38.0**	**-2.7**
FRU				smax			
	comp=E,260nm,1.4s						
USP	**Ospenovka**	**13.93**	**57**	P	**P**	**17 27 06.1**	**-0.1**
SNR=7.2							
CHMS	**Chumysh**	**13.99**	**58**	P	**P**	**17 27 06.2**	**-0.9**
SNR=10							
KBK	**Karagaybulak**	**14.01**	**59**	P	**P**	**17 27 07.5**	**+0.3**
SNR=20							
KZA	**Kyzart**	**14.03**	**62**	P	**P**	**17 27 08.5**	**+0.9**
SNR=21							
KSH	**Kashi**	**14.04**	**73**	*e*P	**P**	**17 27 06.1**	**-1.6**
KSH				*e*PP	PP	17 27 17.1	-1.7
KSH				*e*PPP	PPP	17 27 24.3	-1.5
KSH				*e*S	**S**	**17 29 41.0**	**-4.4**
KSH				AMB	AMB		
	comp=Z,40nm,0.9s						
KSH				LR	LR		
	comp=N,3μm,3.2s						
KSH				LR	LR		
	comp=E,3μm,3.6s						
KIV	**Kislovodsk**	**14.15**	**306**	*e*P	**P**	**17 27 08.3**	**-0.9**
	comp=E,22nm,0.9s						
KIV	**Kislovodsk**	**14.15**	**306**	*e*P	**P**	**17 27 07.6**	**-1.6**
	comp=E,30nm,0.6s						
KIV	**Kislovodsk**	**14.15**	**306**	*e*P	**P**	**17 27 08.3**	**-0.9**
KIV				*e*S	**S**	**17 29 46.5**	**-1.7**
KIV				pmax	pmax		
	comp=Z,22nm,0.9s						
GOF	**Gofitskoye**	**14.46**	**311**	*i* P	**P**	**17 27 15.0**	**+1.9**
	comp=Z,76nm,1.0s						
GOF	**Gofitskoye**	**14.46**	**311**	⇓*i*P	**P**	**17 27 15.0**	**+1.9**
GOF				pmax	pmax		
	comp=Z,76nm,1.0s						
TKM2	**Tokmak 2**	**14.55**	**59**	P	**P**	**17 27 13.6**	**-0.8**
SNR=10							
ULHL	**Ulahol**	**14.79**	**62**	P	**P**	**17 27 18.1**	**+0.6**
SNR=7.7							
SOC	**Sochi**	**16.00**	**302**	*e*P	**P**	**17 27 41.2**	**+8.0**
SOC				*e*		17 30 32.4	
SOC				pmax	pmax		
	comp=Z,38nm,1.0s						
SOC				pmax	pmax		
	comp=N,20nm,1.2s						
SOC				pmax	pmax		
	comp=E,28nm,1.0s						
SOC				MLR	MLR		
	comp=Z,387nm,19.0s						
SOC				MLR	MLR		
	comp=N,267nm,15.0s						
SOC				MLR	MLR		
	comp=E,214nm,16.0s						
VOSK	**Vostochnaya**	**18.35**	**25**	⇓P	**P**	**17 28 01.7**	**-1.1**
	comp=E,34nm,0.8s						
ASF	**Jabal al Asfar**	**18.40**	**262**	P	**P**	**17 28 03.8**	**+0.2**
	comp=E,0.2nm,0.3s,baz=314,slow=3.2,SNR=14						
ASF				LR	LR	17 36 07.4	
	comp=E,693nm,19.6s,baz=110,slow=40						
BRVK	**Borovoye**	**18.41**	**23**	*e*P	**P**	**17 28 03.1**	**-0.4**
	comp=E,20nm,0.8s						
BRVK	**Borovoye**	**18.41**	**23**	*e*P	**P**	**17 28 03.1**	**-0.4**
	comp=E,20nm,0.8s						
BRVK	**Borovoye**	**18.41**	**23**	*e*P	**P**	**17 28 03.1**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,20nm,0.8s						
BVA0	**Borovoye Array**	**18.41**	**23**	P	**P**	**17 28 03.5**	**-0.1**
	comp=Z,5.6nm,0.8s,baz=200,slow=12,SNR=282						
BVA0				⇓S	**S**	**17 31 21.6**	**-5.3**
	comp=Z,4.0nm,1.0s,baz=206,slow=26,SNR=4.5						
BVA0	**Borovoye Array**	**18.41**	**23**	*i* P	**P**	**17 28 03.4**	**-0.2**
	comp=Z,5.0nm,0.8s						
BVA0	**Borovoye Array**	**18.41**	**23**	*i* P	**P**	**17 28 03.4**	**-0.2**
BVA0				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BVAR	**Borovoye Array**	**18.41**	**23**	P	**P**	**17 28 03.4**	**-0.2**
	comp=Z,2.2nm,0.3s,baz=198,slow=11,SNR=39						
BVAR				S	**S**	**17 31 21.9**	**-4.9**
	comp=Z,0.8nm,0.3s,baz=225,slow=23,SNR=3.3						
BVAR	**Borovoye Array**	**18.41**	**23**	P	**P**	**17 28 03.4**	**-0.2**
BVAR				S	**S**	**17 31 21.9**	**-4.9**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
BVAR				smax			
	comp=N,1.0nm,0.3s						
VRHR	**Novokhopersk**	**18.89**	**325**	*e*P	**P**	**17 28 10.8**	**+1.5**
VRHR				*e*S	**S**	**17 31 39.2**	**+1.7**
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
VRHR				pmax	pmax		
	comp=N,30nm,0.8s						
VRHR				pmax	pmax		
	comp=E,20nm,0.8s						
VRHR				smax			
	comp=N,50nm,0.7s						
VRHR				smax			
	comp=Z,8.0nm,0.5s						
VRHR				smax			
	comp=E,10.0nm,0.6s						
BR131	**Keskin Array S**	**19.82**	**287**	*e*P	**P**	**17 28 19.3**	**-1.0**
BR131	**Keskin Array S**	**19.82**	**287**	*e*P	**P**	**17 28 19.3**	**-1.0**
BRTR	**Keskin Array B**	**19.82**	**287**	P	**P**	**17 28 19.9**	**-0.4**
	baz=100,slow=8.8,SNR=6.7						
ARU	**Arti**	**19.84**	**0**	*e*P	**P**	**17 28 19.6**	**-0.9**
	comp=E,34nm,0.9s						
ARU	**Arti**	**19.84**	**0**	*e*P	**P**	**17 28 19.6**	**-0.9**
	comp=E,34nm,0.9s						
ARU	**Arti**	**19.84**	**0**	⇓*i*P	**P**	**17 28 20.8**	**+0.3**
ARU				*e*S	**S**	**17 32 07.6**	**+8.7**
ARU				pmax	pmax		
	comp=Z,31nm,0.9s						
VRSR	**Storozhevoye**	**20.11**	**323**	*i* P	**P**	**17 28 22.3**	**-1.1**
	comp=Z,10.0nm,0.8s						
VRSR	**Storozhevoye**	**20.11**	**323**	*c*i P	**P**	**17 28 22.3**	**-1.1**
VRSR				*e**SP		17 28 26.7	
VRSR				*e*S	**S**	**17 32 02.0**	**-2.7**
VRSR				*e**SS		17 32 06.8	
VRSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VRSR				pmax	pmax		
	comp=N,30nm,0.9s						
VRSR				pmax	pmax		
	comp=E,30nm,0.9s						
VRSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VRSR				pmax	pmax		
	comp=N,30nm,0.9s						
VRSR				pmax	pmax		
	comp=E,30nm,0.9s						
VRSR				smax			
	comp=N,40nm,0.9s						
VRSR				smax			
	comp=E,10.0nm,1.0s						
VRSR				smax			
	comp=Z,10.0nm,1.0s						
KURK	**Kurchatov**	**20.16**	**39**	⇑P	**P**	**17 28 26.0**	**+2.1**
	comp=Z,29nm,1.2s						
KURK				⇑S	**S**	**17 32 13.0**	**+7.3**
	comp=Z,29nm,1.3s						
KURK	**Kurchatov**	**20.16**	**39**	*e*P	**P**	**17 28 21.9**	**-2.0**
	comp=Z,55nm,1.1s						
KURK	**Kurchatov**	**20.16**	**39**	*e*P	**P**	**17 28 21.9**	**-2.0**
	comp=Z,55nm,1.1s						
KURK	**Kurchatov**	**20.16**	**39**	*e*P	**P**	**17 28 21.9**	**-2.0**
KURK				pmax	pmax		
	comp=Z,55nm,1.1s						
SIM	**Simferopol'**	**20.25**	**302**	*i* P	**P**	**17 28 24.3**	**-0.5**
	comp=Z,97nm,1.0s						
SIM	**Simferopol'**	**20.25**	**302**	*d*i P	**P**	**17 28 24.3**	**-0.5**
SIM				*e*S	**S**	**17 32 05.4**	**-2.1**
SIM				pmax	pmax		
	comp=Z,97nm,1.0s						
SIM				MLR	MLR		
	comp=Z,240nm,21.9s,MS3.5						
SVE	**Sverdlovsk**	**20.29**	**3**	*e*P	**P**	**17 28 25.3**	**+0.1**
SVE				*e*		17 28 30.0	
SVE				*e*		17 28 41.6	
SVE				*e*S	**S**	**17 32 11.0**	**+2.7**
SVE				*e*SS	SS	17 32 40.0	+2.8
SVE				MLR	MLR		
	comp=N,500nm,14.0s,MS4.2						
SVE				MLR	MLR		
	comp=Z,1μm,14.0s,MS4.3						
SVE				MLR	MLR		
	comp=E,500nm,15.0s,MS4.2						
KAMS	**Al Khamasin**	**20.31**	**221**	P	**P**	**17 28 25.4**	**-0.2**
ZFRI	**Zfri**	**20.36**	**260**	P	**P**	**17 28 26.9**	**+0.8**
MK31	**Makanchi Array**	**20.38**	**53**	⇑P	**P**	**17 28 28.0**	**+1.7**
	comp=E,24nm,0.8s						
MKAR	**Makanchi Array**	**20.38**	**53**	P	**P**	**17 28 27.9**	**+1.7**
	comp=E,8.4nm,0.7s,baz=247,slow=13,SNR=34						
MKAR	**Makanchi Array**	**20.38**	**53**	P	**P**	**17 28 28.0**	**+1.8**
MKAR				pmax	pmax		
	comp=Z,8.0nm,0.7s						
VOR	**Voronezh**	**20.44**	**324**	*e*P	**P**	**17 28 26.0**	**-0.8**
VOR				*e*		17 28 47.5	
VOR				*e*		17 32 14.0	
VOR				pmax	pmax		
	comp=N,150nm,1.0s						
VOR				pmax	pmax		
	comp=E,120nm,1.0s						
VOR				pmax	pmax		
	comp=Z,160nm,1.0s						
CSS	**Prodhromos**	**20.51**	**273**	*e*P	**P**	**17 28 26.4**	**-1.3**
	comp=Z,32nm,1.0s						
CSS	**Prodhromos**	**20.51**	**273**	*e*P	**P**	**17 28 26.4**	**-1.4**
	comp=Z,32nm,1.0s						
JMQS	**Jabal Moqyreh**	**20.53**	**255**	P	**P**	**17 28 28.7**	**+0.8**
PRNI	**Paran**	**20.58**	**259**	P	**P**	**17 28 28.6**	**+0.2**
KMTI	**Karmit**	**20.90**	**259**	P	**P**	**17 28 31.9**	**+0.2**
EIL	**Elat**	**20.90**	**258**	P	**P**	**17 28 31.9**	**+0.1**
ALWS	**Ilw as Safayha**	**20.97**	**257**	P	**P**	**17 28 33.9**	**+1.4**
JMOS	**Jabal al Moall**	**21.00**	**256**	P	**P**	**17 28 36.1**	**+3.3**
HAQS	**Haql**	**21.19**	**256**	P	**P**	**17 28 38.0**	**+3.3**
UMJS	**Umm Lajj**	**21.40**	**244**	P	**P**	**17 28 37.4**	**+0.5**
PECR	**Pechory**	**22.02**	**338**	*e*P	**P**	**17 28 44.6**	**+1.8**
PECR				MLR	MLR		
	comp=N,700nm,12.0s						
PECR				MLR	MLR		
	comp=Z,600nm,12.0s,MS4.2						
ISP	**Isparta**	**22.34**	**282**	*e*P	**P**	**17 28 45.0**	**-1.2**
	comp=Z,18nm,0.9s,mb4.5						
ISP	**Isparta**	**22.34**	**282**	*e*P	**P**	**17 28 45.0**	**-1.2**
ISP				pmax	pmax		
	comp=Z,18nm,0.9s,mb4.5						
KOLN	**Koldanda**	**22.91**	**105**	*e*P	**P**	**17 28 51.6**	**-0.3**
	comp=Z,121nm,1.3s,mb5.3						
DJNS	**Zahran al Janu**	**23.01**	**219**	P	**P**	**17 28 59.2**	**+6.2**
WMQ	**Urumqi**	**23.32**	**63**	P	**P**	**17 28 56.0**	**+0.3**
WMQ				XP		17 29 03.0	
WMQ				PP	PP	17 29 28.0	+1.3
WMQ				S	**S**	**17 33 05.0**	**-0.3**
WMQ				SS	SS	17 33 52.0	+1.1
WMQ				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.4						
WMQ				LR	LR		
	comp=N,365nm,12.0s,MS4.2						
WMQ				LR	LR		
	comp=E,218nm,10.0s,MS4.2						
WMQ				LR	LR		
	comp=Z,169nm,10.0s,MS3.8						
GKN	**Gorkha**	**23.60**	**104**	*e*P	**P**	**17 28 58.0**	**-0.6**
	comp=Z,208nm,1.2s,mb5.5						
MOS	**Moscow**	**23.84**	**330**	*e*P	**P**	**17 28 57.2**	**-3.5**
MOS				*e*S	**S**	**17 33 06.1**	**-8.2**
MOS				pmax	pmax		
	comp=Z,56nm,0.7s,mb5.2						
OBN	**Obninsk**	**23.86**	**328**	*e*P	**P**	**17 29 01.3**	**+0.5**
	comp=Z,77nm,1.2s,mb5.1						
OBN	**Obninsk**	**23.86**	**328**	*i* P	**P**	**17 29 02.1**	**+1.3**
OBN				*e*		17 32 46.3	
OBN				pmax	pmax		
	comp=Z,51nm,1.1s,mb5.0						
OBN				MLR	MLR		
	comp=Z,200nm,15.0s,MS3.7						
DMN	**Daman**	**24.15**	**104**	*e*P	**P**	**17 29 05.6**	**+1.6**
	comp=Z,133nm,1.0s,mb5.4						
KKN	**Kakani**	**24.20**	**104**	*e*P	**P**	**17 29 05.9**	**+1.4**
	comp=Z,93nm,1.0s,mb5.3						
PKI	**Pulchoki**	**24.41**	**104**	*e*P	**P**	**17 29 07.6**	**+1.1**
	comp=Z,348nm,1.4s						
CFR	**Carcaliu**	**24.43**	**300**	⇓P	**P**	**17 29 11.7**	**+5.2**
NVS	**Novosibirsk**	**24.89**	**35**	*e*P	**P**	**17 29 14.3**	**+3.5**
NVS				pmax	pmax		
	comp=N,16nm,1.2s						
NVS				pmax	pmax		
	comp=E,17nm,1.2s						
NVS				pmax	pmax		
	comp=Z,19nm,1.2s,mb4.7						
ZAL	**Zalesovo**	**25.12**	**38**	P	**P**	**17 29 15.2**	**+2.2**
	comp=Z,1.9nm,0.5s,mb4.1,baz=211,slow=7.7,SNR=9.0						
ZAL	**Zalesovo**	**25.12**	**38**	P	**P**	**17 29 15.2**	**+2.2**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKASG	**Malin Array Be**	**25.27**	**313**	P	**P**	**17 29 14.4**	**-0.2**
	comp=Z,2.4nm,0.5s,mb4.2,baz=120,slow=7.4,SNR=5.2						
AKASG	**Malin Array Be**	**25.27**	**313**	P	**P**	**17 29 14.4**	**-0.2**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
VRI	**Vrincioaia**	**25.52**	**301**	⇑P	**P**	**17 29 23.3**	**+6.4**
ISR	**Istrita**	**25.53**	**299**	⇓P	**P**	**17 29 23.7**	**+6.7**
MLR	**Muntele Rosu**	**26.00**	**300**	P	**P**	**17 29 23.2**	**+1.8**
	comp=Z,26nm,0.7s,mb5.0,baz=13,slow=4.8,SNR=11						
MLR	**Muntele Rosu**	**26.00**	**300**	⇓P	**P**	**17 29 26.0**	**+4.6**
MLR	**Muntele Rosu**	**26.00**	**300**	⇓P	**P**	**17 29 26.1**	**+4.6**
MLR	**Muntele Rosu**	**26.00**	**300**	P	**P**	**17 29 23.2**	**+1.8**
MLR				pmax	pmax		
	comp=Z,26nm,0.7s						
HYB	**Hyderabad**	**26.03**	**132**	*i* P	**P**	**17 29 21.0**	**-0.9**
HYB	**Hyderabad**	**26.03**	**132**	*e*P	**P**	**17 29 21.0**	**-0.9**
LSA	**Lhasa**	**28.06**	**95**	P	**P**	**17 29 43.0**	**+2.6**
LSA	**Lhasa**	**28.06**	**95**	*e*P	**P**	**17 29 42.2**	**+1.8**
	comp=Z,7.5nm,0.8

FINES				PP	PP	17 31 13.3	-10
	comp=Z,7.8nm,1.0s,baz=124,slow=10.0,SNR=3.2						
FINES				LR	LR	17 45 38.2	
	comp=Z,135nm,20.1s,MS3.6,baz=286,slow=41						
FINES	**FINESS Array B**	**32.14**	**331**	P	**P**	**17 30 16.9**	**+0.6**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.6s						
FINES				pmax	pmax		
	comp=Z,8.0nm,1.0s						
FINES				MLR	MLR		
	comp=Z,135nm,20.1s						
GTA	**Gaotai**	**32.44**	**72**	*eP*	**P**	**17 30 24.7**	**+5.5**
GTA				AP	pP	17 30 29.0	+10
GTA				XP	sP	17 30 31.5	+12
GTA				S	**S**	**17 35 43.7**	**+10**
GTA				XS		17 35 50.9	
GTA				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.4						
GTA				AMB	AMB		
	comp=Z,170nm,5.3s						
GTA				LR	LR		
	comp=N,438nm,18.7s,MS4.3						
GTA				LR	LR		
	comp=E,292nm,15.3s,MS4.3						
GTA				LR	LR		
	comp=Z,357nm,12.2s,MS4.3						
DPC	**Dobruska-Polom**	**33.12**	**308**	*eP*	**P**	**17 30 25.8**	**+0.8**
DPC				AMS	AMS	17 48 20.0	
	comp=Z,300nm,16.3s						
UPC	**Upice**	**33.34**	**308**	*eP*	**P**	**17 30 25.9**	**-1.0**
APA	**Apatity**	**34.14**	**343**	⇓*iP*	**P**	**17 30 39.0**	**+5.3**
APA				*e*		17 31 55.5	
APA				pmax	pmax		
	comp=Z,13nm,0.7s,mb5.0						
APA				MLR	MLR		
	comp=Z,1μm,17.0s,MS4.7						
APA				MLR	MLR		
	comp=Z,2μm,12.0s						
PRU	**Pruhonice**	**34.21**	**307**	*eS*	Sx	17 36 31.4	
PRU				AMS	AMS	17 49 20.0	
	comp=Z,200nm,16.2s						
PVCC	**Panska Ves**	**34.26**	**308**	*eP*	**P**	**17 30 36.4**	**+1.5**
PVCC				*eS*	S	17 36 27.0	+25
PVCC				AMS	AMS	17 50 30.0	
	comp=Z,200nm,13.9s						
PVCC	**Panska Ves**	**34.26**	**308**	*eP*	**P**	**17 30 36.4**	**+1.5**
PVCC				MLR	MLR		
	comp=Z,200nm,13.9s,MS4.0						
GERES	**GERESS Array B**	**34.66**	**305**	P	**P**	**17 30 38.3**	**-0.1**
	comp=Z,0.3nm,0.5s,mb3.5,baz=100,slow=8.1,SNR=4.8						
BRG	**Berggiesshubel**	**34.69**	**309**	*eP*	**P**	**17 30 42.4**	**+3.8**
	comp=Z,4.9nm,1.3s,mb4.3						
BRG	**Berggiesshubel**	**34.69**	**309**	*eP*	**P**	**17 30 42.4**	**+3.8**
BRG				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.3						
ZAK	**Zakamensk**	**34.72**	**52**	*eP*	**P**	**17 30 41.6**	**+2.8**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.0						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.4s,mb3.5						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.8s,mb3.4						
KHC	**Kasperske Hory**	**34.76**	**305**	*eP*	**P**	**17 30 37.8**	**-1.4**
KHC				*ex*	x	17 36 50.9	
KHC				AMS	AMS	17 50 20.0	
	comp=Z,200nm,15.6s						
KHC	**Kasperske Hory**	**34.76**	**305**	*eP*	**P**	**17 30 37.8**	**-1.4**
KHC				MLR	MLR		
	comp=Z,200nm,15.6s,MS4.0						
CLL	**Collm**	**35.33**	**309**	P	**P**	**17 30 44.0**	**-0.1**
	comp=Z,logA/T=0.9,mb4.6						
CLL				*i* PP	PP	17 32 02.0	-1.1
CLL				*i* PPP	PPP	17 32 13.5	-8.3
CLL	**Collm**	**35.33**	**309**	*eP*	**P**	**17 30 44.0**	**-0.1**
	comp=Z,11nm,1.5s,mb4.6						
CLL				*i* PP	PP	17 32 02.0	-1.1
CLL				LR	LR		
	comp=Z,200nm,18.7s,MS3.9						
CLL	**Collm**	**35.33**	**309**	*eP*	**P**	**17 30 44.0**	**-0.1**
CLL				*i*		17 32 02.0	
CLL				pmax	pmax		
	comp=Z,11nm,1.5s,mb4.6						
CLL				MLR	MLR		
	comp=Z,200nm,18.7s,MS3.9						
NKC	**Novy Kostel**	**35.58**	**307**	*eP*	**P**	**17 30 55.3**	**+9.1**
NKC				*ex*	x	17 36 34.8	
NKC				AMS	AMS	17 51 30.0	
	comp=Z,400nm,9.4s						
NKC	**Novy Kostel**	**35.58**	**307**	*eP*	**P**	**17 30 55.3**	**+9.1**
NKC				MLR	MLR		
	comp=Z,400nm,9.4s						
MOX	**Moxa**	**36.14**	**308**	*i* P	**P**	**17 30 51.8**	**+0.9**
	comp=Z,logA/T=0.9,mb4.5						
MOX	**Moxa**	**36.14**	**308**	*eP*	**P**	**17 30 51.8**	**+0.9**
	comp=Z,8.0nm,1.1s,mb4.5						
MOX	**Moxa**	**36.14**	**308**	*eP*	**P**	**17 30 51.8**	**+0.9**
MOX				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.5						
GRA1	**Grafenberg Arr**	**36.33**	**306**	*eP*	**P**	**17 30 53.4**	**+0.8**
GRF	**Grafenberg Arr**	**36.33**	**306**	*eP*	**P**	**17 30 53.4**	**+0.8**
	comp=Z,3.0nm,1.2s,mb4.0						
GRF	**Grafenberg Arr**	**36.33**	**306**	*eP*	**P**	**17 30 53.4**	**+0.8**
GRF				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.0						
SONM	**Songino Array**	**36.63**	**57**	P	**P**	**17 30 57.5**	**+2.4**
	comp=Z,1.0nm,0.8s,mb3.6,baz=233,slow=7.4,SNR=5.3						
SONM				LR	LR	17 48 41.1	
	comp=Z,329nm,18.2s,MS4.2,baz=256,slow=41						
SONM	**Songino Array**	**36.63**	**57**	P	**P**	**17 30 57.5**	**+2.4**
SONM				LR	LR	17 48 41.1	
SONM	**Songino Array**	**36.63**	**57**	P	**P**	**17 30 57.5**	**+2.4**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SONM				MLR	MLR		
	comp=Z,329nm,18.2s						
HFS	**Hagfors**	**36.93**	**324**	P	**P**	**17 30 57.9**	**+0.4**
	comp=Z,7.8nm,0.9s,mb4.5,baz=112,slow=8.0,SNR=7.2						
HFS	**Hagfors**	**36.93**	**324**	P	**P**	**17 30 57.9**	**+0.4**
HFS				pmax	pmax		
	comp=Z,8.0nm,0.9s						
DAVOX	**Davos**	**37.21**	**301**	P	**P**	**17 30 59.1**	**-0.9**
	comp=Z,2.1nm,0.5s,mb4.1,baz=11,slow=16,SNR=2.6						
DAVOX				LR	LR	17 49 31.6	
	comp=Z,109nm,18.0s,MS3.7,baz=87,slow=42						
KEV	**Kevo**	**37.33**	**343**	*ep*	**P**	**17 30 59.7**	**-1.0**
	comp=Z,0.4nm,0.3s,mb3.6						
ARCES	**ARCESS Array B**	**37.54**	**342**	P	**P**	**17 31 02.5**	**-0.1**
	comp=Z,1.5nm,0.9s,mb3.7,baz=146,slow=8.7,SNR=7.7						
ARCES				PP	PP	17 32 21.5	-9.0
	comp=Z,2.1nm,0.6s,baz=126,slow=10,SNR=4.0						
ARCES				LR	LR	17 47 56.4	
	comp=Z,299nm,18.2s,MS4.1,baz=137,slow=38						
ARCES	**ARCESS Array B**	**37.54**	**342**	P	**P**	**17 31 02.5**	**-0.1**
ARCES				PP	PP	17 32 21.5	-9.0
ARCES				LR	LR	17 47 56.4	
ARCES	**ARCESS Array B**	**37.54**	**342**	P	**P**	**17 31 02.5**	**0.0**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ARCES				MLR	MLR		
	comp=Z,299nm,18.2s						
CD2	**Chengdu**	**37.75**	**85**	*eP*	**P**	**17 31 07.4**	**+2.8**
CD2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
NB2	**NORSAR Subarra**	**38.38**	**325**	P	**P**	**17 31 09.6**	**0.0**
	comp=Z,1.8nm,0.6s,mb4.0,baz=108,slow=8.6						
NB2	**NORSAR Subarra**	**38.38**	**325**	P	**P**	**17 31 09.6**	**0.0**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
NOA	**NORSAR Array B**	**38.38**	**325**	P	**P**	**17 31 09.3**	**-0.3**
	comp=Z,3.7nm,0.8s,mb4.2,baz=110,slow=8.1,SNR=9.9						
NOA				PP	PP	17 32 34.5	-6.0
	comp=Z,3.8nm,0.8s,baz=104,slow=13,SNR=4.2						
NOA	**NORSAR Array B**	**38.38**	**325**	P	**P**	**17 31 09.3**	**-0.3**
NOA				PP	PP	17 32 34.5	-6.0
NOA	**NORSAR Array B**	**38.38**	**325**	P	**P**	**17 31 09.3**	**-0.3**
NOA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
NOA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CDF	**Champ du Feu**	**38.92**	**304**	*eP*	**P**	**17 31 16.7**	**+2.4**
KMI	**Kunming**	**39.31**	**94**	P	**P**	**17 31 18.7**	**+0.9**
KMI				AP	pP	17 31 28.5	+11
KMI				XP	sP	17 31 32.6	+15
KMI				PP	PP	17 32 48.8	-3.1
KMI				PPP	PPP	17 33 10.0	-5.5
KMI				S	**S**	**17 37 20.2**	**+0.6**
KMI				XS		17 37 39.0	
KMI				SS	SS	17 40 05.8	+1.5
KMI				SSS	SSS	17 40 43.6	+4.7
KMI				AMB	AMB		
	comp=Z,23nm,1.1s,mb4.7						
KMI				AMB	AMB		
	comp=Z,127nm,3.9s						
KMI				LR	LR		
	comp=N,266nm,23.7s						
KMI				LR	LR		
	comp=E,263nm,16.4s						
KMI				LR	LR		
	comp=Z,434nm,18.2s						
LPL	**La Plagne**	**39.48**	**300**	*eP*	**P**	**17 31 18.9**	**-0.1**
MBDF	**Montbardon**	**39.54**	**298**	*eP*	**P**	**17 31 20.4**	**+0.9**
	comp=Z,12nm,0.7s,mb4.3						
MBDF	**Montbardon**	**39.54**	**298**	*eP*	**P**	**17 31 20.4**	**+0.9**
MBDF				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.3						
CABF	**La Chapelle**	**39.83**	**301**	*eP*	**P**	**17 31 24.0**	**+2.1**
HHC	**Hu-ho-hao-te**	**41.06**	**67**	*eP*	**P**	**17 31 30.8**	**-1.3**
HHC				PP	PP	17 33 06.1	-3.8
HHC				PCP	PcP	17 33 33.4	+0.8
HHC				S	**S**	**17 37 38.4**	**-7.2**
HHC				SCS	ScS	17 41 35.4	-0.7
HHC				AMB	AMB		
	comp=Z,17nm,0.5s,mb5.0						
HHC				AMB	AMB		
	comp=Z,199nm,9.2s						
HHC				LR	LR		
	comp=N,383nm,14.9s,MS4.4						
HHC				LR	LR		
	comp=E,272nm,19.0s,MS4.4						
HHC				LR	LR		
	comp=Z,286nm,16.0s,MS4.2						
SMF	**Signal de Mont**	**41.36**	**302**	*eP*	**P**	**17 31 35.6**	**+1.1**
	comp=Z,12nm,0.8s,mb4.4						
SMF	**Signal de Mont**	**41.36**	**302**	*eP*	**P**	**17 31 35.6**	**+1.1**
SMF				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.4						
SSF	**Saint Saulge**	**41.55**	**302**	*eP*	**P**	**17 31 36.4**	**+0.5**
	comp=Z,1.6nm,0.6s,mb3.9						
SSF	**Saint Saulge**	**41.55**	**302**	*eP*	**P**	**17 31 36.4**	**+0.5**
SSF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
AVF	**Avril sur Loir**	**41.68**	**302**	*eP*	**P**	**17 31 37.4**	**+0.4**
	comp=Z,12nm,0.8s,mb4.4						
AVF	**Avril sur Loir**	**41.68**	**302**	*eP*	**P**	**17 31 37.4**	**+0.4**
AVF				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.4						
BOD	**Bodaibo**	**41.79**	**41**	*eP*	**P**	**17 31 38.6**	**+0.8**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.2						
GYA	**Guiyang**	**41.87**	**90**	⇑*iP*	**P**	**17 31 40.2**	**+1.4**
GYA				AP	pP	17 31 44.8	+6.0
GYA				XP	sP	17 31 47.5	+8.7
GYA				PP	PP	17 33 20.6	+1.6
GYA				S	**S**	**17 37 58.7**	**+1.0**
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
GYA				AMB	AMB		
	comp=Z,80nm,2.8s,mb5.0						
GYA				LR	LR		
	comp=N,370nm,15.6s,MS4.5						
GYA				LR	LR		
	comp=E,410nm,16.0s,MS4.5						
GYA				LR	LR		
	comp=Z,390nm,16.2s,MS4.4						
KMBO	**Kilima Mbogo**	**42.43**	**213**	LR	LR	17 51 12.5	
	comp=Z,297nm,18.2s,MS4.2,baz=164,slow=39						
TCF	**Toulx Ste Croi**	**42.53**	**301**	*eP*	**P**	**17 31 45.7**	**+1.7**
	comp=Z,12nm,1.0s,mb4.3						
TCF	**Toulx Ste Croi**	**42.53**	**301**	*eP*	**P**	**17 31 45.7**	**+1.7**
TCF				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.3						
EKA	**Eskdalemuir Ar**	**45.17**	**315**	P	**P**	**17 32 05.2**	**0.0**
	comp=Z,9.5nm,0.8s,mb4.8,baz=121,slow=9.7,SNR=10						
EKA	**Eskdalemuir Ar**	**45.17**	**315**	P	**P**	**17 32 05.2**	**0.0**
EKA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
ESDC	**Sonseca Array**	**48.39**	**294**	P	**P**	**17 32 29.9**	**-1.0**
	comp=Z,2.2nm,0.6s,mb4.4,baz=66,slow=8.0,SNR=9.7						
ESDC	**Sonseca Array**	**48.39**	**294**	P	**P**	**17 32 30.3**	**-0.5**
ESLA	**Sonseca Array**	**48.39**	**294**	*eP*	**P**	**17 32 29.4**	**-1.4**
JMIC	**Jan Mayen**	**48.43**	**336**	LR	LR	17 54 08.1	
	comp=Z,165nm,18.7s,MS4.0,baz=105,slow=38						
EBER	**Berja**	**48.45**	**290**	P	**P**	**17 32 36.3**	**+4.9**
NJ2	**Nanjing**	**49.31**	**77**	*eP*	**P**	**17 32 37.4**	**-0.6**
NJ2				AP	pP	17 32 41.8	+3.8
NJ2				PP	PP	17 34 30.1	-2.3
NJ2				S	**S**	**17 39 42.0**	**-2.3**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,180nm,4.4s						
NJ2				LR	LR		
	comp=N,1μm,16.0s,MS5.0						
NJ2				LR	LR		
	comp=E,410nm,16.9s,MS5.0						
NJ2				LR	LR		
	comp=Z,220nm,21.5s,MS4.1						
KULM	**Kulim**	**49.53**	**119**	*eP*	**P**	**17 32 38.8**	**-1.2**
YAK	**Yakutsk**	**49.75**	**36**	P	**P**	**17 32 41.0**	**-0.1**
	comp=Z,7.9nm,0.8s,mb4.7						
YAK	**Yakutsk**	**49.75**	**36**	*i* P	**P**	**17 32 41.4**	**+0.4**
YAK				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.8						
CN2	**Changchun**	**50.36**	**60**	*eP*	**P**	**17 32 44.9**	**-1.0**
CN2				*e*XP	sP	17 32 51.8	+5.9
CN2				*e*S	**S**	**17 39 55.2**	**-3.5**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.6						
CN2				AMB	AMB		
	comp=Z,300nm,5.0s						
CN2				LR	LR		
	comp=N,340nm,10.0s,MS4.8						
CN2				LR	LR		
	comp=E,300nm,10.0s,MS4.8						
CN2				LR	LR		
	comp=Z,350nm,14.0s,MS4.5						
MTE	**Manteigas**	**50.78**	**296**	*eP*	**P**	**17 32 48.9**	**-0.3**
	comp=Z,19nm,1.0s,mb5.0						
SSE	**Sheshan**	**51.51**	**77**	*eP*	**P**	**17 32 52.3**	**-2.6**
SSE				S	**S**	**17 40 12.4**	**-2.5**
SSE				SCS	ScS	17 42 41.9	-1.6
SSE				SS	SS	17 43 50.2	+1.6
SSE				AMB	AMB		
	comp=Z,23nm,1.3s,mb5.0						
SSE				AMB	AMB		
	comp=Z,322nm,3.5s						
SSE				LR	LR		
	comp=N,373nm,24.7s,MS4.4						
SSE				LR	LR		
	comp=E,174nm,24.7s,MS4.4						
SSE				LR	LR		
	comp=Z,130nm,27.4s,MS3.8						
EVO	**Evora**	**51.74**	**294**	*eP*	**P**	**17 33 00.7**	**+4.2**
	comp=Z,9.3nm,0.9s,mb4.4						
MDJ	**Mudanjiang**	**52.98**	**58**	P	**P**	**17 33 04.1**	**-1.6**
MDJ				PCP	PcP	17 34 13.0	-1.5
MDJ				PP	PP	17 35 03.6	-3.3
MDJ				SCP		17 38 10.3	
MDJ				PCS		17 38 11.4	
MDJ				S	**S**	**17 40 33.8**	**-0.8**
MDJ				AMB	AMB		
	comp=Z,3.0nm,1.7s,mb4.0						
MDJ				AMB	AMB		
	comp=Z,14nm,3.4s						
MDJ				LR	LR		
	comp=N,359nm,17.4s,MS4.5						
MDJ				LR	LR		
	comp=E,158nm,18.4s,MS4.5						
MDJ				LR	LR		
	comp=Z,209nm,15.3s,MS4.3						
BORG	**Borgarnes**	**53.36**	**328**	LR	LR	17 57 53.9	
	comp=Z,210nm,19.7s,MS4.2,baz=156,slow=38						
YSS	**Yuzh-Sakhalins**	**60.79**	**51**	P	**P**	**17 34 00.2**	**-1.0**
	comp=Z,6.9nm,1.0s,mb4.7						
YSS	**Yuzh-Sakhalins**	**60.79**	**51**	*eP*	**P**	**17 34 07.5**	**+6.3**
BILL	**Bilibino**	**62.76**	**24**	P	**P**	**17 34 14.4**	**+0.2**
BILL				*e*		17 34 53.0	
BILL				*e*		17 36 31.8	
BILL				*e*S	**S**	**17 42 43.0**	**+0.5**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.6						
BILL				MLR	MLR		
	comp=Z,300nm,17.0s,MS4.5						
MATP	**Matopo**	**63.42**	**212**	LR	LR	18 03 58.0	
	comp=Z,222nm,18.1s,MS4.4,baz=41,slow=38						
DBIC	**Dimbokro**	**64.76**	**259**	LR	LR	18 06 11.6	
	comp=Z,157nm,19.7s,MS4.2,baz=214,slow=39						
LBTB	**Lobatse**	**68.71**	**212**	*eP*	**P**	**17 34 51.3**	**-1.6**
ILAR	**Eielson Array**	**77.01**	**11**	P	**P**	**17 35 42.5**	**+1.4**
	comp=Z,3.1nm,1.2s,mb4.3,baz=331,slow=4.3,SNR=12						
ILAR	**Eielson Array**	**77.01**	**11**	P	**P**	**17 35 42.5**	**+1.4**
ILAR				pmax	pmax		
	comp=Z,3.0nm,1.2s						
YKA	**Yellowknife Ar**	**81.10**	**357**	P	**P**	**17 36 04.5**	**+1.2**
	comp=Z,0.7nm,0.5s,mb3.9,baz=151,slow=36,SNR=2.7						
YKA	**Yellowknife Ar**	**81.10**	**357**	P	**P**	**17 36 04.5**	**+1.2**
YKA	**Yellowknife Ar**	**81.10**	**357**	P	**P**	**17 36 04.5**	**+1.2**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FITZ	**Fitzroy Crossi**	**83.41**	**118**	P	**P**	**17 36 15.3**	**-0.8**
	comp=Z,6.2nm,0.9s,mb4.8,baz=355,slow=12,SNR=2.7						
WRA	**Warramunga Arr**	**90.88**	**114**	P	**P**	**17 36 52.0**	**-0.4**
	comp=Z,2.6nm,0.6s,mb4.8,baz=322,slow=4.3,SNR=40						
WRA	**Warramunga Arr**	**90.88**	**114**	P	**P**	**17 36 52.0**	**-0.4**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
WRAB	**Tennant Creek**	**90.88**	**114**	*eP*	**P**	**17 36 51.3**	**-1.1**
	comp=Z,4.1nm,0.5s,mb5.0						
WRAB	**Tennant Creek**	**90.88**	**114**	*eP*	**P**	**17 36 51.3**	**-1.1**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb5.0						
WB2	**Warramunga Arr**	**90.89**	**114**	*eP*	**P**	**17 36 51.8**	**-0.6**

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*IDC **07** 17:44:41.0±0.7,33.67N×69.60E,mb4.3/17,mb1 4.5/19, mb1mx4.4/23,mbtmp4.3/19,ML4.0/2,MS4.1/13,Ms1 4.1/13, ms1mx3.9/30,Error ellipse: s-maj=17.4km s-min=12.4km az=102.0*

*NNC **07** 17:44:41.4±2.5,33.83N×69.67E,Error ellipse: s-maj=28.6km s-min=18.4km az=2.0*

*BJI **07** 17:44:45.7,34.03N×69.41E,h45km,mB5.0,mb4.7,Ms4.7, Msz4.5*

*MOS **07** 17:44:45.1±0.9,33.83N×69.63E,h33km,mb4.7/45,Error ellipse: s-maj=7.7km s-min=4.7km az=118.9*

*NEIC **07** 17:44:46.9±0.3,33.81N×69.64E,h35km,mb4.7/35,Error ellipse: s-maj=6.3km s-min=4.8km az=186.0*

ISC 07 17:44:42.7±0.9,33.69N±0.02×69.64E±0.03,h21km±6km, h39km±2.7km:pP-P,n228,σ1§16/245,mb4.5/63,MS4.2/29, 5C-5D,Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBDP	**Sheikh Budin**	**1.70**	**144**	⇑P	**Pn**	**17 45 16.6**	**+5.0**
CEP	**Cherat**	**1.89**	**85**	⇓P	**Pn**	**17 45 19.2**	**+4.8**
THW	**Thamme Wali**	**1.98**	**116**	⇑P	**Pn**	**17 45 20.0**	**+4.4**
DRP	**Derazinda**	**2.00**	**166**	⇓P	**Pn**	**17 45 20.9**	**+5.0**
CHCP	**Chirah Chowk**	**3.02**	**90**	P	**Pn**	**17 45 34.4**	**+3.9**
SARP	**Sargodha**	**3.10**	**124**	P	**Pn**	**17 45 34.7**	**+3.0**
SARP				S	**Sn**	**17 46 17.0**	**+8.4**
JASL	**Jaisalmer**	**6.83**	**170**	*eP*	**Pn**	**17 46 25.6**	**+1.1**
KKR	**Kurukshetra**	**7.15**	**119**	*eP*	**Pn**	**17 46 30.4**	**+1.5**
RTK	**Rohtak**	**7.42**	**127**	*i* P	**Pn**	**17 46 33.9**	**+1.2**
KHET	**Khetri**	**7.71**	**135**	*eP*	**Pn**	**17 46 36.3**	**-0.4**
KHET				*e*S	**Sn**	**17 48 04.5**	**+0.2**
KSH	**Kashi**	**7.72**	**39**	*eP*	**Pn**	**17 46 39.0**	**+2.1**
KSH				*e*XP		17 46 53.1	
KSH				*e*S	**Sn**	**17 48 03.2**	**-1.5**
KSH				AMB	AMB		
	comp=Z,150nm,2.2s						
KSH				LR	LR		
	comp=N,11μm,3.8s						
KSH				LR	LR		
	comp=E,11μm,5.4s						
BHGR	**Bahadurgarh**	**8.00**	**127**	*eP*	**Pn**	**17 46 41.9**	**+1.2**
BHGR				*e*S	**Sn**	**17 48 10.1**	**-1.3**
KUDL	**Kundal**	**8.07**	**131**	*eP*	**P**	**17 46 41.6**	**-0.1**
KUDL				*ex*	**Sn**	**17 48 15.8**	**+2.5**
NDI	**New Delhi**	**8.19**	**126**	*eP*	**P**	**17 46 43.9**	**+0.6**
NDI				*e*S	**Sn**	**17 48 13.0**	**-3.2**
SONA	**Sohna**	**8.38**	**128**	*eP*	**P**	**17 46 46.1**	**+0.1**
SONA				*e*S	**Sn**	**17 48 18.6**	**-2.5**
SONA				AML	AML	17 49 42.3	
	comp=E,101nm,0.6s						
SONA				AML	AML	17 49 43.3	
	comp=N,68nm,0.7s						
AJM	**Ajmer**	**8.39**	**148**	*i* P	**P**	**17 46 46.0**	**-0.2**
AJM				*i* x	x	17 49 15.0	
BISR	**Bishrakh**	**8.41**	**125**	*eP*	**P**	**17 46 46.5**	**+0.1**
BISR				*e*S	**Sn**	**17 48 20.5**	**-1.3**
AML	**Almayashu**	**9.01**	**20**	P	**P**	**17 46 55.9**	**+1.1**
	SNR=151						
UCH	**Uchtor**	**9.35**	**23**	P	**P**	**17 47 00.2**	**+0.8**
	SNR=17						
KK31	**Karatay Array**	**9.42**	**4**	Pn	**P**	**17 46 59.1**	**-1.3**
	comp=N,42nm,0.8s,baz=194,slow=17,SNR=358						
KK31				⇓Sn	**Sn**	**17 48 47.9**	**+1.1**
	comp=N,74nm,1.1s,baz=191,slow=24,SNR=2.7						
KKAR	**Karatay Array**	**9.42**	**4**	*i* P	**P**	**17 46 59.1**	**-1.3**
KKAR				S	**Sn**	**17 48 47.8**	**+1.0**
KKAR				pmax	pmax		
	comp=Z,28nm,0.7s						
KKAR				smax			
	comp=N,192nm,1.3s						
KZA	**Kyzart**	**9.47**	**26**	P	**P**	**17 47 01.3**	**+0.2**
	SNR=11						
EKS2	**Erkin-Say**	**9.53**	**19**	P	**P**	**17 47 02.4**	**+0.5**
	SNR=27						
AGRA	**Agra**	**9.63**	**130**	*eP*	**P**	**17 47 01.8**	**-1.6**
AGRA				AML	AML	17 50 11.4	
	comp=N,184nm,0.6s						
AGRA				AML	AML	17 50 12.2	
	comp=E,165nm,0.6s						
AAK	**Ala-Archa**	**9.71**	**22**	P	**P**	**17 47 05.6**	**+1.2**
	SNR=14						
AAK	**Ala-Archa**	**9.71**	**22**	*eP*	**P**	**17 47 02.9**	**-1.5**
	comp=E,45nm,0.8s						
AAK	**Ala-Archa**	**9.71**	**22**	*i* P	**P**	**17 47 03.8**	**-0.5**
AAK				pmax	pmax		
	comp=Z,13nm,0.8s						
AAK				MLR	MLR		
	comp=Z,600nm,18.0s						
KBK	**Karagaybulak**	**9.87**	**23**	P	**P**	**17 47 07.3**	**+0.7**
	SNR=21						
PTH	**Pithoragarh**	**9.92**	**112**	*eP*	**P**	**17 47 08.0**	**+0.7**
PTH				*ex*	**Sn**	**17 49 00.0**	**+1.0**
FRU	**Bishkek**	**9.93**	**22**	*eP*	**P**	**17 47 08.0**	**+0.6**
CHMS	**Churysh**	**10.12**	**22**	P	**P**	**17 47 09.3**	**-0.6**
	SNR=28						
USP	**Ospenovka**	**10.29**	**20**	P	**P**	**17 47 14.6**	**+2.3**
	SNR=28						
TKM2	**Tokmak 2**	**10.33**	**25**	P	**P

comp=E,0.3nm,0.3s,baz=214,slow=8.7,SNR=50
MKAR Sn **S** **17 51 40.8 +10**
comp=E,0.0nm,0.3s,baz=336,slow=24,SNR=1.9
MKAR LR LR 17 55 56.1
comp=E,492nm,18.6s,baz=226,slow=42
MKAR Makanchi Array 16.23 33 Pn **P** **17 48 29.9 -1.2**
MKAR Sn **S** **17 51 40.8 +10**
MKAR LR LR 17 55 56.1
AB31 Akbulak array 17.14 338 Pn **P** **17 48 40.6 -1.9**
comp=E,7.2nm,0.6s,baz=146,slow=14,SNR=64
AB31 Akbulak array 17.14 338 *i* P **P** **17 48 40.6 -1.9**
AB31 pmax pmax
comp=Z,8.0nm,0.7s
WMQ Urumqi 17.30 49 P **P** **17 48 46.0 +1.4**
WMQ AP 17 48 55.0
WMQ XP 17 49 02.0
WMQ S **S** **17 51 54.0 -0.8**
WMQ SS SS 17 52 16.0 -0.6
WMQ AMB AMB
comp=Z,16nm,1.0s
WMQ AMB AMB
comp=Z,48nm,7.0s
WMQ LR LR
comp=N,642nm,10.0s
WMQ LR LR
comp=E,439nm,11.0s
WMQ LR LR
comp=Z,529nm,10.0s
HYB Hyderabad 18.08 152 *e*P **P** **17 49 04.0 +10**
KURK Kurchatov 18.24 18 ⇑Pn **P** **17 48 55.5 -0.8**
comp=Z,15nm,1.0s
KURK Kurchatov 18.24 18 *e*P **P** **17 48 54.4 -1.9**
comp=Z,29nm,1.0s
KURK Kurchatov 18.24 18 *e*P **P** **17 48 54.4 -1.9**
KURK pmax pmax
comp=Z,29nm,1.0s
LSA Lhasa 18.73 96 P **P** **17 49 03.8 +1.5**
LSA Lhasa 18.73 96 *e*P **P** **17 49 03.5 +1.2**
comp=Z,26nm,0.9s
LSA Lhasa 18.73 96 *e*P **P** **17 49 03.5 +1.2**
LSA pmax pmax
comp=Z,26nm,0.9s
VOSK Vostochnaya 19.05 2 ⇓Pn **P** **17 49 04.0 -2.0**
comp=Z,16nm,0.9s
BVA0 Borovoye Array 19.33 1 Pn **P** **17 49 07.7 -1.6**
comp=Z,5.6nm,1.1s,baz=178,slow=14,SNR=148
BVA0 Borovoye Array 19.33 1 *i* P **P** **17 49 07.6 -1.7**
BVA0 pmax pmax
comp=Z,6.0nm,1.2s
BVAR Borovoye Array 19.33 1 P **P** **17 49 07.7 -1.6**
comp=Z,1.1nm,0.3s,baz=173,slow=12,SNR=80
BVAR S **S** **17 52 49.4 +8.6**
comp=Z,0.1nm,0.3s,baz=168,slow=21,SNR=3.3
BRVK Borovoye 19.36 1 *e*P **P** **17 49 07.5 -2.2**
comp=Z,22nm,0.9s
BRVK Borovoye 19.36 1 *e*P **P** **17 49 07.5 -2.2**
BRVK pmax pmax
comp=Z,22nm,0.9s
CAL Calcutta 19.85 119 *e*x x 17 51 54.0
CAL *e*x **S** **17 53 09.4 +17**
CAL *e*x x 17 55 23.8
GNI Garni 20.89 295 P **P** **17 49 26.0 0.0**
comp=Z,10nm,0.8s,baz=103,slow=18,SNR=5.7
GNI LR LR 17 59 15.2
comp=Z,168nm,19.0s,MS3.4,baz=159,slow=42
GNI Garni 20.89 295 *e*P **P** **17 49 27.1 +1.1**
comp=Z,37nm,0.9s
GNI Garni 20.89 295 *e*P **P** **17 49 27.1 +1.1**
GNI pmax pmax
comp=Z,37nm,0.9s
SHL Shillong 20.93 107 *e*P **P** **17 49 29.0 +2.4**
SHL *e*x x 17 53 16.0
TBLG Delisi 21.22 299 P **P** **17 49 29.3 -0.1**
ZEI Tsey 22.09 302 *e*P **P** **17 49 40.1 +2.0**
ZEI *i* *PP 17 49 45.3
ZEI pmax pmax
comp=Z,7.0nm,0.6s,mb4.3
MDRS Chennai 22.69 152 *e*x x 17 54 02.0
IMP Imphal 22.94 106 *e*x x 17 49 50.0
NVS Novosibirsk 23.20 20 *e*P **P** **17 49 47.9 -0.9**
NVS *e*S **S** **17 54 01.6 +6.3**
NVS pmax pmax
comp=Z,24nm,1.2s,mb4.5
NVS pmax pmax
comp=N,23nm,1.0s
NVS pmax pmax
comp=E,8.0nm,1.0s
NVS smax
comp=N,76nm,1.8s
NVS smax
comp=E,17nm,1.4s
KIV Kislovodsk 23.27 304 *e*P **P** **17 49 50.7 +1.0**
comp=E,15nm,0.9s,mb4.4
KIV Kislovodsk 23.27 304 *i* P **P** **17 49 51.1 +1.4**
KIV *e* 17 50 16.3
KIV *e* 17 53 38.0
KIV pmax pmax
comp=Z,14nm,1.0s,mb4.3
KIV MLR MLR
comp=Z,200nm,13.0s,MS3.8
SVE Sverdlovsk 23.95 348 *e*P **P** **17 49 57.8 +1.7**
SVE *e* 17 50 08.0
SVE *e*SS SS 17 55 12.0 +13
SVE MLR MLR
comp=N,1μm,10.0s,MS4.7
SVE MLR MLR
comp=E,400nm,10.0s,MS4.7
SVE MLR MLR
comp=Z,2μm,10.0s,MS4.9
ARU Arti 23.98 345 *e*P **P** **17 49 57.2 +0.7**
comp=Z,17nm,0.8s,mb4.5
ARU Arti 23.98 345 ⇓*i*P **P** **17 49 58.6 +2.1**
ARU *e* 17 50 29.4
ARU *e*PPP PPP 17 50 40.2 -0.5
ARU *e*S **S** **17 54 13.5 +4.5**
ARU *e*SS SS 17 54 57.0 -3.3
ARU pmax pmax
comp=Z,19nm,0.8s,mb4.6
ARU MLR MLR
comp=N,500nm,15.0s,MS4.2
ARU MLR MLR
comp=E,300nm,15.0s,MS4.2
ARU MLR MLR
comp=Z,800nm,15.0s,MS4.3
GTA Gaotai 24.83 68 *e*P **P** **17 50 08.8 +3.9**
GTA AP 17 50 20.8
GTA XP 17 50 26.2
GTA PP PP 17 50 48.3 +6.3
GTA PPP PPP 17 50 59.0 +6.2
GTA S **S** **17 54 29.7 +6.0**
GTA XS 17 54 47.6
GTA AMB AMB
comp=Z,27nm,0.9s,mb4.8
GTA AMB AMB
comp=Z,223nm,5.0s
GTA LR LR
comp=N,287nm,13.8s,MS4.2
GTA LR LR
comp=E,369nm,13.0s,MS4.2
GTA LR LR
comp=Z,525nm,13.0s,MS4.2
SOC Sochi 25.26 302 *e*P **P** **17 50 08.1 -0.8**
SOC MLR MLR
comp=Z,274nm,19.0s,MS3.8
SOC MLR MLR
comp=N,367nm,17.0s,MS4.0
SOC MLR MLR
comp=E,143nm,15.0s,MS4.0
MALT Malatya 25.60 289 P **P** **17 50 12.2 0.0**
comp=E,4.6nm,1.1s,mb3.9
MALT Malatya 25.60 289 P **P** **17 50 12.2 0.0**
MALT pmax pmax
comp=Z,5.0nm,1.1s,mb4.0
TRD Trivandrum 25.96 163 *e*x x 17 54 34.0
LZH Lanzhou 28.07 75 *e*P **P** **17 50 37.7 +2.8**
LZH AP pP 17 50 51.0 +10
LZH XP sP 17 50 55.8 +12
LZH PP PP 17 51 29.0 +3.8
LZH *e*S **S** **17 55 17.4 +0.5**
LZH XS 17 55 37.0
LZH *e*SS SS 17 56 42.0 +2.3
LZH AMB AMB
comp=Z,20nm,1.0s,mb4.7
LZH AMB AMB
comp=Z,250nm,4.0s
LZH LR LR
comp=N,760nm,11.0s
LZH LR LR
comp=Z,750nm,15.0s,MS4.4
VRSR Storozhevoye 28.20 318 *e*P **P** **17 50 35.3 -0.5**
VRSR pmax pmax
comp=Z,5.0nm,0.8s,mb4.2
VRSR pmax pmax
comp=N,8.0nm,0.9s
VRSR pmax pmax
comp=E,7.0nm,1.1s
VRSR pmax pmax
comp=Z,5.0nm,0.8s,mb4.2
VRSR pmax pmax
comp=N,8.0nm,0.9s
VRSR pmax pmax
comp=E,7.0nm,1.1s
VRSR MLR MLR
comp=Z,150nm,17.0s,MS3.6
VRSR MLR MLR
comp=N,70nm,14.0s
VRSR MLR MLR
comp=E,340nm,56.0s
VRSR MLR MLR
comp=Z,150nm,17.0s
VRSR MLR MLR
comp=N,70nm,14.0s
VRSR MLR MLR
comp=E,340nm,56.0s
BR131 Keskin Array S 29.35 292 *e*P **P** **17 50 46.4 +0.1**
comp=E,4.8nm,0.8s,mb4.3
BRTR Keskin Array B 29.35 292 P **P** **17 50 45.4 -0.9**
comp=E,2.6nm,0.8s,mb4.0,baz=100,slow=7.5,SNR=9.3
BRTR Keskin Array B 29.35 292 P **P** **17 50 45.4 -0.9**
BRTR pmax pmax
comp=Z,3.0nm,0.8s
ZAK Zakamensk 29.71 46 *e*P **P** **17 50 52.7 +3.3**
ZAK pmax pmax
comp=Z,2.0nm,0.8s,mb3.9
KMI Kunming 29.97 98 P **P** **17 50 54.0 +2.0**
KMI AP pP 17 51 05.9 +7.8
KMI XP sP 17 51 10.7 +10
KMI PP PP 17 51 51.1 +1.2
KMI PPP PPP 17 52 08.4 +4.5
KMI S **S** **17 55 47.0 -0.3**
KMI XS 17 56 08.2
KMI SS SS 17 57 31.1 +6.7
KMI SSS SSS 17 57 47.4 +2.1
KMI AMB AMB
comp=Z,7.0nm,1.3s,mb4.2
KMI AMB AMB
comp=Z,33nm,3.9s
KMI LR LR
comp=N,496nm,18.6s,MS4.2
KMI LR LR
comp=E,341nm,20.1s,MS4.2
KMI LR LR
comp=Z,309nm,14.3s
SONM Songino Array 30.90 52 P **P** **17 51 00.7 +0.8**
comp=Z,1.7nm,0.8s,mb3.9,baz=270,slow=4.4,SNR=14
SONM LR LR 18 04 52.5
comp=Z,545nm,18.6s,MS4.2,baz=255,slow=39
SONM Songino Array 30.90 52 P **P** **17 51 00.7 +0.8**
SONM pmax pmax
comp=Z,2.0nm,0.8s
SONM MLR MLR
comp=Z,545nm,18.6s
OBN Obninsk 31.42 323 *i* P **P** **17 51 04.5 0.0**
OBN *e* 17 52 06.4
OBN *e* 17 53 56.0
OBN pmax pmax
comp=Z,11nm,1.0s,mb4.6
OBN MLR MLR
comp=Z,500nm,19.0s,MS4.2
XAN Xi'an 32.48 78 P **P** **17 51 14.9 +0.9**
XAN AMB AMB
comp=Z,14nm,1.1s,mb4.7
GYA Guiyang 32.71 93 *e*P **P** **17 51 21.3 +5.3**
GYA AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
ATD Arta Tunnel 32.96 234 LR LR 18 06 14.3
comp=Z,187nm,21.0s,MS3.8,baz=20,slow=39
AKASG Malin Array Be 33.92 312 P **P** **17 51 25.1 -1.2**
comp=Z,0.6nm,0.4s,mb3.9,baz=100,slow=7.6,SNR=11
AKASG Malin Array Be 33.92 312 P **P** **17 51 25.1 -1.2**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
MLR Muntele Rosu 35.27 303 P **P** **17 51 38.9 +1.0**
comp=Z,5.6nm,0.7s,mb4.6,baz=326,slow=9.0,SNR=6.7
MLR Muntele Rosu 35.27 303 P **P** **17 51 38.9 +1.0**
MLR pmax pmax
comp=Z,6.0nm,0.7s
BOD Bodaibo 38.24 37 *e*P **P** **17 51 59.2 -3.6**
BOD pmax pmax
comp=Z,4.0nm,1.1s,mb4.1
FINES FINESS Array B 39.24 328 P **P** **17 52 11.2 +0.1**
comp=Z,2.6nm,0.7s,mb4.0,baz=146,slow=14,SNR=6.9
FINES LR LR 18 09 50.1
comp=Z,283nm,18.5s,MS4.1,baz=294,slow=38
FINES FINESS Array B 39.24 328 P **P** **17 52 11.2 +0.1**
FINES LR LR 18 09 50.1
FINES FINESS Array B 39.24 328 P **P** **17 52 11.2 +0.1**
FINES pmax pmax
comp=Z,3.0nm,0.7s
FINES MLR MLR
comp=Z,283nm,18.5s
NIE Niedzica 39.38 309 *e*P **P** **17 52 14.5 +2.1**
KAF Kangasniemi 39.42 329 *e*p **P** **17 52 12.1 -0.6**
comp=Z,0.3nm,0.3s,mb3.5
OJC Ojcow 39.77 310 *e*P **P** **17 52 16.2 +0.5**
KULM Kulim 40.34 128 P **P** **17 52 22.6 +1.9**
OKC Ostrava-Krasne 40.81 309 *e*P **P** **17 52 25.8 +1.6**
OKC AMS AMS 18 12 30.0
comp=Z,100nm,19.3s
NJ2 Nanjing 41.05 78 *e*P **P** **17 52 28.6 +2.2**
NJ2 AP pP 17 52 41.1 +8.5
NJ2 XP sP 17 52 45.3 +10
NJ2 PP PP 17 54 07.3 +3.1
NJ2 S **S** **17 58 37.0 -0.6**
NJ2 XS 17 59 00.0
NJ2 AMB AMB
comp=Z,10.0nm,1.1s,mb4.4
NJ2 AMB AMB
comp=Z,180nm,4.3s
NJ2 LR LR
comp=N,450nm,14.2s,MS4.6
NJ2 LR LR
comp=E,330nm,11.0s,MS4.6
NJ2 LR LR
comp=Z,180nm,11.0s,MS4.2
MORC Moravsky Berou 41.20 309 *e*P **P** **17 52 27.7 +0.3**
comp=Z,7.2nm,1.1s,mb4.2
MORC Moravsky Berou 41.20 309 *e*P **P** **17 52 27.7 +0.3**
MORC pmax pmax
comp=Z,7.0nm,1.1s,mb4.2
DPC Dobruska-Polom 42.01 310 *e*P **P** **17 52 35.6 +1.6**
DPC AMS AMS 18 10 10.0
comp=Z,200nm,17.0s
UPC Upice 42.21 310 *e*P **P** **17 52 37.1 +1.4**
KEV Kevo 43.02 340 *e*p **P** **17 52 39.2 -2.8**
comp=Z,0.9nm,0.4s,mb3.9
PVCC Panska Ves 43.13 310 AMS AMS 18 13 40.0
comp=Z,200nm,15.0s
PRU Pruhonice 43.14 309 *e*P **P** **17 52 44.3 +1.0**
PRU AMS AMS 18 14 00.0
comp=Z,100nm,18.4s
SSE Sheshan 43.24 79 *e*P **P** **17 52 44.0 -0.3**
SSE AP pP 17 52 55.5 +5.0
SSE XP sP 17 53 00.7 +7.6
SSE S **S** **17 59 07.6 -2.1**
SSE XS 17 59 26.5
SSE SCS ScS 18 02 42.1 +1.0
SSE AMB AMB
comp=Z,37nm,0.8s,mb5.2
SSE AMB AMB
comp=Z,94nm,3.5s
SSE LR LR
comp=N,219nm,24.2s,MS4.0
SSE LR LR
comp=E,64nm,24.2s,MS4.0
SSE LR LR
comp=Z,228nm,17.6s
ARCES ARCESS Array B 43.34 339 P **P** **17 52 44.1 -0.4**
comp=Z,6.9nm,0.6s,mb4.5,baz=123,slow=7.3,SNR=50
ARCES LR LR 18 11 26.4
comp=Z,263nm,20.0s,MS4.1,baz=128,slow=37
ARCES ARCESS Array B 43.34 339 P **P** **17 52 44.1 -0.5**
ARCES pmax pmax
comp=Z,7.0nm,0.6s
ARCES MLR MLR
comp=Z,263nm,20.0s
ARE0 ARCESS Array S 43.34 339 *e*P **P** **17 52 44.1 -0.5**
BRG Berggiesshubel 43.54 311 *e*P **P** **17 52 47.7 +1.2**
BRG pmax pmax
comp=Z,9.0nm,1.1s,mb4.4
GEC2 GERESS Array S 43.70 308 *e*P **P** **17 52 48.6 +0.8**
comp=Z,5.0nm,1.3s,mb4.1
GEC2 GERESS Array S 43.70 308 *e*P **P** **17 52 48.6 +0.8**
GEC2 pmax pmax
comp=Z,5.0nm,1.3s,mb4.1
GERES GERESS Array B 43.70 308 P **P** **17 52 47.0 -0.7**
comp=Z,0.9nm,0.5s,mb3.7,baz=104,slow=5.5,SNR=10
GERES PcP PcP 17 54 32.4 -2.8
comp=Z,0.9nm,0.8s,baz=106,slow=4.2,SNR=3.3
GERES LR LR 18 13 52.4
comp=Z,139nm,18.2s,MS3.9,baz=81,slow=40
GERES GERESS Array B 43.70 308 P **P** **17 52 47.0 -0.8**
GERES 17 54 32.4
GERES pmax pmax
comp=Z,1.0nm,0.5s
GERES pmax pmax
comp=Z,1.0nm,0.8s
GERES MLR MLR
comp=Z,139nm,18.3s
KHC Kasperske Hory 43.77 308 *e*P **P** **17 52 48.9 +0.5**
KHC AMS AMS 18 14 20.0
comp=Z,200nm,14.7s
CN2 Changchun 43.94 60 *e*P **P** **17 52 50.0 +0.2**
CN2 LR LR
comp=N,600nm,12.0s,MS4.8
CN2 LR LR
comp=E,530nm,12.0s,MS4.8
CN2 LR LR
comp=Z,570nm,13.0s,MS4.7
CLL Collm 44.14 311 P **P** **17 52 52.0 +0.7**
comp=Z,logA/T=0.8,mb4.3
CLL Collm 44.14 311 *e*P **P** **17 52 52.0 +0.7**
comp=Z,7.0nm,1.0s,mb4.3
CLL Collm 44.14 311 *e*P **P** **17 52 52.0 +0.7**
CLL pmax pmax
comp=Z,7.0nm,1.0s,mb4.3
NKC Novy Kostel 44.49 310 AMS AMS 18 14 40.0
comp=Z,300nm,11.2s
VAE Valguarnera 44.54 291 P **P** **17 52 54.4 -0.3**
comp=Z,3.3nm,0.3s,mb4.6,baz=283,slow=7.2,SNR=2.4
MOX Moxa 45.02 310 *i* P **P** **17 52 59.7 +1.3**
comp=Z,logA/T=1.0,mb4.6
MOX Moxa 45.02 310 *e*P **P** **17 52 59.7 +1.3**
comp=Z,15nm,1.4s,mb4.6
MOX Moxa 45.02 310 *e*P **P** **17 52 59.7 +1.3**
MOX pmax pmax
comp=Z,15nm,1.4s,mb4.6
GRA1 Grafenberg Arr 45.30 309 *e*P **P** **17 53 01.8 +1.2**
GRF Grafenberg Arr 45.30 309 *e*P **P** **17 53 01.8 +1.2**
comp=Z,12nm,1.0s,mb4.7
GRF LR LR
comp=Z,100nm,19.8s,MS3.8
GRF Grafenberg Arr 45.30 309 *e*P **P** **17 53 01.8 +1.2**
GRF pmax pmax
comp=Z,12nm,1.0s,mb4.7
GRF MLR MLR
comp=Z,100nm,19.8s,MS3.8
CLZ Clausthal 45.78 312 *e*P **P** **17 53 05.5 +1.1**
comp=Z,17nm,1.2s,mb4.8
CLZ Clausthal 45.78 312 *e*P **P** **17 53 05.5 +1.1**
CLZ pmax pmax
comp=Z,17nm,1.2s,mb4.8
BSEG Bad Segeberg 45.83 315 *e*P **P** **17 53 05.9 +1.1**
NB2 NORSAR Subarra 45.99 325 P **P** **17 53 05.3 -0.6**
comp=Z,4.9nm,0.8s,mb4.5,baz=100,slow=7.9
NB2 NORSAR Subarra 45.99 325 P **P** **17 53 05.3 -0.6**
NB2 pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
NOA NORSAR Array B 45.99 325 P **P** **17 53 05.2 -0.7**
comp=Z,2.4nm,0.6s,mb4.3,baz=101,slow=7.9,SNR=9.7
NOA LR LR 18 14 08.8
comp=Z,203nm,19.2s,MS4.1,baz=90,slow=38
NOA NORSAR Array B 45.99 325 P **P** **17 53 05.2 -0.7**
NOA LR LR 18 14 08.8
NOA NORSAR Array B 45.99 325 P **P** **17 53 05.3 -0.6**
NOA pmax pmax
comp=Z,2.0nm,0.6s
NOA MLR MLR
comp=Z,203nm,19.2s
KMBO Kilima Mbogo 46.12 228 P **P** **17 53 07.8 +0.1**
comp=Z,3.0nm,0.7s,mb4.3,baz=34,slow=12,SNR=11
KMBO LR LR 18 13 11.8
comp=Z,125nm,18.4s,MS3.9,baz=94,slow=37
KMBO Kilima Mbogo 46.12 228 P **P** **17 53 07.8 +0.2**
KMBO pmax pmax
comp=Z,3.0nm,0.7s
KMBO MLR MLR
comp=Z,125nm,18.4s
MDJ Mudanjiang 46.79 58 P **P** **17 53 12.9 +0.4**
MDJ AP pP 17 53 22.0 +3.2
MDJ XP sP 17 53 25.8 +4.5
MDJ PCP PcP 17 54 47.0 +1.0
MDJ PP PP 17 55 01.0 -1.4
MDJ SCP 17 58 37.7
MDJ PCS 17 58 41.3
MDJ S **S** **18 00 00.3 -0.4**
MDJ XS 18 00 15.4
MDJ AMB AMB
comp=Z,3.0nm,0.7s,mb4.3
MDJ AMB AMB
comp=Z,43nm,9.7s
MDJ LR LR
comp=N,170nm,13.6s,MS4.5
MDJ LR LR
comp=E,367nm,15.3s,MS4.5
MDJ LR LR
comp=Z,562nm,18.2s,MS4.6
YAK Yakutsk 46.90 34 *e*P **P** **17 53 12.0 -1.2**
comp=Z,17nm,0.6s,mb5.2
YAK Yakutsk 46.90 34 *e*P **P** **17 53 14.1 +1.0**
YAK *e*S **S** **18 00 04.8 +2.7**
YAK pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
YAK pmax pmax
comp=N,2.0nm,1.1s
YAK pmax pmax
comp=E,3.0nm,1.9s
YAK smax
comp=N,5.0nm,1.2s
YAK smax
comp=E,4.0nm,1.1s
YAK MLR MLR
comp=Z,422nm,18.0s,MS4.4
YAK MLR MLR
comp=N,164nm,16.0s,MS4.4
YAK MLR MLR
comp=E,333nm,17.0s,MS4.4
TNS Taunus Mts 47.06 310 *e*P **P** **17 53 15.2 +0.6**
comp=E,7.0nm,1.2s,mb4.5
TNS Taunus Mts 47.06 310 *e*P **P** **17 53 15.2 +0.6**
TNS pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
BFO Black Forest 47.29 307 *e*P **P** **17 53 15.7 -0.7**
PGF Pioggiola 47.62 299 *e*P **P** **17 53 18.2 -0.9**
KLR Kul'dur 47.73 52 *e*P **P** **17 53 20.7 +0.8**
CDF Champ du Feu 47.98 307 *e*P **P** **17 53 21.1 -0.7**
HINF Hinteralfeld 48.33 307 *e*P **P** **17 53 24.0 -0.5**
SBF Sospel 48.51 301 *e*P **P** **17 53 25.3 -0.7**
comp=Z,39nm,1.0s,mb5.1
SBF Sospel 48.51 301 *e*P **P** **17 53 25.3 -0.7**
SBF pmax pmax
comp=Z,20nm,1.0s,mb5.1
HAU Haudompre 48.64 307 *e*P **P** **17 53 26.4 -0.5**
HAU *e*R
comp=Z,97nm,20.2s
LPG La Plagne 48.72 304 *e*P **P** **17 53 27.4 -0.2**
comp=Z,16nm,0.9s,mb4.7
LPG La Plagne 48.72 304 *e*P **P** **17 53 27.4 -0.2**
LPG pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
LPL La Plagne 48.73 304 *e*P **P** **17 53 27.4 -0.2**
comp=Z,7.5nm,0.5s,mb4.7
LPL La Plagne 48.73 304 *e*P **P** **17 53 27.4 -0.2**
LPL pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
MBDF Montbardon 48.83 303 *e*P **P** **17 53 27.4 -1.0**
comp=Z,20nm,1.0s,mb4.8

MBDF Montbardon 48.83 303 *e*P **P 17 53 27.4 -1.0**
MBDF pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
CABF La Chapelle 49.01 305 *e*P **P 17 53 29.8 0.0**
comp=Z,32nm,1.1s,mb5.0
CABF La Chapelle 49.01 305 *e*P **P 17 53 29.8 0.0**
CABF pmax pmax
comp=Z,16nm,1.1s,mb5.0
GIVF Givet 49.39 310 *e*P **P 17 53 33.4 +0.7**
ORIF Oris-en-Rattie 49.42 303 *e*P **P 17 53 32.1 -0.9**
ORIF *e*R
comp=Z,212nm,19.2s
KSM Kuching 49.74 121 P **P 17 53 37.3 +1.5**
BAIF Baives 49.79 310 *e*P **P 17 53 36.4 +0.7**
comp=Z,51nm,1.1s,mb5.2
BAIF Baives 49.79 310 *e*P **P 17 53 36.4 +0.7**
BAIF pmax pmax
comp=Z,26nm,1.1s,mb5.2
VIVF Saint-Julien-l 50.28 303 *e*P **P 17 53 39.1 -0.5**
comp=Z,35nm,1.2s,mb5.0
VIVF Saint-Julien-l 50.28 303 *e*P **P 17 53 39.1 -0.5**
VIVF pmax pmax
comp=Z,17nm,1.2s,mb5.0
LOR Lormes 50.41 306 *e*P **P 17 53 40.0 -0.5**
LOR *e*R
comp=Z,115nm,18.8s
SMF Signal de Mont 50.53 306 *e*P **P 17 53 40.9 -0.5**
comp=Z,24nm,1.0s,mb4.8
SMF Signal de Mont 50.53 306 *e*P **P 17 53 40.9 -0.5**
SMF pmax pmax
comp=Z,12nm,1.0s,mb4.8
JOW Kunigami 50.53 81 LR LR 18 15 37.3
comp=Z,458nm,18.2s,MS4.5,baz=234,slow=37
SSF Saint Saulge 50.69 306 *e*P **P 17 53 42.0 -0.6**
AVF Avril sur Loir 50.84 306 *e*P **P 17 53 43.2 -0.5**
LASF Ste Croix 51.01 302 *e*P **P 17 53 44.7 -0.4**
comp=Z,62nm,1.3s,mb5.1
KBS Kingsbay 51.11 348 *e*P **P 17 53 44.4 -1.0**
comp=Z,14nm,0.8s,mb5.0
KBS Kingsbay 51.11 348 *e*P **P 17 53 44.4 -1.0**
KBS pmax pmax
comp=Z,14nm,0.8s,mb4.9
TCF Toulx Ste Croi 51.70 305 *e*P **P 17 53 50.1 -0.2**
comp=Z,35nm,1.4s,mb4.8
TCF Toulx Ste Croi 51.70 305 *e*P **P 17 53 50.1 -0.2**
TCF pmax pmax
comp=Z,18nm,1.4s,mb4.8
CAF Calviac 52.08 304 *e*P **P 17 53 53.1 -0.1**
comp=Z,36nm,1.3s,mb4.9
CAF Calviac 52.08 304 *e*P **P 17 53 53.1 -0.1**
CAF pmax pmax
comp=Z,18nm,1.3s,mb4.8
MTLF Montolieu 52.33 302 *e*P **P 17 53 53.5 -1.6**
comp=Z,10.0nm,0.9s,mb4.4
MTLF Montolieu 52.33 302 *e*P **P 17 53 53.5 -1.6**
MTLF pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
RJF Les Rejaudoux 52.38 304 *e*P **P 17 53 55.3 -0.2**
comp=Z,25nm,1.2s,mb4.7
RJF *e*R
comp=Z,142nm,19.5s
RJF Les Rejaudoux 52.38 304 *e*P **P 17 53 55.3 -0.2**
RJF pmax pmax
comp=Z,13nm,1.2s,mb4.7
RJF MLR MLR
comp=Z,140nm,19.5s,MS4.0
LFF La Frestale 53.00 304 *e*P **P 17 53 59.8 -0.3**
FLN La Foliniere 53.02 309 *e*P **P 17 54 00.0 -0.2**
FLN *e*R
comp=Z,154nm,18.2s
GRR Gorron 53.34 308 *e*P **P 17 54 01.4 -1.1**
EPF Esparros 53.73 302 *e*P **P 17 54 04.4 -1.1**
SGMF Saint Gilles 54.47 309 *e*P **P 17 54 10.4 -0.4**
ROSF Rostrenen 54.92 309 *e*P **P 17 54 13.4 -0.8**
YSS Yuzh-Sakhalins 55.38 53 *e*P **P 17 54 17.6 0.0**
comp=Z,4.6nm,0.8s,mb4.6
YSS Yuzh-Sakhalins 55.38 53 *e*P **P 17 54 18.0 +0.5**
YSS MLR MLR
comp=Z,500nm,15.0s,MS4.7
SEY Seymchan 57.37 33 *i*P **P 17 54 32.0 +0.5**
ESDC Sonseca Array 57.81 299 P **P 17 54 33.6 -1.4**
comp=Z,4.1nm,1.0s,mb4.4,baz=61,slow=7.5,SNR=8.7
ESLA Sonseca Array 57.81 299 P **P 17 54 33.3 -1.6**
comp=Z,1.5nm,1.1s,mb3.9
EVO Evora 61.16 299 *e*P **P 17 54 57.7 -0.3**
comp=Z,22nm,1.2s,mb4.9
EVO *e*R
comp=Z,107nm,18.8s
MATP Matopo 66.59 222 P **P 17 55 32.9 -1.0**
comp=Z,5.1nm,0.9s,mb4.5,baz=26,slow=7.3,SNR=11
LBTB Lobatse 71.85 222 P **P 17 56 06.9 +0.7**
comp=Z,5.1nm,1.0s,mb4.4
LBTB Lobatse 71.85 222 P **P 17 56 06.9 +0.7**
LBTB pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
DBIC Dimbokro 73.44 267 LR LR 18 30 18.3
comp=Z,77nm,18.1s,MS4.0,baz=39,slow=37
BOSA Boshof 74.88 220 P **P 17 56 24.8 +0.9**
comp=Z,3.8nm,0.8s,mb4.3,baz=30,slow=12,SNR=7.0
BOSA LR LR 18 27 14.1
comp=Z,124nm,21.7s,MS4.2,baz=36,slow=34
BOSA Boshof 74.88 220 P **P 17 56 24.8 +0.9**
BOSA pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
BOSA MLR MLR
comp=Z,124nm,21.7s,MS4.2
INK Inuvik 76.85 9 *e*P **P 17 56 34.6 +0.4**
comp=Z,13nm,1.3s,mb4.7
INK Inuvik 76.85 9 *e*P **P 17 56 34.6 +0.4**
INK pmax pmax
comp=Z,13nm,1.3s
ILAR Eielson Array 77.78 15 P **P 17 56 38.0 -1.3**
comp=Z,2.5nm,1.0s,mb4.1,baz=315,slow=4.1,SNR=17
ILAR Eielson Array 77.78 15 P **P 17 56 38.1 -1.3**
ILAR pmax pmax
comp=Z,3.0nm,1.0s
SML Sawmill 79.99 17 *e*P **P 17 56 51.6 +0.1**
WRA Warramunga Arr 81.49 121 P **P 17 57 01.5 +1.3**
comp=Z,3.5nm,0.8s,mb4.3,baz=322,slow=5.0,SNR=15
WRA Warramunga Arr 81.49 121 P **P 17 57 01.5 +1.3**
WRA pmax pmax
comp=Z,4.0nm,0.8s
WRAB Tennant Creek 81.49 121 *e*P **P 17 57 01.8 +1.6**
comp=Z,5.5nm,0.6s,mb4.7
WRAB Tennant Creek 81.49 121 *e*P **P 17 57 01.8 +1.6**
WRAB pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
YKA Yellowknife Ar 84.09 2 P **P 17 57 12.7 0.0**
comp=Z,1.5nm,0.6s,mb4.3,baz=355,slow=4.9,SNR=4.4
YKA Yellowknife Ar 84.09 2 P **P 17 57 12.7 0.0**
YKA Yellowknife Ar 84.09 2 P **P 17 57 12.7 0.0**
YKA pmax pmax
comp=Z,2.0nm,0.6s
NEW Newport 98.19 5 LR LR 18 45 39.8
comp=Z,141nm,18.1s,MS4.5,baz=69,slow=37
PLCA Paso Flores 147.74 246 PKPbc PKPdf 18 04 26.2 -0.8
comp=Z,3.8nm,1.1s,baz=0.9,slow=0.5,SNR=3.0
PLCA Paso Flores 147.74 246 PKP2 PKPab 18 04 26.3 -3.9
PLCA pmax pmax
comp=Z,4.0nm,1.1s

*IDC **07** 18:06:34.5±0.8, 11.65N×125.58E, mb4.1/10, mb1 4.1/10, mb1mx4.0/19, mbtmp4.1/10, MS3.6/3, Ms1 3.6/3, ms1mx3.1/39, Error ellipse: s-maj=41.5km s-min=16.1km az=73.0*
*MAN **07** 18:06:38.2, 11.83N×125.94E, h20km, mb4.8, ML3.7, MS3.7*
*NEIC **07** 18:06:39.0±0.8, 11.75N×125.88E, mb4.5/2, Error ellipse: s-maj=74.4km s-min=10.8km az=70.0*
ISC 07 18:06:37.1±0.6, 11.81N±0.07×126.08E±0.08, h33km, n20, σ0975/20, mb4.2/12, MS3.5/3, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**1.26**	**239**	*e*P	**P**	**18 06 58.6**	**+0.1**
PLP				*e*S	**S**	**18 07 13.4**	**-1.0**
SCPH	**Surigao**	**2.10**	**196**	↑*e*P	**P**	**18 07 11.7**	**+1.1**
LLP	**Lapu-Lapu**	**2.55**	**235**	*e*P	**P**	**18 07 08.5**	**-8.6**
LLP				*e*S	**S**	**18 07 47.7**	**+0.4**
RCP	**Roxas**	**3.28**	**266**	↓*e*P	**P**	**18 07 28.0**	**+0.6**
CBIJ	**Chichi jima**	**21.45**	**43**	P	**P**	**18 11 30.0**	**+5.3**
	34nm,0.4s,mb5.0,baz=293,slow=22,SNR=4.6						
JNU	**Nakatsue**	**21.66**	**11**	LR	LR	18 19 14.4	
	comp=Z,214nm,19.5s,MS3.6,baz=244,slow=35						
JHJ	**Hachijo jima 2**	**24.65**	**28**	LR	LR	18 20 44.3	
	comp=Z,101nm,21.1s,MS3.3,baz=338,slow=34						
FITZ	**Fitzroy Crossi**	**29.73**	**181**	P	**P**	**18 12 41.9**	**-0.8**
	3.0nm,0.6s,mb4.2,baz=5.1,slow=13,SNR=3.9						
WRA	**Warramunga Arr**	**32.58**	**165**	P	**P**	**18 13 06.9**	**-1.0**
	0.2nm,0.5s,mb3.3,baz=345,slow=9.1,SNR=5.8						
WRA				PcP	PcP	18 15 54.1	+0.2
	0.6nm,0.8s,baz=342,slow=2.8,SNR=4.6						
SONM	**Songino Array**	**39.52**	**339**	P	**P**	**18 14 07.5**	**+1.1**
	0.3nm,0.4s,mb3.4,baz=153,slow=6.4,SNR=3.1						
SONM				LR	LR	18 30 42.0	
	comp=Z,101nm,19.4s,MS3.7,baz=138,slow=37						
STKA	**Stephens Creek**	**45.91**	**162**	P	**P**	**18 14 59.1**	**+0.4**
	2.3nm,0.6s,mb4.3,baz=319,slow=7.1,SNR=9.3						
STKA	**Stephens Creek**	**45.91**	**162**	*e*P	**P**	**18 15 00.0**	**+1.3**
MKAR	**Makanchi Array**	**50.70**	**322**	P	**P**	**18 15 36.1**	**+0.4**
	3.9nm,0.9s,mb4.3,baz=116,slow=8.3,SNR=31						
MKAR				PcP	PcP	18 16 51.7	-1.1
	0.7nm,0.8s,baz=89,slow=5.9,SNR=2.3						
KURK	**Kurchatov**	**54.70**	**325**	*e*P	**P**	**18 16 05.1**	**-0.3**
	6.2nm,0.8s,mb4.7						
KURK				*e*	pP	18 16 14.7	-0.8
BVAR	**Borovoye Array**	**60.30**	**325**	P	**P**	**18 16 43.6**	**-1.3**
	1.1nm,0.8s,mb4.0,baz=129,slow=9.5,SNR=6.6						
BRVK	**Borovoye**	**60.38**	**325**	*e*P	**P**	**18 16 45.2**	**-0.2**
	1.9nm,0.8s,mb4.2						
BRVK				*e*	pP	18 16 54.7	-0.8
ARCES	**ARCESS Array B**	**82.69**	**340**	P	**P**	**18 18 58.9**	**+0.4**
	1.4nm,0.8s,mb4.1,baz=80,slow=7.4,SNR=6.3						
FINES	**FINESS Array B**	**84.46**	**332**	P	**P**	**18 19 07.5**	**0.0**
	1.5nm,1.0s,mb4.1,SNR=3.7						
FINES	**FINESS Array B**	**84.46**	**332**	P	**P**	**18 19 07.5**	**0.0**
AKASG	**Malin Array Be**	**85.26**	**321**	P	**P**	**18 19 11.4**	**-0.4**
	1.2nm,0.6s,mb4.2,baz=60,slow=5.0,SNR=5.9						

*NEIC **07** 18:16:36.5±0.3, 43.75N×105.22W, ML3.2, Error ellipse: s-maj=3.8km s-min=3.5km az=127.0, Suspected Mining explosion.*
NEIC 0.0 [ ]. 65 km [40 miles] SSE of Gillette.
*IDC **07** 18:16:37.1±1.1, 44.11N×105.75W, mb4.2/1, mb1 3.7/5, mb1mx3.4/24, mbtmp3.5/5, ML3.3/4, Error ellipse: s-maj=26.1km s-min=9.7km az=147.0*
ISC 07 18:16:34.8±0.5, 43.74N±0.04×105.22W±0.06, n37, σ0990/38, mb4.0/1, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.94**	**66**	*e*P	**Pg**	**18 16 54.9**	**+1.5**
PHWY	**Pilot Hill**	**2.44**	**184**	*e*Pn	**Pn**	**18 17 17.7**	**+1.2**
RWWY	**Rawlins**	**2.52**	**216**	*e*Pn	**Pn**	**18 17 19.7**	**+2.0**
LAO	**LASA Array**	**3.03**	**347**	*e*Pn	**Pn**	**18 17 25.3**	**+0.4**
PDAR	**Pinedale Array**	**3.32**	**254**	Pn	**Pn**	**18 17 30.2**	**+1.2**
	3.6nm,0.3s,baz=69,slow=15,SNR=21						
PDAR				Pg	**Pg**	**18 17 35.4**	**-5.6**
	6.2nm,0.3s,baz=65,slow=17,SNR=27						
PDAR				Lg		18 18 14.8	
	4.0nm,0.3s,baz=77,slow=28,SNR=4.1						
LKWY	**Lake**	**3.82**	**284**	P	**Pn**	**18 17 36.8**	**+0.7**
LOHW	**Long Hollow**	**3.91**	**270**	*e*Pn	**Pn**	**18 17 38.4**	**+1.0**
SNOW	**Snow King Moun**	**4.03**	**268**	Pn	**Pn**	**18 17 39.7**	**+0.6**
REDW	**Red Top Meadow**	**4.11**	**267**	*e*Pn	**Pn**	**18 17 40.5**	**+0.2**
IMW	**Indian Meadow**	**4.14**	**274**	P	**Pn**	**18 17 41.4**	**+0.7**
TPAW	**Teton Pass**	**4.17**	**269**	*e*Pn	**Pn**	**18 17 40.7**	**-0.4**
YMR	**Madison River**	**4.23**	**285**	P	**Pn**	**18 17 43.0**	**+1.0**
AHID	**Auburn Hatcher**	**4.41**	**259**	P	**Pn**	**18 17 45.0**	**+0.6**
RRI2	**Red Ridge**	**4.45**	**267**	*e*P	**Pn**	**18 17 45.1**	**0.0**
QLMT	**Earthquake Lak**	**4.59**	**286**	P	**Pn**	**18 17 47.6**	**+0.5**
SMCO	**Snowmass**	**4.75**	**197**	P	**Pn**	**18 17 49.2**	**-0.1**
DGMT	**Dagmar**	**4.78**	**8**	P	**Pn**	**18 17 50.0**	**+0.2**
BOZ	**Bozeman (W)**	**4.95**	**295**	*e*Pn	**Pn**	**18 17 51.3**	**-0.9**
HWUT	**Hardware Ranch**	**5.14**	**248**	*e*Pn	**Pn**	**18 17 54.1**	**-0.8**
TCUT	**Toone Canyon**	**5.28**	**242**	*e*P	**Pn**	**18 17 55.9**	**-0.8**
HRY	**Holter Researc**	**5.53**	**305**	*e*P	**Pn**	**18 17 59.7**	**-0.7**
MCMT	**McKenzie Canyo**	**5.58**	**284**	P	**Pn**	**18 18 02.0**	**+0.9**
DAU	**Daniels Canyon**	**5.59**	**236**	P	**Pn**	**18 18 01.4**	**+0.2**
JLU	**Jordanelle**	**5.59**	**238**	P	**Pn**	**18 18 01.1**	**-0.1**
SDCO	**Great Sand Dun**	**5.99**	**182**	*e*P	**Pn**	**18 18 06.1**	**-0.8**
SRU	**San Rafael**	**6.11**	**223**	*e*P	**Pn**	**18 18 07.3**	**-1.2**
PV01	**Paradox Valley**	**6.15**	**205**	*e*P	**Pn**	**18 18 08.7**	**-0.4**
TMUT	**Trail Mountain**	**6.32**	**227**	*e*P	**Pn**	**18 18 11.3**	**-0.1**
CBKS	**Cedar Bluff**	**6.42**	**138**	P	**Pn**	**18 18 12.7**	**-0.2**
CHMT	**Chamberlain Mo**	**6.49**	**302**	*e*P	**Pn**	**18 18 12.4**	**-1.4**
MSU	**Marysvale**	**7.41**	**227**	*e*P	**Pn**	**18 18 26.1**	**-0.7**
ELK	**Elko**	**8.01**	**251**	Pn	**P**	**18 18 34.9**	**-0.4**
	0.2nm,0.3s,baz=83,slow=16,SNR=3.2						
ARUT	**Antelope Range**	**8.62**	**229**	*e*P	**P**	**18 18 43.1**	**-0.5**
BMO	**Blue Mountains**	**8.74**	**281**	P	**P**	**18 18 43.9**	**-1.5**
ULM	**Lac du Bonnet**	**9.11**	**41**	Pn	**P**	**18 18 48.0**	**-2.5**
	1.0nm,0.3s,baz=231,slow=11,SNR=5.0						
TXAR	**Lajitas Array**	**14.43**	**175**	Pn	**P**	**18 20 09.4**	**+7.0**
	0.0nm,0.3s,baz=342,slow=8.6,SNR=2.6						
INK	**Inuvik**	**28.74**	**338**	P	**P**	**18 22 31.1**	**-4.4**
	1.8nm,0.7s,mb4.0,baz=162,slow=7.2,SNR=3.0						

IDC 07 18:38:34.9±2.4, 18.94S×176.48W, mb4.3/4, mb1 4.5/4, mb1mx4.0/13, mbtmp4.3/4, MS3.5/1, Ms1 3.5/1, ms1mx2.8/26, 1D, Error ellipse: s-maj=152.6km s-min=28.2km az=150.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**10.35**	**187**	LR	LR	18 44 26.8	
	comp=Z,283nm,19.3s,baz=318,slow=34						
STKA	**Stephens Creek**	**39.76**	**243**	P	P	18 46 10.0	-1.2
	1.0nm,0.5s,baz=107,slow=15,SNR=5.1						
WB2	**Warramunga Arr**	**46.24**	**260**	↓*i*P	P	18 47 02.4	-1.6
WRA	**Warramunga Arr**	**46.25**	**260**	P	P	18 47 02.8	-1.3
	2.0nm,0.4s,baz=98,slow=7.0,SNR=172						
FITZ	**Fitzroy Crossi**	**54.67**	**261**	P	P	18 48 05.2	-3.0
	3.1nm,0.4s,baz=165,slow=13,SNR=16						
PDAR	**Pinedale Array**	**86.85**	**43**	P	P	18 51 22.3	-0.4
	0.7nm,0.4s,baz=122,slow=8.5,SNR=4.5						
ARCES	**ARCESS Array B**	**127.64**	**350**	PKP	PKPdf	18 57 39.9	-3.7
	0.6nm,0.6s,baz=326,slow=4.4,SNR=3.9						
AKASG	**Malin Array Be**	**142.31**	**333**	PKhKP		18 58 04.2	
	0.5nm,0.3s,baz=40,slow=5.0,SNR=4.8						
GERES	**GERESS Array B**	**149.05**	**347**	PKPbc	PKPdf	18 58 24.9	+2.4
	1.3nm,0.9s,baz=27,slow=3.0,SNR=10						

*NIED **07** 18:39:00, 24.40N×121.80E, h68km, Mw4.1 Best double couple: M0 1.41×10^15 NP1:φs201°, δ73°, λ81°. NP2:φs49°, δ19°, λ116°.*
*BJI **07** 18:39:07.2, 24.47N×121.84E, h29km, mB4.6, mb4.3, ML3.9, Ms3.8, Msz3.6*
*NEIC **07** 18:39:08.4±0.8, 24.18N×121.75E, h63km±6km, mb3.9/1, Error ellipse: s-maj=14.7km s-min=11.8km az=70.0*
NEIC Recorded [3 TAP] in I-lan; [2 TAP] in Hua-lien and T'ai-chung; [1 TAP] in T'ai-pei, T'ao-yuan and Nan-t'ou Counties.
*JMA **07** 18:39:09.1±0.3, 24.40N×121.80E, h77km, M4.0*
*IDC **07** 18:39:10.0±4.9, 24.28N×121.96E, h83km±49km, mb3.5/5, mb1 3.7/6, mb1mx3.4/19, mbtmp3.9/6, ML4.2/1, MS3.0/1, Ms1 3.0/1, ms1mx2.5/17, Error ellipse: s-maj=33.6km s-min=20.7km az=57.0*
ISC 07 18:39:07.7±0.5, 24.30N±0.06×121.73E±0.03, h72km±4km, n30, σ1907/44, mb3.7/7, 1C-1D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.17**	**226**	↑*e*P	**P**	**18 39 18.0**	**-0.5**
NACB				*e*S	**S**	**18 39 25.4**	**-1.0**
TATO	**Taipei**	**0.71**	**342**	*e*P	**P**	**18 39 23.9**	**+0.9**
TATO				*e*S	**S**	**18 39 35.1**	**+0.6**
YOJ	**Yonaguni jima**	**1.18**	**82**	P	**P**	**18 39 29.5**	**+0.6**
YOJ				S	**S**	**18 39 44.9**	**+0.2**
IRIF	**Iriomote-Funau**	**1.82**	**88**	P	**P**	**18 39 37.8**	**+0.2**
IRIF				S	**S**	**18 39 59.5**	**-0.2**
HATJ	**Hateruma jima**	**1.91**	**97**	P	**P**	**18 39 39.9**	**+1.1**
HATJ				S	**S**	**18 40 02.1**	**+0.4**
JKRS	**Kuro-shima**	**2.08**	**91**	P	**P**	**18 39 41.9**	**+0.8**
JKRS				S	**S**	**18 40 06.5**	**+0.6**
JIJ	**Ishigaki jima**	**2.20**	**88**	P	**P**	**18 39 42.9**	**0.0**
JIJ				S	**S**	**18 40 08.3**	**-0.6**
JTJ	**Tarama**	**2.73**	**82**	P	**P**	**18 39 50.9**	**+0.6**
JTJ				S	**S**	**18 40 22.5**	**+0.3**
QZH	**Quanzhou**	**2.93**	**283**	↓*i*P	**P**	**18 39 53.0**	**-0.1**
QZH				S	**S**	**18 40 24.6**	**-2.6**
QZH				Smax			
	comp=N,570nm,0.4s						
QZH				Smax			
	comp=E,310nm,0.4s						
JMJ	**Miyako jima 2**	**3.28**	**80**	P	**P**	**18 39 58.6**	**+0.5**
JMJ				*e*S	**S**	**18 40 35.9**	**-0.2**
JOGS	**Gusukube**	**3.38**	**81**	P	**P**	**18 40 00.5**	**+1.1**
JOGS				S	**S**	**18 40 38.7**	**+0.2**
JKE	**Kume jima 2**	**5.00**	**65**	P	**P**	**18 40 22.4**	**+0.5**
JKE				*e*S	**S**	**18 41 18.9**	**-0.1**
JAGN	**Aguni-jima**	**5.48**	**64**	P	**P**	**18 40 28.7**	**+0.2**
JJT2	**Tamagusuku 2**	**5.75**	**70**	P	**P**	**18 40 32.2**	**0.0**
JIH	**Iheya**	**6.25**	**63**	P	**P**	**18 40 38.8**	**-0.4**
JIH				*e*S	**S**	**18 41 47.7**	**-2.3**
JOW	**Kunigami**	**6.42**	**65**	P	**P**	**18 40 40.3**	**-1.4**
	comp=E,12nm,0.3s,baz=101,slow=22,SNR=101						
JOW				S	**S**	**18 41 49.9**	**-4.5**
	comp=E,1.0nm,0.3s,baz=117,slow=22,SNR=2.1						
JTK	**Tokunoshima**	**7.36**	**60**	P	**P**	**18 40 52.8**	**-1.9**
NJ2	**Nanjing**	**8.13**	**342**	*e*P	**P**	**18 41 01.0**	**-4.2**
NJ2				S	**S**	**18 42 33.0**	**-3.4**
NJ2				AMB	AMB		
	comp=Z,230nm,4.6s						
NJ2				LR	LR		
	comp=N,230nm,13.2s						
NJ2				LR	LR		
	comp=E,640nm,12.0s						
NJ2				LR	LR		
	comp=Z,540nm,13.0s						
JAM	**Amami Oshima**	**8.16**	**58**	P	**P**	**18 41 03.3**	**-2.4**
GYA	**Guiyang**	**13.79**	**282**	P	**P**	**18 42 23.4**	**+2.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s						
KS15	**Wonju Array Si**	**14.12**	**20**	P	**P**	**18 42 28.3**	**+2.8**
GTA	**Gaotai**	**23.86**	**314**	*e*P	**P**	**18 44 19.5**	**+4.3**
GTA				AP		18 44 23.6	
GTA				XP		18 44 26.7	
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb3.8						
SONM	**Songino Array**	**26.46**	**336**	P	**P**	**18 44 40.3**	**+0.5**
	comp=Z,0.7nm,0.5s,mb3.3,baz=150,slow=6.7,SNR=7.8						
SONM				LR	LR	18 54 55.7	
	comp=Z,33nm,20.8s,baz=266,slow=36						
MKAR	**Makanchi Array**	**38.61**	**316**	P	**P**	**18 46 26.4**	**+1.1**
	comp=Z,1.2nm,0.5s,mb4.0,baz=101,slow=11,SNR=16						
ZAL	**Zalesovo**	**40.43**	**327**	P	**P**	**18 46 40.5**	**+0.2**
	comp=Z,0.7nm,0.6s,mb3.6,baz=34,slow=10,SNR=5.0						
WRAB	**Tennant Creek**	**45.65**	**163**	*e*P	**P**	**18 47 22.6**	**-0.5**
WRA	**Warramunga Arr**	**45.65**	**163**	P	**P**	**18 47 21.7**	**-1.5**
	comp=Z,0.8nm,0.4s,mb3.8,baz=344,slow=8.7,SNR=8.8						
BRVK	**Borovoye**	**47.97**	**321**	*e*P	**P**	**18 47 42.2**	**+1.3**
	comp=Z,1.0nm,0.6s,mb3.8						
ILAR	**Eielson Array**	**68.89**	**27**	P	**P**	**18 50 05.3**	**-1.0**
	comp=Z,0.3nm,0.6s,mb3.3,baz=268,slow=5.4,SNR=4.6						
SDV	**Santo Domingo**	**144.88**	**22**	*e*P	PKPdf	18 58 39.1	+1.8

*NIED **07** 18:56:00, 43.30N×146.20E, h41km, Mw4.5 Best double couple: M0 5.43×10^15 NP1:φs41°, δ70°, λ86°. NP2:φs234°, δ20°, λ102°.*
*MOS **07** 18:56:14.8±0.8, 43.28N×146.28E, h35km, mb4.8/56, Error ellipse: s-maj=9.9km s-min=5.0km az=107.8*
MOS Felt (II) at Yuzhno-Kuril'sk.
*BJI **07** 18:56:16.4, 43.24N×146.34E, h55km, mB4.9, mb4.7, Ms4.1, Msz3.8*
*IDC **07** 18:56:17.0±0.8, 43.34N×146.22E, h40km±6km, mb4.2/29, mb1 4.4/30, mb1mx4.4/32, mbtmp4.5/30, ML4.5/1, MS3.6/11, Ms1 3.6/11, ms1mx3.3/39, Error ellipse: s-maj=15.7km s-min=13.2km az=147.0*
*JMA **07** 18:56:17.8±0.1, 43.26N×146.25E, h46km±1km, M4.3*
JMA Felt I J1.
*SKHL **07** 18:56:17.4±0.9, 43.44N×146.49E, h47km±15km, mb5.7/1, msh5.2/1*
SKHL Felt (II) at Yushno-Kurilsk.
*NEIC **07** 18:56:18.1±0.7, 43.29N×146.28E, h50km±6km, mb4.7/46, MS4.1/3, Error ellipse: s-maj=6.3km s-min=4.9km az=143.0*
NEIC Felt [II] at Yuzhno-Kuril'sk, Kunashir. Recorded [1 JMA] in eastern Hokkaido.
ISC 07 18:56:15.6±0.6, 43.33N±0.04×146.40E±0.05, h42km±4km, h45km±3.5km: pP-P, n256, σ1904/263, mb4.6/94, MS3.7/17, 50C-8D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.48**	**274**	P	**P**	**18 56 27.3**	**+1.1**
NEM2				*e*S	**S**	**18 56 34.3**	**+0.7**
YUK	**Yuzh-Kuril'sk**	**0.81**	**331**	↓*i*P	**P**	**18 56 30.8**	**+0.2**
YUK				↓*i*P		18 56 30.8	
YUK				AMB	AMB	18 56 31.1	
	7μm,0.2s						
YUK				AMB	AMB	18 56 31.1	
	6μm,0.2s						
YUK				AMB	AMB	18 56 31.1	
	15μm,0.2s						
YUK				AMB	AMB	18 56 31.5	
	12μm,0.5s						
YUK				AMB	AMB	18 56 31.5	
	10μm,0.5s						
YUK				AMB	AMB	18 56 31.5	
	30μm,0.5s						
YUK				*i* S	**S**	**18 56 41.4**	**-0.2**
YUK				A		18 56 43.0	
	17μm,0.5s						
YUK				A		18 56 43.0	
	19μm,0.5s						
YUK				A		18 56 45.0	
	95μm,0.7s						
YUK				A		18 56 45.0	
	68μm,0.7s						
YUK	**Yuzh-Kuril'sk**	**0.81**	**331**	↑*i*PN	**P**	**18 56 30.8**	**+0.2**
YUK				*i* S	**S**	**18 56 41.4**	**-0.2**
YUK				pmax	pmax		
	comp=N,7μm,0.3s						
YUK				pmax	pmax		
	comp=E,6μm,0.3s						
YUK				pmax	pmax		
	comp=Z,15μm,0.3s						
YUK				pmax	pmax		
	comp=N,12μm,0.5s						
YUK				pmax	pmax		
	comp=Z,30μm,0.5s						
YUK				pmax	pmax		
	comp=E,10μm,0.3s						
YUK				smax			
	comp=N,17μm,0.5s						
YUK				smax			
	comp=E,19μm,0.5s						
YUK				smax			
	comp=N,95μm,0.7s						
YUK				smax			
	comp=E,68μm,0.7s						
JRA	**Rausu**	**1.11**	**304**	P	**P**	**18 56 36.5**	**+1.6**
JRA				*e*S	**S**	**18 56 50.1**	**+0.9**
JNK	**Nakash**	**1.25**	**282**	P	**P**	**18 56 37.6**	**+0.7**
JNK				*e*S	**S**	**18 56 52.7**	**-0.2**
JAK	**Akkeshi**	**1.29**	**256**	P	**P**	**18 56 37.8**	**+0.3**
JAK				*e*S	**S**	**18 56 52.5**	**-1.4**
JTKR	**Abashiri--Toko**	**1.92**	**290**	P	**P**	**18 56 48.2**	**+1.7**
JAR	**Ashorobuto**	**1.92**	**270**	P	**P**	**18 56 47.3**	**+0.8**
JAR				*e*S	**S**	**18 57 09.9**	**+0.4**
JOB	**Onbets**	**1.93**	**258**	P	**P**	**18 56 46.9**	**+0.3**
KUR	**Kuril'sk**	**2.17**	**28**	*e*P	**P**	**18 56 49.9**	**-0.2**
KUR				*i

KUR pmax pmax
comp=N,460nm,0.5s
KUR pmax pmax
comp=E,300nm,0.5s
KUR pmax pmax
comp=Z,840nm,0.5s
KUR smax
comp=N,2µm,0.4s
KUR smax
comp=E,2µm,0.4s
KUR smax
comp=N,5µm,2.0s
KUR smax
comp=E,5µm,2.0s
YSS Yuzh-Sakhalins 4.45 326 *i* P **P 18 57 23.6 +1.2**
YSS AMB AMB 18 57 24.6
comp=E,50nm,0.8s
YSS *i* S **S 18 58 12.5 -1.1**
YSS A 18 58 14.0
comp=E,130nm,0.8s
YSS A 18 58 14.0
comp=E,110nm,0.6s
YSS AMS AMS 19 00 13.0
comp=E,400nm,14.0s
YSS Yuzh-Sakhalins 4.45 326 ⇓*i* P **P 18 57 23.6 +1.2**
UGL Uglegorsk 6.49 334 *e*P **P 18 57 53.0 +2.0**
TEY Ternei 7.25 287 *e*P **P 18 58 04.0 +2.4**
TEY AMB AMB 18 58 05.0
comp=E,30nm,0.7s
TYV Tymovskoe 7.96 343 *e*P **P 18 58 09.0 -2.5**
TYV AMB AMB 18 58 23.8
comp=E,18nm,0.7s
TYV A 18 59 53.5
comp=E,19nm,0.9s
MAJO Matsushiro 9.24 226 *e*P **P 18 58 26.8 -2.5**
comp=E,16nm,0.5s
MAJO Matsushiro 9.24 226 *e*PN **P 18 58 26.8 -2.5**
MAJO pmax pmax
comp=Z,16nm,0.5s
MAT Matsushiro 9.24 226 P **P 18 58 27.0 -2.3**
MAT *e*S **S 19 00 08.8 -4.3**
MAT Matsushiro 9.24 226 *e*P **P 18 58 27.0 -2.3**
comp=Z,7.0nm,0.5s
MAT S **S 19 00 15.0 +1.9**
MAT Matsushiro 9.24 226 *e*PN **P 18 58 27.0 -2.3**
MAT S **S 19 00 15.0 +1.9**
MAT pmax pmax
comp=Z,7.0nm,0.5s
SKR Severo-Kuril's 9.90 39 *e*P **P 18 58 36.2 -2.0**
SKR AMB AMB 18 58 38.7
comp=Z,50nm,0.5s
SKR pP 18 58 41.0
SKR *e*S **S 19 00 25.5 -3.6**
SKR A 19 00 28.5
comp=Z,20nm,0.5s
SKR A 19 00 28.5
comp=Z,40nm,0.5s
GRNR Gornyy 10.08 321 *e*P **P 18 58 37.2 -3.5**
JHJ Hachijo jima 2 11.44 209 P **P 18 58 55.6 -3.6**
comp=Z,12nm,0.3s,baz=255,slow=16,SNR=4.2
JHJ S **S 19 00 52.5 -14**
comp=Z,32nm,0.3s,baz=238,slow=24,SNR=8.1
JHJ LR LR 19 03 02.3
comp=Z,98nm,22.0s,baz=133,slow=36
KLR Kul'dur 11.72 305 *e*rx rx 18 59 03.8
CN2 Changchun 15.20 279 *e*P **P 18 59 47.2 -1.6**
CN2 AMB AMB
comp=Z,10.0nm,0.8s
KS15 Wonju Array Si 15.28 254 P **P 18 59 47.8 -2.0**
YASR Yasnyy 15.75 316 *e*P **P 18 59 53.3 -2.5**
YASR AMB AMB 18 59 55.3
comp=Z,5.0nm,0.9s
YASR AMB AMB 18 59 55.3
comp=Z,6.0nm,0.9s
YASR AMB AMB 18 59 55.3
comp=Z,10.0nm,0.9s
JNU Nakatsue 15.87 235 P **P 18 59 58.6 +1.2**
comp=Z,1.1nm,0.3s,baz=85,slow=13,SNR=14
JNU LR LR 19 05 56.2
comp=Z,229nm,20.6s,baz=308,slow=37
ZEA Zeya 16.36 316 *e*P **P 19 00 03.2 -0.3**
ZEA AMB AMB 19 00 17.0
comp=Z,29nm,1.2s
ZEA AMB AMB 19 00 17.0
comp=Z,36nm,1.2s
KROS Kirovskiy 16.87 318 *e*P **P 19 00 12.3 +2.4**
KROS AMB AMB 19 00 20.4
comp=Z,11nm,1.0s
HIA Hailar 19.30 297 *e*P **P 19 00 38.3 -1.3**
comp=Z,5.2nm,0.6s
HIA Hailar 19.30 297 *e*P **P 19 00 38.3 -1.3**
HIA pmax pmax
comp=Z,5.0nm,0.6s
SEY Seymchan 19.95 8 *i* P **P 19 00 43.4 -3.1**
FX1 Attu Island--F 20.16 52 P **P 19 00 49.9 +1.1**
comp=Z,25nm,0.7s,baz=273,slow=2.6,SNR=14
FX1 Attu Island--F 20.16 52 *e*P **P 19 00 50.6 +1.8**
FX1 Attu Island--F 20.16 52 P **P 19 00 49.9 +1.1**
FX1 pmax pmax
comp=Z,25nm,0.7s
YAK Yakutsk 21.18 338 P **P 19 00 58.1 -1.2**
comp=Z,14nm,0.5s,mb4.5
YAK Yakutsk 21.18 338 *e*P **P 19 00 57.5 -1.7**
YAK pmax pmax
comp=Z,10.0nm,0.9s,mb4.2
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK pmax pmax
comp=E,5.0nm,1.2s
JOW Kunigami 22.08 228 P **P 19 01 09.1 +0.5**
comp=E,15nm,0.8s,mb4.5,baz=72,slow=6.4,SNR=4.0
SSE Sheshan 23.40 247 *e*P **P 19 01 18.8 -2.6**
SSE AMB AMB
comp=Z,29nm,0.8s,mb4.8
SSE AMB AMB
comp=Z,182nm,3.5s
TIA Tai'an 23.52 262 *e*P **P 19 01 22.2 -0.3**
TIA AMB AMB
comp=Z,36nm,1.1s,mb4.7
NJ2 Nanjing 24.42 252 *e*P **P 19 01 30.4 -1.0**
NJ2 PP PP 19 02 06.8 -0.9
NJ2 S **S 19 05 49.0 +3.4**
NJ2 AMB AMB
comp=Z,220nm,6.8s
NJ2 LR LR
comp=N,260nm,18.6s,MS4.0
NJ2 LR LR
comp=E,260nm,14.3s,MS4.0
NJ2 LR LR
comp=Z,370nm,13.5s,MS4.0
BOD Bodaibo 24.86 317 *e*P **P 19 01 26.5 -8.8**
HHC Hu-ho-hao-te 25.86 277 *e*P **P 19 01 46.6 +1.7**
HHC AP pP 19 01 57.9 +1.9
HHC XP sP 19 02 04.4 +3.4
HHC PP PP 19 02 27.0 +0.8
HHC S **S 19 06 11.2 +1.8**
HHC XS 19 06 29.6
HHC SS SS 19 07 18.4 +1.9
HHC AMB AMB
comp=Z,23nm,0.6s,mb4.9
HHC AMB AMB
comp=Z,93nm,6.1s
HHC LR LR
comp=N,102nm,14.3s,MS3.7
HHC LR LR
comp=E,145nm,14.3s,MS3.7
HHC LR LR
comp=Z,129nm,17.8s,MS3.5
BILL Bilibino 26.91 16 *e*P **P 19 01 52.3 -2.1**
BILL *e* 19 05 10.9
BILL *e*S **S 19 06 24.5 -1.9**
BILL pmax pmax
comp=Z,2.0nm,0.6s,mb3.8
BILL MLR MLR
comp=Z,100nm,18.0s,MS3.4
SONM Songino Array 28.13 293 P **P 19 02 05.6 -0.1**
comp=Z,8.1nm,0.6s,mb4.5,baz=91,slow=8.3,SNR=73
SONM LR LR 19 14 23.7
comp=Z,256nm,18.1s,MS3.9,baz=78,slow=39
SONM Songino Array 28.13 293 P **P 19 02 05.6 0.0**
SONM pmax pmax
comp=Z,8.0nm,0.6s
SONM MLR MLR
comp=Z,256nm,18.1s
ZAK Zakamensk 29.97 299 *e*P **P 19 02 20.9 -1.1**
ZAK *e* 19 05 23.7

ZAK pmax pmax
comp=Z,2.0nm,1.1s,mb3.8
ZAK pmax pmax
comp=Z,1.0nm,1.1s,mb3.5
GTA Gaotai 34.83 280 *e*P **P 19 03 05.3 +0.9**
GTA AMB AMB
comp=Z,3.0nm,0.5s,mb4.5
KMI Kunming 39.89 257 P **P 19 03 47.3 +0.3**
KMI AP pP 19 04 02.5 +3.9
KMI AMB AMB
comp=Z,12nm,0.9s,mb4.6
KMI LR LR
comp=Z,56nm,22.3s,MS3.4
KDAK Kodiak Island 39.93 47 *e*P **P 19 03 46.7 -0.3**
comp=Z,8.9nm,0.6s,mb4.7
ZAL Zalesovo 40.83 307 P **P 19 03 52.7 -1.8**
comp=Z,1.1nm,0.4s,mb3.9,baz=32,slow=7.1,SNR=4.7
ZAL PcP PcP 19 05 53.9 -1.6
comp=Z,2.4nm,0.5s,baz=350,slow=3.9,SNR=8.4
ZAL LR LR 19 23 13.4
comp=Z,44nm,19.1s,MS3.3,baz=178,slow=40
ZAL Zalesovo 40.83 307 P **P 19 03 52.7 -1.8**
ZAL PcP PcP 19 05 53.9 -1.6
ZAL LR LR 19 23 13.3
ZAL Zalesovo 40.83 307 P **P 19 03 52.7 -1.8**
ZAL 19 05 53.9
ZAL pmax pmax
comp=Z,1.0nm,0.4s
ZAL pmax pmax
comp=Z,2.0nm,0.5s
ZAL MLR MLR
comp=Z,44nm,19.1s
MCK McKinley 41.30 38 *e*P **P 19 03 58.2 0.0**
comp=Z,2.9nm,0.9s,mb3.9
MCK McKinley 41.30 38 *e*P **P 19 03 58.3 +0.1**
MCK pmax pmax
comp=Z,3.0nm,0.9s,mb3.9
SML Sawmill 41.69 40 *e*P **P 19 04 02.1 +0.7**
WMQ Urumqi 41.74 292 *e*P **P 19 04 02.0 0.0**
WMQ AP pP 19 04 14.0 +0.3
WMQ XP sP 19 04 20.0 +1.2
WMQ PP PP 19 05 42.0 +0.1
WMQ S **S 19 10 15.0 -1.0**
WMQ XS 19 10 36.0
WMQ SS SS 19 13 16.0 -1.5
WMQ AMB AMB
comp=Z,12nm,0.8s,mb4.6
WMQ AMB AMB
comp=Z,12nm,6.0s
WMQ LR LR
comp=N,54nm,16.0s,MS3.9
WMQ LR LR
comp=E,142nm,18.0s,MS3.9
WMQ LR LR
comp=Z,114nm,18.0s,MS3.8
ILAR Eielson Array 42.15 36 P **P 19 04 05.5 +0.5**
comp=Z,2.7nm,0.6s,mb4.1,baz=268,slow=6.9,SNR=52
ILAR Eielson Array 42.15 36 P **P 19 04 05.6 +0.5**
ILAR pmax pmax
comp=Z,3.0nm,0.6s
MKAR Makanchi Array 44.30 298 P **P 19 04 22.2 -0.6**
comp=Z,1.6nm,0.6s,mb4.0,baz=83,slow=3.7,SNR=34
MKAR PcP PcP 19 06 06.3 -0.8
comp=Z,0.9nm,0.5s,baz=59,slow=3.8,SNR=3.8
MKAR LR LR 19 23 22.8
comp=Z,85nm,21.5s,MS3.6,baz=40,slow=37
MKAR Makanchi Array 44.30 298 P **P 19 04 22.2 -0.6**
MKAR 19 06 06.3
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR MLR MLR
comp=Z,85nm,21.5s
KURK Kurchatov 45.31 304 *e*P **P 19 04 29.5 -1.4**
comp=Z,3.9nm,0.6s,mb4.4
KURK Kurchatov 45.31 304 *e*P **P 19 04 29.5 -1.4**
KURK pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
INK Inuvik 47.04 30 P **P 19 04 44.5 +0.3**
comp=Z,4.0nm,0.4s,mb4.7,baz=288,slow=6.9,SNR=18
INK Inuvik 47.04 30 *e*P **P 19 04 44.1 -0.1**
VOSK Vostochnaya 49.12 309 P **P 19 04 59.4 -1.2**
VOSK pmax pmax
comp=Z,1.0nm,0.7s,mb4.0
BVA0 Borovoye Array 49.35 309 *e*P **P 19 05 01.1 -1.3**
BVAR Borovoye Array 49.35 309 P **P 19 05 01.3 -1.1**
comp=Z,1.9nm,0.3s,mb4.6,baz=80,slow=9.9,SNR=23
BVAR PcP PcP 19 06 23.7 -1.1
comp=Z,2.6nm,0.6s,baz=63,slow=3.3,SNR=5.8
BVAR Borovoye Array 49.35 309 P **P 19 05 01.3 -1.1**
BVAR 19 06 23.7
BVAR pmax pmax
comp=Z,2.0nm,0.3s
BVAR pmax pmax
comp=Z,3.0nm,0.6s
BRVK Borovoye 49.40 309 P **P 19 05 02.3 -0.4**
comp=Z,1.7nm,0.6s,mb4.2
BRVK Borovoye 49.40 309 P **P 19 05 02.3 -0.5**
BRVK pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
TKM2 Tokmak 2 50.19 295 P **P 19 05 09.2 +0.2**
SNR=12
KBK Karagaybulak 50.74 295 P **P 19 05 13.3 +0.1**
SNR=7.3
USP Ospenovka 50.76 296 P **P 19 05 13.0 -0.4**
SNR=9.0
KZA Kyzart 50.80 295 P **P 19 05 14.4 +0.7**
SNR=6.7
KKN Kakani 51.00 273 *e*P **P 19 05 15.1 -0.2**
comp=Z,44nm,0.8s,mb5.4
PKI Pulchoki 51.03 273 *e*P **P 19 05 15.1 -0.5**
comp=Z,46nm,1.1s,mb5.3
AAK Ala-Archa 51.05 296 *e*P **P 19 05 13.9 -1.6**
AAK pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
DMN Daman 51.23 273 *e*P **P 19 05 17.0 -0.1**
comp=Z,33nm,0.7s,mb5.4
GKN Gorkha 51.35 274 *e*P **P 19 05 17.5 -0.5**
comp=Z,28nm,0.5s,mb5.5
DLBC Dease Lake 51.35 42 P **P 19 05 18.5 +0.9**
comp=Z,1.2nm,0.5s,mb4.1,baz=296,slow=7.3,SNR=5.1
EKS2 Erkin-Say 51.51 296 P **P 19 05 18.7 -0.3**
SNR=6.8
AML Almayashu 51.80 295 P **P 19 05 21.6 +0.4**
SNR=6.4
KOLN Koldanda 52.23 274 *e*P **P 19 05 24.5 -0.1**
comp=Z,53nm,0.9s,mb5.5
KKAR Karatay Array 53.43 298 *i* P **P 19 05 32.2 -1.1**
KKAR pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
ARU Arti 54.28 317 *e*P **P 19 05 37.4 -1.9**
comp=Z,7.7nm,0.5s,mb4.9
ARU Arti 54.28 317 ⇑*i*P **P 19 05 37.6 -1.8**
ARU *e* 19 07 40.0
ARU *e*PPP PPP 19 08 47.6 -6.4
ARU *e*S **S 19 13 16.9 +4.6**
ARU pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
BBB Bella Bella 54.96 49 LR LR 19 28 16.9
comp=Z,37nm,18.9s,MS3.5,baz=302,slow=35
YKA Yellowknife Ar 56.45 33 P **P 19 05 54.8 -0.2**
comp=Z,0.8nm,0.4s,mb4.1,baz=300,slow=6.9,SNR=4.6
YKA Yellowknife Ar 56.45 33 P **P 19 05 54.8 -0.2**
YKA pmax pmax
comp=Z,1.0nm,0.4s
AB31 Akbulak array 56.90 309 *e*P **P 19 05 57.2 -1.2**
AB31 pmax pmax
comp=Z,2.0nm,0.3s,mb4.6
KEV Kevo 58.91 339 *e*p **P 19 06 09.1 -3.1**
comp=Z,0.5nm,0.3s,mb4.0
ARCES ARCESS Array B 59.45 339 P **P 19 06 13.7 -2.2**
comp=Z,0.9nm,0.5s,mb4.0,baz=43,slow=6.7,SNR=15
ARCES ARCESS Array B 59.45 339 P **P 19 06 13.7 -2.3**
ARCES pmax pmax
comp=Z,1.0nm,0.5s
WRA Warramunga Arr 63.93 193 P **P 19 06 44.4 -2.2**
comp=Z,1.6nm,0.6s,mb4.3,baz=8.5,slow=6.5,SNR=5.1
WRA Warramunga Arr 63.93 193 P **P 19 06 44.4 -2.3**
WRA pmax pmax
comp=Z,2.0nm,0.6s
KAF Kangasniemi 64.44 333 *e*p **P 19 06 47.0 -2.3**
comp=Z,0.9nm,0.3s,mb4.3,baz=43,slow=6.2
FINES FINESS Array B 65.00 333 P **P 19 06 52.0 -0.9**
comp=Z,2.9nm,0.4s,mb4.6,baz=36,slow=9.2,SNR=51
FINES LR LR 19 37 41.3

comp=Z,31nm,18.6s,MS3.5,baz=313,slow=38
FINES FINESS Array B 65.00 333 P **P 19 06 52.1 -0.8**
FINES pmax pmax
comp=Z,3.0nm,0.4s
FINES MLR MLR
comp=Z,31nm,18.6s
OBN Obninsk 65.33 324 *e*P **P 19 06 53.7 -1.4**
OBN pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
BOZ Bozeman (W) 67.60 48 *e*P **P 19 07 10.4 +0.8**
comp=Z,6.5nm,0.8s,mb4.7
BOZ Bozeman (W) 67.60 48 *e*P **P 19 07 10.4 +0.8**
BOZ pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
GOF Gofitskoye 68.73 312 ⇑*i*P **P 19 07 17.0 +0.3**
GOF pmax pmax
comp=Z,41nm,0.8s,mb5.4
KIV Kislovodsk 69.64 312 *e*P **P 19 07 22.3 0.0**
comp=Z,31nm,0.7s,mb5.3
KIV *e* 19 07 39.8
KIV Kislovodsk 69.64 312 *e*P **P 19 07 22.3 0.0**
KIV *e* 19 07 39.8
KIV pmax pmax
comp=Z,31nm,0.7s,mb5.3
NB2 NORSAR Subarra 69.80 339 P **P 19 07 22.2 -0.8**
comp=Z,5.9nm,0.5s,mb4.8,baz=33,slow=6.5
NB2 NORSAR Subarra 69.80 339 P **P 19 07 22.2 -0.8**
NB2 pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
NOA NORSAR Array B 69.80 339 P **P 19 07 21.1 -1.8**
comp=Z,4.0nm,0.4s,mb4.7,baz=33,slow=6.4,SNR=16
NOA LR LR 19 42 36.4
comp=Z,38nm,18.6s,MS3.7,baz=245,slow=40
NOA NORSAR Array B 69.80 339 P **P 19 07 21.2 -1.8**
NOA pmax pmax
comp=Z,4.0nm,0.4s
NOA MLR MLR
comp=Z,38nm,18.6s
HFS Hagfors 69.86 337 P **P 19 07 22.1 -1.3**
comp=Z,8.8nm,0.3s,mb5.1,baz=36,slow=8.1,SNR=108
HFS LR LR 19 42 27.6
comp=Z,44nm,18.5s,MS3.7,baz=24,slow=40
HFS Hagfors 69.86 337 P **P 19 07 22.1 -1.3**
HFS pmax pmax
comp=Z,9.0nm,0.3s
HFS MLR MLR
comp=Z,44nm,18.5s
TBLG Delisi 69.94 309 P **P 19 07 24.6 +0.4**
PDAR Pinedale Array 70.60 49 P **P 19 07 28.7 +0.5**
comp=Z,0.3nm,0.4s,mb3.6,baz=270,slow=2.7,SNR=3.5
PDAR pP pP 19 07 40.9 +0.4
comp=Z,1.6nm,0.5s,baz=296,slow=3.0,SNR=7.9
DAU Daniels Canyon 71.19 52 *e*P **P 19 07 33.0 +1.2**
SOC Sochi 71.49 313 *e*P **P 19 07 33.9 +0.4**
SOC *e*SSS SSS 19 24 28.8 -3.9
AKASG Malin Array Be 71.59 323 P **P 19 07 32.9 -1.2**
comp=Z,5.4nm,0.3s,mb4.9,baz=40,slow=6.4,SNR=49
AKASG Malin Array Be 71.59 323 P **P 19 07 32.9 -1.1**
AKASG pmax pmax
comp=Z,5.0nm,0.3s
ANN Anapa 71.86 315*c i*P **P 19 07 35.2 -0.5**
ANN *i* 19 07 42.8
ANN *i* 19 07 50.7
ANN *e*S S 19 16 57.9 +5.8
ANN pmax pmax
comp=Z,21nm,0.5s,mb5.3
STKA Stephens Creek 74.97 184 P **P 19 07 52.3 -1.8**
comp=Z,3.3nm,0.9s,mb4.3,baz=350,slow=17,SNR=3.5
KWP Kalwaria 75.15 326 *e*P **P 19 07 55.0 +0.3**
comp=Z,37nm,0.3s,mb5.8
KWP Kalwaria 75.15 326 *e*P **P 19 07 55.1 +0.3**
KWP pmax pmax
comp=Z,37nm,0.3s,mb5.8
MALT Malatya 75.82 309 *e*P **P 19 07 59.9 +1.0**
comp=Z,3.3nm,0.6s,mb4.4
MALT Malatya 75.82 309 *e*P **P 19 07 59.9 +1.1**
MALT pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
OJC Ojcow 75.85 328 ⇑*i*P **P 19 07 58.9 +0.2**
OJC *e* 19 08 02.6
KOLS Kolonicke sedl 75.88 326 *e*P **P 19 07 59.0 +0.1**
STHS Stebnicka Huta 75.91 327 *i* P **P 19 07 59.9 +0.8**
BSEG Bad Segeberg 76.08 335 *e*P **P 19 08 00.3 +0.3**
CFR Carcaliu 76.17 320 ⇓P **P 19 07 59.9 -0.8**
CFR Carcaliu 76.17 320 ⇓P **P 19 07 59.9 -0.8**
CRVS Cervenica-Dubn 76.23 326 *e*P **P 19 08 02.4 +1.5**
NIE Niedzica 76.28 327 *e*P **P 19 08 02.2 +1.0**
VRI Vrincioaia 76.31 321 ⇑P **P 19 08 01.6 +0.2**
VRI Vrincioaia 76.31 321 ⇑P **P 19 08 01.6 +0.2**
HARR Harsova 76.64 320 ⇑P **P 19 08 03.0 -0.3**
OKC Ostrava-Krasne 76.79 329 *e*P **P 19 08 04.5 +0.4**
OKC AMS AMS 19 46 00.0
MLR Muntele Rosu 76.95 322 P **P 19 08 04.3 -0.8**
comp=Z,4.0nm,0.4s,mb4.7,baz=278,slow=2.1,SNR=12
MLR Muntele Rosu 76.95 322 ⇑P **P 19 08 06.0 +0.9**
MLR Muntele Rosu 76.95 322 ⇑P **P 19 08 06.0 +0.9**
MLR Muntele Rosu 76.95 322 P **P 19 08 04.3 -0.8**
MLR pmax pmax
comp=Z,4.0nm,0.4s
KECS Kecovo 76.96 326 *e*P **P 19 08 05.3 +0.2**
ISR Istrita 76.96 321 ⇓P **P 19 08 05.4 +0.2**
ISR Istrita 76.96 321 ⇓P **P 19 08 05.4 +0.2**
UPC Upice 77.04 330 *e*P **P 19 08 05.7 +0.2**
DPC Dobruska-Polom 77.05 330 *e*P **P 19 08 06.1 +0.5**
DPC AMS AMS 19 42 20.0
MORC Moravsky Berou 77.07 329 *e*P **P 19 08 05.7 0.0**
comp=Z,3.9nm,0.6s,mb4.5
MORC Moravsky Berou 77.07 329 *e*P **P 19 08 05.7 0.0**
MORC pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
CLL Collm 77.43 332 ⇑P **P 19 08 07.3 -0.4**
comp=Z,logA/T=1.2,mb4.9
CLL *e**PP pP 19 08 23.0 +2.9
CLL *e* 19 08 34.0
CLL *e* 19 08 53.0
CLL Collm 77.43 332 ⇑*i*P **P 19 08 07.3 -0.4**
comp=Z,15nm,0.9s,mb4.9
CLL *e* 19 08 23.0
CLL *e* 19 08 34.0
CLL Collm 77.43 332 ⇑*i*P **P 19 08 07.3 -0.4**
CLL *e* 19 08 23.0
CLL pmax pmax
comp=Z,15nm,0.9s,mb4.9
BR131 Keskin Array S 77.44 313 *e*P **P 19 08 08.1 +0.1**
comp=Z,1.4nm,0.5s,mb4.2
BRTR Keskin Array B 77.44 313 P **P 19 08 07.8 -0.1**
comp=Z,2.2nm,0.6s,mb4.3,baz=92,slow=2.3,SNR=9.7
BRTR Keskin Array B 77.44 313 P **P 19 08 07.8 -0.1**
BRTR pmax pmax
comp=Z,2.0nm,0.6s
BRG Berggiesshubel 77.47 331 *e*P **P 19 08 08.0 +0.1**
BRG pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
PVCC Panska Ves 77.54 331 AMS AMS 19 45 50.0
VYHS Vyhne 77.61 327 *e*P **P 19 08 09.1 +0.4**
VRAC Vranov 77.81 329 P **P 19 08 09.5 -0.3**
comp=Z,5.2nm,0.9s,mb4.4,baz=40,slow=9.0,SNR=4.0
VRAC Vranov 77.81 329 P **P 19 08 09.5 -0.2**
VRAC pmax pmax
comp=Z,5.0nm,0.9s
CLZ Clausthal 77.85 334 *e*P **P 19 08 10.4 +0.5**
comp=Z,10.0nm,0.8s,mb4.8
CLZ Clausthal 77.85 334 *e*P **P 19 08 10.4 +0.5**
CLZ pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
PRU Pruhonice 78.00 331 *e*P **P 19 08 11.3 +0.5**
PRU *ex* x 19 08 15.3
PRU AMS AMS 19 43 10.0
SCHQ Schefferville 78.20 19 P **P 19 08 11.6 -0.2**
comp=Z,2.3nm,0.4s,mb4.5,baz=224,slow=13,SNR=5.4
SCHQ Schefferville 78.20 19 P **P 19 08 11.6 -0.2**
EKA Eskdalemuir Ar 78.37 343 P **P 19 08 12.8 +0.2**
comp=Z,4.5nm,0.5s,mb4.7,baz=25,slow=5.3,SNR=50
EKA pP pP 19 08 24.1 -1.0
comp=Z,2.4nm,0.6s,baz=26,slow=5.3,SNR=3.2
EKA Eskdalemuir Ar 78.37 343 P **P 19 08 12.9 +0.2**
EKA *PP pP 19 08 24.2 -0.9
EKA pmax pmax
comp=Z,5.0nm,0.5s
EKA pmax pmax
comp=Z,2.0nm,0.6s
MOX Moxa 78.46 333 *i* P **P 19 08 13.0 -0.3**
MOX Moxa 78.46 333 *e*P **P 19 08 13.0 -0.3**
NKC Novy Kostel 78.53 332 *e*P **P 19 08 14.1 +0.4**
NKC AMS AMS 19 43 40.0

KHC	**Kasperske Hory**	**79.06 331**	*e*P	**P**	**19 08 17.0**	**+0.4**
KHC			*ex*	x	19 08 21.1	
KHC			AMS	AMS	19 44 00.0	
GEC2	**GERESS Array S**	**79.26 330**	*e*P	**P**	**19 08 17.7**	**0.0**
	comp=Z,3.0nm,0.7s,mb4.3					
GEC2	**GERESS Array S**	**79.26 330**	*e*P	**P**	**19 08 17.7**	**0.0**
GEC2			pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3					
GERES	**GERESS Array B**	**79.26 330**	P	**P**	**19 08 17.0**	**-0.7**
	comp=Z,1.1nm,0.4s,mb4.2,baz=38,slow=5.6,SNR=27					
GERES	**GERESS Array B**	**79.26 330**	P	**P**	**19 08 17.0**	**-0.7**
GERES			pmax	pmax		
	comp=Z,1.0nm,0.4s					
WET	**Wettzell**	**79.30 331**	*e*P	**P**	**19 08 18.3**	**+0.4**
	comp=Z,8.0nm,1.2s,mb4.5					
WET	**Wettzell**	**79.30 331**	*e*P	**P**	**19 08 18.3**	**+0.4**
WET			pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.5					
GRA1	**Grafenberg Arr**	**79.41 332**	*e*P	**P**	**19 08 18.9**	**+0.4**
GRF	**Grafenberg Arr**	**79.41 332**	*e*P	**P**	**19 08 18.9**	**+0.4**
	comp=Z,10.0nm,0.6s,mb4.9					
GRF	**Grafenberg Arr**	**79.41 332**	*e*P	**P**	**19 08 18.9**	**+0.4**
GRF			pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.9					
TNS	**Taunus Mts**	**79.87 334**	*e*P	**P**	**19 08 20.3**	**-0.7**
	comp=Z,4.0nm,0.6s,mb4.5					
TNS	**Taunus Mts**	**79.87 334**	*e*P	**P**	**19 08 20.3**	**-0.7**
TNS			pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5					
FUR	**Furstenfeldbru**	**80.69 331**	*e*P	**P**	**19 08 26.0**	**+0.6**
	comp=Z,18nm,1.1s,mb4.9					
FUR	**Furstenfeldbru**	**80.69 331**	*e*P	**P**	**19 08 26.0**	**+0.6**
FUR			pmax	pmax		
	comp=Z,18nm,1.1s,mb4.9					
DLF	**Lyons Farm**	**80.98 344**	*e*P	**P**	**19 08 26.4**	**-0.4**
ASF	**Jabal al Asfar**	**81.04 306**	P	**P**	**19 08 28.3**	**+0.7**
	comp=Z,3.1nm,0.7s,mb4.3,baz=309,slow=6.9,SNR=3.7					
ASF	**Jabal al Asfar**	**81.04 306**	P	**P**	**19 08 28.3**	**+0.7**
ASF			pmax	pmax		
	comp=Z,3.0nm,0.7s					
DCN	**Croghan**	**81.08 344**	*e*P	**P**	**19 08 26.9**	**-0.4**
BAIF	**Baives**	**81.30 336**	*e*P	**P**	**19 08 29.4**	**+0.8**
BFO	**Black Forest**	**81.55 333**	*e*P	**P**	**19 08 30.1**	**+0.2**
	comp=Z,7.0nm,1.1s,mb4.5					
BFO	**Black Forest**	**81.55 333**	*e*P	**P**	**19 08 30.1**	**+0.2**
BFO			pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5					
CDF	**Champ du Feu**	**81.82 334**⇑	*i*P	**P**	**19 08 31.3**	**0.0**
	comp=Z,9.7nm,0.8s,mb4.5					
CDF	**Champ du Feu**	**81.82 334**⇑	*i*P	**P**	**19 08 31.3**	**0.0**
CDF			pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5					
DAVOX	**Davos**	**82.37 332**	P	**P**	**19 08 34.9**	**+0.7**
	comp=Z,2.8nm,0.5s,mb4.5,baz=180,slow=5.7,SNR=9.5					
DAVOX			LR	LR	19 48 30.1	
	comp=Z,52nm,19.0s,MS3.9,baz=266,slow=38					
MEZF	**Maizieres J'vi**	**82.44 335**⇑	*i*P	**P**	**19 08 34.2**	**-0.3**
	comp=Z,5.8nm,0.5s,mb4.5					
TXAR	**Lajitas Array**	**83.34 56**	P	**P**	**19 08 40.6**	**+1.2**
	comp=Z,1.5nm,0.8s,mb4.1,baz=304,slow=3.7,SNR=16					
TXAR			pP	pP	19 08 53.0	+0.9
	comp=Z,1.4nm,0.6s,baz=293,slow=3.8,SNR=10					
TXAR			LR	LR	19 46 57.4	
	comp=Z,43nm,18.7s,MS3.9,baz=295,slow=36					
TXAR	**Lajitas Array**	**83.34 56**	P	**P**	**19 08 40.6**	**+1.2**
TXAR			pP	pP	19 08 53.0	+0.9
TXAR			LR	LR	19 46 57.4	
TXAR	**Lajitas Array**	**83.34 56**	P	**P**	**19 08 40.7**	**+1.3**
TXAR			*PP	pP	19 08 53.0	+1.0
TXAR			pmax	pmax		
	comp=Z,2.0nm,0.8s					
TXAR			pmax	pmax		
	comp=Z,1.0nm,0.6s					
TXAR			MLR	MLR		
	comp=Z,43nm,18.7s					
FLN	**La Foliniere**	**83.78 339**	*e*P	**P**	**19 08 41.4**	**+0.2**
	comp=Z,5.7nm,0.5s,mb4.6					
FLN			*e*R			
	comp=Z,72nm,18.5s					
FLN	**La Foliniere**	**83.78 339**	*e*P	**P**	**19 08 41.4**	**+0.2**
FLN			pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.7					
FLN			MLR	MLR		
	comp=Z,70nm,18.5s,MS4.1					
CABF	**La Chapelle**	**83.79 334**⇑	*i*P	**P**	**19 08 42.7**	**+1.4**
	comp=Z,1.5nm,0.4s,mb4.2					
CABF	**La Chapelle**	**83.79 334**⇑	*i*P	**P**	**19 08 42.7**	**+1.4**
CABF			pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.3					
LOR	**Lormes**	**83.90 335**⇑	*i*P	**P**	**19 08 42.0**	**+0.1**
	comp=Z,8.1nm,0.6s,mb4.7					
LOR			*e*R			
	comp=Z,55nm,19.8s					
LOR	**Lormes**	**83.90 335**⇑	*i*P	**P**	**19 08 42.0**	**+0.1**
LOR			pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.7					
LOR			MLR	MLR		
	comp=Z,50nm,19.8s,MS3.9					
SSF	**Saint Saulge**	**84.20 336**⇑	*i*P	**P**	**19 08 43.5**	**+0.2**
	comp=Z,1.5nm,0.5s,mb4.4					
SSF	**Saint Saulge**	**84.20 336**⇑	*i*P	**P**	**19 08 43.5**	**+0.2**
SSF			pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.5					
GRR	**Gorron**	**84.23 339**	*e*P	**P**	**19 08 43.9**	**+0.4**
	comp=Z,8.0nm,0.4s,mb4.9					
GRR	**Gorron**	**84.23 339**	*e*P	**P**	**19 08 43.9**	**+0.4**
GRR			pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.9					
SMF	**Signal de Mont**	**84.47 335**⇑	*i*P	**P**	**19 08 45.1**	**+0.4**
	comp=Z,8.9nm,0.5s,mb4.8					
SMF	**Signal de Mont**	**84.47 335**⇑	*i*P	**P**	**19 08 45.1**	**+0.4**
SMF			pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.8					
AVF	**Avril sur Loir**	**84.49 335**⇑	*i*P	**P**	**19 08 45.2**	**+0.4**
	comp=Z,10nm,0.6s,mb4.8					
AVF	**Avril sur Loir**	**84.49 335**⇑	*i*P	**P**	**19 08 45.2**	**+0.4**
AVF			pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.8					
LPL	**La Plagne**	**84.54 333**⇑	*i*P	**P**	**19 08 46.0**	**+0.9**
	comp=Z,7.4nm,0.8s,mb4.6					
LPL	**La Plagne**	**84.54 333**⇑	*i*P	**P**	**19 08 46.0**	**+0.9**
LPL			pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.6					
LPG	**La Plagne**	**84.55 333**⇑	*i*P	**P**	**19 08 46.2**	**+1.0**
	comp=Z,5.8nm,0.6s,mb4.6					
LPG	**La Plagne**	**84.55 333**⇑	*i*P	**P**	**19 08 46.2**	**+1.0**
LPG			pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.6					
SGMF	**Saint Gilles**	**84.79 340**	*e*P	**P**	**19 08 47.1**	**+0.8**
	comp=Z,38nm,1.0s,mb5.2					
SGMF	**Saint Gilles**	**84.79 340**	*e*P	**P**	**19 08 47.1**	**+0.8**
SGMF			pmax	pmax		
	comp=Z,19nm,1.0s,mb5.2					
ROSF	**Rostrenen**	**84.89 340**⇑	*i*P	**P**	**19 08 47.9**	**+1.1**
	comp=Z,25nm,0.8s,mb5.1					
ROSF	**Rostrenen**	**84.89 340**⇑	*i*P	**P**	**19 08 47.9**	**+1.1**
ROSF			pmax	pmax		
	comp=Z,12nm,0.8s,mb5.1					
MBDF	**Montbardon**	**85.22 332**⇑	*i*P	**P**	**19 08 48.7**	**+0.2**
	comp=Z,6.7nm,0.5s,mb4.7					
MBDF	**Montbardon**	**85.22 332**⇑	*i*P	**P**	**19 08 48.7**	**+0.2**
MBDF			pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.7					
QUIF	**Quistinic**	**85.26 340**⇑	*i*P	**P**	**19 08 49.3**	**+0.7**
	comp=Z,11nm,0.7s,mb4.8					
QUIF	**Quistinic**	**85.26 340**⇑	*i*P	**P**	**19 08 49.3**	**+0.7**
QUIF			pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.8					
TCF	**Toulx Ste Croi**	**85.28 336**⇑	*i*P	**P**	**19 08 49.4**	**+0.6**
	comp=Z,2.1nm,0.4s,mb4.3					
TCF	**Toulx Ste Croi**	**85.28 336**⇑	*i*P	**P**	**19 08 49.4**	**+0.6**
TCF			pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.3					
IDI	**Anoyia**	**85.34 316**	P	**P**	**19 08 48.6**	**-0.8**
	comp=Z,6.6nm,0.5s,mb5.0,baz=56,slow=8.7,SNR=12					
ORIF	**Oris-en-Rattie**	**85.35 333**⇑	*i*P	**P**	**19 08 50.0**	**+0.8**
	comp=Z,8.6nm,0.8s,mb4.7					
ORIF			*e*R			
	comp=Z,75nm,19.0s					
MFF	**Saint Martin d**	**85.67 338**⇑	*i*P	**P**	**19 08 51.6**	**+0.9**
	comp=Z,8.4nm,0.5s,mb4.9					
MFF	**Saint Martin d**	**85.67 338**⇑	*i*P	**P**	**19 08 51.6**	**+0.9**
MFF			pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.9					
SBF	**Sospel**	**85.76 332**⇑	*i*P	**P**	**19 08 51.8**	**+0.6**
	comp=Z,19nm,0.7s,mb5.2					
SBF	**Sospel**	**85.76 332**⇑	*i*P	**P**	**19 08 51.8**	**+0.6**
SBF			pmax	pmax		
	comp=Z,9.0nm,0.6s,mb5.2					
VIVF	**Saint-Julien-l**	**85.80 334**⇑	*i*P	**P**	**19 08 52.1**	**+0.7**
SMRF	**Simiane la Rot**	**86.29 333**	*e*P	**P**	**19 08 55.6**	**+1.8**
	comp=Z,19nm,1.0s,mb5.0					
RJF	**Les Rejaudoux**	**86.38 336**	*e*P	**P**	**19 08 55.0**	**+0.8**
	comp=Z,9.7nm,0.7s,mb4.8					
RJF			*e*R			
	comp=Z,77nm,19.2s					
RJF	**Les Rejaudoux**	**86.38 336**	*e*P	**P**	**19 08 55.0**	**+0.8**
RJF			pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.8					
RJF			MLR	MLR		
	comp=Z,80nm,19.3s,MS4.1					
LMR	**La Mourre**	**86.54 332**	*e*P	**P**	**19 08 55.2**	**+0.2**
CAF	**Calviac**	**86.56 335**⇑	*i*P	**P**	**19 08 56.5**	**+1.5**
	comp=Z,11nm,0.8s,mb4.9					
CAF	**Calviac**	**86.56 335**⇑	*i*P	**P**	**19 08 56.5**	**+1.5**
CAF			pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.9					
LFF	**La Frestale**	**86.94 336**⇑	*i*P	**P**	**19 08 58.3**	**+1.4**
	comp=Z,8.6nm,0.5s,mb4.9					
LFF	**La Frestale**	**86.94 336**⇑	*i*P	**P**	**19 08 58.3**	**+1.4**
LFF			pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.9					
MTLF	**Montolieu**	**87.94 335**	*e*P	**P**	**19 09 03.0**	**+1.2**
	comp=Z,12nm,1.0s,mb4.8					
MTLF	**Montolieu**	**87.94 335**	*e*P	**P**	**19 09 03.0**	**+1.2**
MTLF			pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.8					
EPF	**Esparros**	**88.80 336**	*e*P	**P**	**19 09 06.5**	**+0.6**
ETSF	**Etsaut**	**89.18 336**⇑	*i*P	**P**	**19 09 08.7**	**+1.0**
	comp=Z,3.9nm,0.6s,mb4.6					
ETSF	**Etsaut**	**89.18 336**⇑	*i*P	**P**	**19 09 08.7**	**+1.0**
ETSF			pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.6					
ESDC	**Sonseca Array**	**93.14 338**	P	**P**	**19 09 26.1**	**-0.1**
	comp=Z,1.3nm,0.6s,mb4.6,baz=13,slow=4.3,SNR=11					
VNDA	**Vanda**	**120.96 176**	PKP	PKPdf	19 15 03.9	+1.4
	comp=Z,0.4nm,0.9s,baz=286,slow=4.7,SNR=3.6					
VNDA	**Vanda**	**120.96 176**	PKP	PKPdf	19 15 03.9	+1.3
SNAA	**Sanae**	**147.89 198**	P	PKPdf	19 15 56.5	+4.7
SNAA	**Sanae**	**147.89 198**		PKPdf	19 16 13.3	+22
SNAA	**Sanae**	**147.89 198**	PKPbc	PKPdf	19 15 56.6	+4.9
	comp=Z,1.3nm,0.8s,baz=172,slow=3.0,SNR=14					
SNAA	**Sanae**	**147.89 198**	PKP2	PKPab	19 15 56.6	-2.9
SNAA			pmax	pmax		
	comp=Z,1.0nm,0.8s					
VNA2	**Neumayer--Watz**	**149.43 197**	P	PKPdf	19 16 01.4	+7.2
VNA2	**Neumayer--Watz**	**149.43 197**		PKPdf	19 16 23.6	+29
BDFB	**Brasilia**	**149.78 28**	PKPbc	PKPdf	19 16 02.4	+6.0
	comp=Z,1.0nm,0.4s,baz=179,slow=5.5,SNR=5.3					
BDFB	**Brasilia**	**149.78 28**	PKP2	PKPab	19 16 02.4	-6.4
BDFB			pmax	pmax		
	comp=Z,1.0nm,0.4s					

*IDC **07** 19:28:32.0±3.0, 8.37S×159.35E, h55^{km}±31^{km}, mb3.8/5, mb1 3.9/6, mb1mx3.8/12, mbtmp4.0/6, ML3.9/1, Error ellipse: s-maj=33.0km s-min=26.2km az=76.0*
*NEIC **07** 19:28:32.2±2.3, 8.39S×159.40E, h59^{km}±23^{km}, mb3.9/2, Error ellipse: s-maj=27.8km s-min=19.5km az=148.0*

ISC 07 19:28:31.9±2.5, 8.5S±0.2×159.3E±0.2, h70^{km}±26^{km}, n11, σ0§68/13, mb3.8/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.15**	**148**	P	**P**	**19 28 52.4**	**-0.2**
	95nm,0.3s,baz=205,slow=4.5,SNR=41						
HNR				S	**S**	**19 29 08.1**	**+0.1**
	475nm,0.3s,baz=282,slow=16,SNR=22						
HNR	**Honiara**	**1.15**	**148**	*e*P	**P**	**19 28 52.2**	**-0.4**
HNR				S	**S**	**19 29 08.1**	**+0.1**
CTA	**Charters Tower**	**17.14**	**226**	P	**P**	**19 32 30.8**	**+2.5**
	0.3nm,0.3s,baz=54,slow=15,SNR=4.4						
CTAO	**Charters Tower**	**17.14**	**226**	P	**P**	**19 32 28.4**	**+0.1**
	3.5nm,0.6s						
WRAB	**Tennant Creek**	**26.72**	**242**	P	**P**	**19 34 06.2**	**-0.8**
	6.0nm,0.8s,mb4.2						
WRA	**Warramunga Arr**	**26.73**	**242**	P	**P**	**19 34 06.9**	**-0.1**
	4.6nm,0.8s,mb4.0,baz=67,slow=9.0,SNR=14						
STKA	**Stephens Creek**	**28.55**	**213**	P	**P**	**19 34 22.8**	**-0.6**
	2.3nm,0.5s,mb4.0,baz=48,slow=14,SNR=10						
STKA	**Stephens Creek**	**28.55**	**213**	P	**P**	**19 34 22.8**	**-0.6**
VNDA	**Vanda**	**69.05**	**179**	P	**P**	**19 39 32.1**	**+0.3**
	0.4nm,0.7s,mb3.3,baz=315,slow=4.3,SNR=2.6						
SONM	**Songino Array**	**72.91**	**326**	P	**P**	**19 39 55.0**	**-0.4**
	0.6nm,0.6s,mb3.6,baz=133,slow=5.3,SNR=5.4						
MKAR	**Makanchi Array**	**87.34**	**318**	P	**P**	**19 41 13.4**	**+0.9**
	0.8nm,0.6s,mb3.8,baz=95,slow=6.0,SNR=9.7						

MAN 07 19:32:09.6, 17.75N×121.09E, h1^{km}, mb3.8, ML2.6, MS2.1, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**0.70**	**94**	*e*P	Pg	19 32 21.0	-2.6

*NEIC **07** 19:34:28.6±0.4, 11.98S×166.69E, mb4.6/9, Error ellipse: s-maj=10.8km s-min=9.0km az=183.0*
*IDC **07** 19:34:29.3±0.6, 11.98S×166.64E, h108^{km}±5^{km}, mb4.1/12, mb1 4.2/15, mb1mx4.2/19, mbtmp4.4/15, MS3.5/10, Ms1 3.6/10, ms1mx3.5/19, Error ellipse: s-maj=14.0km s-min=12.4km az=162.0*

ISC 07 19:34:29.4±1.7, 12.10S±0.07×166.58E±0.08, h120^{km}±14^{km}, h105^{km}±3.1^{km}: pP-P, n35, σ0§82/32, mb4.3/17, 1D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.04**	**291**	P	**P**	**19 36 10.8**	**-0.3**
	20nm,0.3s,baz=158,slow=5.9,SNR=6.2						
HNR				S	**S**	**19 37 29.9**	**-0.1**
	24nm,0.3s,baz=236,slow=21,SNR=7.7						
HNR				LR	LR	19 37 47.2	
	comp=Z,128nm,19.2s,baz=122,slow=28						
HNR	**Honiara**	**7.04**	**291**	*e*P	**P**	**19 36 11.9**	**+0.8**
HNR				S	**S**	**19 37 29.9**	**-0.1**
HNR				LR	LR	19 37 47.2	
DZM	**Mont Dzumac**	**9.92**	**181**	P	**P**	**19 36 51.1**	**+1.1**
	2.3nm,0.3s,baz=59,slow=22,SNR=16						
DZM				S	**S**	**19 38 38.7**	**-1.1**
	0.4nm,0.3s,baz=329,slow=22,SNR=2.5						
PMG	**Port Moresby**	**19.27**	**276**	P	**P**	**19 38 46.6**	**-0.5**
	0.4nm,0.3s,baz=43,slow=16,SNR=3.6						
PMG				LR	LR	19 45 30.7	
	comp=Z,217nm,19.3s,baz=262,slow=34						
CTA	**Charters Tower**	**21.07**	**245**	P	**P**	**19 39 06.4**	**+0.9**
	11nm,0.6s,mb4.4,baz=73,slow=11,SNR=13						
CTAO	**Charters Tower**	**21.07**	**245**	*e*P	**P**	**19 39 07.0**	**+1.5**
	16nm,0.8s,mb4.4						
AFI	**Afiamalu**	**21.16**	**97**	P	**P**	**19 39 05.9**	**-0.6**
	29nm,0.9s,mb4.6,baz=194,slow=17,SNR=2.6						
AFI				LR	LR	19 46 08.9	
	comp=Z,153nm,19.6s,baz=284,slow=33						
URZ	**Urewera**	**27.70**	**162**	LR	LR	19 48 34.5	
	comp=Z,217nm,21.0s,baz=274,slow=30						
STKA	**Stephens Creek**	**30.27**	**225**⇓	*i*P	**P**	**19 40 32.2**	**+0.8**
	4.0nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**30.27**	**225**	P	**P**	**19 40 31.3**	**-0.1**
	5.0nm,0.7s,mb4.3,baz=38,slow=8.7,SNR=15						
RPZ	**Rata Peaks**	**31.74**	**174**	P	**P**	**19 40 44.2**	**+0.1**
	14nm,0.7s,mb4.8,baz=98,slow=3.5,SNR=7.6						
RPZ				LR	LR	19 49 59.7	
	comp=Z,53nm,20.6s,baz=200,slow=29						
WRAB	**Tennant Creek**	**31.90**	**252**	*e*P	**P**	**19 40 44.9**	**-0.8**
	8.1nm,0.8s,mb4.5						
WB2	**Warramunga Arr**	**31.90**	**252**	*e*P	**P**	**19 40 45.1**	**-0.6**
WRA	**Warramunga Arr**	**31.91**	**252**	P	**P**	**19 40 44.4**	**-1.4**
	2.5nm,0.6s,mb4.1,baz=84,slow=9.3,SNR=30						
WRA				pP	pP	19 41 11.4	-1.0
	2.9nm,0.8s,baz=83,slow=8.5,SNR=6.0						
FITZ	**Fitzroy Crossi**	**39.91**	**256**	*e*P	**P**	**19 41 54.9**	**+1.5**
	14nm,0.9s,mb4.8						
FITZ	**Fitzroy Crossi**	**39.91**	**256**	P	**P**	**19 41 53.9**	**+0.6**
	20nm,0.9s,mb5.0,baz=115,slow=3.2,SNR=13						
FITZ				pP	pP	19 42 19.5	-1.3
	15nm,0.9s,baz=77,slow=4.3,SNR=3.9						
PPT	**Papeete**	**42.66**	**103**	LR	LR	19 57 01.5	
	comp=Z,13nm,21.8s,baz=309,slow=32						
MBWA	**Marble Bar**	**45.65**	**252**	*e*P	**P**	**19 42 40.9**	**+1.0**
	11nm,0.7s,mb4.7						
KLBR	**Kellerberrin**	**48.85**	**239**	*e*P	**P**	**19 43 04.5**	**-0.3**
	4.9nm,0.5s,mb4.7						
VNDA	**Vanda**	**65.46**	**181**	P	**P**	**19 45 01.6**	**+0.3**
	3.4nm,1.1s,mb4.1,baz=342,slow=6.6,SNR=6.5						
VNDA	**Vanda**	**65.46**	**181**	*e*P	**P**	**19 45 01.3**	**0.0**
	10nm,1.4s,mb4.5						
CASY	**Casey**	**65.70**	**202**	*e*P	**P**	**19 45 02.1**	**-0.9**
	2.2nm,0.5s,mb4.2						
SBA	**Scott Base**	**65.75**	**180**	*e*P	**P**	**19 45 04.1**	**+0.9**
	11nm,1.1s,mb4.6						
SONM	**Songino Array**	**79.99**	**324**	P	**P**	**19 46 26.3**	**-0.6**
	0.4nm,0.9s,mb3.2,baz=45,slow=4.1,SNR=3.8						
SONM				pP	pP	19 46 52.8	-4.7
	0.4nm,0.5s,baz=143,slow=7.4,SNR=3.4						
ILAR	**Eielson Array**	**84.25**	**18**	P	**P**	**19 46 48.5**	**+0.1**
	2.0nm,0.7s,mb4.1,baz=240,slow=5.0,SNR=24						
ILAR				pP	pP	19 47 16.1	-3.2
	0.8nm,0.9s,baz=233,slow=6.0,SNR=2.6						
PDAR	**Pinedale Array**	**93.66**	**47**	P	**P**	**19 47 31.9**	**-1.7**
	0.5nm,0.4s,mb4.2,baz=50,slow=12,SNR=4.9						
PDAR				LR	LR	20 23 36.9	
	comp=Z,40nm,18.1s,baz=60,slow=32						
MKAR	**Makanchi Array**	**94.84**	**317**	P	**P**	**19 47 39.2**	**+0.4**
	0.8nm,0.7s,mb4.2,baz=95,slow=6.9,SNR=12						
MKAR				pP	pP	19 48 05.3	-5.0
	2.0nm,0.8s,baz=100,slow=5.9,SNR=3.9						
ZAL	**Zalesovo**	**94.89**	**324**	LR	LR	20 24 57.4	
	comp=Z,40nm,21.2s,baz=91,slow=32						
YKA	**Yellowknife Ar**	**95.53**	**27**	LR	LR	20 27 22.7	
	comp=Z,32nm,18.4s,baz=320,slow=33						
TXAR	**Lajitas Array**	**95.61**	**61**	P	**P**	**19 47 44.1**	**+1.4**
	0.2nm,0.6s,mb3.7,baz=214,slow=6.5,SNR=3.0						
TXAR				pP	pP	19 48 11.6	-2.7
	0.3nm,0.8s,baz=211,slow=7.3,SNR=3.3						
TXAR				LR	LR	20 25 46.8	
	comp=Z,49nm,18.7s,baz=335,slow=32						
SNAA	**Sanae**	**96.12**	**183**		**P**	**19 47 44.0**	**0.0**
VNA3	**Neumayer Olymp**	**96.82**	**181**		**P**	**19 47 47.5**	**+0.3**
VNA2	**Neumayer--Watz**	**97.07**	**182**		**P**	**19 47 48.8**	**+0.4**
ARCES	**ARCESS Array B**	**117.55**	**346**	PKP	PKPdf	19 53 01.1	+0.5
	2.7nm,1.1s,baz=72,slow=2.2,SNR=9.8						
ARCES				pPKP		19 53 30.4	
	1.1nm,0.8s,baz=297,slow=2.7,SNR=1.9						
FINES	**FINESS Array B**	**123.04**	**339**	PKP	PKPdf	19 53 12.0	+0.6
	1.8nm,1.0s,baz=225,slow=2.7,SNR=4.3						

*CSEM **07** 19:56:30.2±0.7, 37.77N×25.48W, h3^{km}, ML2.2, Error ellipse: s-maj=86.7km s-min=11.9km az=10.0, After PDA*
*PDA **07** 19:56:30.2±0.7, 37.77N×25.48W, h3^{km}±1^{km}, MD2.5, ML2.2, Error ellipse: s-maj=1.1km s-min=0.7km az=15.0*

SVSA 07 19:56:30.2±0.7, 37.77N×25.48W, h3^{km}±1^{km}, MD2.5, ML2.2, Error ellipse: s-maj=1.1km s-min=0.7km az=15.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFA	**Lagoa do Fogo**	**0.01**	**319**	*i*P	Pg	19 56 31.3	+0.5
MESC	**Monte Escuro**	**0.04**	**42**	*i*P	Pg	19 56 31.6	+0.5
MESC				*i*S	Sg	19 56 33.2	+1.4
MESC	**Monte Escuro**	**0.04**	**42**	*i*S	Sg	19 56 33.2	+1.4
VIF	**Vila Franca**	**0.04**	**126**	*i*P	Pg	19 56 31.7	+0.6
VIF				*i*S	Sg	19 56 33.1	+1.3
	2μm,0.2s						
VIF	**Vila Franca**	**0.04**	**126**	*i*S	Sg	19 56 33.1	+1.3
PRCH	**Ribeira Ch**	**0.04**	**185**	*i*P	Pg	19 56 31.5	+0.3
PRCH				*i*S	Sg	19 56 32.5	+0.7
	6μm,0.2s						
PRCH	**Ribeira Ch**	**0.04**	**185**	*i*S	Sg	19 56 32.5	+0.7
PVER	**Pico Vermelho**	**0.04**	**316**	*i*P	Pg	19 56 31.5	+0.2
PVER				*i*S	Sg	19 56 32.6	+0.6
	2μm,0.2s						
PVER	**Pico Vermelho**	**0.04**	**316**	*i*S	Sg	19 56 32.6	+0.6
PMAT	**Coroa da Mata**	**0.05**	**5**	*i*P	Pg	19 56 31.7	+0.3
PMAT				*i*S	Sg	19 56 33.2	+1.0
	923nm,0.2s						
PMAT	**Coroa da Mata**	**0.05**	**5**	*i*S	Sg	19 56 33.2	+1.0
CML	**Cha da Macela**	**0.06**	**275**	*e*P	Pg	19 56 31.9	+0.4
CML				*i*S	Sg	19 56 33.5	+1.2
CML	**Cha da Macela**	**0.06**	**275**	*i*S	Sg	19 56 33.5	+1.2
PCNG	**Congro**	**0.06**	**89**	*i*P	Pg	19 56 32.1	+0.5
PCNG				*i*S	Sg	19 56 33.8	+1.3
	1μm,0.1s						
PCNG	**Congro**	**0.06**	**89**	*i*S	Sg	19 56 33.8	+1.3
FRA1	**Furnas**	**0.10**	**104**	*e*P	Pg	19 56 33.0	+0.8
FAC	**Faja de Cima**	**0.14**	**273**	*i*S	Sg	19 56 36.2	+1.3
PFAD	**Fenais da Ajud**	**0.14**

RWWY	Rawlins	2.50 217	eP	Pn	20 04 51.3	+1.6
LAO	LASA Array	3.06 347	P	Pn	20 04 57.8	+0.2
PDAR	Pinedale Array	3.31 255	Pn	Pn	20 05 03.0	+1.7
	12nm,0.3s,baz=77,slow=18,SNR=41					
PDAR			Pg	Pg	20 05 07.2	-6.0
	12nm,0.3s,baz=72,slow=21,SNR=72					
PDAR			Lg		20 05 47.9	
	12nm,0.3s,baz=72,slow=28,SNR=16					
GCMT	Greycliff	3.79 305	P	Pn	20 05 07.8	-0.2
LOHW	Long Hollow	3.91 270	P	Pn	20 05 10.6	+0.8
SNOW	Snow King Moun	4.03 268	P	Pn	20 05 12.4	+0.9
REDW	Red Top Meadow	4.12 267	eP	Pn	20 05 11.4	-1.2
IMW	Indian Meadow	4.15 275	P	Pn	20 05 13.2	+0.1
TPAW	Teton Pass	4.17 269	P	Pn	20 05 14.0	+0.6
AHID	Auburn Hatcher	4.40 260	P	Pn	20 05 17.6	+0.8
RRI2	Red Ridge	4.46 267	eP	Pn	20 05 17.6	+0.1
SMCO	Snowmass	4.72 197	P	Pn	20 05 21.5	+0.3
BOZ	Bozeman (W)	4.97 295	eP	Pn	20 05 23.9	-0.8
DAU	Daniels Canyon	5.58 236	P	Pn	20 05 32.8	-0.5
MCMT	McKenzie Canyo	5.59 284	P	Pn	20 05 35.1	+1.5
SPUT	South Promonto	5.86 248	P	Pn	20 05 36.3	-1.0
MPU	Maple Canyon	6.05 235	eP	Pn	20 05 39.6	-0.4
SRU	San Rafael	6.09 223	P	Pn	20 05 38.3	-2.2
PV01	Paradox Valley	6.12 206	eP	Pn	20 05 40.9	-0.2
TMUT	Trail Mountain	6.30 228	P	Pn	20 05 42.2	-1.4
MSU	Marysvale	7.39 228	P	Pn	20 05 58.1	-0.7
ULM	Lac du Bonnet	9.13 41	Pn	P	20 06 21.4	-1.7
	0.7nm,0.3s,baz=233,slow=12,SNR=3.9					
ULM			Lg		20 08 54.2	
	0.2nm,0.3s,baz=127,slow=21,SNR=2.4					
ARCES	ARCESS Array B	61.43 18	P	P	20 14 25.4	-1.5
	0.6nm,0.5s,mb4.0,baz=334,slow=5.7,SNR=6.9					

ISC 07 20:20:33.2±0.8, 39.44N±0.05×33.14E±0.05, h10km, n6, σ0§99/11, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAMT	Kaman	0.45	99	PG	Pg	20 20 42.0	-0.5
KAMT				SG	Sg	20 20 47.6	-0.9
LOD	Lodumlu	0.53	327	PG	Pg	20 20 44.3	+0.3
CDAG	Cicekdag	0.97	79	*i* P	Pb	20 20 50.5	-1.2
CDAG				*i* S	Sb	20 21 03.9	-0.5
ELDT	Eldivan	1.07	12	*i* P	Pb	20 20 54.2	+0.8
ELDT				*i* S	Sb	20 21 07.0	-0.3
KDHN	Kadinhani	1.21	221	*i* P	Pb	20 20 49.1	-6.7
KDHN				*i* S	Sb	20 21 10.6	-0.8
AVNT	Avonos	1.49	116	*i* P	Pn	20 21 02.0	+1.8
AVNT				*i* S	Sb	20 21 21.0	+1.6

*IDC **07** 20:39:01.8±0.7, 46.81S×33.14E, mb4.3/12, mb1 4.5/14, mb1mx4.3/22, mbtmp4.4/14, ML4.6/2, MS3.6/11, Ms1 3.6/11, ms1mx3.5/18, Error ellipse: s-maj=28.5km s-min=13.6km az=69.0*
*NEIC **07** 20:39:03.3±0.4, 46.76S×33.22E, h10km, mb4.5/5, Error ellipse: s-maj=16.0km s-min=7.3km az=78.0*

ISC 07 20:39:01.6±0.5, 46.78S±0.08×33.2E±0.2, h10km, n43, σ1§04/38, mb4.2/14, MS3.5/9, 1C, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	Sutherland	17.21	322	P	P	20 43 04.2	+0.6
	2.8nm,0.3s,baz=130,slow=12,SNR=21						
SUR				LR	LR	20 48 17.3	
	comp=Z,371nm,20.3s,baz=92,slow=32						
SUR	Sutherland	17.21	322	eP	P	20 43 03.9	+0.3
	12nm,0.4s						
SUR				LR	LR	20 48 17.3	
BOSA	Boshof	19.16	338	P	P	20 43 26.6	-1.0
	1.1nm,0.3s,baz=165,slow=11,SNR=28						
BOSA				LR	LR	20 48 57.9	
	comp=Z,203nm,20.9s,baz=169,slow=31						
LBTB	Lobatse	22.54	342	P	P	20 44 03.8	+0.7
	13nm,0.7s,mb4.5,baz=181,slow=11,SNR=29						
LBTB				LR	LR	20 51 38.0	
	comp=Z,116nm,22.0s,MS3.3,baz=177,slow=34						
LBTB	Lobatse	22.54	342	eP	P	20 44 03.2	+0.2
	20nm,0.9s,mb4.5						
LBTB				LR	LR	20 51 38.0	
MAW	Mawson	25.88	154	P	P	20 44 34.5	-0.2
	6.6nm,0.7s,mb4.3,baz=287,slow=14,SNR=6.1						
MAW				LR	LR	20 51 37.1	
	comp=Z,326nm,20.9s,MS3.8,baz=209,slow=29						
MATP	Matopo	26.56	350	P	P	20 44 40.5	-0.9
	2.9nm,0.5s,mb4.1,baz=175,slow=9.4,SNR=17						
MATP				LR	LR	20 53 46.2	
	comp=Z,108nm,19.0s,MS3.4,baz=213,slow=33						
SNAA	Sanae	30.11	202		P	20 45 12.7	-0.4
SNAA	Sanae	30.11	202		P	20 45 18.8	+5.7
SNAA	Sanae	30.11	202		P	20 45 22.2	+9.1
SNAA	Sanae	30.11	202		P	20 45 32.7	+20
SNAA	Sanae	30.11	202	P	P	20 45 12.9	-0.2
	0.9nm,0.6s,mb3.7,baz=74,slow=7.6,SNR=29						
SNAA				LR	LR	20 55 40.1	
	comp=Z,44nm,18.9s,MS3.1,baz=308,slow=33						
SNAA	Sanae	30.11	202	P	P	20 45 12.7	-0.4
TSUM	Tsumeb	30.33	330	P	P	20 45 16.5	+1.0
	6.6nm,0.8s,mb4.4,baz=159,slow=9.9,SNR=17						
TSUM	Tsumeb	30.33	330	eP	P	20 45 16.1	+0.6
	6.0nm,0.7s,mb4.4						
VNA2	Neumayer--Watz	30.94	205		P	20 45 21.0	+0.7
VNA2	Neumayer--Watz	30.94	205		P	20 45 24.8	+4.5
VNA2	Neumayer--Watz	30.94	205		P	20 45 31.3	+11
VNA2	Neumayer--Watz	30.94	205		P	20 45 36.3	+16
VNA1	Neumayer--Stat	31.05	205		P	20 45 22.4	+1.0
VNA1	Neumayer--Stat	31.05	205		P	20 45 26.1	+4.7
VNA1	Neumayer--Stat	31.05	205		P	20 45 33.0	+12
VNA1	Neumayer--Stat	31.05	205	P	P	20 45 41.6	+20
LSZ	Lusaka	31.68	351	eP	P	20 45 26.4	-1.0
	5.9nm,0.9s,mb4.4						
VNA3	Neumayer Olymp	31.74	205		P	20 45 27.6	+0.2
VNA3	Neumayer Olymp	31.74	205		P	20 45 31.1	+3.7
VNA3	Neumayer Olymp	31.74	205		P	20 45 38.3	+11
VNA3	Neumayer Olymp	31.74	205		P	20 45 42.8	+15
QSPA	South Pole Qui	43.44	180⇑	*i* P	P	20 47 04.6	-1.0
	6.2nm,0.7s,mb4.5						
KMBO	Kilima Mbogo	45.61	6	P	P	20 47 24.8	+0.9
	0.8nm,0.5s,mb3.9,baz=192,slow=19,SNR=5.1						
KMBO				LR	LR	21 05 41.5	
	comp=Z,49nm,18.1s,MS3.5,baz=252,slow=35						
VNDA	Vanda	52.01	168	P	P	20 48 11.4	-1.2
	3.4nm,0.7s,mb4.4,baz=245,slow=7.1,SNR=14						
DBIC	Dimbokro	62.99	317	P	P	20 49 30.7	-0.3
	4.9nm,0.9s,mb4.7,baz=110,slow=4.8,SNR=4.3						
DBIC	Dimbokro	62.99	317	P	P	20 49 30.7	-0.3
PLCA	Paso Flores	69.61	232	LR	LR	21 15 28.8	
	comp=Z,43nm,19.3s,MS3.7,baz=2.9,slow=31						
CPUP	Villa Florida	71.62	251	LR	LR	21 17 36.6	
	comp=Z,27nm,19.0s,MS3.5,baz=201,slow=32						
BDFB	Brasilia	72.76	265	LR	LR	21 16 54.8	
	comp=Z,45nm,20.5s,MS3.7,baz=305,slow=31						
STKA	Stephens Creek	78.65	125	P	P	20 51 05.8	+0.7
	3.0nm,0.8s,mb4.3,baz=200,slow=7.4,SNR=3.5						
STKA	Stephens Creek	78.65	125	P	P	20 51 05.8	+0.7
FITZ	Fitzroy Crossi	78.70	104	P	P	20 51 07.6	+1.9
	12nm,1.0s,mb4.8,baz=172,slow=3.2,SNR=4.0						
SIV	San Ignacio	81.36	256	P	P	20 51 20.2	+0.3
	0.7nm,0.6s,mb3.7,baz=171,slow=7.5,SNR=4.4						
WRA	Warramunga Arr	83.06	112	P	P	20 51 27.6	-1.0
	1.0nm,1.0s,mb3.8,baz=221,slow=4.0,SNR=4.7						
LPAZ	La Paz	85.79	251	LR	LR	21 26 56.6	
	comp=Z,37nm,21.5s,MS3.8,baz=253,slow=34						
TXAR	Lajitas Array	142.34	258	PKhKP		20 58 32.3	
	0.3nm,0.5s,baz=143,slow=6.3,SNR=4.6						

MAN 07 20:46:02.5, 17.68N×121.07E, h1km, mb3.7, ML2.4, MS1.9, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	Conner	0.24	43	eP	Pg	20 46 06.9	-0.4
APYP				eS	Sg	20 46 25.9	+15
ABRA	Dolores	0.34	264	eP	Pg	20 46 08.9	-0.5
CVP	Callao Caves	0.72	88	eP	Pg	20 46 15.0	-1.9
CAUP	Cauayan	1.03	136	eP	Pb	20 46 23.8	+1.0

*IDC **07** 20:56:49.8±1.1, 11.77N×125.32E, mb3.9/9, mb1 4.0/9, mb1mx3.9/18, mbtmp3.9/9, Error ellipse: s-maj=139.3km s-min=18.7km az=67.0*

*MAN **07** 20:56:57.4, 11.86N×125.25E, h29km, mb4.7, ML3.6, MS3.6*

ISC 07 20:56:53.0±0.7, 11.81N±0.05×125.58E±0.07, h33km, n21, σ0§85/23, mb4.0/9, 1C-1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	Catarman	1.14	308	eS	S	20 57 27.1	-0.2
SCPH	Surigao	2.02	183⇑	eP	P	20 57 21.4	-3.9
SCPH				eS	S	20 57 49.8	+0.2
LLP	Lapu-Lapu	2.17	227	*i* P	P	20 57 28.7	+1.2
LLP				eS	S	20 57 52.3	-1.2
RCP	Roxas	2.79	265⇓	eP	P	20 57 36.9	+0.6
BUTP	Butuan	2.83	179	eP	P	20 57 41.8	+5.0
OTRP	Odiongan	3.53	279	eP	P	20 57 46.8	0.0
BUKP	Musuan	3.94	188	eP	P	20 57 58.7	+6.0
BOAC	Boac	4.00	295	eP	P	20 57 49.0	-4.4
CUYO	Cuyo Island	4.58	258	eP	P	20 58 01.7	-0.1
POLP	Polillo Island	4.58	310	eP	P	20 58 04.7	+3.0
BUSP	Coron	5.27	273	eP	P	20 58 11.6	+0.1
BALP	Baler	5.51	316	eP	P	20 58 15.4	+0.6
WRA	Warramunga Arr	32.71	165	P	P	21 03 24.7	-0.3
	0.6nm,1.1s,mb3.5,baz=344,slow=8.8,SNR=4.6						
WRA				PcP	PcP	21 06 09.2	-1.0
	0.3nm,0.5s,baz=336,slow=2.7,SNR=7.2						
SONM	Songino Array	39.35	340	P	P	21 04 21.3	+0.5
	0.8nm,0.4s,mb3.8,baz=158,slow=9.9,SNR=12						
STKA	Stephens Creek	46.07	161	P	P	21 05 16.9	+1.0
	1.1nm,0.5s,mb4.0,baz=312,slow=12,SNR=3.8						
MKAR	Makanchi Array	50.40	322	P	P	21 05 48.8	-0.4
	1.6nm,0.8s,mb4.1,baz=121,slow=8.3,SNR=17						
MKAR				PcP	PcP	21 07 05.9	-1.7
	0.5nm,0.7s,baz=117,slow=2.7,SNR=3.9						
ZAL	Zalesovo	52.96	331	P	P	21 06 07.2	-1.1
	0.9nm,0.3s,mb4.2,baz=347,slow=4.8,SNR=4.7						
BVAR	Borovoye Array	60.02	325	P	P	21 06 57.5	-1.3
	0.6nm,0.4s,mb3.9,baz=129,slow=9.5,SNR=11						
ARCES	ARCESS Array B	82.52	340	P	P	21 09 13.7	+0.2
	1.2nm,0.4s,mb4.3,baz=81,slow=6.6,SNR=18						
FINES	FINESS Array B	84.22	332	P	P	21 09 22.1	-0.1
	0.4nm,0.4s,mb3.9,baz=90,slow=3.8,SNR=7.4						
AKASG	Malin Array Be	84.95	321	P	P	21 09 25.3	-0.8
	0.4nm,0.4s,mb3.9,baz=59,slow=5.3,SNR=6.0						

*IDC **07** 21:03:06.7±7.5, 3.70N×123.06E, h542km±102km, mb3.2/6, mb1 3.3/6, mb1mx3.0/19, mbtmp4.0/6, Error ellipse: s-maj=100.3km s-min=23.2km az=62.0*
*NEIC **07** 21:03:06.3±2.9, 3.66N×123.00E, h540km±37km, mb4.2/1, Error ellipse: s-maj=93.4km s-min=9.4km az=60.0*

ISC 07 21:03:04.4±4.4, 3.8N±0.5×123.2E±0.8, h535km±58km, n12, σ0§60/12, mb3.7/6, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	Kota Kinabalu	7.30	288	eP	P	21 04 55.8	+0.1
KAKA	Kakadu	18.78	151	eP	P	21 07 00.0	+9.3
	11nm,0.6s						
FITZ	Fitzroy Crossi	21.87	174	eP	P	21 07 18.8	-0.6
	6.6nm,1.0s,mb4.2						
FITZ	Fitzroy Crossi	21.87	174	P	P	21 07 19.3	-0.1
	4.1nm,0.7s,mb4.2,baz=6.4,slow=13,SNR=13						
WRAB	Tennant Creek	25.99	155	eP	P	21 07 55.9	-0.4
WRA	Warramunga Arr	25.99	155	P	P	21 07 56.0	-0.3
	2.3nm,0.3s,mb4.2,baz=336,slow=9.7,SNR=64						
WB2	Warramunga Arr	26.00	155	eP	P	21 07 56.0	-0.4
STKA	Stephens Creek	39.54	155	P	P	21 09 52.1	+1.7
	1.9nm,0.5s,mb3.9,baz=2.0,slow=8.3,SNR=4.6						
MKAR	Makanchi Array	55.54	327	P	P	21 11 51.1	+0.3
	1.1nm,0.3s,mb3.5,baz=124,slow=7.7,SNR=50						
MKAR				PcP	PcP	21 12 42.0	-0.8
	0.4nm,0.5s,baz=173,slow=2.2,SNR=5.8						
ZAL	Zalesovo	58.99	335	P	P	21 12 14.0	-0.2
	0.6nm,0.4s,mb3.2,baz=353,slow=9.0,SNR=3.2						
BVAR	Borovoye Array	65.38	328	P	P	21 12 55.2	-0.3
	0.4nm,0.5s,mb3.1,baz=124,slow=5.3,SNR=4.1						
BRVK	Borovoye	65.45	328	eP	P	21 12 55.9	0.0

MOS 07 21:22:44.6±2.4, 42.95N×47.83E, h18km, mb3.5/1, 2D, Error ellipse: s-maj=33.1km s-min=24.7km az=61.1, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAK	Makhachkala	0.24	273	ePG	Pb	21 22 51.0	+0.8
MNSR	Manas	0.26	198	⇓*i*PG	Pb	21 22 50.0	-0.5
MNSR				*i* S	Sb	21 22 54.3	-0.3
MNSR				pmax	pmax		
	comp=Z,117nm,0.2s						
DBC	Dubki	0.74	276	ePG	Pb	21 22 55.5	-3.1
XNZR	Khunzakh	0.92	244	ePG	Pb	21 23 00.4	-1.4
XNZR				eS	Sb	21 23 18.2	+4.6
XNZR				pmax	pmax		
	comp=Z,15nm,0.2s						
AKT	Akhty	1.47	183	⇓*i*PG	Pn	21 23 08.0	-2.5

*IDC **07** 21:25:31.8±1.8, 0.84N×97.04E, mb3.8/7, mb1 4.0/7, mb1mx3.8/17, mbtmp3.8/7, Error ellipse: s-maj=72.7km s-min=26.1km az=51.0*
*NEIC **07** 21:25:36.8±0.9, 0.97N×97.22E, h30km, Error ellipse: s-maj=20.6km s-min=17.1km az=222.0*

ISC 07 21:25:35.1±1.2, 1.0N±0.2×97.2E±0.2, h30km, n9, σ0§61/9, mb3.8/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.46	39	eP	Pn	21 26 56.4	-0.2
KULM				*e*		21 27 03.4	
WRA	Warramunga Arr	41.92	122	P	P	21 33 25.0	0.0
	0.4nm,0.6s,mb3.2,baz=305,slow=9.0,SNR=3.9						
SONM	Songino Array	47.31	8	P	P	21 34 08.5	+0.5
	1.5nm,0.5s,mb4.2,baz=188,slow=9.8,SNR=14						
MKAR	Makanchi Array	47.43	346	P	P	21 34 09.6	+0.7
	1.6nm,0.7s,mb4.1,baz=160,slow=8.1,SNR=13						
MKAR	Makanchi Array	47.43	346	P	P	21 34 09.6	+0.6
ZAL	Zalesovo	53.74	351	P	P	21 34 56.2	-0.5
	1.7nm,0.4s,mb4.3,baz=297,slow=4.5,SNR=8.8						
BVAR	Borovoye Array	56.44	341	P	P	21 35 15.6	-0.8
	0.5nm,0.5s,mb3.8,baz=149,slow=8.6,SNR=5.8						
AKASG	Malin Array Be	75.42	322	P	P	21 37 17.4	-0.6
	0.1nm,0.3s,mb3.2,baz=76,slow=35,SNR=3.0						
ARCES	ARCESS Array B	82.72	340	P	P	21 37 58.1	+1.0
	1.1nm,0.8s,mb3.9,baz=90,slow=4.9,SNR=4.9						

MAN 07 21:40:01.5, 16.28N×120.88E, h1km, mb3.9, ML2.7, MS2.3, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCPH	Palayan	0.75	164	eP	Pg	21 40 16.0	-0.5
PCPH				eS	Sg	21 40 26.4	0.0
BOLP	Bolinao	0.93	276	eP	Pg	21 40 19.4	-0.8

IDC 07 21:49:21.1±2.7, 39.02S×75.35W, mb3.5/2, mb1 3.9/3, mb1mx3.7/13, mbtmp3.5/3, ML3.9/1, MS3.0/1, Ms1 3.0/1, ms1mx2.7/7, Error ellipse: s-maj=70.5km s-min=29.0km az=40.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.07	116	Pn	Pn	21 50 24.6	-1.4
	1.6nm,0.3s,baz=291,slow=10,SNR=25						
PLCA				Sn	Sn	21 51 14.5	-0.6
	1.5nm,0.3s,baz=192,slow=8.9,SNR=3.9						
CPUP	Villa Florida	19.71	55	LR	LR	22 00 36.9	
	comp=Z,46nm,20.5s,baz=340,slow=34						
LPAZ	La Paz	23.52	18	P	P	21 54 33.5	-0.2
	1.2nm,0.8s,baz=193,slow=7.4,SNR=5.5						
TXAR	Lajitas Array	72.95	334	P	P	22 00 52.5	-1.8
	0.4nm,0.6s,baz=157,slow=8.5,SNR=7.9						

CASC 07 22:05:57.4±2.7, 12.44N×88.18W, h33km±23km, MD3.5, ML3.1, 6C-8D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	Conchagua	0.90	22⇑	eP	Pn	22 06 15.9	+2.0
VSM	San Miguel	0.99	355⇓	eP	Pn	22 06 16.5	+1.3
BLLM	Bellamira	1.00	357⇓	eP	Pn	22 06 16.0	+0.7
BLLM				eS	Sn	22 06 27.4	-0.9
CRIN	San Cristobal	1.14	77⇓	eP	Pn	22 06 16.0	-1.3
CRIN				eS	Sn	22 06 32.5	+0.7
LEON	Leon	1.26	91⇓	eP	Pn	22 06 17.6	-1.5
LEON				eS	Sn	22 06 34.6	-0.4
TEL3	Telica 3	1.31	84⇓	eP	Pn	22 06 18.2	-1.6
TEL3				eS	Sn	22 06 36.8	+0.4
	comp=Z,282nm,0.2s						
TELN	Telica	1.33	83⇑	eP	Pn	22 06 18.4	-1.7
TELN				eS	Sn	22 06 37.4	+0.6
SNVI	San Vicente	1.33	331⇓	eP	Pn	22 06 20.2	+0.2
SNVI				eS	Sn	22 06 36.9	+0.1
MIRN	Miramar	1.44	90⇓	eP	Pn	22 06 20.1	-1.4
MIRN				eS	Sn	22 06 41.6	+2.1
LCBS	La Ceiba	1.44	327⇑	eP	Pn	22 06 21.6	0.0
LCBS				eS	Sn	22 06 38.6	-0.9
LFRS	El Faro	1.46	324⇑	eP	Pn	22 06 22.2	+0.3
LFRS				eS	Sn	22 06 39.5	-0.5
LBRS	Las Brisas	1.54	327⇓	eP	Pn	22 06 23.7	+0.6
COPN	Copaltepe	1.58	99⇑	eP	Pn	22 06 22.4	-1.2
COPN				eS	Sn	22 06 43.4	+0.4
LFU	La Fuente	1.59	325⇓	eP	Pn	22 06 24.3	+0.6
MOMJ	Momotombo	1.60	91	eP	Pn	22 06 22.6	-1.4
MOMJ				eS	Sn	22 06 44.9	+1.1
XAVN	Gruta Xavier	1.84	99	eP	Pn	22 06 26.3	-1.0
XAVN				eS	Sn	22 06 50.1	+0.5
MGAN	Managua	1.91	98	eP	Pn	22 06 26.4	-2.0
MGAN				eS	Sn	22 06 52.2	+0.6
TICN	Ticuantepe	1.95	102	eP	Pn	22 06 28.2	-0.6
RBDL	Robledal	2.22	319	eP	Pn	22 06 33.9	+1.1

IDC 07 22:08:38.9±1.8, 4.43N×95.27E, mb3.9/7, mb1 4.1/7, mb1mx3.8/19, mbtmp3.9/7, Error ellipse: s-maj=99.1km s-min=24.5km az=51.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	43.67	347	P	P	22 16 45.5	-1.6
	0.5nm,0.4s,baz=164,slow=7.6,SNR=16						
WRA	Warramunga Arr	45.39	124	P	P	22 16 59.5	-1.8
	2.5nm,0.6s,baz=302,slow=9.2,SNR=20						
ZAL	Zalesovo	50.09	352	P	P	22 17 35.4	-2.2
	0.8nm,0.5s,baz=295,slow=7.2,SNR=3.4						
BVAR	Borovoye Array	52.59	341	P	P	22 17 54.4	-2.2
	1.3nm,0.6s,baz=141,slow=9.5,SNR=6.0						
FINES	FINESS Array B	76.27	332	P	P	22 20 29.0	-2.0
	1.7nm,0.9s,baz=90,slow=7.6,SNR=5.6						
ARCES	ARCESS Array B	78.87	340	P	P	22 20 43.5	-1.6
	0.8nm,0.5s,baz=91,slow=5.8,SNR=12						
GERES	GERESS Array B	81.13	319	P	P	22 20 56.8	-0.9
	0.3nm,0.6s,baz=90,slow=5.3,SNR=4.5						

*IDC **07** 22:17:49.5±1.3, 7.65N×93.67E, mb3.9/8, mb1 4.0/8, mb1mx3.8/19, mbtmp3.9/8, Error ellipse: s-maj=63.4km s-min=22.5km az=55.0*
*NEIC **07** 22:17:53.8±1.0, 7.53N×93.64E, h30km, mb4.2/2, Error ellipse: s-maj=45.2km s-min=14.7km az=58.0*

ISC 07 22:17:52.0±1.1, 7.4N±0.2×93.6E±0.3, h33km, n19, σ1§10/18, mb4.0/17, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKI	Pulchoki	21.49	340	eP	P	22 22 41.8	+1.8
	10nm,0.6s,mb4.4						
DMN	Daman	21.63	339	eP	P	22 22 42.5	+1.1
	21nm,0.9s,mb4.6						
KKN	Kakani	21.74	340	eP	P	22 22 43.3	+0.9
	9.5nm,0.6s,mb4.4						
GKN	Gorkha	22.16	339	eP	P	22 22 46.2	-0.4
	13nm,0.6s,mb4.5						
LSA	Lhasa	22.29	354	eP	P	22 22 50.1	+2.2
	6.8nm,1.0s,mb4.0						
KOLN	Koldanda	22.34	336	eP	P	22 22 47.6	-0.9
	17nm,1.0s,mb4.5						
MKAR	Makanchi Array	40.41	348	P	P	22 25 27.5	-1.2
	0.3nm,0.4s,mb3.3,baz=168,slow=7.6,SNR=6.1						
SONM	Songino Array	41.73	13	P	P	22 25 38.4	-1.2
	0.9nm,0.8s,mb3.4,baz=198,slow=8.0,SNR=6.8						
SONM				PcP	PcP	22 27 36.7	+0.4
	0.4nm,0.6s,baz=197,slow=3.3,SNR=4.6						
ZAL	Zalesovo	46.93	353	P	P	22 26 19.9	-1.3
	1.5nm,0.3s,mb4.3,baz=323,slow=5.6,SNR=4.9						
WRA	Warramunga Arr	48.45	125	P	P	22 26 34.1	+0.4
	0.8nm,0.5s,mb4.0,baz=300,slow=9.8,SNR=16						
WRA				PcP	PcP	22 28 01.0	+1.2
	0.3nm,0.5s,baz=316,slow=2.9,SNR=4.9						
WRAB	Tennant Creek	48.46	125	eP	P	22 26 33.9	+0.3
	2.5nm,0.5s,mb4.5						
FINES	FINESS Array B	72.86	332	P	P	22 29 18.6	-0.5
	0.7nm,0.7s,mb3.7,baz=108,slow=6.0,SNR=5.9						
KAF	Kangasniemi	72.94	333	ep	P	22 29 17.6	-2.1
	0.2nm,0.3s,mb3.5						
KEV	Kevo	75.08	341	ep	P	22 29 26.3	-5.6
	0.3nm,0.4s,mb3.6						
ARCES	ARCESS Array B	75.51	340	P	P	22 29 34.7	+0.3
	0.8nm,0.3s,mb4.1,baz=109,slow=5.3,SNR=20						
ARCES	ARCESS Array B	75.51	340	P	P	22 29 34.7	+0.3
HFS	Hagfors	78.57	330	P	P	22 29 51.9	+0.2
	0.8nm,0.5s,mb4.0,baz=90,slow=4.4,SNR=11						
NOA	NORSAR Array B	79.86	331	P	P	22 29 59.2	+0.6
	1.2nm,0.8s,mb3.9,baz=94,slow=5.3,SNR=3.6						
TXAR	Lajitas Array	139.87	24	PKP	PKPdf	22 37 21.1	+3.5
	0.1nm,0.5s,baz=213,slow=1.2,SNR=4.2						

*NEIC **07** 22:44:31.9, 32.20S×71.74W, h15km, ML3.6(GUC), After GUC.*

GUC 07 22:44:31.9±0.8, 32.20S×71.74W, h15km±999km, MD4.0, ML3.6, 5C-1D, Near coast of central Chile

| Code | Station Name | Δ° | AZ

LMEL	**Las Melosas**	**2.09**	**142**	*e*P	Pn	22 45 07.0 +0.1
LMEL				*i* S	Sn	22 45 34.4 +1.6
LMEL				AMP		22 45 42.0
	comp=N,916nm,0.5s					
TLL	**Tololo Astrono**	**2.17**	**22**	*e*P	Pn	22 45 09.0 +0.9
TLL				*i* S	Sn	22 45 37.2 +2.4
TLL				AMP		22 45 42.5
	comp=E,2μm,0.5s					

IDC 07 22:45:27.8±2.5, 1.48S×100.32E, mb3.8/5, mb1 3.9/5, mb1mx3.7/16, mbtmp3.8/5, Error ellipse: s-maj=110.7km s-min=30.1km az=52.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**37.98**	**121**	P	P	22 52 47.8	-1.6
	0.4nm,0.7s,baz=302,slow=9.6,SNR=3.0						
SONM	**Songino Array**	**49.40**	**5**	P	P	22 54 19.7	-1.7
	0.7nm,0.5s,baz=189,slow=9.7,SNR=7.7						
MKAR	**Makanchi Array**	**50.62**	**344**	P	P	22 54 29.1	-1.6
	0.8nm,0.3s,baz=156,slow=8.8,SNR=22						
BVAR	**Borovoye Array**	**59.81**	**340**	P	P	22 55 34.3	-3.0
	0.9nm,0.5s,baz=143,slow=9.7,SNR=7.2						
ARCES	**ARCESS Array B**	**86.10**	**340**	P	P	22 58 10.2	-1.3
	0.9nm,0.8s,baz=90,slow=5.4,SNR=5.6						
TXAR	**Lajitas Array**	**144.10**	**37**	PKP	PKPdf	23 05 05.2	-2.9
	0.1nm,0.3s,baz=243,slow=1.3,SNR=5.3						

*IDC **07** 23:11:47.1±1.4, 17.67S×174.92W, h211km±13km, mb3.9/9, mb1 4.1/11, mb1mx4.0/17, mbtmp4.5/11, Error ellipse: s-maj=19.0km s-min=9.6km az=132.0*
*NEIC **07** 23:11:48.2±1.0, 17.55S×175.06W, h219km±9km, mb4.6/10, Error ellipse: s-maj=16.8km s-min=6.8km az=145.0*

ISC 07 23:11:46.7±1.2, 17.5S±0.1×175.1W±0.1, h219km±12km, n92, σ0§92/29, mb4.2/16, 4C-8D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.78**	**43**	P	P	23 13 01.0	+1.6
	43nm,0.3s,baz=193,slow=3.0,SNR=62						
AFI				S	S	23 13 54.5	-1.4
	170nm,0.3s,baz=50,slow=21,SNR=28						
AFI	**Afiamalu**	**4.78**	**43**	*e*P	P	23 13 00.8	+1.4
AFI				S	S	23 13 54.5	-1.4
DZM	**Mont Dzumac**	**17.95**	**252**	P	P	23 15 43.9	+0.7
	0.7nm,0.3s,baz=80,slow=18,SNR=9.4						
URZ	**Urewera**	**21.81**	**197**	P	P	23 16 22.6	+0.8
	4.8nm,0.3s,mb4.5,baz=150,slow=6.0,SNR=6.4						
URZ				S	S	23 20 04.4	+0.5
	4.9nm,0.7s,baz=127,slow=23,SNR=3.1						
CTA	**Charters Tower**	**36.62**	**260**	*e*P	P	23 18 33.9	0.0
	10.0nm,0.6s,mb4.5						
CTA	**Charters Tower**	**36.62**	**260**	P	P	23 18 34.0	+0.1
	11nm,0.6s,mb4.6,baz=92,slow=10,SNR=16						
CTAO	**Charters Tower**	**36.62**	**260**	*e*P	P	23 18 33.8	-0.1
	9.9nm,0.6s,mb4.5						
PMG	**Port Moresby**	**37.50**	**277**	P	P	23 18 43.0	+1.7
	14nm,0.8s,mb4.5,baz=74,slow=7.4,SNR=4.2						
PMG	**Port Moresby**	**37.50**	**277**	*e*P	P	23 18 42.6	+1.3
STKA	**Stephens Creek**	**41.60**	**241**	⇓*i*P	P	23 19 14.9	0.0
	8.8nm,1.2s,mb4.1						
STKA	**Stephens Creek**	**41.60**	**241**	P	P	23 19 15.2	+0.3
	10nm,0.8s,mb4.3,baz=96,slow=8.6,SNR=30						
WB2	**Warramunga Arr**	**47.79**	**259**	⇓*i*P	P	23 20 03.2	-0.9
WRAB	**Tennant Creek**	**47.79**	**259**	*e*P	P	23 20 03.3	-0.8
	15nm,0.5s,mb4.6						
WRA	**Warramunga Arr**	**47.80**	**259**	P	P	23 20 03.4	-0.8
	7.7nm,0.4s,mb4.4,baz=97,slow=6.9,SNR=81						
KAKA	**Kakadu**	**50.74**	**268**	*e*P	P	23 20 34.0	+7.5
	20nm,0.6s,mb4.7						
FITZ	**Fitzroy Cross§**	**56.20**	**260**	*e*P	P	23 21 05.9	-0.4
	13nm,1.5s,mb4.2						
VNDA	**Vanda**	**61.17**	**186**	P	P	23 21 38.9	-0.8
	1.0nm,0.9s,mb3.5,baz=357,slow=6.6,SNR=6.0						
VNDA	**Vanda**	**61.17**	**186**	*e*P	P	23 21 39.0	-0.8
	0.9nm,0.8s,mb3.5						
KLBR	**Kellerberrin**	**61.84**	**243**	*e*P	P	23 21 43.5	-1.3
	7.8nm,0.7s,mb4.5						
DIV	**Divide**	**81.78**	**14**	*e*P	P	23 23 42.5	+0.5
	13nm,0.7s,mb4.7						
PV10	**Paradox Valley**	**83.12**	**46**	*e*P	P	23 23 50.2	+0.8
TXAR	**Lajitas Array**	**83.12**	**56**	P	P	23 23 48.1	-1.5
	0.4nm,0.8s,mb3.2,baz=217,slow=9.0,SNR=3.5						
ILAR	**Eielson Array**	**84.78**	**12**	P	P	23 23 57.6	+0.5
	2.7nm,0.6s,mb4.1,baz=227,slow=5.9,SNR=40						
BW06	**Boulder Array**	**84.89**	**42**	*e*P	P	23 23 57.6	-0.6
	1.1nm,0.9s,mb3.6						
PDAR	**Pinedale Array**	**84.89**	**42**	P	P	23 23 58.8	+0.6
	1.2nm,0.8s,mb3.7,baz=221,slow=3.1,SNR=8.9						
BOZ	**Bozeman (W)**	**85.05**	**39**	*e*P	P	23 24 00.1	+1.2
	8.2nm,0.7s,mb4.6						
ZAL	**Zalesovo**	**109.84**	**322**	PKiKP		23 29 51.9	
	0.6nm,0.4s,baz=179,slow=0.2,SNR=3.2						
MKAR	**Makanchi Array**	**111.08**	**314**	PKiKP		23 29 54.9	
	0.9nm,0.7s,baz=58,slow=2.0,SNR=6.2						
BVAR	**Borovoye Array**	**118.47**	**321**	PKP	PKPdf	23 30 09.2	+1.1
	2.3nm,0.7s,baz=90,slow=1.5,SNR=13						
ARCES	**ARCESS Array B**	**126.40**	**351**	PKP	PKPdf	23 30 24.2	+1.3
	2.4nm,0.6s,SNR=7.1						
FINES	**FINESS Array B**	**133.57**	**346**	PKP	PKPdf	23 30 37.9	+1.1
	1.6nm,1.0s,baz=346,slow=7.9,SNR=4.7						
AKASG	**Malin Array Be**	**141.56**	**335**	PKhKP		23 30 48.8	
	1.0nm,0.6s,baz=40,slow=3.9,SNR=6.4						
KMBO	**Kilima Mbogo**	**143.15**	**243**	PKP	PKPdf	23 30 55.2	-0.2
	3.2nm,0.9s,baz=107,slow=2.1,SNR=8.4						
KMBO	**Kilima Mbogo**	**143.15**	**243**	PKP	PKPdf	23 30 55.2	-0.2
MALT	**Malatya**	**144.09**	**312**	*e*PKP	PKPdf	23 30 58.4	+2.0
KWP	**Kalwaria**	**144.83**	**340**	*e*PKP	PKPdf	23 30 59.1	+1.9
KSP	**Ksiaz**	**145.47**	**347**	*e*PKP	PKPdf	23 31 01.1	+2.8
STHS	**Stebnicka Huta**	**145.49**	**341**	*e*PKP	PKPdf	23 31 01.7	+3.4
KOLS	**Kolonicke sedl**	**145.58**	**340**	*e*PKP	PKPdf	23 31 01.6	+3.1
CLL	**Collm**	**145.62**	**351**	*i* PKP1	PKPbc	23 31 01.3	+1.8
UPC	**Upice**	**145.85**	**347**	*e*PKP	PKPdf	23 31 02.6	+3.7
BRG	**Berggiesshubel**	**145.89**	**350**	*e*P	PKPdf	23 31 02.7	+3.8
DPC	**Dobruska-Polom**	**145.93**	**347**	*e*PKP	PKPdf	23 31 01.6	+2.5
DPC				*ex*	x	23 31 03.0	
DPC				*ex*	x	23 31 06.0	
OKC	**Ostrava-Krasne**	**145.98**	**345**	*e*PKP	PKPdf	23 31 02.4	+3.2
PVCC	**Panska Ves**	**146.11**	**349**	*e*PKP	PKPdf	23 31 03.3	+3.9
MORC	**Moravsky Berou**	**146.19**	**345**	*e*PKPbc	PKPbc	23 31 02.4	+1.5
CFR	**Carcaliu**	**146.22**	**330**	⇑P	PKPdf	23 31 02.6	+2.9
VRI	**Vrincioaia**	**146.35**	**332**	⇑P	PKPdf	23 31 03.9	+4.0
MOX	**Moxa**	**146.46**	**352**	*i* P	PKPdf	23 31 03.9	+3.9
	logA/T=1.0						
MOX	**Moxa**	**146.46**	**352**	*e*P	PKPdf	23 31 03.9	+3.9
KECS	**Kecovo**	**146.55**	**341**	*e*PKP	PKPdf	23 31 04.5	+4.3
PRU	**Pruhonice**	**146.63**	**349**	*e*PKP	PKPdf	23 31 04.6	+4.3
BR131	**Keskin Array S**	**146.64**	**318**	*e*PKPbc	PKPbc	23 31 04.9	+2.6
BRTR	**Keskin Array B**	**146.64**	**318**	PKPbc	PKPbc	23 31 05.0	+2.7
	4.5nm,0.8s,baz=131,slow=2.9,SNR=19						
HARR	**Harsova**	**146.67**	**329**	⇓P	PKPdf	23 31 04.5	+4.0
NKC	**Novy Kostel**	**146.75**	**351**	*e*PKP	PKPdf	23 31 04.9	+4.4
MLR	**Muntele Rosu**	**146.99**	**332**	PKPbc	PKPbc	23 31 05.4	+2.5
	8.7nm,1.1s,baz=211,slow=0.4,SNR=7.9						
MLR	**Muntele Rosu**	**146.99**	**332**	⇓P	PKPdf	23 31 05.7	+4.7
MLR	**Muntele Rosu**	**146.99**	**332**	⇓P	PKPdf	23 31 05.7	+4.7
VYHS	**Vyhne**	**147.02**	**343**	*e*PKP	PKPdf	23 31 06.0	+5.0
GIVF	**Givet**	**147.44**	**0**	*e*PKP1	PKPdf	23 31 06.0	+4.4
GRF	**Grafenberg Arr**	**147.45**	**352**	*e*PKP	PKPdf	23 31 07.1	+5.5
BAIF	**Baives**	**147.48**	**1**	*e*PKP1	PKPdf	23 31 06.3	+4.7
	49nm,1.4s						
MTUR	**Matau**	**147.58**	**333**	⇑P	PKPdf	23 31 04.1	+2.1
ASF	**Jabal al Asfar**	**147.61**	**303**	PKPbc	PKPdf	23 31 08.3	+5.8
	2.8nm,0.8s,baz=144,slow=5.0,SNR=3.9						
KHC	**Kasperske Hory**	**147.63**	**349**	*e*PKP	PKPdf	23 31 07.5	+5.6
KHC				*ex*	x	23 31 11.1	
GERES	**GERESS Array B**	**147.89**	**349**	PKPbc	PKPdf	23 31 08.1	+5.7
	4.2nm,0.9s,baz=20,slow=2.7,SNR=27						
FLN	**La Foliniere**	**148.48**	**7**	*e*PKP1	PKPdf	23 31 08.4	+5.1
	27nm,0.8s						
SGMF	**Saint Gilles**	**148.69**	**10**	*e*PKP1	PKPdf	23 31 08.6	+4.9
	40nm,1.2s						
GRR	**Gorron**	**148.80**	**7**	*e*PKP1	PKPdf	23 31 09.3	+5.5
	23nm,0.7s						
MEZF	**Maizieres J'vi**	**149.04**	**360**	*e*PKP1	PKPdf	23 31 10.4	+6.2
CDF	**Champ du Feu**	**149.07**	**357**	*e*PKP1	PKPdf	23 31 10.3	+6.0
	11nm,0.7s						
HAU	**Haudompre**	**149.52**	**358**	*e*PKP1	PKPdf	23 31 11.3	+6.3
	9.6nm,0.8s						
HINF	**Hinteralfeld**	**149.69**	**357**	*e*PKP1	PKPdf	23 31 11.5	+6.2
	5.2nm,0.7s						
WATA	**Walderalm**	**149.70**	**351**	⇓*i*P	PKPdf	23 31 12.0	+6.7
MOTA	**Moosalm**	**149.76**	**352**	⇓*i*P	PKPdf	23 31 12.3	+6.9
WTTA	**Wattenberg**	**149.76**	**351**	⇓*i*P	PKPdf	23 31 12.7	+7.3
SQTA	**Sankt Quirin**	**149.87**	**351**	⇓*i*P	PKPdf	23 31 12.8	+7.2
HYF	**Humbligny**	**150.22**	**3**	*e*PKP1	PKPdf	23 31 14.1	+8.0
LOR	**Lormes**	**150.26**	**1**	*e*PKP1	PKPdf	23 31 13.2	+7.0
	5.4nm,0.6s						
SSF	**Saint Saulge**	**150.46**	**2**	*e*PKP1	PKPdf	23 31 13.6	+7.1
	18nm,1.0s						
DAVOX	**Davos**	**150.47**	**353**	PKPbc	PKPdf	23 31 14.8	+8.3
	13nm,0.7s,baz=244,slow=1.1,SNR=43						
MFF	**Saint Martin d**	**150.65**	**7**	*e*PKP1	PKPdf	23 31 13.7	+6.9
	4.8nm,0.6s						
AVF	**Avril sur Loir**	**150.73**	**2**	*e*PKP1	PKPdf	23 31 13.9	+7.0
SMF	**Signal de Mont**	**150.89**	**1**	*e*PKP1	PKPdf	23 31 14.2	+7.1
CABF	**La Chapelle**	**150.92**	**358**	*e*PKP1	PKPdf	23 31 15.2	+8.0
	30nm,1.0s						
TCF	**Toulx Ste Croi**	**151.17**	**4**	*e*PKP1	PKPdf	23 31 15.0	+7.4
	6.0nm,0.6s						
RJF	**Les Rejaudoux**	**152.10**	**5**	*e*PKP1	PKPdf	23 31 17.9	+8.9
	4.8nm,0.7s						
LFF	**La Frestale**	**152.39**	**6**	*e*PKP1	PKPdf	23 31 17.6	+8.2
VIVF	**Saint-Julien-l**	**152.69**	**0**	*e*PKP1	PKPdf	23 31 18.9	+9.1
MBDF	**Montbardon**	**152.77**	**357**	*e*PKP1	PKPdf	23 31 19.2	+9.2
ESDC	**Sonseca Array**	**156.57**	**17**	PKPab	PKPab	23 31 48.2	+0.4
	0.3nm,0.4s,baz=342,slow=5.2,SNR=7.3						

*ISK **07** 23:38:08.1, 39.35N×33.15E, h6km, MD3.8*
*CSEM **07** 23:38:08.1, 39.35N×33.15E, h6km, MD3.8, After ISK*

ISC 07 23:38:08.6±0.3, 39.35N±0.02×33.15E±0.03, h6km, n49, σ0§71/60, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAMT	**Kaman**	**0.44**	**88**	*i* PG	Pg	23 38 17.0	-0.4
ANTO	**Ankara**	**0.58**	**332**	*i* PG	Pg	23 38 19.2	-1.1
ANTO				*i* SG	Sg	23 38 28.2	+0.1
LOD	**Lodumlu**	**0.61**	**331**	*i* PG	Pg	23 38 20.6	-0.2
CDAG	**Cicekdag**	**0.98**	**74**	*i* P	Pb	23 38 25.9	-1.8
CDAG				*i* S	Sb	23 38 39.5	-1.1
KIZT	**Kizilcal**	**1.09**	**245**	*i* PN	Pn	23 38 29.5	-0.8
KDHN	**Kadinhani**	**1.16**	**224**	*i* P	Pb	23 38 29.9	-0.7
KDHN				*i* S	Sb	23 38 46.2	+0.6
ELDT	**Eldivan**	**1.16**	**11**	*i* P	Pb	23 38 29.8	-0.8
ELDT				*i* S	Sb	23 38 45.9	+0.3
CANT	**Cankiri**	**1.30**	**16**	*i* PN	Pn	23 38 33.4	+0.1
CORM	**Corum**	**1.41**	**54**	*i* PN	Pn	23 38 34.9	+0.1
AVNT	**Avonos**	**1.45**	**113**	*i* P	Pn	23 38 35.8	+0.4
AVNT				*i* S	Sb	23 38 55.7	+1.7
SGKT	**Sivrigoynuk**	**1.48**	**326**	*i* P	Pn	23 38 35.4	-0.5
SGKT				*i* S	Sb	23 39 05.1	+10
KONT	**Konya--Tatoy**	**1.53**	**204**	PN	Pn	23 38 36.8	+0.2
NIG	**Nigde**	**1.69**	**137**	PN	Pn	23 38 38.7	-0.1
YOZ	**Yozgat**	**1.70**	**80**	PN	Pn	23 38 39.6	+0.5
ESKT	**Eskisehir**	**1.79**	**276**	PN	Pn	23 38 40.4	+0.2
ESKT	**Eskisehir**	**1.79**	**276**	*i* P	Pn	23 38 40.9	+0.6
ESKT				*i* S	Sn	23 39 05.4	+1.9
CTKT	**Corum**	**1.79**	**44**	*i* P	Pn	23 38 40.2	-0.1
CTKT				*i* S	Sn	23 39 05.7	+2.2
TOS	**Tosya**	**1.81**	**21**	PN	Pn	23 38 40.4	-0.2
MDU	**Mudurnu**	**1.86**	**307**	PN	Pn	23 38 41.7	+0.5
SAFT	**Safranbolu**	**1.92**	**350**	PN	Pn	23 38 42.7	+0.6
BORA	**Eskisehir**	**2.15**	**285**	*i* P	Pn	23 38 45.0	-0.4
BORA				*i* S	Sn	23 39 19.8	+7.1
BNN	**Bunyan**	**2.16**	**103**	*e*PN	Pn	23 38 46.0	+0.5
BALT	**Daday**	**2.19**	**5**	*i* P	Pn	23 38 47.8	+1.8
BALT				*i* S	Sn	23 39 13.1	-0.5
HENT	**Hendek**	**2.27**	**311**	*i* P	Pn	23 38 50.4	+3.3
HENT				*i* S	Sn	23 39 22.3	+6.6
ALT	**Altintas**	**2.38**	**264**	*e*PN	Pn	23 38 48.8	+0.1
GPA	**Golpazari**	**2.38**	**294**	*e*PN	Pn	23 38 48.7	0.0
HDMB	**Hadim**	**2.44**	**193**	*e*PN	Pn	23 38 49.2	-0.4
BYBT	**Boyabat**	**2.45**	**30**	*e*PN	Pn	23 38 49.3	-0.4
ISP	**Isparta**	**2.56**	**235**	*e*PN	Pn	23 38 51.4	+0.1
EYL	**Eskiyayla**	**2.60**	**299**	*e*PN	Pn	23 38 51.7	-0.2
BZK	**Bozkurt**	**2.69**	**14**	*e*PN	Pn	23 38 53.5	+0.4
BCK	**Bucak**	**2.76**	**228**	*e*PN	Pn	23 38 54.3	+0.2
TOKT	**Tokat**	**2.79**	**69**	*e*PN	Pn	23 38 54.7	+0.1
KVT	**Kavak**	**2.81**	**51**	*e*PN	Pn	23 38 54.9	0.0
KHL	**Karahalli**	**3.01**	**251**	*e*PN	Pn	23 38 57.5	-0.2
SVSK	**Karacayir**	**3.02**	**78**	*e*PN	Pn	23 38 57.5	-0.4
HRT	**Hereke**	**3.05**	**300**	*e*PN	Pn	23 38 57.4	-0.8
CEYT	**Ceyhan**	**3.11**	**138**	*e*PN	Pn	23 38 58.9	-0.2
IKL	**Isikli**	**3.14**	**172**	*e*PN	Pn	23 38 59.7	+0.2
YLV	**Yalova**	**3.15**	**294**	*e*PN	Pn	23 38 59.8	+0.2
ORLT	**Orhaneli**	**3.35**	**283**	*e*PN	Pn	23 39 02.5	-0.1
ELL	**Elmali**	**3.65**	**226**	*e*PN	Pn	23 39 06.5	-0.3
BALB	**Balikesir**	**4.09**	**276**	*e*PN	Pn	23 39 12.8	-0.2
BNT	**Bandirma**	**4.15**	**286**	*e*PN	Pn	23 39 14.1	+0.2
AKS	**Akhisar**	**4.18**	**265**	*e*PN	Pn	23 39 13.9	-0.4
MYA	**Malataya**	**4.25**	**102**	*e*PN	Pn	23 39 15.3	0.0
IZM	**Izmir**	**4.69**	**260**	*e*PN	Pn	23 39 21.0	-0.6
PTK	**Pertek**	**4.88**	**93**	*e*PN	Pn	23 39 23.7	-0.5
GUMT	**Gumushane**	**4.99**	**75**	*e*PN	Pn	23 39 25.8	-0.1

*NIED **07** 23:44:00, 36.80N×141.30E, h44km, Mw4.0 Best double couple: $M_0$1.21×10^{15} NP1:ϕ_s208°, δ87°, λ-76°. NP2: ϕ_s311°, δ14°, λ-167°.*
*JMA **07** 23:44:05.4±0.1, 36.79N×141.21E, h47km±1km, M4.1 Broadband fault plane solution: P waves. NP1:ϕ_s293°, δ16°, λ157°. NP2:ϕ_s45°, δ84°, λ75°. Principal axes: T Plg49°, Azm299°; N Plg15°, Azm47°; P Plg37°, Azm148°; JMA Felt II J1.*
*IDC **07** 23:44:06.4±0.6, 36.73N×141.26E, h45km±6km, mb3.5/9, mb1 3.8/10, mb1mx3.6/20, mbtmp3.8/10, ML4.4/1, MS3.2/4, Ms1 3.2/4, ms1mx2.9/17 Error ellipse: s-maj=21.3km s-min=11.0km az=106.0*
*NEIC **07** 23:44:06.1±0.6, 36.74N×141.32E, mb4.4/2, Error ellipse: s-maj=17.7km s-min=10.1km az=167.0*
NEIC Recorded [1 JMA] in Fukushima, Ibaraki and Tochigi Prefectures.

ISC 07 23:44:04.3±1.0, 36.76N±0.04×141.31E±0.10, h44km±8km, h45km±2.4km: pP-P, n28, σ0§83/33, mb3.8/11, MS3.2/4, 1C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.53**	**310**	⇓P	P	23 44 15.6	-0.1
ONAJ				S	S	23 44 22.9	-0.8
JHO	**Hitachi**	**0.61**	**256**	⇓P	P	23 44 16.9	+0.2
JHO				S	S	23 44 25.1	-0.6
JFK	**Kawauchi**	**0.70**	**330**	⇓P	P	23 44 17.8	0.0
JFK				S	S	23 44 26.4	-1.4
JYT	**Yasato**	**1.04**	**240**	P	P	23 44 23.1	+0.4
JYT				S	S	23 44 35.8	-0.6
JFT	**Otama**	**1.08**	**314**	⇓P	P	23 44 24.1	+0.8
JFT				S	S	23 44 37.1	-0.3
JSB	**Shiboa**	**1.13**	**281**	⇑P	P	23 44 25.0	+1.0
JMM	**Marumori**	**1.18**	**340**	⇓P	P	23 44 24.4	-0.2
JFY	**Yanaizu**	**1.44**	**297**	P	P	23 44 28.8	+0.4
JAG	**Ashikaga**	**1.53**	**258**	P	P	23 44 30.0	+0.3
MAJO	**Matsushiro**	**2.50**	**266**	*e*P	P	23 44 44.7	+1.2
MAT	**Matsushiro**	**2.50**	**266**	P	P	23 44 44.8	+1.3
MAT				S	S	23 45 14.4	+1.3
MAT	**Matsushiro**	**2.50**	**266**	*e*P	P	23 44 45.0	+1.5
MAT				*e*S	S	23 45 18.0	+4.9
JHJ	**Hachijo jima 2**	**3.84**	**199**	P	P	23 45 03.0	+0.4
	75nm,0.3s,baz=267,slow=24,SNR=51						
JHJ				S	S	23 45 45.9	-1.1
	82nm,0.3s,baz=274,slow=22,SNR=8.7						
ENH	**Enshi**	**27.23**	**266**	*e*P	P	23 49 44.8	-1.4
	5.2nm,0.5s,mb4.3						
SONM	**Songino Array**	**27.87**	**304**	P	P	23 49 53.2	+1.3
	2.3nm,0.7s,mb3.9,baz=105,slow=8.5,SNR=14						
SONM				LR	LR	00 01 21.0	
	comp=Z,39nm,18.9s,MS3.0,baz=104,slow=37						
ZAL	**Zalesovo**	**42.05**	**313**	P	P	23 51 52.4	-0.6
	0.7nm,0.4s,mb3.6,baz=339,slow=6.4,SNR=3.2						
MKAR	**Makanchi Array**	**44.19**	**302**	P	P	23 52 10.8	+0.3
	0.8nm,0.6s,mb3.6,baz=84,slow=8.5,SNR=6.7						
MKAR				LR	LR	00 10 58.8	
	comp=Z,28nm,18.1s,MS3.2,baz=63,slow=36						
MKAR	**Makanchi Array**	**44.19**	**302**	P	P	23 52 10.8	+0.3
MKAR				LR	LR	00 10 58.8	
KURK	**Kurchatov**	**46.04**	**308**	*e*P	P	23 52 23.7	-1.5
	2.8nm,0.6s,mb4.4						
ILAR	**Eielson Array**	**49.77**	**32**	P	P	23 52 53.9	-0.2
	0.3nm,0.7s,mb3.4,baz=260,slow=8.0,SNR=4.0						
ILAR				pP	pP	23 53 07.8	+1.6
	1.0nm,0.8s,baz=269,slow=6.7,SNR=9.8						
WRA	**Warramunga Arr**	**56.78**	**188**	P	P	23 53 45.3	-1.2
	1.2nm,0.6s,mb4.1,baz=0.9,slow=7.1,SNR=6.2						
ARCES	**ARCESS Array B**	**64.22**	**339**	LR	LR	00 28 17.7	
	comp=Z,20nm,18.8s,MS3.3,baz=90,slow=41						
FINES	**FINESS Array B**	**69.02**	**332**	P	P	23 55 06.5	-0.3
	1.1nm,0.9s,mb3.8,baz=290,slow=22,SNR=2.5						
FINES				pP	pP	23 55 18.5	-1.2
	1.7nm,0.8s,baz=63,slow=8.5,SNR=3.8						
NOA	**NORSAR Array B**	**74.41**	**337**	LR	LR	00 31 33.6	
	comp=Z,14nm,19.6s,MS3.3,baz=175,slow=38						
PDAR	**Pinedale Array**	**77.92**	**45**	P	P	23 56 00.1	+1.0
	0.3nm,0.6s,mb3.4,baz=243,slow=3.3,SNR=4.0						
PDAR				pP	pP	23 56 12.4	+0.4
	0.1nm,0.3s,baz=236,slow=37,SNR=2.2						
GERES	**GERESS Array B**	**82.90**	**328**	P	P	23 56 26.0	+0.6
	0.2nm,0.4s,mb3.5,baz=45,slow=11,SNR=2.5						
GERES				pP	pP	23 56 38.9	+0.4
	0.4nm,0.8s,baz=37,slow=6.7,SNR=3.2						
TXAR	**Lajitas Array**	**90.35**	**52**	P	P	23 57 02.4	+0.2
	0.2nm,0.6s,mb3.6,baz=297,slow=2.8,SNR=3.5						
TXAR				pP	pP	23 57 17.5	+2.0
	0.7nm,0.9s,baz=315,slow=3.5,SNR=4.5						
LPAZ	**La Paz**	**146.90**	**60**	PKPbc	PKPbc	00 03 45.0	+3.0
	1.3nm,0.6s,baz=42,slow=7.5,SNR=8.1						
LPAZ				pPKPbc		00 03 59.0	
	1.0nm,0.6s,baz=339,slow=4.1,SNR=3.7						

*ISK **08** 00:04:43.8, 36.57N×27.99E, h18km, MD3.3*
*ATH **08** 00:04:44.6, 36.67N×28.13E, h31km±4km, MD3.1/4*
*NEIC **08** 00:04:44.6, 36.67N×28.13E, h31km, MD3.1(ATH), After ATH.*
*CSEM **08** 00:04:45.5±0.1, 36.70N×28.06E, h20km, MD3.1, Error ellipse: s-maj=3.0km s-min=2.3km az=80.0*

ISC 08 00:04:46.2±0.6, 36.65N±0.03×28.01E±0.04, h19km±7km, n23, σ1§19/33, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.44**	**168**	*e*PB	Pb	00 04 54.5	-0.7
ARG				*e*SB	Sb	00 05 02.2	+1.0
DALT	**Dalyan (Mudla)**	**0.52**	**76**	PG	Pb	00 04 55.3	-1.0
YER	**Yerkesik**	**0.53**	**24**	*i* PG	Pb	00 04 56.1	-0.5
BDRM	**Kayabasi**	**0.62**	**312**	*i* P	Pb	00 04 58.0	-0.1
BDRM				*i* S	Sb	00 05 08.6	+2.3
MLSB	**Milas**	**0.67**	**344**	PG	Pb	00 04 58.4	-0.6
BODT	**Bodrum**	**0.70**	**306**	PG	Pb	00 04 58.6	-0.9
BODT				SG	Sb	00 05 09.6	+0.9
AYDN	**Tasoluk**	**1.01**	**354**	*i* P	Pb	00 05 05.0	+0.2
AYDN				*i* S	Sb	00 05 17.4	-0.4
KARP	**Karpathos**	**1.30**	**212**	*e*PN	Pn	00 05 09.6	+0.1
KARP				*e*SN	Sn	00 05 27.4	+1.0
DNZL	**Cakiroluk**	**1.33**	**38**	*i* P	Pn	00 05 11.1	+1.2
AKAS	**Kas**	**1.35**	**107**	*i* P	Pn	00 05 11.0	+0.

AOS *e*Sn **Sn** **01 42 16.7 -0.2**
JAN Janina 2.59 343 *e*PN **Pn** **01 41 48.3 +1.3**
VAM Vamos 2.60 132 *e*PB **Pb** **01 41 50.4 -1.1**
VAM Vamos 2.60 132 *e*Pb **Pb** **01 41 50.6 -0.9**
IGT Igoumenitsa 2.63 333 *e*Pn **Pn** **01 41 48.9 +1.3**
IGT *e*Sn **Sn** **01 42 23.1 +4.2**
APE Apeiranthos 2.94 91 *e*PN **Pn** **01 41 52.9 +0.8**
IDI Anoyia 3.10 127 P **Pn** **01 41 54.4 +0.1**
0.6nm,0.3s,baz=316,slow=20,SNR=14
IDI S **Sn** **01 42 29.0 -2.0**
2.3nm,0.3s,baz=271,slow=16,SNR=3.7
IDI Anoyia 3.10 127 S **Sn** **01 42 29.0 -2.0**
OUR Ouranopolis 3.56 27 *e*Pn **Pn** **01 42 00.4 -0.3**
FNA Florina 3.61 354 *e*Pn **Pn** **01 42 00.8 -0.7**
FNA *e*Sn **Sn** **01 42 44.7 +0.9**
KNT Kendrikon 4.05 11 *e*Pn **Pn** **01 42 07.8 -0.1**
KNT *e*Sn **Sn** **01 42 54.4 -0.7**
SRS Serrai 4.15 19 *e*Pn **Pn** **01 42 08.3 -0.9**
SRS *e*Sn **Sn** **01 42 57.0 -0.6**
VAE Valguarnera 5.93 275 P **Pn** **01 42 34.4 +0.1**
0.3nm,0.3s,baz=241,slow=19,SNR=2.9
VAE S **Sn** **01 43 41.1 -1.2**
0.8nm,0.3s,baz=198,slow=18,SNR=3.4
VAE Valguarnera 5.93 275 P **Pn** **01 42 34.5 +0.1**
VAE S **Sn** **01 43 41.2 -1.2**
MLR Muntele Rosu 8.85 19 P **P** **01 43 13.0 -2.1**
0.1nm,0.3s,baz=175,slow=12,SNR=2.6
DAVOX Davos 13.07 321 LR LR 01 50 26.3
comp=Z,26nm,18.3s,baz=80,slow=43
HFS Hagfors 23.55 350 P **P** **01 46 11.1 -3.5**
0.9nm,0.4s,mb3.6,baz=157,slow=11,SNR=10
FINES FINESS Array B 24.43 5 P **P** **01 46 19.6 -3.6**
0.3nm,0.4s,mb3.0,baz=194,slow=7.9,SNR=4.4
NB2 NORSAR Subarra 24.80 348 P **P** **01 46 23.2 -3.6**
0.7nm,0.5s,mb3.5,baz=155,slow=8.6
NOA NORSAR Array B 24.80 348 P **P** **01 46 23.2 -3.6**
1.1nm,0.6s,mb3.5,baz=156,slow=8.9,SNR=4.2
ARCES ARCESS Array B 32.47 2 P **P** **01 47 31.3 -4.6**
0.7nm,0.6s,mb3.6,baz=185,slow=10,SNR=9.3
MKAR Makanchi Array 44.93 58 P **P** **01 49 15.0 -5.1**
0.2nm,0.6s,mb3.1,baz=281,slow=7.3,SNR=3.3
MKAR Makanchi Array 44.93 58 P **P** **01 49 15.1 -5.1**

*NEIC **08** 01:59:41.6, 18.17N×68.57W, h138km, MD3.9(RSPR), After RSPR.*
RSPR 08 01:59:41.6, 18.17N×68.57W, h138km±3km, MD3.9/7, MD3.9/7, 4C-3D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRPR	**Cabo Rojo, PR**	**1.39**	**96**	↑*e*P	P	02 00 09.2	-0.3
CRPR				*e*S	S	02 00 30.0	-0.9
MGP	**Maguayo**	**1.41**	**96**	↓*e*P	P	02 00 09.8	+0.1
MGP				*e*S	S	02 00 30.3	-0.9
LRS	**Lares**	**1.64**	**85**	↓*e*P	P	02 00 11.9	-0.3
LRS				*e*S	S	02 00 35.2	-0.4
AOPR	**Arecibo Observ**	**1.73**	**84**	↑*e*P	P	02 00 12.7	-0.6
AOPR				*e*S	S	02 00 36.9	-0.6
CBYP	**Canovanas**	**2.58**	**87**	↑*e*P	P	02 00 22.9	-0.9
CBYP				*e*S	S	02 00 55.8	-0.1
HUMP	**Col San Antoni**	**2.58**	**90**	↑*e*P	P	02 00 22.9	-0.9
HUMP				*e*S	S	02 00 55.4	-0.6
MTP	**Monte Pirata**	**2.86**	**91**	↓*e*P	P	02 00 26.4	-1.1
MTP				*e*S	S	02 01 03.0	+0.6

*IDC **08** 02:05:46.3±1.9, 38.89N×28.71E, mb3.4/2, mb1 3.6/5, mb1mx3.4/20, mbtmp3.5/5, ML3.7/2, MS2.6/1, Ms1 2.6/1, ms1mx2.2/19, Error ellipse: s-maj=25.9km s-min=18.2km az=21.0*
*ISK **08** 02:05:47.7, 39.13N×28.83E, h13km, MD3.6*
*NEIC **08** 02:05:47.6, 39.10N×28.80E, h13km, ML3.7(ISK), After ISK.*
*CSEM **08** 02:05:47.6±0.0, 39.13N×28.86E, h10km, MD3.6, Error ellipse: s-maj=1.2km s-min=1.0km az=38.0*
*ATH **08** 02:05:49.5, 39.27N×28.53E, h5km±1km, MD3.8/6*
*SOF **08** 02:05:57.7, 39.70N×28.19E, h7km, MD3.2*
ISC 08 02:05:48.0±0.2, 39.12N±0.02×28.83E±0.02, h10km, n86, σ0°84/107, mb3.3/2, 1C-6D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DST	**Dursunbey**	**0.51**	**342**	*i*PG	**Pg**	**02 05 58.2**	**0.0**
DST				*i*SG	**Sg**	**02 06 05.0**	**-0.1**
AKS	**Akhisar**	**0.83**	**253**	*i*PG	**Pg**	**02 06 04.6**	**0.0**
BTOK	**Tokmak**	**0.89**	**316**	*i*P	**Pb**	**02 06 06.3**	**+0.3**
BTOK				*i*S	**Sb**	**02 06 17.6**	**+0.9**
BALB	**Balikesir**	**0.90**	**305**	PG	**Pg**	**02 06 05.9**	**-0.1**
ORLT	**Orhaneli**	**0.92**	**3**	PG	**Pg**	**02 06 05.6**	**-0.9**
KHL	**Karahalli**	**0.96**	**146**	PG	**Pg**	**02 06 06.5**	**-0.8**
ALT	**Altintas**	**1.00**	**93**	PG	**Pg**	**02 06 06.3**	**-1.7**
ULDT	**Uludag**	**1.05**	**13**	*i*P	**Pb**	**02 06 06.8**	**-0.9**
ULDT				*i*S	**Sb**	**02 06 22.3**	**+1.0**
DENT	**Denizli**	**1.38**	**173**	PN	**Pn**	**02 06 13.5**	**+0.2**
BNT	**Bandirma**	**1.42**	**331**	PN	**Pn**	**02 06 14.4**	**+0.5**
KDAG	**Bornova**	**1.42**	**240**	*i*P	**Pn**	**02 06 14.4**	**+0.5**
KDAG				*i*S	**Sb**	**02 06 33.6**	**+1.5**
IZM	**Izmir**	**1.42**	**240**	PN	**Pn**	**02 06 13.3**	**-0.7**
DNZL	**Cakiroluk**	**1.44**	**173**	*i*P	**Pn**	**02 06 14.6**	**+0.4**
DNZL				*i*S	**Sb**	**02 06 35.8**	**+3.1**
BORA	**Eskisehir**	**1.47**	**58**	*i*P	**Pn**	**02 06 15.1**	**+0.5**
BORA				*i*S	**Sb**	**02 06 35.6**	**+2.2**
YLV	**Yalova**	**1.50**	**16**	PN	**Pn**	**02 06 15.1**	**0.0**
BLCB	**Balcova**	**1.58**	**243**	PN	**Pn**	**02 06 16.3**	**+0.1**
TKTP	**Tekketepe**	**1.59**	**132**	*i*P	**Pn**	**02 06 16.2**	**-0.1**
TKTP				*i*S	**Sb**	**02 06 41.7**	**+4.7**
ESKT	**Eskisehir**	**1.62**	**75**	PN	**Pn**	**02 06 17.3**	**+0.6**
ESKT	**Eskisehir**	**1.62**	**75**	*i*P	**Pn**	**02 06 16.3**	**-0.5**
ESKT				*i*S	**Sn**	**02 06 38.9**	**+1.1**
GPA	**Golpazari**	**1.63**	**44**	PN	**Pn**	**02 06 17.1**	**+0.1**
CANB	**Canakkale**	**1.63**	**304**	PN	**Pn**	**02 06 16.7**	**-0.3**
AYDN	**Tasoluk**	**1.64**	**207**	*i*P	**Pn**	**02 06 17.2**	**+0.1**
AYDN				*i*S	**Sn**	**02 06 39.6**	**+1.3**
AYVA	**Ayvalik**	**1.67**	**277**	*i*P	**Pn**	**02 06 18.5**	**+0.9**
AYVA				*i*S	**Sn**	**02 06 43.6**	**+4.4**
BADT	**Buyukada**	**1.74**	**7**	PN	**Pn**	**02 06 18.7**	**+0.2**
MRMT	**Marmara Adasi**	**1.76**	**328**	PN	**Pn**	**02 06 18.6**	**-0.2**
EYL	**Eskiyayla**	**1.77**	**35**	PN	**Pn**	**02 06 18.6**	**-0.3**
HRT	**Hereke**	**1.82**	**21**	PN	**Pn**	**02 06 19.5**	**-0.1**
ISP	**Isparta**	**1.83**	**134**	PN	**Pn**	**02 06 19.3**	**-0.6**
ISP	**Isparta**	**1.83**	**134**	↓*i*P	**Pn**	**02 06 20.1**	**+0.2**
ISP				*e*Sn	**Sn**	**02 06 51.3**	**+8.0**
URLA	**Izmir**	**1.91**	**247**	*i*P	**Pn**	**02 06 22.9**	**+2.1**
URLA				*i*S	**Sn**	**02 06 41.6**	**-3.6**
ISK	**Istanbul-Kandi**	**1.95**	**5**	PN	**Pn**	**02 06 20.5**	**-1.0**
GOLH	**Golhisar**	**1.97**	**163**	*i*P	**Pn**	**02 06 21.5**	**-0.3**
GOLH				*i*S	**Sn**	**02 06 41.3**	**-5.4**
PRK	**Paraskevi**	**1.99**	**274**	*e*PN	**Pn**	**02 06 22.6**	**+0.5**
MLSB	**Milas**	**2.00**	**205**	*e*PN	**Pn**	**02 06 22.0**	**-0.3**
LPK	**Lapseki**	**2.03**	**309**	*e*PN	**Pn**	**02 06 22.1**	**-0.5**
YER	**Yerkesik**	**2.03**	**192**	*e*PN	**Pn**	**02 06 22.8**	**+0.1**
MFT	**Murefte**	**2.04**	**325**	*e*PN	**Pn**	**02 06 22.2**	**-0.7**
CTT	**Catalca**	**2.05**	**352**	*e*PN	**Pn**	**02 06 22.6**	**-0.3**
EZN	**Ezine**	**2.06**	**291**	*e*PN	**Pn**	**02 06 23.7**	**+0.6**
SMG	**Samos**	**2.11**	**229**	*e*PG	**Pg**	**02 06 27.6**	**-2.5**
SMG				*e*SN	**Sn**	**02 06 55.3**	**+5.0**
BCK	**Bucak**	**2.16**	**140**	*e*PN	**Pn**	**02 06 25.0**	**+0.5**
MDU	**Mudurnu**	**2.27**	**53**	*e*PN	**Pn**	**02 06 26.7**	**+0.5**
HENT	**Hendek**	**2.33**	**42**	*i*P	**Pn**	**02 06 26.4**	**-0.5**
HENT				*i*S	**Sn**	**02 06 58.7**	**+2.9**
DALT	**Dalyan (Mudla)**	**2.35**	**184**	*e*PN	**Pn**	**02 06 26.7**	**-0.6**
BODT	**Bodrum**	**2.38**	**211**	*e*PN	**Pn**	**02 06 26.6**	**-1.1**
KIZT	**Kizilcal**	**2.39**	**95**	*e*PN	**Pn**	**02 06 28.1**	**+0.3**
ELL	**Elmali**	**2.52**	**160**	*e*PN	**Pn**	**02 06 29.9**	**+0.2**
KDHN	**Kadinhani**	**2.64**	**102**	*i*P	**Pn**	**02 06 30.6**	**-0.7**
KDHN				*i*S	**Sn**	**02 07 15.8**	**+12**
SGKT	**Sivrigoynuk**	**2.88**	**59**	*i*P	**Pn**	**02 06 34.9**	**+0.1**
SGKT				*i*S	**Sn**	**02 07 20.1**	**+10**
LIA	**Limnos Island**	**2.93**	**287**	*e*PN	**Pn**	**02 06 36.1**	**+0.6**
AKAS	**Kas**	**2.95**	**168**	*i*P	**Pn**	**02 06 36.1**	**+0.3**
KONT	**Konya--Tatoy**	**3.01**	**112**	*e*PN	**Pn**	**02 06 37.1**	**+0.5**
LOD	**Lodumlu**	**3.14**	**75**	*e*PN	**Pn**	**02 06 38.3**	**-0.2**
EDRB	**Edirne**	**3.15**	**330**	*e*PN	**Pn**	**02 06 37.9**	**-0.8**
ANTO	**Ankara**	**3.16**	**75**	*e*PN	**Pn**	**02 06 38.6**	**-0.1**
ANTO	**Ankara**	**3.16**	**75**	*i*P	**Pn**	**02 06 46.6**	**+7.9**
ANTO				*i*S	**Sn**	**02 07 27.6**	**+11**
RDO	**Rodhopi**	**3.23**	**310**	*e*PN	**Pn**	**02 06 40.3**	**+0.5**
APE	**Apeiranthos**	**3.31**	**233**	*e*PN	**Pn**	**02 06 40.3**	**-0.7**
APE	**Apeiranthos**	**3.31**	**233**	*e*PB	**Pb**	**02 06 43.9**	**-2.6**
KDZ	**Kurdzhali**	**3.63**	**315**	*i*P	**Pn**	**02 06 46.0**	**+0.5**
SAFT	**Safranbolu**	**3.63**	**53**	*e*PN	**Pn**	**02 06 45.7**	**+0.2**
BR131	**Keskin Array S**	**3.77**	**79**	*e*Pn	**Pn**	**02 06 47.8**	**+0.3**
BR131	**Keskin Array S**	**3.77**	**79**	*e*Pn	**Pn**	**02 06 47.8**	**+0.3**
BRTR	**Keskin Array B**	**3.77**	**79**	Pn	**Pn**	**02 06 47.6**	**+0.2**
	1.2nm,0.3s,baz=256,slow=14,SNR=10						
BRTR				Pg	**Pg**	**02 06 59.0**	**-4.3**
	3.5nm,0.3s,baz=263,slow=17,SNR=14						
BRTR				Sn	**Sn**	**02 07 30.9**	**-1.6**
	3.0nm,0.3s,baz=254,slow=23,SNR=5.5						
BRTR				Lg		02 07 51.0	
	1.6nm,0.3s,baz=270,slow=16,SNR=4.0						
BRTR	**Keskin Array B**	**3.77**	**79**	Pg	**Pg**	**02 06 59.0**	**-4.3**
DIM	**Dimitrovgrad**	**3.85**	**320**	*i*P	**Pn**	**02 06 48.5**	**-0.1**
DIM				*i*Pg	**Pg**	**02 06 59.0**	**-5.9**
RZN	**Rozhen**	**4.05**	**311**	*i*P	**Pn**	**02 06 51.5**	**0.0**
CDAG	**Cicekdag**	**4.32**	**82**	*i*P	**Pn**	**02 06 55.7**	**+0.4**
NVR	**Nevrokopi**	**4.41**	**302**	*e*PN	**Pn**	**02 06 56.6**	**+0.1**
TOS	**Tosya**	**4.42**	**63**	*e*PN	**Pn**	**02 06 56.6**	**-0.1**
MMB	**Musomiste**	**4.61**	**304**	*i*P	**Pn**	**02 06 59.0**	**-0.4**
IKL	**Isikli**	**4.81**	**125**	*e*PN	**Pn**	**02 07 02.2**	**0.0**
PVL	**Pavlikeni**	**4.87**	**328**	*i*P	**Pn**	**02 07 03.0**	**0.0**
IDI	**Anoyia**	**4.95**	**221**	Pn	**Pn**	**02 06 59.3**	**-4.9**
	0.1nm,0.3s,baz=353,slow=16,SNR=2.4						
KKB	**Krupnik**	**5.17**	**304**	*i*P	**Pn**	**02 07 07.0**	**-0.3**
VTS	**Vitosha**	**5.49**	**311**	*e*P	**Pn**	**02 07 12.0**	**+0.1**
HARR	**Harsova**	**5.60**	**353**	↓P	**Pn**	**02 07 12.5**	**-0.9**
CFR	**Carcaliu**	**6.07**	**355**	↓P	**Pn**	**02 07 17.9**	**-2.2**
CFR	**Carcaliu**	**6.07**	**355**	↓P	**Pn**	**02 07 17.9**	**-2.2**
MLR	**Muntele Rosu**	**6.71**	**342**	Pn	**Pn**	**02 07 29.6**	**+0.5**
	1.1nm,0.3s,SNR=23						
MLR				Lg		02 09 27.0	
	0.1nm,0.3s,baz=87,slow=21,SNR=1.8						
MLR				LR	LR	02 10 15.2	
	comp=Z,48nm,18.4s,baz=168,slow=39						
MLR	**Muntele Rosu**	**6.71**	**342**	↓P	**Pn**	**02 07 29.3**	**+0.2**
MLR	**Muntele Rosu**	**6.71**	**342**	↓P	**Pn**	**02 07 29.3**	**+0.2**
VRI	**Vrincioaia**	**6.92**	**348**	↑P	**Pn**	**02 07 32.2**	**+0.3**
FINES	**FINESS Array B**	**22.41**	**357**	P	**P**	**02 10 49.0**	**+1.1**
	0.8nm,0.8s,mb3.2,baz=157,slow=11,SNR=4.4						
MKAR	**Makanchi Array**	**39.21**	**61**	P	**P**	**02 13 17.2**	**-0.7**
	0.4nm,0.5s,mb3.4,baz=277,slow=6.6,SNR=5.8						
MKAR	**Makanchi Array**	**39.21**	**61**	P	**P**	**02 13 17.2**	**-0.7**

GUC 08 02:11:39.0±0.7, 24.33S×67.28W, h170km, ML3.8, 1C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.28**	**318**	↑*i*P	P	02 12 19.4	+0.4
LVC				*i*S	S	02 12 50.4	+0.6
LVC				AMP		02 12 52.8	
	comp=E,182nm,0.4s						
CPN1	**Cerro Paranal**	**2.86**	**264**	*e*P	P	02 12 26.8	+0.7
CPN1				*i*S	S	02 13 03.3	+0.9
CPN1				AMP		02 13 04.8	
	comp=E,147nm,0.3s						
ANCH	**Antofagasta**	**2.94**	**282**	*e*P	P	02 12 27.5	+0.5
ANCH				*i*S	S	02 13 03.5	-0.5
ANCH				AMP		02 13 08.3	
	comp=N,470nm,0.1s						
CRCH	**Chaqaral**	**3.63**	**236**	*i*S	S	02 13 18.8	-0.7

*IDC **08** 02:24:18.7±1.9, 29.83S×177.73W, h60km±14km, mb4.0/4, mb1 4.1/4, mb1mx3.8/12, mbtmp4.2/4, Error ellipse: s-maj=32.2km s-min=29.3km az=129.0*
*NEIC **08** 02:24:18.6±1.3, 29.85S×177.62W, h65km±11km, mb4.5/2, Error ellipse: s-maj=20.1km s-min=16.7km az=213.0*
ISC 08 02:24:17.7±1.4, 29.7S±0.5×177.6W±0.5, h82km±36km, n20, σ0°97/16, mb4.2/5, 1C-1D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.57**	**326**	P	**P**	**02 24 32.6**	**+0.3**
	291nm,0.3s,baz=88,slow=10,SNR=22						
RAO				S	**S**	**02 24 43.2**	**0.0**
	2μm,0.3s,baz=147,slow=23,SNR=33						
RAO	**Raoul Island**	**0.57**	**326**	*e*Pn	**P**	**02 24 32.5**	**+0.2**
RAO				*e*Sn	**S**	**02 24 42.0**	**-1.2**
CTA	**Charters Tower**	**34.08**	**278**	P	**P**	**02 30 57.5**	**+1.1**
	4.1nm,0.6s,mb4.5,baz=112,slow=12						
CTAO	**Charters Tower**	**34.08**	**278**	*e*P	**P**	**02 30 57.8**	**+1.3**
	4.0nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**35.01**	**256**	P	**P**	**02 31 04.2**	**0.0**
	3.3nm,0.6s,mb4.4,baz=94,slow=9.0,SNR=10						
STKA	**Stephens Creek**	**35.01**	**256**	*e*P	**P**	**02 31 04.2**	**0.0**
WRAB	**Tennant Creek**	**44.46**	**271**	P	**P**	**02 32 22.5**	**0.0**
	7.0nm,0.7s,mb4.5						
WRA	**Warramunga Arr**	**44.46**	**271**	P	**P**	**02 32 21.8**	**-0.9**
	4.2nm,0.6s,mb4.3,baz=111,slow=7.9,SNR=25						
VNDA	**Vanda**	**48.80**	**186**	P	**P**	**02 32 56.3**	**+0.3**
	0.3nm,0.5s,mb3.5,baz=13,slow=7.2,SNR=5.2						
SYO	**Syowa Base**	**77.86**	**193**	↑P	**P**	**02 36 05.0**	**-2.4**
VNA3	**Neumayer Olymp**	**78.95**	**176**		**P**	**02 36 13.4**	**0.0**
VNA3	**Neumayer Olymp**	**78.95**	**176**	*e*	**P**	**02 36 17.4**	**+4.0**
VNA2	**Neumayer--Watz**	**79.39**	**177**	*e*	**P**	**02 36 21.3**	**+5.5**
VNA2	**Neumayer--Watz**	**79.39**	**177**	↓*i*P	**P**	**02 36 16.9**	**+1.1**
VNA2				*e*		02 36 21.3	
BVAR	**Borovoye Array**	**126.19**	**316**	PKP	PKPdf	02 43 13.6	+3.1
	0.6nm,0.5s,baz=90,slow=1.5,SNR=5.5						
FINES	**FINESS Array B**	**144.64**	**341**	PKP	PKPdf	02 43 46.8	+2.7
	2.7nm,0.6s,baz=45,slow=2.0,SNR=16						
NB2	**NORSAR Subarra**	**148.14**	**352**	PKPabc	PKPdf	02 43 57.2	+7.3
	0.9nm,0.6s,baz=15,slow=2.7						
NB2	**NORSAR Subarra**	**148.14**	**352**	PKPab	PKPab	02 43 57.2	-1.3
NOA	**NORSAR Array B**	**148.14**	**352**	PKPbc	PKPdf	02 43 57.1	+7.1
	1.8nm,0.8s,baz=15,slow=4.3,SNR=4.6						
AKASG	**Malin Array Be**	**150.99**	**324**	PKPbc	PKPdf	02 44 04.0	+9.2
	1.6nm,0.5s,baz=44,slow=2.9,SNR=10						

*MOS **08** 02:25:43.5±1.0, 17.57N×92.60E, h10km, mb4.7/14, Error ellipse: s-maj=20.6km s-min=7.4km az=116.5*
*IDC **08** 02:25:43.5±0.8, 17.45N×92.55E, mb4.1/15, mb1 4.2/15, mb1mx4.2/22, mbtmp4.1/15, Error ellipse: s-maj=26.5km s-min=18.3km az=64.0*
*NEIC **08** 02:25:45.0±0.4, 17.46N×92.53E, h10km, mb4.6/12, Error ellipse: s-maj=13.3km s-min=8.6km az=80.0*
*BJI **08** 02:25:46.9, 17.93N×92.70E, h5km, mB4.1, mb4.2*
ISC 08 02:25:46.0±0.5, 17.85N±0.08×92.31E±0.06, h10km, n74, σ1°92/73, mb4.2/33, Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDT	**Bhumibol Dam**	**6.42**	**94**	P	**Pn**	**02 27 24.0**	**+1.1**
	18nm,0.8s						
NANT	**Nan**	**8.03**	**82**	P	**P**	**02 27 45.0**	**-0.5**
PKI	**Pulchoki**	**11.58**	**328**	*e*P	**P**	**02 28 34.3**	**-0.1**
	33nm,0.5s						
PKI				*e*S	**S**	**02 30 42.0**	**-2.8**
DMN	**Daman**	**11.76**	**327**	*e*P	**P**	**02 28 36.8**	**-0.1**
	53nm,0.7s						
KKN	**Kakani**	**11.82**	**328**	*e*P	**P**	**02 28 38.3**	**+0.6**
	22nm,0.5s						
LSA	**Lhasa**	**11.84**	**355**	P	**P**	**02 28 38.4**	**+0.4**
LSA	**Lhasa**	**11.84**	**355**	*e*P	**P**	**02 28 38.5**	**+0.5**
	10nm,0.6s						
LSA	**Lhasa**	**11.84**	**355**	*e*P	**P**	**02 28 38.5**	**+0.5**
LSA				pmax	pmax		
	comp=Z,10.0nm,0.6s						
GKN	**Gorkha**	**12.32**	**326**	*e*P	**P**	**02 28 43.0**	**-1.5**
	comp=Z,60nm,0.5s						
KOLN	**Koldanda**	**12.72**	**322**	*e*P	**P**	**02 28 48.4**	**-1.4**
	comp=Z,66nm,0.7s						
CD2	**Chengdu**	**16.65**	**37**	*e*P	**P**	**02 29 40.0**	**-1.1**
LZH	**Lanzhou**	**20.84**	**27**	*e*P	**P**	**02 30 29.0**	**-1.4**
LZH				AP		02 30 37.5	
LZH				XP		02 30 42.0	
LZH				AMB	AMB		
	comp=Z,40nm,1.2s						
XAN	**Xi'an**	**21.93**	**39**	P	**P**	**02 30 39.3**	**-2.1**
XAN				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.2						
GTA	**Gaotai**	**22.45**	**15**	*e*P	**P**	**02 30 49.1**	**+2.5**
GTA				AP		02 30 56.2	
GTA				XP		02 30 59.1	
GTA				AMB	AMB		
	comp=Z,6.0nm,1.2s,mb3.9						
WMQ	**Urumqi**	**26.18**	**352**	*e*P	**P**	**02 31 23.5**	**+1.1**
WMQ				AP	pP	02 31 33.5	+8.2
WMQ				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.4						

MKAR Makanchi Array 30.02 346 P **P** **02 31 58.6 +1.4**
comp=Z,2.0nm,0.5s,mb4.1,baz=164,slow=10.0,SNR=24
DGAR Diego Garcia 31.85 220 P **P** **02 32 07.1 -6.5**
SONM Songino Array 32.05 18 P **P** **02 32 15.1 +0.1**
comp=Z,2.4nm,0.8s,mb4.1,baz=198,slow=7.7,SNR=18
KURK Kurchatov 34.56 345 *e*P **P** **02 32 38.1 +1.3**
comp=Z,18nm,1.3s,mb4.8
KURK Kurchatov 34.56 345 *e*P **P** **02 32 38.1 +1.3**
KURK pmax pmax
comp=Z,18nm,1.3s,mb4.8
ZAL Zalesovo 36.48 353 P **P** **02 32 53.9 +0.8**
comp=Z,4.0nm,0.7s,mb4.4,baz=300,slow=9.1,SNR=19
NVS Novosibirsk 37.57 351 *i*P **P** **02 33 01.8 -0.4**
VOSK Vostochnaya 38.60 339 P **P** **02 33 12.0 +1.1**
VOSK pmax pmax
comp=Z,5.0nm,0.9s,mb4.2
BVA0 Borovoye Array 39.05 339 *i*P **P** **02 33 15.8 +1.2**
BVA0 pmax pmax
comp=Z,1.0nm,1.2s,mb3.4
BVAR Borovoye Array 39.05 339 P **P** **02 33 15.8 +1.1**
comp=Z,0.9nm,0.5s,mb3.8,baz=141,slow=9.5,SNR=12
AB31 Akbulak array 40.77 328 *i*P **P** **02 33 30.5 +1.6**
AB31 pmax pmax
comp=Z,3.0nm,0.6s,mb4.1
BOD Bodaibo 43.03 17 *e*P **P** **02 33 45.8 -1.5**
MBWA Marble Bar 47.17 144 *e*P **P** **02 34 15.2 -5.7**
ASF Jabal al Asfar 51.68 297 P **P** **02 34 56.4 +0.9**
comp=Z,0.8nm,0.3s,mb4.2,baz=75,slow=12,SNR=3.7
BRTR Keskin Array B 54.84 306 P **P** **02 35 18.5 -0.2**
comp=Z,1.7nm,0.8s,mb4.2,baz=116,slow=8.1,SNR=9.3
WRA Warramunga Arr 55.79 130 P **P** **02 35 19.1 -6.7**
comp=Z,0.5nm,0.7s,mb3.7,baz=313,slow=7.4,SNR=4.0
WRA PcP PcP 02 36 20.2 -4.6
comp=Z,0.5nm,0.7s,baz=330,slow=3.8,SNR=2.5
OPO Ambohidratompo 57.24 233 P **P** **02 35 34.0 -2.3**
comp=Z,1.3nm,0.6s,mb4.1,baz=108,slow=13,SNR=3.4
AKASG Malin Array Be 59.38 319 P **P** **02 35 49.6 -1.2**
comp=Z,0.2nm,0.3s,mb3.6,baz=85,slow=5.0,SNR=8.6
FINES FINESS Array B 63.15 330 P **P** **02 36 15.6 -0.5**
comp=Z,2.4nm,0.8s,mb4.4,baz=108,slow=6.0,SNR=9.4
KAF Kangasniemi 63.19 331 *ep* **P** **02 36 14.2 -2.1**
comp=Z,3.9nm,1.0s,mb4.5,baz=101,slow=6.3
KAF Kangasniemi 63.19 331 *e*P **P** **02 36 14.2 -2.1**
KAF pmax pmax
comp=Z,4.0nm,1.0s,mb4.5
ARCES ARCESS Array B 65.34 339 P **P** **02 36 30.4 +0.1**
comp=Z,1.2nm,0.6s,mb4.1,baz=90,slow=8.5,SNR=12
GERES GERESS Array B 69.33 316 P **P** **02 36 56.0 +0.3**
comp=Z,1.7nm,0.7s,mb4.1,baz=90,slow=5.3,SNR=16
NB2 NORSAR Subarra 70.25 329 P **P** **02 37 00.3 -0.8**
comp=Z,0.2nm,0.6s,mb3.2,baz=87,slow=7.0
NB2 NORSAR Subarra 70.25 329 P **P** **02 37 00.3 -0.8**
comp=Z,0.2nm,0.6s,mb3.2
NOA NORSAR Array B 70.25 329 P **P** **02 37 00.4 -0.6**
comp=Z,2.2nm,0.8s,mb4.2,baz=88,slow=6.4,SNR=5.8
GRA1 Grafenberg Arr 70.88 317 *e*P **P** **02 37 05.4 +0.3**
comp=Z,6.0nm,1.1s,mb4.4
GRF Grafenberg Arr 70.88 317 *e*P **P** **02 37 05.4 +0.3**
comp=Z,6.0nm,1.1s,mb4.4
GRF Grafenberg Arr 70.88 317 *e*P **P** **02 37 05.4 +0.3**
GRF pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
GRF Grafenberg Arr 70.88 317 *e*P **P** **02 37 05.4 +0.3**
GRF pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
CDF Champ du Feu 73.61 316 *e*P **P** **02 37 21.8 +0.5**
HAU Haudompre 74.29 316 *e*P **P** **02 37 24.6 -0.6**
LPG La Plagne 74.42 313 *e*P **P** **02 37 26.4 +0.3**
comp=Z,10nm,0.8s,mb4.5
LPG La Plagne 74.42 313 *e*P **P** **02 37 26.4 +0.3**
LPG pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
LPL La Plagne 74.44 313 *e*P **P** **02 37 26.3 +0.1**
comp=Z,16nm,0.9s,mb4.6
LPL La Plagne 74.44 313 *e*P **P** **02 37 26.3 +0.1**
LPL pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
MBDF Montbardon 74.54 312 *e*P **P** **02 37 27.9 +1.1**
comp=Z,4.9nm,0.7s,mb4.2
MBDF Montbardon 74.54 312 *e*P **P** **02 37 27.9 +1.1**
MBDF pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
BNI Bardonecchia 74.55 313 *e*P **P** **02 37 24.5 -2.3**
comp=Z,2.1nm,0.7s,mb4.2
BNI Bardonecchia 74.55 313 *e*P **P** **02 37 24.5 -2.3**
BNI pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
CABF La Chapelle 74.69 315 *e*P **P** **02 37 27.4 -0.2**
MEZF Maizieres J'vi 75.06 317 *e*P **P** **02 37 29.4 -0.3**
ORIF Oris-en-Rattie 75.13 313 *e*P **P** **02 37 30.1 -0.1**
**SMF Signal

MGAN	**Managua**	**1.15**	**92**⇑	*e*P	Pn	02 51 10.3	-0.9
MGAN				*e*S	Sn	02 51 27.6	+1.5
	comp=E,311nm,0.3s						
TICN	**Ticuantepe**	**1.17**	**98**	*e*P	Pn	02 51 10.9	-0.7
TICN				*e*S	Sn	02 51 26.4	-0.4
APON	**Apoyo**	**1.35**	**102**	*e*P	Pn	02 51 12.7	-1.5
BLLM	**Bellamira**	**1.47**	**327**	*e*P	Pn	02 51 17.5	+1.6
SNVI	**San Vicente**	**1.97**	**316**	*e*S	Sn	02 51 47.0	-0.1
SNVI				*e*S	Sn	02 51 48.9	+1.7
LCBS	**La Ceiba**	**2.10**	**314**⇑	*e*P	Pn	02 51 25.4	+0.6
LCBS				*e*S	Sn	02 51 48.6	-1.8
LFRS	**El Faro**	**2.14**	**312**⇓	*e*P	Pn	02 51 25.9	+0.4
LFRS				*e*S	Sn	02 51 50.7	-0.7
LBRS	**Las Brisas**	**2.20**	**314**	*e*P	Pn	02 51 27.0	+0.6
LBRS				*e*S	Sn	02 51 52.2	-0.8
LFU	**La Fuente**	**2.26**	**313**	*e*P	Pn	02 51 27.9	+0.7

IGQ 08 03:14:06.0, 2.81S×78.59W, h75km±10km, mb4.2, 8C-4D, Error ellipse: s-maj=7.2km s-min=5.7km az=145.0, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARRY	**Arrayan**	**1.30**	**6**	⇓P	P	03 14 29.2	+0.2
ARRY				S	S	03 14 45.7	-0.4
CUSU	**Cusua**	**1.36**	**5**	⇑P	P	03 14 30.6	+0.8
ULBA	**Ulba**	**1.36**	**8**	⇓P	P	03 14 30.4	+0.6
ULBA				S	S	03 14 47.7	+0.2
JUIV	**Juive**	**1.38**	**5**	⇑P	P	03 14 30.7	+0.6
RUN5	**Runtun**	**1.39**	**7**	⇑P	P	03 14 30.8	+0.6
PISA	**Pisayambo**	**1.75**	**7**	⇑P	P	03 14 35.9	+0.9
QIL1	**Quilotoa**	**1.98**	**350**	⇓P	P	03 14 38.7	+0.6
QIL1				S	S	03 15 03.5	+1.8
TAMB	**Tambo**	**2.11**	**6**	P	P	03 14 40.9	+1.0
CAMI	**Rancho Maria**	**2.12**	**2**	⇑P	P	03 14 41.1	+1.1
VC1	**Cotopaxi 1**	**2.16**	**5**	P	P	03 14 41.7	+1.1
NAS1	**Nasa**	**2.16**	**3**	⇑P	P	03 14 42.0	+1.3
ANTI	**Antisana**	**2.38**	**10**	⇑P	P	03 14 44.7	+1.0
JUA2	**San Juan 2**	**2.58**	**360**	P	P	03 14 46.8	+0.4
GGP	**Refugio Guagua**	**2.62**	**360**	P	P	03 14 47.2	+0.2
TERV	**Terraza Guagua**	**2.62**	**360**	P	P	03 14 48.9	+1.9
PINO	**Pino**	**2.63**	**360**	P	P	03 14 47.3	+0.1
YANA	**Yana**	**2.67**	**0**	P	P	03 14 48.1	+0.3
JOR1	**San Jorge 1**	**2.79**	**359**	P	P	03 14 46.5	-2.9
ECOPE	**Copete-Rev Vol**	**2.85**	**20**	⇓P	P	03 14 50.5	+0.1
CONE	**Cono NE Rev Vo**	**2.88**	**19**	⇑P	P	03 14 51.0	+0.3
CAYA	**Cayambe**	**2.92**	**12**	P	P	03 14 51.4	+0.1
COTA	**Cotacachi**	**3.13**	**5**	P	P	03 14 57.0	+2.8
ECEN	**Cerro Negro**	**3.66**	**10**	P	P	03 15 02.1	+0.5

*GUC **08** 03:14:59.7±0.9, 30.25S×71.38W, h57km±5km, ML4.7*
*IDC **08** 03:14:59.4±0.9, 30.25S×71.60W, h52km±7km, mb3.8/4, mb1 4.0/8, mb1mx3.8/18, mbtmp4.0/8, MS3.3/5, Ms1 3.3/5, ms1mx3.0/18, Error ellipse: s-maj=20.1km s-min=11.6km az=40.0*
*NEIC **08** 03:14:59.7, 30.25S×71.38W, h57km, mb4.1/2, After GUC.*
NEIC Felt [II] at Coquimbo and La Serena.
ISC 08 03:14:59.0±0.6, 30.26S±0.03×71.54W±0.08, h62km±6km, n45, σ0°82/54, mb4.0/5, 4C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.45**	**140**⇑	*i*P	P	**03 15 10.5**	**-0.2**
OVCH				*i* S	S	**03 15 18.6**	**-0.7**
OVCH				AMP		03 15 18.9	
	comp=N,24μm,0.1s						
TLL	**Tololo Astrono**	**0.64**	**82**⇓	*i*P	P	**03 15 12.6**	**-0.2**
TLL				*i* S	S	**03 15 21.6**	**-1.4**
TLL				AMP		03 15 22.5	
	comp=E,55μm,0.4s						
CMCH	**Combarbala**	**1.02**	**153**⇓	*i*P	P	**03 15 17.8**	**+0.1**
CMCH				*i* S	S	**03 15 31.3**	**-0.2**
CMCH				AMP		03 15 32.5	
	comp=E,39μm,0.5s						
ILCH	**Illapel**	**1.41**	**167**	*e*P	P	**03 15 23.5**	**+0.5**
ILCH				*i* S	S	**03 15 41.7**	**+0.9**
ILCH				AMP		03 15 42.5	
	comp=N,11μm,0.3s						
CHNG	**Los Chungos**	**1.62**	**179**⇓	*i*P	P	**03 15 26.2**	**+0.3**
CHNG				*i* S	S	**03 15 46.2**	**+0.4**
CHNG				AMP		03 15 55.3	
	comp=E,4μm,0.3s						
VACH	**Vallenar**	**1.81**	**22**⇑	*i*P	P	**03 15 28.4**	**-0.1**
VACH				*i* S	S	**03 15 50.0**	**-0.4**
VACH				AMP		03 15 53.6	
	comp=N,15μm,0.3s						
JACH	**Jahuel**	**2.55**	**162**⇓	*i*P	P	**03 15 40.1**	**+1.1**
JACH				*i* S	S	**03 16 09.7**	**+0.9**
ROCH	**El Roble**	**2.74**	**171**⇓	*i*P	P	**03 15 42.2**	**+0.5**
ZON	**Zonda**	**2.77**	**118**	*e*P	P	**03 15 47.3**	**+5.2**
ZON				*e*S	S	**03 16 24.4**	**+10**
CFAA	**Coronel Fontan**	**3.14**	**116**	P	P	**03 15 48.0**	**+0.7**
	comp=N,23nm,0.3s,baz=307,slow=11,SNR=707						
CFAA				S	S	**03 16 25.0**	**+1.3**
	comp=N,26nm,0.3s,baz=37,slow=17,SNR=15						
LCCH	**Las Cruces**	**3.21**	**180**⇑	*i*P	P	**03 15 47.8**	**-0.5**
DSCH	**Colegio Aleman**	**3.24**	**165**	*e*P	P	**03 15 48.7**	**0.0**
DSCH				*i* S	S	**03 16 25.9**	**-0.3**
DSCH				AMP		03 16 48.2	
	comp=E,5μm,0.4s						
CLCH	**Cerro Calan**	**3.24**	**165**	*e*P	P	**03 15 48.5**	**-0.2**
CLCH				AMP		03 16 42.0	
	comp=E,4μm,0.5s						
CLCH				AMP		03 16 42.6	
	comp=E,4μm,0.4s						
STL	**Santa Lucia**	**3.26**	**167**	*e*P	P	**03 15 48.5**	**-0.5**
STL				*i* S	S	**03 16 25.8**	**-0.9**
STL				AMP		03 16 43.9	
	comp=E,960nm,0.5s						
RCDM	**Rinconada Maip**	**3.28**	**169**⇓	*i*P	P	**03 15 49.5**	**+0.3**
RCDM				*i* S	S	**03 16 26.7**	**-0.6**
RCDM				AMP		03 16 44.4	
	comp=E,3μm,0.5s						
ANTU	**Antumapu**	**3.39**	**167**	*e*P	P	**03 15 50.6**	**-0.2**
ANTU				*i* S	S	**03 16 29.1**	**-0.9**
ANTU				AMP		03 16 46.9	
	comp=N,2μm,0.7s						
TACH	**Talagante**	**3.42**	**172**	*e*P	P	**03 15 51.0**	**-0.2**
MDZ	**Mendoza**	**3.48**	**139**	*e*P	P	**03 15 54.6**	**+2.5**
MDZ				*i* S	S	**03 16 19.5**	**-13**
CHCH	**Chadas Angostu**	**3.74**	**169**	*e*P	P	**03 15 55.6**	**-0.1**
LMEL	**Las Melosas**	**3.75**	**163**⇑	*i*P	P	**03 15 57.1**	**+1.2**
LMEL				*i* S	S	**03 16 40.0**	**+0.9**
LVC	**Limon Verde**	**7.97**	**18**	P	P	**03 16 49.5**	**-5.1**
	comp=N,0.7nm,0.3s,baz=229,slow=11,SNR=9.4						
LVC				S	S	**03 18 25.1**	**+0.9**
	comp=N,4.4nm,0.3s,baz=282,slow=8.6,SNR=3.8						
LVC				LR	LR	03 19 50.6	
	comp=N,93nm,18.7s,baz=215,slow=36						
LVC	**Limon Verde**	**7.97**	**18**	*e*P	P	**03 16 49.6**	**-5.0**
	comp=N,25nm,0.6s						
PLCA	**Paso Flores**	**10.48**	**176**	P	P	**03 17 27.8**	**-1.2**
	comp=N,0.2nm,0.3s,baz=314,slow=8.1,SNR=4.7						
PLCA				LR	LR	03 21 30.6	
	comp=N,99nm,20.7s,baz=356,slow=37						
PLCA	**Paso Flores**	**10.48**	**176**	*e*P	P	**03 17 28.1**	**-0.8**
TRQA	**Tornquist**	**11.09**	**137**	*e*P	P	**03 17 34.9**	**-2.3**
	comp=N,14nm,0.7s						
CPUP	**Villa Florida**	**13.12**	**76**	P	P	**03 17 56.9**	**-7.4**
	comp=N,0.3nm,0.3s,baz=259,slow=13,SNR=7.6						
CPUP				LR	LR	03 23 30.3	
	comp=N,115nm,20.6s,baz=313,slow=39						
CPUP	**Villa Florida**	**13.12**	**76**	*e*P	P	**03 17 56.4**	**-7.9**
	comp=N,10nm,0.8s						
LPAZ	**La Paz**	**14.25**	**13**	P	P	**03 18 20.3**	**+1.1**
	comp=N,0.6nm,0.3s,baz=196,slow=8.7,SNR=17						
LPAZ	**La Paz**	**14.25**	**13**	*e*P	P	**03 18 19.9**	**+0.7**
	comp=N,2.6nm,0.5s						
SIV	**San Ignacio**	**17.14**	**36**	P	P	**03 18 56.4**	**+0.5**
	comp=N,0.8nm,0.3s,baz=217,slow=9.0,SNR=16						
SAML	**Samuel**	**22.60**	**22**	*e*P	P	**03 19 55.2**	**-0.2**
	comp=N,3.6nm,0.8s,mb3.9						
USHA	**Ushuaia**	**24.66**	**176**	P	P	**03 20 14.8**	**-0.3**
	comp=N,6.3nm,0.8s,mb4.2,baz=27,slow=2.3,SNR=2.5						
BDFB	**Brasilia**	**26.02**	**61**	P	P	**03 20 26.6**	**-1.7**
	comp=N,3.0nm,0.7s,mb4.0,baz=233,slow=9.0,SNR=8.3						
BDFB				LR	LR	03 31 54.2	
	comp=N,126nm,18.9s,baz=293,slow=39						
BDFB	**Brasilia**	**26.02**	**61**	P	P	**03 20 26.6**	**-1.7**
BDFB				LR	LR	03 31 54.2	

VNA3	**Neumayer Olymp**	**52.67**	**159**	P	pP	03 24 23.6	-1.4
VNA3				*e*		03 24 33.1	
VNA2	**Neumayer--Watz**	**53.30**	**158**	P	pP	03 24 26.4	-3.3
VNA2				*e*		03 24 36.8	
SNAA	**Sanae**	**54.90**	**159**⇓	*i*	**P**	**03 24 24.5**	**-0.7**
SNAA	**Sanae**	**54.90**	**159**	*e*	pP	03 24 38.1	-3.4
SNAA	**Sanae**	**54.90**	**159**	P	**P**	**03 24 24.5**	**-0.7**
	comp=N,1.0nm,0.8s,mb3.9,baz=288,slow=7.3,SNR=21						
SNAA				pP	pP	03 24 38.1	-3.4
	comp=N,0.4nm,0.5s,baz=274,slow=8.0,SNR=3.2						
SNAA	**Sanae**	**54.90**	**159**	*e*P	**P**	**03 24 24.3**	**-0.9**
	comp=N,1.6nm,0.6s,mb4.2						
SNAA				*e*	pP	03 24 38.1	-3.4
TXAR	**Lajitas Array**	**66.71**	**330**	P	**P**	**03 25 46.1**	**+0.3**
	comp=N,0.7nm,0.7s,mb3.8,baz=153,slow=9.0,SNR=13						
DBIC	**Dimbokro**	**73.60**	**72**	LR	LR	03 55 34.9	
	comp=N,34nm,20.1s,baz=342,slow=33						
BVAR	**Borovoye Array**	**144.19**	**40**	PKP	PKPdf	03 34 28.2	+0.8
	comp=N,0.7nm,0.5s,baz=289,slow=3.9,SNR=5.3						
BVAR				pPKP		03 34 43.0	
	comp=N,0.6nm,0.6s,baz=270,slow=4.4,SNR=3.3						
ZAL	**Zalesovo**	**150.80**	**29**	PKPbc	PKPdf	03 34 44.3	+6.1
	comp=N,3.7nm,0.7s,baz=161,slow=1.8,SNR=15						
ZAL				pPKPbc		03 35 01.1	
	comp=N,4.0nm,0.9s,baz=149,slow=1.5,SNR=4.0						
MKAR	**Makanchi Array**	**153.87**	**43**	PKPbc	PKPdf	03 34 52.3	+10
	comp=N,0.3nm,0.6s,baz=292,slow=1.7,SNR=3.6						
MKAR				PKPab	PKPab	03 35 06.0	-0.5
	comp=N,0.7nm,0.7s,baz=315,slow=3.4,SNR=4.6						
MKAR				pPKPab		03 35 20.9	
	comp=N,0.3nm,0.5s,baz=297,slow=3.8,SNR=4.5						

*ISK **08** 04:26:08.6, 37.01N×36.05E, h21km, MD3.5*
*CSEM **08** 04:26:08.6, 37.01N×36.05E, h21km, MD3.5, After ISK*
ISC 08 04:26:07.6±0.7, 37.01N±0.03×36.03E±0.03, h2km±7km, n21, σ1°08/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEYT	**Ceyhan**	**0.22**	**270**	*i* PG	**Sg**	**04 26 14.7**	**-0.4**
COBT	**Iskenderun**	**0.52**	**159**	*i* P	**Pg**	**04 26 18.7**	**+0.7**
COBT				*i* S	**Sg**	**04 26 25.2**	**+0.2**
HTY	**Hatay**	**0.89**	**174**	PG	**Pg**	**04 26 26.8**	**+1.4**
HTY				SG	**Sg**	**04 26 39.3**	**+2.0**
KAHT	**Ahir Dag**	**0.92**	**47**	*i* P	**Pb**	**04 26 26.9**	**+1.1**
KAHT				*i* S	**Sg**	**04 26 39.9**	**+1.8**
GAZ	**Gaziantep**	**0.96**	**80**	PG	**Pg**	**04 26 26.6**	**-0.1**
GZT	**Gaziantep**	**1.27**	**74**	*i* P	**Pb**	**04 26 31.2**	**-0.8**
GZT				*i* S	**Sb**	**04 26 50.0**	**+1.3**
MEST	**Erdemli**	**1.57**	**255**	*i* P	**Pn**	**04 26 37.1**	**+0.6**
MEST				*i* S	**Sb**	**04 26 58.6**	**+1.5**
NIG	**Nigde**	**1.57**	**315**	PN	**Pn**	**04 26 36.6**	**0.0**
BNN	**Bunyan**	**1.84**	**356**	*e*Pn	**Pn**	**04 26 39.8**	**-0.7**
ATAB	**Bozova**	**1.87**	**75**	*i* P	**Pg**	**04 26 44.3**	**-0.6**
ATAB				*i* S	**Sg**	**04 27 08.8**	**-1.0**
AVNT	**Avonos**	**1.99**	**333**	*i* P	**Pn**	**04 26 44.0**	**+1.4**
IKL	**Isikli**	**2.04**	**248**	PN	**Pn**	**04 26 42.1**	**-1.1**
URFA	**Urfa**	**2.27**	**78**	*e*PN	**Pn**	**04 26 45.7**	**-0.9**
MYA	**Malataya**	**2.31**	**55**	PN	**Pn**	**04 26 46.5**	**-0.7**
HWQ	**Hawqa**	**2.73**	**181**	*e*Pn	**Pg**	**04 26 58.9**	**-3.1**
HWQ				Sn	**Sg**	**04 27 33.9**	**-4.5**
HDMB	**Hadim**	**2.83**	**270**	*e*PN	**Pn**	**04 26 54.6**	**-0.1**
KAMT	**Kaman**	**2.98**	**323**	*e*PN	**Pn**	**04 26 56.4**	**-0.3**
SVSK	**Karacayir**	**3.00**	**14**	*e*PN	**Pn**	**04 26 56.1**	**-0.9**
BHL	**Bhannes**	**3.12**	**186**	Sn	**Sg**	**04 27 48.9**	**-2.4**
LEF	**Lefka**	**3.17**	**234**	*e*PN	**Pn**	**04 26 59.1**	**-0.3**
PTK	**Pertek**	**3.26**	**54**	*e*PN	**Pn**	**04 27 00.0**	**-0.7**

MAN 08 04:37:00.2, 11.91N×125.98E, h9km±3km, mb4.2, ML3.0, MS2.8, 1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.61**	**240**	*e*P	Pg	04 37 12.4	-0.1
BESP				*e*S	Sg	04 37 20.6	-0.1
PLP	**Palo**	**1.23**	**233**	*e*P	Pb	04 37 22.1	-1.0
PLP				*i* S	Sb	04 37 37.2	-1.8
CNP	**Catarman**	**1.42**	**295**	*e*P	Pn	04 37 25.0	-1.2
CNP				*e*S	Sb	04 37 42.5	-1.9
MSLP	**Maasin**	**2.08**	**212**	*e*P	Pn	04 37 38.0	+2.3
MSLP				*e*S	Sn	04 38 04.6	+2.6
SCPH	**Surigao**	**2.17**	**193**⇓	*e*P	Pn	04 37 37.3	+0.3
PVCP	**Virac**	**2.44**	**313**	*e*P	Pn	04 37 41.0	+0.1
PVCP				*e*S	Sn	04 38 20.6	+9.5
BUTP	**Butuan**	**2.95**	**187**	*e*P	Pn	04 37 47.0	-1.1
BUTP				*e*S	Sn	04 38 27.2	+3.2
GUIM	**Jordan**	**3.56**	**249**	*e*P	Pn	04 37 56.5	-0.3
GUIM				*e*S	Sn	04 38 40.9	+1.3
OTRP	**Odiongan**	**3.89**	**277**	*e*P	Pn	04 38 01.2	-0.4
BUKP	**Musuan**	**4.11**	**193**	*e*P	Pn	04 37 54.4	-10
PAGZ	**Pagadian**	**4.78**	**213**	*e*P	Pn	04 38 14.5	+0.3
BALP	**Baler**	**5.72**	**312**	*e*P	Pn	04 38 25.9	-1.5
BALP				*e*S	Sn	04 39 22.6	-11

WEL 08 05:02:39.0±0.4, 38.02S×176.40E, h152km±3km, ML3.6/16, 7C-1D, Error ellipse: s-maj=3.8km s-min=3.1km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.61**	**113**	PN	P	05 03 01.1	-0.6
URZ				SN	S	05 03 18.2	-0.8
MWZ	**Matawai**	**0.94**	**110**	PN	P	05 03 03.9	+0.2
MWZ				SN	S	05 03 22.8	0.0
BKZ	**Black Stump Fm**	**1.15**	**176**	⇑PN	P	05 03 05.3	-0.2
BKZ				SN	S	05 03 24.8	-1.2
OTVZ	**Oturere**	**1.28**	**206**	⇑PN	P	05 03 07.0	+0.2
NGZ	**Ngauruhoe**	**1.31**	**208**	PN	P	05 03 07.4	+0.3
CNZ	**Chateau**	**1.35**	**209**	⇓PN	P	05 03 07.4	-0.1
TUVZ	**Tukino**	**1.38**	**205**	PN	P	05 03 07.7	-0.1
FWVZ	**Far West T-bar**	**1.40**	**208**	PN	P	05 03 07.9	-0.2
KNZ	**Kokohu**	**1.41**	**135**	PN	P	05 03 08.1	-0.1
KNZ				SN	S	05 03 29.8	-0.9
WNVZ	**Wahianoa**	**1.45**	**205**	PN	P	05 03 08.3	-0.3
PUZ	**Puketiti**	**1.47**	**93**	PN	P	05 03 08.0	-0.8
PUZ				SN	S	05 03 29.8	-1.9
MOVZ	**Moawhango**	**1.47**	**200**	⇑PN	P	05 03 08.0	-0.8
PWZ	**Pawanui**	**2.04**	**170**	⇑PN	P	05 03 14.3	-0.7
WAZ	**Wanganui**	**2.05**	**212**	PN	P	05 03 14.4	-0.8
TSZ	**Takapari Road**	**2.06**	**189**	⇑PN	P	05 03 14.1	-1.3
BFZ	**Birch Farm**	**2.66**	**182**	PN	P	05 03 20.7	-2.1
BFZ				SN	S	05 03 52.8	-3.5
MRZ	**Mangatainoka R**	**2.71**	**193**	⇑PN	P	05 03 20.9	-2.6
MRZ				SN	S	05 03 53.1	-4.5
KIW	**Kapiti Island**	**3.06**	**202**	PN	P	05 03 24.6	-3.4
MTW	**Mount Morrison**	**3.21**	**192**	⇑PN	P	05 03 26.3	-3.6
CAW	**Cannon Point**	**3.25**	**198**	PN	P	05 03 26.9	-3.5
MRW	**Makara Radio**	**3.46**	**202**	*e*PN	P	05 03 29.3	-3.8

IDC 08 05:02:42.3±3.7, 1.51S×100.29E, mb3.6/3, mb1 3.8/3, mb1mx3.5/16, mbtmp3.6/3, Error ellipse: s-maj=147.2km s-min=29.9km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**37.99**	**121**	P	P	05 10 02.3	-1.7
	0.8nm,0.5s,baz=303,slow=9.0,SNR=5.0						
SONM	**Songino Array**	**49.43**	**5**	P	P	05 11 34.8	-1.3
	0.3nm,0.6s,baz=190,slow=11,SNR=3.4						
MKAR	**Makanchi Array**	**50.64**	**344**	P	P	05 11 42.9	-2.4
	0.8nm,0.5s,baz=148,slow=7.8,SNR=12						
TXAR	**Lajitas Array**	**144.14**	**37**	PKP	PKPdf	05 22 19.1	-3.5
	0.3nm,0.6s,baz=218,slow=0.4,SNR=6.2						

*INMG **08** 05:26:43.3±0.9, 35.68N×4.72W, h80km±4km, ML2.3, Error ellipse: s-maj=5.2km s-min=2.6km az=11.0*
*NEIC **08** 05:26:43.9, 35.70N×4.69W, h80km, MG3.0(MDD), After MDD.*
*CSEM **08** 05:26:43.7±0.2, 35.85N×4.75W, h76km±2km, mb3.0/9, Error ellipse: s-maj=5.0km s-min=2.5km az=175.0*
MDD 08 05:26:43.9±1.1, 35.71N×4.68W, h82km±14km, mb2.8/15, 1C-5D, Error ellipse: s-maj=11.9km s-min=6.2km az=13.0, PRXIMO, Strait of Gibraltar

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

EMIJ	**Mijas**	**0.86**	**355**	P	P	05 27 00.9	-0.8
	5.4nm,0.1s,SNR=9.1						
EMIJ				S	S	05 27 13.6	-1.4
	43nm,0.2s,SNR=17						
EALB	**Alboran**	**1.36**	**80**	P	P	05 27 06.5	-1.5
	2.2nm,0.1s,SNR=7.9						
EALB				S	S	05 27 23.6	-2.3
	5.0nm,0.2s,SNR=7.9						
EALB	**Alboran**	**1.36**	**80**	P	P	05 27 06.5	-1.5
	2.2nm,0.1s,SNR=7.9						
EGUA	**Guajares**	**1.44**	**38**	P	P	05 27 07.8	-1.3
	0.6nm,0.2s,SNR=7.9						
EGUA				S	S	05 27 25.7	-1.9
	1.3nm,0.2s,SNR=7.9						
ESPR	**Espera**	**1.50**	**321**	P	P	05 27 09.4	-0.4
	2.2nm,0.2s,SNR=7.9						
ESPR				S	S	05 27 27.6	-1.3
	10nm,0.1s,SNR=7.9						
ELOJ	**Sierra Loja**	**1.50**	**16**	S	S	05 27 27.0	-1.9
	4.8nm,0.4s,SNR=5.0						
EQUE	**Quentar**	**1.80**	**33**	P	P	05 27 13.9	+0.1
	0.4nm,0.1s,SNR=7.9						
EQUE				S	S	05 27 34.4	-1.4
	0.7nm,0.2s,SNR=7.9						
EBER	**Berja**	**1.87**	**50**	P	P	05 27 12.9	-1.9
	0.3nm,0.1s,SNR=7.9						
EBER				S	S	05 27 36.6	-0.9
	6.9nm,0.4s,SNR=7.9						
ECAB	**El Cabril**	**2.44**	**346**	⇓P	P	05 27 20.8	-1.7
	2.5nm,0.1s,SNR=18						
ECAB				S	S	05 27 48.0	-3.3
	12nm,0.1s,SNR=23						
ECAB	**El Cabril**	**2.44**	**346**	P	P	05 27 20.8	-1.8
	2.5nm,0.1s,SNR=18						
ECAB				S	S	05 27 48.0	-3.3
	12nm,0.1s,SNR=23						
EADA	**Adamuz**	**2.46**	**2**	⇓P	P	05 27 21.6	-1.2
	3.9nm,0.0s,SNR=18						
EADA				S	S	05 27 48.7	-3.1
	17nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**2.46**	**2**	P	P	05 27 21.6	-1.2
	3.9nm,0.0s,SNR=18						
EADA				S	S	05 27 48.7	-3.1
	17nm,0.1s,SNR=7.9						
EQES	**Quesada**	**2.46**	**31**	P	P	05 27 22.5	-0.4
	0.3nm,0.1s,SNR=7.9						
EQES				S	S	05 27 50.0	-1.8
	1.1nm,0.1s,SNR=7.9						
EQES	**Quesada**	**2.46**	**31**	P	P	05 27 22.5	-0.4
	0.3nm,0.1s,SNR=7.9						
EQES				S	S	05 27 50.0	-1.9
	1.1nm,0.1s,SNR=7.9						
EBAN	**Banos Encina**	**2.55**	**16**	⇑P	P	05 27 22.8	-1.5
	8.0nm,0.1s,SNR=18						
EBAN				S	S	05 27 51.0	-3.3
	3.4nm,0.1s,SNR=6.9						
EMIN	**Mina Concepcio**	**2.60**	**323**	⇓P	P	05 27 23.3	-1.6
	9.3nm,0.1s,SNR=18						
EMIN				S	S	05 27 51.9	-3.6
	8.2nm,0.1s						
EMIN	**Mina Concepcio**	**2.60**	**323**	P	P	05 27 23.3	-1.6
	9.3nm,0.1s,SNR=18						
EMIN				S	S	05 27 51.9	-3.6
	8.2nm,0.1s						
EGRO	**El Granado**	**2.90**	**310**	⇓P	P	05 27 27.1	-2.0
	5.7nm,0.0s,SNR=18						
EGRO				S	S	05 27 59.3	-3.5
	11nm,0.1s						
EGRO	**El Granado**	**2.90**	**310**	P	P	05 27 27.0	-2.0
	5.7nm,0.0s,SNR=18						
EGRO				S	S	05 27 59.3	-3.5
	11nm,0.1s						
PBEJ	**Beja**	**3.44**	**313**	*e*P	P	05 27 34.4	-2.2
PBEJ				*e*S	S	05 28 12.3	-4.1
	7.3nm,0.1s						
PBEJ	**Beja**	**3.44**	**313**	*e*P	P	05 27 34.4	-2.2
PBEJ				*e*S	S	05 28 12.3	-4.1
	7.3nm,0.1s						
EBAD	**Badajoz**	**3.56**	**329**	⇓P	P	05 27 36.1	-2.1
	4.9nm,0.1s,SNR=18						
EBAD				S	S	05 28 14.9	-4.5
	8.3nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**3.56**	**329**	P	P	05 27 36.1	-2.2
	4.9nm,0.1s,SNR=18						
EBAD				S	S	05 28 14.9	-4.5
	8.3nm,0.1s,SNR=7.9						
PTEO	**Sao Teotonio**	**3.73**	**301**	*e*S	S	05 28 19.2	-4.4
	6.9nm,0.3s						
PTEO	**Sao Teotonio**	**3.73**	**301**	*e*S	S	05 28 19.2	-4.4
	6.9nm,0.3s						
ETOB	**Tobarra**	**3.85**	**40**	P	P	05 27 40.5	-1.8
	0.3nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**3.85**	**40**	P	P	05 27 40.5	-1.7
ESDC	**Sonseca Array**	**4.00**	**8**	S	S	05 28 24.0	-6.2
	703μm,0.1s,baz=188,slow=23,SNR=5.7						
PCBR	**Castelo Branco**	**4.68**	**333**	*e*P	P	05 27 51.4	-2.3
PCBR				*e*S	S	05 28 41.2	-6.0
	1.7nm,0.2s						
PCBR	**Castelo Branco**	**4.68**	**

σ1$35/154, mb4.0/17, MS3.0/4, 10D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.57	355	eP	Pb	06 49 58.2	+0.5
KARP				eSB	Sb	06 50 04.5	-0.8
KARP	Karpathos	0.57	355	ePn	Pb	06 49 58.2	+0.5
KARP				eSn	Sn	06 50 07.1	-1.2
XRY	Khrisi	1.26	266	ePN	Pn	06 50 12.0	+2.6
NPS	Neapolis	1.35	283	ePN	Pn	06 50 13.5	+2.8
NPS				eSN	Sn	06 50 31.0	+2.8
NPS	Neapolis	1.35	283	ePn	Pn	06 50 13.5	+2.8
NPS				eSn	Sn	06 50 33.2	+5.0
ARG	Arkhangelos	1.44	30	ePN	Pn	06 50 15.2	+3.3
NISR	Nisiros	1.63	357	ePN	Pn	06 50 16.5	+1.8
IDI	Anoyia	1.94	280	P	Pn	06 50 23.8	+4.7
	24nm,0.3s,baz=98,slow=14,SNR=45						
IDI				S	Sn	06 50 48.8	+5.7
	28nm,0.3s,baz=39,slow=22,SNR=4.5						
SANT	Santorini	2.00	314	ePn	Pn	06 50 22.9	+3.0
SANT				eSn	Sn	06 50 44.9	+0.3
SANT	Santorini	2.00	314	ePn	Pn	06 50 22.9	+2.9
SANT				eSn	Sn	06 50 44.9	+0.3
THR1	Thera Island	2.00	314	eP	Pn	06 50 23.9	+4.0
THR3	Thira Island,	2.06	314	eP	Pn	06 50 25.0	+4.2
BODT	Bodrum	2.08	2	PN	Pn	06 50 22.1	+1.0
BODT				SN	Sn	06 50 47.3	+0.6
THR5	Thira Island,	2.10	314	eP	Pn	06 50 26.5	+5.1
THR4	Thira Island,	2.10	315	eP	Pn	06 50 25.8	+4.5
DALT	Dalyan (Mudla)	2.12	32	PN	Pn	06 50 22.4	0.7
KSL	Kastellorizon	2.25	58	ePB	Pb	06 50 26.5	+0.2
AKAS	Kas	2.31	56	i P	Pn	06 50 25.9	+1.6
YER	Yerkesik	2.31	21	PN	Pn	06 50 25.6	-0.1
MLSB	Milas	2.35	11	PN	Pn	06 50 25.3	+0.3
APE	Apeiranthos	2.50	327	PN	Pn	06 50 28.1	+1.0
APE	Apeiranthos	2.50	327	ePN	Pn	06 50 29.0	+1.9
APE				eSN	Sn	06 50 59.7	+2.4
APE	Apeiranthos	2.50	327	eP	Pn	06 50 29.0	+1.9
APE				eSn	Sn	06 50 59.7	+2.4
VAM	Vamos	2.52	281	ePB	Pb	06 50 31.0	+0.1
VAM				eSN	Sn	06 51 01.7	+4.0
VAM	Vamos	2.52	281	ePb	Pb	06 50 31.9	+1.0
VAM				eSn	Sn	06 51 01.7	+4.0
GVD	Gavdhos	2.58	268	ePn	Pn	06 50 31.7	+3.4
GVD	Gavdhos	2.58	268	ePn	Pn	06 50 31.7	+3.4
GVD				eSn	Sb	06 51 12.0	+8.4
AYDN	Tasoluk	2.73	11	i P	Pn	06 50 32.5	+2.2
SMG	Samos	2.74	354	ePN	Pn	06 50 32.5	+1.9
ELL	Elmali	2.80	50	PN	Pn	06 50 31.9	+0.4
GOLH	Golhisar	2.94	39	i P	Sb	06 51 21.1	+7.2
DNZL	Cakiroluk	3.08	28	i P	Pn	06 50 37.4	+2.1
DENT	Denizli	3.13	27	ePN	Pn	06 50 36.0	-0.1
IZM	Izmir	3.41	0	ePN	Pn	06 50 40.6	+0.6
URLA	Izmir	3.41	352	i P	Pn	06 50 40.2	+0.2
KDAG	Bornova	3.42	1	i P	Pn	06 50 41.2	+1.0
KYTH	Kithira	3.65	292	ePN	Pn	06 50 46.0	+2.5
MANT	Manisa	3.66	17	i P	Pn	06 50 45.0	+1.4
BCK	Bucak	3.68	47	ePN	Pn	06 50 43.3	-0.5
SLUM		3.87	206	⇓P	Pn	06 50 48.6	+2.1
HMAT	Matruh	3.88	182	P	Pn	06 50 49.5	+2.8
HMAT				S	Sn	06 51 30.9	-1.3
VLI	Veliai	3.89	298	ePN	Pn	06 50 49.0	+2.1
ISP	Isparta	3.90	42	ePN	Pn	06 50 46.2	-0.8
ISP	Isparta	3.90	42	i P	Pn	06 50 49.2	+2.3
AKS	Akhisar	3.92	7	ePN	Pn	06 50 47.7	+0.4
TKTP	Tekketepe	3.94	38	i P	Pn	06 50 48.4	+0.8
PRK	Paraskevi	4.33	350	ePN	Pn	06 50 54.9	+1.8
GDZ	Gediz	4.48	23	i P	Pn	06 50 54.7	-0.5
HDMB	Hadim	4.70	64	ePN	Pn	06 50 57.6	-0.8
ERMK	Ermenek	4.91	69	i P	Pn	06 51 03.2	+1.8
HBRG	Burj al 'Arab	4.91	153	⇓P	Pn	06 51 02.5	+1.1
AOS	Alonnisos	4.96	328	eP	Pn	06 51 01.4	-0.7
KONT	Konya--Tatoy	5.09	53	ePN	Pn	06 51 03.9	+0.1
LOS	Limnos	5.23	342	eP	Pn	06 51 02.1	-3.8
ULDT	Uludag	5.37	16	i P	Pn	06 51 07.6	-0.3
KIZT	Kizilcal	5.39	42	ePN	Pn	06 51 07.7	-0.4
IKL	Isikli	5.41	75	ePN	Pn	06 51 07.5	-0.9
XOR	Xorichti	5.43	325	eP	Pn	06 51 08.9	+0.2
XOR	Xorichti	5.43	325	eP	Pn	06 51 08.9	+0.2
AGG	Agios Georgios	5.62	317	eP	Pn	06 51 13.1	+1.7
SWA1		5.84	193	P	Pn	06 51 15.6	+1.1
SWA1				S	Sn	06 52 18.0	-3.7
SWA2		5.91	195	P	Pn	06 51 16.4	+1.0
FYM	Al Fayyum	6.18	147	⇓P	Pn	06 51 19.2	-0.1
HSAF	As Saff	6.48	144	⇓P	Pn	06 51 23.1	-0.4
GLA	Jalalah	6.59	144	⇓P	Pn	06 51 24.6	-0.1
HRSH	Kfar Ka'horesh	6.77	124	⇓P	Pn	06 51 26.7	-0.9
RSH		6.77	124	P	Pn	06 51 26.7	-0.9
AWBH		6.79	167	P	Pn	06 51 28.3	+0.4
BRTR	Keskin Array B	6.96	45	P	Pn	06 51 30.8	+0.5
	0.3nm,0.3s,baz=210,slow=10.0,SNR=9.5						
BRTR				S	Sn	06 52 50.1	+0.3
	0.1nm,0.3s,baz=211,slow=26,SNR=3.3						
SUZ		6.98	136	P	Pn	06 51 29.8	-0.7
KNT	Kendrikon	7.05	332	eP	Pn	06 51 29.9	-1.6
GRG	Griva	7.08	329	eP	Pn	06 51 30.5	-1.4
FNA	Florina	7.41	323	eP	Pn	06 51 35.2	-1.3
HFRF	Wahat Farafira	7.86	173	⇓P	Pn	06 51 42.7	-0.1
GRB	Gharib	8.20	143	P	P	06 51 47.6	+0.1
ASUT		8.42	153	P	P	06 51 49.4	-1.3
ASUT		8.42	153	P	P	06 51 49.3	-1.3
HHRG	Al Ghardaqah	9.45	143	⇓P	P	06 52 05.1	+0.2
HDK1	Dakhla	9.59	168	P	P	06 52 07.0	+0.2
MLR	Muntele Rosu	10.54	355	P	P	06 52 20.6	+0.7
	0.2nm,0.3s,baz=164,slow=13,SNR=3.7						
SOC	Sochi	12.93	45	eP	P	06 52 51.5	-0.6
	30nm,0.8s						
SOC				eS	S	06 55 11.8	-4.6
	98nm,16.0s						
SOC	Sochi	12.93	45	eP	P	06 52 51.5	-0.6
SOC				e		06 55 11.8	
SOC				pmax	pmax		
	comp=Z,30nm,0.8s						
SOC				pmax	pmax		
	comp=N,44nm,0.9s						
SOC				pmax	pmax		
	comp=E,17nm,0.9s						
SOC				MLR	MLR		
	comp=Z,96nm,18.0s						
SOC				MLR	MLR		
	comp=N,98nm,16.0s						
SOC				MLR	MLR		
	comp=E,47nm,12.0s						
KIV	Kislovodsk	14.91	48	deP	P	06 53 19.0	+0.9
KIV				eS	S	06 56 01.1	-2.4
KIV				pmax	pmax		
	comp=Z,6.0nm,0.6s						
AKASG	Malin Array Be	15.78	5	P	P	06 53 27.7	-1.6
	comp=Z,0.9nm,0.3s,baz=194,slow=12,SNR=6.7						
AKASG	Malin Array Be	15.78	5	P	P	06 53 27.8	-1.6
GERES	GERESS Array B	17.09	328	P	P	06 53 45.4	-0.5
	comp=Z,0.3nm,0.3s,baz=148,slow=13,SNR=8.5						
DPC	Dobruska-Polom	17.30	336	eP	P	06 53 49.3	+0.7
DPC				AMS	AMS	07 01 00.0	
	comp=Z,100nm,8.7s						
KHC	Kasperske Hory	17.36	329	eP	P	06 53 47.4	-1.9
KHC				AMS	AMS	07 01 00.0	
	comp=Z,100nm,7.6s						
KHC	Kasperske Hory	17.36	329	eP	P	06 53 47.4	-1.9
KHC				eSdif		07 01 35.1	
KHC				ePS		07 03 31.5	
UPC	Upice	17.54	336	eP	P	06 53 52.6	+1.1
PRU	Pruhonice	17.64	332	eP	P	06 53 52.0	-0.8
PRU				AMS	AMS	07 02 10.0	
MBDF	Montbardon	18.43	308	eP	P	06 54 01.1	-1.7
	comp=Z,19nm,1.1s						
MBDF	Montbardon	18.43	308	eP	P	06 54 01.1	-1.7
MBDF				pmax	pmax		
	comp=Z,9.0nm,1.1s						
NKC	Novy Kostel	18.67	329	eP	P	06 53 54.9	-11
NKC				AMS	AMS	07 02 00.0	
LPG	La Plagne	18.78	310	eP	P	06 54 06.5	-0.5
	comp=Z,18nm,1.1s						
LPG	La Plagne	18.78	310	eP	P	06 54 06.5	-0.5
LPG				pmax	pmax		
	comp=Z,9.0nm,1.1s						
LPL	La Plagne	18.80	310	eP	P	06 54 06.3	-0.9
CLL	Collm	19.28	332	P	P	06 54 12.0	-0.9
CABF	La Chapelle	19.71	313	eP	P	06 54 16.6	-1.1
	comp=Z,12nm,0.6s						
CABF	La Chapelle	19.71	313	eP	P	06 54 16.6	-1.1
CABF				pmax	pmax		
	comp=Z,6.0nm,0.6s						
VIVF	Saint-Julien-I	19.86	307	eP	P	06 54 17.7	-1.7
	comp=Z,12nm,0.8s						
VIVF	Saint-Julien-I	19.86	307	eP	P	06 54 17.7	-1.7
VIVF				pmax	pmax		
	comp=Z,6.0nm,0.8s						
HINF	Hinteralfeld	19.88	316	eP	P	06 54 18.2	-1.4
CDF	Champ du Feu	19.97	318	eP	P	06 54 18.9	-1.7
SMF	Signal de Mont	21.11	311	eP	P	06 54 30.3	-2.0
	comp=Z,15nm,0.8s,mb4.0						
SMF	Signal de Mont	21.11	311	eP	P	06 54 30.3	-2.0
SMF				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.0						
OBN	Obninsk	21.15	15	i P	P	06 54 30.1	-2.6
	comp=Z,100nm,27.0s						
OBN	Obninsk	21.15	15	⇓iP	P	06 54 30.1	-2.6
OBN				pmax	pmax		
	comp=Z,19nm,0.8s,mb4.5						
OBN				MLR	MLR		
	comp=Z,100nm,27.0s,MS3.1						
LOR	Lormes	21.37	312	eP	P	06 54 32.9	-2.1
	comp=Z,5.8nm,0.7s,mb3.7						
LOR				eR			
	comp=Z,57nm,21.3s						
LOR	Lormes	21.37	312	eP	P	06 54 32.9	-2.1
LOR				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb3.7						
LOR				MLR	MLR		
	comp=Z,60nm,21.3s,MS3.0						
AVF	Avril sur Loir	21.47	311	eP	P	06 54 34.7	-1.3
	comp=Z,13nm,0.8s,mb4.0						
AVF	Avril sur Loir	21.47	311	eP	P	06 54 34.7	-1.3
AVF				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.0						
SSF	Saint Saulge	21.49	311	eP	P	06 54 34.4	-1.8
	comp=Z,12nm,0.8s,mb4.2						
SSF	Saint Saulge	21.49	311	eP	P	06 54 34.4	-1.8
SSF				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.3						
CAF	Calviac	21.62	305	eP	P	06 54 36.4	-1.1
RJF	Les Rejaudoux	22.11	306	eP	P	06 54 41.3	-1.1
	comp=Z,10nm,0.8s,mb4.0						
RJF				eR			
	comp=Z,45nm,17.5s						
RJF	Les Rejaudoux	22.11	306	eP	P	06 54 41.3	-1.1
RJF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.0						
RJF				MLR	MLR		
	comp=Z,40nm,17.5s,MS2.9						
BAIF	Baives	22.56	319	eP	P	06 54 45.6	-1.2
FLN	La Foliniere	24.64	312	eP	P	06 55 06.0	-1.1
	comp=Z,13nm,0.7s,mb4.3						
FLN				eR			
	comp=Z,51nm,21.1s						
FLN	La Foliniere	24.64	312	eP	P	06 55 06.0	-1.1
FLN				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.2						
FLN				MLR	MLR		
	comp=Z,50nm,21.0s,MS3.0						
GRR	Gorron	24.72	311	eP	P	06 55 06.2	-1.7
	comp=Z,6.8nm,0.6s,mb4.1						
GRR	Gorron	24.72	311	eP	P	06 55 06.2	-1.7
GRR				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.0						
ROSF	Rostrenen	26.21	310	eP	P	06 55 18.9	-2.9
	comp=Z,48nm,1.2s,mb4.6						
ROSF	Rostrenen	26.21	310	eP	P	06 55 18.9	-2.9
ROSF				pmax	pmax		
	comp=Z,24nm,1.2s,mb4.6						
FINES	FINESS Array B	26.49	359	P	P	06 55 21.8	-2.5
	comp=Z,1.4nm,0.8s,mb3.5,baz=162,slow=12,SNR=5.0						
FINES	FINESS Array B	26.49	359	P	P	06 55 21.8	-2.5
HFS	Hagfors	26.66	345	P	P	06 55 23.3	-2.6
	comp=Z,2.0nm,0.6s,mb3.8,baz=162,slow=14,SNR=3.8						
EKA	Eskdalemuir Ar	29.18	324	P	P	06 55 47.2	-1.4
	comp=Z,0.7nm,0.6s,mb3.6,baz=135,slow=11,SNR=3.7						
EKA	Eskdalemuir Ar	29.18	324	P	P	06 55 47.2	-1.5
ARCES	ARCESS Array B	34.62	359	P	P	06 56 33.9	-2.4
	comp=Z,1.6nm,0.7s,mb4.1,baz=171,slow=8.6,SNR=15						
BVAR	Borovoye Array	35.25	46	P	P	06 56 42.3	+0.5
	comp=Z,0.5nm,0.6s,mb3.6,baz=252,slow=9.4,SNR=3.7						
AAK	Ala-Archa	37.22	64	i P	P	06 56 58.6	+0.1
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.0						
KURK	Kurchatov	39.98	51	eP	P	06 57 22.4	+0.9
	comp=Z,6.3nm,1.4s,mb4.2						
KURK	Kurchatov	39.98	51	eP	P	06 57 22.2	+0.7
MKAR	Makanchi Array	42.46	57	P	P	06 57 43.2	+1.4
	comp=Z,2.1nm,0.6s,mb3.9,baz=276,slow=6.9,SNR=22						
MKAR	Makanchi Array	42.46	57	P	P	06 57 43.2	+1.4
MKAR				PcP	PcP	08 02 47.4	-0.2
	0.8nm,0.8s,baz=76,slow=5.9,SNR=3.0						
MKAR	Makanchi Array	47.00	305	P	P	08 01 15.0	0.0
MKAR				PcP	PcP	08 02 47.5	-0.2
KURK	Kurchatov	49.06	311	eP	P	08 01 31.1	+0.1
	4.7nm,0.8s,mb4.6						
KURK	Kurchatov	49.06	311	eP	P	08 01 31.1	+0.1
KURK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
ILAR	Eielson Array	52.26	31	P	P	08 01 55.1	-0.1
	comp=Z,1.1nm,0.6s,mb4.0,baz=260,slow=6.2,SNR=29						
WRA	Warramunga Arr	53.43	190	P	P	08 02 02.4	-2.1
	comp=Z,1.7nm,0.8s,mb4.0,baz=6.6,slow=7.6,SNR=9.7						
FITZ	Fitzroy Crossi	53.52	200	P	P	08 02 04.0	-1.1
	comp=Z,9.0nm,1.0s,mb4.7,slow=8.1,SNR=2.4						
BVAR	Borovoye Array	53.86	315	P	P	08 02 07.2	+0.1
	comp=Z,0.4nm,0.4s,mb3.7,baz=80,slow=9.0,SNR=3.9						
INK	Inuvik	57.38	26	P	P	08 02 32.5	+0.1
	comp=Z,1.8nm,0.7s,mb4.2,baz=298,slow=8.6,SNR=3.1						
FINES	FINESS Array B	72.62	333	P	P	08 04 11.2	+0.3
	comp=Z,1.9nm,0.8s,mb4.1,baz=124,slow=10.0,SNR=5.5						
AKASG	Malin Array Be	77.89	323	P	P	08 04 41.1	-0.1
	comp=Z,0.4nm,0.4s,mb3.7,baz=46,slow=7.1,SNR=5.9						
NB2	NORSAR Subarra	78.06	338	P	P	08 04 42.4	+0.5
	comp=Z,1.2nm,0.7s,mb3.9,baz=40,slow=5.6						
NB2	NORSAR Subarra	78.06	338	P	P	08 04 42.4	+0.5
NB2				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
NOA	NORSAR Array B	78.06	338	P	P	08 04 42.7	+0.8
	comp=Z,2.1nm,0.8s,mb4.2,baz=38,slow=5.6,SNR=6.1						
NOA	NORSAR Array B	78.06	338	P	P	08 04 42.7	+0.8
PDAR	Pinedale Array	79.69	45	P	P	08 04 52.5	+1.4
	comp=Z,0.3nm,0.7s,mb3.3,baz=309,slow=5.8,SNR=3.1						
TXAR	Lajitas Array	91.70	53	P	P	08 05 52.5	+1.5
	comp=Z,0.3nm,0.6s,mb3.8,baz=291,slow=3.0,SNR=8.9						
TXAR	Lajitas Array	91.70	53	P	P	08 05 52.5	+1.5
LPAZ	La Paz	147.62	66	PKPbc	PKPdf	08 12 29.4	+1.0
	comp=Z,1.4nm,0.8s,baz=315,slow=4.3,SNR=6.5						

NIED ***08*** *07:52:00, 33.20N×142.30E, h5km, Mw4.0 Best double couple: M0=1.22×10^15 NP1:φ=202°, δ=61°, λ=-92°. NP2:φ=25°, δ=29°, λ=-87°.*
IDC ***08*** *07:52:41.9±0.7, 33.09N×142.52E, mb4.0/12, mb1 4.2/15, mb1mx4.1/24, mbtmp4.0/15, ML3.8/3, Error ellipse: s-maj=20.6km s-min=18.4km az=85.0*
JMA ***08*** *07:52:43.3±0.3, 33.24N×142.33E, M3.9*
MOS ***08*** *07:52:45.0±1.2, 33.15N×142.51E, h33km, mb4.5/2, Error ellipse: s-maj=24.8km s-min=10.1km az=118.0*
NEIC ***08*** *07:52:46.0±3.5, 33.11N×142.49E, h26km±23km, mb4.3/2, Error ellipse: s-maj=13.6km s-min=10.6km az=92.0*

ISC 08 07:52:43.4±1.5, 33.22N±0.05×142.53E±0.05, h19km±11km, n46, σ1$02/63, mb4.0/13, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	1.93	318	P	Pn	07 53 16.4	+0.7
BSO1				eS	Sn	07 53 40.7	+1.0
JHJ2	Mitsune	2.28	268	P	Pn	07 53 21.1	+0.3
BSO3	Boso 3	2.31	314	P	Pn	07 53 21.9	+0.8
BSO3				eS	Sn	07 53 49.2	-0.1
JHJ	Hachijo jima 2	2.31	268	Pn	Pn	07 53 20.6	-0.5
	44nm,0.3s,baz=184,slow=4.6,SNR=17						
JHJ				Sn	Sn	07 53 47.4	-1.9
	106nm,0.3s,baz=48,slow=22,SNR=17						
BSO4	Boso 4	2.54	315	P	Pn	07 53 25.5	+1.0
BSO4				eS	Sn	07 53 56.2	+1.1
CHOJ	Chosi	2.84	331	eS	Sn	07 54 02.4	-0.4
JOD2	Odawara 2	3.51	307	P	Pn	07 53 38.2	0.0
JOD2				eS	Sn	07 54 20.6	+0.9
JYN	Shimob	4.01	306	P	Pn	07 53 46.4	+1.1
JYN				eS	Sn	07 54 32.4	+0.1
JAG	Ashikaga	4.08	323	P	Pn	07 53 46.6	+0.2
JRY	Ryogami san	4.10	314	P	Pn	07 53 47.3	+0.7
JRY				eS	Sn	07 54 34.9	+0.4
JMM	Marumori	4.85	343	P	Pn	07 53 56.5	-0.8
JMM				eS	Sn	07 54 48.5	-5.1
MJAR	Matsushiro Arr	4.86	314	Pn	Pn	07 53 57.7	+0.2
	2.5nm,0.3s,baz=144,slow=14,SNR=20						
MJAR				Sn	Sn	07 54 52.0	-1.9
	3.2nm,0.3s,baz=126,slow=17,SNR=7.2						
MAJO	Matsushiro	4.86	314	eP	Pn	07 53 58.9	+1.4
MAJO				eS	Sn	07 54 53.1	-0.8
MAT	Matsushiro	4.86	314	P	Pn	07 53 58.2	+0.7
MAT				S	Sn	07 54 52.0	-1.9
MAT	Matsushiro	4.86	314	P	Pn	07 53 58.7	+1.2
MAT				eS	Sn	07 54 53.7	-0.2
MAT	Matsushiro	4.86	314	P	Pn	07 53 58.0	+0.5
MAT				eS	Sn	07 54 52.0	-1.9
JNS	Sasagawa	5.29	331	P	Pn	07 54 02.8	-0.6
JNS				eS	Sn	07 55 04.2	-0.4
JGM	Miyama	5.41	299	P	Pn	07 54 06.1	+1.0
JMK	Ichinoseki	5.82	350	P	Pn	07 54 08.7	-2.3
JMK				eS	Sn	07 55 11.5	-6.5
JSD	Sado	5.94	325	P	Pn	07 54 12.6	0.0
JYK	Kaneyama	5.96	343	P	Pn	07 54 11.7	-1.2
JYK				eS	Sn	07 55 17.4	-3.9
CBIJ	Chichi jima	6.11	183	Pn	Pn	07 54 11.1	-3.9
	8.8nm,0.3s,baz=271,slow=22,SNR=7.3						
CBIJ				Sn	Sn	07 55 15.2	-10
	14nm,0.3s,baz=252,slow=20,SNR=5.4						
JOM	Ohasama	6.32	351	P	Pn	07 54 16.6	-1.5
JOM				eS	Sn	07 55 25.8	-4.7
YSS	Yuzh-Sakhalins	13.72	1	P	P	07 55 58.0	-1.3
SONM	Songino Array	30.79	309	P	P	07 59 00.6	+0.7
	1.1nm,0.7s,mb3.8,baz=115,slow=9.9,SNR=5.8						
BOD	Bodaibo	31.27	331	eP	P	07 59 07.0	+3.0
NVS	Novosibirsk	46.19	316	eP	P	08 01 13.9	+5.4
MKAR	Makanchi Array	47.00	305	P	P	08 01 15.0	0.0
	2.1nm,0.7s,mb4.2,baz=90,slow=9.9,SNR=22						

IDC ***08*** *08:24:17.1±0.8, 11.90N×126.22E, mb3.9/10, mb1 4.0/10, mb1mx3.9/19, mbtmp3.9/10, Error ellipse: s-maj=55.7km s-min=19.1km az=68.0*
MAN ***08*** *08:24:19.2, 11.87N×125.91E, h10km, mb4.8, ML3.7, MS3.8*
NEIC ***08*** *08:24:25.9±0.7, 10.48N×123.33E, h35km, mb4.5/2, Error ellipse: s-maj=35.3km s-min=14.6km az=66.0*

ISC 08 08:24:16.8±1.4, 11.92N±0.03×126.02E±0.05, h4km±8km, n32, σ1$01/40, mb4.0/12, 2C-3D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	Borongan	0.65	241	eP	Pg	08 24 29.9	+0.1
BESP				eS	Sg	08 24 37.5	-0.9
PLP	Palo	1.27	234	eP	Pb	08 24 39.6	-1.3
PLP				i S	Sb	08 24 53.5	-3.9
CNP	Catarman	1.45	294	eP	Pn	08 24 43.9	0.0
CNP				eS	Sb	08 25 02.9	+0.1
MSLP	Maasin	2.11	213	eP	Pn	08 24 54.7	+1.4
MSLP				eS	Sn	08 25 22.4	+2.0
SCPH	Surigao	2.19	194	eP	Pn	08 24 54.4	-0.1
PVCP	Virac	2.47	313	eP	Pn	08 24 58.8	+0.3
PVCP				eS	Sn	08 25 33.2	+3.7
LLP	Lapu-Lapu	2.57	232	eP	Pn	08 24 59.4	-0.5
LLP				eS	Sn	08 25 30.4	-1.6
BUTP	Butuan	2.96	188	eP	Pn	08 25 05.7	+0.2
BUTP				eS	Sn	08 25 42.5	+0.6
TBP	Tagbilaran	3.06	224	eP	Pn	08 25 08.9	+1.9
RCP	Roxas	3.23	264	eP	Pn	08 25 10.1	+0.9
GUIM	Jordan	3.60	249	eP	Pn	08 25 14.2	-0.4
CGP	Cagayan de Oro	3.68	201	eP	Pn	08 25 16.1	+0.3
SNPH	Sibulan	3.75	227	eP	Pn	08 25 08.3	-8.4
OTRP	Odiongan	3.94	277	eP	Pn	08 25 19.8	+0.4
BUKP	Musuan	4.12	193	eP	Pn	08 25 23.1	+1.1
PAGZ	Pagadian	4.81	213	eP	Pn	08 25 31.6	-0.2
CUYO	Cuyo Island	5.02	258	eP	Pn	08 25 34.3	-0.4
BALP	Baler	5.75	312	eP	Pn	08 25 46.5	+1.4
BALP				eS	Sn	08 26 43.6	-8.8
CAUP	Cauayan	6.44	321	eP	Pn	08 25 54.7	-0.1
WRA	Warramunga Arr	32.70	165	P	P	08 30 50.3	-2.5
	0.7nm,0.6s,mb3.7,baz=344,slow=9.0,SNR=5.6						
SONM	Songino Array	39.40	339	P	P	08 31 50.0	+0.6
	0.4nm,0.4s,mb3.5,baz=168,slow=13,SNR=2.3						
STKA	Stephens Creek	46.03	161	P	P	08 32 42.7	-0.9
	4.0nm,0.7s,mb4.5,baz=341,slow=3.5,SNR=9.1						
MKAR	Makanchi Array	50.58	322	P	P	08 33 19.1	+0.4
	2.2nm,0.8s,mb4.2,baz=121,slow=8.4,SNR=19						
KURK	Kurchatov	54.58	325	eP	P	08 33 48.3	-0.2
	8.2nm,1.0s,mb4.7						
BVAR	Borovoye Array	60.18	325	P	P	08 34 27.3	-0.8
	0.5nm,0.4s,mb3.9,baz=120,slow=12,SNR=6.1						
BRVK	Borovoye	60.25	325	eP	P	08 34 28.2	-0.4
	2.7nm,1.0s,mb4.2						
ILAR	Eielson Array	78.07	26	P

s68,c158;Mantle waves: s73,c240; Half duration: 2s2 Moment tensor: Scale 10^{17}Nm; M_{rr}=0.87±.07; $M_{\theta\theta}$=1.84±.06; $M_{\phi\phi}$2.71±.07; $M_{r\theta}$-7.37±.16; $M_{\theta\phi}$4.24±.05; $M_{\phi r}$1.52±.17; Best double couple: $M_0$8.559×10^{17} NP1: ϕ_s178°,δ34°,λ-174°. NP2:ϕ_s83°,δ87°,λ-56°. Principal axes: T 7.022, Plg33°, Azm145°; N 3.074, Plg34°, Azm261°; P -10.097, Plg39°, Azm23°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.

NEIC ***08*** *08:33:56.7±0.1,3.80S×140.16E,h10km,mb5.5/47, MS5.7/11,MW5.8 Error ellipse: s-maj=4.9km s-min=3.5km az=81.0,Moment Tensor Solution. s23 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.78; $M_{\theta\theta}$-3.11; $M_{\phi\phi}$4.90; $M_{r\theta}$-2.51; $M_{\theta\phi}$2.28; $M_{\phi r}$0.49; Best double couple: $M_0$5.5×10^{17} NP1: ϕ_s155°,δ65°,λ-155°. NP2:ϕ_s54°,δ67°,λ-27°. Principal axes: T 5.51, Plg1°, Azm105°; N -.03, Plg55°, Azm197°; P -5.48, Plg35°, Azm14°;*

NEIC *Felt [IV] at Tanah Merah and [III] at Jayapura.*

IDC ***08*** *08:34:01.0±1.9,3.74S×140.15E,h36km±15km,mb5.2/24, mb1 5.2/26,mb1mx5.2/26,mbtmp5.4/26,ML4.9/2,MS5.6/18, Ms1 5.6/18,ms1mx5.5/22 Error ellipse: s-maj=13.4km s-min=8.5km az=56.0*

ISC 08 08:33:55.9±0.9,**3.84S**±0.03×**140.20E**±0.03,**h17**km±6km, **h21**km±1.8km:**pP-P,n437,**σ1§**05**/325,**mb5.6**/114,**MS5.4**/57, **30C-25D,Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**8.85**	**129**	Pn		**P**	**08 36 07.8**	**+1.7**
	26nm,0.3s,baz=322,slow=8.7,SNR=50						
PMG				Lg			08 38 37.0
	baz=246,slow=20,SNR=3.1						
PMG				LR	LR		08 39 38.8
	comp=Z,19μm,20.8s,baz=317,slow=38						
PMG	**Port Moresby**	**8.85**	**129**	⇑*eP*		**P**	**08 36 05.8**	**-0.3**
	863nm,0.8s						
PMG	**Port Moresby**	**8.85**	**129**	*c iP*		**P**	**08 36 07.9**	**+1.8**
KAKA	**Kakadu**	**11.68**	**221**	⇑*iP*		**P**	**08 36 51.0**	**+5.9**
	1μm,0.4s						
KAKA				*eS*		**S**	**08 38 56.3**	**+0.2**
WRAB	**Tennant Creek**	**16.98**	**199**	*eP*		**P**	**08 37 51.6**	**-2.8**
	813nm,0.8s						
WRAB				*eS*		**S**	**08 41 09.2**	**+7.6**
WRAB	**Tennant Creek**	**16.98**	**199**	*c iP*		**P**	**08 37 51.9**	**-2.6**
WB2	**Warramunga Arr**	**16.99**	**199**	⇓*iP*		**P**	**08 37 52.7**	**-1.9**
WB2				*eS*		**S**	**08 40 59.4**	**-2.4**
WRA	**Warramunga Arr**	**16.99**	**199**	P		**P**	**08 37 52.7**	**-1.9**
	7.2nm,0.3s,baz=16,slow=13,SNR=102						
WRA				S		**S**	**08 40 59.1**	**-2.8**
	13nm,0.3s,baz=16,slow=22,SNR=4.9						
WRA				Lg			08 42 56.3
	13nm,0.3s,baz=30,slow=26,SNR=3.9						
CTA	**Charters Tower**	**17.19**	**160**	⇑*iP*		**P**	**08 37 58.7**	**+1.6**
	173nm,1.0s						
CTA	**Charters Tower**	**17.19**	**160**	P		**P**	**08 37 59.2**	**+2.1**
	8.6nm,0.3s,baz=339,slow=12,SNR=46						
CTA				Lg			08 43 07.3
	3.1nm,0.3s,baz=243,slow=20,SNR=8.0						
CTA				LR	LR		08 44 37.6
	comp=Z,23μm,20.3s,baz=345,slow=37						
CTA	**Charters Tower**	**17.19**	**160**	⇑*iP*		**P**	**08 37 58.7**	**+1.6**
CTA				pmax	pmax		
	comp=Z,173nm,1.0s						
CTAO	**Charters Tower**	**17.19**	**160**	⇑*eP*		**P**	**08 37 58.8**	**+1.7**
	comp=Z,310nm,1.0s						
CTAO	**Charters Tower**	**17.19**	**160**	⇑*eP*		**P**	**08 37 58.8**	**+1.7**
CTAO				pmax	pmax		
	comp=Z,310nm,1.0s						
DAV	**Davao City (W)**	**18.18**	**307**	*eP*		**P**	**08 38 14.0**	**+4.5**
BUKP	**Musuan**	**19.07**	**308**	*eP*		**P**	**08 38 22.4**	**+2.1**
BUTP	**Butuan**	**19.32**	**311**	*eP*		**P**	**08 38 26.5**	**+3.3**
CGP	**Cagayan de Oro**	**19.71**	**308**	⇓*eP*		**P**	**08 38 27.7**	**0.0**
SCPH	**Surigao**	**19.95**	**313**	⇓*eP*		**P**	**08 38 30.3**	**0.0**
FITZ	**Fitzroy Crossi**	**20.10**	**224**	⇑*iP*		**P**	**08 38 31.3**	**-0.5**
	comp=Z,844nm,0.9s						
FITZ				*eS*		**S**	**08 42 05.4**	**-6.1**
FITZ	**Fitzroy Crossi**	**20.10**	**224**	P		**P**	**08 38 31.3**	**-0.6**
	comp=Z,670nm,1.0s,baz=33,slow=8.2,SNR=97						
FITZ				S		**S**	**08 42 07.6**	**-3.9**
	comp=Z,497nm,0.7s,baz=165,slow=9.4,SNR=6.1						
FITZ				Lg			08 44 39.2
	comp=Z,612nm,0.9s,baz=349,slow=19,SNR=2.7						
FITZ				LR	LR		08 47 14.6
	comp=Z,36μm,21.9s,MS5.7,baz=60,slow=39						
HNR	**Honiara**	**20.38**	**107**	P		**P**	**08 38 34.6**	**-0.2**
	comp=Z,404nm,0.7s,baz=237,slow=3.0,SNR=16						
HNR				S		**S**	**08 42 21.4**	**+4.1**
	comp=Z,49nm,0.6s,baz=179,slow=22,SNR=3.2						
HNR	**Honiara**	**20.38**	**107**	*eP*		**P**	**08 38 34.0**	**-0.8**
	comp=Z,824nm,0.8s						
HNR	**Honiara**	**20.38**	**107**	*eP*		**P**	**08 38 34.0**	**-0.8**
HNR				pmax	pmax		
	comp=Z,824nm,0.8s						
PAGZ	**Pagadian**	**20.41**	**305**	*eP*		**P**	**08 38 35.5**	**+0.4**
MSLP	**Maasin**	**20.65**	**312**	*eP*		**P**	**08 38 36.9**	**-0.7**
TBP	**Tagbilaran**	**21.11**	**310**	*eP*		**P**	**08 38 43.5**	**+1.2**
PLP	**Palo**	**21.25**	**315**	*eP*		**P**	**08 38 45.8**	**+2.0**
SNPH	**Sibulan**	**21.39**	**308**	⇓*eP*		**P**	**08 38 48.0**	**+2.9**
LLP	**Lapu-Lapu**	**21.43**	**311**	*eP*		**P**	**08 38 44.7**	**-0.9**
CNP	**Catarman**	**22.41**	**317**	*eP*		**P**	**08 38 54.4**	**-0.9**
GUIM	**Jordan**	**22.67**	**310**	*eP*		**P**	**08 38 59.6**	**+1.5**
RCP	**Roxas**	**23.14**	**312**	⇑*eP*		**P**	**08 39 04.3**	**+1.6**
PVCP	**Virac**	**23.53**	**318**	*eP*		**P**	**08 39 06.4**	**0.0**
TSM	**Tawau**	**23.73**	**290**	P		**P**	**08 39 11.5**	**+3.2**
CUYO	**Cuyo Island**	**24.03**	**308**	*eP*		**P**	**08 39 12.3**	**+1.0**
OTRP	**Odiongan**	**24.20**	**312**	*eP*		**P**	**08 39 13.2**	**+0.3**
AUQP	**San Andres**	**24.36**	**315**	*eP*		**P**	**08 39 16.6**	**+2.1**
SJMP	**San Jose**	**24.94**	**311**	*eP*		**P**	**08 39 21.1**	**+1.0**
BOAC	**Boac**	**25.05**	**314**	*eP*		**P**	**08 39 21.9**	**+0.8**
BATP	**Bataraza**	**25.62**	**299**	*eP*		**P**	**08 39 27.5**	**+1.0**
KKM	**Kota Kinabalu**	**25.89**	**292**	P		**P**	**08 39 30.0**	**+1.0**
KKM	**Kota Kinabalu**	**25.89**	**292**	*e*Pu		**P**	**08 39 30.0**	**+1.0**
MBWA	**Marble Bar**	**26.31**	**227**	*eP*		**P**	**08 39 31.4**	**-1.4**
	comp=Z,0.7nm,1.5s						
MBWA				*eS*			08 44 22.5
BALP	**Baler**	**26.80**	**317**	*eP*		**P**	**08 39 36.5**	**-0.9**
CAUP	**Cauayan**	**27.50**	**319**	*eP*		**P**	**08 39 40.1**	**-3.7**
STKA	**Stephens Creek**	**27.92**	**177**	*eP*		**P**	**08 39 45.9**	**-1.5**
	comp=Z,19nm,0.8s,mb4.8						
STKA	**Stephens Creek**	**27.92**	**177**	P		**P**	**08 39 47.2**	**-0.2**
	comp=Z,20nm,0.7s,mb4.8,baz=344,slow=7.4,SNR=19						
STKA				LR	LR		08 52 04.2
	comp=Z,57μm,18.1s,MS6.2,baz=350,slow=39						
CVP	**Callao Caves**	**28.06**	**320**	*i P*		**P**	**08 39 47.5**	**-1.3**
APYP	**Conner**	**28.55**	**320**	*eP*		**P**	**08 39 51.2**	**-2.0**
FORT	**Forrest**	**29.14**	**202**	⇓*iP*		**P**	**08 39 58.0**	**-0.4**
	comp=Z,74nm,0.7s,mb5.5						
KWAJ	**Kwajalein Atol**	**30.08**	**65**	P		**P**	**08 40 06.0**	**-1.0**
	comp=Z,250nm,0.9s,mb5.9						
KSM	**Kuching**	**30.34**	**279**	*eP*		**P**	**08 40 09.9**	**+0.6**
CBIJ	**Chichi jima**	**30.82**	**3**	P		**P**	**08 40 12.6**	**-0.8**
	comp=Z,176nm,1.1s,mb5.8,baz=1.4,slow=3.7,SNR=6.1						
CBIJ				LR	LR		08 52 31.5
	comp=Z,5μm,19.0s,MS5.2,baz=172,slow=36						
ADE	**Adelaide**	**31.00**	**182**	*eP*		**P**	**08 40 14.8**	**-0.1**
NOUC	**Port Laguerre**	**31.14**	**128**	*eP*		**P**	**08 40 15.8**	**-0.5**
DZM	**Mont Dzumac**	**31.24**	**128**	*eP*		**P**	**08 40 16.7**	**-0.5**
DZM	**Mont Dzumac**	**31.24**	**128**	P		**P**	**08 40 17.6**	**+0.5**
	comp=Z,49nm,1.0s,mb5.3,baz=10,slow=10,SNR=8.9						
CNB	**Canberra Magne**	**32.44**	**166**	*eP*		**P**	**08 40 30.5**	**+2.9**
	comp=Z,29nm,0.8s,mb5.2						
JOW	**Kunigami**	**32.60**	**340**	P		**P**	**08 40 27.7**	**-1.3**
	comp=Z,22nm,0.6s,mb5.3,baz=150,slow=8.9,SNR=7.9						
NACB	**Ninganchiao**	**33.22**	**328**	*eP*		**P**	**08 40 33.9**	**-0.6**
TOO	**Toolangi**	**33.91**	**172**	*eP*		**P**	**08 40 45.6**	**+5.3**
	comp=Z,14nm,1.1s,mb4.8						
KLBR	**Kellerberrin**	**34.74**	**215**	⇓*iP*		**P**	**08 40 47.1**	**-0.4**
	comp=Z,41nm,0.7s,mb5.5						
QZH	**Quanzhou**	**35.49**	**325**	*i* PR		**P**	**08 40 53.0**	**-1.0**
QZH				S		**S**	**08 46 27.5**	**-0.2**
QZH				AMB	AMB		
	comp=Z,80nm,0.9s,mb5.7						
QZH				AMB	AMB		
	comp=Z,1μm,8.9s						
QZH				LR	LR		
	comp=N,3μm,11.4s,MS5.3						
QZH				LR	LR		
	comp=E,2μm,12.2s,MS5.3						
QZH				LR	LR		
	comp=Z,6μm,21.4s						
MUN	**Mundaring**	**35.92**	**216**	⇓*iP*		**P**	**08 40 57.6**	**0.0**
	comp=Z,21nm,0.9s,mb5.1						
MUN	**Mundaring**	**35.92**	**216**	⇓*iP*		**P**	**08 40 57.6**	**0.0**
MUN				pmax	pmax		
	comp=Z,21nm,0.9s,mb5.1						
NWAO	**Narrogin (SRO)**	**36.03**	**214**	P		**P**	**08 40 58.7**	**+0.2**
	comp=Z,47nm,1.0s,mb5.4,baz=35,slow=6.1,SNR=7.5						
NWAO				LR	LR		08 57 10.4
	comp=Z,16μm,19.5s,MS5.8,baz=32,slow=38						
NWAO	**Narrogin (SRO)**	**36.03**	**214**	*eP*		**P**	**08 40 58.8**	**+0.3**
	comp=Z,55nm,1.0s,mb5.4						
NWAO	**Narrogin (SRO)**	**36.03**	**214**	*eP*		**P**	**08 40 58.8**	**+0.3**
NWAO				pmax	pmax		
	comp=Z,55nm,1.0s						
JHJ	**Hachijo jima 2**	**36.76**	**359**	P		**P**	**08 41 03.5**	**-1.2**
	comp=Z,69nm,0.8s,mb5.6,baz=96,slow=11,SNR=4.7						
JHJ				LR	LR		08 53 34.1
	comp=Z,11μm,19.7s,MS5.6,baz=199,slow=32						
KGM	**Kluang**	**37.32**	**278**	P		**P**	**08 41 13.3**	**+3.8**
GZH	**Guangzhou**	**37.46**	**317**	P		**P**	**08 41 12.1**	**+1.5**
GZH				S		**S**	**08 47 01.9**	**+3.9**
GZH				LR	LR		
	comp=N,3μm,21.1s,MS5.3						
GZH				LR	LR		
	comp=E,3μm,16.2s,MS5.3						
GZH				LR	LR		
	comp=Z,3μm,27.5s						
QIZ	**Qiongzhong**	**37.54**	**308**	P		**P**	**08 41 10.3**	**-1.0**
QIZ				PP	PP		08 42 43.3	+3.6
QIZ				S		**S**	**08 46 57.0**	**-2.2**
QIZ				PCS			08 47 14.7
QIZ				SS	SS		08 49 31.5	-1.1
QIZ				AMB	AMB		
	comp=Z,169nm,1.1s,mb5.7						
QIZ				LR	LR		
	comp=N,3μm,26.2s						
QIZ				LR	LR		
	comp=E,2μm,17.0s						
QIZ				LR	LR		
	comp=Z,2μm,24.9s,MS4.9						
JNU	**Nakatsue**	**37.81**	**347**	P		**P**	**08 41 12.6**	**-0.8**
	comp=Z,90nm,1.1s,mb5.4,baz=105,slow=6.2,SNR=22						
SSE	**Sheshan**	**39.19**	**334**	⇓P		**P**	**08 41 25.1**	**+0.1**
SSE				S		**S**	**08 47 22.7**	**-1.4**
SSE				SCS	ScS		08 51 32.8	+1.3
SSE				AMB	AMB		
	comp=Z,105nm,1.6s,mb5.3						
SSE				AMB	AMB		
	comp=Z,726nm,12.0s						
SSE				LR	LR		
	comp=N,1μm,22.5s,MS5.2						
SSE				LR	LR		
	comp=E,3μm,22.5s,MS5.2						
SSE				LR	LR		
	comp=Z,3μm,24.2s,MS5.0						
IPM	**Ipoh**	**40.02**	**282**	P		**P**	**08 41 33.4**	**+1.3**
MJAR	**Matsushiro Arr**	**40.22**	**358**	P		**P**	**08 41 31.5**	**-2.0**
	comp=Z,19nm,1.1s,mb4.8,baz=172,slow=9.8,SNR=26						
MJAR				PcP	PcP		08 43 36.8	-1.2
	comp=Z,16nm,1.1s,baz=206,slow=5.2,SNR=5.3						
MJAR				LR	LR		08 56 40.5
	comp=Z,3μm,21.6s,MS5.1,baz=140,slow=34						
MAJO	**Matsushiro**	**40.22**	**358**	*eP*		**P**	**08 41 32.2**	**-1.2**
	comp=Z,35nm,0.9s,mb5.1						
MAJO	**Matsushiro**	**40.22**	**358**	P		**P**	**08 41 32.3**	**-1.1**
MAJO				pmax	pmax		
	comp=Z,35nm,1.0s,mb5.0						
MAT	**Matsushiro**	**40.22**	**358**	P		**P**	**08 41 31.4**	**-2.0**
MAT				S		**S**	**08 47 35.0**	**-4.5**
MAT	**Matsushiro**	**40.22**	**358**	*eP*		**P**	**08 41 31.0**	**-2.4**
	comp=Z,20nm,0.9s,mb4.8						
MAT				*eS*		**S**	**08 47 36.0**	**-3.5**
MAT				LR	LR		
	comp=Z,4μm,20.0s,MS5.2						
MAT	**Matsushiro**	**40.22**	**358**	*eP*		**P**	**08 41 31.0**	**-2.4**
MAT				*eS*		**S**	**08 47 36.0**	**-3.5**
MAT				pmax	pmax		
	comp=Z,20nm,0.9s,mb4.8						
MAT				MLR	MLR		
	comp=Z,4μm,20.0s,MS5.2						
KULM	**Kulim**	**40.53**	**283**	*eP*		**P**	**08 41 37.3**	**+1.1**
SNG	**Songkhla**	**40.99**	**285**	P		**P**	**08 41 41.0**	**+1.0**
	comp=Z,620nm,0.9s,mb6.2						
NJ2	**Nanjing**	**41.06**	**332**	*eP*		**P**	**08 41 42.0**	**+1.6**
NJ2				AP	pP		08 41 47.6	+2.2
NJ2				XP	sP		08 41 50.3	+2.9
NJ2				PP	PP		08 43 20.8	+2.5
NJ2				S	**S**		**08 47 53.0**	**+0.9**
NJ2				XS			08 48 04.0
NJ2				AMB	AMB		
	comp=Z,90nm,1.0s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,860nm,7.5s						
NJ2				LR	LR		
	comp=N,10μm,23.2s,MS5.8						
NJ2				LR	LR		
	comp=E,10μm,21.8s,MS5.8						
NJ2				LR	LR		
	comp=Z,4μm,21.2s,MS5.3						
KKTK	**Khon Kaen**	**42.04**	**299**	P		**P**	**08 41 48.0**	**-0.7**
	comp=Z,710nm,1.0s,mb6.2						
WHN	**Wuhan**	**42.18**	**326**	*eP*		**P**	**08 41 50.5**	**+0.8**
WHN				S		**S**	**08 48 14.8**	**+6.1**
WHN				LR	LR		
	comp=N,1μm,12.0s,MS5.3						
WHN				LR	LR		
	comp=E,2μm,11.5s,MS5.3						
WHN				LR	LR		
	comp=Z,3μm,18.5s						
KS15	**Wonju Array Si**	**42.64**	**345**	*eP*		**P**	**08 41 54.5**	**+1.1**
INCN	**Inchon**	**43.01**	**344**	*eP*		**P**	**08 41 57.5**	**+1.1**
	comp=Z,306nm,1.5s,mb5.8						
NNT	**Nongplab**	**43.39**	**293**	P		**P**	**08 41 56.5**	**-3.2**
NST	**Nakhon Sawan**	**44.14**	**297**	⇑P		**P**	**08 42 06.0**	**+0.2**
	comp=Z,92nm,1.0s,mb5.5						
GYA	**Guiyang**	**44.27**	**315**	⇑*iP*		**P**	**08 42 06.9**	**+0.2**
GYA				PP	PP		08 43 47.5	-4.0
GYA				AMB	AMB		
	comp=Z,60nm,1.0s,mb5.3						
GYA				AMB	AMB		
	comp=Z,1μm,9.3s						
GYA				LR	LR		
	comp=N,2μm,18.8s,MS5.2						
GYA				LR	LR		
	comp=E,2μm,18.0s,MS5.2						
GYA				LR	LR		
	comp=Z,3μm,18.0s,MS5.2						
ENH	**Enshi**	**44.87**	**321**	*eP*		**P**	**08 42 11.4**	**-0.2**
	comp=Z,103nm,1.1s,mb5.6						
NANT	**Nan**	**44.93**	**301**	⇓P		**P**	**08 42 12.7**	**+0.6**
	comp=Z,800nm,0.4s						
TIA	**Tai'an**	**45.31**	**334**	*eP*		**P**	**08 42 13.8**	**-1.2**
TIA				S		**S**	**08 48 56.0**	**+1.9**
TIA				LR	LR		
	comp=N,3μm,17.0s						
BDT	**Bhumibol Dam**	**45.75**	**299**	P		**P**	**08 42 25.5**	**+6.9**
DL2	**Dalian**	**45.87**	**340**	P		**P**	**08 42 21.0**	**+1.7**
DL2				S		**S**	**08 49 03.7**	**+1.7**
DL2				AMB	AMB		
	comp=Z,940nm,2.9s,mb6.2						
DL2				LR	LR		
	comp=N,1μm,18.4s,MS5.0						
DL2				LR	LR		
	comp=E,1μm,17.3s,MS5.0						
DL2				LR	LR		
	comp=Z,1μm,21.6s,MS4.8						
CHRT	**Chiangrai**	**46.17**	**302**	⇑P		**P**	**08 42 30.0**	**+8.0**
	comp=Z,632nm,0.7s						
KMI	**Kunming**	**46.38**	**310**	P		**P**	**08 42 24.5**	**+0.9**
KMI				AP	pP		08 42 34.1	+5.5
KMI				XP	sP		08 42 38.0	+7.4
KMI				PP	PP		08 44 12.8	+0.2
KMI				S	**S**		**08 49 01.0**	**-8.6**
KMI				AMB	AMB		
	comp=Z,112nm,0.9s,mb5.8						
KMI				AMB	AMB		
	comp=Z,363nm,3.9s						
KMI				LR	LR		
	comp=N,2μm,21.2s,MS5.1						
KMI				LR	LR		
	comp=E,2μm,20.6s,MS5.1						
KMI				LR	LR		
	comp=Z,3μm,23.3s,MS5.2						
CHG	**Chiang Mai**	**46.44**	**300**	⇑P		**P**	**08 42 24.4**	**+0.4**
	comp=Z,86nm,1.3s,mb5.5						
QRZ	**Quartz Range**	**46.91**	**146**	P*		**P**	**08 42 29.1**	**+1.6**
QRZ	**Quartz Range**	**46.91**	**146**	*eP*		**P**	**08 42 29.1**	**+1.6**
THZ	**Tophouse**	**47.75**	**147**	P*		**P**	**08 42 33.8**	**-0.4**
THZ				pP	pP		08 42 38.6	-0.6
THZ	**Tophouse**	**47.75**	**147**	*eP*		**P**	**08 42 33.8**	**-0.4**
XAN	**Xi'an**	**47.85**	**324**	P		**P**	**08 42 34.1**	**-1.0**
XAN				AP	pP		08 42 41.3	+1.2
XAN				S	**S**		**08 49 24.8**	**-5.5**
XAN				AMB	AMB		
	comp=Z,74nm,1.3s,mb5.6						
XAN				AMB	AMB		
	comp=Z,536nm,11.7s						
XAN				LR	LR		
	comp=N,1μm,39.2s,MS4.9						
XAN				LR	LR		
	comp=E,2μm,34.9s,MS4.9						
XAN				LR	LR		
	comp=Z,2μm,22.4s						
SNY	**Shenyang**	**47.91**	**343**	⇓P		**P**	**08 42 35.8**	**+0.4**
SNY				AP	pP		08 42 43.9	+3.5
SNY				XP	sP		08 42 49.9	+7.5
SNY				S	**S**		**08 49 32.5**	**+1.6**
SNY				AMB	AMB		
	comp=Z,50nm,1.7s,mb5.3						
SNY				AMB	AMB		
	comp=Z,870nm,12.3s						
SNY				LR	LR		
	comp=N,3μm,16.2s,MS5.5						
SNY				LR	LR		
	comp=E,3μm,15.6s,MS5.5						
SNY				LR	LR		
	comp=Z,5μm,17.4s,MS5.6						
YUK	**Yuzh-Kuril'sk**	**47.93**	**6**	*eP*		**P**	**08 42 33.0**	**-2.5**
YUK				*e*			08 44 04.0
YUK				*e*			08 44 26.0
YUK				*eS*		**S**	**08 49 27.0**	**-4.2**
YUK				*e*SS	SS		08 52 32.0	-23
YUK				pmax	pmax		
	comp=Z,3μm,7.0s						
YUK				pmax	pmax		
	comp=N,3μm,3.0s						
YUK				smax			
	comp=E,2μm,9.0s						
URZ	**Urewera**	**48.00**	**140**	P		**P**	**08 42 36.9**	**+0.7**
	comp=E,43nm,0.6s,mb5.7,baz=8.1,slow=3.1,SNR=23						
LTZ	**Lake Taylor**	**48.12**	**148**	*eP**		**P**	**08 42 37.3**	**+0.3**
LTZ	**Lake Taylor**	**48.12**	**148**	*eP*		**P**	**08 42 37.3**	**+0.3**
RPZ	**Rata Peaks**	**48.17**	**150**	P		**P**	**08 42 38.2**	**+0.8**
	comp=E,252nm,0.9s,mb6.2,baz=346,slow=3.6,SNR=49						
RPZ				LR	LR		09 01 39.2
	comp=E,14μm,20.1s,MS5.9,baz=308,slow=34						
RPZ	**Rata Peaks**	**48.17**	**150**	P*		**P**	**08 42 37.7**	**+0.3**
RPZ	**Rata Peaks**	**48.17**	**150**	*eP*		**P**	**08 42 37.7**	**+0.3**
TSZ	**Takapari Road**	**48.39**	**143**	P*		**P**	**08 42 39.7**	**+0.6**
TSZ				sP	sP		08 42 44.1	-2.1
TSZ	**Takapari Road**	**48.39**	**143**	*eP*		**P**	**08 42 39.7**	**+0.6**
AFI	**Afiamalu**	**48.40**	**105**	P		**P**	**08 42 41.4**	**+1.9**
	comp=E,307nm,1.1s,mb6.2,baz=275,slow=12,SNR=21						
AFI				LR	LR		09 02 08.8
	comp=E,2μm,18.9s,MS5.1,baz=105,slow=35						
AFI	**Afiamalu**	**48.40**	**105**	*eP*		**P**	**08 42 41.5**	**+2.0**
	comp=E,515nm,1.2s,mb6.4						
AFI	**Afiamalu**	**48.40**	**105**	P		**P**	**08 42 41.2**	**+1.7**
AFI				pmax	pmax		
	comp=Z,510nm,1.2s,mb6.4						
SNZO	**South Karori**	**48.45**	**145**	*eP*		**P**	**08 42 39.3**	**-0.3**
	comp=Z,110nm,0.9s,mb5.9						
MRZ	**Mangatainoka R**	**48.54**	**144**	P*		**P**	**08 42 40.3**	**0.0**
MRZ				sP	sP		08 42 45.3	-2.0
MRZ	**Mangatainoka R**	**48.54**	**144**	P		**P**	**08 42 40.3**	**0.0**
KHZ	**Kahutara**	**48.55**	**147**	*eP**		**P**	**08 42 40.3**	**0.0**
KHZ	**Kahutara**	**48.55**	**147**	P		**P**	**08 42 39.9**	**-0.4**
PUZ	**Puketiti**	**48.63**	**140**	P*		**P**	**08 42 41.6**	**+0.6**
PUZ	**Puketiti**	**48.63**	**140**	*eP*		**P**	**08 42 41.6**	**+0.6**
KNZ	**Kokohu**	**48.81**	**141**	*eP**		**P**	**08 42 43.1**	**+0.8**
KNZ	**Kokohu**	**48.81**	**141**	*eP*		**P**	**08 42 43.1**	**+0.8**
CD2	**Chengdu**	**49.02**	**317**	P		**P**	**08 42 42.1**	**-2.0**
CD2				PP	PP		08 44 38.1	+0.2
CD2				PPP	PPP		08 45 26.0	-5.4
CD2				S	**S**		**08 49 42.5**	**-4.2**
CD2				SS	SS		08 53 13.9	+0.4
CD2				AMB	AMB		
	comp=Z,70nm,1.1s,mb5.6						
CD2				AMB	AMB		
	comp=Z,570nm,10.8s						
CD2				LR	LR		
	comp=N,1μm,19.2s						
CD2				LR	LR		
	comp=Z,1μm,18.0s,MS5.0						
TUZ	**Tuapeka**	**49.16**	**153**	*eP**		**P**	**08 42 45.4**	**+0.4**
TUZ	**Tuapeka**	**49.16**	**153**	*eP*		**P**	**08 42 45.4**	**+0.4**
MDJ	**Mudanjiang**	**49.17**	**350**	P		**P**	**08 42 45.1**	**0.0**
MDJ				XP	sP		08 42 54.2	+2.1
MDJ				PCP	PcP		08 44 09.9	+1.2
MDJ				S	**S**		**08 49 51.1**	**+2.5**
MDJ				XS			08 49 58.3
MDJ				AMB	AMB		
	comp=Z,49nm,1.2s,mb5.4						
MDJ				AMB	AMB		
	comp=Z,806nm,8.6s						
MDJ				LR	LR		
	comp=N,3μm,21.3s,MS5.4						
MDJ				LR	LR		
	comp=E,2μm,19.4s,MS5.4						
MDJ				LR	LR		
	comp=Z,5μm,21.3s,MS5.5						
MDJ	**Mudanjiang**	**49.17**	**350**	*eP*		**P**	**08 42 45.1**	**+0.1**
	comp=Z,47nm,1.0s,mb5.5						
CN2	**Changchun**	**49.25**	**346**	*eP*		**P**	**08 42 45.4**	**-0.3**
CN2				PCP	PcP		08 44 07.5	-1.5

LZH XP sP 08 43 19.2 +3.3
LZH PP PP 08 45 10.0 +1.6
LZH S **S** **08 50 32.0 +0.3**
LZH XS 08 50 43.0
LZH PS PS 08 50 45.0 +1.5
LZH SS SS 08 54 10.4 +2.6
LZH AMB AMB
comp=Z,180nm,1.2s,mb5.9
LZH AMB AMB
comp=Z,870nm,5.8s
LZH LR LR
comp=E,4μm,18.0s
LZH LR LR
comp=Z,4μm,20.0s,MS5.5
IMP Imphal 53.19 305 *e*P **P** **08 43 15.0 -0.8**
KLR Kul'dur 53.37 353 *ce*P **P** **08 43 13.0 -3.8**
KLR *e* 08 44 18.0
KLR *e*PPP PPP 08 46 30.5 +4.8
KLR *e*S **S** **08 50 42.0 -4.3**
KLR pmax pmax
comp=E,60nm,1.2s
KLR pmax pmax
comp=Z,86nm,1.2s,mb5.6
KLR pmax pmax
comp=N,800nm,7.0s
KLR pmax pmax
comp=Z,1μm,7.0s
KLR smax
comp=N,1μm,7.0s
KLR smax
comp=E,2μm,7.0s
SHL Shillong 55.20 305 *e*P **P** **08 43 30.5 0.0**
SHL *e*S **S** **08 51 11.5 +0.2**
HIA Hailar 55.80 344 *e*P **P** **08 43 34.2 -0.4**
comp=E,72nm,1.3s,mb5.5
HIA Hailar 55.80 344 *e*P **P** **08 43 34.2 -0.3**
HIA pmax pmax
comp=Z,72nm,1.3s
SKR Severo-Kuril's 56.01 12 *e*P **P** **08 43 31.0 -5.0**
SKR *e*S **S** **08 51 28.0 +6.2**
SKR *e* 08 53 20.0
SKR pmax pmax
comp=N,90nm,1.0s
SKR pmax pmax
comp=Z,220nm,1.0s,mb6.1
SKR pmax pmax
comp=N,1μm,10.0s
SKR pmax pmax
comp=E,1μm,10.0s
SKR pmax pmax
comp=Z,1μm,10.0s
SKR smax
comp=N,2μm,20.0s
SKR smax
comp=E,2μm,10.0s
SKR MLR MLR
comp=N,2μm,20.0s,MS5.3
SKR MLR MLR
comp=E,2μm,20.0s,MS5.3
SKR MLR MLR
comp=Z,2μm,20.0s,MS5.3
GTA Gaotai 56.86 323 ⇓P **P** **08 43 42.1 -0.2**
GTA AP pP 08 43 52.6 +5.2
GTA XP sP 08 43 56.7 +7.4
GTA PP PP 08 45 50.0 -0.3
GTA S **S** **08 51 34.5 +1.3**
GTA SS SS 08 55 25.5 +2.8
GTA AMB AMB
comp=Z,39nm,1.2s,mb5.3
GTA AMB AMB
comp=Z,786nm,6.9s
GTA LR LR
comp=N,1μm,17.2s,MS5.2
GTA LR LR
comp=E,1μm,16.8s,MS5.2
GTA LR LR
comp=Z,2μm,20.3s,MS5.1
LSA Lhasa 57.58 309 P **P** **08 43 48.0 +0.5**
LSA AP pP 08 43 51.2 -1.4
LSA XP sP 08 43 55.2 +0.7
LSA S **S** **08 51 45.0 +2.2**
LSA AMB AMB
comp=Z,20nm,1.2s,mb5.0
LSA LR LR
comp=N,600nm,31.7s,MS4.9
LSA LR LR
comp=E,1μm,26.7s,MS4.9
LSA LR LR
comp=Z,2μm,26.7s,MS5.0
LSA Lhasa 57.58 309 *e*P **P** **08 43 48.7 +1.2**
comp=Z,75nm,1.2s,mb5.6
LSA Lhasa 57.58 309 *e*P **P** **08 43 48.7 +1.2**
LSA pmax pmax
comp=Z,75nm,1.2s,mb5.6
PET Petropavlovsk 58.76 13 *e*P **P** **08 43 55.0 -0.3**
comp=Z,77nm,1.0s,mb5.7
PET *e* 08 44 42.1
PET Petropavlovsk 58.76 13κ *i*P **P** **08 43 54.7 -0.7**
PET *e* 08 44 40.8
PET *e* 08 46 06.4
PET *e*PPP PPP 08 47 30.2 -0.8
PET *i*S **S** **08 51 56.7 -1.2**
PET *e*SS SS 08 55 51.8 -1.2
PET *e*SSS SSS 08 58 18.8 +2.5
PET pmax pmax
comp=Z,1μm,6.1s
PET pmax pmax
comp=Z,98nm,1.2s,mb5.7
PET pmax pmax
comp=N,59nm,1.1s
PET pmax pmax
comp=N,500nm,17.8s
PET pmax pmax
comp=Z,1μm,16.2s
PET pmax pmax
comp=Z,500nm,14.7s
PET pmax pmax
comp=Z,52nm,1.1s,mb5.5
PET pmax pmax
comp=Z,300nm,8.8s
PET pmax pmax
comp=Z,300nm,13.4s
PET smax
comp=N,1μm,9.4s
PET MLR MLR
comp=Z,2μm,18.0s,MS5.2
SONM Songino Array 59.38 334 P **P** **08 43 58.9 -0.9**
comp=Z,8.3nm,1.1s,mb4.7,baz=144,slow=7.1,SNR=17
SONM LR LR 09 10 59.1
comp=Z,3μm,20.5s,MS5.5,baz=144,slow=37
SONM PKP2bc 09 13 44.4
comp=Z,6.8nm,0.9s,baz=322,slow=2.5,SNR=22
SONM Songino Array 59.38 334 P **P** **08 43 58.9 -0.9**
SONM LR LR 09 10 59.1
SONM ⇑*e* 09 13 44.4
VIS Vishakhapatnam 60.02 293 *e*P **P** **08 44 04.9 +0.3**
VIS AMb AMB 08 44 08.1
comp=Z,113nm,1.4s,mb5.7
CIT Chita 60.08 341 *e*P **P** **08 44 04.0 -0.6**
CIT *e* 08 44 53.9
CIT *e* 08 52 18.7
CIT pmax pmax
comp=Z,207nm,1.9s,mb5.8
PALK Pallekele 60.39 281 *e*P **P** **08 44 08.3 +1.2**
comp=Z,78nm,1.0s,mb5.7
PKI Pulchoki 61.31 304 *e*P **P** **08 44 13.0 -0.3**
comp=Z,130nm,1.0s,mb6.0
KKN Kakani 61.50 304 *e*P **P** **08 44 14.4 -0.1**
comp=Z,317nm,0.9s,mb6.4
DMN Daman 61.58 304 *e*P **P** **08 44 15.2 +0.1**
comp=Z,322nm,1.0s,mb6.4
CLNS Chul'man 61.75 351 *d*P **P** **08 44 15.2 -0.6**
CLNS *e**PP pP 08 44 21.1 +0.1
CLNS *e* 08 44 56.2
CLNS *e*S **S** **08 52 35.0 -1.3**
CLNS *e*PS PS 08 52 57.4 +2.6
CLNS *e* 08 54 09.4
CLNS pmax pmax
comp=Z,75nm,1.1s,mb5.7
CLNS pmax pmax
comp=N,43nm,1.4s
CLNS pmax pmax
comp=E,11nm,0.7s
CLNS pmax pmax
comp=Z,22nm,1.0s,mb5.2
CLNS pmax pmax
comp=N,11nm,0.9s
CLNS pmax pmax
comp=E,11nm,1.5s
CLNS smax
comp=Z,3.0nm,0.7s
CLNS smax
comp=N,10.0nm,0.9s
CLNS smax
comp=E,9.0nm,0.9s
GKN Gorkha 62.11 304 *e*P **P** **08 44 18.4 -0.2**
comp=E,375nm,0.9s,mb6.5
ZAK Zakamensk 62.64 334 *e*P **P** **08 44 21.1 -0.8**
ZAK pmax pmax
comp=Z,40nm,1.1s,mb5.5
DRV Dumont d'Urvil 62.71 180 P **P** **08 44 25.0 +2.9**
DRV S **S** **08 52 53.0 +4.8**
DRV L 08 59 00.0
KOLN Koldanda 62.88 304 *e*P **P** **08 44 23.6 -0.1**
comp=Z,272nm,1.1s,mb6.3
FX1 Attu Island--F 62.98 22 P **P** **08 44 24.7 +0.7**
comp=Z,238nm,0.9s,mb6.3,baz=214,slow=3.8,SNR=78
FX1 LR LR 09 06 27.8
comp=Z,209nm,21.6s,MS4.3,baz=235,slow=31
FX1 Attu Island--F 62.98 22 *i* Pu 08 44 24.6
SMY Shemya 63.20 22 *e*P **P** **08 44 24.7 -0.8**
SMY LR LR
comp=Z,7μm,22.0s,MS5.8
SMY Shemya 63.20 22 P **P** **08 44 24.5 -1.0**
SMY pmax pmax
comp=Z,580nm,1.0s
MA2 Magadan 63.78 6 *e*P **P** **08 44 29.1 -0.1**
comp=Z,111nm,1.0s,mb5.8
MA2 Magadan 63.78 6 *de*P **P** **08 44 28.4 -0.8**
MA2 *e* pP 08 44 34.7 +0.4
MA2 *e*S **S** **08 53 00.7 -1.0**
MA2 *e* 08 53 14.0
MA2 pmax pmax
comp=Z,70nm,1.0s,mb5.7
MA2 pmax pmax
comp=N,40nm,1.1s
HYB Hyderabad 64.37 291⇑ *i*P **P** **08 44 33.5 -0.3**
comp=N,60nm,1.0s,mb5.6
HYB *e*S **S** **08 53 10.0 +0.3**
HYB Hyderabad 64.37 291⇑ *e*P **P** **08 44 33.5 -0.3**
HYB pmax pmax
comp=Z,60nm,1.0s,mb5.6
BOD Bodaibo 64.98 345 *e*P **P** **08 44 35.6 -1.5**
BOD pmax pmax
comp=Z,41nm,1.5s,mb5.2
HON Honolulu 65.45 65 *e*P **P** **08 44 42.1 +1.5**
KIP Kipapa 65.46 64 *e*P **P** **08 44 41.4 +0.7**
comp=Z,129nm,1.0s,mb5.9
KIP Kipapa 65.46 64 *e*P **P** **08 44 41.4 +0.6**
KIP pmax pmax
comp=Z,129nm,1.0s,mb5.9
CASY Casey 65.69 193⇑ *i*P **P** **08 44 41.2 -0.3**
YAK Yakutsk 66.19 355 *e*P **P** **08 44 44.4 -0.3**
comp=Z,224nm,1.0s,mb6.2
YAK Yakutsk 66.19 355 *d i*P **P** **08 44 44.0 -0.7**
YAK *e**PP pP 08 44 49.6 -0.3
YAK *e* 08 45 11.9
YAK *e* 08 47 09.9
YAK *i*S S 08 53 32.7 +1.5
YAK *e*SS SS 08 57 48.3 -0.4
YAK pmax pmax
comp=Z,51nm,1.0s,mb5.5
YAK pmax pmax
comp=N,17nm,1.1s
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
YAK pmax pmax
comp=N,4.0nm,0.9s
YAK pmax pmax
comp=E,10.0nm,1.2s
YAK smax
comp=E,11nm,1.4s
YAK smax
comp=Z,3.0nm,0.8s
YAK smax
comp=N,11nm,1.3s
LGTI Lohaghat 66.22 304 *e*P **P** **08 44 46.5 +1.0**
BHPL Bhopal 66.81 297 *e*P **P** **08 44 49.3 -0.1**
BHPL AMb AMB 08 44 50.5
comp=Z,70nm,0.9s,mb5.7
WMQ Urumqi 66.82 321 P **P** **08 44 49.0 -0.1**
WMQ XP sP 08 44 56.0 -0.1
WMQ PP PP 08 47 18.0 -0.1
WMQ SCP 08 49 19.0
WMQ S S 08 53 39.0 -0.2
WMQ SCS ScS 08 54 42.0 +0.1
WMQ SS SS 08 57 59.0 -0.1
WMQ AMB AMB
comp=Z,65nm,1.0s,mb5.6
WMQ AMB AMB
comp=Z,205nm,8.0s
WMQ LR LR
comp=N,468nm,20.0s,MS4.9
WMQ LR LR
comp=E,541nm,20.0s,MS4.9
WMQ LR LR
comp=Z,412nm,20.0s,MS4.6
SEY Seymchan 67.23 6⇑ *i*P **P** **08 44 51.7 +0.3**
SEY Seymchan 67.23 6 *i*P **P** **08 44 51.6 +0.2**
SEY 08 45 18.0
SEY 08 47 19.2
SEY *e*S S 08 53 47.4 +3.5
SEY 08 54 40.0
SEY SS SS 08 58 08.1 +2.9
SEY pmax pmax
comp=Z,60nm,1.2s,mb5.5
SEY pmax pmax
comp=N,30nm,1.0s
SEY pmax pmax
comp=E,5.0nm,1.0s
SEY smax
comp=N,3μm,12.4s
SEY smax
comp=E,540nm,8.5s
SEY MLR MLR
comp=Z,5μm,1.0s
SEY MLR MLR
comp=N,3μm,19.0s,MS5.5
SEY MLR MLR
comp=E,600nm,18.0s,MS5.5
AGRA Agra 67.46 301 *e*P **P** **08 44 52.5 -1.0**
AGRA *e*S S 08 53 49.8 +2.5
ASOR Ausora 68.06 303 *e*P **P** **08 44 56.2 -1.0**
ASOR AMb AMB 08 44 59.5
comp=Z,167nm,1.3s,mb5.9
BISR Bishrakh 68.28 303 *e*P **P** **08 44 58.2 -0.4**
BISR AMb AMB 08 45 01.7
comp=Z,122nm,0.9s,mb5.9
DDI Dehra Dun 68.31 305 *e*P **P** **08 44 58.0 -0.7**
KAD Karad 68.42 290 *e*P **P** **08 44 59.4 -0.2**
KAD AMb AMB 08 45 00.7
comp=Z,178nm,0.9s,mb6.1
SONA Sohna 68.49 302 *e*P **P** **08 44 59.3 -0.6**
SONA AMb AMB 08 45 03.0
comp=E,48nm,1.3s
SONA *e*S S 08 54 00.5 +1.0
NDI New Delhi 68.50 303 *e*P **P** **08 44 57.0 -2.9**
BHGR Bahadurgarh 68.74 303 *e*P **P** **08 45 00.6 -0.8**
BHGR AMb AMB 08 45 15.6
comp=Z,2μm,0.1s
KUDL Kundal 68.96 302 *e*P **P** **08 45 01.7 -1.0**
KUDL AMb AMB 08 45 05.2
comp=Z,55nm,2.4s,mb5.1
POO Poona 68.98 291⇓ *i*P **P** **08 45 01.0 -2.0**
KKR Kurukshetra 69.21 304 *e*P **P** **08 45 05.3 +1.0**
KKR AMb AMB 08 45 08.8
comp=Z,20nm,2.5s,mb4.6
KHET Khetri 69.52 302 *e*P **P** **08 45 05.7 -0.5**
KHET AMb AMB 08 45 09.2
comp=Z,85nm,1.2s,mb5.5
KHET *e*S S 08 54 12.7 +0.9
SDNR Sundarnagar 69.56 306 *e*P **P** **08 45 06.0 -0.3**
BHK Bhakra 69.98 305 *ex* x 08 45 18.6
PAE Paea 70.00 107 *e*P **P** **08 45 08.1 -1.1**
comp=Z,156nm,1.3s,mb5.8
PPT Papeete 70.00 107 *e*P **P** **08 45 08.4 -0.8**
comp=Z,109nm,1.4s,mb5.6
PPT Papeete 70.00 107 *e*S S 08 54 15.2 -2.3
PPT *e*SS SS 08 58 43.2 -5.3
PPT *e*LQ 09 03 39.1
PPT *e*LR LR 09 06 42.1
comp=Z,4μm,26.8s
PPT Papeete 70.00 107 P **P** **08 45 11.4 +2.2**
comp=Z,23nm,0.8s,mb5.2,baz=220,slow=13,SNR=2.3
PPT LR LR 09 11 28.8
comp=Z,1μm,20.2s,MS5.2,baz=274,slow=32
AJM Ajmer 70.09 300 *i*P **P** **08 45 09.0 -0.7**
TVO Taravao 70.32 107 *e*P **P** **08 45 10.5 -0.7**
comp=Z,343nm,1.5s,mb6.0
TBI Tubuai 70.44 113 *e*LQ 09 03 34.3
TBI Tubuai 70.44 113 *e*P **P** **08 45 10.7 -1.2**
comp=Z,252nm,1.5s,mb5.9
TBI Tubuai 70.44 113 *e*S S 08 54 22.6 0.0
TBI *e*SS SS 08 58 50.6 -4.9
TBI *e*LR LR 09 06 33.8
comp=Z,2μm,34.5s
MIR Mirnyy 70.58 198 *e*P **P** **08 45 13.0 +1.0**
MIR pmax pmax
comp=Z,95nm,1.2s,mb5.6
DLH Dalhousie 70.69 306 *e*P **P** **08 45 14.0 +0.8**
DLH *ex* x 08 45 26.0
THN Thein Dam 70.86 306 *e*P **P** **08 45 13.2 -1.0**
PMOR Pomariorio Ree 71.54 104 *e*P **P** **08 45 17.6 -1.0**
comp=Z,175nm,1.5s,mb5.8
MKAR Makanchi Array 71.59 322 P **P** **08 45 18.2 -0.2**
comp=Z,37nm,0.9s,mb5.3,baz=112,slow=6.5,SNR=134
MKAR S S 08 54 35.2 -0.3
comp=Z,0.4nm,0.6s,baz=112,slow=7.8,SNR=2.9
MKAR PKPPKP 09 13 09.6
comp=Z,1.6nm,0.9s,baz=270,slow=3.6,SNR=7.3
MKAR LR LR 09 18 26.0
comp=Z,1μm,21.3s,MS5.2,baz=156,slow=37
MKAR Makanchi Array 71.59 322 P **P** **08 45 18.2 -0.2**
MKAR S S 08 54 35.2 -0.3
MKAR P'P' 09 13 09.6
MKAR LR LR 09 18 25.9
VAH Vaihoa 71.81 105 *e*P **P** **08 45 18.5 -1.7**
comp=Z,113nm,1.5s,mb5.6
UNV Unalaska Valle 72.56 30 *e*P **P** **08 45 24.6 +0.6**
comp=Z,286nm,0.9s,mb6.2
KSH Kashi 72.94 313 *e*P **P** **08 45 27.0 +0.4**
KSH *e*AP pP 08 45 31.1 -0.7
KSH *e*XP sP 08 45 34.0 +0.4
KSH *e*PCP PcP 08 45 44.3 +0.5
KSH *e*PP PP 08 48 11.3 +0.2
KSH *e*S S 08 54 51.2 +0.1
KSH *e*SKS SKS 08 55 21.0 -12
KSH *e*PS PS 08 55 24.3 -1.1
KSH *e*SCS ScS 08 55 30.4 +0.2
KSH *e*SS SS 08 59 33.2 -1.0
KSH AMB AMB
comp=Z,540nm,3.9s
KSH LR LR
comp=N,810nm,16.2s,MS5.2
KSH LR LR
comp=E,440nm,11.8s,MS5.2
JASL Jaisalmer 73.44 299 *e*P **P** **08 45 30.1 +0.3**
JASL AMb AMB 08 45 31.6
comp=Z,90nm,1.1s,mb5.6
AAA Alma-Ata 73.59 317 *i*P **P** **08 45 21.1 -9.2**
AAA *i*S S 08 54 55.1 -3.2
AAA pmax pmax
comp=Z,1μm,7.2s
AAA smax
comp=N,1μm,12.3s
ZAL Zalesovo 73.66 330 P **P** **08 45 29.2 -1.2**
comp=N,6.4nm,1.0s,mb4.5,baz=102,slow=19,SNR=15
ZAL S S 08 54 56.2 -2.7
comp=N,2.0nm,0.3s,baz=34,slow=16,SNR=3.5
ZAL LR LR 09 21 04.9
comp=N,3μm,18.2s,MS5.7,baz=253,slow=38
BHJ Bhuj 73.77 295 *e*P **P** **08 45 32.5 +0.8**
BHJ AMb AMB 08 45 37.0
comp=Z,256nm,1.8s,mb5.8
BHJ *ex* x 08 55 14.0
BILL Bilibino 74.01 10 *i*P **P** **08 45 32.2 0.0**
KZA Kyzart 74.33 316 P **P** **08 45 35.0 +0.4**
SNR=8.4
TKM2 Tokmak 2 74.39 316 P **P** **08 45 35.5 +0.6**
SNR=20
VNDA Vanda 74.53 175 P **P** **08 45 35.4 +0.3**
comp=Z,6.0nm,0.6s,mb4.7,baz=323,slow=6.1,SNR=22
VNDA LR LR 09 18 16.7
comp=Z,10μm,18.5s,MS6.1,baz=351,slow=36
VNDA Vanda 74.53 175 *e*P **P** **08 45 35.2 +0.1**
comp=Z,26nm,1.1s,mb5.1
VNDA Vanda 74.53 175 *e*P **P** **08 45 35.2 +0.1**
VNDA pmax pmax
comp=Z,26nm,1.1s
NVS Novosibirsk 74.91 330 *i*P **P** **08 45 36.3 -1.4**
NVS *i* 08 48 21.6
NVS *e*S S 08 55 09.4 -3.5
NVS pmax pmax
comp=N,35nm,1.4s
NVS pmax pmax
comp=E,49nm,1.4s
NVS pmax pmax
comp=Z,56nm,1.4s,mb5.3
NVS smax
comp=N,11nm,1.7s
NVS smax
comp=E,44nm,2.3s
CHMS Chumysh 74.99 316 P **P** **08 45 39.1 +0.7**
SNR=9.6
FRU Bishkek 75.03 316 *e*P **P** **08 45 38.0 -0.6**
FRU *e*S S 08 55 16.0 +1.5
FRU pmax pmax
comp=Z,50nm,2.0s,mb5.1
FRU smax
comp=E,900nm,16.0s
FRU MLR MLR
comp=Z,1μm,18.0s,MS5.3
AAK Ala-Archa 75.05 316 P **P** **08 45 43.8 +5.1**
SNR=5.7
AAK Ala-Archa 75.05 316 *e*P **P** **08 45 38.7 -0.1**
comp=Z,49nm,1.3s,mb5.3
AAK Ala-Archa 75.05 316 P **P** **08 45 39.5 +0.8**
AAK pmax pmax
comp=Z,184nm,2.1s,mb5.6
USP Ospenovka 75.26 316 P **P** **08 45 40.2 +0.3**
SNR=30
SBA Scott Base 75.28 174 *e*P **P** **08 45 40.1 +0.7**
comp=Z,46nm,1.2s,mb5.3
SBA Scott Base 75.28 174 *e*P **P** **08 45 40.1 +0.7**
SBA pmax pmax
comp=Z,46nm,1.2s,mb5.3
AML Almayashu 75.44 315 P **P** **08 45 41.8 +0.8**
SNR=42
KURK Kurchatov 75.49 325 *e*P **P** **08 45 40.7 -0.4**
comp=Z,38nm,0.9s,mb5.3
KURK Kurchatov 75.49 325 P **P** **08 45 40.4 -0.7**
KURK pmax pmax
comp=Z,66nm,1.7s,mb5.3
EKS2 Erkin-Say 75.56 316 P **P** **08 45 42.5 +0.9**
SNR=13
TIXI Tiksi 75.72 356 *e*P **P** **08 45 38.6 -3.4**
TIXI pmax pmax
comp=Z,43nm,1.1s,mb5.3
SDPT Sand Point 76.34 30 *e*P **P** **08 45 45.8 0.0**
SDPT LR LR
comp=Z,2μm,20.0s,MS5.5
CHGN Chignik 77.81 30 *e*P **P** **08 45 54.4 +0.5**
VOSK Vostochnaya 80.65 325 *i*P **P** **08 46 08.5 -0.9**
BVA0 Borovoye Array 81.09 325 *i*P **P** **08 46 11.6 -0.1**
BVA0 pmax pmax
comp=Z,26nm,1.5s,mb4.9
BVAR Borovoye Array 81.09 325 P **P** **08 46 11.6 -0.1**
comp=Z,14nm,0.5s,mb5.1,baz=117,slow=6.6,SNR=108
BVAR PKKPbc 09 04 50.8
comp=Z,0.6nm,0.7s,baz=297,slow=3.3,SNR=5.1
BRVK Borovoye 81.16 325 *e*P **P** **08 46 12.3 +0.2**
comp=Z,33nm,0.9s,mb5.3
BRVK *e* pP 08 46 18.8 +1.5
BRVK Borovoye 81.16 325 *e*P **P** **08 46 12.3 +0.3**
BRVK *e* pP 08 46 18.8 +1.5
BRVK pmax pmax
comp=Z,33nm,0.9s,mb5.3
SVW2 Sparrevohn 81.22 26 *e*P **P** **08 46 13.3 +1.1**
KDAK Kodiak Island 81.33 30 *e*P **P** **08 46 12.9 +0.1**
KDAK LR LR
comp=Z,4μm,22.0s,MS5.7
MAW Mawson 81.64 202⇑ *i*P **P** **08 46 15.5 +1.2**
comp=Z,16nm,0.7s,mb5.1
MAW Mawson 81.64 202 P **P** **08 46 15.8 +1.5**
comp=Z,16nm,0.9s,mb4.9,baz=60,slow=5.6,SNR=16

MAW LR LR 09 21 07.7
comp=Z,6μm,18.1s,MS6.0,baz=77,slow=35
MAW Mawson 81.64 202 ⇑*i*P **P 08 46 15.5 +1.2**
MAW pmax pmax
comp=Z,16nm,0.7s
TTA Tatalina 81.81 24 *e*P **P 08 46 15.9 +0.7**
RSO Redoubt South 82.24 27 *e*P **P 08 46 17.6 +0.1**
SPU Mount Spurr 82.83 27 *e*P **P 08 46 21.4 +0.8**
SLKM Skilak Lake 83.43 28 *e*P **P 08 46 23.8 +0.1**
SLKM Skilak Lake 83.43 28 P **P 08 46 23.6 -0.1**
RKT Rikitea 83.75 113 *e*S S 08 56 46.8 -0.1
RKT *e*SS SS 09 02 25.0 +7.8
RKT *e*LQ 09 08 59.1
RKT *e*LR LR 09 12 59.9
comp=Z,3μm,35.0s
IMA Indian Mountai 84.03 22 *e*P **P 08 46 28.6 +2.0**
IMA Indian Mountai 84.03 22 P **P 08 46 28.1 +1.5**
IMA pmax pmax
comp=Z,210nm,1.1s,mb6.2
PMR Palmer 84.29 27 *e*P **P 08 46 27.1 -0.9**
PMR LR LR
comp=Z,4μm,20.0s,MS5.8
SML Sawmill 84.72 27 *e*P **P 08 46 30.0 -0.1**
SML *e*PP PP 08 49 45.5 -2.5
EYAK Cordova Ski Ar 85.55 28 *e*P **P 08 46 34.6 +0.4**
DIV Divide 85.70 28 *e*P **P 08 46 35.6 +0.6**
comp=Z,417nm,1.0s,mb6.6
QSPA South Pole Qui 86.11 180 *e*P **P 08 46 38.1 +1.4**
comp=Z,160nm,0.9s,mb6.2
ILAR Eielson Array 86.25 24 P **P 08 46 36.2 -1.4**
comp=Z,31nm,0.9s,mb5.5,baz=262,slow=4.5,SNR=124
ILAR PP PP 08 50 03.0 +2.6
comp=Z,6.0nm,1.1s,baz=243,slow=6.2,SNR=3.7
ILAR PKKPbc 09 04 38.5
comp=Z,0.9nm,0.9s,baz=317,slow=1.0,SNR=7.2
ILAR PKPPKP 09 12 44.3
comp=Z,0.9nm,0.9s,baz=27,slow=2.0,SNR=8.4
ILAR LR LR 09 20 43.0
comp=Z,2μm,21.8s,MS5.4,baz=256,slow=32
AB31 Akbulak array 86.54 320 *i*P **P 08 46 38.6 -0.9**
AB31 pmax pmax
comp=Z,46nm,1.1s,mb5.6
MENT Mentasta 87.10 26 *e*P **P 08 46 42.4 +0.5**
SVE Sverdlovsk 87.49 327 *e*P **P 08 46 44.2 +0.3**
SVE *e* 08 50 09.0
SVE *e*S S 08 57 20.0 -2.4
SVE *e* 08 58 20.0
SVE *e*PS PS 08 58 56.0 +28
SVE pmax pmax
comp=Z,40nm,1.8s,mb5.3
ARU Arti 88.55 327 *e*P **P 08 46 47.5 -1.4**
comp=Z,38nm,1.0s,mb5.7
ARU Arti 88.55 327 ⇓*i*P **P 08 46 48.5 -0.5**
ARU *e* 08 50 18.0
ARU *e*S S 08 57 27.5 -4.8
ARU *e*SS SS 09 03 25.7 -0.9
ARU pmax pmax
comp=Z,36nm,1.2s,mb5.6
DAWY Dawson 89.24 26 *e*P **P 08 46 52.4 +0.3**
SYO Syowa Base 90.23 201 ⇑P **P 08 46 57.5 +0.9**
SYO Syowa Base 90.23 201 ⇓sP sP 08 47 03.0 -0.6
INK Inuvik 92.16 22 P **P 08 47 06.9 +1.4**
comp=Z,21nm,1.1s,mb5.4,baz=255,slow=6.7,SNR=11
INK PP PP 08 50 47.0 -1.4
comp=Z,12nm,1.1s,baz=280,slow=6.5,SNR=3.4
INK Inuvik 92.16 22 *e*P **P 08 47 06.8 +1.3**
comp=Z,21nm,1.0s,mb5.4
INK Inuvik 92.16 22 *e*P **P 08 47 06.9 +1.4**
INK pmax pmax
comp=Z,21nm,1.0s
DLBC Dease Lake 93.13 32 P **P 08 47 11.5 +1.4**
comp=Z,12nm,1.0s,mb5.3,baz=253,slow=6.3,SNR=12
DLBC Dease Lake 93.13 32 *e*P **P 08 47 10.9 +0.7**
PECR Pechory 96.58 326 *e*P **P 08 47 26.0 0.0**
GNI Garni 96.63 310 *i*P **P 08 47 27.0 +0.3**
KHMM Horse Mountain 97.09 49 *e*P **P 08 47 28.8 +0.1**
YBH Yreka Blue Hor 97.84 49 P **P 08 47 32.6 +0.5**
comp=Z,8.3nm,1.0s,mb5.2,baz=197,slow=3.1,SNR=8.7
YBH LR LR 09 24 16.2
comp=Z,4μm,21.4s,MS5.8,baz=317,slow=31
YBH Yreka Blue Hor 97.84 49 *e*P **P 08 47 34.6 +2.6**
comp=Z,11nm,1.1s,mb5.3
YBH Yreka Blue Hor 97.84 49 P **P 08 47 34.4 +2.4**
YBH pmax pmax
comp=Z,11nm,1.1s
WDC Whiskeytown Da 98.00 50 *e*P **P 08 47 32.0 -0.8**
comp=Z,11nm,1.1s,mb5.3
WDC Whiskeytown Da 98.00 50 *e*P **P 08 47 32.0 -0.8**
WDC pmax pmax
comp=Z,11nm,1.1s,mb5.3
KIV Kislovodsk 98.06 314 *i*P **P 08 47 31.9 -1.1**
MOD Modoc 99.63 48 *e*P **P 08 47 41.2 +1.1**
comp=Z,20nm,1.2s,mb5.4
BEKR Beckwourth 99.70 50 *e*P **P 08 47 41.1 +0.6**
comp=Z,12nm,1.2s,mb5.2
CMB Columbia Colle 99.77 52 *e*P **P 08 47 42.4 +1.4**
comp=Z,8.2nm,1.2s,mb5.0
CMB Columbia Colle 99.77 52 *e*P **P 08 47 42.4 +1.5**
CMB pmax pmax
comp=Z,8.0nm,1.2s,mb5.0
VRSR Storozhevoye 99.88 321 *e*P **P 08 47 40.3 -0.8**
VRSR pmax pmax
comp=Z,8.0nm,1.0s,mb5.1
VRSR pmax pmax
comp=N,10.0nm,0.8s
VRSR pmax pmax
comp=E,7.0nm,0.8s
VRSR pmax pmax
comp=Z,8.0nm,1.0s,mb5.1
VRSR pmax pmax
comp=N,10.0nm,0.8s
VRSR pmax pmax
comp=E,7.0nm,0.8s
VRSR MLR MLR
comp=Z,1μm,23.0s,MS5.3
VRSR MLR MLR
comp=N,900nm,21.0s,MS5.3
VRSR MLR MLR
comp=E,660nm,23.0s,MS5.3
VRSR MLR MLR
comp=Z,1μm,23.0s
VRSR MLR MLR
comp=N,900nm,21.0s
VRSR MLR MLR
comp=E,660nm,23.0s
APA Apatity 99.91 338 ⇓*i*P **P 08 47 39.8 -1.1**
APA *e*S S 08 59 06.0 -4.5
APA pmax pmax
comp=Z,108nm,1.6s,mb6.0
APA MLR MLR
comp=Z,1μm,20.0s,MS5.4
SOC Sochi 100.23 313 *e*P P 08 47 40.3 -2.6
SOC *e* 08 51 45.9
SOC *e*PPP PPP 08 54 05.4 +4.6
SOC *e*S 08 58 16.5
SOC *e*SS SS 09 06 07.8 -4.6
SOC *e*SSS SSS 09 09 56.2 -6.7
SOC pmax pmax
comp=Z,57nm,1.1s
SOC pmax pmax
comp=N,24nm,0.9s
SOC pmax pmax
comp=E,21nm,1.3s
SOC MLR MLR
comp=N,309nm,17.0s,MS5.2
SOC MLR MLR
comp=E,501nm,17.0s,MS5.2
SOC MLR MLR
comp=Z,694nm,17.0s,MS5.2
YKA Yellowknife Ar 100.39 27 P P 08 47 43.7 +0.6
comp=Z,4.4nm,0.9s,baz=284,slow=4.1,SNR=4.2
YKA PP PP 08 51 49.7 -2.6
comp=Z,6.5nm,1.1s,baz=280,slow=7.4,SNR=6.2
YKA Yellowknife Ar 100.39 27 P P 08 47 43.7 +0.6
YKA PP PP 08 51 49.7 -2.6
KBS Kingsbay 100.65 351 *e* P 08 47 37.6 -6.5
KBS *e*PP PP 08 51 54.5 +0.4
KBS *e*SKSa 08 58 19.3
KBS *e*SS SS 09 06 22.4 +4.9
KBS AMS AMS 09 35 43.2
comp=Z,529nm,19.6s,MS5.1
SNAA Sanae 100.90 191 *e* P 08 47 48.7 +3.5
SNAA Sanae 100.90 191 *e* P 08 47 51.1 +5.9
SNAA Sanae 100.90 191 *e* PP 08 51 54.4 -1.8
SNAA Sanae 100.90 191 *e* 08 52 01.0
SNAA Sanae 100.90 191 *e* 08 52 05.2
SNAA Sanae 100.90 191 *e* 08 52 09.6
SNAA Sanae 100.90 191 ⇑*i*Pdif P 08 47 46.5 +1.3
SNAA *e* 08 47 48.7
SNAA *e* 08 47 51.1
SNAA *e* 08 51 54.4
SNAA *e* 08 52 01.0
SNAA *e* 08 52 05.2
SNAA *e* 08 52 09.6
SNAA Sanae 100.90 191 ⇑*i*P P 08 47 46.5 +1.3
SNAA *e* 08 52 01.0
OBN Obninsk 100.93 325 *i*P P 08 47 46.1 +0.4
OBN LR LR
comp=Z,1μm,19.0s,MS5.4
OBN Obninsk 100.93 325 ⇓*e*P P 08 47 44.9 -0.8
OBN *e* 08 51 49.4
OBN pmax pmax
comp=Z,28nm,1.7s
OBN MLR MLR
comp=Z,1μm,19.0s,MS5.4
NEW Newport 101.30 42 P P 08 47 48.7 +1.1
comp=Z,0.5nm,0.3s,baz=203,slow=2.3,SNR=5.1
NEW PP PP 08 52 02.2 +2.6
comp=Z,3.7nm,1.0s,baz=262,slow=4.8,SNR=4.8
NEW Newport 101.30 42 P P 08 47 48.7 +1.1
NEW PP PP 08 52 02.2 +2.6
BMO Blue Mountains 101.56 45 *e*P P 08 47 51.0 +2.1
comp=Z,5.1nm,1.0s
BMO *e*PP PP 08 52 06.2 +4.7
BMO Blue Mountains 101.56 45 *e*P P 08 47 51.0 +2.2
BMO *e* 08 52 06.2
BMO pmax pmax
comp=Z,5.0nm,1.0s
ARCES ARCESS Array B 102.06 341 P Pdif 08 47 49.4 -1.1
comp=Z,20nm,0.8s,baz=76,slow=5.0,SNR=40
ARCES ARCESS Array B 102.06 341 P Pdif 08 47 49.4 -1.1
ARE0 ARCESS Array S 102.06 341 *e*P Pdif 08 47 49.4 -1.2
VNA2 Neumayer--Watz 102.36 190 *e* Pdif 08 47 55.7 +3.8
VNA2 Neumayer--Watz 102.36 190 *e* Pdif 08 47 57.8 +5.9
VNA2 Neumayer--Watz 102.36 190 *e* PP 08 52 03.3 -3.6
VNA2 Neumayer--Watz 102.36 190 *e* 08 52 07.6
VNA2 Neumayer--Watz 102.36 190 *e* 08 52 12.5
VNA2 Neumayer--Watz 102.36 190 *e* 08 52 18.1
VNA2 Neumayer--Watz 102.36 190 *e* PKKP 09 03 54.7 -0.1
VNA2 Neumayer--Watz 102.36 190 ⇑*i*Pdif Pdif 08 47 53.0 +1.1
VNA2 *e* 08 47 55.7
VNA2 *e* 08 47 57.8
VNA2 *e* 08 52 03.3
VNA2 *e* 08 52 07.6
VNA2 *e* 08 52 12.5
VNA2 *e* 08 52 18.1
VNA2 *e* 08 58 52.1
VNA2 *e* 09 03 54.7
VNA3 Neumayer Olymp 102.48 190 *e* Pdif 08 47 56.3 +3.9
VNA3 Neumayer Olymp 102.48 190 *e* Pdif 08 47 58.5 +6.1
VNA3 Neumayer Olymp 102.48 190 *e* PP 08 52 03.1 -4.8
VNA3 Neumayer Olymp 102.48 190 *e* 08 52 08.1
VNA3 Neumayer Olymp 102.48 190 *e* 08 52 13.0
VNA3 Neumayer Olymp 102.48 190 *e* 08 52 18.6
VNA3 Neumayer Olymp 102.48 190 *e* PKKP 09 03 53.9 -0.6
VNA3 Neumayer Olymp 102.48 190 ⇑*i*Pdif Pdif 08 47 53.4 +1.0
VNA3 *e* 08 47 56.3
VNA3 *e* 08 47 58.5
VNA3 *e* 08 52 03.1
VNA3 *e* 08 52 08.1
VNA3 *e* 08 52 13.0
VNA3 *e* 08 52 18.6
VNA3 *e* 08 58 51.9
VNA3 *e* 09 03 53.9
VNA1 Neumayer--Stat 102.75 190 *e* Pdif 08 47 57.6 +4.0
VNA1 Neumayer--Stat 102.75 190 *e* Pdif 08 48 00.1 +6.5
VNA1 Neumayer--Stat 102.75 190 *e* PP 08 52 07.5 -2.5
VNA1 Neumayer--Stat 102.75 190 *e* 08 52 11.3
VNA1 Neumayer--Stat 102.75 190 ⇑*i*Pdif Pdif 08 47 55.2 +1.6
VNA1 *e* 08 47 57.6
VNA1 *e* 08 48 00.1
VNA1 *e* 08 52 07.5
VNA1 *e* 08 52 11.3
KMBO Kilima Mbogo 102.84 268 P Pdif 08 47 57.2 +1.9
comp=Z,0.7nm,0.4s,baz=54,slow=12,SNR=3.9
KMBO Kilima Mbogo 102.84 268 P Pdif 08 47 57.2 +1.9
ELK Elko 103.53 49 Pdiff Pdif 08 48 00.5 +2.8
comp=Z,2.1nm,1.0s,baz=225,slow=4.8,SNR=6.8
ELK PP PP 08 52 17.5 +1.1
comp=Z,2.8nm,1.0s,baz=282,slow=5.9,SNR=5.1
ELK Elko 103.53 49 *e*P Pdif 08 48 00.4 +2.7
comp=Z,29nm,2.0s
ELK Elko 103.53 49 *e*P Pdif 08 48 00.4 +2.7
ELK pmax pmax
comp=Z,29nm,2.0s
TRO Tromso 104.11 342 *e*PP PP 08 52 17.2 -2.6
TRO *e*SKSa 08 58 39.5
TRO *e*SS SS 09 07 06.4 +1.4
TRO AMS AMS 09 36 59.1
comp=Z,1μm,21.3s,MS5.4
FINES FINESS Array B 104.73 333 Pdiff Pdif 08 48 02.7 +0.2
comp=Z,1.1nm,0.7s,baz=63,slow=4.3,SNR=4.7
FINES FINESS Array B 104.73 333 Pdif Pdif 08 48 02.7 +0.2
SPUT South Promonto 105.54 48 *e*PP PP 08 52 30.5 -1.0
AKASG Malin Array Be 106.17 322 Pdiff Pdif 08 48 07.5 -1.6
comp=Z,0.1nm,0.3s,baz=58,slow=4.1,SNR=4.5
AKASG PP PP 08 52 33.3 -2.5
comp=Z,0.8nm,0.6s,baz=62,slow=6.9,SNR=5.1
AKASG PKKPbc 09 03 43.9
comp=Z,1.0nm,0.6s,baz=264,slow=3.6,SNR=6.9
AKASG Malin Array Be 106.17 322 Pdif Pdif 08 48 07.5 -1.6
AKASG PP PP 08 52 33.3 -2.5
AKASG PKKPbc 09 03 43.9
IMW Indian Meadow 106.21 45 *e*PP PP 08 52 32.1 -4.2
TPAW Teton Pass 106.28 46 *e*PP PP 08 52 40.2 +3.3
AHID Auburn Hatcher 106.30 47 *e*PP PP 08 52 33.4 -3.6
REDW Red Top Meadow 106.37 46 *e*PP PP 08 52 34.0 -3.7
LOHW Long Hollow 106.50 46 *e*PP PP 08 52 35.7 -3.0
DAU Daniels Canyon 106.58 49 *e*PP PP 08 52 37.8 -1.5
PDAR Pinedale Array 107.41 46 Pdiff Pdif 08 48 18.9 +4.2
comp=Z,0.4nm,0.6s,baz=270,slow=3.0,SNR=4.5
PDAR PP PP 08 52 40.8 -4.8
comp=Z,1.2nm,1.0s,baz=270,slow=3.0,SNR=4.1
VRI Vrincioaia 108.99 317 ⇑P 08 52 29.0
VRI Vrincioaia 108.99 317 ⇑P 08 52 29.0
NSS Namsos 109.09 339 AMS AMS 09 45 16.9
comp=Z,2μm,18.7s,MS5.7
JMIC Jan Mayen 110.02 350 *e*PP PP 08 52 55.2 -9.0
JMIC *i* 09 02 30.2
JMIC *e*SS SS 09 08 23.3 -2.5
JMIC AMS AMS 09 36 27.0
comp=Z,379nm,23.1s,MS4.9
FCC Fort Churchill 111.12 27 *e*PP PP 08 53 05.0 -7.1
ANMO Albuquerque 111.27 54 PKKPbc 09 03 29.5
comp=Z,0.4nm,0.4s,baz=178,slow=11,SNR=4.2
NOA NORSAR Array B 111.33 336 Pdiff Pdif 08 48 31.4 -0.1
comp=Z,2.0nm,0.9s,baz=50,slow=4.8,SNR=2.9
KONO Kongsberg 112.78 335 *e*PP PP 08 53 13.9 -11
KONO *e*SKSa 08 59 16.3
KONO *i* 09 02 45.5
OKC Ostrava-Krasne 113.18 323 *e*PP PP 08 53 33.0 +5.3
OKC *e*SDIF 09 01 05.0
OKC *e*PS PS 09 03 51.4 +53
OKC AMS AMS 09 44 50.0
comp=Z,800nm,19.8s
COP Copenhagen 113.64 331 *i*P PP 08 53 20.4 -10
comp=Z,16nm,1.2s
COP *i*S PS 09 03 02.9 +0.8
COP *i* 09 03 12.9
comp=Z,900nm,17.0s
BER Bergen 114.04 337 AMS AMS 09 43 43.1
comp=Z,2μm,20.6s,MS5.7
DPC Dobruska-Polom 114.04 324 *e*PP PP 08 53 35.5 +1.7
DPC *e*SDIF 09 01 12.1
DPC *e*PS PS 09 03 05.2 -0.7
DPC AMS AMS 09 46 00.0
comp=Z,1μm,21.8s
ULM Lac du Bonnet 114.11 36 PP PP 08 53 27.9 -6.4
comp=Z,11nm,1.1s,baz=312,slow=4.8,SNR=3.6
TXAR Lajitas Array 114.59 60 PKP PKPdf 08 52 38.5 -1.2
comp=Z,0.8nm,0.9s,baz=34,slow=0.2,SNR=7.0
TXAR PP PP 08 53 41.5 +3.3
comp=Z,1.4nm,0.9s,baz=270,slow=3.8,SNR=4.5
TXAR PKKPbc 09 03 18.9
comp=Z,0.5nm,0.5s,baz=112,slow=5.3,SNR=10
PVCC Panska Ves 114.98 325 *e*PP PP 08 53 21.1 -19
PVCC AMS AMS 09 46 10.0
comp=Z,2μm,19.4s
BRG Berggiesshubel 115.18 326 *i*PKP PKPdf 08 52 43.4 +3.1
BRG PP PP 08 53 43.0 +1.3
BRG SKS SKS 08 59 28.0 -2.2
BRG S 09 01 27.0
BRG *i* 09 09 37.0
BRG LR LR
comp=Z,2μm,19.1s,MS5.7
BRG Berggiesshubel 115.18 326 *i*PKIKP PKPdf 08 52 43.3 +3.0
BRG 08 53 43.0
BRG 08 59 28.0
BRG *i* 09 09 37.0
BRG pmax pmax
comp=Z,13nm,0.5s
BRG MLR MLR
comp=N,1μm,20.2s,MS5.7
BRG MLR MLR
comp=E,1μm,20.6s,MS5.7
BRG MLR MLR
comp=Z,2μm,19.1s,MS5.7
PRU Pruhonice 115.23 325 *e*PP PP 08 53 45.8 +3.7
PRU *e*SDIF 09 01 23.8
PRU *e*PS PS 09 03 22.7 +5.1
PRU AMS AMS 09 47 00.0
comp=Z,1μm,19.9s
CLL Collm 115.50 326 *e* PP 08 53 31.0 -13
CLL *e* 08 53 40.0
CLL *e* 08 59 27.0
CLL *e* 09 01 27.0
CLL *e*PS PS 09 03 16.0 -3.9
CLL *e*PPS PPS 09 04 27.0 -9.4
CLL *e*SS SS 09 09 39.0 +0.6
CLL *e* 09 10 01.0
CLL *e* 09 10 18.0
KHC Kasperske Hory 116.18 324 *e*PP PP 08 53 46.0 -2.8
KHC *e*SDIF 09 01 35.1
KHC *e*PS PS 09 03 31.5 +5.4
KHC AMS AMS 09 47 00.0
comp=Z,1μm,19.4s
GERES GERESS Array B 116.23 324 PKP PKPdf 08 52 40.3 -2.2
comp=Z,2.0nm,0.4s,baz=53,slow=4.9,SNR=8.2
GERES PKKPbc 09 03 15.4
comp=Z,0.3nm,0.2s,baz=270,slow=5.9,SNR=3.9
NKC Novy Kostel 116.32 325 *e*PP PP 08 53 42.9 -6.8
NKC *e*SDIF 09 01 39.0
NKC *e*PS PS 09 03 33.0 +5.7
NKC AMS AMS 09 45 10.0
comp=Z,2μm,20.9s
MOX Moxa 116.59 326 *e*P PKPdf 08 52 40.0 -3.1
MOX PP PP 08 53 51.0 -0.6
MOX PKKP PKKP 09 03 29.0 +0.4
MOX SS SS 09 09 50.0 -2.6
MOX L 09 48 20.0
DAVOX Davos 119.48 323 PKP PKPdf 08 52 46.2 -2.5
comp=Z,2.5nm,0.6s,baz=47,slow=5.6,SNR=5.0
CDF Champ du Feu 120.16 326 *e*PKIKP PKPdf 08 52 47.6 -2.4
GIVF Givet 120.55 328 *e*PKIKP PKPdf 08 52 48.9 -1.9
HINF Hinteralfeld 120.72 325 *e*PKIKP PKPdf 08 52 48.6 -2.6
comp=Z,16nm,1.0s
BAIF Baives 120.89 329 *e*PKIKP PKPdf 08 52 48.7 -2.8
HAU Haudompre 120.90 326 *e*PKIKP PKPdf 08 52 49.2 -2.3
comp=Z,22nm,1.0s
HAU *e*R
comp=Z,2μm,20.5s
CABF La Chapelle 121.81 324 *e*PKIKP PKPdf 08 52 51.5 -1.8
comp=Z,29nm,1.0s
LPG La Plagne 122.00 323 *e*PKIKP PKPdf 08 52 52.0 -1.7
LPL La Plagne 122.00 323 *e*PKIKP PKPdf 08 52 51.9 -1.8
CCM Cathedral Cave 122.13 47 *e*PKPdf PKPdf 08 52 51.2 -2.9
CCM Cathedral Cave 122.13 47 PKIKP PKPdf 08 52 51.3 -2.8
LOR Lormes 122.71 326 *e*PKIKP PKPdf 08 52 52.1 -2.8
LOR *e*R
comp=Z,2μm,19.8s
ORIF Oris-en-Rattie 122.83 323 *e*PKIKP PKPdf 08 52 53.1 -2.1
ORIF *e*R
comp=Z,1μm,21.8s
SSF Saint Saulge 123.03 326 *e*PKIKP PKPdf 08 52 52.7 -2.8
comp=Z,15nm,0.9s
SMF Signal de Mont 123.08 325 *e*PKIKP PKPdf 08 52 53.5 -2.2
comp=Z,22nm,1.1s
AVF Avril sur Loir 123.27 326 *e*PKIKP PKPdf 08 52 53.8 -2.3
SMRF Simiane la Rot 123.51 322 *e*PKIKP PKPdf 08 52 54.3 -2.3
comp=Z,30nm,1.1s
VIVF Saint-Julien-l 123.59 323 *e*PKIKP PKPdf 08 52 54.7 -2.1
comp=Z,26nm,1.2s
FLN La Foliniere 124.10 330 *e*PKIKP PKPdf 08 52 55.5 -2.2
comp=Z,25nm,0.9s
FLN *e*R
comp=Z,3μm,22.0s
TCF Toulx Ste Croi 124.20 326 *e*PKIKP PKPdf 08 52 56.0 -1.9
comp=Z,33nm,0.9s
LASF Ste Croix 124.50 323 *e*PKIKP PKPdf 08 52 56.8 -1.8
GRR Gorron 124.54 329 *e*PKIKP PKPdf 08 52 56.5 -2.1
comp=Z,48nm,1.3s
BLO Bloomington 125.00 44 *e*PKPdf PKPdf 08 52 57.9 -1.9
BLO Bloomington 125.00 44 PKIKP PKPdf 08 52 57.5 -2.2
CAF Calviac 125.08 325 *e*PKIKP PKPdf 08 52 58.1 -1.6
comp=Z,28nm,1.2s
RJF Les Rejaudoux 125.17 325 *e*PKIKP PKPdf 08 52 57.9 -2.0
comp=Z,35nm,1.2s
RJF *e*R
comp=Z,1μm,19.8s
MFF Saint Martin d 125.30 327 *e*PKIKP PKPdf 08 52 57.8 -2.3
comp=Z,23nm,1.1s
WVT Waverly 125.40 48 *e*PKPdf PKPdf 08 52 57.9 -2.7
WVT Waverly 125.40 48 PKIKP PKPdf 08 52 57.7 -2.9
SGMF Saint Gilles 125.48 330 *e*PKIKP PKPdf 08 52 58.1 -2.3
comp=Z,39nm,1.1s
PLAL Pickwick Lake 125.68 49 *e*PKPdf PKPdf 08 52 58.4 -2.7
PLAL *e* 08 53 12.7
PLAL *e*PP PP 08 54 51.5 -2.2
LFF La Frestale 125.83 325 *e*PKIKP PKPdf 08 52 59.5 -1.6
MTLF Montolieu 125.90 323 *e*PKIKP PKPdf 08 52 59.3 -2.0
comp=Z,10nm,0.8s
EPF Esparros 127.20 324 *e*PKIKP PKPdf 08 53 02.0 -1.8
LRAL Lakeview Retre 127.27 51 *e*PKPdf PKPdf 08 53 02.2 -2.0
LRAL *e*PP PP 08 54 59.4 -4.6
PLCA Paso Flores 127.47 151 PKP PKPdf 08 53 03.1 -1.3
comp=Z,14nm,1.0s,baz=193,slow=3.7,SNR=19
ETSF Etsaut 127.81 324 *e*PKIKP PKPdf 08 53 02.4 -2.6
comp=Z,22nm,1.0s
SJPF Ste Jean 128.07 325 *e*PKIKP PKPdf 08 53 04.0 -1.5
comp=Z,45nm,1.3s
CPCT Cooper Cave 128.12 47 *e*PKPdf PKPdf 08 53 03.9 -2.0
MYNC Murphy 128.58 47 *e*PKPdf PKPdf 08 53 04.5 -2.2
EMHD Djebel Mahouad 129.18 315 P PKPdf 08 53 09.0 +1.2
EMHD Djebel Mahouad 129.18 315 P PP 08 55 20.0 +3.0
EANR 'Ain N'Sour 130.61 316 P PKPdf 08 53 16.0 +5.4
EANR 'Ain N'Sour 130.61 316 P PP 08 55 32.0 +5.8
ETRT Tiaret 130.75 315 P PKPdf 08 53 15.0 +4.2
ETRT Tiaret 130.75 315 P PP 08 55 27.0 -0.2
ESDC Sonseca Array 131.81 323 PKP PKPdf 08 53 10.8 -2.0
comp=Z,0.3nm,0.3s,baz=12,slow=4.9,SNR=4.3
ARE Arequipa 142.74 124 *e*P PKPdf 08 53 29.0 -4.2
DBIC Dimbokro 145.10 276 PKPbc PKPbc 08 53 35.4 +1.3
comp=Z,157nm,0.9s,baz=74,slow=3.8,SNR=99
DBIC Dimbokro 145.10 276 *e*PKP PKPdf 08 53 35.4 -2.1
LIC Lamto 145.29 275 *e*PKIKP PKPdf 08 53 35.3 -2.5
comp=Z,512nm,1.1s
CPUP Villa Florida 145.54 151 PKPbc PKPbc 08 53 37.5 +2.7
comp=Z,132nm,0.9s,baz=242,slow=4.6,SNR=111
CPUP Villa Florida 145.54 151 *e*PKP PKPdf 08 53 36.9 -1.0
CPUP Villa Florida 145.54 151 PKP2 PKPab 08 53 36.8 +0.2
ROSC El Rosal 145.56 87 PKPbc PKPbc 08 53 37.9 +2.7
comp=Z,10nm,0.5s,baz=238,slow=4.0,SNR=11
LPAZ La Paz 145.58 126 PKPbc PKPbc 08 53 39.0 +3.9
comp=Z,140nm,0.9s,baz=277,slow=1.8,SNR=236
LPAZ La Paz 145.58 126 *e*PKP PKPdf 08 53 38.7 +0.5
SDV Santo Domingo 148.96 79 *e*PKPdf PKPdf 08 53 42.1 -1.7
SAML Samuel 153.45 119 *e*PKPdf PKPdf 08 53 49.2 -1.3
BDFB Brasilia 159.00 157 PKP PKPdf 08 53 57.6 -0.1
comp=Z,17nm,1.1s,baz=6.1,slow=2.0,SNR=14
BDFB PKPab PKPab 08 54 33.4 +0.7
comp=Z,45nm,0.9s,baz=194,slow=2.5,SNR=22
BAO Brasilia Array 159.02 157 PKPdf PKPdf 08 53 57.8 +0.1

*CSEM **08** 08:49:57.6± 0.1, 36.73N× 31.14E, h72km, Mw3.5, Error ellipse: s-maj=1.7km s-min=1.1km az=43.0*
*CRAAG **08** 08:49:58.2, 36.71N× 31.18E, Mb4.1*
*IDC **08** 08:49:58.5± 1.4, 36.69N× 31.14E, h62km± 15km, mb3.8/8, mb1 4.0/13, mb1mx3.8/23, mbtmp4.1/13, Error ellipse: s-maj=14.3km s-min=9.9km az=133.0*
*NEIC **08** 08:49:59.0, 36.71N× 31.15E, h66km, After ISK.*

*ISK **08** 08:49:59.3, 36.76N×31.11E, h80km, ML4.1*
*GRAL **08** 08:50:00.7±1.7, 36.46N×31.25E, MD4.1*
*NIC **08** 08:50:02.5±0.2, 36.64N×31.50E, h35km, mb4.3, ML4.1, MW3.5*

ISC 08 08:49:58.9±0.2, 36.69N±0.02×31.20E±0.02, h86km±4km, n127, σ1°07/155, mb3.8/9, 2C-5D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTB	**Antalya**	**0.49**	**296**	*i* PG	**P**	**08 50 11.8**	**-1.4**
BCK	**Bucak**	**0.91**	**328**	PG	**P**	**08 50 17.4**	**-0.1**
HDMB	**Hadim**	**1.07**	**75**	PN	**P**	**08 50 20.9**	**+1.6**
HDMB				SN	**S**	**08 50 36.6**	**+1.9**
ISP	**Isparta**	**1.28**	**335**	PN	**P**	**08 50 21.3**	**-0.7**
ISP	**Isparta**	**1.28**	**335**	*e*P	**P**	**08 50 22.0**	**0.0**
ISP				*e*S	**S**	**08 50 38.8**	**-0.6**
AKAS	**Kas**	**1.37**	**251**	*i* P	**P**	**08 50 23.5**	**+0.3**
AKAS				*i* S	**S**	**08 50 44.7**	**+3.5**
ERMK	**Ermenek**	**1.38**	**92**	*i* P	**P**	**08 50 25.1**	**+1.7**
ERMK				*i* S	**S**	**08 50 44.3**	**+2.9**
KSL	**Kastellorizon**	**1.41**	**248**	*e*P	**P**	**08 50 25.0**	**+1.2**
TKTP	**Tekketepe**	**1.52**	**333**	*i* P	**P**	**08 50 24.6**	**-0.5**
TKTP				*i* S	**S**	**08 50 44.4**	**-0.2**
KONT	**Konya--Tatoy**	**1.56**	**36**	PN	**P**	**08 50 26.9**	**+1.3**
AKMC	**Akamas**	**1.90**	**151**	P	**P**	**08 50 30.5**	**+0.4**
ALFC	**Alevga**	**1.90**	**143**	⇑P	**P**	**08 50 30.0**	**-0.2**
	56nm,0.2s						
ALFC				S	**S**	**08 50 51.9**	**-1.4**
ALFC	**Alevga**	**1.90**	**143**	*e*P	**P**	**08 50 30.0**	**-0.2**
ALFC				*e*S	**S**	**08 50 51.9**	**-1.4**
ALFC	**Alevga**	**1.90**	**143**	⇑*e*P	**P**	**08 50 30.0**	**-0.2**
ALFC				S	**S**	**08 50 51.9**	**-1.4**
KDHN	**Kadinhani**	**1.97**	**21**	*i* P	**P**	**08 50 30.5**	**-0.5**
KDHN				*i* S	**S**	**08 50 51.7**	**-3.0**
DNZL	**Cakiroluk**	**1.99**	**301**	*i* P	**P**	**08 50 33.9**	**+2.5**
DNZL				*i* S	**S**	**08 50 59.6**	**+4.3**
PPCY	**Paphos**	**2.03**	**152**	*e*P	**P**	**08 50 32.7**	**+0.9**
DENT	**Denizli**	**2.03**	**302**	*e*PN	**P**	**08 50 32.3**	**+0.4**
IKL	**Isikli**	**2.05**	**102**	PN	**P**	**08 50 34.8**	**+2.6**
DALT	**Dalyan (Mudla)**	**2.06**	**273**	PN	**P**	**08 50 32.3**	**0.0**
LEF	**Lefka**	**2.08**	**138**	*e*PN	**P**	**08 50 32.6**	**0.0**
KHL	**Karahalli**	**2.11**	**321**	PN	**P**	**08 50 32.9**	**-0.1**
MAMC	**Mammari**	**2.23**	**132**	*e*P	**P**	**08 50 35.0**	**+0.3**
KIZT	**Kizilcal**	**2.25**	**14**	PN	**P**	**08 50 35.0**	**0.0**
SZAC	**Souni-Zanaja**	**2.37**	**144**	P	**P**	**08 50 38.7**	**+2.1**
SZAC				*e*S	**S**	**08 51 03.8**	**-0.8**
MEST	**Erdemli**	**2.37**	**92**	*i* P	**P**	**08 50 39.6**	**+3.0**
YER	**Yerkesik**	**2.38**	**282**	PN	**P**	**08 50 37.1**	**+0.3**
CSS	**Prodhromos**	**2.44**	**134**	P	**P**	**08 50 37.4**	**-0.2**
	13nm,0.3s						
CSS				S	**S**	**08 51 04.8**	**-1.7**
CSS	**Prodhromos**	**2.44**	**134**	*e*P	**P**	**08 50 37.4**	**-0.2**
CSS				*e*S	**S**	**08 51 04.8**	**-1.7**
ALT	**Altintas**	**2.51**	**340**	PN	**P**	**08 50 38.5**	**-0.1**
ARG	**Arkhangelos**	**2.52**	**260**	*e*P	**P**	**08 50 39.1**	**+0.3**
GDZ	**Gediz**	**2.75**	**331**	*i* P	**P**	**08 50 41.3**	**-0.7**
MANT	**Manisa**	**2.76**	**311**	*i* P	**P**	**08 50 43.2**	**+1.0**
MLSB	**Milas**	**2.81**	**283**	*e*PN	**P**	**08 50 42.9**	**+0.2**
ESKT	**Eskisehir**	**2.84**	**354**	PN	**P**	**08 50 42.8**	**-0.4**
ESKT	**Eskisehir**	**2.84**	**354**	*i* P	**P**	**08 50 42.0**	**-1.2**
PHNC	**Paralimni**	**2.85**	**125**	*e*P	**P**	**08 50 44.8**	**+1.5**
BODT	**Bodrum**	**3.14**	**278**	*e*PN	**P**	**08 50 46.7**	**-0.7**
BORA	**Eskisehir**	**3.24**	**350**	*i* P	**P**	**08 50 48.3**	**-0.4**
KAMT	**Kaman**	**3.33**	**36**	*e*PN	**P**	**08 50 50.4**	**+0.5**
ANTO	**Ankara**	**3.41**	**21**	*e*PN	**P**	**08 50 51.5**	**+0.4**
LOD	**Lodumlu**	**3.42**	**21**	*e*PN	**P**	**08 50 51.3**	**+0.1**
AKS	**Akhisar**	**3.46**	**310**	*e*PN	**P**	**08 50 51.5**	**-0.3**
KARP	**Karpathos**	**3.46**	**252**	*e*P	**P**	**08 50 52.0**	**+0.2**
IZM	**Izmir**	**3.56**	**300**	*e*PN	**P**	**08 50 53.0**	**-0.2**
AVNT	**Avonos**	**3.57**	**53**	*i* P	**P**	**08 50 54.1**	**+0.9**
BRTR	**Keskin Array B**	**3.59**	**32**	P	**P**	**08 50 53.5**	**0.0**
	27nm,0.3s,baz=209,slow=16,SNR=264						
BRTR				S	**S**	**08 51 34.0**	**-1.0**
	20nm,0.3s,baz=203,slow=26,SNR=20						
BR131	**Keskin Array S**	**3.59**	**32**	*e*P	**P**	**08 50 53.6**	**+0.1**
BR131				*e*S	**S**	**08 51 34.1**	**-0.8**
BR131	**Keskin Array S**	**3.59**	**32**	*e*P	**P**	**08 50 53.6**	**+0.1**
BR131				*e*S	**S**	**08 51 34.1**	**-0.8**
SMG	**Samos**	**3.63**	**288**	*e*P	**P**	**08 50 54.1**	**0.0**
CEYT	**Ceyhan**	**3.66**	**84**	*e*PN	**P**	**08 50 55.8**	**+1.3**
GPA	**Golpazari**	**3.66**	**349**	*e*PN	**P**	**08 50 54.1**	**-0.4**
MDU	**Mudurnu**	**3.77**	**0**	*e*PN	**P**	**08 50 55.9**	**-0.1**
ORLT	**Orhaneli**	**3.81**	**332**	*e*PN	**P**	**08 50 56.4**	**-0.2**
ULDT	**Uludag**	**3.81**	**335**	*i* P	**P**	**08 50 55.7**	**-0.9**
CDAG	**Cicekdag**	**3.85**	**40**	*i* P	**P**	**08 50 56.7**	**-0.4**
SGKT	**Sivrigoynuk**	**3.93**	**10**	*i* P	**P**	**08 50 57.4**	**-0.9**
BALB	**Balikesir**	**3.94**	**319**	*e*PN	**P**	**08 50 57.6**	**-0.8**
ARNB	**Al Arnab**	**3.94**	**101**	⇑*i* P	**P**	**08 50 57.9**	**-0.5**
HTY	**Hatay**	**4.02**	**97**	*e*PN	**P**	**08 51 01.0**	**+1.5**
URLA	**Izmir**	**4.02**	**296**	*i* P	**P**	**08 50 59.6**	**+0.1**
COBT	**Iskenderun**	**4.07**	**91**	*i* P	**P**	**08 51 00.3**	**+0.3**
HENT	**Hendek**	**4.13**	**357**	*i* P	**P**	**08 51 00.2**	**-0.8**
ELDT	**Eldivan**	**4.17**	**24**	*i* P	**P**	**08 51 00.3**	**-1.3**
SLNF	**Slenfeh**	**4.21**	**104**	⇑*i* P	**P**	**08 51 01.2**	**-0.9**
BTCH	**Batrach**	**4.29**	**97**	⇑*i* P	**P**	**08 51 02.5**	**-0.8**
WRDH	**Warideh**	**4.38**	**104**	⇑*i* P	**P**	**08 51 02.9**	**-1.6**
DRWC	**Darouich**	**4.39**	**89**	⇓*i* P	**P**	**08 51 04.9**	**+0.2**
BNT	**Bandirma**	**4.47**	**326**	*e*PN	**P**	**08 51 05.2**	**-0.6**
BIDA	**Albida**	**4.48**	**110**	⇑*i* P	**P**	**08 51 03.7**	**-2.2**
HWQ	**Hawqa**	**4.56**	**120**	*e*Pn	**P**	**08 51 07.9**	**+0.9**
HWQ				Sn	**S**	**08 51 58.6**	**-0.4**
APE	**Apeiranthos**	**4.56**	**276**	*e*P	**P**	**08 51 07.0**	**0.0**
BHL	**Bhannes**	**4.58**	**126**	*e*Pn	**P**	**08 51 07.4**	**+0.2**
BHL				Sn	**S**	**08 51 56.9**	**-2.6**
SANT	**Santorini**	**4.64**	**268**	*e*P	**P**	**08 51 05.6**	**-2.4**
SANT				*e*S	**S**	**08 51 57.1**	**-3.9**
SANT	**Santorini**	**4.64**	**268**	*e*P	**P**	**08 51 05.5**	**-2.4**
SANT				*e*S	**S**	**08 51 57.1**	**-3.9**
PRK	**Paraskevi**	**4.66**	**305**	*e*P	**P**	**08 51 09.9**	**+1.6**
NPS	**Neapolis**	**4.75**	**254**	*e*P	**P**	**08 51 09.5**	**-0.1**
CTKT	**Corum**	**4.83**	**34**	*i* P	**P**	**08 51 10.4**	**-0.2**
XRY	**Khrisi**	**4.83**	**250**	*e*P	**P**	**08 51 12.0**	**+1.3**
HNTI	**Hanita**	**4.86**	**137**	Pn	**P**	**08 51 11.1**	**+0.1**
HNTI				Sn	**S**	**08 52 03.4**	**-3.1**
HAF	**Haifa**	**5.01**	**140**	Pn	**P**	**08 51 12.4**	**-0.8**
KSDI	**Kefar Szold**	**5.06**	**132**	Pn	**P**	**08 51 14.4**	**+0.6**
OFRI	**'Ofer**	**5.12**	**141**	Pn	**P**	**08 51 14.6**	**0.0**
BALT	**Daday**	**5.13**	**19**	*i* P	**P**	**08 51 12.8**	**-1.9**
GZT	**Gaziantep**	**5.13**	**81**	*i* P	**P**	**08 51 14.5**	**-0.3**
KSHT	**Keshet**	**5.30**	**133**	Pn	**P**	**08 51 18.3**	**+1.3**
IDI	**Anoyia**	**5.31**	**257**	P	**P**	**08 51 16.0**	**-1.1**
	11nm,0.3s,baz=69,slow=14,SNR=30						
IDI				S	**S**	**08 52 12.5**	**-5.1**
	4.5nm,0.3s,baz=259,slow=8.4,SNR=5.5						
SLTI	**Sal'it**	**5.45**	**143**	Pn	**P**	**08 51 18.9**	**-0.3**
MMLI	**Mount Malkishu**	**5.49**	**139**	Pn	**P**	**08 51 19.8**	**+0.2**
BOYT	**Boyabat**	**5.53**	**30**	*i* P	**P**	**08 51 19.0**	**-1.2**
VAM	**Vamos**	**5.82**	**259**	*e*P	**P**	**08 51 24.8**	**+0.7**
MALT	**Malatya**	**5.97**	**72**	*e*P	**P**	**08 51 27.5**	**+1.3**
	7.4nm,0.8s						
GVD	**Gavdhos**	**6.07**	**254**	*e*P	**P**	**08 51 23.6**	**-4.0**
GVD				*e*S	**S**	**08 52 29.5**	**-7.0**
RDO	**Rodhopi**	**6.27**	**317**	*e*P	**P**	**08 51 31.8**	**+1.4**
MKRJ	**Makawir**	**6.31**	**143**	Pn	**P**	**08 51 30.9**	**-0.1**
RTMM	**Retamin**	**6.33**	**152**	Pn	**P**	**08 51 30.7**	**-0.6**
KZIT	**Kziot**	**6.35**	**154**	Pn	**P**	**08 51 30.5**	**-1.1**
KZIT				Sn	**S**	**08 52 38.0**	**-5.3**
MZDA	**Masada**	**6.38**	**146**	Pn	**P**	**08 51 32.2**	**+0.2**
ASF	**Jabal al Asfar**	**6.51**	**132**	P	**P**	**08 51 36.0**	**+2.1**
	1.3nm,0.3s,baz=135,slow=11,SNR=6.0						
ASF				S	**S**	**08 52 50.9**	**+3.6**
	2.2nm,0.3s,baz=0.3,slow=23,SNR=2.9						
VLI	**Veliai**	**6.64**	**273**	*e*P	**P**	**08 51 36.0**	**+0.4**
PRNI	**Paran**	**7.07**	**152**	Pn	**P**	**08 51 40.4**	**-1.2**
PRNI				Sn	**S**	**08 52 55.1**	**-6.0**
KMTI	**Karmt**	**7.20**	**155**	Pn	**P**	**08 51 42.0**	**-1.3**
KMTI				Sn	**S**	**08 52 58.7**	**-5.4**
EIL	**Elat**	**7.67**	**155**	P	**P**	**08 51 48.8**	**-1.0**
	65nm,0.3s,baz=26,slow=6.8,SNR=39						
EIL				S	**S**	**08 53 12.6**	**-3.2**
	142nm,0.3s,baz=101,slow=35,SNR=7.5						
EIL	**Elat**	**7.67**	**155**	Pn	**P**	**08 51 48.6**	**-1.2**
EIL	**Elat**	**7.67**	**155**	P	**P**	**08 51 48.8**	**-1.0**
ISR	**Istrita**	**9.13**	**339**	⇓P	**P**	**08 52 04.6**	**-4.9**
ISR	**Istrita**	**9.13**	**339**	⇓P	**P**	**08 52 04.6**	**-4.9**
MLR	**Muntele Rosu**	**9.64**	**337**	P	**P**	**08 52 17.8**	**+1.3**
	0.2nm,0.3s,baz=140,slow=6.8,SNR=3.8						
MLR	**Muntele Rosu**	**9.64**	**337**	⇓P	**P**	**08 52 20.7**	**+4.2**
MLR	**Muntele Rosu**	**9.64**	**337**	⇓P	**P**	**08 52 20.7**	**+4.2**
AKASG	**Malin Array Be**	**14.08**	**355**	P	**P**	**08 53 14.3**	**-0.9**
	0.5nm,0.3s,baz=176,slow=12,SNR=8.0						

GERES	**GERESS Array B**	**17.63**	**319**	P	**P**	**08 54 00.3**	**+0.2**
	0.1nm,0.3s,baz=124,slow=9.6,SNR=5.4						
DAVOX	**Davos**	**18.78**	**309**	P	**P**	**08 54 13.0**	**-0.7**
	0.5nm,0.3s,baz=126,slow=11,SNR=4.8						
MOX	**Moxa**	**19.80**	**321**	*i* P	**P**	**08 54 25.1**	**+0.5**
FINES	**FINESS Array B**	**24.99**	**354**	P	**P**	**08 55 15.4**	**-0.1**
	0.9nm,0.3s,mb3.6,baz=157,slow=9.9,SNR=10						
FINES	**FINESS Array B**	**24.99**	**354**	P	**P**	**08 55 15.4**	**-0.2**
HFS	**Hagfors**	**26.01**	**340**	P	**P**	**08 55 26.9**	**+1.7**
	1.2nm,0.5s,mb3.6,baz=129,slow=9.5,SNR=4.4						
NOA	**NORSAR Array B**	**27.46**	**339**	P	**P**	**08 55 40.7**	**+2.3**
	1.3nm,0.9s,mb3.5,baz=143,slow=6.7,SNR=2.5						
ESDC	**Sonseca Array**	**27.70**	**287**	P	**P**	**08 55 40.6**	**-0.3**
	0.6nm,0.4s,mb3.5,baz=68,slow=8.9,SNR=6.6						
ARCES	**ARCESS Array B**	**33.05**	**356**	P	**P**	**08 56 27.1**	**-0.6**
	1.6nm,0.4s,mb4.2,baz=170,slow=7.4,SNR=19						
MKAR	**Makanchi Array**	**38.82**	**59**	P	**P**	**08 57 17.3**	**+0.6**
	1.0nm,0.5s,mb3.9,baz=279,slow=7.7,SNR=9.6						
MKAR	**Makanchi Array**	**38.82**	**59**	P	**P**	**08 57 17.3**	**+0.6**
ZAL	**Zalesovo**	**40.38**	**47**	P	**P**	**08 57 29.3**	**-0.2**
	3.7nm,0.3s,mb4.6,baz=192,slow=8.1,SNR=4.2						
ZAL	**Zalesovo**	**40.38**	**47**	P	**P**	**08 57 29.3**	**-0.2**
BOSA	**Boshof**	**65.20**	**186**	P	**P**	**09 00 34.9**	**+1.6**
	1.0nm,0.7s,mb3.7,baz=346,slow=12,SNR=3.1						
BOSA	**Boshof**	**65.20**	**186**	P	**P**	**09 00 34.8**	**+1.6**
ILAR	**Eielson Array**	**78.86**	**359**	P	**P**	**09 01 53.5**	**0.0**
	0.2nm,0.5s,mb3.2,baz=341,slow=4.1,SNR=5.2						

*IDC **08** 08:52:21.6±3.2, 1.09N×98.05E, mb3.9/5, mb1 4.0/5, mb1mx3.8/19, mbtmp3.9/5, Error ellipse: s-maj=131.5km s-min=27.1km az=54.0*
*NEIC **08** 08:52:26.0±0.9, 1.05N×98.04E, h30km, mb4.1/1, Error ellipse: s-maj=18.6km s-min=15.3km az=190.0*

ISC 08 08:52:26.0±3.4, 1.1N±0.2×98.1E±0.1, h46km±29km, n8, σ0°49/8, mb3.9/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.88**	**32**	*e*P	**P**	**08 53 38.8**	**-0.1**
PALK	**Pallekele**	**18.34**	**290**	P	**P**	**08 56 38.9**	**+0.1**
	19nm,1.2s						
WRA	**Warramunga Arr**	**41.28**	**122**	P	**P**	**09 00 08.8**	**0.0**
	0.6nm,0.7s,mb3.3,baz=301,slow=8.9,SNR=6.6						
SONM	**Songino Array**	**47.09**	**8**	P	**P**	**09 00 55.5**	**+0.3**
	1.2nm,0.6s,mb4.0,baz=184,slow=6.3,SNR=5.5						
MKAR	**Makanchi Array**	**47.52**	**345**	P	**P**	**09 00 59.2**	**+0.5**
	0.8nm,0.6s,mb4.0,baz=160,slow=7.4,SNR=6.6						
MKAR	**Makanchi Array**	**47.52**	**345**	P	**P**	**09 00 59.2**	**+0.5**
ZAL	**Zalesovo**	**53.76**	**350**	P	**P**	**09 01 45.9**	**-0.1**
	1.7nm,0.4s,mb4.3,baz=272,slow=4.4,SNR=3.5						
BVAR	**Borovoye Array**	**56.60**	**340**	P	**P**	**09 02 05.8**	**-0.7**
	1.0nm,0.5s,mb4.1,baz=149,slow=8.4,SNR=6.5						

*THE **08** 08:59:47.6, 38.94N×23.36E, h2km, ML3.1*
*ATH **08** 08:59:48.0, 39.04N×23.48E, h21km±1km, MD3.5/8, ML3.5*
*NEIC **08** 08:59:48.1, 39.01N×23.40E, h12km, MD3.5(ATH), After ATH.*
*CSEM **08** 08:59:48.4±0.1, 38.97N×23.35E, h8km, ML3.1, Error ellipse: s-maj=2.3km s-min=1.3km az=86.0*

ISC 08 08:59:47.7±0.6, 39.00N±0.02×23.40E±0.03, h6km±4km, n38, σ1°10/59, 4C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XOR	**Xorichti**	**0.40**	**336**	*e*Pg	**Pg**	**08 59 56.1**	**+0.4**
XOR				*e*Sg	**Sg**	**09 00 02.5**	**+1.4**
AOS	**Alonnisos**	**0.41**	**65**	*e*Pg	**Pg**	**08 59 56.9**	**+1.0**
AOS				*e*Sg	**Sg**	**09 00 03.6**	**+2.2**
LKR	**Lokris**	**0.47**	**222**	*e*Pb	**Pb**	**08 59 56.4**	**-1.5**
LKR				*e*Sb	**Sb**	**09 00 03.3**	**-1.4**
AGG	**Agios Georgios**	**0.83**	**272**	*e*Pg	**Pg**	**09 00 02.7**	**-1.6**
AGG				*e*Sg	**Sg**	**09 00 15.0**	**-0.4**
MPAR	**Parnis Oros**	**0.89**	**163**	*e*PN	**Pn**	**09 00 05.0**	**-1.5**
MPAR				*e*SN	**Sn**	**09 00 18.5**	**-1.2**
PTL	**Penteli**	**1.02**	**159**	*e*Pn	**Pn**	**09 00 08.8**	**+0.5**
MGER	**Gerania Oros**	**1.02**	**186**	*e*PN	**Pn**	**09 00 08.5**	**+0.2**
MGER				*e*SN	**Sn**	**09 00 23.0**	**0.0**
ATH	**Athens Observa**	**1.05**	**166**	⇑*i*PN	**Pn**	**09 00 08.0**	**-0.9**
ATH				*e*SN	**Sn**	**09 00 23.3**	**-0.7**
ATH	**Athens Observa**	**1.05**	**166**	*e*Pn	**Pn**	**09 00 08.3**	**-0.6**
ATH				*e*Sb	**Sn**	**09 00 23.3**	**-0.7**
ATH	**Athens Observa**	**1.05**	**166**	*e*Pb	**Pb**	**09 00 08.2**	**+0.3**
ATH				*e*Sb	**Sn**	**09 00 23.3**	**-0.7**
NSAL	**Nisos Salamina**	**1.09**	**177**	*e*PN	**Pn**	**09 00 09.5**	**+0.1**
NSAL				*e*SN	**Sn**	**09 00 25.5**	**+0.6**
NSAL	**Nisos Salamina**	**1.09**	**177**	*e*Pn	**Pn**	**09 00 09.5**	**+0.1**
NSAL				*e*Sn	**Sn**	**09 00 26.0**	**+1.1**
NAIG	**Nisos Aigina**	**1.24**	**177**	*e*PN	**Pn**	**09 00 11.5**	**0.0**
NAIG				*e*SN	**Sn**	**09 00 30.0**	**+1.3**
EVR	**Evrytania**	**1.24**	**267**	⇑*i*PN	**Pn**	**09 00 12.2**	**+0.6**
EVR				*e*SN	**Sn**	**09 00 30.9**	**+2.1**
EVR	**Evrytania**	**1.24**	**267**	*e*Pn	**Pn**	**09 00 12.0**	**+0.4**
EVR				*e*Pb	**Pn**	**09 00 12.2**	**+0.6**
LIT	**Litokhoron**	**1.31**	**328**	*e*Pg	**Pg**	**09 00 12.1**	**-1.6**
LIT				*e*Sg	**Sg**	**09 00 32.6**	**+1.5**
PLG	**Polygyros**	**1.37**	**1**	⇑*i*PN	**Pn**	**09 00 13.2**	**-0.2**
PLG				*e*SN	**Sn**	**09 00 30.9**	**-1.2**
PLG	**Polygyros**	**1.37**	**1**	*e*Pb	**Pb**	**09 00 13.3**	**-0.1**
PLG				*e*Sb	**Sb**	**09 00 31.4**	**+0.4**
PLG	**Polygyros**	**1.37**	**1**	*e*Pn	**Pn**	**09 00 13.0**	**-0.4**
PLG				*e*Pb	**Pb**	**09 00 13.3**	**-0.1**
PLG				*e*Sb	**Sb**	**09 00 31.4**	**+0.4**
OUR	**Ouranopolis**	**1.41**	**18**	*e*Pg	**Pg**	**09 00 14.0**	**-1.7**
LOS	**Limnos**	**1.60**	**54**	*e*Pb	**Pb**	**09 00 16.2**	**-1.0**
LOS	**Limnos**	**1.60**	**54**	*e*Pb	**Pb**	**09 00 16.2**	**-1.1**
THE	**Thessaloniki**	**1.67**	**349**	*e*Pb	**Pb**	**09 00 17.6**	**-0.8**
THE	**Thessaloniki**	**1.67**	**349**	*e*Pb	**Pb**	**09 00 17.5**	**-0.9**
RLS	**Riolos of Patr**	**1.78**	**239**	*e*PN	**Pn**	**09 00 20.9**	**+1.6**
RLS				*e*SN	**Sn**	**09 00 45.1**	**+2.6**
GRG	**Griva**	**2.10**	**339**	*e*Pn	**Pn**	**09 00 23.6**	**-0.2**
SRS	**Serrai**	**2.12**	**4**	*e*Pn	**Pn**	**09 00 24.8**	**+0.7**
ITM	**Ithomi**	**2.16**	**213**	*e*PB	**Pb**	**09 00 26.0**	**-0.8**
KNT	**Kendrikon**	**2.19**	**350**	*e*Pn	**Pn**	**09 00 25.1**	**0.0**
VLI	**Veliai**	**2.31**	**189**	*e*PN	**Pn**	**09 00 27.6**	**+0.8**
VLI				*e*SN	**Sn**	**09 00 57.1**	**+1.3**
VLI	**Veliai**	**2.31**	**189**	*e*Pb	**Pb**	**09 00 30.5**	**+1.2**
FNA	**Florina**	**2.37**	**320**	*e*Pn	**Pn**	**09 00 26.7**	**-0.9**
APE	**Apeiranthos**	**2.56**	**138**	⇑*i*PN	**Pn**	**09 00 30.5**	**+0.1**
MMB	**Musomiste**	**2.60**	**5**	P	**Pn**	**09 00 29.0**	**-2.0**
RZN	**Rozhen**	**2.87**	**20**	*e*P	**Pn**	**09 00 36.0**	**+1.2**
KKB	**Krupnik**	**2.88**	**355**	P	**Pn**	**09 00 34.4**	**-0.5**
THR4	**Thira Island,**	**2.99**	**147**	*e*Pn	**Pn**	**09 00 35.2**	**-1.3**
VTS	**Vitosha**	**3.59**	**358**	*e*P	**Pn**	**09 00 46.0**	**+0.9**

*BER **08** 09:04:13.3±2.0, 59.34N×27.13E, ML2.3(NAO), Suspected explosion*
*NAO **08** 09:04:13.7±2.5, 59.36N×26.91E, ML2.3*
*IDC **08** 09:04:14.8±2.0, 59.42N×27.06E, mb1 3.1/4, mb1mx2.9/21, mbtmp3.0/4, ML2.8/4, Error ellipse: s-maj=17.7km s-min=10.5km az=120.0*

HEL 08 09:04:13.1±0.1, 59.30N×27.06E, ML1.9, ML2.3(NAO), Explosion, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSU	**Vasula**	**0.86**	**191**	*e*P	Pg	09 04 28.7	-1.6
VSU				*e*S	Sg	09 04 39.5	-2.2
VJF	**Virojoki**	**1.27**	**11**	*e*P	Pb	09 04 35.6	-1.9
VJF				*e*S	Sb	09 04 52.3	-1.9
PVF	**Pernaja**	**1.39**	**335**	*e*P	Pb	09 04 38.1	-1.4
PVF				*e*S	Sb	09 04 55.8	-1.9
FIA0	**FINESS Array S**	**2.20**	**348**	*e*P	Pn	09 04 50.5	-0.9
FIA0				*e*S	Sn	09 05 18.2	-1.5
FIA0				MSG		09 05 23.0	
	comp=Z,8.7nm,0.2s						
FIA0	**FINESS Array S**	**2.20**	**348**	Pn	Pn	09 04 50.6	-0.8
	baz=165,slow=18						
FIA0				Lg		09 05 21.1	
	baz=170,slow=37						
FINES	**FINESS Array B**	**2.20**	**348**	Pn	Pn	09 04 50.6	-0.8
	comp=Z,2.4nm,0.3s,baz=165,slow=15,SNR=50						
FINES				Pg	Pg	09 04 51.9	-5.2
	comp=Z,2.4nm,0.3s,baz=168,slow=17,SNR=50						
FINES				Sn	Sn	09 05 17.8	-1.9
	comp=Z,3.7nm,0.3s,baz=157,slow=29,SNR=26						
FINES				Lg		09 05 21.2	
	comp=Z,3.7nm,0.3s,baz=162,slow=31,SNR=24						

KAF	**Kangasniemi**	**2.84**	**353**	*e*P	Pn	09 04 59.7	-0.8
KAF				*e*S	Sn	09 05 33.9	-2.2
KAF				MSG		09 05 36.1	
	comp=Z,3.4nm,0.2s						
KEF	**Keuruu**	**3.07**	**340**	MSG		09 05 48.0	
	comp=Z,2.6nm,0.2s						
SUF	**Sumiainen**	**3.46**	**353**	MSG		09 06 06.8	
	comp=Z,2.8nm,0.2s						
HFS	**Hagfors**	**6.81**	**283**	*e*S	Sn	09 07 08.3	-7.7
HFS				*e*SG		09 07 43.4	
HFS	**Hagfors**	**6.81**	**283**	Pn	Pn	09 05 53.3	-3.4
	comp=Z,0.0nm,0.3s,baz=90,slow=13,SNR=3.0						
HFS				Sn	Sn	09 07 07.6	-8.4
	comp=Z,0.0nm,0.3s,baz=86,slow=22,SNR=3.4						
HFS				Lg		09 07 44.6	
	comp=Z,0.1nm,0.3s,baz=96,slow=30,SNR=6.6						
HFS	**Hagfors**	**6.81**	**283**	Sn	Sn	09 07 08.3	-7.7
	baz=89,slow=22						
HFS				Lg		09 07 43.4	
	baz=96,slow=37						
NB2	**NORSAR Subarra**	**8.09**	**289**	Pn	P	09 06 10.1	-4.5
	baz=90,slow=14						
NB2	**NORSAR Subarra**	**8.09**	**289**	*e*P	P	09 06 10.1	-4.5
NOA	**NORSAR Array B**	**8.09**	**289**	Pn	P	09 06 10.9	-3.8
	comp=Z,0.1nm,0.3s,baz=124,slow=14,SNR=2.5						
APA0	**Apatity Array**	**8.74**	**15**	Pn	P	09 06 18.7	-5.1
	baz=199,slow=12						
APA0	**Apatity Array**	**8.74**	**15**	*e*P	P	09 06 18.7	-5.1
ARA0	**ARCESS Array S**	**10.30**	**357**	Pn	P	09 06 39.4	-5.6
	baz=172,slow=16						
ARA0				Sn	S	09 08 28.2	-14
	baz=178,slow=28						
ARA0	**ARCESS Array S**	**10.30**	**357**	*e*P	P	09 06 39.4	-5.6
ARA0				*e*S	S	09 08 28.2	-14
ARCES	**ARCESS Array B**	**10.30**	**357**	Pn	P	09 06 39.3	-5.6
	comp=Z,0.1nm,0.3s,baz=176,slow=13,SNR=10						
ARCES				Sn	S	09 08 28.7	-14
	comp=Z,0.1nm,0.3s,baz=180,slow=23,SNR=3.3						

*ATH **08** 09:11:27.9, 39.96N×25.64E, h5km, MD3.2/3*
*CSEM **08** 09:11:28.4±0.1, 39.95N×25.62E, h2km, ML2.8, Error ellipse: s-maj=2.6km s-min=2.3km az=35.0*
*THE **08** 09:11:29.3, 40.07N×25.52E, h10km, ML2.8*

ISC 08 09:11:26.9±1.0, 39.97N±0.05×25.62E±0.06, h3km±12km, n10, σ0°75/14, Aegean Sea

| Code | Station

PCRV				*e*S		**S**	**09 39 37.9**	**-0.5**
CAIV	**Caiguire**	**2.36**	**122**	*e*P		**S**	**09 39 42.2**	**-0.6**
MERV	**Las Mercedes**	**2.47**	**182**	*e*P		**P**	**09 39 16.6**	**+0.3**
MERV				*e*S		**S**	**09 39 45.4**	**-0.1**
MERV	**Las Mercedes**	**2.47**	**182**	*e*P		**P**	**09 39 16.6**	**+0.3**
MERV				*e*S		**S**	**09 39 45.4**	**-0.1**
ITEV	**Isla Los Testi**	**3.04**	**97**	*e*P		**P**	**09 39 23.8**	**-0.7**
ITEV	**Isla Los Testi**	**3.04**	**97**	*e*P		**P**	**09 39 23.8**	**-0.6**
CRUV	**Carupano**	**3.10**	**110**	*e*P		**P**	**09 39 26.3**	**+1.0**
CRUV				*e*S		**S**	**09 40 03.9**	**+2.3**
CRUV	**Carupano**	**3.10**	**110**	*e*P		**P**	**09 39 26.3**	**+1.0**
CRUV				*e*S		**S**	**09 40 03.9**	**+2.3**
ORIV	**Oritupano**	**3.82**	**134**	*e*P		**P**	**09 39 35.9**	**+0.4**
ORIV				*e*S		**S**	**09 40 19.4**	**-0.5**
ORIV	**Oritupano**	**3.82**	**134**	*e*P		**P**	**09 39 35.9**	**+0.4**
ORIV				*e*S		**S**	**09 40 19.4**	**-0.4**
GUIV	**Guiria**	**4.06**	**105**	*e*P		**P**	**09 39 38.7**	**-0.2**
GUIV				*e*S		**S**	**09 40 24.6**	**-1.2**
GUIV	**Guiria**	**4.06**	**105**	*e*P		**P**	**09 39 38.7**	**-0.2**
GUIV				*e*S		**S**	**09 40 24.6**	**-1.2**
CAOV	**Caicara del Or**	**4.38**	**181**	*e*P		**P**	**09 39 42.2**	**-1.2**
CAOV				*e*S		**S**	**09 40 30.2**	**-3.8**
GRW	**Mount Saint Ca**	**4.47**	**84**	*e*P		**P**	**09 39 45.4**	**+0.6**
GRW				*e*S		**S**	**09 40 33.8**	**-2.4**
GRHS	**Sauteurs**	**4.50**	**83**	*e*P		**P**	**09 39 45.7**	**+0.7**
GRHS				*e*S		**S**	**09 40 35.9**	**-1.0**
TRN	**Trinidad (W)**	**4.84**	**102**	*e*P		**P**	**09 39 50.4**	**+0.5**
GURV	**El Guri**	**5.01**	**142**	*e*P		**P**	**09 39 50.7**	**-1.6**
GURV	**El Guri**	**5.01**	**142**	*e*P		**P**	**09 39 50.7**	**-1.6**
SVB	**Belmont**	**5.08**	**72**	*e*P		**P**	**09 39 54.0**	**+0.8**
SVB				*e*S		**S**	**09 40 46.7**	**-4.7**
SDV	**Santo Domingo**	**5.19**	**237**	Pn		**P**	**09 39 56.4**	**+1.6**
6.3nm,0.3s,baz=59,slow=6.7,SNR=20								
SDV	**Santo Domingo**	**5.19**	**237**	*e*P		**P**	**09 39 57.4**	**+2.5**
TBH	**Brigand Hill**	**5.20**	**103**	*e*P		**P**	**09 39 55.5**	**+0.6**
BBL	**Barber's Block**	**5.95**	**50**	*e*P		**P**	**09 40 05.6**	**+0.1**
LZG	**Guadaloupe-1**	**6.14**	**44**	*e*P		**P**	**09 40 06.5**	**-1.6**
LZG				*e*S		**S**	**09 41 13.9**	**-4.2**
SJG	**San Juan**	**6.34**	**1**	Pn		**P**	**09 40 11.5**	**+0.6**
3.5nm,0.3s,baz=182,slow=17,SNR=3.8								
DEG	**La Desirade**	**6.76**	**47**	*e*P		**P**	**09 40 17.2**	**+0.4**
LUEV	**Luepa**	**7.50**	**141**	*e*P		**P**	**09 40 24.4**	**-2.8**
LUEV	**Luepa**	**7.50**	**141**	*e*P		**P**	**09 40 24.4**	**-2.8**
ROSC	**El Rosal**	**10.54**	**230**	Pn		**P**	**09 41 10.9**	**+1.6**
1.6nm,0.3s,baz=72,slow=16,SNR=8.8								
ROSC				Sn		**S**	**09 43 04.6**	**-2.7**
0.6nm,0.3s,baz=104,slow=20,SNR=2.0								
BBSR	**BB Station**	**20.59**	**4**	P		Px	09 43 24.4	
SAML	**Samuel**	**20.77**	**172**	*e*P		**P**	**09 43 18.0**	**+0.1**
21nm,0.9s								
NNA	**Nana**	**25.82**	**204**	*e*P		**P**	**09 44 04.7**	**-2.6**
6.3nm,0.7s,mb4.2								
SIV	**San Ignacio**	**28.01**	**169**	P		**P**	**09 44 27.8**	**+0.4**
1.2nm,0.8s,mb3.6,baz=350,slow=6.1,SNR=5.2								
SWET	**Sewanee**	**29.44**	**326**	*e*P		Px	09 44 47.3	
PLAL	**Pickwick Lake**	**30.49**	**323**	*e*P		Px	09 44 56.4	
6.3nm,0.8s								
SIUC	**Southern Illin**	**33.07**	**325**	*e*P		Px	09 45 19.9	
11nm,0.3s								
LVC	**Limon Verde**	**34.24**	**184**	P		**P**	**09 45 21.9**	**-0.1**
2.8nm,0.9s,mb4.2,baz=353,slow=8.1,SNR=3.6								
KSU1	**Kansas State U**	**38.35**	**321**	*e*P		Px	09 46 02.9	
TXAR	**Lajitas Array**	**38.98**	**302**	P		Px	09 46 08.6	
0.4nm,0.5s,baz=130,slow=8.3,SNR=9.2								
ANMO	**Albuquerque**	**43.17**	**309**	*e*P		Px	09 46 43.2	
2.2nm,0.8s								
LAZ	**Ladron**	**43.49**	**308**	*e*P		Px	09 46 47.3	
SDCO	**Great Sand Dun**	**43.61**	**313**	*e*P		Px	09 46 48.0	
2.9nm,0.8s								
SMCO	**Snowmass**	**45.27**	**314**	*e*P		Px	09 47 01.1	
SRU	**San Rafael**	**47.77**	**313**	*e*P		Px	09 47 19.3	
TMUT	**Trail Mountain**	**48.33**	**313**	*e*P		Px	09 47 27.1	
BW06	**Boulder Array**	**48.61**	**318**	*e*P		Px	09 47 25.8	
9.8nm,1.4s								
PDAR	**Pinedale Array**	**48.61**	**318**	P		Px	09 47 24.0	
2.3nm,0.7s,baz=121,slow=8.6,SNR=20								
MSU	**Marysvale**	**48.75**	**311**	*e*P		Px	09 47 27.0	
MPU	**Maple Canyon**	**48.90**	**313**	*e*P		Px	09 47 29.7	
CTU	**Camp Tracy**	**49.24**	**314**	*e*P		Px	09 47 32.4	
HWUT	**Hardware Ranch**	**49.47**	**315**	*e*P		Px	09 47 32.1	
8.1nm,0.9s								
LOHW	**Long Hollow**	**49.67**	**318**	*e*P		Px	09 47 34.6	
5.8nm,0.8s								
REDW	**Red Top Meadow**	**49.72**	**318**	*e*P		Px	09 47 35.1	
8.0nm,1.0s								
TPAW	**Teton Pass**	**49.84**	**318**	*e*P		Px	09 47 37.7	
4.4nm,0.8s								
NEN	**Nelson**	**49.88**	**307**	P		Px	09 47 37.1	
HVU	**Hansel Valley**	**50.38**	**315**	*e*P		Px	09 47 38.8	
MCMT	**McKenzie Canyo**	**51.65**	**319**	P		Px	09 47 50.4	
HRY	**Holter Researc**	**51.83**	**321**	*e*P		Px	09 47 50.5	
PLCA	**Paso Flores**	**52.35**	**184**	P		**P**	**09 47 48.8**	**+0.7**
2.0nm,0.9s,mb4.0,baz=12,slow=9.3,SNR=3.3								
CHMT	**Chamberlain Mo**	**52.80**	**321**	*e*P		Px	09 47 59.0	
CHMT				*e*			09 48 05.5	
WVOR	**Wild Horse Val**	**54.69**	**314**	*e*P		Px	09 48 11.5	
3.7nm,0.8s								
MOD	**Modoc**	**55.72**	**313**	*e*P		Px	09 48 20.8	
3.3nm,0.7s								
ILAR	**Eielson Array**	**75.49**	**334**	P		Px	09 50 25.6	
0.3nm,0.6s,baz=99,slow=4.4,SNR=6.1								
WMQ	**Urumqi**	**119.82**	**22**	*e*PKP		PKPdf	09 57 33.0	+8.9
NJ2	**Nanjing**	**136.19**	**354**	*e*PKP		PKPdf	09 58 00.1	+4.5
SSE	**Sheshan**	**136.83**	**351**	*e*PKP		PKPdf	09 58 04.7	+7.9

*IDC **08** 10:01:44.9±1.6,3.57S×139.74E,mb3.4/1,mb1 4.1/4, mb1mx3.8/12,mbtmp3.8/4,ML3.7/2,Error ellipse: s-maj=60.8km s-min=28.4km az=112.0*
*NEIC **08** 10:01:46.5±1.1,3.56S×139.86E,h10km,mb4.1/2,Error ellipse: s-maj=24.7km s-min=16.1km az=110.0*

ISC 08 10:01:48.3±1.4,3.6S±0.1×140.0E±0.2,h33km,n10, σ1$12/13,mb3.5/1,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**11.71**	**219**	*e*P		**P**	**10 04 42.6**	**+6.5**
11nm,0.4s								
KAKA				*e*S		**S**	**10 06 47.3**	**+0.6**
WRAB	**Tennant Creek**	**17.12**	**198**	*e*P		**P**	**10 05 46.9**	**+0.3**
7.5nm,0.5s								
WRAB				*e*S		**S**	**10 09 06.4**	**+12**
WB2	**Warramunga Arr**	**17.13**	**198**	*e*P		**P**	**10 05 47.5**	**+0.7**
WRA	**Warramunga Arr**	**17.13**	**198**	P		**P**	**10 05 44.8**	**-2.0**
0.4nm,0.3s,baz=15,slow=12,SNR=15								
WRA				S		**S**	**10 08 47.8**	**-7.0**
0.1nm,0.3s,baz=17,slow=22,SNR=3.8								
WRA				Lg			10 10 46.4	
0.2nm,0.3s,baz=20,slow=30,SNR=5.1								
CTA	**Charters Tower**	**17.48**	**160**	P		**P**	**10 05 50.6**	**-0.6**
0.2nm,0.3s,baz=347,slow=14,SNR=3.0								
CTAO	**Charters Tower**	**17.48**	**160**	*e*P		**P**	**10 05 52.4**	**+1.2**
19nm,1.3s								
FITZ	**Fitzroy Crossi**	**20.11**	**223**	*e*P		**P**	**10 06 26.1**	**+4.0**
10nm,0.7s								
FITZ	**Fitzroy Crossi**	**20.11**	**223**	P		**P**	**10 06 20.0**	**-2.1**
0.2nm,0.3s,baz=31,slow=13,SNR=2.1								
FITZ				S		**S**	**10 09 54.3**	**-6.9**
0.4nm,0.3s,baz=168,slow=9.3,SNR=3.8								
ILAR	**Eielson Array**	**86.13**	**24**	P		**P**	**10 14 27.3**	**+0.4**
0.2nm,0.7s,mb3.5,baz=259,slow=4.4,SNR=4.1								
LPAZ	**La Paz**	**145.89**	**126**	PKPbc	PKPbc		10 21 28.9	+3.3
0.8nm,0.6s,baz=241,slow=5.7,SNR=5.0								

*IDC **08** 10:09:24.0±6.7,22.65N×144.18E,h35km±51km,mb3.8/8, mb1 4.0/10,mb1mx3.9/21,mbtmp4.0/10,ML4.1/2,Error ellipse: s-maj=33.3km s-min=21.9km az=81.0*
*NEIC **08** 10:09:23.9±0.5,22.58N×144.20E,h35km,mb4.4/2,Error ellipse: s-maj=19.7km s-min=8.7km az=81.0*

ISC 08 10:09:22.6±2.6,22.63N±0.09×144.0E±0.2,h37km±22km, n17,σ1$09/19,mb4.1/10,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**4.75**	**340**	Pn		**P**	**10 10 33.6**	**-0.1**
21nm,0.3s,baz=114,slow=19,SNR=9.5								
CBIJ				Sn		**S**	**10 11 25.9**	**-2.5**
29nm,0.3s,baz=281,slow=23,SNR=7.7								
MJAR	**Matsushiro Arr**	**14.75**	**341**	Pn		**P**	**10 12 52.3**	**+1.8**
0.5nm,0.3s,baz=153,slow=12,SNR=7.5								
MAJO	**Matsushiro**	**14.75**	**341**	P		**P**	**10 12 51.7**	**+1.2**
7.5nm,0.6s								
MAT	**Matsushiro**	**14.75**	**341**	P		**P**	**10 12 56.6**	**+6.1**
MAT				*e*S		**S**	**10 15 22.9**	**-11**
MAT	**Matsushiro**	**14.75**	**341**	*e*P		**P**	**10 12 57.0**	**+6.5**
MAT				S		**S**	**10 15 23.0**	**-10**
SONM	**Songino Array**	**39.14**	**319**	P		**P**	**10 16 49.5**	**+1.3**
0.4nm,0.5s,mb3.4,baz=101,slow=7.3,SNR=3.2								
WRAB	**Tennant Creek**	**43.35**	**193**	*e*P		**P**	**10 17 23.2**	**-0.1**
3.1nm,0.4s,mb4.4								
WB2	**Warramunga Arr**	**43.36**	**193**	*e*P		**P**	**10 17 22.8**	**-0.6**
WRA	**Warramunga Arr**	**43.36**	**193**	P		**P**	**10 17 22.9**	**-0.5**
1.4nm,0.4s,mb4.1,baz=17,slow=8.9,SNR=32								
ZAL	**Zalesovo**	**53.99**	**321**	P		**P**	**10 18 44.5**	**-0.6**
3.0nm,0.5s,mb4.5,baz=106,slow=10.0,SNR=3.8								
MKAR	**Makanchi Array**	**54.66**	**312**	P		**P**	**10 18 50.3**	**+0.2**
0.6nm,0.3s,mb4.1,baz=93,slow=9.1,SNR=11								
KURK	**Kurchatov**	**57.34**	**317**	P		**P**	**10 19 09.5**	**+0.2**
2.4nm,0.7s,mb4.3								
ILAR	**Eielson Array**	**60.85**	**27**	P		**P**	**10 19 31.1**	**-2.4**
1.0nm,0.7s,mb4.1,baz=259,slow=5.4,SNR=6.2								
BVAR	**Borovoye Array**	**62.48**	**319**	P		**P**	**10 19 44.2**	**-0.3**
2.1nm,0.4s,mb4.6,baz=90,slow=5.9,SNR=19								
FINES	**FINESS Array B**	**82.68**	**335**	P		**P**	**10 21 43.3**	**-0.1**
1.0nm,0.5s,mb4.1,baz=90,slow=3.8,SNR=3.8								
PDAR	**Pinedale Array**	**86.17**	**45**	P		**P**	**10 22 02.5**	**+1.2**
0.2nm,0.6s,mb3.5,baz=280,slow=5.5,SNR=2.5								
LPAZ	**La Paz**	**149.06**	**84**	PKPbc	PKPdf		10 29 10.2	+6.7
1.5nm,0.8s,baz=316,slow=4.4,SNR=7.2								

*IDC **08** 10:15:36.8±0.7,22.59N×144.22E,mb4.1/10,mb1 4.3/11, mb1mx4.2/21,mbtmp4.2/11,ML3.7/1,MS3.4/1,Ms1 3.4/1, ms1mx3.1/21,Error ellipse: s-maj=29.0km s-min=16.6km az=81.0*
*BJI **08** 10:15:38.1,22.60N×144.20E,h15km,mB4.8,mb4.2*
*MOS **08** 10:15:41.5±0.9,22.50N×143.65E,h33km,mb4.5/13,Error ellipse: s-maj=32.8km s-min=12.5km az=112.4*
*NEIC **08** 10:15:42.1±0.4,22.60N×144.20E,h35km,mb4.5/3,Error ellipse: s-maj=17.8km s-min=9.7km az=83.0*

ISC 08 10:15:39.6±5.2,22.60N±0.06×144.1E±0.2,h28km±37km, n42,σ1$08/36,mb4.2/19,1C,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**4.80**	**339**	Pn		**Pn**	**10 16 51.4**	**-0.7**
6.8nm,0.3s,baz=260,slow=22,SNR=5.4								
CBIJ				Sn		**Sn**	**10 17 44.9**	**-2.6**
14nm,0.3s,baz=110,slow=23,SNR=5.7								
JNU	**Nakatsue**	**15.68**	**315**	LR		LR	10 25 33.5	
comp=Z,125nm,18.5s,baz=232,slow=38								
YSS	**Yuzh-Sakhalins**	**24.33**	**358**	*c*P		**P**	**10 20 58.0**	**+2.0**
YSS				pmax	pmax			
comp=Z,5.0nm,1.0s,mb3.9								
SONM	**Songino Array**	**39.19**	**319**	P		**P**	**10 23 08.0**	**+1.1**
comp=Z,0.6nm,0.5s,mb3.5,baz=124,slow=11,SNR=5.5								
SONM	**Songino Array**	**39.19**	**319**	P		**P**	**10 23 08.0**	**+1.1**
SONM				pmax	pmax			
comp=Z,1.0nm,0.5s								
YAK	**Yakutsk**	**40.63**	**350**	*i* P		**P**	**10 23 19.6**	**+1.0**
YAK				pmax	pmax			
comp=Z,11nm,1.0s,mb4.4								
SEY	**Seymchan**	**40.71**	**6**	*i* P		**P**	**10 23 30.7**	**+12**
GTA	**Gaotai**	**41.04**	**305**	*e*P		**P**	**10 23 24.1**	**+1.9**
GTA				AP	pP		10 23 28.5	-2.2
GTA				XP	sP		10 23 31.1	-3.1
GTA				AMB	AMB			
comp=Z,4.0nm,1.5s,mb3.8								
ZAK	**Zakamensk**	**42.16**	**321**	*e*P		**P**	**10 23 32.4**	**+1.2**
ZAK				pmax	pmax			
comp=Z,3.0nm,1.2s,mb3.8								
WRAB	**Tennant Creek**	**43.32**	**193**	*e*P		**P**	**10 23 41.6**	**+0.5**
comp=Z,5.3nm,0.5s,mb4.5								
WRAB	**Tennant Creek**	**43.32**	**193**	*e*P		**P**	**10 23 41.6**	**+0.5**
WRAB				pmax	pmax			
comp=Z,5.0nm,0.5s,mb4.5								
WB2	**Warramunga Arr**	**43.33**	**193**	*e*P		**P**	**10 23 41.2**	**0.0**
WRA	**Warramunga Arr**	**43.34**	**193**	P		**P**	**10 23 39.9**	**-1.4**
comp=Z,1.9nm,0.4s,mb4.2,baz=14,slow=8.8,SNR=47								
WRA	**Warramunga Arr**	**43.34**	**193**	P		**P**	**10 23 39.9**	**-1.4**
WRA	**Warramunga Arr**	**43.34**	**193**	P		**P**	**10 23 39.9**	**-1.3**
WRA				pmax	pmax			
comp=Z,2.0nm,0.4s								
FITZ	**Fitzroy Crossi**	**44.29**	**206**	P		**P**	**10 23 49.1**	**+0.2**
comp=Z,11nm,0.9s,mb4.6,baz=3.8,slow=7.9,SNR=6.7								
TIXI	**Tiksi**	**49.85**	**354**	*i* P		**P**	**10 24 33.3**	**+1.4**
ZAL	**Zalesovo**	**54.04**	**321**	P		**P**	**10 25 03.0**	**-0.6**
comp=Z,2.0nm,0.3s,mb4.5,baz=70,slow=11,SNR=3.4								
ZAL	**Zalesovo**	**54.04**	**321**	P		**P**	**10 25 03.0**	**-0.6**
ZAL				pmax	pmax			
comp=Z,2.0nm,0.4s								
STKA	**Stephens Creek**	**54.22**	**183**	*e*P		**P**	**10 25 04.2**	**-1.0**
comp=Z,3.4nm,0.8s,mb4.3								
STKA	**Stephens Creek**	**54.22**	**183**	P		**P**	**10 25 04.2**	**-1.0**
comp=Z,3.5nm,0.7s,mb4.4,baz=347,slow=14,SNR=5.2								
MKAR	**Makanchi Array**	**54.71**	**312**	P		**P**	**10 25 08.9**	**+0.3**
comp=Z,0.8nm,0.5s,mb4.0,baz=90,slow=8.9,SNR=11								
MKAR	**Makanchi Array**	**54.71**	**312**	P		**P**	**10 25 08.9**	**+0.3**
MKAR				pmax	pmax			
comp=Z,1.0nm,0.5s								
KURK	**Kurchatov**	**57.39**	**317**	*e*P		**P**	**10 25 27.9**	**+0.1**
comp=Z,4.7nm,1.0s,mb4.5								
KURK	**Kurchatov**	**57.39**	**317**	*e*P		**P**	**10 25 27.9**	**+0.1**
KURK				pmax	pmax			
comp=Z,5.0nm,1.0s,mb4.5								
AAK	**Ala-Archa**	**60.29**	**307**	*i* P		**P**	**10 25 47.1**	**-0.9**
AAK				pmax	pmax			
comp=Z,2.0nm,1.0s,mb4.1								
ILAR	**Eielson Array**	**60.86**	**27**	P		**P**	**10 25 49.7**	**-1.9**
comp=Z,0.9nm,0.8s,mb3.9,baz=267,slow=5.6,SNR=8.9								
ILAR	**Eielson Array**	**60.86**	**27**	P		**P**	**10 25 49.7**	**-1.9**
ILAR				pmax	pmax			
comp=Z,1.0nm,0.8s								
BVAR	**Borovoye Array**	**62.54**	**319**	P		**P**	**10 26 03.2**	**+0.1**
comp=Z,3.4nm,0.5s,mb4.7,baz=90,slow=7.4,SNR=26								
BVAR	**Borovoye Array**	**62.54**	**319**	P		**P**	**10 26 03.2**	**+0.1**
BVAR				pmax	pmax			
comp=Z,3.0nm,0.5s								
BRVK	**Borovoye**	**62.60**	**319**	*e*P		**P**	**10 26 02.4**	**-1.1**
comp=Z,2.7nm,1.0s,mb4.3								
BRVK	**Borovoye**	**62.60**	**319**	*e*P		**P**	**10 26 02.4**	**-1.1**
BRVK				pmax	pmax			
comp=Z,3.0nm,1.0s,mb4.4								
ARU	**Arti**	**69.04**	**324**	*i* P		**P**	**10 26 44.3**	**-0.3**
ARU				pmax	pmax			
comp=Z,7.0nm,1.3s,mb4.4								
FINES	**FINESS Array B**	**82.73**	**335**	P		**P**	**10 28 01.6**	**-0.3**
comp=Z,1.3nm,0.7s,mb4.1,baz=56,slow=5.0,SNR=3.1								
FINES	**FINESS Array B**	**82.73**	**335**	P		**P**	**10 28 01.6**	**-0.2**
FINES				pmax	pmax			
comp=Z,1.0nm,0.7s								
PDAR	**Pinedale Array**	**86.17**	**45**	P		**P**	**10 28 19.8**	**+0.2**
comp=Z,0.2nm,0.5s,mb3.6,baz=270,slow=4.4,SNR=3.6								
PLCA	**Paso Flores**	**145.71**	**130**	PKPbc	PKPbc		10 35 18.3	+2.0
comp=Z,1.4nm,0.6s,baz=253,slow=3.8,SNR=9.4								
PLCA	**Paso Flores**	**145.71**	**130**	PKPbc	PKPbc		10 35 18.3	+2.0
PLCA	**Paso Flores**	**145.71**	**130**	PKP2	PKPab		10 35 18.3	0.0
PLCA				pmax	pmax			
comp=Z,1.0nm,0.6s								
LPAZ	**La Paz**	**149.02**	**84**	PKPbc	PKPdf		10 35 28.4	+1.8
comp=Z,1.5nm,0.6s,baz=266,slow=3.9,SNR=9.5								
LPAZ	**La Paz**	**149.02**	**84**	PKPbc	PKPdf		10 35 28.4	+1.8
LPAZ	**La Paz**	**149.02**	**84**	PKP2	PKPdf		10 35 28.4	+1.8
LPAZ				pmax	pmax			
comp=Z,2.0nm,0.6s								

MAN 08 10:37:21.8,12.48N×123.64E,h10km,mb4.0,ML2.8, MS2.5,1C,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	**Catarman**	**1.00**	**88**	*e*P		Pb	10 37 40.4	-0.4
CNP				*e*S		Sb	10 37 56.5	+2.6
PVCP	**Virac**	**1.22**	**25**	*e*P		Pb	10 37 42.5	-2.0
PVCP				*e*S		Sb	10 37 59.4	-0.7
AUQP	**San Andres**	**1.25**	**312**	*e*P		Pb	10 37 44.4	-0.7
AUQP				*e*S		Sb	10 38 03.8	+2.7
RCP	**Roxas**	**1.27**	**224⇑**	*e*P		Pb	10 37 44.4	-0.9
RCP				*e*S		Sb	10 38 02.6	+1.2
BESP	**Borongan**	**1.97**	**116**	*e*P		Pn	10 37 55.7	+0.1
BESP				*e*S		Sn	10 38 24.9	+4.3
BOAC	**Boac**	**2.00**	**299**	*e*P		Pn	10 37 56.5	+0.5
BOAC				*e*S		Sn	10 38 23.1	+1.8
GUIM	**Jordan**	**2.11**	**209**	*e*P		Pn	10 37 57.4	-0.2
GUIM				*e*S		Sn	10 38 19.9	-4.3

*NEIC **08** 11:40:39.6±3.4,19.20N×64.29W,h76km±33km,mb4.1/1, Error ellipse: s-maj=32.7km s-min=17.1km az=75.0*
*IDC **08** 11:40:40.0±3.1,19.21N×64.33W,h79km±38km,mb3.4/4, mb1 3.8/6,mb1mx3.5/23,mbtmp4.0/6,MS3.1/1,Ms1 3.1/1, ms1mx2.7/15,Error ellipse: s-maj=26.3km s-min=21.3km az=58.0*

ISC 08 11:40:41.1±2.6,19.2N±0.1×64.4W±0.2,h105km±33km,n9, σ0$63/9,mb3.8/5,Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LZG	**Guadaloupe-1**	**3.87**	**140**	*e*P		**P**	**11 41 40.0**	**+0.3**
SDV	**Santo Domingo**	**11.88**	**212**	P		**P**	**11 43 27.4**	**-0.7**
0.8nm,0.3s,baz=210,slow=3.7,SNR=5.4								
ROSC	**El Rosal**	**17.22**	**216**	P		**P**	**11 44 36.5**	**0.0**
1.7nm,0.3s,baz=117,slow=21,SNR=3.2								
ROSC				LR	LR		11 51 46.5	
comp=Z,58nm,18.6s,baz=163,slow=39								
SIV	**San Ignacio**	**35.06**	**175**	P		**P**	**11 47 26.0**	**+0.1**
2.2nm,0.8s,mb4.0,baz=14,slow=9.1,SNR=10								
SCHQ	**Schefferville**	**35.67**	**358**	P		**P**	**11 47 29.9**	**-0.8**
3.7nm,0.9s,mb4.3,baz=176,slow=13,SNR=2.3								
SCHQ	**Schefferville**	**35.67**	**358**	P		**P**	**11 47 29.9**	**-0.8**
TXAR	**Lajitas Array**	**37.10**	**293**	P		**P**	**11 47 43.4**	**+0.3**
0.2nm,0.8s,mb3.1,baz=117,slow=10,SNR=2.4								
SDCO	**Great Sand Dun**	**40.27**	**306**	*e*P		**P**	**11 48 10.5**	**+1.3**
3.0nm,1.2s,mb4.0								
PDAR	**Pinedale Array**	**44.68**	**312**	P		**P**	**11 48 44.6**	**-0.5**
0.6nm,0.9s,mb3.3,baz=108,slow=9.4,SNR=5.7								

MAN 08 11:50:50.4,11.85N×125.87E,h22km,mb4.5,ML3.4, MS3.3,1C,Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.49**	**240**	*e*P		Pb	11 51 01.0	+0.7
BESP				*e*S		Sb	11 51 10.6	+3.5
PLP	**Palo**	**1.11**	**232**	*i* P		Pb	11 51 10.5	-0.3
PLP				*e*S		Sb	11 51 25.8	+0.9
CNP	**Catarman**	**1.35**	**299**	*e*P		Pn	11 51 13.8	-0.4
CNP				*e*S		Sn	11 51 34.3	+2.7
MSLP	**Maasin**	**1.98**	**210**	*e*P		Pn	11 51 24.4	+1.2
MSLP				*e*S		Sn	11 51 53.6	+6.2
SCPH	**Surigao**	**2.09**	**190⇑**	*e*P		Pn	11 51 23.6	-1.1
PVCP	**Virac**	**2.41**	**316**	*e*P		Pn	11 51 28.7	-0.7
PVCP				*e*S		Sn	11 52 13.6	+15
BUTP	**Butuan**	**2.88**	**185**	*e*P		Pn	11 51 35.0	-1.0
BUTP				*e*S		Sn	11 52 03.6	-6.7
GUIM	**Jordan**	**3.44**	**250**	*e*P		Pn	11 51 44.4	+0.3
BUKP	**Musuan**	**4.03**	**192**	*e*P		Pn	11 51 53.7	+1.3
BUKP				*e*S		Sn	11 52 39.3	-0.2

*ATH **08** 12:06:00.5,35.88N×27.39E,h46km±4km,MD3.1/5*
*ISK **08** 12:06:00.2,35.95N×27.31E,h65km,MD3.2*
*NEIC **08** 12:06:00.5,35.88N×27.39E,h46km,MD3.1(ATH),After ATH.*
*CSEM **08** 12:06:00.5±0.1,35.91N×27.35E,h30km,MD3.1,Error ellipse: s-maj=3.4km s-min=2.1km az=139.0*

ISC 08 12:06:01.1±0.9,35.89N±0.06×27.35E±0.06,h49km±12km, n15,σ0$72/23,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.37**	**204**	*e*P		**P**	**12 06 10.6**	**-0.3**
KARP				*e*S		**S**	**12 06 18.1**	**+0.3**
ARG	**Arkhangelos**	**0.71**	**62**	*e*P		**P**	**12 06 15.1**	**+0.1**
ARG				*e*S		**S**	**12 06 25.0**	**-0.3**
BODT	**Bodrum**

CTAO	**Charters Tower**	**19.25 157**	*e*P	**P**	**12 48 56.8 +0.1**
CTAO			pmax	pmax	
comp=Z,18nm,0.8s					
FITZ	**Fitzroy Crossi**	**19.90 218**	*e*P	**P**	**12 49 03.2 -0.6**
comp=Z,14nm,0.4s					
FITZ			*e*S	**S**	**12 52 34.8 -6.1**
FITZ	**Fitzroy Crossi**	**19.90 218**	P	**P**	**12 49 02.5 -1.4**
comp=Z,0.5nm,0.3s,baz=21,slow=8.7,SNR=15					
FITZ			S	**S**	**12 52 34.0 -6.9**
comp=Z,1.7nm,0.3s,baz=191,slow=8.5,SNR=3.8					
HNR	**Honiara**	**22.69 109**	P	**P**	**12 49 34.2 +1.9**
comp=Z,44nm,0.6s,mb5.0,baz=260,slow=4.6,SNR=4.1					
HNR	**Honiara**	**22.69 109**	P	**P**	**12 49 34.2 +1.9**
HNR	**Honiara**	**22.69 109**	P	**P**	**12 49 34.2 +1.9**
HNR			pmax	pmax	
comp=Z,44nm,0.6s,mb5.1					
KKM	**Kota Kinabalu**	**23.53 291**	*e*P	**P**	**12 49 41.3 +0.7**
MBWA	**Marble Bar**	**25.93 223**	*e*P	**P**	**12 50 04.0 +0.5**
comp=Z,87nm,1.4s,mb5.1					
STKA	**Stephens Creek**	**29.49 174**	*e*P	**P**	**12 50 36.4 +0.8**
comp=Z,6.8nm,1.0s,mb4.3					
STKA	**Stephens Creek**	**29.49 174**	P	**P**	**12 50 35.9 +0.3**
comp=Z,2.8nm,0.5s,mb4.3,baz=17,slow=8.4,SNR=15					
STKA			LR	LR	13 03 40.4
comp=Z,2μm,21.2s,MS4.6,baz=345,slow=39					
FORT	**Forrest**	**29.82 198**	*e*P	**P**	**12 50 37.9 -0.6**
comp=Z,12nm,0.6s,mb4.8					
JOW	**Kunigami**	**30.61 342**	LR	LR	13 02 06.7
comp=Z,783nm,20.1s,MS4.4,baz=149,slow=34					
ARMA	**Armidale**	**30.62 157**	*e*P	**P**	**12 50 36.2 -9.5**
KLBR	**Kellerberrin**	**34.87 211**	*e*P	**P**	**12 51 22.9 +0.3**
comp=Z,24nm,1.0s,mb5.1					
QIZ	**Qiongzhong**	**35.11 309**	P	**P**	**12 51 23.9 -0.9**
QIZ			AP	pP	12 51 32.0 -2.5
QIZ			S	**S**	**12 56 54.8 +0.4**
QIZ			AMB	AMB	
comp=Z,23nm,1.2s,mb5.0					
QIZ			LR	LR	
comp=E,214nm,15.4s					
QIZ			LR	LR	
comp=Z,312nm,17.1s,MS4.1					
QIZ	**Qiongzhong**	**35.11 309**	*e*P	**P**	**12 51 23.5 -1.2**
comp=Z,22nm,1.3s,mb4.9					
QIZ			*e*		12 51 31.2
JHJ	**Hachijo jima 2**	**35.36 2**	LR	LR	13 02 41.2
comp=Z,507nm,20.4s,MS4.3,baz=155,slow=31					
JNU	**Nakatsue**	**36.01 349**	LR	LR	13 05 15.2
comp=Z,438nm,18.9s,MS4.2,baz=325,slow=34					
NWAO	**Narrogin (SRO)**	**36.20 211**	LR	LR	13 07 42.0
comp=Z,2μm,20.4s,MS4.8,baz=32,slow=38					
SSE	**Sheshan**	**37.05 335**	*e*P	**P**	**12 51 41.4 +0.3**
SSE			AP	pP	12 51 53.9 +3.1
SSE			XP	sP	12 52 00.6 +5.5
SSE			PP	PP	12 53 06.2 -1.9
SSE			PCP	PcP	12 53 59.0 -2.8
SSE			S	**S**	**12 57 25.2 +0.9**
SSE			SCS	ScS	13 01 48.1 -2.9
SSE			AMB	AMB	
comp=Z,30nm,0.8s,mb5.2					
SSE			AMB	AMB	
comp=Z,93nm,6.8s					
SSE			LR	LR	
comp=N,324nm,18.3s,MS4.2					
SSE			LR	LR	
comp=E,218nm,18.3s,MS4.2					
SSE			LR	LR	
comp=Z,464nm,20.1s,MS4.3					
PPI	**Padang Panjang**	**37.87 272**	P	**P**	**12 51 49.1 +1.0**
comp=Z,93nm,1.0s,mb5.5					
KULM	**Kulim**	**38.31 282**	*e*P	**P**	**12 51 51.6 -0.1**
SNG	**Songkhla**	**38.73 285**	P	**P**	**12 51 56.0 +0.8**
MJAR	**Matsushiro Arr**	**38.74 360**	P	**P**	**12 51 55.4 +0.3**
comp=Z,1.4nm,0.7s,baz=184,slow=7.3,SNR=4.9					
MJAR	**Matsushiro Arr**	**38.74 360**	P	**P**	**12 51 55.4 +0.3**
MJAR			pmax	pmax	
comp=Z,1.0nm,0.7s					
MAJO	**Matsushiro**	**38.74 360**	P	**P**	**12 51 54.5 -0.7**
MAJO			LR	LR	
comp=Z,422nm,21.0s,MS4.2					
MAT	**Matsushiro**	**38.74 360**	P	**P**	**12 51 55.2 +0.1**
MAT			S	**S**	**12 57 58.0 +8.1**
MAT	**Matsushiro**	**38.74 360**	*e*P	**P**	**12 51 55.0 -0.1**
MAT			*e*S	**S**	**12 57 59.0 +9.1**
NJ2	**Nanjing**	**38.89 333**	*e*P	**P**	**12 51 56.9 +0.5**
NJ2			AP	pP	12 52 06.5 +0.3
NJ2			XP	sP	12 52 13.5 +3.1
NJ2			AMB	AMB	
comp=Z,10.0nm,0.6s,mb4.7					
NJ2			AMB	AMB	
comp=Z,130nm,4.8s					
NJ2			LR	LR	
comp=N,890nm,20.7s,MS4.7					
NJ2			LR	LR	
comp=E,450nm,18.2s,MS4.7					
NJ2			LR	LR	
comp=Z,650nm,20.7s,MS4.4					
NST	**Nakhon Sawan**	**41.73 297**	P	**P**	**12 52 21.1 +0.9**
GYA	**Guiyang**	**41.87 315**⇑	*i*P	**P**	**12 52 21.8 +0.6**
GYA			AP	pP	12 52 34.2 +3.2
GYA			XP	sP	12 52 39.5 +4.3
GYA			PP	PP	12 54 02.4 +1.3
GYA			S	**S**	**12 58 35.9 -0.8**
GYA			XS		12 58 56.6
GYA			SS	SS	13 01 37.7 -0.6
GYA			AMB	AMB	
comp=Z,20nm,0.8s,mb4.8					
GYA			LR	LR	
comp=N,290nm,17.2s,MS4.4					
GYA			LR	LR	
comp=E,340nm,17.0s,MS4.4					
GYA			LR	LR	
comp=Z,370nm,17.6s,MS4.3					
NANT	**Nan**	**42.50 301**⇓	P	**P**	**12 52 27.5 +1.0**
comp=Z,100nm,0.9s,mb5.5					
CHRT	**Chiangrai**	**43.75 302**⇓	P	**P**	**12 52 37.0 +0.4**
KMI	**Kunming**	**43.96 311**	P	**P**	**12 52 38.9 +0.7**
KMI			AP	pP	12 52 47.3 -0.8
KMI			XP	sP	12 52 51.4 -0.8
KMI			PP	PP	12 54 22.1 -0.1
KMI			PPP	PPP	12 55 03.3 +3.3
KMI			S	**S**	**12 59 08.4 +1.1**
KMI			XS		12 59 28.7
KMI			AMB	AMB	
comp=Z,15nm,1.1s,mb4.6					
KMI			AMB	AMB	
comp=Z,31nm,3.1s					
KMI			LR	LR	
comp=N,208nm,19.4s,MS4.2					
KMI			LR	LR	
comp=E,229nm,24.3s,MS4.2					
KMI			LR	LR	
comp=Z,297nm,24.3s,MS4.1					
CHG	**Chiang Mai**	**44.02 300**	P	**P**	**12 52 39.1 +0.3**
XAN	**Xi'an**	**45.55 325**	P	**P**	**12 52 50.3 -0.6**
XAN			AP	pP	12 52 59.7 -1.1
XAN			AMB	AMB	
comp=Z,22nm,1.3s,mb4.9					
CD2	**Chengdu**	**46.63 318**	P	**P**	**12 52 59.0 -0.4**
CN2	**Changchun**	**47.41 347**	*e*P	**P**	**12 53 04.8 -0.6**
CN2			AP	pP	12 53 17.8 +2.6
CN2			*e*S	**S**	**12 59 55.3 -1.0**
CN2			AMB	AMB	
comp=Z,20nm,1.5s,mb4.8					
CN2			AMB	AMB	
comp=Z,200nm,3.0s					
CN2			LR	LR	
comp=N,350nm,15.0s,MS4.5					
CN2			LR	LR	
comp=E,250nm,15.0s,MS4.5					
CN2			LR	LR	
comp=Z,460nm,21.0s					
MDJ	**Mudanjiang**	**47.44 352**	P	**P**	**12 53 05.5 -0.1**
MDJ			AP	pP	12 53 16.9 +1.4
MDJ			XP	sP	12 53 21.8 +2.2
MDJ			SCP		12 58 25.6
MDJ			PCS		12 58 30.5
MDJ			S	**S**	**12 59 57.3 +0.5**
MDJ			AMB	AMB	
comp=Z,11nm,2.1s,mb4.4					
MDJ			AMB	AMB	
comp=Z,101nm,4.6s					
MDJ			LR	LR	
comp=N,160nm,20.5s,MS4.0					
MDJ			LR	LR	
comp=E,52nm,20.5s,MS4.0					
MDJ			LR	LR	
comp=Z,243nm,19.8s,MS4.2					
YSS	**Yuzh-Sakhalins**	**49.31 4**	*e*P	**P**	**12 53 18.0 -2.1**
comp=Z,100nm,0.8s,mb5.9					
YSS			LR	LR	
comp=Z,194nm,20.0s,MS4.1					
YSS	**Yuzh-Sakhalins**	**49.31 4**⇑	*e*P	**P**	**12 53 19.0 -1.1**
HHC	**Hu-ho-hao-te**	**49.44 333**	*e*P	**P**	**12 53 20.7 -0.5**
HHC			AP	pP	12 53 32.8 +1.7
HHC			XP	sP	12 53 38.1 +2.9
HHC			PP	PP	12 55 16.3 +0.5
HHC			S	**S**	**13 00 23.7 -1.2**
HHC			XS		13 00 41.7
HHC			SCS	ScS	13 03 07.4 +0.1
HHC			SS	SS	13 03 49.0 -3.9
HHC			AMB	AMB	
comp=Z,11nm,1.0s,mb4.8					
HHC			AMB	AMB	
comp=Z,139nm,6.8s					
HHC			LR	LR	
comp=N,318nm,21.4s,MS4.4					
HHC			LR	LR	
comp=E,232nm,20.2s,MS4.4					
HHC			LR	LR	
comp=Z,410nm,19.6s,MS4.4					
LZH	**Lanzhou**	**49.95 323**	*e*P	**P**	**12 53 25.4 +0.2**
LZH			AP	pP	12 53 38.8 +3.7
LZH			XP	sP	12 53 45.2 +6.0
LZH			PP	PP	12 55 21.0 +0.1
LZH			*e*S	**S**	**13 00 31.0 -1.0**
LZH			PS	PS	13 00 46.0 +1.3
LZH			XS		13 00 53.0
LZH			*e*SS	SS	13 04 02.0 +0.4
LZH			AMB	AMB	
comp=Z,70nm,1.2s,mb5.6					
LZH			AMB	AMB	
comp=Z,420nm,5.5s					
LZH			LR	LR	
comp=N,560nm,15.4s					
LZH			LR	LR	
comp=Z,590nm,18.8s,MS4.6					
RPZ	**Rata Peaks**	**50.40 149**	P	**P**	**12 53 29.9 +1.4**
comp=Z,7.3nm,0.6s,mb4.9,baz=347,slow=7.7,SNR=2.8					
KLR	**Kul'dur**	**51.73 355**	*e*P	**P**	**12 53 34.0 -4.4**
HIA	**Hailar**	**53.90 345**	*e*P	**P**	**12 53 53.2 -1.3**
comp=Z,23nm,1.3s,mb5.0					
HIA	**Hailar**	**53.90 345**	*e*P	**P**	**12 53 53.2 -1.4**
HIA			pmax	pmax	
comp=Z,23nm,1.3s					
GTA	**Gaotai**	**54.54 324**⇑	P	**P**	**12 53 59.7 +0.3**
GTA			AP	pP	12 54 11.7 +2.2
GTA			XP	sP	12 54 16.7 +3.3
GTA			PCP	PcP	12 55 03.6 +1.3
GTA			PP	PP	12 56 03.6 +0.4
GTA			S	**S**	**13 01 34.4 -0.3**
GTA			XS		13 01 55.4
GTA			SS	SS	13 05 17.3 +0.3
GTA			AMB	AMB	
comp=Z,29nm,0.9s,mb5.3					
GTA			AMB	AMB	
comp=Z,132nm,5.7s					
GTA			LR	LR	
comp=N,131nm,15.2s					
GTA			LR	LR	
comp=E,157nm,20.5s					
GTA			LR	LR	
comp=Z,184nm,22.5s					
LSA	**Lhasa**	**55.15 309**	P	**P**	**12 54 05.2 +1.2**
LSA	**Lhasa**	**55.15 309**	*e*P	**P**	**12 54 04.8 +0.8**
comp=Z,29nm,1.2s,mb5.2					
LSA	**Lhasa**	**55.15 309**	*e*P	**P**	**12 54 04.9 +0.9**
LSA			pmax	pmax	
comp=Z,29nm,1.2s,mb5.2					
SONM	**Songino Array**	**57.24 335**	P	**P**	**12 54 18.3 -0.5**
comp=Z,2.9nm,0.9s,mb4.3,baz=142,slow=6.0,SNR=11					
SONM			LR	LR	13 19 34.9
comp=Z,576nm,19.6s,MS4.7,baz=89,slow=37					
SONM	**Songino Array**	**57.24 335**	P	**P**	**12 54 18.3 -0.5**
SONM			LR	LR	13 19 34.9
SONM	**Songino Array**	**57.24 335**	P	**P**	**12 54 18.3 -0.5**
SONM			pmax	pmax	
comp=Z,3.0nm,0.9s					
SONM			MLR	MLR	
comp=Z,576nm,19.6s					
PET	**Petropavlovsk**	**57.83 14**	*i*P	**P**	**12 54 20.7 -2.1**
PET			pmax	pmax	
comp=Z,25μm,1.7s					
CIT	**Chita**	**58.11 342**	*e*P	**P**	**12 54 24.8 0.0**
CIT			pmax	pmax	
comp=Z,71nm,1.8s,mb5.4					
PKI	**Pulchoki**	**58.88 304**	*e*P	**P**	**12 54 29.8 -0.7**
comp=Z,25nm,0.8s,mb5.3					
KKN	**Kakani**	**59.07 304**	*e*P	**P**	**12 54 31.8 0.0**
comp=Z,80nm,0.9s,mb5.8					
DMN	**Daman**	**59.15 304**	*e*P	**P**	**12 54 32.5 +0.1**
comp=Z,88nm,1.0s,mb5.7					
GKN	**Gorkha**	**59.68 304**	*e*P	**P**	**12 54 35.9 -0.1**
comp=Z,119nm,1.0s,mb5.9					
KOLN	**Koldanda**	**60.45 304**	*e*P	**P**	**12 54 41.5 +0.2**
comp=Z,56nm,1.0s,mb5.6					
ZAK	**Zakamensk**	**60.51 335**⇑	*i*P	**P**	**12 54 40.6 -0.8**
ZAK			pmax	pmax	
comp=Z,10.0nm,1.1s,mb4.9					
HYB	**Hyderabad**	**62.02 291**	*i*P	**P**	**12 54 52.0 0.0**
HYB	**Hyderabad**	**62.02 291**	*e*P	**P**	**12 54 52.0 0.0**
FX1	**Attu Island--F**	**62.40 23**	P	**P**	**12 54 54.3 +0.2**
comp=Z,12nm,0.9s,mb5.0,baz=115,slow=5.0,SNR=4.9					
FX1	**Attu Island--F**	**62.40 23**	*e*P	**P**	**12 54 52.9 -1.2**
FX1	**Attu Island--F**	**62.40 23**	P	**P**	**12 54 54.3 +0.2**
FX1			pmax	pmax	
comp=Z,12nm,0.9s					
MOY	**Mondy**	**62.43 335**	*e*P	**P**	**12 54 54.6 +0.3**
MOY			pmax	pmax	
comp=Z,40nm,2.2s,mb5.2					
BOD	**Bodaibo**	**63.10 346**	*e*P	**P**	**12 54 55.1 -3.6**
BOD			pmax	pmax	
comp=Z,13nm,1.8s,mb4.8					
WMQ	**Urumqi**	**64.47 322**	P	**P**	**12 55 09.0 +1.2**
WMQ			AP	pP	12 55 22.0 +3.9
WMQ			XP	sP	12 55 27.0 +5.2
WMQ			PP	PP	12 57 33.0 +1.4
WMQ			SCP		12 59 40.0
WMQ			S	**S**	**13 03 43.0 +0.1**
WMQ			SCS	ScS	13 04 56.0 +0.2
WMQ			SS	SS	13 07 55.0 +0.1
WMQ			AMB	AMB	
comp=Z,32nm,1.0s,mb5.3					
WMQ			AMB	AMB	
comp=Z,25nm,9.0s					
WMQ			LR	LR	
comp=N,75nm,20.0s,MS4.0					
WMQ			LR	LR	
comp=E,61nm,20.0s,MS4.0					
WMQ			LR	LR	
comp=Z,78nm,20.0s,MS3.9					
YAK	**Yakutsk**	**64.59 356**	*e*P	**P**	**12 55 06.9 -1.4**
comp=Z,29nm,0.8s,mb5.4					
YAK	**Yakutsk**	**64.59 356**	*i*P	**P**	**12 55 07.5 -0.8**
YAK			pmax	pmax	
comp=Z,74μm,1.7s					
SEY	**Seymchan**	**66.03 7**	*d i*P	**P**	**12 55 17.5 0.0**
CASY	**Casey**	**66.67 192**	*e*P	**P**	**12 55 22.6 +1.1**
comp=Z,19nm,1.3s,mb5.0					
CASY			LR	LR	
comp=Z,634nm,20.0s,MS4.8					
MKAR	**Makanchi Array**	**69.25 323**	P	**P**	**12 55 38.2 +0.2**
comp=Z,27nm,1.0s,mb5.2,baz=117,slow=8.1,SNR=79					
MKAR	**Makanchi Array**	**69.25 323**	P	**P**	**12 55 38.2 +0.2**
MKAR			pmax	pmax	
comp=Z,27nm,1.0s					
KSH	**Kashi**	**70.53 313**	*e*P	**P**	**12 55 45.1 -0.8**
KSH			*e*AP	pP	12 55 58.0 +1.8
KSH			*e*XP	sP	12 56 03.1 +3.2
KSH			*e*PCP	PcP	12 56 06.3 -0.9
KSH			*e*PP	PP	12 58 22.0 -2.2
KSH			*e*S	S	13 04 51.0 -4.6
KSH			XS		13 05 13.0
KSH			*e*PS	PS	13 05 25.0 -2.3
KSH			*e*SKS	SKS	13 05 38.4 -2.3
KSH			*e*SCS	ScS	13 05 40.5 -2.3
KSH			AMB	AMB	
comp=Z,180nm,4.2s					
KSH			LR	LR	
comp=N,200nm,6.6s					
KSH			LR	LR	
comp=E,210nm,4.3s					
KZA	**Kyzart**	**71.93 316**	P	**P**	**12 55 55.9 +1.7**
SNR=5.1					
TKM2	**Tokmak 2**	**71.99 317**	P	**P**	**12 55 55.5 +0.9**
SNR=12					
PPT	**Papeete**	**72.30 108**	*e*LR	LR	13 18 17.9
comp=E,266nm,30.0s					
CHMS	**Chumysh**	**72.60 317**	P	**P**	**12 55 58.8 +0.5**
SNR=5.7					
FRU	**Bishkek**	**72.64 316**	*e*P	**P**	**12 55 58.0 -0.4**
AAK	**Ala-Archa**	**72.65 316**	*e*P	**P**	**12 55 58.1 -0.5**
comp=E,8.2nm,1.0s,mb4.6					
AAK	**Ala-Archa**	**72.65 316**	*e*P	**P**	**12 55 58.1 -0.4**
AAK			pmax	pmax	
comp=Z,8.0nm,1.0s,mb4.6					
NVS	**Novosibirsk**	**72.69 330**	*e*P	**P**	**12 55 57.2 -1.3**
NVS			pmax	pmax	
comp=N,15nm,1.5s					
NVS			pmax	pmax	
comp=Z,31nm,1.5s,mb5.0					
NVS			pmax	pmax	
comp=E,15nm,1.2s					
TBI	**Tubuai**	**72.81 114**	*e*LR	LR	13 18 32.9
USP	**Ospenovka**	**72.87 317**	P	**P**	**12 56 00.3 +0.5**
SNR=16					
BILL	**Bilibino**	**72.95 11**⇓	*e*P	**P**	**12 55 59.6 -0.2**
BILL			pmax	pmax	
comp=Z,7.0nm,1.2s,mb4.5					
AML	**Almayashu**	**73.04 315**	P	**P**	**12 56 02.4 +1.5**
SNR=24					
KURK	**Kurchatov**	**73.19 325**	*e*P	**P**	**12 56 00.8 -0.7**
comp=Z,43nm,1.5s,mb5.2					
KURK	**Kurchatov**	**73.19 325**	P	**P**	**12 56 01.5 -0.1**
KURK			pmax	pmax	
comp=Z,37nm,1.8s,mb5.0					
TIXI	**Tiksi**	**74.17 357**	*i* P	**P**	**12 56 05.4 -1.5**
TIXI			pmax	pmax	
comp=Z,12nm,0.8s,mb4.9					
KKAR	**Karatay Array**	**75.58 316**	*i* P	**P**	**12 56 15.8 +0.3**
KKAR			pmax	pmax	
comp=Z,14nm,0.9s,mb4.9					
VNDA	**Vanda**	**76.13 175**	P	**P**	**12 56 19.1 +1.1**
comp=Z,2.2nm,0.8s,mb4.2,baz=326,slow=5.1,SNR=13					
VNDA			LR	LR	13 30 15.7
comp=Z,804nm,19.2s,MS5.0,baz=347,slow=36					
VNDA	**Vanda**	**76.13 175**	P	**P**	**12 56 19.1 +1.1**
VNDA			pmax	pmax	
comp=Z,2.0nm,0.8s					
VNDA			MLR	MLR	
comp=Z,804nm,19.2s					
VOSK	**Vostochnaya**	**78.35 325**	P	**P**	**12 56 30.7 -0.1**
VOSK			pmax	pmax	
comp=Z,15nm,1.0s,mb4.9					
BVA0	**Borovoye Array**	**78.79 325**	*i* P	**P**	**12 56 33.7 +0.5**
BVA0			pmax	pmax	
comp=Z,5.0nm,1.0s,mb4.4					
BVAR	**Borovoye Array**	**78.79 325**	P	**P**	**12 56 33.4 +0.1**
comp=Z,25nm,0.7s,mb5.3,baz=63,slow=3.2,SNR=90					
BVAR	**Borovoye Array**	**78.79 325**	P	**P**	**12 56 33.4 +0.2**
BVAR			pmax	pmax	
comp=Z,25nm,0.7s					
BRVK	**Borovoye**	**78.86 325**	*e*P	**P**	**12 56 33.8 +0.2**
comp=Z,20nm,0.8s,mb5.1					
BRVK	**Borovoye**	**78.86 325**	*e*P	**P**	**12 56 33.8 +0.2**
BRVK			pmax	pmax	
comp=Z,20nm,0.8s,mb5.1					
KDAK	**Kodiak Island**	**81.08 30**	*e*P	**P**	**12 56 45.6 +0.2**
comp=Z,21nm,1.3s,mb4.9					
MAW	**Mawson**	**82.23 202**	LR	LR	13 30 38.3
comp=Z,290nm,21.8s,MS4.6,baz=225,slow=34					
AB31	**Akbulak array**	**84.18 320**	*i* P	**P**	**12 57 02.3 +0.8**
AB31			pmax	pmax	
comp=Z,19nm,1.0s,mb5.2					
SML	**Sawmill**	**84.34 27**	*e*P	**P**	**12 57 02.2 +0.2**
MCK	**McKinley**	**84.61 25**	*e*P	**P**	**12 57 02.8 -0.6**
comp=Z,8.7nm,1.2s,mb4.8					
MCK	**McKinley**	**84.61 25**	*e*P	**P**	**12 57 02.8 -0.5**
MCK			pmax	pmax	
comp=Z,9.0nm,1.2s,mb4.8					
SVE	**Sverdlovsk**	**85.23 327**	*e*P	**P**	**12 57 06.5 0.0**
SVE			*e*SS	SS	13 13 16.0 +5.5
SVE			pmax	pmax	
comp=Z,60nm,2.0s,mb5.4					
DIV	**Divide**	**85.36 28**	*e*P	**P**	**12 57 07.7 +0.6**
comp=Z,89nm,1.2s,mb5.8					
ILAR	**Eielson Array**	**85.75 25**	P	**P**	**12 57 08.3 -0.6**
comp=Z,4.6nm,0.8s,mb4.7,baz=260,slow=4.9,SNR=36					
ILAR			LR	LR	13 31 42.5
comp=Z,112nm,19.8s,MS4.3,baz=183,slow=33					
RKT	**Rikitea**	**86.12 113**	*e*LR	LR	13 24 41.4
comp=Z,124nm,30.2s					
ARU	**Arti**	**86.28 327**	*e*P	**P**	**12 57 10.6 -1.1**
comp=Z,8.0nm,0.9s,mb5.0					
ARU	**Arti**	**86.28 327**⇓	*i*P	**P**	**12 57 11.0 -0.7**
ARU			*e*		13 00 31.2
ARU			*e*S	S	13 07 32.5 -10
ARU			*e*SS	SS	13 13 26.3 +0.3
ARU			pmax	pmax	
comp=Z,9.0nm,1.0s,mb5.0					
DAWY	**Dawson**	**88.80 26**	*e*P	**P**	**12 57 24.6 +0.8**
OBN	**Obninsk**	**98.63 325**	*e*P	**P**	**12 58 08.8 -0.2**
OBN			*e*		13 02 10.7
OBN			*e*SS	SS	13 16 26.7 +4.7
OBN			pmax	pmax	
comp=Z,5.0nm,0.6s,mb5.2					
YKA	**Yellowknife Ar**	**100.01 27**	LR	LR	13 41 41.5
comp=Z,88nm,18.9s,MS4.3,baz=265,slow=34					
ARCES	**ARCESS Array B**	**100.06 341**	P	P	12 58 14.7 -0.6
comp=Z,3.9nm,0.9s,baz=82,slow=6.4,SNR=4.8					
ARCES			LR	LR	13 47 13.6
comp=Z,102nm,18.9s,MS4.3,baz=256,slow=38					
MOX	**Moxa**	**114.30 326**	*e*P	PKPdf	13 03 10.0 +1.4
MOX			L		13 56 28.0
DBIC	**Dimbokro**	**142.97 278**	PKhKP		13 04 00.4
comp=Z,3.6nm,1.0s,baz=63,slow=4.5,SNR=2.9					
DBIC	**Dimbokro**	**142.97 278**	PKHKP		13 04 00.4
DBIC			pmax	pmax	
comp=Z,4.0nm,1.0s					
ROSC	**El Rosal**	**147.41 85**	PKPbc	PKPdf	13 04 16.0 +4.7
comp=Z,5.0nm,0.4s,baz=86,slow=20,SNR=4.9					
CPUP	**Villa Florida**	**147.72 153**	PKPbc	PKPdf	13 04 17.1 +5.6
comp=Z,3.6nm,1.0s,baz=285,slow=8.2,SNR=4.8					
CPUP	**Villa Florida**	**147.72 153**	PKP2	PKPab	13 04 17.1 -1.6
CPUP			pmax	pmax	
comp=Z,4.0nm,1.0s					
LPAZ	**La Paz**	**148.01 126**	PKPbc	PKPdf	13 04 18.8 +6.7
comp=Z,6.9nm,1.1s,baz=283,slow=0.2,SNR=16					
LPAZ	**La Paz**	**148.01 126**	*e*PKPbc	PKPdf	13 04 18.2 +6.1
LPAZ	**La Paz**	**148.01 126**	PKP2	PKPab	13 04 18.8 -1.2
LPAZ			pmax	pmax	
comp=Z,7.0nm,1.1s					
SDV	**Santo Domingo**	**150.58 76**	PKP	PKPdf	13 04 18.8 +2.6
comp=Z,8.9nm,0.2s,baz=213,slow=4.0,SNR=3.7					
SDV			PKPbc	PKPdf	13 04 24.1 +7.8
comp=Z,10nm,0.2s,baz=205,slow=2.2,SNR=11					
SDV			PKPab	PKPab	13 04 31.7 +1.0
comp=Z,10nm,0.2s,baz=205,slow=3.4,SNR=5.3					
SDV	**Santo Domingo**	**150.58 76**	*e*PKPdf	PKPdf	13 04 18.5 +2.2
SDV			*e*PKPbc	PKPdf	13 04 23.8 +7.5
SJG	**San Juan**	**151.44 55**	PKPbc	PKPdf	13 04 25.4 +8.0
comp=Z,10nm,0.4s,baz=271,slow=8.6,SNR=4.3					
SJG	**San Juan**	**151.44 55**	PKIKP	PKPdf	13 04 25.4 +8.0
SJG			pmax	pmax	
comp=Z,10.0nm,0.4s					

NIED ***08*** *12:46:00, 47.00N×154.20E, h17km, Mw4.1 Best double couple: M0 1.65×10^15 NP1:φs 49°, δ 69°, λ 145°. NP2:φs 153°, δ 57°, λ 25°.*

IDC ***08*** *12:46:10.7±1.2, 46.97N×153.72E, mb4.1/14, mb1 4.2/16, mb1mx4.1/24, mbtmp4.1/16, ML3.7/2, Error ellipse: s-maj=32.6km s-min=15.8km az=166.0*

BJI ***08*** *12:46:13.5, 47.10N×153.80E, h19km, mB4.4, mb4.3, Ms3.7, Msz3.6*

NEIC ***08*** *12:46:13.5±0.5, 47.07N×153.78E, h15km, mb4.7/8, Error ellipse: s-maj=13.2km s-min=6.8km az=152.0*

MOS ***08*** *12:46:14.7±1.3, 47.16N×153.58E, h33km, mb4.7/10, Error ellipse: s-maj=11.4km s-min=7.7km az=86.0*

ISC 08 12:46:10.5±0.6, 46.91N±0.07×153.81E±0.10, h10km, n87, σ1§53/105, mb4.2/24, MS3.5/3, 2C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.07**	**21**	*e*PN	**Pn**	**12 47 09.7**	**-4.6**

SKR pmax pmax
comp=N,40nm,0.5s
SKR pmax pmax
comp=E,30nm,0.5s
SKR pmax pmax
comp=Z,70nm,0.5s
KUR Kuril'sk 4.46 250⇑ *i*PN **Pn 12 47 20.8 +1.0**
KUR *e*S **Sn 12 48 14.8 +2.3**
KUR pmax pmax
comp=N,40nm,0.3s
KUR pmax pmax
comp=E,30nm,0.3s
KUR pmax pmax
comp=Z,80nm,0.3s
KUR smax
comp=N,320nm,0.6s
KUR smax
comp=E,110nm,0.6s
YUK Yuzh-Kuril'sk 6.29 246 *e*PN **Pn 12 47 47.5 +1.9**
YUK *e*S **Sn 12 48 59.5 +1.3**
YUK pmax pmax
comp=Z,190nm,0.3s
YUK pmax pmax
comp=N,210nm,0.4s
YUK pmax pmax
comp=E,160nm,0.4s
YUK smax
comp=N,550nm,0.6s
YUK smax
comp=E,460nm,0.6s
YUK smax
comp=N,2µm,0.8s
NEM2 Nemuro 2 6.72 241 P **Pn 12 47 51.1 -0.5**
NEM2 *e*S **Sn 12 49 04.1 -4.9**
JRA Rausu 6.80 247 P **Pn 12 47 55.8 +3.0**
PET Petropavlovsk 6.87 25 *e*PN **Pn 12 47 53.6 -0.2**
PET MLR MLR
comp=Z,100nm,15.0s
JNK Nakash 7.23 246 P **Pn 12 48 01.3 +2.5**
JNK *e*S **Sn 12 49 19.3 -2.5**
JAK Akkeshi 7.56 242 P **Pn 12 48 03.8 +0.4**
JAK *e*S **Sn 12 49 26.0 -4.0**
JTKR Abashiri--Toko 7.56 251 P **Pn 12 48 06.6 +3.1**
YSS Yuzh-Sakhalins 7.57 274 *e*P **Pn 12 48 08.8 +5.2**
comp=Z,21nm,0.5s
YSS Yuzh-Sakhalins 7.57 274⇑ *e*PN **Pn 12 48 08.5 +4.9**
YSS *e*S **Sn 12 49 35.0 +4.6**
YSS MLR MLR
comp=Z,500nm,14.0s
YSS MLR MLR
comp=E,500nm,16.0s
JMP Maruseppu 7.90 252 P **Pn 12 48 11.7 +3.5**
JAR Ashorobuto 7.97 247 P **Pn 12 48 11.3 +2.1**
JAR *e*S **Sn 12 49 38.9 -1.4**
JSE Soyaes 8.07 260 P **P 12 48 16.8 +6.2**
JOB Onbets 8.13 244 P **P 12 48 13.2 +1.7**
JOB *e*S **Sn 12 49 40.7 -3.8**
ASAJ Asahikawa 8.36 255 P **P 12 48 19.2 +4.6**
JKK2 Kamakawa 2 8.36 253 P **P 12 48 18.0 +3.4**
JCH Churui 8.58 244 P **P 12 48 18.5 +0.8**
JCH *e*S **Sn 12 49 51.1 -4.5**
JFR Furan 8.78 249 P **P 12 48 23.5 +3.0**
JAB Ashibetsu 8.86 252 P **P 12 48 24.3 +2.7**
JEM Erimo 9.05 241 P **P 12 48 25.8 +1.6**
JEM *e*S **Sn 12 50 02.4 -4.8**
JBT2 Biratori 2 9.12 247 P **P 12 48 25.8 +0.6**
JBT2 *e*S **Sn 12 50 03.4 -5.5**
JNBK Urakawa-nobuka 9.14 244 P **P 12 48 25.6 +0.1**
JNBK *e*S **Sn 12 50 04.1 -5.5**
JSK Shakotan 10.07 254 P **P 12 48 41.6 +3.4**
JNB Noboribetsu 10.12 249 P **P 12 48 40.0 +1.1**
JNB *e*S **S 12 50 29.8 -3.7**
JKB Kayabe 10.43 246 P **P 12 48 43.3 +0.2**
JKB *e*S **S 12 50 33.8 -7.3**
JANG Nango 11.04 238 P **P 12 48 49.6 -1.9**
JANG *e*S **S 12 50 44.3 -12**
JTM Tenmabayashi 11.04 241 P **P 12 48 50.2 -1.3**
JTM *e*S **S 12 50 46.6 -10**
JTH Tanohata 11.13 236 *e*S **S 12 50 46.7 -12**
JOSM Okushiri--Mats 11.32 250 P **P 12 48 55.3 +0.1**
OFUJ Ofunato 11.83 233 P **P 12 48 59.3 -3.0**
OFUJ *e*S **S 12 51 04.2 -11**
JRG Rokugo 12.20 237 P **P 12 49 05.0 -2.1**
JRG *e*S **S 12 51 15.6 -8.6**
MA2 Magadan 12.82 353 *e*PN **P 12 49 18.6 +3.2**
MA2 pmax pmax
comp=Z,20nm,1.3s
JYA Atsumi 13.27 236 P **P 12 49 22.1 +0.7**
FX1 Attu Island--F 13.81 57 Pn **P 12 49 25.7 -2.7**
comp=Z,1.6nm,0.3s,baz=14,slow=4.8,SNR=8.8
FX1 Sn S 12 51 42.9 -20
comp=Z,0.5nm,0.3s,baz=57,slow=19,SNR=2.8
FX1 Attu Island--F 13.81 57 *e*P **P 12 49 26.0 -2.5**
KLR Kul'dur 14.92 287 *e*P **P 12 49 48.8 +5.7**
MAJO Matsushiro 15.56 234 P **P 12 49 53.5 +2.0**
comp=Z,14nm,0.8s
MAJO Matsushiro 15.56 234 P **P 12 49 53.5 +2.1**
MAJO pmax pmax
comp=Z,14nm,0.8s
MAT Matsushiro 15.56 234 P **P 12 49 52.6 +1.2**
MAT Matsushiro 15.56 234 *e*P **P 12 49 53.0 +1.6**
MJAR Matsushiro Arr 15.56 234 Pn **P 12 49 51.1 -0.3**
comp=Z,0.2nm,0.3s,baz=25,slow=10,SNR=8.5
SEY Seymchan 16.08 358 *i*P **P 12 50 01.3 +3.3**
MDJ Mudanjiang 17.04 271 P **P 12 50 14.1 +3.8**
MDJ AMB AMB
comp=Z,12nm,1.0s
MDJ AMB AMB
comp=Z,58nm,4.8s
CN2 Changchun 20.13 272 *e*P **P 12 50 48.9 +1.7**
CN2 AMB AMB
comp=Z,10.0nm,0.7s
CN2 LR LR
comp=N,110nm,13.0s,MS3.7
CN2 LR LR
comp=E,180nm,13.0s,MS3.7
CN2 LR LR
comp=Z,180nm,15.0s,MS3.5
CLNS Chul'man 20.28 310 *e*P **P 12 50 49.2 +0.4**
CLNS pmax pmax
comp=Z,15nm,0.7s
CLNS pmax pmax
comp=N,6.0nm,0.6s
CLNS pmax pmax
comp=E,12nm,0.7s
CLNS MLR MLR
comp=Z,200nm,12.0s,MS3.7
CLNS MLR MLR
comp=N,100nm,28.0s
YAK Yakutsk 20.45 327 *i*P **P 12 50 47.5 -3.0**
YAK pmax pmax
comp=Z,8.0nm,0.7s
BILL Bilibino 22.13 12⇓ *e*P **P 12 51 08.2 +0.7**
BILL *e* 12 51 49.8
BILL pmax pmax
comp=Z,7.0nm,0.9s,mb4.1
BILL MLR MLR
comp=Z,100nm,17.0s,MS3.3
JNU Nakatsue 22.21 240 P **P 12 51 07.0 -1.6**
comp=Z,2.5nm,0.6s,mb3.8,baz=51,slow=6.5,SNR=3.5
BOD Bodaibo 26.26 309 *e*P **P 12 51 43.4 -3.8**
BOD pmax pmax
comp=Z,3.0nm,1.3s,mb3.7
NJ2 Nanjing 30.50 253 *e*P **P 12 52 26.4 +0.6**
NJ2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.6
SONM Songino Array 31.73 289 P **P 12 52 36.1 -0.4**
comp=Z,0.9nm,0.6s,mb3.8,baz=71,slow=8.1,SNR=4.2
SML Sawmill 35.52 44 *e*P **P 12 53 09.0 -0.1**
ILAR Eielson Array 36.13 39 P **P 12 53 13.6 -0.6**
comp=Z,0.5nm,0.7s,mb3.5,baz=249,slow=7.3,SNR=6.5
INK Inuvik 41.26 33 P **P 12 53 57.2 +0.3**
comp=Z,1.6nm,0.6s,mb3.9,baz=270,slow=5.1,SNR=4.1
ZAL Zalesovo 42.92 306 P **P 12 54 08.8 -1.8**
comp=Z,1.1nm,0.4s,mb3.9,baz=28,slow=14,SNR=4.1
MKAR Makanchi Array 47.29 298 P **P 12 54 45.1 -0.6**
comp=Z,2.3nm,0.8s,mb4.1,baz=68,slow=7.7,SNR=16
KURK Kurchatov 47.68 304 *e*P **P 12 54 47.7 -0.9**
comp=Z,7.5nm,0.8s,mb4.8
KURK Kurchatov 47.68 304 *e*P **P 12 54 47.7 -0.9**
KURK pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
BVAR Borovoye Array 51.13 310 P **P 12 55 14.1 -1.0**
comp=Z,1.6nm,0.5s,mb4.2,baz=51,slow=9.5,SNR=14
BRVK Borovoye 51.17 310 *e*P **P 12 55 14.6 -0.8**
comp=Z,2.2nm,0.8s,mb4.1
BRVK Borovoye 51.17 310 *e*P **P 12 55 14.6 -0.8**
BRVK pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
AAK Ala-Archa 54.19 297 *i*P **P 12 55 36.4 -1.7**
AAK pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
ARU Arti 55.22 318 *e*P **P 12 55 44.0 -1.4**
comp=Z,8.3nm,0.5s,mb5.0
ARU Arti 55.22 318⇓ *i*P **P 12 55 43.9 -1.5**
ARU *e* 12 56 43.2
ARU *e* 12 57 46.9
ARU *e*S **S 13 03 17.3 -10**
ARU *e*SS SS 13 07 05.1 -6.0
ARU pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
ARCES ARCESS Array B 57.86 341 P **P 12 56 02.4 -1.7**
comp=Z,0.8nm,0.5s,mb4.0,baz=28,slow=6.8,SNR=15
ARCES ARCESS Array B 57.86 341 P **P 12 56 02.4 -1.7**
FINES FINESS Array B 64.10 335 P **P 12 56 45.2 -1.1**
comp=Z,1.1nm,0.4s,mb4.3,baz=36,slow=8.1,SNR=12
FINES FINESS Array B 64.10 335 *e*P **P 12 56 44.2 -2.2**
NB2 NORSAR Subarra 68.23 341 P **P 12 57 12.1 -0.6**
comp=Z,4.1nm,0.6s,mb4.6,baz=30,slow=6.2
NB2 NORSAR Subarra 68.23 341 P **P 12 57 12.1 -0.6**
NB2 pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
NOA NORSAR Array B 68.23 341 P **P 12 57 12.3 -0.4**
comp=Z,3.5nm,0.6s,mb4.6,baz=25,slow=6.2,SNR=13
AKASG Malin Array Be 71.68 327 P **P 12 57 32.9 -1.0**
comp=Z,3.8nm,0.6s,mb4.5,baz=32,slow=6.2,SNR=15
ANN Anapa 72.88 318 *e*P **P 12 57 37.0 -4.1**
ANN pmax pmax
comp=Z,129nm,1.4s,mb5.7
CLL Collm 76.52 336 P **P 12 58 02.4 +0.5**
comp=Z,logA/T=1.2,mb4.9
CLL Collm 76.52 336 *i*P **P 12 58 02.4 +0.5**
comp=Z,17nm,1.2s,mb4.8
CLL Collm 76.52 336 *i*P **P 12 58 02.4 +0.5**
CLL pmax pmax
comp=Z,17nm,1.2s,mb4.8
TXAR Lajitas Array 77.00 61 P **P 12 58 05.7 +0.7**
comp=Z,1.3nm,0.7s,mb4.0,baz=302,slow=4.1,SNR=13
MOX Moxa 77.50 336 *e*P **P 12 58 08.0 +0.7**
KHC Kasperske Hory 78.30 335 *e*P **P 12 58 12.5 +0.7**
GRA1 Grafenberg Arr 78.47 336 *e*P **P 12 58 13.5 +0.8**
comp=Z,6.0nm,0.8s,mb4.6
GRF Grafenberg Arr 78.47 336 *e*P **P 12 58 13.5 +0.8**
comp=Z,6.0nm,0.8s,mb4.6
GRF Grafenberg Arr 78.47 336 *e*P **P 12 58 13.5 +0.8**
GRF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
GRF Grafenberg Arr 78.47 336 *e*P **P 12 58 13.5 +0.8**
GRF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
GERES GERESS Array B 78.52 334 P **P 12 58 13.5 +0.5**
comp=Z,0.3nm,0.3s,mb3.7,baz=18,slow=4.2,SNR=4.7
BRTR Keskin Array B 78.60 317 P **P 12 58 15.1 +1.5**
comp=Z,3.5nm,0.8s,mb4.3,baz=56,slow=4.5,SNR=12
PLCA Paso Flores 147.74 95 PKPbc PKPdf 13 05 57.0 +2.0
comp=Z,1.3nm,0.8s,baz=237,slow=2.3,SNR=3.0

*IDC **08** 12:51:13.7±1.4, 33.04N×142.48E, mb3.5/3, mb1 3.6/6, mb1mx3.5/21, mbtmp3.6/6, ML3.4/3, Error ellipse: s-maj=27.7km s-min=21.9km az=57.0*
*JMA **08** 12:51:16.3±0.4, 33.13N×142.53E, h63km, M3.3*
*NEIC **08** 12:51:16.4, 33.13N×142.53E, h63km, MG3.3(JMA), After JMA.*
ISC 08 12:51:15.9±0.8, 33.10N±0.05×142.51E±0.07, h33km, n18, σ1§05/30, mb3.6/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**2.01**	**321**	P	**P**	**P**	**12 51 48.3**	**+0.3**
BSO1					S	**S**	**12 52 13.7**	**+1.5**
JHJ2	**Mitsune**	**2.26**	**271**	P	**P**	**P**	**12 51 52.5**	**+0.8**
JHJ2					S	**S**	**12 52 19.7**	**+1.1**
JHJ	**Hachijo jima 2**	**2.29**	**271**	Pn	**Pn**	**Pn**	**12 51 52.1**	**-0.1**
	12nm,0.3s,baz=217,slow=3.5,SNR=37							
JHJ					Sn	**Sn**	**12 52 19.2**	**-0.4**
	46nm,0.3s,baz=66,slow=23,SNR=14							
BSO3	**Boso 3**	**2.38**	**316**	P	**P**	**P**	**12 51 54.0**	**+0.7**
BSO3					S	**S**	**12 52 22.5**	**+0.9**
BSO4	**Boso 4**	**2.61**	**317**	P	**P**	**P**	**12 51 57.7**	**+1.1**
BSO4					S	**S**	**12 52 28.5**	**+1.0**
JIM2	**Oshima 3**	**3.03**	**303**	S	**S**	**S**	**12 52 37.1**	**-1.0**
JAG	**Ashikaga**	**4.16**	**324**	P	**P**	**P**	**12 52 18.7**	**-0.1**
JAG					S	**S**	**12 53 05.9**	**-1.0**
JRY	**Ryogami san**	**4.16**	**315**	P	**P**	**P**	**12 52 19.9**	**+1.1**
JRY					S	**S**	**12 53 05.9**	**-1.0**
MJAR	**Matsushiro Arr**	**4.93**	**315**	Pn	**Pn**	**Pn**	**12 52 30.1**	**+0.3**
	1.0nm,0.3s,baz=139,slow=14,SNR=12							
MJAR					Sn	**Sn**	**12 53 24.9**	**-1.4**
	1.4nm,0.3s,baz=264,slow=30,SNR=6.5							
MAJO	**Matsushiro**	**4.93**	**315**	*e*P	**P**	**P**	**12 52 28.1**	**-1.6**
MAT	**Matsushiro**	**4.93**	**315**	P	**P**	**P**	**12 52 30.2**	**+0.5**
MAT					S	**S**	**12 53 24.4**	**-1.9**
MAT	**Matsushiro**	**4.93**	**315**	P	**P**	**P**	**12 52 30.4**	**+0.7**
MAT					S	**S**	**12 53 24.6**	**-1.7**
MAT	**Matsushiro**	**4.93**	**315**	P	**P**	**P**	**12 52 30.0**	**+0.3**
MAT					*e*S	**S**	**12 53 24.0**	**-2.3**
JMM	**Marumori**	**4.96**	**344**	P	**P**	**P**	**12 52 28.7**	**-1.3**
CBIJ	**Chichi jima**	**5.99**	**183**	Pn	**Pn**	**Pn**	**12 52 43.1**	**-1.6**
	4.1nm,0.3s,baz=274,slow=20,SNR=3.9							
CBIJ					Sn	**Sn**	**12 53 46.2**	**-6.7**
	6.2nm,0.3s,baz=280,slow=21,SNR=3.7							
MKAR	**Makanchi Array**	**47.05**	**305**	P	**P**	**P**	**12 59 47.5**	**+1.5**
	0.6nm,0.6s,mb3.7,baz=84,slow=8.7,SNR=5.5							
ILAR	**Eielson Array**	**52.37**	**31**	P	**P**	**P**	**13 00 27.1**	**+0.6**
	0.3nm,0.6s,mb3.4,baz=259,slow=6.7,SNR=4.1							
WRA	**Warramunga Arr**	**53.32**	**190**	P	**P**	**P**	**13 00 33.8**	**-0.4**
	0.5nm,0.7s,mb3.5,baz=4.8,slow=7.7,SNR=3.5							

*IDC **08** 12:52:05.1±0.8, 49.28S×121.05E, mb4.4/6, mb1 4.6/7, mb1mx4.4/13, mbtmp4.5/7, ML3.4/1, MS4.2/1, Ms1 4.2/1, ms1mx3.6/9, Error ellipse: s-maj=40.5km s-min=16.8km az=109.0*
*NEIC **08** 12:52:06.5±0.4, 49.28S×120.91E, h10km, mb4.4/4, Error ellipse: s-maj=18.0km s-min=8.3km az=102.0*
ISC 08 12:52:04.4±0.6, 49.29S±0.07×120.9E±0.2, h10km, n36, σ1§12/28, mb4.4/8, MS4.1/1, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**16.57**	**349**	Pn	**P**	**P**	**12 55 58.8**	**+0.5**
	6.7nm,0.3s,baz=169,slow=8.9,SNR=47							
NWAO					Sn	**S**	**12 58 56.3**	**-5.4**
	0.2nm,0.3s,baz=180,slow=9.6,SNR=2.7							
MUN	**Mundaring**	**17.64**	**347**	*e*P	**P**	**P**	**12 56 11.8**	**+0.1**
	7.6nm,0.4s							
CASY	**Casey**	**17.86**	**194**	*e*Pn	**P**	**P**	**12 56 13.0**	**-1.2**
	5.8nm,0.9s							
TOO	**Toolangi**	**21.28**	**66**	*e*P	**P**	**P**	**12 56 54.4**	**+1.4**
	17nm,0.7s,mb4.5							
STKA	**Stephens Creek**	**23.34**	**50**	*e*P	**P**	**P**	**12 57 14.0**	**+0.6**
	9.9nm,0.8s,mb4.3							
STKA	**Stephens Creek**	**23.34**	**50**	P	**P**	**P**	**12 57 14.4**	**+0.9**
	9.7nm,0.7s,mb4.3,baz=188,slow=10.0,SNR=12							
STKA	**Stephens Creek**	**23.34**	**50**	*e*P	**P**	**P**	**12 57 14.0**	**+0.5**
WRA	**Warramunga Arr**	**31.21**	**25**	P	**P**	**P**	**12 58 24.5**	**-1.5**
	1.9nm,0.7s,mb4.0,baz=198,slow=8.1,SNR=6.7							
WRAB	**Tennant Creek**	**31.22**	**25**	P	**P**	**P**	**12 58 24.9**	**-1.2**
FITZ	**Fitzroy Crossi**	**31.35**	**9**	P	**P**	**P**	**12 58 27.1**	**-0.1**
	34nm,1.1s,mb5.1,baz=184,slow=10,SNR=4.2							
VNDA	**Vanda**	**32.30**	**165**	P	**P**	**P**	**12 58 35.3**	**+0.2**
	5.1nm,0.7s,mb4.4,baz=306,slow=8.8,SNR=13							
VNDA					LR	LR	13 10 47.0	
	comp=Z,378nm,18.8s,MS4.1,baz=328,slow=35							
SBA	**Scott Base**	**33.36**	**164**	*e*P	**P**	**P**	**12 58 42.2**	**-2.1**
	5.7nm,1.3s,mb4.3							
MAW	**Mawson**	**33.78**	**216**	P	**P**	**P**	**12 58 48.7**	**+0.7**
	2.7nm,0.8s,mb4.2,baz=59,slow=5.9,SNR=4.2							
SNAA	**Sanae**	**52.98**	**199**	P	**P**	**P**	**13 01 22.7**	**0.0**
SNAA	**Sanae**	**52.98**	**199**		**P**	**P**	**13 01 30.3**	**+7.6**
SNAA	**Sanae**	**52.98**	**199**		**P**	**P**	**13 01 37.3**	**+15**
SNAA	**Sanae**	**52.98**	**199**	P	**P**	**P**	**13 01 22.5**	**-0.1**
	2.9nm,0.9s,mb4.2,baz=140,slow=8.2,SNR=24							
SNAA	**Sanae**	**52.98**	**199**	*e*P	**P**	**P**	**13 01 22.6**	**0.0**
	13nm,1.0s,mb4.8							
VNA2	**Neumayer--Watz**	**54.51**	**198**	P	**P**	**P**	**13 01 35.5**	**+1.6**
VNA2	**Neumayer--Watz**	**54.51**	**198**		**P**	**P**	**13 01 43.4**	**+10**
VNA2	**Neumayer--Watz**	**54.51**	**198**			**P**	**13 01 50.5**	**+17**
VNA3	**Neumayer Olymp**	**54.72**	**198**	P		**P**	**13 01 36.5**	**+1.1**
VNA3	**Neumayer Olymp**	**54.72**	**198**			**P**	**13 01 43.8**	**+8.4**
VNA3	**Neumayer Olymp**	**54.72**	**198**			**P**	**13 01 52.7**	**+17**
VNA1	**Neumayer--Stat**	**54.91**	**198**	P		**P**	**13 01 38.8**	**+2.0**
VNA1	**Neumayer--Stat**	**54.91**	**198**			**P**	**13 01 46.5**	**+10**
VNA1	**Neumayer--Stat**	**54.91**	**198**			**P**	**13 01 53.5**	**+17**
ILAR	**Eielson Array**	**133.94**	**36**	PKP	PKPdf		13 11 22.9	-0.8
	0.1nm,0.5s,baz=274,slow=3.8,SNR=4.5							
IMW	**Indian Meadow**	**144.58**	**79**	*e*PKPdf	PKPdf		13 11 42.8	-0.6
LOHW	**Long Hollow**	**144.67**	**79**	*e*PKPdf	PKPdf		13 11 43.8	+0.2
BOZ	**Bozeman (W)**	**144.92**	**76**	*e*PKPdf	PKPdf		13 11 44.6	+0.7
PDAR	**Pinedale Array**	**144.94**	**81**	PKP	PKPdf		13 11 42.1	-1.9
	1.0nm,0.7s,baz=213,slow=3.0,SNR=8.5							
EKA	**Eskdalemuir Ar**	**146.06**	**302**	PKPbc	PKPbc		13 11 46.5	+2.9
	1.7nm,0.7s,baz=116,slow=2.4,SNR=6.4							
YKA	**Yellowknife Ar**	**147.33**	**45**	PKPbc	PKPdf		13 11 48.5	+1.0
	4.0nm,0.8s,baz=266,slow=3.0,SNR=6.4							
YKA	**Yellowknife Ar**	**147.33**	**45**	PKPbc	PKPdf		13 11 48.5	+1.0
RSSD	**Black Hills**	**149.14**	**82**	*e*PKP	PKPdf		13 11 56.6	+5.6

MAN 08 13:03:59.3, 9.07N×125.83E, h6km, mb4.0, ML2.8, MS2.5, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.23**	**244**	*e*P		Pg	13 04 04.3	+0.2
BIPH	**Bislig**	**1.03**	**149⇓**	*i*P		Pb	13 04 17.8	-1.3
BIPH				*i*S		Sb	13 04 32.4	-0.2
BUKP	**Musuan**	**1.41**	**213**	*e*P		Pn	13 04 24.8	-0.8
BUKP				*e*S		Sb	13 04 45.7	+1.9
BESP	**Borongan**	**2.54**	**351**	*e*P		Pn	13 04 41.5	-0.3
PAGZ	**Pagadian**	**2.71**	**244**	*e*P		Pn	13 04 44.3	+0.1

*BJI **08** 13:56:42.6, 20.05S×69.33W, h96km, mB5.2*
*GUC **08** 13:56:42.5±1.2, 20.09S×69.11W, h115km±11km, ML5.1*
*IDC **08** 13:56:44.2±0.5, 20.12S×69.08W, h101km±4km, mb4.2/14, mb1 4.4/17, mb1mx4.4/19, mbtmp4.7/17, MS3.1/1, Ms1 3.2/1, ms1mx2.7/15, Error ellipse: s-maj=17.3km s-min=7.5km az=85.0*
*NEIC **08** 13:56:44.0±0.2, 20.09S×69.01W, mb4.5/18, Error ellipse: s-maj=7.9km s-min=5.0km az=68.0*
NEIC Felt [V] at Pozo Almonte; [IV] at Huavina, Iquique, Laozana, Pachica and Pica; [III] at Chiapa and Tocopilla; [II] at Cerro Colorado and Pisagua.
ISC 08 13:56:42.4±0.2, 20.08S±0.03×69.02W±0.06, h97km, h97km±1.1km: pP-P, n101, σ0§94/93, mb4.4/30, 1C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.52**	**178**	P		**P**	**13 57 23.2**	**+0.7**
	458nm,0.3s,baz=21,slow=11,SNR=23							
LVC					S	**S**	**13 57 53.3**	**+0.7**
	1µm,0.3s,baz=129,slow=21,SNR=24							
LVC	**Limon Verde**	**2.52**	**178⇓**	*i*P		**P**	**13 57 23.5**	**+0.9**
LVC				*i*S		**S**	**13 57 53.3**	**+0.8**
LVC				AMP			13 57 59.2	
	comp=E,8µm,0.6s							
LVC	**Limon Verde**	**2.52**	**178**	*e*P		**P**	**13 57 23.5**	**+0.9**
SPCH	**San Pedro de A**	**2.92**	**165**	*e*P		**P**	**13 57 30.7**	**+2.7**
SPCH				AMP			13 58 23.4	
	comp=E,5µm,0.4s							
ANCH	**Antofagasta**	**3.81**	**200**	*e*P		**P**	**13 57 37.5**	**-2.7**
ANCH				*i*S		**S**	**13 58 22.0**	**-2.2**
ANCH	**Antofagasta**	**3.81**	**200**	*e*P		**P**	**13 57 37.6**	**-2.7**
ANCH				*i*S		**S**	**13 58 16.4**	**-7.8**
LPAZ	**La Paz**	**3.86**	**13**	P		**P**	**13 57 46.0**	**+5.0**
	comp=E,36nm,0.3s,baz=189,slow=9.3,SNR=131							
LPAZ					S	**S**	**13 58 25.2**	**-0.3**
	comp=E,9.6nm,0.3s,baz=221,slow=14,SNR=2.4							
LPAZ	**La Paz**	**3.86**	**13**	*e*P		**P**	**13 57 46.0**	**+5.1**
CPN1	**Cerro Paranal**	**4.70**	**196**	*e*P		**P**	**13 57 49.0**	**-3.5**
CPN1				*i*S		**S**	**13 58 37.1**	**-9.1**
SIV	**San Ignacio**	**8.58**	**63**	P		**P**	**13 58 45.6**	**+0.2**
	comp=E,21nm,0.3s,baz=253,slow=12,SNR=162							
NNA	**Nana**	**11.01**	**316**	P		**P**	**13 59 23.7**	**+5.5**
	comp=E,34nm,0.8s							
CFAA	**Coronel Fontan**	**11.50**	**177**	P		**P**	**13 59 19.4**	**-5.3**
	comp=E,0.5nm,0.3s,baz=352,slow=14,SNR=16							
CFAA					S	**S**	**14 01 18.4**	**-13**
	comp=E,0.5nm,0.3s,baz=233,slow=18,SNR=5.9							
CPUP	**Villa Florida**	**12.42**	**122**	P		**P**	**13 59 36.5**	**-0.4**
	comp=E,2.0nm,0.3s,baz=323,slow=12,SNR=42							
CPUP					LR	LR	14 05 37.6	
	comp=E,98nm,20.3s,baz=115,slow=43							
CPUP	**Villa Florida**	**12.42**	**122**	*e*P		**P**	**13 59 35.9**	**-1.0**
	comp=E,73nm,0.9s							
SAML	**Samuel**	**12.42**	**28**	*e*P		**P**	**13 59 36.4**	**-0.6**
	comp=E,17nm,0.7s							
TRQA	**Tornquist**	**18.93**	**163**	*e*P		**P**	**14 00 55.5**	**-2.6**
	comp=E,55nm,0.9s							
BDFB	**Brasilia**	**20.47**	**81**	P		**P**	**14 01 14.6**	**+0.1**
	comp=E,43nm,0.5s,baz=261,slow=10,SNR=3.7							
BAO	**Brasilia Array**	**20.49**	**81**	P		**P**	**14 01 15.0**	**+0.3**
PLCA	**Paso Flores**	**20.63**	**183**	P		**P**	**14 01 14.9**	**-1.0**
	comp=E,47nm,0.9s,baz=5.2,slow=12,SNR=48							
PLCA	**Paso Flores**	**20.63**	**183**	*e*P		**P**	**14 01 14.2**	**-1.8**
	comp=E,52nm,0.8s							
CAM4	**Nova Friburgo**	**24.75**	**100**	*e*P		**P**	**14 01 56.1**	**-0.3**
CAM4				*i*			14 01 58.1	
CAM4				*i*			14 02 00.9	
CAM3	**Guarapari**	**26.70**	**96**	*e*P		**P**	**14 02 14.6**	**0.0**
CAM3				*e*			14 02 18.1	
SDV	**Santo Domingo**	**28.83**	**357**	P		**P**	**14 02 32.6**	**-1.2**
	comp=E,9.0nm,0.2s,mb5.0,baz=208,slow=3.8,SNR=4.8							
ELN	**Prospectdale**	**58.06**	**349**	*e*P		**P**	**14 06 27.5**	**-0.4**
ELN				*ep*P		pP	14 06 52.4	+0.4
CBN	**Corbin**	**58.50**	**352**	P		**P**	**14 06 31.3**	**+0.5**
	comp=E,134nm,0.3s							
WVT	**Waverly**	**58.67**	**342**	*e*P		**P**	**14 06 29.4**	**-2.6**
	comp=E,7.6nm,1.0s,mb4.7							
WVT				*ep*P		pP	14 06 54.3	-1.9
TXAR	**Lajitas Array**	**59.41**	**325**	P		**P**	**14 06 35.7**	**-1.6**
	comp=E,0.6nm,0.4s,mb4.0,baz=140,slow=9.8,SNR=6.2							
TXAR				*ep*P		pP	14 06 59.5	-2.0
	comp=E,0.3nm,0.3s,baz=135,slow=5.3,SNR=1.9							
TXAR	**Lajitas Array**	**59.41**	**325**	P		**P**	**14 06 35.7**	**-1.6**
TXAR				pP		pP	14 06 59.5	-2.0
VNA3	**Neumayer Olymp**	**61.45**	**162**			**P**	**14 06 51.2**	**+0.7**
VNA3	**Neumayer Olymp**	**61.45**	**162**			**P**	**14 07 04.5**	**+14**
VNA1	**Neumayer--Stat**	**61.65**	**161**			**P**	**14 06 53.7**	**+1.8**
VNA2	**Neumayer--Watz**	**62.02**	**161**			**P**	**14 06 55.4**	**+1.0**
VNA2	**Neumayer--Watz**	**62.02**	**161**			**P**	**14 07 08.0**	**+14**
VNA2	**Neumayer--Watz**	**62.02**	**161**			**P**	**14 07 12.2**	**+18**
GDL2	**Guadalupe Moun**	**62.03**	**326**	*e*P		**P**	**14 06 54.3**	**-0.7**
GDL2				*ep*P		pP	14 07 18.5	-0.9
MNTX	**Cornudas Mount**	**62.18**	**325**	*e*P		**P**	**14 06 54.2**	**-1.8**
	comp=E,6.5nm,1.1s,mb4.6							
MNTX				*ep*P		pP	14 07 18.4	-1.9
SNAA	**Sanae**	**63.65**	**161**			**P**	**14 07 04.5**	**-0.6**
SNAA	**Sanae**	**63.65**	**161**			**P**	**14 07 07.8**	**+2.7**
SNAA	**Sanae**	**63.65**	**161**	P		**P**	**14 07 04.6**	**-0.5**
	comp=E,1.5nm,0.6s,mb4.0,baz=282,slow=8.2,SNR=35							
BNM	**Barren Site**	**64.73**	**326**	*e*P		**P**	**14 07 12.4**	**-0.3**
LAZ	**

comp=E,1.9nm,0.7s,mb4.0
DUG Dugway 72.52 326 *e*P **P 14 08 01.8 +1.2**
comp=E,2.5nm,0.7s,mb4.2
PDAR Pinedale Array 72.83 330 P **P 14 08 01.7 -0.7**
comp=E,0.7nm,0.8ms,mb3.6,baz=124,slow=5.3,SNR=6.5
PDAR pP pP 14 08 27.0 -0.6
comp=E,0.5nm,0.6s,baz=122,slow=6.7,SNR=3.1
BW06 Boulder Array 72.83 330 *e*P **P 14 08 01.6 -0.8**
comp=E,1.8nm,1.0s,mb3.9
HWUT Hardware Ranch 72.93 328 *e*P **P 14 08 02.4 -0.5**
comp=E,6.1nm,0.8s,mb4.5
PTRM Twissleman Ran 73.64 319 P **P 14 08 08.2 +1.0**
MTUM Tungsten Hills 73.75 321 *e*P **P 14 08 08.8 +0.9**
MTUM *e*pP pP 14 08 33.5 +0.4
ULM Lac du Bonnet 73.94 342 P **P 14 08 07.8 -0.8**
comp=E,3.8nm,0.6s,mb4.3,baz=168,slow=8.8,SNR=5.8
LOHW Long Hollow 73.97 330 *e*P **P 14 08 09.1 0.0**
TPAW Teton Pass 74.04 330 *e*P **P 14 08 09.9 +0.4**
comp=E,3.9nm,1.0s,mb4.1
RRI2 Red Ridge 74.11 329 *e*P **P 14 08 10.4 +0.5**
comp=E,10nm,0.9s,mb4.6
OMM Old Mammoth Mi 74.18 321 *e*P **P 14 08 11.0 +0.6**
OMM *e*pP pP 14 08 36.0 +0.4
ELK Elko 74.20 325 *e*P **P 14 08 11.0 +0.5**
comp=E,3.8nm,1.0s,mb4.1
IMW Indian Meadow 74.35 330 *e*P **P 14 08 11.0 -0.2**
comp=E,6.8nm,1.1s,mb4.3
VAH Vaihoa 74.43 259 *e*P **P 14 08 12.3 +0.1**
comp=E,29nm,0.9s,mb5.0
SCHQ Schefferville 74.63 1 P **P 14 08 12.1 -0.4**
comp=E,2.5nm,0.6s,mb4.1,baz=265,slow=13,SNR=3.4
LRV Little Rabbit 74.63 319 *e*P **P 14 08 14.1 +1.1**
PMOR Pomariorio Ree 74.75 259 *e*P **P 14 08 14.4 +0.4**
comp=E,26nm,1.1s,mb4.9
GCMT Greycliff 75.22 332 *e*P **P 14 08 16.4 +0.3**
HRY Holter Researc 76.89 331 *e*P **P 14 08 26.2 +0.7**
NSHM Saint Helena R 76.94 320 *e*P **P 14 08 26.3 +0.3**
SYO Syowa Base 77.86 160 ⇑P **P 14 08 29.5 -1.0**
SYO Syowa Base 77.86 160 ⇓PcP PcP 14 08 35.2 -5.1
BMO Blue Mountains 78.17 327 *e*P **P 14 08 33.1 +0.5**
comp=E,4.9nm,0.9s,mb4.2
BMO *e*pP pP 14 08 57.2 -0.9
VNDA Vanda 78.22 190 P **P 14 08 33.2 +0.9**
comp=E,2.0nm,0.8s,mb3.9,baz=138,slow=4.4,SNR=12
VNDA Vanda 78.22 190 P **P 14 08 33.2 +0.9**
WALA Waterton Lakes 79.57 332 *e*P **P 14 08 40.3 +0.1**
comp=E,6.2nm,1.2s,mb4.3
TSUM Tsumeb 80.55 107 *e*P **P 14 08 46.0 0.0**
comp=E,8.7nm,0.7s,mb4.7
EDM Edmonton 82.44 335 *e*P **P 14 08 54.1 -1.0**
BOSA Boshof 84.20 118 P **P 14 09 05.5 +0.8**
comp=E,6.4nm,0.8s,mb4.5,baz=175,slow=7.8,SNR=6.4
ESDC Sonseca Array 84.90 45 P **P 14 09 08.3 +0.5**
comp=E,0.2nm,0.3s,mb3.5,baz=225,slow=3.2,SNR=4.4
ESDC pP pP 14 09 35.7 +2.1
comp=E,0.4nm,0.3s,baz=242,slow=4.8,SNR=2.5
MAW Mawson 85.72 163 P **P 14 09 12.2 +1.1**
comp=E,2.0nm,0.5s,mb4.3,baz=259,slow=10,SNR=4.6
YKA Yellowknife Ar 89.82 341 P **P 14 09 31.5 +0.6**
comp=E,5.8nm,0.7s,mb4.8,baz=134,slow=4.9,SNR=8.6
YKA pP pP 14 09 57.7 +0.7
comp=E,3.9nm,0.7s,baz=135,slow=5.1,SNR=4.1
YKA Yellowknife Ar 89.82 341 P **P 14 09 31.6 +0.6**
YKA pP pP 14 09 57.7 +0.7
WRA Warramunga Arr 134.12 211 PKP PKPdf 14 15 50.2 +0.8
comp=E,1.5nm,0.7s,baz=162,slow=1.7,SNR=20
BVAR Borovoye Array 134.68 34 PKP PKPdf 14 15 51.6 +2.0
comp=E,0.3nm,0.5s,baz=270,slow=4.4,SNR=3.8
BVAR pPKP 14 16 19.9
comp=E,0.7nm,0.7s,baz=225,slow=2.1,SNR=3.8
ZAL Zalesovo 140.71 24 PKP PKPdf 14 16 02.1 +1.6
comp=E,1.4nm,0.3s,baz=168,slow=1.7,SNR=7.3
ZAL pPKP 14 16 30.7
comp=E,2.3nm,0.3s,baz=52,slow=3.6,SNR=2.4
MKAR Makanchi Array 144.54 35 PKP PKPdf 14 16 08.2 +0.9
comp=E,1.1nm,0.5s,baz=315,slow=1.7,SNR=7.0
MKAR pPKP 14 16 35.7
comp=E,1.8nm,0.7s,baz=315,slow=3.4,SNR=4.0
MKAR Makanchi Array 144.54 35 PKP PKPdf 14 16 08.2 +0.9
MKAR pPKP 14 16 35.7
WMQ Urumqi 149.37 34 *e*PKP PKPdf 14 16 16.0 +0.6
MJAR Matsushiro Arr 151.09 310 PKPbc PKPdf 14 16 25.8 +7.4
comp=E,4.5nm,0.8s,baz=87,slow=1.7,SNR=17
MAJO Matsushiro 151.10 310 *e*PKPbc PKPdf 14 16 25.3 +7.0
MAT Matsushiro 151.10 310 PKP PKPdf 14 16 25.1 +6.8
MAT Matsushiro 151.10 310 *e*PKP PKPdf 14 16 25.0 +6.7
SONM Songino Array 152.06 7 PKP PKPdf 14 16 22.1 +2.7
comp=E,2.9nm,0.8s,baz=207,slow=3.2,SNR=3.8
SONM PKPbc PKPdf 14 16 28.3 +8.9
comp=E,2.2nm,0.5s,baz=286,slow=1.1,SNR=13
SONM pPKPbc 14 16 56.4
comp=E,2.6nm,0.6s,baz=303,slow=0.9,SNR=5.5
CN2 Changchun 153.43 336 *e*PKP PKPdf 14 16 22.8 +1.4
SSE Sheshan 165.69 322 *e*PKP PKPdf 14 16 36.1 +0.3
NJ2 Nanjing 166.14 331 *e*PKP PKPdf 14 16 37.4 +1.3

*IDC **08** 14:19:56.4±1.1, 36.89S×177.53E, h306km±13km, mb3.7/1, mb1 3.8/2, mb1mx3.2/11, mbtmp4.2/2, Error ellipse: s-maj=46.5km s-min=28.3km az=138.0*
*NEIC **08** 14:19:58.1, 36.56S×177.32E, h282km, mb4.1/1, After WEL.*
*WEL **08** 14:19:58.0±0.5, 36.52S×177.33E, h281km±4km, ML4.5/17, Error ellipse: s-maj=6.4km s-min=5.2km az=0.0*
ISC 08 14:19:56.4±0.9, 36.80S±0.09×177.5E±0.1, h314km±7km, n70, σ0=89/80, mb3.9/2, 10C-1D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.00**	**140**	PN	**P**	**14 20 37.9**	**-0.6**
MXZ				SN	**S**	**14 21 09.2**	**-2.1**
MXZ	**Matakaoa Point**	**1.00**	**140**	*e*P	**P**	**14 20 37.9**	**-0.5**
MYRZ	**Mayor Island**	**1.12**	**244**	PN	**P**	**14 20 37.3**	**-1.8**
MARZ	**Manawahe**	**1.36**	**209**	*e*PN	**P**	**14 20 39.6**	**-0.7**
MARZ	**Manawahe**	**1.36**	**209**	P	**P**	**14 20 40.1**	**-0.3**
PUZ	**Puketiti**	**1.41**	**155**	⇑PN	**P**	**14 20 41.1**	**+0.5**
PUZ				SN	**S**	**14 21 13.8**	**-1.5**
PUZ	**Puketiti**	**1.41**	**155**	⇑P	**P**	**14 20 41.1**	**+0.4**
PUZ				S	**S**	**14 21 13.9**	**-1.4**
URZ	**Urewera**	**1.49**	**192**	P	**P**	**14 20 40.8**	**-0.4**
URZ	44nm,0.3s,baz=320,slow=5.8,SNR=417			S	**S**	**14 21 14.0**	**-2.2**
URZ	**Urewera**	**1.49**	**192**	⇑PN	**P**	**14 20 40.8**	**-0.4**
URZ				SN	**S**	**14 21 14.3**	**-1.9**
URZ	**Urewera**	**1.49**	**192**	P	**P**	**14 20 40.7**	**-0.5**
LIRZ	**Lichensteins R**	**1.50**	**216**	PN	**P**	**14 20 40.9**	**-0.3**
LIRZ	**Lichensteins R**	**1.50**	**216**	P	**P**	**14 20 40.9**	**-0.3**
MWZ	**Matawai**	**1.53**	**179**	⇑PN	**P**	**14 20 41.9**	**+0.4**
MWZ				SN	**S**	**14 21 16.3**	**-0.4**
MWZ	**Matawai**	**1.53**	**179**	⇑P	**P**	**14 20 41.9**	**+0.5**
MWZ				S	**S**	**14 21 15.4**	**-1.3**
TAZ	**Tarawera**	**1.64**	**209**	PN	**P**	**14 20 42.6**	**+0.5**
TAZ	**Tarawera**	**1.64**	**209**	P	**P**	**14 20 42.6**	**+0.5**
PATZ	**Paeroa**	**1.86**	**212**	PN	**P**	**14 20 44.2**	**+0.5**
PATZ	**Paeroa**	**1.86**	**212**	P	**P**	**14 20 43.9**	**+0.2**
KNZ	**Kokohu**	**2.22**	**177**	⇑PN	**P**	**14 20 47.8**	**+1.2**
KNZ				SN	**S**	**14 21 26.9**	**+1.3**
KNZ	**Kokohu**	**2.22**	**177**	⇑*e*P	**P**	**14 20 47.7**	**+1.2**
BKZ	**Black Stump Fm**	**2.50**	**198**	⇑PN	**P**	**14 20 49.2**	**+0.3**
BKZ				SN	**S**	**14 21 30.1**	**+0.3**
BKZ	**Black Stump Fm**	**2.50**	**198**	⇓P	**P**	**14 20 49.2**	**+0.3**
BKZ				S	**S**	**14 21 29.6**	**-0.2**
WTVZ	**West Tongariro**	**2.76**	**213**	PN	**P**	**14 20 52.0**	**+0.7**
WTVZ	**West Tongariro**	**2.76**	**213**	P	**P**	**14 20 51.9**	**+0.6**
OTVZ	**Oturere**	**2.77**	**211**	PN	**P**	**14 20 52.3**	**+0.9**
OTVZ				SN	**S**	**14 21 34.9**	**+0.6**
TWVZ	**Taurewa**	**2.79**	**215**	PN	**P**	**14 20 52.4**	**+0.8**
TWVZ	**Taurewa**	**2.79**	**215**	P	**P**	**14 20 52.2**	**+0.6**
NGZ	**Ngauruhoe**	**2.81**	**212**	PN	**P**	**14 20 52.4**	**+0.7**
NGZ	**Ngauruhoe**	**2.81**	**212**	P	**P**	**14 20 52.2**	**+0.5**
CNZ	**Chateau**	**2.85**	**212**	PN	**P**	**14 20 52.7**	**+0.6**
CNZ	**Chateau**	**2.85**	**212**	P	**P**	**14 20 52.7**	**+0.6**
WPVZ	**Whakapapa**	**2.86**	**212**	P	**P**	**14 20 52.8**	**+0.7**
TUVZ	**Tukino**	**2.87**	**210**	P	**P**	**14 20 53.1**	**+0.9**
FWVZ	**Far West T-bar**	**2.90**	**212**	P	**P**	**14 20 52.9**	**+0.4**
WNVZ	**Wahianoa**	**2.94**	**210**	P	**P**	**14 20 53.5**	**+0.6**
MOVZ	**Moawhango**	**2.95**	**207**	P	**P**	**14 20 53.2**	**+0.2**
VRZ	**Vera Road**	**3.18**	**222**	P	**P**	**14 20 56.5**	**+1.2**
PWZ	**Pawanui**	**3.26**	**189**	⇑P	**P**	**14 20 57.4**	**+1.3**
TSZ	**Takapari Road**	**3.47**	**200**	⇑P	**P**	**14 20 58.8**	**+0.5**
WAZ	**Wanganui**	**3.56**	**213**	P	**P**	**14 20 59.7**	**+0.6**
NEZ	**North Egmont**	**3.65**	**226**	P	**P**	**14 21 02.0**	**+1.9**
PKE	**Pukeiti**	**3.67**	**228**	P	**P**	**14 21 02.0**	**+1.7**
BFZ	**Birch Farm**	**4.00**	**194**	*e*P	**P**	**14 21 04.7**	**+0.9**
MRZ	**Mangatainoka R**	**4.14**	**201**	P	**P**	**14 21 05.4**	**+0.1**
KIW	**Kapiti Island**	**4.53**	**206**	P	**P**	**14 21 09.3**	**-0.4**
MTW	**Mount Morrison**	**4.62**	**199**	P	**P**	**14 21 10.8**	**+0.1**
CAW	**Cannon Point**	**4.70**	**203**	P	**P**	**14 21 11.3**	**-0.3**
MSWZ	**Moikau Station**	**4.93**	**200**	P	**P**	**14 21 14.1**	**-0.1**
MRW	**Makara Radio**	**4.93**	**205**	*e*P	**P**	**14 21 13.9**	**-0.3**
WEL	**Wellington**	**4.96**	**205**	*e*P	**P**	**14 21 14.6**	**+0.1**
SNZO	**South Karori**	**5.00**	**205**	*e*Pn	**P**	**14 21 15.4**	**+0.4**
BHW	**Baring Head**	**5.04**	**203**	*e*P	**P**	**14 21 15.5**	**+0.1**
NNZ	**Nelson**	**5.46**	**215**	*e*P	**P**	**14 21 19.3**	**-1.0**
QRZ	**Quartz Range**	**5.59**	**222**	*e*P	**P**	**14 21 20.4**	**-1.4**
BSWZ	**Blackbirch Sta**	**5.66**	**209**	*e*P	**P**	**14 21 22.6**	**0.0**
THZ	**Tophouse**	**6.11**	**214**	*e*P	**P**	**14 21 27.2**	**-0.8**
KHZ	**Kahutara**	**6.39**	**207**	*e*P	**P**	**14 21 31.6**	**+0.2**
DSZ	**Denniston Nort**	**6.63**	**220**	*e*P	**P**	**14 21 33.1**	**-1.2**
LTZ	**Lake Taylor**	**7.21**	**212**	*e*P	**P**	**14 21 40.8**	**-0.4**
MQZ	**McQueen's Vall**	**7.83**	**207**	*e*P	**P**	**14 21 48.3**	**-0.5**
WVZ	**Waitaha Valley**	**8.14**	**218**	*e*P	**P**	**14 21 51.8**	**-0.8**
RPZ	**Rata Peaks**	**8.48**	**214**	P	**P**	**14 21 55.5**	**-1.2**
RPZ	1.1nm,0.3s,baz=3.7,slow=7.4,SNR=13			S	**S**	**14 23 30.0**	**-1.5**
RPZ	**Rata Peaks**	**8.48**	**214**	*e*P	**P**	**14 21 56.3**	**-0.5**
FOZ	**Fox Glacier**	**9.02**	**219**	*e*P	**P**	**14 22 01.4**	**-1.9**
ODZ	**Otahua Downs**	**9.73**	**210**	*e*P	**P**	**14 22 13.1**	**+1.1**
JCZ	**Jackson Bay**	**9.86**	**220**	*e*P	**P**	**14 22 12.9**	**-0.6**
WRAB	**Tennant Creek**	**41.15**	**282**	*e*P	**P**	**14 27 11.9**	**-0.2**
	4.8nm,0.5s,mb4.0						
WRA	**Warramunga Arr**	**41.15**	**282**	P	**P**	**14 27 11.7**	**-0.5**
	3.0nm,0.5s,mb3.8,baz=122,slow=7.2,SNR=60						
WRA				PcP	PcP	14 29 05.3	-0.2
	0.3nm,0.4s,baz=122,slow=2.9,SNR=5.8						
ARCES	**ARCESS Array B**	**143.86**	**344**	PKP	PKPdf	14 38 52.9	-0.2
	1.6nm,0.9s,baz=45,slow=1.7,SNR=6.4						
FINES	**FINESS Array B**	**149.52**	**333**	PKPbc	PKPdf	14 39 08.9	+6.2
	1.5nm,0.9s,baz=34,slow=5.0,SNR=4.0						
FINES				PKPab	PKPab	14 39 13.7	-2.3
	0.9nm,0.4s,baz=64,slow=5.8,SNR=6.9						

NNC 08 14:20:45.8±14.0, 37.92N×71.73E, h253km±196km, mpv3.8, 3C-2D, Error ellipse: s-maj=182.5km s-min=104.9km az=28.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**5.16**	**23**	⇓P	P	14 22 02.9	-1.3
	6.5nm,0.3s						
AAK				⇑S	S	14 23 06.7	+1.3
	42nm,0.8s						
KK31	**Karatay Array**	**5.26**	**350**	P	P	14 22 04.4	-1.0
	3.9nm,0.5s,baz=178,slow=14,SNR=47						
KK31				⇑S	S	14 23 08.6	+1.0
	34nm,0.6s						
AB31	**Akbulak array**	**14.17**	**327**	⇑P	P	14 23 59.2	+2.4
	0.3nm,0.3s,baz=133,slow=14,SNR=23						
AB31				⇓S	S	14 26 29.0	+0.8
	2.9nm,0.5s						
KOLN	**Koldanda**	**14.20**	**132**	*e*P	P	14 23 40.2	-17
	7.7nm,0.4s						
GKN	**Gorkha**	**14.65**	**129**	*e*P	P	14 23 46.8	-16
	12nm,0.5s						
GKN				*e*S	S	14 26 13.4	-26
KKN	**Kakani**	**15.20**	**128**	*e*P	P	14 23 53.6	-16
	9.4nm,0.5s						
DMN	**Daman**	**15.22**	**129**	*e*P	P	14 23 54.0	-16
	13nm,0.7s						
PKI	**Pulchoki**	**15.44**	**128**	*e*P	P	14 23 57.4	-15
	10nm,0.5s						

*CSEM **08** 14:24:26.6±0.1, 36.61N×4.47W, h71km±1km, mb2.9/18, Error ellipse: s-maj=2.7km s-min=1.6km az=171.0*
*NEIC **08** 14:24:28.1, 36.57N×4.52W, h73km, MG2.9(MDD), After MDD.*
*SFS **08** 14:24:28.0, 36.57N×4.52W, h74km*
MDD 08 14:24:28.4±0.7, 36.57N×4.52W, h72km±5km, mb3.0/20, 1C-1D, Error ellipse: s-maj=6.0km s-min=3.5km az=165.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMIJ	**Mijas**	**0.21**	**268**	⇓P	P	14 24 38.8	-0.4
	40nm,0.1s,SNR=18						
EMIJ				S	S	14 24 46.4	-0.9
	362nm,0.2s						
REAL	**Reales**	**0.56**	**261**	P	P	14 24 42.7	+0.6
REAL				S	S	14 24 47.5	-4.7
REAL	**Reales**	**0.56**	**261**	*e*P	P	14 24 42.7	+0.6
REAL				*e*S	S	14 24 47.5	-4.7
ELOJ	**Sierra Loja**	**0.65**	**27**	P	P	14 24 42.7	-0.2
	9.0nm,0.2s,SNR=13						
ELOJ				S	S	14 24 53.4	-0.3
	20nm,0.2s,SNR=7.9						
ERON	**Agron**	**0.72**	**52**	⇑P	P	14 24 43.5	-0.3
	18nm,0.2s,SNR=18						
ERON				S	S	14 24 55.2	-0.1
	17nm,0.2s,SNR=10.0						
LIJA	**Lijar**	**0.79**	**295**	P	P	14 24 45.0	+0.5
LIJA				S	S	14 24 53.1	-3.5
LIJA	**Lijar**	**0.79**	**295**	*e*P	P	14 24 45.0	+0.4
LIJA				*e*S	S	14 24 53.1	-3.5
ELUQ	**Luque**	**1.01**	**11**	P	P	14 24 46.4	-0.9
	8.0nm,0.1s,SNR=7.9						
ELUQ				S	S	14 25 00.1	-1.3
	65nm,0.2s,SNR=7.9						
ECOG	**Cogollos-Vega**	**1.04**	**47**	P	P	14 24 47.2	-0.4
	6.7nm,0.1s,SNR=12						
ECOG				S	S	14 25 01.4	-0.6
	26nm,0.1s,SNR=21						
ECOG	**Cogollos-Vega**	**1.04**	**47**	P	P	14 24 47.2	-0.5
	6.7nm,0.1s,SNR=12						
ECOG				S	S	14 25 01.6	-0.4
	26nm,0.1s,SNR=21						
ECOG	**Cogollos-Vega**	**1.04**	**47**	P	P	14 24 47.2	-0.4
ECOG				S	S	14 25 01.6	-0.5
EQUE	**Quentar**	**1.07**	**53**	P	P	14 24 47.5	-0.6
	5.4nm,0.3s,SNR=7.9						
EQUE				S	S	14 25 01.2	-1.5
	11nm,0.2s,SNR=7.9						
ESPR	**Espera**	**1.12**	**286**	P	P	14 24 48.7	0.0
	9.5nm,0.1s,SNR=28						
ESPR				S	S	14 25 02.2	-1.6
	38nm,0.2s,SNR=10						
ESPR	**Espera**	**1.12**	**286**	P	P	14 24 48.7	0.0
	9.5nm,0.1s,SNR=28						
ESPR				S	S	14 25 02.2	-1.6
	38nm,0.2s,SNR=10						
ESPR	**Espera**	**1.12**	**286**	P	P	14 24 48.7	0.0
ESPR				S	S	14 25 02.2	-1.6
EBER	**Berja**	**1.35**	**75**	P	P	14 24 50.3	-1.6
	4.5nm,0.1s,SNR=11						
EBER				S	S	14 25 07.9	-1.3
	28nm,0.3s						
EBER	**Berja**	**1.35**	**75**	P	P	14 24 50.3	-1.6
	4.5nm,0.1s,SNR=11						
EBER				S	S	14 25 07.9	-1.4
	28nm,0.3s						
EALB	**Alboran**	**1.35**	**117**	P	P	14 24 50.4	-1.6
	1.9nm,0.1s,SNR=6.8						
EALB				S	S	14 25 06.8	-2.6
	15nm,0.2s						
EALB	**Alboran**	**1.35**	**117**	P	P	14 24 50.4	-1.6
	1.9nm,0.1s,SNR=6.8						
EALB				S	S	14 25 06.4	-3.0
	15nm,0.2s						
EALB	**Alboran**	**1.35**	**117**	P	P	14 24 50.4	-1.6
EALB				S	S	14 25 06.3	-3.1
EADA	**Adamuz**	**1.59**	**358**	P	P	14 24 53.9	-1.2
	3.2nm,0.1s,SNR=35						
EADA				S	S	14 25 12.8	-2.1
	21nm,0.1s,SNR=25						
EADA	**Adamuz**	**1.59**	**358**	P	P	14 24 53.9	-1.3
	3.2nm,0.1s,SNR=35						
EADA				S	S	14 25 12.8	-2.1
	21nm,0.1s,SNR=25						
ECAB	**El Cabril**	**1.67**	**335**	P	P	14 24 54.5	-1.6
	1.2nm,0.1s,SNR=10						
ECAB				S	S	14 25 13.3	-3.2
	2.7nm,0.0s,SNR=18						
ECAB	**El Cabril**	**1.67**	**335**	P	P	14 24 54.5	-1.6
	1.2nm,0.1s,SNR=10						
ECAB				S	S	14 25 13.3	-3.3
	2.7nm,0.0s,SNR=18						
EQES	**Quesada**	**1.69**	**43**	P	P	14 24 55.3	-1.1
	2.1nm,0.1s,SNR=14						
EQES				S	S	14 25 14.7	-2.4
	14nm,0.1s						
EQES	**Quesada**	**1.69**	**43**	P	P	14 24 55.3	-1.1
	2.1nm,0.1s,SNR=14						
EQES				S	S	14 25 14.7	-2.3
	14nm,0.1s						
EBAN	**Banos Encina**	**1.69**	**20**	P	P	14 24 54.9	-1.6
	3.5nm,0.1s,SNR=6.2						
EBAN				S	S	14 25 14.8	-2.4
	32nm,0.1s,SNR=6.2						
ENIJ	**Nijar**	**1.90**	**77**	S	S	14 25 19.3	-2.7
	0.1nm,0.1s,SNR=7.9						
EHUE	**Huescar**	**1.98**	**50**	P	P	14 24 59.5	-0.8
	1.4nm,0.2s,SNR=7.4						
EHUE				S	S	14 25 21.7	-2.2
	4.3nm,0.2s						
EMIN	**Mina Concepcio**	**2.10**	**305**	P	P	14 25 00.4	-1.6
	3.2nm,0.1s,SNR=49						
EMIN				S	S	14 25 23.6	-3.3
	5.5nm,0.1s,SNR=20						
EMIN	**Mina Concepcio**	**2.10**	**305**	P	P	14 25 00.4	-1.6
	3.2nm,0.1s,SNR=49						
EMIN				S	S	14 25 23.5	-3.4
	5.5nm,0.1s,SNR=20						
EMIN	**Mina Concepcio**	**2.10**	**305**	P	P	14 25 00.4	-1.6
EMIN				S	S	14 25 23.5	-3.4
EGRO	**El Granado**	**2.56**	**293**	P	P	14 25 06.4	-2.2
	1.0nm,0.1s,SNR=7.9						
EGRO				S	S	14 25 34.5	-4.1
	2.7nm,0.0s,SNR=10						
EGRO	**El Granado**	**2.56**	**293**	P	P	14 25 06.4	-2.2
	1.0nm,0.1s,SNR=7.9						
EGRO				S	S	14 25 34.5	-4.1
	2.7nm,0.0s,SNR=10						
EVIA	**Vianos**	**2.61**	**37**	S	S	14 25 34.5	-5.3
	6.7nm,0.2s,SNR=9.3						
EBAD	**Badajoz**	**2.95**	**318**	P	P	14 25 12.3	-1.7
	10nm,0.1s,SNR=45						
EBAD				S	S	14 25 44.0	-4.3
	16nm,0.1s,SNR=17						
EBAD	**Badajoz**	**2.95**	**318**	P	P	14 25 12.3	-1.7
	10nm,0.1s,SNR=45						
EBAD				S	S	14 25 43.7	-4.6
	16nm,0.1s,SNR=17						
EBAD	**Badajoz**	**2.95**	**318**	P	P	14 25 12.3	-1.7
EBAD				S	S	14 25 43.7	-4.6
PBEJ	**Beja**	**3.04**	**300**	*e*P	P	14 25 14.0	-1.3
PBEJ				*e*S	S	14 25 46.8	-3.9
	11nm,0.1s						
PBEJ	**Beja**	**3.04**	**300**	P	P	14 25 13.9	-1.4
PBEJ				S	S	14 25 45.5	-5.2
PBEJ	**Beja**	**3.04**	**300**	P	P	14 25 13.9	-1.4
PBEJ				*e*S	S	14 25 46.8	-3.9
	11nm,0.1s						
ESDC	**Sonseca Array**	**3.13**	**8**	P	P	14 25 14.6	-1.9
	2.0nm,0.1s,baz=189,slow=12,SNR=3.9						
ESDC				S	S	14 25 48.9	-3.9
	672μm,0.1s,baz=183,slow=24,SNR=5.0						
ESDC	**Sonseca Array**	**3.13**	**8**	P	P	14 25 14.6	-1.9
	2.0nm,0.1s,SNR=3.9						
ESDC				S	S	14 25 47.6	-5.2
	672μm,0.1s,SNR=5.0						
ESDC	**Sonseca Array**	**3.13**	**8**	P	P	14 25 14.6	-1.9
ESDC				S	S	14 25 47.6	-5.3
ETOB	**Tobarra**	**3.14**	**48**	P	P	14 25 14.5	-2.2
	2.0nm,0.1s,SNR=44						
ETOB				S	S	14 25 47.1	-6.0
	1.7nm,0.1s,SNR=11						
ETOB	**Tobarra**	**3.14**	**48**	P	P	14 25 14.5	-2.1
	2.0nm,0.1s,SNR=44						
ETOB				S	S	14 25 47.1	-5.9
	1.7nm,0.1s,SNR=11						
PTEO	**Sao Teotonio**	**3.50**	**287**	*e*P	P	14 25 20.7	-1.1
PTEO				*e*S	S	14 25 57.7	-4.5
	7.9nm,0.3s						
PTEO	**Sao Teotonio**	**3.50**	**287**	P	P	14 25 20.7	-1.1
PTEO				S	S	14 25 57.5	-4.7
PCBR	**Castelo Branco**	**4.01**	**325**	*e*P	P	14 25 27.1	-1.7
PCBR				*e*S	S	14 26 08.4	-6.5
	4.4nm,0.1s						
PCBR	**Castelo Branco**	**4.01**	**325**	P	P	14 25 27.0	-1.8
PCBR				S	S	14 26 08.3	-6.6
EBEN	**Beniarda**	**4.02**	**57**	P	P	14 25 26.3	-2.6
	0.4nm,0.1s,SNR=7.9						
EBEN				S	S	14 26 08.9	-6.2
	0.2nm,0.0s,SNR=7.9						
EBEN	**Beniarda**	**4.02**	**57**	P	P	14 25 26.3	-2.6
	0.4nm,0.1s,SNR=7.9						
EBEN				S	S	14 26 08.5	-6.5
	0.2nm,0.0s,SNR=7.9						
EBEN	**Beniarda**	**4.02**	**57**	P	P	14 25 26.3	-2.6
EBEN				S	S	14 26 08.6	-6.5
ECHE	**Chera**	**4.11**	**42**	P	P	14 25 27.5	-2.8
	0.4nm,0.1s,SNR=7.9						
ECHE				S	S	14 26 12.6	-4.9
	2.3nm,0.1s,SNR=6.6						
ECHE	**Chera**	**4.11**	**42**	P	P	14 25 27.5	-2.7
ECHE				S	S	14 26 12.6	-4.8
PBRG	**Braganca**	**5.50**	**342**	*e*P	P	14 25 47.7	-1.8
PBRG				*e*S	S	14 26 45.2	-7.0
	1.8nm,0.1s						
PBRG	**Braganca**	**5.50**	**342**	P	P	14 25 47.6	-1.9
PBRG				S	S	14 26 44.8	-7.4
ECAL	**Calabor**	**5.63**	**343**	P	P	14 25 49.5	-1.7
	0.4nm,0.1s,SNR=7.9						
ECAL				S	S	14 26 48.5	-6.9
	0.9nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**5.79**	**39**	S	S	14 26 51.0	-8.2
	2.9nm,0.3s,SNR=7.9						
ESAC	**San Caprasio**	**6.03**	**30**	S	S

2.3nm,0.2s,SNR=7.3
EQES S Sn 15 01 13.1 -19
SNR=4.0
ETOB Tobarra 2.97 353 P Pn 15 01 01.3 -2.5
5.0nm,0.2s,SNR=19
EBEN Beniarda 3.08 13 P Pn 15 01 02.9 -2.5
2.0nm,0.3s,SNR=4.0
EMIJ Mijas 3.10 287 P Pn 15 01 04.2 -1.4
EVIA Vianos 3.15 340 P Pn 15 01 04.3 -2.0
EADA Adamuz 3.72 313 P Pn 15 01 15.2 +0.7
0.2nm,0.2s,SNR=4.0
EADA Adamuz 3.72 313 P Pn 15 01 12.0 -2.5
EIBI Ibiza 3.85 30 P Pn 15 01 13.7 -2.6
5.0nm,0.2s,SNR=8.2
ECAB El Cabril 4.20 306 P Pn 15 01 18.3 -3.0
0.2nm,0.1s,SNR=4.0
EMIN Mina Concepcio 4.93 296 P Pn 15 01 27.3 -4.4
0.2nm,0.2s,SNR=4.0
ETOS Mallorca 5.11 36 P Pn 15 01 31.8 -2.4
3.3nm,0.3s,SNR=5.5

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*BJI **08** 15:02:13.9, 3.00S×138.04E, h33km, mB5.1, mb4.9, Ms4.4, Msz4.2*
*MOS **08** 15:02:13.1±0.8, 2.33S×138.16E, h10km, mb4.8/15, Error ellipse: s-maj=20.0km s-min=8.5km az=107.8*
*IDC **08** 15:02:13.1±0.8, 2.29S×138.34E, mb4.4/7, mb1 4.4/9, mb1mx4.4/14, mbtmp4.3/9, ML4.0/1, MS4.2/11, Ms1 4.1/11, ms1mx3.9/22, Error ellipse: s-maj=38.9km s-min=18.0km az=77.0*
*NEIC **08** 15:02:14.9±0.3, 2.33S×138.24E, h10km, mb4.8/7, Error ellipse: s-maj=15.9km s-min=6.8km az=87.0*
ISC 08 15:02:15.3±2.9, 2.34S±0.05×138.23E±0.09, h23km±21km, n84, σ0§97/76, mb4.7/34, MS4.1/14, 5C-1D, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**11.31**	**129**	Pn	**P**	**15 04 59.9**	**+1.0**
	0.5nm,0.3s,baz=305,slow=16,SNR=2.3						
PMG	**Port Moresby**	**11.31**	**129**	*e*Pn	**P**	**15 05 01.0**	**+2.1**
	25nm,0.8s						
PMG	**Port Moresby**	**11.31**	**129**	P	**P**	**15 04 59.9**	**+1.0**
PMG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KAKA	**Kakadu**	**11.79**	**209**	*e*P	**P**	**15 05 11.9**	**+6.6**
	comp=Z,38nm,0.6s						
WRAB	**Tennant Creek**	**17.89**	**192**	*e*Pn	**P**	**15 06 24.8**	**+0.3**
	comp=Z,69nm,0.9s						
WRAB				*e*S	**S**	**15 09 40.9**	**+0.2**
WRAB	**Tennant Creek**	**17.89**	**192**	*e*P	**P**	**15 06 24.8**	**+0.2**
WRAB				*e*S	**S**	**15 09 40.9**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,69nm,0.9s						
WB2	**Warramunga Arr**	**17.90**	**192**	*e*P	**P**	**15 06 24.2**	**-0.5**
WB2				*e*S	**S**	**15 09 32.4**	**-8.5**
WRA	**Warramunga Arr**	**17.90**	**192**	P	**P**	**15 06 22.9**	**-1.8**
	comp=Z,0.5nm,0.3s,baz=12,slow=12,SNR=33						
WRA				S	**S**	**15 09 33.0**	**-8.0**
	comp=Z,0.3nm,0.3s,baz=18,slow=23,SNR=5.3						
WRA	**Warramunga Arr**	**17.90**	**192**	P	**P**	**15 06 22.9**	**-1.8**
WRA				S	**S**	**15 09 33.0**	**-8.0**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CTA	**Charters Tower**	**19.30**	**157**	*e*P	**P**	**15 06 46.9**	**+5.2**
	comp=Z,9.6nm,1.0s						
CTA	**Charters Tower**	**19.30**	**157**	P	**P**	**15 06 40.2**	**-1.5**
	baz=339,slow=14,SNR=2.3						
CTAO	**Charters Tower**	**19.30**	**157**	*e*P	**P**	**15 06 41.8**	**+0.1**
FITZ	**Fitzroy Crossi**	**19.95**	**217**	*e*P	**P**	**15 06 50.8**	**+1.9**
	comp=Z,14nm,0.8s						
FITZ	**Fitzroy Crossi**	**19.95**	**217**	P	**P**	**15 06 48.0**	**-0.9**
	comp=Z,16nm,0.8s,baz=5.0,slow=15,SNR=10						
FITZ				S	**S**	**15 10 19.5**	**-7.1**
	comp=Z,19nm,0.6s,baz=9.4,slow=5.4,SNR=4.8						
MBWA	**Marble Bar**	**25.97**	**223**	*e*P	**P**	**15 07 48.9**	**+0.6**
CBIJ	**Chichi jima**	**29.51**	**7**	LR	LR	15 19 06.2	
	comp=Z,263nm,19.4s,MS3.9,baz=52,slow=34						
STKA	**Stephens Creek**	**29.55**	**174**	P	**P**	**15 08 16.4**	**-4.2**
	comp=Z,1.3nm,0.6s,mb3.8,baz=340,slow=12,SNR=2.3						
STKA				LR	LR	15 21 45.9	
	comp=Z,768nm,19.8s,MS4.3,baz=347,slow=40						
STKA	**Stephens Creek**	**29.55**	**174**	*e*P	**P**	**15 08 17.1**	**-3.5**
JOW	**Kunigami**	**30.56**	**342**	LR	LR	15 19 52.1	
	comp=Z,256nm,19.6s,MS3.9,baz=120,slow=35						
JHJ	**Hachijo jima 2**	**35.30**	**2**	LR	LR	15 20 17.2	
	comp=Z,254nm,20.2s,MS4.0,baz=200,slow=31						
JNU	**Nakatsue**	**35.95**	**349**	LR	LR	15 21 13.8	
	comp=Z,224nm,19.4s,MS3.9,baz=160,slow=32						
SSE	**Sheshan**	**37.00**	**335**	*e*P	**P**	**15 09 26.8**	**+1.6**
SSE				PP	PP	15 10 56.2	+4.4
SSE				PCP	PcP	15 11 41.7	-4.6
SSE				S	**S**	**15 15 09.0**	**+0.2**
SSE				SS	SS	15 17 48.6	+10
SSE				AMB	AMB		
	comp=Z,22nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,76nm,4.0s						
SSE				LR	LR		
	comp=N,87nm,24.4s,MS3.5						
SSE				LR	LR		
	comp=E,34nm,24.2s,MS3.5						
SSE				LR	LR		
	comp=Z,114nm,20.7s,MS3.6						
MJAR	**Matsushiro Arr**	**38.68**	**360**	LR	LR	15 24 04.1	
	comp=Z,172nm,20.8s,MS3.9,baz=190,slow=34						
NJ2	**Nanjing**	**38.83**	**333**	*e*P	**P**	**15 09 38.9**	**-1.7**
NJ2				AP	pP	15 09 48.5	+0.9
NJ2				XP	sP	15 09 52.3	+1.8
NJ2				S	**S**	**15 15 31.0**	**-5.6**
NJ2				AMB	AMB		
	comp=Z,80nm,1.0s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,90nm,6.0s						
NJ2				LR	LR		
	comp=N,430nm,25.1s						
NJ2				LR	LR		
	comp=E,400nm,19.8s						
NJ2				LR	LR		
	comp=Z,190nm,15.4s						
GYA	**Guiyang**	**41.83**	**315⇑**	*i*P	**P**	**15 10 06.7**	**+1.3**
GYA				PP	PP	15 11 48.7	+3.4
GYA				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.9						
KMI	**Kunming**	**43.92**	**311**	P	**P**	**15 10 23.2**	**+0.8**
KMI				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.4						
CD2	**Chengdu**	**46.59**	**318**	P	**P**	**15 10 46.1**	**+2.4**
CN2	**Changchun**	**47.35**	**347**	*e*P	**P**	**15 10 54.6**	**+5.1**
MDJ	**Mudanjiang**	**47.38**	**352**	P	**P**	**15 10 54.1**	**+4.3**
MDJ				AMB	AMB		
	comp=Z,4.0nm,1.1s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,52nm,6.1s						
MDJ				LR	LR		
	comp=N,75nm,21.7s,MS3.7						
MDJ				LR	LR		
	comp=E,39nm,21.7s,MS3.7						
MDJ				LR	LR		
	comp=Z,102nm,21.0s,MS3.8						
YSS	**Yuzh-Sakhalins**	**49.25**	**4**	*d*P	**P**	**15 11 04.0**	**-0.2**
YSS				pmax	pmax		
	comp=Z,5.0nm,1.7s,mb4.3						
RAO	**Raoul Island**	**49.50**	**127**	LR	LR	15 28 11.0	
	comp=Z,532nm,19.7s,MS4.5,baz=299,slow=32						
LZH	**Lanzhou**	**49.90**	**323**	*e*P	**P**	**15 11 09.6**	**+0.2**
LZH				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.3						
GTA	**Gaotai**	**54.49**	**324⇑**	*i*P	**P**	**15 11 44.2**	**+0.5**
GTA				PP	PP	15 13 49.8	+2.4
GTA				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.7						
GTA				AMB	AMB		
	comp=Z,84nm,3.8s						
GTA				LR	LR		
	comp=N,93nm,15.6s,MS4.1						
GTA				LR	LR		
	comp=E,98nm,19.8s,MS4.1						
GTA				LR	LR		
	comp=Z,119nm,20.5s,MS4.0						
SONM	**Songino Array**	**57.19**	**335**	P	**P**	**15 12 02.3**	**-0.6**
	comp=Z,1.4nm,0.9s,mb4.0,baz=149,slow=8.6,SNR=5.5						
SONM				LR	LR	15 37 29.7	
	comp=Z,150nm,18.6s,MS4.1,baz=82,slow=37						
CIT	**Chita**	**58.05**	**342**	*e*P	**P**	**15 12 08.3**	**-0.7**
PKI	**Pulchoki**	**58.85**	**304**	*e*P	**P**	**15 12 13.0**	**-1.9**
KKN	**Kakani**	**59.04**	**304**	*e*P	**P**	**15 12 16.2**	**0.0**
	comp=Z,16nm,0.8s,mb5.1						
DMN	**Daman**	**59.11**	**304**	*e*P	**P**	**15 12 16.7**	**0.0**
	comp=Z,38nm,1.0s,mb5.4						
GKN	**Gorkha**	**59.64**	**304**	*e*P	**P**	**15 12 20.4**	**0.0**
	comp=Z,36nm,1.0s,mb5.3						
KOLN	**Koldanda**	**60.42**	**304**	*e*P	**P**	**15 12 25.9**	**+0.2**
	comp=Z,14nm,0.9s,mb5.0						
ZAK	**Zakamensk**	**60.45**	**335⇑**	*i*P	**P**	**15 12 25.4**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.5						
WMQ	**Urumqi**	**64.43**	**322**	*e*P	**P**	**15 12 53.0**	**+0.8**
WMQ				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,25nm,7.0s						
YAK	**Yakutsk**	**64.53**	**356**	*e*P	**P**	**15 12 52.3**	**-0.3**
	comp=Z,10nm,0.8s,mb4.9						
YAK	**Yakutsk**	**64.53**	**356**	*e*P	**P**	**15 12 52.3**	**-0.3**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
SEY	**Seymchan**	**65.98**	**7**	*i*P	**P**	**15 13 01.4**	**-0.4**
CASY	**Casey**	**66.73**	**192**	P	**P**	**15 13 05.8**	**-0.8**
MKAR	**Makanchi Array**	**69.21**	**322**	P	**P**	**15 13 22.6**	**+0.2**
	comp=Z,13nm,1.0s,mb4.8,baz=115,slow=8.3,SNR=56						
MKAR	**Makanchi Array**	**69.21**	**322**	P	**P**	**15 13 22.6**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,13nm,1.0s						
ZAL	**Zalesovo**	**71.39**	**330**	P	**P**	**15 13 33.9**	**-1.6**
	comp=Z,2.0nm,0.7s,mb4.2,baz=355,slow=4.3,SNR=11						
ZAL	**Zalesovo**	**71.39**	**330**	P	**P**	**15 13 33.9**	**-1.6**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.7s						
PPT	**Papeete**	**72.32**	**108**	*e*LR	LR	15 36 02.6	
	comp=Z,69nm,22.2s						
AAK	**Ala-Archa**	**72.61**	**316**	*e*P	**P**	**15 13 43.2**	**+0.2**
NVS	**Novosibirsk**	**72.64**	**330**	*i*P	**P**	**15 13 41.7**	**-1.2**
NVS				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.7						
NVS				pmax	pmax		
	comp=N,7.0nm,1.4s						
NVS				pmax	pmax		
	comp=E,8.0nm,1.4s						
BILL	**Bilibino**	**72.90**	**11**	*i*P	**P**	**15 13 42.8**	**-1.4**
BILL				*e*S	S	15 23 48.8	+41
BILL				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.2						
KKAR	**Karatay Array**	**75.53**	**316**	*i*P	**P**	**15 14 00.2**	**+0.2**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
VNDA	**Vanda**	**76.19**	**175**	P	**P**	**15 14 03.6**	**+0.5**
	comp=Z,2.1nm,1.1s,mb4.0,baz=320,slow=6.7,SNR=5.4						
VNDA				LR	LR	15 47 40.9	
	comp=Z,435nm,18.4s,MS4.8,baz=349,slow=36						
VNDA	**Vanda**	**76.19**	**175**	P	**P**	**15 14 03.6**	**+0.6**
VNDA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
VNDA				MLR	MLR		
	comp=Z,435nm,18.4s						
VOSK	**Vostochnaya**	**78.30**	**325**	P	**P**	**15 14 15.0**	**-0.1**
VOSK				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
BVA0	**Borovoye Array**	**78.74**	**325**	*i*P	**P**	**15 14 18.1**	**+0.5**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
BVAR	**Borovoye Array**	**78.74**	**325**	P	**P**	**15 14 18.1**	**+0.5**
	comp=Z,7.6nm,0.5s,mb4.9,baz=114,slow=7.5,SNR=59						
BVAR	**Borovoye Array**	**78.74**	**325**	P	**P**	**15 14 18.1**	**+0.5**
BVAR				pmax	pmax		
	comp=Z,8.0nm,0.5s						
BRVK	**Borovoye**	**78.81**	**325**	*e*P	**P**	**15 14 18.7**	**+0.7**
	comp=Z,3.8nm,0.6s,mb4.5						
BRVK	**Borovoye**	**78.81**	**325**	*e*P	**P**	**15 14 18.7**	**+0.8**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
MAW	**Mawson**	**82.28**	**202**	LR	LR	15 46 34.0	
	comp=Z,87nm,18.9s,MS4.1,baz=234,slow=32						
AB31	**Akbulak array**	**84.13**	**320**	*i*P	**P**	**15 14 46.1**	**+0.2**
AB31				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
SML	**Sawmill**	**84.29**	**27**	*e*P	**P**	**15 14 47.0**	**+0.6**
MCK	**McKinley**	**84.56**	**25**	P	**P**	**15 14 47.9**	**+0.2**
	comp=Z,7.2nm,1.3s,mb4.6						
MCK	**McKinley**	**84.56**	**25**	P	**P**	**15 14 47.9**	**+0.2**
MCK				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.6						
DIV	**Divide**	**85.31**	**28**	*e*P	**P**	**15 14 52.8**	**+1.3**
	comp=Z,56nm,1.1s,mb5.6						
ILAR	**Eielson Array**	**85.70**	**25**	P	**P**	**15 14 52.6**	**-0.8**
	comp=Z,2.9nm,0.9s,mb4.5,baz=263,slow=4.6,SNR=18						
ILAR	**Eielson Array**	**85.70**	**25**	P	**P**	**15 14 52.6**	**-0.8**
ILAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ARU	**Arti**	**86.23**	**327**	*e*P	**P**	**15 14 55.9**	**-0.3**
	comp=Z,6.3nm,1.0s,mb4.8						
ARU	**Arti**	**86.23**	**327⇑**	*i*P	**P**	**15 14 55.7**	**-0.5**
ARU				*e*		15 18 21.1	
ARU				*e*SS	SS	15 31 11.4	+0.6
ARU				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.7						
SYO	**Syowa Base**	**90.93**	**201**	⇑P	**P**	**15 15 21.0**	**+2.7**
KIV	**Kislovodsk**	**95.61**	**314**	*e*P	**P**	**15 15 39.3**	**-1.1**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb5.2						
OBN	**Obninsk**	**98.59**	**325**	*i*P	**P**	**15 15 52.6**	**-0.9**
OBN				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb5.2						
ARCES	**ARCESS Array B**	**100.01**	**341**	LR	LR	16 03 38.7	
	comp=Z,58nm,18.6s,MS4.1,baz=65,slow=37						
SDMD	**Soldier's Deli**	**131.24**	**36**	P	Pdif	15 18 31.9	+14
CPUP	**Villa Florida**	**147.77**	**153**	PKPbc	PKPdf	15 21 59.5	-1.2
	comp=Z,3.3nm,1.1s,baz=161,slow=3.5,SNR=2.6						
CPUP	**Villa Florida**	**147.77**	**153**	PKPbc	PKPdf	15 21 59.5	-1.2
CPUP	**Villa Florida**	**147.77**	**153**	PKP2	PKPab	15 21 59.5	-4.1
CPUP				pmax	pmax		
	comp=Z,3.0nm,1.1s						
LPAZ	**La Paz**	**148.05**	**126**	PKPbc	PKPdf	15 22 02.5	+1.2
	comp=Z,3.1nm,0.8s,baz=238,slow=1.6,SNR=12						
LPAZ	**La Paz**	**148.05**	**126**	PKP2	PKPab	15 22 02.6	-2.3
LPAZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SDV	**Santo Domingo**	**150.56**	**76**	*e*PKPdf	PKPdf	15 22 02.7	-2.8

GUC 08 15:23:09.1±0.4, 22.09S×68.89W, h123km±3km, ML4.0, 2C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.52**	**182⇑**	*i*P	P	15 23 28.5	+0.8
LVC				*i*S	S	15 23 43.1	+1.3
LVC				AMP		15 23 44.1	
	comp=N,7μm,0.5s						
SPCH	**San Pedro de A**	**1.04**	**142⇑**	*i*P	P	15 23 32.7	+0.6
SPCH				*i*S	S	15 23 50.9	+1.6
SPCH				AMP		15 24 02.6	
	comp=E,2μm,0.6s						
ANCH	**Antofagasta**	**2.11**	**221⇓**	*i*P	P	15 23 46.1	+1.5
ANCH				*i*S	S	15 24 13.0	+1.5
CPN1	**Cerro Paranal**	**2.88**	**208**	*e*P	P	15 23 55.9	+1.1
CPN1				*i*S	S	15 24 31.3	+1.9
CPN1				AMP		15 24 57.0	
	comp=E,442nm,0.6s						

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*MOS **08** 15:28:53.1±2.1, 50.02N×87.61E, h10km, mb4.1/1, Error ellipse: s-maj=16.2km s-min=9.5km az=91.3*
*IDC **08** 15:28:54.2±2.2, 50.15N×87.59E, mb3.4/1, mb1 3.8/4, mb1mx3.5/21, mbtmp3.7/4, ML3.7/3, Error ellipse: s-maj=27.6km s-min=10.4km az=99.0*
*NNC **08** 15:28:59.5±5.5, 50.09N×87.03E, h19km±16km, mpv3.8, Error ellipse: s-maj=41.4km s-min=20.2km az=105.0*
*NEIC **08** 15:28:59.6±2.7, 50.22N×86.99E, h10km, Error ellipse: s-maj=37.8km s-min=15.0km az=102.0*
ISC 08 15:28:55.7±0.8, 50.15N±0.05×87.44E±0.09, h10km, n22, σ1§19/36, mb3.5/1, 8C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAR	**Aktash**	**0.21**	**34**	*i*PG	**Pg**	**15 28 59.4**	**-0.8**
AKAR				*i*S	**Sg**	**15 29 03.6**	**+0.4**
UKR	**Ust'-Kan**	**1.88**	**296**	*e*PN	**Pn**	**15 29 30.9**	**+2.7**
UKR				*i*S	**Sn**	**15 29 56.9**	**+4.8**
TASR	**Tashtagol**	**2.63**	**6**	*e*PN	**Pn**	**15 29 42.6**	**+3.6**
TASR				*e*S	**Sn**	**15 30 18.1**	**+6.9**
CERR	**Cheremushki**	**3.67**	**41**	*e*PN	**Pn**	**15 29 54.3**	**+0.5**
CERR				*e*		15 30 02.2	
CERR				*i*S	**Sn**	**15 30 49.6**	**+12**
ZAL	**Zalesovo**	**4.13**	**338**	Pn	**Pn**	**15 30 00.0**	**-0.3**
	9.1nm,0.3s,baz=322,slow=9.3,SNR=61						
ZAL				Sn	**Sn**	**15 30 50.1**	**+0.9**
	12nm,0.3s,baz=319,slow=3.8,SNR=12						
ZAL				Lg		15 31 07.5	
	10nm,0.3s,baz=245,slow=23,SNR=3.7						
ZAL	**Zalesovo**	**4.13**	**338**	Pn	**Pn**	**15 30 00.0**	**-0.2**
ZAL				Sn	**Sn**	**15 30 50.1**	**+0.9**
ZAL				Lg		15 31 07.5	
MK31	**Makanchi Array**	**4.80**	**228**	⇑Pn	**Pn**	**15 30 09.7**	**0.0**
	23nm,0.6s,baz=58,slow=12,SNR=180						
MK31				⇑Sn	**Sn**	**15 31 06.7**	**+0.6**
	25nm,0.6s						
MK31				⇓Lg		15 31 25.3	
	68nm,0.7s						
MKAR	**Makanchi Array**	**4.80**	**228**	Pn	**Pn**	**15 30 09.7**	**-0.1**
	6.0nm,0.3s,baz=54,slow=12,SNR=157						
MKAR				Sn	**Sn**	**15 31 06.3**	**+0.3**
	11nm,0.3s,baz=49,slow=24,SNR=11						
MKAR				Lg		15 31 25.3	
	14nm,0.3s,baz=52,slow=29,SNR=11						
MKAR	**Makanchi Array**	**4.80**	**228**	Pn	**Pn**	**15 30 09.7**	**-0.1**
MKAR				Sn	**Sn**	**15 31 06.3**	**+0.3**
MKAR				Lg		15 31 25.3	
NVS	**Novosibirsk**	**5.36**	**333**	*e*PN	**Pn**	**15 30 16.5**	**-1.1**
NVS				*e*		15 30 34.3	
NVS				*e*		15 31 19.6	
KURK	**Kurchatov**	**5.67**	**279**	⇑Pn	**Pn**	**15 30 21.4**	**-0.6**
	4.2nm,0.7s						
KURK				⇑Lg		15 31 52.5	
	39nm,0.8s						
KURK	**Kurchatov**	**5.67**	**279**	*e*P	**Pn**	**15 30 19.0**	**-3.0**
	8.0nm,0.5s						
KURK				*e*S	**Sn**	**15 31 28.1**	**+0.1**
KURK	**Kurchatov**	**5.67**	**279**	*e*PN	**Pn**	**15 30 19.0**	**-3.0**
KURK				*e*S	**Sn**	**15 31 28.1**	**+0.2**
KURK				pmax	pmax		
	comp=Z,8.0nm,0.5s						
VOSK	**Vostochnaya**	**10.60**	**290**	⇓Pn	**P**	**15 31 28.4**	**-2.2**
	comp=Z,0.6nm,0.5s						
VOSK				⇑Sn	**S**	**15 33 24.4**	**-5.9**
	comp=Z,3.1nm,0.8s						
BVA0	**Borovoye Array**	**10.99**	**292**	⇑Sn	**S**	**15 33 31.7**	**-8.4**
	comp=Z,0.6nm,0.6s						
BVAR	**Borovoye Array**	**10.99**	**292**	Pn	**P**	**15 31 33.2**	**-2.8**
	comp=Z,0.3nm,0.3s,baz=90,slow=13,SNR=3.4						
BVAR				Sn	**S**	**15 33 31.7**	**-8.3**
	comp=Z,0.5nm,0.3s,baz=102,slow=21,SNR=4.4						
BRVK	**Borovoye**	**11.06**	**292**	*e*Pn	**P**	**15 31 38.3**	**+1.4**
	comp=Z,1.4nm,0.5s						
BRVK				*e*Sn	**S**	**15 33 35.3**	**-6.4**
BRVK	**Borovoye**	**11.06**	**292**	*e*P	**P**	**15 31 38.3**	**+1.4**
BRVK				*e*		15 33 35.3	
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SONM	**Songino Array**	**12.66**	**93**	Lg		15 35 30.0	
	comp=Z,0.1nm,0.3s,baz=280,slow=31,SNR=6.2						
KK31	**Karatay Array**	**13.58**	**245**	⇓Pn	**P**	**15 32 06.3**	**-4.4**
	comp=Z,0.6nm,0.4s,baz=58,slow=13,SNR=13						
KK31				⇑Sn	**S**	**15 34 33.9**	**-8.8**
	comp=Z,1.0nm,0.5s						
KK31				⇑Lg		15 36 00.3	
	comp=Z,2.7nm,0.7s						
AB31	**Akbulak array**	**17.78**	**278**	Pn	**P**	**15 33 05.7**	**+1.1**
	comp=Z,0.4nm,0.4s,baz=79,slow=10,SNR=7.4						
AKASG	**Malin Array Be**	**36.26**	**294**	P	**P**	**15 36 00.3**	**-0.3**
	comp=Z,0.2nm,0.3s,mb3.5,baz=61,slow=8.8,SNR=4.0						

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*IDC **08** 15:32:52.0±4.6, 31.31N×141.62E, mb3.8/3, mb1 3.8/6, mb1mx3.6/21, mbtmp3.7/6, ML3.4/3, MS3.6/1, Ms1 3.6/1, ms1mx2.6/24, Error ellipse: s-maj=177.7km s-min=19.5km az=71.0*
*JMA **08** 15:32:56.7±0.6, 31.57N×141.73E, h91km, M3.1*
ISC 08 15:32:52.7±2.5, 31.41N±0.05×141.9E±0.1, h26km±23km, n15, σ1§02/19, mb3.8/3, MS3.6/1, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.41**	**315**	P	**Pn**	**15 33 32.9**	**+1.6**
JHJ2				*e*S	**Sn**	**15 33 59.4**	**-0.9**
JHJ	**Hachijo jima 2**	**2.44**	**315**	Pn	**Pn**	**15 33 31.9**	**+0.2**
	6.0nm,0.3s,baz=94,slow=15,SNR=4.1						
JHJ				Sn	**Sn**	**15 33 59.1**	**-1.9**
	16nm,0.3s,baz=257,slow=22,SNR=4.1						
BSO1	**Boso 1**	**3.31**	**348**	P	**Pn**	**15 33 45.2**	**+1.1**
BSO1				*e*S	**Sn**	**15 34 22.9**	**-0.2**
JIM2	**Oshima 3**	**3.87**	**329**	*e*S	**Sn**	**15 34 38.3**	**+1.1**
CBIJ	**Chichi jima**	**4.31**	**176**	Pn	**Pn**	**15 33 57.5**	**-0.8**
	6.9nm,0.3s,baz=148,slow=22,SNR=3.6						
CBIJ				Sn	**Sn**	**15 34 48.4**	**-0.1**
	5.5nm,0.3s,baz=318,slow=20,SNR=2.2						
JHU	**Hanno**	**4.92**	**335**	P	**Pn**	**15 34 07.2**	**+0.3**
JRY	**Ryogami san**	**5.21**	**333**	P	**Pn**	**15 34 12.5**	**+1.5**
JHO	**Hitachi**	**5.29**	**349**	P	**Pn**	**15 34 10.3**	**-1.9**
JAG	**Ashikaga**	**5.38**	**339**	P	**Pn**	**15 34 12.9**	**-0.5**
MJAR	**Matsushiro Arr**	**5.94**	**330**	Pn	**Pn**	**15 34 21.5**	**+0.2**
	0.6nm,0.3s,baz=146,slow=11,SNR=6.4						
JFK	**Kawauchi**	**5.99**	**353**	P	**Pn**	**15 34 20.5**	**-1.6**
JFK				*e*S	**Sn**	**15 35 22.8**	**-7.8**
SONM	**Songino Array**	**31.51**	**312**	P	**P**	**15 39 15.5**	**+0.8**
	0.3nm,0.3s,mb3.6,baz=124,slow=9.3,SNR=3.3						
ZAL	**Zalesovo**	**46.11**	**316**	P	**P**	**15 41 16.7**	**+0.5**
	0.9nm,0.3s,mb4.2,baz=155,slow=9.4,SNR=3.3						
CTA	**Charters Tower**	**51.38**	**175**	LR	LR	15 59 30.4	
	comp=Z,63nm,20.6s,MS3.6,baz=56,slow=31						
WRA	**Warramunga Arr**	**51.57**	**189**	P	**P**	**15 41 59.1**	**+0.2**
	0.4nm,0.4s,mb3.7,baz=6.9,slow=7.8,SNR=5.9						

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*IDC **08** 15:32:56.7±8.9, 32.45S×179.77W, h206km±90km, mb3.9/3, mb1 3.9/5, mb1mx3.6/14, mbtmp4.3/5, Error ellipse: s-maj=88.3km s-min=43.5km az=179.0

KIW				eSN	S	15 36 50.1 +0.1
KIW	Kapiti Island	9.26	203	eP	P	15 35 08.0 0.0
MTW	Mount Morrison	9.35	200	ePN	P	15 35 07.7 -1.4
MTW	Mount Morrison	9.35	200	eP	P	15 35 08.3 -0.8
CAW	Cannon Point	9.43	202	eP	P	15 35 08.4 -1.8
MSWZ	Moikau Station	9.66	200	eP	P	15 35 12.5 -0.6
MRW	Makara Radio	9.66	203	eP	P	15 35 12.6 -0.6
WEL	Wellington	9.69	203	eP	P	15 35 13.2 -0.3
SNZO	South Karori	9.73	203	P	P	15 35 14.1 +0.1
SNZO				eS	S	15 36 58.6 -2.3
BHW	Baring Head	9.77	202	eP	P	15 35 13.6 -0.9
TUWZ	Tuamarina	10.10	205	ePN	P	15 35 17.4 -1.5
NNZ	Nelson	10.13	208	PN	P	15 35 19.0 -0.3
NNZ				SN	S	15 37 10.6 +0.3
NNZ	Nelson	10.13	208	eP	P	15 35 19.0 -0.3
QRZ	Quartz Range	10.17	212	ePN	P	15 35 20.5 +0.8
QRZ	Quartz Range	10.17	212	eP	P	15 35 20.2 +0.4
BSWZ	Blackbirch Sta	10.37	205	eP	P	15 35 22.3 -0.1
THZ	Tophouse	10.78	208	PN	P	15 35 27.1 -0.6
THZ				SN	S	15 37 26.2 +0.8
THZ	Tophouse	10.78	208	eP	P	15 35 27.1 -0.6
KHZ	Kahutara	11.11	204	ePN	P	15 35 30.8 -1.1
KHZ	Kahutara	11.11	204	eP	P	15 35 30.9 -1.0
DSZ	Denniston Nort	11.23	212	ePN	P	15 35 33.7 +0.3
DSZ	Denniston Nort	11.23	212	eP	P	15 35 33.7 +0.2
LTZ	Lake Taylor	11.89	207	ePN	P	15 35 40.7 -1.2
LTZ	Lake Taylor	11.89	207	eP	P	15 35 40.8 -1.1
MQZ	McQueen's Vall	12.55	204	ePN	P	15 35 48.6 -1.6
MQZ				SN	S	15 38 01.6 -4.7
MQZ	McQueen's Vall	12.55	204	eP	P	15 35 48.3 -1.9
RPZ	Rata Peaks	13.16	209	P	P	15 35 57.0 -0.8
	0.6nm,0.3s,baz=165,slow=17,SNR=6.1					
RPZ				S	S	15 38 17.3 -2.8
	0.4nm,0.3s,baz=358,slow=21,SNR=4.7					
STKA	Stephens Creek	32.14	261	P	P	15 39 08.5 +0.3
	4.9nm,1.1s,mb3.9,baz=115,slow=13,SNR=4.0					
WRAB	Tennant Creek	42.25	276	eP	P	15 40 33.7 +0.9
	6.9nm,0.5s,mb4.3					
WRA	Warramunga Arr	42.26	276	P	P	15 40 33.6 +0.8
	4.8nm,0.4s,mb4.3,baz=111,slow=8.0,SNR=128					
FITZ	Fitzroy Crossi	50.42	273	P	P	15 41 37.3 +0.7
	11nm,1.1s,mb4.1,baz=118,slow=2.2,SNR=6.1					
SNAA	Sanae	76.19	179		P	15 44 23.8 -0.6
SNAA	Sanae	76.19	179		P	15 44 35.2 +11
SNAA	Sanae	76.19	179	eP	P	15 44 23.9 -0.5
VNA3	Neumayer Olymp	76.42	177		P	15 44 26.8 +1.1
VNA2	Neumayer--Watz	76.83	178		P	15 44 29.6 +1.6
VNA2	Neumayer--Watz	76.83	178		P	15 44 33.1 +5.1
FINES	FINESS Array B	146.30	337	PKPbc	PKPbc	15 52 12.1 -1.4
	1.0nm,0.8s,baz=27,slow=3.1,SNR=6.1					

*IDC **08** 15:33:30.9±0.9, 67.14N×21.31E, mb1 2.9/4, mb1mx2.8/21, mbtmp2.8/4, ML2.5/4, Error ellipse: s-maj=17.4km s-min=6.5km az=110.0*
*NAO **08** 15:33:31.9±1.1, 67.11N×21.10E, ML2.0*
*BER **08** 15:33:32.9±4.0, 67.09N×20.88E, ML1.7, ML2.0(NAO), Suspected explosion*

HEL 08 15:33:31.7±0.1, 67.09N×20.95E, ML2.3, ML2.4(UPP), **ML1.7**(BER), **Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASU	Masugnsbyn	0.55	47	i P	Pg	15 33 41.7	-1.0
PAJU	Pajala	0.85	93	i P	Pg	15 33 46.6	-2.0
KUA	Kurravaara	0.91	345	eP	Pg	15 33 47.5	-2.2
LANU	Lannavaara	1.05	22	eP	Pb	15 33 50.2	-2.2
NIKU	Nikkaluokta	1.08	318	eP	Pb	15 33 50.7	-2.3
SJUU	Sjulsmark	1.61	170	eP	Pn	15 34 00.0	-1.4
LILU	Lilltraesk	1.86	194	eP	Pn	15 34 04.0	-1.2
LILU				eS	Sn	15 34 29.1	-0.6
KIF	Kilpisjarvi	1.93	358	eP	Pn	15 34 06.3	+0.3
KIF				eS	Sn	15 34 31.7	+0.3
KTK1	Kautokeino	2.12	23	eP	Pn	15 34 09.0	+0.2
KTK1				eSG	Sg	15 34 37.2	-5.1
KTK1				AML	AML	15 34 40.6	
	comp=Z,10nm,0.3s						
SGF	Sodankyl	2.20	78	eP	Pn	15 34 09.6	-0.3
SGF				eSG	Sg	15 34 39.1	-5.7
BURU	Burvik	2.52	176	eP	Pn	15 34 13.8	-0.8
TRO	Tromso	2.67	345	eP	Pn	15 34 19.1	+2.5
TRO				eS	Sn	15 34 51.2	+1.0
TRO				AML	AML	15 34 58.5	
	comp=Z,4.7nm,0.3s						
MOR8	Moi Rana	2.75	254	eSG	Sg	15 34 52.0	-11
MOR8				AML	AML	15 34 58.0	
	comp=Z,5.5nm,0.2s						
OUL	Oulu	2.84	133	eP	Pn	15 34 18.4	-0.8
MELSS	Ber_school_2	2.85	269	eSg	Sg	15 35 01.2	-5.3
ARA0	ARCESS Array S	2.99	32	Pn	Pn	15 34 20.2	-1.0
	baz=210,slow=14						
ARA0				Sn	Sn	15 34 55.9	-2.3
	baz=209,slow=28						
ARA0				Lg		15 35 02.3	
	baz=216,slow=28						
ARA0	ARCESS Array S	2.99	32	eP	Pn	15 34 20.2	-1.0
ARA0				eS	Sn	15 34 55.9	-2.3
ARA0				eSG		15 35 02.3	
ARCES	ARCESS Array B	2.99	32	Pn	Pn	15 34 19.6	-1.7
	comp=Z,0.6nm,0.3s,baz=209,slow=14,SNR=39						
ARCES				Pg	Pg	15 34 21.1	-10
	comp=Z,0.6nm,0.3s,baz=208,slow=14,SNR=39						
ARCES				Lg		15 34 59.0	
	comp=Z,0.9nm,0.3s,baz=210,slow=25,SNR=7.8						
LOF	Lofoten	3.02	294	eSG	Sg	15 35 07.2	-5.2
LOF				AML	AML	15 35 13.2	
	comp=Z,7.6nm,0.5s						
UMAU	Umeaa	3.22	182	eP	Pn	15 34 23.1	-1.4
STOK	Stokkvaagen	3.24	260	eSG	Sg	15 35 13.1	-6.5
STOK				AML	AML	15 35 24.7	
	comp=Z,6.5nm,0.8s						
KEV	Kevo	3.49	37	eP	Pn	15 34 27.2	-1.2
KEV				eS	Sn	15 35 07.6	-3.5
KU4	Liikasenvaara	3.50	98	eP	Pn	15 34 27.2	-1.3
KJN	Kajaani	4.12	134	eP	Pn	15 34 36.2	-1.0
KJN				eS	Sn	15 35 23.3	-3.5
KJN				MSN		15 35 27.9	
	comp=Z,2.1nm,0.1s						
NSS	Namsos	4.50	239	eSG	Sg	15 35 52.2	-9.2
NSS				AML	AML	15 35 52.9	
	comp=Z,3.3nm,0.7s						
APA0	Apatity Array	4.69	78	Pn	Pn	15 34 42.7	-2.7
	baz=255,slow=12						
APA0				Sn	Sn	15 35 37.8	-3.6
	baz=263,slow=22						
APA0	Apatity Array	4.69	78	eP	Pn	15 34 42.7	-2.7
APA0				eS	Sn	15 35 37.8	-3.6
SUF	Sumiainen	4.91	151	MSN		15 35 48.9	
	comp=Z,1.1nm,0.1s						
KEF	Keuruu	5.22	159	MSN		15 35 56.9	
	comp=Z,0.9nm,0.1s						
KAF	Kangasniemi	5.50	153	MSN		15 36 00.4	
	comp=Z,0.9nm,0.1s						
FIA0	FINESS Array S	6.09	156	Pn	Pn	15 35 02.8	-2.4
	baz=344,slow=16						
FIA0				Sn	Sn	15 36 08.8	-7.7
	baz=342,slow=28						
FIA0	FINESS Array S	6.09	156	MSN		15 36 16.9	
	comp=Z,0.7nm,0.1s						
FINES	FINESS Array B	6.09	156	Pn	Pn	15 35 02.6	-2.5
	comp=Z,0.2nm,0.3s,baz=349,slow=14,SNR=7.2						
FINES				Sn	Sn	15 36 11.0	-5.5
	comp=Z,0.3nm,0.3s,baz=351,slow=24,SNR=5.5						
FINES				Lg		15 36 43.8	
	comp=Z,0.2nm,0.3s,baz=345,slow=27,SNR=3.3						
NB2	NORSAR Subarra	7.41	220	Pn	Pn	15 35 20.1	-3.7
	baz=18,slow=12						
NB2	NORSAR Subarra	7.41	220	eP	Pn	15 35 20.1	-3.7
NOA	NORSAR Array B	7.41	220	Pn	Pn	15 35 20.2	-3.5
	comp=Z,0.1nm,0.3s,baz=80,slow=12,SNR=2.7						
HFS	Hagfors	7.68	208	eP	Pn	15 35 23.8	-3.8
HFS	Hagfors	7.68	208	Pn	Pn	15 35 23.1	-4.5
	comp=Z,0.0nm,0.3s,baz=29,slow=15,SNR=5.1						
HFS				Sn	Sn	15 36 48.1	-8.3
	comp=Z,0.0nm,0.3s,baz=29,slow=36,SNR=4.0						
HFS	Hagfors	7.68	208	Pn	Pn	15 35 23.8	-3.8
	baz=38,slow=14						

*IDC **08** 15:52:11.2±1.2, 16.87N×145.81E, mb3.6/6, mb1 3.8/6, mb1mx3.7/19, mbtmp3.7/6, MS3.2/6, Ms1 3.2/6, ms1mx3.0/27, Error ellipse: s-maj=42.0km s-min=24.8km az=83.0*
*NEIC **08** 15:52:16.0±0.7, 16.77N×145.80E, h35km, mb4.3/2, Error ellipse: s-maj=31.8km s-min=11.6km az=82.0*

ISC 08 15:52:13.4±2.1, 16.82N±0.08×146.0E±0.3, h35km±15km, **n16**, σ0:52/11, **mb3.9**/7, **MS3.3**/4, **1D, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARN	Sarigan	0.29	245	⇓iP	P	15 52 21.5	+0.3
SAPN	Saipan	1.62	190	eP	P	15 52 40.0	0.0
SAPN				eS	S	15 52 59.5	-0.4
CBIJ	Chichi jima	10.83	341	LR	LR	15 57 35.8	
	comp=Z,44nm,20.5s,baz=92,slow=30						
JHJ	Hachijo jima 2	17.18	342	LR	LR	16 02 02.5	
	comp=Z,113nm,21.5s,baz=248,slow=35						
MJAR	Matsushiro Arr	20.83	342	P	P	15 56 53.3	-1.1
	0.8nm,0.6s,baz=163,slow=9.0,SNR=3.3						
MJAR				LR	LR	16 04 18.9	
	comp=Z,122nm,19.1s,MS3.3,baz=160,slow=35						
JNU	Nakatsue	21.22	323	LR	LR	16 03 49.3	
	comp=Z,45nm,21.1s,MS2.8,baz=60,slow=33						
WRA	Warramunga Arr	38.30	198	P	P	15 59 33.0	+0.5
	0.8nm,1.1s,mb3.4,baz=22,slow=9.6,SNR=4.2						
SONM	Songino Array	44.81	322	P	P	16 00 26.1	+0.4
	0.7nm,0.6s,mb3.6,baz=135,slow=10,SNR=4.0						
MKAR	Makanchi Array	60.00	315	P	P	16 02 19.1	+0.2
	1.1nm,0.6s,mb4.0,baz=93,slow=7.8,SNR=11						
KURK	Kurchatov	62.88	319	eP	P	16 02 38.2	0.0
	4.1nm,1.3s,mb4.4						
ILAR	Eielson Array	65.18	26	P	P	16 02 53.4	+0.4
	0.5nm,0.9s,mb3.5,baz=270,slow=6.8,SNR=5.0						
BVAR	Borovoye Array	68.12	321	P	P	16 03 11.0	-0.7
	1.4nm,0.8s,mb4.1,baz=90,slow=7.4,SNR=9.4						
BRVK	Borovoye	68.19	321	P	P	16 03 12.6	+0.4
	1.6nm,0.8s,mb4.1						
YKA	Yellowknife Ar	79.49	28	LR	LR	16 36 32.0	
	comp=Z,24nm,20.7s,MS3.5,baz=40,slow=34						
NOA	NORSAR Array B	94.44	340	LR	LR	16 47 36.3	
	comp=Z,14nm,21.6s,MS3.4,baz=90,slow=35						
LPAZ	La Paz	147.26	94	PKPbc	PKPdf	16 11 60.0	+8.3
	0.5nm,0.6s,baz=315,slow=4.3,SNR=3.4						

NDI 08 16:12:50.5±121.0, 23.36N×85.87E, h5km, **ML3.8, Southern India**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BWNR	Bhubaneshwar	3.05	181	eS	Pn	16 13 36.2	-4.2
BWNR				AML	AML	16 13 37.7	
	comp=E,2μm,0.2s						
BWNR				AML	AML	16 13 38.0	
	comp=N,2μm,0.4s						
BLSP	Bilaspur	3.66	251	eSB	Sn	16 14 16.2	-17
SHL	Shillong	5.91	67	ex	Sb	16 15 55.0	+9.4
VIS	Vishakhapatnam	6.09	203	i x	Pg	16 14 48.5	-3.6
BHPL	Bhopal	7.76	271	ex	x	16 15 52.6	
BHPL				eS	Sn	16 15 55.7	-21
BHPL				AML	AML	16 16 40.8	
	comp=N,32nm,1.0s						
BHPL				AML	AML	16 16 43.0	
	comp=E,32nm,1.0s						
AGRA	Agra	8.14	300	eP	P	16 14 49.0	-3.2
AGRA				i S	Sn	16 16 22.1	-3.5
AGRA				AML	AML	16 16 42.7	
	comp=N,114nm,0.6s						
AGRA				AML	AML	16 16 44.4	
	comp=E,122nm,0.6s						
AKL	Akola	8.63	254	i x	x	16 15 35.3	
SONA	Sohna	9.29	303	i S	Sn	16 16 53.4	-0.8
BHGR	Bahadurgarh	9.62	305	ex	P	16 15 17.6	+4.9
KUDL	Kundal	9.70	301	eP	P	16 15 11.4	-2.4
KUDL				eS	Sn	16 17 00.6	-3.8
KHET	Khetri	10.21	299	eP	P	16 15 16.5	-4.4
KHET				eS	S	16 17 07.7	-9.3
KHET				AML	AML	16 17 31.9	
	comp=E,7.9nm,0.5s						
KHET				AML	AML	16 17 32.1	
	comp=N,8.5nm,0.5s						
POO	Poona	12.21	249	ex	x	16 18 24.5	
KAD	Karad	12.50	243	ex	S	16 18 29.9	+17
KAD				ex	x	16 22 31.0	

*BJI **08** 16:30:08.1, 2.56S×138.62E, h25km, mB5.2, mb5.1, Ms4.5, Msz4.2*
*MOS **08** 16:30:08.9±0.9, 2.32S×138.25E, h10km, mb4.9/22, Error ellipse: s-maj=14.9km s-min=7.5km az=106.3*
*IDC **08** 16:30:09.3±0.5, 2.23S×138.32E, mb4.7/16, mb1 4.7/17, mb1mx4.7/19, mbtmp4.7/17, ML3.8/1, MS4.3/10, Ms1 4.3/10, ms1mx4.0/22, Error ellipse: s-maj=25.5km s-min=12.9km az=71.0*
*HRVD **08** 16:30:10.5±0.4, 2.11S×138.19E, h23km±2km, MW4.8/43, Centroid moment Tensor Solution. LP body waves: s15,c17;Mantle waves: s43,c60; Half duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}1.49±.20; $M_{\theta\theta}$0.57±.11; $M_{\phi\phi}$-2.06±.14; $M_{r\theta}$0.67±.20; $M_{\theta\phi}$1.38±.08; $M_{\phi r}$-0.77±.20; Best double couple: $M_0$2.356×10^16 NP1:φs3°, δ38°, λ130°. NP2:φs137°, δ62°, λ63°. Principal axes: T 1.843, Plg63°, Azm2°; N 1.029, Plg23°, Azm150°; P -2.869, Plg13°, Azm246°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **08** 16:30:10.5±0.2, 2.31S×138.26E, h10km, mb4.9/18 Error ellipse: s-maj=8.8km s-min=4.9km az=90.0*

ISC 08 16:30:10.9±2.0, 2.35S±0.05×138.27E±0.06, h21km±14km, **h25**km±3.2km:**pP-P, n123**, σ0:**90**/116, **mb4.9**/57, **MS4.2**/19, **6C-3D, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	11.28	129	Pn	P	16 32 55.0	+0.8
	1.0nm,0.3s,baz=313,slow=19,SNR=4.0						
PMG	Port Moresby	11.28	129	ePn	P	16 32 56.4	+2.2
	50nm,0.8s						
PMG	Port Moresby	11.28	129	P	P	16 32 55.0	+0.8
PMG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KAKA	Kakadu	11.80	209	eP	P	16 33 06.8	+5.6
	comp=Z,82nm,0.5s						
WRAB	Tennant Creek	17.89	192	eP	P	16 34 19.3	-1.0
	comp=Z,64nm,0.8s						
WRAB	Tennant Creek	17.89	192	i P	P	16 34 19.1	-1.2
WB2	Warramunga Arr	17.90	192	⇓iP	P	16 34 20.0	-0.4
WB2				eS	S	16 37 29.8	-6.9
WRA	Warramunga Arr	17.90	192	P	P	16 34 18.8	-1.6
	comp=Z,2.0nm,0.3s,baz=9.1,slow=12,SNR=39						
WRA				S	S	16 37 25.3	-11
	comp=Z,1.0nm,0.3s,baz=18,slow=23,SNR=4.7						
WRA				Lg		16 39 45.2	
	baz=1.5,slow=31,SNR=2.9						
WRA	Warramunga Arr	17.90	192	P	P	16 34 18.8	-1.6
WRA				S	S	16 37 25.3	-11
WRA				Lg		16 39 45.2	
CTA	Charters Tower	19.28	157	eP	P	16 34 41.3	+4.1
	comp=Z,13nm,0.6s						
CTA	Charters Tower	19.28	157	P	P	16 34 36.0	-1.2
	comp=Z,0.2nm,0.3s,baz=318,slow=14,SNR=2.6						
CTA				LR	LR	16 42 41.3	
	comp=Z,1μm,19.0s,baz=343,slow=39						
CTAO	Charters Tower	19.28	157	eP	P	16 34 41.3	+4.1
	comp=Z,18nm,0.8s						
CTAO	Charters Tower	19.28	157	eP	P	16 34 41.3	+4.1
CTAO				pmax	pmax		
	comp=Z,18nm,0.8s						
FITZ	Fitzroy Crossi	19.96	218	eP	P	16 34 43.6	-1.2
	comp=Z,40nm,0.7s						
FITZ				eS	S	16 38 15.6	-7.2
FITZ	Fitzroy Crossi	19.96	218	P	P	16 34 43.6	-1.3
	comp=Z,13nm,0.7s,baz=14,slow=13,SNR=11						
FITZ				S	S	16 38 13.7	-9.1
	comp=Z,18nm,0.5s,baz=152,slow=12,SNR=3.9						
HNR	Honiara	22.67	109	P	P	16 35 12.1	-0.3
	comp=Z,60nm,0.6s,mb5.2,baz=239,slow=12,SNR=2.9						
MBWA	Marble Bar	25.99	223	eP	P	16 35 44.3	+0.1
	comp=Z,53nm,0.7s,mb5.2						
CBIJ	Chichi jima	29.52	7	LR	LR	16 46 52.2	
	comp=Z,313nm,19.2s,MS4.0,baz=330,slow=34						
STKA	Stephens Creek	29.54	174	eP	P	16 36 17.1	+0.8
	comp=Z,3.3nm,0.6s,mb4.2						
STKA	Stephens Creek	29.54	174	P	P	16 36 17.3	+0.9
	comp=Z,3.6nm,0.5s,mb4.3,baz=344,slow=9.4,SNR=19						
STKA				LR	LR	16 49 50.4	
	comp=Z,1μm,18.3s,MS4.5,baz=344,slow=40						
JOW	Kunigami	30.57	342	LR	LR	16 46 19.9	
	comp=Z,355nm,19.6s,MS4.0,baz=284,slow=32						
KLBR	Kellerberrin	34.93	211	eP	P	16 37 02.6	-0.9
	comp=Z,15nm,0.7s,mb5.0						
QIZ	Qiongzhong	35.11	308	P	P	16 37 03.8	-1.3
QIZ				eS	S	16 42 31.0	-4.7
QIZ				SS	SS	16 44 53.7	+1.9
QIZ				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.9						
QIZ				LR	LR		
	comp=Z,240nm,14.8s,MS4.1						
JNU	Nakatsue	35.97	349	P	P	16 37 11.2	-1.0
	comp=Z,16nm,1.0s,mb4.9,baz=158,slow=4.1,SNR=4.0						
MUN	Mundaring	36.05	213	eP	P	16 37 13.0	0.0
	comp=Z,5.5nm,0.8s,mb4.5						
MUN	Mundaring	36.05	213	eP	P	16 37 13.0	0.0
MUN				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
SSE	Sheshan	37.02	335	eP	P	16 37 22.9	+1.8
SSE				S	S	16 43 04.8	-0.3
SSE				AMB	AMB		
	comp=Z,32nm,0.7s,mb5.3						
SSE				LR	LR		
	comp=N,253nm,19.8s,MS4.1						
SSE				LR	LR		
	comp=E,146nm,19.8s,MS4.1						
SSE				LR	LR		
	comp=Z,381nm,20.6s,MS4.2						
KULM	Kulim	38.34	281	eP	P	16 37 31.4	-0.9
MJAR	Matsushiro Arr	38.69	360	P	P	16 37 33.5	-1.6
	comp=Z,1.1nm,0.5s,mb3.8,baz=172,slow=8.6,SNR=3.4						
MJAR				PcP	PcP	16 39 46.6	-0.8
	comp=Z,1.6nm,0.8s,baz=180,slow=3.6,SNR=5.4						
MJAR	Matsushiro Arr	38.69	360	P	P	16 37 33.5	-1.6
MJAR						16 39 46.6	
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NJ2	Nanjing	38.86	333	eP	P	16 37 38.1	+1.6
NJ2				PP	PP	16 39 14.4	+4.9
NJ2				S	S	16 43 31.0	-1.9
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,120nm,5.2s						
NJ2				LR	LR		
	comp=N,1μm,23.1s						
NJ2				LR	LR		
	comp=E,740nm,28.2s						
NJ2				LR	LR		
	comp=Z,300nm,20.2s,MS4.1						
GYA	Guiyang	41.86	315	⇑iP	P	16 38 02.1	+0.7
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6						
NANT	Nan	42.51	301	⇓P	P	16 38 07.0	+0.2
KMI	Kunming	43.95	311	P	P	16 38 19.9	+1.4
KMI				AP	pP	16 38 25.0	+0.1
KMI				XP	sP	16 38 27.4	-0.2
KMI				PP	PP	16 40 03.5	+0.9
KMI				PPP	PPP	16 40 40.5	+0.4
KMI				S	S	16 44 47.8	-0.7
KMI				SS	SS	16 47 56.5	-1.0
KMI				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb4.4						
KMI				AMB	AMB		
	comp=Z,78nm,4.0s						
KMI				LR	LR		
	comp=N,105nm,19.5s,MS4.1						
KMI				LR	LR		
	comp=E,195nm,20.8s,MS4.1						
KMI				LR	LR		
	comp=Z,208nm,23.4s,MS4.0						
CHG	Chiang Mai	44.02	300	P	P	16 38 19.4	+0.3
XAN	Xi'an	45.53	325	P	P	16 38 30.9	-0.1
XAN				AP	pP	16 38 39.3	+1.8
XAN				AMB	AMB		
	comp=Z,18nm,0.9s,mb5.0						
CD2	Chengdu	46.62	318	P	P	16 38 40.6	+0.9
CN2	Changchun	47.36	347	eP	P	16 38 44.8	-0.6
CN2				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.7						
CN2				LR	LR		
	comp=N,270nm,16.0s,MS4.4						
CN2				LR	LR		
	comp=E,210nm,16.0s,MS4.4						
CN2				LR	LR		
	comp=Z,290nm,21.0s,MS4.2						
MDJ	Mudanjiang	47.40	352	P	P	16 38 45.3	-0.4
MDJ				AMB	AMB		
	comp=Z,11nm,1.4s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,88nm,4.3s						
YSS	Yuzh-Sakhalins	49.26	4	eP	P	16 38 58.9	-1.1
	comp=Z,6.1nm,0.6s,mb4.8						
YSS	Yuzh-Sakhalins	49.26	4	i P	P	16 38 59.3	-0.7
YSS				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
HHC	Hu-ho-hao-te	49.41	333	eP	P	16 38 59.5	-1.8
HHC				PP	PP	16 40 53.1	-2.9
HHC				PCS		16 44 19.1	
HHC				S	S	16 46 05.8	-0.2
HHC				SCS	ScS	16 48 48.5	-0.5
HHC				SS	SS	16 49 34.3	+0.4
HHC				AMB	AMB		
	comp=Z,15nm,0.6s,mb5.2						
HHC				AMB	AMB		
	comp=Z,123nm,4.2s						
HHC				LR	LR		
	comp=N,233nm,19.6s,MS4.3						
HHC				LR	LR		
	comp=E,164nm,17.8s,MS4.3						
HHC				LR	LR		
	comp=Z,227nm,21.4s,MS4.1						
LZH	Lanzhou	49.93	323	eP	P	16 39 06.1	+0.7
LZH				AP	pP	16 39 15.4	+3.5
LZH				XP	sP	16 39 18.4	+4.0
LZH				AMB	AMB		
	comp=Z,50nm,1.0s,mb5.5						
LZH				AMB	AMB		
	comp=Z,240nm,4.0s						
LZH				LR	LR		
	comp=E,780nm,18.2s						
LZH				LR	LR		
	comp=Z,550nm,19.1s,MS4.6						
URZ	Urewera	50.38	140	P	P	16 39 08.4	-0.3
	comp=Z,6.1nm,0.8s,mb4.7,baz=151,slow=8.7,SNR=3.1						
RPZ	Rata Peaks	50.42	149	P	P	16 39 09.6	+0.6
	comp=Z,18nm,0.7s,mb5.2,baz=274,slow=6.7,SNR=7.8						
HIA	Hailar	53.86	345	eP	P	16 39 33.0	-1.6
	comp=Z,7.4nm,0.8s,mb4.7						
HIA	Hailar	53.86	345	eP	P	16 39 33.0	-1.6
HIA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
GTA	Gaotai	54.52	324	⇑iP	P	16 39 40.2	+0.5
GTA				AP	pP	16 39 45.4	-0.8
GTA				XP	sP	16 39 48.7	0.0
GTA				PP	PP	16 41 43.6	+0.1
GTA				S	S	16 47 15

PET MLR MLR
comp=Z,100nm,18.0s,MS4.0
CIT Chita 58.07 342 *eP* **P 16 40 04.8 -0.1**
CIT *e* 16 42 11.5
CIT pmax pmax
comp=Z,34nm,1.6s,mb5.1
PKI Pulchoki 58.88 304 *eP* **P 16 40 10.8 -0.1**
comp=Z,19nm,0.7s,mb5.2
KKN Kakani 59.07 304 *eP* **P 16 40 12.3 +0.1**
comp=Z,47nm,0.9s,mb5.5
DMN Daman 59.15 304 *eP* **P 16 40 13.0 +0.2**
comp=Z,54nm,0.9s,mb5.6
GKN Gorkha 59.68 304 *eP* **P 16 40 16.4 0.0**
comp=Z,77nm,0.9s,mb5.7
KOLN Koldanda 60.45 304 *eP* **P 16 40 21.9 +0.2**
comp=Z,32nm,0.9s,mb5.3
ZAK Zakamensk 60.48 335 *eP* **P 16 40 21.1 -0.5**
ZAK pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
MOY Mondy 62.40 335 *eP* **P 16 40 35.1 +0.6**
MOY pmax pmax
comp=Z,27nm,2.2s,mb5.0
BOD Bodaibo 63.06 346 *eP* **P 16 40 36.6 -2.2**
BOD pmax pmax
comp=Z,7.0nm,1.5s,mb4.6
WMQ Urumqi 64.45 322⇓ *iP* **P 16 40 49.0 +0.8**
WMQ AP pP 16 40 59.0 +4.1
WMQ AMB AMB
comp=Z,32nm,1.0s,mb5.3
YAK Yakutsk 64.54 356 *eP* **P 16 40 46.8 -1.6**
comp=Z,34nm,0.8s,mb5.4
YAK Yakutsk 64.54 356 *c iP* **P 16 40 47.7 -0.7**
YAK pmax pmax
comp=Z,38nm,1.0s,mb5.4
SEY Seymchan 65.98 7 *i* P **P 16 40 57.9 +0.2**
CASY Casey 66.73 192 *eP* **P 16 41 02.3 -0.1**
comp=Z,15nm,1.3s,mb4.9
MKAR Makanchi Array 69.24 322 P **P 16 41 18.5 +0.1**
comp=Z,17nm,0.8s,mb5.1,baz=112,slow=7.9,SNR=126
MKAR LR LR 17 14 32.2
comp=Z,71nm,18.3s,MS3.9,baz=114,slow=38
MKAR Makanchi Array 69.24 322 P **P 16 41 18.5 +0.1**
MKAR LR LR 17 14 32.2
MKAR Makanchi Array 69.24 322 *eP* **P 16 41 18.6 +0.2**
MKAR pmax pmax
comp=Z,22nm,0.9s
ZAL Zalesovo 71.41 330 P **P 16 41 30.2 -1.3**
comp=Z,5.1nm,0.6s,mb4.6,baz=355,slow=6.6,SNR=26
ZAL Zalesovo 71.41 330 *i* P **P 16 41 30.4 -1.1**
ZAL pmax pmax
comp=Z,5.0nm,0.6s
KZA Kyzart 71.92 316 P **P 16 41 36.6 +1.9**
SNR=18
TKM2 Tokmak 2 71.98 317 P **P 16 41 35.9 +0.8**
SNR=12
PPT Papeete 72.29 108 *e*LR LR 17 03 42.3
comp=Z,94nm,22.8s
CHMS Chumysh 72.59 317 P **P 16 41 39.4 +0.7**
SNR=5.8
AAK Ala-Archa 72.64 316 *eP* **P 16 41 38.4 -0.6**
comp=Z,7.7nm,0.9s,mb4.6
AAK Ala-Archa 72.64 316 *c iP* **P 16 41 38.7 -0.3**
AAK pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
NVS Novosibirsk 72.66 330⇑ *iP* **P 16 41 37.7 -1.2**
NVS pmax pmax
comp=Z,16nm,1.1s,mb4.9
NVS pmax pmax
comp=N,10.0nm,1.4s
NVS pmax pmax
comp=E,14nm,1.4s
USP Ospenovka 72.86 317 P **P 16 41 40.9 +0.6**
SNR=26
BILL Bilibino 72.90 11 *i* P **P 16 41 38.0 -2.0**
BILL *e* 16 44 18.0
BILL pmax pmax
comp=Z,6.0nm,1.3s,mb4.4
BILL MLR MLR
comp=Z,100nm,18.0s,MS4.1
AML Almayashu 73.03 315 P **P 16 41 42.8 +1.5**
SNR=27
EKS2 Erkin-Say 73.15 316 P **P 16 41 43.1 +1.1**
SNR=11
KKAR Karatay Array 75.56 316 *i* P **P 16 41 56.2 +0.2**
KKAR pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
VNDA Vanda 76.17 175 P **P 16 41 59.6 +0.8**
comp=Z,2.4nm,0.8s,mb4.2,baz=320,slow=6.5,SNR=13
VNDA LR LR 17 15 46.6
comp=Z,495nm,18.7s,MS4.8,baz=349,slow=36
VNDA Vanda 76.17 175 P **P 16 41 59.6 +0.8**
VNDA pmax pmax
comp=Z,2.0nm,0.9s
VNDA MLR MLR
comp=Z,495nm,18.7s
VOSK Vostochnaya 78.33 325 P **P 16 42 11.2 +0.1**
VOSK pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
BVA0 Borovoye Array 78.77 325 *i* P **P 16 42 14.1 +0.6**
BVA0 pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
BVAR Borovoye Array 78.77 325 P **P 16 42 13.9 +0.4**
comp=Z,32nm,0.5s,mb5.5,baz=113,slow=7.5,SNR=308
BVAR Borovoye Array 78.77 325 P **P 16 42 13.9 +0.4**
BVAR pmax pmax
comp=Z,32nm,0.5s
BRVK Borovoye 78.84 325 *eP* **P 16 42 14.3 +0.4**
comp=Z,20nm,0.6s,mb5.2
BRVK Borovoye 78.84 325 *eP* **P 16 42 14.4 +0.5**
BRVK pmax pmax
comp=Z,20nm,0.6s,mb5.2
KDAK Kodiak Island 81.02 30 *eP* **P 16 42 26.2 +0.7**
comp=Z,5.5nm,0.7s,mb4.6
MAW Mawson 82.29 202 P **P 16 42 33.0 +1.1**
comp=Z,2.3nm,0.8s,mb4.1,baz=98,slow=8.1,SNR=3.8
MAW LR LR 17 18 48.7
comp=Z,192nm,19.0s,MS4.5,baz=220,slow=35
MAW Mawson 82.29 202 P **P 16 42 33.0 +1.1**
MAW pmax pmax
comp=Z,2.0nm,0.8s
MAW MLR MLR
comp=Z,192nm,19.0s
AB31 Akbulak array 84.16 320 P **P 16 42 42.3 +0.4**
AB31 pmax pmax
comp=Z,13nm,0.9s,mb5.1
SML Sawmill 84.28 27 *eP* **P 16 42 42.5 +0.4**
MCK McKinley 84.55 25 *eP* **P 16 42 43.5 0.0**
comp=Z,10nm,1.2s,mb4.8
MCK McKinley 84.55 25 *eP* **P 16 42 43.5 0.0**
MCK pmax pmax
comp=Z,10.0nm,1.2s,mb4.8
SVE Sverdlovsk 85.20 327 *eP* **P 16 42 48.0 +1.1**
SVE pmax pmax
comp=Z,45nm,2.3s,mb5.2
DIV Divide 85.30 28 *eP* **P 16 42 48.3 +1.1**
comp=Z,44nm,0.8s,mb5.6
ILAR Eielson Array 85.69 25 P **P 16 42 48.8 -0.4**
comp=Z,4.4nm,0.8s,mb4.8,baz=262,slow=4.8,SNR=33
ILAR Eielson Array 85.69 25 P **P 16 42 48.8 -0.4**
ILAR pmax pmax
comp=Z,4.0nm,0.8s
ARU Arti 86.25 327 *eP* **P 16 42 51.8 -0.4**
comp=Z,8.8nm,0.9s,mb5.0
ARU Arti 86.25 327⇑ *iP* **P 16 42 51.7 -0.4**
ARU *e* 16 46 16.0
ARU *e*SS SS 16 59 06.7 -0.5
ARU pmax pmax
comp=Z,9.0nm,1.1s,mb4.9
INK Inuvik 91.50 22 P **P 16 43 16.0 -0.7**
comp=Z,1.5nm,0.5s,mb4.6,baz=141,slow=6.8,SNR=5.0
INK Inuvik 91.50 22 P **P 16 43 16.0 -0.7**
INK pmax pmax
comp=Z,2.0nm,0.5s
KIV Kislovodsk 95.64 314 *eP* **P 16 43 37.1 +0.7**
KIV pmax pmax
comp=Z,6.0nm,1.0s,mb5.0
YKA Yellowknife Ar 99.95 27 LR LR 17 24 40.6
comp=Z,100nm,21.5s,MS4.3,baz=265,slow=33
ARCES ARCESS Array B 100.03 341 P P 16 43 54.7 -0.9
comp=Z,1.3nm,0.6s,baz=80,slow=7.4,SNR=6.5
ARCES LR LR 17 31 13.4
comp=Z,81nm,21.8s,MS4.2,baz=299,slow=37
ARCES ARCESS Array B 100.03 341 P P 16 43 54.7 -0.9
ARCES pmax pmax
comp=Z,1.0nm,0.6s
ARCES MLR MLR
comp=Z,81nm,21.8s
BRTR Keskin Array B 102.74 310 P Pdif 16 44 06.9 -1.6
comp=Z,0.9nm,0.7s,baz=90,slow=2.5,SNR=4.0
BRTR Keskin Array B 102.74 310 P Pdif 16 44 06.9 -1.6
BRTR pmax pmax
comp=Z,1.0nm,0.7s
GERES GERESS Array B 113.90 323 PKiKP 16 48 49.6
comp=Z,0.4nm,0.6s,baz=90,slow=1.3,SNR=4.3
GERES GERESS Array B 113.90 323 *i* PKIKP PKPdf 16 48 49.6 -3.0
DBIC Dimbokro 143.00 278 PKP PKPdf 16 49 43.6 -4.9
comp=Z,5.2nm,0.9s,baz=121,slow=5.7,SNR=4.2
DBIC Dimbokro 143.00 278 PKIKP PKPdf 16 49 43.6 -4.9
DBIC pmax pmax
comp=Z,5.0nm,0.9s
ROSC El Rosal 147.38 85 PKPbc PKPdf 16 49 56.4 +0.3
comp=Z,10nm,0.5s,baz=111,slow=22,SNR=5.6
LPAZ La Paz 148.01 126 PKPbc PKPdf 16 49 59.0 +2.1
comp=Z,7.9nm,0.9s,baz=242,slow=1.6,SNR=20
LPAZ La Paz 148.01 126 PKP2 PKPab 16 49 59.1 -1.5
LPAZ pmax pmax
comp=Z,8.0nm,0.9s
SDV Santo Domingo 150.53 76 PKPbc PKPdf 16 50 03.0 +2.0
comp=Z,12nm,0.2s,baz=218,slow=2.4,SNR=13
SDV PKPab PKPab 16 50 10.6 -0.5
comp=Z,14nm,0.2s,baz=270,slow=2.4,SNR=4.6
SDV Santo Domingo 150.53 76 *e*PKPbc PKPdf 16 50 03.6 +2.6
SDV *e*PKPab PKPab 16 50 11.8 +0.7
SAML Samuel 155.85 118 *e*PKPab PKPab 16 50 32.5 -1.0

ATH ***08*** *16:43:31.5, 39.01N×23.52E, h26km±6km, MD3.1/8, ML3.2*
THE ***08*** *16:43:31.7, 38.99N×23.36E, h9km, ML2.9*
NEIC ***08*** *16:43:31.5, 39.01N×23.52E, h26km, ML3.2(ATH), After ATH.*
CSEM ***08*** *16:43:31.2±0.1, 38.96N×23.41E, h8km, ML2.9, Error ellipse: s-maj=2.3km s-min=1.0km az=77.0*
ISC 08 16:43:30.8±0.6, 39.00N±0.02×23.38E±0.04, h9km±4km, n20, σ0s86/33, Aegean Sea
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
XOR Xorichti 0.39 339 *e*Pg **Pg 16 43 39.4 +0.6**
XOR *e*Sg **Sg 16 43 45.7 +1.6**
AOS Alonnisos 0.43 67 *e*Pg **Pg 16 43 40.1 +0.6**
AOS *e*Sg **Sg 16 43 47.0 +1.7**
AGG Agios Georgios 0.81 272 *e*Pg **Pg 16 43 46.1 -1.1**
AGG *e*Sg **Sg 16 43 58.1 +0.1**
MPAR Parnis Oros 0.90 162 *e*PN **Pn 16 43 48.0 -1.4**
MGER Gerania Oros 1.02 185 *e*PB **Pb 16 43 50.8 +0.7**
MGER *e*SN **Sn 16 44 05.5 -0.1**
PTL Penteli 1.03 158 *e*PN **Pn 16 43 51.0 -0.2**
ATH Athens Observa 1.06 165 *e*PN **Pn 16 43 51.4 -0.3**
ATH *e*SN **Sn 16 44 06.8 +0.1**
NSAL Nisos Salamina 1.10 176 *e*PN **Pn 16 43 52.5 +0.3**
NSAL *e*SN **Sn 16 44 07.5 0.0**
EVR Evrytania 1.23 266 *e*PN **Pn 16 43 56.7 +2.6**
NAIG Nisos Aigina 1.25 176 *e*PN **Pn 16 43 54.5 +0.1**
LIT Litokhoron 1.29 328 *e*Pg **Pg 16 43 55.2 -1.4**
LIT *e*Sg **Sg 16 44 13.7 -0.2**
PLG Polygyros 1.37 2 *e*PN **Pn 16 43 56.4 +0.2**
PLG *e*SN **Sn 16 44 14.5 0.0**
OUR Ouranopolis 1.41 19 *e*Pg **Pg 16 43 57.3 -1.7**
OUR *e*Sg **Sg 16 44 16.7 -1.1**
LOS Limnos 1.61 54 *e*Pb **Pb 16 43 59.3 -1.0**
LOS *e*Sb **Sb 16 44 21.1 +0.4**
THE Thessaloniki 1.66 349 *e*Pb **Pb 16 44 00.3 -0.8**
GRG Griva 2.09 339 *e*Pn **Pn 16 44 06.3 -0.2**
GRG *e*Sn **Sn 16 44 33.2 +0.4**
SRS Serrai 2.12 4 *e*Pn **Pn 16 44 06.8 0.0**
SRS *e*Sn **Sn 16 44 32.7 -0.8**
KNT Kendrikon 2.19 351 *e*Pn **Pn 16 44 08.6 +0.7**
KNT *e*Sn **Sn 16 44 35.9 +0.6**
FNA Florina 2.35 320 *e*Pn **Pn 16 44 10.6 +0.4**
IGT Igoumenitsa 2.42 284 *e*Pn **Pn 16 44 11.4 +0.2**

LDG ***08*** *17:01:32.9±0.1, 43.89N×7.22E, h10km, Md2.7/2, Ml2.6/7, Error ellipse: s-maj=1.9km s-min=1.5km az=144.0*
CSEM ***08*** *17:01:32.6±0.0, 43.89N×7.22E, h15km, ML2.6/8, Error ellipse: s-maj=1.0km s-min=0.9km az=153.0*
GEN ***08*** *17:01:32.3, 43.87N×7.19E, h5km, ML2.0*
ROM ***08*** *17:01:33.6±0.8, 44.01N×7.35E, h7km, Md2.4/3, Error ellipse: s-maj=12.3km s-min=2.6km az=132.0*
NEIC ***08*** *17:01:33.1, 43.89N×7.21E, h5km, ML2.6(LDG), ML2.5(STR), After STR.*
STR 08 17:01:33.1±0.2, 43.89N×7.21E, h5km±1km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0, Near south coast of France
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
MVIF Mont Vial 0.04 279 Pg Pg 17 01 35.5 +1.2
MVIF Sg Sg 17 01 37.5 +2.4
TOUF Mont Tournerai 0.13 13 Pg Pg 17 01 36.3 +0.5
TOUF Sg Sg 17 01 38.9 +1.3
SBF Sospel 0.17 99 *e*Pg Pg 17 01 36.7 +0.2
SBF *e*Sg Sg 17 01 39.2 +0.4
335nm,0.3s
REVF Revere 0.19 143 Pg Pg 17 01 37.3 +0.3
REVF Sg Sg 17 01 40.9 +1.4
AUTN L'Aution 0.19 56 Pg Pg 17 01 37.2 +0.2
AUTN Sg Sg 17 01 40.4 +0.8
SAOF Saorge 0.27 69 Pg Pg 17 01 38.2 -0.3
SAOF Sg Sg 17 01 42.3 +0.2
CALN Calern 0.27 239 Pg Pg 17 01 38.7 +0.1
CALN Sg Sg 17 01 42.9 +0.7
NEGI Negi 0.36 97 P Pg 17 01 39.7 -0.6
NEGI Negi 0.36 97 P Pg 17 01 39.7 -0.6
NEGI S Sg 17 01 44.7 -0.5
STV Sta Anna Valdi 0.36 13 P Pg 17 01 40.0 -0.4
STV Sta Anna Valdi 0.36 13 P Pg 17 01 40.0 -0.4
ENR Entracque 0.37 24 P Pg 17 01 40.2 -0.3
ENR Entracque 0.37 24 P Pg 17 01 40.2 -0.4
ENR S Sg 17 01 45.0 -0.5
IMI Imperia 0.49 87 Pg Pg 17 01 42.4 -0.6
IMI Sg Sg 17 01 49.3 -0.2
23nm,0.1s
IMI Imperia 0.49 87 P Pg 17 01 42.4 -0.6
IMI S Sg 17 01 48.7 -0.9
FRF La Foret Royal 0.52 231 *e*Pg Pg 17 01 42.9 -0.7
FRF *e*Sg Sg 17 01 49.6 -1.0
47nm,0.2s
DOI San Damiano 0.61 2 Pg Pg 17 01 44.6 -0.8
DOI Sg Sg 17 01 52.4 -1.2
106nm,0.2s
ROB Roburent 0.62 49 P Pg 17 01 44.8 -0.8
ROB S Sg 17 01 53.0 -1.0
ROB Roburent 0.62 49 P Pg 17 01 44.8 -0.8
ROB S Sg 17 01 53.0 -0.9
SURF Saint Ours 0.66 334 Pg Pg 17 01 45.4 -0.8
SURF Sg Sg 17 01 54.1 -0.9
LMR La Mourre 0.75 223 *e*Pg Pg 17 01 47.0 -1.2
LMR *e*Sg Sg 17 01 56.7 -1.5
56nm,0.2s
FIN Finale Ligure 0.79 66 Pg Pg 17 01 47.6 -1.2
7.0nm,0.1s
FIN S Sg 17 01 58.8 -0.6
FIN Finale Ligure 0.79 66 P Pg 17 01 47.6 -1.2
FIN S Sg 17 01 58.8 -0.5
TAVF Tavernes 0.88 252 Pg Pg 17 01 50.1 -0.6
MBDF Montbardon 0.89 340 *e*Pg Pg 17 01 49.6 -1.4
MBDF *e*Sg Sg 17 02 00.9 -2.0
24nm,0.2s
STOF St-Etienne Org 0.95 277 Pg Pg 17 01 53.4 +1.4
BHB Bricherasio 0.95 2 P Pb 17 01 50.0 -1.7
BHB S Sb 17 02 01.5 -2.9
BHB Bricherasio 0.95 2 P Pb 17 01 50.0 -1.7
BHB S Sb 17 02 01.5 -2.9
RRL Cesana Torines 1.07 344 P Pb 17 01 52.6 -1.2
RRL S Sb 17 02 06.8 -1.2
RRL Cesana Torines 1.07 344 P Pb 17 01 52.6 -1.1
RRL S Sb 17 02 06.8 -1.2
VILF Villemus 1.08 269 Pg Pg 17 01 53.9 -0.8
FENE Fenestrelle 1.15 355 P Pb 17 01 52.8 -2.2
FENE S Sb 17 02 07.4 -2.6
FENE Fenestrelle 1.15 355 P Pb 17 01 52.8 -2.2
FENE S Sb 17 02 07.4 -2.6
PUYF Puyloubier 1.15 252 Pg Pg 17 01 54.2 -1.9
PUYF Sg Sg 17 02 10.0 -1.5
PCP Pian Castagno 1.16 55 P Pb 17 01 54.5 -0.8
PCP Pian Castagno 1.16 55 P Pb 17 01 54.5 -0.8
SMRF Simiane la Rot 1.18 275 *e*Pg Pg 17 01 54.9 -1.9
SMRF *e*Sg Sg 17 02 11.7 -0.9
34nm,0.3s
BERF Bertagne 1.25 243 Pg Pg 17 01 56.2 -1.8
RSP Reno Superiore 1.26 2 P Pb 17 01 54.0 -3.0
RSP S Sb 17 02 11.2 -2.2
RSP Reno Superiore 1.26 2 P Pb 17 01 54.0 -3.0
RSP S Sb 17 02 11.2 -2.2
GELF Grande-Etoile 1.39 249 Pg Pg 17 01 58.3 -2.6
GELF Sg Sg 17 02 17.4 -2.0
ORIF Oris-en-Rattie 1.40 318 *e*Pg Pg 17 01 59.2 -1.9
ORIF *e*Sg Sg 17 02 18.6 -1.2
24nm,0.4s
LSD Ceresole Reale 1.57 359 P Pn 17 02 00.9 -0.9
LSD Ceresole Reale 1.57 359 P Pn 17 02 00.9 -0.8
LPG La Plagne 1.64 349 *e*Pg Pg 17 02 03.3 -2.6
LPG *e*Sg Sg 17 02 26.3 -1.4
11nm,0.6s
LPL La Plagne 1.66 348 *e*Pg Pg 17 02 03.7 -2.6
LPL *e*Sg Sg 17 02 26.0 -2.4
6.2nm,0.3s
PGF Pioggiola 1.87 135 *e*Pn Pn 17 02 02.2 -3.9
PGF *e*Sn Sn 17 02 23.6 -6.8
VIVF Saint-Julien-I 2.06 299 *e*Pn Pn 17 02 05.3 -3.5
VIVF *e*Sn Sn 17 02 31.0 -4.2
4.1nm,0.2s
LASF Ste Croix 2.43 276 *e*Pn Pn 17 02 11.0 -3.1
LASF *e*Sn Sn 17 02 38.5 -6.0
2.1nm,0.2s
MTLF Montolieu 3.67 263 *e*Pn Pn 17 02 28.4 -3.3
MTLF *e*Sn Sn 17 03 09.7 -6.2

WEL 08 17:11:10.7±0.2, 38.95S×177.93E, h38km±1km, ML3.6/7, 4C-1D, Error ellipse: s-maj=1.7km s-min=1.1km az=90.0, North Island
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KNZ Kokohu 0.21 251 ⇓ *e*PN P 17 11 17.6 -0.2
KNZ SN S 17 11 22.8 +0.1
KNZ SN S 17 11 22.8 +0.1
MWZ Matawai 0.69 333 ⇑ *e*PN P 17 11 23.5 -0.5
MWZ SN S 17 11 32.8 -1.0
PUZ Puketiti 0.92 16 ⇑ *e*PN P 17 11 26.8 -0.4
PUZ SN S 17 11 39.4 +0.1
URZ Urewera 0.94 317 ⇑ *e*PN P 17 11 27.1 -0.5
URZ SN S 17 11 39.5 -0.6
BKZ Black Stump Fm 1.14 259 ⇑ *e*PN P 17 11 30.0 -0.4
BKZ SN S 17 11 44.5 -0.6
TAZ Tarawera 1.32 302 PN P 17 11 32.9 -0.2
PWZ Pawanui 1.35 217 PN P 17 11 32.5 -1.1
MXZ Matakaoa Point 1.42 12 PN P 17 11 33.8 -0.6
PATZ Paeroa 1.43 293 PN P 17 11 33.7 -0.9
LIRZ Lichensteins R 1.54 308 *e*PN P 17 11 35.0 -1.1
WIZ White Island 1.54 338 *e*PN P 17 11 35.2 -0.9
RITZ Rihia Road 1.61 268 PN P 17 11 37.1 -0.2
MOVZ Moawhango 1.75 254 *e*PN P 17 11 38.8 -0.3
TUVZ Tukino 1.80 259 *e*PN P 17 11 39.7 -0.1
CNZ Chateau 1.87 262 PN P 17 11 40.5 -0.4
WPVZ Whakapapa 1.87 262 PN P 17 11 40.5 -0.3
WPVZ *e*SN S 17 12 02.1 -1.4
FWVZ Far West T-bar 1.87 260 *e*PN P 17 11 40.5 -0.4
TSZ Takapari Road 1.88 233 PN P 17 11 39.4 -1.6
TRVZ Turoa 1.88 259 PN P 17 11 40.9 -0.2
TWVZ Taurewa 1.94 266 PN P 17 11 41.6 -0.3
MTVZ Mangateitei 1.96 256 PN P 17 11 41.6 -0.5
PKVZ Pokaka 2.04 260 PN P 17 11 42.9 -0.4

IDC ***08*** *17:12:56.6±0.9, 1.82S×99.83E, mb4.5/14, mb1 4.6/14, mb1mx4.3/20, mbtmp4.5/14, MS4.1/4, Ms1 4.0/4, ms1mx3.4/17, Error ellipse: s-maj=32.8km s-min=15.8km az=49.0*
BJI ***08*** *17:12:58.6, 1.81S×99.95E, h24km, mB4.9, mb4.7, Ms4.3, Msz3.7*
MOS ***08*** *17:13:00.7±1.1, 1.54S×100.01E, h33km, mb4.8/19, Error ellipse: s-maj=20.9km s-min=11.4km az=104.4*
NEIC ***08*** *17:13:00.8±0.4, 1.86S×99.77E, h30km, mb4.7/9, Error ellipse: s-maj=12.5km s-min=7.3km az=51.0*
ISC 08 17:12:58.7±2.1, 1.84S±0.07×99.82E±0.07, h27km±15km, h33km±1.5km: pP-P, n71, σ1s06/70, mb4.6/38, MS3.9/8, 2C-1D, Southern Sumatera
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KULM Kulim 7.13 7 *e*Pn **Pn 17 14 44.8 +0.9**
KKM Kota Kinabalu 18.14 64 *e*Pn **P 17 17 12.8 +2.0**
QIZ Qiongzhong 22.96 25 P **P 17 18 02.9 +0.6**
QIZ *e*S **S 17 22 07.3 +1.0**
QIZ AMB AMB
comp=Z,21nm,0.9s,mb4.6
KMI Kunming 26.95 6 P **P 17 18 40.4 +0.3**
KMI AP pP 17 18 51.4 +3.3
KMI XP sP 17 18 55.4 +3.7
KMI PP PP 17 19 29.2 +3.2
KMI PPP PPP 17 19 43.1 +5.1
KMI S **S 17 23 16.2 +2.5**
KMI SS SS 17 24 31.8 +4.0
KMI SSS SSS 17 24 52.7 +6.7
KMI AMB AMB
comp=Z,4.0nm,1.7s,mb3.7
KMI AMB AMB
comp=Z,84nm,3.8s
KMI LR LR
comp=N,166nm,14.6s,MS3.8
KMI LR LR
comp=E,127nm,15.7s,MS3.8
KMI LR LR
comp=Z,133nm,15.7s,MS3.6
FITZ Fitzroy Crossi 30.05 124 *eP* **P 17 19 08.1 0.0**
comp=Z,8.5nm,1.1s,mb4.4
FITZ *e* 17 19 20.4
FITZ Fitzroy Crossi 30.05 124 P **P 17 19 07.3 -0.7**
comp=Z,10nm,0.8s,mb4.6,baz=258,slow=5.1,SNR=11
PKI Pulchoki 32.36 336 *eP* **P 17 19 28.8 +0.5**
comp=Z,8.7nm,0.7s,mb4.7
LSA Lhasa 32.44 346 *eP* **P 17 19 29.9 +0.9**
comp=Z,7.6nm,0.6s,mb4.7
DMN Daman 32.52 335 *eP* **P 17 19 30.8 +1.1**
comp=Z,21nm,1.2s,mb4.9
KKN Kakani 32.61 336 *eP* **P 17 19 31.3 +0.9**
comp=Z,13nm,0.7s,mb5.0
CD2 Chengdu 32.78 6 P **P 17 19 29.1 -2.8**
CD2 AP pP 17 19 38.6 -1.4
CD2 XP sP 17 19 42.8 -0.8
CD2 S **S 17 24 40.1 -5.9**
CD2 XS 17 24 56.5
GKN Gorkha 33.07 335 *eP* **P 17 19 34.8 +0.4**
comp=Z,8.5nm,0.5s,mb4.9
ENH Enshi 33.23 15 *eP* **P 17 19 33.9 -2.0**
comp=Z,5.1nm,0.5s,mb4.7
KOLN Koldanda 33.32 333 *eP* **P 17 19 37.7 +1.1**
comp=Z,12nm,0.7s,mb4.9
XAN Xi'an 36.70 13 P **P 17 20 04.1 -1.3**
XAN AMB AMB
comp=Z,11nm,0.9s,mb4.7
WRA Warramunga Arr 38.23 121 P **P 17 20 18.2 -0.2**
comp=Z,5.8nm,0.5s,mb4.6,baz=303,slow=9.1,SNR=94
WRA Warramunga Arr 38.23 121 *i* P **P 17 20 18.7 +0.3**
WRA pmax pmax
comp=Z,6.0nm,0.5s
NJ2 Nanjing 38.23 27 *eP* **P 17 20 17.9 -0.4**
NJ2 AP pP 17 20 27.4 +0.9
NJ2 XP sP 17 20 30.9 +0.9
NJ2 PP PP 17 21 47.6 -1.7
NJ2 S **S 17 26 10.0 +0.1**
NJ2 XS 17 26 29.0
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.7
NJ2 AMB AMB
comp=Z,110nm,5.7s
NJ2 LR LR
comp=N,220nm,15.2s,MS4.2
NJ2 LR LR
comp=E,210nm,14.0s,MS4.2
NJ2 LR LR
comp=Z,70nm,18.6s,MS3.5
WRAB Tennant Creek 38.23 120 *eP* **P 17 20 18.4 0.0**
comp=Z,4.8nm,0.5s,mb4.5
WRAB Tennant Creek 38.23 120 *eP* **P 17 20 18.4 0.0**

WRAB				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.5						
WB2	**Warramunga Arr**	**38.24**	**121**	*e*P	**P**	**17 20 18.7**	**+0.2**
WB2				*e*		17 20 33.7	
SSE	**Sheshan**	**38.55**	**30**	*e*P	**P**	**17 20 20.0**	**-1.0**
SSE				AP	pP	17 20 29.0	-0.2
SSE				XP	sP	17 20 32.5	-0.1
SSE				PP	PP	17 21 48.3	-4.6
SSE				PCP	PcP	17 22 30.7	-3.1
SSE				S	**S**	**17 26 14.6**	**-0.1**
SSE				PCS		17 26 21.5	
SSE				XS		17 26 29.8	
SSE				SCS	ScS	17 30 29.1	+1.6
SSE				AMB	AMB		
	comp=Z,25nm,0.9s,mb4.9						
SSE				AMB	AMB		
	comp=Z,44nm,3.5s						
SSE				LR	LR		
	comp=N,23nm,18.7s,MS3.4						
SSE				LR	LR		
	comp=E,47nm,18.8s,MS3.4						
SSE				LR	LR		
	comp=Z,50nm,20.5s,MS3.3						
JOW	**Kunigami**	**39.56**	**42**	P	**P**	**17 20 30.4**	**+0.9**
	comp=Z,67nm,1.3s,mb5.2,baz=221,slow=21,SNR=8.4						
HHC	**Hu-ho-hao-te**	**43.81**	**13**	*e*P	**P**	**17 21 07.9**	**+3.7**
HHC				XP	sP	17 21 20.9	+5.1
HHC				*e*S	**S**	**17 27 39.2**	**+6.5**
HHC				SCS	ScS	17 31 02.7	+3.7
HHC				AMB	AMB		
	comp=Z,12nm,0.5s,mb4.9						
HHC				AMB	AMB		
	comp=Z,102nm,5.8s						
HHC				LR	LR		
	comp=N,137nm,15.5s,MS4.0						
HHC				LR	LR		
	comp=E,105nm,19.0s,MS4.0						
HHC				LR	LR		
	comp=Z,103nm,16.1s,MS3.8						
JNU	**Nakatsue**	**45.48**	**37**	P	**P**	**17 21 17.7**	**+0.1**
	comp=Z,5.6nm,0.8s,mb4.4,baz=236,slow=7.3,SNR=3.1						
STKA	**Stephens Creek**	**49.39**	**132**	P	**P**	**17 21 49.2**	**+1.0**
	comp=Z,2.1nm,0.5s,mb4.4,baz=323,slow=22,SNR=8.8						
STKA				LR	LR	17 40 41.4	
	comp=Z,123nm,21.9s,MS3.9,baz=310,slow=34						
SONM	**Songino Array**	**49.80**	**6**	P	**P**	**17 21 51.2**	**0.0**
	comp=Z,7.0nm,0.7s,mb4.8,baz=189,slow=9.0,SNR=34						
SONM				PcP	PcP	17 23 11.5	-0.5
	comp=Z,1.5nm,0.9s,baz=185,slow=3.4,SNR=4.8						
SONM	**Songino Array**	**49.80**	**6**	P	**P**	**17 21 51.2**	**0.0**
SONM						17 23 11.5	
SONM				pmax	pmax		
	comp=Z,7.0nm,0.7s						
SONM				pmax	pmax		
	comp=Z,2.0nm,0.9s						
AAK	**Ala-Archa**	**49.82**	**336**	*i* P	**P**	**17 21 50.7**	**-0.7**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
MKAR	**Makanchi Array**	**50.83**	**345**	P	**P**	**17 21 59.4**	**+0.4**
	comp=Z,9.9nm,0.6s,mb4.9,baz=147,slow=8.0,SNR=102						
MKAR				PcP	PcP	17 23 16.2	+0.4
	comp=Z,1.1nm,0.8s,baz=180,slow=5.8,SNR=1.9						
MKAR	**Makanchi Array**	**50.83**	**345**	P	**P**	**17 21 59.4**	**+0.4**
MKAR						17 23 16.2	
MKAR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MJAR	**Matsushiro Arr**	**52.26**	**39**	P	**P**	**17 22 08.4**	**-1.6**
	comp=Z,0.6nm,0.5s,mb3.8,baz=211,slow=7.3,SNR=4.3						
MJAR				LR	LR	17 44 00.6	
	comp=Z,41nm,19.1s,MS3.5,baz=5.0,slow=36						
MJAR	**Matsushiro Arr**	**52.26**	**39**	P	**P**	**17 22 08.4**	**-1.6**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MJAR				MLR	MLR		
	comp=Z,41nm,19.1s						
ZAL	**Zalesovo**	**56.97**	**349**	P	**P**	**17 22 43.3**	**-0.9**
	comp=Z,8.8nm,0.5s,mb5.0,baz=315,slow=5.8,SNR=43						
ZAL	**Zalesovo**	**56.97**	**349**	*i* P	**P**	**17 22 43.4**	**-0.8**
ZAL				pmax	pmax		
	comp=Z,9.0nm,0.5s						
KLR	**Kul'dur**	**57.86**	**24**	*e*P	**P**	**17 22 47.5**	**-2.9**
NVS	**Novosibirsk**	**58.12**	**349⇑**	*i* P	**P**	**17 22 50.5**	**-1.7**
NVS				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.6						
NVS				pmax	pmax		
	comp=N,7.0nm,1.5s						
BVAR	**Borovoye Array**	**59.97**	**340**	P	**P**	**17 23 04.2**	**-0.9**
	comp=N,2.4nm,0.5s,mb4.5,baz=144,slow=8.3,SNR=19						
BVAR	**Borovoye Array**	**59.97**	**340**	P	**P**	**17 23 04.2**	**-0.9**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BRVK	**Borovoye**	**60.03**	**340**	*e*P	**P**	**17 23 04.3**	**-1.2**
	comp=Z,1.3nm,0.5s,mb4.2						
BRVK	**Borovoye**	**60.03**	**340**	*e*P	**P**	**17 23 04.3**	**-1.2**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
BOD	**Bodaibo**	**60.55**	**9**	*e*P	**P**	**17 23 04.8**	**-4.1**
YSS	**Yuzh-Sakhalins**	**61.44**	**32**	*e*P	**P**	**17 23 14.5**	**-0.6**
	comp=Z,8.8nm,0.8s,mb4.9						
YSS	**Yuzh-Sakhalins**	**61.44**	**32**	*e*P	**P**	**17 23 14.5**	**-0.6**
YSS				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb5.0						
ARU	**Arti**	**66.99**	**337**	*e*P	**P**	**17 23 50.8**	**-0.4**
ARU	**Arti**	**66.99**	**337⇑**	*i* P	**P**	**17 23 47.0**	**-4.2**
ARU				*e*		17 26 16.2	
ARU				*e*S	S	17 32 37.1	-4.1
ARU				*e*SS	SS	17 36 53.9	-7.9
ARU				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
YAK	**Yakutsk**	**67.63**	**15**	*e*P	**P**	**17 23 53.7**	**-1.5**
	comp=Z,6.2nm,0.6s,mb4.8						
YAK	**Yakutsk**	**67.63**	**15**	*e*P	**P**	**17 23 52.6**	**-2.5**
YAK				pmax	pmax		
	comp=N,2.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.9						
KIV	**Kislovodsk**	**68.31**	**319**	*e*P	**P**	**17 23 58.7**	**-1.0**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
EIL	**Elat**	**69.29**	**303**	LR	LR	17 54 55.0	
	comp=Z,846nm,18.6s,MS5.0,baz=99,slow=36						
MAW	**Mawson**	**70.40**	**194**	LR	LR	17 50 49.5	
	comp=Z,95nm,18.4s,MS4.1,baz=246,slow=32						
MA2	**Magadan**	**72.96**	**24**	*e*P	**P**	**17 24 27.7**	**+0.2**
	comp=Z,4.2nm,0.4s,mb4.7						
MA2	**Magadan**	**72.96**	**24**	*e*P	**P**	**17 24 27.7**	**+0.2**
MA2				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.7						
BRTR	**Keskin Array B**	**73.08**	**312**	P	**P**	**17 24 28.4**	**-0.3**
	comp=Z,1.0nm,0.6s,mb3.9,baz=104,slow=5.1,SNR=4.2						
BRTR	**Keskin Array B**	**73.08**	**312**	P	**P**	**17 24 28.4**	**-0.3**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SEY	**Seymchan**	**75.54**	**22**	*i* P	**P**	**17 24 42.8**	**+0.4**
OBN	**Obninsk**	**76.56**	**328⇓**	*e*P	**P**	**17 24 48.8**	**+0.5**
OBN				*e*S	S	17 34 29.7	-1.5
OBN				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
FINES	**FINESS Array B**	**83.89**	**332**	P	**P**	**17 25 28.4**	**+1.2**
	comp=Z,1.8nm,0.5s,mb4.5,baz=104,slow=5.8,SNR=15						
FINES	**FINESS Array B**	**83.89**	**332**	*i* P	**P**	**17 25 28.5**	**+1.4**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KAF	**Kangasniemi**	**83.96**	**333**	*e*p	**P**	**17 25 27.4**	**-0.1**
	comp=Z,3.1nm,0.6s,mb4.6						
KAF	**Kangasniemi**	**83.96**	**333**	*e*P	**P**	**17 25 27.4**	**-0.1**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.6						
ARCES	**ARCESS Array B**	**86.26**	**340**	P	**P**	**17 25 40.0**	**+1.1**
	comp=Z,3.0nm,0.7s,mb4.6,baz=112,slow=6.5,SNR=9.7						
ARCES	**ARCESS Array B**	**86.26**	**340**	P	**P**	**17 25 40.0**	**+1.2**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
GERES	**GERESS Array B**	**88.81**	**319**	P	**P**	**17 25 52.9**	**+1.3**
	comp=Z,0.7nm,0.6s,mb4.2,baz=76,slow=5.5,SNR=8.0						
GERES	**GERESS Array B**	**88.81**	**319**	P	**P**	**17 25 52.9**	**+1.3**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NSS	**Namsos**	**90.72**	**334**	*e*P	**P**	**17 26 00.8**	**+0.6**
TXAR	**Lajitas Array**	**144.68**	**37**	PKP	PKPdf	17 32 35.6	-2.9
	comp=Z,3.2nm,0.6s,baz=288,slow=1.7,SNR=26						
TXAR	**Lajitas Array**	**144.68**	**37**	PKIKP	PKPdf	17 32 35.6	-2.9
TXAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
WVT	**Waverly**	**145.15**	**11**	*e*PKPbc	PKPbc	17 32 35.1	+0.5
JCT	**Junction City**	**145.98**	**31**	*e*PKPbc	PKPbc	17 32 38.8	+2.0
CPCT	**Cooper Cave**	**146.31**	**6**	*e*PKPbc	PKPbc	17 32 38.6	+1.1

*IDC **08** 18:00:01.3±4.7, 7.84N×92.05E, mb3.4/3, mb1 3.6/3, mb1mx3.4/19, mbtmp3.4/3, MS3.3/1, Ms1 3.3/1, ms1mx2.8/16, Error ellipse: s-maj=169.9km s-min=31.2km az=63.0*

*NEIC **08** 18:00:06.0±1.1, 7.80N×92.10E, h30km, mb3.9/1, Error ellipse: s-maj=21.2km s-min=18.1km az=170.0*

ISC 08 18:00:03.8±1.1, 7.8N±0.1×92.0E±0.1, h30km, n11, σ1§40/12, mb3.9/6, MS3.3/1, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**11.23**	**268**	*e*Pn	**P**	**18 02 45.9**	**+0.3**
PALK				*e*Sn	**S**	**18 04 40.7**	**-10**
PKI	**Pulchoki**	**20.65**	**343**	*e*P	**P**	**18 04 47.2**	**+3.4**
	13nm,0.6s						
DMN	**Daman**	**20.78**	**342**	*e*P	**P**	**18 04 48.6**	**+3.5**
	23nm,0.9s						
KKN	**Kakani**	**20.90**	**343**	*e*P	**P**	**18 04 47.0**	**+0.7**
	11nm,0.6s						
GKN	**Gorkha**	**21.29**	**342**	*e*P	**P**	**18 04 48.0**	**-2.3**
	14nm,0.5s,mb4.6						
KOLN	**Koldanda**	**21.42**	**339**	*e*P	**P**	**18 04 49.6**	**-2.0**
	14nm,0.7s,mb4.4						
LSA	**Lhasa**	**21.82**	**358**	*e*P	**P**	**18 04 57.4**	**+1.8**
	3.0nm,0.6s,mb3.9						
LSA				*e*pP		18 05 05.3	
MKAR	**Makanchi Array**	**39.75**	**350**	P	**P**	**18 07 35.2**	**-0.4**
	0.4nm,0.6s,mb3.3,baz=166,slow=5.9,SNR=3.2						
MKAR				LR	LR	18 25 52.0	
	comp=Z,37nm,18.1s,MS3.3,baz=0.4,slow=39						
MKAR	**Makanchi Array**	**39.75**	**350**	P	**P**	**18 07 35.2**	**-0.4**
MKAR				LR	LR	18 25 52.0	
SONM	**Songino Array**	**41.74**	**15**	P	**P**	**18 07 51.8**	**-0.2**
	0.6nm,0.7s,mb3.4,baz=199,slow=8.9,SNR=2.2						
WRA	**Warramunga Arr**	**49.94**	**124**	P	**P**	**18 08 57.3**	**-0.1**
	0.3nm,0.4s,mb3.7,baz=303,slow=8.8,SNR=9.4						

NEIC 08 18:04:08.2±2.4, 47.66S×176.50E, h35km, mb4.5/1, Error ellipse: s-maj=28.0km s-min=7.9km az=140.0, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MQZ	**McQueen's Vall**	**4.78**	**324**	*e*PN	P	18 05 17.2	-2.6
MQZ				*e*SN	S	18 06 09.4	-5.4
MQZ	**McQueen's Vall**	**4.78**	**324**	*e*P	P	18 05 17.1	-2.7
MQZ				S	S	18 06 09.4	-5.4
ODZ	**Otahua Downs**	**4.82**	**301**	*e*PN	P	18 05 16.4	-4.0
ODZ				SN	S	18 06 09.4	-6.4
ODZ	**Otahua Downs**	**4.82**	**301**	*e*P	P	18 05 16.4	-4.0
ODZ				S	S	18 06 09.4	-6.4
CRLZ	**Canterbury Las**	**4.91**	**325**	*e*PN	P	18 05 19.2	-2.4
CRLZ	**Canterbury Las**	**4.91**	**325**	*e*P	P	18 05 19.7	-1.8
LBZ	**Lake Benmore**	**5.48**	**304**	PN	P	18 05 27.5	-2.1
LBZ	**Lake Benmore**	**5.48**	**304**	*e*P	P	18 05 27.5	-2.1
RPZ	**Rata Peaks**	**5.49**	**314**	PN	P	18 05 27.4	-2.3
RPZ	**Rata Peaks**	**5.49**	**314**	*e*P	P	18 05 26.8	-2.8
EAZ	**Earnscleugh**	**5.53**	**293**	PN	P	18 05 27.5	-2.8
EAZ				SN	S	18 06 26.1	-7.5
EAZ	**Earnscleugh**	**5.53**	**293**	P	P	18 05 27.4	-2.9
EAZ				S	S	18 06 26.1	-7.5
KHZ	**Kahutara**	**5.64**	**337**	PN	P	18 05 29.4	-2.5
KHZ				*e*SN	S	18 06 32.8	-3.6
KHZ	**Kahutara**	**5.64**	**337**	*e*P	P	18 05 29.4	-2.5
KHZ				S	S	18 06 32.8	-3.6
LTZ	**Lake Taylor**	**5.72**	**327**	PN	P	18 05 30.1	-2.8
LTZ	**Lake Taylor**	**5.72**	**327**	*e*P	P	18 05 30.1	-2.8
WKZ	**Wanaka**	**5.91**	**296**	*e*PN	P	18 05 33.7	-1.9
WVZ	**Waitaha Valley**	**6.12**	**316**	*e*PN	P	18 05 36.7	-1.9
WVZ	**Waitaha Valley**	**6.12**	**316**	P	P	18 05 37.1	-1.5
WHZ	**Wether Hill Ro**	**6.13**	**284**	*e*PN	P	18 05 35.9	-2.8
WHZ	**Wether Hill Ro**	**6.13**	**284**	*e*P	P	18 05 36.0	-2.8
TRWZ	**Traveller**	**6.29**	**354**	PN	P	18 05 38.5	-2.4
FOZ	**Fox Glacier**	**6.29**	**308**	PN	P	18 05 38.6	-2.3
FOZ	**Fox Glacier**	**6.29**	**308**	*e*P	P	18 05 38.6	-2.4
MSWZ	**Moikau Station**	**6.31**	**351**	PN	P	18 05 38.1	-3.1
MSWZ	**Moikau Station**	**6.31**	**351**	*e*P	P	18 05 38.1	-3.1
THZ	**Tophouse**	**6.43**	**335**	*e*PN	P	18 05 40.3	-2.5
THZ	**Tophouse**	**6.43**	**335**	*e*P	P	18 05 40.3	-2.6
SNZO	**South Karori**	**6.48**	**348**	*e*Pn	P	18 05 41.5	-2.1
JCZ	**Jackson Bay**	**6.49**	**301**	*e*PN	P	18 05 41.5	-2.2
JCZ	**Jackson Bay**	**6.49**	**301**	*e*P	P	18 05 41.7	-2.0
MTW	**Mount Morrison**	**6.54**	**353**	*e*P	P	18 05 41.7	-2.8
MRW	**Makara Radio**	**6.56**	**348**	*e*PN	P	18 05 41.9	-2.8
MRW	**Makara Radio**	**6.56**	**348**	*e*P	P	18 05 41.9	-2.8
CAW	**Cannon Point**	**6.63**	**351**	*e*PN	P	18 05 43.1	-2.7
CAW	**Cannon Point**	**6.63**	**351**	*e*P	P	18 05 43.0	-2.7
MSZ	**Milford Sound**	**6.66**	**293**	PN	P	18 05 44.3	-1.9
MSZ	**Milford Sound**	**6.66**	**293**	*e*P	P	18 05 44.2	-2.0
DSZ	**Denniston Nort**	**6.79**	**329**	PN	P	18 05 45.5	-2.5
DSZ	**Denniston Nort**	**6.79**	**329**	*e*P	P	18 05 45.5	-2.5
DCZ	**Deep Cove**	**6.80**	**285**	*e*PN	P	18 05 45.9	-2.3
DCZ	**Deep Cove**	**6.80**	**285**	*e*P	P	18 05 45.9	-2.3
NNZ	**Nelson**	**6.81**	**340**	PN	P	18 05 46.0	-2.4
KIW	**Kapiti Island**	**6.89**	**350**	*e*PN	P	18 05 47.1	-2.4
KIW	**Kapiti Island**	**6.89**	**350**	*e*P	P	18 05 47.0	-2.4
BFZ	**Birch Farm**	**6.98**	**358**	*e*PN	P	18 05 48.4	-2.3
BFZ	**Birch Farm**	**6.98**	**358**	*e*P	P	18 05 48.4	-2.2
MRZ	**Mangatainoka R**	**7.03**	**354**	*e*PN	P	18 05 48.2	-3.1
MRZ				*e*SN	S	18 07 03.5	-7.4
MRZ	**Mangatainoka R**	**7.03**	**354**	*e*P	P	18 05 48.2	-3.1
MRZ				*e*S	S	18 07 04.1	-6.8
QRZ	**Quartz Range**	**7.40**	**336**	*e*PN	P	18 05 54.6	-1.9
QRZ	**Quartz Range**	**7.40**	**336**	*e*P	P	18 05 54.6	-1.9
TSZ	**Takapari Road**	**7.61**	**357**	PN	P	18 05 56.5	-2.9
TSZ	**Takapari Road**	**7.61**	**357**	*e*P	P	18 05 56.5	-2.9
BKZ	**Black Stump Fm**	**8.49**	**360**	*e*SN	S	18 07 40.2	-7.1
CTAO	**Charters Tower**	**36.82**	**308**	P	P	18 11 10.1	-4.6
	6.1nm,0.9s						
WRAB	**Tennant Creek**	**43.84**	**294**	P	P	18 12 13.0	+0.3
	38nm,1.8s						

MAN 08 18:11:54.4, 19.13N×121.12E, h5km, mb4.6, ML3.4, MS3.3, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**1.24**	**135**	*e*P	Pb	18 12 17.6	-0.3
SGCP				*e*S	Sb	18 12 35.6	+1.5
APYP	**Conner**	**1.26**	**175**	*e*P	Pb	18 12 17.8	-0.6
APYP				*e*S	Sb	18 12 36.2	+1.5
ABRA	**Dolores**	**1.52**	**195**	*e*P	Pn	18 12 21.0	-1.4
ABRA				*e*S	Sb	18 12 44.4	+2.2
BBP	**Basco**	**1.53**	**31**	*e*P	Pn	18 12 20.5	-2.0
BBP				*e*S	Sb	18 12 43.6	+1.2
CVP	**Callao Caves**	**1.56**	**155**	*e*P	Pn	18 12 23.0	0.0
CVP				*e*S	Sb	18 12 43.0	-0.5
CAUP	**Cauayan**	**2.27**	**163**	*e*P	Pn	18 12 34.9	+1.8
CAUP				*e*S	Sn	18 13 13.2	+11
BALP	**Baler**	**3.40**	**173**	*e*P	Pn	18 12 49.2	+0.1

IDC 08 18:49:29.4±7.6, 22.03S×171.12E, h97km±51km, mb3.9/3, mb1 4.0/4, mb1mx3.6/13, mbtmp4.2/4, Error ellipse: s-maj=79.8km s-min=51.4km az=158.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.34**	**269**	P	P	18 50 33.4	-1.1
	8.8nm,0.3s,baz=84,slow=18,SNR=176						
DZM				S	S	18 51 23.3	-1.0
	19nm,0.3s,baz=58,slow=19,SNR=19						
NOUC	**Port Laguerre**	**4.47**	**268**	*e*P	P	18 50 34.8	-1.5
NOUC				*e*S	S	18 51 26.0	-1.4
CTA	**Charters Tower**	**23.28**	**270**	P	P	18 54 30.4	+1.2
	3.1nm,0.5s,baz=91,slow=15,SNR=7.4						
STKA	**Stephens Creek**	**28.01**	**243**	P	P	18 55 10.9	-2.5
	3.2nm,0.9s,baz=95,slow=11,SNR=4.0						
WRA	**Warramunga Arr**	**34.35**	**267**	P	P	18 56 06.3	-2.8
	1.3nm,0.3s,baz=98,slow=8.6,SNR=11						
FITZ	**Fitzroy Crossi**	**42.78**	**267**	*e*P	P	18 57 18.0	-1.3
	10nm,0.6s						
GERES	**GERESS Array B**	**147.77**	**332**	PKPbc	PKPdf	19 09 02.4	+2.7
	0.5nm,0.7s,baz=18,slow=3.1,SNR=3.7						

*THE **08** 19:03:34.5, 38.97N×23.36E, h10km, ML2.8*

*CSEM **08** 19:03:34.6±0.1, 38.97N×23.36E, h8km, ML2.8, Error ellipse: s-maj=3.1km s-min=2.1km az=82.0*

*ATH **08** 19:03:35.1, 39.00N×23.39E, h28km±2km, MD3.0/8, ML3.0*

*NEIC **08** 19:03:35.1, 39.00N×23.39E, h28km, ML3.0(ATH), After ATH.*

ISC 08 19:03:33.9±0.6, 39.01N±0.02×23.37E±0.04, h7km±5km, n20, σ0§87/34, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XOR	**Xorichti**	**0.38**	**339**	*e*Pg	**Pg**	**19 03 42.7**	**+1.0**
XOR				*e*Sg	**Sg**	**19 03 48.9**	**+2.1**
AOS	**Alonnisos**	**0.43**	**68**	*e*Pg	**Pg**	**19 03 43.1**	**+0.6**
AOS				*e*Sg	**Sg**	**19 03 49.9**	**+1.5**
AGG	**Agios Georgios**	**0.81**	**271**	*e*Pg	**Pg**	**19 03 49.2**	**-0.9**
AGG				*e*Sg	**Sg**	**19 04 01.5**	**+0.6**
MPAR	**Parnis Oros**	**0.90**	**161**	*e*PB	**Pb**	**19 03 51.5**	**+0.1**
MPAR				*e*SN	**Sn**	**19 04 05.5**	**-0.6**
MGER	**Gerania Oros**	**1.02**	**185**	*e*PN	**Pn**	**19 03 54.3**	**-0.2**
MGER				*e*SN	**Sn**	**19 04 08.5**	**-0.7**
PTL	**Penteli**	**1.03**	**158**	*e*PN	**Pn**	**19 03 55.0**	**+0.4**
PTL				*e*SN	**Sn**	**19 04 09.0**	**-0.4**
ATH	**Athens Observa**	**1.07**	**165**	*e*PB	**Pb**	**19 03 54.5**	**+0.2**
NSAL	**Nisos Salamina**	**1.10**	**176**	*e*PN	**Pn**	**19 03 55.5**	**-0.1**
NSAL				*e*SN	**Sn**	**19 04 11.5**	**+0.3**
EVR	**Evrytania**	**1.22**	**266**	*e*PN	**Pn**	**19 03 58.5**	**+1.2**
NAIG	**Nisos Aigina**	**1.25**	**176**	*e*PN	**Pn**	**19 03 58.0**	**+0.2**
NAIG				*e*SN	**Sn**	**19 04 15.5**	**+0.6**
LIT	**Litokhoron**	**1.29**	**328**	*e*Pg	**Pg**	**19 03 57.9**	**-1.6**
LIT				*e*Sg	**Sg**	**19 04 16.2**	**-0.5**
PLG	**Polygyros**	**1.37**	**2**	*e*PN	**Pn**	**19 04 00.0**	**+0.6**
OUR	**Ouranopolis**	**1.41**	**19**	*e*Pg	**Pg**	**19 04 00.2**	**-1.8**
OUR				*e*Sg	**Sg**	**19 04 19.1**	**-1.7**
OUR	**Ouranopolis**	**1.41**	**19**	*e*Pg	**Pg**	**19 04 00.2**	**-1.8**
OUR				*e*Sg	**Sg**	**19 04 19.1**	**-1.7**
LOS	**Limnos**	**1.62**	**55**	*e*Pb	**Pb**	**19 04 02.6**	**-1.0**
LOS				*e*Sb	**Sb**	**19 04 24.6**	**+0.4**
THE	**Thessaloniki**	**1.65**	**349**	*e*Pb	**Pb**	**19 04 03.2**	**-1.1**
SRS	**Serrai**	**2.12**	**5**	*e*Pn	**Pn**	**19 04 10.2**	**+0.1**
SRS				*e*Sn	**Sn**	**19 04 37.2**	**+0.2**
KNT	**Kendrikon**	**2.18**	**351**	*e*Pn	**Pn**	**19 04 11.2**	**+0.1**
KNT				*e*Sn	**Sn**	**19 04 39.4**	**+0.7**
FNA	**Florina**	**2.34**	**320**	*e*Pn	**Pn**	**19 04 13.2**	**-0.2**
FNA	**Florina**	**2.34**	**320**	*e*Pn	**Pn**	**19 04 13.2**	**-0.2**

*CSEM **08** 19:07:17.2±0.4, 38.70N×12.75E, h9km, ML3.8/2, Error ellipse: s-maj=8.2km s-min=2.9km az=141.0, After ROM*

ROM 08 19:07:17.2±0.6, 38.70N×12.75E, h9km, Md2.8/3, 3C, Error ellipse: s-maj=8.0km s-min=2.4km az=141.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USI	**Ustica**	**0.33**	**89⇑**	*i*Pg	Pg	19 07 24.7	+0.7
USI				Sg	Sg	19 07 30.0	+1.4
ERC	**Erice**	**0.68**	**191⇑**	*i*Pg	Pg	19 07 31.3	+0.5
ERC				Sg	Sg	19 07 41.4	+1.5
	1μm,0.7s						
LVI	**Isola Levanzo**	**0.79**	**205**	Pg	Pg	19 07 32.8	-0.2
LVI				Sg	Sg	19 07 45.2	+1.7
MTGR	**Montagna Grand**	**0.81**	**180**	Pg	Pg	19 07 33.2	-0.2
	50nm,0.4s						
MFNL	**Monte Finestre**	**0.92**	**172**	Pg	Pg	19 07 35.9	+0.3
MFNL				Sg	Sg	19 07 50.3	+2.3
	198nm,0.4s						
CRJA	**Costa Raja**	**0.92**	**168⇑**	*i*Pg	Pg	19 07 36.4	+0.7
	143nm,0.4s						
MMGO	**Monte Magaggia**	**1.05**	**170**	Pg	Pg	19 07 37.2	-1.1
	41nm,0.2s						

MAN 08 19:19:20.9, 11.90N×125.94E, h24km, mb4.3, ML3.1, MS2.8, 1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.57**	**239**	*e*P	Pb	19 19 32.7	+0.4
BESP				*e*S	Sb	19 19 41.5	+1.5
PLP	**Palo**	**1.19**	**232**	*i* P	Pn	19 19 42.1	-0.2
PLP				*e*S	Sb	19 19 57.8	+0.1
CNP	**Catarman**	**1.39**	**296**	*e*P	Pn	19 19 44.8	-0.3
CNP				*e*S	Sn	19 20 02.8	0.0
MSLP	**Maasin**	**2.05**	**211**	*e*P	Pn	19 19 56.0	+1.4
MSLP				*e*S	Sn	19 20 23.3	+3.7
SCPH	**Surigao**	**2.15**	**192⇓**	*e*P	Pn	19 19 55.9	-0.1
PVCP	**Virac**	**2.43**	**314**	*e*P	Pn	19 19 59.7	-0.3
PVCP				*e*S	Sn	19 20 42.3	+13
BUKP	**Musuan**	**4.08**	**192**	*e*P	Pn	19 20 22.7	-0.8
BOLP	**Bolinao**	**7.35**

1.2nm,0.3s,baz=330,slow=13,SNR=3.1
PDAR Pinedale Array 27.52 137 P P 19 32 39.0 +4.2
0.5nm,0.5s,mb3.4,baz=14,slow=6.1,SNR=6.6

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*ATH **08** 19:35:25.9, 38.70N×22.41E, h22km±1km, MD3.3/10, ML3.4*
*NEIC **08** 19:35:26.0, 38.71N×22.41E, h22km, ML3.4(ATH), After ATH.*
*CSEM **08** 19:35:26.1±0.1, 38.67N×22.42E, h4km, ML3.1, Error ellipse: s-maj=1.8km s-min=1.4km az=48.0*
*THE **08** 19:35:28.8, 38.81N×22.49E, h10km, ML3.1*
ISC 08 19:35:26.5±0.7, 38.70N±0.03×22.39E±0.04, h15km±8km, n21, σ0§94/34, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGG	**Agios Georgios**	**0.33**	**352**	*e*Pg	**Pb**	**19 35 33.3**	**-0.2**
AGG				*e*Sg	**Sb**	**19 35 37.2**	**-1.0**
LKR	**Lokris**	**0.48**	**95**	*e*PB	**Pb**	**19 35 35.2**	**-0.9**
LKR				*e*SB	**Sb**	**19 35 42.7**	**+0.1**
EVR	**Evrytania**	**0.51**	**296**	*e*PN	**Pn**	**19 35 36.6**	**-2.2**
EVR				*e*SN	**Sn**	**19 35 43.9**	**-3.2**
XOR	**Xorichti**	**0.92**	**43**	*e*Pg	**Pb**	**19 35 43.9**	**+0.3**
XOR				*e*Sg	**Sb**	**19 35 55.1**	**-0.1**
RLS	**Riolos of Patr**	**0.97**	**229**	*e*PN	**Pn**	**19 35 45.2**	**-0.2**
RLS				*e*SN	**Sn**	**19 35 58.4**	**-0.4**
MGER	**Gerania Oros**	**0.98**	**136**	*e*PB	**Pb**	**19 35 44.0**	**-0.7**
NSAL	**Nisos Salamina**	**1.16**	**133**	*e*PN	**Pn**	**19 35 47.3**	**-0.8**
MPAR	**Parnis Oros**	**1.19**	**117**	*e*PN	**Pn**	**19 35 48.8**	**+0.2**
AOS	**Alonnisos**	**1.25**	**67**	*e*Pg	**Pb**	**19 35 49.4**	**+0.1**
AOS				*e*Sg	**Sb**	**19 36 05.6**	**+0.5**
ATH	**Athens Observa**	**1.27**	**124**	*e*PN	**Pn**	**19 35 50.0**	**+0.3**
ATH				*e*SN	**Sn**	**19 36 06.5**	**0.0**
ATH	**Athens Observa**	**1.27**	**124**	*e*Pn	**Pn**	**19 35 50.8**	**+1.1**
ATH				*e*Sn	**Sn**	**19 36 06.5**	**0.0**
NAIG	**Nisos Aigina**	**1.27**	**137**	*e*PN	**Pn**	**19 35 50.0**	**+0.2**
LIT	**Litokhoron**	**1.41**	**3**	*e*Pg	**Pn**	**19 35 51.9**	**+0.3**
LIT				*e*Sg	**Sb**	**19 36 10.8**	**+1.4**
ITM	**Ithomi**	**1.56**	**194**	*e*PN	**Pn**	**19 35 55.0**	**+1.1**
ITM	**Ithomi**	**1.56**	**194**	*e*Pn	**Pn**	**19 35 55.7**	**+1.8**
KZN	**Kozani**	**1.68**	**344**	*e*PN	**Pn**	**19 35 56.8**	**+1.2**
KZN				*e*SN	**Sn**	**19 36 17.9**	**+1.0**
IGT	**Igoumenitsa**	**1.81**	**298**	*e*Pb	**Pb**	**19 35 59.3**	**+0.6**
IGT				*e*Sb	**Sb**	**19 36 24.4**	**+3.4**
VLI	**Veliai**	**2.02**	**167**	*e*PN	**Pn**	**19 36 00.9**	**+0.4**
OUR	**Ouranopolis**	**2.05**	**36**	*e*Pb	**Pb**	**19 36 00.9**	**-1.9**
FNA	**Florina**	**2.23**	**340**	*e*Pn	**Pn**	**19 36 03.9**	**+0.4**
FNA				*e*Sn	**Sn**	**19 36 30.6**	**-0.2**
KNT	**Kendrikon**	**2.49**	**9**	*e*Pn	**Pn**	**19 36 07.4**	**+0.2**
KNT				*e*Sn	**Sn**	**19 36 36.5**	**-1.1**

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*IDC **08** 19:38:57.7±1.2, 16.77N×145.98E, mb3.9/8, mb1 4.1/8, mb1mx3.9/20, mbtmp3.9/8, MS3.5/6, Ms1 3.6/6, ms1mx3.2/22, Error ellipse: s-maj=37.8km s-min=26.1km az=87.0*
*BJI **08** 19:39:00.4, 16.80N×145.90E, h35km, mB4.0, mb4.6, Ms4.0, Msz3.5*
*NEIC **08** 19:39:02.5±1.0, 16.76N×145.90E, h35km, mb4.2/2, Error ellipse: s-maj=35.8km s-min=11.3km az=88.0*
ISC 08 19:39:01.4±1.0, 16.8N±0.1×145.7E±0.2, h39km±12km, n21, σ1§16/16, mb4.1/9, MS3.5/6, 2D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARN	**Sarigan**	**0.15**	**139**	⇓*i*P	**P**	**19 39 08.4**	**+0.3**
SAPN	**Saipan**	**1.59**	**177**	⇓*i*P	**P**	**19 39 27.0**	**-0.6**
JHJ	**Hachijo jima 2**	**17.08**	**343**	LR	LR	19 48 49.4
	comp=Z,263nm,18.8s,baz=98,slow=34					
MJAR	**Matsushiro Arr**	**20.73**	**343**	P	**P**	**19 43 41.0**	**-0.1**
	5.8nm,1.1s,baz=169,slow=10,SNR=6.4					
MAJO	**Matsushiro**	**20.73**	**343**	*e*P	**P**	**19 43 40.2**	**-1.0**
	10nm,1.0s					
JNU	**Nakatsue**	**21.01**	**323**	LR	LR	19 51 00.6
	comp=Z,47nm,18.7s,MS2.9,baz=212,slow=34					
HNR	**Honiara**	**29.66**	**151**	LR	LR	19 55 32.5
	comp=Z,86nm,19.9s,MS3.4,baz=11,slow=34					
WRA	**Warramunga Arr**	**38.19**	**197**	P	**P**	**19 46 19.5**	**+0.2**
	1.5nm,1.1s,mb3.6,baz=22,slow=9.7,SNR=6.1					
LZH	**Lanzhou**	**41.69**	**306**	*e*P	**P**	**19 46 54.0**	**+5.8**
LZH				AP	pP	19 47 04.0	+4.8
LZH				XP	sP	19 47 07.0	+3.0
LZH				AMB	AMB	
	comp=Z,26nm,1.3s,mb4.7					
SONM	**Songino Array**	**44.60**	**323**	P	**P**	**19 47 13.6**	**+2.0**
	comp=Z,1.7nm,0.9s,mb3.9,baz=135,slow=10,SNR=3.9					
WMQ	**Urumqi**	**55.52**	**312**	*e*P	**P**	**19 48 33.0**	**-2.1**
WMQ				PP	PP	19 50 38.0	-2.7
WMQ				S	**S**	**19 56 15.0**	**-1.0**
WMQ				SS	SS	19 59 59.0	-2.0
WMQ				AMB	AMB	
	comp=Z,12nm,6.0s					
WMQ				LR	LR	
	comp=N,78nm,20.0s,MS3.9					
WMQ				LR	LR	
	comp=E,42nm,18.0s,MS3.9					
WMQ				LR	LR	
	comp=Z,38nm,18.0s,MS3.5					
ZAL	**Zalesovo**	**59.50**	**323**	P	**P**	**19 49 03.8**	**+0.8**
	comp=Z,0.5nm,0.3s,mb4.0,baz=165,slow=18,SNR=3.4					
MKAR	**Makanchi Array**	**59.75**	**315**	P	**P**	**19 49 05.7**	**+0.9**
	comp=Z,1.8nm,0.6s,mb4.3,baz=99,slow=6.4,SNR=12					
MKAR	**Makanchi Array**	**59.75**	**315**	P	**P**	**19 49 05.7**	**+0.9**
ILAR	**Eielson Array**	**65.34**	**26**	P	**P**	**19 49 40.9**	**-0.8**
	comp=Z,1.2nm,0.9s,mb3.9,baz=267,slow=5.5,SNR=5.7					
BVAR	**Borovoye Array**	**67.90**	**321**	P	**P**	**19 50 00.2**	**+2.1**
	comp=Z,3.0nm,0.9s,mb4.3,baz=90,slow=7.4,SNR=23					
BRVK	**Borovoye**	**67.97**	**321**	*e*P	**P**	**19 49 56.9**	**-1.6**
	comp=Z,1.9nm,0.9s,mb4.1					
YKA	**Yellowknife Ar**	**79.66**	**28**	LR	LR	20 26 17.3
	comp=Z,32nm,20.7s,MS3.6,baz=270,slow=36					
ARCES	**ARCESS Array B**	**84.27**	**342**	LR	LR	20 32 07.7
	comp=Z,43nm,19.9s,MS3.8,baz=233,slow=38					
ELK	**Elko**	**85.88**	**49**	P	**P**	**19 51 39.1**	**+0.5**
	comp=Z,0.6nm,0.5s,mb4.1,baz=294,slow=10.0,SNR=2.2					
NOA	**NORSAR Array B**	**94.32**	**340**	LR	LR	20 34 57.6
	comp=Z,23nm,18.4s,MS3.7,baz=15,slow=36					

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*NIED **08** 20:11:00, 33.40N×142.30E, h11km, Mw3.6 Best double couple: M0:3.17×10^14 NP1:φs168°, δ75°, λ-101°. NP2: φs25°, δ19°, λ-55°.*
*IDC **08** 20:11:42.7±1.3, 33.28N×142.63E, mb3.6/4, mb1 3.8/7, mb1mx3.7/21, mbtmp3.8/7, ML4.0/3, Error ellipse: s-maj=30.7km s-min=22.1km az=73.0*
*JMA **08** 20:11:44.0±0.6, 33.45N×142.29E, M3.7*
*NEIC **08** 20:11:44.0, 33.45N×142.29E, MG3.6(JMA), After JMA.*
ISC 08 20:11:44.6±2.0, 33.36N±0.05×142.48E±0.08, h32km±18km, n24, σ1§10/31, mb3.7/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.79**	**316**	P	**Pn**	**20 12 14.1**	**+0.2**
BSO3	**Boso 3**	**2.18**	**312**	P	**Pn**	**20 12 20.1**	**+0.7**
JHJ2	**Mitsune**	**2.25**	**264**	P	**Pn**	**20 12 21.4**	**+1.0**
JHJ	**Hachijo jima 2**	**2.27**	**265**	Pn	**Pn**	**20 12 21.4**	**+0.5**
	167nm,0.3s,baz=143,slow=4.2,SNR=23					
JHJ				Sn	**Sn**	**20 12 47.2**	**-0.8**
	56nm,0.3s,baz=236,slow=22,SNR=6.6					
BSO4	**Boso 4**	**2.41**	**313**	P	**Pn**	**20 12 23.9**	**+1.2**
CHOJ	**Chosi**	**2.69**	**331**	P	**Pn**	**20 12 26.8**	**+0.1**
CHOJ				*e*S	**Sn**	**20 12 58.5**	**-0.1**
JIM2	**Oshima 3**	**2.87**	**299**	P	**Pn**	**20 12 28.9**	**-0.4**
JOD2	**Odawara 2**	**3.39**	**305**	P	**Pn**	**20 12 36.3**	**-0.3**
JHO	**Hitachi**	**3.60**	**335**	P	**Pn**	**20 12 38.7**	**-0.9**
JHU	**Hanno**	**3.62**	**314**	*e*S	**Sn**	**20 13 24.1**	**+1.9**
JYN	**Shimob**	**3.89**	**304**	P	**Pn**	**20 12 44.4**	**+0.7**
JAG	**Ashikaga**	**3.94**	**322**	P	**Pn**	**20 12 44.3**	**-0.2**
JRY	**Ryogami san**	**3.96**	**313**	P	**Pn**	**20 12 44.9**	**+0.1**
JFK	**Kawauchi**	**4.20**	**342**	P	**Pn**	**20 12 45.3**	**-2.9**
MJAR	**Matsushiro Arr**	**4.73**	**313**	Pn	**Pn**	**20 12 55.8**	**+0.1**
	3.2nm,0.3s,baz=157,slow=14,SNR=29					
MJAR				Sn	**Sn**	**20 13 48.9**	**-1.3**
	1.6nm,0.3s,baz=72,slow=3.2,SNR=6.3					
MAJO	**Matsushiro**	**4.73**	**313**	*e*Pn	**Pn**	**20 12 56.7**	**+1.0**
MAJO				*e*Sn	**Sn**	**20 13 49.5**	**-0.7**
MAT	**Matsushiro**	**4.73**	**313**	P	**Pn**	**20 12 55.2**	**-0.5**
MAT				S	**Sn**	**20 13 48.4**	**-1.8**
MAT	**Matsushiro**	**4.73**	**313**	*e*P	**Pn**	**20 12 56.0**	**+0.3**
MAT				*e*S	**Sn**	**20 13 48.0**	**-2.2**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**6.25**	**182**	Pn	**Pn**	**20 13 14.6**	**-2.6**
	8.3nm,0.3s,baz=270,slow=20,SNR=4.5					
CBIJ				Sn	**Sn**	**20 14 23.1**	**-5.1**
	10nm,0.3s,baz=270,slow=20,SNR=3.4					
SONM	**Songino Array**	**30.67**	**309**	P	**P**	**20 18 01.9**	**+3.6**
	0.4nm,0.3s,mb3.7,baz=117,slow=9.7,SNR=3.2					
MKAR	**Makanchi Array**	**46.88**	**305**	P	**P**	**20 20 15.8**	**+2.3**
	0.7nm,0.5s,mb3.9,baz=87,slow=7.7,SNR=11					
MKAR	**Makanchi Array**	**46.88**	**305**	P	**P**	**20 20 15.8**	**+2.3**
ILAR	**Eielson Array**	**52.16**	**31**	P	**P**	**20 20 53.8**	**-0.1**
	0.4nm,0.5s,mb3.6,baz=268,slow=6.6,SNR=4.9					
WRA	**Warramunga Arr**	**53.57**	**190**	P	**P**	**20 21 05.2**	**+0.2**
	0.4nm,0.4s,mb3.7,baz=5.6,slow=7.5,SNR=14					

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*BJI **08** 20:30:04.8, 0.34S×120.10E, h35km, mB4.9, mb4.8, Ms5.1, Msz4.3*
*MOS **08** 20:30:07.1±1.0, 0.15N×120.16E, h33km, mb4.7/21, Error ellipse: s-maj=22.7km s-min=9.5km az=115.9*
*NEIC **08** 20:30:08.6±0.3, 0.07N×120.09E, h30km, mb4.8/13, Error ellipse: s-maj=17.0km s-min=6.4km az=59.0*
*IDC **08** 20:30:11.9±6.7, 0.10N×120.08E, h60km±62km, mb4.2/16, mb1 4.3/17, mb1mx4.2/24, mbtmp4.5/17, ML4.6/1, MS3.3/2, Ms1 3.3/2, ms1mx3.1/17, Error ellipse: s-maj=26.2km s-min=12.0km az=73.0*
ISC 08 20:30:09.7±2.0, 0.06N±0.06×120.10E±0.09, h55km±18km, n79, σ0§92/76, mb4.7/40, 2C-8D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**7.10**	**327**	*e*Pn	**P**	**20 31 53.3**	**-0.1**
KAKA	**Kakadu**	**17.63**	**136**	*e*P	**P**	**20 34 22.0**	**+8.7**
	22nm,0.7s					
FITZ	**Fitzroy Crossi**	**18.85**	**163**	*e*P	**P**	**20 34 28.5**	**+0.5**
	15nm,0.6s					
FITZ	**Fitzroy Crossi**	**18.85**	**163**	P	**P**	**20 34 28.2**	**+0.2**
	1.5nm,0.3s,baz=4.0,slow=9.5,SNR=16					
KULM	**Kulim**	**20.10**	**285**	*e*P	**P**	**20 34 40.4**	**-1.3**
NNT	**Nongplab**	**23.73**	**302**	P	**P**	**20 35 17.5**	**-0.3**
WRAB	**Tennant Creek**	**24.28**	**146**	*e*P	**P**	**20 35 22.0**	**-1.3**
	32nm,0.9s,mb4.8					
WRAB	**Tennant Creek**	**24.28**	**146**	*i*P	**P**	**20 35 23.8**	**+0.6**
WRA	**Warramunga Arr**	**24.29**	**146**	P	**P**	**20 35 23.3**	**+0.1**
	18nm,0.8s,mb4.6,baz=336,slow=9.3,SNR=125					
WRA	**Warramunga Arr**	**24.29**	**146**	P	**P**	**20 35 23.3**	**0.0**
WRA				pmax	pmax	
	comp=Z,18nm,0.8s					
WB2	**Warramunga Arr**	**24.29**	**146**	*e*P	**P**	**20 35 23.1**	**-0.2**
NANT	**Nan**	**26.64**	**315**	⇓P	**P**	**20 35 46.5**	**+1.1**
	comp=Z,125nm,0.9s,mb5.4					
JOW	**Kunigami**	**27.76**	**16**	P	**P**	**20 35 58.6**	**+3.1**
	comp=Z,7.3nm,0.6s,mb4.5,baz=177,slow=12,SNR=4.0					
JOW				LR	LR	20 47 44.4
	comp=Z,54nm,21.6s,baz=162,slow=38					
KMI	**Kunming**	**30.04**	**327**	P	**P**	**20 36 16.6**	**+0.6**
KMI				AMB	AMB	
	comp=Z,4.0nm,1.1s,mb4.1					
FORT	**Forrest**	**31.59**	**167**	*e*P	**P**	**20 36 28.6**	**-0.9**
	comp=Z,23nm,0.6s,mb5.2					
ENH	**Enshi**	**31.70**	**342**	*e*P	**P**	**20 36 29.8**	**-0.7**
	comp=Z,14nm,0.8s,mb4.8					
CTA	**Charters Tower**	**32.51**	**130**	*e*P	**P**	**20 36 38.5**	**+0.8**
	comp=Z,13nm,1.0s,mb4.8					
CTA	**Charters Tower**	**32.51**	**130**	P	**P**	**20 36 37.8**	**+0.1**
	comp=Z,18nm,1.0s,mb5.0,baz=312,slow=11,SNR=7.7					
CTA	**Charters Tower**	**32.51**	**130**	P	**P**	**20 36 37.8**	**+0.1**
CTA				pmax	pmax	
	comp=Z,18nm,1.0s					
CTAO	**Charters Tower**	**32.51**	**130**	*e*P	**P**	**20 36 37.6**	**-0.1**
	comp=Z,24nm,1.0s,mb5.1					
CTAO	**Charters Tower**	**32.51**	**130**	*e*P	**P**	**20 36 37.6**	**-0.1**
CTAO				pmax	pmax	
	comp=Z,24nm,1.0s,mb5.1					
NWAO	**Narrogin (SRO)**	**32.92**	**184**	P	**P**	**20 36 40.3**	**-0.9**
	comp=Z,10nm,1.0s,mb4.7,baz=346,slow=13,SNR=6.8					
NWAO	**Narrogin (SRO)**	**32.92**	**184**	P	**P**	**20 36 40.3**	**-0.9**
NWAO				pmax	pmax	
	comp=Z,10.0nm,1.0s					
CD2	**Chengdu**	**34.38**	**335**	*e*P	**P**	**20 36 53.2**	**-0.5**
CD2				AMB	AMB	
	comp=Z,10.0nm,0.5s,mb5.0					
STKA	**Stephens Creek**	**37.72**	**149**	⇑*i*P	**P**	**20 37 22.1**	**+0.2**
	comp=Z,13nm,0.8s,mb4.8					
STKA	**Stephens Creek**	**37.72**	**149**	P	**P**	**20 37 22.6**	**+0.7**
	comp=Z,18nm,0.8s,mb4.9,baz=322,slow=8.3,SNR=37					
STKA	**Stephens Creek**	**37.72**	**149**	*e*P	**P**	**20 37 21.8**	**-0.1**
MJAR	**Matsushiro Arr**	**40.00**	**23**	P	**P**	**20 37 39.5**	**-1.3**
	comp=Z,2.3nm,0.8s,mb4.0,baz=196,slow=10.0,SNR=5.1					
MJAR	**Matsushiro Arr**	**40.00**	**23**	P	**P**	**20 37 39.5**	**-1.3**
MJAR				pmax	pmax	
	comp=Z,2.0nm,0.8s					
LSA	**Lhasa**	**40.37**	**319**	P	**P**	**20 37 46.2**	**+2.2**
LSA	**Lhasa**	**40.37**	**319**	⇓*e*P	**P**	**20 37 45.4**	**+1.4**
	comp=Z,15nm,0.6s,mb4.9					
LSA	**Lhasa**	**40.37**	**319**	⇓*e*P	**P**	**20 37 45.4**	**+1.4**
LSA				pmax	pmax	
	comp=Z,15nm,0.6s,mb4.9					
HHC	**Hu-ho-hao-te**	**41.33**	**350**	*e*P	**P**	**20 37 53.3**	**+1.5**
HHC				PP	PP	20 39 32.7	+1.9
HHC				SCS	ScS	20 47 50.6	+2.2
HHC				AMB	AMB	
	comp=Z,17nm,0.4s,mb5.0					
HHC				AMB	AMB	
	comp=Z,55nm,5.1s					
ARMA	**Armidale**	**42.63**	**138**	*e*P	**P**	**20 37 52.4**	**-10**
PKI	**Pulchoki**	**43.08**	**312**	*e*P	**P**	**20 38 06.7**	**+0.4**
	comp=Z,43nm,0.6s,mb5.3					
KKN	**Kakani**	**43.30**	**312**	*e*P	**P**	**20 38 08.4**	**+0.3**
	comp=Z,63nm,0.9s,mb5.4					
DMN	**Daman**	**43.33**	**312**	*e*P	**P**	**20 38 08.9**	**+0.6**
	comp=Z,102nm,1.0s,mb5.5					
GTA	**Gaotai**	**43.34**	**337**	⇓P	**P**	**20 38 09.5**	**+1.2**
GTA				AP	pP	20 38 22.2	-0.5
GTA				XP	sP	20 38 26.8	-2.4
GTA				AMB	AMB	
	comp=Z,13nm,1.2s,mb4.5					
GKN	**Gorkha**	**43.89**	**312**	*e*P	**P**	**20 38 13.1**	**+0.2**
	comp=Z,86nm,0.7s,mb5.6					
CNB	**Canberra Magne**	**44.53**	**145**	*e*P	**P**	**20 38 19.2**	**+1.2**
	comp=Z,15nm,0.9s,mb4.8					
KOLN	**Koldanda**	**44.54**	**311**	*e*P	**P**	**20 38 18.5**	**+0.4**
	comp=Z,45nm,0.8s,mb5.4					
SONM	**Songino Array**	**49.05**	**348**	P	**P**	**20 38 53.4**	**+0.1**
	comp=Z,3.5nm,0.7s,mb4.5,baz=167,slow=8.0,SNR=11					
SONM	**Songino Array**	**49.05**	**348**	P	**P**	**20 38 53.4**	**+0.1**
SONM				pmax	pmax	
	comp=Z,4.0nm,0.7s					
DZM	**Mont Dzumac**	**50.21**	**119**	P	**P**	**20 39 03.6**	**+1.1**
	comp=Z,5.3nm,0.7s,mb4.7,baz=246,slow=10.0,SNR=3.8					
ZAK	**Zakamensk**	**52.15**	**346**	⇓*i*P	**P**	**20 39 16.4**	**-0.4**
ZAK				pmax	pmax	
	comp=Z,2.0nm,1.0s,mb4.0					
MOY	**Mondy**	**53.89**	**345**	*e*P	**P**	**20 39 30.2**	**+0.5**
MKAR	**Makanchi Array**	**57.07**	**330**	P	**P**	**20 39 52.5**	**-0.2**
	comp=Z,16nm,1.1s,mb5.0,baz=129,slow=9.1,SNR=53					
MKAR				LR	LR	21 05 15.4
	comp=Z,43nm,21.2s,baz=273,slow=37					
MKAR	**Makanchi Array**	**57.07**	**330**	P	**P**	**20 39 52.5**	**-0.2**
MKAR				pmax	pmax	
	comp=Z,16nm,1.1s					
MKAR				MLR	MLR	
	comp=Z,43nm,21.2s					
BOD	**Bodaibo**	**57.79**	**356**	*e*P	**P**	**20 39 54.4**	**-3.2**
BOD				pmax	pmax	
	comp=Z,7.0nm,1.2s,mb4.6					
AAK	**Ala-Archa**	**58.87**	**322**	*e*P	**P**	**20 40 04.3**	**-1.0**
	comp=Z,6.5nm,0.7s,mb4.8					
AAK	**Ala-Archa**	**58.87**	**322**	*d*iP	**P**	**20 40 04.8**	**-0.5**
ZAL	**Zalesovo**	**61.09**	**337**	P	**P**	**20 40 18.7**	**-1.7**
	comp=Z,2.4nm,0.8s,mb4.4,baz=349,slow=6.1,SNR=13					
ZAL	**Zalesovo**	**61.09**	**337**	P	**P**	**20 40 18.7**	**-1.7**
ZAL				pmax	pmax	
	comp=Z,2.0nm,0.8s					
KURK	**Kurchatov**	**61.50**	**331**	⇓*e*P	**P**	**20 40 22.3**	**-0.9**
	comp=Z,13nm,1.0s,mb5.0					
KURK	**Kurchatov**	**61.50**	**331**	⇓*e*P	**P**	**20 40 22.3**	**-0.9**
KURK				pmax	pmax	
	comp=Z,13nm,1.0s,mb5.0					
NVS	**Novosibirsk**	**62.38**	**337**	*e*P	**P**	**20 40 24.8**	**-4.2**
BVAR	**Borovoye Array**	**66.95**	**330**	P	**P**	**20 40 57.8**	**-0.8**
	comp=Z,2.0nm,0.9s,mb4.2,baz=141,slow=9.5,SNR=12					
BVAR	**Borovoye Array**	**66.95**	**330**	P	**P**	**20 40 57.8**	**-0.8**
BVAR				pmax	pmax	
	comp=Z,2.0nm,0.9s					

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRVK	**Borovoye**	**67.03**	**330**	*e*P	**P**	**20 40 58.0**	**-1.0**
	comp=Z,3.8nm,1.0s,mb4.4						
BRVK	**Borovoye**	**67.03**	**330**	*e*P	**P**	**20 40 58.1**	**-1.0**
BRVK				pmax	pmax	
	comp=Z,4.0nm,1.0s,mb4.4					
FX1	**Attu Island--F**	**68.59**	**31**	P	**P**	**20 41 08.0**	**-0.9**
	comp=Z,3.9nm,0.5s,mb4.6,baz=324,slow=12,SNR=6.2					
FX1	**Attu Island--F**	**68.59**	**31**	P	**P**	**20 41 08.0**	**-0.9**
FX1				pmax	pmax	
	comp=Z,4.0nm,0.5s					
ARU	**Arti**	**74.59**	**330**	*e*P	**P**	**20 41 43.5**	**-1.1**
	comp=Z,2.9nm,0.7s,mb4.3					
ARU	**Arti**	**74.59**	**330**	*i*P	**P**	**20 41 44.1**	**-0.5**
MAW	**Mawson**	**78.08**	**199**	P	**P**	**20 42 04.2**	**+0.2**
	comp=Z,4.5nm,0.9s,mb4.4,baz=48,slow=8.5,SNR=9.4						
MAW	**Mawson**	**78.08**	**199**	P	**P**	**20 42 04.2**	**+0.1**
MAW				pmax	pmax	
	comp=Z,5.0nm,0.9s					
VNDA	**Vanda**	**80.72**	**172**	P	**P**	**20 42 17.9**	**-0.3**
	comp=Z,1.9nm,0.7s,mb4.2,baz=317,slow=5.8,SNR=14					
VNDA	**Vanda**	**80.72**	**172**	P	**P**	**20 42 17.9**	**-0.3**
VNDA				pmax	pmax	
	comp=Z,2.0nm,0.7s					
KIV	**Kislovodsk**	**80.90**	**314**	*ce*P	**P**	**20 42 21.2**	**+1.4**
KIV				pmax	pmax	
	comp=Z,11nm,1.4s,mb4.6					
KMBO	**Kilima Mbogo**	**82.85**	**269**	P	**P**	**20 42 31.1**	**+0.7**
	comp=Z,1.1nm,0.7s,mb4.0,baz=63,slow=9.5,SNR=3.1					
KMBO	**Kilima Mbogo**	**82.85**	**269**	P	**P**	**20 42 31.1**	**+0.7**
KMBO				pmax	pmax	
	comp=Z,1.0nm,0.7s					
ASF	**Jabal al Asfar**	**84.21**	**302**	P	**P**	**20 42 38.2**	**+1.2**
	comp=Z,2.6nm,0.6s,mb4.5,baz=127,slow=5.1,SNR=4.2					
ASF	**Jabal al Asfar**	**84.21**	**302**	P	**P**	**20 42 38.2**	**+1.2**
ASF				pmax	pmax	
	comp=Z,3.0nm,0.6s					
BRTR	**Keskin Array B**	**87.23**	**310**	P	**P**	**20 42 51.2**	**-0.5**
	comp=Z,2.3nm,0.8s,mb4.5,baz=127,slow=6.2,SNR=9.8						
BRTR				pP	pP	20 43 06.0	-1.7
	comp=Z,3.0nm,0.8s,baz=112,slow=6.7,SNR=7.1						
BRTR	**Keskin Array B**	**87.23**	**310**	P	**P**	**20 42 51.2**	**-0.5**
BRTR				*PP	pP	20 43 06.0	-1.6
BRTR				pmax	pmax	
	comp=Z,2.0nm,0.8s						
BRTR				pmax	pmax	
	comp=Z,3.0nm,0.8s						
QSPA	**South Pole Qui**	**89.99**	**180**	*e*P	**P**	**20 43 03.8**	**-0.1**
	comp=Z,3.7nm,0.8s,mb4.8						
CFAA	**Coronel Fontan**	**147.65**	**167**	PKPbc	PKPdf	20 49 49.6	+3.7
	comp=Z,0.4nm,0.5s,baz=222,slow=3.7,SNR=3.0						
LPAZ	**La Paz**	**161.95**	**154**	PKPab	PKPab	20 50 55.0	+0.9
	comp=Z,3.5nm,0.3s,baz=190,slow=6.8,SNR=14						
LPAZ	**La Paz**	**161.95**	**154**	PKP2	PKPab	20 50 55.0	+0.9
LPAZ				pmax	pmax	
	comp=Z,4.0nm,0.3s						

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*TIR **08** 20:40:36.5, 42.44N×19.78E, h18km*
*BEO **08** 20:40:37.7±0.3, 42.42N×19.82E, h11km*
*CSEM **08** 20:40:37.5±0.1, 42.39N×19.82E, h8km, ML2.9, Error ellipse: s-maj=2.0km s-min=1.3km az=119.0*
*PDG **08** 20:40:38.3±0.2, 42.43N×19.77E, h10km±1km*
*NEIC **08** 20:40:38.3, 42.43N×19.77E, h10km, ML2.9(PDG), After PDG.*
ISC 08 20:40:38.2±0.3, 42.40N±0.02×19.79E±0.03, h10km, n34, σ1§22/62, 11C-5D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVY	**Plav**	**0.24**	**34**	⇑*i*Pg	**Pg**	**20 40 42.0**	**-1.4**
PVY				*e*Sg	**Sg**	**20 40 45.7**	**-1.0**
PUK	**Puka**	**0.36**	**168**	*i* Pg	**Pg**	**20 40 44.8**	**-0.9**
PUK				*i* Sg	**Sg**	**20 40 50.4**	**-0.3**
PUK	**Puka**	**0.36**	**168**	*e*Pg	**Pg**	**20 40 44.8**	**-0.9**
PUK				*i* Sg	**Sg**	**20 40 50.4**	**-0.3**
TTG	**Podgorica**	**0.40**	**275**	⇑*i*Pg	**Pg**	**20 40 45.1**	**-1.3**
TTG				*e*Sg	**Sg**	**20 40 51.4**	**-0.3**
SDA	**Shkodra**	**0.41**	**212**	*i* Pg	**Pg**	**20 40 45.7**	**-0.9**
SDA				*i* Sg	**Sg**	**20 40 53.1**	**+0.9**
SDA	**Sh

CAMI				S		S	21 12 15.5	+1.2
VC1	Cotopaxi 1	1.79	6	⇓P		P	21 11 52.5	+0.2
NAS1	Nasa	1.79	4	⇓P		P	21 11 52.5	+0.1
ANTI	Antisana	2.01	12	⇓P		P	21 11 55.7	+0.5
JUA2	San Juan 2	2.20	360	⇓P		P	21 11 57.5	-0.3
GGP	Refugio Guagua	2.24	360	⇓P		P	21 11 57.9	-0.4
TERV	Terraza Guagua	2.24	360	P		P	21 11 58.1	-0.2
TERV				S		S	21 12 34.8	+9.1
PINO	Pino	2.26	360	⇓P		P	21 11 58.4	-0.1
YANA	Yana	2.30	0	⇓P		P	21 11 58.6	-0.5
YANA				S		S	21 12 27.9	+0.9
JOR1	San Jorge 1	2.41	359	⇓P		P	21 11 57.2	-3.5
ECOPE	Copete-Rev Vol	2.50	23	P		P	21 12 02.0	+0.1
CONE	Cono NE Rev Vo	2.53	22	⇓P		P	21 12 02.9	+0.7
CAYA	Cayambe	2.56	14	P		P	21 12 03.9	+1.3
JAMA	Jama	2.69	323	P		P	21 11 59.7	-4.7
COTA	Cotacachi	2.76	5	⇓P		P	21 12 06.2	+0.8
ECEN	Cerro Negro	3.29	11	⇓P		P	21 12 13.0	+0.4
ROSC	El Rosal	8.39	30	P		P	21 13 21.1	-1.0
	2.7nm,0.3s,baz=104,slow=21,SNR=5.3							
NNA	Nana	9.65	170	*e*Pn		P	21 13 39.9	+0.7
	42nm,0.7s							
NNA				*e*Sn		S	21 15 25.0	-1.3
SDV	Santo Domingo	13.76	35	P		P	21 14 35.2	+1.7
	0.8nm,0.3s,baz=252,slow=12,SNR=18							
SDV	Santo Domingo	13.76	35	P		P	21 14 32.6	-0.8
JTS	JuntasAbangare	14.14	333	LR		LR	21 19 52.4	
	comp=Z,33nm,19.9s,baz=209,slow=36							
SAML	Samuel	16.63	114	*e*Pn		P	21 15 07.7	-2.2
	12nm,0.4s							
SAML				*e*Sn		S	21 18 09.7	-0.5
LPAZ	La Paz	17.19	144	P		P	21 15 20.4	+3.6
	0.4nm,0.3s,baz=324,slow=12,SNR=12							
LPAZ	La Paz	17.19	144	*e*P		P	21 15 20.0	+3.2
SIV	San Ignacio	21.89	129	P		P	21 16 08.9	+1.7
	2.6nm,0.5s,mb3.8,baz=321,slow=14,SNR=15							
LVC	Limon Verde	22.15	156	P		P	21 16 13.8	+4.1
	1.9nm,0.5s,mb3.6,baz=253,slow=9.4,SNR=4.4							
SJG	San Juan	23.81	30	LR		LR	21 26 23.5	
	comp=Z,27nm,21.0s,baz=151,slow=38							
BDFB	Brasilia	32.86	115	P		P	21 17 48.4	+0.6
	4.2nm,0.8s,mb4.3,baz=287,slow=7.7,SNR=4.8							
BDFB				LR		LR	21 31 28.8	
	comp=Z,73nm,18.8s,baz=24,slow=37							
PLCA	Paso Flores	38.82	170	P		P	21 18 39.9	+2.1
	1.1nm,0.4s,mb4.0,baz=336,slow=12,SNR=11							
PLCA	Paso Flores	38.82	170	P		P	21 18 39.5	+1.7
USIN	University of	41.06	349	P		P	21 18 52.6	-3.8
ANMO	Albuquerque	45.45	327	P		P	21 19 31.5	-0.5
	1.8nm,0.8s,mb3.8,baz=151,slow=10,SNR=4.6							
PDAR	Pinedale Array	52.96	332	P		P	21 20 28.2	-1.4
	0.4nm,0.4s,mb3.8,baz=124,slow=6.5,SNR=6.5							
SCHQ	Schefferville	57.89	8	P		P	21 21 02.0	-2.8
	2.7nm,0.7s,mb4.4,baz=242,slow=15,SNR=2.8							
DBIC	Dimbokro	74.15	82	P		P	21 22 48.4	-0.7
	1.3nm,0.5s,mb4.0,baz=184,slow=4.0,SNR=8.0							
EVO	Evora	76.44	50	*e*P		P	21 23 00.1	-1.5
	8.9nm,0.9s,mb4.2							
ESDC	Sonseca Array	79.77	49	P		P	21 23 19.6	-0.3
	0.9nm,0.7s,mb3.7,baz=262,slow=5.0,SNR=7.2							
ROSF	Rostrenen	82.09	41	*e*P		P	21 23 31.9	0.0
SJPF	Ste Jean	82.45	46	*e*P		P	21 23 34.1	+0.2
	5.8nm,0.7s,mb4.2							
ETSF	Etsaut	82.89	46	*e*P		P	21 23 36.4	+0.3
	5.8nm,0.9s,mb4.1							
EPF	Esparros	83.57	46	*e*P		P	21 23 39.7	+0.2
GRR	Gorron	83.68	41	*e*P		P	21 23 40.4	+0.5
	3.0nm,0.4s,mb4.2							
MFF	Saint Martin d	83.83	43	*e*P		P	21 23 40.5	-0.2
	8.0nm,0.7s,mb4.3							
FLN	La Foliniere	83.99	41	*e*P		P	21 23 41.2	-0.3
	4.9nm,0.5s,mb4.3							
LFF	La Frestale	84.16	45	*e*P		P	21 23 42.2	-0.2
	9.4nm,0.7s,mb4.5							
MTLF	Montolieu	84.97	46	*e*P		P	21 23 46.2	-0.3
	11nm,1.0s,mb4.4							
TCF	Toulx Ste Croi	85.39	43	*e*P		P	21 23 49.1	+0.6
	3.2nm,0.6s,mb4.2							
AVF	Avril sur Loir	86.23	43	*e*P		P	21 23 53.0	+0.4
	4.2nm,0.8s,mb4.1							
LASF	Ste Croix	86.25	46	*e*P		P	21 23 52.5	-0.3
	11nm,1.0s,mb4.4							
SSF	Saint Saulge	86.38	43	*e*P		P	21 23 53.6	+0.3
LOR	Lormes	86.64	43	*e*P		P	21 23 54.6	0.0
MEZF	Maizieres J'vi	87.58	41	*e*P		P	21 24 00.1	+1.0
QIVF	Givet	87.61	40	*e*P		P	21 23 59.2	-0.1
QSPA	South Pole Qui	87.64	180	⇓*i*P		P	21 24 00.8	+2.1
	8.4nm,0.9s,mb4.8							
WRA	Warramunga Arr	140.78	234	PKhKP			21 30 34.1	
	0.9nm,0.6s,baz=119,slow=2.4,SNR=5.9							
WRA				PKP	PKPdf		21 30 43.3	+3.2
	0.6nm,0.5s,baz=117,slow=1.8,SNR=4.7							

*ATH **08** 21:25:38.0,41.07N×23.90E,h4km,MD3.2/3*
*THE **08** 21:25:38.3,41.04N×23.79E,h10km,ML2.7*
*CSEM **08** 21:25:38.1±0.1,41.07N×23.83E,h5km,ML2.7, Error ellipse: s-maj=1.7km s-min=1.4km az=22.0*

ISC 08 21:25:37.2±0.5,41.03N±0.03×23.81E±0.04,h13km±6km, n15,σ0§98/28,Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRS	Serrai	0.18	299	*e*Pg	Pg	21 25 41.8	+0.2
SRS				*e*Sg	Sg	21 25 44.3	-0.2
NVR	Nevrokopi	0.32	7	*e*PG	Pg	21 25 43.6	-0.4
KNT	Kendrikon	0.70	281	*e*Pg	Pg	21 25 51.0	-0.3
KNT				*e*Sg	Sg	21 26 01.0	+0.2
OUR	Ouranopolis	0.71	169	*e*Pg	Pg	21 25 51.9	+0.5
OUR				*e*Sg	Sg	21 26 02.4	+1.3
OUR	Ouranopolis	0.71	169	*e*Pg	Pg	21 25 51.9	+0.4
OUR				*e*Sg	Sg	21 26 02.3	+1.3
PLG	Polygyros	0.71	203	*e*PG	Pg	21 25 52.4	+0.9
PLG				*e*SG	Sg	21 26 02.4	+1.3
THE	Thessaloniki	0.75	238	*e*Pg	Pg	21 25 52.8	+0.4
THE				*e*Sg	Sg	21 26 03.9	+1.3
THE	Thessaloniki	0.75	238	*e*Pg	Pg	21 25 52.8	+0.4
THE				*e*Sg	Sg	21 26 03.8	+1.3
RDO	Rodhopi	1.31	84	*e*PN	Pn	21 26 02.0	+0.8
RDO				*e*SB	Sb	21 26 18.1	+0.4
LIT	Litokhoron	1.37	228	*e*Pg	Pg	21 26 03.1	-1.4
LIT				*e*Sg	Sg	21 26 21.9	-0.9
LOS	Limnos	1.46	138	*e*Pg	Pg	21 26 05.3	-1.2
LOS				*e*Sg	Sg	21 26 23.7	-2.4
ALN	Alexandroupoli	1.70	94	*e*Pb	Pb	21 26 07.6	-0.2
ALN				*e*Sb	Sb	21 26 30.6	+1.6
ALN	Alexandroupoli	1.70	94	*e*Pb	Pb	21 26 07.6	-0.2
ALN				*e*Sb	Sb	21 26 30.5	+1.6
XOR	Xorichti	1.73	196	*e*Pb	Pb	21 26 07.4	-0.9
XOR				*e*Sb	Sb	21 26 29.6	-0.1
AOS	Alonnisos	1.86	178	*e*Pb	Pb	21 26 08.9	-1.6

*FUNV **08** 22:15:32.7,6.72N×73.23W,h165km,MW3.1*
*IDC **08** 22:15:33.7±0.8,6.74N×73.02W,h156km±9km,mb3.1/2, mb1 3.5/4,mb1mx3.3/21,mbtmp3.8/4, Error ellipse: s-maj=30.9km s-min=8.0km az=131.0*
*NEIC **08** 22:15:34.9±0.9,6.74N×72.92W,h160km±13km,mb3.7/1, Error ellipse: s-maj=16.2km s-min=15.3km az=51.0*

ISC 08 22:15:33.5±0.6,6.76N±0.07×72.91W±0.07,h164km±7km, n18,σ1§07/26,mb3.3/2,4D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	Capacho	1.25	28	⇓*i*P	P	22 16 02.7	+0.7
CAPV				*e*S	S	22 16 24.6	+0.5
ROSC	El Rosal	2.36	217	P	P	22 16 14.3	+0.2
	48nm,0.3s,baz=269,slow=20,SNR=71						
ROSC				S	S	22 16 43.4	-2.0
	38nm,0.3s,baz=98,slow=15,SNR=12						
SOCV	Socops	2.54	53	*e*P	P	22 16 17.5	+1.1
SOCV				*e*S	S	22 16 49.8	+0.5
VIGV	El Vigia	2.57	37	⇓*i*P	P	22 16 17.3	+0.5
VIGV				*e*S	S	22 16 49.6	-0.4
SDV	Santo Domingo	3.09	47	P	P	22 16 24.2	+0.9
	38nm,0.3s,baz=241,slow=6.0,SNR=186						
SDV				S	S	22 17 02.8	+1.3
	25nm,0.3s,baz=277,slow=19,SNR=9.2						
SDV	Santo Domingo	3.09	47	*e*Pn	P	22 16 24.2	+1.0
SDV				S	S	22 17 02.8	+1.3
SDV				*e*Sn	S	22 17 03.2	+1.7
VIRV	Villa del Rosa	3.75	8	⇓*i*P	P	22 16 29.7	-2.0
VIRV				*e*S	S	22 17 12.4	-4.1
CURV	Curarigua	4.36	42	⇓*i*P	P	22 16 39.5	0.0
CURV				*e*S	S	22 17 29.7	-0.8
TEPV	Terepaima	4.87	49	*e*P	P	22 16 46.5	+0.3
TEPV				*e*S	S	22 17 41.4	-1.1
BAUV	El Baul	5.29	65	*e*S	S	22 17 51.2	-1.3
TURV	Turiamo	6.21	53	*e*P	P	22 17 03.7	-0.3
JTS	JuntasAbangare	12.41	287	P	P	22 18 27.7	+2.2
	1.0nm,0.3s,baz=304,slow=16,SNR=4.0						
SAML	Samuel	18.37	148	*e*P	P	22 19 38.1	-0.4
	1.6nm,0.4s						
LPAZ	La Paz	23.38	168	P	P	22 20 29.8	+1.2
	0.6nm,0.7s,mb3.1,baz=343,slow=14,SNR=2.6						
LPAZ				pP		22 21 01.2	
	0.9nm,0.7s,baz=346,slow=14,SNR=3.4						
SIV	San Ignacio	25.46	153	pP	pP	22 21 19.3	-2.2
	0.7nm,0.7s,baz=312,slow=6.9,SNR=2.0						
TXAR	Lajitas Array	36.66	312	P	P	22 22 25.3	-0.8
	0.5nm,0.4s,mb3.5,baz=122,slow=8.5,SNR=3.9						
TXAR	Lajitas Array	36.66	312	P	P	22 22 25.3	-0.8
WRA	Warramunga Arr	150.49	241	PKPbc	PKPdf	22 35 06.9	+6.1
	0.5nm,0.4s,baz=108,slow=2.7,SNR=12						
WRA				pPKPbc		22 35 49.5	
	0.3nm,0.3s,baz=104,slow=3.9,SNR=2.0						

*CASC **08** 22:26:39.8±2.0,13.80N×90.99W,h17km±6km,MD4.0, ML3.9,mb4.1(NEIC)*
*NEIC **08** 22:26:42.2±1.0,14.14N×90.55W,h87km±23km,mb4.1/1, Error ellipse: s-maj=44.8km s-min=11.0km az=215.0*

ISC 08 22:26:37.8±1.0,13.71N±0.04×91.02W±0.03,h5km±5km, n29,σ0§96/46,mb4.2/1,6C-8D,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	Ixpaco	0.72	50	⇓*e*P	Pg	22 26 51.3	-0.8
IXG				*e*S	Sg	22 27 02.1	+0.5
FUG	Fuego 3	0.75	13	⇓*e*P	Pg	22 26 52.6	-0.1
PCG	Pacaya	0.79	30	⇑*e*P	Pg	22 26 53.0	-0.5
PCG				*e*S	Sg	22 27 03.8	-0.2
TP2	Tecpan 2	1.06	360	⇑*e*P	Pb	22 26 57.8	-0.5
TP2				*e*S	Sb	22 27 12.6	+0.3
RTR	El Retiro	1.35	82	⇓*e*P	Pb	22 27 03.8	+0.6
RTR				*e*S	Sb	22 27 21.6	+1.0
RBDL	Robledal	1.35	73	⇑*e*P	Pb	22 27 04.0	+0.7
RBDL				*e*S	Sb	22 27 23.3	+2.6
SBLS	San Blas	1.36	85	⇓*e*P	Pb	22 27 03.6	+0.3
SBLS				*e*S	Sb	22 27 22.3	+1.3
SNJE	San Jose	1.38	83	⇓*e*P	Pb	22 27 04.0	+0.3
SNJE				*e*S	Sb	22 27 22.2	+0.7
BOQS	Boqueron	1.69	89	⇓*e*P	Pn	22 27 08.2	+0.1
BOQS				*e*S	Sn	22 27 29.8	-0.6
SNET	Serv Nac Est T	1.74	91	*e*P	Pn	22 27 09.2	+0.4
LFU	La Fuente	1.85	89	*e*P	Pn	22 27 11.0	+0.5
MRL	Marmol	1.86	44	⇑*e*P	Pn	22 27 07.6	-3.0
MRL				*e*S	Sn	22 27 33.6	-1.1
LFRS	El Faro	1.91	92	⇓*e*P	Pn	22 27 11.4	+0.2
LBRS	Las Brisas	1.92	89	*e*P	Pn	22 27 11.5	0.0
LCBS	La Ceiba	1.98	91	⇑*e*P	Pn	22 27 12.4	0.0
LCBS				*e*S	Sn	22 27 37.2	-0.7
SNVI	San Vicente	2.12	92	⇑*e*P	Pn	22 27 14.4	0.0
SNVI				*e*S	Sn	22 27 41.6	+0.2
CCIG	Comitan	2.77	337	*e*P	Pn	22 27 22.8	-0.9
CCIG				*i*S	Sn	22 27 57.7	-0.2
CNCH	Conchagua	3.13	98	*e*P	Pn	22 27 28.0	-0.7
CNCH				*e*S	Sn	22 28 05.9	-1.0
CRIN	San Cristobal	4.00	104	*e*P	Pn	22 27 41.0	0.0
TEL3	Telica 3	4.22	105	*e*P	Pn	22 27 43.7	-0.6
CNGN	Cerro Negro	4.38	105	⇓*e*P	Pn	22 27 43.4	-3.0
MIRN	Miramar	4.38	106	*e*P	Pn	22 27 46.5	-0.1
MIRN				*e*S	Sn	22 28 38.4	-0.3
COPN	Copaltepe	4.58	109	*e*P	Pn	22 27 48.3	-1.0
MGAN	Managua	4.91	108	*e*S	Sn	22 28 50.2	-1.7
MGAN				*i*		22 28 53.2	
	comp=E,266nm,0.5s						
HUIG	Huatulco	5.33	293	*i*P	Pn	22 28 10.4	+10
HUIG				*i*S	Sn	22 29 09.6	+7.0
OXX	Oaxaca	6.44	302	*i*P	Pn	22 28 17.2	+1.6
VHO	Vista Hermosa	6.44	302	*i*P	Pn	22 28 17.2	+1.6
VHO				*i*S	Sn	22 29 35.4	+5.0
JTS	JuntasAbangare	6.84	119	*e*Pn	Pn	22 28 17.8	-3.4
	comp=E,19nm,0.8s						
JTS				*e*Sn	Sn	22 29 42.4	+2.1
MNTX	Cornudas Mount	22.23	326	*e*P	P	22 31 30.7	-6.2
	comp=E,7.2nm,0.8s,mb4.2						

*KRSC **08** 22:41:48.7±1.2,52.06N×160.82E,h22km±12km,ML4.1*
*MOS **08** 22:41:49.5±1.7,52.13N×160.58E,h33km,mb4.4/2,Error ellipse: s-maj=20.2km s-min=14.2km az=118.9*
*IDC **08** 22:41:52.9±1.2,52.25N×160.63E,h36km±7km,mb3.7/8, mb1 3.9/9,mb1mx3.6/23,mbtmp3.9/9,ML3.9/1,Error ellipse: s-maj=32.2km s-min=10.6km az=2.0*
*NEIC **08** 22:41:52.9±0.8,52.25N×160.62E,mb4.2/2,Error ellipse: s-maj=21.8km s-min=11.9km az=182.0*

ISC 08 22:41:49.9±0.6,52.06N±0.04×160.86E±0.06,h39km, h39km±1.4km:pP-P,n50,σ1§00/61,mb4.0/10,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.16	334	*i*P	P	22 42 09.0	-0.8
SPN				*e*S	S	22 42 23.4	-1.3
NLC	Nalytchevo	1.45	321	*i*P	P	22 42 13.4	-0.6
NLC				*e*S	S	22 42 31.2	-0.8
RUS	Russkaya	1.49	285	*i*P	P	22 42 13.9	-0.7
RUS				*e*S	S	22 42 31.8	-1.3
PET	Petropavlovsk	1.66	306	*i*P	P	22 42 17.0	0.0
PET				*e*S	S	22 42 38.6	+1.3
PET	Petropavlovsk	1.66	306	*e*Pn	P	22 42 16.5	-0.5
UGLR	Uglovaya	1.69	314	*e*P	P	22 42 17.7	+0.2
SDLR	Sedlovina	1.71	316	*i*P	P	22 42 17.8	0.0
SMAR	Somma	1.74	315	*e*P	P	22 42 18.0	-0.2
AVH	Avacha	1.77	314	*i*P	P	22 42 18.9	+0.3
GRL	Gorelyy	1.78	287	*e*P	P	22 42 19.5	+0.7
GRL				*e*S	S	22 42 41.1	+0.8
KOK	Koryaka	1.83	313	*e*P	P	22 42 19.7	+0.2
KII	Karymskiy	2.15	337	*e*P	P	22 42 24.8	+0.7
GNL	Ganaly	2.41	314	*e*P	P	22 42 28.4	+0.7
APC	Apacha	2.42	292	*i*P	P	22 42 28.4	+0.5
APC				*e*S	S	22 42 57.7	+1.1
APC				Smax			
	230nm,1.1s						
MIPR	Malaya Ipel'ka	2.54	276	*e*P	P	22 42 29.8	+0.3
MKZ	Mys Kozlova	2.55	11	*e*P	P	22 42 29.1	-0.7
MKZ				*e*S	S	22 42 58.2	-1.7
PAU	Pauzhetka	2.59	258	*e*P	P	22 42 29.6	-0.7
PAU				Smax			
	280nm,0.8s						
TUMR	Tumrok	3.26	353	P	P	22 42 38.8	-1.0
SKR	Severo-Kuril's	3.28	247	*e*PN	P	22 42 35.8	-4.3
SKR				pmax	pmax		
	comp=Z,40nm,0.5s						
ALID	Alaid	3.53	252	*e*P	P	22 42 43.4	-0.3
KMNR	Kamenistaya	3.72	355	*e*P	P	22 42 47.7	+1.3
KPT	Kopyto	3.93	355	*e*P	P	22 42 50.3	+0.9
KPT				*e*S	S	22 43 34.4	-0.5
ZLN	Zelenaya	3.96	360	*e*P	P	22 42 50.8	+1.0
LGNR	Loginova	4.03	359	*e*P	P	22 42 51.9	+1.1
KOZ	Kozyrevsk	4.05	352	P	P	22 42 51.7	+0.7
CIRR	Tsirk	4.06	359	*e*P	P	22 42 53.8	+2.6
ESO	Esso	4.08	343	*e*P	P	22 42 51.7	+0.3
KRSR	Krestovskiy	4.17	358	*e*P	P	22 42 54.5	+1.8
KBTR	Krutoberegovo	4.31	15	*e*P	P	22 42 54.6	-0.2
KBTR				*e*S	S	22 43 44.5	0.0
SRDR	Sredinnyy	4.32	352	*e*P	P	22 42 55.3	+0.5
BKI	Bering	4.38	42	*e*S	S	22 43 41.2	-4.9
BKI				Smax			
	comp=Z,40nm,1.0s						
FX1	Attu Island--F	7.56	79	Pn	P	22 43 40.8	+0.5
	comp=Z,5.5nm,0.3s,baz=296,slow=2.6,SNR=24						
FX1				Sn	S	22 45 00.9	-4.8
	comp=Z,9.0nm,0.3s,baz=264,slow=23,SNR=9.2						
FX1	Attu Island--F	7.56	79	*e*Pn	P	22 43 40.8	+0.5
FX1				*e*Sn	S	22 45 02.3	-3.4
YAK	Yakutsk	19.48	313	*e*P	P	22 46 11.6	-4.3
YAK				pmax	pmax		
	comp=Z,12nm,0.9s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.0s						
MJAR	Matsushiro Arr	22.30	235	P	P	22 46 47.2	+2.1
	comp=E,2.4nm,0.9s,mb3.6,baz=30,slow=10,SNR=7.7						
MJAR	Matsushiro Arr	22.30	235	P	P	22 46 47.2	+2.1
ZAK	Zakamensk	35.29	291	*e*P	P	22 48 42.1	-0.6
KURK	Kurchatov	48.68	303	*e*P	P	22 50 30.0	-1.7
	comp=E,4.4nm,1.1s,mb4.4						
KURK				*e*	pP	22 50 41.9	-1.0
KURK	Kurchatov	48.68	303	*e*P	P	22 50 30.0	-1.7
KURK				*e*	pP	22 50 41.9	-1.0
KURK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.4						
MKAR	Makanchi Array	49.03	297	P	P	22 50 32.8	-1.7
	comp=Z,0.5nm,0.6s,mb3.7,baz=58,slow=6.5,SNR=11						
MKAR				pP	pP	22 50 44.6	-1.1
	comp=Z,0.3nm,0.5s,baz=53,slow=6.3,SNR=3.8						
BVAR	Borovoye Array	51.40	309	P	P	22 50 51.0	-1.5
	comp=Z,1.8nm,0.6s,mb4.2,baz=55,slow=7.7,SNR=21						
BVAR				pP	pP	22 51 01.7	-2.0
	comp=Z,0.7nm,0.4s,baz=64,slow=7.6,SNR=6.6						
BRVK	Borovoye	51.43	309	*e*P	P	22 50 51.8	-0.9
	comp=Z,2.0nm,1.0s,mb4.0						
BRVK				*e*	pP	22 51 02.5	-1.4
BRVK	Borovoye	51.43	309	*e*P	P	22 50 51.8	-0.9
BRVK				*e*	pP	22 51 02.6	-1.3
BRVK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
KAF	Kangasniemi	60.62	337	*e*p	P	22 51 58.0	-0.5
FINES	FINESS Array B	61.26	337	P	P	22 52 03.5	+0.7
	comp=Z,2.8nm,0.8s,mb4.5,baz=35,slow=9.2,SNR=9.9						
FINES				pP	pP	22 52 14.6	+0.3
	comp=Z,1.3nm,0.8s,baz=56,slow=6.9,SNR=1.9						
NB2	NORSAR Subarra	64.67	344	P	P	22 52 24.8	-0.4
	comp=Z,1.3nm,0.8s,mb4.0,baz=21,slow=7.0						
NOA	NORSAR Array B	64.67	344	P	P	22 52 25.6	+0.5
	comp=Z,1.4nm,0.8s,mb4.0,baz=22,slow=6.3,SNR=3.6						
HFS	Hagfors	65.08	343	P	P	22 52 27.5	-0.4
	comp=Z,0.9nm,0.5s,mb4.1,baz=22,slow=8.0,SNR=7.4						
AKASG	Malin Array Be	69.74	330	P	P	22 52 56.1	-1.1
	comp=Z,0.8nm,0.5s,mb3.9,baz=28,slow=5.6,SNR=5.2						
TXAR	Lajitas Array	70.61	67	P	P	22 53 06.1	+3.2
	comp=Z,0.2nm,0.7s,mb3.2,baz=315,slow=2.6,SNR=2.6						

*NEIC **08** 22:50:28.4,32.40S×71.67W,h30km,ML3.4(GUC),After GUC.*

GUC 08 22:50:28.4±0.8,32.40S×71.67W,h30km±4km,MD4.1, ML3.4,7C-4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	Los Chungos	0.53	16	⇓*i*P	Pb	22 50 39.3	+0.1
CHNG				*i*S	Sb	22 50 47.0	+0.3
CHNG				AMP		22 50 47.6	
	comp=E,2μm,0.2s						
IHA	Instituto Hidr	0.63	178	⇓*i*P	Pb	22 50 40.4	-0.5
IHA				*i*S	Sb	22 50 49.0	-0.4
ROCH	El Roble	0.80	136	⇑*i*P	Pb	22 50 43.4	-0.3
ROCH				*i*S	Sb	22 50 54.1	0.0
ILCH	Illapel	0.87	29	*e*P	Pn	22 50 44.6	0.0
ILCH				*i*S	Sb	22 50 56.5	+0.4
ILCH				AMP		22 51 01.8	
	comp=N,1μm,0.2s						
JACH	Jahuel	0.95	108	⇑*i*P	Pn	22 50 45.7	-0.2
JACH				*i*S	Sb	22 50 58.7	+0.2
LCCH	Las Cruces	1.08	176	⇑*i*P	Pn	22 50 47.5	-0.2
LCCH				*i*S	Sn	22 51 01.8	0.0
PEL	Peldehue	1.11	132	⇑*i*P	Pn	22 50 48.5	+0.3
PEL				*i*S	Sn	22 51 03.5	+0.8
RCDM	Rinconada Maip	1.31	147	*e*P	Pn	22 50 51.2	+0.2
RCDM				*i*S	Sn	22 51 08.3	+0.7
RCDM				AMP		22 51 09.6	
	comp=E,1μm,0.1s						
CMCH	Combarbala	1.34	25	⇑*i*P	Pn	22 50 51.5	0.0
CMCH				*i*S	Sn	22 51 09.2	+0.8
CMCH				AMP		22 51 14.0	
	comp=N,4μm,0.9s						
STL	Santa Lucia	1.35	141	⇑*i*P	Pn	22 50 51.3	-0.3
STL				*i*S	Sn	22 51 09.1	+0.5
STL				AMP		22 51 12.6	
	comp=N,382nm,0.3s						
SAN	Santiago	1.35	142	*i*P	Pn	22 50 51.7	+0.1
SAN				*i*S	Sn	22 51 09.9	+1.2
SAN				AMP		22 51 16.3	
	comp=E,1μm,0.6s						
DSCH	Colegio Aleman	1.36	138	*i*P	Pn	22 50 52.2	+0.5
DSCH				*i*S	Sn	22 51 10.0	+1.1
DSCH				AMP		22 51 18.3	
	comp=E,2μm,0.5s						
CLCH	Cerro Calan	1.38	137	*e*P	Pn	22 50 52.4	+0.5
CLCH				*i*S	Sn	22 51 10.8	+1.5
CLCH				AMP		22 51 13.

1.8nm,0.7s,mb4.1,baz=86,slow=8.2,SNR=21
ZAL Zalesovo 71.29 326 LR LR 23 34 49.4
comp=Z,34nm,19.5s,MS3.6,baz=103,slow=37
SML Sawmill 72.33 26 *eP* **P 23 02 07.8 -0.6**
DIV Divide 73.22 27 *eP* **P 23 02 13.9 +0.1**
26nm,0.7s,mb5.3
ILAR Eielson Array 74.08 23 P **P 23 02 17.4 -1.3**
5.1nm,0.6s,mb4.6,baz=252,slow=5.9,SNR=43
ILAR LR LR 23 28 53.9
comp=Z,50nm,21.1s,MS3.8,baz=358,slow=31
KURK Kurchatov 74.16 321 *eP* **P 23 02 18.8 -0.6**
2.3nm,0.7s,mb4.2
BVAR Borovoye Array 79.54 323 P **P 23 02 50.2 +0.7**
1.2nm,0.7s,mb4.0,baz=110,slow=6.2,SNR=11
INK Inuvik 80.21 22 P **P 23 02 53.0 +0.2**
5.9nm,0.9s,mb4.5,baz=230,slow=6.4,SNR=5.3
DLBC Dease Lake 80.36 32 *eP* **P 23 02 54.3 +0.5**
VNDA Vanda 82.90 177 P **P 23 03 07.5 +0.8**
0.5nm,0.7s,mb3.7,baz=337,slow=4.7,SNR=3.6
YKA Yellowknife Ar 87.94 28 P **P 23 03 32.6 +0.8**
1.1nm,0.6s,mb4.3,baz=274,slow=5.8,SNR=5.0
YKA LR LR 23 41 05.6
comp=Z,50nm,18.1s,MS4.0,baz=330,slow=34
BMO Blue Mountains 88.32 45 *eP* **P 23 03 34.0 -0.1**
2.9nm,0.8s,mb4.6
LPAZ La Paz 141.12 109 PKhKP 23 10 10.7
0.5nm,0.6s,baz=256,slow=8.3,SNR=3.0
LPAZ PKP PKPdf 23 10 14.4 +1.8
1.0nm,0.8s,baz=1.1,slow=3.3,SNR=5.2
CPUP Villa Florida 146.57 132 PKPbc PKPbc 23 10 25.0 +1.9
4.0nm,0.9s,baz=236,slow=1.5,SNR=7.1
SAML Samuel 146.96 98 *e*PKP PKPdf 23 10 25.7 +3.0
SIV San Ignacio 147.78 112 PKPbc PKPdf 23 10 28.3 +4.4
4.7nm,0.7s,baz=271,slow=2.2,SNR=29

JMA 08 23:01:58.6±0.4, 33.24N×142.18E, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.73**	**325**	P	Pn	23 02 30.3	+0.2
BSO1				*e*S	Sb	23 02 53.6	+0.4
JHJ2	**Mitsune**	**1.99**	**267**	P	Pn	23 02 34.6	+0.8
BSO3	**Boso 3**	**2.09**	**319**	P	Pn	23 02 36.0	+0.8
BSO3				*e*S	Sn	23 03 02.6	+0.3
BSO4	**Boso 4**	**2.32**	**319**	P	Pn	23 02 39.9	+1.3
BSO4				*e*S	Sn	23 03 10.3	+2.1
JIM2	**Oshima 3**	**2.72**	**304**	P	Pn	23 02 44.2	-0.1
JOD2	**Odawara 2**	**3.26**	**309**	P	Pn	23 02 51.8	-0.2
JYN	**Shimob**	**3.76**	**308**	P	Pn	23 02 59.7	+0.7
JRY	**Ryogami san**	**3.87**	**317**	P	Pn	23 03 01.4	+0.7
JRY				*e*S	Sn	23 03 48.3	+0.8
JAG	**Ashikaga**	**3.89**	**326**	P	Pn	23 03 00.5	-0.4
MAT	**Matsushiro**	**4.64**	**316**	P	Pn	23 03 11.9	+0.3
MAT				*e*S	Sn	23 04 04.5	-2.5
MAT	**Matsushiro**	**4.64**	**316**	P	Pn	23 03 12.4	+0.8
MAT				*e*S	Sn	23 04 06.4	-0.6
JMM	**Marumori**	**4.75**	**347**	P	Pn	23 03 09.8	-3.4
JMM				*e*S	Sn	23 04 01.0	-8.8
JMK	**Ichinoseki**	**5.75**	**353**	P	Pn	23 03 22.8	-4.5
JMK				*e*S	Sn	23 04 26.5	-8.5

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*IDC **08** 23:33:23.6±1.4, 39.51N×67.38E, mb3.8/4, mb1 3.9/7, mb1mx3.7/21, mbtmp3.8/7, ML3.5/3, MS2.9/3, Ms1 2.9/3, ms1mx2.6/24, Error ellipse: s-maj=23.1km s-min=19.2km az=124.0*
*MOS **08** 23:33:28.0±2.1, 39.91N×67.41E, h33km, mb3.9/1, Error ellipse: s-maj=16.0km s-min=11.0km az=61.8*
*NEIC **08** 23:33:32.7±2.5, 40.06N×67.65E, h75km±25km, mb3.9/3, Error ellipse: s-maj=28.8km s-min=12.7km az=184.0*
*NNC **08** 23:33:33.5±2.9, 40.29N×67.38E, h37km±36km, mpv3.7, Error ellipse: s-maj=38.8km s-min=11.3km az=23.0*
ISC 08 23:33:28.7±1.7, 40.00N±0.07×67.43E±0.09, h60km±19km, n34, σ1§57/39, mb4.0/5, 7C-5D, Southeastern Uzbekistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**3.87**	**36**	Pn	**P**	**23 34 28.1**	**+0.9**
1.3nm,0.2s,baz=218,slow=11,SNR=376
KK31 Pg **P** **23 34 40.2 +13**
12nm,0.3s,baz=221,slow=17,SNR=26
KK31 ⇓Sn **S** **23 35 15.0 +3.2**
9.4nm,0.3s
KK31 ⇑Lg 23 35 32.8
140nm,0.8s,baz=213,slow=30
AAK Ala-Archa 5.94 61 ⇑Pn **P** **23 34 57.1 +1.1**
13nm,0.7s
AAK ⇑Sn **S** **23 36 06.1 +2.7**
39nm,0.9s
AAK ⇓Lg 23 36 33.3
65nm,1.1s
AAK Ala-Archa 5.94 61 *e*Pn **P** **23 34 56.3 +0.4**
16nm,0.6s
AAK Ala-Archa 5.94 61 *e*PN **P** **23 34 56.3 +0.4**
AAK pmax pmax
comp=Z,16nm,0.6s
FRU Bishkek 6.10 60 *e*PN **P** **23 35 03.5 +5.2**
FRU *e* 23 35 22.0
FRU *e* 23 36 16.0
FRU pmax pmax
comp=E,240nm,2.0s
AB31 Akbulak array 10.68 333 Pn **P** **23 35 59.9 -1.4**
comp=E,1.9nm,0.3s,baz=163,slow=12,SNR=123
AB31 ⇓Sn **S** **23 37 56.0 -4.2**
comp=E,1.6nm,0.4s
AB31 ⇑Lg 23 39 12.2
comp=E,4.3nm,0.5s
MK31 Makanchi Array 12.76 53 ⇑Pn **P** **23 36 29.1 0.0**
comp=E,2.0nm,0.8s,baz=243,slow=16,SNR=14
MK31 ⇓Lg 23 40 13.7
comp=E,9.5nm,0.8s,baz=249,slow=20
MKAR Makanchi Array 12.76 53 Pn **P** **23 36 28.2 -0.9**
comp=E,0.2nm,0.3s,baz=236,slow=13,SNR=10
MKAR Lg 23 40 12.9
comp=E,0.1nm,0.3s,baz=253,slow=30,SNR=4.2
VOSK Vostochnaya 12.96 10 Pn **P** **23 36 31.8 0.0**
VOSK Sn **S** **23 38 47.4 -7.7**
BVA0 Borovoye Array 13.19 8 ⇑Pn **P** **23 36 34.1 -0.7**
comp=E,0.1nm,0.3s,baz=174,slow=10,SNR=28
BVA0 ⇑Sn **S** **23 38 57.2 -3.2**
comp=E,1.1nm,0.9s
BVA0 ⇓Lg 23 40 25.0
comp=E,3.4nm,1.2s
BVAR Borovoye Array 13.19 8 Pn **P** **23 36 34.0 -0.8**
comp=E,0.6nm,0.3s,baz=190,slow=10,SNR=15
BVAR Sn **S** **23 39 00.1 -0.4**
comp=E,0.9nm,0.3s,baz=202,slow=24,SNR=4.6
BVAR Lg 23 40 40.9
baz=175,slow=30,SNR=2.4
BRVK Borovoye 13.21 8 *e*Pn **P** **23 36 34.9 -0.2**
comp=E,2.3nm,0.6s
BRVK Borovoye 13.21 8 *e*P **P** **23 36 34.9 -0.2**
BRVK pmax pmax
comp=Z,2.0nm,0.6s
KURK Kurchatov 13.28 32 P **P** **23 36 36.7 +0.8**
comp=Z,3.4nm,1.0s
KURK Kurchatov 13.28 32 P **P** **23 36 36.7 +0.7**
KURK pmax pmax
comp=Z,3.0nm,1.0s
GNI Garni 17.36 278 *e*P **P** **23 37 33.2 +4.9**
comp=Z,7.1nm,1.0s
GNI Garni 17.36 278 *e*P **P** **23 37 33.2 +4.9**
GNI pmax pmax
comp=Z,7.0nm,1.0s
ARU Arti 17.45 343 *e*P **P** **23 37 39.6 +10**
KOLN Koldanda 18.10 127 *e*P **P** **23 37 36.0 -1.4**
comp=Z,6.2nm,0.5s
ZAL Zalesovo 18.23 34 P **P** **23 37 43.1 +4.3**
comp=Z,0.4nm,0.3s,baz=245,slow=11,SNR=15
ZAL LR LR 23 46 26.7
comp=Z,28nm,21.0s,baz=242,slow=42
ZAL Zalesovo 18.23 34 P **P** **23 37 43.1 +4.3**
ZAL LR LR 23 46 26.7
GKN Gorkha 18.58 125 *e*P **P** **23 37 40.5 -2.7**
comp=Z,15nm,0.6s
KIV Kislovodsk 18.80 290 *e*P **P** **23 37 45.4 -0.2**
comp=Z,3.7nm,0.8s
KIV Kislovodsk 18.80 290 *e*P **P** **23 37 45.4 -0.2**
KIV pmax pmax
comp=Z,4.0nm,0.8s
KKN Kakani 19.13 124 *e*P **P** **23 37 46.6 -2.9**
comp=Z,5.8nm,0.4s
DMN Daman 19.15 125 *e*P **P** **23 37 46.9 -2.8**
comp=Z,25nm,1.2s
PKI Pulchoki 19.37 124 *e*P **P** **23 37 48.8 -3.3**
comp=Z,13nm,0.7s
BRTR Keskin Array B 25.86 280 P **P** **23 38 59.2 +3.0**
comp=Z,0.3nm,0.4s,mb3.1,baz=92,slow=11,SNR=3.2
SONM Songino Array 28.89 61 LR LR 23 51 10.4
comp=Z,32nm,18.8s,baz=242,slow=37
FINES FINESS Array B 33.02 324 P **P** **23 40 03.2 +3.4**
comp=Z,0.9nm,0.7s,mb3.8,baz=113,slow=11,SNR=3.5
ARCES ARCESS Array B 36.84 337 LR LR 23 57 51.5
comp=Z,18nm,18.4s,baz=324,slow=39
NOA NORSAR Array B 39.90 321 P **P** **23 41 01.0 +3.0**
comp=Z,1.0nm,0.7s,mb3.7,baz=99,slow=8.4,SNR=3.5
WRA Warramunga Arr 86.19 120 P **P** **23 46 05.2 +0.4**
comp=Z,1.5nm,0.7s,mb4.4,baz=322,slow=4.8,SNR=7.6
WRAB Tennant Creek 86.19 120 P **P** **23 46 05.0 +0.1**
comp=Z,8.4nm,1.1s,mb4.9

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*NEIC **08** 23:55:12.9±1.1, 25.24N×113.20W, h10km, mb4.1/11, Error ellipse: s-maj=14.5km s-min=7.4km az=207.0*
*IDC **08** 23:55:13.3±2.3, 25.47N×113.10W, mb4.1/5, mb1 4.1/10, mb1mx3.9/25, mbtmp3.9/10, ML3.8/4, MS3.8/17, Ms1 3.7/17, ms1mx3.7/32, Error ellipse: s-maj=46.0km s-min=23.8km az=43.0*
ISC 08 23:55:11.9±1.1, 25.31N±0.09×113.10W±0.07, h10km, n71, σ1§25/60, mb4.1/6, MS3.8/13, Off west coast of Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUC	**Tucson**	**7.27**	**16**	*e*P	**Pn**	**23 56 59.6**	**-1.2**
PFO	**Pinyon Flat Ob**	**8.77**	**341**	*e*P	**P**	**23 57 17.8**	**-4.0**
LTX	**Lajitas**	**9.30**	**62**	P	**P**	**23 57 29.7**	**+0.6**
TXAR	**Lajitas Array**	**9.30**	**62**	Pn	**P**	**23 57 27.6**	**-1.4**
0.3nm,0.3s,baz=244,slow=12,SNR=23
TXAR Lg 00 00 10.0
0.0nm,0.3s,baz=259,slow=32,SNR=2.2
TXAR LR LR 00 01 11.5
comp=Z,410nm,21.6s,baz=25,slow=39
MNTX Cornudas Mount 9.30 45 *e*P **P** **23 57 27.8 -1.4**
MWC Mount Wilson 9.87 335 *e*P **P** **23 57 34.1 -2.9**
GDL2 Guadalupe Moun 10.29 46 *e*P **P** **23 57 43.3 +0.5**
LENM Lemitar 10.30 30 *e*P **P** **23 57 42.5 -0.5**
NEN Nelson 10.42 352 *e*P **P** **23 57 42.9 -1.6**
LAZ Ladron 10.43 28 *e*P **P** **23 57 44.5 -0.2**
BNM Barren Site 10.45 31 *e*P **P** **23 57 46.2 +1.2**
LPM Los Pinos Moun 10.58 31 *e*P **P** **23 57 46.1 -0.7**
CLNB Carlsbad 10.65 47 P **P** **23 57 45.2 -2.5**
ANMO Albuquerque 11.19 29 Pn **P** **23 57 54.3 -0.8**
baz=212,slow=14,SNR=5.0
ANMO Lg 00 01 14.8
baz=260,slow=23,SNR=3.6
ANMO Albuquerque 11.19 29 *e*P **P** **23 57 54.8 -0.3**
JCT Junction City 12.84 63 *e*P **P** **23 58 19.8 +2.5**
MTUM Tungsten Hills 12.88 340 *e*P **P** **23 58 17.3 -0.6**
MSU Marysvale 13.19 3 *e*P **P** **23 58 22.8 +0.9**
TPH Tonopah 13.20 346 *e*P **P** **23 58 21.7 -0.4**
OMM Old Mammoth Mi 13.26 339 *e*P **P** **23 58 23.7 +0.9**
SAO San Andreas Ge 13.47 330 *e*P **P** **23 58 24.0 -1.6**
PV10 Paradox Valley 13.48 14 P **P** **23 58 28.9 +3.1**
SRU San Rafael 13.93 8 *e*P **P** **23 58 30.6 -1.2**
TMUT Trail Mountain 14.04 6 P **P** **23 58 34.6 +1.5**
CMB Columbia Colle 14.12 336 *e*P **P** **23 58 35.6 +1.4**
6.5nm,1.1s
NLU North Lily Min 14.63 3 *e*P **P** **23 58 42.7 +1.8**
MPU Maple Canyon 14.72 4 *e*P **P** **23 58 42.9 +0.8**
SMCO Snowmass 14.76 19 *e*P **P** **23 58 43.5 +0.9**
DUG Dugway 14.85 1 *e*P **P** **23 58 44.4 +0.6**
12nm,1.4s
DAU Daniels Canyon 15.14 5 *e*P **P** **23 58 48.4 +0.8**
JLU Jordanelle 15.31 5 *e*P **P** **23 58 49.3 -0.6**
CTU Camp Tracy 15.38 4 *e*P **P** **23 58 51.0 +0.2**
BMN Battle Mountai 15.47 348 P **P** **23 58 53.7 +1.8**
47nm,1.4s
ELK Elko 15.50 354 Pn **P** **23 58 52.5 +0.3**
0.1nm,0.3s,baz=172,slow=12,SNR=6.0
ELK LR LR 00 05 07.9
comp=Z,255nm,18.2s,baz=167,slow=39
ELK Elko 15.50 354 *e*P **P** **23 58 51.8 -0.4**
10nm,1.3s
WMOK Wichita Mounta 15.54 49 *e*P **P** **23 58 53.6 +0.8**
21nm,1.4s
BEKR Beckwourth 15.74 339 *e*P **P** **23 58 56.6 +1.2**
16nm,1.3s
ISCO Idaho Springs 15.76 22 *e*P **P** **23 58 56.8 +1.2**
8.2nm,1.3s
TCUT Toone Canyon 15.83 5 P **P** **23 58 57.0 +0.4**
SPUT South Promonto 15.97 2 P **P** **23 58 57.2 -1.1**
HWUT Hardware Ranch 16.31 4 *e*P **P** **23 59 01.1 -1.5**
17nm,1.3s
HVU Hansel Valley 16.43 1 P **P** **23 59 03.4 -0.8**
NATX Nacogdoches 17.42 64 *e*P **P** **23 59 15.6 -1.2**
103nm,1.4s
MOD Modoc 17.59 342 P **P** **23 59 17.4 -1.4**
26nm,1.4s
BW06 Boulder Array 17.66 9 *e*P **P** **23 59 18.4 -1.2**
6.6nm,1.1s
PDAR Pinedale Array 17.66 9 P **P** **23 59 18.9 -0.7**
0.1nm,0.3s,baz=189,slow=9.4,SNR=11
PDAR LR LR 00 06 12.8
comp=Z,264nm,19.1s,baz=171,slow=38
RRI2 Red Ridge 18.05 4 *e*P **P** **23 59 24.8 +0.3**
35nm,1.6s
YBH Yreka Blue Hor 18.21 336 P **P** **23 59 25.4 -1.1**
0.0nm,0.3s,baz=135,slow=11,SNR=3.2
YBH LR LR 00 06 12.7
comp=Z,120nm,18.5s,baz=152,slow=36
NEW Newport 23.13 353 P **P** **00 00 20.4 +1.4**
2.5nm,0.7s,mb3.8,baz=172,slow=15,SNR=4.1
NEW LR LR 00 09 41.4
comp=Z,302nm,18.2s,MS3.8,baz=178,slow=38
NEW Newport 23.13 353 P **P** **00 00 20.4 +1.4**
NEW LR LR 00 09 41.4
ULM Lac du Bonnet 28.24 24 LR LR 00 12 51.0
comp=Z,265nm,19.1s,MS3.9,baz=218,slow=38
BBB Bella Bella 29.16 341 LR LR 00 12 39.2
comp=Z,281nm,18.3s,MS3.9,baz=154,slow=36
DLBC Dease Lake 35.21 345 P **P** **00 02 11.3 +3.1**
1.8nm,0.9s,mb4.0,baz=172,slow=7.1,SNR=5.9
DLBC Dease Lake 35.21 345 P **P** **00 02 11.3 +3.1**
YKA Yellowknife Ar 37.19 359 LR LR 00 18 20.7
comp=Z,53nm,20.7s,MS3.3,baz=125,slow=38
ROSC El Rosal 42.36 112 LR LR 00 22 14.0
comp=Z,102nm,21.1s,MS3.7,baz=30,slow=38
SDV Santo Domingo 43.53 104 P **P** **00 03 18.8 +1.1**
2.9nm,0.5s,mb4.3,baz=316,slow=7.9,SNR=6.1
SDV Santo Domingo 43.53 104 *e*P **P** **00 03 17.8 +0.1**
6.4nm,0.9s,mb4.3
SCHQ Schefferville 44.87 36 P **P** **00 03 29.4 +1.3**
12nm,1.2s,mb4.6,baz=260,slow=4.7,SNR=5.1
ILAR Eielson Array 45.05 340 P **P** **00 03 28.7 -0.7**
2.0nm,0.8s,mb4.0,baz=150,slow=7.1,SNR=11
SAML Samuel 59.33 118 P **P** **00 05 14.7 -2.1**
BORG Borgarnes 68.16 28 LR LR 00 37 59.0
comp=Z,62nm,18.6s,MS3.9,baz=197,slow=38
JMIC Jan Mayen 70.92 20 LR LR 00 38 02.4
comp=Z,60nm,21.1s,MS3.8,baz=255,slow=36
BDFB Brasilia 75.32 115 LR LR 00 39 32.0
comp=Z,68nm,21.8s,MS3.9,baz=296,slow=35
ARCES ARCESS Array B 80.84 14 LR LR 00 44 55.9
comp=Z,63nm,18.9s,MS4.0,baz=122,slow=37
NB2 NORSAR Subarra 82.93 24 P **P** **00 07 40.4 +2.4**
2.6nm,1.1s,mb4.2,baz=310,slow=5.0
NOA NORSAR Array B 82.93 24 P **P** **00 07 40.2 +2.2**
1.2nm,0.8s,mb4.0,baz=315,slow=5.0,SNR=3.8
NOA LR LR 00 43 29.4
comp=Z,38nm,21.1s,MS3.7,baz=300,slow=35
NOA NORSAR Array B 82.93 24 P **P** **00 07 40.2 +2.2**
NOA LR LR 00 43 29.4
FINES FINESS Array B 87.50 18 LR LR 00 48 08.6
comp=Z,47nm,19.8s,MS3.9,baz=334,slow=36
DAVOX Davos 91.71 35 LR LR 00 51 59.9
comp=Z,42nm,18.2s,MS3.9,baz=92,slow=37
GERES GERESS Array B 92.24 32 LR LR 00 48 31.5
comp=Z,51nm,18.4s,MS4.0,baz=333,slow=35

WEL 09 00:01:41.0±0.6, 35.64S×177.44E, h33km, ML4.2/3, Error ellipse: s-maj=8.4km s-min=4.3km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**2.52**	**165**	PN	Pn	00 02 19.1	-1.5
PUZ				SN	Sn	00 02 47.5	-2.9
URZ	**Urewera**	**2.63**	**186**	P*	Pb	00 02 21.0	-6.3
URZ				S*	Sb	00 02 51.0	-8.4
MWZ	**Matawai**	**2.69**	**179**	P*	Pb	00 02 21.2	-7.2
MWZ				S*	Sb	00 02 52.3	-8.9

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*CNRM **09** 00:22:39.7, 36.02N×2.68W, h30km, MD3.4*
*CSEM **09** 00:22:42.9±0.4, 35.61N×2.64W, h35km, MD3.4, Error ellipse: s-maj=10.7km s-min=5.5km az=109.0*
*MDD **09** 00:22:45.9±0.7, 35.78N×2.62W, h24km±6km, mbLg2.2/12, Error ellipse: s-maj=7.9km s-min=5.2km az=78.0, PRXIMO*
ISC 09 00:22:43.8±0.6, 35.72N±0.03×2.71W±0.04, h51km±7km, n35, σ1§38/61, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EALB	**Alboran**	**0.34**	**310**	P	**P**	**00 22 53.6**	**+0.1**
61nm,0.1s,SNR=7.9
EALB S **S** **00 22 59.0 -1.4**
133nm,0.1s,SNR=7.9
EALB Alboran 0.34 310 P **P** **00 22 53.6 +0.1**
61nm,0.1s,SNR=7.9
EMEL Melilla 0.47 205 P **P** **00 22 56.3 +1.5**
129nm,0.3s,SNR=16
EMEL S **S** **00 23 04.5 +1.8**
1μm,0.1s,SNR=7.9
ZAI Zaio 0.75 182 *i*P **P** **00 22 56.5 -1.8**
MPAL Palemas 1.12 244 *e*P **P** **00 23 00.0 -3.4**
MPAL *i*S **S** **00 23 15.0 -3.0**
TOU Touzarine 1.14 228 *i*P **P** **00 23 02.0 -1.7**
TOU *i*S **S** **00 23 19.0 +0.5**
EBER Berja 1.18 353 P **P** **00 23 04.7 +0.5**
3.5nm,0.1s,SNR=20
EBER S **S** **00 23 18.1 -1.4**
29nm,0.2s,SNR=7.9
EBER Berja 1.18 353 P **P** **00 23 04.7 +0.5**
3.5nm,0.1s,SNR=20
EGUA Guajares 1.30 328 P **P** **00 23 06.6 +0.4**
0.5nm,0.1s,SNR=4.0
EGUA S **S** **00 23 21.4 -1.4**
1.5nm,0.1s,SNR=7.9
EGUA Guajares 1.30 328 P **P** **00 23 05.3 -0.9**
0.5nm,0.1s,SNR=4.0
ENIJ Nijar 1.31 18 P **P** **00 23 06.0 -0.3**
0.3nm,0.2s,SNR=4.0
ENIJ S **S** **00 23 21.6 -1.3**
0.3nm,0.1s,SNR=7.9
ENIJ Nijar 1.31 18 P **P** **00 23 05.6 -0.7**
0.3nm,0.2s,SNR=4.0
ENIJ S **S** **00 23 21.6 -1.3**
0.3nm,0.1s,SNR=7.9
ERON Agron 1.56 326 P **P** **00 23 11.2 +1.5**
1.9nm,0.2s,SNR=7.9
ERON S **S** **00 23 29.1 +0.1**
3.1nm,0.2s,SNR=4.0
EQUE Quentar 1.59 339 P **P** **00 23 11.5 +1.4**
1.9nm,0.1s,SNR=7.9
EQUE S **S** **00 23 30.2 +0.6**
7.0nm,0.2s,SNR=7.9
ECOG Cogollos-Vega 1.69 336 P **P** **00 23 13.6 +2.0**
1.3nm,0.1s,SNR=7.3
ECOG S **S** **00 23 33.6 +1.4**
2.9nm,0.1s,SNR=8.2
EMIJ Mijas 1.86 297 P **P** **00 23 14.4 +0.5**
1.1nm,0.1s,SNR=7.9
EMIJ S **S** **00 23 35.7 -0.6**
1.8nm,0.3s,SNR=7.9
EQES Quesada 2.09 352 P **P** **00 23 19.4 +2.2**
2.4nm,0.1s,SNR=7.9
EQES S **S** **00 23 42.3 +0.2**
1.4nm,0.1s,SNR=7.9
EQES Quesada 2.09 352 P **P** **00 23 19.3 +2.1**
2.4nm,0.1s,SNR=7.9
EQES S **S** **00 23 43.1 +1.0**
1.4nm,0.1s,SNR=7.9
EMUR La Murta 2.42 29 P **P** **00 23 21.4 -0.5**
0.6nm,0.2s,SNR=7.9
EMUR S **S** **00 23 47.4 -3.0**
0.5nm,0.2s,SNR=4.0
EMUR La Murta 2.42 29 P **P** **00 23 21.4 -0.5**
0.6nm,0.2s,SNR=7.9
EBAN Banos Encina 2.58 341 P **P** **00 23 25.5 +1.3**
1.1nm,0.2s,SNR=7.9
EBAN S **S** **00 23 53.8 -0.7**
1.1nm,0.2s,SNR=7.9
EADA Adamuz 2.86 329 P **P** **00 23 29.7 +1.6**
0.3nm,0.1s,SNR=7.9
EADA S **S** **00 24 01.7 +0.2**
0.7nm,0.2s,SNR=7.9
EADA Adamuz 2.86 329 P **P** **00 23 30.0 +1.9**
0.3nm,0.1s,SNR=7.9
EADA S **S** **00 24 01.7 +0.2**
0.7nm,0.2s,SNR=7.9
ETOB Tobarra 3.06 17 P **P** **00 23 31.4 +0.5**
0.8nm,0.2s,SNR=9.7
ETOB S **S** **00 24 04.6 -1.9**
0.6nm,0.1s,SNR=7.9
ETOB Tobarra 3.06 17 P **P** **00 23 32.7 +1.8**
0.8nm,0.2s,SNR=9.7
CZD Col de Zad 3.30 216 *e*P **P** **00 23 33.0 -1.4**
CZD *i*S **S** **00 24 10.0 -2.7**
EMIN Mina Concepcio 3.78 304 P **P** **00 23 42.1 +1.0**
0.8nm,0.1s,SNR=12
EMIN S **S** **00 24 23.3 -1.4**
0.3nm,0.1s,SNR=7.9
EMIN Mina Concepcio 3.78 304 P **P** **00 23 42.4 +1.4**
0.8nm,0.1s,SNR=12
EGRO El Granado 4.24 297 P **P** **00 23 48.9 +1.3**
2.1nm,0.3s,SNR=21
EGRO S **S** **00 24 35.3 -1.0**
0.4nm,0.2s,SNR=7.9
EGRO El Granado 4.24 297 P **P** **00 23 48.9 +1.3**
2.1nm,0.3s,SNR=21
EBAD Badajoz 4.57 313 P **P** **00 23 52.5 +0.3**
0.7nm,0.3s,SNR=6.2
EBAD S **S** **00 24 43.3 -1.4**
0.6nm,0.1s,SNR=7.9
EIBI Ibiza 4.62 43 P **P** **00 23 52.0 -0.8**
0.4nm,0.1s,SNR=4.0
EIBI S **S** **00 24 40.2 -5.6**
2.7nm,0.4s,SNR=7.9
PBEJ Beja 4.73 301 *e*Pn **P** **00 23 56.1 +1.7**
PTEO Sao Teotonio 5.16 292 *e*Pn **P** **00 24 02.5 +2.0**
PTEO *e*Sn **S** **00 24 59.2 -0.3**
PCBR Castelo Branco 5.58 319 *e*Pn **P** **00 24 07.4 +1.2**
PCBR *e*Sn **S** **00 25 07.0 -2.9**
1.5nm,0.4s

IDC 09 00:42:52.5±2.9, 24.12S×176.32W, mb4.0/3, mb1 4.4/3, mb1mx4.1/13, mbtmp4.0/3, MS3.5/4, Ms1 3.6/4, ms1mx3.2/17, Error ellipse: s-maj=158.2km s-min=36.3km az=160.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPT	**Papeete**	**25.80**	**80**	LR	LR	00 56 06.6	
comp=Z,116nm,19.2s,baz=185,slow=31
HNR Honiara 26.95 299 LR LR 00 57 37.7
comp=Z,87nm,20.3s,baz=134,slow=33
WRA Warramunga Arr 45.74 265 P P 00 51 15.5 -2.1
2.2nm,0.8s,baz=101,slow=8.1,SNR=8.7
VNDA Vanda 54.47 186 LR LR 01 14 02.5
comp=Z,43nm,18.3s,baz=233,slow=34
MJAR Matsushiro Arr 74.03 323 LR LR 01 22 30.9
comp=Z,39nm,18.3s,baz=40,slow=32
TXAR Lajitas Array 87.72 57 P P 00 55 43.0 -1.7
0.6nm,0.9s,baz=225,slow=7.1,SNR=6.5
ILAR Eielson Array 91.49 12 P P 00 56 00.6 -0.9
0.9nm,1.1s,baz=220,slow=4.3,SNR=5.1
AKASG Malin Array Be 146.91 330 PKPbc PKPbc 01 02 36.4 +0.2
1.9nm,0.7s,baz=43,slow=4.1,SNR=8.3

ISC 09 00:58:32.7±0.7, 39.14N±0.04×30.31E±0.05, h10km, n8, σ0§74/14, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALT	**Altintas**	**0.17**	**242**	*i*PG	**Pg**	**00 58 37.4**	**+0.8**
ESKT Eskisehir 0.57 48 PG **Pg** **00 58 44.2 0.0**
ESKT SG **Sg** **00 58 52.5 +0.7**
ESKT Eskisehir 0.57 48 *i*P **Pg** **00 58 43.2 -0.9**
ESKT *i*S **Sg** **00 58 51.2 -0.6**
GDZ Gediz 0.64 266 *i*P **Pb** **00 58 44.6 -1.0**

GDZ				*i* S	**Sb**	**00 58 53.4**	**-0.9**		
BORA	**Eskisehir**	**0.75**	**9**	*i* P	**Pb**	**00 58 47.7**	**+0.4**		
BORA				*i* S	**Sb**	**00 58 57.6**	**+0.2**		
TKTP	**Tekketepe**	**1.10**	**179**	*i* P	**Pb**	**00 58 54.5**	**+1.2**		
TKTP				*i* S	**Sb**	**00 59 12.9**	**+5.5**		
KIZT	**Kizilcal**	**1.25**	**101**	PG	**Pg**	**00 58 56.8**	**-0.9**		
ULDT	**Uludag**	**1.35**	**318**	*i* P	**Pb**	**00 58 57.8**	**+0.1**		
ULDT				*i* S	**Sb**	**00 59 15.3**	**+0.5**		

CASC 09 01:11:06.3±2.5, 13.99N×92.20W, h4km±31km, MD4.2, 2C-2D, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TP2	**Tecpan 2**	**1.39**	**55**	⇓*e*P	Pb	01 11 32.2	-0.3
TP2				*e*S	Sb	01 11 51.6	+1.2
IXG	**Ixpaco**	**1.70**	**84**	⇑*e*P	Pn	01 11 36.4	-0.7
IXG				*e*S	Sn	01 12 01.5	+2.0
RBDL	**Robledal**	**2.44**	**87**	⇑*e*P	Pn	01 11 52.4	+4.8
RBDL				*e*S	Sn	01 12 24.9	+6.6
RTR	**El Retiro**	**2.48**	**92**	*e*P	Pn	01 11 50.9	+2.7
RTR				*e*S	Sn	01 12 24.2	+4.9
SBLS	**San Blas**	**2.50**	**93**	*e*P	Pn	01 11 53.5	+5.0
SBLS				*e*S	Sn	01 12 24.7	+4.7
SNJE	**San Jose**	**2.52**	**92**	*e*P	Pn	01 11 53.2	+4.4
SNJE				*e*S	Sn	01 12 24.8	+4.5
MRL	**Marmol**	**2.65**	**66**	*e*P	Pn	01 11 50.8	+0.2
MRL				*e*S	Sn	01 12 24.1	+0.4
LFRS	**El Faro**	**3.07**	**96**	⇓*e*P	Pn	01 12 01.4	+4.9
LFRS				*e*S	Sn	01 12 39.7	+5.4
SNVI	**San Vicente**	**3.28**	**96**	*e*P	Pn	01 12 06.4	+6.8
SNVI				*e*S	Sn	01 12 45.5	+5.8

*IDC **09** 01:25:01.6±1.1, 37.17S×177.29E, h292km±12km, mb3.5/1, mb1 3.8/2, mb1mx3.3/11, mbtmp4.2/2, Error ellipse: s-maj=47.5km s-min=27.1km az=134.0*
*BJI **09** 01:25:02.0, 36.80S×177.10E, h269km, mB4.9, mb4.7*
*NEIC **09** 01:25:02.7, 36.83S×177.11E, h269km, MG4.5(WEL), After WEL.*
*WEL **09** 01:25:03.1±0.5, 36.78S×177.15E, h264km±5km, ML4.6/19, Error ellipse: s-maj=8.7km s-min=7.2km az=0.0*
ISC 09 01:25:00.5±0.8, 37.05S±0.08×177.4E±0.1, h301km±6km, n80, σ0.96/93, mb4.2/2, 14C-1D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.51**	**201**	*e*PN	**P**	**01 25 38.4**	**-1.1**
MXZ	**Matakaoa Point**	**0.88**	**126**	⇑PN	**P**	**01 25 40.7**	**+0.1**
MXZ				SN	**S**	**01 26 09.9**	**-2.2**
MXZ	**Matakaoa Point**	**0.88**	**126**	⇑*e*P	**P**	**01 25 40.7**	**+0.1**
MYRZ	**Mayor Island**	**0.97**	**256**	PN	**P**	**01 25 39.2**	**-1.8**
MARZ	**Manawahe**	**1.10**	**212**	PN	**P**	**01 25 41.5**	**-0.2**
MARZ	**Manawahe**	**1.10**	**212**	P	**P**	**01 25 41.5**	**-0.2**
EDRZ	**Edgecumbe**	**1.19**	**207**	*e*PN	**P**	**01 25 41.5**	**-0.6**
PUZ	**Puketiti**	**1.22**	**147**	⇑PN	**P**	**01 25 43.5**	**+1.2**
PUZ				SN	**S**	**01 26 13.8**	**-1.3**
PUZ	**Puketiti**	**1.22**	**147**	⇑P	**P**	**01 25 43.5**	**+1.2**
PUZ				S	**S**	**01 26 13.8**	**-1.3**
URZ	**Urewera**	**1.23**	**191**	P	**P**	**01 25 42.2**	**-0.2**
30nm,0.3s,baz=300,slow=2.5,SNR=332							
URZ				S	**S**	**01 26 13.3**	**-1.9**
46nm,0.3s,baz=48,slow=21,SNR=12							
URZ	**Urewera**	**1.23**	**191**	⇑PN	**P**	**01 25 42.0**	**-0.4**
URZ				SN	**S**	**01 26 13.8**	**-1.4**
LIRZ	**Lichensteins R**	**1.26**	**220**	PN	**P**	**01 25 42.4**	**-0.2**
MWZ	**Matawai**	**1.29**	**176**	PN	**P**	**01 25 43.4**	**+0.7**
MWZ				SN	**S**	**01 26 14.7**	**-1.0**
MWZ	**Matawai**	**1.29**	**176**	P	**P**	**01 25 43.4**	**+0.7**
TAZ	**Tarawera**	**1.38**	**211**	PN	**P**	**01 25 43.7**	**+0.4**
TAZ	**Tarawera**	**1.38**	**211**	*e*P	**P**	**01 25 43.7**	**+0.4**
PATZ	**Paeroa**	**1.62**	**214**	PN	**P**	**01 25 45.0**	**+0.2**
PATZ	**Paeroa**	**1.62**	**214**	*e*P	**P**	**01 25 44.5**	**-0.3**
KNZ	**Kokohu**	**1.98**	**174**	⇑PN	**P**	**01 25 49.1**	**+1.7**
KNZ				SN	**S**	**01 26 24.7**	**+0.6**
KNZ	**Kokohu**	**1.98**	**174**	⇑P	**P**	**01 25 49.1**	**+1.7**
KNZ				S	**S**	**01 26 24.7**	**+0.6**
RATZ	**Rangitukua**	**2.23**	**215**	PN	**P**	**01 25 50.0**	**+0.4**
RATZ	**Rangitukua**	**2.23**	**215**	P	**P**	**01 25 50.0**	**+0.4**
BKZ	**Black Stump Fm**	**2.24**	**199**	⇑PN	**P**	**01 25 50.1**	**+0.5**
BKZ				SN	**S**	**01 26 27.5**	**-0.4**
BKZ	**Black Stump Fm**	**2.24**	**199**	⇓P	**P**	**01 25 50.1**	**+0.5**
WTVZ	**West Tongariro**	**2.52**	**214**	⇑PN	**P**	**01 25 52.7**	**+0.6**
WTVZ	**West Tongariro**	**2.52**	**214**	⇑P	**P**	**01 25 52.7**	**+0.6**
OTVZ	**Oturere**	**2.52**	**213**	PN	**P**	**01 25 52.9**	**+0.7**
NGZ	**Ngauruhoe**	**2.56**	**213**	PN	**P**	**01 25 53.3**	**+0.8**
NGZ	**Ngauruhoe**	**2.56**	**213**	⇑P	**P**	**01 25 53.2**	**+0.7**
CNZ	**Chateau**	**2.60**	**214**	PN	**P**	**01 25 53.5**	**+0.6**
CNZ	**Chateau**	**2.60**	**214**	P	**P**	**01 25 53.5**	**+0.6**
WPVZ	**Whakapapa**	**2.61**	**214**	PN	**P**	**01 25 53.6**	**+0.6**
WPVZ	**Whakapapa**	**2.61**	**214**	P	**P**	**01 25 53.6**	**+0.6**
TUVZ	**Tukino**	**2.62**	**212**	⇑PN	**P**	**01 25 53.6**	**+0.6**
TUVZ	**Tukino**	**2.62**	**212**	P	**P**	**01 25 53.6**	**+0.6**
FWVZ	**Far West T-bar**	**2.65**	**213**	PN	**P**	**01 25 53.9**	**+0.6**
FWVZ	**Far West T-bar**	**2.65**	**213**	P	**P**	**01 25 53.9**	**+0.6**
DRZ	**Dome Shelter**	**2.66**	**213**	PN	**P**	**01 25 54.8**	**+1.4**
DRZ				SN	**S**	**01 26 35.8**	**+1.1**
WNVZ	**Wahianoa**	**2.69**	**212**	⇑PN	**P**	**01 25 54.3**	**+0.6**
WNVZ	**Wahianoa**	**2.69**	**212**	⇑P	**P**	**01 25 54.3**	**+0.6**
MOVZ	**Moawhango**	**2.69**	**209**	PN	**P**	**01 25 53.9**	**+0.2**
MOVZ				SN	**S**	**01 26 34.3**	**-1.0**
MOVZ	**Moawhango**	**2.69**	**209**	P	**P**	**01 25 53.9**	**+0.2**
PKVZ	**Pokaka**	**2.77**	**215**	PN	**P**	**01 25 54.9**	**+0.5**
MTVZ	**Mangateitei**	**2.79**	**213**	PN	**P**	**01 25 55.2**	**+0.5**
VRZ	**Vera Road**	**2.95**	**225**	PN	**P**	**01 25 57.1**	**+0.9**
VRZ	**Vera Road**	**2.95**	**225**	P	**P**	**01 25 57.1**	**+0.9**
VRZ				S	**S**	**01 26 41.6**	**+2.0**
PWZ	**Pawanui**	**3.01**	**188**	PN	**P**	**01 25 58.3**	**+1.6**
PWZ				SN	**S**	**01 26 41.7**	**+1.0**
TSZ	**Takapari Road**	**3.21**	**200**	PN	**P**	**01 25 59.5**	**+0.7**
TSZ	**Takapari Road**	**3.21**	**200**	P	**P**	**01 25 59.5**	**+0.6**
WAZ	**Wanganui**	**3.31**	**215**	PN	**P**	**01 26 00.1**	**+0.3**
WAZ	**Wanganui**	**3.31**	**215**	P	**P**	**01 26 00.1**	**+0.3**
PKE	**Pukeiti**	**3.45**	**231**	PN	**P**	**01 26 02.7**	**+1.4**
MRZ	**Mangatainoka R**	**3.88**	**201**	PN	**P**	**01 26 06.0**	**+0.1**
MRZ				SN	**S**	**01 26 57.0**	**0.0**
MRZ	**Mangatainoka R**	**3.88**	**201**	P	**P**	**01 26 06.0**	**+0.1**
KIW	**Kapiti Island**	**4.28**	**206**	PN	**P**	**01 26 10.4**	**+0.1**
MTW	**Mount Morrison**	**4.37**	**199**	PN	**P**	**01 26 11.6**	**+0.3**
MTW	**Mount Morrison**	**4.37**	**199**	P	**P**	**01 26 11.6**	**+0.3**
CAW	**Cannon Point**	**4.45**	**204**	PN	**P**	**01 26 12.1**	**-0.1**
CAW	**Cannon Point**	**4.45**	**204**	P	**P**	**01 26 12.1**	**-0.1**
MSWZ	**Moikau Station**	**4.67**	**200**	P	**P**	**01 26 14.7**	**-0.1**
MRW	**Makara Radio**	**4.68**	**206**	P	**P**	**01 26 14.5**	**-0.3**
WEL	**Wellington**	**4.70**	**205**	P	**P**	**01 26 15.1**	**0.0**
SNZO	**South Karori**	**4.75**	**206**	P	**P**	**01 26 15.1**	**-0.5**
BHW	**Baring Head**	**4.78**	**204**	P	**P**	**01 26 15.8**	**-0.2**
NNZ	**Nelson**	**5.21**	**216**	*e*P	**P**	**01 26 20.0**	**-1.0**
QRZ	**Quartz Range**	**5.36**	**224**	*e*P	**P**	**01 26 21.1**	**-1.7**
BSWZ	**Blackbirch Sta**	**5.41**	**209**	P	**P**	**01 26 23.1**	**-0.2**
THZ	**Tophouse**	**5.86**	**215**	*e*P	**P**	**01 26 27.5**	**-1.2**
KHZ	**Kahutara**	**6.14**	**208**	P	**P**	**01 26 32.3**	**+0.3**
DSZ	**Denniston Nort**	**6.39**	**221**	*e*P	**P**	**01 26 33.2**	**-2.0**
LTZ	**Lake Taylor**	**6.96**	**213**	*e*P	**P**	**01 26 41.3**	**-0.7**
MQZ	**McQueen's Vall**	**7.58**	**207**	*e*P	**P**	**01 26 49.0**	**-0.6**
RPZ	**Rata Peaks**	**8.24**	**214**	P	**P**	**01 26 57.3**	**-0.4**
1.4nm,0.3s,baz=22,slow=11,SNR=18							
RPZ				S	**S**	**01 28 27.5**	**-2.4**
3.9nm,0.3s,baz=356,slow=22,SNR=23							
RPZ	**Rata Peaks**	**8.24**	**214**	*e*P	**P**	**01 26 56.9**	**-0.8**
FOZ	**Fox Glacier**	**8.78**	**220**	*e*P	**P**	**01 27 01.8**	**-2.6**
ODZ	**Otahua Downs**	**9.48**	**211**	*e*P	**P**	**01 27 13.9**	**+0.9**
WRA	**Warramunga Arr**	**41.13**	**282**	P	**P**	**01 32 17.3**	**+0.1**
2.2nm,0.6s,mb3.6,baz=121,slow=7.7,SNR=13							
KMI	**Kunming**	**93.53**	**299**	P	**P**	**01 37 48.3**	**+4.7**
KMI				S	S	01 48 33.8	+11
KMI				XS		01 50 23.1	
KMI				SS	SS	01 54 56.3	+4.8
KMI				AMB	AMB		
comp=Z,8.0nm,0.9s,mb4.8							
KMI				AMB	AMB		
comp=Z,58nm,4.1s							
KMI				LR	LR		
comp=N,101nm,22.8s							
KMI				LR	LR		
comp=E,101nm,20.9s							
KMI				LR	LR		
comp=Z,96nm,20.0s							

ARCES	**ARCESS Array B**	**144.08**	**344**	PKP	PKPdf	01 44 00.2	+1.3
comp=Z,1.4nm,0.7s,baz=18,slow=3.8,SNR=6.6							
FINES	**FINESS Array B**	**149.71**	**333**	PKPbc	PKPdf	01 44 15.8	+7.3
comp=Z,0.7nm,0.6s,baz=45,slow=2.7,SNR=5.9							

*ISK **09** 01:28:05.0, 40.57N×32.96E, h3km, ML4.8*
*IDC **09** 01:28:05.7±0.7, 40.54N×32.93E, mb4.1/11, mb1 4.2/18, mb1mx4.2/26, mbtmp4.1/18, ML3.5/7, MS3.9/21, Ms1 3.9/21, ms1mx3.7/34, Error ellipse: s-maj=15.8km s-min=7.2km az=54.0*
*CSEM **09** 01:28:05.3±0.0, 40.56N×32.96E, h5km, mb4.5/21, Ms3.4, Error ellipse: s-maj=1.0km s-min=0.8km az=177.0*
*MOS **09** 01:28:06.5±1.1, 40.64N×32.96E, h10km, mb4.6/21, Error ellipse: s-maj=5.6km s-min=3.2km az=133.2*
*NEIC **09** 01:28:07.9±0.3, 40.57N×33.14E, h15km, mb4.4/51, ML4.7(ISK), Error ellipse: s-maj=6.9km s-min=5.0km az=216.0*
NEIC Felt in northern and central Anatolia.
ISC 09 01:28:05.1±0.5, 40.60N±0.02×32.97E±0.02, h1km±4km, n347, σ1.09/370, mb4.3/41, MS3.8/21, 16C-6D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELDT	**Eldivan**	**0.36**	**107**	*i* P	**Pg**	**01 28 11.8**	**-0.5**
ELDT				*i* S	**Sg**	**01 28 16.5**	**-0.7**
CANT	**Cankiri**	**0.49**	**89**	*i* PG	**Pg**	**01 28 15.6**	**+0.7**
SAFT	**Safranbolu**	**0.68**	**342**	*i* PG	**Pg**	**01 28 19.8**	**+1.1**
SGKT	**Sivrigoynuk**	**0.70**	**269**	*i* P	**Pg**	**01 28 19.8**	**+0.7**
SGKT				*i* S	**Sg**	**01 28 32.3**	**+4.0**
LOD	**Lodumlu**	**0.72**	**193**	*i* PG	**Pg**	**01 28 19.0**	**-0.5**
ANTO	**Ankara**	**0.74**	**191**	*i* PG	**Pg**	**01 28 18.8**	**-1.0**
ANTO				*i* SG	**Sg**	**01 28 30.8**	**+1.1**
ANTO	**Ankara**	**0.74**	**191**	*i* P	**Pg**	**01 28 19.4**	**-0.5**
ANTO				*i* S	**Sg**	**01 28 29.8**	**+0.1**
TOS	**Tosya**	**0.91**	**61**	*i* PG	**Pg**	**01 28 23.0**	**-0.3**
BALT	**Daday**	**0.99**	**18**	*i* P	**Pb**	**01 28 24.7**	**+0.1**
BALT				*i* S	**Sb**	**01 28 36.1**	**-1.8**
BR131	**Keskin Array S**	**1.01**	**149**	⇓*i*Pn	**Pn**	**01 28 24.4**	**-1.7**
BR131	**Keskin Array S**	**1.01**	**149**	⇓*i*Pn	**Pn**	**01 28 24.4**	**-1.8**
BRTR	**Keskin Array B**	**1.01**	**149**	Pg	**Pg**	**01 28 23.9**	**-1.3**
615nm,0.3s,baz=331,slow=15,SNR=2431							
BRTR				Lg		01 28 37.6	
2μm,0.3s,baz=331,slow=23,SNR=80							
BRTR	**Keskin Array B**	**1.01**	**149**	Pg	**Pg**	**01 28 23.9**	**-1.3**
BRTR				S	**Sb**	**01 28 37.7**	**-0.8**
MDU	**Mudurnu**	**1.35**	**265**	*i* PN	**Pn**	**01 28 31.8**	**+0.8**
KAMT	**Kaman**	**1.35**	**155**	*i* PN	**Pn**	**01 28 30.3**	**-0.7**
CTKT	**Corum**	**1.38**	**88**	*i* P	**Pb**	**01 28 30.3**	**-1.1**
CTKT				*i* S	**Sb**	**01 28 41.6**	**-7.9**
CDAG	**Cicekdag**	**1.45**	**132**	*i* P	**Pn**	**01 28 30.9**	**-1.5**
CDAG				*i* S	**Sb**	**01 28 50.2**	**-1.1**
BZK	**Bozkurt**	**1.57**	**29**	*i* PN	**Pn**	**01 28 35.5**	**+1.3**
BYBT	**Boyabat**	**1.61**	**57**	*i* PN	**Pn**	**01 28 35.5**	**+0.7**
BYBT				*i* SN	**Sn**	**01 28 58.0**	**+1.5**
BOYT	**Boyabat**	**1.68**	**60**	*i* P	**Pn**	**01 28 35.5**	**-0.2**
BOYT				*i* S	**Sb**	**01 28 50.0**	**-7.9**
KIZT	**Kizilcal**	**1.91**	**207**	*i* PN	**Pn**	**01 28 38.7**	**-0.3**
ESKT	**Eskisehir**	**1.95**	**237**	*i* PN	**Pn**	**01 28 40.3**	**+0.7**
ESKT	**Eskisehir**	**1.95**	**237**	*i* P	**Pn**	**01 28 39.2**	**-0.4**
YOZ	**Yozgat**	**2.04**	**117**	PN	**Pn**	**01 28 42.0**	**+1.1**
GPA	**Golpazari**	**2.06**	**262**	PN	**Pn**	**01 28 41.4**	**+0.3**
BORA	**Eskisehir**	**2.06**	**250**	*i* P	**Pn**	**01 28 42.1**	**+0.9**
BORA				*i* S	**Sn**	**01 29 15.7**	**+7.9**
EYL	**Eskiyayla**	**2.14**	**270**	PN	**Pn**	**01 28 43.2**	**+0.8**
AVNT	**Avonos**	**2.32**	**141**	*i* P	**Pn**	**01 28 45.3**	**+0.3**
AVNT				*i* S	**Sn**	**01 29 19.3**	**+4.7**
KVT	**Kavak**	**2.38**	**77**	PN	**Pn**	**01 28 46.5**	**+0.7**
HRT	**Hereke**	**2.52**	**276**	PN	**Pn**	**01 28 48.1**	**+0.3**
ALT	**Altintas**	**2.69**	**236**	PN	**Pn**	**01 28 50.0**	**-0.2**
KONT	**Konya--Tatoy**	**2.69**	**190**	PN	**Pn**	**01 28 49.7**	**-0.5**
TOKT	**Tokat**	**2.74**	**95**	PN	**Pn**	**01 28 51.4**	**+0.5**
YLV	**Yalova**	**2.74**	**271**	PN	**Pn**	**01 28 51.2**	**+0.3**
BSTP	**Nigde**	**2.78**	**161**	*i* P	**Pn**	**01 28 57.4**	**+5.8**
NIG	**Nigde**	**2.79**	**152**	PN	**Pn**	**01 28 51.9**	**+0.3**
BNN	**Bunyan**	**2.82**	**127**	PN	**Pn**	**01 28 53.0**	**+1.0**
BADT	**Buyukada**	**2.94**	**276**	PN	**Pn**	**01 28 54.0**	**+0.2**
ULDT	**Uludag**	**2.97**	**262**	*i* P	**Pn**	**01 28 53.8**	**-0.4**
ISK	**Istanbul-Kandi**	**3.01**	**280**	PN	**Pn**	**01 28 55.0**	**+0.3**
GDZ	**Gediz**	**3.08**	**242**	*i* P	**Pn**	**01 28 55.3**	**-0.4**
SVSK	**Karacayir**	**3.15**	**101**	PN	**Pn**	**01 28 57.1**	**+0.3**
SVST	**Sivas**	**3.16**	**104**	*i* P	**Pn**	**01 28 58.6**	**+1.7**
SVST				*i* S	**Sn**	**01 29 39.2**	**+3.5**
ORLT	**Orhaneli**	**3.16**	**261**	PN	**Pn**	**01 28 57.7**	**+0.7**
TKTP	**Tekketepe**	**3.28**	**220**	*i* P	**Pn**	**01 28 58.2**	**-0.4**
ISP	**Isparta**	**3.35**	**216**	PN	**Pn**	**01 28 58.9**	**-0.7**
ISP	**Isparta**	**3.35**	**216**	⇑*e*Pn	**Pn**	**01 28 59.4**	**-0.1**
ISP	**Isparta**	**3.35**	**216**	*c* *i*P	**Pn**	**01 28 59.6**	**0.0**
DST	**Dursunbey**	**3.48**	**255**	PN	**Pn**	**01 29 01.8**	**+0.4**
CTT	**Catalca**	**3.49**	**281**	PN	**Pn**	**01 29 01.8**	**+0.2**
KHL	**Karahalli**	**3.50**	**231**	PN	**Pn**	**01 29 02.1**	**+0.3**
BCK	**Bucak**	**3.64**	**211**	PN	**Pn**	**01 29 03.8**	**+0.1**
HDMB	**Hadim**	**3.65**	**186**	PN	**Pn**	**01 29 03.8**	**0.0**
BNT	**Bandirma**	**3.86**	**268**	PN	**Pn**	**01 29 07.2**	**+0.3**
MANT	**Manisa**	**4.01**	**240**	*i* P	**Pn**	**01 29 12.1**	**+3.1**
BALB	**Balikesir**	**4.02**	**258**	PN	**Pn**	**01 29 09.1**	**0.0**
MRMT	**Marmara Adasi**	**4.09**	**272**	PN	**Pn**	**01 29 10.4**	**+0.2**
ANTB	**Antalya**	**4.11**	**207**	*e*PN	**Pn**	**01 29 09.9**	**-0.5**
DENT	**Denizli**	**4.17**	**228**	PN	**Pn**	**01 29 11.5**	**+0.2**
CEYT	**Ceyhan**	**4.18**	**148**	*e*PN	**Pn**	**01 29 12.0**	**+0.5**
AKS	**Akhisar**	**4.33**	**248**	*e*PN	**Pn**	**01 29 13.6**	**+0.1**
MFT	**Murefte**	**4.33**	**274**	*e*PN	**Pn**	**01 29 13.3**	**-0.2**
IKL	**Isikli**	**4.38**	**172**	*e*PN	**Pn**	**01 29 14.7**	**+0.4**
SIM	**Simferopol'**	**4.43**	**11**	*e*P	**Pn**	**01 29 15.2**	**+0.2**
27μm,1.0s							
SIM				S	**Sn**	**01 30 04.1**	**-3.9**
SIM	**Simferopol'**	**4.43**	**11**	⇓*e*P	**Pn**	**01 29 15.2**	**+0.2**
SIM				S	**Sn**	**01 30 04.1**	**-3.9**
SIM				pmax	pmax		
comp=Z,127μm,1.0s							
ELL	**Elmali**	**4.53**	**213**	*e*PN	**Pn**	**01 29 16.0**	**-0.3**
CANB	**Canakkale**	**4.56**	**265**	*e*PN	**Pn**	**01 29 16.4**	**-0.3**
PSN	**Preselentsi**	**4.71**	**312**	P	**Pn**	**01 29 19.0**	**+0.1**
LPK	**Lapseki**	**4.74**	**269**	*e*PN	**Pn**	**01 29 19.5**	**+0.1**
GAZ	**Gaziantep**	**4.76**	**135**	*e*PN	**Pn**	**01 29 20.6**	**+1.0**
MYA	**Malataya**	**4.79**	**116**	*e*PN	**Pn**	**01 29 20.9**	**+0.9**
MALT	**Malatya**	**4.80**	**117**	*e*PN	**Pn**	**01 29 20.7**	**+0.5**
MALT	**Malatya**	**4.80**	**117**	*e*Pn	**Pn**	**01 29 20.7**	**+0.5**
MALT	**Malatya**	**4.80**	**117**	*e*Pn	**Pn**	**01 29 19.8**	**-0.4**
MALT				*e*S	**Sn**	**01 30 33.1**	**+16**
EDRB	**Edirne**	**4.86**	**287**	*e*PN	**Pn**	**01 29 21.1**	**0.0**
AYDN	**Tasoluk**	**4.93**	**235**	*i* P	**Pn**	**01 29 20.7**	**-1.3**
IZM	**Izmir**	**4.93**	**245**	*e*PN	**Pn**	**01 29 21.8**	**-0.3**
GUMT	**Gumushane**	**4.96**	**89**	*e*PN	**Pn**	**01 29 22.5**	**0.0**
YER	**Yerkesik**	**5.03**	**228**	*e*PN	**Pn**	**01 29 23.4**	**-0.1**
AKAS	**Kas**	**5.09**	**212**	*i* P	**Pn**	**01 29 23.7**	**-0.6**
DALT	**Dalyan (Mudla)**	**5.11**	**223**	*e*PN	**Pn**	**01 29 24.3**	**-0.2**
HTY	**Hatay**	**5.11**	**150**	*e*PN	**Pn**	**01 29 24.9**	**+0.3**
EZN	**Ezine**	**5.15**	**264**	*e*PN	**Pn**	**01 29 25.6**	**+0.5**
JMB	**Yambol**	**5.15**	**293**	*e*P	**Pn**	**01 29 27.0**	**+1.9**
KSL	**Kastellorizon**	**5.17**	**212**	*e*P	**Pn**	**01 29 27.5**	**+2.0**
MLSB	**Milas**	**5.22**	**233**	*e*PN	**Pn**	**01 29 26.7**	**+0.6**
PTK	**Pertek**	**5.23**	**107**	*e*PN	**Pn**	**01 29 26.7**	**+0.4**
ALN	**Alexandroupoli**	**5.27**	**276**	*e*P	**Pn**	**01 29 28.0**	**+1.2**
PRK	**Paraskevi**	**5.33**	**258**	*e*P	**Pn**	**01 29 27.8**	**+0.2**
ANN	**Anapa**	**5.33**	**37**	*e*P	**Pn**	**01 29 25.2**	**-2.5**
comp=Z,112nm,1.2s							
ANN	**Anapa**	**5.33**	**37**	*e*P	**Pn**	**01 29 25.2**	**-2.5**
ANN				*e*S	**Sn**	**01 30 25.7**	**-5.0**
ANN				pmax	pmax		
comp=Z,112nm,1.2s							
ANN				MLR	MLR		
comp=N,384nm,8.0s							
ANN				MLR	MLR		
comp=E,167nm,8.0s							
ANN				MLR	MLR		
comp=Z,436nm,8.0s							
LEF	**Lefka**	**5.47**	**181**	*e*PN	**Pn**	**01 29 29.6**	**0.0**
URFA	**Urfa**	**5.54**	**123**	*e*PN	**Pn**	**01 29 31.9**	**+1.3**
SMG	**Samos**	**5.57**	**241**	*e*P	**Pn**	**01 29 30.5**	**-0.6**
RDO	**Rodhopi**	**5.66**	**278**	*e*P	**Pn**	**01 29 32.0**	**-0.4**
DIM	**Dimitrovgrad**	**5.79**	**287**	*e*P	**Pn**	**01 29 33.5**	**-0.6**
ARG	**Arkhangelos**	**5.80**	**223**	*e*P	**Pn**	**01 29 35.0**	**+0.8**
KDZ	**Kurdzhali**	**5.80**	**283**	*e*P	**Pn**	**01 29 34.0**	**-0.3**
SOC	**Sochi**	**5.84**	**57**	*c* *i*P	**Pn**	**01 29 39.1**	**+4.3**
SOC				*e*		01 30 51.1	
SOC				pmax	pmax		
comp=Z,57nm,1.1s							
SOC				pmax	pmax		
comp=N,23nm,0.7s							

SOC				pmax	pmax		
comp=E,60nm,1.1s							
SOC				MLR	MLR		
comp=N,407nm,13.0s							
SOC				MLR	MLR		
comp=E,938nm,13.0s							
SOC				MLR	MLR		
comp=Z,547nm,13.0s							
SZH	**Strazhica**	**5.89**	**299**	P	**Pn**	**01 29 34.5**	**-1.1**
LOS	**Limnos**	**6.07**	**266**	*e*P	**Pn**	**01 29 38.2**	**0.0**
DIY	**Diyarbakir**	**6.24**	**113**	*e*PN	**Pn**	**01 29 41.3**	**+0.8**
PVL	**Pavlikeni**	**6.27**	**297**	*e*P	**Pn**	**01 29 45.0**	**+4.0**
RZN	**Rozhen**	**6.33**	**283**	P	**Pn**	**01 29 41.0**	**-0.8**
EZM	**Erzurum**	**6.46**	**93**	*e*PN	**Pn**	**01 29 44.9**	**+1.3**
APE	**Apeiranthos**	**6.79**	**241**	*e*PN	**Pn**	**01 29 48.3**	**0.0**
APE	**Apeiranthos**	**6.79**	**241**	*e*P	**Pn**	**01 29 47.5**	**-0.8**
APE	**Apeiranthos**	**6.79**	**241**	*i* P	**Pn**	**01 29 47.4**	**-0.9**
KARP	**Karpathos**	**6.81**	**224**	*e*P	**Pn**	**01 29 47.5**	**-1.1**
MMB	**Musomiste**	**7.05**	**281**	P	**Pn**	**01 29 52.0**	**0.0**
KIS	**Kishinev**	**7.07**	**336**	⇑*i*P	**Pn**	**01 29 50.0**	**-2.2**
KIS				*i* S	**Sn**	**01 31 08.0**	**-6.2**
KIS				MLR	MLR		
comp=N,2μm,12.0s							
KIS				MLR	MLR		
comp=Z,1μm,12.0s							
KIS				MLR	MLR		
comp=E,600nm,14.0s							
KIS				MLR	MLR		
comp=Z,1μm,12.0s							
MLR	**Muntele Rosu**	**7.10**	**316**	Pn	**Pn**	**01 29 52.3**	**-0.3**
comp=Z,0.9nm,0.3s,baz=136,slow=5.5,SNR=4.8							
MLR				Sn	**Sn**	**01 31 17.2**	**+2.3**
comp=Z,2.1nm,0.3s,baz=161,slow=12,SNR=3.3							
MLR				LR	LR	01 33 15.9	
comp=Z,383nm,19.0s,baz=138,slow=44							
SRS	**Serrai**	**7.13**	**277**	*e*P	**Pn**	**01 29 54.8**	**+1.8**
PLG	**Polygyros**	**7.27**	**271**	*e*P	**Pn**	**01 29 56.0**	**+1.0**
KKB	**Krupnik**	**7.56**	**283**	P	**Pn**	**01 29 58.0**	**-1.1**
VTS	**Vitosha**	**7.59**	**288**	P	**Pn**	**01 29 59.0**	**-0.4**
XOR	**Xorichti**	**7.61**	**264**	*e*P	**Pn**	**01 29 56.2**	**-3.6**
THE	**Thessaloniki**	**7.61**	**274**	*e*P	**Pn**	**01 30 07.1**	**+7.3**
KNT	**Kendrikon**	**7.66**	**278**	*e*P	**Pn**	**01 29 58.3**	**-2.1**
NPS	**Neapolis**	**7.88**	**230**	*e*P	**Pn**	**01 30 01.5**	**-2.1**
KIV	**Kislovodsk**	**7.95**	**62**	*i* P	**Pn**	**01 30 06.4**	**+1

OKC AMS AMS 01 38 50.0
comp=Z,600nm,10.0s
VISS Visnje 14.21 297 *eP* **P 01 31 29.6 +0.1**
VISS Visnje 14.21 297 P **P 01 31 29.5 +0.1**
ARSA Arzberg 14.21 304⇑ *iP* **P 01 31 30.4 +0.9**
comp=Z,14nm,1.3s
MNK Minsk 14.33 348 *eP* **P 01 31 23.0 -8.0**
OBN Obninsk 14.72 8 *eP* **P 01 31 35.4 -0.7**
comp=Z,15nm,1.4s
OBN Obninsk 14.72 8 *e*Pn **P 01 31 34.6 -1.5**
OBN Obninsk 14.72 8⇓ *eP* **P 01 31 35.4 -0.7**
OBN S **S 01 34 17.0 -4.0**
OBN pmax pmax
comp=Z,15nm,1.4s
OBN MLR MLR
comp=Z,200nm,10.0s
SUW Suwalki 14.96 337 *eP* **P 01 31 35.0 -4.1**
SUW Suwalki 14.96 337 *eP* **P 01 31 35.0 -4.1**
DPC Dobruska-Polom 15.19 316 *eP* **P 01 31 47.6 +5.4**
DPC AMS AMS 01 39 20.0
comp=Z,500nm,15.3s
MOA Molln 15.22 305⇑ *iP* **P 01 31 46.1 +3.4**
comp=Z,22nm,1.7s
UPC Upice 15.44 316 *eP* **P 01 31 47.5 +2.0**
MOS Moscow 15.46 10 *eP* **P 01 31 47.2 +1.4**
comp=Z,56nm,1.2s
MOS *e*S **S 01 34 38.3 -0.1**
MOS Moscow 15.46 10 *eP* **P 01 31 47.2 +1.4**
MOS *e*S **S 01 34 38.3 -0.1**
MOS pmax pmax
comp=Z,56nm,1.2s
MOS MLR MLR
comp=E,1.0nm,20.7s
KBA Koelnbreinsper 15.56 301⇑ *iP* **P 01 31 53.2 +6.1**
comp=E,25nm,1.2s
GEC2 GERESS Array S 15.96 308 *eP* **P 01 31 53.2 +1.0**
comp=E,13nm,1.1s
GEC2 GERESS Array S 15.96 308 *eP* **P 01 31 53.2 +1.0**
GEC2 pmax pmax
comp=Z,13nm,1.1s
GERES GERESS Array B 15.96 308 Pn **P 01 31 53.0 +0.8**
comp=Z,0.1nm,0.3s,baz=119,slow=14,SNR=15
PRU Pruhonice 15.98 312 *eP* **P 01 31 57.3 +4.8**
PRU AMS AMS 01 40 10.0
comp=Z,400nm,13.8s
KHC Kasperske Hory 16.15 308 *eP* **P 01 31 55.1 +0.4**
KHC x x 01 32 09.5
KHC x x 01 34 39.5
KHC AMS AMS 01 40 50.0
comp=Z,300nm,12.2s
KHC Kasperske Hory 16.15 308 *eP* **P 01 31 55.1 +0.4**
KHC *e* 01 32 09.5
KHC *e* 01 34 39.5
PVCC Panska Ves 16.23 314 AMS AMS 01 39 40.0
comp=Z,600nm,12.3s
GKP Gorka Klasztor 16.57 325 *eP* **P 01 31 56.4 -3.6**
GKP Gorka Klasztor 16.57 325 *eP* **P 01 31 56.4 -3.6**
WET Wettzell 16.57 308 *eP* **P 01 32 01.2 +1.1**
comp=Z,26nm,1.3s
WET Wettzell 16.57 308 *eP* **P 01 32 01.2 +1.1**
WET pmax pmax
comp=Z,26nm,1.3s
WTTA Wattenberg 16.73 301⇓ *iP* **P 01 32 06.1 +4.1**
comp=Z,30nm,1.1s
BRG Berggiesshubel 16.75 314 *eP* **P 01 32 03.6 +1.3**
comp=Z,16nm,1.5s
BRG Berggiesshubel 16.75 314 *eP* **P 01 32 03.6 +1.3**
BRG pmax pmax
comp=Z,16nm,1.5s
WATA Walderalm 16.79 301⇑ *iP* **P 01 32 06.7 +3.9**
comp=Z,22nm,1.2s
SQTA Sankt Quirin 17.00 300⇑ *iP* **P 01 32 09.2 +3.8**
comp=Z,35nm,1.4s
SQTA Sankt Quirin 17.00 300⇑ *iP* **P 01 32 09.2 +3.8**
SQTA pmax pmax
comp=Z,35nm,1.4s
MOTA Moosalm 17.10 301⇑ *iP* **P 01 32 10.1 +3.4**
comp=Z,26nm,1.2s
MOTA Moosalm 17.10 301⇑ *iP* **P 01 32 10.1 +3.4**
MOTA pmax pmax
comp=Z,26nm,1.2s
NKC Novy Kostel 17.29 311 *eP* **P 01 32 09.4 +0.4**
NKC AMS AMS 01 41 10.0
comp=Z,500nm,12.1s
CLL Collm 17.48 314 P **P 01 32 12.2 +0.7**
comp=Z,logA/T=1.4
CLL *i* *SP 01 32 17.5
CLL Collm 17.48 314 *i* P **P 01 32 08.5 -3.0**
comp=Z,13nm,1.8s
CLL *i* 01 32 12.2
CLL Collm 17.48 314 *i* P **P 01 32 08.5 -3.0**
CLL pmax pmax
comp=Z,13nm,1.8s
DAVOX Davos 17.78 298 P **P 01 32 15.1 -0.1**
comp=Z,0.1nm,0.3s,baz=84,slow=12,SNR=6.5
GRA1 Grafenberg Arr 17.78 308 *eP* **P 01 32 15.3 0.0**
comp=Z,37nm,1.4s
GRF Grafenberg Arr 17.78 308 *eP* **P 01 32 15.3 0.0**
comp=Z,37nm,1.4s
GRF Grafenberg Arr 17.78 308 *eP* **P 01 32 15.3 0.0**
GRF pmax pmax
comp=Z,37nm,1.4s
GRF Grafenberg Arr 17.78 308 *eP* **P 01 32 15.3 0.0**
GRF pmax pmax
comp=Z,37nm,1.4s
DAVA Damuels 17.89 300⇑ *iP* **P 01 32 16.3 -0.3**
comp=Z,25nm,0.9s
CORF Corte 17.93 283 *eP* **P 01 32 15.9 -1.2**
MOX Moxa 17.94 311 *i* P **P 01 32 17.8 +0.5**
comp=Z,logA/T=1.4
MOX L 01 41 52.0
MOX Moxa 17.94 311 *eP* **P 01 32 17.8 +0.5**
comp=Z,40nm,1.6s
MOX Moxa 17.94 311 *eP* **P 01 32 17.8 +0.5**
MOX pmax pmax
comp=Z,40nm,1.6s
PGF Pioggiola 18.03 284 *eP* **P 01 32 19.5 +1.1**
comp=Z,79nm,1.4s
PGF Pioggiola 18.03 284 *eP* **P 01 32 19.5 +1.1**
PGF pmax pmax
comp=Z,39nm,1.4s
VSU Vasula 18.32 350 *i* P **P 01 32 19.2 -2.7**
BFO Black Forest 19.16 302 *eP* **P 01 32 32.1 0.0**
comp=Z,52nm,1.1s
BFO Black Forest 19.16 302 *eP* **P 01 32 32.1 0.0**
BFO pmax pmax
comp=Z,52nm,1.1s
SBF Sospel 19.17 288 *eP* **P 01 32 32.0 -0.3**
comp=Z,61nm,1.2s
SBF Sospel 19.17 288 *eP* **P 01 32 32.0 -0.3**
SBF pmax pmax
comp=Z,31nm,1.2s
CLZ Clausthal 19.18 313 *eP* **P 01 32 31.9 -0.5**
comp=Z,21nm,1.1s
CLZ Clausthal 19.18 313 *eP* **P 01 32 31.9 -0.5**
CLZ pmax pmax
comp=Z,21nm,1.1s
TOD Tromm 19.23 306 *eP* **P 01 32 33.0 +0.1**
FELD Feldberg 19.26 301 *eP* **P 01 32 33.7 +0.3**
MVIF Mont Vial 19.37 288 *eP* **P 01 32 37.1 +2.4**
CALN Calern 19.56 288 *eP* **P 01 32 39.6 +2.7**
LIBD Limburg 19.59 301 *eP* **P 01 32 37.8 +0.7**
TNS Taunus Mts 19.65 308 *eP* **P 01 32 37.4 -0.4**
comp=Z,13nm,1.3s
TNS Taunus Mts 19.65 308 *eP* **P 01 32 37.4 -0.4**
TNS pmax pmax
comp=Z,13nm,1.3s
LANF Langenberg 19.66 304 *eP* **P 01 32 37.8 -0.2**
MBDF Montbardon 19.67 291 *eP* **P 01 32 38.7 +0.6**
comp=Z,34nm,1.0s
MBDF Montbardon 19.67 291 *eP* **P 01 32 38.7 +0.6**
MBDF pmax pmax
comp=Z,17nm,1.0s
FRF La Foret Royal 19.74 287 *eP* **P 01 32 39.1 +0.2**
comp=Z,89nm,1.3s
FRF La Foret Royal 19.74 287 *eP* **P 01 32 39.1 +0.2**
FRF pmax pmax
comp=Z,44nm,1.3s
LPG La Plagne 19.74 293 *eP* **P 01 32 38.7 -0.2**
comp=Z,33nm,1.0s
LPG La Plagne 19.74 293 *eP* **P 01 32 38.7 -0.2**
LPG pmax pmax
comp=Z,16nm,1.0s
LPL La Plagne 19.76 293 *eP* **P 01 32 38.8 -0.3**
comp=Z,52nm,1.2s
LPL La Plagne 19.76 293 *eP* **P 01 32 38.8 -0.3**
LPL pmax pmax
comp=Z,26nm,1.2s
BNI Bardonecchia 19.76 292 *eP* **P 01 32 40.4 +1.3**
comp=Z,70nm,1.6s
BNI Bardonecchia 19.76 292 *eP* **P 01 32 40.4 +1.3**
comp=Z,70nm,1.6s
BNI Bardonecchia 19.76 292 *eP* **P 01 32 40.4 +1.3**
BNI pmax pmax
comp=Z,70nm,1.6s
MOF Molkenrain 19.83 300 *eP* **P 01 32 40.2 +0.3**
LMR La Mourre 19.84 287 *eP* **P 01 32 40.8 +0.8**
comp=Z,74nm,1.7s
LMR La Mourre 19.84 287 *eP* **P 01 32 40.8 +0.8**
LMR pmax pmax
comp=Z,37nm,1.7s
CDF Champ du Feu 19.86 302 *eP* **P 01 32 38.7 -1.5**
comp=Z,30nm,0.9s
CDF Champ du Feu 19.86 302 *eP* **P 01 32 38.7 -1.5**
CDF pmax pmax
comp=Z,15nm,0.9s
ECH Echery 19.89 301 *eP* **P 01 32 41.0 +0.5**
LOMF Lomont 19.93 299 *eP* **P 01 32 40.8 -0.2**
HINF Hinteralfeld 20.01 300 *eP* **P 01 32 40.5 -1.3**
comp=Z,27nm,1.1s
HINF Hinteralfeld 20.01 300 *eP* **P 01 32 40.5 -1.3**
HINF pmax pmax
comp=Z,13nm,1.1s
TAVF Tavernes 20.16 288 *eP* **P 01 32 46.9 +3.4**
BSEG Bad Segeberg 20.24 319 *eP* **P 01 32 42.8 -1.4**
STOF St-Etienne Org 20.27 289 *eP* **P 01 32 49.0 +4.4**
COP Copenhagen 20.27 325 *i* P **P 01 32 57.3 +13**
comp=Z,11nm,0.7s
COP *e*S **S 01 36 30.2 +2.9**
comp=Z,90nm,17.0s
ORIF Oris-en-Rattie 20.32 291 *eP* **P 01 32 46.3 +1.2**
comp=Z,26nm,1.0s
ORIF *e*R
comp=Z,157nm,22.2s
CABF La Chapelle 20.32 296 *eP* **P 01 32 45.7 +0.6**
comp=Z,128nm,1.2s
CABF La Chapelle 20.32 296 *eP* **P 01 32 45.7 +0.6**
CABF pmax pmax
comp=Z,64nm,1.2s
RUP Ruppelstein 20.33 305 *eP* **P 01 32 44.7 -0.5**
HAU Haudompre 20.38 300 *eP* **P 01 32 45.0 -0.7**
comp=Z,33nm,0.9s
HAU *e*R
comp=Z,217nm,17.5s
HAU Haudompre 20.38 300 *eP* **P 01 32 45.0 -0.7**
HAU pmax pmax
comp=Z,16nm,0.9s
HAU MLR MLR
comp=Z,220nm,17.5s,MS3.6
SMRF Simiane la Rot 20.51 289 *eP* **P 01 32 47.5 +0.4**
comp=Z,50nm,1.4s
THEF They Montfort 20.66 301 *eP* **P 01 32 48.6 0.0**
WLF Walferdange 20.89 305 *eP* **P 01 32 50.3 -0.7**
comp=Z,17nm,1.1s
WLF Walferdange 20.89 305 *eP* **P 01 32 50.3 -0.7**
comp=Z,17nm,1.1s
WLF Walferdange 20.89 305 *eP* **P 01 32 50.3 -0.7**
WLF pmax pmax
comp=Z,17nm,1.1s
VIVF Saint-Julien-l 21.17 291 *eP* **P 01 32 54.7 +0.8**
comp=Z,12nm,1.0s,mb3.9
VIVF Saint-Julien-l 21.17 291 *eP* **P 01 32 54.7 +0.8**
VIVF pmax pmax
comp=Z,6.0nm,1.0s,mb3.9
WTSB Winterswijk 21.24 311 *eP* **P 01 32 55.4 +0.8**
comp=Z,79nm,1.0s,mb5.0
FINES FINESS Array B 21.30 351 P **P 01 32 52.4 -2.7**
comp=Z,5.5nm,0.6s,mb4.0,baz=154,slow=10,SNR=22
FINES FINESS Array B 21.30 351 *eP* **P 01 32 55.7 +0.6**
MEZF Maizieres J'vi 21.32 301 *eP* **P 01 32 54.6 -0.8**
comp=Z,61nm,1.2s,mb4.5
HGN Heimansgroeve 21.34 308 *eP* **P 01 32 55.9 +0.3**
comp=Z,31nm,2.1s,mb4.3
HGN *e*SS **S 01 36 45.3 -3.2**
LASF Ste Croix 21.75 289 *eP* **P 01 33 01.0 +1.2**
comp=Z,40nm,1.2s,mb4.4
GIVF Givet 21.83 305 *eP* **P 01 33 00.7 +0.1**
comp=Z,60nm,1.1s,mb4.6
GIVF Givet 21.83 305 *eP* **P 01 33 00.7 +0.1**
GIVF pmax pmax
comp=Z,30nm,1.1s,mb4.6
SMF Signal de Mont 21.86 296 *eP* **P 01 33 01.4 +0.5**
comp=Z,43nm,1.1s,mb4.5
SMF Signal de Mont 21.86 296 *eP* **P 01 33 01.4 +0.5**
SMF pmax pmax
comp=Z,22nm,1.1s,mb4.5
LOR Lormes 21.92 297 *eP* **P 01 33 00.8 -0.7**
comp=Z,49nm,1.1s,mb4.5
LOR *e*R
comp=Z,283nm,17.0s
LOR Lormes 21.92 297 *eP* **P 01 33 00.8 -0.7**
LOR pmax pmax
comp=Z,25nm,1.1s,mb4.6
LOR MLR MLR
comp=Z,280nm,17.0s,MS3.7
KAF Kangasniemi 21.92 352 *ep* **P 01 32 58.9 -2.5**
comp=Z,14nm,0.6s,mb4.6,baz=163,slow=11
PLDF La Plantade 21.96 294 *eP* **P 01 33 02.3 +0.4**
SSF Saint Saulge 22.14 297 *eP* **P 01 33 03.9 +0.3**
comp=Z,26nm,1.1s,mb4.6
SSF Saint Saulge 22.14 297 *eP* **P 01 33 03.9 +0.3**
SSF pmax pmax
comp=Z,26nm,1.1s,mb4.6
MUD Monsted U'grnd 22.19 324 *i* P **P 01 33 07.5 +3.4**
comp=Z,50nm,1.3s,mb4.8
MUD *i* S **S 01 37 21.3 +17**
comp=Z,250nm,17.0s
MUD Monsted U'grnd 22.19 324 *i* P **P 01 33 07.5 +3.4**
MUD pmax pmax
comp=Z,50nm,1.3s,mb4.8
MUD MLR MLR
comp=Z,250nm,17.0s,MS3.7
BAIF Baives 22.21 305 *eP* **P 01 33 03.5 -0.8**
comp=Z,53nm,1.2s,mb4.6
BAIF Baives 22.21 305 *eP* **P 01 33 03.5 -0.8**
BAIF pmax pmax
comp=Z,27nm,1.2s,mb4.5
AVF Avril sur Loir 22.21 296 *eP* **P 01 33 04.9 +0.5**
comp=Z,42nm,1.1s,mb4.5
AVF Avril sur Loir 22.21 296 *eP* **P 01 33 04.9 +0.5**
AVF pmax pmax
comp=Z,21nm,1.1s,mb4.5
HFS Hagfors 22.94 335 P **P 01 33 11.4 0.0**
comp=Z,9.0nm,0.6s,mb4.4,baz=141,slow=9.5,SNR=35
HFS LR LR 01 43 57.0
comp=Z,238nm,19.9s,MS3.6,baz=50,slow=41
MTLF Montolieu 22.97 287 *eP* **P 01 33 14.2 +2.4**
comp=Z,32nm,1.4s,mb4.3
MTLF Montolieu 22.97 287 *eP* **P 01 33 14.2 +2.4**
MTLF pmax pmax
comp=Z,16nm,1.4s,mb4.3
ARU Arti 23.00 38 *i* P **P 01 33 11.8 -0.2**
comp=Z,38nm,1.3s,mb4.7
ARU Arti 23.00 38 *eP* **P 01 33 11.2 -0.8**
comp=Z,59nm,1.3s,mb4.9
ARU Arti 23.00 38⇑ *iP* **P 01 33 11.8 -0.2**
ARU *e*PPP PPP 01 33 46.1 -5.5
ARU *e*S **S 01 37 21.6 +2.7**
ARU *e*SS SS 01 37 57.8 -4.8
ARU pmax pmax
comp=Z,38nm,1.3s,mb4.7
CAF Calviac 23.03 291 *eP* **P 01 33 13.4 +1.0**
KONO Kongsberg 24.03 330 *i* P **P 01 33 21.6 -0.3**
KONO Kongsberg 24.03 330 *eP* **P 01 33 20.9 -1.0**
comp=Z,15nm,0.7s,mb4.5
SVE Sverdlovsk 24.19 39 *eP* **P 01 33 25.0 +1.5**
comp=Z,60nm,2.2s,mb4.6
SVE Sverdlovsk 24.19 39 *eP* **P 01 33 25.0 +1.5**
SVE *e* 01 34 04.6
SVE pmax pmax
comp=Z,60nm,2.2s,mb4.6
EPF Esparros 24.36 287 *eP* **P 01 33 27.2 +1.8**
NAO01 NORSAR Array S 24.40 334 *eP* **P 01 33 23.9 -1.7**
comp=Z,11nm,0.8s,mb4.3
NAO01 NORSAR Array S 24.40 334 *eP* **P 01 33 23.9 -1.7**
comp=Z,11nm,0.8s,mb4.3
NB2 NORSAR Subarra 24.43 334 P **P 01 33 26.1 +0.2**
comp=Z,0.5nm,0.6s,baz=134,slow=11
NB2 NORSAR Subarra 24.43 334 P **P 01 33 26.1 +0.2**
NB2 pmax pmax
comp=Z,1.0nm,0.6s,mb3.4
NOA NORSAR Array B 24.43 334 P **P 01 33 26.1 +0.2**
comp=Z,6.6nm,0.8s,mb4.1,baz=138,slow=9.6,SNR=16
NOA LR LR 01 44 16.7
comp=Z,127nm,19.5s,MS3.4,baz=140,slow=40
MFF Saint Martin d 24.60 295 *eP* **P 01 33 27.6 -0.1**
FLN La Foliniere 24.99 300 *eP* **P 01 33 30.7 -0.7**
comp=Z,76nm,1.6s,mb4.7
FLN *e*R
comp=Z,167nm,17.5s
FLN La Foliniere 24.99 300 *eP* **P 01 33 30.7 -0.7**
FLN pmax pmax
comp=Z,38nm,1.6s,mb4.7
FLN MLR MLR
comp=Z,170nm,17.5s,MS3.6
ETSF Etsaut 25.03 286 *eP* **P 01 33 33.0 +1.2**
comp=Z,13nm,1.0s,mb4.1
ETSF Etsaut 25.03 286 *eP* **P 01 33 33.0 +1.2**
ETSF pmax pmax
comp=Z,6.0nm,1.0s,mb4.1
GRR Gorron 25.20 299 *eP* **P 01 33 31.8 -1.6**
comp=Z,31nm,1.0s,mb4.5
GRR Gorron 25.20 299 *eP* **P 01 33 31.8 -1.6**
GRR pmax pmax
comp=Z,16nm,1.0s,mb4.5
QUIF Quistinic 26.71 298 *eP* **P 01 33 47.0 -0.4**
comp=Z,26nm,1.1s,mb4.4
QUIF Quistinic 26.71 298 *eP* **P 01 33 47.0 -0.4**
QUIF pmax pmax
comp=Z,13nm,1.1s,mb4.4
EKA Eskdalemuir Ar 27.95 314 P **P 01 33 57.5 -1.2**
comp=Z,5.5nm,0.9s,mb4.2,baz=110,slow=8.5,SNR=8.7
ESDC Sonseca Array 28.12 280 P **P 01 33 59.1 -1.3**
comp=Z,1.2nm,0.8s,mb3.6,baz=68,slow=9.2,SNR=4.8
ARCES ARCESS Array B 29.27 355 P **P 01 34 09.6 -0.9**
comp=Z,2.1nm,0.7s,mb4.0,baz=172,slow=8.6,SNR=12
ARCES LR LR 01 46 46.5
comp=Z,157nm,19.6s,MS3.6,baz=163,slow=38
ATD Arta Tunnel 30.23 160 LR LR 01 45 58.5
comp=Z,152nm,18.2s,MS3.7,baz=319,slow=36
KURK Kurchatov 32.99 57 *eP* **P 01 34 42.3 -1.1**
comp=Z,3.0nm,0.8s,mb4.3
KURK Kurchatov 32.99 57 *eP* **P 01 34 42.3 -1.1**
comp=Z,2.7nm,0.8s,mb4.2
KURK Kurchatov 32.99 57 *eP* **P 01 34 42.3 -1.1**
KURK pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
MKAR Makanchi Array 35.71 63 P **P 01 35 06.1 -0.7**
comp=Z,0.9nm,0.5s,mb4.0,baz=270,slow=8.5,SNR=7.5
MKAR LR LR 01 51 51.3
comp=Z,133nm,19.6s,MS3.7,baz=271,slow=40
NVS Novosibirsk 35.87 49 *eP* **P 01 35 11.9 +3.8**
ZAL Zalesovo 36.77 51 P **P 01 35 14.6 -1.1**
comp=Z,0.9nm,0.4s,mb3.9,baz=241,slow=5.8,SNR=4.6
ZAL LR LR 01 54 07.2
comp=Z,271nm,20.3s,MS4.0,baz=211,slow=42
JMIC Jan Mayen 36.94 339 LR LR 01 49 47.0
comp=Z,59nm,20.6s,MS3.4,baz=79,slow=35
KMBO Kilima Mbogo 41.71 174 LR LR 01 53 20.1
comp=Z,71nm,20.9s,MS3.5,baz=269,slow=36
KOLN Koldanda 43.24 91 *eP* **P 01 36 08.7 -0.9**
comp=Z,6.9nm,0.6s,mb4.5
GKN Gorkha 43.91 90 *eP* **P 01 36 11.4 -3.6**
comp=Z,7.0nm,0.4s,mb4.8
DMN Daman 44.47 90 *eP* **P 01 36 18.6 -0.9**
KKN Kakani 44.51 90 *eP* **P 01 36 17.8 -2.1**
comp=Z,7.9nm,0.5s,mb4.8
PKI Pulchoki 44.72 90 *eP* **P 01 36 21.3 -0.3**
SUMG Summit 46.28 337 *eP* **P 01 36 34.5 +1.2**
comp=Z,2.6nm,0.7s,mb4.3
DBIC Dimbokro 47.76 235 P **P 01 36 46.7 +0.9**
comp=Z,2.9nm,0.8s,mb4.3,baz=16,slow=12,SNR=4.3
DBIC Dimbokro 47.76 235 P **P 01 36 46.7 +0.9**
ZAK Zakamensk 48.53 54 *eP* **P 01 36 49.9 -1.4**
comp=Z,1.0nm,1.0s,mb3.8
ZAK Zakamensk 48.53 54 *eP* **P 01 36 49.9 -1.4**
ZAK pmax pmax
comp=Z,1.0nm,1.0s,mb3.8
SONM Songino Array 51.29 56 P **P 01 37 12.3 -0.1**
comp=Z,1.0nm,0.5s,mb4.0,baz=288,slow=9.1,SNR=3.1
SONM LR LR 02 01 30.3
comp=Z,159nm,21.1s,MS4.0,baz=78,slow=39
BOD Bodaibo 52.33 42 *eP* **P 01 37 17.5 -2.7**
BOD pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
YSS Yuzh-Sakhalins 72.80 42 *eP* **P 01 39 42.6 +5.9**
YKA Yellowknife Ar 74.00 345 LR LR 02 15 54.8
comp=Z,48nm,18.1s,MS3.8,baz=70,slow=39
ILAR Eielson Array 74.97 360 P **P 01 39 49.9 +0.9**
comp=Z,0.3nm,0.6s,mb3.4,baz=2.3,slow=0.6,SNR=4.4
SADO Sadowa 75.48 317 LR LR 02 14 23.3
comp=Z,80nm,18.4s,MS4.1,baz=130,slow=37
MJAR Matsushiro Arr 77.11 53 LR LR 02 18 00.6
comp=Z,127nm,19.9s,MS4.2,baz=250,slow=39
ULM Lac du Bonnet 79.03 329 P **P 01 40 11.2 -0.7**
comp=Z,1.1nm,0.4s,mb4.2,baz=324,slow=3.3,SNR=3.6
ULM LR LR 02 17 15.5
comp=Z,60nm,18.7s,MS4.0,baz=332,slow=37
PDAR Pinedale Array 90.38 333 LR LR 02 23 16.4
comp=Z,38nm,19.4s,MS3.8,baz=239,slow=37
BDFB Brasilia 93.37 252 LR LR 02 21 11.4
comp=Z,94nm,19.8s,MS4.2,baz=110,slow=34
SDV Santo Domingo 94.45 286 LR LR 02 17 30.9
comp=Z,32nm,19.1s,MS3.8,baz=58,slow=31
TXAR Lajitas Array 99.64 323 LR LR 02 31 00.3
comp=Z,42nm,19.8s,MS3.9,baz=105,slow=38

CASC 09 01:29:09.0±2.5, 12.26N×87.58W, h36km±650km, MD3.8, ML3.5, 4C-5D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.68**	**50**⇓	*eP*	P	01 29 21.8	-0.3
CRIN				*e*S	S	01 29 33.1	+1.5
LEON	**Leon**	**0.69**	**77**⇓	*iP*	P	01 29 21.7	-0.6
TEL3	**Telica 3**	**0.78**	**66**⇓	*eP*	P	01 29 22.9	-0.7
TELN	**Telica**	**0.81**	**65**⇑	*eP*	P	01 29 23.2	-0.7
MIRN	**Miramar**	**0.87**	**78**⇓	*eP*	P	01 29 24.2	-0.5
CNGN	**Cerro Negro**	**0.89**	**74**⇑	*eP*	P	01 29 24.6	-0.6
COPN	**Copaltepe**	**0.97**	**94**⇑	*eP*	P	01 29 25.8	-0.5
COPN				*e*S	S	01 29 39.9	+0.8
MOMJ	**Momotombo**	**1.03**	**82**⇓	*eP*	P	01 29 26.4	-0.7
CNCH	**Conchagua**	**1.04**	**346**	*eP*	P	01 29 28.9	+1.6
CNCH				*e*S	S	01 29 41.8	+0.9
MGAN	**Managua**	**1.31**	**95**⇑	*iP*	P	01 29 30.7	-0.5
MGAN				*e*S	S	01 29 48.1	+0.5
MGAN				*i*		01 29 52.4	
	comp=N,900nm,0.6s						
BLLM	**Bellamira**	**1.34**	**331**	*eP*	P	01 29 32.4	+0.8
VSM	**San Miguel**	**1.35**	**330**	*eP*	P	01 29 33.1	+1.4
WILN	**Americas 2**	**1.36**	**94**	*e*S	S	01 29 49.3	+0.2
SNVI	**San Vicente**	**1.82**	**318**	*eP*	P	01 29 39.4	+1.0
SNVI				*e*S	S	01 29 59.0	-1.6
LCBS	**La Ceiba**	**1.95**	**316**	*eP*	P	01 29 40.6	+0.4
LCBS				*e*S	S	01 30 01.3	-2.3
LFRS	**El Faro**	**1.98**	**313**	*eP*	P	01 29 41.0	+0.3
LFRS				*e*S	S	01 30 02.5	-2.1
LFU	**La Fuente**	**2.10**	**315**	*eP*	P	01 29 43.9	+1.4
LFU				*e*S	S	01 30 06.4	-1.3

*NEIC **09** 01:48:50.1±5.9, 2.50N×128.34E, h128km±58km, mb4.2/3, Error ellipse: s-maj=30.9km s-min=12.4km az=78.0*
*IDC **09** 01:48:51.2±9.5, 2.51N×128.36E, h136km±95km, mb3.8/8, mb1 4.0/8, mb1mx3.7/18, mbtmp4.3/8, Error ellipse: s-maj=47.1km s-min=19.2km az=79.0*

ISC 09 01:48:45.9±0.6, 2.6N±0.1×128.2E±0.3, h100km, n14, σ0 53/14, mb4.2/9, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.68**	**187**	*eP*	P	01 53 19.1	-0.9
	9.8nm,1.1s						
FITZ	**Fitzroy Crossi**	**20.68**	**187**	P	P	01 53 19.5	-0.5
	5.0nm,0.7s,baz=17,slow=11,SNR=8.8						
WRAB	**Tennant Creek**	**23.15**	**165**	*eP*	P	01 53 44.7	+0.4
WRA	**Warramunga Arr**	**23.16**	**165**	P	P	01 53 44.8	+0.4
	3.0nm,0.6s,mb3.8,baz=348,slow=10.0,SNR=12						
WB2	**Warramunga Arr**	**23.16**	**165**	*eP*	P	01 53 44.9	+0.5
MJAR	**Matsushiro Arr**	**35.06**	**14**	P	P	01 55 30.7	-0.4
	1.8nm,0.5s,mb4.2,baz=196,slow=10,SNR=6.0						
STKA	**Stephens Creek**	**36.53**	**161**	P	P	01 55 43.3	-0.4
	1.8nm,0.3s,mb4.4,baz=351,slow=7.6,SNR=10						
STKA	**Stephens Creek**	**36.53**	**161**	*eP*	P	01 55 42.9	-0.8
SONM	**Songino Array**	**48.88**	**341**	P	P	01 57 24.5	+1.1
	1.0nm,0.5s,mb4.0,baz=154,slow=6.3,SNR=4.5						

MKAR	**Makanchi Array**	**59.35**	**325**	P	**P**	**01 58 40.3**	**+0.4**
	2.5nm,0.4s,mb4.6,baz=116,slow=7.9,SNR=36						
KURK	**Kurchatov**	**63.51**	**327**	*e*P	**P**	**01 59 07.6**	**-0.3**
	3.4nm,0.3s,mb4.7						
BVAR	**Borovoye Array**	**69.10**	**327**	P	**P**	**01 59 43.0**	**-0.2**
	2.0nm,0.6s,mb4.1,baz=127,slow=7.4,SNR=14						
BRVK	**Borovoye**	**69.17**	**327**	*e*P	**P**	**01 59 43.5**	**-0.1**
	2.2nm,0.9s,mb4.0						
ARCES	**ARCESS Array B**	**92.05**	**340**	P	**P**	**02 01 44.0**	**-0.5**
	1.7nm,0.7s,mb4.4,baz=80,slow=7.4,SNR=7.1						

CASC 09 02:20:44.0±2.4, 14.09N×91.68W, h23km±8km, MD4.0, 8C-1D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**0.89**	**66**	⇑*e*P	Pb	02 21 00.6	-0.1
TP2	**Tecpan 2**	**0.94**	**43**	⇑*e*P	Pb	02 21 02.1	+0.6
TP2				*e*S	Sb	02 21 15.7	+2.2
PCG	**Pacaya**	**1.08**	**74**	⇑*e*P	Pn	02 21 04.0	+0.1
PCG				*e*S	Sb	02 21 18.6	+0.9
IXG	**Ixpaco**	**1.19**	**86**	⇑*e*P	Pn	02 21 05.3	-0.1
IXG				*e*S	Sb	02 21 22.9	+2.1
RBDL	**Robledal**	**1.93**	**89**	⇑*e*P	Pn	02 21 20.8	+4.7
RBDL				*e*S	Sn	02 21 46.0	+6.1
RTR	**El Retiro**	**1.98**	**95**	⇓*e*P	Pn	02 21 21.7	+4.9
RTR				*e*S	Sn	02 21 48.4	+7.3
SBLS	**San Blas**	**2.01**	**97**	*e*P	Pn	02 21 22.1	+4.9
SBLS				*e*S	Sn	02 21 49.5	+7.6
SNJE	**San Jose**	**2.03**	**96**	⇑*e*P	Pn	02 21 22.5	+5.1
SNJE				*e*S	Sn	02 21 49.2	+7.0
MRL	**Marmol**	**2.16**	**63**	⇑*e*P	Pn	02 21 18.7	-0.6
MRL				*e*S	Sn	02 21 46.0	+0.5
BOQS	**Boqueron**	**2.36**	**98**	⇑*e*P	Pn	02 21 26.9	+4.7
BOQS				*e*S	Sn	02 21 55.3	+4.6
LFRS	**El Faro**	**2.58**	**100**	*e*P	Pn	02 21 28.4	+3.1
LFRS				*e*S	Sn	02 22 00.4	+4.0
LCBS	**La Ceiba**	**2.66**	**99**	*e*P	Pn	02 21 31.1	+4.6
LCBS				*e*S	Sn	02 22 01.7	+3.4
SNVI	**San Vicente**	**2.80**	**99**	*e*P	Pn	02 21 33.3	+4.8
SNVI				*e*S	Sn	02 22 07.6	+5.8
BLLM	**Bellamira**	**3.41**	**100**	*e*P	Pn	02 21 43.7	+6.7
BLLM				*e*S	Sn	02 22 22.6	+5.4

*GRAL **09** 02:27:54.4±1.9, 34.77N×36.63E, h11km±148km, MD3.6*
ISC 09 02:27:53.9±0.9, 34.82N±0.07×36.5E±0.2, h10km, n9, σ1§02/13, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWQ	**Hawqa**	**0.68**	**217**	*i*Pg	**Pg**	**02 28 08.0**	**+0.3**
	baz=58,slow=6.5						
HWQ				*i*Sg	**Sg**	**02 28 17.9**	**+1.0**
BHL	**Bhannes**	**1.13**	**216**	*i*Pg	**Pg**	**02 28 15.9**	**-0.6**
BHL				*i*Sg	**Sg**	**02 28 31.6**	**0.0**
HTY	**Hatay**	**1.32**	**349**	PN	**Pn**	**02 28 19.2**	**+0.8**
MATL	**Matirih**	**1.62**	**215**	*i*Pg	**Pg**	**02 28 24.1**	**-2.3**
COBT	**Iskenderun**	**1.70**	**355**	*i*P	**Pn**	**02 28 23.6**	**-0.3**
COBT				*i*S	**Sn**	**02 28 44.5**	**-1.4**
CEYT	**Ceyhan**	**2.25**	**346**	*e*PN	**Pn**	**02 28 33.6**	**+1.7**
GAZ	**Gaziantep**	**2.42**	**15**	*e*PN	**Pn**	**02 28 35.3**	**+1.0**
GZT	**Gaziantep**	**2.68**	**19**	*i*P	**Pn**	**02 28 37.2**	**-0.8**
GZT				*i*S	**Sn**	**02 29 10.3**	**-0.6**
URFA	**Urfa**	**3.24**	**36**	PN	**Pn**	**02 28 46.7**	**+0.7**

*MOS **09** 02:34:10.3±2.1, 59.76N×153.66E, h10km, mb4.0/1, Error ellipse: s-maj=45.2km s-min=23.8km az=103.1*
NERS 09 02:34:09.0, 59.83N×153.73E, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MA2	**Magadan**	**1.52**	**262**	Pgmax		02 34 28.2	
	20nm,0.3s						
MA2				*e*Pg	Pg	02 34 37.3	-2.1
MA2				*e*		02 34 41.1	
MA2				*e*Sg	Sg	02 34 55.8	-3.9
MA2				Sgmax		02 34 57.5	
	180nm,0.9s						
MA2				Sgmax		02 34 57.5	
	240nm,0.9s						
MA2	**Magadan**	**1.52**	**262**	*e*P	Pn	02 34 37.3	-0.3
MA2				*e*SG	Sg	02 34 55.8	-3.9
MGD	**Magadan 1**	**1.53**	**279**	*e*Pg	Pg	02 34 37.7	-1.8
MGD				Pgmax		02 34 38.1	
	90nm,0.3s						
MGD				*e*Sg	Sg	02 34 57.0	-2.8
MGD				Sgmax		02 34 57.4	
	530nm,0.4s						
MGD				Sgmax		02 34 57.4	
	400nm,0.4s						
MGD	**Magadan 1**	**1.53**	**279**	*e*P	Pn	02 34 37.7	+0.1
MGD				*e*SG	Sg	02 34 57.0	-2.8
OMS	**Omsukchan**	**2.87**	**19**	*e*Pg	Pg	02 35 00.8	-5.5
OMS				Pgmax		02 35 02.0	
	30nm,0.5s						
OMS				*e*Sg	Sg	02 35 39.0	-5.6
OMS				Sgmax		02 35 44.3	
	100nm,1.0s						
OMS				Sgmax		02 35 44.3	
	70nm,1.0s						
OMS				Sgmax		02 35 44.3	
	100nm,1.0s						
OMS	**Omsukchan**	**2.87**	**19**	*e*P	Pn	02 35 00.8	+3.9
OMS				*e*SG	Sg	02 35 39.0	-5.6
SEY	**Seymchan**	**3.18**	**349**	*e*Pg	Pg	02 35 07.0	-5.5
SEY				*e*		02 35 12.0	
SEY				Pgmax		02 35 14.6	
	10.0nm,0.3s						
SEY				*e*S	Sn	02 35 42.1	+1.6
SEY				*e*		02 35 50.6	
SEY				*e*Sg	Sg	02 35 51.8	-3.1
SEY				Sgmax		02 35 56.5	
	40nm,0.2s						
SEY				Sgmax		02 35 56.5	
	50nm,0.2s						
SEY	**Seymchan**	**3.18**	**349**	*e*P	Pn	02 35 07.0	+5.7
SEY				*e*S	Sn	02 35 42.1	+1.6
OCHR	**Omchak**	**3.42**	**305**	*e*P	Pn	02 35 05.6	+1.0
OCHR				*e*Pb	Pb	02 35 09.7	-0.5
	10.0nm,0.2s						
OCHR				*e*Pb	Pb	02 35 09.7	-0.5
	10.0nm,0.2s						
OCHR				*e*Pb	Pb	02 35 09.7	-0.5
	20nm,0.2s						
OCHR				*e*Pg	Pg	02 35 11.8	-5.4
OCHR				*e*Sg	Sg	02 35 55.0	-7.7
OCHR				Sgmax		02 35 59.6	
	120nm,0.4s						
OCHR	**Omchak**	**3.42**	**305**	*e*P	Pn	02 35 05.6	+1.0
OCHR				*e*SG	Sg	02 35 55.0	-7.7
SUUS	**Susuman**	**3.99**	**320**	*e*Pg	Pg	02 35 25.3	-3.4
SUUS				*e*		02 35 40.3	
SUUS				*e*Sg	Sg	02 36 16.0	-5.9
SUUS				Sgmax		02 36 23.3	
	100nm,0.5s						
SUUS				Sgmax		02 36 23.3	
	70nm,0.4s						

*TIR **09** 02:35:51.6, 42.42N×19.82E, h18km*
*PDG **09** 02:35:53.8±0.3, 42.42N×19.78E, h10km±1km*
*NEIC **09** 02:35:53.8, 42.42N×19.78E, h10km, ML2.5(PDG), After PDG.*
ISC 09 02:35:53.0±0.5, 42.41N±0.02×19.82E±0.03, h7km±11km, n17, σ0§74/33, 4C-4D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCI	**Bajram Curri**	**0.19**	**102**	*i*Pg	**Pg**	**02 35 56.4**	**-0.6**
BCI				*i*Sg	**Sg**	**02 35 59.6**	**0.0**
PVY	**Plav**	**0.22**	**311**	⇑*i*Pg	**Pg**	**02 35 57.4**	**-0.2**
PVY				*e*Sg	**Sg**	**02 36 01.1**	**+0.4**
PUK	**Puka**	**0.37**	**172**	*i*Pg	**Pg**	**02 35 59.9**	**-0.6**
PUK				*i*Sg	**Sg**	**02 36 05.5**	**+0.1**
TTG	**Podgorica**	**0.41**	**273**	⇑*i*Pg	**Pg**	**02 36 00.4**	**-1.0**
TTG				*e*Sg	**Sg**	**02 36 06.8**	**-0.2**
SDA	**Shkodra**	**0.43**	**214**	*i*Pg	**Pg**	**02 36 01.0**	**-0.7**
SDA				*i*Sg	**Sg**	**02 36 08.1**	**+0.7**
IVA	**Berane**	**0.47**	**7**	⇓*i*Pg	**Pg**	**02 36 02.5**	**+0.1**
IVA				*e*Sg	**Sg**	**02 36 09.4**	**+0.6**
KKS	**Kukesi**	**0.55**	**127**	*i*Pg	**Pg**	**02 36 03.1**	**-1.0**
KKS				*i*Sg	**Sg**	**02 36 12.4**	**+1.0**
ULC	**Ulcinj**	**0.61**	**224**	⇓*i*Pg	**Pg**	**02 36 04.9**	**-0.5**
ULC				*e*Sg	**Sg**	**02 36 13.9**	**+0.3**
BUM	**Brajici-Budva**	**0.69**	**262**	⇓*i*Pg	**Pg**	**02 36 06.0**	**-0.9**
BUM				*e*Sg	**Sg**	**02 36 17.1**	**+1.0**
NKY	**Niksic**	**0.73**	**304**	⇓*i*Pg	**Pg**	**02 36 06.5**	**-1.2**
NKY				*e*Sg	**Sg**	**02 36 18.1**	**+0.6**
QSH	**Qafa e Shtames**	**0.89**	**176**	*i*Pg	**Pg**	**02 36 10.4**	**-0.4**
QSH				*i*Sg	**Sg**	**02 36 23.4**	**+0.8**
PLE	**Pljevlja**	**0.97**	**341**	*e*Pg	**Pg**	**02 36 11.9**	**-0.6**
PLE				*e*Sg	**Sg**	**02 36 26.2**	**+0.6**
HCY	**Herceg Novi**	**0.98**	**273**	⇑*i*Pg	**Pg**	**02 36 11.7**	**-1.0**
HCY				*e*Sg	**Sg**	**02 36 26.6**	**+0.9**
UPM	**Unac-Piva**	**1.04**	**320**	⇑*i*Pg	**Pg**	**02 36 13.2**	**-0.7**
UPM				*e*Sg	**Sg**	**02 36 28.1**	**+0.4**
BRY	**Bratogost**	**1.06**	**298**	*e*Pg	**Pg**	**02 36 12.9**	**-1.4**
BRY				*e*Sg	**Sg**	**02 36 28.9**	**+0.4**
SKO	**Skopje**	**1.28**	**109**	*e*P	**Sg**	**02 36 37.0**	**+1.3**
STON	**Ston**	**1.63**	**287**	*i*Pn	**Pn**	**02 36 22.8**	**+0.5**
STON				*i*Sg	**Sg**	**02 36 48.6**	**+1.1**

CASC 09 03:08:27.2±2.7, 12.72N×88.61W, h191km±24km, MD4.0, ML3.1, 10C-3D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSM	**San Miguel**	**0.78**	**25**	⇑*e*P	P	03 08 56.3	+1.4
BLLM	**Bellamira**	**0.81**	**27**	⇑*e*P	P	03 08 56.0	+0.9
SNVI	**San Vicente**	**0.92**	**346**	⇑*e*P	P	03 08 56.3	+0.6
SNVI				*e*S	S	03 09 19.9	+2.2
CNCH	**Conchagua**	**0.94**	**54**	⇑*e*P	P	03 08 57.7	+1.9
CNCH				*e*S	S	03 09 19.4	+1.4
LCBS	**La Ceiba**	**1.00**	**339**	⇑*e*P	P	03 08 57.0	+0.8
LCBS				*e*S	S	03 09 17.7	-0.9
LFRS	**El Faro**	**1.00**	**334**	⇑*e*P	P	03 08 57.4	+1.2
LFRS				*e*S	S	03 09 18.7	0.0
LBRS	**Las Brisas**	**1.10**	**338**	⇑*e*P	P	03 08 57.6	+0.6
LFU	**La Fuente**	**1.14**	**335**	⇓*e*P	P	03 08 58.0	+0.7
PICS	**Picacho**	**1.19**	**328**	⇓*i*P	P	03 08 57.7	-0.1
BOQS	**Boqueron**	**1.20**	**327**	⇑*e*P	P	03 08 57.9	0.0
BOQS				*e*S	S	03 09 24.4	+2.9
SBLS	**San Blas**	**1.49**	**319**	⇑*e*P	P	03 09 01.2	+0.8
SNJE	**San Jose**	**1.50**	**320**	*e*P	P	03 09 00.4	-0.1
CRIN	**San Cristobal**	**1.52**	**91**	*e*P	P	03 08 59.5	-1.3
CRIN				*e*S	S	03 09 27.3	+0.7
RTR	**El Retiro**	**1.54**	**319**	⇑*e*P	P	03 09 01.6	+0.7
RTR				*e*S	S	03 09 27.0	0.0
LEON	**Leon**	**1.71**	**100**	*e*P	P	03 09 02.1	-0.3
LEON				*e*S	S	03 09 29.9	+0.3
TEL3	**Telica 3**	**1.73**	**95**	*e*P	P	03 09 01.7	-1.0
TEL3				*e*S	S	03 09 32.0	+1.9
RBDL	**Robledal**	**1.74**	**323**	⇓*i*P	P	03 09 02.6	-0.2
TELN	**Telica**	**1.74**	**94**	*e*P	P	03 09 02.0	-0.9
MIRN	**Miramar**	**1.88**	**98**	*e*P	P	03 09 03.9	-0.2
MIRN				*e*S	S	03 09 31.5	-1.1
COPN	**Copaltepe**	**2.04**	**105**	*e*P	P	03 09 07.0	+1.1
COPN				*e*S	S	03 09 36.2	+0.5
MOMJ	**Momotombo**	**2.05**	**98**	*e*P	P	03 09 08.0	+2.1
MOMJ				*e*S	S	03 09 35.7	-0.1
MOMJ				*i*		03 09 39.6	
	comp=Z,58nm,0.2s						
MGAN	**Managua**	**2.38**	**104**	*e*S	S	03 09 43.7	+1.3
MGAN				*i*		03 09 45.6	
	comp=N,155nm,0.3s						
WILN	**Americas 2**	**2.43**	**103**	*e*S	S	03 09 44.4	+0.9
SSNN	**San Juan del S**	**3.05**	**117**	*e*S	S	03 09 59.3	+2.8

*IDC **09** 03:32:43.1±1.6, 31.73S×177.71W, mb4.9/3, mb1 4.9/6, mb1mx4.3/16, mbtmp4.8/6, ML4.3/3, MS3.5/4, Ms1 3.5/4, ms1mx3.1/25, Error ellipse: s-maj=43.4km s-min=22.8km az=121.0*
*NEIC **09** 03:32:47.3±5.5, 31.55S×177.99W, h19km±34km, mb4.9/5, Error ellipse: s-maj=24.0km s-min=14.1km az=107.0*
ISC 09 03:32:44.8±1.7, 31.80S±0.07×177.6W±0.3, h33km, n37, σ0§88/37, mb5.0/5, MS3.6/2, 2C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.55**	**354**	Pn	**Pn**	**03 33 24.9**	**+0.1**
	304nm,0.3s,baz=57,slow=18,SNR=8.9						
RAO				Sn	**Sn**	**03 33 46.7**	**-8.3**
	967nm,0.3s,baz=93,slow=23,SNR=7.3						
RAO				LR	LR	03 33 58.7	
	comp=Z,552nm,20.7s,baz=90,slow=30						
RAO	**Raoul Island**	**2.55**	**354**	*e*P	**P**	**03 33 24.4**	**-0.3**
RAO				Pn	**Pn**	**03 33 24.9**	**+0.1**
RAO				Sn	**Sn**	**03 33 46.7**	**-8.3**
RAO				LR	LR	03 33 58.7	
PUZ	**Puketiti**	**7.13**	**207**	PN	**Pn**	**03 34 28.8**	**-0.8**
PUZ				SN	**Sn**	**03 35 49.0**	**-1.2**
MWZ	**Matawai**	**7.65**	**210**	PN	**Pn**	**03 34 37.2**	**+0.3**
MWZ				SN	**Sn**	**03 36 04.6**	**+1.3**
URZ	**Urewera**	**7.77**	**212**	Pn	**Pn**	**03 34 38.5**	**0.0**
	1.4nm,0.3s,baz=166,slow=16,SNR=17						
URZ				Sn	**Sn**	**03 36 06.9**	**+0.6**
	5.8nm,0.3s,baz=184,slow=19,SNR=6.1						
URZ	**Urewera**	**7.77**	**212**	PN	**Pn**	**03 34 37.8**	**-0.7**
URZ				SN	**Sn**	**03 36 05.1**	**-1.2**
WCZ	**Waipu Caves**	**7.87**	**236**	PN	**Pn**	**03 34 45.0**	**+5.1**
OUZ	**Omahuta**	**8.11**	**243**	PN	**P**	**03 34 46.8**	**+3.8**
KNZ	**Kokohu**	**8.18**	**207**	PN	**P**	**03 34 46.2**	**+2.3**
KNZ				SN	**Sn**	**03 36 16.0**	**-0.4**
MRZ	**Mangatainoka R**	**10.42**	**210**	SN	**S**	**03 37 03.9**	**-7.7**
PAWZ	**Paruwai Farm**	**11.08**	**208**	SN	**S**	**03 37 20.3**	**-7.5**
MSWZ	**Moikau Station**	**11.18**	**209**	SN	**S**	**03 37 21.1**	**-9.1**
TCW	**Tory Channel**	**11.44**	**213**	SN	**S**	**03 37 26.6**	**-10**
TUWZ	**Tuamarina**	**11.77**	**213**	SN	**S**	**03 37 33.2**	**-11**
THZ	**Tophouse**	**12.52**	**215**	SN	**S**	**03 37 54.0**	**-8.6**
KHZ	**Kahutara**	**12.73**	**211**	SN	**S**	**03 37 57.2**	**-11**
LTZ	**Lake Taylor**	**13.60**	**213**	SN	**S**	**03 38 16.0**	**-13**
MQZ	**McQueen's Vall**	**14.16**	**210**	SN	**S**	**03 38 27.6**	**-14**
RPZ	**Rata Peaks**	**14.89**	**214**	Pn	**P**	**03 36 14.1**	**-0.3**
	1.0nm,0.3s,baz=35,slow=13,SNR=6.1						
RPZ				Sn	**S**	**03 38 47.8**	**-11**
	0.9nm,0.3s,baz=30,slow=15,SNR=6.7						
DZM	**Mont Dzumac**	**17.19**	**300**	LR	LR	03 41 21.2	
	comp=Z,159nm,21.4s,baz=130,slow=30						
CTA	**Charters Tower**	**34.38**	**281**	⇑*i*P	**P**	**03 39 31.2**	**+0.3**
	9.2nm,0.6s,mb4.9						
CTA	**Charters Tower**	**34.38**	**281**	P	**P**	**03 39 31.6**	**+0.7**
	13nm,0.7s,mb5.0,baz=107,slow=11,SNR=14						
CTA				LR	LR	03 52 01.5	
	comp=Z,80nm,18.6s,MS3.5,baz=47,slow=34						
CTAO	**Charters Tower**	**34.38**	**281**	*e*P	**P**	**03 39 31.2**	**+0.2**
	13nm,0.8s,mb4.9						
STKA	**Stephens Creek**	**34.52**	**259**	*e*P	**P**	**03 39 32.9**	**+0.8**
	3.2nm,0.5s,mb4.5						
STKA	**Stephens Creek**	**34.52**	**259**	P	**P**	**03 39 33.2**	**+1.1**
	3.8nm,0.5s,mb4.6,baz=101,slow=13,SNR=11						
WB2	**Warramunga Arr**	**44.49**	**273**	⇑*i*P	**P**	**03 40 54.5**	**-0.5**
WRAB	**Tennant Creek**	**44.50**	**273**	*e*P	**P**	**03 40 54.5**	**-0.5**
	14nm,0.5s,mb5.0						
WRA	**Warramunga Arr**	**44.51**	**273**	P	**P**	**03 40 54.7**	**-0.4**
	21nm,0.6s,mb5.1,baz=113,slow=7.9,SNR=143						
QSPA	**South Pole Qui**	**58.32**	**180**	*e*P	**P**	**03 42 45.1**	**+6.8**
	14nm,0.5s,mb5.2						
TXAR	**Lajitas Array**	**92.85**	**57**	LR	LR	04 18 28.2	
	comp=Z,23nm,18.5s,MS3.7,baz=115,slow=30						
KEV	**Kevo**	**139.55**	**347**	*e*pkp	PKPdf	03 52 09.3	+1.0
KAF	**Kangasniemi**	**145.97**	**340**	*e*pkp	PKPdf	03 52 21.0	+1.5
	baz=42,slow=3.1						
FINES	**FINESS Array B**	**146.57**	**339**	PKPbc	PKPbc	03 52 24.9	+3.0
	4.3nm,0.7s,baz=51,slow=4.3,SNR=21						
NB2	**NORSAR Subarra**	**150.18**	**351**	PKPabc	PKPdf	03 52 35.1	+8.7
	1.5nm,0.6s,baz=14,slow=4.0						
NOA	**NORSAR Array B**	**150.18**	**351**	PKPbc	PKPdf	03 52 35.1	+8.7
	2.0nm,0.8s,baz=14,slow=4.1,SNR=5.5						
AKASG	**Malin Array Be**	**152.61**	**321**	PKPbc	PKPdf	03 52 40.6	+10
	1.4nm,0.5s,baz=48,slow=2.1,SNR=7.2						
BRTR	**Keskin Array B**	**153.54**	**296**	PKPbc	PKPdf	03 52 43.0	+11
	0.5nm,0.3s,baz=159,slow=5.1,SNR=3.6						

*IDC **09** 03:49:23.4±1.8, 2.48N×126.44E, mb3.9/4, mb1 4.1/4, mb1mx3.8/17, mbtmp3.9/4, MS3.9/2, Ms1 3.8/2, ms1mx3.0/23, Error ellipse: s-maj=107.9km s-min=24.6km az=67.0*
*NEIC **09** 03:49:27.2±1.2, 2.61N×126.80E, h30km, mb4.2/1, Error ellipse: s-maj=29.8km s-min=13.7km az=46.0*

ISC 09 03:49:25.9±1.4, 2.7N±0.2×126.8E±0.2, h33km, n8, σ0§78/7, mb3.9/4, MS3.8/2, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSM	**Kuching**	**16.50**	**266**	*e*P	**P**	**03 53 17.1**	**+0.5**
FITZ	**Fitzroy Crossi**	**20.65**	**183**	P	**P**	**03 54 04.0**	**-1.5**
	6.1nm,0.7s,baz=22,slow=9.2,SNR=6.7						
FITZ				LR	LR	04 01 31.8	
	comp=Z,108nm,20.3s,MS3.2,baz=96,slow=36						
WRAB	**Tennant Creek**	**23.64**	**162**	*e*P	**P**	**03 54 36.1**	**+0.8**
	3.8nm,0.5s,mb4.1						
WRA	**Warramunga Arr**	**23.64**	**162**	P	**P**	**03 54 34.9**	**-0.5**
	1.2nm,0.5s,mb3.6,baz=339,slow=11,SNR=23						
WB2	**Warramunga Arr**	**23.65**	**162**	*e*P	**P**	**03 54 35.6**	**+0.2**
STKA	**Stephens Creek**	**37.11**	**159**	P	**P**	**03 56 36.1**	**+0.8**
	1.2nm,0.4s,mb4.1,baz=328,slow=13,SNR=2.5						
MKAR	**Makanchi Array**	**58.47**	**326**	P	**P**	**03 59 20.6**	**-0.5**
	0.3nm,0.3s,mb3.7,baz=121,slow=7.5,SNR=5.2						
MAW	**Mawson**	**82.76**	**200**	LR	LR	04 34 54.1	
	comp=Z,174nm,20.1s,MS4.4,baz=79,slow=33						

*CSEM **09** 03:58:04.9±0.2, 35.69N×2.53W, h35km, MD3.3, Error ellipse: s-maj=6.7km s-min=3.4km az=107.0*
*CNRM **09** 03:58:05.0, 35.75N×2.40W, h30km, MD3.3*
*MDD **09** 03:58:06.9±0.6, 35.72N×2.56W, h28km±5km, mb3.8/16, mbLg2.2/16, Error ellipse: s-maj=6.7km s-min=3.5km az=96.0, PRXIMO*
*INMG **09** 03:58:07.3±0.8, 35.79N×2.55W, h22km±3km, ML2.2, Error ellipse: s-maj=3.0km s-min=2.6km az=123.0*
ISC 09 03:58:06.1±0.5, 35.75N±0.02×2.65W±0.04, h50km±7km, n38, σ1§23/73, 1C, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EALB	**Alboran**	**0.37**	**302**	⇑P	**P**	**03 58 15.6**	**-0.3**
	SNR=18						
EALB				S	**S**	**03 58 21.4**	**-1.6**
	1μm,0.2s,SNR=7.9						
EALB	**Alboran**	**0.37**	**302**	P	**P**	**03 58 15.6**	**-0.3**
	SNR=18						
EMLI	**Melilla**	**0.51**	**209**	P	**P**	**03 58 18.3**	**+0.9**
	115nm,0.2s,SNR=7.9						
EMLI				S	**S**	**03 58 26.3**	**+0.7**
	1μm,0.1s,SNR=7.9						
EMEL	**Melilla**	**0.51**	**210**	P	**P**	**03 58 18.3**	**+0.9**
	115nm,0.2s,SNR=7.9						
EMEL				S	**S**	**03 58 26.3**	**+0.6**
	1μm,0.1s,SNR=7.9						
ZAI	**Zaio**	**0.78**	**186**	*i*P	**P**	**03 58 19.0**	**-1.9**
ZAI				*i*S	**S**	**03 58 29.0**	**-2.8**
EBER	**Berja**	**1.17**	**350**	P	**P**	**03 58 26.7**	**+0.4**
	6.1nm,0.1s,SNR=21						
EBER				S	**S**	**03 58 40.4**	**-1.0**
	25nm,0.2s,SNR=18						
EBER	**Berja**	**1.17**	**350**	P	**P**	**03 58 26.7**	**+0.4**
	6.1nm,0.1s,SNR=21						
EBER				S	**S**	**03 58 40.4**	**-1.0**
	25nm,0.2s,SNR=18						
MPAL	**Palemas**	**1.18**	**244**	*i*P	**P**	**03 58 27.0**	**+0.6**
MPAL				*i*S	**S**	**03 58 42.0**	**+0.4**
TOU	**Touzarine**	**1.19**	**229**	*i*P	**P**	**03 58 27.0**	**+0.3**
TOU				*i*S	**S**	**03 58 42.0**	**0.0**
ENIJ	**Nijar**	**1.27**	**16**	P	**P**	**03 58 27.8**	**-0.1**
	0.3nm,0.4s,SNR=7.9						
ENIJ				S	**S**	**03 58 43.8**	**-0.3**
	0.7nm,0.3s,SNR=7.9						
EGUA	**Guajares**	**1.31**	**326**	P	**P**	**03 58 28.5**	**0.0**
	1.1nm,0.2s,SNR=7.9						
EGUA				S	**S**	**03 58 45.0**	**-0.2**
	2.5nm,0.2s,SNR=7.9						
ERON	**Agron**	**1.58**	**324**	P	**P**	**03 58 32.8**	**+0.7**
	3.3nm,0.3s,SNR=7.9						
ERON				S	**S**	**03 58 51.8**	**+0.3**
	1.8nm,0.1s,SNR=7.9						
EQUE	**Quentar**	**1.59**	**337**	P	**P**	**03 58 33.5**	**+1.1**
	6.7nm,0.3s,SNR=18						
EQUE				S	**S**	**03 58 52.3**	**+0.4**
	5.9nm,0.2s,SNR=7.9						
ECOG	**Cogollos-Vega**	**1.70**	**334**	P	**P**	**03 58 35.5**	**+1.7**
	2.4nm,0.2s,SNR=10						
ECOG				S	**S**	**03 58 55.7**	**+1.3**
	3.4nm,0.1s,SNR=9.7						
ECOG	**Cogollos-Vega**	**1.70**	**334**	P	**P**	**03 58 35.5**	**+1.6**
	2.4nm,0.2s,SNR=10						
ECOG				S	**S**	**03 58 55.8**	**+1.3**
	3.4nm,0.1s,SNR=9.7						
EMIJ	**Mijas**	**1.90**	**296**	P	**P**	**03 58 36.8**	**0.0**
	1.3nm,0.1s,SNR=7.9						
EMIJ				S	**S**	**03 58 57.7**	**-1.8**
	4.3nm,0.1s,SNR=7.9						
EQES	**Quesada**	**2.08**	**351**	P	**P**	**03 58 41.2**	**+1.9**
	6.1nm,0.2s,SNR=57						
EQES				S	**S**	**03 59 06.3**	**+2.3**
	7.1nm,0.1s,SNR=6.6						
EQES	**Quesada**	**2.08**	**351**	P	**P**	**03 58 41.4**	**+2.1**
	6.1nm,0.2s,SNR=57						
EQES				S	**S**	**03 59 06.3**	**+2.3**
	5.8

*IDC **09** 04:35:25.6±1.5, 19.03S×69.49W, h101km±14km, mb3.8/6, mb1 3.9/8, mb1mx3.7/17, mbtmp4.1/8, Error ellipse: s-maj=29.2km s-min=8.7km az=95.0*
*NEIC **09** 04:35:26.4±0.7, 19.00S×69.46W, h108km±7km, mb4.0/3, Error ellipse: s-maj=15.0km s-min=8.3km az=77.0*
NEIC Felt [II] at Arica.

ISC 09 04:35:24.7±0.7, 19.07S±0.04×69.50W±0.09, h108km±7km, n25, σ1§20/26, mb4.0/7, 1C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.06**	**26**	P			**P**	**04 36 13.6**	**+1.2**
	5.6nm,0.3s,baz=201,slow=7.4,SNR=294								
LPAZ				S			**S**	**04 36 48.5**	**+0.1**
	3.2nm,0.3s,baz=304,slow=5.1,SNR=4.7								
LPAZ	**La Paz**	**3.06**	**26**	‖ *i* Pn			**P**	**04 36 13.4**	**+1.0**
ARE	**Arequipa**	**3.21**	**323**	⇑ *i* P			**P**	**04 36 14.8**	**+0.4**
ARE				*e* S			**S**	**04 36 51.0**	**-1.1**
LVC	**Limon Verde**	**3.57**	**171**	P			**P**	**04 36 20.7**	**+1.3**
	8.9nm,0.3s,baz=339,slow=11,SNR=94								
LVC				S			**S**	**04 37 00.9**	**-0.1**
	27nm,0.3s,baz=21,slow=5.5,SNR=6.3								
LVC	**Limon Verde**	**3.57**	**171**	*i* Pn			**P**	**04 36 20.4**	**+1.0**
SIV	**San Ignacio**	**8.60**	**70**	P			**P**	**04 37 23.3**	**-4.5**
	4.9nm,0.3s,baz=255,slow=12,SNR=65								
CFAA	**Coronel Fontan**	**12.54**	**175**	P			**P**	**04 38 17.0**	**-3.3**
	0.0nm,0.3s,baz=350,slow=16,SNR=3.7								
CFAA				S			**S**	**04 40 28.5**	**-9.4**
	0.0nm,0.3s,baz=115,slow=17,SNR=2.8								
CFAA	**Coronel Fontan**	**12.54**	**175**	P			**P**	**04 38 17.0**	**-3.3**
CFAA				S			**S**	**04 40 28.5**	**-9.4**
CPUP	**Villa Florida**	**13.35**	**125**	P			**P**	**04 38 27.3**	**-3.7**
	0.1nm,0.3s,baz=255,slow=18,SNR=3.6								
CPUP	**Villa Florida**	**13.35**	**125**	P			**P**	**04 38 27.3**	**-3.7**
BDFB	**Brasilia**	**20.79**	**84**	P			**P**	**04 39 58.5**	**-0.6**
	3.4nm,0.4s,baz=269,slow=9.1,SNR=12								
PLCA	**Paso Flores**	**21.61**	**182**	P			**P**	**04 40 09.6**	**+2.5**
	5.9nm,0.9s,mb3.9,baz=358,slow=12,SNR=8.5								
PLCA	**Paso Flores**	**21.61**	**182**	*e* P			**P**	**04 40 09.6**	**+2.5**
	6.6nm,0.9s,mb4.0								
ROSC	**El Rosal**	**24.24**	**348**	P			**P**	**04 40 32.8**	**-0.1**
	4.3nm,0.4s,mb4.2,baz=104,slow=17,SNR=3.2								
TXAR	**Lajitas Array**	**58.32**	**325**	P			**P**	**04 45 09.8**	**-1.1**
	0.5nm,0.7s,mb3.6,baz=146,slow=7.4,SNR=8.7								
SNAA	**Sanae**	**64.75**	**161**	P			**P**	**04 45 53.0**	**-0.3**
	0.5nm,0.6s,mb3.5,baz=236,slow=15,SNR=6.1								
ISCO	**Idaho Springs**	**67.56**	**331**	*e* P			**P**	**04 46 13.0**	**+1.3**
	1.0nm,0.5s,mb3.9								
HLID	**Hailey**	**74.69**	**328**	*e* P			**P**	**04 46 55.3**	**+1.1**
	2.0nm,0.6s,mb4.0								
EDM	**Edmonton**	**81.33**	**335**	*e* P			**P**	**04 47 29.7**	**-0.7**
YKA	**Yellowknife Ar**	**88.72**	**341**	P			**P**	**04 48 06.9**	**+0.2**
	3.5nm,0.5s,mb4.6,baz=132,slow=4.9,SNR=14								
YKA	**Yellowknife Ar**	**88.72**	**341**	P			**P**	**04 48 06.9**	**+0.2**
WRA	**Warramunga Arr**	**134.73**	**212**	PKP			PKPdf	04 54 33.6	+2.1
	1.2nm,0.5s,baz=153,slow=1.9,SNR=9.6								
MJAR	**Matsushiro Arr**	**150.09**	**311**	PKPbc			PKPdf	04 55 04.3	+6.6
	0.5nm,0.4s,baz=83,slow=1.9,SNR=4.6								
MJAR	**Matsushiro Arr**	**150.09**	**311**	PKPbc			PKPdf	04 55 04.3	+6.6
SONM	**Songino Array**	**151.11**	**6**	PKPbc			PKPdf	04 55 06.8	+7.9
	3.5nm,0.6s,baz=316,slow=1.8,SNR=17								
SONM				PKPab			PKPab	04 55 14.7	-0.6
	0.3nm,0.4s,baz=336,slow=6.1,SNR=3.8								
SONM				pPKPbc				04 55 35.9	
	1.4nm,0.8s,baz=328,slow=1.0,SNR=5.0								

*IDC **09** 04:46:41.5±2.1, 18.43S×179.46E, h559km±25km, mb3.4/10, mb1 3.6/12, mb1mx3.5/17, mbtmp4.3/12, Error ellipse: s-maj=19.0km s-min=13.7km az=148.0*
*NEIC **09** 04:46:41.5±0.8, 18.44S×179.47E, h562km±10km, mb4.2/2, Error ellipse: s-maj=14.8km s-min=8.0km az=149.0*

ISC 09 04:46:40.2±1.6, 18.5S±0.1×179.4E±0.1, h555km±23km, n58, σ0§69/16, mb3.8/11, 2C-1D, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.59**	**63**	P			**P**	**04 48 54.9**	**+0.1**
	2.6nm,0.3s,baz=126,slow=23,SNR=5.1								
AFI	**Afiamalu**	**9.59**	**63**	P			**P**	**04 48 54.9**	**+0.1**
URZ	**Urewera**	**19.83**	**185**	P			**P**	**04 50 34.7**	**-0.7**
	1.5nm,0.3s,baz=340,slow=7.9,SNR=8.9								
CTA	**Charters Tower**	**31.32**	**262**	P			**P**	**04 52 17.4**	**+0.3**
	4.5nm,0.4s,mb4.4,baz=94,slow=11,SNR=6.9								
CTAO	**Charters Tower**	**31.32**	**262**	*e* P			**P**	**04 52 18.4**	**+1.4**
	8.3nm,0.8s,mb4.3								
STKA	**Stephens Creek**	**36.55**	**241**	P			**P**	**04 53 01.8**	**+1.1**
	4.6nm,1.0s,mb4.0,baz=88,slow=13,SNR=2.8								
WRAB	**Tennant Creek**	**42.49**	**260**	*e* P			**P**	**04 53 48.1**	**-0.5**
	2.7nm,0.4s,mb4.1								
WRA	**Warramunga Arr**	**42.50**	**260**	P			**P**	**04 53 48.3**	**-0.4**
	2.2nm,0.4s,mb4.1,baz=98,slow=6.8,SNR=31								
FITZ	**Fitzroy Crossi**	**50.90**	**261**	P			**P**	**04 54 52.4**	**-0.1**
	3.0nm,0.4s,mb4.0,baz=124,slow=7.3,SNR=9.2								
VNDA	**Vanda**	**59.73**	**184**	P			**P**	**04 55 53.0**	**-0.1**
	0.5nm,0.4s,mb3.2,baz=56,slow=7.4,SNR=3.1								
MJAR	**Matsushiro Arr**	**67.14**	**325**	P			**P**	**04 56 40.2**	**-0.5**
	3.3nm,0.8s,mb3.9,baz=162,slow=7.3,SNR=6.8								
YBH	**Yreka Blue Hor**	**80.26**	**40**	P			**P**	**04 57 54.8**	**+0.3**
	1.0nm,0.4s,mb3.5,baz=240,slow=2.9,SNR=5.3								
ILAR	**Eielson Array**	**86.90**	**14**	P			**P**	**04 58 25.5**	**-1.2**
	2.4nm,1.0s,mb3.8,baz=236,slow=5.5,SNR=18								
TXAR	**Lajitas Array**	**88.04**	**58**	P			**P**	**04 58 34.0**	**+1.0**
	1.4nm,0.7s,mb3.8,baz=217,slow=5.6,SNR=27								
TXAR	**Lajitas Array**	**88.04**	**58**	P			**P**	**04 58 34.0**	**+1.0**
PDAR	**Pinedale Array**	**89.18**	**44**	P			**P**	**04 58 38.2**	**+0.3**
	0.1nm,0.3s,mb3.1,baz=243,slow=3.3,SNR=4.2								
MKAR	**Makanchi Array**	**108.03**	**314**	PKiKP				05 04 04.8	
	0.4nm,0.6s,baz=136,slow=1.5,SNR=5.3								
BVAR	**Borovoye Array**	**115.96**	**321**	PKP			PKPdf	05 04 19.9	+0.1
	1.2nm,0.3s,baz=132,slow=2.3,SNR=12								
ARCES	**ARCESS Array B**	**126.47**	**349**	PKP			PKPdf	05 04 40.0	+0.4
	0.5nm,0.4s,baz=51,slow=1.6,SNR=14								
FINES	**FINESS Array B**	**133.12**	**343**	PKP			PKPdf	05 04 53.1	+0.6
	1.2nm,0.8s,baz=135,slow=2.0,SNR=4.4								
BRTR	**Keskin Array B**	**143.67**	**313**	PKP			PKPdf	05 05 12.1	+0.1
	0.8nm,0.4s,baz=135,slow=1.7,SNR=4.1								
DCN	**Croghan**	**144.80**	**7**	⇑ *i* P			PKPdf	05 05 14.8	+1.3
DLF	**Lyons Farm**	**144.93**	**6**	⇑ *i* P			PKPdf	05 05 15.4	+1.7
UPC	**Upice**	**145.39**	**341**	*e* PKP			PKPdf	05 05 17.4	+2.8
DPC	**Dobruska-Polom**	**145.43**	**341**	*e* PKP			PKPdf	05 05 17.7	+3.0
CLL	**Collm**	**145.50**	**345**	‖ *i* P			PKPdf	05 05 17.3	+2.5
CLZ	**Clausthal**	**145.59**	**348**	*e* PKPbc			PKPbc	05 05 17.8	+1.6
PVCC	**Panska Ves**	**145.79**	**343**	*e* PKP			PKPdf	05 05 18.6	+3.3
KHC	**Kasperske Hory**	**147.33**	**343**	*e* PKP			PKPdf	05 05 22.8	+4.9
GRA1	**Grafenberg Arr**	**147.43**	**346**	*e* PKPbc			PKPdf	05 05 22.9	+4.9
GRF	**Grafenberg Arr**	**147.43**	**346**	*e* PKP			PKPdf	05 05 22.9	+4.9
TNS	**Taunus Mts**	**147.50**	**349**	*e* PKPbc			PKPdf	05 05 23.0	+4.9
GEC2	**GERESS Array S**	**147.56**	**342**	*e* PKPbc			PKPdf	05 05 23.2	+5.0
GERES	**GERESS Array B**	**147.56**	**342**	PKPbc			PKPdf	05 05 23.0	+4.8
	2.6nm,0.5s,baz=26,slow=3.4,SNR=23								
GIVF	**Givet**	**148.13**	**353**	*e* PKP1			PKPdf	05 05 24.4	+5.3
BAIF	**Baives**	**148.24**	**354**	*e* PKP1			PKPdf	05 05 24.7	+5.4
BFO	**Black Forest**	**149.33**	**348**	*e* PKPbc			PKPdf	05 05 27.2	+6.1
CDF	**Champ du Feu**	**149.45**	**350**	*e* PKP1			PKPdf	05 05 27.5	+6.3
FLN	**La Foliniere**	**149.77**	**360**	*e* PKP1			PKPdf	05 05 27.9	+6.2
HAU	**Haudompre**	**149.99**	**351**	*e* PKP1			PKPdf	05 05 28.7	+6.6
	5.7nm,0.5s								
CEY	**Cerknica**	**150.08**	**339**	*i* PKPbc			PKPdf	05 05 29.0	+6.7
HINF	**Hinteralfeld**	**150.09**	**350**	*e* PKP1			PKPdf	05 05 28.2	+5.9
	3.0nm,0.5s								
ROSF	**Rostrenen**	**150.12**	**4**	*e* PKP1			PKPdf	05 05 28.5	+6.2
GRR	**Gorron**	**150.15**	**0**	*e* PKP1			PKPdf	05 05 28.9	+6.6
SGMF	**Saint Gilles**	**150.24**	**3**	*e* PKP1			PKPdf	05 05 28.9	+6.4
	4.2nm,0.6s								
LOR	**Lormes**	**151.04**	**354**	*e* PKP1			PKPdf	05 05 31.2	+7.5
	9.6nm,0.5s								
SSF	**Saint Saulge**	**151.28**	**354**	*e* PKP1			PKPdf	05 05 31.8	+7.7
	6.8nm,0.5s								
CABF	**La Chapelle**	**151.39**	**350**	*e* PKP1			PKPdf	05 05 32.5	+8.3
	6.6nm,0.5s								
AVF	**Avril sur Loir**	**151.56**	**354**	*e* PKP1			PKPdf	05 05 31.8	+7.3
MFF	**Saint Martin d**	**151.93**	**359**	*e* PKP1			PKPdf	05 05 32.9	+7.9
	13nm,0.7s								
TCF	**Toulx Ste Croi**	**152.15**	**356**	*e* PKP1			PKPdf	05 05 33.4	+8.1
	4.2nm,0.6s								
LPL	**La Plagne**	**152.34**	**349**	*e* PKP1			PKPdf	05 05 34.8	+9.2
	1.9nm,0.4s								
LPG	**La Plagne**	**152.36**	**349**	*e* PKP1			PKPdf	05 05 34.9	+9.3
ORIF	**Oris-en-Rattie**	**153.07**	**350**	*e* PKP1			PKPdf	05 05 35.9	+9.3
MBDF	**Montbardon**	**153.09**	**348**	*e* PKP1			PKPdf	05 05 35.8	+9.1
	3.9nm,0.7s								
RJF	**Les Rejaudoux**	**153.17**	**357**	*e* PKP1			PKPdf	05 05 35.8	+9.0
	4.3nm,0.6s								
VIVF	**Saint-Julien-l**	**153.31**	**352**	*e* PKP1			PKPdf	05 05 36.5	+10
SBF	**Sospel**	**153.79**	**347**	*e* PKP1			PKPdf	05 05 36.5	+8.9
	11nm,0.7s								

*MOS **09** 04:58:55.2±0.9, 21.16S×173.83E, h10km, mb5.1/20, MS5.4/6, Error ellipse: s-maj=12.6km s-min=10.8km az=47.4*
*IDC **09** 04:58:55.3±0.8, 21.05S×173.85E, mb4.5/11, mb1 4.7/14, mb1mx4.6/17, mbtmp4.6/14, ML4.2/2, MS4.8/11, Ms1 4.8/11, ms1mx4.6/26, Error ellipse: s-maj=22.2km s-min=19.6km az=142.0*
*BJI **09** 04:58:59.2, 21.10S×173.90E, h20km, mB5.2, mb5.0, Ms5.5, Ms25.2*
*NEIC **09** 04:58:59.2±2.6, 21.11S×173.89E, h25km±18km, mb5.0/28, MS5.2/22, Error ellipse: s-maj=8.9km s-min=6.3km az=149.0*
*HRVD **09** 04:58:59.2±0.2, 21.02S×173.92E, h15km±1km, MW5.4/67, Centroid moment Tensor Solution. LP body waves: s63,c127;Mantle waves: s67,c137; Half duration: 1§2 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.23±.03; $M_{\theta\theta}$-0.81±.03; $M_{\phi\phi}$ 1.04±.03; $M_{r\theta}$-0.06±.08; $M_{\theta\phi}$-1.31±.03; $M_{\phi r}$0.32±.08; Best double couple: $M_0$1.63×10^{17} NP1: ϕ_s287°,δ81°,λ177°. NP2:ϕ_s18°,δ87°,λ9°. Principal axes: T 1.769, Plg9°, Azm243°; N -.273, Plg80°, Azm37°; P -1.491, Plg4°, Azm152°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 09 04:58:56.5±0.2, 21.16S±0.05×173.85E±0.04, h16km, h16km±1.3km: pP-P, n146, σ0§95/121, mb5.0/54, MS5.0/33, 5D, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.95**	**261**	*e* P			**Pn**	**05 00 39.2**	**-1.0**
DZM	**Mont Dzumac**	**6.95**	**261**	Pn			**Pn**	**05 00 41.5**	**+1.3**
	0.9nm,0.3s,baz=70,slow=17,SNR=14								
DZM	**Mont Dzumac**	**6.95**	**261**	*e* P			**Pn**	**05 00 39.2**	**-1.0**
NOUC	**Port Laguerre**	**7.08**	**261**	*e* P			**Pn**	**05 00 44.2**	**+2.1**
RAO	**Raoul Island**	**10.97**	**139**	LR			LR	05 04 60.0	
	comp=Z,5μm,21.8s,baz=138,slow=33								
AFI	**Afiamalu**	**15.48**	**65**	Pn			**P**	**05 02 35.0**	**-1.1**
	0.6nm,0.3s,baz=242,slow=19,SNR=5.0								
AFI				LR			LR	05 07 15.5	
	comp=Z,4μm,20.7s,baz=244,slow=32								
AFI	**Afiamalu**	**15.48**	**65**	*e* P			**P**	**05 02 35.0**	**-1.0**
	102nm,1.1s								
AFI	**Afiamalu**	**15.48**	**65**	P			**P**	**05 02 35.0**	**-1.1**
AFI				pmax			pmax		
	comp=Z,1.0nm,0.3s								
AFI				MLR			MLR		
	comp=Z,4μm,20.7s								
URZ	**Urewera**	**17.27**	**171**	P			**P**	**05 02 58.1**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=162,slow=19,SNR=2.7								
URZ				LR			LR	05 08 04.5	
	comp=Z,4μm,20.9s,baz=161,slow=32								
HNR	**Honiara**	**17.75**	**309**	P			**P**	**05 03 02.6**	**-2.2**
	comp=Z,3.0nm,0.3s,baz=252,slow=9.6,SNR=3.3								
HNR				LR			LR	05 08 51.7	
	comp=Z,3μm,18.0s,baz=139,slow=34								
HNR	**Honiara**	**17.75**	**309**	P			**P**	**05 03 04.8**	**+0.1**
SNZO	**South Karori**	**20.10**	**178**	PFAKE				05 03 40.0	+7.7
SNZO				LR			LR		
	comp=Z,3μm,22.0s,MS4.6								
ARMA	**Armidale**	**21.99**	**241**	‖ *i* P			**P**	**05 03 42.5**	**-9.2**
ARMA				*i* S			**S**	**05 07 55.2**	**+6.5**
RPZ	**Rata Peaks**	**22.61**	**185**	LR			LR	05 11 33.1	
	comp=Z,4μm,21.6s,MS4.8,baz=357,slow=33								
RIV	**Riverview**	**23.69**	**233**	*e* P			**P**	**05 04 12.3**	**+3.9**
CNB	**Canberra Magne**	**25.68**	**231**	*e* P			**P**	**05 04 28.7**	**+1.2**
	comp=Z,61nm,1.4s,mb4.9								
CTA	**Charters Tower**	**25.84**	**267**	*e* P			**P**	**05 04 29.9**	**+0.8**
	comp=Z,12nm,1.0s,mb4.4								
CTA				*i* S			**S**	**05 09 01.4**	**+5.9**
CTA	**Charters Tower**	**25.84**	**267**	P			**P**	**05 04 29.6**	**+0.5**
	comp=Z,13nm,0.9s,mb4.5,baz=84,slow=14,SNR=5.8								
CTA				LR			LR	05 11 32.8	
	comp=Z,832nm,19.8s,MS4.3,baz=93,slow=29								
CTA	**Charters Tower**	**25.84**	**267**	*e* P			**P**	**05 04 29.9**	**+0.8**
CTA				*i* S			**S**	**05 09 01.4**	**+5.9**
CTA				pmax			pmax		
	comp=Z,12nm,1.0s								
CTAO	**Charters Tower**	**25.84**	**267**	PFAKE				05 04 40.0	+11
CTAO				LR			LR		
	comp=Z,4μm,19.0s,MS5.0								
PMG	**Port Moresby**	**28.22**	**290**	P			**P**	**05 04 50.1**	**-0.8**
	comp=Z,13nm,0.9s,mb4.6,baz=295,slow=5.0,SNR=3.6								
PMG				LR			LR	05 13 07.7	
	comp=Z,1μm,21.5s,MS4.4,baz=50,slow=30								
PMG	**Port Moresby**	**28.22**	**290**	*e* P			**P**	**05 04 50.5**	**-0.4**
PMG				LR			LR		
	comp=Z,1μm,20.0s,MS4.5								
TOO	**Toolangi**	**29.47**	**230**	*e* P			**P**	**05 05 01.7**	**-0.3**
	comp=Z,17nm,0.8s,mb4.8								
TOO	**Toolangi**	**29.47**	**230**	*e* P			**P**	**05 05 01.7**	**-0.3**
TOO				pmax			pmax		
	comp=Z,17nm,0.8s,mb4.8								
KWAJ	**Kwajalein Atol**	**30.40**	**348**	PFAKE				05 05 20.0	+10
KWAJ				LR			LR		
	comp=Z,626nm,20.0s,MS4.3								
STKA	**Stephens Creek**	**30.66**	**243**	*e* P			**P**	**05 05 13.8**	**+1.2**
	comp=Z,15nm,1.2s,mb4.7								
STKA				*e* S			**S**	**05 10 19.6**	**+6.5**
STKA	**Stephens Creek**	**30.66**	**243**	P			**P**	**05 05 12.8**	**+0.2**
	comp=Z,15nm,1.0s,mb4.8,baz=72,slow=7.8,SNR=7.4								
STKA				LR			LR	05 16 26.1	
	comp=Z,3μm,20.0s,MS4.9,baz=73,slow=34								
TBI	**Tubuai**	**33.97**	**101**	*e* LQ				05 12 51.4	
TBI	**Tubuai**	**33.97**	**101**	*e* P			**P**	**05 05 42.2**	**+0.6**
	comp=Z,28nm,0.9s,mb5.2								
TBI				*e* S			**S**	**05 11 06.0**	**+1.2**
TBI				*e* LR			LR	05 14 49.0	
	comp=Z,686nm,27.0s								
PAE	**Paea**	**34.62**	**91**	*e* P			**P**	**05 05 47.1**	**-0.1**
	comp=Z,91nm,1.4s,mb5.5								
PPT	**Papeete**	**34.65**	**91**	*e* P			**P**	**05 05 47.4**	**0.0**
	comp=Z,55nm,1.5s,mb5.3								
PPT	**Papeete**	**34.65**	**91**	*e* S			**S**	**05 11 05.6**	**-10**
PPT				*e* LQ				05 13 04.0	
PPT				*e* LR			LR	05 15 03.9	
	comp=Z,2μm,26.5s								
PPT	**Papeete**	**34.65**	**91**	LR			LR	05 16 20.2	
	comp=Z,637nm,18.5s,MS4.4,baz=258,slow=30								
TVO	**Taravao**	**34.91**	**91**	*e* P			**P**	**05 05 49.9**	**+0.3**
	comp=Z,114nm,1.7s,mb5.5								
PMOR	**Pomariorio Ree**	**36.82**	**87**	*e* P			**P**	**05 06 05.7**	**-0.1**
	comp=Z,82nm,1.3s,mb5.4								
WB2	**Warramunga Arr**	**36.94**	**265**	*e* P			**P**	**05 06 05.6**	**-1.2**
WRAB	**Tennant Creek**	**36.94**	**265**	*e* P			**P**	**05 06 05.5**	**-1.3**
	comp=Z,26nm,1.1s,mb5.0								
WRAB				LR			LR		
	comp=Z,2μm,20.0s,MS4.8								
WRAB	**Tennant Creek**	**36.94**	**265**	*e* P			**P**	**05 06 05.5**	**-1.3**
WRAB				pmax			pmax		
	comp=Z,26nm,1.1s,mb5.0								
WRAB				MLR			MLR		
	comp=Z,2μm,20.0s,MS4.8								
WRA	**Warramunga Arr**	**36.95**	**265**	P			**P**	**05 06 05.9**	**-1.0**
	comp=Z,8.8nm,0.9s,mb4.6,baz=103,slow=7.8,SNR=43								
WRA	**Warramunga Arr**	**36.95**	**265**	P			**P**	**05 06 05.9**	**-1.0**
WRA				pmax			pmax		
	comp=Z,9.0nm,0.9s								
VAH	**Vaihoa**	**37.01**	**87**	*e* P			**P**	**05 06 06.6**	**-0.8**
	comp=Z,88nm,1.3s,mb5.4								
WAKE	**Wake Island**	**40.81**	**350**	PFAKE				05 06 50.0	+11
WAKE				LR			LR		
	comp=Z,2μm,20.0s,MS4.9								
FORT	**Forrest**	**42.02**	**247**	*e* P			**P**	**05 06 49.8**	**+0.9**
	comp=Z,24nm,0.8s,mb4.9								
FITZ	**Fitzroy Crossi**	**45.37**	**265**	*e* P			**P**	**05 07 17.0**	**+0.8**
	comp=Z,48nm,1.1s,mb5.2								
FITZ	**Fitzroy Crossi**	**45.37**	**265**	LR			LR	05 26 10.2	
	comp=Z,3μm,20.0s,MS5.3,baz=96,slow=36								
RKT	**Rikitea**	**47.25**	**102**	*e* P			**P**	**05 07 31.9**	**+0.9**
	comp=Z,98nm,1.3s,mb5.6								
RKT	**Rikitea**	**47.25**	**102**	*e* S			**S**	**05 14 24.7**	**+2.2**
RKT				*e* LQ				05 18 20.8	
RKT				*e* LR			LR	05 21 00.9	
	comp=Z,592nm,30.1s								
MBWA	**Marble Bar**	**50.25**	**260**	PFAKE				05 08 10.0	+16
MBWA				LR			LR		
	comp=Z,3μm,19.0s,MS5.3								
KIP	**Kipapa**	**50.47**	**35**	PFAKE				05 08 10.0	+14
KIP				LR			LR		
	comp=Z,1μm,20.0s,MS4.9								
KLBR	**Kellerberrin**	**50.84**	**246**	‖ *i* P			**P**	**05 07 58.6**	**0.0**
	comp=Z,49nm,1.3s,mb5.3								
NWAO	**Narrogin (SRO)**	**51.23**	**244**	PFAKE				05 08 10.0	+8.4
NWAO				LR			LR		
	comp=Z,2μm,20.0s,MS5.1								
VNDA	**Vanda**	**56.71**	**183**	P			**P**	**05 08 40.3**	**-1.0**
	comp=Z,1.5nm,0.9s,mb4.0,baz=359,slow=6.4,SNR=4.5								
VNDA	**Vanda**	**56.71**	**183**	P			**P**	**05 08 40.3**	**-1.0**
VNDA				pmax			pmax		
	comp=Z,2.0nm,0.9s								
SBA	**Scott Base**	**56.84**	**182**	*e* P			**P**	**05 08 42.0**	**-0.3**
	comp=Z,39nm,1.3s,mb5.3								
SBA	**Scott Base**	**56.84**	**182**	*e* P			**P**	**05 08 42.0**	**-0.3**
SBA				pmax			pmax		
	comp=Z,39nm,1.3s,mb5.3								
CASY	**Casey**	**60.14**	**205**	*e* P			**P**	**05 09 03.3**	**-2.1**
	comp=Z,63nm,1.7s,mb5.4								
CASY				LR			LR		
	comp=Z,1μm,19.0s,MS5.0								
JHJ	**Hachijo jima 2**	**63.02**	**328**	LR			LR	05 32 22.1	
	comp=Z,391nm,20.6s,MS4.6,baz=129,slow=32								
KSM	**Kuching**	**66.01**	**282**	*e* P			**P**	**05 09 43.5**	**-1.5**
MJAR	**Matsushiro Arr**	**66.54**	**329**	P			**P**	**05 09 44.8**	**-3.2**
	comp=Z,4.1nm,0.8s,mb4.5,baz=160,slow=7.4,SNR=9.9								
MJAR	**Matsushiro Arr**	**66.54**	**329**	P			**P**	**05 09 44.8**	**-3.2**
MJAR				pmax			pmax		
	comp=Z,4.0nm,0.8s								
MAJO	**Matsushiro**	**66.54**	**329**	*e* P			**P**	**05 09 46.5**	**-1.5**
	comp=Z,7.1nm,0.8s,mb4.8								
MAJO	**Matsushiro**	**66.54**	**329**	*e* P			**P**	**05 09 46.5**	**-1.5**
MAJO				pmax			pmax		
	comp=Z,7.0nm,0.8s,mb4.7								
MAT	**Matsushiro**	**66.54**	**329**	P			**P**	**05 09 45.8**	**-2.2**
MAT				S			S	05 18 43.0	+6.4
MAT	**Matsushiro**	**66.54**	**329**	*e* P			**P**	**05 09 46.0**	**-2.0**
MAT				*e* S			S	05 18 44.0	+7.4
MIR	**Mirnyy**	**67.14**	**205**	*d i* P			**P**	**05 09 51.8**	**+0.5**
MIR				pmax			pmax		
	comp=Z,98nm,1.8s,mb5.5								
QSPA	**South Pole Qui**	**68.90**	**180**	*e* P			**P**	**05 10 01.0**	**-1.1**
	comp=Z,39nm,1.3s,mb5.2								
QSPA				LR			LR		
	comp=Z,2μm,19.0s,MS5.3								
SSE	**Sheshan**	**72.47**	**314**	P			**P**	**05 10 26.2**	**+1.7**
SSE				AP			pP	05 10 32.8	+3.3
SSE				XP			sP	05 10 35.4	+4.1
SSE				PP			PP	05 13 07.8	+0.2
SSE				AMB			AMB		
	comp=Z,19nm,0.8s,mb5.1								
SSE				LR			LR		
	comp=N,206nm,19.7s,MS4.5								
S

YBH	Yreka Blue Hor	85.74	42	P	P	05 11 35.4	-0.8
YBH				pmax	pmax		
comp=Z,4.0nm,1.1s							
PFO	Pinyon Flat Ob	85.84	52	PFAKE		05 11 50.0	+13
PFO				LR	LR		
comp=Z,287nm,20.0s,MS4.7							
OMM	Old Mammoth Mi	86.01	47	*e*P	P	05 11 37.3	-0.4
PBA	Port Blair	86.02	284	*i* x	x	05 10 29.6	
MTUM	Tungsten Hills	86.17	48	*e*P	P	05 11 36.9	-1.6
BEKR	Beckwourth	86.25	45	*e*P	P	05 11 38.8	0.0
comp=Z,16nm,1.6s,mb5.0							
SLKM	Skilak Lake	86.44	17	*e*P	P	05 11 37.5	-1.7
LZH	Lanzhou	87.24	310	*e*P	P	05 11 47.0	+3.3
LZH				AP	pP	05 11 52.5	+3.6
LZH				XP	sP	05 11 55.0	+4.5
LZH				AMB	AMB		
comp=Z,30nm,1.2s,mb5.4							
MOD	Modoc	87.35	43	*e*P	P	05 11 43.1	-1.0
comp=Z,9.4nm,0.3s,mb5.5							
MOD				LR	LR		
comp=Z,1μm,20.0s,MS5.4							
SNAA	Sanae	87.38	181	*e*P	P	05 11 42.1	-1.4
comp=Z,32nm,1.4s,mb5.4							
SNAA	Sanae	87.38	181	*e*P	P	05 11 42.1	-1.5
SNAA				pmax	pmax		
comp=Z,32nm,1.4s							
TPH	Tonopah	87.46	47	*e*P	P	05 11 44.7	0.0
TPH				LR	LR		
comp=Z,1μm,20.0s,MS5.4							
LDFC	Landfair	87.52	51	*e*P	P	05 11 45.3	+0.2
EYAK	Cordova Ski Ar	87.75	19	P	P	05 11 45.6	+0.1
NEN	Nelson	87.97	51	*e*P	P	05 11 47.5	+0.3
BMN	Battle Mountai	88.61	45	*e*P	P	05 11 50.6	+0.4
comp=Z,5.8nm,1.1s,mb4.8							
BMN				LR	LR		
comp=Z,2μm,19.0s,MS5.5							
BMN	Battle Mountai	88.61	45	*e*P	P	05 11 50.6	+0.4
BMN				pmax	pmax		
comp=Z,6.0nm,1.1s,mb4.8							
BMN				MLR	MLR		
comp=Z,2μm,19.0s,MS5.5							
WVOR	Wild Horse Val	88.69	43	*e*P	P	05 11 50.8	+0.4
comp=Z,47nm,1.8s,mb5.5							
WVOR				LR	LR		
comp=Z,3μm,20.0s,MS5.7							
WVOR	Wild Horse Val	88.69	43	*e*P	P	05 11 50.8	+0.3
WVOR				pmax	pmax		
comp=Z,47nm,1.8s,mb5.5							
WVOR				MLR	MLR		
comp=Z,3μm,20.0s,MS5.7							
BILL	Bilibino	89.11	357	*i* P	P	05 11 51.7	-0.2
BILL				pmax	pmax		
comp=Z,16nm,1.6s,mb5.1							
MCK	McKinley	89.47	16	P	P	05 11 53.0	-0.6
TUC	Tucson	89.50	55	*e*P	P	05 11 55.1	+0.5
comp=Z,16nm,1.6s,mb5.1							
TUC				LR	LR		
comp=Z,1μm,21.0s,MS5.3							
TUC	Tucson	89.50	55	*e*P	P	05 11 55.1	+0.5
TUC				pmax	pmax		
comp=Z,16nm,1.6s,mb5.1							
TUC				MLR	MLR		
comp=Z,1μm,21.0s,MS5.3							
YAK	Yakutsk	90.05	341	*i* P	P	05 11 56.5	+0.1
HAWA	Hanford	90.16	39	*e*P	P	05 11 57.2	-0.1
comp=Z,3.8nm,1.7s,mb4.5							
BMO	Blue Mountains	90.73	42	*e*P	P	05 12 00.5	+0.5
comp=Z,18nm,1.7s,mb5.1							
ILAR	Eielson Array	90.83	16	P	P	05 12 00.3	+0.3
comp=Z,1.2nm,0.8s,mb4.3,baz=233,slow=5.8,SNR=10							
ILAR	Eielson Array	90.83	16	P	P	05 12 00.3	+0.3
ILAR				pmax	pmax		
comp=Z,1.0nm,0.8s							
MSU	Marysvale	91.17	49	*e*P	P	05 12 02.6	+0.4
SONM	Songino Array	91.38	322	P	P	05 12 02.6	-0.3
comp=Z,0.3nm,0.4s,mb4.0,baz=191,slow=7.3,SNR=3.8							
DUG	Dugway	91.48	47	*e*P	P	05 12 04.3	+0.8
comp=Z,14nm,1.8s,mb5.0							
DUG	Dugway	91.48	47	*e*P	P	05 12 04.3	+0.8
DUG				pmax	pmax		
comp=Z,14nm,1.8s,mb5.0							
GTA	Gaotai	91.61	312	*e*P	P	05 12 05.7	+1.6
GTA				AP	pP	05 12 10.3	+1.0
GTA				PP	PP	05 15 44.1	-1.0
GTA				AMB	AMB		
comp=Z,4.0nm,1.0s,mb4.7							
GTA				AMB	AMB		
comp=Z,73nm,4.6s							
GTA				LR	LR		
comp=N,544nm,16.4s,MS5.3							
GTA				LR	LR		
comp=E,881nm,20.6s,MS5.3							
GTA				LR	LR		
comp=Z,734nm,18.3s,MS5.2							
DLBC	Dease Lake	91.81	26	*e*P	P	05 12 03.8	-0.8
HLID	Hailey	91.94	44	*e*P	P	05 12 05.2	-0.3
comp=Z,2.9nm,1.0s,mb4.6							
HLID				LR	LR		
comp=Z,2μm,20.0s,MS5.6							
SRU	San Rafael	92.59	49	P	P	05 12 08.7	0.0
PV10	Paradox Valley	93.34	50	*e*P	P	05 12 11.8	-0.3
BNM	Barren Site	93.43	55	P	P	05 12 14.3	+1.6
MNTX	Cornudas Mount	93.44	57	*e*P	P	05 12 13.3	+0.5
comp=Z,11nm,1.5s,mb5.1							
LPM	Los Pinos Moun	93.49	55	P	P	05 12 14.1	+1.1
PV01	Paradox Valley	93.58	51	*e*P	P	05 12 12.7	-0.6
RRI2	Red Ridge	93.86	45	*e*P	P	05 12 14.5	+0.1
comp=Z,6.3nm,1.1s,mb5.0							
TXAR	Lajitas Array	93.92	60	P	P	05 12 15.2	+0.1
comp=Z,1.5nm,0.9s,mb4.4,baz=214,slow=4.5,SNR=18							
TXAR	Lajitas Array	93.92	60	P	P	05 12 15.2	+0.2
TXAR				pmax	pmax		
comp=Z,2.0nm,0.9s							
ZAK	Zakamensk	94.41	323	*e*P	P	05 12 11.7	-5.0
ZAK				pmax	pmax		
comp=Z,1.0nm,1.7s							
GDL2	Guadalupe Moun	94.44	57	*e*P	P	05 12 17.5	+0.2
BW06	Boulder Array	94.79	46	*e*P	P	05 12 18.9	+0.2
TIXI	Tiksi	97.55	347	*i* P	P	05 12 30.7	+0.2
TIXI				pmax	pmax		
comp=Z,11nm,0.8s,mb5.4							
WMQ	Urumqi	101.67	312	*e*P	P	05 12 50.0	+0.1
OBN	Obninsk	133.45	328⇓	*e*PKIKP	PKPdf	05 18 09.8	-5.9
OBN				*e*		05 20 42.0	
OBN				pmax	pmax		
comp=Z,19nm,1.1s							
VOR	Voronezh	133.55	322	PKIKP	PKPdf	05 18 07.0	-9.0
VOR				pmax	pmax		
comp=N,500nm,1.7s							
VOR				pmax	pmax		
comp=Z,200nm,1.7s							
VOR				pmax	pmax		
comp=E,270nm,1.6s							
AKASG	Malin Array Be	139.55	325	PKP	PKPdf	05 18 24.7	-2.4
comp=E,0.7nm,0.4s,baz=86,slow=2.1,SNR=3.7							
AKASG	Malin Array Be	139.55	325	PKIKP	PKPdf	05 18 24.7	-2.4
AKASG				pmax	pmax		
comp=Z,1.0nm,0.4s							
KIS	Kishinev	141.74	321	*e*PKIKP	PKPdf	05 18 26.0	-5.1
KSP	Ksiaz	145.54	335	*e*PKP	PKPdf	05 18 37.1	-0.4
KSP				*ep*PKP		05 18 45.6	
CLL	Collm	146.39	338	*e**PPKP		05 18 46.0	
CLL	Collm	146.39	338	*e*PKP2	PKPab	05 18 43.0	+3.5
CLL				pmax	pmax		
comp=Z,9.0nm,1.0s							
GERES	GERESS Array B	148.15	335	PKPbc	PKPdf	05 18 44.5	+2.7
comp=Z,1.7nm,0.8s,baz=135,slow=1.4,SNR=2.8							
GERES	GERESS Array B	148.15	335	PKP2	PKPdf	05 18 44.5	+2.6
GERES				pmax	pmax		
comp=Z,2.0nm,0.8s							
GRF	Grafenberg Arr	148.37	338	*e*PKP2	PKPab	05 18 45.6	-1.7

BJI ***09*** *05:05:38.2, 12.95N×93.05E, h22km, mb4.2, Ms4.3, Msz4.0*
IDC ***09*** *05:05:41.1±1.8, 13.27N×92.37E, mb4.2/6, mb1 4.4/6, mb1mx4.1/19, mbtmp4.2/6, Error ellipse: s-maj=89.6km s-min=19.6km az=62.0*
NEIC ***09*** *05:05:44.8±1.5, 13.19N×92.18E, h30km, mb4.1/2, Error ellipse: s-maj=70.9km s-min=13.8km az=61.0*
ISC 09 05:05:42.0±0.8, 13.69N±0.09×92.98E±0.08, h10km, n25, σ0§83/26, mb4.1/10, 1C, Andaman Islands region

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

BDT	Bhumibol Dam	6.80	58	P	Pn	05 07 31.5	+7.2
44nm,0.6s							
NST	Nakhon Sawan	7.20	73	P	Pn	05 07 30.0	+0.1
55nm,0.6s							
PKT	Phuket	7.57	137	P	Pg	05 08 09.0	-4.1
CHG	Chiang Mai	7.66	48	PG	Pn	05 07 30.7	-5.8
CHG				SG		05 07 36.0	
NANT	Nan	8.99	55	P	P	05 07 54.0	-0.8
VIS	Vishakhapatnam	10.12	295	*i* x	P	05 08 12.2	+1.6
VIS				*i* x	S	05 09 57.1	-8.0
SHL	Shillong	11.86	355	*ex* x	x	05 09 01.6	
SHL				*i* x	S	05 10 37.0	-11
PKI	Pulchoki	15.51	334	*e*P	P	05 09 22.1	-0.5
15nm,0.5s							
PKI				*e*S	S	05 11 55.7	-19
DMN	Daman	15.68	333	*e*P	P	05 09 23.2	-1.5
15nm,0.6s							
KKN	Kakani	15.76	334	*e*P	P	05 09 24.8	-1.0
19nm,0.7s							
GKN	Gorkha	16.22	333	*e*P	P	05 09 31.6	-0.1
14nm,0.4s							
KOLN	Koldanda	16.51	329	*e*P	P	05 09 35.4	-0.1
20nm,0.6s							
GYA	Guiyang	18.05	43⇑	*i*P	P	05 09 56.4	+1.7
GYA				AP		05 10 01.8	
GYA				XP		05 10 03.6	
GYA				AMB	AMB		
comp=Z,20nm,0.6s							
GYA				AMB	AMB		
comp=Z,120nm,3.1s							
GYA				LR	LR		
comp=N,3μm,18.6s							
GYA				LR	LR		
comp=E,3μm,18.4s							
GYA				LR	LR		
comp=Z,3μm,18.9s							
LZH	Lanzhou	24.34	22	*e*P	P	05 11 02.0	+0.8
LZH				AP		05 11 07.5	
LZH				XP		05 11 11.5	
LZH				AMB	AMB		
comp=Z,15nm,1.4s,mb4.2							
XAN	Xi'an	24.89	33	P	P	05 11 11.5	+5.0
XAN				AMB	AMB		
comp=Z,4.0nm,0.9s,mb4.0							
MKAR	Makanchi Array	34.20	347	P	P	05 12 30.2	+0.5
comp=Z,1.8nm,0.8s,mb4.1,baz=161,slow=9.1,SNR=8.9							
SONM	Songino Array	35.83	15	P	P	05 12 48.5	+4.9
comp=Z,0.8nm,0.7s,mb3.8,baz=191,slow=7.3,SNR=3.8							
KURK	Kurchatov	38.73	345	*e*P	P	05 13 08.2	+0.2
comp=Z,3.5nm,1.1s,mb4.0							
ZAL	Zalesovo	40.66	353	P	P	05 13 23.9	0.0
comp=Z,1.8nm,0.3s,mb4.2,baz=4.2,slow=4.5,SNR=3.8							
FITZ	Fitzroy Crossi	45.12	134	P	P	05 14 00.5	-0.3
comp=Z,5.5nm,0.7s,mb4.5,baz=331,slow=7.0,SNR=7.6							
WRA	Warramunga Arr	52.66	129	P	P	05 14 58.3	-0.8
comp=Z,1.8nm,0.8s,mb4.0,baz=305,slow=9.4,SNR=9.6							
WRA				PcP	PcP	05 16 08.7	-0.3
comp=Z,0.3nm,0.4s,baz=320,slow=3.2,SNR=8.3							
WRAB	Tennant Creek	52.66	129	*e*P	P	05 14 59.3	+0.2
comp=Z,1.4nm,0.4s,mb4.2							
ARCES	ARCESS Array B	69.44	340	P	P	05 16 52.5	+0.4
comp=Z,3.7nm,1.1s,mb4.2,baz=100,slow=7.4,SNR=6.8							
ARCES	ARCESS Array B	69.44	340	P	P	05 16 52.5	+0.4
TXAR	Lajitas Array	134.31	20	PKP	PKPdf	05 25 04.8	+0.8
comp=Z,0.2nm,0.6s,baz=210,slow=1.0,SNR=3.5							

BJI ***09*** *05:09:12.4, 28.81N×51.71E, h21km, mB5.2, mb5.1, Ms5.1, Msz4.8*
DHMR ***09*** *05:09:16.7±2.6, 28.96N×52.65E, h7km±359km, mb5.2*
MOS ***09*** *05:09:18.0±1.1, 28.86N×52.85E, h10km, mb5.2/89, MS4.2/26, Error ellipse: s-maj=6.2km s-min=2.7km az=127.8*
IDC ***09*** *05:09:18.5±0.5, 28.96N×52.84E, mb4.8/22, mb1 4.9/25, mb1mx4.9/27, mbtmp4.8/25, ML4.4/3, MS4.5/12, Ms1 4.5/12, ms1mx4.4/23, Error ellipse: s-maj=13.5km s-min=13.2km az=62.0*
THR ***09*** *05:09:19.2±0.9, 28.86N×52.66E, h15km±13km, ML5.0*
TEH ***09*** *05:09:20.8, 28.85N×52.57E, h10km, Mn5.0*
HRVD ***09*** *05:09:20.8±0.5, 28.90N×52.52E, h16km±1km, MW5.1/40, Centroid moment Tensor Solution. LP body waves: s18,c29;Mantle waves: s40,c74; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.56±.29; Mθθ-3.43±.20; Mφφ0.87±.21; Mrθ2.15±.58; Mrφ1.36±.15; Mθr-3.79±.87; Best double couple: M0 5.503×10^16 NP1:φs257°, δ30°, λ31°. NP2:φs139°, δ75°, λ117°. Principal axes: T 5.68, Plg53°, Azm81°; N -.353, Plg26°, Azm312°; P -5.325, Plg25°, Azm209°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***09*** *05:09:20.8, 28.85N×52.56E, h10km, mb5.1/107, ML5.0(TEH), After TEH.*
NEIC Buildings damaged at Firuzabad. Felt in the Firuzabad area.
CSEM ***09*** *05:09:20.0±0.1, 28.98N×52.77E, h18km, mb5.1/82, Ms4.0, Mw5.1, Error ellipse: s-maj=2.3km s-min=2.1km az=35.0*
BGS ***09*** *05:09:20.3±2.6, 28.85N×52.56E, h10km, mb5.4*
ISC 09 05:09:18.2±0.6, 28.86N±0.02×52.80E±0.02, h9km±3km, h38km±4.0km; pP-P, n698, σ1§20/722, mb5.1/184, MS4.3/29, 39C-26D, Southern Iran

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

IMOK	Mook	0.20	337	Pg	Pg	05 09 22.0	-0.6
ISRV	Sarvestan	0.58	27	Pg	Pg	05 09 29.8	-0.2
SHI	Shiraz	0.82	342	Pg	Pg	05 09 33.4	-1.2
IMEH	Mehriz	2.97	31	Pn	Pn	05 10 09.5	+3.1
BNDS	Bandar-Abbas	3.31	115	*e*Pn	Pn	05 10 14.1	+2.8
BNDS				Sn	Sn	05 10 54.5	+3.3
BNDS				AML	AML	05 11 37.0	
comp=N,3μm,0.9s							
BNDS	Bandar-Abbas	3.31	115	*e*Pn	Pn	05 10 14.1	+2.8
SNR=52							
BNDS				Sn	Sn	05 10 54.5	+3.3
comp=N,3μm,0.9s,SNR=52							
IGAR	Garneh	3.41	351	Pn	Pn	05 10 15.7	+3.0
IBAF	Bafgh	3.62	41	Pn	Pn	05 10 18.2	+2.5
KRBR	Kerman	3.63	71	*e*Pn	Pn	05 10 19.1	+3.3
KRBR				AML	AML	05 11 32.6	
comp=N,3μm,0.6s							
ICHK	Chekchek	3.64	22	Pn	Pn	05 10 18.3	+2.3
NASN	Na'in	3.92	0	*e*Pn	Pn	05 10 20.9	+1.0
NASN				*e*Pg	Pg	05 10 30.1	-6.5
IZEF	Zefreh	4.04	354	Pn	Pn	05 10 21.9	+0.3
QRN	Al-Qurain	4.29	270	*e*P	Pn	05 10 27.4	+2.2
QRN				AML	AML	05 11 17.0	
comp=Z,315nm,0.3s							
KBD	Kabd	4.49	275	*e*P	Pn	05 10 29.8	+1.9
KBD				AML	AML	05 11 31.3	
comp=Z,1μm,0.4s							
UMR	Umm Al-Rimmam	4.50	280	*e*P	Pn	05 10 29.9	+1.7
UMR				AML	AML	05 11 21.4	
comp=Z,458nm,0.4s							
IKLH	Kalahroud	4.57	347	Pn	Pn	05 10 29.0	-0.1
HASS	Wahat al Ahsa'	4.59	218	P	Pn	05 10 32.5	+3.1
RDF	Al-Radifah	4.61	272	*e*P	Pn	05 10 30.8	+1.1
RDF				AML	AML	05 11 25.6	
comp=Z,330nm,0.5s							
SHGR	Shooshtar-Gavs	4.73	314	*e*Pn	Pn	05 10 31.5	0.0
MIB	Mutribah	4.86	282	*e*P	Pn	05 10 34.9	+1.6
QAM	Qamsar	5.09	351	Pn	Pn	05 10 37.0	+0.4
ASAO	Ashtian	6.14	338	*e*Pn	Pn	05 10 50.9	-0.4
IVRN	Varamin	6.18	352	Pn	Pn	05 10 50.7	-1.3
IDMV	Damavand	6.73	355	Pn	Pn	05 10 58.5	-1.1
IFIR	Firoozkooh	6.76	360	Pn	Pn	05 10 59.1	-1.0
IKOM	Komasi	6.96	321	Pn	Pn	05 11 01.2	-1.7
IRAZ	Razeghan	6.96	340	Pn	Pn	05 11 01.7	-1.2
ZHSF	Zahedan	7.00	82	*e*Pn	Pn	05 11 05.1	+1.6
IAFJ	Afjeh	7.04	353	Pn	Pn	05 11 02.6	-1.3
IMHD	Mahdasht	7.04	346	Pn	Pn	05 11 03.0	-1.0
IMHD				Lg		05 12 59.3	
IVIS	Veys	7.59	320	Pn	Pg	05 11 42.9	-6.8
SNGE	Sanandaj	7.75	325	*e*Pn	Pn	05 11 12.1	-1.8
SNGE	Sanandaj	7.75	325	*e*Pn	Pn	05 11 12.7	-1.2
SNR=52							
IDHR	Dehrash	7.98	318	Pn	Pn	05 11 15.9	-1.3
BHD	Baghdad	8.46	303	*e*Pn	x	05 11 14.0	
BHD				*e*Sn	x	05 12 11.0	
IMOG	Moghan	9.09	36	Pn	P	05 11 34.8	+2.2
IPAY	Payeh	9.19	33	Pn	P	05 11 34.7	+0.8
IKRD	Kardeh	9.23	30	Pn	P	05 11 43.5	+8.9

IMYA	Miamay	9.67	38	Pn	P	05 11 42.9	+2.4
MSL	Mosul	11.04	315	*e*P	x	05 12 07.0	
MSL				*e*S	x	05 14 04.0	
HAKT	HAKKARI	11.54	321	*i* P	P	05 12 02.8	-3.3
KBRS	Khaybar	12.42	259	P	P	05 12 20.4	+2.3
CLDR	Caldiran	12.62	327	P	P	05 12 20.5	-0.2
GNI	Garni	13.07	332	Pn	P	05 12 31.9	+5.3
comp=Z,1.0nm,0.3s,baz=5.4,slow=19,SNR=5.6							
GNI				LR	LR	05 17 48.5	
comp=Z,1μm,21.7s,baz=144,slow=39							
GNI	Garni	13.07	332	P	P	05 12 27.4	+0.7
comp=Z,15nm,0.8s							
GNI	Garni	13.07	332	P	P	05 12 27.4	+0.7
comp=Z,15nm,0.8s							
GNI	Garni	13.07	332	P	P	05 12 27.4	+0.7
GNI				pmax	pmax		
comp=Z,15nm,0.8s							
MARD	Mardin	13.13	313	*i* P	P	05 12 20.8	-6.7
BEST	Besiri	13.18	316	*i* P	P	05 12 24.8	-3.4
DIGO	Kars	13.88	329	*i* P	P	05 12 40.4	+2.9
ASF	Jabal al Asfar	14.10	287	Pn	P	05 12 39.6	-0.8
comp=Z,7.5nm,0.3s,baz=335,slow=6.0,SNR=19							
ASF				Sn	S	05 15 09.1	-8.9
comp=Z,1.2nm,0.3s,baz=332,slow=23,SNR=3.3							
ASF				LR	LR	05 19 25.8	
comp=Z,2μm,18.7s,baz=144,slow=43							
ASF	Jabal al Asfar	14.10	287	P	P	05 12 39.6	-0.8
ASF						05 15 09.1	
ASF				pmax	pmax		
comp=Z,8.0nm,0.3s							
ASF				smax			
comp=E,1.0nm,0.3s							
ASF				MLR	MLR		
comp=Z,2μm,18.7s							
TI2	Plekhanov	14.42	335	*i* P	P	05 12 35.2	-9.2
TI2				*i* S	S	05 15 19.6	-5.8
TI2				MLR	MLR		
comp=N,2μm,10.0s							
TI2				MLR	MLR		
comp=E,2μm,10.0s							
TI2				MLR	MLR		
comp=Z,2μm,10.0s							
URFA	Urfa	14.49	310	*e*P	P	05 12 49.6	+4.1
ERZM	Erzurum	14.49	322	*i* P	P	05 12 44.5	-0.9
EZM	Erzurum	14.50	322	*e*P	P	05 12 47.0	+1.5
EZM	Erzurum	14.50	322	P	P	05 12 47.1	+1.6
MUKL	Al Mukalla	14.74	194⇓	*e*P	P	05 12 46.3	-2.5
PTK	Pertek	14.96	315	*e*P	P	05 12 46.3	-5.2
ELZG	Elazig	14.97	313	*i* P	P	05 12 47.7	-4.0
MKRJ	Makawir	15.08	284	P	P	05 12 50.6	-2.6
ARTV	Artvin	15.17	327	*i* P	P	05 12 53.7	-0.5
MYA	Malataya	15.24	312	*e*P	P	05 12 53.0	-2.1
MZDA	Masada	15.30	283	P	P	05 12 53.7	-2.3
GZT	Gaziantep	15.31	308	*i* P	P	05 12 52.5	-3.7
MMLI	Mount Malkishu	15.38	288	P	P	05 12 54.3	-2.8
ZFRI	Zfri	15.41	281	P	P	05 12 55.9	-1.6
GAZ	Gaziantep	15.47	306	*e*P	P	05 12 57.5	-0.7
GAZ	Gaziantep	15.47	306	P	P	05 12 57.3	-0.9
PRNI	Paran	15.56	280	P	P	05 12 59.9	+0.5
EIL	Elat	15.61	277	LR	LR	05 19 40.8	
comp=Z,15μm,19.1s,baz=96,slow=40							
EIL	Elat	15.61	277	P	P	05 13 01.0	+1.0
HAJJ	Hajjah	15.62	215⇑	*e*P	P	05 12 57.4	-2.8
HAJJ				AMb	AMB	05 12 58.8	
comp=Z,517nm,2.7s							
HAJJ				⇓*i* S	S	05 15 51.9	-1.8
ZEI	Tsey	15.63	335	*e*P	P	05 13 02.8	+2.5
ONI	Oni	15.64	334	P	P	05 13 03.6	+3.3
ONI				S	S	05 16 00.2	+6.0
HTY	Hatay	15.80	302	*e*P	P	05 13 06.3	+3.7
COBT	Iskenderun	15.88	303	*i* P	P	05 13 00.4	-3.1
JASL	Jaisalmer	16.12	93	*ex* x	x	05 13 12.2	
BHJ	Bhuj	16.13	106	*ex* x	x	05 17 29.3	
DHBB	Dhamar BB	16.22	210	*e*P	P	05 13 05.6	-2.3
DHBB				AMb	AMB	05 13 06.4	
comp=Z,284nm,1.9s							
DHBB				*i* S	S	05 16 07.1	-0.7
BDHA	Al Bayda'	16.27	206⇑	*e*P	P	05 13 06.1	-2.5
BDHA				AMb	AMB	05 13 06.5	
comp=Z,8.8nm,1.2s							
LBOS		16.48	207	*e*P	P	05 13 09.0	-2.3
LBOS				*i* S	S	05 16 13.8	-0.2
THW	Thamme Wali	16.73	72	⇑P	P	05 13 13.1	-1.3
CEP	Cherat	17.05	68	P	P	05 13 17.8	-0.6
KIV	Kislovodsk	17.10	334	*e*P	P	05 13 18.4	-0.6
comp=Z,128nm,1.2s							
KIV	Kislovodsk	17.10	334	*e*P	P	05 13 18.4	-0.5
comp=Z,128nm,1.2s							
KIV	Kislovodsk	17.10	334	*i* P	P	05 13 20.3	+1.3
KIV				*i* S	S	05 16 32.0	+4.0
KIV				pmax	pmax		
comp=Z,97nm,1.7s							
BNN	Bunyan	17.23	310	*e*P	P	05 13 17.2	-3.4
BNN	Bunyan	17.23	310	P	P	05 13 21.4	+0.8
TOKT	Tokat	17.57	315	*e*P	P	05 13 26.1	+1.2
TOKT	Tokat	17.57	315	P	P	05 13 26.0	+1.1
GOF	Gofitskoye	17.93	337	*i* P	P	05 13 31.3	+2.0
comp=Z,130nm,1.7s							
GOF	Gofitskoye	17.93	337⇑	*i*P	P	05 13 31.3	+2.0
GOF				pmax	pmax		
comp=Z,130nm,1.7s							
YOZ	Yozgat	17.98	311	*e*P	P	05 13 25.7	-4.3
YOZ	Yozgat	17.98	311	P	P	05 13 33.2	+3.2
SOC	Sochi	18.06	328	*e*P	P	05 13 31.9	+1.0
SOC				*e*		05 16 52.8	
SOC				pmax	pmax		
comp=Z,31nm,0.7s							
SOC				pmax	pmax		
comp=N,23nm,0.8s							
SOC				pmax	pmax		
comp=E,16nm,0.8s							
SOC				MLR	MLR		
comp=N,1μm,15.0s							
SOC				MLR	MLR		
comp=E,2μm,15.0s							
SOC				MLR	MLR		
comp=Z,1μm,15.0s							
CHCP	Chirah Chowk	18.13	70	P	P	05 13 31.7	-0.2
ERMK	Ermenek	18.42	300	*i* P	P	05 13 33.0	-2.6
CDAG	Cicekdag	18.61	310	*i* P	P	05 13 34.8	-3.0
HDMB	Hadim	18.85	301	*e*P	P	05 13 39.6	-1.1
KAMT	Kaman	18.93	309	*e*P	P	05 13 41.1	-0.6
KAMT	Kaman	18.93	309	P	P	05 13 41.4	-0.2
BR131	Keskin Array S	19.15	309	*e*P	P	05 13 44.0	-0.3
comp=Z,38n

SAFT	**Safranbolu**	**20.53 312**	P	**P**	**05 14 00.4 +1.0**
SGKT	**Sivrigoynuk**	**20.62 310**	*i* P	**P**	**05 13 58.2 -2.1**
ISP	**Isparta**	**20.63 302**	*e*P	**P**	**05 14 01.1 +0.7**
ISP	**Isparta**	**20.63 302**	*e*P	**P**	**05 14 01.0 +0.5**
	comp=Z,74nm,1.1s				
ISP	**Isparta**	**20.63 302**	*i* P	**P**	**05 14 00.8 +0.3**
ELL	**Elmali**	**20.76 298**	*e*P	**P**	**05 14 01.8 0.0**
ELL	**Elmali**	**20.76 298**	P	**P**	**05 14 02.2 +0.4**
BOM	**Bombay**	**20.78 114**	*e*P	**P**	**05 14 03.2 +1.0**
KUDL	**Kundal**	**20.82 86**	*e*P	**P**	**05 14 02.9 +0.3**
TKTP	**Tekketepe**	**20.83 302**	*i* P	**P**	**05 14 00.2 -2.4**
KKR	**Kurukshetra**	**20.95 81**	*e*P	**P**	**05 14 02.1 -1.7**
ESKT	**Eskisehir**	**20.99 306**	*e*P	**P**	**05 14 04.0 -0.2**
ESKT	**Eskisehir**	**20.99 306**	*i* P	**P**	**05 14 02.8 -1.4**
ESKT	**Eskisehir**	**20.99 306**	P	**P**	**05 14 03.9 -0.3**
AB31	**Akbulak array**	**21.09 13**	P	**P**	**05 14 04.0 -1.1**
	comp=Z,6.0nm,0.4s,mb4.3				
AB31	**Akbulak array**	**21.09 13**	P	**P**	**05 14 04.0 -1.1**
AB31			pmax	pmax	
	comp=Z,6.0nm,0.4s,mb4.3				
MDU	**Mudurnu**	**21.14 309**	*e*P	**P**	**05 14 05.1 -0.6**
BHGR	**Bahadurgarh**	**21.15 85**	*e*P	**P**	**05 14 05.7 -0.2**
GOLH	**Golhisar**	**21.16 299**	*i* P	**P**	**05 14 06.3 +0.4**
SONA	**Sohna**	**21.33 86**	*e*P	**P**	**05 14 08.4 +0.7**
SONA			AMb	AMB	05 14 16.8
	comp=Z,140nm,1.1s,mb5.2				
ALT	**Altintas**	**21.34 304**	*e*P	**P**	**05 14 07.5 -0.3**
BORA	**Eskisehir**	**21.42 307**	*i* P	**P**	**05 14 09.0 +0.5**
HENT	**Hendek**	**21.51 309**	*i* P	**P**	**05 14 07.8 -1.6**
KHL	**Karahalli**	**21.52 302**	*e*P	**P**	**05 14 08.4 -1.1**
KHL	**Karahalli**	**21.52 302**	P	**P**	**05 14 10.1 +0.5**
DALT	**Dalyan (Mudla)**	**21.75 297**	*e*P	**P**	**05 14 11.1 -0.8**
DALT	**Dalyan (Mudla)**	**21.75 297**	P	**P**	**05 14 12.6 +0.7**
POO	**Poona**	**21.81 114**	⇓*i*P	**P**	**05 14 14.0 +1.4**
GDZ	**Gediz**	**21.81 304**	*i* P	**P**	**05 14 12.3 -0.2**
SIM	**Simferopol'**	**21.85 322**	*e*P	**P**	**05 14 15.1 +2.2**
	comp=Z,46nm,0.8s,mb5.0				
SIM	**Simferopol'**	**21.85 322**	*e*P	**P**	**05 14 15.1 +2.2**
SIM			*e*S	**S**	**05 18 11.5 +2.2**
SIM			pmax	pmax	
	comp=Z,46nm,0.8s,mb5.0				
SIM			MLR	MLR	
	comp=Z,750nm,20.2s,MS4.1				
KSH	**Kashi**	**21.86 55**	*i* PR	**P**	**05 14 14.0 +1.1**
KSH			*e*AP		05 14 24.5
KSH			*e*XP		05 14 30.1
KSH			PP	PP	05 14 39.3 +1.1
KSH			S	**S**	**05 18 06.2 -3.2**
KSH			XS		05 18 25.2
KSH			*e*SCP		05 21 45.1
KSH			*e*PCS		05 21 49.1
KSH			AMB	AMB	
	comp=Z,320nm,1.7s,mb5.5				
KSH			LR	LR	
	comp=N,2μm,7.4s				
KSH			LR	LR	
	comp=E,3μm,10.0s				
ASOR	**Ausora**	**21.87 84**	*e*P	**P**	**05 14 13.5 +0.4**
ARG	**Arkhangelos**	**22.02 296**	*e*P	**P**	**05 14 16.5 +1.9**
AGRA	**Agra**	**22.24 88**	*e*P	**P**	**05 14 17.9 +1.1**
AGRA			AMb	AMB	05 14 23.0
	comp=Z,130nm,1.3s,mb5.2				
AAK	**Ala-Archa**	**22.25 46**	*e*P	**P**	**05 14 17.7 +0.9**
	comp=Z,178nm,1.5s,mb5.3				
AAK	**Ala-Archa**	**22.25 46**	*e*P	**P**	**05 14 17.7 +0.9**
	comp=Z,178nm,1.5s,mb5.3				
AAK	**Ala-Archa**	**22.25 46**	*d i*P	**P**	**05 14 18.2 +1.4**
AAK			pmax	pmax	
	comp=Z,76nm,2.5s,mb4.7				
HRT	**Hereke**	**22.35 308**	*e*P	**P**	**05 14 14.3 -3.6**
FRU	**Bishkek**	**22.43 46**	*e*P	**P**	**05 14 22.5 +3.9**
FRU			*e*		05 14 45.0
FRU			pmax	pmax	
	comp=Z,210nm,1.8s,mb5.3				
FRU			pmax	pmax	
	comp=N,4μm,18.0s				
ULDT	**Uludag**	**22.45 306**	*i* P	**P**	**05 14 18.9 +0.1**
YLV	**Yalova**	**22.45 308**	*e*P	**P**	**05 14 14.5 -4.3**
KARP	**Karpathos**	**22.66 294**	*e*P	**P**	**05 14 23.5 +2.5**
KAD	**Karad**	**22.74 116**	*i* P	**P**	**05 14 24.3 +2.4**
KAD			AMb	AMB	05 14 47.5
	comp=Z,94nm,1.3s,mb5.1				
BHPL	**Bhopal**	**22.80 99**	*e*P	**P**	**05 14 25.1 +2.7**
BHPL			AMb	AMB	05 14 28.1
	comp=Z,116nm,1.2s,mb5.2				
BODT	**Bodrum**	**22.85 298**	*e*P	**P**	**05 14 21.2 -1.6**
KDAG	**Bornova**	**23.23 301**	*i* P	**P**	**05 14 27.3 +0.8**
IZM	**Izmir**	**23.23 301**	*e*P	**P**	**05 14 27.5 +1.0**
IZM	**Izmir**	**23.23 301**	P	**P**	**05 14 28.6 +2.1**
SMG	**Samos**	**23.37 299**	*e*P	**P**	**05 14 30.0 +2.1**
URLA	**Izmir**	**23.73 300**	*i* P	**P**	**05 14 31.8 +0.4**
VRHR	**Novokhopersk**	**23.75 342**	*d i*P	**P**	**05 14 32.9 +1.5**
VRHR			*e*S	**S**	**05 18 44.1 +0.9**
VRHR			pmax	pmax	
	comp=Z,120nm,0.6s,mb5.5				
VRHR			pmax	pmax	
	comp=N,160nm,1.4s				
VRHR			pmax	pmax	
	comp=E,90nm,1.4s				
VRHR			smax		
	comp=N,280nm,1.6s				
VRHR			smax		
	comp=Z,100nm,3.4s				
VRHR			smax		
	comp=E,180nm,1.1s				
XRY	**Khrisi**	**23.75 292**	*e*P	**P**	**05 14 34.0 +2.4**
AAA	**Alma-Ata**	**24.13 47**	*i* P	Px	05 14 20.7
AAA			*i* S	**S**	**05 18 52.4 +2.5**
AAA			pmax	pmax	
	comp=Z,700nm,5.2s				
SANT	**Santorini**	**24.17 295**	*e*P	**P**	**05 14 38.0 +2.4**
	comp=Z,53nm,0.8s,mb5.0				
SANT	**Santorini**	**24.17 295**	*e*P	**P**	**05 14 38.0 +2.3**
	comp=Z,53nm,0.8s,mb5.0				
APE	**Apeiranthos**	**24.24 297**	*e*P	**P**	**05 14 39.5 +3.1**
APE	**Apeiranthos**	**24.24 297**	*i* P	**P**	**05 14 37.9 +1.5**
IDI	**Anoyia**	**24.46 292**	P	**P**	**05 14 41.0 +2.5**
	comp=Z,34nm,0.7s,mb4.9,baz=102,slow=6.6,SNR=24				
VRSR	**Storozhevoye**	**24.56 339**	*i* P	**P**	**05 14 38.5 -0.8**
	comp=Z,210nm,1.1s,mb5.6				
VRSR	**Storozhevoye**	**24.56 339**	*c i*P	**P**	**05 14 38.5 -0.8**
VRSR			*e*S	**S**	**05 18 56.5 -0.6**
VRSR			pmax	pmax	
	comp=Z,140nm,1.4s,mb5.3				
VRSR			pmax	pmax	
	comp=N,210nm,1.1s				
VRSR			pmax	pmax	
	comp=E,80nm,1.0s				
VRSR			pmax	pmax	
	comp=Z,140nm,1.4s,mb5.3				
VRSR			pmax	pmax	
	comp=N,210nm,1.1s				
VRSR			pmax	pmax	
	comp=E,80nm,1.0s				
VRSR			smax		
	comp=N,160nm,1.2s				
VRSR			smax		
	comp=Z,50nm,1.4s				
VRSR			smax		
	comp=Z,160nm,1.2s				
VRSR			smax		
	comp=Z,50nm,1.4s				
VRSR			MLR	MLR	
	comp=Z,540nm,18.0s,MS4.1				
VRSR			MLR	MLR	
	comp=N,190nm,17.0s,MS3.8				
VRSR			MLR	MLR	
	comp=E,200nm,16.0s,MS3.8				
VRSR			MLR	MLR	
	comp=Z,540nm,18.0s				
VRSR			MLR	MLR	
	comp=N,190nm,17.0s				
VRSR			MLR	MLR	
	comp=E,200nm,16.0s				
EDRB	**Edirne**	**24.78 308**	*e*P	**P**	**05 14 43.5 +1.9**
EDRB	**Edirne**	**24.78 308**	P	**P**	**05 14 41.1 -0.4**
TIRR	**Tirgusor**	**24.87 315**	⇓P	**P**	**05 14 42.7 +0.3**
TIRR	**Tirgusor**	**24.87 315**	⇓P	**P**	**05 14 42.7 +0.4**
NGP	**Nagpur**	**24.96 102**	*e*P	**P**	**05 14 45.5 +2.1**
VOR	**Voronezh**	**25.01 340**	P	**P**	**05 14 44.0 +0.4**
	comp=E,300nm,1.0s,mb5.8				
VOR	**Voronezh**	**25.01 340**	P	**P**	**05 14 44.0 +0.4**
VOR			pmax	pmax	
	comp=Z,300nm,1.0s,mb5.8				
VOR			pmax	pmax	
	comp=N,330nm,1.1s				
VOR			pmax	pmax	
	comp=E,200nm,1.1s				
VAM	**Vamos**	**25.03 292**	*e*P	**P**	**05 14 45.0 +1.0**
JMB	**Yambol**	**25.14 310**	*e*P	**P**	**05 14 49.0 +4.1**
RDO	**Rodhopi**	**25.36 306**	*e*P	**P**	**05 14 48.0 +0.9**
RDO	**Rodhopi**	**25.36 306**	P	**P**	**05 14 49.0 +1.9**
CFR	**Carcaliu**	**25.41 317**	⇓P	**P**	**05 14 46.4 -1.1**
CFR	**Carcaliu**	**25.41 317**	⇓P	**P**	**05 14 46.4 -1.0**
DIM	**Dimitrovgrad**	**25.69 308**	*e*P	**P**	**05 14 51.0 +0.8**
MPAR	**Parnis Oros**	**25.86 299**	*e*P	**P**	**05 14 55.0 +3.2**
SZH	**Strazhica**	**25.91 311**	*e*P	**P**	**05 14 53.0 +0.9**
KIS	**Kishinev**	**26.02 321**	*e*P	**P**	**05 14 57.0 +3.9**
KIS			*e*		05 15 28.0
KIS			*e*S	**S**	**05 19 25.0 +3.3**
KIS			*i*		05 20 49.0
KYTH	**Kithira**	**26.08 294**	*e*P	**P**	**05 14 56.5 +2.6**
RZN	**Rozhen**	**26.13 307**	*e*P	**P**	**05 14 56.0 +1.8**
HYB	**Hyderabad**	**26.21 110**	*i* P	**P**	**05 14 56.0 +0.8**
HYB	**Hyderabad**	**26.21 110**	*e*P	**P**	**05 14 56.0 +0.8**
VLI	**Veliai**	**26.23 295**	*e*P	**P**	**05 14 53.5 -1.7**
VRI	**Vrincioaia**	**26.61 317**	⇑P	**P**	**05 15 01.0 +2.4**
PLG	**Polygyros**	**26.63 303**	*e*P	**P**	**05 15 00.0 +1.2**
MMB	**Musomiste**	**26.80 306**	*e*P	**P**	**05 15 01.0 +0.7**
MLR	**Muntele Rosu**	**26.90 315**	P	**P**	**05 15 02.2 +0.9**
	comp=E,29nm,0.8s,mb4.9,baz=61,slow=7.8,SNR=19				
MLR			LR	LR	05 28 00.0
	comp=E,1μm,19.3s,MS4.4,baz=240,slow=42				
MLR	**Muntele Rosu**	**26.90 315**	⇑P	**P**	**05 15 06.2 +4.9**
MLR	**Muntele Rosu**	**26.90 315**	P	**P**	**05 15 02.2 +0.9**
MLR			pmax	pmax	
	comp=Z,29nm,0.8s				
MLR			MLR	MLR	
	comp=Z,1μm,19.3s				
ITM	**Ithomi**	**27.10 296**	*e*P	**P**	**05 15 04.5 +1.4**
KOLN	**Koldanda**	**27.10 85**	*e*P	**P**	**05 15 03.9 +0.6**
	comp=Z,318nm,1.5s,mb5.6				
KKB	**Krupnik**	**27.34 306**	*e*P	**P**	**05 15 06.0 +0.7**
VOSK	**Vostochnaya**	**27.37 24**	P	**P**	**05 15 04.9 -0.5**
	comp=Z,34nm,1.2s,mb4.8				
VOSK	**Vostochnaya**	**27.37 24**	P	**P**	**05 15 04.9 -0.5**
VOSK			pmax	pmax	
	comp=Z,34nm,1.2s,mb4.8				
BRVK	**Borovoye**	**27.39 23**	*e*P	**P**	**05 15 05.3 -0.4**
	comp=Z,13nm,1.0s,mb4.4				
BRVK	**Borovoye**	**27.39 23**	*e*P	**P**	**05 15 05.3 -0.3**
	comp=Z,13nm,1.0s,mb4.4				
BRVK	**Borovoye**	**27.39 23**	*e*P	**P**	**05 15 05.3 -0.4**
BRVK			pmax	pmax	
	comp=Z,13nm,1.0s,mb4.4				
BVA0	**Borovoye Array**	**27.40 23**	P	**P**	**05 15 05.7 -0.1**
	comp=Z,7.0nm,1.2s,mb4.1				
BVA0	**Borovoye Array**	**27.40 23**	P	**P**	**05 15 05.7 -0.1**
BVA0			pmax	pmax	
	comp=Z,7.0nm,1.2s,mb4.1				
BVAR	**Borovoye Array**	**27.40 23**	P	**P**	**05 15 05.8 0.0**
	comp=Z,8.9nm,0.8s,mb4.4,baz=211,slow=8.6,SNR=32				
BVAR			PcP	PcP	05 18 23.2 -1.8
	comp=Z,2.0nm,0.7s,baz=178,slow=4.3,SNR=4.8				
BVAR			ScP		05 22 02.8
	comp=Z,3.0nm,0.9s,baz=214,slow=5.3,SNR=7.0				
BVAR	**Borovoye Array**	**27.40 23**	P	**P**	**05 15 05.8 0.0**
BVAR					05 18 23.2
BVAR			pmax	pmax	
	comp=Z,9.0nm,0.8s				
BVAR			pmax	pmax	
	comp=Z,2.0nm,0.7s				
BVAR			pmax	pmax	
	comp=E,3.0nm,0.9s				
VTS	**Vitosha**	**27.50 308**	*e*P	**P**	**05 15 09.0 +2.3**
VTS	**Vitosha**	**27.50 308**	P	**P**	**05 15 07.1 +0.4**
EVR	**Evrytania**	**27.50 300**	*e*P	**P**	**05 15 06.5 -0.3**
ARU	**Arti**	**27.86 7**	*i* P	**P**	**05 15 10.6 +0.8**
	comp=E,19nm,1.3s,mb4.6				
ARU	**Arti**	**27.86 7**	*e*P	**P**	**05 15 07.8 -2.0**
	comp=E,17nm,0.8s,mb4.7				
ARU	**Arti**	**27.86 7**	⇓*i*P	**P**	**05 15 10.6 +0.8**
ARU			*e*		05 16 00.9
ARU			*e*PPP	PPP	05 16 12.1 +1.1
ARU			*e*		05 18 22.2
ARU			*e*S	**S**	**05 19 47.8 -3.7**
ARU			*e*SS	SS	05 21 09.6 -2.3
ARU			*e*		05 25 49.5
ARU			pmax	pmax	
	comp=Z,19nm,1.3s,mb4.6				
GKN	**Gorkha**	**27.96 84**	*e*P	**P**	**05 15 11.1 0.0**
	comp=Z,164nm,1.0s,mb5.6				
AKASG	**Malin Array Be**	**28.14 327**	P	**P**	**05 15 10.8 -1.6**
	comp=Z,1.8nm,0.3s,mb4.1,baz=134,slow=8.3,SNR=34				
AKASG	**Malin Array Be**	**28.14 327**	P	**P**	**05 15 10.8 -1.6**
AKASG			pmax	pmax	
	comp=Z,2.0nm,0.3s				
VLS	**Valsamata**	**28.30 298**	*e*P	**P**	**05 15 13.4 -0.7**
DMN	**Daman**	**28.44 85**	*e*P	**P**	**05 15 15.8 +0.4**
	comp=Z,160nm,0.9s,mb5.6				
SVE	**Sverdlovsk**	**28.50 9**	*e*	**P**	**05 15 14.6 -1.0**
SVE			*e*		05 16 27.0
SVE			*e*		05 20 00.0
SKO	**Skopje**	**28.54 306**	*i* P	**P**	**05 15 16.7 +0.5**
KKN	**Kakani**	**28.56 84**	*e*P	**P**	**05 15 16.8 +0.3**
	comp=Z,226nm,1.0s,mb5.8				
PKI	**Pulchoki**	**28.71 85**	*e*P	**P**	**05 15 18.2 +0.3**
	comp=Z,203nm,1.1s,mb5.8				
OBN	**Obninsk**	**28.73 340**	P	**P**	**05 15 15.6 -2.2**
	comp=Z,40nm,0.6s,mb5.3				
OBN	**Obninsk**	**28.73 340**	⇑*e*P	**P**	**05 15 18.0 +0.3**
OBN			*e*		05 15 25.1
OBN					05 16 21.0
OBN			*e*S	**S**	**05 20 10.6 +5.0**
OBN			*e*		05 21 55.9
OBN			pmax	pmax	
	comp=Z,99nm,1.2s,mb5.4				
OBN			MLR	MLR	
	comp=Z,500nm,21.0s,MS4.1				
MOS	**Moscow**	**28.98 342**	*e*P	**P**	**05 15 19.3 -0.6**
MOS			pmax	pmax	
	comp=Z,111nm,1.4s,mb5.4				
MKAR	**Makanchi Array**	**29.13 44**	P	**P**	**05 15 21.5 +0.1**
	comp=Z,17nm,1.0s,mb4.7,baz=229,slow=8.2,SNR=20				
MKAR			LR	LR	05 28 10.3
	comp=Z,827nm,21.9s,MS4.3,baz=106,slow=39				
MKAR	**Makanchi Array**	**29.13 44**	P	**P**	**05 15 21.5 +0.1**
MKAR			LR	LR	05 28 10.3
MKAR	**Makanchi Array**	**29.13 44**	P	**P**	**05 15 21.5 +0.1**
MKAR			pmax	pmax	
	comp=Z,17nm,1.0s				
MKAR			MLR	MLR	
	comp=Z,827nm,21.9s				
KURK	**Kurchatov**	**29.23 35**	*e*P	**P**	**05 15 20.6 -1.7**
	comp=Z,16nm,0.9s,mb4.7				
KURK	**Kurchatov**	**29.23 35**	P	**P**	**05 15 22.0 -0.3**
KURK			pmax	pmax	
	comp=Z,24nm,1.4s,mb4.7				
QSH	**Qafa e Shtames**	**29.52 304**	*i* p	**P**	**05 15 23.0 -2.0**
QSH	**Qafa e Shtames**	**29.52 304**	*e*P	**P**	**05 15 23.0 -2.0**
LVV	**L'vov**	**30.25 322**	*e*P	**P**	**05 15 38.0 +6.6**
LVV			*e*		05 16 38.8
LVV			*i* S	**S**	**05 20 33.0 +3.2**
LVV			MLR	MLR	
	comp=N,130nm,15.0s,MS4.1				
LVV			MLR	MLR	
	comp=Z,250nm,15.0s,MS4.0				
LVV			MLR	MLR	
	comp=E,330nm,16.0s,MS4.1				
TRD	**Trivandrum**	**30.43 127**	*e*P	**P**	**05 15 38.9 +5.6**
TRD			AMb	AMB	05 15 40.6
	comp=Z,44nm,0.9s,mb5.2				
UZH	**Uzhgorod**	**30.61 319**	*d i*P	**P**	**05 15 36.0 +1.4**
UZH			*e*S	**S**	**05 20 38.0 +2.5**
UZH			MLR	MLR	
	comp=N,600nm,17.0s				
KOLS	**Kolonicke sedl**	**30.77 319**	*e*pP	pP	05 15 38.3 -0.4
KWP	**Kalwaria**	**30.88 321**	*e*P	**P**	**05 15 37.4 +0.5**
TIP	**Timpagrande**	**31.42 299**	*e*P	**P**	**05 15 41.3 -0.5**
WMQ	**Urumqi**	**31.56 52**	*i* P	**P**	**05 15 43.0 0.0**
WMQ			AP	pP	05 15 55.0 +9.2
WMQ			PP	PP	05 16 48.0 +0.7
WMQ			S	**S**	**05 20 47.0 -3.4**
WMQ			XS		05 21 07.0
WMQ			AMB	AMB	
	comp=Z,16nm,1.0s,mb4.8				
WMQ			AMB	AMB	
	comp=Z,23nm,6.0s				
WMQ			LR	LR	
	comp=N,2μm,16.0s,MS4.9				
WMQ			LR	LR	
	comp=E,895nm,16.0s,MS4.9				
WMQ			LR	LR	
	comp=Z,867nm,16.0s,MS4.5				
STHS	**Stebnicka Huta**	**31.59 319**	*e*P	**P**	**05 15 45.1 +1.8**
STHS			*e*PCP	PcP	05 18 39.2 +3.5
KECS	**Kecovo**	**31.60 317**	*e*P	**P**	**05 15 44.1 +0.8**
KECS			*e*PCP	PcP	05 18 37.2 +1.4
GRI	**Girifalco**	**31.63 298**	P	**P**	**05 15 46.0 +2.3**
PSZ	**Piszkesteto**	**31.71 316**	P	**P**	**05 15 38.7 -5.6**
	comp=Z,14nm,1.0s,mb4.7				
PSZ	**Piszkesteto**	**31.71 316**	P	**P**	**05 15 38.7 -5.6**
PSZ			pmax	pmax	
	comp=Z,14nm,1.0s,mb4.8				
RHK1	**Bakonya**	**32.17 312**	*e*P	**P**	**05 15 49.2 +0.9**
SLCN	**Sala Consilina**	**32.46 301**	P	**P**	**05 15 52.7 +1.8**
MGR	**Morigerati**	**32.48 300**	P	**P**	**05 15 51.7 +0.6**
VYHS	**Vyhne**	**32.60 316**	*e*P	**P**	**05 15 52.6 +0.6**
VYHS			*e*		05 18 47.6
MRLC	**Muro Lucano**	**32.62 301**	P	**P**	**05 15 54.6 +2.3**
SRO	**Srobarova**	**32.65 315**	*e*P	**P**	**05 15 53.4 +1.0**
OJC	**Ojcow**	**32.80 320**	*e*P	**P**	**05 15 53.4 -0.4**
OJC			*e*S	**S**	**05 21 11.6 +1.9**
OJC			MLR	MLR	05 30 01.3
	comp=Z,400nm,21.8s,MS4.1				
SUW	**Suwalki**	**33.10 328**	*e*P	**P**	**05 15 56.3 -0.1**
KMBO	**Kilima Mbogo**	**33.33 209**	P	**P**	**05 16 00.2 +1.4**
	comp=Z,11nm,1.0s,mb4.7,baz=21,slow=10,SNR=11				
KMBO			LR	LR	05 29 15.7
	comp=Z,765nm,20.3s,MS4.4,baz=9.3,slow=36				
KMBO	**Kilima Mbogo**	**33.33 209**	P	**P**	**05 16 00.2 +1.4**
KMBO			pmax	pmax	
	comp=Z,11nm,1.0s				
KMBO			MLR	MLR	
	comp=Z,765nm,20.3s				
LSA	**Lhasa**	**33.36 79**	P	**P**	**05 16 01.0 +2.2**
LSA			AMB	AMB	
	comp=Z,30nm,1.0s,mb5.2				
JAVC	**Velka Javorina**	**33.45 316**	P	**P**	**05 15 59.3 -0.2**
KOGS	**Kog**	**33.48 312**	*i* P	**P**	**05 15 59.7 0.0**
ZST	**Bratislava**	**33.54 315**	*e*P	**P**	**05 16 00.6 +0.4**
OKC	**Ostrava-Krasne**	**33.58 318**	*e*P	**P**	**05 16 00.4 -0.1**
OKC			AMS	AMS	05 32 10.0
	comp=Z,700nm,17.0s				
CII	**Carovilli**	**33.67 303**	P	**P**	**05 16 02.4 +1.0**
	comp=Z,130nm,1.4s,mb5.7				
SOP	**Sopron**	**33.70 314**	P	**P**	**05 16 01.7 +0.1**
GOLS	**Golise**	**33.75 311**	*e*P	**P**	**05 16 02.0 -0.1**
CRES	**Cresnjev**	**33.81 310**	P	**P**	**05 16 04.8 +2.2**
BOJS	**Bojanci**	**33.86 310**	*e*P	**P**	**05 16 02.5 -0.5**
MORC	**Moravsky Berou**	**33.91 318**	*e*P	**P**	**05 16 03.4 0.0**
MORC	**Moravsky Berou**	**33.91 318**	*e*P	**P**	**05 16 01.9 -1.5**
	comp=Z,13nm,0.9s,mb4.9				
MORC	**Moravsky Berou**	**33.91 318**	*e*P	**P**	**05 16 01.9 -1.5**
MORC			pmax	pmax	
	comp=Z,13nm,0.9s,mb4.9				
NVS	**Novosibirsk**	**33.98 32**	*e*P	**P**	**05 16 03.0 -1.0**
NVS			*e*S	**S**	**05 21 20.0 -8.0**
NVS			*e*		05 26 24.3
NVS			pmax	pmax	
	comp=Z,27nm,1.5s,mb5.0				
NVS			smax		
	comp=N,24nm,1.7s				
INTR	**Introdacqua**	**34.01 303**	P	**P**	**05 16 06.0 +1.6**
PDKS	**Podkum**	**34.19 311**	*e*P	**P**	**05 16 06.5 +0.7**
ZAL	**Zalesovo**	**34.20 34**	P	**P**	**05 16 04.8 -1.0**
	comp=N,20nm,0.4s,mb5.5,baz=218,slow=4.6,SNR=17				
ZAL			LR	LR	05 32 28.2
	comp=N,2μm,18.2s,MS4.8,baz=239,slow=41				
ZAL	**Zalesovo**	**34.20 34**	P	**P**	**05 16 04.8 -1.0**
ZAL			LR	LR	05 32 28.2
ZAL	**Zalesovo**	**34.20 34**	P	**P**	**05 16 04.8 -1.0**
ZAL			pmax	pmax	
	comp=Z,20nm,0.4s				
ZAL			MLR	MLR	
	comp=Z,2μm,18.2s				
ARSA	**Arzberg**	**34.21 313**	⇑*i*P	**P**	**05 16 06.6 +0.6**
	comp=Z,20nm,1.2s,mb4.9				
MMGO	**Monte Magaggia**	**34.23 295**	P	**P**	**05 16 07.0 +0.7**
VRAC	**Vranov**	**34.28 317**	*e*P	**P**	**05 16 07.2 +0.6**
VRAC	**Vranov**	**34.28 317**	P	**P**	**05 16 06.1 -0.5**
KRUC	**Moravsky**	**34.31 316**	P	**P**	**05 16 07.6 +0.8**
TERO	**Teramo**	**34.34 304**	P	**P**	**05 16 08.5 +1.3**
PTQR	**Pietraquaria**	**34.38 303**	P	**P**	**05 16 08.9 +1.3**
AQU	**L'Aquila**	**34.44 304**	P	**P**	**05 16 05.3 -2.8**
	comp=Z,50nm,0.9s,mb5.4				
AQU	**L'Aquila**	**34.44 304**	P	**P**	**05 16 05.3 -2.8**
AQU			pmax	pmax	
	comp=Z,50nm,0.9s,mb5.4				
LJU	**Ljubljana**	**34.49 310**	*e*P	**P**	**05 16 08.9 +0.4**
OBKA	**Obir**	**34.61 311**	⇓*i*P	**P**	**05 16 09.7 +0.2**
	comp=Z,13nm,1.1s,mb4.8				
VSU	**Vasula**	**34.65 336**	P	**P**	**05 16 08.6 -1.1**
NRCA	**Norcia**	**34.73 304**	P	**P**	**05 16 11.0 +0.4**
CING	**Cingoli**	**34.78 305**	P	**P**	**05 16 12.4 +1.4**
DPC	**Dobruska-Polom**	**34.86 318**	*e*P	**P**	**05 16 10.8 -0.8**
DPC			*e*S	**S**	**05 21 44.4 +2.7**
DPC			AMS	AMS	05 32 40.0
	comp=Z,700nm,16.6s				
VOY	**Vojsko**	**34.91 310**	*e*P	**P**	**05 16 12.0 -0.1**
VOY			*e*		05 16 19.2
VOY			*e*		05 16 28.5
MNS	**Montasola**	**34.97 304**	P	**P**	**05 16 13.1 +0.5**
ARV	**Arcevia**	**34.98 306**	P	**P**	**05 16 14.4 +1.7**
KSP	**Ksiaz**	**35.08 319**	*e*P	**P**	**05 16 13.3 -0.2**
UPC	**Upice**	**35.11 318**	*e*P	**P**	**05 16 12.8 -0.9**
FSSB	**Fossombrone**	**35.14 306**	P	**P**	**05 16 14.8 +0.8**
MOA	**Molln**	**35.21 313**	⇑*i*P	**P**	**05 16 14.0 -0.6**
	comp=Z,35nm,1.1s,mb5.2				
PTCC	**Patocco-Chiusa**	**35.38 311**	P	**P**	**05 16 15.9 -0.1**
RSM	**Repubblica di**	**35.42 306**	P	**P**	**05 16 18.3 +1.9**
KBA	**Koelnbreinsper**	**35.57 312**	⇑*i*P	**P**	**05 16 17.7 0.0**
	comp=Z,76nm,1.4s,mb5.4				
KBA	**Koelnbreinsper**	**35.57 312**	⇑*i*P	**P**	**05 16 17.7 0.0**
KBA			pmax	pmax	
	comp=Z,76nm,1.4s,mb5.4				
CRE	**Caprese Michel**	**35.71 306**	P	**P**	**05 16 19.6 +0.7**
PRU	**Pruhonice**	**35.77 317**	*e*P	**P**	**05 16 19.7 +0.3**
PRU			*e*S	**S**	**05 21 58.6 +2.8**
PRU			AMS	AMS	05 32 40.0
	comp=Z,500nm,17.8s				
SFI	**Santa Sofia**	**35.84 306**	P	**P**	**05 16 21.6 +1.6**
GEC2	**GERESS Array S**	**35.89 315**	*e*P	**P**	**05 16 19.8 -0.5**
	comp=Z,8.0nm,1.0s,mb4.6				
GEC2	**GERESS Array S**	**35.89 315**	*e*P	**P**	**05 16 19.8 -0.5**
GE

comp=Z,11nm,1.0s,mb4.7
WET Wettzell 36.50 315 *e*P **P 05 16 24.7 -0.8**
comp=Z,16nm,1.0s,mb4.9
WET Wettzell 36.50 315 *e*P **P 05 16 24.7 -0.8**
WET pmax pmax
comp=Z,16nm,1.0s,mb4.9
WTTA Wattenberg 36.74 311⇑*i*P **P 05 16 27.2 -0.3**
comp=Z,75nm,0.9s,mb5.5
WTTA Wattenberg 36.74 311⇑*i*P **P 05 16 27.2 -0.3**
WTTA pmax pmax
comp=Z,75nm,0.9s,mb5.5
WATA Walderalm 36.80 312⇑*i*P **P 05 16 27.3 -0.7**
comp=Z,33nm,1.0s,mb5.1
WATA Walderalm 36.80 312⇑*i*P **P 05 16 27.3 -0.7**
WATA pmax pmax
comp=Z,33nm,1.0s,mb5.1
MAIM 36.81 306 P **P 05 16 27.6 -0.5**
MAIM 36.81 306 P **P 05 16 27.6 -0.5**
GSCL Gusciola 36.81 306 P **P 05 16 29.6 +1.4**
APPI Appiano 36.82 310 P **P 05 16 29.2 +1.0**
SARO Sassorosso 36.92 306 P **P 05 16 28.5 -0.5**
SARO Sassorosso 36.92 306 P **P 05 16 28.5 -0.5**
SQTA Sankt Quirin 37.01 311⇓*i*P **P 05 16 29.1 -0.7**
comp=Z,19nm,0.8s,mb5.0
SQTA Sankt Quirin 37.01 311⇓*i*P **P 05 16 29.1 -0.7**
SQTA pmax pmax
comp=Z,19nm,0.8s,mb5.0
VALM 37.05 306 P **P 05 16 31.2 +1.0**
VALM 37.05 306 P **P 05 16 31.2 +1.0**
VINC Vinca 37.09 306 P **P 05 16 30.1 -0.4**
VINC Vinca 37.09 306 P **P 05 16 30.1 -0.4**
FINES FINESS Array B 37.10 339 P **P 05 16 29.6 -0.8**
comp=Z,30nm,0.8s,mb5.2,baz=135,slow=11,SNR=40
FINES LR LR 05 33 40.5
comp=Z,452nm,18.4s,MS4.3,baz=296,slow=40
FINES FINESS Array B 37.10 339 P **P 05 16 29.6 -0.8**
FINES pmax pmax
comp=Z,31nm,0.8s
FINES MLR MLR
comp=Z,452nm,18.4s
SAL Salo 37.10 308 P **P 05 16 32.5 +1.9**
MOTA Moosalm 37.11 311⇑*i*P **P 05 16 29.2 -1.5**
comp=Z,29nm,0.9s,mb5.1
MOTA Moosalm 37.11 311⇑*i*P **P 05 16 29.2 -1.5**
MOTA pmax pmax
comp=Z,29nm,0.9s,mb5.1
NKC Novy Kostel 37.12 316 *e*P **P 05 16 31.3 +0.6**
NKC *e*S **S 05 22 17.6 +1.1**
NKC AMS AMS 05 33 30.0
comp=Z,600nm,16.5s
BACM 37.16 306 P **P 05 16 31.0 -0.1**
BACM 37.16 306 P **P 05 16 31.0 -0.2**
CLL Collm 37.17 318 P **P 05 16 32.0 +0.9**
comp=Z,logA/T=1.3,mb4.9
CLL *e**SP sP 05 16 39.0 +3.9
CLL Collm 37.17 318 P **P 05 16 31.2 +0.1**
GRAM 37.21 307 P **P 05 16 32.9 +1.4**
GRAM 37.21 307 P **P 05 16 32.9 +1.4**
FUR Furstenfeldbru 37.22 313 P **P 05 16 32.2 +0.7**
CODM 37.34 306 P **P 05 16 32.2 -0.4**
CODM 37.34 306 P **P 05 16 32.2 -0.4**
KAF Kangasniemi 37.54 340 *e*p **P 05 16 33.0 -1.1**
BOB Bobbio (Coli) 37.69 307 P **P 05 16 36.3 +0.8**
PGF Pioggiola 37.69 303 *e*P **P 05 16 35.5 -0.1**
comp=Z,106nm,1.3s,mb5.1
PGF Pioggiola 37.69 303 *e*P **P 05 16 35.5 -0.1**
PGF pmax pmax
comp=Z,53nm,1.3s,mb5.1
GRA1 Grafenberg Arr 37.70 315 *e*P **P 05 16 35.1 -0.4**
comp=Z,45nm,1.0s,mb5.2
GRF Grafenberg Arr 37.70 315 *e*P **P 05 16 35.1 -0.4**
comp=Z,45nm,1.0s,mb5.2
GRF LR LR
comp=Z,200nm,21.7s,MS3.9
GRF Grafenberg Arr 37.70 315 *e*P **P 05 16 35.1 -0.4**
GRF pmax pmax
comp=Z,45nm,1.0s,mb5.2
GRF MLR MLR
comp=Z,200nm,21.7s,MS3.9
GRFO Grafenberg 37.70 315 P **P 05 16 35.1 -0.4**
BSD Bornholm Skovb 37.74 325 *i* P **P 05 16 34.8 -1.1**
comp=Z,57nm,0.9s,mb5.3
BSD Bornholm Skovb 37.74 325 *e*P **P 05 16 34.8 -1.1**
comp=Z,57nm,0.9s,mb5.3
BSD Bornholm Skovb 37.74 325 *e*P **P 05 16 34.8 -1.1**
BSD pmax pmax
comp=Z,57nm,0.9s,mb5.3
MOX Moxa 37.76 317 *i* P **P 05 16 36.6 +0.5**
comp=Z,logA/T=1.1,mb4.6
MOX PP PP 05 17 52.0 -13
MOX L 05 34 01.0
MOX Moxa 37.76 317 *e*P **P 05 16 36.6 +0.5**
DAVA Damuels 37.91 311⇑*i*P **P 05 16 36.7 -0.6**
comp=Z,134nm,1.0s,mb5.6
VDL Val di Lei 38.00 310⇓P **P 05 16 38.3 +0.1**
TUE Stuetta 38.08 310 P **P 05 16 37.5 -1.3**
PCP Pian Castagno 38.29 306 P **P 05 16 39.1 -1.5**
PCP Pian Castagno 38.29 306 P **P 05 16 39.1 -1.4**
LLS Linth-Limmern 38.39 310⇑P **P 05 16 40.7 -0.7**
FIN Finale Ligure 38.48 306 P **P 05 16 40.8 -1.4**
FIN Finale Ligure 38.48 306 P **P 05 16 40.9 -1.3**
WILA Wila 38.58 311⇑P **P 05 16 43.5 +0.5**
IMI Imperia 38.66 305 P **P 05 16 41.9 -1.8**
IMI Imperia 38.66 305 P **P 05 16 41.9 -1.9**
MUO Muotathal 38.66 310⇓P **P 05 16 43.1 -0.6**
ROB Roburent 38.73 306 P **P 05 16 43.5 -0.8**
ROB Roburent 38.73 306 P **P 05 16 43.5 -0.8**
MONE Monesi 38.78 305 P **P 05 16 44.5 -0.2**
MONE Monesi 38.78 305 P **P 05 16 44.5 -0.2**
ZUR Zurich 38.79 311⇓P **P 05 16 44.3 -0.4**
NEGI Negi 38.79 305 P **P 05 16 44.5 -0.3**
NEGI Negi 38.79 305 P **P 05 16 44.5 -0.2**
ORO Oropa 38.86 308 P **P 05 16 45.1 -0.2**
ORX Oropa 38.86 308 P **P 05 16 45.5 +0.2**
ORX Oropa 38.86 308 P **P 05 16 45.5 +0.2**
CLZ Clausthal 38.90 318 *e*P **P 05 16 45.8 +0.2**
comp=Z,35nm,0.9s,mb5.1
CLZ Clausthal 38.90 318 *e*P **P 05 16 45.8 +0.2**
CLZ pmax pmax
comp=Z,35nm,0.9s,mb5.1
SAOF Saorge 38.91 305 *e*P **P 05 16 46.5 +0.7**
SLE Schleitheim 38.93 311⇓P **P 05 16 46.1 +0.2**
MMK Mattmark 38.94 309⇑P **P 05 16 46.7 +0.7**
SBF Sospel 38.98 305 *e*P **P 05 16 46.0 -0.4**
comp=Z,110nm,0.8s,mb5.3
SBF Sospel 38.98 305 *e*P **P 05 16 46.0 -0.4**
SBF pmax pmax
comp=Z,55nm,0.8s,mb5.3
TRAV 39.00 308 P **P 05 16 46.6 +0.1**
TRAV 39.00 308 P **P 05 16 46.6 +0.1**
AUTN L'Aution 39.01 305 *e*P **P 05 16 46.0 -0.6**
ENR Entracque 39.04 306 P **P 05 16 46.3 -0.6**
ENR Entracque 39.04 306 P **P 05 16 46.3 -0.6**
STV Sta Anna Valdi 39.11 306 P **P 05 16 46.2 -1.3**
STV Sta Anna Valdi 39.11 306 P **P 05 16 46.2 -1.3**
SULZ Sulz-Cheisache 39.13 311⇑P **P 05 16 47.8 +0.2**
TOUF Mont Tournerai 39.14 305 *e*P **P 05 16 47.6 -0.1**
BFO Black Forest 39.17 312 *e*P **P 05 16 46.8 -1.1**
comp=Z,6.0nm,1.0s,mb4.3
BFO Black Forest 39.17 312 *e*P **P 05 16 46.8 -1.1**
BFO pmax pmax
comp=Z,6.0nm,1.0s,mb4.3
TOD Tromm 39.18 314 *e*P **P 05 16 47.7 -0.3**
MVIF Mont Vial 39.19 305 *e*P **P 05 16 49.4 +1.3**
LKBD Leukerbad 39.23 309⇓P **P 05 16 47.6 -0.9**
BHB Bricherasio 39.24 307 P **P 05 16 46.5 -2.0**
COP Copenhagen 39.26 325⇓*i*P **P 05 16 50.5 +1.9**
comp=Z,34nm,1.0s,mb5.0
COP Copenhagen 39.26 325⇓*i*P **P 05 16 50.5 +1.9**
COP pmax pmax
comp=Z,34nm,1.0s,mb5.0
FELD Feldberg 39.28 311 *e*P **P 05 16 49.9 +1.1**
RSP Reno Superiore 39.29 307 P **P 05 16 48.2 -0.7**
RSP Reno Superiore 39.29 307 P **P 05 16 48.2 -0.7**
DIX Grande Dixence 39.33 309⇑P **P 05 16 48.6 -0.7**
LSD Ceresole Reale 39.40 308 P **P 05 16 49.5 -0.4**
LSD Ceresole Reale 39.40 308 P **P 05 16 49.5 -0.4**
FENE Fenestrelle 39.41 307 P **P 05 16 48.5 -1.4**
SURF Saint Ours 39.51 306 *e*P **P 05 16 51.3 +0.5**
FRF La Foret Royal 39.52 305 *e*P **P 05 16 50.0 -0.9**
comp=Z,23nm,0.9s,mb4.6
FRF La Foret Royal 39.52 305 *e*P **P 05 16 50.0 -0.9**
FRF pmax pmax
comp=Z,11nm,0.9s,mb4.6
BBS Basel-Blauen 39.52 311 *e*P **P 05 16 49.3 -1.5**
TNS Taunus Mts 39.57 315 *e*P **P 05 16 51.4 +0.2**
comp=Z,14nm,1.0s,mb4.7
TNS Taunus Mts 39.57 315 *e*P **P 05 16 51.4 +0.2**
TNS pmax pmax
comp=Z,14nm,1.0s,mb4.7
MBDF Montbardon 39.57 306 *e*P **P 05 16 50.4 -0.9**
comp=Z,53nm,0.6s,mb5.1
MBDF Montbardon 39.57 306 *e*P **P 05 16 50.4 -0.9**
MBDF pmax pmax
comp=Z,27nm,0.6s,mb5.2
RRL Cesana Torines 39.59 307 P **P 05 16 51.1 -0.3**
LMR La Mourre 39.59 304 *e*P **P 05 16 51.0 -0.5**
BSEG Bad Segeberg 39.67 321 *e*P **P 05 16 52.5 +0.5**
BNI Bardonecchia 39.68 307 *e*P **P 05 16 50.6 -1.6**
comp=Z,46nm,0.9s,mb5.2
BNI Bardonecchia 39.68 307 *e*P **P 05 16 50.6 -1.6**
BNI pmax pmax
comp=Z,46nm,0.9s,mb5.2
EMV Vieux Emosson 39.68 308⇑P **P 05 16 52.2 +0.1**
LPG La Plagne 39.69 308 *e*P **P 05 16 51.5 -0.8**
comp=Z,85nm,0.7s,mb5.3
LPG La Plagne 39.69 308 *e*P **P 05 16 51.5 -0.8**
LPG pmax pmax
comp=Z,43nm,0.7s,mb5.3
LPL La Plagne 39.71 308 *e*P **P 05 16 51.6 -0.8**
comp=Z,84nm,0.9s,mb5.2
LPL La Plagne 39.71 308 *e*P **P 05 16 51.6 -0.8**
LPL pmax pmax
comp=Z,42nm,0.9s,mb5.2
CDF Champ du Feu 39.87 312 *e*P **P 05 16 52.5 -1.2**
comp=Z,10nm,0.7s,mb4.4
CDF Champ du Feu 39.87 312 *e*P **P 05 16 52.5 -1.2**
CDF pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
ECH Echery 39.90 312 *e*P **P 05 16 54.0 0.0**
GTA Gaotai 39.91 62⇑*i*P **P 05 16 55.6 +1.4**
GTA AP pP 05 17 07.7 +11
GTA PP PP 05 18 31.7 +1.8
GTA S **S 05 22 58.1 -0.8**
GTA XS 05 23 18.0
GTA AMB AMB
comp=Z,30nm,1.2s,mb4.9
GTA AMB AMB
comp=Z,206nm,5.0s
GTA LR LR
comp=N,728nm,14.5s,MS4.7
GTA LR LR
comp=E,488nm,15.7s,MS4.7
GTA LR LR
comp=Z,636nm,15.7s,MS4.6
LOMF Lomont 39.95 310 *e*P **P 05 16 54.9 +0.5**
HINF Hinteralfeld 40.02 311 *e*P **P 05 16 53.5 -1.5**
comp=Z,28nm,1.0s,mb4.7
HINF Hinteralfeld 40.02 311 *e*P **P 05 16 53.5 -1.5**
HINF pmax pmax
comp=Z,14nm,1.0s,mb4.7
PUYF Puyloubier 40.20 304 *e*P **P 05 16 57.7 +1.2**
ORIF Oris-en-Rattie 40.22 307 *e*P **P 05 16 54.6 -2.0**
comp=Z,26nm,0.8s,mb4.7
ORIF *e*R
comp=Z,611nm,20.8s
CABF La Chapelle 40.32 309 *e*P **P 05 16 56.8 -0.6**
comp=Z,120nm,0.8s,mb5.4
CABF La Chapelle 40.32 309 *e*P **P 05 16 56.8 -0.6**
CABF pmax pmax
comp=Z,60nm,0.8s,mb5.4
SMRF Simiane la Rot 40.33 305 *e*P **P 05 16 57.0 -0.6**
GELF Grande-Etoile 40.38 304 *e*P **P 05 16 59.0 +1.0**
HAU Haudompre 40.39 311 *e*P **P 05 16 56.4 -1.6**
comp=Z,26nm,1.0s,mb4.6
HAU *e*R
comp=Z,338nm,21.0s
HAU Haudompre 40.39 311 *e*P **P 05 16 56.4 -1.6**
HAU pmax pmax
comp=Z,13nm,1.0s,mb4.6
HAU MLR MLR
comp=Z,340nm,21.0s,MS4.2
APA Apatity 40.45 349 *e*P **P 05 16 59.0 +0.7**
APA *i* 05 18 34.0
APA *e*S **S 05 23 00.0 -6.7**
APA pmax pmax
comp=Z,18nm,0.6s,mb5.0
APA MLR MLR
comp=Z,600nm,14.0s,MS4.6
BUG Bochum--Univer 40.62 317 P **P 05 17 01.1 +1.3**
HFA0 Hagfors New Ar 40.86 331 P **P 05 17 00.2 -1.5**
WLF Walferdange 40.87 314 *e*P **P 05 17 01.8 -0.1**
comp=Z,16nm,0.9s,mb4.7
WLF Walferdange 40.87 314 *e*P **P 05 17 01.8 -0.1**
WLF pmax pmax
comp=Z,16nm,0.9s,mb4.7
WTSB Winterswijk 41.04 317 *e*P **P 05 17 04.1 +0.7**
comp=Z,74nm,0.9s,mb5.3
VIVF Saint-Julien-l 41.07 306 *e*P **P 05 17 02.5 -1.1**
comp=Z,31nm,0.8s,mb4.7
VIVF Saint-Julien-l 41.07 306 *e*P **P 05 17 02.5 -1.1**
VIVF pmax pmax
comp=Z,15nm,0.8s,mb4.7
MUD Monsted U'grnd 41.25 324⇑*i*P **P 05 17 07.4 +2.5**
comp=Z,50nm,1.0s,mb5.1
MUD Monsted U'grnd 41.25 324⇑*i*P **P 05 17 07.4 +2.5**
MUD pmax pmax
comp=Z,50nm,1.0s,mb5.1
HGN Heimansgroeve 41.26 315 *e*P **P 05 17 06.5 +1.4**
comp=Z,27nm,1.2s,mb4.8
HGN *e*S **S 05 23 24.2 +5.4**
HGN *e*SS SS 05 26 16.3 -0.9
LASF Ste Croix 41.58 305 *e*P **P 05 17 07.0 -0.8**
comp=Z,26nm,0.8s,mb4.6
GIVF Givet 41.80 314 *e*P **P 05 17 09.2 -0.3**
comp=Z,29nm,0.8s,mb4.7
GIVF Givet 41.80 314 *e*P **P 05 17 09.2 -0.3**
GIVF pmax pmax
comp=Z,14nm,0.8s,mb4.6
SMF Signal de Mont 41.86 309 *e*P **P 05 17 09.0 -1.0**
comp=Z,104nm,0.8s,mb5.2
SMF Signal de Mont 41.86 309 *e*P **P 05 17 09.0 -1.0**
SMF pmax pmax
comp=Z,52nm,0.8s,mb5.2
PLDF La Plantade 41.93 308 *e*P **P 05 17 11.8 +1.2**
LOR Lormes 41.93 310 *e*P **P 05 17 09.4 -1.2**
comp=Z,27nm,0.8s,mb4.6
LOR *e*R
comp=Z,515nm,20.0s
LOR Lormes 41.93 310 *e*P **P 05 17 09.4 -1.2**
LOR pmax pmax
comp=Z,14nm,0.8s,mb4.6
LOR MLR MLR
comp=Z,520nm,20.0s,MS4.4
LBL Lubilhac 42.11 307 *e*P **P 05 17 13.7 +1.6**
SSF Saint Saulge 42.14 309 *e*P **P 05 17 11.3 -1.0**
comp=Z,26nm,1.0s,mb4.8
SSF Saint Saulge 42.14 309 *e*P **P 05 17 11.3 -1.0**
SSF pmax pmax
comp=Z,26nm,1.0s,mb4.8
BAIF Baives 42.18 314 *e*P **P 05 17 12.7 +0.1**
comp=Z,52nm,1.0s,mb4.8
BAIF Baives 42.18 314 *e*P **P 05 17 12.7 +0.1**
BAIF pmax pmax
comp=Z,26nm,1.0s,mb4.8
AVF Avril sur Loir 42.21 309 *e*P **P 05 17 11.6 -1.3**
AGO Saint Agoulin 42.27 308 *e*P **P 05 17 14.8 +1.3**
MOY Mondy 42.28 44 *e*P **P 05 17 15.0 +1.6**
MOY pmax pmax
comp=Z,41nm,1.8s,mb4.8
NB2 NORSAR Subarra 42.37 331 P **P 05 17 12.7 -1.3**
comp=Z,43nm,1.0s,mb5.0,baz=120,slow=7.9
NB2 NORSAR Subarra 42.37 331 P **P 05 17 12.7 -1.3**
baz=120,slow=8.6
NB2 NORSAR Subarra 42.37 331 P **P 05 17 12.7 -1.3**
NB2 pmax pmax
comp=Z,43nm,1.0s,mb5.0
NOA NORSAR Array B 42.37 331 P **P 05 17 13.0 -1.1**
comp=Z,15nm,0.7s,mb4.7,baz=120,slow=8.2,SNR=34
NOA LR LR 05 37 01.3
comp=Z,282nm,19.2s,MS4.2,baz=125,slow=39
NOA NORSAR Array B 42.37 331 P **P 05 17 13.0 -1.0**
NOA pmax pmax
comp=Z,15nm,0.7s
NOA MLR MLR
comp=Z,282nm,19.2s
KONO Kongsberg 42.41 329 *e*P **P 05 17 12.2 -2.2**
comp=Z,39nm,1.1s,mb5.0
KONO Kongsberg 42.41 329 *i* P **P 05 17 14.0 -0.4**
NAO01 NORSAR Array S 42.41 331 *e*P **P 05 17 13.2 -1.2**
comp=Z,21nm,0.9s,mb4.8
MTLF Montolieu 42.72 304 *e*P **P 05 17 16.8 -0.3**
VALF Valcebollere 42.83 302 *e*P **P 05 17 20.0 +1.9**
CAF Calviac 42.92 306 *e*P **P 05 17 18.5 -0.3**
comp=Z,28nm,0.9s,mb4.7
CAF Calviac 42.92 306 *e*P **P 05 17 18.5 -0.3**
CAF pmax pmax
comp=Z,14nm,0.9s,mb4.7
TCF Toulx Ste Croi 42.94 308 *e*P **P 05 17 18.1 -0.8**
comp=Z,41nm,0.9s,mb4.8
TCF Toulx Ste Croi 42.94 308 *e*P **P 05 17 18.1 -0.8**
TCF pmax pmax
comp=Z,20nm,0.9s,mb4.8
CHG Chiang Mai 43.14 93⇑P **P 05 17 21.2 +0.3**
comp=Z,32nm,1.0s,mb5.0
LZH Lanzhou 43.25 67 P **P 05 17 22.5 +0.9**
LZH AMB AMB
comp=Z,80nm,1.2s,mb5.3
LZH AMB AMB
comp=Z,320nm,5.6s
LZH LR LR
comp=E,1μm,11.4s
LZH LR LR
comp=Z,1μm,17.6s
RJF Les Rejaudoux 43.33 307 *e*P **P 05 17 21.8 -0.3**
comp=Z,86nm,1.1s,mb5.1
RJF *e*R
comp=Z,337nm,21.5s
RJF Les Rejaudoux 43.33 307 *e*P **P 05 17 21.8 -0.3**
RJF pmax pmax
comp=Z,43nm,1.1s,mb5.1
RJF MLR MLR
comp=Z,340nm,21.5s,MS4.2
ZAK Zakamensk 43.42 46⇑*i*P **P 05 17 23.7 +0.9**
ZAK *e* 05 19 11.2
ZAK pmax pmax
comp=Z,6.0nm,1.0s,mb4.3
ZAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.0
CHRT Chiangrai 43.49 91⇑P **P 05 17 22.0 -1.7**
comp=Z,184nm,0.6s,mb6.0
EPOB Poblet 43.52 301 P **P 05 17 25.3 +1.6**
comp=Z,54nm,1.4s,mb5.1,SNR=7.9
EPOB Poblet 43.52 301 P **P 05 17 25.3 +1.6**
comp=Z,54nm,1.4s,mb5.1
MLS Moulis 43.52 303 *e*P **P 05 17 23.3 -0.4**
KEV Kevo 43.52 347 *e*p **P 05 17 23.3 0.0**
comp=Z,2.0nm,0.4s,mb4.2
ARCES ARCESS Array B 43.64 346 P **P 05 17 23.7 -0.6**
comp=Z,2.5nm,0.5s,mb4.2,baz=145,slow=8.4,SNR=22
ARCES PP PP 05 19 04.5 -3.3
comp=Z,12nm,0.8s,baz=140,slow=9.5,SNR=8.1
ARCES LR LR 05 40 07.1
comp=Z,261nm,18.8s,MS4.2,baz=146,slow=42
ARCES ARCESS Array B 43.64 346 P **P 05 17 23.7 -0.6**
ARCES 05 19 04.5
ARCES pmax pmax
comp=Z,3.0nm,0.5s
ARCES pmax pmax
comp=Z,12nm,0.8s
ARCES MLR MLR
comp=Z,261nm,18.8s
ARE0 ARCESS Array S 43.64 346 P **P 05 17 22.2 -2.1**
KTK1 Kautokeino 43.71 345 *e*P **P 05 17 24.6 -0.3**
KTK1 AMb AMB 05 17 34.0
comp=Z,48nm,1.3s,mb5.1
KTK1 Kautokeino 43.71 345 *e*P **P 05 17 24.6 -0.3**
comp=Z,48nm,1.3s,mb5.1,SNR=27
KTK1 Kautokeino 43.71 345 *e*P **P 05 17 24.6 -0.3**
comp=Z,48nm,1.3s,mb5.1
BDT Bhumibol Dam 43.81 95 P **P 05 17 35.0 +8.7**
LFF La Frestale 43.86 306 *e*P **P 05 17 26.1 -0.3**
comp=Z,96nm,0.9s,mb5.2
LFF La Frestale 43.86 306 *e*P **P 05 17 26.1 -0.3**
LFF pmax pmax
comp=Z,48nm,0.9s,mb5.2
CD2 Chengdu 43.91 74 P **P 05 17 27.2 +0.2**
CD2 PP PP 05 19 11.2 +0.1
CD2 PPP PPP 05 19 47.5 -0.6
CD2 S **S 05 23 57.4 -0.6**
EPF Esparros 44.08 303 *e*P **P 05 17 28.5 +0.3**
EGRA Graus 44.09 302 P **P 05 17 29.3 +1.0**
comp=Z,47nm,1.4s,mb5.0,SNR=6.0
EGRA Graus 44.09 302 P **P 05 17 29.3 +1.0**
comp=Z,47nm,1.4s,mb5.0
MOR8 Moi Rana 44.09 339 *e*P **P 05 17 28.7 +0.7**
MOR8 AMb AMB 05 17 32.1
comp=Z,32nm,1.6s,mb4.8
MOR8 Moi Rana 44.09 339 *e*P **P 05 17 28.7 +0.7**
comp=Z,32nm,1.6s,mb4.8,SNR=27
MOR8 Moi Rana 44.09 339 *e*P **P 05 17 28.7 +0.7**
comp=Z,32nm,1.6s,mb4.8
EBIE Bielsa 44.22 303 P **P 05 17 31.7 +2.3**
comp=Z,47nm,1.7s,mb4.9,SNR=12
EBIE Bielsa 44.22 303 P **P 05 17 31.6 +2.3**
comp=Z,47nm,1.7s,mb4.9
KMI Kunming 44.39 83⇑P **P 05 17 31.5 +0.5**
KMI AP pP 05 17 43.1 +9.3
KMI XP sP 05 17 47.9 +13
KMI PP PP 05 19 15.2 -0.8
KMI PPP PPP 05 19 54.2 -0.2
KMI S **S 05 24 03.0 -2.0**
KMI XS 05 24 20.5
KMI AMB AMB
comp=Z,60nm,1.3s,mb5.2
KMI AMB AMB
comp=Z,266nm,4.2s
KMI LR LR
comp=N,399nm,18.3s,MS4.5
KMI LR LR
comp=E,273nm,17.0s,MS4.5
KMI LR LR
comp=Z,314nm,15.8s,MS4.3
MFF Saint Martin d 44.59 308 *e*P **P 05 17 31.1 -1.2**
comp=Z,78nm,1.0s,mb5.2
MFF Saint Martin d 44.59 308 *e*P **P 05 17 31.1 -1.2**
MFF pmax pmax
comp=Z,39nm,1.0s,mb5.2
MOL Molde 44.64 332 *e*P **P 05 17 36.0 +3.6**
MOL AMb AMB 05 17 52.2
comp=Z,38nm,1.7s,mb5.0
MOL Molde 44.64 332 *e*P **P 05 17 36.0 +3.5**
comp=Z,38nm,1.7s,mb5.0,SNR=27
MOL Molde 44.64 332 *e*P **P 05 17 36.0 +3.6**
comp=Z,38nm,1.7s,mb5.0
STOK Stokkvaagen 44.65 338 *e*P **P 05 17 31.6 -0.8**
STOK AMb AMB 05 17 34.9
comp=Z,107nm,1.1s,mb5.6
STOK Stokkvaagen 44.65 338 *e*P **P 05 17 31.6 -0.9**
comp=Z,107nm,1.1s,mb5.6,SNR=27
STOK Stokkvaagen 44.65 338 *e*P **P 05 17 31.6 -0.8**
comp=Z,107nm,1.1s,mb5.6
ESAC San Caprasio 44.68 301 P **P 05 17 34.1 +1.0**
comp=Z,19nm,0.6s,mb5.1,SNR=5.6
ESAC San Caprasio 44.68 301 P **P 05 17 34.1 +1.0**
comp=Z,19nm,0.6s,mb5.1
NANT Nan 44.69 92⇑P **P 05 17 31.0 -2.4**
comp=Z,86nm,1.0s,mb5.5
EMOS Mosqueruela 44.72 299 P **P 05 17 33.3 -0.1**
comp=Z,119nm,1.7s,mb5.5,SNR=6.0
EMOS Mosqueruela 44.72 299 P **P 05 17 33.3 -0.1**
comp=Z,119nm,1.7s,mb5.5
ETSF Etsaut 44.74 303 *e*P **P 05 17 33.3 -0.2**
comp=Z,55nm,0.9s,mb5.1
ETSF Etsaut 44.74 303 *e*P **P 05 17 33.3 -0.2**
ETSF pmax pmax
comp=Z,27nm,0.9s,mb5.1
MELSS Ber_school_2 44.75 339 *e*P **P 05 17 32.2 -1.1**
FLN La Foliniere 45.01 311 *e*P **P 05 17 34.2 -1.4**
comp=Z,105nm,1.0s,mb5.3
FLN *e*R
comp=Z,190nm,20.5s
FLN La Foliniere 45.01 311 *e*P **P 05 17 34.2 -1.4**
FLN pmax pmax
comp=Z,53nm,1.0s,mb5.3
FLN MLR MLR
comp=Z,190nm,20.5s,MS4.0
LARF Larrau 45.05 303 *e*P **P 05 17 36.2 +0.1**
SONM Songino Array 45.12 50 P **P 05 17 36.8 +0.3**
comp=Z,7.0nm,1.0s,mb4.5,baz=266,slow=8.6,SNR=18
SONM Songino Array 45.12 50 P **P 05 17 36.8 +0.3**
SONM pmax pmax
comp=Z,7.0nm,1.0s
ECHE Chera 45.14 298 P **P 05 17 39.3 +2.5**
comp=Z,9.1nm,1.1s,mb4.5,SNR=7.9

ECHE Chera 45.14 298 P **P** **05 17 39.3 +2.5**
comp=Z,9.1nm,1.1s,mb4.5
ECHE Chera 45.14 298 P **P** **05 17 39.3 +2.5**
ECHE pmax pmax
comp=Z,9.0nm,1.1s,mb4.5
TRO Tromso 45.19 344 *e*P **P** **05 17 37.1 +0.4**
TRO AMb AMB 05 17 46.5
comp=Z,50nm,1.4s,mb5.2
TRO Tromso 45.19 344 *e*P **P** **05 17 37.1 +0.3**
comp=Z,50nm,1.4s,mb5.2,SNR=27
TRO Tromso 45.19 344 *e*P **P** **05 17 37.1 +0.4**
comp=Z,50nm,1.4s,mb5.2
GRR Gorron 45.22 311 *e*P **P** **05 17 36.0 -1.3**
SJPF Ste Jean 45.23 303 *e*P **P** **05 17 37.5 +0.1**
comp=Z,28nm,0.5s,mb5.1
SJPF Ste Jean 45.23 303 *e*P **P** **05 17 37.5 +0.1**
SJPF pmax pmax
comp=Z,14nm,0.5s,mb5.0
IPRE Itoiz 45.33 303 P **P** **05 17 38.5 +0.3**
comp=Z,57nm,1.3s,mb5.2,SNR=6.3
EALK Alkurruntz 45.43 304 P **P** **05 17 41.0 +1.9**
comp=Z,243nm,2.6s,mb5.6,SNR=7.9
EALK Alkurruntz 45.43 304 P **P** **05 17 41.0 +2.0**
comp=Z,243nm,2.6s,mb5.6
NST Nakhon Sawan 45.44 96 P **P** **05 17 39.8 +0.3**
EARA Aranguren 45.49 303 P **P** **05 17 41.3 +1.8**
comp=Z,149nm,1.7s,mb5.5,SNR=7.9
LOF Lofoten 45.60 341 *e*P **P** **05 17 42.7 +2.7**
LOF AMb AMB 05 18 06.5
comp=Z,46nm,1.4s,mb5.2
LOF Lofoten 45.60 341 *e*P **P** **05 17 42.7 +2.7**
comp=Z,46nm,1.4s,mb5.2,SNR=27
LOF Lofoten 45.60 341 *e*P **P** **05 17 42.7 +2.7**
comp=Z,46nm,1.4s,mb5.2
ETOB Tobarra 45.66 297 P **P** **05 17 41.8 +0.9**
comp=Z,180nm,2.5s,mb5.5,SNR=7.9
ETOB Tobarra 45.66 297 P **P** **05 17 41.8 +0.9**
comp=Z,180nm,2.5s,mb5.6
SGMF Saint Gilles 46.34 311 *e*P **P** **05 17 45.1 -1.0**
comp=Z,58nm,0.9s,mb5.2
SGMF Saint Gilles 46.34 311 *e*P **P** **05 17 45.1 -1.0**
SGMF pmax pmax
comp=Z,29nm,0.9s,mb5.2
EVIA Vianos 46.40 297 P **P** **05 17 48.1 +1.3**
comp=Z,9.5nm,0.8s,mb4.8,SNR=7.9
EVIA Vianos 46.40 297 P **P** **05 17 48.0 +1.3**
comp=Z,9.5nm,0.8s,mb4.8
EVIA Vianos 46.40 297 P **P** **05 17 48.1 +1.3**
EVIA pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
NNT Nongplab 46.47 100 P **P** **05 17 47.5 -0.1**
QUIF Quistinic 46.72 310 *e*P **P** **05 17 47.9 -1.3**
comp=Z,97nm,0.9s,mb5.4
QUIF Quistinic 46.72 310 *e*P **P** **05 17 47.9 -1.3**
QUIF pmax pmax
comp=Z,49nm,0.9s,mb5.4
ROSF Rostrenen 46.82 311 *e*P **P** **05 17 47.8 -2.1**
comp=Z,88nm,1.0s,mb5.4
ROSF Rostrenen 46.82 311 *e*P **P** **05 17 47.8 -2.1**
ROSF pmax pmax
comp=Z,44nm,1.0s,mb5.3
EQES Quesada 46.93 296 P **P** **05 17 52.0 +1.0**
comp=Z,124nm,3.4s,SNR=7.9
EQES Quesada 46.93 296 P **P** **05 17 52.0 +1.1**
comp=Z,124nm,3.4s
GYA Guiyang 47.42 79⇑ *i*P **P** **05 17 54.5 -0.5**
GYA AP pP 05 18 06.9 +9.0
GYA PCP PcP 05 19 24.3 -1.6
GYA PP PP 05 19 45.5 -0.3
GYA SCP 05 23 13.6
GYA S **S** **05 24 44.4 -4.0**
GYA SCS ScS 05 27 41.9 -4.7
GYA AMB AMB
comp=Z,20nm,0.9s,mb5.0
GYA AMB AMB
comp=Z,320nm,5.1s
GYA LR LR
comp=N,420nm,17.2s,MS4.6
GYA LR LR
comp=E,370nm,17.8s,MS4.6
GYA LR LR
comp=Z,270nm,18.0s,MS4.3
ESDC Sonseca Array 47.44 299 P **P** **05 17 54.3 -0.7**
comp=Z,1.1nm,0.5s,mb4.1,baz=80,slow=7.8,SNR=12
ESDC Sonseca Array 47.44 299 P **P** **05 17 55.2 +0.2**
comp=Z,7.5nm,1.1s,mb4.5,SNR=6.3
ESDC Sonseca Array 47.44 299 P **P** **05 17 55.2 +0.3**
comp=Z,7.5nm,1.1s,mb4.5
OPO Ambohidratompo 47.46 187 P **P** **05 17 56.6 +1.1**
comp=Z,4.5nm,0.8s,mb4.5,baz=40,slow=16,SNR=2.6
KKTK Khon Kaen 47.52 94 P **P** **05 17 55.2 -0.7**
XAN Xi'an 47.65 69 P **P** **05 17 56.1 -0.6**
XAN AP pP 05 17 59.7 +0.1
XAN AMB AMB
comp=Z,15nm,1.1s,mb4.9
BTO Baotou 47.71 60 *e*P **P** **05 17 57.3 +0.2**
BTO AMB AMB
comp=Z,14nm,0.9s,mb5.0
MME1 Meikle Cairn 47.85 323⇓ *e*P **P** **05 17 57.1 -0.9**
MME1 AMb AMB 05 17 59.6
comp=Z,69nm,0.9s,mb5.7
MCD Coleburn Disti 48.06 323⇓ *e*P **P** **05 17 59.4 -0.2**
MCD AMb AMB 05 18 01.8
comp=Z,76nm,1.1s,mb5.6
EADA Adamuz 48.07 297 P **P** **05 17 58.0 -1.9**
comp=Z,126nm,2.9s,mb5.4,SNR=8.5
EADA Adamuz 48.07 297 P **P** **05 17 58.0 -2.0**
comp=Z,126nm,2.9s,mb5.4
MVH1 Achvaich 48.61 323 *e*P **P** **05 18 02.6 -1.2**
MDO Dochfour 48.62 323⇓ *e*P **P** **05 18 02.7 -1.2**
HHC Hu-ho-hao-te 48.85 59 *e*P **P** **05 18 06.3 +0.4**
HHC PP PP 05 20 00.9 +1.6
HHC *e*S **S** **05 25 07.2 -1.1**
HHC SS SS 05 28 34.8 +0.3
HHC AMB AMB
comp=Z,25nm,1.0s,mb5.2
HHC AMB AMB
comp=Z,181nm,3.9s
HHC LR LR
comp=N,280nm,22.0s,MS4.3
HHC LR LR
comp=E,197nm,22.0s,MS4.3
HHC LR LR
comp=Z,227nm,23.8s,MS4.1
KAC Achnashellach 49.12 323⇓ *e*P **P** **05 18 06.7 -1.1**
KAC AMb AMB 05 18 09.4
comp=Z,62nm,1.2s,mb5.5
DSB Dublin 49.16 317 *e*P **P** **05 18 07.2 -0.9**
comp=Z,8.0nm,0.6s,mb4.9
KAR1 Arisaig 49.31 322⇓ *e*P **P** **05 18 08.5 -0.8**
KAR1 AMb AMB 05 18 13.7
comp=Z,92nm,1.2s,mb5.7
ECAL Calabor 49.35 302 P **P** **05 18 09.2 -0.5**
comp=Z,73nm,1.7s,mb5.4,SNR=6.6
ECAL Calabor 49.35 302 P **P** **05 18 09.2 -0.5**
comp=Z,73nm,1.7s,mb5.4
PBRG Braganca 49.36 302 *e*P **P** **05 18 09.8 0.0**
comp=Z,33nm,1.5s,mb5.2
PBRG Braganca 49.36 302 *e*P **P** **05 18 10.8 +1.0**
EMIN Mina Concepcio 49.77 297 P **P** **05 18 13.3 +0.3**
comp=Z,74nm,1.5s,mb5.5,SNR=7.9
EMIN Mina Concepcio 49.77 297 P **P** **05 18 13.3 +0.3**
comp=Z,74nm,1.5s,mb5.5
EBAD Badajoz 49.90 298 P **P** **05 18 14.3 +0.3**
comp=Z,17nm,1.0s,mb5.0,SNR=7.6
EBAD Badajoz 49.90 298 P **P** **05 18 14.3 +0.3**
comp=Z,17nm,1.0s,mb5.0
LSZ Lusaka 49.92 212 *e*P **P** **05 18 14.9 +0.5**
comp=Z,31nm,1.0s,mb5.3
LSZ Lusaka 49.92 212 *e*P **P** **05 18 14.9 +0.5**
LSZ pmax pmax
comp=Z,31nm,1.0s,mb5.3
CIT Chita 50.03 45 *e*P **P** **05 18 14.9 +0.1**
CIT *e* 05 20 11.9
CIT pmax pmax
comp=Z,48nm,1.6s,mb5.3
MTE Manteigas 50.10 300 *e*P **P** **05 18 16.0 +0.5**
comp=Z,37nm,1.5s,mb5.2
MTE Manteigas 50.10 300 *e*P **P** **05 18 16.8 +1.3**
PCBR Castelo Branco 50.12 299 *e*P **P** **05 18 16.0 +0.3**
comp=Z,48nm,1.2s,mb5.4
PVRL Vila Real 50.14 301 *e*P **P** **05 18 16.0 +0.2**
comp=Z,51nm,1.4s,mb5.4
PVRL Vila Real 50.14 301 *e*P **P** **05 18 15.9 +0.1**
ELOB Lobios 50.34 302 P **P** **05 18 16.6 -0.7**
comp=Z,122nm,2.5s,mb5.5,SNR=7.8
ELOB Lobios 50.34 302 P **P** **05 18 16.6 -0.7**
comp=Z,122nm,2.5s,mb5.5
PBEJ Beja 50.66 297 *e*P **P** **05 18 18.9 -0.9**
comp=Z,22nm,1.3s,mb4.9
PBEJ Beja 50.66 297 *e*P **P** **05 18 18.8 -1.0**
EVO Evora 50.70 298 *e*P **P** **05 18 19.7 -0.4**
comp=Z,17nm,0.8s,mb4.7
EVO *e*R
comp=Z,393nm,21.8s
BOD Bodaibo 50.82 37 *e*P **P** **05 18 18.9 -1.8**
BOD pmax pmax
comp=Z,20nm,0.9s,mb5.0
PTOM Tomar 50.86 299 *e*P **P** **05 18 21.2 -0.1**
comp=Z,50nm,1.1s,mb5.4
EMAZ Mazaricos 50.91 304 P **P** **05 18 23.1 +1.5**
comp=Z,170nm,1.6s,mb5.7
QIZ Qiongzhong 52.62 87 P **P** **05 18 35.5 +0.6**
WHN Wuhan 52.89 72 *e*P **P** **05 18 39.0 +2.2**
KBS Kingsbay 53.17 351 *e*P **P** **05 18 35.3 -3.0**
comp=Z,8.5nm,0.8s,mb4.7
KBS Kingsbay 53.17 351 *e*P **P** **05 18 35.3 -3.0**
KBS pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
TIA Tai'an 53.85 65 *e*P **P** **05 18 42.7 -1.0**
TIA AMB AMB
comp=Z,26nm,0.8s,mb5.2
NJ2 Nanjing 56.22 69 *e*P **P** **05 19 00.6 -0.5**
NJ2 AP pP 05 19 13.3 +9.3
NJ2 PP PP 05 21 07.6 -0.3
NJ2 S **S** **05 26 46.0 -2.9**
NJ2 XS 05 27 09.0
NJ2 AMB AMB
comp=Z,30nm,1.2s,mb5.2
NJ2 AMB AMB
comp=Z,310nm,5.2s
NJ2 LR LR
comp=N,5μm,18.3s
NJ2 LR LR
comp=E,7μm,28.5s
NJ2 LR LR
comp=Z,1μm,19.8s,MS5.0
SSE Sheshan 58.40 69 P **P** **05 19 14.8 -1.7**
SSE PCP PcP 05 20 05.5 -1.6
SSE PP PP 05 21 23.9 -3.6
SSE S **S** **05 27 11.5 -6.1**
SSE XS 05 27 35.4
SSE SCS ScS 05 28 59.2 -3.6
SSE AMB AMB
comp=Z,24nm,0.9s,mb5.2
SSE AMB AMB
comp=Z,57nm,2.9s,mb5.1
SSE LR LR
comp=N,206nm,19.7s,MS4.3
SSE LR LR
comp=E,153nm,19.8s,MS4.3
SSE LR LR
comp=Z,329nm,22.4s,MS4.4
DBIC Dimbokro 58.57 260 P **P** **05 19 17.2 -0.6**
comp=Z,33nm,0.8s,mb5.4,baz=34,slow=7.2,SNR=17
DBIC Dimbokro 58.57 260 *e*P **P** **05 19 16.5 -1.4**
comp=Z,47nm,0.8s,mb5.6
DBIC Dimbokro 58.57 260 *e*P **P** **05 19 16.5 -1.4**
DBIC pmax pmax
comp=Z,47nm,0.8s
CN2 Changchun 58.62 54⇑ P **P** **05 19 17.2 -0.6**
CN2 *e*S **S** **05 27 15.6 -4.8**
CN2 AMB AMB
comp=Z,20nm,1.1s,mb5.1
CN2 AMB AMB
comp=Z,500nm,5.0s
CN2 LR LR
comp=N,2μm,15.0s,MS5.4
CN2 LR LR
comp=E,2μm,15.0s,MS5.4
CN2 LR LR
comp=Z,2μm,16.0s,MS5.2
TSUM Tsumeb 58.65 220 *e*P **P** **05 19 16.8 -1.6**
comp=Z,11nm,0.9s,mb4.9
YAK Yakutsk 58.84 32 *e*P **P** **05 19 18.1 -1.0**
YAK pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
LIC Lamto 58.94 259⇑ *i*P **P** **05 19 19.5 -0.9**
comp=Z,46nm,0.9s,mb5.5
LBTB Lobatse 59.61 209 *e*P **P** **05 19 25.2 +0.2**
comp=Z,44nm,0.9s,mb5.5
LBTB Lobatse 59.61 209 *e*P **P** **05 19 25.2 +0.2**
LBTB pmax pmax
comp=Z,44nm,0.9s,mb5.5
KSM Kuching 61.09 106 *e*P **P** **05 19 34.3 -0.9**
MDJ Mudanjiang 61.36 52 P **P** **05 19 34.2 -2.4**
MDJ AMB AMB
comp=Z,8.0nm,1.1s,mb4.8
MDJ AMB AMB
comp=Z,77nm,4.8s
KLR Kul'dur 61.78 47 *e*P **P** **05 19 32.5 -6.9**
KS15 Wonju Array Si 61.94 61 P **P** **05 19 36.8 -3.9**
SUMG Summit 63.12 340 *e*P **P** **05 19 46.6 -1.4**
comp=Z,26nm,1.0s,mb5.3
YSS Yuzh-Sakhalins 69.49 47 *e*P **P** **05 20 26.0 -2.9**
YSS *e* pP 05 20 30.2 -1.6
YSS pmax pmax
comp=Z,30nm,0.9s,mb5.2
MAJO Matsushiro 70.04 59 P **P** **05 20 30.0 -2.5**
comp=Z,29nm,1.4s,mb5.0
MAJO Matsushiro 70.04 59 P **P** **05 20 30.0 -2.5**
MAJO pmax pmax
comp=Z,29nm,1.4s,mb5.0
MAT Matsushiro 70.04 59 P **P** **05 20 31.0 -1.5**
MAT *e*S S 05 30 03.0 +21
MAT Matsushiro 70.04 59 *e*P **P** **05 20 31.0 -1.5**
comp=Z,8.0nm,1.0s,mb4.6
MAT S S 05 30 04.0 +22
MAT Matsushiro 70.04 59 *e*P **P** **05 20 31.0 -1.5**
MAT S S 05 30 04.0 +22
MAT pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
MJAR Matsushiro Arr 70.05 59 P **P** **05 20 31.7 -0.7**
comp=Z,1.6nm,0.5s,mb4.2,baz=292,slow=6.7,SNR=10
MJAR Matsushiro Arr 70.05 59 P **P** **05 20 31.7 -0.8**
MJAR pmax pmax
comp=Z,2.0nm,0.5s
BILL Biiibino 71.73 21⇑ *i*P **P** **05 20 42.1 0.0**
BILL pmax pmax
comp=Z,30nm,1.2s,mb5.1
SCHQ Schefferville 81.91 329 P **P** **05 21 39.2 +0.1**
comp=Z,1nm,0.9s,mb4.8,baz=46,slow=4.3,SNR=19
SCHQ Schefferville 81.91 329 *e*P **P** **05 21 38.8 -0.3**
comp=Z,15nm,0.7s,mb5.0
INK Inuvik 83.01 2 *e*P **P** **05 21 43.9 -0.7**
comp=Z,13nm,1.1s,mb4.9
INK Inuvik 83.01 2 *e*P **P** **05 21 43.9 -0.7**
INK pmax pmax
comp=Z,13nm,1.1s
IMA Indian Mountai 83.21 11 *e*P **P** **05 21 45.6 0.0**
comp=Z,55nm,0.9s,mb5.6
IMA Indian Mountai 83.21 11 *e*P **P** **05 21 45.6 -0.1**
IMA pmax pmax
comp=Z,55nm,0.9s,mb5.6
FX1 Attu Island--F 83.50 32 *e*P **P** **05 21 47.0 -0.4**
FITZ Fitzroy Crossi 84.38 114⇑ *i*P **P** **05 21 53.1 +0.5**
comp=Z,30nm,0.8s,mb5.5
FITZ Fitzroy Crossi 84.38 114 P **P** **05 21 53.3 +0.7**
comp=Z,38nm,0.8s,mb5.6,baz=334,slow=4.2,SNR=18
MUN Mundaring 85.37 130 *e*P **P** **05 21 56.6 -0.7**
comp=Z,11nm,1.2s,mb4.9
MUN Mundaring 85.37 130 *e*P **P** **05 21 56.6 -0.7**
MUN pmax pmax
comp=Z,11nm,1.2s,mb4.9
ILAR Eielson Array 85.42 8 P **P** **05 21 56.4 -0.3**
comp=Z,3.3nm,0.7s,mb4.6,baz=323,slow=4.0,SNR=21
ILAR Eielson Array 85.42 8 P **P** **05 21 56.4 -0.3**
ILAR pmax pmax
comp=Z,3.0nm,0.7s
MCK McKinley 86.13 10 *e*P **P** **05 21 59.8 -0.4**
comp=Z,19nm,1.1s,mb5.2
MCK McKinley 86.13 10 *e*P **P** **05 21 59.8 -0.5**
MCK pmax pmax
comp=Z,19nm,1.1s,mb5.2
KLBR Kellerberrin 86.18 129 *e*P **P** **05 21 59.9 -1.4**
comp=Z,35nm,1.3s,mb5.4
NWAO Narrogin (SRO) 86.64 131 P **P** **05 22 03.6 +0.1**
comp=Z,13nm,0.8s,mb5.2,baz=284,slow=7.2,SNR=4.6
NWAO Narrogin (SRO) 86.64 131 P **P** **05 22 03.6 +0.1**
NWAO pmax pmax
comp=Z,13nm,0.8s
KAKA Kakadu 87.19 106⇑ *i*P **P** **05 22 14.8 +8.2**
comp=Z,39nm,0.9s,mb5.6
SML Sawmill 88.05 10 *e*P **P** **05 22 07.7 -1.9**
YKW3 Yellowknife Ar 88.34 354 P **P** **05 22 10.3 -0.7**
YKA Yellowknife Ar 88.41 354 P **P** **05 22 12.1 +0.8**
comp=Z,4.9nm,0.8s,mb4.8,baz=5.0,slow=5.1,SNR=13
YKA Yellowknife Ar 88.41 354 P **P** **05 22 12.1 +0.8**
YKA pmax pmax
comp=Z,5.0nm,0.8s
WRA Warramunga Arr 92.37 111 P **P** **05 22 30.9 +0.2**
comp=Z,6.0nm,1.0s,mb4.9,baz=313,slow=4.0,SNR=15
WRA Warramunga Arr 92.37 111 P **P** **05 22 30.9 +0.2**
WRA pmax pmax
comp=Z,6.0nm,1.0s
WRAB Tennant Creek 92.37 111 *i*P **P** **05 22 29.9 -0.9**
WB2 Warramunga Arr 92.38 111 *e*P **P** **05 22 30.5 -0.3**
DLBC Dease Lake 93.00 1 P **P** **05 22 33.8 +1.1**
EDM Edmonton 97.38 352 *e*P **P** **05 22 52.2 -0.6**
TXAR Lajitas Array 117.92 337 PKP PKPdf 05 28 06.4 -2.1
comp=Z,0.4nm,0.8s,baz=151,slow=1.7,SNR=5.5
QSPA South Pole Qui 118.70 180 *e*PKPdf PKPdf 05 28 06.1 -2.9
CPUP Villa Florida 118.87 254 PKP PKPdf 05 28 08.3 -2.2
comp=Z,1.2nm,0.7s,baz=18,slow=5.7,SNR=4.9
CPUP Villa Florida 118.87 254 PKP PKPdf 05 28 08.3 -2.2
CPUP Villa Florida 118.87 254 PKIKP PKPdf 05 28 08.3 -2.2
CPUP pmax pmax
comp=Z,1.0nm,0.7s
LPAZ La Paz 124.53 269 PKP PKPdf 05 28 20.9 -0.7
comp=Z,1.8nm,0.7s,baz=57,slow=3.6,SNR=9.5
LPAZ La Paz 124.53 269 PKIKP PKPdf 05 28 21.0 -0.7
LPAZ pmax pmax
comp=Z,2.0nm,0.7s
PLCA Paso Flores 132.74 240 PKP PKPdf 05 28 36.3 -0.5
comp=Z,2.0nm,0.9s,baz=112,slow=4.0,SNR=4.7
PLCA Paso Flores 132.74 240 PKIKP PKPdf 05 28 36.3 -0.5
PLCA pmax pmax
comp=Z,2.0nm,0.9s

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*IDC **09** 05:26:13.3±0.5,20.96S×173.99E,mb5.0/20,mb1 5.1/24, mb1mx5.1/24,mbtmp5.0/24,ML4.5/3,MS5.7/18,Ms1 5.8/18, ms1mx5.8/18,Error ellipse: s-maj=14.7km s-min=14.5km az=178.0*

*LDG **09** 05:26:14.8±0.2,20.46S×173.67E,h10km,Mb5.2/2, Ms5.9/9,Error ellipse: s-maj=14.7km s-min=3.2km az=154.0*

*MOS **09** 05:26:14.0±1.3,21.03S×173.79E,h10km,mb5.7/32, MS6.0/31,Error ellipse: s-maj=9.4km s-min=8.3km az=61.1*

*BJI **09** 05:26:17.4,20.50S×174.02E,h25km,mB5.8,mb5.1, Ms5.9,Msz5.7*

*HRVD **09** 05:26:17.5±0.1,20.97S×173.94E,h15km,MW6.1/76, Centroid moment Tensor Solution. LP body waves: s73,c188;Mantle waves: s76,c309; Half duration: 2s8 Moment tensor: Scale 1018Nm; Mrr-0.14±.01; Mθθ-1.03±.01; Mφφ 1.17±.01; Mrθ 0.18±.04; Mθφ-1.45±.01; Mφr 0.30±.04; Best double couple: M0 1.856×1018 NP1: φs289°,δ79°,λ-177°. NP2:φs198°,δ87°,λ-11°. Principal axes: T 1.908, Plg5°, Azm244°; N -.108, Plg78°, Azm2°; P -1.803, Plg10°, Azm153°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*NEIC **09** 05:26:17.5±1.9,20.94S×173.83E,h24km±13km,mb5.5/54, MS6.0/129,MW6.1 Error ellipse: s-maj=5.3km s-min=4.8km az=169.0,Moment Tensor Solution. s12 Moment tensor: Scale 1018Nm; Mrr 0.18; Mθθ-1.22; Mφφ 1.04; Mrθ-0.24; Mθφ-1.16; Mφr-0.25; Best double couple: M0 1.6×1018 NP1:φs112°,δ79°,λ-178°. NP2:φs22°, δ88°,λ-11°. Principal axes: T 1.54, Plg6°, Azm68°; N .22, Plg79°, Azm189°; P -1.76, Plg9°, Azm337°;*

ISC 09 05:26:14.7±2.0,20.99S±0.03×173.77E±0.04,h14km±12km, **h23**km±2.3km**:pP-P,n467,**σ1§**12**/254**,mb5.3**/90**,MS5.9**/159, **34C-14D,Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.91**	**260**⇑	*i*P	**Pn**	**05 27 59.3**	**+1.3**
DZM				*e*S	**Sn**	**05 29 12.4**	**-4.7**
DZM	**Mont Dzumac**	**6.91**	**260**	Pn	**Pn**	**05 27 59.1**	**+1.1**
2.2nm,0.3s,baz=78,slow=15,SNR=50							
DZM	**Mont Dzumac**	**6.91**	**260**⇑	*i*P	**Pn**	**05 27 59.3**	**+1.3**
DZM				*e*S	**Sn**	**05 29 12.4**	**-4.7**
RAO	**Raoul Island**	**11.15**	**139**	LR	LR	05 32 19.7	
comp=Z,65μm,20.9s,baz=139,slow=33							
OUZ	**Omahuta**	**14.18**	**181**	PN	**P**	**05 29 37.8**	**+0.4**
OUZ	**Omahuta**	**14.18**	**181**	*e*P	**P**	**05 29 37.8**	**+0.5**
WCZ	**Waipu Caves**	**14.91**	**178**	PN	**P**	**05 29 48.0**	**+1.2**
WCZ	**Waipu Caves**	**14.91**	**178**	*e*P	**P**	**05 29 48.0**	**+1.2**
AFI	**Afiamalu**	**15.48**	**65**	Pn	**P**	**05 29 50.1**	**-4.2**
1.6nm,0.3s,baz=272,slow=21,SNR=5.9							
AFI				LR	LR	05 34 33.6	
comp=Z,51μm,20.7s,baz=243,slow=33							
AFI	**Afiamalu**	**15.48**	**65**	*e*P	**P**	**05 29 50.6**	**-3.7**
292nm,1.4s							
AFI	**Afiamalu**	**15.48**	**65**	*e*P	**P**	**05 29 50.6**	**-3.8**
AFI				pmax	pmax		
comp=Z,292nm,1.4s							
URZ	**Urewera**	**17.45**	**171**	P	**P**	**05 30 19.9**	**+0.5**
comp=Z,1.0nm,0.3s,baz=1.0,slow=6.2,SNR=32							
URZ				LR	LR	05 35 36.4	
comp=Z,28μm,20.3s,baz=358,slow=32							
URZ	**Urewera**	**17.45**	**171**	PN	**P**	**05 30 20.6**	**+1.2**
URZ	**Urewera**	**17.45**	**171**	*e*P	**P**	**05 30 20.6**	**+1.2**
HNR	**Honiara**	**17.59**	**309**	P	**P**	**05 30 22.6**	**+1.4**
comp=Z,10nm,0.3s,baz=230,slow=6.6,SNR=19							
HNR				LR	LR	05 36 10.1	
comp=Z,32μm,18.6s,baz=141,slow=34							
HNR	**Honiara**	**17.59**	**309**	*e*P	**P**	**05 30 21.1**	**0.0**
comp=Z,2μm,1.8s							
HNR	**Honiara**	**17.59**	**309**	*e*P	**P**	**05 30 21.2**	**0.0**
HNR				pmax	pmax		
comp=Z,2μm,1.8s							
MWZ	**Matawai**	**17.59**	**170**	PN	**P**	**05 30 22.7**	**+1.6**
MWZ	**Matawai**	**17.59**	**170**	*e*P	**P**	**05 30 22.7**	**+1.6**
FWVZ	**Far West T-bar**	**18.27**	**176**	PN	**P**	**05 30 31.3**	**+1.7**
FWVZ	**Far West T-bar**	**18.27**	**176**	*e*P	**P**	**05 30 31.3**	**+1.7**
KNZ	**Kokohu**	**18.29**	**170**	PN	**P**	**05 30 29.5**	**-0.2**
KNZ	**Kokohu**	**18.29**	**170**	P	**P**	**05 30 29.5**	**-0.2**
QRZ	**Quartz Range**	**19.81**	**183**	PN	**P**	**05 30 46.1**	**-1.5**
QRZ	**Quartz Range**	**19.81**	**183**	*e*P	**P**	**05 30 46.1**	**-1.6**
SNZO	**South Karori**	**20.27**	**178**	P	**P**	**05 30 48.0**	**-4.7**
comp=Z,1μm,1.5s							
SNZO				LR	LR		
comp=Z,26μm,21.0s,MS5.6							
THZ	**Tophouse**	**20.73**	**182**	PN	**P**	**05 30 56.8**	**-0.5**
THZ	**Tophouse**	**20.73**	**182**	*e*P	**P**	**05 30 56.8**	**-0.5**
DSZ	**Denniston Nort**	**20.76**	**184**	PN	**P**	**05 30 56.7**	**-1.0**
DSZ	**Denniston Nort**	**20.76**	**184**	*e*P	**P**	**05 30 56.7**	**-1.0**
ARMA	**Armidale**	**22.02**	**240**⇑	*i*P	**P**	**05 31 00.2**	**-10**
ARMA				*i*S	**S**	**05 35 13.1**	**+5.2**
WVZ	**Waitaha Valley**	**22.17**	**186**	PN	**P**	**05 31 11.7**	**-0.2**
WVZ	**Waitaha Valley**	**22.17**	**186**	*e*P	**P**	**05 31 11.7**	**-0.2**
RPZ	**Rata Peaks**	**22.78**	**185**	P	**P**	**05 31 19.8**	**+1.9**
comp=Z,68nm,1.1s,mb5.0,baz=2.9,slow=8.0,SNR=5.9							
RPZ				LR	LR	05 39 06.4	
comp=Z,35μm,20.1s,MS5.8,baz=360,slow=34							
RIV	**Riverview**	**23.74**	**233**⇓	*i*P	**P**	**05 31 31.0**	**+3.6**
RAR	**Rarotonga**	**24.68**	**95**	*e*P	**P**	**05 31 33.4**	**-3.2**
comp=Z,135nm,1.3s,mb5.3							
RAR				LR	LR		
comp=Z,17μm,22.0s,MS5.5							
CNB	**Canberra Magne**	**25.73**	**231**⇑	*i*P	**P**	**05 31 47.8**	**+1.4**
comp=Z,352nm,1.5s,mb5.7							
CTA	**Charters Tower**	**25.77**	**267**⇑	*i*P	**P**	**05 31 48.0**	**+1.0**
comp=Z,53nm,1.3s,mb4.9							
CTA				*e*S	**S**	**05 36 19.0**	**+5.8**
CTA	**Charters Tower**	**25.77**	**267**	P	**P**	**05 31 48.4**	**+1.4**
comp=Z,78nm,1.2s,mb5.1,baz=89,slow=11,SNR=17							
CTA				LR	LR	05 38 52.8	
comp=Z,9μm,20.4s,MS5.3,baz=93,slow=29							
CTA	**Charters Tower**	**25.77**	**267**⇑	*i*P	**P**	**05 31 48.0**	**+1.0**
CTA				*e*S	**S**	**05 36 19.0**	**+5.8**
CTA				pmax	pmax		
comp=Z,53nm,1.3s							
CTAO	**Charters Tower**	**25.77**	**267**	*e*P	**P**	**05 31 47.5**	**+0.5**
comp=Z,120nm,1.1s,mb5.3							
CTAO				LR	LR		
comp=Z,44μm,19.0s,MS6.0							
CTAO	**Charters Tower**	**25.77**	**267**	*e*P	**P**	**05 31 48.0**	**+1.0**
CTAO				pmax	pmax		
comp=Z,120nm,1.1s,mb5.3							

PMG Port Moresby 28.09 290 P **P** **05 32 09.5 +1.3**
comp=Z,33nm,0.9s,mb4.9,baz=120,slow=5.2,SNR=7.7
PMG LR LR 05 41 19.2
comp=Z,13μm,18.0s,MS5.6,baz=55,slow=32
PMG Port Moresby 28.09 290 *e*P **P** **05 32 08.4 +0.2**
comp=Z,333nm,1.8s,mb5.7
PMG LR LR
comp=Z,15μm,19.0s,MS5.6
PMG Port Moresby 28.09 290 *e*P **P** **05 32 08.4 +0.2**
PMG pmax pmax
comp=Z,333nm,1.8s
PMG MLR MLR
comp=Z,15μm,19.0s
TOO Toolangi 29.53 230⇑*i*P **P** **05 32 21.8 +0.8**
comp=Z,102nm,1.2s,mb5.4
TOO *e*S **S** **05 37 22.1 +8.2**
TOO Toolangi 29.53 230⇑*i*P **P** **05 32 21.8 +0.8**
TOO *e*S **S** **05 37 22.1 +8.2**
TOO pmax pmax
comp=Z,102nm,1.2s,mb5.4
KWAJ Kwajalein Atol 30.21 348 PFAKE 05 32 40.0 +13
KWAJ LR LR
comp=Z,8μm,20.0s,MS5.4
STKA Stephens Creek 30.68 243⇑*i*P **P** **05 32 31.6 +0.4**
comp=Z,58nm,1.1s,mb5.3
STKA *i*S **S** **05 37 37.1 +5.0**
STKA Stephens Creek 30.68 243 P **P** **05 32 31.8 +0.5**
comp=Z,82nm,1.1s,mb5.5,baz=70,slow=7.8,SNR=29
STKA LR LR 05 43 36.8
comp=Z,28μm,21.5s,MS5.9,baz=68,slow=34
TAU Tasmania Unive 31.10 219 *e*P **P** **05 32 35.0 +0.1**
comp=Z,1000nm,2.3s,mb6.2
TAU LR LR
comp=Z,7μm,22.0s,MS5.3
TAU Tasmania Unive 31.10 219 *e*P **P** **05 32 35.0 +0.2**
TAU pmax pmax
comp=Z,999nm,2.3s,mb6.2
TAU MLR MLR
comp=Z,7μm,22.0s,MS5.3
TBI Tubuai 34.08 101 *e*LQ 05 40 25.8
TBI Tubuai 34.08 101 *e*P **P** **05 32 56.7 -4.3**
comp=Z,139nm,1.2s,mb5.8
TBI *e*S **S** **05 38 16.7 -8.4**
TBI *e*LR LR 05 41 53.6
comp=Z,10μm,27.5s
PAE Paea 34.70 91 *e*P **P** **05 33 01.9 -4.4**
comp=Z,66nm,1.2s,mb5.5
PPT Papeete 34.72 91 *e*P **P** **05 33 02.3 -4.2**
comp=Z,90nm,1.5s,mb5.5
PPT Papeete 34.72 91 *e*S **S** **05 38 26.6 -8.5**
PPT *e*LQ 05 40 38.5
PPT *e*LR LR 05 42 07.3
comp=Z,34μm,27.8s,baz=260
PPT Papeete 34.72 91 P **P** **05 33 03.8 -2.7**
comp=Z,8.4nm,0.4s,mb5.0,baz=190,slow=6.3,SNR=4.0
PPT LR LR 05 43 28.0
comp=Z,8μm,21.4s,MS5.4,baz=258,slow=30
TVO Taravao 34.98 91 *e*P **P** **05 33 04.6 -4.2**
comp=Z,180nm,1.4s,mb5.8
PMOR Pomariorio Ree 36.88 87 *e*P **P** **05 33 20.5 -4.3**
comp=Z,97nm,1.3s,mb5.5
WB2 Warramunga Arr 36.88 264⇑*i*P **P** **05 33 23.9 -0.9**
WB2 *e* 05 34 50.7
WB2 *e*S **S** **05 38 49.2 -19**
WRAB Tennant Creek 36.88 264 *e*P **P** **05 33 23.9 -1.0**
comp=Z,247nm,1.4s,mb5.8
WRAB LR LR
comp=Z,20μm,19.0s,MS5.9
WRAB Tennant Creek 36.88 264 *ce*P **P** **05 33 23.8 -1.1**
WRA Warramunga Arr 36.89 264 P **P** **05 33 23.7 -1.2**
comp=Z,55nm,1.1s,mb5.3,baz=97,slow=8.6,SNR=89
VAH Vaihoa 37.07 88 *e*P **P** **05 33 22.4 -4.0**
comp=Z,59nm,1.1s,mb5.3
WAKE Wake Island 40.62 350 PFAKE 05 34 10.0 +14
WAKE LR LR
comp=Z,22μm,20.0s,MS6.0
FORT Forrest 42.02 247 *e*P **P** **05 34 07.4 -0.1**
comp=Z,84nm,0.7s,mb5.5
FORT *e*S **S** **05 40 11.8 -14**
FITZ Fitzroy Crossi 45.32 265⇑*i*P **P** **05 34 34.8 +0.5**
comp=Z,144nm,1.2s,mb5.7
FITZ *e*S **S** **05 41 17.8 +4.0**
FITZ Fitzroy Crossi 45.32 265 P **P** **05 34 34.8 +0.5**
comp=Z,190nm,1.1s,mb5.8,baz=106,slow=3.6,SNR=30
TAOE Nuku Hiva Isla 45.97 82 *e*S **S** **05 41 16.0 -7.2**
TAOE *e*LR LR 05 47 16.9
comp=Z,72μm,28.9s
RKT Rikitea 47.36 103 *e*S **S** **05 41 34.8 -8.0**
RKT *e*LQ 05 46 02.8
RKT *e*LR LR 05 48 02.4
comp=Z,7μm,29.2s,baz=253
MIDW Midway 49.66 10 PFAKE 05 35 20.0 +12
MIDW LR LR
comp=Z,7μm,19.0s,MS5.7
MBWA Marble Bar 50.21 259 *e*P **P** **05 35 11.7 -0.8**
comp=Z,120nm,1.3s,mb5.8
MBWA LR LR
comp=Z,27μm,19.0s,MS6.3
KIP Kipapa 50.36 35 PFAKE 05 35 20.0 +6.4
KIP LR LR
comp=Z,12μm,20.0s,MS5.9
POHA Pohakuloa 50.42 39 PFAKE 05 35 30.0 +16
POHA LR LR
comp=Z,106μm,20.0s,MS6.8
DRV Dumont d'Urvil 50.50 197 S **S** **05 42 35.0 +8.8**
DRV L 05 47 00.0
KLBR Kellerberrin 50.85 246⇑*i*P **P** **05 35 16.3 -0.9**
comp=Z,162nm,1.3s,mb5.8
NWAO Narrogin (SRO) 51.24 244 *e*P **P** **05 35 19.7 -0.5**
comp=Z,124nm,1.3s,mb5.7
NWAO LR LR
comp=Z,19μm,20.0s,MS6.1
NWAO Narrogin (SRO) 51.24 244 *e*P **P** **05 35 19.7 -0.5**
NWAO pmax pmax
comp=Z,124nm,1.3s
NWAO MLR MLR
comp=Z,19μm,20.0s
PTCN Pitcairn Islan 51.52 106 PFAKE 05 35 30.0 +7.7
PTCN LR LR
comp=Z,3μm,19.0s,MS5.4
MUN Mundaring 52.15 245⇑*i*P **P** **05 35 26.4 -0.6**
comp=Z,32nm,1.2s,mb5.1
MUN *e*S **S** **05 42 51.0 +1.7**
MUN Mundaring 52.15 245⇑*i*P **P** **05 35 26.4 -0.6**
MUN *e*S **S** **05 42 51.0 +1.7**
MUN pmax pmax
comp=Z,32nm,1.2s,mb5.1
BUKP Musuan 55.78 296 *e*P **P** **05 35 53.6 -0.3**
VNDA Vanda 56.88 183 P **P** **05 35 59.7 -1.3**
comp=Z,3.7nm,0.9s,mb4.4,baz=349,slow=9.1,SNR=9.6
VNDA LR LR 05 58 08.5
comp=Z,5μm,18.0s,MS5.6,baz=14,slow=34
VNDA Vanda 56.88 183 *e*P **P** **05 35 59.6 -1.4**
comp=Z,48nm,1.5s,mb5.3
VNDA LR LR
comp=Z,6μm,22.0s,MS5.7
VNDA Vanda 56.88 183 P **P** **05 35 59.9 -1.1**
VNDA pmax pmax
comp=Z,40nm,1.3s
SBA Scott Base 57.01 182 *e*P **P** **05 36 01.3 -0.7**
comp=Z,60nm,1.1s,mb5.5
SBA LR LR
comp=Z,5μm,21.0s,MS5.6
SBA Scott Base 57.01 182 P **P** **05 36 02.0 0.0**
SBA pmax pmax
comp=Z,100nm,1.2s,mb5.7
IPIL Ipil 57.84 294 *e*P **P** **05 36 08.2 -0.5**
CNP Cataman 58.62 300 *e*P **P** **05 36 12.0 -2.0**
PVCP Virac 59.63 301 *e*P **P** **05 36 10.9 -10**
RCP Roxas 59.66 298⇓*e*P **P** **05 36 21.8 +0.5**
CASY Casey 60.27 205⇑*i*P **P** **05 36 23.1 -1.7**
CASY *i*S **S** **05 44 37.0 +0.3**
CASY Casey 60.27 205 *e*P **P** **05 36 23.2 -1.5**
comp=Z,290nm,1.9s,mb6.0
CASY *i*S **S** **05 44 37.0 +0.3**
BUSP Coron 62.01 297 *e*P **P** **05 36 30.7 -6.5**
BATP Bataraza 62.43 292 *e*P **P** **05 36 36.9 -3.2**
KKM Kota Kinabalu 62.53 289 *e*P **P** **05 36 40.3 -0.4**
CAUP Cauayan 63.37 303 *e*P **P** **05 36 47.1 +0.9**
APYP Conner 64.35 303 *e*P **P** **05 36 46.7 -6.0**
JOW Kunigami 64.82 315 P **P** **05 36 54.8 -0.9**
comp=Z,23nm,0.9s,mb5.2,baz=131,slow=9.8,SNR=6.5
KSM Kuching 65.90 282 *e*P **P** **05 37 02.0 -0.8**
MJAR Matsushiro Arr 66.35 329 P **P** **05 37 04.2 -1.1**
comp=Z,15nm,0.9s,mb5.0,baz=167,slow=7.0,SNR=33
MJAR LR LR 06 01 53.2
comp=Z,6μm,21.2s,MS5.8,baz=130,slow=32
MAJO Matsushiro 66.35 329 *e*P **P** **05 37 03.9 -1.4**
comp=Z,20nm,0.8s,mb5.2
MAJO LR LR
comp=Z,7μm,20.0s,MS5.8
MAJO Matsushiro 66.35 329 *e*P **P** **05 37 03.9 -1.4**
MAJO pmax pmax
comp=Z,20nm,0.8s,mb5.2
MAJO MLR MLR
comp=Z,7μm,20.0s,MS5.8
MAT Matsushiro 66.35 329 P **P** **05 37 04.1 -1.2**
MAT S S 05 45 56.0 +2.9
MAT Matsushiro 66.35 329 *e*P **P** **05 37 04.0 -1.3**
comp=Z,19nm,1.0s,mb5.1
MAT *e*S S 05 45 57.0 +3.9
MAT LR LR
comp=Z,7μm,20.0s,MS5.8
MAT Matsushiro 66.35 329 *e*P **P** **05 37 04.0 -1.3**
MAT *e*S S 05 45 57.0 +3.9
MAT pmax pmax
comp=Z,19nm,1.0s,mb5.1
MAT MLR MLR
comp=Z,7μm,20.0s,MS5.8
MIR Mirnyy 67.27 205 *c*P **P** **05 37 09.8 -0.8**
MIR pmax pmax
comp=Z,270nm,2.0s,mb5.9
JNU Nakatsue 67.61 322 P **P** **05 37 12.7 -0.7**
comp=Z,24nm,1.0s,mb5.2,baz=354,slow=18,SNR=5.1
NACB Ninganchiao 67.77 309 *e*P **P** **05 37 13.3 -1.2**
TATO Taipei 68.33 309 PFAKE 05 37 30.0 +12
TATO LR LR
comp=Z,4μm,20.0s,MS5.7
QSPA South Pole Qui 69.08 180 *e*P **P** **05 37 20.4 -1.4**
comp=Z,75nm,1.1s,mb5.5
RPN Rapa Nui 69.50 112 LR LR 06 02 18.0
comp=Z,1μm,19.2s,MS5.2,baz=261,slow=31
YUK Yuzh-Kuril'sk 69.58 339 *e*P **P** **05 37 26.0 +0.7**
YUK *e* 05 41 45.0
YUK MLR MLR
comp=N,12μm,19.0s
QZH Quanzhou 70.42 308 P **P** **05 37 30.0 -0.8**
QZH S S 05 46 41.0 -0.7
QZH AMB AMB
comp=Z,1μm,7.4s
QZH LR LR
comp=N,1μm,11.4s
QZH LR LR
comp=E,6μm,22.0s
QZH LR LR
comp=Z,8μm,22.4s
ASAJ Asahikawa 70.80 337 P **P** **05 37 33.4 +0.6**
comp=Z,6.3nm,0.5s,mb4.8,baz=236,slow=13,SNR=12
SSE Sheshan 72.30 314 P **P** **05 37 44.9 +2.9**
SSE XP sP 05 37 54.1 +6.3
SSE PP PP 05 40 25.6 +1.1
SSE S S 05 47 07.4 +4.1
SSE XS 05 47 18.7
SSE AMB AMB
comp=Z,26nm,0.8s,mb5.2
SSE AMB AMB
comp=Z,340nm,5.3s
SSE LR LR
comp=N,2μm,27.1s,MS5.5
SSE LR LR
comp=E,3μm,27.1s,MS5.5
SSE LR LR
comp=Z,4μm,28.7s,MS5.5
SKR Severo-Kuril's 73.04 348 *e*P **P** **05 37 42.0 -4.0**
SKR *e*PPP PPP 05 42 18.0 +4.1
SKR *e*S S 05 47 15.0 +3.7
SKR *e*PS PS 05 47 40.0 -5.4
SKR pmax pmax
comp=Z,110nm,1.0s,mb5.7
SKR pmax pmax
comp=N,1μm,6.0s
SKR pmax pmax
comp=E,1μm,6.0s
SKR pmax pmax
comp=Z,1μm,6.0s
SKR smax
comp=N,4μm,10.0s
SKR smax
comp=E,3μm,10.0s
SKR MLR MLR
comp=N,3μm,18.0s,MS5.8
SKR MLR MLR
comp=E,3μm,18.0s,MS5.8
SKR MLR MLR
comp=Z,5μm,18.0s,MS5.8
INCN Inchon 73.15 322 PFAKE 05 38 00.0 +13
INCN LR LR
comp=Z,3μm,20.0s,MS5.5
YSS Yuzh-Sakhalins 73.19 338 *e*P **P** **05 37 46.7 -0.2**
comp=Z,95nm,1.2s,mb5.6
YSS Yuzh-Sakhalins 73.19 338⇓*i*P **P** **05 37 47.7 +0.8**
YSS *e* pP 05 37 52.0 +0.7
YSS *e* 05 38 02.5
YSS *e*PPP PPP 05 42 16.0 +0.5
YSS *e*S S 05 47 08.0 -5.1
YSS *e*PPS PPS 05 47 48.0 -14
YSS *e*SSS SSS 05 55 12.0 +4.5
YSS pmax pmax
comp=Z,40nm,0.9s,mb5.3
GZH Guangzhou 73.39 303 P **P** **05 37 47.9 -0.7**
GZH S S 05 47 06.5 -9.3
GZH LR LR
comp=N,2μm,20.6s,MS5.5
GZH LR LR
comp=E,2μm,19.9s,MS5.5
GZH LR LR
comp=Z,5μm,21.1s,MS5.7
SMY Shemya 73.40 0 *e*P **P** **05 37 47.1 -0.9**
comp=Z,86nm,1.2s,mb5.6
SMY LR LR
comp=Z,7μm,19.0s,MS6.0
SMY Shemya 73.40 0 *e*P **P** **05 37 47.1 -0.9**
SMY pmax pmax
comp=Z,86nm,1.2s,mb5.6
SMY MLR MLR
comp=Z,7μm,19.0s,MS6.0
FX1 Attu Island--F 73.56 360 *e*P **P** **05 37 48.2 -0.8**
QIZ Qiongzhong 74.15 298 P **P** **05 37 55.8 +2.8**
QIZ XP sP 05 38 05.0 +6.1
QIZ PCP PcP 05 38 11.8 +3.4
QIZ S S 05 47 26.0 +1.6
QIZ PS PS 05 48 03.9 +3.4
QIZ AMB AMB
comp=Z,252nm,6.8s
QIZ LR LR
comp=N,1μm,18.8s,MS5.4
QIZ LR LR
comp=E,1μm,21.3s,MS5.4
QIZ LR LR
comp=Z,3μm,22.2s,MS5.6
NJ2 Nanjing 74.45 314 *e*P **P** **05 37 57.4 +2.8**
NJ2 AP pP 05 38 03.6 +4.7
NJ2 XP sP 05 38 06.4 +6.0
NJ2 PP PP 05 40 46.2 +3.2
NJ2 S S 05 47 31.0 +3.4
NJ2 XS 05 47 40.0
NJ2 AMB AMB
comp=Z,20nm,1.0s,mb5.0
NJ2 AMB AMB
comp=Z,150nm,4.6s
NJ2 LR LR
comp=N,8μm,23.0s,MS6.2
NJ2 LR LR
comp=E,14μm,23.6s,MS6.2
NJ2 LR LR
comp=Z,6μm,21.3s,MS5.8
PET Petropavlovsk 74.86 351 *i*P **P** **05 37 55.5 -1.0**
PET LR LR
comp=Z,8μm,21.0s,MS6.0
PET Petropavlovsk 74.86 351 *d*P **P** **05 37 55.9 -0.6**
PET *i*S S 05 47 36.6 +4.9
PET *e*SS SS 05 52 29.3 +7.2
PET *e*SSS SSS 05 55 39.2 +3.4
PET pmax pmax
comp=Z,44nm,1.5s,mb5.2
PET pmax pmax
comp=Z,1μm,7.2s
PET MLR MLR
comp=Z,6μm,19.0s,MS5.9
PET MLR MLR
comp=Z,6μm,17.0s
KULM Kulim 76.26 281 *e*P **P** **05 38 05.8 +0.5**
UNV Unalaska Valle 76.44 12 PFAKE 05 38 20.0 +15
UNV LR LR
comp=Z,8μm,19.0s,MS6.1
WHN Wuhan 76.70 310⇑P **P** **05 38 07.5 +0.1**
WHN S S 05 47 55.0 +2.7
WHN LR LR
comp=N,7μm,28.6s,MS6.1
WHN LR LR
comp=E,11μm,27.8s,MS6.1
WHN LR LR
comp=Z,8μm,22.9s,MS6.0
MDJ Mudanjiang 76.74 329 P **P** **05 38 10.2 +2.9**
MDJ AP pP 05 38 16.8 +5.1
MDJ XP sP 05 38 19.4 +6.2
MDJ PCP PcP 05 38 20.6 +1.5
MDJ S S 05 47 58.9 +6.4
MDJ XS 05 48 10.8
MDJ SS SS 05 52 48.8 -2.7
MDJ AMB AMB
comp=Z,10.0nm,1.3s,mb4.6
MDJ AMB AMB
comp=Z,490nm,7.2s
MDJ LR LR
comp=N,3μm,33.4s,MS5.6
MDJ LR LR
comp=E,3μm,30.5s,MS5.6
MDJ LR LR
comp=Z,4μm,30.5s,MS5.5
MDJ Mudanjiang 76.74 329 *e*P **P** **05 38 07.0 -0.4**
comp=Z,119nm,1.7s,mb5.5
MDJ LR LR
comp=Z,1μm,19.0s,MS5.2
DL2 Dalian 77.01 321 P **P** **05 38 11.2 +2.2**
DL2 XP sP 05 38 23.5 +8.7
DL2 S S 05 48 01.5 +5.9
DL2 PS PS 05 48 37.0 +0.7
DL2 AMB AMB
comp=Z,350nm,2.9s,mb5.8
DL2 LR LR
comp=N,1μm,21.4s,MS5.3
DL2 LR LR
comp=E,1μm,23.6s,MS5.3
DL2 LR LR
comp=Z,2μm,23.7s,MS5.4
CN2 Changchun 78.21 326⇓P **P** **05 38 15.1 -0.3**
CN2 *e*XP sP 05 38 23.5 +2.2
CN2 *e*S S 05 48 09.6 +1.2
CN2 AMB AMB
comp=Z,20nm,1.1s,mb5.0
CN2 AMB AMB
comp=Z,300nm,5.0s
CN2 LR LR
comp=N,3μm,23.0s,MS5.7
CN2 LR LR
comp=E,3μm,23.0s,MS5.7
CN2 LR LR
comp=Z,3μm,23.0s,MS5.6
MAW Mawson 78.40 201⇑*i*P **P** **05 38 15.7 -0.3**
comp=Z,28nm,1.0s,mb5.2
MAW *i*S S 05 48 13.6 +3.7
MAW Mawson 78.40 201 P **P** **05 38 15.9 -0.1**
comp=Z,24nm,1.1s,mb5.1,baz=116,slow=6.1,SNR=28
MAW LR LR 06 10 28.9
comp=Z,5μm,18.5s,MS5.8,baz=279,slow=34
MAW Mawson 78.40 201⇑*i*P **P** **05 38 15.7 -0.3**
MAW *i*S S 05 48 13.6 +3.7
MAW pmax pmax
comp=Z,28nm,1.0s
KLR Kul'dur 79.27 333 *e*P **P** **05 38 18.8 -2.3**
KLR pmax pmax
comp=Z,1μm,7.5s
ENH Enshi 80.08 308 *e*P **P** **05 38 26.0 0.0**
comp=Z,508nm,2.0s,mb6.1
GYA Guiyang 80.32 303⇑*i*P **P** **05 38 26.5 -0.8**
GYA AP pP 05 38 32.9 +1.2
GYA XP sP 05 38 35.6 +2.5
GYA PP PP 05 41 33.0 +1.1
GYA S S 05 48 33.2 +2.2
GYA SKS SKS 05 48 43.0 -2.5
GYA AMB AMB
comp=Z,40nm,1.0s,mb5.3
GYA AMB AMB
comp=Z,200nm,6.0s
GYA LR LR
comp=N,3μm,19.2s,MS5.8
GYA LR LR
comp=E,4μm,20.7s,MS5.8
GYA LR LR
comp=Z,3μm,21.9s,MS5.7
NANT Nan 81.74 294⇑P **P** **05 38 35.0 +0.2**
comp=Z,244nm,1.0s,mb6.1
MA2 Magadan 82.46 348 *e*P **P** **05 38 36.2 -1.5**
MA2 LR LR
comp=Z,8μm,20.0s,MS6.1
MA2 Magadan 82.46 348 *e*P **P** **05 38 36.1 -1.6**
MA2 pmax pmax
comp=Z,60nm,1.6s,mb5.3
MA2 MLR MLR
comp=Z,5μm,20.0s,MS5.9
KMI Kunming 82.82 300⇑P **P** **05 38 42.5 +2.2**
KMI AP pP 05 38 51.0 +6.3
KMI XP sP 05 38 53.5 +7.3
KMI PP PP 05 41 56.7 +4.1
KMI S S 05 49 02.2 +5.5
KMI XS 05 49 13.3
KMI AMB AMB
comp=Z,23nm,1.8s,mb4.9
KMI AMB AMB
comp=Z,331nm,3.5s
KMI LR LR
comp=N,1μm,25.8s,MS5.5
KMI LR LR
comp=E,2μm,24.4s,MS5.5
KMI LR LR
comp=Z,3μm,27.4s,MS5.6
CHRT Chiangrai 82.97 294⇑P **P** **05 38 41.0 -0.2**
comp=Z,250nm,1.2s,mb6.1
CHG Chiang Mai 83.25 293⇓P **P** **05 38 44.0 +1.4**
comp=Z,60nm,1.1s,mb5.5
KDAK Kodiak Island 83.33 17 *e*P **P** **05 38 41.8 -0.5**
SNCC San Nicolas Is 83.38 51 *e*P **P** **05 38 38.2 -4.8**
SNCC LR LR
comp=Z,6μm,20.0s,MS6.0
PMSA Palmer Station 83.78 159 *e*P **P** **05 38 44.2 -0.2**
comp=Z,138nm,1.4s,mb5.9
PMSA LR LR
comp=Z,5μm,21.0s,MS5.9
SAO San Andreas Ge 83.83 47 *e*P **P** **05 38 45.1 -0.2**
comp=Z,22nm,0.9s,mb5.3
SAO LR LR
comp=Z,16μm,20.0s,MS6.4
SAO San Andreas Ge 83.83 47 P **P** **05 38 46.7 +1.4**
SAO pmax pmax
comp=Z,21nm,1.0s,mb5.2
HOPS Hopland 83.93 44 PFAKE 05 39 00.0 +14
HOPS LR LR
comp=Z,17μm,20.0s,MS6.4
HHC Hu-ho-hao-te 84.34 318 *e*P **P** **05 38 49.2 +1.4**
HHC AP pP 05 39 01.7 +9.5
HHC PP PP 05 42 04.9 +0.4
HHC S S 05 49 10.0 -1.7
HHC AMB AMB
comp=Z,23nm,1.2s,mb5.2
HHC AMB AMB
comp=Z,566nm,6.2s
HHC LR LR
comp=N,3μm,24.4s,MS5.8
HHC LR LR
comp=E,4μm,26.8s,MS5.8
HHC LR LR
comp=Z,9μm,27.9s,MS6.0
SYO Syowa Base 84.41 195⇓P **P** **05 38 44.3 -3.1**
CD2 Chengdu 84.69 306⇓*i*P **P** **05 38 50.6 +0.8**
CD2 PP PP 05 42 08.0 +0.5
CD2 SKS SKS 05 49 07.5 -8.1
CD2 S S 05 49 16.9 +1.5
CD2 AMB AMB
comp=Z,40nm,2.5s,mb5.1
CD2 AMB AMB
comp=Z,460nm,6.4s
CD2 LR LR
comp=E,1μm,20.4s
CD2 LR LR
comp=Z,2μm,21.6s,MS5.4
HIA Hailar 84.81 328 *e*P **P** **05 38 48.2 -1.6**
MWC Mount Wilson 84.92 51 *e*P **P** **05 38 51.0 +0.1**

MWC *e*PcP PcP 05 38 58.1 +3.4
MWC *e*PP PP 05 42 08.3 -0.9
WDC Whiskeytown Da 85.14 43 *e*P **P 05 38 52.0 +0.2**
comp=Z,11nm,1.1s,mb4.9
WDC LR LR
comp=Z,13μm,20.0s,MS6.3
WDC Whiskeytown Da 85.14 43 P **P 05 38 52.3 +0.5**
WDC pmax pmax
comp=Z,79nm,1.8s,mb5.5
BTO Baotou 85.19 317 *e*P **P 05 38 53.8 +1.8**
BTO S S 05 49 21.4 +1.4
BTO AMB AMB
comp=Z,13nm,0.3s,mb5.5
CMB Columbia Colle 85.21 46 *e*P **P 05 38 52.6 +0.5**
comp=Z,20nm,1.1s,mb5.2
CMB LR LR
comp=Z,23μm,20.0s,MS6.6
CMB Columbia Colle 85.21 46 *e*P **P 05 38 52.6 +0.4**
CMB pmax pmax
comp=Z,20nm,1.1s,mb5.2
CMB MLR MLR
comp=Z,23μm,20.0s,MS6.6
SEY Seymchan 85.33 350 *i*P **P 05 38 52.0 -0.2**
SEY Seymchan 85.33 350 *i*P **P 05 38 52.1 -0.1**
SEY *e* pP 05 38 58.0 +1.4
SEY *e*S S 05 49 15.9 -4.9
SEY PS PS 05 50 19.4 -0.5
SEY SS SS 05 54 58.7 -0.2
SEY pmax pmax
comp=Z,60nm,1.0s,mb5.7
SEY pmax pmax
comp=N,10.0nm,0.8s
SEY pmax pmax
comp=E,6.0nm,0.8s
SEY smax
comp=N,6μm,23.1s
SEY smax
comp=E,2μm,20.5s
SEY MLR MLR
comp=Z,8μm,20.0s,MS6.1
SEY MLR MLR
comp=N,4μm,19.0s,MS6.0
SEY MLR MLR
comp=E,3μm,18.0s,MS6.0
ISA Isabella 85.33 49 PFAKE 05 39 00.0 +7.2
ISA LR LR
comp=Z,3μm,22.0s,MS5.6
SVW2 Sparrevohn 85.45 14 *e*P **P 05 38 50.7 -2.1**
YBH Yreka Blue Hor 85.66 42 P **P 05 38 54.2 -0.1**
comp=Z,9.0nm,1.0s,mb5.0,baz=147,slow=7.1,SNR=9.9
YBH Yreka Blue Hor 85.66 42 *e*P **P 05 38 53.9 -0.4**
comp=Z,14nm,1.0s,mb5.1
YBH LR LR
comp=Z,6μm,20.0s,MS6.0
YBH Yreka Blue Hor 85.66 42 *e*P **P 05 38 53.9 -0.4**
YBH pmax pmax
comp=Z,14nm,1.0s
YBH MLR MLR
comp=Z,6μm,20.0s
PFO Pinyon Flat Ob 85.79 52 PFAKE 05 39 10.0 +15
PFO LR LR
comp=Z,3μm,20.0s,MS5.6
OMM Old Mammoth Mi 85.95 47 *e*P **P 05 38 56.9 +1.0**
MTUM Tungsten Hills 86.11 48 *e*P **P 05 38 56.7 0.0**
BEKR Beckwourth 86.18 45 *e*P **P 05 38 57.7 +0.8**
comp=Z,7.8nm,0.9s,mb4.9
DAC Darwin (Calif) 86.26 49 PFAKE 05 39 10.0 +13
DAC LR LR
comp=Z,12μm,20.0s,MS6.3
DAC Darwin (Calif) 86.26 49 *e*P **P 05 38 58.8 +1.4**
DAC pmax pmax
comp=Z,92nm,2.1s,mb5.6
SLKM Skilak Lake 86.30 17 *e*P **P 05 38 56.6 -0.4**
COR Corvallis 86.86 40 PFAKE 05 39 10.0 +10
COR LR LR
comp=Z,1μm,20.0s,MS5.4
FIB Fire Island 86.86 17 PFAKE 05 39 10.0 +10
FIB LR LR
comp=Z,3μm,21.0s,MS5.7
TTA Tatalina 86.97 13 *e*P **P 05 39 01.2 +0.9**
LZH Lanzhou 87.08 310 P **P 05 39 03.3 +1.9**
LZH AP pP 05 39 13.1 +7.2
LZH XP sP 05 39 17.0 +10
LZH PP PP 05 42 26.1 -1.4
LZH SKS SKS 05 49 26.5 -4.8
LZH S S 05 49 32.1 -6.2
LZH XS 05 49 51.0
LZH PS PS 05 50 39.0 -3.2
LZH SS SS 05 55 20.0 -4.8
LZH AMB AMB
comp=Z,250nm,1.6s,mb6.2
LZH AMB AMB
comp=Z,970nm,4.6s
LZH LR LR
comp=E,4μm,17.0s
LZH LR LR
comp=Z,8μm,21.0s,MS6.1
MOD Modoc 87.27 43 *e*P **P 05 39 01.2 -1.0**
comp=Z,17nm,0.9s,mb5.3
MOD LR LR
comp=Z,6μm,19.0s,MS6.0
TPH Tonopah 87.39 48 *e*P **P 05 39 03.0 +0.1**
TPH LR LR
comp=Z,12μm,21.0s,MS6.3
TNA Tin City 87.40 8 PFAKE 05 39 10.0 +7.7
TNA LR LR
comp=Z,3μm,22.0s,MS5.6
LDFC Landfair 87.46 51 *e*P **P 05 39 03.4 0.0**
PMR Palmer 87.49 17 *e*P **P 05 39 03.0 +0.2**
PMR LR LR
comp=Z,4μm,19.0s,MS5.9
SNAA Sanae 87.56 181 P **P 05 39 01.9 -1.1**
comp=Z,8.3nm,1.1s,mb4.9,baz=191,slow=3.8,SNR=22
SNAA Sanae 87.56 181 *e*P **P 05 39 01.2 -1.7**
comp=Z,95nm,1.3s,mb5.9
SNAA Sanae 87.56 181 *e*P **P 05 39 01.2 -1.7**
SNAA pmax pmax
comp=Z,95nm,1.3s
EYAK Cordova Ski Ar 87.61 19 *e*P **P 05 39 03.2 -0.2**
MAIT Maitri 87.62 186 *e*P **P 05 39 02.1 -1.1**
NVL N'lazarevskaya 87.62 186⇑ *i*P **P 05 39 00.6 -2.6**
NVL *i* 05 39 01.9
NVL *i* 05 42 29.2
NVL *i* PPP PPP 05 44 27.2 -1.4
NVL *e*S S 05 49 27.0 -16
NVL pmax pmax
comp=Z,3.0nm,1.4s,mb4.3
NVL MLR MLR
comp=Z,250nm,15.9s
NEN Nelson 87.92 51 *e*P **P 05 39 05.7 +0.2**
OCWA Octopus Mounta 88.12 37 PFAKE 05 39 20.0 +14
OCWA LR LR
comp=Z,6μm,19.0s,MS6.0
BMN Battle Mountai 88.54 45 *e*P **P 05 39 07.7 -0.7**
comp=Z,280nm,2.4s,mb6.2
BMN LR LR
comp=Z,19μm,20.0s,MS6.5
BMN Battle Mountai 88.54 45 *e*P **P 05 39 07.7 -0.6**
BMN pmax pmax
comp=Z,280nm,2.4s,mb6.2
BMN MLR MLR
comp=Z,19μm,20.0s,MS6.5
WVOR Wild Horse Val 88.61 43 *e*P **P 05 39 08.0 -0.6**
comp=Z,15nm,1.1s,mb5.2
WVOR LR LR
comp=Z,11μm,20.0s,MS6.3
WVOR Wild Horse Val 88.61 43 P **P 05 39 08.5 -0.1**
WVOR pmax pmax
comp=Z,210nm,2.1s,mb6.1
SIT Sitka 88.64 25 PFAKE 05 39 20.0 +12
SIT LR LR
comp=Z,7μm,22.0s,MS6.0
BILL Bilibino 88.94 357 *i*P **P 05 39 09.2 -0.4**
BILL LR LR
comp=Z,4μm,20.0s,MS5.8
BILL Bilibino 88.94 357 *d i*P **P 05 39 09.1 -0.5**
BILL *e*S S 05 49 49.7 -5.2
BILL *e*SS SS 05 55 54.9 +4.0
BILL pmax pmax
comp=Z,17nm,1.2s,mb5.2
BILL MLR MLR
comp=Z,3μm,19.0s,MS5.8
MCK McKinley 89.32 16 *e*P **P 05 39 12.4 +0.9**
comp=Z,3.1nm,1.0s,mb4.6
MCK LR LR
comp=Z,3μm,20.0s,MS5.7
MCK McKinley 89.32 16 *e*P **P 05 39 12.4 +0.9**
MCK pmax pmax
comp=Z,3.0nm,1.0s,mb4.6
MCK MLR MLR
comp=Z,3μm,20.0s,MS5.7
TUC Tucson 89.46 55 *e*P **P 05 39 12.7 -0.3**
comp=Z,13nm,1.3s,mb5.1
TUC LR LR
comp=Z,10μm,20.0s,MS6.3
TUC Tucson 89.46 55 P **P 05 39 14.3 +1.4**
TUC pmax pmax
comp=Z,55nm,1.7s,mb5.6
CIT Chita 89.61 328 *e*P **P 05 39 13.7 +0.6**
CIT *e* 05 42 52.2
CIT pmax pmax
comp=Z,168nm,2.5s,mb5.9
YAK Yakutsk 89.86 341 *i*P **P 05 39 12.8 -1.3**
YAK LR LR
comp=Z,7μm,21.0s,MS6.1
ARUT Antelope Range 89.90 49 *e*P **P 05 39 16.4 +1.6**
ARUT Antelope Range 89.90 49 P **P 05 39 16.9 +2.0**
ARUT *e* 05 39 23.5
HAWA Hanford 90.06 39 *e*P **P 05 39 14.2 -1.2**
comp=Z,4.2nm,1.3s,mb4.6
MENT Mentasta 90.09 18 *e*P **P 05 39 15.3 +0.2**
IMA Indian Mountai 90.22 13 *e*P **P 05 39 17.7 +2.1**
BMO Blue Mountains 90.64 42 *e*P **P 05 39 17.2 -0.9**
comp=Z,7.2nm,0.9s,mb5.0
BMO LR LR
comp=Z,9μm,21.0s,MS6.2
ILAR Eielson Array 90.69 16 P **P 05 39 15.3 -2.5**
comp=Z,3.9nm,0.9s,mb4.7,baz=231,slow=6.0,SNR=14
ILAR LR LR 06 13 52.8
comp=Z,4μm,20.3s,MS5.8,baz=89,slow=32
ULN Ulaanbaatar 90.83 322 *e*P **P 05 39 18.9 0.0**
comp=Z,11nm,1.0s,mb5.2
ULN Ulaanbaatar 90.83 322 *e*P **P 05 39 18.9 0.0**
ULN pmax pmax
comp=Z,11nm,1.0s,mb5.1
MSU Marysvale 91.11 49 *e*P **P 05 39 21.5 +1.1**
SONM Songino Array 91.20 322 P **P 05 39 20.8 +0.2**
comp=Z,2.1nm,1.0s,mb4.4,baz=135,slow=4.2,SNR=8.1
SONM LR LR 06 18 50.3
comp=Z,2μm,21.6s,MS5.6,baz=117,slow=35
DUG Dugway 91.41 47 *e*P **P 05 39 22.7 +0.9**
comp=Z,69nm,1.9s,mb5.7
DUG LR LR
comp=Z,14μm,20.0s,MS6.4
DUG Dugway 91.41 47 *e*P **P 05 39 22.7 +0.9**
DUG pmax pmax
comp=Z,69nm,1.9s,mb5.7
DUG MLR MLR
comp=Z,14μm,20.0s,MS6.4
GTA Gaotai 91.44 312 *e*P **P 05 39 23.1 +1.2**
GTA AP pP 05 39 29.7 +3.4
GTA XP sP 05 39 32.4 +4.7
GTA PP PP 05 43 02.0 -0.3
GTA SKS SKS 05 49 52.7 -5.2
GTA S S 05 50 18.0 -0.2
GTA XS 05 50 29.4
GTA PS PS 05 51 33.5 +0.1
GTA SS SS 05 56 26.6 -1.0
GTA AMB AMB
comp=Z,16nm,1.4s,mb5.2
GTA AMB AMB
comp=Z,249nm,5.7s
GTA LR LR
comp=N,1μm,19.5s,MS5.6
GTA LR LR
comp=E,2μm,18.4s,MS5.6
GTA LR LR
comp=Z,2μm,19.5s,MS5.7
DLBC Dease Lake 91.69 26 *e*P **P 05 39 22.2 -0.4**
HLID Hailey 91.86 44 *e*P **P 05 39 23.5 -0.3**
comp=Z,3.1nm,0.9s,mb4.6
HLID LR LR
comp=Z,15μm,20.0s,MS6.4
TMUT Trail Mountain 92.13 49 *e*P **P 05 39 26.7 +1.6**
HVU Hansel Valley 92.14 46 *e*P **P 05 39 26.9 +1.8**
MPU Maple Canyon 92.14 48 *e*P **P 05 39 26.6 +1.5**
SPUT South Promonto 92.15 46 *e*P **P 05 39 24.7 -0.4**
CTU Camp Tracy 92.36 47 P **P 05 39 26.5 +0.4**
ZAIG Zacatecas 92.40 67 *i*P **P 05 39 26.7 0.0**
NEW Newport 92.42 39 PFAKE 05 39 40.0 +14
NEW LR LR
comp=Z,6μm,20.0s,MS6.1
JLU Jordanelle 92.52 47 *e*P **P 05 39 26.9 +0.1**
SRU San Rafael 92.53 49 *e*P **P 05 39 26.7 -0.3**
DAU Daniels Canyon 92.58 48 *e*P **P 05 39 27.6 +0.5**
DAU Daniels Canyon 92.58 48 *e*P **P 05 39 28.6 +1.5**
HWUT Hardware Ranch 92.88 46 *e*P **P 05 39 28.1 -0.4**
comp=Z,72nm,2.3s,mb5.7
HWUT LR LR
comp=Z,21μm,20.0s,MS6.6
PV10 Paradox Valley 93.29 50 *e*P **P 05 39 30.7 +0.3**
BNM Barren Site 93.39 55 *e*P **P 05 39 31.0 0.0**
MNTX Cornudas Mount 93.41 57 *e*P **P 05 39 30.5 -0.7**
comp=Z,14nm,1.2s,mb5.3
MNTX LR LR
comp=Z,7μm,20.0s,MS6.1
LPM Los Pinos Moun 93.45 55 *e*P **P 05 39 34.4 +3.1**
PV01 Paradox Valley 93.53 51 *e*P **P 05 39 30.2 -1.3**
MSO Missoula 93.65 41 *e*P **P 05 39 32.6 +0.7**
comp=Z,2.0nm,1.0s,mb4.5
MSO LR LR
comp=Z,3μm,22.0s,MS5.8
AHID Auburn Hatcher 93.69 45 PFAKE 05 39 40.0 +7.8
AHID LR LR
comp=Z,8μm,20.0s,MS6.2
RRI2 Red Ridge 93.79 45 *e*P **P 05 39 32.1 -0.5**
comp=Z,29nm,1.4s,mb5.5
ANMO Albuquerque 93.83 54 *e*P **P 05 39 33.5 +0.5**
ANMO *e*pP pP 05 39 44.5 +7.0
ANMO LR LR
comp=Z,10μm,20.0s,MS6.3
ANMO Albuquerque 93.83 54 *e*P **P 05 39 33.5 +0.5**
ANMO MLR MLR
comp=Z,10μm,20.0s
LTX Lajitas 93.90 60 *e*P **P 05 39 34.1 +0.7**
comp=Z,68nm,1.9s,mb5.8
LTX LR LR
comp=Z,12μm,20.0s,MS6.3
LTX Lajitas 93.90 60 *e*P **P 05 39 34.2 +0.8**
LTX pmax pmax
comp=Z,68nm,1.9s,mb5.8
LTX MLR MLR
comp=Z,12μm,20.0s,MS6.3
TXAR Lajitas Array 93.90 60 P **P 05 39 33.8 +0.3**
comp=Z,2.6nm,1.0s,mb4.6,baz=225,slow=5.3,SNR=12
TXAR LR LR 06 14 31.8
comp=Z,10μm,19.4s,MS6.3,baz=275,slow=31
TPAW Teton Pass 94.09 45 *e*P **P 05 39 34.6 +0.6**
comp=Z,110nm,2.6s,mb5.8
REDW Red Top Meadow 94.10 45 P **P 05 39 36.0 +1.9**
comp=Z,10nm,1.2s,mb5.1
SNOW Snow King Moun 94.21 45 *e*P **P 05 39 35.6 +1.1**
comp=Z,11nm,1.1s,mb5.2
ZAK Zakamensk 94.23 323 *e*P **P 05 39 33.7 -0.7**
ZAK *e* 05 43 17.0
ZAK pmax pmax
comp=Z,3.0nm,1.7s,mb4.5
ZAK pmax pmax
comp=Z,2.0nm,1.4s,mb4.3
PLCA Paso Flores 94.38 137 P **P 05 39 34.9 -0.5**
comp=Z,1.6nm,1.0s,mb4.4,baz=246,slow=0.7,SNR=3.0
PLCA LR LR 06 12 15.2
comp=Z,4μm,21.9s,MS5.9,baz=242,slow=29
GDL2 Guadalupe Moun 94.40 57 *e*P **P 05 39 36.0 +0.2**
BOZ Bozeman (W) 94.57 43 PFAKE 05 39 50.0 +14
BOZ LR LR
comp=Z,13μm,20.0s,MS6.4
BW06 Boulder Array 94.72 46 PFAKE 05 39 50.0 +13
BW06 LR LR
comp=Z,12μm,20.0s,MS6.4
PDAR Pinedale Array 94.72 46 P **P 05 39 35.0 -1.9**
comp=Z,0.6nm,0.7s,baz=225,slow=2.1,SNR=4.2
PDAR LR LR 06 16 02.1
comp=Z,10μm,19.5s,MS6.3,baz=241,slow=32
LKWY Lake 94.90 44 PFAKE 05 39 50.0 +12
LKWY LR LR
comp=Z,19μm,20.0s,MS6.6
SMCO Snowmass 95.08 50 *e*P **P 05 39 39.7 +1.0**
CPRX Cap Rock 95.10 57 *e*P **P 05 39 39.4 +0.5**
PALK Pallekele 95.42 276 PFAKE 05 39 50.0 +9.2
PALK LR LR
comp=Z,1μm,19.0s,MS5.5
ISCO Idaho Springs 96.30 50 PFAKE 05 40 00.0 +16
ISCO LR LR
comp=Z,8μm,20.0s,MS6.2
INK Inuvik 96.90 17 *e*P **P 05 39 44.1 -2.1**
TIXI Tiksi 97.36 347 PFAKE 05 40 00.0 +12
TIXI LR LR
comp=Z,3μm,20.0s,MS5.8
TIXI Tiksi 97.36 347 *i*P **P 05 39 48.5 +0.3**
JCT Junction City 97.44 60 PFAKE 05 40 00.0 +10
JCT LR LR
comp=Z,9μm,20.0s,MS6.2
DGAR Diego Garcia 97.83 259 PFAKE 05 40 00.0 +8.3
DGAR LR LR
comp=Z,2μm,20.0s,MS5.7
LAO LASA Array 98.43 43 PFAKE 05 40 00.0 +6.4
LAO LR LR
comp=Z,16μm,20.0s,MS6.5
RSSD Black Hills 98.95 46 *e*Pdif **P 05 39 56.5 +0.5**
RSSD LR LR
comp=Z,2μm,20.0s,MS5.7
WMOK Wichita Mounta 99.66 57 PFAKE 05 40 10.0 +10
WMOK LR LR
comp=Z,9μm,20.0s,MS6.2
CBKS Cedar Bluff 100.23 52 PFAKE 05 40 10.0 +8.0
CBKS LR LR
comp=Z,5μm,20.0s,MS6.0
DGMT Dagmar 100.35 42 PFAKE 05 40 10.0 +7.7
DGMT LR LR
comp=Z,6μm,21.0s,MS6.1
WMQ Urumqi 101.50 313 *e*P P 05 40 09.0 +1.4
WMQ PP PP 05 44 22.0 +1.8
WMQ SKS SKS 05 50 46.0 -4.8
WMQ S S 05 51 45.0 +1.3
WMQ PS PS 05 53 24.0 +2.3
WMQ SS SS 05 58 52.0 +2.6
WMQ AMB AMB
comp=Z,16nm,1.2s
WMQ AMB AMB
comp=Z,95nm,10.0s
WMQ LR LR
comp=N,3μm,22.0s,MS5.9
WMQ LR LR
comp=E,2μm,23.0s,MS5.9
WMQ LR LR
comp=Z,2μm,22.0s,MS5.7
NATX Nacogdoches 102.02 61 PFAKE 05 40 20.0 +10
NATX LR LR
comp=Z,8μm,20.0s,MS6.3
NNA Nana 103.30 108 PFAKE 05 40 30.0 +14
NNA LR LR
comp=Z,588nm,19.0s,MS5.1
JTS JuntasAbangare 104.07 84 PFAKE 05 40 30.0 +10
JTS LR LR
comp=Z,808nm,20.0s,MS5.3
LVC Limon Verde 105.08 122 *e*PKP 05 44 38.9
LVC LR LR
comp=Z,3μm,22.0s,MS5.8
LPA La Plata 105.85 138 *ce*P Pdif 05 40 21.0 -6.1
LPA *e*PS PS 05 54 08.0 +1.6
MKAR Makanchi Array 105.98 314 Pdiff Pdif 05 40 27.7 +0.3
comp=Z,1.2nm,0.9s,baz=200,slow=40,SNR=2.4
ULM Lac du Bonnet 106.06 42 PFAKE 05 44 50.0
ULM LR LR
comp=Z,11μm,20.0s,MS6.4
CCM Cathedral Cave 106.42 55 PFAKE 05 44 50.0
CCM LR LR
comp=Z,2μm,20.0s,MS5.7
OXF Oxford 107.01 59 PFAKE 05 44 50.0
OXF LR LR
comp=Z,9μm,20.0s,MS6.3
PLAL Pickwick Lake 108.18 59 PFAKE 05 45 00.0
PLAL LR LR
comp=Z,7μm,19.0s,MS6.2
LRAL Lakeview Retre 108.61 61 PFAKE 05 45 00.0
LRAL LR LR
comp=Z,3μm,20.0s,MS5.9
WVT Waverly 108.64 58 PFAKE 05 45 00.0
WVT LR LR
comp=Z,7μm,22.0s,MS6.2
LPAZ La Paz 108.87 116 PFAKE 05 45 00.0
LPAZ LR LR
comp=Z,1μm,20.0s,MS5.4
KURK Kurchatov 109.16 318 PFAKE 05 45 00.0
KURK LR LR
comp=Z,878nm,20.0s,MS5.3
WCI Wyandotte Cave 110.27 56 PFAKE 05 45 00.0 +10
WCI LR LR
comp=Z,1μm,21.0s,MS5.5
AAK Ala-Archa 110.58 309 PFAKE 05 45 00.0 +10
AAK LR LR
comp=Z,542nm,22.0s,MS5.1
MYNC Murphy 111.37 59 PFAKE 05 45 00.0 +8.0
MYNC LR LR
comp=Z,8μm,20.0s,MS6.3
GOGA Godfrey 111.58 61 PFAKE 05 45 00.0 +7.6
GOGA LR LR
comp=Z,5μm,21.0s,MS6.1
CPUP Villa Florida 111.69 131 PFAKE 05 45 00.0 +7.3
CPUP LR LR
comp=Z,2μm,22.0s,MS5.7
DWPF Disney 112.19 67 PFAKE 05 45 00.0 +6.3
DWPF LR LR
comp=Z,681nm,20.0s,MS5.2
ACSO Alum Creek Sta 113.14 54 PFAKE 05 45 00.0 +4.6
ACSO LR LR
comp=Z,7μm,19.0s,MS6.3
BRVK Borovoye 114.55 320 *e*PKP PKPdf 05 44 58.8 +1.1
MCWV Mont Chateau 115.46 55 PFAKE 05 45 10.0 +10
MCWV LR LR
comp=Z,12μm,20.0s,MS6.5
SAML Samuel 116.64 112 PFAKE 05 45 10.0 +7.2
SAML LR LR
comp=Z,1μm,20.0s,MS5.6
SDV Santo Domingo 116.97 91 PFAKE 05 45 10.0 +6.6
SDV LR LR
comp=Z,2μm,21.0s,MS5.6
CBN Corbin 117.21 57 PFAKE 05 45 10.0 +6.7
CBN LR LR
comp=Z,13μm,21.0s,MS6.5
BINY Binghamton 118.59 53 PFAKE 05 45 20.0 +14
BINY LR LR
comp=Z,12μm,22.0s,MS6.5
SVE Sverdlovsk 119.95 324 *i* PKIKP PKPdf 05 45 09.0 +0.9
SVE *e* 05 46 38.0
SVE *e*PPP 05 52 09.0
SVE *e* 06 02 52.0
SVE *e* 06 03 20.0
SVE *e*SSS SSS 06 07 28.0 +4.7
SVE MLR MLR
comp=N,2μm,19.0s,MS6.0
SVE MLR MLR
comp=E,2μm,19.0s,MS6.0
SVE MLR MLR
comp=Z,4μm,19.0s,MS6.0
SUR Sutherland 120.96 207 PFAKE 05 45 20.0 +9.2
SUR LR LR
comp=Z,1μm,20.0s,MS5.5
ARU Arti 121.14 324 *e*PKP PKPdf 05 45 11.1 +0.6
ARU LR LR
comp=Z,1μm,20.0s,MS5.5
ARU Arti 121.14 324 *i* PKIKP PKPdf 05 45 11.1 +0.6
ARU *e*SP SP 05 56 29.0 +1.1
ARU MLR MLR
comp=Z,4μm,20.0s,MS6.0
ARU MLR MLR
comp=N,2μm,19.0s,MS6.0
ARU MLR MLR
comp=E,3μm,20.0s,MS6.0
KBS Kingsbay 121.40 356 *e*SS SS 06 03 17.1 +3.3
KBS AMS AMS 06 30 41.0
comp=Z,937nm,22.6s,MS5.4
KBS Kingsbay 121.40 356 PFAKE 05 45 20.0 +9.4
KBS LR LR
comp=Z,2μm,22.0s,MS5.7
HRV Harvard--Oak R 121.88 52 PFAKE 05 45 20.0 +7.7
HRV LR LR
comp=Z,11μm,20.0s,MS6.5
WES Weston 122.06 52 PFAKE 05 45 20.0 +7.4
WES LR LR
comp=Z,13μm,21.0s,MS6.5
WVL Waterville 123.22 50 PFAKE 05 45 20.0 +5.2
WVL LR LR
comp=Z,28μm,20.0s,MS6.9

SCHQ	**Schefferville**	**123.77**	**37**	PKP	PKPdf	05 45 12.4	-3.3
	comp=Z,3.2nm,0.9s,baz=18,slow=0.9,SNR=3.8						
SCHQ	**Schefferville**	**123.77**	**37**	PKP	PKPdf	05 45 12.4	-3.3
SCHQ				LR	LR		
	comp=Z,7μm,20.0s,MS6.3						
LBTB	**Lobatse**	**124.79**	**216**	PFAKE		05 45 30.0	+12
LBTB				LR	LR		
	comp=Z,3μm,20.0s,MS6.0						
BDFB	**Brasilia**	**125.16**	**128**	PKP	PKPdf	05 45 15.0	-4.3
	comp=Z,3.8nm,1.1s,baz=270,slow=8.1,SNR=3.0						
SUMG	**Summit**	**125.29**	**11**	*e*PKPdf	PKPdf	05 45 15.7	-2.4
BBSR	**BB Station**	**127.11**	**65**	PFAKE		05 45 30.0	+7.4
BBSR				LR	LR		
	comp=Z,2μm,20.0s,MS5.9						
KEV	**Kevo**	**127.29**	**346**	PFAKE		05 45 30.0	+8.0
KEV				LR	LR		
	comp=Z,7μm,22.0s,MS6.3						
ARCES	**ARCESS Array B**	**127.80**	**346**	PKP	PKPdf	05 45 17.4	-5.6
	comp=Z,1.8nm,0.8s,baz=32,slow=16,SNR=3.5						
TRO	**Tromso**	**129.03**	**349**	*e*SS	SS	06 04 49.0	-1.0
TRO				AMS	AMS	06 41 33.9	
	comp=Z,2μm,21.3s,MS5.7						
JMIC	**Jan Mayen**	**129.97**	**1**	*e*PP	PP	05 47 34.6	-5.1
JMIC				*e*SS	SS	06 05 00.3	-1.1
JMIC				AMS	AMS	06 36 55.7	
	comp=Z,961nm,20.1s,MS5.5						
LSZ	**Lusaka**	**130.60**	**226**	PFAKE		05 45 40.0	+10
LSZ				LR	LR		
	comp=Z,4μm,19.0s,MS6.2						
TI2	**Plekhanov**	**132.57**	**308**	*e*PKHKP		05 45 18.0	
GNI	**Garni**	**132.82**	**306**	*i* PKPr	PKPdf	05 45 35.7	+2.3
GNI				LR	LR		
	comp=Z,2μm,21.0s,MS5.8						
GNI	**Garni**	**132.82**	**306**	*d i* PKIKP	PKPdf	05 45 35.7	+2.3
ZEI	**Tsey**	**133.00**	**309**	*e*PKIKP	PKPdf	05 45 35.1	+1.5
OBN	**Obninsk**	**133.26**	**328**	*e*PKP	PKPdf	05 45 35.7	+2.0
OBN				LR	LR		
	comp=Z,5μm,22.0s,MS6.2						
OBN	**Obninsk**	**133.26**	**328**	*i* PKIKP	PKPdf	05 45 38.0	+4.3
OBN						05 48 00.0	
OBN				*e*		05 52 42.4	
OBN				*i* SS	SS	06 06 16.9	+35
KIV	**Kislovodsk**	**133.61**	**311**	*e*PKP	PKPdf	05 45 37.8	+3.2
KIV				LR	LR		
	comp=Z,644nm,21.0s,MS5.3						
KIV	**Kislovodsk**	**133.61**	**311**	*i* PKIKP	PKPdf	05 45 37.8	+3.2
KIV				*e*		05 48 07.0	
KIV				pmax	pmax		
	comp=Z,23nm,2.0s						
TSUM	**Tsumeb**	**133.75**	**212**	PFAKE		05 45 50.0	+14
TSUM				LR	LR		
	comp=Z,4μm,19.0s,MS6.1						
NSS	**Namsos**	**134.82**	**349**	AMS	AMS	06 47 35.7	
	comp=Z,4μm,20.8s,MS6.1						
BORG	**Borgarnes**	**135.13**	**9**	PFAKE		05 45 50.0	+13
BORG				LR	LR		
	comp=Z,750nm,19.0s,MS5.4						
SOC	**Sochi**	**135.79**	**311**	*i* PKIKP	PKPdf	05 45 44.0	+5.3
SOC				*e*		05 48 14.3	
SOC				*e*		05 58 34.7	
SOC				*e*SS	SS	06 06 13.0	+0.3
SOC				*e*SSS	SSS	06 11 20.0	+3.5
SOC				pmax	pmax		
	comp=Z,20nm,0.9s						
SOC				pmax	pmax		
	comp=N,7.0nm,0.5s						
SOC				pmax	pmax		
	comp=E,7.0nm,0.5s						
MALT	**Malatya**	**137.96**	**304**	*e*PKPdf	PKPdf	05 45 40.2	-2.6
MBAR	**Mbarara**	**137.97**	**244**	PFAKE		05 45 50.0	+6.4
MBAR				LR	LR		
	comp=Z,1μm,19.0s,MS5.7						
MBAR	**Mbarara**	**137.97**	**244**	*i* PKIKP	PKPdf	05 45 48.4	+4.8
NAO01	**NORSAR Array S**	**138.40**	**347**	PFAKE		05 45 50.0	+7.0
NAO01				LR	LR		
	comp=Z,4μm,20.0s,MS6.1						
KONO	**Kongsberg**	**139.75**	**348**	*e*	SS	06 07 01.2	+2.6
KONO				*e*		06 50 09.5	
KONO	**Kongsberg**	**139.75**	**348**	PFAKE		05 45 50.0	+4.5
KONO				LR	LR		
	comp=Z,4μm,22.0s,MS6.1						
BER	**Bergen**	**139.80**	**351**	*e*SS	SS	06 06 58.9	-0.2
BER				AMS	AMS	06 46 44.9	
	comp=Z,2μm,21.4s,MS5.8						
BR131	**Keskin Array S**	**141.24**	**308**	PFAKE		05 46 00.0	+11
BR131				LR	LR		
	comp=Z,2μm,20.0s,MS5.8						
BRTR	**Keskin Array B**	**141.24**	**308**	PKP	PKPdf	05 45 45.9	-2.9
	comp=Z,1.3nm,0.9s,baz=270,slow=1.2,SNR=4.4						
LVV	**L'vov**	**142.57**	**328**	*e*PKIKP	PKPdf	05 45 57.0	+6.3
LVV				*i*		05 46 04.4	
LVV				*e*PPP	PPP	05 52 06.6	-2.4
LVV				*e*		05 52 48.8	
LVV				MLR	MLR		
	comp=Z,4μm,25.0s,MS6.1						
LVV				MLR	MLR		
	comp=N,3μm,25.0s,MS6.1						
LVV				MLR	MLR		
	comp=E,2μm,24.0s,MS6.1						
MUD	**Monsted U'grnd**	**142.78**	**346**	*i* P	PKPdf	05 45 53.6	+2.8
MUD				*i*		05 47 19.3	
MUD	**Monsted U'grnd**	**142.78**	**346**	*e*P	PKPdf	05 45 53.6	+2.8
MUD				*i*		05 47 19.3	
MUD				*e*		06 07 12.3	
MUD				*e*		06 07 32.3	
MUD				*i*		06 13 07.1	
MUD	**Monsted U'grnd**	**142.78**	**346**	*e*PKIKP	PKPdf	05 45 53.6	+2.8
MUD				*e*		06 07 32.3	
MUD				*i*		06 13 07.1	
MUD				MLR	MLR		
	comp=Z,2μm,19.0s,MS6.0						
ISP	**Isparta**	**144.13**	**306**	*e*PKPpre		05 45 48.9	
ISP	**Isparta**	**144.13**	**306**	PKIKP	PKPdf	05 45 52.4	-1.4
STHS	**Stebnicka Huta**	**144.20**	**329**	*e*PKP	PKPdf	05 45 51.2	-2.3
UZH	**Uzhgorod**	**144.21**	**327**	*de*PKIKP	PKPdf	05 45 53.0	-0.5
UZH				*i*		05 45 58.0	
TKTP	**Tekketepe**	**144.22**	**306**	*i* P	PKPbc	05 45 47.6	-2.2
OJC	**Ojcow**	**144.32**	**331**	*e*PKPdf	PKPdf	05 45 51.0	-2.7
OJC				*e*PP	PP	05 49 09.9	+0.5
OJC				*e*SKSdf		05 52 54.1	
OJC				*e*SS	SS	06 07 55.8	+3.5
OJC				MLR	MLR	06 50 26.6	
	comp=Z,6μm,19.9s,MS6.4						
ULDT	**Uludag**	**144.37**	**310**	*i* P	PKPbc	05 45 45.0	-5.2
CRVS	**Cervenica-Dubn**	**144.44**	**328**	*e*PKP	PKPdf	05 45 56.4	+2.5
GDZ	**Gediz**	**144.50**	**309**	*i* P	PKPbc	05 45 47.9	-2.8
NIE	**Niedzica**	**144.65**	**330**	*e*PKP	PKPdf	05 45 50.7	-3.6
JMB	**Yambol**	**145.15**	**315**	*e*P	PKPbc	05 45 52.0	-0.3
KECS	**Kecovo**	**145.20**	**328**	*e*PKP	PKPdf	05 45 52.6	-2.7
DNZL	**Cakiroluk**	**145.28**	**306**	*i* P	PKPbc	05 45 53.0	+0.2
AKAS	**Kas**	**145.29**	**304**	*i* P	PKPbc	05 45 52.9	0.0
BTOK	**Tokmak**	**145.30**	**310**	*i* P	PKPbc	05 45 52.7	-0.1
OKC	**Ostrava-Krasne**	**145.33**	**332**	*e*PKP	PKPdf	05 45 52.4	-3.1
OKC				*ex*	x	05 47 29.9	
OKC				*ex*	x	06 03 33.2	
OKC				*ex*	x	06 08 46.4	
OKC				*ex*	x	06 13 44.8	
OKC				AMS	AMS	06 49 10.0	
	comp=Z,4μm,20.6s						
OKC	**Ostrava-Krasne**	**145.33**	**332**	*e*PKIKP	PKPdf	05 45 52.4	-3.1
OKC				*e*SS	x	06 08 46.4	
KSP	**Ksiaz**	**145.35**	**335**	*e*PKP	PKPdf	05 45 52.3	-3.1
KSP	**Ksiaz**	**145.35**	**335**	*e*PKP	PKPdf	05 45 52.6	-2.9
KSP				*e*PKPdf	PKPdf	05 45 59.5	+4.0
KSP				*ep*PKP		05 46 03.0	
KSP				*e*SKKS		06 02 03.0	
KSP				*e*SS	SS	06 08 05.0	+1.4
KSP				*e*SSS	SSS	06 13 02.0	-30
KSP	**Ksiaz**	**145.35**	**335**	*e*PKIKP	PKPdf	05 45 52.6	-2.9
KSP				*e*		05 45 59.5	
KSP				*e*SS	SS	06 08 05.0	+1.4
MANT	**Manisa**	**145.38**	**308**	*i* P	PKPbc	05 45 53.5	+0.5
MORC	**Moravsky Berou**	**145.64**	**332**	*e*PKPdf	PKPdf	05 45 52.9	-3.1
ESK	**Eskdalemuir**	**145.65**	**357**	PFAKE		05 46 10.0	+17
ESK				LR	LR		
	comp=Z,598nm,20.0s,MS5.4						
DPC	**Dobruska-Polom**	**145.72**	**334**	*e*PKP	PKPdf	05 45 54.6	-1.5
DPC				*ep*PKP		05 46 04.9	
DPC				*ex*	x	05 47 31.7	
DPC				*ex*	x	06 03 15.8	
DPC				*ex*	x	06 09 03.4	
DPC				*ex*	x	06 13 36.9	
DPC				AMS	AMS	06 53 20.0	
	comp=Z,5μm,18.5s						
DPC	**Dobruska-Polom**	**145.72**	**334**	*e*PKP2	PKPab	05 45 54.6	-0.9
DPC				*e*		06 13 36.9	
DPC				MLR	MLR		
	comp=Z,5μm,18.5s,MS6.3						
UPC	**Upice**	**145.72**	**335**	*e*PKP	PKPdf	05 45 54.3	-1.8
UPC				*ep*PKP		05 46 04.7	
PSZ	**Piszkesteto**	**145.88**	**328**	*e*PKP/p	PKPdf	05 45 55.4	-1.1
PSZ	**Piszkesteto**	**145.88**	**328**	*e*PKPdf	PKPdf	05 45 54.1	-2.4
PSZ	**Piszkesteto**	**145.88**	**328**	PKP2	PKPab	05 45 54.3	-1.9
VYHS	**Vyhne**	**145.99**	**330**	*e*PKP	PKPdf	05 45 54.7	-1.9
KOLL	**Kolacno**	**146.13**	**330**	*e*PKP	PKPdf	05 45 56.2	-0.7
CLL	**Collm**	**146.20**	**338**	*i* PKIKP	PKPdf	05 45 55.0	-1.9
CLL				*i*		05 45 57.7	
CLL				*i* *PPKP		05 46 04.2	
CLL				*e*		05 46 16.0	
CLL				*e*		05 47 32.0	
CLL				*e*		05 50 43.0	
CLL				*e*SSS	SSS	06 13 51.0	+7.0
CLL	**Collm**	**146.20**	**338**	⇑*i* PKP	PKPdf	05 45 57.7	+0.8
CLL				*i* pPKP		05 46 04.2	
BRG	**Berggiesshubel**	**146.22**	**337**	*e*PKP	PKPdf	05 45 55.5	-1.5
BRG				*e*		05 45 57.8	
BRG				*i*		05 46 07.3	
BRG				*i*		05 46 27.6	
BRG				SS	SS	06 08 37.0	+24
BRG				LR	LR		
	comp=Z,4μm,20.9s,MS6.2						
BRG	**Berggiesshubel**	**146.22**	**337**	*e*PKP2	PKPab	05 45 55.5	-1.9
BRG				MLR	MLR		
	comp=Z,4μm,20.9s,MS6.2						
PVCC	**Panska Ves**	**146.27**	**336**	*e*PKP	PKPdf	05 45 55.8	-1.3
PVCC				*ep*PKP		05 46 07.6	
PVCC				*ex*	x	05 47 32.5	
PVCC				*ex*	x	06 04 02.0	
PVCC				*e*SS	SS	06 08 22.5	+8.5
PVCC				*ex*	x	06 14 05.9	
PVCC				AMS	AMS	06 53 10.0	
	comp=Z,5μm,21.6s						
PVCC	**Panska Ves**	**146.27**	**336**	*e*PKP2	PKPab	05 45 55.8	-1.8
PVCC				*e*SS	SS	06 08 22.5	+8.5
PVCC				MLR	MLR		
	comp=Z,5μm,21.6s,MS6.3						
KDAG	**Bornova**	**146.36**	**308**	*i* P	PKPbc	05 45 52.2	-3.2
ARG	**Arkhangelos**	**146.44**	**304**	*e*P	PKPbc	05 45 50.5	-5.1
PRA	**Prague**	**146.69**	**336**	PKP	PKPdf	05 45 59.0	+1.2
PRU	**Pruhonice**	**146.71**	**335**	*e*PKP	PKPdf	05 45 56.8	-1.0
PRU				*ep*PKP		05 46 04.7	
PRU				*ex*	x	05 47 34.7	
PRU				*ex*	x	06 03 53.5	
PRU				*ex*	x	06 08 35.6	
PRU				*ex*	x	06 14 02.5	
PRU				AMS	AMS	06 53 00.0	
	comp=Z,4μm,19.2s						
RZN	**Rozhen**	**146.74**	**315**	*e*P	PKPbc	05 45 54.0	-2.1
PRK	**Paraskevi**	**146.75**	**310**	*e*P	PKPbc	05 46 00.0	+3.7
SMG	**Samos**	**146.93**	**308**	*e*P	PKPbc	05 45 54.0	-2.7
ZST	**Bratislava**	**147.00**	**331**	*e*PKP	PKPdf	05 45 59.9	+1.5
MOX	**Moxa**	**147.24**	**339**	*i* P	PKPdf	05 46 00.6	+1.9
	comp=Z,logA/T=1.5						
MOX				*e*		05 46 10.0	
MOX				SS	SS	06 08 35.0	+10
MOX				L		06 50 21.0	
MOX	**Moxa**	**147.24**	**339**	*e*PKP	PKPdf	05 46 00.6	+1.9
MOX				*e*SS	SS	06 08 35.0	+10
ZAPS	**Zavoj/Pirot**	**147.24**	**319**	||*i* PKP	PKPdf	05 45 58.3	-0.6
LIA	**Limnos Island**	**147.25**	**312**	*e*P	PKPdf	05 46 28.0	+29
VTS	**Vitosha**	**147.25**	**318**	*e*P	PKPdf	05 46 02.0	+3.0
NKC	**Novy Kostel**	**147.29**	**338**	*e*PKP	PKPdf	05 46 01.0	+2.2
NKC				*ep*PKP		05 46 09.0	
NKC				*ex*	x	05 47 36.0	
NKC				*ex*	x	06 03 36.7	
NKC				*ex*	x	06 08 48.0	
NKC				*ex*	x	06 14 08.2	
NKC				AMS	AMS	06 48 30.0	
	comp=Z,3μm,20.3s						
NKC	**Novy Kostel**	**147.29**	**338**	*e*PKP2	PKPab	05 46 01.0	-0.6
NKC				MLR	MLR		
	comp=Z,3μm,20.3s,MS6.1						
VKA	**Vienna**	**147.31**	**332**	||*i* PKP	PKPdf	05 46 00.0	+1.1
BOLS	**Boljevac**	**147.33**	**321**	*i* PKP	PKPdf	05 46 00.7	+1.6
KARP	**Karpathos**	**147.39**	**304**	*e*P	PKPdf	05 46 10.0	+11
MMB	**Musomiste**	**147.44**	**316**	*e*P	PKPdf	05 45 58.0	-1.3
WTSB	**Winterswijk**	**147.46**	**345**	*e*PKP	PKPdf	05 46 00.0	+1.1
	comp=Z,52nm,2.7s						
SVIS	**Svilajnac**	**147.49**	**322**	*i* PKP	PKPdf	05 45 56.8	-2.4
BEO	**Belgrade**	**147.60**	**323**	*i* PKP	PKPdf	05 45 58.1	-1.4
DCN	**Croghan**	**147.69**	**1**	⇑*i* P	PKPdf	05 45 59.1	-0.2
KKB	**Krupnik**	**147.71**	**317**	*e*P	PKPdf	05 45 59.0	-0.7
DLF	**Lyons Farm**	**147.75**	**0**	⇑*i* P	PKPdf	05 45 59.0	-0.4
KHC	**Kasperske Hory**	**147.78**	**335**	*e*PKP	PKPdf	05 45 59.9	+0.3
KHC				*ep*PKP		05 46 10.1	
KHC				*ex*	x	05 47 37.8	
KHC				*ex*	x	06 03 43.1	
KHC				*e*SS	SS	06 08 22.6	-8.8
KHC				*ex*	x	06 14 10.9	
KHC				AMS	AMS	06 55 30.0	
	comp=Z,4μm,18.2s						
KHC	**Kasperske Hory**	**147.78**	**335**	*e*PKP2	PKPab	05 45 59.9	-3.6
KHC				*e*		06 14 10.9	
KHC				MLR	MLR		
	comp=Z,4μm,18.2s,MS6.2						
DSB	**Dublin**	**147.80**	**0**	*e*PKPbc	PKPdf	05 46 00.2	+0.8
GERES	**GERESS Array B**	**147.96**	**335**	PKPbc	PKPdf	05 46 01.0	+1.1
	comp=Z,3.6nm,0.7s,baz=45,slow=3.8,SNR=20						
GRUS	**Gruza**	**148.02**	**322**	*e*PKP	PKPdf	05 45 54.6	-5.6
APE	**Apeiranthos**	**148.13**	**307**	*e*P	PKPdf	05 46 08.5	+8.0
APE	**Apeiranthos**	**148.13**	**307**	*i* PKP2	PKPab	05 46 04.0	-1.3
GRA1	**Grafenberg Arr**	**148.18**	**338**	*e*PKP	PKPdf	05 46 01.2	+1.0
GRF	**Grafenberg Arr**	**148.18**	**338**	*e*PKP	PKPdf	05 46 01.2	+1.0
GRF				LR	LR		
	comp=Z,4μm,21.9s,MS6.2						
DIVS	**Divcibare**	**148.31**	**323**	⇑*i* PKP	PKPdf	05 46 01.1	+0.5
MOA	**Molln**	**148.51**	**333**	⇑*i* P	PKPdf	05 46 03.3	+2.5
NPS	**Neapolis**	**148.68**	**304**	*e*P	PKPdf	05 46 02.5	+1.0
SKO	**Skopje**	**148.69**	**318**	*i*	PKPdf	05 45 59.9	-1.4
XRY	**Khrísi**	**148.74**	**303**	*e*P	PKPdf	05 46 06.5	+4.9
HGN	**Heimansgroeve**	**148.78**	**345**	*e*PKP	PKPdf	05 46 05.0	+3.9
	comp=Z,59nm,1.9s						
BBLS	**Bajina Basta -**	**148.78**	**323**	*i* PKP	PKPdf	05 45 59.3	-2.0
TOD	**Tromm**	**149.04**	**341**	PKP	PKPdf	05 46 00.5	-1.1
RUP	**Ruppelstein**	**149.46**	**343**	PKP	PKPdf	05 45 59.2	-3.1
KBA	**Koelnbreinsper**	**149.50**	**333**	||*i* P	PKPdf	05 46 04.5	+2.1
VAM	**Vamos**	**149.72**	**305**	*e*P	PKPdf	05 46 06.0	+2.8
WLF	**Walferdange**	**149.74**	**344**	*e*PKPbc	PKPdf	05 46 05.9	+3.2
WLF	**Walferdange**	**149.74**	**344**	PKP2	PKPab	05 46 07.4	-4.1
LJU	**Ljubljana**	**149.78**	**331**	*e*PKP	PKPdf	05 46 03.8	+0.9
LJU				*e*		05 48 28.5	
LJU				*e*		05 49 08.5	
LJU				*e*		05 49 53.4	
BOJS	**Bojanci**	**149.84**	**329**	*e*PKP	PKPdf	05 46 02.0	-1.0
BOJS				*e*		05 47 01.9	
QSH	**Qafa e Shtames**	**149.89**	**319**	*i* p	PKPdf	05 46 14.0	+11
LANF	**Langenberg**	**149.90**	**341**	PKP	PKPdf	05 46 03.5	+0.5
EVR	**Evrytania**	**150.02**	**313**	*e*P	PKPdf	05 46 06.5	+3.0
WTTA	**Wattenberg**	**150.05**	**335**	⇑*i* P	PKPdf	05 46 05.9	+2.6
VOY	**Vojsko**	**150.08**	**331**	*e*PKP	PKPdf	05 46 04.8	+1.4
VOY				*e*		05 46 14.7	
VOY				*e*		05 46 57.2	
VLI	**Veliai**	**150.18**	**308**	*e*P	PKPdf	05 46 07.5	+3.7
MOTA	**Moosalm**	**150.19**	**336**	⇑*i* P	PKPdf	05 46 06.2	+2.7
SQTA	**Sankt Quirin**	**150.25**	**336**	⇑*i* P	PKPdf	05 46 06.0	+2.4
KYTH	**Kithira**	**150.28**	**307**	*e*P	PKPdf	05 46 08.5	+4.5
WLS	**Welschbruch**	**150.54**	**341**	PKP	PKPdf	05 46 03.3	-0.7
CDF	**Champ du Feu**	**150.56**	**342**	*e*PKP1	PKPdf	05 46 05.6	+1.6
	comp=Z,157nm,1.3s						
DAVA	**Damuels**	**150.69**	**337**	⇑*i* P	PKPdf	05 46 08.2	+4.0
ITM	**Ithomi**	**150.72**	**310**	*e*P	PKPdf	05 46 05.5	+0.9
ECH	**Echery**	**150.78**	**342**	PKP	PKPdf	05 46 03.7	-0.6
FELD	**Feldberg**	**150.82**	**340**	PKP	PKPdf	05 46 03.7	-0.7
MOF	**Molkenrain**	**151.11**	**341**	PKP	PKPdf	05 46 04.4	-0.4
HAU	**Haudompre**	**151.20**	**342**	*e*PKP1	PKPdf	05 46 07.1	+2.1
	comp=Z,97nm,1.2s						
HAU				*e*R			
	comp=Z,5μm,19.5s						
HINF	**Hinteralfeld**	**151.22**	**342**	*e*PKP1	PKPdf	05 46 06.9	+1.9
	comp=Z,124nm,1.5s						
LOMF	**Lomont**	**151.65**	**341**	PKP	PKPdf	05 46 04.8	-0.9
FLN	**La Foliniere**	**151.91**	**352**	*e*PKP1	PKPdf	05 46 08.4	+2.4
	comp=Z,206nm,1.6s						
FLN				*e*R			
	comp=Z,4μm,21.2s						
GRR	**Gorron**	**152.32**	**352**	*e*PKP1	PKPdf	05 46 09.4	+2.8
	comp=Z,65nm,1.2s						
LOR	**Lormes**	**152.53**	**345**	*e*PKP1	PKPdf	05 46 10.0	+3.0
LOR				*e*R			
	comp=Z,7μm,22.5s						
CABF	**La Chapelle**	**152.54**	**341**	*e*PKP1	PKPdf	05 46 10.5	+3.5
SSF	**Saint Saulge**	**152.81**	**345**	*e*PKP1	PKPdf	05 46 10.8	+3.5
LPL	**La Plagne**	**153.31**	**339**	*e*PKP1	PKPdf	05 46 12.4	+4.3
LPG	**La Plagne**	**153.32**	**339**	*e*PKP1	PKPdf	05 46 12.7	+4.6
TCF	**Toulx Ste Croi**	**153.84**	**347**	*e*PKP1	PKPdf	05 46 13.0	+4.2
MFF	**Saint Martin d**	**153.97**	**350**	*e*PKP1	PKPdf	05 46 13.3	+4.3
MBDF	**Montbardon**	**154.00**	**339**	*e*PKP1	PKPdf	05 46 13.6	+4.5
ADH	**Angra Heroismo**	**154.76**	**41**	*e*LR	LR	06 39 08.0	
RJF	**Les Rejaudoux**	**154.92**	**347**	*e*PKP1	PKPdf	05 46 15.6	+5.3
RJF				*e*R			
	comp=Z,4μm,20.5s						
PDA	**Ponta Delgada**	**156.29**	**41**	*e*LR	LR	06 40 30.0	
CMLA	**Cha da Macela**	**156.37**	**41**	PFAKE		05 46 20.0	+7.6
CMLA				LR	LR		
	comp=Z,6μm,21.0s,MS6.4						
ESDC	**Sonseca Array**	**161.27**	**355**	PKPab	PKPab	05 46 59.5	-1.4
	comp=Z,3.7nm,0.8s,baz=1.8,slow=3.5,SNR=7.2						
DBIC	**Dimbokro**	**165.71**	**186**	PFAKE		05 46 30.0	+6.8
DBIC				LR	LR		
	comp=Z,4μm,20.0s						

*JMA **09** 05:30:58.3±0.5, 33.19N×142.35E, M3.6*
ISC 09 05:30:59.3±2.0, 33.2N±0.1×142.7E±0.2, h33km, n9,
σ0°98/12, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**2.02**	**316**	P	P	**P**	**05 31 31.7**	**+0.2**
BSO1				S	S	**S**	**05 31 56.4**	**+0.6**
BSO3	**Boso 3**	**2.40**	**312**	P	P	**P**	**05 31 37.3**	**+0.3**
JHJ2	**Mitsune**	**2.41**	**268**	P	P	**P**	**05 31 36.0**	**-1.1**
BSO4	**Boso 4**	**2.63**	**313**	P	P	**P**	**05 31 41.4**	**+1.1**
BSO4				*e*S	S	**S**	**05 32 12.4**	**+1.0**
JHU	**Hanno**	**3.85**	**314**	*e*S	S	**S**	**05 32 41.5**	**-0.8**
JRY	**Ryogami san**	**4.19**	**313**	*e*S	S	**S**	**05 32 50.5**	**-0.4**
JFK	**Kawauchi**	**4.39**	**341**	P	P	**P**	**05 32 04.3**	**-1.1**
JNY	**Yasuok**	**4.53**	**299**	*e*S	S	**S**	**05 33 00.2**	**+0.7**
MAT	**Matsushiro**	**4.95**	**313**	P	P	**P**	**05 32 14.6**	**+1.3**
MAT				S	S	**S**	**05 33 08.3**	**-1.9**

IDC 09 05:52:07.9±6.0, 21.26S×173.67E, h73km±50km, mb3.7/5, mb1 3.9/6, mb1mx3.8/12, mbtmp3.9/6, ML3.2/1, Error ellipse: s-maj=42.1km s-min=32.4km az=125.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.77**	**262**	P	P	P	05 53 44.3	-2.4
	0.4nm,0.3s,baz=64,slow=19,SNR=7.2							
WRA	**Warramunga Arr**	**36.78**	**265**	P	P	P	05 59 09.5	-0.9
	1.8nm,0.9s,baz=99,slow=8.1,SNR=13							
MJAR	**Matsushiro Arr**	**66.54**	**329**	P	P	P	06 02 49.2	-3.1
	1.2nm,0.7s,baz=172,slow=8.6,SNR=4.2							
MAW	**Mawson**	**78.11**	**201**	P	P	P	06 03 58.1	-2.0
	2.9nm,1.2s,baz=155,slow=14,SNR=2.6							
TXAR	**Lajitas Array**	**94.11**	**60**	P	P	P	06 05 20.1	+0.3
	0.3nm,0.7s,baz=228,slow=4.3,SNR=5.5							
PDAR	**Pinedale Array**	**94.97**	**46**	P	P	P	06 05 22.1	-1.3
	0.3nm,0.7s,baz=198,slow=5.7,SNR=2.7							
GERES	**GERESS Array B**	**148.16**	**335**	PKPbc	PKPdf		06 11 44.4	+2.6
	0.7nm,0.6s,baz=45,slow=1.9,SNR=4.1							

IDC 09 06:15:28.5±7.8, 18.71S×177.98W, h592km±89km, mb2.8/3, mb1 3.3/3, mb1mx3.0/13, mbtmp3.7/3, Error ellipse: s-maj=157.2km s-min=33.3km az=159.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.89**	**260**	P	P	P	06 22 51.6	-1.7
	0.4nm,0.4s,baz=97,slow=7.6,SNR=22							
WRA				PcP	PcP	PcP	06 24 20.7	-1.4
	0.1nm,0.3s,baz=96,slow=3.6,SNR=4.8							
TXAR	**Lajitas Array**	**86.08**	**57**	P	P	P	06 27 08.2	-0.7
	0.5nm,0.7s,baz=214,slow=6.5,SNR=9.0							
PDAR	**Pinedale Array**	**87.66**	**43**	P	P	P	06 27 14.8	-1.1
	0.3nm,0.8s,SNR

5.6nm,0.6s,mb4.2,baz=357,slow=13,SNR=4.3
HNR Honiara 27.45 281 LR LR 07 14 40.9
comp=Z,1μm,19.9s,MS4.5,baz=141,slow=33
RPZ Rata Peaks 30.80 203 LR LR 07 16 59.0
comp=Z,1μm,21.7s,MS4.4,baz=201,slow=34
STKA Stephens Creek 44.26 241 P **P 07 07 45.7 -0.2**
5.3nm,1.1s,mb4.2,baz=72,slow=9.6,SNR=3.0
STKA LR LR 07 22 14.7
comp=Z,915nm,19.8s,MS4.7,baz=12,slow=31
WRA Warramunga Arr 50.32 257 P **P 07 08 33.2 -0.3**
0.7nm,0.9s,mb3.7,baz=95,slow=6.9,SNR=4.1
TXAR Lajitas Array 80.46 56 P **P 07 11 46.5 -1.5**
0.1nm,0.7s,mb2.9,baz=169,slow=4.6,SNR=2.6
PDAR Pinedale Array 82.35 42 P **P 07 11 59.0 +1.5**
0.6nm,0.8s,mb3.5,baz=270,slow=1.5,SNR=4.6
ILAR Eielson Array 83.00 11 P **P 07 12 01.8 +1.2**
0.5nm,0.7s,mb3.7,baz=239,slow=5.3,SNR=3.5
BRTR Keskin Array B 147.10 321 PKPbc PKPdf 07 19 18.7 -1.8
0.4nm,0.4s,baz=124,slow=5.2,SNR=2.8

NNC 09 07:14:50.5±9.5, 39.05N×73.67E, h224km±127km, mpv3.4, 3C-1D, Error ellipse: s-maj=136.8km s-min=66.0km az=18.0, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**3.63**	**10**	⇑P	P	07 15 48.3	-1.0
	1.8nm,0.3s						
AAK				⇓S	S	07 16 35.6	+0.8
	22nm,0.8s						
KK31	**Karatay Array**	**4.70**	**331**	P	P	07 16 01.6	-0.7
	5.8nm,0.4s,baz=140,slow=12,SNR=120						
KK31				⇑S	S	07 16 58.5	+0.4
	7.7nm,0.3s						
AB31	**Akbulak array**	**14.16**	**321**	P	P	07 18 04.2	+2.0
	0.2nm,0.3s,baz=146,slow=12,SNR=15						
AB31				⇑S	S	07 20 36.1	+2.0
	0.7nm,0.6s						

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*IDC **09** 07:29:40.8±2.1, 21.37S×176.83W, mb4.0/3, mb1 4.3/3, mb1mx3.9/12, mbtmp4.0/3, Error ellipse: s-maj=158.7km s-min=30.7km az=155.0*
NEIC 09 07:30:09.3±1.2, 22.46S×176.79W, h250km, mb4.0/2, Error ellipse: s-maj=89.2km s-min=16.4km az=159.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTAO	**Charters Tower**	**34.46**	**267**	*e*P	P	07 36 34.1	-1.3
	3.2nm,0.5s						
STKA	**Stephens Creek**	**38.00**	**247**	P	P	07 37 03.8	-1.2
	2.6nm,0.7s,baz=96,slow=13,SNR=5.3						
WRAB	**Tennant Creek**	**45.47**	**264**	*e*P	P	07 38 04.0	-1.5
	5.9nm,0.9s						
WRA	**Warramunga Arr**	**45.47**	**264**	P	P	07 38 03.4	-2.2
	2.9nm,0.8s,baz=96,slow=8.2,SNR=23						
TXAR	**Lajitas Array**	**87.17**	**57**	P	P	07 42 27.4	-1.2
	0.3nm,0.8s,baz=217,slow=4.5,SNR=4.9						
ARCES	**ARCESS Array B**	**131.04**	**350**	PKP	PKPdf	07 48 50.5	-0.1
	2.5nm,0.9s,baz=45,slow=1.7,SNR=5.1						
AKASG	**Malin Array Be**	**145.27**	**331**	PKP	PKPdf	07 49 16.7	0.0
	1.9nm,0.5s,baz=40,slow=4.1,SNR=13						
BRTR	**Keskin Array B**	**148.97**	**311**	PKPbc	PKPdf	07 49 28.5	+5.3
	1.8nm,0.5s,baz=146,slow=4.5,SNR=7.6						

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*IDC **09** 07:59:02.2±0.7, 36.72S×76.43E, mb4.1/12, mb1 4.2/12, mb1mx4.1/18, mbtmp4.1/12, Error ellipse: s-maj=20.8km s-min=19.7km az=179.0*
*NEIC **09** 07:59:03.9±0.4, 36.69S×76.43E, h10km, mb4.5/5, Error ellipse: s-maj=12.6km s-min=10.2km az=184.0*
ISC 09 07:59:02.0±0.5, 36.75S±0.09×76.5E±0.1, h10km, n25, σ0§57/24, mb4.4/18, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAW	**Mawson**	**31.85**	**190**	P	P	**08 05 29.3**	**+0.4**
	1.1nm,0.6s,mb3.9,baz=348,slow=11,SNR=7.1						
MATP	**Matopo**	**44.68**	**278**	P	P	**08 07 16.5**	**-0.4**
	2.5nm,0.7s,mb4.1,baz=130,slow=9.7,SNR=6.9						
MATP	**Matopo**	**44.68**	**278**	P	P	**08 07 16.5**	**-0.4**
LBTB	**Lobatse**	**44.73**	**270**	P	P	**08 07 16.2**	**-1.1**
	3.5nm,0.8s,mb4.2,baz=172,slow=5.2,SNR=4.8						
LBTB	**Lobatse**	**44.73**	**270**	P	P	**08 07 16.6**	**-0.7**
	3.7nm,0.8s,mb4.3						
SUR	**Sutherland**	**45.50**	**258**	P	P	**08 07 23.7**	**+0.4**
	8.7nm,0.8s,mb4.8,baz=88,slow=5.7,SNR=6.7						
SUR	**Sutherland**	**45.50**	**258**	*e*P	P	**08 07 24.0**	**+0.7**
	13nm,0.8s,mb4.9						
LSZ	**Lusaka**	**47.79**	**283**	*e*P	P	**08 07 41.6**	**+0.1**
	8.6nm,0.8s,mb4.8						
SNAA	**Sanae**	**52.25**	**203**	P	P	**08 08 14.4**	**-0.5**
	0.3nm,0.7s,mb3.3,baz=167,slow=14,SNR=3.9						
WRA	**Warramunga Arr**	**52.85**	**88**	P	P	**08 08 20.0**	**-0.2**
	3.3nm,0.8s,mb4.3,baz=239,slow=7.5,SNR=16						
WRAB	**Tennant Creek**	**52.87**	**88**	*e*P	P	**08 08 20.4**	**+0.1**
	3.3nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**53.09**	**105**	P	P	**08 08 21.0**	**-0.9**
	4.8nm,1.0s,mb4.4,baz=295,slow=15,SNR=3.2						
VNDA	**Vanda**	**53.45**	**164**	P	P	**08 08 23.7**	**-0.1**
	1.2nm,0.9s,mb3.8,baz=302,slow=9.8,SNR=3.4						
VNDA	**Vanda**	**53.45**	**164**	P	P	**08 08 25.4**	**+1.6**
	0.9nm,0.6s,mb3.9						
KOLN	**Koldanda**	**64.52**	**7**	*e*P	P	**08 09 41.0**	**-0.4**
	15nm,1.0s,mb5.0						
PKI	**Pulchoki**	**64.53**	**9**	*e*P	P	**08 09 40.8**	**-0.6**
DMN	**Daman**	**64.53**	**8**	*e*P	P	**08 09 41.2**	**-0.2**
	18nm,0.7s,mb5.2						
KKN	**Kakani**	**64.73**	**9**	*e*P	P	**08 09 42.5**	**-0.2**
	5.2nm,0.2s,mb5.2						
GKN	**Gorkha**	**64.86**	**8**	*e*P	P	**08 09 43.5**	**-0.1**
	26nm,0.8s,mb5.3						
GUN	**Gumba**	**64.92**	**9**	*e*P	P	**08 09 44.6**	**+0.6**
MKAR	**Makanchi Array**	**83.33**	**4**	P	P	**08 11 30.4**	**+0.3**
	2.9nm,0.8s,mb4.3,baz=169,slow=6.2,SNR=11						
BRTR	**Keskin Array B**	**85.69**	**328**	P	P	**08 11 43.1**	**+0.9**
	2.2nm,0.9s,mb4.4,baz=143,slow=6.2,SNR=7.3						
SONM	**Songino Array**	**88.35**	**20**	P	P	**08 11 55.6**	**+0.8**
	0.8nm,0.8s,mb4.0,baz=166,slow=6.1,SNR=4.0						
BVAR	**Borovoye Array**	**89.56**	**356**	P	P	**08 12 00.5**	**0.0**
	0.7nm,0.8s,mb4.0,baz=180,slow=5.9,SNR=4.3						
SCHQ	**Schefferville**	**149.15**	**318**	PKPbc	PKPdf	08 18 52.5	+3.8
	2.2nm,0.9s,baz=48,slow=10,SNR=3.8						

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*CSEM **09** 08:22:17.4, 17.35S×177.43W, h33km, mb5.8*
*MOS **09** 08:23:13.3±2.1, 17.01S×178.96W, h510km, mb4.5/27, Error ellipse: s-maj=12.0km s-min=8.6km az=51.2*
*IDC **09** 08:23:15.6±1.3, 17.28S×178.94W, h547km±14km, mb4.0/17, mb1 4.2/19, mb1mx4.1/23, mbtmp4.9/19, Error ellipse: s-maj=15.7km s-min=9.1km az=131.0*
*NEIC **09** 08:23:15.1±0.6, 17.19S×178.89W, h541km±7km, mb4.6/52, Error ellipse: s-maj=8.6km s-min=4.0km az=148.0*
*BJI **09** 08:23:16.4, 16.84S×179.16W, h543km, mB4.5, mb4.3*
ISC 09 08:23:14.4±1.1, 17.23S±0.07×178.92W±0.06, h543km±13km, n261, σ0§80/164, mb4.5/72, 46C-23D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.63**	**65**	P	P	**08 25 08.2**	**-0.9**
	36nm,0.3s,baz=33,slow=1.8,SNR=53						
AFI	**Afiamalu**	**7.63**	**65**	*e*P	P	**08 25 08.0**	**-1.1**
	145nm,0.6s						
AFI	**Afiamalu**	**7.63**	**65**	*e*P	P	**08 25 08.0**	**-1.1**
AFI				pmax	pmax		
	comp=Z,145nm,0.6s						
DZM	**Mont Dzumac**	**14.60**	**248**	⇑*i*P	P	**08 26 21.1**	**+1.4**
DZM	**Mont Dzumac**	**14.60**	**248**	P	P	**08 26 21.9**	**+2.1**
	comp=Z,8.2nm,0.3s,baz=75,slow=17,SNR=63						
DZM	**Mont Dzumac**	**14.60**	**248**	⇑*i*P	P	**08 26 21.1**	**+1.4**
URZ	**Urewera**	**21.24**	**189**	P	P	**08 27 22.1**	**-0.9**
	comp=Z,3.8nm,0.3s,mb4.5,baz=341,slow=16,SNR=14						
URZ				S	S	**08 30 41.4**	**-1.5**
	comp=Z,7.4nm,1.0s,baz=35,slow=13,SNR=2.4						
PMOR	**Pomariorio Ree**	**29.87**	**90**	*e*P	P	**08 28 38.9**	**-0.7**
	comp=Z,57nm,1.1s,mb5.0						
CTA	**Charters Tower**	**33.08**	**260**	⇓*i*P	P	**08 29 07.3**	**+0.5**
	comp=Z,38nm,0.7s,mb5.0						
CTA	**Charters Tower**	**33.08**	**260**	⇓*i*P	P	**08 29 07.3**	**+0.5**
CTA				pmax	pmax		
	comp=Z,39nm,0.7s						
CTAO	**Charters Tower**	**33.08**	**260**	⇓*e*P	P	**08 29 07.3**	**+0.5**
	comp=Z,59nm,0.7s,mb5.2						
CTAO				*e*S	S	**08 33 56.4**	**+7.6**
CTAO	**Charters Tower**	**33.08**	**260**	⇓*e*P	P	**08 29 07.3**	**+0.5**
CTAO				*e*S	S	**08 33 56.4**	**+7.6**
CTAO				pmax	pmax		
	comp=Z,59nm,0.7s,mb5.2						
CNB	**Canberra Magne**	**33.46**	**231**	⇓*i*P	P	**08 29 10.7**	**+0.9**
	comp=Z,39nm,0.5s,mb5.2						
PMG	**Port Moresby**	**33.87**	**279**	⇓*i*P	P	**08 29 15.6**	**+2.1**
	comp=Z,138nm,0.8s,mb5.5						
PMG	**Port Moresby**	**33.87**	**279**	⇓*i*P	P	**08 29 15.6**	**+2.1**
PMG				pmax	pmax		
	comp=Z,138nm,0.8s						
TOO	**Toolangi**	**37.22**	**230**	⇓*i*P	P	**08 29 41.8**	**+0.9**
	comp=Z,40nm,0.7s,mb5.1						
TOO	**Toolangi**	**37.22**	**230**	⇓*i*P	P	**08 29 41.8**	**+0.9**
TOO				pmax	pmax		
	comp=Z,40nm,0.7s,mb5.1						
STKA	**Stephens Creek**	**38.53**	**240**	⇓*i*P	P	**08 29 52.7**	**+1.1**
	comp=Z,35nm,0.4s,mb5.2						
STKA	**Stephens Creek**	**38.53**	**240**	P	P	**08 29 52.8**	**+1.2**
	comp=Z,38nm,0.4s,mb5.2,baz=85,slow=9.3,SNR=157						
ADE	**Adelaide**	**41.60**	**236**	*e*P	P	**08 30 17.0**	**+0.7**
WB2	**Warramunga Arr**	**44.27**	**259**	⇓*i*P	P	**08 30 37.1**	**-0.4**
WB2				*e*S	S	**08 36 28.5**	**-3.7**
WRAB	**Tennant Creek**	**44.27**	**259**	⇓*e*P	P	**08 30 37.0**	**-0.5**
	comp=Z,94nm,0.6s,mb5.5						
WRAB	**Tennant Creek**	**44.27**	**259**	⇓*e*P	P	**08 30 37.0**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,94nm,0.6s,mb5.5						
WRA	**Warramunga Arr**	**44.28**	**259**	P	P	**08 30 37.0**	**-0.5**
	comp=Z,25nm,0.3s,mb5.3,baz=83,slow=7.8,SNR=1096						
WRA				ScP		08 35 10.6	
	comp=Z,3.1nm,1.0s,baz=91,slow=3.6,SNR=5.8						
WRA				S	S	**08 36 28.6**	**-3.8**
	comp=Z,1.7nm,0.9s,baz=93,slow=14,SNR=5.4						
WRA	**Warramunga Arr**	**44.28**	**259**	P	P	**08 30 37.0**	**-0.6**
WRA				S	S	**08 36 28.6**	**-3.8**
WRA				pmax	pmax		
	comp=Z,25nm,0.3s						
WRA				pmax	pmax		
	comp=E,3.0nm,1.0s						
WRA				smax			
	comp=E,2.0nm,0.9s						
KAKA	**Kakadu**	**47.11**	**269**	*e*P	P	**08 31 07.4**	**+8.0**
	comp=E,67nm,0.4s,mb5.5						
FORT	**Forrest**	**49.86**	**244**	⇓*i*P	P	**08 31 18.8**	**-1.0**
	comp=E,133nm,0.6s,mb5.5						
FITZ	**Fitzroy Crossi**	**52.66**	**260**	⇓*i*P	P	**08 31 40.2**	**-0.1**
	comp=E,30nm,0.4s,mb5.0						
MBWA	**Marble Bar**	**57.77**	**256**	⇓*e*P	P	**08 32 14.9**	**-0.9**
	comp=E,24nm,0.3s,mb4.9						
KLBR	**Kellerberrin**	**58.70**	**243**	⇓*i*P	P	**08 32 20.6**	**-1.3**
	comp=E,47nm,0.6s,mb4.9						
NWAO	**Narrogin (SRO)**	**59.10**	**242**	*e*P	P	**08 32 23.7**	**-0.8**
	comp=E,8.7nm,0.5s,mb4.2						
NWAO	**Narrogin (SRO)**	**59.10**	**242**	*e*P	P	**08 32 23.7**	**-0.8**
NWAO				pmax	pmax		
	comp=Z,9.0nm,0.5s						
MUN	**Mundaring**	**60.00**	**243**	⇑*i*P	P	**08 32 30.1**	**-0.4**
	comp=Z,14nm,0.6s,mb4.5						
MUN	**Mundaring**	**60.00**	**243**	⇑*i*P	P	**08 32 30.1**	**-0.4**
MUN				pmax	pmax		
	comp=Z,14nm,0.6s,mb4.5						
SBA	**Scott Base**	**61.06**	**183**	*e*P	P	**08 32 37.2**	**+0.3**
	comp=Z,3.8nm,0.9s,mb3.7						
SBA	**Scott Base**	**61.06**	**183**	*e*P	P	**08 32 37.2**	**+0.3**
SBA				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb3.8						
CASY	**Casey**	**66.55**	**205**	⇓*i*P	P	**08 33 11.0**	**-0.7**
CASY	**Casey**	**66.55**	**205**	*e*P	P	**08 33 11.0**	**-0.8**
	comp=Z,18nm,1.0s,mb4.5						
MJAR	**Matsushiro Arr**	**67.08**	**323**	P	P	**08 33 15.1**	**-0.5**
	comp=Z,14nm,0.6s,mb4.6,baz=163,slow=6.6,SNR=35						
MJAR	**Matsushiro Arr**	**67.08**	**323**	P	P	**08 33 15.1**	**-0.4**
MJAR				pmax	pmax		
	comp=Z,14nm,0.6s						
MAJO	**Matsushiro**	**67.08**	**323**	⇑*e*P	P	**08 33 15.2**	**-0.3**
	comp=Z,14nm,0.5s,mb4.8						
MAJO	**Matsushiro**	**67.08**	**323**	⇑*e*P	P	**08 33 15.2**	**-0.3**
MAJO				pmax	pmax		
	comp=Z,14nm,0.5s,mb4.8						
MAT	**Matsushiro**	**67.08**	**323**	P	P	**08 33 15.2**	**-0.3**
MAT	**Matsushiro**	**67.08**	**323**	*e*P	P	**08 33 15.0**	**-0.5**
	comp=Z,10nm,0.8s,mb4.4						
MAT	**Matsushiro**	**67.08**	**323**	*e*P	P	**08 33 15.0**	**-0.5**
MAT				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.4						
KKM	**Kota Kinabalu**	**68.11**	**284**	*e*P	P	**08 33 22.1**	**-0.1**
FX1	**Attu Island--F**	**70.16**	**355**	*e*P	P	**08 33 31.9**	**-1.7**
KSM	**Kuching**	**72.12**	**277**	*e*P	P	**08 33 46.4**	**+0.6**
YSS	**Yuzh-Sakhalins**	**72.60**	**334**	⇓*i*P	P	**08 33 48.9**	**+0.9**
YSS				pmax	pmax		
	comp=Z,22nm,1.3s,mb4.4						
PET	**Petropavlovsk**	**72.60**	**346**	*e*P	P	**08 33 47.1**	**-0.8**
PET				pmax	pmax		
	comp=Z,26nm,0.6s,mb4.8						
NJ2	**Nanjing**	**77.14**	**310**	*e*P	P	**08 34 13.5**	**+0.1**
NJ2				AP	pP	08 36 09.2	-0.5
NJ2				XP	sP	08 37 03.3	-1.1
NJ2				PP	PP	08 37 18.3	+1.2
NJ2				S	S	08 43 18.0	-0.3
NJ2				XS		08 46 41.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.4						
NJ2				AMB	AMB		
	comp=Z,160nm,5.6s						
MWC	**Mount Wilson**	**77.25**	**48**	*e*P	P	**08 34 14.2**	**+0.2**
MDJ	**Mudanjiang**	**77.36**	**325**	*e*P	P	**08 34 15.4**	**+1.0**
	comp=Z,18nm,0.8s,mb4.5						
CMB	**Columbia Colle**	**77.69**	**44**	*e*P	P	**08 34 15.5**	**-0.7**
	comp=Z,9.8nm,0.9s,mb4.1						
CMB	**Columbia Colle**	**77.69**	**44**	*e*P	P	**08 34 15.5**	**-0.8**
CMB				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.2						
KDAK	**Kodiak Island**	**77.86**	**14**	*e*P	P	**08 34 16.5**	**-0.3**
	comp=Z,24nm,0.8s,mb4.6						
YBH	**Yreka Blue Hor**	**78.31**	**39**	P	P	**08 34 20.4**	**+0.8**
	comp=Z,6.6nm,0.7s,mb4.1,baz=167,slow=0.8,SNR=13						
YBH	**Yreka Blue Hor**	**78.31**	**39**	P	P	**08 34 20.4**	**+0.9**
YBH				pmax	pmax		
	comp=Z,7.0nm,0.7s						
OMM	**Old Mammoth Mi**	**78.39**	**45**	*e*P	P	**08 34 20.5**	**+0.5**
BEKR	**Beckwourth**	**78.72**	**42**	*e*P	P	**08 34 22.1**	**+0.3**
	comp=Z,5.4nm,0.6s,mb4.0						
BUOR	**Burton Butte**	**78.91**	**39**	P	P	**08 34 23.6**	**+0.9**
CN2	**Changchun**	**79.19**	**323**	⇑P	P	**08 34 25.0**	**+0.9**
CN2				*e*XP	sP	08 37 15.0	-0.7
CN2				*e*S	S	08 43 41.0	+1.6
CN2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.4						
CN2				AMB	AMB		
	comp=Z,500nm,5.0s						
LDFC	**Landfair**	**79.78**	**48**	*e*P	P	**08 34 27.9**	**+0.6**
MOD	**Modoc**	**79.89**	**40**	*e*P	P	**08 34 27.3**	**-0.5**
	comp=Z,9.7nm,0.6s,mb4.3						
NEN	**Nelson**	**80.24**	**48**	*e*P	P	**08 34 29.8**	**0.0**
RSO	**Redoubt South**	**80.25**	**13**	*e*P	P	**08 34 27.9**	**-1.3**
MA2	**Magadan**	**80.42**	**345**	*e*P	P	**08 34 29.5**	**-0.7**
	comp=Z,8.3nm,0.7s,mb4.2						
MA2	**Magadan**	**80.42**	**345**	*i* P	P	**08 34 31.7**	**+1.5**
SLKM	**Skilak Lake**	**80.85**	**14**	*e*P	P	**08 34 31.3**	**-1.1**
BMN	**Battle Mountai**	**81.04**	**43**	*e*P	P	**08 34 34.1**	**+0.3**
	comp=Z,15nm,0.9s,mb4.4						
BMN	**Battle Mountai**	**81.04**	**43**	*e*P	P	**08 34 34.1**	**+0.3**
BMN				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.4						
SPU	**Mount Spurr**	**81.05**	**13**	*e*P	P	**08 34 32.0**	**-1.4**
VIPM	**Ingram Point**	**81.16**	**38**	P	P	**08 34 35.1**	**+0.7**
WVOR	**Wild Horse Val**	**81.21**	**41**	*e*P	P	**08 34 34.3**	**-0.3**
	comp=Z,14nm,1.0s,mb4.4						
WVOR	**Wild Horse Val**	**81.21**	**41**	*e*P	P	**08 34 34.3**	**-0.3**
WVOR				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.3						
ERK	**Elk Rock**	**81.22**	**36**	P	P	**08 34 35.5**	**+1.0**
TDL	**Tradedollar La**	**81.31**	**36**	P	P	**08 34 36.1**	**+1.1**
TUC	**Tucson**	**81.68**	**53**	*e*P	P	**08 34 38.3**	**+1.1**
	comp=Z,7.5nm,1.0s,mb4.1						
TUC	**Tucson**	**81.68**	**53**	*e*P	P	**08 34 38.3**	**+1.1**
TUC				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.1						
BBB	**Bella Bella**	**81.96**	**29**	P	P	**08 34 38.3**	**+0.2**
	comp=Z,10nm,0.8s,mb4.3,baz=257,slow=6.8,SNR=5.1						
EYAK	**Cordova Ski Ar**	**81.99**	**16**	*e*P	P	**08 34 36.5**	**-1.6**
RMW	**Rattlesnake Mo**	**82.19**	**35**	P	P	**08 34 39.9**	**+0.5**
ARUT	**Antelope Range**	**82.27**	**47**	*e*P	P	**08 34 40.4**	**+0.4**
SML	**Sawmill**	**82.44**	**14**	*e*P	P	**08 34 39.6**	**-0.8**
ELK	**Elko**	**82.50**	**43**	P	P	**08 34 41.9**	**+0.7**
	comp=Z,6.2nm,0.7s,mb4.2,baz=283,slow=4.2,SNR=32						
ELK	**Elko**	**82.50**	**43**	*e*P	P	**08 34 40.7**	**-0.4**
	comp=Z,7.6nm,0.8s,mb4.3						
ELK	**Elko**	**82.50**	**43**	P	P	**08 34 41.9**	**+0.8**
ELK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
HAWA	**Hanford**	**82.86**	**37**	*e*P	P	**08 34 42.1**	**-0.7**
	comp=Z,0.9nm,0.7s,mb3.4						
SEY	**Seymchan**	**83.01**	**347**	*c i*P	P	**08 34 43.0**	**-0.3**
BMO	**Blue Mountains**	**83.33**	**39**	*e*P	P	**08 34 44.5**	**-0.8**
	comp=Z,3.5nm,0.7s,mb4.0						
BMO	**Blue Mountains**	**83.33**	**39**	*e*P	P	**08 34 44.5**	**-0.7**
BMO				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb3.9						
MSU	**Marysvale**	**83.48**	**47**	*e*P	P	**08 34 46.3**	**+0.1**
ENH	**Enshi**	**83.49**	**304**	*e*P	P	**08 34 47.3**	**+0.9**
	comp=Z,11nm,0.8s,mb4.4						
MCK	**McKinley**	**83.99**	**13**	*e*P	P	**08 34 47.0**	**-1.0**
	comp=Z,17nm,0.9s,mb4.6						
MCK	**McKinley**	**83.99**	**13**	*e*P	P	**08 34 47.0**	**-1.0**
MCK				pmax	pmax		
	comp=Z,17nm,0.9s,mb4.6						
MAW	**Mawson**	**84.33**	**200**	⇓*i*P	P	**08 34 49.8**	**+0.2**
	comp=Z,4.7nm,0.6s,mb4.2						
MAW	**Mawson**	**84.33**	**200**	P	P	**08 34 50.1**	**+0.5**
	comp=Z,5.4nm,0.6s,mb4.3,baz=133,slow=5.5,SNR=26						
MAW	**Mawson**	**84.33**	**200**	P	P	**08 34 50.1**	**+0.5**
MAW				pmax	pmax		
	comp=Z,5.0nm,0.6s						
HLID	**Hailey**	**84.44**	**41**	*e*P	P	**08 34 50.9**	**+0.1**
	comp=Z,6.9nm,0.7s,mb4.3						
TMUT	**Trail Mountain**	**84.52**	**46**	*e*P	P	**08 34 52.5**	**+1.3**
SRU	**San Rafael**	**84.91**	**47**	*e*P	P	**08 34 53.3**	**+0.1**
COLA	**College**	**85.22**	**13**	*e*P	P	**08 34 53.6**	**-0.4**
NEW	**Newport**	**85.25**	**36**	P	P	**08 34 54.3**	**-0.3**
	comp=Z,4.0nm,0.6s,mb4.1,baz=210,slow=5.9,SNR=10						
NEW	**Newport**	**85.25**	**36**	*e*P	P	**08 34 54.1**	**-0.5**
	comp=Z,5.2nm,0.7s,mb4.2						
NEW	**Newport**	**85.25**	**36**	P	P	**08 34 54.3**	**-0.3**
NEW				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ILAR	**Eielson Array**	**85.34**	**13**	P	P	**08 34 53.8**	**-0.8**
	comp=Z,7.2nm,0.6s,mb4.4,baz=227,slow=5.1,SNR=43						
ILAR	**Eielson Array**	**85.34**	**13**	P	P	**08 34 53.8**	**-0.8**
ILAR				pmax	pmax		
	comp=Z,7.0nm,0.6s						
HWUT	**Hardware Ranch**	**85.34**	**44**	*e*P	P	**08 34 55.0**	**-0.2**
	comp=Z,2.1nm,0.6s,mb3.8						
DLBC	**Dease Lake**	**85.41**	**23**	P	P	**08 34 55.5**	**+0.4**
	comp=Z,6.0nm,0.8s,mb4.2,baz=229,slow=6.6,SNR=8.0						
DLBC	**Dease Lake**	**85.41**	**23**	*e*P	P	**08 34 54.9**	**-0.2**
MNTX	**Cornudas Mount**	**85.59**	**55**	*e*P	P	**08 34 56.8**	**+0.2**
	comp=Z,2.4nm,0.6s,mb4.0						
BILL	**Bilibino**	**85.71**	**354**	*e*P	P	**08 34 55.6**	**-0.7**
	comp=Z,17nm,0.6s,mb4.8						
BILL	**Bilibino**	**85.71**	**354**	*c i*P	P	**08 34 56.3**	**0.0**
BILL				pmax	pmax		
	comp=Z,22nm,0.8s,mb4.8						
PV01	**Paradox Valley**	**85.85**	**48**	*e*P	P	**08 34 57.7**	**0.0**
LTX	**Lajitas**	**86.05**	**58**	*e*P	P	**08 35 00.1**	**+1.3**
	comp=Z,3.6nm,0.9s,mb4.0						
LTX	**Lajitas**	**86.05**	**58**	*e*P	P	**08 35 00.1**	**+1.3**
LTX				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.0						
TXAR	**Lajitas Array**	**86.05**	**58**	P	P	**08 35 00.1**	**+1.2**
	comp=Z,3.5nm,0.8s,mb4.0,baz=216,slow=6.2,SNR=51						
TXAR				pP	pP	08 37 03.0	+5.0
	comp=Z,0.8nm,1.1s,baz=225,slow=5.3,SNR=4.7						
TXAR	**Lajitas Array**	**86.05**	**58**	P	P	**08 35 00.1**	**+1.2**
TXAR				pP	pP	08 37 03.0	+4.9
TXAR	**Lajitas Array**	**86.05**	**58**	P	P	**08 35 00.1**	**+1.3**
TXAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
TXAR				pmax	pmax		
	comp=Z,1.0nm,1.1s						
ANMO	**Albuquerque**	**86.06**	**52**	P	P	**08 34 59.4**	**+0.7**
	comp=Z,2.6nm,0.9s,mb3.9,baz=223,slow=5.8						
ANMO	**Albuquerque**	**86.06**	**52**	*e*P	P	**08 34 58.6**	**-0.2**
	comp=Z,4.9nm,1.1s,mb4.0						
ANMO	**Albuquerque**	**86.06**	**52**	P	P	**08 34 59.4**	**+0.6**
ANMO				pmax	pmax		
	comp=Z,3.0nm,0.9s						
RRI2	**Red Ridge**	**86.31**	**43**	*e*P	P	**08 35 00.5**	**+0.7**
	comp=Z,30nm,0.8s,mb5.0						
DAWY	**Dawson**	**86.58**	**16**	*e

ARCES pmax pmax
comp=Z,5.0nm,0.8s
FINES FINESS Array B 132.41 344 PKP PKPdf 08 41 26.8 +0.3
comp=Z,2.2nm,0.9s,baz=153,slow=4.3,SNR=3.8
FINES SKPbc 08 44 03.3
comp=Z,2.2nm,0.8s,SNR=5.1
FINES FINESS Array B 132.41 344 PKIKP PKPdf 08 41 26.8 +0.3
FINES 08 44 03.3
FINES pmax pmax
comp=Z,2.0nm,0.9s
FINES pmax pmax
comp=E,2.0nm,0.8s
OBN Obninsk 133.48 333 *i* PKIKP PKPdf 08 41 34.0 +5.4
OBN 08 44 08.0
OBN *e* 08 54 29.0
NOA NORSAR Array B 135.65 353 PKP PKPdf 08 41 33.1 +0.6
comp=E,0.5nm,0.5s,baz=14,slow=4.1,SNR=3.8
NOA NORSAR Array B 135.65 353 PKIKP PKPdf 08 41 33.1 +0.6
NOA pmax pmax
comp=Z,1.0nm,0.5s
GNI Garni 135.97 310 *i* PKIKP PKPdf 08 41 41.9 +8.2
KIV Kislovodsk 136.03 316 *i* PKIKP PKPdf 08 41 41.5 +7.8
KIV *e* 08 44 24.6
KIV pmax pmax
comp=Z,5.0nm,0.8s
AKASG Malin Array Be 139.74 332 PKP PKPdf 08 41 42.9 +2.6
comp=Z,2.1nm,0.6s,baz=42,slow=2.6,SNR=7.0
AKASG Malin Array Be 139.74 332 PKIKP PKPdf 08 41 42.9 +2.6
AKASG pmax pmax
comp=Z,2.0nm,0.6s
LVV L'vov 142.59 335 *e*PKHKP PKPdf 08 41 42.8 -2.4
KWP Kalwaria 143.26 336⇑*e*PKP PKPdf 08 41 46.1 -0.2
DCN Croghan 143.38 8⇑*i*P PKPbc 08 41 45.3 -0.1
DLF Lyons Farm 143.52 8⇑*i*P PKPbc 08 41 45.8 0.0
OJC Ojcow 143.81 340 *e*PKP PKPdf 08 41 47.6 +0.4
BR131 Keskin Array S 143.96 315 *e*PKPdf PKPdf 08 41 48.3 +0.5
BRTR Keskin Array B 143.96 315 PKP PKPdf 08 41 48.8 +0.9
comp=Z,3.7nm,0.7s,baz=135,slow=3.5,SNR=15
BRTR Keskin Array B 143.96 315 PKIKP PKPdf 08 41 48.8 +1.0
BRTR pmax pmax
comp=Z,4.0nm,0.7s
STHS Stebnicka Huta 143.98 337 *i* PKP PKPdf 08 41 48.9 +1.4
KOLS Kolonicke sedl 143.99 336 *i* PKP PKPdf 08 41 48.6 +1.0
CFR Carcaliu 144.11 327⇑P PKPbc 08 41 47.0 -0.8
NIE Niedzica 144.32 338 *e*PKP PKPdf 08 41 50.0 +1.9
KSP Ksiaz 144.33 343⇑*e*PKP PKPdf 08 41 49.8 +1.7
KSP Ksiaz 144.33 343⇑*e*PKP PKPdf 08 41 49.8 +1.7
CRVS Cervenica-Dubn 144.33 337 *i* PKP PKPdf 08 41 49.8 +1.6
TIRR Tirgusor 144.44 326⇑P PKPdf 08 41 49.9 +1.4
TIRR Tirgusor 144.44 326⇑P PKPdf 08 41 49.9 +1.4
OKC Ostrava-Krasne 144.68 341 *e*PKP PKPdf 08 41 50.7 +1.9
CLZ Clausthal 144.69 350 *e*PKIKP PKPdf 08 41 50.6 +1.9
CLL Collm 144.70 347⇑*i*PKIKP PKPdf 08 41 50.4 +1.6
comp=Z,logA/T=1.8
UPC Upice 144.71 343 *e*PKP PKPdf 08 41 50.9 +2.1
DPC Dobruska-Polom 144.76 343 *e*PKP PKPdf 08 41 51.3 +2.4
BRG Berggiesshubel 144.90 346 *i* P PKPdf 08 41 51.0 +1.9
MORC Moravsky Berou 144.92 341 *e*PKPdf PKPdf 08 41 50.9 +1.7
MLR Muntele Rosu 145.00 329⇑P PKPdf 08 41 52.0 +2.5
KECS Kecovo 145.04 337 *e*PKP PKPdf 08 41 52.0 +2.5
WTSB Winterswijk 145.05 354 *e*PKP PKPdf 08 41 51.2 +1.8
PVCC Panska Ves 145.06 345 *e*PKP PKPdf 08 41 52.0 +2.6
PRU Pruhonice 145.57 345 *e*PKP PKPdf 08 41 53.2 +2.9
PRU *e* 08 41 55.0
MOX Moxa 145.61 348 *i* P PKPdf 08 41 53.0 +2.6
MOX Moxa 145.61 348 *e*PKP PKPdf 08 41 53.0 +2.6
VYHS Vyhne 145.62 339 *i* PKP PKPdf 08 41 53.7 +3.2
PSZ Piszkesteto 145.73 337 *e*PKPbc PKPbc 08 41 53.3 +1.2
MBAR Mbarara 145.83 242 *e*PKPbc PKPbc 08 41 54.4 +1.1
MBAR Mbarara 145.83 242⇓*i*PKIKP PKPdf 08 41 54.9 +3.0
NKC Novy Kostel 145.83 347 *e*PKP PKPdf 08 41 54.1 +3.3
NKC *ex* x 08 41 55.9
TNS Taunus Mts 146.56 351 *e*PKIKP PKPdf 08 41 55.6 +3.7
TNS *e* 08 41 58.7
GRF Grafenberg Arr 146.60 348 *e*PKIKP PKPdf 08 41 56.3 +4.3
GRF *e* 08 41 59.2
KHC Kasperske Hory 146.60 345 *e*PKP PKPdf 08 41 56.3 +4.3
KHC *e* 08 41 59.7
WET Wettzell 146.76 346 *e*PKIKP PKPdf 08 41 56.4 +4.1
WET *e* 08 41 59.9
GEC2 GERESS Array S 146.84 345 *e*PKIKP PKPdf 08 41 54.5 +2.1
GERES GERESS Array B 146.84 345 PKPbc PKPbc 08 41 56.6 +2.0
comp=Z,8.5nm,0.6s,baz=27,slow=3.0,SNR=54
GERES GERESS Array B 146.84 345 PKIKP PKPdf 08 41 56.6 +4.2
GERES pmax pmax
comp=Z,9.0nm,0.6s
ISP Isparta 147.02 314 *d i*PKIKP PKPdf 08 41 56.6 +3.5
GIVF Givet 147.07 356⇑*i*PKP1 PKPdf 08 41 57.2 +4.4
comp=Z,31nm,0.7s
BAIF Baives 147.16 356⇑*i*PKP1 PKPdf 08 41 57.5 +4.6
comp=Z,40nm,0.9s
WLF Walferdange 147.39 354 *e*PKPbc PKPdf 08 41 58.2 +4.9
MOA Molln 147.60 343⇑*i*P PKPdf 08 41 58.6 +4.9
MOA *i* 08 42 03.6
FUR Furstenfeldbru 148.04 347 *e*PKIKP PKPdf 08 41 56.4 +2.0
FUR *e* 08 42 00.2
FUR *e* 08 42 04.7
BFO Black Forest 148.42 351 *e*PKHKP 08 42 00.6
BFO *e* 08 42 05.8
PERS Pernice 148.46 341 *e*PKPbc PKPdf 08 42 00.1 +5.0
CDF Champ du Feu 148.49 352⇑*i*PKP1 PKPdf 08 42 01.0 +5.9
comp=Z,37nm,0.9s
FLN La Foliniere 148.53 2⇑*i*PKP1 PKPdf 08 42 00.6 +5.5
comp=Z,106nm,0.9s
KBA Koelnbreinsper 148.56 344⇑*i*P PKPdf 08 42 00.4 +5.2
MEZF Maizieres J'vi 148.65 355⇑*i*PKP1 PKPdf 08 42 01.5 +6.2
WATA Walderalm 148.76 346⇑*i*P PKPdf 08 42 01.4 +5.9
ROSF Rostrenen 148.78 6⇑*i*PKP1 PKPdf 08 42 01.0 +5.5
comp=Z,23nm,0.7s
WTTA Wattenberg 148.81 346⇓*i*P PKPdf 08 42 01.5 +5.9
DIVS Divcibare 148.82 333⇑*i*PKP PKPdf 08 42 02.1 +6.3
MOTA Moosalm 148.85 347⇑*i*P PKPdf 08 42 01.6 +5.9
MOTA *i* 08 42 07.8
GRR Gorron 148.89 3⇑*i*PKP1 PKPdf 08 42 01.6 +5.9
comp=Z,43nm,0.6s
SGMF Saint Gilles 148.92 5⇑*i*PKP1 PKPdf 08 42 01.5 +5.7
comp=Z,69nm,0.8s
SQTA Sankt Quirin 148.95 347⇑*i*P PKPdf 08 42 02.0 +6.1
HAU Haudompre 149.01 353⇑*i*PKP1 PKPdf 08 42 02.0 +6.1
HINF Hinteralfeld 149.13 352⇑*i*PKP1 PKPdf 08 42 02.2 +6.1
comp=Z,13nm,0.8s
DAVA Damuels 149.16 348⇑*i*P PKPdf 08 42 02.6 +6.4
DAVA *i* 08 42 09.1
LJU Ljubljana 149.17 342 *i* PKPbc PKPdf 08 42 02.3 +6.1
QUIF Quistinic 149.20 6 *e*PKP1 PKPdf 08 42 02.2 +6.0
BOJS Bojanci 149.42 340 *i* PKPbc PKPdf 08 42 03.2 +6.5
LOR Lormes 149.96 356⇑*i*PKP1 PKPdf 08 42 04.5 +7.0
comp=Z,53nm,0.8s
SSF Saint Saulge 150.19 357⇑*i*PKP1 PKPdf 08 42 05.0 +7.2
comp=Z,36nm,0.7s
AVF Avril sur Loir 150.47 357⇑*i*PKP1 PKPdf 08 42 05.2 +6.9
comp=Z,9.5nm,0.5s
SMF Signal de Mont 150.58 356 *e*PKP1 PKPdf 08 42 05.0 +6.6
comp=Z,3.6nm,0.5s
MFF Saint Martin d 150.70 2⇑*i*PKP1 PKPdf 08 42 05.9 +7.3
comp=Z,35nm,0.8s
TCF Toulx Ste Croi 151.01 358⇑*i*PKP1 PKPdf 08 42 06.7 +7.6
comp=Z,20nm,0.8s
LPL La Plagne 151.41 352 *e*PKP1 PKPdf 08 42 08.6 +8.9
comp=Z,11nm,0.7s
LPG La Plagne 151.42 352⇑*i*PKP1 PKPdf 08 42 08.6 +8.9
comp=Z,11nm,0.7s
BNI Bardonecchia 151.87 352 *e*PKPbc PKPdf 08 42 09.2 +8.8
BNI *e*PKPab PKPab 08 42 20.6 -0.9
RJF Les Rejaudoux 152.01 359 *e*PKP1 PKPdf 08 42 08.9 +8.4
comp=Z,24nm,0.9s
ORIF Oris-en-Rattie 152.10 353⇑*i*PKP1 PKPdf 08 42 09.5 +8.8
comp=Z,11nm,0.7s
MBDF Montbardon 152.18 351⇑*i*PKP1 PKPdf 08 42 09.7 +8.9
comp=Z,17nm,0.6s
VIVF Saint-Julien-l 152.29 354⇑*i*PKP1 PKPdf 08 42 10.0 +9.1
comp=Z,8.4nm,0.7s
LFF La Frestale 152.38 1 *e*PKP1 PKPdf 08 42 09.7 +8.7
CAF Calviac 152.38 358⇑*i*PKP1 PKPdf 08 42 09.9 +8.9
comp=Z,15nm,0.7s
SMRF Simiane la Rot 153.07 353 *e*PKP1 PKPdf 08 42 11.9 +10
comp=Z,9.2nm,0.7s
LASF Ste Croix 153.14 356 *e*PKP1 PKPdf 08 42 11.9 +10
LMR La Mourre 153.58 351⇑*i*PKP1 PKPdf 08 42 12.5 +10

NEIC 09 09:03:35.7±3.4, 40.70N×126.73W, h10km, mb3.6/1, Error ellipse: s-maj=40.8km s-min=8.5km az=90.0, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHMM	Horse Mountain	2.29	85	*e*P	Pn	09 04 12.5	-1.6
KRMB	Red Mountain	2.29	68	*e*P	Pn	09 04 13.8	-0.3
KBO	Bosley Butte	2.42	50	*e*P	Pn	09 04 14.6	-1.4
KCPM	Cahto Peak	2.61	112	*e*P	Pn	09 04 17.6	-1.2
KIPM	Iron Peak	2.64	109	*e*P	Pn	09 04 18.1	-1.1
WDC	Whiskeytown Da	3.19	91	*e*P	Pn	09 04 25.9	-1.1
YBH	Yreka Blue Hor	3.21	70	*e*P	Pn	09 04 27.2	0.0
HOPS	Hopland	3.29	120	*e*P	Pn	09 04 27.2	-1.2
LHEM	Herd Peak	3.53	73	P	Pn	09 04 32.8	+1.0
BUOR	Burton Butte	3.72	63	P	Pn	09 04 35.7	+1.1
BBOR	Butler Butte	3.74	53	P	Pn	09 04 34.9	+0.1
HSO	Harness Mounta	3.92	43	P	Pn	09 04 36.6	-0.7
LASM	Arnica Sink	4.00	75	P	Pn	09 04 38.7	+0.3
HOG	Hogback Mounta	4.08	66	P	Pn	09 04 40.0	+0.4
LBCM	Butte Creek Ri	4.09	86	P	Pn	09 04 40.8	+1.0
HBO	Huckleberry Mo	4.54	45	P	Pn	09 04 46.3	+0.1
SAC	San Andreas	4.57	131	*e*P	Pn	09 04 44.6	-2.0
FRIS	Frissel Point	4.91	43	P	Pn	09 04 51.1	-0.3
BEKR	Beckwourth	4.94	98	*e*P	Pn	09 04 52.2	+0.3
MOD	Modoc	4.99	74	*e*P	Pn	09 04 51.1	-1.5
CMB	Columbia Colle	5.59	116	P	Pn	09 05 00.6	-0.4
SAO	San Andreas Ge	5.70	132	*e*P	Pn	09 04 58.0	-4.5
WVOR	Wild Horse Val	6.32	71	*e*P	Pn	09 05 08.8	-2.4
OMM	Old Mammoth Mi	6.75	115	P	Pn	09 05 15.8	-1.6
PTRM	Twissleman Ran	7.19	132	*e*P	Pn	09 05 20.5	-3.0
BMO	Blue Mountains	8.08	56	*e*P	P	09 05 35.2	-0.8
LAO	LASA Array	15.98	61	P	P	09 07 20.3	-1.8
	3.0nm,0.7s						

ISK 09 09:11:09.8, 36.97N×27.80E, h15km, MD3.2
CSEM 09 09:11:10.3±0.2, 37.01N×27.80E, h12km, MD3.2, Error ellipse: s-maj=3.5km s-min=3.0km az=169.0
ATH 09 09:11:11.4, 37.06N×27.89E, h54km±18km, MD3.4/4
NEIC 09 09:11:11.4, 37.06N×27.89E, h54km, MD3.4(ATH), MD3.2(ISK), After ATH.
ISC 09 09:11:11.5±0.6, 37.00N±0.03×27.75E±0.04, h5km±5km, n23,σ1§34/36, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.26	286	*i* P	Pg	09 11 17.4	+0.7
BDRM				*i* S	Sg	09 11 22.6	+2.4
MLSB	Milas	0.30	4	*i* PG	Pg	09 11 16.9	-0.6
MLSB				*i* SG	Sg	09 11 22.2	+0.6
BODT	Bodrum	0.36	281	PG	Pg	09 11 18.3	-0.4
BODT				SG	Sg	09 11 24.9	+1.3
YER	Yerkesik	0.45	72	PG	Pg	09 11 19.1	-1.4
AYDN	Tasoluk	0.67	9	*i* P	Pg	09 11 24.4	-0.5
AYDN				*i* S	Sg	09 11 34.0	+0.1
DALT	Dalyan (Mudla)	0.74	108	PG	Pg	09 11 23.0	-3.4
ARG	Arkhangelos	0.83	159	*e*P	Pb	09 11 28.5	+0.4
ARG				*e*S	Sb	09 11 40.6	+1.2
SMG	Samos	1.02	315	*e*P	Pb	09 11 31.1	-0.1
DNZL	Cakiroluk	1.24	56	*i* P	Pb	09 11 33.8	-1.2
DNZL				*i* S	Sb	09 11 52.6	+1.5
IZM	Izmir	1.45	345	*e*PN	Pn	09 11 36.8	-1.6
KDAG	Bornova	1.46	345	*i* P	Pn	09 11 37.2	-1.3
KDAG				*i* S	Sb	09 11 57.9	+0.5
GOLH	Golhisar	1.47	80	*i* P	Pn	09 11 39.1	+0.5
GOLH				*i* S	Sb	09 12 00.1	+2.5
BLCB	Balcova	1.50	338	*e*PN	Pn	09 11 37.2	-1.8
KARP	Karpathos	1.52	198	*e*P	Pn	09 11 38.7	-0.8
KARP				*e*S	Sb	09 11 59.3	0.0
MANT	Manisa	1.62	23	*i* P	Pn	09 11 40.4	-0.4
MANT				*i* S	Sb	09 12 04.2	+2.0
URLA	Izmir	1.64	326	*i* P	Pn	09 11 42.9	+1.7
URLA				*i* S	Sb	09 12 07.5	+4.8
AKAS	Kas	1.67	117	*i* P	Pn	09 11 42.8	+1.2
AKAS				*i* S	Sn	09 12 10.7	+7.0
ELL	Elmali	1.75	98	*e*PN	Pn	09 11 40.2	-2.5
APE	Apeiranthos	1.78	273	*e*PN	Pn	09 11 40.8	-2.4
APE	Apeiranthos	1.78	273	*e*P	Pn	09 11 42.5	-0.6
AKS	Akhisar	1.88	1	*e*PN	Pn	09 11 42.9	-1.6
KHL	Karahalli	1.93	46	*e*PN	Pn	09 11 43.3	-2.0
TKTP	Tekketepe	2.29	62	*i* P	Pn	09 11 52.5	+2.0
TKTP				*i* S	Sn	09 12 24.7	+5.3

IDC 09 09:26:32.2±1.0, 21.92N×145.60E, mb3.9/8, mb1 4.1/10, mb1mx4.0/21, mbtmp3.9/10, ML3.6/2, Error ellipse: s-maj=31.1km s-min=23.5km az=87.0
MOS 09 09:26:36.2±1.8, 21.94N×145.60E, h33km, mb4.2/7, Error ellipse: s-maj=29.7km s-min=13.3km az=105.1
NEIC 09 09:26:37.7±2.7, 21.93N×145.53E, h37km±24km, mb4.3/3, Error ellipse: s-maj=19.7km s-min=8.8km az=93.0
ISC 09 09:26:35.6±5.0, 21.98N±0.07×145.3E±0.2, h30km±35km, n30,σ1§18/29, mb4.1/14, 1C-1D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	5.84	331	Pn	Pn	09 28 02.5	0.0
	4.7nm,0.3s,baz=134,slow=22,SNR=6.1						
CBIJ				Sn	Sn	09 29 07.5	-1.8
	10nm,0.3s,baz=112,slow=23,SNR=4.2						
MJAR	Matsushiro Arr	15.78	338	Pn	P	09 30 18.6	+1.2
	0.2nm,0.3s,baz=252,slow=37,SNR=3.6						
SONM	Songino Array	40.41	319	P	P	09 34 14.4	+1.7
	0.9nm,0.6s,mb3.7,baz=139,slow=7.5,SNR=7.7						
SONM	Songino Array	40.41	319	P	P	09 34 14.4	+1.7
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YAK	Yakutsk	41.45	349	*e*P	P	09 34 20.0	-1.1
YAK				pmax	pmax		
	comp=Z,12nm,0.6s,mb4.7						
WRAB	Tennant Creek	43.01	195	*e*P	P	09 34 33.8	-0.6
	comp=Z,1.1nm,0.4s,mb3.9						
WRAB	Tennant Creek	43.01	195	*e*P	P	09 34 33.8	-0.6
WRAB				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.9						
WB2	Warramunga Arr	43.02	195	*e*P	P	09 34 34.2	-0.3
WRA	Warramunga Arr	43.03	195	P	P	09 34 33.8	-0.7
	comp=Z,1.1nm,0.6s,mb3.8,baz=9.3,slow=8.2,SNR=25						
WRA	Warramunga Arr	43.03	195	P	P	09 34 33.8	-0.7
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FITZ	Fitzroy Crossi	44.25	207	*e*P	P	09 34 44.0	-0.4
	comp=Z,14nm,1.9s,mb4.3						
TIXI	Tiksi	50.59	353	⇓*i*P	P	09 35 31.4	-1.9
TIXI				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.7						
MKAR	Makanchi Array	55.98	312	P	P	09 36 14.1	+0.5
	comp=Z,0.7nm,0.7s,mb3.8,baz=76,slow=7.5,SNR=3.7						
MKAR	Makanchi Array	55.98	312	*e*P	pP	09 36 22.0	-0.9
KURK	Kurchatov	58.63	317	*e*P	P	09 36 32.0	-0.3
	comp=Z,2.5nm,0.9s,mb4.2						
KURK	Kurchatov	58.63	317	*e*P	P	09 36 32.0	-0.3
KURK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
ILAR	Eielson Array	60.88	27	P	P	09 36 45.6	-1.9
	comp=Z,1.3nm,0.8s,mb4.1,baz=258,slow=5.2,SNR=16						
ILAR	Eielson Array	60.88	27	P	P	09 36 45.6	-1.9
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AAK	Ala-Archa	61.58	308	*e*P	P	09 36 56.7	+4.1
BVAR	Borovoye Array	63.76	319	P	P	09 37 07.1	+0.3
	comp=Z,1.4nm,0.5s,mb4.3,baz=90,slow=7.4,SNR=9.1						
BVAR	Borovoye Array	63.76	319	P	P	09 37 07.1	+0.3
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ARU	Arti	70.22	324	⇑*i*P	P	09 37 50.1	+2.6
ARU				pmax	pmax		
	comp=Z,5.0nm,1.8s,mb4.1						
YKA	Yellowknife Ar	75.27	28	P	P	09 38 17.0	-0.2
	comp=Z,0.4nm,0.6s,mb3.6,baz=277,slow=5.7,SNR=4.5						
YKA	Yellowknife Ar	75.27	28	*e*P	P	09 38 18.5	+1.3
OBN	Obninsk	82.36	327	P	pP	09 39 05.0	-0.5
KIV	Kislovodsk	83.65	315	*i* P	P	09 39 07.0	+4.3
FINES	FINESS Array B	83.78	335	P	P	09 39 02.6	-0.3
	comp=Z,1.1nm,0.8s,mb4.1,baz=34,slow=6.9,SNR=4.1						
FINES	FINESS Array B	83.78	335	*i* P	P	09 39 04.2	+1.3
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
PDAR	Pinedale Array	85.78	45	P	P	09 39 13.6	+0.2
	comp=Z,0.3nm,0.7s,mb3.7,baz=225,slow=2.1,SNR=3.1						
ANMO	Albuquerque	91.49	51	*e*P	P	09 39 41.9	+1.2

DHMR 09 09:35:34.5±1.0, 13.68N×45.73E, h9km±3km, ML3.5, 3C, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDHA	Al Bayda'	0.33	331	⇑*i*P	Pg	09 35 40.8	-0.6
BDHA				*i* S	Sg	09 35 45.9	0.0
BDHA				AML	AML	09 35 46.1	
	comp=N,8μm,0.3s						
LBOS		0.51	292	*i* P	Pg	09 35 44.3	-0.4
LBOS				*i* S	Sg	09 35 51.7	+0.2
DHBB	Dhamar BB	1.57	304	⇑*i*P	Pn	09 36 03.8	+1.0
DHBB				*i* S	Sb	09 36 25.5	+2.3
TRBA	At Turbah	1.64	254	*i* P	Pn	09 36 03.9	+0.3
TRBA				*i* S	Sn	09 36 26.6	+1.7
TRBA				AML	AML	09 36 32.1	
	comp=N,437nm,0.5s						
UDYN	Al 'Udayn	1.74	280	⇑*i*P	Pn	09 36 05.9	+0.8
UDYN				*i* S	Sn	09 36 29.6	+2.1
UDYN				AML	AML	09 36 31.3	
	comp=E,440nm,0.5s						
SANA	San'a	2.25	319	*i* P	Pn	09 36 13.8	+1.4
SANA				*i* S	Sn	09 36 45.0	+4.5
HAJJ	Hajjah	2.88	314	*i* P	Pn	09 36 23.1	+1.7
HAJJ				*i* S	Sn	09 37 01.4	+4.9
HAJJ				AML	AML	09 37 09.2	
	comp=E,414nm,0.4s						

CSEM 09 10:05:28.8±0.0, 29.35N×53.11E, h6km, ML4.0/1, Error ellipse: s-maj=0.8km s-min=0.3km az=101.0, After THR
THR 09 10:05:28.8±0.3, 29.35N×53.11E, h6km, ML2.8, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	Ghir-Karzin	1.07	186	*e*PG	Pg	10 05 51.0	+0.8
GHIR				*e*SG	Sg	10 06 06.8	+2.5
GHIR				AML	AML	10 06 11.4	
	comp=N,316nm,0.5s						
KRBR	Kerman	3.24	78	*e*PN	Pn	10 06 22.6	+1.4
KRBR				AML	AML	10 07 06.2	
	comp=N,18nm,0.5s						
NASN	Na'in	3.45	356	*e*PN	Pn	10 06 25.5	+1.3

HEL 09 10:06:45.7±0.2, 59.31N×26.98E, ML2.2, ML2.4(UPP), Explosion
IDC 09 10:06:47.2±0.9, 59.41N×27.02E, mb1 3.2/5, mb1mx3.1/21, mbtmp3.2/5, ML3.2/5, Error ellipse: s-maj=10.8km s-min=6.9km az=87.0
ISC 09 10:06:43.3±0.7, 59.31N±0.03×27.0E±0.1, n17,σ1§35/31, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSU	Vasula	0.86	190	*e*P	Pg	10 07 01.3	+0.9
VSU				*e*S	Sg	10 07 12.4	+0.5
VJF	Virojoki	1.27	12	*e*P	Pb	10 07 07.8	0.0
VJF				*e*S	Sb	10 07 23.6	-1.0
PVF	Pernaja	1.37	336	*e*P	Pb	10 07 10.7	+1.2
PVF				*e*S	Sb	10 07 28.3	+0.7
FIA0	FINESS Array S	2.19	348	*e*P	Pn	10 07 23.6	+2.1
FIA0				*e*S	Sn	10 07 50.1	+0.4
FINES	FINESS Array B	2.19	348	Pn	Pn	10 07 22.8	+1.3
	3.3nm,0.3s,baz=164,slow=14,SNR=57						
FINES				Pg	Pg	10 07 24.1	-3.0
	3.3nm,0.3s,baz=163,slow=14,SNR=57						
FINES				Lg		10 07 53.6	
	11nm,0.3s,baz=168,slow=26,SNR=28						
KAF	Kangasniemi	2.84	353	*e*P	Pn	10 07 32.4	+1.7
KAF				*e*S	Sn	10 08 05.9	-0.2
KAF				*e*SG	Sg	10 08 12.8	-5.0
KAF				MSG		10 08 17.0	
	comp=Z,7.4nm,0.2s						
KEF	Keuruu	3.06	341	*e*P	Pn	10 07 36.2	+2.4
KEF				*e*S	Sn	10 08 11.7	+0.1
SUF	Sumiainen	3.45	353	*e*P	Pn	10 07 41.1	+1.7
SUF				*e*S	Sn	10 08 20.2	-1.4
SUF				*e*SG	Sg	10 08 31.3	-6.9
SUF				MSG		10 08 33.6	
	comp=Z,4.4nm,0.3s						
AAL	Aland	3.66	287	*e*P	Pn	10 07 43.8	+1.5
GRAU	Graesoe	4.40	287	*e*P	Pn	10 07 52.7	-0.2
FLYU	Flymyra	4.69	284	*e*P	Pn	10 07 57.0	-0.1
BACU	Backbrunna	5.06	280	*e*P	Pn	10 08 02.3	0.0
OSTU	Oestervaala	5.08	285	*e*P	Pn	10 08 02.2	-0.2
HFS	Hagfors	6.79	283	Pn	Pn	10 08 24.8	-1.8
	comp=Z,0.1nm,0.3s,baz=111,slow=12,SNR=5.0						
HFS				Sn	Sn	10 09 41.7	-3.9
	comp=Z,0.1nm,0.3s,baz=100,slow=26,SNR=6.5						
HFS				Lg		10 10 17.7	
	comp=Z,0.3nm,0.3s,baz=96,slow=28,SNR=6.1						
NOA	NORSAR Array B	8.06	289	Pn	P	10 08 42.4	-2.1
	comp=Z,0.4nm,0.3s,baz=238,slow=14,SNR=2.6						
NOA				Sn	Sn	10 10 10.0	-7.5
	comp=Z,0.2nm,0.3s,baz=151,slow=14,SNR=3.3						
NOA				Lg		10 10 56.0	
	comp=Z,0.7nm,0.3s,baz=157,slow=19,SNR=3.8						
AKASG	Malin Array Be	8.72	171	Pn	P	10 08 51.6	-1.9
	comp=Z,1.5nm,0.3s,baz=354,slow=13,SNR=4.9						
AKASG				Sn	Sn	10 10 26.0	-7.8
	comp=Z,0.6nm,0.3s,baz=46,slow=20,SNR=2.7						
AKASG				Lg		10 11 12.8	
	comp=Z,0.7nm,0.3s,baz=351,slow=30,SNR=3.2						
ARCES	ARCESS Array B	10.29	357	Pn	P	10 09 11.7	-3.4
	comp=Z,0.3nm,0.3s,baz=174,slow=14,SNR=17						
ARCES				Sn	S	10 11 02.9	-10
	comp=Z,0.3nm,0.3s,baz=180,slow=22,SNR=4.1						
ARCES				Lg		10 12 04.2	
	comp=Z,0.4nm,0.3s,baz=182,slow=28,SNR=5.7						

IDC 09 10:19:30.1±2.2, 21.69S×170.00E, mb3.8/2, mb1 3.9/3, mb1mx3.7/11, mbtmp3.7/3, ML3.4/1, MS3.1/1, Ms1 3.1/1, ms1mx2.7/17, Error ellipse: s-maj=81.6km s-min=31.0km az=155.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.32	263	*e*P	Pn	10 20 24.1	-0.2
DZM				*e*S	Sn	10 21 02.4	-2.7
DZM	Mont Dzumac	3.32	263	Pn	Pn	10 20 24.1	-0.3
	3.6nm,0.3s,baz=85,slow=17,SNR=45						
DZM				LR	LR	10 20 52.3	
	comp=Z,241nm,18.6s,baz=24,slow=25						
DZM				Sn	Sn	10 21 04.4	-0.7
	5.4nm,0.3s,baz=221,slow=23,SNR=6.9						
STKA	Stephens Creek	27.23

Error ellipse: s-maj=9.9km s-min=4.0km az=34.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.60**	**229**	*i* P	Pg	10 33 14.2	-2.4
PSMN				*e*S	Sg	10 33 22.4	-2.3
MIRA	**Miradouro**	**0.73**	**302**	*e*P	Pg	10 33 17.3	-1.8
MIRA				*e*S	Sg	10 33 26.0	-2.9
FRA1	**Furnas**	**0.77**	**297**	*e*P	Pg	10 33 16.9	-2.9
PFAD	**Fenais da Ajud**	**0.79**	**304**	*e*P	Pg	10 33 17.4	-2.9
PFAD				*e*S	Sg	10 33 27.2	-3.6
PCNG	**Congro**	**0.80**	**297**	*e*P	Pb	10 33 17.4	-3.2
PCNG				*e*S	Sg	10 33 27.5	-3.8
	2μm,0.2s						
VIF	**Vila Franca**	**0.82**	**295**	*e*P	Pb	10 33 17.8	-3.1
VIF				*e*S	Sg	10 33 28.4	-3.6
	1μm,0.2s						
PRCH	**Ribeira Ch**	**0.85**	**293**	*e*P	Pb	10 33 17.9	-3.4
PRCH				*e*S	Sg	10 33 28.3	-4.5
	2μm,0.2s						
MESC	**Monte Escuro**	**0.85**	**298**	*e*P	Pb	10 33 18.3	-3.1
MESC				*e*S	Sg	10 33 28.9	-3.9
LFA	**Lagoa do Fogo**	**0.87**	**296**	*e*P	Pb	10 33 18.5	-3.2
PMAT	**Coroa da Mata**	**0.88**	**298**	*e*P	Pb	10 33 18.6	-3.2
PMAT				*e*S	Sb	10 33 29.7	-4.0
	998nm,0.2s						
PVER	**Pico Vermelho**	**0.90**	**296**	*e*P	Pb	10 33 19.9	-2.3
PVER				*e*S	Sb	10 33 30.5	-3.8
	1μm,0.4s						
CML	**Cha da Macela**	**0.91**	**294**	*e*P	Pb	10 33 19.9	-2.5
CML				*e*S	Sb	10 33 30.7	-4.0
FAC	**Faja de Cima**	**0.99**	**292**	*e*P	Pb	10 33 21.2	-2.5
FAC				*e*S	Sb	10 33 33.3	-3.6
PDA	**Ponta Delgada**	**0.99**	**291**	*e*P	Pb	10 33 19.0	-4.7
PSET	**Sete Cidades**	**1.06**	**294**	*e*P	Pb	10 33 21.4	-3.6
PSET				*e*S	Sb	10 33 34.1	-4.8
	3μm,0.2s						
PFAV	**Pico das Favas**	**2.43**	**303**	*e*P	Pn	10 33 41.3	-4.1
PFAV				*e*S	Sn	10 34 07.9	-8.0
	266nm,0.3s						
PSCM	**Serra do Cume**	**2.44**	**303**	*e*P	Pn	10 33 40.1	-5.6
PSCM				*e*S	Sn	10 34 07.6	-8.7
	634nm,0.1s						
RIB2	**Ribeirinha**	**2.46**	**302**	*e*P	Pn	10 33 40.5	-5.5
RIB2				*e*S	Sn	10 34 07.4	-9.5
	365nm,0.3s						
ADH	**Angra Heroismo**	**2.50**	**301**	*e*P	Pn	10 33 41.0	-5.5
ADH				*e*S	Sn	10 34 08.1	-10
PVNV	**Vila Nova**	**2.50**	**304**	*e*P	Pn	10 33 41.4	-5.1
PVNV				*e*S	Sn	10 34 08.6	-9.2
	148nm,0.2s						
PPAD	**Pico dos Padre**	**2.56**	**301**	*e*P	Pn	10 33 42.0	-5.3
PPAD				*e*S	Sn	10 34 09.8	-9.4
	172nm,0.1s						
PBIS	**Biscoitos**	**2.56**	**303**	*e*P	Pn	10 33 42.2	-5.2
PBIS				*e*S	Sn	10 34 10.6	-8.8
	76nm,0.3s						
ASBA	**Santa Barbara**	**2.59**	**301**	*e*P	Pn	10 33 42.8	-5.0
ASBA				*e*S	Sn	10 34 11.3	-8.8
	252nm,0.2s						
PSBA	**Serra de Santa**	**2.62**	**302**	*e*P	Pn	10 33 43.1	-5.1
PSBA				*e*S	Sn	10 34 11.2	-9.5
	400nm,0.3s						
PMAN	**Manadas**	**3.09**	**294**	*e*P	Pn	10 33 49.5	-5.5
PMAN				*e*S	Sn	10 34 22.4	-10
	144nm,0.2s						
PPNO	**Prainha do Nor**	**3.17**	**291**	*e*P	Pn	10 33 50.4	-5.6
STGR	**Santa Cruz**	**3.23**	**302**	*e*P	Pn	10 33 52.6	-4.3
STGR				*e*S	Sn	10 34 27.9	-8.4
	87nm,0.1s						
PICO	**Pico**	**3.29**	**291**	*e*P	Pn	10 33 52.6	-5.2
PICO				*e*S	Sn	10 34 27.4	-10
HOR	**Horta**	**3.46**	**290**	*e*P	Pn	10 33 54.3	-5.8
HOR				*e*S	Sn	10 34 31.0	-11
CALA	**Caldeira**	**3.53**	**291**	*e*P	Pn	10 33 55.2	-5.9
CALA				*e*S	Sn	10 34 33.9	-10
PCED	**Cedros**	**3.54**	**292**	*e*P	Pn	10 33 55.4	-5.9
PCED				*e*S	Sn	10 34 33.5	-11
	76nm,0.3s						

ATH ***09*** *10:38:35.3, 37.67N×27.41E, h33km±5km, MD2.8/3*
ISK ***09*** *10:38:36.9, 37.91N×27.08E, h20km, MD3.0*
CSEM ***09*** *10:38:36.7±0.1, 37.92N×27.38E, h2km, MD3.0, Error ellipse: s-maj=3.9km s-min=2.3km az=103.0*
ISC 09 10:38:37.6±0.6, 37.93N±0.03×27.21E±0.04, h1km±6km, n16, σ0.96/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.36**	**233**	*e*PB	**Pb**	**10 38 46.1**	**-0.4**
SMG				*e*SB	**Sb**	**10 38 52.7**	**+0.3**
IZM	**Izmir**	**0.47**	**6**	*i* PG	**Pg**	**10 38 47.6**	**+0.7**
BLCB	**Balcova**	**0.47**	**344**	*i* PG	**Pg**	**10 38 46.8**	**-0.2**
AYDN	**Tasoluk**	**0.60**	**116**	*i* P	**Pg**	**10 38 50.1**	**+0.5**
AYDN				*i* S	**Sg**	**10 38 57.5**	**+0.1**
URLA	**Izmir**	**0.65**	**312**	*i* P	**Pg**	**10 38 50.3**	**-0.2**
URLA				*i* S	**Sg**	**10 38 58.6**	**-0.5**
MLSB	**Milas**	**0.78**	**144**	PG	**Pg**	**10 38 53.5**	**+0.4**
BODT	**Bodrum**	**0.87**	**174**	PG	**Pg**	**10 38 54.0**	**-0.9**
BODT				SG	**Sg**	**10 39 07.0**	**+0.4**
BDRM	**Kayabasi**	**0.88**	**167**	*i* P	**Pg**	**10 38 55.7**	**+0.5**
BDRM				*i* S	**Sg**	**10 39 07.1**	**+0.1**
AKS	**Akhisar**	**1.06**	**27**	*e*PN	**Pn**	**10 38 58.4**	**-1.0**
YER	**Yerkesik**	**1.17**	**132**	*e*PN	**Pn**	**10 38 59.5**	**-1.5**
MANT	**Manisa**	**1.20**	**62**	*i* P	**Pb**	**10 39 01.5**	**+0.7**
MANT				*i* S	**Sb**	**10 39 15.4**	**-1.4**
DNZL	**Cakiroluk**	**1.48**	**99**	*i* P	**Pn**	**10 39 06.7**	**+1.3**
DNZL				*i* S	**Sb**	**10 39 25.5**	**+0.8**
PRK	**Paraskevi**	**1.50**	**331**	*e*PB	**Pb**	**10 39 07.1**	**+1.1**
PRK				*e*SN	**Sn**	**10 39 28.3**	**+2.0**
APE	**Apeiranthos**	**1.58**	**238**	*e*PN	**Pn**	**10 39 03.7**	**-3.2**
ARG	**Arkhangelos**	**1.86**	**156**	*e*PN	**Pn**	**10 39 02.8**	**-8.1**
DST	**Dursunbey**	**2.01**	**33**	*e*PN	**Pn**	**10 39 11.6**	**-1.4**

MAN 09 11:17:58.6, 6.92N×123.82E, h11km, mb3.7, ML2.4, MS2.0, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.51**	**55**	⇓*i*P	Pg	11 18 08.7	-0.3
CTBH				*i* S	Sg	11 18 15.7	-0.3
PAGZ	**Pagadian**	**1.02**	**335**	*e*P	Pb	11 18 18.1	+0.3
PAGZ				*e*S	Sb	11 18 33.3	+2.4
IPIL	**Ipil**	**1.51**	**305**	*e*P	Pn	11 18 25.0	-0.8
IPIL				*e*S	Sb	11 18 43.2	-2.1
BUKP	**Musuan**	**1.55**	**52**	*e*P	Pn	11 18 25.9	-0.5
BUKP				*e*S	Sb	11 18 46.9	+0.5

BJI ***09*** *11:22:56.8, 7.43N×93.88E, h27km, mB5.3, mb5.1, Ms5.4, Msz5.0*
CRAAG ***09*** *11:22:56.1, 7.83N×94.10E, Mb5.5*
IDC ***09*** *11:22:56.8±0.4, 7.77N×94.19E, mb5.0/23, mb1 5.0/23, mb1mx5.0/23, mbtmp4.9/23, MS4.8/15, Ms1 4.8/15, ms1mx4.6/28, Error ellipse: s-maj=17.7km s-min=11.6km az=57.0*
HRVD ***09*** *11:22:59.9±0.2, 7.78N×94.33E, h24km±1km, MW5.4/69, Centroid moment Tensor Solution. LP body waves: s48,c87; Mantle waves: s69,c126; Half duration: 1±2 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.27±.03; $M_{\theta\theta}$-1.19±.03; $M_{\phi\phi}$ 1.46±.03; $M_{r\theta}$-0.24±.06; $M_{\theta\phi}$0.66±.03; $M_{\phi r}$-0.49±.07; Best double couple: $M_0$1.557×10^{17} NP1: ϕ_s147°, δ74°, λ175°. NP2:ϕ_s239°, δ85°, λ16°. Principal axes: T 1.755, Plg15°, Azm104°; N -.398, Plg73°, Azm256°; P -1.359, Plg7°, Azm12°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***09*** *11:22:59.9±0.1, 7.74N×94.13E, mb5.3/115, MS5.0/56, MW5.5 Error ellipse: s-maj=5.3km s-min=3.6km az=212.0, Moment Tensor Solution. s4 Moment tensor: Scale 10^{17} Nm; M_{rr}0.01; $M_{\theta\theta}$-2.00; $M_{\phi\phi}$2.00; $M_{r\theta}$-0.18; $M_{\theta\phi}$0.49; $M_{\phi r}$0.31; Best double couple: $M_0$2.1×10^{17} NP1:ϕ_s52°, δ80°, λ1°. NP2:ϕ_s322°, δ89°, λ170°. Principal axes: T 2.09, Plg8°, Azm276°; N -.01, Plg80°, Azm134°; P -2.09, Plg6°, Azm7°;*
BGS ***09*** *11:23:00.0±2.6, 7.74N×94.13E, h20km, mb5.5*

DHMR ***09*** *11:23:01.3±3.0, 7.72N×94.19E, h10km, mb5.5*
CSEM ***09*** *11:23:02.5, 8.11N×93.99E, h33km, mb5.5*
MOS ***09*** *11:23:02.0±1.0, 7.95N×94.00E, h37km, mb5.5/114, MS4.8/39, Error ellipse: s-maj=8.8km s-min=3.8km az=124.5*
ISC 09 11:22:58.4±0.1, 7.69N±0.03×94.16E±0.02, h21km, h21km±1.0km: pP-P, n641, σ1.14/587, mb5.3/189, MS5.0/104, 44C-29D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKT	**Phuket**	**4.01**	**84**	P	**Pn**	**11 24 03.5**	**+3.3**
PBA	**Port Blair**	**4.18**	**341**	*e*P	**Pn**	**11 24 04.1**	**+1.5**
PBA				AMb	AMB	11 24 14.2	
	comp=Z,641nm,1.0s						
SNG	**Songkhla**	**6.42**	**94**	P	**Pn**	**11 24 32.0**	**-2.3**
	comp=Z,1μm,1.0s						
KULM	**Kulim**	**6.87**	**110**	*e*P	**Pn**	**11 24 37.5**	**-3.1**
KULM				*e*S	**Sn**	**11 25 54.6**	**-4.5**
NNT	**Nongplab**	**7.33**	**48**	P	**Pn**	**11 24 44.0**	**-3.1**
IPM	**Ipoh**	**7.49**	**114**	P	**Pn**	**11 24 46.9**	**-2.5**
NST	**Nakhon Sawan**	**9.85**	**36**	P	**P**	**11 25 20.0**	**-2.2**
	comp=Z,106nm,0.5s						
BDT	**Bhumibol Dam**	**10.60**	**26**	P	**P**	**11 25 40.5**	**+8.0**
	comp=Z,20nm,0.9s						
KGM	**Kluang**	**10.72**	**121**	P	**P**	**11 25 32.5**	**-1.6**
CHG	**Chiang Mai**	**11.99**	**22**	⇓P	**P**	**11 25 51.5**	**+0.2**
	comp=Z,129nm,1.3s						
KKTK	**Khon Kaen**	**12.06**	**44**	⇑P	**P**	**11 25 51.5**	**-0.8**
	comp=Z,864nm,0.9s						
NANT	**Nan**	**12.74**	**29**	⇑P	**P**	**11 26 02.0**	**+0.7**
	comp=Z,556nm,1.0s						
UBT	**Ubonrachathani**	**13.02**	**54**	P	**P**	**11 26 03.5**	**-1.5**
CHRT	**Chiangrai**	**13.28**	**24**	⇓P	**P**	**11 26 08.0**	**-0.4**
	comp=Z,421nm,0.8s						
PALK	**Pallekele**	**13.35**	**269**	*e*P	**P**	**11 26 10.4**	**+0.9**
	comp=Z,88nm,0.9s						
PALK				*e*S	**S**	**11 28 27.3**	**-11**
VIS	**Vishakhapatnam**	**14.52**	**314**	*e*P	**P**	**11 26 22.7**	**-2.2**
VIS				*i* x	x	11 28 52.2	
MDRS	**Chennai**	**14.69**	**292**	*ex*	**P**	**11 26 26.0**	**-1.1**
MDRS				*ex*	x	11 29 48.0	
BWNR	**Bhubaneshwar**	**14.91**	**328**	*e*P	**P**	**11 26 33.2**	**+3.2**
BWNR				*ex*	x	11 28 25.0	
CAL	**Calcutta**	**15.79**	**340**	*ex*	x	11 26 55.2	
CAL				*ex*	x	11 27 00.7	
CAL				*e*S	**S**	**11 29 38.3**	**+2.2**
IMP	**Imphal**	**17.00**	**359**	*e*P	**P**	**11 26 58.0**	**+1.3**
IMP				*e*PP	PP	11 27 08.0	-3.0
TRD	**Trivandrum**	**17.05**	**274**	*ex*	x	11 27 02.8	
TRD				*i* x	**S**	**11 30 12.8**	**+7.7**
KSM	**Kuching**	**17.23**	**110**	*e*P	**P**	**11 27 01.1**	**+1.3**
BOK	**Bokaro**	**17.87**	**335**	*e*P	**P**	**11 27 06.8**	**-0.8**
BOK				AMb	AMB	11 27 18.1	
	comp=Z,336nm,1.1s						
BOK				*i* x	x	11 30 19.6	
SHL	**Shillong**	**17.91**	**353**	*e*P	**P**	**11 27 05.0**	**-3.1**
SHL				*i* P		11 27 07.6	
HYB	**Hyderabad**	**18.03**	**304**	*i* P	**P**	**11 27 09.0**	**-0.6**
	comp=Z,257nm,0.8s						
HYB				*e*		11 27 12.0	
HYB				*e*S	**S**	**11 30 34.0**	**+6.7**
HYB				LR	LR	11 37 16.0	
	comp=Z,3.4nm,16.0s						
HYB	**Hyderabad**	**18.03**	**304**	*e*P	**P**	**11 27 09.0**	**-0.6**
	comp=Z,257nm,0.8s						
HYB				*e*S	**S**	**11 30 38.0**	**+11**
HYB				*e*		11 37 16.0	
HYB	**Hyderabad**	**18.03**	**304**	*e*P	**P**	**11 27 09.0**	**-0.6**
HYB				pmax	pmax		
	comp=Z,257nm,0.8s						
BLSP	**Bilaspur**	**18.45**	**322**	*e*P	**P**	**11 27 14.8**	**0.0**
BLSP				AMb	AMB	11 27 19.2	
	comp=Z,298nm,0.7s						
QIZ	**Qiongzhong**	**18.95**	**52**	P	**P**	**11 27 21.7**	**+0.9**
QIZ				S	**S**	**11 30 50.5**	**+2.5**
QIZ				AMB	AMB		
	comp=Z,93nm,1.1s						
QIZ				AMB	AMB		
	comp=Z,604nm,6.8s						
QIZ				LR	LR		
	comp=N,17μm,13.1s						
QIZ				LR	LR		
	comp=E,6μm,13.1s						
QIZ				LR	LR		
	comp=Z,5μm,9.8s						
QIZ	**Qiongzhong**	**18.95**	**52**	*e*P	**P**	**11 27 19.9**	**-0.9**
	comp=Z,326nm,1.4s						
KMI	**Kunming**	**19.17**	**24**	⇑P	**P**	**11 27 27.1**	**+3.6**
KMI				AP		11 27 31.7	
KMI				XP		11 27 33.5	
KMI				PP	PP	11 27 48.1	+7.6
KMI				PPP	PPP	11 27 55.0	+5.5
KMI				S	**S**	**11 30 59.9**	**+6.7**
KMI				XS		11 31 05.9	
KMI				SS	SS	11 31 27.0	+7.8
KMI				AMB	AMB		
	comp=Z,120nm,1.6s						
KMI				AMB	AMB		
	comp=Z,1μm,3.8s						
KMI				LR	LR		
	comp=N,3μm,12.0s						
KMI				LR	LR		
	comp=E,4μm,18.7s						
KMI				LR	LR		
	comp=Z,4μm,15.7s						
MNGI	**Mangalore**	**19.72**	**287**	*i* P	**P**	**11 27 31.5**	**+1.7**
MNGI				*ex*	x	11 31 15.0	
NGP	**Nagpur**	**19.80**	**314**	*e*P	**P**	**11 27 31.8**	**+1.1**
NGP				AMb	AMB	11 27 35.4	
	comp=Z,248nm,1.2s						
LATR	**Latur**	**20.17**	**304**	*i* x	x	11 32 35.3	
GTK	**Gangtok**	**20.23**	**346**	*ex*	x	11 27 45.0	
JBP	**Jabalpur**	**20.55**	**320**	*ex*	x	11 27 42.1	
JBP				*ex*	x	11 31 36.9	
MNCY	**Minicoy**	**20.93**	**273**	*i* x	x	11 27 53.0	
MNCY				*i* x	x	11 28 27.0	
AKL	**Akola**	**21.03**	**310**	⇓*i*x	x	11 29 51.2	
AKL				*i* x	x	11 33 49.3	
GOA	**Goa**	**21.36**	**293**	*e*P	**P**	**11 27 49.0**	**+2.2**
PKI	**Pulchoki**	**21.44**	**338**	*e*P	**P**	**11 27 46.8**	**-0.7**
	comp=Z,2μm,1.5s,mb6.1						
DMN	**Daman**	**21.59**	**338**	*e*P	**P**	**11 27 48.6**	**-0.4**
	comp=Z,747nm,0.9s,mb6.1						
KKN	**Kakani**	**21.68**	**338**	*e*P	**P**	**11 27 49.2**	**-0.8**
	comp=Z,918nm,1.2s,mb6.1						
KAD	**Karad**	**21.70**	**298**	*e*P	**P**	**11 27 51.0**	**+0.8**
KAD				AMb	AMB	11 27 56.0	
	comp=Z,454nm,1.2s,mb5.8						
KKM	**Kota Kinabalu**	**21.96**	**93**	P	**P**	**11 27 54.5**	**+1.7**
KKM	**Kota Kinabalu**	**21.96**	**93**	*e*P	**P**	**11 27 53.9**	**+1.1**
LSA	**Lhasa**	**22.07**	**353**	P	**P**	**11 27 55.0**	**+1.1**
LSA				S	**S**	**11 31 59.0**	**+7.8**
LSA				LR	LR		
	comp=N,2μm,27.7s						
LSA				LR	LR		
	comp=E,2μm,15.4s						
LSA				LR	LR		
	comp=Z,3μm,27.7s,MS4.5						
LSA	**Lhasa**	**22.07**	**353**	*e*P	**P**	**11 27 54.1**	**+0.2**
	comp=Z,294nm,0.8s,mb5.8						
LSA				*e*S	**S**	**11 31 58.1**	**+6.9**
LSA	**Lhasa**	**22.07**	**353**	*e*P	**P**	**11 27 54.1**	**+0.2**
LSA				*e*S	**S**	**11 31 58.1**	**+6.9**
LSA				pmax	pmax		
	comp=Z,294nm,0.8s,mb5.8						
GKN	**Gorkha**	**22.12**	**337**	*e*P	**P**	**11 27 53.9**	**-0.4**
	comp=Z,551nm,0.9s,mb6.0						
GYA	**Guiyang**	**22.13**	**31**	⇑*i*P	**P**	**11 27 55.7**	**+1.3**
GYA				AP		11 28 01.4	
GYA				XP		11 28 03.6	
GYA				PP	PP	11 28 24.8	+4.0
GYA				S	**S**	**11 31 59.4**	**+7.2**
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.6						
GYA				AMB	AMB		
	comp=Z,370nm,4.8s						
GYA				LR	LR		
	comp=N,6μm,14.7s,MS5.5						
GYA				LR	LR		
	comp=E,10μm,13.5s,MS5.5						
GYA				LR	LR		
	comp=Z,4μm,15.4s,MS5.0						
BHPL	**Bhopal**	**22.30**	**316**	*e*P	**P**	**11 27 57.3**	**+1.1**
BHPL				AMb	AMB	11 28 04.2	
	comp=Z,466nm,1.1s,mb5.8						
KOLN	**Koldanda**	**22.33**	**335**	*e*P	**P**	**11 27 56.7**	**+0.2**
	comp=Z,293nm,0.7s,mb5.8						
POO	**Poona**	**22.50**	**301**	*e*P	**P**	**11 28 00.0**	**+1.9**
POO				AMb	AMB	11 28 04.4	
	comp=Z,213nm,1.5s,mb5.4						
BATP	**Bataraza**	**23.42**	**86**	*e*P	**P**	**11 28 07.6**	**+0.3**
BOM	**Bombay**	**23.54**	**300**	*e*P	**P**	**11 28 12.0**	**+3.6**
BOM				*ex*	x	11 32 30.8	
TSM	**Tawau**	**23.82**	**97**	P	**P**	**11 28 12.7**	**+1.5**
HKC	**Hong Kong**	**24.13**	**51**	P	**P**	**11 28 18.0**	**+3.9**
CD2	**Chengdu**	**24.78**	**20**	⇓*i*P	**P**	**11 28 21.6**	**+1.2**
CD2				XP		11 28 28.4	
CD2				PP	PP	11 28 58.8	+1.5
CD2				PPP	PPP	11 29 06.9	-1.1
CD2				S	**S**	**11 32 41.3**	**+2.6**
CD2				AMB	AMB		
	comp=Z,60nm,0.7s,mb5.2						
CD2				AMB	AMB		
	comp=Z,390nm,6.3s						
CD2				LR	LR		
	comp=E,4μm,9.6s						
CD2				LR	LR		
	comp=Z,2μm,14.4s,MS4.7						
ENPP	**El Nido**	**25.16**	**80**	*e*P	**P**	**11 28 24.5**	**+0.4**
NDI	**New Delhi**	**26.30**	**325**	*e*P	**P**	**11 28 34.2**	**-0.4**
AJM	**Ajmer**	**26.33**	**318**	*i* P	**P**	**11 28 36.0**	**+1.1**
DGAR	**Diego Garcia**	**26.34**	**236**	*i* P	**P**	**11 28 30.1**	**-5.0**
ENH	**Enshi**	**26.67**	**31**	*e*P	**P**	**11 28 38.0**	**+0.1**
	comp=Z,118nm,0.9s,mb5.4						
ENH				LR	LR		
	comp=Z,3μm,20.0s,MS4.9						
OTRP	**Odiongan**	**27.81**	**78**	*e*P	**P**	**11 28 48.0**	**-0.6**
BALP	**Baler**	**27.98**	**71**	*e*P	**P**	**11 28 49.1**	**-1.0**
POLP	**Polilio Island**	**28.11**	**73**	*e*P	**P**	**11 28 49.8**	**-1.4**
IPIL	**Ipil**	**28.15**	**88**	*e*P	**P**	**11 28 51.3**	**-0.3**
BHJ	**Bhuj**	**28.16**	**306**	*ex*	x	11 29 18.4	
BHJ				*ex*	x	11 34 31.9	
APYP	**Conner**	**28.24**	**66**	*e*P	**P**	**11 28 52.6**	**+0.2**
RCP	**Roxas**	**28.43**	**80**	⇑*e*P	**P**	**11 28 55.1**	**+1.0**
SNPH	**Sibulan**	**28.80**	**85**	*e*P	**P**	**11 28 58.5**	**+1.1**
PAGZ	**Pagadian**	**28.95**	**88**	*e*P	**P**	**11 28 59.7**	**+0.9**
QZH	**Quanzhou**	**28.96**	**51**	P	**P**	**11 28 57.6**	**-1.2**
QZH				S	**S**	**11 33 47.0**	**-0.1**
QZH				LR	LR		
	comp=N,17μm,14.0s,MS5.8						
QZH				LR	LR		
	comp=E,8μm,16.8s,MS5.8						
QZH				LR	LR		
	comp=Z,6μm,16.6s,MS5.3						
XAN	**Xi'an**	**29.55**	**25**	P	**P**	**11 29 03.1**	**-0.9**
XAN				AP	pP	11 29 09.7	-0.4
XAN				S	**S**	**11 33 57.5**	**+1.1**
XAN				SS	SS	11 35 33.2	+3.3
XAN				AMB	AMB		
	comp=Z,13nm,1.1s,mb4.6						
XAN				LR	LR		
	comp=N,4μm,14.5s,MS5.3						
XAN				LR	LR		
	comp=E,5μm,14.6s,MS5.3						
XAN				LR	LR		
	comp=Z,5μm,14.8s,MS5.3						
WHN	**Wuhan**	**29.57**	**37**	⇓P	**P**	**11 29 05.0**	**+0.8**
WHN				S	**S**	**11 34 06.0**	**+9.3**
WHN				LR	LR		
	comp=N,5μm,11.9s						
WHN				LR	LR		
	comp=E,6μm,9.7s						
WHN				LR	LR		
	comp=Z,6μm,12.0s,MS5.4						
LZH	**Lanzhou**	**29.62**	**16**	P	**P**	**11 29 05.5**	**+0.9**
LZH				AP	pP	11 29 13.4	+2.7
LZH				XP	sP	11 29 16.9	+3.5
LZH				PP	PP	11 30 05.0	+3.9
LZH				PPP	PPP	11 30 12.0	-2.7
LZH				S	**S**	**11 33 59.2**	**+1.8**
LZH				XS		11 34 13.3	
LZH				SS	SS	11 35 37.0	+5.4
LZH				AMB	AMB		
	comp=Z,100nm,1.2s,mb5.4						
LZH				AMB	AMB		
	comp=Z,760nm,4.6s						
LZH				LR	LR		
	comp=E,4μm,14.0s						
LZH				LR	LR		
	comp=Z,6μm,17.4s,MS5.2						
CNP	**Catarman**	**30.39**	**78**	*e*P	**P**	**11 29 11.7**	**0.0**
BUKP	**Musuan**	**30.61**	**88**	*e*P	**P**	**11 29 14.0**	**+0.4**
BUTP	**Butuan**	**31.15**	**85**	*e*P	**P**	**11 29 17.5**	**-0.9**
GTA	**Gaotai**	**31.99**	**8**	*e*P	**P**	**11 29 25.5**	**0.0**
GTA				AP	pP	11 29 29.9	-1.7
GTA				PCP	PcP	11 32 18.5	+3.1
GTA				S	**S**	**11 34 35.1**	**+0.4**
GTA				SCP		11 35 58.7	
GTA				PCS		11 36 01.0	
GTA				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
GTA				AMB	AMB		
	comp=Z,192nm,4.2s						
GTA				LR	LR		
	comp=N,635nm,15.7s,MS4.8						
GTA				LR	LR		
	comp=E,1μm,15.7s,MS4.8						
GTA				LR	LR		
	comp=Z,2μm,17.2s,MS4.8						
NJ2	**Nanjing**	**33.39**	**40**	*e*P	**P**	**11 29 38.2**	**+0.4**
NJ2				AP	pP	11 29 45.5	+1.5
NJ2				XP	sP	11 29 48.1	+1.5
NJ2				PP	PP	11 30 53.6	+3.8
NJ2				S	**S**	**11 35 00.0**	**+3.3**
NJ2				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,360nm,6.3s						
NJ2				LR	LR		
	comp=N,7μm,14.8s,MS5.7						
NJ2				LR	LR		
	comp=E,7μm,15.0s,MS5.7						
NJ2				LR	LR		
	comp=Z,2μm,14.3s,MS4.9						
SSE	**Sheshan**	**34.34**	**44**	P	**P**	**11 29 47.8**	**+1.8**
SSE				AP	pP	11 29 53.9	+1.8
SSE				XP	sP	11 29 56.7	+1.9
SSE				PP	PP	11 31 03.9	+2.4
SSE				PCP	PcP	11 32 24.4	+2.4
SSE				S	**S**	**11 35 14.0**	**+2.7**
SSE				AMB	AMB		
	comp=Z,34nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,64nm,5.9s						
SSE				LR	LR		
	comp=N,2μm,17.1s,MS5.1						
SSE				LR	LR		
	comp=E,1μm,17.1s,MS5.1						
SSE				LR	LR		
	comp=Z,778nm,15.6s,MS4.5						
TIA	**Tai'an**	**35.29**	**33**	⇑P	**P**	**11 29 54.2**	**+0.1**
TIA			

WMQ	**Urumqi**	**36.43 352**	P	**P**	**11 30 05.0 +1.4**
WMQ			XP	sP	11 30 12.0 -0.4
WMQ			PP	PP	11 31 29.0 +1.5
WMQ			S	**S**	**11 35 45.0 +1.5**
WMQ			SCP		11 36 14.0
WMQ			SS	SS	11 38 10.0 +0.9
WMQ			AMB	AMB	
	comp=Z,47nm,0.8s,mb5.5				
WMQ			AMB	AMB	
	comp=Z,44nm,8.0s				
WMQ			LR	LR	
	comp=N,919nm,18.0s,MS5.0				
WMQ			LR	LR	
	comp=E,2μm,20.0s,MS5.0				
WMQ			LR	LR	
	comp=Z,1μm,18.0s,MS4.7				
HHC	**Hu-ho-hao-te**	**36.48 22**	*e*P	**P**	**11 30 05.1 +1.1**
HHC			AP	pP	11 30 11.2 +1.0
HHC			XP	sP	11 30 15.9 +3.0
HHC			PP	PP	11 31 29.7 +1.5
HHC			S	**S**	**11 35 44.2 0.0**
HHC			XS		11 35 56.6
HHC			SS	SS	11 38 12.2 +2.0
HHC			SCS	ScS	11 40 14.7 -2.6
HHC			AMB	AMB	
	comp=Z,45nm,1.6s,mb5.2				
HHC			AMB	AMB	
	comp=Z,319nm,3.3s				
HHC			LR	LR	
	comp=N,2μm,17.2s,MS5.3				
HHC			LR	LR	
	comp=E,3μm,14.9s,MS5.3				
HHC			LR	LR	
	comp=Z,3μm,18.4s,MS5.1				
JOW	**Kunigami**	**37.54 55**	P	**P**	**11 30 12.9 -0.2**
	comp=Z,9.0nm,0.7s,mb4.6,baz=303,slow=10,SNR=5.7				
KZA	**Kyzart**	**38.11 337**	P	**P**	**11 30 17.9 +0.2**
	SNR=12				
MBWA	**Marble Bar**	**38.11 139**	*e*P	**P**	**11 30 17.1 -0.9**
	comp=Z,34nm,1.1s,mb5.0				
TKM2	**Tokmak 2**	**38.70 338**	P	**P**	**11 30 22.6 -0.1**
	SNR=14				
AML	**Almayashu**	**38.78 335**	P	**P**	**11 30 24.0 +0.6**
	SNR=43				
AAK	**Ala-Archa**	**38.88 337**	P	**P**	**11 30 24.9 +0.7**
	SNR=11				
AAK	**Ala-Archa**	**38.88 337**	*e*P	**P**	**11 30 23.5 -0.7**
	comp=Z,98nm,1.0s,mb5.5				
AAK	**Ala-Archa**	**38.88 337**	*e*P	**P**	**11 30 23.5 -0.7**
AAK			pmax	pmax	
	comp=Z,98nm,1.0s,mb5.5				
FRU	**Bishkek**	**39.00 337⇑**	*e*P	**P**	**11 30 25.0 -0.2**
FRU			*i*	pP	11 30 32.0 +0.6
FRU			*e*		11 32 20.0
FRU			pmax	pmax	
	comp=Z,150nm,1.8s,mb5.4				
FRU			MLR	MLR	
	comp=Z,2μm,19.0s,MS5.0				
CHMS	**Chumysh**	**39.09 337**	P	**P**	**11 30 25.9 0.0**
	SNR=9.8				
EKS2	**Erkin-Say**	**39.19 336**	P	**P**	**11 30 27.3 +0.5**
	SNR=14				
USP	**Ospenovka**	**39.41 337**	P	**P**	**11 30 28.3 -0.3**
	SNR=23				
DL2	**Dalian**	**39.71 34**	P	**P**	**11 30 32.9 +1.8**
DL2			XP	sP	11 30 39.4 -0.6
DL2			S	**S**	**11 36 42.1 +8.8**
DL2			AMB	AMB	
	comp=Z,40nm,1.0s,mb5.1				
DL2			LR	LR	
	comp=N,450nm,11.3s,MS5.0				
DL2			LR	LR	
	comp=E,1μm,11.0s,MS5.0				
DL2			LR	LR	
	comp=Z,1μm,11.4s,MS4.9				
MKAR	**Makanchi Array**	**40.27 347**	P	**P**	**11 30 34.9 -0.8**
	comp=Z,18nm,0.7s,mb4.9,baz=168,slow=7.2,SNR=129				
MKAR			LR	LR	11 51 33.7
	comp=Z,506nm,19.3s,MS4.4,baz=175,slow=43				
MKAR	**Makanchi Array**	**40.27 347**	P	**P**	**11 30 34.9 -0.7**
MKAR			pmax	pmax	
	comp=Z,18nm,0.7s				
MKAR			MLR	MLR	
	comp=Z,506nm,19.3s				
FITZ	**Fitzroy Crossi**	**40.28 130**	*e*P	**P**	**11 30 34.7 -1.3**
	comp=Z,36nm,0.9s,mb5.1				
FITZ	**Fitzroy Crossi**	**40.28 130**	P	**P**	**11 30 34.9 -1.1**
	comp=Z,28nm,0.9s,mb5.0,baz=340,slow=4.4,SNR=14				
KKAR	**Karatay Array**	**40.93 333**	*i* P	**P**	**11 30 40.8 -0.3**
KKAR	**Karatay Array**	**40.93 333**	*i* P	**P**	**11 30 40.7 -0.4**
KKAR			pmax	pmax	
	comp=Z,105nm,1.3s,mb5.3				
SONM	**Songino Array**	**41.33 12**	P	**P**	**11 30 44.7 +0.3**
	comp=Z,20nm,1.0s,mb4.7,baz=196,slow=8.1,SNR=54				
SONM			PcP	PcP	11 32 43.0 -0.3
	comp=Z,4.1nm,0.8s,baz=222,slow=1.5,SNR=2.4				
SONM			LR	LR	11 49 09.9
	comp=Z,2μm,18.1s,MS5.0,baz=190,slow=38				
SONM	**Songino Array**	**41.33 12**	P	**P**	**11 30 44.7 +0.3**
SONM					11 32 43.0
SONM			pmax	pmax	
	comp=Z,20nm,1.0s				
SONM			pmax	pmax	
	comp=Z,4.0nm,0.8s				
SONM			MLR	MLR	
	comp=Z,2μm,18.2s				
INCN	**Inchon**	**41.78 40**	*e*P	**P**	**11 30 48.5 +0.3**
	comp=Z,25nm,0.8s,mb4.9				
INCN			*e*pP	pP	11 30 55.3 +0.8
JNU	**Nakatsue**	**42.35 48**	P	**P**	**11 30 53.5 +0.5**
	comp=Z,18nm,0.9s,mb4.7,baz=249,slow=10,SNR=8.4				
KS15	**Wonju Array Si**	**42.55 41**	*e*P	**P**	**11 30 54.4 -0.2**
SNY	**Shenyang**	**42.81 33**	⇓P	**P**	**11 30 57.6 +1.0**
SNY			AP	pP	11 31 03.6 +0.8
SNY			XP	sP	11 31 07.6 +2.2
SNY			S	**S**	**11 37 21.8 +2.5**
SNY			XS		11 37 37.0
SNY			SS	SS	11 40 32.3 +7.8
SNY			AMB	AMB	
	comp=Z,20nm,0.9s,mb4.8				
SNY			AMB	AMB	
	comp=Z,250nm,2.8s,mb5.5				
SNY			LR	LR	
	comp=E,2μm,16.8s				
SNY			LR	LR	
	comp=Z,2μm,16.9s,MS5.1				
ZAK	**Zakamensk**	**43.23 9⇑**	*e*P	**P**	**11 30 59.5 -0.3**
ZAK			pmax	pmax	
	comp=Z,12nm,1.0s,mb4.6				
ZAK			pmax	pmax	
	comp=Z,11nm,1.2s,mb4.5				
MOY	**Mondy**	**44.20 6**	*e*P	**P**	**11 31 11.2 +3.5**
MOY			pmax	pmax	
	comp=Z,34nm,1.5s,mb4.9				
MUN	**Mundaring**	**44.71 153⇓**	*i*P	**P**	**11 31 12.5 +0.3**
	comp=Z,39nm,0.9s,mb5.2				
MUN	**Mundaring**	**44.71 153⇓**	*i*P	**P**	**11 31 12.5 +0.3**
MUN			pmax	pmax	
	comp=Z,39nm,0.9s,mb5.2				
KURK	**Kurchatov**	**44.79 346**	*e*P	**P**	**11 31 11.8 -0.7**
	comp=Z,179nm,1.0s,mb5.8				
KURK	**Kurchatov**	**44.79 346**	*e*P	**P**	**11 31 11.8 -0.7**
KURK			pmax	pmax	
	comp=Z,179nm,1.0s,mb5.8				
KLBR	**Kellerberrin**	**45.11 151⇓**	*i*P	**P**	**11 31 15.2 -0.1**
	comp=Z,40nm,0.9s,mb5.2				
CN2	**Changchun**	**45.17 32**	⇓P	**P**	**11 31 16.4 +0.8**
CN2			*e*S	**S**	**11 37 55.2 +1.7**
CN2			AMB	AMB	
	comp=Z,20nm,0.8s,mb5.0				
CN2			AMB	AMB	
	comp=Z,400nm,5.0s				
CN2			LR	LR	
	comp=N,2μm,14.0s,MS5.5				
CN2			LR	LR	
	comp=E,3μm,14.0s,MS5.5				
CN2			LR	LR	
	comp=Z,2μm,15.0s,MS5.2				
HASS	**Wahat al Ahsa'**	**45.80 298**	P	**P**	**11 31 22.3 +1.4**
NWAO	**Narrogin (SRO)**	**45.98 153**	P	**P**	**11 31 22.3 +0.1**
	comp=Z,38nm,0.8s,mb5.4,baz=312,slow=8.9,SNR=37				
NWAO	**Narrogin (SRO)**	**45.98 153**	*e*P	**P**	**11 31 21.5 -0.7**
	comp=Z,41nm,0.8s,mb5.4				
NWAO			LR	LR	
	comp=Z,1μm,22.0s,MS4.8				
NWAO	**Narrogin (SRO)**	**45.98 153**	*e*P	**P**	**11 31 21.5 -0.7**
NWAO			pmax	pmax	
	comp=Z,41nm,0.8s				
NWAO			MLR	MLR	
	comp=Z,1μm,22.0s				
HIA	**Hailar**	**46.68 23**	*e*P	**P**	**11 31 28.4 +1.0**
	comp=Z,55nm,0.9s,mb5.5				
HIA	**Hailar**	**46.68 23**	*e*P	**P**	**11 31 28.4 +0.9**
HIA			pmax	pmax	
	comp=Z,55nm,0.9s				
ZAL	**Zalesovo**	**46.73 352**	P	**P**	**11 31 27.2 -0.6**
	comp=Z,18nm,0.8s,mb5.1,baz=299,slow=8.0,SNR=78				
ZAL	**Zalesovo**	**46.73 352**	P	**P**	**11 31 27.2 -0.6**
ZAL			pmax	pmax	
	comp=Z,18nm,0.8s				
CIT	**Chita**	**46.98 16**	*e*P	**P**	**11 31 30.2 +0.4**
CIT			pmax	pmax	
	comp=Z,131nm,1.7s,mb5.6				
NVS	**Novosibirsk**	**47.83 351⇑**	*i*P	**P**	**11 31 34.7 -1.8**
NVS			*e*S	**S**	**11 38 29.2 -1.9**
NVS			pmax	pmax	
	comp=N,106nm,1.0s				
NVS			pmax	pmax	
	comp=E,45nm,1.0s				
NVS			pmax	pmax	
	comp=Z,139nm,1.0s,mb5.9				
NVS			smax		
	comp=E,59nm,1.8s				
MDJ	**Mudanjiang**	**47.95 34**	P	**P**	**11 31 39.0 +1.5**
MDJ			AP	pP	11 31 42.1 -1.8
MDJ			PCP	PcP	11 33 06.7 +0.6
MDJ			PP	PP	11 33 30.2 +1.3
MDJ			S	**S**	**11 38 37.7 +4.8**
MDJ			SS	SS	11 42 03.8 +7.3
MDJ			AMB	AMB	
	comp=Z,16nm,1.1s,mb5.0				
MDJ			AMB	AMB	
	comp=Z,182nm,8.2s				
MDJ			LR	LR	
	comp=N,991nm,12.5s,MS5.3				
MDJ			LR	LR	
	comp=E,2μm,14.6s,MS5.3				
MDJ			LR	LR	
	comp=Z,1μm,13.9s,MS5.1				
MDJ	**Mudanjiang**	**47.95 34**	*e*P	**P**	**11 31 37.6 0.0**
	comp=Z,34nm,1.1s,mb5.3				
WRA	**Warramunga Arr**	**48.14 125**	P	**P**	**11 31 38.0 -1.4**
	comp=Z,14nm,0.8s,mb5.0,baz=304,slow=8.6,SNR=98				
WRA	**Warramunga Arr**	**48.14 125**	P	**P**	**11 31 38.0 -1.4**
WRA			pmax	pmax	
	comp=Z,14nm,0.8s				
WRAB	**Tennant Creek**	**48.14 125**	*e*P	**P**	**11 31 37.7 -1.7**
	comp=Z,54nm,0.8s,mb5.6				
WRAB	**Tennant Creek**	**48.14 125**	*e*P	**P**	**11 31 37.7 -1.7**
WRAB			pmax	pmax	
	comp=Z,54nm,0.8s,mb5.6				
WB2	**Warramunga Arr**	**48.15 125**	*e*P	**P**	**11 31 37.8 -1.6**
QRN	**Al-Qurain**	**48.28 302**	*e*P	**P**	**11 31 40.6 +0.3**
QRN			AMb	AMB	11 31 46.6
	comp=Z,83nm,0.9s,mb5.8				
RYDS	**Riyadh**	**48.29 296**	P	**P**	**11 31 42.7 +2.3**
LBOS		**48.37 282**	*e*P	**P**	**11 31 43.9 +2.7**
KBD	**Kabd**	**48.59 302**	*e*P	**P**	**11 31 42.9 +0.1**
KBD			AMb	AMB	11 31 44.0
	comp=Z,233nm,0.8s,mb6.2				
RDF	**Al-Radifah**	**48.64 302**	*e*P	**P**	**11 31 42.9 -0.2**
RDF			AMb	AMB	11 31 44.0
	comp=Z,110nm,0.5s,mb6.2				
UMR	**Umm Al-Rimmam**	**48.68 303**	*e*P	**P**	**11 31 43.1 -0.2**
UMR			AMb	AMB	11 31 55.7
	comp=Z,66nm,0.8s,mb5.7				
BVA0	**Borovoye Array**	**49.17 341**	*i* P	**P**	**11 31 45.6 -1.2**
BVA0			pmax	pmax	
	comp=Z,11nm,1.2s,mb4.8				
BRVK	**Borovoye**	**49.23 341**	*e*P	**P**	**11 31 46.2 -1.1**
	comp=Z,45nm,1.1s,mb5.4				
BRVK	**Borovoye**	**49.23 341**	*e*P	**P**	**11 31 46.0 -1.3**
BRVK			pmax	pmax	
	comp=Z,45nm,1.1s,mb5.4				
DHBB	**Dhamar BB**	**49.23 283**	*e*P	**P**	**11 31 50.5 +2.7**
DHBB			AMb	AMB	11 31 51.7
	comp=Z,104nm,1.3s,mb5.7				
MAJO	**Matsushiro**	**49.27 48**	*e*P	**P**	**11 31 47.4 -0.4**
	comp=Z,51nm,1.5s,mb5.3				
MAJO	**Matsushiro**	**49.27 48**	*e*P	**P**	**11 31 47.4 -0.4**
MAJO			pmax	pmax	
	comp=Z,51nm,1.5s,mb5.3				
MAT	**Matsushiro**	**49.27 48**	P	**P**	**11 31 47.5 -0.3**
MAT			S	**S**	**11 38 51.0 -0.6**
MAT	**Matsushiro**	**49.27 48**	*e*P	**P**	**11 31 48.0 +0.2**
	comp=Z,28nm,1.5s,mb5.1				
MAT			*e*S	**S**	**11 38 52.0 +0.4**
MAT	**Matsushiro**	**49.27 48**	*e*P	**P**	**11 31 48.0 +0.2**
MAT			*e*S	**S**	**11 38 52.0 +0.4**
MAT			pmax	pmax	
	comp=Z,28nm,1.5s,mb5.1				
TRBA	**At Turbah**	**49.46 281**	*e*P	**P**	**11 31 52.2 +2.6**
KAMS	**Al Khamasin**	**49.53 290**	P	**P**	**11 31 52.2 +2.1**
FORT	**Forrest**	**50.18 141**	*e*P	**P**	**11 31 54.9 -0.1**
	comp=Z,112nm,0.9s,mb5.9				
DJNS	**Zahran al Janu**	**50.24 287**	P	**P**	**11 31 58.3 +2.8**
AB31	**Akbulak array**	**50.40 331**	*i* P	**P**	**11 31 55.7 -0.6**
AB31			pmax	pmax	
	comp=Z,54nm,1.0s,mb5.5				
TATS	**Tathlith**	**50.47 289**	P	**P**	**11 31 59.3 +2.0**
KLR	**Kul'dur**	**52.03 30**	*e*P	**P**	**11 32 06.2 -2.5**
KLR			*e*S	**S**	**11 39 37.5 +7.9**
KLR			*e*SS	SS	11 43 06.0 +1.1
KLR			MLR	MLR	
	comp=E,1μm,12.0s				
KLR			MLR	MLR	
	comp=Z,2μm,12.0s,MS5.3				
BLJS	**Baljurashi**	**52.27 289**	P	**P**	**11 32 13.2 +2.3**
BOD	**Bodaibo**	**52.32 13**	*e*P	**P**	**11 32 09.3 -1.5**
BOD			pmax	pmax	
	comp=Z,51nm,1.4s,mb5.3				
HILS	**Ha'il**	**53.21 298**	P	**P**	**11 32 19.2 +1.4**
LTHS	**Al Lith**	**53.42 289**	P	**P**	**11 32 21.2 +1.8**
GNI	**Garni**	**54.58 314⇑**	*i*P	**P**	**11 32 26.9 -0.8**
GNI	**Garni**	**54.58 314**	P	**P**	**11 32 27.1 -0.6**
GNI			pmax	pmax	
	comp=Z,94nm,1.1s				
CLNS	**Chul'man**	**54.60 20**	*e*P	**P**	**11 32 27.6 0.0**
CLNS			*e*		11 33 31.0
CLNS			*e*		11 34 27.7
CLNS			*e*S	**S**	**11 40 08.8 +4.5**
CLNS			*e*SS	SS	11 43 47.7 +0.9
CLNS			pmax	pmax	
	comp=N,24nm,0.9s				
CLNS			pmax	pmax	
	comp=E,27nm,0.9s				
CLNS			pmax	pmax	
	comp=Z,48nm,0.9s,mb5.5				
CLNS			pmax	pmax	
	comp=N,14nm,0.9s				
CLNS			pmax	pmax	
	comp=Z,8.0nm,0.9s,mb4.8				
CLNS			pmax	pmax	
	comp=E,12nm,1.0s				
CLNS			smax		
	comp=N,7.0nm,0.8s				
CLNS			smax		
	comp=Z,4.0nm,0.7s				
CLNS			smax		
	comp=E,7.0nm,1.0s				
CLNS			MLR	MLR	
	comp=Z,2μm,15.0s,MS5.3				
CLNS			MLR	MLR	
	comp=N,1μm,13.0s,MS5.2				
CLNS			MLR	MLR	
	comp=E,300nm,13.0s,MS5.2				
DGRG	**David-gareji**	**54.65 316**	P	**P**	**11 32 27.1 -1.1**
KBRS	**Khaybar**	**55.16 296**	P	**P**	**11 32 33.9 +1.8**
PMG	**Port Moresby**	**55.46 107**	P	**P**	**11 32 34.5 +0.1**
	comp=E,28nm,0.8s,mb5.3,baz=254,slow=5.0,SNR=7.5				
PMG	**Port Moresby**	**55.46 107**	*e*P	**P**	**11 32 34.2 -0.2**
	comp=E,28nm,0.8s,mb5.3				
PMG			*e*pP	pP	11 32 41.7 +0.9
PMG	**Port Moresby**	**55.46 107**	*e*P	**P**	**11 32 34.2 -0.2**
PMG			*e**PP	pP	11 32 41.7 +0.9
PMG			pmax	pmax	
	comp=Z,28nm,0.8s				
ARU	**Arti**	**56.06 337⇑**	*i*P	**P**	**11 32 37.0 -1.2**
ARU			MLR	MLR	
	comp=Z,430nm,21.0s,MS4.5				
ZEI	**Tsey**	**56.19 317**	*e*P	**P**	**11 32 35.4 -3.9**
ZEI			*i* *PP	pP	11 32 45.9 +0.2
ZEI			pmax	pmax	
	comp=Z,19nm,0.9s,mb5.1				
ONI	**Oni**	**56.41 317**	P	**P**	**11 32 40.3 -0.6**
YSS	**Yuzh-Sakhalins**	**56.91 38**	*i* P	**P**	**11 32 44.9 +0.5**
YSS	**Yuzh-Sakhalins**	**56.91 38**	*e*P	**P**	**11 32 44.2 -0.2**
YSS			*e*		11 32 56.7
YSS			*e*S	**S**	**11 40 40.0 +4.8**
YSS			pmax	pmax	
	comp=Z,20nm,1.0s,mb5.1				
YSS			MLR	MLR	
	comp=N,900nm,15.0s,MS5.1				
YSS			MLR	MLR	
	comp=E,900nm,15.0s,MS5.1				
YSS			MLR	MLR	
	comp=Z,500nm,15.0s,MS4.7				
KMBO	**Kilima Mbogo**	**57.42 264**	P	**P**	**11 32 51.1 +2.6**
	comp=Z,24nm,1.0s,mb5.2,baz=57,slow=11,SNR=27				
KMBO			LR	LR	11 54 30.7
	comp=Z,1μm,19.8s,MS5.1,baz=94,slow=33				
KIV	**Kislovodsk**	**57.47 318⇑**	*i*P	**P**	**11 32 47.3 -1.1**
KIV	**Kislovodsk**	**57.47 318**	*c i*P	**P**	**11 32 47.2 -1.2**
KIV			*e*		11 33 45.6
KIV			*i* S	**S**	**11 40 45.2 +2.6**
KIV			pmax	pmax	
	comp=Z,74nm,1.0s,mb5.7				
KIV			MLR	MLR	
	comp=Z,400nm,21.0s,MS4.5				
GOF	**Gofitskoye**	**57.68 319⇑**	*i*P	**P**	**11 32 48.0 -1.9**
GOF			pmax	pmax	
	comp=Z,40nm,1.0s,mb5.4				
CTAO	**Charters Tower**	**58.20 119**	PFAKE		11 33 10.0 +16
CTAO			LR	LR	
	comp=Z,1μm,21.0s,MS5.0				
ASF	**Jabal al Asfar**	**58.33 303**	P	**P**	**11 32 54.9 +0.3**
	comp=Z,17nm,0.8s,mb5.1,baz=330,slow=3.2,SNR=13				
ASF			LR	LR	12 01 02.9
	comp=Z,708nm,19.0s,MS4.8,baz=118,slow=39				
ASF	**Jabal al Asfar**	**58.33 303**	P	**P**	**11 32 54.9 +0.3**
ASF			pmax	pmax	
	comp=Z,17nm,0.8s				
ASF			MLR	MLR	
	comp=Z,708nm,19.0s				
MALT	**Malatya**	**58.59 310**	*e*P	**P**	**11 32 55.7 -0.7**
	comp=Z,23nm,1.0s,mb5.2				
MALT	**Malatya**	**58.59 310**	*e*P	**P**	**11 32 55.7 -0.7**
MALT			pmax	pmax	
	comp=Z,23nm,1.0s,mb5.2				
SOC	**Sochi**	**59.33 317⇓**	*i*P	**P**	**11 32 59.4 -2.0**
SOC			*e*		11 33 41.3
SOC			*e*S	**S**	**11 41 07.5 +0.6**
SOC			*e*		11 42 50.2
SOC			pmax	pmax	
	comp=Z,36nm,1.0s,mb5.4				
SOC			pmax	pmax	
	comp=N,13nm,0.8s				
SOC			pmax	pmax	
	comp=E,21nm,0.9s				
STKA	**Stephens Creek**	**59.97 134**	*e*P	**P**	**11 33 04.6 -1.3**
	comp=E,12nm,0.7s,mb5.0				
STKA	**Stephens Creek**	**59.97 134**	P	**P**	**11 33 04.0 -1.9**
	comp=E,5.9nm,0.9s,mb4.6,baz=333,slow=13,SNR=5.6				
STKA			LR	LR	11 59 16.7
	comp=E,1μm,21.9s,MS4.9,baz=296,slow=36				
YAK	**Yakutsk**	**60.16 18⇑**	*i*P	**P**	**11 33 05.4 -1.4**
YAK	**Yakutsk**	**60.16 18**	*e*P	**P**	**11 33 06.7 -0.1**
YAK			*e**PP	pP	11 33 14.1 +0.8
YAK			*e*		11 33 51.1
YAK			*e*		11 35 18.1
YAK			*e*PPP	PPP	11 36 46.2 -1.7
YAK			*e*S	**S**	**11 41 19.6 +2.2**
YAK			*e*		11 42 54.8
YAK			*e*SS	SS	11 45 09.1 -6.7
YAK			*e*SSS	SSS	11 47 46.0 -2.4
YAK			pmax	pmax	
	comp=Z,26nm,1.1s,mb5.2				
YAK			pmax	pmax	
	comp=N,14nm,1.2s				
YAK			pmax	pmax	
	comp=E,14nm,1.3s				
YAK			pmax	pmax	
	comp=Z,5.0nm,0.9s,mb4.5				
YAK			pmax	pmax	
	comp=N,5.0nm,1.3s				
YAK			pmax	pmax	
	comp=E,4.0nm,1.0s				
YAK			smax		
	comp=E,9.0nm,3.9s				
YAK			smax		
	comp=N,6.0nm,5.1s				
YAK			MLR	MLR	
	comp=N,493nm,13.0s,MS5.0				
YAK			MLR	MLR	
	comp=Z,592nm,13.0s,MS4.9				
YAK			MLR	MLR	
	comp=E,410nm,11.0s,MS5.0				
VRHR	**Novokhopersk**	**61.09 325**	*e*P	**P**	**11 33 11.2 -2.1**
VRHR			*e**PP	pP	11 33 19.8 0.0
VRHR			*e*S	**S**	**11 41 28.4 -1.1**
VRHR			pmax	pmax	
	comp=Z,90nm,0.7s,mb6.0				
VRHR			pmax	pmax	
	comp=N,30nm,1.2s				
VRHR			pmax	pmax	
	comp=E,30nm,0.9s				
VRHR			smax		
	comp=N,150nm,2.4s				
VRHR			smax		
	comp=Z,90nm,2.3s				
VRHR			smax		
	comp=E,70nm,1.5s				
VRHR			MLR	MLR	
	comp=Z,790nm,19.0s,MS4.9				
VRHR			MLR	MLR	
	comp=N,440nm,16.0s,MS5.0				
VRHR			MLR	MLR	
	comp=E,850nm,20.0s,MS5.0				
ANN	**Anapa**	**61.28 317**	*e*P	**P**	**11 33 10.2 -4.5**
ANN			MLR	MLR	
	comp=E,916nm,23.0s				
ANN			MLR	MLR	
	comp=Z,696nm,23.0s,MS4.8				
CSS	**Prodhromos**	**61.80 306**	*e*P	**P**	**11 33 17.6 -0.7**
	comp=Z,43nm,1.1s,mb5.5				
VORD	**Divnogorie**	**62.38 324**	*e*P	**P**	**11 33 19.5 -2.5**
VORD			pmax	pmax	
	comp=Z,50nm,0.8s,mb5.7				
VORD			pmax	pmax	
	comp=N,10.0nm,0.6s				
VORD			pmax	pmax	
	comp=E,20nm,0.9s				
VRSR	**Storozhevoye**	**62.54 325**	*e*P	**P**	**11 33 20.5 -2.5**
VRSR			*e**PP	pP	11 33 29.9 +0.4
VRSR			*e*S	**S**	**11 41 44.7 -3.0**
VRSR			pmax	pmax	
	comp=Z,40nm,0.9s,mb5.5				
VRSR			pmax	pmax	
	comp=N,10.0nm,0.7s				
VRSR			pmax	pmax	
	comp=E,30nm,0.9s				
VRSR			pmax	pmax	
	comp=Z,40nm,0.9s,mb5.5				
VRSR			pmax	pmax	
	comp=N,10.0nm,0.7s				
VRSR			pmax	pmax	
	comp=E,30nm,0.9s				
VRSR			smax		
	comp=N,50nm,1.0s				
VRSR			smax		
	comp=N,10.0nm,0.9s				
VRSR			smax		
	comp=E,10.0nm,0.8s				
VRSR			smax		
	comp=E,50nm,1.0s				
VRSR			smax		
	comp=N,10.0nm,0.9s				
VRSR			smax		
	comp=E,10.0nm,0.8s				
BR131	**Keskin Array S**	**62.56 311**	*e*P	**P**	**11 33 21.1 -2.3**
	comp=E,13nm,0.6s,mb5.2				
BR131			LR	LR	
	comp=Z,501nm,20.0s,MS4.7				
BRTR	**Keskin Array B**	**62.56 311**	P	**P**	**11 33 21.3 -2.1**
	comp=Z,16nm,0.7s,mb5.2,baz=124,slow=7.1,SNR=60				
BRTR	**Keskin Array B**	**62.56 311**	P	**P**	**11 33 21.3 -2.1**
BRTR			pmax	pmax	

comp=Z,16nm,0.7s
VOR Voronezh 62.74 325 eP P 11 33 22.0 -2.4
VOR pmax pmax
comp=E,170nm,1.2s
VOR pmax pmax
comp=Z,120nm,1.2s,mb5.9
SIM Simferopol' 63.57 317 d iP P 11 33 28.2 -1.8
SIM pmax pmax
comp=Z,26nm,0.9s,mb5.3
SIM MLR MLR
comp=Z,1.0nm,24.5s
MBAR Mbarara 63.77 266 eP P 11 33 31.8 0.0
comp=Z,93nm,1.3s,mb5.7
MBAR LR LR
comp=Z,336nm,20.0s,MS4.5
MBAR Mbarara 63.77 266 eP P 11 33 31.8 0.0
MBAR pmax pmax
comp=Z,93nm,1.3s,mb5.7
MBAR MLR MLR
comp=Z,336nm,20.0s,MS4.5
ISP Isparta 64.56 308 ⇑iP P 11 33 34.7 -1.9
MOS Moscow 65.24 329 eP P 11 33 38.5 -2.2
MOS e pP 11 33 46.5 -0.7
MOS e 11 33 54.9
MOS e 11 34 10.7
MOS e 11 36 01.7
MOS ePPP PPP 11 37 38.9 -1.7
MOS eS S 11 42 17.8 -3.5
MOS eSS SS 11 46 28.8 -7.2
MOS pmax pmax
comp=Z,300nm,1.2s,mb6.2
MOS pmax pmax
comp=Z,224nm,1.1s,mb6.1
OBN Obninsk 65.54 328 ⇑iP P 11 33 41.2 -1.4
OBN LR LR
comp=Z,700nm,15.0s,MS5.0
OBN Obninsk 65.54 328 α iP P 11 33 41.2 -1.4
OBN e 11 34 01.0
OBN 11 36 10.0
OBN i S S 11 42 29.7 +4.7
OBN pmax pmax
comp=Z,147nm,1.2s,mb5.9
TOO Toolangi 65.71 137 eP P 11 33 44.3 +0.3
comp=Z,27nm,1.1s,mb5.2
TOO Toolangi 65.71 137 eP P 11 33 44.3 +0.3
TOO pmax pmax
comp=Z,27nm,1.1s,mb5.2
ARG Arkhangelos 66.19 306 eP P 11 33 49.5 +2.5
KARP Karpathos 66.87 305 eP P 11 33 50.5 -0.9
MA2 Magadan 66.92 28 eP P 11 33 52.7 +1.4
TIRR Tirgusor 67.40 315 ⇑⇑P P 11 33 53.0 -1.6
TIXI Tiksi 67.41 11 ⇑iP P 11 33 52.6 -1.6
TIXI Tiksi 67.41 11 c iP P 11 33 52.5 -1.7
TIXI pmax pmax
comp=Z,72nm,0.7s,mb5.8
TIXI MLR MLR
comp=Z,400nm,17.0s,MS4.7
KIS Kishinev 67.67 318 eP P 11 33 52.0 -4.3
KIS e 11 34 17.0
KIS e 11 36 25.0
KIS e 11 42 42.0
HNR Honiara 67.70 103 eP P 11 33 57.2 +0.2
comp=Z,191nm,0.9s,mb6.1
HNR epP pP 11 34 04.6 +1.1
HNR Honiara 67.70 103 eP P 11 33 57.2 +0.2
HNR e*PP pP 11 34 04.6 +1.1
HNR pmax pmax
comp=Z,191nm,0.9s,mb6.1
CFR Carcaliu 67.74 316 ⇓P P 11 33 54.4 -2.3
CFR Carcaliu 67.74 316 ⇓P P 11 33 54.4 -2.4
HARR Harsova 67.78 315 ⇓P P 11 33 55.1 -1.9
HARR Harsova 67.78 315 ⇓P P 11 33 55.1 -1.9
XRY Khrisi 67.99 304 eP P 11 33 57.9 -0.6
NPS Neapolis 68.10 305 eP P 11 33 59.0 -0.2
AKASG Malin Array Be 68.31 322 P P 11 33 58.0 -2.2
comp=Z,12nm,0.7s,mb5.0,baz=90,slow=4.6,SNR=67
AKASG Malin Array Be 68.31 322 P P 11 33 58.0 -2.2
AKASG pmax pmax
comp=Z,12nm,0.7s
JMB Yambol 68.33 313 eP P 11 34 00.0 -0.5
PET Petropavlovsk 68.67 36 eP P 11 34 05.8 +3.4
PET Petropavlovsk 68.67 36 eP P 11 34 06.7 +4.3
PET e 11 36 33.6
PET eS S 11 43 09.8 +7.2
PET smax
comp=E,100nm,15.8s
PET smax
comp=N,100nm,22.1s
PET MLR MLR
comp=Z,600nm,16.0s,MS4.9
ISR Istrita 68.83 315 ⇓P P 11 34 03.0 -0.5
VRI Vrincioaia 68.84 316 ⇑P P 11 34 03.3 -0.3
VRI Vrincioaia 68.84 316 ⇑P P 11 34 03.4 -0.3
DIM Dimitrovgrad 69.04 312 eP P 11 34 04.0 -0.9
SEY Seymchan 69.08 25 eP P 11 34 05.3 +0.5
SEY Seymchan 69.08 25 eP P 11 34 03.5 -1.3
SEY e 11 34 26.0
SEY 11 36 33.7
SEY ePPP PPP 11 38 21.2 +3.3
SEY eS S 11 43 04.9 -2.5
SEY 11 43 58.4
SEY SS SS 11 47 32.0 -3.4
SEY pmax pmax
comp=Z,30nm,1.2s,mb5.1
SEY pmax pmax
comp=N,8.0nm,1.4s
SEY pmax pmax
comp=E,20nm,1.4s
SEY smax
comp=N,80nm,17.5s
SEY smax
comp=E,200nm,22.8s
SEY MLR MLR
comp=Z,2μm,18.0s,MS5.3
SEY MLR MLR
comp=N,2μm,19.0s,MS5.4
SEY MLR MLR
comp=E,900nm,17.0s,MS5.4
LSZ Lusaka 69.23 251 eP P 11 34 07.0 +0.5
comp=E,41nm,1.3s,mb5.2
LSZ epP pP 11 34 14.7 +1.8
LSZ Lusaka 69.23 251 eP P 11 34 07.0 +0.6
LSZ e*PP pP 11 34 14.7 +1.8
LSZ pmax pmax
comp=Z,41nm,1.3s,mb5.2
VAM Vamos 69.26 305 eP P 11 34 06.5 +0.2
MLR Muntele Rosu 69.31 316 ⇓P P 11 34 06.1 -0.4
MLR Muntele Rosu 69.31 316 ⇓P P 11 34 06.1 -0.4
RZN Rozhen 69.59 312 eP P 11 34 06.0 -2.2
PGB Panagyurishte 70.11 312 eP P 11 34 10.0 -1.4
MNK Minsk 70.12 325 eP P 11 34 08.0 -3.2
KYTH Kithira 70.28 306 eP P 11 34 11.0 -1.5
MMB Musomiste 70.31 311 eP P 11 34 10.0 -2.6
PUL Pulkovo 70.38 331 i P P 11 34 12.3 -0.4
PUL pmax pmax
comp=N,635nm,0.9s
PUL pmax pmax
comp=Z,197nm,0.9s,mb6.0
PUL pmax pmax
comp=E,495nm,1.0s
VLI Velia 70.40 306 eP P 11 34 11.5 -1.7
VTS Vitosha 70.82 312 eP P 11 34 14.0 -1.7
KKB Krupnik 70.82 312 eP P 11 34 14.0 -1.7
ITM Ithomi 71.24 307 eP P 11 34 17.0 -1.4
LVV L'vov 71.37 320 eP P 11 34 17.4 -1.5
LVV i 11 34 38.4
LVV eS S 11 43 33.2 -1.2
LVV ePS PS 11 44 13.6 +7.5
EVR Evrytania 71.48 308 eP P 11 34 18.5 -1.3
LVZ Lovozero 71.74 340 i P P 11 34 19.0 -1.8
LVZ i 11 34 39.5
LVZ i S S 11 43 31.5 -6.8
LVZ pmax pmax
comp=N,11nm,0.9s
LVZ pmax pmax
comp=Z,31nm,0.9s,mb5.2
LVZ pmax pmax
comp=E,18nm,1.1s
LVZ smax
comp=N,144nm,16.1s
LVZ smax
comp=Z,85nm,18.1s
LVZ smax
comp=E,144nm,15.9s
LVZ smax
comp=N,247nm,3.0s
LVZ smax
comp=Z,181nm,3.2s
LVZ smax
comp=E,164nm,4.6s
LVZ MLR MLR
comp=Z,2μm,23.0s,MS5.3
LVZ MLR MLR
comp=N,820nm,21.0s,MS5.2
LVZ MLR MLR
comp=E,1μm,23.0s,MS5.2
VSU Vasula 71.75 329 ⇑iP P 11 34 19.9 -1.1
BOLS Boljevac 71.88 314 i P P 11 34 20.3 -1.8
APA Apatity 72.02 339 ⇓iP P 11 34 20.8 -1.7
APA pmax pmax
comp=Z,25nm,0.7s,mb5.2
APA MLR MLR
comp=Z,700nm,20.0s,MS4.9
KWP Kalwaria 72.18 320 eP P 11 34 23.1 -0.6
KWP Kalwaria 72.18 320 eP P 11 34 23.1 -0.6
JAN Janina 72.29 309 eP P 11 34 23.5 -1.1
UZH Uzhgorod 72.30 319 eP P 11 34 24.0 -0.4
KOLS Kolonicke sedl 72.35 319 i P P 11 34 24.4 -0.4
SUW Suwalki 72.66 324 eP P 11 34 25.1 -1.4
SUW Suwalki 72.66 324 eP P 11 34 25.1 -1.4
SUW Suwalki 72.66 324 P P 11 34 25.7 -0.8
SUW pmax pmax
comp=Z,180nm,1.0s,mb6.0
GRUS Gruza 72.78 313 eP P 11 34 23.8 -3.7
CRVS Cervenica-Dubn 72.88 319 i P P 11 34 27.5 -0.4
FINES FINESS Array B 72.88 332 P P 11 34 26.9 -0.8
comp=Z,16nm,0.7s,mb5.1,baz=108,slow=6.0,SNR=41
FINES LR LR 12 12 42.0
comp=Z,743nm,19.2s,MS5.0,baz=131,slow=41
KAF Kangasniemi 72.96 333 ep P 11 34 27.1 -1.0
comp=Z,22nm,0.6s,mb5.3,baz=103,slow=5.6
STHS Stebnicka Huta 73.09 319 i P P 11 34 28.8 -0.3
DIVS Divcibare 73.32 314 ⇓iP P 11 34 29.0 -1.6
KECS Kecovo 73.46 318 i P P 11 34 30.7 -0.6
NIE Niedzica 73.69 319 eP P 11 34 32.9 +0.3
PSZ Piszkesteto 73.79 318 eP P 11 34 32.5 -0.7
PSZ Piszkesteto 73.79 318 eP P 11 34 32.2 -1.0
comp=Z,17nm,0.9s,mb5.0
PSZ Piszkesteto 73.79 318 P P 11 34 32.9 -0.3
PSZ pmax pmax
comp=Z,18nm,0.9s,mb5.0
MIR Mirnyy 74.06 180 eP P 11 34 36.0 +1.6
MIR pmax pmax
comp=Z,45nm,2.0s,mb5.0
OJC Ojcow 74.13 320 ⇑iP P 11 34 34.6 -0.5
LBTB Lobatse 74.17 241 eP P 11 34 36.6 +0.7
comp=Z,36nm,0.9s,mb5.3
LBTB Lobatse 74.17 241 eP P 11 34 36.6 +0.7
LBTB pmax pmax
comp=Z,36nm,0.9s,mb5.3
VYHS Vyhne 74.56 318 i P P 11 34 37.0 -0.6
CASY Casey 74.75 173 ⇑iP P 11 34 39.3 +0.9
KEV Kevo 75.01 341 ep P 11 34 38.9 -1.0
comp=Z,1.7nm,0.5s,mb4.2
KEV Kevo 75.01 341 eP P 11 34 38.7 -1.2
comp=Z,24nm,0.7s,mb5.2
KEV Kevo 75.01 341 P P 11 34 39.8 -0.1
KEV pmax pmax
comp=Z,30nm,0.9s,mb5.2
OKC Ostrava-Krasne 75.14 319 eP P 11 34 40.9 -0.1
OKC epP pP 11 34 46.2 -1.3
OKC AMS AMS 12 14 50.0
comp=Z,200nm,17.3s
TIP Timpagrande 75.42 308 eP P 11 34 41.5 -1.4
ARCES ARCESS Array B 75.44 340 P P 11 34 42.1 -0.2
comp=Z,12nm,0.8s,mb4.9,baz=90,slow=7.3,SNR=25
ARCES LR LR 12 10 47.0
comp=Z,2μm,21.1s,MS5.3,baz=116,slow=38
ARCES ARCESS Array B 75.44 340 P P 11 34 42.2 -0.1
ARCES pmax pmax
comp=Z,12nm,0.8s
ARCES MLR MLR
comp=Z,2μm,21.1s
ARE0 ARCESS Array S 75.44 340 eP P 11 34 40.6 -1.7
BOSA Boshof 75.51 238 P P 11 34 44.8 +1.2
comp=Z,10nm,0.8s,mb4.8,baz=56,slow=6.4,SNR=15
BOSA LR LR 12 03 42.7
comp=Z,498nm,18.5s,MS4.8,baz=74,slow=32
BOSA Boshof 75.51 238 eP P 11 34 43.8 +0.3
comp=Z,28nm,0.7s,mb5.3
BOSA LR LR
comp=Z,667nm,20.0s,MS4.9
BOSA Boshof 75.51 238 eP P 11 34 43.8 +0.3
BOSA pmax pmax
comp=Z,28nm,0.7s,mb5.3
BOSA MLR MLR
comp=Z,667nm,20.0s,MS4.9
MORC Moravsky Berou 75.53 319 eP P 11 34 41.4 -1.8
comp=Z,42nm,1.1s,mb5.3
MORC Moravsky Berou 75.53 319 P P 11 34 42.8 -0.4
MORC pmax pmax
comp=Z,30nm,0.9s,mb5.2
ZST Bratislava 75.68 318 i P P 11 34 44.1 0.0
GKP Gorka Klasztor 76.06 323 eP P 11 34 54.3 +8.2
VKA Vienna 76.21 318 ⇑iP P 11 34 46.8 -0.3
BILL Bilibino 76.25 22 ⇑iP P 11 34 49.6 +2.7
BILL LR LR
comp=Z,2μm,22.0s,MS5.3
BILL Bilibino 76.25 22 ⇑iP P 11 34 49.5 +2.6
BILL e 11 35 05.5
BILL eS S 11 44 58.6 +30
BILL pmax pmax
comp=Z,40nm,1.4s,mb5.2
BILL MLR MLR
comp=Z,2μm,16.0s,MS5.5
DPC Dobruska-Polom 76.36 320 eP P 11 34 48.2 +0.3
DPC epP pP 11 34 53.5 -0.9
DPC ex x 11 35 00.1
DPC eS S 11 44 34.5 +4.2
DPC AMS AMS 12 15 20.0
comp=Z,300nm,17.0s
DPC Dobruska-Polom 76.36 320 eP P 11 34 48.2 +0.3
DPC e 11 35 00.1
DPC eS S 11 44 34.5 +4.2
DPC MLR MLR
comp=Z,300nm,17.0s,MS4.7
KSP Ksiaz 76.42 320 eP P 11 34 48.1 -0.1
KSP Ksiaz 76.42 320 eP P 11 34 48.2 0.0
KSP epP pP 11 34 52.6 -2.1
KSP eS S 11 44 34.0 +3.1
KSP LR LR
comp=Z,1μm,18.5s,MS5.2
UPC Upice 76.57 320 eP P 11 34 49.4 +0.4
UPC epP pP 11 34 54.6 -1.0
ARSA Arzberg 76.68 317 ⇑iP P 11 34 49.6 -0.1
comp=Z,36nm,1.4s,mb5.1
BOJS Bojanci 76.78 315 eP P 11 34 49.7 -0.7
PERS Pernice 76.93 316 i P P 11 34 51.0 -0.1
PDKS Podkum 76.99 315 i P P 11 34 51.1 -0.4
FX1 Attu Island--F 77.27 38 eP P 11 34 53.3 +0.4
LJU Ljubljana 77.31 315 i P P 11 34 53.3 0.0
OBKA Obir 77.31 316 ⇑iP P 11 34 53.3 0.0
comp=Z,50nm,1.5s,mb5.2
PRU Pruhonice 77.48 319 eP P 11 34 54.3 +0.2
PRU epP pP 11 34 59.6 -1.1
PRU eS S 11 44 44.2 +1.8
PRU AMS AMS 12 14 10.0
comp=Z,300nm,20.1s
PVCC Panska Ves 77.49 320 eP P 11 34 54.5 +0.4
PVCC epP pP 11 34 59.5 -1.2
PVCC AMS AMS 12 15 00.0
comp=Z,600nm,17.5s
MOA Molln 77.56 317 ⇑iP P 11 34 54.0 -0.6
comp=Z,24nm,1.4s,mb4.9
BSD Bornholm Skovb 77.58 325 i P P 11 34 52.0 -2.5
comp=Z,34nm,0.9s,mb5.3
BSD Bornholm Skovb 77.58 325 eP P 11 34 52.0 -2.5
comp=Z,34nm,0.9s,mb5.3
BSD Bornholm Skovb 77.58 325 eP P 11 34 52.0 -2.5
BSD pmax pmax
comp=Z,34nm,0.9s,mb5.3
TRO Tromso 77.70 340 eP P 11 34 55.2 +0.2
TRO AMb AMB 11 35 08.5
comp=Z,64nm,1.4s,mb5.4
TRO AMS AMS 12 12 17.6
comp=Z,1μm,20.2s,MS5.2
VOY Vojsko 77.75 315 eP P 11 34 55.2 -0.5
VOY e pP 11 35 01.2 -1.1
VOY e 11 35 16.0
VOY e 11 35 38.5
BRG Berggiesshubel 77.90 320 i P P 11 34 56.8 +0.4
comp=Z,23nm,1.2s,mb5.0
BRG e 11 37 56.4
BRG LR LR
comp=Z,830nm,18.2s,MS5.1
BRG Berggiesshubel 77.90 320 i P P 11 34 56.8 +0.4
BRG e 11 37 56.4
BRG pmax pmax
comp=Z,23nm,1.2s,mb5.0
BRG MLR MLR
comp=Z,830nm,18.2s,MS5.1
GEC2 GERESS Array S 77.97 318 eP P 11 34 56.9 +0.1
comp=Z,26nm,1.0s,mb5.1
GEC2 GERESS Array S 77.97 318 eP P 11 34 56.9 +0.1
GEC2 pmax pmax
comp=Z,26nm,1.0s,mb5.1
GERES GERESS Array B 77.97 318 P P 11 34 57.0 +0.1
comp=Z,15nm,0.8s,mb5.0,baz=90,slow=5.3,SNR=84
GERES LR LR 12 14 09.7
comp=Z,323nm,21.9s,MS4.6,baz=223,slow=39
GERES GERESS Array B 77.97 318 P P 11 34 57.0 +0.2
GERES pmax pmax
comp=Z,15nm,0.8s
GERES MLR MLR
comp=Z,323nm,21.9s
AQU L'Aquila 78.04 312 eP P 11 34 56.8 -0.6
comp=Z,18nm,0.4s,mb5.3
AQU L'Aquila 78.04 312 eP P 11 34 56.8 -0.5
AQU pmax pmax
comp=Z,18nm,0.4s,mb5.3
KHC Kasperske Hory 78.07 319 eP P 11 34 57.1 -0.2
KHC epP pP 11 35 02.5 -1.4
KHC ex x 11 35 09.0
KHC x x 11 35 52.5
KHC eS S 11 44 55.2 +6.4
KHC AMS AMS 12 15 10.0
comp=Z,300nm,18.2s
KHC Kasperske Hory 78.07 319 eP P 11 34 57.1 -0.2
KHC epP pP 11 35 02.5 -1.4
KHC e 11 35 09.0
KHC e 11 35 52.5
KHC eS S 11 44 55.2 +6.4
KHC LR LR
comp=Z,300nm,18.2s,MS4.7
KHC Kasperske Hory 78.07 319 eP P 11 34 57.1 -0.2
KHC e 11 35 09.0
KHC eS S 11 44 55.2 +6.4
KHC MLR MLR
comp=Z,300nm,18.2s,MS4.7
RUE Ruedersdorf 78.08 322 eP P 11 34 57.0 -0.3
comp=Z,75nm,0.8s,mb5.7
KBA Koelnbreinsper 78.16 316 ⇑iP P 11 34 57.4 -0.5
comp=Z,41nm,1.6s,mb5.1
KBA Koelnbreinsper 78.16 316 ⇑iP P 11 34 57.4 -0.5
KBA pmax pmax
comp=Z,41nm,1.6s,mb5.1
MAW Mawson 78.36 192 ⇓iP P 11 35 00.5 +1.9
comp=Z,16nm,0.9s,mb4.9
MAW Mawson 78.36 192 P P 11 35 00.6 +2.0
comp=Z,11nm,0.6s,mb5.0,baz=18,slow=5.8,SNR=37
MAW LR LR 12 05 18.4
comp=Z,542nm,19.4s,MS4.9,baz=39,slow=32
CLL Collm 78.51 321 ⇓P P 11 34 59.8 +0.1
comp=Z,logA/T=1.3,mb5.0
CLL e*PP pP 11 35 05.0 -1.3
CLL i 11 35 10.8
CLL ePP PP 11 37 56.0 -3.4
CLL eS S 11 44 57.0 +3.4
CLL Collm 78.51 321 ⇓iP P 11 34 59.8 +0.1
comp=Z,29nm,1.3s,mb5.0
CLL epP pP 11 35 05.0 -1.3
CLL eS S 11 44 57.0 +3.4
CLL LR LR
comp=Z,400nm,19.6s,MS4.8
CLL Collm 78.51 321 ⇓iP P 11 34 59.8 +0.1
CLL e*PP pP 11 35 05.0 -1.3
CLL eS S 11 44 57.0 +3.4
CLL pmax pmax
comp=Z,29nm,1.3s,mb5.0
CLL MLR MLR
comp=Z,400nm,19.6s,MS4.8
WET Wettzell 78.53 319 eP P 11 34 59.9 0.0
comp=Z,32nm,1.3s,mb5.1
WET Wettzell 78.53 319 eP P 11 34 59.9 0.0
WET pmax pmax
comp=Z,32nm,1.3s,mb5.1
NKC Novy Kostel 78.83 320 eP P 11 35 01.6 +0.1
NKC epP pP 11 35 07.1 -1.0
NKC ex x 11 35 11.0
NKC eS S 11 44 21.8 -35
NKC AMS AMS 12 15 40.0
comp=Z,400nm,15.7s
NKC Novy Kostel 78.83 320 eP P 11 35 01.6 +0.1
NKC e 11 35 11.0
COP Copenhagen 79.03 325 i P P 11 35 05.8 +3.3
comp=Z,28nm,0.7s,mb5.3
COP Copenhagen 79.03 325 eP P 11 35 05.8 +3.3
comp=Z,28nm,0.7s,mb5.3
COP Copenhagen 79.03 325 eP P 11 35 05.8 +3.3
COP pmax pmax
comp=Z,28nm,0.7s,mb5.3
MELSS Ber_school_2 79.21 337 eP P 11 35 05.9 +2.6
WTTA Wattenberg 79.33 317 ⇑iP P 11 35 03.6 -0.7
comp=Z,43nm,1.3s,mb5.2
WTTA Wattenberg 79.33 317 ⇑iP P 11 35 03.6 -0.7
WTTA pmax pmax
comp=Z,43nm,1.3s,mb5.2
WATA Walderalm 79.37 317 ⇑iP P 11 35 03.7 -0.8
comp=Z,18nm,1.1s,mb4.9
WATA Walderalm 79.37 317 ⇑iP P 11 35 03.7 -0.8
WATA pmax pmax
comp=Z,18nm,1.1s,mb4.9
MOX Moxa 79.37 320 i P P 11 35 05.3 +0.8
comp=Z,logA/T=1.2,mb4.9
MOX L 12 16 40.0
MOX Moxa 79.37 320 eP P 11 35 05.3 +0.8
comp=Z,15nm,0.9s,mb4.9
MOX LR LR
comp=Z,600nm,19.0s,MS5.0
MOX Moxa 79.37 320 eP P 11 35 05.3 +0.8
MOX pmax pmax
comp=Z,15nm,0.9s,mb4.9
MOX MLR MLR
comp=Z,600nm,19.0s,MS5.0
LOF Lofoten 79.41 338 eP P 11 35 07.0 +2.7
LOF AMb AMB 11 35 18.6
comp=Z,97nm,2.0s,mb5.4
LOF Lofoten 79.41 338 eP P 11 35 07.0 +2.7
comp=Z,97nm,2.0s,mb5.4
FUR Furstenfeldbru 79.57 318 eP P 11 35 05.1 -0.5
comp=Z,23nm,1.1s,mb5.0
FUR Furstenfeldbru 79.57 318 eP P 11 35 05.1 -0.5
FUR pmax pmax
comp=Z,23nm,1.1s,mb5.0
GRA1 Grafenberg Arr 79.62 319 eP P 11 35 06.2 +0.4
comp=Z,40nm,1.2s,mb5.2
GRF Grafenberg Arr 79.62 319 eP P 11 35 06.2 +0.4
comp=Z,40nm,1.2s,mb5.2
GRF LR LR
comp=Z,400nm,18.7s,MS4.8
GRF Grafenberg Arr 79.62 319 eP P 11 35 06.2 +0.4
GRF pmax pmax
comp=Z,40nm,1.2s,mb5.2
GRF MLR MLR
comp=Z,400nm,18.7s,MS4.8
SQTA Sankt Quirin 79.62 317 ⇓iP P 11 35 05.4 -0.5
comp=Z,28nm,1.3s,mb5.0
SQTA Sankt Quirin 79.62 317 ⇓iP P 11 35 05.4 -0.5
SQTA pmax pmax
comp=Z,28nm,1.3s,mb5.0
MOTA Moosalm 79.69 317 ⇑iP P 11 35 05.5 -0.7
comp=Z,24nm,1.0s,mb5.1
MOTA Moosalm 79.69 317 ⇑iP P 11 35 05.5 -0.7
MOTA pmax pmax
comp=Z,24nm,1.0s,mb5.1
NSS Namsos 79.74 334 eP P 11 35 05.0 -1.1
NSS e 12 06 45.7
NB2 NORSAR Subarra 79.90 331 P P 11 35 06.4 -0.7
comp=Z,23nm,0.9s,mb5.1,baz=92,slow=5.8
NB2 NORSAR Subarra 79.90 331 P P 11 35 06.4 -0.7
baz=92,slow=5.9
NB2 NORSAR Subarra 79.90 331 P P 11 35 06.4 -0.7
NB2 pmax pmax
comp=Z,23nm,0.9s,mb5.1

NOA NORSAR Array B 79.90 331 P **P** **11 35 06.4 -0.6**
comp=Z,16nm,0.7s,mb5.0,baz=92,slow=5.6,SNR=36
NOA LR LR 12 15 31.6
comp=Z,506nm,19.0s,MS4.9,baz=100,slow=40
TSUM Tsumeb 79.98 249 *e*P **P** **11 35 09.8 +1.5**
comp=Z,20nm,1.0s,mb5.0
NAO01 NORSAR Array S 80.05 330 *e*P **P** **11 35 06.5 -1.4**
comp=Z,21nm,0.7s,mb5.2
MAIM 80.16 313 P **P** **11 35 08.0 -0.8**
CLZ Clausthal 80.17 321 *e*P **P** **11 35 08.7 0.0**
comp=Z,53nm,1.4s,mb5.3
CLZ Clausthal 80.17 321 *e*P **P** **11 35 08.7 0.0**
CLZ pmax pmax
comp=Z,53nm,1.4s,mb5.3
BSEG Bad Segeberg 80.21 323 *e*P **P** **11 35 09.1 +0.2**
SARO Sassorosso 80.22 313 P **P** **11 35 08.1 -1.0**
SUR Sutherland 80.25 235 *e*P **P** **11 35 11.7 +2.2**
comp=Z,83nm,1.3s,mb5.5
VALM 80.33 314 P **P** **11 35 08.7 -1.1**
GRAM 80.45 314 P **P** **11 35 09.0 -1.4**
DAVA Damuels 80.52 317 ⇑ *i*P **P** **11 35 10.6 -0.1**
comp=Z,47nm,1.7s,mb5.1
DAVOX Davos 80.53 316 LR LR 12 15 10.8
comp=Z,293nm,20.6s,MS4.6,baz=265,slow=39
KONO Kongsberg 80.66 329 *e*S S 11 45 17.4 +1.4
KONO Kongsberg 80.66 329 ⇑ *i*P **P** **11 35 10.6 -0.6**
KONO Kongsberg 80.66 329 P **P** **11 35 11.2 0.0**
KONO pmax pmax
comp=Z,72nm,1.3s,mb5.4
MUD Monsted U'grnd 80.87 326 *i*P **P** **11 35 12.9 +0.6**
comp=Z,42nm,0.9s,mb5.4
MUD *e*S S 11 45 23.3 +5.1
MUD Monsted U'grnd 80.87 326 *i*P **P** **11 35 12.9 +0.6**
MUD *e*S S 11 45 23.3 +5.1
MUD pmax pmax
comp=Z,42nm,0.9s,mb5.4
STU Stuttgart 80.95 318 *e*P **P** **11 35 12.6 -0.3**
KBS Kingsbay 81.00 349 *e*P **P** **11 35 12.2 -0.5**
KBS AMb AMB 11 35 20.1
comp=Z,45nm,1.1s,mb5.3
KBS *e*S S 11 45 16.9 -2.3
KBS *e* 11 45 23.6
KBS AMS AMS 12 17 25.2
comp=Z,356nm,19.1s,MS4.7
KBS Kingsbay 81.00 349 *e*P **P** **11 35 12.2 -0.5**
comp=Z,45nm,1.1s,mb5.3
KBS LR LR
comp=Z,356μm,19.1s
KBS Kingsbay 81.00 349 P **P** **11 35 12.8 +0.1**
KBS pmax pmax
comp=Z,32nm,1.0s,mb5.2
TOD Tromm 81.19 319 *e*P **P** **11 35 13.9 -0.2**
PGF Pioggiola 81.29 312 *e*P **P** **11 35 14.8 0.0**
comp=Z,60nm,1.2s,mb5.1
PGF Pioggiola 81.29 312 *e*P **P** **11 35 14.8 0.0**
PGF pmax pmax
comp=Z,30nm,1.2s,mb5.1
TNS Taunus Mts 81.40 320 *e*P **P** **11 35 15.4 +0.2**
comp=Z,17nm,1.3s,mb4.8
TNS Taunus Mts 81.40 320 *e*P **P** **11 35 15.4 +0.2**
TNS pmax pmax
comp=Z,17nm,1.3s,mb4.8
PCP Pian Castagno 81.54 314 P **P** **11 35 14.9 -1.1**
BFO Black Forest 81.54 318 *e*P **P** **11 35 15.6 -0.4**
comp=Z,8.0nm,0.8s,mb4.7
BFO Black Forest 81.54 318 *e*P **P** **11 35 15.6 -0.4**
BFO pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
FELD Feldberg 81.78 317 *e*P **P** **11 35 16.8 -0.4**
FIN Finale Ligure 81.80 314 P **P** **11 35 17.0 -0.4**
LANF Langenberg 81.86 318 *e*P **P** **11 35 17.7 +0.1**
ORX Oropa 81.89 315 P **P** **11 35 16.5 -1.3**
ABH Alteburg 81.99 319 *e*P **P** **11 35 19.6 +1.3**
ROB Roburent 82.03 314 P **P** **11 35 18.0 -0.7**
IMI Imperia 82.04 313 P **P** **11 35 17.6 -1.1**
TRAV 82.06 315 P **P** **11 35 17.8 -1.0**
BBS Basel-Blauen 82.13 317 *e*P **P** **11 35 20.0 +0.9**
NEGI Negi 82.18 313 P **P** **11 35 19.1 -0.3**
WLS Welschbruch 82.19 318 *e*P **P** **11 35 18.9 -0.4**
CDF Champ du Feu 82.24 318 *e*P **P** **11 35 19.4 -0.2**
comp=Z,16nm,0.8s,mb4.7
CDF Champ du Feu 82.24 318 *e*P **P** **11 35 19.4 -0.2**
CDF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
SAOF Saorge 82.28 313 *e*P **P** **11 35 22.2 +2.3**
RUP Ruppelstein 82.32 319 *e*P **P** **11 35 20.0 0.0**
ECH Echery 82.33 318 *e*P **P** **11 35 19.6 -0.5**
ENR Entracque 82.36 314 P **P** **11 35 19.4 -0.9**
MOF Molkenrain 82.36 317 *e*P **P** **11 35 19.8 -0.5**
SBF Sospel 82.37 313 *e*P **P** **11 35 20.5 +0.1**
comp=Z,74nm,0.8s,mb5.4
SBF Sospel 82.37 313 *e*P **P** **11 35 20.5 +0.1**
SBF pmax pmax
comp=Z,37nm,0.8s,mb5.4
RSP Reno Superiore 82.42 315 P **P** **11 35 19.6 -1.1**
STV Sta Anna Valdi 82.43 314 P **P** **11 35 20.9 +0.2**
BHB Bricherasio 82.44 314 P **P** **11 35 18.9 -1.8**
LSD Ceresole Reale 82.48 315 P **P** **11 35 21.3 +0.4**
TOUF Mont Tournerai 82.50 313 *e*P **P** **11 35 23.5 +2.4**
HINF Hinteralfeld 82.55 317 *e*P **P** **11 35 21.0 -0.3**
FENE Fenestrelle 82.57 314 P **P** **11 35 21.0 -0.4**
MVIF Mont Vial 82.57 313 *e*P **P** **11 35 21.6 +0.2**
LOMF Lomont 82.60 317 *e*P **P** **11 35 21.3 -0.2**
LPG La Plagne 82.76 315 *e*P **P** **11 35 22.9 +0.5**
comp=Z,64nm,0.8s,mb5.4
LPG La Plagne 82.76 315 *e*P **P** **11 35 22.9 +0.5**
LPG pmax pmax
comp=Z,32nm,0.8s,mb5.4
LPL La Plagne 82.77 315 *e*P **P** **11 35 23.0 +0.6**
comp=Z,93nm,0.8s,mb5.5
LPL La Plagne 82.77 315 *e*P **P** **11 35 23.0 +0.6**
LPL pmax pmax
comp=Z,47nm,0.8s,mb5.6
RRL Cesana Torines 82.77 314 P **P** **11 35 21.7 -0.8**
SURF Saint Ours 82.78 314 *e*P **P** **11 35 23.0 +0.5**
BER Bergen 82.79 330 AMS AMS 12 16 46.3
comp=Z,854nm,19.4s,MS5.1
MBDF Montbardon 82.79 314 *e*P **P** **11 35 22.2 -0.4**
comp=Z,50nm,0.9s,mb5.2
MBDF Montbardon 82.79 314 *e*P **P** **11 35 22.2 -0.4**
MBDF pmax pmax
comp=Z,25nm,0.9s,mb5.2
BNI Bardonecchia 82.84 314 *e*P **P** **11 35 22.3 -0.5**
comp=Z,44nm,0.9s,mb5.5
BNI Bardonecchia 82.84 314 *e*P **P** **11 35 22.3 -0.5**
BNI pmax pmax
comp=Z,44nm,0.9s,mb5.5
CMAH Djebel Manchou 82.86 306 P **P** **11 35 25.0 +1.9**
HAU Haudompre 82.88 317 *e*P **P** **11 35 22.7 -0.3**
comp=Z,70nm,1.0s,mb5.4
HAU *e*R
comp=Z,261nm,20.8s
HAU Haudompre 82.88 317 *e*P **P** **11 35 22.7 -0.3**
HAU pmax pmax
comp=Z,35nm,1.0s,mb5.3
HAU MLR MLR
comp=Z,260nm,20.8s,MS4.6
FRF La Foret Royal 82.96 313 *e*P **P** **11 35 23.6 +0.1**
comp=Z,78nm,1.1s,mb5.3
FRF La Foret Royal 82.96 313 *e*P **P** **11 35 23.6 +0.1**
FRF pmax pmax
comp=Z,39nm,1.1s,mb5.3
LMR La Mourre 83.08 313 *e*P **P** **11 35 24.3 +0.2**
comp=Z,61nm,1.2s,mb5.2
LMR La Mourre 83.08 313 *e*P **P** **11 35 24.3 +0.2**
LMR pmax pmax
comp=Z,30nm,1.2s,mb5.2
THEF They Montfort 83.11 318 *e*P **P** **11 35 23.6 -0.5**
GDM Grand'Maison 83.23 315 *e*P **P** **11 35 25.0 +0.2**
TAVF Tavernes 83.38 313 *e*P **P** **11 35 25.0 -0.6**
ORIF Oris-en-Rattie 83.41 314 *e*P **P** **11 35 26.2 +0.4**
comp=Z,41nm,1.0s,mb5.1
ORIF *e*R
comp=Z,541nm,22.8s
STOF St-Etienne Org 83.46 313 *e*P **P** **11 35 26.9 +0.9**
GRN Grenoble 83.48 315 *e*P **P** **11 35 25.9 -0.2**
VILF Villemus 83.61 313 *e*P **P** **11 35 27.9 +1.1**
CASM Ain Smara 83.64 306 P **P** **11 35 27.0 -0.1**
PUYF Puyloubier 83.65 313 *e*P **P** **11 35 27.6 +0.6**
SMRF Simiane la Rot 83.70 313 *e*P **P** **11 35 28.0 +0.7**
MEZF Maizieres J'vi 83.71 318 *e*P **P** **11 35 27.3 +0.1**
CTEI Djebel Teioual 83.72 305 P **P** **11 35 29.0 +1.4**
GIVF Givet 83.74 320 *e*P **P** **11 35 27.5 +0.2**
PRAF Pradon 84.01 313 *e*P **P** **11 35 30.0 +1.1**

DFRA Djebel Bou Aff 84.10 306 P **P** **11 35 31.0 +1.5**
BAIF Baives 84.14 320 *e*P **P** **11 35 29.7 +0.4**
comp=Z,47nm,1.0s,mb5.3
BAIF Baives 84.14 320 *e*P **P** **11 35 29.7 +0.4**
BAIF pmax pmax
comp=Z,24nm,1.0s,mb5.3
VIVF Saint-Julien-l 84.27 314 *e*P **P** **11 35 30.3 +0.1**
comp=Z,32nm,0.9s,mb5.2
VIVF Saint-Julien-l 84.27 314 *e*P **P** **11 35 30.3 +0.1**
VIVF pmax pmax
comp=Z,16nm,0.9s,mb5.2
CKHR Kef el Ahmar 84.45 305 P **P** **11 35 35.0 +3.8**
SET Setif 84.52 306 P **P** **11 35 38.0 +6.4**
LOR Lormes 84.62 317 *e*P **P** **11 35 31.7 -0.1**
comp=Z,68nm,1.1s,mb5.4
LOR *e*R
comp=Z,262nm,18.8s
LOR Lormes 84.62 317 *e*P **P** **11 35 31.7 -0.1**
LOR pmax pmax
comp=Z,34nm,1.1s,mb5.4
LOR MLR MLR
comp=Z,260nm,18.8s,MS4.6
SMF Signal de Mont 84.69 316 *e*P **P** **11 35 32.0 -0.2**
comp=Z,31nm,0.9s,mb5.2
SMF Signal de Mont 84.69 316 *e*P **P** **11 35 32.0 -0.2**
SMF pmax pmax
comp=Z,16nm,0.9s,mb5.2
SSF Saint Saulge 84.88 317 *e*P **P** **11 35 33.1 0.0**
comp=Z,19nm,1.2s,mb5.1
SSF Saint Saulge 84.88 317 *e*P **P** **11 35 33.1 0.0**
SSF pmax pmax
comp=Z,19nm,1.2s,mb5.1
PLDF La Plantade 84.91 316 *e*P **P** **11 35 34.3 +1.0**
LASF Ste Croix 84.93 314 *e*P **P** **11 35 33.9 +0.5**
comp=Z,56nm,1.3s,mb5.2
AVF Avril sur Loir 85.01 316 *e*P **P** **11 35 33.6 -0.2**
comp=Z,35nm,1.0s,mb5.1
AVF Avril sur Loir 85.01 316 *e*P **P** **11 35 33.6 -0.2**
AVF pmax pmax
comp=Z,17nm,1.0s,mb5.1
SYO Syowa Base 85.24 197 ⇓ P **P** **11 35 35.4 +1.0**
SYO Syowa Base 85.24 197 ⇓ PcP PcP 11 35 39.2 +1.1
SYO Syowa Base 85.24 197 ⇑ P pP 11 35 43.0 +1.9
PYM Petit Puy Mans 85.36 315 *e*P **P** **11 35 35.5 0.0**
HYF Humbligny 85.44 317 *e*P **P** **11 35 36.3 +0.4**
ATAF Djebel Tarf 85.46 305 P **P** **11 35 37.6 +1.3**
AKET Djebel Ketaf 85.76 306 P **P** **11 35 39.9 +2.1**
TCF Toulx Ste Croi 85.85 316 *e*P **P** **11 35 38.4 +0.4**
comp=Z,42nm,1.3s,mb5.2
TCF Toulx Ste Croi 85.85 316 *e*P **P** **11 35 38.4 +0.4**
TCF pmax pmax
comp=Z,21nm,1.3s,mb5.2
LRDF Laroque-de-Fa 86.01 313 *e*P **P** **11 35 39.5 +0.7**
LRDF Laroque-de-Fa 86.01 313 *e*P **P** **11 35 38.7 -0.1**
LRDF Laroque-de-Fa 86.01 313 *e*P **P** **11 35 38.7 -0.1**
ADJB Djebel Djouab 86.10 306 P **P** **11 35 46.2 +6.7**
CAF Calviac 86.11 315 *e*P **P** **11 35 39.9 +0.6**
comp=Z,33nm,1.1s,mb5.2
CAF Calviac 86.11 315 *e*P **P** **11 35 39.9 +0.6**
CAF pmax pmax
comp=Z,16nm,1.1s,mb5.2
MTLF Montolieu 86.19 313 *e*P **P** **11 35 40.1 +0.3**
comp=Z,39nm,0.9s,mb5.3
MTLF Montolieu 86.19 313 *e*P **P** **11 35 40.1 +0.3**
MTLF pmax pmax
comp=Z,19nm,0.9s,mb5.3
TNA Tin City 86.32 24 PFAKE 11 35 50.0 +10
TNA LR LR
comp=Z,493nm,19.0s,MS4.9
RJF Les Rejaudoux 86.45 315 *e*P **P** **11 35 41.5 +0.5**
comp=Z,34nm,1.0s,mb5.2
RJF *e*R
comp=Z,348nm,22.0s
RJF Les Rejaudoux 86.45 315 *e*P **P** **11 35 41.5 +0.5**
RJF pmax pmax
comp=Z,17nm,1.0s,mb5.2
RJF MLR MLR
comp=Z,350nm,22.0s,MS4.7
EMIR Miracle 86.88 312 P **P** **11 35 44.4 +1.2**
comp=Z,42nm,1.0s,mb5.6
JMIC Jan Mayen 86.89 341 AMS AMS 12 16 52.0
comp=Z,415nm,20.3s,MS4.8
LFF La Frestale 87.04 315 *e*P **P** **11 35 44.6 +0.7**
comp=Z,24nm,0.8s,mb5.2
LFF La Frestale 87.04 315 *e*P **P** **11 35 44.6 +0.7**
LFF pmax pmax
comp=Z,12nm,0.8s,mb5.2
EPOB Poblet 87.28 311 P **P** **11 35 45.1 -0.1**
comp=Z,27nm,0.8s,mb5.5
FLN La Foliniere 87.33 319 *e*P **P** **11 35 45.3 +0.2**
comp=Z,36nm,0.9s,mb5.3
FLN *e*R
comp=Z,473nm,21.2s
FLN La Foliniere 87.33 319 *e*P **P** **11 35 45.3 +0.2**
FLN pmax pmax
comp=Z,18nm,0.9s,mb5.3
FLN MLR MLR
comp=Z,470nm,21.3s,MS4.9
MFF Saint Martin d 87.42 317 *e*P **P** **11 35 45.8 +0.1**
comp=Z,45nm,1.0s,mb5.3
MFF Saint Martin d 87.42 317 *e*P **P** **11 35 45.8 +0.1**
MFF pmax pmax
comp=Z,22nm,1.0s,mb5.3
EPF Esparros 87.59 313 *e*P **P** **11 35 47.8 +1.2**
GRR Gorron 87.63 318 *e*P **P** **11 35 46.9 +0.3**
EBIE Bielsa 87.79 313 P **P** **11 35 48.7 +1.2**
comp=Z,13nm,0.8s,mb5.2
ESK Eskdalemuir 87.91 325 *e*P **P** **11 35 47.3 -0.5**
comp=Z,28nm,0.8s,mb5.5
ESK Eskdalemuir 87.91 325 P **P** **11 35 48.1 +0.3**
ESK pmax pmax
comp=Z,40nm,1.0s,mb5.6
MVH1 Achvaich 87.95 328 *e*P **P** **11 35 48.2 +0.3**
MDO Dochfour 88.14 328 *e*P **P** **11 35 49.4 +0.6**
MDO AMb AMB 11 35 56.8
comp=Z,27nm,0.8s,mb5.5
ETSF Etsaut 88.27 313 *e*P **P** **11 35 50.4 +0.6**
comp=Z,47nm,0.8s,mb5.4
ETSF Etsaut 88.27 313 *e*P **P** **11 35 50.4 +0.6**
ETSF pmax pmax
comp=Z,23nm,0.8s,mb5.5
LARF Larrau 88.56 313 *e*P **P** **11 35 52.2 +1.0**
EMOS Mosqueruela 88.59 310 P **P** **11 35 53.6 +2.1**
comp=Z,30nm,1.1s,mb5.5
KAC Achnashellach 88.62 328 *e*P **P** **11 35 51.4 +0.3**
KAC AMb AMB 11 35 58.2
comp=Z,60nm,2.1s,mb5.5
SJPF Ste Jean 88.72 313 *e*P **P** **11 35 53.0 +1.1**
comp=Z,37nm,1.0s,mb5.4
SJPF Ste Jean 88.72 313 *e*P **P** **11 35 53.0 +1.1**
SJPF pmax pmax
comp=Z,18nm,1.0s,mb5.4
KPL Plockton 88.85 328 *e*P **P** **11 35 52.8 +0.6**
KPL AMb AMB 11 36 00.2
comp=Z,33nm,1.0s,mb5.6
KAR1 Arisaig 89.03 327 *e*P **P** **11 35 53.0 -0.1**
ECHE Chera 89.09 310 P **P** **11 35 55.6 +1.8**
comp=Z,19nm,0.9s,mb5.4
ECHE Chera 89.09 310 P **P** **11 35 55.6 +1.8**
ECHE pmax pmax
comp=Z,19nm,0.9s,mb5.4
ROSF Rostrenen 89.23 319 *e*P **P** **11 35 54.6 +0.4**
comp=Z,60nm,1.2s,mb5.5
ROSF Rostrenen 89.23 319 *e*P **P** **11 35 54.6 +0.4**
ROSF pmax pmax
comp=Z,30nm,1.2s,mb5.5
QUIF Quistinic 89.23 318 *e*P **P** **11 35 54.2 -0.1**
comp=Z,30nm,1.1s,mb5.2
QUIF Quistinic 89.23 318 *e*P **P** **11 35 54.2 -0.1**
QUIF pmax pmax
comp=Z,15nm,1.1s,mb5.2
KSK Scoval 89.37 328 *e*P **P** **11 35 55.7 +1.0**
KSK AMb AMB 11 36 07.3
comp=Z,130nm,2.0s,mb5.9
ETOB Tobarra 89.69 309 P **P** **11 35 57.9 +1.2**
comp=Z,9.1nm,0.8s,mb5.2
EVIA Vianos 90.42 309 P **P** **11 36 01.9 +1.8**
comp=Z,26nm,1.0s,mb5.5
EVIA pP pP 11 36 08.3 +1.6
EVIA Vianos 90.42 309 P **P** **11 36 01.9 +1.8**
EVIA *PP pP 11 36 08.3 +1.5
EVIA pmax pmax
comp=Z,26nm,1.0s,mb5.5
EHUE Huescar 90.64 308 P **P** **11 36 02.2 +1.1**
comp=Z,2.8nm,0.6s,mb4.8
EHUE Huescar 90.64 308 P **P** **11 36 02.2 +1.1**

EHUE pmax pmax
comp=Z,3.0nm,0.6s,mb4.8
EQES Quesada 91.01 308 P **P** **11 36 03.9 +1.1**
comp=Z,20nm,0.8s,mb5.5
EBER Berja 91.03 307 P **P** **11 36 04.5 +1.6**
comp=Z,34nm,0.9s,mb5.7
ESDC Sonseca Array 91.35 310 P **P** **11 36 05.1 +0.8**
comp=Z,6.0nm,0.7s,mb5.0,baz=54,slow=4.7,SNR=20
ESDC Sonseca Array 91.35 310 P **P** **11 36 05.1 +0.8**
comp=Z,6.5nm,0.7s,mb5.1
ESLA Sonseca Array 91.35 310 *e*P **P** **11 36 04.4 +0.1**
comp=Z,4.5nm,0.9s,mb4.8
ESLA LR LR
comp=Z,1μm,20.0s,MS5.4
EBAN Banos Encina 91.50 309 P **P** **11 36 07.2 +2.1**
comp=Z,26nm,1.0s,mb5.5
EBAN Banos Encina 91.50 309 P **P** **11 36 07.2 +2.2**
EBAN pmax pmax
comp=Z,26nm,1.0s,mb5.5
IMA Indian Mountai 91.78 22 *e*P **P** **11 36 06.4 +0.8**
EADA Adamuz 92.11 309 P **P** **11 36 09.0 +1.2**
comp=Z,22nm,0.9s,mb5.5
VNDA Vanda 92.75 168 P **P** **11 36 10.3 +0.4**
comp=Z,1.0nm,0.7s,mb4.4,baz=312,slow=2.7,SNR=3.6
VNDA LR LR 12 16 03.0
comp=Z,315nm,18.5s,MS4.8,baz=305,slow=34
VNDA Vanda 92.75 168 *e*P **P** **11 36 10.4 +0.5**
comp=Z,12nm,1.4s,mb5.1
VNDA LR LR
comp=Z,375nm,19.0s,MS4.9
VNDA Vanda 92.75 168 P **P** **11 36 10.3 +0.4**
VNDA pmax pmax
comp=Z,1.0nm,0.7s
VNDA MLR MLR
comp=Z,315nm,18.5s
BORG Borgarnes 93.60 337 LR LR 12 24 16.2
comp=Z,326nm,18.6s,MS4.8,baz=297,slow=39
EMIN Mina Concepcio 93.81 309 P **P** **11 36 16.4 +0.7**
comp=Z,6.5nm,1.0s,mb5.0
SBA Scott Base 93.85 168 *e*P **P** **11 36 15.9 +1.0**
comp=Z,21nm,1.3s,mb5.4
SUMG Summit 94.32 347 *e*P **P** **11 36 18.7 +1.5**
comp=Z,38nm,1.2s,mb5.7
COLA College 94.49 22 *i*P **P** **11 36 20.8 +2.7**
MCK McKinley 94.62 23 *e*P **P** **11 36 18.3 -0.4**
comp=Z,17nm,1.6s,mb5.2
MCK LR LR
comp=Z,194nm,19.0s,MS4.6
MCK McKinley 94.62 23 *e*P **P** **11 36 18.3 -0.4**
MCK pmax pmax
comp=Z,17nm,1.6s,mb5.2
MCK MLR MLR
comp=Z,194nm,19.0s,MS4.6
ILAR Eielson Array 94.90 22 P **P** **11 36 18.4 -1.6**
comp=Z,0.6nm,0.8s,baz=290,slow=4.1,SNR=9.7
ILAR PP PP 11 40 08.7 -2.6
comp=Z,1.5nm,0.9s,baz=302,slow=7.3,SNR=6.6
ILAR PKKPbc 11 53 22.5
comp=Z,1.0nm,0.9s,baz=146,slow=1.6,SNR=7.3
ILAR Eielson Array 94.90 22 P **P** **11 36 18.4 -1.6**
ILAR 11 40 08.7
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR pmax pmax
comp=Z,2.0nm,0.9s
ILAR pmax pmax
comp=Z,1.0nm,0.9s
FIB Fire Island 95.27 26 PFAKE 11 36 30.0 +8.2
FIB LR LR
comp=Z,1μm,20.0s,MS5.4
SLKM Skilak Lake 95.54 27 P **P** **11 36 23.6 +0.6**
SML Sawmill 95.76 25 *e*P **P** **11 36 25.1 +1.1**
INK Inuvik 97.16 16 P **P** **11 36 31.0 +0.8**
comp=Z,16nm,1.2s,mb5.3,baz=334,slow=4.6,SNR=3.8
INK Inuvik 97.16 16 *e*P **P** **11 36 30.1 -0.1**
comp=Z,14nm,1.1s,mb5.3
INK Inuvik 97.16 16 P **P** **11 36 31.0 +0.8**
INK pmax pmax
comp=Z,16nm,1.2s
RES Resolute Bay 97.58 2 *e*P **P** **11 36 31.2 -0.8**
comp=Z,10nm,0.9s,mb5.3
RES *e*pP pP 11 36 38.8 +0.1
RES Resolute Bay 97.58 2 P **P** **11 36 34.3 +2.3**
RES *e* 11 36 48.4
RES pmax pmax
comp=Z,13nm,0.9s,mb5.5
DBIC Dimbokro 97.99 278 P **P** **11 36 40.4 +5.2**
comp=Z,14nm,1.1s,mb5.4,baz=124,slow=13,SNR=2.7
DBIC LR LR 12 20 53.7
comp=Z,798nm,19.6s,MS5.2,baz=64,slow=36
DBIC Dimbokro 97.99 278 P **P** **11 36 40.4 +5.2**
DBIC LR LR 12 20 53.7
comp=Z,908nm,20.0s,MS5.3
DBIC Dimbokro 97.99 278 P **P** **11 36 40.4 +5.2**
DBIC pmax pmax
comp=Z,14nm,1.1s
DBIC MLR MLR
comp=Z,799nm,19.6s
DAWY Dawson 98.02 21 *e*P **P** **11 36 33.9 -0.3**
YKA Yellowknife Ar 106.60 13 PP PP 11 41 41.2 +0.4
comp=Z,2.2nm,0.8s,baz=334,slow=7.8,SNR=5.8
YKA PKKPbc 11 52 49.1
comp=Z,1.3nm,0.8s,baz=162,slow=2.3,SNR=5.2
CMLA Cha da Macela 107.93 314 PFAKE 11 41 40.0
CMLA LR LR
comp=Z,3μm,19.0s,MS5.9
OCWA Octopus Mounta 115.25 28 PFAKE 11 41 50.0 +7.2
OCWA LR LR
comp=Z,382nm,19.0s,MS5.0
COR Corvallis 117.98 29 PFAKE 11 42 00.0 +12
COR LR LR
comp=Z,149nm,19.0s,MS4.6
MSO Missoula 120.24 22 *e*PKPdf PKPdf 11 41 49.6 -2.8
BMO Blue Mountains 120.52 26 PFAKE 11 42 00.0 +6.9
BMO LR LR
comp=Z,312nm,20.0s,MS5.0
MOD Modoc 121.44 30 PFAKE 11 42 00.0 +5.0
MOD LR LR
comp=Z,213nm,20.0s,MS4.8
ULM Lac du Bonnet 121.64 8 PKP PKPdf 11 41 53.1 -2.0
comp=Z,2.7nm,0.6s,baz=321,slow=5.0,SNR=4.3
ULM Lac du Bonnet 121.64 8 PKP PKPdf 11 41 53.1 -2.0
ULM LR LR
comp=Z,582nm,20.0s,MS5.2
DGMT Dagmar 121.79 14 PFAKE 11 42 00.0 +4.5
DGMT LR LR
comp=Z,255nm,19.0s,MS4.9
WVOR Wild Horse Val 121.83 28 PKIKP PKPdf 11 41 59.6 +3.9
BOZ Bozeman (W) 122.09 21 *e*PKPdf PKPdf 11 41 53.8 -2.3
BOZ LR LR
comp=Z,450nm,20.0s,MS5.1
HLID Hailey 122.78 24 *e*PKPdf PKPdf 11 41 55.5 -1.9
HLID LR LR
comp=Z,457nm,22.0s,MS5.1
LAO LASA Array 122.90 17 PFAKE 11 42 10.0 +12
LAO LR LR
comp=Z,503nm,20.0s,MS5.2
BMN Battle Mountai 124.05 29 PFAKE 11 42 10.0 +10
BMN LR LR
comp=Z,284nm,20.0s,MS4.9
RRI2 Red Ridge 124.18 22 *e*PKPdf PKPdf 11 41 58.0 -2.2
LOHW Long Hollow 124.21 22 *e*PKPdf PKPdf 11 41 58.0 -2.3
CMB Columbia Colle 124.27 33 PFAKE 11 42 10.0 +9.5
CMB LR LR
comp=Z,203nm,20.0s,MS4.8
SNOW Snow King Moun 124.29 22 *e*PKPdf PKPdf 11 41 59.0 -1.4
ELK Elko 124.72 27 PKP PKPdf 11 41 59.5 -1.9
comp=Z,3.1nm,1.0s,baz=180,slow=23,SNR=4.9
ELK Elko 124.72 27 PKP PKPdf 11 41 59.5 -1.9
ELK LR LR
comp=Z,264nm,20.0s,MS4.9
AHID Auburn Hatcher 124.76 22 PFAKE 11 42 10.0 +8.6
AHID LR LR
comp=Z,451nm,20.0s,MS5.1
BW06 Boulder Array 125.33 21 PFAKE 11 42 10.0 +7.5
BW06 LR LR
comp=Z,395nm,19.0s,MS5.1
PDAR Pinedale Array 125.33 21 PKP PKPdf 11 41 59.6 -2.8
comp=Z,4.5nm,0.9s,baz=322,slow=0.7,SNR=14
PDAR PKKPbc 11 51 37.1
comp=Z,0.5nm,0.7s,baz=136,slow=5.4,SNR=5.5
HWUT Hardware Ranch 125.57 24 *e*PKPdf PKPdf 11 42 00.5 -2.4
HWUT LR LR
comp=Z,360nm,19.0s,MS5.1
RSSD Black Hills 125.86 16 *e*PKPdf PKPdf 11 42 00.6 -2.8
TPH Tonopah 125.88 30 PFAKE 11 42 10.0 +6.3

TPH LR LR
comp=Z,235nm,20.0s,MS4.9
DUG Dugway 126.24 26 *e*PKPdf PKPdf 11 42 02.5 -1.7
DAU Daniels Canyon 126.70 24 PKIKP PKPdf 11 42 10.0 +4.9
DAC Darwin (Calif) 127.06 32 PFAKE 11 42 20.0 +14
DAC LR LR
comp=Z,256nm,22.0s,MS4.9
RWWY Rawlins 127.10 20 *e*PKPdf PKPdf 11 42 04.8 -1.0
MSU Marysvale 127.91 26 PKIKP PKPdf 11 42 07.1 -0.5
ARUT Antelope Range 127.93 28 PKIKP PKPdf 11 41 59.9 -7.8
SRU San Rafael 128.10 24 PKIKP PKPdf 11 42 11.5 +3.6
SMCO Snowmass 129.41 21 *e*PKPdf PKPdf 11 42 08.6 -1.8
BINY Binghamton 129.54 351 PFAKE 11 42 20.0 +9.4
BINY LR LR
comp=Z,241nm,22.0s,MS4.8
RCBR Riachuelo 130.40 269 PFAKE 11 42 20.0 +7.0
RCBR LR LR
comp=Z,284nm,21.0s,MS4.9
SDCO Great Sand Dun 131.21 21 PFAKE 11 42 20.0 +6.1
SDCO LR LR
comp=Z,448nm,21.0s,MS5.1
CBKS Cedar Bluff 131.96 15 PFAKE 11 42 20.0 +4.7
CBKS LR LR
comp=Z,471nm,21.0s,MS5.2
ACSO Alum Creek Sta 132.24 357 PFAKE 11 42 20.0 +4.2
ACSO LR LR
comp=Z,244nm,22.0s,MS4.9
MCWV Mont Chateau 132.56 354 PFAKE 11 42 30.0 +14
MCWV LR LR
comp=Z,795nm,22.0s,MS5.4
ANMO Albuquerque 133.33 23 *e*PKPdf PKPdf 11 42 17.4 -0.5
ANMO LR LR
comp=Z,278nm,20.0s,MS5.0
ANMO Albuquerque 133.33 23 PKIKP PKPdf 11 42 17.1 -0.8
BLO Bloomington 133.37 1 PKHKP 11 42 05.6
TUC Tucson 133.65 30 PKIKP PKPdf 11 42 22.1 +3.5
CBN Corbin 133.66 351 PFAKE 11 42 30.0 +12
CBN LR LR
comp=Z,511nm,19.0s,MS5.3
SLM Saint Louis 133.73 5 PKIKP PKPdf 11 42 23.2 +4.7
CCM Cathedral Cave 134.21 6 PFAKE 11 42 30.0 +11
CCM LR LR
comp=Z,355nm,21.0s,MS5.1
BLA Blacksburg 135.05 354 PFAKE 11 42 30.0 +8.9
BLA LR LR
comp=Z,462nm,22.0s,MS5.2
BBSR BB Station 135.35 334 PFAKE 11 42 30.0 +8.2
BBSR LR LR
comp=Z,222nm,21.0s,MS4.9
WMOK Wichita Mounta 136.06 15 PKIKP PKPdf 11 42 14.1 -8.9
WVT Waverly 136.37 2 PKIKP PKPdf 11 42 24.3 +0.8
MNTX Cornudas Mount 136.60 25 PFAKE 11 42 30.0 +6.0
MNTX LR LR
comp=Z,316nm,19.0s,MS5.1
JSC Jenkinsville 138.03 354 PKIKP PKPdf 11 42 26.8 +0.2
TXAR Lajitas Array 139.38 24 PKhKP 11 42 17.6
comp=Z,0.3nm,0.7s,baz=269,slow=0.4,SNR=5.7
TXAR PKP PKPdf 11 42 26.4 -2.9
comp=Z,0.7nm,0.6s,baz=119,slow=0.7,SNR=12
TXAR PP PP 11 45 21.5 -1.7
comp=Z,1.9nm,1.0s,baz=326,slow=4.5,SNR=5.8
TXAR Lajitas Array 139.38 24 PKP PKPdf 11 42 26.4 -2.9
TXAR PP PP 11 45 21.5 -1.7
JCT Junction City 139.75 19 *e*PKPdf PKPdf 11 42 29.1 -0.8
JCT Junction City 139.75 19 PKIKP PKPdf 11 42 26.0 -3.8
BAO Brasilia Array 142.15 254 PKPdf PKPdf 11 42 29.0 -5.5
BDFB Brasilia 142.18 254 PKhKP 11 42 29.2
comp=Z,6.4nm,0.8s,baz=128,slow=5.5,SNR=6.5
BDFB Brasilia 142.18 254 PKIKP PKPdf 11 42 29.2 -5.3
BDFB pmax pmax
comp=Z,6.0nm,0.8s
PLCA Paso Flores 144.39 200 PKP PKPdf 11 42 34.2 -3.4
comp=Z,14nm,0.9s,baz=171,slow=3.1,SNR=24
PLCA Paso Flores 144.39 200 *e*PKP PKPdf 11 42 34.0 -3.7
PLCA Paso Flores 144.39 200 PKIKP PKPdf 11 42 34.3 -3.4
PLCA pmax pmax
comp=Z,15nm,0.9s
ZAIG Zacatecas 145.58 28 *i* P PKPbc 11 42 38.3 +1.6
CPUP Villa Florida 147.17 232 PKPbc PKPdf 11 42 43.0 +0.1
comp=Z,16nm,0.8s,baz=126,slow=4.6,SNR=25
CPUP Villa Florida 147.17 232 *e*PKP PKPdf 11 42 40.8 -2.1
CPUP LR LR
comp=Z,373nm,20.0s,MS5.2
MOIG Morelia 148.88 29 *i* P PKPdf 11 42 47.8 +2.0
HLGC Holguin 150.01 341 *e*P PKPdf 11 42 51.4 +3.8
MDZ Mendoza 150.39 210 *e*P PKPdf 11 42 46.7 -1.1
FCH Farellones 150.71 207 *e*P PKPdf 11 42 52.4 +4.1
LMGC Las Mercedes 151.08 343 *e*P PKPdf 11 42 53.8 +4.6
TLL Tololo Astrono 153.57 210 *e*P PKPdf 11 42 56.8 +4.3
LPAZ La Paz 160.70 242 PKP PKPdf 11 43 00.8 -0.9
comp=Z,2.1nm,0.9s,baz=22,slow=5.4,SNR=8.2
LPAZ PKPab PKPab 11 43 47.0 +5.2
comp=Z,5.7nm,0.9s,baz=122,slow=6.5,SNR=5.3
LPAZ La Paz 160.70 242 *e*PKPdf PKPdf 11 43 00.5 -1.3
LPAZ La Paz 160.70 242 PKIKP PKPdf 11 43 00.8 -0.9
LPAZ pmax pmax
comp=Z,2.0nm,0.9s
LPAZ pmax pmax
comp=Z,6.0nm,0.9s

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*IDC **09** 12:08:33.5±0.5, 3.75S×140.17E, mb4.6/13, mb1 4.7/15, mb1mx4.7/16, mbtmp4.7/15, ML4.4/2, MS4.1/8, Ms1 4.1/8, ms1mx3.9/19, Error ellipse: s-maj=20.4km s-min=13.0km az=65.0*

*HRVD **09** 12:08:35.7±0.6, 3.75S×140.32E, h14km, MW4.8/37, Centroid moment Tensor Solution. LP body waves: s8,c8; Mantle waves: s37,c52; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.10±.11; $M_{\theta\theta}$-0.19±.08; $M_{\phi\phi}$0.08±.10; $M_{r\theta}$-1.35±.20; $M_{r\phi}$0.96±.06; $M_{\theta\phi}$-0.07±.19; Best double couple: $M_0$1.664×10^{16} NP1:ϕ_s175°, δ35°, λ176°. NP2: ϕ_s268°, δ88°, λ55°. Principal axes: T 1.653, Plg37°, Azm147°; N .023, Plg35°, Azm269°; P -1.676, Plg33°, Azm27°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **09** 12:08:35.7±0.3, 3.72S×140.14E, mb4.9/12 Error ellipse: s-maj=9.1km s-min=6.1km az=68.0*

*BJI **09** 12:08:37.0, 3.88S×140.86E, h35km, mB5.1, mb4.8*

ISC 09 12:08:33.9±0.4,**3.84S**±0.05×**140.13E**±0.07,**h16**km, **h16**km±1.6km:**pP-P,n50,**σ1⅝**12**/48,**mb4.6**/20,**MS4.1**/7,**2D, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.90**	**129**	Pn	**P**	**12 10 45.4**	**+0.6**
	6.2nm,0.3s,baz=303,slow=12,SNR=21						
PMG				Sn	**Sn**	**12 12 20.8**	**-4.9**
	baz=11,slow=13,SNR=1.6						
PMG	**Port Moresby**	**8.90**	**129**	*e*Pn	**P**	**12 10 45.7**	**+0.9**
	67nm,0.6s						
KAKA	**Kakadu**	**11.64**	**220**	⇓*i*P	**P**	**12 11 30.1**	**+7.6**
	152nm,0.5s						
KAKA				*i* S	**S**	**12 13 35.8**	**+2.7**
WRAB	**Tennant Creek**	**16.96**	**199**	*e*P	**P**	**12 12 30.4**	**-1.9**
	96nm,0.6s						
WRAB				*e*S	**S**	**12 15 51.6**	**+12**
WB2	**Warramunga Arr**	**16.97**	**199**	*e*P	**P**	**12 12 30.8**	**-1.6**
WB2				*e*S	**S**	**12 15 36.1**	**-3.3**
WRA	**Warramunga Arr**	**16.97**	**199**	Pn	**P**	**12 12 31.2**	**-1.2**
	2.3nm,0.3s,baz=16,slow=13,SNR=83						
WRA				Sn	**S**	**12 15 36.4**	**-3.1**
	1.7nm,0.3s,baz=14,slow=22,SNR=4.3						
WRA				Lg		12 17 30.6	
	2.0nm,0.3s,baz=19,slow=29,SNR=6.0						
CTA	**Charters Tower**	**17.21**	**160**	*e*P	**P**	**12 12 38.5**	**+3.0**
	41nm,0.6s						
CTA	**Charters Tower**	**17.21**	**160**	Pn	**P**	**12 12 37.6**	**+2.2**
	2.8nm,0.3s,baz=335,slow=11,SNR=32						
CTA				Lg		12 17 42.4	
	0.5nm,0.3s,baz=246,slow=23,SNR=6.7						
CTA				LR	LR	12 19 25.9	
	comp=Z,458nm,20.7s,baz=344,slow=38						
CTAO	**Charters Tower**	**17.21**	**160**	*e*P	**P**	**12 12 37.7**	**+2.2**
	56nm,0.7s						
FITZ	**Fitzroy Crossi**	**20.05**	**224**	*e*P	**P**	**12 13 09.9**	**+0.5**
	106nm,0.9s						
FITZ				*e*S	**S**	**12 16 44.2**	**-4.5**
FITZ	**Fitzroy Crossi**	**20.05**	**224**	P	**P**	**12 13 09.9**	**+0.5**
	151nm,0.9s,baz=32,slow=13,SNR=23						
FITZ				S	**S**	**12 16 41.6**	**-7.1**
	32nm,0.7s,baz=196,slow=18,SNR=2.9						
FITZ				LR	LR	12 21 52.5	
	comp=Z,525nm,21.9s,MS3.8,baz=180,slow=40						
HNR	**Honiara**	**20.44**	**107**	P	**P**	**12 13 11.8**	**-1.7**
	126nm,0.7s,baz=180,slow=10,SNR=8.1						
HNR	**Honiara**	**20.44**	**107**	*e*P	**P**	**12 13 12.7**	**-0.8**
	131nm,0.8s						
STKA	**Stephens Creek**	**27.92**	**177**	*e*P	**P**	**12 14 25.8**	**+0.3**
	3.1nm,0.6s,mb4.1						
STKA	**Stephens Creek**	**27.92**	**177**	P	**P**	**12 14 24.7**	**-0.8**
	3.9nm,0.7s,mb4.1,baz=354,slow=10,SNR=9.2						
STKA				LR	LR	12 26 41.8	
	comp=Z,891nm,18.1s,MS4.4,baz=356,slow=39						
JOW	**Kunigami**	**32.58**	**340**	LR	LR	12 27 04.7	
	comp=Z,130nm,19.4s,MS3.6,baz=30,slow=34						
KLBR	**Kellerberrin**	**34.71**	**215**	*e*P	**P**	**12 15 29.9**	**+4.6**
	6.7nm,0.7s,mb4.7						
NWAO	**Narrogin (SRO)**	**36.00**	**214**	P	**P**	**12 15 36.5**	**+0.2**
	9.2nm,1.0s,mb4.7,baz=50,slow=12,SNR=3.7						
NWAO	**Narrogin (SRO)**	**36.00**	**214**	P	**P**	**12 15 36.5**	**+0.2**
GYA	**Guiyang**	**44.22**	**315**	⇓*i*P	**P**	**12 16 50.4**	**+6.0**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
RAO	**Raoul Island**	**47.09**	**127**	P	**P**	**12 17 07.4**	**+0.3**
	comp=Z,146nm,0.3s,baz=87,slow=23,SNR=2.3						
ASAJ	**Asahikawa**	**47.79**	**2**	P	**P**	**12 17 11.9**	**-0.6**
	comp=Z,3.0nm,0.8s,mb4.4,baz=211,slow=12,SNR=3.4						
URZ	**Urewera**	**48.04**	**140**	P	**P**	**12 17 14.8**	**+0.2**
	comp=Z,12nm,0.8s,mb5.0,baz=289,slow=10						
RPZ	**Rata Peaks**	**48.20**	**150**	LR	LR	12 34 47.4	
	comp=Z,476nm,20.9s,MS4.5,baz=102,slow=33						
AFI	**Afiamalu**	**48.46**	**105**	P	**P**	**12 17 18.4**	**+0.3**
	comp=Z,30nm,0.9s,mb5.3,baz=187,slow=8.1,SNR=3.1						
LZH	**Lanzhou**	**52.24**	**323**	*e*P	**P**	**12 17 51.5**	**+4.9**
LZH				AP	pP	12 17 57.0	+5.5
LZH				XP	sP	12 18 01.5	+8.1
LZH				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
GTA	**Gaotai**	**56.82**	**323**	*e*P	**P**	**12 18 25.6**	**+5.5**
GTA				AP	pP	12 18 32.1	+7.1
GTA				XP	sP	12 18 35.8	+8.9
GTA				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.7						
SONM	**Songino Array**	**59.35**	**334**	P	**P**	**12 18 36.8**	**-0.8**
	comp=Z,0.2nm,0.4s,baz=149,slow=8.4,SNR=2.7						
SONM				LR	LR	12 43 35.6	
	comp=Z,80nm,18.5s,MS3.9,baz=134,slow=36						
SONM	**Songino Array**	**59.35**	**334**	P	**P**	**12 18 36.8**	**-0.8**
SONM				LR	LR	12 43 35.6	
FX1	**Attu Island--F**	**63.00**	**22**	*e*P	**P**	**12 19 02.0**	**-0.2**
CASY	**Casey**	**65.68**	**193**	*e*P	**P**	**12 19 19.8**	**+0.4**
	comp=Z,14nm,0.9s,mb5.0						
MKAR	**Makanchi Array**	**71.55**	**322**	P	**P**	**12 19 56.3**	**0.0**
	comp=Z,4.5nm,0.9s,mb4.4,baz=100,slow=7.4,SNR=13						
ZAL	**Zalesovo**	**73.63**	**330**	P	**P**	**12 20 08.9**	**+0.6**
	comp=Z,1.7nm,0.3s,mb4.5,baz=3.2,slow=6.9,SNR=2.0						
VNDA	**Vanda**	**74.54**	**175**	P	**P**	**12 20 13.4**	**+0.2**
	comp=Z,0.9nm,0.8s,mb3.7,baz=311,slow=7.0,SNR=4.4						
VNDA				LR	LR	12 50 25.6	
	comp=Z,164nm,20.1s,MS4.3,baz=352,slow=34						
KURK	**Kurchatov**	**75.45**	**325**	*e*P	**P**	**12 20 18.2**	**-0.8**
	comp=Z,7.6nm,1.0s,mb4.6						
BVAR	**Borovoye Array**	**81.05**	**325**	P	**P**	**12 20 50.0**	**+0.4**
	comp=Z,1.1nm,0.5s,mb4.0,baz=143,slow=7.2,SNR=4.1						
BRVK	**Borovoye**	**81.12**	**325**	*e*P	**P**	**12 20 49.1**	**-0.8**
	comp=Z,6.2nm,1.1s,mb4.5						
BRVK				pP	pP	12 20 54.4	-0.6
MAW	**Mawson**	**81.62**	**202**	P	**P**	**12 20 53.5**	**+1.2**
	comp=Z,1.1nm,0.6s,mb4.0,baz=66,slow=4.7,SNR=4.1						
MAW				LR	LR	12 55 28.5	
	comp=Z,144nm,21.1s,MS4.3,baz=237,slow=34						
SML	**Sawmill**	**84.75**	**27**	*e*P	**P**	**12 21 08.2**	**-0.2**
DIV	**Divide**	**85.73**	**28**	*e*P	**P**	**12 21 13.8**	**+0.6**
	comp=Z,22nm,0.6s,mb5.6						
DIV				*e*pP	pP	12 21 18.3	-0.1
QSPA	**South Pole Qui**	**86.11**	**180**	*e*P	**P**	**12 21 16.6**	**+1.8**
	comp=Z,30nm,1.2s,mb5.4						
ILAR	**Eielson Array**	**86.27**	**24**	P	**P**	**12 21 14.9**	**-0.9**
	comp=Z,2.8nm,0.7s,mb4.6,baz=259,slow=4.9,SNR=37						
DAWY	**Dawson**	**89.27**	**26**	*e*P	**P**	**12 21 31.4**	**+1.2**
DAWY				*e*pP	pP	12 21 35.0	-0.4
DBIC	**Dimbokro**	**145.03**	**276**	PKPbc	PKPbc	12 28 14.0	+2.1
	comp=Z,21nm,0.9s,baz=111,slow=2.5,SNR=10						
DBIC	**Dimbokro**	**145.03**	**276**	*e*PKP	PKPdf	12 28 14.1	-1.3
CPUP	**Villa Florida**	**145.57**	**152**	PKPbc	PKPbc	12 28 15.5	+2.6
	comp=Z,5.0nm,0.8s,baz=230,slow=4.8,SNR=7.9						
LPAZ	**La Paz**	**145.63**	**126**	PKPbc	PKPbc	12 28 16.6	+3.2
	comp=Z,8.0nm,0.8s,baz=246,slow=1.6,SNR=24						
LPAZ	**La Paz**	**145.63**	**126**	*e*PKP	PKPdf	12 28 16.5	+0.2
SDV	**Santo Domingo**	**149.03**	**79**	*e*PKPbc	PKPdf	12 28 24.7	+2.7
BDFB	**Brasilia**	**159.03**	**158**	PKPab	PKPab	12 29 11.9	+0.9
	comp=Z,4.0nm,0.5s,baz=110,slow=4.2,SNR=5.6						

NNC 09 12:12:59.6±6.7,**36.16N**×**69.53E,h137**km±148km,**mpv3.6, 4C-2D, Error ellipse: s-maj=65.5km s-min=48.9km az=52.0, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.97**	**6**	⇑P	P	12 14 39.4	-1.0
	1.2nm,0.3s,baz=189,slow=14,SNR=11						
KK31				⇓S	S	12 15 58.0	-0.6
	4.0nm,0.7s,baz=194,slow=27,SNR=8.0						
AAK	**Ala-Archa**	**7.51**	**29**	⇑P	P	12 14 46.1	-1.6
	2.0nm,0.3s						
AAK				⇓S	S	12 16 11.0	-0.8
	9.4nm,0.6s						
AB31	**Akbulak array**	**14.85**	**335**	⇑P	P	12 16 23.2	-0.2
	1.1nm,0.5s,baz=161,slow=13,SNR=33						
AB31				⇑S	S	12 19 05.9	+1.5
	0.5nm,0.5s						

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*IDC **09** 12:18:57.9±3.5, 22.44S×178.00W, h319km±44km, mb3.3/4, mb1 3.5/6, mb1mx3.3/14, mbtmp4.1/6, Error ellipse: s-maj=40.6km s-min=21.5km az=130.0*

*NEIC **09** 12:18:58.1±1.5, 22.48S×177.89W, h330km±15km, mb4.7/5, Error ellipse: s-maj=16.0km s-min=10.6km az=137.0*

ISC 09 12:18:54.9±1.8,**22.40S**±0.08×**177.9W**±0.1,**h308**km±19km, **n18,**σ1⅝**03**/18,**mb4.1**/9,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**10.26**	**36**	P	**P**	**12 21 20.1**	**+3.0**
	1.5nm,0.3s,baz=27,slow=16,SNR=5.5						
AFI				S	**S**	**12 23 08.9**	**-0.5**
	1.9nm,0.3s,baz=46,slow=22,SNR=4.3						
URZ	**Urewera**	**16.37**	**194**	P	**P**	**12 22 27.5**	**-1.5**
	0.7nm,0.3s,baz=192,slow=21,SNR=4.9						
URZ				S	**S**	**12 25 21.7**	**+1.0**
	1.3nm,0.3s,baz=85,slow=23,SNR=13						
CTA	**Charters Tower**	**33.43**	**267**	P	**P**	**12 25 07.7**	**+0.4**
	3.0nm,0.6s,mb4.0,baz=82,slow=11,SNR=4.7						
CTAO	**Charters Tower**	**33.43**	**267**	*e*P	**P**	**12 25 07.3**	**0.0**
	24nm,1.3s,mb4.6						
STKA	**Stephens Creek**	**37.07**	**246**	P	**P**	**12 25 38.8**	**+1.1**
	6.9nm,0.9s,mb4.1,baz=84,slow=16,SNR=2.3						
WRAB	**Tennant Creek**	**44.44**	**264**	P	**P**	**12 26 37.3**	**-0.5**
	1.6nm,0.7s,mb3.4						
WRA	**Warramunga Arr**	**44.45**	**264**	P	**P**	**12 26 36.6**	**-1.2**
	0.4nm,0.3s,mb3.1,baz=95,slow=8.2,SNR=30						
MAJO	**Matsushiro**	**71.79**	**324**	P	**P**	**12 29 45.1**	**-0.8**
	4.2nm,0.4s,mb4.4						
PMSA	**Palmer Station**	**79.52**	**157**	*e*P	**P**	**12 30 29.6**	**+1.0**
	25nm,0.6s,mb5.1						
MDJ	**Mudanjiang**	**82.11**	**325**	*e*P	**P**	**12 30 43.2**	**+0.6**
	5.6nm,0.6s,mb4.5						
EYAK	**Cordova Ski Ar**	**86.69**	**15**	P	**P**	**12 31 04.9**	**+0.1**
PLCA	**Paso Flores**	**87.91**	**133**	P	**P**	**12 31 09.3**	**-1.8**
JLU	**Jordanelle**	**87.95**	**44**	P	**P**	**12 31 10.4**	**-0.9**
JLU				sP	sP	12 33 02.8	+6.7
JLU				PP	PP	12 34 44.6	+0.5
ILAR	**Eielson Array**	**90.14**	**13**	P	**P**	**12 31 22.1**	**+1.2**
	0.3nm,0.6s,mb3.3,baz=226,slow=5.7,SNR=4.6						
BILL	**Bilibino**	**90.93**	**354**	P	**P**	**12 31 24.9**	**+0.3**
	4.4nm,0.3s,mb4.8						
EDM	**Edmonton**	**93.66**	**33**	P	**P**	**12 31 37.6**	**+0.2**
ALLY	**Alegheny Colle**	**110.16**	**52**	Pdif	Pdif	12 32 50.9	-0.5
FRNY	**Flat Rock**	**115.42**	**50**	*e*PKPdf	PKPdf	12 37 01.2	+1.1

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*CSEM **09** 12:20:07.2±0.8, 38.68N×29.15W, h5km±11km, ML2.2, Error ellipse: s-maj=13.8km s-min=5.4km az=42.0, After PDA*

*PDA **09** 12:20:07.2±0.8, 38.68N×29.15W, h5km±11km, MD3.3, ML2.2, Error ellipse: s-maj=13.8km s-min=5.4km az=42.0*

SVSA 09 12:20:07.2±0.8,**38.68N**×**29.15W,h5**km±11km,**MD3.3, ML2.2, Error ellipse: s-maj=13.8km s-min=5.4km az=42.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.36**	**99**	*e*P	Pg	12 20 13.8	-0.6
PCED				*e*S	Sg	12 20 18.2	-0.9
	104nm,0.1s						
CALA	**Caldeira**	**0.37**	**106**	*e*P	Pg	12 20 13.2	-1.4
CALA				*e*S	Sg	12 20 18.0	-1.5
HOR	**Horta**	**0.44**	**111**	*e*P	Pg	12 20 14.9	-1.1
HOR				*e*S	Sg	12 20 20.5	-1.3
PICO	**Pico**	**0.60**	**107**	*e*P	Pg	12 20 17.3	-1.8
PICO				*e*S	Sg	12 20 25.1	-2.0
PMAN	**Manadas**	**0.83**	**93**	*e*P	Pb	12 20 20.4	-3.4
PMAN				*e*S	Sg	12 20 30.8	-4.2
	19nm,0.1s						
PSBA	**Serra de Santa**	**1.43**	**86**	*e*S	Sb	12 20 45.6	-6.8
	24nm,0.3s						

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*IDC **09** 12:23:02.2±2.0, 4.10N×95.73E, mb3.8/6, mb1 4.0/6, mb1mx3.8/18, mbtmp3.8/6, Error ellipse: s-maj=86.3km s-min=25.0km az=54.0*

*NEIC **09** 12:23:04.7±0.6, 4.17N×95.81E, h15km, mb4.6/3, Error ellipse: s-maj=17.7km s-min=10.0km az=218.0*

ISC 09 12:23:05.4±0.8,**4.2N**±0.1×**95.80E**±0.07,**h33**km,**n14,** σ0⅝**89**/16,**mb3.9**/8,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.96**	**77**	*e*P	**P**	**12 24 17.7**	**-1.8**
KULM				*e*Pb	**Pb**	**12 24 30.0**	**-1.4**
KULM				*e*Sn	**Sn**	**12 25 18.8**	**+2.1**
KKM	**Kota Kinabalu**	**20.42**	**84**	*e*P	**P**	**12 27 42.6**	**+0.1**
MKAR	**Makanchi Array**	**44.05**	**347**	P	**P**	**12 31 12.3**	**+0.4**
	0.5nm,0.4s,mb3.6,baz=166,slow=8.8,SNR=8.0						
MKAR	**Makanchi Array**	**44.05**	**347**	P	**P**	**12 31 12.3**	**+0.4**
SONM	**Songino Array**	**44.45**	**10**	P	**P**	**12 31 15.3**	**+0.2**
	0.3nm,0.5s,mb3.3,baz=184,slow=7.9,SNR=3.3						
SONM	**Songino Array**	**44.45**	**10**	P	**P**	**12 31 15.3**	**+0.2**
WRA	**Warramunga Arr**	**44.81**	**124**	P	**P**	**12 31 18.5**	**+0.1**
	1.5nm,0.6s,mb4.0,baz=301,slow=9.1,SNR=18						
WRAB	**Tennant Creek**	**44.81**	**124**	*e*P	**P**	**12 31 18.2**	**-0.1**
	4.9nm,0.9s,mb4.3						
KURK	**Kurchatov**	**48.59**	**346**	P	**P**	**12 31 46.9**	**-0.8**
	2.0nm,0.5s,mb4.4						
BVAR	**Borovoye Array**	**53.01**	**341**	P	**P**	**12 32 21.5**	**+0.3**
	0.3nm,0.3s,mb3.7,baz=141,slow=9.2,SNR=3.7						
FINES	**FINESS Array B**	**76.74**	**332**	P	**P**	**12 34 55.1**	**+0.1**
	1.3nm,0.8s,mb3.9,baz=108,slow=6.0,SNR=3.7						
ARCES	**ARCESS Array B**	**79.29**	**340**	P	**P**	**12 35 09.0**	**+0.2**
	2.0nm,0.9s,mb4.1,baz=90,slow=4.9,SNR=3.7						
ARCES	**ARCESS Array B**	**79.29**	**340**	P	**P**	**12 35 09.0**	**+0.2**
SBA	**Scott Base**	**90.09**	**168**	*e*P	**P**	**12 36 03.4**	**+0.6**
	27nm,0.8s						

IDC 09 12:43:28.4±2.9,**15.57S**×**173.97W,h92**km±26km,**mb3.6**/5, **mb1 4.0**/6,**mb1mx3.8**/13,**mbtmp4.1**/6,**Error ellipse: s-maj=87.3km s-min=19.1km az=147.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.69**	**52**	P	P	12 44 10.0	-0.8
	129nm,0.3s,baz=210,slow=8.1,SNR=271						
AFI				S	S	12 44 38.2	-4.2
	911nm,0.3s,baz=34,slow=23,SNR=26						
STKA	**Stephens Creek**	**43.47**	**240**	P	P	12 51 22.4	-1.9
	4.0nm,1.0s,baz=60,slow=8.1,SNR=2.6						
WRA	**Warramunga Arr**	**49.27**	**257**	P	P	12 52 08.2	-1.8
	1.6nm,1.0s,baz=90,slow=6.7,SNR=8.3						
TXAR	**Lajitas Array**	**81.17**	**56**	P	P	12 55 34.4	-1.4
	0.3nm,0.3s,baz=233,slow=6.3,SNR=8.7						
ILAR	**Eielson Array**	**82.72**	**11**	P	P	12 55 41.8	-1.2
	0.6nm,0.7s,baz=224,slow=5.5,SNR=12						
PDAR	**Pinedale Array**	**82.76**	**42**	P	P	12 55 42.5	-1.2
	1.5nm,0.8s,baz=225,slow=2.6,SNR=16						
BRTR	**Keskin Array B**	**145.94**	**320**	PKPbc	PKPbc	13 03 04.5	+6.8
	0.7nm,0.7s,baz=63,slow=3.2,SNR=3.6						

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*MOS **09** 12:48:53.3±2.8, 36.80N×71.66E, h161km, mb3.8/7, Error ellipse: s-maj=17.9km s-min=9.4km az=97.6*

*NNC **09** 12:49:06.1±3.1, 37.74N×71.94E, h230km±29km, mpv3.9, Error ellipse: s-maj=31.0km s-min=21.6km az=33.0*

*IDC **09** 12:49:06.2±6.1, 37.37N×72.33E, h273km±60km, mb3.2/8, mb1 3.3/11, mb1mx3.2/21, mbtmp3.9/11, Error ellipse: s-maj=37.5km s-min=14.0km az=14.0*

*NEIC **09** 12:49:07.4±3.8, 37.46N×72.33E, h286km±36km, mb3.8/1, Error ellipse: s-maj=29.9km s-min=11.9km az=196.0*

ISC 09 12:49:00.1±0.9,**37.35N**±0.07×**72.2E**±0.1,**h224**km±10km, **n42,**σ0⅝**87**/49,**mb3.7**/11,**3C-5D,Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**5.56**	**18**	⇑P	**P**	**12 50 23.8**	**+0.9**
	8.4nm,0.6s						
AAK				⇓S	**S**	**12 51 28.0**	**+0.7**
	8.0nm,0.5s						
AAK	**Ala-Archa**	**5.56**	**18**	*d i*PN	**P**	**12 50 22.9**	**+0.1**
AAK				pmax	pmax		
	comp=Z,9.0nm,0.6s						
KK31	**Karatay Array**	**5.89**	**348**	P	**P**	**12 50 27.6**	**+0.6**
	comp=Z,9.9nm,0.5s,baz=162,slow=12,SNR=76						
KK31				⇑S	**S**	**12 51 31.9**	**-2.9**
	comp=Z,112nm,1.0s,baz=162,slow=19,SNR=33						
KKAR	**Karatay Array**	**5.89**	**348**	*i* PN	**P**	**12 50 27.6**	**+0.5**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MKAR	**Makanchi Array**	**12.03**	**35**	P	**P**	**12 51 49.4**	**+3.8**
	comp=Z,0.2nm,0.3s,baz=207,slow=11,SNR=3.9						
MKAR	**Makanchi Array**	**12.03**	**35**	*e*P	**P**

comp=Z,8.0nm,0.5s,mb4.6
OBN MLR MLR
comp=Z,100nm,22.0s
BRTR Keskin Array B 30.12 287 P **P 12 54 51.9 +1.0**
comp=Z,0.5nm,0.5s,mb3.4,baz=89,slow=8.5,SNR=3.2
BRTR Keskin Array B 30.12 287 P **P 12 54 51.9 +1.0**
BRTR pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 33.19 308 P **P 12 55 17.6 +0.3**
comp=Z,0.9nm,0.5s,mb3.5,baz=111,slow=7.9,SNR=4.7
AKASG Malin Array Be 33.19 308 P **P 12 55 17.6 +0.3**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
LVV L'vov 36.45 306 *e*P **P 12 55 52.8 +7.9**
APE Apeiranthos 36.89 284 *e*P **P 12 55 43.8 -4.9**
FINES FINESS Array B 37.33 325 P **P 12 55 52.2 0.0**
comp=Z,2.6nm,1.0s,mb3.7,baz=117,slow=8.5,SNR=6.2
FINES FINESS Array B 37.33 325 P **P 12 55 52.2 0.0**
FINES FINESS Array B 37.33 325 P **P 12 55 52.2 0.0**
FINES pmax pmax
comp=Z,3.0nm,1.0s
ARCES ARCESS Array B 40.74 337 P **P 12 56 20.8 +0.5**
comp=Z,0.8nm,0.4s,mb3.5,baz=113,slow=9.2,SNR=9.8
ARCES ARCESS Array B 40.74 337 P **P 12 56 20.8 +0.6**
ARCES pmax pmax
comp=Z,1.0nm,0.4s
NOA NORSAR Array B 44.30 322 P **P 12 56 48.8 0.0**
comp=Z,1.8nm,0.9s,mb3.4,baz=93,slow=7.5,SNR=3.5
NOA NORSAR Array B 44.30 322 P **P 12 56 48.8 -0.1**
NOA pmax pmax
comp=Z,2.0nm,0.9s
JOW Kunigami 48.02 86 P **P 12 57 17.8 -0.7**
comp=Z,8.9nm,1.1s,mb4.0,baz=153,slow=22,SNR=3.3
YSS Yuzh-Sakhalins 51.54 56 *e*P **P 12 57 54.0 +9.3**
YSS pmax pmax
comp=Z,14nm,1.3s,mb4.2
YKA Yellowknife Ar 80.35 3 *e*P **P 13 00 54.6 +7.6**
WRA Warramunga Arr 81.62 123 P **P 13 00 52.9 -1.6**
comp=Z,0.1nm,0.4s,mb2.8,baz=329,slow=5.4,SNR=4.6

IDC 09 13:25:40.3±0.7, 27.31N×140.48E, h466km±20km, mb3.0/5, mb1 3.1/5, mb1mx2.8/19, mbtmp3.8/5, Error ellipse: s-maj=65.9km s-min=19.6km az=80.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.54**	**97**	P	P	13 26 40.9	+0.4
	6.8nm,0.3s,baz=270,slow=17,SNR=8.2						
CBIJ				S	S	13 27 28.6	+0.4
	9.4nm,0.3s,baz=271,slow=22,SNR=7.0						
WRA	**Warramunga Arr**	**47.34**	**188**	P	P	13 33 31.1	-1.5
	0.2nm,0.3s,baz=6.5,slow=7.7,SNR=8.8						
MKAR	**Makanchi Array**	**49.17**	**309**	P	P	13 33 44.3	-1.7
	0.4nm,0.4s,baz=93,slow=9.2,SNR=5.0						
BVAR	**Borovoye Array**	**56.86**	**317**	P	P	13 34 39.5	-1.6
	1.2nm,0.4s,baz=94,slow=6.5,SNR=6.9						
FINES	**FINESS Array B**	**77.08**	**333**	P	P	13 36 44.1	-1.2
	0.8nm,0.4s,baz=72,slow=6.0,SNR=5.6						
NOA	**NORSAR Array B**	**82.85**	**338**	P	P	13 37 14.3	-1.0
	0.3nm,0.6s,baz=55,slow=7.7,SNR=2.4						

CASC 09 13:36:22.7±4.2, 14.37N×92.31W, h7km±53km, MD3.9, 1C, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TP2	**Tecpan 2**	**1.31**	**72**	*e*P	Pb	13 36 47.6	+0.4
TP2				*e*S	Sb	13 37 05.4	+1.2
IXG	**Ixpaco**	**1.81**	**96**	*e*P	Pn	13 36 55.3	+0.8
IXG				*e*S	Sn	13 37 19.5	+1.6
MRL	**Marmol**	**2.62**	**74**	*e*P	Pn	13 37 05.0	-1.2
MRL				*e*S	Sn	13 37 40.8	+2.1
RTR	**El Retiro**	**2.62**	**100**	*e*P	Pn	13 37 15.3	+9.1
RTR				*e*S	Sn	13 37 50.2	+12
SBLS	**San Blas**	**2.66**	**101**	*e*P	Pn	13 37 15.8	+9.0
SBLS				*e*S	Sn	13 37 50.0	+10
SNJE	**San Jose**	**2.67**	**100**	*e*P	Pn	13 37 15.5	+8.7
SNJE				*e*S	Sn	13 37 50.5	+11
BOQS	**Boqueron**	**3.00**	**102**	*e*P	Pn	13 37 20.8	+9.2
BOQS				*e*S	Sn	13 37 57.2	+8.9
LFRS	**El Faro**	**3.23**	**103⇑**	*e*P	Pn	13 37 24.2	+9.2
LFRS				*e*S	Sn	13 38 01.9	+7.7
LCBS	**La Ceiba**	**3.31**	**102**	*e*P	Pn	13 37 25.4	+9.4
LCBS				*e*S	Sn	13 38 07.3	+11
SNVI	**San Vicente**	**3.45**	**102**	*e*P	Pn	13 37 27.9	+10
SNVI				*e*S	Sn	13 38 10.9	+11
CNCH	**Conchagua**	**4.48**	**104**	*e*P	Pn	13 37 40.6	+8.0
CNCH				*e*S	Sn	13 38 33.9	+8.2

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*NNC **09** 13:38:24.4±2.1, 42.00N×76.10E, mpv2.5, Error ellipse: s-maj=73.7km s-min=11.2km az=32.0*
*KNET **09** 13:38:25.0±0.1, 42.19N×76.16E, h9km, ml1.9, Error ellipse: s-maj=0.8km s-min=0.5km az=128.0*
ISC 09 13:38:24.7±1.7, 42.13N±0.07×76.2E±0.1, h7km±6km, n8, σ0§86/13, 7C-6D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ULHL	**Ulahol**	**0.11**	**1**	⇑P	**Pg**	**13 38 27.3**	**0.0**
	92nm,0.1s,SNR=11						
ULHL				⇓S	**Sg**	**13 38 29.7**	**+0.6**
	264nm,0.1s						
KZA	**Kyzart**	**0.74**	**266**	⇑P	**Pb**	**13 38 38.5**	**-0.9**
	9.6nm,0.2s,SNR=24						
KZA				⇓S	**Sg**	**13 38 49.1**	**-0.2**
	62nm,0.2s						
TKM2	**Tokmak 2**	**0.92**	**329**	⇓P	**Pb**	**13 38 41.3**	**-1.2**
	5.3nm,0.1s,SNR=47						
TKM2				⇓S	**Sb**	**13 38 54.0**	**-0.8**
	60nm,0.1s						
AAK	**Ala-Archa**	**1.39**	**292**	⇑P	**Pn**	**13 38 49.8**	**-0.7**
	1.2nm,0.3s						
AAK				⇑S	**Sb**	**13 39 08.4**	**+0.1**
	6.5nm,0.4s						
CHMS	**Chumysh**	**1.40**	**309**	P	**Pn**	**13 38 50.0**	**-0.7**
	4.4nm,0.1s,SNR=8.8						
USP	**Ospenovka**	**1.71**	**312**	⇑P	**Pn**	**13 38 55.4**	**+0.2**
	8.3nm,0.2s,SNR=5.7						
USP				⇑S	**Sn**	**13 39 18.8**	**+1.3**
	11nm,0.1s						
AML	**Almayashu**	**1.89**	**271**	⇑P	**Pn**	**13 38 59.5**	**+1.8**
	3.1nm,0.2s,SNR=9.8						
KK31	**Karatay Array**	**4.34**	**285**	⇓Pn	**Pn**	**13 39 33.3**	**+0.7**
	0.5nm,0.5s,baz=89,slow=18,SNR=3.9						
KK31				⇓Lg		13 40 39.7	
	0.9nm,0.4s,baz=106,slow=28,SNR=5.6						

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*NEIC **09** 13:39:30.6, 31.35S×69.07W, h165km, MD3.7(GUC), After GUC.*
GUC 09 13:39:30.6±0.7, 31.35S×69.07W, h165km±19km, MD3.7, ML3.5, 1C-6D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZON	**Zonda**	**0.39**	**120**	⇓*i*P	P	13 39 52.0	-1.6
ZON				*e*S	S	13 40 01.4	-10
MDZ	**Mendoza**	**1.54**	**173**	*i*P	P	13 39 58.5	-3.6
MDZ				*i*S	S	13 40 18.5	-7.9
JACH	**Jahuel**	**1.85**	**224**	*e*P	P	13 40 05.6	+0.2
JACH				*i*S	S	13 40 32.3	+0.1
CHNG	**Los Chungos**	**2.14**	**255**	⇓*i*P	P	13 40 08.8	+0.2
CHNG				*i*S	S	13 40 37.4	-0.5
CHNG				AMP		13 40 43.5	
	comp=E,187nm,0.4s						
FCH	**Farellones**	**2.23**	**207**	*e*P	P	13 40 10.5	+0.8
FCH				*i*S	S	13 40 40.5	+0.7
FCH				AMP		13 40 50.0	
	comp=E,110nm,0.1s						
ROCH	**El Roble**	**2.31**	**225**	*e*P	P	13 40 10.7	+0.1
ROCH				*i*S	S	13 40 41.8	+0.3
CLCH	**Cerro Calan**	**2.39**	**211⇑**	*i*P	P	13 40 12.2	+0.6
CLCH				*i*S	S	13 40 43.4	+0.1
CLCH				AMP		13 40 53.4	
	comp=E,210nm,0.5s						
PCH	**Pirque**	**2.57**	**208**	*e*P	P	13 40 14.4	+0.5
PCH				*e*S	S	13 40 47.5	+0.4
RCDM	**Rinconada Maip**	**2.59**	**214**	⇓*i*P	P	13 40 14.3	+0.2
RCDM				*i*S	S	13 40 47.6	+0.1
RCDM				AMP		13 40 54.0	
	comp=E,202nm,0.1s						

TACH	**Talagante**	**2.79**	**214**	⇓*i*P	P	13 40 16.2	-0.3
CHCH	**Chadas Angostu**	**2.90**	**207**	⇓*i*P	P	13 40 17.9	-0.1
LCCH	**Las Cruces**	**2.99**	**224**	⇓*i*P	P	13 40 19.0	-0.1
LVC	**Limon Verde**	**8.70**	**1**	*e*Pn	P	13 41 32.1	-2.1

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*NNC **09** 13:48:11.9±17.0, 43.31N×87.37E, mpv3.5, Error ellipse: s-maj=593.4km s-min=211.5km az=45.0*
BJI 09 13:48:15.3, 43.11N×87.28E, h11km, ML3.5, 2C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**0.77**	**23**	⇓*i*PG	Pg	13 48 31.2	+0.4
WMQ				SG	Sg	13 48 42.6	+1.4
WMQ				Smax			
	comp=N,256nm,0.4s						
WMQ				Smax			
	comp=E,334nm,0.4s						
MK31	**Makanchi Array**	**5.11**	**318**	⇑Pn	Pn	13 49 31.1	-2.6
	comp=E,2.7nm,0.4s,baz=135,slow=15,SNR=38						
MK31				⇑Lg		13 50 49.1	
	comp=E,8.4nm,0.5s,baz=129,slow=31,SNR=4.8						

GUC 09 13:52:49.6±0.8, 28.99S×70.31W, h110km, ML4.1, 4C, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VACH	**Vallenar**	**0.57**	**316**	*i*P	P	13 53 07.4	+0.3
VACH				*i*S	S	13 53 20.3	+0.1
VACH				AMP		13 53 21.1	
	comp=N,17μm,0.1s						
LSCH	**La Serena**	**1.23**	**221**	⇑*i*P		13 55 51.3	
LSCH				*i*S		13 56 09.3	
TLL	**Tololo Astrono**	**1.25**	**200**	⇑*i*P	P	13 53 15.0	+1.1
TLL				*i*S	S	13 53 33.4	+1.1
TLL				AMP		13 53 34.4	
	comp=E,741nm,0.3s						
CPCH	**Copiapo**	**1.62**	**359**	⇑*i*P	P	13 53 18.1	-0.3
CPCH				*i*S	S	13 53 39.5	-0.3
CPCH				AMP		13 53 42.5	
	comp=N,9μm,0.1s						
CMCH	**Combarbala**	**2.26**	**195**	⇑*i*P	P	13 53 26.2	-0.3
CMCH				*i*S	S	13 53 54.0	-0.4
CMCH				AMP		13 53 60.0	
	comp=N,607nm,0.4s						
CHNG	**Los Chungos**	**3.07**	**199**	*i*S	S	13 54 12.7	-0.9
FCH	**Farellones**	**4.33**	**180**	*e*P	P	13 53 55.0	+0.5

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*IDC **09** 14:00:11.9±4.8, 22.41S×176.39W, h38km±39km, mb4.2/8, mb1 4.4/9, mb1mx4.2/15, mbtmp4.5/9, Error ellipse: s-maj=28.8km s-min=18.8km az=121.0*
*NEIC **09** 14:00:12.3±1.7, 22.35S×176.26W, h44km±17km, mb4.9/8, Error ellipse: s-maj=16.3km s-min=11.9km az=138.0*
ISC 09 14:00:11.5±1.9, 22.28S±0.07×176.2W±0.1, h59km±21km, n33, σ1§10/26, mb4.6/13, 1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**7.12**	**192**	Sn	**S**	**14 03 15.9**	**+0.4**
	99nm,0.3s,baz=30,slow=23,SNR=3.5						
AFI	**Afiamalu**	**9.32**	**28**	Pn	**P**	**14 02 26.3**	**+0.7**
	2.5nm,0.3s,baz=219,slow=5.8,SNR=14						
AFI				Sn	**S**	**14 04 03.0**	**-7.0**
	3.2nm,0.3s,baz=37,slow=21,SNR=3.4						
RAR	**Rarotonga**	**15.30**	**89**	P	**P**	**14 03 43.7**	**-1.6**
	13nm,0.5s						
DZM	**Mont Dzumac**	**16.08**	**267**	*e*P	**P**	**14 04 01.4**	**+6.2**
DZM	**Mont Dzumac**	**16.08**	**267**	Pn	**P**	**14 04 02.5**	**+7.3**
	0.6nm,0.3s,baz=81,slow=17,SNR=12						
URZ	**Urewera**	**16.93**	**198**	Pn	**P**	**14 04 06.6**	**+0.8**
	1.2nm,0.3s,baz=283,slow=9.1,SNR=9.3						
URZ				Sn	**S**	**14 06 57.2**	**-14**
	1.6nm,0.3s,baz=299,slow=20,SNR=7.5						
RPZ	**Rata Peaks**	**23.85**	**203**	P	**P**	**14 05 18.6**	**-1.3**
	14nm,0.9s,mb4.4,baz=46,slow=19,SNR=3.7						
CTA	**Charters Tower**	**35.02**	**266**	*e*P	**P**	**14 07 01.5**	**+1.0**
	8.1nm,0.5s,mb4.9						
CTAO	**Charters Tower**	**35.02**	**266**	*e*P	**P**	**14 07 01.4**	**+0.8**
	8.4nm,0.4s,mb5.0						
PMG	**Port Moresby**	**37.38**	**284**	P	**P**	**14 07 20.3**	**-0.3**
	14nm,0.7s,mb4.9,baz=99,slow=11,SNR=5.3						
STKA	**Stephens Creek**	**38.57**	**246**	*e*P	**P**	**14 07 31.4**	**+1.1**
	6.0nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**38.57**	**246**	P	**P**	**14 07 30.4**	**+0.2**
	10.0nm,0.8s,mb4.6,baz=93,slow=9.9,SNR=12						
WB2	**Warramunga Arr**	**46.03**	**263**	*e*P	**P**	**14 08 30.2**	**-1.0**
WRAB	**Tennant Creek**	**46.03**	**263**	*e*P	**P**	**14 08 30.9**	**-0.3**
	16nm,0.7s,mb5.1						
WRAB				*e*pP	PcP	14 10 01.8	-5.6
WRA	**Warramunga Arr**	**46.04**	**263**	P	**P**	**14 08 30.5**	**-0.8**
	11nm,0.8s,mb4.8,baz=97,slow=8.3,SNR=149						
WRA				PcP	PcP	14 10 06.3	-1.2
	2.0nm,0.7s,baz=96,slow=3.8,SNR=5.6						
KAKA	**Kakadu**	**49.70**	**272**	⇓*i*P	**P**	**14 09 08.5**	**+8.6**
	9.6nm,0.7s,mb4.9						
FITZ	**Fitzroy Crossi**	**54.47**	**263**	*e*P	**P**	**14 09 35.7**	**+0.2**
	12nm,0.6s,mb5.0						
SBA	**Scott Base**	**56.22**	**184**	*e*P	**P**	**14 09 48.8**	**+1.3**
	4.8nm,0.8s,mb4.6						
VNDA	**Vanda**	**56.30**	**186**	P	**P**	**14 09 47.2**	**-0.9**
	0.9nm,0.7s,mb3.9,baz=11,slow=7.5,SNR=4.5						
VNDA	**Vanda**	**56.30**	**186**	P	**P**	**14 09 47.2**	**-0.9**
MBWA	**Marble Bar**	**59.11**	**258**	*e*P	**P**	**14 10 05.7**	**-2.8**
MAW	**Mawson**	**80.46**	**199**	P	**P**	**14 12 19.1**	**+1.0**
	3.2nm,0.6s,mb4.4,baz=137,slow=6.6,SNR=9.4						
TXAR	**Lajitas Array**	**86.62**	**57**	P	**P**	**14 12 54.0**	**+4.0**
	0.3nm,0.5s,mb3.8,baz=203,slow=9.5,SNR=3.9						
ILAR	**Eielson Array**	**89.68**	**12**	P	**P**	**14 13 05.5**	**+1.8**
	0.5nm,0.7s,mb4.0,baz=228,slow=7.3,SNR=6.7						
ARCES	**ARCESS Array B**	**130.96**	**350**	PKP	PKPdf	14 19 18.7	+2.7
	1.1nm,0.7s,slow=1.2,SNR=7.7						
MBAR	**Mbarara**	**145.26**	**233**	*e*PKPdf	PKPdf	14 19 44.8	+1.4
AKASG	**Malin Array Be**	**145.37**	**331**	PKPbc	PKPbc	14 19 44.6	+1.6
	5.9nm,0.7s,baz=39,slow=4.2,SNR=38						
MALT	**Malatya**	**146.33**	**306**	*e*PKP	PKPdf	14 19 49.1	+4.6
ASF	**Jabal al Asfar**	**149.07**	**296**	PKPbc	PKPdf	14 19 55.7	+6.6
	1.8nm,0.3s,baz=198,slow=1.2,SNR=3.6						
BRTR	**Keskin Array B**	**149.27**	**311**	PKPbc	PKPdf	14 19 55.9	+6.7
	1.7nm,0.7s,baz=156,slow=5.0,SNR=6.0						
CLL	**Collm**	**150.15**	**348**	*e*PKP1	PKPdf	14 19 58.0	+7.8
BRG	**Berggiesshubel**	**150.38**	**347**	P	PKPdf	14 19 59.4	+8.8
GERES	**GERESS Array B**	**152.34**	**346**	PKPbc	PKPdf	14 20 03.5	+10
	0.4nm,0.3s,slow=1.3,SNR=4.9						
GERES				PKPab	PKPab	14 20 13.9	+0.9
	0.6nm,0.5s,baz=14,slow=5.5,SNR=4.0						

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*BGS **09** 14:12:08.2, 21.10S×173.87E, h33km*
*LDG **09** 14:12:16.2±0.4, 20.94S×173.76E, h10km, Mb4.8/2, Ms5.8/9, Error ellipse: s-maj=38.1km s-min=8.1km az=157.0*
*IDC **09** 14:12:16.7±0.5, 21.25S×173.91E, mb4.9/17, mb1 4.9/18, mb1mx4.9/19, mbtmp4.8/18, ML4.3/1, MS5.8/16, Ms1 5.8/16, ms1mx5.7/20, Error ellipse: s-maj=19.6km s-min=14.5km az=145.0*
*BJI **09** 14:12:18.2, 20.62S×174.75E, h25km, mB5.6, mb5.0, Ms5.8, Msz5.6*
*MOS **09** 14:12:18.9±3.2, 21.01S×173.59E, h10km, mb5.3/31, MS5.9/41, Error ellipse: s-maj=8.7km s-min=7.8km az=50.7*
*HRVD **09** 14:12:21.2±0.1, 21.08S×173.92E, h15km, MW6.1/76, Centroid moment Tensor Solution. LP body waves: s73,c183;Mantle waves: s76,c308; Half duration: 2s6 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.06±.01; $M_{\theta\theta}$-0.99±.01; $M_{\phi\phi}$ 1.05±.01; $M_{r\theta}$0.02±.04; $M_{\theta\phi}$-1.19±.01; $M_{r\phi}$0.19±.04; Best double couple: $M_0$1.578×10^{18} NP1: ϕ_s290°, δ83°, λ.179°. NP2:ϕ_s20°, δ89°, λ.7°. Principal axes: T 1.613, Plg6°, Azm245°; N -.072, Plg83°, Azm31°; P -1.543, Plg4°, Azm155°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **09** 14:12:21.2±0.2, 21.10S×173.87E, h35km, mb5.3/48, MS5.9/121, MW6.0 Error ellipse: s-maj=7.3km s-min=4.8km az=149.0, Moment Tensor Solution. s24 Moment tensor: Scale 10^{18}Nm; M_{rr}0.00; $M_{\theta\theta}$0.00; $M_{\phi\phi}$0.00; $M_{r\theta}$0.00; $M_{\theta\phi}$0.00; $M_{r\phi}$0.00; Best double couple: $M_0$1.1×10^{18} NP1:ϕ_s115°, δ77°, λ-177°. NP2:ϕ_s24°, δ87°, λ-13°. Principal axes: T 1.07, Plg7°, Azm70°; N .14, Plg77°, Azm193°; P -1.21, Plg11°, Azm339°;*
ISC 09 14:12:19.9±0.2, 21.19S±0.03×173.95E±0.04, h35km, h35km±.7km: pP-P, n430, σ1§20/219, mb5.2/82, MS5.8/165, 13C-11D, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.04**	**261**	*e*P	**P**	**14 14 00.6**	**-2.6**
DZM	**Mont Dzumac**	**7.04**	**261**	Pn	**P**	**14 14 00.8**	**-2.3**
	5.8nm,0.3s,baz=72,slow=19,SNR=55						
RAO	**Raoul Island**	**10.89**	**139**	LR	LR	14 18 20.2	
	comp=Z,54μm,20.7s,baz=285,slow=33						
OUZ	**Omahuta**	**13.98**	**181**	*e*PN	**P**	**14 15 38.9**	**+1.2**
AFI	**Afiamalu**	**15.41**	**64**	Pn	**P**	**14 15 54.0**	**-2.5**
	1.4nm,0.3s,baz=162,slow=7.5,SNR=4.8						
AFI				LR	LR	14 20 38.7	
	comp=Z,41μm,20.7s,baz=240,slow=32						
AFI	**Afiamalu**	**15.41**	**64**	P	**P**	**14 15 54.0**	**-2.5**
AFI				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AFI				MLR	MLR		
	comp=Z,41μm,20.7s						
URZ	**Urewera**	**17.23**	**172**	P	**P**	**14 16 21.7**	**+2.3**
	comp=Z,1.0nm,0.3s,baz=5.2,slow=9.4,SNR=30						
URZ				LR	LR	14 21 25.0	
	comp=Z,48μm,21.5s,baz=357,slow=32						
URZ	**Urewera**	**17.23**	**172**	PN	**P**	**14 16 21.5**	**+2.1**
PUZ	**Puketiti**	**17.23**	**168**	*e*PN	**P**	**14 16 20.1**	**+0.7**
HNR	**Honiara**	**17.84**	**309**	P	**P**	**14 16 24.1**	**-3.1**
	comp=Z,2.5nm,0.3s,baz=174,slow=14,SNR=18						
HNR				LR	LR	14 22 14.7	
	comp=Z,27μm,18.3s,baz=140,slow=34						
HNR	**Honiara**	**17.84**	**309**	*e*P	**P**	**14 16 25.2**	**-2.1**
	comp=Z,1μm,1.4s						
HNR				*e*sP		14 16 39.3	
HNR	**Honiara**	**17.84**	**309**	*e*P	**P**	**14 16 25.2**	**-2.0**
HNR				pmax	pmax		
	comp=Z,1μm,1.4s						
BKZ	**Black Stump Fm**	**18.05**	**174**	PN	**P**	**14 16 30.0**	**+0.4**
KNZ	**Kokohu**	**18.06**	**171**	PN	**P**	**14 16 30.2**	**+0.4**
NNZ	**Nelson**	**19.97**	**181**	PN	**P**	**14 16 52.7**	**+0.7**
THZ	**Tophouse**	**20.53**	**182**	PN	**P**	**14 16 57.7**	**0.0**
LTZ	**Lake Taylor**	**21.57**	**183**	PN	**P**	**14 17 08.2**	**-0.2**
WVZ	**Waitaha Valley**	**21.99**	**186**	PN	**P**	**14 17 10.9**	**-1.6**
RPZ	**Rata Peaks**	**22.59**	**185**	P	**P**	**14 17 19.4**	**+0.9**
	comp=Z,48nm,1.1s,mb4.9,baz=108,slow=3.7,SNR=5.3						
RPZ				LR	LR	14 24 43.9	
	comp=Z,45μm,21.8s,MS5.9,baz=360,slow=33						
RIV	**Riverview**	**23.75**	**233**	*e*P	**P**	**14 17 32.2**	**+2.3**
RAR	**Rarotonga**	**24.49**	**95**	*e*P	**P**	**14 17 37.0**	**-0.2**
	comp=Z,522nm,2.0s,mb5.6						
RAR				*e*S	**S**	**14 22 01.0**	**+8.5**
RAR				LR	LR		
	comp=Z,15μm,22.0s,MS5.4						
RAR	**Rarotonga**	**24.49**	**95**	*e*P	**P**	**14 17 37.0**	**-0.2**
RAR				*e*S	**S**	**14 22 01.0**	**+8.5**
RAR				pmax	pmax		
	comp=Z,522nm,2.0s						
RAR				MLR	MLR		
	comp=Z,15μm,22.0s						
CNB	**Canberra Magne**	**25.74**	**232**	*e*P	**P**	**14 17 50.2**	**+1.3**
	comp=Z,118nm,1.3s,mb5.3						
CTA	**Charters Tower**	**25.93**	**267**	*e*P	**P**	**14 17 50.6**	**-0.3**
	comp=Z,32nm,1.2s,mb4.7						
CTA				*e*S	**S**	**14 22 22.0**	**+5.6**
CTA	**Charters Tower**	**25.93**	**267**	P	**P**	**14 17 50.7**	**-0.2**
	comp=Z,38nm,1.0s,mb4.9,baz=80,slow=11,SNR=14						
CTA	**Charters Tower**	**25.93**	**267**	*e*P	**P**	**14 17 50.6**	**-0.3**
CTA				*e*S	**S**	**14 22 22.0**	**+5.6**
CTA				pmax	pmax		
	comp=Z,33nm,1.2s						
CTAO	**Charters Tower**	**25.93**	**267**	*e*P	**P**	**14 17 50.2**	**-0.6**
	comp=Z,88nm,1.3s,mb5.1						
CTAO				LR	LR		
	comp=Z,43μm,20.0s,MS6.0						
CTAO	**Charters Tower**	**25.93**	**267**	*e*P	**P**	**14 17 50.2**	**-0.7**
CTAO				pmax	pmax		
	comp=Z,88nm,1.3s,mb5.1						
CTAO				MLR	MLR		
	comp=Z,43μm,20.0s,MS6.0						
PMG	**Port Moresby**	**28.32**	**290**	P	**P**	**14 18 12.4**	**-0.3**
	comp=Z,39nm,0.9s,mb5.0,baz=114,slow=7.4,SNR=11						
PMG				LR	LR	14 27 49.4	
	comp=Z,13μm,18.0s,MS5.6,baz=59,slow=33						
PMG	**Port Moresby**	**28.32**	**290**	*e*P	**P**	**14 18 11.7**	**-1.0**
	comp=Z,44nm,0.9s,mb5.1						
PMG				LR	LR		
	comp=Z,14μm,22.0s,MS5.5						
PMG	**Port Moresby**	**28.32**	**290**	*c i*P	**P**	**14 18 11.5**	**-1.2**
TOO	**Toolangi**	**29.53**	**230**	⇓*i*P	**P**	**14 18 24.3**	**+1.0**
	comp=Z,54nm,1.0s,mb5.2						
TOO				*e*S	**S**	**14 23 20.5**	**+6.2**
TOO	**Toolangi**	**29.53**	**230**	⇓*i*P	**P**	**14 18 24.3**	**+1.0**
TOO				*e*S	**S**	**14 23 20.5**	**+6.2**
TOO				pmax	pmax		
	comp=Z,54nm,1.0s,mb5.2						
KWAJ	**Kwajalein Atol**	**30.45**	**348**	PFAKE		14 18 40.0	+8.3
KWAJ				LR	LR		
	comp=Z,7μm,20.0s,MS5.3						
STKA	**Stephens Creek**	**30.73**	**243**	*e*P	**P**	**14 18 33.1**	**-1.0**
	comp=Z,36nm,1.4s,mb5.0						
STKA				*e*S	**S**	**14 23 38.4**	**+5.0**
STKA	**Stephens Creek**	**30.73**	**243**	P	**P**	**14 18 33.2**	**-0.9**
	comp=Z,45nm,1.1s,mb5.2,baz=80,slow=8.7,SNR=15						
STKA				LR	LR	14 29 45.5	
	comp=Z,21μm,20.3s,MS5.8,baz=74,slow=34						
TAU	**Tasmania Unive**	**31.05**	**220**	PFAKE		14 18 50.0	+13
TAU				LR	LR		
	comp=Z,4μm,21.0s,MS5.1						
TBI	**Tubuai**	**33.87**	**101**	*e*LQ		14 26 27.8	
TBI	**Tubuai**	**33.87**	**101**	*e*P	**P**	**14 18 59.9**	**-1.6**
	comp=Z,113nm,1.4s,mb5.6						
TBI				*e*S	**S**	**14 24 22.6**	**+0.1**
TBI				*e*LR	LR	14 27 52.0	
	comp=Z,8μm,29.8s						
PAE	**Paea**	**34.52**	**91**	*e*P	**P**	**14 19 05.3**	**-1.9**

TAOE eLR LR 14 33 20.3
comp=Z,61μm,29.2s
RKT Rikitea 47.15 102 eP **P 14 20 54.9 +3.9**
comp=Z,114nm,1.3s,mb5.6
RKT Rikitea 47.15 102 eS **S 14 27 34.0 -6.1**
RKT eLQ 14 31 43.6
RKT eLR LR 14 34 02.9
comp=Z,5μm,29.8s
MIDW Midway 49.83 10 PFAKE 14 21 20.0 +8.3
MIDW LR LR
comp=Z,5μm,21.0s,MS5.5
MBWA Marble Bar 50.34 260 eP **P 14 21 13.4 -2.3**
comp=Z,88nm,1.1s,mb5.7
MBWA epP pP 14 21 24.4 -1.6
MBWA LR LR
comp=Z,24μm,20.0s,MS6.2
DRV Dumont d'Urvil 50.35 197 P **P 14 21 18.0 +2.8**
DRV S **S 14 28 36.0 +12**
DRV R 14 36 00.0
KIP Kipapa 50.43 35 PFAKE 14 21 30.0 +14
KIP LR LR
comp=Z,8μm,20.0s,MS5.7
KLBR Kellerberrin 50.92 246 eP **P 14 21 18.7 -1.3**
comp=Z,91nm,1.3s,mb5.5
PTCN Pitcairn Islan 51.30 106 PFAKE 14 21 30.0 +7.1
PTCN LR LR
comp=Z,4μm,19.0s,MS5.4
NWAO Narrogin (SRO) 51.31 244 P **P 14 21 21.9 -0.9**
comp=Z,39nm,1.1s,mb5.3,baz=87,slow=7.3,SNR=8.8
NWAO Narrogin (SRO) 51.31 244 eP **P 14 21 19.9 -3.0**
comp=Z,41nm,1.1s,mb5.3
NWAO epP pP 14 21 30.3 -3.0
NWAO LR LR
comp=Z,14μm,20.0s,MS6.0
NWAO Narrogin (SRO) 51.31 244 eP **P 14 21 19.9 -3.0**
NWAO pmax pmax
comp=Z,41nm,1.1s
NWAO MLR MLR
comp=Z,14μm,20.0s
MUN Mundaring 52.22 245 eP **P 14 21 28.6 -1.1**
comp=Z,18nm,1.2s,mb4.9
MUN eS **S 14 28 51.4 +0.9**
MUN Mundaring 52.22 245 eP **P 14 21 28.6 -1.1**
MUN eS **S 14 28 51.4 +0.9**
MUN pmax pmax
comp=Z,18nm,1.2s,mb4.9
VNDA Vanda 56.68 183 P **P 14 22 01.1 -0.7**
comp=Z,3.0nm,0.8s,mb4.4,baz=4.6,slow=7.9,SNR=8.1
VNDA LR LR 14 42 01.7
comp=Z,9μm,22.0s,MS5.8,baz=14,slow=32
VNDA Vanda 56.68 183 eP **P 14 22 00.3 -1.5**
comp=Z,40nm,1.4s,mb5.3
VNDA epP pP 14 22 11.2 -1.2
VNDA LR LR
comp=Z,9μm,22.0s,MS5.8
VNDA Vanda 56.68 183 eP **P 14 22 00.3 -1.5**
VNDA pmax pmax
comp=Z,40nm,1.4s
VNDA MLR MLR
comp=Z,9μm,22.0s
SBA Scott Base 56.81 182 eP **P 14 22 02.2 -0.5**
comp=Z,149nm,1.6s,mb5.8
SBA LR LR
comp=Z,4μm,21.0s,MS5.5
SBA Scott Base 56.81 182 eP **P 14 22 02.2 -0.5**
SBA pmax pmax
comp=Z,149nm,1.6s,mb5.8
SBA MLR MLR
comp=Z,4μm,21.0s,MS5.5
CASY Casey 60.16 205 eP **P 14 22 25.4 -0.7**
TSM Tawau 60.49 288 P **P 14 22 28.8 -0.3**
KKM Kota Kinabalu 62.75 289 P **P 14 22 43.7 -0.6**
KKM Kota Kinabalu 62.75 289 eP **P 14 22 42.2 -2.1**
KKM epP pP 14 22 52.9 -2.1
KSM Kuching 66.11 282 epP pP 14 23 14.8 -2.2
MAJO Matsushiro 66.61 329 eP **P 14 23 06.5 -2.5**
comp=Z,18nm,1.0s,mb5.0
MAJO LR LR
comp=Z,7μm,22.0s,MS5.8
MAJO Matsushiro 66.61 329 eP **P 14 23 06.5 -2.5**
MAJO pmax pmax
comp=Z,18nm,1.0s,mb5.1
MAJO MLR MLR
comp=Z,7μm,22.0s,MS5.8
MAT Matsushiro 66.61 329 P **P 14 23 06.3 -2.7**
MAT S S 14 32 01.0 +4.7
MAT Matsushiro 66.61 329 eP **P 14 23 06.0 -3.0**
MAT eS S 14 32 01.0 +4.7
MAT LR LR
comp=Z,6μm,20.0s,MS5.8
MIR Mirnyy 67.16 205 eP **P 14 23 20.0 +8.1**
MIR eS S 14 32 07.0 +4.7
MIR eSSS SSS 14 39 30.0 +8.9
MIR pmax pmax
comp=Z,1μm,7.0s
MIR smax
comp=N,2μm,12.0s
MIR MLR MLR
comp=N,1μm,16.0s,MS5.3
MIR MLR MLR
comp=E,1μm,16.0s,MS5.3
MIR MLR MLR
comp=Z,4μm,16.0s,MS5.8
TATO Taipei 68.58 309 PFAKE 14 23 30.0 +8.5
TATO LR LR
comp=Z,3μm,20.0s,MS5.6
QSPA South Pole Qui 68.88 180 eP **P 14 23 22.2 -0.3**
comp=Z,59nm,1.3s,mb5.4
YUK Yuzh-Kuril'sk 69.83 339 eP **P 14 23 42.0 +13**
QZH Quanzhou 70.68 308 eP **P 14 23 35.8 +1.5**
QZH PP PP 14 26 09.9 -3.3
QZH S S 14 32 48.7 +4.0
QZH LR LR
comp=N,2μm,15.4s,MS5.8
QZH LR LR
comp=E,4μm,18.6s,MS5.8
QZH LR LR
comp=Z,5μm,24.0s
ASAJ Asahikawa 71.05 337 P **P 14 23 37.4 +1.1**
comp=Z,10nm,1.0s,mb4.7,baz=233,slow=10,SNR=7.4
ASAJ Asahikawa 71.05 337 P **P 14 23 37.4 +1.1**
ASAJ pmax pmax
comp=Z,11nm,1.0s
SSE Sheshan 72.56 314 P **P 14 23 47.3 +1.8**
SSE AP pP 14 23 59.2 +2.9
SSE XP sP 14 24 04.0 +3.7
SSE PP PP 14 26 28.3 -0.7
SSE S S 14 33 09.2 +2.8
SSE XS 14 33 29.5
SSE SCS ScS 14 33 50.3 +4.1
SSE SS SS 14 37 49.8 +2.0
SSE AMB AMB
comp=Z,47nm,0.7s,mb5.5
SSE AMB AMB
comp=Z,212nm,7.4s
SSE LR LR
comp=N,2μm,23.4s,MS5.5
SSE LR LR
comp=E,2μm,23.4s,MS5.5
SSE LR LR
comp=Z,3μm,25.3s,MS5.5
KGM Kluang 72.74 279 P **P 14 23 47.2 +0.3**
SKR Severo-Kuril's 73.27 348 eP **P 14 23 43.0 -6.3**
SKR ePPP PPP 14 28 26.0 +7.7
SKR eS S 14 33 20.0 +6.0
SKR ePS PS 14 33 56.0 +4.8
SKR pmax pmax
comp=Z,1μm,6.0s
SKR pmax pmax
comp=N,1μm,6.0s
SKR pmax pmax
comp=E,1μm,6.0s
SKR pmax pmax
comp=Z,1μm,6.0s
SKR smax
comp=N,2μm,10.0s
SKR smax
comp=E,2μm,10.0s
SKR MLR MLR
comp=N,3μm,18.0s,MS5.7
SKR MLR MLR
comp=E,2μm,18.0s,MS5.7
SKR MLR MLR
comp=Z,6μm,18.0s,MS5.9
INCN Inchon 73.41 322 PFAKE 14 24 00.0 +10
INCN LR LR
comp=Z,3μm,20.0s,MS5.5
YSS Yuzh-Sakhalins 73.44 338 i P **P 14 23 51.8 +1.4**
YSS LR LR
comp=Z,16μm,20.0s,MS6.3
YSS Yuzh-Sakhalins 73.44 338⇓ eP **P 14 23 52.2 +1.8**
YSS e 14 23 56.6
YSS e pP 14 24 04.0 +2.8
YSS eS S 14 33 20.0 +4.0
YSS ePPS PPS 14 33 53.0 -15
YSS eSS SS 14 38 03.0 +1.9
YSS eSSS SSS 14 41 08.0 -4.0
YSS pmax pmax
comp=N,2μm,14.0s
SMY Shemya 73.61 0 PFAKE 14 24 00.0 +8.8
SMY LR LR
comp=Z,6μm,22.0s,MS5.9
GZH Guangzhou 73.64 303 P **P 14 23 58.1 +6.1**
GZH S S 14 33 27.7 +9.0
GZH LR LR
comp=N,2μm,21.1s,MS5.5
GZH LR LR
comp=E,2μm,22.4s,MS5.5
GZH LR LR
comp=Z,4μm,21.1s,MS5.7
QIZ Qiongzhong 74.39 298 P **P 14 24 00.7 +4.3**
QIZ S S 14 33 25.8 -1.3
QIZ LR LR
comp=N,2μm,24.0s
QIZ LR LR
comp=Z,3μm,26.1s,MS5.5
NJ2 Nanjing 74.71 314 eP **P 14 23 59.5 +1.4**
NJ2 AP pP 14 24 09.8 +0.9
NJ2 XP sP 14 24 13.8 +1.0
NJ2 PP PP 14 26 48.4 +1.0
NJ2 S S 14 33 30.0 -0.5
NJ2 AMB AMB
comp=Z,30nm,0.9s,mb5.2
NJ2 AMB AMB
comp=Z,190nm,5.9s
NJ2 LR LR
comp=N,4μm,28.3s,MS5.8
NJ2 LR LR
comp=E,6μm,25.0s,MS5.8
NJ2 LR LR
comp=Z,4μm,28.7s,MS5.5
PET Petropavlovsk 75.09 351⇑ iP **P 14 24 00.1 +0.3**
PET LR LR
comp=Z,8μm,20.0s,MS6.0
PET Petropavlovsk 75.09 351 d iP **P 14 23 57.6 -2.2**
PET e 14 26 47.6
PET i S S 14 33 40.1 +5.9
PET ePS PS 14 34 16.6 +1.8
PET ePPS PPS 14 34 30.5 +0.6
PET eSSS SSS 14 41 34.5 -5.4
PET pmax pmax
comp=Z,20nm,1.4s,mb4.8
PET pmax pmax
comp=Z,400nm,15.8s
PET pmax pmax
comp=Z,400nm,11.3s
PET smax
comp=N,2μm,19.5s
PET MLR MLR
comp=Z,5μm,18.5s,MS5.8
IPM Ipoh 75.84 281 P **P 14 24 04.6 -0.3**
KULM Kulim 76.46 281 eP **P 14 24 06.8 -1.6**
KULM ePcP PcP 14 24 19.3 -1.1
UNV Unalaska Valle 76.61 12 PFAKE 14 24 20.0 +12
UNV LR LR
comp=Z,7μm,19.0s,MS6.0
WHN Wuhan 76.96 310 eP **P 14 24 11.5 +0.6**
MDJ Mudanjiang 77.00 329 P **P 14 24 11.9 +1.0**
MDJ AP pP 14 24 21.3 -0.4
MDJ XP sP 14 24 25.1 -0.5
MDJ PP PP 14 27 04.1 -1.6
MDJ S S 14 33 59.1 +3.8
MDJ SCS ScS 14 34 26.1 +4.6
MDJ SS SS 14 38 58.4 +2.9
MDJ AMB AMB
comp=Z,13nm,1.5s,mb4.6
MDJ AMB AMB
comp=Z,314nm,7.6s
MDJ LR LR
comp=N,3μm,26.7s,MS5.6
MDJ LR LR
comp=E,3μm,31.3s,MS5.6
MDJ LR LR
comp=Z,4μm,32.2s,MS5.5
MDJ Mudanjiang 77.00 329 eP **P 14 24 14.7 +3.8**
comp=Z,52nm,1.5s,mb5.2
SNG Songkhla 77.23 283 P **P 14 24 13.0 +0.2**
SNY Shenyang 78.11 324 PR 14 24 15.0
SNY S S 14 34 15.0 +7.6
SNY AMB AMB
comp=Z,10.0nm,2.5s,mb4.3
SNY AMB AMB
comp=Z,330nm,12.9s
SNY LR LR
comp=E,3μm,21.6s
SNY LR LR
comp=Z,5μm,24.1s,MS5.7
MAW Mawson 78.27 201 eP **P 14 24 18.2 +0.8**
comp=Z,18nm,0.9s,mb5.0
MAW Mawson 78.27 201 P **P 14 24 17.6 +0.2**
comp=Z,17nm,1.0s,mb4.9,baz=120,slow=7.4,SNR=14
MAW LR LR 14 56 28.8
comp=Z,3μm,18.9s,MS5.6,baz=104,slow=34
TIA Tai'an 78.37 316⇑ P **P 14 24 17.1 -1.5**
TIA S S 14 34 04.4 -5.9
TIA LR LR
comp=N,880nm,24.5s,MS5.2
TIA LR LR
comp=E,1μm,25.5s,MS5.2
CN2 Changchun 78.47 326⇑ P **P 14 24 17.7 -1.3**
CN2 eXP sP 14 24 33.0 -0.8
CN2 eS S 14 34 10.8 -0.4
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
CN2 AMB AMB
comp=Z,300nm,6.0s
CN2 LR LR
comp=N,2μm,21.0s,MS5.7
CN2 LR LR
comp=E,3μm,21.0s,MS5.7
CN2 LR LR
comp=Z,3μm,23.0s,MS5.5
KKTK Khon Kaen 79.08 292 P **P 14 24 23.2 +0.3**
KLR Kul'dur 79.53 333 eP **P 14 24 22.8 -1.8**
KLR eS S 14 34 27.0 +4.8
KLR smax
comp=N,2μm,13.5s
KLR smax
comp=E,2μm,13.5s
KLR MLR MLR
comp=Z,2μm,17.0s,MS5.5
ENH Enshi 80.34 308 eP **P 14 24 27.8 -1.6**
comp=Z,84nm,1.4s,mb5.5
GYA Guiyang 80.57 303⇑ iP **P 14 24 37.0 +6.3**
GYA PP PP 14 27 42.6 +6.4
GYA S S 14 34 39.7 +6.1
GYA SKS SKS 14 34 47.8 +6.6
GYA XS 14 34 58.4
GYA PS PS 14 35 31.0 +6.4
GYA SS SS 14 39 55.2 +5.7
GYA AMB AMB
comp=Z,40nm,1.0s,mb5.3
GYA AMB AMB
comp=Z,350nm,6.6s
GYA LR LR
comp=N,2μm,21.3s,MS5.5
GYA LR LR
comp=E,2μm,22.5s,MS5.5
GYA LR LR
comp=Z,2μm,22.5s,MS5.4
NST Nakhon Sawan 81.14 291 P **P 14 24 33.5 -0.3**
NANT Nan 81.97 294 P **P 14 24 37.0 -1.1**
MA2 Magadan 82.69 348 PFAKE 14 24 50.0 +9.0
MA2 LR LR
comp=Z,6μm,20.0s,MS6.0
MA2 Magadan 82.69 348 eP **P 14 24 35.6 -5.4**
MA2 e 14 35 02.5
XAN Xi'an 82.71 311 P **P 14 24 43.9 +2.3**
XAN AP pP 14 24 54.8 +2.2
XAN AMB AMB
comp=Z,17nm,1.2s,mb5.0
KMI Kunming 83.06 300⇑ P **P 14 24 44.9 +1.3**
KMI AP pP 14 24 54.8 +0.2
KMI PP PP 14 28 00.4 +3.8
KMI PPP PPP 14 29 57.0 +7.2
KMI SKS SKS 14 35 01.1 +2.5
KMI S S 14 35 02.8 +3.7
KMI SS SS 14 40 30.9 +4.1
KMI SSS SSS 14 43 57.5 +5.5
KMI AMB AMB
comp=Z,381nm,5.5s
KMI LR LR
comp=N,1μm,24.4s,MS5.3
KMI LR LR
comp=E,1μm,26.8s,MS5.3
KMI LR LR
comp=Z,2μm,32.9s
CHRT Chiangrai 83.21 294⇑ P **P 14 24 44.0 -0.4**
comp=Z,158nm,0.7s,mb6.2
SNCC San Nicolas Is 83.37 51 PFAKE 14 25 00.0 +15
SNCC LR LR
comp=Z,6μm,22.0s,MS5.9
KDAK Kodiak Island 83.48 17 eP **P 14 24 44.1 -1.0**
comp=Z,57nm,1.4s,mb5.4
KDAK ePcP PcP 14 24 48.6 -1.1
KDAK LR LR
comp=Z,859nm,22.0s,MS5.1
CHG Chiang Mai 83.48 293⇑ P **P 14 24 46.9 +1.1**
comp=Z,29nm,1.1s,mb5.2
PMSA Palmer Station 83.53 159 eP **P 14 24 45.1 0.0**
comp=Z,55nm,1.1s,mb5.6
PMSA LR LR
comp=Z,5μm,22.0s,MS5.9
SAO San Andreas Ge 83.84 47 eP **P 14 24 46.9 -0.5**
comp=Z,12nm,1.0s,mb5.0
SAO LR LR
comp=Z,10μm,20.0s,MS6.2
SAO San Andreas Ge 83.84 47 eP **P 14 24 47.2 -0.2**
SAO pmax pmax
comp=Z,12nm,1.0s,mb5.0
HOPS Hopland 83.96 44 PFAKE 14 25 00.0 +12
HOPS LR LR
comp=Z,12μm,21.0s,MS6.2
SYO Syowa Base 84.25 195⇓ P **P 14 24 47.0 -1.7**
SYO Syowa Base 84.25 195⇓ PcP PcP 14 24 51.0 -1.8
HHC Hu-ho-hao-te 84.61 318 eP **P 14 24 54.0 +2.9**
HHC AP pP 14 25 05.2 +3.1
HHC XP sP 14 25 08.1 +2.2
HHC PP PP 14 28 13.1 +4.5
HHC AMB AMB
comp=Z,19nm,0.8s,mb5.3
HHC AMB AMB
comp=Z,363nm,6.8s
HHC LR LR
comp=N,2μm,23.8s,MS5.7
HHC LR LR
comp=E,3μm,26.2s,MS5.7
HHC LR LR
comp=Z,7μm,27.4s,MS5.9
MWC Mount Wilson 84.92 50 eP **P 14 24 55.1 +2.3**
MWC epP pP 14 25 04.3 +0.4
CD2 Chengdu 84.94 306 P **P 14 24 54.0 +1.0**
CD2 PP PP 14 28 14.0 +2.4
CD2 PPP PPP 14 30 09.0 +1.4
CD2 SKS SKS 14 35 17.1 +5.9
CD2 PS PS 14 36 19.5 +1.0
CD2 SS SS 14 40 55.2 +1.2
CD2 AMB AMB
comp=Z,20nm,2.2s,mb4.9
CD2 AMB AMB
comp=Z,340nm,7.2s
CD2 LR LR
comp=E,1μm,20.4s
CD2 LR LR
comp=Z,2μm,21.6s,MS5.3
WDC Whiskeytown Da 85.17 43 eP **P 14 24 52.6 -1.3**
comp=Z,40nm,1.6s,mb5.3
WDC ePcP PcP 14 24 56.1 -1.4
WDC LR LR
comp=Z,10μm,22.0s,MS6.2
WDC Whiskeytown Da 85.17 43 eP **P 14 24 52.6 -1.3**
WDC e 14 24 56.2
WDC pmax pmax
comp=Z,40nm,1.6s,mb5.3
WDC MLR MLR
comp=Z,10μm,22.0s,MS6.2
CMB Columbia Colle 85.23 46 eP **P 14 24 54.1 -0.1**
comp=Z,25nm,1.4s,mb5.2
CMB epP pP 14 25 05.2 -0.2
CMB LR LR
comp=Z,14μm,20.0s,MS6.3
CMB Columbia Colle 85.23 46 eP **P 14 24 54.1 -0.2**
CMB pmax pmax
comp=Z,25nm,1.4s,mb5.2
CMB MLR MLR
comp=Z,14μm,20.0s,MS6.3
ISA Isabella 85.34 49 PFAKE 14 25 10.0 +15
ISA LR LR
comp=Z,2μm,22.0s,MS5.5
BTO Baotou 85.45 317 eP **P 14 24 57.8 +2.5**
BTO S S 14 35 24.4 +1.9
BTO AMB AMB
comp=Z,11nm,0.7s,mb5.1
SEY Seymchan 85.56 350 eP **P 14 24 57.6 +2.3**
SEY e 14 25 02.8
SEY 14 28 16.8
SEY eS S 14 35 29.1 +6.1
SEY SS SS 14 41 01.0 -1.4
SEY pmax pmax
comp=E,7.0nm,1.1s
SEY pmax pmax
comp=Z,60nm,1.1s,mb5.7
SEY pmax pmax
comp=N,10.0nm,0.9s
SEY smax
comp=N,4μm,12.9s
SEY smax
comp=E,1μm,9.8s
SEY MLR MLR
comp=N,5μm,18.0s,MS6.0
SEY MLR MLR
comp=E,3μm,18.0s,MS6.0
SEY MLR MLR
comp=Z,9μm,18.0s,MS6.2
SVW2 Sparrevohn 85.60 14 eP **P 14 24 56.2 +0.7**
YBH Yreka Blue Hor 85.69 42 P **P 14 24 59.5 +3.1**
comp=Z,5.8nm,0.9s,mb4.8,baz=199,slow=5.1,SNR=9.2
YBH Yreka Blue Hor 85.69 42 eP **P 14 24 56.5 0.0**
comp=Z,16nm,1.2s,mb5.1
YBH esP sP 14 25 11.1 -0.1
YBH LR LR
comp=Z,4μm,20.0s,MS5.8
YBH Yreka Blue Hor 85.69 42 eP **P 14 24 56.5 0.0**
YBH pmax pmax
comp=Z,16nm,1.2s
YBH MLR MLR
comp=Z,4μm,20.0s
RSO Redoubt South 85.74 16 eP **P 14 24 56.4 +0.2**
RSO ePcP PcP 14 24 58.9 -0.6
PFO Pinyon Flat Ob 85.78 52 eP **P 14 24 57.0 -0.1**
comp=Z,24nm,1.5s,mb5.2
PFO LR LR
comp=Z,2μm,22.0s,MS5.5
PFO Pinyon Flat Ob 85.78 52 eP **P 14 24 57.0 -0.1**
PFO pmax pmax
comp=Z,25nm,1.5s,mb5.2
PFO MLR MLR
comp=Z,2μm,22.0s,MS5.5
OMM Old Mammoth Mi 85.96 47 eP **P 14 24 58.0 +0.1**
MTUM Tungsten Hills 86.12 48 eP **P 14 24 58.7 +0.1**
MTUM epP pP 14 25 10.0 +0.3
DAC Darwin (Calif) 86.26 49 eP **P 14 24 59.4 0.0**
comp=Z,3.3nm,0.6s,mb4.7
DAC ePcP PcP 14 25 01.8 -0.6
DAC LR LR
comp=Z,10μm,22.0s,MS6.2
DAC Darwin (Calif) 86.26 49 eP **P 14 24 59.4 0.0**
DAC e 14 25 01.8
DAC pmax pmax
comp=Z,3.0nm,0.6s,mb4.7
DAC MLR MLR
comp=Z,10μm,22.0s,MS6.2
SLKM Skilak Lake 86.44 17 eP **P 14 24 57.8 -1.8**
SLKM epP pP 14 25 09.9 -0.8
SPU Mount Spurr 86.53 16 P **P 14 25 00.6 +0.5**

COR	**Corvallis**	**86.91**	**40**	PFAKE			14 25 10.0 +7.7
COR				LR	LR		
comp=Z,981nm,22.0s,MS5.2							
FIB	**Fire Island**	**87.00**	**17**	PFAKE			14 25 10.0 +7.6
FIB				LR	LR		
comp=Z,2µm,19.0s,MS5.5							
MOD	**Modoc**	**87.30**	**43**	*e*P	**P**		**14 25 04.1 -0.2**
comp=Z,49nm,1.6s,mb5.5							
MOD				LR	LR		
comp=Z,4µm,19.0s,MS5.9							
LZH	**Lanzhou**	**87.34**	**310**	*e*P	**P**		**14 25 06.3 +1.7**
LZH				AP	pP		14 25 15.3 -0.4
LZH				XP	sP		14 25 19.3 -0.1
LZH				PP	PP		14 28 34.0 +2.4
LZH				SKS	SKS		14 35 29.0 +2.1
LZH				S	S		14 35 42.1 +1.4
LZH				XS			14 35 56.0
LZH				PS	PS		14 36 46.1 -1.9
LZH				SS	SS		14 41 30.4 +1.6
LZH				AMB	AMB		
comp=Z,60nm,1.1s,mb5.7							
LZH				AMB	AMB		
comp=Z,270nm,4.2s							
LZH				LR	LR		
comp=E,5µm,20.8s							
LZH				LR	LR		
comp=Z,7µm,21.4s,MS6.1							
SNAA	**Sanae**	**87.36**	**181**	*e*P	**P**		**14 25 03.8 -0.1**
comp=Z,67nm,1.4s,mb5.7							
SNAA	**Sanae**	**87.36**	**181**	*e*P	**P**		**14 25 03.8 -0.1**
SNAA				pmax	pmax		
comp=Z,67nm,1.4s							
TPH	**Tonopah**	**87.40**	**47**	PFAKE			14 25 20.0 +15
TPH				LR	LR		
comp=Z,9µm,21.0s,MS6.2							
NVL	**N'lazarevskaya**	**87.44**	**186**	⇓*i*P	**P**		**14 25 09.1 +4.8**
NVL				*i*			14 25 13.2
NVL				pmax	pmax		
comp=Z,4.0nm,1.4s,mb4.5							
NVL				MLR	MLR		
comp=Z,250nm,15.8s							
MAIT	**Maitri**	**87.44**	**186**	*e*P	**P**		**14 25 05.0 +0.7**
LDFC	**Landfair**	**87.46**	**51**	*e*P	**P**		**14 25 05.1 -0.1**
LDFC				*e*PcP	PcP		14 25 07.3 -0.3
LDFC				*e*pP	pP		14 25 16.0 -0.3
TNA	**Tin City**	**87.58**	**7**	PFAKE			14 25 20.0 +15
TNA				LR	LR		
comp=Z,3µm,22.0s,MS5.6							
PMR	**Palmer**	**87.64**	**17**	*e*P	**P**		**14 25 05.4 0.0**
PMR				LR	LR		
comp=Z,3µm,19.0s,MS5.7							
EYAK	**Cordova Ski Ar**	**87.75**	**19**	*e*P	**P**		**14 25 06.3 +0.3**
NEN	**Nelson**	**87.92**	**50**	*e*P	**P**		**14 25 07.7 +0.3**
NEN				*e*PcP	PcP		14 25 10.3 +0.7
NEN				*e*pP	pP		14 25 19.0 +0.5
CLNS	**Chul'man**	**87.94**	**335**	*e*P	**P**		**14 25 08.5 +1.5**
CLNS				*e*			14 28 37.1
CLNS				*e*S	S		14 35 56.4 +11
CLNS				*e*SP	SP		14 36 59.8 +10
CLNS				pmax	pmax		
comp=Z,1.0nm,0.5s,mb4.3							
CLNS				pmax	pmax		
comp=N,2.0nm,1.0s							
CLNS				pmax	pmax		
comp=E,3.0nm,0.8s							
CLNS				pmax	pmax		
comp=Z,7.0nm,1.1s,mb4.8							
CLNS				pmax	pmax		
comp=N,8.0nm,1.0s							
CLNS				pmax	pmax		
comp=E,11nm,0.9s							
CLNS				smax			
comp=N,9.0nm,0.7s							
CLNS				smax			
comp=Z,7.0nm,0.8s							
CLNS				smax			
comp=E,9.0nm,0.9s							
SML	**Sawmill**	**88.03**	**17**	*e*P	**P**		**14 25 08.0 +0.7**
OCWA	**Octopus Mounta**	**88.18**	**37**	PFAKE			14 25 20.0 +12
OCWA				LR	LR		
comp=Z,4µm,19.0s,MS5.9							
DIV	**Divide**	**88.20**	**18**	*e*P	**P**		**14 25 07.7 -0.5**
comp=Z,29nm,1.1s,mb5.4							
DIV				*e*pP	pP		14 25 19.2 -0.1
DIV				LR	LR		
comp=Z,5µm,20.0s,MS6.0							
BMN	**Battle Mountai**	**88.56**	**45**	*e*P	**P**		**14 25 10.9 +0.6**
comp=Z,22nm,1.3s,mb5.3							
BMN				*e*PcP	PcP		14 25 12.8 +0.5
BMN				*e*sP	sP		14 25 26.1 +0.9
BMN				LR	LR		
comp=Z,12µm,20.0s,MS6.3							
BMN	**Battle Mountai**	**88.56**	**45**	*e*P	**P**		**14 25 10.9 +0.5**
BMN				*e*			14 25 12.8
BMN				pmax	pmax		
comp=Z,22nm,1.3s,mb5.3							
BMN				MLR	MLR		
comp=Z,12µm,20.0s,MS6.3							
WVOR	**Wild Horse Val**	**88.64**	**43**	*e*P	**P**		**14 25 10.7 0.0**
comp=Z,66nm,1.6s,mb5.7							
WVOR				*e*pP	pP		14 25 22.0 +0.2
WVOR				LR	LR		
comp=Z,10µm,21.0s,MS6.2							
WVOR	**Wild Horse Val**	**88.64**	**43**	*e*P	**P**		**14 25 10.7 0.0**
WVOR				pmax	pmax		
comp=Z,67nm,1.6s,mb5.7							
WVOR				MLR	MLR		
comp=Z,10µm,21.0s,MS6.2							
SIT	**Sitka**	**88.75**	**25**	PFAKE			14 25 20.0 +9.1
SIT				LR	LR		
comp=Z,4µm,21.0s,MS5.9							
BILL	**Bilibino**	**89.15**	**357**	*e*P	**P**		**14 25 12.1 -0.4**
comp=Z,6.5nm,0.8s,mb5.0							
BILL				*e*PcP	PcP		14 25 13.7 -0.6
BILL				*e*pP	pP		14 25 23.7 +0.1
BILL				*e*PP	PP		14 28 38.9 -6.4
BILL				LR	LR		
comp=Z,4µm,21.0s,MS5.8							
BILL	**Bilibino**	**89.15**	**357**	*d i*P	**P**		**14 25 14.1 +1.6**
BILL				*i* S	S		14 35 36.7 -20
BILL				*i* PS	PS		14 37 07.3 -1.5
BILL				pmax	pmax		
comp=Z,34nm,1.6s,mb5.4							
TUC	**Tucson**	**89.44**	**55**	*e*P	**P**		**14 25 14.6 -0.2**
comp=Z,26nm,1.6s,mb5.3							
TUC				*e*PcP	PcP		14 25 16.9 +0.5
TUC				LR	LR		
comp=Z,7µm,20.0s,MS6.1							
TUC	**Tucson**	**89.44**	**55**	*e*P	**P**		**14 25 14.6 -0.2**
TUC				*e*			14 25 16.9
TUC				pmax	pmax		
comp=Z,26nm,1.6s,mb5.3							
TUC				MLR	MLR		
comp=Z,7µm,20.0s,MS6.1							
MCK	**McKinley**	**89.47**	**16**	PFAKE			14 25 30.0 +16
MCK				LR	LR		
comp=Z,2µm,19.0s,MS5.5							
CIT	**Chita**	**89.87**	**328**	*e*P	**P**		**14 25 17.3 +1.0**
CIT				*e*			14 28 48.4
CIT				pmax	pmax		
comp=Z,46nm,1.9s,mb5.5							
ARUT	**Antelope Range**	**89.90**	**49**	*e*P	**P**		**14 25 17.6 +0.8**
ARUT				*e*sP	sP		14 25 33.0 +1.4
ELK	**Elko**	**90.03**	**46**	*e*P	**P**		**14 25 17.6 +0.2**
comp=Z,50nm,1.8s,mb5.5							
ELK				LR	LR		
comp=Z,14µm,20.0s,MS6.4							
ELK	**Elko**	**90.03**	**46**	*e*P	**P**		**14 25 17.6 +0.3**
ELK				pmax	pmax		
comp=Z,50nm,1.8s							
ELK				MLR	MLR		
comp=Z,14µm,20.0s							
YAK	**Yakutsk**	**90.11**	**341**	*e*P	**P**		**14 25 13.9 -3.2**
YAK				LR	LR		
comp=Z,8µm,22.0s,MS6.1							
YAK	**Yakutsk**	**90.11**	**341**	*e*P	**P**		**14 25 19.0 +1.9**
YAK				*e*S	S		14 36 04.7 -1.0
YAK				smax			
comp=N,485nm,11.1s							
YAK				smax			
comp=E,216nm,11.9s							
HAWA	**Hanford**	**90.11**	**39**	*e*P	**P**		**14 25 15.9 -1.6**
comp=E,4.0nm,1.4s,mb4.6							
HAWA				*e*PcP	PcP		14 25 18.4 -0.7
HAWA				*e*pP	pP		14 25 27.7 -1.0
MENT	**Mentasta**	**90.23**	**18**	*e*P	**P**		**14 25 20.1 +2.4**
BMO	**Blue Mountains**	**90.69**	**42**	*e*P	**P**		**14 25 18.6 -1.7**
comp=E,21nm,1.5s,mb5.2							
BMO				*e*PcP	PcP		14 25 21.3 -0.3
BMO				*e*PP	PP		14 28 56.3 -1.9
BMO				LR	LR		
comp=Z,6µm,21.0s,MS6.0							
BMO	**Blue Mountains**	**90.69**	**42**	*e*P	**P**		**14 25 18.6 -1.7**
BMO				*e*			14 25 21.3
BMO				pmax	pmax		
comp=Z,21nm,1.5s,mb5.2							
BMO				MLR	MLR		
comp=Z,6µm,21.0s,MS6.0							
ILAR	**Eielson Array**	**90.84**	**16**	P	**P**		**14 25 21.2 +0.7**
comp=Z,3.2nm,1.0s,mb4.6,baz=246,slow=5.3,SNR=16							
ILAR				LR	LR		15 04 32.2
comp=Z,3µm,19.1s,MS5.7,baz=229,slow=34							
ILAR	**Eielson Array**	**90.84**	**16**	P	**P**		**14 25 21.2 +0.7**
ILAR				pmax	pmax		
comp=Z,3.0nm,1.0s							
ILAR				MLR	MLR		
comp=Z,3µm,19.1s							
ULN	**Ulaanbaatar**	**91.09**	**322**	*e*P	**P**		**14 25 23.6 +1.4**
comp=Z,17nm,1.4s,mb5.2							
ULN	**Ulaanbaatar**	**91.09**	**322**	*e*P	**P**		**14 25 23.6 +1.5**
ULN				pmax	pmax		
comp=Z,17nm,1.4s,mb5.2							
MSU	**Marysvale**	**91.12**	**49**	*e*P	**P**		**14 25 23.7 +1.2**
DUG	**Dugway**	**91.42**	**47**	PFAKE			14 25 40.0 +16
DUG				LR	LR		
comp=Z,10µm,22.0s,MS6.2							
SONM	**Songino Array**	**91.46**	**321**	P	**P**		**14 25 24.6 +0.8**
comp=Z,4.3nm,1.1s,mb4.7,baz=132,slow=2.1,SNR=10.0							
SONM				LR	LR		15 04 55.1
comp=Z,3µm,21.8s,MS5.7,baz=119,slow=34							
SONM	**Songino Array**	**91.46**	**321**	P	**P**		**14 25 24.6 +0.8**
SONM				pmax	pmax		
comp=Z,4.0nm,1.1s							
SONM				MLR	MLR		
comp=Z,3µm,21.8s							
GTA	**Gaotai**	**91.70**	**312**	*e*P	**P**		**14 25 25.1 0.0**
GTA				AP	pP		14 25 36.4 +0.1
GTA				XP	sP		14 25 39.6 -0.3
GTA				PP	PP		14 29 05.5 -0.9
GTA				SKS	SKS		14 35 53.7 +0.5
GTA				S	S		14 36 18.6 -1.7
GTA				XS			14 36 36.9
GTA				PS	PS		14 37 37.3 -2.0
GTA				SS	SS		14 42 29.7 -1.7
GTA				AMB	AMB		
comp=Z,15nm,1.7s,mb5.0							
GTA				AMB	AMB		
comp=Z,290nm,7.6s							
GTA				LR	LR		
comp=N,1µm,22.6s,MS5.6							
GTA				LR	LR		
comp=E,2µm,17.6s,MS5.6							
GTA				LR	LR		
comp=Z,3µm,19.9s,MS5.7							
DLBC	**Dease Lake**	**91.80**	**26**	P	**P**		**14 25 26.0 +0.9**
comp=Z,5.4nm,1.0s,mb4.8,baz=248,slow=8.2,SNR=7.7							
DLBC	**Dease Lake**	**91.80**	**26**	*e*P	**P**		**14 25 25.2 +0.2**
DLBC				*e*PcP	PcP		14 25 25.8 -0.3
DLBC				*e*pP	pP		14 25 35.9 -0.4
HLID	**Hailey**	**91.89**	**44**	*e*P	**P**		**14 25 26.1 +0.2**
comp=Z,10nm,1.3s,mb5.0							
HLID				*e*pP	pP		14 25 37.0 -0.1
HLID				LR	LR		
comp=Z,11µm,20.0s,MS6.3							
TMUT	**Trail Mountain**	**92.14**	**49**	*e*P	**P**		**14 25 27.6 +0.5**
HVU	**Hansel Valley**	**92.16**	**46**	*e*P	**P**		**14 25 26.8 -0.4**
SPUT	**South Promonto**	**92.17**	**46**	P	**P**		**14 25 27.9 +0.7**
SPUT				*e*pP	pP		14 25 39.2 +0.8
DAWY	**Dawson**	**92.36**	**19**	*e*P	**P**		**14 25 25.7 -1.9**
DAWY				*e*PcP	PcP		14 25 28.2 -0.2
DAWY				*e*pP	pP		14 25 37.9 -0.8
CTU	**Camp Tracy**	**92.37**	**47**	*e*P	**P**		**14 25 28.2 0.0**
CTU				*e*PcP	PcP		14 25 29.6 +0.5
CTU				*e*PP	PP		14 29 10.8 -1.0
NEW	**Newport**	**92.47**	**39**	PFAKE			14 25 40.0 +12
NEW				LR	LR		
comp=Z,4µm,20.0s,MS5.9							
SRU	**San Rafael**	**92.54**	**49**	*e*P	**P**		**14 25 29.1 +0.1**
SRU				*e*pP	pP		14 25 39.6 -0.6
DAU	**Daniels Canyon**	**92.59**	**48**	*e*P	**P**		**14 25 28.8 -0.4**
DAU				*e*PP	PP		14 29 11.7 -1.8
HWUT	**Hardware Ranch**	**92.90**	**46**	*e*P	**P**		**14 25 29.8 -0.8**
comp=Z,5.3nm,1.0s,mb4.9							
HWUT				*e*PP	PP		14 29 13.0 -3.0
HWUT				LR	LR		
comp=Z,13µm,20.0s,MS6.4							
LAZ	**Ladron**	**93.08**	**54**	*e*P	**P**		**14 25 31.5 -0.1**
PV10	**Paradox Valley**	**93.29**	**50**	P	**P**		**14 25 33.1 +0.7**
PV10				*e*sP	sP		14 25 47.8 +0.6
BNM	**Barren Site**	**93.37**	**55**	*e*P	**P**		**14 25 33.9 +1.0**
PV01	**Paradox Valley**	**93.52**	**50**	*e*P	**P**		**14 25 33.3 -0.2**
PV01				*e*sP	sP		14 25 49.3 +1.0
PV01				*e*PP	PP		14 29 18.1 -3.0
MSO	**Missoula**	**93.69**	**41**	PFAKE			14 25 50.0 +16
MSO				LR	LR		
comp=Z,3µm,19.0s,MS5.7							
AHID	**Auburn Hatcher**	**93.71**	**45**	PFAKE			14 25 50.0 +16
AHID				LR	LR		
comp=Z,6µm,19.0s,MS6.1							
ANMO	**Albuquerque**	**93.81**	**54**	P	**P**		**14 25 38.7 +3.8**
comp=Z,1.8nm,0.7s,mb4.6,baz=301,slow=8.9,SNR=7.4							
ANMO	**Albuquerque**	**93.81**	**54**	*e*P	**P**		**14 25 34.9 0.0**
ANMO				*e*PP	PP		14 29 19.2 -4.2
ANMO				LR	LR		
comp=Z,7µm,21.0s,MS6.1							
ANMO	**Albuquerque**	**93.81**	**54**	*e*P	**P**		**14 25 34.9 0.0**
ANMO				MLR	MLR		
comp=Z,7µm,21.0s							
RRI2	**Red Ridge**	**93.81**	**45**	*e*P	**P**		**14 25 34.6 -0.1**
comp=Z,14nm,1.2s,mb5.3							
RRI2				*e*sP	sP		14 25 50.5 +1.0
TXAR	**Lajitas Array**	**93.85**	**60**	P	**P**		**14 25 36.3 +1.1**
comp=Z,1.6nm,0.9s,mb4.5,baz=214,slow=4.5,SNR=7.4							
TXAR				LR	LR		15 00 36.8
comp=Z,7µm,19.2s,MS6.1,baz=180,slow=31							
LTX	**Lajitas**	**93.85**	**60**	PFAKE			14 25 50.0 +15
LTX				LR	LR		
comp=Z,8µm,20.0s,MS6.2							
PLCA	**Paso Flores**	**94.11**	**137**	LR	LR		14 58 27.2
comp=Z,4µm,21.2s,MS5.8,baz=241,slow=29							
PLCA	**Paso Flores**	**94.11**	**137**	PFAKE			14 25 50.0 +14
PLCA				LR	LR		
comp=Z,4µm,21.0s,MS5.8							
REDW	**Red Top Meadow**	**94.13**	**45**	P	**P**		**14 25 36.3 +0.2**
comp=Z,9.5nm,1.0s,mb5.2							
IMW	**Indian Meadow**	**94.30**	**44**	*e*P	**P**		**14 25 36.8 0.0**
comp=Z,18nm,1.5s,mb5.3							
IMW				*e*pP	pP		14 25 48.8 +0.8
IMW				*e*PP	PP		14 29 23.5 -3.4
GDL2	**Guadalupe Moun**	**94.37**	**57**	P	**P**		**14 25 38.5 +1.1**
ZAK	**Zakamensk**	**94.49**	**323**	*e*P	**P**		**14 25 37.7 +0.1**
ZAK				pmax	pmax		
comp=Z,2.0nm,1.2s,mb4.4							
BOZ	**Bozeman (W)**	**94.61**	**43**	PFAKE			14 25 50.0 +12
BOZ				LR	LR		
comp=Z,8µm,20.0s,MS6.2							
BW06	**Boulder Array**	**94.74**	**46**	*e*P	**P**		**14 25 39.9 +1.0**
comp=Z,8.0nm,1.4s,mb5.0							
BW06				LR	LR		
comp=Z,8µm,20.0s,MS6.2							
PDAR	**Pinedale Array**	**94.74**	**46**	P	**P**		**14 25 39.1 +0.2**
comp=Z,0.3nm,0.3s,mb4.2,baz=180,slow=1.5,SNR=4.8							
PDAR				PP	PP		14 29 27.9 -2.0
comp=Z,0.5nm,0.8s,baz=243,slow=9.9,SNR=4.2							
PDAR				LR	LR		15 02 27.0
comp=Z,7µm,19.3s,MS6.1,baz=244,slow=32							
LKWY	**Lake**	**94.93**	**44**	PFAKE			14 25 50.0 +10
LKWY				LR	LR		
comp=Z,13µm,20.0s,MS6.4							
SMCO	**Snowmass**	**95.09**	**50**	P	**P**		**14 25 41.9 +1.3**
PALK	**Pallekele**	**95.60**	**276**	PFAKE			14 25 50.0 +6.5
PALK				LR	LR		
comp=Z,814nm,20.0s,MS5.2							
ISCO	**Idaho Springs**	**96.30**	**50**	PFAKE			14 26 00.0 +14
ISCO				LR	LR		
comp=Z,5µm,20.0s,MS6.0							
INK	**Inuvik**	**97.04**	**17**	P	**P**		**14 25 50.4 +1.6**
comp=Z,6.7nm,1.1s,mb5.0,baz=270,slow=2.5,SNR=6.4							
INK	**Inuvik**	**97.04**	**17**	P	**P**		**14 25 50.4 +1.6**
INK	**Inuvik**	**97.04**	**17**	P	**P**		**14 25 50.4 +1.6**
INK				pmax	pmax		
comp=Z,7.0nm,1.2s							
JCT	**Junction City**	**97.39**	**60**	PFAKE			14 26 00.0 +8.7
JCT				LR	LR		
comp=Z,5µm,20.0s,MS6.0							
DGAR	**Diego Garcia**	**97.96**	**259**	PFAKE			14 26 10.0 +16
DGAR				LR	LR		
comp=Z,2µm,22.0s,MS5.6							
LAO	**LASA Array**	**98.47**	**43**	PFAKE			14 26 10.0 +14
LAO				LR	LR		
comp=Z,13µm,22.0s,MS6.4							
RSSD	**Black Hills**	**98.97**	**46**	PFAKE			14 26 10.0 +12
RSSD				LR	LR		
comp=Z,2µm,20.0s,MS5.5							
WMOK	**Wichita Mounta**	**99.63**	**57**	PFAKE			14 26 10.0 +8.7
WMOK				LR	LR		
comp=Z,5µm,20.0s,MS6.0							
CBKS	**Cedar Bluff**	**100.22**	**52**	PFAKE			14 26 20.0 +16
CBKS				LR	LR		
comp=Z,5µm,22.0s,MS5.9							
DGMT	**Dagmar**	**100.38**	**42**	PFAKE			14 26 20.0 +16
DGMT				LR	LR		
comp=Z,4µm,19.0s,MS5.9							
YKA	**Yellowknife Ar**	**100.39**	**27**	P	P		14 26 05.2 +1.1
comp=Z,0.2nm,0.3s,baz=243,slow=3.9,SNR=3.8							
WMQ	**Urumqi**	**101.76**	**312**	*e*P	P		14 26 11.0 +0.3
WMQ				AP			14 26 22.0
WMQ				XP			14 26 26.0
WMQ				PP	PP		14 30 24.0 0.0
WMQ				S	S		14 37 46.0 +0.3
WMQ				PS	PS		14 39 26.0 -0.4
WMQ				SS	SS		14 44 52.0 -1.2
WMQ				AMB	AMB		
comp=Z,16nm,1.2s							
WMQ				AMB	AMB		
comp=Z,21nm,10.0s							
WMQ				LR	LR		
comp=N,1µm,22.0s,MS5.7							
WMQ				LR	LR		
comp=E,2µm,22.0s,MS5.7							
WMQ				LR	LR		
comp=Z,2µm,22.0s,MS5.6							
NATX	**Nacogdoches**	**101.98**	**61**	PFAKE			14 26 20.0 +8.0
NATX				LR	LR		
comp=Z,6µm,20.0s,MS6.1							
NNA	**Nana**	**103.08**	**108**	PFAKE			14 26 30.0 +13
NNA				LR	LR		
comp=Z,454nm,19.0s,MS5.0							
JTS	**JuntasAbangare**	**103.92**	**84**	PFAKE			14 26 30.0 +9.1
JTS				LR	LR		
comp=Z,662nm,21.0s,MS5.2							
LVC	**Limon Verde**	**104.83**	**122**	PFAKE			14 26 40.0 +15
LVC				LR	LR		
comp=Z,4µm,21.0s,MS5.9							
ULM	**Lac du Bonnet**	**106.10**	**42**	PFAKE			14 30 50.0
ULM				LR	LR		
comp=Z,8µm,20.0s,MS6.2							
MKAR	**Makanchi Array**	**106.24**	**314**	Pdiff	Pdif		14 26 32.5 +2.2
comp=Z,1.1nm,0.9s,baz=101,slow=6.2,SNR=5.4							
MKAR	**Makanchi Array**	**106.24**	**314**	P	Pdif		14 26 32.6 +2.2
MKAR				pmax	pmax		
comp=Z,1.0nm,0.9s							
CCM	**Cathedral Cave**	**106.40**	**55**	PFAKE			14 30 50.0
CCM				LR	LR		
comp=Z,1µm,20.0s,MS5.5							
OXF	**Oxford**	**106.97**	**59**	PFAKE			14 31 00.0
OXF				LR	LR		
comp=Z,7µm,20.0s,MS6.2							
PLAL	**Pickwick Lake**	**108.14**	**59**	PFAKE			14 31 00.0
PLAL				LR	LR		
comp=Z,5µm,19.0s,MS6.1							
LRAL	**Lakeview Retre**	**108.56**	**61**	PFAKE			14 31 00.0
LRAL				LR	LR		
comp=Z,2µm,19.0s,MS5.7							
WVT	**Waverly**	**108.60**	**58**	PFAKE			14 31 00.0
WVT				LR	LR		
comp=Z,5µm,22.0s,MS6.1							
LPAZ	**La Paz**	**108.63**	**116**	PFAKE			14 31 00.0
LPAZ				LR	LR		
comp=Z,948nm,22.0s,MS5.3							
KURK	**Kurchatov**	**109.42**	**318**	PFAKE			14 31 00.0
KURK				LR	LR		
comp=Z,729nm,20.0s,MS5.2							
WCI	**Wyandotte Cave**	**110.24**	**56**	PFAKE			14 31 00.0 +12
WCI				LR	LR		
comp=Z,790nm,21.0s,MS5.3							
AAK	**Ala-Archa**	**110.83**	**309**	*i* PKP	PKPdf		14 30 50.4 +1.2
AAK				LR	LR		
comp=Z,408nm,20.0s,MS5.0							
MYNC	**Murphy**	**111.33**	**59**	PFAKE			14 31 00.0 +10
MYNC				LR	LR		
comp=Z,6µm,21.0s,MS6.2							
CPUP	**Villa Florida**	**111.43**	**131**	PFAKE			14 31 00.0 +9.2
CPUP				LR	LR		
comp=Z,2µm,21.0s,MS5.7							
GOGA	**Godfrey**	**111.53**	**61**	PFAKE			14 31 00.0 +9.2
GOGA				LR	LR		
comp=Z,4µm,20.0s,MS6.0							
ACSO	**Alum Creek Sta**	**113.12**	**54**	PFAKE			14 31 10.0 +16
ACSO				LR	LR		
comp=Z,5µm,20.0s,MS6.1							
BLA	**Blacksburg**	**114.65**	**58**	PFAKE			14 31 10.0 +13
BLA				LR	LR		
comp=Z,6µm,21.0s,MS6.2							
BRVK	**Borovoye**	**114.81**	**320**	*i* PKPr	PKPdf		14 30 56.0 -0.8
BRVK				LR	LR		
comp=Z,367nm,19.0s,MS5.0							
SAML	**Samuel**	**116.41**	**112**	PFAKE			14 31 10.0 +9.3
SAML				LR	LR		
comp=Z,1µm,19.0s,MS5.5							
SDV	**Santo Domingo**	**116.80**	**91**	PFAKE			14 31 10.0 +8.5
SDV				LR	LR		
comp=Z,1µm,22.0s,MS5.5							
CBN	**Corbin**	**117.18**	**57**	PFAKE			14 31 10.0 +8.3
CBN				LR	LR		
comp=Z,9µm,20.0s,MS6.4							
BINY	**Binghamton**	**118.58**	**53**	PFAKE			14 31 20.0 +16
BINY				LR	LR		
comp=Z,10µm,22.0s,MS6.4							
SUR	**Sutherland**	**120.86**	**206**	PFAKE			14 31 20.0 +11
SUR				LR	LR		
comp=Z,1µm,20.0s,MS5.5							
ARU	**Arti**	**121.41**	**324**	*e*PKIKP	PKPdf		14 31 10.7 +1.3
ARU				MLR	MLR		
comp=Z,909nm,19.0s,MS5.4							
KBS	**Kingsbay**	**121.61**	**356**	*e*PP	PP		14 32 38.1 -8.2
KBS				*e*SS	SS		14 49 22.8 +6.0
KBS				AMS	AMS		15 16 58.2
comp=Z,994nm,22.1s,MS5.4							
KBS	**Kingsbay**	**121.61**	**356**	PFAKE			14 31 20.0 +11
KBS				LR	LR		
comp=Z,2µm,22.0s,MS5.7							
HRV	**Harvard--Oak R**	**121.87**	**52**	PFAKE			14 31 20.0 +9.3
HRV				LR	LR		
comp=Z,8µm,21.0s,MS6.3							
WES	**Weston**	**122.05**	**53**	PFAKE			14 31 20.0 +9.0
WES				LR	LR		
comp=Z,9µm,21.0s,MS6.4							
WVL	**Waterville**	**123.22**	**50**	PFAKE			14 31 30.0 +17
WVL				LR	LR		
comp=Z,24µm,20.0s,MS6.9							
SCHQ	**Schefferville**	**123.83**	**37**	PKP	PKPdf		14 31 17.6 +3.4
comp=Z,4.2nm,0.9s,baz=254,slow=5.6,SNR=3.6							
SCHQ	**Schefferville**	**123.83**	**37**	PKP	PKPdf		14 31 17.6 +3.4
SCHQ				LR	LR		
comp=Z,4µm,20.0s,MS6.1							
**

TRO	**Tromso**	**129.26 349**	*e*PP	PP	14 33 29.7	-7.9
TRO			*e*SS	SS	14 50 52.3	-0.6
TRO			AMS	AMS	15 31 59.3	
comp=Z,2μm,19.8s,MS5.8						
JMIC	**Jan Mayen**	**130.17 1**	*e*SS	SS	14 51 04.0	+0.1
JMIC			AMS	AMS	15 22 00.1	
comp=Z,748nm,20.8s,MS5.4						
LSZ	**Lusaka**	**130.58 226**	PFAKE		14 31 40.0	+12
LSZ			LR	LR		
comp=Z,3μm,20.0s,MS6.0						
GNI	**Garni**	**133.07 306**	*e*PKP	PKPdf	14 31 35.2	+3.0
GNI			LR	LR		
comp=Z,2μm,20.0s,MS5.7						
OBN	**Obninsk**	**133.53 328**	*e*PKP	PKPdf	14 31 36.3	+3.6
OBN			LR	LR		
comp=Z,6μm,25.0s,MS6.2						
VOR	**Voronezh**	**133.63 322**	PKIKP	PKPdf	14 31 40.0	+7.0
VOR			pmax	pmax		
comp=Z,120nm,2.5s						
TSUM	**Tsumeb**	**133.67 212**	PFAKE		14 31 50.0	+16
TSUM			LR	LR		
comp=Z,4μm,21.0s,MS6.1						
KIV	**Kislovodsk**	**133.87 311**	*e*PKP	PKPdf	14 31 34.5	+0.9
KIV			LR	LR		
comp=Z,689nm,22.0s,MS5.3						
KIV	**Kislovodsk**	**133.87 311**	*e*P	Pdif	14 28 40.5	+8.5
KIV			*i*		14 31 34.5	
KIV			*e*		14 34 08.9	
KIV			pmax	pmax		
comp=Z,100nm,17.0s						
KIV			pmax	pmax		
comp=Z,4.0nm,1.0s						
NSS	**Namsos**	**135.05 349**	AMS	AMS	15 30 58.2	
comp=Z,3μm,21.0s,MS6.0						
BORG	**Borgarnes**	**135.30 9**	PFAKE		14 31 50.0	+14
BORG			LR	LR		
comp=Z,492nm,22.0s,MS5.2						
SOC	**Sochi**	**136.05 311**	*i* PKIKP	PKPdf	14 31 44.9	+7.3
SOC			*e*		14 34 21.8	
SOC			pmax	pmax		
comp=Z,21nm,1.0s						
SOC			pmax	pmax		
comp=N,13nm,0.9s						
SOC			pmax	pmax		
comp=E,25nm,1.0s						
SOC			MLR	MLR		
comp=N,1μm,20.0s,MS5.8						
SOC			MLR	MLR		
comp=E,1μm,20.0s,MS5.8						
SOC			MLR	MLR		
comp=Z,3μm,20.0s,MS6.0						
ANN	**Anapa**	**137.26 314**	*i* PKIKP	PKPdf	14 31 51.7	+12
ANN			*e*		14 34 24.7	
ANN			pmax	pmax		
comp=Z,37nm,1.1s						
MBAR	**Mbarara**	**138.03 244**	PFAKE		14 32 00.0	+18
MBAR			LR	LR		
comp=Z,903nm,20.0s,MS5.5						
MBAR	**Mbarara**	**138.03 244**	*i* PKIKP	PKPdf	14 31 42.8	+0.7
NAO01	**NORSAR Array S**	**138.63 348**	PFAKE		14 31 50.0	+8.2
NAO01			LR	LR		
comp=Z,3μm,20.0s,MS6.0						
KONO	**Kongsberg**	**139.99 348**	*e*PP	PP	14 34 37.0	-8.2
KONO			*e*SS	SS	14 53 06.8	+5.8
KONO	**Kongsberg**	**139.99 348**	PFAKE		14 32 00.0	+16
KONO			LR	LR		
comp=Z,3μm,21.0s,MS6.0						
BER	**Bergen**	**140.02 351**	*e*SS	SS	14 53 10.0	+8.7
BER			AMS	AMS	15 31 47.7	
comp=Z,1μm,22.2s,MS5.7						
RCBR	**Riachuelo**	**140.26 129**	PFAKE		14 32 00.0	+14
RCBR			LR	LR		
comp=Z,3μm,20.0s,MS6.1						
BR131	**Keskin Array S**	**141.50 308**	PFAKE		14 32 00.0	+12
BR131			LR	LR		
comp=Z,1μm,19.0s,MS5.6						
BRTR	**Keskin Array B**	**141.50 308**	PKP	PKPdf	14 31 49.6	+2.1
comp=Z,2.4nm,1.0s,baz=135,slow=1.7,SNR=4.8						
BRTR	**Keskin Array B**	**141.50 308**	PKIKP	PKPdf	14 31 49.7	+2.1
BRTR			pmax	pmax		
comp=Z,2.0nm,1.0s						
KIS	**Kishinev**	**141.82 321**	*e*PKIKP	PKPdf	14 31 56.0	+8.1
KIS			*e*		14 35 02.0	
KIS			MLR	MLR		
comp=Z,2μm,22.0s,MS5.9						
KIS			MLR	MLR		
comp=N,2μm,21.0s,MS5.9						
KIS			MLR	MLR		
comp=E,1μm,20.0s,MS5.9						
KIS			MLR	MLR		
comp=Z,2μm,20.0s						
LVV	**L'vov**	**142.83 327**	*e*PKHKP		14 31 46.0	
LVV			*e*PPP	PPP	14 38 18.0	+4.8
LVV			MLR	MLR		
comp=N,3μm,24.0s,MS6.1						
LVV			MLR	MLR		
comp=E,3μm,24.0s,MS6.1						
LVV			MLR	MLR		
comp=Z,5μm,24.0s,MS6.2						
COP	**Copenhagen**	**142.88 343**	*i* P	PKPdf	14 32 03.1	+14
comp=Z,16nm,0.8s						
COP			*i*		14 54 23.7	
COP			*i*		14 59 01.7	
comp=Z,3μm,21.0s						
MLR	**Muntele Rosu**	**144.31 320**	PKP	PKPdf	14 31 54.4	+2.2
comp=Z,7.6nm,1.1s,baz=350,slow=4.2,SNR=8.5						
MLR	**Muntele Rosu**	**144.31 320**	PKIKP	PKPdf	14 31 54.4	+2.2
MLR			pmax	pmax		
comp=Z,8.0nm,1.1s						
ISP	**Isparta**	**144.39 306**	*i* PKIKP	PKPdf	14 31 54.9	+2.3
STHS	**Stebnicka Huta**	**144.46 329**	*e*	PKPbc	14 31 49.1	-2.9
UZH	**Uzhgorod**	**144.47 327**	*e*PKIKP	PKPdf	14 31 56.0	+3.6
OJC	**Ojcow**	**144.58 331**	*e*PKPdf	PKPdf	14 31 52.2	-0.3
OJC			*e*PP	PP	14 35 08.9	-4.1
CRVS	**Cervenica-Dubn**	**144.70 328**	*e*PKP	PKPdf	14 31 56.3	+3.5
BSEG	**Bad Segeberg**	**145.01 343**	*e*PKIKP	PKPdf	14 31 55.3	+2.1
KECS	**Kecovo**	**145.46 328**	*i* PKP	PKPdf	14 31 57.6	+3.5
OKC	**Ostrava-Krasne**	**145.59 332**	*e*PKP	PKPdf	14 31 59.2	+4.9
OKC			*ex*	x	14 54 17.9	
OKC			*ex*	x	14 59 57.2	
OKC			AMS	AMS	15 33 40.0	
comp=Z,3μm,22.8s						
KSP	**Ksiaz**	**145.60 335**	*e*PKP	PKPdf	14 31 58.8	+4.5
KSP			*e*		14 32 08.9	
KSP	**Ksiaz**	**145.60 335**	*e*PKP	PKPdf	14 31 57.2	+2.9
KSP			*ep*PKP		14 32 08.1	
KSP			*e*SSS	SSS	14 59 09.0	-27
KSP			LR	LR		
comp=Z,7μm,26.0s,MS6.3						
KSP	**Ksiaz**	**145.60 335**	*e*PKIKP	PKPdf	14 31 57.2	+2.9
KSP			MLR	MLR		
comp=Z,7μm,26.0s,MS6.3						
ESK	**Eskdalemuir**	**145.86 357**	PFAKE		14 32 10.0	+15
ESK			LR	LR		
comp=Z,411nm,19.0s,MS5.2						
MORC	**Moravsky Berou**	**145.90 332**	*e*PKP	PKPdf	14 31 55.3	+0.5
MORC			*ep*PKPdf		14 32 07.5	
DPC	**Dobruska-Polom**	**145.97 334**	*e*PKP	PKPdf	14 32 00.3	+5.4
DPC			*ex*	x	14 49 39.4	
DPC			*ex*	x	14 54 49.9	
DPC			*ex*	x	14 59 41.6	
DPC			AMS	AMS	15 38 50.0	
comp=Z,3μm,20.3s						
DPC	**Dobruska-Polom**	**145.97 334**	*e*PKIKP	PKPdf	14 32 00.3	+5.4
DPC			*e*SS	SS	14 54 49.9	+40
DPC			*e*		14 59 41.6	
DPC			MLR	MLR		
comp=Z,3μm,20.3s,MS6.1						
UPC	**Upice**	**145.98 335**	*e*PKP	PKPdf	14 32 00.3	+5.4
PSZ	**Piszkesteto**	**146.14 328**	*e*PKP	PKPdf	14 31 56.2	+0.9
VYHS	**Vyhne**	**146.25 330**	*i* PKP	PKPdf	14 32 01.2	+5.7
CLL	**Collm**	**146.45 338**	*e*PKIKP	PKPdf	14 31 57.0	+1.3
CLL			*i*		14 32 01.0	
CLL			*i* *PPKP		14 32 03.2	
CLL			*i*		14 32 12.5	
CLL			*i*		14 32 31.4	
CLL			*e*		14 33 39.0	
CLL			*e*		14 41 54.0	
CLL			*e*PS	PS	14 45 36.0	0.0
CLL			*e*		14 50 24.0	
CLL			*e*SS	SS	14 54 24.0	+8.2
CLL			*e*SSS	SSS	14 59 52.0	+4.3
CLL	**Collm**	**146.45 338**	*e*PKP	PKPdf	14 31 57.0	+1.3
CLL			*i* pPKP		14 32 01.0	
CLL			LR	LR		
comp=Z,4μm,22.5s,MS6.1						
BRG	**Berggiesshubel**	**146.48 337**	*e*PKP	PKPdf	14 32 01.8	+6.0
BRG			*i*		14 32 14.9	
BRG			SS	SS	14 54 40.0	+24
BRG			LR	LR		
comp=Z,4μm,23.1s,MS6.2						
BRG	**Berggiesshubel**	**146.48 337**	*e*PKP2	PKPab	14 32 01.8	+1.6
BRG			MLR	MLR		
comp=Z,4μm,23.1s,MS6.2						
PVCC	**Panska Ves**	**146.52 336**	*e*PKP	PKPdf	14 32 04.6	+8.7
PVCC			*ex*	x	14 54 53.3	
PVCC			*ex*	x	15 00 09.6	
PVCC			AMS	AMS	15 34 40.0	
comp=Z,5μm,22.7s						
PVCC	**Panska Ves**	**146.52 336**	*e*PKP2	PKPab	14 32 04.6	+4.2
PVCC			*e*SS	SS	14 54 53.3	+37
PVCC			MLR	MLR		
comp=Z,5μm,22.7s,MS6.2						
VRAC	**Vranov**	**146.66 333**	PKPbc	PKPbc	14 31 59.0	+1.4
comp=Z,2.6nm,0.5s,baz=69,slow=15,SNR=3.2						
VRAC	**Vranov**	**146.66 333**	PKIKP	PKPdf	14 31 59.0	+2.8
VRAC			pmax	pmax		
comp=Z,3.0nm,0.5s						
ARG	**Arkhangelos**	**146.69 304**	*e*P	PKPdf	14 32 10.5	+14
RDO	**Rodhopi**	**146.71 314**	*e*P	PKPdf	14 32 02.5	+6.0
CLZ	**Clausthal**	**146.84 341**	*e*PKP2	PKPab	14 32 01.4	-0.2
PRU	**Pruhonice**	**146.97 335**	*e*PKP	PKPdf	14 32 03.1	+6.5
PRU			*ex*	x	14 49 35.0	
PRU			*ex*	x	14 55 05.8	
PRU			*ex*	x	14 59 51.5	
PRU			AMS	AMS	15 35 00.0	
comp=Z,4μm,23.5s						
PRU	**Pruhonice**	**146.97 335**	*e*PKP2	PKPab	14 32 03.1	+0.9
PRU			*e*SS	SS	14 55 05.8	+44
PRU			*e*		14 59 51.5	
PRU			MLR	MLR		
comp=Z,4μm,23.5s,MS6.1						
RZN	**Rozhen**	**147.00 315**	*e*P	PKPdf	14 31 52.0	-5.0
PRK	**Paraskevi**	**147.01 310**	*e*P	PKPdf	14 32 04.5	+7.4
ZST	**Bratislava**	**147.26 331**	*e*PKP	PKPdf	14 31 58.2	+1.0
MOX	**Moxa**	**147.49 339**	*i* P	PKPdf	14 32 03.8	+6.3
comp=Z,logA/T=1.2						
MOX			SS	SS	14 54 27.0	-0.7
MOX			L		15 36 28.0	
MOX	**Moxa**	**147.49 339**	*e*PKP	PKPdf	14 32 03.8	+6.3
MOX			LR	LR		
comp=Z,4μm,23.0s,MS6.1						
ZAPS	**Zavoj/Pirot**	**147.50 319**	⇓*i*PKP	PKPdf	14 32 03.3	+5.6
VTS	**Vitosha**	**147.51 318**	*e*P	PKPdf	14 32 07.0	+9.2
LHO	**Holmfirth**	**147.54 355**	*e*P	PKPdf	14 31 46.3	-11
NKC	**Novy Kostel**	**147.54 338**	*e*PKP	PKPdf	14 32 03.0	+5.4
NKC			*ex*	x	15 00 22.7	
NKC			AMS	AMS	15 34 40.0	
comp=Z,4μm,22.6s						
MMB	**Musomiste**	**147.70 316**	*e*P	PKPdf	14 31 57.0	-1.1
WTSB	**Winterswijk**	**147.70 345**	*e*PKP	PKPdf	14 32 03.3	+5.6
comp=Z,36nm,1.6s						
KBI1	**Birley Grange**	**147.81 355**	*e*P	PKPdf	14 31 45.1	-13
KBI1			AMb	AMB	14 31 51.7	
comp=Z,107nm,1.0s						
DCN	**Croghan**	**147.89 1**	*e*P	PKPdf	14 32 03.0	+5.0
DLF	**Lyons Farm**	**147.95 1**	*e*P	PKPdf	14 32 03.0	+4.9
KKB	**Krupnik**	**147.97 317**	*e*P	PKPdf	14 32 01.0	+2.5
KHC	**Kasperske Hory**	**148.03 335**	*e*PKP	PKPdf	14 32 04.5	+6.1
KHC			*x*	x	14 32 23.0	
KHC			*ex*	x	14 49 47.0	
KHC			*e*SS	SS	14 54 41.7	+8.0
KHC			*ex*	x	15 00 08.7	
KHC			AMS	AMS	15 36 20.0	
comp=Z,4μm,22.8s						
KHC	**Kasperske Hory**	**148.03 335**	*e*PKP	PKPdf	14 32 04.5	+6.1
KHC			*e*		14 32 23.0	
KHC			*e*		14 49 47.0	
KHC			*e*SS	SS	14 54 41.7	+8.0
KHC			*e*		15 00 08.7	
KHC			LR	LR		
comp=Z,4μm,22.8s,MS6.2						
KHC	**Kasperske Hory**	**148.03 335**	*e*PKP2	PKPab	14 32 04.5	-1.9
KHC			*e*SS	SS	14 54 41.7	+8.0
KHC			*e*		15 00 08.7	
KHC			MLR	MLR		
comp=Z,4μm,22.8s,MS6.2						
KWE	**Weaver Farm**	**148.07 355**	*e*P	PKPdf	14 31 46.4	-12
KWE			AMb	AMB	14 31 53.3	
comp=Z,79nm,0.3s						
GEC2	**GERESS Array S**	**148.21 335**	*e*PKP2	PKPab	14 32 04.5	-2.6
GERES	**GERESS Array B**	**148.21 335**	PKPbc	PKPdf	14 32 03.8	+5.1
comp=Z,0.6nm,0.3s,slow=2.0,SNR=4.6						
GERES	**GERESS Array B**	**148.21 335**	PKP2	PKPab	14 32 03.8	-3.3
GERES			pmax	pmax		
comp=Z,1.0nm,0.3s						
WET	**Wettzell**	**148.29 336**	*e*PKP2	PKPab	14 32 04.9	-2.5
APE	**Apeiranthos**	**148.38 307**	*i* PKP2	PKPab	14 32 06.7	-1.5
GRF	**Grafenberg Arr**	**148.43 338**	*e*PKP2	PKPab	14 32 05.6	-2.4
GRF			MLR	MLR		
comp=Z,4μm,22.0s,MS6.2						
DIVS	**Divcibare**	**148.57 323**	⇑*i*PKP	PKPdf	14 31 58.3	-1.1
TNS	**Taunus Mts**	**148.85 342**	*e*PKP2	PKPab	14 32 06.8	-2.9
SKO	**Skopje**	**148.96 318**	*e*P	PKPdf	14 32 08.3	+8.2
SKO			*i*		14 32 12.0	
XRY	**Khrisi**	**148.99 303**	*e*P	PKPdf	14 32 11.5	+11
HGN	**Heimansgroeve**	**149.02 345**	*e*PKP	PKPdf	14 32 00.6	+0.7
comp=Z,36nm,1.7s						
TOD	**Tromm**	**149.29 341**	PKP	PKPdf	14 32 08.8	+8.4
ABH	**Alteburg**	**149.41 343**	PKP	PKPdf	14 32 09.0	+8.4
IDI	**Anoyia**	**149.48 304**	PKPbc	PKPdf	14 32 10.6	+9.4
comp=Z,22nm,1.0s,baz=112,slow=3.0,SNR=4.6						
RUP	**Ruppelstein**	**149.71 343**	PKP	PKPdf	14 32 09.5	+8.5
KBA	**Koelnbreinsper**	**149.76 333**	⇓*i*P	PKPdf	14 32 08.3	+7.1
CRES	**Cresnjev**	**149.77 329**	*e*PKP	PKPdf	14 32 10.1	+8.8
CRES			*e*		14 32 38.3	
CRES			*e*		14 33 29.7	
GIVF	**Givet**	**149.89 346**	*e*PKP1	PKPdf	14 32 06.1	+4.8
WLF	**Walferdange**	**149.98 344**	*e*PKPbc	PKPdf	14 32 06.4	+4.9
LJU	**Ljubljana**	**150.04 331**	*e*PKP	PKPdf	14 32 10.6	+8.9
LJU			*e*		14 36 17.8	
BAIF	**Baives**	**150.07 347**	*e*PKP1	PKPdf	14 32 06.7	+5.1
LANF	**Langenberg**	**150.14 342**	PKP	PKPdf	14 32 10.9	+9.1
WATA	**Walderalm**	**150.27 335**	⇑*i*P	PKPdf	14 32 07.0	+5.0
WTTA	**Wattenberg**	**150.31 335**	⇑*i*P	PKPdf	14 32 07.4	+5.3
VOY	**Vojsko**	**150.34 331**	*e*PKP	PKPdf	14 32 07.4	+5.3
VOY			*e*		14 32 15.8	
VOY			*e*		14 32 33.9	
VLI	**Veliai**	**150.44 308**	*e*P	PKPdf	14 32 15.0	+12
MOTA	**Moosalm**	**150.44 336**	⇑*i*P	PKPdf	14 32 07.2	+4.9
KYTH	**Kithira**	**150.54 307**	*e*P	PKPdf	14 32 15.5	+13
BFO	**Black Forest**	**150.56 340**	*e*PKIKP	PKPdf	14 32 10.3	+7.9
WLS	**Welschbruch**	**150.79 342**	PKP	PKPdf	14 32 10.4	+7.7
CDF	**Champ du Feu**	**150.81 342**	*e*PKP1	PKPdf	14 32 07.7	+4.9
comp=Z,62nm,1.2s						
DAVA	**Damuels**	**150.94 337**	⇑*i*P	PKPdf	14 32 13.0	+10
NVLJ	**Novalja**	**150.97 328**	*i* P	PKPdf	14 32 06.2	+3.0
ECH	**Echery**	**151.02 342**	PKP	PKPdf	14 32 11.8	+8.7
FELD	**Feldberg**	**151.07 340**	PKP	PKPdf	14 32 11.6	+8.4
THEF	**They Montfort**	**151.34 343**	PKP	PKPdf	14 32 10.9	+7.3
MOF	**Molkenrain**	**151.35 341**	PKP	PKPdf	14 32 09.5	+5.9
DAVOX	**Davos**	**151.37 337**	PKPbc	PKPdf	14 32 12.7	+9.1
comp=Z,14nm,0.7s,baz=353,slow=2.4,SNR=10						
DAVOX			PKPab	PKPab	14 32 20.7	+0.4
comp=Z,15nm,0.6s,baz=33,slow=4.4,SNR=11						
HAU	**Haudompre**	**151.44 342**	*e*PKP1	PKPdf	14 32 09.1	+5.4
HAU			*e*R			
comp=Z,4μm,19.5s						
HINF	**Hinteralfeld**	**151.47 342**	*e*PKP1	PKPdf	14 32 09.1	+5.3
LOMF	**Lomont**	**151.90 341**	PKP	PKPdf	14 32 10.9	+6.5
LOR	**Lormes**	**152.77 345**	*e*PKP1	PKPdf	14 32 12.5	+6.8
comp=Z,50nm,1.3s						
LOR			*e*R			
comp=Z,7μm,22.2s						
SSF	**Saint Saulge**	**153.05 345**	*e*PKP1	PKPdf	14 32 13.5	+7.4
SMF	**Signal de Mont**	**153.36 345**	*e*PKP1	PKPdf	14 32 13.5	+7.0
TIP	**Timpagrande**	**153.47 318**	PKP	PKPdf	14 32 06.6	-0.3
BNI	**Bardonecchia**	**153.99 339**	PKP	PKPdf	14 32 09.6	+2.2
TCF	**Toulx Ste Croi**	**154.07 347**	*e*PKP1	PKPdf	14 32 14.7	+7.2
MBDF	**Montbardon**	**154.25 339**	*e*PKP1	PKPdf	14 32 16.2	+8.4
ORIF	**Oris-en-Rattie**	**154.37 340**	*e*PKP1	PKPdf	14 32 16.5	+8.5
ORIF			*e*R			
comp=Z,5μm,22.2s						
ADH	**Angra Heroismo**	**154.80 42**	*e*LR	LR	15 25 12.0	
PDA	**Ponta Delgada**	**156.34 42**	*e*		15 29 23.0	
CMLA	**Cha da Macela**	**156.41 41**	PFAKE		14 32 20.0	+9.1
CMLA			LR	LR		
comp=Z,5μm,21.0s,MS6.3						
ESDC	**Sonseca Array**	**161.49 355**	PKPab	PKPab	14 33 04.7	+1.0
comp=Z,1.5nm,0.8s,baz=347,slow=4.5,SNR=7.9						
ESLA	**Sonseca Array**	**161.49 355**	PFAKE		14 32 30.0	+13
ESLA			LR	LR		
comp=Z,28μm,22.0s						
DBIC	**Dimbokro**	**165.52 185**	PFAKE		14 32 30.0	+8.5
DBIC			LR	LR		
comp=Z,5μm,22.0s						

MOS ***09*** *14:20:46.6±1.3, 32.37N×49.70E, h10km, mb4.3/22, Error ellipse: s-maj=10.9km s-min=7.4km az=105.3*
BJI ***09*** *14:20:49.5, 32.40N×49.90E, h30km, mB5.1, mb4.8*
THR ***09*** *14:20:50.9±1.1, 32.46N×49.79E, h15km±10km, ML4.0*
CSEM ***09*** *14:20:51.5±0.1, 32.30N×49.67E, h60km, mb4.2/10, ML4.6/1, Error ellipse: s-maj=2.0km s-min=1.7km az=170.0*
IDC ***09*** *14:20:52.6±4.4, 32.47N×49.64E, h42km±41km, mb3.9/16, mb1 4.0/17, mb1mx3.9/23, mbtmp4.1/17, ML3.8/1, Error ellipse: s-maj=22.2km s-min=14.9km az=132.0*
TEH ***09*** *14:20:53.5, 32.43N×49.89E, h10km, Mn4.3*
NEIC ***09*** *14:20:53.5, 32.43N×49.89E, h10km, mb4.3/8, ML4.3(TEH), After TEH.*
SNSN ***09*** *14:20:55.0, 32.61N×49.79E, h50km*

ISC 09 14:20:52.2±0.3, 32.36N±0.03×49.72E±0.03, h59km±4km, n134, σ1§24/137, mb4.2/28, 4C-1D, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
SHGO	**Shushtar**	**0.82**	**253**	*e*Pg	**P**	**14 21 08.1**	**+0.2**
SHGO				AML	AML	14 21 31.2	
comp=N,3μm,0.7s							
SHGR	**Shooshtar-Gavs**	**0.82**	**253**	*e*Pg	**P**	**14 21 08.1**	**+0.2**
IKLH	**Kalahroud**	**1.84**	**58**	Pn	**P**	**14 21 22.2**	**+0.2**
IGAR	**Garneh**	**2.10**	**92**	Pn	**P**	**14 21 24.3**	**-1.4**
ASAO	**Ashtian**	**2.20**	**7**	*e*Pg	**P**	**14 21 28.7**	**+1.6**
ASAO				*e*Sg	**S**	**14 21 57.3**	**+4.1**
ASAO				AML	AML	14 22 01.5	
comp=N,1μm,0.9s							
ASAO	**Ashtian**	**2.20**	**7**	*e*Pg	**P**	**14 21 28.7**	**+1.5**
SNR=93							
ASAO				*e*Sg	**S**	**14 21 57.3**	**+4.1**
comp=N,1μm,0.9s,SNR=93							
IZEF	**Zefreh**	**2.27**	**76**	Pn	**P**	**14 21 28.6**	**+0.5**
IKOM	**Komasi**	**2.59**	**315**	Pn	**P**	**14 21 34.0**	**+1.3**
NASN	**Na'in**	**2.64**	**80**	*e*Pn	**P**	**14 21 33.9**	**+0.5**
IVRN	**Varamin**	**3.12**	**32**	Pn	**P**	**14 21 40.4**	**+0.2**
IVRN				Lg		14 22 26.2	
IVIS	**Veys**	**3.23**	**313**	Pn	**P**	**14 21 41.5**	**-0.2**
MIB	**Mutribah**	**3.26**	**219**	*e*P	**P**	**14 21 44.0**	**+1.8**
MIB				AML	AML	14 22 40.2	
comp=Z,219nm,0.4s							
UMR	**Umm Al-Rimmam**	**3.28**	**212**	*e*P	**P**	**14 21 43.8**	**+1.3**
UMR				AML	AML	14 22 42.2	
comp=Z,330nm,0.5s							
SNGE	**Sanandaj**	**3.37**	**325**	*e*Pn	**P**	**14 21 43.8**	**+0.1**
SNGE				AML	AML	14 22 39.3	
comp=N,523nm,0.8s							
ISAD	**Sadrabad**	**3.39**	**96**	Pn	**P**	**14 21 44.4**	**+0.4**
IMHD	**Mahdasht**	**3.41**	**13**	Pn	**P**	**14 21 44.7**	**+0.4**
SHI	**Shiraz**	**3.62**	**138**	Pn	**P**	**14 22 04.7**	**+18**
KBD	**Kabd**	**3.62**	**209**	*e*P	**P**	**14 21 48.5**	**+1.4**
KBD				*e*S	**S**	**14 22 35.5**	**+6.5**
KBD				AML	AML	14 22 45.2	
comp=Z,412nm,0.3s							
IDHR	**Dehrash**	**3.64**	**311**	Pn	**P**	**14 21 46.4**	**-1.0**
THKV	**Tehran--Karaj**	**3.68**	**15**	*e*Pn	**P**	**14 21 48.4**	**+0.3**
IDMV	**Damavand**	**3.74**	**30**	Pn	**P**	**14 21 48.6**	**-0.3**
DAMV	**Damavand**	**3.76**	**29**	*e*Pn	**P**	**14 21 49.1**	**-0.1**
DAMV				AML	AML	14 22 57.6	
comp=N,238nm,0.6s							
RDF	**Al-Radifah**	**3.90**	**209**	*e*P	**P**	**14 21 52.1**	**+1.0**
RDF				AML	AML	14 22 44.0	
comp=Z,117nm,0.3s							
QRN	**Al-Qurain**	**3.92**	**204**	*e*P	**P**	**14 21 52.4**	**+1.0**
QRN				AML	AML	14 22 40.6	
comp=Z,107nm,0.3s							
ICHK	**Chekchek**	**3.97**	**90**	Pn	**P**	**14 21 51.7**	**-0.4**
IFIR	**Firoozkooh**	**4.13**	**37**	Pn	**P**	**14 21 54.7**	**+0.3**
ISRV	**Sarvestan**	**4.16**	**135**	Pn	**P**	**14 21 54.0**	**-0.7**
IMOK	**Mook**	**4.19**	**141**	Pn	**P**	**14 22 04.1**	**+9.0**
IMEH	**Mehriz**	**4.27**	**102**	Pn	**P**	**14 21 55.6**	**-0.7**
BHD	**Baghdad**	**4.59**	**283**	*e*Pn	x	14 22 21.0	
BHD				*e*Pg	x	14 22 36.0	
BHD				*e*Sn	x	14 23 12.0	
BHD				*i* Lg		14 23 30.0	
GHIR	**Ghir-Karzin**	**4.94**	**144**	*e*Pn	**P**	**14 22 07.9**	**+2.2**
IBAF	**Bafgh**	**5.03**	**97**	Pn	**P**	**14 22 06.6**	**-0.3**
MSL	**Mosul**	**6.74**	**307**	*e*P	x	14 22 40.0	
MSL				*e*S	x	14 23 51.0	
HASS	**Wahat al Ahsa'**	**7.14**	**180**	P	**P**	**14 22 35.2**	**-1.2**
HILS	**Ha'il**	**8.48**	**236**	P	**P**	**14 22 50.5**	**-4.2**
IKRD	**Kardeh**	**8.49**	**56**	Pn	**P**	**14 23 04.0**	**+9.1**
IPAY	**Payeh**	**8.68**	**59**	Pn	**P**	**14 22 56.2**	**-1.4**
GNI	**Garni**	**8.75**	**334**	P	**P**	**14 23 05.2**	**+6.7**
IMOG	**Moghan**	**8.80**	**62**	Pn	**P**	**14 22 58.3**	**-0.8**
IMYA	**Miamay**	**9.46**	**62**	Pn	**P**	**14 23 07.0**	**-1.2**
ASF	**Jabal al Asfar**	**10.86**	**272**	P	**P**	**14 23 23.5**	**-3.8**
comp=Z,0.8nm,0.3s,baz=321,slow=12,SNR=6.2							
ASF	**Jabal al Asfar**	**10.86**	**272**	P	**P**	**14 23 23.5**	**-3.8**
ASF				pmax	pmax		
comp=Z,1.0nm,0.3s							
MALT	**Malatya**	**10.97**	**306**	P	**P**	**14 23 28.5**	**-0.2**
MALT				*e*S	**S**	**14 25 28.1**

MLR	Muntele Rosu	22.57	312	P	P	14 25 51.1	+2.9
MLR				pmax	pmax		
comp=Z,3.0nm,0.6s							
AKASG	Malin Array Be	23.77	326	P	P	14 25 59.2	-0.5
comp=Z,1.3nm,0.4s,mb3.7,baz=137,slow=8.8,SNR=7.2							
AKASG	Malin Array Be	23.77	326	P	P	14 25 59.3	-0.4
AKASG				pmax	pmax		
comp=Z,1.0nm,0.4s							
OBN	Obninsk	24.57	342	P	P	14 26 09.0	+1.4
comp=Z,14nm,0.5s,mb4.8							
OBN	Obninsk	24.57	342	P	P	14 26 09.0	+1.4
OBN				*i*		14 31 41.0	
OBN				pmax	pmax		
comp=Z,14nm,0.5s,mb4.8							
OBN				pmax	pmax		
comp=Z,10.0nm,0.8s,mb4.4							
ARU	Arti	24.84	12	*e*P	P	14 26 11.2	+1.0
comp=Z,6.5nm,0.7s,mb4.3							
ARU	Arti	24.84	12	*e*P	P	14 26 11.2	+1.0
comp=Z,6.5nm,0.7s,mb4.3							
ARU	Arti	24.84	12	*e*P	P	14 26 11.2	+1.0
ARU				pmax	pmax		
comp=Z,7.0nm,0.7s,mb4.3							
BRVK	Borovoye	25.45	30	P	P	14 26 15.0	-0.9
BVAR	Borovoye Array	25.47	30	P	P	14 26 16.8	+0.7
comp=Z,2.8nm,0.5s,mb4.0,baz=225,slow=8.4,SNR=18							
BVAR	Borovoye Array	25.47	30	P	P	14 26 16.8	+0.7
BVAR				pmax	pmax		
comp=Z,3.0nm,0.5s							
KURK	Kurchatov	28.09	41	*e*P	P	14 26 40.6	+0.4
comp=Z,4.6nm,0.8s,mb4.2							
KURK	Kurchatov	28.09	41	*e*P	P	14 26 40.6	+0.3
comp=Z,4.6nm,0.8s,mb4.2							
KURK	Kurchatov	28.09	41	*e*P	P	14 26 40.6	+0.4
KURK				pmax	pmax		
comp=Z,5.0nm,0.8s,mb4.2							
MKAR	Makanchi Array	28.71	50	P	P	14 26 45.5	-0.3
comp=Z,0.9nm,0.6s,mb3.7,baz=243,slow=8.1,SNR=8.9							
MKAR	Makanchi Array	28.71	50	P	P	14 26 45.5	-0.3
MKAR				pmax	pmax		
comp=Z,1.0nm,0.6s							
FINES	FINESS Array B	32.90	339	P	P	14 27 21.2	-1.2
comp=Z,1.4nm,0.7s,mb4.0,baz=143,slow=6.9,SNR=7.8							
FINES	FINESS Array B	32.90	339	P	P	14 27 21.3	-1.2
FINES				pmax	pmax		
comp=Z,1.0nm,0.7s							
ZAL	Zalesovo	32.96	39	P	P	14 27 22.2	-0.9
comp=Z,1.9nm,0.5s,mb4.3,baz=232,slow=4.6,SNR=5.6							
ZAL	Zalesovo	32.96	39	P	P	14 27 22.2	-0.9
ZAL	Zalesovo	32.96	39	P	P	14 27 22.2	-0.9
ZAL				pmax	pmax		
comp=Z,2.0nm,0.5s							
KAF	Kangasniemi	33.36	340	*e*p	P	14 27 25.9	-0.6
comp=Z,0.4nm,0.3s,mb3.8							
MBDF	Montbardon	35.40	303	*e*P	P	14 27 46.3	+2.2
comp=Z,7.6nm,0.8s,mb4.4							
MBDF	Montbardon	35.40	303	*e*P	P	14 27 46.3	+2.2
MBDF				pmax	pmax		
comp=Z,4.0nm,0.8s,mb4.4							
LPG	La Plagne	35.49	304	*e*P	P	14 27 46.8	+1.9
comp=Z,5.2nm,0.5s,mb4.4							
LPG	La Plagne	35.49	304	*e*P	P	14 27 46.8	+1.9
LPG				pmax	pmax		
comp=Z,3.0nm,0.5s,mb4.5							
LPL	La Plagne	35.51	304	*e*P	P	14 27 46.8	+1.8
HFS	Hagfors	36.52	330	P	P	14 27 52.4	-1.0
comp=Z,2.5nm,0.5s,mb4.3,baz=124,slow=11,SNR=19							
HFS	Hagfors	36.52	330	P	P	14 27 52.4	-1.0
HFS				pmax	pmax		
comp=Z,3.0nm,0.5s							
MBAR	Mbarara	37.37	212	P	P	14 28 01.5	+0.5
comp=Z,1.8nm,0.8s,mb4.0							
MBAR	Mbarara	37.37	212	P	P	14 28 01.5	+0.5
comp=Z,1.8nm,0.8s,mb4.0							
MBAR	Mbarara	37.37	212	P	P	14 28 01.5	+0.5
MBAR				pmax	pmax		
comp=Z,2.0nm,0.8s,mb4.0							
SMF	Signal de Mont	37.63	306	*e*P	P	14 28 05.1	+2.3
NB2	NORSAR Subarra	38.04	331	P	P	14 28 04.9	-1.2
comp=Z,2.3nm,0.9s,mb3.9,baz=120,slow=7.9							
NOA	NORSAR Array B	38.04	331	P	P	14 28 05.2	-0.9
comp=Z,1.2nm,0.7s,mb3.7,baz=122,slow=8.4,SNR=5.6							
NOA	NORSAR Array B	38.04	331	P	P	14 28 05.2	-0.9
NOA	NORSAR Array B	38.04	331	P	P	14 28 05.2	-0.9
NOA				pmax	pmax		
comp=Z,1.0nm,0.7s							
KEV	Kevo	39.55	348	*e*p	P	14 28 15.6	-3.0
comp=Z,0.5nm,0.4s,mb3.6							
ARCES	ARCESS Array B	39.64	347	P	P	14 28 19.2	-0.1
comp=Z,0.7nm,0.5s,mb3.6,baz=157,slow=6.9,SNR=7.2							
ARCES	ARCESS Array B	39.64	347	P	P	14 28 19.2	-0.1
ARCES				pmax	pmax		
comp=Z,1.0nm,0.5s							
SONM	Songino Array	45.02	53	P	P	14 29 03.9	+0.5
comp=Z,1.0nm,0.6s,mb3.8,baz=266,slow=7.7,SNR=8.1							
SONM	Songino Array	45.02	53	P	P	14 29 03.9	+0.5
SONM				pmax	pmax		
comp=Z,1.0nm,0.6s							
ULN	Ulaanbaatar	45.46	53	*e*P	P	14 29 07.9	+0.9
comp=Z,2.8nm,0.6s,mb4.3							
ULN	Ulaanbaatar	45.46	53	*e*P	P	14 29 07.9	+1.0
comp=Z,2.8nm,0.6s,mb4.3							
ULN	Ulaanbaatar	45.46	53	*e*P	P	14 29 07.9	+0.9
ULN				pmax	pmax		
comp=Z,3.0nm,0.6s,mb4.3							
HHC	Hu-ho-hao-te	49.46	62	*e*P	P	14 29 36.6	-1.7
HHC				AP	pP	14 29 49.3	-4.5
HHC				PP	PP	14 31 29.0	-4.3
HHC				AMB	AMB		
comp=Z,16nm,0.6s,mb5.2							
HHC				AMB	AMB		
comp=Z,238nm,9.5s							
MATP	Matopo	56.27	204	P	P	14 30 29.8	+0.6
comp=Z,5.9nm,1.0s,mb4.6,baz=22,slow=6.5,SNR=8.9							
MATP	Matopo	56.27	204	P	P	14 30 29.8	+0.6
DBIC	Dimbokro	56.72	256	P	P	14 30 32.1	-0.3
comp=Z,4.1nm,1.0s,mb4.4,baz=66,slow=6.4,SNR=3.1							
DBIC	Dimbokro	56.72	256	P	P	14 30 32.1	-0.3
DBIC				pmax	pmax		
comp=Z,4.0nm,1.0s							
YAK	Yakutsk	57.37	33	P	P	14 30 36.5	+0.2
YAK	Yakutsk	57.37	33	P	P	14 30 36.5	+0.1
BOSA	Boshof	64.94	204	P	P	14 31 28.3	+0.4
comp=Z,2.6nm,0.7s,mb4.4,baz=54,slow=8.4,SNR=3.1							
BOSA	Boshof	64.94	204	P	P	14 31 28.3	+0.4
BOSA				pmax	pmax		
comp=Z,3.0nm,0.7s,mb4.4							
INK	Inuvik	79.62	1	P	P	14 32 55.2	+1.2
comp=Z,1.3nm,0.5s,mb4.1							
INK	Inuvik	79.62	1	P	P	14 32 55.2	+1.2
INK				pmax	pmax		
comp=Z,1.0nm,0.5s							
ILAR	Eielson Array	82.32	7	P	P	14 33 08.2	0.0
comp=Z,0.8nm,0.7s,mb3.8,baz=337,slow=5.0,SNR=9.3							
ILAR	Eielson Array	82.32	7	P	P	14 33 08.3	0.0
ILAR				pmax	pmax		
comp=Z,1.0nm,0.7s							
YKA	Yellowknife Ar	84.64	353	P	P	14 33 20.8	+0.8
comp=Z,3.1nm,1.1s,mb4.4,baz=9.9,slow=4.8,SNR=6.2							
YKA	Yellowknife Ar	84.64	353	P	P	14 33 20.8	+0.8
YKA				pmax	pmax		
comp=Z,3.0nm,1.1s							
DLBC	Dease Lake	89.55	360	P	P	14 33 45.2	+1.4
comp=Z,0.9nm,0.6s,mb4.3,baz=350,slow=8.6,SNR=3.8							
DLBC	Dease Lake	89.55	360	P	P	14 33 45.2	+1.4

THR ***09*** *14:44:09.4±0.5, 32.48N×49.84E, h14km±13km, ML2.6*
KISR ***09*** *14:44:09.3±0.4, 32.34N×49.83E, h33km, ML2.7*
CSEM ***09*** *14:44:10.1±0.1, 32.48N×49.76E, h35km, ML3.7/2, Error ellipse: s-maj=3.8km s-min=2.0km az=125.0*

ISC 09 14:44:12.0±0.7, 32.32N±0.04×49.83E±0.07, h33km, n12, σ0§56/21, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGO	Shushtar	0.90	257	*e*Pg	P	14 44 27.3	-0.9
SHGO				*e*Sg	S	14 44 40.3	+0.1
SHGO				AML	AML	14 44 44.0	
comp=N,168nm,0.2s							
SHGO	Shushtar	0.90	257	*e*Pg	P	14 44 27.3	-0.9
SNR=90							
SHGO				*e*Sg	S	14 44 40.3	+0.1
comp=N,168nm,0.2s,SNR=90							
SHGR	Shooshtar-Gavs	0.90	257	*e*PG	P	14 44 27.3	-0.9
SHGR				*e*SG	S	14 44 40.7	+0.5
ASAO	Ashtian	2.23	4	*e*Pg	P	14 44 47.1	-0.2
ASAO				*e*Sg	S	14 45 14.9	+0.9
ASAO				AML	AML	14 45 18.6	
comp=N,35nm,0.5s							
ASAO	Ashtian	2.23	4	*e*Pg	P	14 44 47.1	-0.2
SNR=90							
ASAO				*e*Sg	S	14 45 14.9	+0.9
comp=N,35nm,0.5s,SNR=90							
NASN	Na'in	2.56	78	*e*PN	Pn	14 44 52.3	+0.1
MIB	Mutribah	3.29	221	*e*P	P	14 45 02.4	-0.1
MIB				AML	AML	14 46 03.6	
comp=Z,20nm,0.4s							
UMR	Umm Al-Rimmam	3.30	214	*e*P	P	14 45 02.0	-0.6
UMR				*e*S	S	14 45 41.9	+0.7
UMR				AML	AML	14 45 55.6	
comp=Z,20nm,0.3s							
UMR	Umm Al-Rimmam	3.30	214	*e*P	P	14 45 02.0	-0.6
UMR				*e*S	S	14 45 41.9	+0.7
KBD	Kabd	3.63	211	*e*P	P	14 45 07.0	-0.3
RDF	Al-Radifah	3.91	211	*e*P	P	14 45 10.8	-0.4
RDF				*e*S	S	14 45 57.2	+0.6
RDF				AML	AML	14 45 59.1	
comp=Z,7.8nm,0.2s							
QRN	Al-Qurain	3.93	205	*e*P	P	14 45 11.2	-0.2
QRN				*e*S	S	14 45 57.7	+0.7
QRN				AML	AML	14 46 09.7	
comp=Z,13nm,0.3s							

NEIC ***09*** *14:57:44.8±1.0, 17.76S×178.79W, h524km±12km, mb4.3/5, Error ellipse: s-maj=20.6km s-min=10.8km az=148.0*
IDC ***09*** *14:57:45.1±1.8, 17.78S×178.76W, h527km±22km, mb3.5/7, mb1 3.7/9, mb1mx3.5/17, mbtmp4.5/9, Error ellipse: s-maj=21.1km s-min=14.9km az=139.0*

ISC 09 14:57:43.5±1.0, 17.8S±0.1×178.8W±0.1, h515km±17km, n25, σ0§94/19, mb4.2/11, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.80	62	P	P	14 59 39.2	-0.1
8.6nm,0.3s,baz=284,slow=8.3,SNR=16							
AFI				S	S	15 01 10.7	-0.6
11nm,0.3s,baz=4.1,slow=22,SNR=6.7							
AFI	Afiamalu	7.80	62	P	P	14 59 39.2	-0.1
AFI				S	S	15 01 10.7	-0.6
DZM	Mont Dzumac	14.48	250	P	P	15 00 50.1	+1.6
0.2nm,0.3s,baz=82,slow=19,SNR=3.1							
URZ	Urewera	20.72	189	P	P	15 01 48.4	-0.3
12nm,0.6s,baz=332,slow=2.5,SNR=17							
RPZ	Rata Peaks	27.24	196	P	P	15 02 46.5	-0.8
16nm,1.0s,mb4.6,baz=46,slow=6.9,SNR=3.3							
PAE	Paea	27.86	94	*e*P	P	15 02 54.2	+1.2
29nm,1.1s,mb4.8							
CTA	Charters Tower	33.06	260	*e*P	P	15 03 37.6	+0.1
3.8nm,0.9s,mb3.9							
PMG	Port Moresby	34.03	280	P	P	15 03 46.5	+0.8
7.0nm,0.7s,mb4.3,baz=180,slow=6.1,SNR=2.6							
STKA	Stephens Creek	38.34	241	*e*P	P	15 04 22.5	+1.5
5.0nm,0.5s,mb4.3							
STKA	Stephens Creek	38.34	241	P	P	15 04 22.5	+1.5
5.9nm,0.5s,mb4.4,baz=97,slow=10,SNR=30							
WB2	Warramunga Arr	44.24	259	*e*P	P	15 05 06.9	-1.5
WRA	Warramunga Arr	44.25	259	P	P	15 05 07.5	-1.0
2.0nm,0.6s,mb3.8,baz=96,slow=6.9,SNR=43							
FORT	Forrest	49.70	244	*e*P	P	15 05 49.6	-0.2
17nm,0.6s,mb4.7							
FITZ	Fitzroy Crossi	52.65	261	*e*P	P	15 06 11.2	-0.3
6.3nm,0.5s,mb4.2							
KLBR	Kellerberrin	58.52	243	*e*P	P	15 06 51.2	-0.9
7.2nm,0.6s,mb4.1							
ILAR	Eielson Array	85.84	13	P	P	15 09 27.9	-0.8
1.0nm,0.8s,mb3.5,baz=223,slow=5.7,SNR=10.0							
TXAR	Lajitas Array	86.27	58	P	P	15 09 32.9	+1.3
0.8nm,0.7s,mb3.5,baz=217,slow=6.3,SNR=6.2							
MKAR	Makanchi Array	108.75	314	PKiKP		15 15 13.2	
0.3nm,0.5s,baz=116,slow=3.2,SNR=4.9							
BVAR	Borovoye Array	116.48	321	PKP	PKPdf	15 15 27.4	-0.7
0.6nm,0.3s,baz=126,slow=2.6,SNR=4.9							
ARCES	ARCESS Array B	126.11	350	PKP	PKPdf	15 15 46.3	-0.1
1.9nm,0.9s,baz=14,slow=2.1,SNR=5.7							
BRTR	Keskin Array B	144.40	315	PKP	PKPdf	15 16 20.9	+0.3
0.8nm,0.4s,baz=63,slow=3.2,SNR=5.0							
CLL	Collm	145.24	347	∥*i*PKP1	PKPbc	15 16 24.5	+1.8
PRU	Pruhonice	146.10	344	*e*PKPbc	PKPbc	15 16 29.4	+4.5
KHC	Kasperske Hory	147.14	345	*e*PKPbc	PKPdf	15 16 29.5	+4.6
GERES	GERESS Array B	147.37	345	PKPbc	PKPdf	15 16 29.5	+4.2
0.6nm,0.7s,slow=1.0,SNR=5.3							

IDC ***09*** *15:03:45.6±0.7, 15.27S×173.33W, mb4.2/9, mb1 4.4/10, mb1mx4.2/19, mbtmp4.2/10, ML2.9/1, Error ellipse: s-maj=42.6km s-min=16.0km az=133.0*
NEIC ***09*** *15:03:46.9±0.5, 15.21S×173.38W, h10km, mb4.4/1, Error ellipse: s-maj=26.6km s-min=9.4km az=137.0*

ISC 09 15:03:48.7±0.6, 15.2S±0.2×173.4W±0.2, h33km, n14, σ0§80/15, mb4.1/10, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.05	51	Pn	Pn	15 04 19.7	-1.9
234nm,0.3s,baz=64,slow=1.0,SNR=454							
AFI				Sn	Sn	15 04 39.8	-6.5
305nm,0.3s,baz=271,slow=13,SNR=10.0							
AFI	Afiamalu	2.05	51	Pn	Pn	15 04 19.7	-1.9
AFI				Sn	Sn	15 04 39.8	-6.5
URZ	Urewera	24.43	198	P	P	15 09 06.2	+0.6
8.4nm,0.6s,mb4.3,baz=10,slow=5.7,SNR=8.1							
RPZ	Rata Peaks	31.34	202	P	P	15 10 07.8	-0.6
9.2nm,0.8s,mb4.7,baz=4.2,slow=10.0,SNR=3.1							
STKA	Stephens Creek	44.12	240	P	P	15 11 55.5	-0.5
3.6nm,0.9s,mb4.1,baz=127,slow=12,SNR=4.9							
STKA	Stephens Creek	44.12	240	P	P	15 11 55.5	-0.5
WRAB	Tennant Creek	49.87	257	*e*P	P	15 12 40.8	-0.5
2.4nm,0.6s,mb4.4							
WRA	Warramunga Arr	49.88	257	P	P	15 12 41.0	-0.3
1.2nm,0.5s,mb4.2,baz=91,slow=6.9,SNR=10							
YBH	Yreka Blue Hor	73.46	37	P	P	15 15 21.1	+1.3
2.8nm,0.8s,mb4.2,baz=251,slow=1.8,SNR=5.1							
TXAR	Lajitas Array	80.52	56	P	P	15 15 59.9	+0.4
0.3nm,0.3s,mb3.7,baz=225,slow=3.8,SNR=5.6							
ANMO	Albuquerque	80.69	50	P	P	15 16 00.7	+0.4
1.1nm,0.4s,mb4.1,baz=236,slow=3.6,SNR=2.6							
PDAR	Pinedale Array	82.14	42	P	P	15 16 08.3	+0.6
1.0nm,0.7s,mb3.8,baz=225,slow=2.1,SNR=7.2							
ILAR	Eielson Array	82.27	11	P	P	15 16 08.3	+0.4
0.5nm,0.6s,mb3.6,baz=236,slow=6.0,SNR=6.6							
BRTR	Keskin Array B	146.01	321	PKPbc	PKPbc	15 23 29.1	+3.4
3.5nm,1.1s,baz=90,slow=1.2,SNR=8.1							

IDC ***09*** *15:16:06.3±0.5, 13.78N×93.47E, mb4.2/15, mb1 4.3/15, mb1mx4.2/20, mbtmp4.2/15, Error ellipse: s-maj=26.6km s-min=14.0km az=65.0*
BJI ***09*** *15:16:10.8, 13.80N×93.50E, h35km, mb4.3*
NEIC ***09*** *15:16:10.9±0.3, 13.79N×93.46E, h30km, mb4.7/4, Error ellipse: s-maj=10.6km s-min=6.1km az=63.0*

ISC 09 15:16:06.8±2.7, 13.61N±0.08×93.23E±0.06, h18km±19km, n43, σ0§89/44, mb4.2/19, 2C, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNT	Nongplab	6.41	98	P	Pn	15 17 42.0	-0.9
BDT	Bhumibol Dam	6.63	56	P	Pn	15 17 55.0	+9.0
13nm,0.6s							
NST	Nakhon Sawan	6.99	72	P	Pn	15 17 51.5	+0.6
58nm,0.4s							
CHG	Chiang Mai	7.54	46	PG	Pn	15 17 57.9	-0.8
NANT	Nan	8.84	53	P	P	15 18 18.0	+1.3
KKTK	Khon Kaen	9.65	72	⇑P	P	15 18 19.6	-8.5
247nm,0.7s							
VIS	Vishakhapatnam	10.38	294	*i* P	P	15 18 36.9	-1.1
VIS				*i* S	S	15 20 22.2	-13
KULM	Kulim	11.03	138	*e*Pn	P	15 18 52.5	+5.5
PKI	Pulchoki	15.70	333	*e*P	P	15 19 49.0	+0.1
PKI				*e*S	S	15 22 31.5	-11
DMN	Daman	15.86	333	*e*P	P	15 19 51.1	+0.1
KKN	Kakani	15.94	333	*e*P	P	15 19 52.0	0.0
KKN				*e*S	S	15 22 37.6	-11
LSA	Lhasa	16.13	353	P	P	15 19 53.8	-0.6
4.8nm,0.6s							
GKN	Gorkha	16.41	332	*e*P	P	15 19 58.5	+0.5
KOLN	Koldanda	16.71	329	*e*P	P	15 20 02.1	+0.3
KOLN				*e*S	S	15 22 55.4	-11
GYA	Guiyang	17.94	43	⇑*i*P	P	15 20 18.0	+0.8
GYA				AMB	AMB		
comp=Z,10.0nm,0.6s							
ENH	Enshi	22.36	40	*e*P	P	15 21 03.6	-1.9
comp=Z,18nm,0.8s,mb4.5							
KKM	Kota Kinabalu	23.84	106	P	P	15 21 21.4	+1.2
LZH	Lanzhou	24.33	21	*e*P	P	15 21 25.5	+0.8
LZH				AP		15 21 31.5	
LZH				XP		15 21 36.0	
LZH				AMB	AMB		
comp=Z,20nm,1.0s,mb4.5							
GTA	Gaotai	26.35	12	*e*P	P	15 21 45.3	+1.6
GTA				AP	pP	15 21 53.7	+4.7
GTA				XP	sP	15 21 57.6	+6.2
GTA				AMB	AMB		
comp=Z,6.0nm,0.7s,mb4.2							
MKAR	Makanchi Array	34.34	347	P	P	15 22 54.6	+0.1
comp=Z,0.7nm,0.7s,mb3.7,baz=162,slow=7.7,SNR=6.3							
SONM	Songino Array	35.84	15	P	P	15 23 06.9	-0.5
comp=Z,2.6nm,1.1s,mb4.1,baz=204,slow=8.4,SNR=12							
SONM				PcP	PcP	15 25 35.1	+0.1
comp=Z,1.0nm,0.7s,baz=212,slow=2.9,SNR=6.6							
ZAL	Zalesovo	40.78	352	P	P	15 23 48.0	-0.5
comp=Z,1.3nm,0.5s,mb3.8,baz=281,slow=6.6,SNR=7.1							
FITZ	Fitzroy Crossi	44.88	134	P	P	15 24 22.1	-0.3
comp=Z,6.9nm,0.7s,mb4.6,baz=342,slow=9.4,SNR=11							
NWAO	Narrogin (SRO)	51.64	154	P	P	15 25 14.9	+0.1
comp=Z,6.1nm,0.9s,mb4.5,baz=355,slow=7.7,SNR=6.0							
WRA	Warramunga Arr	52.41	129	P	P	15 25 19.9	-0.8
comp=Z,1.2nm,0.8s,mb3.9,baz=304,slow=9.9,SNR=23							
WRA				PcP	PcP	15 26 30.7	-0.9
comp=Z,0.7nm,0.3s,baz=326,slow=3.4,SNR=14							
WRAB	Tennant Creek	52.42	129	*e*P	P	15 25 20.1	-0.7
comp=Z,30nm,1.8s,mb4.9							
WRAB				*e*PcP	PcP	15 26 30.9	-0.6
BRTR	Keskin Array B	58.11	308	P	P	15 26 02.2	+0.5
comp=Z,1.3nm,0.7s,mb4.1,baz=121,slow=8.6,SNR=5.9							
AKASG	Malin Array Be	63.17	320	P	P	15 26 35.1	-0.8
comp=Z,0.1nm,0.2s,mb3.5,baz=90,slow=3.8,SNR=4.7							
STKA	Stephens Creek	64.74	135	P	P	15 26 46.1	-0.5
FINES	FINESS Array B	67.27	331	P	P	15 27 01.6	-0.7
comp=Z,1.2nm,0.6s,mb4.1,baz=104,slow=7.9,SNR=6.2							
ARCES	ARCESS Array B	69.61	340	P	P	15 27 16.4	-0.2
comp=Z,1.9nm,0.8s,mb4.1,baz=104,slow=7.4,SNR=5.5							
GERES	GERESS Array B	73.01	317	P	P	15 27 38.2	+0.8
comp=Z,2.2nm,0.7s,mb4.2,baz=79,slow=5.0,SNR=9.1							
FX1	Attu Island--F	73.20	39	*e*P	P	15 27 37.7	-0.7
NB2	NORSAR Subarra	74.34	330	P	P	15 27 44.8	-0.1
comp=Z,0.2nm,0.6s,mb3.2,baz=89,slow=6.5							
NOA	NORSAR Array B	74.34	330	P	P	15 27 44.9	0.0
comp=Z,1.0nm,0.6s,mb3.9,baz=90,slow=5.8,SNR=5.5							
BOSA	Boshof	77.93	236	P	P	15 28 08.8	+3.0
comp=Z,5.1nm,0.6s,mb4.6,baz=94,slow=4.7,SNR=13							
BOSA	Boshof	77.93	236	*e*P	P	15 28 08.7	+2.9
comp=Z,7.8nm,0.8s,mb4.7							
MAW	Mawson	83.94	191	P	P	15 28 39.7	+3.0
comp=Z,2.8nm,0.8s,mb4.5,baz=1.2,slow=9.5,SNR=6.6							
ILAR	Eielson Array	89.79	22	P	P	15 29 05.0	-0.3
comp=Z,1.3nm,0.7s,mb4.4,baz=298,slow=4.2,SNR=13							
SML	Sawmill	90.81	25	*e*P	P	15 29 09.9	-0.1
PDAR	Pinedale Array	120.13	19	PKP	PKPdf	15 34 58.8	-2.1
comp=Z,0.4nm,0.3s,baz=56,slow=3.3,SNR=3.7							
PDAR	Pinedale Array	120.13	19	PKP	PKPdf	15 34 58.8	-2.1
PLCA	Paso Flores	149.48	205	PKPbc	PKPdf	15 35 59.1	+4.5
comp=Z,3.3nm,0.8s,baz=157,slow=5.1,SNR=6.1							

IDC ***09*** *15:42:31.9±1.7, 51.93N×30.68W, mb3.8/11, mb1 4.1/12, mb1mx4.0/26, mbtmp3.9/12, ML4.6/1, Error ellipse: s-maj=49.0km s-min=17.3km az=15.0*
NEIC ***09*** *15:42:34.3±0.6, 52.17N×30.76W, h10km, mb4.1/13, Error ellipse: s-maj=18.4km s-min=6.9km az=200.0*
CSEM ***09*** *15:42:34.3±0.2, 52.17N×30.76W, h10km, mb4.2/9, Error ellipse: s-maj=8.8km s-min=3.9km az=23.0, After NEIC*

ISC 09 15:42:32.7±0.7, 52.2N±0.1×30.8W±0.1, h10km, n39, σ1§19/38, mb4.0/19, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESK	Eskdalemuir	16.58	68	*e*P	P	15 46 29.2	+2.7
EKA	Eskdalemuir Ar	16.61	68	Pn	P	15 46 25.6	-1.2
1.2nm,0.3s,baz=268,slow=10,SNR=31							
QUIF	Quistinic	18.22	93	*e*P	P	15 46 47.3	+0.2
13nm,0.8s							
MFF	Saint Martin d	20.64	94	*e*P	P	15 47 16.7	+2.0
11nm,0.9s							
SUMG	Summit	20.71	354	*e*P	P	15 47 16.0	+0.7
11nm,1.1s							
SCHQ	Schefferville	21.42	291	P	P	15 47 22.1	-0.5
3.4nm,0.7s,mb3.8,baz=71,slow=8.8,SNR=6.5							
SCHQ	Schefferville	21.42	291	*e*P	P	15 47 22.5	-0.2
3.2nm,0.7s,mb3.8							
BAIF	Baives	21.96	82	*e*P	P	15 47 27.0	-1.1
TCF	Toulx Ste Croi	22.23	92	*e*P	P	15 47 31.7	+0.9
ETSF	Etsaut	22.30	103	*e*P	P	15

44nm,0.6s
PVCC Panska Ves 1.37 228 *e*PG Pg 15 44 26.2 -1.8
BRG Berggiesshubel 1.52 249 Pg Pg 15 44 29.2 -1.7
BRG Berggiesshubel 1.52 249 Pn Pn 15 44 27.9 -1.1
BRG Pg Pg 15 44 29.2 -1.7
BRG Sg Sg 15 44 49.0 -2.1
PRU Pruhonice 1.79 216 *e*PG Pg 15 44 33.0 -3.4
PRU *e*SG Sg 15 44 56.7 -3.6
16nm,0.3s
MORC Moravsky Berou 1.89 152 *e*Pn Pn 15 44 32.8 -1.5
MORC *e*Sg Sg 15 44 58.8 -4.7
MORC *e*S Sn 15 44 59.8 +0.7
MORC Moravsky Berou 1.89 152 *e*Pn Pn 15 44 35.3 +1.0
MORC *e*S Sn 15 44 59.8 +0.8
CLL Collm 1.99 267 *e*PG Pg 15 44 37.0 -3.4
CLL *i* SG Sg 15 45 04.0 -2.9
OKC Ostrava-Krasne 2.05 141 *e*SG Sg 15 45 03.4 -5.3
NKC Novy Kostel 2.66 244 *e*PN Pn 15 44 44.2 -1.1
NKC *e*PG Pg 15 44 50.1 -3.5
NKC *e*SG Sg 15 45 25.0 -4.0
16nm,0.2s
KHC Kasperske Hory 2.86 217 *e*PG Pg 15 44 52.6 -5.0
KHC *e*SN Sn 15 45 21.7 -2.0
KHC *e*SG Sg 15 45 30.5 -5.2
4.6nm,0.2s
MOX Moxa 2.99 256 *e*Pg Pg 15 44 57.3 -2.9
MOX *e*Sg Sg 15 45 36.6 -3.4
MOA Molln 3.81 200⇑*i*PN Pn 15 44 59.6 -2.1
MOA *i* SG Sg 15 46 02.8 -4.7
5.6nm,0.5s

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*IDC **09** 15:56:45.8±12.0, 0.69N×126.60E, h245km±136km, mb3.5/4, mb1 3.6/4, mb1mx3.3/15, mbtmp4.1/4, Error ellipse: s-maj=77.9km s-min=17.4km az=79.0*
ISC 09 15:56:43.6±1.5, 1.2N±0.2×127.4E±0.4, h250km, n7, σ0°18/7, mb4.1/5, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.05**	**162**	P	**P**	**16 01 18.7**	**-0.1**
	2.0nm,0.4s,mb4.0,baz=341,slow=11,SNR=22						
WB2	**Warramunga Arr**	**22.06**	**162**	*e*P	**P**	**16 01 18.7**	**-0.1**
KLBR	**Kellerberrin**	**33.86**	**195**	*e*P	**P**	**16 03 04.5**	**-0.2**
	44nm,1.9s,mb4.7						
MUN	**Mundaring**	**34.65**	**197**	*e*P	**P**	**16 03 11.6**	**+0.2**
	5.9nm,0.8s,mb4.2						
STKA	**Stephens Creek**	**35.51**	**159**	*e*P	**P**	**16 03 18.9**	**+0.3**
	7.2nm,1.8s,mb3.9						
STKA	**Stephens Creek**	**35.51**	**159**	P	**P**	**16 03 18.7**	**+0.2**
	2.0nm,0.6s,mb3.8,baz=332,slow=10.0,SNR=8.1						
MKAR	**Makanchi Array**	**60.05**	**326**	P	**P**	**16 06 26.3**	**0.0**
	0.7nm,0.4s,mb3.6,baz=112,slow=7.9,SNR=13						
MKAR				PcP	PcP	16 07 10.0	+0.4
	0.5nm,0.6s,baz=117,slow=3.2,SNR=5.0						

JMA 09 16:02:44.8, 32.90N×130.74E, h7km±1km, M-0.3, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTA	**Tamana**	**0.18**	**290**	P	Pg	16 02 48.7	0.0
JNU	**Nakatsue**	**0.25**	**28**	P	Sg	16 02 53.9	+0.5
	3.3nm,0.3s,baz=167,slow=37,SNR=11						
JNU	**Nakatsue**	**0.25**	**28**	S	Sg	16 02 53.9	+0.5
JIU2	**Izumi 2**	**0.36**	**170**	P	Pg	16 02 51.8	-0.3
JIU2				S	Sg	16 02 57.3	+0.4

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*NIED **09** 16:26:00, 33.40N×142.50E, h8km, Mw4.9 Best double couple: M0=2.53×10^16 NP1:φs=181°, δ60°, λ-109°. NP2: φs=34°, δ35°, λ-61°.*
*CSEM **09** 16:26:18.1, 33.36N×142.29E, h10km, mb5.5*
*BJI **09** 16:26:20.9, 33.43N×142.42E, h38km, mB5.0, mb4.8, Ms4.7, Msz4.5*
*JMA **09** 16:26:20.4±0.3, 33.42N×142.48E, h82km, M5.0*
*IDC **09** 16:26:21.7±2.3, 33.45N×142.46E, h23km±15km, mb4.8/19, mb1 4.9/22, mb1mx4.9/23, mbtmp4.9/22, ML4.3/3, MS4.2/11, Ms1 4.2/11, ms1mx4.0/27, Error ellipse: s-maj=14.1km s-min=11.5km az=21.0*
*HRVD **09** 16:26:23.5±0.4, 33.39N×142.61E, h15km±1km, MW5.0/61, Centroid moment Tensor Solution. LP body waves: s17,c20;Mantle waves: s61,c104; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-4.71±.37; Mθθ0.62±.20; Mφφ4.08±.24; Mrθ-0.42±.82; Mφθ0.11±.12; Mφr-0.54±.64; Best double couple: M0=4.447×10^16 NP1: φs178°, δ42°, λ-96°. NP2:φs6°, δ49°, λ-84°. Principal axes: T 4.118, Plg4°, Azm92°; N .651, Plg4°, Azm183°; P -4.775, Plg84°, Azm322°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **09** 16:26:23.5±0.1, 33.43N×142.43E, mb5.3/115, MS4.5/4, MW4.9(NIED) Error ellipse: s-maj=3.6km s-min=2.5km az=172.0*
*MOS **09** 16:26:23.3±0.7, 33.73N×142.47E, h38km, mb5.6/89, MS4.5/15, Error ellipse: s-maj=7.8km s-min=4.4km az=109.1*
ISC 09 16:26:22.3±0.1, 33.47N±0.03×142.38E±0.02, h39km, h39km±.7km: pP-P, n533, σ0s98/555, mb5.2/187, MS4.5/34, 43C-34D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.66**	**316**	⇑P	**P**	**16 26 49.4**	**0.0**
BSO2	**Boso 2**	**1.86**	**314**	S	**S**	**16 27 17.6**	**+2.9**
BSO3	**Boso 3**	**2.04**	**311**	⇑P	**P**	**16 26 55.2**	**+0.3**
BSO3				S	**S**	**16 27 22.2**	**+2.9**
JHJ2	**Mitsune**	**2.18**	**261**	⇑P	**P**	**16 26 56.6**	**-0.3**
JHJ2				S	**S**	**16 27 23.8**	**+1.0**
JHJ	**Hachijo jima 2**	**2.21**	**262**	Pn	**P**	**16 26 56.6**	**-0.6**
	893nm,0.3s,baz=148,slow=6.9,SNR=431						
JHJ				Sn	**S**	**16 27 23.2**	**-0.2**
	2μm,0.3s,baz=239,slow=24,SNR=17						
JHJ				LR	LR	16 27 41.6	
	comp=Z,2μm,21.3s,baz=356,slow=36						
BSO4	**Boso 4**	**2.27**	**312**	⇑P	**P**	**16 26 58.9**	**+0.7**
BSO4				S	**S**	**16 27 27.3**	**+2.1**
KTR	**Katsuura**	**2.39**	**315**	P	**P**	**16 27 00.1**	**+0.2**
KTR				S	**S**	**16 27 30.0**	**+1.8**
JMY	**Miyakejima3**	**2.46**	**285**	P	**P**	**16 27 00.5**	**-0.4**
NJJJ	**Nii jima 2**	**2.74**	**291**	P	**P**	**16 27 04.6**	**-0.3**
JIM2	**Oshima 3**	**2.75**	**298**	⇑P	**P**	**16 27 03.9**	**-1.1**
JIM2				S	**S**	**16 27 34.2**	**-3.0**
JIZS	**Izushimoda**	**3.16**	**294**	P	**P**	**16 27 10.2**	**-0.7**
JOD2	**Odawara 2**	**3.26**	**304**	⇑P	**P**	**16 27 11.1**	**-1.1**
JOD2				S	**S**	**16 27 49.2**	**-1.1**
JSG	**Sagara**	**3.68**	**290**	⇑P	**P**	**16 27 18.8**	**+0.5**
JYN	**Shimob**	**3.76**	**304**	⇑P	**P**	**16 27 18.6**	**-0.7**
JYN				S	**S**	**16 28 05.3**	**+2.3**
JAG	**Ashikaga**	**3.80**	**322**	⇑P	**P**	**16 27 19.1**	**-0.9**
JAG				S	**S**	**16 28 01.0**	**-3.1**
JRY	**Ryogami san**	**3.83**	**313**	⇑P	**P**	**16 27 19.5**	**-0.8**
JRY				S	**S**	**16 28 05.1**	**+0.4**
ONAJ	**Iwakimizuishiy**	**3.85**	**341**	⇑P	**P**	**16 27 17.9**	**-2.7**
TK02	**Tokai 2**	**3.88**	**278**	P	**P**	**16 27 20.9**	**-0.2**
JFK	**Kawauchi**	**4.08**	**343**	⇑P	**P**	**16 27 21.0**	**-2.8**
HMMJ	**Hamamatsu 2**	**4.10**	**291**	⇑P	**P**	**16 27 23.8**	**-0.4**
JAA	**Atsumi**	**4.50**	**286**	P	**P**	**16 27 29.2**	**-0.7**
JMM	**Marumori**	**4.57**	**344**	⇑P	**P**	**16 27 27.9**	**-3.0**
MAJO	**Matsushiro**	**4.60**	**313**	*e*P	**P**	**16 27 30.5**	**-0.7**
MAT	**Matsushiro**	**4.60**	**313**	P	**P**	**16 27 30.5**	**-0.7**
MAT				S	**S**	**16 28 23.0**	**-1.1**
MAT	**Matsushiro**	**4.60**	**313**	P	**P**	**16 27 31.2**	**0.0**
MAT	**Matsushiro**	**4.60**	**313**	*e*P	**P**	**16 27 31.0**	**-0.2**
MAT				*e*S	**S**	**16 28 23.0**	**-1.1**
JIE	**Ise**	**4.81**	**283**	P	**P**	**16 27 33.6**	**-0.6**
JIE				S	**S**	**16 28 29.3**	**-0.1**
JNS	**Sasagawa**	**5.00**	**331**	P	**P**	**16 27 35.3**	**-1.7**
JIZZ	**Izumozaki**	**5.04**	**325**	⇓P	**P**	**16 27 37.7**	**+0.3**
JIO	**Ouri**	**5.04**	**351**	⇓P	**P**	**16 27 33.8**	**-3.7**
JOU	**Okura**	**5.08**	**345**	P	**P**	**16 27 35.4**	**-2.6**
JYS	**Shiratake**	**5.10**	**339**	⇑P	**P**	**16 27 36.4**	**-1.9**
JKN2	**Miekihoku**	**5.14**	**280**	⇑P	**P**	**16 27 37.9**	**-1.0**
JGM	**Miyama**	**5.17**	**297**	⇑P	**P**	**16 27 39.6**	**+0.3**
JGM				S	**S**	**16 28 38.7**	**+0.1**
JYA	**Atsumi**	**5.55**	**338**	P	**P**	**16 27 42.9**	**-1.6**
JMK	**Ichinoseki**	**5.55**	**351**	P	**P**	**16 27 41.1**	**-3.5**
JWZ	**Kozaga**	**5.57**	**272**	P	**P**	**16 27 44.1**	**-0.8**
JYK	**Kaneyama**	**5.67**	**344**	P	**P**	**16 27 43.6**	**-2.7**
JWY	**Kouya**	**5.70**	**279**	P	**P**	**16 27 46.3**	**-0.3**
JWM	**Minabe**	**5.87**	**276**	P	**P**	**16 27 48.4**	**-0.7**
JWT	**Wachi**	**6.05**	**289**	P	**P**	**16 27 51.9**	**+0.3**
JOM	**Ohasama**	**6.05**	**352**	⇓P	**P**	**16 27 47.9**	**-3.7**
JRG	**Rokugo**	**6.08**	**347**	⇓P	**P**	**16 27 49.3**	**-2.7**
MIYJ	**Miyakonagasawa**	**6.11**	**356**	P	**P**	**16 27 47.8**	**-4.6**
JYW	**Yuwa**	**6.30**	**345**	P	**P**	**16 27 52.9**	**-2.3**
CBIJ	**Chichi jima**	**6.36**	**182**	Pn	**P**	**16 27 49.6**	**-6.3**
	82nm,0.3s,baz=83,slow=16,SNR=101						
CBIJ				Sn	**S**	**16 28 57.0**	**-11**
	194nm,0.3s,baz=131,slow=22,SNR=11						
JKY	**Yasaka**	**6.38**	**292**	P	**P**	**16 27 56.0**	**-0.2**
JKS	**Kasai**	**6.42**	**286**	P	**P**	**16 27 56.5**	**-0.4**
JTH	**Tanohata**	**6.47**	**356**	⇑P	**P**	**16 27 53.2**	**-4.3**
JAI	**Aioi**	**6.62**	**275**	P	**P**	**16 28 00.1**	**+0.4**
MRT2	**Murotomisaki 2**	**6.89**	**272**	P	**P**	**16 28 03.2**	**-0.2**
JAD	**Aida**	**6.96**	**284**	P	**P**	**16 28 03.8**	**-0.6**
JAD				S	**S**	**16 29 22.2**	**-1.0**
JMN	**Monobe**	**7.10**	**274**	P	**P**	**16 28 06.7**	**+0.3**
JIW	**Iwasaki**	**7.36**	**346**	P	**P**	**16 28 06.8**	**-3.1**
JJG	**Jouge**	**7.75**	**281**	P	**P**	**16 28 15.4**	**+0.1**
JKU	**Kubokawa**	**7.80**	**271**	P	**P**	**16 28 15.8**	**-0.2**
JNA	**Nagahama**	**8.27**	**273**	P	**P**	**16 28 22.7**	**+0.1**
JGT	**Gotsu**	**8.46**	**283**	P	**P**	**16 28 27.0**	**+1.7**
JNU	**Nakatsue**	**9.64**	**271**	Pn	**P**	**16 28 40.6**	**-0.9**
	3.1nm,0.3s,baz=63,slow=13,SNR=21						
JNU				LR	LR	16 32 22.4	
	comp=Z,1μm,20.6s,baz=74,slow=37						
ASAJ	**Asahikawa**	**10.63**	**1**	Pn	**P**	**16 28 49.6**	**-5.5**
	20nm,0.3s,baz=214,slow=10,SNR=136						
ASAJ				Sn	**S**	**16 30 40.2**	**-14**
	6.0nm,0.3s,baz=44,slow=26,SNR=8.1						
ASAJ	**Asahikawa**	**10.63**	**1**	P	**P**	**16 28 49.6**	**-5.5**
ASAJ						16 30 40.2	
ASAJ				pmax	pmax		
	comp=Z,20nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**10.89**	**13**	*e*P	**P**	**16 28 51.0**	**-7.6**
YUK				pmax	pmax		
	comp=Z,320nm,0.5s						
KS15	**Wonju Array Si**	**12.47**	**293**	*e*P	**P**	**16 29 19.6**	**-0.3**
KUR	**Kuril'sk**	**12.48**	**18**	*e*P	**P**	**16 29 10.0**	**-10**
KUR				MLR	MLR		
	comp=N,2μm,10.0s						
KUR				MLR	MLR		
	comp=E,3μm,10.0s						
KUR				MLR	MLR		
	comp=Z,3μm,10.0s						
INCN	**Inchon**	**13.44**	**292**	P	**P**	**16 29 33.1**	**+0.2**
	comp=Z,108nm,1.4s						
YSS	**Yuzh-Sakhalins**	**13.47**	**1**	*e*P	**P**	**16 29 28.3**	**-4.8**
	comp=Z,78nm,0.7s						
YSS	**Yuzh-Sakhalins**	**13.47**	**1**	⇓*e*P	**P**	**16 29 28.0**	**-5.1**
YSS				*i* S	**S**	**16 31 51.2**	**-11**
YSS				pmax	pmax		
	comp=Z,100nm,0.8s						
YSS				pmax	pmax		
	comp=N,140nm,1.0s						
YSS				pmax	pmax		
	comp=Z,130nm,1.0s						
JOW	**Kunigami**	**13.88**	**245**	Pn	**P**	**16 29 37.6**	**-0.9**
	comp=Z,0.9nm,0.3s,baz=67,slow=9.5,SNR=7.3						
JOW				LR	LR	16 34 43.6	
	comp=Z,559nm,19.6s,baz=109,slow=36						
MDJ	**Mudanjiang**	**14.90**	**322**	P	**P**	**16 29 51.9**	**+0.1**
MDJ				AP		16 29 57.5	
MDJ				XP		16 29 59.6	
MDJ				S	**S**	**16 32 30.4**	**-5.9**
MDJ				SCP		16 38 31.3	
MDJ				AMB	AMB		
	comp=Z,19nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,272nm,11.3s						
MDJ				LR	LR		
	comp=N,386nm,14.3s						
MDJ				LR	LR		
	comp=E,1μm,14.1s						
MDJ				LR	LR		
	comp=Z,1μm,14.3s						
UGL	**Uglegorsk**	**15.59**	**359**	*e*P	**P**	**16 30 04.0**	**+3.2**
UGL				pmax	pmax		
	comp=Z,500nm,6.0s						
UGL				pmax	pmax		
	comp=Z,134nm,1.0s						
CN2	**Changchun**	**16.75**	**313**	*e*P	**P**	**16 30 14.5**	**-0.9**
CN2				*e*XP		16 30 27.0	
CN2				*e*S	**S**	**16 33 18.6**	**-0.5**
CN2				AMB	AMB		
	comp=Z,20nm,0.8s						
CN2				AMB	AMB		
	comp=Z,300nm,4.0s						
CN2				LR	LR		
	comp=N,2μm,15.0s						
CN2				LR	LR		
	comp=E,1μm,15.0s						
CN2				LR	LR		
	comp=Z,1μm,15.0s						
SNY	**Shenyang**	**17.05**	**305**	⇑P	**P**	**16 30 20.8**	**+1.6**
SNY				AMB	AMB		
	comp=Z,20nm,0.7s						
SNY				AMB	AMB		
	comp=Z,290nm,7.2s						
SNY				LR	LR		
	comp=E,1μm,15.7s						
SNY				LR	LR		
	comp=Z,1μm,16.2s						
DL2	**Dalian**	**17.60**	**294**	P	**P**	**16 30 28.8**	**+2.7**
DL2				S	**S**	**16 33 42.0**	**+3.5**
DL2				AMB	AMB		
	comp=Z,20nm,0.7s						
DL2				AMB	AMB		
	comp=Z,170nm,6.8s						
DL2				LR	LR		
	comp=N,960nm,12.7s						
DL2				LR	LR		
	comp=E,680nm,12.8s						
DL2				LR	LR		
	comp=Z,1μm,15.8s						
KLR	**Kul'dur**	**17.62**	**336**	*e*P	**P**	**16 30 20.0**	**-6.3**
KLR				MLR	MLR		
	comp=N,1μm,15.0s						
KLR				MLR	MLR		
	comp=E,1μm,15.0s						
KLR				MLR	MLR		
	comp=Z,2μm,15.0s						
SSE	**Sheshan**	**18.08**	**268**	P	**P**	**16 30 32.1**	**-0.1**
SSE				AP		16 30 42.2	
SSE				XP		16 30 47.1	
SSE				S	**S**	**16 33 52.5**	**+3.0**
SSE				AMB	AMB		
	comp=Z,28nm,0.9s						
SSE				AMB	AMB		
	comp=Z,223nm,8.8s						
SSE				LR	LR		
	comp=N,352nm,17.0s						
SSE				LR	LR		
	comp=E,266nm,17.0s						
SSE				LR	LR		
	comp=Z,559nm,18.2s						
NJ2	**Nanjing**	**19.83**	**272**	*e*P	**P**	**16 30 50.1**	**-2.4**
NJ2				AP		16 30 58.6	
NJ2				XP		16 31 03.1	
NJ2				PP	PP	16 31 09.0	-2.7
NJ2				S	**S**	**16 34 18.0**	**-11**
NJ2				XS		16 34 44.0	
NJ2				AMB	AMB		
	comp=Z,50nm,1.0s						
NJ2				AMB	AMB		
	comp=Z,910nm,5.9s						
NJ2				LR	LR		
	comp=N,1μm,16.4s						
NJ2				LR	LR		
	comp=E,2μm,15.7s						
NJ2				LR	LR		
	comp=Z,1μm,17.5s						
SKR	**Severo-Kuril's**	**19.93**	**26**	*e*P	**P**	**16 30 50.2**	**-3.3**
SKR				pmax	pmax		
	comp=Z,150nm,1.0s						
TIA	**Tai'an**	**20.90**	**285**	P	**P**	**16 31 01.6**	**-2.0**
TIA				LR	LR		
	comp=N,813nm,13.9s,MS4.8						
TIA				LR	LR		
	comp=E,2μm,14.7s,MS4.8						
QZH	**Quanzhou**	**22.40**	**254**	*e*P	**P**	**16 31 20.6**	**+1.9**
QZH				S	**S**	**16 35 25.0**	**+7.6**
QZH				LR	LR		
	comp=N,1μm,15.0s,MS4.7						
QZH				LR	LR		
	comp=E,2μm,19.4s,MS4.7						
QZH				LR	LR		
	comp=Z,2μm,20.2s,MS4.5						
PET	**Petropavlovsk**	**22.75**	**26**	⇓*i*P	**P**	**16 31 20.3**	**-1.7**
PET	**Petropavlovsk**	**22.75**	**26**	*e*P	**P**	**16 31 21.0**	**-1.0**
PET				*e*S	**S**	**16 35 18.4**	**-5.1**
PET				pmax	pmax		
	comp=Z,30nm,1.9s,mb4.4						
PET				smax			
	comp=N,400nm,19.2s						
PET				MLR	MLR		
	comp=Z,400nm,20.0s,MS3.9						
HIA	**Hailar**	**23.06**	**320**	*e*P	**P**	**16 31 24.7**	**-0.3**
	comp=Z,183nm,1.4s,mb5.3						
HIA	**Hailar**	**23.06**	**320**	*e*P	**P**	**16 31 24.7**	**-0.2**
HIA				pmax	pmax		
	comp=Z,183nm,1.4s						
WHN	**Wuhan**	**23.92**	**271**	⇑P	**P**	**16 31 33.0**	**-0.5**
HHC	**Hu-ho-hao-te**	**25.55**	**296**	*e*P	**P**	**16 31 50.0**	**+0.9**
HHC				AP	pP	16 31 58.9	-0.7
HHC				XP	sP	16 32 03.8	-0.4
HHC				PP	PP	16 32 30.5	+1.4
HHC				S	**S**	**16 36 15.9**	**+4.3**
HHC				XS		16 36 26.0	
HHC				SS	SS	16 37 12.9	-3.2
HHC				AMB	AMB		
	comp=Z,41nm,1.3s,mb4.8						
HHC				AMB	AMB		
	comp=Z,314nm,3.3s						
HHC				LR	LR		
	comp=N,1μm,18.4s,MS4.6						
HHC				LR	LR		
	comp=E,1μm,19.6s,MS4.6						
HHC				LR	LR		
	comp=Z,1μm,16.6s,MS4.4						
CLNS	**Chul'man**	**26.27**	**338**	*e*P	**P**	**16 31 56.6**	**+1.1**
CLNS				*e*		16 32 36.6	
CLNS				*e*PPP	PPP	16 32 45.5	-5.1
CLNS				*e*		16 35 18.1	
CLNS				*e*SS	SS	16 37 48.2	+15
CLNS				pmax	pmax		
	comp=Z,79nm,0.9s,mb5.2						
CLNS				pmax	pmax		
	comp=N,46nm,1.0s						
CLNS				pmax	pmax		
	comp=E,13nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,38nm,0.8s,mb5.0						
CLNS				pmax	pmax		
	comp=N,64nm,1.0s						
CLNS				pmax	pmax		
	comp=E,47nm,1.1s						
BTO	**Baotou**	**26.69**	**295**	*e*P	**P**	**16 32 00.3**	**+0.7**
BTO				S	**S**	**16 36 33.3**	**+2.9**
BTO				AMB	AMB		
	comp=Z,30nm,0.8s,mb4.9						
BTO				LR	LR		
	comp=N,844nm,15.1s,MS4.6						
BTO				LR	LR		
	comp=E,1μm,16.5s,MS4.6						
MA2	**Magadan**	**26.70**	**10**	*e*P	**P**	**16 31 57.6**	**-1.9**
MA2	**Magadan**	**26.70**	**10**	*e*P	**P**	**16 31 57.5**	**-2.0**
MA2				*e*S	**S**	**16 36 27.5**	**-2.8**
MA2				pmax	pmax		
	comp=Z,40nm,1.6s,mb4.7						
MA2				MLR	MLR		
	comp=Z,2μm,22.0s,MS4.5						
XAN	**Xi'an**	**27.76**	**281**	P	**P**	**16 32 07.8**	**-1.7**
XAN				AP	pP	16 32 20.7	+0.6
XAN				AMB	AMB		
	comp=Z,22nm,1.2s,mb4.7						
CIT	**Chita**	**27.86**	**320**	*e*P	**P**	**16 32 11.0**	**+0.8**
CIT				*e*		16 35 25.5	
CIT				pmax	pmax		
	comp=Z,302nm,1.7s,mb5.7						
ENH	**Enshi**	**28.05**	**272**	*e*P	**P**	**16 32 10.1**	**-2.0**
	comp=Z,50nm,0.8s,mb5.2						
FX1	**Attu Island--F**	**29.33**	**39**	*e*P	**P**	**16 32 23.3**	**+0.1**
YAK	**Yakutsk**	**29.71**	**348**	*e*P	**P**	**16 32 25.7**	**-0.9**
	comp=Z,8.0nm,0.6s,mb4.6						
YAK	**Yakutsk**	**29.71**	**348**	*d i*P	**P**	**16 32 25.8**	**-0.8**
YAK				*e**PP	pP	16 32 35.3	-2.0
YAK				*e*		16 33 38.7	
YAK				pmax	pmax		
	comp=Z,51nm,1.0s,mb5.2						
YAK				pmax	pmax		
	comp=N,27nm,1.2s						
YAK				pmax	pmax		
	comp=E,10.0nm,1.3s						
YAK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.2						
YAK				pmax	pmax		
	comp=N,7.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,4.0nm,0.8s						
YAK				MLR	MLR		
	comp=Z,364nm,15.0s,MS4.1						
YAK				MLR	MLR		
	comp=N,191nm,19.0s,MS4.0						
YAK				MLR	MLR		
	comp=E,260nm,16.0s,MS4.0						
SEY	**Seymchan**	**30.15**	**9**	*i* P	**P**	**16 32 30.1**	**-0.4**
SEY	**Seymchan**	**30.15**	**9**	*e*P	**P**	**16 32 30.8**	**+0.3**
SEY				pmax	pmax		
	comp=N,8.0nm,1.0s						
SEY				pmax	pmax		
	comp=E,6.0nm,1.0s						
SEY				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.5						
SONM	**Songino Array**	**30.53**	**309**	P	**P**	**16 32 35.2**	**+1.1**
	comp=Z,14nm,1.1s,mb4.7,baz=116,slow=8.0,SNR=67						
SONM				PcP	PcP	16 35 31.6	-0.8
	comp=Z,3.3nm,1.0s,baz=135,slow=2.1,SNR=3.6						
SONM				S	**S**	**16 37 36.4**	**+4.7**
	comp=Z,2.4nm,1.3s,baz=59,slow=8.6,SNR=2.7						
SONM				LR	LR	16 44 40.8	
	comp=Z,570nm,21.3s,MS4.2,baz=88,slow=36						
SONM	**Songino Array**	**30.53**	**309**	P	**P**	**16 32 35.2**	**+1.1**
SONM				PcP	PcP	16 35 31.6	-0.8
SONM				S	**S**	**16 37 36.4**	**+4.7**
SONM				LR	LR	16 44 40.8	
BOD	**Bodaibo**	**30.99**	**330**	*e*P	**P**	**16 32 37.1**	**-0.9**
BOD				*e*		16 32 44.1	
BOD				pmax	pmax		
	comp=Z,16nm,0.9s,mb4.8						
BOD				pmax	pmax		
	comp=Z,35nm,0.9s,mb5.2						
GYA	**Guiyang**	**31.61**	**267**	⇑*i*P	**P**	**16 32 42.1**	**-1.7**
GYA				XP	sP	16 32 58.8	-0.9
GYA				PP	PP	16 33 49.6	+0.6
GYA				PCP	PcP	16 35 35.4	-0.1
GYA				S	**S**	**16 37 45.5**	**-3.4**
GYA				XS		16 38 01.6	
GYA				SCP		16 39 15.7	
GYA				SCS	ScS	16 43 11.4	+0.6
GYA				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.1						
GYA				AMB	AMB		
	comp=Z,410nm,2.8s,mb5.8						
GYA				LR	LR		
	comp=N,500nm,15.6s,MS4.6						
GYA				LR	LR		
	comp=E,840nm,14.7s,MS4.6						
GYA				LR	LR		
	comp=Z,1μm,13.8s,MS4.7						
LZH	**Lanzhou**	**31.63**	**286**	*e*P	**P**	**16 32 42.6**	**-1.2**
LZH				AP	pP	16 32 55.3	+0.6
LZH				XP	sP	16 33 00.5	+0.8
LZH				PP	PP	16 33 52.3	+3.2
LZH				*e*S	**S**	**16 37 50.0**	**+1.0**
LZH				XS		16 38 10.0	
LZH				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.2						
LZH				AMB	AMB		
	comp=Z,260nm,4.0s						
LZH				LR	LR		
	comp=E,3μm,16.0s						
LZH				LR	LR		
	comp=Z,3μm,16.5s,MS5.1						
CD2	**Chengdu**	**32.66**	**276**	⇑*i*P	**P**	**16 32 51.3**	**-1.6**
CD2				S	**S**	**16 38 03.8**	**-1.5**
CD2				AMB	AMB		
	comp=Z,20nm,0.4s,mb5.4						
CD2				LR	LR		

comp=E,950nm,13.2s
CD2 LR LR
comp=Z,1μm,14.4s,MS4.8
ZAK Zakamensk 33.18 312 *e*P **P 16 32 56.9 -0.3**
ZAK pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
ZAK pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
GTA Gaotai 34.51 292 *e*P **P 16 33 08.6 -0.2**
GTA AP pP 16 33 18.6 -1.1
GTA XP sP 16 33 23.2 -1.5
GTA PP PP 16 34 25.6 0.0
GTA PCP PcP 16 35 43.9 +0.5
GTA S **S 16 38 34.5 +0.7**
GTA XS 16 38 49.0
GTA SCP 16 39 23.3
GTA PCS 16 39 29.4
GTA SS SS 16 40 44.7 -1.8
GTA SCS ScS 16 43 26.2 +0.5
GTA AMB AMB
comp=Z,10.0nm,1.1s,mb4.7
GTA AMB AMB
comp=Z,338nm,5.4s
GTA LR LR
comp=N,651nm,15.3s,MS4.6
GTA LR LR
comp=E,606nm,17.2s,MS4.6
GTA LR LR
comp=Z,580nm,16.4s,MS4.4
MOY Mondy 34.91 314 *e*P **P 16 33 13.0 +0.9**
MOY pmax pmax
comp=Z,35nm,3.0s
KMI Kunming 35.39 267 ⇑P **P 16 33 16.2 -0.2**
KMI AP pP 16 33 27.5 +0.1
KMI XP sP 16 33 32.4 0.0
KMI PCP PcP 16 35 46.3 +0.2
KMI S **S 16 38 48.5 +1.0**
KMI XS 16 39 06.9
KMI PCS 16 39 35.1
KMI SS SS 16 41 09.6 +2.9
KMI AMB AMB
comp=Z,13nm,1.2s,mb4.7
KMI AMB AMB
comp=Z,232nm,7.1s
KMI LR LR
comp=N,358nm,13.8s,MS4.6
KMI LR LR
comp=E,785nm,16.6s,MS4.6
KMI LR LR
comp=Z,949nm,15.2s,MS4.7
BILL Biiibino 37.24 15 *e*P **P 16 33 30.1 -1.5**
comp=Z,38nm,1.3s,mb5.1
BILL Bilibino 37.24 15 ⇓*i*P **P 16 33 30.3 -1.3**
BILL *e* 16 34 54.6
BILL *e* 16 35 49.3
BILL pmax pmax
comp=Z,25nm,1.0s,mb5.0
BILL MLR MLR
comp=Z,400nm,19.0s,MS4.2
TIXI Tiksi 38.91 353 *e*P **P 16 33 43.5 -2.0**
TIXI pmax pmax
comp=Z,32nm,0.9s,mb5.0
NANT Nan 39.90 259 ⇓P **P 16 33 52.0 -2.2**
comp=Z,81nm,0.9s,mb5.5
CHG Chiang Mai 41.34 260 ⇓P **P 16 34 06.6 +0.5**
comp=Z,14nm,1.0s,mb4.6
NST Nakhon Sawan 41.98 256 P **P 16 34 05.0 -6.4**
WMQ Urumqi 43.24 300 ⇑*i*P **P 16 34 23.0 +1.6**
WMQ AP pP 16 34 33.0 +0.5
WMQ XP sP 16 34 37.0 -0.3
WMQ PP PP 16 36 06.0 +1.9
WMQ SCP 16 39 59.0
WMQ S **S 16 40 48.0 +2.7**
WMQ SS SS 16 43 55.0 +2.7
WMQ AMB AMB
comp=Z,65nm,1.0s,mb5.3
WMQ AMB AMB
comp=Z,54nm,8.0s
WMQ LR LR
comp=N,304nm,18.0s,MS4.4
WMQ LR LR
comp=E,272nm,18.0s,MS4.4
WMQ LR LR
comp=Z,168nm,18.0s,MS4.0
KSM Kuching 43.77 230 *e*P **P 16 34 25.9 -0.3**
ZAL Zalesovo 44.96 315 P **P 16 34 34.5 -0.5**
comp=Z,3.5nm,0.9s,mb4.2,baz=17,slow=10,SNR=20
ZAL PcP PcP 16 36 15.4 -1.0
comp=Z,13nm,0.9s,baz=5.8,slow=3.8,SNR=8.9
ZAL S **S 16 41 13.2 +3.1**
comp=Z,1.3nm,0.4s,baz=96,slow=21,SNR=2.6
ZAL LR LR 16 55 56.8
comp=Z,332nm,19.1s,MS4.3,baz=22,slow=39
NVS Novosibirsk 45.91 316 ⇓*i*P **P 16 34 42.3 -0.4**
NVS *i* 16 36 17.9
NVS *e*S **S 16 41 26.1 +2.4**
NVS pmax pmax
comp=Z,55nm,1.2s,mb5.4
NVS pmax pmax
comp=N,13nm,1.3s
NVS pmax pmax
comp=E,51nm,1.2s
NVS smax
comp=N,40nm,2.7s
NVS smax
comp=E,22nm,1.9s
MK02 Makanchi Array 46.74 305 P **P 16 34 49.5 +0.2**
MK02 pmax pmax
comp=Z,38nm,0.9s,mb5.3
MKAR Makanchi Array 46.75 305 P **P 16 34 49.8 +0.4**
comp=Z,8.8nm,0.7s,mb4.8,baz=83,slow=9.8,SNR=36
MKAR PcP PcP 16 36 22.5 -0.3
comp=Z,5.7nm,0.8s,baz=68,slow=6.5,SNR=2.7
MKAR S **S 16 41 39.5 +3.9**
comp=Z,0.1nm,0.3s,baz=345,slow=11,SNR=2.7
MKAR LR LR 16 56 03.4
comp=Z,168nm,19.0s,MS4.0,baz=359,slow=38
KAKA Kakadu 46.89 193 *e*P **P 16 34 57.5 +6.6**
comp=Z,18nm,0.7s,mb5.1
SVW2 Sparrevohn 47.92 35 *e*P **P 16 34 58.8 +0.4**
TTA Tatalina 47.94 33 *e*P **P 16 34 58.5 0.0**
KURK Kurchatov 48.80 311 ⇓*e*P **P 16 35 05.2 -0.1**
comp=Z,50nm,0.8s,mb5.6
KURK Kurchatov 48.80 311 ⇓*e*P **P 16 35 05.2 -0.1**
KURK pmax pmax
comp=Z,50nm,0.8s,mb5.6
PKI Pulchoki 48.92 279 *e*P **P 16 35 06.2 -0.4**
comp=Z,63nm,1.2s,mb5.5
KKN Kakani 48.94 279 *e*P **P 16 35 06.9 +0.1**
comp=Z,57nm,0.9s,mb5.6
DMN Daman 49.15 279 *e*P **P 16 35 08.5 +0.1**
comp=Z,38nm,1.1s,mb5.4
RSO Redoubt South 49.25 36 *e*P **P 16 35 07.9 -0.8**
KDAK Kodiak Island 49.27 40 *e*P **P 16 35 07.8 -1.0**
IMA Indian Mountai 49.38 29 *e*P **P 16 35 09.0 -0.6**
GKN Gorkha 49.40 280 *e*P **P 16 35 10.2 -0.1**
comp=Z,84nm,1.0s,mb5.7
SPU Mount Spurr 49.63 35 *e*P **P 16 35 10.9 -0.6**
KOLN Koldanda 50.34 280 *e*P **P 16 35 17.6 +0.1**
comp=Z,26nm,0.6s,mb5.4
SLKM Skilak Lake 50.51 36 *e*P **P 16 35 16.9 -1.3**
PMR Palmer 51.05 35 *e*P **P 16 35 21.4 -1.0**
MCK McKinley 51.19 32 *e*P **P 16 35 22.1 -1.3**
comp=Z,11nm,1.0s,mb4.8
MCK McKinley 51.19 32 *e*P **P 16 35 22.1 -1.3**
MCK pmax pmax
comp=Z,11nm,1.0s,mb4.7
SML Sawmill 51.43 35 *e*P **P 16 35 24.0 -1.2**
TKM2 Tokmak 2 52.09 301 P **P 16 35 31.6 +1.1**
SNR=21
ILAR Eielson Array 52.11 31 P **P 16 35 28.9 -1.3**
comp=Z,18nm,0.8s,mb5.0,baz=264,slow=6.2,SNR=167
MID Middleton Isla 52.49 38 *e*P **P 16 35 33.3 +0.1**
KZA Kyzart 52.53 300 P **P 16 35 35.5 +1.8**
SNR=17
KSH Kashi 52.65 297 *e*P **P 16 35 35.1 +0.4**
KSH *e*AP pP 16 35 45.1 -0.9
KSH *e*XP sP 16 35 48.0 -2.7
KSH *e*PCP PcP 16 36 44.5 +0.2
KSH *e*PP PP 16 37 35.0 -0.2
KSH *e*PPP PPP 16 38 40.5 -0.2
KSH *e*SCP 16 40 38.2
KSH *e*PCS 16 40 42.0
KSH *e*S **S 16 42 57.0 -0.9**
KSH PS PS 16 43 12.0 -1.4
KSH *e*XS 16 43 15.4
KSH *e*SCS ScS 16 45 18.2 +0.3
KSH *e*SS SS 16 46 35.5 +0.2
KSH AMB AMB
comp=Z,80nm,2.8s,mb5.2
KSH LR LR
comp=N,190nm,5.9s
KSH LR LR
comp=E,200nm,5.5s
CHMS Chumysh 52.67 301 P **P 16 35 35.6 +0.8**
SNR=5.0
DIV Divide 52.67 35 *e*P **P 16 35 33.5 -1.1**
comp=E,206nm,1.0s,mb6.0
EYAK Cordova Ski Ar 52.72 36 *e*P **P 16 35 34.0 -0.9**
USP Ospenovka 52.79 302 P **P 16 35 36.1 +0.5**
SNR=14
FRU Bishkek 52.81 301 *e*P **P 16 35 36.5 +0.7**
FRU pmax pmax
comp=Z,50nm,1.8s,mb5.1
FRU MLR MLR
comp=Z,500nm,17.0s,MS4.6
AAK Ala-Archa 52.94 301 *e*P **P 16 35 36.2 -0.6**
comp=Z,12nm,0.8s,mb4.9
AAK Ala-Archa 52.94 301 *e*P **P 16 35 36.2 -0.7**
AAK pmax pmax
comp=Z,11nm,0.8s,mb4.8
VOSK Vostochnaya 53.28 314 *i*P **P 16 35 38.6 -0.6**
KLP Kalpa 53.34 287 *e*P **P 16 35 39.4 -0.6**
KLP AMb AMB 16 35 42.6
comp=Z,63nm,1.7s,mb5.3
CTA Charters Tower 53.39 175 *e*P **P 16 35 39.5 -1.0**
comp=Z,10nm,1.7s,mb4.5
CTA Charters Tower 53.39 175 *e*P **P 16 35 39.5 -1.0**
CTA pmax pmax
comp=Z,10.0nm,1.7s
EKS2 Erkin-Say 53.45 301 P **P 16 35 41.1 +0.5**
SNR=8.7
MENT Mentasta 53.55 33 *e*P **P 16 35 41.3 +0.3**
BVA0 Borovoye Array 53.59 314 *i*P **P 16 35 41.4 -0.1**
BVA0 pmax pmax
comp=Z,8.0nm,1.5s,mb4.4
BVAR Borovoye Array 53.59 314 P **P 16 35 41.2 -0.3**
comp=Z,8.5nm,0.8s,mb4.7,baz=90,slow=8.6,SNR=49
BVAR PcP PcP 16 36 47.6 -0.1
comp=Z,8.6nm,0.9s,baz=72,slow=4.6,SNR=4.0
BVAR S **S 16 43 12.7 +2.3**
comp=Z,0.5nm,0.5s,baz=213,slow=42,SNR=2.5
AML Almayashu 53.64 301 P **P 16 35 43.3 +1.2**
SNR=42
BRVK Borovoye 53.65 315 *e*P **P 16 35 41.4 -0.5**
comp=Z,23nm,1.2s,mb5.0
BRVK Borovoye 53.65 315 *e*P **P 16 35 41.4 -0.5**
BRVK pmax pmax
comp=Z,23nm,1.2s,mb5.0
WRAB Tennant Creek 53.66 189 *e*P **P 16 35 39.8 -2.7**
comp=Z,25nm,0.8s,mb5.2
WRAB Tennant Creek 53.66 189 ⇑*i*P **P 16 35 40.6 -1.8**
WB2 Warramunga Arr 53.66 189 *e*P **P 16 35 40.2 -2.3**
WB2 *e* pP 16 35 52.7 -1.1
WRA Warramunga Arr 53.67 189 P **P 16 35 40.2 -2.3**
comp=Z,7.8nm,0.5s,mb4.9,baz=7.1,slow=7.7,SNR=82
WRA PcP PcP 16 36 48.4 0.0
comp=Z,5.3nm,0.9s,baz=1.9,slow=4.7,SNR=5.5
FITZ Fitzroy Crossi 53.72 200 *e*P **P 16 35 41.6 -1.3**
comp=Z,29nm,0.7s,mb5.3
FITZ *e* pP 16 35 54.3 +0.1
BLSP Bilaspur 53.83 274 *e*P **P 16 35 42.4 -1.3**
BLSP AMb AMB 16 35 44.3
comp=Z,48nm,0.4s,mb5.8
VIS Vishakhapatnam 54.85 269 *e*P **P 16 35 48.9 -2.3**
VIS AMb AMB 16 35 53.9
comp=Z,66nm,1.4s,mb5.5
NDI New Delhi 55.21 284 *e*P **P 16 35 52.9 -0.8**
NDI AMb AMB 16 35 55.0
comp=Z,79nm,1.2s,mb5.6
SONA Sohna 55.49 283 *e*P **P 16 35 56.3 +0.6**
SONA AMb AMB 16 35 57.5
comp=Z,47nm,1.5s,mb5.3
KKAR Karatay Array 55.65 303 *i*P **P 16 35 56.5 -0.2**
RTK Rohtak 55.73 285 *e*P **P 16 35 56.1 -1.3**
KUDL Kundal 56.01 284 *e*P **P 16 35 58.4 -1.1**
KUDL AMb AMB 16 36 03.0
comp=Z,30nm,1.0s,mb5.3
KHET Khetri 56.59 284 *e*P **P 16 36 03.4 -0.2**
KHET AMb AMB 16 36 04.6
comp=Z,62nm,1.2s,mb5.5
NGP Nagpur 56.83 275 *e*P **P 16 36 04.6 -0.9**
NGP AMb AMB 16 36 08.2
comp=Z,52nm,1.0s,mb5.5
INK Inuvik 57.21 26 P **P 16 36 06.9 -0.6**
comp=Z,27nm,0.9s,mb5.3,baz=281,slow=6.9,SNR=34
INK Inuvik 57.21 26 *e*P **P 16 36 06.1 -1.4**
comp=Z,44nm,1.1s,mb5.4
INK Inuvik 57.21 26 P **P 16 36 06.9 -0.6**
INK pmax pmax
comp=Z,27nm,0.9s
BHPL Bhopal 57.26 278 *e*P **P 16 36 07.0 -1.5**
BHPL AMb AMB 16 36 09.8
comp=Z,27nm,1.8s,mb5.0
AJM Ajmer 58.18 283 *e*P **P 16 36 14.0 -0.9**
SVE Sverdlovsk 58.36 320 ⇑*e*P **P 16 36 15.0 -0.7**
SVE *e* pP 16 36 27.8 +0.6
SVE *e*S **S 16 44 30.0 +16**
SVE pmax pmax
comp=Z,60nm,1.6s,mb5.4
SVE MLR MLR
comp=N,200nm,15.0s,MS4.7
SVE MLR MLR
comp=E,400nm,15.0s,MS4.7
SVE MLR MLR
comp=Z,400nm,15.0s,MS4.7
MBWA Marble Bar 58.47 205 *e*P **P 16 36 14.7 -2.2**
comp=Z,37nm,1.1s,mb5.3
HYB Hyderabad 58.98 271 *i*P **P 16 36 20.0 -0.6**
HYB Hyderabad 58.98 271 *e*P **P 16 36 20.0 -0.6**
ARU Arti 59.57 320 *e*P **P 16 36 22.9 -1.2**
comp=Z,52nm,1.0s,mb5.5
ARU Arti 59.57 320 ⇓*i*P **P 16 36 23.5 -0.6**
ARU *e* 16 37 10.8
ARU *e*S **S 16 44 31.7 +2.1**
ARU *e*SS SS 16 48 25.3 -1.3
ARU pmax pmax
comp=Z,50nm,1.0s,mb5.5
ARU MLR MLR
comp=Z,300nm,15.0s,MS4.5
ARU MLR MLR
comp=N,200nm,16.0s,MS4.4
ARU MLR MLR
comp=E,100nm,15.0s,MS4.4
DZM Mont Dzumac 59.81 154 *e*P **P 16 36 21.7 -4.5**
DZM Mont Dzumac 59.81 154 *e*P **P 16 36 21.7 -4.5**
AB31 Akbulak array 60.87 312 P **P 16 36 32.3 -0.8**
AB31 pmax pmax
comp=Z,27nm,1.0s,mb5.3
DLBC Dease Lake 60.96 37 *e*P **P 16 36 33.2 -0.4**
JASL Jaisalmer 61.03 285 *e*P **P 16 36 33.7 -0.8**
POO Poona 62.38 275 *e*P **P 16 36 43.0 -0.6**
AFI Afiamalu 64.26 129 LR LR 17 00 48.3
comp=Z,227nm,18.9s,MS4.4,baz=194,slow=32
KBS Kingsbay 64.29 351 *e*P **P 16 36 55.3 0.0**
comp=Z,18nm,1.2s,mb5.0
KBS Kingsbay 64.29 351 *e*P **P 16 36 55.3 0.0**
KBS pmax pmax
comp=Z,18nm,1.2s,mb5.0
STKA Stephens Creek 65.00 181 *e*P **P 16 36 59.7 -0.9**
comp=Z,12nm,0.9s,mb4.9
STKA *e* pP 16 37 12.1 -0.2
STKA Stephens Creek 65.00 181 P **P 16 36 59.5 -1.1**
comp=Z,16nm,0.9s,mb5.0,baz=345,slow=8.0,SNR=17
FORT Forrest 65.32 194 *e*P **P 16 37 01.6 -1.1**
comp=Z,54nm,0.5s,mb5.8
FORT *e* pP 16 37 14.5 +0.1
RES Resolute Bay 65.85 14 *e*P **P 16 37 04.5 -0.8**
comp=Z,75nm,1.0s,mb5.7
RES Resolute Bay 65.85 14 *e*P **P 16 37 04.5 -0.9**
RES pmax pmax
comp=Z,75nm,1.0s,mb5.7
APA Apatity 66.26 337 ⇓*i*P **P 16 37 08.6 +0.5**
APA *i* pP 16 37 20.5 +0.8
APA pmax pmax
comp=Z,50nm,1.2s,mb5.4
APA MLR MLR
comp=Z,500nm,16.0s,MS4.8
YKW3 Yellowknife Ar 66.46 29 *e*P **P 16 37 08.0 -1.4**
YKA Yellowknife Ar 66.50 30 P **P 16 37 08.7 -0.9**
comp=Z,24nm,0.9s,mb5.2,baz=294,slow=6.2,SNR=85
YKA Yellowknife Ar 66.50 30 P **P 16 37 08.7 -0.9**
KEV Kevo 67.05 340 *e*p **P 16 37 25.4 +12**
comp=Z,0.4nm,0.4s
ARCES ARCESS Array B 67.61 340 P **P 16 37 16.3 -0.2**
comp=Z,9.3nm,0.9s,mb4.8,baz=51,slow=7.8,SNR=20
ARCES LR LR 17 12 08.5
comp=Z,244nm,18.2s,MS4.5,baz=114,slow=41
ARCES ARCESS Array B 67.61 340 P **P 16 37 16.3 -0.2**
ARCES LR LR 17 12 08.5
AREO ARCESS Array S 67.61 340 *e*P **P 16 37 15.6 -0.9**
OBC Olympics--Boni 68.14 46 P **P 16 37 21.5 +1.3**
PGC Sidney 68.25 45 *e*P **P 16 37 20.3 -0.6**
OSD Olympics--Snow 68.46 46 P **P 16 37 23.6 +1.4**
KLBR Kellerberrin 68.76 202 *e*P **P 16 37 23.0 -1.4**
comp=Z,31nm,1.0s,mb5.2
KLBR *e* pP 16 37 35.2 -0.9
MUN Mundaring 69.62 204 *e*P **P 16 37 29.3 -0.3**
comp=Z,6.2nm,0.8s,mb4.6
MUN Mundaring 69.62 204 *e*P **P 16 37 29.3 -0.3**
MUN pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
NWAO Narrogin (SRO) 70.16 202 *e*P **P 16 37 31.7 -1.2**
comp=Z,26nm,0.8s,mb5.2
NWAO Narrogin (SRO) 70.16 202 *e*P **P 16 37 31.7 -1.2**
NWAO pmax pmax
comp=Z,26nm,0.8s
MOS Moscow 70.59 325 *e*P **P 16 37 30.7 -4.4**
MOS *e* pP 16 37 42.5 -4.3
MOS pmax pmax
comp=Z,80nm,1.3s,mb5.5
TBM Table Mountain 70.63 46 P **P 16 37 36.0 +0.5**
VRHR Novokhopersk 70.87 319 *e*P **P 16 37 35.6 -1.3**
VRHR pmax pmax
comp=Z,40nm,1.0s,mb5.3
VRHR pmax pmax
comp=N,20nm,0.9s
VRHR pmax pmax
comp=E,20nm,1.4s
OBN Obninsk 71.43 324 *e*P **P 16 37 39.6 -0.6**
comp=E,34nm,1.0s,mb5.2
OBN Obninsk 71.43 324κ *i*P **P 16 37 40.1 -0.1**
OBN *i* pP 16 37 52.4 +0.5
OBN *e* 16 38 04.5
OBN pmax pmax
comp=Z,83nm,1.7s,mb5.4
OBN MLR MLR
comp=Z,300nm,14.0s,MS4.7
RSW Rattlesnake Hi 71.61 46 P **P 16 37 42.2 +0.8**
HAWA Hanford 71.65 46 *e*P **P 16 37 41.7 +0.1**
comp=Z,0.6nm,0.9s
EDM Edmonton 71.66 38 *e*P **P 16 37 40.6 -0.9**
EDM *e*pP pP 16 37 50.2 -3.0
KAF Kangasniemi 71.84 334 *e*p **P 16 37 42.5 +0.1**
comp=Z,2.5nm,0.4s,mb4.5,baz=44,slow=5.7
YBH Yreka Blue Hor 71.91 52 *e*P **P 16 37 43.7 +0.4**
comp=Z,19nm,1.1s,mb5.0
YBH Yreka Blue Hor 71.91 52 *e*P **P 16 37 43.7 +0.5**
YBH pmax pmax
comp=Z,19nm,1.1s
VRSR Storozhevoye 72.14 320 *e*P **P 16 37 44.4 0.0**
VRSR pmax pmax
comp=Z,40nm,1.1s,mb5.3
VRSR pmax pmax
comp=N,30nm,0.8s
VRSR pmax pmax
comp=E,30nm,1.0s
VRSR pmax pmax
comp=Z,40nm,1.1s,mb5.3
VRSR pmax pmax
comp=N,30nm,0.8s
VRSR pmax pmax
comp=E,30nm,1.0s
NEW Newport 72.14 44 *e*P **P 16 37 43.9 -0.5**
comp=E,24nm,1.0s,mb5.1
NEW *e*pP pP 16 37 55.3 -0.8
NEW Newport 72.14 44 *e*P **P 16 37 43.9 -0.6**
NEW *e**PP pP 16 37 55.3 -0.9
NEW pmax pmax
comp=Z,24nm,1.0s
KIPM Iron Peak 72.33 54 *e*P **P 16 37 46.1 +0.4**
FINES FINESS Array B 72.34 333 P **P 16 37 45.2 -0.1**
comp=Z,24nm,0.9s,mb5.1,baz=90,slow=5.7,SNR=39
FINES PP PP 16 40 25.7 -2.6
comp=Z,2.2nm,0.8s,baz=135,slow=5.4,SNR=4.2
FINES LR LR 17 14 23.7
comp=Z,187nm,18.8s,MS4.4,baz=8.9,slow=40
WDC Whiskeytown Da 72.58 53 *e*P **P 16 37 47.0 -0.2**
comp=Z,28nm,1.2s,mb5.1
WDC Whiskeytown Da 72.58 53 *e*P **P 16 37 47.0 -0.2**
WDC pmax pmax
comp=Z,28nm,1.2s,mb5.1
GOF Gofitskoye 73.08 313 ⇑*i*P **P 16 37 49.2 -0.9**
GOF pmax pmax
comp=Z,80nm,1.7s,mb5.4
MOD Modoc 73.39 51 *e*P **P 16 37 51.9 -0.1**
comp=Z,19nm,1.0s,mb5.0
WALA Waterton Lakes 73.55 42 *e*P **P 16 37 52.5 -0.2**
comp=Z,23nm,0.9s,mb5.1
BMO Blue Mountains 73.77 47 *e*P **P 16 37 54.0 -0.1**
comp=Z,16nm,1.1s,mb4.9
KIV Kislovodsk 73.86 312 *e*P **P 16 37 55.2 +0.5**
comp=Z,29nm,1.0s,mb5.2
KIV Kislovodsk 73.86 312 *d i*P **P 16 37 55.4 +0.7**
KIV *e* 16 38 12.8
KIV pmax pmax
comp=Z,20nm,1.0s,mb5.0
VSU Vasula 73.93 330 *i*P **P 16 37 55.3 +0.6**
WVOR Wild Horse Val 74.19 49 *e*P **P 16 37 56.2 -0.4**
comp=Z,38nm,1.4s,mb5.1
WVOR Wild Horse Val 74.19 49 *e*P **P 16 37 56.2 -0.4**
WVOR pmax pmax
comp=Z,38nm,1.4s,mb5.1
SUMG Summit 74.24 0 *e*P **P 16 37 57.1 +0.8**
comp=Z,26nm,0.9s,mb5.2
BEKR Beckwourth 74.38 52 *e*P **P 16 37 57.3 -0.4**
comp=Z,26nm,0.9s,mb5.2
GNI Garni 74.49 308 *e*P **P 16 37 59.4 +1.0**
comp=Z,28nm,1.1s,mb5.1
GNI Garni 74.49 308 *e*P **P 16 37 59.4 +1.0**
GNI pmax pmax
comp=Z,28nm,1.1s
MSO Missoula 74.73 44 *e*P **P 16 37 59.2 -0.5**
comp=Z,7.6nm,1.0s,mb4.6
CHMT Chamberlain Mo 75.08 43 *e*P **P 16 38 01.2 -0.4**
CMB Columbia Colle 75.30 54 *e*P **P 16 38 02.4 -0.7**
comp=Z,48nm,1.2s,mb5.3
CMB Columbia Colle 75.30 54 *e*P **P 16 38 02.4 -0.7**
CMB pmax pmax
comp=Z,48nm,1.2s,mb5.3
SOC Sochi 75.88 313 *e*P **P 16 38 06.1 -0.2**
SOC pmax pmax
comp=N,32nm,0.9s
SOC pmax pmax
comp=Z,34nm,0.9s,mb5.3
SOC pmax pmax
comp=E,14nm,0.8s
SOC MLR MLR
comp=N,151nm,17.0s,MS4.6
SOC MLR MLR
comp=E,192nm,17.0s,MS4.6
SOC MLR MLR
comp=Z,304nm,17.0s,MS4.7
HRY Holter Researc 76.00 43 *e*P **P 16 38 06.9 0.0**
BMN Battle Mountai 76.14 51 *e*P **P 16 38 07.8 0.0**
comp=Z,30nm,1.2s,mb5.1
BMN Battle Mountai 76.14 51 *e*P **P 16 38 07.8 -0.1**
BMN pmax pmax
comp=Z,30nm,1.2s,mb5.1
HLID Hailey 76.22 47 *e*P **P 16 38 08.7 +0.4**
comp=Z,15nm,1.4s,mb4.7
OMM Old Mammoth Mi 76.46 54 *e*P **P 16 38 09.2 -0.5**
MCMT McKenzie Canyo 76.46 45 *e*P **P 16 38 09.8 +0.2**
ANN Anapa 76.59 315 *e*P **P 16 38 09.8 -0.5**
ANN pmax pmax
comp=Z,85nm,1.2s,mb5.5
PTRM Twissleman Ran 76.66 56 *e*P **P 16 38 10.5 -0.4**
BOZ Bozeman (W) 76.72 44 *e*P **P 16 38 10.8 -0.2**
comp=Z,20nm,1.0s,mb5.0
BOZ Bozeman (W) 76.72 44 *e*P **P 16 38 10.9 -0.1**
BOZ pmax pmax
comp=Z,20nm,1.0s,mb5.0
FCC Fort Churchill 76.83 26 *e*P **P 16 38 09.9 -1.4**
comp=Z,79nm,1.4s,mb5.5
FCC *e*pP pP 16 38 21.6 -1.5
FCC Fort Churchill 76.83 26 *e*P **P 16 38 09.9 -1.4**
FCC *e**PP pP 16 38 21.6 -1.5

FCC pmax pmax
comp=Z,79nm,1.4s,mb5.5
MTUM Tungsten Hills 76.89 54 *eP* **P 16 38 12.3 +0.1**
ELK Elko 77.25 50 *eP* **P 16 38 14.1 0.0**
comp=Z,20nm,1.1s,mb5.0
ELK Elko 77.25 50 *eP* **P 16 38 14.1 0.0**
ELK pmax pmax
comp=Z,20nm,1.1s
QLMT Earthquake Lak 77.30 44 *eP* **P 16 38 15.0 +0.7**
TPH Tonopah 77.40 53 *eP* **P 16 38 15.2 +0.2**
comp=Z,59nm,1.8s,mb5.2
TPH Tonopah 77.40 53 *eP* **P 16 38 15.2 +0.2**
TPH pmax pmax
comp=Z,59nm,1.8s,mb5.2
AKASG Malin Array Be 77.61 323 P **P 16 38 15.8 0.0**
comp=Z,13nm,0.8s,mb4.9,baz=44,slow=5.8,SNR=66
AKASG Malin Array Be 77.61 323 P **P 16 38 15.9 0.0**
YMR Madison River 77.66 44 *eP* **P 16 38 17.1 +0.8**
NB2 NORSAR Subarra 77.78 338 P **P 16 38 16.9 +0.3**
comp=Z,41nm,0.9s,mb5.4,baz=40,slow=5.6
NB2 NORSAR Subarra 77.78 338 P **P 16 38 16.9 +0.3**
baz=40,slow=5.6
NB2 NORSAR Subarra 77.78 338 P **P 16 38 16.9 +0.3**
NB2 pmax pmax
comp=Z,41nm,0.9s,mb5.4
NOA NORSAR Array B 77.78 338 P **P 16 38 16.9 +0.3**
comp=Z,24nm,0.8s,mb5.2,baz=39,slow=5.6,SNR=64
NOA LR LR 17 17 38.4
comp=Z,265nm,18.3s,MS4.6,baz=50,slow=40
YNR Norris Junctio 77.80 44 *eP* **P 16 38 18.0 +0.9**
YFT Old Faithful 77.86 45 *eP* **P 16 38 15.6 -1.8**
UMR Umm Al-Rimmam 77.87 297 *eP* **P 16 38 17.5 -0.2**
UMR AMb AMB 16 38 21.7
comp=Z,40nm,1.2s,mb5.2
MIB Mutribah 78.02 298 *eP* **P 16 38 18.9 +0.3**
MIB AMb AMB 16 38 20.5
comp=Z,46nm,0.8s,mb5.5
LKWY Lake 78.05 44 P **P 16 38 18.8 +0.3**
comp=Z,39nm,1.1s,mb5.2
LKWY Lake 78.05 44 P **P 16 38 18.8 +0.4**
LKWY pmax pmax
comp=Z,39nm,1.1s,mb5.2
KBD Kabd 78.08 297 *eP* **P 16 38 19.3 +0.4**
IMW Indian Meadow 78.12 45 *eP* **P 16 38 19.6 +0.8**
comp=Z,31nm,1.2s,mb5.1
DAC Darwin (Calif) 78.12 54 *eP* **P 16 38 18.5 -0.5**
comp=Z,15nm,1.0s,mb4.9
DAC Darwin (Calif) 78.12 54 *eP* **P 16 38 18.5 -0.5**
DAC pmax pmax
comp=Z,15nm,1.0s,mb4.9
QRN Al-Qurain 78.14 297 *eP* **P 16 38 19.5 +0.2**
QRN AMb AMB 16 38 23.6
comp=Z,72nm,1.7s,mb5.3
RRI2 Red Ridge 78.21 46 *eP* **P 16 38 19.8 +0.5**
comp=Z,77nm,1.7s,mb5.4
HVU Hansel Valley 78.22 48 *eP* **P 16 38 19.9 +0.6**
SUW Suwalki 78.32 328 *eP* **P 16 38 20.4 +0.7**
SUW Suwalki 78.32 328 *eP* **P 16 38 20.4 +0.7**
RDF Al-Radifah 78.32 297 *eP* **P 16 38 20.2 0.0**
RDF AMb AMB 16 38 21.1
comp=Z,65nm,0.8s,mb5.6
TPAW Teton Pass 78.35 45 *eP* **P 16 38 20.9 +0.8**
comp=Z,78nm,1.8s,mb5.3
SIM Simferopol' 78.44 317 *eP* **P 16 38 20.4 -0.1**
SIM pmax pmax
comp=Z,15nm,0.7s,mb5.0
REDW Red Top Meadow 78.48 45 *eP* **P 16 38 20.9 +0.1**
comp=Z,40nm,1.5s,mb5.1
LOHW Long Hollow 78.48 45 *eP* **P 16 38 21.3 +0.5**
comp=Z,47nm,1.8s,mb5.1
LOHW *e*pP pP 16 38 32.9 +0.2
AHID Auburn Hatcher 78.67 46 *eP* **P 16 38 21.6 -0.3**
comp=Z,29nm,1.1s,mb5.1
SPUT South Promonto 78.68 48 *eP* **P 16 38 22.2 +0.2**
MWC Mount Wilson 78.91 56 *eP* **P 16 38 22.9 -0.4**
HWUT Hardware Ranch 79.06 47 *eP* **P 16 38 24.3 +0.3**
comp=Z,50nm,1.5s,mb5.2
DUG Dugway 79.09 49 *eP* **P 16 38 24.1 -0.1**
comp=Z,34nm,1.3s,mb5.1
DUG LR LR
comp=Z,202nm,19.0s,MS4.5
DUG Dugway 79.09 49 *eP* **P 16 38 24.1 -0.1**
DUG pmax pmax
comp=Z,34nm,1.3s,mb5.1
DUG MLR MLR
comp=Z,202nm,19.0s,MS4.5
DGMT Dagmar 79.13 38 *eP* **P 16 38 24.4 +0.2**
comp=Z,29nm,0.9s,mb5.2
LAO LASA Array 79.15 41 *eP* **P 16 38 24.5 +0.1**
comp=Z,58nm,1.2s,mb5.4
GSC Goldstone 79.19 55 P **P 16 38 24.8 -0.1**
KONO Kongsberg 79.36 338 ⇑*iP* **P 16 38 25.8 +0.5**
TCUT Toone Canyon 79.44 48 *eP* **P 16 38 26.6 +0.6**
CTU Camp Tracy 79.47 48 *eP* **P 16 38 26.0 -0.3**
BW06 Boulder Array 79.60 45 *eP* **P 16 38 26.6 -0.3**
comp=Z,18nm,1.4s,mb4.8
PDAR Pinedale Array 79.60 45 P **P 16 38 27.1 +0.2**
comp=Z,2.4nm,0.7s,mb4.2,baz=297,slow=3.3,SNR=22
MALT Malatya 79.61 309 *eP* **P 16 38 27.5 +0.4**
comp=Z,22nm,1.3s,mb4.9
MALT Malatya 79.61 309 *eP* **P 16 38 27.5 +0.4**
MALT pmax pmax
comp=Z,22nm,1.3s,mb4.9
NLU North Lily Min 79.69 49 *eP* **P 16 38 27.7 +0.2**
JLU Jordanelle 79.71 48 *eP* **P 16 38 27.1 -0.4**
MPU Maple Canyon 79.93 49 *eP* **P 16 38 29.0 +0.2**
DAU Daniels Canyon 79.94 48 *eP* **P 16 38 29.6 +0.8**
ARUT Antelope Range 80.05 51 *eP* **P 16 38 29.8 +0.3**
NEN Nelson 80.33 54 *eP* **P 16 38 30.7 -0.3**
PFO Pinyon Flat Ob 80.36 56 *eP* **P 16 38 29.9 -1.3**
comp=Z,16nm,0.9s,mb5.0
PFO Pinyon Flat Ob 80.36 56 *eP* **P 16 38 29.9 -1.3**
PFO pmax pmax
comp=Z,16nm,0.9s,mb5.0
MSU Marysvale 80.45 50 *eP* **P 16 38 31.9 +0.3**
LDFC Landfair 80.47 54 *eP* **P 16 38 31.1 -0.6**
TMUT Trail Mountain 80.62 49 *eP* **P 16 38 32.6 +0.2**
TMUT *e*pP pP 16 38 42.2 -2.1
BAR Barrett 80.73 57 *eP* **P 16 38 32.5 -0.7**
LVV L'vov 80.73 325 *eP* **P 16 38 33.6 +0.8**
LVV *i* 16 38 41.6
LVV *e* 16 41 39.8
LVV *e*PPP PPP 16 43 30.4 +0.4
LVV *e*S S 16 48 38.4 +2.2
LVV *e*PS PS 16 49 45.6 +17
LVV MLR MLR
comp=Z,240nm,19.0s,MS4.6
LVV MLR MLR
comp=N,190nm,18.0s,MS4.6
LVV MLR MLR
comp=E,200nm,20.0s,MS4.6
SRU San Rafael 81.16 49 *eP* **P 16 38 35.4 +0.1**
KWP Kalwaria 81.49 325 *eP* **P 16 38 38.2 +1.4**
KWP Kalwaria 81.49 325 *eP* **P 16 38 38.2 +1.4**
RWWY Rawlins 81.64 45 *eP* **P 16 38 38.0 +0.3**
comp=E,48nm,1.2s,mb5.3
BR131 Keskin Array S 81.82 312 *eP* **P 16 38 39.0 +0.3**
comp=E,6.4nm,0.8s,mb4.6
BR131 *e*pP pP 16 38 50.7 +0.1
BRTR Keskin Array B 81.82 312 P **P 16 38 39.6 +0.9**
comp=E,8.3nm,0.8s,mb4.7,baz=104,slow=3.7,SNR=31
RSSD Black Hills 81.95 42 *eP* **P 16 38 39.0 -0.3**
comp=E,51nm,1.6s,mb5.2
RSSD Black Hills 81.95 42 *eP* **P 16 38 39.0 -0.3**
RSSD pmax pmax
comp=Z,51nm,1.6s,mb5.2
TIRR Tirgusor 81.95 319 ⇓*iP* **P 16 38 39.9 +0.6**
TIRR Tirgusor 81.95 319 ⇓*iP* **P 16 38 39.9 +0.6**
VRI Vrincioaia 81.96 320 ⇑*iP* **P 16 38 41.6 +2.3**
VRI Vrincioaia 81.96 320 ⇑*iP* **P 16 38 41.6 +2.2**
PMOR Pomariorio Ree 82.03 114 *eP* **P 16 38 40.5 +0.3**
comp=Z,58nm,1.3s,mb5.4
ULM Lac du Bonnet 82.03 33 P **P 16 38 39.2 -0.4**
comp=Z,8.4nm,0.9s,mb4.7,baz=312,slow=5.3,SNR=9.5
ULM Lac du Bonnet 82.03 33 *eP* **P 16 38 38.9 -0.7**
comp=Z,51nm,1.5s,mb5.2
ULM *e*pP pP 16 38 50.8 -0.7
KOLS Kolonicke sedl 82.17 325 *i*P **P 16 38 41.6 +1.3**
STHS Stebnicka Huta 82.33 326 *i*P **P 16 38 42.9 +1.8**
VAH Vaihoa 82.37 114 *eP* **P 16 38 41.1 -0.9**
comp=Z,28nm,1.0s,mb5.2
PAE Paea 82.38 117 *eP* **P 16 38 42.3 +0.3**
comp=Z,25nm,1.0s,mb5.1
OJC Ojcow 82.44 327 ⇓*iP* **P 16 38 42.5 +0.8**
PV10 Paradox Valley 82.53 49 *eP* **P 16 38 43.5 +1.1**

ISR Istrita 82.55 320 ⇓P **P 16 38 43.4 +1.1**
ISR Istrita 82.55 320 ⇓P **P 16 38 43.4 +1.1**
CRVS Cervenica-Dubn 82.58 325 *i*P **P 16 38 43.4 +1.0**
MLR Muntele Rosu 82.62 321 ⇓P **P 16 38 43.6 +0.9**
MLR Muntele Rosu 82.62 321 ⇓P **P 16 38 43.6 +0.9**
TVO Taravao 82.70 117 *eP* **P 16 38 44.2 +0.6**
comp=Z,82nm,1.1s,mb5.7
NIE Niedzica 82.77 326 *eP* **P 16 38 45.2 +1.9**
PHWY Pilot Hill 82.91 45 *eP* **P 16 38 44.8 +0.6**
PV01 Paradox Valley 82.97 49 *eP* **P 16 38 45.1 +0.5**
SMCO Snowmass 83.32 47 *eP* **P 16 38 47.7 +1.3**
KECS Kecovo 83.34 325 *i*P **P 16 38 47.4 +1.1**
RUE Ruedersdorf 83.38 331 *eP* **P 16 38 46.9 +0.5**
RUE *e*pP pP 16 38 57.8 -0.5
DRGR 83.42 323 ⇓P **P 16 38 46.8 +0.1**
DRGR 83.42 323 ⇓P **P 16 38 46.8 +0.1**
HILS Ha'il 83.42 298 P **P 16 38 48.3 +1.2**
OKC Ostrava-Krasne 83.46 327 ⇑*iP* **P 16 38 48.2 +1.3**
OKC *e*pP pP 16 39 00.8 +2.0
OKC AMS AMS 17 22 30.0
comp=Z,300nm,14.4s
KSP Ksiaz 83.55 329 *eP* **P 16 38 48.5 +1.2**
KSP Ksiaz 83.55 329 *eP* **P 16 38 47.8 +0.6**
KSP *e*pP pP 16 38 58.8 -0.4
BSEG Bad Segeberg 83.59 334 *eP* **P 16 38 48.4 +1.0**
ISCO Idaho Springs 83.76 46 *eP* **P 16 38 49.6 +1.0**
comp=Z,96nm,1.7s,mb5.7
ISCO LR LR
comp=Z,226nm,20.0s,MS4.5
ISCO Idaho Springs 83.76 46 *eP* **P 16 38 49.6 +1.0**
ISCO pmax pmax
comp=Z,96nm,1.7s,mb5.7
ISCO MLR MLR
comp=Z,226nm,20.0s,MS4.5
MORC Moravsky Berou 83.78 328 *eP* **P 16 38 48.9 +0.5**
comp=Z,36nm,1.2s,mb5.4
MORC *e*pP pP 16 38 59.8 -0.5
MORC Moravsky Berou 83.78 328 *eP* **P 16 38 48.9 +0.5**
MORC *e**PP pP 16 38 59.8 -0.6
MORC pmax pmax
comp=Z,36nm,1.2s,mb5.4
DPC Dobruska-Polom 83.90 329 ⇑*iP* **P 16 38 51.0 +2.0**
DPC *e*pP pP 16 39 02.9 +1.9
DPC AMS AMS 17 23 50.0
comp=Z,300nm,15.1s
UPC Upice 83.92 329 ⇑*iP* **P 16 38 50.6 +1.5**
UPC *e*pP pP 16 39 02.7 +1.6
PSZ Piszkesteto 84.02 325 ⇓*eP* **P 16 38 51.0 +1.3**
PSZ Piszkesteto 84.02 325 *eP* **P 16 38 50.5 +0.8**
comp=Z,86nm,1.1s,mb5.8
PSZ Piszkesteto 84.02 325 *eP* **P 16 38 50.5 +0.8**
PSZ pmax pmax
comp=Z,86nm,1.1s,mb5.8
VYHS Vyhne 84.11 326 *i*P **P 16 38 51.6 +1.5**
VYHS *e*PP PP 16 42 06.5 +0.3
QURS Qurayyt al Mil 84.33 304 P **P 16 38 54.0 +2.3**
AFFS 'Afif 84.45 295 P **P 16 38 53.4 +1.0**
PVCC Panska Ves 84.52 330 ⇑*iP* **P 16 38 53.7 +1.6**
PVCC *e*pP pP 16 39 05.7 +1.6
PVCC AMS AMS 17 21 50.0
comp=Z,300nm,15.1s
BRG Berggiesshubel 84.52 330 *i*P **P 16 38 53.0 +0.8**
comp=Z,29nm,1.0s,mb5.4
BRG *i* pP 16 39 05.3 +1.2
BRG Berggiesshubel 84.52 330 *i*P **P 16 38 53.0 +0.8**
BRG *i* pP 16 39 05.3 +1.2
BRG pmax pmax
comp=Z,29nm,1.0s,mb5.4
CLL Collm 84.58 331 ⇓P **P 16 38 52.9 +0.5**
comp=Z,logA/T=1.8,mb5.7
CLL *i* *PP pP 16 39 05.4 +1.0
CLL *e*PP PP 16 42 09.0 -0.9
CLL Collm 84.58 331 ⇓*iP* **P 16 38 52.9 +0.5**
comp=Z,68nm,1.0s,mb5.7
CLL *i* pP pP 16 39 05.4 +1.0
CLL Collm 84.58 331 ⇓*iP* **P 16 38 52.9 +0.5**
CLL *i* *PP pP 16 39 05.4 +1.0
CLL pmax pmax
comp=Z,68nm,1.0s,mb5.7
ISP Isparta 84.90 312 *i*P **P 16 38 56.3 +1.9**
PRU Pruhonice 84.94 329 ⇑*iP* **P 16 38 55.6 +1.4**
PRU *e*pP pP 16 39 07.6 +1.4
PRU AMS AMS 17 22 20.0
comp=Z,400nm,15.6s
TUC Tucson 85.01 54 *eP* **P 16 38 55.2 +0.1**
comp=Z,23nm,1.3s,mb5.2
TUC Tucson 85.01 54 *eP* **P 16 38 55.2 +0.2**
TUC pmax pmax
comp=Z,23nm,1.3s,mb5.2
ZST Bratislava 85.13 327 *i*P **P 16 38 57.2 +2.0**
CLZ Clausthal 85.21 332 *eP* **P 16 38 56.8 +1.2**
comp=Z,68nm,1.1s,mb5.7
CLZ Clausthal 85.21 332 *eP* **P 16 38 56.8 +1.2**
CLZ pmax pmax
comp=Z,68nm,1.1s,mb5.7
KAMS Al Khamasin 85.25 291 P **P 16 38 56.8 +0.3**
NKC Novy Kostel 85.63 330 ⇑*iP* **P 16 38 59.0 +1.4**
NKC *e*pP pP 16 39 11.6 +2.0
NKC AMS AMS 17 22 20.0
comp=Z,300nm,15.9s
MOX Moxa 85.65 331 *i*P **P 16 38 58.6 +0.9**
comp=Z,logA/T=1.5,mb5.5
MOX Moxa 85.65 331 *eP* **P 16 38 58.6 +0.9**
comp=Z,49nm,1.4s,mb5.5
MOX Moxa 85.65 331 *eP* **P 16 38 58.6 +0.9**
MOX pmax pmax
comp=Z,49nm,1.4s,mb5.5
KHC Kasperske Hory 86.00 329 ⇑*iP* **P 16 39 00.8 +1.4**
KHC *e*pP pP 16 39 13.1 +1.7
KHC PP PP 16 42 18.0 -3.3
KHC AMS AMS 17 24 30.0
comp=Z,400nm,17.4s
KHC Kasperske Hory 86.00 329 ⇑*iP* **P 16 39 00.8 +1.4**
KHC *e*pP pP 16 39 13.1 +1.7
KHC *e* 16 42 18.0
KHC LR LR
comp=Z,400nm,17.4s,MS4.9
GEC2 GERESS Array S 86.16 329 *eP* **P 16 39 01.1 +0.8**
comp=Z,13nm,1.2s,mb5.0
GEC2 GERESS Array S 86.16 329 *eP* **P 16 39 01.1 +0.8**
GEC2 pmax pmax
comp=Z,13nm,1.2s,mb5.0
GERES GERESS Array B 86.16 329 P **P 16 39 00.4 +0.2**
comp=Z,4.6nm,0.9s,mb4.7,baz=56,slow=4.8,SNR=31
GERES PP PP 16 42 20.0 -2.8
comp=Z,1.1nm,0.9s,baz=18,slow=8.4,SNR=4.3
LAZ Ladron 86.16 51 *eP* **P 16 39 01.1 +0.4**
ANMO Albuquerque 86.26 50 *eP* **P 16 39 02.1 +1.0**
comp=Z,31nm,1.1s,mb5.5
ANMO *e*pP pP 16 39 13.7 +0.6
ANMO LR LR
comp=Z,223nm,19.0s,MS4.6
ANMO Albuquerque 86.26 50 *eP* **P 16 39 02.2 +1.1**
ANMO *e**PP pP 16 39 13.7 +0.6
ANMO pmax pmax
comp=Z,31nm,1.1s
ANMO MLR MLR
comp=Z,223nm,19.0s
WET Wettzell 86.28 329 *eP* **P 16 39 02.3 +1.4**
comp=Z,29nm,1.6s,mb5.3
WET Wettzell 86.28 329 *eP* **P 16 39 02.3 +1.4**
WET pmax pmax
comp=Z,29nm,1.6s,mb5.3
LENM Lemitar 86.42 51 *eP* **P 16 39 02.6 +0.7**
GRUS Gruza 86.45 322 *i*P **P 16 39 02.4 +0.6**
WTSB Winterswijk 86.45 334 *eP* **P 16 39 02.4 +0.8**
comp=Z,33nm,1.4s,mb5.4
ARSA Arzberg 86.55 327 ⇓*iP* **P 16 39 03.3 +1.1**
comp=Z,52nm,2.1s,mb5.4
LPM Los Pinos Moun 86.55 51 *eP* **P 16 39 03.0 +0.5**
GRA1 Grafenberg Arr 86.55 331 *eP* **P 16 39 03.7 +1.5**
comp=Z,75nm,1.1s,mb5.8
GRA1 *e*pP pP 16 39 16.3 +2.1
GRF Grafenberg Arr 86.55 331 *eP* **P 16 39 03.7 +1.5**
comp=Z,75nm,1.1s,mb5.8
GRF *e*pP pP 16 39 16.3 +2.1
GRF Grafenberg Arr 86.55 331 *eP* **P 16 39 03.7 +1.5**
GRF *e**PP pP 16 39 16.3 +2.1
GRF pmax pmax
comp=Z,75nm,1.1s,mb5.8
GRF Grafenberg Arr 86.55 331 *eP* **P 16 39 03.7 +1.5**
GRF *e**PP pP 16 39 16.3 +2.1
GRF pmax pmax
comp=Z,75nm,1.1s,mb5.8

BNM Barren Site 86.65 51 *eP* **P 16 39 03.6 +0.5**
MOA Molln 86.66 328 ⇓*iP* **P 16 39 03.9 +1.1**
comp=Z,58nm,2.2s,mb5.4
DIVS Divcibare 86.67 322 ⇑*iP* **P 16 39 03.5 +0.6**
JMQS Jabal Moqyreh 86.81 303 P **P 16 39 05.0 +1.0**
BBLS Bajina Basta - 87.13 323 *i*P **P 16 39 07.7 +2.5**
TNS Taunus Mts 87.24 332 *eP* **P 16 39 06.4 +0.9**
comp=Z,26nm,1.2s,mb5.3
TNS Taunus Mts 87.24 332 *eP* **P 16 39 06.4 +0.9**
TNS pmax pmax
comp=Z,26nm,1.2s,mb5.3
HAQS Haql 87.38 303 P **P 16 39 07.5 +0.8**
DJNS Zahran al Janu 87.51 289 P **P 16 39 09.2 +1.7**
LEGS Legarje 87.61 326 *eP* **P 16 39 07.7 +0.3**
BDAS Al Bad' 87.63 303 P **P 16 39 08.5 +0.6**
KBA Koelnbreinsper 87.66 328 ⇑*iP* **P 16 39 08.5 +0.9**
comp=Z,39nm,2.4s,mb5.2
KBA Koelnbreinsper 87.66 328 ⇑*iP* **P 16 39 08.5 +0.9**
KBA pmax pmax
comp=Z,39nm,2.4s,mb5.2
FUR Furstenfeldbru 87.72 330 *eP* **P 16 39 09.2 +1.4**
comp=Z,26nm,0.8s,mb5.5
FUR Furstenfeldbru 87.72 330 *eP* **P 16 39 09.2 +1.4**
FUR pmax pmax
comp=Z,26nm,0.8s,mb5.5
HGN Heimansgroeve 87.75 334 *eP* **P 16 39 08.5 +0.6**
comp=Z,29nm,1.2s,mb5.4
HGN *e*pP pP 16 39 20.9 +1.0
CBKS Cedar Bluff 87.86 44 *eP* **P 16 39 08.7 -0.1**
comp=Z,21nm,0.7s,mb5.5
CBKS LR LR
comp=Z,188nm,21.0s,MS4.5
CBKS Cedar Bluff 87.86 44 *eP* **P 16 39 08.7 -0.1**
CBKS pmax pmax
comp=Z,21nm,0.7s,mb5.5
CBKS MLR MLR
comp=Z,188nm,21.0s,MS4.5
UMJS Umm Lajj 87.94 299 P **P 16 39 11.0 +1.5**
BOJS Bojanci 87.97 326 *eP* **P 16 39 09.4 +0.3**
MOTA Moosalm 88.43 329 ⇑*iP* **P 16 39 12.0 +0.7**
comp=Z,9.0nm,1.4s,mb4.8
MOTA Moosalm 88.43 329 ⇑*iP* **P 16 39 12.0 +0.7**
MOTA pmax pmax
comp=Z,9.0nm,1.4s,mb4.8
SCHQ Schefferville 88.53 16 P **P 16 39 12.2 +0.7**
comp=Z,13nm,0.9s,mb5.2,baz=346,slow=5.9,SNR=14
WLF Walferdange 88.56 333 *eP* **P 16 39 12.3 +0.5**
comp=Z,58nm,1.7s,mb5.6
WLF Walferdange 88.56 333 *eP* **P 16 39 12.4 +0.5**
WLF pmax pmax
comp=Z,57nm,1.7s,mb5.6
GIVF Givet 88.70 334 *eP* **P 16 39 12.5 0.0**
BFO Black Forest 88.80 331 *eP* **P 16 39 13.1 +0.1**
comp=Z,15nm,1.1s,mb5.2
BFO Black Forest 88.80 331 *eP* **P 16 39 13.1 +0.1**
BFO pmax pmax
comp=Z,15nm,1.1s,mb5.2
BAIF Baives 88.95 335 *eP* **P 16 39 13.7 0.0**
DAVA Damuels 88.99 330 ⇓*iP* **P 16 39 14.2 +0.2**
comp=Z,80nm,2.8s,mb5.6
CPRX Cap Rock 89.14 50 *eP* **P 16 39 14.9 -0.1**
CDF Champ du Feu 89.15 332 *eP* **P 16 39 14.7 0.0**
comp=Z,27nm,1.1s,mb5.2
CDF Champ du Feu 89.15 332 *eP* **P 16 39 14.7 0.0**
CDF pmax pmax
comp=Z,14nm,1.1s,mb5.2
GDL2 Guadalupe Moun 89.35 51 *eP* **P 16 39 16.2 +0.1**
DLF Lyons Farm 89.46 342 *eP* **P 16 39 16.0 -0.1**
DSB Dublin 89.47 342 *eP* **P 16 39 16.3 +0.2**
comp=Z,7.1nm,0.8s,mb5.0
DCN Croghan 89.61 342 *eP* **P 16 39 17.0 +0.3**
HINF Hinteralfeld 89.80 332 *eP* **P 16 39 17.4 -0.4**
MEZF Maizieres J'vi 89.93 333 *eP* **P 16 39 18.9 +0.5**
WMOK Wichita Mounta 91.18 46 *eP* **P 16 39 24.6 0.0**
comp=Z,26nm,1.2s,mb5.4
WMOK *e*pP pP 16 39 36.1 -0.6
WMOK Wichita Mounta 91.18 46 *eP* **P 16 39 24.6 0.0**
WMOK *e**PP pP 16 39 36.1 -0.6
WMOK pmax pmax
comp=Z,26nm,1.2s,mb5.4
LOR Lormes 91.41 333 *eP* **P 16 39 25.2 -0.1**
comp=Z,38nm,1.2s,mb5.3
LOR Lormes 91.41 333 *eP* **P 16 39 25.2 -0.1**
LOR pmax pmax
comp=Z,19nm,1.2s,mb5.3
LTX Lajitas 91.65 53 *eP* **P 16 39 27.1 +0.2**
comp=Z,49nm,1.3s,mb5.7
LTX *e*pP pP 16 39 38.6 -0.3
LTX Lajitas 91.65 53 *eP* **P 16 39 27.1 +0.2**
LTX *e**PP pP 16 39 38.6 -0.3
LTX pmax pmax
comp=Z,49nm,1.3s,mb5.7
TXAR Lajitas Array 91.65 53 P **P 16 39 27.6 +0.7**
comp=Z,8.7nm,0.8s,mb5.2,baz=297,slow=3.4,SNR=58
TXAR LR LR 17 18 35.7
comp=Z,197nm,18.5s,MS4.6,baz=15,slow=34
FLN La Foliniere 91.68 336 *eP* **P 16 39 26.4 -0.1**
comp=Z,33nm,1.0s,mb5.3
FLN La Foliniere 91.68 336 *eP* **P 16 39 26.4 -0.1**
FLN pmax pmax
comp=Z,16nm,1.0s,mb5.3
SSF Saint Saulge 91.71 333 *eP* **P 16 39 26.7 0.0**
comp=Z,22nm,1.2s,mb5.4
SSF Saint Saulge 91.71 333 *eP* **P 16 39 26.7 0.0**
SSF pmax pmax
comp=Z,22nm,1.2s,mb5.4
LPL La Plagne 91.71 331 *eP* **P 16 39 27.1 +0.3**
comp=Z,39nm,1.0s,mb5.4
LPL La Plagne 91.71 331 *eP* **P 16 39 27.1 +0.3**
LPL pmax pmax
comp=Z,19nm,1.0s,mb5.4
LPG La Plagne 91.72 331 *eP* **P 16 39 27.2 +0.4**
comp=Z,54nm,1.1s,mb5.5
LPG La Plagne 91.72 331 *eP* **P 16 39 27.2 +0.4**
LPG pmax pmax
comp=Z,27nm,1.1s,mb5.5
SMF Signal de Mont 91.93 333 *eP* **P 16 39 27.6 -0.1**
comp=Z,64nm,1.5s,mb5.4
SMF Signal de Mont 91.93 333 *eP* **P 16 39 27.6 -0.1**
SMF pmax pmax
comp=Z,32nm,1.5s,mb5.4
AVF Avril sur Loir 92.00 333 *eP* **P 16 39 28.1 +0.1**
comp=Z,67nm,1.0s,mb5.6
AVF Avril sur Loir 92.00 333 *eP* **P 16 39 28.1 +0.1**
AVF pmax pmax
comp=Z,34nm,1.0s,mb5.6
BNI Bardonecchia 92.11 330 *eP* **P 16 39 28.4 -0.2**
comp=Z,12nm,1.0s,mb5.2
BNI Bardonecchia 92.11 330 *eP* **P 16 39 28.4 -0.2**
BNI pmax pmax
comp=Z,12nm,1.0s,mb5.2
GRR Gorron 92.13 336 *eP* **P 16 39 28.6 0.0**
comp=Z,83nm,1.1s,mb5.7
GRR Gorron 92.13 336 *eP* **P 16 39 28.6 0.0**
GRR pmax pmax
comp=Z,41nm,1.1s,mb5.7
MBDF Montbardon 92.34 330 *eP* **P 16 39 29.2 -0.4**
comp=Z,21nm,0.8s,mb5.2
MBDF Montbardon 92.34 330 *eP* **P 16 39 29.2 -0.4**
MBDF pmax pmax
comp=Z,11nm,0.8s,mb5.2
ORIF Oris-en-Rattie 92.55 331 *eP* **P 16 39 30.6 0.0**
comp=Z,24nm,1.0s,mb5.3
ORIF Oris-en-Rattie 92.55 331 *eP* **P 16 39 30.6 0.0**
ORIF pmax pmax
comp=Z,12nm,1.0s,mb5.3
SBF Sospel 92.76 329 *eP* **P 16 39 30.8 -0.8**
comp=Z,64nm,1.0s,mb5.7
SBF Sospel 92.76 329 *eP* **P 16 39 30.8 -0.8**
SBF pmax pmax
comp=Z,32nm,1.0s,mb5.7
SGMF Saint Gilles 92.80 337 *eP* **P 16 39 31.7 0.0**
comp=Z,55nm,1.2s,mb5.6
SGMF Saint Gilles 92.80 337 *eP* **P 16 39 31.7 0.0**
SGMF pmax pmax
comp=Z,27nm,1.2s,mb5.5
TCF Toulx Ste Croi 92.84 334 *eP* **P 16 39 32.2 +0.3**
comp=Z,36nm,1.1s,mb5.4
TCF Toulx Ste Croi 92.84 334 *eP* **P 16 39 32.2 +0.3**
TCF pmax pmax
comp=Z,18nm,1.1s,mb5.4
ROSF Rostrenen 92.96 338 *eP* **P 16 39 32.4 0.0**
comp=Z,42nm,1.1s,mb5.5
ROSF Rostrenen 92.96 338 *eP* **P 16 39 32.4 0.0**
ROSF pmax pmax
comp=Z,21nm,1.1s,mb5.5

VIVF	Saint-Julien-I	93.09	331	eP		P	16 39 33.2	+0.1
	comp=Z,35nm,1.0s,mb5.5							
VIVF	Saint-Julien-I	93.09	331	eP		P	16 39 33.2	+0.1
VIVF				pmax	pmax			
	comp=Z,18nm,1.0s,mb5.5							
CCM	Cathedral Cave	93.11	40	eP		P	16 39 33.2	-0.1
	comp=Z,22nm,1.1s,mb5.5							
CCM	Cathedral Cave	93.11	40	eP		P	16 39 33.3	-0.1
CCM				pmax	pmax			
	comp=Z,22nm,1.1s,mb5.5							
PGF	Pioggiola	93.12	327	eP		P	16 39 32.4	-0.9
	comp=Z,45nm,1.3s,mb5.4							
PGF	Pioggiola	93.12	327	eP		P	16 39 32.4	-0.9
PGF				pmax	pmax			
	comp=Z,23nm,1.3s,mb5.5							
QUIF	Quistinic	93.30	338	eP		P	16 39 33.7	-0.2
FRF	La Foret Royal	93.34	329	eP		P	16 39 33.6	-0.6
	comp=Z,20nm,0.9s,mb5.2							
FRF	La Foret Royal	93.34	329	eP		P	16 39 33.6	-0.6
FRF				pmax	pmax			
	comp=Z,10.0nm,0.9s,mb5.2							
JCT	Junction City	93.42	50	eP		P	16 39 34.7	-0.2
	comp=Z,12nm,0.8s,mb5.4							
JCT	Junction City	93.42	50	eP		P	16 39 34.7	-0.2
JCT				pmax	pmax			
	comp=Z,12nm,0.8s,mb5.4							
MFF	Saint Martin d	93.43	335	eP		P	16 39 35.0	+0.4
	comp=Z,45nm,1.1s,mb5.5							
MFF	Saint Martin d	93.43	335	eP		P	16 39 35.0	+0.4
MFF				pmax	pmax			
	comp=Z,23nm,1.1s,mb5.5							
SMRF	Simiane la Rot	93.45	330	eP		P	16 39 34.8	+0.1
	comp=Z,45nm,1.2s,mb5.5							
LMR	La Mourre	93.58	329	eP		P	16 39 34.8	-0.5
	comp=Z,63nm,1.1s,mb5.7							
LMR	La Mourre	93.58	329	eP		P	16 39 34.8	-0.5
LMR				pmax	pmax			
	comp=Z,32nm,1.1s,mb5.7							
RJF	Les Rejaudoux	93.94	333	eP		P	16 39 37.2	+0.3
	comp=Z,56nm,1.2s,mb5.6							
RJF	Les Rejaudoux	93.94	333	eP		P	16 39 37.2	+0.3
RJF				pmax	pmax			
	comp=Z,28nm,1.2s,mb5.6							
CAF	Calviac	94.05	333	eP		P	16 39 38.1	+0.7
	comp=Z,31nm,1.0s,mb5.4							
CAF	Calviac	94.05	333	eP		P	16 39 38.1	+0.7
CAF				pmax	pmax			
	comp=Z,16nm,1.0s,mb5.4							
LASF	Ste Croix	94.06	331	eP		P	16 39 37.8	+0.3
	comp=Z,28nm,1.1s,mb5.3							
LFF	La Frestale	94.54	334	eP		P	16 39 40.3	+0.7
MTLF	Montolieu	95.33	332	eP		P	16 39 43.7	+0.4
SWET	Sewanee	98.05	38	P		P	16 39 55.4	-0.5
ESDC	Sonseca Array	100.83	334	PP		PP	16 44 16.8	-2.4
	comp=Z,0.2nm,0.3s,baz=37,slow=7.8,SNR=4.1							
BOSA	Boshof	126.63	257	PKP		PKPdf	16 45 23.1	+1.2
	comp=Z,2.4nm,0.8s,baz=113,slow=3.5,SNR=3.6							
SDV	Santo Domingo	127.47	43	PKP		PKPdf	16 45 25.4	+1.5
	comp=Z,5.5nm,0.3s,baz=225,slow=2.2,SNR=22							
SDV	Santo Domingo	127.47	43	ePKPdf		PKPdf	16 45 24.9	+0.9
SDV				epPKPdf			16 45 37.4	
DBIC	Dimbokro	129.41	316	PKP		PKPdf	16 45 29.1	+1.4
	comp=Z,5.3nm,1.0s,baz=315,slow=6.7,SNR=3.0							
SNAA	Sanae	137.56	196	i PKIKP		PKPdf	16 45 42.9	+1.6
SAML	Samuel	146.08	50	ePKP		PKPdf	16 45 59.0	+1.1
SAML				epPKPdf			16 46 11.8	
LPAZ	La Paz	147.63	66	PKPbc		PKPdf	16 46 03.7	+3.4
	comp=Z,16nm,0.8s,baz=345,slow=4.6,SNR=27							
LPAZ	La Paz	147.63	66	ePKP		PKPdf	16 46 02.6	+2.3
LPAZ	La Paz	147.63	66	PKP2		PKPab	16 46 03.7	-3.7
LPAZ				pmax	pmax			
	comp=Z,16nm,0.8s							
USHA	Ushuaia	149.66	144	PKP		PKPdf	16 46 03.3	+0.9
	comp=Z,18nm,1.1s,baz=29,slow=6.3,SNR=3.2							
USHA				PKPbc		PKPdf	16 46 09.4	+6.9
	comp=Z,46nm,1.0s,baz=248,slow=4.0,SNR=8.4							
LVC	Limon Verde	150.44	77	PKPbc		PKPdf	16 46 12.6	+8.0
	comp=Z,14nm,0.9s,baz=296,slow=1.5,SNR=31							
LVC	Limon Verde	150.44	77	ePKPdf		PKPdf	16 46 07.7	+3.1
LVC				ePKPbc		PKPdf	16 46 11.8	+7.2
LVC				PKPbc		PKPdf	16 46 12.6	+8.0
SIV	San Ignacio	152.60	56	PKP		PKPdf	16 46 10.1	+2.2
	comp=Z,6.5nm,0.9s,baz=318,slow=0.6,SNR=24							
SIV				PKPbc		PKPdf	16 46 16.8	+8.9
	comp=Z,16nm,1.0s,baz=336,slow=2.1,SNR=21							
PLCA	Paso Flores	152.87	115	PKPbc		PKPdf	16 46 16.8	+9.2
	comp=Z,4.9nm,0.9s,baz=248,slow=6.3,SNR=5.7							
CFAA	Coronel Fontan	154.16	94	PKPbc		PKPdf	16 46 18.8	+9.0
	comp=Z,0.6nm,0.8s,baz=326,slow=4.0,SNR=7.1							
BDFB	Brasilia	159.91	30	PKPab		PKPab	16 46 58.8	-0.4
	comp=Z,5.7nm,0.7s,baz=351,slow=3.6,SNR=5.6							
BDFB	Brasilia	159.91	30	PKP2		PKPab	16 46 58.8	-0.4
BDFB				pmax	pmax			
	comp=Z,6.0nm,0.7s							
CPUP	Villa Florida	161.50	73	PKP		PKPdf	16 46 20.5	+1.8
	comp=Z,3.2nm,1.0s,baz=228,slow=8.9,SNR=3.6							
CPUP				PKPab		PKPab	16 47 04.8	-1.0
	comp=Z,3.3nm,0.8s,baz=269,slow=8.4,SNR=4.5							
CPUP	Villa Florida	161.50	73	PKP		PKPdf	16 46 20.5	+1.8
CPUP				PKPab		PKPab	16 47 04.8	-1.0

JMA 09 16:31:01.8±0.7, 33.41N×142.62E, h44km, M3.7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	2.37	264	P	P	16 31 39.2	+0.1
CHOJ	Chosi	2.71	328	P	P	16 31 44.7	+0.8
JYN	Shimob	3.96	303	P	P	16 32 02.9	+1.3
JAG	Ashikaga	3.98	320	S	S	16 32 47.6	-0.2
JRY	Ryogami san	4.02	311	P	P	16 32 03.3	+0.8
JRY				S	S	16 32 48.4	-0.5
JMM	Marumori	4.69	342	P	P	16 32 10.5	-1.5
JMM				S	S	16 33 01.2	-4.6
MAT	Matsushiro	4.78	312	P	P	16 32 14.4	+1.1
MAT				eS	S	16 33 07.4	-0.8
JMK	Ichinoseki	5.64	349	P	P	16 32 23.4	-1.9

*IDC **09** 16:55:52.8±1.5, 11.76N×126.02E, mb3.7/5, mb1 3.8/5, mb1mx3.7/17, mbtmp3.7/5, Error ellipse: s-maj=157.0km s-min=19.7km az=67.0*
*MAN **09** 16:55:56.9, 11.75N×125.83E, h20km, mb4.4, ML3.2, MS3.0*

ISC 09 16:55:51.8±1.8, 11.88N±0.05×126.09E±0.07, h4km±10km, n19, σ1°01/25, mb3.7/5, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	Borongan	0.69	246	eP	Pg	16 56 06.1	+0.5
BESP				eS	Sg	16 56 14.5	-0.3
PLP	Palo	1.30	237	i P	Pb	16 56 15.7	-0.7
PLP				eS	Sb	16 56 29.8	-3.5
CNP	Catarman	1.52	294	eP	Pn	16 56 19.6	-0.3
CNP				eS	Sb	16 56 39.2	-0.6
MSLP	Maasin	2.11	215	eP	Pn	16 56 29.6	+1.3
MSLP				eS	Sn	16 56 57.0	+1.6
SCPH	Surigao	2.17	196⇑	eP	Pn	16 56 29.1	0.0
PVCP	Virac	2.54	312	eP	Pn	16 56 33.9	-0.5
PVCP				eS	Sn	16 57 18.1	+12
BUTP	Butuan	2.93	189	eP	Pn	16 56 41.0	+1.0
BUTP				eS	Sn	16 57 21.6	+5.5
RCP	Roxas	3.29	265⇓	eP	Pn	16 56 46.3	+1.2
GUIM	Jordan	3.65	250	eP	Pn	16 56 49.6	-0.7
OTRP	Odiongan	4.00	277	eP	Pn	16 56 56.1	+0.9
PAGZ	Pagadian	4.81	214	eP	Pn	16 57 05.9	-0.9
POLP	Polillo Island	4.93	305	eP	Pn	16 57 10.2	+1.8
IPIL	Ipil	5.34	221	eP	Pn	16 57 13.1	-1.1
CAUP	Cauayan	6.51	321	eP	Pn	16 57 30.1	-0.6
WRA	Warramunga Arr	32.65	166	P	P	17 02 24.7	-2.6
	0.2nm,0.4s,mb3.4,baz=347,slow=9.2,SNR=7.2						
SONM	Songino Array	39.45	339	P	P	17 03 25.5	+0.7
	0.1nm,0.3s,mb3.0,baz=154,slow=10,SNR=3.3						
STKA	Stephens Creek	45.98	162	P	P	17 04 17.8	-0.3
	4.2nm,0.8s,mb4.4,baz=334,slow=8.8,SNR=10						
MKAR	Makanchi Array	50.65	322	P	P	17 04 54.3	+0.2
	1.9nm,0.9s,mb4.0,baz=117,slow=8.1,SNR=10						
BVAR	Borovoye Array	60.25	325	P	P	17 06 03.2	-0.3
	0.3nm,0.5s,mb3.6,baz=121,slow=8.6,SNR=4.3						

MAN 09 17:55:55.5, 11.73N×125.64E, h16km, mb4.1, ML2.9, MS2.7, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	Borongan	0.24	237	eP	Pb	17 56 01.9	+0.9
BESP				eS	Sb	17 56 10.6	+5.9
PLP	Palo	0.86	229	eP	Pb	17 56 11.7	+0.2
PLP				eS	Sb	17 56 25.4	+2.8
CNP	Catarman	1.23	309	eP	Pb	17 56 16.6	-1.3
CNP				eS	Sb	17 56 35.3	+1.9
MSLP	Maasin	1.76	206	eP	Pn	17 56 26.0	+0.3
MSLP				eS	Sn	17 56 53.4	+5.5
PVCP	Virac	2.35	322	eP	Pn	17 56 30.0	-4.2
PVCP				eS	Sn	17 57 12.5	+9.5

*IDC **09** 18:05:50.3±1.1, 1.12N×97.33E, mb4.0/7, mb1 4.1/7, mb1mx3.9/18, mbtmp4.0/7, Error ellipse: s-maj=50.6km s-min=19.3km az=66.0*
*NEIC **09** 18:05:53.9±0.6, 1.05N×97.24E, mb4.0/3, Error ellipse: s-maj=18.6km s-min=10.5km az=71.0*

ISC 09 18:05:52.9±0.8, 1.1N±0.1×97.3E±0.2, h33km, n11, σ0°58/11, mb4.0/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.37	39	ePn	Pn	18 07 13.4	+0.4
LSA	Lhasa	29.05	349	P	P	18 11 51.8	-0.6
	1.6nm,0.7s,mb3.9						
WRA	Warramunga Arr	41.92	122	P	P	18 13 42.2	-0.3
	0.8nm,0.7s,mb3.5,baz=300,slow=9.0,SNR=10						
WRAB	Tennant Creek	41.93	122	eP	P	18 13 41.8	-0.7
	2.8nm,0.9s,mb3.9						
WRAB				epP	pP	18 13 50.7	-1.6
SONM	Songino Array	47.23	8	P	P	18 14 25.5	+0.8
	1.9nm,0.5s,mb4.3,baz=193,slow=9.4,SNR=17						
SONM				PcP	PcP	18 15 56.3	+0.2
	0.9nm,0.8s,baz=182,slow=3.3,SNR=5.0						
MKAR	Makanchi Array	47.37	346	P	P	18 14 26.2	+0.4
	2.0nm,0.7s,mb4.2,baz=158,slow=8.7,SNR=13						
STKA	Stephens Creek	53.23	132	P	P	18 15 10.9	+0.2
	1.9nm,0.8s,mb4.1,baz=328,slow=13,SNR=3.8						
ZAL	Zalesovo	53.67	351	P	P	18 15 13.3	-0.3
	1.5nm,0.4s,mb4.3,baz=332,slow=7.3,SNR=6.5						
BVAR	Borovoye Array	56.38	341	P	P	18 15 32.5	-0.7
	1.2nm,0.6s,mb4.1,baz=236,slow=40,SNR=5.6						
MAW	Mawson	72.61	193	P	P	18 17 19.9	+1.3
	1.6nm,0.7s,mb4.1,baz=57,slow=4.6,SNR=3.5						
MAW	Mawson	72.61	193	eP	P	18 17 18.9	+0.3
	2.5nm,0.8s,mb4.2						
MAW				epP	pP	18 17 26.4	-2.5

MOS 09 18:51:59.7±1.3, 56.51N×114.87E, h10km, mb4.0/1, 1C, Error ellipse: s-maj=29.8km s-min=20.9km az=151.8, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLYR	Nelyaty	0.46	92	ePG	Pg	18 52 08.2	-0.9
NLYR				e		18 52 14.7	
NLYR				pmax	pmax		
	comp=Z,92nm,0.2s						
NLYR				smax			
	comp=N,815nm,0.8s						
SVKR	Severomuysk	0.83	242	ePG	Pg	18 52 13.8	-2.6
SVKR				e		18 52 24.3	
SVKR				pmax	pmax		
	comp=Z,238nm,0.1s						
SVKR				smax			
	comp=E,1μm,0.4s						
BOD	Bodaibo	1.40	341	ePG	Pg	18 52 24.7	-2.9
BOD				e		18 52 43.5	
BOD				pmax	pmax		
	comp=Z,88nm,0.2s						
BOD				smax			
	comp=E,643nm,0.2s						
YOA	Uoyan	1.79	259⇑	i PN	Pn	18 52 31.2	+0.2
YOA				i		18 52 56.8	
YOA				pmax	pmax		
	comp=Z,48nm,0.4s						
YOA				smax			
	comp=N,661nm,0.5s						
CRS	Chara	1.92	77	ePN	Pn	18 52 34.2	+1.4
CRS				e		18 52 59.1	
CRS				pmax	pmax		
	comp=Z,26nm,0.2s						
CRS				smax			
	comp=E,247nm,0.4s						
KMO	Kumora	2.14	255	ePN	Pn	18 52 37.2	+1.2
KMO				e		18 53 05.7	
KMO				pmax	pmax		
	comp=Z,29nm,0.5s						
KMO				smax			
	comp=N,276nm,1.0s						

*IDC **09** 19:11:26.8±1.0, 33.28N×142.69E, mb3.7/5, mb1 3.9/9, mb1mx3.8/22, mbtmp3.9/9, ML3.9/3, MS2.8/2, Ms1 2.8/2, ms1mx2.5/27, Error ellipse: s-maj=25.8km s-min=21.2km az=87.0*
*JMA **09** 19:11:31.7±0.4, 33.44N×142.46E, h74km, M3.4*
*NEIC **09** 19:11:33.1±0.7, 33.53N×142.64E, h35km, mb4.4/3, Error ellipse: s-maj=16.5km s-min=10.2km az=60.0*

ISC 09 19:11:30.1±1.6, 33.45N±0.04×142.56E±0.06, h31km±13km, n34, σ1°17/47, mb4.0/8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	1.78	313	P	Pn	19 12 00.1	+0.8
BSO1				eS	Sn	19 12 22.2	+1.1
BSO3	Boso 3	2.17	309	P	Pn	19 12 06.1	+1.2
BSO3				eS	Sn	19 12 32.9	+1.8
JHJ2	Mitsune	2.32	262	P	Pn	19 12 07.6	+0.4
JHJ2				eS	Sn	19 12 34.7	-0.3
JHJ	Hachijo jima 2	2.35	263	Pn	Pn	19 12 07.3	-0.2
	39nm,0.3s,baz=249,slow=15,SNR=16						
JHJ				Sn	Sn	19 12 32.9	-2.8
	70nm,0.3s,baz=81,slow=23,SNR=5.1						
BSO4	Boso 4	2.40	310	P	Pn	19 12 09.7	+1.5
BSO4				eS	Sn	19 12 38.1	+1.3
JIM2	Oshima 3	2.89	297	P	Pn	19 12 14.7	-0.5
JIM2				eS	Sn	19 12 47.8	-1.5
JIZS	Izushimoda	3.31	293	P	Pn	19 12 20.9	-0.2
JIZS				eS	Sn	19 12 58.1	-1.8
JYT	Yasato	3.38	326	P	Pn	19 12 22.7	+0.5
JYT				eS	Sn	19 13 01.3	-0.5
JOD2	Odawara 2	3.39	303	P	Pn	19 12 21.9	-0.5
JHO	Hitachi	3.55	333	P	Pn	19 12 24.3	-0.3
JHO				eS	Sn	19 13 03.2	-2.8
JYN	Shimob	3.90	303	P	Pn	19 12 29.8	+0.3
JYN				eS	Sn	19 13 14.1	-0.6
JFK	Kawauchi	4.14	341	P	Pn	19 12 31.8	-1.2
JNY	Yasuok	4.33	297	P	Pn	19 12 36.9	+1.3
JMM	Marumori	4.63	342	P	Pn	19 12 38.7	-1.3
JMM				eS	Sn	19 13 28.8	-4.6
MAJO	Matsushiro	4.72	312	ePn	Pn	19 12 42.1	+0.9
MAT	Matsushiro	4.72	312	P	Pn	19 12 41.4	+0.2
MAT				S	Sn	19 13 35.1	-0.5
MAT	Matsushiro	4.72	312	P	Pn	19 12 42.2	+1.0
MAT				eS	Sn	19 13 34.5	-1.1
MAT	Matsushiro	4.72	312	eP	Pn	19 12 41.0	-0.2
MAT				eS	Sn	19 13 35.0	-0.6
JIE	Ise	4.96	283	P	Pn	19 12 45.2	+0.7
CBIJ	Chichi jima	6.34	183	Pn	Pn	19 13 00.8	-3.3
	11nm,0.3s,baz=288,slow=21,SNR=8.8						
CBIJ				Sn	Sn	19 14 05.8	-10
	0.5nm,0.3s,baz=265,slow=20,SNR=2.1						
JNU	Nakatsue	9.79	271	Pn	P	19 13 52.0	+0.1
JNU				LR	LR	19 17 20.8	
	comp=Z,64nm,20.5s,baz=55,slow=36						
JNU	Nakatsue	9.79	271	Pn	P	19 13 52.0	+0.1
JNU				LR	LR	19 17 20.8	
ASAJ	Asahikawa	10.65	0	Pn	P	19 14 01.3	-2.5
	0.9nm,0.3s,baz=213,slow=6.2,SNR=11						
JOW	Kunigami	14.01	246	LR	LR	19 19 32.1	
	comp=Z,39nm,20.6s,baz=149,slow=35						
SONM	Songino Array	30.66	309	P	P	19 17 45.4	+1.4
	1.4nm,0.8s,mb3.9,baz=105,slow=8.5,SNR=9.0						
MKAR	Makanchi Array	46.88	305	P	P	19 19 59.7	+0.4
	1.0nm,0.8s,mb3.8,baz=90,slow=8.5,SNR=5.8						
KURK	Kurchatov	48.93	311	eP	P	19 20 15.9	+0.7
	3.5nm,0.8s,mb4.4						
KURK				epP	pP	19 20 24.0	-0.5
ILAR	Eielson Array	52.05	31	P	P	19 20 38.0	-0.8
	0.5nm,0.7s,mb3.6,baz=247,slow=6.3,SNR=4.4						
WRAB	Tennant Creek	53.66	190	eP	P	19 20 51.3	0.0
	1.8nm,0.7s,mb4.1						
WB2	Warramunga Arr	53.67	190	eP	P	19 20 52.0	+0.6
WRA	Warramunga Arr	53.67	190	P	P	19 20 48.0	-3.4
	0.7nm,0.5s,mb3.8,baz=7.9,slow=7.7,SNR=21						
FITZ	Fitzroy Crossi	53.75	200	eP	P	19 20 53.4	+1.4
	8.4nm,1.9s,mb4.3						
AKASG	Malin Array Be	77.71	323	P	P	19 23 26.2	+0.9
	0.5nm,0.3s,mb3.9,baz=247,slow=30,SNR=5.8						
LPAZ	La Paz	147.50	66	PKPbc	PKPdf	19 31 15.6	+1.3
	0.5nm,0.5s,baz=4.0,slow=3.8,SNR=4.9						

*ATH **09** 19:37:10.6, 37.47N×22.03E, h14km±8km, MD3.6/10, ML3.6*
*NEIC **09** 19:37:10.6, 37.47N×22.03E, h14km, mb3.9/1, ML3.6(ATH), After ATH.*
*CSEM **09** 19:37:11.5±0.2, 37.44N×21.98E, h25km, ML3.6, Error ellipse: s-maj=5.4km s-min=3.6km az=74.0*
*IDC **09** 19:37:12.1±1.9, 37.78N×22.60E, mb3.6/7, mb1 3.5/10, mb1mx3.4/25, mbtmp3.4/10, ML3.1/3, Error ellipse: s-maj=42.0km s-min=18.1km az=46.0*

ISC 09 19:37:10.1±0.9, 37.47N±0.03×22.06E±0.05, h5km±7km, n43, σ1°35/47, mb3.5/7, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	Ithomi	0.31	201	ePG	Pg	19 37 16.4	+0.1
ITM				eSB	Sb	19 37 21.8	-0.9
RLS	Riolos of Patr	0.76	321	ePB	Pb	19 37 24.0	-1.3
RLS				eSB	Sb	19 37 35.6	-0.1
VLI	Veliai	1.02	137	ePB	Pb	19 37 30.4	+0.5
MGER	Gerania Oros	1.08	61	ePN	Pn	19 37 32.0	+0.2
NSAL	Nisos Salamina	1.19	68	ePB	Pb	19 37 33.5	+0.7
VLS	Valsamata	1.36	302	ePB	Pb	19 37 36.3	+0.5
LKR	Lokris	1.39	32	ePG	Pg	19 37 36.2	-1.7
LKR				eSB	Sb	19 37 55.8	+1.6
ATH	Athens Observa	1.40	69	ePG	Pg	19 37 37.2	-1.0
KYTH	Kithira	1.42	146	ePB	Pb	19 37 38.5	+1.8
EVR	Evrytania	1.46	352	ePB	Pb	19 37 38.5	+1.1
MPAR	Parnis Oros	1.49	62	ePB	Pb	19 37 39.0	+1.1
PTL	Penteli	1.54	67	ePB	Pb	19 37 39.5	+0.7
AGG	Agios Georgios	1.56	8	eP	Pn	19 37 40.5	+1.7
XOR	Xorichti	2.09	25	eP	Pn	19 37 45.8	-0.5
AOS	Alonnisos	2.22	40	eP	Pn	19 37 47.5	-0.6
IGT	Igoumenitsa	2.47	327	eP	Pn	19 37 58.3	+6.7
LIT	Litokhoron	2.65	7	eP	Pn	19 37 56.5	+2.3
PAIG	Paliouri	2.76	27	eP	Pn	19 37 54.8	-1.1
IDI	Anoyia	3.15	133	Pn	Pn	19 38 02.8	+1.4
	1.3nm,0.3s,baz=320,slow=17,SNR=11						
IDI				Sn	Sn	19 38 39.9	0.0
	2.4nm,0.3s,baz=28,slow=16,SNR=4.8						
OUR	Ouranopolis	3.23	27	eP	Pn	19 38 01.9	-0.6
THE	Thessaloniki	3.24	12	eP	Pn	19 38 03.7	+1.1
FNA	Florina	3.35	351	eP	Pn	19 38 06.8	+2.6
LOS	Limnos	3.41	43	eP	Pn	19 38 02.9	-2.2
GRG	Griva	3.49	4	eP	Pn	19 38 07.7	+1.5
KNT	Kendrikon	3.75	10	eP	Pn	19 38 10.1	+0.3
SRS	Serrai	3.83	18	eP	Pn	19 38 10.8	-0.2
MMB	Musomiste	4.31	17	i P	Pn	19 38 17.5	-0.4
KKB	Krupnik	4.46	10	i P	Pn	19 38 16.5	-3.5
ALN	Alexandroupoli	4.62	41	eP	Pn	19 38 19.8	-2.4
RZN	Rozhen	4.69	25	i P	Pn	19 38 23.0	-0.2
BRTR	Keskin Array B	9.34	72	Pn	P	19 39 22.5	-5.9
	0.2nm,0.3s,baz=264,slow=15,SNR=2.7						
GERES	GERESS Array B	12.89	335	Pn	P	19 40 18.6	+1.8
	0.1nm,0.3s,baz=158,slow=16,SNR=2.4						
HFS	Hagfors	23.31	349	P	P	19 42 18.5	-1.0
	2.4nm,0.7s,mb3.7,baz=162,slow=14,SNR=4.6						
FINES	FINESS Array B	24.13	5	P	P	19 42 25.6	-1.8
	1.6nm,0.9s,mb3.5,baz=190,slow=12,SNR=3.8						
FINES	FINESS Array B	24.13	5	P	P	19 42 25.6	-1.9
NB2	NORSAR Subarra	24.57	347	P	P	19 42 30.5	-1.2
	3.3nm,1.1s,mb3.8,baz=154,slow=9.3						
NOA	NORSAR Array B	24.57	347	P	P	19 42 30.4	-1.3
	1.5nm,0.8s,mb3.6,baz=155,slow=9.4,SNR=4.1						
EKA	Eskdalemuir Ar	24.71	324	P	P	19 42 35.0	+1.9
	1.5nm,0.9s,mb3.5,baz=128,slow=9.5,SNR=3.5						
EKA	Eskdalemuir Ar	24.71	324	P	P	19 42 35.0	+1.8
ARCES	ARCESS Array B	32.18	2	P	P	19 43 38.1	-2.5
	1.1nm,0.6s,mb3.8,baz=190,slow=7.4,SNR=8.0						
BVAR	Borovoye Array	36.65	49	P	P	19 44 15.5	-3.7
	0.2nm,0.4s,mb3.3,baz=236,slow=42,SNR=2.4						
MKAR	Makanchi Array	44.64	58	P	P	19 45 22.3	-2.8
	0.3nm,0.5s,mb3.4,baz=278,slow=6.8,SNR=5.6						
MKAR	Makanchi Array	44.64	58	P	P	19 45 22.3	-2.8

*CSEM **09** 19:48:21.3±0.3, 40.55N×33.00E, h0km±1km, MD3.8, Error ellipse: s-maj=1.5km s-min=1.1km az=7.0*
*ISK **09** 19:48:22.7, 40.54N×32.98E, h6km, MD3.8*
*NEIC **09** 19:48:22.0, 40.55N×32.99E, h8km, ML3.9(ISK), After ISK.*

ISC 09 19:48:22.8±0.5, 40.56N±0.03×33.00E±0.02, h7km±4km, n75, σ0°69/92, 6C-6D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELDT	Eldivan	0.33	103	i P	Pg	19 48 29.1	-0.4
ELDT				i S	Sg	19 48 33.2	-0.8
CANT	Cankiri	0.47	85	i PG	Pg	19 48 32.9	+0.7
CANT	Cankiri	0.47	85	Pg	Pg	19 48 32.9	+0.7
LOD	Lodumlu	0.70	195	PG	Pg	19 48 36.2	-0.5
LOD	Lodumlu	0.70	195	Pg	Pg	19 48 36.3	-0.5
ANTO	Ankara	0.71	193	PG	Pg	19 48 35.9	-1.1
ANTO				SG	Sg	19 48 46.2	-0.3
ANTO	Ankara	0.71	193	ePg	Pg	19 48 35.9	-1

KHL	Karahalli	3.50	231	ePN	Pn	19 49 19.1	+0.3
CTT	Catalca	3.52	281	ePN	Pn	19 49 18.9	-0.1
CTT	Catalca	3.52	281	Pn	Pn	19 49 19.0	0.0
CTT	Catalca	3.52	281	Pn	Pn	19 49 18.9	-0.1
HDMB	Hadim	3.62	187	ePN	Pn	19 49 20.9	+0.5
GRSN	GIRESUNGRSN	4.01	83	iP	Pn	19 49 32.2	+6.2
GRSN				iS	Sn	19 50 26.1	+12
BALB	Balikesir	4.04	258	ePN	Pn	19 49 26.5	+0.1
IKL	Isikli	4.35	173	ePN	Pn	19 49 31.6	+0.7
ELL	Elmali	4.51	213	ePN	Pn	19 49 33.3	+0.1
ELL	Elmali	4.51	213	Pn	Pn	19 49 33.4	+0.2
CANB	Canakkale	4.58	265	ePN	Pn	19 49 33.6	-0.5
GAZ	Gaziantep	4.72	135	ePN	Pn	19 49 36.3	+0.2
GAZ	Gaziantep	4.72	135	Pn	Pn	19 49 36.4	+0.3
MALT	Malatya	4.76	116	ePn	Pn	19 49 36.5	-0.2
MALT				ePg	Pg	19 49 50.5	-7.3
MALT				eSg	Sg	19 50 53.8	-7.5
EDRB	Edirne	4.89	287	ePN	Pn	19 49 38.0	-0.6
TIRR	Tirgusor	5.16	320	⇑P	Pn	19 49 42.9	+0.5
PTK	Pertek	5.20	107	ePN	Pn	19 49 43.5	+0.6
PTK	Pertek	5.20	107	Pn	Pn	19 49 43.6	+0.7
HARR	Harsova	5.57	319	⇑P	Pn	19 49 46.3	-1.8
HARR	Harsova	5.57	319	⇑P	Pn	19 49 46.3	-1.8
CFR	Carcaliu	5.84	324	⇑P	Pn	19 49 50.4	-1.5
CFR	Carcaliu	5.84	324	⇑P	Pn	19 49 50.4	-1.4
ISR	Istrita	6.58	316	⇓P	Pn	19 50 01.9	-0.4
ISR	Istrita	6.58	316	⇓P	Pn	19 50 01.9	-0.4
VRI	Vrincioaia	7.01	321	⇑P	Pn	19 50 14.2	+5.8
MLR	Muntele Rosu	7.14	316	⇓P	Pn	19 50 10.3	+0.1
MLR	Muntele Rosu	7.14	316	⇓P	Pn	19 50 10.3	0.0

IDC 09 19:49:33.2±4.6, 22.75N×11.41W, mb3.9/5, mb1 3.9/7, mb1mx3.6/25, mbtmp3.8/7, ML4.2/2, Error ellipse: s-maj=182.8km s-min=31.1km az=89.0, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	Dimbokro	17.19	157	P	P	19 53 33.3	-3.2
	0.4nm,0.3s,baz=307,slow=14,SNR=5.4						
ESDC	Sonseca Array	18.02	19	P	P	19 53 45.8	-0.8
	0.2nm,0.3s,baz=208,slow=12,SNR=4.1						
GERES	GERESS Array B	32.77	31	P	P	19 56 07.5	-2.4
	1.1nm,0.8s,baz=225,slow=9.4,SNR=9.9						
HFS	Hagfors	41.30	19	P	P	19 57 18.7	-3.1
	2.9nm,0.7s,baz=201,slow=13,SNR=7.7						
FINES	FINESS Array B	46.43	24	P	P	19 58 01.0	-2.1
	1.2nm,0.7s,baz=190,slow=12,SNR=4.2						
MKAR	Makanchi Array	76.20	45	P	P	20 01 24.2	-0.7
	0.4nm,0.5s,baz=310,slow=6.9,SNR=6.3						
SONM	Songino Array	90.34	37	P	P	20 02 38.1	+0.7
	0.3nm,0.6s,baz=333,slow=9.7,SNR=3.0						
WRA	Warramunga Arr	148.01	92	PKPbc	PKPdf	20 09 20.7	+0.7
	0.8nm,0.7s,baz=292,slow=2.4,SNR=7.9						

MAN 09 19:58:23.5, 7.33N×123.27E, h13km, mb4.9, ML3.8, MS3.8
IDC 09 19:58:23.5±0.7, 7.43N×123.59E, mb4.3/9, mb1 4.4/10, mb1mx4.1/21, mbtmp4.3/10, ML3.9/1, MS3.2/1, Ms1 3.2/1, ms1mx2.7/21, Error ellipse: s-maj=44.1km s-min=13.5km az=71.0
NEIC 09 19:58:26.5±0.4, 7.43N×123.55E, mb4.6/8, Error ellipse: s-maj=25.0km s-min=7.9km az=72.0

ISC 09 19:58:24.2±0.4, 7.40N±0.03×123.32E±0.03, h13km, n47, σ1§36/65, mb4.4/14, 7C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAGZ	Pagadian	0.45	7	eP	Pg	19 58 33.9	+0.5
PAGZ				eS	Sg	19 58 40.0	+0.4
IPIL	Ipil	0.84	297	eP	Pg	19 58 42.9	+1.8
IPIL				eS	Sg	19 58 55.4	+3.0
CTBH	Cotabato--PC H	0.93	101	⇑iP	Pb	19 58 41.7	0.0
CTBH				iS	Sb	19 58 53.4	-0.3
DCPH	Dipolog City	1.17	1	eP	Pb	19 58 46.3	+0.5
CGP	Cagayan de Oro	1.71	52	⇑eP	Pn	19 58 53.6	-0.4
CGP				eS	Sn	19 59 14.3	-1.5
BUKP	Musuan	1.79	74	eP	Pn	19 58 55.2	+0.2
BUKP				eS	Sn	19 59 19.3	+1.6
KCP	Kidapawan	1.79	102	⇑eP	Pn	19 58 57.8	+2.6
KCP				iS	Sn	19 59 20.7	+2.7
SNPH	Sibulan	1.93	357	⇑iP	Pn	19 58 59.0	+1.9
SNPH				iS	Sn	19 59 24.0	+2.6
GSPH	General Santos	2.08	129	⇓iP	Pn	19 59 03.9	+4.7
GSPH				iS	Pg	19 59 12.0	+6.3
TBP	Tagbilaran	2.34	13	eP	Pn	19 59 04.3	+1.4
TBP				eS	Sn	19 59 32.0	+0.3
BUTP	Butuan	2.76	55	eP	Pn	19 59 11.4	+2.5
MATI	Mati	2.94	99	eP	Pn	19 59 11.4	-0.2
MATI				eS	Sn	19 59 54.3	+7.1
LLP	Lapu-Lapu	2.97	12	eP	Pn	19 59 11.0	-0.9
LLP				eS	Sn	19 59 44.2	-3.4
MSLP	Maasin	3.11	29	eP	Pn	19 59 13.2	-0.8
MSLP				eS	Sn	19 59 49.0	-2.3
SCPH	Surigao	3.19	42	⇑eP	Pn	19 59 15.0	0.0
GUIM	Jordan	3.29	347	eP	Pn	19 59 17.8	+1.3
GUIM				eS	Sn	19 59 53.5	-2.2
CUYO	Cuyo Island	4.11	327	eP	Pn	19 59 28.6	+0.4
CUYO				eS	Sn	20 00 16.6	-0.1
RCP	Roxas	4.17	352	⇑eP	Pn	19 59 32.0	+3.0
KALP	Kalibo	4.36	347	eP	Pg	19 59 43.3	-7.9
BESP	Borongan	4.67	26	eP	Pn	19 59 28.9	-7.1
BESP				eS	Sn	20 00 28.8	-1.8
OTRP	Odiongan	5.09	346	eP	Pn	19 59 44.6	+2.5
OTRP				eS	Sn	20 00 36.9	-4.6
ENPP	El Nido	5.39	315	eP	Pn	19 59 47.0	+0.6
ENPP				eS	Sn	20 00 43.2	-5.8
SJMP	San Jose	5.48	337	eP	Pn	19 59 47.2	-0.2
BUSP	Coron	5.51	326	eP	Pn	19 59 46.3	-1.7
BUSP				eS	Sn	20 00 45.0	-6.9
BATP	Bataraza	5.64	285	eP	Pn	19 59 47.8	-2.1
BATP				eS	Sn	20 00 58.3	+3.1
BOAC	Boac	6.19	347	eP	Pn	19 59 56.8	-0.8
JOW	Kunigami	19.89	13	P	P	20 02 57.2	-1.1
	0.5nm,0.3s,baz=174,slow=8.5,SNR=6.9						
JOW				LR	LR	20 09 37.1	
	comp=Z,78nm,21.2s,baz=298,slow=34						
KAKA	Kakadu	21.94	156	⇓iP	P	20 03 27.8	+8.4
	16nm,0.8s,mb4.5						
FITZ	Fitzroy Crossi	25.44	175	⇑iP	P	20 03 54.0	+0.4
	16nm,0.7s,mb4.7						
FITZ	Fitzroy Crossi	25.44	175	P	P	20 03 53.7	+0.1
	26nm,0.8s,mb4.8,baz=5.4,slow=7.2,SNR=22						
PMG	Port Moresby	29.03	125	P	P	20 04 22.7	-3.6
	6.8nm,0.8s,mb4.5,baz=196,slow=12,SNR=3.0						
WRAB	Tennant Creek	29.25	158	eP	P	20 04 26.6	-1.7
	5.6nm,0.8s,mb4.3						
WRA	Warramunga Arr	29.25	158	P	P	20 04 26.5	-1.9
	2.4nm,0.8s,mb4.0,baz=335,slow=9.9,SNR=24						
WRA				PcP	PcP	20 07 33.5	-2.0
	0.4nm,0.8s,baz=344,slow=2.5,SNR=4.5						
WB2	Warramunga Arr	29.26	158	⇓iP	P	20 04 27.0	-1.4
LSA	Lhasa	37.49	310	eP	sP	20 05 47.6	+2.6
	4.0nm,0.6s						
FORT	Forrest	38.23	173	eP	P	20 05 46.3	+0.5
	50nm,0.6s,mb5.4						
NWAO	Narrogin (SRO)	40.52	188	P	P	20 06 04.7	0.0
	9.2nm,1.1s,mb4.3,baz=34,slow=14,SNR=6.4						
NWAO	Narrogin (SRO)	40.52	188	P	P	20 06 04.7	0.0
STKA	Stephens Creek	42.78	157	eP	P	20 06 24.0	+0.6
	6.8nm,0.7s,mb4.5						
STKA	Stephens Creek	42.78	157	P	P	20 06 23.3	-0.1
	8.4nm,0.7s,mb4.6,baz=321,slow=7.9,SNR=18						
SONM	Songino Array	42.79	343	P	P	20 06 22.9	-0.4
	0.3nm,0.7s,baz=169,slow=7.6,SNR=3.3						
MKAR	Makanchi Array	52.63	325	P	P	20 07 40.3	+0.2
	0.8nm,0.7s,mb3.8,baz=127,slow=9.5,SNR=5.4						
MKAR				PcP	PcP	20 08 48.4	-1.8
	0.8nm,0.8s,baz=329,slow=28,SNR=2.7						
ZAL	Zalesovo	55.81	334	P	P	20 08 03.1	-0.2
	1.0nm,0.7s,mb4.0,baz=1.1,slow=8.9,SNR=6.2						
KURK	Kurchatov	56.84	328	eP	P	20 08 09.9	-0.9
	11nm,1.1s,mb4.8						
KURK				epP	pP	20 08 15.2	+0.4
BVAR	Borovoye Array	62.41	327	P	P	20 08 49.5	+0.4
	2.0nm,0.9s,mb4.2,baz=153,slow=13,SNR=2.8						
BRVK	Borovoye	62.49	327	P	P	20 08 47.6	-2.0
	4.0nm,0.9s,mb4.5						
BRVK				epP	pP	20 08 54.2	+0.5
ARCES	ARCESS Array B	85.85	340	P	P	20 11 05.1	+0.7
	2.1nm,0.9s,mb4.3,baz=72,slow=12,SNR=2.5						

IDC 09 20:11:20.4±1.1, 16.92N×148.19E, mb4.0/8, mb1 4.1/8, mb1mx3.9/19, mbtmp4.0/8, MS3.7/10, Ms1 3.7/10, ms1mx3.6/19, Error ellipse: s-maj=36.4km s-min=22.4km az=86.0
NEIC 09 20:11:33.3±3.5, 16.74N×146.10E, h29km±17km, mb4.5/3, Error ellipse: s-maj=53.1km s-min=10.7km az=84.0

ISC 09 20:11:32.5±2.9, 16.80N±0.08×146.1E±0.4, h39km±18km, n21, σ0§71/17, mb4.1/8, MS3.7/8, 1C-1D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARN	Sarigan	0.35	255	⇓iP	P	20 11 40.8	-0.5
SAPN	Saipan	1.61	193	⇑eP	P	20 11 59.3	+0.3
SAPN				eS	S	20 12 18.9	+0.1
CBIJ	Chichi jima	10.88	341	LR	LR	20 18 05.1	
	comp=Z,719nm,21.1s,baz=83,slow=35						
JHJ	Hachijo jima 2	17.23	342	LR	LR	20 21 32.3	
	comp=Z,424nm,18.8s,baz=86,slow=34						
JOW	Kunigami	19.33	304	P	P	20 16 05.2	+7.9
	9.9nm,0.8s,baz=157,slow=6.8,SNR=5.6						
MAJO	Matsushiro	20.89	342	eP	P	20 16 14.1	+0.3
	25nm,1.4s						
MAT	Matsushiro	20.89	342	P	P	20 16 14.2	+0.4
MAT				S	S	20 20 08.0	+8.5
MAT	Matsushiro	20.89	342	eP	P	20 16 14.0	+0.2
MAT				eS	S	20 20 09.0	+9.5
PMG	Port Moresby	26.05	178	LR	LR	20 26 03.6	
	comp=Z,43nm,18.2s,MS3.0,baz=173,slow=34						
WRA	Warramunga Arr	38.30	198	P	P	20 18 50.8	-0.5
	1.3nm,1.1s,mb3.6,baz=17,slow=9.3,SNR=5.8						
SONM	Songino Array	44.88	322	P	P	20 19 45.1	+0.1
	0.7nm,0.7s,mb3.6,baz=135,slow=9.0,SNR=6.4						
SONM				LR	LR	20 39 25.9	
	comp=Z,87nm,18.1s,MS3.7,baz=276,slow=37						
STKA	Stephens Creek	48.59	185	P	P	20 20 06.4	-8.0
	3.0nm,0.9s,mb4.3,baz=117,slow=4.5,SNR=3.0						
STKA				LR	LR	20 40 21.6	
	comp=Z,133nm,18.2s,MS4.0,baz=25,slow=36						
LSA	Lhasa	51.69	295	eP	P	20 20 39.8	+1.7
	6.5nm,1.2s,mb4.4						
ZAL	Zalesovo	59.78	323	P	P	20 21 36.3	+0.4
	0.5nm,0.3s,mb4.0,baz=295,slow=12,SNR=3.3						
MKAR	Makanchi Array	60.07	315	P	P	20 21 36.8	-1.3
	0.7nm,0.5s,mb4.0,baz=91,slow=7.9,SNR=8.4						
MKAR				LR	LR	20 49 28.3	
	comp=Z,41nm,19.8s,MS3.6,baz=180,slow=37						
KURK	Kurchatov	62.96	319	eP	P	20 21 57.2	-0.3
	11nm,1.3s,mb4.8						
BVAR	Borovoye Array	68.20	321	P	P	20 22 30.2	-0.7
	1.7nm,0.7s,mb4.2,baz=92,slow=7.3,SNR=13						
YKA	Yellowknife Ar	79.47	28	LR	LR	20 58 39.3	
	comp=Z,44nm,18.6s,MS3.8,baz=250,slow=36						
ARCES	ARCESS Array B	84.42	342	LR	LR	21 05 11.7	
	comp=Z,76nm,18.2s,MS4.1,baz=76,slow=38						
FINES	FINESS Array B	88.78	335	LR	LR	21 03 42.6	
	comp=Z,37nm,21.1s,MS3.8,baz=160,slow=35						
NOA	NORSAR Array B	94.49	340	LR	LR	21 08 57.6	
	comp=Z,32nm,21.3s,MS3.8,baz=15,slow=36						

IDC 09 20:59:12.9±1.0, 21.98S×67.00W, h170km±11km, mb3.6/2, mb1 3.6/7, mb1mx3.5/17, mbtmp4.0/7, Error ellipse: s-maj=18.0km s-min=12.4km az=105.0
NEIC 09 20:59:13.1±0.8, 21.97S×67.02W, h174km±23km, mb3.7/1, Error ellipse: s-maj=17.8km s-min=11.0km az=102.0
GUC 09 20:59:15.3±0.7, 22.32S×67.43W, h200km, ML4.0

ISC 09 20:59:12.3±0.6, 22.03S±0.05×67.10W±0.09, h181km±10km, n18, σ1§31/25, mb3.6/2, 3C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	1.77	251	P	P	20 59 49.2	+1.8
	28nm,0.3s,baz=52,slow=7.7,SNR=301						
LVC				S	S	21 00 15.7	+1.2
	26nm,0.3s,baz=264,slow=20,SNR=73						
LVC	Limon Verde	1.77	251	⇓iP	P	20 59 49.2	+1.8
LVC				iS	S	21 00 15.7	+1.2
LVC				AMP		21 00 17.1	
	comp=E,388nm,0.6s						
LVC	Limon Verde	1.77	251	eP	P	20 59 49.1	+1.7
LVC				eS	S	21 00 15.6	+1.1
ANCH	Antofagasta	3.47	241	⇑iP	P	21 00 09.3	+1.9
ANCH				iS	S	21 00 48.2	-1.7
CPN1	Cerro Paranal	3.98	229	⇑iP	P	21 00 14.5	+0.6
CPN1				iS	S	21 00 59.7	-1.8
CPN1				AMP		21 01 02.6	
	comp=E,284nm,0.4s						
CRCH	Chaqaral	5.36	216	iS	S	21 01 30.1	-3.2
LPAZ	La Paz	5.80	350	P	P	21 00 38.9	+1.5
	comp=E,4.0nm,0.3s,baz=157,slow=6.9,SNR=60						
LPAZ				S	S	21 01 42.9	-0.6
	baz=277,slow=22,SNR=1.6						
LPAZ	La Paz	5.80	350	⇑iP	P	21 00 38.8	+1.4
ARE	Arequipa	6.92	322	eP	P	21 00 50.0	-2.2
SIV	San Ignacio	8.28	45	P	P	21 01 08.3	-1.9
	comp=E,23nm,0.3s,baz=234,slow=11,SNR=290						
SIV				S	S	21 02 35.1	-7.1
	comp=E,5.4nm,0.3s,baz=311,slow=19,SNR=6.5						
CFAA	Coronel Fontan	9.59	186	P	P	21 01 27.0	-0.2
	comp=E,0.2nm,0.3s,baz=8.7,slow=13,SNR=23						
CFAA				S	S	21 03 07.5	-5.4
	comp=E,0.1nm,0.3s,baz=288,slow=23,SNR=6.3						
CPUP	Villa Florida	9.89	118	P	P	21 01 30.7	-0.5
	comp=E,0.1nm,0.3s,baz=315,slow=7.1,SNR=2.2						
SAML	Samuel	13.54	17	P	P	21 02 18.6	+0.4
	comp=E,1.6nm,0.5s						
SAML				eS	S	21 05 02.0	+17
PLCA	Paso Flores	18.87	188	P	P	21 03 21.6	+0.8
	comp=E,0.2nm,0.3s,baz=25,slow=15,SNR=3.2						
PDAR	Pinedale Array	75.42	329	P	P	21 10 38.2	+0.4
	comp=E,0.4nm,0.6s,mb3.2,baz=90,slow=9.0,SNR=3.0						
BOSA	Boshof	81.71	117	P	P	21 11 12.5	+0.4
	comp=E,3.5nm,1.0s,mb4.0,baz=360,slow=13,SNR=6.5						
WRA	Warramunga Arr	133.32	208	PKP	PKPdf	21 18 09.9	+2.4
	comp=E,0.4nm,1.0s,baz=154,slow=2.0,SNR=6.1						
MKAR	Makanchi Array	145.05	38	PKP	PKPdf	21 18 29.3	+1.6
	comp=E,1.0nm,0.8s,baz=315,slow=3.4,SNR=6.1						

NEIC 09 21:24:19.6±0.7, 5.23S×151.37E, mb4.5/5, Error ellipse: s-maj=16.8km s-min=11.4km az=122.0
IDC 09 21:24:20.9±4.6, 5.36S×151.36E, h77km±41km, mb3.9/6, mb1 4.2/8, mb1mx4.0/14, mbtmp4.4/8, ML4.2/2, MS3.4/2, Ms1 3.4/2, ms1mx3.0/16, Error ellipse: s-maj=27.8km s-min=24.8km az=21.0

ISC 09 21:24:21.1±3.3, 5.3S±0.2×151.3E±0.1, h94km±29km, n17, σ0§77/17, mb4.1/8, 3D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.75	225	P	P	21 25 45.3	-0.1
	82nm,0.3s,baz=22,slow=4.6,SNR=80						
PMG				S	S	21 26 48.9	-1.9
	27nm,0.3s,baz=90,slow=20,SNR=7.4						
PMG	Port Moresby	5.75	225	ePn	P	21 25 45.1	-0.3
PMG				eSn	S	21 26 51.1	+0.4
CTA	Charters Tower	15.46	198	P	P	21 27 56.5	+1.4
	0.3nm,0.3s,baz=18,slow=17,SNR=7.1						
CTA				LR	LR	21 32 44.3	
	comp=Z,120nm,20.9s,baz=213,slow=33						
CTAO	Charters Tower	15.46	198	Pn	P	21 27 56.5	+1.4
	7.6nm,0.8s						
CTAO				iP		21 27 59.8	
KAKA	Kakadu	20.00	247	⇓iP	P	21 28 56.7	+8.2
	23nm,0.6s						
WRAB	Tennant Creek	21.96	227	eP	P	21 29 08.5	+0.3
	41nm,1.0s,mb4.7						
WRAB				epP		21 29 23.2	
WB2	Warramunga Arr	21.96	227	⇓iP	P	21 29 08.8	+0.5
WRA	Warramunga Arr	21.97	227	P	P	21 29 08.9	+0.5
	9.5nm,0.6s,mb4.3,baz=53,slow=10,SNR=100						
WRA				pP		21 29 23.5	
	15nm,0.9s,baz=52,slow=11,SNR=16						
DZM	Mont Dzumac	22.18	140	P	P	21 29 10.2	-0.2
	5.6nm,0.8s,mb4.0,baz=342,slow=14,SNR=7.9						
STKA	Stephens Creek	27.92	198	P	P	21 30 03.8	-0.8
	2.1nm,0.9s,mb3.7,baz=314,slow=19,SNR=3.0						
FITZ	Fitzroy Crossi	28.09	241	⇓iP	P	21 30 06.0	-0.2
	6.6nm,0.3s,mb4.6						
FITZ	Fitzroy Crossi	28.09	241	P	P	21 30 05.6	-0.5
	12nm,0.4s,mb4.7,baz=31,slow=5.6,SNR=23						
FITZ				LR	LR	21 41 52.0	
	comp=Z,116nm,19.9s,baz=81,slow=37						
MBWA	Marble Bar	34.40	240	eP	P	21 31 01.1	-0.3
	1.7nm,0.6s,mb4.0						
SONM	Songino Array	65.99	329	P	P	21 35 00.5	+0.9
	0.6nm,0.5s,mb3.6,baz=141,slow=3.9,SNR=6.3						
SONM				pP	pP	21 35 19.7	-3.9
	1.3nm,1.1s,baz=34,slow=5.3,SNR=3.8						
ILAR	Eielson Array	83.22	22	P	P	21 36 37.0	-1.0
	0.8nm,0.7s,mb3.7,baz=251,slow=5.4,SNR=8.4						
GERES	GERESS Array B	123.71	328	PKP	PKPdf	21 43 10.3	+2.3
	0.4nm,0.7s,baz=45,slow=1.9,SNR=5.1						
BDFB	Brasilia	151.72	138	PKPbc	PKPdf	21 44 07.9	+8.8
	3.4nm,0.4s,baz=243,slow=8.1,SNR=5.3						

NEIC 09 21:25:43.0, 35.10S×70.52W, h5km, ML2.6(GUC), After GUC.

GUC 09 21:25:43.0±0.6, 35.10S×70.52W, h5km, MD3.8, ML2.6, 4C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCH	Chadas Angostu	1.17	354	⇓iP	Pb	21 26 04.0	-1.3
CHCH				iS	Sb	21 26 20.8	+0.2
LNV	Longovilo	1.36	327	⇑iP	Pb	21 26 07.5	-1.1
LNV				iS	Sb	21 26 25.9	-0.2
PCH	Pirque	1.48	0	⇑iP	Pn	21 26 09.7	-0.6
PCH				iS	Sb	21 26 30.1	+0.7
TACH	Talagante	1.48	346	⇑iP	Pn	21 26 09.4	-1.0
TACH				iS	Sb	21 26 29.5	-0.2
RCDM	Rinconada Maip	1.62	351	eP	Pn	21 26 11.6	-0.9
RCDM				iS	Sb	21 26 33.5	-0.3
RCDM				AMP		21 26 38.9	
	comp=E,215nm,0.1s						
FCH	Farellones	1.78	6	eP	Pn	21 26 14.7	+0.1
FCH				iS	Sn	21 26 39.0	+1.1
FCH				AMP		21 26 53.2	
	comp=N,67nm,0.2s						
LCCH	Las Cruces	1.84	331	eP	Pn	21 26 15.3	-0.2
LCCH				iS	Sn	21 26 39.5	0.0
ROCH	El Roble	2.16	349	⇓iP	Pn	21 26 21.1	+1.0
ROCH				iS	Sn	21 26 50.0	+2.3
JACH	Jahuel	2.41	358	⇑iP	Pn	21 26 24.6	+0.9

BJI 09 22:10:38.3, 0.57N×97.36E, h28km, mB4.8, mb4.8, Ms4.2, Msz4.0
IDC 09 22:10:39.5±0.8, 0.98N×97.06E, mb4.2/12, mb1 4.3/12, mb1mx4.1/19, mbtmp4.2/12, MS3.5/1, Ms1 3.5/1, ms1mx3.0/19, Error ellipse: s-maj=32.2km s-min=19.3km az=58.0
MOS 09 22:10:42.8±0.9, 1.07N×97.15E, h33km, mb4.5/14, Error ellipse: s-maj=30.8km s-min=10.4km az=108.1
NEIC 09 22:10:43.7±0.4, 1.03N×97.15E, mb4.5/5, Error ellipse: s-maj=13.0km s-min=8.5km az=56.0

ISC 09 22:10:41.4±0.5, 1.02N±0.08×97.17E±0.09, h23km, h23km±2.7km: pP-P, n52, σ1§00/54, mb4.4/29, MS4.0/4, 2C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.49	39	⇑iPn	Pn	22 12 03.6	-0.4
KMI	Kunming	24.56	12	P	P	22 16 02.5	+1.4
KMI				AP		22 16 09.3	
KMI				XP		22 16 11.6	
KMI				PP	PP	22 16 42.3	+5.1
KMI				PPP	PPP	22 16 49.6	+1.8
KMI				S	S	22 20 20.1	+2.5
KMI				XS		22 20 30.8	
KMI				SS	SS	22 21 21.1	+7.5
KMI				AMB	AMB		
	comp=Z,41nm,1.2s,mb4.8						
KMI				AMB	AMB		
	comp=Z,189nm,3.4s						
KMI				LR	LR		
	comp=N,412nm,14.5s,MS4.2						
KMI				LR	LR		
	comp=E,180nm,10.0s,MS4.2						
KMI				LR	LR		
	comp=Z,422nm,16.0s						
GYA	Guiyang	26.89	19	⇑iP	P	22 16 23.8	+1.0
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.3						
PKI	Pulchoki	28.71	338	eP	P	22 16 39.6	+0.4
	comp=Z,17nm,0.9s,mb4.8						
DMN	Daman	28.86	337	eP	P	22 16 41.6	+1.0
KKN	Kakani	28.95	338	eP	P	22 16 42.3	+0.8
	comp=Z,21nm,1.0s,mb4.8						
LSA	Lhasa	29.09	349	eP	P	22 16 44.2	+1.5
	comp=Z,5.7nm,0.8s,mb4.3						
LSA	Lhasa	29.09	349	eP	P	22 16 44.2	+1.5
LSA				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.4						
GKN	Gorkha	29.39	337	eP	P	22 16 46.6	+1.2
	comp=Z,40nm,1.0s,mb5.1						
KOLN	Koldanda	29.61	335	eP	P	22 16 48.6	+1.3
	comp=Z,22nm,0.7s,mb5.0						
ENH	Enshi	31.36	21	eP	P	22 17 01.0	-1.8
	comp=Z,12nm,0.6s,mb4.9						
WHN	Wuhan	33.59	27	eP	P	22 17 22.0	-0.3
XAN	Xi'an	34.65	17	P	P	22 17 28.9	-2.4
XAN				AMB	AMB		
	comp=Z,15nm,0.8s,mb5.0						
GTA	Gaotai	38.29	3	eP	P	22 18 02.4	+0.4
GTA				AP	pP	22 18 07.7	-1.2
GTA				XP	sP	22 18 10.5	-1.4
GTA				PP	PP	22 19 37.3	+4.2
GTA				S	S	22 24 00.6	+6.2
GTA				XS		22 24 10.9	
GTA

comp=Z,5.4nm,1.0s,mb4.5,baz=291,slow=6.6,SNR=28
ZAL Zalesovo 53.72 351 P P 22 20 03.0 -0.9
ZAL pmax pmax
comp=Z,5.0nm,1.0s
NVS Novosibirsk 54.85 350 *eP* **P 22 20 10.7 -1.5**
BVA0 Borovoye Array 56.41 341 *i P* **P 22 20 22.9 -0.6**
BVA0 pmax pmax
comp=Z,1.0nm,0.7s,mb4.0
BVAR Borovoye Array 56.41 341 P **P 22 20 22.5 -0.9**
comp=Z,2.5nm,0.8s,mb4.3,baz=143,slow=7.4,SNR=23
BVAR Borovoye Array 56.41 341 P **P 22 20 22.5 -1.0**
BVAR pmax pmax
comp=Z,3.0nm,0.8s
BRVK Borovoye 56.47 341 *eP* **P 22 20 22.6 -1.3**
comp=Z,4.7nm,0.9s,mb4.5
BRVK *e*pP pP 22 20 29.5 -1.5
BRVK Borovoye 56.47 341 *eP* **P 22 20 22.6 -1.3**
BRVK *e**PP pP 22 20 29.5 -1.6
BRVK pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
AB31 Akbulak array 57.66 332 P **P 22 20 31.4 -1.0**
AB31 pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
BOD Bodaibo 58.19 11 *eP* **P 22 20 34.7 -1.3**
BOD pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
SVE Sverdlovsk 62.84 338 *eP* **P 22 21 07.2 -0.5**
SVE *e* pP 22 21 14.5 -0.4
SVE MLR MLR
comp=N,100nm,14.0s,MS4.5
SVE MLR MLR
comp=E,200nm,14.0s,MS4.5
SVE MLR MLR
comp=Z,300nm,14.0s,MS4.6
MATP Matopo 70.42 248 P **P 22 21 55.9 -0.5**
comp=Z,2.2nm,1.0s,mb4.0,baz=83,slow=8.1,SNR=3.0
AKASG Malin Array Be 75.38 322 P **P 22 22 23.8 -1.3**
comp=Z,0.2nm,0.4s,mb3.4,baz=85,slow=5.2,SNR=5.3
FINES FINESS Array B 80.14 333 P **P 22 22 50.9 -0.1**
comp=Z,1.5nm,0.9s,mb3.9,baz=104,slow=7.9,SNR=3.5
FINES FINESS Array B 80.14 333 P **P 22 22 50.9 -0.2**
FINES FINESS Array B 80.14 333 P **P 22 22 50.9 -0.2**
FINES pmax pmax
comp=Z,2.0nm,0.9s
ARCES ARCESS Array B 82.69 340 P **P 22 23 04.7 +0.4**
comp=Z,0.6nm,0.5s,mb3.9,baz=112,slow=6.5,SNR=10
ARCES ARCESS Array B 82.69 340 P **P 22 23 04.7 +0.4**
ARCES pmax pmax
comp=Z,1.0nm,0.5s
GERES GERESS Array B 84.93 319 P **P 22 23 17.4 +1.4**
comp=Z,1.2nm,0.9s,mb4.0,baz=90,slow=5.3,SNR=9.2
GERES GERESS Array B 84.93 319 P **P 22 23 17.4 +1.4**
GERES pmax pmax
comp=Z,1.0nm,0.9s
CLL Collm 85.55 321 P **P 22 23 20.0 +0.9**
NOA NORSAR Array B 87.15 331 P **P 22 23 27.3 +0.6**
comp=Z,0.8nm,0.7s,mb4.0,baz=63,slow=1.3,SNR=3.3
NOA NORSAR Array B 87.15 331 P **P 22 23 27.3 +0.6**
NOA pmax pmax
comp=Z,1.0nm,0.7s

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*NIED **09** 22:29:00, 34.00N×141.80E, h5km, Mw4.2 Best double couple: M0 1.96×10^15 NP1:φs328°, δ62°, λ56°. NP2:φs203°, δ43°, λ136°.*
*MOS **09** 22:29:33.7±1.2, 33.96N×141.80E, h14km, mb4.5/17, Error ellipse: s-maj=21.5km s-min=8.4km az=114.5*
*IDC **09** 22:29:33.9±0.8, 34.04N×141.70E, mb4.2/11, mb1 4.4/14, mb1mx4.3/21, mbtmp4.2/14, ML4.1/3, MS3.6/4, Ms1 3.6/4, ms1mx3.2/31, Error ellipse: s-maj=21.8km s-min=18.0km az=107.0*
*JMA **09** 22:29:36.2±0.3, 33.99N×141.82E, h47km±5km, M4.2*
*NEIC **09** 22:29:36.2, 33.99N×141.82E, h47km, mb4.6/9, MW4.1(NIED), After JMA.*
*BJI **09** 22:29:41.4, 34.19N×141.12E, h37km, mB4.7, mb4.5, Ms4.2, Msz4.1*
ISC 09 22:29:36.1±1.4, 33.96N±0.03×141.76E±0.05, h28km±9km, n86, σ0°92/97, mb4.5/27, MS4.1/3, 7C, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.95**	**317**	⇑P	**Pn**	**22 29 53.3**	**-0.4**
BSO1				S	**Sn**	**22 30 07.0**	**+0.6**
BSO3	**Boso 3**	**1.33**	**309**	⇑P	**Pn**	**22 29 59.4**	**+0.2**
BSO4	**Boso 4**	**1.56**	**312**	⇑P	**Pn**	**22 30 03.0**	**+0.5**
KTR	**Katsuura**	**1.68**	**315**	*e*S	**Sn**	**22 30 25.1**	**0.0**
JHJ2	**Mitsune**	**1.83**	**243**	P	**Pn**	**22 30 07.4**	**+1.1**
JHJ2				*e*S	**Sn**	**22 30 30.2**	**+1.4**
JHJ	**Hachijo jima 2**	**1.85**	**244**	Pn	**Pn**	**22 30 07.2**	**+0.5**
	346nm,0.3s,baz=349,slow=0.8,SNR=207						
JHJ				Sn	**Sn**	**22 30 29.2**	**-0.1**
	269nm,0.3s,baz=57,slow=22,SNR=10						
JMY	**Miyakejima3**	**1.87**	**274**	P	**Pn**	**22 30 06.5**	**-0.4**
CHOJ	**Chosi**	**1.89**	**337**	P	**Pn**	**22 30 07.0**	**-0.2**
CHOJ				*e*S	**Sn**	**22 30 30.1**	**-0.3**
JIM2	**Oshima 3**	**2.07**	**292**	P	**Pn**	**22 30 08.8**	**-1.0**
JIM2				*e*S	**Sn**	**22 30 34.4**	**-0.5**
JIZS	**Izushimoda**	**2.50**	**288**	P	**Pn**	**22 30 18.9**	**+2.9**
JIZS				*e*S	**Sn**	**22 30 45.4**	**-0.5**
JOD2	**Odawara 2**	**2.56**	**301**	⇑P	**Pn**	**22 30 15.9**	**-0.9**
JOD2				*e*S	**Sn**	**22 30 47.9**	**+0.6**
JYN	**Shimob**	**3.06**	**301**	⇑P	**Pn**	**22 30 23.4**	**-0.5**
JYN				*e*S	**Sn**	**22 31 01.1**	**+1.1**
JAG	**Ashikaga**	**3.10**	**323**	⇑P	**Pn**	**22 30 24.3**	**-0.2**
JAG				S	**Sn**	**22 30 59.7**	**-1.4**
JRY	**Ryogami san**	**3.12**	**312**	P	**Pn**	**22 30 24.2**	**-0.5**
JRY				S	**Sn**	**22 31 03.1**	**+1.6**
TK04	**Tokai 4**	**3.25**	**279**	P	**Pn**	**22 30 27.4**	**+0.8**
MAJO	**Matsushiro**	**3.89**	**313**	*e*P	**Pn**	**22 30 35.9**	**+0.3**
MAT	**Matsushiro**	**3.89**	**313**	P	**Pn**	**22 30 35.7**	**+0.1**
MAT				S	**Sn**	**22 31 20.4**	**-0.5**
MAT	**Matsushiro**	**3.89**	**313**	*e*P	**Pn**	**22 30 36.0**	**+0.4**
MAT				*e*S	**Sn**	**22 31 20.0**	**-0.9**
CBIJ	**Chichi jima**	**6.85**	**177**	Pn	**Pn**	**22 31 15.8**	**-1.6**
	20nm,0.3s,baz=291,slow=20,SNR=16						
CBIJ				Sn	**Sn**	**22 32 30.9**	**-4.4**
	18nm,0.3s,baz=265,slow=23,SNR=4.1						
JNU	**Nakatsue**	**9.12**	**268**	Pn	**P**	**22 31 48.2**	**-0.9**
	1.2nm,0.3s,baz=64,slow=5.4,SNR=5.9						
JNU				LR	LR	22 34 26.7	
	comp=Z,78nm,19.7s,baz=270,slow=32						
ASAJ	**Asahikawa**	**10.17**	**3**	Pn	**P**	**22 31 59.6**	**-3.8**
	1.4nm,0.3s,baz=177,slow=11,SNR=11						
ASAJ				Sn	**S**	**22 33 48.1**	**-9.4**
	1.8nm,0.3s,baz=30,slow=32,SNR=7.5						
ASAJ	**Asahikawa**	**10.17**	**3**	P	**P**	**22 31 59.6**	**-3.8**
ASAJ						22 33 48.1	
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				smax			
	comp=E,2.0nm,0.3s						
YSS	**Yuzh-Sakhalins**	**13.00**	**3**	*e*P	**P**	**22 32 43.0**	**+1.2**
YSS				MLR	MLR		
	comp=Z,500nm,16.0s						
YSS				MLR	MLR		
	comp=N,400nm,15.0s						
JOW	**Kunigami**	**13.63**	**242**	Pn	**P**	**22 32 50.8**	**+0.7**
	comp=N,0.3nm,0.3s,slow=7.1,SNR=1.6						
JOW				LR	LR	22 38 23.1	
	comp=N,211nm,18.1s,baz=137,slow=39						
HHC	**Hu-ho-hao-te**	**24.87**	**295**	*e*P	**P**	**22 34 58.4**	**+0.6**
HHC				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.5						
SONM	**Songino Array**	**29.83**	**308**	P	**P**	**22 35 42.6**	**-0.4**
	comp=Z,3.2nm,1.0s,mb4.0,baz=113,slow=9.6,SNR=14						
SONM	**Songino Array**	**29.83**	**308**	P	**P**	**22 35 42.6**	**-0.4**
SONM				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BOD	**Bodaibo**	**30.31**	**330**	*e*P	**P**	**22 35 47.0**	**-0.1**
ZAK	**Zakamensk**	**32.47**	**312**	*e*P	**P**	**22 36 05.7**	**-0.5**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.9						
ZAL	**Zalesovo**	**44.25**	**315**	P	**P**	**22 37 43.8**	**-0.9**
	comp=Z,1.7nm,0.8s,mb3.8,baz=177,slow=4.0,SNR=5.2						
ZAL	**Zalesovo**	**44.25**	**315**	P	**P**	**22 37 43.8**	**-0.8**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NVS	**Novosibirsk**	**45.21**	**316**	*e*P	**P**	**22 37 55.7**	**+3.4**
MKAR	**Makanchi Array**	**46.05**	**305**	P	**P**	**22 37 58.0**	**-1.1**
	comp=Z,1.1nm,0.5s,mb4.0,baz=82,slow=8.6,SNR=17						
MKAR	**Makanchi Array**	**46.05**	**305**	P	**P**	**22 37 58.0**	**-1.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KURK	**Kurchatov**	**48.09**	**310**	*e*P	**P**	**22 38 14.4**	**-0.7**
	comp=Z,7.5nm,0.8s,mb4.8						
KURK	**Kurchatov**	**48.09**	**310**	*e*P	**P**	**22 38 14.4**	**-0.7**
KURK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
PKI	**Pulchoki**	**48.33**	**278**	*e*P	**P**	**22 38 16.3**	**-1.0**
KKN	**Kakani**	**48.36**	**279**	*e*P	**P**	**22 38 16.5**	**-1.0**
	comp=Z,16nm,1.0s,mb5.0						
DMN	**Daman**	**48.57**	**279**	*e*P	**P**	**22 38 18.5**	**-0.6**
	comp=Z,21nm,1.2s,mb5.1						
GKN	**Gorkha**	**48.80**	**279**	*e*P	**P**	**22 38 19.9**	**-1.0**
	comp=Z,49nm,1.1s,mb5.5						
KOLN	**Koldanda**	**49.74**	**279**	*e*P	**P**	**22 38 27.7**	**-0.5**
	comp=Z,29nm,1.3s,mb5.2						
ILAR	**Eielson Array**	**51.96**	**31**	P	**P**	**22 38 43.5**	**-0.9**
	comp=Z,1.8nm,0.8s,mb4.1,baz=269,slow=6.2,SNR=15						
ILAR	**Eielson Array**	**51.96**	**31**	P	**P**	**22 38 43.5**	**-1.0**
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BVAR	**Borovoye Array**	**52.88**	**314**	P	**P**	**22 38 50.7**	**-0.9**
	comp=Z,3.6nm,1.0s,mb4.2,baz=79,slow=7.6,SNR=16						
BVAR	**Borovoye Array**	**52.88**	**314**	P	**P**	**22 38 50.7**	**-0.9**
BVAR				pmax	pmax		
	comp=Z,4.0nm,1.0s						
FITZ	**Fitzroy Crossi**	**54.00**	**199**	*e*P	**P**	**22 39 00.6**	**+0.4**
	comp=Z,7.8nm,0.5s,mb4.9						
WRAB	**Tennant Creek**	**54.05**	**189**	*e*P	**P**	**22 39 00.1**	**-0.5**
	comp=Z,5.6nm,0.7s,mb4.6						
WRAB	**Tennant Creek**	**54.05**	**189**	*e*P	**P**	**22 39 00.1**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
WB2	**Warramunga Arr**	**54.06**	**189**	*e*P	**P**	**22 39 00.2**	**-0.4**
WRA	**Warramunga Arr**	**54.06**	**189**	P	**P**	**22 39 00.3**	**-0.3**
	comp=Z,2.7nm,0.4s,mb4.5,baz=1.8,slow=7.7,SNR=92						
WRA	**Warramunga Arr**	**54.06**	**189**	P	**P**	**22 39 00.3**	**-0.3**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.4s						
ARU	**Arti**	**58.87**	**320**	*e*P	**P**	**22 39 33.5**	**-1.0**
	comp=Z,5.3nm,0.6s,mb4.8						
ARU	**Arti**	**58.87**	**320**	⇑*i*P	**P**	**22 39 33.6**	**-0.9**
ARU				*e*		22 40 16.2	
ARU				*e*		22 41 44.9	
ARU				*e*S	**S**	**22 47 35.2**	**-1.5**
ARU				*e*SS	SS	22 51 29.7	-2.3
ARU				pmax	pmax		
	comp=Z,12nm,1.5s,mb4.7						
ARU				MLR	MLR		
	comp=N,50nm,17.0s						
ARU				MLR	MLR		
	comp=Z,200nm,17.0s,MS4.3						
FINES	**FINESS Array B**	**71.67**	**333**	P	**P**	**22 40 56.9**	**0.0**
	comp=Z,2.7nm,0.9s,mb4.2,baz=135,slow=9.8,SNR=5.1						
FINES	**FINESS Array B**	**71.67**	**333**	P	**P**	**22 40 56.9**	**0.0**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KIV	**Kislovodsk**	**73.15**	**312**	*e*P	**P**	**22 41 05.6**	**-0.3**
	comp=Z,13nm,1.1s,mb4.8						
KIV	**Kislovodsk**	**73.15**	**312**	*e*P	**P**	**22 41 05.6**	**-0.3**
KIV				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.8						
BMO	**Blue Mountains**	**73.82**	**47**	*e*P	**P**	**22 41 12.1**	**+2.3**
	comp=Z,1.2nm,0.6s,mb4.0						
AKASG	**Malin Array Be**	**76.91**	**323**	P	**P**	**22 41 26.0**	**-1.3**
	comp=Z,2.2nm,0.6s,mb4.3,baz=47,slow=6.1,SNR=4.3						
AKASG	**Malin Array Be**	**76.91**	**323**	P	**P**	**22 41 26.0**	**-1.3**
AKASG	**Malin Array Be**	**76.91**	**323**	P	**P**	**22 41 26.0**	**-1.3**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NB2	**NORSAR Subarra**	**77.13**	**338**	P	**P**	**22 41 28.6**	**+0.3**
	comp=Z,1.1nm,0.7s,mb3.9,baz=41,slow=5.6						
NB2	**NORSAR Subarra**	**77.13**	**338**	P	**P**	**22 41 28.6**	**+0.3**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
NOA	**NORSAR Array B**	**77.13**	**338**	P	**P**	**22 41 29.0**	**+0.7**
	comp=Z,3.4nm,0.9s,mb4.2,baz=39,slow=5.7,SNR=4.8						
NOA				LR	LR	23 19 33.0	
	comp=Z,91nm,18.2s,MS4.1,baz=45,slow=39						
NOA	**NORSAR Array B**	**77.13**	**338**	P	**P**	**22 41 29.0**	**+0.7**
NOA				LR	LR	23 19 33.0	
NOA	**NORSAR Array B**	**77.13**	**338**	P	**P**	**22 41 29.0**	**+0.7**
NOA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
NOA				MLR	MLR		
	comp=Z,91nm,18.2s						
MIB	**Mutribah**	**77.34**	**297**	*e*P	**P**	**22 41 30.3**	**+0.2**
MIB				AMb	AMB	22 41 31.3	
	comp=Z,12nm,0.7s,mb5.0						
KBD	**Kabd**	**77.40**	**297**	*e*P	**P**	**22 41 30.5**	**0.0**
NAY	**Al-Naaiem**	**77.70**	**297**	*e*P	**P**	**22 41 32.6**	**+0.5**
PDAR	**Pinedale Array**	**79.62**	**45**	P	**P**	**22 41 43.8**	**+1.5**
	comp=Z,0.7nm,0.7s,mb3.7,baz=231,slow=12,SNR=7.0						
BR131	**Keskin Array S**	**81.11**	**312**	*e*P	**P**	**22 41 51.4**	**+1.1**
	comp=Z,2.8nm,0.9s,mb4.2						
BRTR	**Keskin Array B**	**81.11**	**312**	P	**P**	**22 41 51.5**	**+1.2**
	comp=Z,2.4nm,1.0s,mb4.1,baz=135,slow=3.5,SNR=11						
BRTR	**Keskin Array B**	**81.11**	**312**	P	**P**	**22 41 51.5**	**+1.2**
BRTR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
PV10	**Paradox Valley**	**82.59**	**48**	*e*P	**P**	**22 42 02.3**	**+4.3**
PPT	**Papeete**	**83.01**	**116**	*e*LR	LR	22 42 18.7	
	comp=Z,37nm,21.0s						
ASF	**Jabal al Asfar**	**83.47**	**304**	LR	LR	23 26 09.2	
	comp=Z,39nm,18.2s,MS3.8,baz=300,slow=41						
CLL	**Collm**	**83.91**	**331**	P	**P**	**22 42 05.0**	**+0.6**
	comp=Z,logA/T=0.9,mb4.8						
CLL	**Collm**	**83.91**	**331**	*i P*	**P**	**22 42 05.0**	**+0.6**
	comp=Z,8.0nm,1.1s,mb4.8						
CLL	**Collm**	**83.91**	**331**	*i P*	**P**	**22 42 05.0**	**+0.6**
CLL				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.8						
PRU	**Pruhonice**	**84.25**	**329**	*e*P	**P**	**22 42 08.1**	**+1.9**
KHC	**Kasperske Hory**	**85.31**	**329**	*e*P	**P**	**22 42 12.5**	**+1.0**
GERES	**GERESS Array B**	**85.48**	**329**	P	**P**	**22 42 12.5**	**+0.1**
	comp=Z,0.6nm,0.5s,mb4.0,baz=45,slow=5.7,SNR=8.2						
GERES	**GERESS Array B**	**85.48**	**329**	P	**P**	**22 42 12.5**	**+0.2**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GRF	**Grafenberg Arr**	**85.88**	**330**	*e*P	**P**	**22 42 15.9**	**+1.6**
GRF				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.7						
LPAZ	**La Paz**	**147.89**	**64**	PKPbc	PKPdf	22 49 23.1	+2.0
	comp=Z,1.0nm,0.5s,baz=342,slow=5.9,SNR=6.0						
LPAZ	**La Paz**	**147.89**	**64**	PKP2	PKPdf	22 49 23.1	+2.1
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.5s						

WEL 09 22:33:26.0±0.2, 39.71S×176.98E, h41km±1km, ML3.8/13, 2C-2D, Error ellipse: s-maj=2.1km s-min=1.1km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PWZ	**Pawanui**	**0.33**	**196**	PN	P	22 33 35.3	+0.6
PWZ				SN	S	22 33 41.6	+0.9
BKZ	**Black Stump Fm**	**0.66**	**325**	⇑PN	P	22 33 38.3	-0.7
BKZ				SN	S	22 33 47.2	-1.3
TSZ	**Takapari Road**	**0.86**	**246**	⇑PN	P	22 33 41.0	-0.7
TSZ				SN	S	22 33 52.5	-0.8
KNZ	**Kokohu**	**0.88**	**38**	⇓PN	P	22 33 42.1	+0.1
MOVZ	**Moawhango**	**1.00**	**287**	PN	P	22 33 43.3	-0.4
MOVZ				SN	S	22 33 55.5	-1.3
HATZ	**Hinemaiaia**	**1.07**	**320**	PN	P	22 33 44.5	-0.3
HATZ				SN	S	22 33 57.5	-1.2
BFZ	**Birch Farm**	**1.12**	**210**	PN	P	22 33 45.0	-0.4
BFZ				SN	S	22 34 00.3	+0.4
TUVZ	**Tukino**	**1.12**	**293**	PN	P	22 33 45.6	+0.2
WNVZ	**Wahianoa**	**1.14**	**289**	PN	P	22 33 46.0	+0.4
RITZ	**Rihia Road**	**1.14**	**310**	PN	P	22 33 46.2	+0.5
OTVZ	**Oturere**	**1.16**	**298**	PN	P	22 33 46.2	+0.2
TRVZ	**Turoa**	**1.18**	**290**	PN	P	22 33 47.2	+0.9
FWVZ	**Far West T-bar**	**1.20**	**292**	PN	P	22 33 46.6	+0.1
KRVZ	**Karewarewa**	**1.21**	**300**	PN	P	22 33 45.9	-0.7
MTVZ	**Mangateitei**	**1.21**	**285**	PN	P	22 33 47.1	+0.4
WPVZ	**Whakapapa**	**1.22**	**294**	PN	P	22 33 46.5	-0.3
CNZ	**Chateau**	**1.22**	**294**	PN	P	22 33 47.0	+0.2
WTVZ	**West Tongariro**	**1.23**	**298**	PN	P	22 33 46.9	-0.1
KATZ	**Kakaramea**	**1.24**	**306**	PN	P	22 33 46.7	-0.5
WHTZ	**Whakaora**	**1.31**	**322**	PN	P	22 33 47.7	-0.5
PKVZ	**Pokaka**	**1.33**	**288**	PN	P	22 33 48.5	0.0
MRZ	**Mangatainoka R**	**1.43**	**228**	PN	P	22 33 48.7	-1.2
MWZ	**Matawai**	**1.44**	**17**	⇓PN	P	22 33 49.3	-0.7
MWZ				SN	S	22 34 07.4	-0.6
URZ	**Urewera**	**1.46**	**4**	PN	P	22 33 49.3	-1.0
WAZ	**Wanganui**	**1.54**	**268**	PN	P	22 33 51.6	+0.1
MTW	**Mount Morrison**	**1.83**	**218**	PN	P	22 33 53.4	-2.2

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*NEIC **09** 22:36:11.5, 32.98S×71.94W, h4km, ML2.5(GUC), After GUC.*
GUC 09 22:36:11.5±0.7, 32.98S×71.94W, h4km±4km, MD3.5, ML2.5, 6C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCCH	**Las Cruces**	**0.59**	**148**	⇑*i P*	Pg	22 36 23.4	+0.2
LCCH				*i* S	Sg	22 36 32.3	+1.2
ROCH	**El Roble**	**0.78**	**90**	⇑*i P*	Pg	22 36 27.1	0.0
ROCH				*i* S	Sg	22 36 39.1	+1.7
PEL	**Peldehue**	**1.07**	**99**	*e*P	Pb	22 36 31.8	-0.4
LNV	**Longovilo**	**1.07**	**156**	⇑*i P*	Pb	22 36 30.9	-1.4
TACH	**Talagante**	**1.08**	**129**	⇓*i P*	Pb	22 36 31.8	-0.5
TACH				*i* S	Sb	22 36 46.8	+0.2
RCDM	**Rinconada Maip**	**1.08**	**119**	*e*P	Pb	22 36 31.8	-0.5
RCDM				*e*S	Sb	22 36 47.0	+0.4
RCDM				AMP		22 36 50.1	
	comp=E,141nm,0.4s						
JACH	**Jahuel**	**1.17**	**76**	⇑*i P*	Pb	22 36 33.4	-0.6
JACH				*i* S	Sb	22 36 49.7	+0.5
PCH	**Pirque**	**1.36**	**119**	*e*P	Pb	22 36 36.7	-0.4
FCH	**Farellones**	**1.43**	**105**	*e*P	Pn	22 36 38.0	-0.2
FCH				AMP		22 37 04.4	
	comp=N,119nm,0.3s						
CHCH	**Chadas Angostu**	**1.44**	**132**	⇑*i P*	Pn	22 36 37.8	-0.6
CHCH				*i* S	Sb	22 36 57.4	+0.4
LMEL	**Las Melosas**	**1.69**	**121**	⇑*i P*	Pn	22 36 41.9	-0.1
LMEL				*e*S	Sn	22 37 04.6	+0.3
LMEL				AMP		22 37 12.6	
	comp=N,127nm,0.3s						

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*ISK **09** 23:30:23.0, 39.41N×33.13E, h5km, MD3.6*
*CSEM **09** 23:30:23.0, 39.41N×33.13E, h5km, MD3.6, After ISK*
ISC 09 23:30:24.3±0.4, 39.41N±0.03×33.12E±0.03, h5km±1km, n27, σ0°76/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAMT	**Kaman**	**0.46**	**95**	PG	**Pg**	**23 30 32.4**	**-1.1**
ANTO	**Ankara**	**0.53**	**331**	PG	**Pg**	**23 30 33.5**	**-1.3**
ANTO				SG	**Sg**	**23 30 42.6**	**+0.8**
LOD	**Lodumlu**	**0.55**	**330**	*i* PG	**Pg**	**23 30 34.8**	**-0.5**
CDAG	**Cicekdag**	**0.99**	**77**	*i* P	**Pb**	**23 30 41.5**	**-2.0**
CDAG				*i* S	**Sb**	**23 30 56.1**	**-0.6**
KIZT	**Kizilcal**	**1.10**	**242**	PN	**Pn**	**23 30 45.2**	**-1.1**
ELDT	**Eldivan**	**1.10**	**12**	*i* P	**Pb**	**23 30 44.2**	**-1.3**
ELDT				*i* S	**Sb**	**23 31 01.4**	**+1.3**
CANT	**Cankiri**	**1.25**	**18**	PN	**Pn**	**23 30 48.7**	**+0.3**
CORM	**Corum**	**1.39**	**56**	PN	**Pn**	**23 30 50.3**	**-0.2**
AVNT	**Avonos**	**1.49**	**114**	*i* P	**Pn**	**23 30 52.1**	**+0.3**
AVNT				*i* S	**Sb**	**23 31 12.8**	**+1.6**
KONT	**Konya--Tatoy**	**1.58**	**202**	PN	**Pn**	**23 30 53.5**	**+0.4**
YOZ	**Yozgat**	**1.71**	**82**	PN	**Pn**	**23 30 55.5**	**+0.4**
NIG	**Nigde**	**1.74**	**138**	*e*PN	**Pn**	**23 30 55.8**	**+0.4**
ESKT	**Eskisehir**	**1.76**	**274**	PN	**Pn**	**23 30 56.0**	**+0.2**
ESKT	**Eskisehir**	**1.76**	**274**	*i* P	**Pn**	**23 30 55.3**	**-0.5**
ESKT				*i* S	**Sn**	**23 31 18.8**	**0.0**
TOS	**Tosya**	**1.77**	**23**	PN	**Pn**	**23 30 55.9**	**+0.1**
MDU	**Mudurnu**	**1.81**	**306**	*e*PN	**Pn**	**23 30 57.4**	**+1.0**
SAFT	**Safranbolu**	**1.86**	**350**	*e*PN	**Pn**	**23 30 57.2**	**0.0**
BNN	**Bunyan**	**2.19**	**104**	*e*PN	**Pn**	**23 31 02.0**	**+0.2**
ALT	**Altintas**	**2.37**	**262**	*e*PN	**Pn**	**23 31 04.8**	**+0.4**
BYBT	**Boyabat**	**2.41**	**31**	*e*PN	**Pn**	**23 31 05.8**	**+0.8**
HDMB	**Hadim**	**2.49**	**192**	*e*PN	**Pn**	**23 31 06.4**	**+0.3**
ISP	**Isparta**	**2.58**	**233**	*e*PN	**Pn**	**23 31 07.1**	**-0.3**
BZK	**Bozkurt**	**2.63**	**14**	*e*PN	**Pn**	**23 31 08.3**	**+0.1**
KVT	**Kavak**	**2.79**	**52**	*e*PN	**Pn**	**23 31 10.7**	**+0.3**
SVSK	**Karacayir**	**3.03**	**79**	*e*PN	**Pn**	**23 31 13.4**	**-0.4**
IKL	**Isikli**	**3.20**	**172**	*e*PN	**Pn**	**23 31 16.1**	**-0.1**
GAZ	**Gaziantep**	**3.92**	**123**	*e*PN	**Pn**	**23 31 26.5**	**+0.1**

MAN 10 00:15:08.2, 11.75N×125.62E, h23km, mb4.2, ML3.0, MS2.7, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.23**	**229**	*e*P	Pb	00 15 15.0	+0.9
BESP				*e*S	Sb	00 15 23.2	+5.1
PLP	**Palo**	**0.85**	**227**	*e*P	Pb	00 15 24.5	+0.2
PLP				*i* S	Sb	00 15 40.1	+4.8
CNP	**Catarman**	**1.20**	**309**	*e*P	Pn	00 15 29.3	-0.5
CNP				*e*S	Sb	00 15 46.7	+1.5
PVCP	**Virac**	**2.32**	**322**	*e*P	Pn	00 15 45.5	-0.4

MAN 10 00:21:43.5, 11.64N×125.67E, h10km, mb4.2, ML3.0, MS2.8, 1C, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.23**	**261**	*e*P	Pg	00 21 49.5	+1.1
BESP				*e*S	Sg	00 21 58.6	+6.9
PLP	**Palo**	**0.82**	**235**	*e*P	Pb	00 21 59.1	-0.3
PLP				*i* S	Sb	00 22 13.9

KZA	**Kyzart**	**0.54 246**	⇓P	**Pg**	**00 36 04.7**	**-0.1**
	16nm,0.1s,SNR=12					
KZA			⇓S	**Sg**	**00 36 12.8**	**+0.8**
	51nm,0.2s					
TKM2	**Tokmak 2**	**0.66 340**	⇓P	**Pg**	**00 36 07.1**	**-0.1**
	32nm,0.1s,SNR=27					
TKM2			⇑S	**Sg**	**00 36 16.7**	**+0.7**
	1μm,0.1s					
AAK	**Ala-Archa**	**1.10 288**	⇓P	**Pb**	**00 36 14.6**	**-0.9**
	40nm,0.3s,SNR=12					
AAK			⇓S	**Sb**	**00 36 29.9**	**-0.3**
	56nm,0.3s					
AAK	**Ala-Archa**	**1.10 288**	⇓P	**Pb**	**00 36 14.5**	**-1.0**
	7.7nm,0.3s					
AAK			⇓S	**Sb**	**00 36 29.7**	**-0.5**
	9.2nm,0.2s					
CHMS	**Chumysh**	**1.10 310**	⇓P	**Pb**	**00 36 14.7**	**-0.8**
	13nm,0.1s,SNR=10					
CHMS			⇑S	**Sb**	**00 36 30.1**	**-0.2**
	52nm,0.2s					
USP	**Ospenovka**	**1.42 313**	⇑P	**Pb**	**00 36 20.2**	**-0.8**
	20nm,0.1s,SNR=16					
USP			⇑S	**Sb**	**00 36 39.7**	**+0.3**
	64nm,0.1s					
AML	**Almayashu**	**1.66 265**	⇑P	**Pn**	**00 36 24.7**	**+0.3**
	9.7nm,0.2s,SNR=18					
AML			⇓S	**Sb**	**00 36 47.2**	**+0.8**
	24nm,0.2s					
KK31	**Karatay Array**	**4.06 283**	⇓Pg	**Pb**	**00 37 05.5**	**-0.6**
	0.5nm,0.3s,baz=94,slow=15,SNR=32					
KK31			⇑Lg		00 38 00.7	
	3.4nm,0.5s,baz=99,slow=28,SNR=6.2					
MK31	**Makanchi Array**	**6.40 43**	⇓P	**Pn**	**00 37 33.8**	**+2.0**
	0.3nm,0.5s,baz=221,slow=15,SNR=2.5					

IDC ***10*** *00:36:07.6±0.9,20.86S×173.37E,mb4.4/10,mb1 4.6/12, mb1mx4.6/13,mbtmp4.5/12,ML4.1/2,MS4.7/23,Ms1 4.7/23, ms1mx4.6/28,Error ellipse: s-maj=23.5km s-min=20.8km az=117.0*

BJI ***10*** *00:36:08.0,21.66S×172.67E,h12km,mB5.1,mb5.0, Ms5.1,Msz4.7*

HRVD ***10*** *00:36:08.3±0.2,20.98S×173.35E,h15km±1km,MW5.3/70, Centroid moment Tensor Solution. LP body waves: s57,c99;Mantle waves: s70,c145; Half duration: 1§1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.18±.03; $M_{\theta\theta}$-0.98±.02; $M_{\phi\phi}$1.16±.03; $M_{r\theta}$0.01±.07; $M_{\theta\phi}$-0.51±.02; $M_{\phi r}$0.37±.08; Best double couple: $M_0$1.234×10^{17} NP1: ϕ_s301°,δ76°,λ175° NP2:ϕ_s33°,δ85°,λ14° Principal axes: T 1.361, Plg13°, Azm258°; N -.255, Plg75°, Azm53°; P -1.108, Plg6°, Azm166°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***10*** *00:36:08.3±0.2,20.93S×173.42E,h10km,mb5.1/36, MS4.8/22 Error ellipse: s-maj=8.3km s-min=6.2km az=155.0*

MOS ***10*** *00:36:09.7±3.1,21.11S×173.28E,h10km,mb5.2/19, MS4.8/17,Error ellipse: s-maj=10.1km s-min=9.4km az=170.4*

ISC 10 00:36:09.1±0.2,20.99S±0.06×173.29E±0.04,h20km, h20km±1.3km:pP-P,n225,σ1§25/117,mb5.0/55,MS4.7/46, 23C-7D,Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.46**	**259**	⇑iP	**Pn**	**00 37 45.9**	**+0.3**
DZM	**Mont Dzumac**	**6.46**	**259**	Pn	**Pn**	**00 37 45.8**	**+0.2**
	3.1nm,0.3s,baz=84,slow=15,SNR=40						
DZM	**Mont Dzumac**	**6.46**	**259**	⇑iP	**Pn**	**00 37 45.9**	**+0.3**
NOUC	**Port Laguerre**	**6.60**	**259**	eP	**Pn**	**00 37 47.1**	**-0.4**
RAO	**Raoul Island**	**11.45**	**138**	LR	LR	00 42 21.1	
	comp=Z,3μm,19.5s,baz=303,slow=32						
AFI	**Afiamalu**	**15.89**	**66**	Pn	**P**	**00 39 53.7**	**+0.3**
	baz=272,slow=23,SNR=4.5						
AFI				LR	LR	00 43 42.5	
	comp=Z,421nm,20.4s,baz=234,slow=29						
AFI	**Afiamalu**	**15.89**	**66**	Pn	**P**	**00 39 53.7**	**+0.3**
AFI				LR	LR	00 43 42.5	
HNR	**Honiara**	**17.24**	**310**	P	**P**	**00 40 12.1**	**+1.6**
	5.0nm,0.3s,baz=258,slow=13,SNR=7.9						
HNR				LR	LR	00 45 47.1	
	comp=Z,1μm,21.0s,baz=317,slow=34						
HNR	**Honiara**	**17.24**	**310**	eP	**P**	**00 40 11.3**	**+0.7**
	149nm,1.0s						
HNR	**Honiara**	**17.24**	**310**	eP	**P**	**00 40 11.3**	**+0.8**
HNR				pmax	pmax		
	comp=Z,149nm,1.0s						
URZ	**Urewera**	**17.52**	**170**	P	**P**	**00 40 14.7**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=8.2,slow=5.4,SNR=20						
URZ				LR	LR	00 45 20.2	
	comp=Z,4μm,21.6s,baz=272,slow=31						
RPZ	**Rata Peaks**	**22.74**	**184**	P	**P**	**00 41 12.0**	**+1.0**
	comp=Z,26nm,1.0s,mb4.6,baz=2.1,slow=8.0,SNR=4.4						
RPZ				LR	LR	00 49 07.9	
	comp=Z,5μm,19.1s,MS4.9,baz=358,slow=34						
RIV	**Riverview**	**23.38**	**232**	eP	**P**	**00 41 20.7**	**+3.3**
RAR	**Rarotonga**	**25.12**	**95**	eP	**P**	**00 41 34.0**	**-0.4**
	comp=Z,281nm,1.7s,mb5.5						
RAR	**Rarotonga**	**25.12**	**95**	eP	**P**	**00 41 34.0**	**-0.4**
RAR				pmax	pmax		
	comp=Z,281nm,1.7s						
CTA	**Charters Tower**	**25.32**	**267**	⇑iP	**P**	**00 41 37.2**	**+0.9**
	comp=Z,20nm,0.9s,mb4.7						
CTA	**Charters Tower**	**25.32**	**267**	P	**P**	**00 41 37.6**	**+1.4**
	comp=Z,21nm,0.9s,mb4.7,baz=100,slow=12,SNR=18						
CTA	**Charters Tower**	**25.32**	**267**	⇑iP	**P**	**00 41 37.2**	**+0.9**
CTA				pmax	pmax		
	comp=Z,20nm,0.9s						
CTAO	**Charters Tower**	**25.32**	**267**	eP	**P**	**00 41 36.7**	**+0.4**
	comp=Z,128nm,1.5s,mb5.2						
CTAO				LR	LR		
	comp=Z,4μm,19.0s,MS5.0						
CTAO	**Charters Tower**	**25.32**	**267**	eP	**P**	**00 41 36.7**	**+0.4**
CTAO				pmax	pmax		
	comp=Z,128nm,1.5s,mb5.2						
CTAO				MLR	MLR		
	comp=Z,4μm,19.0s,MS5.0						
PMG	**Port Moresby**	**27.67**	**291**	P	**P**	**00 41 58.6**	**+0.6**
	comp=Z,17nm,0.9s,mb4.6,baz=147,slow=6.3,SNR=5.0						
PMG				LR	LR	00 51 16.9	
	comp=Z,1μm,20.3s,MS4.5,baz=100,slow=33						
PMG	**Port Moresby**	**27.67**	**291**	eP	**P**	**00 41 58.2**	**+0.2**
PMG				LR	LR		
	comp=Z,2μm,19.0s,MS4.7						
STKA	**Stephens Creek**	**30.28**	**242**	eP	**P**	**00 42 21.7**	**+0.5**
	comp=Z,11nm,1.1s,mb4.5						
STKA	**Stephens Creek**	**30.28**	**242**	P	**P**	**00 42 21.5**	**+0.3**
	comp=Z,5.5nm,0.7s,mb4.4,baz=62,slow=7.7,SNR=6.7						
STKA				LR	LR	00 53 23.5	
	comp=Z,2μm,20.8s,MS4.6,baz=69,slow=34						
TBI	**Tubuai**	**34.52**	**101**	eS	**S**	**00 48 23.0**	**-1.9**
TBI				eLQ		00 50 32.2	
TBI				eLR	LR	00 51 57.1	
	comp=Z,2μm,29.8s,baz=267						
PAE	**Paea**	**35.15**	**91**	eP	**P**	**00 43 05.4**	**+1.7**
	comp=Z,126nm,1.4s,mb5.6						
PPT	**Papeete**	**35.17**	**91**	eP	**P**	**00 43 05.8**	**+1.9**
	comp=Z,79nm,1.5s,mb5.4						
PPT	**Papeete**	**35.17**	**91**	eS	**S**	**00 48 26.3**	**-8.7**
PPT				eLQ		00 50 45.3	
PPT				eLR	LR	00 52 15.5	
	comp=Z,4μm,26.5s,baz=257						
PPT	**Papeete**	**35.17**	**91**	P	**P**	**00 43 08.3**	**+4.4**
	comp=Z,7.2nm,0.3s,mb5.1,baz=289,slow=2.7,SNR=7.1						
PPT				LR	LR	00 53 36.9	
	comp=Z,1μm,20.6s,MS4.6,baz=265,slow=30						
TVO	**Taravao**	**35.43**	**91**	eP	**P**	**00 43 08.1**	**+2.0**
	comp=Z,176nm,1.5s,mb5.8						
WB2	**Warramunga Arr**	**36.44**	**265**	⇑iP	**P**	**00 43 13.5**	**-1.1**
WB2				ePP	PP	00 44 40.5	+2.0
WB2				ePCP	PcP	00 45 43.3	+4.4
WRAB	**Tennant Creek**	**36.44**	**265**	eP	**P**	**00 43 13.0**	**-1.6**
	comp=Z,109nm,1.6s,mb5.5						
WRAB				ePP	PP	00 44 41.0	+2.4
WRAB				LR	LR		
	comp=Z,2μm,19.0s,MS4.9						
WRAB	**Tennant Creek**	**36.44**	**265**	eP	**P**	**00 43 13.0**	**-1.6**
WRAB				e		00 44 41.0	
WRAB				pmax	pmax		
	comp=Z,109nm,1.6s,mb5.5						
WRAB				MLR	MLR		
	comp=Z,2μm,19.0s,MS4.9						
WRA	**Warramunga Arr**	**36.45**	**265**	P	**P**	**00 43 13.8**	**-0.9**
	comp=Z,11nm,1.0s,mb4.7,baz=98,slow=8.4,SNR=36						
WRA				PP	PP	00 44 41.1	+2.4
	comp=Z,22nm,1.3s,baz=95,slow=11,SNR=9.2						
WRA				PcP	PcP	00 45 45.4	+6.5
	comp=Z,6.2nm,1.2s,baz=103,slow=2.6,SNR=4.9						
WRA	**Warramunga Arr**	**36.45**	**265**	P	**P**	**00 43 13.8**	**-0.9**
WRA						00 44 41.1	
WRA						00 45 45.4	
WRA				pmax	pmax		
	comp=Z,11nm,1.0s						
WRA				pmax	pmax		
	comp=Z,22nm,1.3s						
WRA				pmax	pmax		
	comp=Z,6.0nm,1.2s						
PMOR	**Pomariorio Ree**	**37.33**	**87**	eP	**P**	**00 43 24.0**	**+1.9**
	comp=Z,88nm,1.3s,mb5.4						
VAH	**Vaihoa**	**37.52**	**88**	eP	**P**	**00 43 25.6**	**+1.9**
	comp=Z,76nm,1.3s,mb5.3						
KAKA	**Kakadu**	**39.86**	**275**	eP	**P**	**00 43 50.0**	**+6.7**
	comp=Z,12nm,0.8s,mb4.7						
FORT	**Forrest**	**41.61**	**247**	eP	**P**	**00 43 57.5**	**0.0**
	comp=Z,42nm,1.0s,mb5.0						
GUMO	**Guam**	**44.28**	**318**	PFAKE		00 44 30.0	+11
GUMO				LR	LR		
	comp=Z,136nm,22.0s,MS3.8						
FITZ	**Fitzroy Crossi**	**44.87**	**265**	⇑iP	**P**	**00 44 24.8**	**+0.6**
	comp=Z,83nm,0.9s,mb5.6						
FITZ	**Fitzroy Crossi**	**44.87**	**265**	LR	LR	01 03 25.1	
	comp=Z,4μm,19.1s,MS5.3,baz=92,slow=36						
TAOE	**Nuku Hiva Isla**	**46.42**	**82**	eLQ		00 55 32.6	
TAOE				eLR	LR	00 57 25.6	
	comp=Z,6μm,27.2s						
RKT	**Rikitea**	**47.80**	**103**	eS	**S**	**00 51 45.2**	**+3.4**
RKT				eLQ		00 55 50.5	
RKT				eLR	LR	00 58 04.5	
	comp=Z,1μm,30.5s,baz=258						
MBWA	**Marble Bar**	**49.77**	**260**	⇑eP	**P**	**00 45 02.3**	**-0.2**
	comp=Z,46nm,1.0s,mb5.5						
MBWA				LR	LR		
	comp=Z,2μm,22.0s,MS5.1						
DRV	**Dumont d'Urvil**	**50.37**	**196**	S	**S**	**00 52 25.0**	**+7.8**
DRV				L		00 57 00.0	
KLBR	**Kellerberrin**	**50.44**	**246**	eP	**P**	**00 45 06.9**	**-0.6**
	comp=Z,57nm,1.2s,mb5.5						
NWAO	**Narrogin (SRO)**	**50.84**	**244**	LR	LR	01 05 39.4	
	comp=Z,2μm,19.1s,MS5.0,baz=98,slow=35						
NWAO	**Narrogin (SRO)**	**50.84**	**244**	eP	**P**	**00 45 06.9**	**-3.7**
	comp=Z,63nm,1.4s,mb5.4						
NWAO				e		00 45 20.8	
NWAO				LR	LR		
	comp=Z,2μm,22.0s,MS5.0						
NWAO	**Narrogin (SRO)**	**50.84**	**244**	eP	**P**	**00 45 06.9**	**-3.7**
NWAO				pmax	pmax		
	comp=Z,63nm,1.4s						
NWAO				MLR	MLR		
	comp=Z,2μm,22.0s						
CBIJ	**Chichi jima**	**56.50**	**326**	LR	LR	01 04 59.0	
	comp=Z,285nm,21.4s,MS4.3,baz=139,slow=31						
VNDA	**Vanda**	**56.85**	**183**	P	**P**	**00 45 51.5**	**-2.9**
	comp=Z,3.9nm,1.1s,mb4.4,baz=354,slow=7.9,SNR=10						
VNDA				LR	LR	01 05 55.4	
	comp=Z,992nm,21.8s,MS4.9,baz=15,slow=31						
VNDA	**Vanda**	**56.85**	**183**	eP	**P**	**00 45 51.5**	**-2.8**
	comp=Z,17nm,1.4s,mb4.9						
VNDA				LR	LR		
	comp=Z,1μm,22.0s,MS5.0						
SBA	**Scott Base**	**57.00**	**182**	⇓eP	**P**	**00 45 55.1**	**-0.2**
	comp=Z,69nm,1.4s,mb5.5						
SBA				LR	LR		
	comp=Z,1μm,22.0s,MS4.9						
SBA	**Scott Base**	**57.00**	**182**	⇓eP	**P**	**00 45 55.2**	**-0.2**
SBA				pmax	pmax		
	comp=Z,69nm,1.4s,mb5.5						
SBA				MLR	MLR		
	comp=Z,1μm,22.0s,MS4.9						
CASY	**Casey**	**60.08**	**205**	PFAKE		00 46 30.0	+13
CASY				LR	LR		
	comp=Z,603nm,19.0s,MS4.8						
JHJ	**Hachijo jima 2**	**62.60**	**329**	LR	LR	01 06 45.6	
	comp=Z,438nm,21.9s,MS4.6,baz=122,slow=29						
MJAR	**Matsushiro Arr**	**66.12**	**330**	P	**P**	**00 46 56.3**	**-1.0**
	comp=Z,2.1nm,0.8s,mb4.2,baz=157,slow=9.5,SNR=3.3						
MJAR				LR	LR	01 12 14.3	
	comp=Z,569nm,18.3s,MS4.8,baz=130,slow=33						
MAJO	**Matsushiro**	**66.13**	**330**	P	**P**	**00 46 56.3**	**-1.0**
	comp=Z,17nm,1.2s,mb5.0						
MAJO				LR	LR		
	comp=Z,599nm,19.0s,MS4.8						
MAJO	**Matsushiro**	**66.13**	**330**	P	**P**	**00 46 56.3**	**-1.0**
MAJO				pmax	pmax		
	comp=Z,17nm,1.2s,mb5.0						
MAJO				MLR	MLR		
	comp=Z,599nm,19.0s,MS4.8						
MAT	**Matsushiro**	**66.13**	**330**	P	**P**	**00 46 57.3**	**0.0**
MAT				S	S	00 55 46.0	+2.9
MAT	**Matsushiro**	**66.13**	**330**	eP	**P**	**00 46 57.0**	**-0.3**
MAT				eS	S	00 55 46.0	+2.9
MIR	**Mirnyy**	**67.07**	**205**	eP	pP	00 47 09.0	-0.2
MIR				pmax	pmax		
	comp=Z,22nm,1.2s,mb5.1						
JNU	**Nakatsue**	**67.34**	**322**	LR	LR	01 14 55.8	
	comp=Z,347nm,18.1s,MS4.6,baz=146,slow=35						
QSPA	**South Pole Qui**	**69.07**	**180**	eP	**P**	**00 47 14.1**	**-1.0**
	comp=Z,36nm,1.1s,mb5.2						
QSPA				e	pP	00 47 20.7	-0.8
ASAJ	**Asahikawa**	**70.63**	**337**	LR	LR	01 13 40.3	
	comp=Z,636nm,19.9s,MS4.9,baz=165,slow=32						
YSS	**Yuzh-Sakhalins**	**73.03**	**339**	P	**P**	**00 47 41.2**	**+1.8**
YSS				e		00 47 55.0	
NJ2	**Nanjing**	**74.13**	**314**	eP	**P**	**00 47 47.1**	**+1.0**
NJ2				AP	pP	00 47 51.9	-0.6
NJ2				XP	sP	00 47 54.1	-0.6
NJ2				PP	PP	00 50 34.6	+1.1
NJ2				S	S	00 57 19.0	+2.3
NJ2				XS		00 57 26.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
NJ2				LR	LR		
	comp=N,410nm,28.6s,MS4.8						
NJ2				LR	LR		
	comp=E,520nm,30.3s,MS4.8						
NJ2				LR	LR		
	comp=Z,210nm,24.8s						
PET	**Petropavlovsk**	**74.79**	**351**	eP	**P**	**00 47 58.2**	**+8.7**
PET				eS	S	00 57 33.4	+10
PET				e		00 58 04.5	
PET				smax			
	comp=N,100nm,13.6s						
MDJ	**Mudanjiang**	**76.51**	**330**	P	**P**	**00 48 00.7**	**+1.2**
MDJ				AP	pP	00 48 03.6	-2.3
MDJ				PCP	PcP	00 48 10.9	-0.6
MDJ				PP	PP	00 50 55.0	+1.9
MDJ				S	S	00 57 51.8	+9.0
MDJ				SCS	ScS	00 58 18.9	+8.1
MDJ				AMB	AMB		
	comp=Z,11nm,0.7s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,53nm,3.5s						
MDJ				LR	LR		
	comp=N,328nm,12.6s,MS5.0						
MDJ				LR	LR		
	comp=E,405nm,15.9s,MS5.0						
MDJ				LR	LR		
	comp=Z,401nm,12.6s,MS4.9						
MDJ	**Mudanjiang**	**76.51**	**330**	P	**P**	**00 47 55.5**	**-4.0**
	comp=Z,26nm,1.3s,mb5.0						
MDJ				LR	LR		
	comp=Z,355nm,19.0s,MS4.7						
CN2	**Changchun**	**77.97**	**327**	eP	**P**	**00 48 09.4**	**+1.9**
CN2				eXP	sP	00 48 16.4	+0.3
CN2				eS	S	00 58 02.8	+4.3
CN2				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.0						
CN2				AMB	AMB		
	comp=Z,300nm,5.0s						
CN2				LR	LR		
	comp=N,400nm,15.0s,MS4.9						
CN2				LR	LR		
	comp=E,200nm,15.0s,MS4.9						
CN2				LR	LR		
	comp=Z,200nm,16.0s,MS4.5						
MAW	**Mawson**	**78.23**	**202**	P	**P**	**00 48 10.8**	**+2.3**
	comp=Z,1.5nm,0.8s,mb4.0,baz=229,slow=14,SNR=2.7						
MAW				LR	LR	01 18 42.5	
	comp=Z,181nm,20.9s,MS4.4,baz=276,slow=33						
MAW	**Mawson**	**78.23**	**202**	eP	**P**	**00 48 06.9**	**-1.6**
	comp=Z,21nm,1.3s,mb4.9						
MAW				LR	LR	01 18 42.5	
MAW	**Mawson**	**78.23**	**202**	eP	**P**	**00 48 06.9**	**-1.6**
MAW				pmax	pmax		
	comp=Z,21nm,1.3s						
KLR	**Kul'dur**	**79.07**	**334**	eP	sP	00 48 22.0	-0.1
ENH	**Enshi**	**79.73**	**308**	eP	**P**	**00 48 15.0**	**-2.4**
	comp=Z,21nm,1.0s,mb5.0						
ENH				LR	LR		
	comp=Z,323nm,21.0s,MS4.6						
NANT	**Nan**	**81.33**	**294**	P	pP	00 48 33.0	+0.5
MA2	**Magadan**	**82.37**	**349**	PFAKE		00 48 40.0	+9.3
MA2				LR	LR		
	comp=Z,449nm,21.0s,MS4.8						
KMI	**Kunming**	**82.43**	**300**	P	**P**	**00 48 32.7**	**+1.0**
KMI				AP	pP	00 48 39.3	+1.1
KMI				PP	PP	00 51 43.3	+0.4
KMI				S	S	00 58 49.2	+3.7
KMI				SKS	SKS	00 58 50.3	-3.8
KMI				AMB	AMB		
	comp=Z,8.0nm,1.5s,mb4.4						
KMI				AMB	AMB		
	comp=Z,88nm,3.4s						
KMI				LR	LR		
	comp=N,192nm,18.3s,MS4.6						
KMI				LR	LR		
	comp=E,159nm,19.2s,MS4.6						
KMI				LR	LR		
	comp=Z,210nm,27.0s						
CHG	**Chiang Mai**	**82.84**	**293**	⇓P	sP	00 48 44.6	+2.1
	comp=Z,14nm,1.3s						
HHC	**Hu-ho-hao-te**	**84.04**	**318**	eP	**P**	**00 48 41.0**	**+1.3**
HHC				XP	sP	00 48 47.5	-0.8
HHC				PP	PP	00 51 56.8	+1.3
HHC				S	S	00 59 01.3	-0.2
HHC				XS		00 59 13.4	
HHC				PS	PS	01 00 02.8	+4.5
HHC				SS	SS	01 04 35.1	+2.1
HHC				AMB	AMB		
	comp=Z,24nm,1.1s,mb5.2						
HHC				AMB	AMB		
	comp=Z,101nm,5.7s						
HHC				LR	LR		
	comp=N,258nm,22.0s,MS4.7						
HHC				LR	LR		
	comp=E,252nm,26.2s,MS4.7						
HHC				LR	LR		
	comp=Z,343nm,26.8s,MS4.6						
HIA	**Hailar**	**84.57**	**328**	P	**P**	**00 48 42.4**	**+0.3**
HIA				LR	LR		
	comp=Z,310nm,21.0s,MS4.7						
SEY	**Seymchan**	**85.26**	**351**	eP	pP	00 48 52.3	+0.6
SEY				e		00 52 13.7	
SEY				e		00 59 19.6	
SEY				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.8						
SEY				pmax	pmax		
	comp=N,4.0nm,0.9s						
SEY				smax			
	comp=N,280nm,20.7s						
SEY				smax			
	comp=E,150nm,34.0s						
SEY				MLR	MLR		
	comp=Z,400nm,18.0s,MS4.8						
SEY				MLR	MLR		
	comp=N,430nm,21.0s						
SEY				MLR	MLR		
	comp=E,730nm,29.0s						
CMB	**Columbia Colle**	**85.54**	**47**	eP	**P**	**00 48 45.3**	**-1.9**
	comp=E,14nm,1.2s,mb5.1						
CMB				e	pP	00 48 53.5	-0.2
CMB	**Columbia Colle**	**85.54**	**47**	eP	**P**	**00 48 45.3**	**-1.9**
CMB				e	pP	00 48 53.6	-0.1
CMB				pmax	pmax		
	comp=Z,14nm,1.2s,mb5.1						
ISA	**Isabella**	**85.67**	**49**	eP	**P**	**00 48 46.7**	**-1.3**
YBH	**Yreka Blue Hor**	**85.96**	**42**	LR	LR	01 20 08.7	
	comp=Z,235nm,21.3s,MS4.5,baz=236,slow=31						
YBH	**Yreka Blue Hor**	**85.96**	**42**	eP	**P**	**00 48 44.9**	**-4.4**
	comp=Z,16nm,1.4s,mb5.0						
YBH	**Yreka Blue Hor**	**85.96**	**42**	eP	**P**	**00 48 44.9**	**-4.3**
YBH				pmax	pmax		
	comp=Z,16nm,1.4s						
HUMO	**Hull Mountain**	**86.28**	**42**	P	**P**	**00 48 46.3**	**-4.5**
	comp=Z,20nm,1.3s,mb5.2						
OMM	**Old Mammoth Mi**	**86.28**	**47**	P	**P**	**00 48 48.8**	**-2.1**
BEKR	**Beckwourth**	**86.50**	**45**	P	**P**	**00 48 47.6**	**-4.3**
	comp=Z,18nm,1.6s,mb5.1						
BEKR				e		00 49 26.5	
LZH	**Lanzhou**	**86.74**	**311**	eP	**P**	**00 48 54.0**	**+0.8**
LZH				AP	pP	00 49 01.5	+1.8
LZH				XP	sP	00 49 07.0	+5.2
LZH				AMB	AMB		
	comp=Z,40nm,1.5s,mb5.4						
SNAA	**Sanae**	**87.55**	**181**	e	pP	00 49 02.2	-0.6
SNAA	**Sanae**	**87.55**	**181**	e	sP	00 49 05.8	+0.9
SNAA	**Sanae**	**87.55**	**181**	⇑iP	**P**	**00 48 55.8**	**-0.5**
SNAA				e	pP	00 49 02.2	-0.6
SNAA				e		00 49 05.8	
SNAA				e		00 49 24.3	
MOD	**Modoc**	**87.58**	**43**	P	**P**	**00 48 56.5**	**-0.6**
	comp=Z,22nm,1.4s,mb5.2						
PMR	**Palmer**	**87.63**	**17**	PFAKE		00 49 10.0	+13
PMR				LR	LR		
	comp=Z,306nm,19.0s,MS4.7						
TPH	**Tonopah**	**87.72**	**48**	P	**P**	**00 48 56.1**	**-1.8**
	comp=Z,20nm,1.3s,mb5.2						
TPH				e		00 49 18.3	
TPH				LR	LR		
	comp=Z,724nm,22.0s,MS5.0						
TPH	**Tonopah**	**87.72**	**48**	P	**P**	**00 48 56.1**	**-1.8**
TPH				pmax	pmax		
	comp=Z,19nm,1.3s,mb5.2						
TPH				MLR	MLR		
	comp=Z,724nm,22.0s,MS5.0						
LDFC	**Landfair**	**87.81**	**51**	eP	**P**	**00 48 55.5**	**-2.9**
VNA3	**Neumayer Olymp**	**87.99**	**179**	e	pP	00 49 04.1	-0.8
VNA3	**Neumayer Olymp**	**87.99**	**179**	e	sP	00 49 08.0	+1.0
VNA3	**Neumayer Olymp**	**87.99**	**179**	⇑iP	**P**	**00 48 57.9**	**-0.5**
VNA3				e	pP	00 49 04.1	-0.8
VNA3				e		00 49 08.0	
VNA3				e		00 49 27.5	
NEN	**Nelson**	**88.27**	**51**	P	**P**	**00 48 59.3**	**-1.3**
VNA2	**Neumayer--Watz**	**88.33**	**180**	e	pP	00 49 05.7	-0.9
VNA2	**Neumayer--Watz**	**88.33**	**180**	e	sP	00 49 09.6	+0.9
VNA2	**Neumayer--Watz**	**88.33**	**180**	⇑iP	**P**	**00 48 59.8**	**-0.2**
VNA2				e	pP	00 49 05.7	-0.9
VNA2				e		00 49 09.6	
VNA2				e		00 49 29.6	
VNA1	**Neumayer--Stat**	**88.60**	**179**	e	pP	00 49 10.3	+2.4
VNA1	**Neumayer--Stat**	**88.60**	**179**	e	sP	00 49 14.0	+4.0
VNA1	**Neumayer--Stat**	**88.60**	**179**	⇑iP	**P**	**00 49 02.4**	**+1.1**
VNA1				e	pP	00 49 10.3	+2.4
VNA1				e		00 49 14.0	
VNA1				e		00 49 31.3	
BMN	**Battle Mountai**	**88.86**	**46**	eP	**P**	**00 49 03.2**	**-0.1**
	comp=Z,25nm,1.4

comp=Z,2.0nm,1.1s
BMO Blue Mountains 90.95 42 *e*P **P 00 49 10.5 -2.4**
comp=Z,9.8nm,1.3s,mb5.0
BMO *e* 00 49 19.4
BMO Blue Mountains 90.95 42 *e*P **P 00 49 10.5 -2.4**
BMO *e* 00 49 19.4
BMO pmax pmax
comp=Z,10.0nm,1.3s,mb5.0
GTA Gaotai 91.10 312 *e*P **P 00 49 15.3 +1.5**
GTA AP pP 00 49 19.8 -0.5
GTA XP sP 00 49 22.2 -0.2
GTA PP PP 00 52 57.3 +4.3
GTA SKS SKS 00 59 45.7 -4.1
GTA S S 01 00 14.0 +6.1
GTA XS 01 00 23.4
GTA PS PS 01 01 31.3 +8.3
GTA SS SS 01 06 20.8 +5.0
GTA AMB AMB
comp=Z,7.0nm,1.4s,mb4.8
GTA AMB AMB
comp=Z,59nm,3.8s
GTA LR LR
comp=N,127nm,19.1s,MS4.5
GTA LR LR
comp=E,91nm,19.5s,MS4.5
GTA LR LR
comp=Z,138nm,20.6s,MS4.4
MSU Marysvale 91.45 49 *e*P **P 00 49 15.6 +0.2**
MSU *e* pP 00 49 22.9 +1.0
DLBC Dease Lake 91.89 26 LR LR 01 25 54.6
comp=Z,247nm,18.7s,MS4.7,baz=52,slow=33
DLBC Dease Lake 91.89 26 P **P 00 49 13.2 -3.7**
DLBC *e* 00 49 23.6
HLID Hailey 92.18 44 P **P 00 49 15.7 -2.9**
comp=Z,6.5nm,1.7s,mb4.7
HLID *e* 00 49 25.6
HLID *e* 00 49 33.8
SPUT South Promonto 92.48 47 P **P 00 49 19.9 -0.2**
NEW Newport 92.70 39 PFAKE 00 49 30.0 +9.1
NEW LR LR
comp=Z,324nm,19.0s,MS4.8
SRU San Rafael 92.88 49 P **P 00 49 22.6 +0.7**
PV10 Paradox Valley 93.63 50 P **P 00 49 25.3 -0.1**
LSA Lhasa 93.69 300 PFAKE 00 49 40.0 +14
LSA LR LR
comp=Z,215nm,21.0s,MS4.6
BNM Barren Site 93.76 55 P **P 00 49 21.9 -4.2**
MNTX Cornudas Mount 93.79 58 *e*P **P 00 49 26.3 0.0**
comp=Z,5.7nm,1.0s,mb5.0
ZAK Zakamensk 93.96 323 *e*P pP 00 49 33.3 +0.2
ZAK pmax pmax
comp=Z,2.0nm,1.0s,mb4.5
ANMO Albuquerque 94.19 54 P **P 00 49 28.0 -0.1**
comp=Z,3.7nm,1.1s,mb4.7
ANMO Albuquerque 94.19 54 P **P 00 49 28.0 -0.1**
ANMO pmax pmax
comp=Z,4.0nm,1.1s
TXAR Lajitas Array 94.29 60 P **P 00 49 29.4 +0.8**
comp=Z,0.5nm,1.0s,mb3.9,baz=214,slow=4.5,SNR=4.2
TXAR LR LR 01 25 26.1
comp=Z,564nm,18.3s,MS5.1,baz=215,slow=31
REDW Red Top Meadow 94.42 45 P **P 00 49 28.8 -0.1**
comp=Z,16nm,1.4s,mb5.2
PLCA Paso Flores 94.68 137 LR LR 01 22 27.0
comp=Z,234nm,18.0s,MS4.7,baz=236,slow=29
GDL2 Guadalupe Moun 94.78 57 P **P 00 49 24.6 -6.2**
GDL2 *e* 00 49 37.7
WALA Waterton Lakes 94.96 39 P **P 00 49 27.7 -3.6**
PDAR Pinedale Array 95.05 46 P **P 00 49 37.9 +6.0**
comp=Z,0.3nm,0.3s,mb4.2,baz=270,slow=1.5,SNR=6.1
PDAR PP PP 00 53 22.6 -0.9
comp=Z,0.3nm,0.4s,baz=270,slow=4.4,SNR=4.9
PDAR LR LR 01 25 49.5
comp=Z,421nm,19.8s,MS4.9,baz=255,slow=31
SDCO Great Sand Dun 95.96 52 P **P 00 49 38.1 +1.9**
comp=Z,22nm,2.1s,mb5.2
SDCO LR LR
comp=Z,560nm,20.0s,MS5.0
INK Inuvik 97.03 17 P **P 00 49 41.5 +1.3**
comp=Z,11nm,1.3s,mb5.1
INK Inuvik 97.03 17 P **P 00 49 41.6 +1.4**
INK pmax pmax
comp=Z,11nm,1.3s
WMQ Urumqi 101.17 313 *e*P P 00 49 59.0 -0.5
WMQ PP PP 00 54 11.0 -0.3
WMQ SKS SKS 01 00 36.0 -7.1
WMQ S S 01 01 38.0 +4.3
WMQ PS PS 01 03 12.0 +0.2
WMQ SS SS 01 08 38.0 +0.4
WMQ AMB AMB
comp=Z,12nm,1.0s
WMQ AMB AMB
comp=Z,11nm,9.0s
WMQ LR LR
comp=N,187nm,24.0s,MS4.6
WMQ LR LR
comp=E,119nm,23.0s,MS4.6
WMQ LR LR
comp=Z,117nm,23.0s,MS4.3
MKAR Makanchi Array 105.66 314 Pdiff Pdif 00 50 22.3 +3.0
comp=Z,0.5nm,0.8s,baz=153,slow=2.7,SNR=3.2
MKAR PP PP 00 54 42.6 -2.0
comp=Z,1.0nm,1.1s,baz=100,slow=7.4,SNR=5.0
MKAR Makanchi Array 105.66 314 Pdif Pdif 00 50 22.3 +3.0
MKAR PP PP 00 54 42.6 -2.0
MKAR Makanchi Array 105.66 314 P Pdif 00 50 22.3 +3.0
MKAR 00 54 42.6
MKAR pmax pmax
comp=Z,1.0nm,0.8s
MKAR pmax pmax
comp=Z,1.0nm,1.1s
ARCES ARCESS Array B 127.69 346 PKP PKPdf 00 55 12.2 -4.6
comp=Z,1.3nm,0.9s,baz=31,slow=2.1,SNR=2.7
ARCES ARCESS Array B 127.69 346 PKIKP PKPdf 00 55 12.2 -4.6
ARCES pmax pmax
comp=Z,1.0nm,0.9s
BRTR Keskin Array B 140.89 308 PKP PKPdf 00 55 39.8 -2.4
comp=Z,1.1nm,0.9s,baz=108,slow=3.9,SNR=4.8
BRTR Keskin Array B 140.89 308 PKIKP PKPdf 00 55 39.8 -2.4
BRTR pmax pmax
comp=Z,1.0nm,0.9s
HARR Harsova 142.94 318 ⇑P PKPdf 00 55 44.1 -1.4
HARR Harsova 142.94 318 ⇑P PKPdf 00 55 44.1 -1.4
VRI Vrincioaia 143.09 320 ⇑P PKPbc 00 55 46.0 +6.4
MLR Muntele Rosu 143.76 320 ⇑P PKPbc 00 55 42.8 +1.2
KOLS Kolonicke sedl 143.78 327 *i* PKPbc 00 55 55.9 +14
STHS Stebnicka Huta 143.97 329 *e*PKP PKPdf 00 55 50.3 +3.2
SNX Sinaia 144.09 320 ⇑P PKPbc 00 55 49.4 +6.8
SNX Sinaia 144.09 320 ⇑P PKPbc 00 55 49.4 +6.8
CRVS Cervenica-Dubn 144.21 328 *e*PKP PKPdf 00 55 50.4 +2.8
VOIR 144.32 321 ⇓P PKPbc 00 55 51.5 +8.2
VOIR 144.32 321 ⇓P PKPbc 00 55 51.5 +8.2
SZH Strazhica 144.88 317 *e*P PKPbc 00 55 53.0 +8.1
DRGR 144.88 324 ⇓P PKPbc 00 55 44.6 -0.2
DRGR 144.88 324 ⇓P PKPbc 00 55 44.6 -0.2
KECS Kecovo 144.97 328 *e*PKP PKPdf 00 55 45.9 -3.0
OKC Ostrava-Krasne 145.12 332 *e*PKP PKPdf 00 55 45.8 -3.4
OKC *ep*PKP 00 55 52.5
OKC *ex* x 01 23 34.7
OKC AMS AMS 01 57 20.0
comp=Z,200nm,20.8s
KSP Ksiaz 145.16 334 *e*PKP PKPdf 00 55 46.4 -2.7
KSP *e* 00 55 52.6
KSP *e* 00 55 57.3
KSP Ksiaz 145.16 334 *e*PKP PKPdf 00 55 46.3 -2.9
KSP *ep*PKP 00 55 52.6
MORC Moravsky Berou 145.43 332 *e*PKPdf PKPdf 00 55 45.4 -4.3
MORC *e* 00 55 53.1
MORC *e* 00 55 57.6
DPC Dobruska-Polom 145.52 334 *e*PKP PKPdf 00 55 48.1 -1.7
DPC *ep*PKP 00 55 54.0
DPC *ex* x 01 23 36.0
DPC AMS AMS 02 02 30.0
comp=Z,200nm,16.9s
UPC Upice 145.53 334 *e*PKP PKPdf 00 55 47.6 -2.2
UPC *ep*PKP 00 55 53.8
PSZ Piszkesteto 145.64 328 *ep*PKP/B 00 55 54.1
PSZ Piszkesteto 145.64 328 *e*PKPdf PKPdf 00 55 45.7 -4.4
VYHS Vyhne 145.76 329 *e*PKP PKPdf 00 55 49.0 -1.3
KOLL Kolacno 145.91 330 *e*PKP PKPdf 00 55 49.2 -1.3
CLL Collm 146.04 338 *e*PKIKP PKPdf 00 55 48.0 -2.7
CLL *e**PPKP 00 55 50.0
CLL *i* 00 55 55.1
CLL *e* 00 56 08.0
BRG Berggiesshubel 146.05 336 *e*PKP PKPdf 00 55 49.3 -1.4
BRG *i* 00 55 55.1
PVCC Panska Ves 146.09 335 *e*PKP PKPdf 00 55 49.2 -1.6
PVCC *ep*PKP 00 55 54.7
PVCC *ex* x 01 23 47.4
PVCC AMS AMS 01 54 10.0
comp=Z,200nm,24.0s
PRU Pruhonice 146.53 335 *e*PKP PKPdf 00 55 50.9 -0.6
PRU *ep*PKP 00 55 56.7
PRU *ex* x 01 23 42.6
PRU AMS AMS 01 54 00.0
comp=Z,300nm,24.9s
VTS Vitosha 146.95 318 *e*P PKPbc 00 55 52.0 +2.1
MOX Moxa 147.07 338 *i* P PKPdf 00 55 53.2 +0.8
MOX Moxa 147.07 338 *e*PKP PKPdf 00 55 53.2 +0.8
MOX LR LR
comp=Z,100nm,20.0s,MS4.6
MMB Musomiste 147.12 316 *e*P PKPdf 00 55 52.0 -0.8
NKC Novy Kostel 147.12 337 *e*PKP PKPdf 00 55 52.7 +0.2
NKC *ep*PKP 00 55 58.3
NKC *ex* x 01 24 20.1
NKC AMS AMS 01 53 10.0
comp=Z,200nm,23.2s
KKB Krupnik 147.40 316 *e*P PKPdf 00 55 53.0 -0.3
KHC Kasperske Hory 147.59 335 *e*PKP PKPdf 00 55 53.3 0.0
KHC *ep*PKP 00 55 59.7
KHC *x* x 00 57 03.0
KHC *ex* x 01 23 59.2
KHC AMS AMS 01 56 50.0
comp=Z,200nm,24.6s
KHC Kasperske Hory 147.59 335 *e*PKP PKPdf 00 55 53.3 0.0
KHC *e* 00 55 59.7
KHC *e* 00 57 03.0
KHC *e* 01 23 59.2
KHC LR LR
comp=Z,200nm,24.6s,MS4.8
KHC Kasperske Hory 147.59 335 *e*PKIKP PKPdf 00 55 53.3 0.0
KHC *e* 00 55 59.7
KHC *e* 01 23 59.2
KHC MLR MLR
comp=Z,200nm,24.6s,MS4.8
GRUS Gruza 147.75 321 *i* PKP PKPdf 00 55 54.3 +0.6
GERES GERESS Array B 147.77 334 PKPbc PKPdf 00 55 53.8 +0.2
comp=Z,2.3nm,0.9s,baz=45,slow=1.9,SNR=18
GERES GERESS Array B 147.77 334 PKIKP PKPdf 00 55 53.8 +0.2
GERES pmax pmax
comp=Z,2.0nm,0.9s
GRA1 Grafenberg Arr 148.01 338 *e*PKP PKPdf 00 55 54.5 +0.5
GRF Grafenberg Arr 148.01 338 *e*PKP PKPdf 00 55 54.5 +0.5
GRF LR LR
comp=Z,200nm,22.0s,MS4.9
DIVS Divcibare 148.04 322 ⇑*i*PKP PKPdf 00 55 54.5 +0.3
MOA Molln 148.31 333 ⇑*i*P PKPdf 00 55 54.8 +0.3
SKO Skopje 148.39 318 *i* P PKPdf 00 55 55.2 +0.4
PERS Pernice 148.85 330 *e*PKPdf PKPdf 00 55 56.8 +1.4
PERS *ep*PKPbc PKPdf 00 56 02.7 +7.3
KBA Koelnbreinsper 149.30 333 ⇑*i*P PKPdf 00 55 58.0 +1.9
LJU Ljubljana 149.56 330 *e*PKPdf PKPdf 00 55 54.5 -2.1
LJU *ep*PKPbc PKPdf 00 56 04.8 +8.2
LJU Ljubljana 149.56 330 *e*PKPbc PKPdf 00 56 04.8 +8.2
BOJS Bojanci 149.61 329 *i* PKPdf PKPdf 00 55 59.0 +2.3
BOJS *e*PKPbc PKPdf 00 56 05.3 +8.6
BOJS *e*PKPab PKPab 00 56 13.6 +9.1
WLF Walferdange 149.61 343 PKPdf PKPdf 00 55 51.9 -4.6
VOY Vojsko 149.86 331 *e*PKPdf PKPdf 00 56 01.7 +4.6
VOY *e*PKPbc PKPdf 00 56 05.0 +7.9
WTTA Wattenberg 149.86 335 ⇑*i*P PKPdf 00 55 58.2 +1.2
WTTA *i* 00 56 05.9
MOTA Moosalm 150.01 335 ⇑*i*P PKPdf 00 55 59.4 +2.2
MOTA *i* 00 56 05.7
SQTA Sankt Quirin 150.07 335 ⇑*i*P PKPdf 00 55 59.9 +2.6
SQTA *i* 00 56 06.0
CDF Champ du Feu 150.42 341 *e*PKP1 PKPdf 00 55 59.7 +1.9
comp=Z,26nm,1.0s
DAVA Damuels 150.52 337 ⇑*i*P PKPdf 00 56 01.4 +3.4
MEZF Maizieres J'vi 150.97 344 *e*PKP1 PKPdf 00 56 01.4 +2.8
comp=Z,34nm,1.1s
HAU Haudompre 151.06 342 *e*PKP1 PKPdf 00 56 01.1 +2.3
comp=Z,19nm,0.9s
HINF Hinteralfeld 151.08 341 *e*PKP1 PKPdf 00 56 01.1 +2.3
comp=Z,16nm,1.0s
CABF La Chapelle 152.39 341 *e*PKP1 PKPdf 00 56 04.8 +4.0
comp=Z,24nm,1.2s
LOR Lormes 152.42 344 *e*PKP1 PKPdf 00 56 04.3 +3.5
comp=Z,12nm,1.0s
SGMF Saint Gilles 152.59 354 *e*PKP1 PKPdf 00 56 03.5 +2.5
comp=Z,11nm,0.9s
SSF Saint Saulge 152.70 345 *e*PKP1 PKPdf 00 56 04.9 +3.7
comp=Z,6.7nm,1.0s
TIP Timpagrande 152.91 317 *e*PKPbc PKPdf 00 56 06.1 +4.3
BNI Bardonecchia 153.58 338 PKPdf PKPdf 00 55 59.7 -2.8
SBF Sospel 154.33 336 *e*PKP1 PKPdf 00 56 06.3 +2.7

ATH ***10*** *00:39:13.5, 38.74N×28.15E, h10km, MD3.5/3*
ISK ***10*** *00:39:16.8, 38.74N×27.87E, h16km, MD3.4*
CSEM ***10*** *00:39:16.2±0.1, 38.72N×27.90E, h10km, MD3.4, Error ellipse: s-maj=1.6km s-min=1.4km az=39.0*
ISC 10 00:39:16.7±0.5, 38.74N±0.02×27.90E±0.03, h9km±4km, n52, σ0§59/63, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKS	**Akhisar**	**0.16**	**336**	*i* PG	**Pg**	**00 39 20.7**	**+0.5**
MANT	**Manisa**	**0.57**	**115**	*i* P	**Pg**	**00 39 28.3**	**0.0**
MANT				*i* S	**Sg**	**00 39 35.6**	**-0.4**
IZM	**Izmir**	**0.60**	**236**	PG	**Pg**	**00 39 28.8**	**0.0**
BLCB	**Balcova**	**0.76**	**243**	PG	**Pg**	**00 39 31.7**	**-0.1**
BALB	**Balikesir**	**0.90**	**359**	PG	**Pg**	**00 39 34.8**	**0.0**
BALB				SG	**Sg**	**00 39 47.7**	**+0.8**
DST	**Dursunbey**	**1.04**	**33**	PG	**Pg**	**00 39 36.3**	**-1.2**
AYDN	**Tasoluk**	**1.07**	**181**	*i* P	**Pb**	**00 39 37.9**	**+0.9**
AYDN				*i* S	**Sb**	**00 39 50.9**	**0.0**
URLA	**Izmir**	**1.09**	**250**	*i* P	**Pb**	**00 39 27.8**	**-9.3**
URLA				*i* S	**Sb**	**00 39 42.2**	**-9.0**
GDZ	**Gediz**	**1.29**	**74**	*i* P	**Pb**	**00 39 40.4**	**-0.2**
GDZ				*i* S	**Sb**	**00 39 56.1**	**-0.9**
SMG	**Samos**	**1.32**	**219**	*e*PB	**Pb**	**00 39 40.9**	**-0.3**
DENT	**Denizli**	**1.33**	**137**	PN	**Pn**	**00 39 41.4**	**0.0**
KHL	**Karahalli**	**1.34**	**107**	PN	**Pn**	**00 39 41.8**	**+0.2**
PRK	**Paraskevi**	**1.36**	**292**	*e*PB	**Pb**	**00 39 42.6**	**+0.7**
CANB	**Canakkale**	**1.43**	**333**	PN	**Pn**	**00 39 42.7**	**-0.2**
MLSB	**Milas**	**1.44**	**184**	*e*PN	**Pn**	**00 39 42.9**	**-0.1**
ORLT	**Orhaneli**	**1.52**	**30**	*e*PN	**Pn**	**00 39 44.8**	**+0.6**
BNT	**Bandirma**	**1.62**	**1**	PN	**Pn**	**00 39 45.5**	**-0.1**
YER	**Yerkesik**	**1.63**	**169**	*e*PN	**Pn**	**00 39 45.5**	**-0.2**
EZN	**Ezine**	**1.63**	**312**	PN	**Pn**	**00 39 45.8**	**0.0**
BDRM	**Kayabasi**	**1.71**	**192**	*i* P	**Pn**	**00 39 46.7**	**-0.1**
BDRM				*i* S	**Sn**	**00 40 19.8**	**+11**
BODT	**Bodrum**	**1.73**	**196**	PN	**Pn**	**00 39 46.1**	**-1.1**
ALT	**Altintas**	**1.76**	**79**	PN	**Pn**	**00 39 48.1**	**+0.5**
LPK	**Lapseki**	**1.85**	**332**	PN	**Pn**	**00 39 48.8**	**-0.2**
MRMT	**Marmara Adasi**	**1.88**	**353**	*e*PN	**Pn**	**00 39 49.0**	**-0.3**
ARMT	**Armutlu**	**1.97**	**22**	*e*PN	**Pn**	**00 39 50.6**	**-0.1**
GOLH	**Golhisar**	**1.99**	**138**	*i* P	**Pn**	**00 39 53.4**	**+2.5**
GOLH				*i* S	**Sn**	**00 40 24.4**	**+8.1**
MFT	**Murefte**	**2.10**	**347**	*e*PN	**Pn**	**00 39 52.1**	**-0.4**
YLV	**Yalova**	**2.15**	**32**	*e*PN	**Pn**	**00 39 53.3**	**0.0**
ISP	**Isparta**	**2.24**	**113**	*e*PN	**Pn**	**00 39 54.8**	**+0.3**
BORA	**Eskisehir**	**2.29**	**59**	*i* P	**Pn**	**00 39 49.2**	**-5.9**
BORA				*i* S	**Sn**	**00 40 24.4**	**+0.6**
BADT	**Buyukada**	**2.31**	**24**	*e*PN	**Pn**	**00 39 56.3**	**+0.8**
GPA	**Golpazari**	**2.43**	**50**	*e*PN	**Pn**	**00 39 57.5**	**+0.3**
ESKT	**Eskisehir**	**2.43**	**70**	*e*PN	**Pn**	**00 39 57.3**	**+0.1**
CTT	**Catalca**	**2.44**	**10**	*e*PN	**Pn**	**00 39 56.8**	**-0.6**
BCK	**Bucak**	**2.48**	**120**	*e*PN	**Pn**	**00 39 57.8**	**-0.1**
LOS	**Limnos**	**2.49**	**300**	*e*P	**Pn**	**00 39 58.5**	**+0.5**
HRT	**Hereke**	**2.49**	**33**	*e*PN	**Pn**	**00 39 58.5**	**+0.4**
ISK	**Istanbul-Kandi**	**2.49**	**21**	*e*PN	**Pn**	**00 39 56.5**	**-1.6**
ELL	**Elmali**	**2.55**	**141**	*e*PN	**Pn**	**00 39 58.5**	**-0.4**
ALN	**Alexandroupoli**	**2.59**	**327**	*e*P	**Pn**	**00 39 59.4**	**0.0**
ALN				*e*S	**Sn**	**00 40 39.0**	**+7.8**
RDO	**Rodhopi**	**3.01**	**324**	*e*PN	**Pn**	**00 40 05.5**	**0.0**
MDU	**Mudurnu**	**3.09**	**55**	*e*PN	**Pn**	**00 40 07.0**	**+0.4**
KIZT	**Kizilcal**	**3.12**	**86**	*e*PN	**Pn**	**00 40 07.0**	**0.0**
EDRB	**Edirne**	**3.23**	**345**	*e*PN	**Pn**	**00 40 08.1**	**-0.5**
OUR	**Ouranopolis**	**3.42**	**299**	*e*P	**Pn**	**00 40 10.5**	**-0.8**
PAIG	**Paliouri**	**3.48**	**291**	*e*P	**Pn**	**00 40 11.5**	**-0.6**
XOR	**Xorichti**	**3.71**	**281**	*e*P	**Pn**	**00 40 15.1**	**-0.4**
SRS	**Serrai**	**4.07**	**307**	*e*P	**Pn**	**00 40 20.0**	**-0.6**
SRS				*e*S	**Sn**	**00 41 26.2**	**+17**
KNT	**Kendrikon**	**4.54**	**304**	*e*P	**Pn**	**00 40 27.3**	**+0.1**
KNT				*e*S	**Sn**	**00 41 40.6**	**+20**
GRG	**Griva**	**4.77**	**299**	*e*P	**Pn**	**00 40 31.1**	**+0.6**
FNA	**Florina**	**5.42**	**294**	*e*P	**Pn**	**00 40 40.1**	**+0.4**
IGT	**Igoumenitsa**	**5.93**	**280**	*e*P	**Pn**	**00 40 47.7**	**+0.9**

BJI ***10*** *00:55:13.1, 0.24S×97.91E, h27km, mb4.8*
IDC ***10*** *00:55:17.9±0.9, 0.13N×97.44E, h27km±3km, mb4.0/9, mb1 4.1/9, mb1mx3.9/17, mbtmp4.2/9, Error ellipse: s-maj=36.0km s-min=18.3km az=48.0*
NEIC ***10*** *00:55:18.1±0.5, 0.21N×97.54E, mb4.5/4, Error ellipse: s-maj=13.1km s-min=12.2km az=205.0*
ISC 10 00:55:16.7±0.9, 0.3N±0.1×97.6E±0.1, h27km, h27km±.8km: pP-P, n36, σ0§62/32, mb4.5/18, 3C-4D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.85**	**32**	*e*P	**Pn**	**00 56 43.5**	**-0.5**
KMI	**Kunming**	**25.19**	**11**	P	**P**	**01 00 43.5**	**+1.7**
KMI				AMB	AMB		
comp=Z,9.0nm,1.4s,mb4.1							
PKI	**Pulchoki**	**29.52**	**338**	*e*P	**P**	**01 01 27.5**	**+6.1**
DMN	**Daman**	**29.67**	**337**	*e*P	**P**	**01 01 29.3**	**+6.6**
KKN	**Kakani**	**29.77**	**338**	*e*P	**P**	**01 01 28.9**	**+5.3**
comp=Z,20nm,0.8s,mb4.9							
LSA	**Lhasa**	**29.87**	**349**	P	**P**	**01 01 32.2**	**+7.7**
comp=Z,6.4nm,0.4s,mb4.7							
GKN	**Gorkha**	**30.21**	**337**	*e*P	**P**	**01 01 27.4**	**-0.1**
KOLN	**Koldanda**	**30.42**	**335**	*e*P	**P**	**01 01 29.6**	**+0.2**
comp=Z,16nm,0.7s,mb4.8							
XAN	**Xi'an**	**35.22**	**16**	P	**P**	**01 02 10.4**	**-0.6**
XAN				AP	pP	01 02 16.3	-2.7
XAN				AMB	AMB		
comp=Z,11nm,0.8s,mb4.8							
WRA	**Warramunga Arr**	**41.26**	**121**	P	**P**	**01 03 01.5**	**0.0**
comp=Z,1.6nm,0.9s,mb3.7,baz=301,slow=8.7,SNR=4.8							
WRA				pP	pP	01 03 08.8	-0.8
comp=Z,1.6nm,0.9s,baz=301,slow=8.9,SNR=7.4							
SONM	**Songino Array**	**47.97**	**8**	P	**P**	**01 03 55.5**	**+0.3**
comp=Z,2.9nm,0.6s,mb4.5,baz=191,slow=9.4,SNR=25							
SONM				pP	pP	01 04 03.9	+0.6
comp=Z,2.0nm,0.8s,baz=194,slow=9.1,SNR=5.9							
SONM				PcP	PcP	01 05 22.2	-1.2
comp=Z,0.8nm,0.7s,baz=146,slow=3.8,SNR=3.5							
SONM				pPcP		01 05 32.5	
comp=Z,0.3nm,0.3s,baz=207,slow=2.7,SNR=4.3							
MKAR	**Makanchi Array**	**48.20**	**346**	P	**P**	**01 03 57.2**	**+0.2**
comp=Z,2.4nm,0.5s,mb4.5,baz=159,slow=8.4,SNR=33							
MKAR				pP	pP	01 04 05.7	+0.5
comp=Z,3.7nm,0.8s,baz=164,slow=8.8,SNR=11							
MKAR	**Makanchi Array**	**48.20**	**346**	P	**P**	**01 03 57.2**	**+0.2**
MKAR				pP	pP	01 04 05.7	+0.5
KURK	**Kurchatov**	**52.75**	**345**	*e*P	**P**	**01 04 30.9**	**-0.7**
comp=Z,8.3nm,1.1s,mb4.6							
KURK				*ep*P	pP	01 04 39.8	-0.1
ZAL	**Zalesovo**	**54.50**	**351**	P	**P**	**01 04 43.6**	**-0.7**
comp=Z,3.6nm,0.7s,mb4.4,baz=306,slow=6.3,SNR=21							
ZAL				pP	pP	01 04 52.1	-0.5
comp=Z,2.4nm,0.5s,baz=304,slow=8.0,SNR=4.7							
RDF	**Al-Radifah**	**55.54**	**305**	*e*P	**P**	**01 04 52.1**	**-0.2**
NAY	**Al-Naaiem**	**55.91**	**306**	*e*P	**P**	**01 04 55.1**	**+0.1**
NAY				AMb	AMB	01 04 56.5	
comp=Z,8.2nm,0.9s,mb4.8							
MIB	**Mutribah**	**56.03**	**306**	*e*P	**P**	**01 04 55.9**	**+0.1**
MIB				AMb	AMB	01 04 57.5	
comp=Z,23nm,0.8s,mb5.3							
MALT	**Malatya**	**66.00**	**312**	*e*P	**P**	**01 06 03.4**	**+0.1**
comp=Z,3.1nm,0.8s,mb4.4							
BR131	**Keskin Array S**	**69.98**	**313**	*e*P	**P**	**01 06 27.0**	**-1.1**
comp=Z,1.6nm,0.7s,mb4.1							
BRTR	**Keskin Array B**	**69.98**	**313**	P	**P**	**01 06 27.1**	**-1.0**
comp=Z,2.0nm,0.7s,mb4.2,baz=134,slow=7.8,SNR=14							
BRTR				pP	pP	01 06 36.2	-0.3
comp=Z,0.9nm,0.8s,baz=121,slow=7.2,SNR=3.9							
TIRR	**Tirgusor**	**75.02**	**316**	⇑P	**P**	**01 06 57.6**	**-0.3**
AKASG	**Malin Array Be**	**76.19**	**323**	P	**P**	**01 07 03.4**	**-0.9**
comp=Z,3.0nm,0.6s,mb4.4,baz=88,slow=4.9,SNR=14							
AKASG				pP	pP	01 07 12.7	-0.1
comp=Z,1.4nm,0.6s,baz=90,slow=4.5,SNR=4.2							
VRI	**Vrincioaia**	**76.52**	**317**	⇓P	**P**	**01 07 06.5**	**+0.2**
VRI	**Vrincioaia**	**76.52**	**317**	⇓P	**P**	**01 07 06.5**	**+0.1**
MLR	**Muntele Rosu**	**76.97**	**317**	⇓P	**P**	**01 07 09.6**	**+0.8**
MLR	**Muntele Rosu**	**76.97**	**317**	⇓P	**P**	**01 07 09.6**	**+0.8**
DRGR		**79.44**	**318**	⇑P	**P**	**01 07 21.9**	**-0.4**
DRGR		**79.44**	**318**	⇑P	**P**	**01 07 21.9**	**-0.4**
FINES	**FINESS Array B**	**80.96**	**333**	P	**P**	**01 07 30.4**	**+0.3**
comp=Z,1.7nm,0.9s,mb4.0,baz=90,slow=5.7,SNR=7.3							
FINES				pP	pP	01 07 38.8	+0.1
comp=Z,2.2nm,0.8s,baz=117,slow=4.3,SNR=2.4							
ARCES	**ARCESS Array B**	**83.50**	**340**	P	**P**	**01 07 44.0**	**+0.8**
comp=Z,1.8nm,0.8s,mb4.3,baz=90,slow=3.6,SNR=12							
ARCES				pP	pP	01 07 52.9	+1.1
comp=Z,1.3nm,0.7s,baz=90,slow=3.6,SNR=2.6							
GERES	**GERESS Array B**	**85.72**	**319**	P	**P**	**01 07 55.6**	**+0.9**
comp=Z,2.2nm,1.1s,mb4.3,baz=104,slow=5.5,SNR=12							
GERES				pP	pP	01 08 04.0	+0.6
comp=Z,0.8nm,0.9s,baz=72,slow=4.2,SNR=3.4							
TXAR	**Lajitas Array**	**144.24**	**33**	PKP	PKPdf	01 14 52.1	-3.7
comp=Z,0.6nm,0.7s,baz=283,slow=2.6,SNR=6.7							
TXAR				pPKP		01 15 01.0	
comp=Z,0.5nm,0.7s,baz=31,slow=2.1,SNR=3.6							
CPUP	**Villa Florida**	**144.57**	**221**	PKP	PKPdf	01 14 51.7	-4.7
comp=Z,3.8nm,0.8s,baz=169,slow=3.2,SNR=9.3							
CPUP	**Villa Florida**	**144.57**	**221**	PKP	PKPdf	01 14 51.7	-4.7
JCT	**Junction City**	**145.23**	**27**	*e*P	PKPbc	01 14 54.2	+1.2
JCT				*ep*P		01 15 03.5	

CSEM ***10*** *00:57:24.0±0.5, 37.39N×24.56W, h10km, ML2.1, Error ellipse: s-maj=19.0km s-min=3.9km az=75.0, After PDA*
PDA ***10*** *00:57:24.0±0.5, 37.39N×24.56W, h10km, MD2.5, ML2.1, Error ellipse: s-maj=4.9km s-min=1.6km az=79.0*
SVSA 10 00:57:24.0±0.5, 37.39N×24.56W, h10km, MD2.5, ML2.1, Error ellipse: s-maj=4.9km s-min=1.6km az=79.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.56**	**226**	*e*P	Pg	00 57 33.5	-1.8
PSMN				*e*S	Sg	00 57 40.1	-2.8
MIRA	**Miradouro**	**0.69**	**305**	*e*S	Sb	00 57 43.6	-3.5
FRA1	**Furnas**	**0.72**	**299**	*e*S	Sb	00 57 44.4	-3.6
PFAD	**Fenais da Ajud**	**0.75**	**307**	*e*P	Pb	00 57 36.0	-2.7
PFAD				*e*S	Sb	00 57 44.8	-4.0
VIF	**Vila Franca**	**0.78**	**297**	*e*S	Sb	00 57 45.7	-4.0
24nm,0.2s							
PRCH	**Ribeira Ch**	**0.81**	**295**	*e*S	Sb	00 57 46.2	-4.1
59nm,0.3s							
MESC	**Monte Escuro**	**0.81**	**300**	*e*P	Pb	00 57 36.6	-3.1
MESC				*e*S	Sb	00 57 46.6	-3.9
LFA	**Lagoa do Fogo**	**0.83**	**298**	*e*P	Pb	00 57 37.2	-2.8

BJI ***10*** *01:05:47.0, 33.27N×142.23E, h29km, mB4.8, mb4.7, Ms4.3, Msz4.0*
JMA ***10*** *01:05:47.0±0.4, 33.38N×142.45E, h70km, M4.3*
IDC ***10*** *01:05:49.9±0.5, 33.34N×142.35E, h36km±3km, mb4.2/20, mb1 4.3/24, mb1mx4.3/27, mbtmp4.4/24, ML4.0/3, MS4.1/7, Ms1 4.1/7, ms1mx3.7/30, Error ellipse: s-maj=12.9km s-min=12.1km az=128.0*
NEIC ***10*** *01:05:49.9±0.2, 33.34N×142.28E, mb4.7/35,

JIM2 Oshima 3 2.73 301 P **P** **01 06 30.2 -0.4**
JOD2 Odawara 2 3.26 307 P **P** **01 06 37.8 -0.3**
JYT Yasato 3.34 330 P **P** **01 06 39.3 0.0**
JHU Hanno 3.51 316 P **P** **01 06 41.3 -0.4**
JHO Hitachi 3.54 337 P **P** **01 06 40.1 -2.0**
JAG Ashikaga 3.84 324 P **P** **01 06 45.8 -0.6**
JRY Ryogami san 3.85 315 P **P** **01 06 46.5 0.0**
JRY S **S** **01 07 31.8 +0.7**
JNY Yasuok 4.17 300 P **P** **01 06 52.4 +1.4**
JNY *e*S **S** **01 07 40.3 +1.1**
JAO Obara 4.57 296 P **P** **01 06 57.8 +1.0**
MJAR Matsushiro Arr 4.61 315 Pn **P** **01 06 57.6 +0.2**
12nm,0.3s,baz=166,slow=13,SNR=55
MJAR Sn **S** **01 07 49.0 -1.5**
7.7nm,0.3s,baz=153,slow=20,SNR=8.1
MAJO Matsushiro 4.61 315 *e*P **P** **01 06 56.4 -1.0**
MAT Matsushiro 4.61 315 P **P** **01 06 56.8 -0.6**
MAT S **S** **01 07 48.7 -1.8**
MAT Matsushiro 4.61 315 *e*P **P** **01 06 57.0 -0.4**
MAT *e*S **S** **01 07 49.0 -1.5**
CBIJ Chichi jima 6.24 181 Pn **P** **01 07 15.8 -4.5**
51nm,0.3s,baz=324,slow=12,SNR=22
CBIJ Sn **S** **01 08 22.2 -9.2**
36nm,0.3s,baz=91,slow=23,SNR=4.5
JNU Nakatsue 9.56 272 Pn **P** **01 08 07.4 +1.0**
1.1nm,0.3s,baz=93,slow=18,SNR=10.0
ASAJ Asahikawa 10.74 1 Pn **P** **01 08 17.2 -5.5**
4.4nm,0.3s,baz=210,slow=6.7,SNR=11
ASAJ Sn **S** **01 10 11.2 -12**
0.9nm,0.3s,baz=107,slow=19,SNR=4.7
ASAJ Asahikawa 10.74 1 P **P** **01 08 17.2 -5.5**
ASAJ 01 10 11.3
ASAJ pmax pmax
comp=Z,4.0nm,0.3s
YSS Yuzh-Sakhalins 13.58 1 *e*P **P** **01 08 55.6 -5.1**
comp=Z,26nm,0.8s
YSS *ep*P 01 09 04.3
YSS Yuzh-Sakhalins 13.58 1 *e*P **P** **01 08 55.6 -5.1**
YSS pmax pmax
comp=Z,30nm,0.8s
YSS pmax pmax
comp=Z,60nm,0.9s
JOW Kunigami 13.76 245 Pn **P** **01 09 02.1 -0.9**
comp=Z,0.6nm,0.3s,baz=209,slow=29,SNR=5.7
JOW LR LR 01 14 40.5
comp=Z,308nm,18.1s,baz=130,slow=38
CN2 Changchun 16.76 313 *e*P **P** **01 09 41.3 -0.5**
CN2 AMB AMB
comp=Z,10.0nm,1.0s
SSE Sheshan 17.99 269 P **P** **01 09 58.4 +1.2**
SSE AMB AMB
comp=Z,32nm,1.0s
SSE AMB AMB
comp=Z,170nm,11.2s
NJ2 Nanjing 19.75 273 *e*P **P** **01 10 15.9 -2.1**
NJ2 AP 01 10 20.1
NJ2 PP PP 01 10 34.0 -2.7
NJ2 S **S** **01 13 58.0 +4.5**
NJ2 XS 01 14 04.0
NJ2 AMB AMB
comp=Z,40nm,1.0s
NJ2 AMB AMB
comp=Z,110nm,4.0s
NJ2 LR LR
comp=N,640nm,15.8s
NJ2 LR LR
comp=E,370nm,13.7s
NJ2 LR LR
comp=Z,390nm,23.0s
HIA Hailar 23.09 320 *e*P **P** **01 10 51.2 -0.4**
comp=Z,9.2nm,0.6s,mb4.4
HIA Hailar 23.09 320 *e*P **P** **01 10 51.2 -0.4**
HIA pmax pmax
comp=Z,9.0nm,0.6s
WHN Wuhan 23.84 271 P **P** **01 10 59.0 -0.1**
HHC Hu-ho-hao-te 25.52 296 *e*P **P** **01 11 16.0 +0.8**
HHC AP pP 01 11 24.1 -0.6
HHC XP sP 01 11 28.0 -0.7
HHC AMB AMB
comp=Z,22nm,1.4s,mb4.5
HHC AMB AMB
comp=Z,138nm,6.1s
CLNS Chul'man 26.34 338 *e*P **P** **01 11 20.3 -2.3**
CLNS *e*PPP PPP 01 12 04.4 -13
CLNS *e*S **S** **01 15 49.4 -1.7**
CLNS *e*SS SS 01 17 06.3 +5.3
CLNS pmax pmax
comp=Z,17nm,0.9s,mb4.6
CLNS pmax pmax
comp=N,9.0nm,1.0s
CLNS pmax pmax
comp=E,5.0nm,0.9s
CLNS pmax pmax
comp=Z,6.0nm,0.7s,mb4.2
CLNS pmax pmax
comp=N,12nm,1.0s
CLNS pmax pmax
comp=E,6.0nm,0.8s
CLNS smax
comp=E,16nm,0.8s
CLNS smax
comp=Z,10.0nm,0.9s
CLNS smax
comp=N,9.0nm,0.7s
CLNS MLR MLR
comp=Z,500nm,19.0s,MS4.1
CLNS MLR MLR
comp=N,500nm,21.0s,MS4.1
CLNS MLR MLR
comp=E,70nm,16.0s,MS4.1
BTO Baotou 26.66 295 *e*P **P** **01 11 25.9 +0.2**
BTO AMB AMB
comp=Z,18nm,0.9s,mb4.6
MA2 Magadan 26.82 10 *i* P **P** **01 11 24.8 -2.2**
XAN Xi'an 27.70 281 P **P** **01 11 33.8 -1.5**
XAN AMB AMB
comp=Z,13nm,1.0s,mb4.5
CIT Chita 27.89 321 *e*P **P** **01 11 39.5 +2.6**
CIT *e* 01 17 25.6
CIT pmax pmax
comp=Z,71nm,1.6s,mb5.0
ENH Enshi 27.98 273 *e*P **P** **01 11 36.6 -1.3**
comp=Z,48nm,1.0s,mb5.1
FX1 Attu Island--F 29.47 39 LR LR 01 24 28.0
comp=Z,9.4nm,18.9s,baz=295,slow=38
YAK Yakutsk 29.80 348 *e*P **P** **01 11 51.8 -2.0**
YAK pmax pmax
comp=Z,14nm,0.7s,mb4.8
ULN Ulaanbaatar 30.12 309 *e*P **P** **01 11 58.4 +1.6**
comp=Z,6.1nm,0.7s,mb4.4
ULN Ulaanbaatar 30.12 309 *e*P **P** **01 11 58.4 +1.7**
ULN pmax pmax
comp=Z,6.0nm,0.7s,mb4.4
SEY Seymchan 30.27 9 ⇑*i*P **P** **01 11 57.3 -0.7**
SONM Songino Array 30.54 309 P **P** **01 12 01.9 +1.5**
comp=Z,5.1nm,0.7s,mb4.5,baz=109,slow=7.8,SNR=19
BOD Bodaibo 31.04 331 *e*P **P** **01 12 03.5 -1.3**
BOD pmax pmax
comp=Z,10.0nm,0.9s,mb4.7
GYA Guiyang 31.52 267 ⇑*i*P **P** **01 12 07.6 -1.8**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
ZAK Zakamensk 33.19 313 *e*P **P** **01 12 18.2 -5.5**
ZAK pmax pmax
comp=Z,2.0nm,1.1s,mb4.0
ZAK pmax pmax
comp=Z,2.0nm,1.1s,mb4.0
GTA Gaotai 34.48 292 *e*P **P** **01 12 35.6 +0.7**
GTA AP pP 01 12 39.6 -5.2
GTA XP sP 01 12 42.8 -6.4
GTA AMB AMB
comp=Z,7.0nm,0.8s,mb4.6
GTA AMB AMB
comp=Z,119nm,4.2s
GTA LR LR
comp=N,122nm,19.1s,MS3.9
GTA LR LR
comp=E,159nm,15.3s,MS3.9
GTA LR LR
comp=Z,203nm,15.3s,MS4.0
BILL Bilibino 37.37 15 *e*P **P** **01 12 56.9 -2.2**
BILL pmax pmax
comp=Z,3.0nm,0.9s,mb4.1
WMQ Urumqi 43.23 301 P **P** **01 13 49.4 +1.7**
WMQ AP pP 01 14 00.4 +2.6
WMQ AMB AMB
comp=Z,16nm,1.0s,mb4.7
ZAL Zalesovo 44.98 315 P **P** **01 14 00.9 -0.8**
comp=Z,0.9nm,0.3s,mb4.1,baz=66,slow=10.0,SNR=6.3
NVS Novosibirsk 45.94 316 ⇓*i*P **P** **01 14 08.7 -0.6**
NVS pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
NVS pmax pmax
comp=E,7.0nm,1.2s
MK02 Makanchi Array 46.73 305 P **P** **01 14 15.6 0.0**
MK02 pmax pmax
comp=Z,26nm,1.1s,mb5.1
MKAR Makanchi Array 46.75 305 P **P** **01 14 16.2 +0.5**
comp=Z,2.5nm,0.5s,mb4.4,baz=88,slow=9.7,SNR=28
MKAR Makanchi Array 46.75 305 P **P** **01 14 16.2 +0.4**
KURK Kurchatov 48.81 311 *e*P **P** **01 14 31.6 -0.2**
comp=Z,27nm,0.9s,mb5.3
KURK *ep*P pP 01 14 39.6 -2.3
KURK Kurchatov 48.81 311 *e*P **P** **01 14 31.6 -0.2**
KURK pmax pmax
comp=Z,27nm,0.9s,mb5.3
PKI Pulchoki 48.85 279 *e*P **P** **01 14 32.5 0.0**
comp=Z,16nm,0.7s,mb5.2
KKN Kakani 48.88 279 *e*P **P** **01 14 33.0 +0.3**
comp=Z,28nm,0.8s,mb5.3
DMN Daman 49.09 279 *e*P **P** **01 14 34.5 +0.2**
comp=Z,6.2nm,0.4s,mb5.0
GKN Gorkha 49.33 280 *e*P **P** **01 14 36.4 +0.2**
comp=Z,27nm,0.7s,mb5.4
KDAK Kodiak Island 49.41 40 P **P** **01 14 34.7 -1.6**
comp=Z,48nm,1.5s,mb5.3
KOLN Koldanda 50.27 280 *e*P **P** **01 14 43.5 +0.1**
comp=Z,20nm,0.9s,mb5.2
SML Sawmill 51.57 35 *e*P **P** **01 14 51.3 -1.4**
COLA College 51.84 31 *e*P **P** **01 14 44.8 -10**
ILAR Eielson Array 52.25 31 P **P** **01 14 56.2 -1.5**
comp=Z,1.8nm,0.6s,mb4.2,baz=265,slow=6.4,SNR=21
ILAR pP pP 01 15 06.7 -1.3
comp=Z,5.8nm,0.7s,baz=262,slow=6.0,SNR=20
DIV Divide 52.81 35 *e*P **P** **01 15 01.4 -0.6**
comp=Z,44nm,1.0s,mb5.3
EYAK Cordova Ski Ar 52.86 36 *e*P **P** **01 15 01.4 -1.0**
EYAK *ep*P pP 01 15 12.0 -0.6
AAK Ala-Archa 52.93 301 *e*P **P** **01 15 03.0 -0.2**
comp=Z,3.2nm,0.6s,mb4.4
AAK Ala-Archa 52.93 301 ⇓*i*P **P** **01 15 02.6 -0.5**
AAK pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
WRAB Tennant Creek 53.53 189 *e*P **P** **01 15 05.8 -2.1**
comp=Z,8.2nm,0.6s,mb4.8
WRAB Tennant Creek 53.53 189 ⇑*i*P **P** **01 15 06.5 -1.4**
WB2 Warramunga Arr 53.54 189 ⇓*i*P **P** **01 15 06.2 -1.8**
WRA Warramunga Arr 53.54 189 P **P** **01 15 06.2 -1.8**
comp=Z,6.4nm,0.6s,mb4.7,baz=8.4,slow=7.7,SNR=120
WRA PcP PcP 01 16 13.7 -0.7
comp=Z,2.6nm,0.6s,baz=0.6,slow=4.0,SNR=7.4
FITZ Fitzroy Crossi 53.58 200 ⇓*i*P **P** **01 15 07.7 -0.6**
comp=Z,12nm,0.6s,mb5.0
FITZ Fitzroy Crossi 53.58 200 P **P** **01 15 07.7 -0.6**
comp=Z,16nm,0.6s,mb5.1,baz=8.9,slow=5.6,SNR=32
FITZ LR LR 01 35 56.5
comp=Z,177nm,18.7s,MS4.2,baz=72,slow=34
BVA0 Borovoye Array 53.61 315 *i* P **P** **01 15 07.7 -0.4**
BVA0 pmax pmax
comp=Z,1.0nm,1.0s,mb3.7
BVAR Borovoye Array 53.61 315 P **P** **01 15 07.7 -0.3**
comp=Z,2.3nm,0.9s,mb4.1,baz=90,slow=5.9,SNR=18
BVAR pP pP 01 15 17.6 -0.8
comp=Z,2.2nm,0.6s,baz=101,slow=7.6,SNR=6.9
BRVK Borovoye 53.67 315 *e*P **P** **01 15 08.6 +0.1**
comp=Z,6.1nm,1.2s,mb4.4
BRVK Borovoye 53.67 315 *e*P **P** **01 15 08.6 +0.1**
BRVK pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
KKAR Karatay Array 55.64 303 *i* P **P** **01 15 23.2 +0.2**
KKAR pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
INK Inuvik 57.35 26 P **P** **01 15 35.3 +0.4**
comp=Z,3.2nm,0.6s,mb4.5,baz=297,slow=7.1,SNR=5.0
INK pP pP 01 15 44.9 -0.4
comp=Z,5.9nm,0.7s,baz=308,slow=9.6,SNR=5.2
SVE Sverdlovsk 58.40 320 *e*P **P** **01 15 42.0 -0.3**
ARU Arti 59.61 320 *e*P **P** **01 15 49.9 -0.9**
comp=Z,10nm,1.1s,mb4.8
ARU Arti 59.61 320 ⇓*i*P **P** **01 15 50.0 -0.8**
ARU *e* 01 18 10.3
ARU *e*S **S** **01 24 00.3 +3.5**
ARU pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
AB31 Akbulak array 60.89 312 P **P** **01 15 58.0 -1.6**
AB31 pmax pmax
comp=Z,1.0nm,0.6s,mb4.1
DLBC Dease Lake 61.10 37 P **P** **01 16 00.5 -0.4**
comp=Z,0.9nm,0.5s,mb4.1,baz=267,slow=9.4,SNR=3.8
DLBC pP pP 01 16 11.7 +0.3
comp=Z,3.3nm,0.8s,baz=303,slow=7.9,SNR=4.6
DLBC Dease Lake 61.10 37 *e*P **P** **01 16 00.5 -0.4**
DLBC pP pP 01 16 11.7 +0.3
STKA Stephens Creek 64.89 181 P **P** **01 16 25.5 -0.8**
comp=Z,7.0nm,0.8s,mb4.8,baz=350,slow=6.0,SNR=7.5
FORT Forrest 65.19 193 ⇑*i*P **P** **01 16 27.8 -0.5**
comp=Z,26nm,0.6s,mb5.4
LVZ Lovozero 65.75 337 *i* P **P** **01 16 30.4 -0.9**
RES Resolute Bay 65.98 14 *e*P **P** **01 16 33.2 +0.6**
comp=Z,11nm,0.9s,mb4.9
RES *ep*P pP 01 16 43.0 -0.1
RES Resolute Bay 65.98 14 *e*P **P** **01 16 33.2 +0.6**
RES pmax pmax
comp=Z,11nm,0.9s,mb4.9
YKA Yellowknife Ar 66.64 30 P **P** **01 16 35.9 -1.0**
comp=Z,1.9nm,0.7s,mb4.2,baz=292,slow=6.1,SNR=6.6
YKA pP pP 01 16 46.7 -0.8
comp=Z,5.5nm,0.8s,baz=293,slow=6.2,SNR=13
YKA Yellowknife Ar 66.64 30 P **P** **01 16 35.9 -1.0**
YKA pP pP 01 16 46.7 -0.8
ARCES ARCESS Array B 67.68 340 P **P** **01 16 42.8 -0.6**
comp=Z,1.2nm,0.7s,mb4.0,baz=45,slow=6.9,SNR=5.3
ARCES LR LR 01 48 18.1
comp=Z,355nm,21.7s,MS4.5,baz=56,slow=38
ARCES ARCESS Array B 67.68 340 P **P** **01 16 42.8 -0.6**
ARCES LR LR 01 48 18.1
NWAO Narrogin (SRO) 70.03 202 P **P** **01 16 58.1 -0.4**
comp=Z,20nm,0.7s,mb5.2,baz=23,slow=5.0,SNR=14
OBN Obninsk 71.48 324 *e*P **P** **01 17 06.2 -0.7**
OBN pmax pmax
comp=Z,25nm,2.5s,mb4.7
EDM Edmonton 71.80 38 P **P** **01 17 09.6 +0.8**
VRSR Storozhevoye 72.17 320 *e*P **P** **01 17 11.3 +0.3**
VRSR pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
VRSR pmax pmax
comp=N,10.0nm,1.3s
VRSR pmax pmax
comp=E,7.0nm,1.0s
VRSR pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
VRSR pmax pmax
comp=N,10.0nm,1.3s
VRSR pmax pmax
comp=E,7.0nm,1.0s
FINES FINESS Array B 72.40 333 P **P** **01 17 12.0 -0.2**
comp=E,4.6nm,0.9s,mb4.4,baz=45,slow=5.4,SNR=7.3
FINES pP pP 01 17 23.6 +0.9
comp=E,3.7nm,0.8s,baz=56,slow=6.9,SNR=4.0
FINES LR LR 01 52 23.4
comp=E,167nm,20.4s,MS4.3,baz=165,slow=39
FINES FINESS Array B 72.40 333 P **P** **01 17 12.0 -0.2**
FINES pP pP 01 17 23.6 +0.9
FINES LR LR 01 52 23.4
GOF Gofitskoye 73.10 313 ⇑*i*P **P** **01 17 16.0 -0.6**
GOF pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
WALA Waterton Lakes 73.69 42 *e*P **P** **01 17 19.4 -0.6**
comp=Z,3.3nm,0.8s,mb4.3
WALA *ep*P pP 01 17 31.1 +0.5
KIV Kislovodsk 73.87 312 *e*P **P** **01 17 22.6 +1.4**
KIV pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
BMO Blue Mountains 73.91 47 P **P** **01 17 21.4 0.0**
comp=Z,4.2nm,1.3s,mb4.2
CMB Columbia Colle 75.44 54 *e*P **P** **01 17 30.4 +0.1**
comp=Z,3.7nm,0.9s,mb4.3
CMB *ep*P pP 01 17 41.4 +0.5
CMB Columbia Colle 75.44 54 *e*P **P** **01 17 30.4 +0.1**
CMB *e**PP pP 01 17 41.4 +0.5
CMB pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
HLID Hailey 76.36 47 *e*P **P** **01 17 35.6 +0.1**
comp=Z,4.8nm,1.4s,mb4.2
ELK Elko 77.38 49 *e*P **P** **01 17 42.3 +1.0**
comp=Z,2.4nm,0.9s,mb4.1
ELK *ep*P pP 01 17 52.8 +0.9
ELK Elko 77.38 49 *e*P **P** **01 17 42.3 +1.0**
ELK *e**PP pP 01 17 52.8 +0.9
ELK pmax pmax
comp=Z,2.0nm,0.9s
AKASG Malin Array Be 77.65 323 P **P** **01 17 41.8 -0.7**
comp=Z,1.2nm,0.6s,mb4.0,baz=46,slow=6.0,SNR=11
AKASG pP pP 01 17 53.8 +0.6
comp=Z,2.4nm,0.8s,baz=45,slow=5.6,SNR=4.7
NB2 NORSAR Subarra 77.85 338 P **P** **01 17 43.4 0.0**
comp=Z,6.3nm,0.9s,mb4.5,baz=40,slow=5.6
NB2 NORSAR Subarra 77.85 338 P **P** **01 17 43.4 0.0**
NB2 pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
NOA NORSAR Array B 77.85 338 P **P** **01 17 43.7 +0.3**
comp=Z,3.6nm,0.7s,mb4.4,baz=40,slow=5.6,SNR=14
NOA pP pP 01 17 55.2 +1.1
comp=Z,4.1nm,0.7s,baz=39,slow=5.6,SNR=7.2
NOA LR LR 01 58 28.5
comp=Z,111nm,20.2s,MS4.2,baz=10.0,slow=41
NOA NORSAR Array B 77.85 338 P **P** **01 17 43.7 +0.3**
NOA pP pP 01 17 55.2 +1.1
NOA LR LR 01 58 28.5
MIB Mutribah 78.00 298 *e*P **P** **01 17 45.4 +0.5**
MIB AMb AMB 01 17 45.9
comp=Z,14nm,0.6s,mb5.1
RDF Al-Radifah 78.30 297 *e*P **P** **01 17 46.9 +0.4**
RDF AMb AMB 01 17 49.4
comp=Z,22nm,1.1s,mb5.0
RRI2 Red Ridge 78.35 46 *e*P **P** **01 17 47.7 +1.2**
comp=Z,8.9nm,1.4s,mb4.5
HVU Hansel Valley 78.35 48 *e*P **P** **01 17 48.8 +2.2**
HVU *ep*P pP 01 17 58.0 +0.8
NAY Al-Naaiem 78.36 297 *e*P **P** **01 17 47.6 +0.7**
NAY AMb AMB 01 17 48.3
comp=Z,11nm,0.7s,mb4.9
SIM Simferopol' 78.46 316 *e*P **P** **01 17 46.7 -0.4**
DUG Dugway 79.23 49 *e*P **P** **01 17 51.8 +0.4**
comp=Z,3.5nm,0.7s,mb4.4
DUG Dugway 79.23 49 *e*P **P** **01 17 51.8 +0.4**
DUG pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
LAO LASA Array 79.29 41 P **P** **01 17 54.2 +2.6**
comp=Z,7.8nm,1.0s,mb4.6
LAO *ep*P pP 01 18 03.0 +0.7
PDAR Pinedale Array 79.74 45 P **P** **01 17 54.5 +0.3**
comp=Z,0.5nm,0.7s,mb3.6,baz=315,slow=2.6,SNR=5.2
PDAR pP pP 01 18 05.1 +0.3
comp=Z,1.2nm,0.6s,baz=270,slow=3.0,SNR=7.9
NEN Nelson 80.46 54 *e*P **P** **01 17 58.3 +0.2**
NEN *ep*P pP 01 18 09.2 +0.4
MSU Marysvale 80.59 50 *e*P **P** **01 18 00.1 +1.4**
SRU San Rafael 81.29 49 *e*P **P** **01 18 02.8 +0.4**
SRU *ep*P pP 01 18 14.1 +1.0
KWP Kalwaria 81.54 325 *e*P **P** **01 18 04.3 +0.8**
comp=Z,9.9nm,0.9s,mb4.7
KWP Kalwaria 81.54 325 *e*P **P** **01 18 04.3 +0.8**
KWP pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
BR131 Keskin Array S 81.83 312 *e*P **P** **01 18 06.6 +1.4**
comp=Z,1.7nm,0.6s,mb4.2
BRTR Keskin Array B 81.83 312 P **P** **01 18 06.0 +0.7**
comp=Z,2.7nm,0.8s,mb4.2,baz=99,slow=3.7,SNR=13
OJC Ojcow 82.49 327 *e*P **P** **01 18 09.2 +0.8**
PV10 Paradox Valley 82.66 49 *e*P **P** **01 18 11.2 +1.7**
PV10 *ep*P pP 01 18 22.2 +2.0
SMCO Snowmass 83.46 47 *e*P **P** **01 18 15.3 +1.8**
SMCO *ep*P pP 01 18 25.5 +1.2
ISCO Idaho Springs 83.90 46 *e*P **P** **01 18 17.3 +1.5**
comp=Z,6.7nm,1.6s,mb4.5
ISCO Idaho Springs 83.90 46 *e*P **P** **01 18 17.3 +1.5**
ISCO pmax pmax
comp=Z,7.0nm,1.6s,mb4.5
DPC Dobruska-Polom 83.95 329 *e*P **P** **01 18 17.4 +1.6**
DPC *ep*P pP 01 18 28.7 +2.2
DPC AMS AMS 01 57 50.0
comp=Z,200nm,18.4s
PVCC Panska Ves 84.57 330 *e*P **P** **01 18 21.9 +3.0**
PVCC *ep*P pP 01 18 31.2 +1.5
PVCC AMS AMS 01 54 00.0
comp=Z,200nm,24.0s
PVCC Panska Ves 84.57 330 *e*P **P** **01 18 21.9 +3.0**
PVCC MLR MLR
comp=Z,200nm,24.0s,MS4.4
BRG Berggiesshubel 84.58 330 *e*P **P** **01 18 19.8 +0.9**
comp=Z,4.2nm,0.9s,mb4.6
BRG Berggiesshubel 84.58 330 *e*P **P** **01 18 19.8 +0.9**
BRG pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
CLL Collm 84.64 331 ⇓P **P** **01 18 19.5 +0.3**
comp=Z,logA/T=1.0,mb4.9
CLL *i* 01 18 26.3
CLL *i* *PP pP 01 18 31.2 +1.2
CLL *i* 01 18 40.8
CLL Collm 84.64 331 ⇓*i*P **P** **01 18 19.5 +0.3**
comp=Z,11nm,1.0s,mb4.9
CLL *i* pP pP 01 18 31.2 +1.2
CLL Collm 84.64 331 ⇓*i*P **P** **01 18 19.5 +0.3**
CLL *i* *PP pP 01 18 31.2 +1.2
CLL pmax pmax
comp=Z,11nm,1.0s,mb4.9
SDCO Great Sand Dun 85.25 47 *e*P **P** **01 18 23.5 +0.9**
comp=Z,7.4nm,0.8s,mb4.9
SDCO *ep*P pP 01 18 34.6 +1.2
GERES GERESS Array B 86.21 329 P **P** **01 18 27.7 +0.8**
comp=Z,0.5nm,0.6s,mb3.9,baz=31,slow=5.7,SNR=5.6
GERES pP pP 01 18 39.5 +1.7
comp=Z,0.4nm,0.5s,baz=11,slow=6.8,SNR=3.3
GERES LR LR 02 03 01.4
comp=Z,136nm,19.4s,MS4.4,baz=16,slow=40
ANMO Albuquerque 86.40 50 *e*P **P** **01 18 29.1 +0.9**
comp=Z,5.5nm,0.9s,mb4.8
ANMO *ep*P pP 01 18 41.0 +2.0
ANMO Albuquerque 86.40 50 *e*P **P** **01 18 29.1 +0.9**
ANMO *e**PP pP 01 18 41.0 +1.9
ANMO pmax pmax
comp=Z,5.0nm,0.9s
CDF Champ du Feu 89.21 332 *e*P **P** **01 18 41.5 +0.1**
WMOK Wichita Mounta 91.32 46 P **P** **01 18 53.1 +1.4**
comp=Z,0.6nm,0.6s,mb4.1
WMOK *ep*P pP 01 19 02.6 0.0
WMOK Wichita Mounta 91.32 46 P **P** **01 18 53.1 +1.4**
WMOK pmax pmax
comp=Z,1.0nm,0.6s,mb4.3
LOR Lormes 91.47 333 *e*P **P** **01 18 52.7 +0.7**
FLN La Foliniere 91.75 336 *e*P **P** **01 18 53.1 -0.2**
LPL La Plagne 91.77 330 *e*P **P** **01 18 53.8 +0.3**
comp=Z,2.9nm,0.6s,mb4.5
LPL La Plagne 91.77 330 *e*P **P** **01 18 53.8 +0.3**
LPL pmax pmax
comp=Z,1.0nm,0.6s,mb4.3
SSF Saint Saulge 91.78 333 *e*P **P** **01 18 53.5 0.0**
LPG La Plagne 91.78 330 *e*P **P** **01 18 53.9 +0.4**
comp=Z,4.5nm,0.6s,mb4.7
LPG La Plagne 91.78 330 *e*P **P** **01 18 53.9 +0.4**
LPG pmax pmax
comp=Z,2.0nm,0.6s,mb4.6
TXAR Lajitas Array 91.78 53 P **P** **01 18 54.5 +0.5**
comp=Z,1.7nm,0.7s,mb4.5,baz=300,slow=3.2,SNR=25
TXAR pP pP 01 19 05.7 +0.9
comp=Z,3.1nm,0.6s,baz=306,slow=3.3,SNR=22
TXAR LR LR 01 55 40.9
comp=Z,55nm,19.2s,MS4.0,baz=350,slow=33
SMF Signal de Mont 91.99 333 *e*P **P** **01 18 54.3 -0.2**
AVF Avril sur Loir 92.06 333 *e*P **P** **01 18 54.8 0.0**
comp=Z,11nm,0.8s,mb4.9
AVF Avril sur Loir 92.06 333 *e*P **P** **01 18 54.8 0.0**
AVF pmax pmax
comp=Z,5.0nm,0.8s,mb4.9
GRR Gorron 92.20 336 *e*P **P** **01 18 55.4 0.0**
comp=Z,3.3nm,0.6s,mb4.6
GRR Gorron 92.20 336 *e*P **P** **01 18 55.4 0.0**
GRR pmax pmax
comp=Z,2.0nm,0.6s,mb4.6
MBDF Montbardon 92.39 330 *e*P **P** **01 18 55.9 -0.5**
comp=Z,5.8nm,0.8s,mb4.7
MBDF Montbardon 92.39 330 *e*P **P** **01 18 55.9 -0.5**
MBDF pmax pmax
comp=Z,3.0nm,0.8s,mb4.7
ORIF Oris-en-Rattie 92.61 331 *e*P **P** **01 18 56.6 -0.7**

SBF	**Sospel**	**92.81**	**329**	*eP*		**P**	**01 18 57.6**	**-0.7**
TCF	**Toulx Ste Croi**	**92.91**	**334**	*eP*		**P**	**01 18 58.8**	**+0.1**
VIVF	**Saint-Julien-l**	**93.15**	**331**	*eP*		**P**	**01 19 00.0**	**+0.2**
SDV	**Santo Domingo**	**127.61**	**43**	P		PKPdf	01 24 49.1	-1.6
SDV				*eP*		P	01 25 03.1	
VNA2	**Neumayer--Watz**	**138.97**	**195**	⇑*i*		PKPdf	01 25 13.6	+3.2
VNA2				*e*			01 25 23.7	
VNA2				*e*			01 25 28.3	
VNA3	**Neumayer Olymp**	**139.19**	**193**	⇑*i*		PKPdf	01 25 10.8	0.0
VNA3				*e*			01 25 21.6	
VNA3				*e*			01 25 26.3	
SAML	**Samuel**	**146.21**	**50**	*eP*		PKPdf	01 25 26.4	+1.8
SAML				*eP*		P	01 25 37.1	
LPAZ	**La Paz**	**147.75**	**66**	PKPbc		PKPdf	01 25 30.2	+3.2
	comp=Z,1.7nm,0.6s,baz=351,slow=4.9,SNR=6.2							
LPAZ	**La Paz**	**147.75**	**66**	*e*PKPdf		PKPdf	01 25 29.9	+2.9
LPAZ				PKPbc		PKPdf	01 25 30.2	+3.2

*CSEM **10** 01:07:12.2±0.7, 38.83N×29.63W, h5km, ML2.7, Error ellipse: s-maj=45.7km s-min=5.7km az=25.0, After PDA*
*PDA **10** 01:07:12.2±0.7, 38.83N×29.63W, h5km, MD3.4, ML2.7, Error ellipse: s-maj=45.7km s-min=5.7km az=25.0*

SVSA 10 01:07:12.2±0.7, 38.83N×29.63W, h5km, MD3.4, ML2.7, Error ellipse: s-maj=45.7km s-min=5.7km az=25.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.76**	**105**	*eP*	Pg	01 07 24.6	-2.7
PCED				*eS*	Sg	01 07 33.9	-3.5
	66nm,0.5s						
CALA	**Caldeira**	**0.77**	**109**	*eP*	Pg	01 07 24.7	-2.9
CALA				*eS*	Sg	01 07 34.0	-3.8
HOR	**Horta**	**0.84**	**111**	*eS*	Sg	01 07 35.9	-4.3
PICO	**Pico**	**1.00**	**109**	*eP*	Pb	01 07 28.3	-3.3
PICO				*eS*	Sb	01 07 40.2	-4.7

IDC 10 01:13:17.7±1.8, 5.30N×94.51E, h42km±8km, mb3.6/5, mb1 3.8/5, mb1mx3.5/19, mbtmp3.8/5, MS4.4/3, Ms1 4.4/3, ms1mx3.3/31, Error ellipse: s-maj=68.0km s-min=19.5km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**42.67**	**348**	P	P	01 21 10.1	-1.9
	1.8nm,0.5s,baz=165,slow=8.0,SNR=18						
MKAR				pP	pP	01 21 22.0	-1.7
	0.6nm,0.6s,baz=172,slow=7.9,SNR=4.8						
SONM	**Songino Array**	**43.59**	**12**	P	P	01 21 17.2	-2.3
	0.7nm,0.8s,baz=188,slow=10,SNR=4.1						
SONM				pP	pP	01 21 29.6	-1.7
	0.7nm,0.8s,baz=193,slow=7.6,SNR=2.7						
WRA	**Warramunga Arr**	**46.50**	**124**	P	P	01 21 41.8	-1.2
	0.7nm,0.6s,baz=301,slow=9.6,SNR=7.6						
WRA				pP	pP	01 21 52.3	-2.6
	0.9nm,0.6s,baz=302,slow=9.3,SNR=6.7						
ZAL	**Zalesovo**	**49.13**	**352**	P	P	01 22 00.8	-2.4
	1.1nm,0.4s,baz=228,slow=2.8,SNR=3.2						
ZAL				pP	pP	01 22 13.6	-1.4
	0.8nm,0.6s,baz=340,slow=7.1,SNR=3.7						
MATP	**Matopo**	**69.64**	**246**	LR	LR	01 54 26.1	
	comp=Z,240nm,18.0s,baz=112,slow=35						
MLR	**Muntele Rosu**	**71.27**	**316**	LR	LR	02 02 14.9	
	comp=Z,258nm,20.9s,baz=203,slow=41						
LBTB	**Lobatse**	**73.36**	**242**	LR	LR	01 52 26.2	
	comp=Z,170nm,19.3s,baz=143,slow=32						
GERES	**GERESS Array B**	**79.99**	**319**	P	P	01 25 22.5	-1.7
	0.2nm,0.6s,baz=90,slow=3.9,SNR=3.6						

IDC 10 01:16:24.4±2.1, 33.22N×142.39E, mb3.5/3, mb1 3.7/6, mb1mx3.5/21, mbtmp3.7/6, ML3.7/2, Error ellipse: s-maj=43.9km s-min=21.2km az=59.0, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**2.19**	**268**	Pn	Pn	01 17 02.0	-0.5
	59nm,0.3s,baz=98,slow=9.6,SNR=19						
JHJ				Sn	Sn	01 17 29.2	-1.4
	34nm,0.3s,baz=252,slow=23,SNR=4.3						
MJAR	**Matsushiro Arr**	**4.77**	**315**	Pn	Pn	01 17 36.5	-2.7
	1.3nm,0.3s,baz=155,slow=12,SNR=11						
MJAR				Sn	Sn	01 18 31.6	-4.5
	1.2nm,0.3s,baz=340,slow=41,SNR=4.6						
MAT	**Matsushiro**	**4.77**	**315**	P	Pn	01 17 37.2	-2.1
MAT				S	Sn	01 18 29.9	-6.2
CBIJ	**Chichi jima**	**6.11**	**182**	Pn	Pn	01 17 57.4	-0.8
	6.4nm,0.3s,baz=313,slow=20,SNR=5.6						
CBIJ				Sn	Sn	01 19 00.6	-9.2
	5.4nm,0.3s,baz=294,slow=21,SNR=2.7						
JNU	**Nakatsue**	**9.65**	**273**	Sn	Sn	01 20 31.6	-6.3
SONM	**Songino Array**	**30.69**	**309**	P	P	01 22 41.3	-1.6
	0.5nm,0.6s,baz=109,slow=9.7,SNR=3.7						
MKAR	**Makanchi Array**	**46.89**	**305**	P	P	01 24 56.9	-1.3
	0.3nm,0.5s,baz=90,slow=7.2,SNR=3.5						
WRA	**Warramunga Arr**	**53.42**	**189**	P	P	01 25 45.3	-3.1
	0.5nm,0.6s,baz=8.3,slow=7.6,SNR=8.9						

MEX 10 01:18:35.7±0.4, 22.12N×98.73W, h25km±45km, MD4.1, Veracruz

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOIG	**Morelia**	**3.34**	**224**	*i* P	Pn	01 19 24.9	-2.8
MOIG				*i* S	Sn	01 20 02.7	-4.4
ZAIG	**Zacatecas**	**3.61**	**281**	*eP*	Pn	01 19 28.7	-2.7
ZAIG				*i* S	Sn	01 20 09.5	-4.2
SFJM	**Santa Fe**	**4.33**	**249**	*i* P	Pn	01 19 38.7	-3.1
SFJM				*i* S	Sn	01 20 25.8	-6.4

*IDC **10** 01:36:19.3±1.1, 5.35N×126.51E, mb3.9/6, mb1 4.1/6, mb1mx3.9/18, mbtmp4.0/6, MS3.5/2, Ms1 3.5/2, ms1mx3.0/21, Error ellipse: s-maj=93.7km s-min=18.0km az=72.0*

ISC 10 01:36:27.0±1.5, 5.3N±0.1×126.4E±0.1, h72km±15km, n12, σ0§78/12, mb3.8/6, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.64**	**300**	⇑*i* P		**P**	**01 36 52.8**	**-1.6**
GSPH				*i* S		**S**	**01 37 14.8**	**+0.1**
MATI	**Mati**	**1.68**	**356**	*eP*		**P**	**01 36 54.9**	**-0.1**
MATI				*eS*		**S**	**01 37 21.5**	**+5.8**
BUKP	**Musuan**	**2.92**	**333**	*eP*		**P**	**01 37 12.7**	**+0.5**
PAGZ	**Pagadian**	**3.93**	**311**	*eP*		**P**	**01 37 27.6**	**+1.2**
JOW	**Kunigami**	**21.53**	**5**	LR		LR	01 47 32.3	
	comp=Z,156nm,20.4s,baz=85,slow=31							
FITZ	**Fitzroy Crossi**	**23.22**	**182**	P		**P**	**01 41 29.7**	**+1.2**
	3.0nm,0.5s,mb3.8,baz=2.5,slow=8.4,SNR=4.6							
WRA	**Warramunga Arr**	**26.24**	**163**	P		**P**	**01 41 56.5**	**-0.8**
	1.9nm,0.7s,mb3.6,baz=343,slow=10,SNR=14							
JHJ	**Hachijo jima 2**	**30.41**	**23**	LR		LR	01 51 47.8	
	comp=Z,74nm,21.3s,baz=104,slow=31							
STKA	**Stephens Creek**	**39.67**	**160**	P		**P**	**01 43 53.5**	**-0.1**
	2.4nm,0.6s,mb4.2,baz=347,slow=7.9,SNR=5.9							
SONM	**Songino Array**	**45.75**	**341**	P		**P**	**01 44 42.7**	**-0.2**
	0.3nm,0.5s,mb3.3,baz=146,slow=5.2,SNR=2.3							
MKAR	**Makanchi Array**	**56.11**	**325**	P		**P**	**01 46 00.5**	**-0.7**
	0.9nm,0.6s,mb4.0,baz=126,slow=8.1,SNR=9.0							
MKAR				PcP		PcP	01 46 58.2	-0.1
	0.6nm,0.6s,baz=135,slow=3.4,SNR=4.3							
ARCES	**ARCESS Array B**	**88.90**	**340**	P		**P**	**01 49 14.4**	**+0.3**
	1.5nm,0.8s,mb4.1,baz=63,slow=5.4,SNR=8.0							

*IDC **10** 01:41:46.6±2.2, 33.16N×142.28E, mb3.7/3, mb1 3.8/6, mb1mx3.6/22, mbtmp3.8/6, ML3.8/2, MS2.8/1, Ms1 2.8/1, ms1mx2.4/22, Error ellipse: s-maj=46.6km s-min=21.9km az=55.0*
*JMA **10** 01:41:47.0±0.8, 33.34N×142.53E, h79km, M3.0*

ISC 10 01:41:47.2±1.0, 33.29N±0.06×142.5E±0.1, h33km, n13, σ1§15/16, mb3.7/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.85**	**318**	P		**P**	**01 42 16.9**	**-0.2**
BSO1				*eS*		**S**	**01 42 40.4**	**+0.8**
BSO2	**Boso 2**	**2.05**	**316**	*eS*		**S**	**01 42 45.5**	**+0.9**
BSO3	**Boso 3**	**2.23**	**313**	P		**P**	**01 42 22.7**	**+0.1**
JHJ2	**Mitsune**	**2.25**	**266**	P		**P**	**01 42 23.6**	**+0.8**
JHJ	**Hachijo jima 2**	**2.27**	**266**	Pn		**Pn**	**01 42 21.9**	**-1.5**
	21nm,0.3s,baz=68,slow=20,SNR=7.9							
JHJ				Sn		**Sn**	**01 42 50.6**	**+0.1**
	25nm,0.3s,baz=57,slow=22,SNR=11							
BSO4	**Boso 4**	**2.46**	**314**	P		**P**	**01 42 27.0**	**+1.1**
JHO	**Hitachi**	**3.67**	**335**	P		**P**	**01 42 41.3**	**-1.8**
MJAR	**Matsushiro Arr**	**4.79**	**314**	Pn		**Pn**	**01 42 58.3**	**-0.8**
	0.9nm,0.3s,baz=166,slow=14,SNR=4.7							
MJAR				Sn		**Sn**	**01 43 52.0**	**-2.0**
	2.1nm,0.3s,baz=19,slow=33,SNR=5.7							
CBIJ	**Chichi jima**	**6.18**	**183**	Pn		**Pn**	**01 43 17.4**	**-1.2**
	12nm,0.3s,baz=289,slow=19,SNR=8.5							
CBIJ				Sn		**Sn**	**01 44 23.2**	**-5.7**
	7.4nm,0.3s,baz=270,slow=20,SNR=3.7							
ASAJ	**Asahikawa**	**10.81**	**0**	LR		LR	01 49 33.6	
	comp=Z,44nm,18.2s,baz=348,slow=43							
MKAR	**Makanchi Array**	**46.93**	**305**	P		**P**	**01 50 18.7**	**+2.4**
	0.1nm,0.3s,mb3.2,baz=100,slow=7.8,SNR=2.6							
WRA	**Warramunga Arr**	**53.50**	**190**	P		**P**	**01 51 07.0**	**+0.2**
	0.7nm,0.6s,mb3.8,baz=8.2,slow=7.7,SNR=11							
FITZ	**Fitzroy Crossi**	**53.58**	**200**	P		**P**	**01 51 08.5**	**+1.1**
	1.8nm,0.5s,mb4.2,baz=7.2,slow=7.2,SNR=2.7							

IDC 10 01:42:43.9±3.9, 3.14N×96.49E, mb3.9/4, mb1 4.0/4, mb1mx3.6/18, mbtmp3.9/4, Error ellipse: s-maj=149.6km s-min=28.8km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.67**	**123**	P	P	01 50 50.7	-1.8
	1.0nm,1.1s,baz=301,slow=8.8,SNR=5.4						
MKAR	**Makanchi Array**	**45.20**	**346**	P	P	01 51 03.0	-1.4
	1.4nm,0.7s,baz=164,slow=8.8,SNR=12						
SONM	**Songino Array**	**45.34**	**9**	P	P	01 51 03.8	-1.7
	0.8nm,0.5s,baz=190,slow=9.1,SNR=8.9						
ZAL	**Zalesovo**	**51.54**	**351**	P	P	01 51 50.6	-3.0
	1.5nm,0.3s,baz=354,slow=9.2,SNR=4.2						

*LDG **10** 02:01:55.6±0.3, 22.84S×67.09W, h200km, Mb4.7/21, Error ellipse: s-maj=37.9km s-min=16.7km az=124.0*
*IDC **10** 02:02:04.3±0.8, 22.59S×66.05W, h237km±8km, mb4.0/15, mb1 4.1/21, mb1mx4.1/23, mbtmp4.6/21, Error ellipse: s-maj=12.1km s-min=9.1km az=73.0*
*NEIC **10** 02:02:05.5±0.6, 22.57S×66.06W, h243km±5km, mb4.4/43, Error ellipse: s-maj=6.7km s-min=5.4km az=59.0*
*BJI **10** 02:02:06.4, 22.60S×66.10W, h243km, mB4.7*
*GUC **10** 02:02:06.1±0.7, 23.04S×66.44W, h250km, ML4.5*

ISC 10 02:02:03.6±0.5, 22.64S±0.04×66.10W±0.05, h243km±4km, n151, σ1§09/149, mb4.4/63, 24C-5D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.60**	**270**	P		**P**	**02 02 53.9**	**+2.2**
	84nm,0.3s,baz=95,slow=5.6,SNR=834							
LVC				S		**S**	**02 03 30.2**	**+1.1**
	76nm,0.3s,baz=253,slow=20,SNR=41							
LVC	**Limon Verde**	**2.60**	**270**	⇓*i*P		**P**	**02 02 54.0**	**+2.2**
LVC				*i* S		**S**	**02 03 29.9**	**+0.9**
LVC				AMP			02 03 31.8	
	comp=E,1μm,0.4s							
LVC	**Limon Verde**	**2.60**	**270**	*e*Pn		**P**	**02 02 53.6**	**+1.8**
ANCH	**Antofagasta**	**4.10**	**254**	⇓*i*P		**P**	**02 03 10.6**	**+1.8**
ANCH				*i* S		**S**	**02 03 58.2**	**-1.3**
CPN1	**Cerro Paranal**	**4.41**	**243**	⇓*i*P		**P**	**02 03 13.2**	**+0.7**
CPN1				*i* S		**S**	**02 04 04.3**	**-2.0**
CRCH	**Chaqaral**	**5.53**	**227**	⇓*i*P		**P**	**02 03 25.6**	**-0.8**
CRCH				*i* S		**S**	**02 04 26.2**	**-4.7**
LPAZ	**La Paz**	**6.60**	**343**	P		**P**	**02 03 42.0**	**+2.1**
	comp=E,2.7nm,0.3s,baz=90,slow=25,SNR=72							
LPAZ				S		**S**	**02 04 56.7**	**+1.7**
	comp=E,0.8nm,0.3s,baz=293,slow=22,SNR=6.4							
LPAZ	**La Paz**	**6.60**	**343**	*e*Pn		**P**	**02 03 42.1**	**+2.2**
LPAZ				*e*Sn		**S**	**02 04 54.8**	**-0.3**
ARE	**Arequipa**	**7.97**	**319**	⇑*i*P		**P**	**02 03 56.7**	**-0.6**
ARE				*e*S		**S**	**02 05 21.0**	**-5.3**
SIV	**San Ignacio**	**8.14**	**37**	P		**P**	**02 03 59.8**	**+0.4**
	comp=E,8.0nm,0.3s,baz=220,slow=13,SNR=270							
SIV				S		**S**	**02 05 22.0**	**-8.1**
	baz=239,slow=21,SNR=3.5							
CPUP	**Villa Florida**	**8.79**	**116**	P		**P**	**02 04 07.3**	**-0.5**
	comp=E,0.2nm,0.3s,baz=310,slow=13,SNR=8.1							
CPUP				S		**S**	**02 05 39.1**	**-6.0**
	baz=310,slow=15,SNR=2.4							
CPUP	**Villa Florida**	**8.79**	**116**	*e*Pn		**P**	**02 04 02.5**	**-5.3**
	comp=E,16nm,0.9s							
CPUP				S		**S**	**02 05 39.1**	**-6.0**
CFAA	**Coronel Fontan**	**9.13**	**192**	P		**P**	**02 04 09.9**	**-2.2**
	comp=E,0.6nm,0.3s,baz=12,slow=12,SNR=93							
CFAA				S		**S**	**02 05 45.2**	**-7.5**
	comp=E,1.9nm,0.3s,baz=287,slow=23,SNR=17							
CFAA	**Coronel Fontan**	**9.13**	**192**	P		**P**	**02 04 09.9**	**-2.2**
CFAA				S		**S**	**02 05 45.2**	**-7.5**
SAML	**Samuel**	**13.90**	**12**	*eP*		**P**	**02 05 12.4**	**+0.4**
	comp=E,18nm,0.7s							
TRQA	**Tornquist**	**15.77**	**168**	*eP*		**P**	**02 05 31.1**	**-3.5**
	comp=E,3.3nm,0.6s							
PLCA	**Paso Flores**	**18.43**	**191**	P		**P**	**02 06 02.0**	**-1.2**
	comp=E,0.6nm,0.3s,baz=359,slow=9.5,SNR=7.3							
PLCA	**Paso Flores**	**18.43**	**191**	*eP*		**P**	**02 06 02.1**	**-1.1**
	comp=E,3.8nm,0.6s							
BDFB	**Brasilia**	**18.44**	**71**	P		**P**	**02 06 03.5**	**0.0**
	comp=E,1.4nm,0.3s,baz=252,slow=12,SNR=29							
BAO	**Brasilia Array**	**18.46**	**71**	P		**P**	**02 06 05.0**	**+1.3**
SDV	**Santo Domingo**	**31.64**	**351**	P		**P**	**02 08 04.2**	**-2.2**
	comp=E,7.3nm,0.3s,mb4.6,baz=212,slow=1.6,SNR=6.0							
SDV	**Santo Domingo**	**31.64**	**351**	*eP*		**P**	**02 08 04.0**	**-2.4**
	comp=E,7.0nm,0.4s,mb4.5							
RCBR	**Riachuelo**	**33.59**	**65**	*eP*		**P**	**02 08 22.5**	**-0.7**
	comp=E,20nm,0.9s,mb4.6							
MVM	**Montagne Vauci**	**37.31**	**8**	*eP*		**P**	**02 08 52.5**	**-2.0**
FDF	**Fort de France**	**37.45**	**8**	*eP*		**P**	**02 08 54.8**	**-0.8**
CRM	**Caravelle**	**37.51**	**8**	*eP*		**P**	**02 08 54.8**	**-1.3**
JTS	**JuntasAbangare**	**37.58**	**329**	P		**P**	**02 08 51.6**	**-5.1**
SJG	**San Juan**	**40.50**	**360**	P		**P**	**02 09 18.5**	**-2.2**
	comp=E,8.1nm,0.6s,mb4.3,baz=153,slow=11,SNR=5.1							
VNA3	**Neumayer Olymp**	**58.17**	**162**	⇑*i*		**P**	**02 11 34.4**	**+0.5**
VNA3	**Neumayer Olymp**	**58.17**	**162**	*e*		**P**	**02 11 35.3**	**+1.4**
VNA3	**Neumayer Olymp**	**58.17**	**162**	*e*		**P**	**02 11 37.0**	**+3.1**
VNA3	**Neumayer Olymp**	**58.17**	**162**	*e*		**P**	**02 11 41.7**	**+7.8**
VNA1	**Neumayer--Stat**	**58.35**	**161**	⇑*i*		**P**	**02 11 36.2**	**+1.1**
VNA1	**Neumayer--Stat**	**58.35**	**161**	*e*		**P**	**02 11 36.9**	**+1.8**
VNA1	**Neumayer--Stat**	**58.35**	**161**	*e*		**P**	**02 11 38.8**	**+3.7**
VNA1	**Neumayer--Stat**	**58.35**	**161**	*e*		**P**	**02 11 43.3**	**+8.2**
VNA1	**Neumayer--Stat**	**58.35**	**161**	*e*		PcP	02 12 24.2	+0.9
VNA2	**Neumayer--Watz**	**58.72**	**161**	⇑*i*		**P**	**02 11 38.3**	**+0.6**
VNA2	**Neumayer--Watz**	**58.72**	**161**	*e*		**P**	**02 11 39.0**	**+1.3**
VNA2	**Neumayer--Watz**	**58.72**	**161**	*e*		**P**	**02 11 40.6**	**+2.9**
VNA2	**Neumayer--Watz**	**58.72**	**161**	*e*		**P**	**02 11 45.3**	**+7.6**
VNA2	**Neumayer--Watz**	**58.72**	**161**	*e*		PcP	02 12 24.7	0.0
LRAL	**Lakeview Retre**	**58.84**	**340**	*eP*		**P**	**02 11 37.6**	**-1.4**
	comp=E,7.3nm,0.6s,mb4.5							
MYNC	**Murphy**	**59.89**	**343**	*eP*		**P**	**02 11 45.1**	**-1.0**
	comp=E,20nm,0.7s,mb4.9							
MYNC				*e*PcP		PcP	02 12 29.0	-0.9
CPCT	**Cooper Cave**	**60.35**	**343**	*eP*		**P**	**02 11 48.1**	**-1.1**
SNAA	**Sanae**	**60.36**	**161**	⇑*i*		**P**	**02 11 49.0**	**+0.2**
SNAA	**Sanae**	**60.36**	**161**	*e*		**P**	**02 11 50.1**	**+1.3**
SNAA	**Sanae**	**60.36**	**161**	*e*		**P**	**02 11 55.3**	**+6.5**
SNAA	**Sanae**	**60.36**	**161**	*e*		PcP	02 12 30.9	-0.4
SNAA	**Sanae**	**60.36**	**161**	P		**P**	**02 11 48.2**	**-0.7**
	comp=E,1.8nm,0.7s,mb3.8,baz=289,slow=5.7,SNR=16							
SNAA				PcP		PcP	02 12 30.7	-0.6
	comp=E,0.8nm,0.5s,baz=297,slow=2.3,SNR=6.7							
SNAA	**Sanae**	**60.36**	**161**	⇑*i*P		**P**	**02 11 49.0**	**+0.2**
SWET	**Sewanee**	**60.53**	**341**	⇑*i*P		**P**	**02 11 48.3**	**-2.2**
PLAL	**Pickwick Lake**	**60.98**	**339**	⇑*e*P		**P**	**02 11 51.5**	**-2.0**
	comp=E,11nm,0.8s,mb4.5							
OXF	**Oxford**	**61.00**	**338**	⇑*e*P		**P**	**02 11 51.6**	**-1.9**
	comp=E,29nm,0.9s,mb4.9							
ELN	**Prospectdale**	**61.12**	**347**	⇑*e*P		**P**	**02 11 54.2**	**-0.1**
JCT	**Junction City**	**61.94**	**327**	⇑*e*P		**P**	**02 11 59.4**	**-0.5**
	comp=E,3.2nm,0.4s,mb4.3							
WVT	**Waverly**	**61.96**	**340**	⇑*i*P		**P**	**02 11 58.3**	**-1.6**
	comp=E,30nm,0.8s,mb5.0							
GLAT	**Glass**	**62.55**	**339**	*eP*		**P**	**02 12 03.1**	**-0.8**
TXAR	**Lajitas Array**	**63.07**	**323**	P		**P**	**02 12 06.5**	**-0.8**
	comp=E,1.3nm,0.6s,mb3.7,baz=152,slow=8.3,SNR=20							
WCI	**Wyandotte Cave**	**63.44**	**342**	⇑*i*P		**P**	**02 12 07.9**	**-1.7**
	comp=E,18nm,0.8s,mb4.7							
BLO	**Bloomington**	**64.39**	**342**	P		**P**	**02 12 14.2**	**-1.6**
	comp=E,16nm,0.7s,mb4.8							
FVM	**French Village**	**64.49**	**339**	⇑*i*P		**P**	**02 12 15.1**	**-1.4**
	comp=E,27nm,1.1s,mb4.8							
ACSO	**Alum Creek Sta**	**64.49**	**346**	*eP*		**P**	**02 12 14.9**	**-1.5**
	comp=E,11nm,0.7s,mb4.6							
CCM	**Cathedral Cave**	**64.83**	**338**	⇑*i*P		**P**	**02 12 17.6**	**-1.1**
	comp=E,29nm,0.7s,mb5.0							
CCM				*e*PcP		PcP	02 12 49.1	-0.9
BINY	**Binghamton**	**65.15**	**352**	⇑*i*P		**P**	**02 12 20.4**	**-0.2**
	comp=E,15nm,1.0s,mb4.6							
GDL2	**Guadalupe Moun**	**65.67**	**325**	⇑*e*P		**P**	**02 12 23.8**	**-0.2**
MNTX	**Cornudas Mount**	**65.83**	**324**	⇑*e*P		**P**	**02 12 24.1**	**-1.0**
	comp=E,4.2nm,1.0s,mb4.0							
GENY	**Geneseo**	**65.97**	**351**	⇑*e*P		**P**	**02 12 27.2**	**+1.5**
LIC	**Lamto**	**66.23**	**72**	*eP*		**P**	**02 12 27.0**	**-0.9**
DBIC	**Dimbokro**	**66.59**	**72**	P		**P**	**02 12 28.4**	**-1.8**
	comp=E,9.5nm,0.8s,mb4.5,baz=220,slow=7.6,SNR=20							
DBIC	**Dimbokro**	**66.59**	**72**	⇑*e*P		**P**	**02 12 28.7**	**-1.4**
QSPA	**South Pole Qui**	**67.56**	**180**	*eP*		**P**	**02 12 35.9**	**+0.7**
	comp=E,9.5nm,0.8s,mb4.5							
KSU1	**Kansas State U**	**67.73**	**335**	*eP*		**P**	**02 12 35.6**	**-1.3**
SADO	**Sadowa**	**68.13**	**350**	P		**P**	**02 12 38.4**	**-0.8**
	comp=E,6.8nm,0.6s,mb4.5,baz=197,slow=6.6,SNR=9.1							
BNM	**Barren Site**	**68.37**	**325**	*eP*		**P**	**02 12 41.4**	**+0.4**
LPM	**Los Pinos Moun**	**68.50**	**325**	P		**P**	**02 12 42.7**	**+1.0**
ANMO	**Albuquerque**	**68.89**	**325**	P		**P**	**02 12 43.5**	**-0.6**
	comp=E,3.7nm,0.8s,mb4.0,baz=148,slow=7.1,SNR=12							
ANMO	**Albuquerque**	**68.89**	**325**	*eP*		**P**	**02 12 43.8**	**-0.3**
	comp=E,3.8nm,0.9s,mb4.0							
SDCO	**Great Sand Dun**	**70.57**	**328**	⇑*i*P		**P**	**02 12 55.3**	**+1.1**
	comp=E,14nm,1.2s,mb4.5							
ISCO	**Idaho Springs**	**72.23**	**329**	⇑*e*P		**P**	**02 13 05.2**	**+1.1**
	comp=E,2.2nm,0.7s,mb3.9							
SMCO	**Snowmass**	**72.41**	**328**	⇑*i*P		**P**	**02 13 06.6**	**+1.4**
SYO	**Syowa Base**	**74.52**	**159**	⇓P		**P**	**02 13 16.3**	**-0.5**
MSU	**Marysvale**	**74.60**	**324**	⇑*i*P		**P**	**02 13 19.3**	**+1.4**
MSU				*e*		pP	02 14 20.8	+5.6
RSSD	**Black Hills**	**74.97**	**333**	*eP*		**P**	**02 13 20.0**	**+0.1**
	comp=E,4.0nm,0.8s,mb4.1							
JLU	**Jordanelle**	**75.74**	**326**	*eP*		**P**	**02 13 25.7**	**+1.4**
SUR	**Sutherland**	**75.76**	**119**	*eP*		**P**	**02 13 25.1**	**+0.5**
DUG	**Dugway**	**76.16**	**325**	*eP*		**P**	**02 13 27.2**	**+0.6**
	comp=E,3.8nm,1.0s,mb4.0							
VNDA	**Vanda**	**76.18**	**190**	P		**P**	**02 13 27.2**	**+1.1**
	comp=E,1.1nm,0.7s,mb3.6,baz=52,slow=23,SNR=7.1							
VNDA	**Vanda**	**76.18**	**190**	*eP*		**P**	**02 13 27.7**	**+1.7**
	comp=E,2.5nm,1.1s,mb3.8							
PDAR	**Pinedale Array**	**76.41**	**329**	P		**P**	**02 13 28.2**	**+0.3**
	comp=E,1.6nm,0.6s,mb3.8,baz=124,slow=7.5,SNR=9.1							
HWUT	**Hardware Ranch**	**76.54**	**327**	*eP*		**P**	**02 13 29.5**	**+0.8**
	comp=E,5.5nm,0.7s,mb4.3							
TPH	**Tonopah**	**77.14**	**321**	P		**P**	**02 13 32.9**	**+0.8**
	comp=E,8.1nm,1.2s,mb4.2							
SCHQ	**Schefferville**	**77.15**	**360**	P		**P**	**02 13 31.4**	**-0.4**
	comp=E,5.4nm,0.6s,mb4.4,baz=200,slow=5.0,SNR=14							
AHID	**Auburn Hatcher**	**77.16**	**328**	*eP*		**P**	**02 13 33.0**	**+0.9**
	comp=E,5.8nm,0.6s,mb4.4							
ULM	**Lac du Bonnet**	**77.21**	**341**	P		**P**	**02 13 31.9**	**-0.3**
	comp=E,9.0nm,0.6

s-min=10.3km az=56.0
NEIC ***10*** *02:25:39.5±0.6, 13.39N×89.44W, mb4.1/5, MD4.6(SNET), Error ellipse: s-maj=21.4km s-min=8.2km az=59.0*
NEIC Felt [IV] at San Salvador.

ISC 10 02:25:39.0±0.6, 13.29N±0.06×89.57W±0.06, h80km±4km, h65km±1.4km: pP-P, n55, σ1°00/51, mb3.9/13, 9C-9D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNET	**Serv Nac Est T**	**0.51**	**40**	*eP*	**P**	**02 25 52.5**	**-0.5**
SNET				*eS*	**S**	**02 26 02.7**	**-0.7**
SNET				*i*		02 26 03.8	
	comp=Z,29μm,0.4s						
BOQS	**Boqueron**	**0.52**	**32**	*eP*	Px	02 26 07.6	
BOQS				*eS*	Sx	02 26 18.6	
SBLS	**San Blas**	**0.55**	**354**	*eP*	Px	02 26 07.0	
SBLS				*eS*	Sx	02 26 18.6	
SNJE	**San Jose**	**0.58**	**356**	*iP*	Px	02 26 07.4	
SNJE				*eS*	Sx	02 26 18.7	
LFRS	**El Faro**	**0.59**	**56**	*iP*	Px	02 26 08.5	
LFRS				*eS*	Sx	02 26 19.9	
RTR	**El Retiro**	**0.61**	**353**	*eP*	Px	02 26 07.8	
RTR				*eS*	Sx	02 26 18.9	
LBRS	**Las Brisas**	**0.68**	**49**	*eP*	Px	02 26 09.9	
LBRS				*eS*	Sx	02 26 22.7	
LCBS	**La Ceiba**	**0.68**	**58**	*iP*	Px	02 26 09.6	
LCBS				*eS*	Sx	02 26 21.6	
SNVI	**San Vicente**	**0.78**	**66**	*iP*	Px	02 26 10.4	
SNVI				*eS*	Sx	02 26 23.8	
IXG	**Ixpaco**	**1.23**	**316**	*eP*	**P**	**02 25 59.1**	**-2.1**
IXG				*eS*	**S**	**02 26 16.4**	**-1.4**
VSM	**San Miguel**	**1.27**	**84**	*eP*	Px	02 26 17.7	
VSM				*eS*	Sx	02 26 36.0	
CAHU	**Cacacuatique**	**1.40**	**70**	*eP*	Px	02 26 19.8	
CAHU				*eS*	Sx	02 26 41.1	
CNCH	**Conchagua**	**1.69**	**90**	*eP*	Px	02 26 23.2	
CNCH				*eS*	Sx	02 26 46.5	
MRL	**Marmol**	**1.77**	**356**	*eP*	**P**	**02 26 09.4**	**+1.0**
MRL				*eS*	**S**	**02 26 31.4**	**+1.4**
TP2	**Tecpan 2**	**2.05**	**317**	*eP*	**P**	**02 26 11.9**	**-0.2**
TP2				*eS*	**S**	**02 26 37.7**	**+1.1**
CRIN	**San Cristobal**	**2.52**	**103**	*eP*	**P**	**02 26 19.6**	**+0.8**
TEL3	**Telica 3**	**2.75**	**105**	*eP*	**P**	**02 26 22.0**	**+0.1**
LEON	**Leon**	**2.75**	**108**	*eP*	**P**	**02 26 23.2**	**+1.3**
TELN	**Telica**	**2.75**	**104**	*eP*	**P**	**02 26 21.5**	**-0.5**
CNGN	**Cerro Negro**	**2.91**	**105**	*eP*	**P**	**02 26 23.6**	**-0.5**
MIRN	**Miramar**	**2.91**	**107**	*eP*	**P**	**02 26 23.9**	**-0.3**
MOMJ	**Momotombo**	**3.08**	**106**	*eP*	**P**	**02 26 26.9**	**+0.3**
MOMJ				*eS*	**S**	**02 27 02.8**	**+0.5**
COPN	**Copaltepe**	**3.11**	**110**	*eP*	**P**	**02 26 27.5**	**+0.6**
COPN				*eS*	**S**	**02 27 03.7**	**+0.7**
MGAN	**Managua**	**3.43**	**109**	*eP*	**P**	**02 26 31.5**	**0.0**
MGAN				*eS*	**S**	**02 27 10.6**	**-0.6**
MGAN				*i*		02 27 11.2	
	comp=N,534nm,0.5s						
CRUN	**El Crucero**	**3.44**	**112**	*eP*	**P**	**02 26 32.5**	**+0.9**
TICN	**Ticuantepe**	**3.49**	**111**	*eP*	**P**	**02 26 32.5**	**+0.3**
TICN				*eS*	**S**	**02 27 12.0**	**-0.5**
APON	**Apoyo**	**3.68**	**111**	*eP*	**P**	**02 26 35.1**	**+0.2**
APON				*eS*	**S**	**02 27 16.4**	**-0.9**
SSNN	**San Juan del S**	**4.14**	**118**	*eP*	**P**	**02 26 42.4**	**+1.1**
MADN	**Villa Maderas**	**4.36**	**115**	*eP*	**P**	**02 26 45.0**	**+0.7**
JTS	**JuntasAbangare**	**5.41**	**123**	P	**P**	**02 26 58.1**	**-0.6**
	comp=N,5.6nm,0.3s,baz=316,slow=18,SNR=15						
JTS				S	**S**	**02 27 58.3**	**-2.1**
	comp=N,8.9nm,0.3s,baz=331,slow=22,SNR=4.5						
JTS				LR	LR	02 29 28.7	
	comp=N,169nm,21.6s,baz=329,slow=43						
SDV	**Santo Domingo**	**19.09**	**101**	P	**P**	**02 29 57.1**	**-0.8**
	comp=N,0.7nm,0.3s,baz=277,slow=2.3,SNR=4.5						
JCT	**Junction City**	**19.55**	**333**	*eP*	**P**	**02 30 03.1**	**+0.3**
	comp=N,7.9nm,0.9s						
LRAL	**Lakeview Retre**	**19.80**	**6**	*eP*	**P**	**02 30 07.3**	**+1.9**
	comp=N,6.3nm,0.9s						
TXAR	**Lajitas Array**	**20.64**	**323**	P	**P**	**02 30 15.1**	**+0.9**
	comp=N,2.1nm,0.5s,baz=143,slow=9.8,SNR=39						
OXF	**Oxford**	**21.13**	**0**	*eP*	**P**	**02 30 19.0**	**-0.1**
	comp=N,27nm,1.0s,mb4.5						
UALR	**University of**	**21.54**	**354**	*eP*	**P**	**02 30 24.6**	**+1.4**
	comp=N,5.4nm,0.6s,mb4.0						
SWET	**Sewanee**	**22.08**	**8**	*eP*	**P**	**02 30 27.8**	**-0.7**
WMOK	**Wichita Mounta**	**22.93**	**340**	*eP*	**P**	**02 30 36.2**	**-0.6**
	comp=N,6.8nm,0.9s,mb4.0						
PDAR	**Pinedale Array**	**34.08**	**333**	P	**P**	**02 32 17.9**	**+0.2**
	comp=N,0.3nm,1.0s,mb3.1,baz=108,slow=4.7,SNR=2.1						
LPAZ	**La Paz**	**36.23**	**144**	P	**P**	**02 32 37.6**	**+1.3**
	comp=N,0.8nm,0.7s,mb3.8,baz=12,slow=12,SNR=6.1						
MCMT	**McKenzie Canyo**	**37.17**	**332**	*eP*	**P**	**02 32 45.7**	**+1.8**
ULM	**Lac du Bonnet**	**37.22**	**353**	LR	LR	02 51 03.0	
	comp=N,66nm,19.7s,baz=57,slow=41						
SIV	**San Ignacio**	**40.50**	**135**	P	**P**	**02 33 12.4**	**+0.6**
	comp=N,1.8nm,0.6s,mb4.1,baz=309,slow=8.3,SNR=14						
SIV				pP	pP	02 33 28.5	-2.7
	comp=N,3.8nm,0.9s,baz=315,slow=8.4,SNR=9.0						
SIV				PcP	PcP	02 35 14.5	+0.9
	comp=N,0.7nm,0.5s,baz=294,slow=7.9,SNR=3.6						
LVC	**Limon Verde**	**41.02**	**150**	P	**P**	**02 33 17.3**	**+1.3**
	comp=N,1.0nm,0.6s,mb3.8,baz=290,slow=5.1,SNR=3.8						
SCHQ	**Schefferville**	**45.10**	**18**	P	**P**	**02 33 47.2**	**-1.6**
	comp=N,2.9nm,0.5s,mb4.3,baz=209,slow=7.5,SNR=16						
SCHQ				PcP	PcP	02 35 27.0	-1.7
	comp=N,1.2nm,0.5s,baz=214,slow=3.6,SNR=4.1						
YKA	**Yellowknife Ar**	**52.28**	**346**	P	**P**	**02 34 42.8**	**-1.3**
	comp=N,1.1nm,0.4s,mb4.2,baz=131,slow=7.7,SNR=7.2						
YKA				pP	pP	02 35 00.1	-4.0
	comp=N,0.6nm,0.7s,baz=138,slow=7.8,SNR=2.3						
YKA	**Yellowknife Ar**	**52.28**	**346**	P	**P**	**02 34 42.8**	**-1.3**
YKA				pP	pP	02 35 00.1	-4.0
PLCA	**Paso Flores**	**56.56**	**163**	P	**P**	**02 35 15.4**	**-0.3**
	comp=N,2.0nm,0.7s,mb4.2,baz=325,slow=3.7,SNR=5.4						
RES	**Resolute Bay**	**61.46**	**358**	P	**P**	**02 35 47.2**	**-1.8**
ILAR	**Eielson Array**	**64.43**	**336**	P	**P**	**02 36 07.5**	**-1.2**
	comp=N,0.2nm,0.6s,mb3.1,baz=113,slow=6.4,SNR=3.5						
ILAR				pP	pP	02 36 24.6	-4.8
	comp=N,0.4nm,0.8s,baz=158,slow=4.9,SNR=3.5						
NOA	**NORSAR Array B**	**83.63**	**29**	P	**P**	**02 37 57.7**	**-1.9**
	comp=N,1.0nm,0.8s,mb3.7,baz=261,slow=3.0,SNR=3.5						
NOA	**NORSAR Array B**	**83.63**	**29**	P	**P**	**02 37 57.7**	**-1.9**
ARCES	**ARCESS Array B**	**86.06**	**19**	P	**P**	**02 38 11.1**	**-0.4**
	comp=N,0.9nm,0.8s,mb3.7,baz=287,slow=4.9,SNR=11						
WRA	**Warramunga Arr**	**137.50**	**255**	PKP	PKPdf	02 44 55.9	+1.5
	comp=N,0.6nm,0.6s,baz=94,slow=1.8,SNR=5.9						
FITZ	**Fitzroy Crossi**	**145.81**	**257**	*eP*	PKPdf	02 45 12.7	+3.5
	comp=N,5.8nm,0.7s						

JMA 10 02:31:22.6±0.6, 33.47N×142.44E, h66km, M3.3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.69**	**315**	P	P	02 31 50.2	-0.4
BSO1				*eS*	S	02 32 12.0	+0.8
BSO2	**Boso 2**	**1.89**	**313**	*eS*	S	02 32 17.9	+1.9
BSO3	**Boso 3**	**2.08**	**310**	P	P	02 31 56.1	+0.2
BSO3				*eS*	S	02 32 21.9	+1.3
JHJ2	**Mitsune**	**2.23**	**261**	P	P	02 31 58.4	+0.4
BSO4	**Boso 4**	**2.31**	**312**	P	P	02 31 59.7	+0.5
JIM2	**Oshima 3**	**2.79**	**297**	P	P	02 32 05.2	-0.8
JIM2				*eS*	S	02 32 35.8	-2.7
JOD2	**Odawara 2**	**3.30**	**304**	P	P	02 32 12.5	-0.6
JOD2				*eS*	S	02 32 50.7	-0.6
JYN	**Shimob**	**3.80**	**303**	P	P	02 32 21.1	+1.0
JYN				*eS*	S	02 33 04.3	+0.4
JAG	**Ashikaga**	**3.83**	**321**	P	P	02 32 20.2	-0.4
JAG				*eS*	S	02 33 03.2	-1.6
JRY	**Ryogami san**	**3.87**	**312**	P	P	02 32 21.1	+0.1
JRY				*eS*	S	02 33 05.2	-0.3

NEIC ***10*** *02:32:43.3±2.3, 24.40S×179.87E, h566km±23km, mb4.6/5, Error ellipse: s-maj=25.3km s-min=19.8km az=171.0*
IDC ***10*** *02:32:45.1±5.1, 23.94S×179.69E, h579km±54km, mb3.7/4, mb1 3.8/5, mb1mx3.4/13, mbtmp4.6/5, Error ellipse: s-maj=77.3km s-min=33.4km az=159.0*

ISC 10 02:32:44.3±3.2, 24.4S±0.1×179.7E±0.2, h590km±36km, n20, σ0°48/17, mb4.5/8, 1C-2D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.43**	**278**	P	**P**	**02 35 27.5**	**+0.1**
	0.5nm,0.3s,baz=54,slow=19,SNR=5.7						
URZ	**Urewera**	**14.00**	**189**	S	**S**	**02 38 06.0**	**-0.2**
	0.8nm,0.3s,baz=61,slow=22,SNR=8.3						
CTA	**Charters Tower**	**31.24**	**271**	*eP*	**P**	**02 38 19.5**	**+0.9**
	12nm,0.3s,mb5.0						
CTA	**Charters Tower**	**31.24**	**271**	P	**P**	**02 38 19.1**	**+0.5**
	17nm,0.4s,mb5.0,baz=95,slow=11,SNR=38						
CTAO	**Charters Tower**	**31.24**	**271**	*eP*	**P**	**02 38 19.2**	**+0.6**
STKA	**Stephens Creek**	**34.31**	**249**	*eP*	**P**	**02 38 44.9**	**+0.7**
	2.9nm,0.6s,mb4.1						
STKA	**Stephens Creek**	**34.31**	**249**	P	**P**	**02 38 44.8**	**+0.6**
	2.6nm,0.4s,mb4.2,baz=90,slow=10,SNR=9.3						
WB2	**Warramunga Arr**	**42.12**	**267**	*iP*	**P**	**02 39 47.6**	**-0.1**
WRAB	**Tennant Creek**	**42.12**	**267**	*eP*	**P**	**02 39 47.2**	**-0.5**
	19nm,1.1s,mb4.5						
WRA	**Warramunga Arr**	**42.13**	**267**	P	**P**	**02 39 47.3**	**-0.5**
	7.7nm,0.4s,mb4.6,baz=99,slow=8.2,SNR=206						
FORT	**Forrest**	**45.91**	**250**	*eP*	**P**	**02 40 16.3**	**-0.6**
	14nm,0.5s,mb4.7						
KAKA	**Kakadu**	**46.11**	**276**	*iP*	**P**	**02 40 26.8**	**+8.2**
	6.4nm,0.3s,mb4.6						
FITZ	**Fitzroy Crossi**	**50.55**	**266**	*eP*	**P**	**02 40 52.3**	**+0.6**
	12nm,0.6s,mb4.5						
MBWA	**Marble Bar**	**55.05**	**260**	*eP*	**P**	**02 41 23.0**	**-0.5**
VNA3	**Neumayer Olymp**	**84.39**	**177**		**P**	**02 44 16.4**	**+0.7**
VNA2	**Neumayer--Watz**	**84.81**	**178**	*i*	**P**	**02 44 17.7**	**0.0**
TXAR	**Lajitas Array**	**90.90**	**58**	P	**P**	**02 44 47.1**	**-0.3**
	0.8nm,0.8s,mb3.7,baz=216,slow=6.4,SNR=11						
HFS	**Hagfors**	**142.99**	**348**	PKP	PKPdf	02 51 10.0	-0.9
	1.4nm,0.4s,baz=63,slow=3.3,SNR=16						
AKASG	**Malin Array Be**	**145.25**	**327**	PKP	PKPdf	02 51 17.4	+2.5
	0.7nm,0.4s,baz=46,slow=4.6,SNR=6.0						
BRTR	**Keskin Array B**	**147.68**	**306**	PKPbc	PKPdf	02 51 24.4	+5.0
	0.4nm,0.4s,baz=180,slow=5.8,SNR=3.2						

NIED ***10*** *02:32:00, 33.50N×142.50E, h5km, Mw4.2 Best double couple: M0:2.44×10^15 NP1:φs141°, δ71°, λ-89°. NP2: φs319°, δ19°, λ-92°.*
IDC ***10*** *02:32:51.6±1.0, 33.40N×142.48E, mb3.7/5, mb1 4.0/8, mb1mx3.8/21, mbtmp3.9/8, ML4.3/3, MS2.8/4, Ms1 2.8/4, ms1mx2.6/23, Error ellipse: s-maj=24.5km s-min=23.0km az=70.0*
NEIC ***10*** *02:32:53.4±0.7, 33.48N×142.53E, h10km, mb4.4/1, Error ellipse: s-maj=20.2km s-min=11.2km az=48.0*
JMA ***10*** *02:32:54.5±0.5, 33.48N×142.47E, h80km, M3.9*

ISC 10 02:32:55.7±1.1, 33.54N±0.05×142.40E±0.07, h41km±11km, n33, σ1°00/43, mb3.8/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.62**	**314**	P	**P**	**02 33 22.8**	**+0.5**
BSO3	**Boso 3**	**2.01**	**309**	P	**P**	**02 33 28.3**	**+0.5**
BSO3				*eS*	**S**	**02 33 54.6**	**+2.7**
JHJ2	**Mitsune**	**2.20**	**260**	P	**P**	**02 33 30.7**	**+0.1**
JHJ2				*eS*	**S**	**02 33 57.3**	**+0.5**
JHJ	**Hachijo jima 2**	**2.23**	**260**	Pn	**P**	**02 33 30.6**	**-0.4**
	144nm,0.3s,baz=247,slow=23,SNR=29						
JHJ				Sn	**S**	**02 33 56.5**	**-1.0**
	193nm,0.3s,baz=67,slow=20,SNR=9.8						
BSO4	**Boso 4**	**2.24**	**311**	P	**P**	**02 33 32.1**	**+1.0**
BSO4				*eS*	**S**	**02 34 00.6**	**+2.9**
CHOJ	**Chosi**	**2.51**	**330**	P	**P**	**02 33 35.1**	**+0.2**
JIM2	**Oshima 3**	**2.73**	**296**	P	**P**	**02 33 37.4**	**-0.7**
JOD2	**Odawara 2**	**3.23**	**303**	P	**P**	**02 33 44.9**	**-0.4**
JOD2				*eS*	**S**	**02 34 22.1**	**-0.9**
JYN	**Shimob**	**3.74**	**303**	P	**P**	**02 33 52.7**	**+0.3**
JYN				*eS*	**S**	**02 34 36.5**	**+0.8**
JAG	**Ashikaga**	**3.76**	**321**	P	**P**	**02 33 52.6**	**-0.1**
JAG				*eS*	**S**	**02 34 34.6**	**-1.8**
JRY	**Ryogami san**	**3.80**	**312**	P	**P**	**02 33 53.1**	**-0.1**
JRY				*eS*	**S**	**02 34 36.9**	**-0.3**
JMM	**Marumori**	**4.51**	**344**	P	**P**	**02 34 00.9**	**-2.5**
JMM				*eS*	**S**	**02 34 49.7**	**-5.6**
MJAR	**Matsushiro Arr**	**4.56**	**312**	Pn	**P**	**02 34 04.5**	**+0.4**
	4.9nm,0.3s,baz=132,slow=13,SNR=17						
MJAR				Sn	**S**	**02 34 55.4**	**-1.1**
	5.7nm,0.3s,baz=111,slow=10,SNR=6.4						
MJAR				LR	LR	02 35 47.3	
	comp=Z,90nm,20.9s,baz=125,slow=38						
MJAR	**Matsushiro Arr**	**4.56**	**312**	Pn	**P**	**02 34 04.5**	**+0.4**
MJAR				Sn	**S**	**02 34 55.4**	**-1.1**
MJAR				LR	LR	02 35 47.3	
MAJO	**Matsushiro**	**4.56**	**312**	*eP*	**P**	**02 34 05.1**	**+1.0**
MAT	**Matsushiro**	**4.56**	**312**	P	**P**	**02 34 04.1**	**0.0**
MAT				S	**S**	**02 34 55.5**	**-1.1**
MAT	**Matsushiro**	**4.56**	**312**	P	**P**	**02 34 04.7**	**+0.6**
MAT				*eS*	**S**	**02 34 55.3**	**-1.3**
MAT	**Matsushiro**	**4.56**	**312**	*eP*	**P**	**02 34 04.0**	**-0.1**
MAT				*eS*	**S**	**02 34 56.0**	**-0.6**
JIE	**Ise**	**4.81**	**282**	P	**P**	**02 34 08.0**	**+0.5**
CBIJ	**Chichi jima**	**6.42**	**182**	Pn	**P**	**02 34 25.4**	**-4.8**
	37nm,0.3s,baz=146,slow=20,SNR=16						
CBIJ				Sn	**S**	**02 35 32.2**	**-11**
	33nm,0.3s,baz=336,slow=22,SNR=9.0						
JNU	**Nakatsue**	**9.65**	**271**	LR	LR	02 38 43.9	
	comp=Z,116nm,21.1s,baz=328,slow=36						
ASAJ	**Asahikawa**	**10.57**	**1**	LR	LR	02 40 33.8	
	comp=Z,26nm,18.6s,baz=72,slow=43						
JOW	**Kunigami**	**13.92**	**245**	LR	LR	02 41 04.5	
	comp=Z,72nm,20.2s,baz=250,slow=35						
SONM	**Songino Array**	**30.51**	**309**	P	**P**	**02 39 07.0**	**0.0**
	0.6nm,0.8s,mb3.5,baz=63,slow=6.6,SNR=4.1						
MKAR	**Makanchi Array**	**46.72**	**305**	P	**P**	**02 41 22.9**	**+0.6**
	0.3nm,0.4s,mb3.5,baz=84,slow=9.8,SNR=6.2						
MKAR	**Makanchi Array**	**46.72**	**305**	P	**P**	**02 41 22.9**	**+0.6**
ILAR	**Eielson Array**	**52.04**	**31**	P	**P**	**02 42 02.6**	**-0.3**
	0.7nm,0.7s,mb3.7,baz=261,slow=6.3,SNR=7.2						
WRAB	**Tennant Creek**	**53.72**	**189**	*eP*	**P**	**02 42 16.9**	**+0.8**
	4.6nm,1.0s,mb4.4						
WRA	**Warramunga Arr**	**53.73**	**189**	P	**P**	**02 42 14.3**	**-1.9**
	0.7nm,0.4s,mb3.9,baz=5.3,slow=7.6,SNR=7.1						
TXAR	**Lajitas Array**	**91.60**	**53**	P	**P**	**02 46 00.8**	**+1.1**
	0.3nm,0.5s,mb3.9,baz=310,slow=4.1,SNR=5.3						
TXAR	**Lajitas Array**	**91.60**	**53**	P	**P**	**02 46 00.8**	**+1.1**
LPAZ	**La Paz**	**147.59**	**66**	PKPbc	PKPdf	02 52 39.7	+6.4
	1.2nm,0.7s,baz=213,slow=3.9,SNR=6.6						
LPAZ	**La Paz**	**147.59**	**66**	PKPbc	PKPdf	02 52 39.7	+6.4

NEIC ***10*** *02:52:29.3±1.3, 36.33N×1.73E, h10km, MG3.9(MDD), Error ellipse: s-maj=17.3km s-min=4.8km az=154.0*
CSEM ***10*** *02:52:29.0±0.1, 36.39N×1.76E, h10km, ML2.6/20, Error ellipse: s-maj=2.9km s-min=2.5km az=144.0*
CRAAG ***10*** *02:52:30.8, 36.20N×1.61E, Ml3.5*
MDD ***10*** *02:52:30.9±0.7, 36.38N×1.68E, h12km±12km, mbLg2.2/30, Error ellipse: s-maj=11.3km s-min=4.4km az=158.0, PRXIMO*
LDG ***10*** *02:52:32.5±0.3, 36.41N×1.70E, h10km, Ml3.1/9, Error ellipse: s-maj=5.9km s-min=2.7km az=157.0*

ISC 10 02:52:29.0±0.4, 36.52N±0.02×1.63E±0.03, h10km, n102, σ1°20/180, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EBNR	**Beni Rached**	**0.24**	**199**	P	**Pg**	**02 52 34.0**	**-0.1**
ECHA	**Ech Chlef**	**0.42**	**210**	P	**Pg**	**02 52 37.0**	**-0.7**
ECHF	**Ech Chlef**	**0.43**	**213**	P	**Pg**	**02 52 37.0**	**-0.8**
EANR	**'Ain N'Sour**	**0.71**	**217**	P	**Pb**	**02 52 42.8**	**-0.2**
OKGL	**Djebel Kef Gue**	**0.93**	**239**	P	**Pb**	**02 52 47.5**	**+0.8**
EMHD	**Djebel Mahouad**	**1.12**	**106**	P	**Pb**	**02 52 49.5**	**-0.4**
ETRT	**Tiaret**	**1.16**	**193**	P	**Pb**	**02 52 50.0**	**-0.7**
ABA	**Alger-Bouzarea**	**1.17**	**76**	P	**Pb**	**02 52 51.0**	**+0.2**
OJBR	**Djebel Berber**	**1.40**	**228**	P	**Pn**	**02 52 48.0**	**-6.6**
ABMS	**Boumerdes**	**1.51**	**81**	P	**Pn**	**02 53 00.0**	**+3.8**
EIBI	**Ibiza**	**2.51**	**355**	P	**Pn**	**02 53 12.8**	**+2.2**
	16nm,0.2s,SNR=7.9						
EIBI				S	**Sn**	**02 53 42.3**	**+0.7**
	26nm,0.1s,SNR=7.9						
EIBI	**Ibiza**	**2.51**	**355**	Pn	**Pn**	**02 53 12.8**	**+2.2**
	16nm,0.2s,SNR=7.9						
EIBI				Sn	**Sn**	**02 53 41.4**	**-0.2**
	26nm,0.1s,SNR=7.9						
EIBI	**Ibiza**	**2.51**	**355**	P	**Pn**	**02 53 12.8**	**+2.2**
EIBI				S	**Sn**	**02 53 42.6**	**+1.1**
EBEN	**Beniarda**	**2.63**	**327**	P	**Pn**	**02 53 14.0**	**+1.7**
	1.7nm,0.2s,SNR=12						
EBEN				S	**Sn**	**02 53 45.4**	**+0.9**
	4.4nm,0.2s,SNR=7.2						
EBEN	**Beniarda**	**2.63**	**327**	Pn	**Pn**	**02 53 14.0**	**+1.7**
	1.7nm,0.2s,SNR=12						
EBEN				Sn	**Sn**	**02 53 45.4**	**+0.8**
	4.4nm,0.2s,SNR=7.2						
EBEN	**Beniarda**	**2.63**	**327**	P	**Pn**	**02 53 13.0**	**+0.7**
EBEN				S	**Sn**	**02 53 45.4**	**+0.9**
EMUR	**La Murta**	**2.64**	**301**	P	**Pn**	**02 53 12.8**	**+0.4**
	1.4nm,0.2s,SNR=15						
EMUR				S	**Sn**	**02 53 44.3**	**-0.6**
	3.3nm,0.2s,SNR=8.0						
EMUR	**La Murta**	**2.64**	**301**	Pn	**Pn**	**02 53 12.8**	**+0.3**
	1.4nm,0.2s,SNR=15						
EMUR				Sn	**Sn**	**02 53 43.4**	**-1.5**
	3.3nm,0.2s,SNR=8.0						
EMUR	**La Murta**	**2.64**	**301**	P	**Pn**	**02 53 12.8**	**+0.4**
EMUR				S	**Sn**	**02 53 44.5**	**-0.4**
SET	**Setif**	**3.06**	**95**	P	**Pn**	**02 53 27.0**	**+8.6**
ETOB	**Tobarra**	**3.29**	**311**	P	**Pn**	**02 53 23.4**	**+1.7**
	2.1nm,0.3s,SNR=12						
ETOB				S	**Sn**	**02 54 01.4**	**-0.1**
	0.8nm,0.3s,SNR=7.5						
ETOB	**Tobarra**	**3.29**	**311**	Pn	**Pn**	**02 53 24.3**	**+2.6**
	2.1nm,0.3s,SNR=12						
ETOB				Sn	**Sn**	**02 54 03.0**	**+1.6**
	0.8nm,0.3s,SNR=7.5						
ETOB	**Tobarra**	**3.29**	**311**	P	**Pn**	**02 53 24.3**	**+2.5**
ETOB				S	**Sn**	**02 54 03.0**	**+1.6**
ETOS	**Mallorca**	**3.38**	**16**	P	**Pn**	**02 53 23.4**	**+0.5**
	2.6nm,0.1s,SNR=7.9						
ETOS				S	**Sn**	**02 54 01.9**	**-1.5**
	0.5nm,0.3s,SNR=7.9						
ETOS	**Mallorca**	**3.38**	**16**	Pn	**Pn**	**02 53 23.4**	**+0.5**
	2.6nm,0.1s,SNR=7.9						
ETOS				Sn	**Sn**	**02 54 01.2**	**-2.2**
	0.5nm,0.3s,SNR=7.9						
ETOS				S	**Sn**	**02 54 02.1**	**-1.3**
ETOS	**Mallorca**	**3.38**	**16**	P	**Pn**	**02 53 23.4**	**+0.5**
ETOS				S	**Sn**	**02 54 02.1**	**-1.3**
CMER	**Merouana**	**3.58**	**103**	P	**Pn**	**02 53 40.0**	**+14**
EBER	**Berja**	**3.65**	**277**	P	**Pn**	**02 53 26.6**	**-0.1**
	3.3nm,0.1s,SNR=6.9						
EBER				S	**Sn**	**02 54 08.7**	**-1.6**
	1.0nm,0.5s,SNR=7.9						
EBER	**Berja**	**3.65**	**277**	Pn	**Pn**	**02 53 26.6**	**-0.2**
	3.3nm,0.1s,SNR=6.9						
EBER				Sn	**Sn**	**02 54 10.4**	**0.0**
	1.0nm,0.5s,SNR=7.9						
EBER	**Berja**	**3.65**	**277**	P	**Pn**	**02 53 26.6**	**-0.1**
EBER				S	**Sn**	**02 54 10.4**	**0.0**
ECHE	**Chera**	**3.69**	**327**	P	**Pn**	**02 53 28.6**	**+1.3**
	0.3nm,0.4s,SNR=7.9						
ECHE				S	**Sn**	**02 54 10.9**	**-0.4**
	1.2nm,0.2s,SNR=7.9						
ECHE	**Chera**	**3.69**	**327**	Pn	**Pn**	**02 53 30.0**	**+2.7**
	0.3nm,0.4s,SNR=7.9						
ECHE				Sn	**Sn**	**02 54 11.7**	**+0.4**
	1.2nm,0.2s,SNR=7.9						
ECHE	**Chera**	**3.69**	**327**	P	**Pn**	**02 53 30.0**	**+2.7**
ECHE				S	**Sn**	**02 54 11.7**	**+0.4**
EALB	**Alboran**	**3.81**	**263**	S	**Sn**	**02 54 11.5**	**-3.0**
	3.2nm,0.2s,SNR=7.9						
EVIA	**Vianos**	**3.90**	**304**	P	**Pn**	**02 53 30.1**	**-0.3**
	1.5nm,0.2s,SNR=7.9						
EVIA				S	**Sn**	**02 54 16.2**	**-0.6**
	0.2nm,0.5s,SNR=7.9						
EVIA	**Vianos**	**3.90**	**304**	Pn	**Pn**	**02 53 30.1**	**-0.3**
	1.5nm,0.2s,SNR=7.9						
EVIA				Sn	**Sn**	**02 54 17.1**	**+0.3**
	0.2nm,0.5s,SNR=7.9						
EVIA	**Vianos**	**3.90**	**304**	P	**Pn**	**02 53 30.1**	**-0.3**
EVIA				S	**Sn**	**02 54 17.1**	**+0.3**
EQES	**Quesada**	**3.97**	**290**	P	**Pn**	**02 53 32.8**	**+1.5**
	1.9nm,0.2s,SNR=12						
EQES				S	**Sn**	**02 54 18.3**	**-0.1**
	3.1nm,0.2s,SNR=7.9						
EQES	**Quesada**	**3.97**	**290**	Pn	**Pn**	**02 53

0.1nm,0.2s,baz=123,slow=24,SNR=8.3
ESDC Sonseca Array 5.42 307 Pn **Pn 02 53 51.8 0.0**
0.1nm,0.2s,SNR=10
ESDC Sn **Sn 02 54 53.4 -1.6**
0.1nm,0.2s,SNR=8.3
ESDC Sonseca Array 5.42 307 P **Pn 02 53 51.8 -0.1**
ESDC S **Sn 02 54 53.4 -1.7**
EPF Esparros 6.58 352 *e*Pn **Pn 02 54 08.7 +0.5**
EPF *e*Sn **Sn 02 55 19.8 -4.2**
1.7nm,0.3s
ETSF Etsaut 6.59 346 *e*Pn **Pn 02 54 09.1 +0.7**
ETSF *e*Sn **Sn 02 55 21.2 -3.1**
4.2nm,0.6s
EMIN Mina Concepcio 6.75 283 P **Pn 02 54 09.9 -0.7**
0.3nm,0.3s,SNR=4.0
EMIN S **Sn 02 55 22.2 -6.0**
0.5nm,0.3s,SNR=7.9
EMIN Mina Concepcio 6.75 283 Pn **Pn 02 54 09.9 -0.7**
0.3nm,0.3s,SNR=4.0
EMIN Sn **Sn 02 55 22.9 -5.3**
0.5nm,0.3s,SNR=7.9
EMIN Mina Concepcio 6.75 283 P **Pn 02 54 09.9 -0.7**
EMIN S **Sn 02 55 22.9 -5.4**
MTLF Montolieu 6.83 4 *e*Pn **Pn 02 54 11.8 +0.1**
MTLF *e*Sn **Sn 02 55 25.6 -4.7**
3.0nm,0.5s
SJPF Ste Jean 6.94 342 *e*Pn **Pn 02 54 13.7 +0.4**
EALK Alkurruntz 7.11 341 P **Pn 02 54 15.8 +0.1**
0.2nm,0.2s,SNR=4.0
EALK S **Sn 02 55 33.6 -3.8**
0.4nm,0.2s,SNR=4.0
EALK Alkurruntz 7.11 341 P **Pn 02 54 15.5 -0.2**
EALK Alkurruntz 7.11 341 Pn **Pn 02 54 17.2 +1.5**
0.2nm,0.2s,SNR=4.0
EALK Sn **Sn 02 55 33.6 -3.8**
SNR=4.0
EALK Alkurruntz 7.11 341 P **Pn 02 54 15.5 -0.2**
EALK S **Sn 02 55 33.6 -3.8**
EBAD Badajoz 7.21 291 P **Pn 02 54 16.8 -0.3**
0.2nm,0.1s,SNR=4.0
EBAD S **Sn 02 55 35.5 -4.4**
1.0nm,0.2s,SNR=7.9
EBAD Badajoz 7.21 291 Pn **Pn 02 54 18.1 +1.0**
0.2nm,0.1s,SNR=4.0
EBAD Sn **Sn 02 55 35.7 -4.2**
SNR=7.9
EBAD Badajoz 7.21 291 P **Pn 02 54 18.1 +1.0**
EBAD S **Sn 02 55 35.7 -4.1**
LASF Ste Croix 7.74 12 *e*Pn **Pn 02 54 23.9 -0.6**
LASF *e*Sn **Sn 02 55 48.1 -4.9**
1.6nm,0.4s
ELAN Lanestosa 7.75 331 P **Pn 02 54 26.3 +1.7**
0.7nm,0.2s,SNR=8.3
ELAN S **Sn 02 55 47.8 -5.5**
0.2nm,0.2s,SNR=7.9
ELAN Lanestosa 7.75 331 P **Pn 02 54 26.3 +1.7**
ELAN Lanestosa 7.75 331 P **Pn 02 54 26.3 +1.7**
ELAN S **Sn 02 55 49.4 -4.0**
LMR La Mourre 7.77 27 *e*Pn **Pn 02 54 23.4 -1.5**
LMR *e*Sn **Sn 02 55 47.2 -6.6**
1.7nm,0.3s
FRF La Foret Royal 8.02 27 *e*Pn **P 02 54 27.5 -0.8**
FRF *e*Sn **Sn 02 55 53.9 -6.1**
1.4nm,0.3s
SMRF Simiane la Rot 8.03 21 *e*Pn **P 02 54 27.9 -0.7**
SMRF *e*Sn **Sn 02 55 53.9 -6.6**
1.4nm,0.5s
PGF Pioggiola 8.29 41 *e*Pn **P 02 54 31.4 -0.7**
PGF *e*Sn **Sn 02 55 59.7 -7.0**
1.0nm,0.3s
CAF Calviac 8.40 2 *e*Pn **P 02 54 34.1 +0.4**
ECAL Calabor 8.45 312 P **P 02 54 35.1 +0.8**
0.9nm,0.2s,SNR=7.9
ECAL Calabor 8.45 312 P **P 02 54 36.3 +1.9**
ECAL Calabor 8.45 312 P **P 02 54 36.3 +1.9**
EARI Arriondas 8.57 324 P **P 02 54 37.0 +0.9**
0.0nm,0.4s,SNR=7.9
EARI Arriondas 8.57 324 P **P 02 54 37.2 +1.2**
EARI Arriondas 8.57 324 P **P 02 54 37.2 +1.2**
SBF Sospel 8.57 29 *e*Sn **Sn 02 56 06.7 -7.2**
0.4nm,0.1s
ORIF Oris-en-Rattie 8.99 20 *e*Pn **P 02 54 41.5 -0.3**
MBDF Montbardon 9.08 24 *e*Pn **P 02 54 42.9 -0.2**
LPG La Plagne 9.77 22 *e*Pn **P 02 54 52.5 0.0**
LPL La Plagne 9.78 22 *e*Pn **P 02 54 52.5 -0.2**

*LDG **10** 03:17:27.0±0.0, 46.01N×3.01E, h2km, Md2.5/3, Ml2.5/23, Error ellipse: s-maj=0.7km s-min=0.7km az=123.0*
*NEIC **10** 03:17:27.2, 45.99N×3.00E, h5km, ML2.7(STR), ML2.5(LDG), After STR.*
STR 10 03:17:27.2±0.2, 45.99N×3.00E, h5km±1km, Ml2.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGO	**Saint Agoulin**	**0.11**	**56**	Pg	Pg	03 17 29.8	+0.2
PLDF	**La Plantade**	**0.43**	**92**	Pg	Pg	03 17 36.0	+0.1
PLDF				Sg	Sg	03 17 41.7	0.0
VERF	**Verneugheol**	**0.43**	**236**	Pg	Pg	03 17 35.4	-0.5
VERF				Sg	Sg	03 17 41.6	-0.1
TCF	**Toulx Ste Croi**	**0.62**	**299**	*e*Pg	Pg	03 17 38.8	-0.9
TCF				*e*Sg	Sg	03 17 47.2	-0.9
20nm,0.3s							
FRNF	**Fournols**	**0.68**	**207**	Pg	Pg	03 17 40.3	-0.4
FRNF				Sg	Sg	03 17 49.2	-0.6
COLF	**Collangettes**	**0.68**	**134**	Pg	Pg	03 17 39.8	-1.0
COLF				Sg	Sg	03 17 48.9	-0.9
LBL	**Lubilhac**	**0.78**	**167**	Pg	Pg	03 17 42.8	+0.1
LBL				Sg	Sg	03 17 53.1	0.0
AVF	**Avril sur Loir**	**0.84**	**17**	*e*Pg	Pg	03 17 42.2	-1.7
AVF				*e*Sg	Sg	03 17 52.7	-2.4
9.6nm,0.2s							
SMF	**Signal de Mont**	**0.88**	**41**	*e*Pg	Pg	03 17 42.9	-1.8
SMF				*e*Sg	Sg	03 17 54.0	-2.4
25nm,0.2s							
SSF	**Saint Saulge**	**1.13**	**18**	*e*Pg	Pg	03 17 47.7	-2.0
SSF				*e*Sg	Sg	03 18 01.8	-3.0
6.7nm,0.2s							
RJF	**Les Rejaudoux**	**1.25**	**237**	*e*Pg	Pg	03 17 50.5	-1.6
RJF				*e*Sg	Sg	03 18 06.2	-2.5
27nm,0.3s							
CAF	**Calviac**	**1.25**	**212**	*e*Pg	Pg	03 17 50.8	-1.4
CAF				*e*Sg	Sg	03 18 07.4	-1.5
19nm,0.2s							
HYF	**Humbligny**	**1.30**	**349**	*e*Pg	Pg	03 17 51.4	-1.8
HYF				*e*Sg	Sg	03 18 08.1	-2.5
LOR	**Lormes**	**1.41**	**25**	*e*Pg	Pg	03 17 52.9	-2.4
LOR				*e*Sg	Sg	03 18 10.6	-3.5
13nm,0.3s							
VIVF	**Saint-Julien-l**	**1.64**	**133**	*e*Pg	Pg	03 17 57.4	-2.5
VIVF				*e*Sg	Sg	03 18 17.9	-3.8
14nm,0.2s							
LFF	**La Frestale**	**1.91**	**237**	*e*Pg	Pg	03 18 02.6	-2.7
LFF				*e*Sg	Sg	03 18 27.4	-3.3
16nm,0.3s							
LASF	**Ste Croix**	**2.01**	**162**	*e*Pn	Pn	03 18 00.5	-1.7
LASF				*e*Pg	Pg	03 18 04.3	-3.0
LASF				*e*Sg	Sg	03 18 30.4	-3.7
3.1nm,0.2s							
CABF	**La Chapelle**	**2.23**	**73**	*e*Pg	Pg	03 18 09.0	-2.7
CABF				*e*Sg	Sg	03 18 36.0	-5.4
3.5nm,0.2s							
MFF	**Saint Martin d**	**2.27**	**287**	*e*Pn	Pn	03 18 04.2	-1.6
MFF				*e*Pg	Pg	03 18 09.0	-3.4
MFF				*e*Sg	Sg	03 18 38.0	-4.6
9.3nm,0.4s							
ORIF	**Oris-en-Rattie**	**2.29**	**117**	*e*Pn	Pn	03 18 04.7	-1.5
ORIF				*e*Pg	Pg	03 18 09.8	-3.2
SFTF	**Sexfontaines**	**2.62**	**31**	*e*Pg	Pg	03 18 16.2	-3.3
SFTF				*e*Sg	Sg	03 18 49.0	-5.3
6.1nm,0.4s							
LPL	**La Plagne**	**2.66**	**99**	*e*Pg	Pg	03 18 16.4	-3.8
LPL				*e*Sg	Sg	03 18 50.0	-5.6
2.6nm,0.4s							
LPG	**La Plagne**	**2.67**	**99**	*e*Pn	Pn	03 18 09.6	-2.1
LPG				*e*Pg	Pg	03 18 16.8	-3.8
LPG				*e*Sg	Sg	03 18 50.3	-5.9
3.2nm,0.2s							
MTLF	**Montolieu**	**2.71**	**192**	*e*Pn	Pn	03 18 10.0	-2.2
MTLF				*e*Pg	Pg	03 18 18.1	-3.1
MTLF				*e*Sg	Sg	03 18 52.2	-5.1
1.6nm,0.2s							
SMRF	**Simiane la Rot**	**2.72**	**137**	*e*Pn	Pn	03 18 10.1	-2.2
SMRF				*e*Pg	Pg	03 18 18.0	-3.5
SMRF				*e*Sg	Sg	03 18 52.7	-5.0
1.7nm,0.3s							
MEZF	**Maizieres J'vi**	**2.88**	**28**	*e*Pg	Pg	03 18 20.1	-4.5
MEZF				*e*Sg	Sg	03 18 56.7	-6.2
5.3nm,0.3s							
MBDF	**Montbardon**	**2.94**	**114**	*e*Sg	Sg	03 19 00.0	-5.2
1.6nm,0.3s							
HAU	**Haudompre**	**3.05**	**47**	*e*Pg	Pg	03 18 22.9	-5.2
HAU				*e*Sg	Sg	03 19 02.2	-6.6
3.7nm,0.2s							
HINF	**Hinteralfeld**	**3.21**	**54**	*e*Sg	Sg	03 19 06.9	-7.2
1.8nm,0.2s							
EPF	**Esparros**	**3.52**	**214**	*e*Sg	Sg	03 19 18.2	-6.1
FLN	**La Foliniere**	**3.65**	**321**	*e*Pn	Pn	03 18 22.8	-2.7
FLN				*e*Sg	Sg	03 19 21.0	-7.6
3.2nm,0.3s							
CDF	**Champ du Feu**	**3.79**	**49**	*e*Sg	Sg	03 19 25.2	-8.2
1.0nm,0.2s							
ETSF	**Etsaut**	**4.01**	**221**	*e*Sg	Sg	03 19 34.0	-6.6
1.9nm,0.3s							
SGMF	**Saint Gilles**	**4.42**	**303**	*e*Pn	Pn	03 18 33.2	-3.3
QUIF	**Quistinic**	**4.64**	**297**	*e*Pn	Pn	03 18 35.8	-3.8
ROSF	**Rostrenen**	**4.88**	**301**	*e*Pn	Pn	03 18 39.3	-3.7

*IDC **10** 03:19:28.1±1.5, 53.25N×161.14W, mb3.8/5, mb1 4.0/8, mb1mx3.8/23, mbtmp3.7/8, ML3.6/2, MS2.9/2, Ms1 2.9/2, ms1mx2.3/31, Error ellipse: s-maj=28.8km s-min=25.9km az=21.0*
*NEIC **10** 03:19:33.0, 53.19N×161.14W, h36km, ML3.5(AEIC), After AEIC.*
ISC 10 03:19:29.2±1.9, 53.19N±0.06×160.96W±0.08, h19km±16km, n28, σ0§87/31, mb3.7/5, MS3.4/1, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOL	**Dolgoi Island**	**2.03**	**345**	P	**Pn**	**03 20 03.7**	**+0.6**
DT1	**Dutton Round H**	**2.07**	**339**	P	**Pn**	**03 20 03.8**	**+0.1**
DT1				S	**Sn**	**03 20 28.6**	**-0.6**
DTNA	**Dutton South F**	**2.10**	**339**	P	**Pn**	**03 20 04.5**	**+0.3**
HAG	**Hague Volcano**	**2.20**	**346**	P	**Pn**	**03 20 06.5**	**+0.9**
PVV	**Pavlof Volcano**	**2.24**	**348**	P	**Pn**	**03 20 06.9**	**+0.8**
PVV				S	**Sn**	**03 20 32.9**	**-0.6**
SSLN	**Shishaldin Nor**	**2.42**	**313**	P	**Pn**	**03 20 09.6**	**+1.0**
BLHA	**Black Hill**	**2.60**	**346**	P	**Pn**	**03 20 12.4**	**+1.2**
BLHA				S	**Sn**	**03 20 43.0**	**+0.4**
AKUT	**Akutan**	**3.01**	**290**	P	**Pn**	**03 20 17.5**	**+0.4**
AKLV	**Akutan Long Va**	**3.13**	**290**	P	**Pn**	**03 20 18.4**	**-0.3**
UNV	**Unalaska Valle**	**3.37**	**283**	P	**Pn**	**03 20 22.0**	**-0.2**
MNAT	**Makushin Natee**	**3.48**	**284**	P	**Pn**	**03 20 23.6**	**-0.2**
MTBL	**Makushin Table**	**3.50**	**285**	P	**Pn**	**03 20 24.1**	**+0.2**
ANPK	**Aniakchak Peak**	**4.01**	**23**	P	**Pn**	**03 20 32.0**	**+0.7**
OKCD	**Okmok Cone D**	**4.30**	**276**	P	**Pn**	**03 20 33.6**	**-1.7**
MGLS	**Mageik LS**	**5.95**	**30**	P	**Pn**	**03 20 57.6**	**-1.1**
KABR	**Katmai Barrier**	**6.00**	**32**	P	**Pn**	**03 20 58.4**	**-1.0**
KAHC	**Katmai Hardscr**	**6.41**	**29**	P	**Pn**	**03 21 04.1**	**-1.1**
KDAK	**Kodiak Island**	**6.62**	**43**	P	**Pn**	**03 21 05.8**	**-2.3**
ILAR	**Eielson Array**	**13.65**	**26**	Pn	**P**	**03 22 39.2**	**-4.7**
0.3nm,0.3s,baz=217,slow=12,SNR=8.2							
ILAR				Sn	**S**	**03 25 03.8**	**-12**
0.1nm,0.3s,baz=202,slow=28,SNR=3.9							
ILAR				LR	LR	03 27 56.8	
comp=Z,16nm,18.8s,baz=345,slow=37							
DLBC	**Dease Lake**	**18.05**	**61**	P	**P**	**03 23 42.0**	**+1.5**
0.1nm,0.3s,baz=87,slow=22,SNR=2.1							
INK	**Inuvik**	**19.95**	**30**	P	**P**	**03 24 02.8**	**-0.1**
0.5nm,0.3s,baz=245,slow=18,SNR=7.6							
PDAR	**Pinedale Array**	**35.24**	**86**	P	**P**	**03 26 25.2**	**+1.0**
0.5nm,0.4s,mb3.8,baz=315,slow=4.2,SNR=3.9							
TXAR	**Lajitas Array**	**47.69**	**96**	P	**P**	**03 28 06.6**	**+0.2**
1.6nm,0.7s,mb4.2,baz=300,slow=5.5,SNR=28							
TXAR	**Lajitas Array**	**47.69**	**96**	P	**P**	**03 28 06.6**	**+0.2**
BORG	**Borgarnes**	**58.35**	**19**	LR	LR	03 57 32.0	
comp=Z,28nm,18.7s,MS3.4,baz=6.5,slow=39							
MKAR	**Makanchi Array**	**66.78**	**318**	P	**P**	**03 30 20.3**	**-0.8**
0.5nm,0.6s,mb3.8,baz=49,slow=6.4,SNR=5.3							
AKASG	**Malin Array Be**	**76.13**	**353**	P	**P**	**03 31 16.4**	**-0.5**
0.2nm,0.3s,mb3.5,baz=11,slow=5.8,SNR=4.7							
GERES	**GERESS Array B**	**78.24**	**4**	P	**P**	**03 31 29.4**	**+0.8**
0.4nm,0.6s,mb3.5,slow=6.7,SNR=3.8							

CASC 10 03:26:24.4±2.3, 13.67N×89.07W, h87km±10km, MD3.7, 1C-1D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFRS	**El Faro**	**0.04**	**166**	*e*P	P	03 26 51.1	+14
LCBS	**La Ceiba**	**0.09**	**97**	*e*P	P	03 26 51.6	+15
SNET	**Serv Nac Est T**	**0.15**	**277**	*e*P	P	03 26 51.4	+15
BOQS	**Boqueron**	**0.21**	**289**	||*i*P	P	03 26 52.3	+15
BOQS				*e*S	S	03 27 02.2	+16
SNVI	**San Vicente**	**0.23**	**103**	*e*P	P	03 26 52.3	+15
SNVI				*e*S	S	03 27 02.0	+15
SNJE	**San Jose**	**0.56**	**291**	*e*P	P	03 26 54.6	+15
SNJE				*e*S	S	03 27 06.3	+16
SBLS	**San Blas**	**0.56**	**288**	*e*P	P	03 26 54.3	+15
SBLS				*e*S	S	03 27 07.2	+16
RTR	**El Retiro**	**0.60**	**292**	*e*P	P	03 26 55.4	+16
RTR				*e*S	S	03 27 07.3	+16
BLLM	**Bellamira**	**0.84**	**105**	*e*P	P	03 26 58.0	+16
BLLM				*e*S	S	03 27 12.8	+17
IXG	**Ixpaco**	**1.43**	**291**	||*i*P	P	03 26 49.2	-0.4
IXG				*e*S	S	03 27 08.0	-0.3
MRL	**Marmol**	**1.51**	**337**	*e*P	P	03 26 52.1	+1.4
MRL				*e*S	S	03 27 09.9	-0.1
FUG	**Fuego 3**	**1.88**	**295**	*e*P	P	03 26 56.1	+0.6
FUG				*e*S	S	03 27 20.1	+1.7
TP2	**Tecpan 2**	**2.19**	**301**	*e*P	P	03 27 00.8	+1.1
TP2				*e*S	S	03 27 28.8	+3.0
CRIN	**San Cristobal**	**2.19**	**116**	*e*P	P	03 27 00.1	+0.4
TEL3	**Telica 3**	**2.43**	**116**	*e*P	P	03 27 02.0	-1.0
LEON	**Leon**	**2.46**	**120**	*e*P	P	03 27 01.9	-1.5
MIRN	**Miramar**	**2.60**	**118**	*e*P	P	03 27 03.6	-1.8
MIRN				*e*S	S	03 27 37.2	+1.1
MOMJ	**Momotombo**	**2.77**	**117**	*e*P	P	03 27 07.2	-0.6
COPN	**Copaltepe**	**2.83**	**121**	*e*P	P	03 27 07.5	-1.2
COPN				*e*S	S	03 27 42.6	+0.7

*NIED **10** 03:52:00, 33.30N×142.50E, h5km, Mw4.5 Best double couple: M0:6.82×10^15 NP1:φs140°, δ64°, λ-90°. NP2: φs319°, δ26°, λ-90°.*
*IDC **10** 03:52:36.1±0.6, 33.32N×142.52E, mb4.3/23, mb1 4.4/29, mb1mx4.4/32, mbtmp4.3/29, ML4.3/5, MS3.6/6, Ms1 3.6/6, ms1mx3.3/32, Error ellipse: s-maj=15.7km s-min=14.5km az=91.0*
*JMA **10** 03:52:38.6±0.4, 33.35N×142.50E, h74km, M4.2*
*MOS **10** 03:52:40.4±1.3, 33.26N×142.26E, h33km, mb4.8/22, Error ellipse: s-maj=14.0km s-min=6.8km az=116.7*
*BJI **10** 03:52:41.3, 33.37N×142.12E, h32km, mB4.6, mb4.6, Ms4.2, Msz4.0*
*NEIC **10** 03:52:42.2±0.3, 33.30N×142.28E, mb4.7/36, MW4.5(NIED), Error ellipse: s-maj=7.9km s-min=6.5km az=178.0*
ISC 10 03:52:40.7±0.2, 33.29N±0.03×142.27E±0.03, h34km, h34km±2.6km: pP-P, n169, σ1§22/179, mb4.5/71, MS3.9/9, 4D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.73**	**322**	P	**P**	**03 53 08.2**	**-0.6**
BSO2	**Boso 2**	**1.92**	**320**	*e*S	**S**	**03 53 35.4**	**+0.7**
JHJ2	**Mitsune**	**2.06**	**266**	P	**P**	**03 53 14.7**	**+1.1**
JHJ2				*e*S	**S**	**03 53 41.1**	**+2.8**
JHJ	**Hachijo jima 2**	**2.09**	**266**	Pn	**P**	**03 53 14.8**	**+0.9**
239nm,0.3s,baz=115,slow=9.7,SNR=56							
JHJ				Sn	**S**	**03 53 42.3**	**+3.3**
213nm,0.3s,baz=244,slow=24,SNR=7.9							
BSO3	**Boso 3**	**2.09**	**316**	P	**P**	**03 53 13.9**	**-0.1**
BSO4	**Boso 4**	**2.33**	**317**	P	**P**	**03 53 17.5**	**+0.1**
BSO4				*e*S	**S**	**03 53 46.2**	**+1.1**
KTR	**Katsuura**	**2.46**	**319**	*e*S	**S**	**03 53 49.4**	**+1.1**
CHOJ	**Chosi**	**2.67**	**335**	P	**P**	**03 53 21.1**	**-1.1**
JIM2	**Oshima 3**	**2.75**	**302**	P	**P**	**03 53 22.5**	**-0.9**
JIM2				*e*S	**S**	**03 53 55.9**	**+0.1**
JOD2	**Odawara 2**	**3.28**	**308**	P	**P**	**03 53 29.9**	**-1.1**
JYN	**Shimob**	**3.78**	**307**	P	**P**	**03 53 37.8**	**-0.3**
JRY	**Ryogami san**	**3.88**	**315**	P	**P**	**03 53 38.6**	**-0.9**
JRY				*e*S	**S**	**03 54 25.5**	**+1.0**
JAG	**Ashikaga**	**3.89**	**324**	P	**P**	**03 53 38.2**	**-1.3**
MJAR	**Matsushiro Arr**	**4.65**	**315**	Pn	**P**	**03 53 49.4**	**-1.0**
8.5nm,0.3s,baz=132,slow=6.6,SNR=37							
MJAR				Sn	**S**	**03 54 43.4**	**-0.5**
6.0nm,0.3s,baz=16,slow=23,SNR=6.6							
MJAR	**Matsushiro Arr**	**4.65**	**315**	Pn	**P**	**03 53 49.4**	**-1.0**
MJAR				Sn	**S**	**03 54 43.4**	**-0.5**
MAJO	**Matsushiro**	**4.65**	**315**	*e*Pn	**P**	**03 53 50.3**	**-0.1**
MAT	**Matsushiro**	**4.65**	**315**	P	**P**	**03 53 50.2**	**-0.2**
MAT				S	**S**	**03 54 42.6**	**-1.3**
MAT	**Matsushiro**	**4.65**	**315**	*e*P	**P**	**03 53 50.0**	**-0.4**
MAT				*e*S	**S**	**03 54 43.0**	**-0.9**
JMM	**Marumori**	**4.72**	**346**	P	**P**	**03 53 47.1**	**-4.3**
CBIJ	**Chichi jima**	**6.18**	**181**	Pn	**P**	**03 54 06.8**	**-5.1**
41nm,0.3s,baz=279,slow=20,SNR=32							
CBIJ				Sn	**S**	**03 55 13.8**	**-8.5**
48nm,0.3s,baz=244,slow=20,SNR=6.3							
CBIJ	**Chichi jima**	**6.18**	**181**	P	**P**	**03 54 08.5**	**-3.4**
JNU	**Nakatsue**	**9.54**	**272**	Pn	**P**	**03 54 59.4**	**+0.6**
baz=82,slow=9.5							
JNU				LR	LR	03 58 39.4	
comp=Z,344nm,20.1s,baz=115,slow=37							
ASAJ	**Asahikawa**	**10.81**	**1**	Pn	**P**	**03 55 09.7**	**-6.4**
4.8nm,0.3s,baz=209,slow=8.6,SNR=19							
ASAJ				Sn	**S**	**03 57 05.2**	**-12**
0.4nm,0.3s,baz=32,slow=31,SNR=4.6							
ASAJ				LR	LR	03 59 49.4	
comp=Z,294nm,21.3s,baz=154,slow=40							
KS15	**Wonju Array Si**	**12.45**	**293**	*e*P	**P**	**03 55 34.6**	**-3.6**
YSS	**Yuzh-Sakhalins**	**13.65**	**1**	*e*P	**P**	**03 55 48.0**	**-6.0**
YSS				pmax	pmax		
comp=Z,30nm,0.9s							
JOW	**Kunigami**	**13.71**	**246**	Pn	**P**	**03 55 53.6**	**-1.4**
comp=Z,0.6nm,0.3s,baz=80,slow=9.1,SNR=5.5							
JOW				LR	LR	04 00 49.0	
comp=Z,209nm,21.1s,baz=180,slow=35							
MDJ	**Mudanjiang**	**14.98**	**323**	P	**P**	**03 56 10.8**	**-0.7**
MDJ				S	**S**	**03 58 54.3**	**-2.6**
MDJ				PCP	PcP	04 01 18.1	-1.8
MDJ				SCP		04 04 48.2	
MDJ				PCS		04 04 53.9	
MDJ				SCS	ScS	04 08 24.8	-1.8
MDJ				LR	LR		
comp=N,181nm,11.4s							
MDJ				LR	LR		
comp=E,207nm,12.7s							
MDJ				LR	LR		
comp=Z,332nm,12.7s							
CN2	**Changchun**	**16.80**	**314**	*e*P	**P**	**03 56 35.2**	**+0.5**
CN2				*e*S	**S**	**03 59 38.2**	**-0.9**
CN2				AMB	AMB		
comp=Z,10.0nm,0.8s							
CN2				AMB	AMB		
comp=Z,100nm,6.0s							
CN2				LR	LR		
comp=N,700nm,18.0s							
CN2				LR	LR		
comp=E,500nm,18.0s							
CN2				LR	LR		
comp=Z,300nm,15.0s							
KLR	**Kul'dur**	**17.75**	**337**	*e*P	**P**	**03 56 43.2**	**-3.4**
NJ2	**Nanjing**	**19.74**	**273**	*e*P	**P**	**03 57 09.9**	**-0.4**
NJ2				AP		03 57 22.4	
NJ2				PP	PP	03 57 30.2	+1.1
NJ2				S	**S**	**04 00 43.0**	**-2.7**
NJ2				XS		04 01 02.0	
NJ2				AMB	AMB		
comp=Z,140nm,0.7s							
NJ2				LR	LR		
comp=N,640nm,15.8s							
NJ2				LR	LR		
comp=E,570nm,19.7s							
NJ2				LR	LR		
comp=Z,390nm,23.0s							
TATO	**Taipei**	**19.93**	**251**	P	**P**	**03 57 11.7**	**-0.7**
PET	**Petropavlovsk**	**22.96**	**26**	*e*P	**P**	**03 57 47.2**	**+4.4**
PET				MLR	MLR		
comp=Z,100nm,15.0s,MS3.4							
HIA	**Hailar**	**23.13**	**320**	*e*P	**P**	**03 57 43.9**	**-0.6**
comp=Z,8.8nm,0.8s,mb4.2							
HIA	**Hailar**	**23.13**	**320**	*e*P	**P**	**03 57 43.9**	**-0.6**
HIA				pmax	pmax		
comp=Z,9.0nm,0.8s							
WHN	**Wuhan**	**23.83**	**271**	P	**P**	**03 57 52.0**	**+0.6**
WHN				AP		03 58 05.4	
HHC	**Hu-ho-hao-te**	**25.54**	**296**	*e*P	**P**	**03 58 10.7**	**+2.9**
HHC				AP	pP	03 58 22.6	+5.2
HHC				PP	PP	03 58 51.1	+3.5
HHC				PCP	PcP	04 01 41.3	+2.0
HHC				S	**S**	**04 02 34.1**	**+3.5**
HHC				SCS	ScS	04 09 03.2	+0.9
HHC				AMB	AMB		
comp=Z,24nm,1.1s,mb4.6							
HHC				AMB	AMB		
comp=Z,127nm,3.2s							
HHC				LR	LR		
comp=N,123nm,17.8s,MS3.9							
HHC				LR	LR		
comp=E,246nm,14.3s,MS3.9							
HHC				LR	LR		
comp=Z,351nm,14.3s,MS4.0							
BTO	**Baotou**	**26.68**	**295**	*e*P	**P**	**03 58 19.2**	**+0.9**
BTO				AMB	AMB		
comp=Z,16nm,0.7s,mb4.7							
XAN	**Xi'an**	**27.70**	**281**	P	**P**	**03 58 26.7**	**-1.0**
XAN				AMB	AMB		
comp=Z,12nm,1.6s,mb4.3							
CIT	**Chita**	**27.94**	**321**	*e*P	**P**	**03 58 33.2**	**+3.5**
CIT				*e*	pP	03 58 44.7	+5.2
CIT				*e*		03 59 24.3	
CIT				pmax	pmax		
comp=Z,50nm,3.0s							
ENH	**Enshi**	**27.96**	**273**	*e*P	**P**	**03 58 28.5**	**-1.6**
comp=Z,43nm,1.1s,mb5.0							
FX1	**Attu Island--F**	**29.52**	**39**	LR	LR	04 08 17.1	
comp=Z,5.4nm,21.6s,baz=250,slow=32							
YAK	**Yakutsk**	**29.86**	**348**	*e*P	**P**	**03 58 55.8**	**+9.0**
YAK				pmax	pmax		
comp=Z,16nm,0.5s,mb5.0							
SONM	**Songino Array**	**30.57**	**309**	P	**P**	**03 58 53.5**	**+0.3**
comp=Z,3.3nm,0.7s,mb4.3,baz=114,slow=8.9,SNR=15							
LZH	**Lanzhou**	**31.58**	**286**	*e*P	**P**	**03 59 02.0**	**-0.3**
LZH				AP	pP	03 59 08.0	-4.2
LZH				XP	sP	03 59 11.0	-5.7
LZH				AMB	AMB		
comp=Z,26nm,1.2s,mb4.9							
LZH				LR	LR		
comp=E,680nm,15.2s							
LZH		

WMQ SCP 04 06 15.0
WMQ S **S** **04 07 03.0 -1.6**
WMQ SS SS 04 10 10.0 -1.5
WMQ AMB AMB
comp=Z,17nm,1.0s,mb4.7
WMQ AMB AMB
comp=Z,15nm,8.0s
WMQ LR LR
comp=N,65nm,17.0s,MS3.7
WMQ LR LR
comp=E,42nm,16.0s,MS3.7
WMQ LR LR
comp=Z,38nm,16.0s,MS3.4
KSM Kuching 43.59 230 *eP* **P 04 00 44.9 +1.4**
ZAL Zalesovo 45.01 315 P **P 04 00 54.4 0.0**
comp=Z,1.5nm,0.3s,mb4.3,baz=113,slow=1.5,SNR=2.8
ZAL Zalesovo 45.01 315 P **P 04 00 54.4 0.0**
NVS Novosibirsk 45.98 316 *eP* **P 04 01 01.6 -0.5**
NVS pmax pmax
comp=E,10.0nm,1.2s
NVS pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
MKAR Makanchi Array 46.77 305 P **P 04 01 08.6 +0.2**
comp=Z,6.4nm,0.8s,mb4.6,baz=90,slow=9.7,SNR=18
KURK Kurchatov 48.84 311 *eP* **P 04 01 23.8 -0.7**
comp=Z,16nm,0.9s,mb5.1
KURK Kurchatov 48.84 311 *eP* **P 04 01 23.8 -0.7**
KURK pmax pmax
comp=Z,16nm,0.9s,mb5.0
PKI Pulchoki 48.85 279 *eP* **P 04 01 25.4 +0.5**
comp=Z,30nm,1.1s,mb5.2
KKN Kakani 48.88 280 *eP* **P 04 01 25.8 +0.7**
comp=Z,21nm,0.7s,mb5.3
DMN Daman 49.09 279 *eP* **P 04 01 26.4 -0.3**
comp=Z,8.6nm,0.5s,mb5.0
GKN Gorkha 49.33 280 *eP* **P 04 01 28.6 0.0**
comp=Z,49nm,1.1s,mb5.4
KDAK Kodiak Island 49.47 40 *eP* **P 04 01 24.0 -5.3**
comp=Z,19nm,1.0s,mb5.1
KOLN Koldanda 50.27 280 *eP* **P 04 01 35.7 -0.1**
comp=Z,18nm,0.9s,mb5.1
MCK McKinley 51.39 32 P **P 04 01 40.1 -3.6**
comp=Z,3.5nm,1.0s,mb4.2
ILAR Eielson Array 52.31 31 P **P 04 01 47.9 -2.8**
comp=Z,2.4nm,0.8s,mb4.2,baz=266,slow=6.2,SNR=25
DIV Divide 52.88 35 *eP* **P 04 01 53.7 -1.2**
comp=Z,56nm,1.0s,mb5.5
AAK Ala-Archa 52.95 301 P **P 04 01 53.5 -2.2**
comp=Z,3.7nm,0.6s,mb4.5
AAK Ala-Archa 52.95 301 *d iP* **P 04 01 55.5 -0.3**
AAK pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
CTAO Charters Tower 53.22 175 P **P 04 01 58.0 0.0**
comp=Z,5.4nm,0.3s,mb5.0
CTAO Charters Tower 53.22 175 P **P 04 01 58.1 0.0**
CTAO pmax pmax
comp=Z,5.0nm,0.3s,mb4.9
WRAB Tennant Creek 53.46 189 *eP* **P 04 01 58.2 -1.6**
comp=Z,11nm,0.9s,mb4.8
WRAB Tennant Creek 53.46 189 *eP* **P 04 01 58.3 -1.6**
WRAB pmax pmax
comp=Z,11nm,0.9s,mb4.8
WB2 Warramunga Arr 53.47 189 *eP* **P 04 01 58.4 -1.6**
WRA Warramunga Arr 53.48 189 P **P 04 01 58.3 -1.7**
comp=Z,5.6nm,0.7s,mb4.6,baz=9.0,slow=7.6,SNR=82
WRA PcP PcP 04 03 06.1 -0.5
comp=Z,2.8nm,0.8s,baz=2.1,slow=4.1,SNR=5.5
FITZ Fitzroy Crossi 53.52 200 *eP* **P 04 01 59.9 -0.4**
comp=Z,9.5nm,0.6s,mb4.9
BVAR Borovoye Array 53.65 315 P **P 04 01 59.6 -1.2**
comp=Z,2.7nm,1.0s,mb4.2,baz=101,slow=7.6,SNR=8.0
BRVK Borovoye 53.70 315 P **P 04 01 57.9 -3.3**
comp=Z,1.6nm,0.7s,mb4.1
BRVK Borovoye 53.70 315 P **P 04 01 57.9 -3.3**
BRVK pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
INK Inuvik 57.41 26 P **P 04 02 25.5 -2.3**
comp=Z,2.8nm,0.6s,mb4.5,baz=260,slow=8.8,SNR=5.2
INK Inuvik 57.41 26 P **P 04 02 22.6 -5.2**
comp=Z,12nm,1.0s,mb4.9
INK *e* 04 02 36.6
INK Inuvik 57.41 26 P **P 04 02 25.5 -2.3**
INK pmax pmax
comp=Z,3.0nm,0.6s
MBWA Marble Bar 58.26 205 *eP* **P 04 02 29.5 -4.9**
SVE Sverdlovsk 58.44 320 *eP* **P 04 02 35.4 +0.3**
SVE *e* pP 04 02 43.6 -1.9
ARU Arti 59.65 320 *eP* **P 04 02 42.2 -1.3**
comp=Z,10nm,1.0s,mb4.8
ARU Arti 59.65 320 *eP* **P 04 02 42.2 -1.3**
ARU pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
DLBC Dease Lake 61.16 37 LR LR 04 31 09.4
comp=Z,45nm,18.3s,MS3.7,baz=40,slow=38
DLBC Dease Lake 61.16 37 P **P 04 02 50.3 -3.6**
STKA Stephens Creek 64.82 181 P **P 04 03 17.0 -1.4**
comp=Z,8.1nm,0.8s,mb4.8,baz=340,slow=7.9,SNR=11
STKA Stephens Creek 64.82 181 *eP* **P 04 03 17.2 -1.1**
RES Resolute Bay 66.05 14 P **P 04 03 20.9 -4.6**
comp=Z,22nm,1.0s,mb5.1
YKA Yellowknife Ar 66.70 29 P **P 04 03 28.1 -1.7**
comp=Z,2.7nm,0.9s,mb4.3,baz=293,slow=6.2,SNR=7.5
YKA Yellowknife Ar 66.70 29 P **P 04 03 28.1 -1.7**
ARCES ARCESS Array B 67.74 340 P **P 04 03 36.3 +0.1**
comp=Z,0.7nm,0.8s,mb3.8,baz=101,slow=6.2,SNR=3.7
NWAO Narrogin (SRO) 69.96 202 *eP* **P 04 03 47.9 -2.7**
comp=Z,32nm,1.0s,mb5.2
NWAO Narrogin (SRO) 69.96 202 *eP* **P 04 03 47.9 -2.7**
NWAO pmax pmax
comp=Z,32nm,1.0s
YBH Yreka Blue Hor 72.10 52 LR LR 04 28 15.4
comp=Z,53nm,20.8s,MS3.8,baz=358,slow=30
NEW Newport 72.34 44 P **P 04 04 01.9 -2.6**
comp=Z,2.3nm,0.9s,mb4.1,baz=21,slow=8.1,SNR=2.1
NEW Newport 72.34 44 *eP* **P 04 04 03.9 -0.6**
comp=Z,2.7nm,0.9s,mb4.2
NEW Newport 72.34 44 *eP* **P 04 04 03.9 -0.6**
NEW pmax pmax
comp=Z,3.0nm,0.9s
FINES FINESS Array B 72.45 333 P **P 04 04 03.6 -1.4**
comp=Z,6.5nm,1.0s,mb4.5,baz=231,slow=24,SNR=5.5
WALA Waterton Lakes 73.75 42 *eP* **P 04 04 11.3 -1.5**
comp=Z,3.7nm,0.7s,mb4.4
SUMG Summit 74.42 0 P **P 04 04 15.2 -1.1**
comp=Z,11nm,1.1s,mb4.7
MSO Missoula 74.92 44 P **P 04 04 21.3 +1.7**
comp=Z,3.2nm,1.2s,mb4.1
CMB Columbia Colle 75.48 54 *eP* **P 04 04 22.3 -0.8**
comp=Z,5.0nm,0.9s,mb4.4
CMB Columbia Colle 75.48 54 *eP* **P 04 04 22.3 -0.8**
CMB pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
HLID Hailey 76.41 47 P **P 04 04 30.1 +1.9**
comp=Z,3.2nm,1.1s,mb4.2
HLID *e* pP 04 04 40.4 +1.5
BOZ Bozeman (W) 76.92 44 *eP* **P 04 04 30.4 -0.6**
comp=Z,1.9nm,0.8s,mb4.1
BOZ Bozeman (W) 76.92 44 *eP* **P 04 04 30.5 -0.5**
BOZ pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
ELK Elko 77.44 49 *eP* **P 04 04 34.5 +0.5**
comp=Z,2.2nm,1.0s,mb4.0
ELK *e* pP 04 04 43.7 -1.1
ELK Elko 77.44 49 *eP* **P 04 04 34.5 +0.4**
ELK *e* pP 04 04 43.7 -1.0
ELK pmax pmax
comp=Z,2.0nm,1.0s
QLMT Earthquake Lak 77.49 44 *eP* **P 04 04 34.9 +0.6**
AKASG Malin Array Be 77.69 323 P **P 04 04 33.5 -1.7**
comp=Z,0.9nm,0.6s,mb3.9,baz=45,slow=6.7,SNR=8.7
AKASG Malin Array Be 77.69 323 P **P 04 04 33.5 -1.7**
HFS Hagfors 77.78 336 P **P 04 04 34.1 -1.4**
comp=Z,1.2nm,0.5s,mb4.1,baz=117,slow=3.3,SNR=8.6
NB2 NORSAR Subarra 77.90 338 P **P 04 04 35.9 -0.3**
comp=Z,1.3nm,0.6s,mb4.0,baz=39,slow=5.6
NB2 NORSAR Subarra 77.90 338 P **P 04 04 35.9 -0.3**
NB2 pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
NOA NORSAR Array B 77.90 338 P **P 04 04 34.9 -1.3**
comp=Z,3.5nm,0.8s,mb4.3,baz=39,slow=5.6,SNR=8.6
IMW Indian Meadow 78.31 45 *eP* **P 04 04 40.6 +1.8**
comp=Z,6.4nm,1.2s,mb4.4
HWUT Hardware Ranch 79.25 47 *eP* **P 04 04 44.3 +0.3**
comp=Z,12nm,1.5s,mb4.6
DUG Dugway 79.28 49 *eP* **P 04 04 44.0 -0.1**
comp=Z,7.4nm,1.3s,mb4.5
DUG Dugway 79.28 49 *eP* **P 04 04 44.1 -0.1**
DUG pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
LAO LASA Array 79.35 41 P **P 04 04 41.4 -3.0**
comp=Z,8.7nm,1.1s,mb4.6
LAO *e* 04 04 55.8
PDAR Pinedale Array 79.79 45 P **P 04 04 47.0 +0.2**
comp=Z,0.4nm,0.7s,mb3.5,baz=297,slow=6.6,SNR=5.0
NEN Nelson 80.51 54 *eP* **P 04 04 50.3 -0.6**
MSU Marysvale 80.64 50 *eP* **P 04 04 53.9 +2.4**
SRU San Rafael 81.35 49 P **P 04 04 53.0 -2.2**
KWP Kalwaria 81.58 325 *eP* **P 04 04 56.4 +0.2**
comp=Z,14nm,1.0s,mb4.9
KWP Kalwaria 81.58 325 *eP* **P 04 04 56.4 +0.2**
KWP pmax pmax
comp=Z,14nm,1.0s,mb4.8
BRTR Keskin Array B 81.87 312 P **P 04 04 58.8 +0.9**
comp=Z,2.2nm,0.8s,mb4.1,baz=119,slow=5.0,SNR=10
RSSD Black Hills 82.15 42 P **P 04 05 00.5 +1.2**
MLR Muntele Rosu 82.70 321 P **P 04 05 02.8 +0.8**
comp=Z,2.0nm,0.8s,mb4.2,baz=334,slow=12,SNR=3.7
PV10 Paradox Valley 82.72 49 *eP* **P 04 05 03.1 +0.9**
PV01 Paradox Valley 83.16 49 *eP* **P 04 05 07.0 +2.5**
PV01 *e* pP 04 05 16.0 +0.7
SMCO Snowmass 83.51 47 *eP* **P 04 05 05.7 -0.5**
OKC Ostrava-Krasne 83.56 327 AMS AMS 04 46 30.0
comp=Z,100nm,18.9s
ISCO Idaho Springs 83.95 46 *eP* **P 04 05 09.4 +0.9**
comp=Z,5.4nm,1.1s,mb4.6
ISCO Idaho Springs 83.95 46 *eP* **P 04 05 09.5 +1.0**
ISCO pmax pmax
comp=Z,5.0nm,1.1s,mb4.6
DPC Dobruska-Polom 84.00 329 *eP* **P 04 05 09.9 +1.4**
DPC *ep*P pP 04 05 20.0 +0.7
DPC AMS AMS 04 47 30.0
comp=Z,100nm,20.3s
UPC Upice 84.02 329 *eP* **P 04 05 09.3 +0.7**
UPC *ep*P pP 04 05 21.5 +2.1
ASF Jabal al Asfar 84.19 305 P **P 04 05 10.7 +0.8**
comp=Z,4.1nm,0.7s,mb4.7,baz=181,slow=0.8,SNR=6.0
PVCC Panska Ves 84.62 330 *eP* **P 04 05 13.0 +1.4**
PVCC AMS AMS 04 48 30.0
comp=Z,100nm,11.3s
CLL Collm 84.69 331 ⇓P **P 04 05 12.5 +0.6**
comp=Z,logA/T=1.1,mb5.0
CLL *e* 04 05 19.0
CLL *i* *PP pP 04 05 24.0 +1.3
CLL Collm 84.69 331 ⇓*iP* **P 04 05 12.5 +0.6**
comp=Z,8.0nm,0.7s,mb5.0
CLL *i* pP pP 04 05 24.0 +1.3
CLL Collm 84.69 331 ⇓*iP* **P 04 05 12.5 +0.6**
CLL *i* *PP pP 04 05 24.0 +1.3
CLL pmax pmax
comp=Z,8.0nm,0.7s,mb5.0
PRU Pruhonice 85.04 329 *eP* **P 04 05 14.8 +1.1**
PRU *ep*P pP 04 05 26.1 +1.6
PRU AMS AMS 04 50 20.0
comp=Z,100nm,19.3s
SDCO Great Sand Dun 85.31 47 *eP* **P 04 05 16.3 +1.0**
comp=Z,6.3nm,1.0s,mb4.7
NKC Novy Kostel 85.74 330 *eP* **P 04 05 19.4 +2.3**
NKC *ep*P pP 04 05 29.1 +1.1
NKC AMS AMS 04 48 40.0
KHC Kasperske Hory 86.10 329 *eP* pP 04 05 31.6 +1.9
KHC *ex* x 04 05 41.7
KHC AMS AMS 04 49 10.0
comp=Z,100nm,26.6s
GERES GERESS Array B 86.26 329 P **P 04 05 20.1 +0.4**
comp=Z,0.4nm,0.7s,mb3.8,baz=31,slow=7.8,SNR=4.4
ANMO Albuquerque 86.45 50 *eP* **P 04 05 22.6 +1.6**
comp=Z,4.9nm,1.1s,mb4.7
ANMO Albuquerque 86.45 50 *eP* **P 04 05 22.6 +1.6**
ANMO pmax pmax
comp=Z,5.0nm,1.1s
EKA Eskdalemuir Ar 86.89 341 P **P 04 05 24.1 +1.6**
comp=Z,1.3nm,0.9s,mb4.2,baz=49,slow=7.5,SNR=3.2
DAVOX Davos 89.49 329 P **P 04 05 37.0 +1.7**
comp=Z,0.5nm,0.4s,mb4.2,baz=172,slow=21,SNR=3.8
LPL La Plagne 91.82 330 *eP* **P 04 05 47.4 +1.2**
SSF Saint Saulge 91.83 333 *eP* **P 04 05 47.2 +1.0**
LPG La Plagne 91.83 330 *eP* **P 04 05 47.6 +1.4**
TXAR Lajitas Array 91.83 53 P **P 04 05 45.8 -0.8**
comp=Z,1.1nm,0.6s,mb4.3,baz=292,slow=2.9,SNR=18
TXAR LR LR 04 42 24.1
comp=Z,56nm,20.5s,MS4.0,baz=135,slow=33
AVF Avril sur Loir 92.11 333 *eP* **P 04 05 48.5 +1.0**
comp=Z,5.9nm,0.9s,mb4.6
AVF Avril sur Loir 92.11 333 *eP* **P 04 05 48.5 +1.0**
AVF pmax pmax
comp=Z,3.0nm,0.9s,mb4.6
GRR Gorron 92.25 336 *eP* **P 04 05 49.1 +1.0**
MBDF Montbardon 92.44 330 *eP* **P 04 05 49.5 +0.4**
ORIF Oris-en-Rattie 92.66 331 *eP* **P 04 05 51.0 +1.0**
comp=Z,3.6nm,0.7s,mb4.6
ORIF Oris-en-Rattie 92.66 331 *eP* **P 04 05 51.0 +1.0**
ORIF pmax pmax
comp=Z,2.0nm,0.7s,mb4.7
TCF Toulx Ste Croi 92.96 334 *eP* **P 04 05 52.5 +1.1**
VIVF Saint-Julien-l 93.20 331 *eP* **P 04 05 53.6 +1.1**
comp=Z,7.8nm,0.8s,mb4.9
VIVF Saint-Julien-l 93.20 331 *eP* **P 04 05 53.6 +1.1**
VIVF pmax pmax
comp=Z,4.0nm,0.8s,mb4.9
FRF La Foret Royal 93.44 329 *eP* **P 04 05 53.9 +0.3**
MTLF Montolieu 95.44 332 *eP* **P 04 06 04.1 +1.4**
SDV Santo Domingo 127.67 43 *e*PKPdf PKPdf 04 11 40.8 -2.4
SAML Samuel 146.27 50 *e*PKPdf PKPdf 04 12 18.6 +1.4
SAML *e* 04 12 29.8
LPAZ La Paz 147.79 66 PKPbc PKPdf 04 12 22.6 +3.1
comp=Z,1.4nm,0.7s,baz=11,slow=9.4,SNR=6.6

NIED ***10*** *04:07:00,24.90N×122.50E,h5km,Mw4.1 Best double couple: M₀1.48×10¹⁵ NP1:φs154°,δ84°,λ9°. NP2:φs63°, δ81°,λ174°.*
BJI ***10*** *04:07:44.4,24.64N×122.16E,h11km,mB4.8,mb4.2, ML4.2,Ms4.0,Msz3.7*
IDC ***10*** *04:07:44.9±1.3,24.59N×122.19E,mb3.8/2,mb1 3.7/4, mb1mx3.5/19,mbtmp3.7/4,ML3.4/2,MS3.5/4,Ms1 3.5/4, ms1mx3.0/21,Error ellipse: s-maj=34.7km s-min=24.4km az=65.0*
JMA ***10*** *04:07:46.7±0.2,24.87N×122.46E,h30km,M4.3*
NEIC ***10*** *04:07:47.0±1.5,24.62N×122.22E,h14km±11km,mb4.8/1, Error ellipse: s-maj=13.9km s-min=10.7km az=100.0*
ISC 10 04:07:46.1±0.8,24.67N±0.06×122.34E±0.04,h24km±7km, n22,σ0§78/27,mb4.1/5,MS3.6/2,1C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.65**	**109**	P	**Pb**	**04 07 59.1**	**+0.4**
YOJ				*e*S	**Sb**	**04 08 07.9**	**+0.6**
TATO	**Taipei**	**0.83**	**292**	*e*P	**Pb**	**04 08 01.1**	**-0.6**
NACB	**Ninganchiao**	**0.84**	**234**	*e*P	**Pb**	**04 08 01.6**	**-0.2**
IRIF	**Iriomote-Funau**	**1.31**	**105**	P	**Pn**	**04 08 08.7**	**-0.5**
IRIF				*e*S	**Sn**	**04 08 26.1**	**+0.1**
HATJ	**Hateruma jima**	**1.47**	**114**	P	**Pn**	**04 08 11.7**	**+0.3**
HATJ				*e*S	**Sn**	**04 08 30.5**	**+0.4**
JKRS	**Kuro-shima**	**1.59**	**105**	P	**Pn**	**04 08 13.0**	**0.0**
JKRS				*e*S	**Sn**	**04 08 31.0**	**-1.9**
JIJ	**Ishigaki jima**	**1.68**	**100**	P	**Pn**	**04 08 13.6**	**-0.7**
JIJ				*e*S	**Sn**	**04 08 35.1**	**-0.1**
JTJ	**Tarama**	**2.15**	**90**	P	**Pn**	**04 08 20.7**	**-0.5**
QZH	**Quanzhou**	**3.41**	**275**	*e*P	**Pn**	**04 08 38.7**	**-0.4**
QZH				PG	**Pn**	**04 08 46.9**	**+7.8**
QZH				S	**Sn**	**04 09 13.3**	**-6.0**
QZH				Smax			
	comp=N,470nm,0.8s						
QZH				Smax			
	comp=E,450nm,1.2s						
QZH				LR	LR		
	comp=N,2μm,9.8s						
QZH				LR	LR		
	comp=E,1μm,8.9s						
QZH				LR	LR		
	comp=Z,2μm,11.1s						
JOW	**Kunigami**	**5.77**	**67**	Pn	**Pn**	**04 09 12.8**	**+0.3**
	comp=Z,1.6nm,0.3s,baz=242,slow=12,SNR=4.5						
NJ2	**Nanjing**	**7.96**	**338**	*e*P	**Pn**	**04 09 43.0**	**-0.3**
NJ2				S	**Sn**	**04 11 12.5**	**-1.1**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
NJ2				Smax			
	comp=N,360nm,0.9s						
NJ2				Smax			
	comp=E,320nm,0.9s						
NJ2				LR	LR		
	comp=N,2μm,12.8s						
NJ2				LR	LR		
	comp=E,2μm,14.0s						
NJ2				LR	LR		
	comp=Z,620nm,12.8s						
JNU	**Nakatsue**	**11.26**	**40**	LR	LR	04 15 55.7	
	comp=Z,124nm,18.5s,baz=201,slow=43						
MJAR	**Matsushiro Arr**	**18.04**	**45**	P	**P**	**04 11 60.0**	**+3.0**
	comp=Z,0.3nm,0.3s,baz=230,slow=14,SNR=3.1						
MJAR				LR	LR	04 19 35.4	
	comp=Z,130nm,19.1s,baz=335,slow=39						
CN2	**Changchun**	**19.25**	**7**	⇑P	**P**	**04 12 11.6**	**+0.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s						
GTA	**Gaotai**	**24.00**	**313**	*e*P	**P**	**04 13 01.0**	**+1.2**
GTA				AP		04 13 05.5	
GTA				XP		04 13 08.2	
GTA				AMB	AMB		
	comp=Z,2.0nm,0.6s,mb3.7						
ASAJ	**Asahikawa**	**25.49**	**35**	LR	LR	04 23 34.0	
	comp=Z,163nm,18.5s,MS3.6,baz=41,slow=37						
SONM	**Songino Array**	**26.34**	**335**	P	**P**	**04 13 23.4**	**+1.5**
	comp=Z,2.6nm,0.9s,mb3.8,baz=156,slow=9.2,SNR=9.7						
MKAR	**Makanchi Array**	**38.73**	**315**	P	**P**	**04 15 09.5**	**-0.5**
	comp=Z,0.3nm,0.4s,mb3.4,baz=100,slow=9.9,SNR=4.5						
WRAB	**Tennant Creek**	**45.85**	**164**	*e*P	**P**	**04 16 08.3**	**-0.1**
	comp=Z,8.6nm,0.8s,mb4.7						
WRAB				*e*		04 16 13.3	
WRA	**Warramunga Arr**	**45.86**	**164**	P	**P**	**04 16 08.8**	**+0.4**
	comp=Z,7.9nm,0.5s,mb4.9,baz=346,slow=8.7,SNR=170						
WB2	**Warramunga Arr**	**45.86**	**164**	*e*P	**P**	**04 16 08.7**	**+0.2**
FINES	**FINESS Array B**	**71.56**	**330**	LR	LR	04 52 56.5	
	comp=Z,43nm,19.2s,MS3.7,baz=252,slow=38						

GUC 10 04:14:49.5±0.6,34.60S×70.28W,h18km±3km,MD3.6, ML2.4,7C-3D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCH	**Chadas Angostu**	**0.73**	**335**	⇓*iP*	Pb	04 15 03.2	-0.2
CHCH				*i* S	Sb	04 15 13.4	+0.6
LMEL	**Las Melosas**	**0.75**	**5**	⇑*iP*	Pb	04 15 03.5	-0.2
LMEL				*i* S	Sb	04 15 14.1	+0.7
LMEL				AMP		04 15 16.1	
	comp=E,327nm,0.1s						
PCH	**Pirque**	**0.99**	**349**	⇑*iP*	Pb	04 15 08.0	+0.1
PCH				*i* S	Sb	04 15 22.0	+1.6
ANTU	**Antumapu**	**1.06**	**344**	*e*P	Pb	04 15 08.9	-0.2
ANTU				*i* S	Sb	04 15 23.9	+1.4
ANTU				AMP		04 15 24.7	
	comp=N,142nm,0.2s						
TACH	**Talagante**	**1.09**	**330**	⇓*iP*	Pb	04 15 09.3	-0.2
TACH				*i* S	Sb	04 15 24.5	+1.3
LNV	**Longovilo**	**1.13**	**304**	⇓*iP*	Pb	04 15 09.7	-0.5
LNV				*i* S	Sb	04 15 24.5	0.0
RCDM	**Rinconada Maip**	**1.19**	**338**	*i* P	Pb	04 15 10.8	-0.3
RCDM				*i* S	Sb	04 15 27.1	+1.1
RCDM				AMP		04 15 27.4	
	comp=E,184nm,0.3s						
CLCH	**Cerro Calan**	**1.22**	**350**	⇑*iP*	Pb	04 15 11.8	+0.2
CLCH				*i* S	Sb	04 15 28.4	+1.4
CLCH				AMP		04 15 35.5	
	comp=E,125nm,0.7s						
FCH	**Farellones**	**1.27**	**360**	⇑*iP*	Pn	04 15 12.8	+0.4
FCH				*i* S	Sb	04 15 30.2	+1.9
FCH				AMP		04 15 32.2	
	comp=E,108nm,0.2s						
LCCH	**Las Cruces**	**1.55**	**316**	⇑*iP*	Pn	04 15 16.9	+0.5
LCCH				*i* S	Sn	04 15 37.4	+1.3
ROCH	**El Roble**	**1.73**	**339**	⇑*iP*	Pn	04 15 20.3	+1.2
ROCH				*i* S	Sn	04 15 44.2	+3.4
JACH	**Jahuel**	**1.93**	**352**	⇑*iP*	Pn	04 15 23.8	+1.9
JACH				*i* S	Sn	04 15 49.5	+3.7

JMA ***10*** *04:45:03.9±0.4,33.39N×142.42E,h95km,M3.2*
IDC ***10*** *04:45:07.0±0.9,33.34N×142.49E,h36km±7km,mb3.3/6, mb1 3.7/9,mb1mx3.6/21,mbtmp3.6/9,ML3.8/3,MS2.5/1, Ms1 2.5/1,ms1mx2.0/13,Error ellipse: s-maj=20.8km s-min=19.6km az=176.0*
ISC 10 04:45:04.8±0.7,33.36N±0.05×142.41E±0.06,h38km, h38km±.9km:pP-P,n21,σ1§05/28,mb3.7/7,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.75**	**318**	P	**P**	**04 45 32.9**	**-0.3**
BSO1				*e*S	**S**	**04 45 55.8**	**+1.3**
BSO2	**Boso 2**	**1.95**	**316**	*e*S	**S**	**04 46 01.5**	**+2.0**
BSO3	**Boso 3**	**2.13**	**313**	P	**P**	**04 45 38.6**	**0.0**
JHJ2	**Mitsune**	**2.18**	**264**	P	**P**	**04 45 39.9**	**+0.5**
JHJ2				*e*S	**S**	**04 46 05.8**	**+0.4**
JHJ	**Hachijo jima 2**	**2.21**	**264**	Pn	**P**	**04 45 39.8**	**0.0**
	37nm,0.3s,baz=108,slow=9.1,SNR=26						
JHJ				Sn	**S**	**04 46 05.9**	**-0.2**
	39nm,0.3s,baz=60,slow=23,SNR=12						
BSO4	**Boso 4**	**2.36**	**314**	P	**P**	**04 45 42.4**	**+0.5**
CHOJ	**Chosi**	**2.66**	**332**	P	**P**	**04 45 45.6**	**-0.6**
CHOJ				*e*S	**S**	**04 46 16.5**	**-1.1**
JIM2	**Oshima 3**	**2.81**	**300**	P	**P**	**04 45 47.4**	**-1.0**
JIM2				*e*S	**S**	**04 46 20.4**	**-1.1**
JHO	**Hitachi**	**3.58**	**336**	P	**P**	**04 45 57.2**	**-2.0**
JAG	**Ashikaga**	**3.90**	**322**	P	**P**	**04 46 02.9**	**-0.9**
MJAR	**Matsushiro Arr**	**4.68**	**314**	Pn	**P**	**04 46 14.8**	**-0.1**
	1.6nm,0.3s,baz=159,slow=14,SNR=9.1						
MJAR				Sn	**S**	**04 47 09.7**	**+0.9**
	2.4nm,0.3s,baz=300,slow=44,SNR=6.3						
MAT	**Matsushiro**	**4.69**	**314**	P	**P**	**04 46 15.0**	**0.0**
MAT				S	**S**	**04 47 07.5**	**-1.3**
CBIJ	**Chichi jima**	**6.25**	**182**	Pn	**P**	**04 46 35.0**	**-1.9**
	9.7nm,0.3s,baz=138,slow=23,SNR=4.3						
CBIJ				Sn	**S**	**04 47 39.1**	**-8.8**
	6.0nm,0.3s,baz=165,slow=22,SNR=2.8						
ASAJ	**Asahikawa**	**10.74**	**1**	LR	LR	04 52 01.1	
	comp=Z,26nm,21.4s,baz=0.9,slow=38						
SONM	**Songino Array**	**30.62**	**309**	P	**P**	**04 51 19.2**	**+1.8**
	0.4nm,0.6s,mb3.4,baz=120,slow=9.4,SNR=3.0						
KAKA	**Kakadu**	**46.79**	**193**	*e*P	**P**	**04 53 47.0**	**+14**
	3.9nm,0.3s,mb4.8						
MKAR	**Makanchi Array**	**46.83**	**305**	P	**P**	**04 53 34.2**	**+1.6**
	0.3nm,0.5s,mb3.5,baz=91,slow=8.6,SNR=2.7						
ILAR	**Eielson Array**	**52.19**	**31**	P	**P**	**04 54 12.8**	**-0.7**
	0.5nm,0.6s,mb3.6,baz=260,slow=6.2,SNR=13						
ILAR				pP	pP	04 54 23.6	-0.8
	0.5nm,0.7s,baz=265,slow=5.7,SNR=5.9						
WRA	**Warramunga Arr**	**53.56**	**189**	P	**P**	**04 54 24.8**	**+0.4**
	0.3nm,0.4s,mb3.5,baz=6.0,slow=7.7,SNR=7.0						
PDAR	**Pinedale Array**	**79.66**	**45**	P	**P**	**04 57 10.5**	**+0.6**
	0.1nm,0.3s,mb3.2,baz=243,slow=4.0,SNR=2.7						
PDAR				pP	pP	04 57 22.5	+1.1
	0.3nm,0.6s,baz=333,slow=3.3,SNR=3.0						
TXAR	**Lajitas Array**	**91.70**	**53**	P	**P**	**04 58 11.2**	**+1.4**
	0.3nm,0.5s,mb3.8,baz=320,slow=3.6,SNR=6.2						
TXAR				pP	pP	04 58 22.6	+1.1
	0.7nm,0.6s,baz=304,slow=3.2,SNR=12						

IDC 10 05:08:19.8±4.3,7.57N×92.11E,mb3.8/4,mb1 4.0/4, mb1mx3.7/20,mbtmp3.8/4,Error ellipse: s-maj=159.4km s-min=25.6km az=63.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**39.98**	**349**	P	P	05 15 56.1	-1.8
	0.4nm,0.6s,baz=171,slow=9.1,SNR=4.6						
FITZ	**Fitzroy Crossi**	**41.78**	**128**	P	P	05 16 11.9	-1.2
	6.4nm,0.9s,baz=329,slow=5.9,SNR=3.7						
SONM	**Songino Array**	**41.93**	**14**	P	P	05 16 12.3	-1.6
	0.6nm,0.8s,baz=190,slow=9.0,SNR=4.4						
WRA	**Warramunga Arr**	**49.74**	**124**	P	P	05 17 13.9	-2.4
	0.7nm,0.8s,baz=302,slow=9.0,SNR=10.0						

NIED ***10*** *05:10:00,33.50N×142.40E,h8km,Mw4.1 Best double couple: M₀1.7×10¹⁵ NP1:φs179°,δ63°,λ-94°. NP2:φs8°, δ28°,λ-82°.*
MOS ***10*** *05:10:15.6±1.4,33.58N×142.96E,h23km,mb4.7/4,Error ellipse: s-maj=27.9km s-min=9.5km az=128.7*
IDC ***10*** *05:10:16.1±2.1,33.36N×142.53E,mb4.2/5,mb1 4.3/7,*

mb1mx4.1/21, mbtmp4.2/7, ML3.7/2, Error ellipse: s-maj=56.1km s-min=21.2km az=67.0

JMA ***10*** *05:10:19.5±0.5, 33.47N×142.38E, h67km, M3.7*

NEIC ***10*** *05:10:21.8±5.9, 33.28N×142.12E, h31km±39km, mb4.6/3, MW4.1(NIED), Error ellipse: s-maj=63.8km s-min=16.4km az=67.0*

ISC 10 05:10:18.9±0.7, 33.45N±0.05×142.42E±0.07, h33km, n31, σ0:93/36, mb4.3/10, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.70**	**315**	P	**P**	**05 10 46.8**	**+0.3**
BSO2	**Boso 2**	**1.90**	**314**	*e*S	**S**	**05 11 12.3**	**-0.1**
BSO3	**Boso 3**	**2.08**	**311**	P	**P**	**05 10 53.1**	**+1.1**
JHJ2	**Mitsune**	**2.21**	**262**	P	**P**	**05 10 54.3**	**+0.4**
JHJ2				*e*S	**S**	**05 11 21.0**	**+0.7**
JHJ	**Hachijo jima 2**	**2.24**	**262**	Pn	**Pn**	**05 10 54.5**	**+0.1**
	43nm,0.3s,baz=163,slow=8.7,SNR=26						
JHJ				Sn	**Sn**	**05 11 20.8**	**-0.4**
	96nm,0.3s,baz=247,slow=23,SNR=8.5						
BSO4	**Boso 4**	**2.31**	**312**	P	**P**	**05 10 56.4**	**+1.1**
JIM2	**Oshima 3**	**2.79**	**298**	P	**P**	**05 11 01.2**	**-0.9**
JOD2	**Odawara 2**	**3.30**	**304**	P	**P**	**05 11 08.8**	**-0.6**
JHO	**Hitachi**	**3.50**	**335**	P	**P**	**05 11 11.0**	**-1.3**
JYN	**Shimob**	**3.80**	**304**	P	**P**	**05 11 16.4**	**-0.1**
MJAR	**Matsushiro Arr**	**4.63**	**313**	Pn	**Pn**	**05 11 29.0**	**+0.5**
	3.8nm,0.3s,baz=135,slow=12,SNR=18						
MJAR				Sn	**Sn**	**05 12 21.1**	**-0.7**
	1.3nm,0.3s,baz=133,slow=18,SNR=4.0						
MAJO	**Matsushiro**	**4.63**	**313**	*e*P	**P**	**05 11 28.5**	**+0.1**
MAT	**Matsushiro**	**4.63**	**313**	P	**P**	**05 11 28.5**	**+0.1**
MAT				S	**S**	**05 12 20.5**	**-1.3**
MAT	**Matsushiro**	**4.63**	**313**	*e*P	**P**	**05 11 29.0**	**+0.6**
MAT				*e*S	**S**	**05 12 21.0**	**-0.8**
MDJ	**Mudanjiang**	**14.94**	**322**	*e*P	**P**	**05 13 44.9**	**-4.3**
PET	**Petropavlovsk**	**22.76**	**26**	*e*P	**P**	**05 15 13.0**	**-6.1**
CIT	**Chita**	**27.90**	**320**	*e*P	**P**	**05 16 06.9**	**-0.8**
ENH	**Enshi**	**28.09**	**273**	*e*P	**P**	**05 16 08.3**	**-1.3**
	5.4nm,0.7s,mb4.3						
SONM	**Songino Array**	**30.57**	**309**	P	**P**	**05 16 33.5**	**+1.9**
	2.4nm,0.9s,mb4.0,baz=112,slow=7.8,SNR=9.0						
ZAK	**Zakamensk**	**33.22**	**312**	*e*P	**P**	**05 16 55.7**	**+1.0**
ZAK				*e*		05 17 01.9	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.8						
ZAL	**Zalesovo**	**45.00**	**315**	P	**P**	**05 18 33.6**	**+1.0**
	comp=Z,2.2nm,0.4s,mb4.4,baz=349,slow=3.7,SNR=5.6						
NVS	**Novosibirsk**	**45.95**	**316**	*e*P	**P**	**05 18 38.3**	**-1.9**
MKAR	**Makanchi Array**	**46.79**	**305**	P	**P**	**05 18 47.6**	**+0.8**
	comp=Z,1.3nm,0.8s,mb3.9,baz=90,slow=8.3,SNR=9.7						
KURK	**Kurchatov**	**48.84**	**311**	*e*P	**P**	**05 19 02.4**	**-0.5**
	comp=Z,8.4nm,0.9s,mb4.8						
KURK	**Kurchatov**	**48.84**	**311**	*e*P	**P**	**05 19 02.4**	**-0.5**
KURK				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
WRAB	**Tennant Creek**	**53.64**	**189**	*e*P	**P**	**05 19 38.8**	**-0.7**
	comp=Z,9.5nm,1.1s,mb4.6						
WRAB	**Tennant Creek**	**53.64**	**189**	*e*P	**P**	**05 19 38.8**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
WRA	**Warramunga Arr**	**53.65**	**189**	P	**P**	**05 19 38.7**	**-0.9**
	comp=Z,1.6nm,0.7s,mb4.0,baz=9.4,slow=7.6,SNR=23						
AML	**Almayashu**	**53.68**	**301**	P	**P**	**05 19 41.6**	**+2.1**
	SNR=6.8						
BRVK	**Borovoye**	**53.69**	**315**	*e*P	**P**	**05 19 40.1**	**+0.7**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
FITZ	**Fitzroy Crossi**	**53.71**	**200**	P	**P**	**05 19 39.8**	**-0.3**
	comp=Z,16nm,1.1s,mb4.9,baz=10.0,slow=6.2,SNR=5.8						

NIED ***10*** *05:11:00, 43.90N×146.80E, h92km, Mw4.4 Best double couple: M0=4.69×10^15 NP1:φs=226°, δ79°, λ112°. NP2: φs=342°, δ25°, λ28°.*

BJI ***10*** *05:11:03.9, 44.04N×146.67E, h97km, mB4.9, mb4.8*

MOS ***10*** *05:11:03.5±1.0, 44.06N×146.73E, h92km, mb4.8/47, Error ellipse: s-maj=9.5km s-min=5.1km az=104.2*

MOS Felt (II) at Yuzhno-Kuril'sk.

SKHL ***10*** *05:11:04.2±1.6, 44.02N×146.83E, h96km±5km, mb5.4/1, msh5.2/2*

SKHL Felt (II) at Yushno-Kurilsk.

NEIC ***10*** *05:11:04.9±0.3, 44.04N×146.65E, mb4.7/48, Error ellipse: s-maj=6.9km s-min=5.3km az=148.0*

NEIC Felt [II] at Yuzhno-Kuril'sk.

IDC ***10*** *05:11:05.7±0.8, 44.08N×146.75E, h100km±6km, mb4.2/21, mb1 4.4/24, mb1mx4.3/27, mbtmp4.6/24, MS3.1/2, Ms1 3.1/2, ms1mx2.5/32, Error ellipse: s-maj=14.9km s-min=8.8km az=170.0*

JMA ***10*** *05:11:06.3±0.2, 43.90N×146.76E, h92km±2km, M4.2*

JMA Felt I J1.

ISC 10 05:11:04.2±0.4, 44.06N±0.03×146.78E±0.04, h99km±2km, h92km±3.3km: pP-P, n266, σ0:98/268, mb4.7/83, 31C-25D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**0.66**	**268**	*i*P	**P**	**05 11 21.0**	**-0.4**
YUK				*i*P		05 11 21.0	
YUK				AMB	AMB	05 11 21.8	
	7μm,0.7s						
YUK				AMB	AMB	05 11 21.8	
	20μm,0.7s						
YUK				AMB	AMB	05 11 24.0	
	8μm,0.4s						
YUK				AMB	AMB	05 11 24.0	
	9μm,0.4s						
YUK				AMB	AMB	05 11 24.0	
	17μm,0.4s						
YUK				*i*S	**S**	**05 11 33.5**	**-0.7**
YUK				A		05 11 35.0	
	130μm,0.7s						
YUK				A		05 11 35.0	
	38μm,0.7s						
YUK	**Yuzh-Kuril'sk**	**0.66**	**268**	α *i*PN	**P**	**05 11 21.0**	**-0.4**
YUK				*i*S	**S**	**05 11 33.5**	**-0.7**
YUK				pmax	pmax		
	comp=Z,10μm,0.8s						
YUK				pmax	pmax		
	comp=N,20μm,0.6s						
YUK				pmax	pmax		
	comp=E,7μm,0.6s						
YUK				pmax	pmax		
	comp=Z,17μm,0.4s						
YUK				pmax	pmax		
	comp=N,8μm,0.4s						
YUK				pmax	pmax		
	comp=E,9μm,0.4s						
YUK				smax			
	comp=N,130μm,0.8s						
YUK				smax			
	comp=E,38μm,0.6s						
NEM2	**Nemuro 2**	**1.02**	**228**	⇑P	**P**	**05 11 25.3**	**+0.2**
NEM2				*e*S	**S**	**05 11 39.3**	**-1.4**
JRA	**Rausu**	**1.20**	**265**	⇑P	**P**	**05 11 28.5**	**+1.2**
JRA				*e*S	**S**	**05 11 45.1**	**+0.6**
KUR	**Kuril'sk**	**1.41**	**33**	*i*P	**P**	**05 11 28.9**	**-0.8**
KUR				AMB	AMB	05 11 29.5	
	comp=E,160nm,0.4s						
KUR				AMB	AMB	05 11 29.5	
	comp=E,280nm,0.4s						
KUR				AMB	AMB	05 11 29.5	
	comp=E,900nm,0.4s						
KUR				AMB	AMB	05 11 29.9	
	comp=E,3μm,2.0s						
KUR				*i*S	**S**	**05 11 48.7**	**0.0**
KUR				A		05 11 50.1	
	comp=E,6μm,0.5s						
KUR				A		05 11 50.1	
	comp=E,8μm,0.5s						
KUR				A		05 11 50.2	
	comp=E,15μm,1.0s						
KUR	**Kuril'sk**	**1.41**	**33**	⇓*i*PN	**P**	**05 11 28.9**	**-0.8**
KUR				*i*S	**S**	**05 11 48.7**	**0.0**
KUR				pmax	pmax		
	comp=N,160nm,0.4s						
KUR				pmax	pmax		
	comp=E,280nm,0.4s						
KUR				pmax	pmax		
	comp=Z,900nm,0.4s						
KUR				pmax	pmax		
	comp=Z,3μm,2.0s						
KUR				smax			
	comp=N,6μm,0.5s						
KUR				smax			
	comp=E,8μm,0.5s						
KUR				smax			
	comp=N,15μm,1.0s						
KUR				smax			
	comp=E,15μm,1.0s						
JNK	**Nakash**	**1.57**	**253**	⇑P	**P**	**05 11 32.4**	**+0.7**
JAK	**Akkeshi**	**1.85**	**236**	⇑P	**P**	**05 11 35.4**	**+0.1**
JAK				*e*S	**S**	**05 11 57.5**	**-0.8**
JTKR	**Abashiri--Toko**	**2.08**	**269**	⇑P	**P**	**05 11 39.5**	**+1.3**
JTKR				*e*S	**S**	**05 12 03.8**	**+0.3**
JAR	**Ashorobuto**	**2.31**	**252**	⇓P	**P**	**05 11 43.0**	**+1.5**
JOB	**Onbets**	**2.44**	**243**	P	**P**	**05 11 43.9**	**+0.7**
JOB				*e*S	**S**	**05 12 12.4**	**+0.1**
JMP	**Maruseppu**	**2.47**	**270**	⇑P	**P**	**05 11 44.9**	**+1.2**
JMP				*e*S	**S**	**05 12 14.6**	**+1.5**
JCH	**Churui**	**2.88**	**241**	⇓P	**P**	**05 11 49.3**	**0.0**
JCH				*e*S	**S**	**05 12 21.9**	**-1.3**
JKK2	**Kamakawa 2**	**2.92**	**268**	P	**P**	**05 11 51.2**	**+1.4**
JKK2				*e*S	**S**	**05 12 26.2**	**+2.1**
ASAJ	**Asahikawa**	**3.02**	**273**	P	**P**	**05 11 52.9**	**+1.7**
	comp=E,74nm,0.3s,baz=77,slow=16,SNR=176						
ASAJ				S	**S**	**05 12 28.1**	**+1.6**
	comp=E,21nm,0.3s,baz=312,slow=16,SNR=9.4						
ASAJ				LR	LR	05 13 19.5	
	comp=E,337nm,19.9s,baz=359,slow=45						
ASAJ	**Asahikawa**	**3.02**	**273**	⇓P	**P**	**05 11 52.7**	**+1.5**
ASAJ				*e*S	**S**	**05 12 28.3**	**+1.8**
ASAJ	**Asahikawa**	**3.02**	**273**	PN	**P**	**05 11 52.9**	**+1.7**
ASAJ				S	**S**	**05 12 28.1**	**+1.6**
ASAJ				pmax	pmax		
	comp=Z,74nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,337nm,19.9s						
JSE	**Soyaes**	**3.14**	**288**	⇑P	**P**	**05 11 53.9**	**+1.1**
JFR	**Furan**	**3.17**	**255**	⇓P	**P**	**05 11 54.4**	**+1.1**
JFR				*e*S	**S**	**05 12 31.7**	**+1.4**
JNBK	**Urakawa-nobuka**	**3.44**	**240**	⇓P	**P**	**05 11 56.3**	**-0.7**
JNBK				*e*S	**S**	**05 12 33.7**	**-3.2**
YSS	**Yuzh-Sakhalins**	**4.05**	**317**	*e*P	**P**	**05 12 06.0**	**+0.7**
YSS				*e*S	**S**	**05 12 51.2**	**-0.7**
YSS				A		05 12 54.5	
	comp=Z,160nm,1.0s						
YSS				A		05 12 55.0	
	comp=Z,500nm,3.0s						
YSS	**Yuzh-Sakhalins**	**4.05**	**317**	*e*P	**P**	**05 12 06.3**	**+1.0**
TEY	**Ternei**	**7.34**	**281**	*e*P	**P**	**05 12 49.0**	**-1.4**
TEY				AMB	AMB	05 12 50.0	
	comp=Z,80nm,0.9s						
TEY				AMB	AMB	05 12 50.0	
	comp=Z,130nm,0.9s						
TYV	**Tymovskoe**	**7.36**	**339**	*e*P	**P**	**05 12 49.5**	**-1.2**
TYV				AMB	AMB	05 12 54.0	
	comp=Z,11nm,0.7s						
TYV				*e*S	**S**	**05 14 10.5**	**-2.7**
TYV				A		05 14 14.3	
	comp=Z,28nm,0.9s						
SKR	**Severo-Kuril's**	**9.16**	**40**	*e*P	**P**	**05 13 13.5**	**-1.6**
GRNR	**Gornyy**	**9.71**	**317**	*e*P	**P**	**05 13 19.0**	**-3.4**
GRNR				AMB	AMB	05 13 20.1	
	comp=Z,19nm,0.7s						
GRNR				AMB	AMB	05 13 20.1	
	comp=Z,24nm,0.7s						
GRNR				AMB	AMB	05 13 20.1	
	comp=Z,23nm,0.7s						
MAT	**Matsushiro**	**9.96**	**224**	P	**P**	**05 13 23.5**	**-2.2**
MAT				S	**S**	**05 15 11.0**	**-5.2**
MAT	**Matsushiro**	**9.96**	**224**	*e*P	**P**	**05 13 24.0**	**-1.7**
MAT				*e*S	**S**	**05 15 11.0**	**-5.2**
MJAR	**Matsushiro Arr**	**9.96**	**224**	P	**P**	**05 13 24.0**	**-1.7**
	comp=Z,2.0nm,0.3s,baz=29,slow=14,SNR=4.1						
KLR	**Kul'dur**	**11.55**	**302**	*e*P	**P**	**05 13 44.9**	**-2.1**
MDJ	**Mudanjiang**	**12.33**	**279**	P	**P**	**05 13 57.7**	**+0.4**
MDJ				AMB	AMB		
	comp=Z,17nm,0.7s						
MDJ				AMB	AMB		
	comp=Z,59nm,4.8s						
MDJ	**Mudanjiang**	**12.33**	**279**	*e*P	**P**	**05 13 56.7**	**-0.6**
EKMR	**Ekimchan**	**12.84**	**320**	*e*P	**P**	**05 14 00.5**	**-3.5**
EKMR				AMB	AMB	05 14 04.5	
	comp=Z,14nm,0.7s						
KS15	**Wonju Array Si**	**15.76**	**252**	*e*P	**P**	**05 14 35.8**	**-5.6**
BMKR	**Bomnak**	**15.77**	**319**	*e*P	**P**	**05 14 38.0**	**-3.5**
BMKR				AMB	AMB	05 14 39.4	
	comp=Z,11nm,0.5s						
ZEA	**Zeya**	**16.04**	**314**	*e*P	**P**	**05 14 42.7**	**-2.2**
ZEA				AMB	AMB	05 14 51.3	
	comp=Z,28nm,1.2s						
KROS	**Kirovskiy**	**16.53**	**316**	*e*P	**P**	**05 14 47.1**	**-3.9**
KROS				AMB	AMB	05 14 49.9	
	comp=Z,6.0nm,0.5s						
CLNS	**Chul'man**	**18.81**	**321**	*e*P	**P**	**05 15 12.9**	**-5.3**
CLNS				*e*S	**S**	**05 18 37.8**	**-3.3**
CLNS				pmax	pmax		
	comp=Z,13nm,0.8s						
CLNS				pmax	pmax		
	comp=N,8.0nm,0.7s						
CLNS				pmax	pmax		
	comp=E,8.0nm,0.6s						
CLNS				smax			
	comp=E,11nm,0.8s						
CLNS				smax			
	comp=Z,6.0nm,0.9s						
CLNS				smax			
	comp=N,12nm,0.7s						
SEY	**Seymchan**	**19.19**	**8**	*i*P	**P**	**05 15 21.1**	**-1.2**
HIA	**Hailar**	**19.22**	**295**	*e*P	**P**	**05 15 18.9**	**-3.9**
	comp=N,8.2nm,0.6s						
HIA	**Hailar**	**19.22**	**295**	*e*P	**P**	**05 15 18.9**	**-3.9**
HIA				pmax	pmax		
	comp=Z,8.0nm,0.6s						
FX1	**Attu Island--F**	**19.50**	**54**	P	**P**	**05 15 23.7**	**-2.0**
	comp=Z,2.5nm,0.3s,baz=308,slow=7.0,SNR=7.3						
FX1	**Attu Island--F**	**19.50**	**54**	P	**P**	**05 15 26.7**	**+1.0**
FX1	**Attu Island--F**	**19.50**	**54**	P	**P**	**05 15 23.7**	**-2.0**
FX1				pmax	pmax		
	comp=Z,3.0nm,0.3s						
YAK	**Yakutsk**	**20.61**	**337**	⇓*e*P	**P**	**05 15 34.7**	**-2.4**
YAK				pmax	pmax		
	comp=Z,27nm,0.8s						
TIA	**Tai'an**	**23.90**	**261**	*e*P	**P**	**05 16 09.6**	**+0.2**
SSE	**Sheshan**	**23.95**	**246**	P	**P**	**05 16 08.7**	**-1.3**
SSE				XP		05 16 41.9	
SSE				S	**S**	**05 20 14.1**	**-2.3**
SSE				XS		05 20 50.3	
SSE				AMB	AMB		
	comp=Z,29nm,0.7s,mb4.7						
SSE				AMB	AMB		
	comp=Z,39nm,3.3s						
SSE				LR	LR		
	comp=N,16nm,18.5s						
SSE				LR	LR		
	comp=E,33nm,18.6s						
SSE				LR	LR		
	comp=Z,36nm,15.7s						
NJ2	**Nanjing**	**24.92**	**251**	*e*P	**P**	**05 16 18.4**	**-1.0**
NJ2				AP		05 16 39.4	
NJ2				XP		05 16 51.2	
NJ2				PP	PP	05 16 59.6	-0.4
NJ2				S	**S**	**05 20 31.0**	**-1.8**
NJ2				XS		05 21 08.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,150nm,3.9s						
NJ2				LR	LR		
	comp=N,170nm,18.0s						
NJ2				LR	LR		
	comp=E,240nm,18.4s						
NJ2				LR	LR		
	comp=Z,160nm,14.7s						
HHC	**Hu-ho-hao-te**	**26.06**	**275**	*e*P	**P**	**05 16 30.6**	**+0.7**
HHC				AMB	AMB		
	comp=Z,34nm,0.9s,mb4.8						
BILL	**Bilibino**	**26.14**	**17**	*e*P	**P**	**05 16 30.7**	**+0.3**
BILL				*e*S	**S**	**05 20 56.2**	**+3.6**
BILL				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.0						
BTO	**Baotou**	**27.25**	**276**	*e*P	**P**	**05 16 41.2**	**+0.4**
BTO				AMB	AMB		
	comp=Z,21nm,0.5s,mb4.9						
SONM	**Songino Array**	**28.11**	**292**	P	**P**	**05 16 47.5**	**-1.0**
	comp=Z,6.3nm,0.6s,mb4.3,baz=82,slow=8.6,SNR=22						
XAN	**Xi'an**	**30.82**	**264**	P	**P**	**05 17 11.1**	**-1.7**
XAN				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.7						
LZH	**Lanzhou**	**33.50**	**271**	⇑P	**P**	**05 17 36.4**	**+0.4**
LZH				PP	PP	05 18 55.0	+4.0
LZH				S	**S**	**05 22 50.0**	**+0.5**
LZH				AMB	AMB		
	comp=Z,90nm,1.0s,mb5.5						
LZH				AMB	AMB		
	comp=Z,160nm,4.2s						
LZH				LR	LR		
	comp=E,840nm,16.1s						
LZH				LR	LR		
	comp=Z,760nm,20.0s						
GTA	**Gaotai**	**34.98**	**279**	⇑*i*P	**P**	**05 17 49.1**	**+0.5**
GTA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
CD2	**Chengdu**	**36.17**	**263**	⇓*i*P	**P**	**05 17 58.0**	**-0.8**
CD2				AMB	AMB		
	comp=Z,60nm,0.7s,mb5.6						
GYA	**Guiyang**	**36.74**	**255**	⇓*i*P	**P**	**05 18 02.2**	**-1.4**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
IMA	**Indian Mountai**	**38.58**	**34**	*e*P	**P**	**05 18 19.0**	**+0.6**
	comp=Z,15nm,0.6s,mb5.0						
IMA	**Indian Mountai**	**38.58**	**34**	*e*P	**P**	**05 18 19.0**	**+0.5**
IMA				pmax	pmax		
	comp=Z,15nm,0.6s,mb5.0						
KMI	**Kunming**	**40.33**	**257**	⇑P	**P**	**05 18 33.8**	**+0.4**
KMI				AMB	AMB		
	comp=Z,13nm,1.4s,mb4.6						
ZAL	**Zalesovo**	**40.62**	**307**	PcP	PcP	05 20 35.4	-0.9
	comp=Z,3.0nm,0.7s,baz=39,slow=3.5,SNR=9.8						
ILAR	**Eielson Array**	**41.40**	**36**	P	**P**	**05 18 42.1**	**+0.3**
	comp=Z,3.3nm,0.9s,mb4.2,baz=272,slow=7.5,SNR=25						
WMQ	**Urumqi**	**41.74**	**291**	P	**P**	**05 18 45.0**	**+0.3**
WMQ				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.7						
MKAR	**Makanchi Array**	**44.21**	**297**	P	**P**	**05 19 03.8**	**-1.0**
	comp=Z,7.0nm,0.6s,mb4.6,baz=80,slow=8.5,SNR=26						
MKAR				PcP	PcP	05 20 47.7	-0.6
	comp=Z,1.9nm,0.7s,baz=45,slow=1.7,SNR=4.4						
MKAR				LR	LR	05 38 17.6	
	comp=Z,26nm,20.9s,baz=1.2,slow=37						
LSA	**Lhasa**	**45.92**	**271**	P	**P**	**05 19 20.0**	**+1.4**
LSA	**Lhasa**	**45.92**	**271**	*e*P	**P**	**05 19 20.0**	**+1.4**
	comp=Z,37nm,1.0s,mb5.1						
LSA	**Lhasa**	**45.92**	**271**	*e*P	**P**	**05 19 20.0**	**+1.4**
LSA				pmax	pmax		
	comp=Z,37nm,1.0s,mb5.1						
INK	**Inuvik**	**46.27**	**30**	P	**P**	**05 19 20.5**	**-0.4**
	comp=Z,2.9nm,0.4s,mb4.3,baz=315,slow=8.5,SNR=40						
INK	**Inuvik**	**46.27**	**30**	*e*P	**P**	**05 19 20.7**	**-0.2**
VOSK	**Vostochnaya**	**48.88**	**308**	P	**P**	**05 19 39.7**	**-1.7**
BVAR	**Borovoye Array**	**49.10**	**309**	P	**P**	**05 19 41.6**	**-1.5**
	comp=Z,2.8nm,0.6s,mb4.4,baz=79,slow=10,SNR=15						
ULHL	**Ulahol**	**50.02**	**294**	P	**P**	**05 19 50.5**	**+0.2**
	SNR=10						
TKM2	**Tokmak 2**	**50.13**	**295**	P	**P**	**05 19 50.9**	**-0.2**
	SNR=7.9						
USP	**Ospenovka**	**50.69**	**296**	P	**P**	**05 19 55.2**	**-0.2**
	SNR=7.2						
KZA	**Kyzart**	**50.75**	**294**	P	**P**	**05 19 56.6**	**+0.7**
	SNR=9.1						
AAK	**Ala-Archa**	**50.99**	**295**	*d i*P	**P**	**05 19 56.2**	**-1.5**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.8						
KKN	**Kakani**	**51.23**	**273**	*e*P	**P**	**05 19 59.5**	**-0.2**
	comp=Z,30nm,0.8s,mb5.4						
PKI	**Pulchoki**	**51.27**	**273**	*e*P	**P**	**05 19 59.7**	**-0.3**
	comp=Z,68nm,1.2s,mb5.5						
EKS2	**Erkin-Say**	**51.44**	**296**	P	**P**	**05 20 01.1**	**0.0**
	SNR=16						
DMN	**Daman**	**51.47**	**273**	*e*P	**P**	**05 20 01.0**	**-0.5**
	comp=Z,82nm,1.1s,mb5.7						
GKN	**Gorkha**	**51.57**	**274**	*e*P	**P**	**05 20 01.7**	**-0.6**
	comp=Z,86nm,1.1s,mb5.7						
KOLN	**Koldanda**	**52.45**	**274**	*e*P	**P**	**05 20 08.7**	**-0.2**
	comp=Z,56nm,0.9s,mb5.6						
ARU	**Arti**	**53.94**	**317**	*e*P	**P**	**05 20 16.9**	**-2.5**
	comp=Z,9.4nm,0.6s,mb5.0						
ARU	**Arti**	**53.94**	**317**	⇑*i*P	**P**	**05 20 17.2**	**-2.2**
ARU				*e*		05 21 22.7	
ARU				*e*PPP	PPP	05 23 28.5	-6.4
ARU				*e*S	**S**	**05 27 44.7**	**-0.8**
ARU				*e*SS	SS	05 31 28.8	+1.3
ARU				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.8						
YKA	**Yellowknife Ar**	**55.70**	**34**	P	**P**	**05 20 32.1**	**0.0**
	comp=Z,1.8nm,0.8s,mb4.2,baz=304,slow=6.8,SNR=6.0						
YKA				pP	pP	05 20 56.5	+0.2
	comp=Z,1.2nm,0.6s,baz=298,slow=6.6,SNR=3.9						
YKA	**Yellowknife Ar**	**55.70**	**34**	P	**P**	**05 20 32.1**	**0.0**
YKA				pP	pP	05 20 56.5	+0.2
AB31	**Akbulak array**	**56.66**	**308**	*e*P	**P**	**05 20 37.6**	**-1.6**
AB31				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.8						
ARCES	**ARCESS Array B**	**58.87**	**339**	P	**P**	**05 20 51.7**	**-2.6**
	comp=Z,1.3nm,0.5s,mb4.2,baz=37,slow=6.1,SNR=11						
ARCES	**ARCESS Array B**	**58.87**	**339**	P	**P**	**05 20 51.7**	**-2.6**
SUMG	**Summit**	**63.61**	**2**	*e*P	**P**	**05 21 26.1**	**0.0**
	comp=Z,5.6nm,0.7s,mb4.5						
FINES	**FINESS Array B**	**64.48**	**333**	P	**P**	**05 21 30.2**	**-1.7**
	comp=Z,9.2nm,0.6s,mb4.8,baz=42,slow=7.9,SNR=34						
WRAB	**Tennant Creek**	**64.69**	**193**	*d i*P	**P**	**05 21 32.8**	**-1.1**
WB2	**Warramunga Arr**	**64.69**	**193**	*e*P	**P**	**05 21 32.6**	**-1.4**
WRA	**Warramunga Arr**	**64.70**	**193**	P	**P**	**05 21 32.6**	**-1.4**
	comp=Z,7.5nm,0.8s,mb4.6,baz=11,slow=6.7,SNR=22						
OBN	**Obninsk**	**64.91**	**323**	*i*P	**P**	**05 21 34.2**	**-0.6**
OBN				*e*		05 22 06.3	
OBN				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.7						
FCC	**Fort Churchill**	**65.89**	**30**	*e*P	**P**	**05 21 39.6**	**-1.4**
VRSR	**Storozhevoye**	**66.32**	**319**	*e*P	**P**	**05 21 43.5**	**-0.3**
VRSR				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
VRSR				pmax	pmax		
	comp=N,6.0nm,0.6s						
VRSR				pmax	pmax		
	comp=E,10.0nm,1.4s						
VRSR				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
VRSR				pmax	pmax		
	comp=N,6.0nm,0.6s						
VRSR				pmax	pmax		
	comp=E,10.0nm,1.4s						
CMB	**Columbia Colle**	**66.61**	**59**	*e*P	**P**	**05 21 46.2**	**+0.3**
	comp=E,2.7nm,0.8s,mb4.1						
CMB	**Columbia Colle**	**66.61**	**59**	*e*P	**P**	**05 21 46.2**	**+0.3**
CMB				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.2					

comp=Z,5.9nm,0.8s,mb4.4
MALT Malatya 75.57 310 *e*P **P 05 22 40.6 +1.1**
MALT pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
STKA Stephens Creek 75.72 185 P **P 05 22 40.0 -0.4**
comp=Z,1.9nm,0.6s,mb4.0,baz=321,slow=14,SNR=2.9
CRVS Cervenica-Dubn 75.78 326 *i* P **P 05 22 40.5 +0.1**
CFR Carcaliu 75.80 320 ⇓P **P 05 22 39.8 -0.8**
NIE Niedzica 75.82 327 *e*P **P 05 22 42.0 +1.3**
VRI Vrincioaia 75.91 321 ⇓P **P 05 22 42.7 +1.5**
KSP Ksiaz 76.17 330 *e*P **P 05 22 42.8 +0.2**
KSP Ksiaz 76.17 330 *e*P **P 05 22 42.6 0.0**
TIRR Tirgusor 76.21 320 ⇑P **P 05 22 43.3 +0.3**
HARR Harsova 76.26 320 ⇑P **P 05 22 42.6 -0.6**
OKC Ostrava-Krasne 76.31 329 *e*P **P 05 22 43.9 +0.5**
KECS Kecovo 76.51 327 *i* P **P 05 22 45.0 +0.5**
UPC Upice 76.55 330 *e*P **P 05 22 45.0 +0.3**
MLR Muntele Rosu 76.55 322 P **P 05 22 44.9 0.0**
comp=Z,8.1nm,0.6s,mb4.7,baz=288,slow=4.7,SNR=22
MLR Muntele Rosu 76.55 322 ⇓P **P 05 22 45.6 +0.7**
MLR Muntele Rosu 76.55 322 P **P 05 22 44.9 0.0**
MLR pmax pmax
comp=Z,8.0nm,0.6s
DPC Dobruska-Polom 76.57 330 *e*P **P 05 22 45.4 +0.6**
ISR Istrita 76.57 321 ⇑P **P 05 22 45.2 +0.2**
MORC Moravsky Berou 76.59 329 *e*P **P 05 22 45.2 +0.2**
comp=Z,4μm,4.7s
MORC Moravsky Berou 76.59 329 *e*P **P 05 22 45.2 +0.2**
MORC pmax pmax
comp=Z,4μm,4.7s
SNX Sinaia 76.85 322 ⇑P **P 05 22 47.0 +0.5**
CLL Collm 76.92 332 ⇓P **P 05 22 46.3 -0.5**
comp=Z,logA/T=1.5,mb5.0
CLL Collm 76.92 332 ⇓*i*P **P 05 22 46.3 -0.5**
comp=Z,29nm,0.9s,mb5.0
CLL Collm 76.92 332 ⇓*i*P **P 05 22 46.3 -0.5**
CLL pmax pmax
comp=Z,29nm,0.9s,mb5.0
DRGR 76.94 324 ⇑P **P 05 22 46.3 -0.7**
DRGR 76.94 324 ⇑P **P 05 22 46.3 -0.7**
VOIR 76.99 322 ⇓P **P 05 22 48.1 +0.8**
VOIR 76.99 322 ⇓P **P 05 22 48.1 +0.8**
ANMO Albuquerque 77.03 54 *i* P **P 05 22 50.2 +2.4**
PVCC Panska Ves 77.04 331 *e*P **P 05 22 47.8 +0.3**
BR131 Keskin Array S 77.14 313 *e*P **P 05 22 48.7 +0.5**
comp=Z,4.0nm,0.6s,mb4.3
BRTR Keskin Array B 77.14 313 P **P 05 22 48.6 +0.3**
comp=Z,5.1nm,0.6s,mb4.4,baz=73,slow=3.5,SNR=23
VYHS Vyhne 77.15 327 *i* P **P 05 22 48.5 +0.4**
PSZ Piszkesteto 77.20 327 *e*P **P 05 22 47.7 -0.6**
comp=Z,7.5nm,0.8s,mb4.5
PSZ Piszkesteto 77.20 327 *e*P **P 05 22 47.7 -0.7**
PSZ pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
CLZ Clausthal 77.32 334 *e*P **P 05 22 49.5 +0.5**
comp=Z,20nm,0.7s,mb5.0
CLZ Clausthal 77.32 334 *e*P **P 05 22 49.5 +0.5**
CLZ pmax pmax
comp=Z,20nm,0.7s,mb5.0
VRAC Vranov 77.33 329 P **P 05 22 49.7 +0.6**
comp=Z,11nm,0.9s,mb4.6,baz=32,slow=8.6,SNR=8.9
VRAC Vranov 77.33 329 P **P 05 22 49.7 +0.6**
VRAC pmax pmax
comp=Z,11nm,1.0s
SCHQ Schefferville 77.42 19 P **P 05 22 50.0 +0.5**
comp=Z,2.3nm,0.7s,mb4.0,slow=6.1,SNR=3.9
PRU Pruhonice 77.50 331 *e*P **P 05 22 50.6 +0.6**
MOX Moxa 77.95 333 *i* P **P 05 22 52.4 0.0**
MOX Moxa 77.95 333 *e*P **P 05 22 52.4 0.0**
NKC Novy Kostel 78.02 332 *e*P **P 05 22 52.9 0.0**
KHC Kasperske Hory 78.56 331 *e*P **P 05 22 56.4 +0.5**
GEC2 GERESS Array S 78.76 331 *e*P **P 05 22 57.0 0.0**
comp=Z,5.0nm,0.7s,mb4.5
GEC2 GERESS Array S 78.76 331 *e*P **P 05 22 57.0 0.0**
GEC2 pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
GERES GERESS Array B 78.76 331 P **P 05 22 57.0 0.0**
comp=Z,2.9nm,0.5s,mb4.3,baz=18,slow=4.2,SNR=22
WET Wettzell 78.80 331 *e*P **P 05 22 57.6 +0.4**
comp=Z,13nm,1.0s,mb4.7
WET Wettzell 78.80 331 *e*P **P 05 22 57.6 +0.4**
WET pmax pmax
comp=Z,13nm,1.0s,mb4.7
GRA1 Grafenberg Arr 78.89 332 *e*P **P 05 22 58.2 +0.5**
comp=Z,27nm,0.8s,mb5.1
GRF Grafenberg Arr 78.89 332 *e*P **P 05 22 58.2 +0.5**
comp=Z,27nm,0.8s,mb5.1
GRF Grafenberg Arr 78.89 332 *e*P **P 05 22 58.2 +0.5**
GRF pmax pmax
comp=Z,27nm,0.8s,mb5.1
GRF Grafenberg Arr 78.89 332 *e*P **P 05 22 58.2 +0.5**
GRF pmax pmax
comp=Z,27nm,0.8s,mb5.1
TNS Taunus Mts 79.33 334 *e*P **P 05 23 00.3 +0.2**
comp=Z,11nm,0.9s,mb4.7
TNS Taunus Mts 79.33 334 *e*P **P 05 23 00.3 +0.2**
TNS pmax pmax
comp=Z,11nm,0.9s,mb4.7
MOA Moln 79.40 330 ⇓*i*P **P 05 23 00.8 +0.3**
comp=Z,6.2nm,0.9s,mb4.4
FUR Furstenfeldbru 80.19 332 *e*P **P 05 23 05.3 +0.6**
comp=Z,15nm,0.8s,mb4.9
FUR Furstenfeldbru 80.19 332 *e*P **P 05 23 05.3 +0.6**
FUR pmax pmax
comp=Z,15nm,0.8s,mb4.9
DLF Lyons Farm 80.36 344 ⇑*i*P **P 05 23 05.9 +0.4**
KBA Koelnbreinsper 80.39 330 ⇑*i*P **P 05 23 06.8 +1.0**
comp=Z,16nm,0.8s,mb4.9
KBA Koelnbreinsper 80.39 330 ⇑*i*P **P 05 23 06.8 +1.0**
KBA pmax pmax
comp=Z,16nm,0.8s,mb4.9
GOLS Golise 80.43 328 *i* P **P 05 23 05.2 -0.9**
DCN Croghan 80.46 345 ⇑*i*P **P 05 23 06.3 +0.3**
GIVF Givet 80.53 336 *e*P **P 05 23 08.4 +1.9**
BAIF Baives 80.75 337 *e*P **P 05 23 07.4 -0.2**
WATA Walderalm 80.80 331 ⇑*i*P **P 05 23 08.6 +0.7**
comp=Z,12nm,1.2s,mb4.6
WATA Walderalm 80.80 331 ⇑*i*P **P 05 23 08.6 +0.7**
WATA pmax pmax
comp=Z,12nm,1.2s,mb4.6
WTTA Wattenberg 80.84 331 ⇓*i*P **P 05 23 08.7 +0.6**
comp=Z,14nm,1.4s,mb4.6
WTTA Wattenberg 80.84 331 ⇓*i*P **P 05 23 08.7 +0.6**
WTTA pmax pmax
comp=Z,14nm,1.4s,mb4.6
MOTA Moosalm 80.95 331 ⇓*i*P **P 05 23 09.2 +0.4**
comp=Z,11nm,1.1s,mb4.6
MOTA Moosalm 80.95 331 ⇓*i*P **P 05 23 09.2 +0.4**
MOTA pmax pmax
comp=Z,11nm,1.1s,mb4.6
SQTA Sankt Quirin 81.02 331 ⇑*i*P **P 05 23 09.9 +0.8**
comp=Z,4.2nm,0.8s,mb4.3
SQTA Sankt Quirin 81.02 331 ⇑*i*P **P 05 23 09.9 +0.8**
SQTA pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
BFO Black Forest 81.03 333 *e*P **P 05 23 09.0 -0.1**
comp=Z,7.0nm,0.8s,mb4.5
BFO Black Forest 81.03 333 *e*P **P 05 23 09.0 -0.1**
BFO pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
CDF Champ du Feu 81.29 334 *e*P **P 05 23 10.2 -0.3**
comp=Z,17nm,0.8s,mb4.6
CDF Champ du Feu 81.29 334 *e*P **P 05 23 10.2 -0.3**
CDF pmax pmax
comp=Z,8.0nm,0.8s,mb4.6
DAVA Damuels 81.42 332 ⇓*i*P **P 05 23 11.6 +0.4**
comp=Z,16nm,1.4s,mb4.7
DAVOX Davos 81.86 332 P **P 05 23 13.8 +0.3**
comp=Z,4.3nm,0.5s,mb4.5,baz=87,slow=2.7,SNR=9.5
MEZF Maizieres J'vi 81.90 335 *e*P **P 05 23 13.6 0.0**
HAU Haudompre 81.94 334 *e*P **P 05 23 13.4 -0.5**
HINF Hinteralfeld 81.95 334 *e*P **P 05 23 13.3 -0.6**
comp=Z,8.8nm,0.7s,mb4.4
HINF Hinteralfeld 81.95 334 *e*P **P 05 23 13.3 -0.6**
HINF pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
TXAR Lajitas Array 82.70 56 P **P 05 23 19.4 +1.2**
comp=Z,1.5nm,0.6s,mb4.0,baz=300,slow=4.1,SNR=29
TXAR pP pP 05 23 43.4 -0.7
comp=Z,2.2nm,0.9s,baz=300,slow=4.0,SNR=6.0
TXAR Lajitas Array 82.70 56 P **P 05 23 19.4 +1.2**
TXAR pP pP 05 23 43.4 -0.7
FLN La Foliniere 83.21 339 *e*P **P 05 23 20.2 -0.1**
comp=Z,9.2nm,0.7s,mb4.4
FLN La Foliniere 83.21 339 *e*P **P 05 23 20.2 -0.1**
FLN pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
CABF La Chapelle 83.26 334 *e*P **P 05 23 20.7 +0.1**
comp=Z,6.6nm,0.8s,mb4.2
CABF La Chapelle 83.26 334 *e*P **P 05 23 20.7 +0.1**
CABF pmax pmax
comp=Z,3.0nm,0.8s,mb4.2
LOR Lormes 83.36 336 *e*P **P 05 23 20.9 -0.2**
comp=Z,14nm,0.8s,mb4.5
LOR Lormes 83.36 336 *e*P **P 05 23 20.9 -0.2**
LOR pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
SSF Saint Saulge 83.65 336 *e*P **P 05 23 22.5 0.0**
comp=Z,4.5nm,0.9s,mb4.3
SSF Saint Saulge 83.65 336 *e*P **P 05 23 22.5 0.0**
SSF pmax pmax
comp=Z,5.0nm,0.9s,mb4.3
GRR Gorron 83.65 339 *e*P **P 05 23 22.7 +0.2**
comp=Z,18nm,0.8s,mb4.7
GRR Gorron 83.65 339 *e*P **P 05 23 22.7 +0.2**
GRR pmax pmax
comp=Z,9.0nm,0.8s,mb4.7
SMF Signal de Mont 83.92 335 *e*P **P 05 23 24.0 +0.1**
comp=Z,26nm,0.9s,mb4.8
SMF Signal de Mont 83.92 335 *e*P **P 05 23 24.0 +0.1**
SMF pmax pmax
comp=Z,13nm,0.9s,mb4.8
AVF Avril sur Loir 83.94 336 *e*P **P 05 23 24.1 +0.2**
comp=Z,18nm,0.8s,mb4.6
AVF Avril sur Loir 83.94 336 *e*P **P 05 23 24.1 +0.2**
AVF pmax pmax
comp=Z,9.0nm,0.8s,mb4.7
LPL La Plagne 84.02 333 *e*P **P 05 23 25.1 +0.7**
comp=Z,14nm,0.9s,mb4.5
LPL La Plagne 84.02 333 *e*P **P 05 23 25.1 +0.7**
LPL pmax pmax
comp=Z,7.0nm,0.9s,mb4.5
LPG La Plagne 84.03 333 *e*P **P 05 23 25.3 +0.9**
comp=Z,20nm,0.9s,mb4.6
LPG La Plagne 84.03 333 *e*P **P 05 23 25.3 +0.9**
LPG pmax pmax
comp=Z,10.0nm,0.9s,mb4.7
SGMF Saint Gilles 84.20 340 *e*P **P 05 23 25.9 +0.7**
comp=Z,38nm,1.0s,mb4.9
SGMF Saint Gilles 84.20 340 *e*P **P 05 23 25.9 +0.7**
SGMF pmax pmax
comp=Z,19nm,1.0s,mb4.9
ROSF Rostrenen 84.30 340 *e*P **P 05 23 26.5 +0.8**
comp=Z,28nm,0.9s,mb4.8
ROSF Rostrenen 84.30 340 *e*P **P 05 23 26.5 +0.8**
ROSF pmax pmax
comp=Z,14nm,0.9s,mb4.8
MBDF Montbardon 84.71 333 *e*P **P 05 23 29.1 +1.3**
TCF Toulx Ste Croi 84.73 336 *e*P **P 05 23 28.5 +0.6**
ORIF Oris-en-Rattie 84.83 333 *e*P **P 05 23 29.1 +0.6**
comp=Z,9.2nm,0.8s,mb4.5
ORIF Oris-en-Rattie 84.83 333 *e*P **P 05 23 29.1 +0.6**
ORIF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
IDI Anoyia 85.02 316 P **P 05 23 29.4 -0.2**
comp=Z,8.0nm,0.5s,mb5.0,baz=3.6,slow=4.4,SNR=9.7
MFF Saint Martin d 85.11 338 *e*P **P 05 23 30.2 +0.4**
comp=Z,19nm,0.9s,mb4.7
MFF Saint Martin d 85.11 338 *e*P **P 05 23 30.2 +0.4**
MFF pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
VIVF Saint-Julien-l 85.27 334 *e*P **P 05 23 31.3 +0.7**
RJF Les Rejaudoux 85.83 336 *e*P **P 05 23 33.9 +0.6**
CAF Calviac 86.01 336 *e*P **P 05 23 35.4 +1.2**
comp=Z,23nm,1.0s,mb4.8
CAF Calviac 86.01 336 *e*P **P 05 23 35.4 +1.2**
CAF pmax pmax
comp=Z,11nm,1.0s,mb4.7
LMR La Mourre 86.03 332 *e*P **P 05 23 34.4 0.0**
comp=Z,22nm,1.0s,mb4.7
LMR La Mourre 86.03 332 *e*P **P 05 23 34.4 0.0**
LMR pmax pmax
comp=Z,11nm,1.0s,mb4.7
EPF Esparros 88.25 336 *e*P **P 05 23 47.2 +2.1**
comp=Z,4.5nm,0.6s,mb4.4
EPF Esparros 88.25 336 *e*P **P 05 23 47.2 +2.1**
EPF pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
ETSF Etsaut 88.63 337 *e*P **P 05 23 49.0 +2.1**
comp=Z,4.3nm,0.7s,mb4.3
ETSF Etsaut 88.63 337 *e*P **P 05 23 49.0 +2.1**
ETSF pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
SNAA Sanae 148.66 198 P PKPdf 05 30 40.0 +5.6
SNAA Sanae 148.66 198 *e* PKPdf 05 30 44.0 +10
SNAA Sanae 148.66 198 *e* PKPdf 05 30 46.4 +12
SNAA Sanae 148.66 198 *e* PKPdf 05 30 55.6 +21
SNAA Sanae 148.66 198 *e* PKPdf 05 31 06.8 +32
SNAA Sanae 148.66 198 *e* PKPdf 05 31 11.5 +37
SNAA Sanae 148.66 198 PKPbc PKPdf 05 30 40.5 +6.1
comp=Z,0.5nm,0.7s,baz=311,slow=9.3,SNR=4.4
SNAA Sanae 148.66 198 PKP2 PKPab 05 30 40.5 -3.9
SNAA pmax pmax
comp=Z,1.0nm,0.7s
BDFB Brasilia 149.01 29 PKPbc PKPdf 05 30 43.0 +6.5
comp=Z,2.2nm,0.7s,baz=39,slow=6.5,SNR=3.1
VNA2 Neumayer--Watz 150.20 197 ⇑*i*P PKPdf 05 30 43.9 +7.0
VNA2 Neumayer--Watz 150.20 197 *e* PKPdf 05 30 48.3 +11
VNA2 Neumayer--Watz 150.20 197 *e* PKPdf 05 30 50.3 +13
VNA2 Neumayer--Watz 150.20 197 *e* PKPdf 05 30 58.5 +22
VNA2 Neumayer--Watz 150.20 197 *e* PKPdf 05 31 12.1 +35
VNA2 Neumayer--Watz 150.20 197 *e* PKPdf 05 31 13.6 +37
VNA2 Neumayer--Watz 150.20 197 *e* PKPdf 05 31 27.2 +50
VNA1 Neumayer--Stat 150.60 197 ⇑*i*P PKPdf 05 30 47.3 +10
VNA1 Neumayer--Stat 150.60 197 *e* PKPdf 05 30 51.4 +14
VNA1 Neumayer--Stat 150.60 197 *e* PKPdf 05 30 53.4 +16
VNA1 Neumayer--Stat 150.60 197 *e* PKPdf 05 31 02.2 +25
VNA1 Neumayer--Stat 150.60 197 *e* PKPdf 05 31 13.4 +36
VNA1 Neumayer--Stat 150.60 197 *e* PKPdf 05 31 16.3 +39
VNA1 Neumayer--Stat 150.60 197 *e* PKPdf 05 31 28.1 +51
PLCA Paso Flores 152.38 96 PKPbc PKPdf 05 30 49.1 +8.1
comp=Z,3.0nm,1.0s,baz=162,slow=3.3,SNR=3.8

IDC 10 05:22:02.5±4.2, 7.49N×94.64E, mb3.4/3, mb1 3.5/3, mb1mx3.4/19, mbtmp3.4/3, Error ellipse: s-maj=152.0km s-min=30.9km az=62.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**40.57**	**347**	P	P	05 29 44.0	-1.4
	0.7nm,0.8s,baz=172,slow=8.6,SNR=4.8						
SONM	**Songino Array**	**41.43**	**12**	P	P	05 29 50.5	-1.9
	0.2nm,0.4s,baz=198,slow=6.8,SNR=2.3						
WRA	**Warramunga Arr**	**47.64**	**126**	P	P	05 30 40.8	-1.9
	0.5nm,0.7s,baz=300,slow=8.9,SNR=5.4						

IDC 10 05:26:54.0±1.2, 3.72N×126.91E, mb3.8/6, mb1 4.0/6, mb1mx3.8/18, mbtmp3.9/6, Error ellipse: s-maj=90.7km s-min=19.1km az=72.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.72**	**183**	P	P	05 31 46.9	-2.0
	2.8nm,0.6s,baz=2.2,slow=8.1,SNR=5.9						
WRA	**Warramunga Arr**	**24.62**	**163**	P	P	05 32 15.8	-1.6
	2.3nm,0.6s,baz=343,slow=10,SNR=29						
WB2	**Warramunga Arr**	**24.62**	**163**	*e*P	P	05 32 15.3	-2.2
STKA	**Stephens Creek**	**38.06**	**160**	P	P	05 34 14.9	-1.2
	1.9nm,0.6s,baz=342,slow=10.0,SNR=3.9						
SONM	**Songino Array**	**47.36**	**341**	P	P	05 35 29.7	-1.9
	0.4nm,0.6s,baz=141,slow=9.4,SNR=4.4						
MKAR	**Makanchi Array**	**57.67**	**325**	P	P	05 36 46.4	-2.2
	0.5nm,0.5s,baz=120,slow=7.6,SNR=11						
ARCES	**ARCESS Array B**	**90.52**	**340**	P	P	05 39 57.2	-1.5
	1.1nm,0.9s,baz=90,slow=8.5,SNR=3.8						

*ATH **10** 05:36:59.8, 40.39N×23.51E, h38km, MD2.9/3*
*NEIC **10** 05:36:59.8, 40.39N×23.51E, h38km, MD2.9(ATH), After ATH.*
*THE **10** 05:37:01.1, 40.38N×23.75E, h1km, ML2.5*
*CSEM **10** 05:37:01.3±0.1, 40.40N×23.77E, h2km, MD2.9, Error ellipse: s-maj=2.0km s-min=1.6km az=65.0*
ISC 10 05:37:00.3±0.4, 40.38N±0.02×23.74E±0.03, h9km±5km, n15, σ0§64/25, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.19**	**104**	*e*Pg	**Pg**	**05 37 04.9**	**+0.5**
OUR				*e*Sg	**Sg**	**05 37 07.0**	**-0.1**
PLG	**Polygyros**	**0.23**	**269**	*e*PB	**Pb**	**05 37 05.9**	**-0.2**
PLG				*e*SB	**Sb**	**05 37 10.2**	**+0.3**
PAIG	**Paliouri**	**0.45**	**186**	*e*Pg	**Pg**	**05 37 10.2**	**+0.7**
PAIG				*e*Sg	**Sg**	**05 37 16.3**	**+0.7**
SOH	**Sokhos**	**0.53**	**326**	*e*Pg	**Pg**	**05 37 11.2**	**+0.1**
SOH				*e*Sg	**Sg**	**05 37 18.5**	**+0.3**
THE	**Thessaloniki**	**0.65**	**293**	*e*Pg	**Pg**	**05 37 13.9**	**+0.6**
THE				*e*Sg	**Sg**	**05 37 21.6**	**-0.3**
SRS	**Serrai**	**0.75**	**351**	*e*Pg	**Pg**	**05 37 14.6**	**-0.7**
SRS				*e*Sg	**Sg**	**05 37 25.3**	**0.0**
NVR	**Nevrokopi**	**0.97**	**5**	*e*PN	**Pn**	**05 37 18.7**	**-1.3**
LIT	**Litokhoron**	**1.00**	**254**	*e*Pg	**Pg**	**05 37 19.9**	**-0.4**
LIT				*e*Sg	**Sg**	**05 37 34.5**	**+0.8**
KNT	**Kendrikon**	**1.01**	**321**	*e*Pg	**Pg**	**05 37 20.8**	**+0.2**
XOR	**Xorichti**	**1.10**	**203**	*e*Pg	**Pg**	**05 37 21.8**	**-0.5**
XOR				*e*Sg	**Sg**	**05 37 36.9**	**0.0**
AOS	**Alonnisos**	**1.21**	**175**	*e*Pg	**Pg**	**05 37 22.8**	**-1.7**
AOS				*e*Sg	**Sg**	**05 37 40.7**	**0.0**
KZN	**Kozani**	**1.51**	**268**	*e*PN	**Pn**	**05 37 23.7**	**-3.9**
RDO	**Rodhopi**	**1.56**	**60**	*e*PN	**Pn**	**05 37 28.8**	**+0.4**
RDO				*e*SN	**Sn**	**05 37 50.0**	**+1.1**
AGG	**Agios Georgios**	**1.74**	**219**	*e*Pb	**Pb**	**05 37 31.8**	**-0.2**
ALN	**Alexandroupoli**	**1.83**	**73**	*e*Pb	**Pb**	**05 37 33.3**	**-0.1**

*MAN **10** 05:43:28, 11.93N×126.16E, h10km, mb5.2, ML4.2, MS4.3*
MAN BORONGAN SAMAR - INTENSITY III PALO LEYTE - INTENSITY II.
*BJI **10** 05:43:28.5, 11.71N×125.89E, h16km, mB5.2, mb4.7, Ms5.1, Msz4.9*
*IDC **10** 05:43:28.7±0.5, 11.54N×125.37E, mb4.5/19, mb1 4.6/20, mb1mx4.5/26, mbtmp4.5/20, ML4.3/1, MS4.5/22, Ms1 4.5/22, ms1mx4.4/36, Error ellipse: s-maj=31.6km s-min=11.9km az=71.0*
*HRVD **10** 05:43:30.1±0.2, 11.76N×126.06E, h12km, MW5.3/67, Centroid moment Tensor Solution. LP body waves: s49,c78; Mantle waves: s67,c135; Half duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.49±.01; $M_{\theta\theta}$0.01±.01; $M_{\phi\phi}$-0.49±.01; $M_{r\theta}$0.21±.04; $M_{\theta\phi}$-0.00±.01; $M_{\phi r}$0.79±.03; Best double couple: M_0.957×10^{17} NP1:φs169°, δ17°, λ67°. NP2:φs12°, δ75°, λ97°. Principal axes: T .965, Plg60°, Azm292°; N -.015, Plg6°, Azm191°; P -.949, Plg29°, Azm97°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **10** 05:43:30.1±0.3, 11.58N×125.48E, h10km, mb5.2/19 Error ellipse: s-maj=15.1km s-min=6.8km az=74.0*
NEIC Felt [II PIVS] at Borongan. Felt [I PIVS] at Tacloban, Leyte.
*MOS **10** 05:43:33.0±1.2, 11.57N×125.43E, h44km, mb5.0/33, MS4.6/20, Error ellipse: s-maj=15.4km s-min=6.9km az=109.3*
ISC 10 05:43:30.5±0.3, 11.84N±0.03×126.05E±0.04, h29km, h29km±1.9km: pP-P, n165, σ1§23/172, mb4.8/68, MS4.7/51, 10C-8D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**1.25**	**238**	*i* P	**Pn**	**05 43 52.1**	**-0.2**
PLP				*i* S	**Sn**	**05 44 08.2**	**0.0**
CNP	**Catarman**	**1.51**	**296**	*e*P	**Pn**	**05 43 56.0**	**0.0**
CNP				*e*S	**Sn**	**05 44 16.7**	**+1.8**
MSLP	**Maasin**	**2.06**	**215**	*e*P	**Pn**	**05 44 06.0**	**+2.1**
MSLP				*e*S	**Sn**	**05 44 33.1**	**+4.2**
SCPH	**Surigao**	**2.12**	**195**	⇑*e*P	**Pn**	**05 44 04.9**	**+0.2**
LLP	**Lapu-Lapu**	**2.54**	**234**	*e*P	**Pn**	**05 44 11.3**	**+0.5**
LLP				*e*S	**Sn**	**05 44 42.0**	**+0.9**
PVCP	**Virac**	**2.54**	**314**	*e*P	**Pn**	**05 44 09.7**	**-1.1**
PVCP				*e*S	**Sn**	**05 44 35.9**	**-5.3**
BUTP	**Butuan**	**2.88**	**188**	*e*P	**Pn**	**05 44 16.7**	**+1.1**
BUTP				*e*S	**Sn**	**05 44 57.3**	**+7.6**
TBP	**Tagbilaran**	**3.03**	**225**	*i* P	**Pn**	**05 44 17.9**	**+0.2**
TBP				*e*S	**Sn**	**05 44 57.3**	**+3.9**
RCP	**Roxas**	**3.25**	**265**	⇑*e*P	**Pn**	**05 44 21.7**	**+0.8**
GUIM	**Jordan**	**3.60**	**251**	*e*P	**Pn**	**05 44 27.1**	**+1.2**
CGP	**Cagayan de Oro**	**3.62**	**202**	⇓*e*P	**Pn**	**05 44 26.7**	**+0.6**
KALP	**Kalibo**	**3.64**	**268**	*e*P	**Pn**	**05 44 40.5**	**+14**
BIPH	**Bislig**	**3.65**	**175**	⇓*e*P	**Pn**	**05 44 24.6**	**-1.9**
SNPH	**Sibulan**	**3.71**	**228**	⇓*i*P	**Pn**	**05 44 29.6**	**+2.1**
BUKP	**Musuan**	**4.05**	**194**	*e*P	**Pn**	**05 44 33.8**	**+1.5**
BUKP				*e*S	**Sn**	**05 45 26.6**	**+7.2**
PAGZ	**Pagadian**	**4.76**	**214**	*e*P	**Pn**	**05 44 42.8**	**+0.5**
DAV	**Davao City (W)**	**4.76**	**186**	*e*P	**Pn**	**05 44 53.0**	**+11**
QZH	**Quanzhou**	**14.82**	**333**	P	**P**	**05 46 56.0**	**-4.1**
QZH				S	**S**	**05 49 50.5**	**+6.3**
QZH				LR	LR		
	comp=N,5μm,15.9s						
QZH				LR	LR		
	comp=E,4μm,14.6s						
QZH				LR	LR		
	comp=Z,4μm,15.2s						
JOW	**Kunigami**	**15.06**	**8**	Pn	**P**	**05 47 07.7**	**+4.4**
	comp=Z,2.3nm,0.3s,baz=176,slow=14,SNR=8.0						
GZH	**Guangzhou**	**16.48**	**314**	P	**P**	**05 47 21.6**	**+0.1**
GZH				S	**S**	**05 50 26.8**	**+4.0**
GZH				LR	LR		
	comp=N,3μm,18.7s						
GZH				LR	LR		
	comp=E,5μm,18.6s						
GZH				LR	LR		
	comp=Z,5μm,15.2s						
QIZ	**Qiongzhong**	**17.17**	**297**	P	**P**	**05 47 29.4**	**-0.8**
QIZ				*e*S	**S**	**05 50 32.4**	**-6.3**
QIZ				AMB	AMB		
	comp=Z,1μm,8.8s						
QIZ				LR	LR		
	comp=E,4μm,16.4s						
QIZ				LR	LR		
	comp=Z,3μm,16.4s						
KSM	**Kuching**	**18.70**	**238**	*e*P	**P**	**05 47 47.4**	**-1.8**
SSE	**Sheshan**	**19.68**	**348**	P	**P**	**05 48 00.4**	**-0.1**
SSE				XP		05 48 12.5	
SSE				S	**S**	**05 51 41.9**	**+6.7**
SSE				AMB	AMB		
	comp=Z,29nm,0.7s						
SSE				AMB	AMB		
	comp=Z,432nm,7.5s						
SSE				LR	LR		
	comp=N,529nm,16.4s						
SSE				LR	LR		
	comp=E,345nm,16.4s						
SSE				LR	LR		
	comp=Z,929nm,17.9s						
NJ2	**Nanjing**	**21.18**	**343**	*e*P	**P**	**05 48 17.6**	**+1.6**
NJ2				AP		05 48 26.7	
NJ2				XP		05 48 30.8	
NJ2				PP	PP	05 48 41.3	+1.8
NJ2				S	**S**	**05 52 07.0**	**+1.9**
NJ2				XS		05 52 22.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.2						
NJ2				AMB	AMB		
	comp=Z,370nm,10.3s						
NJ2				LR	LR		
	comp=N,3μm,12.5s,MS5.1						
NJ2				LR	LR		
	comp=E,4μm,14.2s,MS5.1						
NJ2				LR	LR		
	comp=Z,1μm,12.3s,MS4.4						
CBIJ	**Chichi jima**	**21.45**	**43**	LR	LR	05 56 33.3	
	comp=Z,1μm,19.3s,MS4.3,baz=333,slow=36						
WHN	**Wuhan**	**21.54**	**332**	⇓P	**P**	**05 48 20.8**	**+1.1**
WHN				AP		05 48 28.5	
WHN				S	**S**	**05 52 19.0**	**+7.1**
WHN				AMB	AMB		
	comp=Z,1μm,9.4s						
WHN				LR	LR		
	comp=N,4μm,12.6s,MS5.2						
WHN				LR	LR		
	comp=E,5μm,15.9s,MS5.2						
WHN				LR	LR		
	comp=Z,7μm,13.4s,MS5.2						
JNU	**Nakatsue**	**21.64**	**11**	LR	LR	05 56 43.7	
	comp=Z,773nm,18.0s,MS4.2,baz=154,slow=36						
GYA	**Guiyang**	**23.34**	**311**	⇑*i*P	**P**	**05 48 35.3**	**-2.2**
GYA				AP		05 48 44.8	
GYA				XP		05 48 48.6	
GYA				PP	PP	05 49 02.2	-6.8

GYA S **S** **05 52 51.5 +7.1**
GYA SS SS 05 53 29.7 -1.9
GYA AMB AMB
comp=Z,30nm,1.2s,mb4.6
GYA AMB AMB
comp=Z,880nm,8.1s
GYA LR LR
comp=N,3μm,14.0s,MS5.0
GYA LR LR
comp=E,3μm,14.4s,MS5.0
GYA LR LR
comp=Z,4μm,13.8s,MS5.0
ENH Enshi 23.93 323 *e*P **P** **05 48 43.9 +0.7**
comp=Z,63nm,1.3s,mb4.9
ENH LR LR
comp=Z,2μm,20.0s,MS4.6
JHJ Hachijo jima 2 24.64 29 LR LR 05 57 31.4
comp=Z,845nm,18.0s,MS4.3,baz=55,slow=33
KAKA Kakadu 25.20 165 *e*P **P** **05 49 04.4 +8.8**
comp=Z,64nm,0.6s,mb5.3
TIA Tai'an 25.57 343 *e*P **P** **05 48 58.8 0.0**
TIA S **S** **05 53 16.8 -5.5**
TIA LR LR
comp=N,540nm,11.7s,MS4.7
TIA LR LR
comp=E,1μm,12.3s,MS4.7
TIA LR LR
comp=E,3μm,13.0s
KMI Kunming 25.70 304 P **P** **05 49 00.4 +0.3**
KMI PP PP 05 49 43.3 +2.9
KMI PCP PcP 05 52 29.4 -1.3
KMI S **S** **05 53 21.2 -3.3**
KMI SS SS 05 54 29.1 -0.2
KMI AMB AMB
comp=Z,538nm,9.3s
KMI LR LR
comp=N,2μm,22.7s
KMI LR LR
comp=E,2μm,14.7s
KMI LR LR
comp=Z,2μm,15.5s
MAT Matsushiro 26.93 22 P **P** **05 49 15.0 +3.6**
MAT S **S** **05 53 57.0 +12**
MJAR Matsushiro Arr 26.93 22 LR LR 05 59 55.7
comp=Z,1μm,18.1s,MS4.5,baz=205,slow=36
XAN Xi'an 27.07 327 P **P** **05 49 12.1 -0.6**
XAN AP pP 05 49 19.4 -1.6
XAN S **S** **05 53 53.4 +6.5**
XAN AMB AMB
comp=Z,11nm,0.8s,mb4.4
XAN AMB AMB
comp=Z,283nm,9.9s
XAN LR LR
comp=N,1μm,15.6s,MS4.9
XAN LR LR
comp=E,2μm,14.6s,MS4.9
XAN LR LR
comp=Z,3μm,15.1s,MS5.0
CD2 Chengdu 28.02 316 P **P** **05 49 21.4 0.0**
CD2 PP PP 05 50 13.9 +2.4
CD2 PPP PPP 05 50 25.9 +2.3
CD2 S **S** **05 54 05.3 +2.9**
CD2 AMB AMB
comp=Z,20nm,1.3s,mb4.6
CD2 AMB AMB
comp=Z,350nm,13.2s
CD2 LR LR
comp=E,2μm,13.2s
CD2 LR LR
comp=Z,2μm,15.6s,MS4.8
FITZ Fitzroy Crossi 29.75 181 *e*P **P** **05 49 35.3 -1.7**
comp=Z,7.9nm,0.5s,mb4.7
FITZ Fitzroy Crossi 29.75 181 P **P** **05 49 35.4 -1.6**
comp=Z,32nm,1.1s,mb5.0,baz=6.8,slow=9.9,SNR=9.0
SNY Shenyang 29.95 356 ⇓P **P** **05 49 39.8 +1.2**
SNY AMB AMB
comp=Z,160nm,3.6s
SNY LR LR
comp=E,2μm,12.0s
SNY LR LR
comp=Z,1μm,11.7s,MS4.8
LZH Lanzhou 31.38 324 *e*P **P** **05 49 50.6 -0.6**
LZH AP pP 05 50 01.2 +1.5
LZH PP PP 05 50 51.0 -4.1
LZH S **S** **05 54 52.0 -3.6**
LZH XS 05 55 07.0
LZH SS SS 05 56 42.3 -1.3
LZH AMB AMB
comp=Z,42nm,1.2s,mb5.1
LZH AMB AMB
comp=Z,410nm,4.2s
LZH LR LR
comp=E,6μm,13.4s
LZH LR LR
comp=Z,9μm,14.2s,MS5.6
HHC Hu-ho-hao-te 31.58 339 *e*P **P** **05 49 52.0 -1.0**
HHC AP pP 05 49 59.8 -1.6
HHC XP sP 05 50 05.6 +0.4
HHC PP PP 05 50 58.6 +0.9
HHC S **S** **05 55 00.6 +1.9**
HHC XS 05 55 17.3
HHC SS SS 05 56 53.8 +5.4
HHC AMB AMB
comp=Z,15nm,0.5s,mb5.1
HHC AMB AMB
comp=Z,245nm,6.2s
HHC LR LR
comp=N,1μm,15.5s,MS4.8
HHC LR LR
comp=E,1μm,14.9s,MS4.8
HHC LR LR
comp=Z,1μm,14.9s,MS4.7
BTO Baotou 31.95 337 *e*P **P** **05 49 55.9 -0.2**
BTO AMB AMB
comp=Z,12nm,0.3s,mb5.2
BTO LR LR
comp=N,1μm,12.7s,MS4.9
BTO LR LR
comp=E,1μm,12.7s,MS4.9
WRAB Tennant Creek 32.61 165 *e*P **P** **05 49 59.8 -2.3**
comp=E,11nm,0.7s,mb4.9
WRAB LR LR
comp=Z,254nm,20.0s,MS3.9
WRAB Tennant Creek 32.61 165 *i*P **P** **05 50 02.7 +0.6**
WRA Warramunga Arr 32.62 165 P **P** **05 50 00.8 -1.4**
comp=Z,4.1nm,0.6s,mb4.5,baz=347,slow=9.4,SNR=18
WRA Warramunga Arr 32.62 165 P **P** **05 50 00.8 -1.4**
WRA pmax pmax
comp=Z,4.0nm,0.6s
WB2 Warramunga Arr 32.62 165 *e*P **P** **05 50 00.2 -2.0**
WB2 *e*S **S** **05 55 09.8 -5.3**
ASAJ Asahikawa 35.18 21 LR LR 06 05 19.4
comp=Z,723nm,19.1s,MS4.5,baz=194,slow=37
GTA Gaotai 35.98 324 *e*P **P** **05 50 31.6 +0.7**
GTA AP pP 05 50 36.5 -3.0
GTA XP sP 05 50 38.8 -4.3
GTA AMB AMB
comp=Z,9.0nm,1.4s,mb4.5
GTA AMB AMB
comp=Z,314nm,8.4s
GTA LR LR
comp=N,1μm,16.0s,MS4.9
GTA LR LR
comp=E,1μm,14.1s,MS4.9
GTA LR LR
comp=Z,2μm,15.6s,MS4.9
LSA Lhasa 36.96 304 P **P** **05 50 40.0 +0.8**
LSA Lhasa 36.96 304 *e*P **P** **05 50 38.1 -1.1**
comp=Z,30nm,1.2s,mb5.0
LSA Lhasa 36.96 304 *e*P **P** **05 50 38.1 -1.1**
LSA pmax pmax
comp=Z,30nm,1.2s,mb5.0
CTA Charters Tower 37.44 148 P **P** **05 50 44.6 +1.2**
comp=Z,7.2nm,1.1s,mb4.4,baz=315,slow=11,SNR=4.7
CTA LR LR 06 07 06.8
comp=Z,742nm,18.4s,MS4.5,baz=334,slow=38
CTA Charters Tower 37.44 148 P **P** **05 50 44.6 +1.2**
CTA pmax pmax
comp=Z,7.0nm,1.1s
CTA MLR MLR
comp=Z,742nm,18.4s
KLR Kul'dur 37.58 6 *e*P **P** **05 50 43.0 -1.2**
KLR *e* 05 52 11.0
KLR *e* 06 00 51.5
KLR MLR MLR
comp=N,1μm,13.5s,MS5.0
KLR MLR MLR
comp=E,1μm,13.5s,MS5.0
HIA Hailar 37.68 353 *e*P **P** **05 50 45.1 0.0**
comp=E,4.4nm,0.4s,mb4.5
HIA LR LR
comp=Z,1μm,19.0s,MS4.7
HIA Hailar 37.68 353 *e*P **P** **05 50 45.1 0.0**
HIA pmax pmax
comp=Z,4.0nm,0.4s
HIA MLR MLR
comp=Z,1μm,19.0s
YSS Yuzh-Sakhalins 37.73 19 *i*P **P** **05 50 50.3 +4.7**
YSS pmax pmax
comp=Z,40nm,2.1s,mb4.8
YSS MLR MLR
comp=Z,400nm,17.0s,MS4.3
SONM Songino Array 39.48 339 P **P** **05 51 01.1 +0.9**
comp=Z,1.4nm,0.7s,mb3.8,baz=159,slow=9.0,SNR=6.2
SONM LR LR 06 07 54.9
comp=Z,676nm,18.9s,MS4.5,baz=147,slow=37
SONM Songino Array 39.48 339 P **P** **05 51 01.1 +0.9**
SONM pmax pmax
comp=Z,1.0nm,0.7s
SONM MLR MLR
comp=Z,676nm,18.9s
HNR Honiara 39.77 121 LR LR 06 05 07.1
comp=Z,902nm,21.3s,MS4.6,baz=114,slow=32
PKI Pulchoki 41.12 298 *e*P **P** **05 51 11.7 -2.2**
comp=Z,22nm,0.7s,mb4.9
KKN Kakani 41.29 299 *e*P **P** **05 51 14.2 -1.0**
comp=Z,89nm,1.4s,mb5.2
CIT Chita 41.33 348 *e*P **P** **05 51 16.0 +0.7**
DMN Daman 41.39 298 *e*P **P** **05 51 14.7 -1.4**
comp=Z,68nm,1.1s,mb5.2
GKN Gorkha 41.89 299 *e*P **P** **05 51 18.7 -1.6**
comp=Z,20nm,0.6s,mb5.0
FORT Forrest 42.41 177 *e*P **P** **05 51 24.4 -0.1**
comp=Z,25nm,0.6s,mb5.0
KOLN Koldanda 42.73 298 *e*P **P** **05 51 26.1 -1.0**
comp=Z,81nm,1.4s,mb5.3
ZAK Zakamensk 42.73 339 *e*P **P** **05 51 27.9 +1.0**
ZAK *e* 05 53 11.2
ZAK pmax pmax
comp=Z,3.0nm,1.1s,mb3.9
ZAK pmax pmax
comp=Z,1.0nm,1.5s
KLBR Kellerberrin 43.91 190 *e*P **P** **05 51 35.2 -1.4**
comp=Z,46nm,1.4s,mb5.0
CLNS Chul'man 44.91 359 *e*P **P** **05 51 33.8 -11**
CLNS *e* 06 01 43.4
CLNS pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
CLNS pmax pmax
comp=N,5.0nm,0.8s
CLNS pmax pmax
comp=E,6.0nm,0.7s
CLNS pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
CLNS pmax pmax
comp=N,3.0nm,0.6s
CLNS pmax pmax
comp=E,10.0nm,1.0s
CLNS MLR MLR
comp=N,400nm,12.0s,MS4.6
CLNS MLR MLR
comp=Z,700nm,12.0s,MS4.8
CLNS MLR MLR
comp=E,200nm,13.0s,MS4.6
NWAO Narrogin (SRO) 45.30 190 P **P** **05 51 45.6 -2.3**
comp=E,6.1nm,0.5s,mb4.7,baz=352,slow=7.4,SNR=7.2
NWAO LR LR 06 11 18.4
comp=E,354nm,18.8s,MS4.3,baz=16,slow=37
NWAO Narrogin (SRO) 45.30 190 P **P** **05 51 45.6 -2.2**
NWAO pmax pmax
comp=Z,6.0nm,0.5s
NWAO MLR MLR
comp=Z,354nm,18.8s
WMQ Urumqi 45.87 321 *e*P **P** **05 51 52.5 +0.4**
WMQ AP pP 05 52 02.5 +1.7
WMQ AMB AMB
comp=Z,13nm,1.1s,mb4.8
SKR Severo-Kuril's 45.87 26 P **P** **05 51 54.0 +1.9**
SKR *e*S **S** **05 58 33.0 -0.7**
SKR *e*SS SS 06 01 38.0 -12
SKR smax
comp=N,1μm,12.0s
SKR smax
comp=E,1μm,12.0s
SKR MLR MLR
comp=E,1μm,16.0s
SKR MLR MLR
comp=Z,1μm,16.0s,MS4.9
STKA Stephens Creek 45.95 162 *e*P **P** **05 51 53.4 +0.5**
comp=Z,13nm,0.6s,mb5.0
STKA Stephens Creek 45.95 162 P **P** **05 51 53.5 +0.6**
comp=Z,18nm,0.6s,mb5.2,baz=338,slow=7.0,SNR=26
PET Petropavlovsk 48.65 26 *e*P **P** **05 52 20.1 +6.3**
PET *e*S **S** **05 59 17.1 +4.0**
PET pmax pmax
comp=Z,300nm,3.9s
PET pmax pmax
comp=Z,100nm,11.4s
PET smax
comp=N,500nm,15.6s
PET MLR MLR
comp=Z,500nm,18.0s,MS4.5
PET MLR MLR
comp=Z,600nm,18.0s
YAK Yakutsk 50.18 2 *e*P **P** **05 52 29.4 +3.9**
YAK *i* 05 53 48.8
YAK *i* 05 54 26.6
YAK *e*S **S** **05 59 31.5 -2.7**
YAK *i* *SS 05 59 43.9
YAK *e* 06 02 09.3
YAK pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
YAK pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
YAK smax
comp=E,181nm,12.5s
YAK MLR MLR
comp=Z,233nm,14.0s,MS4.3
YAK MLR MLR
comp=N,313nm,20.0s
YAK MLR MLR
comp=E,185nm,12.0s
MKAR Makanchi Array 50.66 322 P **P** **05 52 30.0 +0.6**
comp=E,9.2nm,0.7s,mb4.8,baz=115,slow=8.5,SNR=96
MKAR LR LR 06 13 44.7
comp=E,492nm,19.2s,MS4.5,baz=179,slow=36
MKAR Makanchi Array 50.66 322 *i*P **P** **05 52 28.8 -0.5**
MKAR pmax pmax
comp=Z,8.0nm,0.7s
KSH Kashi 52.03 311 *e*P **P** **05 52 40.0 +0.1**
KSH *e*AP pP 05 52 49.2 +0.5
KSH *e*XP sP 05 52 53.2 +1.1
KSH AMB AMB
comp=Z,350nm,3.6s
ZAL Zalesovo 53.16 331 P **P** **05 52 47.3 -0.8**
comp=Z,1.3nm,0.4s,mb4.2,baz=317,slow=5.9,SNR=3.7
ZAL LR LR 06 16 27.5
comp=Z,637nm,18.7s,MS4.7,baz=341,slow=37
ZAL Zalesovo 53.16 331 P **P** **05 52 47.3 -0.8**
ZAL pmax pmax
comp=Z,1.0nm,0.4s
ZAL MLR MLR
comp=Z,637nm,18.7s
FRU Bishkek 54.05 315 *e*P **P** **05 52 54.5 -0.2**
FRU pmax pmax
comp=Z,83nm,2.5s,mb5.2
AAK Ala-Archa 54.07 314 P **P** **05 52 52.9 -2.0**
comp=Z,110nm,2.0s,mb5.4
AAK Ala-Archa 54.07 314 P **P** **05 52 52.9 -2.0**
AAK pmax pmax
comp=Z,110nm,2.0s,mb5.4
SEY Seymchan 54.36 14 *i*P **P** **05 53 01.6 +4.9**
NVS Novosibirsk 54.43 331 ⇑*i*P **P** **05 52 56.2 -1.1**
NVS *e*S **S** **06 00 33.0 +0.7**
NVS pmax pmax
comp=Z,52nm,2.4s,mb5.0
NVS pmax pmax
comp=N,19nm,2.0s
NVS pmax pmax
comp=E,31nm,2.4s
NVS smax
comp=N,52nm,2.7s
KURK Kurchatov 54.66 325 *e*P **P** **05 52 59.0 -0.1**
comp=N,50nm,0.9s,mb5.5
KURK LR LR
comp=Z,97nm,21.0s,MS3.9
KURK Kurchatov 54.66 325 P **P** **05 52 58.5 -0.6**
KURK pmax pmax
comp=Z,21nm,0.9s,mb5.2
TIXI Tiksi 59.80 1 *e*P **P** **05 53 34.5 -0.7**
TIXI pmax pmax
comp=Z,19nm,0.9s,mb5.1
TIXI MLR MLR
comp=Z,435nm,14.0s,MS4.7
VOSK Vostochnaya 59.82 325 P **P** **05 53 33.0 -2.6**
VOSK pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
BVA0 Borovoye Array 60.26 325 *i*P **P** **05 53 38.0 -0.6**
BVA0 pmax pmax
comp=Z,54nm,2.6s,mb5.1
BVAR Borovoye Array 60.26 325 P **P** **05 53 37.4 -1.2**
comp=Z,3.0nm,0.7s,mb4.5,baz=127,slow=7.4,SNR=13
BVAR Borovoye Array 60.26 325 P **P** **05 53 37.4 -1.2**
BVAR pmax pmax
comp=Z,3.0nm,0.7s
BRVK Borovoye 60.33 325 *e*P **P** **05 53 38.9 -0.2**
comp=Z,16nm,1.1s,mb5.0
BRVK Borovoye 60.33 325 *e*P **P** **05 53 38.9 -0.2**
BRVK pmax pmax
comp=Z,16nm,1.1s,mb5.0
BILL Bilibino 61.96 16 *i*P **P** **05 53 53.8 +3.8**
BILL *e* pP 05 54 02.6 +3.6
BILL *e* 05 56 06.7
BILL pmax pmax
comp=Z,24nm,1.6s,mb5.1
AB31 Akbulak array 65.56 319 P **P** **05 54 12.5 -1.2**
AB31 pmax pmax
comp=Z,17nm,1.0s,mb5.0
SVE Sverdlovsk 66.78 327⇑*e*P **P** **05 54 21.0 -0.4**
SVE *e* 05 54 53.6
SVE *e* 05 56 48.0
SVE *e*S S 06 03 12.0 +1.8
SVE *e* 06 04 12.0
SVE pmax pmax
comp=Z,75nm,2.7s,mb5.2
SVE MLR MLR
comp=N,500nm,15.0s,MS5.0
SVE MLR MLR
comp=E,400nm,15.0s,MS5.0
SVE MLR MLR
comp=Z,600nm,15.0s,MS4.9
ARU Arti 67.81 326 *e*P **P** **05 54 26.6 -1.4**
comp=Z,23nm,1.1s,mb5.1
ARU LR LR
comp=Z,80nm,19.0s,MS4.0
ARU Arti 67.81 326⇑*i*P **P** **05 54 27.4 -0.5**
ARU *e* 05 54 52.8
ARU *e* 05 56 57.0
ARU *e*PPP PPP 05 58 31.2 -5.1
ARU *e*S S 06 03 23.2 +0.7
ARU *e* 06 04 21.5
ARU *e*SS SS 06 07 46.3 +0.7
ARU pmax pmax
comp=Z,12nm,1.1s,mb4.8
ARU MLR MLR
comp=Z,500nm,17.0s,MS4.8
ARU MLR MLR
comp=N,100nm,15.0s,MS4.8
ARU MLR MLR
comp=E,500nm,18.0s,MS4.8
RPZ Rata Peaks 68.81 147 P **P** **05 54 34.3 0.0**
comp=E,9.5nm,0.7s,mb4.8,baz=247,slow=12,SNR=7.7
RPZ Rata Peaks 68.81 147 P **P** **05 54 34.3 0.0**
DGRG David-gareji 75.31 310 P **P** **05 55 12.9 -0.1**
IMA Indian Mountai 75.31 25 *e*P **P** **05 55 16.7 +4.2**
comp=E,68nm,1.4s,mb5.4
IMA Indian Mountai 75.31 25 *e*P **P** **05 55 16.7 +4.2**
IMA pmax pmax
comp=Z,68nm,1.4s,mb5.4
TI2 Plekhanov 75.76 310 *e*P **P** **05 55 08.0 -7.6**
ONI Oni 76.67 311 P **P** **05 55 21.7 +1.0**
GOF Gofitskoye 76.81 314⇑*i*P **P** **05 55 28.9 +7.5**
GOF pmax pmax
comp=Z,20nm,1.1s,mb5.0
KIV Kislovodsk 77.13 313 *e*P **P** **05 55 23.2 -0.1**
comp=Z,22nm,0.9s,mb5.1
KIV Kislovodsk 77.13 313*c i*P **P** **05 55 23.7 +0.5**
KIV *e* 05 55 30.0
KIV pmax pmax
comp=Z,19nm,1.5s,mb4.8
KIV MLR MLR
comp=Z,600nm,16.0s,MS5.0
MCK McKinley 77.27 27 *e*P **P** **05 55 25.4 +1.8**
comp=Z,20nm,1.4s,mb4.8
MCK McKinley 77.27 27 *e*P **P** **05 55 25.4 +1.8**
MCK pmax pmax
comp=Z,19nm,1.4s,mb4.8
SML Sawmill 77.59 29 *e*P **P** **05 55 29.5 +4.1**
ILAR Eielson Array 78.13 26 P **P** **05 55 32.2 +3.9**
comp=Z,1.9nm,1.0s,mb4.0,baz=240,slow=5.8,SNR=11
ILAR LR LR 06 28 35.0
comp=Z,145nm,21.2s,MS4.3,baz=90,slow=34
VRSR Storozhevoye 78.92 320 *e*P **P** **05 55 33.2 +0.3**
VRSR pmax pmax
comp=N,5.0nm,1.0s
VRSR pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
VRSR pmax pmax
comp=E,4.0nm,0.7s
VRSR pmax pmax
comp=N,5.0nm,1.0s
VRSR pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
VRSR pmax pmax
comp=E,4.0nm,0.7s
SOC Sochi 79.31 312 *e*P **P** **05 55 34.2 -1.0**
SOC *e*S S 06 05 27.1 -5.2
SOC *e*SS SS 06 10 32.5 -10
SOC *e*SSS SSS 06 14 03.5 +1.5
SOC MLR MLR
comp=Z,599nm,15.0s,MS5.0
SOC MLR MLR
comp=N,576nm,19.0s,MS5.1
SOC MLR MLR
comp=E,656nm,17.0s,MS5.1
MOS Moscow 79.44 325 *e*P **P** **05 55 31.7 -3.9**
MOS *e* 05 55 44.7
MOS *e*S S 06 05 27.1 -6.3
MOS *e* 06 05 50.7
MOS pmax pmax
comp=Z,300nm,2.6s,mb5.8
OBN Obninsk 80.10 324 *i*P **P** **05 55 39.9 +0.7**
OBN *e* 05 58 37.0
OBN pmax pmax
comp=Z,26nm,1.4s,mb5.0
OBN MLR MLR
comp=Z,600nm,16.0s,MS5.0
APA Apatity 80.16 337⇑*i*P **P** **05 55 44.0 +4.7**
APA *i* 05 56 03.8
APA *i* 06 05 42.0
APA pmax pmax
comp=Z,11nm,0.8s,mb4.8
ANN Anapa 80.80 314 *e*P **P** **05 55 42.7 -0.4**
ANN *e*S S 06 05 45.3 -2.5
ANN pmax pmax
comp=Z,50nm,1.4s,mb5.2
MALT Malatya 80.92 307 *e*P **P** **05 55 44.4 +0.5**
comp=Z,88nm,1.8s,mb5.4
MALT Malatya 80.92 307 *e*P **P** **05 55 44.4 +0.5**
MALT pmax pmax
comp=Z,89nm,1.8s,mb5.4
DAWY Dawson 81.44 26 *e*P **P** **05 55 49.4 +3.3**
MIR Mirnyy 81.86 193 *e*P **P** **05 55 53.0 +4.8**
MIR pmax pmax
comp=Z,63nm,2.0s,mb5.2
ARCES ARCESS Array B 82.66 340 P **P** **05 55 53.1 +0.8**
comp=Z,6.8nm,0.8s,mb4.7,baz=90,slow=6.1,SNR=12
ARCES LR LR 06 39 05.5
comp=Z,307nm,18.3s,MS4.7,baz=230,slow=40
INK Inuvik 82.92 22 P **P** **05 55 59.2 +5.6**
comp=Z,2.8nm,0.8s,mb4.3,baz=324,slow=8.8,SNR=4.1
INK Inuvik 82.92 22 P **P** **05 55 59.2 +5.6**
INK Inuvik 82.92 22 P **P** **05 55 59.2 +5.5**
INK pmax pmax
comp=Z,3.0nm,0.8s
ASF Jabal al Asfar 83.09 301 P **P** **05 55 54.4 -0.9**
comp=Z,5.3nm,0.9s,mb4.6,baz=26,slow=2.4,SNR=5.3
ASF Jabal al Asfar 83.09 301 P **P** **05 55 54.4 -0.9**

ASF pmax pmax
comp=Z,5.0nm,0.9s
BR131 Keskin Array S 84.38 309 P P 05 56 00.3 -1.4
comp=Z,4.4nm,0.7s,mb4.7
BRTR Keskin Array B 84.38 309 P P 05 56 02.0 +0.3
comp=Z,3.9nm,0.7s,mb4.6,baz=110,slow=4.7,SNR=10
BRTR Keskin Array B 84.38 309 P P 05 56 02.0 +0.3
BRTR pmax pmax
comp=Z,4.0nm,0.7s
FINES FINESS Array B 84.42 332 P P 05 56 02.2 +0.9
comp=Z,8.9nm,1.1s,mb4.8,baz=90,slow=5.7,SNR=6.9
FINES LR LR 06 36 02.2
comp=Z,267nm,18.7s,MS4.7,baz=152,slow=37
FINES FINESS Array B 84.42 332 P P 05 56 02.3 +0.9
FINES pmax pmax
comp=Z,9.0nm,1.1s
FINES MLR MLR
comp=Z,267nm,18.7s
AKASG Malin Array Be 85.22 321 P P 05 56 05.7 +0.1
comp=Z,3.0nm,0.6s,mb4.6,baz=63,slow=4.7,SNR=14
AKASG Malin Array Be 85.22 321 P P 05 56 05.7 +0.1
AKASG pmax pmax
comp=Z,3.0nm,0.6s
CSS Prodhromos 85.52 305 *e*P **P 05 56 08.1 +0.6**
comp=Z,34nm,0.9s,mb5.6
KIS Kishinev 86.32 317 *e*P **P 05 56 10.0 -1.2**
KIS *e* pP 05 56 20.0 -0.4
KIS *e* 05 59 28.0
KIS *e*S S 06 06 40.0 -3.0
KIS MLR MLR
comp=Z,500nm,17.0s,MS5.0
KIS MLR MLR
comp=Z,500nm,16.0s
TIRR Tirgusor 87.19 315 ⇑P P 05 56 15.9 +0.4
CFR Carcaliu 87.20 315 ⇓P P 05 56 16.1 +0.6
VRI Vrincioaia 87.99 316 ⇓P P 05 56 21.7 +2.4
PPT Papeete 88.26 108 LR LR 06 27 46.8
comp=Z,218nm,20.6s,MS4.5,baz=298,slow=30
MLR Muntele Rosu 88.62 316 ⇓P P 05 56 23.1 +0.8
KMBO Kilima Mbogo 89.05 269 LR LR 06 37 42.6
comp=Z,479nm,18.1s,MS5.0,baz=94,slow=37
MAW Mawson 91.09 200 LR LR 06 33 50.8
comp=Z,172nm,20.4s,MS4.5,baz=247,slow=33
NOA NORSAR Array B 91.26 334 LR LR 06 39 32.7
comp=Z,382nm,19.4s,MS4.8,baz=80,slow=37
VNDA Vanda 91.50 173 P P **05 56 33.5 -1.6**
comp=Z,0.7nm,0.3s,mb4.5,baz=332,slow=23,SNR=6.9
VNDA Vanda 91.50 173 P P **05 56 33.5 -1.6**
VNDA pmax pmax
comp=Z,1.0nm,0.3s
YKA Yellowknife Ar 92.42 24 P P **05 56 44.6 +5.1**
comp=Z,0.9nm,0.8s,mb4.2,baz=299,slow=5.1,SNR=4.9
YKA LR LR 06 39 03.7
comp=Z,109nm,18.8s,MS4.3,baz=270,slow=36
YKA Yellowknife Ar 92.42 24 P P **05 56 44.6 +5.1**
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA MLR MLR
comp=Z,109nm,18.8s
GERES GERESS Array B 95.33 322 LR LR 06 41 57.0
comp=Z,231nm,18.7s,MS4.7,baz=165,slow=37
YBH Yreka Blue Hor 97.49 45 LR LR 06 36 03.7
comp=Z,242nm,21.3s,MS4.7,baz=356,slow=32
NEW Newport 98.25 37 LR LR 06 37 51.0
comp=Z,212nm,19.3s,MS4.7,baz=311,slow=33
TXAR Lajitas Array 116.96 48 PKP PKPdf 06 02 19.2 +1.1
comp=Z,0.3nm,0.8s,baz=225,slow=1.0,SNR=4.5
WVT Waverly 122.57 32 *e*PKPdf PKPdf 06 02 26.5 -2.3
WVT LR LR
comp=Z,152nm,20.0s,MS4.7
PLCA Paso Flores 147.72 156 PKPbc PKPdf 06 03 15.7 +0.8
comp=Z,2.4nm,0.8s,baz=17,slow=4.2,SNR=6.5
PLCA Paso Flores 147.72 156 PKP2 PKPdf 06 03 15.7 +0.8
PLCA pmax pmax
comp=Z,2.0nm,0.8s
SDV Santo Domingo 153.56 40 *e*PKPdf PKPdf 06 03 26.2 +1.7
CFAA Coronel Fontan 156.32 148 PKP PKPdf 06 03 26.2 -1.5
comp=Z,0.3nm,0.9s,baz=264,slow=9.7,SNR=4.2
CFAA Coronel Fontan 156.32 148 PKP PKPdf 06 03 26.2 -1.5

*NEIC **10** 05:52:57.1±1.2, 6.97S×155.22E, h77km±11km, mb4.4/6, Error ellipse: s-maj=12.3km s-min=8.2km az=161.0*
*IDC **10** 05:52:58.3±2.3, 6.93S×155.20E, h88km±21km, mb4.0/8, mb1 4.2/12, mb1mx4.0/18, mbtmp4.4/12, MS4.2/2, Ms1 4.2/2, ms1mx3.4/29, Error ellipse: s-maj=21.0km s-min=12.7km az=177.0*
ISC 10 05:52:56.0±1.9, 7.0S±0.1×155.27E±0.06, h82km±19km, n33, σ0 85/27, mb4.3/17, 3C, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.23**	**118**	P	P	**05 54 13.3**	**+0.1**
	14nm,0.3s,baz=252,slow=0.9,SNR=7.6						
HNR				S	S	**05 55 17.7**	**+5.0**
	14nm,0.3s,baz=226,slow=5.3,SNR=4.4						
HNR				LR	LR	05 56 13.4	
	comp=Z,576nm,19.1s,baz=127,slow=37						
PMG	**Port Moresby**	**8.38**	**253**	P	P	**05 54 54.8**	**-1.9**
	5.7nm,0.3s,baz=63,slow=10,SNR=13						
PMG				S	S	**05 56 31.9**	**+1.4**
	2.8nm,0.3s,baz=24,slow=18,SNR=6.1						
CTA	**Charters Tower**	**15.69**	**213**	P	P	**05 56 34.3**	**+0.8**
	0.2nm,0.3s,baz=54,slow=13,SNR=5.1						
DZM	**Mont Dzumac**	**18.47**	**145**	P	P	**05 57 07.9**	**+0.1**
	0.2nm,0.3s,baz=70,slow=20,SNR=3.1						
KAKA	**Kakadu**	**23.19**	**254**	⇑*i*P	P	**05 58 05.2**	**+8.7**
	8.5nm,0.6s,mb4.2						
WRAB	**Tennant Creek**	**24.03**	**236**	*e*P	P	**05 58 04.1**	**-0.4**
	10nm,0.8s,mb4.2						
WB2	**Warramunga Arr**	**24.04**	**236**	*e*P	P	**05 58 04.8**	**+0.3**
WRA	**Warramunga Arr**	**24.05**	**236**	P	P	**05 58 05.4**	**+0.8**
	5.3nm,0.8s,mb3.9,baz=59,slow=9.4,SNR=31						
WRA				PcP	PcP	06 01 45.3	-0.6
	0.4nm,0.5s,baz=66,slow=2.7,SNR=5.7						
STKA	**Stephens Creek**	**27.86**	**205**	P	P	**05 58 39.1**	**-1.1**
	1.4nm,0.7s,mb3.6,baz=44,slow=18,SNR=2.6						
FITZ	**Fitzroy Crossi**	**30.91**	**246**	*e*P	P	**05 59 06.5**	**-0.8**
	9.8nm,0.7s,mb4.7						
FITZ	**Fitzroy Crossi**	**30.91**	**246**	P	P	**05 59 06.6**	**-0.8**
	11nm,0.8s,mb4.6,baz=37,slow=3.9,SNR=14						
RAO	**Raoul Island**	**33.59**	**135**	LR	LR	06 10 05.4	
	comp=Z,2μm,18.6s,baz=23,slow=30						
SONM	**Songino Array**	**69.48**	**327**	P	P	**06 03 57.8**	**+0.2**
	1.0nm,0.8s,mb3.7,baz=126,slow=5.1,SNR=7.0						
KKN	**Kakani**	**75.83**	**301**	*e*P	P	**06 04 35.6**	**+0.2**
	17nm,0.8s,mb4.8						
DMN	**Daman**	**75.93**	**301**	*e*P	P	**06 04 36.2**	**+0.2**
	19nm,0.9s,mb4.8						
GKN	**Gorkha**	**76.43**	**301**	*e*P	P	**06 04 38.7**	**-0.2**
	12nm,0.7s,mb4.8						
KOLN	**Koldanda**	**77.26**	**300**	*e*P	P	**06 04 41.9**	**-1.6**
	7.4nm,0.7s,mb4.5						
PMR	**Palmer**	**80.67**	**24**	*e*P	P	**06 05 03.2**	**+1.8**
	1.9nm,0.6s,mb4.1						
IMA	**Indian Mountai**	**81.71**	**19**	*e*P	P	**06 05 07.4**	**+0.8**
	9.9nm,0.6s,mb4.8						
MCK	**McKinley**	**81.95**	**22**	*e*P	P	**06 05 07.4**	**-0.5**
	3.0nm,0.7s,mb4.2						
ILAR	**Eielson Array**	**83.27**	**21**	P	P	**06 05 13.7**	**-1.0**
	1.3nm,0.5s,mb4.0,baz=251,slow=5.6,SNR=23						
MKAR	**Makanchi Array**	**83.58**	**319**	P	P	**06 05 16.7**	**+0.1**
	1.0nm,0.6s,mb3.8,baz=107,slow=5.5,SNR=12						
INK	**Inuvik**	**89.62**	**21**	P	P	**06 05 46.0**	**+0.6**
	3.0nm,0.5s,mb4.7,baz=257,slow=3.5,SNR=18						
INK	**Inuvik**	**89.62**	**21**	*e*P	P	**06 05 45.5**	**+0.1**
YKA	**Yellowknife Ar**	**96.20**	**28**	P	P	**06 06 16.1**	**+0.3**
	0.7nm,0.4s,mb4.4,baz=266,slow=4.4,SNR=4.5						
YKA	**Yellowknife Ar**	**96.20**	**28**	P	P	**06 06 16.1**	**+0.3**
VNA3	**Neumayer Olymp**	**101.29**	**185**	⇑*i*p	PP	06 10 59.6	+8.3
VNA3	**Neumayer Olymp**	**101.29**	**185**	*e*		06 11 06.7	
VNA2	**Neumayer--Watz**	**101.38**	**186**	⇑*i*p	PP	06 10 55.1	+3.2
VNA2	**Neumayer--Watz**	**101.38**	**186**	*e*		06 11 01.4	
CFAA	**Coronel Fontan**	**123.45**	**135**	PKP	PKPdf	06 11 45.5	+1.0
	0.2nm,0.4s,baz=226,slow=3.6,SNR=11						
BDFB	**Brasilia**	**147.79**	**134**	PKPbc	PKPdf	06 12 34.4	+5.0
	8.6nm,0.7s,baz=250,slow=2.5,SNR=22						
BAO	**Brasilia Array**	**147.81**	**134**	P	PKPdf	06 12 34.0	+4.6

JMA 10 06:10:36.6±0.1, 28.20N×140.55E, h403km, M3.8, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.82**	**127**	P	P	06 11 31.9	-0.3
CBIJ				S	S	06 12 15.1	-0.7
JHHJ	**Haha-jima-NKT**	**2.13**	**137**	P	P	06 11 34.1	0.0
JHHJ				S	S	06 12 19.3	+0.1
JHJ2	**Mitsune**	**4.94**	**353**	P	P	06 11 58.9	+0.2
BSO1	**Boso 1**	**6.44**	**3**	P	P	06 12 15.4	+0.5
BSO3	**Boso 3**	**6.58**	**360**	P	P	06 12 16.7	+0.3
JIE	**Ise**	**6.99**	**333**	P	P	06 12 21.2	+0.2
JNY	**Yasuok**	**7.49**	**343**	P	P	06 12 26.6	-0.1
JRY	**Ryogami san**	**7.92**	**350**	P	P	06 12 30.6	-1.0

*NIED **10** 06:12:00, 37.10N×141.60E, h77km, Mw4.3 Best double couple: M0=2.93×10^15 NP1:φs=184°, δ59°, λ-90°. NP2:φs=5°, δ31°, λ-89°.*
*BJI **10** 06:12:06.7, 36.92N×141.41E, h72km, mb4.7*
*JMA **10** 06:12:09.0±0.1, 37.06N×141.51E, h78km±2km, M4.6 Broadband fault plane solution: P waves. NP1:φs6°, δ37°, λ-79°. NP2:φs172°, δ54°, λ-98°. Principal axes: T Plg9°, Azm268°; N Plg7°, Azm177°; P Plg79°, Azm50°;*
JMA Felt III J1.
*MOS **10** 06:12:09.2±0.9, 37.44N×141.42E, h70km, mb4.6/5 Error ellipse: s-maj=11.9km s-min=10.9km az=106.7*
*IDC **10** 06:12:09.7±0.4, 37.00N×141.43E, h79km±3km, mb3.9/17, mb1 4.1/21, mb1mx4.1/25, mbtmp4.3/21, MS3.4/1, Ms1 3.4/1, ms1mx2.7/35, Error ellipse: s-maj=12.9km s-min=8.9km az=110.0*
*NEIC **10** 06:12:10.0±0.4, 37.04N×141.53E, mb4.5/6, MW4.2(NIED), Error ellipse: s-maj=11.1km s-min=6.0km az=164.0*
NEIC Recorded [2 JMA] in Fukushima, Ibaraki, Miyagi and Tochigi Prefectures.
ISC 10 06:12:08.4±0.3, 37.07N±0.03×141.57E±0.04, h79km, h79km±1.2km: pP-P, n81, σ1 08/95, mb4.3/32, 12C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.62**	**273**	⇓P	P	**06 12 23.3**	**0.0**
ONAJ				S	S	**06 12 33.4**	**-0.9**
JFK	**Kawauchi**	**0.63**	**298**	⇓P	P	**06 12 23.4**	**0.0**
JFK				*e*S	S	**06 12 33.7**	**-0.9**
JHO	**Hitachi**	**0.93**	**241**	⇓P	P	**06 12 26.3**	**-0.4**
JHO				S	S	**06 12 39.0**	**-1.4**
JMM	**Marumori**	**1.01**	**322**	⇑P	P	**06 12 27.7**	**0.0**
JMM				S	S	**06 12 41.5**	**-0.7**
JFT	**Otama**	**1.08**	**295**	⇑P	P	**06 12 29.3**	**+0.7**
JFT				S	S	**06 12 43.9**	**+0.1**
JIO	**Ouri**	**1.40**	**353**	⇓P	P	**06 12 32.4**	**-0.4**
JIO				S	S	**06 12 49.5**	**-1.3**
JOU	**Okura**	**1.48**	**331**	⇑P	P	**06 12 33.5**	**-0.4**
JOU				*e*S	S	**06 12 52.0**	**-0.8**
JFY	**Yanaizu**	**1.53**	**283**	⇑P	P	**06 12 34.6**	**+0.1**
JFY				*e*S	S	**06 12 54.0**	**+0.2**
JYS	**Shiratake**	**1.66**	**314**	⇑P	P	**06 12 36.4**	**+0.1**
JYS				*e*S	S	**06 12 57.8**	**+1.0**
JAG	**Ashikaga**	**1.82**	**250**	⇑P	P	**06 12 38.3**	**-0.1**
JAG				*e*S	S	**06 12 59.9**	**-0.6**
JKT	**Katashina**	**1.89**	**262**	P	P	**06 12 39.9**	**+0.6**
JKT				*e*S	S	**06 13 02.7**	**+0.6**
JMK	**Ichinoseki**	**1.90**	**352**	P	P	**06 12 39.1**	**-0.4**
JNS	**Sasagawa**	**1.95**	**293**	P	P	**06 12 40.0**	**-0.1**
JHK	**Hiroka**	**2.05**	**276**	⇑P	P	**06 12 41.8**	**+0.3**
JHK				*e*S	S	**06 13 06.1**	**+0.1**
JYK	**Kaneyama**	**2.08**	**333**	⇑P	P	**06 12 41.9**	**0.0**
JYK				*e*S	S	**06 13 06.7**	**0.0**
JYA	**Atsumi**	**2.12**	**316**	⇑P	P	**06 12 42.6**	**+0.1**
MJAR	**Matsushiro Arr**	**2.75**	**260**	P	P	**06 12 51.2**	**-0.2**
	71nm,0.3s,baz=76,slow=14,SNR=342						
MJAR				S	S	**06 13 25.2**	**+1.7**
	89nm,0.3s,baz=139,slow=37,SNR=6.4						
MJAR				LR	LR	06 13 34.7	
	comp=Z,663nm,19.3s,baz=65,slow=33						
MAJO	**Matsushiro**	**2.75**	**260**	*e*P	P	**06 12 51.8**	**+0.4**
MAT	**Matsushiro**	**2.75**	**260**	⇑P	P	**06 12 51.8**	**+0.4**
MAT				S	S	**06 13 24.7**	**+1.1**
MAT	**Matsushiro**	**2.75**	**260**	⇑*i*P	P	**06 12 51.9**	**+0.5**
MAT				*e*S	S	**06 13 25.0**	**+1.4**
JHJ	**Hachijo jima 2**	**4.21**	**201**	P	P	**06 13 11.3**	**-0.3**
	44nm,0.3s,baz=74,slow=24,SNR=8.8						
JHJ				S	S	**06 13 55.4**	**-4.4**
	127nm,0.3s,baz=79,slow=22,SNR=13						
ASAJ	**Asahikawa**	**7.08**	**6**	P	P	**06 13 48.1**	**-3.3**
	2.0nm,0.3s,baz=247,slow=15,SNR=6.9						
ASAJ				S	S	**06 15 05.1**	**-5.9**
	4.2nm,0.3s,baz=117,slow=31,SNR=3.0						
ASAJ	**Asahikawa**	**7.08**	**6**	P	P	**06 13 48.1**	**-3.3**
ASAJ				S	S	**06 15 05.1**	**-5.9**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
JNU	**Nakatsue**	**9.61**	**249**	P	P	**06 14 25.0**	**-0.8**
	comp=Z,1.7nm,0.3s,baz=52,slow=19,SNR=16						
CBIJ	**Chichi jima**	**9.96**	**177**	P	P	**06 14 28.4**	**-2.2**
	comp=Z,5.5nm,0.3s,baz=278,slow=17,SNR=3.6						
CBIJ				S	S	**06 16 10.1**	**-11**
	comp=Z,4.4nm,0.3s,baz=279,slow=24,SNR=3.6						
KS15	**Wonju Array Si**	**10.92**	**276**	*e*P	P	**06 14 44.0**	**+0.4**
MDJ	**Mudanjiang**	**11.79**	**313**	P	P	**06 14 57.3**	**+2.2**
MDJ				AMB	AMB		
	comp=Z,16nm,0.6s						
MDJ				AMB	AMB		
	comp=Z,447nm,13.4s						
MDJ	**Mudanjiang**	**11.79**	**313**	*e*P	P	**06 14 56.9**	**+1.7**
	comp=Z,14nm,0.8s						
HHC	**Hu-ho-hao-te**	**23.58**	**288**	*e*P	P	**06 17 14.0**	**+1.6**
HHC				AMB	AMB		
	comp=Z,13nm,0.6s,mb4.4						
CIT	**Chita**	**24.74**	**316**	*e*P	P	**06 17 23.7**	**+0.1**
ENH	**Enshi**	**27.46**	**265**	*e*P	P	**06 17 46.6**	**-2.4**
	comp=Z,36nm,0.8s,mb5.0						
SONM	**Songino Array**	**27.87**	**304**	P	P	**06 17 51.1**	**-1.4**
	comp=Z,9.8nm,0.8s,mb4.4,baz=102,slow=8.8,SNR=72						
SONM				pPcP		06 21 27.8	
	comp=Z,0.9nm,0.5s,baz=114,slow=1.6,SNR=7.6						
ZAK	**Zakamensk**	**30.35**	**308**	*e*P	P	**06 18 13.1**	**-1.5**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb3.8						
GYA	**Guiyang**	**31.35**	**260**	⇑*i*P	P	**06 18 21.0**	**-2.6**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.7						
GTA	**Gaotai**	**32.68**	**287**	*e*P	P	**06 18 33.8**	**-1.2**
GTA				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.3						
KMI	**Kunming**	**35.09**	**261**	P	P	**06 18 55.3**	**-0.6**
KMI				AMB	AMB		
	comp=Z,19nm,1.2s,mb4.8						
ZAL	**Zalesovo**	**42.00**	**312**	P	P	**06 19 52.4**	**-0.6**
	comp=Z,2.5nm,0.3s,mb4.4,baz=27,slow=7.1,SNR=7.8						
ZAL				pP	pP	06 20 11.0	-1.2
	comp=Z,2.4nm,0.6s,baz=24,slow=5.4,SNR=2.8						
LSA	**Lhasa**	**42.33**	**275**	*e*P	P	**06 19 58.3**	**+2.2**
	comp=Z,6.6nm,0.5s,mb4.6						
LSA	**Lhasa**	**42.33**	**275**	*e*P	P	**06 19 58.3**	**+2.2**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.7						
NVS	**Novosibirsk**	**42.91**	**314**	*e*P	P	**06 20 00.2**	**-0.2**
MKAR	**Makanchi Array**	**44.21**	**302**	P	P	**06 20 11.0**	**-0.1**
	comp=Z,3.7nm,0.8s,mb4.2,baz=85,slow=10,SNR=22						
MKAR				pP	pP	06 20 29.3	-1.1
	comp=Z,5.0nm,0.7s,baz=108,slow=3.8,SNR=13						
MKAR				pPcP		06 22 15.5	
	comp=Z,0.7nm,0.7s,baz=90,slow=1.4,SNR=3.3						
MKAR	**Makanchi Array**	**44.21**	**302**	P	P	**06 20 11.0**	**-0.1**
MKAR				pP	pP	06 20 29.3	-1.1
MKAR				pPcP		06 22 15.5	
KURK	**Kurchatov**	**46.01**	**308**	*e*P	P	**06 20 24.5**	**-0.9**
	comp=Z,11nm,0.8s,mb4.6						
KURK				*e*pP	pP	06 20 43.8	-0.9
KURK				*e*sP	sP	06 20 52.0	-1.8
KURK	**Kurchatov**	**46.01**	**308**	*e*P	P	**06 20 24.5**	**-0.9**
KURK				*e*PP	pP	06 20 43.8	-0.9
KURK				*e*SP	sP	06 20 52.0	-1.7
KURK				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.6						
PKI	**Pulchoki**	**47.80**	**276**	*e*P	P	**06 20 42.5**	**+2.7**
	comp=Z,12nm,0.5s,mb5.0						
KKN	**Kakani**	**47.81**	**276**	*e*P	P	**06 20 41.1**	**+1.3**
	comp=Z,12nm,0.4s,mb5.0						
DMN	**Daman**	**48.03**	**276**	*e*P	P	**06 20 44.1**	**+2.6**
	comp=Z,6.6nm,0.4s,mb4.8						
GKN	**Gorkha**	**48.23**	**276**	*e*P	P	**06 20 44.3**	**+1.2**
	comp=Z,17nm,0.4s,mb5.2						

KOLN Koldanda 49.15 277 *e*P **P 06 20 54.0 +3.8**
comp=Z,9.1nm,0.6s,mb4.8
ILAR Eielson Array 49.40 32 P **P 06 20 51.0 -0.6**
comp=Z,2.5nm,0.8s,mb4.2,baz=271,slow=6.4,SNR=31
ILAR pP pP 06 21 12.3 +1.2
comp=Z,2.1nm,0.7s,baz=265,slow=6.1,SNR=7.0
BVAR Borovoye Array 50.64 312 P **P 06 21 00.7 -0.6**
comp=Z,1.7nm,0.5s,mb4.3,baz=78,slow=8.0,SNR=7.5
BVAR pPcP 06 22 38.1
comp=Z,3.3nm,0.6s,baz=89,slow=3.4,SNR=9.3
INK Inuvik 54.30 27 P **P 06 21 28.1 -0.1**
comp=Z,2.9nm,0.9s,mb4.3,baz=327,slow=3.8,SNR=3.7
INK pP pP 06 21 48.2 0.0
comp=Z,2.4nm,0.6s,baz=290,slow=9.1,SNR=2.7
INK Inuvik 54.30 27 P **P 06 21 28.1 -0.1**
INK pP pP 06 21 48.2 0.0
WRA Warramunga Arr 57.11 188 P **P 06 21 47.3 -1.9**
comp=Z,5.9nm,0.6s,mb4.8,baz=6.4,slow=7.4,SNR=102
WRA pP pP 06 22 07.4 -1.8
comp=Z,3.5nm,0.6s,baz=2.4,slow=7.6,SNR=7.4
YKA Yellowknife Ar 63.71 30 P **P 06 22 32.4 -1.0**
comp=Z,0.7nm,0.5s,mb3.7,baz=297,slow=6.6,SNR=5.2
YKA pP pP 06 22 53.1 -0.7
comp=Z,1.3nm,0.6s,baz=303,slow=6.8,SNR=6.8
ARCES ARCESS Array B 64.01 339 P **P 06 22 34.5 -0.7**
comp=Z,0.6nm,0.5s,mb3.6,baz=59,slow=7.1,SNR=6.6
STKA Stephens Creek 68.59 180 P **P 06 23 04.3 -0.5**
comp=Z,4.0nm,0.8s,mb4.3,baz=315,slow=13,SNR=4.2
FINES FINESS Array B 68.84 332 P **P 06 23 05.5 -0.4**
comp=Z,2.1nm,0.7s,mb4.1,slow=13,SNR=2.5
FINES pP pP 06 23 25.1 -1.5
comp=Z,1.0nm,0.3s,baz=51,slow=8.4,SNR=2.9
NB2 NORSAR Subarra 74.20 337 P **P 06 23 37.0 -0.8**
comp=Z,0.8nm,0.6s,mb3.6,baz=39,slow=6.2
NB2 NORSAR Subarra 74.20 337 P **P 06 23 37.0 -0.8**
NB2 pmax pmax
comp=Z,1.0nm,0.6s,mb3.7
NOA NORSAR Array B 74.20 337 P **P 06 23 37.2 -0.6**
comp=Z,1.3nm,0.7s,mb3.8,baz=37,slow=6.0,SNR=4.4
NOA pP pP 06 23 57.3 -1.5
comp=Z,2.2nm,0.7s,baz=38,slow=6.0,SNR=5.9
AKASG Malin Array Be 74.35 322 P **P 06 23 37.6 -1.2**
comp=Z,0.5nm,0.4s,mb3.6,baz=44,slow=6.0,SNR=5.5
TPAW Teton Pass 76.30 46 *e*P **P 06 23 51.8 +1.7**
comp=Z,2.0nm,0.8s,mb3.9
PDAR Pinedale Array 77.55 46 P **P 06 23 57.7 +0.6**
comp=Z,1.3nm,0.7s,mb3.8,baz=290,slow=2.5,SNR=16
PDAR pP pP 06 24 19.8 +1.6
comp=Z,0.8nm,0.6s,baz=295,slow=2.2,SNR=5.0
PDAR Pinedale Array 77.55 46 P **P 06 23 57.6 +0.6**
PDAR pP pP 06 24 19.8 +1.6
MSU Marysvale 78.66 50 *e*P **P 06 24 05.3 +2.0**
SRU San Rafael 79.29 49 *e*P **P 06 24 07.5 +0.8**
ULM Lac du Bonnet 79.40 33 P **P 06 24 07.5 +0.4**
comp=Z,0.8nm,0.4s,mb3.9,baz=270,slow=2.0,SNR=2.3
ULM pP pP 06 24 28.2 -0.1
comp=Z,1.1nm,0.5s,baz=298,slow=9.2,SNR=2.4
ULM Lac du Bonnet 79.40 33 P **P 06 24 07.5 +0.4**
ULM pP pP 06 24 28.2 -0.1
PV10 Paradox Valley 80.66 49 *e*P **P 06 24 15.8 +1.8**
PV01 Paradox Valley 81.09 49 *e*P **P 06 24 17.9 +1.5**
GERES GERESS Array B 82.75 328 P **P 06 24 24.5 -0.2**
comp=Z,0.3nm,0.4s,mb3.5,baz=45,slow=4.2,SNR=2.5
GERES pP pP 06 24 45.7 -0.2
comp=Z,0.5nm,0.5s,baz=18,slow=4.2,SNR=2.7
GERES sP sP 06 24 54.2 -0.4
comp=Z,0.4nm,0.4s,baz=56,slow=4.8,SNR=2.2
ANMO Albuquerque 84.46 50 *e*P **P 06 24 35.6 +2.1**
comp=Z,2.9nm,1.0s,mb4.1
ANMO Albuquerque 84.46 50 *e*P **P 06 24 35.6 +2.1**
ANMO pmax pmax
comp=Z,3.0nm,1.0s
TXAR Lajitas Array 90.00 52 P **P 06 25 01.4 +1.0**
comp=Z,1.7nm,0.5s,mb4.4,baz=300,slow=3.0,SNR=35
TXAR pP pP 06 25 23.9 +1.8
comp=Z,0.7nm,0.5s,baz=293,slow=3.4,SNR=4.9
DBIC Dimbokro 126.35 317 PKP PKPdf 06 31 03.7 +1.1
comp=Z,3.4nm,1.0s,baz=22,slow=5.4,SNR=3.0
DBIC pPKP 06 31 25.4
comp=Z,2.4nm,0.8s,baz=19,slow=3.7,SNR=1.7
DBIC Dimbokro 126.35 317 PKP PKPdf 06 31 03.7 +1.1
DBIC pPKP 06 31 25.4
VNA2 Neumayer--Watz 142.39 196 PKPdf 06 31 28.3 -2.4
VNA1 Neumayer--Stat 142.78 196 PKPdf 06 31 30.3 -1.1
LPAZ La Paz 146.56 60 PKPbc PKPbc 06 31 43.5 +2.5
comp=Z,3.6nm,0.6s,baz=323,slow=2.6,SNR=28
LPAZ pPKPbc 06 32 05.7
comp=Z,3.3nm,0.4s,baz=255,slow=14,SNR=7.7
LVC Limon Verde 150.04 70 *e*P PKPdf 06 31 52.8 +7.8

*CSEM **10** 06:15:38.6±0.4, 37.30N×24.71W, ML1.7, Error ellipse: s-maj=21.0km s-min=3.3km az=58.0, After PDA*
*PDA **10** 06:15:38.6±1.0, 37.30N×24.71W, MD2.5, ML1.7, Error ellipse: s-maj=12.5km s-min=3.0km az=91.0*
SVSA 10 06:15:38.6±1.0, 37.30N×24.71W, MD2.5, ML1.7, Error ellipse: s-maj=12.5km s-min=3.0km az=91.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.41**	**224**	*e*P	Pg	06 15 45.8	-1.0
PSMN				*e*S	Sg	06 15 52.2	0.0
MIRA	**Miradouro**	**0.67**	**317**	*e*S	Sg	06 16 02.5	+1.7
VIF	**Vila Franca**	**0.73**	**308**	*e*S	Sg	06 16 00.5	-2.5
	14nm,0.2s						
MESC	**Monte Escuro**	**0.77**	**310**	*e*P	Pg	06 15 52.3	-1.6
MESC				*e*S	Sg	06 16 02.0	-2.1
LFA	**Lagoa do Fogo**	**0.78**	**308**	*e*P	Pg	06 15 51.9	-2.2
LFA				*e*S	Sg	06 16 01.8	-2.7

*BJI **10** 06:36:01.1, 51.10N×178.90W, h56km, mB4.8, mb4.5, Ms4.5, Msz4.1*
*NEIC **10** 06:36:03.2±1.1, 51.07N×178.85W, h57km±7km, mb4.2/9, ML3.8(AEIC), Error ellipse: s-maj=17.5km s-min=7.9km az=181.0*
*IDC **10** 06:36:04.6±3.2, 51.22N×179.01W, h63km±27km, mb3.7/13, mb1 3.9/14, mb1mx3.8/24, mbtmp4.0/14, ML3.5/1, Error ellipse: s-maj=27.8km s-min=13.9km az=177.0*
ISC 10 06:36:01.8±1.1, 51.1N±0.1×178.93W±0.06, h60km±7km, n48, σ0 97/50, mb4.1/24, MS3.8/1, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIMD	**Kanaga Island**	**1.25**	**57**	P	P	**06 36 22.6**	**-0.9**
KIMD				S	S	**06 36 38.6**	**-0.9**
KIWB	**Kanaga Island**	**1.34**	**55**	*e*P	P	**06 36 24.0**	**-0.8**
KIKV	**Kanaga Island**	**1.35**	**54**	P	P	**06 36 24.3**	**-0.6**
KIRH	**Kanaga Island**	**1.40**	**54**	P	P	**06 36 25.4**	**-0.2**
ADAG	**Mount Adagdak**	**1.70**	**

comp=Z,1.8nm,0.8s,mb3.9
MCMT McKenzie Canyo 43.34 71 *e*P **P 06 43 58.7 -0.6**
BOZ Bozeman (W) 43.62 70 *e*P **P 06 44 01.7 +0.1**
comp=Z,4.2nm,0.9s,mb4.2
RRI2 Red Ridge 45.08 72 *e*P **P 06 44 13.2 0.0**
comp=Z,2.7nm,0.6s,mb4.2
BW06 Boulder Array 46.47 72 *e*P **P 06 44 24.9 +0.6**
comp=Z,4.2nm,0.6s,mb4.5
PDAR Pinedale Array 46.47 72 P **P 06 44 25.9 +1.6**
comp=Z,4.7nm,0.6s,mb4.6,baz=308,slow=4.2,SNR=60
SONM Songino Array 46.70 297 P **P 06 44 26.6 +0.6**
comp=Z,0.9nm,0.7s,mb3.8,baz=64,slow=7.9,SNR=8.6
SRU San Rafael 48.07 76 *e*P **P 06 44 36.4 -0.5**
NJ2 Nanjing 48.74 272 *e*P **P 06 44 43.8 +1.7**
NJ2 AMB AMB
comp=Z,20nm,0.9s,mb5.2
PV01 Paradox Valley 49.88 76 *e*P **P 06 44 48.4 -2.4**
SMCO Snowmass 50.20 74 P **P 06 44 52.4 -0.8**
SDCO Great Sand Dun 52.00 75 *e*P **P 06 45 06.9 0.0**
comp=Z,3.9nm,1.3s,mb4.2
WMOK Wichita Mounta 58.05 73 *e*P **P 06 45 50.0 -0.7**
comp=Z,1.0nm,0.6s,mb4.0
ARCES ARCESS Array B 58.35 350 P **P 06 45 51.0 -1.4**
comp=Z,1.1nm,0.6s,mb4.1,baz=27,slow=8.1,SNR=7.0
TXAR Lajitas Array 58.78 81 P **P 06 45 56.3 +0.4**
comp=Z,0.6nm,0.8s,mb3.7,baz=307,slow=5.7,SNR=7.3
WMQ Urumqi 59.42 303 *e*P **P 06 46 03.0 +2.8**
WMQ AP pP 06 46 13.0 -3.2
WMQ XP sP 06 46 17.0 -6.1
WMQ PP PP 06 48 17.0 +3.3
WMQ S **S 06 54 09.0 +6.1**
WMQ AMB AMB
comp=Z,14nm,1.0s,mb5.0
WMQ AMB AMB
comp=Z,11nm,8.0s
WMQ LR LR
comp=N,45nm,20.0s,MS3.9
WMQ LR LR
comp=E,76nm,18.0s,MS3.9
WMQ LR LR
comp=Z,42nm,16.0s,MS3.7
PLAL Pickwick Lake 64.20 66 *e*P **P 06 46 31.6 -0.6**
comp=Z,2.1nm,0.8s,mb4.2
CPCT Cooper Cave 65.88 63 *e*P **P 06 46 42.8 -0.2**
FINES FINESS Array B 66.04 347 P **P 06 46 42.6 -0.9**
comp=Z,1.5nm,0.8s,mb4.1,baz=18,slow=6.0,SNR=5.9
NOA NORSAR Array B 67.91 355 P **P 06 46 55.6 +0.2**
comp=Z,0.7nm,0.7s,mb3.8,baz=6.4,slow=6.1,SNR=2.8
AKASG Malin Array Be 75.79 342 P **P 06 47 42.3 0.0**
comp=Z,0.4nm,0.3s,mb3.8,baz=18,slow=5.6,SNR=9.8
WRA Warramunga Arr 81.76 224 P **P 06 48 15.9 +0.5**
comp=Z,0.5nm,0.7s,mb3.5,baz=33,slow=6.1,SNR=7.5
BRTR Keskin Array B 85.16 335 P **P 06 48 33.2 +1.1**
comp=Z,1.1nm,0.6s,mb4.1,baz=90,slow=2.5,SNR=4.0
BOSA Boshof 151.10 312 PKPbc PKPdf 06 55 50.7 +9.0
comp=Z,1.7nm,0.7s,baz=44,slow=2.3,SNR=4.2

*IDC **10** 07:21:19.6±0.9, 15.22S×66.59E, mb3.9/11, mb1 4.0/11, mb1mx3.9/20, mbtmp3.9/11, MS3.9/9, Ms1 3.9/9, ms1mx3.7/17, Error ellipse: s-maj=31.7km s-min=23.6km az=33.0*
*NEIC **10** 07:21:21.7±0.5, 15.27S×66.62E, h10km, mb4.7/1, Error ellipse: s-maj=20.0km s-min=18.5km az=88.0*
ISC 10 07:21:21.0±0.6, 15.0S±0.1×66.9E±0.2, h10km, (h10km±.4km:pP-P), n38, σ0§95/16, mb3.9/12, MS4.0/9, 3C, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**32.37**	**292**	LR		LR	LR	07 38 15.6	
	comp=Z,166nm,19.5s,MS3.7,baz=96,slow=32								
LBTB	**Lobatse**	**39.95**	**249**	P		**P**	**P**	**07 28 52.3**	**-5.2**
	1.2nm,0.5s,mb3.9,baz=90,slow=8.1,SNR=1.5								
BOSA	**Boshof**	**40.78**	**243**	LR		LR	LR	07 42 59.7	
	comp=Z,232nm,18.5s,MS4.1,baz=17,slow=32								
NWAO	**Narrogin (SRO)**	**48.85**	**121**	LR		LR	LR	07 46 28.7	
	comp=Z,76nm,18.4s,MS3.7,baz=104,slow=31								
MAW	**Mawson**	**52.65**	**182**	LR		LR	LR	07 47 03.0	
	comp=Z,117nm,21.0s,MS3.9,baz=228,slow=30								
FITZ	**Fitzroy Crossi**	**56.18**	**102**	LR		LR	LR	07 51 07.9	
	comp=Z,214nm,20.6s,MS4.2,baz=267,slow=32								
GNI	**Garni**	**58.60**	**340**	P		**P**	**P**	**07 31 21.9**	**+1.3**
	4.7nm,0.7s,mb4.6								
BRTR	**Keskin Array B**	**62.64**	**332**	P		**P**	**P**	**07 31 47.5**	**-0.6**
	0.4nm,0.4s,mb3.9,baz=159,slow=12,SNR=2.4								
MKAR	**Makanchi Array**	**63.02**	**12**	P		**P**	**P**	**07 31 50.0**	**-0.5**
	0.3nm,0.5s,mb3.6,baz=191,slow=7.3,SNR=5.1								
MKAR				LR		LR	LR	07 58 34.5	
	comp=Z,60nm,20.4s,MS3.8,baz=185,slow=35								
WRA	**Warramunga Arr**	**64.14**	**105**	P		**P**	**P**	**07 31 58.6**	**+0.3**
	1.4nm,0.7s,mb4.1,baz=271,slow=5.9,SNR=13								
BVAR	**Borovoye Array**	**67.79**	**2**	P		**P**	**P**	**07 32 21.0**	**-0.1**
	0.4nm,0.6s,mb3.6,baz=207,slow=6.4,SNR=4.0								
STKA	**Stephens Creek**	**69.38**	**119**	P		**P**	**P**	**07 32 30.4**	**-1.0**
	1.2nm,0.8s,mb3.9,baz=269,slow=20,SNR=1.4								
SNAA	**Sanae**	**69.55**	**198**	*e*		**P**	**P**	**07 32 31.5**	**-0.2**
SNAA	**Sanae**	**69.55**	**198**	⇑*i*P		**P**	**P**	**07 32 28.4**	**-3.3**
SNAA				*e*		pP	pP	07 32 31.5	-3.3
ZAL	**Zalesovo**	**70.33**	**11**	P		**P**	**P**	**07 32 37.7**	**+1.0**
	0.9nm,0.4s,mb4.0,baz=90,slow=13,SNR=2.4								
VNA2	**Neumayer--Watz**	**70.82**	**200**	*e*		pP	pP	07 32 42.7	+0.1
VNA2	**Neumayer--Watz**	**70.82**	**200**	⇑*i*P		**P**	**P**	**07 32 40.0**	**+0.5**
VNA2				*e*		pP	pP	07 32 42.7	+0.1
VNA3	**Neumayer Olymp**	**71.60**	**199**	*e*		pP	pP	07 32 47.8	+0.5
VNA3	**Neumayer Olymp**	**71.60**	**199**	⇑*i*P		**P**	**P**	**07 32 44.6**	**+0.4**
VNA3				*e*		pP	pP	07 32 47.8	+0.5
SONM	**Songino Array**	**71.77**	**27**	P		**P**	**P**	**07 32 44.9**	**-0.7**
	0.6nm,0.8s,mb3.6,baz=219,slow=5.5,SNR=2.6								
SONM				LR		LR	LR	08 03 01.7	
	comp=Z,117nm,21.3s,MS4.1,baz=252,slow=35								
AKASG	**Malin Array Be**	**73.26**	**336**	P		**P**	**P**	**07 32 52.2**	**-2.1**
	0.1nm,0.2s,mb3.3,baz=135,slow=5.2,SNR=3.5								
DBIC	**Dimbokro**	**74.30**	**281**	LR		LR	LR	08 02 54.5	
	comp=Z,77nm,18.4s,MS4.0,baz=146,slow=34								
MJAR	**Matsushiro Arr**	**84.41**	**50**	P		**P**	**P**	**07 33 56.4**	**+1.1**
	0.5nm,0.3s,mb4.2,baz=249,slow=7.0,SNR=3.1								
MJAR				LR		LR	LR	08 11 32.6	
	comp=Z,61nm,19.4s,MS4.0,baz=220,slow=36								
ESDC	**Sonseca Array**	**85.36**	**313**	P		**P**	**P**	**07 34 00.5**	**+0.6**
	0.7nm,0.5s,mb4.0,baz=120,slow=6.9,SNR=5.7								
JSC	**Jenkinsville**	**145.49**	**310**	*e*PKPdf		PKPdf	PKPdf	07 41 01.7	-1.2
DGMT	**Dagmar**	**145.81**	**349**	*e*PKPbc		PKPbc	PKPbc	07 41 03.4	+2.6
CPCT	**Cooper Cave**	**147.28**	**314**	*e*PKPbc		PKPdf	PKPdf	07 41 05.2	-0.7
CHMT	**Chamberlain Mo**	**148.16**	**0**	*e*PKPdf		PKPdf	PKPdf	07 41 05.8	-1.1
MSO	**Missoula**	**148.24**	**1**	*e*PKPbc		PKPdf	PKPdf	07 41 10.7	+3.6
SWET	**Sewanee**	**148.38**	**315**	*e*PKPbc		PKPdf	PKPdf	07 41 07.1	-0.6
BOZ	**Bozeman (W)**	**149.41**	**358**	*e*PKPbc		PKPdf	PKPdf	07 41 12.8	+3.8
RSSD	**Black Hills**	**149.95**	**347**	*e*PKPbc		PKPdf	PKPdf	07 41 13.3	+3.4
LRAL	**Lakeview Retre**	**150.28**	**312**	*e*PKPbc		PKPdf	PKPdf	07 41 14.8	+4.0
LOHW	**Long Hollow**	**151.39**	**355**	*e*PKPbc		PKPdf	PKPdf	07 41 18.1	+6.0
HLID	**Hailey**	**151.49**	**2**	*e*PKPbc		PKPdf	PKPdf	07 41 18.6	+6.4
SNOW	**Snow King Moun**	**151.54**	**356**	*e*PKPbc		PKPdf	PKPdf	07 41 15.6	+3.3
PDAR	**Pinedale Array**	**152.14**	**354**	PKPbc		PKPdf	PKPdf	07 41 17.6	+4.4
	0.7nm,0.6s,baz=342,slow=4.7,SNR=5.4								
PDAR				PKPab		PKPab	PKPab	07 41 27.6	-1.3
	1.9nm,0.7s,baz=46,slow=2.6,SNR=14								
TXAR	**Lajitas Array**	**163.28**	**330**	PKPab		PKPab	PKPab	07 42 13.7	-3.3
	0.2nm,0.7s,baz=45,slow=3.8,SNR=2.9								

*IDC **10** 07:23:22.4±3.1, 11.52N×125.48E, mb3.5/3, mb1 3.7/3, mb1mx3.4/18, mbtmp3.5/3, Error ellipse: s-maj=289.4km s-min=27.7km az=63.0*
*MAN **10** 07:23:25.5, 11.72N×125.75E, h19km, mb4.2, ML3.0, MS2.8*
ISC 10 07:23:23.6±2.6, 11.75N±0.09×125.9E±0.1, h24km±16km, n10, σ1§00/14, mb3.6/3, 1C, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.51**	**253**	*e*P		**Pb**	**Pb**	**07 23 33.6**	**-0.2**
BESP				*e*S		**Sb**	**Sb**	**07 23 41.4**	**+0.6**
PLP	**Palo**	**1.10**	**238**	*i*P		**Pn**	**Pn**	**07 23 43.1**	**-0.6**
PLP				*e*S		**Sb**	**Sb**	**07 23 56.7**	**-1.1**
CNP	**Catarman**	**1.46**	**302**	*e*P		**Pn**	**Pn**	**07 23 47.9**	**-0.9**
CNP				*e*S		**Sn**	**Sn**	**07 24 07.2**	**0.0**
MSLP	**Maasin**	**1.92**	**213**	*e*P		**Pn**	**Pn**	**07 23 59.4**	**+4.0**
MSLP				*e*S		**Sn**	**Sn**	**07 24 26.8**	**+7.8**
SCPH	**Surigao**	**2.00**	**193**	⇑*e*P		**Pn**	**Pn**	**07 23 57.9**	**+1.3**
PVCP	**Virac**	**2.53**	**317**	*e*P		**Pn**	**Pn**	**07 24 04.6**	**+0.5**
RCP	**Roxas**	**3.13**	**267**	*i*P		**Pn**	**Pn**	**07 24 14.7**	**+2.0**
WRA	**Warramunga Arr**	**32.56**	**165**	P		**P**	**P**	**07 29 53.8**	**-1.6**
	0.2nm,0.6s,mb3.3,baz=346,slow=9.4,SNR=3.6								
STKA	**Stephens Creek**	**45.90**	**161**	P		**P**	**P**	**07 31 46.9**	**+0.6**
	1.9nm,0.9s,mb4.0,baz=325,slow=9.3,SNR=2.9								
MKAR	**Makanchi Array**	**50.66**	**322**	P		**P**	**P**	**07 32 22.7**	**-0.4**
	0.5nm,0.7s,mb3.6,baz=113,slow=9.2,SNR=5.2								

*IDC **10** 07:33:05.1±1.2, 11.78N×125.86E, mb4.1/9, mb1 4.2/9, mb1mx4.0/20, mbtmp4.1/9, Error ellipse: s-maj=104.0km s-min=16.4km az=69.0*
*NEIC **10** 07:33:06.3±0.7, 11.80N×126.00E, h10km, mb4.6/2, Error ellipse: s-maj=64.0km s-min=8.3km az=69.0*
*MAN **10** 07:33:08.0, 11.91N×125.93E, h10km, mb4.8, ML3.7, MS3.7*
ISC 10 07:33:04.6±0.5, 11.95N±0.04×126.16E±0.05, h10km, n30, σ1§14/35, mb4.2/10, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.78**	**244**	*e*P		**Pb**	**Pb**	**07 33 19.3**	**-0.5**
BESP				*e*S		**Sb**	**Sb**	**07 33 28.7**	**-1.5**
PLP	**Palo**	**1.39**	**236**	*e*P		**Pn**	**Pn**	**07 33 27.7**	**-2.4**
CNP	**Catarman**	**1.56**	**291**	*e*P		**Pn**	**Pn**	**07 33 32.5**	**-0.1**
CNP				*e*S		**Sb**	**Sb**	**07 33 51.7**	**-1.2**
MSLP	**Maasin**	**2.21**	**215**	*e*P		**Pn**	**Pn**	**07 33 43.9**	**+2.1**
MSLP				*e*S		**Sn**	**Sn**	**07 34 10.4**	**+1.0**
SCPH	**Surigao**	**2.25**	**197**	⇓*e*P		**Pn**	**Pn**	**07 33 42.7**	**+0.3**
PVCP	**Virac**	**2.55**	**310**	*e*P		**Pn**	**Pn**	**07 33 47.5**	**+0.8**
LLP	**Lapu-Lapu**	**2.69**	**233**	*e*P		**Pn**	**Pn**	**07 33 39.8**	**-8.9**
LLP				*e*S		**Sn**	**Sn**	**07 34 12.4**	**-9.3**
BUTP	**Butuan**	**3.00**	**190**	*e*P		**Pn**	**Pn**	**07 33 55.9**	**+2.7**
TBP	**Tagbilaran**	**3.18**	**225**	*e*P		**Pn**	**Pn**	**07 33 58.4**	**+2.8**
TBP				*e*S		**Sn**	**Sn**	**07 34 34.4**	**+0.4**
RCP	**Roxas**	**3.36**	**264**	*e*P		**Pn**	**Pn**	**07 33 59.2**	**+0.9**
GUIM	**Jordan**	**3.74**	**250**	*e*P		**Pn**	**Pn**	**07 34 03.9**	**+0.3**
SNPH	**Sibulan**	**3.86**	**228**	*e*P		**Pn**	**Pn**	**07 34 05.7**	**+0.3**
PAGZ	**Pagadian**	**4.90**	**214**	*e*P		**Pn**	**Pn**	**07 34 20.7**	**+0.6**
FITZ	**Fitzroy Crossi**	**29.86**	**181**	*e*P		**P**	**P**	**07 39 13.5**	**-1.2**
	5.8nm,1.1s,mb4.2								
FITZ	**Fitzroy Crossi**	**29.86**	**181**	P		**P**	**P**	**07 39 13.5**	**-1.2**
	3.5nm,0.7s,mb4.2,baz=7.2,slow=9.1,SNR=6.4								
WRAB	**Tennant Creek**	**32.69**	**166**	P		**P**	**P**	**07 39 38.3**	**-1.2**
WRA	**Warramunga Arr**	**32.70**	**166**	P		**P**	**P**	**07 39 37.6**	**-1.9**
	0.6nm,0.9s,mb3.5,baz=346,slow=9.2,SNR=8.5								
WB2	**Warramunga Arr**	**32.70**	**166**	*e*P		**P**	**P**	**07 39 37.9**	**-1.7**
SONM	**Songino Array**	**39.42**	**339**	P		**P**	**P**	**07 40 37.6**	**+1.2**
	0.4nm,0.6s,mb3.3,baz=166,slow=5.9,SNR=3.8								
STKA	**Stephens Creek**	**46.02**	**162**	P		**P**	**P**	**07 41 30.6**	**+0.4**
	5.8nm,0.7s,mb4.6,baz=331,slow=7.7,SNR=17								
STKA	**Stephens Creek**	**46.02**	**162**	*e*P		**P**	**P**	**07 41 29.9**	**-0.4**
MKAR	**Makanchi Array**	**50.64**	**322**	P		**P**	**P**	**07 42 07.0**	**+1.0**
	4.9nm,0.9s,mb4.4,baz=118,slow=8.3,SNR=30								
MKAR	**Makanchi Array**	**50.64**	**322**	P		**P**	**P**	**07 42 07.0**	**+1.0**
KURK	**Kurchatov**	**54.64**	**325**	*e*P		**P**	**P**	**07 42 36.0**	**+0.2**
	13nm,1.0s,mb4.9								
BVAR	**Borovoye Array**	**60.23**	**325**	P		**P**	**P**	**07 43 15.1**	**-0.2**
	1.9nm,0.8s,mb4.2,baz=127,slow=7.4,SNR=8.7								
BRVK	**Borovoye**	**60.31**	**325**	P		**P**	**P**	**07 43 15.2**	**-0.6**
ARCES	**ARCESS Array B**	**82.59**	**340**	P		**P**	**P**	**07 45 29.9**	**+1.0**
	1.5nm,0.8s,mb4.0,baz=82,slow=6.1,SNR=4.0								
ARCES	**ARCESS Array B**	**82.59**	**340**	P		**P**	**P**	**07 45 29.9**	**+1.0**
BRTR	**Keskin Array B**	**84.39**	**309**	P		**P**	**P**	**07 45 38.0**	**-0.8**
	1.4nm,0.7s,mb4.2,baz=99,slow=4.1,SNR=5.4								
AKASG	**Malin Array Be**	**85.20**	**321**	P		**P**	**P**	**07 45 42.5**	**0.0**
	1.6nm,0.6s,mb4.3,baz=61,slow=4.8,SNR=8.0								

*NEIC **10** 07:39:19.3, 16.80N×94.17W, h176km, MD3.8(MEX), After MEX.*
MEX 10 07:39:18.6±0.7, 16.73N×94.16W, h186km±20km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**1.99**	**103**	*e*P		P	P	07 39 55.7	-0.6
CCIG				*i*S		S	S	07 40 23.0	-2.3
HUIG	**Huatulco**	**2.10**	**243**	*i*P		P	P	07 39 55.5	-2.1
HUIG				*i*S		S	S	07 40 25.3	-2.3
OXX	**Oaxaca**	**2.48**	**279**	*i*P		P	P	07 40 01.1	-0.9
OXX				*i*S		S	S	07 40 32.5	-2.9
OXX	**Oaxaca**	**2.48**	**279**	*i*P		P	P	07 40 02.1	+0.1
OXX				*i*S		S	S	07 40 32.5	-2.9
VHO	**Vista Hermosa**	**2.49**	**278**	*e*P		P	P	07 40 01.1	-1.0
VHO				*i*S		S	S	07 40 31.7	-3.8

MAN 10 07:40:14.4, 11.94N×126.08E, h11km, mb4.4, ML3.2, MS3.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.71**	**242**	*e*P		Pb	Pb	07 40 27.7	-0.6
BESP				*e*S		Sb	Sb	07 40 36.6	-1.2
PLP	**Palo**	**1.32**	**234**	*i*P		Pb	Pb	07 40 37.5	-1.3
PLP				*e*S		Sb	Sb	07 40 52.9	-2.8
CNP	**Catarman**	**1.49**	**292**	*e*P		Pn	Pn	07 40 41.0	-0.3
MSLP	**Maasin**	**2.16**	**214**	*e*P		Pn	Pn	07 40 51.7	+0.9
MSLP				*e*S		Sn	Sn	07 41 18.7	+0.9
PVCP	**Virac**	**2.50**	**311**	*e*P		Pn	Pn	07 40 54.7	-1.0
TBP	**Tagbilaran**	**3.12**	**224**	*e*P		Pn	Pn	07 41 07.3	+2.8
TBP				*e*S		Sn	Sn	07 41 46.7	+4.5
RCP	**Roxas**	**3.28**	**264**	*i*P		Pn	Pn	07 41 07.3	+0.4

DHMR 10 07:40:54.2±2.3, 13.33N×50.66E, h4km±707km, ML4.2, 2D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MUKL	**Al Mukalla**	**1.95**	**306**	*i*P		Pn	Pn	07 41 28.2	-0.1
MUKL				*i*S		Sn	Sn	07 41 56.3	+2.7
MUKL				AML		AML	AML	07 41 58.2	
	comp=N,3μm,0.3s								
BDHA	**Al Bayda'**	**4.99**	**278**	⇓*i*P		Pn		07 42 13.1	+1.3
BDHA				*e*				07 42 13.7	
	baz=112,slow=16								
BDHA				*i*S		Sn		07 43 12.8	+2.1
LBOS		**5.29**	**276**	⇓*i*P		Pn		07 42 16.2	+0.3

CASC 10 07:49:55.6±2.4, 12.42N×89.44W, h17km±10km, MD4.1, 4C-3D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LFRS	**El Faro**	**1.25**	**17**	⇑*e*P		Pb	Pb	07 50 17.4	-1.1
LFRS				*e*S		Sb	Sb	07 50 35.7	+1.5
LCBS	**La Ceiba**	**1.31**	**20**	⇑*e*P		Pn	Pn	07 50 18.1	-1.2
BOQS	**Boqueron**	**1.32**	**7**	⇑*e*P		Pn	Pn	07 50 18.7	-0.7
BOQS				*e*S		Sb	Sb	07 50 37.7	+1.7
SNVI	**San Vicente**	**1.33**	**26**	*e*P		Pn	Pn	07 50 19.5	0.0
LBRS	**Las Brisas**	**1.37**	**17**	⇓*e*P		Pn	Pn	07 50 20.2	+0.1
SBLS	**San Blas**	**1.42**	**353**	⇓*e*P		Pn	Pn	07 50 20.2	-0.7
SBLS				*e*S		Sb	Sb	07 50 39.1	+0.1
SNJE	**San Jose**	**1.45**	**354**	⇓*e*P		Pn	Pn	07 50 20.6	-0.7
RTR	**El Retiro**	**1.48**	**352**	⇑*e*P		Pn	Pn	07 50 20.9	-0.8
IXG	**Ixpaco**	**2.00**	**331**	*e*P		Pn	Pn	07 50 27.7	-1.6
IXG				*e*S		Sn	Sn	07 50 56.0	+1.9
IXG				*e*S		Sn	Sn	07 50 58.5	+4.5
LEON	**Leon**	**2.49**	**90**	*e*P		Pn	Pn	07 50 36.2	0.0
TEL3	**Telica 3**	**2.54**	**86**	*e*P		Pn	Pn	07 50 37.5	+0.5
MRL	**Marmol**	**2.64**	**355**	*e*P		Pn	Pn	07 50 38.4	+0.1
MRL				*e*S		Sn	Sn	07 51 10.6	+0.3
MRL				*e*S		Sn	Sn	07 51 14.1	+3.8
COPN	**Copaltepe**	**2.80**	**95**	*e*P		Pn	Pn	07 50 40.7	+0.1
COPN				*e*S		Sn	Sn	07 51 12.6	-1.6
MGAN	**Managua**	**3.14**	**95**	*e*S		Sn	Sn	07 51 22.7	-0.1
WILN	**Americas 2**	**3.19**	**94**	*e*S		Sn	Sn	07 51 22.2	-2.0

MAN 10 08:09:52.3, 11.80N×125.30E, h35km, mb3.9, ML2.6, MS2.3, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.24**	**145**	*e*P		P	P	08 09 57.1	-2.4
BESP				*e*S		S	S	08 10 04.6	+0.1
PLP	**Palo**	**0.70**	**207**	*e*P		P	P	08 10 06.4	+0.6
PLP				*e*S		S	S	08 10 20.2	+4.7
CNP	**Catarman**	**0.94**	**319**	*e*P		P	P	08 10 10.7	+1.5
MSLP	**Maasin**	**1.71**	**195**	*e*P		P	P	08 10 23.8	+3.7

*IDC **10** 08:27:47.7±1.7, 62.76S×147.10E, mb4.0/2, mb1 4.5/3, mb1mx4.1/12, mbtmp4.2/3, ML4.7/1, MS3.9/13, Ms1 3.9/13, ms1mx3.8/20, Error ellipse: s-maj=95.3km s-min=26.2km az=85.0*
*NEIC **10** 08:27:49.9±0.8, 62.67S×146.77E, h10km, mb4.6/3, Error ellipse: s-maj=57.8km s-min=10.5km az=85.0*
ISC 10 08:27:46.4±1.4, 62.6S±0.1×14.9E±.1, h10km, n25, σ0§78/11, mb4.3/5, MS3.9/12, 1C-2D, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**15.53**	**169**	Pn		**P**		**08 31 25.8**	**-0.7**
	2.6nm,0.3s,baz=327,slow=12,SNR=32								
VNDA				Sn		**S**		**08 34 09.1**	**-10**
	0.8nm,0.3s,baz=194,slow=16,SNR=3.5								
VNDA				LR		LR	LR	08 37 32.2	
	comp=Z,150nm,21.1s,baz=336,slow=38								
RPZ	**Rata Peaks**	**23.00**	**45**	LR		LR	LR	08 40 36.6	
	comp=Z,383nm,19.9s,MS3.9,baz=249,slow=33								
QSPA	**South Pole Qui**	**27.45**	**180**	*e*P		**P**		**08 33 37.0**	**+3.4**
	25nm,1.0s,mb4.7								
URZ	**Urewera**	**29.92**	**49**	LR		LR	LR	08 43 05.1	
	comp=Z,174nm,20.4s,MS3.7,baz=164,slow=30								
MAW	**Mawson**	**33.68**	**224**	LR		LR	LR	08 48 27.8	
	comp=Z,120nm,18.4s,MS3.6,baz=90,slow=38								
RAO	**Raoul Island**	**39.81**	**49**	LR		LR	LR	08 50 55.6	
	comp=Z,249nm,18.6s,MS4.1,baz=27,slow=34								
DZM	**Mont Dzumac**	**42.32**	**25**	LR		LR	LR	08 49 41.4	
	comp=Z,199nm,18.5s,MS4.0,baz=204,slow=31								
CTA	**Charters Tower**	**42.55**	**357**	LR		LR	LR	08 51 38.9	
	comp=Z,224nm,18.5s,MS4.1,baz=185,slow=34								
WB2	**Warramunga Arr**	**43.79**	**340**	*e*P		**P**	**P**	**08 35 54.1**	**+0.4**
WRA	**Warramunga Arr**	**43.80**	**340**	P		**P**	**P**	**08 35 54.1**	**+0.4**
	3.3nm,0.6s,mb4.2,baz=171,slow=7.2,SNR=66								
WRAB	**Tennant Creek**	**43.80**	**340**	*e*P		**P**		**08 35 54.0**	**+0.2**
	7.2nm,0.8s,mb4.5								
SNAA	**Sanae**	**44.53**	**192**	⇓*i*		**P**	**P**	**08 35 58.5**	**-0.6**
SNAA	**Sanae**	**44.53**	**192**	P		**P**	**P**	**08 35 59.2**	**+0.1**
	1.5nm,1.0s,mb3.8,baz=164,slow=9.9,SNR=8.2								
SNAA				LR		LR	LR	08 55 09.1	
	comp=Z,67nm,21.3s,MS3.5,baz=7.0,slow=37								
VNA2	**Neumayer--Watz**	**45.67**	**191**	⇑*i*		**P**	**P**	**08 36 08.4**	**+0.2**
VNA1	**Neumayer--Stat**	**46.02**	**190**	⇓*i*		**P**	**P**	**08 36 11.3**	**+0.4**
FITZ	**Fitzroy Crossi**	**47.29**	**330**	*e*P		**P**	**P**	**08 36 20.3**	**-1.3**
	3.4nm,0.9s,mb4.3								
FITZ	**Fitzroy Crossi**	**47.29**	**330**	LR		LR	LR	08 53 49.1	
	comp=Z,182nm,19.8s,MS4.0,baz=265,slow=33								
PMG	**Port Moresby**	**53.15**	**358**	LR		LR	LR	08 58 46.5	
	comp=Z,96nm,19.6s,MS3.9,baz=219,slow=35								
HNR	**Honiara**	**53.74**	**14**	LR		LR	LR	08 54 09.5	
	comp=Z,100nm,18.4s,MS3.9,baz=302,slow=29								
PLCA	**Paso Flores**	**72.27**	**150**	LR		LR	LR	09 07 12.7	
	comp=Z,124nm,19.9s,MS4.2,baz=193,slow=33								
CPUP	**Villa Florida**	**88.94**	**157**	LR		LR	LR	09 19 23.1	
	comp=Z,83nm,18.1s,MS4.2,baz=222,slow=35								
YKA	**Yellowknife Ar**	**144.15**	**52**	PKP		PKPdf	PKPdf	08 47 24.2	+0.6
	0.4nm,0.6s,baz=239,slow=3.6,SNR=2.5								
AKASG	**Malin Array Be**	**145.99**	**278**	PKPbc		PKPbc	PKPbc	08 47 24.9	-0.3
	0.5nm,0.4s,baz=111,slow=2.7,SNR=4.1								
ESDC	**Sonseca Array**	**151.72**	**228**	PKPbc		PKPdf	PKPdf	08 47 41.6	+5

ROCH El Roble 1.76 43⇓ *i*P Pn 08 43 54.4 +0.3
ROCH *i* S **Sn 08 44 16.6 +0.6**
DSCH Colegio Aleman 1.79 62 *e*P **Pn 08 43 54.9 +0.4**
DSCH *i* S **Sn 08 44 17.0 +0.3**
DSCH AMP 08 44 21.6
comp=N,8μm,0.3s
CLCH Cerro Calan 1.81 62⇑ *i*P **Pn 08 43 55.0 +0.2**
CLCH *i* S **Sn 08 44 17.0 -0.3**
CLCH AMP 08 44 29.7
comp=E,5μm,0.4s
PEL Peldehue 1.84 53⇓ *i*P **Pn 08 43 55.9 +0.6**
SJCH San Jose de Ma 1.85 71 *e*P **Pn 08 43 55.4 0.0**
SJCH *i* S **Sn 08 44 17.8 -0.4**
SJCH AMP 08 44 22.8
comp=E,4μm,0.4s
LMEL Las Melosas 1.91 78⇑ *i*P **Pn 08 43 56.3 +0.1**
LMEL *i* S **Sn 08 44 19.6 -0.1**
LMEL AMP 08 44 26.0
comp=N,5μm,0.3s
FCH Farellones 2.02 63⇑ *i*P **Pn 08 43 57.9 0.0**
FCH *i* S **Sn 08 44 23.6 +0.9**
FCH AMP 08 44 30.0
comp=N,3μm,0.3s
JACH Jahuel 2.21 45⇓ *i*P **Pn 08 44 00.7 +0.1**
CCHI Chillan 2.35 173⇑ *i*P **Pn 08 44 04.5 +1.9**
CCHI *i* S **Sn 08 44 32.1 +1.0**
CCHI AMP 08 44 54.9
comp=N,1μm,0.8s
CHNG Los Chungos 2.50 19⇑ *i*P **Pn 08 44 04.1 -0.6**
CHNG AMP 08 44 56.7
comp=E,808nm,0.5s
CFAA Coronel Fontan 4.42 54 Pn **Pn 08 44 32.0 0.0**
comp=E,1.3nm,0.3s,baz=227,slow=12,SNR=184
CFAA Sn **Sn 08 45 26.2 +2.7**
comp=E,0.7nm,0.3s,baz=243,slow=16,SNR=3.6
CFAA Lg 08 45 42.1
comp=E,3.2nm,0.3s,baz=11,slow=15,SNR=6.7
PLCA Paso Flores 6.63 167 Pn **Pn 08 45 02.6 -0.5**
comp=E,0.2nm,0.3s,baz=208,slow=22,SNR=3.4
PLCA Lg 08 46 54.2
comp=E,0.2nm,0.3s,baz=291,slow=20,SNR=4.0
PLCA LR LR 08 47 47.1
comp=E,287nm,18.6s,baz=355,slow=40
LVC Limon Verde 12.02 16 Pn **P 08 46 10.6 -6.9**
comp=E,0.5nm,0.3s,baz=171,slow=7.2,SNR=7.3
LVC Sn **S 08 48 43.3 +11**
comp=E,0.1nm,0.3s,baz=161,slow=18,SNR=2.3
LVC LR LR 08 51 07.2
comp=E,240nm,19.0s,baz=208,slow=38
CPUP Villa Florida 15.25 63 LR LR 08 53 11.2
comp=E,242nm,19.6s,baz=314,slow=39
LPAZ La Paz 18.32 13 P **P 08 47 40.4 +1.4**
comp=E,0.5nm,0.3s,baz=191,slow=8.3,SNR=35
SIV San Ignacio 20.88 32 P **P 08 48 05.5 -2.2**
comp=E,10nm,0.7s,baz=219,slow=12,SNR=45
BDFB Brasilia 28.76 56 P **P 08 49 20.5 -2.2**
comp=E,1.9nm,0.5s,mb4.0,baz=228,slow=9.1,SNR=3.8
BDFB LR LR 09 01 14.7
comp=E,154nm,19.6s,MS3.6,baz=143,slow=37
VNA1 Neumayer--Stat 49.56 157 *e* pP 08 52 23.1 +1.0
VNA1 Neumayer--Stat 49.56 157 *e* sP 08 52 31.0 +6.3
VNA2 Neumayer--Watz 49.90 157 *e* **P 08 52 16.8 -1.0**
VNA2 Neumayer--Watz 49.90 157 *e* pP 08 52 25.3 +0.6
SNAA Sanae 51.47 158 *e* **P 08 52 27.9 -1.9**
SNAA Sanae 51.47 158 *e* pP 08 52 36.5 -0.1
SNAA Sanae 51.47 158 P **P 08 52 28.9 -0.8**
comp=E,1.6nm,1.1s,mb3.9,baz=268,slow=7.5,SNR=5.2
TXAR Lajitas Array 69.80 331 P **P 08 54 36.1 +0.8**
comp=E,0.6nm,0.6s,mb3.7,baz=156,slow=8.3,SNR=11
TXAR pP pP 08 54 44.4 +2.2
comp=E,0.4nm,0.6s,baz=148,slow=7.8,SNR=4.0
BOSA Boshof 80.25 118 P **P 08 55 35.2 +0.1**
comp=E,4.5nm,1.0s,mb4.3,baz=231,slow=11,SNR=2.9
BOSA pP pP 08 55 45.1 +2.9
comp=E,3.3nm,0.8s,baz=229,slow=6.7,SNR=3.5
PDAR Pinedale Array 83.84 333 P **P 08 55 53.0 -0.5**
comp=E,0.4nm,0.7s,mb3.6,baz=180,slow=4.5,SNR=4.6
WRA Warramunga Arr 120.37 209 PKP PKPdf 09 02 14.8 -4.1
comp=E,0.3nm,0.5s,baz=175,slow=1.8,SNR=4.5
WRA pPKP 09 02 24.3
comp=E,0.5nm,0.8s,baz=164,slow=1.6,SNR=3.0
BVAR Borovoye Array 147.70 43 PKPbc PKPdf 09 03 06.3 -2.0
comp=E,1.5nm,0.6s,baz=253,slow=3.5,SNR=4.8
BVAR pPKPbc 09 03 17.1
comp=E,1.2nm,0.6s,baz=315,slow=4.2,SNR=3.8
SONM Songino Array 166.41 3 PKPab PKPab 09 04 30.2 -0.8
comp=E,0.4nm,0.7s,baz=352,slow=5.1,SNR=4.1

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*TIF **10** 08:58:17.7, 39.34N×41.11E, h16km±4km*
*ISK **10** 08:58:18.5, 39.35N×41.09E, h15km, ML4.3*
*MOS **10** 08:58:18.8±1.0, 39.14N×41.13E, h10km, mb4.6/13, Error ellipse: s-maj=7.7km s-min=4.8km az=126.6*
*CSEM **10** 08:58:18.9±0.1, 39.18N×41.12E, h8km, mb4.7/2, Error ellipse: s-maj=3.0km s-min=2.3km az=171.0*
*IDC **10** 08:58:19.0±1.0, 39.19N×41.22E, mb4.0/14, mb1 4.1/19, mb1mx4.0/29, mbtmp4.0/19, ML3.7/4, MS3.8/17, Ms1 3.8/17, ms1mx3.7/25, Error ellipse: s-maj=21.4km s-min=7.5km az=175.0*
*NEIC **10** 08:58:22.1±2.1, 39.15N×41.17E, h20km±16km, mb4.5/18, ML4.2(ISK), Error ellipse: s-maj=9.1km s-min=6.4km az=166.0*

ISC 10 08:58:19.5±0.3, 39.25N±0.03×41.11E±0.03, h10km, n146, σ1§21/151, mb4.1/28, MS3.7/19, 11C-9D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZM	**Erzurum**	**0.69**	**16**	*i* PG	**Pg**	**08 58 30.6**	**-2.7**
BTMT	**Batman**	**1.09**	**164**	*i* PN	**Pn**	**08 58 41.6**	**+0.8**
PTK	**Pertek**	**1.38**	**256**	*i* PN	**Pn**	**08 58 43.3**	**-1.6**
PTK				*i* SN	**Sn**	**08 59 03.2**	**-0.2**
DIY	**Diyarbakir**	**1.52**	**207**	PN	**Pn**	**08 58 47.3**	**+0.5**
GUMT	**Gumushane**	**1.75**	**314**	PN	**Pn**	**08 58 47.7**	**-2.4**
VANB	**Van**	**1.89**	**109**	PN	**Pn**	**08 58 51.5**	**-0.7**
VANT	**Van**	**1.95**	**114**	PN	**Pn**	**08 58 51.2**	**-1.8**
SIRT	**Sirnak**	**2.03**	**149**	PN	**Pn**	**08 58 55.0**	**+0.8**
KARS	**Kars**	**2.04**	**48**	PN	**Pn**	**08 58 52.5**	**-1.9**
CLDR	**Caldiran**	**2.18**	**92**	PN	**Pn**	**08 58 56.3**	**-0.1**
BCA	**Borcka**	**2.23**	**10**	PN	**Pn**	**08 58 54.6**	**-2.4**
MYA	**Malataya**	**2.29**	**247**	PN	**Pn**	**08 58 57.9**	**0.0**
MALT	**Malatya**	**2.29**	**247**	*e*P	**Pn**	**08 58 58.1**	**+0.1**
MALT	**Malatya**	**2.29**	**247**	*e*P	**Pn**	**08 58 58.1**	**+0.1**
URFA	**Urfa**	**2.55**	**226**	*e*PN	**Pn**	**08 59 01.6**	**0.0**
HKR	**Hakkari**	**2.65**	**128**	*e*PN	**Pn**	**08 59 03.2**	**+0.1**
GNI	**Garni**	**2.94**	**71**	Pn	**Pn**	**08 59 07.2**	**0.0**
	3.8nm,0.3s,baz=298,slow=3.7,SNR=25						
GNI				Pg	**Pg**	**08 59 13.7**	**-4.5**
	18nm,0.3s,baz=273,slow=6.1,SNR=34						
GNI				Sn	**Sn**	**08 59 42.9**	**0.0**
	9.5nm,0.3s,baz=37,slow=9.4,SNR=4.4						
GNI				Lg		08 59 51.4	
	6.6nm,0.3s,baz=83,slow=24,SNR=4.0						
GNI				LR	LR	09 00 33.2	
	comp=Z,2μm,18.2s,baz=123,slow=47						
GNI	**Garni**	**2.94**	**71**	Pg	**Pg**	**08 59 13.7**	**-4.6**
GNI				S	**Sn**	**08 59 43.0**	**0.0**
GNI	**Garni**	**2.94**	**71**	P	**Pn**	**08 59 07.3**	**+0.1**
GNI						08 59 43.0	
SVSK	**Karacayir**	**3.25**	**283**	*e*PN	**Pn**	**08 59 09.7**	**-1.9**
TBLG	**Delisi**	**3.72**	**47**	P	**Pn**	**08 59 19.2**	**+1.0**
TBLG				S	**Sg**	**09 00 23.3**	**+0.1**
MTA	**Mtatsminda**	**3.72**	**48**	P	**Pn**	**08 59 19.9**	**+1.7**
MTA	**Mtatsminda**	**3.72**	**48**	P	**Sg**	**09 00 20.4**	**-3.0**
TI2	**Plekhanov**	**3.72**	**47**	*i* P	**Pn**	**08 59 17.0**	**-1.3**
	4μm,10.0s						
TI2	**Plekhanov**	**3.72**	**47**	*i* P	**Pn**	**08 59 17.0**	**-1.3**
TI2				pmax	pmax		
	comp=Z,30nm,0.4s						
TI2				MLR	MLR		
	comp=Z,4μm,10.0s						
TI2				MLR	MLR		
	comp=E,4μm,7.0s						
ONI	**Oni**	**3.77**	**27**	P	**Pn**	**08 59 10.8**	**-8.2**
ONI				S	**Sn**	**09 00 16.9**	**+13**
DGRG	**David-gareji**	**3.93**	**55**	P	**Pb**	**08 59 29.8**	**+1.2**
DGRG				S	**Sg**	**09 00 31.3**	**+1.0**
ZEI	**Tsey**	**4.10**	**30**	*e*P	**Pn**	**08 59 24.8**	**+1.1**
	comp=E,38nm,0.1s						
ZEI	**Tsey**	**4.10**	**30**	*e*P	**Pn**	**08 59 24.8**	**+1.1**
ZEI				*e*		09 00 15.3	
ZEI				pmax	pmax		
	comp=Z,18nm,0.1s						
ZEI				pmax	pmax		
	comp=Z,38nm,0.1s						
ZEI				smax			
	comp=N,48nm,0.1s						
ZEI				smax			
	comp=N,57nm,0.1s						
SOC	**Sochi**	**4.46**	**347**	*e*P	**Pn**	**08 59 27.7**	**-1.0**
	comp=N,169nm,1.2s						
SOC	**Sochi**	**4.46**	**347**	*e*P	**Pn**	**08 59 27.7**	**-1.0**
SOC				*e*		09 00 19.0	
SOC				pmax	pmax		
	comp=Z,118nm,0.6s						
SOC				pmax	pmax		
	comp=N,169nm,1.2s						
SOC				pmax	pmax		
	comp=E,68nm,0.8s						
SOC				MLR	MLR		
	comp=Z,441nm,11.0s						
SOC				MLR	MLR		
	comp=N,1μm,15.0s						
SOC				MLR	MLR		
	comp=E,2μm,16.0s						
KIV	**Kislovodsk**	**4.85**	**14**	*i* P	**Pn**	**08 59 35.2**	**+0.9**
	comp=E,400nm,8.0s						
KIV	**Kislovodsk**	**4.85**	**14**	P	**Pn**	**08 59 35.4**	**+1.1**
KIV	**Kislovodsk**	**4.85**	**14**	*i* P	**Pn**	**08 59 35.2**	**+0.9**
KIV				pmax	pmax		
	comp=Z,12nm,0.8s						
KIV				MLR	MLR		
	comp=Z,400nm,8.0s						
BR131	**Keskin Array S**	**5.80**	**277**	*e*P	**Pn**	**08 59 46.7**	**-1.0**
	comp=Z,13nm,0.5s						
BR131	**Keskin Array S**	**5.80**	**277**	*e*P	**Pn**	**08 59 46.7**	**-1.0**
	comp=Z,13nm,0.5s						
BRTR	**Keskin Array B**	**5.80**	**277**	Pn	**Pn**	**08 59 46.8**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=100,slow=14,SNR=21						
BRTR				Pg	**Pg**	**09 00 05.8**	**-9.5**
	comp=Z,2.2nm,0.3s,baz=107,slow=16,SNR=14						
BRTR				Sn	**Sn**	**09 00 53.6**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=114,slow=14,SNR=2.5						
BRTR				Lg		09 01 30.7	
	comp=Z,0.4nm,0.3s,baz=106,slow=27,SNR=6.2						
BRTR	**Keskin Array B**	**5.80**	**277**	P	**Pn**	**08 59 46.8**	**-0.9**
BRTR						09 00 53.6	
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
GOF	**Gofitskoye**	**5.98**	**13⇑**	*i*P	**Pb**	**09 00 02.2**	**-1.4**
GOF				pmax	pmax		
	comp=Z,20nm,1.1s						
ANN	**Anapa**	**6.19**	**335**	*e*P	**Pn**	**08 59 58.1**	**+4.9**
ANN				*e*S	**Sn**	**09 01 15.6**	**+11**
ANN				pmax	pmax		
	comp=Z,89nm,1.7s						
ANN				MLR	MLR		
	comp=N,374nm,12.0s						
ANN				MLR	MLR		
	comp=E,346nm,12.0s						
ANN				MLR	MLR		
	comp=Z,543nm,12.0s						
HWQ	**Hawqa**	**6.46**	**221**	*e*Pn	**Pn**	**08 59 56.8**	**-0.3**
BHL	**Bhannes**	**6.91**	**221**	*e*Pn	**Pn**	**09 00 03.4**	**+0.1**
ASF	**Jabal al Asfar**	**7.85**	**207**	Pn	**Pn**	**09 00 14.6**	**-1.8**
	comp=Z,0.2nm,0.3s,slow=6.1,SNR=2.5						
ASF				Lg		09 02 22.3	
	comp=Z,0.6nm,0.3s,baz=52,slow=14,SNR=3.4						
TIRR	**Tirgusor**	**10.80**	**303**	⇑P	**P**	**09 00 55.7**	**-1.6**
TIRR	**Tirgusor**	**10.80**	**303**	⇑P	**P**	**09 00 55.6**	**-1.6**
TLCR		**10.88**	**307**	⇑P	**P**	**09 00 59.0**	**+0.8**
HARR	**Harsova**	**11.21**	**303**	⇓P	**P**	**09 01 03.0**	**+0.1**
CFR	**Carcaliu**	**11.29**	**306**	⇓P	**P**	**09 01 04.1**	**+0.1**
CFR	**Carcaliu**	**11.29**	**306**	⇓P	**P**	**09 01 04.1**	**+0.2**
KIS	**Kishinev**	**11.85**	**315**	*e*P	**P**	**09 01 22.0**	**+11**
VRI	**Vrincioaia**	**12.49**	**307**	⇓P	**P**	**09 01 25.9**	**+5.8**
VRI	**Vrincioaia**	**12.49**	**307**	⇓P	**P**	**09 01 25.9**	**+5.8**
MLR	**Muntele Rosu**	**12.82**	**304**	Pn	**P**	**09 01 24.2**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=173,slow=9.9,SNR=3.0						
MLR				LR	LR	09 06 59.8	
	comp=Z,139nm,20.6s,baz=309,slow=40						
MLR	**Muntele Rosu**	**12.82**	**304**	⇓P	**P**	**09 01 27.0**	**+2.4**
MLR	**Muntele Rosu**	**12.82**	**304**	⇓P	**P**	**09 01 27.0**	**+2.4**
IDI	**Anoyia**	**13.51**	**258**	LR	LR	09 07 48.4	
	comp=Z,329nm,20.6s,baz=256,slow=42						
AKASG	**Malin Array Be**	**14.19**	**328**	Pn	**P**	**09 01 39.9**	**-2.5**
	comp=Z,0.8nm,0.3s,baz=132,slow=14,SNR=7.2						
AKASG	**Malin Array Be**	**14.19**	**328**	P	**P**	**09 01 39.9**	**-2.6**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
OBN	**Obninsk**	**16.17**	**351**	*e*P	**P**	**09 02 11.3**	**+3.2**
OBN				*e*S	**S**	**09 05 13.2**	**+5.8**
OBN				pmax	pmax		
	comp=Z,19nm,0.9s						
OBN				MLR	MLR		
	comp=Z,300nm,24.0s						
DIVS	**Divcibare**	**16.50**	**294⇑**	*i*P	**P**	**09 02 14.2**	**+1.8**
KOLS	**Kolonicke sedl**	**16.60**	**312**	*e*PN	**P**	**09 02 12.1**	**-1.6**
MOS	**Moscow**	**16.66**	**353**	*e*P	**P**	**09 02 11.6**	**-2.9**
MOS				*e*S	**S**	**09 05 17.2**	**-1.7**
MOS				pmax	pmax		
	comp=Z,42nm,0.7s						
CRVS	**Cervenica-Dubn**	**17.06**	**311**	*i* PN	**P**	**09 02 18.8**	**-0.7**
STHS	**Stebnicka Huta**	**17.43**	**312**	*i*	**P**	**09 02 28.6**	**+4.5**
KECS	**Kecovo**	**17.46**	**309**	*e*PN	**P**	**09 02 21.8**	**-2.7**
PSZ	**Piszkesteto**	**17.60**	**306⇑**	*e*PPP	**P**	**09 02 28.2**	**+1.9**
PSZ	**Piszkesteto**	**17.60**	**306**	*e*P	**P**	**09 02 27.7**	**+1.4**
	comp=Z,10nm,1.0s						
PSZ	**Piszkesteto**	**17.60**	**306**	*e*P	**P**	**09 02 27.7**	**+1.4**
	comp=Z,10nm,1.0s						
PSZ	**Piszkesteto**	**17.60**	**306**	*e*P	**P**	**09 02 27.7**	**+1.4**
PSZ				pmax	pmax		
	comp=Z,10.0nm,1.0s						
VYHS	**Vyhne**	**18.47**	**307**	*e*PN	**P**	**09 02 36.9**	**-0.3**
TIP	**Timpagrande**	**18.86**	**278**	*e*P	**P**	**09 02 40.4**	**-1.5**
TIP	**Timpagrande**	**18.86**	**278**	*e*P	**P**	**09 02 40.4**	**-1.6**
OKC	**Ostrava-Krasne**	**19.42**	**311**	*e*P	**P**	**09 02 48.3**	**-0.1**
OKC				AMS	AMS	09 13 40.0	
	comp=Z,200nm,12.5s						
ZST	**Bratislava**	**19.46**	**305**	*i* P	**P**	**09 02 51.1**	**+2.2**
VRAC	**Vranov**	**20.15**	**308**	P	**P**	**09 02 57.3**	**+0.9**
	comp=Z,5.9nm,0.4s,baz=358,slow=8.7,SNR=4.7						
ARU	**Arti**	**20.70**	**28**	*i* P	**P**	**09 03 02.2**	**+0.1**
	comp=Z,14nm,1.0s						
ARU	**Arti**	**20.70**	**28**	*e*P	**P**	**09 03 01.9**	**-0.3**
	comp=Z,9.5nm,0.8s						
ARU	**Arti**	**20.70**	**28⇓**	*i*P	**P**	**09 03 02.2**	**+0.1**
ARU				*e*		09 03 22.0	
ARU				*e*PPP	PPP	09 03 31.1	-1.8
ARU				*e*S	**S**	**09 06 57.0**	**+8.7**
ARU				*e*SS	SS	09 07 19.1	-0.1
ARU				pmax	pmax		
	comp=Z,14nm,1.0s						
ARU				MLR	MLR		
	comp=Z,100nm,16.0s,MS3.3						
DPC	**Dobruska-Polom**	**20.70**	**311**	*e*P	**P**	**09 03 05.0**	**+2.8**
DPC				*e*pP		09 03 14.9	
DPC				AMS	AMS	09 13 10.0	
	comp=Z,200nm,14.9s						
DPC	**Dobruska-Polom**	**20.70**	**311**	*e*P	**P**	**09 03 05.0**	**+2.8**
DPC				MLR	MLR		
	comp=Z,200nm,14.9s,MS3.6						
KSP	**Ksiaz**	**20.91**	**312**	*e*P	**P**	**09 03 04.6**	**+0.2**
KSP				*e*pP		09 03 06.9	
UPC	**Upice**	**20.94**	**311**	*e*P	**P**	**09 03 07.8**	**+3.1**
VAE	**Valguarnera**	**20.99**	**274**	P	**P**	**09 03 06.3**	**+1.1**
	comp=Z,6.6nm,0.3s,baz=68,slow=19,SNR=2.2						
AQU	**L'Aquila**	**21.17**	**287**	*e*P	**P**	**09 03 06.7**	**-0.4**
	comp=Z,83nm,1.1s,mb5.0						
AQU	**L'Aquila**	**21.17**	**287**	*e*P	**P**	**09 03 06.7**	**-0.4**
	comp=Z,83nm,1.1s,mb5.0						
AQU	**L'Aquila**	**21.17**	**287**	*e*P	**P**	**09 03 06.7**	**-0.4**
AQU				pmax	pmax		
	comp=Z,83nm,1.1s,mb5.0						
MOA	**Molln**	**21.19**	**303⇑**	*i*P	**P**	**09 03 06.3**	**-0.9**
	comp=Z,18nm,1.1s,mb4.3						
KBA	**Koelnbreinsper**	**21.63**	**300⇑**	*i*P	**P**	**09 03 10.7**	**-1.0**
	comp=Z,23nm,1.2s,mb4.5						
KBA	**Koelnbreinsper**	**21.63**	**300⇑**	*i*P	**P**	**09 03 10.7**	**-1.0**
KBA				pmax	pmax		
	comp=Z,23nm,1.2s,mb4.5						
PRU	**Pruhonice**	**21.64**	**308**	*e*P	**P**	**09 03 12.0**	**+0.3**
PRU				*e*pP		09 03 24.0	
PRU				AMS	AMS	09 14 00.0	
	comp=Z,200nm,13.4s						
PRU	**Pruhonice**	**21.64**	**308**	*e*P	**P**	**09 03 12.0**	**+0.3**
PRU				MLR	MLR		
	comp=Z,200nm,13.4s,MS3.7						
SVE	**Sverdlovsk**	**21.77**	**30**	*e*P	**P**	**09 03 13.5**	**+0.5**
SVE				*e*		09 07 09.0	
SVE				*e*S	SS	09 07 40.0	-5.7
SVE				MLR	MLR		
	comp=N,200nm,11.0s,MS3.9						
SVE				MLR	MLR		
	comp=E,200nm,11.0s,MS3.9						
SVE				MLR	MLR		
	comp=Z,200nm,11.0s,MS3.8						
PVCC	**Panska Ves**	**21.81**	**310**	*e*P	**P**	**09 03 14.4**	**+1.0**
PVCC				AMS	AMS	09 14 30.0	
	comp=Z,200nm,15.3s						
GERES	**GERESS Array B**	**21.81**	**305**	P	**P**	**09 03 12.3**	**-1.2**
	comp=Z,3.3nm,0.8s,mb3.8,baz=104,slow=11,SNR=11						
GERES				LR	LR	09 12 42.3	
	comp=Z,79nm,18.4s,MS3.2,baz=129,slow=39						
KHC	**Kasperske Hory**	**21.97**	**306**	*e*P	**P**	**09 03 16.2**	**+1.1**
KHC				AMS	AMS	09 15 10.0	
	comp=Z,100nm,12.7s						
KHC	**Kasperske Hory**	**21.97**	**306**	*e*P	**P**	**09 03 15.3**	**+0.2**
BRG	**Berggiesshubel**	**22.30**	**310**	P	**P**	**09 03 19.4**	**+1.0**
	comp=Z,4.9nm,0.6s,mb4.1						
BRG	**Berggiesshubel**	**22.30**	**310**	P	**P**	**09 03 19.4**	**+1.0**
BRG				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.1						
WTTA	**Wattenberg**	**22.81**	**300⇑**	*i*P	**P**	**09 03 23.5**	**+0.1**
	comp=Z,22nm,1.6s,mb4.3						
WTTA	**Wattenberg**	**22.81**	**300⇑**	*i*P	**P**	**09 03 23.5**	**+0.1**
WTTA				pmax	pmax		
	comp=Z,22nm,1.6s,mb4.3						
NKC	**Novy Kostel**	**22.99**	**308**	*e*P	**P**	**09 03 25.8**	**+0.7**
NKC				AMS	AMS	09 15 50.0	
	comp=Z,200nm,12.4s						
CLL	**Collm**	**23.01**	**311**	P	**P**	**09 03 26.0**	**+0.7**
	comp=Z,logA/T=1.1,mb4.3						
CLL				*e*SP		09 03 36.0	
CLL	**Collm**	**23.01**	**311**	*e*P	**P**	**09 03 26.0**	**+0.7**
	comp=Z,13nm,1.0s,mb4.3						
CLL				*e*		09 03 36.0	
CLL	**Collm**	**23.01**	**311**	*e*P	**P**	**09 03 26.0**	**+0.7**
CLL				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.3						
GRA1	**Grafenberg Arr**	**23.60**	**306**	*e*P	**P**	**09 03 31.3**	**+0.3**
	comp=Z,34nm,1.4s,mb4.6						
GRF	**Grafenberg Arr**	**23.60**	**306**	*e*P	**P**	**09 03 31.3**	**+0.3**
	comp=Z,34nm,1.4s,mb4.6						
GRF	**Grafenberg Arr**	**23.60**	**306**	*e*P	**P**	**09 03 31.3**	**+0.3**
GRF				pmax	pmax		
	comp=Z,34nm,1.4s,mb4.6						
GRF	**Grafenberg Arr**	**23.60**	**306**	*e*P	**P**	**09 03 31.3**	**+0.3**
GRF				pmax	pmax		
	comp=Z,34nm,1.4s,mb4.6						
MOX	**Moxa**	**23.62**	**309**	*e*P	**P**	**09 03 32.0**	**+0.8**
DAVOX	**Davos**	**23.93**	**299**	P	**P**	**09 03 36.1**	**+1.9**
	comp=Z,3.7nm,0.7s,mb3.9,baz=118,slow=19,SNR=5.8						
DAVA	**Damuels**	**24.00**	**300⇓**	*i*P	**P**	**09 03 34.7**	**-0.2**
	comp=Z,17nm,1.4s,mb4.3						
FINES	**FINESS Array B**	**24.08**	**342**	P	**P**	**09 03 36.9**	**+1.3**
	comp=Z,4.7nm,0.7s,mb4.0,baz=134,slow=9.1,SNR=9.9						
FINES				LR	LR	09 14 47.6	
	comp=Z,152nm,19.2s,MS3.5,baz=147,slow=41						
BVAR	**Borovoye Array**	**24.32**	**46**	P	**P**	**09 03 38.3**	**+0.4**
	comp=Z,0.6nm,0.6s,mb3.2,baz=231,slow=9.2,SNR=2.1						
AAK	**Ala-Archa**	**25.35**	**72**	*i* P	**P**	**09 03 47.2**	**-0.8**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb3.8						
AAK				MLR	MLR		
	comp=Z,200nm,16.0s,MS3.7						
FRU	**Bishkek**	**25.43**	**71**	*e*P	**P**	**09 03 52.5**	**+3.8**
CDF	**Champ du Feu**	**25.89**	**302**	*e*P	**P**	**09 03 53.8**	**+0.8**
MBDF	**Montbardon**	**25.98**	**293**	*e*P	**P**	**09 03 54.9**	**+1.1**
	comp=Z,11nm,0.6s,mb4.2						
MBDF	**Montbardon**	**25.98**	**293**	*e*P	**P**	**09 03 54.9**	**+1.1**
MBDF				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.2						
LPG	**La Plagne**	**26.00**	**295**	*e*P	**P**	**09 03 54.8**	**+0.7**
	comp=Z,44nm,1.2s,mb4.6						
LPG	**La Plagne**	**26.00**	**295**	*e*P	**P**	**09 03 54.8**	**+0.7**
LPG				pmax	pmax		
	comp=Z,22nm,1.2s,mb4.6						
LPL	**La Plagne**	**26.02**	**295**	*e*P	**P**	**09 03 55.1**	**+0.9**
	comp=Z,35nm,1.4s,mb4.4						
LPL	**La Plagne**	**26.02**	**295**	*e*P	**P**	**09 03 55.1**	**+0.9**
LPL				pmax	pmax		
	comp=Z,17nm,1.4s,mb4.4						
BNI	**Bardonecchia**	**26.05**	**294**	*e*P	**P**	**09 03 53.5**	**-0.9**
	comp=Z,10nm,0.9s,mb4.3						
BNI	**Bardonecchia**	**26.05**	**294**	*e*P	**P**	**09 03 53.6**	**-0.9**
BNI				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.3						
CABF	**La Chapelle**	**26.51**	**298**	*e*P	**P**	**09 03 59.9**	**+1.2**
	comp=Z,58nm,1.2s,mb4.7						
CABF	**La Chapelle**	**26.51**	**298**	*e*P	**P**	**09 03 59.9**	**+1.2**
CABF				pmax	pmax		
	comp=Z,29nm,1.2s,mb4.7						
HFS	**Hagfors**	**27.06**	**330**	P	**P**	**09 04 05.2**	**+1.6**
	comp=Z,5.8nm,0.9s,mb4.1,baz=146,slow=11,SNR=5.4						
HFS				LR	LR	09 16 39.7	
	comp=Z,73nm,20.3s,MS3.2,baz=159,slow=40						
SMF	**Signal de Mont**	**28.06**	**298**	*e*P	**P**	**09 04 13.5**	**+0.6**
	comp=Z,3.5nm,0.5s,mb3.9						
SMF	**Signal de Mont**	**28.06**	**298**	*e*P	**P**	**09 04 13.5**	**+0.6**
SMF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.0						
AVF	**Avril sur Loir**	**28.40**	**298**	*e*P	**P**	**09 04 16.7**	**+0.8**
NOA	**NORSAR Array B**	**28.59**	**330**	P	**P**	**09 04 17.5**	**+0.1**
	comp=Z,0.6nm,0.7s,mb3.4,baz=118,slow=6.6,SNR=2.6						
NOA				LR	LR	09 16 51.0	
	comp=Z,66nm,20.5s,MS3.2,baz=125,slow=39						
MKAR	**Makanchi Array**	**30.75**	**62**	P	**P**	**09 04 36.2**	**-0.7**
	comp=Z,0.9nm,0.7s,mb3.7,baz=281,slow=6.2,SNR=4.2						
MKAR		

TCW				SN	S	09 11 00.6	-1.7
KHZ	**Kahutara**	**1.33**	**148**	⇑PN	P	09 10 38.1	-0.4
KHZ				SN	S	09 11 01.7	-1.4
LTZ	**Lake Taylor**	**1.50**	**189**	PN	P	09 10 39.4	-0.6
LTZ				SN	S	09 11 03.1	-2.7
MRW	**Makara Radio**	**1.60**	**88**	PN	P	09 10 40.1	-0.8
MRW				SN	S	09 11 05.4	-2.0
WEL	**Wellington**	**1.65**	**90**	PN	P	09 10 40.3	-1.0
WEL				SN	S	09 11 06.5	-1.7
BHW	**Baring Head**	**1.73**	**95**	PN	P	09 10 41.3	-0.9
KIW	**Kapiti Island**	**1.81**	**77**	PN	P	09 10 42.2	-0.8
KIW				SN	S	09 11 09.3	-1.7
CAW	**Cannon Point**	**1.89**	**85**	PN	P	09 10 42.8	-0.9
MSWZ	**Moikau Station**	**2.01**	**94**	PN	P	09 10 44.1	-0.8
MSWZ				SN	S	09 11 12.4	-2.2
PAWZ	**Paruwai Farm**	**2.14**	**93**	PN	P	09 10 45.5	-0.9
MTW	**Mount Morrison**	**2.21**	**87**	PN	P	09 10 46.2	-1.0
WVZ	**Waitaha Valley**	**2.25**	**217**	PN	P	09 10 45.6	-2.0
MRZ	**Mangatainoka R**	**2.36**	**75**	⇑PN	P	09 10 47.4	-1.4
WAZ	**Wanganui**	**2.39**	**51**	PN	P	09 10 48.0	-1.2
MQZ	**McQueen's Vall**	**2.41**	**179**	PN	P	09 10 47.5	-2.0
VRZ	**Vera Road**	**2.73**	**38**	*e*PN	P	09 10 50.6	-2.5
BFZ	**Birch Farm**	**2.84**	**79**	PN	P	09 10 53.3	-1.1
FOZ	**Fox Glacier**	**3.12**	**222**	PN	P	09 10 54.1	-3.7
BKZ	**Black Stump Fm**	**3.67**	**56**	PN	P	09 11 01.6	-3.0
EAZ	**Earnscleugh**	**4.60**	**210**	*e*PN	P	09 11 12.2	-4.2

ISC 10 09:15:47.0±0.9, 39.32N±0.04×41.0E±0.1, h10km, n5, σ0°68/8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGL	**BINGOL**	**0.39**	**163**	*i* P	**Pg**	**09 15 54.9**	**0.0**
BNGL				*i* S	**Sg**	**09 16 00.5**	**+0.2**
EZM	**Erzurum**	**0.64**	**25**	PG	**Pg**	**09 15 59.7**	**-0.3**
EZM				SG	**Sg**	**09 16 09.6**	**+1.0**
ERZM	**Erzurum**	**0.64**	**26**	*i* P	**Pb**	**09 15 58.8**	**-1.1**
ERZM				*i* S	**Sb**	**09 16 08.4**	**-0.2**
PTK	**Pertek**	**1.33**	**252**	*e*PN	**Pn**	**09 16 11.8**	**+0.1**
GUMT	**Gumushane**	**1.63**	**315**	*e*PN	**Pn**	**09 16 20.2**	**+4.2**

*NEIC **10** 09:44:08.9, 32.31S×71.43W, h38km, MD3.5(GUC), After GUC.*

GUC 10 09:44:09.0±0.6, 32.32S×71.42W, h36km±2km, MD3.4, ML2.5, 6C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.44**	**351**	⇓*i*P	P	09 44 18.6	-0.1
CHNG				*i* S	S	09 44 25.5	0.0
CHNG				AMP		09 44 26.1	
	comp=N,186nm,0.3s						
ROCH	**El Roble**	**0.74**	**152**	⇓*i*P	P	09 44 23.7	+0.8
ROCH				*i* S	S	09 44 34.9	+1.7
JACH	**Jahuel**	**0.79**	**118**	⇑*i*P	P	09 44 24.3	+0.7
JACH				*i* S	S	09 44 35.8	+1.4
JACH	**Jahuel**	**0.79**	**118**	⇑*i*P	P	09 44 24.3	+0.6
JACH				*i* S	S	09 44 35.8	+1.4
LCCH	**Las Cruces**	**1.16**	**186**	⇑*i*P	P	09 44 29.4	+0.4
LCCH				*i* S	S	09 44 45.5	+1.5
CMCH	**Combarbala**	**1.19**	**18**	⇑*i*P	P	09 44 28.6	-0.8
CMCH				*i* S	S	09 44 44.6	-0.1
CMCH				AMP		09 44 46.0	
	comp=E,1μm,0.5s						
RCDM	**Rinconada Maip**	**1.28**	**156**	*i* P	P	09 44 31.3	+0.7
RCDM				*i* S	S	09 44 48.1	+1.2
RCDM				AMP		09 44 49.9	
	comp=E,164nm,0.1s						
DSCH	**Colegio Aleman**	**1.30**	**147**	*i* P	P	09 44 31.8	+0.9
DSCH				*i* S	S	09 44 48.9	+1.6
DSCH				AMP		09 44 49.7	
	comp=E,247nm,0.2s						
CLCH	**Cerro Calan**	**1.31**	**146**	⇑*i*P	P	09 44 31.9	+0.7
CLCH				*i* S	S	09 44 49.5	+1.8
CLCH				AMP		09 44 50.1	
	comp=E,130nm,0.3s						
FCH	**Farellones**	**1.39**	**137**	*e*P	P	09 44 33.0	+0.7
FCH				*i* S	S	09 44 51.5	+1.9
FCH				AMP		09 44 52.6	
	comp=E,71nm,0.2s						
TACH	**Talagante**	**1.40**	**163**	⇑*i*P	P	09 44 33.2	+0.9
TACH				*i* S	S	09 44 51.6	+1.8
PCH	**Pirque**	**1.51**	**150**	*e*P	P	09 44 35.2	+1.2
LNV	**Longovilo**	**1.64**	**180**	*i* S	S	09 44 57.7	+1.9
CHCH	**Chadas Angostu**	**1.74**	**158**	*i* P	P	09 44 38.6	+1.3
CHCH				*i* S	S	09 45 00.7	+2.3
LMEL	**Las Melosas**	**1.84**	**147**	*e*P	P	09 44 39.7	+1.0
LMEL				*i* S	S	09 45 03.1	+2.2
LMEL				AMP		09 45 08.2	
	comp=E,88nm,0.1s						
LMEL	**Las Melosas**	**1.84**	**147**	*e*P	P	09 44 39.7	+1.0
LMEL				*i* S	S	09 45 03.1	+2.2

*IDC **10** 09:50:33.3±2.7, 24.27S×179.87E, h512km±29km, mb3.4/5, mb1 3.5/7, mb1mx3.3/14, mbtmp4.2/7, Error ellipse: s-maj=27.7km s-min=19.9km az=8.0*
*NEIC **10** 09:50:33.6±2.0, 24.33S×179.92E, h516km±21km, mb4.0/1, Error ellipse: s-maj=25.1km s-min=15.2km az=222.0*

ISC 10 09:50:32.9±2.2, 24.25S±0.1×179.9E±0.2, h521km±25km, n11, σ0°87/13, mb3.8/5, 1C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.54**	**277**	P	**P**	**09 53 18.7**	**+0.9**
	0.3nm,0.3s,baz=75,slow=19,SNR=3.7						
URZ	**Urewera**	**14.22**	**189**	P	**P**	**09 53 34.2**	**-0.7**
	1.4nm,0.3s,baz=243,slow=4.2,SNR=10						
URZ				S	**S**	**09 56 03.1**	**+1.5**
	0.8nm,0.3s,baz=37,slow=22,SNR=11						
RPZ	**Rata Peaks**	**20.78**	**198**	P	**P**	**09 54 36.5**	**-1.9**
	4.8nm,0.4s,baz=22,slow=11,SNR=7.6						
CTAO	**Charters Tower**	**31.37**	**271**	*e*P	**P**	**09 56 13.2**	**+1.0**
STKA	**Stephens Creek**	**34.51**	**248**	P	**P**	**09 56 37.6**	**-0.9**
	2.4nm,0.4s,mb4.1,baz=67,slow=9.4,SNR=3.3						
WB2	**Warramunga Arr**	**42.27**	**266**	⇑*i*P	**P**	**09 57 41.7**	**-0.1**
WRAB	**Tennant Creek**	**42.27**	**267**	*e*P	**P**	**09 57 41.2**	**-0.6**
WRA	**Warramunga Arr**	**42.28**	**266**	P	**P**	**09 57 41.8**	**-0.1**
	2.5nm,0.3s,mb4.2,baz=98,slow=8.4,SNR=164						
WRA				S	**S**	**10 03 25.0**	**-0.4**
	0.1nm,0.7s,baz=101,slow=16,SNR=3.1						
FITZ	**Fitzroy Crossi**	**50.70**	**266**	*e*P	**P**	**09 58 46.3**	**+0.1**
	3.0nm,0.5s,mb3.9						
MAW	**Mawson**	**77.44**	**200**	P	**P**	**10 01 35.3**	**+0.6**
	0.8nm,0.4s,mb3.5,baz=144,slow=8.7,SNR=6.3						
TXAR	**Lajitas Array**	**90.68**	**58**	P	**P**	**10 02 41.3**	**+0.4**
	0.3nm,0.7s,mb3.4,baz=206,slow=5.8,SNR=5.9						

MAN 10 10:00:35.2, 11.81N×125.90E, h67km, mb4.4, ML3.2, MS3.0, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.50**	**246**	*e*P	P	10 00 46.0	-1.9
BESP				*e*S	S	10 00 56.0	-1.1
PLP	**Palo**	**1.11**	**235**	*i* P	P	10 00 55.4	+0.2
PLP				*e*S	S	10 01 08.8	-1.2
CNP	**Cataman**	**1.40**	**300**	*e*P	P	10 00 59.4	+0.2
CNP				*e*S	S	10 01 18.8	+1.8
MSLP	**Maasin**	**1.95**	**212**	*e*P	P	10 01 08.9	+2.2
MSLP				*e*S	S	10 01 39.0	+9.0
PVCP	**Virac**	**2.46**	**316**	*e*P	P	10 01 13.6	-0.4

*IDC **10** 10:24:13.7±2.4, 50.43N×179.58E, mb3.6/4, mb1 3.9/5, mb1mx3.6/23, mbtmp3.7/5, ML3.8/1, MS3.4/1, Ms1 3.4/1, ms1mx2.5/31, Error ellipse: s-maj=62.9km s-min=15.2km az=15.0*
*NEIC **10** 10:24:17.5±2.1, 51.03N×179.25E, h10km, ML3.2(AEIC), Error ellipse: s-maj=55.4km s-min=9.3km az=182.0*

ISC 10 10:24:16.7±2.0, 50.5N±0.3×179.4E±0.1, h33km, n10, σ0°73/10, mb3.7/4, MS3.4/1, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIMD	**Kanaga Island**	**2.47**	**58**	P	**P**	**10 24 56.0**	**+0.5**
GSMY	**Great Sitkin M**	**3.25**	**60**	P	**P**	**10 25 06.7**	**+0.1**
GSTR	**Great Sitkin T**	**3.27**	**59**	P	**P**	**10 25 06.4**	**-0.4**
FX1	**Attu Island--F**	**4.53**	**304**	Pn	**Pn**	**10 25 24.1**	**-0.7**
	14nm,0.3s,baz=37,slow=10.0,SNR=18						
FX1				Sn	**Sn**	**10 26 17.8**	**+0.8**
	2.9nm,0.3s,baz=76,slow=17,SNR=2.3						
FX1	**Attu Island--F**	**4.53**	**304**	P	**P**	**10 25 20.6**	**-4.1**
ILAR	**Eielson Array**	**22.64**	**38**	P	**P**	**10 29 14.3**	**-1.1**
	0.2nm,0.4s,mb2.9,baz=245,slow=8.6,SNR=7.7						
JOW	**Kunigami**	**45.27**	**258**	LR	LR	10 47 46.0	
	comp=Z,48nm,20.6s,MS3.4,baz=14,slow=31						
PDAR	**Pinedale Array**	**47.68**	**70**	P	**P**	**10 32 52.6**	**+1.1**
	0.7nm,0.6s,mb3.9,baz=315,slow=4.2,SNR=9.4						
MKAR	**Makanchi Array**	**59.66**	**308**	P	**P**	**10 34 19.2**	**-0.4**
	0.4nm,0.4s,mb3.8,baz=42,slow=6.2,SNR=5.9						
BVAR	**Borovoye Array**	**60.79**	**319**	P	**P**	**10 34 27.5**	**+0.2**
	1.5nm,0.5s,mb4.4,baz=47,slow=8.1,SNR=11						

*NEIC **10** 10:25:19.0±0.2, 4.94S×103.85E, mb4.6/5, Error ellipse: s-maj=11.3km s-min=6.6km az=52.0*
NEIC Felt [IV] at Liwa.
*IDC **10** 10:25:19.4±0.5, 5.01S×103.78E, h29km±3km, mb4.1/19, mb1 4.2/19, mb1mx4.2/22, mbtmp4.3/19, MS3.7/6, Ms1 3.7/6, ms1mx3.4/24, Error ellipse: s-maj=17.1km s-min=11.0km az=53.0*

ISC 10 10:25:17.2±0.4, 4.94S±0.09×103.85E±0.10, h28km, h28km±.4km: pP-P, n47, σ0°99/30, mb4.4/22, MS3.8/6, 2C-1D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**25.00**	**123**	*e*P	**P**	**10 30 40.3**	**-0.2**
	11nm,0.8s,mb4.4						
FITZ	**Fitzroy Crossi**	**25.00**	**123**	P	**P**	**10 30 40.7**	**+0.2**
	5.9nm,0.8s,mb4.2,baz=292,slow=3.6,SNR=10						
FITZ				pP		10 30 49.5	
	17nm,0.8s,baz=324,slow=6.7,SNR=7.9						
NWAO	**Narrogin (SRO)**	**30.52**	**157**	P	**P**	**10 31 28.9**	**-1.7**
	2.7nm,0.7s,mb4.2,baz=302,slow=9.5,SNR=3.3						
NWAO				LR	LR	10 42 35.7	
	comp=Z,88nm,18.4s,MS3.4,baz=77,slow=34						
WRA	**Warramunga Arr**	**33.21**	**119**	P	**P**	**10 31 53.5**	**-0.7**
	1.0nm,0.4s,mb4.1,baz=308,slow=8.9,SNR=28						
WRAB	**Tennant Creek**	**33.21**	**119**	*e*P	**P**	**10 31 53.9**	**-0.4**
	5.4nm,0.6s,mb4.7						
WB2	**Warramunga Arr**	**33.22**	**119**	*e*P	**P**	**10 31 53.6**	**-0.7**
CTA	**Charters Tower**	**43.89**	**114**	P	**P**	**10 33 24.4**	**+0.9**
	3.8nm,0.7s,mb4.2,baz=277,slow=11,SNR=4.6						
STKA	**Stephens Creek**	**44.34**	**132**	⇓*i*P	**P**	**10 33 27.2**	**+0.2**
	6.5nm,0.5s,mb4.6						
STKA	**Stephens Creek**	**44.34**	**132**	P	**P**	**10 33 27.4**	**+0.3**
	6.5nm,0.5s,mb4.6,baz=295,slow=8.5,SNR=37						
STKA				pP	pP	10 33 35.2	-0.1
	6.6nm,0.5s,baz=308,slow=7.6,SNR=5.9						
SONM	**Songino Array**	**52.60**	**2**	P	**P**	**10 34 32.1**	**+1.2**
	1.8nm,0.6s,mb4.2,baz=173,slow=8.1,SNR=12						
SONM				PcP	PcP	10 35 41.0	+0.2
	2.6nm,0.8s,baz=184,slow=4.3,SNR=4.2						
SONM				ScP		10 39 34.3	
	0.8nm,0.9s,baz=207,slow=3.2,SNR=3.9						
SONM				LR	LR	11 00 00.5	
	comp=Z,59nm,20.4s,MS3.6,baz=8.9,slow=40						
MKAR	**Makanchi Array**	**54.93**	**342**	P	**P**	**10 34 47.1**	**-0.9**
	1.9nm,0.7s,mb4.2,baz=151,slow=8.7,SNR=14						
KURK	**Kurchatov**	**59.54**	**342**	*e*P	**P**	**10 35 19.2**	**-1.4**
	4.2nm,0.9s,mb4.5						
ASAJ	**Asahikawa**	**59.98**	**31**	P	**P**	**10 35 25.1**	**+1.5**
	2.2nm,0.5s,mb4.4,baz=239,slow=12,SNR=4.4						
ZAL	**Zalesovo**	**60.80**	**347**	P	**P**	**10 35 28.0**	**-1.2**
	2.0nm,0.5s,mb4.5,baz=305,slow=4.7,SNR=4.6						
ZAL				LR	LR	11 05 20.0	
	comp=Z,122nm,18.7s,MS4.1,baz=91,slow=40						
BVAR	**Borovoye Array**	**64.28**	**338**	P	**P**	**10 35 51.1**	**-1.3**
	0.8nm,0.4s,mb4.1,baz=139,slow=8.5,SNR=8.4						
BVAR				PcP	PcP	10 36 26.3	-0.5
	1.7nm,0.7s,baz=180,slow=4.4,SNR=4.2						
KMBO	**Kilima Mbogo**	**66.59**	**271**	P	**P**	**10 36 07.2**	**-0.7**
	0.5nm,0.4s,mb3.9,baz=350,slow=18,SNR=3.0						
KMBO				LR	LR	11 03 48.0	
	comp=Z,19nm,18.5s,MS3.3,baz=99,slow=35						
MAW	**Mawson**	**68.45**	**196**	P	**P**	**10 36 18.2**	**-0.5**
	5.5nm,0.8s,mb4.7,baz=46,slow=5.6,SNR=11						
MAW				LR	LR	10 59 24.8	
	comp=Z,86nm,19.1s,MS4.0,baz=249,slow=30						
ARU	**Arti**	**71.44**	**335**	*e*P	**P**	**10 36 36.7**	**-0.3**
	18nm,0.4s,mb5.3						
MATP	**Matopo**	**74.57**	**250**	P	**P**	**10 36 56.2**	**+0.1**
	6.7nm,0.4s,mb4.9,baz=99,slow=4.9,SNR=31						
MATP	**Matopo**	**74.57**	**250**	P	**P**	**10 36 56.2**	**+0.1**
RAO	**Raoul Island**	**77.34**	**119**	LR	LR	11 08 52.6	
	comp=Z,110nm,18.9s,MS4.2,baz=19,slow=34						
BOSA	**Boshof**	**77.64**	**242**	P	**P**	**10 37 13.1**	**-0.2**
	1.8nm,0.6s,mb4.2,baz=112,slow=4.4,SNR=8.0						
BRTR	**Keskin Array B**	**78.13**	**312**	P	**P**	**10 37 16.1**	**+0.3**
	3.0nm,0.7s,mb4.3,baz=130,slow=7.1,SNR=11						
BRTR				pP	pP	10 37 25.0	+0.6
	3.2nm,0.7s,baz=124,slow=4.5,SNR=7.2						
BR131	**Keskin Array S**	**78.13**	**312**	*e*P	**P**	**10 37 15.4**	**-0.3**
VNDA	**Vanda**	**78.56**	**169**	P	**P**	**10 37 17.4**	**+0.1**
	1.9nm,0.8s,mb4.1,baz=344,slow=6.8,SNR=6.8						
VNDA				pP	pP	10 37 26.4	+0.3
	1.8nm,0.8s,baz=342,slow=6.5,SNR=3.8						
VNDA	**Vanda**	**78.56**	**169**	P	**P**	**10 37 17.4**	**0.0**
VNDA				pP	pP	10 37 26.4	+0.3
AKASG	**Malin Array Be**	**84.15**	**322**	P	**P**	**10 37 47.2**	**0.0**
	0.4nm,0.2s,mb4.1,baz=85,slow=4.8,SNR=5.3						
FINES	**FINESS Array B**	**88.49**	**332**	P	**P**	**10 38 09.3**	**+1.2**
	1.2nm,0.6s,mb4.3,baz=90,slow=5.7,SNR=4.8						
FINES				pP	pP	10 38 17.8	+0.8
	1.4nm,0.5s,baz=108,slow=6.0,SNR=1.9						
SNAA	**Sanae**	**90.54**	**198**	⇑*i*P	**P**	**10 38 18.9**	**+1.3**
SNAA				*e*	pP	10 38 28.1	+1.6
SNAA				*e*		10 38 39.8	
VNA2	**Neumayer--Watz**	**92.17**	**198**	*e*	pP	10 38 36.4	+2.4
VNA2	**Neumayer--Watz**	**92.17**	**198**	⇑*i*P	**P**	**10 38 27.6**	**+2.5**
VNA2				*e*	pP	10 38 36.4	+2.4
VNA2				*e*		10 38 45.9	
GERES	**GERESS Array B**	**93.78**	**319**	P	**P**	**10 38 34.5**	**+1.4**
	0.4nm,0.5s,mb4.1,baz=37,slow=4.9,SNR=2.8						
ULM	**Lac du Bonnet**	**131.89**	**17**	SKPbc		10 47 53.2	
	3.3nm,0.7s,baz=27,slow=3.1,SNR=5.1						
PDAR	**Pinedale Array**	**132.10**	**33**	PKP	PKPdf	10 44 31.0	-2.8
	0.3nm,0.5s,baz=279,slow=0.3,SNR=5.9						
PDAR				SKPbc		10 47 54.6	
	1.4nm,1.0s,baz=315,slow=1.3,SNR=9.2						
WMOK	**Wichita Mounta**	**143.70**	**32**	*e*PKPpre		10 44 49.0	
CPUP	**Villa Florida**	**143.96**	**209**	PKP	PKPdf	10 44 50.2	-5.5
	3.2nm,1.0s,baz=121,slow=5.9,SNR=3.0						
CPUP	**Villa Florida**	**143.96**	**209**	PKP	PKPdf	10 44 50.2	-5.5
TXAR	**Lajitas Array**	**144.42**	**44**	PKP	PKPdf	10 44 52.7	-3.8
	0.8nm,0.5s,baz=265,slow=1.0,SNR=24						
TXAR	**Lajitas Array**	**144.42**	**44**	PKP	PKPdf	10 44 52.7	-3.8
BDFB	**Brasilia**	**145.44**	**233**	PKPbc	PKPbc	10 44 56.1	+1.8
	6.4nm,0.5s,baz=125,slow=2.8,SNR=8.1						
BDFB				pPKPbc		10 45 05.4	
	7.3nm,0.8s,baz=120,slow=5.0,SNR=4.9						
WCI	**Wyandotte Cave**	**145.60**	**14**	*e*PKPdf	PKPdf	10 44 55.4	-2.9
WCI				*e*pP		10 45 03.9	
JCT	**Junction City**	**146.21**	**39**	*e*PKPdf	PKPdf	10 44 57.6	-2.0
WVT	**Waverly**	**147.15**	**18**	*e*PKPbc	PKPdf	10 44 59.8	-1.2
WVT				*e*pP		10 45 08.5	
TZTN	**Tazewell**	**147.82**	**11**	*e*PKPbc	PKPdf	10 45 01.1	-1.0
PLAL	**Pickwick Lake**	**148.14**	**19**	*e*PKPbc	PKPdf	10 45 01.9	-0.6
CPCT	**Cooper Cave**	**148.67**	**13**	*e*PKPbc	PKPdf	10 45 03.8	+0.4
LVC	**Limon Verde**	**151.72**	**194**	*e*PKPbc	PKPdf	10 45 10.9	+2.4
LVC				*e*pP		10 45 22.0	

IDC 10 10:27:35.2±3.3, 1.14N×96.94E, mb4.1/4, mb1 4.2/4, mb1mx3.8/19, mbtmp4.1/4, Error ellipse: s-maj=133.7km s-min=28.1km az=54.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.23**	**122**	P	P	10 35 30.3	-1.7
	1.6nm,0.7s,baz=300,slow=9.0,SNR=6.5						
SONM	**Songino Array**	**47.23**	**9**	P	P	10 36 10.0	-1.8
	2.1nm,0.6s,baz=193,slow=9.3,SNR=5.0						
MKAR	**Makanchi Array**	**47.23**	**346**	P	P	10 36 10.4	-1.5
	1.6nm,0.6s,baz=154,slow=8.7,SNR=3.5						
BVAR	**Borovoye Array**	**56.22**	**341**	P	P	10 37 16.5	-2.9
	2.5nm,0.7s,baz=149,slow=8.6,SNR=5.7						

*JMA **10** 10:43:11.8±0.2, 33.31N×139.94E, h120km±2km, M3.3*
*IDC **10** 10:43:11.4±0.8, 32.99N×139.48E, h112km±11km, mb3.2/3, mb1 3.5/5, mb1mx3.3/20, mbtmp3.7/5, Error ellipse: s-maj=42.4km s-min=14.2km az=70.0*

ISC 10 10:43:09.5±0.6, 33.14N±0.05×139.89E±0.09, h131km±5km, n22, σ0°97/29, mb3.3/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.07**	**242**	P	**P**	**10 43 28.6**	**+1.2**
JHJ2				S	**S**	**10 43 41.3**	**+0.4**
JHJ	**Hachijo jima 2**	**0.09**	**255**	P	**P**	**10 43 28.4**	**+1.0**
	102nm,0.3s,baz=228,slow=16,SNR=224						
JHJ				S	**S**	**10 43 41.2**	**+0.3**
	619nm,0.3s,baz=73,slow=19,SNR=66						
JKO	**Kozu shima**	**1.21**	**329**	P	**P**	**10 43 35.2**	**+0.3**
JKO				S	**S**	**10 43 51.9**	**-2.3**
NJJJ	**Nii jima 2**	**1.35**	**338**	P	**P**	**10 43 36.7**	**+0.2**
JIM2	**Oshima 3**	**1.62**	**347**	P	**P**	**10 43 39.2**	**-0.2**
BSO3	**Boso 3**	**1.73**	**17**	P	**P**	**10 43 40.5**	**-0.3**
BSO1	**Boso 1**	**1.76**	**31**	P	**P**	**10 43 40.5**	**-0.6**
JIZS	**Izushimoda**	**1.78**	**332**	P	**P**	**10 43 41.5**	**+0.2**
JIZS				S	**S**	**10 44 03.4**	**-2.1**
TK01	**Tokai 1**	**2.02**	**289**	P	**P**	**10 43 44.8**	**+0.7**
TK04	**Tokai 4**	**2.08**	**307**	P	**P**	**10 43 46.0**	**+1.0**
JOD2	**Odawara 2**	**2.22**	**343**	P	**P**	**10 43 47.0**	**+0.3**
SHZ3	**Shizuoka 3**	**2.37**	**325**	P	**P**	**10 43 49.4**	**+0.7**
JYN	**Shimob**	**2.60**	**335**	P	**P**	**10 43 52.4**	**+0.7**
JIE	**Ise**	**2.93**	**296**	P	**P**	**10 43 56.4**	**+0.4**
JIE				S	**S**	**10 44 29.7**	**-1.7**
JRY	**Ryogami san**	**2.98**	**344**	P	**P**	**10 43 57.0**	**+0.3**
MJAR	**Matsushiro Arr**	**3.66**	**338**	P	**P**	**10 44 05.9**	**+0.2**
	7.1nm,0.3s,baz=167,slow=14,SNR=64						
MAT	**Matsushiro**	**3.66**	**338**	P	**P**	**10 44 05.9**	**+0.1**
MAT				S	**S**	**10 44 49.4**	**+0.6**
CBIJ	**Chichi jima**	**6.35**	**161**	P	**P**	**10 44 41.2**	**-0.6**
	4.2nm,0.3s,baz=296,slow=13,SNR=4.5						
CBIJ				S	**S**	**10 45 51.5**	**-1.9**
	3.0nm,0.3s,baz=216,slow=19,SNR=2.9						
ASAJ	**Asahikawa**	**11.16**	**10**	P	**P**	**10 45 42.7**	**-3.4**
	1.0nm,0.3s,baz=218,slow=13,SNR=11						
MKAR	**Makanchi Array**	**45.23**	**305**	P	**P**	**10 51 14.7**	**-0.4**
	0.2nm,0.5s,mb3.0,baz=104,slow=5.9,SNR=4.1						
WRA	**Warramunga Arr**	**53.05**	**187**	P	**P**	**10 52 16.1**	**+0.6**
	0.2nm,0.3s,mb3.3,baz=2.8,slow=7.9,SNR=22						
WRA				PcP	PcP	10 53 25.1	+3.0
	0.3nm,0.6s,baz=1.2,slow=4.2,SNR=4.8						
TXAR	**Lajitas Array**	**93.50**	**52**	P	**P**	**10 56 15.2**	**+3.6**
	0.3nm,0.7s,mb3.5,baz=278,slow=3.0,SNR=4.9						

GUC 10 11:17:39.4±0.8, 31.73S×71.86W, h33km±2km, MD3.9, ML3.3, 6C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.34**	**117**	⇓*i*P	Pb	11 17 47.3	-0.4
CHNG				*i* S	Sb	11 17 53.4	+0.1
CHNG				AMP		11 17 53.9	
	comp=N,852nm,0.3s						
ILCH	**Illapel**	**0.59**	**81**	⇑*i*P	Pb	11 17 51.3	-0.2
ILCH				*i* S	Sb	11 18 00.5	+0.7
ILCH				AMP		11 18 02.5	
	comp=N,2μm,0.2s						
CMCH	**Combarbala**	**0.92**	**53**	⇑*i*P	Pn	11 17 56.0	-0.1
CMCH				*i* S	Sn	11 18 09.1	+0.9
CMCH				AMP		11 18 10.3	
	comp=E,5μm,0.6s						
JACH	**Jahuel**	**1.43**	**132**	⇑*i*P	Pn	11 18 04.7	+1.2
ROCH	**El Roble**	**1.43**	**150**	⇑*i*P	Pn	11 18 04.3	+0.9
ROCH				*i* S	Sn	11 18 24.0	+2.7
TLL	**Tololo Astrono**	**1.80**	**30**	*e*P	Pn	11 18 09.6	+0.9
TLL				*i* S	Sn	11 18 33.6	+3.0
TLL				AMP		11 18 40.7	
	comp=N,1μm,0.6s						
RCDM	**Rinconada Maip**	**1.97**	**153**	*e*P	Pn	11 18 11.7	+0.6
RCDM				*i* S	Sn	11 18 36.2	+1.4
RCDM				AMP		11 18 44.4	
	comp=E,222nm,0.4s						
CLCH	**Cerro Calan**	**2.00**	**147**	*e*P	Pn	11 18 12.7	+1.0
CLCH				*i* S	Sn	11 18 37.7	+1.9
CLCH				AMP		11 18 47.7	
	comp=N,664nm,0.8s						
TACH	**Talagante**	**2.07**	**158**	*i* P	Pn	11 18 13.2	+0.6
FCH	**Farellones**	**2.07**	**141**	⇑*i*P	Pn	11 18 13.9	+1.2
FCH				*i* S	Sn	11 18 40.0	+2.4
FCH				AMP	

mb1mx4.1/23, mbtmp4.1/17, Error ellipse: s-maj=22.4km s-min=18.0km az=162.0
TEH **10** *12:28:00.2, 27.58N×53.38E, h28km, Mn3.9*
THR **10** *12:28:04.7±1.5, 28.23N×53.91E, h14km±14km, ML3.6*
CSEM **10** *12:28:04.7±0.2, 27.95N×53.76E, h54km±1km, ML3.6, Error ellipse: s-maj=5.3km s-min=3.5km az=164.0*
NEIC **10** *12:28:09.6±3.1, 27.94N×53.84E, h82km±28km, mb3.9/4, Error ellipse: s-maj=14.4km s-min=10.3km az=156.0*

ISC 10 12:28:05.0±1.0, 27.97N±0.07×53.79E±0.07, h55km±7km, n50, σ1§07/52, mb4.0/17, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**0.78**	**294**	*e*PG	**P**	**12 28 19.6**	**-0.5**
GHIR				*e*Sg	**S**	**12 28 32.0**	**+0.8**
GHIR				AML	AML	12 28 37.0	
	comp=N,2μm,0.5s						
IMOK	**Mook**	**1.43**	**319**	Pg	**P**	**12 28 28.7**	**-0.6**
ISRV	**Sarvestan**	**1.53**	**337**	Pn	**P**	**12 28 32.9**	**+2.3**
IPAR	**Pars**	**1.98**	**341**	Pn	**P**	**12 28 38.4**	**+1.6**
KRBR	**Kerman**	**3.29**	**52**	*e*PN	**P**	**12 28 55.6**	**+0.3**
KRBR				*e*Sg	**S**	**12 29 39.5**	**+6.1**
KRBR				AML	AML	12 29 48.3	
	comp=N,243nm,0.4s						
IMEH	**Mehriz**	**3.49**	**12**	Pn	**P**	**12 28 58.2**	**+0.1**
IBAF	**Bafgh**	**3.93**	**23**	Pn	**P**	**12 29 04.2**	**-0.1**
ISAD	**Sadrabad**	**3.94**	**359**	Pn	**P**	**12 29 06.0**	**+1.5**
ICHK	**Chekchek**	**4.30**	**7**	Pn	**P**	**12 29 09.9**	**+0.3**
IGAR	**Garneh**	**4.48**	**342**	Pn	**P**	**12 29 11.1**	**-1.1**
HASS	**Wahat al Ahsa'**	**4.59**	**234**	P	**P**	**12 29 14.3**	**+0.6**
NASN	**Na'in**	**4.89**	**350**	*e*PN	**P**	**12 29 17.8**	**-0.1**
IZEF	**Zefreh**	**5.07**	**346**	Pn	**P**	**12 29 17.4**	**-3.0**
IKLH	**Kalahroud**	**5.67**	**341**	Pn	**P**	**12 29 18.4**	**-10**
IVRN	**Varamin**	**7.23**	**346**	Pn	**P**	**12 29 48.8**	**-1.7**
IVRN	**Varamin**	**7.23**	**346**	Sn	**S**	**12 31 05.7**	**-6.2**
ASAO	**Ashtian**	**7.31**	**335**	*e*Pn	**P**	**12 29 50.3**	**-1.3**
IDMV	**Damavand**	**7.73**	**349**	Pn	**P**	**12 29 53.8**	**-3.7**
DAMV	**Damavand**	**7.80**	**349**	*e*Pn	**P**	**12 29 57.6**	**-0.7**
IAFJ	**Afjeh**	**8.06**	**348**	Pn	**P**	**12 29 57.8**	**-4.2**
SNGE	**Sanandaj**	**8.98**	**324**	*e*Pn	**P**	**12 30 14.2**	**-0.4**
AFFS	**'Afif**	**10.51**	**250**	P	**P**	**12 30 32.3**	**-3.3**
GNI	**Garni**	**14.27**	**331**	P	**P**	**12 31 28.8**	**+3.3**
	comp=N,12nm,0.8s						
MALT	**Malatya**	**16.47**	**313**	*e*P	**P**	**12 31 57.3**	**+3.5**
	comp=N,11nm,0.9s						
BR131	**Keskin Array S**	**20.39**	**310**	*e*P	**P**	**12 32 39.4**	**-0.3**
	comp=N,2.7nm,0.7s						
BRTR	**Keskin Array B**	**20.39**	**310**	P	**P**	**12 32 40.0**	**+0.4**
	comp=N,3.9nm,0.7s,baz=131,slow=11,SNR=10						
IDI	**Anoyia**	**25.61**	**294**	P	**P**	**12 33 32.0**	**+1.1**
	comp=N,5.3nm,0.7s,mb4.2,baz=113,slow=13,SNR=2.7						
BVAR	**Borovoye Array**	**27.89**	**22**	P	**P**	**12 33 52.0**	**+0.3**
	comp=N,2.5nm,0.6s,mb4.0,baz=211,slow=8.6,SNR=18						
MLR	**Muntele Rosu**	**28.15**	**316**	P	**P**	**12 33 55.0**	**+0.9**
	comp=N,1.4nm,0.5s,mb3.8,baz=255,slow=11,SNR=3.8						
MKAR	**Makanchi Array**	**29.18**	**42**	P	**P**	**12 34 03.0**	**-0.3**
	comp=N,0.6nm,0.5s,mb3.6,baz=230,slow=8.7,SNR=9.3						
MKAR	**Makanchi Array**	**29.18**	**42**	P	**P**	**12 34 03.0**	**-0.3**
ZAL	**Zalesovo**	**34.46**	**33**	P	**P**	**12 34 48.5**	**-0.8**
	comp=N,2.3nm,0.6s,mb4.3,baz=208,slow=9.0,SNR=6.9						
GERES	**GERESS Array B**	**37.13**	**315**	P	**P**	**12 35 11.3**	**-0.8**
	comp=N,0.6nm,0.6s,mb3.6,baz=101,slow=6.8,SNR=4.1						
FINES	**FINESS Array B**	**38.24**	**339**	P	**P**	**12 35 21.6**	**+0.4**
	comp=N,6.9nm,0.9s,mb4.4,baz=135,slow=8.1,SNR=6.5						
FINES	**FINESS Array B**	**38.24**	**339**	P	**P**	**12 35 21.5**	**+0.4**
NB2	**NORSAR Subarra**	**43.57**	**331**	P	**P**	**12 36 04.3**	**-0.7**
	comp=N,1.0nm,0.6s,mb3.7,baz=122,slow=7.9						
NOA	**NORSAR Array B**	**43.57**	**331**	P	**P**	**12 36 03.4**	**-1.6**
	comp=N,1.4nm,0.7s,mb3.8,baz=120,slow=8.1,SNR=4.6						
NOA	**NORSAR Array B**	**43.57**	**331**	P	**P**	**12 36 03.3**	**-1.7**
ARCES	**ARCESS Array B**	**44.71**	**346**	P	**P**	**12 36 14.2**	**+0.2**
	comp=N,1.4nm,0.6s,mb4.0,baz=150,slow=7.3,SNR=9.9						
SONM	**Songino Array**	**45.04**	**49**	P	**P**	**12 36 17.4**	**+0.5**
	comp=N,2.0nm,1.0s,mb3.9,baz=258,slow=9.4,SNR=7.2						
MATP	**Matopo**	**53.97**	**210**	P	**P**	**12 37 25.5**	**-0.3**
	comp=N,1.2nm,0.6s,mb4.0,baz=11,slow=6.6,SNR=4.5						
DBIC	**Dimbokro**	**59.27**	**261**	P	**P**	**12 38 02.7**	**-0.9**
	comp=N,2.9nm,1.0s,mb4.3,baz=34,slow=7.3,SNR=4.1						
DBIC	**Dimbokro**	**59.27**	**261**	P	**P**	**12 38 02.7**	**-0.9**
SCHQ	**Schefferville**	**83.12**	**330**	P	**P**	**12 40 27.2**	**+1.3**
	comp=N,2.4nm,0.9s,mb4.2,baz=90,slow=1.0,SNR=2.9						
SCHQ	**Schefferville**	**83.12**	**330**	P	**P**	**12 40 27.2**	**+1.2**
ILAR	**Eielson Array**	**86.17**	**9**	P	**P**	**12 40 41.5**	**+0.7**
	comp=N,0.6nm,0.6s,mb4.0,baz=318,slow=4.6,SNR=14						
ILAR	**Eielson Array**	**86.17**	**9**	P	**P**	**12 40 41.5**	**+0.6**
YKA	**Yellowknife Ar**	**89.38**	**355**	P	**P**	**12 40 57.8**	**+1.5**
	comp=N,1.2nm,0.8s,mb4.3,baz=4.9,slow=5.2,SNR=4.0						
WRA	**Warramunga Arr**	**91.23**	**112**	P	**P**	**12 41 05.7**	**-0.3**
	comp=N,0.4nm,0.5s,mb4.0,baz=316,slow=4.0,SNR=12						
WRAB	**Tennant Creek**	**91.24**	**112**	*e*P	**P**	**12 41 05.7**	**-0.4**
	comp=N,1.7nm,0.9s,mb4.4						

IDC 10 12:39:45.8±4.1, 8.57N×92.55E, mb3.5/3, mb1 3.6/3, mb1mx3.5/18, mbtmp3.5/3, Error ellipse: s-maj=150.6km s-min=29.7km az=62.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**39.09**	**349**	P	P	12 47 14.5	-1.9
	0.6nm,0.5s,baz=169,slow=9.0,SNR=7.9						
SONM	**Songino Array**	**40.86**	**14**	P	P	12 47 29.6	-1.4
	0.5nm,0.7s,baz=191,slow=7.6,SNR=4.7						
WRA	**Warramunga Arr**	**49.95**	**125**	P	P	12 48 41.8	-2.1
	0.3nm,0.6s,baz=306,slow=8.5,SNR=4.9						

CSEM **10** *12:40:43.6±0.2, 34.92N×3.87W, h2km, MD3.3, Error ellipse: s-maj=6.5km s-min=3.5km az=103.0*
CNRM **10** *12:40:44.5, 35.04N×3.81W, h6km, MD3.3*
MDD **10** *12:40:45.9±0.5, 34.92N×3.79W, h4km±4km, mbLg2.2/10, Error ellipse: s-maj=6.6km s-min=3.6km az=112.0, PRXIMO*
NEIC **10** *12:40:47.7, 35.03N×3.85W, h2km, MG3.3(MDD), After MDD.*

ISC 10 12:40:44.6±0.6, 34.96N±0.02×3.89W±0.04, h10km±4km, n33, σ1§26/60, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOU	**Touzarine**	**0.11**	**90**	P	**Pg**	**12 40 46.0**	**-1.4**
TOU				S	**Sg**	**12 40 49.0**	**-0.2**
TOU	**Touzarine**	**0.11**	**90**	*i* P	**Pg**	**12 40 46.0**	**-1.4**
MPAL	**Palemas**	**0.27**	**350**	*i* P	**Pg**	**12 40 48.0**	**-2.2**
EMEL	**Melilla**	**0.83**	**66**	P	**Pb**	**12 41 02.0**	**+1.2**
	139nm,0.2s,SNR=7.5						
EMEL				S	**Sb**	**12 41 12.0**	**+0.2**
	54nm,0.1s,SNR=4.6						
EMLI	**Melilla**	**0.84**	**66**	P	**Pb**	**12 41 02.0**	**+1.2**
	139nm,0.2s,SNR=7.5						
EMLI				S	**Sb**	**12 41 12.0**	**+0.1**
	54nm,0.1s,SNR=4.6						
TZK	**Tazeka**	**0.91**	**196**	*i* P	**Pb**	**12 41 02.0**	**0.0**
TZK				*i* S	**Sb**	**12 41 16.0**	**+2.1**
ZAI	**Zaio**	**0.94**	**89**	P	**Pb**	**12 41 00.0**	**-2.5**
ZAI				S	**Sb**	**12 41 13.0**	**-1.8**
EALB	**Alboran**	**1.20**	**35**	P	**Pb**	**12 41 08.4**	**+1.4**
	4.4nm,0.1s,SNR=7.9						
EALB				S	**Sb**	**12 41 23.2**	**+0.9**
	45nm,0.4s,SNR=7.9						
EALB	**Alboran**	**1.20**	**35**	P	**Pb**	**12 41 08.4**	**+1.4**
	4.4nm,0.1s,SNR=7.9						
EALB				S	**Sb**	**12 41 23.2**	**+0.8**
	45nm,0.4s,SNR=7.9						
EMIJ	**Mijas**	**1.75**	**336**	P	**Pn**	**12 41 17.5**	**+2.1**
	1.6nm,0.2s,SNR=7.9						
EMIJ				S	**Sn**	**12 41 39.0**	**+1.1**
	4.2nm,0.3s,SNR=7.9						
ERON	**Agron**	**2.05**	**2**	P	**Pn**	**12 41 20.7**	**+1.0**
	1.5nm,0.3s,SNR=4.0						
ERON				S	**Sn**	**12 41 45.9**	**+0.3**
	3.1nm,0.4s,SNR=7.9						
EBER	**Berja**	**2.09**	**22**	P	**Pn**	**12 41 21.3**	**+1.0**
	1.9nm,0.3s,SNR=4.0						
EBER				S	**Sn**	**12 41 46.3**	**-0.3**
	14nm,0.3s,SNR=8.0						
EBER	**Berja**	**2.09**	**22**	P	**Pn**	**12 41 21.3**	**+1.0**
	1.9nm,0.3s,SNR=4.0						
EBER				S	**Sn**	**12 41 46.3**	**-0.3**
	14nm,0.3s,SNR=8.0						
CZD	**Col de Zad**	**2.15**	**207**	*i* P	**Pn**	**12 41 21.0**	**-0.1**
CZD				*i* S	**Sn**	**12 41 48.0**	**-0.1**
EQUE	**Quentar**	**2.27**	**9**	P	**Pn**	**12 41 23.8**	**+1.0**
	0.7nm,0.2s,SNR=7.9						
EQUE				S	**Sn**	**12 41 51.2**	**+0.2**
	3.2nm,0.5s,SNR=7.9						
EQES	**Quesada**	**2.91**	**13**	P	**Pn**	**12 41 32.6**	**+0.7**
	0.6nm,0.3s,SNR=5.9						
EQES				S	**Sn**	**12 42 07.3**	**0.0**
	9.5nm,0.5s,SNR=4.5						
EQES	**Quesada**	**2.91**	**13**	P	**Pn**	**12 41 34.1**	**+2.2**
	0.6nm,0.3s,SNR=5.9						
EQES				S	**Sn**	**12 42 07.3**	**0.0**
	9.5nm,0.5s,SNR=4.5						
EQES	**Quesada**	**2.91**	**13**	P	**Pn**	**12 41 34.1**	**+2.1**
EQES				S	**Sn**	**12 42 07.3**	**0.0**
ZFT	**Errachidia**	**2.95**	**188**	*i* P	**Pn**	**12 41 32.0**	**-0.5**
ZFT				*i* S	**Sn**	**12 42 07.0**	**-1.3**
EADA	**Adamuz**	**3.25**	**350**	P	**Pn**	**12 41 37.8**	**+1.1**
	0.3nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**12 42 14.8**	**-1.0**
	2.1nm,0.4s,SNR=7.9						
EADA	**Adamuz**	**3.25**	**350**	P	**Pn**	**12 41 37.8**	**+1.1**
	0.3nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**12 42 14.8**	**-1.1**
	2.1nm,0.4s,SNR=7.9						
EADA	**Adamuz**	**3.25**	**350**	P	**Pn**	**12 41 37.8**	**+1.1**
EADA				S	**Sn**	**12 42 14.8**	**-1.0**
ECAB	**El Cabril**	**3.34**	**339**	S	**Sn**	**12 42 16.7**	**-1.6**
	1.4nm,0.3s,SNR=7.9						
ECAB	**El Cabril**	**3.34**	**339**	S	**Sn**	**12 42 16.7**	**-1.6**
	1.4nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.59**	**322**	P	**Pn**	**12 41 42.7**	**+1.0**
	0.9nm,0.2s,SNR=7.9						
EMIN				S	**Sn**	**12 42 22.8**	**-1.8**
	1.7nm,0.4s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.59**	**322**	P	**Pn**	**12 41 42.7**	**+1.1**
	0.9nm,0.2s,SNR=7.9						
EMIN				S	**Sn**	**12 42 22.2**	**-2.4**
	1.7nm,0.4s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.59**	**322**	P	**Pn**	**12 41 42.6**	**+1.0**
EMIN				S	**Sn**	**12 42 22.2**	**-2.3**
EGRO	**El Granado**	**3.88**	**312**	P	**Pn**	**12 41 46.6**	**+0.9**
	0.9nm,0.2s,SNR=7.9						
EGRO				S	**Sn**	**12 42 29.8**	**-2.1**
	2.4nm,0.2s,SNR=5.6						
EGRO	**El Granado**	**3.88**	**312**	P	**Pn**	**12 41 46.6**	**+0.9**
	0.9nm,0.2s,SNR=7.9						
EGRO				S	**Sn**	**12 42 29.3**	**-2.5**
	2.4nm,0.2s,SNR=5.6						
ETOB	**Tobarra**	**4.12**	**26**	S	**Sn**	**12 42 36.0**	**-2.1**
	1.0nm,0.3s,SNR=7.9						
EBAD	**Badajoz**	**4.54**	**327**	P	**Pn**	**12 41 54.8**	**-0.4**
	0.9nm,0.2s,SNR=7.9						
EBAD				S	**Sn**	**12 42 45.2**	**-3.4**
	2.1nm,0.3s,SNR=7.9						
EBAD	**Badajoz**	**4.54**	**327**	P	**Pn**	**12 41 54.8**	**-0.3**
	0.9nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**4.54**	**327**	P	**Pn**	**12 41 54.8**	**-0.4**
EBAD				S	**Sn**	**12 42 44.7**	**-3.9**

CSEM **10** *12:47:35.0, 48.80N×157.96E, h10km, mb5.6*
IDC **10** *12:47:35.2±0.4, 48.77N×158.29E, mb4.9/25, mb1 5.0/27, mb1mx5.0/28, mbtmp5.0/27, ML4.7/2, MS4.4/18, Ms1 4.4/18, ms1mx4.3/28, Error ellipse: s-maj=13.3km s-min=7.9km az=136.0*
BJI **10** *12:47:38.9, 49.01N×157.60E, h11km, mB5.0, mb5.1, Ms4.9, Msz4.5*
SKHL **10** *12:47:39.5±0.4, 48.72N×158.03E, h33km±2km, mb6.7/4, mbh6.2/5, Ms4.9/5, msh5.9/5*
SKHL Felt (III-IV) at Severo-Kurilsk.
KRSC **10** *12:47:40.2±1.1, 48.75N×158.28E, h40km±7km, ML5.5*
NEIC **10** *12:47:40.2±0.1, 48.66N×158.06E, mb5.5/151, Error ellipse: s-maj=4.0km s-min=2.6km az=171.0*
NEIC Felt [IV] at Severo-Kuril'sk.
HRVD **10** *12:47:40.2±0.2, 48.70N×158.19E, h43km, MW5.3/68, Centroid moment Tensor Solution. LP body waves: s63,c102; Mantle waves: s68,c140; Half duration: 1§1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.60±.03; $M_{\theta\theta}$-0.46±.02; $M_{\phi\phi}$-0.13±.02; $M_{r\theta}$-0.54±.02; $M_{\theta\phi}$-0.76±.02; $M_{\phi r}$-0.39±.02; Best double couple: $M_0$1.071×10^{17} NP1: ϕ_s42°, δ26°, λ78°. NP2: ϕ_s236°, δ64°, λ96°. Principal axes: T.836, Plg70°, Azm158°; N.47, Plg5°, Azm53°; P-1.306, Plg19°, Azm321°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS **10** *12:47:42.1±2.0, 48.91N×158.45E, h60km, mb5.7/102, MS4.6/39 Error ellipse: s-maj=6.3km s-min=3.4km az=92.2*
MOS Felt (III-IV) at Severo-Kuril'sk.
ORF **10** *12:48:18.2, 52.88N×152.37E, h30km, mb5.6*

ISC 10 12:47:38.6±0.1, 48.71N±0.02×158.11E±0.03, h31km, h31km±.6km: pP-P, n724, σ1§05/734, mb5.4/216, MS4.5/81, 116C-68D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.36**	**328**	⇓*i*P	**Pn**	**12 48 14.0**	**-2.1**
SKR				⇓*i*P		12 48 14.0	
SKR				⇓*i*P		12 48 14.0	
SKR				AMB	AMB	12 48 15.0	
	20μm,2.0s						
SKR				AMB	AMB	12 48 15.0	
	30μm,2.0s						
SKR				AMB	AMB	12 48 15.0	
	50μm,2.0s						
SKR				AMB	AMB	12 48 15.0	
	21μm,2.0s						
SKR				AMB	AMB	12 48 15.0	
	50μm,2.0s						
SKR				*i* S	**Sn**	**12 48 40.0**	**-4.4**
SKR				A		12 48 42.8	
	271μm,1.0s						
SKR				A		12 48 42.8	
	364μm,1.0s						
SKR				A		12 48 42.8	
	81μm,1.0s						
SKR				A		12 48 43.0	
	260μm,2.0s						
SKR				A		12 48 43.0	
	339μm,2.0s						
SKR	**Severo-Kuril's**	**2.36**	**328**	*i*PN	**Pn**	**12 48 14.0**	**-2.1**
SKR				*i* S	**Sn**	**12 48 40.0**	**-4.4**
SKR				pmax	pmax		
	comp=Z,50μm,1.0s						
SKR				pmax	pmax		
	comp=N,21μm,2.0s						
SKR				pmax	pmax		
	comp=E,21μm,2.0s						
SKR				smax			
	comp=N,260μm,2.0s						
SKR				smax			
	comp=E,339μm,2.0s						
ALID	**Alaid**	**2.73**	**323**	*i* P	**Pn**	**12 48 23.2**	**+1.9**
ALID				*e*S	**Sn**	**12 48 55.3**	**+1.7**
PAU	**Pauzhetka**	**2.88**	**344**	*i* P	**Pn**	**12 48 25.0**	**+1.4**
PAU				*i* S	**Sn**	**12 48 58.0**	**+0.4**
PAU	**Pauzhetka**	**2.88**	**344**	*i* P	**Pn**	**12 48 25.0**	**+1.4**
PAU				*e*S	**Sn**	**12 48 58.0**	**+0.4**
PAU				Smax			
	comp=E,45μm,1.1s						
MIPR	**Malaya Ipel'ka**	**3.67**	**347**	*i* P	**Pn**	**12 48 36.2**	**+1.4**
MIPR				*e*S	**Sn**	**12 49 18.4**	**+0.8**
RUS	**Russkaya**	**3.74**	**4**	P	**Pn**	**12 48 35.9**	**+0.2**
RUS				S	**Sn**	**12 49 15.7**	**-3.5**
RUS	**Russkaya**	**3.74**	**4**	*e*P	**Pn**	**12 48 35.8**	**+0.1**
RUS				*i* S	**Sn**	**12 49 16.2**	**-3.0**
GRL	**Gorelyy**	**3.85**	**360**	*i* P	**Pn**	**12 48 38.4**	**+1.1**
GRL				*i* S	**Sn**	**12 49 20.9**	**-1.1**
KRMR	**Karymshinskiy**	**4.13**	**0**	*i* P	**Pn**	**12 48 42.3**	**+1.1**
KRMR				*e*S	**Sn**	**12 49 27.8**	**-1.3**
APC	**Apacha**	**4.26**	**352**	*i* P	**Pn**	**12 48 44.4**	**+1.2**
APC				*e*S	**Sn**	**12 49 32.1**	**-0.4**
APC				Smax			
	comp=E,5μm,0.9s						
PET	**Petropavlovsk**	**4.33**	**4**	P	**Pn**	**12 48 44.6**	**+0.4**
PET				S	**Sn**	**12 49 30.8**	**-3.5**
PET	**Petropavlovsk**	**4.33**	**4**	⇓*i*P	**Pn**	**12 48 44.6**	**+0.4**
PET				AMB	AMB	12 48 45.1	
	comp=E,2μm,0.5s						
PET				AMB	AMB	12 48 45.1	
	comp=E,500nm,0.5s						
PET				AMB	AMB	12 48 45.1	
	comp=E,3μm,0.5s						
PET				AMB	AMB	12 48 45.3	
	comp=E,3μm,0.4s						
PET				AMB	AMB	12 48 45.3	
	comp=E,800nm,0.4s						
PET				AMB	AMB	12 48 45.3	
	comp=E,5μm,0.4s						
PET				*e*S	**Sn**	**12 49 31.1**	**-3.2**
PET				A		12 49 33.8	
	comp=E,21μm,0.7s						
PET				A		12 49 33.8	
	comp=E,38μm,0.7s						
PET				A		12 49 33.9	
	comp=E,39μm,0.7s						
PET				A		12 49 34.3	
	comp=E,33μm,0.5s						
PET				AMS	AMS	12 50 04.8	
	comp=E,6μm,14.0s						
PET				AMS	AMS	12 50 09.2	
	comp=E,7μm,20.0s						
PET	**Petropavlovsk**	**4.33**	**4**	*i* P	**Pn**	**12 48 44.6**	**+0.4**
PET				*e*S	**Sn**	**12 49 31.1**	**-3.2**
PET	**Petropavlovsk**	**4.33**	**4**	⇓*e*Pn	**Pn**	**12 48 44.2**	**0.0**
PET				*e*Sn	**Sn**	**12 49 24.1**	**-10**
UGLR	**Uglovaya**	**4.53**	**5**	*i* P	**Pn**	**12 48 47.5**	**+0.6**
UGLR				*i* S	**Sn**	**12 49 36.1**	**-3.1**
NLC	**Nalytchevo**	**4.54**	**9**	P	**Pn**	**12 48 46.4**	**-0.6**
NLC				S	**Sn**	**12 49 33.6**	**-5.8**
NLC	**Nalytchevo**	**4.54**	**9**	*e*P	**Pn**	**12 48 46.1**	**-0.9**
NLC				*e*S	**Sn**	**12 49 34.3**	**-5.1**
SPN	**Mys Shipunski**	**4.56**	**15**	P	**Pn**	**12 48 47.5**	**+0.2**
SPN				S	**Sn**	**12 49 36.1**	**-3.9**
SPN	**Mys Shipunski**	**4.56**	**15**	*e*P	**Pn**	**12 48 47.5**	**+0.2**
SPN				*i* S	**Sn**	**12 49 36.7**	**-3.3**
AVH	**Avacha**	**4.58**	**5**	*e*P	**Pn**	**12 48 48.5**	**+0.9**
AVH				*e*S	**Sn**	**12 49 38.0**	**-2.5**
SMAR	**Somma**	**4.58**	**5**	*e*P	**Pn**	**12 48 48.1**	**+0.4**
SMAR				*e*S	**Sn**	**12 49 38.2**	**-2.3**
KOK	**Koryaka**	**4.60**	**4**	*i* P	**Pn**	**12 48 49.9**	**+1.9**
KOK				*e*S	**Sn**	**12 49 40.7**	**-0.3**
SDLR	**Sedlovina**	**4.60**	**6**	*i* P	**Pn**	**12 48 48.0**	**0.0**
SDLR				*e*S	**Sn**	**12 49 36.8**	**-4.2**
GNL	**Ganaly**	**4.99**	**359**	*i* P	**Pn**	**12 48 54.5**	**+1.0**
GNL				*e*S	**Sn**	**12 49 49.7**	**-1.2**
KII	**Karymskiy**	**5.40**	**8**	P	**Pn**	**12 49 00.1**	**+0.9**
KII				S	**Sn**	**12 49 58.5**	**-2.6**
KII	**Karymskiy**	**5.40**	**8**	*e*P	**Pn**	**12 49 00.2**	**+1.0**
KII				*e*S	**Sn**	**12 49 59.2**	**-1.9**
MKZ	**Mys Kozlova**	**6.27**	**20**	P	**Pn**	**12 49 10.5**	**-1.0**
MKZ				S	**Sn**	**12 50 15.6**	**-7.3**
MKZ	**Mys Kozlova**	**6.27**	**20**	*e*P	**Pn**	**12 49 10.4**	**-1.1**
MKZ				*e*S	**Sn**	**12 50 16.2**	**-6.7**
TUMR	**Tumrok**	**6.70**	**10**	*e*P	**Pn**	**12 49 18.4**	**+0.8**
TUMR				*e*S	**Sn**	**12 50 28.8**	**-4.9**
KMNR	**Kamenistaya**	**7.18**	**10**	*i* P	**Pn**	**12 49 25.1**	**+0.9**
KMNR				*e*S	**Sn**	**12 50 41.0**	**-4.6**
ESO	**Esso**	**7.24**	**3**	*i* P	**Pn**	**12 49 25.4**	**+0.3**
ESO				*e*S	**Sn**	**12 50 43.1**	**-3.9**
ESO				Smax			
	comp=E,580nm,0.8s						
KPT	**Kopyto**	**7.38**	**9**	*i* P	**Pn**	**12 49 27.4**	**+0.3**
KPT				*e*S	**Sn**	**12 50 45.1**	**-5.6**
KOZ	**Kozyrevsk**	**7.44**	**8**	*i* P	**Pn**	**12 49 28.1**	**+0.2**
KOZ				*e*S	**Sn**	**12 50 47.5**	**-4.6**
KOZR	**Kozyr**	**7.45**	**8**	PN	**Pn**	**12 49 28.1**	**+0.1**
ZLN	**Zelenaya**	**7.50**	**12**	*i* P	**Pn**	**12 49 29.6**	**+0.8**
ZLN				*e*S	**Sn**	**12 50 48.9**	**-4.8**
LGNR	**Loginova**	**7.55**	**11**	*i* P	**Pn**	**12 49 30.6**	**+1.1**
LGNR				*e*S	**Sn**	**12 50 48.7**	**-6.2**
CIRR	**Tsirk**	**7.59**	**11**	*i* P	**Pn**	**12 49 30.6**	**+0.6**
CIRR				*e*S	**Sn**	**12 50 52.7**	**-3.2**
KRSR	**Krestovskiy**	**7.67**	**10**	*e*P	**Pn**	**12 49 31.1**	**0.0**
KRSR				*e*S	**Sn**	**12 50 53.7**	**-4.1**
SRDR	**Sredinnyy**	**7.68**	**7**	*i* P	**Pn**	**12 49 31.3**	**0.0**
SRDR				*e*S	**Sn**	**12 50 53.2**	**-5.0**
KLY	**Klyuchi**	**7.77**	**11**	P	**Pn**	**12 49 32.9**	**+0.3**
KLY				S	**Sn**	**12 50 55.2**	**-5.2**
KLY	**Klyuchi**	**7.77**	**11**	*i* P	**Pn**	**12 49 32.9**	**+0.3**
KLY				*e*S	**Sn**	**12 50 54.1**	**-6.3**
KUR	**Kuril'sk**	**7.82**	**247**	*e*PN	**Pn**	**12 49 29.8**	**-3.4**
KUR				pmax	pmax		
	comp=N,1μm,2.0s						
KUR				pmax	pmax		
	comp=E,2μm,2.0s						
KUR				pmax	pmax		
	comp=Z,4μm,2.0s						
KUR				pmax	pmax		
	comp=N,120nm,0.8s						
KUR				pmax	pmax		
	comp=E,130nm,0.8s						
KUR				pmax	pmax		
	comp=Z,660nm,0.8s						
KUR				MLR	MLR		
	comp=N,1μm,14.0s						
KUR				MLR	MLR		
	comp=E,3μm,14.0s						
KUR				MLR	MLR		
	comp=Z,3μm,14.0s						
KBTR	**Krutoberegovo**	**8.04**	**19**	P	**P**	**12 49 35.1**	**-1.2**
KBTR				S	**Sn**	**12 50 59.2**	**-7.9**
KBTR	**Krutoberegovo**	**8.04**	**19**	*i* P	**P**	**12 49 35.3**	**-1.0**
KBTR				*e*S	**Sn**	**12 50 59.8**	**-7.3**
BKI	**Bering**	**8.11**	**34**	*i* P	**P**	**12 49 35.8**	**-1

YSS				A			12 52 07.0
	comp=Z,2μm,6.0s						
YSS				AMS	AMS		12 54 59.0
	comp=Z,1μm,16.0s						
YSS				AMS	AMS		12 54 59.0
	comp=Z,1μm,18.0s						
YSS	**Yuzh-Sakhalins**	**10.48**	**266**⇓	*e*Pn	**P**		**12 50 10.2 +0.5**
	comp=Z,286nm,1.0s						
YSS				*e*Sn	**S**		**12 52 00.1 -7.0**
YSS	**Yuzh-Sakhalins**	**10.48**	**266**κ	*i*PN	**P**		**12 50 10.2 +0.4**
YSS				pmax	pmax		
	comp=E,290nm,1.0s						
YSS				pmax	pmax		
	comp=Z,250nm,1.0s						
YSS				MLR	MLR		
	comp=Z,1μm,16.0s						
YSS				MLR	MLR		
	comp=E,1μm,18.0s						
UGL	**Uglegorsk**	**10.58**	**278**	*e*P	**P**		**12 50 13.0 +1.9**
UGL			⇓	*i*P			12 50 13.0
UGL				AMB	AMB		12 50 14.0
	comp=E,500nm,3.0s						
UGL				AMB	AMB		12 50 14.0
	comp=E,2μm,4.0s						
UGL				AMB	AMB		12 50 14.0
	comp=E,2μm,3.0s						
UGL				AMB	AMB		12 50 15.0
	comp=E,225nm,1.0s						
UGL				AMB	AMB		12 50 15.0
	comp=E,829nm,1.0s						
UGL				A			12 52 12.0
	comp=E,121nm,0.8s						
UGL				A			12 52 12.0
	comp=E,217nm,0.8s						
UGL				A			12 52 12.0
	comp=E,108nm,0.8s						
UGL				A			12 52 13.0
	comp=E,1μm,6.0s						
UGL				A			12 52 13.0
	comp=E,600nm,6.0s						
UGL				AMS	AMS		12 54 18.0
	comp=E,2μm,20.0s						
UGL				AMS	AMS		12 54 18.0
	comp=E,6μm,16.0s						
UGL				AMS	AMS		12 54 18.0
	comp=E,4μm,18.0s						
OKH	**Okha**	**10.69**	**303**⇓	*i*P	**P**		**12 50 10.4 -2.3**
OKH				*i* P			12 50 11.8
OKH				AMB	AMB		12 50 12.0
	comp=E,1μm,1.0s						
OKH				AMB	AMB		12 50 12.0
	comp=E,2μm,4.0s						
OKH				*e*S	**S**		**12 52 08.2 -4.2**
OKH				*e*S	**S**		**12 52 08.9 -3.5**
OKH				A			12 52 15.8
	comp=E,1μm,5.0s						
OKH				A			12 52 15.8
	comp=E,2μm,6.0s						
OKH				AMS	AMS		12 56 11.8
	comp=E,7μm,13.0s						
OKH				AMS	AMS		12 56 11.8
	comp=E,5μm,13.0s						
OKH				AMS	AMS		12 56 11.8
	comp=E,4μm,15.0s						
OKH	**Okha**	**10.69**	**303**	*i* PN	**P**		**12 50 10.4 -2.3**
OKH				pmax	pmax		
	comp=Z,5μm,4.0s						
SMY	**Shemya**	**10.90**	**62**	*e*P	**P**		**12 50 13.8 -1.8**
SMY	**Shemya**	**10.90**	**62**	*e*PN	**P**		**12 50 13.9 -1.7**
SMY				pmax	pmax		
	comp=Z,420nm,0.6s						
ASAJ	**Asahikawa**	**11.65**	**253**	Pn	**P**		**12 50 25.1 -0.7**
	comp=Z,7.8nm,0.3s,baz=80,slow=13,SNR=151						
ASAJ				LR	LR		12 55 45.9
	comp=Z,1μm,18.0s,baz=73,slow=42						
ASAJ	**Asahikawa**	**11.65**	**253**	PN	**P**		**12 50 25.1 -0.7**
ASAJ				pmax	pmax		
	comp=Z,8.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,1μm,18.0s						
GRNR	**Gornyy**	**14.17**	**287**	*i* P	**P**		**12 50 54.8 -4.3**
GRNR				AMB	AMB		12 50 56.8
	comp=Z,840nm,1.0s						
GRNR				AMB	AMB		12 50 56.8
	comp=Z,250nm,1.0s						
GRNR				AMB	AMB		12 50 56.8
	comp=Z,390nm,1.0s						
SEY	**Seymchan**	**14.61**	**350**	*i* P	**P**		**12 51 04.1 -0.6**
SEY	**Seymchan**	**14.61**	**350**	*i* P	**P**		**12 51 04.3 -0.4**
SEY				*e*S	**S**		**12 53 46.7 +0.4**
SEY				smax			
	comp=N,160nm,5.2s						
SEY				smax			
	comp=E,140nm,7.8s						
SEY				MLR	MLR		
	comp=N,3μm,15.0s						
SEY				MLR	MLR		
	comp=Z,5μm,15.0s						
SEY				MLR	MLR		
	comp=E,4μm,14.0s						
TEY	**Ternei**	**15.15**	**264**	*e*P	**P**		**12 51 10.0 -2.0**
EKMR	**Ekimchan**	**16.43**	**295**	*i* P	**P**		**12 51 24.7 -3.6**
EKMR				AMB	AMB		12 51 30.0
	comp=E,30nm,0.6s						
EKMR				AMB	AMB		12 51 30.0
	comp=E,17nm,0.6s						
EKMR				AMB	AMB		12 51 30.0
	comp=E,78nm,0.6s						
GSTR	**Great Sitkin T**	**16.78**	**69**	P	**P**		**12 51 38.8 +6.1**
KLR	**Kul'dur**	**17.29**	**282**	*ce*P	**P**		**12 51 36.8 -2.4**
KLR				*e*			12 54 46.0
KLR				pmax	pmax		
	comp=N,44nm,1.4s						
KLR				pmax	pmax		
	comp=E,120nm,1.4s						
KLR				pmax	pmax		
	comp=Z,76nm,1.4s						
KLR				pmax	pmax		
	comp=E,800nm,6.0s						
KLR				pmax	pmax		
	comp=Z,900nm,6.0s						
KLR				MLR	MLR		
	comp=E,2μm,15.0s						
KLR				MLR	MLR		
	comp=Z,2μm,15.0s						
MAJO	**Matsushiro**	**18.97**	**238**	*e*P	**P**		**12 51 58.3 -1.5**
	comp=Z,105nm,1.0s						
MAJO	**Matsushiro**	**18.97**	**238**	P	**P**		**12 51 58.9 -0.9**
MAJO				pmax	pmax		
	comp=Z,110nm,1.0s						
MAT	**Matsushiro**	**18.97**	**238**	P	**P**		**12 51 58.3 -1.5**
MAT				S	**S**		**12 55 30.0 +3.3**
MAT	**Matsushiro**	**18.97**	**238**	*e*P	**P**		**12 51 58.0 -1.8**
	comp=Z,28nm,1.0s						
MAT				*e*S	**S**		**12 55 30.0 +3.3**
MAT	**Matsushiro**	**18.97**	**238**	*e*P	**P**		**12 51 58.0 -1.8**
MAT				*e*S	**S**		**12 55 30.0 +3.3**
MAT				pmax	pmax		
	comp=Z,28nm,1.0s						
MJAR	**Matsushiro Arr**	**18.97**	**238**	P	**P**		**12 51 58.6 -1.2**
	comp=Z,2.0nm,0.3s,baz=25,slow=13,SNR=40						
MJAR				S	**S**		**12 55 34.4 +7.7**
	comp=Z,0.6nm,0.3s,baz=20,slow=18,SNR=4.9						
BILL	**Bilibino**	**19.82**	**9**⇓	*e*P	**P**		**12 52 09.3 0.0**
	comp=Z,322nm,1.0s						
BILL	**Bilibino**	**19.82**	**9**	*d i*P	**P**		**12 52 09.7 +0.4**
BILL				pmax	pmax		
	comp=Z,365nm,1.2s						
BILL				MLR	MLR		
	comp=Z,400nm,15.0s						
MDJ	**Mudanjiang**	**19.94**	**269**	P	**P**		**12 52 07.6 -3.2**
MDJ				AP			12 52 13.8
MDJ				XP			12 52 19.6
MDJ				S	**S**		**12 55 48.2 +0.2**
MDJ				PCP	PcP		12 56 24.5 -1.8
MDJ				PCS			13 00 01.1
MDJ				AMB	AMB		
	comp=Z,32nm,0.8s						
MDJ				AMB	AMB		
	comp=Z,84nm,3.0s						
MDJ				LR	LR		
	comp=N,836nm,16.0s						
MDJ				LR	LR		
	comp=E,523nm,15.5s						
MDJ				LR	LR		
	comp=Z,808nm,13.4s						
MDJ	**Mudanjiang**	**19.94**	**269**	*e*P	**P**		**12 52 07.1 -3.7**
	comp=Z,117nm,1.1s						
YAK	**Yakutsk**	**20.72**	**321**⇓	*i*P	**P**		**12 52 15.6 -3.1**
	comp=Z,2μm,0.8s						
YAK				*e*S	**S**		**12 56 03.8 +0.2**
YAK				LR	LR		
	comp=Z,2μm,22.0s,MS4.5						
YAK	**Yakutsk**	**20.72**	**321**	*d i*P	**P**		**12 52 15.7 -3.0**
YAK				*e*S	**S**		**12 56 04.7 +1.1**
YAK				*i*			12 56 26.6
YAK				*i* SSS	SSS		12 56 41.0 -8.6
YAK				*i*			13 03 38.2
YAK				pmax	pmax		
	comp=Z,830nm,0.9s						
YAK				pmax	pmax		
	comp=N,128nm,1.2s						
YAK				pmax	pmax		
	comp=E,397nm,1.1s						
YAK				smax			
	comp=E,16nm,1.0s						
YAK				smax			
	comp=Z,18nm,1.0s						
YAK				smax			
	comp=N,30nm,1.1s						
YAK				MLR	MLR		
	comp=E,805nm,13.0s,MS4.4						
YAK				MLR	MLR		
	comp=Z,995nm,13.0s,MS4.4						
YAK				MLR	MLR		
	comp=N,707nm,12.0s,MS4.4						
JHJ	**Hachijo jima 2**	**20.76**	**228**	P	**P**		**12 52 19.1 -0.2**
	comp=N,68nm,0.8s,baz=73,slow=18,SNR=3.6						
JHJ				LR	LR		12 59 20.7
	comp=N,250nm,18.7s,MS3.6,baz=47,slow=34						
CLNS	**Chul'man**	**21.50**	**305**	*e*P	**P**		**12 52 25.9 -0.7**
CLNS				*e*			12 52 42.7
CLNS				*e*PPP	PP		12 52 49.4 -1.7
CLNS				*e*S	**S**		**12 56 18.5 +0.2**
CLNS				*e*SS	SS		12 56 53.9 -0.3
CLNS				*e*			13 03 48.3
CLNS				pmax	pmax		
	comp=E,148nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,247nm,0.8s,mb5.6						
CLNS				pmax	pmax		
	comp=N,126nm,1.0s						
CLNS				smax			
	comp=N,592nm,13.9s						
CLNS				smax			
	comp=Z,598nm,12.9s						
CLNS				smax			
	comp=E,271nm,10.4s						
CLNS				MLR	MLR		
	comp=Z,3μm,16.0s,MS4.7						
CLNS				MLR	MLR		
	comp=N,1μm,14.0s,MS4.5						
CLNS				MLR	MLR		
	comp=E,600nm,15.0s,MS4.5						
CN2	**Changchun**	**23.00**	**270**	⇑P	**P**		**12 52 39.0 -2.5**
CN2				*e*AP			12 52 48.0
CN2				*e*S	**S**		**12 56 43.1 -2.6**
CN2				AMB	AMB		
	comp=Z,40nm,1.1s,mb4.8						
CN2				AMB	AMB		
	comp=Z,300nm,6.0s						
CN2				LR	LR		
	comp=N,800nm,16.0s,MS4.4						
CN2				LR	LR		
	comp=E,600nm,16.0s,MS4.4						
CN2				LR	LR		
	comp=Z,700nm,18.0s,MS4.2						
CBIJ	**Chichi jima**	**24.87**	**216**	P	**P**		**12 53 00.2 +0.4**
	comp=Z,72nm,0.8s,mb5.3,baz=325,slow=16,SNR=3.5						
CBIJ				LR	LR		13 02 47.7
	comp=Z,140nm,18.8s,MS3.5,baz=208,slow=36						
HIA	**Hailar**	**25.01**	**286**⇓	*i*P	**P**		**12 52 58.7 -2.2**
	comp=Z,33nm,0.6s,mb5.0						
HIA				LR	LR		
	comp=Z,2μm,21.0s,MS4.6						
HIA	**Hailar**	**25.01**	**286**⇓	*i*P	**P**		**12 52 58.7 -2.2**
HIA				pmax	pmax		
	comp=Z,33nm,0.6s						
HIA				MLR	MLR		
	comp=Z,2μm,21.0s						
SNY	**Shenyang**	**25.10**	**267**	⇑P	**P**		**12 53 01.4 -0.5**
SNY				S	**S**		**12 57 22.8 +1.1**
SNY				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.7						
SNY				LR	LR		
	comp=N,260nm,16.2s,MS4.2						
SNY				LR	LR		
	comp=E,510nm,15.6s,MS4.2						
SNY				LR	LR		
	comp=Z,510nm,15.0s,MS4.2						
INCN	**Inchon**	**25.40**	**256**	P	**P**		**12 53 05.4 +0.7**
	comp=Z,62nm,1.0s,mb5.1						
INCN				LR	LR		
	comp=Z,517nm,20.0s,MS4.0						
JNU	**Nakatsue**	**25.62**	**243**	P	**P**		**12 53 07.3 +0.5**
	comp=Z,11nm,0.9s,mb4.4,baz=34,slow=12,SNR=6.5						
JNU				S			12 57 44.0
	comp=Z,2.4nm,0.8s,baz=165,slow=41,SNR=1.5						
JNU				LR	LR		13 02 01.4
	comp=Z,334nm,20.1s,MS3.9,baz=202,slow=34						
TIXI	**Tiksi**	**26.66**	**340**	*i* P	**P**		**12 53 15.7 -0.4**
TIXI	**Tiksi**	**26.66**	**340**	*e*P	**P**		**12 53 10.7 -5.4**
TIXI				*e*S	**S**		**12 57 42.9 -4.4**
TIXI				pmax	pmax		
	comp=Z,363nm,0.9s,mb5.9						
TIXI				pmax	pmax		
	comp=E,207nm,1.0s						
TIXI				pmax	pmax		
	comp=Z,582nm,1.1s,mb6.0						
TIXI				MLR	MLR		
	comp=Z,923nm,15.0s,MS4.5						
DL2	**Dalian**	**27.86**	**263**	*e*P	**P**		**12 53 31.3 +4.0**
DL2				S	**S**		**12 58 10.1 +3.2**
DL2				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.9						
DL2				LR	LR		
	comp=N,280nm,12.7s,MS4.1						
DL2				LR	LR		
	comp=E,220nm,13.1s,MS4.1						
DL2				LR	LR		
	comp=Z,290nm,19.4s						
CIT	**Chita**	**28.28**	**294**	*e*P	**P**		**12 53 29.9 -1.0**
CIT				*e*			12 54 45.9
CIT				pmax	pmax		
	comp=Z,231nm,1.7s,mb5.5						
SVW2	**Sparrevohn**	**28.70**	**47**	*e*P	**P**		**12 53 35.2 +0.5**
RSO	**Redoubt South**	**30.06**	**48**	P	**P**		**12 53 47.7 +0.9**
IMA	**Indian Mountai**	**30.23**	**37**	*e*P	**P**		**12 53 48.8 +0.6**
IMA	**Indian Mountai**	**30.23**	**37**	*e*P	**P**		**12 53 47.9 -0.3**
IMA				*e*			12 54 04.8
IMA				pmax	pmax		
	comp=Z,100nm,1.0s,mb5.5						
KDAK	**Kodiak Island**	**30.24**	**54**	*e*P	**P**		**12 53 47.1 -1.3**
SPU	**Mount Spurr**	**30.42**	**47**	*e*P	**P**		**12 53 49.8 -0.2**
SPU				*e*	pP		12 53 58.6 -0.4
SPU				*e*			12 54 06.0
PMR	**Palmer**	**31.83**	**46**	*e*P	**P**		**12 54 00.9 -1.5**
PMR	**Palmer**	**31.83**	**46**	*e*P	**P**		**12 54 03.9 +1.5**
PMR				*e*			12 54 15.4
PMR				pmax	pmax		
	comp=Z,28nm,1.2s,mb5.0						
MCK	**McKinley**	**31.95**	**42**	*e*P	**P**		**12 54 02.8 -0.6**
	comp=Z,33nm,1.0s,mb5.1						
MCK				*e*	pP		12 54 11.6 -1.0
MCK				LR	LR		
	comp=Z,197nm,20.0s,MS3.8						
MCK	**McKinley**	**31.95**	**42**	*e*P	**P**		**12 54 02.8 -0.6**
MCK				pmax	pmax		
	comp=Z,33nm,1.0s,mb5.1						
MCK				MLR	MLR		
	comp=Z,197nm,20.0s,MS3.8						
SML	**Sawmill**	**32.20**	**46**	*e*P	**P**		**12 54 04.9 -0.7**
SML				*e*	pP		12 54 13.9 -0.8
SML				*e*			12 54 21.9
SML	**Sawmill**	**32.20**	**46**	*e*P	**P**		**12 54 04.9 -0.7**
SML				*e*			12 54 21.9
TIA	**Tai'an**	**32.33**	**263**	*e*P	**P**		**12 54 07.3 +0.3**
ILAR	**Eielson Array**	**32.89**	**40**	P	**P**		**12 54 10.4 -1.2**
	comp=Z,2.9nm,0.6s,mb4.4,baz=246,slow=7.8,SNR=46						
ILAR				LR	LR		13 08 32.5
	comp=Z,233nm,18.9s,MS3.9,baz=192,slow=38						
SSE	**Sheshan**	**32.94**	**251**	P	**P**		**12 54 12.5 +0.2**
SSE				XP	sP		12 54 25.1 -0.3
SSE				PP	PP		12 55 26.1 +3.2
SSE				S	**S**		**12 59 26.1 -1.1**
SSE				XS			12 59 40.5
SSE				AMB	AMB		
	comp=Z,25nm,0.9s,mb5.1						
SSE				AMB	AMB		
	comp=Z,62nm,4.7s						
SSE				LR	LR		
	comp=N,125nm,24.7s,MS3.8						
SSE				LR	LR		
	comp=E,197nm,24.6s,MS3.8						
SSE				LR	LR		
	comp=Z,265nm,22.4s,MS3.9						
DIV	**Divide**	**33.46**	**47**	*e*P	**P**		**12 54 15.8 -0.8**
	comp=Z,108nm,0.7s,mb5.9						
DIV				*e*	pP		12 54 25.2 -0.6
DIV				*e*			12 54 32.7
HHC	**Hu-ho-hao-te**	**33.52**	**274**	*e*P	**P**		**12 54 17.6 +0.3**
HHC				AP	pP		12 54 27.6 +1.2
HHC				XP	sP		12 54 30.4 0.0
HHC				PP	PP		12 55 31.4 +1.5
HHC				S	**S**		**12 59 34.6 -1.5**
HHC				PCS			13 00 43.5
HHC				AMB	AMB		
	comp=Z,37nm,1.2s,mb5.2						
HHC				LR	LR		
	comp=N,975nm,17.8s,MS4.7						
HHC				LR	LR		
	comp=E,801nm,19.0s,MS4.7						
HHC				LR	LR		
	comp=Z,921nm,20.8s,MS4.5						
EYAK	**Cordova Ski Ar**	**33.52**	**48**	*e*P	**P**		**12 54 16.7 -0.5**
EYAK				*e*	pP		12 54 25.1 -1.1
NJ2	**Nanjing**	**33.78**	**255**	*e*P	**P**		**12 54 19.3 -0.4**
NJ2				AP	pP		12 54 29.0 +0.2
NJ2				XP	sP		12 54 33.0 +0.3
NJ2				S	**S**		**12 59 39.0 -1.3**
NJ2				XS			12 59 55.0
NJ2				LR	LR		
	comp=N,8μm,25.8s,MS5.5						
NJ2				LR	LR		
	comp=E,7μm,23.7s,MS5.5						
NJ2				LR	LR		
	comp=Z,8μm,23.0s,MS5.4						
IRK	**Irkutsk**	**33.79**	**297**	*e*P	**P**		**12 54 18.5 -1.0**
IRK				pmax	pmax		
	comp=Z,174nm,1.4s,mb5.8						
SONM	**Songino Array**	**33.89**	**288**	P	**P**		**12 54 19.4 -1.0**
	comp=Z,5.6nm,0.7s,mb4.6,baz=68,slow=9.2,SNR=33						
SONM				PcP	PcP		12 56 58.4 -0.3
	comp=Z,1.8nm,0.7s,baz=90,slow=2.9,SNR=2.7						
SONM				LR	LR		13 09 41.0
	comp=Z,1μm,18.1s,MS4.7,baz=71,slow=39						
MENT	**Mentasta**	**34.31**	**44**	*e*P	**P**		**12 54 24.4 +0.5**
BTO	**Baotou**	**34.66**	**275**	*e*P	**P**		**12 54 28.0 +0.9**
BTO				AMB	AMB		
	comp=Z,12nm,0.7s,mb4.9						
ZAK	**Zakamensk**	**34.94**	**294**⇓	*i*P	**P**		**12 54 29.3 -0.1**
ZAK				pmax	pmax		
	comp=Z,31nm,1.1s,mb5.2						
MOY	**Mondy**	**35.89**	**297**	*e*P	**P**		**12 54 37.3 -0.2**
MOY				pmax	pmax		
	comp=Z,189nm,1.7s,mb5.8						
DAWY	**Dawson**	**36.16**	**41**	*e*P	**P**		**12 54 39.3 -0.4**
DAWY				*e*	pP		12 54 48.4 -0.5
DAWY				*e*			12 54 56.2
GUMO	**Guam**	**36.69**	**202**	PFAKE			12 55 00.0 +15
GUMO				LR	LR		
	comp=Z,140nm,22.0s,MS3.7						
TATO	**Taipei**	**37.15**	**244**	PFAKE			12 55 00.0 +12
TATO				LR	LR		
	comp=Z,677nm,20.0s,MS4.4						
WHN	**Wuhan**	**37.67**	**258**	P	**P**		**12 54 55.0 +2.3**
INK	**Inuvik**	**38.16**	**34**	P	**P**		**12 54 56.4 0.0**
	comp=Z,4.4nm,0.5s,mb4.4,baz=296,slow=8.8,SNR=20						
INK				S	**S**		**13 00 46.7 -0.6**
	comp=Z,3.4nm,1.0s,baz=192,slow=5.6,SNR=2.3						
INK	**Inuvik**	**38.16**	**34**	*e*P	**P**		**12 54 56.8 +0.3**
	comp=Z,42nm,0.9s,mb5.2						
INK				*e*	pP		12 55 06.2 +0.5
INK	**Inuvik**	**38.16**	**34**	P	**P**		**12 54 56.4 -0.1**
INK				S	**S**		**13 00 46.7 -0.6**
INK				pmax	pmax		
	comp=Z,4.0nm,0.5s						
XAN	**Xi'an**	**39.02**	**267**	P	**P**		**12 55 01.3 -2.7**
XAN				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.5						
SIT	**Sitka**	**39.52**	**52**	*e*P	**P**		**12 55 09.9 +2.0**
ENH	**Enshi**	**41.02**	**262**	*e*P	**P**		**12 55 19.3 -1.1**
	comp=Z,49nm,1.2s,mb5.0						
ENH				LR	LR		
	comp=Z,331nm,20.0s,MS4.2						
LZH	**Lanzhou**	**41.18**	**273**	P	**P**		**12 55 23.5 +1.8**
LZH				AP	pP		12 55 31.2 +0.2
LZH				PP	PP		12 57 02.0 +2.3
LZH				S	**S**		**13 01 31.0 -1.9**
LZH				XS			13 01 47.0
LZH				SS	SS		13 04 26.0 -5.8
LZH				AMB	AMB		
	comp=Z,220nm,1.2s,mb5.7						
LZH				AMB	AMB		
	comp=Z,630nm,5.0s						
LZH				LR	LR		
	comp=E,2μm,19.2s						
LZH				LR	LR		
	comp=Z,2μm,21.0s,MS4.9						
DLBC	**Dease Lake**	**41.79**	**49**	*e*P	**P**		**12 55 28.2 +1.8**
DLBC				*e*	pP		12 55 37.1 +1.5
GTA	**Gaotai**	**41.98**	**280**⇓	*i*P	**P**		**12 55 29.3 +1.1**
GTA				AP	pP		12 55 37.3 -0.1
GTA				XP	sP		12 55 40.7 -0.6
GTA				PP	PP		12 57 08.2 -0.2
GTA				PCP	PcP		12 57 28.0 +4.3
GTA				S	**S**		**13 01 43.0 -1.6**
GTA				XS			13 01 54.4
GTA				SS	SS		13 04 44.4 -2.2
GTA				SCS	ScS		13 05 29.5 +3.3
GTA				AMB	AMB		
	comp=Z,51nm,1.1s,mb5.1						
GTA				AMB	AMB		
	comp=Z,239nm,5.0s						
GTA				LR	LR		
	comp=N,674nm,14.5s,MS4.9						
GTA				LR	LR		
	comp=E,1μm,16.0s,MS4.9						
GTA				LR	LR		
	comp=Z,970nm,15.2s,MS4.8						
ZAL	**Zalesovo**	**44.22**	**306**	P	**P**		**12 55 45.2 -1.0**
	comp=Z,23nm,0.8s,mb4.9,baz=47,slow=7.7,SNR=83						
ZAL				LR	LR		13 14 41.3
	comp=Z,648nm,21.8s,MS4.5,baz=49,slow=37						
ZAL	**Zalesovo**	**44.22**	**306**	*i* P	**P**		**12 55 45.5 -0.8**
ZAL				pmax	pmax		
	comp=Z,23nm,0.8s						
CD2	**Chengdu**	**44.38**	**267**⇓	*i*P	**P**		**12 55 47.2 -0.7**
CD2				PP	PP		12 57 31.2 -1.4
CD2				PPP	PPP		12 58 04.0 -7.6
CD2				S	**S**		**13 02 18.2 -1.5**
CD2				SS	SS		13 05 33.6 +3.2
CD2				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.0						
CD2				AMB	AMB		
	comp=Z,100nm,3.9s						
CD2				LR	LR		
	comp=N,240nm,18.0s						
CD2				LR	LR		
	comp=Z,340nm,18.0s,MS4.3						
NVS	**Novosibirsk**	**44.68**	**307**⇓	*i*P	**P**		**12 55 48.9 -1.0**
NVS				*e*			12 57 29.2
NVS				*e*S	**S**		**13 02 19.6 -4.1**
NVS				*e*			13 05 42.9
NVS				pmax	pmax		
	comp=N,112nm,1.4s						
NVS				pmax	pmax		
	comp=E,159nm,1.4s						
NVS				pmax	pmax		
	comp=Z,235nm,1.4s,mb5.8						
NVS				smax			
	comp=E,25nm,1.8s						
NVS				smax			
	comp=N,33nm,2.2s						
GYA	**Guiyang**	**45.41**	**260**⇓	*i*P	**P**		**12 55 55.8 -0.3**
GYA				AP	pP		12 56 05.7 +0.3
GYA				XP	sP		12 56 09.6 +0.4

GYA PP PP 12 57 43.0 +0.1
GYA S **S** **13 02 31.5 -3.0**
GYA XS 13 02 51.7
GYA AMB AMB
comp=Z,20nm,0.8s,mb5.0
GYA AMB AMB
comp=Z,130nm,3.2s
GYA LR LR
comp=N,370nm,17.8s,MS4.5
GYA LR LR
comp=E,410nm,18.0s,MS4.5
GYA LR LR
comp=Z,310nm,18.2s,MS4.3
YKW3 Yellowknife Ar 47.27 39 *e*P **P** **12 56 10.8 +0.4**
YKW3 *e* pP 12 56 19.8 +0.1
YKW3 *e* 12 56 27.2
YKA Yellowknife Ar 47.31 39 P **P** **12 56 10.5 -0.1**
comp=Z,4.1nm,0.7s,mb4.5,baz=294,slow=7.6,SNR=15
YKA Yellowknife Ar 47.31 39 P **P** **12 56 10.5 -0.1**
YKA pmax pmax
comp=Z,4.0nm,0.7s
WMQ Urumqi 47.34 292 P **P** **12 56 11.0 -0.2**
WMQ AP pP 12 56 21.0 +0.5
WMQ XP sP 12 56 25.0 +0.7
WMQ PP PP 12 58 02.0 +0.3
WMQ SCP 13 01 32.0
WMQ S **S** **13 03 01.0 -0.9**
WMQ SS SS 13 06 23.0 0.0
WMQ AMB AMB
comp=Z,68nm,1.2s,mb5.5
WMQ AMB AMB
comp=Z,25nm,5.0s
WMQ LR LR
comp=N,1μm,18.0s,MS4.9
WMQ LR LR
comp=E,687nm,18.0s,MS4.9
WMQ LR LR
comp=Z,546nm,18.0s,MS4.6
RES Resolute Bay 47.87 20 P **P** **12 56 16.9 +1.9**
comp=Z,25nm,0.9s,mb5.2
RES Resolute Bay 47.87 20 P **P** **12 56 16.9 +1.9**
RES pmax pmax
comp=Z,25nm,0.9s,mb5.2
QIZ Qiongzhong 48.71 250 P **P** **12 56 21.1 -1.0**
comp=Z,28nm,0.9s,mb5.3
KMI Kunming 48.89 262 P **P** **12 56 24.8 +1.4**
KMI AP pP 12 56 34.1 +1.3
KMI XP sP 12 56 36.8 +0.3
KMI PCP PcP 12 57 50.6 +2.7
KMI PP PP 12 58 17.5 +0.8
KMI PPP PPP 12 59 08.4 -1.9
KMI S **S** **13 03 22.7 -1.2**
KMI XS 13 03 39.0
KMI SCS ScS 13 06 13.3 +2.9
KMI SS SS 13 06 47.3 -2.9
KMI SSS SSS 13 08 08.6 -3.7
KMI AMB AMB
comp=Z,9.0nm,1.9s,mb4.5
KMI AMB AMB
comp=Z,81nm,3.2s
KMI LR LR
comp=N,365nm,17.7s,MS4.5
KMI LR LR
comp=E,226nm,15.1s,MS4.5
KMI LR LR
comp=Z,312nm,18.4s,MS4.3
MKAR Makanchi Array 49.02 298 P **P** **12 56 23.7 -0.4**
comp=Z,45nm,0.9s,mb5.5,baz=63,slow=8.1,SNR=194
MKAR LR LR 13 17 44.4
comp=Z,2μm,21.7s,MS5.1,baz=264,slow=37
KURK Kurchatov 49.07 304⇓ *i*P **P** **12 56 23.9 -0.6**
comp=Z,160nm,0.9s,mb6.0
KURK LR LR
comp=Z,194nm,21.0s,MS4.1
KURK Kurchatov 49.07 304⇓ *i*P **P** **12 56 23.9 -0.6**
KURK pmax pmax
comp=Z,160nm,0.9s,mb6.0
KURK MLR MLR
comp=Z,194nm,21.0s,MS4.1
RMW Rattlesnake Mo 51.12 59 P **P** **12 56 41.0 +0.8**
PNT Penticton 51.34 56 P **P** **12 56 41.2 -0.6**
COR Corvallis 51.85 63 P **P** **12 56 41.7 -4.1**
comp=Z,24nm,1.1s,mb5.0
COR Corvallis 51.85 63 P **P** **12 56 41.7 -4.0**
COR pmax pmax
comp=Z,24nm,1.1s,mb5.0
BVAR Borovoye Array 52.20 310 P **P** **12 56 47.6 -0.7**
comp=Z,37nm,0.6s,mb5.5,baz=53,slow=7.4,SNR=159
BRVK Borovoye 52.23 310 *e*P **P** **12 56 47.6 -0.9**
comp=Z,57nm,0.8s,mb5.5
BRVK LR LR
comp=Z,127nm,21.0s,MS3.9
BRVK Borovoye 52.23 310 *e*P **P** **12 56 47.6 -0.9**
BRVK pmax pmax
comp=Z,57nm,0.8s,mb5.5
BRVK MLR MLR
comp=Z,127nm,21.0s,MS3.9
EDM Edmonton 52.50 49 *e*P **P** **12 56 49.9 -0.7**
EDM *e* pP 12 56 59.5 -0.5
EDM *e* 12 57 07.4
EDM Edmonton 52.50 49 *e*P **P** **12 56 49.9 -0.6**
EDM *e* 12 57 07.4
FRIS Frissel Point 52.77 63 P **P** **12 56 53.3 +0.6**
OD2 Odessa Site #2 52.91 58 P **P** **12 56 53.4 -0.2**
HAWA Hanford 53.01 59 *e*P **P** **12 56 53.8 -0.6**
comp=Z,6.0nm,1.3s,mb4.4
NEW Newport 53.29 56 *e*P **P** **12 56 55.5 -1.0**
comp=Z,50nm,1.4s,mb5.2
NEW LR LR
comp=Z,161nm,22.0s,MS4.0
NEW Newport 53.29 56 *e*P **P** **12 56 55.5 -1.0**
NEW pmax pmax
comp=Z,50nm,1.4s
NEW MLR MLR
comp=Z,161nm,22.0s
VIPM Ingram Point 53.47 62 P **P** **12 56 58.2 +0.4**
LSA Lhasa 53.50 275 P **P** **12 57 01.0 +2.8**
LSA Lhasa 53.50 275 *e*P **P** **12 56 59.4 +1.2**
comp=Z,32nm,0.6s,mb5.4
LSA LR LR
comp=Z,437nm,21.0s,MS4.5
LSA Lhasa 53.50 275 *e*P **P** **12 56 59.4 +1.2**
LSA pmax pmax
comp=Z,32nm,0.6s,mb5.4
LSA MLR MLR
comp=Z,437nm,21.0s,MS4.5
KHMM Horse Mountain 53.74 67 *e*P **P** **12 57 00.9 +1.1**
YBH Yreka Blue Hor 53.85 66 *e*P **P** **12 57 01.5 +0.9**
comp=Z,63nm,1.2s,mb5.4
YBH Yreka Blue Hor 53.85 66 *e*P **P** **12 57 01.5 +0.9**
YBH pmax pmax
comp=Z,63nm,1.2s
CHRT Chiangrai 54.52 260 P **P** **12 57 04.5 -1.3**
WALA Waterton Lakes 54.58 54 *e*P **P** **12 57 05.4 -0.5**
comp=Z,62nm,1.3s,mb5.5
WALA *e* pP 12 57 14.9 -0.4
WDC Whiskeytown Da 54.64 67⇑ *i*P **P** **12 57 06.8 +0.3**
comp=Z,55nm,1.2s,mb5.5
WDC Whiskeytown Da 54.64 67⇑ *i*P **P** **12 57 06.8 +0.3**
WDC pmax pmax
comp=Z,55nm,1.2s,mb5.5
SVE Sverdlovsk 54.66 318⇓ *e*P **P** **12 57 05.8 -0.6**
SVE *e* 12 57 23.0
SVE *e* 12 59 07.0
SVE *e*S **S** **13 04 43.0 +0.5**
SVE pmax pmax
comp=Z,375nm,2.1s,mb6.0
SVE MLR MLR
comp=N,500nm,16.0s,MS4.8
SVE MLR MLR
comp=E,300nm,16.0s,MS4.8
SVE MLR MLR
comp=Z,900nm,16.0s,MS4.9
NANT Nan 54.69 258⇑ P **P** **12 57 05.0 -2.1**
comp=Z,178nm,1.0s,mb6.0
DAG Danmarks Havn 54.78 359⇓ *i*P **P** **12 57 11.7 +4.6**
comp=Z,150nm,1.3s,mb5.9
DAG Danmarks Havn 54.78 359⇓ *i*P **P** **12 57 11.7 +4.6**
DAG pmax pmax
comp=Z,150nm,1.3s,mb5.9
TKM2 Tokmak 2 55.13 297 P **P** **12 57 10.2 +0.2**
SNR=18
KKTK Khon Kaen 55.14 254 P **P** **12 57 10.0 -0.4**
comp=Z,370nm,1.0s,mb6.4
ULHL Ulahol 55.15 296 P **P** **12 57 10.6 +0.3**
SNR=40
BMO Blue Mountains 55.18 60⇑ *i*P **P** **12 57 10.1 -0.3**
comp=Z,51nm,1.3s,mb5.4
MOD Modoc 55.19 64⇑ *i*P **P** **12 57 10.4 -0.1**
comp=Z,111nm,1.3s,mb5.7
USP Ospenovka 55.56 298 P **P** **12 57 13.2 0.0**
SNR=57
CHMS Chumysh 55.58 298 P **P** **12 57 13.2 -0.1**
SNR=21
SHL Shillong 55.76 271 *e*P **P** **12 57 16.6 +1.9**
FRU Bishkek 55.76 298⇓ *i*P **P** **12 57 14.0 -0.6**
FRU pmax pmax
comp=Z,90nm,1.4s,mb5.6
FRU MLR MLR
comp=Z,1μm,18.0s,MS5.0
ARU Arti 55.81 319⇓ *i*P **P** **12 57 13.1 -1.6**
comp=Z,160nm,1.1s,mb6.0
ARU *e*PP PP 12 59 16.3 -4.4
ARU LR LR
comp=Z,161nm,20.0s,MS4.1
ARU Arti 55.81 319⇓ *i*P **P** **12 57 13.7 -1.1**
ARU *e* 12 58 12.1
ARU *i* 12 59 17.3
ARU *e*S **S** **13 04 58.4 +0.4**
ARU *e* 13 06 57.0
ARU *e*SS SS 13 08 47.9 +4.3
ARU *e*SSS SSS 13 10 56.7 +6.3
ARU pmax pmax
comp=Z,117nm,0.9s,mb5.9
ARU MLR MLR
comp=Z,600nm,19.0s,MS4.7
ARU MLR MLR
comp=N,400nm,21.0s,MS4.6
ARU MLR MLR
comp=E,300nm,18.0s,MS4.6
CHG Chiang Mai 55.82 259⇓ P **P** **12 57 23.9 +8.6**
comp=E,41nm,0.8s,mb5.5
KZA Kyzart 55.84 297 P **P** **12 57 16.2 +1.0**
SNR=21
WVOR Wild Horse Val 55.86 63⇑ *i*P **P** **12 57 15.5 +0.2**
comp=E,63nm,1.1s,mb5.6
WVOR Wild Horse Val 55.86 63⇑ *i*P **P** **12 57 15.5 +0.2**
WVOR pmax pmax
comp=Z,63nm,1.1s,mb5.6
MSO Missoula 55.88 56⇑ *e*P **P** **12 57 14.6 -0.7**
comp=Z,42nm,1.3s,mb5.3
AAK Ala-Archa 55.95 298 P **P** **12 57 15.7 -0.2**
SNR=13
AAK Ala-Archa 55.95 298⇓ *i*P **P** **12 57 14.6 -1.4**
comp=Z,84nm,0.9s,mb5.8
AAK *e* pP 12 57 23.5 -1.9
AAK LR LR
comp=Z,388nm,22.0s,MS4.5
AAK Ala-Archa 55.95 298⇓ *i*P **P** **12 57 14.6 -1.3**
AAK pmax pmax
comp=Z,84nm,0.9s,mb5.8
AAK MLR MLR
comp=Z,388nm,22.0s,MS4.5
LVZ Lovozero 56.27 338 *i*P **P** **12 57 16.6 -1.3**
LVZ *i* 12 58 17.3
LVZ *i* PPP PPP 13 00 35.1 -6.7
LVZ *i* S **S** **13 04 58.5 -5.4**
LVZ *i* SS SS 13 08 44.4 -6.7
LVZ pmax pmax
comp=N,23nm,1.0s
LVZ pmax pmax
comp=E,12nm,1.0s
LVZ pmax pmax
comp=Z,52nm,1.0s,mb5.5
LVZ smax
comp=E,123nm,11.6s
LVZ smax
comp=Z,59nm,9.5s
LVZ smax
comp=N,176nm,15.9s
LVZ MLR MLR
comp=E,202nm,21.0s,MS4.6
LVZ MLR MLR
comp=Z,675nm,21.0s,MS4.7
LVZ MLR MLR
comp=N,525nm,25.0s,MS4.6
EKS2 Erkin-Say 56.35 298 P **P** **12 57 19.1 +0.3**
SNR=33
BEKR Beckwourth 56.40 66⇑ *i*P **P** **12 57 19.0 -0.2**
comp=N,57nm,1.2s,mb5.5
KEV Kevo 56.58 342 *e*P **P** **12 57 18.4 -1.7**
comp=N,49nm,0.8s,mb5.6
KEV Kevo 56.58 342 *e*P **P** **12 57 18.4 -1.7**
KEV pmax pmax
comp=Z,49nm,0.8s,mb5.6
AML Almayashu 56.73 298 P **P** **12 57 22.3 +0.8**
SNR=12
APA Apatity 56.84 338⇓ *i*P **P** **12 57 20.5 -1.5**
APA *i* S **S** **13 05 12.0 +0.7**
APA pmax pmax
comp=Z,39nm,1.0s,mb5.4
KSH Kashi 56.98 294 P **P** **12 57 23.0 -0.4**
KSH *e*AP pP 12 57 33.2 +0.3
KSH *e*XP sP 12 57 37.1 +0.6
KSH *e*PCP PcP 12 58 18.0 -0.1
KSH *e*PP PP 12 59 30.1 -1.4
KSH *e*PPP PPP 13 00 50.1 -1.3
KSH *e*SCP 13 02 13.0
KSH *e*PCS 13 02 17.4
KSH *e*S **S** **13 05 10.6 -3.1**
KSH XS 13 05 28.0
KSH *e*SCS ScS 13 07 06.0 -0.6
KSH *e*SS SS 13 09 01.2 -2.4
KSH AMB AMB
comp=Z,80nm,1.3s,mb5.6
KSH LR LR
comp=N,350nm,9.1s
KSH LR LR
comp=E,460nm,12.3s
ARCES ARCESS Array B 57.07 342 P **P** **12 57 22.5 -1.1**
comp=E,72nm,0.8s,mb5.8,baz=31,slow=7.1,SNR=79
ARCES LR LR 13 27 04.8
comp=E,927nm,19.6s,MS4.9,baz=34,slow=42
ARE0 ARCESS Array S 57.07 342⇓ *i*P **P** **12 57 22.4 -1.3**
NST Nakhon Sawan 57.35 256 P **P** **12 57 33.0 +6.7**
CMB Columbia Colle 57.52 68⇑ *i*P **P** **12 57 27.0 -0.2**
comp=E,49nm,1.3s,mb5.4
CMB LR LR
comp=Z,224nm,20.0s,MS4.3
CMB Columbia Colle 57.52 68⇑ *i*P **P** **12 57 27.0 -0.2**
CMB pmax pmax
comp=Z,49nm,1.3s,mb5.4
CMB MLR MLR
comp=Z,224nm,20.0s,MS4.3
HLID Hailey 57.61 59⇑ *i*P **P** **12 57 27.9 +0.1**
comp=Z,50nm,1.2s,mb5.4
HLID LR LR
comp=Z,234nm,21.0s,MS4.3
SAO San Andreas Ge 57.67 70 *e*P **P** **12 57 27.8 -0.4**
comp=Z,19nm,1.3s,mb5.0
SAO San Andreas Ge 57.67 70 *e*P **P** **12 57 27.8 -0.5**
SAO pmax pmax
comp=Z,19nm,1.3s,mb5.0
BOZ Bozeman (W) 57.87 56⇑ *i*P **P** **12 57 29.7 +0.2**
comp=Z,106nm,1.4s,mb5.7
BOZ Bozeman (W) 57.87 56⇑ *i*P **P** **12 57 29.7 +0.2**
BOZ pmax pmax
comp=Z,106nm,1.4s,mb5.7
BMN Battle Mountai 57.93 64⇑ *i*P **P** **12 57 30.2 +0.2**
comp=Z,36nm,1.0s,mb5.4
BMN Battle Mountai 57.93 64⇑ *i*P **P** **12 57 30.2 +0.2**
BMN pmax pmax
comp=Z,36nm,1.0s,mb5.4
KTK1 Kautokeino 57.96 342 *e*P **P** **12 57 28.9 -1.0**
KTK1 AMb AMB 12 57 32.5
comp=Z,171nm,0.8s,mb6.2
KTK1 *e*pP pP 12 57 38.2 -1.2
KTK1 Kautokeino 57.96 342 *e*P **P** **12 57 28.9 -1.0**
comp=Z,171nm,0.8s,mb6.1
LRV Little Rabbit 58.15 70 *e*P **P** **12 57 31.8 +0.1**
TRO Tromso 58.25 344 *e*P **P** **12 57 31.8 0.0**
TRO AMS AMS 13 30 26.5
comp=Z,198nm,18.4s,MS4.3
SUMG Summit 58.46 6 *e*P **P** **12 57 33.3 0.0**
comp=Z,102nm,0.9s,mb5.9
SUMG *e* pP 12 57 41.0 -1.8
SUMG *e* 12 57 53.8
KKN Kakani 58.62 277 *e*P **P** **12 57 35.1 +0.1**
comp=Z,181nm,0.8s,mb6.2
OMM Old Mammoth Mi 58.64 67⇑ *e*P **P** **12 57 34.8 -0.2**
OMM *e* 12 57 51.1
PMG Port Moresby 58.66 193 *e*P **P** **12 57 34.3 -1.2**
comp=Z,43nm,1.2s,mb5.4
PMG LR LR
comp=Z,609nm,21.0s,MS4.7
PMG Port Moresby 58.66 193 *e*P **P** **12 57 34.3 -1.2**
PMG pmax pmax
comp=Z,43nm,1.2s
PMG MLR MLR
comp=Z,609nm,21.0s
PKI Pulchoki 58.68 277 *e*P **P** **12 57 36.1 +0.6**
comp=Z,178nm,1.1s,mb6.0
YMR Madison River 58.85 56⇑ *e*P **P** **12 57 36.7 +0.3**
DMN Daman 58.86 277 *e*P **P** **12 57 36.6 -0.1**
comp=Z,327nm,0.9s,mb6.3
GKN Gorkha 58.90 278 *e*P **P** **12 57 36.7 -0.3**
comp=Z,346nm,1.2s,mb6.3
ELK Elko 58.90 62⇑ *e*P **P** **12 57 36.5 -0.3**
comp=Z,13nm,0.8s,mb5.0
ELK LR LR
comp=Z,208nm,21.0s,MS4.2
ELK Elko 58.90 62⇑ *e*P **P** **12 57 36.6 -0.2**
ELK pmax pmax
comp=Z,13nm,0.8s
ELK MLR MLR
comp=Z,208nm,21.0s
YNR Norris Junctio 58.98 56⇑ *e*P **P** **12 57 38.3 +1.0**
YFT Old Faithful 59.06 57⇑ *e*P **P** **12 57 39.3 +1.4**
MTUM Tungsten Hills 59.07 67 *e*P **P** **12 57 38.1 0.0**
PTRM Twissleman Ran 59.15 70 *e*P **P** **12 57 39.1 +0.6**
LKWY Lake 59.23 56⇑ *e*P **P** **12 57 40.3 +1.3**
comp=Z,68nm,1.2s,mb5.5
LKWY Lake 59.23 56⇑ *e*P **P** **12 57 40.3 +1.3**
LKWY pmax pmax
comp=Z,68nm,1.2s,mb5.5
IMW Indian Meadow 59.36 57⇑ *i*P **P** **12 57 40.6 +0.7**
comp=Z,62nm,1.2s,mb5.5
TPH Tonopah 59.43 66 *e*P **P** **12 57 40.4 -0.1**
comp=Z,68nm,1.2s,mb5.5
TPH LR LR
comp=Z,195nm,20.0s,MS4.2
TPH Tonopah 59.43 66 *e*P **P** **12 57 40.4 -0.1**
TPH pmax pmax
comp=Z,68nm,1.2s,mb5.5
TPH MLR MLR
comp=Z,195nm,20.0s,MS4.2
RRI2 Red Ridge 59.50 58⇑ *i*P **P** **12 57 41.4 +0.5**
comp=Z,83nm,1.1s,mb5.7
TPAW Teton Pass 59.61 58⇑ *e*P **P** **12 57 42.3 +0.6**
comp=Z,88nm,1.1s,mb5.7
HVU Hansel Valley 59.67 60⇑ *e*P **P** **12 57 42.0 -0.2**
LOHW Long Hollow 59.73 57⇑ *i*P **P** **12 57 43.0 +0.5**
comp=Z,84nm,1.3s,mb5.6
KOLN Koldanda 59.74 279 *e*P **P** **12 57 42.7 -0.1**
comp=Z,202nm,1.2s,mb6.0
SNOW Snow King Moun 59.74 57⇑ *e*P **P** **12 57 43.3 +0.8**
comp=Z,107nm,1.3s,mb5.7
REDW Red Top Meadow 59.75 58⇑ *i*P **P** **12 57 43.2 +0.6**
comp=Z,149nm,1.4s,mb5.8
DGMT Dagmar 59.99 50⇑ *i*P **P** **12 57 43.7 -0.5**
comp=Z,93nm,1.2s,mb5.7
DGMT *e* pP 12 57 53.0 -0.8
LAO LASA Array 60.11 52⇑ *i*P **P** **12 57 45.2 +0.2**
comp=Z,162nm,1.3s,mb5.9
LAO *e* pP 12 57 54.3 -0.4
SPUT South Promonto 60.16 60⇑ *e*P **P** **12 57 45.6 +0.1**
ISA Isabella 60.22 69⇑ *e*P **P** **12 57 44.6 -1.3**
ISA LR LR
comp=Z,44nm,21.0s,MS3.6
JMIC Jan Mayen 60.23 355 *e*S **S** **13 05 58.9 +3.3**
JMIC AMS AMS 13 22 09.2
comp=Z,182nm,21.6s,MS4.2
DAC Darwin (Calif) 60.36 68⇑ *i*P **P** **12 57 46.4 -0.6**
comp=Z,47nm,1.6s,mb5.3
DAC Darwin (Calif) 60.36 68⇑ *i*P **P** **12 57 46.4 -0.5**
DAC pmax pmax
comp=Z,47nm,1.6s,mb5.3
HWUT Hardware Ranch 60.48 60⇑ *e*P **P** **12 57 47.7 +0.1**
comp=Z,34nm,1.0s,mb5.3
HWUT LR LR
comp=Z,222nm,19.0s,MS4.3
LOF Lofoten 60.50 346 *e*P **P** **12 57 48.6 +1.2**
LOF AMb AMB 12 57 53.8
comp=Z,185nm,1.0s,mb6.2
LOF Lofoten 60.50 346 *e*P **P** **12 57 48.6 +1.2**
comp=Z,185nm,1.0s,mb6.2
DUG Dugway 60.67 61⇑ *i*P **P** **12 57 49.1 +0.2**
comp=Z,66nm,1.1s,mb5.7
DUG LR LR
comp=Z,181nm,21.0s,MS4.2
DUG Dugway 60.67 61⇑ *i*P **P** **12 57 49.1 +0.1**
DUG pmax pmax
comp=Z,66nm,1.1s,mb5.7
DUG MLR MLR
comp=Z,181nm,21.0s,MS4.2
NOQ North Oquirrh 60.78 61⇑ *e*P **P** **12 57 49.5 -0.2**
BW06 Boulder Array 60.86 57 PFAKE 12 58 00.0 +10
BW06 LR LR
comp=Z,162nm,20.0s,MS4.2
PDAR Pinedale Array 60.86 57 P **P** **12 57 50.1 0.0**
comp=Z,26nm,0.9s,mb5.4,baz=270,slow=1.5,SNR=153
TCUT Toone Canyon 60.88 60 *e*P **P** **12 57 51.0 +0.6**
CTU Camp Tracy 60.97 60 *e*P **P** **12 57 51.0 0.0**
SCO Scoresbysund 61.12 0 *i*P **P** **12 57 58.0 +6.4**
comp=Z,12nm,0.7s,mb5.2
SCO Scoresbysund 61.12 0 *i*P **P** **12 57 58.0 +6.4**
SCO pmax pmax
comp=Z,12nm,0.7s,mb5.1
JLU Jordanelle 61.20 60⇑ *i*P **P** **12 57 52.6 +0.1**
NLU North Lily Min 61.26 61⇑ *i*P **P** **12 57 52.9 -0.1**
MWC Mount Wilson 61.42 70⇑ *e*P **P** **12 57 53.6 -0.5**
DAU Daniels Canyon 61.43 60 *e*P **P** **12 57 54.6 +0.4**
MPU Maple Canyon 61.48 61⇑ *i*P **P** **12 57 54.6 +0.2**
MELSS Ber_school_2 61.62 345 *e*P **P** **12 57 53.5 -1.5**
ARUT Antelope Range 61.88 64 *e*P **P** **12 57 57.0 -0.2**
MOR8 Moi Rana 62.11 344 *e*P **P** **12 57 55.6 -2.7**
MOR8 AMb AMB 12 58 00.3
comp=Z,86nm,1.0s,mb5.8
MOR8 Moi Rana 62.11 344 *e*P **P** **12 57 55.6 -2.7**
comp=Z,86nm,1.0s,mb5.8
MSU Marysvale 62.15 63 *e*P **P** **12 57 59.3 +0.4**
TMUT Trail Mountain 62.20 61⇑ *e*P **P** **12 57 59.1 -0.2**
KSM Kuching 62.36 237⇑ *e*P **P** **12 57 60.0 -0.7**
KSM *e* pP 12 58 10.2 -0.2
NEN Nelson 62.45 67 *e*P **P** **12 58 00.9 -0.1**
NEN *e* pP 12 58 10.2 -0.5
SFJD Kangerlussuaq 62.58 12 *i*P **P** **12 58 09.1 +7.7**
SFJD Kangerlussuaq 62.58 12 *e*P **P** **12 58 09.1 +7.7**
SFJD Kangerlussuaq 62.58 12 P **P** **12 58 01.8 +0.4**
LDFC Landfair 62.67 67⇑ *e*P **P** **12 58 01.8 -0.7**
SRU San Rafael 62.72 61⇑ *i*P **P** **12 58 02.6 -0.1**
SRU *e* pP 12 58 12.0 -0.3
SRU *e* 12 58 16.5
SRU San Rafael 62.72 61⇑ *i*P **P** **12 58 02.6 -0.1**
SRU *e* 12 58 16.5
ULM Lac du Bonnet 62.80 44 P **P** **12 58 01.6 -1.5**
comp=Z,5.8nm,0.8s,mb4.8,baz=311,slow=6.2,SNR=5.3
ULM LR LR 13 26 18.8
comp=Z,137nm,19.6s,MS4.1,baz=309,slow=37
ULM Lac du Bonnet 62.80 44⇑ *e*P **P** **12 58 02.0 -1.1**
comp=Z,50nm,1.4s,mb5.5
ULM *e* pP 12 58 11.4 -1.3
PFO Pinyon Flat Ob 62.82 69⇑ *e*P **P** **12 58 02.6 -0.9**
comp=Z,46nm,1.7s,mb5.3
PFO *e* pP 12 58 13.1 0.0
PFO Pinyon Flat Ob 62.82 69⇑ *e*P **P** **12 58 02.6 -0.9**
PFO pmax pmax
comp=Z,46nm,1.7s,mb5.3
RWWY Rawlins 62.88 57⇑ *i*P **P** **12 58 03.2 -0.5**
comp=Z,44nm,1.0s,mb5.5
RWWY *e* pP 12 58 12.5 -0.8
RSSD Black Hills 62.97 53⇑ *e*P **P** **12 58 03.8 -0.4**
comp=Z,93nm,1.1s,mb5.8
RSSD *e* pP 12 58 13.2 -0.7
RSSD *e* 12 58 17.6
RSSD Black Hills 62.97 53⇑ *e*P **P** **12 58 03.8 -0.5**
RSSD *e* 12 58 17.6
RSSD pmax pmax
comp=Z,93nm,1.1s,mb5.8
NDI New Delhi 63.27 284 *e*P **P** **12 58 05.2 -1.2**
NDI AMb AMB 12 58 18.2
comp=Z,78nm,1.4s,mb5.7
BAR Barrett 63.31 70⇑ *e*P **P** **12 58 05.8 -0.9**
SNG Songkhla 63.50 249 P **P** **12 58 09.0 +0.8**
FINES FINESS Array B 63.65 337 P **P** **12 58 07.7 -0.7**
comp=Z,30nm,0.9s,mb5.3,baz=34,slow=6.9,SNR=37

FINES PP PP 13 00 26.6 -3.5
comp=Z,11nm,1.0s,baz=90,slow=7.6,SNR=4.0
FINES LR LR 13 28 35.9
comp=Z,802nm,21.8s,MS4.9,baz=164,slow=39
FINES FINESS Array B 63.65 337 P **P** **12 58 07.7 -0.7**
FINES PP PP 13 00 26.6 -3.5
FINES LR LR 13 28 35.9
PUL Pulkovo 63.85 334 *i* P **P** **12 58 09.6 -0.1**
PUL Pulkovo 63.85 334 *i* P **P** **12 58 09.0 -0.7**
PUL *i* 13 00 30.1
PUL pmax pmax
comp=Z,173nm,0.9s,mb6.1
PUL pmax pmax
comp=N,154nm,1.1s
PUL pmax pmax
comp=E,207nm,1.1s
PUL MLR MLR
comp=Z,1μm,22.0s,MS5.0
PUL MLR MLR
comp=N,1μm,25.0s
NSS Namsos 64.05 344 *e*P **P** **12 58 09.4 -1.6**
NSS *e* 13 17 41.4
PV10 Paradox Valley 64.07 61 *e*P **P** **12 58 12.2 +0.7**
PHWY Pilot Hill 64.11 56⇑ *e*P **P** **12 58 11.1 -0.7**
PV01 Paradox Valley 64.50 61 *e*P **P** **12 58 14.6 +0.2**
BLSP Bilaspur 64.57 275 *e*P **P** **12 58 16.4 +1.3**
BLSP AMb AMB 12 58 26.4
comp=Z,42nm,1.1s,mb5.4
MOS Moscow 64.67 327⇓ *i*P **P** **12 58 14.2 -1.0**
MOS *e* 12 58 31.6
MOS *e* 12 58 49.6
MOS *e* 13 00 34.0
MOS *e*S **S** **13 06 48.0 -3.5**
MOS pmax pmax
comp=Z,169nm,1.2s,mb6.0
MOS pmax pmax
comp=Z,400nm,2.1s,mb6.1
SMCO Snowmass 64.71 59⇑ *i*P **P** **12 58 15.7 0.0**
KULM Kulim 64.95 248⇑ *e*P **P** **12 58 17.1 -0.6**
ISCO Idaho Springs 65.05 58⇑ *i*P **P** **12 58 18.3 +0.4**
comp=Z,77nm,1.1s,mb5.7
ISCO LR LR
comp=Z,235nm,22.0s,MS4.3
ISCO Idaho Springs 65.05 58⇑ *i*P **P** **12 58 18.3 +0.4**
ISCO pmax pmax
comp=Z,77nm,1.1s,mb5.7
ISCO MLR MLR
comp=Z,235nm,22.0s,MS4.3
OBN Obninsk 65.54 327 *e*P **P** **12 58 19.4 -1.4**
comp=Z,78nm,0.8s,mb5.8
OBN LR LR
comp=Z,197nm,22.0s,MS4.3
OBN Obninsk 65.54 327 *d i*P **P** **12 58 19.8 -0.9**
OBN *e*S S 13 07 01.6 -0.6
OBN *e*SS SS 13 11 13.9 -3.7
OBN pmax pmax
comp=Z,175nm,1.2s,mb6.0
OBN MLR MLR
comp=Z,700nm,19.0s,MS4.9
VSU Vasula 65.97 334 *i* P **P** **12 58 22.9 -0.5**
AJM Ajmer 66.44 284 *e*P **P** **12 58 26.0 -1.0**
SDCO Great Sand Dun 66.53 59⇑ *e*P **P** **12 58 27.5 +0.1**
comp=Z,73nm,1.5s,mb5.5
SDCO LR LR
comp=Z,240nm,22.0s,MS4.4
DOMB Dombas 66.86 345 *e*P **P** **12 58 28.2 -0.8**
DOMB AMb AMB 12 58 34.7
comp=Z,71nm,1.7s,mb5.4
DOMB Dombas 66.86 345 *e*P **P** **12 58 28.2 -0.8**
comp=Z,71nm,1.7s,mb5.4
BORG Borgarnes 66.88 360 *e*P **P** **12 58 30.0 +0.8**
comp=Z,100nm,1.4s,mb5.7
BORG *e* 12 58 37.2
BHPL Bhopal 66.89 279 *e*P **P** **12 58 29.3 -0.6**
BHPL AMb AMB 12 58 39.8
TUC Tucson 67.19 67⇑ *i*P **P** **12 58 31.4 -0.3**
comp=Z,29nm,1.4s,mb5.1
TUC Tucson 67.19 67⇑ *i*P **P** **12 58 31.4 -0.3**
TUC pmax pmax
comp=Z,29nm,1.4s,mb5.1
NGP Nagpur 67.29 277 *e*P **P** **12 58 33.6 +1.1**
NGP AMb AMB 12 58 42.5
comp=Z,68nm,0.8s,mb5.7
NB2 NORSAR Subarra 67.39 343 P **P** **12 58 31.8 -0.7**
comp=Z,19nm,0.6s,mb5.3,baz=23,slow=6.5
NB2 NORSAR Subarra 67.39 343 P **P** **12 58 31.8 -0.7**
baz=23,slow=6.9
NB2 NORSAR Subarra 67.39 343 P **P** **12 58 31.8 -0.7**
NB2 pmax pmax
comp=Z,19nm,0.6s,mb5.3
NOA NORSAR Array B 67.39 343 P **P** **12 58 31.8 -0.7**
comp=Z,23nm,0.9s,mb5.2,baz=23,slow=6.4,SNR=32
NOA LR LR 13 32 37.6
comp=Z,286nm,18.6s,MS4.5,baz=5.0,slow=40
NOA NORSAR Array B 67.39 343 P **P** **12 58 31.8 -0.7**
NOA LR LR 13 32 37.6
VRSR Storozhevoye 67.61 323 *e*P **P** **12 58 33.1 -0.9**
VRSR pmax pmax
comp=Z,40nm,1.0s,mb5.4
VRSR pmax pmax
comp=N,50nm,0.8s
VRSR pmax pmax
comp=E,10.0nm,0.8s
NAO01 NORSAR Array S 67.64 343 *e*P **P** **12 58 32.2 -1.8**
comp=E,20nm,1.1s,mb5.1
NAO01 *e* 12 58 36.6
AFI Afiamalu 67.82 148 P **P** **12 58 35.3 -0.7**
comp=E,30nm,0.9s,mb5.3,baz=58,slow=13,SNR=3.1
LAZ Ladron 67.92 63 *e*P **P** **12 58 36.9 +0.7**
ANMO Albuquerque 67.93 62⇑ *i*P **P** **12 58 36.4 +0.1**
comp=E,23nm,1.0s,mb5.2
ANMO LR LR
comp=Z,224nm,21.0s,MS4.4
ANMO Albuquerque 67.93 62⇑ *i*P **P** **12 58 36.4 +0.1**
ANMO pmax pmax
comp=Z,23nm,1.0s
ANMO MLR MLR
comp=Z,224nm,21.0s
LENM Lemitar 68.18 63 *e*P **P** **12 58 38.5 +0.7**
LPM Los Pinos Moun 68.28 63 *e*P **P** **12 58 38.0 -0.5**
BNM Barren Site 68.39 63 *e*P **P** **12 58 39.2 0.0**
CBKS Cedar Bluff 68.98 55 *e*P **P** **12 58 41.5 -1.2**
comp=Z,91nm,1.1s,mb5.6
CBKS *e* pP 12 58 51.2 -1.1
CBKS Cedar Bluff 68.98 55 *e*P **P** **12 58 41.6 -1.1**
CBKS pmax pmax
comp=Z,91nm,1.1s,mb5.6
KONO Kongsberg 68.99 343 *e*P **P** **12 58 46.6 +4.2**
KONO *e*S S 13 07 45.7 +2.1
KONO Kongsberg 68.99 343 *i* P **P** **12 58 42.0 -0.4**
KONO Kongsberg 68.99 343 *i* P **P** **12 58 42.9 +0.5**
BER Bergen 69.05 346 AMS AMS 13 28 47.3
comp=Z,205nm,20.3s,MS4.4
CTA Charters Tower 69.30 192 *e*P **P** **12 58 43.9 -1.1**
comp=Z,15nm,1.1s,mb4.8
CTA *e* pP 12 58 54.2 -0.4
CTA Charters Tower 69.30 192 *e*P **P** **12 58 43.9 -1.1**
CTA pmax pmax
comp=Z,15nm,1.1s
CTAO Charters Tower 69.30 192 *e*P **P** **12 58 43.4 -1.5**
comp=Z,50nm,1.4s,mb5.2
CTAO *e* pP 12 58 54.2 -0.4
CTAO LR LR
comp=Z,300nm,20.0s,MS4.5
CTAO Charters Tower 69.30 192 *e*P **P** **12 58 43.4 -1.6**
CTAO pmax pmax
comp=Z,50nm,1.4s,mb5.2
CTAO MLR MLR
comp=Z,300nm,20.0s,MS4.5
SCHQ Schefferville 70.14 26 P **P** **12 58 47.8 -1.7**
comp=Z,1.1nm,0.5s,mb4.1,baz=320,slow=7.9,SNR=5.6
SCHQ LR LR 13 32 20.8
comp=Z,262nm,21.1s,MS4.5,baz=88,slow=38
SCHQ Schefferville 70.14 26 P **P** **12 58 48.2 -1.3**
comp=Z,25nm,0.9s,mb5.2
SCHQ *e* pP 12 58 58.4 -0.8
SCHQ LR LR
comp=Z,443nm,19.0s,MS4.7
HYB Hyderabad 70.28 274 *i* P **P** **12 58 56.5 +5.5**
HYB Hyderabad 70.28 274 *e*P **P** **12 58 56.5 +5.5**
KSU1 Kansas State U 70.44 53⇑ *e*P **P** **12 58 49.7 -2.0**
KSU1 *e* pP 12 58 59.9 -1.4
GOF Gofitskoye 70.76 317⇑ *i*P **P** **12 58 50.8 -2.7**
GOF *i* 12 59 10.4
GOF *i* S S 13 08 05.6 +0.9

GOF pmax pmax
comp=Z,80nm,1.3s,mb5.5
GOF smax
comp=N,90nm,1.7s
CPRX Cap Rock 70.81 62 *e*P **P** **12 58 53.8 -0.2**
SUW Suwalki 70.81 334 *e*P **P** **12 58 56.1 +2.4**
SUW Suwalki 70.81 334 *e*P **P** **12 58 53.0 -0.7**
comp=N,117nm,1.0s,mb5.8
SUW Suwalki 70.81 334 P **P** **12 58 53.1 -0.5**
SUW pmax pmax
comp=Z,120nm,1.0s,mb5.8
DZM Mont Dzumac 70.85 172 P **P** **12 58 53.6 -0.8**
comp=Z,21nm,1.0s,mb5.0,baz=61,slow=8.5,SNR=7.6
MNTX Cornudas Mount 70.87 64 *e*P **P** **12 58 54.4 0.0**
comp=Z,45nm,1.2s,mb5.3
GDL2 Guadalupe Moun 71.11 63 *e*P **P** **12 58 55.4 -0.5**
GDL2 *e* pP 12 59 06.3 +0.8
CLNB Carlsbad 71.35 62 *e*P **P** **12 58 57.5 +0.3**
WRAB Tennant Creek 71.55 204 *e*P **P** **12 58 57.5 -1.2**
comp=Z,294nm,1.1s,mb6.1
WRAB Tennant Creek 71.55 204 *e*P **P** **12 58 57.5 -1.2**
WRAB pmax pmax
comp=Z,294nm,1.1s,mb6.1
WB2 Warramunga Arr 71.56 204⇑ *i*P **P** **12 58 57.4 -1.3**
WB2 *e* pP 12 59 09.0 +0.6
WRA Warramunga Arr 71.56 204 P **P** **12 58 57.4 -1.4**
comp=Z,76nm,0.7s,mb5.8,baz=20,slow=6.2,SNR=733
AKASG Malin Array Be 71.72 329 P **P** **12 58 58.2 -0.9**
comp=Z,6.2nm,0.5s,mb4.8,baz=32,slow=5.9,SNR=4.9
AKASG Malin Array Be 71.72 329 P **P** **12 58 58.2 -0.9**
KIV Kislovodsk 71.77 317 *e*P **P** **12 58 59.4 -0.2**
comp=Z,41nm,0.8s,mb5.4
KIV LR LR
comp=Z,83nm,19.0s,MS4.0
KIV Kislovodsk 71.77 317 *i* P **P** **12 58 59.9 +0.3**
KIV *e* 12 59 18.7
KIV *e* 13 01 34.6
KIV *e*S S 13 08 16.2 -0.1
KIV *e*SS SS 13 12 50.9 -3.4
KIV pmax pmax
comp=Z,81nm,1.5s,mb5.4
KIV MLR MLR
comp=Z,300nm,18.0s,MS4.6
ZEI Tsey 72.13 315 *e*P **P** **12 59 00.0 -1.8**
ZEI pmax pmax
comp=Z,24nm,1.1s,mb5.0
WMOK Wichita Mounta 72.47 57⇑ *e*P **P** **12 59 03.2 -0.7**
comp=Z,56nm,1.1s,mb5.4
WMOK *e* pP 12 59 12.6 -1.0
WMOK LR LR
comp=Z,145nm,22.0s,MS4.2
WMOK Wichita Mounta 72.47 57⇑ *e*P **P** **12 59 03.2 -0.7**
WMOK pmax pmax
comp=Z,56nm,1.1s,mb5.4
WMOK MLR MLR
comp=Z,145nm,22.0s,MS4.2
ONI Oni 72.49 315 P **P** **12 59 04.3 +0.5**
FITZ Fitzroy Crossi 72.53 212 *e*P **P** **12 59 04.1 -0.4**
comp=Z,79nm,0.7s,mb5.8
FITZ *e* pP 12 59 15.2 +1.0
TBLG Delisi 72.54 314 P **P** **12 59 04.7 +0.6**
POO Poona 72.57 278 *e*P **P** **12 59 03.0 -1.8**
POO AMb AMB 12 59 15.9
comp=Z,109nm,0.9s,mb5.8
KAD Karad 73.23 277 *i* P **P** **12 59 08.5 -0.2**
KAD AMb AMB 12 59 20.5
comp=Z,99nm,1.2s,mb5.6
SOC Sochi 73.40 318 *e*P **P** **12 59 10.3 +1.2**
SOC *e* 12 59 25.6
SOC *e* 13 01 52.2
SOC pmax pmax
comp=Z,50nm,1.2s,mb5.3
SOC pmax pmax
comp=N,43nm,1.4s
SOC pmax pmax
comp=E,32nm,1.4s
SOC MLR MLR
comp=E,313nm,19.0s,MS4.8
SOC MLR MLR
comp=Z,577nm,19.0s,MS4.9
SOC MLR MLR
comp=N,371nm,18.0s,MS4.8
LTX Lajitas 73.60 64⇑ *i*P **P** **12 59 10.6 0.0**
comp=N,74nm,0.9s,mb5.6
LTX LR LR
comp=Z,226nm,22.0s,MS4.4
LTX Lajitas 73.60 64⇑ *i*P **P** **12 59 10.6 +0.1**
LTX pmax pmax
comp=Z,74nm,0.9s,mb5.6
LTX MLR MLR
comp=Z,226nm,22.0s,MS4.4
TXAR Lajitas Array 73.60 64 P **P** **12 59 10.7 +0.1**
comp=Z,29nm,0.6s,mb5.4,baz=298,slow=4.1,SNR=183
TXAR LR LR 13 26 11.1
comp=Z,123nm,21.8s,MS4.2,baz=345,slow=32
GNI Garni 73.75 313 *e*P **P** **12 59 11.6 +0.4**
comp=Z,63nm,0.9s,mb5.5
GNI Garni 73.75 313 P **P** **12 59 12.7 +1.5**
GNI pmax pmax
comp=Z,63nm,1.0s
CCM Cathedral Cave 74.01 50⇑ *e*P **P** **12 59 11.3 -1.5**
comp=Z,36nm,1.0s,mb5.2
CCM *e* pP 12 59 21.6 -0.9
CCM Cathedral Cave 74.01 50⇑ *e*P **P** **12 59 11.3 -1.4**
CCM *e* pP 12 59 21.6 -0.8
CCM pmax pmax
comp=Z,36nm,1.0s,mb5.3
BSEG Bad Segeberg 74.17 341 *e*P **P** **12 59 14.0 +0.7**
BSEG *e*PP PP 13 01 56.6 -4.2
LVV L'vov 74.20 331 *e*P **P** **12 59 17.0 +3.4**
FVM French Village 74.48 50⇑ *e*P **P** **12 59 13.7 -1.8**
comp=Z,45nm,1.4s,mb5.2
FVM *e* pP 12 59 24.2 -0.9
FVM French Village 74.48 50⇑ *e*P **P** **12 59 13.7 -1.8**
FVM *e* pP 12 59 24.2 -1.0
FVM pmax pmax
comp=Z,45nm,1.4s,mb5.2
SIM Simferopol' 74.66 322 *e*P **P** **12 59 15.9 -0.5**
SIM *e* 12 59 33.0
SIM *e*S S 13 08 46.1 -2.7
SIM pmax pmax
comp=Z,17nm,0.9s,mb5.0
SIM MLR MLR
comp=Z,790nm,21.9s,MS5.0
KWP Kalwaria 74.78 332 *e*P **P** **12 59 21.2 +4.3**
KWP Kalwaria 74.78 332 *e*P **P** **12 59 17.4 +0.4**
comp=Z,193nm,1.0s,mb6.0
KWP Kalwaria 74.78 332 *e*P **P** **12 59 17.4 +0.4**
KWP pmax pmax
comp=Z,193nm,1.0s,mb6.0
KIS Kishinev 74.99 327 *e*P **P** **12 59 20.0 +1.8**
KIS *e*S S 13 08 50.0 -2.4
KIS *e*PS PS 13 09 45.0 +13
KIS MLR MLR
comp=N,400nm,19.0s
KIS MLR MLR
comp=Z,500nm,19.0s,MS4.8
KIS MLR MLR
comp=Z,500nm,18.0s
JCT Junction City 75.03 61⇑ *i*P **P** **12 59 18.2 -0.6**
comp=Z,102nm,1.1s,mb5.7
JCT *e* pP 12 59 27.0 -1.5
JCT Junction City 75.03 61⇑ *i*P **P** **12 59 18.2 -0.6**
JCT *e* pP 12 59 27.0 -1.5
JCT pmax pmax
comp=Z,102nm,1.1s,mb5.7
OJC Ojcow 75.14 334 *e*P **P** **12 59 18.9 -0.1**
OJC *e*pP pP 12 59 23.0 -5.8
OJC *e*S S 13 08 53.5 -0.6
OJC MLR MLR 13 37 03.3
comp=Z,900nm,18.9s,MS5.1
OJC Ojcow 75.14 334 *e*P **P** **12 59 18.9 -0.1**
OJC *e*S S 13 08 53.5 -0.6
OJC MLR MLR
comp=Z,900nm,18.9s,MS5.1
ESK Eskdalemuir 75.17 349 P **P** **12 59 21.9 +2.8**
comp=Z,32nm,0.9s,mb5.2
ESK Eskdalemuir 75.17 349 P **P** **12 59 21.9 +2.8**
ESK pmax pmax
comp=Z,32nm,1.0s,mb5.2
STHS Stebnicka Huta 75.43 333 *e*P **P** **12 59 21.7 +1.0**
KOLS Kolonicke sedl 75.53 332 *e*P **P** **12 59 21.6 +0.3**
KOLS *i* 12 59 25.2
EZM Erzurum 75.56 315 *e*P **P** **12 59 20.4 -1.2**
KSP Ksiaz 75.57 336 *e*P **P** **12 59 25.8 +4.3**

KSP Ksiaz 75.57 336 *e*P **P** **12 59 21.5 +0.1**
KSP *e*pP pP 12 59 25.6 -5.6
KSP *e*S S 13 08 59.3 +0.6
KSP *e*SKS SKS 13 09 27.5 -5.0
KSP LR LR
comp=Z,2μm,21.4s,MS5.4
KSP Ksiaz 75.57 336 *e*P **P** **12 59 21.5 +0.1**
KSP *e*S S 13 08 59.3 +0.6
KSP *e* 13 09 27.5
KSP MLR MLR
comp=Z,2μm,21.4s,MS5.4
NIE Niedzica 75.70 333 *e*P **P** **12 59 27.2 +5.0**
UZH Uzhgorod 75.79 332 *e*P **P** **12 59 24.0 +1.2**
CRVS Cervenica-Dubn 75.81 332 *e*P **P** **12 59 23.6 +0.7**
CRVS *i* 12 59 27.1
CRVS *e*PP PP 13 02 16.5 +1.7
CRVS Cervenica-Dubn 75.81 332 *e*P **P** **12 59 23.6 +0.7**
CRVS *e* 13 02 16.5
UPC Upice 75.95 336 *e*P **P** **12 59 24.3 +0.7**
UPC *e*x x 12 59 28.1
UPC *e*pP pP 12 59 33.2 -0.1
UPC Upice 75.95 336 *e*P **P** **12 59 24.3 +0.7**
UPC *e**PP pP 12 59 33.2 -0.1
OKC Ostrava-Krasne 75.96 335 *e*P **P** **12 59 24.2 +0.5**
OKC *e*x x 12 59 28.4
OKC *e*pP pP 12 59 34.8 +1.4
OKC *e*x x 12 59 45.2
OKC AMS AMS 13 35 20.0
comp=Z,900nm,22.5s
OKC Ostrava-Krasne 75.96 335 *e*P **P** **12 59 24.2 +0.5**
OKC *e**PP pP 12 59 34.8 +1.4
OKC *e* 12 59 45.2
CLL Collm 75.99 338 ⇓P **P** **12 59 23.4 -0.4**
comp=Z,logA/T=1.2,mb4.9
CLL *i* *PP pP 12 59 27.8 -5.7
CLL *i* 12 59 30.3
CLL *i* 12 59 41.6
CLL *e*S S 13 09 06.0 +2.7
CLL Collm 75.99 338 ⇓*i*P **P** **12 59 23.4 -0.4**
comp=Z,18nm,1.1s,mb4.9
CLL *i* pP pP 12 59 27.8 -5.7
CLL LR LR
comp=Z,900nm,18.0s,MS5.1
CLL Collm 75.99 338 ⇓*i*P **P** **12 59 23.4 -0.4**
CLL pmax pmax
comp=Z,18nm,1.1s,mb4.9
CLL MLR MLR
comp=Z,900nm,18.0s,MS5.1
GUMT Gumushane 75.99 316 *e*P **P** **12 59 24.1 +0.1**
DPC Dobruska-Polom 76.01 336 *e*P **P** **12 59 24.2 +0.3**
DPC *e*x x 12 59 28.8
DPC *e*pP pP 12 59 34.2 +0.5
DPC *e*x x 12 59 45.3
DPC *e*S S 13 09 06.0 +2.5
DPC *e*SS SS 13 14 02.1 +2.5
DPC AMS AMS 13 36 00.0
comp=Z,1μm,20.1s
DPC Dobruska-Polom 76.01 336 *e*P **P** **12 59 24.2 +0.3**
DPC *e**PP pP 12 59 34.2 +0.5
DPC *e* 12 59 45.3
DPC *e*S S 13 09 06.0 +2.5
DPC *e*SS SS 13 14 02.1 +2.5
DPC MLR MLR
comp=Z,1μm,20.1s,MS5.2
CLZ Clausthal 76.11 340 *e*P **P** **12 59 25.2 +0.7**
comp=Z,49nm,1.3s,mb5.3
CLZ *e*PP PP 13 02 13.6 -3.5
CLZ Clausthal 76.11 340 *e*P **P** **12 59 25.2 +0.7**
CLZ *e* 13 02 13.6
CLZ pmax pmax
comp=Z,49nm,1.3s,mb5.3
BRG Berggiesshubel 76.15 338 *e*P **P** **12 59 25.2 +0.5**
BRG pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
MORC Moravsky Berou 76.19 335 ⇓*e*P **P** **12 59 25.1 +0.1**
comp=Z,51nm,0.8s,mb5.5
MORC *e* 12 59 29.1
MORC Moravsky Berou 76.19 335 ⇓*e*P **P** **12 59 25.1 +0.1**
MORC pmax pmax
comp=Z,51nm,0.8s,mb5.5
PALK Pallekele 76.26 265 P **P** **12 59 26.5 +0.4**
comp=Z,30nm,0.9s,mb5.2
PVCC Panska Ves 76.31 337 *e*P **P** **12 59 27.5 +1.9**
PVCC *e*pP pP 12 59 35.7 +0.3
PVCC AMS AMS 13 39 10.0
comp=Z,800nm,17.4s
WCI Wyandotte Cave 76.33 47⇑ *e*P **P** **12 59 25.3 -0.8**
comp=Z,53nm,0.8s,mb5.5
WCI *e* pP 12 59 35.0 -0.7
WCI Wyandotte Cave 76.33 47⇑ *e*P **P** **12 59 25.3 -0.7**
WCI *e* pP 12 59 35.0 -0.8
WCI pmax pmax
comp=Z,53nm,0.8s,mb5.5
ALLY Alegheny Colle 76.42 41 *e*P **P** **12 59 26.6 +0.1**
ALLY *e* pP 12 59 36.0 -0.2
FRNY Flat Rock 76.45 35 P **P** **12 59 29.2 +2.6**
KECS Kecovo 76.48 333 *i* P **P** **12 59 27.1 +0.4**
KECS *i* 12 59 31.1
WTSB Winterswijk 76.76 342 *e*P **P** **12 59 32.5 +4.4**
comp=Z,25nm,1.3s,mb5.0
CFR Carcaliu 76.78 326 ⇑P **P** **12 59 30.8 +2.4**
CFR Carcaliu 76.78 326 ⇑P **P** **12 59 30.8 +2.4**
PRU Pruhonice 76.81 337 *e*P **P** **12 59 26.4 -2.0**
PRU *e*x x 12 59 33.1
PRU *e*pP pP 12 59 39.0 +0.8
PRU *e*x x 12 59 51.3
PRU *e*S S 13 09 15.4 +3.1
PRU *e*SS SS 13 14 18.7 +7.1
PRU AMS AMS 13 39 20.0
comp=Z,700nm,16.8s
PRU Pruhonice 76.81 337 *e*P **P** **12 59 26.4 -2.0**
PRU *e**PP pP 12 59 39.0 +0.8
PRU *e* 12 59 51.3
PRU *e*S S 13 09 15.4 +3.1
PRU MLR MLR
comp=Z,700nm,16.8s,MS5.0
MOX Moxa 76.94 339 *i* P **P** **12 59 29.7 +0.6**
comp=Z,logA/T=1.4,mb5.1
MOX PP PP 13 02 22.0 -1.8
MOX L 13 39 18.0
MOX Moxa 76.94 339 *e*P **P** **12 59 29.7 +0.6**
comp=Z,44nm,1.6s,mb5.1
MOX LR LR
comp=Z,500nm,19.0s,MS4.8
MOX Moxa 76.94 339 *e*P **P** **12 59 29.7 +0.6**
MOX pmax pmax
comp=Z,44nm,1.6s,mb5.1
MOX MLR MLR
comp=Z,500nm,19.0s,MS4.8
VYHS Vyhne 76.97 334 *e*P **P** **12 59 30.2 +0.8**
VYHS *i* 12 59 34.4
VYHS *i* 12 59 37.0
VYHS *i* PP PP 13 02 24.0 -0.1
NATX Nacogdoches 76.98 57 *e*P **P** **12 59 30.0 +0.2**
NATX *e* pP 12 59 40.2 +0.7
NKC Novy Kostel 77.11 338 *e*P **P** **12 59 31.0 +0.9**
NKC *e*x x 12 59 35.2
NKC *e*pP pP 12 59 37.6 -2.3
NKC *e*x x 12 59 52.3
NKC AMS AMS 13 39 00.0
comp=Z,800nm,16.8s
NKC Novy Kostel 77.11 338 *e*P **P** **12 59 31.0 +0.9**
NKC *e**PP pP 12 59 37.6 -2.3
NKC *e* 12 59 52.3
PSZ Piszkesteto 77.17 333 ⇓*e*P **P** **12 59 36.2 +5.7**
PSZ Piszkesteto 77.17 333 *e*P **P** **12 59 30.5 0.0**
comp=Z,36nm,0.9s,mb5.3
PSZ *e*PP PP 13 02 25.0 -0.9
PSZ Piszkesteto 77.17 333 *e*P **P** **12 59 30.5 0.0**
PSZ *e* 13 02 25.0
PSZ pmax pmax
comp=Z,36nm,0.9s,mb5.3
WVT Waverly 77.22 49⇑ *i*P **P** **12 59 30.4 -0.6**
comp=Z,17nm,0.9s,mb5.0
WVT *e* pP 12 59 39.6 -1.2
WVT Waverly 77.22 49⇑ *i*P **P** **12 59 30.4 -0.6**
WVT *e* pP 12 59 39.6 -1.2
WVT pmax pmax
comp=Z,17nm,0.9s,mb5.0
DRGR 77.28 330 ⇑P **P** **12 59 34.8 +3.7**
PTK Pertek 77.29 315 *e*P **P** **12 59 30.4 -0.9**
MLR Muntele Rosu 77.31 328 P **P** **12 59 32.2 +0.9**
comp=Z,21nm,0.7s,mb5.2,baz=23,slow=8.9,SNR=16

MLR Muntele Rosu 77.31 328 ⇑P P 12 59 31.5 +0.2
MLR Muntele Rosu 77.31 328 ⇑P P 12 59 31.5 +0.2
MLR Muntele Rosu 77.31 328 P P 12 59 32.2 +0.9
MLR pmax pmax
comp=Z,21nm,0.7s
SMOL Smolenice 77.36 334 *i* **P 12 59 37.6 +6.1**
MBWA Marble Bar 77.53 216⇓ *eP* **P 12 59 32.8 -0.2**
comp=Z,54nm,1.2s,mb5.4
MBWA *e* pP 12 59 43.1 +0.3
DLF Lyons Farm 77.54 351⇑ *iP* **P 12 59 33.3 +0.9**
DLF Lyons Farm 77.54 351⇑ *iP* **P 12 59 37.8 +5.4**
DCN Croghan 77.57 351⇑ *iP* **P 12 59 33.4 +0.8**
DCN Croghan 77.57 351⇑ *iP* **P 12 59 38.1 +5.5**
DSB Dublin 77.57 351 *eP* **P 12 59 33.8 +1.2**
comp=Z,37nm,0.8s,mb5.4
ACCN Adirondack Com 77.64 36 P **P 12 59 35.4 +2.2**
VOIR 77.67 328 ⇑P P 12 59 33.5 +0.2
VOIR 77.67 328 ⇑P P 12 59 33.5 +0.2
OXF Oxford 77.68 51⇑ *iP* **P 12 59 32.8 -0.8**
comp=Z,97nm,1.3s,mb5.6
OXF *e* pP 12 59 42.4 -1.0
OXF Oxford 77.68 51⇑ *iP* **P 12 59 32.8 -0.8**
OXF *e* pP 12 59 42.4 -1.0
OXF pmax pmax
comp=Z,97nm,1.3s,mb5.6
ZST Bratislava 77.74 334 *eP* **P 12 59 34.7 +1.1**
ZST *i* 12 59 39.6
BUD Budapest 77.82 333 *eP* **P 12 59 41.8 +7.7**
KHC Kasperske Hory 77.85 337 *eP* **P 12 59 35.3 +1.1**
KHC *ex* x 12 59 39.4
KHC *e*pP pP 12 59 45.6 +1.7
KHC *ex* x 12 59 56.5
KHC *e*S S 13 09 26.1 +2.6
KHC *e*SS SS 13 14 31.8 +4.6
KHC AMS AMS 13 35 50.0
comp=Z,600nm,21.9s
KHC Kasperske Hory 77.85 337 *eP* **P 12 59 35.3 +1.1**
KHC *e**PP pP 12 59 45.6 +1.7
KHC *e* 12 59 56.5
KHC *e*S S 13 09 26.1 +2.6
KHC *e*SS SS 13 14 31.8 +4.6
KHC MLR MLR
comp=Z,600nm,21.9s,MS4.9
GRA1 Grafenberg Arr 77.92 339 *eP* **P 12 59 35.4 +0.9**
comp=Z,42nm,0.9s,mb5.4
GRA1 *e*pP pP 12 59 40.1 -4.2
GRA1 *e*PP PP 13 02 30.0 -2.5
GRF Grafenberg Arr 77.92 339 *eP* **P 12 59 35.4 +0.9**
comp=Z,42nm,0.9s,mb5.4
GRF *e*pP pP 12 59 40.1 -4.2
GRF *e*PP PP 13 02 30.0 -2.5
GRF LR LR
comp=Z,600nm,21.6s,MS4.9
GRF Grafenberg Arr 77.92 339 *eP* **P 12 59 35.4 +0.9**
GRF *e**PP pP 12 59 40.1 -4.2
GRF *e* 13 02 30.0
GRF pmax pmax
comp=Z,42nm,0.9s,mb5.4
GRF MLR MLR
comp=Z,600nm,21.6s,MS4.9
PLAL Pickwick Lake 78.00 50⇑ *iP* **P 12 59 34.1 -1.2**
comp=Z,34nm,1.1s,mb5.2
PLAL *e* pP 12 59 44.0 -1.0
WET Wettzell 78.01 337 *eP* **P 12 59 35.7 +0.6**
comp=Z,33nm,1.0s,mb5.2
WET *e*PP PP 13 02 32.1 -1.3
WET Wettzell 78.01 337 *eP* **P 12 59 35.7 +0.6**
WET *e* 13 02 32.1
WET pmax pmax
comp=Z,33nm,1.0s,mb5.2
PSN Preselentsi 78.04 325 P **P 12 59 37.0 +1.6**
TNS Taunus Mts 78.06 341 *eP* **P 12 59 36.1 +0.8**
comp=Z,17nm,0.9s,mb5.0
TNS *e*PP PP 13 02 32.4 -1.4
TNS Taunus Mts 78.06 341 *eP* **P 12 59 36.1 +0.8**
TNS *e* 13 02 32.4
TNS pmax pmax
comp=Z,17nm,0.9s,mb5.0
HGN Heimansgroeve 78.07 342 *eP* **P 12 59 35.7 +0.3**
comp=Z,36nm,1.4s,mb5.1
HGN *e*S S 13 09 30.8 +4.9
GEC2 GERESS Array S 78.08 337 *eP* **P 12 59 35.9 +0.5**
comp=Z,15nm,1.2s,mb4.8
GEC2 *e*PP PP 13 02 32.2 -1.8
GEC2 GERESS Array S 78.08 337 *eP* **P 12 59 35.9 +0.5**
GEC2 *e* 13 02 32.2
GEC2 pmax pmax
comp=Z,15nm,1.2s,mb4.8
GERES GERESS Array B 78.08 337 P **P 12 59 36.0 +0.6**
comp=Z,6.6nm,0.6s,mb4.7,baz=27,slow=6.0,SNR=16
GERES LR LR 13 39 35.6
comp=Z,567nm,18.2s,MS4.9,baz=251,slow=40
MALT Malatya 78.20 316 *eP* **P 12 59 37.5 +1.1**
comp=Z,38nm,0.9s,mb5.3
MALT *e* 12 59 42.0
MALT Malatya 78.20 316 *eP* **P 12 59 37.5 +1.1**
MALT *e* 12 59 42.0
MALT pmax pmax
comp=Z,38nm,0.9s,mb5.3
SAFT Safranbolu 78.32 321 *eP* **P 12 59 41.4 +4.4**
CORM Corum 78.38 319 *eP* **P 12 59 41.8 +4.5**
TOD Tromm 78.56 340 *eP* **P 12 59 38.9 +0.8**
TAOE Nuku Hiva Isla 78.73 117 *eLR* LR 13 23 20.3
comp=Z,4μm,24.5s
PRD Provadia 78.75 326 P **P 12 59 40.0 +0.7**
MOA Molln 78.84 336⇓ *iP* **P 12 59 41.4 +1.7**
comp=Z,69nm,2.4s,mb5.2
GIVF Givet 78.92 343 *eP* **P 12 59 40.1 0.0**
BNN Bunyan 78.94 318 *eP* **P 12 59 45.0 +4.7**
TZTN Tazewell 78.99 46⇑ *eP* **P 12 59 39.9 -0.9**
TZTN *e* pP 12 59 50.4 -0.1
ARSA Arzberg 79.05 335⇓ *iP* **P 12 59 41.6 +0.8**
comp=Z,52nm,2.4s,mb5.0
BAIF Baives 79.08 343 *eP* **P 12 59 41.0 +0.1**
BR131 Keskin Array S 79.18 320 *eP* **P 12 59 41.9 +0.2**
comp=Z,19nm,0.8s,mb5.1
BR131 *e* 12 59 46.3
BRTR Keskin Array B 79.18 320 P **P 12 59 41.6 0.0**
comp=Z,9.0nm,0.9s,mb4.7,baz=63,slow=2.8,SNR=21
SZH Strazhica 79.24 327 P **P 12 59 42.0 +0.1**
CPCT Cooper Cave 79.40 48⇑ *iP* **P 12 59 42.2 -0.7**
CPCT *e* pP 12 59 51.7 -1.1
FWV Forest Hill 79.44 44 *eP* **P 12 59 41.5 -1.7**
FWV *e* pP 12 59 52.6 -0.3
FWV *e* 12 59 59.6
PERS Pernice 79.72 335 *eP* **P 12 59 45.0 +0.5**
PERS *e* 12 59 49.5
ELN Prospectdale 79.75 44 *eP* **P 12 59 43.8 -1.0**
ELN *e* pP 12 59 54.1 -0.5
KBA Koelnbreinsper 79.80 336⇓ *iP* **P 12 59 46.2 +1.3**
comp=Z,138nm,1.3s,mb5.7
KBA Koelnbreinsper 79.80 336⇓ *iP* **P 12 59 46.2 +1.3**
KBA pmax pmax
comp=Z,138nm,1.3s,mb5.7
BFO Black Forest 79.86 340 *eP* **P 12 59 45.9 +0.7**
comp=Z,24nm,1.1s,mb5.0
BFO Black Forest 79.86 340 *eP* **P 12 59 45.9 +0.7**
BFO pmax pmax
comp=Z,24nm,1.1s,mb5.0
MYNC Murphy 79.89 47 *eP* **P 12 59 44.9 -0.7**
comp=Z,26nm,0.9s,mb5.2
MYNC *e* pP 12 59 55.4 0.0
MYNC Murphy 79.89 47 *eP* **P 12 59 44.9 -0.7**
MYNC *e* pP 12 59 55.4 0.0
MYNC pmax pmax
comp=Z,26nm,0.9s,mb5.2
BLA Blacksburg 79.92 44⇑ *eP* **P 12 59 45.0 -0.7**
comp=Z,8.0nm,0.7s,mb4.8
BLA *e* pP 12 59 55.1 -0.4
BLA Blacksburg 79.92 44⇑ *eP* **P 12 59 45.0 -0.7**
BLA *e* pP 12 59 55.1 -0.4
BLA pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
OBKA Obir 80.00 335⇑ *iP* **P 12 59 47.3 +1.4**
comp=Z,74nm,2.1s,mb5.2
WLS Welschbruch 80.00 341 *eP* **P 12 59 48.8 +2.9**
WATA Walderalm 80.02 338⇓ *iP* **P 12 59 47.3 +1.3**
comp=Z,44nm,1.2s,mb5.3
WATA Walderalm 80.02 338⇓ *iP* **P 12 59 47.3 +1.3**
WATA pmax pmax
comp=Z,45nm,1.2s,mb5.3
CDF Champ du Feu 80.02 341 *eP* **P 12 59 46.0 0.0**
comp=Z,72nm,1.3s,mb5.2
CDF Champ du Feu 80.02 341 *eP* **P 12 59 46.0 0.0**
CDF pmax pmax
comp=Z,36nm,1.3s,mb5.1
WTTA Wattenberg 80.07 338⇑ *iP* **P 12 59 47.4 +1.1**
comp=Z,88nm,1.2s,mb5.6
WTTA Wattenberg 80.07 338⇑ *iP* **P 12 59 47.4 +1.1**
WTTA pmax pmax
comp=Z,88nm,1.2s,mb5.6
LRAL Lakeview Retre 80.08 51 *eP* **P 12 59 45.4 -1.3**
comp=Z,3.1nm,0.6s,mb4.4
LRAL *e* pP 12 59 55.3 -1.2
MOTA Moosalm 80.13 338⇑ *iP* **P 12 59 48.1 +1.5**
comp=Z,52nm,1.1s,mb5.4
MOTA Moosalm 80.13 338⇑ *iP* **P 12 59 48.1 +1.5**
MOTA pmax pmax
comp=Z,52nm,1.1s,mb5.4
SQTA Sankt Quirin 80.22 338⇑ *iP* **P 12 59 48.4 +1.3**
comp=Z,60nm,1.2s,mb5.4
SQTA Sankt Quirin 80.22 338⇑ *iP* **P 12 59 48.4 +1.3**
SQTA pmax pmax
comp=Z,60nm,1.2s,mb5.4
ECH Echery 80.23 341 *eP* **P 12 59 48.0 +0.8**
FELD Feldberg 80.37 340 *eP* **P 12 59 47.5 -0.4**
ZAPS Zavoj/Pirot 80.39 329⇑ *iP* **P 12 59 48.0 -0.1**
MEZF Maizieres J'vi 80.40 342 *eP* **P 12 59 48.1 0.0**
UMR Umm Al-Rimmam 80.42 304 *eP* **P 12 59 48.0 -0.5**
UMR AMb AMB 12 59 57.2
comp=Z,100nm,0.7s,mb5.8
MIB Mutribah 80.43 304 *eP* **P 12 59 48.6 0.0**
MIB AMb AMB 12 59 57.6
comp=Z,156nm,0.7s,mb6.1
LJU Ljubljana 80.43 335 *iP* **P 12 59 48.2 0.0**
DIM Dimitrovgrad 80.44 326 P **P 12 59 49.5 +1.1**
THEF They Montfort 80.47 342 *eP* **P 12 59 49.5 +1.1**
DAVA Damuels 80.48 339⇓ *iP* **P 12 59 49.4 +0.9**
comp=Z,49nm,1.1s,mb5.3
ESKT Eskisehir 80.53 321 *eP* **P 12 59 53.2 +4.3**
DIVS Divcibare 80.55 331⇑ *iP* **P 12 59 48.6 -0.4**
VISS Visnje 80.56 335 *eP* **P 12 59 53.3 +4.4**
MOF Molkenrain 80.58 341 *eP* **P 12 59 49.9 +0.9**
HAU Haudompre 80.61 341 *eP* **P 12 59 48.8 -0.3**
VOY Vojsko 80.61 336 *eP* **P 12 59 54.7 +5.5**
VOY *e* 12 59 57.7
KIZT Kizilcal 80.63 320 *eP* **P 12 59 52.1 +2.6**
HINF Hinteralfeld 80.68 341 *eP* **P 12 59 48.9 -0.6**
PPT Papeete 80.70 130 *eP* **P 12 59 50.5 +0.3**
PPT Papeete 80.70 130 *e*PP PP 13 02 47.6 -8.7
PPT Papeete 80.70 130 *e*S S 13 09 55.0 +0.7
PPT *e*LR LR 13 24 01.2
comp=Z,631nm,31.8s
PPT Papeete 80.70 130 LR LR 13 33 20.4
comp=Z,270nm,18.2s,MS4.6,baz=319,slow=34
BOJS Bojanci 80.72 335 *eP* **P 12 59 55.9 +6.1**
KBD Kabd 80.72 304 *eP* **P 12 59 50.8 +0.7**
KBD AMb AMB 12 59 59.9
comp=Z,309nm,0.6s,mb6.4
CEY Cerknica 80.74 335⇑ *iP* **P 12 59 50.2 +0.4**
VTS Vitosha 80.80 328 *iP* **P 12 59 50.0 -0.3**
BBS Basel-Blauen 80.87 340 *eP* **P 12 59 51.0 +0.5**
QRN Al-Qurain 80.93 303 *eP* **P 12 59 51.4 +0.1**
QRN AMb AMB 13 00 00.6
comp=Z,118nm,0.6s,mb6.0
RDF Al-Radifah 80.99 304 *eP* **P 12 59 51.3 -0.3**
RDF AMb AMB 13 00 00.9
comp=Z,200nm,0.8s,mb6.1
LOMF Lomont 81.12 341 *eP* **P 12 59 52.9 +1.0**
FLN La Foliniere 81.16 346 *eP* **P 12 59 51.8 -0.2**
KONT Konya--Tatoy 81.21 320 *eP* **P 12 59 56.6 +4.1**
PLE Pljevlja 81.43 331⇓ *iP* **P 12 59 59.8 +6.2**
MMB Musomiste 81.50 327 *iP* **P 12 59 54.0 +0.1**
STKA Stephens Creek 81.57 194 *eP* **P 12 59 54.3 -0.2**
comp=Z,9.2nm,1.1s,mb4.6
STKA Stephens Creek 81.57 194 P **P 12 59 54.3 -0.2**
comp=Z,5.8nm,0.6s,mb4.7,baz=356,slow=7.4,SNR=13
STKA LR LR 13 34 41.8
comp=Z,448nm,22.0s,MS4.8,baz=20,slow=35
GRR Gorron 81.59 346 *eP* **P 12 59 54.6 +0.3**
comp=Z,189nm,1.0s,mb5.7
GRR Gorron 81.59 346 *eP* **P 12 59 54.6 +0.3**
GRR pmax pmax
comp=Z,95nm,1.0s,mb5.7
IVA Berane 81.68 330⇓ *iP* **P 13 00 00.7 +5.8**
UPM Unac-Piva 81.70 331⇓ *iP* **P 12 59 59.7 +4.8**
LOR Lormes 81.82 343 *eP* **P 12 59 55.6 +0.1**
LOR *e*R
comp=Z,465nm,17.8s
PVY Plav 81.90 330⇓ *iP* **P 13 00 00.8 +4.8**
SKO Skopje 81.96 329 *iP* **P 12 59 57.2 +0.9**
SGMF Saint Gilles 81.98 347 *eP* **P 12 59 56.6 +0.3**
comp=Z,116nm,0.9s,mb5.5
SGMF Saint Gilles 81.98 347 *eP* **P 12 59 56.6 +0.3**
SGMF pmax pmax
comp=Z,58nm,0.9s,mb5.5
HDMB Hadim 81.98 319 *eP* **P 12 59 59.2 +2.7**
CABF La Chapelle 81.99 341 *eP* **P 12 59 56.7 +0.3**
comp=Z,146nm,1.6s,mb5.3
CABF La Chapelle 81.99 341 *eP* **P 12 59 56.7 +0.3**
CABF pmax pmax
comp=Z,73nm,1.6s,mb5.4
ROSF Rostrenen 82.00 348 *eP* **P 12 59 56.8 +0.4**
comp=Z,149nm,1.1s,mb5.5
ROSF Rostrenen 82.00 348 *eP* **P 12 59 56.8 +0.4**
ROSF pmax pmax
comp=Z,74nm,1.1s,mb5.5
NKY Niksic 82.02 331⇓ *iP* **P 13 00 01.6 +5.0**
BRY Bratogost 82.09 331⇓ *iP* **P 13 00 00.8 +3.8**
TTG Podgorica 82.28 331⇓ *iP* **P 13 00 03.1 +5.1**
AVF Avril sur Loir 82.38 343 *eP* **P 12 59 58.6 +0.2**
comp=Z,77nm,1.0s,mb5.3
AVF Avril sur Loir 82.38 343 *eP* **P 12 59 58.6 +0.2**
AVF pmax pmax
comp=Z,38nm,1.0s,mb5.3
QUIF Quistinic 82.40 347 *eP* **P 12 59 59.1 +0.6**
comp=Z,100nm,1.1s,mb5.3
QUIF Quistinic 82.40 347 *eP* **P 12 59 59.1 +0.6**
QUIF pmax pmax
comp=Z,50nm,1.1s,mb5.4
SMF Signal de Mont 82.42 342 *eP* **P 12 59 58.9 +0.3**
comp=Z,223nm,1.4s,mb5.6
SMF Signal de Mont 82.42 342 *eP* **P 12 59 58.9 +0.3**
SMF pmax pmax
comp=Z,111nm,1.4s,mb5.6
ORX Oropa 82.49 339 P **P 13 00 06.6 +7.6**
HCY Herceg Novi 82.51 331⇓ *iP* **P 13 00 03.8 +4.6**
BUM Brajici-Budva 82.51 331⇓ *iP* **P 13 00 04.4 +5.2**
TRAV 82.66 339 P **P 13 00 08.9 +9.0**
ULC Ulcinj 82.70 330⇓ *iP* **P 13 00 05.8 +5.5**
LSD Ceresole Reale 82.84 340 *eP* **P 13 00 09.7 +8.9**
QSH Qafa e Shtames 82.88 330 *iP* **P 13 00 08.6 +7.5**
GRAM 83.05 338 P **P 13 00 10.1 +8.2**
RSP Reno Superiore 83.11 340 *eP* **P 13 00 08.6 +6.4**
PLDF La Plantade 83.11 342 *eP* **P 13 00 05.3 +3.1**
AGO Saint Agoulin 83.13 343 *eP* **P 13 00 05.1 +2.8**
VALM 83.14 337 P **P 13 00 09.5 +7.1**
CODM 83.20 338 P **P 13 00 09.7 +6.9**
MFF Saint Martin d 83.20 345 *eP* **P 13 00 03.1 +0.4**
LCHF La Chataignera 83.24 346 *eP* **P 13 00 05.2 +2.4**
BACM 83.25 337 P **P 13 00 09.2 +6.3**
SARO Sassorosso 83.25 337 P **P 13 00 10.4 +7.5**
FENE Fenestrelle 83.27 340 P **P 13 00 09.2 +6.2**
CSS Prodhromos 83.28 317 P **P 13 00 05.3 +2.0**
comp=Z,26nm,0.8s,mb5.3
VLC Villacollemand 83.28 337 *eP* **P 13 00 10.2 +7.0**
comp=Z,58nm,1.0s,mb5.6
GDM Grand'Maison 83.32 340 *eP* **P 13 00 05.3 +2.0**
BNI Bardonecchia 83.33 340 P **P 13 00 06.8 +3.4**
comp=Z,46nm,1.1s,mb5.4
BNI Bardonecchia 83.33 340 P **P 13 00 06.8 +3.4**
BNI pmax pmax
comp=Z,46nm,1.1s,mb5.4
VINC Vinca 83.36 337 P **P 13 00 08.8 +5.3**
PCP Pian Castagno 83.38 339 P **P 13 00 10.7 +7.0**
BHB Bricherasio 83.40 340 P **P 13 00 09.8 +6.1**
RRL Cesana Torines 83.44 340 P **P 13 00 12.3 +8.4**
PYM Petit Puy Mans 83.44 343 *eP* **P 13 00 06.7 +2.8**
MAIM 83.48 337 P **P 13 00 09.9 +5.7**
COLF Collangettes 83.53 342 *eP* **P 13 00 04.7 +0.4**
FORT Forrest 83.57 206 *eP* **P 13 00 05.2 +0.3**
comp=Z,56nm,0.7s,mb5.8
MBDF Montbardon 83.62 340 *eP* **P 13 00 05.8 +1.0**
comp=Z,30nm,0.8s,mb5.2
MBDF Montbardon 83.62 340 *eP* **P 13 00 05.8 +1.0**
MBDF pmax pmax
comp=Z,15nm,0.8s,mb5.2
ORIF Oris-en-Rattie 83.64 341 *eP* **P 13 00 05.6 +0.7**
comp=Z,129nm,1.1s,mb5.7
ORIF *e*R
comp=Z,394nm,19.5s
FIN Finale Ligure 83.78 339 P **P 13 00 13.3 +7.7**
ROB Roburent 83.78 339 P **P 13 00 12.4 +6.8**
SURF Saint Ours 83.85 340 *eP* **P 13 00 06.4 +0.5**
LBL Lubilhac 83.89 342 *eP* **P 13 00 09.0 +2.9**
ASF Jabal al Asfar 83.92 313 P **P 13 00 07.1 +0.5**
comp=Z,18nm,1.1s,mb5.1,baz=117,slow=2.3,SNR=5.3
ENR Entracque 83.95 339 P **P 13 00 12.2 +5.7**
STV2 Anna di Valdie 83.95 339 P **P 13 00 12.0 +5.6**
STV Sta Anna Valdi 83.95 339 P **P 13 00 13.3 +6.8**
VIVF Saint-Julien-l 83.96 341 *eP* **P 13 00 07.4 +0.9**
comp=Z,180nm,1.3s,mb5.8
VIVF Saint-Julien-l 83.96 341 *eP* **P 13 00 07.4 +0.9**
VIVF pmax pmax
comp=Z,90nm,1.3s,mb5.7
MONE Monesi 84.01 339 P **P 13 00 14.0 +7.2**
IMI Imperia 84.13 339 P **P 13 00 14.0 +6.6**
AQU L'Aquila 84.14 335 P **P 13 00 10.8 +3.3**
comp=Z,83nm,1.1s,mb5.8
AQU L'Aquila 84.14 335 P **P 13 00 10.8 +3.3**
AQU pmax pmax
comp=Z,83nm,1.1s,mb5.8
SAOF Saorge 84.14 339 *eP* **P 13 00 08.7 +1.3**
RJF Les Rejaudoux 84.16 344 *eP* **P 13 00 07.8 +0.3**
comp=Z,58nm,1.0s,mb5.4
RJF *e*R
comp=Z,580nm,22.0s
RJF Les Rejaudoux 84.16 344 *eP* **P 13 00 07.8 +0.3**
RJF pmax pmax
comp=Z,29nm,1.0s,mb5.4
RJF MLR MLR
comp=Z,580nm,22.0s,MS4.9
AUTN L'Aution 84.16 339 *eP* **P 13 00 08.9 +1.4**
TOUF Mont Tournerai 84.19 339 *eP* **P 13 00 10.5 +2.9**
NEGI Negi 84.24 339 P **P 13 00 14.8 +6.9**
SBF Sospel 84.29 339 *eP* **P 13 00 08.1 0.0**
comp=Z,210nm,1.1s,mb5.9
SBF Sospel 84.29 339 *eP* **P 13 00 08.1 0.0**
SBF pmax pmax
comp=Z,105nm,1.1s,mb5.9
CAF Calviac 84.42 343 *eP* **P 13 00 09.5 +0.7**
comp=Z,54nm,1.0s,mb5.3
CAF Calviac 84.42 343 *eP* **P 13 00 09.5 +0.7**
CAF pmax pmax
comp=Z,27nm,1.0s,mb5.3
CII Carovilli 84.46 334 P **P 13 00 18.8 +10**
comp=Z,28nm,0.9s,mb5.4
CALN Calern 84.52 339 *eP* **P 13 00 10.9 +1.6**
SMRF Simiane la Rot 84.60 340 *eP* **P 13 00 10.5 +0.8**
comp=Z,118nm,1.3s,mb5.6
LFF La Frestale 84.66 344 *eP* **P 13 00 09.9 -0.1**
FRF La Foret Royal 84.76 340 *eP* **P 13 00 11.0 +0.5**
comp=Z,110nm,1.2s,mb5.5
FRF La Foret Royal 84.76 340 *eP* **P 13 00 11.0 +0.5**
FRF pmax pmax
comp=Z,55nm,1.2s,mb5.6
LASF Ste Croix 84.88 342 *eP* **P 13 00 10.6 -0.5**
PGF Pioggiola 85.14 338 *eP* **P 13 00 12.5 0.0**
comp=Z,104nm,1.0s,mb5.6
PGF Pioggiola 85.14 338 *eP* **P 13 00 12.5 0.0**
PGF pmax pmax
comp=Z,52nm,1.0s,mb5.6
TBI Tubuai 85.64 133 *e*S S 13 10 46.0 +2.2
TBI *e*LR LR 13 26 22.9
comp=Z,982nm,33.0s,baz=329
MTLF Montolieu 85.92 343 *eP* **P 13 00 16.2 -0.1**
comp=Z,56nm,1.1s,mb5.4
MTLF Montolieu 85.92 343 *eP* **P 13 00 16.2 -0.1**
MTLF pmax pmax
comp=Z,28nm,1.1s,mb5.4
TIP Timpagrande 86.03 331 *eP* **P 13 00 16.8 -0.2**
SJPF Ste Jean 86.77 345 *eP* **P 13 00 21.0 +0.5**
ETSF Etsaut 86.86 344 *eP* **P 13 00 21.7 +0.7**
comp=Z,49nm,1.2s,mb5.3
ETSF Etsaut 86.86 344 *eP* **P 13 00 21.7 +0.7**
ETSF pmax pmax
comp=Z,25nm,1.2s,mb5.3
EBIE Bielsa 86.94 344 P pP 13 00 30.9 -0.3
comp=Z,76nm,1.6s
ELAN Lanestosa 87.02 347 P pP 13 00 31.9 +0.3
comp=Z,240nm,2.6s
EARI Arriondas 87.21 348 P pP 13 00 34.0 +1.5
EGRA Graus 87.39 344 P pP 13 00 32.6 -0.8
EPON Pontenova 87.44 349 P pP 13 00 35.5 +1.9
KLBR Kellerberrin 87.69 214 *eP* **P 13 00 24.6 -0.6**
comp=Z,8.2nm,0.5s,mb5.2
URZ Urewera 88.22 165 P **P 13 00 24.3 -3.3**
comp=Z,17nm,1.1s,mb5.2,baz=49,slow=4.0,SNR=3.6
PBRG Braganca 88.88 349 *eP* pP 13 00 39.9 -0.7
NWAO Narrogin (SRO) 89.09 213 *eP* **P 13 00 30.6 -1.2**
comp=Z,20nm,0.9s,mb5.4
NWAO Narrogin (SRO) 89.09 213 P **P 13 00 31.7 -0.2**
NWAO pmax pmax
comp=Z,20nm,1.0s
PVRL Vila Real 89.53 349 *eP* pP 13 00 43.3 -0.3
MTE Manteigas 90.37 349 *eP* pP 13 00 47.5 -0.1
ESDC Sonseca Array 90.58 346 P **P 13 00 38.7 0.0**
comp=Z,5.1nm,1.0s,mb4.8,baz=13,slow=3.8,SNR=13
ESLA Sonseca Array 90.58 346 *eP* **P 13 00 37.7 -1.0**
comp=Z,5.1nm,1.1s,mb4.8
ETOB Tobarra 91.17 344 P pP 13 00 51.2 -0.1
comp=Z,135nm,2.1s
EVIA Vianos 91.34 345 P pP 13 00 53.2 +1.1
TAU Tasmania Unive 91.73 188 P **P 13 00 41.6 -2.2**
EBAD Badajoz 91.92 348 P pP 13 00 55.6 +0.8
EADA Adamuz 92.15 346 P pP 13 00 55.0 -0.8
comp=Z,34nm,2.2s
EQES Quesada 92.26 345 P pP 13 00 54.4 -1.9
comp=Z,68nm,1.7s
EVO Evora 92.27 349 *eP* **P 13 00 46.4 0.0**
comp=Z,24nm,1.0s,mb5.2
EVO *e*R
comp=Z,145nm,23.0s
ECAB El Cabril 92.36 347 P pP 13 00 55.7 -1.1
comp=Z,62nm,2.4s
RKT Rikitea 93.06 122 *eLR* LR 13 30 03.0
comp=Z,648nm,36.2s,baz=322
ATD Arta Tunnel 97.37 297 LR LR 13 52 24.0
comp=Z,364nm,18.5s,MS4.9,baz=40,slow=40
DBIC Dimbokro 122.86 340 PKP PKPdf 13 06 31.5 -5.6
comp=Z,2.8nm,0.6s,baz=339,slow=4.4,SNR=8.2
MIR Mirnyy 125.09 206 *e*PKIKP PKPdf 13 06 35.0 -5.0
MIR pmax pmax
comp=Z,34nm,1.2s
VNDA Vanda 125.97 179 PKP PKPdf 13 06 36.7 -4.8
comp=Z,1.3nm,0.5s,baz=334,slow=5.4,SNR=6.7
VNDA Vanda 125.97 179 PKP PKPdf 13 06 36.7 -4.9
LPAZ La Paz 130.45 66 PKP PKPdf 13 06 48.5 -3.2
comp=Z,2.4nm,0.9s,baz=31,slow=5.8,SNR=8.7
LPAZ La Paz 130.45 66 PKP PKPdf 13 06 48.5 -3.2
LPAZ LR LR
comp=Z,125nm,21.0s,MS4.6
MAW Mawson 135.66 213 PKP PKPdf 13 06 56.0 -4.0
comp=Z,3.5nm,0.6s,baz=89,slow=1.5,SNR=9.4
BDFB Brasilia 140.69 42 PKP PKPdf 13 07 04.2 -6.3
comp=Z,1.9nm,0.5s,baz=75,slow=12,SNR=1.8
BDFB Brasilia 140.69 42 PKIKP PKPdf 13 07 04.3 -6.2
BDFB pmax pmax
comp=Z,2.0nm,0.5s
SUR Sutherland 144.21 281 PKP PKPdf 13 07 11.4 -4.8
comp=Z,25nm,1.2s,baz=217,slow=3.4,SNR=4.0
SUR Sutherland 144.21 281 PKP PKPdf 13 07 11.4 -4.8
SYO Syowa Base 144.37 213 ⇓P PKPbc 13 07 07.6 -2.1
SYO Syowa Base 144.37 213 ⇓PKPbc PKPbc 13 07 10.0 +0.3
SYO Syowa Base 144.37 213 ⇓PKIKP 13 07 18.8
CPUP Villa Florida 144.57 64 PKP PKPdf 13 07 10.9 -6.1
comp=Z,10nm,0.5s,baz=339,slow=4.3,SNR=23
CPUP Villa Florida 144.57 64 *e*PKPdf PKPdf 13 07 10.8 -6.2
CPUP *e* 13 07 21.7
PLCA Paso Flores 145.03 95 PKP PKPdf 13 07 13.1 -4.2
comp=Z,37nm,1.1s,baz=293,slow=4.2,SNR=29
PLCA Paso Flores 145.03 95 *e*PKPdf PKPdf 13 07 12.4 -5.0
PLCA *e* 13 07 22.9
NVL N'lazarevskaya 152.80 204⇓ *i*PKIKP PKPdf 13 07 31.0 +2.3
NVL *i* *PP 13 07 42.0
NVL *i* *SP 13 07 46.5
NVL *i* S SKS 13 14 26.4 -8.2
NVL pmax pmax
comp=Z,2.0nm,0.8s
SNAA Sanae 155.34 194 P PKPdf 13 07 37.1 +5.0
SNAA Sanae 155.34 194 PKPdf 13 07 48.3 +16
SNAA Sanae 155.34 194 PKPdf 13 07 54.0 +22
SNAA Sanae 155.34 194 PKPdf 13 08 07.1 +35

SNAA	**Sanae**	**155.34 194**		PKPdf	13 08 12.9	+41
SNAA	**Sanae**	**155.34 194**		PKPdf	13 08 30.9	+59
SNAA	**Sanae**	**155.34 194**		PKPdf	13 08 41.2	+69
SNAA	**Sanae**	**155.34 194**	PKP	PKPdf	13 07 27.5	-4.7
	comp=Z,1.3nm,1.3s,baz=145,slow=0.9,SNR=3.1					
SNAA			PKPab	PKPab	13 07 53.6	-1.1
	comp=Z,2.8nm,0.5s,baz=181,slow=5.0,SNR=15					
SNAA	**Sanae**	**155.34 194**	*e*PKPdf	PKPdf	13 07 28.9	-3.2
SNAA			*e*PKPbc	PKPdf	13 07 36.2	+4.1
SNAA			P		13 07 54.0	
SNAA	**Sanae**	**155.34 194**	PKIKP	PKPdf	13 07 27.5	-4.6
SNAA					13 07 53.6	
SNAA			pmax	pmax		
	comp=Z,1.0nm,1.3s					
SNAA			pmax	pmax		
	comp=Z,3.0nm,0.5s					
VNA3	**Neumayer Olymp**	**156.68 190**		PKPdf	13 07 52.4	+18
VNA3	**Neumayer Olymp**	**156.68 190**		PKPdf	13 08 00.9	+27
VNA3	**Neumayer Olymp**	**156.68 190**		PKPdf	13 08 10.5	+37
VNA3	**Neumayer Olymp**	**156.68 190**		PKPdf	13 08 14.9	+41
VNA3	**Neumayer Olymp**	**156.68 190**		PKPdf	13 08 19.5	+46
VNA3	**Neumayer Olymp**	**156.68 190**	PKPdf	PKPdf	13 07 41.7	+7.8
VNA3			P		13 08 00.9	
VNA2	**Neumayer--Watz**	**156.69 192**	P	PKPdf	13 07 41.8	+7.8
VNA2	**Neumayer--Watz**	**156.69 192**		PKPdf	13 07 46.3	+12
VNA2	**Neumayer--Watz**	**156.69 192**		PKPdf	13 07 52.0	+18
VNA2	**Neumayer--Watz**	**156.69 192**		PKPdf	13 07 59.9	+26
VNA2	**Neumayer--Watz**	**156.69 192**		PKPdf	13 08 01.4	+27
VNA2	**Neumayer--Watz**	**156.69 192**		PKPdf	13 08 11.6	+38
VNA1	**Neumayer--Stat**	**157.06 192**	P	PKPdf	13 07 42.6	+8.1
VNA1	**Neumayer--Stat**	**157.06 192**		PKPdf	13 08 02.8	+28
VNA1	**Neumayer--Stat**	**157.06 192**		PKPdf	13 08 17.1	+43
VNA1	**Neumayer--Stat**	**157.06 192**		PKPdf	13 08 20.4	+46
VNA1	**Neumayer--Stat**	**157.06 192**		PKPdf	13 08 38.9	+64

CASC 10 12:50:29.1±1.7, 12.53N×87.46W, h75km±10km, MD3.8, ML3.8, 8C-12D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.43**	**66**	⇓*i*P	P	12 50 42.1	+0.2
CRIN				*e*S	S	12 50 51.7	+0.3
LEON	**Leon**	**0.56**	**101**	⇓*i*P	P	12 50 42.2	-0.9
LEON				*e*S	S	12 50 54.8	+1.4
TEL3	**Telica 3**	**0.60**	**86**	⇓*i*P	P	12 50 43.2	-0.3
TELN	**Telica**	**0.61**	**83**	⇓*e*P	P	12 50 43.4	-0.3
TELN				*e*S	S	12 50 55.7	+1.3
MIRN	**Miramar**	**0.73**	**97**	⇑*e*P	P	12 50 44.6	-0.3
CNGN	**Cerro Negro**	**0.74**	**92**	⇓*e*P	P	12 50 44.8	-0.3
CNGN				*e*S	S	12 50 57.3	+0.5
CNCH	**Conchagua**	**0.83**	**334**	⇓*i*P	P	12 50 46.0	0.0
CNCH				*e*S	S	12 50 59.5	+0.8
MOMJ	**Momotombo**	**0.90**	**97**	⇓*e*P	P	12 50 46.8	-0.1
COPN	**Copaltepe**	**0.91**	**112**	⇑*e*P	P	12 50 46.7	-0.3
COPN				*e*S	S	12 50 59.7	-0.7
BLLM	**Bellamira**	**1.19**	**320**	⇓*e*P	P	12 50 50.4	-0.1
BLLM				*e*S	S	12 51 06.5	0.0
VSM	**San Miguel**	**1.20**	**318**	⇑*e*P	P	12 50 51.1	+0.4
VSM				*e*S	S	12 51 08.2	+1.4
MGAN	**Managua**	**1.24**	**108**	*e*P	P	12 50 50.8	-0.4
MGAN				*e*S	S	12 51 07.7	-0.1
	comp=N,786nm,0.4s						
MGAN				*e*S	S	12 51 08.1	+0.4
	comp=E,3μm,0.2s						
CRUN	**El Crucero**	**1.25**	**115**	*e*P	P	12 50 50.4	-0.9
WILN	**Americas 2**	**1.29**	**106**	*e*S	S	12 51 09.4	+0.4
TICN	**Ticuantepe**	**1.29**	**112**	⇓*e*P	P	12 50 52.0	+0.1
PYTN	**Playitas**	**1.36**	**89**	⇓*e*P	P	12 50 52.7	-0.3
MASN	**Masaya**	**1.38**	**113**	⇑*e*P	P	12 50 53.0	-0.3
CAHU	**Cacacuatique**	**1.44**	**329**	⇓*e*P	P	12 50 54.3	+0.3
APON	**Apoyo**	**1.49**	**114**	⇑*e*P	P	12 50 54.1	-0.5
APON				*e*S	S	12 51 16.4	+3.0
SNVI	**San Vicente**	**1.73**	**309**	*e*P	P	12 50 57.6	-0.2
SNVI				*e*S	S	12 51 18.8	-0.1
LCBS	**La Ceiba**	**1.86**	**307**	⇑*e*P	P	12 50 59.2	-0.3
LFRS	**El Faro**	**1.91**	**305**	⇓*e*P	P	12 50 60.0	-0.2
LBRS	**Las Brisas**	**1.96**	**308**	*e*P	P	12 51 01.4	+0.5
SSNN	**San Juan del S**	**2.00**	**128**	*e*P	P	12 51 01.1	-0.3
CONN	**Concepcion**	**2.03**	**118**	⇑*e*P	P	12 51 01.1	-0.7
SNET	**Serv Nac Est T**	**2.08**	**304**	*e*S	S	12 51 27.2	-0.1
SNET				*i*		12 51 33.3	
	comp=Z,942nm,0.3s						
BOQS	**Boqueron**	**2.15**	**304**	⇑*e*P	P	12 51 03.9	+0.4
BOQS				*e*S	S	12 51 30.7	+1.7
MADN	**Villa Maderas**	**2.19**	**120**	*e*P	P	12 51 04.2	+0.1
MADN				*e*S	S	12 51 29.2	-0.8
SBLS	**San Blas**	**2.48**	**302**	*e*P	P	12 51 08.3	+0.1
SNJE	**San Jose**	**2.48**	**303**	*e*P	P	12 51 09.0	+0.7
SNJE				*e*S	S	12 51 38.8	+1.4
RTR	**El Retiro**	**2.53**	**303**	*e*P	P	12 51 09.6	+0.6

IDC 10 13:07:59.9±4.1, 1.28N×97.30E, mb3.7/4, mb1 3.9/4, mb1mx3.6/17, mbtmp3.7/4, Error ellipse: s-maj=158.0km s-min=27.1km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.99**	**122**	P	P	13 15 53.0	-1.8
	0.5nm,0.6s,baz=301,slow=9.0,SNR=10						
SONM	**Songino Array**	**47.04**	**8**	P	P	13 16 33.7	-1.4
	0.5nm,0.5s,baz=189,slow=9.0,SNR=6.6						
MKAR	**Makanchi Array**	**47.19**	**346**	P	P	13 16 34.5	-1.8
	0.6nm,0.4s,baz=164,slow=8.8,SNR=7.8						
ZAL	**Zalesovo**	**53.49**	**351**	P	P	13 17 21.1	-3.1
	1.0nm,0.4s,baz=209,slow=9.2,SNR=3.7						

MAN 10 13:33:22.5, 12.14N×123.88E, h6km, mb4.3, ML3.1, MS2.9, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	**Cataman**	**0.85**	**64**	*e*P	Pb	13 33 38.7	-0.5
CNP				*e*S	Sb	13 33 51.5	+0.8
RCP	**Roxas**	**1.25**	**243**	*e*P	Pb	13 33 46.0	-0.1
RCP				*e*S	Sb	13 34 03.9	+1.5
PLP	**Palo**	**1.45**	**132**	*e*P	Pn	13 33 48.4	-1.0
PLP				*e*S	Sb	13 34 09.7	+1.5
PVCP	**Virac**	**1.47**	**10**	*e*P	Pn	13 33 49.0	-0.6
BESP	**Borongan**	**1.62**	**109**	*e*P	Pn	13 33 50.7	-1.0
LLP	**Lapu-Lapu**	**1.82**	**177**	*e*P	Pn	13 33 53.8	-0.8
LLP				*e*S	Sn	13 34 17.4	-0.7

*IDC **10** 13:34:10.6±1.9, 1.86N×97.62E, mb4.1/8, mb1 4.2/8, mb1mx4.0/19, mbtmp4.1/8, Error ellipse: s-maj=94.5km s-min=17.7km az=56.0*
*NEIC **10** 13:34:15.2±0.8, 1.88N×97.62E, h30km, mb4.0/1, Error ellipse: s-maj=24.6km s-min=12.3km az=61.0*

ISC 10 13:34:13.2±1.0, 1.9N±0.1×97.6E±0.2, h30km, n11, σ1§02/11, mb4.1/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.55**	**42**	*e*P	**Pn**	**13 35 22.0**	**+0.1**
FITZ	**Fitzroy Crossi**	**34.00**	**127**	P	**P**	**13 40 57.2**	**+0.4**
	2.7nm,0.9s,mb4.2,baz=16,slow=7.4,SNR=2.5						
WRA	**Warramunga Arr**	**42.06**	**123**	P	**P**	**13 42 05.1**	**+0.8**
	0.5nm,0.3s,mb3.6,baz=304,slow=9.0,SNR=32						
WRAB	**Tennant Creek**	**42.06**	**123**	*e*P	**P**	**13 42 04.7**	**+0.3**
	1.3nm,0.4s,mb3.9						
SONM	**Songino Array**	**46.40**	**8**	P	**P**	**13 42 38.8**	**-0.1**
	0.6nm,0.5s,mb3.8,baz=190,slow=9.7,SNR=6.5						
MKAR	**Makanchi Array**	**46.68**	**346**	P	**P**	**13 42 41.9**	**+0.7**
	0.8nm,0.4s,mb4.0,baz=157,slow=8.0,SNR=9.2						
ZAL	**Zalesovo**	**52.95**	**351**	P	**P**	**13 43 27.1**	**-1.9**
	1.8nm,0.4s,mb4.4,baz=325,slow=5.5,SNR=3.0						
STKA	**Stephens Creek**	**53.51**	**133**	P	**P**	**13 43 31.3**	**-2.2**
	5.1nm,0.9s,mb4.5,baz=316,slow=8.1,SNR=8.6						
STKA	**Stephens Creek**	**53.51**	**133**	*e*P	**P**	**13 43 31.5**	**-2.0**
BVAR	**Borovoye Array**	**55.74**	**340**	P	**P**	**13 43 49.5**	**0.0**
	1.3nm,0.5s,mb4.2,baz=149,slow=9.1,SNR=10						
FINES	**FINESS Array B**	**79.58**	**332**	P	**P**	**13 46 20.1**	**+1.2**
	3.4nm,0.9s,mb4.3,baz=84,slow=12,SNR=3.6						

IDC 10 13:39:05.6±7.1, 22.60S×168.76E, h78km±50km, mb3.3/2, mb1 3.4/3, mb1mx3.3/12, mbtmp3.5/3, Error ellipse: s-maj=60.3km s-min=49.8km az=144.0, New Caledonia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.21**	**283**	*e*P	P	13 39 40.0	-1.0
DZM	**Mont Dzumac**	**2.21**	**283**	P	P	13 39 40.1	-0.8
	3.3nm,0.3s,baz=106,slow=19,SNR=74						
DZM				S	S	13 40 07.5	+0.4
	4.5nm,0.3s,baz=79,slow=19,SNR=5.3						
NOUC	**Port Laguerre**	**2.33**	**282**	*e*P	P	13 39 41.8	-0.9
STKA	**Stephens Creek**	**25.80**	**243**	P	P	13 44 30.0	-1.2
	2.1nm,0.7s,baz=56,slow=11,SNR=4.2						
WRA	**Warramunga Arr**	**32.15**	**268**	P	P	13 45 25.2	-2.8
	0.2nm,0.6s,baz=100,slow=8.0,SNR=4.5						
KHC	**Kasperske Hory**	**147.04**	**330**	*e*P	PKPdf	13 58 35.0	-2.2
GERES	**GERESS Array B**	**147.18**	**329**	PKPbc	PKPdf	13 58 39.5	+2.1
	0.4nm,0.3s,baz=45,slow=4.2,SNR=4.4						

IDC 10 13:50:50.6±4.6, 16.00N×146.00E, mb3.5/3, mb1 3.8/3, mb1mx3.6/17, mbtmp3.6/3, MS3.3/2, Ms1 3.3/2, ms1mx2.9/17, Error ellipse: s-maj=99.9km s-min=57.8km az=2.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**11.60**	**343**	LR	LR	13 57 38.8	
	comp=Z,166nm,20.0s,baz=54,slow=35						
JHJ	**Hachijo jima 2**	**17.95**	**343**	LR	LR	14 00 57.5	
	comp=Z,102nm,20.8s,baz=68,slow=34						
MJAR	**Matsushiro Arr**	**21.60**	**343**	P	P	13 55 41.9	-2.3
	1.4nm,0.8s,baz=172,slow=8.6,SNR=4.3						
MKAR	**Makanchi Array**	**60.55**	**315**	P	P	14 01 02.9	-2.2
	0.8nm,0.8s,baz=98,slow=8.6,SNR=5.7						
ILAR	**Eielson Array**	**65.94**	**26**	P	P	14 01 38.2	-2.1
	0.5nm,0.8s,baz=264,slow=5.0,SNR=5.3						

MAN 10 13:57:05.0, 11.78N×125.88E, h21km, mb3.8, ML2.6, MS2.2, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.47**	**248**	*e*P	Pb	13 57 15.3	+0.9
BESP				*e*S	Sb	13 57 24.4	+3.6
PLP	**Palo**	**1.07**	**236**	*e*P	Pb	13 57 24.8	+0.1
PLP				*e*S	Sb	13 57 39.6	+1.3
CNP	**Cataman**	**1.40**	**302**	*e*P	Pn	13 57 29.8	+0.2
CNP				*e*S	Sn	13 57 48.2	+0.7
MSLP	**Maasin**	**1.92**	**212**	*e*P	Pn	13 57 40.6	+3.7
MSLP				*e*S	Sn	13 58 09.2	+8.6
PVCP	**Virac**	**2.47**	**317**	*e*P	Pn	13 57 42.9	-2.1

*IDC **10** 14:10:49.4±0.6, 16.65S×173.52W, h85km±5km, mb4.1/14, mb1 4.3/16, mb1mx4.3/20, mbtmp4.4/16, MS3.4/6, Ms1 3.4/6, ms1mx3.3/19, Error ellipse: s-maj=18.7km s-min=9.2km az=132.0*
*NEIC **10** 14:10:49.6±0.2, 17.00S×173.59W, mb4.8/13, Error ellipse: s-maj=12.2km s-min=6.6km az=146.0*

ISC 10 14:10:44.6±1.6, 16.89S±0.06×173.62W±0.06, h50km±14km, h81km±2.6km; pP-P, n79, σ1§01/55, mb4.7/31, MS3.4/4, 2C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.45**	**31**	P	**P**	**14 11 37.2**	**-0.1**
	303nm,0.3s,baz=30,slow=1.2,SNR=273						
AFI				S	**S**	**14 12 12.1**	**-5.2**
	652nm,0.3s,baz=75,slow=23,SNR=18						
AFI				LR	LR	14 12 52.9	
	comp=Z,354nm,21.9s,baz=163,slow=39						
DZM	**Mont Dzumac**	**19.49**	**251**	P	**P**	**14 15 10.6**	**+0.4**
	1.1nm,0.3s,baz=67,slow=16,SNR=14						
DZM				LR	LR	14 21 05.3	
	comp=Z,219nm,20.7s,baz=200,slow=31						
NOUC	**Port Laguerre**	**19.62**	**251**	*e*P	**P**	**14 15 13.4**	**+1.8**
PUZ	**Puketiti**	**22.28**	**197**	PN	**P**	**14 15 39.8**	**+1.1**
MWZ	**Matawai**	**22.73**	**198**	PN	**P**	**14 15 45.3**	**+2.1**
URZ	**Urewera**	**22.79**	**199**	P	**P**	**14 15 43.8**	**0.0**
	55nm,0.5s,mb5.2,baz=31,slow=2.6,SNR=80						
URZ	**Urewera**	**22.79**	**199**	PN	**P**	**14 15 44.2**	**+0.4**
PAE	**Paea**	**22.96**	**95**	*e*P	**P**	**14 15 44.9**	**-0.7**
	50nm,1.1s,mb4.8						
PPT	**Papeete**	**22.97**	**95**	*e*LR	LR	14 21 01.4	
	430nm,30.2s						
PPT	**Papeete**	**22.97**	**95**	P	**P**	**14 15 45.0**	**-0.7**
	7.6nm,0.5s,mb4.4,baz=156,slow=0.7,SNR=3.8						
PPT				LR	LR	14 22 46.5	
	comp=Z,72nm,20.1s,MS3.1,baz=256,slow=31						
TVO	**Taravao**	**23.27**	**96**	*e*P	**P**	**14 15 48.2**	**-0.4**
	54nm,0.9s,mb5.0						
TBI	**Tubuai**	**23.55**	**110**	*e*LR	LR	14 21 19.7	
PMOR	**Pomariorio Ree**	**24.80**	**89**	*e*P	**P**	**14 16 02.2**	**-1.3**
	74nm,1.1s,mb5.2						
VAH	**Vaihoa**	**25.02**	**90**	*e*P	**P**	**14 16 03.7**	**-1.9**
	78nm,1.0s,mb5.2						
MRZ	**Mangatainoka R**	**25.47**	**199**	PN	**P**	**14 16 11.3**	**+1.7**
QRZ	**Quartz Range**	**26.69**	**204**	*e*PN	**P**	**14 16 21.5**	**+0.6**
NNZ	**Nelson**	**26.71**	**202**	*e*PN	**P**	**14 16 22.7**	**+1.6**
HNR	**Honiara**	**26.77**	**283**	P	**P**	**14 16 24.7**	**+2.9**
	15nm,0.5s,mb4.8,baz=261,slow=6.6,SNR=4.3						
HNR				LR	LR	14 26 21.7	
	comp=Z,52nm,18.2s,MS3.1,baz=121,slow=35						
THZ	**Tophouse**	**27.36**	**202**	*e*PN	**P**	**14 16 25.8**	**-1.2**
LTZ	**Lake Taylor**	**28.48**	**202**	*e*PN	**P**	**14 16 36.1**	**-1.0**
RPZ	**Rata Peaks**	**29.73**	**203**	P	**P**	**14 16 48.7**	**+0.5**
	20nm,0.4s,mb5.2,baz=352,slow=2.3,SNR=12						
TAOE	**Nuku Hiva Isla**	**33.55**	**80**	*e*LR	LR	14 25 49.2	
	540nm,30.5s						
CNB	**Canberra Magne**	**37.69**	**234**	*e*P	**P**	**14 17 56.2**	**-0.7**
	17nm,0.6s,mb4.9						
CTA	**Charters Tower**	**38.13**	**259**	P	**P**	**14 17 59.9**	**-0.8**
	6.0nm,0.8s,mb4.4,baz=94,slow=11,SNR=13						
CTAO	**Charters Tower**	**38.13**	**259**	*e*P	**P**	**14 17 59.7**	**-1.0**
	5.7nm,0.8s,mb4.3						
TOO	**Toolangi**	**41.38**	**232**	*e*P	**P**	**14 18 27.0**	**-0.4**
	11nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**43.13**	**241**	⇑*i*P	**P**	**14 18 41.9**	**0.0**
	30nm,1.1s,mb4.9						
STKA	**Stephens Creek**	**43.13**	**241**	P	**P**	**14 18 41.7**	**-0.2**
	24nm,0.8s,mb5.0,baz=88,slow=9.2,SNR=50						
WB2	**Warramunga Arr**	**49.31**	**258**	*e*P	**P**	**14 19 29.3**	**-1.6**
WRAB	**Tennant Creek**	**49.31**	**258**	*e*P	**P**	**14 19 29.0**	**-1.9**
	12nm,0.6s,mb5.1						
WRA	**Warramunga Arr**	**49.32**	**258**	P	**P**	**14 19 29.4**	**-1.6**
	7.8nm,0.5s,mb5.0,baz=96,slow=7.0,SNR=496						
FITZ	**Fitzroy Crossi**	**57.71**	**259**	*e*P	**P**	**14 20 32.2**	**-0.7**
	4.1nm,0.6s,mb4.6						
VNDA	**Vanda**	**61.88**	**186**	P	**P**	**14 21 00.7**	**0.0**
	3.2nm,0.9s,mb4.5,baz=0.8,slow=7.0,SNR=8.7						
KLBR	**Kellerberrin**	**63.37**	**243**	*e*P	**P**	**14 21 10.1**	**-1.1**
	9.6nm,0.6s,mb5.1						
CASY	**Casey**	**68.98**	**205**	*e*P	**P**	**14 21 44.8**	**-1.5**
	21nm,0.8s,mb5.1						
MJAR	**Matsushiro Arr**	**69.94**	**320**	P	**P**	**14 21 52.3**	**-0.4**
	1.0nm,0.5s,mb4.0,baz=36,slow=2.6,SNR=5.4						
QSPA	**South Pole Qui**	**73.16**	**180**	*e*P	**P**	**14 22 12.0**	**+0.9**
	8.4nm,1.0s,mb4.6						
MTUM	**Tungsten Hills**	**74.78**	**43**	*e*P	**P**	**14 22 22.3**	**+1.0**
WVOR	**Wild Horse Val**	**77.72**	**38**	*e*P	**P**	**14 22 38.0**	**+0.1**
	4.9nm,1.0s,mb4.4						
ARUT	**Antelope Range**	**78.40**	**45**	*e*P	**P**	**14 22 42.4**	**+0.7**
ELK	**Elko**	**78.83**	**41**	*e*P	**P**	**14 22 44.3**	**+0.3**
	4.1nm,1.0s,mb4.3						
MSU	**Marysvale**	**79.63**	**44**	*e*P	**P**	**14 22 49.3**	**+0.9**
MNTX	**Cornudas Mount**	**81.28**	**53**	*e*P	**P**	**14 22 57.4**	**+0.1**
	11nm,1.4s,mb4.6						
TXAR	**Lajitas Array**	**81.61**	**56**	P	**P**	**14 22 59.2**	**+0.2**
	1.4nm,0.8s,mb4.0,baz=225,slow=5.3,SNR=13						
TXAR				LR	LR	14 50 01.1	
	comp=Z,27nm,19.8s,MS3.6,baz=230,slow=29						
PV01	**Paradox Valley**	**81.90**	**46**	*e*P	**P**	**14 23 01.2**	**+0.8**
PV01				*e*pP	pP	14 23 23.4	+8.4
GDL2	**Guadalupe Moun**	**82.27**	**53**	*e*P	**P**	**14 23 03.5**	**+1.0**
MCMT	**McKenzie Canyo**	**82.54**	**39**	*e*P	**P**	**14 23 04.2**	**+0.7**
IMW	**Indian Meadow**	**83.21**	**40**	*e*P	**P**	**14 23 07.7**	**+0.8**
	16nm,1.4s,mb4.8						
QLMT	**Earthquake Lak**	**83.40**	**39**	*e*P	**P**	**14 23 08.6**	**+0.8**
SMCO	**Snowmass**	**83.49**	**46**	*e*P	**P**	**14 23 09.6**	**+1.1**
PDAR	**Pinedale Array**	**83.51**	**42**	P	**P**	**14 23 08.4**	**-0.1**
	2.9nm,0.9s,mb4.4,baz=225,slow=2.1,SNR=19						
PDAR				pP	pP	14 23 29.0	+5.9
	1.2nm,0.8s,baz=225,slow=4.2,SNR=5.2						
PDAR				LR	LR	14 54 47.4	
	comp=Z,32nm,18.7s,MS3.7,baz=344,slow=32						
ILAR	**Eielson Array**	**83.94**	**11**	P	**P**	**14 23 08.6**	**-1.6**
	0.7nm,0.6s,mb4.0,baz=234,slow=6.6,SNR=8.1						
ILAR				pP	pP	14 23 31.6	+6.9
	1.2nm,0.9s,baz=224,slow=5.5,SNR=5.2						
DAWY	**Dawson**	**84.91**	**14**	*e*P	**P**	**14 23 15.4**	**+0.4**
MAW	**Mawson**	**86.32**	**199**	P	**P**	**14 23 21.8**	**-0.1**
	2.8nm,0.6s,mb4.7,baz=128,slow=6.6,SNR=8.7						
CFAA	**Coronel Fontan**	**93.79**	**124**	P	**P**	**14 23 57.4**	**-0.4**
	0.5nm,0.7s,mb4.0,baz=219,slow=3.2,SNR=5.6						
SONM	**Songino Array**	**95.81**	**318**	P	**P**	**14 24 06.3**	**-0.3**
	0.2nm,0.5s,mb3.8,baz=117,slow=6.4,SNR=2.9						
LVC	**Limon Verde**	**96.56**	**116**	P	**P**	**14 24 09.9**	**-0.6**
	1.3nm,0.8s,mb4.4,baz=225,slow=2.9,SNR=2.1						
ARCES	**ARCESS Array B**	**126.05**	**352**	PKP	PKPdf	14 29 41.3	+0.5
	2.0nm,0.7s,baz=297,slow=5.4,SNR=5.9						
FINES	**FINESS Array B**	**133.34**	**347**	PKP	PKPdf	14 29 55.3	+0.4
	2.1nm,0.9s,baz=63,slow=3.1,SNR=3.2						
KMBO	**Kilima Mbogo**	**144.69**	**243**	PKP	PKPdf	14 30 18.2	+1.5
	5.8nm,0.9s,baz=64,slow=4.4,SNR=16						
MALT	**Malatya**	**144.75**	**314**	*e*PKPdf	PKPdf	14 30 18.3	+2.2
CLL	**Collm**	**145.26**	**353**	⇑*i*PKP1	PKPbc	14 30 18.0	+1.0
STHS	**Stebnicka Huta**	**145.39**	**343**	*i* PKP	PKPdf	14 30 19.8	+3.0
KOLS	**Kolonicke sedl**	**145.52**	**341**	*i* PKP	PKPdf	14 30 20.2	+3.2
UPC	**Upice**	**145.58**	**349**	*e*PKP	PKPdf	14 30 19.9	+2.8
DPC	**Dobruska-Polom**	**145.68**	**349**	*e*PKP	PKPdf	14 30 20.3	+3.0
OKC	**Ostrava-Krasne**	**145.79**	**346**	*e*PKP	PKPdf	14 30 21.2	+3.7
PVCC	**Panska Ves**	**145.81**	**351**	*e*PKP	PKPdf	14 30 20.4	+2.9
KECS	**Kecovo**	**146.45**	**343**	*e*PKP	PKPdf	14 30 23.0	+4.3
TNS	**Taunus Mts**	**146.71**	**358**	*e*PKPbc	PKPbc	14 30 23.0	+2.5
VYHS	**Vyhne**	**146.88**	**345**	*e*PKP	PKPdf	14 30 25.1	+5.7
GRA1	**Grafenberg Arr**	**147.05**	**354**	*e*PKPbc	PKPdf	14 30 24.1	+4.5
GRF	**Grafenberg Arr**	**147.05**	**354**	*e*PKP	PKPdf	14 30 24.1	+4.5
BR131	**Keskin Array S**	**147.16**	**319**	*e*PKPdf	PKPdf	14 30 24.7	+4.5
BRTR	**Keskin Array B**	**147.16**	**319**	PKPbc	PKPdf	14 30 24.2	+4.1
	4.8nm,0.6s,baz=126,slow=2.6,SNR=22						
BRTR				pPKPbc		14 30 46.8	
	3.9nm,0.8s,baz=135,slow=3.5,SNR=6.8						
KHC	**Kasperske Hory**	**147.31**	**351**	*e*PKP	PKPdf	14 30 25.1	+5.0
KHC				pPKP		14 30 50.0	
KHC	**Kasperske Hory**	**147.31**	**351**	*e*P	PKPdf	14 30 25.1	+5.0
KHC				*e*		14 30 50.0	
GEC2	**GERESS Array S**	**147.57**	**351**	*e*PKPbc	PKPdf	14 30 24.2	+3.7
GERES	**GERESS Array B**	**147.57**	**351**	PKPbc	PKPdf	14 30 24.6	+4.1
	1.3nm,0.6s,slow=4.0,SNR=7.4						
GERES				pPKPbc		14 30 48.1	
	0.5nm,0.3s,slow=2.7,SNR=4.8						

*IDC **10** 14:27:10.7±1.2, 32.49S×72.18W, mb4.3/3, mb1 4.0/9, mb1mx4.0/18, mbtmp3.9/9, ML4.3/4, MS3.2/2, Ms1 3.2/2, ms1mx2.8/20, Error ellipse: s-maj=34.6km s-min=17.9km az=110.0*
*GUC **10** 14:27:17.0±0.9, 32.69S×71.69W, h24km±12km, MD4.4, ML4.2*
*NEIC **10** 14:27:17.0, 32.69S×71.69W, h24km, mb4.6/1, ML4.2(GUC), After GUC.*
NEIC Felt [III] at Puchuncavi and Valparaiso; [II] at Cabildo, La Ligua, Limache, Papudo and Santiago.

ISC 10 14:27:16.0±0.8, 32.70S±0.03×71.83W±0.06, h33km±5km, n40, σ0§99/54, mb4.2/4, MS3.3/1, 14C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.36**	**154**	⇑*i*P	**Pb**	**14 27 24.7**	**+0.3**
IHA				*i* S	**Sb**	**14 27 29.5**	**-0.8**
ROCH	**El Roble**	**0.74**	**112**	⇑*i*P	**Pn**	**14 27 29.5**	**-0.7**
LCCH	**Las Cruces**	**0.80**	**164**	⇑*i*P	**Pn**	**14 27 31.4**	**+0.3**
JACH	**Jahuel**	**1.04**	**89**	⇑*i*P	**Pn**	**14 27 33.7**	**-0.8**
PEL	**Peldehue**	**1.06**	**115**	⇑*i*P	**Pn**	**14 27 34.7**	**0.0**
PEL				*i* S	**Sn**	**14 27 47.6**	**-0.8**
RCDM	**Rinconada Maip**	**1.17**

comp=N,0.4nm,0.7s,baz=161,slow=1.6,SNR=6.8
ZAL Zalesovo 153.03 31 PKPbc PKPdf 14 47 09.8 +2.5
comp=N,2.1nm,0.6s,baz=119,slow=4.3,SNR=9.1
ZAL Zalesovo 153.03 31 PKPbc PKPdf 14 47 09.8 +2.5
MKAR Makanchi Array 155.77 47 PKPab PKPab 14 47 33.0 -2.0
comp=N,0.9nm,0.6s,baz=292,slow=3.8,SNR=9.2

*NEIC **10** 14:28:51.5, 18.19N×100.83W, h60km, MD3.7(MEX), After MEX.*
MEX 10 14:28:52.3±0.8, 18.10N×100.80W, h63km±44km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**1.17**	**154**	*i* P	P	14 29 11.1	-1.8
CAIG				*i* S	S	14 29 25.6	-2.6
CAIG	**El Cayaco**	**1.17**	**154**	*i* P	P	14 29 11.1	-1.8
CAIG				*i* S	S	14 29 27.0	-1.2
PLIG	**Platanillo**	**1.26**	**77**	*i* P	P	14 29 12.5	-1.8
PLIG				*i* S	S	14 29 29.9	-0.6
PLIG	**Platanillo**	**1.26**	**77**	*i* P	P	14 29 12.5	-1.8
PLIG				*i* S	S	14 29 27.8	-2.7
ACX	**Acapulco**	**1.49**	**146**	*i* P	P	14 29 16.2	-1.3
ACX				*i* S	S	14 29 35.5	-0.6
MOIG	**Morelia**	**1.61**	**347**	*i* P	P	14 29 16.7	-2.4
MOIG				*i* S	S	14 29 38.2	-0.6
MOIG	**Morelia**	**1.61**	**347**	*i* P	P	14 29 16.7	-2.4
MOIG				*i* S	S	14 29 31.7	-7.2

*IDC **10** 14:51:32.8±1.8, 17.26S×177.33W, h352km±19km, mb3.6/10, mb1 3.8/12, mb1mx3.7/18, mbtmp4.3/12, Error ellipse: s-maj=26.1km s-min=11.9km az=145.0*
*NEIC **10** 14:51:33.4±1.1, 17.34S×177.25W, h358km±11km, mb4.4/4, Error ellipse: s-maj=20.2km s-min=7.9km az=148.0*
ISC 10 14:51:31.4±1.0, 17.3S±0.1×177.3W±0.1, h347km±11km, n48, σ0§95/28, mb4.0/15, **1D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.32**	**58**	P	P	**14 53 07.1**	**+0.7**
	10nm,0.3s,baz=33,slow=6.6,SNR=21						
AFI				S	S	**14 54 20.2**	**-0.9**
	baz=211,slow=24,SNR=1.7						
DZM	**Mont Dzumac**	**16.00**	**250**	P	P	**14 54 59.5**	**+0.1**
	0.2nm,0.3s,baz=54,slow=19,SNR=2.6						
URZ	**Urewera**	**21.44**	**192**	P	P	**14 55 53.2**	**-0.4**
	2.4nm,0.3s,mb3.9,baz=306,slow=8.5,SNR=2.7						
HNR	**Honiara**	**23.44**	**287**	P	P	**14 56 14.7**	**+2.2**
	24nm,0.8s,mb4.5,baz=146,slow=4.6,SNR=5.1						
CTA	**Charters Tower**	**34.57**	**260**	P	P	**14 57 50.8**	**+0.7**
	2.8nm,0.8s,mb3.5,baz=105,slow=5.3,SNR=5.2						
CTAO	**Charters Tower**	**34.57**	**260**	P	P	**14 57 51.5**	**+1.4**
STKA	**Stephens Creek**	**39.83**	**241**	P	P	**14 58 34.1**	**+0.5**
	3.9nm,0.7s,mb3.7,baz=66,slow=11,SNR=7.0						
STKA	**Stephens Creek**	**39.83**	**241**	P	P	**14 58 34.1**	**+0.5**
STKA				*eP*		14 58 34.3	
WRAB	**Tennant Creek**	**45.75**	**259**	*eP*	P	**14 59 21.1**	**-0.1**
WRA	**Warramunga Arr**	**45.76**	**259**	P	P	**14 59 20.0**	**-1.3**
	0.9nm,0.5s,mb3.1,baz=97,slow=6.9,SNR=39						
WRA				S	S	**15 05 37.8**	**-0.1**
	0.3nm,0.8s,baz=92,slow=13,SNR=3.3						
WRA	**Warramunga Arr**	**45.76**	**259**	P	P	**14 59 20.0**	**-1.3**
WRA				S	S	**15 05 37.8**	**-0.1**
KLBR	**Kellerberrin**	**60.02**	**243**	*eP*	P	**15 01 04.0**	**-0.6**
	11nm,0.6s,mb4.5						
NWAO	**Narrogin (SRO)**	**60.41**	**242**	*eP*	P	**15 01 06.2**	**-0.9**
MJAR	**Matsushiro Arr**	**68.05**	**323**	P	P	**15 01 54.2**	**-1.7**
	2.3nm,0.7s,mb4.0,baz=167,slow=5.9,SNR=6.3						
WVOR	**Wild Horse Val**	**80.28**	**40**	*eP*	P	**15 03 06.1**	**+0.5**
	2.0nm,0.9s,mb3.9						
MSU	**Marysvale**	**82.43**	**46**	*eP*	P	**15 03 18.0**	**+1.1**
TXAR	**Lajitas Array**	**84.80**	**57**	P	P	**15 03 30.4**	**+1.5**
	3.3nm,0.9s,mb4.2,baz=225,slow=5.3,SNR=20						
DLBC	**Dease Lake**	**84.87**	**23**	*eP*	P	**15 03 27.8**	**-0.8**
IMA	**Indian Mountai**	**85.00**	**9**	*eP*	P	**15 03 29.4**	**+0.4**
	28nm,1.6s,mb4.8						
ILAR	**Eielson Array**	**85.07**	**13**	P	P	**15 03 28.1**	**-1.2**
	3.4nm,0.5s,mb4.5,baz=224,slow=5.4,SNR=38						
MCMT	**McKenzie Canyo**	**85.11**	**40**	*eP*	P	**15 03 30.9**	**+0.9**
PDAR	**Pinedale Array**	**86.20**	**43**	P	P	**15 03 35.1**	**-0.2**
	0.4nm,0.6s,mb3.4,baz=243,slow=3.3,SNR=4.4						
BOZ	**Bozeman (W)**	**86.26**	**40**	*eP*	P	**15 03 36.5**	**+0.9**
	4.7nm,1.4s,mb4.1						
INK	**Inuvik**	**91.04**	**15**	P	P	**15 03 57.0**	**-0.4**
	2.8nm,0.9s,mb4.2,baz=266,slow=3.3,SNR=3.3						
YKA	**Yellowknife Ar**	**93.35**	**24**	P	P	**15 04 07.3**	**-1.0**
	2.2nm,0.8s,mb4.2,baz=242,slow=4.5,SNR=3.9						
BVAR	**Borovoye Array**	**117.03**	**321**	PKP	PKPdf	15 09 35.0	-0.2
	0.8nm,0.4s,baz=134,slow=3.1,SNR=4.6						
ARCES	**ARCESS Array B**	**125.90**	**350**	PKP	PKPdf	15 09 51.5	-0.5
	4.2nm,0.9s,baz=45,slow=1.7,SNR=6.3						
ARCES	**ARCESS Array B**	**125.90**	**350**	PKP	PKPdf	15 09 51.5	-0.5
OJC	**Ojcow**	**144.40**	**341**	*e*PKP	PKPdf	15 10 26.4	+0.1
STHS	**Stebnicka Huta**	**144.62**	**339**	*e*PKP	PKPdf	15 10 27.7	+0.9
CRVS	**Cervenica-Dubn**	**144.98**	**338**	*e*PKP	PKPdf	15 10 27.9	+0.5
BR131	**Keskin Array S**	**145.08**	**316**	*e*PKPdf	PKPdf	15 10 29.3	+1.4
BRTR	**Keskin Array B**	**145.08**	**316**	PKPbc	PKPbc	15 10 28.9	+0.5
	4.4nm,0.8s,baz=135,slow=3.5,SNR=17						
CLL	**Collm**	**145.09**	**349**	‖ *i* P	PKPdf	15 10 28.4	+0.9
CLL				*e*		15 11 09.0	
UPC	**Upice**	**145.19**	**345**	*e*PKP	PKPdf	15 10 29.5	+1.8
OKC	**Ostrava-Krasne**	**145.23**	**342**	AMS	AMS	15 53 00.0	
DPC	**Dobruska-Polom**	**145.26**	**345**	*e*PKP	PKPdf	15 10 29.7	+1.8
DPC				AMS	AMS	15 52 50.0	
	200nm,18.9s						
PVCC	**Panska Ves**	**145.51**	**347**	*e*PKP	PKPdf	15 10 30.8	+2.5
PVCC				AMS	AMS	15 53 20.0	
MOX	**Moxa**	**145.98**	**350**	*e*P	PKPdf	15 10 22.0	-7.1
PRU	**Pruhonice**	**146.02**	**346**	*e*PKP	PKPdf	15 10 32.0	+2.8
PRU				AMS	AMS	15 54 00.0	
	100nm,20.9s						
VYHS	**Vyhne**	**146.21**	**341**	*e*PKP	PKPdf	15 10 32.7	+3.2
NKC	**Novy Kostel**	**146.22**	**349**	AMS	AMS	15 52 50.0	
	100nm,19.1s						
KHC	**Kasperske Hory**	**147.04**	**347**	*e*PKP	PKPdf	15 10 34.8	+4.0
KHC				AMS	AMS	15 54 00.0	
	100nm,19.5s						
GERES	**GERESS Array B**	**147.28**	**346**	PKPbc	PKPdf	15 10 34.8	+3.5
	1.4nm,0.6s,baz=63,slow=3.0,SNR=7.5						
LOR	**Lormes**	**150.10**	**358**	*e*PKP1	PKPdf	15 10 41.9	+6.1
	19nm,0.9s						
AVF	**Avril sur Loir**	**150.59**	**359**	*e*PKP1	PKPdf	15 10 42.6	+6.1
	7.3nm,0.8s						
CABF	**La Chapelle**	**150.64**	**355**	*e*PKP1	PKPdf	15 10 43.8	+7.2
	19nm,0.8s						
MBDF	**Montbardon**	**152.44**	**354**	*e*PKP1	PKPdf	15 10 48.2	+8.9
	9.4nm,0.8s						

*IDC **10** 15:07:12.3±0.8, 33.79N×82.19E, mb4.2/15, mb1 4.3/16, mb1mx4.2/23, mbtmp4.2/16, ML4.3/1, Error ellipse: s-maj=23.4km s-min=16.7km az=41.0*
*NDI **10** 15:07:15.1±6.2, 33.37N×82.93E, h10km, mb4.7, mb4.4(NEIC)*
*NEIC **10** 15:07:15.6±3.1, 33.78N×82.15E, h20km±19km, mb4.4/5, Error ellipse: s-maj=9.5km s-min=6.7km az=50.0*
*BJI **10** 15:07:16.3, 33.99N×82.31E, h16km, mB4.7, mb4.5, ML4.2, Ms4.5, Msz4.2*
*MOS **10** 15:07:16.5±1.4, 33.89N×82.22E, h35km, mb4.4/11, Error ellipse: s-maj=12.0km s-min=6.2km az=108.6*
ISC 10 15:07:13.6±0.3, 33.90N±0.03×82.25E±0.04, h10km, n97, σ1§46/108, **mb4.3**/25, **MS4.5**/6, **4C-2D, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOSI	**Joshimath**	**4.04**	**215**	*eP*	Px	15 07 52.0	
JOSI				*eS*	Sx	15 08 38.3	
KLP	**Kalpa**	**4.12**	**236**	*i* P	**Pn**	**15 08 23.2**	**+5.1**
KLP				AMb	AMB	15 08 34.0	
	comp=Z,60nm,1.1s						
KLP				*eS*	**Sn**	**15 09 12.5**	**+5.6**
LGTI	**Lohaghat**	**4.75**	**202**	*eP*	**Pn**	**15 08 33.5**	**+6.4**
LGTI				*eS*	**Sn**	**15 09 30.0**	**+7.0**
DDI	**Dehra Dun**	**5.04**	**226**	*eP*	**Pn**	**15 08 32.8**	**+1.7**
DDI				*eS*	**Sn**	**15 09 35.0**	**+4.8**
SDNR	**Sundarnagar**	**5.06**	**243**	*eP*	**Pn**	**15 08 33.0**	**+1.6**
SDNR				*eS*	**Sn**	**15 09 32.0**	**+1.4**
SMLA	**Simla**	**5.11**	**239**	*eP*	**Pg**	**15 08 47.6**	**-8.1**
SMLA				*eS*	**Sn**	**15 09 32.6**	**+0.7**
DLH	**Dalhousie**	**5.44**	**257**	*eP*	**Pn**	**15 08 43.0**	**+6.2**
BHK	**Bhakra**	**5.51**	**245**	*eP*	**Pg**	**15 08 59.2**	**-4.4**
THN	**Thein Dam**	**5.67**	**257**	*eP*	**Pn**	**15 08 48.4**	**+8.3**
KKR	**Kurukshetra**	**6.06**	**231**	*eP*	**Pn**	**15 08 41.7**	**-3.9**
BISR	**Bishrakh**	**6.72**	**219**	*i* P	**Pn**	**15 08 52.8**	**-2.1**
BISR				*ex*	**Sn**	**15 10 13.7**	**+1.4**
NDI	**New Delhi**	**6.75**	**221**	*i* P	**Pn**	**15 08 51.6**	**-3.7**
NDI				AMb	AMB	15 08 59.8	
	comp=Z,18nm,0.6s						
BHGR	**Bahadurgarh**	**6.90**	**223**	*ex*	**Pn**	**15 09 00.8**	**+3.4**
BHGR				*ex*	**Sn**	**15 10 16.3**	**-0.6**
RTK	**Rohtak**	**6.96**	**227**	*eP*	**Pn**	**15 08 58.7**	**+0.5**
SONA	**Sohna**	**7.17**	**220**	*eP*	**Pn**	**15 09 00.5**	**-0.6**
SONA				*ex*	**Sn**	**15 10 25.8**	**+2.4**
KSH	**Kashi**	**7.54**	**320**	*eP*	**Pn**	**15 09 07.0**	**+0.7**
KSH				*eS*	**Sn**	**15 10 27.1**	**-5.6**
KSH				LR	LR		
	comp=N,1μm,8.0s						
KSH				LR	LR		
	comp=E,2μm,7.6s						
KUDL	**Kundal**	**7.57**	**222**	*eP*	**Pn**	**15 09 07.3**	**+0.5**
KUDL				*ex*	**Sn**	**15 10 30.6**	**-3.0**
AGRA	**Agra**	**7.62**	**210**	*ex*	**Pn**	**15 09 09.2**	**+1.9**
AGRA				*ex*	**Sn**	**15 10 34.5**	**-0.1**
KHET	**Khetri**	**8.02**	**225**	*i* P	**P**	**15 09 08.6**	**-4.4**
KHET				AMb	AMB	15 09 17.1	
	comp=Z,8.4nm,0.6s						
KHET				*ex*	**Sn**	**15 10 41.0**	**-3.7**
LSA	**Lhasa**	**8.65**	**117**	*eP*	**P**	**15 09 21.9**	**+0.1**
	comp=Z,8.7nm,0.8s						
LSA	**Lhasa**	**8.65**	**117**	*eP*	**P**	**15 09 21.9**	**+0.1**
LSA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
ULHL	**Ulahol**	**9.58**	**332**	P	**P**	**15 09 38.8**	**+4.1**
	SNR=18						
KZA	**Kyzart**	**9.86**	**328**	P	**P**	**15 09 39.6**	**+1.2**
	SNR=37						
AJM	**Ajmer**	**9.90**	**224**	*ex*	x	15 11 20.7	
AJM				*ex*	**Sn**	**15 11 26.6**	**-4.7**
TKM2	**Tokmak 2**	**10.41**	**332**	P	**P**	**15 09 48.4**	**+2.4**
	SNR=14						
AML	**Almayashu**	**10.63**	**323**	P	**P**	**15 09 49.0**	**0.0**
	SNR=11						
AAK	**Ala-Archa**	**10.63**	**327**	*eP*	**P**	**15 09 48.9**	**-0.2**
	comp=Z,31nm,1.4s						
AAK	**Ala-Archa**	**10.63**	**327**	P	**P**	**15 09 50.5**	**+1.4**
AAK				pmax	pmax		
	comp=Z,22nm,1.2s						
FRU	**Bishkek**	**10.74**	**328**	*eP*	**P**	**15 09 52.8**	**+2.2**
FRU				pmax	pmax		
	comp=Z,100nm,1.5s						
WMQ	**Urumqi**	**10.77**	**22**	*eP*	**P**	**15 09 51.6**	**+0.6**
WMQ				AP		15 10 02.6	
WMQ				AMB	AMB		
	comp=Z,17nm,1.0s						
CHMS	**Chumysh**	**10.82**	**329**	P	**P**	**15 09 54.6**	**+3.0**
	SNR=7.9						
JBP	**Jabalpur**	**10.88**	**191**	*ex*	**P**	**15 09 53.6**	**+1.1**
JBP				*ex*	**S**	**15 11 52.5**	**-2.8**
BHPL	**Bhopal**	**11.43**	**203**	*i* P	**P**	**15 09 52.9**	**-7.2**
BHPL				AMb	AMB	15 09 59.6	
	comp=Z,26nm,0.8s						
BHPL				⇑*ex*	x	15 10 13.7	
BHPL				*ex*	**S**	**15 12 03.4**	**-5.6**
BLSP	**Bilaspur**	**11.73**	**181**	*ex*	**S**	**15 12 08.4**	**-7.7**
MKAR	**Makanchi Array**	**12.88**	**0**	Pn	**P**	**15 10 18.5**	**-0.9**
	comp=Z,1.6nm,0.3s,baz=182,slow=13,SNR=54						
MKAR	**Makanchi Array**	**12.88**	**0**	Pn	**P**	**15 10 18.5**	**-0.9**
KKAR	**Karatay Array**	**12.99**	**318**	*eP*	**P**	**15 10 20.4**	**-0.5**
NGP	**Nagpur**	**13.01**	**193**	*eP*	**P**	**15 10 15.6**	**-5.7**
NGP				AMb	AMB	15 10 23.1	
	comp=Z,22nm,1.4s						
GTA	**Gaotai**	**15.12**	**64**	*eP*	**P**	**15 10 52.6**	**+3.6**
GTA				AP		15 10 56.6	
GTA				XP		15 10 59.4	
GTA				PP	PP	15 11 05.7	+4.6
GTA				AMB	AMB		
	comp=Z,3.0nm,0.7s						
GTA				AMB	AMB		
	comp=Z,75nm,4.6s						
GTA				LR	LR		
	comp=N,1μm,15.2s						
GTA				LR	LR		
	comp=E,287nm,12.2s						
GTA				LR	LR		
	comp=Z,361nm,13.3s						
HYB	**Hyderabad**	**16.75**	**192**	*i* P	**P**	**15 11 05.5**	**-4.5**
HYB	**Hyderabad**	**16.75**	**192**	*eP*	**P**	**15 11 05.5**	**-4.5**
KURK	**Kurchatov**	**17.01**	**352**	*eP*	**P**	**15 11 13.7**	**+0.6**
	comp=Z,28nm,1.3s						
KURK	**Kurchatov**	**17.01**	**352**	P	**P**	**15 11 13.8**	**+0.7**
KURK				pmax	pmax		
	comp=Z,13nm,1.2s						
CD2	**Chengdu**	**18.40**	**93**	P	**P**	**15 11 33.0**	**+2.4**
CD2				AMB	AMB		
	comp=Z,10.0nm,1.4s						
KMI	**Kunming**	**19.83**	**111**	⇑P	**P**	**15 11 47.5**	**0.0**
KMI				AP		15 11 53.8	
KMI				XP		15 11 57.0	
KMI				S	**S**	**15 15 29.0**	**+4.1**
KMI				XS		15 15 41.7	
KMI				AMB	AMB		
	comp=Z,17nm,1.0s						
KMI				AMB	AMB		
	comp=Z,125nm,3.9s						
KMI				LR	LR		
	comp=N,223nm,10.3s						
KMI				LR	LR		
	comp=E,289nm,8.0s						
KMI				LR	LR		
	comp=Z,292nm,8.8s						
VOSK	**Vostochnaya**	**20.48**	**340**	P	**P**	**15 11 52.0**	**-2.1**
VOSK				pmax	pmax		
	comp=Z,15nm,1.1s						
BVAR	**Borovoye Array**	**20.91**	**340**	P	**P**	**15 11 57.2**	**-1.4**
	comp=Z,9.8nm,0.9s,baz=163,slow=15,SNR=18						
NVS	**Novosibirsk**	**20.95**	**2**	*eP*	**P**	**15 11 54.7**	**-4.2**
NVS				pmax	pmax		
	comp=N,4.0nm,1.0s						
NVS				pmax	pmax		
	comp=E,4.0nm,1.0s						
NVS				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BRVK	**Borovoye**	**20.97**	**340**	*eP*	**P**	**15 11 58.5**	**-0.7**
	comp=Z,33nm,1.4s						
BRVK	**Borovoye**	**20.97**	**340**	*eP*	**P**	**15 11 58.5**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,33nm,1.4s						
NANT	**Nan**	**22.29**	**128**	P	**P**	**15 12 11.0**	**-1.7**
GYA	**Guiyang**	**22.33**	**103**	⇑ *i* P	**P**	**15 12 14.5**	**+1.4**
GYA				S	**S**	**15 16 20.8**	**+7.3**
GYA				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.5						
GYA				AMB	AMB		
	comp=Z,130nm,4.5s						
GYA				LR	LR		
	comp=N,880nm,15.4s,MS4.4						
GYA				LR	LR		
	comp=E,740nm,13.2s,MS4.4						
GYA				LR	LR		
	comp=Z,660nm,12.3s,MS4.3						
AB31	**Akbulak array**	**22.55**	**320**	*i* P	**P**	**15 12 13.9**	**-1.1**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.7						
ZAK	**Zakamensk**	**22.55**	**37**	*eP*	**P**	**15 12 17.7**	**+2.7**
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.5						
SONM	**Songino Array**	**22.84**	**45**	P	**P**	**15 12 19.9**	**+2.1**
	comp=Z,4.9nm,0.9s,mb3.9,baz=239,slow=9.1,SNR=28						
SONM				PcP	PcP	15 16 08.5	-1.8
	comp=Z,0.6nm,0.5s,baz=239,slow=2.9,SNR=6.6						
BTO	**Baotou**	**23.04**	**65**	*eP*	**P**	**15 12 22.9**	**+3.1**
BTO				AMB	AMB		
	comp=Z,12nm,0.6s,mb4.5						
ENH	**Enshi**	**23.33**	**91**	P	**P**	**15 12 22.3**	**-0.5**
NST	**Nakhon Sawan**	**24.28**	**134**	P	**P**	**15 12 34.0**	**+1.8**
KKTK	**Khon Kaen**	**25.46**	**128**	P	**P**	**15 12 44.0**	**+0.5**
SVE	**Sverdlovsk**	**27.27**	**334**	*eP*	**P**	**15 13 02.0**	**+2.2**
SVE				MLR	MLR		
	comp=N,300nm,11.0s,MS4.2						
SVE				MLR	MLR		
	comp=E,200nm,11.0s,MS4.2						
SVE				MLR	MLR		
	comp=Z,400nm,11.0s,MS4.2						
ARU	**Arti**	**27.78**	**331**	*eP*	**P**	**15 13 02.9**	**-1.5**
NJ2	**Nanjing**	**30.66**	**83**	*eP*	**P**	**15 13 34.1**	**+3.6**
NJ2				PP	PP	15 14 35.6	+4.6
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,200nm,4.4s						
NJ2				LR	LR		
	comp=N,4μm,19.2s,MS5.3						
NJ2				LR	LR		
	comp=E,4μm,16.1s,MS5.3						
NJ2				LR	LR		
	comp=Z,2μm,18.3s,MS4.7						
HIA	**Hailar**	**31.59**	**50**	P	**P**	**15 13 37.5**	**-1.0**
KIV	**Kislovodsk**	**32.11**	**300**	*eP*	**P**	**15 13 44.0**	**+0.9**
KIV				*eS*	**S**	**15 18 53.0**	**-1.2**
KIV				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.2						
KIV				MLR	MLR		
	comp=Z,100nm,17.0s,MS3.6						
SSE	**Sheshan**	**32.83**	**84**	P	**P**	**15 13 53.9**	**+4.5**
SSE				AMB	AMB		
	comp=Z,12nm,1.2s,mb4.7						
SSE				AMB	AMB		
	comp=Z,66nm,2.7s,mb5.1						
SSE				LR	LR		
	comp=N,1μm,20.6s,MS4.8						
SSE				LR	LR		
	comp=E,2μm,20.6s,MS4.8						
SSE				LR	LR		
	comp=Z,2μm,20.8s,MS4.7						
MOS	**Moscow**	**37.57**	**319**	*eP*	**P**	**15 14 29.1**	**-0.6**
MOS				*e*		15 16 44.1	
ASF	**Jabal al Asfar**	**37.83**	**280**	P	**P**	**15 14 31.5**	**-0.6**
	comp=Z,1.8nm,0.3s,mb4.2,baz=348,slow=7.6,SNR=3.2						
OBN	**Obninsk**	**37.98**	**318**	‖ *eP*	**P**	**15 14 34.4**	**+1.3**
OBN				*e*SS	SS	15 23 05.8	+4.7
OBN				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb4.7						
BRTR	**Keskin Array B**	**38.97**	**293**	P	**P**	**15 14 41.7**	**+0.1**
	comp=Z,1.3nm,0.8s,mb3.7,baz=104,slow=5.1,SNR=6.8						
YAK	**Yakutsk**	**40.98**	**32**	*eP*	**P**	**15 14 58.3**	**+0.3**
	comp=Z,6.9nm,0.7s,mb4.4						
YAK	**Yakutsk**	**40.98**	**32**	*eP*	**P**	**15 14 58.3**	**+0.3**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.4						
AKASG	**Malin Array Be**	**41.71**	**310**	P	**P**	**15 15 02.4**	**-1.6**
	comp=Z,1.6nm,0.5s,mb3.9,baz=76,slow=7.8,SNR=7.1						
FINES	**FINESS Array B**	**44.82**	**326**	P	**P**	**15 15 28.4**	**-0.8**
	comp=Z,1.6nm,0.7s,mb4.0,baz=117,slow=9.3,SNR=3.4						
ARCES	**ARCESS Array B**	**47.15**	**336**	P	**P**	**15 15 46.9**	**-0.7**
	comp=Z,4.5nm,0.8s,mb4.4,baz=98,slow=8.6,SNR=12						
HFS	**Hagfors**	**50.74**	**323**	P	**P**	**15 16 13.7**	**-1.7**
	comp=Z,2.5nm,0.7s,mb4.2,baz=90,slow=5.9,SNR=5.8						
SEY	**Seymchan**	**51.47**	**33**	‖ *eP*	**P**	**15 16 21.3**	**+0.5**
GERES	**GERESS Array B**	**51.85**	**309**	P	**P**	**15 16 22.0**	**-1.9**
	comp=Z,0.4nm,0.2s,mb4.0,baz=90,slow=14,SNR=2.1						
NB2	**NORSAR Subarra**	**51.94**	**324**	P	**P**	**15 16 22.5**	**-1.9**
	comp=Z,1.5nm,0.6s,mb4.1,baz=88,slow=7.4						
NB2	**NORSAR Subarra**	**51.94**	**324**	P	**P**	**15 16 22.5**	**-1.9**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
NOA	**NORSAR Array B**	**51.94**	**324**	P	**P**	**15 16 22.5**	**-2.0**
	comp=Z,1.6nm,0.6s,mb4.1,baz=89,slow=7.3,SNR=6.5						
BILL	**Bilibino**	**56.84**	**27**	*eP*	**P**	**15 17 00.5**	**+0.3**
BILL				*e**PP	pP	15 17 13.9	+11
BILL				*e*		15 17 55.6	
BILL				*e*		15 19 06.1	
BILL				*e*S	**S**	**15 24 49.0**	**-2.7**
BILL				*e*SS	SS	15 28 34.3	-6.7
BILL				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
BILL				MLR	MLR		
	comp=Z,1μm,20.0s,MS5.0						
SARN	**Sarigan**	**59.07**	**90**	‖ *eP*	**P**	**15 17 15.3**	**-1.2**
MBAR	**Mbarara**	**59.22**	**246**	*eP*	**P**	**15 17 18.7**	**+1.1**
SUMG	**Summit**	**66.33**	**344**	*eP*	**P**	**15 18 03.5**	**-0.4**
	comp=Z,9.9nm,0.9s,mb4.8						
WRA	**Warramunga Arr**	**72.99**	**129**	*i* P	**P**	**15 18 49.9**	**+4.3**
WRA				pmax	pmax		
	comp=Z,7.0nm,1.1s						
NWAO	**Narrogin (SRO)**	**74.17**	**150**	P	**P**	**15 18 50.2**	**-2.0**
	comp=Z,12nm,0.6s,mb5.0,baz=352,slow=6.2,SNR=14						
ILAR	**Eielson Array**	**74.43**	**20**	P	**P**	**15 18 51.6**	**-1.5**
	comp=Z,2.8nm,0.8s,mb4.2,baz=309,slow=5.1,SNR=26						
SML	**Sawmill**	**76.25**	**22**	*eP*	**P**	**15 19 03.5**	**-0.1**
CTA	**Charters Tower**	**81.19**	**121**	P	**P**	**15 19 30.8**	**-0.5**
	comp=Z,6.0nm,1.0s,mb4.5,baz=325,slow=11,SNR=2.8						
YKA	**Yellowknife Ar**	**82.99**	**8**	P	**P**	**15 19 38.1**	**-1.7**
	comp=Z,1.3nm,0.6s,mb4.1,baz=325,slow=5.3,SNR=4.0						
DBIC	**Dimbokro**	**83.93**	**274**	P	**P**	**15 19 43.6**	**-2.1**
	comp=Z,2.4nm,0.8s,mb4.4,baz=42,slow=13,SNR=4.0						
SNAA	**Sanae**	**120.27**	**201**	P	PKPdf	15 26 04.2	-3.1
VNA2	**Neumayer--Watz**	**121.51**	**203**	P	PKPdf	15 26 07.4	-2.4
VNA1	**Neumayer--Stat**	**121.73**	**203**	P	PKPdf	15 26 08.5	-1.7
VNA3	**Neumayer Olymp**	**122.30**	**202**	P	PKPdf	15 26 08.0	-3.2
CPUP	**Villa Florida**	**144.41**	**271**	PKP	PKPdf	15 26 47.8	-5.6
	comp=Z,4.3nm,0.9s,baz=166,slow=4.2,SNR=4.6						
CPUP	**Villa Florida**	**144.41**	**271**	PKIKP	PKPdf	15 26 47.8	-5.6
CPUP				pmax	pmax		
	comp=Z,4.0nm,0.9s						

*MOS **10** 15:10:48.7±1.1, 16.81N×145.45E, h33

MAJO			MLR	MLR		
	comp=Z,5μm,20.0s,MS4.9					
MAT	**Matsushiro**	**20.74 343**	P	**P**	**15 15 27.2**	**-2.2**
MAT			S	**S**	**15 19 14.0**	**-0.8**
MAT	**Matsushiro**	**20.74 343**	*e*P	**P**	**15 15 27.0**	**-2.4**
	comp=Z,53nm,1.2s					
MAT			*e*S	**S**	**15 19 15.0**	**+0.2**
MAT			LR	LR		
	comp=Z,5μm,20.0s,MS4.9					
MAT	**Matsushiro**	**20.74 343**	*e*P	**P**	**15 15 27.0**	**-2.4**
MAT			*e*S	**S**	**15 19 15.0**	**+0.2**
MAT			pmax	pmax		
	comp=Z,53nm,1.2s					
MAT			MLR	MLR		
	comp=Z,5μm,20.0s,MS4.9					
JNU	**Nakatsue**	**20.98 324**	P	**P**	**15 15 31.4**	**-0.5**
	comp=Z,27nm,1.1s,baz=123,slow=7.4,SNR=6.2					
JNU			LR	LR	15 22 01.4	
	comp=Z,2μm,18.4s,MS4.5,baz=309,slow=32					
JNU	**Nakatsue**	**20.98 324**	P	**P**	**15 15 31.4**	**-0.5**
JNU			LR	LR	15 22 01.4	
KWAJ	**Kwajalein Atol**	**22.91 108**	PFAKE		15 16 00.0	+8.6
KWAJ			LR	LR		
	comp=Z,717nm,20.0s,MS4.1					
NACB	**Ninganchiao**	**23.60 292**	P	**P**	**15 15 58.5**	**+0.5**
TATO	**Taipei**	**23.89 294**	PFAKE		15 16 10.0	+9.2
TATO			LR	LR		
	comp=Z,3μm,19.0s,MS4.8					
KS15	**Wonju Array Si**	**25.82 326**	*e*P	**P**	**15 16 19.9**	**+0.8**
PMG	**Port Moresby**	**26.07 176**	P	**P**	**15 16 21.4**	**-0.2**
	comp=Z,50nm,0.9s,mb5.0,baz=2.5,slow=14,SNR=7.1					
PMG			LR	LR	15 26 47.6	
	comp=Z,1μm,18.2s,MS4.6,baz=174,slow=37					
PMG	**Port Moresby**	**26.07 176**	*e*P	**P**	**15 16 19.7**	**-1.9**
	comp=Z,136nm,1.3s,mb5.3					
PMG			LR	LR		
	comp=Z,2μm,19.0s,MS4.7					
PMG	**Port Moresby**	**26.07 176**	P	**P**	**15 16 21.4**	**-0.2**
PMG			pmax	pmax		
	comp=Z,50nm,0.9s					
PMG			MLR	MLR		
	comp=Z,1μm,18.2s					
SSE	**Sheshan**	**26.36 307**	P	**P**	**15 16 27.2**	**+3.0**
SSE			AP	pP	15 16 35.9	+4.7
SSE			XP	sP	15 16 39.4	+5.0
SSE			AMB	AMB		
	comp=Z,29nm,1.0s,mb4.8					
SSE			AMB	AMB		
	comp=Z,68nm,3.7s					
SSE			LR	LR		
	comp=N,1μm,15.8s,MS4.8					
SSE			LR	LR		
	comp=E,2μm,15.7s,MS4.8					
SSE			LR	LR		
	comp=Z,2μm,16.5s,MS4.7					
QZH	**Quanzhou**	**26.43 292**	*e*P	**P**	**15 16 24.4**	**-0.5**
QZH			S	**S**	**15 20 57.0**	**+1.9**
QZH			LR	LR		
	comp=N,1μm,6.9s					
QZH			LR	LR		
	comp=E,890nm,9.1s					
QZH			LR	LR		
	comp=Z,3μm,17.5s,MS4.9					
INCN	**Inchon**	**26.53 325**	*e*P	**P**	**15 16 25.3**	**-0.3**
	comp=Z,107nm,1.4s,mb5.2					
INCN			LR	LR		
	comp=Z,2μm,20.0s,MS4.6					
ASAJ	**Asahikawa**	**27.37 355**	P	**P**	**15 16 33.9**	**+0.6**
	comp=Z,20nm,1.1s,mb4.6,baz=214,slow=16,SNR=7.8					
ASAJ	**Asahikawa**	**27.37 355**	P	**P**	**15 16 33.9**	**+0.7**
ASAJ			pmax	pmax		
	comp=Z,20nm,1.1s					
NJ2	**Nanjing**	**28.57 307**	*e*P	**P**	**15 16 45.4**	**+1.2**
NJ2			AP	pP	15 16 52.7	+1.4
NJ2			XP	sP	15 16 56.1	+1.7
NJ2			S	**S**	**15 21 31.0**	**+1.5**
NJ2			XS		15 21 45.0	
NJ2			AMB	AMB		
	comp=Z,20nm,0.6s,mb5.0					
NJ2			AMB	AMB		
	comp=Z,170nm,4.1s					
NJ2			LR	LR		
	comp=N,1μm,20.1s,MS4.7					
NJ2			LR	LR		
	comp=E,1μm,16.4s,MS4.7					
NJ2			LR	LR		
	comp=Z,750nm,18.6s,MS4.3					
HNR	**Honiara**	**29.68 150**	LR	LR	15 27 20.6	
	comp=Z,2μm,19.5s,MS4.7,baz=186,slow=33					
HNR	**Honiara**	**29.68 150**	PFAKE		15 17 10.0	+16
HNR			LR	LR		
	comp=Z,2μm,19.0s,MS4.7					
YSS	**Yuzh-Sakhalins**	**30.18 356**	PFAKE		15 17 10.0	+11
YSS			LR	LR		
	comp=Z,3μm,20.0s,MS4.9					
YSS	**Yuzh-Sakhalins**	**30.18 356**	P	**P**	**15 17 03.0**	**+4.5**
YSS			*e*S	**S**	**15 21 55.0**	**0.0**
YSS			smax			
	comp=N,1μm,16.0s					
YSS			MLR	MLR		
	comp=Z,1μm,19.0s,MS4.6					
YSS			MLR	MLR		
	comp=N,2μm,18.0s					
DL2	**Dalian**	**30.38 321**	*e*P	**P**	**15 16 58.5**	**-1.9**
DL2			S	**S**	**15 21 59.0**	**+0.7**
DL2			AMB	AMB		
	comp=Z,150nm,7.8s					
DL2			LR	LR		
	comp=N,780nm,12.8s,MS4.7					
DL2			LR	LR		
	comp=E,1μm,15.0s,MS4.7					
DL2			LR	LR		
	comp=Z,910nm,15.8s,MS4.5					
SNY	**Shenyang**	**31.29 327**	⇓P	**P**	**15 17 09.4**	**+1.0**
SNY			S	**S**	**15 22 10.4**	**-2.1**
SNY			LR	LR		
	comp=N,2μm,15.9s,MS5.2					
SNY			LR	LR		
	comp=E,3μm,15.0s,MS5.2					
SNY			LR	LR		
	comp=Z,1μm,17.4s,MS4.7					
WHN	**Wuhan**	**31.57 301**	P	**P**	**15 17 17.2**	**+6.2**
WHN			S	**S**	**15 22 23.0**	**+5.9**
WHN			LR	LR		
	comp=Z,3μm,17.4s,MS5.0					
TIA	**Tai'an**	**31.78 313**	*e*P	**P**	**15 17 13.7**	**+0.9**
CN2	**Changchun**	**31.87 332**	*e*P	**P**	**15 17 14.9**	**+1.5**
CN2			*e*AP	pP	15 17 20.8	+0.3
CN2			*e*S	**S**	**15 22 23.9**	**+2.3**
CN2			AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.9					
CN2			AMB	AMB		
	comp=Z,300nm,3.0s					
CN2			LR	LR		
	comp=N,3μm,19.0s,MS5.1					
CN2			LR	LR		
	comp=E,3μm,19.0s,MS5.1					
CN2			LR	LR		
	comp=Z,4μm,19.0s,MS5.1					
KLR	**Kul'dur**	**34.26 344**	*e*P	**P**	**15 17 31.7**	**-2.4**
KLR			MLR	MLR		
	comp=E,1μm,15.0s					
KLR			MLR	MLR		
	comp=Z,3μm,15.0s,MS5.2					
MIDW	**Midway**	**35.96 65**	PFAKE		15 18 00.0	+11
MIDW			LR	LR		
	comp=Z,1μm,22.0s,MS4.6					
CTA	**Charters Tower**	**36.64 179**	*e*P	**P**	**15 17 54.8**	**+0.1**
	comp=Z,20nm,1.5s,mb4.7					
CTA			*e*S	**S**	**15 23 42.1**	**+6.4**
CTA	**Charters Tower**	**36.64 179**	P	**P**	**15 17 54.5**	**-0.2**
	comp=Z,5.7nm,1.0s,mb4.4,baz=354,slow=11,SNR=5.0					
CTA			LR	LR	15 32 47.4	
	comp=Z,966nm,18.4s,MS4.6,baz=356,slow=36					
CTA	**Charters Tower**	**36.64 179**	*e*P	**P**	**15 17 54.8**	**+0.1**
CTA			*e*S	**S**	**15 23 42.1**	**+6.4**
CTA			pmax	pmax		
	comp=Z,20nm,1.5s					
CTAO	**Charters Tower**	**36.64 179**	*e*P	**P**	**15 17 53.9**	**-0.7**
	comp=Z,47nm,1.3s,mb5.2					
CTAO			LR	LR		
	comp=Z,1μm,19.0s,MS4.6					
CTAO	**Charters Tower**	**36.64 179**	*e*P	**P**	**15 17 53.9**	**-0.8**
CTAO			pmax	pmax		
	comp=Z,47nm,1.3s,mb5.2					
CTAO			MLR	MLR		
	comp=Z,1μm,19.0s,MS4.6					
XAN	**Xi'an**	**37.04 305**	P	**P**	**15 17 58.9**	**+1.0**
XAN			AP	pP	15 18 11.6	+6.6
XAN			AMB	AMB		
	comp=Z,15nm,1.6s,mb4.6					
GYA	**Guiyang**	**37.29 292**	⇑*i*P	**P**	**15 18 01.3**	**+1.2**
GYA			AP	pP	15 18 08.7	+1.5
GYA			XP	sP	15 18 12.4	+2.2
GYA			PP	PP	15 19 30.1	+2.4
GYA			PCP	PcP	15 20 20.1	+0.4
GYA			S	**S**	**15 23 48.1**	**+2.5**
GYA			SCP		15 24 04.6	
GYA			SCS	ScS	15 28 11.4	+0.9
GYA			AMB	AMB		
	comp=Z,30nm,1.2s,mb5.0					
GYA			AMB	AMB		
	comp=Z,470nm,5.3s					
GYA			LR	LR		
	comp=N,1μm,18.6s,MS4.9					
GYA			LR	LR		
	comp=E,1μm,18.0s,MS4.9					
GYA			LR	LR		
	comp=Z,2μm,18.3s,MS4.9					
PET	**Petropavlovsk**	**37.60 13**	PFAKE		15 18 10.0	+7.6
PET			LR	LR		
	comp=Z,1μm,19.0s,MS4.8					
PET	**Petropavlovsk**	**37.60 13**	*c i*P	**P**	**15 18 04.2**	**+1.8**
PET			*e*		15 19 29.7	
PET			*e*S	**S**	**15 23 51.6**	**+1.5**
PET			*e*PS		15 24 05.8	
PET			pmax	pmax		
	comp=Z,300nm,9.6s					
PET			pmax	pmax		
	comp=Z,100nm,14.2s					
PET			pmax	pmax		
	comp=N,100nm,15.2s					
PET			pmax	pmax		
	comp=Z,500nm,15.5s					
PET			pmax	pmax		
	comp=Z,400nm,13.6s					
HHC	**Hu-ho-hao-te**	**37.86 316**	*e*P	**P**	**15 18 06.9**	**+2.2**
HHC			AP	pP	15 18 14.3	+2.4
HHC			XP	sP	15 18 18.3	+3.4
HHC			PP	PP	15 19 35.8	+1.4
HHC			S	**S**	**15 23 53.9**	**-0.3**
HHC			XS		15 24 07.5	
HHC			PCS		15 24 12.3	
HHC			SS	SS	15 26 29.1	-1.4
HHC			SCS	ScS	15 28 17.3	+3.7
HHC			AMB	AMB		
	comp=Z,11nm,0.5s,mb4.8					
HHC			AMB	AMB		
	comp=Z,284nm,7.7s					
HHC			LR	LR		
	comp=N,857nm,18.4s,MS4.8					
HHC			LR	LR		
	comp=E,1μm,20.8s,MS4.8					
HHC			LR	LR		
	comp=Z,2μm,23.8s,MS4.8					
KSM	**Kuching**	**37.87 250**	*e*P	**P**	**15 18 03.1**	**-1.9**
WRAB	**Tennant Creek**	**38.11 197**	*e*P	**P**	**15 18 05.1**	**-1.8**
	comp=Z,77nm,1.0s,mb5.4					
WRAB			LR	LR		
	comp=Z,1μm,22.0s,MS4.7					
WRAB	**Tennant Creek**	**38.11 197**	*e*P	**P**	**15 18 05.1**	**-1.9**
WRAB			pmax	pmax		
	comp=Z,77nm,1.0s,mb5.4					
WRAB			MLR	MLR		
	comp=Z,1μm,22.0s,MS4.7					
WB2	**Warramunga Arr**	**38.12 197**	*e*P	**P**	**15 18 06.0**	**-1.0**
WRA	**Warramunga Arr**	**38.12 197**	P	**P**	**15 18 05.8**	**-1.3**
	comp=Z,17nm,1.1s,mb4.7,baz=18,slow=9.4,SNR=41					
WRA	**Warramunga Arr**	**38.12 197**	P	**P**	**15 18 05.8**	**-1.3**
WRA			pmax	pmax		
	comp=Z,17nm,1.1s					
BTO	**Baotou**	**38.78 315**	*e*P	**P**	**15 18 13.8**	**+1.4**
BTO			AMB	AMB		
	comp=Z,13nm,1.2s,mb4.5					
BTO			LR	LR		
	comp=N,928nm,14.9s,MS4.9					
BTO			LR	LR		
	comp=E,862nm,12.4s,MS4.9					
FITZ	**Fitzroy Crossi**	**39.82 210**	⇓*i*P	**P**	**15 18 20.8**	**-0.5**
	comp=E,23nm,1.2s,mb4.8					
FITZ	**Fitzroy Crossi**	**39.82 210**	P	**P**	**15 18 20.4**	**-0.9**
	comp=E,37nm,1.1s,mb5.0,baz=8.3,slow=10,SNR=8.4					
FITZ			LR	LR	15 36 06.5	
	comp=E,852nm,18.5s,MS4.6,baz=49,slow=38					
CD2	**Chengdu**	**40.49 298**	⇓*i*P	**P**	**15 18 28.0**	**+1.3**
CD2			PP	PP	15 20 04.9	+1.5
CD2			PPP	PPP	15 20 29.9	-1.2
CD2			S	**S**	**15 24 33.0**	**-0.9**
CD2			SS	SS	15 27 28.5	+0.1
CD2			AMB	AMB		
	comp=Z,30nm,1.2s,mb4.9					
CD2			AMB	AMB		
	comp=Z,190nm,10.3s					
CD2			LR	LR		
	comp=E,750nm,16.8s					
CD2			LR	LR		
	comp=Z,530nm,16.8s,MS4.5					
KMI	**Kunming**	**40.70 289**	⇑P	**P**	**15 18 29.3**	**+0.9**
KMI			AP	pP	15 18 36.6	+1.0
KMI			XP	sP	15 18 39.2	+0.6
KMI			PP	PP	15 20 03.3	-2.2
KMI			PPP	PPP	15 20 33.6	-0.4
KMI			PCS		15 24 20.6	
KMI			S	**S**	**15 24 36.4**	**-0.6**
KMI			SS	SS	15 27 30.8	-2.1
KMI			SCS	ScS	15 28 29.5	-0.7
KMI			AMB	AMB		
	comp=Z,9.0nm,1.5s,mb4.2					
KMI			AMB	AMB		
	comp=Z,270nm,6.7s					
KMI			LR	LR		
	comp=N,1μm,20.8s,MS4.8					
KMI			LR	LR		
	comp=E,710nm,17.9s,MS4.8					
KMI			LR	LR		
	comp=Z,764nm,20.2s,MS4.5					
LZH	**Lanzhou**	**41.62 306**	*e*P	**P**	**15 18 37.5**	**+1.5**
LZH			AP	pP	15 18 50.2	+7.0
LZH			XP	sP	15 18 54.2	+8.1
LZH			PP	PP	15 20 16.1	+0.8
LZH			S	**S**	**15 24 55.0**	**+4.3**
LZH			XS		15 25 11.0	
LZH			SS	SS	15 27 58.0	+6.9
LZH			AMB	AMB		
	comp=Z,140nm,1.4s,mb5.4					
LZH			AMB	AMB		
	comp=Z,440nm,4.6s					
LZH			LR	LR		
	comp=N,3μm,14.8s					
LZH			LR	LR		
	comp=Z,3μm,17.2s,MS5.2					
FX1	**Attu Island--F**	**42.04 25**	P	**P**	**15 18 39.2**	**+0.1**
SMY	**Shemya**	**42.31 26**	PFAKE		15 18 50.0	+8.7
SMY			LR	LR		
	comp=Z,3μm,20.0s,MS5.1					
DZM	**Mont Dzumac**	**43.70 151**	P	**P**	**15 18 53.5**	**+0.4**
	comp=Z,4.1nm,0.5s,mb4.4,baz=309,slow=12,SNR=5.8					
DZM			LR	LR	15 35 34.8	
	comp=Z,2μm,19.9s,MS5.0,baz=218,slow=34					
SONM	**Songino Array**	**44.56 323**	P	**P**	**15 19 00.5**	**+0.8**
	comp=Z,11nm,1.0s,mb4.6,baz=135,slow=8.0,SNR=46					
SONM			LR	LR	15 38 32.2	
	comp=Z,2μm,19.0s,MS5.0,baz=116,slow=37					
SONM	**Songino Array**	**44.56 323**	P	**P**	**15 19 00.5**	**+0.8**
SONM			pmax	pmax		
	comp=Z,11nm,1.0s					
SONM			MLR	MLR		
	comp=Z,2μm,19.0s					
MBWA	**Marble Bar**	**45.42 215**	*e*P	**P**	**15 19 05.0**	**-1.9**
	comp=Z,24nm,1.1s,mb4.9					
MBWA			LR	LR		
	comp=Z,669nm,22.0s,MS4.5					
GTA	**Gaotai**	**45.62 309**	P	**P**	**15 19 10.5**	**+2.2**
GTA			AP	pP	15 19 17.6	+2.1
GTA			XP	sP	15 19 20.9	+2.4
GTA			PCP	PcP	15 20 49.6	+2.7
GTA			PP	PP	15 20 57.9	+2.3
GTA			PPP	PPP	15 21 40.1	+1.9
GTA			S	**S**	**15 25 51.4**	**+2.7**
GTA			XS		15 26 03.6	
GTA			SS	SS	15 29 06.8	+2.4
GTA			AMB	AMB		
	comp=Z,14nm,1.3s,mb4.7					
GTA			AMB	AMB		
	comp=Z,329nm,6.1s					
GTA			LR	LR		
	comp=N,986nm,19.0s,MS5.1					
GTA			LR	LR		
	comp=E,2μm,16.7s,MS5.1					
GTA			LR	LR		
	comp=Z,2μm,16.3s,MS5.1					
SEY	**Seymchan**	**46.35 4**	*i* P	**P**	**15 19 13.9**	**+0.2**
YAK	**Yakutsk**	**46.57 350**	P	**P**	**15 19 14.4**	**-1.1**
	comp=Z,25nm,0.8s,mb5.2					
YAK			LR	LR		
	comp=Z,2μm,22.0s,MS5.0					
YAK	**Yakutsk**	**46.57 350**	*e*P	**P**	**15 19 12.2**	**-3.3**
YAK			*i* *PP	pP	15 19 19.1	-3.6
YAK			*i*		15 21 04.6	
YAK			*e*S	**S**	**15 26 01.0**	**-1.0**
YAK			*i* *SS		15 26 12.7	
YAK			pmax	pmax		
	comp=Z,15nm,1.0s,mb4.9					
YAK			pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4					
YAK			smax			
	comp=N,359nm,16.7s					
YAK			smax			
	comp=E,233nm,19.0s					
YAK			MLR	MLR		
	comp=N,748nm,17.0s,MS4.8					
YAK			MLR	MLR		
	comp=E,490nm,17.0s,MS4.8					
YAK			MLR	MLR		
	comp=Z,1μm,17.0s,MS4.8					
ZAK	**Zakamensk**	**47.61 324**	⇓*e*P	**P**	**15 19 24.1**	**+0.3**
ZAK			pmax	pmax		
	comp=Z,12nm,1.1s,mb4.8					
IRK	**Irkutsk**	**48.02 327**	*e*P	**P**	**15 19 28.6**	**+1.6**
IRK			*e*		15 21 23.0	
IRK			pmax	pmax		
	comp=Z,32nm,3.2s					
STKA	**Stephens Creek**	**48.52 184**	*e*P	**P**	**15 19 34.9**	**+3.7**
	comp=Z,8.0nm,1.7s,mb4.5					
STKA	**Stephens Creek**	**48.52 184**	P	**P**	**15 19 30.7**	**-0.5**
	comp=Z,2.5nm,0.9s,mb4.3,baz=353,slow=9.8,SNR=2.8					
STKA			LR	LR	15 38 43.8	
	comp=Z,2μm,20.7s,MS5.0,baz=351,slow=34					
MOY	**Mondy**	**49.49 325**	*e*P	**P**	**15 19 41.6**	**+3.2**
MOY			pmax	pmax		
	comp=Z,54nm,2.7s,mb5.1					
LSA	**Lhasa**	**51.20 295**	P	**P**	**15 19 55.0**	**+3.3**
LSA	**Lhasa**	**51.20 295**	*e*P	**P**	**15 19 50.6**	**-1.1**
	comp=Z,40nm,1.1s,mb5.3					
LSA	**Lhasa**	**51.20 295**	*e*P	**P**	**15 19 50.6**	**-1.1**
LSA			pmax	pmax		
	comp=Z,40nm,1.1s,mb5.3					
AFI	**Afiamalu**	**52.02 123**	LR	LR	15 41 38.9	
	comp=Z,418nm,18.5s,MS4.5,baz=310,slow=36					
UNV	**Unalaska Valle**	**52.31 34**	P	**P**	**15 19 59.6**	**-0.1**
UNV			LR	LR		
	comp=Z,3μm,22.0s,MS5.3					
BILL	**Bilibino**	**52.92 10**	*e*P	**P**	**15 20 02.4**	**-1.8**
	comp=Z,15nm,1.0s,mb4.9					
BILL			LR	LR		
	comp=Z,1μm,20.0s,MS4.9					
BILL	**Bilibino**	**52.92 10**	*i* P	**P**	**15 20 02.1**	**-2.1**
BILL			pmax	pmax		
	comp=Z,19nm,1.7s,mb4.8					
KIP	**Kipapa**	**53.29 76**	PFAKE		15 20 20.0	+12
KIP			LR	LR		
	comp=Z,633nm,20.0s,MS4.7					
WMQ	**Urumqi**	**55.47 312**	P	**P**	**15 20 23.6**	**+0.5**
WMQ			XP	sP	15 20 33.0	-0.3
WMQ			PP	PP	15 22 29.0	+0.4
WMQ			SCP		15 25 20.0	
WMQ			S	**S**	**15 28 06.0**	**+1.2**
WMQ			SS	SS	15 31 50.0	+0.3
WMQ			AMB	AMB		
	comp=Z,41nm,1.1s,mb5.4					
WMQ			AMB	AMB		
	comp=Z,32nm,6.0s					
WMQ			LR	LR		
	comp=N,2μm,19.0s,MS5.3					
WMQ			LR	LR		
	comp=E,784nm,18.0s,MS5.3					
WMQ			LR	LR		
	comp=Z,825nm,18.0s,MS4.9					
POHA	**Pohakuloa**	**55.79 77**	PFAKE		15 20 40.0	+14
POHA			LR	LR		
	comp=Z,5μm,21.0s,MS5.6					
PKI	**Pulchoki**	**56.26 292**	*e*P	**P**	**15 20 28.2**	**-0.8**
NWAO	**Narrogin (SRO)**	**56.36 209**	PFAKE		15 20 40.0	+10
NWAO			LR	LR		
	comp=Z,601nm,19.0s,MS4.7					
KKN	**Kakani**	**56.37 292**	*e*P	**P**	**15 20 28.4**	**-1.4**
	comp=Z,31nm,1.0s,mb5.3					
DMN	**Daman**	**56.53 292**	*e*P	**P**	**15 20 29.5**	**-1.5**
	comp=Z,48nm,1.0s,mb5.5					
GKN	**Gorkha**	**56.93 293**	*e*P	**P**	**15 20 33.8**	**0.0**
	comp=Z,69nm,1.0s,mb5.6					
CHGN	**Chignik**	**57.55 33**	*e*P	**P**	**15 20 37.3**	**-0.5**
TNA	**Tin City**	**57.65 21**	PFAKE		15 20 50.0	+12
TNA			LR	LR		
	comp=Z,809nm,21.0s,MS4.8					
KOLN	**Koldanda**	**57.85 293**	*e*P	**P**	**15 20 39.1**	**-1.2**
	comp=Z,48nm,1.1s,mb5.4					
TAU	**Tasmania Unive**	**59.41 178**	PFAKE		15 21 00.0	+9.0
TAU			LR	LR		
	comp=Z,636nm,22.0s,MS4.7					
ZAL	**Zalesovo**	**59.46 323**	P	**P**	**15 20 50.3**	**-0.9**
	comp=Z,3.8nm,1.0s,mb4.4,baz=8.4,slow=9.0,SNR=22					
ZAL	**Zalesovo**	**59.46 323**	P	**P**	**15 20 50.3**	**-0.9**
ZAL			pmax	pmax		
	comp=Z,4.0nm,1.0s					
MKAR	**Makanchi Array**	**59.70 315**	P	**P**	**15 20 52.6**	**-0.3**
	comp=Z,9.0nm,0.7s,mb4.9,baz=100,slow=7.4,SNR=61					
MKAR			LR	LR	15 48 53.3	
	comp=Z,732nm,19.0s,MS4.8,baz=112,slow=38					
MKAR	**Makanchi Array**	**59.70 315**	*i* P	**P**	**15 20 52.7**	**-0.2**
MKAR			pmax	pmax		
	comp=Z,116nm,1.5s					
NVS	**Novosibirsk**	**60.56 324**	*e*P	**P**	**15 20 57.6**	**-1.1**
NVS			pmax	pmax		
	comp=Z,36nm,2.0s,mb5.2					
NVS			pmax	pmax		
	comp=N,11nm,1.6s					
NVS			pmax	pmax		
	comp=E,27nm,1.6s					
SVW2	**Sparrevohn**	**60.57 29**	*e*P	**P**	**15 20 57.4**	**-1.2**
KDAK	**Kodiak Island**	**61.03 33**	PFAKE		15 21 10.0	+8.2
KDAK			LR	LR		
	comp=Z,4μm,20.0s,MS5.6					
RSO	**Redoubt South**	**61.69 30**	*e*P	**P**	**15 21 05.1**	**-1.1**
KURK	**Kurchatov**	**62.61 319**	*e*P	**P**	**15 21 11.5**	**-1.0**
	comp=Z,86nm,1.3s,mb5.7					
KURK			LR	LR		
	comp=Z,353nm,20.0s,MS4.5					
KURK	**Kurchatov**	**62.61 319**	*e*P	**P**	**15 21 11.5**	**-1.0**
KURK			pmax	pmax		
	comp=Z,86nm,1.3s,mb5.7					
KURK			MLR	MLR		
	comp=Z,353nm,20.0s,MS4.5					
IMA	**Indian Mountai**	**63.08 24**	*e*P	**P**	**15 21 14.5**	**-0.9**
ULHL	**Ulahol**	**63.68 309**	P	**P**	**15 21 20.8**	**+1.1**
SNR=9.5						
PMR	**Palmer**	**63.69 29**	PFAKE		15 21 30.0	+11
PMR			LR	LR		
	comp=Z,772nm,22.0s,MS4.8					
HYB	**Hyderabad**	**63.72 281**	*i* P	**P**	**15 21 21.0**	**+0.6**
KSH	**Kashi**	**63.87 306**	*e*P	**P**	**15 21 23.6**	**+2.6**
KSH			*e*AP	pP	15 21 30.6	+2.1
KSH			*e*XP	sP	15 21 34.7	+3.5
KSH			*e*PCP	PcP	15 21 54.4	-2.1
KSH			*e*SCP		15 25 54.3	
KSH			*e*PCS		15 25 57.0	
KSH			*e*S	**S**	**15 29 57.0**	**+3.6**
KSH			*e*SCS	ScS	15 31 13.1	+3.7
KSH			AMB	AMB		
	comp=Z,250nm,4.7s					
KSH			LR	LR		
	comp=N,550nm,16.7s,MS5.1					
KSH			LR	LR		
	comp=E,1μm,20.8s,MS5.1					
PALK	**Pallekele**	**63.90 270**	PFAKE		15 21 30.0	+8.4
PALK			LR	LR		
	comp=Z,102nm,22.0s,MS4.0					

SML Sawmill 64.11 29 *eP* **P 15 21 20.2 -1.9**
TKM2 Tokmak 2 64.16 310 P **P 15 21 24.9 +2.1**
SNR=11
MCK McKinley 64.30 27 *eP* **P 15 21 21.2 -2.2**
comp=Z,39nm,1.8s,mb5.1
MCK LR LR
comp=Z,421nm,20.0s,MS4.6
MCK McKinley 64.30 27 *eP* **P 15 21 21.2 -2.2**
MCK pmax pmax
comp=Z,39nm,1.8s,mb5.1
MCK MLR MLR
comp=Z,421nm,20.0s,MS4.6
KZA Kyzart 64.41 309 P **P 15 21 26.5 +2.0**
SNR=11
FRU Bishkek 64.88 310 *eP* **P 15 21 28.0 +0.5**
FRU pmax pmax
comp=Z,120nm,2.8s,mb5.4
USP Ospenovka 64.97 310 P **P 15 21 30.1 +2.0**
SNR=5.4
AAK Ala-Archa 64.97 310 *eP* **P 15 21 27.4 -0.7**
comp=Z,12nm,1.2s,mb4.8
AAK LR LR
comp=Z,150nm,19.0s,MS4.2
AAK Ala-Archa 64.97 310 *eP* **P 15 21 27.4 -0.7**
AAK pmax pmax
comp=Z,12nm,1.2s,mb4.8
AAK MLR MLR
comp=Z,150nm,19.0s,MS4.2
EYAK Cordova Ski Ar 65.08 31 *eP* **P 15 21 27.1 -1.4**
DIV Divide 65.17 30 *eP* **P 15 21 28.1 -1.0**
comp=Z,74nm,1.1s,mb5.6
DIV LR LR
comp=Z,2μm,22.0s,MS5.3
ILAR Eielson Array 65.42 26 P **P 15 21 28.1 -2.5**
comp=Z,16nm,1.2s,mb4.9,baz=261,slow=5.1,SNR=40
ILAR LR LR 15 45 58.4
comp=Z,897nm,22.0s,MS4.9,baz=288,slow=32
EKS2 Erkin-Say 65.50 310 P **P 15 21 31.7 +0.2**
SNR=6.5
AML Almayashu 65.57 309 P **P 15 21 34.6 +2.6**
SNR=12
MENT Mentasta 66.44 28 *eP* **P 15 21 36.6 -0.5**
VOSK Vostochnaya 67.50 321 P **P 15 21 42.4 -1.7**
VOSK pmax pmax
comp=Z,45nm,2.0s,mb5.2
BVAR Borovoye Array 67.86 321 P **P 15 21 44.7 -1.6**
comp=Z,18nm,0.9s,mb5.1,baz=90,slow=5.9,SNR=34
BVAR Borovoye Array 67.86 321 P **P 15 21 44.7 -1.7**
BVAR pmax pmax
comp=Z,18nm,0.9s
KKAR Karatay Array 67.89 310 *i* P **P 15 21 46.9 +0.2**
KKAR pmax pmax
comp=Z,44nm,1.2s,mb5.4
POO Poona 67.92 284 *eP* **P 15 21 47.0 -0.3**
BRVK Borovoye 67.93 321 *eP* **P 15 21 45.5 -1.2**
comp=Z,22nm,1.0s,mb5.1
BRVK LR LR
comp=Z,132nm,20.0s,MS4.2
BRVK Borovoye 67.93 321 *eP* **P 15 21 45.5 -1.3**
BRVK pmax pmax
comp=Z,22nm,1.0s,mb5.1
BRVK MLR MLR
comp=Z,132nm,20.0s,MS4.2
DAWY Dawson 68.51 27 *eP* **P 15 21 48.5 -1.7**
SIT Sitka 70.18 35 PFAKE 15 22 10.0 +9.5
SIT LR LR
comp=Z,544nm,21.0s,MS4.8
INK Inuvik 71.19 23 P **P 15 22 03.9 -2.6**
comp=Z,10nm,1.0s,mb4.7,baz=270,slow=8.4,SNR=5.9
INK Inuvik 71.19 23 *eP* **P 15 22 03.7 -2.7**
comp=Z,22nm,1.2s,mb5.0
INK Inuvik 71.19 23 P **P 15 22 03.9 -2.6**
INK pmax pmax
comp=Z,10.0nm,1.0s
PPT Papeete 72.42 115 *eP* **P 15 22 17.4 +2.7**
comp=Z,25nm,1.4s,mb5.0
PPT Papeete 72.42 115 *eS* S 15 31 34.3 -1.3
PPT *eLQ* 15 40 59.5
PPT *eLR* LR 15 44 05.0
comp=Z,688nm,22.2s,baz=300
PPT Papeete 72.42 115 LR LR 15 47 46.5
comp=Z,448nm,21.2s,MS4.7,baz=290,slow=31
PAE Paea 72.46 115 *eP* **P 15 22 17.3 +2.4**
comp=Z,60nm,1.5s,mb5.3
TVO Taravao 72.79 115 *eP* **P 15 22 19.7 +2.8**
comp=Z,23nm,0.8s,mb5.1
PMOR Pomariorio Ree 72.87 112 *eP* **P 15 22 19.5 +2.1**
comp=Z,19nm,1.0s,mb5.0
DLBC Dease Lake 72.96 33 *eP* **P 15 22 16.0 -1.1**
SVE Sverdlovsk 73.36 325 *eP* **P 15 22 17.0 -2.5**
SVE *eS* S 15 31 51.0 +5.4
SVE *ePS* PS 15 32 16.0 -5.5
SVE *e* 15 32 42.0
SVE *eSS* SS 15 36 21.0 -9.3
SVE MLR MLR
comp=N,200nm,14.0s,MS5.0
SVE MLR MLR
comp=E,600nm,14.0s,MS5.0
SVE MLR MLR
comp=Z,900nm,14.0s,MS5.2
ARU Arti 74.55 325 *eP* **P 15 22 24.6 -1.8**
comp=Z,50nm,1.6s,mb5.2
ARU LR LR
comp=Z,187nm,21.0s,MS4.4
ARU Arti 74.55 325 ‖ *iP* **P 15 22 25.8 -0.5**
ARU *e* 15 22 39.7
ARU *e* 15 25 15.6
ARU *ePPP* PPP 15 26 58.6 -1.4
ARU *eS* S 15 32 01.3 +2.5
ARU *e* 15 32 34.9
ARU pmax pmax
comp=Z,19nm,1.7s,mb4.8
ARU MLR MLR
comp=Z,700nm,21.0s,MS4.9
ARU MLR MLR
comp=N,200nm,19.0s,MS4.8
ARU MLR MLR
comp=E,500nm,20.5s,MS4.8
AB31 Akbulak array 74.65 317 *i* P **P 15 22 27.7 +0.6**
AB31 pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
TBI Tubuai 74.97 120 *eS* S 15 32 02.4 -1.9
TBI *eLQ* 15 41 45.1
TBI *eLR* LR 15 46 00.5
comp=Z,324nm,23.2s
TAOE Nuku Hiva Isla 77.74 103 *eLQ* 15 42 39.0
TAOE Nuku Hiva Isla 77.74 103 *ePP* PP 15 25 22.8 -20
TAOE Nuku Hiva Isla 77.74 103 *eLR* LR 15 46 10.9
comp=Z,3μm,25.4s
OCWA Octopus Mounta 77.95 44 PFAKE 15 23 00.0 +14
OCWA LR LR
comp=Z,519nm,20.0s,MS4.8
KEBM Edson Butte 78.86 49 *eP* **P 15 22 51.6 +0.7**
KEBM *e* pP 15 22 58.2 -0.2
GNW Green Mountain 78.89 44 P **P 15 22 51.6 +0.8**
KBO Bosley Butte 79.09 49 *eP* **P 15 22 51.4 -0.7**
JCW Jim Creek 79.33 43 P **P 15 22 54.3 +1.0**
TDL Tradedollar La 79.57 45 P **P 15 22 56.0 +1.4**
YKA Yellowknife Ar 79.74 28 P **P 15 22 53.5 -1.6**
comp=Z,4.5nm,0.9s,mb4.4,baz=286,slow=5.5,SNR=9.2
YKA LR LR 15 57 55.5
comp=Z,660nm,20.2s,MS5.0,baz=300,slow=35
YKA Yellowknife Ar 79.74 28 P **P 15 22 53.5 -1.7**
YKA LR LR 15 57 55.5
YKA Yellowknife Ar 79.74 28 P **P 15 22 53.5 -1.6**
YKA pmax pmax
comp=Z,5.0nm,0.9s
YKA MLR MLR
comp=Z,660nm,20.2s
KHMM Horse Mountain 79.75 50 *eP* **P 15 22 55.5 -0.1**
HUMO Hull Mountain 79.91 49 *eP* **P 15 22 57.3 +0.8**
comp=Z,45nm,1.4s,mb5.2
HUMO LR LR
comp=Z,394nm,19.0s,MS4.8
IRO Indian Ridge 80.08 47 P **P 15 22 58.3 +0.9**
KCPM Cahto Peak 80.13 52 *eP* **P 15 22 56.3 -1.5**
FRIS Frissel Point 80.14 47 P **P 15 22 58.7 +1.0**
KIPM Iron Peak 80.18 51 *eP* **P 15 22 59.3 +1.3**
TWW Teanaway 80.28 44 P **P 15 22 59.5 +1.2**
YBH Yreka Blue Hor 80.30 49 P **P 15 22 59.0 +0.5**
comp=Z,13nm,1.1s,mb4.8,baz=230,slow=1.3,SNR=10
YBH Yreka Blue Hor 80.30 49 *eP* **P 15 22 59.2 +0.7**
comp=Z,35nm,1.3s,mb5.1
YBH LR LR
comp=Z,336nm,20.0s,MS4.7
YBH Yreka Blue Hor 80.30 49 *eP* **P 15 22 59.2 +0.6**
YBH pmax pmax
comp=Z,35nm,1.3s
YBH MLR MLR
comp=Z,336nm,20.0s
TBM Table Mountain 80.45 44 P **P 15 22 60.0 +0.7**
BUOR Burton Butte 80.50 49 P **P 15 23 00.9 +1.2**
HOPS Hopland 80.68 52 PFAKE 15 23 10.0 +9.3
HOPS LR LR
comp=Z,491nm,19.0s,MS4.9
WDC Whiskeytown Da 80.70 50 *eP* **P 15 23 01.2 +0.5**
comp=Z,81nm,1.8s,mb5.3
WDC LR LR
comp=Z,466nm,20.0s,MS4.8
WDC Whiskeytown Da 80.70 50 *eP* **P 15 23 01.2 +0.5**
WDC pmax pmax
comp=Z,81nm,1.8s,mb5.3
WDC MLR MLR
comp=Z,466nm,20.0s,MS4.8
HAWA Hanford 81.36 44 *eP* **P 15 23 04.3 +0.3**
comp=Z,2.9nm,1.3s,mb4.0
HAWA LR LR
comp=Z,35nm,20.0s
MOD Modoc 82.00 49 *eP* **P 15 23 08.1 +0.6**
comp=Z,33nm,1.3s,mb5.1
MOD LR LR
comp=Z,324nm,20.0s,MS4.7
NEW Newport 82.42 42 P **P 15 23 08.9 -0.6**
comp=Z,1.5nm,0.4s,mb4.3,baz=44,slow=18,SNR=6.6
NEW Newport 82.42 42 *eP* **P 15 23 09.6 +0.1**
comp=Z,35nm,1.3s,mb5.1
NEW LR LR
comp=Z,679nm,20.0s,MS5.0
NEW Newport 82.42 42 *eP* **P 15 23 09.6 +0.1**
NEW pmax pmax
comp=Z,35nm,1.3s
NEW MLR MLR
comp=Z,679nm,20.0s
SAO San Andreas Ge 82.49 54 *eP* **P 15 23 09.0 -1.1**
comp=Z,16nm,1.3s,mb4.8
SAO LR LR
comp=Z,326nm,19.0s,MS4.7
SAO San Andreas Ge 82.49 54 *eP* **P 15 23 09.0 -1.1**
SAO pmax pmax
comp=Z,16nm,1.3s,mb4.8
SAO MLR MLR
comp=Z,326nm,19.0s,MS4.7
BEKR Beckwourth 82.49 51 *eP* **P 15 23 10.1 0.0**
comp=Z,24nm,1.1s,mb5.0
CMB Columbia Colle 82.97 53 *eP* **P 15 23 12.8 +0.3**
comp=Z,54nm,1.4s,mb5.4
CMB LR LR
comp=Z,333nm,19.0s,MS4.7
CMB Columbia Colle 82.97 53 *eP* **P 15 23 12.8 +0.2**
CMB pmax pmax
comp=Z,54nm,1.4s,mb5.4
CMB MLR MLR
comp=Z,333nm,19.0s,MS4.7
WVOR Wild Horse Val 83.05 48 *eP* **P 15 23 13.1 +0.2**
comp=Z,41nm,1.4s,mb5.3
WVOR LR LR
comp=Z,532nm,20.0s,MS4.9
WVOR Wild Horse Val 83.05 48 *eP* **P 15 23 13.1 +0.2**
WVOR pmax pmax
comp=Z,41nm,1.4s,mb5.3
WVOR MLR MLR
comp=Z,532nm,20.0s,MS4.9
EDM Edmonton 83.20 36 *eP* **P 15 23 13.0 -0.4**
BMO Blue Mountains 83.28 45 *eP* **P 15 23 14.1 +0.1**
comp=Z,45nm,1.4s,mb5.3
BMO LR LR
comp=Z,331nm,19.0s,MS4.7
KEV Kevo 83.71 342 PFAKE 15 23 30.0 +14
KEV LR LR
comp=Z,1μm,20.0s,MS5.2
OMM Old Mammoth Mi 84.14 53 *eP* **P 15 23 19.0 +0.4**
WALA Waterton Lakes 84.21 41 *eP* **P 15 23 19.5 +0.8**
comp=Z,47nm,1.5s,mb5.4
ARCES ARCESS Array B 84.27 342 P **P 15 23 16.7 -1.8**
comp=Z,1.2nm,0.8s,mb4.1,baz=80,slow=5.5,SNR=2.7
ARCES ARCESS Array B 84.27 342 P **P 15 23 16.7 -1.8**
ARCES pmax pmax
comp=Z,1.0nm,0.8s
BMN Battle Mountai 84.64 50 *eP* **P 15 23 21.8 +0.8**
comp=Z,32nm,1.6s,mb5.2
BMN LR LR
comp=Z,368nm,21.0s,MS4.7
BMN Battle Mountai 84.64 50 *eP* **P 15 23 21.8 +0.8**
BMN pmax pmax
comp=Z,32nm,1.6s,mb5.2
BMN MLR MLR
comp=Z,368nm,21.0s,MS4.7
MSO Missoula 84.91 43 P **P 15 23 21.3 -0.9**
comp=Z,7.5nm,1.1s,mb4.7
MSO LR LR
comp=Z,244nm,20.0s,MS4.6
SNCC San Nicolas Is 84.97 57 PFAKE 15 23 30.0 +7.2
SNCC LR LR
comp=Z,439nm,21.0s,MS4.8
ISA Isabella 85.10 54 P **P 15 23 23.0 -0.4**
comp=Z,16nm,0.3s,mb5.6
ISA LR LR
comp=Z,95nm,19.0s,MS4.2
ISA Isabella 85.10 54 P **P 15 23 23.0 -0.5**
ISA pmax pmax
comp=Z,16nm,0.3s,mb5.6
ISA MLR MLR
comp=Z,95nm,19.0s,MS4.2
CHMT Chamberlain Mo 85.33 42 *eP* **P 15 23 23.8 -0.5**
TPH Tonopah 85.35 52 PFAKE 15 23 40.0 +15
TPH LR LR
comp=Z,358nm,19.0s,MS4.8
DAC Darwin (Calif) 85.60 54 *eP* **P 15 23 26.1 +0.2**
comp=Z,36nm,1.8s,mb5.3
DAC LR LR
comp=Z,468nm,20.0s,MS4.9
DAC Darwin (Calif) 85.60 54 *eP* **P 15 23 26.2 +0.3**
DAC pmax pmax
comp=Z,36nm,1.8s,mb5.3
DAC MLR MLR
comp=Z,468nm,20.0s,MS4.9
HLID Hailey 85.66 46 *eP* **P 15 23 26.4 +0.4**
comp=Z,28nm,1.1s,mb5.4
HLID LR LR
comp=Z,563nm,20.0s,MS5.0
ELK Elko 85.98 49 *eP* **P 15 23 28.0 +0.3**
comp=Z,16nm,0.9s,mb5.2
ELK LR LR
comp=Z,360nm,19.0s,MS4.8
ELK Elko 85.98 49 *eP* **P 15 23 28.0 +0.3**
ELK pmax pmax
comp=Z,16nm,0.9s
ELK MLR MLR
comp=Z,360nm,19.0s
MOS Moscow 86.00 327 *eP* **P 15 23 23.0 -4.4**
MOS pmax pmax
comp=Z,30nm,0.6s,mb5.7
MOS MLR MLR
comp=Z,1μm,17.3s,MS5.3
MCMT McKenzie Canyo 86.30 44 *eP* **P 15 23 29.5 +0.3**
HRY Holter Researc 86.32 42 *eP* **P 15 23 29.5 +0.3**
OBN Obninsk 86.80 327 PFAKE 15 23 40.0 +8.6
OBN LR LR
comp=Z,458nm,19.0s,MS4.9
OBN Obninsk 86.80 327 *eP* **P 15 23 31.3 -0.1**
OBN pmax pmax
comp=Z,2.0nm,0.5s,mb4.6
BOZ Bozeman (W) 86.82 43 *eP* **P 15 23 31.5 -0.2**
comp=Z,30nm,1.4s,mb5.3
BOZ LR LR
comp=Z,188nm,22.0s,MS4.5
BOZ Bozeman (W) 86.82 43 *eP* **P 15 23 31.5 -0.2**
BOZ pmax pmax
comp=Z,31nm,1.4s,mb5.3
BOZ MLR MLR
comp=Z,188nm,22.0s,MS4.5
CASY Casey 86.85 193 PFAKE 15 23 40.0 +8.7
CASY LR LR
comp=Z,708nm,19.0s,MS5.1
RKT Rikitea 87.18 115 *eLQ* 15 47 19.6
RKT *eLR* LR 15 50 58.1
comp=Z,623nm,30.8s
QLMT Earthquake Lak 87.25 44 *eP* **P 15 23 34.7 +0.9**
PFO Pinyon Flat Ob 87.31 56 *eP* **P 15 23 34.5 +0.1**
comp=Z,17nm,1.1s,mb5.2
PFO LR LR
comp=Z,112nm,20.0s,MS4.3
PFO Pinyon Flat Ob 87.31 56 *eP* **P 15 23 34.5 +0.1**
PFO pmax pmax
comp=Z,17nm,1.1s,mb5.2
PFO MLR MLR
comp=Z,112nm,20.0s,MS4.3
GNI Garni 87.33 311 LR LR 16 06 44.8
comp=Z,489nm,20.3s,MS4.9,baz=317,slow=38
GNI Garni 87.33 311 PFAKE 15 23 50.0 +16
GNI LR LR
comp=Z,507nm,20.0s,MS4.9
HVU Hansel Valley 87.39 47 *eP* **P 15 23 34.6 0.0**
BAR Barrett 87.43 57 P **P 15 23 34.6 -0.4**
KIV Kislovodsk 87.46 315 PFAKE 15 23 50.0 +15
KIV LR LR
comp=Z,141nm,19.0s,MS4.4
KIV Kislovodsk 87.46 315 *i* P **P 15 23 32.0 -2.8**
KIV *e*S S 15 33 59.6 -13
KIV pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
YMR Madison River 87.61 44 *eP* **P 15 23 35.6 +0.1**
YFT Old Faithful 87.78 44 *eP* **P 15 23 37.5 +1.1**
SPUT South Promonto 87.78 48 *eP* **P 15 23 36.8 +0.3**
YNR Norris Junctio 87.79 44 P **P 15 23 36.9 +0.6**
RRI2 Red Ridge 87.85 45 *eP* **P 15 23 36.5 -0.2**
comp=Z,28nm,1.0s,mb5.4
LDFC Landfair 87.90 54 *eP* **P 15 23 37.0 -0.2**
IMW Indian Meadow 87.91 45 *eP* **P 15 23 37.3 +0.3**
comp=Z,23nm,1.0s,mb5.4
DUG Dugway 87.91 49 *eP* **P 15 23 37.2 +0.2**
comp=Z,34nm,1.2s,mb5.5
DUG LR LR
comp=Z,367nm,21.0s,MS4.8
DUG Dugway 87.91 49 *eP* **P 15 23 37.3 +0.2**
DUG pmax pmax
comp=Z,34nm,1.2s,mb5.5
DUG MLR MLR
comp=Z,367nm,21.0s,MS4.8
NEN Nelson 87.92 53 *eP* **P 15 23 37.7 +0.4**
LKWY Lake 88.03 44 PFAKE 15 23 50.0 +12
LKWY LR LR
comp=Z,447nm,19.0s,MS4.9
TPAW Teton Pass 88.05 45 *eP* **P 15 23 38.1 +0.4**
comp=Z,17nm,0.2s,mb5.9
REDW Red Top Meadow 88.16 45 *eP* **P 15 23 37.7 -0.5**
comp=Z,27nm,1.4s,mb5.3
AHID Auburn Hatcher 88.21 46 *eP* **P 15 23 38.5 0.0**
comp=Z,28nm,1.1s,mb5.4
AHID *ep*P pP 15 23 46.0 -0.2
AHID LR LR
comp=Z,307nm,19.0s,MS4.7
LOHW Long Hollow 88.24 45 *eP* **P 15 23 39.0 +0.4**
comp=Z,8.7nm,1.1s,mb4.9
ARUT Antelope Range 88.27 51 *eP* **P 15 23 39.7 +0.8**
ARUT *ep*P pP 15 23 46.6 0.0
HWUT Hardware Ranch 88.30 47 *eP* **P 15 23 38.5 -0.4**
comp=Z,19nm,0.9s,mb5.3
HWUT LR LR
comp=Z,397nm,20.0s,MS4.8
CTU Camp Tracy 88.50 48 *eP* **P 15 23 39.9 +0.1**
NLU North Lily Min 88.52 49 *eP* **P 15 23 40.3 +0.3**
FINES FINESS Array B 88.56 335 P **P 15 23 38.2 -1.4**
comp=Z,2.9nm,0.9s,mb4.6,baz=101,slow=7.1,SNR=3.3
FINES FINESS Array B 88.56 335 P **P 15 23 38.3 -1.4**
FINES pmax pmax
comp=Z,3.0nm,1.0s
TCUT Toone Canyon 88.59 47 *eP* **P 15 23 40.6 +0.3**
JLU Jordanelle 88.74 48 *eP* **P 15 23 41.4 +0.3**
MPU Maple Canyon 88.82 49 *eP* **P 15 23 41.5 +0.1**
DAU Daniels Canyon 88.95 48 *eP* **P 15 23 42.1 0.0**
MSU Marysvale 88.96 50 *eP* **P 15 23 42.7 +0.5**
BW06 Boulder Array 89.26 45 P **P 15 23 44.0 +0.5**
comp=Z,3.0nm,1.0s,mb4.6
BW06 LR LR
comp=Z,303nm,21.0s,MS4.7
PDAR Pinedale Array 89.26 45 P **P 15 23 42.4 -1.1**
comp=Z,0.3nm,0.5s,baz=180,slow=4.4,SNR=4.0
PDAR LR LR 16 00 30.2
comp=Z,229nm,21.3s,MS4.6,baz=307,slow=33
TMUT Trail Mountain 89.38 49 *eP* **P 15 23 44.4 +0.2**
SOC Sochi 89.59 316 *eP* **P 15 23 43.0 -2.0**
SOC *e*S 15 34 11.7
SOC *i* PS PS 15 35 40.1 -3.6
SOC *e*SS SS 15 40 22.7 -9.4
SOC pmax pmax
comp=Z,10.0nm,0.6s,mb5.3
SOC pmax pmax
comp=N,14nm,0.8s
SOC pmax pmax
comp=E,21nm,1.0s
SOC MLR MLR
comp=N,297nm,18.0s,MS5.1
SOC MLR MLR
comp=Z,659nm,18.0s,MS5.1
SOC MLR MLR
comp=E,653nm,20.0s,MS5.1
LAO LASA Array 89.89 41 PFAKE 15 24 00.0 +14
LAO LR LR
comp=Z,583nm,20.0s,MS5.0
SRU San Rafael 89.95 49 *eP* **P 15 23 46.5 -0.3**
DGMT Dagmar 90.37 39 PFAKE 15 24 00.0 +11
DGMT LR LR
comp=Z,672nm,21.0s,MS5.0
PV10 Paradox Valley 91.30 49 *eP* **P 15 23 53.0 0.0**
PV01 Paradox Valley 91.73 49 *eP* **P 15 23 55.3 +0.3**
PV01 *ep*P pP 15 24 02.3 -0.4
TUC Tucson 92.23 55 PFAKE 15 24 10.0 +13
TUC LR LR
comp=Z,315nm,20.0s,MS4.8
RSSD Black Hills 92.38 42 *eP* **P 15 23 57.4 -0.5**
comp=Z,15nm,1.3s,mb5.2
RSSD LR LR
comp=Z,111nm,19.0s,MS4.3
RSSD Black Hills 92.38 42 *eP* **P 15 23 57.4 -0.5**
RSSD pmax pmax
comp=Z,15nm,1.3s,mb5.2
RSSD MLR MLR
comp=Z,111nm,19.0s,MS4.3
ISCO Idaho Springs 93.17 47 *eP* **P 15 24 02.0 +0.5**
comp=Z,17nm,1.2s,mb5.4
ISCO LR LR
comp=Z,550nm,20.0s,MS5.0
ISCO Idaho Springs 93.17 47 *eP* **P 15 24 02.1 +0.5**
ISCO pmax pmax
comp=Z,17nm,1.2s,mb5.3
ISCO MLR MLR
comp=Z,550nm,20.0s,MS5.0
SDCO Great Sand Dun 94.11 49 *eP* **P 15 24 05.4 -0.6**
comp=Z,16nm,1.4s,mb5.2
SDCO *ep*P pP 15 24 13.4 -0.3
SDCO LR LR
comp=Z,397nm,20.0s,MS4.9
ULM Lac du Bonnet 94.25 34 LR LR 16 04 29.9
comp=Z,441nm,20.2s,MS4.9,baz=210,slow=34
ULM Lac du Bonnet 94.25 34 PFAKE 15 24 20.0 +14
ULM LR LR
comp=Z,679nm,21.0s,MS5.1
ANMO Albuquerque 94.55 52 PFAKE 15 24 20.0 +12
ANMO LR LR
comp=Z,520nm,19.0s,MS5.0
NAO01 NORSAR Array S 94.57 340 PFAKE 15 24 20.0 +13
NAO01 LR LR
comp=Z,1μm,22.0s,MS5.3
BR131 Keskin Array S 95.34 314 *eP* **P 15 24 12.1 +0.5**
BR131 LR LR
comp=Z,271nm,19.0s,MS4.7
BRTR Keskin Array B 95.34 314 P **P 15 24 10.3 -1.3**
comp=Z,2.7nm,1.0s,mb4.6,baz=90,slow=1.2,SNR=11
BRTR Keskin Array B 95.34 314 P **P 15 24 10.3 -1.3**
BRTR pmax pmax
comp=Z,3.0nm,1.0s
MNTX Cornudas Mount 96.70 54 PFAKE 15 24 30.0 +12
MNTX LR LR
comp=Z,260nm,21.0s,MS4.7
CBKS Cedar Bluff 97.69 46 PFAKE 15 24 30.0 +7.8
CBKS LR LR
comp=Z,370nm,21.0s,MS4.8
BORG Borgarnes 98.11 354 PFAKE 15 24 30.0 +6.5
BORG LR LR
comp=Z,169nm,21.0s,MS4.5
LTX Lajitas 99.03 56 PFAKE 15 24 40.0 +12
LTX LR LR
comp=Z,459nm,19.0s,MS5.0
TXAR Lajitas Array 99.03 56 LR LR 16 08 54.6
comp=Z,250nm,19.0s,MS4.7,baz=315,slow=35
CLL Collm 100.56 332 *ePP* PP 15 28 41.0 -3.7
CLL *e* 15 35 12.0

CLL *e*SS SS 15 43 07.0 +0.1
JCT Junction City 101.54 53 PFAKE 15 24 50.0 +10
JCT LR LR
comp=Z,309nm,20.0s,MS4.8
ESK Eskdalemuir 103.46 342 PFAKE 15 25 00.0 +12
ESK LR LR
comp=Z,150nm,21.0s,MS4.5
SCHQ Schefferville 103.53 19 PFAKE 15 25 00.0 +12
SCHQ LR LR
comp=Z,575nm,20.0s,MS5.1
CCM Cathedral Cave 103.77 43 PFAKE 15 25 00.0 +10
CCM LR LR
comp=Z,83nm,20.0s,MS4.3
NATX Nacogdoches 104.78 50 PFAKE 15 25 10.0 +16
NATX LR LR
comp=Z,442nm,19.0s,MS5.0
WCI Wyandotte Cave 106.81 40 PFAKE 15 29 20.0
WCI LR LR
comp=Z,91nm,21.0s,MS4.3
OXF Oxford 107.00 45 PFAKE 15 29 20.0
OXF LR LR
comp=Z,283nm,20.0s,MS4.8
WVT Waverly 107.11 43 PFAKE 15 29 20.0
WVT LR LR
comp=Z,371nm,20.0s,MS4.9
ACSO Alum Creek Sta 107.52 37 PFAKE 15 29 30.0
ACSO LR LR
comp=Z,404nm,20.0s,MS5.0
PLAL Pickwick Lake 107.62 44 PFAKE 15 29 30.0
PLAL LR LR
comp=Z,237nm,19.0s,MS4.8
LRAL Lakeview Retre 109.49 45 PFAKE 15 29 30.0
LRAL LR LR
comp=Z,387nm,20.0s,MS5.0
BINY Binghamton 109.92 32 PFAKE 15 29 30.0
BINY LR LR
comp=Z,927nm,19.0s,MS5.4
PQI Presque Isle 109.97 24 PFAKE 15 29 30.0
PQI LR LR
comp=Z,3μm,22.0s,MS5.8
MYNC Murphy 110.14 42 PFAKE 15 29 30.0 +7.7
MYNC LR LR
comp=Z,519nm,20.0s,MS5.1
BLA Blacksburg 111.02 38 PFAKE 15 29 30.0 +6.0
BLA LR LR
comp=Z,547nm,22.0s,MS5.1
WVL Waterville 111.03 26 PFAKE 15 29 30.0 +6.2
WVL LR LR
comp=Z,4μm,21.0s
SYO Syowa Base 111.26 202 ⇑PKiKP 15 29 21.1
SYO Syowa Base 111.26 202 ⇓pPKiKP 15 29 24.1
GOGA Godfrey 111.61 43 PFAKE 15 29 30.0 +4.8
GOGA LR LR
comp=Z,340nm,21.0s,MS4.9
EMMW East Machias 111.82 25 PFAKE 15 29 30.0 +4.7
EMMW LR LR
comp=Z,3μm,22.0s,MS5.8
HRV Harvard--Oak R 111.82 29 PFAKE 15 29 30.0 +4.6
HRV LR LR
comp=Z,387nm,22.0s,MS5.0
WES Weston 112.03 29 PFAKE 15 29 30.0 +4.2
WES LR LR
comp=Z,972nm,22.0s,MS5.3
CBN Corbin 112.08 35 PFAKE 15 29 30.0 +4.0
CBN LR LR
comp=Z,1μm,22.0s,MS5.4
MBAR Mbarara 113.89 277 PFAKE 15 29 40.0 +10
MBAR LR LR
comp=Z,44nm,20.0s,MS4.1
NHSC New Hope 113.91 41 PFAKE 15 29 40.0 +10
NHSC LR LR
comp=Z,495nm,21.0s,MS5.1
DWPF Disney 116.28 46 PFAKE 15 29 40.0 +5.5
DWPF LR LR
comp=Z,92nm,22.0s,MS4.3
ESLA Sonseca Array 117.05 334 PFAKE 15 29 40.0 +4.3
ESLA LR LR
comp=Z,4μm,21.0s
LSZ Lusaka 120.01 262 PFAKE 15 29 50.0 +8.1
LSZ LR LR
comp=Z,336nm,19.0s,MS5.0
SNAA Sanae 122.03 191 ⇑*i* Pdif 15 26 18.2 +9.1
BBSR BB Station 123.19 31 PFAKE 15 30 00.0 +12
BBSR LR LR
comp=Z,408nm,21.0s,MS5.1
JTS JuntasAbangare 123.28 65 PFAKE 15 30 00.0 +12
JTS LR LR
comp=Z,52nm,19.0s,MS4.2
VNA2 Neumayer--Watz 123.47 190 Pdif 15 26 09.8 -5.6
VNA2 Neumayer--Watz 123.47 190 ⇑*i* Pdif 15 26 13.1 -2.3
VNA2 Neumayer--Watz 123.47 190 ⇑*iP* Pdif 15 26 13.1 -2.3
LBTB Lobatse 123.69 251 PFAKE 15 30 00.0 +11
LBTB LR LR
comp=Z,225nm,19.0s,MS4.8
TSUM Tsumeb 130.60 259 PFAKE 15 30 10.0 +7.6
TSUM LR LR
comp=Z,233nm,22.0s,MS4.8
SDV Santo Domingo 136.05 57 PFAKE 15 30 20.0 +7.3
SDV LR LR
comp=Z,241nm,19.0s,MS5.0
NNA Nana 138.71 89 PFAKE 15 30 30.0 +12
NNA LR LR
comp=Z,82nm,20.0s,MS4.5
ARE Arequipa 144.53 95 *eP* PKPbc 15 30 25.0 +2.0
LVC Limon Verde 147.09 106 *e*PKPbc PKPdf 15 30 31.4 -0.7
LVC LR LR
comp=Z,247nm,19.0s,MS5.0
LPAZ La Paz 147.72 94 PKPbc PKPdf 15 30 33.6 +0.5
comp=Z,5.0nm,0.9s,baz=298,slow=2.1,SNR=18
LPAZ La Paz 147.72 94 *e*PKPbc PKPdf 15 30 33.2 0.0
LPAZ LR LR
comp=Z,192nm,19.0s,MS4.9
LPAZ La Paz 147.72 94 PKP2 PKPab 15 30 33.7 -2.2
LPAZ pmax pmax
comp=Z,5.0nm,0.9s
SAML Samuel 150.95 78 PKP PKPdf 15 30 35.9 -2.4
SAML LR LR
comp=Z,490nm,21.0s,MS5.3
RCBR Riachuelo 169.02 8 PFAKE 15 31 10.0 +12
RCBR LR LR
comp=Z,347nm,20.0s

*IDC **10** 15:14:53.2±0.7, 7.53N×93.94E, mb4.1/13, mb1 4.2/13, mb1mx4.0/23, mbtmp4.1/13, Error ellipse: s-maj=30.6km s-min=14.1km az=57.0*
*NEIC **10** 15:14:59.7±2.2, 7.56N×94.00E, h46km±20km, mb4.7/1, Error ellipse: s-maj=22.1km s-min=8.7km az=59.0*
ISC 10 15:14:57.5±3.8, 7.5N±0.1×94.0E±0.2, h43km±33km, n18, σ0°56/17, mb4.1/14, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.96**	**108**	*eP*	**P**	**15 16 39.5**	**0.0**
MDRS	**Chennai**	**14.62**	**293**	*ex*	x	15 17 36.0	
MDRS				*ex*	x	15 19 02.0	
FITZ	**Fitzroy Crossi**	**40.29**	**130**	P	**P**	**15 22 32.8**	**+0.3**
1.2nm,0.3s,mb4.1,baz=358,slow=11,SNR=5.1							
MKAR	**Makanchi Array**	**40.39**	**348**	P	**P**	**15 22 33.5**	**+0.5**
1.3nm,1.0s,mb3.6,baz=163,slow=6.6,SNR=2.0							
SONM	**Songino Array**	**41.51**	**13**	P	**P**	**15 22 42.3**	**+0.1**
0.3nm,0.4s,mb3.3,baz=200,slow=8.5,SNR=3.1							
SONM				PcP	PcP	15 24 40.5	+0.7
0.6nm,0.9s,baz=194,slow=5.9,SNR=3.1							
NWAO	**Narrogin (SRO)**	**45.91**	**153**	P	**P**	**15 23 18.4**	**+0.4**
6.8nm,1.0s,mb4.5,baz=301,slow=6.9,SNR=4.4							
ZAL	**Zalesovo**	**46.86**	**353**	P	**P**	**15 23 24.4**	**-0.9**
1.5nm,0.3s,mb4.4,baz=246,slow=4.8,SNR=2.7							
WRA	**Warramunga Arr**	**48.17**	**125**	P	**P**	**15 23 36.0**	**+0.1**
1.8nm,0.5s,mb4.4,baz=304,slow=8.9,SNR=26							
WRAB	**Tennant Creek**	**48.17**	**125**	*eP*	**P**	**15 23 35.9**	**-0.1**
3.8nm,0.5s,mb4.7							
CTA	**Charters Tower**	**58.25**	**119**	P	**P**	**15 24 49.8**	**-0.6**
1.9nm,0.8s,mb4.2,baz=264,slow=9.2,SNR=2.7							
STKA	**Stephens Creek**	**59.96**	**133**	P	**P**	**15 25 02.0**	**-0.2**
1.8nm,0.8s,mb4.1,baz=277,slow=17,SNR=5.5							
MATP	**Matopo**	**70.12**	**245**	P	**P**	**15 26 07.8**	**-0.1**
0.9nm,0.6s,mb3.9,baz=72,slow=3.2,SNR=3.7							
MATP	**Matopo**	**70.12**	**245**	P	**P**	**15 26 07.8**	**-0.1**
FINES	**FINESS Array B**	**72.95**	**332**	P	**P**	**15 26 23.7**	**-0.4**
3.8nm,1.0s,mb4.3,baz=101,slow=7.1,SNR=3.1							
FINES	**FINESS Array B**	**72.95**	**332**	P	**P**	**15 26 23.7**	**-0.4**
ARCES	**ARCESS Array B**	**75.54**	**340**	P	**P**	**15 26 40.5**	**+1.5**
3.5nm,1.1s,mb4.2,baz=90,slow=5.4,SNR=3.8							
GERES	**GERESS Array B**	**77.99**	**318**	P	**P**	**15 26 52.3**	**-0.8**
0.5nm,0.5s,mb3.8,baz=79,slow=6.8,SNR=6.5							
HFS	**Hagfors**	**78.68**	**330**	P	**P**	**15 26 57.0**	**+0.3**
0.7nm,0.4s,mb4.0,baz=135,slow=2.1,SNR=5.2							

IDC 10 15:19:08.8±4.2, 7.70N×92.14E, mb3.4/3, mb1 3.6/3, mb1mx3.4/18, mbtmp3.4/3, Error ellipse: s-maj=147.4km s-min=30.0km az=63.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**39.85**	**349**	P	P	15 26 44.0	-1.8
0.3nm,0.6s,baz=178,slow=8.3,SNR=4.1							
SONM	**Songino Array**	**41.79**	**14**	P	P	15 27 00.0	-1.6
0.5nm,0.7s,baz=190,slow=8.8,SNR=3.8							
WRA	**Warramunga Arr**	**49.79**	**124**	P	P	15 28 03.6	-2.0
0.5nm,0.6s,baz=303,slow=8.8,SNR=7.1							

*IDC **10** 15:21:44.3±1.2, 16.74N×145.88E, mb3.8/6, mb1 4.0/6, mb1mx3.9/19, mbtmp3.8/6, Error ellipse: s-maj=40.3km s-min=26.1km az=82.0*
*NEIC **10** 15:21:49.0±1.5, 16.72N×145.93E, h31km±9km, mb4.6/1, Error ellipse: s-maj=31.8km s-min=11.9km az=82.0*
ISC 10 15:21:47.7±2.0, 16.8N±0.1×146.0E±0.3, h39km±15km, n11, σ0°66/9, mb4.0/6, 1C-1D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARN	**Sarigan**	**0.22**	**253**	⇓*iP*	**P**	**15 21 55.0**	**0.0**
SAPN	**Saipan**	**1.56**	**188**	⇑*eP*	**P**	**15 22 13.6**	**+0.2**
MJAR	**Matsushiro Arr**	**20.87**	**342**	P	**P**	**15 26 28.1**	**-0.9**
3.4nm,0.8s,baz=174,slow=11,SNR=6.6							
WRA	**Warramunga Arr**	**38.23**	**198**	P	**P**	**15 29 05.4**	**-0.6**
1.3nm,1.0s,mb3.6,baz=14,slow=8.9,SNR=4.7							
SONM	**Songino Array**	**44.83**	**322**	P	**P**	**15 29 59.6**	**-0.2**
1.1nm,0.7s,mb3.8,baz=140,slow=8.9,SNR=5.4							
MKAR	**Makanchi Array**	**60.00**	**315**	P	**P**	**15 31 53.3**	**+0.4**
1.2nm,0.8s,mb4.0,baz=92,slow=8.8,SNR=12							
KURK	**Kurchatov**	**62.90**	**319**	*eP*	**P**	**15 32 13.8**	**+1.5**
7.7nm,1.4s,mb4.6							
ILAR	**Eielson Array**	**65.25**	**26**	P	**P**	**15 32 27.7**	**+0.3**
0.9nm,0.8s,mb3.9,baz=257,slow=5.2,SNR=7.2							
BVAR	**Borovoye Array**	**68.14**	**321**	P	**P**	**15 32 45.1**	**-0.7**
1.7nm,0.8s,mb4.1,baz=101,slow=7.6,SNR=9.4							
LPAZ	**La Paz**	**147.31**	**94**	PKPbc	PKPdf	15 41 31.8	+6.1
0.9nm,0.7s,baz=241,slow=7.9,SNR=3.6							
LPAZ	**La Paz**	**147.31**	**94**	PKPbc	PKPdf	15 41 31.8	+6.1

*NEIC **10** 15:44:25.0±34.26S×72.29W, h34km, ML4.0(GUC), After GUC.*
GUC 10 15:44:25.0±0.7, 34.26S×72.29W, h34km±2km, MD4.2, ML4.0, 8C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.79**	**68**	⇓*iP*	P	15 44 40.0	+0.4
LCCH	**Las Cruces**	**0.98**	**38**	⇓*iP*	P	15 44 43.1	+0.7
LCCH				*i* S	S	15 44 56.2	+0.9
NICH	**Los Niches**	**1.15**	**131**	⇓*iP*	P	15 44 45.2	+0.4
NICH				*i* S	S	15 45 00.5	+1.0
TACH	**Talagante**	**1.27**	**62**	⇑*iP*	P	15 44 47.2	+0.7
TACH				*i* S	S	15 45 04.3	+1.6
IHA	**Instituto Hidr**	**1.34**	**24**	⇑*iP*	P	15 44 48.1	+0.5
IHA				*i* S	S	15 45 05.3	+0.9
CHCH	**Chadas Angostu**	**1.39**	**77**	⇑*iP*	P	15 44 49.3	+0.9
RCDM	**Rinconada Maip**	**1.45**	**59**	⇑*iP*	P	15 44 49.8	+0.6
RCDM				*i* S	S	15 45 08.4	+1.2
RCDM				AMP		15 45 16.6	
comp=N,3μm,0.6s							
CNCO	**Chanco**	**1.49**	**188**	*i* P	P	15 44 50.5	+0.8
CNCO				*i* S	S	15 45 09.8	+1.7
CNCO				AMP		15 45 15.3	
comp=E,2μm,0.3s							
ANTU	**Antumapu**	**1.54**	**64**	⇓*iP*	P	15 44 51.7	+1.4
ANTU				*i* S	S	15 45 11.5	+2.2
ANTU				AMP		15 45 19.0	
comp=E,4μm,0.6s							
SAN	**Santiago**	**1.57**	**60**	*eP*	P	15 44 52.1	+1.2
SAN				*i* S	S	15 45 12.4	+2.1
SAN				AMP		15 45 19.3	
comp=N,2μm,0.7s							
PCH	**Pirque**	**1.60**	**67**	⇓*iP*	P	15 44 52.5	+1.2
PCH				*i* S	S	15 45 13.4	+2.4
ROCH	**El Roble**	**1.67**	**40**	⇑*iP*	P	15 44 53.3	+1.1
DSCH	**Colegio Aleman**	**1.67**	**60**	*i* P	P	15 44 53.5	+1.3
DSCH				*i* S	S	15 45 14.9	+2.3
DSCH				AMP		15 45 26.4	
comp=N,5μm,0.3s							
CLCH	**Cerro Calan**	**1.69**	**60**	⇑*iP*	P	15 44 53.8	+1.2
CLCH				*i* S	S	15 45 15.5	+2.2
CLCH				AMP		15 45 27.6	
comp=E,2μm,0.4s							
CLCH				AMP		15 45 28.1	
comp=E,3μm,0.5s							
PEL	**Peldehue**	**1.73**	**51**	*eP*	P	15 44 54.6	+1.4
LMEL	**Las Melosas**	**1.78**	**77**	⇑*iP*	P	15 44 55.3	+1.5
LMEL				*i* S	S	15 45 18.2	+2.8
LMEL				AMP		15 45 25.4	
comp=N,4μm,0.2s							
FCH	**Farellones**	**1.90**	**61**	⇑*iP*	P	15 44 56.8	+1.1
FCH				*i* S	S	15 45 21.6	+3.0
FCH				AMP		15 45 29.5	
comp=E,2μm,0.3s							
JACH	**Jahuel**	**2.11**	**43**	⇓*iP*	P	15 44 59.5	+0.9
CCHI	**Chillan**	**2.35**	**176**	*eP*	P	15 45 02.9	+0.9
CCHI				*i* S	S	15 45 30.8	+0.9
CCHI				AMP		15 45 44.5	
comp=N,2μm,0.6s							
CCHI				AMP		15 45 50.6	
comp=N,1μm,0.7s							
LPAZ	**La Paz**	**18.28**	**13**	*eP*	P	15 48 36.2	-1.6
comp=N,1.3nm,0.7s							

*IDC **10** 15:48:09.1±1.6, 3.79N×122.99E, h569km±20km, mb3.3/9, mb1 3.3/9, mb1mx3.0/22, mbtmp4.3/9, Error ellipse: s-maj=25.6km s-min=10.0km az=76.0*
*NEIC **10** 15:48:11.4±4.3, 3.80N×122.97E, h607km±63km, mb4.3/3, Error ellipse: s-maj=43.7km s-min=16.6km az=61.0*
ISC 10 15:48:06.4±1.1, 3.84N±0.09×122.9E±0.1, h550km±15km, n21, σ0°71/22, mb4.2/16, 2C-1D, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSM	**Tawau**	**5.04**	**275**	P	**P**	**15 49 37.2**	**0.0**
KKM	**Kota Kinabalu**	**7.02**	**288**	P	**P**	**15 49 54.9**	**-0.4**
KAKA	**Kakadu**	**18.97**	**150**	⇑*iP*	**P**	**15 52 03.5**	**+10**
13nm,0.4s							
FITZ	**Fitzroy Crossi**	**21.96**	**173**	P	**P**	**15 52 22.3**	**+0.7**
1.2nm,0.7s,mb3.6,baz=352,slow=7.1,SNR=4.2							
WRA	**Warramunga Arr**	**26.17**	**155**	P	**P**	**15 52 58.3**	**-0.8**
4.0nm,0.3s,mb4.5,baz=336,slow=9.6,SNR=206							
WRA				S	**S**	**15 56 48.4**	**-4.8**
0.6nm,0.7s,baz=334,slow=15,SNR=4.9							
WRA				ScP		15 58 55.0	
1.0nm,0.5s,baz=340,slow=3.0,SNR=24							
WB2	**Warramunga Arr**	**26.17**	**155**	⇑*iP*	**P**	**15 52 58.7**	**-0.5**
CBIJ	**Chichi jima**	**29.57**	**37**	P	**P**	**15 53 28.2**	**-0.5**
19nm,0.3s,mb5.0,baz=293,slow=21,SNR=6.6							
KLBR	**Kellerberrin**	**35.57**	**188**	⇓*iP*	**P**	**15 54 19.0**	**-0.1**
3.1nm,0.4s,mb4.2							
NWAO	**Narrogin (SRO)**	**36.95**	**188**	P	**P**	**15 54 30.6**	**+0.1**
7.8nm,1.1s,mb4.2,baz=11,slow=5.9,SNR=7.0							
LSA	**Lhasa**	**39.56**	**314**	*eP*	**P**	**15 54 53.2**	**+1.5**
4.9nm,0.6s,mb4.2							
STKA	**Stephens Creek**	**39.72**	**155**	P	**P**	**15 54 53.9**	**+1.0**
0.9nm,0.3s,mb3.8,baz=326,slow=11,SNR=3.8							
STKA	**Stephens Creek**	**39.72**	**155**	P	**P**	**15 54 53.9**	**+1.0**
PKI	**Pulchoki**	**42.83**	**307**	*eP*	**P**	**15 55 17.5**	**-0.4**
7.3nm,0.3s,mb4.7							
KKN	**Kakani**	**43.03**	**308**	*eP*	**P**	**15 55 19.2**	**-0.2**
7.0nm,0.3s,mb4.7							
DMN	**Daman**	**43.09**	**307**	*eP*	**P**	**15 55 20.3**	**+0.4**
6.3nm,0.6s,mb4.3							
GKN	**Gorkha**	**43.64**	**307**	*eP*	**P**	**15 55 24.2**	**0.0**
13nm,0.8s,mb4.5							
ASAJ	**Asahikawa**	**43.72**	**21**	P	**P**	**15 55 25.8**	**+1.2**
2.9nm,0.8s,mb3.9,baz=213,slow=12,SNR=5.5							
KOLN	**Koldanda**	**44.36**	**307**	*eP*	**P**	**15 55 30.2**	**+0.4**
29nm,0.7s,mb4.9							
MKAR	**Makanchi Array**	**55.34**	**327**	P	**P**	**15 56 50.3**	**0.0**
1.2nm,0.3s,mb3.5,baz=125,slow=7.9,SNR=42							
MKAR				PcP	PcP	15 57 41.6	-1.0
1.1nm,0.5s,baz=133,slow=3.7,SNR=13							
MKAR				ScP		16 00 47.6	
0.8nm,0.6s,baz=123,slow=4.9,SNR=10							
BVAR	**Borovoye Array**	**65.18**	**328**	P	**P**	**15 57 54.1**	**-1.0**
0.3nm,0.3s,mb3.1,baz=135,slow=10,SNR=4.4							
ARCES	**ARCESS Array B**	**89.03**	**340**	P	**P**	**16 00 02.3**	**-1.2**
0.8nm,0.8s,mb3.6,baz=79,slow=6.2,SNR=4.1							

*NEIC **10** 15:52:31.5, 34.27S×72.32W, h38km, MD4.1(GUC), After GUC.*
GUC 10 15:52:31.5±0.8, 34.27S×72.32W, h38km±2km, MD4.1, ML3.7, 7C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.82**	**68**	⇓*iP*	P	15 52 46.6	0.0
LNV				*i* S	S	15 52 58.4	+0.7
LCCH	**Las Cruces**	**1.01**	**39**	⇓*iP*	P	15 52 49.7	+0.4
LCCH				*i* S	S	15 53 03.8	+1.2
NICH	**Los Niches**	**1.16**	**129**	⇓*iP*	P	15 52 52.0	+0.5
NICH				*i* S	S	15 53 08.1	+1.7
TACH	**Talagante**	**1.30**	**62**	⇑*iP*	P	15 52 53.9	+0.2
CHCH	**Chadas Angostu**	**1.43**	**77**	⇑*iP*	P	15 52 55.9	+0.6
CHCH				*i* S	S	15 53 14.6	+1.5
RCDM	**Rinconada Maip**	**1.48**	**59**	*eP*	P	15 52 56.4	+0.3
RCDM				*i* S	S	15 53 15.9	+1.4
RCDM				AMP		15 53 23.0	
comp=E,1μm,0.1s							
ANTU	**Antumapu**	**1.57**	**64**	*eP*	P	15 52 58.5	+1.2
ANTU				*i* S	S	15 53 18.7	+2.1
ANTU				AMP		15 53 23.1	
comp=E,2μm,0.4s							
SAN	**Santiago**	**1.60**	**60**	⇑*iP*	P	15 52 58.7	+0.8
SAN				*i* S	S	15 53 19.4	+1.8
SAN				AMP		15 53 25.8	
comp=N,1μm,0.6s							
STL	**Santa Lucia**	**1.63**	**60**	⇑*iP*	P	15 52 58.4	+0.2
STL				*i* S	S	15 53 19.5	+1.4
STL				AMP		15 53 26.1	
comp=E,520nm,0.3s							
PCH	**Pirque**	**1.64**	**67**	⇑*iP*	P	15 52 59.4	+1.1
PCH				*i* S	S	15 53 20.2	+1.9
ROCH	**El Roble**	**1.69**	**41**	*i* P	P	15 53 00.1	+0.9
DSCH	**Colegio Aleman**	**1.70**	**60**	*eP*	P	15 53 00.3	+1.1
DSCH				*i* S	S	15 53 21.5	+1.6
DSCH				AMP		15 53 29.6	
comp=N,2μm,0.6s							
CLCH	**Cerro Calan**	**1.72**	**60**	⇑*iP*	P	15 53 00.5	+0.9
CLCH				*i* S	S	15 53 22.3	+1.8
CLCH				AMP		15 53 35.1	
comp=N,1μm,0.7s							
CLCH				AMP		15 53 38.2	
comp=E,2μm,0.4s							
SJCH	**San Jose de Ma**	**1.75**	**70**	*eP*	P	15 53 01.1	+1.2
SJCH				*i* S	S	15 53 23.1	+1.9
SJCH				AMP		15 53 28.1	
comp=E,1μm,0.5s							
PEL	**Peldehue**	**1.77**	**51**	*eP*	P	15 53 01.2	+1.1
FCH	**Farellones**	**1.94**	**62**	⇑*iP*	P	15 53 03.6	+1.1
FCH				*i* S	S	15 53 28.1	+2.3
FCH				AMP		15 53 37.1	
comp=N,903nm,0.2s							
JACH	**Jahuel**	**2.14**	**43**	*eP*	P	15 53 06.3	+0.8

GUC 10 15:54:38.2±0.7, 27.29S×71.26W, h40km, ML3.9, 1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**0.81**	**95**	⇓*iP*	P	15 54 55.6	+2.4
CPCH				*i* S	S	15 55 07.4	+3.2
CPCH				AMP		15 55 07.8	
comp=E,30μm,0.1s							
CRCH	**Chaqaral**	**1.10**	**31**	*eP*	P	15 54 59.6	+2.3
CRCH				*i* S	S	15 55 14.6	+3.0
CRCH				AMP		15 55 21.1	
comp=N,1μm,0.4s							
VACH	**Vallenar**	**1.35**	**161**	*eP*	P	15 55 02.0	+1.0
VACH				*i* S	S	15 55 19.1	+1.1
VACH				AMP		15 55 24.9	
comp=E,3μm,0.4s							
CPN1	**Cerro Paranal**	**2.77**	**16**	*eP*	P	15 55 22.0	+0.9
CPN1				*i* S	S	15 55 54.8	+1.2

IDC 10 16:02:12.2±1.0, 16.74N×145.77E, mb3.9/6, mb1 4.0/6, mb1mx3.8/20, mbtmp3.9/6, Error ellipse: s-maj=41.8km s-min=21.9km az=77.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**26.01**	**177**	P	P	16 07 47.2	-1.6
8.1nm,0.6s,slow=5.1,SNR=3.7							
WRA	**Warramunga Arr**	**38.14**	**198**	P	P	16 09 32.4	-2.7
0.6nm,1.0s,baz=22,slow=9.7,SNR=4.6							
SONM	**Songino Array**	**44.72**	**323**	P	P	16 10 27.5	-1.3
0.6nm,0.7s,baz=127,slow=7.2,SNR=5.2							
MKAR	**Makanchi Array**	**59.87**	**315**	P	P	16 12 20.3	-1.7
0.7nm,0.5s,baz=99,slow=8.5,SNR=12							
ILAR	**Eielson Array**	**65.37**	**26**	P	P	16 12 55.0	-3.2
0.5nm,0.7s,baz=270,slow=5.4,SNR=4.2							
BVAR	**Borovoye Array**	**68.03**	**321**	P	P	16 13 12.8	-2.6
1.5nm,0.8s,baz=104,slow=6.1,SNR=8.3							
LVC	**Limon Verde**	**146.88**	**106**	PKPbc	PKPbc	16 21 58.4	+1.6
0.8nm,0.4s,baz=207,slow=6.8,SNR=2.2							

GUC 10 16:06:21.0±0.8, 34.28S×72.27W, h38km±2km, ML3.5, 7C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.78**	**66**	⇓*iP*	P	16 06 35.9	+0.3
LNV				*i* S	S	16 06 47.1	+0.8
LCCH	**Las Cruces**	**0.99**	**36**	⇓*iP*	P	16 06 39.0	+0.4
LCCH				*i* S	S	16 06 52.9	+1.3
TACH	**Talagante**	**1.27**	**61**	⇑*iP*	P	16 06 43.1	+0.5
TACH				*i* S	S	16 06 59.8	+1.0
CHCH	**Chadas Angostu**	**1.39**	**76**	⇑*iP*	P	16 06 45.2	+0.9
CHCH				*i* S	S	16 07 03.8	+2.2
RCDM	**Rinconada Maip**	**1.45**	**58**	⇑*iP*	P	16 06 45.8	+0.6
RCDM				*i* S	S	16 07 04.7	+1.5
RCDM				AMP		16 07 12.1	
comp=N,1μm,0.4s							
ANTU	**Antumapu**	**1.54**	**63**	*eP*	P	16 06 47.5	+1.1
ANTU				*i* S	S	16 07 07.7	+2.4
ANTU				AMP		16 07 12.4	
comp=E,2μm,0.4s							
SAN	**Santiago**	**1.57**	**59**	⇑*iP*	P	16 06 47.7	+0.8
SAN				*i* S	S	16 07 08.3	+2.0
SAN				AMP		16 07 15.1	
comp=N,1μm,0.5s							
STL	**Santa Lucia**	**1.60**	**59**	*eP*	P	16 06 47.6	+0.4
STL				*i* S	S	16 07 08.3	+1.5
STL				AMP		16 07 15.3	
comp=E,365nm,0.4s							
PCH	**Pirque**	**1.60**	**66**	⇑*iP*	P	16 06 48.6	+1.3
PCH				*i* S	S	16 07 09.5	+2.5
DSCH	**Colegio Aleman**	**1.67**	**59**	*eP*	P	16 06 49.5	+1.3
DSCH				*i* S	S	16 07 10.6	+2.0
DSCH				AMP		16 07 17.3	
comp=E,2μm,0.4s							
ROCH	**El Roble**	**1.68**	**39**	⇓*iP*	P	16 06 49.3	+1.0
ROCH				*i* S	S	16 07 11.5	+2.7
CLCH	**Cerro Calan**	**1.69**	**59**	⇑*iP*	P	16 06 49.7	+1.1
CLCH				*i* S	S	16 07 11.2	+1.9
CLCH				AMP		16 07 24.4	
comp=N,900nm,0.8s							
CLCH				AMP		16 07 26.5	
comp=E,1μm,0.3s							
PEL	**Peldehue**	**1.74**	**50**	*eP*	P	16 06 50.4	+1.1
FCH	**Farellones**	**1.90**	**61**	⇑*iP*	P	16 06 52.7	+1.1

s-min=26.5km az=90.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**19.83**	**342**	P	P	16 12 20.4	-3.0
	baz=170,slow=7.4,SNR=3.1						
WRA	**Warramunga Arr**	**39.17**	**197**	P	P	16 15 17.8	-1.8
	1.5nm,0.9s,baz=16,slow=9.2,SNR=6.7						
ZAL	**Zalesovo**	**58.80**	**323**	P	P	16 17 49.7	-0.7
	0.9nm,0.4s,baz=108,slow=4.7,SNR=1.9						
MKAR	**Makanchi Array**	**59.16**	**314**	P	P	16 17 50.8	-2.2
	0.4nm,0.8s,baz=112,slow=6.5,SNR=3.8						
ILAR	**Eielson Array**	**64.39**	**26**	P	P	16 18 25.4	-2.5
	0.5nm,0.8s,baz=253,slow=6.3,SNR=4.8						
BVAR	**Borovoye Array**	**67.23**	**321**	P	P	16 18 42.9	-3.4
	0.5nm,0.4s,baz=68,slow=7.8,SNR=3.3						

*IDC **10** 16:07:45.1±1.5, 34.16S×72.79W, mb3.9/2, mb1 3.9/5, mb1mx3.8/16, mbtmp3.7/5, ML3.5/1, MS3.3/3, Ms1 3.3/3, ms1mx3.1/20, Error ellipse: s-maj=50.6km s-min=22.6km az=107.0*

*NEIC **10** 16:07:47.2±0.7, 34.22S×72.56W, h10km, mb3.6/1, Error ellipse: s-maj=10.9km s-min=7.1km az=120.0*

*GUC **10** 16:07:50.9±0.8, 34.23S×72.29W, h33km±2km, MD4.2, ML4.1*

ISC 10 16:07:48.5±1.1, 34.30S±0.06×72.40W±0.08, h19km±8km, n32, σ0§72/45, mb3.6/1, 6C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.89**	**68**	‖ *i*P	**Pb**	**16 08 05.6**	**+0.5**
LCCH	**Las Cruces**	**1.07**	**40**	‖ *i*P	**Pb**	**16 08 08.7**	**+0.4**
LCCH				*i* S	**Sb**	**16 08 20.8**	**-1.1**
TACH	**Talagante**	**1.37**	**63**	⇑ *i*P	**Pn**	**16 08 12.8**	**-0.2**
TACH				*i* S	**Sb**	**16 08 29.3**	**-1.2**
CHCH	**Chadas Angostu**	**1.49**	**76**	⇑ *i*P	**Pn**	**16 08 14.8**	**+0.2**
RCDM	**Rinconada Maip**	**1.55**	**59**	*e*P	**Pn**	**16 08 15.5**	**0.0**
RCDM				*i* S	**Sn**	**16 08 33.9**	**-1.3**
RCDM				AMP		16 08 42.7	
	comp=E,4μm,0.4s						
ANTU	**Antumapu**	**1.64**	**64**	*e*P	**Pn**	**16 08 17.4**	**+0.7**
ANTU				*i* S	**Sn**	**16 08 37.0**	**-0.4**
ANTU				AMP		16 08 44.7	
	comp=E,5μm,0.5s						
SAN	**Santiago**	**1.67**	**60**	*e*P	**Pn**	**16 08 17.7**	**+0.5**
SAN				*e*S	**Sn**	**16 08 38.0**	**-0.3**
SAN				AMP		16 08 45.0	
	comp=N,4μm,0.6s						
PCH	**Pirque**	**1.71**	**67**	⇑ *i*P	**Pn**	**16 08 18.4**	**+0.7**
PCH				*i* S	**Sn**	**16 08 39.4**	**+0.2**
ROCH	**El Roble**	**1.76**	**42**	⇑ *i*P	**Pn**	**16 08 18.9**	**+0.5**
ROCH				*i* S	**Sn**	**16 08 41.5**	**+1.0**
FSR	**Penalolen**	**1.76**	**63**	*i* S	**Sn**	**16 08 40.8**	**+0.3**
FSR				AMP		16 08 53.4	
	comp=E,3μm,0.3s						
DSCH	**Colegio Aleman**	**1.77**	**60**	*e*P	**Pn**	**16 08 19.1**	**+0.5**
DSCH				*i* S	**Sn**	**16 08 40.7**	**0.0**
DSCH				AMP		16 08 47.0	
	comp=E,6μm,0.4s						
CLCH	**Cerro Calan**	**1.79**	**60**	⇑ *i*P	**Pn**	**16 08 19.4**	**+0.5**
CLCH				*i* S	**Sn**	**16 08 40.9**	**-0.5**
CLCH				AMP		16 08 55.5	
	comp=E,3μm,0.3s						
CLCH				AMP		16 08 56.0	
	comp=E,4μm,0.5s						
SJCH	**San Jose de Ma**	**1.82**	**69**	*e*P	**Pn**	**16 08 19.9**	**+0.6**
SJCH				*i* S	**Sn**	**16 08 42.1**	**0.0**
SJCH				AMP		16 08 47.2	
	comp=E,3μm,0.4s						
PEL	**Peldehue**	**1.83**	**52**	‖ *i*P	**Pn**	**16 08 20.4**	**+0.8**
FCH	**Farellones**	**2.00**	**62**	⇑ *i*P	**Pn**	**16 08 22.5**	**+0.6**
FCH				*i* S	**Sn**	**16 08 47.8**	**+1.0**
FCH				AMP		16 08 54.6	
	comp=N,2μm,0.5s						
JACH	**Jahuel**	**2.21**	**44**	*e*P	**Pn**	**16 08 25.2**	**+0.3**
MDZ	**Mendoza**	**3.28**	**66**	*e*P	**Pn**	**16 08 35.7**	**-4.5**
MDZ				*i*		16 08 47.8	
MDZ				S	**Sn**	**16 09 18.7**	**-0.4**
CFAA	**Coronel Fontan**	**4.41**	**54**	Pn	**Pn**	**16 08 56.3**	**+0.1**
	comp=N,0.8nm,0.3s,baz=210,slow=13,SNR=3.7						
CFAA				Sn	**Sn**	**16 09 52.8**	**+5.1**
	comp=N,0.5nm,0.3s,baz=223,slow=14,SNR=3.3						
CFAA				LR	LR	16 10 39.6	
	comp=N,81nm,18.1s,baz=226,slow=38						
CFAA	**Coronel Fontan**	**4.41**	**54**	Pn	**Pn**	**16 08 56.3**	**+0.1**
CFAA				Sn	**Sn**	**16 09 52.8**	**+5.1**
CFAA				LR	LR	16 10 39.6	
PLCA	**Paso Flores**	**6.59**	**168**	Pn	**Pn**	**16 09 26.6**	**-0.4**
	comp=N,0.2nm,0.3s,baz=345,slow=12,SNR=2.2						
PLCA				Sn	**Sn**	**16 10 59.7**	**+17**
	comp=N,0.0nm,0.3s,baz=51,slow=6.7,SNR=2.3						
PLCA				LR	LR	16 12 11.5	
	comp=N,205nm,18.5s,baz=159,slow=39						
PLCA	**Paso Flores**	**6.59**	**168**	*e*P	**Pn**	**16 09 26.1**	**-0.9**
	comp=N,2.5nm,0.6s						
PLCA				Pn	**Pn**	**16 09 26.6**	**-0.4**
PLCA				Sn	**Sn**	**16 10 59.7**	**+17**
PLCA				LR	LR	16 12 11.5	
TRQA	**Tornquist**	**9.22**	**117**	*e*P	**P**	**16 10 03.4**	**-0.3**
	comp=N,46nm,1.6s						
LVC	**Limon Verde**	**12.04**	**16**	Pn	**P**	**16 10 34.3**	**-7.9**
	comp=N,0.3nm,0.3s,baz=287,slow=7.8,SNR=3.7						
LVC				Sn	**S**	**16 13 07.2**	**+10**
	comp=N,0.2nm,0.3s,baz=303,slow=22,SNR=2.8						
CPUP	**Villa Florida**	**15.23**	**63**	LR	LR	16 17 52.2	
	comp=N,331nm,18.2s,baz=126,slow=39						
LPAZ	**La Paz**	**18.34**	**13**	P	**P**	**16 12 02.4**	**-1.3**
	comp=N,0.3nm,0.3s,baz=186,slow=7.9,SNR=13						
LPAZ	**La Paz**	**18.34**	**13**	*e*P	**P**	**16 12 02.7**	**-1.1**
	comp=N,5.0nm,1.0s						
SIV	**San Ignacio**	**20.88**	**32**	P	**P**	**16 12 29.5**	**-2.8**
	comp=N,7.0nm,0.7s,baz=219,slow=12,SNR=23						
SNAA	**Sanae**	**51.42**	**158**	P	**P**	**16 16 53.5**	**-0.5**
	comp=N,0.8nm,1.1s,mb3.6,baz=289,slow=7.7,SNR=4.9						
WRA	**Warramunga Arr**	**120.36**	**209**	PKP	PKPdf	16 26 39.4	-3.7
	comp=N,0.3nm,0.9s,baz=155,slow=1.7,SNR=3.7						
BVAR	**Borovoye Array**	**147.70**	**43**	PKPbc	PKPdf	16 27 30.8	-1.7
	comp=N,1.3nm,0.8s,baz=294,slow=1.5,SNR=6.5						
MKAR	**Makanchi Array**	**157.18**	**49**	PKPab	PKPab	16 28 11.8	-3.9
	comp=N,0.1nm,0.6s,baz=315,slow=3.4,SNR=4.1						
MKAR	**Makanchi Array**	**157.18**	**49**	PKPab	PKPab	16 28 11.8	-3.9

MAN 10 16:58:00.9, 11.87N×125.98E, h14km, mb4.1, ML2.9, MS2.6, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.59**	**243**	*e*P	Pb	16 58 12.7	+0.2
CNP	**Cataman**	**1.44**	**296**	*e*P	Pn	16 58 27.4	+0.8
CNP				*e*S	Sb	16 58 45.4	+0.5
MSLP	**Maasin**	**2.05**	**213**	*e*P	Pn	16 58 39.3	+3.9
MSLP				*e*S	Sn	16 59 08.0	+7.1
PVCP	**Virac**	**2.47**	**314**	*e*P	Pn	16 58 40.8	-0.6

MAN 10 17:00:29.6, 11.49N×125.10E, h32km, mb4.0, ML2.8, MS2.5, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.35**	**71**	*e*P	Pb	17 00 39.4	+1.5
BESP				*e*S	Sb	17 00 46.2	+2.7
CNP	**Cataman**	**1.10**	**337**	*e*P	Pn	17 00 48.9	-0.1
CNP				*e*S	Sn	17 01 02.9	-0.2
PVCP	**Virac**	**2.29**	**336**	*e*P	Pn	17 01 05.6	-0.4

*IDC **10** 17:17:38.9±3.1, 35.02N×26.30E, mb3.8/1, mb1 3.5/4, mb1mx3.4/21, mbtmp3.4/4, ML3.6/3, Error ellipse: s-maj=58.9km s-min=12.7km az=178.0*

*ISK **10** 17:17:39.0, 35.07N×26.09E, h32km, MD3.7*

*ATH **10** 17:17:42.2, 35.44N×26.19E, h28km±1km, MD3.8/10, ML4.1*

*NEIC **10** 17:17:42.1, 35.43N×26.19E, h28km, MD3.7(ISK), ML4.1(ATH), After ATH.*

*CSEM **10** 17:17:42.7±0.1, 35.32N×26.26E, h30km, ML4.1, Error ellipse: s-maj=3.3km s-min=1.7km az=166.0*

ISC 10 17:17:41.3±1.2, 35.21N±0.05×26.24E±0.03, h24km±13km, n46, σ1§13/51, mb3.7/1, 2C, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPS	**Neapolis**	**0.52**	**276**	⇑ *i*PN	**Pn**	**17 17 53.0**	**0.0**
NPS				*e*SN	**Sn**	**17 17 59.6**	**-1.5**
XRY	**Khrisi**	**0.56**	**233**	*e*PN	**Pn**	**17 17 56.0**	**+2.4**
KARP	**Karpathos**	**0.82**	**66**	⇑ *i*PN	**Pn**	**17 17 58.0**	**+0.6**
KARP				*e*SN	**Sn**	**17 18 09.2**	**+0.3**
IDI	**Anoyia**	**1.11**	**274**	Pg	**Pb**	**17 18 02.9**	**+1.2**
	128nm,0.3s,baz=80,slow=13,SNR=718						
IDI				Lg		17 18 16.8	
	337nm,0.3s,baz=172,slow=21,SNR=16						
IDI	**Anoyia**	**1.11**	**274**	Pg	**Pb**	**17 18 02.8**	**+1.2**
THR1	**Thera Island**	**1.32**	**331**	*e*P	**Pn**	**17 18 05.5**	**+1.0**
SANT	**Santorini**	**1.32**	**331**	*e*P	**Pn**	**17 18 03.1**	**-1.4**
THR6	**Thira Island,**	**1.33**	**329**	*e*P	**Pn**	**17 18 07.2**	**+2.5**
THR3	**Thira Island,**	**1.38**	**331**	*e*P	**Pn**	**17 18 06.9**	**+1.6**
THR5	**Thira Island,**	**1.41**	**329**	*e*P	**Pn**	**17 18 06.4**	**+0.7**
THR4	**Thira Island,**	**1.42**	**331**	*e*P	**Pn**	**17 18 06.4**	**+0.4**
VAM	**Vamos**	**1.68**	**277**	*e*PB	**Pb**	**17 18 10.3**	**-1.0**
GVD	**Gavdhos**	**1.81**	**259**	*e*P	**Pn**	**17 18 16.6**	**+5.2**
ARG	**Arkhangelos**	**1.83**	**56**	*e*PN	**Pn**	**17 18 13.1**	**+1.3**
APE	**Apeiranthos**	**1.94**	**343**	*e*PN	**Pn**	**17 18 11.9**	**-1.5**
APE	**Apeiranthos**	**1.94**	**343**	*e*Pn	**Pn**	**17 18 12.3**	**-1.1**
BODT	**Bodrum**	**2.04**	**25**	*e*PN	**Pn**	**17 18 14.6**	**-0.2**
BODT				*e*SN	**Sn**	**17 18 40.3**	**+0.5**
MLSB	**Milas**	**2.42**	**30**	*e*PN	**Pn**	**17 18 20.1**	**-0.1**
DALT	**Dalyan (Mudla)**	**2.49**	**51**	*e*PN	**Pn**	**17 18 21.0**	**-0.2**
YER	**Yerkesik**	**2.53**	**40**	PN	**Pn**	**17 18 21.9**	**0.0**
KYTH	**Kithira**	**2.82**	**293**	*e*PN	**Pn**	**17 18 25.5**	**-0.4**
VLI	**Veliai**	**3.07**	**300**	*e*PN	**Pn**	**17 18 29.1**	**-0.4**
BLCB	**Balcova**	**3.23**	**11**	*e*PN	**Pn**	**17 18 31.4**	**-0.4**
IZM	**Izmir**	**3.29**	**14**	*e*PN	**Pn**	**17 18 32.1**	**-0.4**
ELL	**Elmali**	**3.35**	**62**	*e*PN	**Pn**	**17 18 32.5**	**-1.0**
DENT	**Denizli**	**3.39**	**41**	*e*PN	**Pn**	**17 18 34.1**	**0.0**
ATH	**Athens Observa**	**3.42**	**324**	*e*PN	**Pn**	**17 18 33.5**	**-1.0**
ATH	**Athens Observa**	**3.42**	**324**	*e*Pn	**Pn**	**17 18 34.3**	**-0.2**
ANTB	**Antalya**	**3.95**	**63**	*e*PN	**Pn**	**17 18 41.8**	**-0.2**
ITM	**Ithomi**	**4.00**	**301**	*e*PN	**Pn**	**17 18 43.2**	**+0.4**
ITM	**Ithomi**	**4.00**	**301**	*e*Pn	**Pn**	**17 18 43.5**	**+0.7**
AOS	**Alonnisos**	**4.38**	**335**	*e*P	**Pn**	**17 18 46.9**	**-1.2**
LOS	**Limnos**	**4.80**	**349**	*e*P	**Pn**	**17 18 49.9**	**-4.2**
XOR	**Xorichti**	**4.81**	**331**	*e*P	**Pn**	**17 18 54.0**	**-0.2**
AGG	**Agios Georgios**	**4.92**	**322**	*e*P	**Pn**	**17 18 56.1**	**+0.3**
PAIG	**Paliouri**	**5.13**	**337**	*e*P	**Pn**	**17 18 56.7**	**-2.0**
LEF	**Lefka**	**5.45**	**89**	*e*PN	**Pn**	**17 19 02.3**	**-0.9**
KIZT	**Kizilcal**	**5.81**	**49**	*e*PN	**Pn**	**17 19 08.5**	**+0.2**
SRS	**Serrai**	**6.25**	**341**	*e*P	**Pn**	**17 19 11.7**	**-2.9**
IGT	**Igoumenitsa**	**6.38**	**314**	*e*P	**Pn**	**17 19 17.8**	**+1.4**
FNA	**Florina**	**6.76**	**327**	*e*P	**Pn**	**17 19 21.0**	**-0.7**
BRTR	**Keskin Array B**	**7.41**	**50**	Pn	**Pn**	**17 19 29.1**	**-1.7**
	0.2nm,0.3s,baz=250,slow=13,SNR=3.6						
BRTR				Sn	**Sn**	**17 20 57.5**	**+2.6**
	0.1nm,0.3s,baz=22,slow=27,SNR=2.7						
ASF	**Jabal al Asfar**	**9.38**	**106**	Pn	**P**	**17 19 59.3**	**+1.1**
	0.3nm,0.3s,baz=304,slow=7.3,SNR=2.3						
ASF				Sn	**Sn**	**17 21 42.1**	**-1.9**
	0.5nm,0.3s,baz=217,slow=17,SNR=2.5						
AKASG	**Malin Array Be**	**15.63**	**7**	Pn	**P**	**17 21 22.4**	**+0.8**
	0.8nm,0.3s,baz=198,slow=10,SNR=3.0						
GERES	**GERESS Array B**	**16.47**	**330**	Pn	**P**	**17 21 34.2**	**+1.8**
	0.1nm,0.3s,baz=171,slow=13,SNR=3.0						
MKAR	**Makanchi Array**	**43.01**	**57**	P	**P**	**17 25 40.1**	**-0.2**
	0.5nm,0.3s,mb3.7,baz=270,slow=7.4,SNR=14						

*CSEM **10** 17:31:39.7±0.1, 34.89N×3.69W, h2km, ML3.5/3, Error ellipse: s-maj=2.7km s-min=1.8km az=106.0*

*CNRM **10** 17:31:40.5, 35.05N×3.79W, h5km, MD3.9*

*MDD **10** 17:31:42.4±0.6, 34.94N×3.80W, h2km±6km, mbLg2.7/15, Error ellipse: s-maj=7.2km s-min=3.6km az=123.0, PRXIMO*

*INMG **10** 17:31:44.2±1.1, 34.98N×3.78W, h19km±14km, ML2.8, Error ellipse: s-maj=14.4km s-min=4.6km az=152.0*

*NEIC **10** 17:31:44.6, 35.11N×3.80W, h4km, MG3.7(MDD), After MDD.*

*SFS **10** 17:31:44.0, 35.11N×3.80W, h4km*

ISC 10 17:31:40.3±0.3, 35.01N±0.02×3.91W±0.03, h2km, n79, σ1§26/140, 1C, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOU	**Touzarine**	**0.14**	**109**	P	**Pg**	**17 31 42.5**	**-0.6**
TOU				S	**Sg**	**17 31 44.0**	**-0.9**
TOU	**Touzarine**	**0.14**	**109**	*i* P	**Pg**	**17 31 42.5**	**-0.6**
EMEL	**Melilla**	**0.84**	**69**	P	**Pg**	**17 31 57.4**	**+0.4**
	SNR=28						
EMEL				S	**Sg**	**17 32 08.3**	**+0.2**
	2μm,0.3s,SNR=6.7						
EMLI	**Melilla**	**0.84**	**69**	P	**Pg**	**17 31 57.4**	**+0.3**
	SNR=28						
EMLI				S	**Sg**	**17 32 08.3**	**0.0**
	2μm,0.3s,SNR=6.7						
MELI	**Melilla**	**0.85**	**70**	⇑ P	**Pg**	**17 31 57.4**	**+0.1**
MELI	**Melilla**	**0.85**	**70**	*i* P	**Pg**	**17 31 57.4**	**+0.1**
MELI				*i* S	**Sg**	**17 32 09.8**	**+1.2**
TZK	**Tazeka**	**0.94**	**194**	*i* P	**Pb**	**17 31 59.0**	**0.0**
TZK				*i* S	**Sg**	**17 32 13.0**	**+1.3**
ZAI	**Zaio**	**0.96**	**92**	*i* P	**Pb**	**17 31 56.0**	**-3.3**
ZAI				*i* S	**Sg**	**17 32 08.5**	**-3.7**
EALB	**Alboran**	**1.18**	**37**	P	**Pb**	**17 32 03.5**	**+0.5**
	142nm,0.4s,SNR=7.9						
EALB				S	**Sb**	**17 32 17.4**	**-1.1**
	121nm,0.2s,SNR=7.9						
EALB	**Alboran**	**1.18**	**37**	P	**Pb**	**17 32 03.5**	**+0.5**
	142nm,0.4s,SNR=7.9						
EALB				S	**Sb**	**17 32 17.4**	**-1.1**
	121nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**1.70**	**336**	P	**Pn**	**17 32 12.2**	**+1.0**
	17nm,0.3s,SNR=7.9						
EMIJ				S	**Sb**	**17 32 31.9**	**-1.9**
	77nm,0.3s,SNR=7.9						
EMIJ	**Mijas**	**1.70**	**336**	P	**Pn**	**17 32 13.0**	**+1.8**
	17nm,0.3s,SNR=7.9						
EMIJ	**Mijas**	**1.70**	**336**	P	**Pn**	**17 32 13.0**	**+1.8**
EMIJ				S	**Sb**	**17 32 29.9**	**-3.9**
EGUA	**Guajares**	**1.84**	**9**	P	**Pn**	**17 32 14.5**	**+1.2**
	1.9nm,0.2s,SNR=7.9						
EGUA				S	**Sn**	**17 32 36.2**	**-1.3**
	4.4nm,0.3s,SNR=7.9						
EGUA	**Guajares**	**1.84**	**9**	P	**Pn**	**17 32 14.3**	**+1.1**
	2.3nm,0.2s,SNR=7.9						
EGUA				S	**Sn**	**17 32 36.2**	**-1.3**
	4.4nm,0.3s,SNR=7.9						
EGUA	**Guajares**	**1.84**	**9**	P	**Pn**	**17 32 14.3**	**+1.0**
EGUA				S	**Sn**	**17 32 36.2**	**-1.3**
ERON	**Agron**	**2.01**	**2**	P	**Pn**	**17 32 16.5**	**+0.9**
	2.0nm,0.2s,SNR=9.2						
ERON				S	**Sn**	**17 32 41.2**	**-0.4**
	14nm,0.4s,SNR=4.0						
ERON	**Agron**	**2.01**	**2**	P	**Pn**	**17 32 16.5**	**+0.9**
ERON				S	**Sn**	**17 32 41.2**	**-0.4**
EBER	**Berja**	**2.06**	**23**	P	**Pn**	**17 32 17.0**	**+0.6**
	3.7nm,0.2s,SNR=7.9						
EBER				S	**Sn**	**17 32 42.7**	**-0.2**
	55nm,0.3s,SNR=7.9						
EBER	**Berja**	**2.06**	**23**	P	**Pn**	**17 32 16.7**	**+0.4**
	1.1nm,0.2s,SNR=7.9						
EBER				S	**Sn**	**17 32 40.4**	**-2.6**
	55nm,0.3s,SNR=7.9						
EBER	**Berja**	**2.06**	**23**	P	**Pn**	**17 32 16.7**	**+0.4**
EBER				S	**Sn**	**17 32 40.4**	**-2.6**
ELOJ	**Sierra Loja**	**2.14**	**355**	P	**Pn**	**17 32 18.7**	**+1.2**
	3.5nm,0.2s,SNR=8.8						
ELOJ				S	**Sn**	**17 32 43.9**	**-1.2**
	9.9nm,0.3s,SNR=4.0						
ELOJ	**Sierra Loja**	**2.14**	**355**	P	**Pn**	**17 32 18.7**	**+1.1**
ELOJ				S	**Sn**	**17 32 43.9**	**-1.2**
CZD	**Col de Zad**	**2.18**	**206**	*i* P	**Pn**	**17 32 18.0**	**-0.1**
CZD				*i* S	**Sn**	**17 32 45.0**	**-1.1**
EQUE	**Quentar**	**2.23**	**10**	P	**Pn**	**17 32 20.4**	**+1.7**
	8.5nm,0.4s,SNR=7.9						
LIJA	**Lijar**	**2.25**	**328**	*i* P	**Pn**	**17 32 22.8**	**+3.8**
LIJA				*e*S	**Sn**	**17 32 53.0**	**+5.3**
ECOG	**Cogollos-Vega**	**2.28**	**7**	P	**Pn**	**17 32 20.7**	**+1.2**
	5.7nm,0.2s,SNR=6.2						
ECOG				S	**Sn**	**17 32 46.9**	**-1.7**
	3.3nm,0.2s,SNR=4.0						
ECOG	**Cogollos-Vega**	**2.28**	**7**	P	**Pn**	**17 32 20.7**	**+1.2**
ECOG				S	**Sn**	**17 32 46.9**	**-1.7**
ESPR	**Espera**	**2.44**	**320**	P	**Pn**	**17 32 24.1**	**+2.4**
	8.1nm,0.4s,SNR=7.9						
ESPR				S	**Sn**	**17 32 53.8**	**+1.3**
	31nm,0.4s,SNR=7.9						
ESPR	**Espera**	**2.44**	**320**	P	**Pn**	**17 32 24.1**	**+2.4**
	8.1nm,0.4s,SNR=7.9						
ESPR				S	**Sn**	**17 32 53.8**	**+1.3**
	31nm,0.4s,SNR=7.9						
ELUQ	**Luque**	**2.56**	**354**	P	**Pn**	**17 32 25.1**	**+1.6**
	14nm,0.4s,SNR=11						
ELUQ				S	**Sn**	**17 32 56.5**	**+0.8**
	5.3nm,0.2s,SNR=4.0						
ELUQ	**Luque**	**2.56**	**354**	P	**Pn**	**17 32 25.1**	**+1.6**
ELUQ				S	**Sn**	**17 32 53.2**	**-2.6**
EQES	**Quesada**	**2.87**	**13**	P	**Pn**	**17 32 29.9**	**+2.0**
	11nm,0.3s,SNR=7.9						
EQES				S	**Sn**	**17 33 03.5**	**0.0**
	42nm,0.6s,SNR=7.9						
EQES	**Quesada**	**2.87**	**13**	P	**Pn**	**17 32 29.9**	**+2.0**
	11nm,0.3s,SNR=7.9						
EQES				S	**Sn**	**17 33 03.5**	**0.0**
	42nm,0.6s,SNR=7.9						
ZFT	**Errachidia**	**2.99**	**187**	*i* P	**Pn**	**17 32 28.0**	**-1.6**
ZFT				*i* S	**Sn**	**17 33 04.0**	**-2.5**
EHUE	**Huescar**	**3.00**	**20**	P	**Pn**	**17 32 30.8**	**+1.0**
	0.3nm,0.2s,SNR=7.9						
EHUE				S	**Sn**	**17 33 05.7**	**-1.1**
	1.6nm,0.1s,SNR=4.0						
EHUE	**Huescar**	**3.00**	**20**	P	**Pn**	**17 32 30.8**	**+1.1**
	0.3nm,0.2s,SNR=7.9						
EHUE				S	**Sn**	**17 33 03.0**	**-3.7**
	1.6nm,0.1s,SNR=4.0						
EHUE	**Huescar**	**3.00**	**20**	P	**Pn**	**17 32 30.8**	**+1.0**
EHUE				S	**Sn**	**17 33 03.0**	**-3.7**
EBAN	**Banos Encina**	**3.15**	**2**	P	**Pn**	**17 32 34.0**	**+2.1**
	2.3nm,0.4s,SNR=4.0						
EBAN	**Banos Encina**	**3.15**	**2**	P	**Pn**	**17 32 34.0**	**+2.1**
EBAN				S	**Sn**	**17 33 06.6**	**-4.1**
EADA	**Adamuz**	**3.20**	**351**	P	**Pn**	**17 32 34.2**	**+1.7**
	3.2nm,0.4s,SNR=7.9						
EADA	**Adamuz**	**3.20**	**351**	P	**Pn**	**17 32 34.2**	**+1.6**
	3.2nm,0.4s,SNR=7.9						
EADA	**Adamuz**	**3.20**	**351**	P	**Pn**	**17 32 34.2**	**+1.7**
EADA				S	**Sn**	**17 33 09.3**	**-2.5**
ECAB	**El Cabril**	**3.29**	**339**	P	**Pn**	**17 32 35.0**	**+1.1**
	3.1nm,0.3s,SNR=13						
ECAB				S	**Sn**	**17 33 12.3**	**-1.9**
	6.9nm,0.3s,SNR=4.9						
ECAB	**El Cabril**	**3.29**	**339**	P	**Pn**	**17 32 35.0**	**+1.1**
	3.1nm,0.3s,SNR=13						
EMIN	**Mina Concepcio**	**3.54**	**322**	P	**Pn**	**17 32 37.6**	**+0.1**
	2.7nm,0.2s,SNR=7.9						
EMIN				S	**Sn**	**17 33 16.9**	**-3.6**
	5.9nm,0.5s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.54**	**322**	P	**Pn**	**17 32 37.6**	**+0.2**
	2.7nm,0.2s,SNR=7.9						
EVIA	**Vianos**	**3.80**	**17**	P	**Pn**	**17 32 41.2**	**+0.1**
	2.4nm,0.3s,SNR=4.9						
EVIA	**Vianos**	**3.80**	**17**	P	**Pn**	**17 32 41.2**	**+0.2**
EVIA				S	**Sn**	**17 33 22.4**	**-4.6**
ETOB	**Tobarra**	**4.10**	**27**	P	**Pn**	**17 32 45.4**	**+0.1**
	3.6nm,0.2s,SNR=7.9						
ETOB				S	**Sn**	**17 33 31.9**	**-2.7**
	3.3nm,0.5s,SNR=7.9						
ETOB	**Tobarra**	**4.10**	**27**	P	**Pn**	**17 32 45.4**	**+0.1**
	3.6nm,0.2s,SNR=7.9						
ETOB				S	**Sn**	**17 33 30.0**	**-4.6**
	3.3nm,0.5s,SNR=7.9						
ETOB	**Tobarra**	**4.10**	**27**	P	**Pn**	**17 32 45.4**	**+0.1**
ETOB				S	**Sn**	**17 33 30.0**	**-4.6**
PBEJ	**Beja**	**4.38**	**315**	*e*Pn	**Pn**	**17 32 50.7**	**+1.3**
PBEJ				*e*Sn	**Sn**	**17 33 39.9**	**-1.9**
	6.9nm,0.1s						
PBEJ	**Beja**	**4.38**	**315**	P	**Pn**	**17 32 50.7**	**+1.3**
PBEJ				S	**Sn**	**17 33 39.9**	**-1.9**
	3.5nm,0.1s						
PBEJ	**Beja**	**4.38**	**315**	Pn	**Pn**	**17 32 48.9**	**-0.5**
PBEJ				*e*Sn	**Sn**	**17 33 39.9**	**-1.9**
	6.9nm,0.1s						
PBEJ	**Beja**	**4.38**	**315**	Pn	**Pn**	**17 32 48.9**	**-0.5**
PBEJ				Sn	**Sn**	**17 33 36.7**	**-5.1**
PTEO	**Sao Teotonio**	**4.64**	**304**	*e*Pn	**Pn**	**17 32 54.1**	**+1.1**
PTEO				*e*Sn	**Sn**	**17 33 46.0**	**-2.3**
	13nm,0.8s						
PTEO	**Sao Teotonio**	**4.64**	**304**	P	**Pn**	**17 32 54.1**	**+1.1**
PTEO				S	**Sn**	**17 33 46.0**	**-2.3**
	6.6nm,0.8s						
PTEO	**Sao Teotonio**	**4.64**	**304**	Pn	**Pn**

VNA3	Neumayer Olymp	88.59	176		P	18 43 09.6	+0.1
VNA2	Neumayer--Watz	89.03	177		P	18 43 12.0	+0.4
MKAR	Makanchi Array	110.96	314	PKiKP		18 48 46.1	
	0.1nm,0.5s,baz=243,slow=2.7,SNR=4.6						
BVAR	Borovoye Array	118.79	320	PKP	PKPdf	18 49 00.7	-0.3
	0.5nm,0.3s,baz=180,slow=1.5,SNR=4.9						
HFS	Hagfors	139.11	351	PKhKP		18 49 31.0	
	2.6nm,0.9s,baz=34,slow=5.3,SNR=4.2						
AKASG	Malin Array Be	142.66	331	PKP	PKPdf	18 49 42.9	-2.8
	0.8nm,0.5s,baz=39,slow=4.4,SNR=5.1						
BRTR	Keskin Array B	146.60	313	PKPbc	PKPbc	18 49 54.8	+0.1
	0.7nm,0.5s,baz=153,slow=5.5,SNR=3.8						
CLL	Collm	147.64	347	*i* PKP1	PKPdf	18 49 59.1	+5.1
GERES	GERESS Array B	149.79	345	PKPbc	PKPdf	18 50 04.2	+6.7
	1.0nm,0.8s,slow=4.0,SNR=7.8						

*IDC **10** 18:32:02.2±0.9, 44.73N×36.04E, mb3.3/2, mb1 3.7/7, mb1mx3.5/21, mbtmp3.5/7, ML3.6/4, Error ellipse: s-maj=17.2km s-min=9.0km az=33.0*
*TIF **10** 18:32:03.4, 44.58N×36.06E, h13km±2km*
*MOS **10** 18:32:04.5±2.6, 44.92N×36.08E, h33km, mb3.7/1, Error ellipse: s-maj=11.2km s-min=8.6km az=9.6*
*CSEM **10** 18:32:04.1±0.1, 44.93N×36.12E, h60km, mb3.7, Error ellipse: s-maj=4.5km s-min=2.2km az=8.0*

ISC 10 18:32:05.1±0.4, 44.94N±0.05×36.13E±0.03, h33km, n26, σ1§36/38, mb3.2/2, 5C-3D, Crimea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KERU	Kerch	0.43	33	*i* P	S	18 32 21.7	+0.2
FEO	Feodosiya	0.53	278	*i* P	P	18 32 17.7	+1.7
FEO				*i* S	S	18 32 28.0	+4.1
SUDU	Sudak	0.80	267	*i* P	P	18 32 20.6	+0.7
SUDU				*i* S	S	18 32 32.9	+2.0
ANN	Anapa	0.94	98	*i* P	P	18 32 22.4	+0.5
	7.0nm,0.3s						
ANN				*i* S	S	18 32 36.0	+1.6
ANN	Anapa	0.94	98	*c i* P	P	18 32 22.4	+0.5
ANN				*i*		18 32 36.0	
ANN				pmax	pmax		
	comp=Z,26nm,0.5s						
ANN				pmax	pmax		
	comp=N,7.0nm,0.3s						
ANN				pmax	pmax		
	comp=E,12nm,0.5s						
ANN				smax			
	comp=N,363nm,0.4s						
ANN				smax			
	comp=E,478nm,0.4s						
ANN				smax			
	comp=Z,43nm,0.4s						
ALU	Alushta	1.25	259	*i* P	P	18 32 26.4	0.0
ALU				*i* S	S	18 32 43.2	+0.8
SIM	Simferopol'	1.43	271	*e* P	P	18 32 29.7	+0.8
	comp=Z,32nm,0.2s						
SIM				*e* S	S	18 32 48.4	+1.7
SIM	Simferopol'	1.43	271	⇓*e* P	P	18 32 29.7	+0.8
SIM				*e* S	S	18 32 48.4	+1.7
SIM				pmax	pmax		
	comp=Z,32nm,0.2s						
YAL	Yalta	1.48	253	*i* P	P	18 32 29.4	-0.3
YAL				*i* S	S	18 32 48.6	+0.6
SEV	Sevastopol'	1.80	258	*e* P	P	18 32 34.5	+0.3
SEV				*e* S	S	18 32 57.5	+1.4
TLCR		5.19	275	⇑P	P	18 33 21.0	-1.4
TIRR	Tirgusor	5.52	268	⇑P	P	18 33 25.4	-1.7
BRTR	Keskin Array B	5.53	200	Pn	Pn	18 33 21.4	-6.0
	comp=Z,0.2nm,0.3s,baz=14,slow=12,SNR=4.0						
BRTR				Sn	Sn	18 34 23.6	-7.0
	comp=Z,0.1nm,0.3s,baz=207,slow=22,SNR=2.4						
BRTR				Lg		18 34 42.9	
	comp=Z,0.1nm,0.3s,baz=50,slow=22,SNR=3.9						
CFR	Carcaliu	5.67	275	⇑P	P	18 33 26.1	-3.0
HARR	Harsova	5.84	270	⇑P	P	18 33 29.0	-2.5
VRI	Vrincioaia	6.68	281	⇓P	P	18 33 42.3	-1.1
MLR	Muntele Rosu	7.21	278	Pn	Pn	18 33 50.0	-1.1
	comp=Z,0.7nm,0.3s,baz=340,slow=1.8,SNR=14						
MLR				Sn	Sn	18 35 10.8	-1.9
	comp=Z,1.2nm,0.3s,baz=310,slow=21,SNR=8.4						
MLR	Muntele Rosu	7.21	278	⇓P	P	18 33 50.3	-0.6
MLR	Muntele Rosu	7.21	278	P	P	18 33 50.0	-0.9
MLR						18 35 10.8	
MLR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG	Malin Array Be	7.40	324	Pn	Pn	18 33 51.9	-1.8
	comp=Z,1.8nm,0.3s,baz=134,slow=14,SNR=9.3						
AKASG				Sn	Sn	18 35 16.1	-1.1
	comp=Z,1.2nm,0.3s,baz=138,slow=24,SNR=5.0						
AKASG				Lg		18 35 58.0	
	comp=Z,1.3nm,0.3s,baz=142,slow=30,SNR=4.4						
GNI	Garni	7.96	124	Pn	Pn	18 34 00.7	-0.8
	comp=Z,0.5nm,0.3s,baz=32,slow=18,SNR=2.2						
GNI				Sn	Sn	18 35 29.6	-1.7
	comp=Z,0.6nm,0.3s,baz=287,slow=7.1,SNR=2.3						
GNI	Garni	7.96	124	P	P	18 34 00.7	-0.6
GNI						18 35 29.6	
GNI				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FINES	FINESS Array B	17.55	344	P	P	18 36 09.8	+1.3
	comp=Z,0.2nm,0.3s,baz=147,slow=13,SNR=5.3						
ARCES	ARCESS Array B	25.24	351	P	P	18 37 30.8	+1.7
	comp=Z,1.0nm,0.7s,mb3.5,baz=165,slow=8.6,SNR=5.7						
ARCES	ARCESS Array B	25.24	351	P	P	18 37 30.8	+1.7
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	Makanchi Array	31.84	70	P	P	18 38 31.2	+2.3
	comp=Z,0.1nm,0.5s,mb2.9,baz=276,slow=8.8,SNR=3.4						

IDC 10 18:35:57.2±1.7, 16.16S×178.71W, mb3.9/4, mb1 4.2/4, mb1mx3.9/14, mbtmp3.9/4, Error ellipse: s-maj=142.4km s-min=30.2km az=156.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	39.24	239	P	P	18 43 27.4	-1.8
	1.5nm,0.8s,baz=93,slow=18,SNR=2.5						
WRA	Warramunga Arr	44.69	258	P	P	18 44 12.6	-1.5
	0.3nm,0.4s,baz=92,slow=7.5,SNR=11						
FITZ	Fitzroy Crossi	53.05	259	P	P	18 45 16.2	-2.5
	1.1nm,0.4s,baz=44,slow=4.3,SNR=5.2						
TXAR	Lajitas Array	85.31	58	P	P	18 48 36.7	-1.2
	0.2nm,0.5s,baz=225,slow=5.3,SNR=6.2						

*NEIC **10** 18:37:37.1, 34.33S×72.33W, h31km, ML3.9(GUC), After GUC.*

GUC 10 18:37:37.1±0.8, 34.33S×72.33W, h31km±3km, MD4.1, ML3.9, 4C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	0.85	64	⇓*i* P	Pn	18 37 52.8	-0.2
LNV				*i* S	Sb	18 38 04.2	-0.1
LCCH	Las Cruces	1.06	37	⇓*i* P	Pn	18 37 56.0	-0.1
LCCH				*i* S	Sn	18 38 09.9	+0.1
CHCH	Chadas Angostu	1.44	75	⇑*i* P	Pn	18 38 02.1	+0.5
CHCH				*i* S	Sn	18 38 20.8	+1.2
STL	Santa Lucia	1.66	58	⇑*i* P	Pn	18 38 04.4	-0.3
STL				*i* S	Sn	18 38 25.8	+0.7
STL				AMP		18 38 32.0	
	comp=E,778nm,0.8s						
FSR	Penalolen	1.72	61	*i* P	Pn	18 38 06.1	+0.6
FSR				*i* S	Sn	18 38 29.2	+2.6
FSR				AMP		18 38 39.5	
	comp=E,2μm,0.8s						
CLCH	Cerro Calan	1.76	58	⇑*i* P	Pn	18 38 06.6	+0.6
CLCH				*i* S	Sn	18 38 29.7	+2.2
CLCH				AMP		18 38 40.3	
	comp=E,2μm,0.4s						
SJCH	San Jose de Ma	1.78	68	*i* S	Sn	18 38 30.0	+2.0
SJCH				AMP		18 38 34.2	
	comp=E,2μm,0.5s						
FCH	Farellones	1.97	60	⇑*i* P	Pn	18 38 09.6	+0.6
FCH				*i* S	Sn	18 38 34.8	+1.9
FCH				AMP		18 38 41.5	
	comp=N,2μm,0.2s						
CCHI	Chillan	2.28	175	AMP		18 39 03.1	
	comp=N,1μm,0.6s						

*CSEM **10** 18:54:32.7±0.1, 50.55N×16.07E, h15km, ML3.3/7, Error ellipse: s-maj=2.2km s-min=1.7km az=12.0*
*PRU **10** 18:54:33.4, 50.53N×16.08E, Tectonic Event-hronov, Felt In Male Svatonovice*
*IPEC **10** 18:54:33.7±0.1, 50.52N×16.10E, h9km, ML2.2/3, Error ellipse: s-maj=0.8km s-min=0.6km az=18.0*
*NEIC **10** 18:54:33.2±0.5, 50.47N×16.06E, h5km, ML2.9(VIE), Error ellipse: s-maj=7.4km s-min=5.0km az=191.0*

ISC 10 18:54:31.9±0.5, 50.49N±0.03×16.02E±0.03, h10km±4km, n25, σ1§26/45, 2C-1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPC	Upice	0.01	345	*e* PG	Pg	18 54 35.6	+1.8
UPC	Upice	0.01	345	Pg	Pg	18 54 35.6	+1.8
UPC				*e* Sg	Sg	18 54 36.8	+1.7
DPC	Dobruska-Polom	0.24	126	*e* PG	Pg	18 54 38.3	+1.2
DPC				*e* SG	Sg	18 54 41.5	+0.9
	74nm,0.2s						
DPC	Dobruska-Polom	0.24	126	*e* Pg	Pg	18 54 38.3	+1.2
DPC				*e* Sg	Sg	18 54 41.5	+0.9
KSP	Ksiaz	0.39	27	*e* Pg	Pg	18 54 39.7	-0.2
KSP				*e*		18 54 40.3	
KSP				*e* Sg	Sg	18 54 44.6	-0.7
KSP	Ksiaz	0.39	27	*e* Pg	Pg	18 54 40.1	+0.1
KSP				*e* Sg	Sg	18 54 44.6	-0.7
KSP	Ksiaz	0.39	27	⇑*i* Pg	Pg	18 54 40.3	+0.3
KSP				*e* Sg	Sg	18 54 44.6	-0.7
PVCC	Panska Ves	0.93	273	*e* Pg	Pg	18 54 52.0	+1.5
PVCC				*e* Sg	Sg	18 55 05.2	+2.3
PRU	Pruhonice	1.07	242	*e* PG	Pg	18 54 54.4	+0.9
PRU				*e* SG	Sg	18 55 10.1	+2.3
	41nm,0.1s						
PRU	Pruhonice	1.07	242	Pg	Pg	18 54 54.4	+0.9
PRU				*e* Sg	Sg	18 55 08.4	+0.6
MORC	Moravsky Berou	1.22	126	*e* Pg	Pg	18 54 55.8	-0.5
MORC				*e* Sg	Sg	18 55 11.6	-0.9
	30nm,0.2s						
MORC	Moravsky Berou	1.22	126	*e* P	Pb	18 54 55.7	+1.1
VRAC	Vranov	1.24	162	*e* Pg	Pg	18 54 57.0	+0.2
VRAC				*e* Sg	Sg	18 55 13.2	-0.3
	27nm,0.1s						
KRUC	Moravsky	1.45	170	*e* Pn	Pn	18 55 00.5	+2.1
KRUC				*e* Sg	Sg	18 55 19.3	-1.2
	20nm,0.1s						
OKC	Ostrava-Krasne	1.52	115	*e* PG	Pg	18 55 01.0	-1.3
OKC				*e* SG	Sg	18 55 21.0	-1.6
	11nm,0.2s						
OKC	Ostrava-Krasne	1.52	115	*e* Pg	Pg	18 55 00.9	-1.4
OKC				*e* Sg	Sg	18 55 20.8	-1.8
CLL	Collm	2.08	294	*i* PG	Pg	18 55 12.5	-0.9
CLL				*i* SG	Sg	18 55 39.1	-2.0
KHC	Kasperske Hory	2.09	230	*e* PG	Pg	18 55 12.8	-0.9
KHC				*e* SG	Sg	18 55 40.4	-1.1
	17nm,0.2s						
SMOL	Smolenice	2.19	155	*e* SN	Sn	18 55 38.4	+2.3
NKC	Novy Kostel	2.30	265	*e* PG	Pg	18 55 15.9	-2.0
NKC				*e* SG	Sg	18 55 47.3	-1.3
	17nm,0.3s						
ZST	Bratislava	2.41	162	*e* SG	Sg	18 55 50.7	-1.4
MOX	Moxa	2.81	275	*e* Pg	Pg	18 55 28.1	0.0
MOX				*e* Sg	Sg	18 56 04.6	-1.0
MOA	Molln	2.88	204	⇑*i* PN	Pn	18 55 19.8	+1.0
MOA				*i* SG	Sg	18 56 08.2	+0.1
	10nm,0.4s						
ARSA	Arzberg	3.26	186	⇓*i* PN	Pn	18 55 24.6	+0.4
ARSA				*i* SG	Sg	18 56 20.4	-0.2
	4.9nm,0.4s						
STHS	Stebnicka Huta	3.54	106	*e* SG	Sg	18 56 26.1	-3.8

IDC 10 19:16:46.9±13.0, 2.74S×69.47E, mb3.7/3, mb1 3.8/3, mb1mx3.5/16, mbtmp3.7/3, Error ellipse: s-maj=389.4km s-min=40.3km az=67.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	50.60	11	P	P	19 25 47.4	-2.2
	0.6nm,0.8s,baz=198,slow=7.7,SNR=7.6						
SONM	Songino Array	59.81	28	P	P	19 26 54.1	-2.2
	2.3nm,0.8s,baz=225,slow=6.3,SNR=10.0						
WRA	Warramunga Arr	65.47	111	P	P	19 27 32.4	-2.1
	0.3nm,0.6s,baz=285,slow=5.8,SNR=4.8						

*BJI **10** 19:51:26.0, 58.39N×32.55W, h5km, mB4.8, mb4.7, Ms4.3, Msz4.5*
*CSEM **10** 19:51:26.8±0.1, 58.24N×32.36W, h6km, mb4.6/55, Ms4.3, Error ellipse: s-maj=4.0km s-min=1.4km az=2.0*
*MOS **10** 19:51:27.6±1.0, 58.14N×32.37W, h10km, mb4.6/53, MS4.0/25, Error ellipse: s-maj=10.5km s-min=8.0km az=174.8*
*IDC **10** 19:51:27.1±0.5, 58.03N×32.41W, mb4.2/25, mb1 4.3/28, mb1mx4.3/32, mbtmp4.2/28, ML3.2/3, MS3.9/28, Ms1 3.9/28, ms1mx3.8/39, Error ellipse: s-maj=16.4km s-min=10.3km az=178.0*
*NEIC **10** 19:51:29.2±0.2, 58.10N×32.33W, h10km, mb4.6/52, MS4.3/8, Error ellipse: s-maj=7.3km s-min=2.8km az=184.0*

ISC 10 19:51:27.8±0.2, 58.16N±0.06×32.37W±0.04, h10km, (h8km±3.3km:pP-P), n283, σ1§07/276, mb4.5/90, MS4.0/40, 6C, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	Borgarnes	8.45	34	Pn	P	19 53 32.4	-0.8
	0.8nm,0.3s,baz=248,slow=4.6,SNR=4.2						
BORG				Sn	Sn	19 55 01.2	-8.5
	baz=249,slow=14,SNR=1.4						
BORG				LR	LR	19 55 54.0	
	comp=Z,675nm,19.4s,baz=232,slow=31						
BORG	Borgarnes	8.45	34	Pn	P	19 53 32.4	-0.8
BORG				Sn	Sn	19 55 01.2	-8.5
BORG				LR	LR	19 55 54.0	
SUMG	Summit	14.69	353	*e* P	P	19 54 56.8	-0.2
	20nm,1.1s						
SUMG	Summit	14.69	353	*e* P	P	19 54 56.8	-0.2
	20nm,1.1s						
DCN	Croghan	14.88	98	⇑*i* P	P	19 55 05.8	+6.1
DCN	Croghan	14.88	98	*e* P	P	19 54 57.8	-1.9
DCN				⇑*i* P		19 55 05.8	
DLF	Lyons Farm	15.30	97	⇑*i* P	P	19 55 09.9	+4.8
DLF	Lyons Farm	15.30	97	*e* P	P	19 55 02.3	-2.8
DLF				⇑*i* P		19 55 09.9	
DSB	Dublin	15.40	97	*e* P	P	19 55 05.5	-1.0
	26nm,0.9s						
DSB	Dublin	15.40	97	*e* P	P	19 55 05.5	-1.0
	26nm,0.9s						
ESK	Eskdalemuir	16.19	88	*e* P	P	19 55 15.6	-1.0
	54nm,1.4s						
ESK	Eskdalemuir	16.19	88	*e* P	P	19 55 15.6	-1.0
ESK				pmax	pmax		
	comp=Z,54nm,1.4s						
EKA	Eskdalemuir Ar	16.21	87	Pn	P	19 55 14.7	-2.1
	comp=Z,0.1nm,0.3s,baz=295,slow=16,SNR=12						
JMIC	Jan Mayen	16.26	28	LR	LR	19 59 39.0	
	comp=Z,98nm,18.1s,baz=286,slow=30						
SCHQ	Schefferville	19.18	275	P	P	19 55 52.5	-1.3
	comp=Z,0.3nm,0.3s,baz=77,slow=8.9,SNR=8.5						
SCHQ				LR	LR	20 02 09.3	
	comp=Z,671nm,18.8s,baz=100,slow=34						
SCHQ	Schefferville	19.18	275	P	P	19 55 52.5	-1.3
KONO	Kongsberg	21.47	68	*e* P	P	19 56 23.4	+5.3
NB2	NORSAR Subarra	21.93	64	P	P	19 56 22.7	-0.1
	comp=Z,4.8nm,1.1s,mb3.8,baz=271,slow=6.2						
NB2	NORSAR Subarra	21.93	64	P	P	19 56 22.7	-0.1
NB2				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb3.9						
NOA	NORSAR Array B	21.93	64	P	P	19 56 22.5	-0.3
	comp=Z,2.1nm,0.8s,mb3.6,baz=88,slow=14,SNR=5.8						
NOA				LR	LR	20 03 33.8	
	comp=Z,196nm,21.4s,MS3.5,baz=285,slow=33						
NOA	NORSAR Array B	21.93	64	P	P	19 56 22.5	-0.3
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NOA				MLR	MLR		
	comp=Z,196nm,21.4s						
WTSB	Winterswijk	23.01	89	*e* P	P	19 56 36.1	+2.7
	comp=Z,24nm,1.2s,mb4.5						
HGN	Heimansgroeve	23.19	92	*e* P	P	19 56 34.3	-0.8
	comp=Z,30nm,1.3s,mb4.6						
HGN				*e* S	S	20 00 40.0	-2.6
HFS	Hagfors	23.34	65	P	P	19 56 36.1	-0.4
	comp=Z,5.1nm,0.9s,mb4.0,baz=83,slow=12,SNR=2.9						
HFS				LR	LR	20 04 36.9	
	comp=Z,199nm,19.2s,MS3.6,baz=281,slow=34						
HFS	Hagfors	23.34	65	P	P	19 56 36.1	-0.4
HFS				pmax	pmax		
	comp=Z,5.0nm,0.9s						
HFS				MLR	MLR		
	comp=Z,199nm,19.3s						
BSEG	Bad Segeberg	23.90	82	*e* P	P	19 56 41.9	-0.1
LOR	Lormes	24.20	101	*e* P	P	19 56 46.0	+1.0
	comp=Z,37nm,1.3s,mb4.4						
LOR				*e* R			
	comp=Z,418nm,19.8s						
LOR	Lormes	24.20	101	*e* P	P	19 56 46.0	+1.0
LOR				pmax	pmax		
	comp=Z,18nm,1.3s,mb4.3						
LOR				MLR	MLR		
	comp=Z,420nm,19.8s,MS3.9						
AVF	Avril sur Loir	24.25	102	*e* P	P	19 56 43.9	-1.6
	comp=Z,18nm,1.0s,mb4.2						
AVF	Avril sur Loir	24.25	102	*e* P	P	19 56 43.9	-1.6
AVF				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.2						
TNS	Taunus Mts	24.83	91	*e* P	P	19 56 52.8	+1.8
	comp=Z,20nm,1.3s,mb4.5						
TNS	Taunus Mts	24.83	91	*e* P	P	19 56 52.8	+1.8
TNS				pmax	pmax		
	comp=Z,20nm,1.3s,mb4.5						
CAF	Calviac	24.86	107	*e* P	P	19 56 51.7	+0.4
	comp=Z,57nm,1.6s,mb4.6						
CAF	Calviac	24.86	107	*e* P	P	19 56 51.7	+0.4
CAF				pmax	pmax		
	comp=Z,29nm,1.6s,mb4.6						
CLZ	Clausthal	24.97	86	*e* P	P	19 56 52.5	+0.2
	comp=Z,23nm,1.4s,mb4.5						
CLZ	Clausthal	24.97	86	*e* P	P	19 56 52.5	+0.2
CLZ				pmax	pmax		
	comp=Z,23nm,1.4s,mb4.5						
CABF	La Chapelle	25.79	100	*e* P	P	19 57 00.4	+0.3
	comp=Z,21nm,1.0s,mb4.3						
CABF	La Chapelle	25.79	100	*e* P	P	19 57 00.4	+0.3
CABF				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.3						
BFO	Black Forest	25.88	94	*e* P	P	19 57 02.3	+1.3
	comp=Z,6.0nm,1.2s,mb4.0						
BFO	Black Forest	25.88	94	*e* P	P	19 57 02.3	+1.3
BFO				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.0						
ESDC	Sonseca Array	25.97	123	P	P	19 56 59.4	-2.4
	comp=Z,2.7nm,0.8s,mb3.8,baz=317,slow=8.6,SNR=11						
MTLF	Montolieu	26.07	110	*e* P	P	19 57 03.3	+0.6
	comp=Z,38nm,1.3s,mb4.5						
MTLF	Montolieu	26.07	110	*e* P	P	19 57 03.3	+0.6
MTLF				pmax	pmax		
	comp=Z,19nm,1.3s,mb4.5						
MOX	Moxa	26.27	87	*i* P	P	19 57 04.3	-0.3
	comp=Z,logA/T=1.2,mb4.5						
MOX				L		20 07 49.0	
MOX	Moxa	26.27	87	*e* P	P	19 57 04.3	-0.3
	comp=Z,22nm,1.4s,mb4.5						
MOX				LR	LR		
	comp=Z,500nm,18.0s,MS4.1						
MOX	Moxa	26.27	87	*e* P	P	19 57 04.3	-0.3
MOX				pmax	pmax		
	comp=Z,22nm,1.4s,mb4.5						
MOX				MLR	MLR		
	comp=Z,500nm,18.0s,MS4.1						
GRA1	Grafenberg Arr	26.60	89	*e* P	P	19 57 07.2	-0.4
	comp=Z,14nm,0.9s,mb4.5						
GRF	Grafenberg Arr	26.60	89	*e* P	P	19 57 07.3	-0.3
	comp=Z,14nm,0.9s,mb4.5						
GRF				LR	LR		
	comp=Z,300nm,21.6s,MS3.8						
GRF	Grafenberg Arr	26.60	89	*e* P	P	19 57 07.3	-0.3
GRF				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.5						
GRF				MLR	MLR		
	comp=Z,300nm,21.6s,MS3.8						
GRF	Grafenberg Arr	26.60	89	*e* P	P	19 57 07.2	-0.4
GRF				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.5						
CLL	Collm	26.64	85	P	P	19 57 08.0	0.0
	comp=Z,logA/T=0.8,mb4.1						
CLL				*e**PP	pP	19 57 09.0	-1.9
CLL				*e**SP	sP	19 57 11.0	-1.2
CLL	Collm	26.64	85	*e* P	P	19 57 08.0	0.0
	comp=Z,4.0nm,0.7s,mb4.1						
CLL				LR	LR		
	comp=Z,400nm,16.4s,MS4.0						
CLL	Collm	26.64	85	*e* P	P	19 57 08.0	0.0
CLL				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.1						
CLL				MLR	MLR		
	comp=Z,400nm,16.4s,MS4.0						
ARCES	ARCESS Array B	26.76	41	P	P	19 57 05.7	-3.2
	comp=Z,3.3nm,0.9s,mb3.9,baz=320,slow=21,SNR=3.9						
ARCES				LR	LR	20 05 39.1	
	comp=Z,104nm,20.3s,MS3.4,baz=69,slow=32						
ARCES	ARCESS Array B	26.76	41	P	P	19 57 05.7	-3.2
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ARCES				MLR	MLR		
	comp=Z,104nm,20.3s						
ORIF	Oris-en-Rattie	26.81	103	*e* P	P	19 57 10.6	+1.0
	comp=Z,22nm,1.2s,mb4.3						
ORIF				*e* R			
	comp=Z,536nm,22.2s						
NKC	Novy Kostel	26.94	87	*e* P	P	19 57 09.4	-1.3
NKC				*e* S	S	20 01 50.3	+4.4
NKC				AMS	AMS	20 07 40.0	
	comp=Z,500nm,17.2s						
BRG	Berggiesshubel	27.38	85	*e* P	P	19 57 16.1	+1.4
	comp=Z,8.5nm,1.4s,mb4.1						
BRG				LR	LR		
	comp=Z,470nm,13.9s,MS4.2						
BRG	Berggiesshubel	27.38	85	*e* P	P	19 57 16.1	+1.4
BRG				pmax	pmax		
	comp=Z,9.0nm,1.4s,mb4.1						
BRG				MLR	MLR		
	comp=Z,470nm,13.9s,MS4.2						
MBDF	Montbardon	27.41	102	*e* P	P	19 57 16.5	+1.5
	comp=Z,14nm,1.1s,mb4.1						
MBDF	Montbardon	27.41	102	*e* P	P	19 57 16.5	+1.5
MBDF				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.1						
FUR	Furstenfeldbru	27.54	92	*e* P	P	19 57 16.1	-0.1
	comp=Z,11nm,0.9s,mb4.5						
FUR	Furstenfeldbru	27.54	92	*e* P	P	19 57 16.1	-0.1
FUR				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.5						
DAVOX	Davos	27.67	96	P	P	19 57 18.0	+0.6
	comp=Z,0.5nm,0.3s,mb3.6,baz=322,slow=19,SNR=2.1						
DAVOX				LR	LR	20 07 50.0	
	comp=Z,348nm,18.1s,MS4.0,baz=302,slow=36						
WET	Wettzell	27.80	89	*e* P	P	19 57 19.3	+0.7
	comp=Z,7.0nm,1.1s,mb4.2						
WET	Wettzell	27.80	89	*e* P	P	19 57 19.3	+0.7
WET				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.2						
PVCC	Panska Ves	27.

KSP *e*pP pP 19 57 27.6 -1.4
UPC Upice 28.67 84 *e*P **P 19 57 27.5 +1.1**
FINES FINESS Array B 28.73 58 P **P 19 57 25.0 -1.8**
comp=Z,1.9nm,0.8s,mb3.9,baz=170,slow=32,SNR=2.9
FINES LR LR 20 08 19.5
comp=Z,133nm,19.2s,MS3.6,baz=338,slow=35
FINES FINESS Array B 28.73 58 P **P 19 57 25.0 -1.8**
FINES pmax pmax
comp=Z,2.0nm,0.8s
FINES MLR MLR
comp=Z,133nm,19.2s
DPC Dobruska-Polom 28.93 84 *e*P **P 19 57 28.9 +0.2**
DPC *e*S **S 20 02 19.8 +2.0**
DPC AMS AMS 20 09 30.0
comp=Z,400nm,16.6s
VRAC Vranov 29.67 86 P **P 19 57 35.1 -0.3**
comp=Z,1.1nm,0.6s,mb3.8,baz=123,slow=13,SNR=3.1
VRAC LR LR 20 09 40.8
comp=Z,415nm,18.1s,MS4.1,baz=308,slow=37
VRAC Vranov 29.67 86 P **P 19 57 35.1 -0.3**
VRAC LR LR 20 09 40.8
VRAC Vranov 29.67 86 P **P 19 57 35.1 -0.3**
VRAC pmax pmax
comp=Z,1.0nm,0.6s
VRAC MLR MLR
comp=Z,415nm,18.1s
OKC Ostrava-Krasne 30.18 84 *e*P **P 19 57 39.1 -0.8**
OKC *ex* x 20 01 57.7
OKC AMS AMS 20 10 30.0
comp=Z,500nm,15.7s
OJC Ojcow 30.83 82 *e*P **P 19 57 42.5 -3.1**
SADO Sadowa 31.38 265 LR LR 20 09 07.6
comp=Z,622nm,19.8s,MS4.3,baz=89,slow=34
NIE Niedzica 31.57 83 *e*P **P 19 57 55.1 +2.9**
GENY Geneseo 32.05 261 *e*P **P 19 57 54.8 -1.7**
GENY Geneseo 32.05 261 *e*P **P 19 57 54.8 -1.7**
LVV L'vov 33.28 80 *e*P **P 19 58 08.4 +1.3**
AKASG Malin Array Be 35.44 75 P **P 19 58 23.4 -2.2**
comp=Z,1.5nm,0.5s,mb4.2,baz=304,slow=8.5,SNR=5.3
AKASG Malin Array Be 35.44 75 P **P 19 58 23.4 -2.2**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
OBN Obninsk 36.54 64 *e*P **P 19 58 38.2 +3.3**
OBN pmax pmax
comp=Z,5.0nm,0.9s,mb4.3
OBN MLR MLR
comp=Z,200nm,22.0s,MS3.9
ULM Lac du Bonnet 36.69 286 P **P 19 58 36.5 +0.4**
comp=Z,3.5nm,0.7s,mb4.3,baz=55,slow=9.9,SNR=4.2
ULM LR LR 20 12 28.1
comp=Z,319nm,18.1s,MS4.1,baz=75,slow=34
MOS Moscow 36.69 63 *e*P **P 19 58 38.3 +2.1**
comp=Z,27nm,0.7s,mb5.2
MOS Moscow 36.69 63 *e*P **P 19 58 38.3 +2.1**
MOS *e* 20 04 11.5
MOS pmax pmax
comp=Z,27nm,0.7s,mb5.2
MOS MLR MLR
comp=Z,600nm,19.1s,MS4.4
MLR Muntele Rosu 37.01 84 P **P 19 58 40.1 +1.2**
comp=Z,2.5nm,0.9s,mb4.1,baz=139,slow=1.4,SNR=4.7
MLR Muntele Rosu 37.01 84 P **P 19 58 40.1 +1.2**
MLR pmax pmax
comp=Z,3.0nm,0.9s
ELN Prospectdale 37.64 258 P **P 19 58 45.0 +0.6**
ELN Prospectdale 37.64 258 P **P 19 58 45.0 +0.6**
YKA Yellowknife Ar 38.35 312 P **P 19 58 50.5 +0.5**
comp=Z,1.6nm,0.6s,mb3.9,baz=163,slow=34,SNR=3.6
YKA LR LR 20 14 06.0
comp=Z,763nm,18.4s,MS4.5,baz=50,slow=35
YKA Yellowknife Ar 38.35 312 P **P 19 58 50.5 +0.5**
YKA LR LR 20 14 06.0
YKA Yellowknife Ar 38.35 312 P **P 19 58 50.5 +0.5**
YKA pmax pmax
comp=Z,2.0nm,0.6s
YKA MLR MLR
comp=Z,763nm,18.4s
TZTN Tazewell 39.62 260 *e*P **P 19 59 01.1 +0.2**
TZTN Tazewell 39.62 260 *e*P **P 19 59 01.1 +0.2**
TWB Tillmans-White 40.51 253 P **P 19 59 09.4 +1.1**
TWB Tillmans-White 40.51 253 P **P 19 59 09.4 +1.1**
CPCT Cooper Cave 40.96 260 *e*P **P 19 59 12.3 +0.3**
CPCT Cooper Cave 40.96 260 *e*P **P 19 59 12.3 +0.4**
INK Inuvik 41.49 327 P **P 19 59 16.5 +0.5**
comp=Z,2.6nm,0.8s,mb3.9,baz=198,slow=30,SNR=3.1
INK LR LR 20 16 21.9
comp=Z,220nm,18.3s,MS4.1,baz=62,slow=36
INK Inuvik 41.49 327 P **P 19 59 16.5 +0.5**
INK pmax pmax
comp=Z,3.0nm,0.8s
INK MLR MLR
comp=Z,220nm,18.3s
SLM Saint Louis 41.58 268 *e*P **P 19 59 17.2 +0.3**
SLM Saint Louis 41.58 268 *e*P **P 19 59 17.2 +0.3**
SIUC Southern Illin 41.72 266 *e*P **P 19 59 19.0 +1.0**
SIUC Southern Illin 41.72 266 *e*P **P 19 59 19.0 +1.0**
FVM French Village 42.16 267 *e*P **P 19 59 22.2 +0.5**
comp=Z,16nm,0.9s,mb4.6
FVM French Village 42.16 267 *e*P **P 19 59 22.2 +0.6**
comp=Z,16nm,0.9s,mb4.6
FVM French Village 42.16 267 *e*P **P 19 59 22.2 +0.5**
FVM pmax pmax
comp=Z,15nm,0.9s,mb4.6
CCM Cathedral Cave 42.54 268 *e*P **P 19 59 24.5 -0.3**
comp=Z,9.9nm,0.9s,mb4.5
CCM Cathedral Cave 42.54 268 *e*P **P 19 59 24.6 -0.2**
comp=Z,9.9nm,0.9s,mb4.5
CCM Cathedral Cave 42.54 268 *e*P **P 19 59 24.6 -0.2**
CCM pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
EDM Edmonton 43.33 300 *e*P **P 19 59 31.9 +0.9**
EDM Edmonton 43.33 300 *e*P **P 19 59 31.9 +0.9**
LRAL Lakeview Retre 44.12 260 *e*P **P 19 59 37.4 -0.3**
comp=Z,12nm,0.9s,mb4.6
LRAL Lakeview Retre 44.12 260 *e*P **P 19 59 37.4 -0.4**
comp=Z,12nm,0.9s,mb4.6
LAO LASA Array 44.23 289 *e*P **P 19 59 39.8 +1.4**
comp=Z,33nm,1.2s,mb4.9
LAO LASA Array 44.23 289 *e*P **P 19 59 39.8 +1.4**
comp=Z,33nm,1.2s,mb4.9
BR131 Keskin Array S 45.09 84 *e*P **P 19 59 45.9 +0.5**
comp=Z,7.6nm,1.1s,mb4.4
BR131 Keskin Array S 45.09 84 *e*P **P 19 59 45.9 +0.5**
comp=Z,7.6nm,1.1s,mb4.4
BRTR Keskin Array B 45.09 84 P **P 19 59 46.5 +1.0**
comp=Z,5.1nm,1.0s,mb4.3,baz=326,slow=4.5,SNR=11
BRTR Keskin Array B 45.09 84 P **P 19 59 46.5 +1.1**
BRTR pmax pmax
comp=Z,5.0nm,1.0s
ARU Arti 45.55 51 *e*P **P 19 59 49.0 +0.2**
comp=Z,12nm,1.2s,mb4.7
ARU Arti 45.55 51 *e*P **P 19 59 49.0 +0.1**
comp=Z,12nm,1.2s,mb4.7
ARU Arti 45.55 51⇑ *i*P **P 19 59 49.5 +0.7**
ARU *e* 20 01 30.0
ARU *e* 20 01 40.5
ARU *e*PPP PPP 20 02 14.1 -4.0
ARU *e*S **S 20 06 27.2 -3.0**
ARU *e*SS SS 20 09 50.5 +4.8
ARU pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
GOF Gofitskoye 46.15 72 *i*P **P 19 59 54.3 +0.6**
comp=Z,30nm,1.3s,mb5.1
GOF Gofitskoye 46.15 72⇑ *i*P **P 19 59 54.3 +0.6**
GOF pmax pmax
comp=Z,30nm,1.3s,mb5.1
WALA Waterton Lakes 46.38 296 *e*P **P 19 59 55.2 -0.2**
comp=Z,18nm,1.2s,mb4.9
WALA Waterton Lakes 46.38 296 *e*P **P 19 59 55.2 -0.3**
comp=Z,18nm,1.2s,mb4.9
KIV Kislovodsk 46.75 73 *e*P **P 19 59 59.3 +0.8**
comp=Z,20nm,1.1s,mb5.0
KIV Kislovodsk 46.75 73 *e*P **P 19 59 59.3 +0.8**
comp=Z,20nm,1.1s,mb5.0
KIV Kislovodsk 46.75 73 *e*P **P 19 59 59.3 +0.8**
KIV pmax pmax
comp=Z,20nm,1.1s,mb5.0
HRY Holter Researc 47.00 292 *e*P **P 20 00 01.2 +0.8**
HRY Holter Researc 47.00 292 *e*P **P 20 00 01.2 +0.7**
SJG San Juan 47.07 226 LR LR 20 15 52.9
comp=Z,59nm,19.1s,MS3.6,baz=85,slow=31
CHMT Chamberlain Mo 47.55 293 *e*P **P 20 00 04.9 +0.1**
BOZ Bozeman (W) 47.66 291 *e*P **P 20 00 06.2 +0.6**
comp=Z,16nm,1.4s,mb4.9
BOZ Bozeman (W) 47.66 291 *e*P **P 20 00 06.2 +0.6**
comp=Z,16nm,1.4s,mb4.9
BOZ Bozeman (W) 47.66 291 *e*P **P 20 00 06.2 +0.6**
BOZ pmax pmax
comp=Z,16nm,1.4s,mb4.9
ILAR Eielson Array 47.79 328 P **P 20 00 06.6 +0.2**
comp=Z,5.0nm,1.0s,mb4.5,baz=34,slow=6.7,SNR=27
ILAR PcP PcP 20 01 34.1 -1.6
comp=Z,1.2nm,0.8s,baz=354,slow=2.6,SNR=5.6
ILAR LR LR 20 20 38.7
comp=Z,108nm,20.1s,MS3.8,baz=4.1,slow=37
ILAR Eielson Array 47.79 328 PcP PcP 20 01 34.2 -1.6
ILAR Eielson Array 47.79 328 P **P 20 00 06.6 +0.2**
ILAR 20 01 34.2
ILAR pmax pmax
comp=Z,5.0nm,1.0s
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR MLR MLR
comp=Z,108nm,20.1s
COLA College 47.98 329 *i*P **P 20 00 00.5 -7.4**
IMA Indian Mountai 48.56 332 *e*P **P 20 00 11.8 -0.6**
comp=Z,48nm,1.1s,mb5.4
IMA Indian Mountai 48.56 332 *e*P **P 20 00 11.8 -0.6**
comp=Z,48nm,1.1s,mb5.4
IMA Indian Mountai 48.56 332 *e*P **P 20 00 11.8 -0.6**
IMA pmax pmax
comp=Z,48nm,1.1s,mb5.4
LOHW Long Hollow 48.60 289 *e*P **P 20 00 13.3 +0.3**
comp=Z,11nm,1.3s,mb4.7
LOHW Long Hollow 48.60 289 *e*P **P 20 00 13.3 +0.3**
comp=Z,11nm,1.3s,mb4.7
MALT Malatya 48.65 82 *e*P **P 20 00 14.0 +0.6**
comp=Z,9.7nm,1.1s,mb4.8
MALT Malatya 48.65 82 *e*P **P 20 00 14.0 +0.6**
comp=Z,9.7nm,1.1s,mb4.8
MALT Malatya 48.65 82 *e*P **P 20 00 14.0 +0.6**
MALT pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
PDAR Pinedale Array 48.68 287 P **P 20 00 12.1 -1.5**
comp=Z,4.1nm,0.9s,mb4.5,baz=53,slow=7.4,SNR=17
PDAR LR LR 20 19 34.5
comp=Z,285nm,19.3s,MS4.3,baz=46,slow=35
BW06 Boulder Array 48.68 287 *e*P **P 20 00 13.1 -0.5**
comp=Z,8.2nm,1.0s,mb4.7
BW06 Boulder Array 48.68 287 *e*P **P 20 00 13.1 -0.5**
comp=Z,8.2nm,1.0s,mb4.7
BW06 LR LR
comp=Z,351nm,19.0s,MS4.4
ISCO Idaho Springs 48.83 281 *e*P **P 20 00 15.6 +0.8**
comp=Z,17nm,1.3s,mb4.9
ISCO Idaho Springs 48.83 281 *e*P **P 20 00 15.6 +0.9**
comp=Z,17nm,1.3s,mb4.9
ISCO LR LR
comp=Z,374nm,22.0s,MS4.3
ISCO Idaho Springs 48.83 281 *e*P **P 20 00 15.6 +0.8**
ISCO pmax pmax
comp=Z,17nm,1.3s,mb4.9
ISCO MLR MLR
comp=Z,374nm,22.0s,MS4.3
MCMT McKenzie Canyo 48.84 291 *e*P **P 20 00 15.8 +1.0**
TPAW Teton Pass 48.86 289 *e*P **P 20 00 15.3 +0.3**
comp=Z,15nm,1.2s,mb4.9
TPAW Teton Pass 48.86 289 *e*P **P 20 00 15.3 +0.3**
comp=Z,15nm,1.2s,mb4.9
REDW Red Top Meadow 48.91 289 *e*P **P 20 00 15.0 -0.3**
comp=Z,25nm,1.4s,mb5.1
REDW Red Top Meadow 48.91 289 *e*P **P 20 00 15.0 -0.3**
comp=Z,25nm,1.4s,mb5.1
WMOK Wichita Mounta 49.03 272 *e*P **P 20 00 16.5 +0.1**
comp=Z,14nm,1.3s,mb4.8
WMOK Wichita Mounta 49.03 272 *e*P **P 20 00 16.4 0.0**
comp=Z,14nm,1.3s,mb4.8
WMOK Wichita Mounta 49.03 272 *e*P **P 20 00 16.5 +0.1**
WMOK pmax pmax
comp=Z,14nm,1.3s,mb4.8
NATX Nacogdoches 49.15 266 *e*P **P 20 00 17.4 +0.1**
MCK McKinley 49.17 328 *e*P **P 20 00 17.2 +0.1**
comp=Z,14nm,1.4s,mb4.8
MCK McKinley 49.17 328 *e*P **P 20 00 17.2 +0.2**
comp=Z,14nm,1.4s,mb4.8
MCK McKinley 49.17 328 *e*P **P 20 00 17.3 +0.2**
MCK pmax pmax
comp=Z,14nm,1.4s,mb4.8
SDCO Great Sand Dun 50.30 280 *e*P **P 20 00 26.1 0.0**
comp=Z,13nm,1.4s,mb4.8
SDCO Great Sand Dun 50.30 280 *e*P **P 20 00 26.1 0.0**
comp=Z,13nm,1.4s,mb4.8
SDCO LR LR
comp=Z,316nm,22.0s,MS4.3
SML Sawmill 50.51 326 *e*P **P 20 00 28.0 +0.6**
HWUT Hardware Ranch 50.55 287 *e*P **P 20 00 27.9 -0.1**
comp=Z,11nm,1.1s,mb4.7
HWUT Hardware Ranch 50.55 287 *e*P **P 20 00 27.9 -0.1**
comp=Z,11nm,1.1s,mb4.7
GNI Garni 50.57 75 P **P 20 00 29.5 +1.4**
comp=Z,1.3nm,0.4s,mb4.3,baz=186,slow=19,SNR=2.6
GNI LR LR 20 22 06.9
comp=Z,93nm,22.0s,MS3.8,baz=339,slow=36
GNI Garni 50.57 75 P **P 20 00 29.5 +1.4**
GNI pmax pmax
comp=Z,1.0nm,0.4s
GNI MLR MLR
comp=Z,93nm,22.0s
BMO Blue Mountains 51.00 294 *e*P **P 20 00 30.0 -1.4**
comp=Z,3.9nm,0.9s,mb4.3
SPUT South Promonto 51.22 288 *e*P **P 20 00 32.7 -0.3**
SPUT South Promonto 51.22 288 *e*P **P 20 00 32.7 -0.3**
DAU Daniels Canyon 51.28 286 *e*P **P 20 00 33.7 +0.2**
DAU Daniels Canyon 51.28 286 *e*P **P 20 00 33.7 +0.2**
PV10 Paradox Valley 51.66 283 P **P 20 00 34.4 -2.1**
PV10 Paradox Valley 51.66 283 P **P 20 00 34.4 -2.0**
MPU Maple Canyon 51.77 286 *e*P **P 20 00 37.5 +0.3**
MPU Maple Canyon 51.77 286 *e*P **P 20 00 37.5 +0.3**
SRU San Rafael 51.88 285 *e*P **P 20 00 37.7 -0.4**
SRU San Rafael 51.88 285 *e*P **P 20 00 37.7 -0.4**
NLU North Lily Min 52.03 286 *e*P **P 20 00 39.4 +0.1**
NLU North Lily Min 52.03 286 *e*P **P 20 00 39.4 +0.1**
SPU Mount Spurr 52.08 328 *e*P **P 20 00 39.1 -0.2**
SPU Mount Spurr 52.08 328 *e*P **P 20 00 39.1 -0.2**
DUG Dugway 52.23 287 *e*P **P 20 00 40.6 -0.1**
comp=Z,6.3nm,1.3s,mb4.4
DUG Dugway 52.23 287 *e*P **P 20 00 40.6 -0.1**
comp=Z,6.3nm,1.3s,mb4.4
DUG LR LR
comp=Z,264nm,19.0s,MS4.3
DUG Dugway 52.23 287 *e*P **P 20 00 40.6 -0.1**
DUG pmax pmax
comp=Z,6.0nm,1.3s,mb4.4
DUG MLR MLR
comp=Z,264nm,19.0s,MS4.3
ASF Jabal al Asfar 52.52 88 P **P 20 00 43.9 +0.8**
comp=Z,2.9nm,0.6s,mb4.4,baz=144,slow=3.4,SNR=3.9
ASF Jabal al Asfar 52.52 88 P **P 20 00 43.9 +0.9**
ASF pmax pmax
comp=Z,3.0nm,0.6s
BRVK Borovoye 52.70 48 *e*P **P 20 00 42.9 -1.2**
comp=Z,5.1nm,1.0s,mb4.4
BRVK Borovoye 52.70 48 *e*P **P 20 00 42.9 -1.2**
comp=Z,5.1nm,1.0s,mb4.4
BRVK Borovoye 52.70 48 *e*P **P 20 00 42.9 -1.2**
BRVK pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
BVAR Borovoye Array 52.77 48 P **P 20 00 43.5 -1.1**
comp=Z,5.1nm,0.8s,mb4.5,baz=315,slow=6.3,SNR=22
BVAR Borovoye Array 52.77 48 P **P 20 00 43.5 -1.1**
BVAR pmax pmax
comp=Z,5.0nm,0.9s
JCT Junction City 52.87 269 P **P 20 00 44.2 -1.5**
comp=Z,8.3nm,1.1s,mb4.6
JCT Junction City 52.87 269 P **P 20 00 44.2 -1.5**
comp=Z,8.3nm,1.1s,mb4.6
JCT Junction City 52.87 269 P **P 20 00 44.2 -1.5**
JCT pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
ANMO Albuquerque 52.92 278 *e*P **P 20 00 46.9 +0.9**
comp=Z,8.3nm,1.3s,mb4.5
ANMO Albuquerque 52.92 278 *e*P **P 20 00 46.9 +0.9**
comp=Z,8.3nm,1.3s,mb4.5
ANMO LR LR
comp=Z,351nm,19.0s,MS4.4
ANMO Albuquerque 52.92 278 *e*P **P 20 00 46.9 +0.9**
ANMO pmax pmax
comp=Z,8.0nm,1.3s
ANMO MLR MLR
comp=Z,351nm,19.0s
ELK Elko 53.04 289 LR LR 20 22 45.4
comp=Z,284nm,18.1s,MS4.4,baz=90,slow=35
ELK Elko 53.04 289 *e*P **P 20 00 47.3 +0.5**
comp=Z,11nm,1.2s,mb4.7
ELK Elko 53.04 289 *e*P **P 20 00 47.3 +0.6**
comp=Z,11nm,1.2s,mb4.7
ELK Elko 53.04 289 *e*P **P 20 00 47.3 +0.5**
ELK pmax pmax
comp=Z,11nm,1.2s
MSU Marysvale 53.17 285 *e*P **P 20 00 47.6 -0.2**
MSU Marysvale 53.17 285 *e*P **P 20 00 47.6 -0.2**
BILL Bilibino 53.37 351 *e*P **P 20 00 43.5 -5.3**
BILL pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
WVOR Wild Horse Val 53.45 293 *e*P **P 20 00 49.6 -0.1**
comp=Z,21nm,1.4s,mb4.9
WVOR Wild Horse Val 53.45 293 *e*P **P 20 00 49.6 -0.1**
comp=Z,21nm,1.4s,mb4.9
WVOR Wild Horse Val 53.45 293 *e*P **P 20 00 49.6 -0.1**
WVOR pmax pmax
comp=Z,21nm,1.4s,mb4.9
BNM Barren Site 53.62 278 *e*P **P 20 00 52.1 +0.9**
BNM Barren Site 53.62 278 *e*P **P 20 00 52.1 +0.9**
LAZ Ladron 53.70 278 P **P 20 00 52.1 +0.4**
LAZ Ladron 53.70 278 P **P 20 00 52.1 +0.4**
GDL2 Guadalupe Moun 53.94 274 *e*P **P 20 00 53.3 -0.2**
GDL2 Guadalupe Moun 53.94 274 *e*P **P 20 00 53.3 -0.2**
ARUT Antelope Range 54.37 286 *e*P **P 20 00 56.0 -0.5**
MOD Modoc 54.66 294 *e*P **P 20 00 58.6 0.0**
comp=Z,12nm,1.1s,mb4.8
MOD Modoc 54.66 294 *e*P **P 20 00 58.6 0.0**
comp=Z,12nm,1.1s,mb4.8
DBIC Dimbokro 55.61 146 P **P 20 01 03.2 -2.7**
comp=Z,3.1nm,0.8s,mb4.4,baz=329,slow=10,SNR=5.5
DBIC LR LR 20 22 04.5
comp=Z,169nm,20.0s,MS4.1,baz=276,slow=33
DBIC Dimbokro 55.61 146 P **P 20 01 03.2 -2.7**
DBIC pmax pmax
comp=Z,3.0nm,0.9s
DBIC MLR MLR
comp=Z,169nm,20.0s
TXAR Lajitas Array 55.83 271 P **P 20 01 06.7 -0.6**
comp=Z,0.6nm,0.5s,mb3.9,baz=45,slow=3.5,SNR=4.6
TXAR LR LR 20 24 28.3
comp=Z,128nm,18.1s,MS4.0,baz=85,slow=36
TXAR Lajitas Array 55.83 271 P **P 20 01 06.7 -0.6**
TXAR pmax pmax
comp=Z,1.0nm,0.5s
TXAR MLR MLR
comp=Z,128nm,18.1s
LIC Lamto 55.98 147 *e*P **P 20 01 06.6 -2.0**
comp=Z,3.5nm,0.6s,mb4.6
NVS Novosibirsk 56.00 39 *e*P **P 20 01 07.6 -0.6**
comp=Z,18nm,1.4s,mb4.9
NVS Novosibirsk 56.00 39 *e*P **P 20 01 07.6 -0.6**
NVS pmax pmax
comp=Z,18nm,1.4s,mb4.9
NVS pmax pmax
comp=N,5.0nm,1.2s
NVS pmax pmax
comp=E,3.0nm,1.2s
TPH Tonopah 56.06 289 P **P 20 01 09.3 +0.4**
TPH Tonopah 56.06 289 P **P 20 01 09.3 +0.4**
SDV Santo Domingo 57.22 227 LR LR 20 21 19.4
comp=E,50nm,19.4s,MS3.6,baz=32,slow=31
ZAL Zalesovo 57.27 39 LR LR 20 26 46.2
comp=E,56nm,19.2s,MS3.7,baz=334,slow=37
OMM Old Mammoth Mi 57.30 290 P **P 20 01 18.5 +0.7**
OMM Old Mammoth Mi 57.30 290 P **P 20 01 18.5 +0.8**
KURK Kurchatov 57.74 45 *e*P **P 20 01 19.1 -1.5**
comp=E,8.0nm,1.0s,mb4.7
KURK Kurchatov 57.74 45 *e*P **P 20 01 19.1 -1.5**
comp=E,8.0nm,1.0s,mb4.7
KURK Kurchatov 57.74 45 *e*P **P 20 01 19.1 -1.5**
KURK pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
BOD Bodaibo 61.31 20 *e*P **P 20 01 41.8 -3.3**
JTS JuntasAbangare 62.13 242 LR LR 20 28 52.4
comp=Z,77nm,19.3s,MS3.9,baz=48,slow=36
ROSC El Rosal 62.35 229 P **P 20 01 49.6 -3.1**
comp=Z,4.3nm,0.4s,mb4.9,baz=114,slow=19,SNR=2.5
MKAR Makanchi Array 62.35 45 P **P 20 01 50.4 -1.9**
comp=Z,3.4nm,0.9s,mb4.5,baz=337,slow=5.9,SNR=18
MKAR LR LR 20 25 55.5
comp=Z,40nm,21.4s,MS3.5,baz=185,slow=33
MKAR Makanchi Array 62.35 45 P **P 20 01 50.4 -1.9**
MKAR pmax pmax
comp=Z,3.0nm,1.0s
MKAR MLR MLR
comp=Z,40nm,21.4s
AAK Ala-Archa 62.70 53 *i*P **P 20 01 54.0 -0.6**
ZAK Zakamensk 65.88 29 *e*P **P 20 02 14.1 -1.0**
comp=Z,2.0nm,1.2s,mb4.0
ZAK Zakamensk 65.88 29 *e*P **P 20 02 14.1 -1.0**
ZAK pmax pmax
comp=Z,2.0nm,1.2s,mb4.0
WMQ Urumqi 66.87 43 *e*P **P 20 02 23.0 +1.4**
WMQ XP sP 20 02 30.0 +4.2
WMQ PP PP 20 04 52.0 +1.4
WMQ S S 20 11 13.0 +0.2
WMQ SS SS 20 15 33.0 +0.3
WMQ AMB AMB
comp=Z,12nm,1.0s,mb4.9
WMQ AMB AMB
comp=Z,11nm,8.0s
WMQ LR LR
comp=N,56nm,20.0s,MS4.0
WMQ LR LR
comp=E,62nm,20.0s,MS4.0
WMQ LR LR
comp=Z,43nm,19.0s,MS3.7
SONM Songino Array 69.03 28 P **P 20 02 34.3 -0.7**
comp=Z,4.3nm,1.1s,mb4.3,baz=322,slow=5.3,SNR=15
SONM LR LR 20 35 01.9
comp=Z,42nm,19.1s,MS3.7,baz=58,slow=38
SONM Songino Array 69.03 28 P **P 20 02 34.3 -0.7**
SONM pmax pmax
comp=Z,4.0nm,1.1s
SONM MLR MLR
comp=Z,42nm,19.1s
BDFB Brasilia 74.65 196 P **P 20 03 07.4 -1.6**
comp=Z,3.9nm,0.7s,mb4.5,baz=26,slow=4.8,SNR=4.9
BDFB LR LR 20 30 49.0
comp=Z,95nm,19.3s,MS4.1,baz=297,slow=32
BDFB Brasilia 74.65 196 P **P 20 03 07.4 -1.6**
BDFB pmax pmax
comp=Z,4.0nm,0.7s
BDFB MLR MLR
comp=Z,95nm,19.3s
GTA Gaotai 74.91 36 *e*P **P 20 03 10.5 +0.5**
GTA AP pP 20 03 14.2 +1.0
GTA XP sP 20 03 16.9 +2.6
GTA PP PP 20 05 59.9 +0.1
GTA S S 20 12 45.8 -0.1
GTA XS 20 12 52.7
GTA PS PS 20 13 22.2 -0.6
GTA SS SS 20 17 35.1 -1.3
GTA AMB AMB
comp=Z,3.0nm,1.0s,mb4.2
GTA AMB AMB
comp=Z,48nm,4.2s
GTA LR LR
comp=N,56nm,14.1s,MS4.2
GTA LR LR
comp=E,71nm,16.0s,MS4.2
GTA LR LR
comp=Z,91nm,14.1s,MS4.2
MDJ Mudanjiang 76.50 13 P **P 20 03 18.0 -0.9**
MDJ AMB AMB
comp=Z,7.0nm,1.0s,mb4.5
MDJ AMB AMB
comp=Z,42nm,3.5s
CN2 Changchun 76.74 16 *e*P **P 20 03 19.6 -0.7**
KOLN Koldanda 79.21 54 *e*P **P 20 03 34.6 +0.4**
comp=Z,12nm,0.9s,mb4.8
LZH Lanzhou 79.21 35 *e*P **P 20 03 30.0 -4.0**
LZH AP pP 20 03 39.0 +1.8
LZH XP sP 20 03 44.0 +5.7
LZH AMB AMB
comp=Z,20nm,1.2s,mb4.9
GKN Gorkha 79.45 53 *e*P **P 20 03 36.0 +0.5**
comp=Z,16nm,1.0s,mb4.9
LPAZ La Paz 79.82 215 P **P 20 03 37.5 -0.2**
comp=Z,0.8nm,0.8s,mb3.7,baz=38,slow=13,SNR=3.5
LPAZ La Paz 79.82 215 *e*P **P 20 03 36.9 -0.7**
comp=Z,3.8nm,0.6s,mb4.5
LPAZ La Paz 79.82 215 P **P 20 03 37.5 -0.2**
LPAZ pmax pmax

comp=Z,1.0nm,0.8s
KKN Kakani 79.91 53 *e*P P **20 03 38.7 +0.7**
comp=Z,18nm,0.9s,mb5.0
DMN Daman 79.99 53 *e*P P **20 03 39.4 +1.0**
comp=Z,33nm,1.1s,mb5.2
KMBO Kilima Mbogo 80.33 108 LR LR 20 43 36.8
comp=Z,86nm,19.2s,MS4.1,baz=88,slow=39
NJ2 Nanjing 86.95 24 *e*P P **20 04 16.1 +2.3**
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.2
SSE Sheshan 88.36 22 P P **20 04 19.8 -0.8**
SSE AMB AMB
comp=Z,23nm,0.7s,mb5.5
SSE AMB AMB
comp=Z,23nm,3.6s
KMI Kunming 88.99 40 P P **20 04 24.6 +0.9**
KMI AMB AMB
comp=Z,4.0nm,1.3s,mb4.6
VNA2 Neumayer--Watz 130.00 170 P PKPdf 20 10 38.2 -1.3
VNA3 Neumayer Olymp 130.10 171 P PKPdf 20 10 38.5 -1.1
SNAA Sanae 131.18 168 P PKPdf 20 10 39.6 -2.1
WRA Warramunga Arr 140.61 20 PKP PKPdf 20 10 55.9 -4.5
comp=Z,0.6nm,0.8s,baz=340,slow=2.8,SNR=3.6
BLDU Ballidu 145.26 51 *e*P PKPbc 20 11 05.3 -0.2
comp=Z,2.3nm,0.7s

MAN 10 19:58:53.1, 11.79N×125.31E, h1^{km}, mb4.2, ML3.0, MS2.7, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.22**	**146**	*e*P	Pg	19 58 57.1	-0.4
BESP				*e*S	Sg	19 59 06.7	+6.3
PLP	**Palo**	**0.70**	**208**	*e*P	Pg	19 59 06.2	-0.7
PLP				*e*S	Sg	19 59 21.6	+5.3
CNP	**Catarman**	**0.96**	**319**	*e*P	Pb	19 59 11.6	-0.6
CNP				*e*S	Sg	19 59 29.6	+4.5
MSLP	**Maasin**	**1.70**	**195**	*e*P	Pn	19 59 24.6	+0.5
PVCP	**Virac**	**2.13**	**328**	*e*P	Pn	19 59 23.9	-6.3

MAN 10 20:09:14.0, 11.94N×125.40E, h8^{km}, mb4.5, ML3.3, MS3.2, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.34**	**174**	*e*P	Pg	20 09 21.7	+0.8
PLP	**Palo**	**0.88**	**208**	*i*P	Pb	20 09 30.2	-0.7
PLP				*e*S	Sb	20 09 45.6	+3.0
CNP	**Catarman**	**0.92**	**308**	*e*P	Pb	20 09 35.7	+4.0
CNP				*e*S	Sb	20 09 53.7	+10
MSLP	**Maasin**	**1.87**	**197**	*e*P	Pn	20 09 45.4	-1.3
MSLP				*e*S	Sn	20 10 12.2	+1.5
PVCP	**Virac**	**2.05**	**324**	*e*P	Pn	20 09 49.2	0.0

GUC 10 20:11:04.0±0.7, 29.72S×71.30W, h46^{km}±4^{km}, MD3.7, ML3.4, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.19**	**165**	*i*P		20 14 10.3	
LSCH				*i*S		20 14 16.2	
LSCH				AMP		20 14 16.9	
comp=E,4μm,0.3s							
TLL	**Tololo Astrono**	**0.62**	**136**	*i*P	P	20 11 17.8	+1.2
TLL				*i*S	S	20 11 27.6	+1.9
TLL				AMP		20 11 30.0	
comp=N,4μm,0.6s							
VACH	**Vallenar**	**1.24**	**23**	*i*P	P	20 11 25.8	+0.6
VACH				*i*S	S	20 11 41.6	+0.6
CMCH	**Combarbala**	**1.47**	**170**	*i*P	P	20 11 28.4	-0.1
CMCH				*i*S	S	20 11 47.8	+1.1
CMCH				AMP		20 11 53.9	
comp=N,1μm,0.2s							
ILCH	**Illapel**	**1.91**	**177**	*i*P	P	20 11 34.8	0.0
ILCH				*i*S	S	20 11 58.2	+0.6
ILCH				AMP		20 12 09.3	
comp=N,479nm,0.2s							
CHNG	**Los Chungos**	**2.16**	**184**	⇓*i*P	P	20 11 38.0	-0.3
CHNG				*i*S	S	20 12 03.7	-0.2

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*NEIC **10** 20:13:06.4, 15.86N×97.60W, h17^{km}, MD3.5(MEX), After MEX.*

MEX 10 20:13:06.5±1.0, 15.86N×97.61W, h16^{km}±999^{km}, MD3.5, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.73**	**317**	*i*P	Pb	20 13 18.4	-1.9
PNIG				*i*S	Sb	20 13 26.6	-3.1
PNIG	**Pinotepa**	**0.73**	**317**	*i*P	Pb	20 13 18.4	-1.9
PNIG				*i*S	Sb	20 13 26.6	-3.2
HUIG	**Huatulco**	**1.45**	**94**	*e*P	Pn	20 13 28.7	-3.5
HUIG				*i*S	Sb	20 13 44.6	-6.0
HUIG	**Huatulco**	**1.45**	**94**	*e*P	Pn	20 13 28.7	-3.5
HUIG				*e*P		20 13 32.8	
HUIG				*i*S	Sb	20 13 44.6	-6.0
HUIG				*i*S	Sb	20 13 46.7	-3.9
VHO	**Vista Hermosa**	**1.47**	**35**	*i*P	Pn	20 13 29.4	-3.1
VHO				*i*S	Sb	20 13 45.5	-5.6
OXX	**Oaxaca**	**1.48**	**35**	*i*P	Pn	20 13 30.1	-2.5
OXX				*i*S	Sb	20 13 46.5	-5.1

IDC 10 20:16:00.3±10.0, 11.59N×144.58E, mb3.7/5, mb1 3.9/5, mb1mx3.7/19, mbtmp3.7/5, Error ellipse: s-maj=268.4km s-min=55.4km az=178.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**48.21**	**326**	P	P	20 24 42.5	-2.1
0.5nm,0.5s,baz=143,slow=7.4,SNR=4.1							
MKAR	**Makanchi Array**	**62.74**	**317**	P	P	20 26 27.2	-2.3
0.4nm,0.6s,baz=91,slow=8.6,SNR=6.5							
ZAL	**Zalesovo**	**63.09**	**325**	P	P	20 26 30.1	-1.7
0.5nm,0.4s,baz=306,slow=1.5,SNR=3.4							
ILAR	**Eielson Array**	**70.49**	**25**	P	P	20 27 16.6	-1.9
0.4nm,0.6s,baz=244,slow=5.8,SNR=4.4							
BVAR	**Borovoye Array**	**71.32**	**322**	P	P	20 27 21.8	-1.9
0.4nm,0.3s,baz=106,slow=8.4,SNR=6.3							

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*IDC **10** 20:22:41.1±4.0, 6.83S×129.53E, h165^{km}±38^{km}, mb3.8/7, mb1 3.9/9, mb1mx3.7/16, mbtmp4.4/9, Error ellipse: s-maj=25.0km s-min=16.1km az=68.0*
*NEIC **10** 20:22:48.6±2.2, 6.89S×129.69E, h238^{km}±21^{km}, mb4.6/6, Error ellipse: s-maj=17.4km s-min=16.9km az=123.0*

ISC 10 20:22:40.7±2.3, 7.01S±0.08×129.68E±0.10, h178^{km}±24^{km}, n21, σ1^{s}35/25, mb4.0/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.29**	**155**	*e*P	P	**20 24 22.8**	**+11**
66nm,0.2s							
KAKA				*e*S	S	**20 25 31.6**	**+8.1**
FITZ	**Fitzroy Crossi**	**11.71**	**199**	*e*P	P	**20 25 24.4**	**+1.1**
8.1nm,0.3s							
FITZ				*e*S	S	**20 27 30.2**	**-0.8**
FITZ	**Fitzroy Crossi**	**11.71**	**199**	P	P	**20 25 24.7**	**+1.3**
3.0nm,0.3s,baz=24,slow=7.9,SNR=37							
FITZ				S	S	**20 27 28.2**	**-2.8**
12nm,0.3s,baz=177,slow=15,SNR=9.6							
WRAB	**Tennant Creek**	**13.63**	**161**	*e*P	P	**20 25 47.4**	**-0.5**
40nm,0.4s							
WRA	**Warramunga Arr**	**13.63**	**161**	P	P	**20 25 47.1**	**-0.8**
1.9nm,0.3s,baz=339,slow=13,SNR=146							
WRA				S	S	**20 28 13.9**	**-1.6**
3.5nm,0.3s,baz=329,slow=21,SNR=9.3							
WRA	**Warramunga Arr**	**13.63**	**161**	P	P	**20 25 47.1**	**-0.8**
WRA				S	S	**20 28 13.8**	**-1.6**
WB2	**Warramunga Arr**	**13.64**	**161**	*e*P	P	**20 25 47.2**	**-0.8**
WB2				*e*		20 25 53.7	
WB2				*e*S	S	**20 28 14.7**	**-0.8**
MBWA	**Marble Bar**	**17.05**	**213**	*e*P	P	**20 26 32.0**	**+2.0**
PMG	**Port Moresby**	**17.46**	**99**	P	P	**20 26 35.6**	**+0.8**
0.6nm,0.3s,baz=271,slow=6.9,SNR=4.8							
CTA	**Charters Tower**	**20.68**	**131**	*e*P	P	**20 27 10.6**	**+2.4**
6.9nm,0.7s							
CTA	**Charters Tower**	**20.68**	**131**	P	P	**20 27 10.4**	**+2.3**
9.1nm,0.7s,baz=308,slow=11,SNR=15							
CTAO	**Charters Tower**	**20.68**	**131**	*e*P	P	**20 27 10.3**	**+2.1**
8.4nm,0.7s							
FORT	**Forrest**	**23.70**	**183**	*e*P	P	**20 27 40.3**	**+2.8**
17nm,0.7s,mb4.7							
STKA	**Stephens Creek**	**27.13**	**157**	P	P	**20 28 10.7**	**+1.4**
5.6nm,0.3s,mb4.6,baz=336,slow=8.5,SNR=40							
NWAO	**Narrogin (SRO)**	**28.26**	**203**	P	P	**20 28 19.9**	**+0.3**
1.8nm,0.3s,mb4.3,baz=56,slow=6.1,SNR=10							
SONM	**Songino Array**	**58.35**	**342**	P	P	**20 32 17.5**	**-1.9**
0.3nm,0.5s,mb3.4,baz=164,slow=5.6,SNR=3.7							
SONM				PcP	PcP	20 33 04.7	-3.5
1.1nm,1.0s,baz=162,slow=9.4,SNR=4.8							
MKAR	**Makanchi Array**	**68.06**	**327**	P	P	**20 33 22.1**	**-1.0**
3.6nm,0.5s,mb4.4,baz=116,slow=8.1,SNR=41							
MAW	**Mawson**	**74.83**	**201**	P	P	**20 34 03.6**	**+0.7**
1.3nm,0.9s,mb3.6,baz=17,slow=4.6,SNR=4.0							
BVAR	**Borovoye Array**	**77.90**	**328**	P	P	**20 34 19.0**	**-1.3**
0.5nm,0.7s,mb3.3,baz=202,slow=8.0,SNR=5.1							
TXAR	**Lajitas Array**	**125.20**	**59**	PKP	PKPdf	20 41 23.6	+2.8
0.4nm,0.4s,baz=243,slow=6.8,SNR=6.1							
LPAZ	**La Paz**	**150.91**	**143**	PKPbc	PKPdf	20 42 16.4	+9.3
1.4nm,0.4s,baz=29,slow=4.8,SNR=12							

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*IDC **10** 20:26:38.0±2.1, 11.48S×166.58E, h174^{km}±18^{km}, mb4.0/14, mb1 4.1/16, mb1mx4.0/21, mbtmp4.5/16, Error ellipse: s-maj=15.7km s-min=13.4km az=73.0*
*NEIC **10** 20:26:39.7±1.1, 11.49S×166.52E, h191^{km}±10^{km}, mb4.3/8, Error ellipse: s-maj=10.3km s-min=8.1km az=51.0*
*BJI **10** 20:26:40.2, 10.71S×166.39E, h172^{km}, mB4.7, mb4.8*

ISC 10 20:26:39.5±1.5, 11.56S±0.07×166.51E±0.09, h200^{km}±14^{km}, n49, σ1^{s}00/41, mb4.4/28, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.79**	**288**	P	P	**20 28 17.1**	**-0.7**
6.1nm,0.3s,baz=335,slow=5.2,SNR=3.9							
HNR	**Honiara**	**6.79**	**288**	*e*P	P	**20 28 16.4**	**-1.4**
DZM	**Mont Dzumac**	**10.45**	**180**	*e*P	P	**20 29 06.2**	**+0.8**
DZM				*e*S	S	**20 30 59.6**	**-0.2**
DZM	**Mont Dzumac**	**10.45**	**180**	P	P	**20 29 05.8**	**+0.3**
6.2nm,0.3s,baz=228,slow=22,SNR=64							
DZM				S	S	**20 30 55.7**	**-4.0**
0.3nm,0.3s,baz=72,slow=18,SNR=2.0							
NOUC	**Port Laguerre**	**10.48**	**181**	*e*P	P	**20 29 07.5**	**+1.7**
NOUC	**Port Laguerre**	**10.48**	**181**	*e*P	P	**20 29 07.5**	**+1.7**
CTA	**Charters Tower**	**21.23**	**244**	*e*P	P	**20 31 11.6**	**+1.0**
2.3nm,0.5s,mb4.0							
CTA	**Charters Tower**	**21.23**	**244**	P	P	**20 31 11.0**	**+0.3**
3.5nm,0.5s,mb4.1,baz=71,slow=12,SNR=6.2							
CTAO	**Charters Tower**	**21.23**	**244**	*e*P	P	**20 31 10.3**	**-0.4**
3.9nm,0.7s,mb4.0							
AFI	**Afiamalu**	**21.31**	**99**	P	P	**20 31 11.2**	**-0.2**
16nm,0.5s,mb4.8,baz=209,slow=19,SNR=5.0							
URZ	**Urewera**	**28.22**	**162**	P	P	**20 32 15.4**	**-0.6**
3.1nm,0.3s,mb4.5,baz=117,slow=18,SNR=5.6							
STKA	**Stephens Creek**	**30.59**	**225**	P	P	**20 32 36.8**	**-0.1**
2.1nm,0.7s,mb3.9,baz=71,slow=9.4,SNR=3.1							
WRA	**Warramunga Arr**	**32.02**	**251**	P	P	**20 32 49.4**	**0.0**
1.3nm,0.5s,mb3.7,baz=80,slow=8.7,SNR=4.6							
WRA				PcP	PcP	20 35 34.5	+0.2
2.1nm,0.9s,baz=72,slow=3.2,SNR=6.3							
WRA				ScP		20 39 02.7	
0.9nm,0.9s,baz=76,slow=3.4,SNR=6.8							
RPZ	**Rata Peaks**	**32.28**	**174**	P	P	**20 32 49.5**	**-1.9**
16nm,0.8s,mb4.6,baz=224,slow=23,SNR=4.0							
KAKA	**Kakadu**	**33.31**	**264**	*e*P	P	**20 33 07.4**	**+6.8**
6.7nm,0.6s,mb4.3							
FITZ	**Fitzroy Crossi**	**39.98**	**256**	*e*P	P	**20 33 56.4**	**+0.1**
13nm,0.6s,mb4.5							
FITZ	**Fitzroy Crossi**	**39.98**	**256**	P	P	**20 33 56.6**	**+0.3**
20nm,0.7s,mb4.7,baz=96,slow=3.7,SNR=8.1							
FITZ				PcP	PcP	20 35 58.7	+0.6
4.6nm,0.7s,baz=349,slow=0.2,SNR=3.7							
MBWA	**Marble Bar**	**45.74**	**252**	*e*P	P	**20 34 43.2**	**+0.3**
4.1nm,0.5s,mb4.0							
NWAO	**Narrogin (SRO)**	**49.80**	**237**	P	P	**20 35 13.2**	**-0.8**
3.3nm,0.7s,mb3.8,baz=103,slow=14,SNR=3.9							
MJAR	**Matsushiro Arr**	**54.77**	**332**	P	P	**20 35 48.8**	**-2.0**
2.4nm,0.7s,mb3.8,baz=166,slow=8.3,SNR=5.6							
JNU	**Nakatsue**	**55.94**	**324**	P	P	**20 35 57.5**	**-1.6**
11nm,0.8s,mb4.5,baz=136,slow=4.6,SNR=6.7							
VNDA	**Vanda**	**65.99**	**181**	P	P	**20 37 05.2**	**-0.9**
1.5nm,0.6s,mb3.8,baz=321,slow=8.8,SNR=3.2							
CN2	**Changchun**	**66.57**	**329**	*e*P	P	**20 37 10.1**	**-0.1**
CN2				AMB	AMB		
comp=Z,20nm,0.8s,mb4.8							
ENH	**Enshi**	**68.80**	**309**	*e*P	P	**20 37 23.0**	**-1.3**
comp=Z,7.8nm,0.8s,mb4.4							
KMI	**Kunming**	**72.03**	**301**	P	P	**20 37 45.4**	**+1.6**
KMI				AMB	AMB		
comp=Z,10.0nm,1.2s,mb4.3							
HIA	**Hailar**	**73.19**	**330**	*e*P	P	**20 37 50.0**	**-0.3**
comp=Z,1.9nm,0.4s,mb4.1							
LZH	**Lanzhou**	**75.66**	**312**	*e*P	P	**20 38 05.5**	**+0.9**
LZH				AMB	AMB		
comp=Z,30nm,1.0s,mb4.9							
SONM	**Songino Array**	**79.52**	**324**	P	P	**20 38 25.6**	**+0.2**
comp=Z,2.4nm,0.7s,mb3.9,baz=150,slow=5.9,SNR=12							
GTA	**Gaotai**	**79.95**	**314**	*e*P	P	**20 38 29.3**	**+1.3**
GTA				AMB	AMB		
comp=Z,7.0nm,1.2s,mb4.2							
IMA	**Indian Mountai**	**82.81**	**15**	*e*P	P	**20 38 44.0**	**+1.8**
comp=Z,7.4nm,0.7s,mb4.5							
LSA	**Lhasa**	**83.26**	**302**	*e*P	P	**20 38 46.9**	**+1.5**
ILAR	**Eielson Array**	**83.76**	**18**	P	P	**20 38 46.7**	**-0.4**
comp=Z,2.1nm,0.5s,mb4.1,baz=241,slow=4.9,SNR=22							
PKI	**Pulchoki**	**87.54**	**299**	*e*P	P	**20 39 07.1**	**+0.7**
KKN	**Kakani**	**87.71**	**299**	*e*P	P	**20 39 07.8**	**+0.6**
comp=Z,7.6nm,0.6s,mb4.7							
DMN	**Daman**	**87.81**	**299**	*e*P	P	**20 39 08.6**	**+0.9**
comp=Z,21nm,0.7s,mb5.1							
GKN	**Gorkha**	**88.31**	**299**	*e*P	P	**20 39 10.2**	**+0.2**
comp=Z,11nm,0.5s,mb4.9							
KOLN	**Koldanda**	**89.15**	**298**	*e*P	P	**20 39 13.0**	**-1.0**
comp=Z,3.1nm,0.5s,mb4.4							
MKAR	**Makanchi Array**	**94.41**	**317**	P	P	**20 39 38.3**	**+0.5**
comp=Z,8.6nm,0.5s,mb5.0,baz=86,slow=6.2,SNR=141							
ZAL	**Zalesovo**	**94.42**	**324**	P	P	**20 39 36.6**	**-1.0**
comp=Z,1.0nm,0.3s,mb4.3,baz=325,slow=7.0,SNR=5.7							
ARCES	**ARCESS Array B**	**117.02**	**346**	PKP	PKPdf	20 45 01.3	+1.2
comp=Z,1.6nm,0.4s,baz=81,slow=1.9,SNR=18							
ARCES	**ARCESS Array B**	**117.02**	**346**	PKP	PKPdf	20 45 01.3	+1.2
FINES	**FINESS Array B**	**122.52**	**339**	PKP	PKPdf	20 45 11.8	+0.9
comp=Z,2.6nm,0.9s,baz=90,slow=1.9,SNR=6.4							
NOA	**NORSAR Array B**	**127.39**	**345**	PKP	PKPdf	20 45 20.4	+0.1
comp=Z,1.0nm,0.8s,baz=203,slow=19,SNR=3.0							
MBDF	**Montbardon**	**142.66**	**336**	*e*PKP1	PKPdf	20 45 46.0	-2.8
ORIF	**Oris-en-Rattie**	**142.84**	**337**	*e*PKP1	PKPdf	20 45 47.9	-1.2
comp=Z,7.5nm,0.8s							
VIVF	**Saint-Julien-l**	**143.35**	**338**	*e*PKP1	PKPbc	20 45 49.5	+0.9
FRF	**La Foret Royal**	**143.67**	**335**	*e*PKP1	PKPbc	20 45 49.3	-0.3
comp=Z,20nm,0.9s							
LASF	**Ste Croix**	**144.32**	**338**	*e*PKP1	PKPbc	20 45 51.4	0.0
comp=Z,12nm,0.9s							
ESDC	**Sonseca Array**	**150.75**	**345**	PKPbc	PKPdf	20 46 09.1	+6.8
comp=Z,1.3nm,0.7s,baz=6.3,slow=4.4,SNR=5.8							
ESDC				PKPab	PKPab	20 46 18.2	-0.1
comp=Z,1.0nm,0.5s,baz=10,slow=3.9,SNR=10							

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*BER **10** 20:40:01.1±3.6, 66.73N×22.09E, ML1.6, Suspected explosion*
*IDC **10** 20:40:03.1±1.0, 67.08N×21.28E, mb1 3.0/4, mb1mx2.9/20, mbtmp2.9/4, ML2.3/4, Error ellipse: s-maj=18.2km s-min=7.1km az=105.0*

HEL 10 20:40:03.6±0.1, 67.07N×20.98E, ML1.8, ML1.6(BER), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIF	**Kilpisjarvi**	**1.95**	**358**	*e*P	Pn	20 40 37.6	-0.7
KIF				*e*S	Sn	20 41 03.7	-0.1
KTK1	**Kautokeino**	**2.13**	**22**	*e*P	Pn	20 40 40.3	-0.5
KTK1				*e*S	Sn	20 41 07.5	-0.9
KTK1				AML	AML	20 41 21.3	
comp=Z,5.8nm,0.3s							
SGF	**Sodankyl**	**2.19**	**78**	*e*P	Pn	20 40 40.8	-0.9
SGF				*e*SG	Sg	20 41 12.0	-4.5
SGF				MSG		20 41 15.7	
comp=Z,3.9nm,0.1s							
TRO	**Tromso**	**2.69**	**344**	*e*P	Pn	20 40 49.2	+0.3
TRO				*e*S	Sn	20 41 25.5	+2.9
MOR8	**Moi Rana**	**2.76**	**254**	*e*P	Pn	20 40 48.0	-1.9
MOR8				AML	AML	20 41 27.9	
comp=Z,3.8nm,0.4s							
MOR8	**Moi Rana**	**2.76**	**254**	*e*P	Pn	20 40 48.0	-1.9
MOR8				*e*S	Sn	20 41 24.0	-0.4
MOR8				AML	AML	20 41 27.9	
comp=Z,3.8nm,0.4s							
OUL	**Oulu**	**2.82**	**133**	*e*P	Pn	20 40 49.8	-1.0
OUL				*e*SG	Sg	20 41 31.8	-5.9
OUL				MSG		20 41 33.8	
comp=Z,3.3nm,0.2s							
ARCES	**ARCESS Array B**	**3.00**	**32**	Pn	Pn	20 40 50.7	-2.5
comp=Z,0.4nm,0.3s,baz=212,slow=14,SNR=45							
ARCES				Sn	Sn	20 41 28.4	-2.0
comp=Z,0.4nm,0.3s,baz=222,slow=22,SNR=7.3							
ARCES				Lg		20 41 34.8	
comp=Z,0.5nm,0.3s,baz=208,slow=26,SNR=6.0							
LOF	**Lofoten**	**3.04**	**294**	*e*P	Pn	20 40 53.5	-0.5
LOF				AML	AML	20 41 39.0	
comp=Z,4.6nm,0.6s							
LOF	**Lofoten**	**3.04**	**294**	*e*P	Pn	20 40 53.5	-0.5
LOF				*e*S	Sn	20 41 36.3	+4.7
LOF				AML	AML	20 41 39.0	
comp=Z,4.6nm,0.6s							
STOK	**Stokkvaagen**	**3.25**	**261**	*e*P	Pn	20 40 55.2	-1.7
STOK				AML	AML	20 41 48.8	
comp=Z,4.6nm,0.8s							
STOK	**Stokkvaagen**	**3.25**	**261**	*e*P	Pn	20 40 55.2	-1.7
STOK				*e*S	Sn	20 41 39.7	+2.9
STOK				AML	AML	20 41 48.8	
comp=Z,4.6nm,0.8s							
KU4	**Liikasenvaara**	**3.49**	**98**	*e*P	Pn	20 40 59.3	-0.9
KU4				*e*S	Sn	20 41 40.1	-2.7
KEV	**Kevo**	**3.50**	**37**	*e*P	Pn	20 40 58.2	-2.2
KEV				*e*S	Sn	20 41 39.8	-3.4
KEV				MSG		20 42 00.2	
comp=Z,1.3nm,0.2s							
KJN	**Kajaani**	**4.09**	**134**	*e*P	Pn	20 41 07.2	-1.6
KJN				*e*SG	Sg	20 42 09.2	-11
KJN				MSG		20 42 09.4	
comp=Z,1.5nm,0.2s							
VAF	**Ylistaro**	**4.11**	**169**	*e*P	Pn	20 41 07.2	-1.8
VAF				*e*S	Sn	20 41 54.8	-3.7
VAF				MSG		20 42 15.0	
comp=Z,1.8nm,0.2s							
NSS	**Namsos**	**4.50**	**240**	*e*S	Sn	20 42 03.5	-5.0
NSS				AML	AML	20 42 15.2	
comp=Z,2.1nm,0.7s							
FINES	**FINESS Array B**	**6.07**	**156**	Pn	Pn	20 41 33.8	-2.9
comp=Z,0.1nm,0.3s,baz=346,slow=14,SNR=8.3							
FINES				Pg	Pg	20 41 45.2	-19
comp=Z,0.1nm,0.3s,baz=354,slow=14,SNR=4.7							
FINES				Sn	Sn	20 42 44.1	-3.7
comp=Z,0.1nm,0.3s,baz=345,slow=22,SNR=4.3							
FINES				Lg		20 43 11.9	
comp=Z,0.1nm,0.3s,baz=342,slow=26,SNR=2.3							
NOA	**NORSAR Array B**	**7.40**	**220**	Pn	Pn	20 41 52.8	-2.8
comp=Z,0.1nm,0.3s,baz=14,slow=20,SNR=2.8							
HFS	**Hagfors**	**7.67**	**208**	Pn	Pn	20 41 54.1	-5.2
comp=Z,0.0nm,0.3s,baz=24,slow=14,SNR=2.9							

IDC 10 20:40:51.1±4.0, 1.24N×97.12E, mb3.6/4, mb1 3.8/4, mb1mx3.5/17, mbtmp3.6/4, Error ellipse: s-maj=152.2km s-min=28.0km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.13**	**122**	P	P	20 48 45.4	-1.8
0.4nm,0.5s,baz=300,slow=9.1,SNR=7.3							
SONM	**Songino Array**	**47.10**	**9**	P	P	20 49 25.6	-1.2
0.4nm,0.4s,baz=194,slow=5.9,SNR=3.4							
MKAR	**Makanchi Array**	**47.18**	**346**	P	P	20 49 25.4	-2.0
0.2nm,0.4s,baz=164,slow=9.1,SNR=9.2							
ZAL	**Zalesovo**	**53.49**	**351**	P	P	20 50 12.4	-3.1
0.9nm,0.4s,baz=283,slow=7.4,SNR=3.5							

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*IDC **10** 20:53:05.9±1.2, 35.94N×140.46E, mb3.6/4, mb1 3.8/6, mb1mx3.6/21, mbtmp3.6/6, ML2.9/2, Error ellipse: s-maj=24.6km s-min=19.8km az=74.0*
*NEIC **10** 20:53:13.7±2.0, 35.85N×140.27E, h63^{km}±14^{km}, mb4.0/1, Error ellipse: s-maj=22.8km s-min=17.2km az=105.0*
*JMA **10** 20:53:15.5±0.1, 35.92N×140.12E, h62^{km}±1^{km}, M3.0*

ISC 10 20:53:13.4±0.6, 35.89N±0.05×140.25E±0.08, h77^{km}±4^{km}, n24, σ0^{s}91/29, mb3.6/5, 1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.34**	**352**	P	P	**20 53 26.0**	**+0.3**
JYT				*e*S	S	**20 53 33.8**	**-1.1**
TOK	**Tokyo**	**0.45**	**243**	*e*S	S	**20 53 36.9**	**+0.5**
JAG	**Ashikaga**	**0.84**	**310**	P	P	**20 53 30.6**	**0.0**
JRY	**Ryogami san**	**1.10**	**277**	P	P	**20 53 33.9**	**+0.1**
BSO3	**Boso 3**	**1.11**	**169**	P	P	**20 53 34.8**	**+0.9**
JOD2	**Odawara 2**	**1.14**	**237**	P	P	**20 53 34.0**	**-0.3**
JKT	**Katashina**	**1.19**	**317**	P	P	**20 53 35.2**	**+0.2**
JIM2	**Oshima 3**	**1.35**	**210**	P	P	**20 53 36.8**	**-0.4**
BSO1	**Boso 1**	**1.37**	**154**	P	P	**20 53 38.8**	**+1.3**
JYN	**Shimob**	**1.45**	**255**	P	P	**20 53 38.5**	**+0.1**
MJAR	**Matsushiro Arr**	**1.77**	**292**	Pn	P	**20 53 41.3**	**-1.5**
17nm,0.3s,baz=99,slow=11,SNR=416							
MJAR				Sn	S	**20 54 05.0**	**+0.6**
13nm,0.3s,baz=172,slow=12,SNR=9.5							
MAJO	**Matsushiro**	**1.78**	**292**	⇓*i*P	P	**20 53 43.2**	**+0.4**
MAT	**Matsushiro**	**1.78**	**292**	P	P	**20 53 43.3**	**+0.5**
MAT				S	S	**20 54 05.0**

BALT					*i* S		**Sn**	**21 01 55.5**	**+2.4**
AVNT	**Avonos**	**1.80**	**126**		*i* P		**Pn**	**21 01 33.4**	**+1.3**
AVNT					*i* S		**Sn**	**21 01 58.2**	**+2.6**
YOZ	**Yozgat**	**1.81**	**96**		*e*PN		**Pn**	**21 01 32.8**	**+0.6**
HENT	**Hendek**	**1.87**	**302**		*i* P		**Pn**	**21 01 33.9**	**+0.9**
HENT					*i* S		**Sn**	**21 01 53.2**	**-4.0**
BORA	**Eskisehir**	**1.95**	**272**		*i* P		**Pn**	**21 01 33.6**	**-0.6**
BORA					*i* S		**Sg**	**21 02 05.1**	**0.0**
KONT	**Konya--Tatoy**	**1.97**	**195**		PN		**Pn**	**21 01 35.1**	**+0.6**
GPA	**Golpazari**	**2.10**	**283**		PN		**Pn**	**21 01 37.0**	**+0.6**
BYBT	**Boyabat**	**2.10**	**39**		PN		**Pn**	**21 01 37.2**	**+0.8**
BOYT	**Boyabat**	**2.14**	**42**		*i* P		**Pn**	**21 01 35.9**	**-1.0**
BOYT					*i* S		**Sn**	**21 02 01.7**	**-2.4**
NIG	**Nigde**	**2.15**	**144**		*e*PN		**Pn**	**21 01 37.3**	**+0.2**
BZK	**Bozkurt**	**2.24**	**20**		PN		**Pn**	**21 01 39.3**	**+1.0**
BNN	**Bunyan**	**2.43**	**113**		PN		**Pn**	**21 01 41.7**	**+0.7**
KVT	**Kavak**	**2.63**	**61**		PN		**Pn**	**21 01 45.0**	**+1.0**
TKTP	**Tekketepe**	**2.76**	**230**		*i* P		**Pn**	**21 01 44.3**	**-1.5**
TKTP					*i* S		**Sn**	**21 02 20.0**	**+0.1**
GDZ	**Gediz**	**2.82**	**255**		*i* P		**Pb**	**21 01 51.5**	**+0.9**
GDZ					*i* S		**Sg**	**21 02 32.1**	**-1.9**
HDMB	**Hadim**	**2.91**	**188**		*e*PN		**Pn**	**21 01 48.4**	**+0.4**
ULDT	**Uludag**	**2.97**	**277**		*i* P		**Pn**	**21 01 47.0**	**-1.8**
ULDT					*i* S		**Sn**	**21 02 28.8**	**+3.4**
SVSK	**Karacayir**	**3.08**	**88**		*e*PN		**Pn**	**21 01 50.7**	**+0.3**

*IDC **10** 21:13:12.9±5.8, 8.99N×85.49W, mb3.6/3, mb1 4.0/3, mb1mx3.7/18, mbtmp3.6/3, MS3.3/4, Ms1 3.3/4, ms1mx3.0/29, Error ellipse: s-maj=111.6km s-min=30.8km az=138.0*
*CASC **10** 21:13:20.4±1.8, 9.69N×85.69W, MD4.1*
*NEIC **10** 21:13:28.1, 10.72N×84.49W, h125km, MD4.1(CASC), After CASC.*

ISC 10 21:13:19.3±0.9, 9.57N±0.06×85.83W±0.05, h10km, n35, σ1°19/42, mb3.4/3, MS3.2/4, 4C-9D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**1.12**	**50**		**Pn**	**21 13 39.2**	**-1.8**
	114nm,0.3s,baz=269,slow=9.0,SNR=27						
JTS				Sn	**Sn**	**21 14 01.0**	**+4.6**
	136nm,0.3s,baz=290,slow=22,SNR=11						
LIM1	**Limonal**	**1.25**	**27**	⇑*i*P	**Pb**	**21 13 40.5**	**-2.1**
LIM1				⇑*i*P		21 13 41.0	
LIM1				*i* S	**Sb**	**21 13 58.0**	**-0.7**
FORC	**Fortuna**	**1.45**	**52**	⇓*i*P	**Pn**	**21 13 45.1**	**-0.6**
FORC	**Fortuna**	**1.45**	**52**	⇓*i*P	**Pn**	**21 13 45.0**	**-0.7**
PRS1	**Puriscal**	**1.55**	**75**	*e*P	**Pn**	**21 13 44.6**	**-2.5**
PRS1	**Puriscal**	**1.55**	**75**	*e*P	**Pn**	**21 13 49.7**	**+2.6**
VPS2	**Volcan Poas 2**	**1.68**	**68**	*e*P	**Pn**	**21 13 49.0**	**-0.1**
VPS2				*e*S	**Sn**	**21 14 11.9**	**+1.1**
VPS2	**Volcan Poas 2**	**1.68**	**68**	*e*P	**Pn**	**21 13 49.0**	**0.0**
SSNN	**San Juan del S**	**1.71**	**359**	⇑*e*P	**Pn**	**21 13 49.0**	**-0.3**
SSNN				*e*S	**Sn**	**21 14 12.2**	**+0.9**
SJS	**Escuela Geolog**	**1.78**	**78**	⇓*e*P	**Pn**	**21 13 51.0**	**+0.5**
SJS				*e*S	**Sn**	**21 14 11.6**	**-1.8**
SJS	**Escuela Geolog**	**1.78**	**78**	*e*P	**Pn**	**21 13 50.9**	**+0.5**
SJS				*e*S	**Sn**	**21 14 06.2**	**-7.1**
LCR2	**La Lucha 2**	**1.81**	**84**	⇓*e*P	**Pn**	**21 13 51.2**	**+0.4**
LCR2				*e*S	**Sn**	**21 14 14.7**	**+0.8**
LCR2	**La Lucha 2**	**1.81**	**84**	*e*P	**Pn**	**21 13 51.2**	**+0.5**
MADN	**Villa Maderas**	**1.85**	**9**	*e*P	**Pn**	**21 13 51.4**	**0.0**
CONN	**Concepcion**	**1.99**	**6**	⇑*e*P	**Pn**	**21 13 52.9**	**-0.5**
CONN	**Concepcion**	**1.99**	**6**	*e*P	**Pn**	**21 13 51.8**	**-1.6**
CONN				*e*S	**Sn**	**21 14 15.7**	**-2.9**
BUS	**Buena Vista**	**2.04**	**90**	⇓*i*P	**Pn**	**21 13 55.7**	**+1.6**
BUS	**Buena Vista**	**2.04**	**90**	⇓*i*P	**Pn**	**21 13 55.7**	**+1.6**
APON	**Apoyo**	**2.34**	**354**	*e*P	**Pn**	**21 13 59.5**	**+1.0**
CRUN	**El Crucero**	**2.44**	**349**	*e*P	**Pn**	**21 14 01.5**	**+1.6**
TICN	**Ticuantepe**	**2.48**	**351**	⇓*e*P	**Pn**	**21 14 00.8**	**+0.4**
MGAN	**Managua**	**2.59**	**351**	*e*P	**Pn**	**21 14 02.2**	**+0.2**
MGAN				*e*S	**Sn**	**21 14 35.3**	**+1.4**
MGAN	**Managua**	**2.59**	**351**	*e*P	**Pn**	**21 14 05.2**	**+3.2**
MGAN				*e*S	**Sn**	**21 14 36.0**	**+2.1**
WILN	**Americas 2**	**2.60**	**352**	⇓*e*P	**Pn**	**21 14 02.3**	**+0.2**
COPN	**Copaltepe**	**2.70**	**344**	*e*P	**Pn**	**21 14 04.3**	**+0.7**
MOMJ	**Momotombo**	**2.90**	**346**	⇓*e*P	**Pn**	**21 14 06.4**	**-0.1**
PYTN	**Playitas**	**2.96**	**356**	*e*P	**Pn**	**21 14 07.1**	**-0.1**
TEL3	**Telica 3**	**3.15**	**342**	*e*P	**Pn**	**21 14 10.4**	**+0.5**
SJG	**San Juan**	**20.89**	**64**	LR	LR	21 24 15.7	
	comp=Z,91nm,21.4s,MS3.1,baz=266,slow=32						
TXAR	**Lajitas Array**	**25.80**	**322**	P	**P**	**21 18 52.4**	**-0.1**
	1.1nm,0.8s,mb3.5,baz=145,slow=9.5,SNR=6.9						
TXAR				LR	LR	21 30 55.1	
	comp=Z,46nm,18.2s,MS3.0,baz=155,slow=40						
SADO	**Sadowa**	**35.54**	**8**	LR	LR	21 35 06.6	
	comp=Z,68nm,18.5s,MS3.4,baz=253,slow=36						
PDAR	**Pinedale Array**	**39.05**	**332**	P	**P**	**21 20 46.5**	**-1.6**
	0.3nm,0.8s,mb3.1,baz=117,slow=6.0,SNR=2.6						
PDAR	**Pinedale Array**	**39.05**	**332**	P	**P**	**21 20 46.5**	**-1.6**
SCHQ	**Schefferville**	**47.60**	**15**	LR	LR	21 42 03.5	
	comp=Z,33nm,20.0s,MS3.3,baz=17,slow=36						
ILAR	**Eielson Array**	**69.28**	**336**	P	**P**	**21 24 26.4**	**-2.2**
	0.8nm,0.8s,mb3.7,baz=118,slow=5.2,SNR=8.7						

*IDC **10** 21:18:05.0±5.0, 15.17S×173.93W, h34km±39km, mb4.4/13, mb1 4.5/13, mb1mx4.3/19, mbtmp4.6/13, MS3.7/9, Ms1 3.7/9, ms1mx3.5/27, Error ellipse: s-maj=26.4km s-min=13.7km az=126.0*
*NEIC **10** 21:18:12.5±2.5, 15.14S×174.07W, h103km±22km, mb4.7/15, Error ellipse: s-maj=11.2km s-min=7.4km az=135.0*

ISC 10 21:18:03.3±1.8, 15.15S±0.09×174.01W±0.08, h36km±15km, n134, σ1°04/52, mb4.7/26, MS3.6/7, 8C-11D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.49**	**61**	Pn	**P**	**21 18 42.0**	**-0.3**
	752nm,0.3s,baz=65,slow=1.5,SNR=386						
AFI				Sn	**S**	**21 19 05.3**	**-6.4**
	1μm,0.3s,baz=53,slow=23,SNR=8.4						
AFI				LR	LR	21 19 28.4	
	comp=Z,2μm,21.8s,baz=232,slow=34						
AFI	**Afiamalu**	**2.49**	**61**	*e*P	**P**	**21 18 41.5**	**-0.7**
AFI				*e*S	**S**	**21 19 03.6**	**-8.1**
DZM	**Mont Dzumac**	**19.75**	**247**	*e*P	**P**	**21 22 35.0**	**+2.0**
DZM	**Mont Dzumac**	**19.75**	**247**	P	**P**	**21 22 35.9**	**+2.8**
	0.5nm,0.3s,baz=68,slow=19,SNR=9.1						
DZM				LR	LR	21 28 36.0	
	comp=Z,286nm,19.8s,baz=31,slow=32						
DZM	**Mont Dzumac**	**19.75**	**247**	*e*P	**P**	**21 22 35.0**	**+1.9**
NOUC	**Port Laguerre**	**19.89**	**247**	*e*P	**P**	**21 22 36.4**	**+1.8**
NOUC	**Port Laguerre**	**19.89**	**247**	*e*P	**P**	**21 22 36.4**	**+1.8**
PPT	**Papeete**	**23.56**	**99**	LR	LR	21 29 38.7	
	comp=Z,136nm,21.8s,MS3.4,baz=46,slow=30						
URZ	**Urewera**	**24.32**	**197**	P	**P**	**21 23 19.9**	**+1.1**
	5.2nm,0.4s,mb4.3,baz=349,slow=2.8,SNR=7.4						
URZ				LR	LR	21 32 03.5	
	comp=Z,240nm,20.4s,MS3.7,baz=183,slow=34						
HNR	**Honiara**	**26.06**	**280**	LR	LR	21 32 24.6	
	comp=Z,112nm,20.4s,MS3.4,baz=266,slow=33						
RPZ	**Rata Peaks**	**61.28**	**201**	P	**P**	**21 24 20.3**	**-1.1**
	12nm,0.8s,mb4.8,baz=45,slow=10.0,SNR=3.3						
ARMA	**Armidale**	**34.97**	**238**	*e*P	Px	21 24 41.0	
CTA	**Charters Tower**	**38.13**	**257**	*e*P	**P**	**21 25 21.8**	**+0.8**
	6.4nm,0.6s,mb4.5						
CTAO	**Charters Tower**	**38.13**	**257**	*e*P	**P**	**21 25 21.4**	**+0.4**
	9.0nm,0.8s,mb4.5						
PMG	**Port Moresby**	**38.33**	**274**	P	**P**	**21 25 26.7**	**+4.0**
	9.0nm,0.6s,mb4.7,baz=104,slow=4.2,SNR=4.5						
STKA	**Stephens Creek**	**43.66**	**240**	*e*P	**P**	**21 26 06.4**	**-0.1**
	3.4nm,0.4s,mb4.4						
STKA	**Stephens Creek**	**43.66**	**240**	P	**P**	**21 26 07.0**	**+0.5**
	5.0nm,0.6s,mb4.4,baz=92,slow=10,SNR=19						
STKA				LR	LR	21 43 18.7	
	comp=Z,105nm,19.3s,MS3.8,baz=205,slow=35						
WB2	**Warramunga Arr**	**49.32**	**257**	⇓*i*P	**P**	**21 26 50.6**	**-0.7**
WRAB	**Tennant Creek**	**49.32**	**257**	*e*P	**P**	**21 26 50.6**	**-0.7**
	52nm,0.8s,mb5.6						
WRA	**Warramunga Arr**	**49.33**	**257**	P	**P**	**21 26 50.8**	**-0.6**
	21nm,0.5s,mb5.4,baz=90,slow=7.0,SNR=692						
WRA				PcP	PcP	21 28 14.0	0.0
	2.0nm,0.5s,baz=98,slow=3.4,SNR=4.8						
KAKA	**Kakadu**	**51.93**	**266**	⇓*i*P	**P**	**21 27 19.8**	**+8.6**
	18nm,0.5s,mb5.2						
FORT	**Forrest**	**55.01**	**243**	*e*P	**P**	**21 27 32.3**	**-1.4**
	43nm,0.5s,mb5.7						
FITZ	**Fitzroy Crossi**	**57.69**	**258**	*e*P	**P**	**21 27 51.4**	**-1.7**
	7.3nm,0.6s,mb4.9						
MBWA	**Marble Bar**	**62.87**	**254**	*e*P	**P**	**21 28 27.5**	**-0.9**
	7.7nm,0.6s,mb5.0						
SBA	**Scott Base**	**63.45**	**184**	*e*P	**P**	**21 28 31.8**	**+0.3**
	6.4nm,0.9s,mb4.8						
VNDA	**Vanda**	**63.56**	**186**	P	**P**	**21 28 32.5**	**+0.4**
	6.0nm,0.9s,mb4.6,baz=358,slow=5.9,SNR=9.5						
KLBR	**Kellerberrin**	**63.84**	**242**	*e*P	**P**	**21 28 33.0**	**-1.7**
	12nm,1.1s,mb4.8						
MJAR	**Matsushiro Arr**	**68.37**	**320**	LR	LR	21 52 42.1	
	comp=Z,57nm,20.4s,MS3.8,baz=330,slow=30						
CASY	**Casey**	**70.39**	**205**	*e*P	**P**	**21 29 13.7**	**-1.6**
ASAJ	**Asahikawa**	**71.02**	**328**	P	**P**	**21 29 21.4**	**+1.9**
	3.4nm,0.7s,mb4.4,baz=248,slow=7.1,SNR=4.8						
JNU	**Nakatsue**	**71.20**	**313**	P	**P**	**21 29 21.3**	**+0.5**
	3.5nm,0.6s,mb4.5,baz=154,slow=4.9,SNR=5.0						
JNU				LR	LR	21 53 28.7	
	comp=Z,29nm,21.2s,MS3.5,baz=186,slow=30						
CMB	**Columbia Colle**	**72.97**	**42**	*e*P	**P**	**21 29 30.5**	**-0.8**
	11nm,1.2s,mb4.7						
YBH	**Yreka Blue Hor**	**73.76**	**37**	P	**P**	**21 29 35.8**	**0.0**
	4.2nm,0.8s,mb4.4,baz=187,slow=5.2,SNR=7.7						
YBH	**Yreka Blue Hor**	**73.76**	**37**	*e*P	**P**	**21 29 35.9**	**+0.1**
	8.2nm,1.3s,mb4.5						
MTUM	**Tungsten Hills**	**73.76**	**43**	*e*P	**P**	**21 29 35.9**	**0.0**
MOD	**Modoc**	**75.29**	**38**	*e*P	**P**	**21 29 44.3**	**-0.4**
	7.0nm,1.1s,mb4.5						
ARUT	**Antelope Range**	**77.44**	**45**	*e*P	**P**	**21 29 55.9**	**-0.9**
ELK	**Elko**	**77.78**	**42**	*e*P	**P**	**21 29 58.2**	**-0.5**
	2.4nm,1.0s,mb4.1						
MSU	**Marysvale**	**78.66**	**45**	*e*P	**P**	**21 30 04.3**	**+0.7**
DUG	**Dugway**	**79.08**	**43**	*e*P	**P**	**21 30 05.7**	**-0.2**
	3.0nm,1.0s,mb4.2						
NEW	**Newport**	**80.83**	**35**	P	**P**	**21 30 16.9**	**+1.9**
	1.9nm,0.4s,mb4.4,baz=292,slow=5.4,SNR=3.7						
TXAR	**Lajitas Array**	**80.96**	**56**	P	**P**	**21 30 16.7**	**+0.6**
	0.5nm,0.5s,mb3.7,baz=207,slow=8.4,SNR=5.5						
ANMO	**Albuquerque**	**81.09**	**50**	P	**P**	**21 30 16.8**	**+0.1**
ILAR	**Eielson Array**	**82.32**	**11**	P	**P**	**21 30 22.0**	**-0.4**
	1.7nm,0.6s,mb4.1,baz=236,slow=6.4,SNR=21						
BW06	**Boulder Array**	**82.47**	**42**	P	**P**	**21 30 23.3**	**-0.4**
PDAR	**Pinedale Array**	**82.47**	**42**	P	**P**	**21 30 23.8**	**+0.1**
	1.4nm,0.9s,mb3.9,baz=243,slow=3.3,SNR=8.7						
SDCO	**Great Sand Dun**	**82.98**	**48**	*e*P	**P**	**21 30 26.6**	**+0.2**
MAW	**Mawson**	**87.84**	**199**	⇓*i*P	**P**	**21 30 49.9**	**+0.2**
	5.4nm,0.5s,mb5.0						
MAW	**Mawson**	**87.84**	**199**	P	**P**	**21 30 50.0**	**+0.3**
	9.0nm,0.7s,mb5.1,baz=135,slow=6.1,SNR=36						
MAW				LR	LR	22 06 21.2	
	comp=Z,71nm,19.8s,MS4.1,baz=229,slow=33						
SYO	**Syowa Base**	**92.73**	**192**	⇑P	**P**	**21 31 10.2**	**-2.4**
SYO	**Syowa Base**	**92.73**	**192**	⇑PcP	PcP	21 31 11.8	-1.6
VNA3	**Neumayer Olymp**	**93.16**	**175**		**P**	**21 31 15.4**	**+0.9**
SNAA	**Sanae**	**93.18**	**177**		**P**	**21 31 14.5**	**-0.1**
SNAA	**Sanae**	**93.18**	**177**		sP	21 31 27.9	-1.7
VNA2	**Neumayer--Watz**	**93.64**	**176**		**P**	**21 31 18.0**	**+1.3**
VNA1	**Neumayer--Stat**	**93.85**	**175**		**P**	**21 31 19.4**	**+1.8**
BVAR	**Borovoye Array**	**117.33**	**322**	PKP	PKPdf	21 36 45.2	+0.2
	0.9nm,0.4s,baz=117,slow=1.6,SNR=9.2						
ARCES	**ARCESS Array B**	**124.28**	**352**	PKP	PKPdf	21 36 58.4	+0.3
	1.8nm,0.6s,baz=354,slow=1.5,SNR=22						
FINES	**FINESS Array B**	**131.57**	**347**	PKP	PKPdf	21 37 13.7	+1.5
	1.3nm,0.5s,baz=45,slow=2.7,SNR=9.1						
STHS	**Stebnicka Huta**	**143.62**	**343**	*e*PKP	PKPdf	21 37 33.0	-1.3
KOLS	**Kolonicke sedl**	**143.76**	**342**	*i* PKP	PKPdf	21 37 35.0	+0.4
DPC	**Dobruska-Polom**	**143.91**	**349**	*e*PKP	PKPdf	21 37 34.5	-0.3
DPC				AMS	AMS	22 21 20.0	
	200nm,5.1s						
DPC	**Dobruska-Polom**	**143.91**	**349**	*e*P	PKPbc	21 37 34.5	+0.6
OKC	**Ostrava-Krasne**	**144.02**	**347**	*e*PKP	PKPdf	21 37 34.6	-0.4
OKC				AMS	AMS	22 21 50.0	
CRVS	**Cervenica-Dubn**	**144.03**	**343**	*i* PKP	PKPdf	21 37 34.8	-0.2
PVCC	**Panska Ves**	**144.04**	**351**	*e*PKP	PKPdf	21 37 34.6	-0.4
PVCC				AMS	AMS	22 21 40.0	
	100nm,11.1s						
MOX	**Moxa**	**144.31**	**354**	*e*P	PKPbc	21 37 36.0	+1.0
PRU	**Pruhonice**	**144.57**	**350**	*e*PKP	PKPdf	21 37 36.3	+0.3
PRU				AMS	AMS	22 21 00.0	
	100nm,21.0s						
NKC	**Novy Kostel**	**144.62**	**353**	AMS	AMS	22 20 10.0	
	100nm,14.1s						
KECS	**Kecovo**	**144.68**	**343**	*i* PKP	PKPdf	21 37 36.9	+0.7
CFR	**Carcaliu**	**144.71**	**333**	⇓P	PKPbc	21 37 36.5	+0.2
VYHS	**Vyhne**	**145.11**	**345**	*i* PKP	PKPdf	21 37 38.1	+1.1
KMBO	**Kilima Mbogo**	**145.11**	**245**	PKPbc	PKPbc	21 37 40.2	+1.8
	4.3nm,0.7s,baz=75,slow=4.6,SNR=14						
KMBO	**Kilima Mbogo**	**145.11**	**245**	PKPbc	PKPbc	21 37 40.2	+1.8
TIRR	**Tirgusor**	**145.14**	**331**	⇑P	PKPdf	21 37 38.7	+1.5
TIRR	**Tirgusor**	**145.14**	**331**	⇑P	PKPdf	21 37 38.7	+1.5
HARR	**Harsova**	**145.18**	**332**	⇑P	PKPdf	21 37 37.7	+0.5
HARR	**Harsova**	**145.18**	**332**	⇑P	PKPdf	21 37 37.7	+0.5
ABH	**Alteburg**	**145.34**	**358**	PKP	PKPdf	21 37 38.4	+1.1
MLR	**Muntele Rosu**	**145.40**	**335**	⇓P	PKPdf	21 37 39.9	+2.3
MLR	**Muntele Rosu**	**145.40**	**335**	⇓P	PKPdf	21 37 39.9	+2.3
SMOL	**Smolenice**	**145.42**	**347**	*e*PKP	PKPdf	21 37 40.6	+3.1
RUP	**Ruppelstein**	**145.53**	**359**	PKP	PKPdf	21 37 39.1	+1.4
KHC	**Kasperske Hory**	**145.55**	**351**	*e*PKP	PKPdf	21 37 39.2	+1.5
KHC				*ex*	x	21 38 00.0	
KHC				AMS	AMS	22 21 40.0	
	100nm,19.4s						
TOD	**Tromm**	**145.56**	**357**	PKP	PKPdf	21 37 39.1	+1.4
WLF	**Walferdange**	**145.58**	**360**	*e*PKP	PKPdf	21 37 38.3	+0.6
BRTR	**Keskin Array B**	**145.60**	**321**	PKPbc	PKPbc	21 37 40.0	+1.2
	7.9nm,0.6s,baz=88,slow=2.2,SNR=51						
ZST	**Bratislava**	**145.80**	**347**	*e*PKP	PKPdf	21 37 40.9	+2.7
GERES	**GERESS Array B**	**145.81**	**351**	PKPbc	PKPbc	21 37 40.1	+1.1
	4.9nm,0.8s,baz=22,slow=3.3,SNR=34						
ROSF	**Rostrenen**	**146.04**	**11**	*e*PKP1	PKPbc	21 37 40.1	+0.5
	15nm,0.8s						
FLN	**La Foliniere**	**146.06**	**8**	*e*PKP1	PKPbc	21 37 40.3	+0.6
	22nm,0.7s						
LANF	**Langenberg**	**146.23**	**358**	PKP	PKPdf	21 37 41.7	+2.8
SGMF	**Saint Gilles**	**146.25**	**10**	*e*PKP1	PKPbc	21 37 40.9	+0.8
	28nm,0.7s						
MOA	**Molln**	**146.68**	**350**	⇓*i*P	PKPdf	21 37 42.9	+3.2
WLS	**Welschbruch**	**146.81**	**358**	PKP	PKPdf	21 37 42.8	+2.9
CDF	**Champ du Feu**	**146.82**	**358**	*e*PKP1	PKPbc	21 37 43.1	+1.7
	26nm,0.9s						
ECH	**Echery**	**147.02**	**359**	PKP	PKPdf	21 37 46.0	+5.8
THEF	**They Montfort**	**147.02**	**0**	PKP	PKPdf	21 37 43.0	+2.7
ARSA	**Arzberg**	**147.03**	**348**	⇓*i*P	PKPdf	21 37 43.5	+3.2
MOF	**Molkenrain**	**147.38**	**359**	PKP	PKPdf	21 37 44.5	+3.7
HINF	**Hinteralfeld**	**147.42**	**359**	*e*PKP1	PKPdf	21 37 44.5	+3.6
	5.0nm,0.6s						
KBA	**Koelnbreinsper**	**147.58**	**351**	⇓*i*P	PKPdf	21 37 44.9	+3.7
MOTA	**Moosalm**	**147.62**	**354**	⇑*i*P	PKPdf	21 37 45.4	+4.2
WTTA	**Wattenberg**	**147.64**	**353**	⇓*i*P	PKPdf	21 37 45.7	+4.4
SQTA	**Sankt Quirin**	**147.73**	**353**	⇑*i*P	PKPdf	21 37 45.8	+4.4
DAVA	**Damuels**	**147.80**	**355**	⇓*i*P	PKPdf	21 37 46.1	+4.6
HYF	**Humbligny**	**147.86**	**4**	*e*PKP1	PKPdf	21 37 46.2	+4.6
LOMF	**Lomont**	**147.89**	**359**	PKP	PKPdf	21 37 45.4	+3.7
LOR	**Lormes**	**147.93**	**3**	*e*PKP1	PKPdf	21 37 46.2	+4.5
	18nm,0.6s						
MFF	**Saint Martin d**	**148.23**	**8**	*e*PKP1	PKPdf	21 37 46.7	+4.5
	18nm,0.8s						
AVF	**Avril sur Loir**	**148.38**	**3**	*e*PKP1	PKPdf	21 37 47.1	+4.6
	22nm,0.8s						
VISS	**Visnje**	**148.55**	**348**	*e*PKPdf	PKPdf	21 37 43.9	+1.1
VISS				*e*PKPbc	PKPdf	21 37 47.5	+4.7
CABF	**La Chapelle**	**148.64**	**360**	*e*PKP1	PKPdf	21 37 48.7	+5.8
	40nm,0.8s						
CEY	**Cerknica**	**148.69**	**349**	*e*PKPbc	PKPdf	21 37 48.0	+5.0
GRUS	**Gruza**	**148.73**	**339**	*i* PKP	PKPdf	21 37 48.4	+5.3
BOJS	**Bojanci**	**148.75**	**347**	*e*PKPbc	PKPdf	21 37 48.5	+5.4
DIVS	**Divcibare**	**148.78**	**340**	*i* PKP	PKPdf	21 37 48.5	+5.3
AGO	**Saint Agoulin**	**149.10**	**4**	PKP	PKPdf	21 37 50.0	+6.3
PLDF	**La Plantade**	**149.21**	**3**	PKP	PKPdf	21 37 50.7	+6.9
PYM	**Petit Puy Mans**	**149.39**	**4**	PKP	PKPdf	21 37 51.1	+7.0
RJF	**Les Rejaudoux**	**149.71**	**6**	*e*PKP1	PKPdf	21 37 50.5	+5.8
LBL	**Lubilhac**	**149.93**	**4**	PKP	PKPdf	21 37 53.4	+8.4
LFF	**La Firestale**	**149.98**	**7**	*e*PKP1	PKPdf	21 37 51.4	+6.3
	48nm,0.9s						
CAF	**Calviac**	**150.13**	**6**	*e*PKP1	PKPdf	21 37 51.8	+6.5
	12nm,0.8s						
BNI	**Bardonecchia**	**150.19**	**359**	*e*PKPbc	PKPdf	21 37 52.0	+6.6
ORIF	**Oris-en-Rattie**	**150.33**	**0**	*e*PKP1	PKPdf	21 37 52.6	+7.0
VIVF	**Saint-Julien-l**	**150.37**	**2**	*e*PKP1	PKPdf	21 37 52.8	+7.1
	47nm,1.3s						
MBDF	**Montbardon**	**150.51**	**359**	*e*PKP1	PKPdf	21 37 53.2	+7.3
	11nm,0.9s						
LASF	**Ste Croix**	**151.11**	**3**	*e*PKP1	PKPdf	21 37 54.7	+7.9
	43nm,1.0s						
SBF	**Sospel**	**151.36**	**358**	*e*PKP1	PKPdf	21 37 54.4	+7.2
	14nm,0.8s						
FRF	**La Foret Royal**	**151.68**	**359**	*e*PKP1	PKPdf	21 37 55.2	+7.5
MTLF	**Montolieu**	**151.72**	**6**	*e*PKP1	PKPdf	21 37 55.6	+7.8
	10nm,0.9s						
EPF	**Esparros**	**151.79**	**9**	*e*PKP1	PKPdf	21 37 56.1	+8.2
	6.8nm,0.6s						
ESDC	**Sonseca Array**	**154.06**	**18**	PKPbc	PKPdf	21 38 00.6	+9.5
	1.1nm,0.6s,baz=318,slow=2.1,SNR=9.5						

MAN 10 21:48:18.6, 11.83N×126.05E, h24km, mb4.0, ML2.8, MS2.5, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.64**	**250**	*e*P	Pb	21 48 31.5	+0.4
PLP	**Palo**	**1.24**	**238**	*e*P	Pn	21 48 40.9	+0.2
PLP				*e*S	Sn	21 48 56.4	-0.3
CNP	**Catarman**	**1.52**	**297**	*e*P	Pn	21 48 44.9	+0.2
CNP				*e*S	Sn	21 49 04.4	+0.6
MSLP	**Maasin**	**2.05**	**215**	*e*P	Pn	21 48 57.9	+5.6
MSLP				*e*S	Sn	21 49 25.4	+8.1
SCPH	**Surigao**	**2.10**	**195**	⇑*e*P	Pn	21 48 52.9	-0.1
PVCP	**Virac**	**2.55**	**314**	*e*P	Pn	21 48 58.4	-1.1

*ATH **10** 21:58:20.8, 39.41N×20.52E, h16km±2km, MD3.2/9*
*NEIC **10** 21:58:20.8, 39.41N×20.52E, h16km, MD3.2(ATH), After ATH.*
*CSEM **10** 21:58:21.2±0.1, 39.41N×20.45E, h5km, ML3.1, Error ellipse: s-maj=3.1km s-min=2.2km az=54.0*
*THE **10** 21:58:22.6, 39.51N×20.52E, h9km, ML3.1*

ISC 10 21:58:20.9±0.6, 39.45N±0.03×20.50E±0.04, h10km±4km, n25, σ0°99/44, 1C, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.16**	**302**	*e*Pg	**Pg**	**21 58 24.7**	**+0.2**
IGT				*e*Sg	**Sg**	**21 58 28.1**	**+1.2**
JAN	**Janina**	**0.34**	**52**	⇑*i*PB	**Pb**	**21 58 27.4**	**-1.1**
JAN				*e*SB	**Sb**	**21 58 33.5**	**-0.1**

ANMO Albuquerque 2.43 214 *e*Pn Pn 22 08 57.1 +1.0
SMCO Snowmass 2.80 323 *e*Pn Pn 22 09 03.5 +2.1
ISCO Idaho Springs 2.90 347 *e*Pn Pn 22 09 05.5 +2.8
LPM Los Pinos Moun 3.05 210 *e*Pn Pn 22 09 04.9 0.0
BNM Barren Site 3.19 209 *e*Pn Pn 22 09 07.4 +0.5
LAZ Ladron 3.20 217 *e*Pn Pn 22 09 06.7 -0.3
PV01 Paradox Valley 3.22 292 *e*Pn Pn 22 09 09.0 +1.6
LENM Lemitar 3.32 213 Pn Pn 22 09 10.5 +1.8
PV10 Paradox Valley 3.66 294 *e*Pn Pn 22 09 14.3 +0.8
CPRX Cap Rock 4.00 169 *e*Pn Pn 22 09 19.7 +1.3
PHWY Pilot Hill 4.36 353 *e*Pn Pn 22 09 25.4 +1.9
CBKS Cedar Bluff 4.40 64 *e*Pn Pn 22 09 25.1 +1.0
CLNB Carlsbad 4.75 171 Pn Pn 22 09 30.2 +1.1
GDL2 Guadalupe Moun 4.77 176 Pn Pn 22 09 31.0 +1.6
SRU San Rafael 5.01 297 Pn Pn 22 09 33.2 +0.5
RWWY Rawlins 5.07 339 Pn Pn 22 09 35.4 +1.8
MNTX Cornudas Mount 5.28 186 *e*Pn Pn 22 09 36.6 0.0
WMOK Wichita Mounta 5.36 113 *e*Pn Pn 22 09 37.6 -0.1
TMUT Trail Mountain 5.57 297 *e*Pn Pn 22 09 39.8 -0.8
MSU Marysvale 6.06 287 Pn Pn 22 09 48.2 +0.8
DAU Daniels Canyon 6.12 306 Pn Pn 22 09 47.1 -1.2
MPU Maple Canyon 6.17 302 Pn Pn 22 09 48.3 -0.8
JLU Jordanelle 6.34 307 Pn Pn 22 09 52.8 +1.3
NLU North Lily Min 6.45 300 Pn Pn 22 09 54.1 +1.1
CTU Camp Tracy 6.58 306 Pn Pn 22 09 54.4 -0.5
TCUT Toone Canyon 6.61 311 *e*Pn Pn 22 09 54.0 -1.3
TUC Tucson 6.78 229 Pn Pn 22 09 56.9 -0.8
KSU1 Kansas State U 6.80 69 *e*Pn Pn 22 09 58.3 +0.4
NOQ North Oquirrh 6.80 305 Pn Pn 22 09 56.4 -1.6
BW06 Boulder Array 6.85 329 *e*Pn Pn 22 09 58.5 -0.2
PDAR Pinedale Array 6.85 329 Pn Pn 22 09 58.9 +0.1
0.8nm,0.3s,baz=132,slow=14,SNR=30
ARUT Antelope Range 6.94 279 Pn Pn 22 09 59.8 -0.2
HWUT Hardware Ranch 7.00 313 Pn Pn 22 10 00.5 -0.3
DUG Dugway 7.06 300 *e*Pn Pn 22 10 01.5 -0.2
RSSD Black Hills 7.17 4 Pn Pn 22 10 02.3 -0.9
SPUT South Promonto 7.36 308 Pn Pn 22 10 05.0 -0.9
LTX Lajitas 7.67 173 Pn Pn 22 10 09.3 -0.8
TXAR Lajitas Array 7.67 173 Pn Pn 22 10 09.2 -1.0
0.7nm,0.3s,baz=10,slow=14,SNR=14
TXAR Lg 22 12 06.8
6.3nm,0.3s,baz=5.4,slow=19,SNR=2.5
JCT Junction City 7.69 146 *e*Pn Pn 22 10 09.8 -0.6
HVU Hansel Valley 7.83 310 Pn Pn 22 10 11.1 -1.3
REDW Red Top Meadow 7.89 326 *e*Pn Pn 22 10 12.7 -0.6
SNOW Snow King Moun 7.93 327 *e*Pn Pn 22 10 12.5 -1.3
LOHW Long Hollow 7.99 328 *e*Pn Pn 22 10 13.5 -1.1
TPAW Teton Pass 8.04 326 Pn P 22 10 14.7 -0.7
RRI2 Red Ridge 8.10 324 Pn P 22 10 14.7 -1.4
NEN Nelson 8.22 264 Pn P 22 10 17.0 -0.9
IMW Indian Meadow 8.36 328 *e*Pn P 22 10 19.2 -0.5
LDFC Landfair 8.57 260 Pn P 22 10 22.2 -0.6
YFT Old Faithful 8.77 330 Pn P 22 10 24.7 -0.8
YNR Norris Junctio 8.93 332 Pn P 22 10 27.5 -0.2
ELK Elko 8.98 298 *e*Pn P 22 10 27.2 -1.2
QLMT Earthquake Lak 9.32 329 Pn P 22 10 32.4 -0.7
LAO LASA Array 9.77 354 Pn P 22 10 38.4 -0.9
NATX Nacogdoches 9.85 119 Pn P 22 10 40.9 +0.5
HLID Hailey 9.87 315 Pn P 22 10 40.2 -0.4
MCMT McKenzie Canyo 9.94 325 Pn P 22 10 43.1 +1.5
BOZ Bozeman (W) 10.08 331 Pn P 22 10 42.6 -0.9
PFO Pinyon Flat Ob 10.11 254 Pn P 22 10 43.0 -1.0
BMN Battle Mountai 10.31 293 Pn P 22 10 45.4 -1.3
DAC Darwin (Calif) 10.32 270 Pn P 22 10 47.1 +0.3
UALR University of 10.33 99 Pn P 22 10 46.0 -1.0
BAR Barrett 10.66 250 Pn P 22 10 48.8 -2.8
CCM Cathedral Cave 10.81 80 *e*Pn P 22 10 51.0 -2.6
MWC Mount Wilson 11.15 260 Pn P 22 10 57.1 -1.0
FVM French Village 11.46 81 Pn P 22 11 00.9 -1.5
HBAR Harrisburg 11.50 93 *e*Pn P 22 11 03.5 +0.6
DGMT Dagmar 11.50 2 *e*Pn P 22 11 02.0 -1.0
SLM Saint Louis 11.63 77 *e*Pn P 22 11 02.9 -1.9
MSO Missoula 11.97 328 Pn P 22 11 09.3 -0.1
WVOR Wild Horse Val 11.98 301 Pn P 22 11 08.7 -0.7
BMO Blue Mountains 12.31 314 Pn P 22 11 14.1 +0.3
CMB Columbia Colle 12.44 280 Pn P 22 11 14.2 -1.4
BEKR Beckwourth 12.55 288 Pn P 22 11 18.0 +0.8
OXF Oxford 12.73 97 *e*Pn P 22 11 16.9 -2.6
UTMT University of 12.80 88 Pn P 22 11 19.1 -1.4
MOD Modoc 12.96 297 *e*Pn P 22 11 20.9 -1.7
PLAL Pickwick Lake 13.68 93 Pn P 22 11 31.9 -0.2
WALA Waterton Lakes 13.79 334 Pn P 22 11 33.7 +0.3
WDC Whiskeytown Da 14.31 290 P P 22 11 42.4 +2.1
0.7nm,0.4s
NEW Newport 14.47 325 *e*P P 22 11 42.0 -0.3
HAWA Hanford 14.47 315 *e*P P 22 11 41.8 -0.6
0.5nm,0.6s
BLO Bloomington 14.56 76 *e*P P 22 11 42.9 -0.7
54nm,0.6s
YBH Yreka Blue Hor 14.66 294 P P 22 11 45.1 +0.3
2.7nm,0.8s
WCI Wyandotte Cave 14.72 79 *e*P P 22 11 42.6 -3.1
6.2nm,0.5s
HUMO Hull Mountain 15.05 298 P P 22 11 50.6 +0.6
2.5nm,0.9s
LRAL Lakeview Retre 15.10 100 *e*P P 22 11 48.7 -2.0
3.8nm,0.7s
KHMM Horse Mountain 15.25 291 P P 22 11 52.0 -0.6
KRMB Red Mountain 15.49 293 P P 22 11 54.6 -1.2
KEBM Edson Butte 16.10 298 P P 22 12 03.8 +0.2
CPCT Cooper Cave 16.43 89 *e*P P 22 12 06.5 -1.4
MYNC Murphy 16.82 90 P P 22 12 12.8 +0.1
2.6nm,0.4s
TZTN Tazewell 17.03 85 P P 22 12 14.3 -1.0
EDM Edmonton 17.32 342 P P 22 12 19.1 +0.2
OCWA Octopus Mounta 17.88 313 *e*P P 22 12 27.7 +1.8
3.9nm,0.6s
PGC Sidney 17.94 316 P P 22 12 27.0 +0.3
21nm,0.9s
FWV Forest Hill 19.08 81 P P 22 12 39.6 -1.2
ELN Prospectdale 19.17 82 P P 22 12 42.4 +0.6
JSC Jenkinsville 19.30 91 P P 22 12 43.7 +0.3
BLA Blacksburg 19.43 82 P P 22 12 43.9 -1.0
2.3nm,0.4s
ALLY Alegheny Colle 19.61 69 P P 22 12 47.9 +1.0
MCWV Mont Chateau 19.74 75 P P 22 12 46.5 -1.8
8.1nm,1.0s
NHSC New Hope 20.50 94 P P 22 12 58.5 +2.1
16nm,0.9s
GENY Geneseo 21.45 66 P P 22 13 06.8 +0.8
DWPF Disney 21.54 107 P P 22 13 07.6 +0.6
6.6nm,0.7s,mb4.2
CBN Corbin 21.73 78 P P 22 13 10.4 +1.4
14nm,0.5s,mb4.7
SDMD Soldier's Deli 22.07 75 P P 22 13 11.2 -1.1
BINY Binghamton 22.75 68 P P 22 13 21.1 +2.2
PAL Palisades 24.27 71 P P 22 13 37.0 +3.2
4.3nm,0.6s,mb4.1
ACCN Adirondack Com 24.53 65 P P 22 13 39.4 +3.0
FRNY Flat Rock 24.74 62 P P 22 13 40.4 +2.0
HRV Harvard--Oak R 26.04 67 P P 22 13 50.7 +0.1
3.8nm,0.7s,mb4.0
DLBC Dease Lake 27.09 330 P P 22 14 00.9 +0.9
INK Inuvik 35.22 342 P P 22 15 12.2 +0.5
14nm,1.1s,mb4.8,baz=126,slow=8.2,SNR=3.1
INK Inuvik 35.22 342 *e*P P 22 15 11.5 -0.2
4.5nm,0.9s,mb4.4
DIV Divide 35.22 326 P P 22 15 13.6 +1.8
6.4nm,0.4s,mb4.9
SML Sawmill 36.62 327 P P 22 15 23.5 -0.1
SLKM Skilak Lake 37.02 324 P P 22 15 28.6 +1.7
ILAR Eielson Array 37.28 332 P P 22 15 30.4 +1.2
29nm,1.0s,mb5.0,baz=129,slow=6.2,SNR=30
KDAK Kodiak Island 37.45 319 P P 22 15 30.2 -0.4
3.0nm,0.6s,mb4.3
SPU Mount Spurr 38.08 325 *e*P P 22 15 37.1 +1.2
RSO Redoubt South 38.20 323 *e*P P 22 15 38.1 +1.2
IMA Indian Mountai 40.40 332 P P 22 15 56.3 +1.2
3.5nm,0.5s,mb4.3
SDV Santo Domingo 41.69 123 *e*P P 22 16 06.7 +0.4
2.3nm,0.6s,mb4.0
SUMG Summit 48.10 22 *e*P P 22 16 57.2 +0.3
2.9nm,0.7s,mb4.4
SAML Samuel 60.06 131 P P 22 18 24.0 -1.4
0.3nm,0.6s,mb3.5
LPAZ La Paz 63.25 140 P P 22 18 47.8 +1.0
1.4nm,0.9s,mb4.1,baz=333,slow=9.0,SNR=2.7
LPAZ La Paz 63.25 140 P P 22 18 46.6 -0.1
0.5nm,0.7s,mb3.8
MORC Moravsky Berou 79.73 34 *e*P P 22 20 24.0 -0.9
0.5nm,0.7s,mb3.5
BOD Bodaibo 80.11 340 *e*P P 22 20 26.1 -0.7
BOD pmax pmax

comp=Z,28nm,1.2s,mb5.1
KLR Kul'dur 80.64 326 *e*P P 22 20 28.7 -1.0
PSZ Piszkesteto 82.15 34 P P 22 20 39.6 +1.9
comp=Z,2.0nm,0.6s,mb4.2
AKASG Malin Array Be 83.78 27 P P 22 20 47.5 +1.5
comp=Z,2.7nm,0.8s,mb4.4,baz=312,slow=3.7,SNR=4.2
AKASG Malin Array Be 83.78 27 P P 22 20 47.5 +1.5
MDJ Mudanjiang 85.07 324 P P 22 20 53.6 +1.1
MDJ PP PP 22 24 09.6 -1.8
MDJ S S 22 31 22.5 +2.0
MDJ SS SS 22 36 56.1 -0.9
MDJ AMB AMB
comp=Z,3.0nm,0.6s,mb4.6
MDJ LR LR
comp=N,88nm,17.9s
MDJ LR LR
comp=E,91nm,24.2s
MDJ LR LR
comp=Z,161nm,19.1s,MS4.4
HIA Hailar 85.50 333 P P 22 20 54.3 -0.3
ARU Arti 85.89 9 P P 22 20 56.3 -0.1
comp=Z,0.7nm,0.7s,mb4.0
MAJO Matsushiro 86.44 314 P P 22 21 00.7 +1.1
CN2 Changchun 87.59 326 *e*P P 22 21 06.4 +1.4
ZAL Zalesovo 89.08 354 P P 22 21 11.9 0.0
comp=Z,0.8nm,0.3s,mb4.6,baz=66,slow=7.4,SNR=5.1
BRVK Borovoye 90.24 3 P P 22 21 18.7 +1.4
comp=Z,1.2nm,0.7s,mb4.3
KURK Kurchatov 92.64 358 P P 22 21 29.8 +1.4
comp=Z,0.8nm,0.6s,mb4.3
HHC Hu-ho-hao-te 95.69 333 *e*P P 22 21 42.2 -0.5
HHC PP PP 22 25 35.6 -0.9
HHC AMB AMB
comp=Z,83nm,4.5s
MKAR Makanchi Array 96.37 355 P P 22 21 46.0 +0.4
comp=Z,9.5nm,0.8s,mb5.3,slow=2.4,SNR=22
KMI Kunming 113.02 333 PKP PKPdf 22 26 54.7 -1.6
KMI PP PP 22 27 45.9 -1.5
KMI SKS SKS 22 34 05.8 +24
KMI SKKS 22 34 37.4
KMI SS SS 22 43 26.1 -1.5
KMI PP PP
comp=Z,110nm,5.6s
KMI LR LR
comp=N,199nm,19.1s,MS4.9
KMI LR LR
comp=E,214nm,17.6s,MS4.9
KMI LR LR
comp=Z,148nm,21.5s,MS4.5
SNAA Sanae 128.35 157 PKP PKPdf 22 27 23.6 -1.3
MAW Mawson 148.53 171 PKPbc PKPdf 22 28 03.4 +2.5
comp=Z,4.6nm,0.8s,baz=261,slow=5.1,SNR=9.2
MAW Mawson 148.53 171 *e*P PKPdf 22 28 03.2 +2.3
comp=Z,4.4nm,0.9s
MIR Mirnyy 148.64 194 *e*PKP2 PKPab 22 28 08.0 +0.4
MIR pmax pmax
comp=Z,40nm,1.6s

MOS ***10*** *22:08:21.6s 0.8, 36.92N× 104.78W, h10km, mb5.2/53, MS4.6/13, Error ellipse: s-maj=4.9km s-min=4.4km az=98.8*
IDC ***10*** *22:08:21.6s 0.4, 36.96N× 104.94W, mb4.8/21, mb1 4.9/26, mb1mx4.7/32, mbtmp4.7/26, ML4.8/3, MS4.3/1, Ms1 4.4/1, ms1mx3.8/7, Error ellipse: s-maj=12.4km s-min=7.5km az=77.0*
HRVD ***10*** *22:08:22.6s 0.2, 36.90N× 104.79W, h12km, MW5.0/61, Centroid moment Tensor Solution. LP body waves: s38,c51; Mantle waves: s61,c109; Half duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-3.51±.09; Mθθ-0.33±.09; Mφφ 3.84±.09; Mrθ-0.81±.26; Mrφ-0.67±.08; Mθφ 0.24±.26; Best double couple: M0 3.834×10^16 NP1: φs 4°, δ44°, λ-71°. NP2: φs 158°, δ49°, λ-107°. Principal axes: T 3.963, Plg3°, Azm261°; N -.257, Plg13°, Azm170°; P -3.705, Plg77°, Azm3°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***10*** *22:08:22.6s 0.1, 36.95N× 104.83W, h5km, mb5.0/69, MS4.7/9, MW4.9(SLM) Error ellipse: s-maj=2.4km s-min=1.8km az=211.0*
NEIC Felt [IV] at Raton; [III] at Arroyo Seco and Questa and [II] at Cimarron. Felt [IV] at Aguilar, Trinidad and Weston, Colorado. Also felt at Colorado Springs, Fort Garland, Fountain, La Junta, Lamar, La Veta, Olney Springs, Ordway and Pueblo, Colorado.

ISC 10 22:08:21.7s 0.1, 36.95N× 0.02× 104.79W× 0.02, h10km, n372, σ1 s 02/354, mb4.9/84, MS4.7/12, 11C-7D, New Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDCO	Great Sand Dun	0.98	325	*e*P	Pb	22 08 40.2	-0.1
ANMO	Albuquerque	2.41	215	Pn	Pn	22 09 03.0	+1.1
baz=34,slow=14,SNR=57							
ANMO				Lg		22 09 35.9	
baz=304,slow=17,SNR=11							
ANMO	Albuquerque	2.41	215	*e*Pn	Pn	22 09 03.1	+1.2
SMCO	Snowmass	2.81	323	*e*Pn	Pn	22 09 09.5	+1.9
ISCO	Idaho Springs	2.92	347	*e*Pn	Pn	22 09 11.4	+2.3
ISCO	Idaho Springs	2.92	347	*e*P	Pn	22 09 11.4	+2.2
LPM	Los Pinos Moun	3.03	210	*e*Pn	Pn	22 09 10.2	-0.5
BNM	Barren Site	3.17	209	*e*Pn	Pn	22 09 13.2	+0.5
LAZ	Ladron	3.18	218	*e*Pn	Pn	22 09 12.5	-0.3
PV01	Paradox Valley	3.23	293	*e*Pn	Pn	22 09 14.6	+1.0
LENM	Lemitar	3.30	213	Pn	Pn	22 09 16.6	+2.0
PV10	Paradox Valley	3.66	294	*e*Pn	Pn	22 09 19.9	+0.2
CPRX	Cap Rock	3.98	169	*e*Pn	Pn	22 09 25.4	+1.1
PHWY	Pilot Hill	4.38	353	*e*Pn	Pn	22 09 31.4	+1.5
CBKS	Cedar Bluff	4.41	63	*e*Pn	Pn	22 09 30.7	+0.3
CBKS	Cedar Bluff	4.41	63	*e*P	Pn	22 09 30.7	+0.4
CLNB	Carlsbad	4.73	171	*e*Pn	Pn	22 09 35.4	+0.5
GDL2	Guadalupe Moun	4.75	176	*e*Pn	Pn	22 09 36.1	+1.0
SRU	San Rafael	5.01	297	*e*Pn	Pn	22 09 39.4	+0.5
SRU	San Rafael	5.01	297	*e*P	Pn	22 09 39.4	+0.5
RWWY	Rawlins	5.09	339	*e*Pn	Pn	22 09 41.4	+1.4
MNTX	Cornudas Mount	5.26	186	*e*Pn	Pn	22 09 42.1	-0.2
WMOK	Wichita Mounta	5.36	113	*e*Pn	Pn	22 09 43.7	0.0
WMOK	Wichita Mounta	5.36	113	*e*P	Pn	22 09 43.7	0.0
TMUT	Trail Mountain	5.58	297	*e*Pn	Pn	22 09 45.7	-1.1
MSU	Marysvale	6.06	287	Pn	Pn	22 09 54.2	+0.6
MSU	Marysvale	6.06	287	P	Pn	22 09 54.2	+0.6
DAU	Daniels Canyon	6.13	306	*e*Pn	Pn	22 09 53.6	-1.0
DAU	Daniels Canyon	6.13	306	*e*P	Pn	22 09 53.6	-1.0
MPU	Maple Canyon	6.18	302	Pn	Pn	22 09 54.7	-0.7
JLU	Jordanelle	6.35	307	*e*Pn	Pn	22 09 58.5	+0.7
NLU	North Lily Min	6.46	300	*e*Pn	Pn	22 10 01.1	+1.9
CTU	Camp Tracy	6.59	307	*e*Pn	Pn	22 10 00.1	-1.1
TCUT	Toone Canyon	6.62	311	Pn	Pn	22 10 00.3	-1.3
TUC	Tucson	6.77	229	*e*Pn	Pn	22 10 02.9	-0.8
TUC	Tucson	6.77	229	*e*P	Pn	22 10 02.9	-0.7
KSU1	Kansas State U	6.81	69	*e*Pn	Pn	22 10 03.9	-0.2
NOQ	North Oquirrh	6.81	305	*e*Pn	Pn	22 10 04.0	-0.3
BW06	Boulder Array	6.87	329	*e*Pn	Pn	22 10 04.5	-0.6
PDAR	Pinedale Array	6.87	329	Pn	Pn	22 10 04.6	-0.5
4.1nm,0.3s,baz=135,slow=14,SNR=97							
PDAR				Sn	Sn	22 11 23.6	-0.5
7.1nm,0.3s,baz=131,slow=16,SNR=3.7							
PDAR				Lg		22 11 56.8	
11nm,0.3s,baz=135,slow=29,SNR=11							
PDAR	Pinedale Array	6.87	329	Pn	Pn	22 10 04.6	-0.5
PDAR				Sn	Sn	22 11 23.6	-0.5
PDAR				Lg		22 11 56.8	
ARUT	Antelope Range	6.94	280	*e*Pn	Pn	22 10 05.5	-0.5
ARUT	Antelope Range	6.94	280	*e*P	Pn	22 10 05.5	-0.5
HWUT	Hardware Ranch	7.02	314	*e*Pn	Pn	22 10 06.8	-0.4
DUG	Dugway	7.07	300	*e*Pn	Pn	22 10 07.2	-0.7
DUG	Dugway	7.07	300	*e*P	Pn	22 10 07.2	-0.7
RSSD	Black Hills	7.19	4	*e*Pn	Pn	22 10 08.4	-1.1
RSSD	Black Hills	7.19	4	*e*P	Pn	22 10 08.4	-1.1
SPUT	South Promonto	7.37	309	*e*Pn	Pn	22 10 10.9	-1.2
LTX	Lajitas	7.65	173	Pn	Pn	22 10 15.0	-1.1
LTX	Lajitas	7.65	173	P	Pn	22 10 15.0	-1.0
TXAR	Lajitas Array	7.65	173	Pn	Pn	22 10 15.7	-0.4
1.9nm,0.3s,baz=359,slow=11,SNR=23							
TXAR				Lg		22 12 21.5	
22nm,0.3s,baz=355,slow=28,SNR=6.7							
TXAR	Lajitas Array	7.65	173	Pn	Pn	22 10 15.7	-0.4
TXAR				Lg		22 12 21.5	
JCT	Junction City	7.67	146	*e*Pn	Pn	22 10 15.5	-0.8
JCT	Junction City	7.67	146	*e*P	Pn	22 10 15.5	-0.8
HVU	Hansel Valley	7.84	310	*e*Pn	Pn	22 10 17.1	-1.6
HVU	Hansel Valley	7.84	310	*e*P	Pn	22 10 17.1	-1.6
REDW	Red Top Meadow	7.91	326	*e*Pn	Pn	22 10 18.5	-1.1
SNOW	Snow King Moun	7.95	327	*e*Pn	Pn	22 10 18.8	-1.3
LOHW	Long Hollow	8.00	328	*e*Pn	Pn	22 10 19.1	-1.8
TPAW	Teton Pass	8.05	326	Pn	P	22 10 20.4	-1.2
RRI2	Red Ridge	8.11	324	*e*Pn	P	22 10 20.8	-1.6
NEN	Nelson	8.22	264	*e*Pn	P	22 10 23.1	-0.8
IMW	Indian Meadow	8.37	328	*e*Pn	P	22 10 24.7	-1.3
LDFC	Landfair	8.57	260	Pn	P	22 10 28.1	-0.7
YFT	Old Faithful	8.79	330	Pn	P	22 10 31.2	-0.6
YNR	Norris Junctio	8.95	332	Pn	P	22 10 34.1	0.0
ELK	Elko	8.99	298	*e*Pn	P	22 10 33.1	-1.6
ELK	Elko	8.99	298	*e*P	P	22 10 33.1	-1.5
QLMT	Earthquake Lak	9.34	330	Pn	P	22 10 38.6	-0.8
LAO	LASA Array	9.79	354	*e*Pn	P	22 10 44.0	-1.6
NATX	Nacogdoches	9.84	119	Pn	P	22 10 46.2	-0.2
HLID	Hailey	9.88	315	*e*Pn	P	22 10 46.7	-0.2
MCMT	McKenzie Canyo	9.95	325	*e*Pn	P	22 10 49.2	+1.4
BOZ	Bozeman (W)	10.09	332	Pn	P	22 10 49.0	-0.8
BOZ	Bozeman (W)	10.09	332	P	P	22 10 49.0	-0.8
PFO	Pinyon Flat Ob	10.10	254	Pn	P	22 10 49.5	-0.4
PFO	Pinyon Flat Ob	10.10	254	P	P	22 10 49.5	-0.4
DAC	Darwin (Calif)	10.32	270	Pn	P	22 10 53.7	+0.8
DAC	Darwin (Calif)	10.32	270	P	P	22 10 53.7	+0.8
BMN	Battle Mountai	10.32	293	Pn	P	22 10 52.9	0.0
BMN	Battle Mountai	10.32	293	P	P	22 10 52.9	0.0
UALR	University of	10.33	98	*e*Pn	P	22 10 51.5	-1.6
BAR	Barrett	10.65	250	Pn	P	22 10 55.6	-2.0
CCM	Cathedral Cave	10.82	80	*e*Pn	P	22 10 56.8	-3.0
CCM	Cathedral Cave	10.82	80	*e*P	P	22 10 56.8	-3.0
MWC	Mount Wilson	11.14	260	Pn	P	22 11 02.9	-1.3
MWC	Mount Wilson	11.14	260	P	P	22 11 02.9	-1.3
FVM	French Village	11.46	80	*e*Pn	P	22 11 06.5	-2.1
FVM	French Village	11.46	80	*e*P	P	22 11 06.5	-2.1
HBAR	Harrisburg	11.50	93	*e*Pn	P	22 11 09.7	+0.6
DGMT	Dagmar	11.52	2	*e*Pn	P	22 11 07.4	-1.9
SLM	Saint Louis	11.64	77	*e*Pn	P	22 11 09.1	-1.9
SLM	Saint Louis	11.64	77	*e*P	P	22 11 09.1	-1.9
WVOR	Wild Horse Val	11.99	301	Pn	P	22 11 15.7	+0.1
WVOR	Wild Horse Val	11.99	301	P	P	22 11 15.7	+0.1
MSO	Missoula	11.99	328	Pn	P	22 11 15.1	-0.5
BMO	Blue Mountains	12.32	314	*e*Pn	P	22 11 19.9	-0.2
CMB	Columbia Colle	12.44	280	Pn	P	22 11 20.6	-1.1
CMB	Columbia Colle	12.44	280	P	P	22 11 20.6	-1.1
BEKR	Beckwourth	12.55	288	Pn	P	22 11 24.9	+1.6
OXF	Oxford	12.73	96	Pn	P	22 11 23.3	-2.4
OXF	Oxford	12.73	96	P	P	22 11 23.3	-2.4
UTMT	University of	12.81	88	Pn	P	22 11 25.1	-1.5
MOD	Modoc	12.97	297	*e*Pn	P	22 11 27.6	-1.2
SAO	San Andreas Ge	13.34	274	*e*Pn	P	22 11 32.5	-1.2
PLAL	Pickwick Lake	13.68	93	Pn	P	22 11 37.2	-1.0
WALA	Waterton Lakes	13.81	334	*e*Pn	P	22 11 39.3	-0.5
WDC	Whiskeytown Da	14.31	290	*e*P	P	22 11 48.5	+2.0
104nm,1.7s							
WDC	Whiskeytown Da	14.31	290	*e*P	P	22 11 48.5	+2.0
WDC				pmax	pmax		
comp=Z,105nm,1.7s							
NEW	Newport	14.48	325	Lg		22 15 57.9	
comp=Z,0.2nm,0.3s,baz=83,slow=19,SNR=2.2							
NEW	Newport	14.48	325	*e*P	P	22 11 48.3	-0.3
NEW	Newport	14.48	325	*e*P	P	22 11 48.3	-0.3
HAWA	Hanford	14.48	315	*e*P	P	22 11 48.0	-0.7
comp=Z,6.9nm,1.2s							
BLO	Bloomington	14.56	76	P	P	22 11 49.3	-0.5
comp=Z,149nm,0.6s							
BLO	Bloomington	14.56	76	P	P	22 11 49.3	-0.5
BLO				pmax	pmax		
comp=Z,149nm,0.6s							
YBH	Yreka Blue Hor	14.66	295	Pn	P	22 11 50.5	-0.5
comp=Z,0.3nm,0.3s,baz=105,slow=8.4,SNR=14							
YBH				Lg		22 15 59.0	
comp=Z,0.1nm,0.3s,baz=135,slow=2.9,SNR=4.1							
YBH	Yreka Blue Hor	14.66	295	P	P	22 11 52.1	+1.1
comp=Z,74nm,1.2s							
YBH	Yreka Blue Hor	14.66	295	P	P	22 11 52.1	+1.1
YBH				pmax	pmax		
comp=Z,74nm,1.2s							
WCI	Wyandotte Cave	14.72	79	*e*P	P	22 11 48.6	-3.3
comp=Z,436nm,0.8s							
WCI	Wyandotte Cave	14.72	79	*e*P	P	22 11 48.6	-3.3
WCI				pmax	pmax		
comp=Z,436nm,0.8s							
ULM	Lac du Bonnet	14.77	23	Pn	P	22 11 48.3	-4.0
comp=Z,0.7nm,0.3s,baz=207,slow=13,SNR=4.7							
ULM				Lg		22 16 00.1	
comp=Z,9.1nm,0.3s,baz=273,slow=5.1,SNR=5.1							
HUMO	Hull Mountain	15.06	298	*e*P	P	22 11 56.9	+0.7
comp=Z,52nm,1.3s							
EPH	Ephrata	15.10	318	P	P	22 12 02.9	+6.3
LRAL	Lakeview Retre	15.10	100	*e*P	P	22 11 54.4	-2.3
comp=Z,61nm,1.0s							
KHMM	Horse Mountain	15.25	291	*e*P	P	22 11 58.4	-0.4
KRMB	Red Mountain	15.50	293	P	P	22 12 00.2	-1.7
WTV	Waterville	15.50	319	P	P	22 12 07.3	+5.4
EUO	Eugene	15.59	303	P	P	22 12 04.3	+1.3
KEBM	Edson Butte	16.11	298	*e*P	P	22 12 09.6	-0.2
CPCT	Cooper Cave	16.43	89	*e*P	P	22 12 12.2	-1.8
MYNC	Murphy	16.82	90	*e*P	P	22 12 18.9	-0.1
comp=Z,14nm,0.8s							
MYNC	Murphy	16.82	90	*e*P	P	22 12 18.9	0.0
MYNC				pmax	pmax		
comp=Z,14nm,0.8s							
TZTN	Tazewell	17.03	85	*e*P	P	22 12 19.9	-1.7
EDM	Edmonton	17.34	343	*e*P	P	22 12 25.4	+0.1
EDM	Edmonton	17.34	343	*e*P	P	22 12 25.4	+0.2
OCWA	Octopus Mounta	17.89	313	*e*P	P	22 12 34.0	+1.8
comp=Z,14nm,0.8s							
PGC	Sidney	17.95	316	*e*P	P	22 12 33.3	+0.4
comp=Z,70nm,1.0s							
FWV	Forest Hill	19.09	81	*e*P	P	22 12 45.2	-1.8
ELN	Prospectdale	19.17	82	*e*P	P	22 12 47.7	-0.2
JSC	Jenkinsville	19.31	91	*e*P	P	22 12 48.7	-0.8
JSC	Jenkinsville	19.31	91	*e*P	P	22 12 48.7	-0.8
BLA	Blacksburg	19.44	82	*e*P	P	22 12 50.1	-0.9
comp=Z,25nm,0.7s							
BLA	Blacksburg	19.44	82	*e*P	P	22 12 50.1	-0.9
BLA				pmax	pmax		
comp=Z,25nm,0.7s							
ALLY	Alegheny Colle	19.62	69	*e*P	P	22 12 53.5	+0.5
MCWV	Mont Chateau	19.75	74	*e*P	P	22 12 53.5	-1.0
comp=Z,14nm,0.8s							
NHSC	New Hope	20.50	93	*e*P	P	22 13 04.8	+2.3
comp=Z,90nm,1.0s							
SADO	Sadowa	20.85	60	P	P	22 13 06.9	+0.8
comp=Z,17nm,0.9s,baz=270,slow=9.0,SNR=7.7							
GENY	Geneseo	21.46	66	*e*P	P	22 13 13.0	+0.7
DWPF	Disney	21.53	107	*e*P	P	22 13 14.

comp=Z,74nm,1.2s,mb5.5
INK Inuvik 35.23 342 *e*P **P 22 15 18.0 0.0**
INK pmax pmax
comp=Z,74nm,1.2s
SML Sawmill 36.63 327 *e*P **P 22 15 30.9 +1.1**
SML Sawmill 36.63 327 *e*P **P 22 15 30.9 +1.1**
SLKM Skilak Lake 37.03 324 *e*P **P 22 15 34.8 +1.6**
SLKM Skilak Lake 37.03 324 *e*P **P 22 15 34.8 +1.6**
ILAR Eielson Array 37.30 332 P **P 22 15 36.4 +1.0**
comp=Z,30nm,0.9s,mb5.1,baz=132,slow=6.6,SNR=100
ILAR PcP PcP 22 17 53.9 -1.4
comp=Z,3.3nm,0.9s,baz=129,slow=2.7,SNR=4.9
ILAR Eielson Array 37.30 332 P **P 22 15 36.4 +1.0**
ILAR PcP PcP 22 17 53.9 -1.4
ILAR Eielson Array 37.30 332 P **P 22 15 36.4 +1.0**
ILAR 22 17 53.9
KDAK Kodiak Island 37.47 319 *e*P **P 22 15 37.0 +0.1**
comp=Z,73nm,1.4s,mb5.3
MCK McKinley 37.65 330 *e*P **P 22 15 39.3 +1.0**
comp=Z,24nm,1.5s,mb4.7
MCK McKinley 37.65 330 *e*P **P 22 15 39.3 +1.0**
MCK pmax pmax
comp=Z,24nm,1.5s,mb4.7
SPU Mount Spurr 38.10 325 *e*P **P 22 15 42.9 +0.8**
RSO Redoubt South 38.22 323 *e*P **P 22 15 44.6 +1.4**
SVW2 Sparrevohn 39.72 324 *e*P **P 22 15 57.1 +1.4**
IMA Indian Mountai 40.42 332 *e*P **P 22 16 01.9 +0.5**
comp=Z,96nm,0.9s,mb5.5
IMA *e*P 22 16 02.6
IMA Indian Mountai 40.42 332 *e*P **P 22 16 01.9 +0.5**
IMA *e* 22 16 02.6
IMA pmax pmax
comp=Z,96nm,0.9s,mb5.5
SDV Santo Domingo 41.68 123 P **P 22 16 14.0 +1.7**
comp=Z,16nm,1.0s,mb4.6,baz=0.4,slow=4.1,SNR=5.8
SDV Santo Domingo 41.68 123 *e*P **P 22 16 13.3 +1.0**
comp=Z,34nm,1.1s,mb4.9
SDV P 22 16 14.0
SUMG Summit 48.12 22 *e*P **P 22 17 03.2 0.0**
comp=Z,21nm,0.7s,mb5.3
BORG Borgarnes 54.57 32 P **P 22 17 52.9 +1.0**
comp=Z,21nm,0.8s,mb5.2,baz=291,slow=4.1,SNR=10
BILL Bilibino 55.94 333 *e*P **P 22 18 01.6 -0.2**
comp=Z,109nm,1.3s,mb5.7
BILL Bilibino 55.94 333 *e*P **P 22 18 01.6 -0.2**
BILL pmax pmax
comp=Z,109nm,1.3s,mb5.7
FX1 Attu Island--F 57.09 314 P **P 22 18 09.4 -0.9**
SAML Samuel 60.05 131 *e*P **P 22 18 28.8 -2.6**
comp=Z,4.8nm,1.0s,mb4.5
SEY Seymchan 63.20 330 *e*P **P 22 18 51.9 -0.1**
LPAZ La Paz 63.23 140 P **P 22 18 52.4 -0.4**
comp=Z,4.1nm,0.9s,mb4.5,baz=346,slow=7.0,SNR=12
LPAZ LR LR 22 53 11.3
comp=Z,202nm,18.8s,MS4.3,baz=305,slow=42
LPAZ La Paz 63.23 140 *e*P **P 22 18 51.8 -1.0**
comp=Z,7.2nm,1.1s,mb4.7
LPAZ P 22 18 52.4
LPAZ LR LR 22 53 11.3
LPAZ La Paz 63.23 140 *e*P **P 22 18 51.8 -1.0**
LPAZ P 22 18 52.4
LPAZ pmax pmax
comp=Z,7μm,1.1s
TIXI Tiksi 65.33 344 *e*P **P 22 19 02.3 -3.4**
TIXI pmax pmax
comp=Z,20nm,0.9s,mb5.2
DCN Croghan 65.41 41⇑*i*P **P 22 19 05.7 -0.7**
DLF Lyons Farm 65.82 41⇑*i*P **P 22 19 08.4 -0.6**
ARCES ARCESS Array B 67.79 17 P **P 22 19 19.4 -1.9**
comp=Z,6.2nm,0.7s,mb4.7,baz=329,slow=7.1,SNR=10
NOA NORSAR Array B 69.40 28 P **P 22 19 30.8 -0.6**
comp=Z,4.8nm,1.1s,mb4.4,baz=308,slow=6.4,SNR=3.6
ROSF Rostrenen 70.18 44 *e*P **P 22 19 35.4 -1.0**
comp=Z,32nm,1.1s,mb4.9
ROSF Rostrenen 70.18 44 *e*P **P 22 19 35.4 -1.0**
ROSF pmax pmax
comp=Z,16nm,1.1s,mb4.9
QUIF Quistinic 70.47 44 *e*P **P 22 19 38.6 +0.5**
comp=Z,89nm,1.3s,mb5.2
QUIF Quistinic 70.47 44 *e*P **P 22 19 38.6 +0.5**
QUIF pmax pmax
comp=Z,45nm,1.3s,mb5.2
SGMF Saint Gilles 70.62 44 *e*P **P 22 19 38.1 -1.0**
comp=Z,60nm,1.5s,mb5.0
SGMF Saint Gilles 70.62 44 *e*P **P 22 19 38.1 -1.0**
SGMF pmax pmax
comp=Z,30nm,1.5s,mb5.0
FLN La Foliniere 71.47 43 *e*P **P 22 19 43.8 -0.4**
comp=Z,66nm,1.0s,mb5.2
FLN *e*R
comp=Z,545nm,19.5s
FLN La Foliniere 71.47 43 *e*P **P 22 19 43.8 -0.4**
FLN pmax pmax
comp=Z,33nm,1.0s,mb5.2
FLN MLR MLR
comp=Z,550nm,19.5s,MS4.8
GRR Gorron 71.48 43 *e*P **P 22 19 43.6 -0.7**
comp=Z,66nm,1.4s,mb5.1
GRR Gorron 71.48 43 *e*P **P 22 19 43.6 -0.7**
GRR pmax pmax
comp=Z,33nm,1.4s,mb5.1
MENF Mencas 71.82 40 *e*P **P 22 19 46.6 +0.4**
MFF Saint Martin d 72.91 44 *e*P **P 22 19 52.3 -0.4**
comp=Z,40nm,1.1s,mb5.0
MFF Saint Martin d 72.91 44 *e*P **P 22 19 52.3 -0.4**
MFF pmax pmax
comp=Z,20nm,1.1s,mb5.0
BAIF Baives 73.17 40 *e*P **P 22 19 53.8 -0.4**
comp=Z,41nm,1.2s,mb4.9
BAIF Baives 73.17 40 *e*P **P 22 19 53.8 -0.4**
BAIF pmax pmax
comp=Z,21nm,1.2s,mb4.9
GIVF Givet 73.46 39 *e*P **P 22 19 55.6 -0.2**
comp=Z,85nm,1.3s,mb5.2
GIVF Givet 73.46 39 *e*P **P 22 19 55.6 -0.2**
GIVF pmax pmax
comp=Z,42nm,1.3s,mb5.2
BSEG Bad Segeberg 73.64 34 *e*P **P 22 19 57.5 +0.7**
HYF Humbligny 74.05 43 *e*P **P 22 19 58.8 -0.5**
FINES FINESS Array B 74.16 22 P **P 22 19 59.5 -0.1**
comp=Z,7.2nm,0.9s,mb4.6,baz=315,slow=5.4,SNR=11
LFF La Frestale 74.40 45 *e*P **P 22 20 00.8 -0.6**
TCF Toulx Ste Croi 74.41 44 *e*P **P 22 20 00.8 -0.6**
comp=Z,73nm,1.6s,mb5.0
TCF Toulx Ste Croi 74.41 44 *e*P **P 22 20 00.8 -0.6**
TCF pmax pmax
comp=Z,36nm,1.6s,mb5.0
MEZF Maizieres J'vi 74.57 40 *e*P **P 22 20 02.0 -0.3**
RJF Les Rejaudoux 74.62 45 *e*P **P 22 20 02.0 -0.6**
comp=Z,28nm,1.1s,mb4.8
RJF *e*R
comp=Z,611nm,20.8s
RJF Les Rejaudoux 74.62 45 *e*P **P 22 20 02.0 -0.6**
RJF pmax pmax
comp=Z,14nm,1.1s,mb4.8
RJF MLR MLR
comp=Z,610nm,20.8s,MS4.9
LOR Lormes 74.70 42 *e*P **P 22 20 02.8 -0.3**
comp=Z,88nm,1.6s,mb5.1
LOR *e*R
comp=Z,361nm,20.8s
LOR Lormes 74.70 42 *e*P **P 22 20 02.8 -0.3**
LOR pmax pmax
comp=Z,44nm,1.6s,mb5.1
LOR MLR MLR
comp=Z,360nm,20.8s,MS4.7
AVF Avril sur Loir 74.73 43 *e*P **P 22 20 02.6 -0.6**
comp=Z,19nm,1.1s,mb4.6
AVF Avril sur Loir 74.73 43 *e*P **P 22 20 02.6 -0.6**
AVF pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
ETSF Etsaut 74.86 48 *e*P **P 22 20 04.1 0.0**
comp=Z,14nm,0.9s,mb4.6
ETSF Etsaut 74.86 48 *e*P **P 22 20 04.1 0.0**
ETSF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
CLZ Clausthal 75.05 36 *e*P **P 22 20 05.8 +0.8**
comp=Z,14nm,1.1s,mb4.8
CLZ Clausthal 75.05 36 *e*P **P 22 20 05.8 +0.8**
CLZ pmax pmax
comp=Z,14nm,1.1s,mb4.8
SMF Signal de Mont 75.08 43 *e*P **P 22 20 04.5 -0.8**
CAF Calviac 75.15 45 *e*P **P 22 20 05.3 -0.5**
comp=Z,19nm,1.2s,mb4.6
CAF Calviac 75.15 45 *e*P **P 22 20 05.3 -0.5**
CAF pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
TNS Taunus Mts 75.19 38 *e*P **P 22 20 06.2 +0.4**
comp=Z,17nm,1.3s,mb4.8
TNS Taunus Mts 75.19 38 *e*P **P 22 20 06.2 +0.4**
TNS pmax pmax
comp=Z,17nm,1.3s,mb4.8
THEF They Montfort 75.23 40 *e*P **P 22 20 07.0 +0.9**
EPF Esparros 75.31 47 *e*P **P 22 20 06.3 -0.4**
HAU Haudompre 75.55 40 *e*P **P 22 20 07.7 -0.3**
HAU *e*R
comp=Z,742nm,18.5s
CDF Champ du Feu 75.77 40 *e*P **P 22 20 09.1 -0.1**
comp=Z,56nm,1.5s,mb5.0
CDF Champ du Feu 75.77 40 *e*P **P 22 20 09.1 -0.1**
CDF pmax pmax
comp=Z,28nm,1.5s,mb5.0
WLS Welschbruch 75.81 40 *e*P **P 22 20 10.0 +0.6**
ECH Echery 75.84 40 *e*P **P 22 20 10.2 +0.6**
HINF Hinteralfeld 75.94 40 *e*P **P 22 20 09.8 -0.3**
MOF Molkenrain 76.06 40 *e*P **P 22 20 11.5 +0.7**
MTLF Montolieu 76.21 46 *e*P **P 22 20 11.4 -0.4**
LOMF Lomont 76.22 41 *e*P **P 22 20 12.4 +0.6**
CABF La Chapelle 76.31 42 *e*P **P 22 20 12.4 +0.1**
comp=Z,61nm,1.5s,mb5.0
CABF La Chapelle 76.31 42 *e*P **P 22 20 12.4 +0.1**
CABF pmax pmax
comp=Z,31nm,1.5s,mb5.0
BFO Black Forest 76.36 39 *e*P **P 22 20 12.6 +0.1**
comp=Z,22nm,1.6s,mb4.8
BFO Black Forest 76.36 39 *e*P **P 22 20 12.6 +0.1**
BFO pmax pmax
comp=Z,22nm,1.6s,mb4.8
MOX Moxa 76.43 36 *i*P **P 22 20 13.6 +0.8**
comp=Z,logA/T=1.2,mb4.9
MOX L 22 56 56.0
MOX Moxa 76.43 36 *e*P **P 22 20 13.6 +0.8**
comp=Z,27nm,1.6s,mb4.9
MOX LR LR
comp=Z,200nm,19.0s,MS4.5
MOX Moxa 76.43 36 *e*P **P 22 20 13.6 +0.8**
MOX pmax pmax
comp=Z,27nm,1.6s,mb4.9
MOX MLR MLR
comp=Z,200nm,19.0s,MS4.5
CLL Collm 76.62 35⇑P **P 22 20 14.7 +0.8**
comp=Z,logA/T=1.5,mb5.2
CLL *e**SP sP 22 20 20.0 +1.9
CLL *e*PCP PcP 22 20 25.0 -0.8
CLL Collm 76.62 35⇑*i*P **P 22 20 14.7 +0.8**
comp=Z,48nm,1.6s,mb5.2
CLL *e* 22 20 20.0
CLL *e* 22 20 25.0
CLL LR LR
comp=Z,300nm,19.4s,MS4.6
CLL Collm 76.62 35⇑*i*P **P 22 20 14.7 +0.8**
CLL *e* 22 20 20.0
CLL *e* 22 20 25.0
CLL pmax pmax
comp=Z,48nm,1.6s,mb5.2
CLL MLR MLR
comp=Z,300nm,19.4s,MS4.6
VIVF Saint-Julien-l 76.65 44 *e*P **P 22 20 14.1 -0.1**
comp=Z,46nm,1.6s,mb4.9
VIVF Saint-Julien-l 76.65 44 *e*P **P 22 20 14.1 -0.1**
VIVF pmax pmax
comp=Z,23nm,1.6s,mb4.9
GRA1 Grafenberg Arr 76.88 37 *e*P **P 22 20 16.4 +1.0**
comp=Z,49nm,1.5s,mb5.2
GRF Grafenberg Arr 76.88 37 *e*P **P 22 20 16.4 +1.0**
comp=Z,49nm,1.5s,mb5.2
GRF Grafenberg Arr 76.88 37 *e*P **P 22 20 16.4 +1.0**
GRF pmax pmax
comp=Z,49nm,1.5s,mb5.2
GRF Grafenberg Arr 76.88 37 *e*P **P 22 20 16.4 +1.0**
GRF pmax pmax
comp=Z,49nm,1.5s,mb5.2
YSS Yuzh-Sakhalins 76.92 319 *e*P **P 22 20 15.7 +0.1**
NKC Novy Kostel 77.10 36 *e*P **P 22 20 17.5 +0.9**
NKC AMS AMS 22 51 10.0
comp=Z,300nm,21.6s
NKC Novy Kostel 77.10 36 *e*P **P 22 20 17.5 +0.9**
CPUP Villa Florida 77.17 137 P **P 22 20 17.6 +0.1**
comp=Z,20nm,1.1s,mb5.0,baz=351,slow=7.4,SNR=15
BRG Berggiesshubel 77.35 35 *e*P **P 22 20 18.4 +0.4**
comp=Z,12nm,1.2s,mb4.7
BRG Berggiesshubel 77.35 35 *e*P **P 22 20 18.4 +0.4**
BRG pmax pmax
comp=Z,12nm,1.2s,mb4.7
DAVA Damuels 77.83 39⇑*i*P **P 22 20 22.0 +1.3**
comp=Z,17nm,2.2s,mb4.6
PVCC Panska Ves 77.87 35 *e*P **P 22 20 21.8 +1.0**
PVCC AMS AMS 22 52 10.0
comp=Z,300nm,24.3s
MBDF Montbardon 77.88 43 *e*P **P 22 20 21.5 +0.5**
comp=Z,15nm,1.0s,mb4.6
MBDF Montbardon 77.88 43 *e*P **P 22 20 21.5 +0.5**
MBDF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
FUR Furstenfeldbru 77.94 38 *e*P **P 22 20 22.2 +0.9**
comp=Z,20nm,1.1s,mb5.0
FUR Furstenfeldbru 77.94 38 *e*P **P 22 20 22.2 +0.9**
FUR pmax pmax
comp=Z,20nm,1.1s,mb5.0
WET Wettzell 78.05 36 *e*P **P 22 20 22.4 +0.6**
comp=Z,23nm,1.9s,mb4.8
WET Wettzell 78.05 36 *e*P **P 22 20 22.4 +0.6**
WET pmax pmax
comp=Z,23nm,1.9s,mb4.8
PRU Pruhonice 78.24 35 *e*P **P 22 20 23.7 +0.8**
PRU AMS AMS 22 52 00.0
comp=Z,300nm,23.4s
PRU Pruhonice 78.24 35 *e*P **P 22 20 23.7 +0.8**
PRU LR LR
comp=Z,300nm,23.4s,MS4.5
KHC Kasperske Hory 78.39 36 *e*P **P 22 20 23.8 +0.1**
KHC AMS AMS 22 52 20.0
comp=Z,400nm,19.6s
KHC Kasperske Hory 78.39 36 *e*P **P 22 20 23.8 +0.1**
KHC LR LR
comp=Z,400nm,19.6s,MS4.8
MOTA Moosalm 78.41 39⇓*i*P **P 22 20 22.5 -1.4**
comp=Z,21nm,1.6s,mb4.8
MOTA Moosalm 78.41 39⇓*i*P **P 22 20 22.5 -1.4**
MOTA pmax pmax
comp=Z,21nm,1.6s,mb4.8
KSP Ksiaz 78.43 34 *e*P **P 22 20 24.7 +0.8**
UPC Upice 78.54 34 *e*P **P 22 20 25.4 +0.9**
SQTA Sankt Quirin 78.55 39⇑*i*P **P 22 20 26.0 +1.4**
comp=Z,35nm,1.9s,mb5.0
SQTA Sankt Quirin 78.55 39⇑*i*P **P 22 20 26.0 +1.4**
SQTA pmax pmax
comp=Z,35nm,1.9s,mb5.0
FRF La Foret Royal 78.57 44 *e*P **P 22 20 24.5 -0.3**
comp=Z,52nm,1.5s,mb5.0
FRF La Foret Royal 78.57 44 *e*P **P 22 20 24.5 -0.3**
FRF pmax pmax
comp=Z,26nm,1.5s,mb4.9
LMR La Mourre 78.64 44 *e*P **P 22 20 25.2 0.0**
comp=Z,21nm,1.1s,mb4.7
LMR La Mourre 78.64 44 *e*P **P 22 20 25.2 0.0**
LMR pmax pmax
comp=Z,11nm,1.1s,mb4.7
GEC2 GERESS Array S 78.65 36 *e*P **P 22 20 25.6 +0.5**
comp=Z,20nm,1.8s,mb4.8
GEC2 GERESS Array S 78.65 36 *e*P **P 22 20 25.6 +0.5**
GEC2 pmax pmax
comp=Z,20nm,1.8s,mb4.8
GERES GERESS Array B 78.65 36 P **P 22 20 25.8 +0.7**
comp=Z,1.5nm,0.9s,mb3.9,baz=339,slow=11,SNR=12
WATA Walderalm 78.65 38⇓*i*P **P 22 20 26.4 +1.2**
comp=Z,28nm,1.8s,mb4.9
WATA Walderalm 78.65 38⇓*i*P **P 22 20 26.4 +1.2**
WATA pmax pmax
comp=Z,28nm,1.8s,mb4.9
WTTA Wattenberg 78.73 38⇓*i*P **P 22 20 26.8 +1.2**
comp=Z,96nm,2.2s,mb5.3
WTTA Wattenberg 78.73 38⇓*i*P **P 22 20 26.8 +1.2**
WTTA pmax pmax
comp=Z,96nm,2.2s,mb5.3
DPC Dobruska-Polom 78.79 34 *e*P **P 22 20 27.2 +1.3**
DPC AMS AMS 22 53 20.0
comp=Z,200nm,18.1s
ASAJ Asahikawa 78.85 317 P **P 22 20 26.5 +0.1**
comp=Z,19nm,1.0s,mb5.0,baz=283,slow=3.0,SNR=9.5
MOA Molln 79.61 37⇓*i*P **P 22 20 30.7 +0.3**
comp=Z,14nm,1.7s,mb4.6
KBA Koelnbreinsper 79.70 38⇑*i*P **P 22 20 32.2 +1.3**
comp=Z,18nm,1.4s,mb4.8
KBA Koelnbreinsper 79.70 38⇑*i*P **P 22 20 32.2 +1.3**
KBA pmax pmax
comp=Z,18nm,1.4s,mb4.8
MORC Moravsky Berou 79.75 34 *e*P **P 22 20 31.4 +0.3**
comp=Z,11nm,1.3s,mb4.6
MORC Moravsky Berou 79.75 34 *e*P **P 22 20 31.4 +0.3**
MORC pmax pmax
comp=Z,11nm,1.3s,mb4.6
OKC Ostrava-Krasne 79.98 33 *e*P **P 22 20 32.8 +0.5**
OKC AMS AMS 22 55 10.0
comp=Z,200nm,17.2s
OBKA Obir 80.69 38⇑*i*P **P 22 20 36.6 +0.4**
comp=Z,20nm,1.2s,mb4.9
PERS Pernice 80.88 37 *i*P **P 22 20 37.3 +0.1**
VYHS Vyhne 81.27 34 *i*P **P 22 20 41.1 +1.9**
STHS Stebnicka Huta 81.64 32 *i*P **P 22 20 42.5 +1.4**
KECS Kecovo 82.01 33 *i*P **P 22 20 45.5 +2.5**
PSZ Piszkesteto 82.17 34 *e*P **P 22 20 45.5 +1.6**
comp=Z,30nm,1.5s,mb5.0
PSZ Piszkesteto 82.17 34 *e*P **P 22 20 45.5 +1.6**
PSZ pmax pmax
comp=Z,30nm,1.5s,mb5.0
KOLS Kolonicke sedl 82.44 32 *e*P **P 22 20 45.0 -0.3**
LVV L'vov 82.49 31 *e*P **P 22 20 45.9 +0.4**
OBN Obninsk 82.51 21 *e*P **P 22 20 45.2 -0.3**
OBN pmax pmax
comp=Z,27nm,1.5s,mb5.1
OBN MLR MLR
comp=Z,200nm,18.0s,MS4.5
PLCA Paso Flores 83.44 155 P **P 22 20 50.9 +0.2**
comp=Z,4.7nm,1.0s,mb4.5,baz=326,slow=7.2,SNR=6.8
AKASG Malin Array Be 83.81 27 P **P 22 20 52.0 -0.2**
comp=Z,5.4nm,0.8s,mb4.7,baz=316,slow=4.1,SNR=19
AKASG Malin Array Be 83.81 27 P **P 22 20 52.0 -0.2**
AKASG Malin Array Be 83.81 27 *i*P **P 22 20 52.1 -0.1**
AKASG pmax pmax
comp=Z,5.0nm,0.8s
CIT Chita 85.28 337 *e*P **P 22 20 59.2 -0.3**
HIA Hailar 85.52 333 *e*P **P 22 21 00.2 -0.6**
comp=Z,23nm,1.4s,mb5.2
HIA Hailar 85.52 333 *e*P **P 22 21 00.2 -0.6**
HIA pmax pmax
comp=Z,23nm,1.4s
SVE Sverdlovsk 85.77 8 *e*P **P 22 21 02.0 +0.1**
SVE pmax pmax
comp=Z,40nm,1.5s,mb5.4
SVE MLR MLR
comp=N,200nm,16.0s,MS4.8
SVE MLR MLR
comp=E,200nm,16.0s,MS4.8
SVE MLR MLR
comp=Z,200nm,16.0s,MS4.6
ARU Arti 85.91 9 *e*P **P 22 21 02.2 -0.4**
comp=Z,42nm,1.5s,mb5.5
ARU Arti 85.91 9 *e*P **P 22 21 02.2 -0.4**
ARU pmax pmax
comp=Z,42nm,1.5s,mb5.5
MJAR Matsushiro Arr 86.45 314 P **P 22 21 06.1 +0.3**
comp=Z,6.6nm,0.9s,mb4.9,baz=31,slow=3.2,SNR=18
MJAR Matsushiro Arr 86.45 314 P **P 22 21 06.1 +0.3**
MAJO Matsushiro 86.45 314 *e*P **P 22 21 05.8 +0.1**
comp=Z,12nm,0.7s,mb5.2
MAJO Matsushiro 86.45 314 *e*P **P 22 21 05.8 +0.1**
MAJO pmax pmax
comp=Z,12nm,0.7s,mb5.2
MAT Matsushiro 86.45 314 P **P 22 21 05.8 +0.1**
MAT Matsushiro 86.45 314 *e*PKP **P 22 21 05.0 -0.7**
NVS Novosibirsk 88.32 355 *e*P **P 22 21 12.9 -1.4**
NVS pmax pmax
comp=N,8.0nm,1.6s
NVS pmax pmax
comp=E,9.0nm,1.6s
NVS pmax pmax
comp=Z,25nm,1.6s,mb5.2
MOY Mondy 88.91 344 *e*P **P 22 21 17.9 +0.7**
MOY pmax pmax
comp=Z,33nm,2.6s,mb5.2
ZAL Zalesovo 89.11 354 P **P 22 21 18.0 0.0**
comp=Z,6.4nm,0.8s,mb5.0,baz=110,slow=5.6,SNR=41
ZAL Zalesovo 89.11 354 P **P 22 21 18.0 0.0**
BRVK Borovoye 90.26 3 *e*P **P 22 21 24.1 +0.6**
comp=Z,37nm,1.4s,mb5.5
BRVK Borovoye 90.26 3 *e*P **P 22 21 24.1 +0.6**
BRVK pmax pmax
comp=Z,37nm,1.4s,mb5.5
SONM Songino Array 91.12 340 P **P 22 21 28.8 +1.3**
comp=Z,4.3nm,0.8s,mb4.8,baz=16,slow=3.7,SNR=17
KURK Kurchatov 92.66 358 *e*P **P 22 21 34.6 0.0**
comp=Z,14nm,1.0s,mb5.3
KURK Kurchatov 92.66 358 *e*P **P 22 21 34.6 0.0**
KURK pmax pmax
comp=Z,14nm,1.0s,mb5.3
KIV Kislovodsk 94.24 23 *e*P **P 22 21 43.0 +1.0**
KIV *e*S 22 32 14.6
KIV pmax pmax
comp=Z,3.0nm,0.8s,mb4.8
KIV MLR MLR
comp=Z,200nm,18.0s,MS4.6
MKAR Makanchi Array 96.39 355 P **P 22 21 52.1 +0.3**
comp=Z,9.6nm,0.8s,mb5.3,baz=11,slow=4.5,SNR=40
MKAR Makanchi Array 96.39 355 P **P 22 21 52.1 +0.3**
WMQ Urumqi 98.81 351 *e*P **P 22 22 00.0 -2.8**
WMQ PP PP 22 26 04.0 -2.7
WMQ SKS SKS 22 32 38.0 -6.7
WMQ S S 22 33 27.0 -2.0
WMQ SS SS 22 40 17.0 -2.4
WMQ AMB AMB
comp=Z,15nm,1.2s,mb5.4
WMQ LR LR
comp=N,116nm,24.0s
WMQ LR LR
comp=Z,687nm,22.0s,MS5.1
SSE Sheshan 99.79 321 P **P 22 22 06.6 -1.0**
SSE AMB AMB
comp=Z,32nm,5.3s
AAK Ala-Archa 100.79 1 *e*P P 22 22 11.8 0.0
STKA Stephens Creek 125.98 254 PKP PKPdf 22 27 25.2 -2.2
comp=Z,0.5nm,0.3s,baz=23,slow=7.7,SNR=4.1
VNA3 Neumayer Olymp 126.12 156 PKPdf 22 27 27.2 +0.6
VNA3 Neumayer Olymp 126.12 156 PKPdf PKPdf 22 27 25.1 -1.5
VNA3 P 22 27 27.2
WRA Warramunga Arr 126.13 271 PKP PKPdf 22 27 25.8 -2.1
comp=Z,3.0nm,1.0s,baz=46,slow=1.6,SNR=16
WRA Warramunga Arr 126.13 271 *i*PKIKP PKPdf 22 27 26.0 -1.9
VNDA Vanda 126.47 196 PKP PKPdf 22 27 25.7 -1.4
comp=Z,2.8nm,0.8s,baz=11,slow=2.9,SNR=5.0
VNA2 Neumayer--Watz 126.81 156 PKPdf 22 27 35.9 +8.1
VNA2 Neumayer--Watz 126.81 156 PKPdf 22 27 40.8 +13
VNA2 Neumayer--Watz 126.81 156 PKPdf PKPdf 22 27 25.8 -2.0
VNA2 P 22 27 35.9
VNA2 P 22 27 40.8
SNAA Sanae 128.34 157 P PKPdf 22 27 28.7 -2.2
SNAA Sanae 128.34 157 PKPdf 22 27 30.1 -0.8
SNAA Sanae 128.34 157 PKPdf 22 27 39.6 +8.7
SNAA Sanae 128.34 157 *e*PKP PKPdf 22 27 28.0 -2.9
SNAA PKPdf PKPdf 22 27 28.7 -2.2
SNAA P 22 27 30.1
SNAA P 22 27 39.6
SNAA Sanae 128.34 157 *e*PKIKP PKPdf 22 27 28.0 -2.9
SNAA 22 27 28.7
SNAA 22 27 30.1
KMBO Kilima Mbogo 130.03 53 PKP PKPdf 22 27 35.6 0.0
comp=Z,0.9nm,0.8s,baz=232,slow=23,SNR=4.2
MAW Mawson 148.51 171 *i* PKPdf 22 28 08.9 +1.9
MAW Mawson 148.51 171 PKPbc PKPdf 22 28 09.0 +2.0
comp=Z,25nm,0.8s,baz=214,slow=3.4,SNR=44
MAW Mawson 148.51 171 PKPbc PKPdf 22 28 09.0 +2.0

MAN 10 22:23:08.4, 14.50N×122.95E, h30km, mb3.7, ML2.4, MS2.0, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GQP	**Guinayangan**	**0.77**	**220**⇓	*e*P	Pb	22 23 23.3	+0.2
GQP				*e*S	Sb	22 23 34.3	+1.0
POLP	**Polilio Island**	**1.01**	**283**	*e*P	Pn	22 23 27.6	+1.0
POLP				*e*S	Sn	22 23 42.4	+2.5
PVCP	**Virac**	**1.47**	**127**	*e*P	Pn	22 23 32.8	-0.5
PVCP				*e*S	Sn	22 23 51.7	+0.1
BOAC	**Boac**	**1.49**	**226**	*e*P	Pn	22 23 33.2	-0.4
BOAC				*e*S	Sn	22 23 52.0	-0.1
BALP	**Baler**	**1.82**	**313**	*e*P	Pn	22 23 36.8	-1.4

BALP			*e*S	Sn	22 23 59.1	-1.3
CAUP	**Cauayan**	**2.67 336**	*e*P	Pn	22 23 49.8	-0.5
CAUP			*e*S	Sn	22 24 21.2	-0.8

NEIC 10 22:24:33.9±0.5, 36.98N×104.96W, h5km, ML3.0, Error ellipse: s-maj=9.4km s-min=6.4km az=71.0, New Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDCO	**Great Sand Dun**	**0.88**	**331**	P	Pb	22 24 50.0	-1.2
ANMO	**Albuquerque**	**2.37**	**211**	Pn	Pn	22 25 12.6	-1.4
SMCO	**Snowmass**	**2.71**	**325**	Pn	Pn	22 25 20.1	+1.2
ISCO	**Idaho Springs**	**2.86**	**350**	Pn	Pn	22 25 20.6	-0.5
LPM	**Los Pinos Moun**	**2.99**	**208**	Pn	Pn	22 25 25.4	+2.4
PV01	**Paradox Valley**	**3.09**	**293**	Pn	Pn	22 25 23.3	-1.1
LAZ	**Ladron**	**3.13**	**215**	Pn	Pn	22 25 24.3	-0.6
BNM	**Barren Site**	**3.14**	**206**	Pn	Pn	22 25 26.2	+1.2
LENM	**Lemitar**	**3.25**	**211**	Pn	Pn	22 25 27.8	+1.1
PV10	**Paradox Valley**	**3.52**	**294**	Pn	Pn	22 25 35.1	+4.6
CPRX	**Cap Rock**	**4.04**	**167**	Pn	Pn	22 25 37.3	-0.6
CBKS	**Cedar Bluff**	**4.52**	**65**	Pn	Pn	22 25 42.5	-2.1
CLNB	**Carlsbad**	**4.79**	**169**	Pn	Pn	22 25 47.5	-1.0
GDL2	**Guadalupe Moun**	**4.79**	**174**	Pn	Pn	22 25 47.0	-1.5
SRU	**San Rafael**	**4.88**	**298**	Pn	Pn	22 25 54.0	+4.2
MNTX	**Cornudas Mount**	**5.28**	**184**	Pn	Pn	22 25 56.2	+0.7
TMUT	**Trail Mountain**	**5.44**	**297**	Pn	Pn	22 25 55.5	-2.2
WMOK	**Wichita Mounta**	**5.49**	**112**	Pn	Pn	22 25 56.5	-1.9
MSU	**Marysvale**	**5.92**	**287**	Pn	Pn	22 26 07.6	+3.2
TUC	**Tucson**	**6.69**	**228**	Pn	Pn	22 26 15.3	0.0
ARUT	**Antelope Range**	**6.80**	**279**	Pn	Pn	22 26 18.9	+2.0
KSU1	**Kansas State U**	**6.92**	**70**	Pn	Pn	22 26 19.9	+1.3
NEN	**Nelson**	**8.09**	**263**	Pn	P	22 26 35.9	+1.0
CCM	**Cathedral Cave**	**10.95**	**80**	Pn	P	22 27 12.8	-1.6

GUC 10 22:37:52.8±0.7, 34.28S×72.30W, h34km±2km, MD3.8, ML3.2, 5C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.80**	**66**	‖*i*P	P	22 38 07.9	+0.3
LNV				*i*S	S	22 38 18.6	0.0
LCCH	**Las Cruces**	**1.00**	**37**	*e*P	P	22 38 11.1	+0.5
LCCH				*i*S	S	22 38 24.9	+1.2
SFDO	**San Fernando**	**1.11**	**108**	*i*P	P	22 38 12.9	+0.9
SFDO				*i*S	S	22 38 27.7	+1.3
TACH	**Talagante**	**1.29**	**61**	⇑*i*P	P	22 38 15.1	+0.6
TACH				*i*S	S	22 38 32.3	+1.3
CHCH	**Chadas Angostu**	**1.41**	**76**	⇑*i*P	P	22 38 17.2	+0.8
CACH	**El Canelo**	**1.41**	**84**	*e*P	P	22 38 17.9	+1.5
RCDM	**Rinconada Maip**	**1.47**	**58**	*e*P	P	22 38 17.7	+0.5
RCDM				*i*S	S	22 38 37.0	+1.6
RCDM				AMP		22 38 43.5	
	comp=N,466nm,0.4s						
RCDM				*e*		22 38 44.2	
CICH	**Cipreses**	**1.55**	**92**	*e*P	P	22 38 19.7	+1.3
CICH				*i*S	S	22 38 40.2	+2.7
ANTU	**Antumapu**	**1.55**	**63**	*e*P	P	22 38 19.4	+1.0
ANTU				*i*S	S	22 38 40.0	+2.4
ANTU				AMP		22 38 45.4	
	comp=N,557nm,0.3s						
SAN	**Santiago**	**1.59**	**59**	*e*P	P	22 38 20.2	+1.3
SAN				AMP		22 38 46.8	
	comp=E,343nm,0.2s						
PCH	**Pirque**	**1.62**	**67**	⇑*i*P	P	22 38 20.7	+1.4
PCH				*i*S	S	22 38 41.9	+2.7
DSCH	**Colegio Aleman**	**1.68**	**59**	⇑*i*P	P	22 38 21.9	+1.6
DSCH				*i*S	S	22 38 43.5	+2.6
DSCH				AMP		22 38 54.3	
	comp=N,693nm,0.2s						
ROCH	**El Roble**	**1.69**	**40**	*e*P	P	22 38 21.3	+1.0
CLCH	**Cerro Calan**	**1.71**	**59**	⇑*i*P	P	22 38 21.8	+1.2
CLCH				*i*S	S	22 38 43.5	+2.0
CLCH				AMP		22 38 55.7	
	comp=E,414nm,0.5s						
FCH	**Farellones**	**1.92**	**61**	*e*P	P	22 38 25.0	+1.4
FCH				*i*S	S	22 38 49.8	+3.0
FCH				AMP		22 38 56.6	
	comp=N,367nm,0.3s						
JACH	**Jahuel**	**2.14**	**42**	*e*P	P	22 38 27.7	+0.9

*ISK **10** 22:59:38.4, 39.12N×40.30E, h29km, MD3.6*
*CSEM **10** 22:59:38.4, 39.12N×40.30E, h29km, MD3.6, After ISK*
ISC 10 22:59:36.0±1.0, 39.07N±0.05×40.39E±0.04, h0km±9km, n19, σ0§87/23, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGL	**BINGOL**	**0.60**	**101**	*i*P	**Pg**	**22 59 47.0**	**-1.0**
BNGL				*i*S	**Sg**	**22 59 55.3**	**-0.8**
PTK	**Pertek**	**0.80**	**257**	PG	**Pg**	**22 59 52.5**	**+0.6**
EZM	**Erzurum**	**1.12**	**42**	*i*PN	**Pn**	**22 59 58.9**	**+0.2**
DIY	**Diyarbakir**	**1.18**	**186**	PN	**Pn**	**23 00 00.1**	**+0.6**
DIY	**Diyarbakir**	**1.18**	**186**	*e*Pn	**Pn**	**23 00 00.1**	**+0.5**
BTMT	**Batman**	**1.23**	**135**	PN	**Pn**	**22 59 59.8**	**-0.5**
BTMT				SN	**Sn**	**23 00 16.9**	**-0.9**
ELZG	**Elazig**	**1.24**	**243**	*i*P	**Pb**	**23 00 01.0**	**+1.1**
ELZG				*i*S	**Sb**	**23 00 20.1**	**+3.9**
GUMT	**Gumushane**	**1.55**	**333**	PN	**Pn**	**23 00 03.5**	**-1.4**
MYA	**Malataya**	**1.71**	**245**	PN	**Pn**	**23 00 07.1**	**-0.1**
MALT	**Malatya**	**1.71**	**244**	*e*PN	**Pn**	**23 00 06.6**	**-0.6**
MARD	**Mardin**	**1.78**	**170**	*i*P	**Pn**	**23 00 08.4**	**+0.2**
MARD				*i*S	**Sn**	**23 00 31.2**	**-0.6**
URFA	**Urfa**	**2.04**	**218**	*e*PN	**Pn**	**23 00 11.2**	**-0.7**
VANB	**Van**	**2.39**	**101**	*e*PN	**Pn**	**23 00 18.2**	**+1.3**
BCA	**Borcka**	**2.55**	**21**	*e*PN	**Pn**	**23 00 18.9**	**-0.3**
CLDR	**Caldiran**	**2.75**	**87**	*e*PN	**Pn**	**23 00 23.2**	**+1.2**
SVSK	**Karacayir**	**2.76**	**289**	*e*PN	**Pn**	**23 00 21.1**	**-1.0**
HKR	**Hakkari**	**3.03**	**118**	*e*PN	**Pn**	**23 00 27.5**	**+1.5**
GAZ	**Gaziantep**	**3.14**	**234**	*e*PN	**Pn**	**23 00 27.8**	**+0.1**
GNI	**Garni**	**3.53**	**71**	*e*PN	**Pn**	**23 00 34.1**	**+1.0**

*IDC **10** 23:08:24.1±0.8, 20.27S×65.28W, h330km±8km, mb3.9/11, mb1 4.2/17, mb1mx4.1/21, mbtmp4.8/17, Error ellipse: s-maj=13.7km s-min=9.4km az=76.0*
*NEIC **10** 23:08:24.7±0.5, 20.30S×65.30W, h333km±4km, mb4.4/13, Error ellipse: s-maj=8.0km s-min=6.1km az=72.0*
ISC 10 23:08:23.4±0.4, 20.37S±0.03×65.32W±0.05, h336km±5km, n86, σ1§02/79, mb4.3/20, 14C-4D, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPCH	**San Pedro de A**	**3.68**	**226**	‖*i*P	**P**	**23 09 32.0**	**+3.3**
SPCH	**San Pedro de A**	**3.68**	**226**	*i*P	**P**	**23 09 32.1**	**+3.4**
SPCH				*i*S	**S**	**23 10 29.1**	**+9.2**
LVC	**Limon Verde**	**4.02**	**236**	P	**P**	**23 09 33.3**	**+1.2**
	209nm,0.3s,baz=38,slow=8.7,SNR=3057						
LVC				S	**S**	**23 10 26.2**	**+0.1**
	238nm,0.3s,baz=258,slow=17,SNR=18						
LVC	**Limon Verde**	**4.02**	**236**	⇑*i*P	**P**	**23 09 33.5**	**+1.4**
LPAZ	**La Paz**	**4.86**	**326**	P	**P**	**23 09 43.0**	**+1.8**
	71nm,0.3s,baz=135,slow=7.8,SNR=1900						
LPAZ				S	**S**	**23 10 43.1**	**+0.7**
	1.6nm,0.3s,baz=249,slow=24,SNR=3.6						
ANCH	**Antofagasta**	**5.76**	**234**	⇑*i*P	**P**	**23 09 51.2**	**-0.3**
ANCH	**Antofagasta**	**5.76**	**234**	⇑*i*P	**P**	**23 09 51.2**	**-0.3**
ANCH				*e*S	**S**	**23 10 59.5**	**-1.2**
SIV	**San Ignacio**	**5.94**	**44**	P	**P**	**23 09 53.9**	**+0.3**
	65nm,0.3s,baz=233,slow=10,SNR=2493						
ARE	**Arequipa**	**7.03**	**303**	⇑*i*P	**P**	**23 10 06.0**	**-0.5**
ARE				*i*S	**S**	**23 11 24.6**	**-2.9**
CRCH	**Chaqaral**	**7.69**	**218**	P	**P**	**23 10 13.1**	**-1.2**
CRCH				S	**S**	**23 11 38.1**	**-3.5**
CPUP	**Villa Florida**	**9.44**	**130**	P	**P**	**23 10 35.8**	**+0.5**
	1.0nm,0.3s,baz=327,slow=14,SNR=28						
CFAA	**Coronel Fontan**	**11.49**	**193**	P	**P**	**23 10 59.8**	**-0.5**
	5.1nm,0.3s,baz=15,slow=11,SNR=121						
SAML	**Samuel**	**11.54**	**11**	*e*P	**P**	**23 11 00.8**	**-0.1**
	7.3nm,0.7s						
JACH	**Jahuel**	**13.13**	**200**	⇑*i*P	**P**	**23 11 20.9**	**+0.8**
ROCH	**El Roble**	**13.54**	**201**	*i*P	**P**	**23 11 25.0**	**+0.1**
FCH	**Farellones**	**13.64**	**198**	‖*i*P	**P**	**23 11 27.3**	**+1.2**
FCH				*i*P		23 11 27.4	
CLCH	**Cerro Calan**	**13.78**	**199**	‖*i*P	**P**	**23 11 28.1**	**+0.3**
NNA	**Nana**	**13.85**	**305**	*e*P	**P**	**23 11 29.1**	**+0.5**
	25nm,0.8s						
PCH	**Pirque**	**13.98**	**198**	*e*P	**P**	**23 11 30.5**	**+0.5**
TACH	**Talagante**	**14.14**	**200**	*e*P	**P**	**23 11 30.8**	**-1.0**
LCCH	**Las Cruces**	**14.19**	**202**	*e*P	**P**	**23 11 30.9**	**-1.4**
CHCH	**Chadas Angostu**	**14.31**	**198**	⇑*i*P	**P**	**23 11 33.3**	**-0.4**
LNV	**Longovilo**	**14.57**	**201**	⇑*i*P	**P**	**23 11 35.3**	**-1.2**
CICH	**Cipreses**	**14.61**	**197**	‖*i*P	**P**	**23 11 37.8**	**+0.8**
SFDO	**San Fernando**	**15.06**	**198**	⇑*i*P	**P**	**23 11 41.4**	**-0.3**
BDFB	**Brasilia**	**17.12**	**77**	P	**P**	**23 12 03.2**	**-0.4**
	7.7nm,0.3s,baz=256,slow=9.9,SNR=24						
BAO	**Brasilia Array**	**17.14**	**77**	P	**P**	**23 12 03.5**	**-0.3**
TRQA	**Tornquist**	**17.86**	**171**	*e*P	**P**	**23 12 08.4**	**-2.6**
	4.7nm,0.6s						
PLCA	**Paso Flores**	**20.78**	**191**	P	**P**	**23 12 41.4**	**+1.5**
	41nm,0.7s,baz=12,slow=10,SNR=90						
CAM4	**Nova Friburgo**	**21.28**	**99**	⇑*i*P	**P**	**23 12 44.7**	**-0.2**
CAM4				*i*		23 12 45.8	
CAM3	**Guarapari**	**23.22**	**95**	⇑*i*P	**P**	**23 13 02.0**	**-1.2**
CAM3				*i*		23 13 02.7	
CAM3				*i*		23 13 05.1	
USHA	**Ushuaia**	**34.49**	**183**	P	**P**	**23 14 42.4**	**+0.4**
	13nm,1.0s,mb4.1,baz=343,slow=10,SNR=4.7						
PMSA	**Palmer Station**	**44.39**	**179**	*e*P	**P**	**23 16 03.8**	**+0.9**
VNA3	**Neumayer Olymp**	**60.09**	**162**	⇑*i*	**P**	**23 17 59.1**	**+1.6**
VNA3	**Neumayer Olymp**	**60.09**	**162**		**P**	**23 18 04.9**	**+7.4**
VNA3	**Neumayer Olymp**	**60.09**	**162**		**P**	**23 18 08.5**	**+11**
WVT	**Waverly**	**60.09**	**339**	*e*P	**P**	**23 17 55.2**	**-2.8**
	21nm,0.9s,mb4.6						
VNA1	**Neumayer--Stat**	**60.24**	**161**	⇑*i*	**P**	**23 18 01.0**	**+2.5**
VNA1	**Neumayer--Stat**	**60.24**	**161**		**P**	**23 18 04.4**	**+5.9**
VNA2	**Neumayer--Watz**	**60.62**	**161**	⇑*i*	**P**	**23 18 02.7**	**+1.7**
VNA2	**Neumayer--Watz**	**60.62**	**161**		**P**	**23 18 08.7**	**+7.7**
VNA2	**Neumayer--Watz**	**60.62**	**161**		**P**	**23 18 11.3**	**+10**
TXAR	**Lajitas Array**	**61.72**	**322**	P	**P**	**23 18 07.8**	**-1.0**
	1.9nm,0.6s,mb3.8,baz=145,slow=9.2,SNR=14						
SNAA	**Sanae**	**62.26**	**162**	⇑*i*	**P**	**23 18 12.5**	**+0.7**
SNAA	**Sanae**	**62.26**	**162**		**P**	**23 18 16.2**	**+4.4**
SNAA	**Sanae**	**62.26**	**162**		**P**	**23 18 26.0**	**+14**
SNAA	**Sanae**	**62.26**	**162**	P	**P**	**23 18 12.4**	**+0.6**
	1.1nm,0.7s,mb3.5,baz=291,slow=5.4,SNR=21						
WMOK	**Wichita Mounta**	**63.36**	**329**	*e*P	**P**	**23 18 17.9**	**-1.5**
GDL2	**Guadalupe Moun**	**64.26**	**324**	*e*P	**P**	**23 18 24.9**	**-0.4**
DBIC	**Dimbokro**	**65.20**	**72**	P	**P**	**23 18 29.8**	**-1.8**
	30nm,0.7s,mb5.0,baz=224,slow=6.5,SNR=59						
BNM	**Barren Site**	**66.97**	**324**	*e*P	**P**	**23 18 42.9**	**+0.5**
ANMO	**Albuquerque**	**67.47**	**324**	*e*P	**P**	**23 18 45.0**	**-0.5**
	5.1nm,1.0s,mb4.2						
TUC	**Tucson**	**68.09**	**319**	*e*P	**P**	**23 18 49.4**	**+0.1**
	7.5nm,1.0s,mb4.4						
SDCO	**Great Sand Dun**	**69.06**	**327**	*e*P	**P**	**23 18 55.5**	**+0.4**
	4.1nm,0.8s,mb4.2						
LDFC	**Landfair**	**72.61**	**319**	*e*P	**P**	**23 19 17.8**	**+1.3**
SRU	**San Rafael**	**72.73**	**325**	*e*P	**P**	**23 19 17.4**	**+0.3**
NEN	**Nelson**	**72.83**	**320**	*e*P	**P**	**23 19 17.7**	**-0.1**
MSU	**Marysvale**	**73.22**	**323**	*e*P	**P**	**23 19 21.0**	**+1.0**
ARUT	**Antelope Range**	**73.44**	**322**	*e*P	**P**	**23 19 22.7**	**+1.4**
PDAR	**Pinedale Array**	**74.88**	**328**	P	**P**	**23 19 29.1**	**-0.3**
	2.6nm,0.6s,mb4.2,baz=127,slow=7.6,SNR=27						
SCHQ	**Schefferville**	**74.91**	**359**	P	**P**	**23 19 28.1**	**-1.2**
	4.0nm,0.5s,mb4.4,baz=192,slow=5.1,SNR=17						
ULM	**Lac du Bonnet**	**75.32**	**340**	P	**P**	**23 19 30.1**	**-1.7**
	1.7nm,0.6s,mb4.0,baz=166,slow=6.3,SNR=4.1						
LOHW	**Long Hollow**	**76.02**	**328**	*e*P	**P**	**23 19 36.0**	**+0.1**
	12nm,1.3s,mb4.5						
TPAW	**Teton Pass**	**76.10**	**328**	*e*P	**P**	**23 19 36.7**	**+0.4**
	4.5nm,0.9s,mb4.2						
IMW	**Indian Meadow**	**76.39**	**328**	*e*P	**P**	**23 19 38.5**	**+0.6**
	16nm,1.0s,mb4.7						
ELK	**Elko**	**76.47**	**323**	*e*P	**P**	**23 19 38.4**	**+0.1**
	5.0nm,0.9s,mb4.2						
HLID	**Hailey**	**77.94**	**326**	*e*P	**P**	**23 19 47.1**	**+0.8**
	11nm,1.0s,mb4.5						
MCMT	**McKenzie Canyo**	**78.01**	**328**	*e*P	**P**	**23 19 47.7**	**+1.0**
BMO	**Blue Mountains**	**80.34**	**325**	*e*P	**P**	**23 19 59.5**	**+0.5**
	7.0nm,1.0s,mb4.3						
ESDC	**Sonseca Array**	**82.70**	**43**	P	**P**	**23 20 10.4**	**-0.9**
	1.0nm,0.6s,mb3.8,baz=252,slow=4.5,SNR=11						
MAW	**Mawson**	**84.42**	**162**	P	**P**	**23 20 20.3**	**+1.0**
	3.0nm,0.7s,mb4.2,baz=193,slow=6.4,SNR=10						
YKA	**Yellowknife Ar**	**91.28**	**339**	P	**P**	**23 20 51.7**	**-0.1**
	2.6nm,0.6s,mb4.3,baz=124,slow=4.0,SNR=3.8						
YKA	**Yellowknife Ar**	**91.28**	**339**	P	**P**	**23 20 51.7**	**-0.1**
NWAO	**Narrogin (SRO)**	**126.95**	**183**	*e*P	PKPdf	23 26 48.3	+0.2
WRA	**Warramunga Arr**	**135.55**	**207**	PKP	PKPdf	23 27 06.3	+1.7
	1.9nm,0.6s,baz=160,slow=1.5,SNR=19						
WRA				SKPbc		23 30 04.8	
	1.3nm,0.8s,baz=152,slow=2.6,SNR=9.7						
WRAB	**Tennant Creek**	**135.56**	**207**	*e*P	PKPdf	23 27 05.5	+0.9
ZAL	**Zalesovo**	**139.47**	**27**	PKP	PKPdf	23 27 09.4	-1.5
	1.1nm,0.6s,baz=173,slow=2.6,SNR=6.8						
ZAL				SKPbc		23 30 15.8	
	1.6nm,0.7s,baz=206,slow=2.9,SNR=9.6						
MKAR	**Makanchi Array**	**142.73**	**37**	PKhKP		23 27 14.3	
	1.5nm,0.8s,baz=323,slow=2.6,SNR=9.6						
MKAR				PKP	PKPdf	23 27 17.3	+0.6
	1.5nm,0.8s,baz=297,slow=3.7,SNR=8.7						
ASAJ	**Asahikawa**	**146.84**	**322**	PKPbc	PKPbc	23 27 28.2	+2.5
	7.2nm,0.7s,baz=254,slow=29,SNR=5.8						
KOLN	**Koldanda**	**150.74**	**69**	*e*P	PKPdf	23 27 37.4	+6.9
	4.6nm,0.5s						
GKN	**Gorkha**	**151.61**	**69**	*e*P	PKPdf	23 27 39.7	+7.9
	16nm,0.4s						
SONM	**Songino Array**	**151.79**	**12**	PKPbc	PKPdf	23 27 40.6	+9.1
	1.3nm,0.3s,baz=311,slow=1.1,SNR=13						
SONM				pPKPbc		23 29 02.7	
	1.9nm,0.8s,baz=350,slow=1.3,SNR=7.3						
DMN	**Daman**	**152.08**	**69**	*e*P	PKPdf	23 27 40.6	+8.0
KKN	**Kakani**	**152.21**	**69**	*e*P	PKPdf	23 27 41.1	+8.4
	13nm,0.5s						
PKI	**Pulchoki**	**152.35**	**69**	*e*P	PKPdf	23 27 41.3	+8.4
MJAR	**Matsushiro Arr**	**153.88**	**313**	PKPbc	PKPdf	23 27 45.6	+11
	0.9nm,0.4s,baz=68,slow=1.8,SNR=3.3						
MJAR				PKPab	PKPab	23 27 58.7	-1.4
	2.1nm,0.5s,baz=72,slow=2.7,SNR=5.9						

*INMG **10** 23:18:09.6±0.9, 36.49N×8.11W, h30km±14km, ML1.9, Error ellipse: s-maj=8.8km s-min=3.7km az=34.0*
*CSEM **10** 23:18:12.7±0.3, 36.72N×7.67W, h40km, mb3.3/7, Error ellipse: s-maj=6.7km s-min=2.8km az=34.0*
MDD 10 23:18:09.2±1.6, 36.48N×8.11W, h44km±59km, mb3.6/11, 2C, Error ellipse: s-maj=15.1km s-min=8.3km az=29.0, PRXIMO PROFUNDIDAD POBRE, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGRO	**El Granado**	**1.16**	**25**	⇑P	P	23 18 28.5	-0.7
	2.0nm,0.1s,SNR=18						
EGRO				S	S	23 18 42.5	-1.6
	7.5nm,0.1s,SNR=30						
EGRO	**El Granado**	**1.16**	**25**	P	P	23 18 28.5	-0.7
	2.0nm,0.1s,SNR=18						
EGRO				S	S	23 18 42.5	-1.7
	7.5nm,0.1s,SNR=30						
PTEO	**Sao Teotonio**	**1.17**	**335**	*e*P	P	23 18 28.2	-1.2
PTEO				*e*S	S	23 18 42.1	-2.3
PBEJ	**Beja**	**1.55**	**7**	*e*S	S	23 18 51.8	-2.2
	4.6nm,0.1s						
PBEJ	**Beja**	**1.55**	**7**	*e*S	S	23 18 51.8	-2.2
	4.6nm,0.1s						
EMIN	**Mina Concepcio**	**1.72**	**41**	⇑P	P	23 18 35.9	-1.3
	0.4nm,0.1s,SNR=18						
EMIN				S	S	23 18 55.6	-2.5
	3.4nm,0.1s,SNR=9.5						
EMIN	**Mina Concepcio**	**1.72**	**41**	P	P	23 18 35.9	-1.3
	0.4nm,0.1s,SNR=18						
EMIN				S	S	23 18 55.6	-2.5
	3.4nm,0.1s,SNR=9.5						
ESPR	**Espera**	**1.85**	**77**	P	P	23 18 38.3	-0.8
	4.5nm,0.2s,SNR=9.7						
ESPR				S	S	23 18 58.7	-2.7
	23nm,0.2s,SNR=8.9						
ESPR	**Espera**	**1.85**	**77**	P	P	23 18 38.3	-0.8
	4.5nm,0.2s,SNR=9.7						
ESPR				S	S	23 18 58.7	-2.6
	23nm,0.2s,SNR=8.9						
EBAD	**Badajoz**	**2.43**	**21**	P	P	23 18 45.9	-1.4
	0.6nm,0.1s,SNR=7.9						
EBAD				S	S	23 19 12.4	-3.5
	7.4nm,0.2s,SNR=9.1						
EBAD	**Badajoz**	**2.43**	**21**	P	P	23 18 45.9	-1.4
	0.6nm,0.1s,SNR=7.9						
EBAD				S	S	23 19 12.4	-3.6
	7.4nm,0.2s,SNR=9.1						
EMIJ	**Mijas**	**2.69**	**87**	S	S	23 19 18.1	-4.4
	2.2nm,0.3s,SNR=4.0						
PTOM	**Tomar**	**3.14**	**356**	*e*Pn	P	23 18 56.1	-1.3
PTOM				*e*Sn	S	23 19 29.1	-4.9
	4.3nm,0.1s						
PTOM	**Tomar**	**3.14**	**356**	P	P	23 18 56.1	-1.3
PTOM				S	S	23 19 29.1	-4.9
	2.2nm,0.1s						
EADA	**Adamuz**	**3.27**	**58**	P	P	23 18 57.7	-1.7
	0.7nm,0.1s,SNR=8.2						
EADA				S	S	23 19 32.9	-4.6
	5.9nm,0.1s						
EADA	**Adamuz**	**3.27**	**58**	P	P	23 18 57.7	-1.7
	0.7nm,0.1s,SNR=8.2						
EADA				S	S	23 19 32.9	-4.6
	5.9nm,0.1s						
PCBR	**Castelo Branco**	**3.39**	**8**	*e*Pn	P	23 18 59.4	-1.6
PCBR				*e*Sn	S	23 19 35.9	-4.4
	1.8nm,0.1s						
PCBR	**Castelo Branco**	**3.39**	**8**	P	P	23 18 59.4	-1.6
PCBR				S	S	23 19 35.9	-4.4
	0.9nm,0.1s						
ERON	**Agron**	**3.49**	**80**	P	P	23 19 01.0	-1.5
	0.4nm,0.2s,SNR=4.0						
ERON				S	S	23 19 36.9	-6.1
	1.7nm,0.3s,SNR=7.9						
EQUE	**Quentar**	**3.81**	**78**	P	P	23 19 05.4	-1.6
	0.1nm,0.1s,SNR=4.0						
EQUE				S	S	23 19 46.1	-5.0
	0.7nm,0.1s,SNR=7.9						
EBAN	**Banos Encina**	**3.83**	**63**	P	P	23 19 04.8	-2.4
	1.2nm,0.1s,SNR=7.9						
EBAN				S	S	23 19 46.3	-5.2
	0.5nm,0.2s,SNR=7.9						
EBAN	**Banos Encina**	**3.83**	**63**	P	P	23 19 04.8	-2.4
	1.2nm,0.1s,SNR=7.9						
EBAN				S	S	23 19 44.8	-6.7
	0.5nm,0.2s,SNR=7.9						
MTE	**Manteigas**	**3.93**	**6**	*e*Sn	S	23 19 49.0	-5.2
	2.6nm,0.8s						
MTE	**Manteigas**	**3.93**	**6**	S	S	23 19 49.0	-5.2
	1.3nm,0.8s						
EQES	**Quesada**	**4.23**	**70**	P	P	23 19 10.1	-2.9
	0.2nm,0.1s,SNR=7.9						
EQES				S	S	23 19 55.7	-5.9
	0.4nm,0.2s,SNR=7.9						
EQES	**Quesada**	**4.23**	**70**	P	P	23 19 10.1	-2.8
	0.2nm,0.1s,SNR=7.9						
EQES				S	S	23 19 55.7	-6.0
	0.4nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**4.56**	**44**	P	P	23 19 15.3	-2.3
	3.3nm,0.1s,baz=229,slow=13,SNR=5.7						
ESDC				S	S	23 20 02.9	-7.1
	0.7nm,0.1s,baz=228,slow=23,SNR=5.7						
ESDC	**Sonseca Array**	**4.56**	**44**	P	P	23 19 15.3	-2.3
	3.3nm,0.1s,SNR=5.7						
ESDC				S	S	23 20 02.9	-7.1
	0.7nm,0.1s,SNR=5.7						
ELOB	**Lobios**	**5.38**	**0**	P	P	23 19 25.6	-3.4
	0.1nm,0.1s,SNR=7.9						
ELOB				S	S	23 20 22.7	-7.8
	1.4nm,0.1s,SNR=12						
ECAL	**Calabor**	**5.55**	**11**	S	S	23 20 27.1	-7.8
	1.2nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**5.64**	**66**	P	P	23 19 29.2	-3.4
	0.1nm,0.2s,SNR=7.9						
ETOB				S	S	23 20 28.6	-8.4
	0.7nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**5.64**	**66**	P	P	23 19 29.2	-3.4
	0.1nm,0.2s,SNR=7.9						
ETOB				S	S	23 20 28.6	-8.4
	0.7nm,0.1s,SNR=7.9						

*TIF **10** 23:22:26.1, 43.16N×46.75E, h5km±1km*
*MOS **10** 23:22:26.5±2.2, 43.17N×46.92E, h8km, mb4.1/1, Error ellipse: s-maj=11.4km s-min=8.5km az=85.9*
*CSEM **10** 23:22:26.5, 43.17N×46.92E, h8km, mb4.1, After OBN*
*NNC **10** 23:22:38.5±1.1, 44.22N×47.22E, Error ellipse: s-maj=26.8km s-min=8.6km az=140.0*
**ISC 10 23:22:26.3±0.5, 43.28N±0.03×47.00E±0.04, h5km, n29,

XNZR	Khunzakh	0.54 179	*i* Pg	Pg	23 52 14.5	-0.5
XNZR			*i* Sg	Sg	23 52 24.0	+1.8
XNZR	Khunzakh	0.54 179	⇑*i*PG	Pg	23 52 14.5	-0.5
XNZR			*i* S	Sg	23 52 24.0	+1.8
BTLR	Botlikh	0.54 220	*e*Pg	Pg	23 52 13.0	-2.0
BTLR			*i* Sg	Sg	23 52 22.0	-0.3
ARNR	Ardon	1.77 274	*e*Pn	Pn	23 52 37.8	+2.2
ARNR			*e*Sg	Sg	23 53 03.7	+0.6
LACR	Lac	1.78 262	*e*PN	Pn	23 52 35.6	-0.1
LACR			*e*S	Sn	23 52 59.5	+0.6
ZEI	Tsey	2.08 262	*e*Pn	Pn	23 52 39.5	-0.5
ZEI			*e*Sb	Sb	23 53 06.5	-1.4
LSNR	Lesken	2.11 276	*e*PN	Pn	23 52 42.6	+2.1
LSNR			*e*S	Sn	23 53 12.2	+4.8

CSEM ***11*** *00:03:03.4±0.6, 15.74N×49.07E, h2km, ML4.0, Error ellipse: s-maj=15.3km s-min=9.9km az=89.0*
DHMR ***11*** *00:03:08.0±0.7, 15.74N×48.97E, h9km±83km, ML4.0*
SNSN ***11*** *00:03:11.8, 16.18N×48.79E, Ml4.1*

ISC 11 00:03:05.3±1.0, 15.91N±0.05×49.16E±0.07, h10km, n12, σ0§97/16, 3D, Eastern Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUKL	Al Mukalla	1.43 185	⇓*i*P		Pn	00 03 31.4	0.0
MUKL			*i* S		Sb	00 03 49.0	-0.7
MUKL				AML	AML	00 03 54.4	
	comp=E,4μm,0.6s						
BDHA	Al Bayda'	3.96 241	⇓*i*P		Pn	00 04 08.5	+0.9
BDHA			*i* S		Sn	00 04 55.9	+1.2
BDHA				AML	AML	00 05 22.6	
	comp=N,430nm,0.7s						
LBOS		4.29 242	⇓*i*P		Pn	00 04 12.4	+0.3
LBOS			*i* S		Sn	00 05 03.5	+0.7
DHBB	Dhamar BB	4.79 255	*i* S		Sn	00 05 16.0	+0.5
HAJJ	Hajjah	5.35 269	*i* S		Sn	00 05 29.9	+0.2
TRBA	At Turbah	5.56 242	*i* S		Sn	00 05 33.3	-1.5
DJNS	Zahran al Janu	5.66 289	P		Pn	00 04 31.9	+0.3
KAMS	Al Khamasin	6.17 316	P		Pn	00 04 38.0	-0.8
TATS	Tathlith	6.50 305	P		Pn	00 04 43.4	-0.1
TATS			S		Sn	00 05 54.5	-4.0
BLJS	Baljurashi	8.21 300	P		P	00 05 06.1	-1.2
HASS	Wahat al Ahsa'	9.25 3	P		P	00 05 23.8	+2.0
LTHS	Al Lith	9.38 299	P		P	00 05 22.3	-1.3

PRU ***11*** *00:04:15.7, 51.43N×16.21E*
CSEM ***11*** *00:04:15.0±0.5, 51.46N×16.23E, h1km±2km, ML2.8/6, Error ellipse: s-maj=8.6km s-min=3.8km az=13.0*
NEIC ***11*** *00:04:19.0±1.4, 51.26N×16.01E, h5km, ML2.7(VIE), Error ellipse: s-maj=16.4km s-min=7.2km az=28.0*

WAR 11 00:04:16.2, 51.45N×16.17E, h1km, ML2.2, 1C, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.61 173	*e*PG		Pg	00 04 27.0	-1.4
KSP			*e*SG		Sg	00 04 35.0	-1.6
UPC	Upice	0.95 186	*e*PG		Pg	00 04 33.4	-1.8
DPC	Dobruska-Polom	1.10 175	*e*PG		Pg	00 04 36.1	-2.2
DPC			*e*SG		Sg	00 04 50.5	-2.5
	13nm,0.5s						
PVCC	Panska Ves	1.37 228	*e*PG		Pg	00 04 41.7	-1.9
BRG	Berggiesshubel	1.52 249	Pg		Pg	00 04 44.1	-2.4
PRU	Pruhonice	1.79 216	*e*PG		Pg	00 04 48.4	-3.6
PRU			*e*SG		Sg	00 05 12.1	-3.8
	10nm,0.3s						
MORC	Moravsky Berou	1.89 152	*e*SG		Sg	00 05 13.6	-5.5
CLL	Collm	1.99 267	*e*PG		Pg	00 04 52.0	-4.0
CLL			*e*SG		Sg	00 05 17.0	-5.5
OKC	Ostrava-Krasne	2.05 141	*e*PG		Pg	00 04 53.0	-4.1
OKC			*e*SG		Sg	00 05 19.9	-4.4
	7.2nm,0.6s						
NKC	Novy Kostel	2.66 244	*e*PN		Pn	00 05 00.0	-0.9
NKC			*e*PG		Pg	00 05 05.4	-3.8
NKC			*e*SG		Sg	00 05 40.8	-3.8
	7.0nm,0.2s						
KHC	Kasperske Hory	2.86 217	*e*PN		Pn	00 05 02.7	-1.0
KHC			*e*PG		Pg	00 05 08.1	-5.1
KHC			*e*SN		Sn	00 05 36.3	-3.0
KHC			*e*SG		Sg	00 05 45.5	-5.8
	2.7nm,0.4s						
MOA	Molln	3.81 200	⇑*i*PN		Pn	00 05 15.4	-1.9
MOA			*i* SG		Sg	00 06 19.1	-4.0
	1.9nm,0.3s						

IDC ***11*** *00:20:33.5±1.5, 23.00S×169.95E, mb4.0/4, mb1 4.1/5, mb1mx4.0/13, mbtmp4.1/5, ML3.7/1, MS3.3/3, Ms1 3.3/3, ms1mx3.0/17, Error ellipse: s-maj=49.2km s-min=26.5km az=7.0*
NEIC ***11*** *00:20:34.8±0.5, 23.04S×169.97E, h10km, mb4.7/5, Error ellipse: s-maj=20.9km s-min=10.2km az=15.0*

ISC 11 00:20:36.1±1.1, 23.1S±0.2×170.0E±0.1, h33km, n42, σ0§94/16, mb4.3/8, MS3.2/1, 3C-3D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.42 288		*e*P	P	00 21 28.0	-0.3
DZM				*e*S	S	00 22 07.6	-0.6
DZM	Mont Dzumac	3.42 288		Pn	Pn	00 21 28.1	-0.4
	8.0nm,0.3s,baz=106,slow=17,SNR=172						
DZM				LR	LR	00 22 03.7	
	comp=Z,290nm,19.5s,baz=26,slow=27						
DZM				Sn	Sn	00 22 08.6	+0.4
	15nm,0.3s,baz=141,slow=22,SNR=7.3						
RAO	Raoul Island	12.47 122		Pn	P	00 23 33.2	-0.8
	58nm,0.3s,baz=301,slow=19,SNR=3.1						
AFI	Afiamalu	19.59 65		LR	LR	00 30 58.1	
	comp=Z,94nm,18.3s,baz=210,slow=32						
CTA	Charters Tower	22.24 273		P	P	00 25 33.2	+1.7
	2.7nm,0.8s,mb3.7,baz=95,slow=11,SNR=5.6						
CTA	Charters Tower	22.24 273		P	P	00 25 33.2	+1.7
CTAO	Charters Tower	22.24 273		*e*P	P	00 25 33.2	+1.7
	4.7nm,0.9s,mb3.9						
STKA	Stephens Creek	26.56 245		P	P	00 26 13.9	+1.0
	3.3nm,0.8s,mb3.9,baz=89,slow=12,SNR=4.5						
STKA				LR	LR	00 35 54.3	
	comp=Z,66nm,18.2s,MS3.2,baz=269,slow=35						
STKA	Stephens Creek	26.56 245		P	P	00 26 13.9	+1.0
STKA				LR	LR	00 35 54.3	
WRAB	Tennant Creek	33.22 269		*e*P	P	00 27 10.9	-1.4
	9.2nm,1.3s,mb4.5						
WRA	Warramunga Arr	33.23 269		P	P	00 27 11.2	-1.2
	0.6nm,0.7s,mb3.6,baz=98,slow=7.7,SNR=8.1						
MBWA	Marble Bar	46.38 262		*e*P	P	00 29 01.4	0.0
	17nm,0.9s,mb5.0						
SBA	Scott Base	54.79 181		*e*P	P	00 30 05.0	+0.5
	12nm,1.3s,mb4.8						
CASY	Casey	56.85 205		*e*P	P	00 30 15.0	-4.5
	12nm,1.5s,mb4.7						
SONM	Songino Array	90.72 323		P	P	00 33 38.1	+1.3
	1.5nm,0.9s,mb4.3,baz=126,slow=2.9,SNR=7.8						
CRVS	Cervenica-Dubn	144.24 324		*i* PKP	PKPdf	00 40 10.1	+1.7
KECS	Kecovo	145.01 324		*i* PKP	PKPdf	00 40 11.9	+2.1
OKC	Ostrava-Krasne	145.40 327		*e*PKP	PKPdf	00 40 11.3	+0.9
VYHS	Vyhne	145.89 325		*i* PKP	PKPdf	00 40 14.8	+3.5
DPC	Dobruska-Polom	145.94 329		*e*PKP	PKPdf	00 40 14.8	+3.5
UPC	Upice	145.97 330		*e*PKP	PKPdf	00 40 14.2	+2.8
PVCC	Panska Ves	146.61 331		*e*PKP	PKPdf	00 40 13.3	+0.8
BRG	Berggiesshubel	146.63 332		*e*P	PKPdf	00 40 16.2	+3.7
CLL	Collm	146.71 333		*i* PKP1	PKPbc	00 40 16.9	+2.9
PRU	Pruhonice	147.01 330		*e*PKP	PKPdf	00 40 17.2	+4.1
NKC	Novy Kostel	147.75 333		*e*PKP	PKPdf	00 40 19.5	+5.2
MOX	Moxa	147.78 334		PP2		00 40 20.0	
KHC	Kasperske Hory	148.06 330		*e*PKP	PKPdf	00 40 19.7	+4.8
GERES	GERESS Array B	148.21 330		PKPbc	PKPdf	00 40 20.5	+5.4
	2.8nm,0.9s,baz=45,slow=1.9,SNR=22						
KBA	Koelnbreinsper	149.62 328		⇑*i*P	PKPdf	00 40 23.6	+6.2
WATA	Walderalm	150.28 330		⇓*i*P	PKPdf	00 40 25.7	+7.2
WTTA	Wattenberg	150.31 329		⇑*i*P	PKPdf	00 40 26.0	+7.5
MOTA	Moosalm	150.50 330		⇓*i*P	PKPdf	00 40 25.8	+7.0
SQTA	Sankt Quirin	150.54 330		⇑*i*P	PKPdf	00 40 26.5	+7.7
GIVF	Givet	150.68 340		*e*PKP1	PKPdf	00 40 27.1	+8.1
DAVA	Damuels	151.09 331		⇓*i*P	PKPdf	00 40 27.5	+7.8
CDF	Champ du Feu	151.27 336		*e*PKP1	PKPdf	00 40 27.6	+7.7
	14nm,1.1s						
HINF	Hinteralfeld	151.92 335		*e*PKP1	PKPdf	00 40 29.1	+8.2
	7.5nm,1.0s						
HAU	Haudompre	151.96 336		*e*PKP1	PKPdf	00 40 29.3	+8.4
	8.1nm,0.7s						
MEZF	Maizieres J'vi	152.00 338		*e*PKP1	PKPdf	00 40 29.8	+8.8
	20nm,1.0s						
LOR	Lormes	153.47 339		*e*PKP1	PKPdf	00 40 32.6	+10
SSF	Saint Saulge	153.76 339		*e*PKP1	PKPdf	00 40 33.4	+10

NEIC ***11*** *00:33:17.2, 19.24N×66.12W, h30km, MD3.6(RSPR), After RSPR.*

RSPR 11 00:33:17.2, 19.24N×66.12W, h30km±19km, MD3.6/9, MD3.6/9, 6C-3D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOPR	Arecibo Observ	1.07 214	⇓*e*P		Pn	00 33 34.1	-2.1
AOPR			*e*S		Sn	00 33 47.8	-2.4
HUMP	Col San Antoni	1.12 167	⇑*e*P		Pn	00 33 35.0	-1.9
HUMP			*e*S		Sn	00 33 49.1	-2.2
LRS	Lares	1.16 216	⇑*e*P		Pn	00 33 35.5	-2.1
MTP	Monte Pirata	1.25 155	⇑*e*P		Pn	00 33 36.6	-2.3
MTP			*e*S		Sn	00 33 52.4	-2.5
ICM	Isla Caja Muer	1.39 196	⇑*e*P		Pn	00 33 40.5	-0.4
ICM			*e*S		Sn	00 33 55.7	-2.5
LSP	Las Mesas	1.40 221	⇓*e*P		Pn	00 33 38.9	-2.0
LSP			*e*S		Sn	00 33 56.6	-1.9
MGP	Maguayo	1.53 217	⇑*e*P		Pn	00 33 41.4	-1.5
CRPR	Cabo Rojo, PR	1.54 218	⇓*e*P		Pn	00 33 41.0	-2.0
CRPR			*e*S		Sn	00 33 59.2	-3.0
CDVI	St. Croix	1.96 139	⇑*e*P		Pn	00 33 47.2	-1.7

NEIC ***11*** *00:40:02.3±0.6, 32.44S×179.70E, h308km±6km, mb4.4/12, Error ellipse: s-maj=11.5km s-min=7.7km az=111.0*
IDC ***11*** *00:40:03.5±1.4, 32.47S×179.89E, h326km±12km, mb4.0/6, mb1 4.3/10, mb1mx4.0/17, mbtmp5.0/10, Error ellipse: s-maj=22.7km s-min=15.9km az=155.0*

ISC 11 00:40:02.0±0.5, 32.44S±0.05×179.60E±0.09, h311km±6km, h328km±5.1km: pP-P, n144, σ1§48/160, mb4.2/14, 2C-6D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	3.83 35		P	P	00 41 07.6	+0.1
	134nm,0.3s,baz=63,slow=22,SNR=7.2						
RAO				S	S	00 41 57.1	-1.5
	777nm,0.3s,baz=60,slow=22,SNR=13						
RAO	Raoul Island	3.83 35		*e*Pn	P	00 41 06.8	-0.6
RAO				*e*S	S	00 41 46.0	-13
MXZ	Matakaoa Point	5.22 191		PN	P	00 41 23.7	+0.7
MXZ				SN	S	00 42 29.0	+2.3
MXZ	Matakaoa Point	5.22 191		*e*P	P	00 41 23.7	+0.6
MXZ				S	S	00 42 29.0	+2.4
MYRZ	Mayor Island	5.56 209		PN	P	00 41 32.2	+5.1
WCZ	Waipu Caves	5.58 230		PN	P	00 41 33.3	+6.0
WCZ	Waipu Caves	5.58 230		*e*P	P	00 41 33.3	+6.0
PUZ	Puketiti	5.73 191		PN	P	00 41 29.8	+0.8
PUZ				*e*SN	S	00 42 35.4	-1.9
TGRZ	Tauranga	5.95 206		PN	P	00 41 37.1	+5.5
TGRZ	Tauranga	5.95 206		P	P	00 41 37.1	+5.5
EDRZ	Edgecumbe	6.12 202		PN	P	00 41 38.9	+5.2
EDRZ	Edgecumbe	6.12 202		P	P	00 41 38.9	+5.2
MWZ	Matawai	6.12 195		PN	P	00 41 34.6	+0.9
MWZ				SN	S	00 42 46.9	+1.3
MWZ	Matawai	6.12 195		*e*P	P	00 41 34.6	+0.9
MWZ				S	S	00 42 47.0	+1.4
LIRZ	Lichensteins R	6.14 204		PN	P	00 41 39.6	+5.7
LIRZ	Lichensteins R	6.14 204		*e*P	P	00 41 39.7	+5.7
URZ	Urewera	6.16 199		P	P	00 41 34.8	+0.8
	86nm,0.3s,baz=23,slow=3.3,SNR=46						
URZ				S	S	00 42 48.4	+2.1
	131nm,0.3s,baz=79,slow=22,SNR=14						
URZ	Urewera	6.16 199		PN	P	00 41 34.3	+0.2
URZ				SN	S	00 42 47.8	+1.5
URZ	Urewera	6.16 199		P	P	00 41 34.3	+0.2
TAZ	Tarawera	6.31 203		P	P	00 41 40.8	+4.9
PATZ	Paeroa	6.53 204		PN	P	00 41 40.8	+2.3
PATZ	Paeroa	6.53 204		*e*P	P	00 41 41.0	+2.4
KNZ	Kokohu	6.75 193		PN	P	00 41 40.9	-0.4
KNZ	Kokohu	6.75 193		*e*P	P	00 41 40.9	-0.4
HATZ	Hinemaiaia	7.04 203		PN	P	00 41 48.3	+3.5
HATZ	Hinemaiaia	7.04 203		P	P	00 41 48.3	+3.5
BKZ	Black Stump Fm	7.17 200		*e*PN	P	00 41 46.5	+0.1
BKZ	Black Stump Fm	7.17 200		*e*P	P	00 41 46.5	+0.1
HIZ	Hauiti	7.19 211		PN	P	00 41 50.7	+4.1
HIZ				*e*SN	S	00 43 20.1	+11
HIZ	Hauiti	7.19 211		*e*P	P	00 41 50.7	+4.1
HIZ				S	S	00 43 20.5	+12
WTVZ	West Tongariro	7.42 205		*e*PN	P	00 41 49.7	+0.4
WTVZ				SN	S	00 43 18.1	+4.5
WTVZ	West Tongariro	7.42 205		*e*P	P	00 41 49.8	+0.5
OTVZ	Oturere	7.43 204		*e*PN	P	00 41 49.9	+0.3
TWVZ	Taurewa	7.43 206		SN	S	00 43 19.4	+5.4
NGZ	Ngauruhoe	7.47 205		*e*PN	P	00 41 50.9	+1.0
NGZ				SN	S	00 43 18.5	+3.8
NGZ	Ngauruhoe	7.47 205		*e*P	P	00 41 50.9	+1.0
NGZ				S	S	00 43 18.9	+4.2
WPVZ	Whakapapa	7.51 205		PN	P	00 41 53.6	+3.1
WPVZ	Whakapapa	7.51 205		P	P	00 41 53.6	+3.1
DRZ	Dome Shelter	7.57 204		PN	P	00 41 54.5	+3.3
DRZ				SN	S	00 43 20.5	+3.5
WNVZ	Wahianoa	7.60 204		*e*PN	P	00 41 51.8	+0.2
WNVZ	Wahianoa	7.60 204		*e*P	P	00 41 51.8	+0.2
MOVZ	Moawhango	7.62 203		*e*PN	P	00 41 51.0	-0.9
MOVZ	Moawhango	7.62 203		*e*P	P	00 41 51.0	-0.8
PKVZ	Pokaka	7.66 206		*e*PN	P	00 41 53.1	+0.8
MTVZ	Mangateitei	7.70 205		*e*PN	P	00 41 55.2	+2.4
MTVZ				SN	S	00 43 22.1	+2.3
VRZ	Vera Road	7.75 209		*e*PN	P	00 41 55.3	+2.0
VRZ	Vera Road	7.75 209		*e*P	P	00 41 55.3	+2.0
PWZ	Pawanui	7.89 195		PN	P	00 41 53.7	-1.4
PWZ	Pawanui	7.89 195		P	P	00 41 53.7	-1.4
RAEZ	Rainy Point	8.03 210		PN	P	00 42 01.8	+5.0
RAEZ	Rainy Point	8.03 210		P	P	00 42 01.8	+5.0
PKE	Pukeiti	8.14 212		PN	P	00 42 03.7	+5.6
PKE	Pukeiti	8.14 212		*e*P	P	00 42 03.7	+5.6
NEZ	North Egmont	8.15 212		*e*P	P	00 42 03.8	+5.5
TSZ	Takapari Road	8.15 200		*e*PN	P	00 41 57.3	-1.0
TSZ	Takapari Road	8.15 200		*e*P	P	00 41 57.3	-1.0
WAZ	Wanganui	8.20 206		*e*P	P	00 41 58.7	-0.2
NRZ	Ngariki Road	8.28 212		P	P	00 42 05.7	+5.9
BFZ	Birch Farm	8.66 197		PN	P	00 42 03.8	-0.7
BFZ	Birch Farm	8.66 197		*e*P	P	00 42 03.8	-0.6
MRZ	Mangatainoka R	8.82 200		*e*PN	P	00 42 04.4	-2.1
MRZ	Mangatainoka R	8.82 200		*e*P	P	00 42 04.4	-2.0
MTW	Mount Morrison	9.30 199		PN	P	00 42 11.4	-1.0
MTW	Mount Morrison	9.30 199		*e*P	P	00 42 11.4	-0.9
CAW	Cannon Point	9.38 201		PN	P	00 42 11.1	-2.3
CAW	Cannon Point	9.38 201		*e*P	P	00 42 11.1	-2.2
MRW	Makara Radio	9.61 203		*e*P	P	00 42 15.5	-0.6
MSWZ	Moikau Station	9.61 200		*e*PN	P	00 42 14.2	-1.9
MSWZ	Moikau Station	9.61 200		*e*P	P	00 42 14.2	-1.9
BHW	Baring Head	9.72 202		*e*PN	P	00 42 15.9	-1.5
TUWZ	Tuamarina	10.05 205		*e*PN	P	00 42 19.7	-1.7
TUWZ				SN	S	00 44 08.3	-3.3
NNZ	Nelson	10.08 208		PN	P	00 42 19.4	-2.4
NNZ	Nelson	10.08 208		*e*P	P	00 42 19.4	-2.4
QRZ	Quartz Range	10.11 212		*e*PN	P	00 42 20.8	-1.4
QRZ	Quartz Range	10.11 212		*e*P	P	00 42 20.8	-1.5
CMWZ	Cape Campbell	10.24 203		*e*SN	S	00 44 16.0	+0.2
THZ	Tophouse	10.73 208		*e*PN	P	00 42 28.4	-1.4
KHZ	Kahutara	11.06 204		*e*PN	P	00 42 31.6	-2.3
DSZ	Denniston Nort	11.18 212		*e*PN	P	00 42 32.8	-2.5
DSZ				SN	S	00 44 32.2	-4.3
DSZ	Denniston Nort	11.18 212		*e*P	P	00 42 32.8	-2.5
DSZ				S	S	00 44 33.0	-3.5
LTZ	Lake Taylor	11.84 207		PN	P	00 42 41.9	-1.6
LTZ				SN	S	00 44 47.1	-4.1
LTZ	Lake Taylor	11.84 207		*e*P	P	00 42 41.9	-1.6
LTZ				S	S	00 44 47.1	-4.1
MQZ	McQueen's Vall	12.51 204		*e*PN	P	00 42 48.6	-3.0
MQZ	McQueen's Vall	12.51 204		*e*P	P	00 42 48.6	-3.0
MQZ				S	S	00 44 58.6	-7.2
WVZ	Waitaha Valley	12.72 211		*e*P	P	00 42 49.7	-4.4
RPZ	Rata Peaks	13.11 208		P	P	00 42 59.1	+0.3
	22nm,0.3s,baz=48,slow=6.5,SNR=30						
RPZ				S	S	00 45 13.3	-5.8
	11nm,0.3s,baz=138,slow=23,SNR=8.9						
FOZ	Fox Glacier	13.57 212		*e*PN	P	00 43 01.2	-3.2
FOZ				SN	S	00 45 22.2	-7.0
FOZ	Fox Glacier	13.57 212		*e*P	P	00 43 01.2	-3.2
FOZ				S	S	00 45 22.2	-7.0
LBZ	Lake Benmore	14.02 209		PN	P	00 43 07.9	-1.8
LBZ				SN	S	00 45 34.9	-4.0
LBZ	Lake Benmore	14.02 209		*e*P	P	00 43 07.9	-1.7
LBZ				S	S	00 45 34.9	-4.0
ODZ	Otahua Downs	14.38 206		PN	P	00 43 13.8	-0.1
ODZ	Otahua Downs	14.38 206		*e*P	P	00 43 13.8	-0.1
JCZ	Jackson Bay	14.39 213		*e*PN	P	00 43 12.6	-1.3
JCZ	Jackson Bay	14.39 213		*e*P	P	00 43 12.6	-1.3
EAZ	Earnscleugh	15.06 209		PN	P	00 43 21.2	-0.3
EAZ	Earnscleugh	15.06 209		*e*P	P	00 43 21.2	-0.4
EAZ				S	S	00 45 56.1	-4.9
TUZ	Tuapeka	15.54 207		*e*P	P	00 43 27.8	+1.1
DZM	Mont Dzumac	15.59 308		*e*P	P	00 43 28.9	+1.4
DZM	Mont Dzumac	15.59 308		P	P	00 43 28.9	+1.4
	1.8nm,0.3s,baz=117,slow=12,SNR=26						
STKA	Stephens Creek	32.07 261		⇑*i*P	P	00 46 04.0	+1.8
	4.6nm,1.4s,mb3.8						
STKA	Stephens Creek	32.07 261		P	P	00 46 04.3	+2.0
	4.4nm,0.6s,mb4.2,baz=96,slow=12,SNR=13						
CTA	Charters Tower	32.20 284		⇓*i*P	P	00 46 04.9	+1.4
	11nm,0.5s,mb4.6						
CTA				*e*S	S	00 50 54.4	+1.5
CTA	Charters Tower	32.20 284		P	P	00 46 04.8	+1.3
	12nm,0.5s,mb4.7,baz=112,slow=10.0,SNR=26						
CTAO	Charters Tower	32.20 284		*e*P	P	00 46 04.5	+1.0
	17nm,0.6s,mb4.8						
PMG	Port Moresby	37.73 300		P	P	00 46 50.8	+0.7
	23nm,0.8s,mb4.7,baz=167,slow=5.2,SNR=4.8						
PMG	Port Moresby	37.73 300		*e*P	P	00 46 50.0	-0.1
	19nm,0.9s,mb4.5						
WB2	Warramunga Arr	42.18 276		⇑*i*P	P	00 47 26.4	0.0
WB2				*e*S	S	00 53 19.6	-3.1
WRAB	Tennant Creek	42.18 276		*e*P	P	00 47 26.3	-0.1
	27nm,0.7s,mb4.6						
WRA	Warramunga Arr	42.19 276		P	P	00 47 26.6	+0.1
	17nm,0.6s,mb4.5,baz=115,slow=7.6,SNR=189						
WRA				ScP		00 52 30.7	
	1.7nm,0.9s,baz=118,slow=4.2,SNR=8.0						
FITZ	Fitzroy Crossi	50.35 273		⇓*i*P	P	00 48 30.1	+0.2
	6.1nm,0.6s,mb4.1						
CASY	Casey	52.38 208		*e*P	P	00 48 43.2	-1.0
	2.7nm,0.5s,mb3.8						
MBWA	Marble Bar	54.00 266		*e*P	P	00 48 55.7	-0.9
	3.1nm,0.6s,mb3.8						
QSPA	South Pole Qui	57.68 180		⇓*i*P	P	00 49 23.6	+1.9
	9.1nm,0.8s,mb4.3						
PMSA	Palmer Station	71.25 156		P	P	00 50 51.8	+3.0
	12nm,1.4s,mb4.3						
SNAA	Sanae	76.17 179		*e*	P	00 51 19.0	+2.0
SNAA	Sanae	76.17 179		*e*	P	00 51 23.0	+6.0
SNAA	Sanae	76.17 179		P	P	00 51 17.2	+0.2
SNAA				*e*		00 51 19.0	
SNAA				*e*		00 51 23.0	
SNAA				*e*	pP	00 52 31.0	+2.1
SNAA				*e*		00 52 35.1	
SNAA				*e*		00 53 10.5	
VNA3	Neumayer Olymp	76.40 177		*e*	P	00 51 20.9	+2.6
VNA3	Neumayer Olymp	76.40 177		*e*	P	00 51 25.2	+6.9
VNA3	Neumayer Olymp	76.40 177		⇓*i*P	P	00 51 18.8	+0.5
VNA3				*e*		00 51 20.9	
VNA3				*e*		00 51 25.2	
VNA3				*e*	pP	00 52 32.4	+2.2
VNA3				*e*	pP	00 52 35.6	+5.4
VNA3				*e*		00 52 48.1	
VNA3				*e*		00 53 13.9	
VNA3				*e*		00 53 18.3	
VNA2	Neumayer--Watz	76.81 178		*e*	P	00 51 23.2	+2.6
VNA2	Neumayer--Watz	76.81 178		*e*	P	00 51 27.3	+6.7
VNA2	Neumayer--Watz	76.81 178		⇓*i*P	P	00 51 21.3	+0.7
VNA2				*e*		00 51 23.2	
VNA2				*e*		00 51 27.3	
VNA2				*e*	pP	00 52 34.9	+2.3
VNA2				*e*	pP	00 52 38.3	+5.7
VNA2				*e*		00 52 50.2	
VNA2				*e*		00 53 15.1	
VNA2				*e*		00 53 19.1	
VNA1	Neumayer--Stat	77.05 177		*e*	P	00 51 23.9	+2.0
VNA1	Neumayer--Stat	77.05 177		*e*	P	00 51 28.8	+6.9
VNA1	Neumayer--Stat	77.05 177		⇓*i*P	P	00 51 22.2	+0.3
VNA1				*e*		00 51 23.9	
VNA1				*e*		00 51 28.8	
VNA1				*e*	pP	00 52 39.2	+5.3
VNA1				*e*		00 52 42.2	
VNA1				*e*		00 52 52.9	
VNA1				*e*		00 53 14.8	
VNA1				*e*		00 53 19.2	
MJAR	Matsushiro Arr	78.79 327		P	P	00 51 30.1	-1.8
	0.5nm,0.3s,mb3.7,baz=169,slow=5.1,SNR=4.7						
CMB	Columbia Colle	89.64 43		*e*P	P	00 52 26.0	+0.1
	3.8nm,0.8s,mb4.3			

TUZ	**Tuapeka**	**6.54**	**48**	PN	**Pn**	**01 19 08.4**	**+0.3**
TUZ				SN	**Sn**	**01 20 21.1**	**-1.5**
TUZ	**Tuapeka**	**6.54**	**48**	*e*P	**Pn**	**01 19 08.4**	**+0.4**
TUZ				S	**Sn**	**01 20 21.1**	**-1.5**
MSZ	**Milford Sound**	**6.87**	**33**	PN	**Pn**	**01 19 13.9**	**+1.3**
MSZ	**Milford Sound**	**6.87**	**33**	*e*P	**Pn**	**01 19 13.9**	**+1.3**
EAZ	**Earnscleugh**	**6.95**	**43**	PN	**Pn**	**01 19 13.6**	**-0.1**
EAZ	**Earnscleugh**	**6.95**	**43**	*e*P	**Pn**	**01 19 13.6**	**-0.1**
WKZ	**Wanaka**	**7.15**	**39**	PN	**Pn**	**01 19 17.5**	**+0.9**
WKZ				SN	**Sn**	**01 20 37.3**	**-0.5**
WKZ	**Wanaka**	**7.15**	**39**	*e*P	**Pn**	**01 19 17.5**	**+0.9**
WKZ				S	**Sn**	**01 20 37.3**	**-0.5**
ODZ	**Otahua Downs**	**7.70**	**47**	PN	**Pn**	**01 19 23.5**	**-0.6**
ODZ				SN	**Sn**	**01 20 49.8**	**-1.7**
ODZ	**Otahua Downs**	**7.70**	**47**	*e*P	**Pn**	**01 19 23.5**	**-0.7**
ODZ				*e*S	**Sn**	**01 20 49.8**	**-1.6**
RPZ	**Rata Peaks**	**8.91**	**43**	Pn	**P**	**01 19 38.7**	**-2.3**
0.7nm,0.3s,baz=162,slow=20,SNR=5.4							
RPZ				Sn	**Sn**	**01 21 19.2**	**-2.4**
3.3nm,0.3s,baz=221,slow=23,SNR=8.4							
RPZ				LR	LR	01 22 36.2	
comp=Z,3μm,18.6s,baz=204,slow=34							
TAU	**Tasmania Unive**	**12.98**	**300**	*e*P	**P**	**01 20 33.0**	**-3.2**
179nm,0.6s							
TAU				*e*S	**S**	**01 22 43.4**	**-17**
URZ	**Urewera**	**16.02**	**45**	Pn	**P**	**01 21 18.6**	**+2.8**
1.6nm,0.3s,baz=244,slow=6.1,SNR=4.8							
URZ				LR	LR	01 28 07.7	
comp=Z,5μm,18.6s,baz=231,slow=39							
TOO	**Toolangi**	**17.84**	**310**	⇑*i*P	**P**	**01 21 40.4**	**+1.6**
65nm,1.0s							
RIV	**Riverview**	**18.71**	**329**	*e*P	**P**	**01 21 54.0**	**+4.4**
DRV	**Dumont d'Urvil**	**19.80**	**207**	P	**P**	**01 22 02.0**	**+0.1**
DRV				R		01 27 00.0	
ADE	**Adelaide**	**23.33**	**303**	⇓*i*P	**P**	**01 22 39.5**	**+1.8**
STKA	**Stephens Creek**	**24.32**	**312**	⇓*i*P	**P**	**01 22 49.3**	**+2.0**
22nm,0.9s,mb4.6							
STKA	**Stephens Creek**	**24.32**	**312**	P	**P**	**01 22 49.1**	**+1.8**
22nm,0.8s,mb4.7,baz=146,slow=10,SNR=34							
STKA				LR	LR	01 31 48.5	
comp=Z,3μm,18.6s,MS4.8,baz=298,slow=35							
VNDA	**Vanda**	**27.08**	**180**	P	**P**	**01 23 12.1**	**-0.6**
42nm,1.1s,mb4.9,baz=346,slow=9.3,SNR=51							
VNDA				LR	LR	01 31 54.7	
comp=Z,2μm,18.1s,MS4.8,baz=4.6,slow=32							
VNDA	**Vanda**	**27.08**	**180**	*e*P	**P**	**01 23 11.8**	**-0.9**
59nm,1.1s,mb5.0							
SBA	**Scott Base**	**27.46**	**178**	*e*P	**P**	**01 23 16.2**	**+0.1**
90nm,1.4s,mb5.1							
SBA				*e*PcP	PcP	01 26 34.7	+0.1
DZM	**Mont Dzumac**	**28.58**	**7**	P	**P**	**01 23 28.7**	**+2.0**
22nm,1.2s,mb4.8,baz=108,slow=8.1,SNR=2.9							
DZM				LR	LR	01 32 34.1	
comp=Z,1μm,20.1s,MS4.5,baz=24,slow=32							
CASY	**Casey**	**30.38**	**219**	*e*P	**P**	**01 23 40.1**	**-2.3**
FORT	**Forrest**	**32.42**	**294**	*e*P	**P**	**01 23 59.6**	**-1.1**
35nm,1.5s,mb5.0							
CTA	**Charters Tower**	**33.05**	**331**	⇓*i*P	**P**	**01 24 06.9**	**+0.6**
12nm,1.1s,mb4.7							
CTAO	**Charters Tower**	**33.05**	**331**	*e*P	**P**	**01 24 06.8**	**+0.6**
22nm,1.1s,mb5.0							
CTAO				LR	LR		
comp=Z,2μm,20.0s,MS4.8							
NWAO	**Narrogin (SRO)**	**37.51**	**280**	P	**P**	**01 24 42.7**	**-1.5**
comp=Z,37nm,0.9s,mb5.1,baz=125,slow=6.0,SNR=14							
NWAO				LR	LR	01 36 54.9	
comp=Z,1μm,19.1s,MS4.6,baz=135,slow=31							
NWAO	**Narrogin (SRO)**	**37.51**	**280**	*e*P	**P**	**01 24 42.2**	**-1.9**
comp=Z,47nm,1.1s,mb5.1							
NWAO				*e*		01 24 55.1	
NWAO				LR	LR		
comp=Z,853nm,20.0s,MS4.5							
WB2	**Warramunga Arr**	**37.85**	**313**	⇓*i*P	**P**	**01 24 46.4**	**-0.8**
WRA	**Warramunga Arr**	**37.86**	**313**	P	**P**	**01 24 46.4**	**-0.8**
comp=Z,48nm,0.8s,mb5.3,baz=146,slow=8.0,SNR=88							
WRA				PcP	PcP	01 27 03.5	-0.3
comp=Z,4.1nm,0.7s,baz=154,slow=2.8,SNR=9.9							
WRAB	**Tennant Creek**	**37.86**	**313**	*e*P	**P**	**01 24 46.4**	**-0.8**
comp=Z,91nm,0.9s,mb5.5							
KLBR	**Kellerberrin**	**38.08**	**282**	*e*P	**P**	**01 24 47.7**	**-1.3**
comp=Z,93nm,1.0s,mb5.5							
MUN	**Mundaring**	**38.79**	**281**	*e*P	**P**	**01 24 53.7**	**-1.2**
comp=Z,33nm,1.0s,mb5.0							
QSPA	**South Pole Qui**	**39.57**	**180**	⇑*i*P	**P**	**01 25 01.5**	**+0.5**
comp=Z,90nm,0.9s,mb5.5							
HNR	**Honiara**	**41.05**	**356**	*e*P	**P**	**01 25 18.5**	**+4.8**
comp=Z,128nm,1.0s,mb5.5							
HNR				LR	LR		
comp=Z,1μm,21.0s,MS4.8							
PMG	**Port Moresby**	**42.97**	**337**	P	**P**	**01 25 31.8**	**+2.3**
comp=Z,14nm,0.7s,mb4.8,baz=180,slow=13,SNR=2.8							
PMG				LR	LR	01 40 11.3	
comp=Z,2μm,20.4s,MS4.9,baz=338,slow=32							
PMG	**Port Moresby**	**42.97**	**337**	*e*P	**P**	**01 25 30.2**	**+0.7**
comp=Z,23nm,0.9s,mb4.9							
PMG				LR	LR		
comp=Z,1μm,20.0s,MS4.9							
FITZ	**Fitzroy Crossi**	**43.75**	**304**	⇓*i*P	**P**	**01 25 35.7**	**0.0**
comp=Z,53nm,0.8s,mb5.3							
FITZ	**Fitzroy Crossi**	**43.75**	**304**	P	**P**	**01 25 35.7**	**0.0**
comp=Z,68nm,0.8s,mb5.5,baz=171,slow=8.6,SNR=68							
MBWA	**Marble Bar**	**44.57**	**295**	*e*P	**P**	**01 25 41.4**	**-1.0**
comp=Z,78nm,0.7s,mb5.7							
MBWA				LR	LR		
comp=Z,1μm,20.0s,MS4.8							
KAKA	**Kakadu**	**45.06**	**316**	⇓*i*P	**P**	**01 25 54.9**	**+8.6**
comp=Z,36nm,0.8s,mb5.2							
TBI	**Tubuai**	**45.84**	**72**	*e*S	**S**	**01 32 42.9**	**+8.8**
TBI				*e*LR	LR	01 38 17.8	
comp=Z,811nm,32.8s							
MAW	**Mawson**	**47.95**	**211**	*e*P	**P**	**01 26 07.4**	**-1.1**
comp=Z,14nm,1.0s,mb4.9							
MAW	**Mawson**	**47.95**	**211**	P	**P**	**01 26 07.4**	**-1.1**
comp=Z,15nm,0.9s,mb5.0,baz=120,slow=8.5,SNR=24							
MAW				PcP	PcP	01 27 36.1	-0.8
comp=Z,7.9nm,0.8s,baz=121,slow=7.1,SNR=8.6							
MAW				LR	LR	01 45 15.7	
comp=Z,415nm,19.9s,MS4.4,baz=109,slow=35							
PAE	**Paea**	**50.13**	**67**	*e*P	**P**	**01 26 32.2**	**+6.3**
comp=Z,41nm,1.0s,mb5.4							
PPT	**Papeete**	**50.21**	**67**	*e*P	**P**	**01 26 33.2**	**+6.7**
comp=Z,32nm,1.1s,mb5.3							
PPT	**Papeete**	**50.21**	**67**	*e*S	**S**	**01 33 44.5**	**+8.9**
PPT				*e*LR	LR	01 40 48.6	
comp=Z,750nm,28.2s							
PPT	**Papeete**	**50.21**	**67**	LR	LR	01 44 15.3	
comp=Z,334nm,18.2s,MS4.4,baz=332,slow=32							
TVO	**Taravao**	**50.23**	**67**	*e*P	**P**	**01 26 33.5**	**+6.8**
comp=Z,104nm,1.1s,mb5.8							
PMOR	**Pomariorio Ree**	**53.21**	**66**	*e*P	**P**	**01 26 55.4**	**+6.2**
SYO	**Syowa Base**	**53.64**	**202**	⇓pP	**P**	**01 26 48.4**	**-3.2**
SYO	**Syowa Base**	**53.64**	**202**	⇓pP	pP	01 26 59.0	-0.5
RKT	**Rikitea**	**55.04**	**84**	*e*S	**S**	**01 34 40.8**	**+7.4**
RKT				*e*LR	LR	01 42 36.7	
comp=Z,966nm,28.8s,baz=220							
MAIT	**Maitri**	**57.19**	**191**	*e*P	**P**	**01 27 15.5**	**-1.8**
SNAA	**Sanae**	**57.65**	**185**	*e*	**P**	**01 27 20.9**	**+0.4**
SNAA	**Sanae**	**57.65**	**185**	*e*	**P**	**01 27 23.1**	**+2.6**
SNAA	**Sanae**	**57.65**	**185**	LR	LR	01 51 30.7	
comp=Z,337nm,18.7s,MS4.5,baz=204,slow=36							
SNAA	**Sanae**	**57.65**	**185**	⇑*i*P	**P**	**01 27 18.9**	**-1.6**
SNAA				*e*		01 27 20.9	
SNAA				*e*		01 27 23.1	
SNAA				*e*		01 28 11.7	
VNA3	**Neumayer Olymp**	**58.39**	**183**	*e*	**P**	**01 27 25.7**	**0.0**
VNA3	**Neumayer Olymp**	**58.39**	**183**	*e*	**P**	**01 27 29.5**	**+3.8**
VNA3	**Neumayer Olymp**	**58.39**	**183**	*e*	PcP	01 28 14.8	-1.4
VNA3	**Neumayer Olymp**	**58.39**	**183**	⇑*i*P	**P**	**01 27 24.2**	**-1.5**
VNA3				*e*		01 27 25.7	
VNA3				*e*		01 27 29.5	
VNA3				*e*		01 28 14.8	
VNA2	**Neumayer--Watz**	**58.63**	**184**	*e*	**P**	**01 27 27.6**	**+0.3**
VNA2	**Neumayer--Watz**	**58.63**	**184**	*e*	**P**	**01 27 31.4**	**+4.1**
VNA2	**Neumayer--Watz**	**58.63**	**184**	*e*	PcP	01 28 16.1	-1.0
VNA2	**Neumayer--Watz**	**58.63**	**184**	⇑*i*P	**P**	**01 27 26.1**	**-1.2**
VNA2				*e*		01 27 27.6	
VNA2				*e*		01 27 31.4	
VNA2				*e*		01 28 16.1	
VNA1	**Neumayer--Stat**	**58.94**	**184**	*e*	**P**	**01 27 30.3**	**+0.8**
VNA1	**Neumayer--Stat**	**58.94**	**184**	*e*	**P**	**01 27 34.3**	**+4.8**
VNA1	**Neumayer--Stat**	**58.94**	**184**	*e*	PcP	01 28 17.6	-0.7
VNA1	**Neumayer--Stat**	**58.94**	**184**	⇑*i*P	**P**	**01 27 28.8**	**-0.7**
VNA1				*e*		01 27 30.3	
VNA1				*e*		01 27 34.3	
VNA1				*e*		01 28 17.6	
TAOE	**Nuku Hiva Isla**	**62.66**	**69**	*e*SS	SS	01 40 41.3	+14
TAOE				*e*LR	LR	01 46 23.4	
comp=Z,1μm,23.8s							
GUMO	**Guam**	**65.73**	**341**	PFAKE		01 28 30.0	+14
GUMO				LR	LR		
comp=Z,141nm,19.0s,MS4.2							
PLCA	**Paso Flores**	**77.87**	**142**	P	**P**	**01 29 28.8**	**+1.4**
comp=Z,9.9nm,1.1s,mb4.7,baz=201,slow=7.5,SNR=13							
PLCA				LR	LR	01 56 56.3	
comp=Z,408nm,18.8s,MS4.8,baz=208,slow=30							
PLCA	**Paso Flores**	**77.87**	**142**	*e*P	**P**	**01 29 28.8**	**+1.4**
comp=Z,27nm,1.4s,mb5.0							
MJAR	**Matsushiro Arr**	**89.35**	**341**	P	**P**	**01 30 27.9**	**+2.0**
comp=Z,2.3nm,0.6s,mb4.7,baz=178,slow=6.2,SNR=7.8							
MJAR	**Matsushiro Arr**	**89.35**	**341**	P	**P**	**01 30 27.9**	**+2.0**
MAJO	**Matsushiro**	**89.36**	**341**	P	**P**	**01 30 29.0**	**+3.1**
comp=Z,44nm,1.4s,mb5.6							
MAJO				LR	LR		
comp=Z,197nm,19.0s,MS4.5							
MAT	**Matsushiro**	**89.36**	**341**	P	**P**	**01 30 32.0**	**+6.1**
MAT				*e*S	S	01 41 22.0	+10
MAT	**Matsushiro**	**89.36**	**341**	*e*P	**P**	**01 30 32.0**	**+6.1**
comp=Z,30nm,1.4s,mb5.4							
MAT				S	S	01 41 30.0	+18
NJ2	**Nanjing**	**90.89**	**324**	*e*P	**P**	**01 30 35.1**	**+1.9**
NJ2				AP	pP	01 30 43.1	+1.6
NJ2				XP	sP	01 30 46.3	+2.1
NJ2				PP	PP	01 34 13.3	+1.6
NJ2				SKS	SKS	01 41 03.0	-6.3
NJ2				S	S	01 41 28.0	+2.1
NJ2				XS		01 41 41.0	
NJ2				AMB	AMB		
comp=Z,10.0nm,0.6s,mb5.3							
NJ2				AMB	AMB		
comp=Z,210nm,5.8s							
NJ2				LR	LR		
comp=N,980nm,23.5s,MS5.3							
NJ2				LR	LR		
comp=E,650nm,20.6s,MS5.3							
NJ2				LR	LR		
comp=Z,710nm,26.3s							
KMI	**Kunming**	**92.01**	**308**	P	**P**	**01 30 37.8**	**-0.7**
KMI				AP	pP	01 30 49.3	+2.5
KMI				XP	sP	01 30 55.0	+5.5
KMI				S	S	01 41 33.1	-2.9
KMI				AMB	AMB		
comp=Z,11nm,0.6s,mb5.4							
KMI				AMB	AMB		
comp=Z,126nm,5.9s							
KMI				LR	LR		
comp=N,180nm,24.8s,MS4.6							
KMI				LR	LR		
comp=E,171nm,21.1s,MS4.6							
KMI				LR	LR		
comp=Z,213nm,32.0s							
ENH	**Enshi**	**93.17**	**316**	P	**P**	**01 30 43.2**	**-0.5**
comp=Z,24nm,1.3s,mb5.5							
ENH				LR	LR		
comp=Z,265nm,19.0s,MS4.7							
LVC	**Limon Verde**	**94.14**	**133**	P	**P**	**01 30 51.3**	**+3.0**
comp=Z,2.7nm,0.9s,mb4.7,baz=225,slow=8.6,SNR=4.2							
CPUP	**Villa Florida**	**95.69**	**145**	P	**P**	**01 30 56.6**	**+1.3**
comp=Z,6.1nm,0.8s,mb5.1,baz=230,slow=6.5,SNR=12							
CPUP				LR	LR	02 07 56.1	
comp=Z,505nm,19.6s,MS5.0,baz=226,slow=32							
CPUP	**Villa Florida**	**95.69**	**145**	*e*P	**P**	**01 30 56.4**	**+1.0**
comp=Z,13nm,1.0s,mb5.3							
MDJ	**Mudanjiang**	**99.04**	**337**	P	**P**	**01 31 17.8**	**+7.8**
MDJ				XP	sP	01 31 20.6	-0.4
MDJ				PP	PP	01 35 15.4	+0.9
MDJ				S	S	01 42 43.5	+8.1
MDJ				XS		01 42 50.5	
MDJ				SS	SS	01 49 36.5	+9.1
MDJ				LR	LR		
comp=N,133nm,21.2s							
MDJ				LR	LR		
comp=E,203nm,13.9s							
MDJ				LR	LR		
comp=Z,278nm,15.6s							
CN2	**Changchun**	**99.39**	**334**	*e*P	**P**	**01 31 16.0**	**+4.4**
CN2				*e*S	S	01 42 44.0	+5.6
CN2				LR	LR		
comp=N,200nm,19.0s,MS4.9							
CN2				LR	LR		
comp=E,320nm,19.0s,MS4.9							
CN2				LR	LR		
comp=Z,370nm,19.0s,MS4.9							
LPAZ	**La Paz**	**99.95**	**131**	P	**P**	**01 31 17.4**	**+2.6**
comp=Z,2.2nm,1.0s,mb4.5,baz=174,slow=4.1,SNR=7.1							
LPAZ				PKKPbc		01 47 29.8	
comp=Z,0.5nm,0.5s,baz=36,slow=8.7,SNR=5.5							
LPAZ	**La Paz**	**99.95**	**131**	*e*Pdif	**P**	**01 31 17.1**	**+2.3**
comp=Z,8.0nm,1.7s,mb4.9							
LZH	**Lanzhou**	**100.59**	**315**	*e*P	P	01 31 21.1	+3.7
LZH				AP		01 31 28.3	
LZH				XP		01 31 32.4	
LZH				PP	PP	01 35 31.0	+3.8
LZH				AMB	AMB		
comp=Z,13nm,1.0s							
LZH				AMB	AMB		
comp=Z,60nm,4.1s							
LZH				LR	LR		
comp=E,310nm,18.7s							
LZH				LR	LR		
comp=Z,479nm,20.0s,MS5.0							
HHC	**Hu-ho-hao-te**	**101.40**	**323**	*e*P	P	01 31 23.6	+2.8
HHC				XP		01 31 36.9	
HHC				PP	PP	01 35 39.5	+6.4
HHC				SKS	SKS	01 41 55.9	-8.9
HHC				S	S	01 42 57.4	+2.1
HHC				PS	PS	01 44 41.2	+6.9
HHC				SS	SS	01 50 04.3	+3.7
HHC				AMB	AMB		
comp=Z,13nm,0.6s							
HHC				AMB	AMB		
comp=Z,80nm,5.1s							
HHC				LR	LR		
comp=N,163nm,12.5s,MS4.9							
HHC				LR	LR		
comp=E,212nm,17.2s,MS4.9							
HHC				LR	LR		
comp=Z,214nm,14.3s,MS4.8							
LSA	**Lhasa**	**101.74**	**303**	PFAKE		01 31 30.0	+7.4
LSA				LR	LR		
comp=Z,152nm,19.0s,MS4.5							
HIA	**Hailar**	**106.00**	**332**	PFAKE		01 36 10.0	
HIA				LR	LR		
comp=Z,214nm,19.0s,MS4.7							
SONM	**Songino Array**	**109.28**	**324**	PKKPbc		01 47 06.2	
comp=Z,0.4nm,0.5s,baz=270,slow=2.9,SNR=4.3							
TPH	**Tonopah**	**112.74**	**57**	PFAKE		01 36 20.0	+11
TPH				LR	LR		
comp=Z,170nm,21.0s,MS4.6							
TXAR	**Lajitas Array**	**114.28**	**73**	PKP	PKPdf	01 36 10.6	-2.0
comp=Z,0.4nm,0.8s,baz=180,slow=5.4,SNR=5.3							
TXAR				PKKPbc		01 46 49.5	
comp=Z,0.4nm,0.8s,baz=315,slow=1.3,SNR=3.8							
TXAR	**Lajitas Array**	**114.28**	**73**	PKP	PKPdf	01 36 10.6	-2.0
TXAR				PKKPbc		01 46 49.5	
WMQ	**Urumqi**	**114.29**	**310**	*e*PDIF	Pdif	01 32 19.0	+1.5
WMQ				PP	PP	01 37 10.0	+1.7
WMQ				SKS	SKS	01 43 17.0	+17
WMQ				S		01 44 43.0	
WMQ				PS	PS	01 46 42.0	+0.8
WMQ				SS	SS	01 52 55.0	+0.3
WMQ				LR	LR		
comp=N,154nm,24.0s,MS4.8							
WMQ				LR	LR		
comp=E,210nm,24.0s,MS4.8							
WMQ				LR	LR		
comp=Z,143nm,22.0s,MS4.5							
MNTX	**Cornudas Mount**	**114.92**	**70**	*e*PKPdf	PKPdf	01 36 11.6	-2.2
MSU	**Marysvale**	**115.81**	**60**	*e*PKPdf	PKPdf	01 36 14.8	-0.6
ANMO	**Albuquerque**	**116.57**	**67**	PKP	PKPdf	01 36 15.3	-1.6
comp=Z,0.5nm,0.5s,baz=232,slow=6.8,SNR=3.7							
ANMO	**Albuquerque**	**116.57**	**67**	*e*PKPdf	PKPdf	01 36 15.3	-1.6
PMR	**Palmer**	**118.23**	**24**	PFAKE		01 36 30.0	+11
PMR				LR	LR		
comp=Z,175nm,21.0s,MS4.7							
BILL	**Bilibino**	**118.29**	**2**	PFAKE		01 36 30.0	+11
BILL				LR	LR		
comp=Z,318nm,22.0s,MS4.9							
HWUT	**Hardware Ranch**	**118.31**	**58**	*e*PKPdf	PKPdf	01 36 17.5	-2.6
SDCO	**Great Sand Dun**	**119.06**	**65**	*e*PKPdf	PKPdf	01 36 19.9	-1.8
SDCO				LR	LR		
comp=Z,144nm,20.0s,MS4.6							
MKAR	**Makanchi Array**	**119.08**	**309**	PKP	PKPdf	01 36 17.9	-3.7
comp=Z,1.6nm,0.9s,baz=146,slow=4.4,SNR=6.4							
NEW	**Newport**	**120.04**	**50**	PKP	PKPdf	01 36 20.9	-2.3
comp=Z,4.1nm,0.9s,baz=262,slow=6.7,SNR=5.1							
NEW	**Newport**	**120.04**	**50**	*e*PKPdf	PKPdf	01 36 20.6	-2.6
NEW				LR	LR		
comp=Z,185nm,20.0s,MS4.7							
MCK	**McKinley**	**120.08**	**23**	*e*PKPdf	PKPdf	01 36 20.0	-3.0
PDAR	**Pinedale Array**	**120.19**	**58**	PKP	PKPdf	01 36 21.4	-2.3
comp=Z,0.6nm,0.8s,baz=156,slow=2.9,SNR=6.2							
ISCO	**Idaho Springs**	**120.39**	**63**	PKPdf	PKPdf	01 36 21.9	-2.3
MSO	**Missoula**	**120.64**	**52**	*e*PKPdf	PKPdf	01 36 22.1	-2.5
WMOK	**Wichita Mounta**	**121.00**	**72**	*e*PKPdf	PKPdf	01 36 22.9	-2.7
BOZ	**Bozeman (W)**	**121.03**	**55**	*e*PKPdf	PKPdf	01 36 23.6	-1.7
CHMT	**Chamberlain Mo**	**121.04**	**53**	*e*PKPdf	PKPdf	01 36 22.7	-2.6
ILAR	**Eielson Array**	**121.44**	**23**	PKP	PKPdf	01 36 22.2	-3.5
comp=Z,3.8nm,0.8s,baz=285,slow=3.6,SNR=24							
HRY	**Holter Researc**	**121.63**	**54**	*e*PKPdf	PKPdf	01 36 24.9	-1.6
DLBC	**Dease Lake**	**121.70**	**35**	PKP	PKPdf	01 36 24.1	-2.3
comp=Z,3.7nm,0.8s,baz=242,slow=7.2,SNR=11							
WALA	**Waterton Lakes**	**122.14**	**51**	*e*PKPdf	PKPdf	01 36 23.4	-4.0
RSSD	**Black Hills**	**124.11**	**60**	*e*PKPdf	PKPdf	01 36 28.5	-2.9
LAO	**LASA Array**	**124.55**	**57**	*e*PKPdf	PKPdf	01 36 30.1	-1.9
KSU1	**Kansas State U**	**125.19**	**69**	*e*PKPdf	PKPdf	01 36 30.9	-2.5
OXF	**Oxford**	**126.63**	**78**	*e*PKPdf	PKPdf	01 36 32.6	-3.7
INK	**Inuvik**	**127.61**	**25**	PKP	PKPdf	01 36 35.1	-2.2
comp=Z,8.8nm,0.9s,baz=184,slow=3.2,SNR=14							
INK	**Inuvik**	**127.61**	**25**	*e*PKPdf	PKPdf	01 36 34.3	-3.0
CCM	**Cathedral Cave**	**127.77**	**74**	*e*PKPdf	PKPdf	01 36 34.8	-3.7
PLAL	**Pickwick Lake**	**127.77**	**79**	*e*PKPdf	PKPdf	01 36 34.8	-3.7
FVM	**French Village**	**128.22**	**74**	*e*PKPdf	PKPdf	01 36 35.8	-3.5
WVT	**Waverly**	**128.66**	**78**	*e*PKPdf	PKPdf	01 36 36.2	-4.0
BVAR	**Borovoye Array**	**128.97**	**309**	PKP	PKPdf	01 36 37.4	-2.9
comp=Z,0.5nm,0.5s,baz=207,slow=3.3,SNR=4.0							
CPCT	**Cooper Cave**	**130.30**	**81**	*e*PKPdf	PKPdf	01 36 40.1	-3.2
MYNC	**Murphy**	**130.31**	**81**	*e*PKPdf	PKPdf	01 36 40.4	-3.0
MYNC				*e*		01 36 45.3	
WCI	**Wyandotte Cave**	**130.93**	**77**	*e*PKPdf	PKPdf	01 36 41.2	-3.3
TZTN	**Tazewell**	**131.60**	**80**	*e*PKPdf	PKPdf	01 36 42.1	-3.7
JSC	**Jenkinsville**	**131.61**	**84**	*e*PKPdf	PKPdf	01 36 42.9	-3.0
ULM	**Lac du Bonnet**	**132.21**	**58**	PKP	PKPdf	01 36 43.4	-3.2
comp=Z,3.9nm,0.8s,baz=342,slow=2.1,SNR=6.8							
ULM	**Lac du Bonnet**	**132.21**	**58**	PKP	PKPdf	01 36 43.4	-3.2
ELN	**Prospectdale**	**133.78**	**81**	*e*PKPdf	PKPdf	01 36 46.7	-3.1
FWV	**Forest Hill**	**133.96**	**81**	*e*PKPdf	PKPdf	01 36 46.3	-3.9
BLA	**Blacksburg**	**133.98**	**82**	*e*PKPdf	PKPdf	01 36 47.6	-2.6
ACSO	**Alum Creek Sta**	**134.18**	**77**	*e*PKPdf	PKPdf	01 36 47.5	-3.0
DBIC	**Dimbokro**	**135.04**	**198**	PKhKP		01 36 34.0	
comp=Z,2.4nm,0.7s,baz=162,slow=6.4,SNR=4.5							
DBIC				PKP	PKPdf	01 36 49.3	-3.5
comp=Z,12nm,0.8s,baz=134,slow=2.0,SNR=14							
DBIC	**Dimbokro**	**135.04**	**198**	PKP		01 36 34.0	
DBIC				*e*PKPdf	PKPdf	01 36 48.9	-3.9
SADO	**Sadowa**	**139.05**	**73**	PKhKP		01 36 51.8	
comp=Z,3.5nm,0.8s,baz=254,slow=4.4,SNR=3.2							
MALT	**Malatya**	**139.26**	**275**	*e*PKPdf	PKPdf	01 36 56.8	-3.1
CSS	**Prodhromos**	**140.47**	**267**	*e*PKPdf	PKPdf	01 36 59.1	-3.1
BRTR	**Keskin Array B**	**143.12**	**273**	PKhKP		01 36 59.9	
comp=Z,2.0nm,0.8s,baz=135,slow=3.5,SNR=8.5							
BRTR				PKP	PKPdf	01 37 02.4	-4.1
comp=Z,2.0nm,0.8s,baz=130,slow=5.3,SNR=9.0							
OBN	**Obninsk**	**147.79**	**299**	*e*PKPbc	PKPdf	01 37 14.6	+0.7
HARR	**Harsova**	**149.30**	**277**	⇓P	PKPdf	01 37 17.3	+0.6
HARR	**Harsova**	**149.30**	**277**	⇓P	PKPdf	01 37 17.3	+0.6
CFR	**Carcaliu**	**149.40**	**278**	⇑P	PKPdf	01 37 15.5	-1.4
CFR	**Carcaliu**	**149.40**	**278**	⇑P	PKPdf	01 37 15.5	-1.3
SCHQ	**Schefferville**	**150.21**	**62**	PKP	PKPdf	01 37 14.4	-3.4
comp=Z,4.0nm,0.9s,baz=288,slow=2.7,SNR=4.4							
SCHQ				PKPbc	PKPdf	01 37 20.9	+3.0
comp=Z,21nm,1.1s,baz=314,slow=3.3,SNR=13							

MDRS Chennai 16.91 307 *eP* **P 01 25 32.0 +3.7**
MDRS AMb AMB 01 25 35.4
comp=Z,49nm,0.2s
NANT Nan 16.96 22 ⇓P **P 01 25 28.0 -0.8**
comp=Z,248nm,1.0s
HYB Hyderabad 20.88 314 *i* P **P 01 26 14.0 -0.3**
HYB Hyderabad 20.88 314 *eP* **P 01 26 14.0 -0.3**
IMP Imphal 21.62 360 *eP* **P 01 26 21.0 -0.8**
QIZ Qiongzhong 22.15 43 P **P 01 26 33.1 +6.0**
QIZ S **S 01 30 28.1 +3.4**
QIZ LR LR
comp=Z,1μm,11.5s,MS4.5
BLSP Bilaspur 22.24 330 *eP* **P 01 26 28.3 +0.4**
BLSP AMb AMB 01 26 33.2
comp=Z,125nm,1.3s,mb5.2
SHL Shillong 22.50 355 *eP* **P 01 26 30.0 -0.5**
comp=Z,68nm,0.8s,mb5.1
SHL *e*S **S 01 30 31.0 +0.1**
KMI Kunming 23.50 20 P **P 01 26 42.3 +2.0**
KMI AP 01 26 49.6
KMI XP 01 26 54.4
KMI PP PP 01 27 15.0 +2.5
KMI PPP PPP 01 27 27.2 +4.7
KMI AMB AMB
comp=Z,44nm,1.3s,mb4.7
KMI AMB AMB
comp=Z,235nm,3.9s
KMI LR LR
comp=N,803nm,11.1s,MS4.5
KMI LR LR
comp=E,787nm,14.8s,MS4.5
KMI LR LR
comp=Z,807nm,9.9s
BHPL Bhopal 25.75 323 *eP* **P 01 27 03.4 +1.4**
BHPL AMb AMB 01 27 05.3
comp=Z,34nm,1.5s,mb4.7
PKI Pulchoki 25.76 342 *eP* **P 01 27 02.3 +0.3**
comp=Z,51nm,1.2s,mb4.9
DMN Daman 25.89 342 *eP* **P 01 27 03.8 +0.6**
comp=Z,26nm,0.8s,mb4.8
KKN Kakani 26.01 342 *eP* **P 01 27 04.5 +0.2**
comp=Z,71nm,1.2s,mb5.1
GYA Guiyang 26.24 26⇑*iP* **P 01 27 06.5 +0.1**
GYA AP pP 01 27 14.8 +0.5
GYA XP sP 01 27 17.0 -0.8
GYA PP PP 01 27 48.7 -0.2
GYA S **S 01 31 34.9 0.0**
GYA SS SS 01 32 43.2 -0.5
GYA AMB AMB
comp=Z,20nm,1.1s,mb4.6
GYA AMB AMB
comp=Z,110nm,5.1s
GYA LR LR
comp=N,760nm,12.2s,MS4.5
GYA LR LR
comp=E,380nm,11.9s,MS4.5
GYA LR LR
comp=Z,930nm,13.8s,MS4.5
GKN Gorkha 26.41 341 *eP* **P 01 27 08.4 +0.4**
comp=Z,90nm,1.0s,mb5.2
KOLN Koldanda 26.55 339 *eP* **P 01 27 09.7 +0.4**
comp=Z,129nm,1.4s,mb5.2
LSA Lhasa 26.66 354 *eP* **P 01 27 12.7 +2.4**
LSA AMB AMB
comp=Z,20nm,1.4s,mb4.5
LSA Lhasa 26.66 354 *eP* **P 01 27 11.5 +1.2**
comp=Z,57nm,0.8s,mb5.2
LSA Lhasa 26.66 354 *eP* **P 01 27 11.5 +1.2**
LSA pmax pmax
comp=Z,57nm,0.8s,mb5.2
CD2 Chengdu 29.20 17 P **P 01 27 32.3 -1.0**
CD2 PP PP 01 28 26.5 -1.6
CD2 PPP PPP 01 28 42.1 +0.8
CD2 S **S 01 32 21.4 -1.3**
CD2 XS 01 32 37.2
CD2 AMB AMB
comp=Z,10.0nm,0.4s,mb4.9
CD2 AMB AMB
comp=Z,80nm,3.7s
CD2 LR LR
comp=E,380nm,11.9s
CD2 LR LR
comp=Z,260nm,9.8s
KALG Kalgarh 30.07 333 *ex* x 01 27 15.4
KALG AMb AMB 01 27 19.7
comp=Z,12nm,0.9s,mb4.7
KUDL Kundal 30.07 328 *eP* **P 01 27 41.2 +0.1**
KUDL AMb AMB 01 27 42.1
comp=Z,12nm,1.0s,mb4.6
NDI New Delhi 30.13 330 *eP* **P 01 27 39.0 -2.6**
KHET Khetri 30.39 327 *eP* **P 01 27 44.2 +0.3**
KHET AMb AMB 01 27 46.0
comp=Z,34nm,1.1s,mb5.0
JOSI Joshimath 30.62 335 *ex* x 01 27 14.1
ENH Enshi 30.77 27 *eP* **P 01 27 46.0 -1.2**
comp=Z,16nm,0.8s,mb4.9
QZH Quanzhou 32.13 45 *eP* **P 01 28 00.7 +1.5**
QZH S **S 01 33 09.3 +0.4**
QZH LR LR
comp=N,870nm,10.7s,MS4.8
QZH LR LR
comp=E,780nm,11.3s,MS4.8
QZH LR LR
comp=Z,1μm,16.6s
XAN Xi'an 33.81 22 P **P 01 28 12.6 -1.2**
XAN AP pP 01 28 21.7 0.0
XAN AMB AMB
comp=Z,40nm,1.0s,mb5.3
XAN LR LR
comp=N,200nm,19.4s,MS4.2
XAN LR LR
comp=E,375nm,22.1s,MS4.2
XAN LR LR
comp=Z,404nm,11.3s
LZH Lanzhou 34.11 14 *eP* **P 01 28 15.9 -0.4**
LZH AP pP 01 28 23.0 -1.2
LZH XP sP 01 28 27.0 -0.7
LZH *e*PP PP 01 29 31.0 +0.1
LZH AMB AMB
comp=Z,28nm,1.5s,mb5.0
LZH AMB AMB
comp=Z,118nm,4.0s
LZH LR LR
comp=E,1μm,13.7s
LZH LR LR
comp=Z,1μm,15.6s,MS4.8
MBWA Marble Bar 34.79 135 P **P 01 28 22.5 +0.2**
comp=Z,21nm,1.2s,mb4.9
GTA Gaotai 36.58 7 *eP* **P 01 28 37.3 0.0**
GTA AP pP 01 28 46.5 +1.2
GTA XP sP 01 28 51.7 +3.0
GTA PP PP 01 30 04.2 +2.2
GTA PPP PPP 01 30 23.9 +1.9
GTA PCP PcP 01 31 00.8 +0.2
GTA S **S 01 34 19.7 +2.0**
GTA XS 01 34 34.1
GTA SS SS 01 36 48.4 +3.8
GTA AMB AMB
comp=Z,14nm,1.2s,mb4.7
GTA AMB AMB
comp=Z,100nm,6.5s
GTA LR LR
comp=N,146nm,11.0s,MS4.1
GTA LR LR
comp=E,159nm,14.8s,MS4.1
GTA LR LR
comp=Z,214nm,11.4s,MS4.2
NJ2 Nanjing 37.09 36 *eP* **P 01 28 43.3 +1.6**
NJ2 AP pP 01 28 50.6 +0.9
NJ2 XP sP 01 28 54.0 +1.0
NJ2 PP PP 01 30 10.6 +1.9
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.1
NJ2 AMB AMB
comp=Z,110nm,5.6s
NJ2 LR LR
comp=N,1μm,12.4s,MS5.0
NJ2 LR LR
comp=E,1μm,12.2s,MS5.0
NJ2 LR LR
comp=Z,670nm,12.6s,MS4.6
FITZ Fitzroy Crossi 37.54 125 P **P 01 28 44.8 -0.7**
comp=Z,17nm,1.0s,mb4.7,baz=238,slow=3.6,SNR=5.8
SSE Sheshan 37.86 40 P **P 01 28 46.6 -1.5**
SSE AP pP 01 28 55.6 -0.5
SSE XP sP 01 28 59.2 -0.3
SSE S **S 01 34 36.4 -0.9**
SSE XS 01 34 51.3
SSE AMB AMB
comp=Z,44nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,67nm,4.6s
SSE LR LR
comp=N,139nm,16.8s,MS4.1
SSE LR LR
comp=E,194nm,16.8s,MS4.1
SSE LR LR
comp=Z,190nm,15.2s,MS4.0
KSH Kashi 39.86 338 *eP* **P 01 29 04.1 -0.6**
KSH *e*AP pP 01 29 11.3 -1.5
KSH *e*XP sP 01 29 15.0 -1.1
KSH LR LR
comp=N,170nm,4.5s
KSH LR LR
comp=E,210nm,5.2s
JOW Kunigami 40.40 51 P **P 01 29 10.6 +1.3**
comp=E,15nm,0.8s,mb4.8,baz=256,slow=8.3
HHC Hu-ho-hao-te 40.82 20 *eP* **P 01 29 14.0 +1.4**
HHC AP pP 01 29 21.3 +0.7
HHC XP sP 01 29 25.3 +1.4
HHC PP PP 01 30 55.7 +5.9
HHC AMB AMB
comp=Z,25nm,1.2s,mb4.7
HHC AMB AMB
comp=Z,89nm,3.6s
HHC LR LR
comp=N,262nm,14.9s,MS4.6
HHC LR LR
comp=E,653nm,17.8s,MS4.6
HHC LR LR
comp=Z,240nm,16.1s,MS4.2
WMQ Urumqi 41.00 353 P **P 01 29 15.0 +0.9**
WMQ AP pP 01 29 25.0 +2.9
WMQ XP sP 01 29 29.0 +3.6
WMQ PP PP 01 30 53.0 +1.4
WMQ AMB AMB
comp=Z,15nm,1.0s,mb4.6
WMQ AMB AMB
comp=Z,14nm,8.0s
WMQ LR LR
comp=N,62nm,18.0s,MS3.8
WMQ LR LR
comp=E,101nm,18.0s,MS3.8
WMQ LR LR
comp=Z,93nm,18.0s,MS3.7
NWAO Narrogin (SRO) 41.95 150 P **P 01 29 21.4 -0.7**
ULHL Ulahol 42.17 340 P **P 01 29 24.9 +1.2**
SNR=12
AML Almayashu 42.99 338 P **P 01 29 32.0 +1.6**
SNR=11
TKM2 Tokmak 2 42.99 340 P **P 01 29 30.7 +0.3**
SNR=14
AAK Ala-Archa 43.12 339 *eP* **P 01 29 31.2 -0.3**
comp=Z,20nm,1.0s,mb4.8
AAK Ala-Archa 43.12 339 *eP* **P 01 29 31.4 -0.1**
AAK pmax pmax
comp=Z,27nm,1.8s,mb4.7
FRU Bishkek 43.26 339 *eP* **P 01 29 32.8 +0.3**
EKS2 Erkin-Say 43.41 338 P **P 01 29 34.8 +1.0**
SNR=13
USP Ospenovka 43.67 339 P **P 01 29 36.4 +0.5**
SNR=26
MK02 Makanchi Array 44.75 349 P **P 01 29 45.2 +0.6**
MK02 pmax pmax
comp=Z,31nm,1.0s,mb5.1
MKAR Makanchi Array 44.77 349 P **P 01 29 45.3 +0.5**
comp=Z,22nm,0.8s,mb5.0,baz=166,slow=8.6,SNR=135
MKAR pP pP 01 29 53.8 +1.0
comp=Z,24nm,0.9s,baz=166,slow=8.8,SNR=18
MKAR PcP PcP 01 31 26.0 -1.1
comp=Z,3.9nm,1.1s,baz=166,slow=5.9,SNR=2.1
KKAR Karatay Array 45.07 336 *i* P **P 01 29 46.3 -0.9**
JNU Nakatsue 45.61 45 P **P 01 29 51.9 +0.2**
comp=Z,6.3nm,0.7s,mb4.6,baz=139,slow=9.3,SNR=3.5
WRA Warramunga Arr 45.66 122 P **P 01 29 52.4 +0.3**
comp=Z,20nm,0.9s,mb5.0,baz=299,slow=8.9,SNR=50
WRA PcP PcP 01 31 30.0 -0.5
comp=Z,2.3nm,1.1s,baz=312,slow=2.7,SNR=4.7
WRAB Tennant Creek 45.66 122 *eP* **P 01 29 52.5 +0.3**
comp=Z,58nm,1.1s,mb5.4
WRAB Tennant Creek 45.66 122*c iP* **P 01 29 52.2 0.0**
WB2 Warramunga Arr 45.67 122 *eP* **P 01 29 52.4 +0.2**
SONM Songino Array 45.88 12 P **P 01 29 54.0 +0.5**
comp=Z,12nm,0.9s,mb4.9,baz=191,slow=8.8,SNR=88
SONM pP pP 01 30 02.5 +0.9
comp=Z,10nm,0.8s,baz=195,slow=8.2,SNR=19
SONM LR LR 01 50 51.4
comp=Z,96nm,21.8s,MS3.7,baz=182,slow=38
ZAK Zakamensk 47.82 8⇑*iP* **P 01 30 09.3 +0.5**
ZAK *e* 01 31 35.3
ZAK pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
ZAK pmax pmax
comp=Z,2.0nm,1.1s,mb4.1
CN2 Changchun 49.19 30 *eP* **P 01 30 22.0 +2.5**
CN2 AMB AMB
comp=Z,10.0nm,1.8s,mb4.5
CN2 LR LR
comp=N,210nm,14.0s,MS4.5
CN2 LR LR
comp=E,310nm,14.0s,MS4.5
CN2 LR LR
comp=Z,370nm,21.0s
KURK Kurchatov 49.27 347 *eP* **P 01 30 20.0 0.0**
comp=Z,25nm,1.0s,mb5.2
KURK Kurchatov 49.27 347 *eP* **P 01 30 20.0 0.0**
KURK pmax pmax
comp=Z,25nm,1.0s,mb5.2
HIA Hailar 51.00 21 *eP* **P 01 30 32.7 -0.5**
comp=Z,38nm,1.1s,mb5.2
HIA *e*pP pP 01 30 41.6 +0.2
HIA Hailar 51.00 21 *eP* **P 01 30 32.7 -0.5**
HIA *e**PP pP 01 30 41.6 +0.2
HIA pmax pmax
comp=Z,37nm,1.1s
KBD Kabd 51.09 306 *eP* **P 01 30 35.0 +0.8**
KBD AMb AMB 01 30 37.6
comp=Z,125nm,1.3s,mb5.7
RDF Al-Radifah 51.12 305 *eP* **P 01 30 34.5 +0.1**
RDF AMb AMB 01 30 44.6
comp=Z,80nm,1.1s,mb5.6
UMR Umm Al-Rimmam 51.21 306 *eP* **P 01 30 35.3 +0.1**
UMR AMb AMB 01 30 36.6
comp=Z,65nm,0.8s,mb5.6
ZAL Zalesovo 51.30 353 P **P 01 30 35.1 -0.4**
comp=Z,6.2nm,0.7s,mb4.7,baz=286,slow=7.0,SNR=48
ZAL pP pP 01 30 43.5 -0.1
comp=Z,7.0nm,0.8s,baz=292,slow=7.7,SNR=9.8
NAY Al-Naaiem 51.49 305 *eP* **P 01 30 38.0 +0.8**
NAY AMb AMB 01 30 39.2
comp=Z,31nm,1.0s,mb5.2
DJNS Zahran al Janu 51.60 290 P **P 01 30 39.2 +1.0**
MIB Mutribah 51.61 306 *eP* **P 01 30 38.8 +0.6**
MIB AMb AMB 01 30 40.1
comp=Z,133nm,0.8s,mb5.9
MDJ Mudanjiang 51.88 32 P **P 01 30 40.3 +0.3**
MDJ AP pP 01 30 46.7 -1.5
MDJ AMB AMB
comp=Z,12nm,0.9s,mb4.8
MDJ LR LR
comp=N,76nm,21.7s,MS3.9
MDJ LR LR
comp=E,92nm,20.2s,MS3.9
MDJ LR LR
comp=Z,148nm,21.7s,MS4.0
MDJ Mudanjiang 51.88 32 P **P 01 30 39.5 -0.5**
TATS Tathlith 52.02 292 P **P 01 30 40.8 -0.6**
NVS Novosibirsk 52.39 352 *eP* **P 01 30 42.2 -1.5**
NVS pmax pmax
comp=N,24nm,1.1s
NVS pmax pmax
comp=E,14nm,1.1s
NVS pmax pmax
comp=Z,31nm,1.1s,mb5.2
VOSK Vostochnaya 53.09 343 *i* P **P 01 30 47.6 -1.3**
BVA0 Borovoye Array 53.53 342 *i* P **P 01 30 50.8 -1.3**
BVA0 pmax pmax
comp=Z,6.0nm,1.6s,mb4.3
BVAR Borovoye Array 53.53 342 P **P 01 30 50.9 -1.2**
comp=Z,7.5nm,0.8s,mb4.7,baz=143,slow=7.4,SNR=69
BVAR pP pP 01 30 59.1 -1.2
comp=Z,10.0nm,0.8s,baz=139,slow=8.0,SNR=16
BRVK Borovoye 53.59 342 *eP* **P 01 30 51.4 -1.2**
comp=Z,10nm,0.9s,mb4.8
BRVK *e*pP pP 01 30 59.8 -1.0
BRVK Borovoye 53.59 342 *eP* **P 01 30 51.4 -1.2**
BRVK *e**PP pP 01 30 59.8 -1.0
BRVK pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
BLJS Baljurashi 53.82 292 P **P 01 30 55.2 +0.6**
AB31 Akbulak array 54.45 333 *i* P **P 01 30 57.3 -1.6**
AB31 pmax pmax
comp=Z,19nm,1.1s,mb4.9
HILS Ha'il 55.43 301 P **P 01 31 07.3 +0.9**
KLR Kul'dur 56.10 29 *eP* **P 01 31 08.5 -2.4**
KLR pmax pmax
comp=E,20nm,1.2s
KLR pmax pmax
comp=Z,25nm,1.2s,mb5.1
KLR MLR MLR
comp=E,400nm,11.0s
KLR MLR MLR
comp=Z,500nm,11.0s,MS4.9
CTA Charters Tower 56.12 117 *eP* **P 01 31 11.1 -0.3**
comp=Z,4.5nm,1.0s,mb4.5
CTA Charters Tower 56.12 117 *eP* **P 01 31 11.1 -0.3**
CTA pmax pmax
comp=Z,5.0nm,1.0s
BOD Bodaibo 56.85 13 *eP* **P 01 31 15.7 -0.5**
BOD pmax pmax
comp=Z,15nm,1.5s,mb4.8
STKA Stephens Creek 56.91 131 *eP* **P 01 31 16.6 -0.3**
comp=Z,6.1nm,0.8s,mb4.7
STKA Stephens Creek 56.91 131 P **P 01 31 16.6 -0.4**
comp=Z,6.0nm,0.8s,mb4.7,baz=325,slow=7.0,SNR=8.5
STKA pP pP 01 31 25.1 -0.1
comp=Z,7.4nm,0.8s,baz=314,slow=8.4,SNR=6.1
KMBO Kilima Mbogo 56.94 267 P **P 01 31 17.9 +0.4**
comp=Z,5.8nm,1.0s,mb4.6,baz=60,slow=9.7,SNR=14
KMBO pP pP 01 31 26.0 +0.3
comp=Z,6.5nm,0.9s,baz=42,slow=10.0,SNR=7.7
KMBO LR LR 01 51 58.6
comp=Z,120nm,18.6s,MS4.0,baz=91,slow=32
CLNS Chul'man 58.99 19 *eP* **P 01 31 30.3 -0.8**
CLNS pmax pmax
comp=Z,16nm,1.0s,mb5.0
CLNS pmax pmax
comp=N,10.0nm,0.8s
CLNS pmax pmax
comp=E,12nm,0.8s
SVE Sverdlovsk 59.86 340 *eP* **P 01 31 35.8 -1.4**
SVE *e* 01 32 22.0
SVE pmax pmax
comp=Z,60nm,1.1s,mb5.5
TBKS Tabuk 60.13 301 P **P 01 31 40.7 +1.3**
QURS Qurayyt al Mil 60.29 305 P **P 01 31 41.7 +1.2**
ARU Arti 60.31 338 *eP* **P 01 31 38.6 -1.6**
comp=Z,33nm,1.4s,mb5.2
ARU *e*pP pP 01 31 47.3 -1.3
ARU Arti 60.31 338⇑*iP* **P 01 31 38.5 -1.7**
ARU *e* 01 33 50.2
ARU *e*PPP PPP 01 35 17.1 -4.7
ARU *e*S **S 01 39 51.3 +0.2**
ARU *e*SS SS 01 43 49.3 -0.6
ARU pmax pmax
comp=Z,17nm,1.0s,mb5.0
YSS Yuzh-Sakhalins 60.66 36 *eP* **P 01 31 42.0 -0.8**
YSS Yuzh-Sakhalins 60.66 36⇑*eP* **P 01 31 42.8 0.0**
YSS *e* 01 31 58.5
YSS pmax pmax
comp=Z,40nm,1.0s,mb5.5
KIV Kislovodsk 60.89 320 *eP* **P 01 31 43.6 -0.7**
KIV Kislovodsk 60.89 320*k iP* **P 01 31 43.7 -0.6**
KIV *i* pP 01 31 51.7 -1.0
KIV 01 32 27.0
KIV pmax pmax
comp=Z,31nm,1.7s,mb5.2
GOF Gofitskoye 61.17 321⇓*iP* **P 01 31 44.0 -2.2**
GOF pmax pmax
comp=Z,12nm,1.0s,mb5.0
BDAS Al Bad' **61.42 301** P **P 01 31 48.4 +0.2**
JMOS Jabal al Moall 61.58 302 P **P 01 31 50.0 +0.8**
MALT Malatya 61.58 312 *eP* **P 01 31 49.0 -0.2**
comp=Z,23nm,1.1s,mb5.2
MALT *e*pP pP 01 31 57.9 +0.4
MALT Malatya 61.58 312 *eP* **P 01 31 49.0 -0.2**
MALT *e**PP pP 01 31 57.9 +0.4
MALT pmax pmax
comp=Z,23nm,1.1s,mb5.2
HAQS Haql 61.71 301 P **P 01 31 51.0 +0.9**
MBAR Mbarara 63.40 268 *eP* **P 01 32 00.4 -1.2**
comp=Z,9.8nm,1.2s,mb4.8
MBAR *e*pP pP 01 32 09.1 -0.8
MBAR Mbarara 63.40 268 *eP* **P 01 32 00.4 -1.2**
MBAR *e**PP pP 01 32 09.1 -0.8
MBAR pmax pmax
comp=Z,10.0nm,1.2s,mb4.8
YAK Yakutsk 64.59 18 *eP* **P 01 32 08.3 -0.3**
ANN Anapa 64.66 319 *eP* **P 01 31 58.1 -11**
ANN *i* 01 32 03.7
ANN pmax pmax
comp=Z,42nm,1.4s,mb5.3
BR131 Keskin Array S 65.57 313 *eP* **P 01 32 13.8 -1.5**
comp=Z,4.5nm,0.8s,mb4.5
BR131 *e*pP pP 01 32 22.5 -1.2
BRTR Keskin Array B 65.57 313 P **P 01 32 14.2 -1.1**
comp=Z,4.4nm,0.8s,mb4.5,baz=134,slow=7.6,SNR=25
BRTR pP pP 01 32 22.9 -0.8
comp=Z,4.5nm,0.8s,baz=127,slow=7.5,SNR=12
ANTO Ankara 66.23 312 ⇓P **P 01 32 19.4 -0.2**
SIM Simferopol' 66.91 318 *eP* **P 01 32 22.9 -0.9**
SIM pmax pmax
comp=Z,16nm,0.9s,mb5.0
LSZ Lusaka 67.66 252 *eP* **P 01 32 28.2 -0.8**
comp=Z,16nm,1.5s,mb4.8
LSZ *e*pP pP 01 32 37.0 -0.4
LSZ Lusaka 67.66 252 *eP* **P 01 32 28.2 -0.8**
LSZ *e**PP pP 01 32 37.0 -0.4
LSZ pmax pmax
comp=Z,16nm,1.5s,mb4.8
MOS Moscow 69.17 330 *eP* **P 01 32 35.3 -2.4**
OBN Obninsk 69.43 329 *eP* **P 01 32 37.9 -1.4**
OBN Obninsk 69.43 329*oeP* **P 01 32 37.8 -1.5**
OBN *e* pP 01 32 45.7 -2.0
OBN *i* 01 32 51.7
OBN pmax pmax
comp=Z,14nm,1.0s,mb4.8
CASY Casey 70.17 173 *eP* **P 01 32 43.5 -0.1**
comp=Z,6.0nm,1.2s,mb4.4
CASY *e*pP pP 01 32 52.4 +0.4
CFR Carcaliu 71.02 317 ⇓P **P 01 32 47.8 -1.4**
CFR Carcaliu 71.02 317 ⇓P **P 01 32 47.9 -1.3**
AKASG Malin Array Be 71.91 323 P **P 01 32 52.6 -1.7**
comp=Z,3.9nm,0.8s,mb4.4,baz=90,slow=4.7,SNR=21
AKASG pP pP 01 33 01.2 -1.6
comp=Z,1.7nm,0.7s,baz=91,slow=4.8,SNR=4.1
AKASG Malin Array Be 71.91 323 P **P 01 32 52.6 -1.7**
AKASG pP pP 01 33 01.2 -1.6
LBTB Lobatse 71.92 243 P **P 01 32 54.9 0.0**
comp=Z,9.6nm,1.1s,mb4.6,baz=120,slow=9.2,SNR=4.9
LBTB pP pP 01 33 03.2 -0.1
comp=Z,5.3nm,0.8s,baz=117,slow=5.1,SNR=6.1
LBTB Lobatse 71.92 243 *eP* **P 01 32 54.3 -0.6**
comp=Z,19nm,1.2s,mb4.9
LBTB *e*pP pP 01 33 03.1 -0.2
LBTB Lobatse 71.92 243 *eP* **P 01 32 54.3 -0.6**
LBTB *e**PP pP 01 33 03.1 -0.2
LBTB pmax pmax
comp=Z,19nm,1.2s,mb4.9
TIXI Tiksi 71.96 11 *eP* **P 01 32 53.9 -0.5**
VRI Vrincioaia 72.15 317 ⇑P **P 01 32 55.8 -0.1**
VRI Vrincioaia 72.15 317 ⇑P **P 01 32 55.8 -0.1**
MLR Muntele Rosu 72.59 317 ⇓P **P 01 32 58.8 +0.2**
MLR Muntele Rosu 72.59 317 ⇓P **P 01 32 58.8 +0.3**
SEY Seymchan 73.34 24 *eP* **P 01 33 03.5 +0.9**
MAW Mawson 73.81 192 P **P 01 33 06.1 +0.8**
comp=Z,1.8nm,0.9s,mb4.0,baz=36,slow=9.5,SNR=4.1
MAW Mawson 73.81 192 *eP* **P 01 33 05.8 +0.6**
VTS Vitosha 73.90 313 ⇓P **P 01 33 06.0 -0.3**
LVV L'vov 74.87 321 *eP* **P 01 33 08.5 -3.2**
DZM Mont Dzumac 74.88 114 P **P 01 33 12.8 +0.5**
comp=Z,8.6nm,1.0s,mb4.6,baz=27,slow=4.5,SNR=3.4
DRGR 75.07 318 ⇓P **P 01 33 10.7 -2.2**
DRGR 75.07 318 ⇓P **P 01 33 10.7 -2.3**
KWP Kalwaria 75.67 321 *eP* **P 01 33 16.0 -0.2**

KWP Kalwaria 75.67 321 *eP* **P 01 33 16.0 -0.3**
KOLS Kolonicke sedl 75.80 320 *i* P **P 01 33 17.7 +0.7**
KOLS *i* pP 01 33 25.8 +0.3
KOLS *i* 01 37 45.3
CRVS Cervenica-Dubn 76.32 320 *i* P **P 01 33 21.5 +1.5**
CRVS *e* pP 01 33 29.8 +1.4
CRVS *e* 01 37 46.9
SUW Suwalki 76.38 325 *eP* **P 01 33 19.1 -1.1**
SUW Suwalki 76.38 325 *eP* **P 01 33 19.1 -1.1**
STHS Stebnicka Huta 76.56 320 *eP* **P 01 33 21.8 +0.5**
STHS *i* pP pP 01 33 30.6 +0.8
KECS Kecovo 76.87 319 *i* P **P 01 33 23.4 +0.3**
KECS *i* pP 01 33 31.5 -0.1
KECS *i* 01 37 48.7
FINES FINESS Array B 76.94 333 P **P 01 33 22.4 -0.8**
comp=Z,4.5nm,0.8s,mb4.4,baz=108,slow=6.0,SNR=12
FINES FINESS Array B 76.94 333 *i* P **P 01 33 22.7 -0.5**
FINES pmax pmax
comp=Z,5.0nm,0.8s
KAF Kangasniemi 77.05 333 *ep* **P 01 33 22.6 -1.2**
comp=Z,14nm,0.9s,mb4.9,baz=107,slow=5.2
KAF Kangasniemi 77.05 333 *eP* **P 01 33 22.6 -1.2**
KAF pmax pmax
comp=Z,14nm,0.9s,mb4.9
NIE Niedzica 77.16 320 *eP* **P 01 33 26.0 +1.4**
OJC Ojcow 77.63 321 *eP* **P 01 33 26.8 -0.4**
VYHS Vyhne 77.96 319 *i* P **P 01 33 29.0 0.0**
VYHS *i* pP 01 33 37.2 -0.3
VYHS *e* 01 37 53.1
OKC Ostrava-Krasne 78.61 320 *eP* **P 01 33 32.8 +0.2**
OKC *ep*P pP 01 33 41.6 +0.5
MORC Moravsky Berou 78.99 320 *eP* **P 01 33 34.8 0.0**
comp=Z,26nm,1.9s,mb4.8
MORC *ep*P pP 01 33 43.3 +0.1
MORC Moravsky Berou 78.99 320 *eP* **P 01 33 34.8 +0.1**
MORC *e**PP pP 01 33 43.3 +0.1
MORC pmax pmax
comp=Z,26nm,1.9s,mb4.8
ZST Bratislava 79.06 318 *i* P **P 01 33 35.4 +0.3**
ZST *ep*P pP 01 33 44.5 +0.9
ARCES ARCESS Array B 79.77 341 P **P 01 33 38.7 +0.2**
comp=Z,8.3nm,0.9s,mb4.7,baz=94,slow=4.9,SNR=14
ARCES ARCESS Array B 79.77 341 P **P 01 33 38.7 +0.2**
GOLS Golise 79.79 316 *eP* **P 01 33 39.2 +0.1**
DPC Dobruska-Polom 79.85 321 *eP* **P 01 33 40.3 +1.0**
DPC *ep*P pP 01 33 48.6 +0.7
ARSA Arzberg 80.00 317⇑*iP* **P 01 33 40.4 +0.2**
comp=Z,71nm,1.8s,mb5.3
BOJS Bojanci 80.00 316 *eP* **P 01 33 39.7 -0.5**
BOJS *e* pP 01 33 47.3 -1.5
UPC Upice 80.07 321 *eP* **P 01 33 41.3 +0.8**
UPC *ep*P pP 01 33 49.3 +0.3
PERS Pernice 80.21 317 *eP* **P 01 33 41.6 +0.3**
PERS *e* pP 01 33 50.0 +0.1
BILL Bilibino 80.59 21 *deP* **P 01 33 43.7 +0.8**
BILL pP 01 33 51.0 -0.4
BILL pmax pmax
comp=Z,15nm,1.2s,mb4.8
BILL MLR MLR
comp=Z,300nm,17.0s,MS4.7
OBKA Obir 80.59 316⇓*iP* **P 01 33 44.1 +0.8**
comp=Z,55nm,2.0s,mb5.1
SYO Syowa Base 80.79 197⇑PcP PcP 01 33 51.5 +0.5
MOA Molln 80.91 318⇑*iP* **P 01 33 45.0 0.0**
comp=Z,62nm,3.2s
PRU Pruhonice 80.94 320 *eP* **P 01 33 45.8 +0.7**
PRU *ep*P pP 01 33 54.1 +0.4
PVCC Panska Ves 80.99 321 *eP* **P 01 33 46.3 +1.0**
PVCC *ep*P pP 01 33 55.1 +1.2
AQU L'Aquila 81.06 312 *eP* **P 01 33 44.1 -1.8**
comp=Z,27nm,1.0s,mb5.1
AQU L'Aquila 81.06 312 *eP* **P 01 33 44.1 -1.8**
AQU pmax pmax
comp=Z,27nm,1.0s,mb5.1
ROBS Robic 81.28 316 *eP* **P 01 33 46.7 -0.2**
ROBS *e* pP 01 33 55.0 -0.5
GEC2 GERESS Array S 81.38 319 *eP* **P 01 33 48.1 +0.7**
comp=Z,24nm,1.2s,mb5.0
GEC2 GERESS Array S 81.38 319 *eP* **P 01 33 48.1 +0.7**
GEC2 pmax pmax
comp=Z,24nm,1.2s,mb5.0
GERES GERESS Array B 81.38 319 P **P 01 33 47.9 +0.5**
comp=Z,6.7nm,0.8s,mb4.6,baz=104,slow=5.5,SNR=71
GERES pP pP 01 33 56.5 +0.5
comp=Z,6.3nm,0.8s,baz=90,slow=5.3,SNR=17
BRG Berggiesshubel 81.42 321 *eP* **P 01 33 48.1 +0.5**
comp=Z,12nm,1.2s,mb4.7
BRG Berggiesshubel 81.42 321 *eP* **P 01 33 48.1 +0.5**
BRG pmax pmax
comp=Z,12nm,1.2s,mb4.7
KBA Koelnbreinsper 81.46 317⇓*iP* **P 01 33 47.5 -0.4**
comp=Z,11nm,1.4s,mb4.6
KBA Koelnbreinsper 81.46 317⇓*iP* **P 01 33 47.5 -0.4**
KBA pmax pmax
comp=Z,11nm,1.4s,mb4.6
KHC Kasperske Hory 81.48 319 *eP* **P 01 33 48.2 +0.2**
KHC *ep*P pP 01 33 55.6 -0.9
WET Wettzell 81.94 319 *eP* **P 01 33 50.9 +0.6**
comp=Z,21nm,1.5s,mb4.8
WET Wettzell 81.94 319 *eP* **P 01 33 50.9 +0.6**
WET pmax pmax
comp=Z,21nm,1.5s,mb4.8
CLL Collm 82.05 321 P **P 01 33 50.7 -0.1**
CLL *i* *PP pP 01 33 59.3 -0.1
CLL Collm 82.05 321 *i* P **P 01 33 50.7 -0.1**
CLL *i* pP pP 01 33 59.3 -0.1
NKC Novy Kostel 82.31 320 *eP* **P 01 33 52.9 +0.7**
NKC *ep*P pP 01 34 00.9 +0.1
HFS Hagfors 82.58 330 P **P 01 33 53.3 -0.1**
comp=Z,5.8nm,0.9s,mb4.6,baz=124,slow=5.3,SNR=9.9
WTTA Wattenberg 82.64 317⇑*iP* **P 01 33 53.8 -0.2**
comp=Z,16nm,1.1s,mb5.0
WTTA Wattenberg 82.64 317⇑*iP* **P 01 33 53.8 -0.2**
WTTA pmax pmax
comp=Z,16nm,1.1s,mb5.0
WATA Walderalm 82.68 317⇑*iP* **P 01 33 53.8 -0.4**
comp=Z,5.9nm,1.0s,mb4.6
WATA Walderalm 82.68 317⇑*iP* **P 01 33 53.8 -0.4**
WATA pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
MOX Moxa 82.87 320 *i* P **P 01 33 55.2 +0.1**
comp=Z,logA/T=1.0,mb4.8
MOX Moxa 82.87 320 *eP* **P 01 33 55.2 +0.1**
comp=Z,15nm,1.6s,mb4.8
MOX Moxa 82.87 320 *eP* **P 01 33 55.2 +0.1**
MOX pmax pmax
comp=Z,15nm,1.6s,mb4.8
SQTA Sankt Quirin 82.93 317⇑*iP* **P 01 33 55.4 -0.1**
comp=Z,6.0nm,0.9s,mb4.6
SQTA Sankt Quirin 82.93 317⇑*iP* **P 01 33 55.4 -0.1**
SQTA pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
MOTA Moosalm 83.00 317⇓*iP* **P 01 33 55.5 -0.4**
comp=Z,9.2nm,1.0s,mb4.8
MOTA Moosalm 83.00 317⇓*iP* **P 01 33 55.5 -0.4**
MOTA pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
GRA1 Grafenberg Arr 83.06 320 *eP* **P 01 33 56.8 +0.7**
comp=Z,14nm,1.1s,mb4.9
GRA1 *ep*P pP 01 34 05.4 +0.7
GRF Grafenberg Arr 83.06 320 *eP* **P 01 33 56.8 +0.7**
comp=Z,14nm,1.1s,mb4.9
GRF *ep*P pP 01 34 05.4 +0.7
GRF Grafenberg Arr 83.06 320 *eP* **P 01 33 56.8 +0.7**
GRF *e**PP pP 01 34 05.4 +0.7
GRF pmax pmax
comp=Z,14nm,1.1s,mb4.9
GRF Grafenberg Arr 83.06 320 *eP* **P 01 33 56.8 +0.7**
GRF *e**PP pP 01 34 05.4 +0.7
GRF pmax pmax
comp=Z,14nm,1.1s,mb4.9
CLZ Clausthal 83.72 322 *eP* **P 01 34 00.0 +0.5**
comp=Z,11nm,1.1s,mb4.9
CLZ Clausthal 83.72 322 *eP* **P 01 34 00.0 +0.5**
CLZ pmax pmax
comp=Z,11nm,1.1s,mb4.9
DAVA Damuels 83.83 317⇑*iP* **P 01 34 00.5 +0.3**
comp=Z,29nm,1.8s,mb5.1
NB2 NORSAR Subarra 83.89 331 P **P 01 33 59.6 -0.5**
comp=Z,5.6nm,0.9s,mb4.7,baz=93,slow=5.0
NB2 NORSAR Subarra 83.89 331 P **P 01 33 59.6 -0.5**
NB2 pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
NOA NORSAR Array B 83.89 331 P **P 01 33 59.5 -0.6**
comp=Z,4.4nm,0.9s,mb4.6,baz=94,slow=5.5,SNR=7.6
NOA pP pP 01 34 08.3 -0.4
comp=Z,3.2nm,0.9s,baz=94,slow=5.6,SNR=5.2
NOA NORSAR Array B 83.89 331 P **P 01 33 59.5 -0.6**
NOA pP pP 01 34 08.3 -0.4
KONO Kongsberg 84.59 329 *i* P **P 01 34 06.6 +2.9**
TNS Taunus Mts 84.88 320 *eP* **P 01 34 05.9 +0.6**
comp=Z,7.0nm,0.8s,mb4.8
TNS Taunus Mts 84.88 320 *eP* **P 01 34 05.9 +0.6**
TNS pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
BFO Black Forest 84.91 318 *eP* **P 01 34 05.2 -0.3**
comp=Z,8.0nm,1.1s,mb4.8
BFO Black Forest 84.91 318 *eP* **P 01 34 05.2 -0.3**
BFO pmax pmax
comp=Z,8.0nm,1.1s,mb4.8
LPG La Plagne 85.97 315 *eP* **P 01 34 11.2 +0.3**
comp=Z,19nm,1.0s,mb5.0
LPG La Plagne 85.97 315 *eP* **P 01 34 11.2 +0.3**
LPG pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
URZ Urewera 86.40 128 P **P 01 34 13.3 +0.1**
comp=Z,13nm,1.1s,mb5.1,baz=58,slow=9.5,SNR=3.4
JMIC Jan Mayen 91.24 341 LR LR 02 23 38.2
comp=Z,45nm,19.7s,MS3.9,baz=50,slow=41
ESDC Sonseca Array 94.25 310 P **P 01 34 50.9 +1.0**
comp=Z,0.1nm,0.3s,mb3.7,baz=63,slow=2.7,SNR=4.5
ESDC pP pP 01 34 59.2 +0.6
comp=Z,0.7nm,0.7s,baz=101,slow=4.4,SNR=3.6
PDAR Pinedale Array 129.66 23 PKP PKPdf 01 40 40.6 -3.0
comp=Z,1.0nm,1.0s,baz=45,slow=2.1,SNR=6.1
PDAR pPKP 01 40 49.4
comp=Z,0.7nm,0.9s,baz=333,slow=3.3,SNR=4.7
MNTX Cornudas Mount 140.82 27 *e*PKPdf PKPdf 01 41 02.3 -2.4
TXAR Lajitas Array 143.60 27 PKP PKPdf 01 41 04.6 -4.8
comp=Z,0.7nm,0.7s,baz=270,slow=2.5,SNR=11
CPUP Villa Florida 144.10 227 PKP PKPdf 01 41 05.8 -4.7
comp=Z,9.5nm,1.0s,baz=164,slow=5.0,SNR=9.5
CPUP pPKP 01 41 14.1
comp=Z,9.6nm,1.0s,baz=137,slow=3.8,SNR=7.1
CPUP Villa Florida 144.10 227 PKP PKPdf 01 41 05.8 -4.7
CPUP pPKP 01 41 14.1
JCT Junction City 144.14 21 *e*PKPdf PKPdf 01 41 05.3 -5.0
CFAA Coronel Fontan 147.05 208 PKPbc PKPdf 01 41 14.8 -0.6
comp=Z,0.9nm,0.9s,baz=207,slow=1.9,SNR=13
CFAA pPKPbc 01 41 23.1
comp=Z,1.0nm,0.8s,baz=163,slow=4.3,SNR=7.9
SIV San Ignacio 152.36 241 PKPbc PKPdf 01 41 26.9 +2.9
comp=Z,2.2nm,0.8s,baz=108,slow=5.0,SNR=8.3
SIV pPKPbc 01 41 35.6
comp=Z,2.2nm,0.8s,baz=130,slow=8.1,SNR=6.1
LPAZ La Paz 158.09 232 PKP PKPdf 01 41 30.2 -1.5
comp=Z,1.3nm,1.1s,baz=66,slow=3.3,SNR=4.4
LPAZ PKPab PKPab 01 42 03.7 +0.8
comp=Z,2.7nm,0.9s,baz=26,slow=2.0,SNR=7.8
LPAZ pPKPab 01 42 12.2
comp=Z,1.5nm,0.6s,baz=344,slow=14,SNR=7.2
LPAZ La Paz 158.09 232 *e*PKPdf PKPdf 01 41 28.9 -2.7
SDV Santo Domingo 160.69 308 PKPab PKPab 01 42 13.9 -0.2
comp=Z,0.9nm,0.3s,baz=27,slow=2.3,SNR=3.7

MAN 11 01:43:34.8, 18.55N×120.65E, h21km, mb3.7, ML2.4, MS2.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**0.88**	**140**	*eP*	Pb	01 43 51.0	-0.2
APYP				*eS*	Sb	01 44 02.7	+0.1
ABRA	**Dolores**	**0.90**	**176**	*eP*	Pb	01 43 50.7	-0.8
SGCP	**Mt. Cagua**	**1.36**	**103**	*eP*	Pn	01 43 57.9	-0.9
CVP	**Callao Caves**	**1.39**	**127**	*eP*	Pn	01 43 59.0	-0.3
CVP				*eS*	Sn	01 44 17.0	-0.2

IDC ***11*** *02:05:16.9±1.4, 34.32S×72.39W, mb3.7/2, mb1 3.8/5, mb1mx3.7/16, mbtmp3.6/5, ML3.5/3, Error ellipse: s-maj=42.0km s-min=20.7km az=92.0*
GUC ***11*** *02:05:19.8±0.8, 34.26S×72.35W, h36km±2km, MD4.2, ML4.0*

ISC 11 02:05:19.0±0.8, 34.24S±0.03×72.42W±0.04, h22km±6km, n31, σ0§65/50, mb3.3/1, 11C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.88**	**72**	⇓*iP*	**Pb**	**02 05 35.5**	**-0.1**
LNV				*i* S	**Sb**	**02 05 47.0**	**0.0**
LCCH	**Las Cruces**	**1.04**	**43**	⇓*iP*	**Pb**	**02 05 38.7**	**+0.5**
LCCH				*i* S	**Sb**	**02 05 52.1**	**+0.7**
SFDO	**San Fernando**	**1.22**	**108**	⇑*iP*	**Pn**	**02 05 40.3**	**-0.7**
SFDO				*i* S	**Sb**	**02 05 55.8**	**-0.9**
TACH	**Talagante**	**1.36**	**65**	⇑*iP*	**Pn**	**02 05 42.6**	**-0.5**
TACH				*i* S	**Sn**	**02 05 59.9**	**-0.6**
IHA	**Instituto Hidr**	**1.37**	**28**	⇑*iP*	**Pn**	**02 05 43.7**	**+0.5**
IHA				*i* S	**Sn**	**02 06 01.1**	**+0.2**
CNCO	**Chanco**	**1.50**	**184**	*eP*	**Pn**	**02 05 44.6**	**-0.3**
CNCO				*i* S	**Sn**	**02 06 04.5**	**+0.6**
CNCO				AMP		02 06 15.3	
comp=N,1μm,0.5s							
CHCH	**Chadas Angostu**	**1.50**	**79**	⇑*iP*	**Pn**	**02 05 44.7**	**-0.3**
CACH	**El Canelo**	**1.51**	**86**	⇓*iP*	**Pn**	**02 05 45.4**	**+0.2**
CACH				*i* S	**Sn**	**02 06 05.6**	**+1.2**
RCDM	**Rinconada Maip**	**1.54**	**61**	*eP*	**Pn**	**02 05 45.3**	**-0.2**
RCDM				*i* S	**Sn**	**02 06 04.9**	**-0.1**
RCDM				AMP		02 06 11.8	
comp=E,3μm,0.4s							
ANTU	**Antumapu**	**1.63**	**66**	*eP*	**Pn**	**02 05 46.9**	**0.0**
ANTU				*i* S	**Sn**	**02 06 07.2**	**-0.1**
ANTU				AMP		02 06 14.4	
comp=N,4μm,0.3s							
CICH	**Cipreses**	**1.66**	**93**	⇑*iP*	**Pn**	**02 05 47.1**	**-0.1**
CICH				*i* S	**Sn**	**02 06 07.8**	**-0.2**
SAN	**Santiago**	**1.66**	**62**	*i* P	**Pn**	**02 05 47.3**	**0.0**
SAN				*i* S	**Sn**	**02 06 08.0**	**-0.1**
SAN				AMP		02 06 14.7	
comp=E,3μm,0.7s							
STL	**Santa Lucia**	**1.68**	**62**	*i* P	**Pn**	**02 05 47.1**	**-0.6**
STL				*i* S	**Sn**	**02 06 08.2**	**-0.5**
STL				AMP		02 06 15.0	
comp=E,1μm,0.5s							
PCH	**Pirque**	**1.70**	**69**	⇓*iP*	**Pn**	**02 05 48.1**	**+0.2**
PCH				*i* S	**Sn**	**02 06 09.3**	**+0.2**
ROCH	**El Roble**	**1.73**	**43**	*eP*	**Pn**	**02 05 48.7**	**+0.4**
FSR	**Penalolen**	**1.75**	**65**	*eP*	**Pn**	**02 05 48.8**	**+0.2**
FSR				*i* S	**Sn**	**02 06 10.5**	**+0.2**
FSR				AMP		02 06 22.8	
comp=E,2μm,0.5s							
DSCH	**Colegio Aleman**	**1.75**	**62**	*eP*	**Pn**	**02 05 49.0**	**+0.3**
DSCH				*i* S	**Sn**	**02 06 10.9**	**+0.4**
DSCH				AMP		02 06 19.7	
comp=E,6μm,0.5s							
CLCH	**Cerro Calan**	**1.78**	**62**	⇑*iP*	**Pn**	**02 05 49.4**	**+0.4**
CLCH				*i* S	**Sn**	**02 06 10.9**	**-0.2**
CLCH				AMP		02 06 19.4	
comp=N,4μm,0.9s							
CLCH				AMP		02 06 24.1	
comp=E,3μm,0.4s							
LMEL	**Las Melosas**	**1.88**	**79**	⇑*iP*	**Pn**	**02 05 50.7**	**+0.2**
LMEL				*i* S	**Sn**	**02 06 13.9**	**+0.2**
LMEL				AMP		02 06 20.1	
comp=N,3μm,0.3s							
FCH	**Farellones**	**1.99**	**63**	⇑*iP*	**Pn**	**02 05 52.3**	**+0.2**
FCH				*i* S	**Sn**	**02 06 17.5**	**+0.9**
FCH				AMP		02 06 23.4	
comp=N,3μm,0.3s							
JACH	**Jahuel**	**2.18**	**45**	⇑*iP*	**Pn**	**02 05 55.3**	**+0.5**
CCHI	**Chillan**	**2.37**	**173**	*eP*	**Pn**	**02 05 58.5**	**+1.0**
CHNG	**Los Chungos**	**2.47**	**18**	⇑*iP*	**Pn**	**02 05 58.5**	**-0.4**
CHNG				AMP		02 06 50.9	
comp=E,655nm,0.7s							
CMCH	**Combarbala**	**3.28**	**22**	*eP*	**Pn**	**02 06 09.6**	**-0.8**
TLL	**Tololo Astrono**	**4.29**	**19**	⇑*iP*	**Pn**	**02 06 24.6**	**-0.1**
TLL				*i* S	**Sn**	**02 07 13.0**	**-1.7**
CFAA	**Coronel Fontan**	**4.39**	**54**	Pn	**Pn**	**02 06 26.3**	**+0.1**
comp=E,0.8nm,0.3s,baz=228,slow=12,SNR=4.4							
CFAA				Sn	**Sn**	**02 07 27.1**	**+10**
comp=E,2.1nm,0.3s,baz=44,slow=12,SNR=9.2							
PLCA	**Paso Flores**	**6.65**	**168**	Pn	**Pn**	**02 06 56.9**	**-1.2**
comp=E,0.1nm,0.3s,baz=311,slow=9.3,SNR=2.6							
PLCA				Lg		02 08 45.3	
comp=E,0.2nm,0.3s,baz=254,slow=18,SNR=4.0							
LPAZ	**La Paz**	**18.29**	**13**	P	**P**	**02 09 34.8**	**+1.5**
comp=E,0.3nm,0.3s,baz=182,slow=7.9,SNR=19							
SIV	**San Ignacio**	**20.84**	**32**	P	**P**	**02 09 59.3**	**-2.6**
comp=E,6.0nm,0.8s,baz=218,slow=12,SNR=21							
TXAR	**Lajitas Array**	**69.79**	**331**	P	**P**	**02 16 30.4**	**+0.6**
comp=E,0.2nm,0.5s,mb3.3,baz=158,slow=8.9,SNR=4.2							
WRA	**Warramunga Arr**	**120.40**	**209**	PKP	PKPdf	02 24 09.0	-4.6
comp=E,0.2nm,0.8s,baz=163,slow=1.6,SNR=4.5							

IDC 11 03:02:56.7±1.6, 0.10S×125.72E, mb3.4/3, mb1 3.6/3, mb1mx3.5/14, mbtmp3.5/3, Error ellipse: s-maj=156.3km s-min=28.5km az=66.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.45**	**157**	P	P	03 07 46.8	-2.1
0.5nm,0.4s,baz=336,slow=10,SNR=11							
SONM	**Songino Array**	**50.62**	**343**	P	P	03 11 57.3	-2.2
0.2nm,0.4s,baz=164,slow=10,SNR=3.7							
MKAR	**Makanchi Array**	**60.15**	**327**	P	P	03 13 06.4	-2.2
0.4nm,0.5s,baz=115,slow=6.5,SNR=5.4							

IDC ***11*** *03:46:15.9±1.4, 2.28N×96.30E, mb4.1/8, mb1 4.3/8, mb1mx4.0/18, mbtmp4.1/8, MS3.5/2, Ms1 3.5/2, ms1mx3.1/12, Error ellipse: s-maj=68.6km s-min=20.0km az=52.0*
NEIC ***11*** *03:46:20.1±0.7, 2.25N×96.33E, h30km, mb4.5/3, Error ellipse: s-maj=16.3km s-min=9.6km az=216.0*

ISC 11 03:46:18.6±0.8, 2.2N±0.1×96.36E±0.08, h30km, n23, σ1§09/21, mb4.3/13, MS3.5/2, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.22**	**63**	P	**Pn**	**03 47 37.2**	**+0.5**
KULM	**Kulim**	**5.26**	**54**	*e*Pn	**Pn**	**03 47 37.5**	**+0.2**
KGM	**Kluang**	**6.96**	**91**	P	**Pn**	**03 48 03.3**	**+2.1**
KKM	**Kota Kinabalu**	**20.16**	**79**	*eP*	**P**	**03 50 53.0**	**-0.6**
PKI	**Pulchoki**	**27.31**	**338**	*eP*	**P**	**03 52 04.7**	**+1.8**
DMN	**Daman**	**27.46**	**338**	*eP*	**P**	**03 52 06.3**	**+2.1**
KKN	**Kakani**	**27.56**	**338**	*eP*	**P**	**03 52 05.4**	**+0.3**
21nm,0.8s,mb4.8							
LSA	**Lhasa**	**27.78**	**350**	*eP*	**P**	**03 52 07.0**	**-0.2**
12nm,1.1s,mb4.4							
GKN	**Gorkha**	**27.99**	**337**	*eP*	**P**	**03 52 09.2**	**+0.1**
21nm,0.9s,mb4.8							
KOLN	**Koldanda**	**28.20**	**336**	*eP*	**P**	**03 52 11.8**	**+0.9**
12nm,0.8s,mb4.6							
NACB	**Ninganchiao**	**32.73**	**46**	*eP*	**P**	**03 52 49.0**	**-2.1**
FITZ	**Fitzroy Crossi**	**35.20**	**126**	P	**P**	**03 53 12.1**	**-0.4**
baz=345,slow=12,SNR=3.7							
WRA	**Warramunga Arr**	**43.28**	**122**	P	**P**	**03 54 20.6**	**+0.9**
0.9nm,0.5s,mb3.8,baz=300,slow=9.3,SNR=19							
MKAR	**Makanchi Array**	**46.07**	**347**	P	**P**	**03 54 41.0**	**-0.7**
2.0nm,0.4s,mb4.4,baz=160,slow=8.2,SNR=30							
SONM	**Songino Array**	**46.27**	**9**	P	**P**	**03 54 42.4**	**-0.8**
2.9nm,0.7s,mb4.3,baz=190,slow=9.2,SNR=24							
SONM				PcP	PcP	03 56 19.1	+0.3
1.4nm,0.8s,baz=191,slow=4.2,SNR=6.5							
KURK	**Kurchatov**	**50.61**	**345**	*eP*	**P**	**03 55 15.4**	**-1.4**
3.4nm,1.0s,mb4.2							
MJAR	**Matsushiro Arr**	**51.52**	**43**	LR	LR	04 17 57.5	
comp=Z,33nm,20.1s,MS3.4,baz=145,slow=37							
PMG	**Port Moresby**	**51.90**	**104**	P	**P**	**03 55 25.9**	**-1.3**
21nm,1.1s,mb5.0							
STKA	**Stephens Creek**	**54.65**	**132**	LR	LR	04 19 59.3	
comp=Z,70nm,20.4s,MS3.7,baz=25,slow=37							
BVAR	**Borovoye Array**	**55.03**	**341**	P	**P**	**03 55 48.1**	**-1.7**
1.7nm,0.7s,mb4.2,baz=153,slow=9.7,SNR=8.7							
FINES	**FINESS Array B**	**78.72**	**333**	P	**P**	**03 58 19.6**	**0.0**
2.0nm,0.8s,mb4.1,baz=127,slow=9.5,SNR=4.7							
ARCES	**ARCESS Array B**	**81.31**	**340**	P	**P**	**03 58 33.7**	**+0.4**
4.1nm,1.1s,mb4.3,baz=90,slow=7.3,SNR=7.9							
GERES	**GERESS Array B**	**83.51**	**319**	P	**P**	**03 58 45.1**	**+0.1**
0.4nm,0.6s,mb3.8,baz=108,slow=4.2,SNR=4.9							

ZUR ***11*** *04:05:35.7, 45.82N×10.48E, h13km±6km, ML2.1/8*
ROM ***11*** *04:05:35.5±0.3, 45.87N×10.46E, h5km±4km, Md2.6/13, Ml2.1/6, Error ellipse: s-maj=2.4km s-min=1.6km az=40.0*
CSEM ***11*** *04:05:36.8±0.1, 45.85N×10.57E, h12km, ML2.6/14, Error ellipse: s-maj=2.0km s-min=1.3km az=115.0*
LDG ***11*** *04:05:37.8±0.5, 45.80N×10.60E, h10km, Ml2.4/9, Error ellipse: s-maj=11.9km s-min=5.4km az=84.0*

ISC 11 04:05:35.8±0.3, 45.86N±0.02×10.51E±0.03, h13km, n45, σ1§03/69, 5C-8D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAL	**Salo**	**0.25**	**177**	Pg	**Pg**	**04 05 41.0**	**-0.2**
SAL				Sg	**Sg**	**04 05 45.6**	**+0.7**
MDI	**Monti di Nese**	**0.56**	**262**	Pg	**Pg**	**04 05 46.6**	**-0.6**
MDI				Sg	**Sg**	**04 05 56.3**	**+1.4**
59nm,0.3s							
BRMO	**Bormio**	**0.63**	**352**	⇓*iPg*	**Pg**	**04 05 48.9**	**+0.4**
BRMO				Sg	**Sg**	**04 05 57.5**	**+0.5**
34nm,0.1s							
BERNI	**Berninapass**	**0.65**	**329**	⇓*iP*	**Pb**	**04 05 49.2**	**+0.7**
FUORN	**Ofenpass**	**0.78**	**348**	Pg	**Pg**	**04 05 51.7**	**+0.1**
FUORN				Sg	**Sg**	**04 06 02.4**	**+0.3**
FUORN	**Ofenpass**	**0.78**	**348**	⇓*iP*	**Pg**	**04 05 51.7**	**+0.1**
APPI	**Appiano**	**0.80**	**39**	Pg	**Pg**	**04 05 52.2**	**+0.3**
APPI				Sg	**Sg**	**04 06 05.1**	**+2.4**
116nm,0.3s							
CTI	**Castel Tesino**	**0.82**	**76**	Pg	**Pg**	**04 05 53.0**	**+0.7**
27nm,0.1s							
TEOL	**Teolo**	**0.95**	**121**	⇑*iPg*	**Pg**	**04 05 54.6**	**-0.4**
TEOL				*i* Sg	**Sg**	**04 06 08.0**	**+0.2**
VDL	**Val di Lei**	**0.96**	**312**	*eP*	**Pb**	**04 05 54.8**	**+1.0**
TUE	**Stuetta**	**1.01**	**308**	Pg	**Pg**	**04 05 55.6**	**-0.6**
TUE				Sg	**Sg**	**04 06 09.2**	**-0.6**
40nm,0.5s							
DAVOX	**Davos**	**1.02**	**335**	⇑*iP*	**Pg**	**04 05 56.0**	**-0.3**
DAVOX	**Davos**	**1.02**	**335**	Pg	**Pg**	**04 05 56.0**	**-0.3**
DAVOX				Sg	**Sg**	**04 06 11.1**	**+1.1**
MUGIO	**Muggio**	**1.03**	**274**	Pg	**Pb**	**04 05 55.2**	**+0.3**
MUGIO				Sg	**Sg**	**04 06 10.6**	**+0.5**
MUGIO	**Muggio**	**1.03**	**274**	⇓*iP*	**Pb**	**04 05 55.2**	**+0.3**
VAI	**Varese**	**1.22**	**271**	Pg	**Pg**	**04 05 59.4**	**-0.7**
VAI				Sg	**Sg**	**04 06 16.8**	**+0.4**
20nm,0.4s							
BOB	**Bobbio (Coli)**	**1.32**	**215**	Pg	**Pg**	**04 06 01.6**	**-0.6**
BOB				Sg	**Sg**	**04 06 21.8**	**+1.9**
30nm,0.4s							
FUSIO	**Fusio**	**1.42**	**296**	⇓*iP*	**Pn**	**04 06 02.5**	**+1.1**
PLONS	**Plons**	**1.43**	**327**	⇑*iP*	**Pn**	**04 06 03.3**	**+1.8**
SQTA	**Sankt Quirin**	**1.45**	**19**	⇓*iPG*	**Pg**	**04 06 04.3**	**-0.5**
SQTA				*i* SG	**Sg**	**04 06 23.9**	**-0.3**
7.0nm,0.3s							
SEST	**Monte Rota**	**1.48**	**52**	Pg	**Pg**	**04 06 05.0**	**-0.5**
SEST				Sg	**Sg**	**04 06 26.3**	**+0.9**
26nm,0.5s							
DAVA	**Damuels**	**1.50**	**343**	⇑*iPG*	**Pg**	**04 06 04.9**	**-0.8**
DAVA				*i* SG	**Sg**	**04 06 25.0**	**-0.7**
9.4nm,0.4s							
GSCL	**Gusciola**	**1.51**	**178**	Pg	**Pg**	**04 06 06.1**	**+0.2**
6.0nm,0.6s							
MOTA	**Moosalm**	**1.55**	**15**	⇓*iPG*	**Pg**	**04 06 05.9**	**-0.8**
MOTA				*i* SG	**S

FRF	La Foret Royal	3.58	232	*e*Pn	Pn	04 06 32.0	-0.3
VIVF	Saint-Julien-l	4.23	258	*e*Pn	Pn	04 06 40.9	-0.6
SMF	Signal de Mont	4.69	282	*e*Pn	Pn	04 06 47.6	-0.5
SMF				*e*Sn	Sn	04 07 40.1	-2.9
2.6nm,0.2s							
LOR	Lormes	4.80	290	*e*Pn	Pn	04 06 49.2	-0.4
LOR				*e*Sn	Sn	04 07 42.2	-3.5
1.3nm,0.3s							
LASF	Ste Croix	5.04	252	*e*Sn	Sn	04 07 46.6	-5.3
0.6nm,0.4s							
AVF	Avril sur Loir	5.04	283	*e*Pn	Pn	04 06 52.2	-0.8
HYF	Humbligny	5.61	287	*e*Pn	Pn	04 07 01.0	0.0
TCF	Toulx Ste Croi	5.79	277	*e*Pn	Pn	04 07 01.3	-2.3
TCF				*e*Sn	Sn	04 08 05.5	-5.1
0.4nm,0.3s							
CAF	Calviac	6.02	264	*e*Pn	Pn	04 07 05.6	-1.2

GUC 11 04:52:17.0±0.9, 24.04S×67.22W, h233km±14km, ML3.7, 3C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPCH	San Pedro de A	1.44	321	⇑*i*P	P	04 52 54.8	+1.2
SPCH				*i* S	S	04 53 24.2	+2.3
SPCH				AMP		04 53 38.7	
comp=E,181nm,0.7s							
LVC	Limon Verde	2.11	312	⇑*i*P	P	04 53 01.0	+1.6
LVC				*i* S	S	04 53 34.5	+2.2
LVC				AMP		04 53 35.9	
comp=E,141nm,0.5s							
ANCH	Antofagasta	2.94	276	⇓*i*P	P	04 53 11.2	+3.0
ANCH				*i* S	S	04 53 51.4	+3.4
CPN1	Cerro Paranal	2.96	258	⇑*i*P	P	04 53 11.3	+2.9
CPN1				*i* S	S	04 53 51.5	+3.2
CPN1				AMP		04 53 54.9	
comp=N,372nm,0.5s							
CRCH	Chaqaral	3.84	233	*i* S	S	04 54 08.9	+2.3

BJI 11 04:56:53.9, 14.10S×167.97E, h247km, mB4.5, mb4.5
IDC 11 04:56:55.8±2.8, 13.64S×167.18E, h209km±23km, mb3.8/11, mb1 3.9/12, mb1mx3.8/18, mbtmp4.3/12, Error ellipse: s-maj=23.3km s-min=17.9km az=105.0
NEIC 11 04:56:57.5±1.6, 13.72S×167.18E, h228km±14km, mb4.3/15, Error ellipse: s-maj=10.5km s-min=9.8km az=75.0

ISC 11 04:56:56.8±2.4, 13.71S±0.09×167.1E±0.1, h232km±21km, n70, σ0°93/45, mb4.2/22, 16C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	8.34	184	P	P	04 58 55.3	+0.2
0.6nm,0.3s,baz=28,slow=17,SNR=8.9							
DZM				S	S	05 00 35.3	+7.5
baz=158,slow=23,SNR=2.2							
CTA	Charters Tower	20.94	250	⇑*i*P	P	05 01 24.3	+1.8
3.3nm,0.6s							
CTA	Charters Tower	20.94	250	P	P	05 01 24.4	+1.9
4.2nm,0.6s,baz=75,slow=11,SNR=7.5							
CTAO	Charters Tower	20.94	250	*e*P	P	05 01 24.2	+1.7
4.2nm,0.8s							
ARMA	Armidale	21.92	218	⇑*i*P	P	05 01 21.3	-11
STKA	Stephens Creek	29.55	228	⇑*i*P	P	05 02 42.6	+0.5
10nm,0.4s,mb4.8							
STKA	Stephens Creek	29.55	228	P	P	05 02 42.6	+0.5
14nm,0.5s,mb4.8,baz=51,slow=8.4,SNR=53							
STKA				PcP	PcP	05 05 40.8	-0.4
1.9nm,0.6s,baz=35,slow=7.9,SNR=4.4							
WB2	Warramunga Arr	31.93	254	*e*P	P	05 03 01.9	-1.1
WRAB	Tennant Creek	31.93	254	*e*P	P	05 03 02.1	-0.9
2.1nm,0.5s,mb3.9							
WRA	Warramunga Arr	31.95	254	P	P	05 03 02.2	-0.9
1.5nm,0.5s,mb3.8,baz=86,slow=9.6,SNR=41							
WRA				ScP		05 09 12.2	
1.1nm,0.9s,baz=78,slow=3.5,SNR=6.9							
FORT	Forrest	39.70	238	⇑*i*P	P	05 04 08.4	+0.2
20nm,0.6s,mb4.7							
FITZ	Fitzroy Crossi	40.07	258	*e*P	P	05 04 11.9	+0.6
7.8nm,0.8s,mb4.2							
FITZ	Fitzroy Crossi	40.07	258	P	P	05 04 11.3	-0.1
3.4nm,0.7s,mb3.9,baz=160,slow=9.1,SNR=8.6							
MBWA	Marble Bar	45.68	254	*e*P	P	05 04 56.5	0.0
11nm,1.0s,mb4.1							
KLBR	Kellerberrin	48.48	240	*e*P	P	05 05 17.2	-0.8
6.4nm,0.6s,mb4.1							
NWAO	Narrogin (SRO)	49.15	238	P	P	05 05 22.6	-0.5
13nm,0.7s,mb4.4,baz=95,slow=5.8,SNR=9.6							
NWAO	Narrogin (SRO)	49.15	238	*e*P	P	05 05 22.4	-0.8
11nm,0.8s,mb4.2							
MJAR	Matsushiro Arr	56.94	332	P	P	05 06 19.1	-0.9
0.5nm,0.3s,mb3.6,baz=176,slow=7.6,SNR=4.2							
VNDA	Vanda	63.87	181	P	P	05 07 06.0	-0.2
1.1nm,0.6s,mb3.7,baz=355,slow=6.3,SNR=3.5							
VNDA	Vanda	63.87	181	*e*P	P	05 07 05.8	-0.4
6.9nm,1.3s,mb4.1							
SBA	Scott Base	64.15	180	*e*P	P	05 07 08.1	+0.1
8.0nm,1.0s,mb4.3							
CASY	Casey	64.41	202	*e*P	P	05 07 08.7	-1.1
3.4nm,0.5s,mb4.2							
NJ2	Nanjing	64.85	316	*e*P	P	05 07 14.5	+1.3
NJ2				AMB	AMB		
comp=Z,20nm,0.5s,mb5.0							
MDJ	Mudanjiang	67.32	332	P	P	05 07 28.6	0.0
MDJ				XP	sP	05 08 50.7	+3.4
MDJ				AMB	AMB		
comp=Z,5.0nm,0.9s,mb4.1							
ENH	Enshi	70.61	309	*e*P	P	05 07 48.8	-0.2
comp=Z,6.1nm,0.8s,mb4.3							
HIA	Hailar	75.34	330	P	P	05 08 15.8	-0.5
comp=Z,5.3nm,1.0s,mb4.1							
SONM	Songino Array	81.60	324	P	P	05 08 51.2	+1.2
comp=Z,0.5nm,0.4s,mb3.5,baz=149,slow=5.7,SNR=5.3							
MAW	Mawson	82.77	202	P	P	05 08 56.5	+0.8
comp=Z,4.7nm,0.5s,mb4.4,baz=107,slow=6.8,SNR=24							
MCK	McKinley	84.23	18	*e*P	P	05 09 02.1	-0.9
comp=Z,3.5nm,0.9s,mb4.1							
ILAR	Eielson Array	85.61	18	P	P	05 09 09.1	-0.8
comp=Z,0.4nm,0.5s,mb3.5,baz=236,slow=7.6,SNR=4.4							
WMQ	Urumqi	91.91	315	*e*P	P	05 09 41.0	+0.9
WMQ				AP	pP	05 10 43.0	+6.0
WMQ				XP	sP	05 11 09.0	+8.0
WMQ				PP	PP	05 13 26.0	+1.6
WMQ				AMB	AMB		
comp=Z,11nm,1.0s,mb4.7							
SNAA	Sanae	94.55	183	*e*	P	05 09 54.2	+2.7
SNAA	Sanae	94.55	183	⇑*i*P	P	05 09 50.9	-0.6
SNAA				*e*		05 09 54.2	
VNA3	Neumayer Olymp	95.22	181	*e*	P	05 09 57.1	+2.5
VNA3	Neumayer Olymp	95.22	181	*e*	P	05 10 05.4	+11
VNA3	Neumayer Olymp	95.22	181	⇑*i*P	P	05 09 54.1	-0.5
VNA3				*e*		05 09 57.1	
VNA3				*e*		05 10 05.4	
VNA2	Neumayer--Watz	95.49	182	*e*	P	05 09 58.5	+2.8
VNA2	Neumayer--Watz	95.49	182	*e*	P	05 10 08.3	+13
VNA2	Neumayer--Watz	95.49	182	⇑*i*P	P	05 09 55.7	0.0
VNA2				*e*		05 09 58.5	
VNA2				*e*		05 10 08.3	
VNA1	Neumayer--Stat	95.79	182	*e*	P	05 09 55.2	-1.9
VNA1	Neumayer--Stat	95.79	182	*e*	P	05 10 04.1	+7.0
VNA1	Neumayer--Stat	95.79	182	⇑*i*P	P	05 09 52.4	-4.7
VNA1				*e*		05 09 55.2	
VNA1				*e*		05 10 04.1	
MKAR	Makanchi Array	96.37	316	P	P	05 10 01.3	+1.0
comp=Z,1.4nm,0.7s,mb4.3,baz=101,slow=6.2,SNR=9.1							
MKAR	Makanchi Array	96.37	316	P	P	05 10 01.3	+1.0
ARCES	ARCESS Array B	119.24	346	PKP	PKPdf	05 15 18.7	+0.9
comp=Z,3.7nm,0.8s,baz=70,slow=1.8,SNR=34							
ARCES	ARCESS Array B	119.24	346	PKP	PKPdf	05 15 18.7	+0.9
FINES	FINESS Array B	124.73	338	PKP	PKPdf	05 15 30.1	+1.6
comp=Z,3.6nm,1.0s,baz=105,slow=3.8,SNR=5.2							
GERES	GERESS Array B	138.68	333	PKP	PKPdf	05 15 56.5	+1.4
comp=Z,0.4nm,0.2s,baz=63,slow=3.0,SNR=4.4							
CABF	La Chapelle	143.54	338	*e*PKP1	PKPbc	05 16 05.8	+3.3
FLN	La Foliniere	143.58	346	*e*PKP1	PKPbc	05 16 04.2	+1.7
LPL	La Plagne	144.21	336	*e*PKP1	PKPbc	05 16 06.0	+1.5
LPG	La Plagne	144.22	336	*e*PKP1	PKPbc	05 16 06.1	+1.6
comp=Z,12nm,0.9s							
SMF	Signal de Mont	144.29	340	⇑*i*PKP1	PKPbc	05 16 05.6	+0.9
comp=Z,8.0nm,0.8s							
AVF	Avril sur Loir	144.32	341	⇑*i*PKP1	PKPbc	05 16 05.5	+0.7
comp=Z,4.6nm,0.5s							
SGMF	Saint Gilles	144.51	348	⇑*i*PKP1	PKPbc	05 16 06.0	+0.7
comp=Z,24nm,0.9s							
ROSF	Rostrenen	144.57	349	⇑*i*PKP1	PKPbc	05 16 06.2	+0.8
comp=Z,24nm,1.0s							
BNI	Bardonecchia	144.62	336	*e*PKPdf	PKPdf	05 16 06.9	+1.4
MBDF	Montbardon	144.85	335	*e*PKP1	PKPbc	05 16 07.5	+1.2
comp=Z,9.9nm,0.8s							
QUIF	Quistinic	144.95	349	*e*PKP1	PKPbc	05 16 07.2	+0.7
comp=Z,5.0nm,0.3s							
ORIF	Oris-en-Rattie	145.04	336	⇑*i*PKP1	PKPbc	05 16 08.7	+1.9
comp=Z,37nm,0.9s							
TCF	Toulx Ste Croi	145.13	342	*e*PKP1	PKPbc	05 16 08.5	+1.5
comp=Z,6.4nm,0.6s							
SBF	Sospel	145.27	334	*e*PKP1	PKPbc	05 16 08.7	+1.2
comp=Z,53nm,1.0s							
MFF	Saint Martin d	145.51	344	*e*PKP1	PKPbc	05 16 09.5	+1.5
VIVF	Saint-Julien-l	145.55	338	*e*PKP1	PKPbc	05 16 10.0	+1.9
PGF	Pioggiola	145.60	331	⇑*i*PKP1	PKPbc	05 16 09.9	+1.6
comp=Z,41nm,0.9s							
FRF	La Foret Royal	145.85	334	*e*PKP1	PKPbc	05 16 10.5	+1.6
SMRF	Simiane la Rot	145.95	336	⇑*i*PKP1	PKPbc	05 16 11.3	+2.2
comp=Z,14nm,0.8s							
RJF	Les Rejaudoux	146.22	342	*e*PKP1	PKPbc	05 16 11.1	+1.4
MTLF	Montolieu	147.74	339	⇑*i*PKP1	PKPdf	05 16 16.2	+5.3
comp=Z,19nm,1.0s							
ETSF	Etsaut	149.03	342	*e*PKP1	PKPdf	05 16 20.0	+7.0

MOS 11 04:57:32.4±1.4, 2.15N×96.61E, h33km, mb4.4/6, Error ellipse: s-maj=31.3km s-min=12.8km az=107.4
NEIC 11 04:57:32.5±0.7, 1.77N×96.31E, mb4.4/2, Error ellipse: s-maj=24.2km s-min=15.2km az=63.0
IDC 11 04:57:33.5±1.1, 1.86N×96.30E, h31km±5km, mb4.0/8, mb1 4.1/8, mb1mx3.8/19, mbtmp4.2/8, Error ellipse: s-maj=46.9km s-min=15.6km az=56.0

ISC 11 04:57:31.6±0.8, 1.9N±0.1×96.4E±0.1, h32km, h32km±1.1km: pP-P, n28, σ0°98/26, mb4.3/16, 1D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.40	51	*e*Pn	Pn	04 58 51.8	-0.4
KULM				*e*		04 58 59.1	
PKI	Pulchoki	27.62	339	*e*P	P	05 03 19.5	+1.0
DMN	Daman	27.77	338	*e*P	P	05 03 21.1	+1.3
KKN	Kakani	27.87	339	*e*P	P	05 03 21.5	+0.8
GKN	Gorkha	28.30	338	*e*P	P	05 03 25.5	+0.9
36nm,1.0s,mb5.0							
KOLN	Koldanda	28.50	336	*e*P	P	05 03 27.5	+1.1
16nm,0.9s,mb4.8							
MBWA	Marble Bar	32.34	136	P	P	05 03 56.6	-3.9
WRA	Warramunga Arr	43.06	122	P	P	05 05 30.9	+0.2
1.8nm,0.7s,mb3.9,baz=300,slow=9.3,SNR=9.8							
WRA				pP	pP	05 05 40.9	+0.6
2.0nm,0.5s,baz=300,slow=9.2,SNR=10							
WRAB	Tennant Creek	43.07	122	*e*P	P	05 05 31.3	+0.6
4.4nm,0.5s,mb4.4							
WRAB				*e*pP	pP	05 05 40.7	+0.4
WRAB	Tennant Creek	43.07	122	*e*P	P	05 05 31.3	+0.6
WRAB				*e**PP	pP	05 05 40.7	+0.4
WRAB				pmax	pmax		
comp=Z,4.0nm,0.5s,mb4.4							
AAK	Ala-Archa	45.05	337	*i* P	P	05 05 51.0	+4.5
AAK				pmax	pmax		
comp=Z,5.0nm,1.0s,mb4.3							
MKAR	Makanchi Array	46.38	347	P	P	05 05 57.1	+0.2
comp=Z,4.8nm,0.8s,mb4.5,baz=162,slow=7.6,SNR=28							
MKAR				pP	pP	05 06 06.2	-0.3
comp=Z,7.3nm,0.8s,baz=163,slow=7.8,SNR=20							
SONM	Songino Array	46.57	9	P	P	05 05 58.9	+0.5
comp=Z,3.0nm,0.8s,mb4.3,baz=190,slow=8.5,SNR=22							
SONM				pP	pP	05 06 08.2	+0.3
comp=Z,1.6nm,0.8s,baz=195,slow=9.0,SNR=6.1							
ZAK	Zakamensk	48.66	6	*e*P	P	05 06 15.3	+0.6
ZAK				pmax	pmax		
comp=Z,1.0nm,0.9s,mb3.9							
KURK	Kurchatov	50.92	346	P	P	05 06 29.3	-2.7
comp=Z,3.5nm,0.9s,mb4.3							
KURK	Kurchatov	50.92	346	P	P	05 06 29.3	-2.7
KURK				pmax	pmax		
comp=Z,4.0nm,0.9s,mb4.3							
ZAL	Zalesovo	52.74	351	P	P	05 06 45.9	+0.1
comp=Z,3.3nm,0.7s,mb4.4,baz=294,slow=6.9,SNR=14							
NVS	Novosibirsk	53.86	351	*e*P	P	05 06 52.1	-1.8
STKA	Stephens Creek	54.40	132	P	P	05 06 58.5	+0.3
comp=Z,2.2nm,0.9s,mb4.1,baz=329,slow=9.6,SNR=5.6							
VOSK	Vostochnaya	54.90	341	P	P	05 07 00.5	-1.0
VOSK				pmax	pmax		
comp=Z,6.0nm,1.3s,mb4.5							
BVAR	Borovoye Array	55.34	341	P	P	05 07 03.7	-1.1
comp=Z,1.8nm,0.8s,mb4.2,baz=149,slow=8.6,SNR=11							
KLR	Kul'dur	55.99	27	*e*P	P	05 07 04.8	-4.7
AB31	Akbulak array	56.53	332	*i* P	P	05 07 12.5	-0.9
AB31				pmax	pmax		
comp=Z,1.0nm,0.5s,mb4.1							
ARU	Arti	62.24	337	⇓*e*P	P	05 07 51.9	-0.8
MBAR	Mbarara	65.72	268	*i* P	sP	05 08 27.2	-2.4
FINES	FINESS Array B	79.02	333	P	P	05 09 34.6	+0.7
comp=Z,2.5nm,0.8s,mb4.2,baz=147,slow=32,SNR=3.2							
FINES				pP	pP	05 09 43.8	-0.3
comp=Z,2.3nm,0.9s,baz=153,slow=4.3,SNR=1.9							
GERES	GERESS Array B	83.78	319	P	P	05 09 58.5	-0.7
comp=Z,0.3nm,0.2s,mb4.0,baz=113,slow=7.5,SNR=3.0							
GERES				pP	pP	05 10 10.2	+0.9
comp=Z,0.4nm,0.3s,baz=90,slow=6.7,SNR=2.8							
CPUP	Villa Florida	144.98	224	PKP	PKPdf	05 17 08.3	-3.4
comp=Z,4.9nm,1.0s,baz=125,slow=6.1,SNR=6.2							

IDC 11 05:08:54.9±1.2, 1.26N×97.12E, mb4.3/10, mb1 4.3/10, mb1mx4.1/21, mbtmp4.3/10, MS3.8/2, Ms1 3.8/2, ms1mx3.1/25, Error ellipse: s-maj=38.9km s-min=17.7km az=55.0
BJI 11 05:08:56.8, 0.83N×97.64E, h48km, mB5.0, mb4.6
NEIC 11 05:08:59.2±0.6, 1.28N×97.15E, h30km, mb4.5/4, Error ellipse: s-maj=15.8km s-min=8.6km az=63.0

ISC 11 05:08:59.3±3.5, 1.3N±0.1×97.2E±0.1, h43km±29km, n27, σ0°83/25, mb4.5/22, MS3.8/2, 1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.22	41	*e*Pn	P	05 10 16.6	-0.3
KMI	Kunming	24.27	12	P	P	05 14 15.7	+1.9
KMI				AP		05 14 25.0	
KMI				AMB	AMB		
comp=Z,19nm,1.1s,mb4.4							
PKI	Pulchoki	28.48	338	*e*P	P	05 14 52.6	-0.2
comp=Z,11nm,0.8s,mb4.6							
DMN	Daman	28.63	337	*e*P	P	05 14 54.7	+0.6
comp=Z,25nm,1.2s,mb4.8							
KKN	Kakani	28.72	338	*e*P	P	05 14 54.7	-0.3
comp=Z,26nm,1.0s,mb4.9							
GKN	Gorkha	29.16	337	*e*P	P	05 14 59.7	+0.8
comp=Z,39nm,1.1s,mb5.1							
KOLN	Koldanda	29.38	335	*e*P	P	05 15 02.0	+1.1
comp=Z,17nm,0.7s,mb4.9							
ENH	Enshi	31.07	21	*e*P	P	05 15 14.0	-1.8
comp=Z,12nm,0.8s,mb4.8							
FITZ	Fitzroy Crossi	33.95	126	P	P	05 15 40.6	-0.5
comp=Z,5.3nm,0.8s,mb4.5,baz=353,slow=7.2,SNR=5.0							
XAN	Xi'an	34.35	17	P	P	05 15 43.1	-1.2
XAN				AMB	AMB		
comp=Z,16nm,1.0s,mb4.9							
KAKA	Kakadu	37.60	113	*e*P	P	05 16 19.4	+7.4
comp=Z,3.1nm,0.4s,mb4.4							
GTA	Gaotai	38.00	3	*e*P	P	05 16 15.2	+0.1
GTA				AP	pP	05 16 23.6	-3.3
GTA				AMB	AMB		
comp=Z,7.0nm,0.9s,mb4.4							
JOW	Kunigami	39.14	47	P	P	05 16 25.9	+1.2
comp=Z,11nm,0.5s,mb4.8,baz=207,slow=9.0,SNR=6.8							
JOW				LR	LR	05 33 09.6	
comp=Z,156nm,18.5s,MS3.9,baz=122,slow=37							
WRA	Warramunga Arr	42.05	122	P	P	05 16 49.1	+0.2
comp=Z,2.2nm,0.6s,mb4.0,baz=302,slow=9.1,SNR=46							
WRAB	Tennant Creek	42.06	122	*e*P	P	05 16 48.9	0.0
comp=Z,9.7nm,1.0s,mb4.4							
WRAB				*e*pP	pP	05 16 56.7	-4.2
WB2	Warramunga Arr	42.06	122	⇓*i*P	P	05 16 48.9	-0.1
JNU	Nakatsue	44.70	41	P	P	05 17 10.6	+0.4
comp=Z,6.2nm,0.8s,mb4.5,baz=231,slow=14,SNR=3.9							
SONM	Songino Array	47.02	8	P	P	05 17 28.9	+0.5
comp=Z,4.1nm,0.7s,mb4.4,baz=186,slow=9.2,SNR=31							
SONM				PcP	PcP	05 19 00.9	+0.4
comp=Z,0.8nm,0.5s,baz=197,slow=2.4,SNR=3.8							
MKAR	Makanchi Array	47.15	346	P	P	05 17 29.7	+0.3
comp=Z,3.8nm,0.6s,mb4.5,baz=160,slow=8.5,SNR=36							
JHJ	Hachijo jima 2	50.92	47	LR	LR	05 38 50.6	
comp=Z,75nm,18.2s,MS3.8,baz=327,slow=35							
MJAR	Matsushiro Arr	51.59	42	P	P	05 18 03.2	-0.5
comp=Z,0.7nm,0.3s,mb4.1,baz=211,slow=6.8,SNR=4.0							
KURK	Kurchatov	51.70	345	*e*P	P	05 18 03.0	-1.3
comp=Z,3.5nm,0.8s,mb4.3							
STKA	Stephens Creek	53.39	132	P	P	05 18 18.2	+0.9
comp=Z,1.2nm,0.5s,mb4.1,baz=306,slow=12,SNR=6.2							
STKA	Stephens Creek	53.39	132	*e*P	P	05 18 17.6	+0.3
BVAR	Borovoye Array	56.17	341	P	P	05 18 36.3	-0.8
comp=Z,3.7nm,0.7s,mb4.5,baz=135,slow=8.4,SNR=20							
AKASG	Malin Array Be	75.20	322	P	P	05 20 38.5	-0.7
comp=Z,1.7nm,1.0s,mb3.9,baz=92,slow=4.3,SNR=4.5							
TXAR	Lajitas Array	143.56	32	PKP	PKPdf	05 28 30.0	-0.1
comp=Z,0.3nm,0.7s,baz=77,slow=1.1,SNR=6.1							

IDC 11 05:15:10.1±1.8, 4.98N×94.80E, mb4.1/6, mb1 4.2/6, mb1mx3.9/19, mbtmp4.1/6, Error ellipse: s-maj=80.2km s-min=24.7km az=54.0
NEIC 11 05:15:14.5±1.1, 4.99N×94.83E, h30km, mb4.5/2, Error ellipse: s-maj=53.7km s-min=10.8km az=54.0

ISC 11 05:15:12.6±1.6, 5.0N±0.3×94.8E±0.4, h30km, n9, σ0°47/9, mb4.2/8, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	43.04	347	P	P	05 23 11.9	+0.6
0.6nm,0.3s,mb3.9,baz=167,slow=8.5,SNR=14							
SONM	Songino Array	43.84	11	P	P	05 23 17.9	0.0
1.1nm,0.7s,mb3.7,baz=192,slow=8.1,SNR=9.3							
SONM				PcP	PcP	05 25 03.9	-0.5
0.6nm,0.5s,baz=194,slow=1.8,SNR=4.7							
WRA	Warramunga Arr	46.09	124	P	P	05 23 36.3	+0.2
2.2nm,0.6s,mb4.2,baz=303,slow=9.2,SNR=36							
WRAB	Tennant Creek	46.09	124	*e*P	P	05 23 36.1	-0.1
5.6nm,0.8s,mb4.5							
WRAB				*e*pP	pP	05 23 44.4	-0.8
WB2	Warramunga Arr	46.10	124	*e*P	P	05 23 36.1	-0.1
KURK	Kurchatov	47.56	346	*e*P	P	05 23 46.5	-0.9
3.1nm,0.6s,mb4.5							
BVAR	Borovoye Array	51.92	342	P	P	05 24 20.7	-0.1
1.9nm,0.6s,mb4.2,baz=141,slow=9.2,SNR=12							
FINES	FINESS Array B	75.56	332	P	P	05 26 55.7	-0.3
2.2nm,0.9s,mb4.1,baz=117,slow=4.3,SNR=4.6							
ARCES	ARCESS Array B	78.19	340	P	P	05 27 11.3	+0.8
1.0nm,0.5s,mb4.0,baz=89,slow=6.2,SNR=11							

IDC 11 05:21:59.1±1.2, 9.08N×124.77E, mb4.2/5, mb1 4.3/5, mb1mx3.9/20, mbtmp4.2/5, MS3.7/4, Ms1 3.8/4, ms1mx3.3/23, Error ellipse: s-maj=113.4km s-min=19.0km az=66.0
MAN 11 05:22:00.5, 9.30N×125.16E, h2km, mb5.1, ML4.1, MS4.2
NEIC 11 05:22:03.6±0.6, 9.25N×124.99E, h35km, mb4.5/6, Error ellipse: s-maj=32.8km s-min=12.2km az=70.0

ISC 11 05:22:02.0±0.4, 9.34N±0.03×125.28E±0.04, h33km, n33, σ1°30/36, mb4.3/11, MS3.8/4, 4C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	Surigao	0.49	25	⇓*e*P	P	05 22 11.6	-0.8
SCPH				*e*S	S	05 22 22.1	+2.3
BUTP	Butuan	0.50	137	*e*P	P	05 22 11.0	-1.5
MSLP	Maasin	0.90	332	*e*P	P	05 22 18.1	0.0
CGP	Cagayan de Oro	1.05	213	⇓*e*P	P	05 22 19.4	-1.0
CGP				*e*S	S	05 22 35.1	+1.1
TBP	Tagbilaran	1.44	284	*e*P	P	05 22 25.9	-0.2
TBP				*e*S	S	05 22 44.1	+0.2
BUKP	Musuan	1.46	188	*e*P	P	05 22 26.8	+0.4
BIPH	Bislig	1.57	137	⇑*i*P	P	05 22 28.1	+0.3
BIPH				*i* S	S	05 22 49.9	+2.8
LLP	Lapu-Lapu	1.62	307	*e*P	P	05 22 29.0	+0.4
LLP				*e*S	S	05 22 49.1	+0.6
PLP	Palo	1.84	351	*i* P	P	05 22 33.5	+1.7
SNPH	Sibulan	2.02	270	⇑*i*P	P	05 22 34.5	+0.3
SNPH				*i* S	S	05 23 01.7	+3.2
DCPH	Dipolog City	2.04	249	⇓*i*P	P	05 22 34.1	-0.6
DCPH				*e*S	S	05 22 59.7	+0.4
DAV	Davao City (W)	2.27	172	*e*P	P	05 22 41.3	+3.4
KCP	Kidapawan	2.32	185	*e*P	P	05 22 41.5	+2.9
CTBH	Cotabato--PC H	2.34	206	⇓*e*P	P	05 22 39.5	+0.6
CTBH				*i* S	S	05 22 59.0	-7.7
PAGZ	Pagadian	2.39	232	*e*P	P	05 22 39.7	+0.2
GUIM	Jordan	2.94	296	*e*P	P	05 22 45.3	-2.2
RCP	Roxas	3.33	312	⇑*e*P	P	05 22 53.6	+0.6
KAKA	Kakadu	23.03	162	*e*P	P

KSP e 05 24 47.0
UPC Upice 0.89 182 ePG **Pg 05 24 40.5 +2.3**
UPC Upice 0.89 182 ePg **Pg 05 24 40.4 +2.2**
DPC Dobruska-Polom 1.06 171 ePG **Pg 05 24 43.3 +1.7**
DPC eSG **Sg 05 24 58.5 +2.8**
192nm,0.5s
PVCC Panska Ves 1.28 228 ePG **Pg 05 24 47.4 +1.5**
PVCC Panska Ves 1.28 228 Pg **Pg 05 24 47.4 +1.5**
PVCC eSg **Sg 05 25 05.5 +2.6**
BRG Berggiesshubel 1.43 249 ePn **Pn 05 24 49.8 +2.1**
BRG eSg **Sg 05 25 10.0 +2.0**
BRG Berggiesshubel 1.43 249 Pg **Pg 05 24 49.9 +1.0**
BRG Sg **Sg 05 25 10.0 +2.0**
BRG Berggiesshubel 1.43 249 Pn **Pn 05 24 49.2 +1.6**
BRG Pg **Pg 05 24 49.9 +1.0**
PRU Pruhonice 1.70 215 ePN **Pn 05 24 53.1 +1.5**
PRU ePG **Pg 05 24 55.0 +0.5**
PRU ex x 05 24 59.3
PRU ex x 05 25 11.8
PRU eSG **Sg 05 25 18.8 +1.6**
195nm,0.6s
PRU Pruhonice 1.70 215 eP **Pn 05 24 53.1 +1.5**
PRU e 05 25 18.8
FBE Freiberg 1.76 255 Sg **Sg 05 25 19.5 +0.4**
RUE Ruedersdorf 1.78 309 ePn **Pn 05 24 52.1 -0.6**
RUE eSg **Sg 05 25 18.6 -1.1**
RUE Ruedersdorf 1.78 309 ePn **Pn 05 24 51.6 -1.1**
RUE eSn **Sn 05 25 18.2 +1.9**
MORC Moravsky Berou 1.88 149 ePn **Pn 05 24 54.9 +0.8**
MORC eSn **Sn 05 25 19.9 +1.1**
MORC eSg **Sg 05 25 22.1 -0.8**
131nm,0.6s
MORC Moravsky Berou 1.88 149 ePn **Pn 05 24 54.9 +0.8**
MORC eSn **Sn 05 25 19.9 +1.1**
RAC Raciborz 1.89 133 eP **Pn 05 24 58.0 +3.7**
RAC eS **Sn 05 25 24.0 +4.8**
RAC Raciborz 1.89 133 ePg **Pg 05 24 58.3 +0.1**
RAC eS **Sg 05 25 23.8 +0.4**
RAC eSg **Sg 05 25 23.8 +0.4**
CLL Collm 1.91 269 ePn **Pn 05 24 54.9 +0.3**
CLL ePg **Pg 05 24 58.0 -0.6**
CLL eSg **Sg 05 25 24.2 0.0**
CLL Collm 1.91 269 *i* PN **Pn 05 24 54.6 0.0**
logA/T=1.6
CLL ePG **Pg 05 24 58.0 -0.6**
CLL *i* 05 25 01.7
CLL *i* SG **Sg 05 25 23.2 -0.9**
CLL Collm 1.91 269 ePn **Pn 05 24 54.8 +0.2**
CLL Collm 1.91 269 Pg **Pg 05 24 58.0 -0.6**
CLL Sg **Sg 05 25 24.2 +0.1**
CLL Collm 1.91 269 *i* Pn **Pn 05 24 54.6 0.0**
CLL ePg **Pg 05 24 58.0 -0.6**
CLL *i* Sg **Sg 05 25 23.2 -0.9**
CLL Collm 1.91 269 *i* P **Pn 05 24 54.6 0.0**
CLL *i* 05 25 23.2
GKP Gorka Klasztor 2.02 21 eP **Pg 05 25 03.0 +2.3**
OKC Ostrava-Krasne 2.05 139 ePG **Pg 05 25 01.0 -0.4**
OKC eSG **Sg 05 25 28.0 -0.8**
239nm,0.9s
VRAC Vranov 2.12 170 Pn **Pn 05 24 59.5 +2.0**
4.8nm,0.3s,baz=328,slow=15,SNR=14
VRAC Lg 05 25 31.3
5.8nm,0.3s,baz=63,slow=20,SNR=5.0
VRAC Vranov 2.12 170 ePn **Pn 05 24 59.5 +2.0**
VRAC eSg **Sg 05 25 30.9 0.0**
100nm,0.5s
KRUC Moravsky 2.34 174 ePn **Pn 05 25 02.4 +1.6**
KRUC Moravsky 2.34 174 ePg **Pg 05 25 06.2 -1.1**
KRUC eSg **Sg 05 25 38.7 +0.2**
93nm,0.6s
TANN Tannenbergstha 2.48 248 ePn **Pn 05 25 04.2 +1.6**
TANN eSg **Sg 05 25 41.6 -1.3**
WERD Werda 2.55 250 ePn **Pn 05 25 05.0 +1.2**
WERD eSg **Sg 05 25 44.4 -1.0**
NKC Novy Kostel 2.56 244 ePN **Pn 05 25 05.2 +1.3**
NKC ePG **Pg 05 25 11.7 +0.1**
NKC eSG **Sg 05 25 47.2 +1.4**
122nm,0.3s
NKC Novy Kostel 2.56 244 ePg **Pg 05 25 11.7 +0.1**
NKC eSg **Sg 05 25 45.9 +0.1**
GUNZ Gunzen 2.57 248 ePn **Pn 05 25 05.6 +1.6**
GUNZ eSg **Sg 05 25 45.9 -0.2**
OJC Ojcow 2.65 115 ePN **Pn 05 25 03.0 -2.2**
OJC *i* PG **Pg 05 25 12.3 -1.1**
OJC eSN **Sn 05 25 34.3 -4.2**
OJC *i* SG **Sg 05 25 48.0 -0.7**
OJC Ojcow 2.65 115 ePn **Pn 05 25 03.4 -1.8**
OJC *i* Pg **Pg 05 25 12.3 -1.1**
OJC eSn **Sn 05 25 33.6 -4.9**
OJC *i* Sg **Sg 05 25 48.0 -0.7**
OJC Ojcow 2.65 115 *i* Pg **Pg 05 25 12.3 -1.1**
OJC eSn **Sn 05 25 33.6 -4.9**
OJC *i* Sg **Sg 05 25 48.0 -0.7**
OJC Ojcow 2.65 115 eP **Pn 05 25 03.4 -1.8**
OJC *e* 05 25 33.6
JAVC Velka Javorina 2.74 157 eSg **Sg 05 25 51.0 -0.8**
96nm,0.7s
KHC Kasperske Hory 2.77 216 ePN **Pn 05 25 08.1 +1.3**
KHC ePG **Pg 05 25 14.4 -1.3**
KHC eSN **Sn 05 25 43.1 +1.7**
KHC eSG **Sg 05 25 54.0 +1.5**
125nm,0.8s
KHC Kasperske Hory 2.77 216 ePn **Pn 05 25 07.9 +1.1**
KHC Kasperske Hory 2.77 216 Pg **Pg 05 25 14.4 -1.3**
KHC eSn **Sn 05 25 43.1 +1.7**
KHC eSg **Sg 05 25 51.6 -0.9**
KHC Kasperske Hory 2.77 216 eP **Pn 05 25 08.1 +1.3**
KHC *e* 05 25 43.1
MOX Moxa 2.90 257 ePn **Pn 05 25 09.7 +1.0**
MOX ePg **Pg 05 25 17.1 -1.2**
MOX eSg **Sg 05 25 56.2 -0.8**
MOX Moxa 2.90 257 *i* P **Pn 05 25 09.7 +1.0**
MOX Pg **Pg 05 25 17.0 -1.3**
MOX Sg **Sg 05 25 57.0 0.0**
MOX Moxa 2.90 257 Pg **Pg 05 25 17.1 -1.2**
MOX Sg **Sg 05 25 56.2 -0.8**
MOX Moxa 2.90 257 ePn **Pn 05 25 09.7 +1.0**
MOX ePg **Pg 05 25 17.1 -1.2**
MOX eSg **Sg 05 25 56.6 -0.4**
GEC2 GERESS Array S 2.97 212 ePn **Pn 05 25 11.8 +2.1**
GEC2 eSg **Sg 05 25 58.8 -0.4**
GEC2 GERESS Array S 2.97 212 ePn **Pn 05 25 11.8 +2.1**
GEC2 eSg **Sg 05 25 58.8 -0.4**
GERES GERESS Array B 2.97 212 Pn **Pn 05 25 11.0 +1.4**
4.7nm,0.3s,baz=30,slow=12,SNR=43
GERES Pg **Pg 05 25 17.7 -1.9**
10nm,0.3s,baz=26,slow=17,SNR=37
GERES Lg 05 25 58.0
9.6nm,0.3s,baz=34,slow=26,SNR=6.6
GERES GERESS Array B 2.97 212 Pg **Pg 05 25 17.7 -2.0**
GERES GERESS Array B 2.97 212 P **Pn 05 25 11.0 +1.3**
GERES 05 25 58.0
WET Wettzell 3.04 223 ePn **Pn 05 25 11.8 +1.1**
WET Wettzell 3.04 223 ePn **Pn 05 25 11.7 +1.1**
WET Wettzell 3.04 223 ePn **Pn 05 25 11.8 +1.1**
VKA Vienna 3.14 177⇑*i*PN **Pn 05 25 14.2 +2.1**
VKA *i* PG **Pg 05 25 22.3 -0.8**
VKA *i* SG **Sg 05 26 05.4 +0.5**
VKA Vienna 3.14 177 *i* Pg **Pg 05 25 22.3 -0.8**
VKA *i* Sg **Sg 05 26 05.4 +0.5**
KOLL Kolacno 3.20 151 eSG **Sg 05 26 05.9 -1.1**
ZST Bratislava 3.27 168 ePG **Pg 05 25 24.5 -1.3**
ZST eSG **Sg 05 26 07.2 -2.2**
NIE Niedzica 3.37 124 ePN **Pn 05 25 16.0 +0.6**
NIE ePN **Pg 05 25 25.0 -2.7**
NIE eS **Sg 05 26 10.0 -2.6**
VYHS Vyhne 3.42 147 ePN **Pn 05 25 18.1 +2.1**
VYHS ePG **Pg 05 25 27.9 -0.7**
VYHS eSG **Sg 05 26 09.1 -5.0**
VYHS Vyhne 3.42 147 ePg **Pg 05 25 27.9 -0.7**
VYHS eSg **Sg 05 26 09.1 -5.0**
VYHS Vyhne 3.42 147 eP **Pn 05 25 18.1 +2.1**
VYHS *e* 05 26 09.1
GRA1 Grafenberg Arr 3.52 243 ePn **Pn 05 25 18.6 +1.1**
GRA1 eSg **Sg 05 26 16.9 -0.7**
GRF Grafenberg Arr 3.52 243 ePn **Pn 05 25 18.6 +1.0**
GRF eSg **Sg 05 26 16.9 -0.7**
RGN Rugen 3.56 333 P **Pn 05 25 15.8 -2.3**
RGN Rugen 3.56 333 P **Pn 05 25 15.8 -2.3**
MOA Molln 3.73 199⇓*i*PN **Pn 05 25 21.6 +1.1**
MOA *i* SG **Sg 05 26 24.3 -0.4**
59nm,0.6s
STHS Stebnicka Huta 3.87 119 ePN **Pn 05 25 23.2 +0.8**
STHS ePG **Pg 05 25 35.5 -2.1**
STHS eSG **Sg 05 26 31.2 +2.0**
KECS Kecovo 4.08 134 ePN **Pn 05 25 26.4 +0.8**
KECS ePG **Pg 05 25 40.3 -1.7**
KECS eSG **Sg 05 26 31.1 -5.3**
ARSA Arzberg 4.16 185⇓*i*PN **Pn 05 25 27.7 +1.1**
ARSA *i* SG **Sg 05 26 36.6 -2.4**
67nm,0.7s
CRVS Cervenica-Dubn 4.28 124 ePN **Pn 05 25 29.9 +1.6**
CRVS ePG **Pg 05 25 45.1 -0.8**
CRVS eSG **Sg 05 26 39.1 -3.8**
PSZ Piszkesteto 4.28 143 eP **Pn 05 25 28.9 +0.6**
PSZ Piszkesteto 4.28 143 eP **Pn 05 25 28.9 +0.5**
KWP Kalwaria 4.60 110 e(PN) **Pn 05 25 27.0 -5.9**
KWP ePG **Pg 05 25 46.0 -6.3**
KWP eS **Sn 05 26 20.0 -7.8**
KWP Kalwaria 4.60 110 ePg **Pg 05 25 46.3 -6.0**
KWP eSn **Sn 05 26 19.9 -7.9**
KWP Kalwaria 4.60 110 ePn **Pn 05 25 26.6 -6.3**
KWP *e* 05 25 45.7
KWP ePg **Pg 05 25 46.3 -6.0**
KWP eSn **Sn 05 26 19.9 -7.9**
KWP Kalwaria 4.60 110 eP **Pn 05 25 26.6 -6.3**
KWP *e* 05 26 19.9
KBA Koelnbreinsper 4.67 203⇑*i*PN **Pn 05 25 35.2 +1.4**
KBA *i* SG **Sg 05 26 55.8 -0.1**
32nm,0.6s
KOLS Kolonicke sedl 4.70 119 ePN **Pn 05 25 33.6 -0.6**
PERS Pernice 4.80 188 ePn **Pn 05 25 38.1 +2.4**
UZH Uzhgorod 4.88 122 eP **Pn 05 25 52.0 +15**
GROS Grobnik 4.95 184 ePn **Pn 05 25 39.1 +1.3**
WATA Walderalm 5.00 217⇑*i*PN **Pn 05 25 38.4 -0.2**
WATA *i* SG **Sg 05 27 04.2 -2.8**
18nm,0.5s
WATA Walderalm 5.00 217⇑*i*Pn **Pn 05 25 38.4 -0.2**
18nm,0.5s
WATA *i* Sg **Sg 05 27 04.2 -2.8**
WTTA Wattenberg 5.04 217⇑*i*PN **Pn 05 25 38.8 -0.3**
WTTA *i* SG **Sg 05 27 06.3 -2.0**
22nm,0.6s
WTTA Wattenberg 5.04 217⇑*i*Pn **Pn 05 25 38.8 -0.3**
22nm,0.6s
WTTA *i* Sg **Sg 05 27 06.3 -2.0**
MOTA Moosalm 5.18 220⇑*i*PN **Pn 05 25 41.1 0.0**
MOTA *i* SG **Sg 05 27 10.5 -2.5**
21nm,0.6s
MOTA Moosalm 5.18 220⇑*i*Pn **Pn 05 25 41.1 0.0**
21nm,0.6s
MOTA *i* Sg **Sg 05 27 10.5 -2.5**
SQTA Sankt Quirin 5.24 219⇑*i*PN **Pn 05 25 42.7 +0.8**
SQTA *i* SG **Sg 05 27 13.4 -1.5**
16nm,0.7s
SQTA Sankt Quirin 5.24 219⇑*i*Pn **Pn 05 25 42.7 +0.8**
16nm,0.7s
SQTA *i* Sg **Sg 05 27 13.4 -1.5**
LVV L'vov 5.32 104 eP **Pn 05 25 49.1 +6.0**
LVV eS **Sn 05 26 53.5 +7.5**
CRES Cresnjev 5.59 184 ePn **Pn 05 25 48.0 +1.2**
CRES Cresnjev 5.59 184 ePn **Pn 05 25 48.0 +1.2**
VISS Visnje 5.65 189 ePn **Pn 05 25 48.5 +0.8**
VISS eSn **Sb 05 27 16.8 +7.8**
DAVA Damuels 5.76 227⇑*i*PN **Pn 05 25 48.8 -0.4**
DAVA *i* SG **Sg 05 27 30.4 -1.7**
21nm,0.7s
DAVA Damuels 5.76 227⇑*i*Pn **Pn 05 25 48.8 -0.4**
21nm,0.7s
DAVA *i* Sg **Sg 05 27 30.4 -1.7**
BOJS Bojanci 5.92 185 ePn **Pn 05 25 52.8 +1.4**
DAVOX Davos 6.14 224 Pn **Pn 05 25 55.0 +0.3**
0.8nm,0.3s,baz=40,slow=14,SNR=6.6
DAVOX Lg 05 27 36.9
0.5nm,0.3s,baz=336,slow=24,SNR=3.1
CDF Champ du Feu 6.41 246 ePn **Pn 05 25 56.3 -2.1**
CDF ePg **Pg 05 26 23.4 -4.9**
CDF eSg **Sg 05 27 50.5 -3.2**
103nm,1.2s
HGN Heimansgroeve 6.41 268 ePn **Pn 05 25 56.5 -2.0**
HGN eSg **Sg 05 27 45.1 -8.7**
HINF Hinteralfeld 6.97 243 ePn **Pn 05 26 05.0 -1.3**
HINF eSg **Sg 05 28 08.0 -4.4**
38nm,0.9s
HAU Haudompre 7.15 245 ePn **Pn 05 26 06.9 -1.9**
HAU ePg **Pg 05 26 36.7 -6.4**
HAU eSg **Sg 05 28 14.1 -4.3**
35nm,0.9s
SFTF Sexfontaines 7.81 250 eSg **Sg 05 28 32.9 -7.5**
42nm,1.0s
CABF La Chapelle 8.11 238 eSg **Sg 05 28 44.2 -6.3**
63nm,1.1s
AKASG Malin Array Be 8.33 90 Pn **P 05 26 21.2 -4.2**
1.8nm,0.3s,baz=279,slow=12,SNR=17
AKASG Lg 05 28 49.7
0.3nm,0.3s,baz=276,slow=26,SNR=4.2
AKASG Malin Array Be 8.33 90 Pn **P 05 26 21.2 -4.2**
AKASG Lg 05 28 49.7
LPL La Plagne 8.54 230 ePn **P 05 26 26.7 -1.5**
LPL ePg P 05 27 03.8 +36
LPG La Plagne 8.54 230 ePn **P 05 26 27.8 -0.5**
LPG ePg P 05 27 04.6 +36
LOR Lormes 8.97 247 eSg **Sg 05 29 11.2 -7.8**
26nm,1.2s
MBDF Montbardon 9.11 227 ePn **P 05 26 34.7 -1.5**
SMF Signal de Mont 9.32 244 eSg **Sg 05 29 21.1 -10**
26nm,1.1s
AVF Avril sur Loir 9.52 246 eSg **Sg 05 29 28.1 -9.1**
41nm,1.5s
FINES FINESS Array B 11.48 25 Pn **P 05 27 02.6 -6.0**
0.3nm,0.3s,baz=207,slow=9.3,SNR=5.9
FINES FINESS Array B 11.48 25 Pn **P 05 27 02.6 -6.0**
FINES FINESS Array B 11.48 25 Pn **P 05 27 02.6 -6.0**
EKA Eskdalemuir Ar 12.12 296 Pn **P 05 27 12.3 -5.0**
0.2nm,0.3s,baz=102,slow=14,SNR=3.5
ARCES ARCESS Array B 18.74 10 Pn **P 05 28 36.5 -6.0**
0.3nm,0.3s,baz=197,slow=13,SNR=9.4
ARU Arti 25.23 62 P **P 05 29 46.5 -2.5**
5.2nm,1.2s,mb4.1
ARU Arti 25.23 62 P **P 05 29 46.5 -2.5**
ARU pmax pmax
comp=Z,5.0nm,1.2s,mb4.1
BVAR Borovoye Array 32.67 65 P **P 05 30 55.6 -0.4**
comp=Z,0.5nm,0.5s,mb3.8,baz=284,slow=6.1,SNR=3.7
KURK Kurchatov 38.27 66 eP **P 05 31 40.3 -3.5**
comp=Z,9.0nm,1.1s,mb4.4
KURK Kurchatov 38.27 66 eP **P 05 31 40.3 -3.5**
KURK pmax pmax
comp=Z,9.0nm,1.1s,mb4.4
WMQ Urumqi 47.11 70 eP **P 05 32 56.0 +0.3**
WMQ PCP PcP 05 34 28.0 0.0
WMQ PP PP 05 34 46.0 -0.1
WMQ S **S 05 39 48.0 -0.1**
WMQ SS SS 05 43 07.0 -1.1
WMQ AMB AMB
comp=Z,11nm,1.0s,mb4.9
WMQ LR LR
comp=N,198nm,18.0s,MS4.2
WMQ LR LR
comp=E,136nm,17.0s,MS4.2
WMQ LR LR
comp=Z,128nm,17.0s,MS4.0
HHC Hu-ho-hao-te 62.47 58 eP **P 05 34 45.5 -2.1**
HHC PP PP 05 37 06.1 -0.8
HHC PCS 05 39 28.8
HHC eS **S 05 43 10.0 -4.2**
HHC AMB AMB
comp=Z,13nm,0.5s,mb5.4
HHC AMB AMB
comp=Z,126nm,5.3s
PDAR Pinedale Array 75.01 322 P **P 05 36 04.8 -0.1**
comp=Z,0.3nm,0.5s,mb3.5,baz=40,slow=6.6,SNR=3.9

*IDC **11** 05:29:27.4±12.0, 22.55N×94.12E, h87km±111km, mb3.7/9, mb1 3.9/9, mb1mx3.7/20, mbtmp4.1/9, Error ellipse: s-maj=55.4km s-min=18.6km az=51.0*
ISC 11 05:29:23.6±0.8, 22.49N±0.06×94.04E±0.05, h72km±9km, n36, σ1°18/42, mb3.9/9, 2C-1D, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**2.29**	**358**	*e*P	**P**	**05 30 00.0**	**+0.1**
IMP				*e*SG	**S**	**05 30 30.0**	**+3.1**
SHL	**Shillong**	**3.64**	**328**	*e*P	**P**	**05 30 19.5**	**+0.6**
SHL				*e*S	**S**	**05 30 55.0**	**-5.9**
CHRT	**Chiangrai**	**5.96**	**115**	⇑P	**P**	**05 30 50.5**	**-0.5**
	553nm,0.8s						
SHBG	**Sahibganj**	**6.43**	**296**	*e*P	**P**	**05 30 59.0**	**+1.4**
SHBG				*e*x	x	05 31 03.2	
GTK	**Gangtok**	**6.89**	**316**	*e*P	**P**	**05 31 03.0**	**-1.0**
GTK				*e*x	**S**	**05 32 17.0**	**-4.6**
NANT	**Nan**	**7.24**	**119**	⇓P	**P**	**05 31 08.0**	**-0.8**
	269nm,1.0s						
BOK	**Bokaro**	**7.61**	**281**	*i* P	**P**	**05 31 15.6**	**+1.6**
BOK				*i* x	**S**	**05 32 36.6**	**-2.9**
BWNR	**Bhubaneshwar**	**7.97**	**256**	*i* x	**S**	**05 32 49.8**	**+1.5**
BWNR				AML	AML	05 32 57.0	
	comp=N,621nm,0.4s						
BWNR				AML	AML	05 32 58.0	
	comp=E,446nm,0.4s						
PKI	**Pulchoki**	**9.32**	**305**	*e*P	**P**	**05 31 37.0**	**-0.2**
	comp=E,317nm,0.6s						
KKN	**Kakani**	**9.53**	**305**	*e*P	**P**	**05 31 39.3**	**-0.9**
	comp=E,130nm,0.3s						
DMN	**Daman**	**9.57**	**304**	*e*P	**P**	**05 31 40.2**	**-0.5**
	comp=E,69nm,0.3s						
DMN				*e*S	**S**	**05 33 24.9**	**-2.6**
GKN	**Gorkha**	**10.12**	**305**	*e*P	**P**	**05 31 47.5**	**-0.8**
	comp=E,442nm,0.3s						
KOLN	**Koldanda**	**10.82**	**301**	*e*P	**P**	**05 31 56.4**	**-1.2**
	comp=E,124nm,0.4s						
VIS	**Vishakhapatnam**	**11.12**	**247**	*e*P	**P**	**05 32 06.7**	**+5.0**
VIS				*e*S	**S**	**05 33 57.6**	**-7.5**
VIS				AML	AML	05 34 06.2	
	comp=E,43nm,0.3s						
VIS				AML	AML	05 34 06.3	
	comp=N,47nm,0.2s						
ALBI	**Allahabad**	**11.53**	**287**	*e*P	**P**	**05 32 06.0**	**-1.3**
BHPL	**Bhopal**	**15.33**	**276**	*e*P	**P**	**05 32 60.0**	**+2.9**
BHPL				*e*x	**S**	**05 35 37.2**	**-7.8**
AGRA	**Agra**	**15.35**	**291**	*e*P	**P**	**05 32 56.5**	**-0.8**
AGRA				*e*x	x	05 35 20.1	
SONA	**Sohna**	**16.36**	**294**	*e*P	**P**	**05 33 11.4**	**+1.5**
SONA				*e*x	**S**	**05 35 57.7**	**-11**
NDI	**New Delhi**	**16.37**	**296**	*e*P	**P**	**05 33 09.5**	**-0.7**
KLP	**Kalpa**	**16.69**	**306**	*e*P	**P**	**05 33 16.1**	**+2.0**
KUDL	**Kundal**	**16.83**	**293**	*e*P	**P**	**05 33 16.5**	**+0.6**
RTK	**Rohtak**	**17.15**	**296**	*e*P	**P**	**05 33 22.9**	**+3.0**
KHET	**Khetri**	**17.39**	**292**	*e*P	**P**	**05 33 22.9**	**0.0**
POO	**Poona**	**19.31**	**262**	*e*x	x	05 37 15.4	
KAD	**Karad**	**19.36**	**258**	*e*x	**S**	**05 37 19.2**	**+3.6**
MKAR	**Makanchi Array**	**26.04**	**341**	P	**P**	**05 34 52.0**	**+0.2**
	comp=N,3.9nm,0.6s,mb4.0,baz=149,slow=10,SNR=34						
SONM	**Songino Array**	**27.16**	**18**	P	**P**	**05 35 02.0**	**0.0**
	comp=N,0.5nm,0.4s,mb3.4,baz=198,slow=9.1,SNR=4.1						
ZAL	**Zalesovo**	**32.17**	**350**	P	**P**	**05 35 46.1**	**-0.3**
	comp=N,1.8nm,0.7s,mb3.9,baz=291,slow=6.6,SNR=8.8						
BVAR	**Borovoye Array**	**35.43**	**335**	P	**P**	**05 36 15.2**	**+0.8**
	comp=N,0.5nm,0.5s,mb3.6,baz=124,slow=10,SNR=3.7						
AKASG	**Malin Array Be**	**57.06**	**317**	P	**P**	**05 39 03.8**	**-0.6**
	comp=N,0.3nm,0.3s,mb3.8,baz=81,slow=5.8,SNR=4.2						
WRA	**Warramunga Arr**	**57.68**	**134**	P	**P**	**05 39 08.9**	**-0.3**
	comp=N,2.8nm,0.5s,mb4.6,baz=322,slow=7.5,SNR=81						
WB2	**Warramunga Arr**	**57.69**	**134**	⇑*i*P	**P**	**05 39 08.9**	**-0.3**
ARCES	**ARCESS Array B**	**61.64**	**338**	P	**P**	**05 39 35.0**	**-0.6**
	comp=N,2.8nm,0.9s,mb4.3,baz=84,slow=8.2,SNR=3.6						
GERES	**GERESS Array B**	**67.17**	**315**	P	**P**	**05 40 12.7**	**+0.9**
	comp=N,0.5nm,0.2s,mb3.9,baz=34,slow=7.1,SNR=4.3						
STKA	**Stephens Creek**	**70.66**	**138**	P	**P**	**05 40 34.0**	**+0.4**
	comp=N,0.8nm,0.6s,mb3.8,baz=328,slow=13,SNR=2.9						
TXAR	**Lajitas Array**	**125.73**	**19**	PKP	PKPdf	05 48 19.2	+1.7
	comp=N,0.2nm,0.6s,baz=168,slow=0.7,SNR=4.8						

*WAR **11** 05:43:56.6, 51.49N×16.09E, h1km, ML2.7, Mining Induced*
*PRU **11** 05:43:56.6, 51.47N×16.12E*
*IPEC **11** 05:43:56.1±0.3, 51.49N×16.18E, h5km±1km, ML2.0/3, Error ellipse: s-maj=2.2km s-min=0.8km az=24.0*
*CSEM **11** 05:43:58.2±0.4, 51.40N×16.05E, h2km, ML3.0/5, Error ellipse: s-maj=7.3km s-min=3.3km az=15.0*
*NEIC **11** 05:43:59.1±1.7, 51.30N×15.98E, h5km, ML2.9(VIE), Error ellipse: s-maj=19.9km s-min=8.3km az=206.0*
ISC 11 05:43:54.5±0.7, 51.44N±0.04×16.11E±0.03, n32, σ1°30/61, 1C, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.61**	**169**	*e*PG	**Pg**	**05 44 09.0**	**+2.3**
KSP				*e*SG	**Sg**	**05 44 17.0**	**+2.3**
KSP	**Ksiaz**	**0.61**	**169**	*e*Pg	**Pg**	**05 44 08.6**	**+1.9**
KSP				*e*Sg	**Sg**	**05 44 17.0**	**+2.3**
KSP	**Ksiaz**	**0.61**	**169**	*e*Pg	**Pg**	**05 44 08.6**	**+1.9**
KSP				*e*Sg	**Sg**	**05 44 17.3**	**+2.6**
UPC	**Upice**	**0.93**	**184**	*e*PG	**Pg**	**05 44 14.5**	**+1.3**
UPC	**Upice**	**0.93**	**184**	*e*Pg	**Pg**	**05 44 14.7**	**+1.5**
DPC	**Dobruska-Polom**	**1.10**	**173**	*e*PG	**Pg**	**05 44 17.4**	**+1.0**
DPC				*e*SG	**Sg**	**05 44 32.5**	**+1.4**
	17nm,0.3s						
DPC	**Dobruska-Polom**	**1.10**	**173**	Pg	**Pg**	**05 44 17.4**	**+1.0**
DPC				*e*Sg	**Sg**	**05 44 31.7**	**+0.6**
PVCC	**Panska Ves**	**1.33**	**228**	*e*PG	**Pg**	**05 44 21.6**	**+0.4**
PVCC	**Panska Ves**	**1.33**	**228**	*e*Pn	**Pn**	**05 44 22.0**	**+1.6**
PVCC				*e*Sg	**Sg**	**05 44 40.6**	**+1.7**
BRG	**Berggiesshubel**	**1.48**	**248**	*e*Pn	**Pn**	**05 44 23.9**	**+1.4**
BRG	**Berggiesshubel**	**1.48**	**248**	Pg	**Pg**	**05 44 24.3**	**+0.3**
BRG				*e*Sg	**Sg**	**05 44 43.5**	**-0.2**
BRG	**Berggiesshubel**	**1.48**	**248**	Pn	**Pn**	**05 44 23.7**	**+1.2**
BRG				Pg	**Pg**	**05 44 24.3**	**+0.3**
BRG				Sg	**Sg**	**05 44 44.3**	**+0.6**
PRU	**Pruhonice**	**1.76**	**215**	*e*PG	**Pg**	**05 44 29.0**	**-0.7**
PRU				*e*x	x	05 44 33.4	
PRU				*e*x	x	05 44 46.3	
PRU				*e*SG	**Sg**	**05 44 52.9**	**-0.3**
	7.2nm,0.2s						
PRU	**Pruhonice**	**1.76**	**215**	*e*Pn	**Pn**	**05 44 28.9**	**+2.4**
PRU	**Pruhonice**	**1.76**	**215**	*e*Pg	**Pg**	**05 44 29.0**	**-0.7**
PRU				*e*Sg	**Sg**	**05 44 52.1**	**-1.1**
MORC	**Moravsky Berou**	**1.90**	**151**	*e*Pn	**Pn**	**05 44 29.3**	**+0.8**
MORC				*e*Sn	**Sn**	**05 44 53.4**	**0.0**
MORC				*e*Sg	**Sg**	**05 44 56.3**	**-1.4**
	13nm,0.3s						
MORC	**Moravsky Berou**	**1.90**	**151**	*e*Pn	**Pn**	**05 44 28.6**	**+0.2**
MORC				*e*Sn	**Sn**	**05 44 53.4**	**0.0**
CLL	**Collm**	**1.95**	**267**	*i* PG	**Pg**	**05 44 32.1**	**-1.4**
CLL				*i*		05 44 35.7	
CLL				*i* SG	**Sg**	**05 44 57.8**	**-1.7**
CLL	**Collm**	**1.95**	**267**	*i* Pg	**Pg**	**05 44 32.1**	**-1.4**
CLL				*i* Sg	**Sg**	**05 44 57.8**	**-1.7**
OKC	**Ostrava-Krasne**	**2.06**	**140**	*e*PG	**Pg**	**05 44 35.7**	**0.0**
OKC				*e*SG	**Sg**	**05 45 02.0**	**-1.2**
	24nm,0.8s						
VRAC	**Vranov**	**2.15**	**172**	*e*Pn	**Pn**	**05 44 33.8**	**+1.6**
VRAC				*e*Sg	**Sg**	**05 45 04.5**	**-1.8**
	7.9nm,0.3s						
KRUC	**Moravsky**	**2.39**	**175**	*e*Pn	**Pn**	**05 44 36.9**	**+1.4**
KRUC	**Moravsky**	**2.39**	**175**	*e*Pg	**Pg**	**05 44 40.6**	**-1.6**
KRUC				*e*Sg	**Sg**	**05 45 13.3**	**-0.7**
	6.7nm,0.3s						
NKC	**Novy Kostel**	**2.62**	**244**	*e*PN	**Pn**	**05 44 39.8**	**+1.0**
NKC				*e*PG	**Pg**	**05 44 45.8**	**-1.0**
NKC				*e*SG	**Sg**	**05 45 21.3**	**-0.4**
	20nm,0.3s						
NKC	**Novy Kostel**	**2.62**	**244**	*e*Pn	**Pn**	**05 44 39.6**	**+0.8**
NKC	**Novy Kostel**	**2.62**	**244**	*e*Pg	**Pg**	**05 44 45.8**	**-1.0**
NKC				*e*Sg	**Sg**	**05 45 20.9**	**-0.8**
OJC	**Ojcow**	**2.64**	**116**	*e*PG	**Pg**	**05 44 48.0**	**+0.8**
OJC				*e*SG	**Sg**	**05 45 21.0**	**-1.3**
KHC	**Kasperske Hory**	**2.82**	**216**	*e*PN	**Pn**	**05 44 42.6**	**+0.9**
KHC				*e*PG	**Pg**	**05 44 48.1**	**-2.8**
KHC				*e*SN	**Sn**	**05 45 17.7**	**+0.7**
KHC				*e*SG	**Sg**	**05 45 28.3**	**-0.2**
	5.2nm,0.3s						
KHC	**Kasperske Hory**	**2.82**	**216**	*e*Pn	**Pn**	**05 44 42.5**	**+0.8**
MOX	**Moxa**	**2.95**	**256**	*e*Pg	**Pg**	**05 44 50.9**	**-2.5**
MOX				*e*Sg	**Sg**	**05 45 29.8**	**-2.8**
MOA	**Molln**	**3.79**	**199**	⇑*i*PN	**Pn**	**05 44 56.2**	**+0.8**
MOA				*i* SG	**Sg**	**05 45 59.6**	**-1.0**
	7.3nm,0.5s						
STHS	**Stebnicka Huta**	**3.86**	**120**	*e*PG	**Pg**	**05 45 10.5**	**-1.0**
STHS				*e*SG	**Sg**	**05 46 01.8**	**-1.1**

MAN 11 06:28:32.9, 11.85N×125.72E, h25km, mb3.7, ML2.4, MS2.0, 1C, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.37**	**228**	*e*P	Pb	06 28 41.6	+0.6
BESP				*e*S	Sb	06 28 49.2	+2.8
PLP	**Palo**	**0.99**	**227**	*e*P	Pb	06 28 51.1	-0.3
PLP				*e*S	Sb	06 29 04.8	+0.8
MSLP	**Maasin**	**1.90**	**206**	*e*P	Pn	06 29 07.3	+2.9
MSLP				*e*S	Sn	06 29 35.2	+7.4
SCPH	**Surigao**	**2.07**	**186⇑**	*e*P	Pn	06 29 06.2	-0.6

PRU ***11*** *06:36:21.3, 51.49N×16.18E*
NEIC ***11*** *06:36:21.1±2.2, 51.50N×16.26E, h5km, ML2.8(VIE), Error ellipse: s-maj=24.8km s-min=8.5km az=222.0*
CSEM ***11*** *06:36:21.1±0.2, 51.51N×16.18E, h0km, ML3.0/6, Error ellipse: s-maj=3.7km s-min=2.1km az=21.0*
WAR 11 06:36:22.2, 51.48N×16.10E, h1km, ML2.7, 1C-2D, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.65**	**169⇓**	*e*PG	Pg	06 36 34.0	-1.2
KSP			⇓	*e*SG	Sg	06 36 42.0	-1.9
KSP	**Ksiaz**	**0.65**	**169**	*e*Pg	Pg	06 36 34.1	-1.1
KSP				*e*Sg	Sg	06 36 42.7	-1.2
UPC	**Upice**	**0.98**	**183**	*e*PG	Pg	06 36 40.3	-1.4
DPC	**Dobruska-Polom**	**1.14**	**173**	*e*PG	Pg	06 36 43.0	-2.0
DPC				*e*SG	Sg	06 36 57.9	-2.4
	22nm,0.6s						
PVCC	**Panska Ves**	**1.36**	**226**	*e*PG	Pg	06 36 47.7	-1.6
BRG	**Berggiesshubel**	**1.49**	**247**	Pg	Pg	06 36 49.9	-2.0
BRG	**Berggiesshubel**	**1.49**	**247**	Pn	Pn	06 36 49.3	-0.8
BRG				Pg	Pg	06 36 49.9	-2.0
BRG				Sg	Sg	06 37 09.8	-1.9
PRU	**Pruhonice**	**1.79**	**214**	*e*PG	Pg	06 36 54.7	-3.3
PRU				*e*x	x	06 36 58.8	
PRU				*e*SG	Sg	06 37 19.3	-2.6
	18nm,0.6s						
PRU	**Pruhonice**	**1.79**	**214**	*e*Pg	Pg	06 36 54.7	-3.3
PRU				Sg	Sg	06 37 19.3	-2.6
	18nm,0.6s						
MORC	**Moravsky Berou**	**1.94**	**151**	*e*Pn	Pn	06 36 54.0	-2.6
MORC				*e*Sn	Sn	06 37 16.3	-5.7
MORC				*e*Sg	Sg	06 37 20.1	-6.7
MORC	**Moravsky Berou**	**1.94**	**151**	*e*Pn	Pn	06 36 54.0	-2.6
MORC				*e*Sn	Sn	06 37 16.3	-5.7
CLL	**Collm**	**1.94**	**266**	*e*PG	Pg	06 36 57.0	-4.0
CLL				*i* SG	Sg	06 37 23.5	-3.5
OKC	**Ostrava-Krasne**	**2.10**	**141**	*e*PG	Pg	06 36 59.8	-4.4
OKC				*e*SG	Sg	06 37 27.7	-4.5
	15nm,0.6s						
VRAC	**Vranov**	**2.20**	**171**	*e*Pn	Pn	06 37 00.0	-0.4
VRAC				*e*Sg	Sg	06 37 29.8	-5.7
NKC	**Novy Kostel**	**2.63**	**243**	*e*PN	Pn	06 37 05.3	-1.2
NKC				*e*PG	Pg	06 37 11.3	-3.4
NKC				*e*SG	Sg	06 37 48.2	-1.5
	18nm,0.3s						
OJC	**Ojcow**	**2.67**	**117**	*e*PG	Pg	06 37 13.0	-2.4
OJC				*e*SG	Sg	06 37 48.0	-3.0
KHC	**Kasperske Hory**	**2.85**	**215**	*e*PN	Pn	06 37 07.2	-2.5
KHC				*e*PG	Pg	06 37 14.0	-5.2
KHC				*e*SN	Sn	06 37 43.0	-2.2
KHC				*e*SG	Sg	06 37 53.5	-3.7
	8.1nm,0.6s						
LIKS	**Likavka**	**3.11**	**140**	*e*SG	Sx	06 38 28.3	
MOA	**Molln**	**3.83**	**199⇑**	*i*PN	Pn	06 37 22.0	-1.5
MOA				*i* SG	Sg	06 38 25.4	-4.2
	7.5nm,0.6s						
STHS	**Stebnicka Huta**	**3.89**	**120**	*e*PG	Pg	06 37 36.4	-3.4

THR ***11*** *06:38:29.7±0.4, 32.88N×49.64E, h14km±6km, ML3.1*
TEH ***11*** *06:38:30.8, 32.81N×49.58E, h10km, Mn3.3*
CSEM ***11*** *06:38:30.7±0.1, 32.73N×49.64E, h40km, ML3.3, Error ellipse: s-maj=3.4km s-min=2.4km az=173.0*
ISC 11 06:38:28.9±0.6, 32.75N±0.06×49.73E±0.04, h10km, n17, σ1§11/17, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGO	**Shushtar**	**1.01**	**231**	*e*PG	**Pg**	**06 38 49.2**	**0.0**
SHGO				AML	AML	06 39 18.5	
	comp=E,327nm,0.4s						
SHGR	**Shooshtar-Gavs**	**1.01**	**231**	*e*PG	**Pg**	**06 38 49.2**	**0.0**
SHGR				AML	AML	06 39 11.9	
	comp=E,481nm,0.4s						
IKLH	**Kalahroud**	**1.65**	**69**	Pn	**Pn**	**06 38 56.9**	**-1.4**
QAM	**Qamsar**	**2.08**	**56**	Pn	**Pn**	**06 38 59.0**	**-5.3**
IGAR	**Garneh**	**2.15**	**103**	Pn	**Pn**	**06 39 06.1**	**+0.8**
IZEF	**Zefreh**	**2.19**	**86**	Pn	**Pn**	**06 39 07.0**	**+1.0**
IKOM	**Komasi**	**2.33**	**308**	Pn	**Pn**	**06 39 07.6**	**-0.4**
NASN	**Na'in**	**2.59**	**88**	*e*PN	**Pn**	**06 39 14.7**	**+3.0**
NASN				*e*SG	**Sg**	**06 39 53.4**	**-2.0**
NASN				AML	AML	06 40 05.4	
	comp=E,60nm,0.6s						
IRAZ	**Razeghan**	**2.65**	**4**	Lg		06 39 51.9	
IVRN	**Varamin**	**2.79**	**36**	Pn	**Pn**	**06 39 15.7**	**+1.2**
IVIS	**Veys**	**2.98**	**307**	Pn	**Pn**	**06 39 15.4**	**-1.8**
SNGE	**Sanandaj**	**3.06**	**320**	*e*PN	**Pn**	**06 39 17.7**	**-0.7**
SNGE				AML	AML	06 40 07.5	
	comp=N,89nm,0.6s						
IDHR	**Dehrash**	**3.40**	**306**	Pn	**Pn**	**06 39 24.2**	**+1.1**
IDMV	**Damavand**	**3.41**	**33**	Pn	**Pn**	**06 39 23.3**	**0.0**
IFIR	**Firoozkooh**	**3.82**	**40**	Pn	**Pn**	**06 39 29.9**	**+0.7**
IPAR	**Pars**	**4.06**	**135**	Pn	**Pn**	**06 39 23.5**	**-9.1**
ISRV	**Sarvestan**	**4.44**	**138**	Pn	**Pn**	**06 39 37.7**	**-0.3**

THR ***11*** *06:46:04.4±0.4, 34.54N×53.11E, h14km±4km, ML3.2*
CSEM ***11*** *06:46:04.2±0.1, 34.54N×53.14E, h16km, ML3.4, Error ellipse: s-maj=3.5km s-min=2.2km az=68.0*
TEH ***11*** *06:46:06.0, 34.61N×53.10E, h18km, Mn3.4*
ISC 11 06:46:04.6±0.5, 34.58N±0.04×53.13E±0.06, h14km, n23, σ1§18/22, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IFIR	**Firoozkooh**	**1.10**	**344**	Pg	**Pg**	**06 46 25.1**	**-1.7**
IVRN	**Varamin**	**1.23**	**290**	Lg		06 46 45.5	
IVRN	**Varamin**	**1.23**	**290**	Pn	**Pn**	**06 46 27.8**	**+0.4**
QAM	**Qamsar**	**1.29**	**239**	Pn	**Pn**	**06 46 33.0**	**+4.7**
IDMV	**Damavand**	**1.34**	**318**	Pg	**Pg**	**06 46 29.9**	**-1.6**
DAMV	**Damavand**	**1.42**	**318**	*e*PG	**Pg**	**06 46 30.8**	**-2.2**
DAMV				AML	AML	06 46 56.8	
	comp=E,311nm,0.2s						
IKIA	**Kiasar**	**1.69**	**15**	Pn	**Pn**	**06 46 34.7**	**+0.8**
IAFJ	**Afjeh**	**1.72**	**318**	Lg		06 47 00.2	
IGLO	**Galoogah**	**1.75**	**10**	Pn	**Pn**	**06 46 41.3**	**+6.4**
NASN	**Na'in**	**1.79**	**189**	*e*PG	**Pg**	**06 46 36.7**	**-3.8**
NASN				AML	AML	06 47 10.8	
	comp=N,516nm,0.4s						
IKLH	**Kalahroud**	**1.80**	**226**	Pn	**Pn**	**06 46 36.4**	**+0.8**
IZEF	**Zefreh**	**1.81**	**202**	Pn	**Pn**	**06 46 36.0**	**+0.3**
IPRN	**Paran-Amol**	**1.81**	**337**	Pn	**Pn**	**06 46 37.2**	**+1.5**
THKV	**Tehran--Karaj**	**2.27**	**307**	*e*PN	**Pn**	**06 46 43.9**	**+1.6**
IMHD	**Mahdasht**	**2.30**	**299**	Pn	**Pn**	**06 46 42.5**	**-0.2**
IGAR	**Garneh**	**2.46**	**199**	Pn	**Pn**	**06 46 44.5**	**-0.5**
ASAO	**Ashtian**	**2.56**	**270**	*e*PN	**Pn**	**06 46 47.6**	**+1.1**
ASAO				*e*SG	**Sg**	**06 47 24.3**	**-5.7**
ASAO				AML	AML	06 47 31.7	
	comp=E,73nm,0.6s						
ICHK	**Chekchek**	**2.56**	**155**	Pn	**Pn**	**06 46 46.8**	**+0.3**
IMEH	**Mehriz**	**3.42**	**158**	Pn	**Pn**	**06 46 58.3**	**-0.3**
IBAF	**Bafgh**	**3.62**	**145**	Pn	**Pn**	**06 46 59.4**	**-2.0**
IKRD	**Kardeh**	**4.90**	**62**	Pn	**Pn**	**06 47 29.4**	**+10**
IMOG	**Moghan**	**5.30**	**71**	Pn	**Pn**	**06 47 26.2**	**+0.9**
IMYA	**Miamay**	**5.96**	**71**	Pn	**Pn**	**06 47 34.9**	**+0.3**

BJI ***11*** *07:02:49.1, 22.21S×170.24E, h11km, mB5.3, mb5.0, Ms5.0, Msz4.7*
IDC ***11*** *07:02:50.8±0.8, 21.81S×170.24E, mb4.5/13, mb1 4.7/14, mb1mx4.6/17, mbtmp4.5/14, ML4.0/1, MS4.6/24, Ms1 4.6/24, ms1mx4.5/27, Error ellipse: s-maj=19.9km s-min=19.4km az=128.0*
NEIC ***11*** *07:02:52.0±0.3, 22.06S×170.09E, h10km, mb5.2/23, MS4.7/28, Error ellipse: s-maj=10.3km s-min=10.0km az=170.0*
LDG ***11*** *07:02:52.4±0.3, 21.52S×170.14E, h10km, Mb5.1/2, Ms4.6/9, Error ellipse: s-maj=25.1km s-min=5.1km az=159.0*
HRVD ***11*** *07:02:52.0±0.2, 22.01S×170.22E, h14km, MW5.2/62, Centroid moment Tensor Solution. LP body waves: s40,c72;Mantle waves: s62,c128; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.96±.25; $M_{\theta\theta}$2.45±.19; $M_{\phi\phi}$1.51±.19; $M_{r\theta}$-0.92±.39; $M_{\theta\phi}$6.73±.15; $M_{\phi r}$-0.32±.37; Best double couple: $M_0$6.861×10^{16} NP1: ϕ_s184°, δ71°, λ-166°. NP2:ϕ_s89°, δ77°, λ-20°. Principal axes: T 8.788, Plg4°, Azm137°; N -3.855, Plg67°, Azm236°; P -4.933, Plg23°, Azm45°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS ***11*** *07:02:55.7±1.2, 22.17S×169.97E, h33km, MS4.8/12 Error ellipse: s-maj=28.5km s-min=19.8km az=118.0*
ISC 11 07:02:52.4±0.3, 22.06S±0.05×170.09E±0.05, h18km, h18km±2.6km: pP-P, n204, σ1§38/90, mb5.0/46, MS4.7/56, 17C-7D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.38**	**269**	Pn	**Pn**	**07 03 45.1**	**-0.4**
	14nm,0.3s,baz=85,slow=19,SNR=230						
DZM				Sn	**Sn**	**07 04 27.3**	**+1.8**
	32nm,0.3s,baz=93,slow=19,SNR=6.6						
RAO	**Raoul Island**	**12.97**	**126**	LR	LR	07 09 46.8	
	comp=Z,6μm,19.6s,baz=120,slow=32						
HNR	**Honiara**	**15.89**	**321**	LR	LR	07 11 41.5	
	comp=Z,2μm,21.4s,baz=344,slow=34						
HNR	**Honiara**	**15.89**	**321**	P	**P**	**07 06 36.1**	**-0.9**
URZ	**Urewera**	**17.24**	**161**	P	**P**	**07 06 57.9**	**+4.0**
	0.4nm,0.3s,baz=321,slow=5.7,SNR=5.8						
URZ				LR	LR	07 12 17.5	
	comp=Z,3μm,19.5s,baz=202,slow=32						
ARMA	**Armidale**	**18.52**	**239**	*e*P	**P**	**07 07 01.0**	**-8.8**
ARMA				*i* S	**S**	**07 10 30.7**	**-2.0**
AFI	**Afiamalu**	**19.05**	**68**	LR	LR	07 13 04.4	
	comp=Z,675nm,20.1s,baz=237,slow=33						
RPZ	**Rata Peaks**	**21.61**	**178**	P	**P**	**07 07 46.5**	**+3.1**
	25nm,1.0s,mb4.6,baz=44,slow=7.5,SNR=3.6						
RPZ				LR	LR	07 14 05.7	
	comp=Z,1μm,21.6s,MS4.2,baz=352,slow=31						
CTA	**Charters Tower**	**22.32**	**271⇓**	*i*P	**P**	**07 07 53.7**	**+3.0**
	17nm,0.9s,mb4.5						
CTA				*i* S	**S**	**07 11 59.7**	**+9.4**
CTA	**Charters Tower**	**22.32**	**271**	P	**P**	**07 07 52.9**	**+2.2**
	5.7nm,0.8s,mb4.0,baz=83,slow=10,SNR=7.3						
CTA				LR	LR	07 16 01.1	
	comp=Z,3μm,18.0s,MS4.7,baz=92,slow=35						
CTAO	**Charters Tower**	**22.32**	**271**	*e*P	**P**	**07 07 49.6**	**-1.0**
	90nm,1.3s,mb5.0						
CTAO				LR	LR		
	comp=Z,2μm,19.0s,MS4.6						
CNB	**Canberra Magne**	**22.41**	**229**	*e*P	**P**	**07 07 56.2**	**+4.7**
	comp=Z,245nm,1.4s,mb5.4						
PMG	**Port Moresby**	**25.36**	**296**	P	**P**	**07 08 21.4**	**+1.2**
	comp=Z,20nm,0.8s,mb4.7,baz=118,slow=8.8,SNR=5.1						
PMG				LR	LR	07 16 39.2	
	comp=Z,2μm,20.5s,MS4.7,baz=329,slow=33						
PMG	**Port Moresby**	**25.36**	**296⇑**	*e*P	**P**	**07 08 19.4**	**-0.8**
	comp=Z,21nm,0.8s,mb4.7						
PMG				LR	LR		
	comp=Z,3μm,19.0s,MS4.8						
PMG	**Port Moresby**	**25.36**	**296**	*i* P	**P**	**07 08 21.8**	**+1.6**
STKA	**Stephens Creek**	**27.14**	**243**	P	**P**	**07 08 38.2**	**+1.7**
	comp=Z,10nm,0.7s,mb4.5,baz=79,slow=8.9,SNR=12						
STKA				LR	LR	07 18 33.8	
	comp=Z,2μm,20.9s,MS4.7,baz=68,slow=34						
STKA	**Stephens Creek**	**27.14**	**243**	*e*P	**P**	**07 08 34.3**	**-2.3**
STKA				LR	LR	07 18 33.8	
TAU	**Tasmania Unive**	**28.14**	**217**	PFAKE		07 09 00.0	+14
TAU				LR	LR		
	comp=Z,596nm,20.0s,MS4.2						
WB2	**Warramunga Arr**	**33.38**	**267**	*e*P	**P**	**07 09 31.4**	**-0.7**
WRAB	**Tennant Creek**	**33.38**	**267**	*e*P	**P**	**07 09 28.5**	**-3.6**
	comp=Z,101nm,1.6s,mb5.5						
WRAB				LR	LR		
	comp=Z,843nm,21.0s,MS4.4						
WRAB	**Tennant Creek**	**33.38**	**267**	*d*P	**P**	**07 09 31.7**	**-0.4**
WRA	**Warramunga Arr**	**33.39**	**267**	P	**P**	**07 09 30.9**	**-1.3**
	comp=Z,4.1nm,0.8s,mb4.4,baz=99,slow=8.2,SNR=43						
KAKA	**Kakadu**	**37.02**	**278**	*e*P	**P**	**07 10 12.8**	**+10**
	comp=Z,31nm,1.2s,mb5.0						
PPT	**Papeete**	**38.13**	**91**	LR	LR	07 21 41.5	
	comp=Z,338nm,18.5s,MS4.2,baz=258,slow=30						
FORT	**Forrest**	**38.44**	**248**	*e*P	**P**	**07 10 15.8**	**+0.8**
	comp=Z,40nm,1.1s,mb5.1						
FITZ	**Fitoy Crossi**	**41.82**	**267**	*e*P	**P**	**07 10 44.7**	**+1.6**
	comp=Z,49nm,0.8s,mb5.2						
FITZ	**Fitzroy Crossi**	**41.82**	**267**	P	**P**	**07 10 43.9**	**+0.8**
	comp=Z,47nm,1.1s,mb5.0,baz=131,slow=5.8,SNR=18						
GUMO	**Guam**	**43.21**	**323**	PFAKE		07 11 10.0	+16
GUMO				LR	LR		
	comp=Z,164nm,20.0s,MS3.9						
MBWA	**Marble Bar**	**46.65**	**261**	*e*P	**P**	**07 11 20.2**	**-1.7**
	comp=Z,26nm,0.9s,mb5.2						
MBWA				LR	LR		
	comp=Z,822nm,21.0s,MS4.7						
KLBR	**Kellerberrin**	**47.28**	**247**	*e*P	**P**	**07 11 27.4**	**+0.6**
	comp=Z,169nm,1.9s,mb5.7						
NWAO	**Narrogin (SRO)**	**47.69**	**245**	*e*P	**P**	**07 11 30.3**	**+0.3**
	comp=Z,22nm,1.1s,mb5.1						
NWAO				LR	LR		
	comp=Z,2μm,21.0s,MS5.0						
VNDA	**Vanda**	**55.65**	**182**	P	**P**	**07 12 29.3**	**-0.1**
	comp=Z,1.7nm,0.9s,mb4.1,baz=1.4,slow=4.7,SNR=6.5						
VNDA				LR	LR	07 32 21.4	
	comp=Z,334nm,19.0s,MS4.4,baz=17,slow=32						
VNDA	**Vanda**	**55.65**	**182**	*e*P	**P**	**07 12 26.8**	**-2.6**
	comp=Z,17nm,1.5s,mb4.9						
VNDA				LR	LR		
	comp=Z,404nm,20.0s,MS4.5						
SBA	**Scott Base**	**55.87**	**181**	*e*P	**P**	**07 12 30.1**	**-0.8**
	comp=Z,62nm,1.5s,mb5.4						
CASY	**Casey**	**57.88**	**204**	*e*P	**P**	**07 12 43.7**	**-1.6**
KSM	**Kuching**	**62.79**	**284**	P	**P**	**07 13 17.7**	**-1.8**
MIR	**Mirnyy**	**64.83**	**206**	*e*P	**P**	**07 13 33.0**	**+0.9**
MIR				pmax	pmax		
	comp=Z,63nm,2.0s,mb5.3						
MJAR	**Matsushiro Arr**	**65.60**	**332**	P	**P**	**07 13 35.6**	**-2.0**
	comp=Z,9.2nm,1.0s,mb4.8,baz=170,slow=7.1,SNR=13						
MJAR				LR	LR	07 39 09.8	
	comp=Z,298nm,20.4s,MS4.5,baz=135,slow=33						
MAJO	**Matsushiro**	**65.61**	**332**	*e*P	**P**	**07 13 35.4**	**-2.2**
	comp=Z,16nm,1.0s,mb5.0						
MAJO				LR	LR		
	comp=Z,369nm,21.0s,MS4.6						
MAT	**Matsushiro**	**65.61**	**332**	P	**P**	**07 13 35.6**	**-2.0**
MAT				S	S	07 22 28.0	+7.4
MAT	**Matsushiro**	**65.61**	**332**	*e*P	**P**	**07 13 38.0**	**+0.4**
	comp=Z,10.0nm,1.0s,mb4.8						
MAT				*e*S	S	07 22 13.0	-7.6
TATO	**Taipei**	**66.42**	**312**	P	**P**	**07 13 40.3**	**-2.7**
	comp=Z,133nm,1.2s,mb5.8						
QSPA	**South Pole Qui**	**68.01**	**180**	*e*P	**P**	**07 13 51.5**	**-0.7**
	comp=Z,28nm,1.1s,mb5.2						
SSE	**Sheshan**	**70.66**	**317**	P	**P**	**07 14 08.6**	**-0.6**
SSE				AP	pP	07 14 17.9	+3.0
SSE				XP	sP	07 14 21.8	+4.9
SSE				PCP	PcP	07 14 28.7	-1.6
SSE				S	S	07 23 23.2	+2.2
SSE				XS		07 23 39.3	
SSE				SS	SS	07 27 57.1	+2.3
SSE				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,84nm,5.3s						
SSE				LR	LR		
	comp=N,77nm,27.0s,MS4.2						
SSE				LR	LR		
	comp=E,152nm,27.0s,MS4.2						
SSE				LR	LR		
	comp=Z,141nm,21.9s						
QIZ	**Qiongzhong**	**71.67**	**300**	P	**P**	**07 14 15.4**	**-0.1**
QIZ				S	S	07 23 34.7	+1.9
QIZ				AMB	AMB		
	comp=Z,57nm,2.3s,mb5.1						
NJ2	**Nanjing**	**72.78**	**316**	*e*P	**P**	**07 14 23.6**	**+1.7**
NJ2				AP	pP	07 14 28.3	+0.7
NJ2				XP	sP	07 14 30.6	+1.0
NJ2				PP	PP	07 17 08.3	+2.3
NJ2				S	S	07 23 47.0	+1.6
NJ2				XS		07 23 55.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,310nm,3.8s						
NJ2				LR	LR		
	comp=N,3μm,21.0s,MS5.5						
NJ2				LR	LR		
	comp=E,430nm,17.6s,MS5.5						
NJ2				LR	LR		
	comp=Z,820nm,23.9s						
YSS	**Yuzh-Sakhalins**	**72.99**	**341**	P	**P**	**07 14 27.8**	**+5.0**
YSS				S	S	07 23 55.0	+7.5
YSS				MLR	MLR		
	comp=N,500nm,18.0s,MS4.9						
YSS				MLR	MLR		
	comp=E,400nm,18.0s,MS4.9						
YSS				MLR	MLR		
	comp=Z,800nm,18.0s,MS5.0						
PET	**Petropavlovsk**	**75.42**	**353**	*e*P	**P**	**07 14 39.0**	**+2.2**
PET				*e*S	S	07 24 17.0	+2.5
PET				*e*PPS	PPS	07 25 14.0	+5.0
PET				pmax	pmax		
	comp=Z,100nm,17.5s						
PET				smax			
	comp=E,100nm,17.3s						
PET				MLR	MLR		
	comp=Z,400nm,19.0s,MS4.7						
MDJ	**Mudanjiang**	**75.97**	**331**	P	**P**	**07 14 39.9**	**-0.1**
MDJ				AP	pP	07 14 44.0	-1.8
MDJ				XP	sP	07 14 45.5	-2.3
MDJ				S	S	07 24 21.1	+0.4
MDJ				XS		07 24 32.5	
MDJ				SKS	SKS	07 24 44.2	-6.9
MDJ				PS	PS	07 24 56.9	-3.9
MDJ				SS	SS	07 29 19.6	+3.1
MDJ				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,35nm,3.6s						
MDJ				LR	LR		
	comp=N,221nm,26.1s,MS4.4						
MDJ				LR	LR		
	comp=E,126nm,23.1s,MS4.4						
MDJ				LR	LR		
	comp=Z,366nm,20.1s,MS4.7						
MDJ	**Mudanjiang**	**75.97**	**331**	*e*P	**P**	**07 14 39.4**	**-0.6**
	comp=Z,14nm,0.9s,mb4.9						
MAW	**Mawson**	**76.13**	**202**	P	**P**	**07 14 42.4**	**+1.9**
	comp=Z,3.7nm,0.9s,mb4.3,baz=112,slow=9.2,SNR=6.1						
MAW				LR	LR	07 43 49.7	
	comp=Z,323nm,19.9s,MS4.6,baz=99,slow=32						
MAW	**Mawson**	**76.13**	**202**	*e*P	**P**	**07 14 40.6**	**+0.2**
	comp=Z,84nm,1.8s,mb5.4						
TIA	**Tai'an**	**76.57**	**318**	*e*P	**P**	**07 14 43.0**	**-0.6**
CN2	**Changchun**	**77.27**	**329**	*e*P	**P**	**07 14 49.0**	**+1.7**
CN2				*e*XP	sP	07 14 54.5	-0.5
CN2				*e*S	S	07 24 38.5	+3.7
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
CN2				AMB	AMB		
	comp=Z,110nm,4.0s						
CN2				LR	LR		
	comp=N,510nm,23.0s,MS4.8						
CN2				LR	LR		
	comp=E,280nm,23.0s,MS4.8						
CN2				LR	LR		
	comp=Z,410nm,25.0s,MS4.7						
ENH	**Enshi**	**78.07**	**310**	*e*P	**P**	**07 14 50.3**	**-1.7**
	comp=Z,38nm,1.0s,mb5.3						
ENH				*e*		07 15 00.3	
ENH				LR	LR		
	comp=Z,171nm,19.0s,MS4.4						
GYA	**Guiyang**	**78.08**	**305⇑**	*i*P	**P**	**07 14 53.4**	**+1.3**
GYA				AP	pP	07 14 58.6	+0.7
GYA				XP	sP	07 15 01.8	+2.0
GYA				PP	PP	07 17 53.2	+2.5
GYA				S	S	07 24 49.4	+5.5
GYA				SKS	SKS	07 25 02.8	-4.0
GYA				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.6						
GYA				AMB	AMB		
	comp=Z,120nm,4.0s						
GYA				LR	LR		
	comp=N,270nm,20.8s,MS4.8						
GYA				LR	LR		
	comp=E,340nm,21.7s,MS4.8						
GYA				LR	LR		
	comp=Z,380nm,22.4s,MS4.7						
KLR	**Kul'dur**	**78.75**	**336**	*e*P	**P**	**07 14 50.6**	**-4.8**
KMI	**Kunming**	**80.43**	**302**	P	**P**	**07 15 07.6**	**+2.7**
KMI				AP	pP	07 15 15.0	+4.3
KMI				XP	sP	07 15 17.6	+5.0
KMI				PP	PP	07 18 07.5	-2.5
KMI				S	S	07 25 12.3	+3.5
KMI				SS	SS	07 30 23.1	-0.8
KMI				AMB	AMB		
	comp=Z,24nm,1.6s,mb4.9						
KMI				LR	LR		
	comp=N,251nm,16.3s,MS4.9						
KMI				LR	LR		
	comp=E,364nm,17.5s,MS4.9						
KMI				LR	LR		
	comp=Z,229nm,15.2s,MS4.6						
XAN	**Xi'an**	**80.59**	**312**	P	**P**	**07 15 05.5**	**-0.1**
XAN				AP	pP	07 15 14.6	+3.2
XAN				AMB	AMB		
	comp=Z,19nm,1.4s,mb4.8						
SYO	**Syowa Base**	**82.46**	**196**	⇑P	**P**	**07 15 14.0**	**-0.6**
SYO	**Syowa Base**	**82.46**	**196**	⇑sP	sP	07 15 18.5	-3.8
CD2	**Chengdu**	**82.57**	**307**	P	**P**	**07 15 11.7**	**-4.3**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.1						
HHC	**Hu-ho-hao-te**	**82.87**	**319**	*e*P	**P**	**07 15 19.0**	**+1.7**
HHC				XP	sP	07 15 24.8	-0.2
HHC				PP	PP	07 18 32.1	+2.4
HHC				S	S	07 25 36.2	+2.7
HHC				SS	SS	07 31 03.7	+3.6
HHC				AMB	AMB		
	comp=Z,17nm,1.3s,mb4.9						
HHC				AMB	AMB		
	comp=Z,204nm,5.5s						
HHC				LR	LR		
	comp=N,227nm,17.8s,MS4.9						
HHC				LR	LR		
	comp=E,454nm,21.4s,MS4.9						
HHC				LR	LR		
	comp=Z,427nm,25.0s,MS4.7						
BTO	**Baotou**	**83.66**	**318**	*e*P	**P**	**07 15 23.5**	**+2.1**

VNA1	Neumayer--Stat	87.54	181	e	P	07 15 41.0	+1.1
VNA1	Neumayer--Stat	87.54	181	e	P	07 15 48.0	+8.1
VNA1	Neumayer--Stat	87.54	181	eP	P	07 15 39.5	-0.4
VNA1				e		07 15 41.0	
VNA1				e		07 15 48.0	
CMB	Columbia Colle	88.45	48	P	P	07 15 44.1	-0.9
	comp=Z,6.3nm,1.2s,mb4.7						
CMB				LR	LR		
	comp=Z,340nm,20.0s,MS4.8						
USHA	Ushuaia	88.61	150	LR	LR	07 45 37.2	
	comp=Z,645nm,20.2s,MS5.0,baz=71,slow=29						
YBH	Yreka Blue Hor	88.77	44	LR	LR	07 46 31.4	
	comp=Z,221nm,21.5s,MS4.5,baz=235,slow=30						
OMM	Old Mammoth Mi	89.21	49	P	P	07 15 49.8	+1.1
PMR	Palmer	89.54	18	PFAKE		07 16 00.0	+10
PMR				LR	LR		
	comp=Z,355nm,21.0s,MS4.8						
GTA	Gaotai	89.63	313	eP	P	07 15 51.6	+1.0
GTA				AP	pP	07 15 56.2	-0.2
GTA				XP	sP	07 15 58.6	+0.3
GTA				PP	PP	07 19 26.1	+1.2
GTA				PPP	PPP	07 21 23.6	-0.3
GTA				SKS	SKS	07 26 20.2	-4.4
GTA				S	S	07 26 41.9	+3.3
GTA				XS		07 26 50.3	
GTA				SS	SS	07 32 43.9	+5.3
GTA				AMB	AMB		
	comp=Z,4.0nm,0.6s,mb4.9						
GTA				AMB	AMB		
	comp=Z,91nm,8.4s						
GTA				LR	LR		
	comp=N,160nm,19.8s,MS4.5						
GTA				LR	LR		
	comp=E,143nm,23.6s,MS4.5						
GTA				LR	LR		
	comp=Z,122nm,15.6s						
YAK	Yakutsk	89.79	342	i P	P	07 15 51.6	+0.8
YAK				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.9						
BILL	Biiibino	89.88	359	P	P	07 15 49.3	-1.7
	comp=Z,33nm,1.5s,mb5.4						
BILL				LR	LR		
	comp=Z,167nm,20.0s,MS4.5						
BILL	Biiibino	89.88	359	⇓eP	P	07 15 51.8	+0.8
BILL				e		07 16 02.8	
BILL						07 19 24.0	
BILL				e		07 21 30.6	
BILL				e		07 27 47.0	
BILL				pmax	pmax		
	comp=Z,20nm,1.4s,mb5.2						
BILL				MLR	MLR		
	comp=Z,100nm,19.0s,MS4.3						
SONM	Songino Array	89.94	323	P	P	07 15 51.8	0.0
	comp=Z,9.2nm,1.0s,mb5.1,baz=138,slow=5.0,SNR=27						
SONM				LR	LR	07 57 35.4	
	comp=Z,215nm,19.0s,MS4.6,baz=105,slow=37						
NVAR	Mina Array Bea	90.07	48	P	P	07 15 51.4	-1.3
	comp=Z,1.4nm,0.8s,mb4.3,baz=229,slow=9.6,SNR=14						
TPH	Tonopah	90.66	49	PFAKE		07 16 10.0	+15
TPH				LR	LR		
	comp=Z,306nm,19.0s,MS4.8						
BBB	Bella Bella	91.39	33	LR	LR	07 56 02.7	
	comp=Z,183nm,18.2s,MS4.6,baz=15,slow=35						
LSA	Lhasa	91.67	301	PFAKE		07 16 10.0	+10
LSA				LR	LR		
	comp=Z,201nm,19.0s,MS4.6						
BOD	Bodaibo	92.20	334	eP	P	07 15 56.8	-5.2
BOD				pmax	pmax		
	comp=Z,4.0nm,1.5s,mb4.5						
ILAR	Eielson Array	92.68	17	P	P	07 16 02.4	-1.7
	comp=Z,0.5nm,0.6s,mb4.1,baz=237,slow=4.3,SNR=4.8						
ILAR				LR	LR	07 53 58.6	
	comp=Z,239nm,20.0s,MS4.6,baz=89,slow=33						
ZAK	Zakamensk	93.03	324	eP	P	07 16 05.7	-0.3
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.9						
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.6						
DLBC	Dease Lake	94.17	27	LR	LR	07 58 13.8	
	comp=Z,244nm,18.7s,MS4.7,baz=241,slow=35						
NEW	Newport	95.42	40	LR	LR	07 55 28.9	
	comp=Z,197nm,18.3s,MS4.6,baz=249,slow=33						
NEW	Newport	95.42	40	PFAKE		07 16 30.0	+13
NEW				LR	LR		
	comp=Z,272nm,19.0s,MS4.7						
PLCA	Paso Flores	95.91	138	P	P	07 16 20.1	+0.7
	comp=Z,1.7nm,0.8s,mb4.5,baz=181,slow=6.7,SNR=4.7						
PLCA				LR	LR	07 49 03.7	
	comp=Z,311nm,21.2s,MS4.8,baz=235,slow=29						
PLCA	Paso Flores	95.91	138	P	P	07 16 17.7	-1.7
	comp=Z,4.8nm,1.1s,mb4.8						
HWUT	Hardware Ranch	96.11	48	PFAKE		07 16 30.0	+10
HWUT				LR	LR		
	comp=Z,264nm,19.0s,MS4.7						
ANMO	Albuquerque	97.24	55	LR	LR	07 51 31.5	
	comp=Z,172nm,21.0s,MS4.5,baz=237,slow=30						
ANMO	Albuquerque	97.24	55	PFAKE		07 16 40.0	+14
ANMO				LR	LR		
	comp=Z,201nm,20.0s,MS4.6						
TXAR	Lajitas Array	97.41	61	LR	LR	07 52 40.9	
	comp=Z,462nm,19.5s,MS5.0,baz=255,slow=31						
PDAR	Pinedale Array	97.94	47	LR	LR	07 58 43.7	
	comp=Z,134nm,18.2s,MS4.5,baz=253,slow=34						
SDCO	Great Sand Dun	98.98	53	PFAKE		07 16 40.0	+6.7
SDCO				LR	LR		
	comp=Z,264nm,19.0s,MS4.8						
WMQ	Urumqi	99.71	313	eP	P	07 16 36.0	-0.6
WMQ				PP	PP	07 20 43.0	-0.4
WMQ				SKS	SKS	07 27 13.0	-6.5
WMQ				S	S	07 28 05.0	-0.3
WMQ				SS	SS	07 35 02.0	+0.9
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb5.2						
WMQ				AMB	AMB		
	comp=Z,15nm,10.0s						
WMQ				LR	LR		
	comp=N,147nm,20.0s,MS4.8						
WMQ				LR	LR		
	comp=E,265nm,20.0s,MS4.8						
WMQ				LR	LR		
	comp=Z,196nm,20.0s,MS4.6						
ARU	Arti	119.97	323	PFAKE		07 21 50.0	+4.4
ARU				LR	LR		
	comp=Z,55nm,22.0s,MS4.2						
GNI	Garni	130.63	305	PFAKE		07 22 20.0	+13
GNI				LR	LR		
	comp=Z,145nm,19.0s,MS4.7						
AKASG	Malin Array Be	138.22	323	PKP	PKPdf	07 22 17.5	-2.9
	comp=Z,0.1nm,0.3s,baz=45,slow=1.3,SNR=4.8						
AKASG	Malin Array Be	138.22	323	PKP	PKPdf	07 22 17.5	-2.9
KECS	Kecovo	144.21	325	ePKP	PKPdf	07 22 27.1	-3.9
OKC	Ostrava-Krasne	144.55	328	ePKP	PKPdf	07 22 27.0	-4.6
OKC				AMS	AMS	08 23 00.0	
	comp=Z,300nm,22.7s						
KSP	Ksiaz	144.73	331	ePKP	PKPdf	07 22 27.7	-4.2
KSP				e		07 22 29.3	
KSP				e		07 22 36.7	
KSP	Ksiaz	144.73	331	ePKPdf	PKPdf	07 22 28.7	-3.2
KSP				e		07 22 36.3	
KSP				ePP	PP	07 25 57.6	+8.7
PSZ	Piszkesteto	144.86	324	⇓e	PKPbc	07 22 30.3	+2.0
PSZ	Piszkesteto	144.86	324	ePKPdf	PKPdf	07 22 27.9	-4.3
MORC	Moravsky Berou	144.88	329	ePKPdf	PKPdf	07 22 28.3	-3.9
RZN	Rozhen	145.00	312	i P	PKPbc	07 22 30.5	+1.6
DPC	Dobruska-Polom	145.06	330	ePKP	PKPdf	07 22 28.7	-3.8
DPC				epPKP		07 22 37.1	
DPC				AMS	AMS	08 26 20.0	
	comp=Z,300nm,24.2s						
DPC	Dobruska-Polom	145.06	330	ePKP2	PKPab	07 22 28.7	-1.3
DPC				MLR	MLR		
	comp=Z,300nm,24.2s,MS5.0						
VYHS	Vyhne	145.07	326	ePKP	PKPdf	07 22 29.0	-3.5
UPC	Upice	145.09	331	ePKP	PKPdf	07 22 28.9	-3.6
UPC				epPKP		07 22 38.3	
DJES	Djerdap	145.13	318	i PKP	PKPdf	07 22 34.1	+1.4
KOLL	Kolacno	145.24	326	ePKP	PKPdf	07 22 30.3	-2.5
VTS	Vitosha	145.64	314	i P	PKPbc	07 22 33.0	+2.5
ZAPS	Zavoj/Pirot	145.71	316	⇑iPKP	PKPdf	07 22 31.3	-2.5
MMB	Musomiste	145.72	312	eP	PKPbc	07 22 33.0	+2.3
PVCC	Panska Ves	145.72	332	ePKP	PKPdf	07 22 30.8	-2.8
PVCC				AMS	AMS	08 26 20.0	
	comp=Z,400nm,24.2s						
BRG	Berggiesshubel	145.74	333	i PKIKP	PKPdf	07 22 30.7	-2.9
BRG				i		07 22 39.9	
BRG				pmax	pmax		
	comp=Z,92nm,1.1s						
BRG				pmax	pmax		
	comp=Z,60nm,1.2s						
BRG				MLR	MLR		
	comp=N,219nm,20.9s,MS4.9						
BRG				MLR	MLR		
	comp=E,107nm,23.4s,MS4.9						
BRG				MLR	MLR		
	comp=Z,235nm,13.8s						
CLL	Collm	145.79	334	⇑iPKIKP	PKPdf	07 22 30.8	-2.9
	comp=Z,logA/T=1.5						
CLL				i *PPKP		07 22 32.7	
CLL				e		07 22 39.0	
CLL	Collm	145.79	334	⇑iPKP	PKPdf	07 22 30.8	-2.9
CLL				i pPKP		07 22 32.7	
CLL				⇓iP		07 22 59.7	
CLL				i		07 23 05.5	
CLL				LR	LR		
	comp=Z,200nm,20.9s,MS4.9						
CLL	Collm	145.79	334	⇑iPKIKP	PKPdf	07 22 30.8	-2.9
CLL				i		07 22 32.7	
CLL				pmax	pmax		
	comp=Z,26nm,0.9s						
CLL				MLR	MLR		
	comp=Z,200nm,20.9s,MS4.9						
BOLS	Boljevac	145.88	317	i PKP	PKPdf	07 22 29.4	-4.6
KKB	Krupnik	146.04	313	i P	PKPbc	07 22 33.0	+1.5
PRU	Pruhonice	146.13	331	ePKP	PKPdf	07 22 31.6	-2.7
PRU				epPKP		07 22 41.0	
PRU				AMS	AMS	08 26 20.0	
	comp=Z,300nm,23.4s						
ZST	Bratislava	146.15	327	ePKP	PKPdf	07 22 33.3	-1.1
BEO	Belgrade	146.30	320	i PKP	PKPdf	07 22 31.4	-3.4
ESK	Eskdalemuir	146.41	353	ePKPdf	PKPdf	07 22 30.7	-3.9
GRUS	Gruza	146.63	318	i PKP	PKPdf	07 22 34.4	-0.9
NKC	Novy Kostel	146.84	333	ePKP	PKPdf	07 22 34.1	-1.4
NKC				epPKP		07 22 42.3	
NKC				AMS	AMS	08 32 30.0	
	comp=Z,200nm,17.1s						
NKC	Novy Kostel	146.84	333	ePKP2	PKPab	07 22 34.1	-2.7
NKC				MLR	MLR		
	comp=Z,200nm,17.1s,MS5.0						
MOX	Moxa	146.86	335	i P	PKPbc	07 22 33.7	+0.6
	comp=Z,logA/T=1.3						
MOX				L		07 31 22.0	
MOX	Moxa	146.86	335	ePKIKP	PKPdf	07 22 33.7	-1.8
MOX				pmax	pmax		
	comp=Z,25nm,1.2s						
MOX				MLR	MLR		
	comp=Z,100nm,22.0s,MS4.5						
DIVS	Divcibare	146.96	319	⇓iPKP	PKPdf	07 22 34.3	-1.6
SKO	Skopje	147.09	314	i P	PKPdf	07 22 35.4	-0.8
KHC	Kasperske Hory	147.18	331	ePKP	PKPdf	07 22 35.3	-0.8
KHC				epPKP		07 22 44.2	
KHC				AMS	AMS	08 26 20.0	
	comp=Z,400nm,22.3s						
KHC	Kasperske Hory	147.18	331	ePKP2	PKPab	07 22 35.3	-2.9
KHC				MLR	MLR		
	comp=Z,400nm,22.3s,MS5.2						
GERES	GERESS Array B	147.34	331	PKPbc	PKPdf	07 22 35.5	-0.9
	comp=Z,16nm,1.0s,baz=45,slow=1.9,SNR=25						
BBLS	Bajina Basta -	147.44	319	i PKP	PKPdf	07 22 37.3	+0.6
GRA1	Grafenberg Arr	147.77	334	ePKP	PKPdf	07 22 36.7	-0.3
GRF	Grafenberg Arr	147.77	334	ePKP	PKPdf	07 22 36.7	-0.3
GRF				LR	LR		
	comp=Z,200nm,21.7s,MS4.9						
MOA	Molln	147.78	329	⇑i P	PKPdf	07 22 38.0	+0.9
	comp=Z,31nm,2.6s						
PERS	Pernice	148.19	326	ePKPdf	PKPdf	07 22 37.8	0.0
OBKA	Obir	148.57	327	⇑iP	PKPdf	07 22 39.8	+1.4
	comp=Z,30nm,1.6s						
DCN	Croghan	148.70	357	eP	PKPdf	07 22 38.0	-0.4
DLF	Lyons Farm	148.71	356	eP	PKPdf	07 22 38.0	-0.4
KBA	Koelnbreinsper	148.77	329	⇑iP	PKPdf	07 22 38.5	-0.2
	comp=Z,37nm,1.9s						
BOJS	Bojanci	148.86	325	ePKPdf	PKPdf	07 22 40.2	+1.3
LJU	Ljubljana	148.89	326	ePKPdf	PKPdf	07 22 41.5	+2.6
ABH	Alteburg	149.00	338	PKP	PKPdf	07 22 40.5	+1.5
CEY	Cerknica	149.15	326	ePKPdf	PKPdf	07 22 41.6	+2.2
RUP	Ruppelstein	149.33	338	PKP	PKPdf	07 22 40.1	+0.6
WTTA	Wattenberg	149.44	331	⇑iP	PKPdf	07 22 40.8	+1.0
	comp=Z,76nm,1.7s						
MOTA	Moosalm	149.62	331	⇑iP	PKPdf	07 22 41.9	+1.8
	comp=Z,23nm,1.2s						
SQTA	Sankt Quirin	149.66	331	⇓iP	PKPdf	07 22 41.5	+1.4
	comp=Z,22nm,1.2s						
WLF	Walferdange	149.66	339	ePKPdf	PKPdf	07 22 38.9	-1.1
LANF	Langenberg	149.67	337	PKP	PKPdf	07 22 43.0	+2.9
GIVF	Givet	149.70	341	ePKP1	PKPdf	07 22 41.4	+1.3
	comp=Z,77nm,1.1s						
BAIF	Baives	149.92	342	ePKP1	PKPdf	07 22 41.9	+1.5
	comp=Z,56nm,1.1s						
DAVA	Damuels	150.20	332	⇑iP	PKPdf	07 22 44.4	+3.4
	comp=Z,40nm,1.5s						
WLS	Welschbruch	150.30	336	PKP	PKPdf	07 22 43.5	+2.4
CDF	Champ du Feu	150.33	337	ePKP1	PKPdf	07 22 42.9	+1.8
	comp=Z,65nm,1.3s						
FELD	Feldberg	150.50	335	PKP	PKPdf	07 22 44.2	+2.8
ECH	Echery	150.54	336	PKP	PKPdf	07 22 45.4	+3.9
MOF	Molkenrain	150.85	336	PKP	PKPdf	07 22 45.2	+3.3
HINF	Hinteralfeld	150.99	336	ePKP1	PKPdf	07 22 44.1	+2.0
	comp=Z,44nm,1.3s						
HAU	Haudompre	151.01	337	ePKP1	PKPdf	07 22 44.4	+2.2
	comp=Z,36nm,1.1s						
HAU				eR			
	comp=Z,199nm,21.2s						
BBS	Basel-Blauen	151.03	335	PKP	PKPdf	07 22 45.4	+3.2
MEZF	Maizieres J'vi	151.03	339	ePKP1	PKPdf	07 22 44.9	+2.7
	comp=Z,48nm,0.9s						
LOMF	Lomont	151.38	336	PKP	PKPdf	07 22 45.9	+3.2
TIP	Timpagrande	151.55	313	ePKPbc	PKPdf	07 22 47.1	+3.8
TIP				ePKPab	PKPab	07 22 55.6	-0.8
CABF	La Chapelle	152.28	336	ePKP1	PKPdf	07 22 47.8	+3.7
	comp=Z,10nm,0.8s						
FLN	La Foliniere	152.31	347	ePKP1	PKPdf	07 22 46.9	+2.8
	comp=Z,30nm,1.0s						
FLN				eR			
	comp=Z,211nm,21.8s						
LOR	Lormes	152.50	339	ePKP1	PKPdf	07 22 47.7	+3.3
	comp=Z,15nm,0.9s						
LOR				eR			
	comp=Z,317nm,21.8s						
GRR	Gorron	152.75	347	ePKP1	PKPdf	07 22 48.1	+3.4
	comp=Z,44nm,1.3s						
SSF	Saint Saulge	152.80	340	ePKP1	PKPdf	07 22 48.5	+3.7
	comp=Z,24nm,1.1s						
LPL	La Plagne	152.93	334	ePKP1	PKPdf	07 22 49.5	+4.5
LPG	La Plagne	152.94	334	ePKP1	PKPdf	07 22 49.3	+4.3
SGMF	Saint Gilles	153.21	349	ePKP1	PKPdf	07 22 48.7	+3.4
	comp=Z,29nm,1.1s						
ROSF	Rostrenen	153.25	350	ePKP1	PKPdf	07 22 48.7	+3.3
	comp=Z,12nm,0.9s						
BNI	Bardonecchia	153.33	333	ePKPdf	PKPdf	07 22 42.6	-3.0
BNI				ePKPbc	PKPdf	07 22 50.5	+4.9
MBDF	Montbardon	153.55	333	ePKP1	PKPdf	07 22 50.8	+4.9
ORIF	Oris-en-Rattie	153.76	334	ePKP1	PKPdf	07 22 51.4	+5.2
ORIF				eR			
	comp=Z,247nm,20.2s						
TCF	Toulx Ste Croi	153.90	341	ePKP1	PKPdf	07 22 50.6	+4.3
MFF	Saint Martin d	154.26	344	ePKP1	PKPdf	07 22 51.2	+4.4
VIVF	Saint-Julien-l	154.29	336	ePKP1	PKPdf	07 22 51.9	+5.0
	comp=Z,29nm,1.4s						
FRF	La Foret Royal	154.53	331	ePKP1	PKPdf	07 22 52.3	+5.0
SMRF	Simiane la Rot	154.66	333	ePKP1	PKPdf	07 22 52.9	+5.5
ESDC	Sonseca Array	161.72	345	PKPab	PKPab	07 23 37.4	-2.5
	comp=Z,0.2nm,0.3s,baz=63,slow=3.3,SNR=4.0						

*NEIC **11** 07:17:28.3, 17.45N×101.36W, h23km, MD3.8(MEX), After MEX.*

MEX 11 07:17:27.6±1.3, 17.48N×101.37W, h16km±31km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	El Cayaco	1.14	112	i P	Pb	07 17 44.3	-4.2
CAIG				i S	Sb	07 17 59.6	-3.2
CAIG	El Cayaco	1.14	112	eP	Pb	07 17 44.3	-4.2
CAIG				i S	Sb	07 17 59.6	-3.2
ACX	Acapulco	1.52	114	i P	Pn	07 17 52.0	-2.3
ACX				i S	Sn	07 18 08.3	-5.5
ACX	Acapulco	1.52	114	i P	Pn	07 17 52.5	-1.8
ACX				i S	Sn	07 18 08.3	-5.5
PLIG	Platanillo	2.00	63	eP	Pn	07 17 57.5	-3.6
PLIG				i S	Sn	07 18 20.2	-5.7
PLIG	Platanillo	2.00	63	eP	Pn	07 17 57.5	-3.6
PLIG				i S	Sn	07 18 22.3	-3.7
MOIG	Morelia	2.19	5	eP	Pn	07 18 01.6	-2.3
MOIG				i S	Sn	07 18 25.4	-5.5
MOIG	Morelia	2.19	5	eP	Pn	07 18 01.6	-2.3
MOIG				i S	Sn	07 18 28.4	-2.5
PPM	Popocatepetl	3.05	58	eP	Pn	07 18 13.0	-3.1
SFJM	Santa Fe	3.38	332	i P	Pn	07 18 26.5	+5.7

*BJI **11** 07:37:48.2, 10.12N×125.75E, h89km, mB4.9, mb4.7, Ms4.3, Msz4.1*
*MAN **11** 07:37:52.8, 9.94N×125.64E, h156km, mb4.7, ML3.6, MS3.6*
*IDC **11** 07:37:53.7±2.8, 9.94N×125.65E, h162km±26km, mb4.0/12, mb1 4.2/12, mb1mx4.0/22, mbtmp4.5/12, Error ellipse: s-maj=23.6km s-min=10.1km az=79.0*
*NEIC **11** 07:37:56.5±2.4, 9.87N×125.63E, h193km±24km, mb4.6/18, Error ellipse: s-maj=12.6km s-min=6.3km az=77.0*

ISC 11 07:37:52.1±0.3, 9.91N±0.03×125.68E±0.05, h164km±2km, h102km±4.8km: pP-P, n89, σ1°16/97, mb4.6/39, 6C-7D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	Surigao	0.22	236	⇓eP	P	07 38 15.0	+0.5
SCPH				eS	S	07 38 31.3	-0.4
MSLP	Maasin	0.84	286	eP	P	07 38 17.6	+0.4
BUTP	Butuan	0.94	183	eP	P	07 38 19.6	+1.6
PLP	Palo	1.42	331	i P	P	07 38 22.2	-0.1
PLP				eS	S	07 38 42.5	-3.2
BESP	Borongan	1.70	352	eP	P	07 38 25.6	+0.5
BESP				eS	S	07 38 49.9	-0.7
LLP	Lapu-Lapu	1.73	284	⇓iP	P	07 38 25.9	+0.4
LLP				eS	S	07 38 46.6	-4.7
CGP	Cagayan de Oro	1.74	214	⇓eP	P	07 38 26.1	+0.5
CGP				eS	S	07 38 51.2	-0.3
TBP	Tagbilaran	1.80	263	⇓iP	P	07 38 26.3	+0.1
TBP				i S	S	07 38 51.1	-1.4
BIPH	Bislig	1.84	158	⇑iP	P	07 38 26.6	-0.1
BIPH				i S	S	07 38 51.3	-2.1
BUKP	Musuan	2.11	197	eP	P	07 38 31.2	+1.5
SNPH	Sibulan	2.47	257	⇓iP	P	07 38 33.6	-0.5
SNPH				i S	S	07 38 58.4	-8.0
DCPH	Dipolog City	2.65	240	⇓eP	P	07 38 35.5	-0.8
CNP	Catarman	2.77	339	eP	P	07 38 37.4	-0.4
KCP	Kidapawan	2.94	191	⇑eP	P	07 38 41.5	+1.6
MATI	Mati	3.00	169	eP	P	07 38 41.0	+0.3
PAGZ	Pagadian	3.06	228	eP	P	07 38 41.7	+0.4
GUIM	Jordan	3.12	283	eP	P	07 38 43.4	+1.2
RCP	Roxas	3.31	300	⇑eP	P	07 38 45.0	+0.3
PVCP	Virac	3.96	338	eP	P	07 38 51.4	-1.6
OTRP	Odiongan	4.34	305	eP	P	07 38 58.6	+0.7
AUQP	San Andres	4.49	319	eP	P	07 39 01.9	+2.1
GQP	Guinayangan	5.08	322	⇓eP	P	07 39 08.5	+1.0
BOAC	Boac	5.15	314	eP	P	07 39 09.6	+1.1
POLP	Polilio Island	6.02	323	eP	P	07 39 19.6	-0.4
BALP	Baler	7.04	326	eP	P	07 39 31.6	-2.1
PCPH	Palayan	7.18	322	eP	P	07 39 33.7	-1.7
CAUP	Cauayan	7.93	332	eP	P	07 39 44.2	-1.3
SCZP	Santa Cruz	8.10	317	eP	P	07 39 49.4	+1.8
APYP	Conner	9.00	332	eP	P	07 39 59.7	+0.1
JOW	Kunigami	17.01	8	P	P	07 41 43.6	+2.0
	4.1nm,0.3s,baz=194,slow=8.9,SNR=12						
KSM	Kuching	17.43	242	eP	P	07 41 47.9	+1.2
QIZ	Qiongzhong	17.80	302	P	P	07 41 51.0	+0.2
QIZ	Qiongzhong	17.80	302	eP	P	07 41 50.8	0.0
	51nm,0.8s						
NJ2	Nanjing	22.92	345	eP	P	07 42 43.1	+0.5
NJ2				AP		07 43 04.0	
NJ2				XP		07 43 16.0	
NJ2				PP	PP	07 43 17.6	-0.4
NJ2				S	S	07 46 41.0	+4.4
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.5						
NJ2				AMB	AMB		
	comp=Z,160nm,3.6s						
NJ2				LR	LR		
	comp=N,780nm,23.8s						
NJ2				LR	LR		
	comp=E,2μm,17.5s						
NJ2				LR	LR		
	comp=Z,300nm,16.2s						
CBIJ	Chichi jima	23.13	40	P	P	07 42 46.2	+1.6
	comp=Z,90nm,0.5s,mb5.4,baz=260,slow=6.7,SNR=11						
KAKA	Kakadu	23.45	163	⇑iP	P	07 42 56.6	+8.8
	comp=Z,80nm,0.6s,mb5.3						
KMI	Kunming	26.53	308	P	P	07 43 15.8	-0.7
KMI				AP	pP	07 43 41.1	-8.9
KMI				XP	sP	07 43 53.6	-16
KMI				PP	PP	07 44 08.3	+1.7
KMI				S	S	07 47 44.0	+7.3
KMI				SS	SS	07 49 02.5	-0.1
KMI				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.3						
KMI				AMB	AMB		
	comp=Z,141nm,4.9s						
KMI				LR	LR		
	comp=N,208nm,18.0s						
KMI				LR	LR		
	comp=E,364nm,19.9s						
KMI				LR	LR		
	comp=Z,200nm,19.0s						
FITZ	Fitzroy Crossi	27.83	180	eP	P	07 43 27.7	-0.7
	comp=Z,19nm,0.7s,mb4.9						
FITZ	Fitzroy Crossi	27.83	180	P	P	07 43 27.8	-0.6
	comp=Z,30nm,0.8s,mb5.1,baz=8.0,slow=7.1,SNR=29						
MJAR	Matsushiro Arr	28.84	21	P	P	07 43 36.2	-1.0
	comp=Z,0.7nm,0.3s,mb3.9,baz=194,slow=10,SNR=4.3						
WRAB	Tennant Creek	30.86	164	eP	P	07 43 53.7	-1.5
	comp=Z,5.7nm,0.6s,mb4.5						
WRA	Warramunga Arr	30.86	164	P	P	07 43 53.8	-1.5
	comp=Z,3.7nm,0.6s,mb4.3,baz=347,slow=9.3,SNR=48						
WRA				PcP	PcP	07 46 48.1	+0.1
	comp=Z,1.0nm,0.6s,baz=350,slow=3.5,SNR=5.1						
WRA				S	S	07 48 41.7	-3.9
	comp=Z,1.5nm,0.9s,baz=344,slow=14,SNR=4.2						
WRA				ScP		07 50 14.5	
	comp=Z,0.7nm,0.6s,baz=342,slow=3.4,SNR=8.6						
WB2	Warramunga Arr	30.87	164

comp=E,270nm,23.0s
MDJ Mudanjiang 34.74 5 P P 07 44 25.7 -2.7
MDJ AMB AMB
comp=Z,5.0nm,0.5s,mb4.4
CTA Charters Tower 36.04 146⇑ *i*P P 07 44 40.0 +0.5
comp=Z,6.1nm,0.6s,mb4.4
CTA Charters Tower 36.04 146 *e*P **P 07 44 40.5 +1.0**
comp=Z,7.4nm,0.7s,mb4.5,baz=337,slow=11,SNR=13
CTAO Charters Tower 36.04 146 *e*P **P 07 44 40.2 +0.7**
comp=Z,11nm,0.8s,mb4.5
LSA Lhasa 37.76 306 P P **07 44 53.8 -0.1**
comp=Z,11nm,0.7s,mb4.6
FORT Forrest 40.52 177 *e*P **P 07 45 17.3 +0.7**
comp=Z,60nm,0.5s,mb5.5
SONM Songino Array 41.16 340 P **P 07 45 21.9 +0.2**
comp=Z,0.7nm,0.6s,baz=162,slow=4.6,SNR=3.0
PKI Pulchoki 41.75 300 *e*P **P 07 45 26.5 -0.3**
comp=Z,8.4nm,0.4s,mb4.8
KKN Kakani 41.92 301 *e*P **P 07 45 27.7 -0.5**
comp=Z,9.6nm,0.3s,mb4.8
KLBR Kellerberrin 41.95 190 *e*P **P 07 45 28.3 -0.2**
comp=Z,37nm,1.7s,mb4.7
DMN Daman 42.02 300 *e*P **P 07 45 28.8 -0.2**
comp=Z,6.3nm,0.3s,mb4.7
GKN Gorkha 42.53 301 *e*P **P 07 45 32.6 -0.6**
comp=Z,9.2nm,0.3s,mb4.9
KOLN Koldanda 43.34 300 *e*P **P 07 45 39.4 -0.3**
comp=Z,28nm,0.6s,mb5.0
NWAO Narrogin (SRO) 43.35 190 P **P 07 45 40.2 +0.5**
comp=Z,3.5nm,0.5s,mb4.2,baz=19,slow=10,SNR=7.1
NWAO Narrogin (SRO) 43.35 190 *e*P **P 07 45 39.1 -0.6**
comp=Z,8.8nm,0.8s,mb4.4
STKA Stephens Creek 44.25 160 P **P 07 45 47.9 +0.9**
comp=Z,29nm,0.7s,mb5.0,baz=335,slow=7.9,SNR=70
STKA Stephens Creek 44.25 160 *e*P **P 07 45 47.5 +0.5**
PALK Pallekele 44.52 270 P **P 07 45 51.5 +2.2**
comp=Z,30nm,1.2s,mb4.8
WMQ Urumqi 47.15 323 *e*P **P 07 46 12.0 +2.4**
WMQ AP pP 07 46 35.0 -11
WMQ XP sP 07 46 47.0 -18
WMQ PP PP 07 48 02.0 +0.3
WMQ S **S 07 52 56.0 +7.6**
WMQ SCS ScS 07 55 53.0 +9.4
WMQ AMB AMB
comp=Z,10.0nm,0.8s,mb4.5
WMQ AMB AMB
comp=Z,18nm,7.0s
WMQ LR LR
comp=N,134nm,18.0s
WMQ LR LR
comp=E,156nm,17.0s
WMQ LR LR
comp=Z,145nm,18.0s
MKAR Makanchi Array 51.96 323 P **P 07 46 46.4 +0.1**
comp=Z,2.5nm,0.5s,mb4.1,baz=113,slow=7.7,SNR=22
MKAR Makanchi Array 51.96 323 P **P 07 46 46.4 +0.1**
MA2 Magadan 53.04 16 P **P 07 46 52.7 -1.4**
comp=Z,7.2nm,0.6s,mb4.6
KURK Kurchatov 56.03 326 *e*P **P 07 47 14.4 -1.6**
comp=Z,7.1nm,0.9s,mb4.5
BVAR Borovoye Array 61.63 326 P **P 07 47 53.7 -0.7**
comp=Z,1.3nm,0.5s,mb4.0,baz=129,slow=9.5,SNR=8.0
BRVK Borovoye 61.70 326 P **P 07 47 53.7 -1.3**
comp=Z,3.6nm,0.9s,mb4.2
BILL Bilibino 63.91 16 *e*P **P 07 48 08.2 -1.0**
comp=Z,9.6nm,0.9s,mb4.6
UNV Unalaska Valle 69.02 36 *e*P **P 07 48 41.2 -0.4**
comp=Z,443nm,1.4s
ARU Arti 69.20 327 *e*P **P 07 48 41.2 -1.5**
comp=Z,4.9nm,0.6s,mb4.4
MCK McKinley 79.14 27 *e*P **P 07 49 40.0 +0.4**
comp=Z,12nm,0.8s,mb4.6
ILAR Eielson Array 80.02 26 P **P 07 49 44.0 -0.3**
comp=Z,2.6nm,0.8s,mb3.9,baz=244,slow=5.4,SNR=21
DAWY Dawson 83.32 26 *e*P **P 07 50 03.8 +2.4**
KEV Kevo 83.77 340 *e*p **P 07 50 05.9 +2.4**
comp=Z,3.4nm,0.9s,mb4.1
ARCES ARCESS Array B 84.33 340 P **P 07 50 06.8 +0.4**
comp=Z,3.5nm,0.9s,mb4.1,baz=76,slow=6.2,SNR=12
INK Inuvik 84.83 22 *e*P **P 07 50 10.2 +1.3**
comp=Z,12nm,1.0s,mb4.6
KAF Kangasniemi 85.67 332 *e*p **P 07 50 12.7 -0.4**
comp=Z,0.5nm,0.3s,mb3.7,baz=75,slow=4.5
FINES FINESS Array B 85.93 332 P **P 07 50 14.3 -0.1**
comp=Z,3.2nm,0.8s,mb4.1,baz=70,slow=5.2,SNR=14
DLBC Dease Lake 89.00 31 P **P 07 50 31.2 +2.1**
VNA2 Neumayer--Watz 112.50 195 *e* PKPdf 07 56 10.0 +2.0
VNA3 Neumayer Olymp 112.86 194 *e* PKPdf 07 56 11.3 +2.6
TXAR Lajitas Array 118.50 49 PKP PKPdf 07 56 23.5 +2.8
comp=Z,0.3nm,0.5s,baz=278,slow=0.7,SNR=6.5
TXAR Lajitas Array 118.50 49 PKP PKPdf 07 56 23.5 +2.8
PLCA Paso Flores 146.10 158 PKPbc PKPbc 07 57 15.8 +2.8
comp=Z,4.3nm,0.8s,baz=200,slow=4.6,SNR=18

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*NEIC **11** 07:38:30.6,32.45N×115.29W,h10km,ML3.4(PAS),After PAS.*
*ECX **11** 07:38:32.4±0.6,32.51N×115.32W,h4km±2km,MD3.5, ML3.5*
ISC 11 07:38:29.8±0.7,32.57N±0.03×115.27W±0.04,h14km±5km, n21,σ0§82/32,7C-2D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.15**	**191**	*e*P	**Pg**	**07 38 34.1**	**+0.4**
CPBX				*e*S	**Sg**	**07 38 36.0**	**-0.4**
CPBX				⇓*e*		07 38 39.5	
	comp=E,59μm,0.2s						
EMX	**El Mayor**	**0.58**	**178**	*e*P	**Pb**	**07 38 41.4**	**+0.1**
EMX				*e*S	**Sb**	**07 38 48.6**	**-0.4**
EMX				⇓*e*		07 38 50.4	
	comp=E,2μm,0.4s						
GLA	**Glamis**	**0.61**	**38**	*e*P	**Pb**	**07 38 43.9**	**+2.2**
RDX	**Rancho Dowling**	**0.86**	**222⇑**	*e*P	**Pb**	**07 38 46.1**	**+0.1**
RDX				*e*S	**Sb**	**07 38 56.3**	**-0.8**
ECBX	**El Chinero**	**1.11**	**170⇑**	*e*P	**Pb**	**07 38 51.4**	**+1.0**
ECBX				*e*S	**Sb**	**07 39 05.2**	**+0.7**
BAR	**Barrett**	**1.19**	**276**	*e*P	**Pb**	**07 38 51.3**	**-0.4**
BAR				*e*S	**Sb**	**07 39 06.4**	**-0.4**
CBX	**Cerro Bola**	**1.21**	**258**	*e*P	**Pb**	**07 38 52.4**	**+0.4**
CBX				*e*S	**Sb**	**07 39 07.8**	**+0.5**
ENX	**Ensenada**	**1.37**	**240⇑**	*e*P	**Pn**	**07 38 54.7**	**+0.1**
ENX				*e*S	**Sb**	**07 39 12.3**	**+0.4**
PFO	**Pinyon Flat Ob**	**1.44**	**317**	*e*P	**Pn**	**07 38 55.0**	**-0.7**
ECNX	**Esteban Cantu**	**1.45**	**231⇑**	*e*P	**Pn**	**07 38 56.1**	**+0.3**
ECNX				⇑*e*P		07 38 54.9	
ECNX				*e*S	**Sb**	**07 39 12.7**	**-1.6**
ECNX				*e*S	**Sb**	**07 39 14.8**	**+0.5**
PBX	**Punta Banda**	**1.48**	**237⇑**	*e*P	**Pn**	**07 38 56.5**	**+0.2**
PBX				*e*S	**Sb**	**07 39 16.1**	**+0.7**
SPX	**San Pedro Mart**	**1.53**	**186⇑**	*e*P	**Pn**	**07 38 55.9**	**-1.0**
SPX				*e*S	**Sb**	**07 39 16.8**	**+0.2**
LDFC	**Landfair**	**2.51**	**3**	*e*Pn	**Pn**	**07 39 11.4**	**+0.4**
MWC	**Mount Wilson**	**2.86**	**306**	Pn	**Pn**	**07 39 15.4**	**-0.6**
NEN	**Nelson**	**3.09**	**6**	Pn	**Pn**	**07 39 20.1**	**+0.8**
TUC	**Tucson**	**3.80**	**93**	*e*Pn	**Pn**	**07 39 27.1**	**-2.2**
DAC	**Darwin (Calif)**	**4.17**	**333**	Pn	**Pn**	**07 39 34.9**	**+0.3**
ARUT	**Antelope Range**	**5.42**	**16**	Pn	**Pn**	**07 39 51.8**	**-0.5**
OMM	**Old Mammoth Mi**	**5.89**	**330**	Pn	**Pn**	**07 39 58.5**	**-0.5**
MSU	**Marysvale**	**6.44**	**22**	Pn	**Pn**	**07 40 11.0**	**+4.3**
SRU	**San Rafael**	**7.58**	**29**	Pn	**Pn**	**07 40 19.3**	**-3.4**

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*BJI **11** 07:41:18.9,19.90S×69.00W,h100km*
*NEIC **11** 07:41:18.9±0.8,19.88S×69.00W,h101km±8km,mb4.3/11, Error ellipse: s-maj=11.2km s-min=7.8km az=69.0*
*GUC **11** 07:41:19.2±0.7,19.96S×69.27W,h102km±5km,MD4.4, ML4.2*
*IDC **11** 07:41:21.0±1.3,19.89S×68.94W,h117km±13km,mb3.7/8, mb1 3.9/12,mb1mx3.7/19,mbtmp4.2/12,Error ellipse: s-maj=22.4km s-min=11.9km az=98.0*
ISC 11 07:41:17.8±0.7,19.86S±0.05×68.99W±0.08,h108km±7km, h115km±1.3km:pP-P,n46,σ0§87/41,mb4.1/14,4C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.75**	**178**	P	**P**	**07 42 01.9**	**+0.6**
	35nm,0.3s,baz=351,slow=9.4,SNR=243						
LVC				S	**S**	**07 42 37.6**	**+3.6**
	134nm,0.3s,baz=131,slow=18,SNR=25						
LVC	**Limon Verde**	**2.75**	**178**	*e*P	**P**	**07 42 01.7**	**+0.5**
LVC				*i* S	**S**	**07 42 33.8**	**-0.2**
LVC				AMP		07 42 42.2	
	comp=E,1μm,0.5s						
LVC	**Limon Verde**	**2.75**	**178**	*e*Pn	**P**	**07 42 01.7**	**+0.5**
LPAZ	**La Paz**	**3.64**	**13**	P	**P**	**07 42 18.4**	**+5.0**
	comp=E,3.1nm,0.3s,baz=209,slow=6.7,SNR=74						
LPAZ	**La Paz**	**3.64**	**13**	*e*P	**P**	**07 42 18.5**	**+5.1**
ARE	**Arequipa**	**4.13**	**324**	*e*P	**P**	**07 42 20.0**	**0.0**
ARE				*e*S	**S**	**07 43 07.0**	**-0.5**
SIV	**San Ignacio**	**8.46**	**64**	P	**P**	**07 43 19.5**	**+0.5**
	comp=E,9.6nm,0.3s,baz=259,slow=11,SNR=446						
SAML	**Samuel**	**12.21**	**28**	P	**P**	**07 44 08.3**	**-0.8**
CPUP	**Villa Florida**	**12.52**	**123**	P	**P**	**07 44 13.2**	**+0.1**
	comp=E,0.4nm,0.3s,baz=320,slow=16,SNR=14						
CPUP	**Villa Florida**	**12.52**	**123**	*e*P	**P**	**07 44 13.0**	**-0.1**
	comp=E,14nm,0.9s						
CPUP				*e*		07 44 22.3	
BDFB	**Brasilia**	**20.41**	**82**	P	**P**	**07 45 48.6**	**+0.3**
	comp=E,2.4nm,0.5s,baz=250,slow=14,SNR=4.1						
PLCA	**Paso Flores**	**20.85**	**183**	P	**P**	**07 45 52.5**	**-0.1**
	comp=E,3.0nm,0.6s,baz=357,slow=11,SNR=14						
PLCA	**Paso Flores**	**20.85**	**183**	*e*P	**P**	**07 45 51.9**	**-0.7**
	comp=E,3.4nm,0.7s						
RCBR	**Riachuelo**	**35.05**	**71**	*e*P	**P**	**07 48 01.8**	**-0.5**
	comp=E,20nm,1.2s,mb4.8						
PMSA	**Palmer Station**	**45.02**	**177**	P	**P**	**07 49 21.7**	**-2.1**
	comp=E,6.2nm,0.8s,mb4.4						
ELN	**Prospectdale**	**57.85**	**349**	*e*P	**P**	**07 51 00.5**	**0.0**
WVT	**Waverly**	**58.46**	**342**	*e*P	**P**	**07 51 03.5**	**-1.3**
	comp=E,4.7nm,0.7s,mb4.6						
TXAR	**Lajitas Array**	**59.24**	**325**	P	**P**	**07 51 10.2**	**-0.1**
	comp=E,0.3nm,0.8s,mb3.4,baz=150,slow=10,SNR=4.6						
VNA3	**Neumayer Olymp**	**61.65**	**162**	*e*	**P**	**07 51 35.0**	**+8.9**
VNA3	**Neumayer Olymp**	**61.65**	**162**	*e*	pP	07 51 55.6	+2.7
VNA3	**Neumayer Olymp**	**61.65**	**162⇑**	*i*P	**P**	**07 51 26.6**	**+0.5**
VNA3				*e*		07 51 35.0	
VNA3				*e*	pP	07 51 55.6	+2.7
VNA1	**Neumayer--Stat**	**61.85**	**161**	*e*	**P**	**07 51 36.1**	**+8.7**
VNA1	**Neumayer--Stat**	**61.85**	**161⇑**	*i*P	**P**	**07 51 27.3**	**-0.1**
VNA1				*e*		07 51 36.1	
VNA2	**Neumayer--Watz**	**62.22**	**161**	*e*	**P**	**07 51 37.1**	**+7.2**
VNA2	**Neumayer--Watz**	**62.22**	**161⇑**	*i*P	**P**	**07 51 30.5**	**+0.6**
VNA2				*e*		07 51 37.1	
VNA2				*e*	pP	07 51 58.3	+1.6
SNAA	**Sanae**	**63.85**	**161**	*e*	**P**	**07 51 48.7**	**+8.1**
SNAA	**Sanae**	**63.85**	**161**	P	**P**	**07 51 40.8**	**+0.3**
	comp=E,0.8nm,0.7s,mb3.7,baz=267,slow=4.0,SNR=18						
SNAA	**Sanae**	**63.85**	**161⇑**	*i*P	**P**	**07 51 41.1**	**+0.5**
SNAA				*e*		07 51 48.7	
SNAA				*e*	pP	07 52 08.9	+1.4
ANMO	**Albuquerque**	**65.09**	**327**	P	**P**	**07 51 49.7**	**+0.5**
	comp=E,1.1nm,0.9s,mb3.7						
SDCO	**Great Sand Dun**	**66.80**	**329**	*e*P	**P**	**07 52 00.5**	**+0.5**
	comp=E,4.5nm,1.2s,mb4.2						
DBIC	**Dimbokro**	**68.35**	**74**	P	**P**	**07 52 10.0**	**0.0**
	comp=E,3.7nm,0.8s,mb4.2,baz=197,slow=10,SNR=4.1						
DBIC				pP	pP	07 52 38.8	+1.5
	comp=E,3.1nm,0.7s,baz=212,slow=6.7,SNR=7.4						
DBIC	**Dimbokro**	**68.35**	**74**	*e*P	**P**	**07 52 09.4**	**-0.7**
	comp=E,14nm,1.4s,mb4.6						
HWUT	**Hardware Ranch**	**72.75**	**328**	P	**P**	**07 52 36.0**	**-0.1**
	comp=E,1.9nm,0.8s,mb4.0						
ULM	**Lac du Bonnet**	**73.73**	**342**	P	**P**	**07 52 41.7**	**+0.1**
	comp=E,2.0nm,0.6s,mb4.0,baz=212,slow=2.3,SNR=3.9						
SCHQ	**Schefferville**	**74.41**	**1**	P	**P**	**07 52 45.7**	**+0.3**
	comp=E,1.3nm,0.7s,mb3.8,baz=180,slow=6.1,SNR=3.7						
HLID	**Hailey**	**75.61**	**328**	*e*P	**P**	**07 52 54.7**	**+2.2**
	comp=E,0.9nm,0.9s,mb3.5						
SBA	**Scott Base**	**77.42**	**190**	P	**P**	**07 52 59.0**	**-3.1**
	comp=E,1.6nm,0.6s,mb3.9						
SYO	**Syowa Base**	**78.06**	**160**	⇓P	**P**	**07 53 05.5**	**-0.1**
YKA	**Yellowknife Ar**	**89.62**	**341**	P	**P**	**07 54 05.3**	**+1.3**
	comp=E,3.7nm,0.7s,mb4.7,baz=129,slow=4.8,SNR=6.9						
WRA	**Warramunga Arr**	**134.32**	**211**	PKP	PKPdf	08 00 25.8	+2.0
	comp=E,0.7nm,0.7s,baz=155,slow=1.8,SNR=18						
MKAR	**Makanchi Array**	**144.34**	**34**	PKP	PKPdf	08 00 42.4	+1.4
	comp=E,0.6nm,0.6s,baz=304,slow=3.6,SNR=5.4						
WMQ	**Urumqi**	**149.17**	**34**	*e*PKP	PKPdf	08 00 53.0	+3.9
MJAR	**Matsushiro Arr**	**150.97**	**311**	PKPbc	PKPdf	08 01 00.5	+8.4
	comp=E,0.6nm,0.3s,baz=108,slow=7.9,SNR=4.1						
SONM	**Songino Array**	**151.84**	**7**	PKPbc	PKPdf	08 01 02.9	+10
	comp=E,1.9nm,0.5s,baz=288,slow=0.6,SNR=7.8						
LZH	**Lanzhou**	**162.65**	**20**	*e*PKP	PKPdf	08 01 09.8	+3.2
LZH				APKP		08 01 41.0	
NJ2	**Nanjing**	**165.96**	**331**	*e*PKP	PKPdf	08 01 14.4	+4.4

IDC 11 07:48:30.2±5.8,8.51N×92.38E,mb3.6/3,mb1 3.8/3, mb1mx3.5/19,mbtmp3.6/3,Error ellipse: s-maj=300.7km s-min=30.4km az=60.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**39.11**	**349**	P	P	07 55 59.3	-1.7
	0.4nm,0.5s,baz=170,slow=7.4,SNR=4.5						
WRA	**Warramunga Arr**	**50.05**	**125**	P	P	07 57 27.5	-1.6
	0.4nm,0.7s,baz=306,slow=8.5,SNR=8.5						
STKA	**Stephens Creek**	**61.81**	**133**	P	P	07 58 50.7	-2.9
	2.6nm,1.1s,baz=323,slow=10,SNR=3.4						

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*CSEM **11** 08:12:55.6±0.1,39.50N×33.19E,h20km,MD2.7,Error ellipse: s-maj=4.4km s-min=1.6km az=40.0*
*ISK **11** 08:12:56.0,39.56N×33.23E,h22km,MD2.7*
ISC 11 08:12:56.5±0.9,39.51N±0.06×33.20E±0.06,h13km±7km, n8,σ1§12/12,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAMT	**Kaman**	**0.42**	**109**	*i* PG	**Pg**	**08 13 05.1**	**-0.1**
KAMT				*i* SG	**Sg**	**08 13 11.9**	**+0.8**
ANTO	**Ankara**	**0.48**	**319**	PG	**Pg**	**08 13 05.7**	**-0.7**
LOD	**Lodumlu**	**0.51**	**319**	PG	**Pg**	**08 13 06.6**	**-0.3**
CDAG	**Cicekdag**	**0.92**	**82**	*i* P	**Pb**	**08 13 13.2**	**-0.5**
CDAG				*i* S	**Sb**	**08 13 23.6**	**-1.9**
ELDT	**Eldivan**	**1.00**	**10**	*i* P	**Pb**	**08 13 15.7**	**+0.6**
ELDT				*i* S	**Sb**	**08 13 30.6**	**+2.8**
KIZT	**Kizilcal**	**1.20**	**239**	PN	**Pn**	**08 13 18.7**	**-0.2**
CORM	**Corum**	**1.29**	**58**	*e*PN	**Pn**	**08 13 18.6**	**-1.6**
AVNT	**Avonos**	**1.48**	**119**	*i* P	**Pn**	**08 13 24.6**	**+1.7**
AVNT				*i* S	**Sb**	**08 13 42.2**	**+0.4**

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*IDC **11** 08:20:33.7±1.2,21.28S×169.80E,mb4.0/4,mb1 4.2/6, mb1mx4.0/14,mbtmp4.1/6,ML3.7/2,MS3.9/12,Ms1 3.9/12, ms1mx3.7/27,Error ellipse: s-maj=30.9km s-min=27.4km az=157.0*
*HRVD **11** 08:20:35.1±0.5,22.24S×170.14E,h25km±3km,MW4.8/43, Centroid moment Tensor Solution. LP body waves: s6,c6; Mantle waves: s43,c49; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.46±.24; $M_{\theta\theta}$-0.97±.19; $M_{\phi\phi}$1.43±.21; $M_{r\theta}$-0.06±.37; $M_{\theta\phi}$1.56±.13; $M_{\phi r}$-0.35±.38; Best double couple: $M_0$1.993×10^{16} NP1:ϕ_s251°,δ82°,λ2°. NP2:ϕ_s161°, δ88°,λ172°. Principal axes: T 2.242, Plg7°, Azm116°; N -.496, Plg81°, Azm329°; P -1.744, Plg5°, Azm207°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **11** 08:20:35.1±0.6,21.42S×169.82E,h10km,mb4.9/12 Error ellipse: s-maj=17.4km s-min=14.9km az=63.0*
*MOS **11** 08:20:37.7±1.0,21.75S×170.20E,h33km,mb4.9/9,Error ellipse: s-maj=26.4km s-min=20.2km az=10.8*
ISC 11 08:20:38.9±0.8,21.4S±0.1×169.83E±0.08,h33km, (h32km±2.8km:pP-P),n80,σ1§41/51,mb4.6/17,MS3.9/9, 4C-2D,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.22**	**258**	*e*P	**P**	**08 21 25.7**	**-2.6**
DZM	**Mont Dzumac**	**3.22**	**258**	Pn	**Pn**	**08 21 26.2**	**-2.3**
	10nm,0.3s,baz=87,slow=16,SNR=193						
DZM				Sn	**Sn**	**08 22 07.0**	**+0.8**
	24nm,0.3s,baz=159,slow=21,SNR=5.1						
RAO	**Raoul Island**	**13.54**	**128**	LR	LR	08 27 29.5	
	comp=Z,928nm,20.0s,baz=210,slow=30						
HNR	**Honiara**	**15.25**	**320**	LR	LR	08 29 07.7	
	comp=Z,312nm,18.2s,baz=151,slow=34						
URZ	**Urewera**	**17.92**	**161**	P	**P**	**08 24 46.0**	**-1.3**
	0.2nm,0.3s,baz=322,slow=19,SNR=3.3						
ARMA	**Armidale**	**18.65**	**238**	*e*P	**P**	**08 24 48.2**	**-8.2**
AFI	**Afiamalu**	**19.04**	**70**	LR	LR	08 29 21.7	
	comp=Z,98nm,21.0s,baz=240,slow=28						
CTA	**Charters Tower**	**22.09**	**269**	*e*P	**P**	**08 25 36.4**	**+3.5**
	10nm,0.9s,mb4.2						
CTA	**Charters Tower**	**22.09**	**269**	LR	LR	08 33 32.8	
	comp=Z,456nm,18.5s,MS3.9,baz=283,slow=35						
CTA	**Charters Tower**	**22.09**	**269**	*e*P	**P**	**08 25 36.4**	**+3.5**
CTA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CTAO	**Charters Tower**	**22.09**	**269**	P	**P**	**08 25 34.1**	**+1.2**
	comp=Z,39nm,1.2s,mb4.7						
CTAO	**Charters Tower**	**22.09**	**269**	P	**P**	**08 25 34.1**	**+1.2**
CTAO				pmax	pmax		
	comp=Z,39nm,1.2s,mb4.7						
RPZ	**Rata Peaks**	**22.26**	**178**	LR	LR	08 33 34.9	
	comp=Z,411nm,18.3s,MS3.9,baz=348,slow=35						
PMG	**Port Moresby**	**24.87**	**295**	LR	LR	08 33 56.2	
	comp=Z,348nm,21.4s,MS3.8,baz=213,slow=32						
STKA	**Stephens Creek**	**27.23**	**242**	P	**P**	**08 26 19.1**	**-3.0**
	comp=Z,2.9nm,0.7s,mb3.9,baz=98,slow=14,SNR=5.4						
STKA				LR	LR	08 36 22.1	
	comp=Z,498nm,18.6s,MS4.1,baz=57,slow=35						
STKA	**Stephens Creek**	**27.23**	**242**	*e*P	**P**	**08 26 18.2**	**-3.8**
STKA				*e*	pP	08 26 27.5	-4.0
WB2	**Warramunga Arr**	**33.19**	**266**	*e*P	**P**	**08 27 15.1**	**+0.2**
WRAB	**Tennant Creek**	**33.19**	**266**	P	**P**	**08 27 14.8**	**-0.1**
	comp=Z,19nm,1.1s,mb4.9						
WRAB	**Tennant Creek**	**33.19**	**266**	*i* P	**P**	**08 27 17.1**	**+2.2**
WRA	**Warramunga Arr**	**33.20**	**266**	P	**P**	**08 27 11.8**	**-3.2**
	comp=Z,1.5nm,0.7s,mb4.0,baz=99,slow=7.9,SNR=23						
KAKA	**Kakadu**	**36.70**	**277**	*e*P	**P**	**08 27 53.4**	**+8.4**
	comp=Z,10nm,1.1s,mb4.6						
PPT	**Papeete**	**38.38**	**92**	LR	LR	08 40 17.4	
	comp=Z,36nm,20.5s,MS3.2,baz=280,slow=31						
FORT	**Forrest**	**38.47**	**247**	*e*P	**P**	**08 28 00.5**	**+0.9**
	comp=Z,20nm,0.9s,mb4.9						
FITZ	**Fitzroy Crossi**	**41.62**	**267**	*e*P	**P**	**08 28 25.3**	**-0.6**
	comp=Z,27nm,0.9s,mb4.9						
FITZ	**Fitzroy Crossi**	**41.62**	**267**	LR	LR	08 44 53.4	
	comp=Z,300nm,18.7s,MS4.2,baz=97,slow=35						
MBWA	**Marble Bar**	**46.52**	**261**	*e*P	**P**	**08 29 05.3**	**0.0**
	comp=Z,23nm,1.1s,mb5.0						
NWAO	**Narrogin (SRO)**	**47.75**	**245**	LR	LR	08 48 40.9	
	comp=Z,489nm,18.3s,MS4.5,baz=88,slow=35						
NWAO	**Narrogin (SRO)**	**47.75**	**245**	P	**P**	**08 29 09.0**	**-5.9**
	comp=Z,13nm,0.9s,mb5.0						
NWAO	**Narrogin (SRO)**	**47.75**	**245**	P	**P**	**08 29 09.0**	**-5.9**
NWAO				pmax	pmax		
	comp=Z,13nm,0.9s						
VNDA	**Vanda**	**56.28**	**182**	P	**P**	**08 30 17.0**	**-1.2**
	comp=Z,0.8nm,0.8s,mb3.8,baz=358,slow=5.1,SNR=3.7						
VNDA				LR	LR	08 50 29.9	
	comp=Z,105nm,21.2s,MS3.9,baz=21,slow=32						
VNDA	**Vanda**	**56.28**	**182**	P	**P**	**08 30 14.0**	**-4.2**
	comp=Z,3.0nm,1.0s,mb4.3						
VNDA				LR	LR	08 50 29.9	
VNDA	**Vanda**	**56.28**	**182**	P	**P**	**08 30 14.0**	**-4.2**
VNDA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
SBA	**Scott Base**	**56.50**	**181**	*e*P	**P**	**08 30 09.7**	**-10**
	comp=Z,17nm,1.1s,mb5.0						
SBA	**Scott Base**	**56.50**	**181**	*e*P	**P**	**08 30 09.7**	**-10**
SBA				pmax	pmax		
	comp=Z,17nm,1.1s,mb5.0						
JHJ	**Hachijo jima 2**	**61.35**	**331**	LR	LR	08 51 49.1	
	comp=Z,86nm,19.5s,MS3.9,baz=118,slow=31						
MIR	**Mirnyy**	**65.31**	**205**	*e*P	**P**	**08 31 21.0**	**+1.5**
MIR				pmax	pmax		
	comp=Z,24nm,1.4s,mb5.0						
QSPA	**South Pole Qui**	**68.65**	**180**	*e*P	**P**	**08 31 41.7**	**+1.3**
	comp=Z,38nm,1.6s,mb5.1						
MAW	**Mawson**	**76.64**	**202**	P	**P**	**08 32 23.9**	**-3.8**
	comp=Z,7.1nm,1.0s,mb4.5						
MAW	**Mawson**	**76.64**	**202**	P	**P**	**08 32 23.9**	**-3.7**
MAW				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KLR	**Kul'dur**	**78.08**	**336**	*e*P	**P**	**08 32 48.3**	**+12**
SNAA	**Sanae**	**87.02**	**182⇑**	*i*P	**P**	**08 33 23.3**	**+1.7**
SNAA	**Sanae**	**87.02**	**182**	*e*	**P**	**08 33 26.7**	**+5.1**
SNAA	**Sanae**	**87.02**	**182**	*e*	**P**	**08 33 31.1**	**+10**
SNAA	**Sanae**	**87.02**	**182**	*e*	**P**	**08 33 34.8**	**+13**
SNAA	**Sanae**	**87.02**	**182**	P	**P**	**08 33 19.1**	**-2.5**
	comp=Z,11nm,1.1s,mb5.0						
SNAA				*e*		08 33 26.7	
SNAA				*e*	pP	08 33 31.1	-1.1
SNAA				*e*		08 33 34.8	
SNAA				*e*		08 33 49.7	
SNAA				*e*		08 38 34.1	
SNAA	**Sanae**	**87.02**	**182**	P	**P**	**08 33 19.1**	**-2.5**
SNAA				*e*	pP	08 33 31.1	-1.0
SNAA				*e*		08 33 34.8	
SNAA				*e*		08 38 34.1	
SNAA				pmax	pmax		
	comp=Z,11nm,1.1s						
VNA3	**Neumayer Olymp**	**87.59**	**180**	*e*	**P**	**08 33 28.4**	**+4.1**
VNA3	**Neumayer Olymp**	**87.59**	**180**	*e*	**P**	**08 33 33.9**	**+10**
VNA3	**Neumayer Olymp**	**87.59**	**180**	*e*	**P**	**08 33 38.8**	**+14**
VNA3	**Neumayer Olymp**	**87.59**	**180**	*e*	Px	08 36 29.6	
VNA3	**Neumayer Olymp**	**87.59**	**180⇑**	*i*P	**P**	**08 33 24.3**	**0.0**
VNA3				*e*		08 33 28.4	
VNA3				*e*	pP	08 33 33.9	-1.0

IDC 11 08:23:46.0±1.5,21.44S×169.82E,mb3.8/2,mb1 3.9/3, mb1mx3.7/13,mbtmp3.7/3,ML3.5/1, Error ellipse: s-maj=52.7km s-min=27.4km az=166.0
NEIC 11 08:23:47.2±0.9,21.29S×169.80E,h10km, Error ellipse: s-maj=27.4km s-min=13.4km az=190.0
ISC 11 08:23:47.8±2.1,21.3S±0.3×169.88E±0.08,h33km,n7, σ0:99/7,mb3.8/2,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.30	255	eP	P	08 24 38.3	0.0
DZM				eS	S	08 25 15.7	-1.2
DZM	Mont Dzumac	3.30	255	Pn	Pn	08 24 38.3	-0.2
4.8nm,0.3s,baz=110,slow=22,SNR=26							
DZM				Sn	Sn	08 25 18.8	+1.8
4.2nm,0.3s,baz=305,slow=22,SNR=2.7							
RAO	Raoul Island	13.60	128	Pn	P	08 27 01.2	+0.4
88nm,0.3s,baz=319,slow=19,SNR=3.3							
STKA	Stephens Creek	27.34	241	P	P	08 29 30.6	-1.3
1.6nm,0.6s,mb3.7,baz=83,slow=12,SNR=4.6							
WRA	Warramunga Arr	33.25	266	P	P	08 30 25.0	+0.6
0.6nm,0.5s,mb3.8,baz=100,slow=8.4,SNR=4.8							
EKA	Eskdalemuir Ar	145.58	353	PKPbc	PKPbc	08 43 25.3	+2.3
1.0nm,0.5s,baz=6.6,slow=2.6,SNR=6.9							
GERES	GERESS Array B	146.55	331	PKPbc	PKPbc	08 43 29.0	+3.5
0.3nm,0.3s,baz=45,slow=2.8,SNR=2.9							

CASC 11 08:24:14.9±2.1,13.04N×89.04W,h20km±29km,MD3.5, ML3.0,4C-10D,El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFRS	El Faro	0.58	358	⇓iP	Pb	08 24 39.5	+13
LFRS				eS	Sb	08 24 48.3	+14
SNVI	San Vicente	0.60	19	eP	Pb	08 24 39.8	+13
SNVI				eS	Sb	08 24 49.8	+15
LCBS	La Ceiba	0.62	5	⇓eP	Pb	08 24 39.9	+13
LCBS				eS	Sb	08 24 48.8	+14
SNET	Serv Nac Est T	0.67	344	eP	Pb	08 24 40.7	+13
SNET				eS	Sb	08 24 51.1	+14
SNET				i		08 24 58.2	
comp=Z,876nm,0.3s							
LBRS	La Brisas	0.70	359	⇓eP	Pb	08 24 41.4	+13
LBRS				eS	Sb	08 24 51.9	+15
LFU	La Fuente	0.71	354	⇓eP	Pb	08 24 41.5	+13
LFU				eS	Sb	08 24 52.8	+15
BOQS	Boqueron	0.73	341	⇓eP	Pb	08 24 41.8	+13
BOQS				eS	Sb	08 24 52.6	+14
VSM	San Miguel	0.84	62	⇓eP	Pb	08 24 43.0	+12
VSM				eS	Sb	08 24 55.2	+14
BLLM	Bellamira	0.88	63	⇓eP	Pb	08 24 43.2	+12
BLLM				eS	Sb	08 24 55.2	+13
SBLS	San Blas	0.98	324	⇑eP	Pb	08 24 45.2	+12
SBLS				eS	Sb	08 24 58.5	+13
SNJE	San Jose	0.99	326	⇑eP	Pb	08 24 45.5	+12
SNJE				eS	Sb	08 24 58.9	+13
RTR	El Retiro	1.04	325	⇑iP	Pb	08 24 46.2	+12
RTR				eS	Sb	08 25 00.2	+13
CAHU	Cacacuatique	1.08	48	⇑eP	Pb	08 24 46.5	+12
CAHU				eS	Sb	08 25 02.3	+14
CNCH	Conchagua	1.20	78	⇓eP	Pn	08 24 47.1	+10
CNCH				eS	Sb	08 25 03.0	+11
RBDL	Robledal	1.24	329	⇓iP	Pn	08 24 49.2	+12
RBDL				eS	Sb	08 25 06.1	+13
CRIN	San Cristobal	1.97	100	eP	Pn	08 24 47.8	+0.1
LEON	Leon	2.18	106	eP	Pn	08 24 49.6	-1.2
TEL3	Telica 3	2.19	102	⇓eP	Pn	08 24 50.2	-0.7
TEL3				eS	Sn	08 25 18.1	+0.5
TELN	Telica	2.19	101	eP	Pn	08 24 50.5	-0.5
TELN				eS	Sn	08 25 18.4	+0.6
CNGN	Cerro Negro	2.34	103	eP	Pn	08 24 51.5	-1.6
COPN	Copaltepe	2.53	109	eS	Sn	08 25 25.1	-1.3
MGAN	Managua	2.86	108	e	Sn	08 25 39.3	+4.5
comp=E,50nm,0.2s							

IDC 11 08:33:31.6±1.4,34.33S×72.40W,mb3.6/2,mb1 3.8/5, mb1mx3.7/17,mbtmp3.6/5,ML3.5/2,MS3.1/3,Ms1 3.1/3, ms1mx2.8/23,Error ellipse: s-maj=43.3km s-min=27.2km az=106.0
GUC 11 08:33:34.4±0.8,34.28S×72.36W,h35km±2km,MD4.2, ML3.9
NEIC 11 08:33:34.1±2.3,34.31S×72.37W,h20km±15km,mb4.0/2, Error ellipse: s-maj=8.6km s-min=5.0km az=99.0
ISC 11 08:33:33.5±1.0,34.25S±0.04×72.47W±0.04,h25km±8km, n43,σ0:72/58,mb3.9/2,16C-6D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	0.92	72	⇓iP	Pb	08 33 50.3	-0.5
LCCH	Las Cruces	1.07	44	⇓iP	Pn	08 33 53.5	+0.4
LCCH				i S	Sb	08 34 06.9	-0.1
SFDO	San Fernando	1.26	107	⇑iP	Pn	08 33 54.8	-0.9
IHA	Instituto Hidr	1.40	30	⇑iP	Pn	08 33 58.5	+0.7
TACH	Talagante	1.40	65	⇓iP	Pn	08 33 57.4	-0.4
CNCO	Chanco	1.49	182	⇑iP	Pn	08 33 59.2	+0.2
CNCO				i S	Sn	08 34 18.4	+0.7
CNCO				AMP		08 34 22.8	
comp=N,2μm,0.4s							
CHCH	Chadas Angostu	1.54	79	⇑iP	Pn	08 33 59.5	-0.2
CHCH				i S	Sn	08 34 18.6	-0.5
CACH	El Canelo	1.55	86	⇑iP	Pn	08 34 00.2	+0.3
CACH				i S	Sn	08 34 20.9	+1.5
RCDM	Rinconada Maip	1.57	62	⇑iP	Pn	08 34 00.1	-0.2
RCDM				i S	Sn	08 34 19.4	-0.6
RCDM				AMP		08 34 28.2	
comp=E,2μm,0.4s							
ANTU	Antumapu	1.67	67	⇑iP	Pn	08 34 01.9	+0.3
ANTU				i S	Sn	08 34 22.4	+0.1
ANTU				AMP		08 34 26.7	
comp=E,3μm,0.3s							
CICH	Cipreses	1.70	93	⇑iP	Pn	08 34 01.8	-0.2
CICH				i S	Sn	08 34 23.2	+0.1
SAN	Santiago	1.70	63	⇑iP	Pn	08 34 02.4	+0.4
SAN				i S	Sn	08 34 23.2	+0.1
STL	Santa Lucia	1.72	63	⇑iP	Pn	08 34 01.6	-0.8
STL				i S	Sn	08 34 22.6	-1.1
STL				AMP		08 34 29.6	
comp=E,852nm,0.3s							
PCH	Pirque	1.74	70	⇓iP	Pn	08 34 02.8	+0.2
PCH				i S	Sn	08 34 24.5	+0.3
ROCH	El Roble	1.76	44	⇓iP	Pn	08 34 03.5	+0.6
FSR	Penalolen	1.79	65	eP	Pn	08 34 03.6	+0.3
FSR				i S	Sn	08 34 25.9	+0.5
FSR				AMP		08 34 36.0	
comp=N,2μm,0.6s							
DSCH	Colegio Aleman	1.79	62	⇓iP	Pn	08 34 03.8	+0.4
DSCH				i S	Sn	08 34 25.4	-0.1
DSCH				AMP		08 34 34.2	
comp=E,4μm,0.4s							
CLCH	Cerro Calan	1.82	63	⇑iP	Pn	08 34 04.1	+0.4
CLCH				i S	Sn	08 34 26.1	0.0
CLCH				AMP		08 34 34.6	
comp=E,3μm,0.7s							
PEL	Peldehue	1.85	54	eP	Pn	08 34 05.0	+0.9
SJCH	San Jose de Ma	1.86	72	eP	Pn	08 34 04.2	-0.1
SJCH				i S	Sn	08 34 27.0	-0.2
SJCH				AMP		08 34 31.9	
comp=E,2μm,0.4s							
LMEL	Las Melosas	1.92	79	⇑iP	Pn	08 34 05.5	+0.3
LMEL				i S	Sn	08 34 28.4	-0.4
LMEL				AMP		08 34 35.6	
comp=N,3μm,0.2s							
FCH	Farellones	2.03	64	⇑iP	Pn	08 34 07.0	+0.2
FCH				i S	Sn	08 34 32.5	+0.9
FCH				AMP		08 34 40.0	
comp=E,2μm,0.3s							
JACH	Jahuel	2.21	46	i P	Pn	08 34 09.9	+0.5
CHNG	Los Chungos	2.49	19	⇑iP	Pn	08 34 13.4	0.0
CHNG				i S	Sn	08 34 42.2	-1.2
CHNG				AMP		08 35 05.6	
comp=E,504nm,0.6s							
CMCH	Combarbala	3.30	22	⇑iP	Pn	08 34 24.9	0.0
TLL	Tololo Astrono	4.30	20	⇑iP	Pn	08 34 39.4	+0.2
CFAA	Coronel Fontan	4.43	55	Pn	Pn	08 34 41.2	+0.3
comp=E,1.2nm,0.3s,baz=225,slow=11,SNR=112							
CFAA				Lg		08 35 45.5	
comp=E,1.5nm,0.3s,baz=14,slow=15,SNR=9.2							
CFAA	Coronel Fontan	4.43	55	Pn	Pn	08 34 41.2	+0.3
CFAA				Lg		08 35 45.5	
PLCA	Paso Flores	6.65	167	Pn	Pn	08 35 11.3	-1.0
comp=E,0.1nm,0.3s,baz=344,slow=15,SNR=2.8							
PLCA				LR	LR	08 38 05.3	
comp=E,125nm,20.9s,baz=73,slow=42							
PLCA	Paso Flores	6.65	167	ePn	Pn	08 35 09.8	-2.4
comp=E,8.4nm,1.0s							
PLCA				LR	LR	08 38 05.3	
LVC	Limon Verde	12.00	16	Pn	P	08 36 19.9	-6.2
comp=E,0.6nm,0.3s,baz=169,slow=12,SNR=7.6							
LVC				LR	LR	08 41 06.9	
comp=E,75nm,20.6s,baz=210,slow=38							
LVC	Limon Verde	12.00	16	eP	P	08 36 19.5	-6.6
LVC				LR	LR	08 41 06.9	
CPUP	Villa Florida	15.26	63	LR	LR	08 42 37.1	
comp=E,94nm,20.0s,baz=108,slow=36							
CPUP	Villa Florida	15.26	63	P	P	08 37 07.3	-1.8
LPAZ	La Paz	18.30	13	P	P	08 37 49.4	+1.8
comp=E,0.3nm,0.3s,baz=181,slow=8.9,SNR=20							
LPAZ	La Paz	18.30	13	eP	P	08 37 48.8	+1.2
comp=E,1.8nm,0.6s							
SIV	San Ignacio	20.87	32	P	P	08 38 14.5	-1.8
comp=E,3.6nm,0.7s,baz=209,slow=9.5,SNR=15							
VNA3	Neumayer Olymp	49.27	158	e	P	08 42 29.4	+7.8
VNA2	Neumayer--Watz	49.92	157	e	P	08 42 34.0	+7.3
SNAA	Sanae	51.49	158	e	P	08 42 47.1	+8.5
TXAR	Lajitas Array	69.78	331	P	P	08 44 45.0	+1.2
comp=E,0.2nm,0.5s,mb3.3,baz=160,slow=8.3,SNR=6.9							
WVT	Waverly	71.47	347	P	P	08 44 52.6	-1.3
comp=E,4.1nm,0.7s,mb4.5							
WRA	Warramunga Arr	120.37	209	PKP	PKPdf	08 52 23.9	-3.9
comp=E,0.2nm,1.0s,baz=160,slow=1.7,SNR=7.4							

IDC 11 08:35:20.7±0.6,10.95N×126.04E,mb4.3/17,mb1 4.4/17, mb1mx4.3/22,mbtmp4.3/17,MS3.5/1,Ms1 3.5/1, ms1mx2.9/37,Error ellipse: s-maj=31.7km s-min=12.9km az=77.0
MAN 11 08:35:23.8,11.01N×126.19E,h14km,mb5.2,ML4.2, MS4.4
NEIC 11 08:35:27.2±0.3,10.90N×126.03E,h50km,mb4.6/13,Error ellipse: s-maj=17.1km s-min=6.3km az=73.0
ISC 11 08:35:23.5±0.4,11.01N±0.04×126.28E±0.04,h33km,n59, σ1:25/63,mb4.4/31,4C-1D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	Borongan	1.01	305	eP	P	08 35 41.4	0.0
PLP	Palo	1.28	277	eP	P	08 35 44.0	-1.1
PLP				eS	S	08 36 00.5	-1.0
SCPH	Surigao	1.45	213	⇑eP	P	08 35 42.7	-4.9
SCPH						08 36 03.9	
MSLP	Maasin	1.65	238	eP	P	08 35 50.5	0.0
MSLP				eS	S	08 36 13.4	+2.8
BUTP	Butuan	2.13	198	eP	P	08 35 59.4	+2.1
CNP	Catarman	2.17	313	eP	P	08 35 59.2	+1.2
LLP	Lapu-Lapu	2.38	253	eP	P	08 36 00.8	-0.1
LLP				eS	S	08 36 26.3	-2.8
TBP	Tagbilaran	2.72	241	eP	P	08 36 05.9	+0.2
TBP				eS	S	08 36 38.2	+0.4
BIPH	Bislig	2.81	178	eP	P	08 36 08.0	+0.9
PVCP	Virac	3.30	321	eP	P	08 36 15.2	+1.1
BUKP	Musuan	3.34	201	eP	P	08 36 16.7	+2.2
SNPH	Sibulan	3.42	241	⇑iP	P	08 36 16.8	+1.0
SNPH				i S	S	08 36 55.1	-0.6
RCP	Roxas	3.51	279	⇑eP	P	08 36 18.1	+1.1
GUIM	Jordan	3.65	264	eP	P	08 36 19.4	+0.5
DCPH	Dipolog City	3.76	230	⇑eP	P	08 36 20.8	+0.2
DCPH				eS	S	08 36 58.5	-5.8
PAGZ	Pagadian	4.25	223	eP	P	08 36 29.0	+1.5
OTRP	Odiongan	4.38	288	eP	P	08 36 31.0	+1.6
BOAC	Boac	4.97	300	eP	P	08 36 39.3	+1.5
JOW	Kunigami	15.85	7	LR	LR	08 43 50.6	
comp=Z,173nm,19.8s,baz=26,slow=32							
KAKA	Kakadu	24.35	165	⇓iP	P	08 40 49.5	+10
10nm,0.6s,mb4.4							
ENH	Enshi	24.72	323	eP	P	08 40 43.8	+0.5
14nm,0.9s,mb4.5							
MJAR	Matsushiro Arr	27.61	21	P	P	08 41 10.2	+0.1
0.6nm,0.3s,mb3.7,baz=205,slow=9.9,SNR=4.7							
FITZ	Fitzroy Crossi	28.93	181	eP	P	08 41 21.2	-0.8
9.8nm,1.2s,mb4.4							
FITZ	Fitzroy Crossi	28.93	181	P	P	08 41 21.3	-0.8
10nm,0.8s,mb4.6,baz=5.2,slow=7.8,SNR=14							
WRAB	Tennant Creek	31.76	165	eP	P	08 41 45.2	-1.9
4.0nm,0.8s,mb4.3							
WRA	Warramunga Arr	31.77	165	P	P	08 41 45.4	-1.7
1.5nm,0.6s,mb4.0,baz=344,slow=9.2,SNR=28							
WB2	Warramunga Arr	31.77	165	eP	P	08 41 45.1	-2.1
MBWA	Marble Bar	32.61	191	eP	P	08 41 52.2	-2.3
4.2nm,0.6s,mb4.5							
CTA	Charters Tower	36.63	147	P	P	08 42 30.5	+1.6
1.3nm,0.4s,mb4.1,baz=328,slow=13,SNR=3.3							
CTAO	Charters Tower	36.63	147	eP	P	08 42 30.3	+1.4
3.8nm,0.8s,mb4.3							
LSA	Lhasa	37.61	305	P	P	08 42 36.6	-0.4
SONM	Songino Array	40.33	339	P	P	08 43 01.1	+1.6
2.6nm,0.6s,mb4.1,baz=158,slow=8.5,SNR=15							
FORT	Forrest	41.58	178	eP	P	08 43 10.8	+0.7
9.1nm,0.5s,mb4.7							
PKI	Pulchoki	41.72	299	eP	P	08 43 09.6	-1.6
15nm,0.7s,mb4.7							
KKN	Kakani	41.88	299	eP	P	08 43 11.0	-1.6
12nm,0.7s,mb4.7							
DMN	Daman	41.98	299	eP	P	08 43 11.8	-1.6
18nm,0.9s,mb4.7							
GKN	Gorkha	42.49	300	eP	P	08 43 15.3	-2.2
6.1nm,0.3s,mb4.7							
KLBR	Kellerberrin	43.14	191	eP	P	08 43 22.0	-0.8
11nm,0.4s,mb4.9							
KOLN	Koldanda	43.32	299	eP	P	08 43 22.8	-1.5
21nm,0.9s,mb4.9							
NWAO	Narrogin (SRO)	44.54	191	P	P	08 43 34.0	-0.1
18nm,0.7s,mb5.0,baz=5.0,slow=7.0,SNR=14							
NWAO	Narrogin (SRO)	44.54	191	eP	P	08 43 32.6	-1.4
14nm,0.7s,mb4.9							
NWAO				e		08 43 46.5	
STKA	Stephens Creek	45.10	162	P	P	08 43 39.1	+0.6
2.4nm,0.7s,mb4.2,baz=340,slow=5.6,SNR=7.0							
STKA	Stephens Creek	45.10	162	eP	P	08 43 38.8	+0.3
MKAR	Makanchi Array	51.45	322	P	P	08 44 27.7	+0.1
5.4nm,0.7s,mb4.6,baz=120,slow=8.3,SNR=40							
ZAL	Zalesovo	53.99	331	P	P	08 44 46.9	+0.4
2.4nm,0.7s,mb4.2,baz=3.7,slow=6.0,SNR=12							
KURK	Kurchatov	55.47	325	eP	P	08 44 56.6	-0.7
14nm,1.0s,mb4.9							
BRVK	Borovoye	61.14	325	eP	P	08 45 35.9	-1.0
6.6nm,1.0s,mb4.7							
ARU	Arti	68.62	326	eP	P	08 46 24.0	-1.2
11nm,0.6s,mb5.0							
ILAR	Eielson Array	78.77	26	P	P	08 47 25.9	+1.7
0.6nm,0.8s,mb3.6,baz=245,slow=6.8,SNR=8.6							
ARCES	ARCESS Array B	83.51	340	P	P	08 47 50.1	+1.2
5.1nm,0.6s,mb4.8,baz=79,slow=5.7,SNR=32							
INK	Inuvik	83.60	22	P	P	08 47 51.6	+2.3
0.7nm,0.8s,mb3.9,baz=227,slow=10,SNR=4.6							
BRTR	Keskin Array B	85.07	309	P	P	08 47 56.8	-0.7
0.9nm,0.6s,mb4.0,baz=100,slow=2.9,SNR=4.9							
FINES	FINESS Array B	85.25	332	P	P	08 47 58.5	+0.7
1.4nm,0.6s,mb4.3,baz=72,slow=6.0,SNR=5.3							
AKASG	Malin Array Be	86.00	321	P	P	08 48 01.2	-0.5
1.4nm,0.6s,mb4.4,baz=62,slow=4.9,SNR=7.2							
AKASG	Malin Array Be	86.00	321	P	P	08 48 01.2	-0.6
KMBO	Kilima Mbogo	89.26	269	P	P	08 48 18.4	0.0
0.5nm,0.4s,mb4.2,baz=207,slow=22,SNR=4.1							
NB2	NORSAR Subarra	92.10	334	P	P	08 48 30.1	-0.3
0.6nm,0.6s,mb4.1,baz=64,slow=4.6							
NOA	NORSAR Array B	92.10	334	P	P	08 48 29.6	-0.8
0.7nm,0.6s,mb4.1,baz=65,slow=4.5,SNR=3.6							
PLCA	Paso Flores	146.88	156	PKPbc	PKPbc	08 55 05.9	+3.5
1.2nm,0.6s,baz=355,slow=0.7,SNR=8.9							

NEIC 11 08:39:03.5,34.31S×72.32W,h5km,ML3.5(GUC),After GUC.
GUC 11 08:39:03.5±0.8,34.31S×72.32W,h5km±4km,MD3.4, ML3.5,7C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	0.83	65	i P	Pb	08 39 19.9	-0.1
LNV				i S	Sg	08 39 31.8	+0.6
CTCH	Constitucion	1.02	184	⇑iP	Pb	08 39 23.5	+0.2
CTCH				i S	Sb	08 39 37.4	+0.6
CTCH				AMP		08 39 42.2	
comp=E,8μm,0.9s							
LCCH	Las Cruces	1.04	37	i P	Pb	08 39 23.2	-0.4
LCCH				i S	Sb	08 39 37.5	+0.2
SFDO	San Fernando	1.12	106	i P	Pb	08 39 24.7	-0.2
SFDO				i S	Sb	08 39 39.9	+0.2
TALC	Talca	1.22	153	i P	Pb	08 39 26.3	-0.4
TALC				i S	Sb	08 39 42.8	+0.1
TALC				AMP		08 39 43.9	
comp=E,4μm,0.3s							
TACH	Talagante	1.32	61	⇓iP	Pb	08 39 27.2	-1.2
TACH				i S	Sb	08 39 45.5	0.0
CHCH	Chadas Angostu	1.43	75	⇑iP	Pn	08 39 29.2	-1.0
CHCH				i S	Sb	08 39 49.1	+0.4
CNCO	Chanco	1.43	187	⇑iP	Pn	08 39 29.0	-1.3
CNCO				i S	Sb	08 39 48.6	-0.2
CNCO				AMP		08 39 54.3	
comp=E,833nm,0.3s							
CACH	El Canelo	1.44	83	i P	Pn	08 39 30.0	-0.3
CACH				i S	Sb	08 39 50.3	+1.4
RCDM	Rinconada Maip	1.50	57	⇑iP	Pn	08 39 29.8	-1.4
RCDM				i S	Sb	08 39 50.7	0.0
CICH	Cipreses	1.57	91	⇑iP	Pn	08 39 31.5	-0.7
CICH				i S	Sb	08 39 53.0	+0.2
ANTU	Antumapu	1.58	63	i P	Pn	08 39 31.8	-0.6
ANTU				i S	Sb	08 39 53.0	-0.1
ANTU				AMP		08 39 57.5	
comp=N,1μm,0.5s							
DSCH	Colegio Aleman	1.71	59	⇓iP	Pn	08 39 33.6	-0.7
DSCH				i S	Sn	08 39 56.7	-0.1
DSCH				AMP		08 40 04.1	
comp=E,1μm,0.5s							
CLCH	Cerro Calan	1.74	59	⇑iP	Pn	08 39 33.7	-0.9
CLCH				i S	Sn	08 39 57.1	-0.3
CLCH				AMP		08 40 10.6	
comp=N,736nm,0.4s							
SJCH	San Jose de Ma	1.76	68	⇑iP	Pn	08 39 34.3	-0.6
SJCH				i S	Sn	08 39 58.0	0.0
SJCH				AMP		08 40 01.6	
comp=E,609nm,0.4s							
LMEL	Las Melosas	1.81	76	⇓iP	Pn	08 39 35.4	-0.3
LMEL				i S	Sn	08 40 00.0	+0.7
LMEL				AMP		08 40 05.3	
comp=N,836nm,0.2s							
FCH	Farellones	1.95	60	AMP		08 40 09.8	
comp=E,475nm,0.3s							
CCHI	Chillan	2.30	175	AMP		08 40 26.6	
comp=N,432nm,0.8s							
CHNG	Los Chungos	2.52	16	AMP		08 40 35.2	
comp=E,142nm,0.6s							

IDC 11 08:46:38.5±0.9,21.21S×169.80E,mb4.2/8,mb1 4.4/9, mb1mx4.3/15,mbtmp4.2/9,ML3.8/1,MS4.0/5,Ms1 4.0/5, ms1mx3.7/30,Error ellipse: s-maj=27.4km s-min=21.0km az=145.0
NEIC 11 08:46:38.3±0.5,22.20S×170.14E,h10km,mb5.0/13,Error ellipse: s-maj=14.0km s-min=12.7km az=180.0
BJI 11 08:46:39.5,22.23S×169.99E,h12km,mB5.1,mb4.7, Ms5.4,Msz5.4
MOS 11 08:46:43.2±2.2,22.79S×169.71E,h33km,mb5.2/9,Error ellipse: s-maj=17.8km s-min=14.6km az=123.3
ISC 11 08:46:40.7±0.5,22.44S±0.09×170.00E±0.07,h27km, h27km±1.8km:pP-P,n103,σ1:41/51,mb4.7/23,MS4.1/4,5C, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.31	276	eP	Pn	08 47 31.2	-0.9
DZM	Mont Dzumac	3.31	276	Pn	Pn	08 47 31.1	-1.0
9.5nm,0.3s,baz=83,slow=18,SNR=173							
DZM				Sn	Sn	08 48 11.8	+0.8
17nm,0.3s,baz=51,slow=16,SNR=5.7							
RAO	Raoul Island	12.82	124	LR	LR	08 53 34.1	
comp=Z,963nm,20.3s,baz=60,slow=30							
HNR	Honiara	16.13	322	LR	LR	08 55 13.7	
comp=Z,346nm,21.4s,baz=157,slow=34							
HNR	Honiara	16.13	322	P	P	08 50 32.4	+4.9
304nm,1.1s							
HNR	Honiara	16.13	322	P	P	08 50 32.4	+4.9
HNR				pmax	pmax		
comp=Z,304nm,1.1s							
ARMA	Armidale	18.25	240	eP	P	08 50 53.1	-0.9
RPZ	Rata Peaks	21.24	178	P		08 51 38.8	
comp=Z,10nm,0.8s,baz=304,slow=6.0,SNR=4.3							
CTA	Charters Tower	22.25	272	eP		08 51 46.6	
comp=Z,11nm,1.0s							
CTA	Charters Tower	22.25	272	LR	LR	08 59 29.5	
comp=Z,311nm,19.5s,MS3.7,baz=67,slow=35							
CTA	Charters Tower	22.25	272	eP		08 51 46.6	
CTA				pmax	pmax		
comp=Z,11nm,1.0s							
CTAO	Charters Tower	22.25	272	P	P	08 51 38.9	+1.7
comp=Z,43nm,1.3s,mb4.7							
CTAO	Charters Tower	22.25	272	P	P	08 51 38.9	+1.7
CTAO				pmax	pmax		
comp=Z,43nm,1.3s,mb4.7							
PMG	Port Moresby	25.45	297	LR	LR	09 00 44.4	
comp=Z,549nm,18.3s,MS4.1,baz=146,slow=34							
PMG	Port Moresby	25.45	297	i P	pP	08 52 15.5	-0.7
STKA	Stephens Creek	26.90	243	P	P	08 52 23.6	+2.1
comp=Z,3.6nm,0.6s,mb4.1,baz=90,slow=12,SNR=15							
STKA				LR	LR	09 02 06.9	
comp=Z,395nm,19.0s,MS4.0,baz=57,slow=34							
STKA	Stephens Creek	26.90	243	eP	P	08 52 23.1	+1.5
STKA				e	pP	08 52 31.6	+2.2
WB2	Warramunga Arr	33.28	268	eP	P	08 53 17.7	-0.7
WRAB	Tennant Creek	33.28	268	P	P	08 53 15.9	-2.5
comp=Z,49nm,1.6s,mb5.2							
WRAB				e	pP	08 53 24.9	-1.5
WRAB	Tennant Creek	33.28	268	P	P	08 53 15.9	-2.5
WRAB				e	pP	08 53 24.9	-1.5
WRAB				pmax	pmax		
comp=Z,49nm,1.6s,mb5.2							
WRA	Warramunga Arr	33.29	268	P	P	08 53 16.5	-2.0
comp=Z,1.3nm,0.7s,mb4.0,baz=98,slow=8.3,SNR=29							

comp=Z,160nm,4.3s
NJ2 LR LR
comp=N,140nm,19.1s,MS4.5
NJ2 LR LR
comp=E,200nm,20.0s,MS4.5
MAW Mawson 75.75 202 P **P 08 58 26.8 +1.4**
comp=E,9.5nm,0.9s,mb4.7
MAW *e* pP 08 58 35.2 +1.4
MAW Mawson 75.75 202 P **P 08 58 26.8 +1.4**
MAW *e* pP 08 58 35.3 +1.4
MAW pmax pmax
comp=Z,10.0nm,0.9s
MDJ Mudanjiang 76.26 332 P **P 08 58 27.6 -1.1**
MDJ AP pP 08 58 33.7 -3.6
MDJ XP sP 08 58 36.2 -4.0
MDJ AMB AMB
comp=Z,5.0nm,0.8s,mb4.5
MDJ Mudanjiang 76.26 332 P **P 08 58 27.4 -1.3**
comp=Z,15nm,1.3s,mb4.8
MDJ *e* pP 08 58 35.9 -1.4
CN2 Changchun 77.55 329 *e*P **P 08 58 37.0 +1.1**
CN2 *e*XP sP 08 58 41.6 -5.7
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
ENH Enshi 78.25 310 P **P 08 58 41.4 +1.4**
comp=Z,31nm,1.2s,mb5.1
KMI Kunming 80.56 302 P **P 08 58 53.2 +0.6**
KMI AP pP 08 58 58.5 -2.7
KMI XP sP 08 59 00.6 -3.5
KMI PP PP 09 01 59.7 +1.6
KMI S S 09 09 00.5 +4.2
KMI SS SS 09 14 16.4 +4.3
KMI AMB AMB
comp=Z,8.0nm,1.1s,mb4.6
SYO Syowa Base 82.07 196 ⇑PcP PcP 08 59 08.0 +2.4
LZH Lanzhou 85.39 312 *e*P **P 08 59 18.0 +0.8**
LZH AP pP 08 59 21.3 -4.5
LZH XP sP 08 59 23.0 -5.6
LZH PP PP 09 02 38.0 +1.0
LZH AMB AMB
comp=Z,25nm,1.0s,mb5.3
LZH AMB AMB
comp=Z,120nm,4.3s
SNAA Sanae 86.01 182 *e* **P 08 59 22.9 +3.5**
SNAA Sanae 86.01 182 *e* pP 08 59 29.0 +0.9
SNAA Sanae 86.01 182 *e* sP 08 59 34.9 +4.0
SNAA Sanae 86.01 182 ⇑*i*P **P 08 59 19.2 -0.2**
SNAA *e* 08 59 22.9
SNAA *e* pP 08 59 29.0 +0.9
SNAA *e* 08 59 34.9
SNAA *e* 09 00 41.6
SNAA Sanae 86.01 182 ⇑*i*P **P 08 59 19.2 -0.2**
SNAA *e* pP 08 59 29.0 +0.9
SNAA *e* 08 59 34.9
VNA3 Neumayer Olymp 86.57 180 *e* **P 08 59 25.8 +3.6**
VNA3 Neumayer Olymp 86.57 180 *e* pP 08 59 31.8 +0.9
VNA3 Neumayer Olymp 86.57 180 *e* sP 08 59 37.7 +4.0
VNA3 Neumayer Olymp 86.57 180 ⇑*i*P **P 08 59 21.9 -0.3**
VNA3 *e* 08 59 25.8
VNA3 *e* pP 08 59 31.8 +0.9
VNA3 *e* 08 59 37.7
VNA3 *e* 09 00 45.7
VNA3 *e* 09 10 58.3
VNA2 Neumayer--Watz 86.87 181 *e* **P 08 59 26.8 +3.1**
VNA2 Neumayer--Watz 86.87 181 *e* pP 08 59 33.7 +1.3
VNA2 Neumayer--Watz 86.87 181 *e* sP 08 59 39.4 +4.3
VNA2 Neumayer--Watz 86.87 181 P **P 08 59 23.2 -0.5**
VNA2 *e* 08 59 26.8
VNA2 *e* pP 08 59 33.7 +1.3
VNA2 *e* 08 59 39.4
VNA2 *e* 09 00 46.8
VNA2 *e* 09 11 07.4
VNA1 Neumayer--Stat 87.16 181 *e* **P 08 59 29.2 +4.1**
VNA1 Neumayer--Stat 87.16 181 *e* pP 08 59 35.3 +1.6
VNA1 Neumayer--Stat 87.16 181 *e* sP 08 59 41.3 +4.8
VNA1 Neumayer--Stat 87.16 181 ⇑*i*P **P 08 59 25.4 +0.3**
VNA1 *e* 08 59 29.2
VNA1 *e* pP 08 59 35.3 +1.6
VNA1 *e* 08 59 41.3
VNA1 *e* 09 00 45.2
VNA1 *e* 09 11 05.1
SONM Songino Array 90.19 323 P **P 08 59 37.5 -2.5**
comp=Z,1.0nm,0.7s,mb4.3,baz=131,slow=5.0,SNR=6.6
NVAR Mina Array Bea 90.39 48 P **P 08 59 37.8 -3.4**
comp=Z,0.5nm,0.7s,mb3.9,baz=233,slow=4.5,SNR=6.5
COLA College 92.89 17 *i* P **P 08 59 51.5 -0.5**
ILAR Eielson Array 93.06 17 P **P 08 59 47.5 -5.4**
comp=Z,0.4nm,0.5s,mb4.1,baz=234,slow=5.0,SNR=8.0
ZAK Zakamensk 93.29 324 *e*P **P 09 00 01.5 +7.3**
ZAK pmax pmax
comp=Z,3.0nm,1.1s,mb4.6
TIXI Tiksi 98.00 348 *i* P **P 09 00 17.4 +2.2**
TIXI pmax pmax
comp=Z,16nm,1.6s,mb5.3
WMQ Urumqi 99.91 313 *e*P **P 09 00 24.0 -0.5**
NVS Novosibirsk 106.22 323 *e*P Pdif 09 00 48.8 -3.4
NB2 NORSAR Subarra138.70 345 P 09 05 44.1
comp=Z,1.2nm,0.6s,baz=27,slow=6.2
OKC Ostrava-Krasne 144.83 328 *e*PKP PKPdf 09 06 23.5 +3.6
OKC *ep*PKP 09 06 31.2
BSEG Bad Segeberg 144.99 339 *e*PKHKP 09 06 14.6
RZN Rozhen 145.19 312 *e*P PKPbc 09 06 16.0 -0.3
PGB Panagyurishte 145.22 313 *e*P PKPbc 09 06 18.0 +1.6
VYHS Vyhne 145.33 326 *e*PKP PKPdf 09 06 15.1 -5.7
DPC Dobruska-Polom 145.35 330 *e*PKP PKPdf 09 06 15.0 -5.8
DPC *ep*PKP 09 06 23.8
UPC Upice 145.38 330 *e*PKP PKPdf 09 06 15.0 -5.8
UPC *ep*PKP 09 06 23.8
VTS Vitosha 145.84 314 *e*P PKPbc 09 06 18.0 +0.1
MMB Musomiste 145.91 312 *i* P PKPbc 09 06 17.0 -1.1
PVCC Panska Ves 146.02 332 *e*PKP PKPdf 09 06 17.5 -4.4
PVCC *ep*PKP 09 06 25.9
BRG Berggiesshubel 146.03 333 *i* P PKPbc 09 06 17.3 -0.8
BRG *i* 09 06 25.8
CLL Collm 146.10 334 *e*PKIKP PKPdf 09 06 17.0 -5.0
comp=Z,logA/T=1.0
CLL *e**PPKP 09 06 21.0
CLL *i* 09 06 25.9
KKB Krupnik 146.24 313 *e*P PKPbc 09 06 18.0 -0.9
PRU Pruhonice 146.42 331 *e*PKP PKPdf 09 06 19.7 -2.9
PRU *ep*PKP 09 06 26.9
ZST Bratislava 146.42 327 *e*PKP PKPdf 09 06 20.2 -2.5
CLZ Clausthal 146.69 337 *e*PKIKP PKPdf 09 06 19.0 -4.0
NKC Novy Kostel 147.15 333 *e*PKP PKPdf 09 06 22.1 -1.7
NKC *ep*PKP 09 06 31.8
MOX Moxa 147.17 334 *e*P PKPdf 09 06 24.0 +0.2
KHC Kasperske Hory 147.47 331 *e*PKP PKPdf 09 06 21.5 -2.9
KHC *ep*PKP 09 06 31.2
GEC2 GERESS Array S 147.62 330 *e*PKIKP PKPdf 09 06 22.1 -2.5
GERES GERESS Array B 147.62 330 PKPbc PKPdf 09 06 22.0 -2.6
comp=Z,2.0nm,0.6s,baz=28,slow=2.3,SNR=9.6
WET Wettzell 147.78 331 *e*PKIKP PKPdf 09 06 23.0 -1.9
GRF Grafenberg Arr 148.07 334 *e*PKP PKPdf 09 06 23.5 -1.8
PERS Pernice 148.46 326 *e*PKPdf PKPdf 09 06 28.1 +2.1
BOJS Bojanci 149.12 324 *e*PKPdf PKPdf 09 06 28.0 +0.8
BOJS *i* 09 06 36.0
BAIF Baives 150.25 341 *e*PKP1 PKPdf 09 06 29.1 +0.3
BFO Black Forest 150.31 335 *e*PKIKP PKPdf 09 06 30.0 +1.1
CDF Champ du Feu 150.65 336 *e*PKP1 PKPdf 09 06 29.8 +0.4
HINF Hinteralfeld 151.30 336 *e*PKP1 PKPdf 09 06 31.1 +0.7
comp=Z,4.4nm,0.5s
HAU Haudompre 151.33 337 *e*PKP1 PKPdf 09 06 31.3 +0.9
FLN La Foliniere 152.66 346 *e*PKP1 PKPdf 09 06 34.2 +1.8
comp=Z,1.4nm,0.3s
GRR Gorron 153.10 346 *e*PKP1 PKPdf 09 06 35.4 +2.4

IDC 11 08:54:54.7±4.4, 47.02N×152.81E, h83km±50km, mb3.6/7, mb1 3.8/9, mb1mx3.5/23, mbtmp3.9/9, ML3.3/2, MS3.1/1, Ms1 3.1/1, ms1mx2.7/36, Error ellipse: s-maj=49.7km s-min=25.5km az=179.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**7.73**	**252**	P	P	08 56 43.6	-2.9
	0.4nm,0.3s,baz=74,slow=18,SNR=4.9						
ASAJ				LR	LR	09 00 13.3	
	comp=Z,135nm,19.5s,baz=168,slow=41						
MJAR	**Matsushiro Arr**	**15.08**	**231**	P	P	08 58 25.0	+0.8
	0.2nm,0.3s,baz=38,slow=7.5,SNR=4.9						
ILAR	**Eielson Array**	**36.47**	**39**	P	P	09 01 50.8	-2.2
	0.5nm,0.8s,baz=264,slow=7.3,SNR=4.9						
INK	**Inuvik**	**41.53**	**33**	P	P	09 02 34.0	-0.8
	1.0nm,0.8s,baz=294,slow=8.4,SNR=6.5						
FINES	**FINESS Array B**	**63.70**	**335**	P	P	09 05 16.9	-2.1
	1.4nm,0.7s,baz=39,slow=8.9,SNR=4.2						
PDAR	**Pinedale Array**	**64.76**	**54**	P	P	09 05 24.6	-1.5
	0.6nm,0.8s,baz=315,slow=2.1,SNR=6.2						
NOA	**NORSAR Array B**	**67.90**	**341**	P	P	09 05 44.0	-1.8
	1.6nm,0.7s,baz=27,slow=6.4,SNR=6.0						
AKASG	**Malin Array Be**	**71.20**	**326**	P	P	09 06 04.3	-1.8
	1.6nm,0.4s,baz=36,slow=5.9,SNR=5.9						
TXAR	**Lajitas Array**	**77.54**	**60**	P	P	09 06 41.4	-1.6
	0.6nm,0.5s,baz=298,slow=4.7,SNR=16						

*PDG **11** 09:01:01.9±0.2, 41.83N×17.68E, h10km*
*ROM **11** 09:01:01.1±0.8, 41.42N×17.70E, h12km, Md3.0/5, Error ellipse: s-maj=10.2km s-min=6.7km az=3.0*
*NEIC **11** 09:01:01.9, 41.83N×17.68E, h10km, MD2.5(PDG), After PDG.*
*CSEM **11** 09:01:01.5±0.2, 41.53N×17.46E, h30km, MD3.0/5, Error ellipse: s-maj=6.2km s-min=3.0km az=132.0*
ISC 11 09:00:58.0±0.3, 41.68N±0.02×17.53E±0.04, h10km, n27, σ1§41/46, 10C, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAI	**Bari**	**0.75**	**221**	*e*Sg	**Sg**	**09 01 24.4**	**+1.2**
BRT	**Bari-Castellan**	**0.84**	**197**	Pg	**Pg**	**09 01 15.0**	**+0.2**
BRT				Sg	**Sg**	**09 01 26.9**	**+0.9**
PE1	**Pezze di Greco**	**0.88**	**185**	*e*Pg	**Pg**	**09 01 15.0**	**-0.5**
PE1				*e*Sg	**Sg**	**09 01 27.3**	**0.0**
HCY	**Herceg Novi**	**1.05**	**43**	⇑*i*Pg	**Pg**	**09 01 18.4**	**-0.7**
HCY				*e*Sg	**Sg**	**09 01 31.9**	**-1.3**
SG1	**Sgolgore (BA)**	**1.06**	**218**	*e*Pg	**Pg**	**09 01 18.0**	**-1.1**
CDT	**Castel del Mon**	**1.12**	**238**	*e*Pg	**Pg**	**09 01 19.7**	**-0.7**
MS1	**Monte Sant'Ang**	**1.19**	**272**	*e*Pg	**Pg**	**09 01 22.0**	**+0.2**
MS1				*e*Sg	**Sg**	**09 01 37.9**	**+0.1**
BUM	**Brajici-Budva**	**1.19**	**58**	⇑*i*Pg	**Pg**	**09 01 20.5**	**-1.3**
BUM				*e*Sg	**Sg**	**09 01 36.7**	**-1.1**
STON	**Ston**	**1.20**	**6**	*i* Pg	**Pg**	**09 01 21.7**	**-0.2**
STON				*i* Sg	**Sg**	**09 01 38.0**	**0.0**
STON	**Ston**	**1.20**	**6**	*i* Pg	**Pg**	**09 01 21.7**	**-0.3**
STON				*i* Sg	**Sg**	**09 01 37.9**	**-0.1**
LTRZ	**Laterza**	**1.20**	**207**	Pg	**Pg**	**09 01 20.6**	**-1.4**
LTRZ				Sg	**Sg**	**09 01 37.5**	**-0.6**
ULC	**Ulcinj**	**1.31**	**77**	⇑*i*Pg	**Pg**	**09 01 23.1**	**-1.2**
ULC				*e*Sg	**Sg**	**09 01 42.1**	**+0.3**
LCI	**Lecce**	**1.41**	**162**	Pn	**Pn**	**09 01 23.0**	**-0.8**
BRY	**Bratogost**	**1.43**	**31**	⇑*i*Pg	**Pg**	**09 01 24.9**	**-1.7**
BRY				*e*Sg	**Sg**	**09 01 44.6**	**-1.2**
TTG	**Podgorica**	**1.49**	**59**	⇑*i*Pg	**Pg**	**09 01 26.6**	**-1.2**
TTG				*e*Sg	**Sg**	**09 01 47.0**	**-0.7**
NKY	**Niksic**	**1.57**	**43**	⇑*i*Pg	**Pg**	**09 01 27.6**	**-1.8**
NKY				*e*Sg	**Sg**	**09 01 49.6**	**-0.8**
QSH	**Qafa e Shtames**	**1.79**	**94**	*e*Pn	**Pn**	**09 01 32.0**	**+2.9**
QSH				*i* Sn	**Sn**	**09 01 56.0**	**+4.0**
MRLC	**Muro Lucano**	**1.80**	**240**	Pn	**Pn**	**09 01 33.3**	**+4.0**
MRLC				Sn	**Sn**	**09 02 00.3**	**+8.0**
	19nm,0.4s						
ORI	**Oriolo Calabro**	**1.81**	**207**	Pn	**Pn**	**09 01 32.9**	**+3.4**
	66nm,0.6s						
UPM	**Unac-Piva**	**1.83**	**33**	*e*Pn	**Pn**	**09 01 31.9**	**+2.1**
UPM				*e*Sn	**Sn**	**09 01 55.6**	**+2.4**
SGO	**Sicignano**	**2.02**	**237**	Pn	**Pn**	**09 01 36.8**	**+4.3**
	15nm,0.4s						
PVY	**Plav**	**2.03**	**62**	⇑*i*Pn	**Pn**	**09 01 35.1**	**+2.4**
PVY				*e*Sn	**Sn**	**09 02 01.3**	**+3.0**
IVA	**Berane**	**2.12**	**55**	⇑*i*Pn	**Pn**	**09 01 36.0**	**+2.0**
IVA				*e*Sn	**Sn**	**09 02 02.9**	**+2.3**
IVA	**Berane**	**2.12**	**55**	⇑*i*Pn	**Pn**	**09 01 36.0**	**+2.0**
IVA				*e*Sn	**Sn**	**09 02 02.8**	**+2.2**
PLE	**Pljevlja**	**2.15**	**39**	⇑*i*Pn	**Pn**	**09 01 35.6**	**+1.3**
PLE				*e*Sn	**Sn**	**09 02 03.6**	**+2.3**
TIP	**Timpagrande**	**2.57**	**194**	*e*Pn	**Pn**	**09 01 37.7**	**-2.6**
TIP	**Timpagrande**	**2.57**	**194**	*e*Pn	**Pn**	**09 01 37.7**	**-2.6**

*IDC **11** 09:05:36.9±0.9, 21.97S×170.24E, mb4.3/11, mb1 4.4/12, mb1mx4.3/16, mbtmp4.3/12, ML4.0/1, MS4.6/1, Ms1 4.6/1, ms1mx4.1/20, Error ellipse: s-maj=24.5km s-min=22.5km az=112.0*
*BJI **11** 09:05:39.1, 22.00S×170.10E, h10km, mB5.3, mb4.6*
*NEIC **11** 09:05:39.1±0.5, 21.96S×170.06E, h10km, mb5.0/18, Error ellipse: s-maj=14.2km s-min=12.8km az=88.0*
ISC 11 09:05:40.0±0.5, 21.98S±0.08×170.09E±0.07, h29km, h29km±2.0km: pP-P, n85, σ1§01/46, mb4.7/27, 6C, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.38**	**268**	*e*P	**Pn**	**09 06 31.6**	**-0.7**
DZM	**Mont Dzumac**	**3.38**	**268**	Pn	**Pn**	**09 06 32.4**	**+0.1**
	14nm,0.3s,baz=93,slow=16,SNR=202						
DZM				LR	LR	09 07 05.9	
	comp=Z,8μm,20.5s,baz=87,slow=25						
DZM				Sn	**Sn**	**09 07 12.1**	**+0.2**
	16nm,0.3s,baz=78,slow=20,SNR=5.7						
CTA	**Charters Tower**	**22.32**	**270**	*e*P	**P**	**09 10 40.2**	**+3.2**
	20nm,1.2s,mb4.4						
CTA	**Charters Tower**	**22.32**	**270**	P	**P**	**09 10 39.0**	**+2.0**
	2.8nm,0.6s,mb3.9,baz=94,slow=10.0,SNR=6.3						
CTAO	**Charters Tower**	**22.32**	**270**	*e*P	**P**	**09 10 39.5**	**+2.6**
	54nm,1.3s,mb4.8						
PMG	**Port Moresby**	**25.32**	**296**	*e*P	**P**	**09 11 03.2**	**-3.0**
	29nm,1.2s,mb4.7						
STKA	**Stephens Creek**	**27.18**	**243**	P	**P**	**09 11 23.9**	**+0.8**
	6.7nm,0.7s,mb4.3,baz=92,slow=12,SNR=25						
STKA	**Stephens Creek**	**27.18**	**243**	*e*P	**P**	**09 11 23.8**	**+0.6**
TAU	**Tasmania Unive**	**28.21**	**217**	*e*P	**P**	**09 11 33.2**	**+0.9**
	131nm,1.5s,mb5.3						
WB2	**Warramunga Arr**	**33.39**	**267**	*e*P	**P**	**09 12 17.1**	**-1.3**
WRAB	**Tennant Creek**	**33.39**	**267**	*e*P	**P**	**09 12 17.1**	**-1.3**
	40nm,1.4s,mb5.2						
WRA	**Warramunga Arr**	**33.40**	**267**	P	**P**	**09 12 17.3**	**-1.2**
	0.9nm,0.5s,mb4.0,baz=98,slow=8.2,SNR=24						
KAKA	**Kakadu**	**37.01**	**278**	*e*P	**P**	**09 12 59.4**	**+10**
	6.8nm,0.8s,mb4.5						
FITZ	**Fitzroy Crossi**	**41.83**	**267**	*e*P	**P**	**09 13 31.3**	**+2.0**
	37nm,1.0s,mb5.0						
FITZ	**Fitzroy Crossi**	**41.83**	**267**	P	**P**	**09 13 29.8**	**+0.5**
	12nm,1.0s,mb4.5,baz=153,slow=4.3,SNR=8.0						
MBWA	**Marble Bar**	**46.67**	**261**	*e*P	**P**	**09 14 07.9**	**-0.3**
	18nm,1.0s,mb4.9						
KLBR	**Kellerberrin**	**47.31**	**247**	*e*P	**P**	**09 14 20.6**	**+7.4**
	64nm,1.4s,mb5.4						
NWAO	**Narrogin (SRO)**	**47.73**	**245**	P	**P**	**09 14 16.1**	**-0.3**
	9.0nm,1.0s,mb4.8,baz=95,slow=6.8,SNR=3.8						
NWAO	**Narrogin (SRO)**	**47.73**	**245**	*e*P	**P**	**09 14 15.8**	**-0.7**
	19nm,1.1s,mb5.0						
VNDA	**Vanda**	**55.74**	**182**	P	**P**	**09 15 15.5**	**-0.6**
	1.3nm,0.5s,mb4.2,baz=19,slow=4.8,SNR=5.7						
VNDA	**Vanda**	**55.74**	**182**	*e*P	**P**	**09 15 14.6**	**-1.5**
	20nm,1.6s,mb4.9						
SBA	**Scott Base**	**55.95**	**181**	*e*P	**P**	**09 15 17.6**	**+0.1**
	73nm,1.6s,mb5.5						
CASY	**Casey**	**57.96**	**204**	*e*P	pP	09 15 38.5	-2.3
CASY	**Casey**	**57.96**	**204**	P	**P**	**09 15 27.2**	**-4.7**
	68nm,1.9s,mb5.3						
MJAR	**Matsushiro Arr**	**65.53**	**332**	P	**P**	**09 16 22.7**	**-0.5**
	4.5nm,0.8s,mb4.5,baz=170,slow=7.5,SNR=9.8						
MAJO	**Matsushiro**	**65.53**	**332**	*e*P	**P**	**09 16 22.6**	**-0.6**
	8.6nm,0.9s,mb4.8						
MAT	**Matsushiro**	**65.53**	**332**	P	**P**	**09 16 22.6**	**-0.6**
MAT	**Matsushiro**	**65.53**	**332**	*e*P	**P**	**09 16 23.0**	**-0.2**
	5.0nm,0.9s,mb4.5						
MDJ	**Mudanjiang**	**75.89**	**331**	P	**P**	**09 17 27.8**	**+2.1**
MDJ				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,66nm,3.7s						
MDJ	**Mudanjiang**	**75.89**	**331**	P	**P**	**09 17 25.3**	**-0.4**
	comp=Z,9.0nm,1.0s,mb4.7						
MAW	**Mawson**	**76.21**	**202**	P	**P**	**09 17 27.0**	**0.0**
	comp=Z,1.1nm,0.4s,mb4.1,baz=113,slow=12,SNR=4.1						
MAW	**Mawson**	**76.21**	**202**	*e*P	**P**	**09 17 27.1**	**0.0**
	comp=Z,8.6nm,0.9s,mb4.7						
CN2	**Changchun**	**77.20**	**329**	*e*P	**P**	**09 17 34.5**	**+1.5**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.7						
ENH	**Enshi**	**78.02**	**310**	*e*P	**P**	**09 17 38.6**	**+0.9**
	comp=Z,31nm,1.2s,mb5.1						
KMI	**Kunming**	**80.39**	**302**	P	**P**	**09 17 55.3**	**+4.6**
KMI				AP	pP	09 18 03.6	+3.7
KMI				AMB	AMB		
	comp=Z,10.0nm,1.7s,mb4.5						
LZH	**Lanzhou**	**85.14**	**312**	*e*P	**P**	**09 18 21.7**	**+6.7**
LZH				AMB	AMB		
	comp=Z,32nm,1.5s,mb5.2						
SNAA	**Sanae**	**86.47**	**182**	⇑*i*	**P**	**09 18 21.1**	**+0.3**
SNAA	**Sanae**	**86.47**	**182**	*e*	pP	09 18 30.5	+0.5
SNAA	**Sanae**	**86.47**	**182**	*e*	sP	09 18 36.8	+3.8
SNAA	**Sanae**	**86.47**	**182**	*e*	**P**	**09 18 40.6**	**+20**
SNAA	**Sanae**	**86.47**	**182**	P	**P**	**09 18 20.7**	**0.0**
	comp=Z,2.2nm,0.9s,mb4.4,baz=169,slow=3.1,SNR=19						
SNAA	**Sanae**	**86.47**	**182**	*e*P	**P**	**09 18 19.8**	**-1.0**
	comp=Z,14nm,1.1s,mb5.1						
SNAA				*e*	pP	09 18 30.5	+0.5
SNAA				*e*		09 18 36.8	
SNAA				*e*		09 18 40.6	
SNAA				*e*		09 18 54.0	
SNAA				*e*		09 19 38.9	
VNA3	**Neumayer Olymp**	**87.03**	**180**	⇑*i*P	**P**	**09 18 23.1**	**-0.4**
VNA3				*e*	pP	09 18 33.3	+0.6
VNA3				*e*		09 18 39.6	
VNA3				*e*		09 18 43.1	
VNA3				*e*		09 18 56.7	
VNA3				*e*		09 19 42.7	
VNA2	**Neumayer--Watz**	**87.34**	**181**	⇑*i*P	**P**	**09 18 25.0**	**+0.1**
VNA2				*e*	pP	09 18 35.1	+0.9
VNA2				*e*		09 18 41.4	
VNA2				*e*		09 18 44.9	
VNA2				*e*		09 18 58.6	
VNA2				*e*		09 19 44.6	
VNA1	**Neumayer--Stat**	**87.62**	**181**	*e*	pP	09 18 36.6	+1.0
VNA1	**Neumayer--Stat**	**87.62**	**181**	*e*	sP	09 18 43.2	+4.6
VNA1	**Neumayer--Stat**	**87.62**	**181**	⇑*i*P	**P**	**09 18 27.1**	**+0.8**
VNA1				*e*	pP	09 18 36.6	+1.0
VNA1				*e*		09 18 43.2	
VNA1				*e*		09 18 47.3	
VNA1				*e*		09 19 00.2	
VNA1				*e*		09 19 45.3	
GTA	**Gaotai**	**89.57**	**313**	*e*P	**P**	**09 18 37.6**	**+1.2**
GTA				AP	pP	09 18 43.8	-1.8
GTA				XP	sP	09 18 47.3	-1.3
GTA				AMB	AMB		
	comp=Z,2.0nm,0.7s,mb4.6						
SONM	**Songino Array**	**89.87**	**323**	P	**P**	**09 18 38.1**	**+0.6**
	comp=Z,4.4nm,1.1s,mb4.7,baz=138,slow=4.9,SNR=13						
ILAR	**Eielson Array**	**92.60**	**17**	P	**P**	**09 18 48.5**	**-1.2**
	comp=Z,0.4nm,0.6s,mb4.0,baz=232,slow=5.0,SNR=12						
ARU	**Arti**	**119.91**	**323**	*e*P	PKPdf	09 24 25.2	-7.3
DPC	**Dobruska-Polom**	**144.99**	**330**	*e*PKP	PKPdf	09 25 16.3	-3.0
DPC				*ex*	x	09 25 27.5	
DPC				*ex*	x	09 25 35.9	
VYHS	**Vyhne**	**145.00**	**326**	*e*PKP	PKPdf	09 25 16.7	-2.7
UPC	**Upice**	**145.02**	**331**	*e*PKP	PKPdf	09 25 16.2	-3.2
UPC				*ex*	x	09 25 27.4	
UPC				*ex*	x	09 25 36.0	
VTS	**Vitosha**	**145.58**	**314**	*e*P	PKPbc	09 25 32.5	+16
PVCC	**Panska Ves**	**145.65**	**332**	*e*PKP	PKPdf	09 25 18.4	-2.0
PVCC				*ex*	x	09 25 30.0	
PVCC				*ex*	x	09 25 37.6	
ZAPS	**Zavoj/Pirot**	**145.65**	**316**	⇑*i*P	PKPbc	09 25 18.8	+2.4
MMB	**Musomiste**	**145.66**	**313**	*i* P	PKPbc	09 25 31.5	+15
CLL	**Collm**	**145.72**	**334**	*i* PKIKP	PKPdf	09 25 18.0	-2.5
	comp=Z,logA/T=1.4						
CLL				*i*		09 25 29.0	
CLL				*e*		09 25 37.0	
KKB	**Krupnik**	**145.98**	**313**	*i* P	PKPbc	09 25 30.0	+13
PRU	**Pruhonice**	**146.05**	**331**	*e*PKP	PKPdf	09 25 20.2	-1.0
PRU				*ex*	x	09 25 32.5	
PRU				*ex*	x	09 25 37.8	
ESK	**Eskdalemuir**	**146.33**	**353**	*e*PKPdf	PKPdf	09 25 18.1	-3.3
NKC	**Novy Kostel**	**146.77**	**334**	*e*PKP	PKPdf	09 25 23.7	+1.3
NKC				*ex*	x	09 25 39.6	
MOX	**Moxa**	**146.79**	**335**	*e*P	PKPbc	09 25 22.0	+3.1
MOX				pPKP		09 25 41.0	
MOX	**Moxa**	**146.79**	**335**	*e*PKP	PKPdf	09 25 22.0	-0.4
MOX				*e*PKP	PKPdf	09 25 41.1	+19
DIVS	**Divcibare**	**146.90**	**319**	⇑*i*P	PKPbc	09 25 22.0	+2.7
SKO	**Skopje**	**147.03**	**315**	*e*P	PKPdf	09 25 22.7	-0.4
SKO				*i*		09 25 42.0	
KHC	**Kasperske Hory**	**147.11**	**331**	*e*PKP	PKPdf	09 25 22.3	-0.7
KHC				*ex*	x	09 25 34.2	
KHC				*ex*	x	09 25 40.9	
GERES	**GERESS Array B**	**147.26**	**331**	PKPbc	PKPdf	09 25 23.0	-0.2
	comp=Z,3.3nm,0.6s,baz=45,slow=1.9,SNR=12						
GRF	**Grafenberg Arr**	**147.69**	**334**	*e*PKP	PKPdf	09 25 25.8	+1.9
WLF	**Walferdange**	**149.59**	**339**	*e*PKPbc	PKPdf	09 25 31.5	+4.5
GIVF	**Givet**	**149.62**	**341**	*e*PKP1	PKPab	09 25 40.0	+6.1
	comp=Z,47nm,1.0s						
BAIF	**Baives**	**149.84**	**342**	*e*PKP1	PKPab	09 25 40.7	+5.9
	comp=Z,21nm,0.9s						
CDF	**Champ du Feu**	**150.26**	**337**	*e*PKP1	PKPab	09 25 41.5	+4.9
	comp=Z,16nm,0.9s						
HINF	**Hinteralfeld**	**150.91**	**336**	*e*PKP1	PKPab	09 25 42.9	+3.5
HAU	**Haudompre**	**150.94**	**337**	*e*PKP1	PKPab	09 25 43.0	+3.5
	comp=Z,17nm,0.7s						
TIP	**Timpagrande**	**151.50**	**313**	*e*PKPab	PKPab	09 25 42.6	+0.5
CABF	**La Chapelle**	**152.21**	**336**	*e*PKP1	PKPab	09 25 46.4	+1.6
FLN	**La Foliniere**	**152.23**	**347**	*e*PKP1	PKPab	09 25 45.6	+0.7
LDF	**La Druitiere**	**152.31**	**346**	*e*PKP1	PKPab	09 25 45.8	+0.6
LOR	**Lormes**	**152.43**	**340**	*e*PKP1	PKPab	09 25 46.4	+0.7
GRR	**Gorron**	**152.67**	**347**	*e*PKP1	PKPab	09 25 46.8	+0.1
SSF	**Saint Saulge**	**152.72**	**340**	*e*PKP1	PKPab	09 25 47.2	+0.2
	comp=Z,24nm,1.2s						
LPL	**La Plagne**	**152.85**	**334**	*e*PKP1	PKPab	09 25 48.0	+0.4
LPG	**La Plagne**	**152.86**	**334**	*e*PKP1	PKPab	09 25 48.9	+1.3

*IDC **11** 09:08:37.5±0.9, 21.98S×170.21E, mb4.3/9, mb1 4.5/10, mb1mx4.4/16, mbtmp4.3/10, ML4.2/1, Error ellipse: s-maj=35.7km s-min=20.8km az=151.0*

MJAR Matsushiro Arr 65.56 332 P **P** **09 19 22.6 -2.3**
comp=Z,2.6nm,0.9s,mb4.3,baz=170,slow=8.1,SNR=4.6
MAJO Matsushiro 65.57 332 P **P** **09 19 27.8 +2.8**
comp=Z,77nm,0.9s
MAJO LR LR
comp=Z,8μm,21.0s
MAT Matsushiro 65.57 332 *e*S S 09 27 54.0 -12
QSPA South Pole Qui 68.05 180 *e*P **P** **09 19 38.5 -1.5**
comp=Z,339nm,1.1s
SKR Severo-Kuril's 73.42 351 *e*P **P** **09 20 14.0 +1.2**
MAW Mawson 76.17 202 P **P** **09 20 30.2 +1.9**
comp=Z,287nm,1.5s
ENH Enshi 78.04 310 *e*P **P** **09 20 39.1 -0.4**
comp=Z,441nm,1.6s
NANT Nan 79.04 295 ⇑P **P** **09 20 46.0 +0.8**
comp=Z,762nm,1.0s
SYO Syowa Base 82.50 196 ⇑P **P** **09 21 05.5 +3.0**
SNAA Sanae 86.44 182 P **P** **09 21 20.8 -1.2**
comp=Z,1.7nm,0.9s,mb4.3,baz=175,slow=2.5,SNR=8.9
SNAA Sanae 86.44 182 ⇑*i*P **P** **09 21 22.4 +0.4**
VNA3 Neumayer Olymp 87.00 180 *e* **P** **09 21 30.2 +5.4**
VNA3 Neumayer Olymp 87.00 180 ⇑*i*P **P** **09 21 23.6 -1.2**
VNA3 *e* 09 21 30.2
VNA2 Neumayer--Watz 87.30 181 ⇑*i*P **P** **09 21 25.4 -0.9**
VNA2 *e* 09 21 31.9
VNA1 Neumayer--Stat 87.58 181 ⇑*i*P **P** **09 21 28.5 +0.9**
VNA1 *e* 09 21 33.3
SONM Songino Array 89.90 323 P **P** **09 21 39.0 -0.2**
comp=Z,1.5nm,0.8s,mb4.4,baz=138,slow=4.8,SNR=4.8
NVAR Mina Array Bea 90.04 48 P **P** **09 21 40.0 -0.1**
comp=Z,0.9nm,0.7s,mb4.2,baz=225,slow=7.7,SNR=6.9
ILAR Eielson Array 92.63 17 P **P** **09 21 49.0 -2.5**
comp=Z,0.4nm,0.5s,mb4.1,baz=238,slow=5.3,SNR=12
SCHQ Schefferville 126.65 37 PKP PKPdf 09 27 42.2 0.0
comp=Z,1.7nm,0.7s,baz=291,slow=8.6,SNR=2.8
SCHQ Schefferville 126.65 37 PKP PKPdf 09 27 42.2 0.0
ARCES ARCESS Array B 127.94 345 PKP PKPdf 09 27 44.1 -0.2
comp=Z,1.4nm,0.7s,baz=44,slow=3.3,SNR=7.9
ARCES ARCESS Array B 127.94 345 PKP PKPdf 09 27 44.1 -0.2
SCO Scoresbysund 131.00 5 *i*P PP 09 30 11.7 +0.1
FINES FINESS Array B 133.44 337 PKP PKPdf 09 27 56.2 +1.2
comp=Z,1.9nm,0.8s,baz=45,slow=2.7,SNR=3.4
FINES FINESS Array B 133.44 337 PKP PKPdf 09 27 56.2 +1.2
MBAR Mbarara 134.44 246 *e*PKPdf PKPdf 09 28 07.9 +10
MBAR LR LR
comp=Z,2μm,19.0s
AKASG Malin Array Be 138.19 323 PKP PKPdf 09 28 01.6 -2.3
comp=Z,1.8nm,0.8s,baz=45,slow=3.9,SNR=7.7
NB2 NORSAR Subarra138.32 345 PKPdf PKPdf 09 28 08.0 +4.1
comp=Z,2.2nm,0.8s,baz=31,slow=1.8
NB2 NORSAR Subarra138.32 345 PKPd PKPdf 09 28 08.0 +4.1
baz=31,slow=1.8
BR131 Keskin Array S 139.11 306 *e*PKPdf PKPdf 09 28 14.3 +8.3
BR131 LR LR
comp=Z,2μm,20.0s
BRTR Keskin Array B 139.11 306 PKhKP 09 28 02.5
comp=Z,0.4nm,0.4s,baz=141,slow=50,SNR=2.8
KONO Kongsberg 139.93 345 *e*P PKPdf 09 28 09.9 +3.1
KONO *e*PP PP 09 31 12.8 +5.3
KONO *e* 09 43 00.2
KONO *e*SS SS 09 49 40.4 +17
BER Bergen 140.19 348 *e*P PKPdf 09 28 13.5 +6.2
ULDT Uludag 142.35 308 *i*P PKPdf 09 28 16.5 +4.8
RCBR Riachuelo 142.40 134 *e*PKPdf PKPdf 09 28 19.4 +6.9
RCBR LR LR
comp=Z,3μm,21.0s
COP Copenhagen 142.49 339 *e*P PKPdf 09 28 19.6 +8.2
COP Copenhagen 142.49 339 *e*PKIKP PKPdf 09 28 19.6 +8.2
GKP Gorka Klasztor 142.55 333 *e*PKP PKPdf 09 28 24.4 +13
GKP Gorka Klasztor 142.55 333 *e*PKP PKPdf 09 28 24.4 +13
MLR Muntele Rosu 142.56 317 PKP PKPdf 09 28 22.6 +11
comp=Z,5.5nm,0.8s,baz=1.8,slow=9.8,SNR=7.3
GOLH Golhisar 142.77 303 *i*P PKPdf 09 28 15.5 +3.0
MUD Monsted U'grnd 142.83 343 *i*PKIKP PKPdf 09 28 24.1 +12
MUD pmax pmax
comp=Z,100nm,2.0s
MUD Monsted U'grnd 142.83 343 *i*P PKPdf 09 28 24.1 +12
comp=Z,104nm,2.0s
AKAS Kas 142.95 301 *i*P PKPdf 09 28 15.7 +2.9
KAC Achnashellach 144.40 356 *e*P PKPbc 09 28 14.4 +0.2
OKC Ostrava-Krasne 144.51 328 *e*PKP PKPdf 09 28 23.5 +8.4
RUE Ruedersdorf 144.54 335 *e*PKPdf PKPdf 09 28 25.3 +10
KPL Plockton 144.58 356 *e*P PKPbc 09 28 16.5 +1.8
BSEG Bad Segeberg 144.63 339 *e*PKIKP PKPdf 09 28 25.5 +10
KSB Sheil Bridge 144.69 356 *e*P PKPbc 09 28 15.2 +0.2
KSP Ksiaz 144.69 331 *e*PKP PKPdf 09 28 25.8 +10
KSP *e*SKS SKS 09 35 32.8 +13
KSP Ksiaz 144.69 331 *e*PKIKP PKPdf 09 28 25.9 +11
KSP Ksiaz 144.69 331 *e*PKPdf PKPdf 09 28 25.9 +11
URLA Izmir 144.76 306 *i*P PKPbc 09 28 22.2 +6.3
SMG Samos 144.76 305 *e*P PKPbc 09 28 08.5 -7.4
PSZ Piszkesteto 144.82 325 *e*PKPdf PKPdf 09 28 22.5 +6.8
KAR1 Arisaig 145.01 356 *e*P PKPdf 09 28 16.4 +0.7
DPC Dobruska-Polom 145.03 330 *e*PKP PKPdf 09 28 16.8 +0.8
VYHS Vyhne 145.03 326 *e*PKP PKPdf 09 28 17.1 +1.0
UPC Upice 145.06 331 *e*PKP PKPdf 09 28 16.9 +0.9
ZAPS Zavoj/Pirot 145.68 316 ⇑*i*PKP PKPdf 09 28 19.8 +2.5
PVCC Panska Ves 145.68 332 *e*PKP PKPdf 09 28 19.3 +2.2
BRG Berggiesshubel 145.69 333 ⇑*i*PKP PKPdf 09 28 18.7 +1.6
CLL Collm 145.75 334 *i* PKPdf 09 28 18.6 +1.4
EAU Auchinoon 145.87 354 *e*P PKPdf 09 28 18.1 +0.9
EAU AMb AMB 09 28 20.7
comp=Z,98nm,2.1s
PRU Pruhonice 146.09 331 *e*PKHKP PKPdf 09 28 19.6 +1.8
PRU Pruhonice 146.09 331 *e*PKP PKPdf 09 28 19.6 +1.8
ESK Eskdalemuir 146.37 353 *e*P PKPdf 09 28 19.2 +1.1
BWH Wardlaw 146.56 353 *e*P PKPdf 09 28 20.0 +1.6
BWH AMb AMB 09 28 21.9
comp=Z,30nm,2.2s
GMK Mull of Kintyr 146.56 356 *e*P PKPdf 09 28 19.6 +1.1
BHH Howats Hill 146.59 353 *e*P PKPdf 09 28 20.4 +1.9
GRUS Gruza 146.59 318 *i*PKP PKPdf 09 28 21.6 +2.7
NKC Novy Kostel 146.81 333 *e*PKHKP PKPdf 09 28 21.8 +2.8
NKC Novy Kostel 146.81 333 *e*PKP PKPdf 09 28 21.8 +2.8
DIVS Divcibare 146.93 319 ⇑*i*PKP PKPdf 09 28 23.6 +4.2
BBO1 Bothel 146.94 353 *e*P PKPdf 09 28 21.3 +2.2
BBO1 AMb AMB 09 28 23.9
comp=Z,29nm,2.0s
GAL1 Galloway 146.96 354 *e*P PKPdf 09 28 20.9 +1.8
KHC Kasperske Hory 147.14 331 *e*PKHKP PKPdf 09 28 23.1 +3.5
KHC Kasperske Hory 147.14 331 *e*PKP PKPdf 09 28 23.1 +3.5
GERES GERESS Array B 147.30 331 PKPbc PKPdf 09 28 23.1 +3.3
comp=Z,3.2nm,0.6s,baz=36,slow=3.0,SNR=8.8
WET Wettzell 147.44 332 *e*PKP2 PKPab 09 28 34.4 +7.7
ARSA Arzberg 147.53 327 ⇓*i*P PKPdf 09 28 28.4 +8.1
ARSA *i* 09 28 36.1
MOA Molln 147.74 329 ⇑*i*P PKPdf 09 28 25.2 +4.6
LHO Holmfirth 147.93 351 *e*P PKPdf 09 28 24.5 +3.8
LHO AMb AMB 09 28 30.7
comp=Z,33nm,1.8s
KBI1 Birley Grange 148.16 350 *e*P PKPdf 09 28 24.4 +3.3
WCB1 Church Bay 148.42 354 *e*P PKPdf 09 28 24.9 +3.4
WCB1 AMb AMB 09 28 26.9
comp=Z,22nm,1.1s
KWE Weaver Farm 148.44 351 *e*P PKPdf 09 28 25.5 +3.9
WLF1 Llynfaes 148.49 354 *e*P PKPdf 09 28 25.2 +3.6
WLF1 AMb AMB 09 28 27.4
comp=Z,41nm,1.3s
YRC Rhoscolyn 148.55 354 *e*P PKPdf 09 28 24.8 +3.1
YRC AMb AMB 09 28 27.3
comp=Z,18nm,1.2s
KBA Koelnbreinsper 148.73 329 ⇑*i*P PKPdf 09 28 26.3 +4.1
SBD1 Bryn Du 148.74 352 *e*P PKPdf 09 28 26.1 +4.1
VOY Vojsko 149.19 327 *e*PKPdf PKPdf 09 28 28.4 +5.4
SSP1 Stoney Pound 149.20 352 *e*P PKPdf 09 28 27.4 +4.6
SSP1 AMb AMB 09 28 29.4
comp=Z,18nm,1.1s
WATA Walderalm 149.37 331 ⇑*i*P PKPdf 09 28 26.4 +3.2
WTTA Wattenberg 149.40 331 ⇓*i*P PKPdf 09 28 27.9 +4.6
MOTA Moosalm 149.58 331 ⇑*i*P PKPdf 09 28 29.7 +6.1
MOTA *i* 09 28 39.5
WLF Walferdange 149.62 339 *e*PKP2 PKPab 09 28 40.0 +4.5
SQTA Sankt Quirin 149.62 331 ⇓*i*P PKPdf 09 28 29.7 +6.0
SQTA *i* 09 28 39.8
GIVF Givet 149.66 341 *e*PKP1 PKPdf 09 28 29.9 +6.3
comp=Z,296nm,1.1s
BAIF Baives 149.88 342 *e*PKP1 PKPdf 09 28 30.6 +6.6
comp=Z,192nm,1.2s
HGH Gray Hill 149.92 351 *e*P PKPdf 09 28 29.4 +5.4
HGH AMb AMB 09 28 30.9
comp=Z,36nm,1.2s
HSA Swansea 149.99 353 *e*P PKPdf 09 28 29.1 +5.0
DAVA Damuels 150.16 332 ⇓*i*P PKPdf 09 28 30.1 +5.6

CDF Champ du Feu 150.29 337 *e*PKP1 PKPdf 09 28 31.6 +6.9
comp=Z,81nm,0.9s
HEX Exmoor 150.61 352 *e*P PKPdf 09 28 30.6 +5.6
HINF Hinteralfeld 150.95 336 *e*PKP1 PKPdf 09 28 32.9 +7.3
comp=Z,64nm,0.8s
HAU Haudompre 150.97 337 *e*PKP1 PKPdf 09 28 33.0 +7.3
comp=Z,86nm,0.8s
MEZF Maizieres J'vi 150.99 339 *e*PKP1 PKPdf 09 28 33.5 +7.8
comp=Z,213nm,0.9s
CII Carovilli 151.72 320 *e*PKPab PKPab 09 28 47.5 +3.0
VAI Varese 151.75 332 P PKPdf 09 28 37.3 +10
CABF La Chapelle 152.24 336 *e*PKP1 PKPdf 09 28 36.5 +8.9
comp=Z,62nm,0.8s
FLN La Foliniere 152.27 347 *e*PKP1 PKPdf 09 28 35.7 +8.1
comp=Z,199nm,1.1s
LDF La Druitiere 152.35 346 *e*PKP1 PKPdf 09 28 35.8 +8.1
comp=Z,62nm,0.9s
LOR Lormes 152.46 339 *e*PKP1 PKPdf 09 28 36.4 +8.5
comp=Z,70nm,1.0s
GRR Gorron 152.71 347 *e*PKP1 PKPdf 09 28 36.8 +8.6
comp=Z,76nm,0.9s
SSF Saint Saulge 152.76 340 *e*PKP1 PKPdf 09 28 37.1 +8.8
comp=Z,46nm,0.9s
LPL La Plagne 152.89 334 *e*PKP1 PKPdf 09 28 37.9 +9.3
LPG La Plagne 152.90 334 *e*PKP1 PKPdf 09 28 38.7 +10
comp=Z,100nm,0.8s
SMF Signal de Mont 153.01 339 *e*PKP1 PKPdf 09 28 37.5 +8.8
AVF Avril sur Loir 153.05 340 *e*PKP1 PKPdf 09 28 37.4 +8.7
SGMF Saint Gilles 153.16 349 *e*PKP1 PKPdf 09 28 37.4 +8.6
comp=Z,164nm,1.3s
ROSF Rostrenen 153.20 350 *e*PKP1 PKPdf 09 28 37.4 +8.5
BNI Bardonecchia 153.29 333 *e*PKPdf PKPdf 09 28 39.5 +10
MBDF Montbardon 153.51 333 *e*PKP1 PKPdf 09 28 38.8 +9.4
comp=Z,46nm,0.8s
QUIF Quistinic 153.59 350 *e*PKP1 PKPdf 09 28 38.3 +8.8
comp=Z,74nm,1.2s
ORIF Oris-en-Rattie 153.72 334 *e*PKP1 PKPdf 09 28 39.4 +10
TCF Toulx Ste Croix 153.85 341 *e*PKP1 PKPdf 09 28 39.3 +9.4
comp=Z,16nm,0.8s
SBF Sospel 153.90 331 *e*PKP1 PKPdf 09 28 40.9 +11
PGF Pioggiola 154.13 327 *e*PKP1 PKPdf 09 28 40.3 +10
comp=Z,34nm,0.6s
MFF Saint Martin d 154.22 344 *e*PKP1 PKPdf 09 28 39.9 +10
VIVF Saint-Julien-l 154.25 336 *e*PKP1 PKPdf 09 28 40.5 +10
FRF La Foret Royal 154.49 331 *e*PKP1 PKPdf 09 28 41.0 +10
comp=Z,87nm,1.1s
SMRF Simiane la Rot 154.62 333 *e*PKP1 PKPdf 09 28 41.6 +11
comp=Z,63nm,1.2s
RJF Les Rejaudoux 154.95 341 *e*PKP1 PKPdf 09 28 42.0 +11
EVO Evora 163.46 355 *e*PKIKP PKPdf 09 28 43.4 +2.0
LIC Lamto 163.61 197 *e*PKIKP PKPdf 09 28 46.5 +4.2
comp=Z,237nm,1.5s

BGS ***11*** *09:08:40.8,22.68S×169.51E,h10km*
LDG ***11*** *09:08:42.3±0.2,20.82S×170.52E,h10km,Mb5.8/2, Ms5.9/9, Error ellipse: s-maj=15.4km s-min=4.7km az=152.0*
HRVD ***11*** *09:08:46.8±0.1,22.06S×170.14E,h12km,MW6.1/76, Centroid moment Tensor Solution. LP body waves: s67,c171;Mantle waves: s76,c314; Half duration: 2s8 Moment tensor: Scale 1018Nm; Mrr=0.62±.01; Mθθ0.29±.02; Mφφ0.33±.02; Mrθ0.21±.04; Mrφ1.94±.01; Mθr-0.07±.04; Best double couple: M0 1.961×1018 NP1: φs0°,δ81°,λ-174°. NP2:φs269°,δ84°,λ-9°. Principal axes: T 2.253, Plg2°, Azm315°; N -.584, Plg79°, Azm55°; P -1.669, Plg11°, Azm224°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***11*** *09:08:46.8±0.2,22.68S×169.51E,h10km,mb5.7/53, MS6.0/125,MW6.2 Error ellipse: s-maj=9.3km s-min=6.5km az=173.0,Moment Tensor Solution. s37 Moment tensor: Scale 1018Nm; Mrr=0.12; Mθθ2.19; Mφφ-2.07; Mrθ0.04; Mrφ1.32; Mθφ0.69; Best double couple: M0 2.6×1018 NP1:φs118°,δ76°,λ-7°. NP2:φs210°,δ83°, λ-166°. Principal axes: T 2.58, Plg5°, Azm343°; N .03, Plg74°, Azm235°; P -2.62, Plg15°, Azm75°;*
BJI ***11*** *09:08:48.8,22.70S×169.50E,h10km,mB6.0,mb5.5, Ms6.1,Ms25.9*
IDC ***11*** *09:08:48.8±0.4,22.12S×170.14E,mb5.2/20,mb1 5.3/23, mb1mx5.3/24,mbtmp5.2/23,ML5.0/2,MS6.0/10,Ms1 6.0/10, ms1mx5.9/12,Error ellipse: s-maj=15.9km s-min=13.4km az=162.0*
CRAAG ***11*** *09:08:49.7,22.14S×169.94E,Mb5.5*
MOS ***11*** *09:08:52.8±1.8,22.15S×170.19E,h33km,mb5.7/31, MS6.0/46,Error ellipse: s-maj=10.4km s-min=8.7km az=88.2*

ISC 11 09:08:50.8±0.2,21.99S±0.03×170.13E±0.03,h19km, h19km±2.6km:pP-P,n644,σ1§26/262,mb5.4/86,MS6.0/159, 25C-44D,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.42**	**268**	*e*P	**Pn**	**09 09 46.5**	**+2.1**
DZM	**Mont Dzumac**	**3.42**	**268**	Pn	**Pn**	**09 09 44.5**	**+0.1**
DZM	90nm,0.3s,baz=80,slow=19,SNR=12			Sn	**Sn**	**09 10 24.9**	**0.0**
	402nm,0.3s,baz=143,slow=21,SNR=4.5						
RAO	**Raoul Island**	**12.98**	**126**	Pn	**P**	**09 11 54.0**	**-3.2**
	491nm,0.8s						
RAO	**Raoul Island**	**12.98**	**126**	P	**P**	**09 11 54.0**	**-3.1**
RAO				pmax	pmax		
	comp=Z,491nm,0.8s						
WCZ	**Waipu Caves**	**14.38**	**166**	PN	**P**	**09 12 11.1**	**-4.5**
WCZ	**Waipu Caves**	**14.38**	**166**	*e*P	**P**	**09 12 11.1**	**-4.5**
KUZ	**Kuaotunu**	**15.49**	**163**	PN	**P**	**09 12 30.9**	**+0.9**
KUZ	**Kuaotunu**	**15.49**	**163**	*e*P	**P**	**09 12 30.9**	**+0.9**
HNR	**Honiara**	**15.86**	**320**	Pn	**P**	**09 12 36.4**	**+1.4**
	comp=Z,8.5nm,0.3s,baz=236,slow=3.8,SNR=6.6						
HNR	**Honiara**	**15.86**	**320**	P	**P**	**09 12 32.6**	**-2.4**
	comp=Z,3μm,1.3s						
HNR	**Honiara**	**15.86**	**320**	*e*P	**P**	**09 12 35.8**	**+0.8**
HNR				pmax	pmax		
	comp=Z,3μm,1.2s						
FUNA	**Funafuti**	**15.98**	**34**	*e*P	**P**	**09 12 38.0**	**+1.5**
URZ	**Urewera**	**17.29**	**161**	P	**P**	**09 12 54.0**	**+1.1**
	comp=Z,2.6nm,0.3s,baz=37,slow=4.9,SNR=19						
URZ	**Urewera**	**17.29**	**161**	PN	**P**	**09 12 55.7**	**+2.7**
URZ	**Urewera**	**17.29**	**161**	*e*P	**P**	**09 12 55.7**	**+2.7**
MWZ	**Matawai**	**17.49**	**160**	PN	**P**	**09 12 54.8**	**-0.6**
MWZ	**Matawai**	**17.49**	**160**	*e*P	**P**	**09 12 54.8**	**-0.6**
PUZ	**Puketiti**	**17.49**	**158**	PN	**P**	**09 12 55.9**	**+0.5**
PUZ	**Puketiti**	**17.49**	**158**	*e*P	**P**	**09 12 55.9**	**+0.4**
BKZ	**Black Stump Fm**	**17.97**	**164**	PN	**P**	**09 13 01.8**	**+0.5**
BKZ	**Black Stump Fm**	**17.97**	**164**	*e*P	**P**	**09 13 01.8**	**+0.4**
KNZ	**Kokohu**	**18.16**	**161**	PN	**P**	**09 13 04.7**	**+0.8**
KNZ	**Kokohu**	**18.16**	**161**	*e*P	**P**	**09 13 04.7**	**+0.8**
TSZ	**Takapari Road**	**18.68**	**166**	P*	**P**	**09 13 11.0**	**+0.8**
TSZ	**Takapari Road**	**18.68**	**166**	*e*P	**P**	**09 13 11.0**	**+0.8**
PWZ	**Pawanui**	**18.87**	**164**	P*	**P**	**09 13 12.9**	**+0.4**
PWZ	**Pawanui**	**18.87**	**164**	*e*P	**P**	**09 13 12.9**	**+0.4**
AFI	**Afiamalu**	**18.99**	**68**	P	**P**	**09 13 12.8**	**-1.2**
	comp=Z,20nm,0.3s,baz=298,slow=7.5,SNR=18						
AFI	**Afiamalu**	**18.99**	**68**	⇓*e*P	**P**	**09 13 11.8**	**-2.2**
	comp=Z,594nm,1.1s						
AFI	**Afiamalu**	**18.99**	**68**	*e*P	**P**	**09 13 11.7**	**-2.3**
AFI				pmax	pmax		
	comp=Z,590nm,1.1s						
MRZ	**Mangatainoka R**	**19.18**	**167**	P*	**P**	**09 13 15.1**	**-1.1**
MRZ	**Mangatainoka R**	**19.18**	**167**	*e*P	**P**	**09 13 15.1**	**-1.0**
NNZ	**Nelson**	**19.37**	**173**	P*	**P**	**09 13 18.2**	**-0.1**
NNZ	**Nelson**	**19.37**	**173**	*e*P	**P**	**09 13 18.2**	**-0.1**
THZ	**Tophouse**	**19.85**	**174**	P*	**P**	**09 13 23.6**	**-0.2**
THZ	**Tophouse**	**19.85**	**174**	*e*P	**P**	**09 13 23.6**	**-0.1**
RIV	**Riverview**	**20.46**	**231**	*e*P	**P**	**09 13 29.1**	**-1.0**
KHZ	**Kahutara**	**20.57**	**173**	P*	**P**	**09 13 28.7**	**-2.5**
KHZ	**Kahutara**	**20.57**	**173**	*e*P	**P**	**09 13 28.7**	**-2.5**
LTZ	**Lake Taylor**	**20.81**	**176**	P*	**P**	**09 13 33.9**	**+0.2**
LTZ	**Lake Taylor**	**20.81**	**176**	*e*P	**P**	**09 13 33.9**	**+0.2**
WVZ	**Waitaha Valley**	**21.03**	**179**	P*	**P**	**09 13 38.7**	**+2.8**
FOZ	**Fox Glacier**	**21.52**	**181**	P*	**P**	**09 13 41.3**	**+0.4**
FOZ	**Fox Glacier**	**21.52**	**181**	*e*P	**P**	**09 13 41.3**	**+0.4**
RPZ	**Rata Peaks**	**21.68**	**178**	P*	**P**	**09 13 43.7**	**+1.2**
RPZ	**Rata Peaks**	**21.68**	**178**	*e*P	**P**	**09 13 43.7**	**+1.2**
CTA	**Charters Tower**	**22.36**	**270**	P	**P**	**09 13 49.5**	**+0.1**
	comp=Z,42nm,0.8s,mb4.9,baz=98,slow=12,SNR=13						
CTA				LR	LR	09 22 01.8	
	comp=Z,78μm,18.5s,MS6.2,baz=92,slow=35						
CNB	**Canberra Magne**	**22.48**	**229**	*e*P	**P**	**09 13 55.7**	**+5.1**
	comp=Z,2μm,1.5s,mb6.3						

ODZ Otahua Downs 23.00 179 *e*P **P** **09 14 02.9 +7.3**
PMG Port Moresby 25.36 296 P **P** **09 14 20.3 +1.6**
comp=Z,106nm,0.8s,mb5.4,baz=117,slow=6.3,SNR=21
PMG LR LR 09 23 00.8
comp=Z,47μm,18.8s,MS6.0,baz=121,slow=34
PMG Port Moresby 25.36 296 *e*P **P** **09 14 17.1 -1.6**
comp=Z,187nm,1.0s,mb5.6
PMG LR LR 09 23 00.8
PMG Port Moresby 25.36 296 *i*P **P** **09 14 20.1 +1.4**
TOO Toolangi 26.31 228 *e*P **P** **09 14 30.1 +2.8**
comp=Z,137nm,1.6s,mb5.2
STKA Stephens Creek 27.20 243 P **P** **09 14 33.9 -1.7**
comp=Z,56nm,0.6s,mb5.3,baz=89,slow=9.1,SNR=8.2
RAR Rarotonga 27.98 94 PFAKE 09 14 50.0 +7.3
RAR LR LR
comp=Z,8μm,20.0s,MS5.3
TAU Tasmania Unive 28.22 217 P **P** **09 14 41.0 -3.7**
comp=Z,160nm,1.4s,mb5.5
TAU LR LR
comp=Z,8μm,22.0s,MS5.2
ADE Adelaide 30.36 238 P **P** **09 15 04.1 +0.2**
KWAJ Kwajalein Atol 30.70 355 PFAKE 09 15 20.0 +13
KWAJ LR LR
comp=Z,9μm,22.0s,MS5.4
WB2 Warramunga Arr 33.42 267 *e*P **P** **09 15 31.0 +0.2**
WRAB Tennant Creek 33.43 267 *i*P **P** **09 15 29.4 -1.5**
WRA Warramunga Arr 33.44 267 P **P** **09 15 30.4 -0.5**
comp=Z,6.7nm,0.4s,mb4.9,baz=100,slow=8.5,SNR=40
KAKA Kakadu 37.05 278 *e*P **P** **09 15 59.7 -2.1**
comp=Z,8.3nm,0.6s,mb4.7
KAKA *i* 09 16 12.2
TBI Tubuai 37.23 100 *e*S **S** **09 21 49.3 +0.4**
TBI *e*LQ 09 24 27.3
TBI *e*LR LR 09 25 54.3
comp=Z,32μm,31.8s,baz=258
PPT Papeete 38.10 91 *e*S **S** **09 22 09.2 +7.1**
PPT *e*LQ 09 24 47.8
PPT *e*LR LR 09 26 20.5
comp=Z,34μm,28.8s,baz=252
FORT Forrest 38.51 248 *e*P **P** **09 16 11.5 -2.4**
comp=Z,327nm,1.1s,mb6.0
PMOR Pomariorio Ree 40.31 87 *e*P **P** **09 16 28.9 -0.1**
comp=Z,80nm,1.1s,mb5.3
VAH Vaihoa 40.50 88 *e*P **P** **09 16 29.7 -0.8**
comp=Z,79nm,1.1s,mb5.3
WAKE Wake Island 41.16 355 PFAKE 09 16 50.0 +14
WAKE LR LR
comp=Z,27μm,20.0s,MS6.1
FITZ Fitzroy Crossi 41.86 267 P **P** **09 16 40.4 -1.4**
comp=Z,35nm,0.9s,mb5.0,baz=126,slow=4.3,SNR=9.4
KLBR Kellerberrin 47.34 247 *e*P **P** **09 17 21.8 -3.8**
comp=Z,2μm,2.0s
NWAO Narrogin (SRO) 47.75 245 P **P** **09 17 26.2 -2.7**
comp=Z,52nm,0.7s,mb5.7,baz=90,slow=7.8,SNR=15
NWAO Narrogin (SRO) 47.75 245 *e*P **P** **09 17 25.5 -3.4**
NWAO pmax pmax
comp=Z,240nm,1.1s
MUN Mundaring 48.64 246 *e*P **P** **09 17 39.2 +3.4**
comp=Z,104nm,1.8s,mb5.6
TAOE Nuku Hiva Isla 49.47 83 *e*S **S** **09 24 52.4 +4.8**
TAOE *e*LR LR 09 31 38.2
comp=Z,31μm,29.9s
RKT Rikitea 50.46 102 *e*S **S** **09 24 57.7 -3.5**
RKT *e*LQ 09 29 37.9
RKT *e*LR LR 09 31 59.0
comp=Z,20μm,31.5s,baz=261
MIDW Midway 51.35 14 PFAKE 09 18 10.0 +13
MIDW LR LR
comp=Z,8μm,21.0s,MS5.7
DAV Davao City (W) 52.34 298 *e*P **P** **09 18 13.0 +8.8**
KIP Kipapa 53.18 38 PFAKE 09 18 20.0 +10
KIP LR LR
comp=Z,5μm,20.0s,MS5.6
BUKP Musuan 53.22 299 *e*P **P** **09 18 12.6 +1.9**
POHA Pohakuloa 53.37 41 PFAKE 09 18 30.0 +18
POHA LR LR
comp=Z,55μm,22.0s,MS6.6
CGP Cagayan de Oro 53.85 299 ⇓*e*P **P** **09 18 28.3 +13**
PTCN Pitcairn Islan 54.51 106 PFAKE 09 18 30.0 +10
PTCN LR LR
comp=Z,9μm,20.0s,MS5.8
PAGZ Pagadian 54.58 298 *e*P **P** **09 18 22.3 +1.6**
MSLP Maasin 54.69 301 *e*P **P** **09 18 33.4 +12**
IPIL Ipil 55.21 297 *e*P **P** **09 18 36.3 +11**
TBP Tagbilaran 55.23 300 *e*P **P** **09 18 36.9 +12**
VNDA Vanda 55.72 182 P **P** **09 18 25.4 -2.8**
comp=Z,5.2nm,0.5s,mb4.8,baz=360,slow=7.2,SNR=15
VNDA Vanda 55.72 182 *e*P **P** **09 18 23.6 -4.6**
VNDA pmax pmax
comp=Z,360nm,1.8s
CBIJ Chichi jima 55.79 330 P **P** **09 18 28.6 -0.8**
comp=Z,80nm,0.7s,mb5.8,baz=291,slow=22,SNR=5.6
RCP Roxas 57.20 301 ⇓*e*P **P** **09 18 41.2 +1.7**
PVCP Virac 57.30 304 *e*P **P** **09 18 52.8 +12**
CASY Casey 57.96 204 *e*P **P** **09 18 40.2 -4.0**
SJMP San Jose 59.01 301 *e*P **P** **09 19 04.7 +12**
BUSP Coron 59.49 300 *e*P **P** **09 18 58.0 +2.4**
BATP Bataraza 59.73 295 *e*P **P** **09 18 59.4 +2.2**
BALP Baler 60.58 304 *e*P **P** **09 19 14.8 +12**
CAUP Cauayan 61.11 305 *e*P **P** **09 19 09.7 +3.1**
APYP Conner 62.11 306 *e*P **P** **09 19 24.2 +11**
KSM Kuching 62.81 284 P **P** **09 19 12.9 -5.1**
MIR Mirnyy 64.91 206 *e*P **P** **09 19 32.0 +1.0**
MIR *e*S **S** **09 28 16.0 +6.1**
MIR pmax pmax
comp=Z,3μm,9.0s
MIR pmax pmax
comp=E,1μm,9.0s
MIR smax
comp=E,1μm,12.0s
MIR smax
comp=N,1μm,15.0s
MIR MLR MLR
comp=N,9μm,16.0s,MS6.1
MIR MLR MLR
comp=E,7μm,16.0s,MS6.1
MIR MLR MLR
comp=Z,14μm,16.0s,MS6.3
MJAR Matsushiro Arr 65.56 332 P **P** **09 19 33.5 -2.1**
comp=Z,35nm,0.9s,mb5.4,baz=170,slow=7.3,SNR=22
MAJO Matsushiro 65.56 332 P **P** **09 19 34.0 -1.7**
MAJO pmax pmax
comp=Z,77nm,1.0s,mb5.7
MAT Matsushiro 65.56 332 P **P** **09 19 33.5 -2.2**
MAT S S 09 28 00.4 -18
MAT Matsushiro 65.56 332 *e*P **P** **09 19 34.0 -1.7**
comp=Z,63nm,1.1s,mb5.6
MAT LR LR
comp=Z,7μm,20.0s,MS5.9
MAT Matsushiro 65.56 332 *e*P **P** **09 19 34.0 -1.7**
MAT pmax pmax
comp=Z,63nm,1.1s,mb5.6
MAT MLR MLR
comp=Z,7μm,20.0s,MS5.9
NACB Ninganchiao 65.81 311 P **P** **09 19 33.4 -4.1**
TATO Taipei 66.40 312 P **P** **09 19 40.7 -0.5**
comp=Z,958nm,1.8s,mb6.5
TATO LR LR
comp=Z,7μm,19.0s,MS5.9
ERM Erimo 68.40 339 PFAKE 09 20 00.0 +6.4
ERM LR LR
comp=Z,1.0nm,21.0s
QZH Quanzhou 68.41 310 *e*P **P** **09 19 53.4 -0.5**
QZH S S 09 28 50.4 -2.5
QZH AMB AMB
comp=Z,670nm,2.0s,mb6.3
QZH AMB AMB
comp=Z,4μm,3.5s
QZH LR LR
comp=N,3μm,11.8s,MS6.0
QZH LR LR
comp=E,4μm,11.5s,MS6.0
QZH LR LR
comp=Z,10μm,24.4s
YUK Yuzh-Kuril'sk 69.37 342 *e*P **P** **09 20 05.0 +5.5**
YUK *e*SP PcP 09 20 18.0 -5.0
YUK S S 09 29 08.0 +4.0
YUK *e*PS PS 09 29 29.0 -3.4
YUK pmax pmax
comp=N,2μm,3.0s
YUK pmax pmax
comp=E,2μm,3.0s
YUK pmax pmax
comp=Z,2μm,3.0s
YUK MLR MLR

comp=N,9μm,18.0s,MS6.2
YUK MLR MLR
comp=E,9μm,18.0s,MS6.2
YUK MLR MLR
comp=Z,15μm,18.0s,MS6.3
HKC Hong Kong 70.08 305⇑ iP P 09 20 16.0 +12
HKC S S 09 29 24.0 +11
ASAJ Asahikawa 70.45 339 P P 09 20 05.0 -1.1
comp=Z,35nm,0.8s,mb5.3,baz=229,slow=9.6,SNR=16
SSE Sheshan 70.63 317 P P 09 20 07.8 +0.4
SSE AP pP 09 20 11.0 -2.2
SSE S S 09 29 23.1 +4.1
SSE XS 09 29 28.8
SSE AMB AMB
comp=Z,55nm,1.0s,mb5.4
SSE AMB AMB
comp=Z,733nm,8.3s
SSE LR LR
comp=N,2μm,25.1s,MS5.6
SSE LR LR
comp=E,3μm,25.1s,MS5.6
SSE LR LR
comp=Z,4μm,20.0s
KS15 Wonju Array Si 71.25 326 eP P 09 20 09.6 -1.4
INCN Inchon 71.94 325 eP P 09 20 13.5 -1.6
comp=Z,185nm,1.1s,mb5.9
INCN LR LR
comp=Z,4μm,19.0s,MS5.7
RPN Rapa Nui 72.25 113 PFAKE 09 20 30.0 +13
RPN LR LR
comp=Z,2μm,22.0s,MS5.3
NJ2 Nanjing 72.75 316 eP P 09 20 21.2 +1.0
NJ2 AP pP 09 20 25.9 -0.1
NJ2 XP sP 09 20 28.2 +0.2
NJ2 PP PP 09 23 05.3 +1.2
NJ2 S S 09 29 46.0 +2.5
NJ2 XS 09 29 53.0
NJ2 AMB AMB
comp=Z,80nm,1.0s,mb5.6
NJ2 AMB AMB
comp=Z,1μm,10.6s
NJ2 LR LR
comp=N,10μm,20.8s,MS6.2
NJ2 LR LR
comp=E,8μm,18.9s,MS6.2
NJ2 LR LR
comp=Z,6μm,27.0s
YSS Yuzh-Sakhalins 72.94 341 eP P 09 20 18.6 -2.3
comp=Z,74nm,0.9s,mb5.6
YSS i P 09 20 21.7
YSS LR LR
comp=Z,10μm,20.0s,MS6.1
YSS Yuzh-Sakhalins 72.94 341⇓ eP P 09 20 21.0 +0.1
YSS e*SP sP 09 20 33.5 +4.7
YSS ePPP PPP 09 24 47.0 -1.4
YSS eS S 09 29 49.0 +3.8
YSS eS ScS 09 30 35.0 +11
YSS pmax pmax
comp=Z,100nm,1.0s,mb5.7
YSS pmax pmax
comp=Z,900nm,10.0s
YSS smax
comp=N,2μm,15.0s
YSS smax
comp=E,2μm,16.0s
YSS MLR MLR
comp=N,6μm,18.0s,MS6.0
YSS MLR MLR
comp=E,4μm,18.0s,MS6.0
YSS MLR MLR
comp=Z,7μm,18.0s,MS6.0
KULM Kulim 73.15 283 P P 09 20 19.2 -3.6
SKR Severo-Kuril's 73.40 351 e PP 09 23 04.0 -5.2
SKR ePPP PPP 09 24 58.0 +5.0
SKR eS S 09 29 50.0 -0.4
SKR smax
comp=N,2μm,16.0s
SKR smax
comp=E,5μm,16.0s
SKR MLR MLR
comp=N,3μm,18.0s,MS6.0
SKR MLR MLR
comp=E,6μm,18.0s,MS6.0
SKR MLR MLR
comp=Z,6μm,18.0s,MS5.9
SNG Songkhla 73.97 285 P P 09 20 30.0 +2.5
comp=Z,52nm,0.7s,mb5.6
SMY Shemya 74.48 3 PFAKE 09 20 40.0 +10
SMY LR LR
comp=Z,23μm,21.0s,MS6.5
WHN Wuhan 74.81 312 eP P 09 20 32.0 -0.1
WHN S S 09 30 04.0 -2.5
WHN LR LR
comp=Z,27μm,43.6s,MS6.2
PET Petropavlovsk 75.36 353 P P 09 20 31.2 -3.6
comp=Z,196nm,1.6s,mb5.8
PET Petropavlovsk 75.36 353 eP P 09 20 38.0 +3.2
PET eS S 09 30 13.7 +1.5
PET ePPS PPS 09 31 03.8 -2.7
PET pmax pmax
comp=Z,900nm,9.0s
PET pmax pmax
comp=Z,700nm,13.1s
PET pmax pmax
comp=Z,67nm,1.5s,mb5.3
PET smax
comp=E,2μm,14.8s
PET smax
comp=E,3μm,17.9s
PET smax
comp=N,1μm,11.7s
PET MLR MLR
comp=Z,8μm,18.0s,MS6.1
PET MLR MLR
comp=Z,9μm,20.0s
DL2 Dalian 75.70 323 P P 09 20 37.2 +0.2
DL2 PP PP 09 23 29.9 +1.1
DL2 S S 09 30 20.0 +3.8
DL2 SKS SKS 09 30 40.5 -7.2
DL2 SS SS 09 35 09.8 -0.9
DL2 SSS SSS 09 39 01.3 +36
DL2 AMB AMB
comp=Z,70nm,1.2s,mb5.5
DL2 LR LR
comp=N,2μm,24.7s
DL2 LR LR
comp=E,2μm,31.3s
DL2 LR LR
comp=Z,5μm,30.8s
MDJ Mudanjiang 75.92 331 P P 09 20 37.6 -0.6
MDJ PP PP 09 23 27.9 -2.6
MDJ S S 09 30 23.2 +4.7
MDJ SKS SKS 09 30 43.9 -5.3
MDJ SCS ScS 09 30 50.3 +2.0
MDJ PS PS 09 31 03.2 +4.5
MDJ SS SS 09 35 19.6 +5.4
MDJ AMB AMB
comp=Z,56nm,1.0s,mb5.5
MDJ AMB AMB
comp=Z,779nm,5.5s
MDJ LR LR
comp=N,5μm,19.6s,MS5.9
MDJ LR LR
comp=E,3μm,19.6s,MS5.9
MDJ LR LR
comp=Z,9μm,21.4s,MS6.0
MDJ Mudanjiang 75.92 331 eP P 09 20 37.1 -1.1
comp=Z,64nm,1.1s,mb5.5
MAW Mawson 76.21 202 eP P 09 20 38.1 -1.2
comp=Z,57nm,0.9s,mb5.5
MAW Mawson 76.21 202 P P 09 20 37.8 -1.5
comp=Z,23nm,1.1s,mb5.0,baz=114,slow=8.8,SNR=8.5
MAW LR LR 09 49 58.4
comp=Z,9μm,18.8s,MS6.1,baz=104,slow=32
MAW Mawson 76.21 202 LR LR 09 49 58.4
MAW Mawson 76.21 202 eP P 09 20 37.0 -2.3
MAW pmax pmax
comp=Z,290nm,1.5s
SNY Shenyang 76.72 326 ⇑P P 09 20 44.5 +1.8
SNY S S 09 30 28.2 +0.9
SNY AMB AMB
comp=Z,20nm,0.8s,mb5.1
SNY AMB AMB
comp=Z,770nm,9.3s
SNY LR LR
comp=N,4μm,22.2s,MS5.9
SNY LR LR
comp=E,4μm,17.9s,MS5.9
SNY LR LR
comp=Z,6μm,17.4s,MS5.9
NIKO Nikolski 76.85 13 eP P 09 20 40.7 -2.5
NNT Nongplab 77.09 289 P P 09 20 57.3 +12
CN2 Changchun 77.23 329 eP P 09 20 44.9 -0.6
CN2 eXP sP 09 20 51.9 -1.5
CN2 eS S 09 30 35.5 +2.8
CN2 eSS SS 09 35 36.4 +2.6
CN2 AMB AMB
comp=Z,110nm,1.0s,mb5.7
CN2 LR LR
comp=N,6μm,23.0s,MS5.9
CN2 LR LR
comp=E,4μm,23.0s,MS5.9
CN2 LR LR
comp=Z,8μm,25.0s,MS6.0
GYA Guiyang 78.07 305⇑ iP P 09 20 50.3 -0.2
GYA AP pP 09 20 54.7 -1.6
GYA XP sP 09 20 57.6 -0.7
GYA PP PP 09 23 50.0 +1.0
GYA S S 09 30 46.3 +4.1
GYA SKS SKS 09 31 01.4 -3.7
GYA AMB AMB
comp=Z,40nm,1.1s,mb5.3
GYA AMB AMB
comp=Z,190nm,4.2s
GYA LR LR
comp=N,3μm,22.4s,MS5.7
GYA LR LR
comp=E,2μm,23.3s,MS5.7
GYA LR LR
comp=Z,3μm,23.9s,MS5.5
NST Nakhon Sawan 78.12 292 P P 09 20 52.0 +1.1
UNV Unalaska Valle 78.17 14 PFAKE 09 21 00.0 +10
UNV LR LR
comp=Z,17μm,22.0s,MS6.3
KLR Kul'dur 78.71 335 eP P 09 20 49.9 -3.6
KLR eS S 09 30 50.0 +1.5
KLR pmax pmax
comp=N,30nm,1.6s
KLR pmax pmax
comp=Z,68nm,1.6s,mb5.3
KLR pmax pmax
comp=N,500nm,6.0s
KLR pmax pmax
comp=Z,2μm,6.0s
KLR MLR MLR
comp=N,2μm,14.0s
KLR MLR MLR
comp=Z,3μm,14.0s,MS5.8
KMI Kunming 80.43 302 P P 09 21 03.2 -0.1
KMI AP pP 09 21 11.6 +2.4
KMI PP PP 09 24 02.5 -5.8
KMI S S 09 31 08.2 +1.1
KMI SKS SKS 09 31 15.1 -6.9
KMI SS SS 09 36 20.1 -2.1
KMI AMB AMB
comp=Z,84nm,1.4s,mb5.5
KMI AMB AMB
comp=Z,403nm,3.8s
KMI LR LR
comp=N,4μm,19.4s,MS6.2
KMI LR LR
comp=E,9μm,19.4s,MS6.2
KMI LR LR
comp=Z,5μm,17.5s,MS5.9
XAN Xi'an 80.57 312 P P 09 21 04.0 +0.1
XAN AP pP 09 21 13.6 +3.8
XAN S S 09 31 13.1 +4.7
XAN SKS SKS 09 31 17.6 -5.3
XAN AMB AMB
comp=Z,77nm,1.3s,mb5.5
XAN LR LR
comp=E,3μm,19.4s
XAN LR LR
comp=Z,4μm,32.7s
CHGN Chignik 82.40 17 eP P 09 21 13.4 +0.5
SYO Syowa Base 82.53 196 ⇑sP P 09 21 10.8 -2.6
CD2 Chengdu 82.56 307 P P 09 21 17.4 +3.1
CD2 AP pP 09 21 22.3 +2.1
CD2 XP sP 09 21 25.6 +3.4
CD2 S S 09 31 32.2 +3.3
CD2 XS 09 31 39.7
CD2 AMB AMB
comp=Z,20nm,0.5s,mb5.4
CD2 LR LR
comp=E,2μm,20.8s
CD2 LR LR
comp=Z,3μm,20.4s,MS5.7
MA2 Magadan 82.81 350 i P P 09 21 14.3 -0.7
MA2 LR LR
comp=Z,10μm,22.0s,MS6.1
MA2 Magadan 82.81 350 d iP P 09 21 14.2 -0.8
MA2 pmax pmax
comp=Z,27nm,1.7s,mb5.0
MA2 MLR MLR
comp=Z,5μm,23.0s,MS5.8
BTO Baotou 83.64 318 eP P 09 21 23.3 +3.6
BTO AMB AMB
comp=Z,19nm,0.6s,mb5.4
HIA Hailar 83.89 330 eP P 09 21 17.2 -3.5
comp=Z,21nm,1.0s,mb5.2
HIA Hailar 83.89 330 eP P 09 21 17.2 -3.5
HIA pmax pmax
comp=Z,21nm,1.0s
PMSA Palmer Station 84.06 160 eP P 09 21 15.8 -5.4
comp=Z,82nm,1.0s,mb5.8
PMSA LR LR
comp=Z,7μm,22.0s,MS6.0
LZH Lanzhou 85.18 312 ⇑P P 09 21 25.6 -1.9
LZH AP pP 09 21 28.9 -4.6
LZH PP PP 09 24 46.0 -0.7
LZH eSKS SKS 09 31 47.0 -7.5
LZH eS S 09 31 54.5 -0.5
LZH SS SS 09 37 34.0 +1.7
LZH AMB AMB
comp=Z,208nm,1.7s,mb6.0
LZH AMB AMB
comp=Z,562nm,4.0s
LZH LR LR
comp=N,7μm,18.1s
LZH LR LR
comp=Z,7μm,18.9s,MS6.1
KDAK Kodiak Island 85.34 19 eP P 09 21 29.3 +1.5
SEY Seymchan 85.79 352 i P P 09 21 29.7 -0.2
SEY Seymchan 85.79 352 eP P 09 21 28.8 -1.1
SEY e 09 24 46.1
SEY eS S 09 31 54.4 -5.9
SEY smax
comp=N,700nm,8.4s
NVL N'lazarevskaya 86.25 187 eP P 09 21 32.0 0.0
NVL i *PP pP 09 21 41.4 +3.4
NVL i *SP sP 09 21 45.5 +5.6
NVL i 09 26 51.4
NVL eS 09 31 51.5
NVL eSSS SSS 09 41 11.9 -4.8
NVL pmax pmax
comp=Z,5.0nm,1.3s,mb4.6
NVL MLR MLR
comp=Z,890nm,17.0s,MS5.2
MAIT Maitri 86.25 187 eP P 09 21 30.3 -1.7
SNAA Sanae 86.46 182 e P 09 21 31.2 -1.8
SNAA Sanae 86.46 182 e P 09 21 35.6 +2.6
SNAA Sanae 86.46 182 e P 09 21 43.1 +10
SNAA Sanae 86.46 182 P P 09 21 31.3 -1.7
comp=Z,16nm,1.0s,mb5.2,baz=186,slow=5.1,SNR=9.0
SNAA Sanae 86.46 182 e P 09 21 31.2 -1.8
SNAA e pP 09 21 35.6 -3.4
SNAA e 09 21 43.1
SNAA e 09 26 29.5
SNAA Sanae 86.46 182 i P P 09 21 34.2 +1.2
SAO San Andreas Ge 87.01 48 eP P 09 21 36.5 0.0
comp=Z,21nm,1.0s,mb5.3
SAO LR LR
comp=Z,5μm,19.0s,MS6.0
SAO San Andreas Ge 87.01 48 eP P 09 21 36.6 +0.1
SAO pmax pmax
comp=Z,21nm,1.0s,mb5.3
SAO MLR MLR
comp=Z,5μm,19.0s,MS6.0
VNA3 Neumayer Olymp 87.02 180 e P 09 21 33.8 -2.0
VNA3 Neumayer Olymp 87.02 180 e P 09 21 37.3 +1.5
VNA3 Neumayer Olymp 87.02 180 e P 09 21 46.5 +11
VNA3 Neumayer Olymp 87.02 180 e SKS 09 31 59.2 -6.7
VNA3 Neumayer Olymp 87.02 180 e P 09 21 33.8 -2.0
VNA3 e 09 21 37.3
VNA3 e 09 21 46.5
VNA3 e 09 26 34.2
VNA3 e 09 31 59.2
HOPS Hopland 87.04 46 PFAKE 09 21 50.0 +13
HOPS LR LR
comp=Z,4μm,19.0s,MS5.8
KCPM Cahto Peak 87.07 45 eP P 09 21 34.0 -2.7
KIPM Iron Peak 87.20 45 eP P 09 21 37.7 +0.4
CLNS Chul'man 87.24 337 eP P 09 21 39.4 +2.3
CLNS eS 09 32 03.6
CLNS pmax pmax
comp=Z,76nm,1.1s,mb5.8
CLNS pmax pmax
comp=N,40nm,1.2s
CLNS pmax pmax
comp=E,18nm,1.0s
CLNS pmax pmax
comp=Z,7.0nm,0.9s,mb4.9
CLNS pmax pmax
comp=N,9.0nm,1.0s
CLNS pmax pmax
comp=E,11nm,0.9s
CLNS smax
comp=N,12nm,1.6s
CLNS smax
comp=Z,6.0nm,0.8s
CLNS smax
comp=E,8.0nm,1.1s
SVW2 Sparrevohn 87.30 16 eP P 09 21 39.5 +2.2
VNA2 Neumayer--Watz 87.32 181 e P 09 21 35.1 -2.1
VNA2 Neumayer--Watz 87.32 181 e P 09 21 39.0 +1.8
VNA2 Neumayer--Watz 87.32 181 e P 09 21 47.6 +10
VNA2 Neumayer--Watz 87.32 181 e P 09 21 35.1 -2.1
VNA2 e 09 21 39.0
VNA2 e 09 21 47.6
VNA2 e 09 26 36.7
VNA2 e 09 32 03.9
PTRM Twissleman Ran 87.33 50 eP P 09 21 38.2 +0.1
KHMM Horse Mountain 87.59 44 eP P 09 21 38.4 -0.8
VNA1 Neumayer--Stat 87.61 181 e P 09 21 37.4 -1.2
VNA1 Neumayer--Stat 87.61 181 e P 09 21 40.6 +2.0
VNA1 Neumayer--Stat 87.61 181 e P 09 21 49.4 +11
VNA1 Neumayer--Stat 87.61 181 e P 09 21 37.4 -1.2
VNA1 e 09 21 40.6
VNA1 e 09 21 49.4
VNA1 e 09 26 35.5
MWC Mount Wilson 88.19 52⇓ eP P 09 21 42.4 +0.1
WDC Whiskeytown Da 88.21 45 eP P 09 21 42.1 -0.1
comp=E,58nm,1.5s,mb5.6
WDC LR LR
comp=Z,4μm,19.0s,MS5.9
WDC Whiskeytown Da 88.21 45 eP P 09 21 42.1 -0.1
WDC pmax pmax
comp=Z,58nm,1.5s,mb5.6
WDC MLR MLR
comp=Z,4μm,19.0s,MS5.9
SLKM Skilak Lake 88.28 18 eP P 09 21 41.3 -0.7
CMB Columbia Colle 88.37 48⇓ eP P 09 21 43.4 +0.3
comp=Z,34nm,1.1s,mb5.5
CMB LR LR
comp=Z,6μm,20.0s,MS6.0
CMB Columbia Colle 88.37 48⇓ eP P 09 21 43.4 +0.4
CMB pmax pmax
comp=Z,34nm,1.1s,mb5.5
CMB MLR MLR
comp=Z,6μm,20.0s,MS6.0
BAR Barrett 88.50 54⇓ eP P 09 21 43.9 +0.1
ISA Isabella 88.57 51 PFAKE 09 22 00.0 +16
ISA LR LR
comp=Z,2μm,21.0s,MS5.4
USHA Ushuaia 88.65 150 LR LR 09 54 13.8
comp=Z,5μm,18.5s,MS6.0,baz=206,slow=31
CIT Chita 88.67 329 eP P 09 21 51.5 +7.4
CIT e 09 22 01.0
CIT e 09 32 12.3
YBH Yreka Blue Hor 88.70 44 P P 09 21 45.0 +0.5
comp=Z,10nm,0.9s,mb5.1,baz=190,slow=1.0,SNR=16
YBH Yreka Blue Hor 88.70 44⇓ eP P 09 21 44.8 +0.3
comp=Z,50nm,1.6s,mb5.6
YBH LR LR
comp=Z,3μm,21.0s,MS5.7
YBH Yreka Blue Hor 88.70 44⇓ eP P 09 21 44.8 +0.3
YBH pmax pmax
comp=Z,50nm,1.6s
YBH MLR MLR
comp=Z,3μm,21.0s
FIB Fire Island 88.82 18 PFAKE 09 22 00.0 +15
FIB LR LR
comp=Z,2μm,19.0s,MS5.5
TNA Tin City 88.88 9 PFAKE 09 22 00.0 +15
TNA LR LR
comp=Z,4μm,22.0s,MS5.8
HUMO Hull Mountain 89.00 43⇓ eP P 09 21 46.8 +0.9
comp=Z,115nm,1.9s,mb5.9
HUMO LR LR
comp=Z,4μm,21.0s,MS5.8
PFO Pinyon Flat Ob 89.09 53⇓ eP P 09 21 46.3 -0.3
comp=Z,12nm,1.1s,mb5.2
PFO LR LR
comp=Z,1μm,21.0s,MS5.4
PFO Pinyon Flat Ob 89.09 53⇓ eP P 09 21 46.3 -0.3
PFO pmax pmax
comp=Z,12nm,1.1s,mb5.1
PFO MLR MLR
comp=Z,1μm,21.0s,MS5.4
OMM Old Mammoth Mi 89.14 49⇓ eP P 09 21 46.3 -0.4
BEKR Beckwourth 89.30 46⇓ eP P 09 21 47.4 0.0
comp=Z,27nm,1.3s,mb5.4
MTUM Tungsten Hills 89.31 49 eP P 09 21 48.3 +0.8
PMR Palmer 89.47 18 eP P 09 21 46.6 -1.1
DAC Darwin (Calif) 89.49 50⇓ eP P 09 21 48.3 -0.1
comp=Z,49nm,1.7s,mb5.6
DAC LR LR
comp=Z,7μm,22.0s,MS6.0
DAC Darwin (Calif) 89.49 50⇓ eP P 09 21 48.3 -0.1
DAC pmax pmax
comp=Z,49nm,1.7s,mb5.6
DAC MLR MLR
comp=Z,7μm,22.0s,MS6.0
YAK Yakutsk 89.73 342 i P P 09 21 48.0 -0.9
YAK LR LR
comp=Z,7μm,19.0s,MS6.1
YAK Yakutsk 89.73 342 eP P 09 21 50.8 +1.9
YAK e*PP pP 09 21 59.2 +4.3
YAK e 09 32 15.4
YAK pmax pmax
comp=N,3.0nm,1.1s
YAK pmax pmax
comp=Z,24nm,1.1s,mb5.4
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK pmax pmax
comp=Z,4.0nm,0.7s,mb4.9
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK pmax pmax
comp=E,3.0nm,0.9s
BILL Bilibino 89.81 359⇓ eP P 09 21 49.5 +0.4
comp=E,149nm,1.4s,mb6.1
BILL LR LR
comp=Z,3μm,20.0s,MS5.8
BILL Bilibino 89.81 359k i P P 09 21 49.9 +0.8
BILL e 09 21 58.6
BILL i 09 22 07.4
BILL e 09 32 30.4
BILL SS SS 09 38 41.0 +2.1
BILL pmax pmax
comp=Z,146nm,1.7s,mb6.0
COR Corvallis 89.81 41 PFAKE 09 22 00.0 +10
COR LR LR
comp=Z,1μm,22.0s,MS5.2
SML Sawmill 89.87 18 eP P 09 21 47.7 -1.9
SONM Songino Array 89.91 323 P P 09 21 49.5 -0.5
comp=Z,35nm,0.9s,mb5.7,baz=140,slow=4.4,SNR=20
SONM LR LR 10 00 26.4
comp=Z,4μm,19.2s,MS5.9,baz=124,slow=34
NVAR Mina Array Bea 90.00 48 P P 09 21 51.0 +0.2
comp=Z,18nm,0.9s,mb5.4,baz=225,slow=7.7,SNR=42
NVAR LR LR 09 58 33.9
comp=Z,6μm,19.0s,MS6.0,baz=240,slow=33
DIV Divide 90.12 20⇓ eP P 09 21 49.6 -1.1
comp=Z,127nm,1.4s,mb6.1

DIV LR LR
comp=Z,16µm,21.0s,MS6.4
MOD Modoc 90.34 44⇓ *e*P **P 09 21 52.6 +0.4**
comp=Z,21nm,1.0s,mb5.4
MOD LR LR
comp=Z,3µm,20.0s,MS5.7
TPH Tonopah 90.58 49⇓ *e*P **P 09 21 53.8 +0.3**
comp=Z,34nm,1.1s,mb5.6
TPH LR LR
comp=Z,4µm,20.0s,MS5.9
TPH Tonopah 90.58 49⇓ *e*P **P 09 21 53.8 +0.4**
TPH pmax pmax
comp=Z,34nm,1.1s,mb5.6
TPH MLR MLR
comp=Z,4µm,20.0s,MS5.9
LDFC Landfair 90.74 52⇓ *e*P **P 09 21 54.9 +0.7**
OCWA Octopus Mounta 90.97 38⇓ *e*P **P 09 21 55.4 +0.4**
comp=Z,93nm,1.3s,mb6.0
OCWA LR LR
comp=Z,3µm,19.0s,MS5.8
SIT Sitka 91.01 26 PFAKE 09 22 10.0 +15
SIT LR LR
comp=Z,7µm,20.0s,MS6.1
NEN Nelson 91.19 52 *e*P **P 09 21 56.2 -0.1**
MCK McKinley 91.23 17 *e*P **P 09 21 55.9 +0.1**
comp=Z,3.0nm,0.7s,mb4.7
MCK LR LR
comp=Z,4µm,20.0s,MS5.8
MCK McKinley 91.23 17 *e*P **P 09 21 55.9 +0.2**
MCK pmax pmax
comp=Z,3.0nm,0.7s,mb4.7
MCK MLR MLR
comp=Z,4µm,20.0s,MS5.8
LSA Lhasa 91.67 301 P **P 09 21 59.2 +0.6**
LSA LR LR
comp=N,2µm,26.4s,MS5.8
LSA LR LR
comp=E,4µm,28.6s,MS5.8
LSA LR LR
comp=Z,4µm,30.8s,MS5.7
LSA Lhasa 91.67 301 *e*P **P 09 21 58.9 +0.2**
comp=Z,17nm,0.8s,mb5.4
LSA *e* 09 22 09.2
BMN Battle Mountai 91.68 47⇓ *e*P **P 09 21 58.7 +0.3**
comp=Z,21nm,1.2s,mb5.3
BMN LR LR
comp=Z,4µm,20.0s,MS5.9
BMN Battle Mountai 91.68 47⇓ *e*P **P 09 21 58.7 +0.3**
BMN pmax pmax
comp=Z,21nm,1.2s,mb5.3
BMN MLR MLR
comp=Z,4µm,20.0s,MS5.9
WVOR Wild Horse Val 91.68 45 *e*P **P 09 21 59.4 +1.0**
comp=Z,21nm,1.1s,mb5.4
WVOR LR LR
comp=Z,5µm,19.0s,MS6.0
WVOR Wild Horse Val 91.68 45 *e*P **P 09 21 59.4 +1.1**
WVOR pmax pmax
comp=Z,21nm,1.1s,mb5.4
WVOR MLR MLR
comp=Z,5µm,19.0s,MS6.0
IMA Indian Mountai 91.97 14 *e*P **P 09 22 00.7 +1.6**
comp=Z,115nm,1.6s,mb6.0
IMA *e* 09 22 10.6
IMA *e* 09 22 18.3
IMA Indian Mountai 91.97 14 *e*P **P 09 22 00.7 +1.6**
IMA *e* 09 22 10.6
IMA *e* 09 22 18.3
IMA pmax pmax
comp=Z,115nm,1.6s,mb6.0
MENT Mentasta 92.12 19 *e*P **P 09 22 00.8 +0.9**
PALK Pallekele 92.15 277 P **P 09 22 04.2 +3.0**
comp=Z,203nm,1.8s,mb6.2
COLA College 92.42 17 PFAKE 09 22 10.0 +8.8
COLA LR LR
comp=Z,10.0nm,22.0s
ILAR Eielson Array 92.60 17 P **P 09 22 01.3 -0.7**
comp=Z,3.0nm,0.6s,mb4.9,baz=236,slow=5.1,SNR=22
ILAR LR LR 10 00 22.4
comp=Z,5µm,20.2s,MS6.0,baz=92,slow=33
TUC Tucson 92.83 56 *e*P **P 09 22 02.9 -1.0**
comp=Z,8.2nm,1.1s,mb5.1
TUC LR LR
comp=Z,5µm,19.0s,MS6.0
ZAK Zakamensk 93.00 324⇑ *i*P **P 09 22 03.8 -0.4**
ZAK *e* 09 32 39.4
ZAK pmax pmax
comp=Z,21nm,1.5s,mb5.3
ZAK pmax pmax
comp=Z,5.0nm,1.8s,mb4.6
HAWA Hanford 93.01 41 *e*P **P 09 22 03.8 -0.6**
comp=Z,2.1nm,1.5s
HAWA LR LR
comp=Z,304nm,22.0s
ARUT Antelope Range 93.13 50 *e*P **P 09 22 06.0 +0.8**
ELK Elko 93.16 47⇓ *e*P **P 09 22 05.3 +0.1**
comp=Z,6.6nm,1.0s,mb5.0
ELK LR LR
comp=Z,7µm,20.0s,MS6.1
ELK Elko 93.16 47⇓ *e*P **P 09 22 05.3 +0.1**
ELK pmax pmax
comp=Z,7.0nm,1.0s
ELK MLR MLR
comp=Z,7µm,20.0s
IRK Irkutsk 93.45 326 *e*P **P 09 22 08.3 +2.1**
IRK pmax pmax
comp=Z,77nm,3.6s
BMO Blue Mountains 93.66 43 *e*P **P 09 22 06.4 -1.1**
comp=Z,46nm,2.2s,mb5.5
BMO LR LR
comp=Z,4µm,21.0s,MS5.9
BMO Blue Mountains 93.66 43 *e*P **P 09 22 06.4 -1.0**
BMO pmax pmax
comp=Z,46nm,2.2s,mb5.5
BMO MLR MLR
comp=Z,4µm,21.0s,MS5.9
DLBC Dease Lake 94.09 27⇓ *e*P **P 09 22 09.4 +0.4**
DAWY Dawson 94.28 20 *e*P **P 09 22 07.6 -2.2**
DGAR Diego Garcia 94.31 260 PFAKE 09 22 20.0 +8.9
DGAR LR LR
comp=Z,5µm,21.0s,MS6.0
MSU Marysvale 94.34 50⇑ *e*P **P 09 22 12.2 +1.5**
DUG Dugway 94.60 48 P **P 09 22 11.7 -0.1**
comp=Z,7.3nm,1.4s,mb4.9
DUG LR LR
comp=Z,4µm,20.0s,MS5.9
DUG Dugway 94.60 48 P **P 09 22 11.7 -0.1**
DUG pmax pmax
comp=Z,7.0nm,1.4s,mb4.9
DUG MLR MLR
comp=Z,4µm,20.0s,MS5.9
HLID Hailey 94.95 45⇓ *e*P **P 09 22 13.5 +0.2**
comp=Z,6.5nm,1.1s,mb5.0
HLID LR LR
comp=Z,4µm,20.0s,MS5.9
NEW Newport 95.34 40 PFAKE 09 22 30.0 +15
NEW LR LR
comp=Z,4µm,19.0s,MS5.9
PKI Pulchoki 95.48 297 *e*P **P 09 22 16.1 -0.1**
comp=Z,490nm,1.9s
CTU Camp Tracy 95.54 48⇑ *e*P **P 09 22 18.0 +1.9**
KKN Kakani 95.67 298 *e*P **P 09 22 16.7 -0.4**
comp=Z,459nm,1.7s
DMN Daman 95.75 297 *e*P **P 09 22 17.7 +0.3**
comp=Z,945nm,2.0s
SRU San Rafael 95.77 50 *e*P **P 09 22 17.3 +0.1**
PLCA Paso Flores 95.94 138 P **P 09 22 18.1 +0.1**
comp=Z,20nm,1.0s,mb5.5,baz=217,slow=5.7,SNR=25
PLCA Paso Flores 95.94 138 *e*P **P 09 22 17.3 -0.7**
comp=Z,26nm,1.0s,mb5.6
PLCA LR LR
comp=Z,4µm,22.0s,MS5.9
PLCA Paso Flores 95.94 138 P **P 09 22 19.3 +1.3**
PLCA pmax pmax
comp=Z,26nm,1.0s
HWUT Hardware Ranch 96.04 48 *e*P **P 09 22 18.4 0.0**
comp=Z,6.0nm,1.3s,mb4.9
HWUT LR LR
comp=Z,6µm,20.0s,MS6.1
BLSP Bilaspur 96.28 291 *e*P **P 09 22 30.9 +11**
GKN Gorkha 96.28 298 *e*P **P 09 22 18.4 -1.4**
comp=Z,68nm,0.8s,mb6.1
MCMT McKenzie Canyo 96.50 44 *e*P **P 09 22 21.9 +1.4**
MSO Missoula 96.65 42 PFAKE 09 22 30.0 +9.0
MSO LR LR
comp=Z,3µm,21.0s,MS5.8

MNTX Cornudas Mount 96.82 59 *e*P **P 09 22 21.9 -0.3**
comp=Z,8.8nm,1.4s,mb5.0
MNTX LR LR
comp=Z,7µm,20.0s,MS6.2
AHID Auburn Hatcher 96.82 47 PFAKE 09 22 30.0 +8.1
AHID LR LR
comp=Z,3µm,20.0s,MS5.8
RRI2 Red Ridge 96.91 46 *e*P **P 09 22 22.9 +0.6**
comp=Z,10nm,1.2s,mb5.1
KOLN Koldanda 97.05 297 *e*P **P 09 22 23.3 0.0**
ANMO Albuquerque 97.17 55 P **P 09 22 24.6 +0.9**
comp=Z,1.0nm,0.6s,mb4.4,baz=209,slow=3.6,SNR=5.6
ANMO Albuquerque 97.17 55 P **P 09 22 24.6 +0.9**
ANMO LR LR
comp=Z,5µm,19.0s,MS6.0
ANMO Albuquerque 97.17 55 *i* P **P 09 22 25.2 +1.5**
LTX Lajitas 97.34 61 PFAKE 09 22 40.0 +15
LTX LR LR
comp=Z,11µm,22.0s,MS6.3
TXAR Lajitas Array 97.34 61 P **P 09 22 25.3 +0.7**
comp=Z,1.6nm,0.9s,mb4.4,baz=233,slow=4.7,SNR=7.1
TXAR LR LR 09 58 44.7
comp=Z,9µm,19.5s,MS6.3,baz=260,slow=31
TXAR Lajitas Array 97.34 61 P **P 09 22 25.3 +0.7**
TXAR LR LR 09 58 44.7
IMW Indian Meadow 97.38 46 *e*P **P 09 22 23.9 -0.5**
comp=Z,6.3nm,1.2s,mb4.9
TIXI Tiksi 97.59 348 PFAKE 09 22 30.0 +5.3
TIXI LR LR
comp=Z,4µm,19.0s,MS5.9
BOZ Bozeman (W) 97.62 44 PFAKE 09 22 40.0 +15
BOZ LR LR
comp=Z,4µm,20.0s,MS5.9
HYB Hyderabad 97.76 286 *i* P **P 09 22 38.0 +11**
HYB *e*PP PP 09 26 36.0 +8.2
HYB *e*SKS SKS 09 33 04.0 -4.7
HYB *e*S S 09 33 56.0 +8.1
HYB *e*PS PS 09 35 24.0 +5.4
HYB *e*SS SS 09 40 40.0 +7.3
BW06 Boulder Array 97.87 47 PFAKE 09 22 40.0 +13
BW06 LR LR
comp=Z,4µm,19.0s,MS5.9
PDAR Pinedale Array 97.87 47 P **P 09 22 27.2 +0.6**
comp=Z,2.7nm,1.0s,mb4.7,baz=243,slow=3.3,SNR=12
PDAR LR LR 10 02 35.5
comp=Z,3µm,18.2s,MS5.9,baz=252,slow=33
LKWY Lake 98.00 45 PFAKE 09 22 40.0 +13
LKWY LR LR
comp=Z,7µm,19.0s,MS6.2
SMCO Snowmass 98.34 51 *e*Pdif **P 09 22 26.4 -2.4**
INK Inuvik 98.88 18 *e*P **P 09 22 29.0 -1.5**
comp=Z,26nm,1.4s,mb5.6
INK Inuvik 98.88 18 *e*P **P 09 22 29.0 -1.6**
INK pmax pmax
comp=Z,26nm,1.4s
SDCO Great Sand Dun 98.91 53 PFAKE 09 22 40.0 +8.6
SDCO LR LR
comp=Z,4µm,20.0s,MS5.9
ISCO Idaho Springs 99.55 51 PFAKE 09 22 50.0 +16
ISCO LR LR
comp=Z,3µm,20.0s,MS5.8
WMQ Urumqi 99.69 313 P **P 09 22 36.0 +1.1**
WMQ PP PP 09 26 43.0 +1.4
WMQ SKS SKS 09 33 13.0 -4.8
WMQ S S 09 34 06.0 +2.5
WMQ PS PS 09 35 39.0 +0.9
WMQ SS SS 09 41 02.0 +2.9
WMQ AMB AMB
comp=Z,16nm,1.0s,mb5.4
WMQ AMB AMB
comp=Z,385nm,10.0s
WMQ LR LR
comp=N,3µm,24.0s,MS5.9
WMQ LR LR
comp=E,4µm,24.0s,MS5.9
WMQ LR LR
comp=Z,4µm,24.0s,MS5.8
JCT Junction City 100.89 62 PFAKE 09 22 50.0 +9.4
JCT LR LR
comp=Z,10µm,22.0s,MS6.3
LAO LASA Array 101.50 44 PFAKE 09 22 50.0 +7.0
LAO LR LR
comp=Z,4µm,21.0s,MS6.0
WMOK Wichita Mounta 103.05 58 PFAKE 09 23 00.0 +10
WMOK LR LR
comp=Z,7µm,21.0s,MS6.1
DGMT Dagmar 103.38 43 PFAKE 09 23 00.0 +8.7
DGMT LR LR
comp=Z,3µm,22.0s,MS5.8
CBKS Cedar Bluff 103.54 53 PFAKE 09 23 00.0 +7.8
CBKS LR LR
comp=Z,3µm,22.0s,MS5.8
MKAR Makanchi Array 104.27 315 Pdiff Pdif 09 22 57.4 +2.2
comp=Z,1.5nm,0.6s,baz=100,slow=7.4,SNR=10
NATX Nacogdoches 105.48 62 PFAKE 09 27 20.0
NATX LR LR
comp=Z,10µm,20.0s,MS6.4
NVS Novosibirsk 105.94 323 *e*P Pdif 09 23 20.9 +19
NNA Nana 106.17 110 PFAKE 09 27 20.0
NNA LR LR
comp=Z,544nm,22.0s,MS5.1
JTS JuntasAbangare 107.53 86 PFAKE 09 27 30.0
JTS LR LR
comp=Z,430nm,22.0s,MS5.0
KURK Kurchatov 107.63 318 PFAKE 09 27 30.0
KURK LR LR
comp=Z,1µm,20.0s,MS5.4
ULM Lac du Bonnet 109.09 43 PKiKP 09 27 18.9
comp=Z,3.1nm,0.8s,baz=208,slow=1.7,SNR=4.2
ULM Lac du Bonnet 109.09 43 PKPdf 09 27 18.9
ULM LR LR
comp=Z,2µm,20.0s,MS5.8
CCM Cathedral Cave 109.78 56 PFAKE 09 27 30.0
CCM LR LR
comp=Z,1µm,20.0s,MS5.5
OXF Oxford 110.44 60 PFAKE 09 27 30.0 +3.9
OXF LR LR
comp=Z,7µm,20.0s,MS6.3
LPAZ La Paz 111.42 119 PFAKE 09 27 30.0 +1.7
LPAZ LR LR
comp=Z,2µm,21.0s,MS5.6
PLAL Pickwick Lake 111.61 60 *e*PKPdf PKPdf 09 27 22.5 -5.8
PLAL LR LR
comp=Z,9µm,20.0s,MS6.3
WVT Waverly 112.04 59 PFAKE 09 27 40.0 +11
WVT LR LR
comp=Z,5µm,20.0s,MS6.1
LRAL Lakeview Retre 112.07 62 *e*PKPdf PKPdf 09 27 25.4 -3.8
LRAL LR LR
comp=Z,6µm,21.0s,MS6.1
BVAR Borovoye Array 113.05 320 PKiKP 09 27 28.4
comp=Z,1.2nm,0.6s,baz=90,slow=4.4,SNR=4.3
BRVK Borovoye 113.12 320 *i* PKP PKPdf 09 27 28.3 -2.6
BRVK LR LR
comp=Z,787nm,21.0s,MS5.3
BRVK Borovoye 113.12 320 *e*P Pdif 09 23 29.9 -4.1
CPUP Villa Florida 113.51 134 PFAKE 09 27 40.0 +7.7
CPUP LR LR
comp=Z,2µm,22.0s,MS5.7
WCI Wyandotte Cave 113.64 57 PFAKE 09 27 40.0 +7.7
WCI LR LR
comp=Z,1µm,20.0s,MS5.4
MYNC Murphy 114.81 60 *e*PKPdf PKPdf 09 27 29.9 -4.7
MYNC LR LR
comp=Z,10µm,19.0s,MS6.5
GOGA Godfrey 115.04 62 PFAKE 09 27 40.0 +4.9
GOGA LR LR
comp=Z,6µm,20.0s,MS6.2
DWPF Disney 115.71 68 PFAKE 09 27 40.0 +3.4
DWPF LR LR
comp=Z,415nm,20.0s,MS5.0
ACSO Alum Creek Sta 116.48 55 PFAKE 09 27 40.0 +2.2
ACSO LR LR
comp=Z,4µm,20.0s,MS6.0
NHSC New Hope 117.71 63 PFAKE 09 27 50.0 +10
NHSC LR LR
comp=Z,5µm,20.0s,MS6.2
FWV Forest Hill 117.83 58 *e*PKPdf PKPdf 09 27 35.3 -5.1
ELN Prospectdale 117.84 59 *e*PKPdf PKPdf 09 27 36.4 -4.0
BLA Blacksburg 118.10 59 *e*PKPdf PKPdf 09 27 33.5 -7.4
BLA LR LR
comp=Z,5µm,21.0s,MS6.1
BLA Blacksburg 118.10 59 PKIKP PKPdf 09 27 38.2 -2.7
SUR Sutherland 118.49 209 PFAKE 09 27 50.0 +8.1
SUR LR LR

comp=Z,1µm,19.0s,MS5.6
SVE Sverdlovsk 118.77 324 *i* PKIKP PKPdf 09 27 39.5 -2.3
SVE *e* 09 27 49.0
SVE *e* 09 34 42.0
MCWV Mont Chateau 118.82 56 PFAKE 09 27 50.0 +7.7
MCWV LR LR
comp=Z,5µm,20.0s,MS6.2
BOSA Boshof 119.34 215 PKP PKPdf 09 27 39.6 -3.9
comp=Z,7.4nm,1.1s,baz=135,slow=1.4,SNR=2.8
SAML Samuel 119.36 115 PFAKE 09 27 50.0 +6.1
SAML LR LR
comp=Z,7µm,22.0s,MS6.2
ARU Arti 119.94 323 *i* PKP PKPdf 09 27 41.9 -2.1
ARU Arti 119.94 323 *i* PKIKP PKPdf 09 27 41.6 -2.4
ARU *e* 09 29 05.1
ARU *e*S SKS 09 34 36.2 -5.6
ARU *e* 09 34 50.8
ARU *e*SP SP 09 38 47.2 -4.8
ARU *e*PS PS 09 38 56.7 +2.5
ARU *e*SS SS 09 45 33.6 +3.3
SDV Santo Domingo 120.34 92 *e*PKPdf PKPdf 09 27 41.4 -4.4
SDV LR LR
comp=Z,942nm,19.0s,MS5.5
GENY Geneseo 120.57 52 *e*PKPdf PKPdf 09 27 41.1 -4.5
CBN Corbin 120.61 58 PFAKE 09 27 50.0 +4.2
CBN LR LR
comp=Z,8µm,21.0s,MS6.3
TRIS Tristan da Cun 121.22 178 PFAKE 09 27 50.0 +2.9
TRIS LR LR
comp=Z,5µm,19.0s,MS6.1
BINY Binghamton 121.90 53 *e*PKPdf PKPdf 09 27 41.8 -6.5
BINY LR LR
comp=Z,3µm,20.0s,MS6.0
LBTB Lobatse 121.95 218 *e*PKPdf PKPdf 09 27 46.4 -2.3
PAL Palisades 123.43 55 *e*PKPdf PKPdf 09 27 47.6 -3.6
ACCN Adirondack Com 123.62 52 *e*PKPdf PKPdf 09 27 47.2 -4.3
FRNY Flat Rock 123.64 50 *e*PKPdf PKPdf 09 27 46.4 -5.1
MIV Mineville/With 123.70 51 *e*PKPdf PKPdf 09 27 45.2 -6.4
HRV Harvard--Oak R 125.18 53 *e*PKPdf PKPdf 09 27 51.1 -3.5
HRV LR LR
comp=Z,4µm,20.0s,MS6.1
WES Weston 125.36 53 PFAKE 09 28 00.0 +5.1
WES LR LR
comp=Z,5µm,19.0s,MS6.2
HASS Wahat al Ahsa' 125.70 286 P PKPdf 09 27 56.1 +0.1
WVL Waterville 126.46 50 PFAKE 09 28 00.0 +3.1
WVL LR LR
comp=Z,18µm,19.0s,MS6.8
SCHQ Schefferville 126.61 37 PKP PKPdf 09 27 53.6 -3.3
comp=Z,15nm,0.9s,baz=340,slow=2.7,SNR=18
SCHQ Schefferville 126.61 37 PKP PKPdf 09 27 53.6 -3.3
SUMG Summit 126.91 10 *e*PKPdf PKPdf 09 27 52.9 -4.1
APA Apatity 127.09 341 *e*PKIKP PKPdf 09 28 05.0 +7.5
APA *e* 09 30 03.0
APA MLR MLR
comp=Z,2µm,18.0s,MS5.9
APA MLR MLR
comp=Z,600nm,14.0s
BDFB Brasilia 127.12 132 PKP PKPdf 09 27 55.6 -3.3
comp=Z,16nm,0.9s,baz=346,slow=2.8,SNR=11
BAO Brasilia Array 127.14 132 PKPdf PKPdf 09 27 57.0 -1.9
PQI Presque Isle 127.39 47 PFAKE 09 28 10.0 +11
PQI LR LR
comp=Z,23µm,19.0s,MS6.9
KEV Kevo 127.40 345 PFAKE 09 28 00.0 +1.9
KEV LR LR
comp=Z,4µm,21.0s,MS6.1
LSZ Lusaka 127.43 229 *e*PKPdf PKPdf 09 27 59.3 -0.2
LSZ *e* 09 28 08.8
LSZ LR LR
comp=Z,8µm,20.0s,MS6.4
LSZ Lusaka 127.43 229 PKIKP PKPdf 09 27 59.6 +0.1
QRN Al-Qurain 127.77 290 *e*P PKPdf 09 28 00.0 +0.1
QRN AMb AMB 09 28 19.2
comp=Z,213nm,1.4s
PECR Pechory 127.84 325 *e*PKIKP PKPdf 09 28 02.6 +3.3
PECR MLR MLR
comp=Z,3µm,24.0s,MS5.9
PECR MLR MLR
comp=Z,2µm,19.0s
ARCES ARCESS Array B 127.93 345 PKP PKPdf 09 27 56.9 -2.3
comp=Z,4.2nm,0.6s,baz=64,slow=1.2,SNR=12
ARCES ARCESS Array B 127.93 345 PKP PKPdf 09 27 56.9 -2.3
EMMW East Machias 128.01 50 *e*PKPdf PKPdf 09 27 56.6 -3.4
EMMW *e* 09 28 06.9
EMMW LR LR
comp=Z,30µm,21.0s,MS7.0
KBD Kabd 128.01 290 *e*P PKPdf 09 28 00.5 +0.1
KBD AMb AMB 09 28 13.5
comp=Z,205nm,1.4s
RDF Al-Radifah 128.11 290 *e*P PKPdf 09 28 00.2 -0.5
RDF AMb AMB 09 28 19.6
comp=Z,190nm,1.3s
SFJD Kangerlussuaq 128.22 19 *i* S PS 09 40 25.3 +19
SFJD *i* 09 47 53.6
comp=Z,5µm,21.0s
RYDS Riyadh 128.27 284 P PKPdf 09 28 02.6 +1.6
MIB Mutribah 128.38 291 *e*P PKPdf 09 28 01.4 +0.3
MIB AMb AMB 09 28 20.4
comp=Z,85nm,1.2s
KMBO Kilima Mbogo 128.62 250 PKP PKPdf 09 28 00.3 -1.7
comp=Z,11nm,1.1s,baz=69,slow=2.8,SNR=14
KMBO Kilima Mbogo 128.62 250 PKP PKPdf 09 28 00.3 -1.7
KMBO LR LR
comp=Z,974µm,21.0s
TRO Tromso 129.31 347 *e*PP PP 09 30 06.8 -4.5
TRO AMS AMS 10 26 17.5
comp=Z,2µm,20.1s,MS5.8
DJNS Zahran al Janu 129.78 275 P PKPdf 09 28 05.9 +1.9
TATS Tathlith 130.26 277 P PKPdf 09 28 06.2 +1.3
TI2 Plekhanov 130.47 307 *e*PKIKP PKPdf 09 28 03.0 -1.7
BBSR BB Station 130.60 66 *e*PKPdf PKPdf 09 28 00.5 -4.7
BBSR LR LR
comp=Z,2µm,19.0s,MS5.8
GNI Garni 130.62 305 PFAKE 09 28 10.0 +4.9
GNI LR LR
comp=Z,2µm,20.0s,MS5.9
JMIC Jan Mayen 130.98 359 *e*PP PP 09 30 13.7 -8.6
JMIC AMS AMS 10 27 57.3
comp=Z,1µm,20.0s,MS5.6
TSUM Tsumeb 131.04 215 *e*PKPdf PKPdf 09 28 06.1 -0.3
TSUM *e* 09 28 16.3
TSUM LR LR
comp=Z,10µm,19.0s,MS6.5
MOS Moscow 131.43 326 *e*PKIKP PKPdf 09 28 12.2 +6.0
MOS *e* 09 30 31.2
HAKT HAKKARI 131.60 301 *i* P PKPdf 09 28 03.1 -3.9
DIGO Kars 131.64 305 *i* P PKPdf 09 28 14.0 +7.0
KIV Kislovodsk 131.68 310 *i* PKP PKPdf 09 28 04.4 -2.6
KIV LR LR
comp=Z,705nm,20.0s,MS5.4
KIV Kislovodsk 131.68 310 *i* PKIKP PKPdf 09 28 07.0 0.0
KIV *i* 09 28 15.4
KIV *e* 09 30 27.5
KIV *e* 09 40 44.8
KIV *e*SS SS 09 47 55.4 -2.8
KIV pmax pmax
comp=Z,11nm,0.9s
VOR Voronezh 132.04 321 PKIKP PKPdf 09 28 04.0 -3.4
VOR pmax pmax
comp=Z,200nm,2.4s
BLJS Baljurashi 132.06 277 P PKPdf 09 28 11.3 +2.9
VRSR Storozhevoye 132.22 320 *i* PKIKP PKPdf 09 28 05.8 -2.0
VRSR *e* 09 30 34.2
OBN Obninsk 132.23 326 *i* PKP PKPdf 09 28 06.1 -1.6
OBN LR LR
comp=Z,4µm,25.0s,MS6.0
OBN Obninsk 132.23 326 *c* *i* PKIKP PKPdf 09 28 06.5 -1.2
OBN *e* 09 28 14.4
OBN 09 30 33.0
OBN 09 35 03.6
OBN *e* 09 42 13.7
OBN *e*SS SS 09 48 10.8 +6.0
OBN pmax pmax
comp=Z,50nm,1.8s
OBN MLR MLR
comp=Z,4µm,25.0s,MS6.0
ARTV Artvin 132.64 306 *i* P PKPdf 09 28 11.7 +2.8
HILS Ha'il 133.02 287 P PKPdf 09 28 10.8 +0.8
ERZM Erzurum 133.22 305 *i* P PKPdf 09 28 11.6 +1.6
LTHS Al Lith 133.24 278 P PKPdf 09 28 12.6 +2.1
FINES FINESS Array B 133.43 337 PKP PKPdf 09 28 05.6 -4.1
comp=Z,2.2nm,0.5s,baz=45,slow=2.7,SNR=5.4
FINES FINESS Array B 133.43 337 PKP PKPdf 09 28 05.6 -4.2

BNGL	BINGOL	133.50	303	*i* P	PKPdf	09 28 15.5 +5.1
SOC	Sochi	133.87	310	*i* PKIKP	PKPdf	09 28 17.1 +6.1
SOC				*e*		09 30 44.0
SOC				*e*		09 35 10.1
MARD	Mardin	133.94	301	*i* P	PKPdf	09 28 07.5 -3.9
MBAR	Mbarara	134.48	246	*i* PKIKP	PKPdf	09 28 10.8 -2.2
KELT	Kelkit	134.80	305	*i* P	PKPdf	09 28 09.7 -3.2
NSS	Namsos	135.09	347	AMS	AMS	10 28 44.7
	comp=Z,4μm,21.9s,MS6.1					
ANN	Anapa	135.19	312	*i* PKHKP		09 28 02.4
ANN				*e*		09 30 47.8
ANN				pmax	pmax	
	comp=Z,22nm,0.8s					
ELZG	Elazig	135.23	303	*i* P	PKPdf	09 28 14.6 +0.8
BORG	Borgarnes	136.59	7	PFAKE		09 28 20.0 +4.6
BORG				LR	LR	
	comp=Z,682nm,22.0s,MS5.3					
CTKT	Corum	138.07	307	*i* P	PKPdf	09 28 27.8 +8.9
NAO01	NORSAR Array S	138.55	345	PFAKE		09 28 30.0 +11
NAO01				LR	LR	
	comp=Z,5μm,22.0s,MS6.2					
CDAG	Cicekdag	138.59	305	*i* P	PKPdf	09 28 16.7 -3.2
BDAS	Al Bad'	138.99	288	P	PKPdf	09 28 21.1 +0.2
ALWS	Ilw as Safayha	139.03	290	P	PKPdf	09 28 20.9 0.0
ELDT	Eldivan	139.11	307	*i* P	PKPdf	09 28 16.8 -4.0
HAQS	Haql	139.15	289	P	PKPdf	09 28 21.0 -0.1
MEST	Erdemli	139.30	301	*i* P	PKPdf	09 28 13.9 -7.3
SUW	Suwalki	139.43	330	*e*PKP	PKPdf	09 28 18.8 -2.2
SUW				*e*PKIKP	PKPdf	09 28 21.8 +0.8
SUW				*e*SKS	SKS	09 35 25.5 -4.7
SUW				MLR	MLR	10 28 39.8
	comp=Z,7μm,24.6s,MS6.3					
SUW	Suwalki	139.43	330	*e*PKP	PKPdf	09 28 18.8 -2.2
SUW				*e*PKPdf	PKPdf	09 28 21.8 +0.8
SUW				*e*SKS	SKS	09 35 25.5 -4.7
SUW	Suwalki	139.43	330	*i* PKIKP	PKPdf	09 28 21.8 +0.8
SUW				*e*		09 35 25.5
SUW				MLR	MLR	
	comp=Z,7μm,24.6s,MS6.3					
KONO	Kongsberg	139.91	345	PFAKE		09 28 30.0 +8.3
KONO				LR	LR	
	comp=Z,3μm,21.0s,MS6.0					
KIS	Kishinev	140.11	318	*e*PKIKP	PKPdf	09 28 30.0 +7.6
KIS				*i*		09 28 43.0
KIS				*e*		09 31 22.0
KIS				*e*		09 35 24.0
KIS				MLR	MLR	
	comp=N,2μm,20.0s,MS6.2					
KIS				MLR	MLR	
	comp=E,3μm,20.0s,MS6.2					
KIS				MLR	MLR	
	comp=Z,4μm,20.0s,MS6.2					
KIS				MLR	MLR	
	comp=Z,3μm,20.0s					
BER	Bergen	140.17	348	*e*SS	SS	09 49 44.3 +5.8
BER				AMS	AMS	10 37 29.9
	comp=Z,2μm,19.1s,MS6.0					
ERMK	Ermenek	140.27	301	*i* P	PKPdf	09 28 21.2 -1.8
ESKT	Eskisehir	141.26	306	*i* P	PKPdf	09 28 17.9 -6.8
BORA	Eskisehir	141.47	307	*i* P	PKPdf	09 28 32.9 +7.9
LVV	L'vov	141.50	325	*e*PKIKP	PKPdf	09 28 21.1 -3.6
LVV				*e*		09 31 25.3
WAR	Warsaw	141.56	329	*e*PKP	PKPdf	09 28 22.0 -2.8
WAR				MLR	MLR	10 26 18.9
	comp=Z,6μm,26.5s,MS6.2					
WAR	Warsaw	141.56	329	*e*PKP	PKPdf	09 28 22.0 -2.8
WAR				LR	LR	
	comp=Z,6μm,26.5s,MS6.2					
KWP	Kalwaria	142.31	325	*e*PKP	PKPdf	09 28 23.6 -2.6
KWP				*e*PKIKP	PKPdf	09 28 27.4 +1.2
KWP				*e*SKS	SKS	09 35 30.2 -4.8
KWP				MLR	MLR	10 32 38.1
	comp=Z,4μm,23.3s,MS6.1					
KWP	Kalwaria	142.31	325	*e*PKP	PKPdf	09 28 23.6 -2.5
KWP				*e*PKPdf	PKPdf	09 28 27.4 +1.3
KWP				*e*SKS	SKS	09 35 30.2 -4.8
KWP	Kalwaria	142.31	325	*e*PKIKP	PKPdf	09 28 23.6 -2.5
KWP				*e*		09 35 30.2
KWP				MLR	MLR	
	comp=Z,4μm,23.3s,MS6.1					
COP	Copenhagen	142.48	339	*i* P	PKPdf	09 28 19.6 -6.6
	comp=Z,154nm,1.9s					
COP				*i*		09 31 28.3
COP				*i*		09 51 21.3
COP				*i*		09 55 43.4
	comp=Z,2μm,21.0s					
COP	Copenhagen	142.48	339	*i*	PP	09 31 28.3 -5.3
COP				*i*		09 55 43.4
COP				LR	LR	
	comp=Z,2μm,21.0s,MS5.9					
COP	Copenhagen	142.48	339	*i*	PP	09 31 28.3 -5.3
COP				MLR	MLR	
	comp=Z,2μm,21.0s,MS5.9					
GKP	Gorka Klasztor	142.55	333	*e*PKIKP	PKPdf	09 28 27.0 +0.6
GKP				MLR	MLR	10 24 41.6
	comp=Z,7μm,28.3s,MS6.3					
GKP	Gorka Klasztor	142.55	333	*e*PKPdf	PKPdf	09 28 27.0 +0.6
GKP				LR	LR	
	comp=Z,7μm,28.3s,MS6.3					
MLR	Muntele Rosu	142.56	317	PKIKP	PKPdf	09 28 23.0 -3.7
PRD	Provadia	142.56	313	*e*P	PKPdf	09 28 28.0 +1.2
MUD	Monsted U'grnd	142.82	343	*e*	PP	09 31 35.4 -0.2
	comp=Z,3μm,23.0s					
MUD	Monsted U'grnd	142.82	343	*e*	PP	09 31 35.4 -0.2
MUD				MLR	MLR	
	comp=Z,3μm,23.0s,MS6.0					
KOLS	Kolonicke sedl	142.95	324	*e*PKP	PKPdf	09 28 24.9 -2.3
UZH	Uzhgorod	143.11	324	*e*PKIKP	PKPdf	09 28 22.0 -5.5
UZH				*i*		09 28 32.0
UZH				*e*		09 31 39.0
UZH				*i*		09 35 29.0
VOIR		143.15	318	P	PKPbc	09 28 24.6 +2.8
STHS	Stebnicka Huta	143.21	326	*e*	PKPbc	09 28 27.1 +5.2
STHS				*e*		09 28 35.6
MANT	Manisa	143.25	305	*i* P	PKPbc	09 28 24.9 +2.5
JMB	Yambol	143.40	312	*e*P	PKPbc	09 28 27.0 +4.3
CRVS	Cervenica-Dubn	143.40	325	*e*PKP	PKPdf	09 28 26.1 -1.9
CRVS				*e*		09 31 48.3
OJC	Ojcow	143.45	328	*e*PKPdf	PKPdf	09 28 21.5 -6.5
OJC				*e*PP	PP	09 31 42.1 +2.5
OJC				*e*SS	SS	09 50 11.9 -5.2
OJC				MLR	MLR	10 32 15.5
	comp=Z,4μm,23.2s,MS6.1					
SZH	Strazhica	143.52	314	*e*P	PKPbc	09 28 26.0 +3.0
NIE	Niedzica	143.69	326	*e*PKP	PKPdf	09 28 24.0 -4.5
DRGR		143.88	321	P	PKPbc	09 28 26.4 +2.4
PVL	Pavlikeni	143.94	314	*e*P	PKPbc	09 28 28.0 +3.7
ARG	Arkhangelos	144.14	302	*e*P	PKPbc	09 28 35.5 +10
KECS	Kecovo	144.17	325	*e*PKP	PKPdf	09 28 24.6 -4.8
KDAG	Bornova	144.25	306	*i* P	PKPbc	09 28 23.5 -1.8
DIM	Dimitrovgrad	144.28	312	*e*P	PKPbc	09 28 28.0 +2.7
RAC	Raciborz	144.32	329	*e*PKPdf	PKPdf	09 28 25.6 -4.0
RAC				MLR	MLR	10 29 17.7
	comp=Z,7μm,23.9s,MS6.3					
ALN	Alexandroupoli	144.35	310	*e*P	PKPbc	09 28 24.2 -1.3
OKC	Ostrava-Krasne	144.51	328	*ex*	x	09 28 29.1
OKC				*ex*	x	09 28 55.8
OKC				*e*SS	SS	09 50 31.9 +2.6
OKC				AMS	AMS	10 29 00.0
	comp=Z,5μm,23.1s					
OKC	Ostrava-Krasne	144.51	328	*e*	PKPdf	09 28 29.1 -0.8
OKC				*e*SS	SS	09 50 31.9 +2.6
KDZ	Kurdzhali	144.51	312	*i* P	PKPbc	09 28 29.0 +3.0
RDO	Rodhopi	144.62	311	*e*P	PKPbc	09 28 25.7 -0.6
KSP	Ksiaz	144.69	331	*e*PKIKP	PKPdf	09 28 29.3 -0.9
KSP				*ep*PKP		09 28 36.5
KSP				MLR	MLR	10 24 34.4
	comp=Z,10μm,33.1s,MS6.4					
KSP	Ksiaz	144.69	331	*e*PKPdf	PKPdf	09 28 28.8 -1.4
KSP				*e*PP	PP	09 31 47.8 +0.8
KSP				*e*SKKS		09 41 50.1
KSP				*e*SS	SS	09 50 40.3 +9.1
KSP				LR	LR	
	comp=Z,12μm,33.1s,MS6.4					
KSP	Ksiaz	144.69	331	*e*	PP	09 31 47.8 +0.8
KSP				MLR	MLR	
	comp=Z,12μm,33.1s,MS6.4					
PRK	Paraskevi	144.74	307	*e*P	PKPbc	09 28 25.5 -1.2
PLD	Plovdiv	144.82	313	*e*P	PKPbc	09 28 30.0 +3.2
PSZ	Piszkesteto	144.83	325⇑	*e*PKP/p	PKPdf	09 28 26.7 -3.9
PSZ	Piszkesteto	144.83	325	P	PKPbc	09 28 26.8 +0.2
MORC	Moravsky Berou	144.84	329	*e*PKPdf	PKPdf	09 28 23.7 -6.8
MORC	Moravsky Berou	144.84	329	PKIKP	PKPdf	09 28 26.6 -3.9
RZN	Rozhen	144.98	312	*i* P	PKPbc	09 28 30.0 +2.7
PGB	Panagyurishte	145.00	314	*i* P	PKPbc	09 28 28.0 +0.7
DPC	Dobruska-Polom	145.02	330	*ex*	PKPdf	09 28 27.3 -3.5
DPC				*ex*	x	09 28 40.9
DPC				*ex*	x	09 28 54.0
DPC				*e*SS	SS	09 50 35.9 +1.0
DPC				AMS	AMS	10 34 40.0
	comp=Z,5μm,20.4s					
DPC	Dobruska-Polom	145.02	330	*e*	PKPdf	09 28 27.3 -3.5
DPC				*e*		09 28 40.9
DPC				*e*SS	SS	09 50 35.9 +1.0
DPC				MLR	MLR	
	comp=Z,5μm,20.4s,MS6.2					
VYHS	Vyhne	145.03	326	*e*	PKPdf	09 28 27.6 -3.3
KARP	Karpathos	145.05	301	*e*P	PKPbc	09 28 28.5 +0.8
UPC	Upice	145.05	331	*ex*	PKPdf	09 28 27.3 -3.6
UPC				*ex*	x	09 28 41.1
DJES	Djerdap	145.10	318	*i* PKP	PKPdf	09 28 28.6 -2.5
KOLL	Kolacno	145.20	327	*e*PKP	PKPdf	09 28 26.9 -4.3
KOLL	Kolacno	145.20	327	*e*PKHKP		09 28 18.0
KOLL				*e*		09 28 26.9
LOS	Limnos	145.38	309	*e*P	PKPbc	09 28 29.1 +0.8
BUD	Budapest	145.56	325	*ep*PKP/B	PKPdf	09 28 32.5 +0.7
VRAC	Vranov	145.62	329	P	PKPbc	09 28 29.4 +0.8
VTS	Vitosha	145.62	314	*i* P	PKPbc	09 28 32.0 +3.2
VTS	Vitosha	145.62	314	P	PKPbc	09 28 32.2 +3.4
PVCC	Panska Ves	145.68	332	*ex*	PKPdf	09 28 29.4 -2.5
PVCC				*ex*	x	09 28 41.9
PVCC				*ex*	x	09 28 56.5
PVCC				*e*SS	SS	09 50 52.8 +11
PVCC				AMS	AMS	10 31 50.0
	comp=Z,7μm,22.3s					
PVCC	Panska Ves	145.68	332	*e*	PKPdf	09 28 29.4 -2.5
PVCC				MLR	MLR	
	comp=Z,7μm,22.3s,MS6.4					
BRG	Berggiesshubel	145.69	333	*i* PKP	PKPdf	09 28 41.0 +9.1
BRG				PP	PP	09 32 01.0 +8.0
BRG				SS	SS	09 51 39.0 +57
BRG				LR	LR	
	comp=Z,5μm,20.5s,MS6.3					
MMB	Musomiste	145.70	313	*i* P	PKPbc	09 28 31.0 +1.9
SRO	Srobarova	145.73	326	*e*	PKPbc	09 28 28.6 -0.3
SRO				*e*		09 28 33.4
SMOL	Smolenice	145.74	327	*e*	PKPbc	09 28 29.9 +1.0
CLL	Collm	145.75	334	*i* PKIKP	PKPdf	09 28 28.6 -3.4
CLL				*i* *PPKP		09 28 32.6
CLL				*i*		09 28 36.1
CLL				*i*		09 28 41.5
CLL				*e*		09 28 56.0
CLL				*e*		09 45 59.0
CLL				*e*SS	SS	09 50 43.0 +0.2
CLL				*e*SSS	SSS	09 56 04.0 -8.7
CLL	Collm	145.75	334	*i* PKP	PKPdf	09 28 28.6 -3.4
CLL				⇓*i*pPKP		09 28 32.6
CLL				*i*		09 28 41.5
CLL				LR	LR	
	comp=Z,4μm,19.6s,MS6.2					
CLL	Collm	145.75	334	⇓*i*PKP2	PKPab	09 28 28.6 -2.3
CLL				pmax	pmax	
	comp=Z,84nm,1.1s					
CLL				MLR	MLR	
	comp=Z,4μm,19.6s,MS6.2					
SRO1	Iza	145.81	326	*e*PKP	PKPdf	09 28 30.9 -1.3
BOLS	Boljevac	145.85	317	*i* PKP	PKPdf	09 28 32.1 -0.3
SRS	Serrai	145.98	312	*e*P	PKPbc	09 28 29.5 -0.3
OUR	Ouranopolis	146.02	310	*e*P	PKPbc	09 28 31.6 +1.7
KKB	Krupnik	146.02	313	*i* P	PKPbc	09 28 33.0 +3.1
PRA	Prague	146.07	332	*e*PKP	PKPdf	09 28 30.0 -2.6
PRA				*ex*	x	09 28 40.0
PRU	Pruhonice	146.08	331	*ex*	PKPdf	09 28 30.7 -1.9
PRU				*ex*	x	09 28 42.9
PRU				*ex*	x	09 28 57.6
PRU				*e*SS	SS	09 50 48.3 +1.6
PRU				AMS	AMS	10 32 40.0
	comp=Z,7μm,21.4s					
PRU	Pruhonice	146.08	331	*e*	PKPdf	09 28 30.7 -1.9
PRU				*e*SS	SS	09 50 48.3 +1.6
PRU				MLR	MLR	
	comp=Z,7μm,21.4s,MS6.4					
ZST	Bratislava	146.11	327	*e*PKP	PKPdf	09 28 31.2 -1.5
SANT	Santorini	146.19	303	*e*PKPdf	PKPdf	09 28 28.7 -4.5
SOH	Sokhos	146.27	312	*e*P	PKPbc	09 28 32.1 +1.7
BEO	Belgrade	146.27	320	*i* PKP	PKPdf	09 28 32.5 -0.6
CLZ	Clausthal	146.33	337	*e*PKP2	PKPab	09 28 31.2 -2.0
NPS	Neapolis	146.35	301	*e*P	PKPbc	09 28 33.5 +2.7
ESK	Eskdalemuir	146.35	353	*e*PKPdf	PKPdf	09 28 28.4 -4.6
PLG	Polygyros	146.38	311	*e*P	PKPbc	09 28 37.0 +6.3
PAIG	Paliouri	146.38	310	*e*P	PKPbc	09 28 32.7 +1.9
KNT	Kendrikon	146.44	312	*e*P	PKPbc	09 28 30.7 -0.2
VKA	Vienna	146.46	328	⇓*i*PKP	PKPdf	09 28 32.4 -0.9
VKA				*i*		09 28 43.0
VAY	Valandovo	146.60	313	*i* P	PKPbc	09 28 33.5 +2.3
VAY				*i*		09 28 36.7
VAY				*i*		09 28 45.7
THE	Thessaloniki	146.61	311	*e*P	PKPbc	09 28 33.9 +2.6
WIT	Witteveen	146.71	342	*e*PKP	PKPdf	09 28 36.1 +2.5
SOP	Sopron	146.72	327	*ep*PKP/F	PKPdf	09 28 33.1 -0.7
NKC	Novy Kostel	146.80	334	*ex*	PKPdf	09 28 32.8 -1.1
NKC				*ex*	x	09 28 44.4
NKC				*ex*	x	09 29 00.2
NKC				*e*SS	SS	09 50 57.2 +2.0
NKC				AMS	AMS	10 33 20.0
	comp=Z,4μm,21.9s					
NKC	Novy Kostel	146.80	334	*e*	PKPdf	09 28 32.8 -1.1
NKC				*e*SS	SS	09 50 57.2 +2.0
NKC				MLR	MLR	
	comp=Z,4μm,21.9s,MS6.2					
MOX	Moxa	146.82	335⇑	*i* P	PKPbc	09 28 32.3 +0.9
	comp=Z,logA/T=2.0					
MOX				PP2		09 28 36.0
MOX				PKP2	PKPab	09 28 44.0 +8.9
MOX				SS	SS	09 51 03.0 +7.6
MOX				L		10 37 12.0
MOX	Moxa	146.82	335	*e*PKP	PKPdf	09 28 32.3 -1.6
MOX				*e*SS	SS	09 51 03.0 +7.6
GRG	Griva	146.87	312	*e*P	PKPbc	09 28 34.6 +2.8
XOR	Xorichti	146.94	309	*e*P	PKPbc	09 28 34.3 +2.2
MPAR	Parnis Oros	146.97	307	*e*P	PKPbc	09 28 36.5 +4.3
ATH	Athens Observa	147.05	307	*e*P	PKPdf	09 28 35.8 +1.1
SKO	Skopje	147.07	315	*i* P	PKPdf	09 28 33.5 -1.1
SKO				*i*		09 28 37.0
KHC	Kasperske Hory	147.14	331	*ex*	PKPdf	09 28 33.7 -0.7
KHC				*ex*	x	09 28 37.0
KHC				*ex*	x	09 29 01.1
KHC				*e*SS	SS	09 50 59.2 0.0
KHC				AMS	AMS	10 32 40.0
	comp=Z,8μm,23.3s					
KHC	Kasperske Hory	147.14	331	*e*	PKPdf	09 28 33.7 -0.7
KHC				*e*SS	SS	09 50 59.2 0.0
KHC				MLR	MLR	
	comp=Z,8μm,23.3s,MS6.4					
LIT	Litokhoron	147.16	311	*e*P	PKPdf	09 28 35.3 +0.5
NSAL	Nisos Salamina	147.26	307	*e*P	PKPdf	09 28 35.0 0.0
NAIG	Nisos Aigina	147.29	306	*e*P	PKPdf	09 28 36.2 +1.1
GEC2	GERESS Array S	147.29	331	*e*PKP2	PKPab	09 28 33.7 -3.3
GERES	GERESS Array B	147.29	331	PKPbc	PKPdf	09 28 32.3 -2.4
	comp=Z,22nm,1.0s,baz=63,slow=3.0,SNR=15					
MGER	Gerania Oros	147.38	307	*e*P	PKPdf	09 28 36.3 +1.1
WTSB	Winterswijk	147.41	341	*e*PKP	PKPdf	09 28 33.6 -1.2
	comp=Z,206nm,1.7s					
BBLS	Bajina Basta -	147.41	319	*i* PKP	PKPdf	09 28 32.5 -2.6
IVA	Berane	147.63	317	*e*PKP	PKPdf	09 28 36.7 +1.3
FNA	Florina	147.65	313	*e*P	PKPdf	09 28 35.1 -0.4
KOGS	Kog	147.69	325	*e*PKPdf	PKPdf	09 28 34.5 -0.9
KOGS				*e*		09 28 45.6
AGG	Agios Georgios	147.69	309	*e*P	PKPdf	09 28 36.5 +0.8
PLE	Pljevlja	147.71	318	⇓*i*PKP	PKPdf	09 28 37.8 +2.3
GRF	Grafenberg Arr	147.72	334	*e*PKP	PKPdf	09 28 35.3 -0.1
GRF				LR	LR	
	comp=Z,4μm,20.9s,MS6.2					
PVY	Plav	147.72	317	⇓*i*PKP	PKPdf	09 28 37.6 +2.0
MOA	Molln	147.74	329	*i*	PKPdf	09 28 36.6 +1.1
OHR	Ohrid	147.89	314	*i* P	PKPdf	09 28 37.3 +1.4
OHR				*i*		09 28 46.3
VLI	Veliai	148.04	305	*e*P	PKPdf	09 28 31.5 -4.8
UPM	Unac-Piva	148.08	318	⇓*i*PKP	PKPdf	09 28 38.2 +2.0
KYTH	Kithira	148.09	304	*e*P	PKPdf	09 28 43.0 +6.6
EVR	Evrytania	148.11	309	*e*P	PKPdf	09 28 30.5 -5.8
PERS	Pernice	148.15	327	*e*PKPdf	PKPdf	09 28 37.0 +0.8
PERS				*e*		09 28 46.6
NKY	Niksic	148.23	318	⇓*i*PKP	PKPdf	09 28 39.5 +3.1
TTG	Podgorica	148.26	317	⇓*i*PKP	PKPdf	09 28 39.2 +2.8
QSH	Qafa e Shtames	148.29	315	*i* p	PKPdf	09 28 38.8 +2.2
GOLS	Golise	148.30	325	*i* PKPdf	PKPdf	09 28 34.2 -2.2
TNS	Taunus Mts	148.35	337	*e*PKPbc	PKPdf	09 28 36.8 +0.5
TIR	Tirane	148.41	315	*ep*	PKPdf	09 28 40.0 +3.3
BRY	Bratogost	148.47	318	⇓*i*PKP	PKPdf	09 28 38.0 +1.2
JAN	Janina	148.49	311	*e*P	PKPdf	09 28 41.5 +4.6
ULC	Ulcinj	148.51	316	⇓*i*PKP	PKPdf	09 28 39.6 +2.7
BUM	Brajici-Budva	148.56	317	⇓*i*PKP	PKPdf	09 28 39.3 +2.3
DCN	Croghan	148.63	357	*e*P	PKPdf	09 28 32.7 -4.0
DCN	Croghan	148.63	357	⇑*i*P	PKPdf	09 28 38.5 +1.8
SIND	Sindeldorf	148.63	335	⇑*e*P	PKPdf	09 28 39.4 +2.6
DLF	Lyons Farm	148.64	356	*e*P	PKPdf	09 28 32.6 -4.1
DLF	Lyons Farm	148.64	356	⇑*i*P	PKPdf	09 28 38.4 +1.7
ITM	Ithomi	148.65	306	*e*P	PKPdf	09 28 42.5 +5.2
DSB	Dublin	148.68	356	*e*PKPbc	PKPdf	09 28 34.3 -2.5
HGN	Heimansgroeve	148.73	341	*e*PKP	PKPdf	09 28 35.3 -1.6
	comp=Z,225nm,2.0s					
TOD	Tromm	148.73	336	⇑*e*P	PKPdf	09 28 39.8 +2.8
HCY	Herceg Novi	148.74	317	⇓*i*PKP	PKPdf	09 28 39.4 +2.1
BOJS	Bojanci	148.83	325	*e*PKPdf	PKPdf	09 28 36.5 -0.7
BOJS				*e*		09 28 49.2
LJU	Ljubljana	148.85	326	*e*PKPdf	PKPdf	09 28 35.3 -2.0
LJU				*e*		09 28 48.7
SWS	Schriesheim	148.87	336	⇑*e*P	PKPdf	09 28 40.1 +2.9
ABH	Alteburg	148.96	338	⇑*e*P	PKPdf	09 28 40.5 +3.2
ABH	Alteburg	148.96	338	PKP	PKPdf	09 28 38.4 +1.1
HDH	Heidenheim	149.00	334	*e*P	PKPdf	09 28 40.3 +2.9
STON	Ston	149.00	319	*i* P	PKPdf	09 28 35.7 -1.9
VOY	Vojsko	149.19	327	*e*PKPdf	PKPdf	09 28 38.4 +0.6
VOY				*e*		09 28 43.9
VOY				*e*		09 28 50.4
VOY	Vojsko	149.19	327	*e*	PKPdf	09 28 38.4 +0.6
VOY				*e*		09 28 43.9
VOY				*e*		09 28 50.4
KEK	Kerkira	149.20	312	*e*P	PKPdf	09 28 42.5 +4.4
KTD	Kalmit	149.23	337	*e*P	PKPdf	09 28 41.2 +3.4
KTD	Kalmit	149.23	337	PKP	PKPdf	09 28 40.9 +3.1
ROBS	Robic	149.23	327	*e*PKPdf	PKPdf	09 28 39.5 +1.6
ROBS				*e*		09 28 49.2
STU	Stuttgart	149.26	335	*e*PKPdf	PKPdf	09 28 38.9 +1.0
STU	Stuttgart	149.26	335	*e*PKP2	PKPab	09 28 40.0 -5.0
RUP	Ruppelstein	149.28	338	⇑*e*P	PKPdf	09 28 41.5 +3.6
RUP	Ruppelstein	149.28	338	PKP	PKPdf	09 28 41.6 +3.7
FVI	Forni Avoltri	149.34	329	P	PKPdf	09 28 36.7 -1.4
WATA	Walderalm	149.37	331	*i*	PKPdf	09 28 39.0 +0.9
LBG	Lerchenberg	149.50	335	⇑*e*P	PKPdf	09 28 41.9 +3.6
WLF	Walferdange	149.61	339	*e*PKPbc	PKPdf	09 28 38.9 +0.5
LANF	Langenberg	149.62	337	PKP	PKPdf	09 28 39.8 +1.4
NVLJ	Novalja	149.64	324	*i* P	PKPdf	09 28 41.1 +2.4
UBR	Uberruh	149.75	333	⇑*e*P	PKPdf	09 28 42.1 +3.4
GUT	Gutenstein	149.85	334	⇑*e*P	PKPdf	09 28 42.1 +3.3
SPAK	Spaichingen	149.96	335	*e*P	PKPdf	09 28 43.0 +4.0
MENF	Mencas	149.97	345	PKP	PKPdf	09 28 41.7 +2.8
VAL	Valentia	150.10	0	*e*P	PKPdf	09 28 41.5 +2.4
WLS	Welschbruch	150.26	337	PKP	PKPdf	09 28 41.2 +1.8
LIBD	Limburg	150.38	336	*e*P	PKPdf	09 28 43.5 +3.9
KIZ	Kirchzarten	150.42	335	⇑*e*P	PKPdf	09 28 43.2 +3.5
FELD	Feldberg	150.45	335	⇑*e*P	PKPdf	09 28 43.6 +3.8
ECH	Echery	150.49	337	PKP	PKPdf	09 28 43.8 +4.0
BRMO	Bormio	150.56	331	P	PKPdf	09 28 36.8 -3.2
MOF	Molkenrain	150.81	336	PKP	PKPdf	09 28 45.0 +4.7
THEF	They Montfort	150.90	338	PKP	PKPdf	09 28 45.0 +4.6
BBS	Basel-Blauen	150.98	335	⇑*e*P	PKPdf	09 28 45.1 +4.5
BBS	Basel-Blauen	150.98	335	PKP	PKPdf	09 28 45.2 +4.7
LDMF	Lomont	151.34	336	PKP	PKPdf	09 28 46.4 +5.3
TIP	Timpagrande	151.53	313	*e*PKPbc	PKPdf	09 28 46.7 +5.0
AQU	L'Aquila	151.87	322	*e*PKPbc	PKPdf	09 28 42.5 +0.5
BNI	Bardonecchia	153.28	333	*e*PKPbc	PKPdf	09 28 47.7 +3.8
GRN	Grenoble	153.50	335	PKP	PKPdf	09 28 51.5 +7.2
PLDF	La Plantade	153.67	338	PKP	PKPdf	09 28 54.6 +10
SURF	Saint Ours	153.68	332	PKP	PKPdf	09 28 52.7 +8.2
SAOF	Saorge	153.75	331	PKP	PKPdf	09 28 54.8 +10
AGO	Saint Agoulin	153.76	339	PKP	PKPdf	09 28 54.2 +10
AUTN	L'Aution	153.80	331	PKP	PKPdf	09 28 53.3 +8.6
TOUF	Mont Tournerai	153.86	331	PKP	PKPdf	09 28 53.6 +8.8
MVIF	Mont Vial	154.00	331	PKP	PKPdf	09 28 54.1 +9.1
REVF	Revere	154.02	331	PKP	PKPdf	09 28 53.5 +8.5
PYM	Petit Puy Mans	154.07	339	PKP	PKPdf	09 28 55.1 +10
CALN	Calern	154.23	331	PKP	PKPdf	09 28 54.0 +8.7
LCHF	La Chataignera	154.29	345	PKP	PKPdf	09 28 51.5 +6.2
LBL	Lubilhac	154

ISAN					S		Sb	09 12 21.6	-2.5		
IVOS	**Vogsosar**	**1.11**	**267**		P		Pb	09 12 08.8	-2.2		
IVOS					S		Sb	09 12 24.6	-1.2		
IFAG	**Fagurholsmyri**	**1.13**	**92**		P		Pb	09 12 09.5	-1.9		
IFAG					S		Sb	09 12 25.8	-0.7		
IASB	**`sbjarnarst**	**1.23**	**313**		P		Pb	09 12 10.7	-2.4		
IKUD	**Kuludalsa**	**1.23**	**290**		P		Pb	09 12 10.6	-2.5		
IKUD					S		Sb	09 12 28.1	-1.3		
IKRI	**Krysuvik**	**1.27**	**269**		P		Pb	09 12 11.2	-2.5		
IKRI					S		Sb	09 12 28.7	-1.8		
IVOG	**Vogar**	**1.41**	**273**		P		Pb	09 12 13.1	-3.0		
IVOG					S		Sb	09 12 33.5	-1.0		
INYL	**Nylenda**	**1.56**	**273**		P		Pn	09 12 15.0	-3.3		
IBRU	**Bruarjokull**	**1.63**	**55**		P		Pn	09 12 17.4	-2.0		
IVSH	**V-Sauoahnukur**	**1.75**	**58**		P		Pn	09 12 19.3	-1.8		
IHVA	**Hvannstoosfjol**	**1.78**	**53**		P		Pn	09 12 19.9	-1.6		
IADA	**Aoalbol**	**1.92**	**54**		P		Pn	09 12 21.6	-1.9		
IREN	**Reynihlio**	**1.98**	**29**		P		Pn	09 12 23.0	-1.5		
IKVO	**Krokottuvotn**	**2.05**	**28**		P		Pn	09 12 23.9	-1.5		
IHLA	**Hella**	**2.05**	**9**		P		Pn	09 12 23.3	-2.1		
IHLA					S		Sn	09 12 51.0	-1.0		
IGRA	**Granastaoir**	**2.11**	**18**		P		Pn	09 12 25.0	-1.3		
IGRA					S		Sn	09 12 52.5	-1.1		
IGRS	**Grimsstaoir**	**2.16**	**36**		P		Pn	09 12 25.5	-1.5		
ISIG	**Siglufjorour**	**2.21**	**3**		P		Pn	09 12 25.7	-2.0		
IHRN	**Hraun**	**2.22**	**350**		P		Pn	09 12 25.5	-2.3		
IHRN					S		Sn	09 12 56.2	-0.2		
IBRE	**Brettingsstaoi**	**2.27**	**14**		P		Pn	09 12 27.4	-1.1		
IBRE					S		Sn	09 12 55.2	-2.4		
IHED	**Heoinshofoi**	**2.30**	**20**		P		Pn	09 12 27.2	-1.8		
IFLA	**Flatey**	**2.31**	**14**		P		Pn	09 12 28.6	-0.5		
IGIL	**Gilhagi**	**2.47**	**28**		P		Pn	09 12 30.3	-1.1		

JMA 11 09:21:23.5±0.2, 43.97N×147.85E, M3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.64**	**249**	P			Pn	09 21 53.8	0.0
NEM2				eS			Sb	09 22 15.9	+0.3
JRA	**Rausu**	**1.97**	**270**	P			Pn	09 21 58.6	+0.1
JRA				eS			Sn	09 22 24.6	+0.4
JNK	**Nakash**	**2.30**	**261**	P			Pn	09 22 03.3	+0.1
JNK				eS			Sn	09 22 32.4	-0.2
JAK	**Akkeshi**	**2.49**	**248**	P			Pn	09 22 05.9	-0.1
JAK				eS			Sn	09 22 36.6	-0.9
JTKR	**Abashiri--Toko**	**2.85**	**271**	P			Pn	09 22 11.8	+0.8
JAR	**Ashorobuto**	**3.04**	**259**	P			Pn	09 22 14.2	+0.5
JAR				eS			Sn	09 22 51.4	0.0
JOB	**Onbets**	**3.11**	**251**	P			Pn	09 22 15.4	+0.6
JOB				eS			Sn	09 22 53.6	+0.3
JMP	**Maruseppu**	**3.24**	**272**	P			Pn	09 22 16.7	+0.1
JCH	**Churui**	**3.54**	**249**	P			Pn	09 22 20.6	-0.3
JCH				eS			Sn	09 23 03.6	-0.6
JNBK	**Urakawa-nobuka**	**4.10**	**247**	P			Pn	09 22 29.1	+0.3

MAN 11 09:56:50.4, 6.40N×125.46E, h73km, mb3.6, ML2.3, MS1.8, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**0.59**	**239**	⇓eP			P	09 57 03.5	-1.1
GSPH				iS			S	09 57 14.9	0.0
KCP	**Kidapawan**	**0.71**	**329**	⇑iP			P	09 57 07.7	+2.0
KCP				iS			S	09 57 20.4	+3.2
MATI	**Mati**	**0.96**	**56**	eP			P	09 57 10.1	+1.4
BUKP	**Musuan**	**1.52**	**345**	eP			P	09 57 16.8	+0.5

BJI ***11*** *10:01:19.1, 19.29N×145.40E, h200km, mB5.4, mb4.6*
MOS ***11*** *10:01:20.3±0.8, 19.03N×145.36E, h234km, mb4.5/22, Error ellipse: s-maj=15.3km s-min=7.2km az=87.8*
IDC ***11*** *10:01:20.6±0.9, 19.00N×145.51E, h222km±8km, mb4.1/16, mb1 4.3/21, mb1mx4.2/26, mbtmp4.8/21, Error ellipse: s-maj=15.8km s-min=9.1km az=82.0*
NEIC ***11*** *10:01:20.1±0.2, 18.99N×145.44E, mb4.5/33, Error ellipse: s-maj=6.4km s-min=4.1km az=99.0*

ISC 11 10:01:19.1±0.7, 19.03N±0.03×145.41E±0.05, h218km±6km, h216km±1.6km: pP-P, n157, σ0s98/164, mb4.4/54, 5C-5D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SARN	**Sarigan**	**2.34**	**172**	⇓eP			**P**	**10 02 03.9**	**+1.0**
JHHJ	**Haha-jima-NKT**	**8.13**	**339**	P			**P**	**10 03 13.9**	**-0.9**
JHHJ				eS			**S**	**10 04 42.4**	**-2.9**
CBIJ	**Chichi jima**	**8.56**	**340**	P			**P**	**10 03 20.0**	**-0.4**
93nm,0.3s,baz=286,slow=16,SNR=67									
CBIJ				S			**S**	**10 04 51.9**	**-3.4**
48nm,0.3s,baz=117,slow=24,SNR=4.3									
CBIJ	**Chichi jima**	**8.56**	**340**	P			**P**	**10 03 19.7**	**-0.7**
CBIJ				eS			**S**	**10 04 52.0**	**-3.2**
JHJ2	**Mitsune**	**14.89**	**341**	P			**P**	**10 04 39.9**	**-0.5**
JHJ	**Hachijo jima 2**	**14.91**	**341**	P			**P**	**10 04 39.8**	**-0.9**
34nm,0.3s,baz=234,slow=21,SNR=38									
JHJ				S			**S**	**10 07 27.9**	**+7.8**
12nm,0.3s,baz=67,slow=21,SNR=6.6									
BSO1	**Boso 1**	**16.05**	**347**	P			**P**	**10 04 55.2**	**+0.7**
JWZ	**Kozaga**	**16.84**	**331**	P			**P**	**10 05 03.6**	**-0.1**
JSG	**Sagara**	**16.85**	**339**	P			**P**	**10 05 05.0**	**+1.1**
JOD2	**Odawara 2**	**17.11**	**342**	P			**P**	**10 05 06.5**	**-0.2**
JOW	**Kunigami**	**17.58**	**299**	P			**P**	**10 05 12.3**	**+0.6**
baz=135,slow=9.3									
JTO	**Tosashimizu**	**17.82**	**323**	P			**P**	**10 05 14.4**	**+0.2**
JRY	**Ryogami san**	**17.87**	**343**	P			**P**	**10 05 14.9**	**+0.2**
MJAR	**Matsushiro Arr**	**18.56**	**342**	P			**P**	**10 05 21.7**	**-0.1**
7.5nm,0.3s,baz=172,slow=14,SNR=80									
MJAR				S			**S**	**10 08 34.3**	**-3.0**
0.5nm,0.3s,baz=146,slow=13,SNR=4.8									
MJAR	**Matsushiro Arr**	**18.56**	**342**	P			**P**	**10 05 21.7**	**-0.1**
MJAR				S			**S**	**10 08 34.3**	**-3.0**
MAJO	**Matsushiro**	**18.56**	**342**	eP			**P**	**10 05 21.8**	**0.0**
70nm,0.6s									
MAJO				eS			**S**	**10 08 35.0**	**-2.3**
MAJO	**Matsushiro**	**18.56**	**342**	eP			**P**	**10 05 21.8**	**0.0**
MAJO				eS			**S**	**10 08 35.0**	**-2.3**
MAJO					pmax	pmax			
comp=Z,69nm,0.6s									
MAT	**Matsushiro**	**18.56**	**342**	P			**P**	**10 05 21.7**	**-0.1**
MAT				S			**S**	**10 08 39.7**	**+2.4**
MAT	**Matsushiro**	**18.56**	**342**	P			**P**	**10 05 21.9**	**+0.1**
MAT				eS			**S**	**10 08 38.5**	**+1.2**
MAT	**Matsushiro**	**18.56**	**342**	eP			**P**	**10 05 22.0**	**+0.2**
comp=Z,58nm,0.5s									
MAT				eS			**S**	**10 08 40.0**	**+2.7**
MAT	**Matsushiro**	**18.56**	**342**	eP			**P**	**10 05 22.0**	**+0.2**
MAT				eS			**S**	**10 08 40.0**	**+2.7**
MAT					pmax	pmax			
comp=Z,58nm,0.5s									
JAD	**Aida**	**18.73**	**330**	P			**P**	**10 05 23.8**	**+0.3**
JSJ	**Shimokoshiki**	**18.94**	**315**	P			**P**	**10 05 26.4**	**+0.7**
JNU	**Nakatsue**	**19.14**	**320**	P			**P**	**10 05 28.6**	**+1.0**
baz=137,slow=8.4									
JMM	**Marumori**	**19.20**	**349**	P			**P**	**10 05 30.3**	**+2.0**
JHS	**Saijyo**	**19.28**	**328**	P			**P**	**10 05 29.3**	**+0.1**
JSD	**Sado**	**19.94**	**343**	P			**P**	**10 05 36.6**	**+0.7**
JMK	**Ichinoseki**	**20.18**	**350**	P			**P**	**10 05 39.9**	**+1.6**
KS15	**Wonju Array Si**	**23.91**	**324**	eP			**P**	**10 06 12.9**	**-1.4**
KS15				epP				10 06 53.5	
ASAJ	**Asahikawa**	**25.12**	**355**	P			**P**	**10 06 26.9**	**+1.2**
comp=Z,9.3nm,0.7s,mb4.5,baz=234,slow=13,SNR=12									
NJ2	**Nanjing**	**27.16**	**304**	eP			**P**	**10 06 44.8**	**+0.4**
NJ2				AP			pP	10 07 29.1	+1.5
NJ2				PP			PP	10 07 42.8	+2.9
NJ2				S			**S**	**10 11 05.0**	**-0.1**
NJ2				AMB			AMB		
comp=Z,10.0nm,0.5s,mb4.7									
NJ2				AMB			AMB		
comp=Z,1μm,5.6s									
NJ2				LR			LR		
comp=N,3μm,14.4s									
NJ2				LR			LR		
comp=E,3μm,16.2s									
NJ2				LR			LR		
comp=Z,1μm,16.8s									
YSS	**Yuzh-Sakhalins**	**27.94**	**356**	P			**P**	**10 06 46.8**	**-4.4**
YSS	**Yuzh-Sakhalins**	**27.94**	**356**	*d*iP			**P**	**10 06 50.7**	**-0.5**
YSS					pmax	pmax			
comp=Z,43nm,1.7s,mb4.8									
PMG	**Port Moresby**	**28.31**	**176**	P			**P**	**10 06 52.9**	**-1.9**
comp=Z,22nm,0.6s,mb5.0,baz=348,slow=11,SNR=9.5									
PMG	**Port Moresby**	**28.31**	**176**	*e*P			**P**	**10 06 50.8**	**-4.0**
comp=Z,30nm,0.8s,mb5.0									
PMG	**Port Moresby**	**28.31**	**176**	*e*P			**P**	**10 06 50.8**	**-4.0**
PMG					pmax	pmax			
comp=Z,30nm,0.8s									
MDJ	**Mudanjiang**	**28.73**	**336**	P			**P**	**10 06 58.9**	**+0.6**
MDJ				AP			pP	10 07 42.6	+0.5
MDJ				AMB			AMB		
comp=Z,3.0nm,0.6s,mb4.1									
MDJ				AMB			AMB		
comp=Z,1μm,11.3s									
CN2	**Changchun**	**29.85**	**330**	*e*P			**P**	**10 07 08.9**	**+0.7**
CN2				*e*AP			pP	10 07 53.0	+0.7
CN2				*e*S			**S**	**10 11 49.0**	**+1.4**
CN2				AMB			AMB		
comp=Z,10.0nm,0.8s,mb4.5									
KLR	**Kul'dur**	**32.08**	**343**	*e*P			**P**	**10 07 23.7**	**-3.8**
KAKA	**Kakadu**	**34.03**	**203**	*e*P			**P**	**10 07 52.4**	**+7.9**
comp=Z,24nm,0.8s,mb4.8									
PET	**Petropavlovsk**	**35.46**	**14**	*e*P			**P**	**10 07 56.6**	**+0.3**
comp=Z,16nm,0.7s,mb4.7									
PET	**Petropavlovsk**	**35.46**	**14**	*e*P			**P**	**10 07 56.6**	**+0.3**
PET					pmax	pmax			
comp=Z,16nm,0.7s,mb4.7									
HIA	**Hailar**	**36.54**	**332**	*e*P			**P**	**10 08 06.0**	**+0.6**
CTA	**Charters Tower**	**38.88**	**179**	*e*P			**P**	**10 08 24.4**	**-0.8**
comp=Z,10nm,0.8s,mb4.4									
CTA	**Charters Tower**	**38.88**	**179**	*e*P			**P**	**10 08 24.4**	**-0.8**
CTA					pmax	pmax			
comp=Z,10.0nm,0.8s									
CTAO	**Charters Tower**	**38.88**	**179**	*e*P			**P**	**10 08 24.1**	**-1.0**
comp=Z,8.7nm,0.7s,mb4.4									
CTAO	**Charters Tower**	**38.88**	**179**	*e*P			**P**	**10 08 24.1**	**-1.1**
CTAO					pmax	pmax			
comp=Z,9.0nm,0.7s,mb4.4									
KMI	**Kunming**	**39.88**	**287**	P			**P**	**10 08 35.3**	**+2.0**
KMI				AMB			AMB		
comp=Z,8.0nm,0.8s,mb4.2									
FX1	**Attu Island--F**	**40.08**	**26**	*e*P			**P**	**10 08 35.1**	**+0.4**
WRAB	**Tennant Creek**	**40.21**	**196**	*e*P			**P**	**10 08 36.2**	**+0.2**
comp=Z,218nm,1.2s,mb5.5									
WRAB	**Tennant Creek**	**40.21**	**196**	*i*P			**P**	**10 08 36.5**	**+0.4**
WB2	**Warramunga Arr**	**40.22**	**196**	⇑*i*P			**P**	**10 08 36.5**	**+0.4**
WB2				*e*S			**S**	**10 14 24.3**	**-2.1**
WRA	**Warramunga Arr**	**40.22**	**196**	P			**P**	**10 08 36.3**	**+0.1**
comp=Z,27nm,0.6s,mb4.8,baz=11,slow=8.9,SNR=186									
WRA				PcP			PcP	10 10 35.0	-1.1
comp=Z,3.8nm,0.6s,baz=17,slow=3.3,SNR=5.6									
LZH	**Lanzhou**	**40.24**	**304**	*e*P			**P**	**10 08 38.0**	**+1.8**
LZH				AP			pP	10 09 22.2	-0.2
LZH				XP			sP	10 09 44.0	-3.8
LZH				PCP			PcP	10 10 37.4	+1.3
LZH				AMB			AMB		
comp=Z,13nm,1.0s,mb4.3									
LZH				AMB			AMB		
comp=Z,60nm,4.0s									
FITZ	**Fitzroy Crossi**	**41.70**	**209**	⇑*i*P			**P**	**10 08 48.7**	**+0.4**
comp=Z,80nm,0.6s,mb5.3									
FITZ				*e*S			**S**	**10 14 49.9**	**+1.7**
SONM	**Songino Array**	**42.72**	**321**	P			**P**	**10 08 56.5**	**+0.3**
comp=Z,1.7nm,0.5s,mb3.8,baz=133,slow=9.4,SNR=13									
SONM				pP			pP	10 09 42.8	0.0
comp=Z,2.9nm,0.6s,baz=126,slow=7.7,SNR=3.6									
SEY	**Seymchan**	**44.13**	**5**	*i*P			**P**	**10 09 08.0**	**+0.7**
YAK	**Yakutsk**	**44.35**	**349**	*e*P			**P**	**10 09 08.5**	**-0.5**
comp=Z,31nm,0.5s,mb4.9									
YAK	**Yakutsk**	**44.35**	**349**	*c i*P			**P**	**10 09 08.6**	**-0.4**
YAK					pmax	pmax			
comp=Z,24nm,0.8s,mb4.6									
ZAK	**Zakamensk**	**45.72**	**323**	*e*P			**P**	**10 09 20.7**	**+0.6**
ZAK				*e*			pP	10 10 06.1	-1.2
ZAK					pmax	pmax			
comp=Z,1.0nm,0.8s,mb3.2									
ZAK					pmax	pmax			
comp=Z,3.0nm,1.1s,mb3.5									
DZM	**Mont Dzumac**	**45.73**	**152**	*e*P			**P**	**10 09 20.0**	**-0.6**
MBWA	**Marble Bar**	**47.19**	**213**	*e*P			**P**	**10 09 31.6**	**-0.3**
comp=Z,20nm,0.8s,mb4.5									
BILL	**Biiibino**	**50.74**	**10**	*e*P			**P**	**10 09 58.0**	**-0.4**
comp=Z,32nm,1.0s,mb4.7									
BILL	**Biiibino**	**50.74**	**10**	*d i*P			**P**	**10 09 58.2**	**-0.1**
BILL					pmax	pmax			
comp=Z,26nm,1.2s,mb4.5									
STKA	**Stephens Creek**	**50.74**	**184**	P			**P**	**10 09 57.4**	**-1.5**
comp=Z,7.1nm,0.6s,mb4.3,baz=0.8,slow=7.3,SNR=17									
STKA	**Stephens Creek**	**50.74**	**184**	*e*P			**P**	**10 09 56.7**	**-2.1**
FORT	**Forrest**	**52.25**	**199**	⇑*i*P			**P**	**10 10 09.6**	**-0.4**
comp=Z,26nm,0.6s,mb4.8									
TIXI	**Tiksi**	**53.51**	**354**	*i*P			**P**	**10 10 16.6**	**-2.2**
TIXI					pmax	pmax			
comp=Z,12nm,1.3s,mb4.3									
SDPT	**Sand Point**	**54.36**	**35**	*e*P			**P**	**10 10 24.7**	**-0.4**
CHGN	**Chignik**	**55.77**	**34**	*e*P			**P**	**10 10 34.5**	**-0.6**
KLBR	**Kellerberrin**	**56.90**	**208**	*e*P			**P**	**10 10 42.5**	**-1.0**
comp=Z,16nm,0.9s,mb4.7									
ZAL	**Zalesovo**	**57.60**	**322**	P			**P**	**10 10 47.5**	**-0.6**
comp=Z,2.0nm,0.5s,mb4.0,baz=85,slow=8.0,SNR=4.9									
ZAL	**Zalesovo**	**57.60**	**322**	*i*P			**P**	**10 10 51.2**	**+3.1**
ZAL					pmax	pmax			
comp=Z,2.0nm,0.5s									
MUN	**Mundaring**	**57.93**	**209**	*e*P			**P**	**10 10 49.9**	**-0.8**
comp=Z,5.5nm,0.5s,mb4.4									
MUN	**Mundaring**	**57.93**	**209**	*e*P			**P**	**10 10 49.9**	**-0.8**
MUN					pmax	pmax			
comp=Z,6.0nm,0.5s,mb4.5									
MKAR	**Makanchi Array**	**58.04**	**314**	P			**P**	**10 10 51.0**	**-0.3**
comp=Z,1.6nm,0.6s,mb3.8,baz=88,slow=8.5,SNR=16									
MKAR				pP			pP	10 11 41.4	+0.6
comp=Z,3.9nm,0.7s,baz=92,slow=9.2,SNR=6.3									
MKAR	**Makanchi Array**	**58.04**	**314**	P			**P**	**10 10 51.0**	**-0.3**
MKAR				pP			pP	10 11 41.4	+0.6
NWAO	**Narrogin (SRO)**	**58.26**	**208**	*e*P			**P**	**10 10 51.8**	**-1.2**
comp=Z,7.2nm,0.6s,mb4.5									
NWAO	**Narrogin (SRO)**	**58.26**	**208**	*e*P			**P**	**10 10 51.8**	**-1.3**
NWAO					pmax	pmax			
comp=Z,7.0nm,0.6s									
SVW2	**Sparrevohn**	**58.67**	**29**	*e*P			**P**	**10 10 55.7**	**+0.2**
KDAK	**Kodiak Island**	**59.23**	**33**	*e*P			**P**	**10 10 58.5**	**-0.9**
comp=Z,12nm,0.8s,mb4.6									
RSO	**Redoubt South**	**59.82**	**30**	*e*P			**P**	**10 11 01.3**	**-2.0**
KURK	**Kurchatov**	**60.84**	**318**	*e*P			**P**	**10 11 10.0**	**-0.3**
comp=Z,6.3nm,0.9s,mb4.2									
KURK				*e*pP			pP	10 11 59.6	-0.9
KURK	**Kurchatov**	**60.84**	**318**	*e*P			**P**	**10 11 10.0**	**-0.4**
KURK				*e**PP			pP	10 11 59.6	-0.8
KURK					pmax	pmax			
comp=Z,6.0nm,0.9s,mb4.2									
SLKM	**Skilak Lake**	**61.05**	**31**	*e*P			**P**	**10 11 09.7**	**-1.9**
IMA	**Indian Mountai**	**61.09**	**24**	*e*P			**P**	**10 11 11.4**	**-0.4**
PMR	**Palmer**	**61.80**	**30**	*e*P			**P**	**10 11 15.3**	**-1.3**
SML	**Sawmill**	**62.22**	**29**	*e*P			**P**	**10 11 18.3**	**-1.1**
MCK	**McKinley**	**62.37**	**27**	*e*P			**P**	**10 11 18.8**	**-1.6**
comp=Z,2.6nm,0.6s,mb4.0									
MCK	**McKinley**	**62.37**	**27**	*e*P			**P**	**10 11 18.8**	**-1.6**
MCK					pmax	pmax			
comp=Z,3.0nm,0.6s,mb4.1									
EYAK	**Cordova Ski Ar**	**63.23**	**31**	*e*P			**P**	**10 11 25.6**	**-0.5**
ILAR	**Eielson Array**	**63.47**	**26**	P			**P**	**10 11 25.6**	**-1.9**
comp=Z,8.5nm,0.7s,mb4.5,baz=259,slow=5.4,SNR=102									
MENT	**Mentasta**	**64.53**	**29**	*e*P			**P**	**10 11 34.3**	**-0.1**
BRVK	**Borovoye**	**66.11**	**320**	P			**P**	**10 11 44.4**	**-0.3**
comp=Z,4.4nm,0.8s,mb4.1									
BRVK				*e*pP			pP	10 12 34.3	-1.3
BRVK	**Borovoye**	**66.11**	**320**	P			**P**	**10 11 44.4**	**-0.3**
BRVK				*e**PP			pP	10 12 34.3	-1.3
BRVK					pmax	pmax			
comp=Z,4.0nm,0.8s,mb4.1									
DAWY	**Dawson**	**66.59**	**28**	*e*P			**P**	**10 11 47.1**	**-0.4**
INK	**Inuvik**	**69.18**	**23**	P			**P**	**10 12 02.7**	**-0.7**
comp=Z,3.6nm,0.3s,mb4.4,baz=272,slow=6.8,SNR=80									
INK	**Inuvik**	**69.18**	**23**	*e*P			**P**	**10 12 02.5**	**-0.9**
comp=Z,12nm,0.9s,mb4.5									
INK	**Inuvik**	**69.18**	**23**	*e*P			**P**	**10 12 02.5**	**-0.9**
INK					pmax	pmax			
comp=Z,12nm,0.9s									
DLBC	**Dease Lake**	**71.17**	**34**	*e*P			**P**	**10 12 16.1**	**+0.5**
DLBC				*e*pP			pP	10 13 06.4	-0.8
ARU	**Arti**	**72.64**	**324**	P			**P**	**10 12 22.8**	**-1.6**
comp=Z,4.8nm,0.9s,mb4.1									
ARU	**Arti**	**72.64**	**324**	⇑*i*P			**P**	**10 12 26.7**	**+2.3**
ARU				*e*				10 15 06.8	
ARU					pmax	pmax			
comp=Z,4.0nm,1.1s,mb4.0									
OCWA	**Octopus Mounta**	**76.44**	**44**	*e*P			**P**	**10 12 47.3**	**+1.2**
comp=Z,3.7nm,0.6s,mb4.2									
HDW	**Hoodsport**	**77.20**	**44**	P			**P**	**10 12 51.7**	**+1.4**
YKA	**Yellowknife Ar**	**77.83**	**28**	P			**P**	**10 12 53.0**	**-0.5**
comp=Z,6.6nm,0.6s,mb4.5,baz=289,slow=5.5,SNR=11									
YKA	**Yellowknife Ar**	**77.83**	**28**	P			**P**	**10 12 53.0**	**-0.5**
FMW	**Mount Fremont**	**78.29**	**44**	P			**P**	**10 12 57.1**	**+0.8**
HBO	**Huckleberry Mo**	**78.66**	**48**	P			**P**	**10 12 59.1**	**+0.7**
TWW	**Teanaway**	**78.76**	**44**	P			**P**	**10 13 00.2**	**+1.3**
EBG	**Ellensburg**	**79.02**	**44**	P			**P**	**10 13 01.2**	**+0.9**
RES	**Resolute Bay**	**79.17**	**14**	*e*P			**P**	**10 13 00.4**	**-0.1**
NEW	**Newport**	**80.86**	**42**	*e*P			**P**	**10 13 09.7**	**-0.2**
comp=Z,5.2nm,0.5s,mb4.4									
NEW	**Newport**	**80.86**	**42**	*e*P			**P**	**10 13 09.7**	**-0.3**
NEW					pmax	pmax			
comp=Z,5.0nm,0.5s									
EDM	**Edmonton**	**81.49**	**37**	*e*P			**P**	**10 13 13.3**	**+0.1**
KEV	**Kevo**	**81.54**	**342**	*e*p			**P**	**10 13 12.3**	**-0.8**
comp=Z,5.6nm,0.5s,mb4.5									
KEV	**Kevo**	**81.54**	**342**	*e*P			**P**	**10 13 12.3**	**-0.8**
KEV					pmax	pmax			
comp=Z,6.0nm,0.5s,mb4.5									
CMB	**Columbia Colle**	**81.72**	**53**	*e*P			**P**	**10 13 14.8**	**+0.1**
comp=Z,6.9nm,0.7s,mb4.4									
CMB	**Columbia Colle**	**81.72**	**53**	*e*P			**P**	**10 13 14.8**	**+0.1**
CMB					pmax	pmax			
comp=Z,7.0nm,0.7s,mb4.4									
ARCES	**ARCESS Array B**	**82.10**	**342**	P			**P**	**10 13 16.1**	**+0.2**
comp=Z,4.8nm,0.5s,mb4.4,baz=74,slow=7.3,SNR=43									
ARE0	**ARCESS Array S**	**82.10**	**342**	*e*P			**P**	**10 13 15.7**	**-0.2**
WALA	**Waterton Lakes**	**82.60**	**41**	*e*P			**P**	**10 13 19.2**	**+0.3**
comp=Z,2.7nm,0.7s,mb4.1									
NVAR	**Mina Array Bea**	**83.15**	**52**	P			**P**	**10 13 23.2**	**+1.1**
comp=Z,9.2nm,0.7s,mb4.7,baz=265,slow=6.2,SNR=97									
TPH	**Tonopah**	**84.07**	**52**	*e*P			**P**	**10 13 27.5**	**+0.8**
comp=Z,6.6nm,0.7s,mb4.5									
TPH	**Tonopah**	**84.07**	**52**	*e*P			**P**	**10 13 27.5**	**+0.8**
TPH					pmax	pmax			
comp=Z,7.0nm,0.7s,mb4.5									
HLID	**Hailey**	**84.20**	**46**	*e*P			**P**	**10 13 27.5**	**+0.3**
comp=Z,2.0nm,0.8s,mb3.9									
HRY	**Holter Researc**	**84.76**	**42**	*e*P			**P**	**10 13 30.7**	**+0.8**
MCMT	**McKenzie Canyo**	**84.80**	**44**	*e*P			**P**	**10 13 30.9**	**+0.7**
BOZ	**Bozeman (W)**	**85.29**	**43**	P			**P**	**10 13 32.9**	**+0.3**
comp=Z,3.4nm,0.6s,mb4.2									
BOZ	**Bozeman (W)**	**85.29**	**43**	P			**P**	**10 13 32.9**	**+0.3**
BOZ					pmax	pmax			
comp=Z,3.0nm,0.6s,mb4.2									
QLMT	**Earthquake Lak**	**85.73**	**44**	*e*P			**P**	**10 13 35.5**	**+0.7**
KAF	**Kangasniemi**	**86.01**	**336**	*e*p			**P**	**10 13 34.1**	**-1.5**
comp=Z,1.2nm,0.3s,mb4.1									
KAF	**Kangasniemi**	**86.01**	**336**	*e*P			**P**	**10 13 34.1**	**-1.5**
KAF					pmax	pmax			
comp=Z,1.0nm,0.3s,mb4.0									
RRI2	**Red Ridge**	**86.38**	**45**	*e*P			**P**	**10 13 38.7**	**+0.8**
comp=Z,5.1nm,0.6s,mb4.4									
FINES	**FINESS Array B**	**86.47**	**335**	P			**P**	**10 13 36.6**

VNA2	**Neumayer--Watz**	**87.23 181**	*e*		pP	10 37 06.0	+4.4
VNA2	**Neumayer--Watz**	**87.23 181**	*e*		sP	10 37 11.5	+8.9
VNA2	**Neumayer--Watz**	**87.23 181**	⇑*iP*		**P**	**10 36 57.7**	**-0.7**
VNA2			*e*			10 37 06.0	
VNA2			*e*			10 37 11.5	
VNA2			*e*			10 37 22.9	
VNA1	**Neumayer--Stat**	**87.52 181**	*e*		**P**	**10 37 00.4**	**+0.7**
VNA1	**Neumayer--Stat**	**87.52 181**	P		**P**	**10 36 54.2**	**-5.5**
VNA1			*e*			10 37 00.4	
SONM	**Songino Array**	**89.89 323**	P		**P**	**10 37 12.3**	**+0.8**
	0.4nm,0.8s,mb3.8,baz=162,slow=4.6,SNR=3.4						
BRG	**Berggiesshubel**	**145.70 333**	*eP*		PKPbc	10 43 51.8	+1.5
BRG			*e*			10 43 58.7	
CLL	**Collm**	**145.76 334**	*i* PKIKP		PKPdf	10 43 52.9	+0.2
	logA/T=1.0						
CLL			*i* *PPKP			10 43 58.2	
EKA	**Eskdalemuir Ar**	**146.39 353**	PKPbc		PKPbc	10 43 53.0	+1.2
	1.0nm,0.5s,baz=357,slow=3.0,SNR=4.0						
GERES	**GERESS Array B**	**147.30 331**	PKPbc		PKPdf	10 43 57.9	+2.5
	1.1nm,0.7s,slow=2.9,SNR=3.7						

JMA 11 10:38:11.6±0.2,39.78N×143.46E,h25km,M3.5,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.24**	**278**	P	Pn	10 38 33.6	0.0
JTH				*e*S	Sn	10 38 50.2	+0.6
MIYJ	**Miyakonagasawa**	**1.28**	**261**	P	Pn	10 38 34.5	+0.3
MIYJ				*e*S	Sn	10 38 51.3	+0.6
JANG	**Nango**	**1.61**	**292**	P	Pn	10 38 38.8	0.0
JOM	**Ohasama**	**1.70**	**260**	P	Pn	10 38 41.0	+0.8
JOM				*e*S	Sn	10 39 02.1	+0.8
JMK	**Ichinoseki**	**1.92**	**245**	P	Pn	10 38 43.6	+0.2
JTM	**Tenmabayashi**	**2.09**	**300**	P	Pn	10 38 46.8	+1.1
JIO	**Ouri**	**2.11**	**232**	P	Pn	10 38 45.5	-0.5
JAH	**Hinai**	**2.21**	**282**	P	Pn	10 38 48.3	+0.9
JOT	**Ohata**	**2.44**	**312**	P	Pn	10 38 51.3	+0.6
JNBK	**Urakawa-nobuka**	**2.55**	**348**	P	Pn	10 38 54.1	+1.7
JNBK				*e*S	Sn	10 39 24.9	+1.9
JYK	**Kaneyama**	**2.55**	**251**	P	Pn	10 38 53.1	+0.7
JKB	**Kayabe**	**2.80**	**320**	P	Pn	10 38 58.0	+2.1
JMM	**Marumori**	**2.83**	**228**	P	Pn	10 38 55.3	-1.0
JMM				*e*S	Sn	10 39 27.1	-2.8
JCH	**Churui**	**2.83**	**359**	P	Pn	10 38 56.9	+0.5
JCH				*e*S	Sn	10 39 29.3	-0.8
MAT	**Matsushiro**	**5.25**	**234**	P	Pn	10 39 29.3	-1.3
MAT				*e*S	Sn	10 40 35.3	+4.2

*GUC **11** 10:45:46.7±0.8, 34.21S×72.34W, h30km, ML4.6*
*NEIC **11** 10:45:49.8±0.2, 34.15S×72.17W, mb4.4/20, Error ellipse: s-maj=5.4km s-min=4.6km az=134.0*
*IDC **11** 10:45:50.9±4.6, 34.18S×72.13W, h35km±36km, mb3.8/7, mb1 4.0/11, mb1mx3.9/19, mbtmp4.0/11, ML4.0/3, Error ellipse: s-maj=34.8km s-min=17.3km az=81.0*
ISC 11 10:45:47.6±0.3,34.20S±0.03×72.37W±0.03,h30km, h30km±1.2km:pP-P,n82,σ1°08/84,mb4.3/22,13C-10D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCCH	**Las Cruces**	**0.98**	**43**	⇑*iP*	**Pn**	**10 46 04.5**	**-1.0**
SFDO	**San Fernando**	**1.20**	**110**	⇑*iP*	**Pn**	**10 46 07.2**	**-1.3**
TACH	**Talagante**	**1.31**	**66**	⇑*iP*	**Pn**	**10 46 08.9**	**-1.4**
TACH				*i* S	**Sn**	**10 46 26.3**	**-0.5**
IHA	**Instituto Hidr**	**1.32**	**28**	⇑*iP*	**Pn**	**10 46 09.9**	**-0.4**
IHA				*e*S	**Sn**	**10 46 28.0**	**+0.9**
CHCH	**Chadas Angostu**	**1.45**	**80**	⇑*iP*	**Pn**	**10 46 11.2**	**-1.0**
CACH	**El Canelo**	**1.47**	**87**	⇓*iP*	**Pn**	**10 46 12.2**	**-0.3**
CACH				*i* S	**Sn**	**10 46 32.2**	**+1.3**
RCDM	**Rinconada Maip**	**1.48**	**62**	⇓*iP*	**Pn**	**10 46 11.6**	**-1.1**
RCDM				AMP		10 46 37.2	
	comp=E,7μm,0.4s						
CNCO	**Chanco**	**1.53**	**185**	⇓*iP*	**Pn**	**10 46 14.7**	**+1.3**
CNCO				AMP		10 46 54.7	
	comp=N,5μm,0.5s						
ANTU	**Antumapu**	**1.58**	**67**	⇑*iP*	**Pn**	**10 46 13.4**	**-0.6**
ANTU				*i* S	**Sn**	**10 46 33.5**	**-0.1**
ANTU				AMP		10 46 38.9	
	comp=E,13μm,0.5s						
SAN	**Santiago**	**1.61**	**63**	⇓*iP*	**Pn**	**10 46 14.0**	**-0.5**
SAN				*i* S	**Sn**	**10 46 34.1**	**-0.3**
SAN				AMP		10 46 40.3	
	comp=N,8μm,0.8s						
CICH	**Cipreses**	**1.62**	**95**	⇑*iP*	**Pn**	**10 46 14.1**	**-0.5**
CICH				*e*S	**Sn**	**10 46 35.4**	**+0.7**
STL	**Santa Lucia**	**1.63**	**63**	*eP*	**Pn**	**10 46 13.1**	**-1.6**
STL				*i* S	**Sn**	**10 46 33.8**	**-1.1**
PCH	**Pirque**	**1.65**	**70**	⇑*iP*	**Pn**	**10 46 14.3**	**-0.8**
PCH				*i* S	**Sn**	**10 46 36.0**	**+0.6**
ROCH	**El Roble**	**1.67**	**43**	⇑*iP*	**Pn**	**10 46 15.1**	**-0.2**
ROCH				*i* S	**Sn**	**10 46 37.8**	**+1.8**
DSCH	**Colegio Aleman**	**1.70**	**62**	⇓*iP*	**Pn**	**10 46 15.6**	**-0.2**
DSCH				*i* S	**Sn**	**10 46 36.7**	**0.0**
DSCH				AMP		10 46 42.9	
	comp=N,15μm,0.4s						
CLCH	**Cerro Calan**	**1.73**	**63**	⇓*iP*	**Pn**	**10 46 15.8**	**-0.3**
CLCH				*i* S	**Sn**	**10 46 37.8**	**+0.5**
CLCH				AMP		10 46 46.5	
	comp=N,9μm,0.3s						
CLCH				AMP		10 46 47.0	
	comp=N,11μm,0.5s						
PEL	**Peldehue**	**1.76**	**54**	⇓*iP*	**Pn**	**10 46 17.0**	**+0.4**
PEL				*i* S	**Sn**	**10 46 39.8**	**+1.7**
SJCH	**San Jose de Ma**	**1.77**	**72**	*eP*	**Pn**	**10 46 16.0**	**-0.7**
SJCH				*i* S	**Sn**	**10 46 39.3**	**+0.8**
SJCH				AMP		10 46 46.0	
	comp=N,5μm,0.7s						
LMEL	**Las Melosas**	**1.83**	**79**	⇓*iP*	**Pn**	**10 46 17.4**	**-0.3**
LMEL				*i* S	**Sn**	**10 46 41.7**	**+1.6**
LMEL				AMP		10 46 43.2	
	comp=N,11μm,0.3s						
FCH	**Farellones**	**1.94**	**64**	⇓*iP*	**Pn**	**10 46 19.0**	**-0.2**
FCH				*i* S	**Sn**	**10 46 43.9**	**+1.1**
FCH				AMP		10 46 48.2	
	comp=N,10μm,0.4s						
JACH	**Jahuel**	**2.12**	**45**	*eP*	**Pn**	**10 46 21.8**	**-0.1**
JACH				*i* S	**Sn**	**10 46 50.3**	**+2.9**
CCHI	**Chillan**	**2.41**	**174**	AMP		10 47 11.4	
	comp=N,5μm,0.5s						
CCHI				AMP		10 47 11.6	
	comp=N,8μm,0.6s						
MDZ	**Mendoza**	**3.22**	**67**	*i* P	**Pn**	**10 46 42.2**	**+4.7**
MDZ				*i*		10 46 46.2	
MDZ				*i* S	**Sn**	**10 47 21.2**	**+5.9**
CFAA	**Coronel Fontan**	**4.34**	**54**	Pn	**Pn**	**10 46 52.9**	**-0.4**
	comp=N,0.6nm,0.3s,baz=224,slow=12,SNR=22						
CFAA				Lg		10 47 54.0	
	comp=N,7.2nm,0.3s,baz=347,slow=16,SNR=9.2						
CFAA	**Coronel Fontan**	**4.34**	**54**	Pn	**Pn**	**10 46 52.9**	**-0.4**
CFAA				Lg		10 47 54.0	
PLCA	**Paso Flores**	**6.68**	**168**	Pn	**Pn**	**10 47 26.2**	**-0.2**
	comp=N,1.0nm,0.3s,baz=337,slow=12,SNR=25						
PLCA	**Paso Flores**	**6.68**	**168**	*ePn*	**Pn**	**10 47 26.1**	**-0.2**
	comp=N,22nm,0.9s						
LVC	**Limon Verde**	**11.94**	**16**	Sn	**S**	**10 50 51.6**	**-0.5**
	comp=N,1.0nm,0.3s,baz=190,slow=14,SNR=8.4						
CPUP	**Villa Florida**	**15.17**	**63**	Pn	**P**	**10 49 19.8**	**-1.7**
	comp=N,0.1nm,0.3s,baz=234,slow=16,SNR=3.2						
CPUP	**Villa Florida**	**15.17**	**63**	*eP*	**P**	**10 49 17.9**	**-3.6**
	comp=N,9.6nm,1.0s						
LPAZ	**La Paz**	**18.24**	**13**	P	**P**	**10 50 00.9**	**+0.5**
	comp=N,0.2nm,0.3s,baz=193,slow=6.9,SNR=19						
LPAZ	**La Paz**	**18.24**	**13**	*eP*	**P**	**10 49 59.8**	**-0.7**
	comp=N,7.4nm,0.7s						
SIV	**San Ignacio**	**20.79**	**32**	P	**P**	**10 50 26.7**	**-2.3**
	comp=N,7.1nm,0.9s,baz=212,slow=8.7,SNR=30						
SAML	**Samuel**	**26.52**	**21**	*eP*	**P**	**10 51 23.1**	**-1.5**
	comp=N,6.9nm,1.0s,mb4.1						
SDV	**Santo Domingo**	**42.88**	**3**	*eP*	**P**	**10 53 43.9**	**-1.4**
	comp=N,5.9nm,0.9s,mb4.3						
VNA3	**Neumayer Olymp**	**49.28 158**	*e*		**P**	**10 54 41.3**	**+6.1**
VNA3	**Neumayer Olymp**	**49.28 158**	*e*		pP	10 54 43.4	-1.0
VNA3	**Neumayer Olymp**	**49.28 158**	*e*		sP	10 54 53.8	+5.8
VNA3	**Neumayer Olymp**	**49.28 158**	⇑*iP*		**P**	**10 54 35.8**	**+0.6**
VNA3			*e*			10 54 41.3	
VNA3			*e*		pP	10 54 43.4	-1.0
VNA3			*e*			10 54 53.8	
VNA3			*e*			10 56 42.0	
VNA3			*e*			10 56 50.1	
VNA3			*e*			10 56 55.1	

VNA1	**Neumayer--Stat**	**49.60 157**	*e*		**P**	**10 54 43.2**	**+5.6**
VNA1	**Neumayer--Stat**	**49.60 157**	*e*		pP	10 54 45.4	-1.5
VNA1	**Neumayer--Stat**	**49.60 157**	*e*		sP	10 54 55.9	+5.5
VNA1	**Neumayer--Stat**	**49.60 157**	⇑*iP*		**P**	**10 54 38.2**	**+0.6**
VNA1			*e*			10 54 43.2	
VNA1			*e*			10 54 45.4	
VNA1			*e*			10 54 55.9	
VNA1			*e*			10 56 48.6	
VNA1			*e*			10 56 57.3	
VNA1			*e*			10 57 02.6	
VNA2	**Neumayer--Watz**	**49.93 157**	*e*		**P**	**10 54 46.6**	**+6.4**
VNA2	**Neumayer--Watz**	**49.93 157**	*e*		pP	10 54 48.5	-0.9
VNA2	**Neumayer--Watz**	**49.93 157**	*e*		sP	10 54 58.2	+5.2
VNA2	**Neumayer--Watz**	**49.93 157**	⇑*iP*		**P**	**10 54 40.7**	**+0.5**
VNA2			*e*			10 54 46.6	
VNA2			*e*		pP	10 54 48.5	-0.9
VNA2			*e*			10 54 58.2	
VNA2			*e*			10 56 48.1	
VNA2			*e*			10 56 56.0	
VNA2			*e*			10 57 01.3	
SNAA	**Sanae**	**51.50 158**	⇑*i*		**P**	**10 54 52.3**	**+0.2**
SNAA	**Sanae**	**51.50 158**	*e*		**P**	**10 54 57.9**	**+5.8**
SNAA	**Sanae**	**51.50 158**	*e*		pP	10 54 59.8	-1.6
SNAA	**Sanae**	**51.50 158**	*e*		sP	10 55 10.3	+5.4
SNAA	**Sanae**	**51.50 158**	P		**P**	**10 54 52.4**	**+0.3**
	comp=N,1.0nm,0.6s,mb3.9,baz=278,slow=7.6,SNR=27						
SNAA	**Sanae**	**51.50 158**	*eP*		**P**	**10 54 51.9**	**-0.2**
	comp=N,4.8nm,0.9s,mb4.4						
SNAA			*e*			10 54 57.9	
SNAA			*e*		pP	10 54 59.8	-1.6
SNAA			*e*			10 55 10.3	
SNAA			*e*			10 56 43.6	
SNAA			*e*			10 56 50.7	
SNAA			*e*			10 57 03.6	
SBA	**Scott Base**	**62.82 192**	P		**P**	**10 56 11.8**	**-0.5**
	comp=N,8.3nm,1.4s,mb4.7						
LTX	**Lajitas**	**69.78 331**	*eP*		**P**	**10 56 56.5**	**-0.6**
	comp=N,1.6nm,0.5s,mb4.2						
TXAR	**Lajitas Array**	**69.78 331**	P		**P**	**10 56 58.2**	**+1.1**
	comp=N,0.7nm,0.7s,mb3.7,baz=150,slow=8.8,SNR=11						
OXF	**Oxford**	**70.19 345**	*eP*		**P**	**10 56 58.3**	**-1.4**
	comp=N,13nm,1.0s,mb4.8						
PLAL	**Pickwick Lake**	**70.38 346**	*eP*		**P**	**10 56 60.0**	**-0.8**
	comp=N,7.7nm,1.0s,mb4.6						
PLAL			*e*pP		pP	10 57 10.8	+0.6
WVT	**Waverly**	**71.44 347**	*eP*		**P**	**10 57 06.7**	**-0.4**
	comp=N,14nm,0.8s,mb5.0						
WVT			*e*pP		pP	10 57 15.4	-1.2
WMOK	**Wichita Mounta**	**72.91 337**	P		**P**	**10 57 14.7**	**-1.1**
WMOK			pP		pP	10 57 25.5	+0.1
MAW	**Mawson**	**73.06 164**	P		**P**	**10 57 17.0**	**+0.8**
	comp=N,1.4nm,0.5s,mb4.2,baz=255,slow=6.5,SNR=4.3						
MAW	**Mawson**	**73.06 164**	*eP*		**P**	**10 57 16.8**	**+0.7**
	comp=N,4.4nm,0.9s,mb4.4						
ACSO	**Alum Creek Sta**	**74.71 352**	P		**P**	**10 57 25.1**	**-1.1**
	comp=N,7.3nm,0.7s,mb4.7						
ANMO	**Albuquerque**	**75.83 332**	*eP*		**P**	**10 57 34.0**	**+1.2**
	comp=N,1.9nm,1.0s,mb4.0						
SDCO	**Great Sand Dun**	**77.93 334**	*eP*		**P**	**10 57 45.7**	**+1.3**
	comp=N,1.5nm,0.8s,mb4.0						
SDCO			*e*pP		pP	10 57 56.3	+2.4
TSUM	**Tsumeb**	**79.42 106**	*eP*		**P**	**10 57 51.9**	**-0.9**
	comp=N,7.1nm,1.0s,mb4.5						
BOSA	**Boshof**	**80.22 118**	P		**P**	**10 57 57.2**	**+0.2**
	comp=N,2.9nm,1.1s,mb4.1,baz=253,slow=5.8,SNR=3.8						
BOSA	**Boshof**	**80.22 118**	P		**P**	**10 57 57.2**	**+0.2**
DAC	**Darwin (Calif)**	**81.83 325**	*eP*		**P**	**10 58 06.9**	**+1.7**
	comp=N,1.1nm,0.7s,mb3.9						
HWUT	**Hardware Ranch**	**83.59 332**	*eP*		**P**	**10 58 15.5**	**+1.3**
	comp=N,2.1nm,0.8s,mb4.3						
HWUT			*e*pP		pP	10 58 25.6	+1.7
PDAR	**Pinedale Array**	**83.82 333**	P		**P**	**10 58 17.0**	**+1.7**
	comp=N,0.4nm,0.6s,mb3.7,baz=153,slow=6.6,SNR=5.0						
NVAR	**Mina Array Bea**	**83.89 325**	P		**P**	**10 58 18.0**	**+2.2**
	comp=N,0.8nm,0.8s,mb3.9,baz=149,slow=5.2,SNR=9.5						
HLID	**Hailey**	**86.38 331**	*eP*		**P**	**10 58 30.0**	**+1.9**
	comp=N,2.2nm,1.1s,mb4.3						
HLID			*e*pP		pP	10 58 40.0	+2.3
MCMT	**McKenzie Canyo**	**86.82 332**	*eP*		**P**	**10 58 32.2**	**+2.0**
MCMT			*e*		pP	10 58 40.0	+0.2
MCMT			*e*pP		pP	10 58 42.1	+2.2
DGMT	**Dagmar**	**87.08 339**	P		**P**	**10 58 32.3**	**+0.9**
	comp=N,11nm,0.9s,mb5.1						
DGMT			*e*		pP	10 58 43.1	+2.0
WALA	**Waterton Lakes**	**90.77 334**	P		**P**	**10 58 47.1**	**-1.7**
	comp=N,2.1nm,0.8s,mb4.5						
MOX	**Moxa**	**112.10 43**	PP2			11 00 37.0	
WRA	**Warramunga Arr**	**120.45 209**	PKP		PKPdf	11 04 38.0	-3.8
	comp=N,0.3nm,0.5s,baz=157,slow=1.7,SNR=15						
ARCES	**ARCESS Array B**	**124.31 25**	PKP		PKPdf	11 04 44.4	-3.8
	comp=N,1.5nm,0.8s,baz=270,slow=4.9,SNR=3.5						
SARN	**Sarigan**	**141.68 253**	⇓*eP*		PKPdf	11 05 17.4	-4.4
SARN			*e*S			11 05 22.5	
BVAR	**Borovoye Array**	**147.62 43**	PKPbc		PKPdf	11 05 30.9	+0.1
	comp=N,1.9nm,0.5s,baz=315,slow=4.2,SNR=11						
MKAR	**Makanchi Array**	**157.10 49**	PKPab		PKPab	11 06 11.9	-0.8
	comp=N,0.6nm,0.7s,baz=284,slow=5.0,SNR=3.9						

*IDC **11** 10:48:03.3±0.7, 55.19S×129.10W, mb4.0/11, mb1 4.2/11, mb1mx4.1/19, mbtmp4.0/11, MS4.6/6, Ms1 4.6/6, ms1mx4.3/24, Error ellipse: s-maj=28.1km s-min=19.1km az=153.0*
*NEIC **11** 10:48:04.8±0.3, 55.24S×129.06W, h10km, mb4.8/11, Error ellipse: s-maj=16.0km s-min=10.6km az=148.0*
ISC 11 10:48:03.0±0.5,55.16S±0.10×129.1W±0.2,h10km,n50, σ1°09/30,mb4.3/17,MS4.6/6,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**31.42 201**	P		**P**	**10 54 28.6**	**+2.7**
RPN	**Rapa Nui**	**31.48 35**	P		**P**	**10 54 27.0**	**+0.1**
	171nm,0.9s						
VNDA	**Vanda**	**32.44 202**	P		**P**	**10 54 34.7**	**-0.1**
	0.6nm,0.6s,mb3.6,baz=90,slow=7.4,SNR=2.0						
VNDA	**Vanda**	**32.44 202**	*eP*		**P**	**10 54 34.1**	**-0.7**
	2.7nm,0.9s,mb4.1						
RPZ	**Rata Peaks**	**39.39 261**	LR		LR	11 07 22.7	
	comp=Z,2μm,20.5s,MS4.9,baz=301,slow=29						
URZ	**Urewera**	**39.49 272**	LR		LR	11 07 53.5	
	comp=Z,1μm,20.3s,MS4.7,baz=164,slow=30						
PLCA	**Paso Flores**	**40.53 94**	P		**P**	**10 55 43.4**	**-0.2**
	6.9nm,1.2s,mb4.2						
PPT	**Papeete**	**40.68 329**	LR		LR	11 08 37.9	
	comp=Z,936nm,18.4s,MS4.7,baz=88,slow=30						
VNA3	**Neumayer Olymp**	**46.86 157**	*e*		**P**	**10 56 33.9**	**-0.4**
VNA2	**Neumayer--Watz**	**47.59 158**	*e*		**P**	**10 56 40.1**	**0.0**
VNA1	**Neumayer--Stat**	**47.61 157**	*e*		**P**	**10 56 41.8**	**+1.6**
SNAA	**Sanae**	**47.96 160**	*e*		**P**	**10 56 43.6**	**+0.6**
SNAA	**Sanae**	**47.96 160**	*e*		**P**	**10 56 50.7**	**+7.7**
SNAA	**Sanae**	**47.96 160**	P		**P**	**10 56 42.8**	**-0.3**
	0.8nm,0.8s,mb3.8,baz=242,slow=4.5,SNR=3.6						
CFAA	**Coronel Fontan**	**48.27 87**	P		**P**	**10 56 45.9**	**0.0**
	0.1nm,0.3s,mb3.3,baz=233,slow=7.2,SNR=4.2						
CASY	**Casey**	**50.84 207**	P		**P**	**10 56 59.2**	**-5.9**
	5.7nm,1.0s,mb4.5						
AFI	**Afiamalu**	**52.76 304**	LR		LR	11 15 58.8	
	comp=Z,216nm,19.9s,MS4.2,baz=72,slow=32						
LVC	**Limon Verde**	**54.77 79**	P		**P**	**10 57 35.1**	**+0.1**
	1.3nm,0.5s,mb4.2,baz=222,slow=7.0,SNR=3.1						
LVC	**Limon Verde**	**54.77 79**	*eP*		**P**	**10 57 34.5**	**-0.5**
	28nm,1.3s,mb5.1						
LVC			*e*			10 57 43.2	
MAW	**Mawson**	**57.23 185**	P		**P**	**10 57 52.5**	**+0.4**
	2.3nm,0.7s,mb4.3,baz=207,slow=11,SNR=2.6						
MAW	**Mawson**	**57.23 185**	*eP*		**P**	**10 57 52.0**	**-0.1**
	6.8nm,1.0s,mb4.6						
CPUP	**Villa Florida**	**58.49 92**	P		**P**	**10 58 00.6**	**-1.0**
	2.2nm,1.0s,mb4.1,baz=259,slow=10,SNR=4.2						
CPUP	**Villa Florida**	**58.49 92**	P		**P**	**10 57 59.8**	**-1.7**
	10nm,1.1s,mb4.8						
LPAZ	**La Paz**	**60.27 75**	P		**P**	**10 58 14.3**	**+0.4**
	4.2nm,1.0s,mb4.4,baz=201,slow=5.2,SNR=14						
LPAZ	**La Paz**	**60.27 75**	*eP*		**P**	**10 58 13.9**	**0.0**
	37nm,1.3s,mb5.3						
LPAZ			*e*			10 58 22.4	
STKA	**Stephens Creek**	**64.14 251**	LR		LR	11 20 36.3	
	comp=Z,670nm,19.7s,MS4.8,baz=311,slow=30						
SIV	**San Ignacio**	**64.47 81**	P		**P**	**10 58 40.6**	**-1.3**
	4.2nm,0.9s,mb4.5,baz=222,slow=7.7,SNR=13						
CTA	**Charters Tower**	**70.75 262**	LR		LR	11 22 24.9	
	comp=Z,326nm,21.6s,MS4.5,baz=32,slow=29						
CTAO	**Charters Tower**	**70.75 262**	*eP*		**P**	**10 59 20.9**	**-0.3**
	12nm,1.3s,mb4.7						

JTS	**JuntasAbangare**	**74.93 45**	P		**P**	**10 59 47.4**	**+1.5**
	20nm,1.2s,mb4.9						
JTS			*e*			10 59 54.6	
WRA	**Warramunga Arr**	**77.54 253**	P		**P**	**10 59 59.5**	**-1.1**
	2.6nm,0.9s,mb4.2,baz=143,slow=5.4,SNR=27						
WRAB	**Tennant Creek**	**77.54 253**	*eP*		**P**	**10 59 59.2**	**-1.3**
	6.6nm,0.9s,mb4.6						
WRAB			*e*			11 00 07.9	
SDV	**Santo Domingo**	**80.15 59**	*eP*		**P**	**11 00 13.4**	**-1.5**
	14nm,1.6s,mb4.6						
SDV			*e*			11 00 21.2	
TXAR	**Lajitas Array**	**86.94 22**	P		**P**	**11 00 51.5**	**+2.4**
	0.3nm,0.7s,mb3.6,baz=217,slow=4.5,SNR=5.5						
TXAR	**Lajitas Array**	**86.94 22**	P		**P**	**11 00 51.5**	**+2.4**
ANMO	**Albuquerque**	**91.83 18**	P		**P**	**11 01 13.2**	**+1.2**
	0.9nm,0.9s,mb4.1,baz=211,slow=5.5,SNR=3.2						
ILAR	**Eielson Array**	**120.39 351**	PKP		PKPdf	11 06 54.9	-1.7
	0.5nm,0.5s,baz=206,slow=2.1,SNR=16						
INK	**Inuvik**	**123.20 358**	PKP		PKPdf	11 07 00.7	-1.2
	0.5nm,0.5s,baz=90,slow=1.0,SNR=5.5						
SJPF	**Ste Jean**	**144.64 88**	*e*PKP1		PKPbc	11 07 41.4	+2.6
	77nm,1.4s						
ETSF	**Etsaut**	**144.89 89**	*e*PKP1		PKPbc	11 07 40.3	+0.8
	25nm,1.2s						
EPF	**Esparros**	**145.49 89**	*e*PKP1		PKPbc	11 07 43.3	+2.3
	11nm,0.8s						
SONM	**Songino Array**	**145.52 281**	PKPbc		PKPbc	11 07 42.2	+1.2
	1.4nm,0.7s,baz=111,slow=2.0,SNR=6.9						
QUIF	**Quistinic**	**146.34 79**	*e*PKP1		PKPbc	11 07 43.7	+0.8
	13nm,0.9s						
ROSF	**Rostrenen**	**146.51 79**	*e*PKP1		PKPbc	11 07 45.0	+1.7
	15nm,1.0s						
SGMF	**Saint Gilles**	**146.87 79**	*e*PKP1		PKPbc	11 07 45.0	+0.9
	12nm,0.8s						
GRR	**Gorron**	**147.90 80**	*e*PKP1		PKPdf	11 07 48.4	+1.1
TCF	**Toulx Ste Croi**	**148.50 86**	*e*PKP1		PKPdf	11 07 51.0	+2.7
SSF	**Saint Saulge**	**149.67 85**	*e*PKP1		PKPdf	11 07 52.2	+2.0
TIP	**Timpagrande**	**152.17 111**	*e*PKPbc		PKPdf	11 08 04.9	+11
BRTR	**Keskin Array B**	**160.71 136**	PKPab		PKPab	11 08 47.4	+1.0
	0.5nm,0.4s,baz=180,slow=4.3,SNR=3.1						

IDC 11 10:58:13.5±1.3,16.58N×146.38E,mb3.6/7,mb1 3.8/7, mb1mx3.7/21,mbtmp3.6/7,Error ellipse: s-maj=38.8km s-min=26.6km az=99.0,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**21.16 342**	P		P	11 02 58.6	-4.0
	2.3nm,0.9s,baz=168,slow=9.2,SNR=6.0						
WRA	**Warramunga Arr**	**38.18 199**	P		P	11 05 34.6	-2.1
	1.0nm,1.0s,baz=13,slow=9.6,SNR=5.2						
SONM	**Songino Array**	**45.20 322**	P		P	11 06 33.8	-0.2
	0.7nm,0.6s,baz=135,slow=6.1,SNR=4.4						
MKAR	**Makanchi Array**	**60.40 315**	P		P	11 08 24.0	-3.0
	0.4nm,0.8s,baz=74,slow=10,SNR=2.4						
ILAR	**Eielson Array**	**65.25 26**	P		P	11 08 56.7	-2.2
	0.4nm,1.0s,baz=259,slow=4.6,SNR=4.1						
BVAR	**Borovoye Array**	**68.52 321**	P		P	11 09 18.8	-0.9
	1.0nm,0.6s,baz=90,slow=7.4,SNR=5.4						
INK	**Inuvik**	**71.06 23**	P		P	11 09 32.8	-2.3
	0.6nm,0.8s,baz=315,slow=2.9,SNR=3.8						

*IDC **11** 11:04:20.6±1.1, 3.61N×126.65E, mb4.1/6, mb1 4.3/6, mb1mx4.0/19, mbtmp4.1/6, Error ellipse: s-maj=92.6km s-min=15.0km az=71.0*
*NEIC **11** 11:04:26.3±0.6, 3.52N×126.30E, h35km, mb4.4/4, Error ellipse: s-maj=41.5km s-min=10.9km az=69.0*
**ISC 11 11:04:24.1±0.6,3.6N±0.1×126.2E±0.3,h33km,n15,

VNA1 e 11 45 30.8
VNA1 e 11 46 38.4
VNA1 e 11 46 47.0
VNA1 e 11 47 05.1
SNAA Sanae 47.98 160 e P **11 45 19.1 +7.2**
SNAA Sanae 47.98 160 e P **11 45 31.0 +19**
SNAA Sanae 47.98 160 P P **11 45 11.2 -0.7**
0.7nm,0.7s,mb3.8,baz=229,slow=8.3,SNR=19
SNAA Sanae 47.98 160⇑ iP P **11 45 10.9 -1.0**
SNAA e 11 45 19.1
SNAA e 11 45 31.0
SNAA e 11 46 40.1
SNAA e 11 46 47.6
SNAA e 11 47 04.9
CFAA Coronel Fontan 48.34 87 P P **11 45 14.2 -1.0**
0.3nm,0.7s,baz=214,slow=7.8,SNR=5.3
TAU Tasmania Unive 52.87 246 P P **11 45 49.6 +0.1**
168nm,1.4s,mb5.8
LVC Limon Verde 54.84 79 eP P **11 46 03.6 -0.8**
16nm,1.0s,mb5.0
LVC e 11 46 10.6
SYO Syowa Base 55.85 175⇑P P **11 46 09.0 -2.0**
SYO Syowa Base 55.85 175⇑pP pP 11 46 12.3 -1.8
MAW Mawson 57.21 185 P P **11 46 20.2 -0.5**
3.0nm,0.8s,mb4.4,baz=172,slow=14,SNR=5.2
MAW Mawson 57.21 185 eP P **11 46 20.3 -0.4**
5.3nm,0.8s,mb4.6
CPUP Villa Florida 58.57 92 P P **11 46 29.9 -0.9**
2.1nm,0.7s,mb4.3,baz=238,slow=9.5,SNR=4.4
CPUP LR LR 12 08 12.3
comp=Z,1μm,18.4s,MS5.1,baz=149,slow=32
CPUP Villa Florida 58.57 92 P P **11 46 30.2 -0.6**
5.6nm,0.8s,mb4.7
LPAZ La Paz 60.35 75 P P **11 46 43.2 0.0**
9.0nm,1.2s,mb4.7,baz=209,slow=5.6,SNR=18
LPAZ LR LR 12 06 47.7
comp=Z,281nm,19.1s,MS4.4,baz=38,slow=30
LPAZ La Paz 60.35 75 eP P **11 46 43.1 -0.1**
33nm,1.1s,mb5.3
LPAZ e 11 46 50.8
STKA Stephens Creek 64.07 251 eP P **11 47 07.7 -0.2**
CTAO Charters Tower 70.67 263 eP P **11 47 49.0 -0.6**
12nm,1.1s,mb4.7
CTAO e 11 47 57.4
BDFB Brasilia 72.30 92 P P **11 47 58.9 -0.5**
2.3nm,0.7s,mb4.2,baz=135,slow=5.7,SNR=2.7
BDFB LR LR 12 15 45.5
comp=Z,974nm,21.0s,MS5.0,baz=210,slow=32
ROSC El Rosal 74.93 58 P P **11 48 15.4 +0.6**
2.8nm,0.4s,mb4.6,baz=97,slow=19,SNR=6.3
ROSC LR LR 12 14 41.2
comp=Z,467nm,20.4s,MS4.8,baz=199,slow=30
JTS JuntasAbangare 74.99 45 P P **11 48 14.8 -0.3**
34nm,1.5s,mb5.0
WB2 Warramunga Arr 77.46 253 eP P **11 48 28.2 -0.6**
WB2 i 11 48 37.2
WRA Warramunga Arr 77.46 253 P P **11 48 28.1 -0.8**
4.4nm,0.7s,mb4.5,baz=143,slow=5.0,SNR=53
WRAB Tennant Creek 77.46 253 eP P **11 48 28.3 -0.6**
32nm,1.0s,mb5.2
WRAB e 11 48 37.2
SDV Santo Domingo 80.22 59 P P **11 48 42.1 -1.9**
9.6nm,1.3s,mb4.6
SDV e 11 48 49.5
FITZ Fitzroy Crossi 83.67 247 eP P **11 49 01.6 -0.2**
17nm,0.9s,mb5.2
FITZ i 11 49 10.8
MBWA Marble Bar 84.17 241 eP P **11 49 04.3 0.0**
16nm,1.1s,mb5.1
KAKA Kakadu 84.39 256 eP P **11 49 14.5 +9.0**
15nm,1.0s,mb5.1
TXAR Lajitas Array 86.98 22 P P **11 49 19.7 +1.6**
1.4nm,0.9s,mb4.2,baz=194,slow=6.3,SNR=9.7
TUC Tucson 88.56 16 eP P **11 49 26.0 +0.4**
10nm,1.4s,mb5.0
MNTX Cornudas Mount 88.91 20 eP P **11 49 27.9 +0.6**
6.2nm,1.2s,mb4.8
JCT Junction City 88.97 25 eP P **11 49 26.5 -1.1**
16nm,1.3s,mb5.2
GDL2 Guadalupe Moun 89.60 21 eP P **11 49 30.8 +0.2**
ISA Isabella 90.94 9 P P **11 49 36.6 0.0**
BNM Barren Site 91.06 19 eP P **11 49 38.1 +0.8**
LPM Los Pinos Moun 91.21 19 eP P **11 49 39.2 +1.3**
LPM e 11 49 46.7
NEN Nelson 91.30 12 eP P **11 49 39.4 +1.1**
NEN e 11 49 46.5
ANMO Albuquerque 91.86 19 eP P **11 49 41.8 +0.9**
8.3nm,1.0s,mb5.0
ANMO e 11 49 49.3
ILAR Eielson Array 120.39 351 PKP PKPdf 11 55 22.6 -2.7
1.7nm,0.6s,baz=206,slow=1.9,SNR=31
MDJ Mudanjiang 130.76 292 PKP PKPdf 11 55 44.6 -1.1
KMI Kunming 131.79 253 PKP PKPdf 11 55 47.4 -0.8
KMI XPKP 11 55 52.5
KMI LR LR
comp=Z,478nm,18.6s,MS5.2
CN2 Changchun 132.44 289 ePKP PKPdf 11 55 45.5 -3.5
CN2 ePP PP 11 58 13.6 +0.5
CN2 LR LR
comp=N,390nm,19.0s,MS5.3
CN2 LR LR
comp=E,380nm,19.0s,MS5.3
CN2 LR LR
comp=Z,400nm,25.0s
HHC Hu-ho-hao-te 138.26 276 ePKP PKPdf 11 55 55.6 -4.1
HHC PKS PKS 11 59 30.4 -1.2
HHC SKS SKS 12 03 05.2 -4.3
HHC LR LR
comp=N,2μm,21.0s,MS5.9
HHC LR LR
comp=E,732nm,20.0s,MS5.9
LZH Lanzhou 139.43 264 ePKP PKPdf 11 55 57.0 -5.0
LZH XPKP 11 56 02.0
LZH PP PP 11 58 56.0 -1.3
LZH PP PP
comp=Z,336nm,7.8s
LZH LR LR
comp=E,472nm,18.5s
LZH LR LR
comp=Z,692nm,20.0s,MS5.4
GTA Gaotai 144.03 265 PKP PKPdf 11 56 07.1 -2.7
GTA APKP 11 56 10.9
GTA XPKP 11 56 13.7
GTA PP PP 11 59 25.2 +0.5
GTA PPP PPP 12 02 35.7 -2.1
GTA SKS SKS 12 03 15.7 -2.8
GTA PP PP
comp=Z,295nm,5.7s
GTA LR LR
comp=N,494nm,21.3s
GTA LR LR
comp=E,629nm,14.8s
GTA LR LR
comp=Z,479nm,15.6s
SJPF Ste Jean 144.72 88 ePKP1 PKPbc 11 56 10.1 +2.3
comp=Z,74nm,1.4s
ETSF Etsaut 144.97 89 ePKP1 PKPbc 11 56 09.0 +0.5
SONM Songino Array 145.45 281 PKPbc PKPbc 11 56 10.9 +1.4
comp=Z,3.3nm,0.7s,baz=132,slow=2.9,SNR=22
EPF Esparros 145.56 89 ePKP1 PKPbc 11 56 12.0 +2.0
QUIF Quistinic 146.42 80 ePKP1 PKPbc 11 56 11.9 0.0
comp=Z,29nm,1.2s
ROSF Rostrenen 146.59 79 ePKP1 PKPbc 11 56 13.5 +1.2
comp=Z,43nm,1.2s
SGMF Saint Gilles 146.95 79 ePKP1 PKPbc 11 56 13.3 +0.2
comp=Z,54nm,1.3s
LFF La Frestale 146.95 87 ePKP1 PKPbc 11 56 13.3 +0.1
CAF Calviac 147.70 88 ePKP1 PKPdf 11 56 15.8 -0.1
comp=Z,76nm,1.5s
GRR Gorron 147.98 80 ePKP1 PKPdf 11 56 16.6 +0.4
comp=Z,52nm,1.4s
LASF Ste Croix 148.22 91 ePKP1 PKPdf 11 56 15.8 -0.9
comp=Z,52nm,1.5s
TCF Toulx Ste Croi 148.57 86 ePKP1 PKPdf 11 56 18.7 +1.5
comp=Z,54nm,1.4s
SMF Signal de Mont 149.71 87 ePKP1 PKPdf 11 56 21.7 +2.7
comp=Z,42nm,1.3s
SSF Saint Saulge 149.75 86 ePKP1 PKPdf 11 56 20.5 +1.4
comp=Z,20nm,1.2s
ESK Eskdalemuir 149.87 67 ePKPbc PKPdf 11 56 20.4 +1.4
LOR Lormes 150.06 86 ePKP1 PKPdf 11 56 23.1 +3.5
comp=Z,32nm,1.2s
LPG La Plagne 150.73 91 ePKP1 PKPdf 11 56 25.0 +4.4
HINF Hinteralfeld 152.07 87 ePKP1 PKPdf 11 56 27.4 +4.8
comp=Z,16nm,0.9s

TIP Timpagrande 152.23 111 ePKPdf PKPdf 11 56 22.1 -0.9
WMQ Urumqi 153.79 260 ePKP PKPdf 11 56 26.0 +0.9
WMQ PP PP 12 00 26.0 +4.9
WMQ SKS SKS 12 03 32.0 +0.7
WMQ PP PP
comp=Z,112nm,10.0s
WMQ LR LR
comp=N,311nm,22.0s,MS5.2
WMQ LR LR
comp=E,268nm,22.0s,MS5.2
WMQ LR LR
comp=Z,258nm,22.0s,MS5.0
GRA1 Grafenberg Arr 155.51 86 ePKP PKPdf 11 56 26.6 -0.6
GRF Grafenberg Arr 155.51 86 ePKP PKPdf 11 56 26.6 -0.6
GERES GERESS Array B 156.52 90 PKP PKPdf 11 56 28.3 -0.2
comp=Z,0.4nm,0.2s,baz=169,slow=6.8,SNR=3.7
CLL Collm 157.25 84 i PKP PKPdf 11 56 38.1 +8.7
MKAR Makanchi Array 158.62 260 PKPab PKPab 11 57 05.1 -0.8
comp=Z,2.8nm,0.7s,baz=120,slow=4.7,SNR=15
ZAL Zalesovo 160.35 280 PKPab PKPab 11 57 12.9 -0.2
comp=Z,1.5nm,0.8s,baz=355,slow=8.3,SNR=8.9
BRTR Keskin Array B 160.76 136 PKPab PKPab 11 57 16.2 +0.8
comp=Z,1.8nm,0.8s,baz=184,slow=5.9,SNR=6.2
AKASG Malin Array Be 166.26 100 PKPab PKPab 11 57 39.0 +0.1
comp=Z,0.2nm,0.3s,baz=250,slow=4.3,SNR=3.5
BVAR Borovoye Array 168.30 267 PKPab PKPab 11 57 47.1 -0.7
comp=Z,1.7nm,0.9s,baz=162,slow=4.7,SNR=9.0

GCG ***11*** *11:38:00.4, 14.22N×92.09W, h2km, MD4.2*
SSS ***11*** *11:38:12.0, 14.45N×92.29W, h50km, MD4.5*
CASC 11 11:38:01.6±1.9, 14.68N×92.17W, h71km±31km, MD3.9, 5C-3D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**1.30**	**100**⇑	iP	P	11 38 24.5	0.0
PCG	**Pacaya**	**1.54**	**101**	eS	S	11 38 48.6	+1.8
IXG	**Ixpaco**	**1.73**	**107**⇑	eP	P	11 38 30.3	0.0
IXG				eS	S	11 38 52.0	+0.6
MRL	**Marmol**	**2.42**	**81**⇑	iP	P	11 38 40.7	+0.8
MRL				eS	S	11 39 08.4	0.0
RBDL	**Robledal**	**2.47**	**103**⇑	eP	P	11 38 51.9	+11
RBDL				eS	S	11 39 21.9	+12
RTR	**El Retiro**	**2.57**	**107**⇓	eP	P	11 38 53.1	+11
RTR				eS	S	11 39 24.4	+12
SBLS	**San Blas**	**2.61**	**108**⇓	eP	P	11 38 53.5	+11
SBLS				eS	S	11 39 26.4	+13
SNJE	**San Jose**	**2.61**	**108**⇓	eP	P	11 38 53.7	+11
SNJE				eS	S	11 39 25.3	+12
LFRS	**El Faro**	**3.19**	**109**⇑	eP	P	11 39 01.4	+11
LFRS				eS	S	11 39 39.9	+12

IDC ***11*** *11:50:49.9±0.5, 21.90S×170.32E, mb4.8/15, mb1 5.0/18, mb1mx4.9/20, mbtmp4.8/18, ML4.1/2, MS5.2/22, Ms1 5.2/22, ms1mx5.2/24, Error ellipse: s-maj=16.6km s-min=15.8km az=90.0*
LDG ***11*** *11:50:51.9±0.2, 21.40S×170.38E, h10km, Mb5.3/4, Ms5.2/8, Error ellipse: s-maj=29.3km s-min=12.8km az=20.0*
BJI ***11*** *11:50:51.4, 21.65S×169.96E, h10km, mB5.5, mb5.1, Ms5.4, Msz5.1*
HRVD ***11*** *11:50:51.4±0.2, 22.04S×170.25E, h12km, MW5.6/72, Centroid moment Tensor Solution. LP body waves: s51,c103;Mantle waves: s72,c223; Half duration: 1s6 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.81±.06; $M_{\theta\theta}$0.91±.06; $M_{\phi\phi}$0.90±.06; $M_{r\theta}$0.33±.18; $M_{\theta\phi}$3.38±.05; $M_{\phi r}$-0.12±.18; Best double couple: $M_0$3.445×10^{17} NP1: ϕ_s2°,δ74°,λ-165°. NP2:ϕ_s268°,δ76°,λ-17°. Principal axes: T 4.287, Plg1°, Azm315°; N -1.686, Plg68°, Azm48°; P -2.603, Plg22°, Azm225°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***11*** *11:50:51.4±0.2, 21.90S×170.28E, h10km, mb5.3/37, MS5.6/9 Error ellipse: s-maj=6.0km s-min=5.3km az=104.0*
CSEM ***11*** *11:50:54.9, 22.45S×169.90E, h33km, mb5.5*
MOS ***11*** *11:50:54.6±1.2, 22.49S×171.10E, h33km, mb5.5/20, MS5.4/16, Error ellipse: s-maj=17.0km s-min=13.3km az=70.3*
BGS ***11*** *11:50:55.0±3.6, 21.90S×170.28E, h10km*
ISC 11 11:50:51.9±0.2, 21.98S±0.04×170.26E±0.04, h22km, h22km±2.7km; pP-P, n354, σ1§12/159, mb5.2/66, MS5.3/46, 28C-16D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.54**	**268**	eP	**Pn**	**11 51 45.9**	**-1.0**
DZM	**Mont Dzumac**	**3.54**	**268**	Pn	**Pn**	**11 51 45.8**	**-1.1**
DZM	37nm,0.3s,baz=87,slow=18,SNR=204			Sn	**Sn**	**11 52 28.0**	**-0.6**
	63nm,0.3s,baz=38,slow=7.5,SNR=6.7						
DZM	**Mont Dzumac**	**3.54**	**268**	eP	**Pn**	**11 51 45.9**	**-1.0**
RAO	**Raoul Island**	**12.89**	**127**	LR	LR	11 57 47.6	
	comp=Z,34μm,20.4s,baz=118,slow=32						
WCZ	**Waipu Caves**	**14.36**	**167**	PN	**P**	**11 54 21.2**	**+5.2**
WCZ	**Waipu Caves**	**14.36**	**167**	eP	**P**	**11 54 21.2**	**+5.2**
HNR	**Honiara**	**15.93**	**320**	LR	LR	11 59 44.0	
	comp=Z,10μm,21.6s,baz=134,slow=34						
URZ	**Urewera**	**17.26**	**162**	P	**P**	**11 54 53.2**	**0.0**
	0.3nm,0.3s,baz=316,slow=6.5,SNR=6.8						
URZ				LR	LR	12 00 18.7	
	comp=Z,15μm,19.3s,baz=345,slow=33						
BKZ	**Black Stump Fm**	**17.94**	**164**	PN	**P**	**11 55 03.8**	**+2.1**
BKZ	**Black Stump Fm**	**17.94**	**164**	eP	**P**	**11 55 03.8**	**+2.1**
AFI	**Afiamalu**	**18.87**	**68**	P	**P**	**11 55 11.5**	**-1.7**
	3.7nm,0.3s,baz=327,slow=18,SNR=5.3						
AFI				LR	LR	12 00 11.8	
	comp=Z,2μm,19.3s,baz=235,slow=30						
AFI	**Afiamalu**	**18.87**	**68**	P	**P**	**11 55 07.9**	**-5.3**
	247nm,1.2s						
AFI				LR	LR	12 00 11.8	
AFI	**Afiamalu**	**18.87**	**68**	P	**P**	**11 55 07.9**	**-5.3**
AFI				pmax	pmax		
	comp=Z,250nm,1.2s						
MRZ	**Mangatainoka R**	**19.16**	**168**	P*	**P**	**11 55 15.7**	**-0.9**
MRZ	**Mangatainoka R**	**19.16**	**168**	eP	**P**	**11 55 15.7**	**-0.8**
THZ	**Tophouse**	**19.85**	**174**	P*	**P**	**11 55 23.7**	**-0.6**
THZ	**Tophouse**	**19.85**	**174**	eP	**P**	**11 55 23.7**	**-0.6**
RIV	**Riverview**	**20.56**	**231**	eP	**P**	**11 55 32.7**	**+0.9**
KHZ	**Kahutara**	**20.56**	**173**	P*	**P**	**11 55 30.4**	**-1.3**
KHZ	**Kahutara**	**20.56**	**173**	eP	**P**	**11 55 30.4**	**-1.3**
LTZ	**Lake Taylor**	**20.81**	**176**	P*	**P**	**11 55 35.2**	**+0.9**
LTZ	**Lake Taylor**	**20.81**	**176**	P	**P**	**11 55 35.2**	**+0.9**
RPZ	**Rata Peaks**	**21.69**	**178**	P	**P**	**11 55 44.0**	**+0.8**
	comp=Z,41nm,0.8s,mb4.9,baz=82,slow=6.1,SNR=8.2						
RPZ				LR	LR	12 03 02.5	
	comp=Z,4μm,19.4s,MS4.8,baz=351,slow=34						
RPZ	**Rata Peaks**	**21.69**	**178**	P*	**P**	**11 55 43.0**	**-0.2**
RPZ	**Rata Peaks**	**21.69**	**178**	eP	**P**	**11 55 43.0**	**-0.2**
CTA	**Charters Tower**	**22.48**	**270**	eP	**P**	**11 55 52.7**	**+1.5**
	comp=Z,44nm,1.7s,mb4.6						
CTA	**Charters Tower**	**22.48**	**270**	P	**P**	**11 55 52.5**	**+1.2**
	comp=Z,20nm,0.9s,mb4.6,baz=92,slow=11,SNR=17						
CTA				LR	LR	12 04 02.3	
	comp=Z,10μm,18.1s,MS5.3,baz=93,slow=35						
CTAO	**Charters Tower**	**22.48**	**270**	eP	**P**	**11 55 51.9**	**+0.7**
	comp=Z,182nm,1.4s,mb5.3						
CTAO	**Charters Tower**	**22.48**	**270**	eP	**P**	**11 55 51.9**	**+0.7**
CTAO				pmax	pmax		
	comp=Z,180nm,1.4s,mb5.3						
CNB	**Canberra Magne**	**22.59**	**229**	eP	**P**	**11 55 55.1**	**+2.9**
	comp=Z,163nm,1.2s,mb5.3						
PMG	**Port Moresby**	**25.46**	**296**	P	**P**	**11 56 20.3**	**+0.1**
	comp=Z,42nm,1.0s,mb4.9,baz=111,slow=10,SNR=8.5						
PMG				LR	LR	12 05 02.4	
	comp=Z,10μm,19.6s,MS5.4,baz=106,slow=34						
PMG	**Port Moresby**	**25.46**	**296**	eP	**P**	**11 56 19.3**	**-0.9**
	comp=Z,50nm,0.9s,mb5.0						
PMG	**Port Moresby**	**25.46**	**296**	i P	**P**	**11 56 20.0**	**-0.2**
TOO	**Toolangi**	**26.41**	**228**	eP	**P**	**11 56 30.0**	**+1.2**
	comp=Z,30nm,1.4s,mb4.6						
STKA	**Stephens Creek**	**27.32**	**243**	P	**P**	**11 56 37.5**	**+0.3**
	comp=Z,44nm,1.0s,mb5.0,baz=85,slow=11,SNR=30						
STKA				LR	LR	12 06 25.5	
	comp=Z,8μm,21.5s,MS5.3,baz=70,slow=34						
STKA	**Stephens Creek**	**27.32**	**243**	eP	**P**	**11 56 37.1**	**0.0**
RAR	**Rarotonga**	**27.86**	**94**	P	**P**	**11 56 40.1**	**-2.0**
	comp=Z,40nm,1.3s,mb4.9						
RAR	**Rarotonga**	**27.86**	**94**	P	**P**	**11 56 40.1**	**-2.0**

RAR pmax pmax
comp=Z,41nm,1.2s
MOO Moorlands 28.08 218 eP **P** **11 56 45.1 +1.2**
comp=Z,112nm,1.2s,mb5.4
TAU Tasmania Unive 28.30 217 P **P** **11 56 46.2 +0.3**
comp=Z,129nm,1.4s,mb5.4
TAU Tasmania Unive 28.30 217 P **P** **11 56 46.2 +0.3**
TAU pmax pmax
comp=Z,130nm,1.3s,mb5.4
WB2 Warramunga Arr 33.55 267 eP **P** **11 57 30.6 -1.8**
WRAB Tennant Creek 33.55 267 eP **P** **11 57 30.2 -2.2**
comp=Z,99nm,1.3s,mb5.6
WRAB Tennant Creek 33.55 267 i P **P** **11 57 31.2 -1.3**
WRA Warramunga Arr 33.56 267 P **P** **11 57 30.8 -1.8**
comp=Z,10nm,0.8s,mb4.8,baz=100,slow=8.5,SNR=85
KAKA Kakadu 37.17 278 eP **P** **11 58 11.2 +7.9**
comp=Z,110nm,1.2s,mb5.6
PPT Papeete 37.98 91 LR LR 12 10 07.2
comp=Z,1μm,20.0s,MS4.8,baz=256,slow=30
FORT Forrest 38.62 248 eP **P** **11 58 15.7 +0.3**
comp=Z,72nm,1.1s,mb5.3
FITZ Fitzroy Crossi 41.99 267 eP **P** **11 58 43.2 -0.1**
comp=Z,80nm,1.0s,mb5.3
FITZ Fitzroy Crossi 41.99 267 LR LR 12 16 26.5
comp=Z,10μm,18.7s,MS5.7,baz=97,slow=36
MBWA Marble Bar 46.82 261 eP **P** **11 59 21.4 -0.8**
comp=Z,46nm,0.9s,mb5.4
KLBR Kellerberrin 47.46 247 eP **P** **11 59 25.6 -1.5**
comp=Z,126nm,1.5s,mb5.6
NWAO Narrogin (SRO) 47.87 245 LR LR 12 18 11.4
comp=Z,8μm,21.3s,MS5.7,baz=88,slow=34
NWAO Narrogin (SRO) 47.87 245 eP **P** **11 59 28.8 -1.4**
comp=Z,112nm,1.5s,mb5.7
NWAO Narrogin (SRO) 47.87 245 eP **P** **11 59 28.8 -1.5**
NWAO pmax pmax
comp=Z,110nm,1.5s
MUN Mundaring 48.76 246 eP **P** **11 59 37.5 +0.3**
comp=Z,24nm,1.3s,mb5.1
VNDA Vanda 55.74 182 P **P** **12 00 28.1 -0.7**
comp=Z,2.6nm,0.7s,mb4.4,baz=356,slow=5.9,SNR=11
VNDA LR LR 12 21 23.0
comp=Z,2μm,19.8s,MS5.2,baz=20,slow=33
VNDA Vanda 55.74 182 eP **P** **12 00 27.3 -1.5**
comp=Z,36nm,1.5s,mb5.2
VNDA Vanda 55.74 182 eP **P** **12 00 27.3 -1.5**
VNDA pmax pmax
comp=Z,36nm,1.4s
SBA Scott Base 55.95 181 eP **P** **12 00 29.8 -0.5**
comp=Z,28nm,0.9s,mb5.3
SBA Scott Base 55.95 181 eP **P** **12 00 29.8 -0.5**
SBA pmax pmax
comp=Z,28nm,0.9s,mb5.3
CASY Casey 58.02 204 eP **P** **12 00 43.8 -1.3**
KKM Kota Kinabalu 59.80 291 eP **P** **12 00 58.2 +0.1**
JHJ Hachijo jima 2 62.03 331 LR LR 12 24 57.3
comp=Z,2μm,21.3s,MS5.1,baz=152,slow=33
KSM Kuching 62.93 284 eP **P** **12 01 18.5 -0.7**
JOW Kunigami 63.29 318 LR LR 12 25 18.5
comp=Z,2μm,22.0s,MS5.2,baz=161,slow=33
MIR Mirnyy 64.97 206 eP **P** **12 01 31.0 -0.9**
MIR i 12 02 10.0
MIR ePPP PPP 12 05 28.0 -2.8
MIR eS **S** **12 10 16.0 +5.2**
MIR pmax pmax
comp=Z,105nm,1.8s,mb5.6
MIR pmax pmax
comp=Z,600nm,6.0s
MIR smax
comp=N,792nm,9.0s
MIR smax
comp=E,495nm,8.0s
MIR MLR MLR
comp=N,1μm,16.0s,MS5.5
MIR MLR MLR
comp=E,2μm,16.0s,MS5.5
MIR MLR MLR
comp=Z,3μm,16.0s,MS5.6
MJAR Matsushiro Arr 65.61 332 P **P** **12 01 35.7 -0.8**
comp=Z,12nm,1.0s,mb4.8,baz=167,slow=7.3,SNR=24
MJAR LR LR 12 27 12.0
comp=Z,1μm,20.6s,MS5.1,baz=130,slow=33
MJAR Matsushiro Arr 65.61 332 P **P** **12 01 35.7 -0.8**
MJAR LR LR 12 27 12.0
MAJO Matsushiro 65.61 332 eP **P** **12 01 34.3 -2.2**
comp=Z,80nm,1.5s,mb5.5
MAJO Matsushiro 65.61 332 eP **P** **12 01 34.3 -2.2**
MAJO pmax pmax
comp=Z,80nm,1.5s,mb5.5
MAT Matsushiro 65.61 332 P **P** **12 01 35.5 -1.0**
MAT S S 12 10 27.0 +7.9
MAT Matsushiro 65.61 332 eP **P** **12 01 36.0 -0.5**
comp=Z,30nm,1.4s,mb5.1
MAT eS S 12 10 36.0 +17
MAT LR LR
comp=Z,1μm,20.0s,MS5.0
JNU Nakatsue 66.44 324 P **P** **12 01 41.2 -0.7**
comp=Z,36nm,1.1s,mb5.3,baz=83,slow=5.2,SNR=8.9
JNU LR LR 12 29 08.2
comp=Z,835nm,19.9s,MS5.0,baz=135,slow=35
QSPA South Pole Qui 68.09 180 eP **P** **12 01 51.5 0.0**
comp=Z,73nm,1.2s,mb5.6
QZH Quanzhou 68.50 310 eP **P** **12 01 57.1 +2.2**
QZH S S 12 10 58.2 +4.1
QZH LR LR
comp=N,3μm,14.2s,MS5.8
QZH LR LR
comp=E,3μm,16.4s,MS5.8
QZH LR LR
comp=Z,6μm,38.8s
SSE Sheshan 70.71 317 P **P** **12 02 07.7 -0.7**
SSE AP pP 12 02 17.1 +1.7
SSE S S 12 11 19.7 -0.4
SSE SCS ScS 12 12 08.3 +1.5
SSE AMB AMB
comp=Z,36nm,0.8s,mb5.3
SSE AMB AMB
comp=Z,409nm,7.8s
SSE LR LR
comp=N,358nm,26.8s,MS4.9
SSE LR LR
comp=E,786nm,26.8s,MS4.9
SSE LR LR
comp=Z,929nm,20.0s
KS15 Wonju Array Si 71.31 326 eP **P** **12 02 11.6 -0.2**
QIZ Qiongzhong 71.77 300 eP **P** **12 02 15.4 +0.5**
QIZ S S 12 11 39.6 +7.2
QIZ LR LR
comp=Z,2μm,37.6s,MS5.1
NJ2 Nanjing 72.83 316 eP **P** **12 02 18.5 -2.6**
NJ2 AP pP 12 02 28.8 +0.7
NJ2 XP sP 12 02 32.8 +2.2
NJ2 PP PP 12 05 01.5 -3.8
NJ2 S S 12 11 39.0 -5.5
NJ2 XS 12 11 53.0
NJ2 AMB AMB
comp=Z,20nm,0.8s,mb5.1
NJ2 AMB AMB
comp=Z,1μm,5.8s
NJ2 LR LR
comp=N,2μm,19.9s,MS5.7
NJ2 LR LR
comp=E,3μm,16.8s,MS5.7
NJ2 LR LR
comp=Z,1μm,20.6s,MS5.2
YSS Yuzh-Sakhalins 72.97 341 i P **P** **12 02 20.9 -0.7**
YSS Yuzh-Sakhalins 72.97 341⇑ eP **P** **12 02 21.0 -0.6**
YSS S S 12 11 47.0 +1.3
YSS pmax pmax
comp=Z,20nm,0.8s,mb5.1
KULM Kulim 73.26 283 eP **P** **12 02 23.4 -0.5**
SNG Songkhla 74.08 285 P **P** **12 02 22.0 -6.7**
PET Petropavlovsk 75.36 353 eP **P** **12 02 44.7 +9.4**
PET eS S 12 12 23.3 +11
PET pmax pmax
comp=Z,400nm,15.3s
PET pmax pmax
comp=Z,500nm,12.9s
PET smax
comp=N,400nm,16.7s
PET smax
comp=N,400nm,11.6s
PET MLR MLR
comp=Z,2μm,19.0s,MS5.5
PET MLR MLR
comp=Z,2μm,19.0s
DL2 Dalian 75.77 323 P **P** **12 02 38.7 +0.8**

DL2 PP PP 12 05 25.5 -4.3
DL2 S S 12 12 20.8 +3.8
DL2 SS SS 12 17 10.1 -1.8
DL2 AMB AMB
comp=Z,30nm,1.0s,mb5.2
DL2 AMB AMB
comp=Z,120nm,5.5s
DL2 LR LR
comp=N,430nm,24.3s,MS4.8
DL2 LR LR
comp=E,470nm,26.7s,MS4.8
DL2 LR LR
comp=Z,1μm,28.7s,MS5.0
MDJ Mudanjiang 75.97 331 P **P 12 02 39.0 +0.1**
MDJ AP pP 12 02 43.4 -2.6
MDJ XP sP 12 02 45.7 -2.7
MDJ PP PP 12 05 30.4 -0.9
MDJ S S 12 12 24.6 +5.4
MDJ SKS SKS 12 12 45.3 -5.0
MDJ SCS ScS 12 12 52.2 +3.5
MDJ AMB AMB
comp=Z,15nm,0.9s,mb4.9
MDJ AMB AMB
comp=Z,307nm,5.7s
MDJ LR LR
comp=N,1μm,22.2s,MS5.2
MDJ LR LR
comp=E,533nm,20.0s,MS5.2
MDJ LR LR
comp=Z,2μm,22.2s,MS5.4
MDJ Mudanjiang 75.97 331 *e*P **P 12 02 38.4 -0.6**
comp=Z,17nm,1.0s,mb4.9
MAW Mawson 76.27 202 *e*P **P 12 02 40.4 +0.3**
comp=Z,20nm,1.4s,mb4.9
MAW Mawson 76.27 202 P **P 12 02 40.7 +0.6**
comp=Z,5.7nm,0.8s,mb4.6,baz=103,slow=7.5,SNR=9.8
MAW LR LR 12 32 00.5
comp=Z,2μm,19.8s,MS5.3,baz=103,slow=32
MAW Mawson 76.27 202 *e*P **P 12 02 40.2 +0.1**
MAW pmax pmax
comp=Z,43nm,1.3s
TIA Tai'an 76.62 318 ⇑P **P 12 02 43.2 +0.5**
CN2 Changchun 77.28 328 *e*P **P 12 02 46.4 +0.1**
CN2 *e*XP sP 12 02 53.5 -2.3
CN2 *e*S S 12 12 35.9 +2.5
CN2 AMB AMB
comp=Z,30nm,1.1s,mb5.1
CN2 AMB AMB
comp=Z,310nm,8.0s
CN2 LR LR
comp=N,2μm,25.0s,MS5.4
CN2 LR LR
comp=E,1μm,25.0s,MS5.4
CN2 LR LR
comp=Z,2μm,25.0s,MS5.3
ENH Enshi 78.14 310 *e*P **P 12 02 51.3 0.0**
comp=Z,309nm,1.8s,mb5.9
GYA Guiyang 78.16 305 P **P 12 02 52.1 +0.7**
GYA AP pP 12 02 56.4 -2.2
GYA XP sP 12 02 59.8 -1.2
GYA PP PP 12 05 52.6 +2.4
GYA S S 12 12 50.0 +6.7
GYA SKS SKS 12 13 01.8 -4.7
GYA AMB AMB
comp=Z,30nm,1.0s,mb5.2
GYA AMB AMB
comp=Z,180nm,5.5s
GYA LR LR
comp=N,530nm,24.2s,MS5.0
GYA LR LR
comp=E,550nm,22.4s,MS5.0
GYA LR LR
comp=Z,670nm,23.6s,MS4.9
NST Nakhon Sawan 78.22 292 P **P 12 02 55.0 +3.0**
KLR Kul'dur 78.75 335 *e*P **P 12 02 51.0 -3.2**
NANT Nan 79.17 295 ⇓P **P 12 02 57.0 -0.1**
comp=Z,94nm,1.0s,mb5.7
KMI Kunming 80.53 302 P **P 12 03 07.1 +2.8**
KMI AP pP 12 03 14.3 +2.9
KMI XP sP 12 03 17.8 +4.0
KMI S S 12 13 14.7 +6.5
KMI AMB AMB
comp=Z,209nm,4.3s
KMI LR LR
comp=N,679nm,17.3s,MS5.4
KMI LR LR
comp=E,1μm,18.7s,MS5.4
KMI LR LR
comp=Z,1μm,25.1s
XAN Xi'an 80.66 312 P **P 12 03 06.1 +1.3**
XAN AP pP 12 03 16.4 +4.5
XAN S S 12 13 12.9 +3.5
XAN AMB AMB
comp=Z,34nm,1.4s,mb5.1
XAN LR LR
comp=N,370nm,25.7s
XAN LR LR
comp=E,437nm,34.5s
XAN LR LR
comp=Z,1μm,33.6s
SYO Syowa Base 82.58 196 ⇑P **P 12 03 11.5 -2.6**
SYO Syowa Base 82.58 196 ⇑pP pP 12 03 17.0 -4.2
CD2 Chengdu 82.65 307 P **P 12 03 15.8 +0.6**
CD2 PP PP 12 06 27.8 +0.8
CD2 PPP PPP 12 08 20.5 +0.8
CD2 S S 12 13 32.9 +2.9
CD2 XS 12 13 40.6
CD2 AMB AMB
comp=Z,10.0nm,0.4s,mb5.2
CD2 AMB AMB
comp=Z,80nm,3.9s
CD2 LR LR
comp=E,370nm,17.4s
CD2 LR LR
comp=Z,630nm,36.0s
HHC Hu-ho-hao-te 82.91 319 *e*P **P 12 03 17.0 +0.6**
HHC XP sP 12 03 23.0 -2.9
HHC PP PP 12 06 29.0 +0.1
HHC S S 12 13 34.4 +2.0
HHC XS 12 13 42.3
HHC AMB AMB
comp=Z,18nm,1.5s,mb4.9
HHC AMB AMB
comp=Z,278nm,5.8s
HHC LR LR
comp=N,384nm,25.0s,MS4.7
HHC LR LR
comp=E,121nm,24.0s,MS4.7
BTO Baotou 83.71 318 *e*P **P 12 03 21.5 +1.0**
BTO AMB AMB
comp=Z,9.0nm,0.7s,mb5.0
PMSA Palmer Station 84.02 160 *e*P **P 12 03 21.6 +0.1**
comp=Z,27nm,1.0s,mb5.3
LZH Lanzhou 85.26 312 ⇑P **P 12 03 30.5 +2.1**
LZH AP pP 12 03 33.7 -1.9
LZH XP sP 12 03 35.4 -2.5
LZH PP PP 12 06 50.5 +2.7
LZH *e*SKS SKS 12 13 51.0 -4.7
LZH *e*S S 12 13 59.0 +3.1
LZH XS 12 14 05.0
LZH AMB AMB
comp=Z,83nm,1.5s,mb5.6
LZH AMB AMB
comp=Z,390nm,4.7s
LZH LR LR
comp=E,1μm,15.5s
LZH LR LR
comp=Z,2μm,17.1s,MS5.5
SEY Seymchan 85.80 352 *i* P **P 12 03 28.4 -2.0**
SEY Seymchan 85.80 352 *e*P **P 12 03 27.8 -2.6**
SEY *e*S S 12 13 52.6 -7.8
SEY smax
comp=N,450nm,12.8s
SEY smax
comp=E,500nm,13.9s
NVL N'lazarevskaya 86.27 187 *e*P **P 12 03 31.4 -1.2**
NVL *e**PP pP 12 03 39.8 0.0
NVL *e**SP sP 12 03 43.5 +1.4
NVL *i* 12 08 43.9
NVL MLR MLR
comp=Z,120nm,18.0s,MS4.3
SNAA Sanae 86.48 182 P **P 12 03 33.3 -0.3**
SNAA Sanae 86.48 182 **P 12 03 42.3 +8.7**
SNAA Sanae 86.48 182 P **P 12 03 42.3 +8.7**
SNAA Sanae 86.48 182 *i* P **P 12 03 33.4 -0.2**

VNA3 Neumayer Olymp 87.03 180 P **P 12 03 38.3 +2.0**
VNA3 Neumayer Olymp 87.03 180 sP 12 03 49.5 +3.7
SVW2 Sparrevohn 87.26 16 *e*P **P 12 03 37.8 +0.2**
CLNS Chul'man 87.28 337 *e*P **P 12 03 38.2 +0.4**
CLNS pmax pmax
comp=Z,19nm,1.1s,mb5.2
CLNS pmax pmax
comp=N,17nm,1.0s
CLNS pmax pmax
comp=E,10.0nm,0.8s
VNA2 Neumayer--Watz 87.33 181 P **P 12 03 36.9 -0.9**
VNA2 Neumayer--Watz 87.33 181 **P 12 03 40.0 +2.2**
VNA2 Neumayer--Watz 87.33 181 sP 12 03 50.7 +3.4
VNA1 Neumayer--Stat 87.62 180 P **P 12 03 39.5 +0.4**
VNA1 Neumayer--Stat 87.62 180 **P 12 03 43.9 +4.8**
VNA1 Neumayer--Stat 87.62 180 sP 12 03 52.9 +4.3
MWC Mount Wilson 88.09 52 *e*P **P 12 03 41.3 -1.0**
WDC Whiskeytown Da 88.12 45 *e*P **P 12 03 41.6 -0.7**
comp=E,9.7nm,1.2s,mb4.9
WDC Whiskeytown Da 88.12 45 *e*P **P 12 03 41.6 -0.6**
WDC pmax pmax
comp=Z,10.0nm,1.1s,mb5.0
ISA Isabella 88.47 50 *e*P **P 12 03 44.5 +0.5**
YBH Yreka Blue Hor 88.61 44 *e*P **P 12 03 44.6 +0.1**
comp=Z,6.5nm,1.3s,mb4.8
YBH Yreka Blue Hor 88.61 44 *e*P **P 12 03 44.6 +0.1**
YBH pmax pmax
comp=Z,7.0nm,1.3s
CIT Chita 88.72 329 *e*P **P 12 03 45.6 +0.8**
CIT *e* pP 12 03 53.6 +1.6
CIT pmax pmax
comp=Z,53nm,1.6s,mb5.6
HUMO Hull Mountain 88.90 43 *e*P **P 12 03 46.1 +0.2**
comp=Z,6.4nm,1.1s,mb4.9
OMM Old Mammoth Mi 89.04 49 *e*P **P 12 03 47.5 +0.8**
MTUM Tungsten Hills 89.21 49 *e*P **P 12 03 48.0 +0.5**
GTA Gaotai 89.69 313 *e*P **P 12 03 51.2 +1.5**
GTA AP pP 12 03 56.2 -0.7
GTA XP sP 12 03 59.2 0.0
GTA PP PP 12 07 26.0 +1.8
GTA PPP PPP 12 09 25.1 +1.9
GTA SKS SKS 12 14 20.1 -4.0
GTA S S 12 14 43.3 +5.7
GTA XS 12 14 49.3
GTA AMB AMB
comp=Z,12nm,1.1s,mb5.1
GTA AMB AMB
comp=Z,70nm,6.9s
GTA LR LR
comp=N,436nm,16.7s,MS5.2
GTA LR LR
comp=E,506nm,16.0s,MS5.2
GTA LR LR
comp=Z,588nm,19.0s,MS5.0
YAK Yakutsk 89.76 342 *e*P **P 12 03 47.5 -2.0**
comp=Z,36nm,1.4s,mb5.5
YAK Yakutsk 89.76 342 *e*P **P 12 03 47.4 -2.1**
YAK *e*S 12 14 15.0
YAK pmax pmax
comp=Z,6.0nm,1.1s,mb4.8
YAK smax
comp=N,4.0nm,1.1s
BILL Bilibino 89.80 359 *e*P **P 12 03 46.7 -2.9**
comp=N,37nm,1.3s,mb5.6
BILL Bilibino 89.80 359 *de*P **P 12 03 49.7 +0.1**
BILL pmax pmax
comp=Z,38nm,1.6s,mb5.5
BILL MLR MLR
comp=Z,800nm,21.0s,MS5.1
NVAR Mina Array Bea 89.90 48 P **P 12 03 50.9 +0.2**
comp=Z,4.4nm,0.7s,mb4.9,baz=225,slow=8.9,SNR=46
NVAR Mina Array Bea 89.90 48 P **P 12 03 50.9 +0.2**
SONM Songino Array 89.97 323 P **P 12 03 51.2 +0.4**
comp=Z,11nm,1.0s,mb5.2,baz=138,slow=4.4,SNR=52
SONM LR LR 12 42 27.3
comp=Z,950nm,19.9s,MS5.2,baz=120,slow=34
MOD Modoc 90.24 44 *e*P **P 12 03 51.7 -0.5**
comp=Z,4.3nm,0.9s,mb4.8
TPH Tonopah 90.49 49 *e*P **P 12 03 52.3 -1.2**
comp=Z,19nm,1.3s,mb5.3
TPH Tonopah 90.49 49 *e*P **P 12 03 52.3 -1.2**
TPH pmax pmax
comp=Z,19nm,1.2s,mb5.3
LDFC Landfair 90.64 52 *e*P **P 12 03 55.1 +0.9**
OCWA Octopus Mounta 90.89 38 *e*P **P 12 03 55.8 +0.8**
comp=Z,35nm,1.1s,mb5.6
NEN Nelson 91.09 52 *e*P **P 12 03 56.6 +0.4**
WVOR Wild Horse Val 91.58 44 *e*P **P 12 03 58.7 +0.4**
comp=Z,7.5nm,1.2s,mb4.9
WVOR Wild Horse Val 91.58 44 *e*P **P 12 03 58.7 +0.3**
WVOR pmax pmax
comp=Z,8.0nm,1.2s,mb4.9
LSA Lhasa 91.77 301 P **P 12 04 01.6 +2.1**
LSA AMB AMB
comp=Z,10.0nm,1.1s,mb5.1
LSA Lhasa 91.77 301 *e*P **P 12 04 00.3 +0.8**
comp=Z,31nm,1.4s,mb5.5
LSA Lhasa 91.77 301 *e*P **P 12 04 00.3 +0.8**
LSA pmax pmax
comp=Z,31nm,1.4s,mb5.5
ILAR Eielson Array 92.56 17 P **P 12 04 00.9 -1.4**
comp=Z,1.6nm,0.6s,mb4.6,baz=231,slow=5.0,SNR=25
ILAR LR LR 12 47 45.7
comp=Z,1μm,18.3s,MS5.3,baz=73,slow=37
HAWA Hanford 92.93 41 *e*P **P 12 04 04.5 0.0**
comp=Z,0.2nm,0.6s
ZAK Zakamensk 93.06 324 ⇓*i*P **P 12 04 05.2 +0.2**
ZAK *e* 12 07 55.5
ZAK pmax pmax
comp=Z,9.0nm,1.5s,mb5.0
ZAK pmax pmax
comp=Z,2.0nm,1.4s,mb4.3
IRK Irkutsk 93.51 326 *e*P **P 12 04 03.4 -3.6**
PKI Pulchoki 95.59 297 *e*P **P 12 04 18.5 +1.3**
comp=Z,63nm,1.4s,mb5.9
KKN Kakani 95.77 297 *e*P **P 12 04 19.3 +1.3**
DMN Daman 95.85 297 *e*P **P 12 04 19.9 +1.5**
comp=Z,33nm,0.8s,mb5.8
PLCA Paso Flores 95.86 138 P **P 12 04 19.3 +1.2**
comp=Z,4.3nm,0.8s,mb4.9,baz=220,slow=6.1,SNR=12
PLCA LR LR 12 37 15.6
comp=Z,1μm,21.7s,MS5.3,baz=247,slow=29
PLCA Paso Flores 95.86 138 *e*P **P 12 04 18.8 +0.7**
comp=Z,8.2nm,1.0s,mb5.1
PLCA Paso Flores 95.86 138 *e*P **P 12 04 18.8 +0.7**
PLCA pmax pmax
comp=Z,8.0nm,1.0s
GKN Gorkha 96.38 297 *e*P **P 12 04 21.5 +0.7**
comp=Z,26nm,1.0s,mb5.6
KOLN Koldanda 97.15 297 *e*P **P 12 04 25.0 +0.8**
comp=Z,14nm,0.9s,mb5.4
TXAR Lajitas Array 97.23 61 LR LR 12 39 19.9
comp=Z,2μm,21.9s,MS5.6,baz=245,slow=30
PDAR Pinedale Array 97.77 47 P **P 12 04 28.2 +1.6**
comp=Z,0.4nm,0.8s,baz=180,slow=1.5,SNR=4.0
PDAR LR LR 12 46 00.9
comp=Z,524nm,18.2s,MS5.1,baz=262,slow=34
INK Inuvik 98.83 18 P **P 12 04 29.9 -1.0**
comp=Z,3.8nm,1.2s,mb4.8,baz=296,slow=8.1,SNR=5.4
WMQ Urumqi 99.78 313 *e*P **P 12 04 36.0 +0.3**
WMQ PP PP 12 08 43.0 +0.2
WMQ SKS SKS 12 15 13.0 -5.9
WMQ S S 12 16 06.0 +1.7
WMQ PS PS 12 17 40.0 +0.7
WMQ SS SS 12 23 02.0 +1.6
WMQ AMB AMB
comp=Z,15nm,1.0s,mb5.4
WMQ AMB AMB
comp=Z,12nm,10.0s
WMQ LR LR
comp=N,587nm,19.0s,MS5.3
WMQ LR LR
comp=E,865nm,22.0s,MS5.3
WMQ LR LR
comp=Z,946nm,22.0s,MS5.2
MKAR Makanchi Array 104.34 315 Pdiff Pdif 12 04 56.2 +0.3
comp=Z,0.8nm,0.7s,baz=101,slow=6.2,SNR=5.7
ARU Arti 120.00 323 *i* PKP PKPdf 12 09 41.6 -3.3
ARU Arti 120.00 323 *i* PKIKP PKPdf 12 09 41.4 -3.5
ARU *e*S SKS 12 16 34.0 -8.7
ARU *e* 12 16 50.6
ARU *e*SP SP 12 20 54.0 +1.5
ARU MLR MLR
comp=Z,800nm,23.0s,MS5.3
ARU MLR MLR
comp=N,400nm,21.0s,MS5.2
ARU MLR MLR
comp=E,500nm,21.0s,MS5.2
SDV Santo Domingo 120.22 92 *e*PKPdf PKPdf 12 09 40.9 -5.5
SCHQ Schefferville 126.53 37 PKP PKPdf 12 09 52.6 -5.0
comp=E,9.9nm,0.9s,baz=290,slow=1.3,SNR=11
SUMG Summit 126.88 10 *e*PKPdf PKPdf 12 09 54.7 -3.1
BDFB Brasilia 127.04 132 PKP PKPdf 12 09 55.0 -4.5
comp=E,5.7nm,0.6s,baz=48,slow=1.2,SNR=5.5
ARCES ARCESS Array B 127.95 345 PKP PKPdf 12 09 55.3 -4.7
comp=E,1.5nm,0.6s,baz=90,slow=2.4,SNR=7.1
KMBO Kilima Mbogo 128.73 250 PKP PKPdf 12 10 01.4 -1.6
comp=E,3.3nm,1.0s,baz=51,slow=4.5,SNR=7.1
MOS Moscow 131.49 326 *e*PKIKP PKPdf 12 10 13.6 +6.5
KIV Kislovodsk 131.77 310 *i* PKIKP PKPdf 12 10 15.0 +7.0
KIV MLR MLR
comp=Z,800nm,22.0s,MS5.4
OBN Obninsk 132.29 326 *i* PKIKP PKPdf 12 10 08.0 -0.7
OBN *e* 12 10 24.7
OBN MLR MLR
comp=Z,900nm,20.0s,MS5.5
MBAR Mbarara 134.59 246 *e*PKPdf PKPdf 12 10 10.6 -3.5
MBAR *e* 12 10 19.7
AKASG Malin Array Be 138.25 323 PKP PKPdf 12 10 16.4 -3.3
comp=Z,0.4nm,0.3s,baz=40,slow=1.7,SNR=8.7
BRTR Keskin Array B 139.21 306 PKP PKPdf 12 10 18.1 -3.7
comp=Z,1.0nm,0.7s,baz=72,slow=4.6,SNR=4.2
KIS Kishinev 140.18 318 *e*PKHKP 12 10 12.0
KIS *e* 12 13 20.0
KIS MLR MLR
comp=N,500nm,20.0s
KIS MLR MLR
comp=Z,700nm,20.0s,MS5.4
KIS MLR MLR
comp=Z,400nm,20.0s
MLR Muntele Rosu 142.64 317 ⇓P PKPdf 12 10 20.9 -6.7
KOLS Kolonicke sedl 143.01 324 *e*PKP PKPdf 12 10 30.1 +1.9
VOIR 143.22 318 ⇓P PKPbc 12 10 24.1 +1.6
VOIR 143.22 318 ⇓P PKPbc 12 10 24.1 +1.6
DRGR 143.95 321 ⇓P PKPbc 12 10 24.7 +0.1
PVL Pavlikeni 144.02 314 *e*P PKPbc 12 10 28.0 +3.0
KECS Kecovo 144.23 325 *i* PKP PKPdf 12 10 26.7 -3.6
ALN Alexandroupoli 144.44 310 *e*P PKPbc 12 10 26.3 +0.1
OKC Ostrava-Krasne 144.56 329 ⇑*i*PKP PKPdf 12 10 27.2 -3.6
OKC *ex* x 12 10 35.4
OKC AMS AMS 13 10 40.0
comp=Z,1μm,25.2s
OKC Ostrava-Krasne 144.56 329 ⇑*i*PKP2 PKPab 12 10 27.2 +0.2
OKC MLR MLR
comp=Z,1μm,25.2s,MS5.6
RUE Ruedersdorf 144.58 335 *e*PKPdf PKPdf 12 10 26.3 -4.5
BSEG Bad Segeberg 144.65 339 *e*PKP2 PKPab 12 10 26.9 -0.3
KSP Ksiaz 144.74 331 *e*PKP PKPdf 12 10 27.6 -3.5
KSP *e* 12 10 35.5
KSP Ksiaz 144.74 331 *e*PKPdf PKPdf 12 10 27.4 -3.7
KSP *e*pPKPdf 12 10 36.0
KSP *e*PP PP 12 13 57.5 +10
KSP *e*SKKS 12 22 12.9
KSP *e*SS SS 12 33 31.3 +60
KSP LR LR
comp=Z,3μm,31.2s,MS5.8
KSP Ksiaz 144.74 331 *e*PKIKP PKPdf 12 10 27.4 -3.7
KSP *e* 12 10 36.0
KSP *e* 12 13 57.5
KSP *e*SS SS 12 33 31.3 +60
PSZ Piszkesteto 144.89 325 ⇑*e*PKP/p PKPdf 12 10 28.7 -2.8
PSZ Piszkesteto 144.89 325 *e*PKPdf PKPdf 12 10 28.6 -2.9
PLD Plovdiv 144.90 313 *e*P PKPbc 12 10 29.0 +1.5
RZN Rozhen 145.06 312 *i* P PKPbc 12 10 29.5 +1.6
DPC Dobruska-Polom 145.07 331 ⇑*i*PKP PKPdf 12 10 29.4 -2.3
DPC *ex* x 12 10 37.9
DPC AMS AMS 13 13 20.0
comp=Z,1μm,23.4s
PGB Panagyurishte 145.08 314 *i* P PKPbc 12 10 30.0 +2.1
VYHS Vyhne 145.09 326 *e*PKP PKPdf 12 10 29.0 -2.8
UPC Upice 145.10 331 ⇑*i*PKP PKPdf 12 10 29.3 -2.5
UPC *ex* x 12 10 40.2
KOLL Kolacno 145.26 327 *i* PKP PKPdf 12 10 30.3 -1.8
LOS Limnos 145.47 309 *e*P PKPbc 12 10 30.1 +1.1
BUD Budapest 145.62 325 ⇑*e*PKP/p 12 10 31.0
VTS Vitosha 145.70 315 *i* P PKPbc 12 10 31.5 +2.0
PVCC Panska Ves 145.73 332 ⇑*i*PKP PKPdf 12 10 31.4 -1.4
PVCC *ex* x 12 10 39.2
PVCC AMS AMS 13 14 10.0
comp=Z,2μm,21.8s
BRG Berggiesshubel 145.74 333 *i* PKIKP PKPdf 12 10 30.8 -2.0
BRG pmax pmax
comp=Z,145nm,1.1s
BRG MLR MLR
comp=N,1μm,21.9s,MS5.6
BRG MLR MLR
comp=E,466nm,22.0s,MS5.6
BRG MLR MLR
comp=Z,1μm,20.8s,MS5.6
ZAPS Zavoj/Pirot 145.76 316 ⇑*i*PKP PKPdf 12 10 30.7 -2.4
MMB Musomiste 145.78 313 *i* P PKPbc 12 10 31.5 +1.8
CLL Collm 145.79 334 ⇓*i*PKP1 PKPbc 12 10 30.8 +1.4
CLL *i* 12 10 39.3
CLL *i* 12 10 43.6
CLL *e* 12 11 19.0
CLL *e* 12 57.0
CLL *e*SS SS 12 32 54.0 +11
CLL *e*SSS SSS 12 38 30.0 +17
CLL Collm 145.79 334 ⇓*i*PKIKP PKPdf 12 10 30.8 -2.1
CLL *i* 12 10 39.3
CLL pmax pmax
comp=Z,140nm,1.0s
CLL MLR MLR
comp=Z,1μm,20.5s,MS5.7
SRO Srobarova 145.79 326 *e*PKP PKPdf 12 10 32.0 -1.0
SMOL Smolenice 145.79 327 *i* PKP PKPdf 12 10 32.1 -0.9
SRO1 Iza 145.87 326 *i* PKP PKPdf 12 10 32.0 -1.2
BOLS Boljevac 145.93 317 ⇓*i*PKP PKPdf 12 10 29.6 -3.8
SRS Serrai 146.07 312 *e*P PKPbc 12 10 31.4 +1.0
KKB Krupnik 146.10 313 *i* P PKPbc 12 10 32.0 +1.5
OUR Ouranopolis 146.10 310 *e*P PKPbc 12 10 31.9 +1.3
PRU Pruhonice 146.13 332 ⇑*i*PKP PKPdf 12 10 32.4 -1.1
PRU *ex* x 12 10 43.3
PRU AMS AMS 13 14 40.0
comp=Z,2μm,22.8s
ZST Bratislava 146.17 327 *e*PKP PKPdf 12 10 32.6 -1.1
BEO Belgrade 146.34 320 ⇓*i*PKP PKPdf 12 10 31.6 -2.4
SOH Sokhos 146.35 312 *e*P PKPbc 12 10 33.9 +2.8
ESK Eskdalemuir 146.35 353 *e*PKPdf PKPdf 12 10 31.4 -2.3
CLZ Clausthal 146.37 337 *e*PKIKP PKPdf 12 10 32.8 -1.1
PAIG Paliouri 146.47 310 *e*P PKPbc 12 10 31.3 -0.1
VKA Vienna 146.51 328 *e*PKP PKPdf 12 10 33.0 -1.3
KNT Kendrikon 146.53 312 *e*P PKPbc 12 10 32.6 +1.1
GMK Mull of Kintyr 146.54 356 *e*P PKPbc 12 10 32.1 +1.1
AOS Alonnisos 146.61 309 *e*P PKPbc 12 10 34.7 +2.9
VAY Valandovo 146.68 313 *i* P PKPbc 12 10 33.0 +1.2
THE Thessaloniki 146.70 311 *e*P PKPbc 12 10 32.3 +0.4
SOP Sopron 146.78 327 *e*pPKP/F 12 10 33.8
NKC Novy Kostel 146.84 334 ⇑*e*PKP PKPdf 12 10 34.3 -0.4
NKC *ex* x 12 10 43.5
NKC AMS AMS 13 15 00.0
comp=Z,800nm,21.1s
MOX Moxa 146.86 335 *i* P PKPbc 12 10 34.1 +2.2
comp=Z,logA/T=1.6
MOX L 12 24 42.0
MOX Moxa 146.86 335 *e*PKIKP PKPdf 12 10 34.1 -0.7
MOX pmax pmax
comp=Z,61nm,1.4s
MOX MLR MLR
comp=Z,100nm,21.0s,MS4.6
GAL1 Galloway 146.94 355 *e*P PKPbc 12 10 33.2 +1.3
GRG Griva 146.95 312 *e*P PKPbc 12 10 33.9 +1.5
DIVS Divcibare 147.01 319 ⇑*i*PKP PKPdf 12 10 34.5 -0.7
IDI Anoyia 147.01 301 PKPbc PKPdf 12 10 34.9 -0.6
comp=Z,12nm,0.7s,baz=301,slow=11,SNR=4.3
XOR Xorichti 147.03 309 *e*P PKPdf 12 10 33.8 -1.6
SKO Skopje 147.15 315 *i* P PKPdf 12 10 35.7 +0.2
KHC Kasperske Hory 147.19 331 ⇑*i*PKP PKPdf 12 10 35.5 +0.2
KHC *ex* x 12 10 46.6
KHC AMS AMS 13 14 30.0
comp=Z,2μm,22.9s
LIT Litokhoron 147.25 311 *e*P PKPdf 12 10 34.5 -1.3
GEC2 GERESS Array S 147.34 331 *e*PKIKP PKPdf 12 10 35.6 0.0
GERES GERESS Array B 147.34 331 PKPbc PKPdf 12 10 35.4 -0.2
comp=Z,29nm,1.0s,baz=45,slow=1.9,SNR=56
WTSB Winterswijk 147.44 341 *e*PKP PKPdf 12 10 35.0 -0.7
comp=Z,85nm,1.7s
WET Wettzell 147.49 332 *e*PKIKP PKPdf 12 10 35.9 +0.1

NVSS	Nova Varos 2	147.50 318	⇑iPKP	PKPdf	12 10 31.2	-4.8
ARSA	Arzberg	147.59 327	⇑iP	PKPdf	12 10 36.0	-0.1
	comp=Z,32nm,1.4s					
ARSA			i		12 10 48.5	
FNA	Florina	147.73 313	eP	PKPdf	12 10 36.1	-0.4
GRF	Grafenberg Arr	147.76 334	ePKP	PKPdf	12 10 36.8	+0.6
GRF			LR	LR		
	comp=Z,900nm,21.9s,MS5.5					
AGG	Agios Georgios	147.78 309	eP	PKPdf	12 10 35.9	-0.8
MOA	Molln	147.80 329	⇑iP	PKPdf	12 10 36.5	+0.1
	comp=Z,40nm,1.3s					
MOA			i		12 10 46.1	
OHR	Ohrid	147.97 314	eP	PKPdf	12 10 36.9	0.0
PERS	Pernice	148.21 327	ePKPdf	PKPdf	12 10 37.2	+0.1
TNS	Taunus Mts	148.39 338	ePKIKP	PKPdf	12 10 38.4	+1.2
GCIS	Gornji Cirnik	148.45 325	ePKPdf	PKPdf	12 10 38.1	+0.6
OBKA	Obir	148.59 327	⇑iP	PKPdf	12 10 38.6	+0.9
	comp=Z,39nm,1.8s					
OBKA			i		12 10 46.5	
DCN	Croghan	148.63 357	⇑iP	PKPdf	12 10 37.4	-0.1
DCN	Croghan	148.63 357	eP	PKPdf	12 10 33.1	-4.4
DCN			⇑iP		12 10 37.4	
DLF	Lyons Farm	148.64 356	⇑iP	PKPdf	12 10 37.3	-0.2
DLF	Lyons Farm	148.64 356	eP	PKPdf	12 10 33.1	-4.4
DLF			⇑iP		12 10 37.3	
SIND	Sindeldorf	148.68 335	eP	PKPdf	12 10 38.9	+1.2
DSB	Dublin	148.68 356	ePKPdf	PKPdf	12 10 35.7	-1.9
DSB			ePKPbc	PKPdf	12 10 38.0	+0.4
SBD1	Bryn Du	148.73 352	eP	PKPdf	12 10 38.2	+0.5
SBD1			AMb	AMB	12 10 43.7	
	comp=Z,113nm,1.3s					
HGN	Heimansgroeve	148.76 341	ePKP	PKPdf	12 10 38.4	+0.6
	comp=Z,37nm,1.8s					
TOD	Tromm	148.77 336	eP	PKPdf	12 10 39.0	+1.1
TOD	Tromm	148.77 336	PKP	PKPdf	12 10 39.6	+1.7
KBA	Koelnbreinsper	148.78 329	⇑iP	PKPdf	12 10 38.4	+0.4
	comp=Z,32nm,0.9s					
KBA			i		12 10 48.4	
BOJS	Bojanci	148.89 325	ePKPdf	PKPdf	12 10 39.5	+1.3
SWS	Schriesheim	148.91 336	eP	PKPdf	12 10 39.3	+1.2
LJU	Ljubljana	148.91 326	ePKPdf	PKPdf	12 10 39.5	+1.2
FUR	Furstenfeldbru	148.92 332	ePKHKP		12 10 39.8	
ABH	Alteburg	148.99 338	⇓eP	PKPdf	12 10 39.9	+1.7
ABH	Alteburg	148.99 338	PKP	PKPdf	12 10 40.3	+2.1
HDH	Heidenheim	149.05 334	eP	PKPdf	12 10 39.5	+1.2
HLM1	Long Mynd	149.06 352	eP	PKPdf	12 10 38.8	+0.6
HLM1			AMb	AMB	12 10 41.3	
	comp=Z,66nm,1.5s					
SSP1	Stoney Pound	149.19 352	eP	PKPdf	12 10 39.2	+0.8
VOY	Vojsko	149.24 327	ePKPdf	PKPdf	12 10 40.4	+1.7
VOY			e		12 11 12.9	
STU	Stuttgart	149.30 335	ePKPbc	PKPdf	12 10 40.4	+1.7
RUP	Ruppelstein	149.31 338	⇓eP	PKPdf	12 10 40.4	+1.7
RUP	Ruppelstein	149.31 338	PKP	PKPdf	12 10 41.1	+2.4
WATA	Walderalm	149.42 331	⇑iP	PKPdf	12 10 40.8	+1.8
	comp=Z,21nm,0.9s					
WTTA	Wattenberg	149.44 331	⇓iP	PKPdf	12 10 40.8	+1.8
	comp=Z,89nm,1.6s					
WTTA			i		12 10 49.4	
HAE	Alders End	149.48 351	eP	PKPdf	12 10 40.0	+1.0
HAE			AMb	AMB	12 10 46.1	
	comp=Z,123nm,1.4s					
HTR	Trewern Hill	149.54 352	eP	PKPdf	12 10 39.6	+0.5
HTR			AMb	AMB	12 10 42.4	
	comp=Z,104nm,1.3s					
LBG	Lerchenberg	149.54 335	eP	PKPdf	12 10 40.9	+1.8
MCH1	Michaelchurch	149.58 352	eP	PKPdf	12 10 40.3	+1.2
MOTA	Moosalm	149.62 331	⇑iP	PKPdf	12 10 41.4	+2.1
	comp=Z,36nm,1.0s					
MOTA			i		12 10 51.2	
WLF	Walferdange	149.65 339	ePKPbc	PKPdf	12 10 41.7	+2.5
LANF	Langenberg	149.66 337	PKP	PKPdf	12 10 41.8	+2.5
SQTA	Sankt Quirin	149.67 331	⇓iP	PKPdf	12 10 41.4	+2.0
	comp=Z,15nm,0.6s					
GIVF	Givet	149.68 341	ePKP1	PKPdf	12 10 40.7	+1.4
	comp=Z,160nm,1.1s					
UBR	Uberruh	149.80 333	eP	PKPdf	12 10 41.5	+1.9
BAIF	Baives	149.90 342	ePKP1	PKPdf	12 10 41.4	+1.7
	comp=Z,101nm,1.2s					
GUT	Gutenstein	149.90 334	eP	PKPdf	12 10 41.7	+2.0
HGH	Gray Hill	149.91 351	eP	PKPdf	12 10 40.3	+0.7
HGH			AMb	AMB	12 10 43.9	
	comp=Z,171nm,1.4s					
MENF	Mencas	149.99 345	PKP	PKPdf	12 10 42.2	+2.4
BFO	Black Forest	150.00 336	ePKIKP	PKPdf	12 10 41.8	+1.9
SPAK	Spaichingen	150.00 335	eP	PKPdf	12 10 42.0	+2.1
DAVA	Damuels	150.20 333	⇓iP	PKPdf	12 10 42.6	+2.4
	comp=Z,53nm,1.2s					
DAVA			i		12 10 51.9	
WLS	Welschbruch	150.29 337	PKP	PKPdf	12 10 43.0	+2.7
CDF	Champ du Feu	150.32 337	ePKP1	PKPdf	12 10 42.2	+1.8
	comp=Z,93nm,1.2s					
LIBD	Limburg	150.42 336	eP	PKPdf	12 10 43.3	+2.8
KIZ	Kirchzarten	150.46 336	eP	PKPdf	12 10 42.9	+2.3
FELD	Feldberg	150.49 335	eP	PKPdf	12 10 43.0	+2.4
FELD	Feldberg	150.49 335	PKP	PKPdf	12 10 43.5	+2.9
ECH	Echery	150.53 337	PKP	PKPdf	12 10 43.3	+2.6
DAVOX	Davos	150.59 332	PKPbc	PKPdf	12 10 43.8	+3.0
	comp=Z,17nm,0.6s,baz=54,slow=2.1,SNR=30					
MOF	Molkenrain	150.84 336	PKP	PKPdf	12 10 44.2	+3.0
THEF	They Montfort	150.94 338	PKP	PKPdf	12 10 44.5	+3.2
HINF	Hinteralfeld	150.98 337	ePKP1	PKPdf	12 10 43.6	+2.2
HAU	Haudompre	151.00 337	ePKP1	PKPdf	12 10 43.8	+2.4
	comp=Z,42nm,0.8s					
HAU			eR			
	comp=Z,872nm,22.0s					
MEZF	Maizieres J'vi	151.02 339	ePKP1	PKPdf	12 10 44.3	+2.9
	comp=Z,174nm,1.1s					
BBS	Basel-Blauen	151.02 335	eP	PKPdf	12 10 44.2	+2.8
BBS	Basel-Blauen	151.02 335	PKP	PKPdf	12 10 44.5	+3.1
LOMF	Lomont	151.38 336	PKP	PKPdf	12 10 45.7	+3.7
TIP	Timpagrande	151.62 313	ePKPbc	PKPdf	12 10 46.3	+3.7
TIP			ePKPab	PKPab	12 10 55.6	+0.1
CABF	La Chapelle	152.27 336	ePKP1	PKPdf	12 10 47.1	+3.8
	comp=Z,67nm,1.2s					
FLN	La Foliniere	152.27 347	ePKP1	PKPdf	12 10 46.4	+3.2
	comp=Z,109nm,1.2s					
FLN			eR			
	comp=Z,1μm,21.8s					
LDF	La Druitiere	152.35 346	ePKP1	PKPdf	12 10 46.5	+3.1
	comp=Z,72nm,1.3s					
LOR	Lormes	152.48 340	ePKP1	PKPdf	12 10 47.2	+3.6
	comp=Z,35nm,1.1s					
LOR			eR			
	comp=Z,2μm,21.5s					
GRR	Gorron	152.71 347	ePKP1	PKPdf	12 10 47.5	+3.6
	comp=Z,61nm,1.2s					
SSF	Saint Saulge	152.78 340	ePKP1	PKPdf	12 10 47.9	+3.9
	comp=Z,48nm,1.2s					
LPL	La Plagne	152.93 334	ePKP1	PKPdf	12 10 48.7	+4.4
LPG	La Plagne	152.94 334	ePKP1	PKPdf	12 10 48.9	+4.6
	comp=Z,18nm,0.8s					
SMF	Signal de Mont	153.04 339	ePKP1	PKPdf	12 10 49.5	+5.1
AVF	Avril sur Loir	153.07 340	ePKP1	PKPdf	12 10 49.3	+4.9
SGMF	Saint Gilles	153.16 349	ePKP1	PKPdf	12 10 48.1	+3.6
	comp=Z,44nm,1.1s					
ROSF	Rostrenen	153.20 350	ePKP1	PKPdf	12 10 48.2	+3.7
	comp=Z,21nm,1.1s					
BNI	Bardonecchia	153.33 333	ePKPdf	PKPdf	12 10 43.5	-1.3
BNI			ePKPbc	PKPdf	12 10 49.4	+4.5
MBDF	Montbardon	153.55 333	ePKP1	PKPdf	12 10 49.7	+4.5
	comp=Z,10nm,0.8s					
PLDF	La Plantade	153.70 339	PKP	PKPdf	12 10 53.3	+8.0
ORIF	Oris-en-Rattie	153.76 334	ePKP1	PKPdf	12 10 50.1	+4.7
	comp=Z,16nm,0.7s					
ORIF			eR			
	comp=Z,955nm,22.8s					
TCF	Toulx Ste Croi	153.87 341	ePKP1	PKPdf	12 10 50.2	+4.6
	comp=Z,23nm,1.2s					
PYM	Petit Puy Mans	154.10 339	PKP	PKPdf	12 10 52.8	+6.9
MFF	Saint Martin d	154.23 345	ePKP1	PKPdf	12 10 50.8	+4.8
VIVF	Saint-Julien-l	154.29 336	ePKP1	PKPdf	12 10 51.2	+5.0
	comp=Z,11nm,1.0s					
FRF	La Foret Royal	154.54 332	ePKP1	PKPdf	12 10 51.5	+5.0
SMRF	Simiane la Rot	154.66 334	ePKP1	PKPdf	12 10 52.4	+5.7
	comp=Z,32nm,1.2s					
LMR	La Mourre	154.78 331	ePKP1	PKPdf	12 10 53.1	+6.2
RJF	Les Rejaudoux	154.97 341	ePKP1	PKPdf	12 10 52.5	+5.5
RJF			eR			
	comp=Z,1μm,21.5s					
CAF	Calviac	155.14 340	ePKP1	PKPdf	12 10 53.1	+5.8
LFF	La Frestale	155.53 342	ePKP1	PKPdf	12 10 54.0	+6.2
ESDC	Sonseca Array	161.69 346	PKPab	PKPab	12 11 37.5	-1.0
	comp=Z,0.2nm,0.3s,baz=7.3,slow=4.1,SNR=5.2					
LIC	Lamto	163.69 197	ePKIKP	PKPdf	12 10 55.4	-2.6
	comp=Z,97nm,1.4s					
DBIC	Dimbokro	164.06 198	PKP	PKPdf	12 10 55.6	-2.7
	comp=Z,9.7nm,1.1s,baz=147,slow=4.1,SNR=3.5					
DBIC			PKPab	PKPab	12 11 49.3	-0.4
	comp=Z,4.3nm,0.6s,baz=197,slow=7.0,SNR=6.8					

*IDC **11** 11:56:09.6±17.0, 36.15N×71.01E, h95km±151km, mb3.6/4, mb1 3.7/6, mb1mx3.4/21, mbtmp3.8/6, ML3.5/2, Error ellipse: s-maj=112.9km s-min=27.9km az=37.0*
*MOS **11** 11:56:14.9±0.7, 36.35N×71.04E, h159km, mb4.2/3, Error ellipse: s-maj=30.9km s-min=13.5km az=90.1*
*NEIC **11** 11:56:15.9±2.6, 36.36N×71.22E, h154km±21km, mb4.2/6, Error ellipse: s-maj=26.7km s-min=10.7km az=208.0*
*NNC **11** 11:56:26.3±2.5, 37.18N×71.11E, h189km±29km, mpv4.1, Error ellipse: s-maj=24.0km s-min=16.6km az=41.0*

ISC 11 11:56:20.0±0.6, 36.70N±0.04×71.37E±0.09, h196km±8km, n33, σ1°00/45, mb3.8/5, 8C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	Cherat	2.90	171	⇓P	P	11 57 08.6	-0.1
CEP				S	S	11 57 37.0	-9.4
CHCP	Chirah Chowk	3.41	152	⇑P	P	11 57 15.7	+0.8
SARP	Sargodha	4.88	167	P	P	11 57 32.6	-0.9
AML	Almayashu	5.72	18	P	P	11 57 44.4	+0.2
	SNR=26						
AAK	Ala-Archa	6.40	21	P	P	11 57 53.9	+0.7
	SNR=8.6						
AAK	Ala-Archa	6.40	21	⇑P	P	11 57 53.5	+0.3
	10nm,0.5s						
AAK				⇑S	S	11 59 03.5	-2.2
	84nm,1.4s						
AAK	Ala-Archa	6.40	21	⇑P	P	11 57 53.5	+0.3
	10nm,0.4s						
AAK				S	S	11 59 03.5	-2.2
KK31	Karatay Array	6.43	354	⇑P	P	11 57 52.9	-0.6
	4.9nm,0.3s,baz=174,slow=11,SNR=278						
KK31				⇑S	S	11 59 01.1	-5.4
	21nm,0.5s,baz=190,slow=23,SNR=23						
CHMS	Chumysh	6.81	21	P	P	11 57 58.7	+0.2
	SNR=6.7						
USP	Ospenovka	6.99	19	P	P	11 58 01.3	+0.5
	SNR=9.4						
TKM2	Tokmak 2	7.02	26	P	P	11 58 02.1	+0.9
	SNR=9.0						
MKAR	Makanchi Array	12.96	35	P	P	11 59 18.2	+0.4
	0.1nm,0.3s,baz=218,slow=13,SNR=4.1						
KOLN	Koldanda	13.64	127	eP	P	11 59 26.1	-0.4
	23nm,0.4s						
KOLN				eS	S	12 01 48.3	-5.4
GKN	Gorkha	14.16	124	eP	P	11 59 33.1	+0.1
	30nm,0.3s						
GKN				eS	S	12 01 59.8	-5.7
KKN	Kakani	14.73	123	eP	P	11 59 40.5	+0.4
	44nm,0.4s						
DMN	Daman	14.73	124	eP	P	11 59 41.4	+1.3
	55nm,0.4s						
DMN				eS	S	12 02 14.8	-3.5
PKI	Pulchoki	14.96	123	eP	P	11 59 43.6	+0.7
	44nm,0.4s						
AB31	Akbulak array	15.06	330	P	P	11 59 42.6	-1.4
	1.6nm,0.4s,baz=146,slow=13,SNR=61						
AB31				⇑S	S	12 02 23.6	-1.9
	4.0nm,0.5s,baz=147,slow=23,SNR=8.9						
AB31	Akbulak array	15.06	330	P	P	11 59 42.6	-1.4
	1.6nm,0.4s						
AB31				S	S	12 02 23.6	-1.9
AB31	Akbulak array	15.06	330	P	P	11 59 42.6	-1.3
AB31				S	S	12 02 23.6	-1.9
AB31				pmax	pmax		
	comp=Z,2.0nm,0.4s						
BVAR	Borovoye Array	16.34	358	P	P	11 59 59.9	+0.2
	comp=Z,0.3nm,0.3s,baz=164,slow=10,SNR=4.6						
AKTK	Aktyubinsk	16.76	329	P	P	12 00 04.1	-0.5
AKTK				S	S	12 03 04.6	+1.1
AKTO	Aktyubinsk	16.76	329	P	P	12 00 04.1	-0.5
	comp=Z,2.5nm,0.9s						
AKTO				⇑S	S	12 03 04.6	+1.1
	comp=Z,1.4nm,1.1s						
ZAL	Zalesovo	19.60	24	P	P	12 00 36.3	+1.6
	comp=Z,2.1nm,0.3s,baz=220,slow=2.7,SNR=4.0						
BDT	Bhumibol Dam	31.16	121	P	P	12 02 27.0	+4.5
ENH	Enshi	32.28	90	P	P	12 02 30.3	-1.9
	comp=Z,21nm,1.6s,mb4.4						
ARCES	ARCESS Array B	41.08	337	P	P	12 03 46.8	+1.4
	comp=Z,2.3nm,0.7s,mb3.7,baz=117,slow=8.1,SNR=6.2						
NB2	NORSAR Subarra	44.40	323	P	P	12 04 12.2	0.0
	comp=Z,0.8nm,0.5s,mb3.3,baz=97,slow=7.4						
NB2	NORSAR Subarra	44.40	323	P	P	12 04 12.2	0.0
NB2				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.4						
NOA	NORSAR Array B	44.40	323	P	P	12 04 12.2	0.0
	comp=Z,1.1nm,0.6s,mb3.3,baz=98,slow=7.9,SNR=5.1						
WRA	Warramunga Arr	81.84	122	P	P	12 08 18.3	-0.3
	comp=Z,0.9nm,0.9s,mb3.4,baz=323,slow=4.9,SNR=16						
WRAB	Tennant Creek	81.84	122	P	P	12 08 17.8	-0.8
	comp=Z,2.4nm,0.8s,mb3.9						
WRAB	Tennant Creek	81.84	122	P	P	12 08 17.8	-0.8
WRAB				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.8						

*IDC **11** 12:36:45.6±3.9, 12.35S×166.99E, h213km±36km, mb3.7/11, mb1 3.8/12, mb1mx3.8/17, mbtmp4.2/12, Error ellipse: s-maj=21.9km s-min=17.9km az=71.0*
*NEIC **11** 12:36:45.8±2.2, 12.25S×166.94E, h220km±19km, mb4.1/9, Error ellipse: s-maj=17.0km s-min=12.2km az=62.0*

ISC 11 12:36:45.1±2.4, 12.30S±0.09×166.9E±0.1, h224km±22km, n45, σ1°00/27, mb3.9/17, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	9.73	182	P	P	12 39 02.1	+0.7
	0.3nm,0.3s,baz=268,slow=19,SNR=4.0						
DZM				S	S	12 40 47.7	-0.4
	baz=225,slow=20,SNR=2.3						
AFI	Afiamalu	20.83	97	P	P	12 41 17.3	+6.8
	182nm,1.5s						
CTA	Charters Tower	21.27	246	P	P	12 41 16.4	+1.8
	3.6nm,0.7s,mb4.0,baz=85,slow=12,SNR=6.6						
CTAO	Charters Tower	21.27	246	eP	P	12 41 16.4	+1.8
	3.3nm,0.6s,mb4.0						
STKA	Stephens Creek	30.35	226	P	P	12 42 38.2	+0.1
	1.0nm,0.4s,mb3.8,baz=25,slow=8.9,SNR=5.5						
STKA	Stephens Creek	30.35	226	eP	P	12 42 37.9	-0.3
RPZ	Rata Peaks	31.51	174	P	P	12 42 46.8	-1.4
	14nm,0.8s,mb4.5,baz=19,slow=21,SNR=7.3						
WRAB	Tennant Creek	32.13	252	P	P	12 42 52.6	-1.1
	7.8nm,1.2s,mb4.1						
WRA	Warramunga Arr	32.14	252	P	P	12 42 53.3	-0.5
	0.4nm,0.4s,mb3.3,baz=84,slow=8.9,SNR=26						
NWAO	Narrogin (SRO)	49.72	237	eP	P	12 45 15.6	-1.0
	3.9nm,0.8s,mb3.8						
MJAR	Matsushiro Arr	55.60	332	P	P	12 45 59.5	-0.2
	3.1nm,0.8s,mb3.9,baz=166,slow=10,SNR=8.3						
MAJO	Matsushiro	55.60	332	eP	P	12 45 59.2	-0.5
	3.6nm,0.7s,mb4.0						
VNDA	Vanda	65.27	181	P	P	12 47 03.8	-0.6
	0.7nm,0.7s,mb3.4,baz=335,slow=6.6,SNR=3.9						
VNDA	Vanda	65.27	181	eP	P	12 47 04.1	-0.2
	1.2nm,0.8s,mb3.6						
SBA	Scott Base	65.55	180	eP	P	12 47 06.4	+0.2
	3.0nm,0.8s,mb4.0						
CASY	Casey	65.63	202	eP	P	12 47 05.7	-1.1
	2.7nm,0.5s,mb4.1						
SONM	Songino Array	80.34	323	P	P	12 48 33.5	+0.8
	0.6nm,0.5s,mb3.5,baz=135,slow=4.2,SNR=4.1						
MCK	McKinley	82.97	18	P	P	12 48 44.1	-1.9
	1.4nm,0.6s,mb3.9						
MAW	Mawson	83.99	202	P	P	12 48 51.8	+0.8
	3.2nm,0.9s,mb4.1,baz=146,slow=2.1,SNR=4.0						
MAW	Mawson	83.99	202	eP	P	12 48 51.8	+0.8
	7.3nm,1.0s,mb4.4						
ILAR	Eielson Array	84.34	18	P	P	12 48 52.5	-0.3
	6.1nm,0.6s,mb4.5,baz=245,slow=5.1,SNR=97						
NVAR	Mina Array Bea	85.97	49	P	P	12 49 01.9	+0.4
	0.7nm,0.8s,mb3.4,baz=241,slow=9.3,SNR=5.0						
MKAR	Makanchi Array	95.20	317	P	P	12 49 45.5	+1.3
	2.4nm,0.9s,mb4.3,baz=93,slow=6.4,SNR=12						
SNAA	Sanae	95.94	183				
VNA3	Neumayer Olymp	96.62	181		P	12 49 46.7	-0.3
VNA2	Neumayer--Watz	96.88	182		P	12 49 51.7	+1.5
					P	12 49 53.2	+1.8

ARCES	ARCESS Array B	117.82	346	PKP	PKPdf	12 55 05.9	+1.6
	4.1nm,0.6s,baz=80,slow=1.9,SNR=30						
NOA	NORSAR Array B	128.20	345	PKP	PKPdf	12 55 26.2	+1.7
	1.0nm,0.6s,baz=29,slow=1.9,SNR=3.9						
GRR	Gorron	142.60	347	ePKP1	PKPdf	12 55 53.4	+2.2
LPG	La Plagne	142.84	337	ePKP1	PKPdf	12 55 54.3	+2.5
MBDF	Montbardon	143.48	336	ePKP1	PKPbc	12 55 53.0	+1.3
	7.3nm,0.8s						
QUIF	Quistinic	143.53	349	ePKP1	PKPbc	12 55 55.6	+3.9
ORIF	Oris-en-Rattie	143.66	337	ePKP1	PKPbc	12 55 54.2	+2.0
	19nm,0.7s						
SBF	Sospel	143.91	334	ePKP1	PKPbc	12 55 54.3	+1.3
	28nm,0.7s						
MFF	Saint Martin d	144.10	345	ePKP1	PKPbc	12 55 55.1	+1.6
	12nm,0.7s						
VIVF	Saint-Julien-l	144.17	338	ePKP1	PKPbc	12 55 55.7	+2.0
	35nm,1.1s						
PGF	Pioggiola	144.27	332	ePKP1	PKPbc	12 55 55.8	+1.7
	32nm,0.7s						
FRF	La Foret Royal	144.49	335	ePKP1	PKPbc	12 55 56.3	+1.6
	29nm,0.8s						
SMRF	Simiane la Rot	144.58	336	ePKP1	PKPbc	12 55 57.1	+2.2
	14nm,0.8s						
LMR	La Mourre	144.74	335	ePKP1	PKPbc	12 55 57.2	+1.8
RJF	Les Rejaudoux	144.82	342	ePKP1	PKPbc	12 55 57.8	+2.3
	6.3nm,0.7s						
LASF	Ste Croix	145.13	338	ePKP1	PKPbc	12 55 58.9	+2.5
	5.5nm,0.6s						
LFF	La Frestale	145.38	343	ePKP1	PKPbc	12 55 59.3	+2.3
	16nm,0.6s						
MTLF	Montolieu	146.35	340	ePKP1	PKPbc	12 56 02.3	+2.9
	12nm,0.7s						
ESDC	Sonseca Array	151.56	345	PKPbc	PKPdf	12 56 14.8	+8.6
	1.6nm,0.6s,baz=42,slow=1.6,SNR=10						
ESDC				PKPab	PKPab	12 56 25.2	+0.8
	2.0nm,0.6s,baz=16,slow=4.0,SNR=5.4						

IDC 11 12:43:43.4±1.4, 8.19S×157.01E, mb4.1/3, mb1 4.2/4, mb1mx3.8/14, mbtmp4.1/4, ML4.3/1, Error ellipse: s-maj=38.4km s-min=26.2km az=12.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	3.16	113	Pn	Pn	12 44 33.0	-2.4
	38nm,0.3s,baz=209,slow=9.1,SNR=12						
HNR				Sn	Sn	12 45 15.0	+0.7
	52nm,0.3s,baz=202,slow=15,SNR=9.6						
WB2	Warramunga Arr	24.85	240	eP	P	12 49 06.7	-2.5
WRA	Warramunga Arr	24.86	240	P	P	12 49 06.5	-2.8
	2.1nm,0.8s,baz=65,slow=10.0,SNR=22						
WRA				PcP	PcP	12 52 44.1	-2.4
	0.9nm,0.6s,baz=68,slow=2.5,SNR=16						
STKA	Stephens Creek	27.59	209	P	P	12 49 33.8	-0.7
	2.7nm,0.7s,baz=45,slow=14,SNR=7.3						
MKAR	Makanchi Array	85.61	318	P	P	12 56 24.6	-0.6
	0.6nm,0.6s,baz=104,slow=5.0,SNR=6.0						

MAN 11 12:49:26.4, 12.59N×119.95E, h31km, mb4.0, ML2.8, MS2.4, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUSP	Coron	0.64	158	eP	Pb	12 49 39.6	+0.6
BUSP				eS	Sb	12 49 49.4	+1.7
LUBP	Lubang	1.17	14	eP	Pn	12 49 45.9	-1.0
PGP	Puerto Galera	1.33	47	eP	Pn	12 49 49.5	+0.4
PGP				eS	Sn	12 50 17.2	+11
ENPP	El Nido	1.47	201	eP	Pn	12 49 51.2	0.0

SKHL 11 12:51:23.4±0.1, 55.05N×124.81E, h9km±1km, mb3.8/4, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KROS	Kirovskiy	1.40	115	i Pg	Pg	12 51 49.0	-2.3
KROS				AMB	AMB	12 51 49.5	
	9.0nm,0.4s						
KROS				AMB	AMB	12 51 49.5	
	17nm,0.4s						
KROS				AMB	AMB	12 51 49.5	
	27nm,0.4s						
KROS				sPg		12 51 54.5	
KROS				eSg	Sg	12 52 07.7	-2.3
KROS				A		12 52 09.5	
	52nm,0.4s						
KROS				A		12 52 09.5	
	170nm,0.4s						
ZEA	Zeya	1.94	132	ePg	Pg	12 51 58.3	-3.9
ZEA				AMB	AMB	12 51 59.3	
	27nm,0.2s						
ZEA				sPg		12 52 04.2	
ZEA				eSg	Sg	12 52 23.7	-4.3
ZEA				A		12 52 24.7	
	98nm,0.5s						
ZEA				A		12 52 24.7	
	63nm,0.5s						
ZEA				A		12 52 24.7	
	22nm,0.5s						
ZEA				A		12 52 26.0	
	100nm,1.0s						
TUP	Tupik	2.88	259	ePg	Pg	12 52 16.9	-4.1
TUP				AMB	AMB	12 52 23.0	
	20nm,0.2s						
TUP				eSn	Sn	12 52 46.4	+0.8
TUP				eSg	Sg	12 52 54.8	-4.7
TUP				A		12 52 57.5	
	69nm,0.5s						
CRS	Chara	4.12	299	erx	rx	12 52 34.5	
CRS				eSg	Sg	12 53 33.0	-7.5

JKO	Kozu shima	1.17	239	⇓P		P	12 53 15.2 +0.5
JKO				eS		S	12 53 30.7 +0.4
JIZS	Izushimoda	1.21	267	eS		S	12 53 31.1 -0.2
JHJ	Hachijo jima 2	1.74	196	P		P	12 53 23.1 +0.7
	172nm,0.3s,baz=3.2,slow=3.5,SNR=213						
JHJ				S		S	12 53 44.2 +0.7
	419nm,0.3s,baz=167,slow=23,SNR=14						
MJAR	Matsushiro Arr	2.46	316	P		P	12 53 32.7 +0.1
	32nm,0.3s,baz=234,slow=5.2,SNR=207						
MJAR				S		S	12 54 02.3 +0.8
	35nm,0.3s,baz=151,slow=25,SNR=13						
MAJO	Matsushiro	2.46	316	ePn		P	12 53 32.9 +0.4
MAT	Matsushiro	2.46	316	P		P	12 53 33.2 +0.6
MAT				S		S	12 54 02.8 +1.3
MAT	Matsushiro	2.46	316	eP		P	12 53 33.0 +0.4
MAT				eS		S	12 54 03.0 +1.5
CBIJ	Chichi jima	7.84	168	P		P	12 54 45.0 -2.3
	14nm,0.3s,baz=308,slow=23,SNR=12						
CBIJ				S		S	12 56 07.5 -7.7
	10nm,0.3s,baz=256,slow=19,SNR=3.9						
JNU	Nakatsue	8.04	261	P		P	12 54 50.2 +0.1
	0.4nm,0.3s,baz=90,slow=10,SNR=2.8						
ASAJ	Asahikawa	9.47	10	P		P	12 55 06.5 -3.1
	0.8nm,0.3s,baz=222,slow=12,SNR=9.2						
ASAJ				S		S	12 56 46.8 -8.6
	0.7nm,0.3s,baz=294,slow=27,SNR=5.9						
ASAJ	Asahikawa	9.47	10	P		P	12 55 06.5 -3.1
ASAJ				S		S	12 56 46.8 -8.6
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MDJ	Mudanjiang	12.82	323	P		P	12 55 55.5 +0.8
	comp=Z,19nm,1.5s						
MA2	Magadan	25.72	12	P		P	12 58 15.8 -3.2
	comp=Z,34nm,1.3s,mb4.6						
MA2	Magadan	25.72	12	P		P	12 58 15.8 -3.2
MA2				pmax	pmax		
	comp=Z,34nm,1.3s,mb4.6						
MKAR	Makanchi Array	44.61	304	P		P	13 01 02.0 +1.3
	comp=Z,0.7nm,0.7s,mb3.5,baz=84,slow=9.6,SNR=6.2						
KURK	Kurchatov	46.66	310	eP		P	13 01 14.7 -2.2
	comp=Z,4.6nm,0.9s,mb4.2						
KURK	Kurchatov	46.66	310	eP		P	13 01 14.7 -2.2
KURK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.2						
PMR	Palmer	50.94	35	P		P	13 01 40.3 -10
	comp=Z,2.1nm,0.7s,mb4.3						
ILAR	Eielson Array	51.85	31	P		P	13 01 56.9 +0.3
	comp=Z,0.8nm,0.8s,mb3.8,baz=274,slow=5.6,SNR=7.7						
WRA	Warramunga Arr	54.73	187	P		P	13 02 19.0 +0.5
	comp=Z,1.5nm,0.6s,mb4.2,baz=1.0,slow=7.5,SNR=4.0						
CTAO	Charters Tower	54.87	173	P		P	13 02 16.3 -3.2
	comp=Z,5.0nm,1.0s,mb4.5						
INK	Inuvik	56.77	26	eP		P	13 02 32.0 -0.5
	comp=Z,0.9nm,0.6s,mb4.0						
INK	Inuvik	56.77	26	eP		P	13 02 32.0 -0.5
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NVAR	Mina Array Bea	77.03	52	P		P	13 04 43.1 +2.3
	comp=Z,0.8nm,0.7s,mb3.5,baz=290,slow=5.1,SNR=10						
PDAR	Pinedale Array	79.86	45	P		P	13 04 57.2 +1.0
	comp=Z,0.4nm,0.6s,mb3.4,baz=276,slow=3.7,SNR=5.0						
LPAZ	La Paz	148.55	61	PKPbc		PKPdf	13 12 36.6 +7.2
	comp=Z,0.8nm,0.5s,baz=4.2,slow=3.9,SNR=6.8						

*NEIC **11** 12:55:27.6±1.3,6.27S×150.99E,h46km±12km,mb4.7/14, Error ellipse: s-maj=10.3km s-min=8.5km az=139.0*
*IDC **11** 12:55:28.4±2.6,6.31S×151.03E,h55km±22km,mb4.3/10, mb1 4.4/12,mb1mx4.3/17,mbtmp4.5/12,ML3.3/2,MS4.2/8, Ms1 4.2/8,ms1mx3.9/26,Error ellipse: s-maj=18.7km s-min=12.4km az=124.0*

ISC 11 12:55:25.6±1.8,6.27S±0.08×150.99E±0.07,h44km±16km, n41,σ0°92/37,mb4.6/21,MS4.1/5,1C,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.92	230	P	P	12 56 40.1	+1.1
	5.7nm,0.3s,baz=28,slow=8.5,SNR=15						
PMG				S	S	12 57 36.1	+0.7
	38nm,0.3s,baz=37,slow=23,SNR=8.2						
PMG				LR	LR	12 58 26.7	
	comp=Z,2μm,18.8s,baz=40,slow=36						
PMG	Port Moresby	4.92	230	ePn	P	12 56 39.5	+0.5
HNR	Honiara	9.41	110	LR	LR	13 00 33.3	
	comp=Z,913nm,19.1s,baz=147,slow=33						
HNR	Honiara	9.41	110	P	P	12 57 41.3	-0.2
	64nm,0.9s						
CTA	Charters Tower	14.49	198	P	P	12 58 49.5	-0.3
	0.1nm,0.3s,baz=22,slow=14,SNR=2.4						
CTA				LR	LR	13 04 02.1	
	comp=Z,932nm,18.7s,baz=19,slow=36						
KAKA	Kakadu	19.38	249	eP	P	12 59 58.4	+7.7
	20nm,0.5s						
WRAB	Tennant Creek	21.12	228	eP	P	13 00 07.6	-1.4
	94nm,0.8s,mb5.2						
WB2	Warramunga Arr	21.12	228	eP	P	13 00 08.2	-0.8
WB2				eS	S	13 04 01.6	+5.1
WRA	Warramunga Arr	21.13	228	P	P	13 00 08.6	-0.5
	16nm,0.5s,mb4.6,baz=54,slow=10,SNR=153						
WRA				S	S	13 04 01.2	+4.5
	2.0nm,1.1s,baz=57,slow=22,SNR=8.3						
DZM	Mont Dzumac	21.68	138	P	P	13 00 13.4	-1.2
	4.1nm,0.5s,mb4.1,baz=302,slow=21,SNR=10.0						
DZM				LR	LR	13 07 38.5	
	comp=Z,300nm,18.3s,MS3.7,baz=340,slow=34						
STKA	Stephens Creek	26.95	198	P	P	13 01 05.3	+0.1
	15nm,0.6s,mb4.7,baz=13,slow=9.2,SNR=25						
STKA				LR	LR	13 11 44.0	
	comp=Z,468nm,19.0s,MS4.1,baz=289,slow=36						
STKA	Stephens Creek	26.95	198	eP	P	13 01 04.6	-0.6
FITZ	Fitzroy Crossi	27.39	242	eP	P	13 01 08.7	-0.6
	25nm,0.7s,mb4.8						
FITZ	Fitzroy Crossi	27.39	242	P	P	13 01 08.8	-0.5
	36nm,0.6s,mb5.1,baz=34,slow=6.7,SNR=120						
FITZ				LR	LR	13 12 15.2	
	comp=Z,489nm,18.6s,MS4.1,baz=77,slow=37						
MBWA	Marble Bar	33.69	241	eP	P	13 02 04.7	-0.2
	14nm,1.1s,mb4.8						
URZ	Urewera	39.69	147	LR	LR	13 16 11.8	
	comp=Z,328nm,20.6s,MS4.2,baz=27,slow=31						
KLBR	Kellerberrin	40.00	227	eP	P	13 02 57.8	-0.1
	12nm,0.9s,mb4.6						
RPZ	Rata Peaks	41.26	158	LR	LR	13 17 33.7	
	comp=Z,793nm,19.3s,MS4.6,baz=245,slow=32						
JNU	Nakatsue	43.58	335	P	P	13 03 27.6	+0.2
	15nm,0.8s,mb4.8,baz=80,slow=4.5,SNR=6.3						
KS15	Wonju Array Si	48.54	335	P	P	13 04 07.7	+1.2
KULM	Kulim	51.55	282	P	P	13 04 28.7	-1.2
CASY	Casey	66.10	197	eP	P	13 06 09.7	-0.5
	2.5nm,0.8s,mb4.3						
SONM	Songino Array	66.62	329	P	P	13 06 14.3	+0.5
	1.7nm,0.6s,mb4.3,baz=136,slow=5.5,SNR=8.9						
YAK	Yakutsk	70.06	349	eP	P	13 06 35.0	+0.2
	22nm,1.4s,mb4.9						
VNDA	Vanda	71.45	178	P	P	13 06 43.0	-0.1
	2.2nm,0.6s,mb4.3,baz=328,slow=7.0,SNR=12						
VNDA	Vanda	71.45	178	eP	P	13 06 42.9	-0.1
	6.7nm,1.1s,mb4.5						
SBA	Scott Base	72.03	177	eP	P	13 06 48.6	+2.2
	8.5nm,1.1s,mb4.6						
MKAR	Makanchi Array	80.25	319	P	P	13 07 33.7	+0.2
	1.2nm,0.6s,mb4.0,baz=111,slow=5.5,SNR=11						
MKAR	Makanchi Array	80.25	319	P	P	13 07 33.7	+0.2
SLKM	Skilak Lake	80.75	25	P	P	13 07 36.4	+0.6
MCK	McKinley	82.90	23	eP	P	13 07 46.1	-0.8
	15nm,1.2s,mb4.9						
MAW	Mawson	83.53	203	P	P	13 07 51.8	+1.9
	7.1nm,1.2s,mb4.7						
QSPA	South Pole Qui	83.70	180	⇑iP	P	13 07 52.6	+2.0
	7.9nm,1.0s,mb4.8						
KURK	Kurchatov	83.82	322	eP	P	13 07 51.1	-0.6
	4.9nm,0.9s,mb4.6						
ILAR	Eielson Array	84.19	22	P	P	13 07 52.8	-0.6
	4.0nm,0.6s,mb4.7,baz=252,slow=5.1,SNR=24						
BVAR	Borovoye Array	89.33	323	P	P	13 08 17.3	-1.3
	0.9nm,0.5s,mb4.3,baz=104,slow=6.1,SNR=6.7						
INK	Inuvik	90.46	21	eP	P	13 08 24.3	+0.8
	6.2nm,0.9s,mb4.9						
PDAR	Pinedale Array	101.16	48	P	P	13 09 13.3	+0.4
	0.4nm,0.9s,baz=297,slow=3.3,SNR=3.9						
GERES	GERESS Array B	124.33	327	PKP	PKPdf	13 14 22.0	+1.9
	0.7nm,0.4s,baz=90,slow=2.7,SNR=4.9						
BDFB	Brasilia	151.22	139	PKPbc	PKPdf	13 15 15.7	+6.5
	3.8nm,0.5s,baz=196,slow=5.4,SNR=4.5						
DBIC	Dimbokro	156.00	272	PKPab	PKPab	13 15 46.6	+0.9
	1.9nm,0.5s,baz=61,slow=4.8,SNR=6.9						

GUC 11 13:01:07.4±0.6,34.31S×72.29W,h34km±2km,MD3.8, ML2.9,3C-7D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	0.81	65	⇓iP	P	13 01 22.3	0.0
LNV				i S	S	13 01 33.4	+0.2
LCCH	Las Cruces	1.02	36	⇑iP	P	13 01 25.8	+0.4
LCCH				i S	S	13 01 40.0	+1.3
SFDO	San Fernando	1.10	107	⇓iP	P	13 01 27.2	+0.7
SFDO				i S	S	13 01 41.8	+1.1
TACH	Talagante	1.30	60	⇑iP	P	13 01 30.0	+0.8
TACH				i S	S	13 01 46.6	+0.9
CHCH	Chadas Angostu	1.41	75	eP	P	13 01 31.6	+0.7
CHCH				i S	S	13 01 50.5	+2.0
CACH	El Canelo	1.41	83	⇓iP	P	13 01 32.7	+1.7
CACH				i S	S	13 01 51.8	+3.2
RCDM	Rinconada Maip	1.48	57	⇓iP	P	13 01 32.5	+0.6
RCDM				i S	S	13 01 52.1	+1.9
RCDM				AMP		13 01 59.4	
	comp=E,213nm,0.4s						
CICH	Cipreses	1.54	91	⇓iP	P	13 01 34.0	+1.1
CICH				i S	S	13 01 55.7	+3.7
PCH	Pirque	1.62	66	⇓iP	P	13 01 35.3	+1.3
CLCH	Cerro Calan	1.72	59	eP	P	13 01 36.0	+0.7
CLCH				i S	S	13 01 58.4	+2.1
CLCH				AMP		13 02 03.7	
	comp=N,219nm,0.6s						
LMEL	Las Melosas	1.79	76	⇓iP	P	13 01 37.9	+1.5
LMEL				i S	S	13 02 01.0	+2.9
LMEL				AMP		13 02 07.0	
	comp=N,355nm,0.2s						
FCH	Farellones	1.93	60	⇑iP	P	13 01 40.1	+1.7
FCH				i S	S	13 02 04.6	+3.0
FCH				AMP		13 02 11.0	
	comp=N,142nm,0.4s						

*IDC **11** 13:09:31.6±3.4,20.85S×169.49E,mb4.0/3,mb1 4.1/4, mb1mx3.9/12,mbtmp4.0/4,ML3.6/1,MS3.8/2,Ms1 3.8/2, ms1mx3.3/26,Error ellipse: s-maj=114.4km s-min=36.8km az=143.0*

ISC 11 13:09:33.7±1.0,20.5S±0.2×169.4E±0.2,h33km,n15, σ0°98/14,mb3.9/4,MS4.1/1,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.19	239	eP	P	13 10 21.7	-1.0
DZM				eS	S	13 11 00.7	+0.6
DZM	Mont Dzumac	3.19	239	Pn	Pn	13 10 22.0	-0.9
	6.7nm,0.3s,baz=106,slow=15,SNR=168						
DZM				Sn	Sn	13 11 00.0	-0.2
	11nm,0.3s,baz=334,slow=20,SNR=7.6						
RAO	Raoul Island	14.44	130	LR	LR	13 17 10.8	
	comp=Z,168nm,20.4s,baz=271,slow=32						
STKA	Stephens Creek	27.35	240	P	P	13 15 17.8	0.0
	3.3nm,0.8s,mb3.9,baz=84,slow=10,SNR=6.5						
WRA	Warramunga Arr	32.88	265	P	P	13 16 06.9	-0.1
	0.3nm,0.4s,mb3.5,baz=99,slow=8.4,SNR=12						
FITZ	Fitzroy Crossi	41.29	266	P	P	13 17 20.3	+2.5
	5.9nm,1.1s,mb4.2,baz=149,slow=5.0,SNR=3.8						
NWAO	Narrogin (SRO)	47.80	244	LR	LR	13 37 16.9	
	comp=Z,206nm,18.6s,MS4.1,baz=87,slow=35						
SNAA	Sanae	87.95	182		P	13 22 20.0	-0.8
SNAA	Sanae	87.95	182		P	13 22 30.7	+10
VNA3	Neumayer Olymp	88.53	180		P	13 22 24.7	+1.1
VNA3	Neumayer Olymp	88.53	180		P	13 22 34.5	+11
VNA2	Neumayer--Watz	88.83	181		P	13 22 26.3	+1.3
VNA2	Neumayer--Watz	88.83	181		P	13 22 36.2	+11
ILAR	Eielson Array	91.35	17	P	P	13 22 36.1	-0.9
	0.3nm,0.5s,mb3.9,baz=223,slow=6.1,SNR=8.1						
GERES	GERESS Array B	145.64	331	PKPbc	PKPbc	13 29 12.6	+3.3
	0.8nm,0.6s,baz=34,slow=3.5,SNR=4.3						

*IDC **11** 13:25:03.3±2.4,21.87S×170.12E,mb4.2/6,mb1 4.3/7, mb1mx4.1/16,mbtmp4.2/7,ML3.9/1,MS4.0/7,Ms1 4.0/7, ms1mx3.7/23,Error ellipse: s-maj=70.5km s-min=34.2km az=146.0*
*NEIC **11** 13:25:05.0±0.9,21.93S×170.05E,h10km,mb4.6/7,Error ellipse: s-maj=23.9km s-min=12.1km az=211.0*

ISC 11 13:25:06.8±1.1,22.1S±0.2×169.96E±0.10,h29km, h29km±1.4km:pP-P,n42,σ1°01/35,mb4.4/10,MS4.0/5,1C, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.26	269	eP	Pn	13 25 57.8	+0.6
DZM				eS	Sn	13 26 34.4	-1.1
DZM	Mont Dzumac	3.26	269	Pn	Pn	13 25 57.6	+0.4
	13nm,0.3s,baz=112,slow=21,SNR=143						
DZM				LR	LR	13 26 27.7	
	comp=Z,2μm,18.2s,baz=91,slow=25						
DZM				Sn	Sn	13 26 36.1	+0.6
	25nm,0.3s,baz=280,slow=23,SNR=9.2						
AFI	Afiamalu	19.16	68	LR	LR	13 34 28.5	
	comp=Z,136nm,21.0s,baz=189,slow=30						
SNZO	South Karori	19.59	169	P	P	13 29 35.1	-0.4
RPZ	Rata Peaks	21.60	178	LR	LR	13 37 05.5	
	comp=Z,686nm,19.7s,MS4.1,baz=359,slow=33						
CTA	Charters Tower	22.20	271	eP	P	13 30 05.3	+2.8
	9.6nm,1.6s,mb4.0						
CTA	Charters Tower	22.20	271	P	P	13 30 04.3	+1.8
	3.2nm,0.7s,mb3.9,baz=99,slow=12,SNR=9.7						
CTA				LR	LR	13 37 47.9	
	comp=Z,661nm,19.5s,MS4.1,baz=93,slow=34						
CTAO	Charters Tower	22.20	271	eP	P	13 30 04.3	+1.8
	8.5nm,0.8s,mb4.2						
CTAO				e		13 30 13.2	
STKA	Stephens Creek	27.03	243	P	P	13 30 50.0	+1.5
	3.0nm,0.7s,mb3.9,baz=87,slow=12,SNR=6.4						
STKA	Stephens Creek	27.03	243	eP	P	13 30 49.2	+0.7
STKA				e	pP	13 30 57.9	+0.8
WB2	Warramunga Arr	33.26	267	⇑iP	P	13 31 42.9	-1.1
WRAB	Tennant Creek	33.27	267	eP	P	13 31 42.7	-1.3
	6.9nm,0.9s,mb4.6						
WRA	Warramunga Arr	33.27	267	P	P	13 31 43.1	-1.0
	1.5nm,0.6s,mb4.1,baz=99,slow=8.0,SNR=26						
PPT	Papeete	38.25	91	LR	LR	13 44 32.1	
	comp=Z,180nm,18.4s,MS3.9,baz=290,slow=31						
FITZ	Fitzroy Crossi	41.70	267	eP	P	13 32 55.7	+0.7
	18nm,0.8s,mb4.7						
FITZ	Fitzroy Crossi	41.70	267	P	P	13 32 54.9	0.0
	6.4nm,0.8s,mb4.3,baz=126,slow=4.8,SNR=12						
MBWA	Marble Bar	46.53	261	eP	P	13 33 33.4	-0.5
	12nm,0.9s,mb4.8						
MBWA				e	pP	13 33 43.0	+0.3
NWAO	Narrogin (SRO)	47.57	245	P	P	13 33 42.4	+0.4
	3.9nm,0.7s,mb4.5,baz=94,slow=7.8,SNR=4.2						
NWAO	Narrogin (SRO)	47.57	245	eP	P	13 33 41.9	0.0
NWAO				e	pP	13 33 50.0	-0.9
VNDA	Vanda	55.63	182	LR	LR	13 54 59.3	
	comp=Z,211nm,19.6s,MS4.2,baz=25,slow=32						
SBA	Scott Base	55.85	181	eP	P	13 34 43.1	-0.4
	5.9nm,1.0s,mb4.6						
JHJ	Hachijo jima 2	61.98	331	LR	LR	13 56 19.8	
	comp=Z,87nm,21.4s,MS3.9,baz=133,slow=30						
SNAA	Sanae	86.37	182		P	13 37 46.4	-0.5
SNAA	Sanae	86.37	182		P	13 37 49.2	+2.3
SNAA	Sanae	86.37	182		P	13 37 52.4	+5.5
SNAA	Sanae	86.37	182		P	13 37 59.6	+13
SNAA	Sanae	86.37	182	P	P	13 37 45.6	-1.3
	9.8nm,1.4s,mb4.8						
VNA3	Neumayer Olymp	86.93	180		P	13 37 51.4	+1.7
VNA3	Neumayer Olymp	86.93	180		P	13 37 53.6	+3.9
VNA3	Neumayer Olymp	86.93	180		P	13 37 58.1	+8.4
VNA3	Neumayer Olymp	86.93	180		P	13 38 00.5	+11
VNA3	Neumayer Olymp	86.93	180		P	13 38 07.2	+18
VNA2	Neumayer--Watz	87.23	181		P	13 37 53.0	+1.9
VNA2	Neumayer--Watz	87.23	181		P	13 37 55.6	+4.5
VNA2	Neumayer--Watz	87.23	181		P	13 38 00.1	+9.0
VNA2	Neumayer--Watz	87.23	181		P	13 38 02.4	+11
VNA2	Neumayer--Watz	87.23	181		P	13 38 09.2	+18
SONM	Songino Array	89.88	323	P	P	13 38 04.3	0.0
	1.2nm,0.9s,mb4.2,baz=135,slow=4.1,SNR=5.5						
CLL	Collm	145.76	334	i PKIKP	PKPdf	13 44 43.6	-3.8
	logA/T=1.1						
CLL				e		13 44 58.0	
PRU	Pruhonice	146.09	331	ePKP	PKPdf	13 44 46.0	-2.0
KHC	Kasperske Hory	147.14	331	ePKP	PKPdf	13 44 41.5	-8.3
KHC				pPKP		13 44 50.0	
GERES	GERESS Array B	147.29	331	PKPbc	PKPdf	13 44 47.7	-2.3
	0.7nm,0.5s,baz=34,slow=7.1,SNR=4.3						

*IDC **11** 13:26:13.0±1.0,16.79N×145.62E,mb4.0/7,mb1 4.2/7, mb1mx4.0/20,mbtmp4.0/7,Error ellipse: s-maj=33.8km s-min=23.7km az=69.0*
*NEIC **11** 13:26:16.7±1.3,16.82N×145.54E,h25km±10km,mb4.6/3, Error ellipse: s-maj=22.7km s-min=11.7km az=75.0*

ISC 11 13:26:15.5±1.6,16.84N±0.10×145.5E±0.2,h31km±14km, n20,σ1°31/17,mb4.2/8,1D,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARN	Sarigan	0.30	118	⇓iP	Pb	13 26 23.3	+0.3
MJAR	Matsushiro Arr	20.66	343	P	P	13 30 53.9	-1.5
	3.4nm,0.8s,baz=172,slow=9.9,SNR=12						
MAJO	Matsushiro	20.66	343	eP	P	13 30 54.4	-1.1
	17nm,1.2s						
MAJO				e		13 31 03.5	
MAT	Matsushiro	20.66	343	P	P	13 30 54.3	-1.1
MAT				S	tx	13 31 14.3	
MAT	Matsushiro	20.66	343	eP	P	13 30 54.0	-1.4
KS15	Wonju Array Si	25.73	326	P	P	13 31 48.7	+3.6
WRAB	Tennant Creek	38.15	197	eP	P	13 33 33.2	-0.8
	16nm,1.2s,mb4.6						
WRA	Warramunga Arr	38.16	197	P	P	13 33 33.3	-0.9
	1.4nm,0.9s,mb3.7,baz=19,slow=9.4,SNR=5.5						
SONM	Songino Array	44.48	323	P	P	13 34 27.2	+1.4
	1.4nm,0.7s,mb3.8,baz=134,slow=9.0,SNR=8.8						
NWAO	Narrogin (SRO)	56.38	209	P	P	13 35 52.2	-4.4
MKAR	Makanchi Array	59.61	315	P	P	13 36 19.4	+0.3
	1.1nm,0.4s,mb4.2,baz=94,slow=8.2,SNR=16						
KURK	Kurchatov	62.52	319	eP	P	13 36 39.6	+0.9
	5.5nm,1.0s,mb4.6						
ILAR	Eielson Array	65.39	26	P	P	13 36 55.7	-1.4
	1.2nm,0.9s,mb3.9,baz=259,slow=5.9,SNR=4.4						
BVAR	Borovoye Array	67.78	321	P	P	13 37 14.3	+1.8
	4.6nm,0.8s,mb4.6,baz=90,slow=7.4,SNR=25						
BVAR	Borovoye Array	67.78	321	P	P	13 37 14.3	+1.8
NVAR	Mina Array Bea	84.44	52	P	P	13 38 48.7	+2.0
	0.7nm,0.6s,mb4.0,baz=264,slow=5.3,SNR=5.1						
NVAR	Mina Array Bea	84.44	52	P	P	13 38 48.7	+2.0
CFAA	Coronel Fontan	146.07	122	PKPbc	PKPbc	13 45 55.0	+1.8
	0.2nm,0.3s,baz=312,slow=3.4,SNR=3.1						
LPAZ	La Paz	147.79	94	PKPbc	PKPdf	13 46 00.8	+0.3
	0.6nm,0.8s,baz=236,slow=7.3,SNR=2.7						
LPAZ	La Paz	147.79	94	PKPbc	PKPdf	13 46 00.8	+0.3

*IDC **11** 13:27:22.5±1.2,21.28S×169.75E,mb4.3/7,mb1 4.4/8, mb1mx4.3/14,mbtmp4.3/8,ML4.1/1,MS4.1/6,Ms1 4.1/6, ms1mx3.8/21,Error ellipse: s-maj=32.0km s-min=23.2km az=135.0*
*BJI **11** 13:27:23.9,21.30S×169.80E,h10km,mB5.2,mb4.4*
*NEIC **11** 13:27:23.9±0.5,21.31S×169.79E,h10km,mb4.7/9,Error ellipse: s-maj=22.6km s-min=10.8km az=158.0*

ISC 11 13:27:23.8±4.2,21.8S±0.1×170.00E±0.07,h30km±29km, h23km±3.0km:pP-P,n63,σ1°43/36,mb4.5/15,MS4.0/5, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.32	264	eP	Pn	13 28 14.6	-0.4
DZM				eS	Sn	13 28 54.0	+0.2
DZM	Mont Dzumac	3.32	264	Pn	Pn	13 28 14.7	-0.3
	23nm,0.3s,baz=299,slow=21,SNR=20						
DZM				Sn	Sn	13 28 54.0	+0.2
	21nm,0.3s,baz=88,slow=16,SNR=4.3						
RAO	Raoul Island	13.21	127	LR	LR	13 33 57.8	
	comp=Z,435nm,21.3s,baz=321,slow=29						
HNR	Honiara	15.61	320	LR	LR	13 36 05.6	
	comp=Z,459nm,18.2s,baz=143,slow=35						
HNR	Honiara	15.61	320	P	P	13 30 55.2	-8.4
	109nm,1.1s						
AFI	Afiamalu	19.01	69	eP	P	13 31 46.4	+0.4
	56nm,1.0s						
CTA	Charters Tower	22.24	270	eP	P	13 32 21.6	+1.8
	5.3nm,1.0s,mb3.9						
CTA	Charters Tower	22.24	270	P	P	13 32 21.8	+2.0
	6.8nm,1.0s,mb4.0,baz=102,slow=13,SNR=5.0						
CTAO	Charters Tower	22.24	270	eP	P	13 32 20.1	+0.3
	13nm,1.1s,mb4.3						
STKA	Stephens Creek	27.20	242	P	P	13 33 06.8	-0.3
	3.8nm,0.7s,mb4.0,baz=100,slow=14,SNR=6.8						
STKA				LR	LR	13 42 58.8	
	comp=Z,470nm,20.0s,MS4.0,baz=245,slow=34						
STKA	Stephens Creek	27.20	242	eP	P	13 33 06.3	-0.7
STKA				LR	LR	13 42 58.8	
WRA	Warramunga Arr	33.33	267	P	P	13 33 60.0	-1.5
	1.9nm,0.6s,mb4.2,baz=100,slow=8.3,SNR=11						
FITZ	Fitzroy Crossi	41.76	267	eP	P	13 35 12.5	+0.2
	16nm,0.9s,mb4.7						
FITZ	Fitzroy Crossi	41.76	267	P	P	13 35 12.5	+0.1
	16nm,0.8s,mb4.7,baz=136,slow=5.5,SNR=5.8						
MBWA	Marble Bar	46.62	261	eP	P	13 35 52.3	+0.9
	10nm,0.8s,mb4.8						
VNDA	Vanda	55.95	182	P	P	13 37 06.1	+5.0

CLL			*i*			13 47 05.2	
CLL			*e*			13 47 11.0	
CLL			*e*			13 47 22.0	
CLL	**Collm**	**145.49 334**	*i* P		PKPbc	13 47 00.8	+1.4
CLL			*i*			13 47 05.2	
CLL			*e*			13 47 11.0	
CLL			*i*			13 48 35.4	
PRU	**Pruhonice**	**145.83 331**	*e*PKP		PKPdf	13 47 02.2	-2.3
PRU			*ex*		x	13 47 12.7	
ZST	**Bratislava**	**145.86 327**	*e*PKP		PKPdf	13 47 04.0	-0.6
NKC	**Novy Kostel**	**146.54 334**	*e*PKP		PKPdf	13 47 04.7	-1.0
NKC			*ex*		x	13 47 15.1	
MOX	**Moxa**	**146.56 335**	*e*P		PKPbc	13 47 04.0	+2.0
KHC	**Kasperske Hory**	**146.88 331**	*e*PKP		PKPdf	13 47 05.6	-0.7
KHC			*ex*		x	13 47 16.1	
GERES	**GERESS Array B**	**147.04 331**	PKPbc			13 47 04.7	
	comp=Z,2.8nm,0.7s,baz=90,slow=1.3,SNR=8.5						
GRA1	**Grafenberg Arr**	**147.47 334**	*e*PKP		PKPdf	13 47 07.6	+0.4
GRF	**Grafenberg Arr**	**147.47 334**	*e*PKP		PKPdf	13 47 07.6	+0.4
GIVF	**Givet**	**149.40 341**	*e*PKP1		PKPdf	13 47 12.1	+1.8
CDF	**Champ du Feu**	**150.03 337**	*e*PKP1		PKPdf	13 47 14.5	+3.1
	comp=Z,10nm,0.9s						
LPL	**La Plagne**	**152.63 334**	*e*PKP1		PKPdf	13 47 19.9	+4.6

IDC 11 13:40:25.3±2.3, 22.21S×169.94E, mb3.9/3, mb1 3.9/4, mb1mx3.8/13, mbtmp3.8/4, ML3.3/1, MS3.4/2, Ms1 3.4/2, ms1mx3.1/16, Error ellipse: s-maj=74.5km s-min=34.6km az=158.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.24**	**272**	*e*P	Pn	13 41 19.0	+0.6
DZM				*e*S	Sn	13 41 59.5	+1.2
DZM	**Mont Dzumac**	**3.24**	**272**	Pn	Pn	13 41 19.0	+0.5
	3.0nm,0.3s,baz=71,slow=20,SNR=16						
DZM				Sn	Sn	13 41 59.5	+1.2
	4.0nm,0.3s,baz=206,slow=17,SNR=7.1						
RPZ	**Rata Peaks**	**21.47**	**178**	LR	LR	13 51 12.1	
	comp=Z,67nm,20.7s,baz=98,slow=30						
CTA	**Charters Tower**	**22.18**	**271**	LR	LR	13 51 45.5	
	comp=Z,115nm,18.4s,baz=301,slow=31						
STKA	**Stephens Creek**	**26.95**	**243**	P	P	13 46 09.0	-1.4
	2.1nm,0.8s,baz=80,slow=11,SNR=5.2						
WRA	**Warramunga Arr**	**33.25**	**267**	P	P	13 47 03.1	-3.5
	0.5nm,0.5s,baz=101,slow=8.4,SNR=13						
SONM	**Songino Array**	**89.97**	**323**	P	P	13 53 25.1	-2.8
	0.3nm,0.3s,baz=117,slow=6.4,SNR=3.9						
GERES	**GERESS Array B**	**147.40**	**330**	PKPbc	PKPdf	14 00 12.2	+2.0
	0.9nm,0.6s,baz=45,slow=2.8,SNR=6.1						

*KNET **11** 13:49:11.6±0.2, 42.66N×74.84E, h13km±2km, ml2.6, Error ellipse: s-maj=1.3km s-min=1.2km az=45.0*
*NNC **11** 13:49:12.9±0.3, 42.50N×74.69E, h5km±3km, mpv2.8, Error ellipse: s-maj=14.6km s-min=3.9km az=28.0*

ISC 11 13:49:12.5±0.5, 42.67N±0.03×74.84E±0.04, h10km±4km, n12, σ0°50/21, 9C-11D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBK	**Karagaybulak**	**0.08**	**96**	⇑P	**Pg**	**13 49 15.2**	**+0.3**
	1μm,0.1s,SNR=3390						
KBK				⇓S	**Sg**	**13 49 17.2**	**+0.7**
	12μm,0.2s						
AAK	**Ala-Archa**	**0.26**	**263**	⇑P	**Pg**	**13 49 17.6**	**-0.4**
	70nm,0.2s,SNR=56						
AAK				⇑S	**Sg**	**13 49 21.3**	**-0.3**
	562nm,0.3s						
AAK	**Ala-Archa**	**0.26**	**263**	⇑P	**Pg**	**13 49 17.6**	**-0.4**
	14nm,0.2s						
AAK				⇑S	**Sg**	**13 49 20.9**	**-0.7**
	359nm,0.4s						
CHMS	**Chumysh**	**0.34**	**349**	⇓P	**Pg**	**13 49 19.5**	**0.0**
	271nm,0.1s,SNR=426						
CHMS				⇑S	**Sg**	**13 49 24.4**	**+0.2**
	1μm,0.1s						
UCH	**Uchtor**	**0.50**	**209**	⇓P	**Pg**	**13 49 22.1**	**-0.5**
	45nm,0.1s,SNR=21						
TKM2	**Tokmak 2**	**0.61**	**65**	⇓P	**Pb**	**13 49 24.5**	**-0.4**
	28nm,0.1s,SNR=128						
TKM2				⇓S	**Sg**	**13 49 33.0**	**-0.1**
	227nm,0.1s						
USP	**Ospenovka**	**0.65**	**338**	⇓P	**Pb**	**13 49 25.0**	**-0.5**
	22nm,0.1s,SNR=147						
USP				⇓S	**Sb**	**13 49 34.0**	**-0.4**
	287nm,0.2s						
KZA	**Kyzart**	**0.66**	**153**	⇓P	**Pb**	**13 49 25.4**	**-0.2**
	29nm,0.2s,SNR=19						
KZA				⇑S	**Sb**	**13 49 34.5**	**-0.1**
	377nm,0.3s						
EKS2	**Erkin-Say**	**0.78**	**270**	⇑P	**Pb**	**13 49 27.7**	**0.0**
	27nm,0.2s,SNR=86						
EKS2				⇓S	**Sb**	**13 49 38.7**	**+0.5**
	57nm,0.2s						
AML	**Almayashu**	**1.00**	**238**	P	**Pb**	**13 49 31.3**	**-0.2**
	28nm,0.2s,SNR=18						
AML				⇓S	**Sb**	**13 49 44.8**	**+0.3**
	77nm,0.2s						
ULHL	**Ulahol**	**1.12**	**112**	P	**Pb**	**13 49 33.5**	**0.0**
	5.4nm,0.1s,SNR=51						
KK31	**Karatay Array**	**3.21**	**279**	⇑Pn	**Pn**	**13 50 05.7**	**+1.6**
	1.4nm,0.3s,baz=98,slow=16,SNR=27						
KK31				⇓Lg		13 50 51.2	
	5.7nm,0.3s,baz=98,slow=32,SNR=21						

*NEIC **11** 14:46:18.7±1.9, 45.23S×167.10E, h11km±6km, ML4.4(WEL), Error ellipse: s-maj=21.8km s-min=8.5km az=104.0*

WEL 11 14:46:17.7±0.4, 45.25S×166.92E, h24km±2km, ML4.4/14, 3C-4D, Error ellipse: s-maj=4.9km s-min=1.8km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.28**	**144**	⇓P*	Pb	14 46 24.2	-0.2
DCZ				S*	Sb	14 46 28.6	-0.3
DCZ				S*	Sb	14 46 29.0	0.0
DCZ	**Deep Cove**	**0.28**	**144**	⇓P	Pb	14 46 24.2	-0.2
DCZ				S	Sb	14 46 29.0	+0.1
MLZ	**Mavora Lakes**	**0.89**	**97**	⇑P*	Pb	14 46 34.0	-0.5
MLZ				*e*S*	Sb	14 46 45.4	-0.5
MLZ	**Mavora Lakes**	**0.89**	**97**	⇑P	Pb	14 46 34.0	-0.4
MLZ				S	Sb	14 46 46.7	+0.8
MSZ	**Milford Sound**	**0.92**	**52**	PN	Pn	14 46 34.1	-1.1
MSZ				S*	Sb	14 46 47.6	+1.0
MSZ	**Milford Sound**	**0.92**	**52**	*e*P	Pb	14 46 34.1	-0.8
MSZ				S	Sb	14 46 48.1	+1.4
WHZ	**Wether Hill Ro**	**0.97**	**132**	⇓PN	Pn	14 46 35.4	-0.6
WHZ				*e*SN	Sn	14 46 47.6	-1.5
WHZ	**Wether Hill Ro**	**0.97**	**132**	⇓P	Pb	14 46 35.4	-0.3
WHZ				S	Sb	14 46 47.3	-0.8
WKZ	**Wanaka**	**1.55**	**75**	PN	Pn	14 46 45.2	+1.0
WKZ				SN	Sn	14 47 04.5	+0.8
WKZ	**Wanaka**	**1.55**	**75**	*e*P	Pn	14 46 45.2	+1.0
EAZ	**Earnscleugh**	**1.69**	**90**	PN	Pn	14 46 46.7	+0.4
EAZ				SN	Sn	14 47 08.3	+0.9
EAZ	**Earnscleugh**	**1.69**	**90**	P	Pn	14 46 46.7	+0.4
JCZ	**Jackson Bay**	**1.76**	**49**	PN	Pn	14 46 49.3	+2.0
JCZ				SN	Sn	14 47 13.5	+4.4
TUZ	**Tuapeka**	**2.03**	**111**	PN	Pn	14 46 51.0	-0.2
TUZ	**Tuapeka**	**2.03**	**111**	P	Pn	14 46 51.0	-0.2
LBZ	**Lake Benmore**	**2.48**	**71**	PN	Pn	14 46 57.0	-0.6
LBZ	**Lake Benmore**	**2.48**	**71**	*e*P	Pn	14 46 57.0	-0.6
ODZ	**Otahua Downs**	**2.65**	**87**	⇑PN	Pn	14 46 59.2	-0.7
ODZ	**Otahua Downs**	**2.65**	**87**	P	Pn	14 46 59.2	-0.7
RPZ	**Rata Peaks**	**3.33**	**64**	P	Pn	14 47 09.0	-0.7

WEL 11 15:06:18.6±0.6, 45.24S×166.84E, h12km, ML3.6/6, 2D, Error ellipse: s-maj=5.7km s-min=1.9km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.33**	**138**	P*	Pb	15 06 25.5	-0.4
DCZ				S*	Sb	15 06 30.4	-0.4
MLZ	**Mavora Lakes**	**0.94**	**97**	⇓P*	Pb	15 06 35.4	-1.1
MLZ				S*	Sb	15 06 46.8	-1.9
MSZ	**Milford Sound**	**0.95**	**54**	P*	Pb	15 06 35.4	-1.2
MSZ				S*	Sb	15 06 49.5	+0.5
WHZ	**Wether Hill Ro**	**1.02**	**131**	⇓P*	Pb	15 06 36.8	-0.9
WHZ				S*	Sb	15 06 50.5	-0.3
WKZ	**Wanaka**	**1.59**	**76**	PN	Pn	15 06 46.8	-0.1
EAZ	**Earnscleugh**	**1.74**	**91**	PN	Pn	15 06 48.7	-0.3
EAZ				SN	Sn	15 07 10.2	-1.1
JCZ	**Jackson Bay**	**1.79**	**50**	PN	Pn	15 06 50.9	+1.1
TUZ	**Tuapeka**	**2.08**	**111**	PN	Pn	15 06 53.0	-0.9
TUZ				SN	Sn	15 07 19.7	-0.3
LBZ	**Lake Benmore**	**2.52**	**72**	PN	Pn	15 06 58.6	-1.6
FOZ	**Fox Glacier**	**2.64**	**52**	PN	Pn	15 07 03.0	+1.2
ODZ	**Otahua Downs**	**2.70**	**87**	PN	Pn	15 07 00.7	-2.0
RPZ	**Rata Peaks**	**3.38**	**65**	PN	Pn	15 07 10.2	-2.1
LTZ	**Lake Taylor**	**4.62**	**60**	PN	Pn	15 07 26.9	-3.1

IDC 11 15:30:44.9±0.9, 15.07S×173.51W, mb4.1/5, mb1 4.3/6, mb1mx4.1/12, mbtmp4.1/6, ML2.7/1, MS3.4/4, Ms1 3.4/4, ms1mx3.2/18, Error ellipse: s-maj=41.8km s-min=21.1km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.04**	**56**	Pn	Pn	15 31 19.0	-1.9
	154nm,0.3s,baz=185,slow=2.5,SNR=184						
AFI				Sn	Sn	15 31 38.9	-8.5
	266nm,0.3s,baz=15,slow=23,SNR=25						
AFI				LR	LR	15 31 52.1	
	comp=Z,435nm,19.7s,baz=269,slow=33						
DZM	**Mont Dzumac**	**20.23**	**247**	LR	LR	15 41 41.0	
	comp=Z,170nm,21.3s,baz=189,slow=32						
URZ	**Urewera**	**24.54**	**198**	LR	LR	15 43 49.7	
	comp=Z,92nm,19.2s,baz=29,slow=32						
PMG	**Port Moresby**	**38.80**	**274**	P	P	15 38 11.7	-1.7
	7.2nm,0.7s,baz=148,slow=9.6,SNR=3.1						
STKA	**Stephens Creek**	**44.11**	**240**	P	P	15 38 54.1	-2.8
	3.2nm,0.9s,baz=99,slow=9.6,SNR=3.6						
VNDA	**Vanda**	**63.69**	**186**	P	P	15 41 18.0	-2.0
	1.6nm,0.8s,baz=17,slow=6.4,SNR=8.0						
NVAR	**Mina Array Bea**	**74.16**	**42**	P	P	15 42 24.4	-0.9
	0.7nm,0.7s,baz=230,slow=7.0,SNR=6.8						
PDAR	**Pinedale Array**	**82.09**	**42**	P	P	15 43 08.0	-0.8
	0.7nm,0.9s,baz=207,slow=3.3,SNR=5.2						
PDAR				LR	LR	16 11 10.5	
	comp=Z,31nm,20.1s,baz=82,slow=30						
GERES	**GERESS Array B**	**145.80**	**352**	PKPbc	PKPbc	15 50 24.9	-1.4
	0.8nm,0.8s,baz=9.5,slow=6.0,SNR=3.7						
BRTR	**Keskin Array B**	**145.83**	**321**	PKPbc	PKPbc	15 50 26.4	-0.3
	1.4nm,0.7s,baz=93,slow=3.1,SNR=6.5						

PGC 11 15:44:05.7, 56.99N×131.91W, h1km, ML3.4/7, Northern Coast Mountains, British Columbia, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLBC	**Dease Lake**	**1.77**	**34**	Pn	Pn	15 44 35.9	-1.8
DLBC				Pg	Pg	15 44 37.6	-3.4
DLBC				Sg	Sg	15 45 01.1	-3.4
DLBC				Trac		15 45 02.5	
	comp=Z,90nm,0.2s						
NDB	**Naden**	**3.10**	**191**	Pn	Pn	15 44 54.6	-2.1
NDB				Sg	Sg	15 45 41.5	-7.4
NDB				Trac		15 45 49.5	
	comp=Z,68nm,0.7s						
BNAB	**Bonilla**	**3.58**	**168**	Pn	Pn	15 45 00.8	-2.7
BNAB				Sg	Sg	15 45 56.4	-8.5
BNAB				Trac		15 46 04.5	
	comp=Z,15nm,0.5s						
VIB	**Van Inlet**	**3.77**	**186**	Pn	Pn	15 45 04.2	-1.9
VIB				Sn	Sn	15 45 50.1	-1.7
VIB				Sg	Sg	15 46 02.9	-8.2
VIB				Trac		15 46 05.6	
	comp=Z,48nm,0.8s						
WHY	**Whitehorse**	**3.99**	**338**	Pn	Pn	15 45 07.1	-2.3
WHY				Pg	Pg	15 45 17.6	-7.8
WHY				Sn	Sn	15 45 53.7	-3.8
WHY				Sg	Sg	15 46 08.4	-10
WHY				Trac		15 46 10.1	
	comp=Z,40nm,0.4s						
BNB	**Barry Inlet**	**4.43**	**179**	Pn	Pn	15 45 13.2	-2.4
BNB				Sg	Sg	15 46 25.9	-7.2
BNB				Trac		15 46 37.4	
	comp=Z,617nm,0.7s						
HYT	**Haines Junctio**	**4.82**	**325**	Pn	Pn	15 45 19.4	-1.7
HYT				Pg	Pg	15 45 32.9	-9.0
HYT				Sg	Sg	15 46 35.5	-11
HYT				Trac		15 46 37.4	
	comp=Z,66nm,0.6s						
BBB	**Bella Bella**	**5.30**	**154**	Pn	Pn	15 45 25.3	-2.6
BBB				Pg	Pg	15 45 38.9	-13
BBB				Sg	Sg	15 46 49.2	-13
BBB				Trac		15 47 02.4	
	comp=Z,22nm,0.8s						
PHC	**Port Hardy**	**6.83**	**155**	Sg	Sg	15 47 38.0	-15
MAYB	**Maynard**	**7.17**	**155**	Sg	Sg	15 47 45.6	-19
MAYB				Trac		15 47 59.7	
	comp=Z,5.0nm,0.8s						
BPBC	**Brooks Peninsu**	**7.27**	**159**	Pn	Pn	15 45 54.0	-1.8
NCRB	**Newcastle Ridg**	**7.46**	**150**	Sg	Sg	15 47 55.2	-19
NCRB				Trac		15 48 18.9	
	comp=Z,1.0nm,0.3s						
WOSB	**Woss**	**7.54**	**153**	Pn	Pn	15 45 58.0	-1.5
WOSB				Sg	Sg	15 47 58.4	-18
WOSB				Trac		15 48 05.6	
	comp=Z,9.0nm,0.9s						
DAWY	**Dawson**	**7.99**	**336**	Pn	Pn	15 46 03.0	-2.8
DAWY				Sg	Sg	15 48 13.3	-19
DAWY				Trac		15 48 20.6	
	comp=Z,24nm,0.9s						
INK	**Inuvik**	**11.38**	**357**	Pn	P	15 46 47.2	-5.1

*PRU **11** 15:47:24.4, 51.42N×16.15E*
*CSEM **11** 15:47:24.4±0.3, 51.43N×16.13E, h0km, ML2.7/5, Error ellipse: s-maj=4.7km s-min=2.3km az=16.0*
*NEIC **11** 15:47:27.0±1.7, 51.25N×16.02E, h5km, ML2.6(VIE), Error ellipse: s-maj=21.1km s-min=8.9km az=207.0*

WAR 11 15:47:24.4, 51.45N×16.17E, h1km, ML2.3, 1C, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.61**	**173**	*e*PG	Pg	15 47 35.0	-1.6
KSP				*e*SG	Sg	15 47 43.0	-1.7
UPC	**Upice**	**0.95**	**186**	*e*PG	Pg	15 47 41.7	-1.6
DPC	**Dobruska-Polom**	**1.10**	**175**	*e*PG	Pg	15 47 44.3	-2.1
DPC				*e*SG	Sg	15 47 58.6	-2.5
	9.9nm,0.4s						
PVCC	**Panska Ves**	**1.37**	**228**	*e*PG	Pg	15 47 49.9	-1.8
BRG	**Berggiesshubel**	**1.52**	**249**	Pg	Pg	15 47 52.1	-2.6
BRG				Sg	Sg	15 48 12.5	-2.4
PRU	**Pruhonice**	**1.79**	**216**	*e*PG	Pg	15 47 56.7	-3.4
PRU				*e*SG	Sg	15 48 20.3	-3.7
	10.0nm,0.5s						
MORC	**Moravsky Berou**	**1.89**	**152**	*e*Pn	Pn	15 47 56.0	-2.1
MORC	**Moravsky Berou**	**1.89**	**152**	*e*Pn	Pn	15 47 56.0	-2.1
MORC				*e*Sn	Sn	15 48 22.0	-0.8
CLL	**Collm**	**1.99**	**267**	*i* PG	Pg	15 48 00.5	-3.6
CLL				*e*SG	Sg	15 48 27.0	-3.6
OKC	**Ostrava-Krasne**	**2.04**	**141**	*e*PG	Pg	15 48 03.0	-2.2
OKC				*e*SG	Sg	15 48 29.7	-2.8
	6.8nm,0.4s						
NKC	**Novy Kostel**	**2.65**	**244**	*e*PN	Pn	15 48 07.3	-1.8
NKC				*e*PG	Pg	15 48 13.3	-4.1
NKC				*e*SG	Sg	15 48 49.2	-3.6
	8.5nm,0.3s						
KHC	**Kasperske Hory**	**2.85**	**217**	*e*PG	Pg	15 48 15.8	-5.6
KHC				*e*SN	Sn	15 48 45.0	-2.4
KHC				*e*SG	Sg	15 48 53.1	-6.3
	4.2nm,0.6s						
MOA	**Molln**	**3.81**	**200**	⇑*i*PN	Pn	15 48 22.4	-3.1
MOA				*i* SG	Sg	15 49 26.0	-5.2
	3.7nm,0.5s						

GUC 11 15:49:01.4±0.6, 26.73S×70.83W, h56km±9km, ML3.9, 4D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRCH	**Chaqaral**	**0.42**	**26**	⇓*i*P	P	15 49 12.6	+0.3
CRCH				*i* S	S	15 49 20.5	+0.2
CRCH				AMP		15 49 20.8	
	comp=E,3μm,0.2s						
CPCH	**Copiapo**	**0.76**	**146**	⇓*i*P	P	15 49 16.6	+0.4
CPCH				*i* S	S	15 49 27.9	+0.7
CPCH				AMP		15 49 30.4	
	comp=E,69μm,0.1s						
VACH	**Vallenar**	**1.84**	**178**	⇓*i*P	P	15 49 31.5	+0.2
VACH				*i* S	S	15 49 53.5	+0.1
CPN1	**Cerro Paranal**	**2.13**	**10**	⇓*i*P	P	15 49 35.6	+0.3
CPN1				AMP		15 50 14.1	
	comp=E,637nm,0.5s						

ISC 11 15:52:06.3±1.2, 41.01N±0.08×39.03E±0.05, h10km, n7, σ0°92/12, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MACK	**Trabzon**	**0.56**	**97**	*i* P	**Pg**	**15 52 17.2**	**-0.5**
MACK				*i* S	**Sg**	**15 52 25.9**	**+0.6**
GRSN	**GIRESUNGRSN**	**0.58**	**262**	*i* P	**Pg**	**15 52 17.0**	**-1.0**
GRSN				*i* S	**Sg**	**15 52 26.1**	**+0.2**
GUMT	**Gumushane**	**0.65**	**148**	PG	**Pg**	**15 52 18.3**	**-1.1**
KELT	**Kelkit**	**0.88**	**169**	*i* P	**Pb**	**15 52 22.1**	**-1.1**
KELT				*i* S	**Sb**	**15 52 34.5**	**-0.2**
SVSK	**Karacayir**	**1.90**	**235**	*e*PN	**Pn**	**15 52 39.9**	**+0.8**
PTK	**Pertek**	**2.14**	**172**	*e*PN	**Pn**	**15 52 43.4**	**+0.9**
PTK				*e*SN	**Sn**	**15 53 13.7**	**+4.4**
ELZG	**Elazig**	**2.51**	**181**	*e*P	**Pn**	**15 52 49.0**	**+1.1**
ELZG				*i* S	**Sn**	**15 53 24.5**	**+5.7**

*CSEM **11** 15:54:51.9, 19.73S×175.75W, h33km, mb5.7*
*MOS **11** 15:54:54.8±2.9, 19.50S×175.92W, h33km, mb5.3/18, Error ellipse: s-maj=10.5km s-min=9.8km az=147.0*
*BJI **11** 15:54:59.2, 19.97S×174.97W, h127km, mB5.0, mb5.1*
*HRVD **11** 15:55:05.2±0.9, 19.73S×175.31W, h204km±7km, MW4.9/42, Centroid moment Tensor Solution. LP body waves: s10,c11;Mantle waves: s42,c57; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.05±.24; $M_{\theta\theta}$0.82±.24; $M_{\phi\phi}$0.23±.25; $M_{r\theta}$-0.29±.19; $M_{\theta\phi}$0.66±.21; $M_{\phi r}$-2.16±.17; Best double couple: $M_0$2.437×10^{16} NP1: ϕ_s257°, δ21°, λ-32°. NP2:ϕ_s17°, δ79°, λ-108°. Principal axes: T 2.203, Plg31°, Azm122°; N .467, Plg18°, Azm21°; P -2.67, Plg53°, Azm266°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **11** 15:55:05.2±1.1, 19.60S×175.74W, h138km±9km, mb5.0/39 Error ellipse: s-maj=8.2km s-min=5.1km az=144.0*
*IDC **11** 15:55:06.5±2.4, 19.68S×175.57W, h149km±22km, mb4.6/15, mb1 4.5/17, mb1mx4.5/18, mbtmp5.0/17, MS3.4/2, Ms1 3.4/2, ms1mx2.8/18, Error ellipse: s-maj=14.2km s-min=11.8km az=115.0*

ISC 11 15:55:02.7±1.3, 19.66S±0.05×175.76W±0.05, h125km±12km, h132km±2.9km: pP-P, n261, σ0°97/143, mb4.9/61, 18C-35D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.87**	**34**	P	**P**	**15 56 42.9**	**+0.8**
	13nm,0.3s,baz=158,slow=2.0,SNR=39						
AFI				S	**S**	**15 57 52.9**	**-6.3**
	74nm,0.3s,baz=30,slow=20,SNR=11						
AFI	**Afiamalu**	**6.87**	**34**	*e*Pn	**P**	**15 56 42.3**	**+0.1**
	70nm,0.5s						
AFI				*e*Sn	**S**	**15 57 46.1**	**-13**
AFI	**Afiamalu**	**6.87**	**34**	*e*P	**P**	**15 56 42.3**	**+0.2**
AFI				*e*		15 57 46.1	
AFI				pmax	pmax		
	comp=Z,70nm,0.5s						
RAO	**Raoul Island**	**9.76**	**191**	S	**S**	**15 59 08.6**	**-0.3**
	comp=Z,36nm,0.3s,baz=218,slow=22,SNR=8.6						
RAR	**Rarotonga**	**15.06**	**99**	*e*P	**P**	**15 58 30.1**	**-0.1**
	comp=Z,106nm,1.1s						
RAR				*e*S	**S**	**16 01 08.3**	**-5.4**
RAR	**Rarotonga**	**15.06**	**99**	*e*P	**P**	**15 58 30.1**	**-0.1**
RAR				*e*S	**S**	**16 01 08.3**	**-5.4**
RAR				pmax	pmax		
	comp=Z,106nm,1.1s						
DZM	**Mont Dzumac**	**16.81**	**259**	*e*P	**P**	**15 58 58.5**	**+6.6**
DZM	**Mont Dzumac**	**16.81**	**259**	P	**P**	**15 58 58.8**	**+6.9**
	comp=Z,30nm,0.3s,baz=83,slow=14,SNR=281						
DZM				LR	LR	16 04 01.3	
	comp=Z,110nm,19.2s,baz=342,slow=32						
MXZ	**Matakaoa Point**	**18.58**	**195**	PN	**P**	**15 59 14.6**	**+2.1**
PUZ	**Puketiti**	**19.08**	**195**	PN	**P**	**15 59 17.5**	**-0.3**
URZ	**Urewera**	**19.55**	**197**	P	**P**	**15 59 21.7**	**-1.2**
	comp=Z,20nm,0.3s,baz=332,slow=2.4,SNR=104						
URZ				S	**S**	**16 02 47.1**	**-4.5**
	comp=Z,2.6nm,0.3s,baz=95,slow=22,SNR=12						
URZ	**Urewera**	**19.55**	**197**	PN	**P**	**15 59 20.4**	**-2.4**
SNZO	**South Karori**	**23.07**	**199**	*e*P	**P**	**15 59 53.3**	**-4.5**
	comp=Z,248nm,1.4s,mb5.3						
SNZO				*e*S	**S**	**16 03 56.0**	**+0.4**
PAE	**Paea**	**24.87**	**90**	*e*P	**P**	**16 00 14.6**	**-0.7**
	comp=Z,39nm,1.1s,mb4.8						
PPT	**Papeete**	**24.89**	**90**	*e*P	**P**	**16 00 15.0**	**-0.5**
	comp=Z,37nm,1.2s,mb4.7						
PPT	**Papeete**	**24.89**	**90**	P	**P**	**16 00 15.1**	**-0.4**
	comp=Z,14nm,0.6s,mb4.6,baz=249,slow=10,SNR=5.3						
LTZ	**Lake Taylor**	**25.18**	**201**	PN	**P**	**16 00 19.0**	**+1.0**
HNR	**Honiara**	**25.59**	**290**	P	**P**	**16 00 23.0**	**+1.0**
	comp=Z,49nm,0.7s,mb5.0,baz=157,slow=6.8,SNR=5.0						
HNR	**Honiara**	**25.59**	**290**	*e*P	**P**	**16 00 22.8**	**+0.8**
	comp=Z,64nm,0.8s,mb5.1						
HNR	**Honiara**	**25.59**	**290**	*e*P	**P**	**16 00 22.8**	**+0.8**
HNR				pmax	pmax		
	comp=Z,64nm,0.8s,mb5.1						
RPZ	**Rata Peaks**	**26.42**	**202**	P	**P**	**16 00 30.0**	**+0.6**
	comp=Z,50nm,0.6s,mb5.1,baz=356,slow=3.3,SNR=27						
PMOR	**Pomariorio Ree**	**26.98**	**85**	*e*P	**P**	**16 00 33.8**	**-1.0**
	comp=Z,38nm,1.0s,mb4.9						
CNB	**Canberra Magne**	**34.44**	**236**	*e*P	**P**	**16 01 40.6**	**+0.4**
	comp=Z,41nm,0.8s,mb5.3						
CTA	**Charters Tower**	**35.68**	**263**	⇓*i*P	**P**	**16 01 51.9**	**+1.1**
	comp=Z,137nm,0.5s						
CTA	**Charters Tower**	**35.68**

VNDA pmax pmax
comp=Z,2.0nm,0.5s
MBWA Marble Bar 60.10 256⇓ *eP* **P 16 04 57.1 -2.2**
comp=Z,45nm,0.8s,mb5.5
KLBR Kellerberrin 60.32 244 *eP* **P 16 04 59.1 -1.6**
comp=Z,52nm,1.2s,mb5.4
NWAO Narrogin (SRO) 60.63 243 *eP* **P 16 04 59.5 -3.3**
MUN Mundaring 61.59 244 *eP* **P 16 05 07.7 -1.6**
comp=Z,12nm,1.1s,mb4.8
MUN Mundaring 61.59 244 *eP* **P 16 05 07.7 -1.6**
MUN pmax pmax
comp=Z,12nm,1.1s,mb4.8
JHJ Hachijo jima 2 67.50 320 P **P 16 05 48.6 +1.0**
comp=Z,53nm,0.6s,mb5.5,baz=166,slow=18,SNR=3.6
MAJO Matsushiro 70.81 322⇓ *eP* **P 16 06 06.9 -0.8**
comp=Z,40nm,1.0s,mb5.2
MAJO Matsushiro 70.81 322⇓ *eP* **P 16 06 06.9 -0.8**
MAJO pmax pmax
comp=Z,40nm,1.0s,mb5.2
MAT Matsushiro 70.81 322 P **P 16 06 07.1 -0.6**
MAT Matsushiro 70.81 322 *eP* **P 16 06 07.0 -0.7**
comp=Z,21nm,1.0s,mb4.9
MAT Matsushiro 70.81 322 *eP* **P 16 06 07.0 -0.7**
MAT pmax pmax
comp=Z,21nm,1.0s,mb4.9
JOW Kunigami 71.27 309 P **P 16 06 11.2 +0.7**
comp=Z,24nm,0.9s,mb5.0,baz=164,slow=10.0,SNR=4.2
JNU Nakatsue 73.14 315 P **P 16 06 20.5 -1.0**
comp=Z,8.8nm,0.8s,mb4.7,baz=112,slow=10,SNR=5.7
ASAJ Asahikawa 74.02 330 P **P 16 06 27.8 +1.4**
comp=Z,12nm,0.8s,mb4.7,baz=217,slow=7.4,SNR=19
ASAJ LR LR 16 32 19.5
comp=Z,32nm,20.5s,baz=139,slow=30
KSM Kuching 75.39 277⇓ *eP* **P 16 06 34.6 -0.3**
YSS Yuzh-Sakhalins 76.11 332 *i P* **P 16 06 38.7 +0.5**
comp=Z,51nm,1.3s,mb5.1
YSS Yuzh-Sakhalins 76.11 332 *d i P* **P 16 06 39.0 +0.8**
YSS *i* 16 09 33.3
YSS pmax pmax
comp=Z,46nm,1.3s,mb5.0
CMB Columbia Colle 77.42 42 *eP* **P 16 06 44.1 -1.6**
comp=Z,2.9nm,0.7s,mb4.1
CMB Columbia Colle 77.42 42 *eP* **P 16 06 44.1 -1.7**
CMB pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
MTUM Tungsten Hills 78.17 43 *eP* **P 16 06 50.2 +0.3**
SSE Sheshan 78.78 309 P **P 16 06 51.8 -1.6**
SSE AMB AMB
comp=Z,28nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,91nm,4.4s
LDFC Landfair 79.19 47 *eP* **P 16 06 55.5 0.0**
TPH Tonopah 79.46 43 *eP* **P 16 06 56.9 0.0**
comp=Z,10.0nm,1.0s,mb4.6
TPH Tonopah 79.46 43 *eP* **P 16 06 56.9 0.0**
TPH pmax pmax
comp=Z,10.0nm,1.0s,mb4.6
NEN Nelson 79.68 46 *eP* **P 16 06 57.8 -0.3**
NJ2 Nanjing 80.98 309 *eP* **P 16 07 05.6 +0.5**
NJ2 PP PP 16 10 12.7 -0.5
NJ2 S S 16 17 11.0 +8.9
NJ2 AMB AMB
comp=Z,20nm,0.7s,mb5.1
NJ2 LR LR
comp=N,390nm,20.3s
NJ2 LR LR
comp=E,830nm,20.9s
NJ2 LR LR
comp=Z,350nm,19.3s
MDJ Mudanjiang 81.06 324 P **P 16 07 06.5 +1.2**
MDJ AP pP 16 07 40.2 +3.0
MDJ XP sP 16 07 54.7 +3.7
MDJ AMB AMB
comp=Z,54nm,0.9s,mb5.4
MDJ Mudanjiang 81.06 324 *eP* **P 16 07 06.4 +1.1**
comp=Z,54nm,1.0s,mb5.3
OCWA Octopus Mounta 81.46 32 *eP* **P 16 07 07.9 +0.6**
comp=Z,9.2nm,0.8s,mb4.7
ARUT Antelope Range 81.78 45 *eP* **P 16 07 10.1 +1.0**
ELK Elko 82.24 42 *eP* **P 16 07 11.8 +0.3**
comp=Z,4.4nm,0.9s,mb4.3
ELK Elko 82.24 42 *eP* **P 16 07 11.8 +0.3**
ELK pmax pmax
comp=Z,4.0nm,0.9s
KLR Kul'dur 82.90 328 *eP* **P 16 07 12.3 -2.3**
CN2 Changchun 82.94 321 *eP* **P 16 07 15.5 +0.6**
CN2 *e*AP pP 16 07 48.2 +1.2
CN2 *e*S S 16 17 23.0 +1.3
CN2 AMB AMB
comp=Z,40nm,1.2s,mb5.1
MSU Marysvale 83.01 45 *eP* **P 16 07 16.6 +1.2**
MAW Mawson 83.06 199⇓ *i P* **P 16 07 15.1 0.0**
comp=Z,12nm,0.6s,mb4.9
MAW Mawson 83.06 199 P **P 16 07 15.3 +0.2**
comp=Z,15nm,0.6s,mb5.0,baz=131,slow=6.6,SNR=45
MAW Mawson 83.06 199⇓ *i P* **P 16 07 15.1 0.0**
MAW pmax pmax
comp=Z,12nm,0.6s
BMO Blue Mountains 83.35 38⇓ *eP* **P 16 07 16.6 -0.4**
comp=Z,2.5nm,0.8s,mb4.1
BMO Blue Mountains 83.35 38⇓ *eP* **P 16 07 16.6 -0.4**
BMO pmax pmax
comp=Z,2.0nm,0.8s,mb4.0
MA2 Magadan 83.55 344 *eP* **P 16 07 16.7 -0.9**
DIV Divide 84.04 14 *eP* **P 16 07 19.5 -0.5**
comp=Z,19nm,0.7s,mb5.0
HLID Hailey 84.32 40 *eP* **P 16 07 22.6 +0.7**
comp=Z,6.8nm,0.8s,mb4.5
LAZ Ladron 84.49 51 *eP* **P 16 07 24.1 +1.2**
MNTX Cornudas Mount 84.55 54 *eP* **P 16 07 23.7 +0.4**
comp=Z,5.2nm,0.9s,mb4.5
MNTX *e* 16 08 11.8
LPM Los Pinos Moun 84.81 51 *eP* **P 16 07 24.7 +0.1**
PV10 Paradox Valley 85.06 46 P **P 16 07 26.1 +0.4**
ANMO Albuquerque 85.24 50 *eP* **P 16 07 26.7 0.0**
comp=Z,3.1nm,0.9s,mb4.2
ANMO Albuquerque 85.24 50 *i P* **P 16 07 27.4 +0.7**
PV01 Paradox Valley 85.26 47 *eP* **P 16 07 27.1 +0.4**
NEW Newport 85.47 35 P **P 16 07 26.8 -0.7**
GDL2 Guadalupe Moun 85.55 54 *eP* **P 16 07 28.9 +0.6**
MCK McKinley 85.71 12 *eP* **P 16 07 27.6 -0.7**
comp=Z,8.0nm,0.9s,mb4.7
MCK McKinley 85.71 12 *eP* **P 16 07 27.6 -0.7**
MCK pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
SEY Seymchan 86.05 346 *eP* **P 16 07 29.2 -0.7**
SEY pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
CHMT Chamberlain Mo 86.85 38 *eP* **P 16 07 33.3 -0.9**
PDAR Pinedale Array 86.91 42 P **P 16 07 34.2 -0.4**
comp=Z,1.2nm,0.7s,mb4.0,baz=228,slow=2.4,SNR=15
COLA College 86.95 12 *i P* **P 16 07 34.7 +0.5**
ILAR Eielson Array 87.04 12 P **P 16 07 33.5 -1.1**
comp=Z,1.6nm,0.7s,mb4.0,baz=224,slow=5.7,SNR=15
SDCO Great Sand Dun 87.22 48 *eP* **P 16 07 36.4 +0.2**
comp=Z,1.3nm,0.9s,mb3.9
ENH Enshi 87.33 303 *eP* **P 16 07 37.1 +0.1**
comp=Z,24nm,0.9s,mb5.1
WALA Waterton Lakes 87.67 35 *eP* **P 16 07 38.1 0.0**
comp=Z,2.0nm,0.6s,mb4.3
SYO Syowa Base 88.00 192 ⇑P **P 16 07 37.7 -1.5**
SYO Syowa Base 88.00 192 ⇑PcP PcP 16 07 40.5 -0.7
GYA Guiyang 88.08 299 P **P 16 07 41.8 +1.2**
GYA AP pP 16 08 17.6 +4.5
GYA XP sP 16 08 32.4 +5.6
GYA PP PP 16 11 14.7 +3.6
GYA SKS SKS 16 17 55.3 +0.3
GYA S S 16 18 13.1 +1.4
GYA XS 16 19 15.6
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
GYA LR LR
comp=N,210nm,21.7s
GYA LR LR
comp=E,270nm,22.0s
GYA LR LR
comp=Z,310nm,22.4s
SNAA Sanae 88.78 178 P **P 16 07 42.3 -0.6**
SNAA Sanae 88.78 178 **P 16 07 54.8 +12**
SNAA Sanae 88.78 178 **P 16 08 01.1 +18**
SNAA Sanae 88.78 178 *i P* **P 16 07 42.5 -0.4**
VNA3 Neumayer Olymp 88.83 176 P **P 16 07 44.9 +1.8**
VNA3 Neumayer Olymp 88.83 176 **P 16 07 49.6 +6.5**
VNA3 Neumayer Olymp 88.83 176 **P 16 07 57.2 +14**
HIA Hailar 89.25 324 *eP* **P 16 07 46.3 +0.7**
comp=Z,9.4nm,1.0s,mb4.8
HIA Hailar 89.25 324 *eP* **P 16 07 46.3 +0.8**
HIA pmax pmax
comp=Z,9.0nm,1.0s
VNA2 Neumayer--Watz 89.30 176 P **P 16 07 47.0 +1.7**
XAN Xi'an 89.31 307 P **P 16 07 47.2 +1.0**
XAN AMB AMB
comp=Z,23nm,1.2s,mb5.1
VNA1 Neumayer--Stat 89.51 176 P **P 16 07 48.6 +2.3**
VNA1 Neumayer--Stat 89.51 176 **P 16 07 55.2 +8.9**
VNA1 Neumayer--Stat 89.51 176 **P 16 08 02.1 +16**
HHC Hu-ho-hao-te 90.29 314 *eP* **P 16 07 52.2 +1.6**
HHC AMB AMB
comp=Z,24nm,0.9s,mb5.3
KMI Kunming 90.86 296 P **P 16 07 55.0 +1.3**
KMI AP pP 16 08 29.8 +3.5
KMI S S 16 18 38.0 +1.0
KMI SS SS 16 24 47.9 +1.7
KMI AMB AMB
comp=Z,14nm,1.0s,mb5.0
KMI AMB AMB
comp=Z,218nm,3.6s
KMI LR LR
comp=Z,33nm,15.4s
YAK Yakutsk 92.13 337 *d i P* **P 16 07 57.6 -1.1**
YAK pmax pmax
comp=Z,8.0nm,0.6s,mb5.1
INK Inuvik 92.92 14 *eP* **P 16 08 01.3 -0.8**
comp=Z,9.8nm,1.3s,mb5.0
INK *e* 16 08 50.4
INK Inuvik 92.92 14 *eP* **P 16 08 01.3 -0.9**
INK pmax pmax
comp=Z,10.0nm,1.3s
DGMT Dagmar 92.93 39 *eP* **P 16 08 02.5 -0.2**
comp=Z,11nm,0.8s,mb5.2
LZH Lanzhou 93.94 307 *eP* **P 16 08 08.6 +1.0**
LZH AP pP 16 08 40.5 +0.2
LZH XP sP 16 08 56.0 +2.1
LZH PP PP 16 11 59.5 +1.9
LZH AMB AMB
comp=Z,25nm,1.0s,mb5.5
LZH AMB AMB
comp=Z,120nm,4.3s
YKA Yellowknife Ar 94.88 24 P **P 16 08 10.4 -0.8**
comp=Z,2.9nm,0.8s,mb4.8,baz=254,slow=4.4,SNR=4.1
SONM Songino Array 96.51 318 P **P 16 08 18.8 -0.1**
comp=Z,1.4nm,0.9s,mb4.4,baz=125,slow=5.0,SNR=10
GTA Gaotai 98.08 309 *eP* **P 16 08 26.7 +0.4**
GTA AMB AMB
comp=Z,3.0nm,1.1s,mb4.7
ZAK Zakamensk 99.33 320 *eP* **P 16 08 31.0 -0.7**
ZAK pmax pmax
comp=Z,1.0nm,1.2s,mb4.2
MKAR Makanchi Array 112.15 313 PKiKP 16 13 22.9
comp=Z,0.8nm,0.4s,baz=183,slow=0.8,SNR=23
MKAR Makanchi Array 112.15 313 PKPdf PKPdf 16 13 22.9 -0.2
HNH Hanover 112.92 50 *e*PKPdf PKPdf 16 13 27.2 +2.4
KURK Kurchatov 114.80 318 *e*PKPdf PKPdf 16 13 27.6 -0.8
KSH Kashi 116.13 305 *e*PKP PKPdf 16 13 25.2 -6.0
KSH LR LR
comp=N,160nm,4.1s
KSH LR LR
comp=E,130nm,4.3s
ARU Arti 125.69 326 *e*PKPdf PKPdf 16 13 49.0 -0.2
ARU Arti 125.69 326 *i* PKIKP PKPdf 16 13 49.4 +0.2
ARU *e* 16 15 43.3
BOSA Boshof 127.90 204 PKP PKPdf 16 13 53.8 -0.5
comp=E,1.7nm,0.5s,baz=218,slow=2.6,SNR=6.3
ARCES ARCESS Array B 128.46 351 PKP PKPdf 16 13 53.8 -0.4
comp=E,3.4nm,0.7s,baz=24,slow=1.8,SNR=19
FINES FINESS Array B 135.53 345 PKhKP 16 13 59.1
comp=E,2.1nm,0.9s,baz=45,slow=2.0,SNR=3.0
FINES PKP PKPdf 16 14 08.7 +1.0
comp=E,2.7nm,0.8s,baz=45,slow=2.7,SNR=5.6
NB2 NORSAR Subarra138.36 355 PKPabc PKPdf 16 14 13.6 +0.7
comp=E,1.2nm,0.7s,baz=13,slow=2.2
NOA NORSAR Array B138.36 355 PKP PKPdf 16 14 12.7 -0.3
comp=E,1.6nm,0.8s,baz=13,slow=4.1,SNR=4.6
KIV Kislovodsk 139.85 316 *i* PKIKP PKPdf 16 14 18.1 +2.0
KIV pmax pmax
comp=Z,11nm,1.3s
ANN Anapa 142.78 320 *i* PKHKP 16 14 09.7
ANN pmax pmax
comp=Z,28nm,0.8s
ELZG Elazig 144.58 310 *i* P PKPbc 16 14 24.9 +0.5
SIM Simferopol' 144.66 322 *i* PKHKP 16 14 24.5
SIM pmax pmax
comp=Z,34nm,1.3s
BLJS Baljurashi 144.89 277 P PKPdf 16 14 27.7 +2.1
DCN Croghan 145.21 12 *eP* PKPdf 16 14 25.6 +0.5
DLF Lyons Farm 145.40 11 *eP* PKPdf 16 14 26.3 +0.8
BSEG Bad Segeberg 145.46 354 *e*PKPbc PKPbc 16 14 26.2 0.0
DSB Dublin 145.48 11 *e*PKPdf PKPdf 16 14 26.4 +0.8
LVV L'vov 146.01 337 *e*PKHKP 16 14 27.9
LTHS Al Lith 146.04 277 P PKPdf 16 14 30.3 +2.8
GZT Gaziantep 146.05 308 *i* P PKPdf 16 14 29.0 +1.9
BOYT Boyabat 146.11 317 *i* P PKPdf 16 14 28.9 +1.9
CTKT Corum 146.58 315 *i* P PKPdf 16 14 30.4 +2.6
BALT Daday 147.02 318 *i* P PKPdf 16 14 31.2 +2.7
OJC Ojcow 147.09 342 *e*PKP PKPdf 16 14 31.5 +3.2
MBAR Mbarara 147.13 235 *e*PKPdf PKPdf 16 14 32.1 +2.6
MBAR Mbarara 147.13 235 *i* PKHKP 16 14 31.6
KBRS Khaybar 147.19 287 P PKPdf 16 14 33.6 +4.3
STHS Stebnicka Huta 147.33 339 *e*PKP PKPdf 16 14 33.3 +4.5
COBT Iskenderun 147.34 308 *i* P PKPdf 16 14 32.1 +2.9
KOLS Kolonicke sedl 147.39 338 *e*PKP PKPdf 16 14 32.9 +4.0
AVNT Avonos 147.41 312 *i* P PKPdf 16 14 32.8 +3.5
KSP Ksiaz 147.45 346 *e*PKP PKPdf 16 14 32.9 +4.0
CLZ Clausthal 147.52 353 *e*PKPbc PKPdf 16 14 33.1 +4.1
ELDT Eldivan 147.54 316 *i* P PKPdf 16 14 32.1 +2.6
NIE Niedzica 147.63 340 *e*PKP PKPdf 16 14 34.0 +4.7
CLL Collm 147.67 350⇓ *i*PKP1 PKPdf 16 14 33.2 +3.9
CLL *i* PKP2 PKPab 16 14 35.5 -1.5
CLL *i* 16 15 25.4
CLL Collm 147.67 350⇓ *i*PKP PKPdf 16 14 33.2 +3.9
CLL ⇑*i*PKP PKPdf 16 14 35.5 +6.2
CLL *i* pPKP 16 15 25.4
CRVS Cervenica-Dubn 147.70 339 *e*PKP PKPdf 16 14 36.0 +6.6
CFR Carcaliu 147.76 328 ⇑P PKPdf 16 14 32.8 +3.2
CFR Carcaliu 147.76 328 ⇑P PKPdf 16 14 32.8 +3.2
BR131 Keskin Array S 147.79 315 *e*PKPdf PKPdf 16 14 30.1 +0.2
BR131 *e*PKPbc PKPdf 16 14 34.0 +4.1
BRTR Keskin Array B 147.79 315 PKPbc PKPdf 16 14 33.8 +3.9
comp=Z,5.5nm,0.6s,baz=133,slow=3.8,SNR=20
UPC Upice 147.83 346 *e*PKPDF PKPdf 16 14 29.8 +0.2
UPC ⇑*e*PKPB 16 14 33.9
UPC *e*PKPAB PKPab 16 14 38.1 +0.5
DPC Dobruska-Polom 147.90 345⇑ *e*PKPB 16 14 34.2
DPC *e*PKPAB PKPab 16 14 37.8 -0.1
BRG Berggiesshubel 147.92 348 *eP* PKPdf 16 14 34.5 +4.8
VRI Vrincioaia 147.96 330 ⇑P PKPdf 16 14 34.3 +4.3
VRI Vrincioaia 147.96 330 ⇑P PKPdf 16 14 34.3 +4.4
QURS Qurayyt al Mil 148.06 298 P PKPdf 16 14 36.2 +5.6
MORC Moravsky Berou 148.12 344 ⇓P PKPdf 16 14 34.8 +4.7
PVCC Panska Ves 148.12 347⇑ *e*PKPB 16 14 34.9
PVCC *e*PKPAB PKPab 16 14 38.1 -0.7
SGKT Sivrigoynuk 148.38 317 *i* P PKPdf 16 14 34.3 +3.5
KECS Kecovo 148.39 339 *e*PKP PKPdf 16 14 35.7 +5.1
MOX Moxa 148.53 351 *eP* PKPdf 16 14 35.8 +5.1
MLR Muntele Rosu 148.61 330 ⇓P PKPdf 16 14 36.0 +5.0
MLR Muntele Rosu 148.61 330 ⇓P PKPdf 16 14 36.0 +5.0
PRU Pruhonice 148.64 347 *e*PKPDF PKPdf 16 14 30.7 -0.2
PRU ⇑*e*PKPB 16 14 36.1
PRU *e*PKPAB PKPab 16 14 41.1 +0.2
VRAC Vranov 148.80 344 ⇓P PKPdf 16 14 36.6 +5.4
MEST Erdemli 148.87 309 *i* P PKPdf 16 14 36.6 +4.9
SNX Sinaia 148.91 330 ⇑P PKPdf 16 14 36.7 +5.2
SNX Sinaia 148.91 330 ⇑P PKPdf 16 14 36.7 +5.2
VYHS Vyhne 148.91 341 *e*PKP PKPdf 16 14 36.5 +5.1
VOIR 149.06 331 ⇓P PKPdf 16 14 37.9 +6.2
TNS Taunus Mts 149.32 355 *e*PKPbc PKPdf 16 14 37.7 +5.7
TBKS Tabuk 149.34 292 P PKPdf 16 14 38.7 +6.0
GRA1 Grafenberg Arr 149.52 351 *e*PKPbc PKPdf 16 14 38.3 +6.0
GRA1 *e*PKPab PKPab 16 14 43.9 -0.7
GRF Grafenberg Arr 149.52 351 *e*PKP PKPdf 16 14 38.3 +6.0
GRF *e*PKP PKPab 16 14 43.9 -0.7
GIVF Givet 149.62 359 *e*PKP1 PKPdf 16 14 38.1 +5.7
comp=Z,27nm,0.7s
KHC Kasperske Hory 149.65 348 *e*PKPDF PKPdf 16 14 33.4 +0.9
KHC ⇑*e*PKPB 16 14 38.5
KHC PKPAB PKPab 16 14 44.5 -0.6
KHC Kasperske Hory 149.65 348 *e*PKP PKPdf 16 14 33.4 +0.9
KHC *e* 16 14 38.5
KHC *e* 16 14 44.5
KHC *e* 16 14 44.7
KHC Kasperske Hory 149.65 348 *e*PKIKP PKPdf 16 14 33.4 +0.9
KHC *e* 16 14 38.5
KHC *e* 16 14 44.5
KHC *e* 16 14 44.7
BAIF Baives 149.66 0 *e*PKP1 PKPdf 16 14 38.4 +5.9
comp=Z,25nm,0.7s
ZST Bratislava 149.68 343 *e*PKP PKPdf 16 14 39.2 +6.6
WET Wettzell 149.77 349 *e*PKPbc PKPdf 16 14 38.8 +6.1
WET *e*PKPab PKPab 16 14 45.0 -0.6
GEC2 GERESS Array S 149.90 348 *e*PKPbc PKPdf 16 14 39.0 +6.1
GEC2 *e*PKPab PKPab 16 14 45.9 -0.2
GERES GERESS Array B 149.90 348 PKPbc PKPdf 16 14 39.0 +6.1
comp=Z,8.5nm,0.9s,baz=45,slow=1.9,SNR=37
JMOS Jabal al Moall 150.42 295 P PKPdf 16 14 40.9 +6.6
ALWS Ilw as Safayha 150.43 295 P PKPdf 16 14 41.2 +6.9
BDAS Al Bad' 150.56 293 P PKPdf 16 14 41.1 +6.5
HAQS Haql 150.59 294 P PKPdf 16 14 41.4 +6.8
FLN La Foliniere 150.71 6 *e*PKP1 PKPdf 16 14 40.4 +6.3
comp=Z,20nm,0.6s
MOA Molln 150.72 346⇓ *i P* PKPdf 16 14 40.8 +6.6
ROSF Rostrenen 150.75 10 *e*PKP1 PKPdf 16 14 40.3 +6.1
comp=Z,6.4nm,0.6s
LDF La Druitiere 150.92 6 *e*PKP1 PKPdf 16 14 40.8 +6.4
comp=Z,16nm,0.7s
SGMF Saint Gilles 150.94 9 *e*PKP1 PKPdf 16 14 40.7 +6.2
comp=Z,27nm,0.8s
ARSA Arzberg 150.97 344⇓ *i P* PKPdf 16 14 41.0 +6.4
PKSM Moragy 150.99 339 ⇑P PKPdf 16 14 41.4 +6.8
FUR Furstenfeldbru 150.99 350 *e*PKPbc PKPdf 16 14 41.3 +6.7
GRR Gorron 151.04 7 *e*PKP1 PKPdf 16 14 41.3 +6.7
comp=Z,37nm,0.7s
BFO Black Forest 151.20 354 *e*PKPbc PKPdf 16 14 41.2 +6.3
BFO *e*PKPab PKPab 16 14 50.1 -1.5
CDF Champ du Feu 151.21 356 *e*PKP1 PKPdf 16 14 41.9 +7.0
comp=Z,29nm,0.9s
MEZF Maizieres J'vi 151.22 359 *e*PKP1 PKPdf 16 14 42.3 +7.4
PERS Pernice 151.65 344 *e*PKPdf PKPdf 16 14 42.2 +6.6
PERS *e* 16 14 51.1
KBA Koelnbreinsper 151.65 347⇓ *i P* PKPdf 16 14 42.1 +6.5
HAU Haudompre 151.67 357 *e*PKP1 PKPdf 16 14 42.9 +7.3
comp=Z,21nm,0.6s
WATA Walderalm 151.75 349⇑ *i P* PKPdf 16 14 43.2 +7.5
WTTA Wattenberg 151.81 349⇓ *i P* PKPdf 16 14 43.4 +7.6
MOTA Moosalm 151.82 350⇓ *i P* PKPdf 16 14 43.3 +7.5
HINF Hinteralfeld 151.83 356 *e*PKP1 PKPdf 16 14 43.0 +7.2
comp=Z,12nm,0.7s
SQTA Sankt Quirin 151.92 350⇑ *i P* PKPdf 16 14 43.8 +7.8
DAVA Damuels 152.06 352⇑ *i P* PKPdf 16 14 44.4 +8.2
VTS Vitosha 152.09 329 ⇓P PKPdf 16 14 44.4 +8.0
LOR Lormes 152.46 1 *e*PKP1 PKPdf 16 14 44.7 +8.0
comp=Z,13nm,0.7s
SSF Saint Saulge 152.66 1 *e*PKP1 PKPdf 16 14 45.1 +8.1
comp=Z,22nm,1.0s
BOJS Bojanci 152.66 343 *e*PKPdf PKPdf 16 14 45.2 +8.1
BOJS *e* 16 14 56.5
CEY Cerknica 152.66 344 *e*PKPdf PKPdf 16 14 44.8 +7.8
CEY *e* 16 14 56.4
MFF Saint Martin d 152.88 7 *e*PKP1 PKPdf 16 14 45.3 +7.9
comp=Z,12nm,0.7s
AVF Avril sur Loir 152.93 1 *e*PKP1 PKPdf 16 14 45.2 +7.8
comp=Z,5.8nm,0.8s
CABF La Chapelle 153.07 357 *e*PKP1 PKPdf 16 14 46.6 +9.0
SMF Signal de Mont 153.08 1 *e*PKP1 PKPdf 16 14 45.6 +8.0
TCF Toulx Ste Croi 153.38 3 *e*PKP1 PKPdf 16 14 46.5 +8.4
comp=Z,9.6nm,0.6s
LPL La Plagne 154.13 356 *e*PKP1 PKPdf 16 14 49.3 +10
LPG La Plagne 154.15 356 *e*PKP1 PKPdf 16 14 49.3 +10
LFF La Frestale 154.62 6 *e*PKP1 PKPdf 16 14 49.7 +10
ORIF Oris-en-Rattie 154.77 357 *e*PKP1 PKPdf 16 14 50.6 +11
MBDF Montbardon 154.91 356 *e*PKP1 PKPdf 16 14 50.4 +10
comp=Z,4.8nm,0.6s
ESDC Sonseca Array 158.83 18 PKPab PKPab 16 15 23.3 -1.0
comp=Z,0.3nm,0.3s,baz=317,slow=3.2,SNR=6.4
LIC Lamto 163.89 145 *e*PKIKP PKPdf 16 14 49.6 -1.8
comp=Z,16nm,0.9s
DBIC Dimbokro 164.35 144 PKP PKPdf 16 14 51.7 -0.1
comp=Z,5.1nm,1.0s,baz=135,slow=6.0,SNR=3.5
DBIC PKPab PKPab 16 15 46.1 -3.0
comp=Z,3.1nm,0.6s,baz=171,slow=8.4,SNR=4.1
DBIC Dimbokro 164.35 144 PKP PKPdf 16 14 51.7 -0.1
DBIC PKPab PKPab 16 15 46.1 -3.0

NEIC ***11*** *16:03:07.8, 38.66N×23.28E, h27km, ML3.7(ATH), After ATH.*
CSEM ***11*** *16:03:07.8, 38.66N×23.28E, h27km, MD3.4/12, After ATH*
ATH 11 16:03:07.8, 38.66N×23.27E, h27km±1km, MD3.4/12, ML3.7, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAR	**Parnis Oros**	**0.63**	**144**	*e*PN	Pn	16 03 20.0	-0.8
MPAR				*e*SN	Sn	16 03 29.0	-1.0
MPAR	**Parnis Oros**	**0.63**	**144**	*e*Pn	Pn	16 03 20.0	-0.8
MPAR				*e*Sn	Sn	16 03 28.5	-1.5
NEO	**Neokhori**	**0.65**	**357⇑**	*i*PN	Pn	16 03 21.0	-0.1
MGER	**Gerania Oros**	**0.67**	**181**	*e*PB	Pb	16 03 20.3	-0.6
MGER				*e*SN	Sn	16 03 30.5	-0.7
NSAL	**Nisos Salamina**	**0.77**	**169**	*e*PN	Pn	16 03 22.0	-0.9
NSAL				*e*SN	Sn	16 03 33.5	-0.1
NSAL	**Nisos Salamina**	**0.77**	**169**	*e*Pb	Pb	16 03 21.7	-0.8
NSAL				*e*Sn	Sn	16 03 34.7	+1.1
PTL	**Penteli**	**0.77**	**142**	*e*PN	Pn	16 03 23.0	+0.1
PTL				*e*SN	Sn	16 03 34.0	+0.4
PTL	**Penteli**	**0.77**	**142**	*e*Pn	Pn	16 03 23.0	+0.1
PTL				*e*Sn	Sn	16 03 34.2	+0.6
ATH	**Athens Observa**	**0.77**	**153**	*e*PN	Pn	16 03 23.3	+0.4
ATH				*e*SN	Sn	16 03 33.5	-0.2
NAIG	**Nisos Aigina**	**0.92**	**169**	*e*PN	Pn	16 03 25.8	+0.8
NAIG				*e*SN	Sn	16 03 38.5	+1.2
EVR	**Evrytania**	**1.17**	**283**	*e*PN	Pn	16 03 29.9	+1.3
EVR				*e*SN	Sn	16 03 46.3	+2.5
RLS	**Riolos of Patr**	**1.54**	**248**	*e*PN	Pn	16 03 36.1	+2.2
PLG	**Polygyros**	**1.72**	**4**	*e*PB	Pb	16 03 37.5	-1.0
PLG				*e*SN	Sn	16 03 59.2	+1.5
ITM	**Ithomi**	**1.82**	**216**	*e*PN	Pn	16 03 39.5	+1.6
ITM				*e*SN	Sn	16 04 02.6	+2.3
VLI	**Veliai**	**1.96**	**188**	*e*PN	Pn	16 03 41.2	+1.3
VLS	**Valsamata**	**2.16**	**258**	*e*PB	Pb	16 03 45.5	-0.6

LDG 11 16:05:11.9±0.4, 17.49S×168.66E, h10km, Mb4.3/2, Error ellipse: s-maj=46.1km s-min=7.8km az=103.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**5.01**	**204**	*e*P	Pn	16 06 25.0	-4.1
DZM				*e*S	Sn	16 07 11.0	-17
FORT	**Forrest** 7.5nm,0.6s	**39.13**	**243**	*e*P	P	16 12 35.8	-5.7
FITZ	**Fitzroy Crossi** 19nm,0.7s	**40.90**	**262**	*e*P	P	16 12 54.0	-2.2
BAIF	**Baives**	**145.18**	**342**	*e*PKP1	PKPbc	16 24 49.4	-0.6
CDF	**Champ du Feu** 5.2nm,0.6s	**145.62**	**338**	*e*PKP1	PKPbc	16 24 50.7	-0.5
CABF	**La Chapelle** 6.5nm,0.6s	**147.57**	**337**	*e*PKP1	PKPdf	16 24 56.4	-0.4
FLN	**La Foliniere** 4.9nm,0.5s	**147.58**	**347**	*e*PKP1	PKPdf	16 24 55.7	-1.1
LDF	**La Druitiere**	**147.66**	**346**	*e*PKP1	PKPdf	16 24 55.7	-1.2
LOR	**Lormes** 7.3nm,0.7s	**147.77**	**340**	*e*PKP1	PKPdf	16 24 56.4	-0.7
SSF	**Saint Saulge** 6.1nm,0.5s	**148.07**	**341**	*e*PKP1	PKPdf	16 24 57.2	-0.4
LPG	**La Plagne** 3.5nm,0.5s	**148.25**	**335**	*e*PKP1	PKPdf	16 24 58.3	+0.3
ORIF	**Oris-en-Rattie** 7.0nm,0.6s	**149.08**	**336**	*e*PKP1	PKPdf	16 25 00.3	+1.0
TCF	**Toulx Ste Croi** 2.7nm,0.5s	**149.16**	**342**	*e*PKP1	PKPdf	16 24 59.7	+0.3
MFF	**Saint Martin d** 7.2nm,0.7s	**149.52**	**345**	*e*PKP1	PKPdf	16 25 00.5	+0.5
PGF	**Pioggiola** 20nm,0.9s	**149.60**	**330**	*e*PKP1	PKPdf	16 25 00.8	+0.6

MAN 11 16:35:50.5, 6.57N×126.07E, h92km, mb4.8, ML3.7, MS3.7, 2C-2D, Mindanao

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

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
MATI	**Mati**	**0.42**	**26**	*e*P	P	16 36 06.1	+1.2
MATI				*e*S	S	16 36 22.4	+6.6
KCP	**Kidapawan**	**1.07**	**294**	⇓*i*P	P	16 36 14.5	+3.1
KCP				*i* S	S	16 36 34.7	+7.6
GSPH	**General Santos**	**1.21**	**247**	⇑*e*P	P	16 36 10.8	-2.5
GSPH				*e*S	S	16 36 30.2	0.0
BUKP	**Musuan**	**1.64**	**323**	*e*P	P	16 36 20.1	+1.5
BUKP				*e*S	S	16 36 45.7	+6.4
CTBH	**Cotabato--PC H**	**1.93**	**290**	⇑*i*P	P	16 36 21.6	-0.6
CTBH				*i* S	S	16 36 48.3	+2.6
BUTP	**Butuan**	**2.43**	**349**	*e*P	P	16 36 30.0	+0.8
PAGZ	**Pagadian**	**2.96**	**296**	*e*P	P	16 36 36.4	-0.1
SCPH	**Surigao**	**3.25**	**350**	⇓*e*P	P	16 36 40.1	-0.4

*CSEM **11** 17:53:49.0±0.2, 51.54N×16.13E, h0km, ML3.0/6, Error ellipse: s-maj=3.9km s-min=1.9km az=19.0*
*PRU **11** 17:53:50.4, 51.46N×16.14E*
*NEIC **11** 17:53:53.3±1.5, 51.30N×16.01E, h5km, ML2.7(VIE), Error ellipse: s-maj=17.5km s-min=7.4km az=207.0*

WAR 11 17:53:49.9, 51.52N×16.12E, h1km, ML2.4, 3C, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
KSP	**Ksiaz**	**0.69**	**171**	⇑*e*PG	Pg	17 54 02.0	-1.7
KSP				⇑*e*SG	Sg	17 54 12.0	-0.9
KSP	**Ksiaz**	**0.69**	**171**	*e*Pg	Pg	17 54 02.5	-1.2
KSP				*e*Sg	Sg	17 54 11.8	-1.1
KSP	**Ksiaz**	**0.69**	**171**	*e*Pg	Pg	17 54 02.5	-1.2
KSP				*e*Sg	Sg	17 54 11.7	-1.2
UPC	**Upice**	**1.02**	**184**	*e*PG	Pg	17 54 08.6	-1.7
DPC	**Dobruska-Polom**	**1.18**	**174**	*e*PG	Pg	17 54 11.5	-2.0
DPC				*e*SG	Sg	17 54 26.5	-2.8
	9.0nm,0.2s						
PVCC	**Panska Ves**	**1.40**	**225**	*e*PG	Pg	17 54 15.8	-2.0
BRG	**Berggiesshubel**	**1.51**	**245**	Pg	Pg	17 54 17.7	-2.4
BRG				Sg	Sg	17 54 37.7	-2.6
PRU	**Pruhonice**	**1.83**	**214**	*e*PG	Pg	17 54 24.0	-2.5
PRU				*e*x	x	17 54 26.7	
PRU				*e*SG	Sg	17 54 47.1	-3.9
	15nm,0.3s						
PRU	**Pruhonice**	**1.83**	**214**	*e*Pg	Pg	17 54 24.0	-2.5
PRU				Sg	Sg	17 54 47.1	-3.9
	15nm,0.3s						
CLL	**Collm**	**1.96**	**265**	*e*PG	Pg	17 54 26.0	-3.0
CLL				*e*SG	Sg	17 54 52.0	-3.2
MORC	**Moravsky Berou**	**1.97**	**152**	*e*Pn	Pn	17 54 24.1	-0.7
MORC				*e*Sn	Sn	17 54 46.3	-4.2
MORC				*e*Sg	Sg	17 54 49.0	-6.5
MORC	**Moravsky Berou**	**1.97**	**152**	*e*Pn	Pn	17 54 24.1	-0.6
MORC				*e*Sn	Sn	17 54 46.3	-4.2
OKC	**Ostrava-Krasne**	**2.13**	**142**	*e*PG	Pg	17 54 28.8	-3.6
OKC				*e*SG	Sg	17 54 56.9	-3.8
	14nm,0.6s						
VRAC	**Vranov**	**2.24**	**172**	*e*Pn	Pn	17 54 27.9	-0.7
VRAC				*e*Sg	Sg	17 54 58.4	-6.1
NKC	**Novy Kostel**	**2.66**	**242**	*e*PN	Pn	17 54 35.4	+0.8
NKC				*e*PG	Pg	17 54 39.6	-3.4
NKC				*e*SG	Sg	17 55 15.2	-3.2
	13nm,0.3s						
KHC	**Kasperske Hory**	**2.90**	**215**	*e*PN	Pn	17 54 36.8	-1.2
KHC				*e*PG	Pg	17 54 41.8	-5.9
KHC				*e*SN	Sn	17 55 09.3	-4.7
KHC				*e*SG	Sg	17 55 20.4	-5.9
	4.7nm,0.3s						
MOX	**Moxa**	**2.97**	**255**	*e*Pg	Pg	17 54 45.5	-3.7
MOX				*e*Sg	Sg	17 55 25.3	-3.5
MOA	**Molln**	**3.87**	**199**	⇑*i*PN	Pn	17 54 50.4	-1.4
MOA				*i* SG	Sg	17 55 54.3	-4.4
	3.5nm,0.5s						

*IDC **11** 18:04:54.9±9.1, 12.72N×144.22E, h74km±84km, mb4.0/17, mb1 4.1/17, mb1mx4.0/23, mbtmp4.3/17, MS3.4/2, Ms1 3.4/2, ms1mx2.9/23, Error ellipse: s-maj=27.0km s-min=15.7km az=66.0*
*NEIC **11** 18:04:54.9±4.0, 12.63N×144.17E, h76km±37km, mb4.5/16, Error ellipse: s-maj=15.6km s-min=8.1km az=88.0*

ISC 11 18:04:49.7±5.7, 12.61N±0.06×144.1E±0.1, h40km±51km, n48, σ1§07/44, mb4.4/30, MS3.4/2, 1D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
JHJ	**Hachijo jima 2**	**20.80**	**350**	LR	LR	18 17 16.1	
	comp=Z,56nm,18.9s,MS3.0,baz=115,slow=36						
JNU	**Nakatsue**	**23.74**	**331**	P	**P**	**18 10 00.4**	**+1.2**
	6.5nm,0.9s,mb4.1,baz=92,slow=6.8,SNR=3.1						
MAJO	**Matsushiro**	**24.42**	**348**	P	**P**	**18 10 06.2**	**+0.4**
	4.4nm,0.6s,mb4.1						
MAT	**Matsushiro**	**24.42**	**348**	P	**P**	**18 10 07.2**	**+1.4**
MAT	**Matsushiro**	**24.42**	**348**	P	**P**	**18 10 07.0**	**+1.2**
CTA	**Charters Tower**	**32.56**	**176**	P	**P**	**18 11 20.1**	**+0.5**
	1.4nm,0.4s,mb4.3,baz=5.7,slow=10,SNR=3.6						
CTAO	**Charters Tower**	**32.56**	**176**	P	**P**	**18 11 21.8**	**+2.2**
	5.8nm,0.9s,mb4.5						
WRAB	**Tennant Creek**	**33.74**	**197**	*e*P	**P**	**18 11 28.3**	**-1.5**
	11nm,0.9s,mb4.8						
WB2	**Warramunga Arr**	**33.75**	**197**	⇓*i*P	**P**	**18 11 29.0**	**-0.9**
YSS	**Yuzh-Sakhalins**	**34.25**	**358**	*e*P	**P**	**18 11 32.6**	**-1.3**
	13nm,1.1s,mb4.8						
FITZ	**Fitzroy Crossi**	**35.56**	**211**	P	**P**	**18 11 45.2**	**-0.2**
	5.7nm,1.1s,mb4.4,baz=14,slow=8.3,SNR=3.2						
DZM	**Mont Dzumac**	**40.83**	**147**	P	**P**	**18 12 29.8**	**+0.4**
	1.6nm,0.3s,mb4.2,baz=180,slow=12,SNR=14						
MBWA	**Marble Bar**	**41.24**	**216**	*e*P	**P**	**18 12 32.4**	**-0.4**
	7.7nm,1.1s,mb4.2						
PET	**Petropavlovsk**	**41.95**	**13**	P	**P**	**18 12 42.0**	**+3.8**
STKA	**Stephens Creek**	**44.30**	**183**	P	**P**	**18 12 59.0**	**+1.4**
	1.2nm,0.7s,mb3.7,baz=25,slow=4.9,SNR=4.0						
SONM	**Songino Array**	**47.12**	**326**	P	**P**	**18 13 20.1**	**+0.3**
	0.6nm,0.5s,mb3.8,baz=140,slow=5.9,SNR=4.4						
YAK	**Yakutsk**	**50.43**	**351**	*e*P	**P**	**18 13 44.3**	**-0.9**
	12nm,0.6s,mb5.1						
LSA	**Lhasa**	**51.81**	**298**	P	**P**	**18 14 01.4**	**+5.4**
	2.8nm,0.7s,mb4.3						
NIKO	**Nikolski**	**54.88**	**33**	P	**P**	**18 14 15.3**	**-3.1**
MKAR	**Makanchi Array**	**61.70**	**317**	P	**P**	**18 15 05.7**	**-0.5**
	0.8nm,0.6s,mb4.0,baz=93,slow=8.5,SNR=9.6						
KURK	**Kurchatov**	**64.87**	**320**	*e*P	**P**	**18 15 26.7**	**-0.3**
	3.8nm,0.7s,mb4.5						
ILAR	**Eielson Array**	**69.75**	**25**	P	**P**	**18 15 54.2**	**-3.1**
	0.8nm,0.4s,mb4.0,baz=253,slow=5.7,SNR=9.5						
BVAR	**Borovoye Array**	**70.25**	**322**	P	**P**	**18 15 59.6**	**-1.0**
	2.1nm,0.4s,mb4.4,baz=107,slow=7.9,SNR=25						
BRVK	**Borovoye**	**70.31**	**322**	*e*P	**P**	**18 16 01.5**	**+0.5**
	1.6nm,0.7s,mb4.1						
INK	**Inuvik**	**75.54**	**22**	P	**P**	**18 16 30.1**	**-1.3**
	1.0nm,0.6s,mb3.9,baz=281,slow=8.2,SNR=5.4						
INK	**Inuvik**	**75.54**	**22**	*e*P	**P**	**18 16 30.1**	**-1.3**
	1.5nm,0.8s,mb4.0						
ARU	**Arti**	**77.16**	**325**	P	*i*	**18 16 43.2**	**+2.3**
DLBC	**Dease Lake**	**77.19**	**33**	P	**P**	**18 16 40.7**	**-0.3**
	2.3nm,0.6s,mb4.3,baz=295,slow=4.1,SNR=9.7						
DLBC	**Dease Lake**	**77.19**	**33**	*e*P	**P**	**18 16 41.1**	**+0.1**
BBB	**Bella Bella**	**78.78**	**39**	P	**P**	**18 16 49.2**	**-0.7**
	2.0nm,0.6s,mb4.2,baz=306,slow=8.8,SNR=5.4						
BBB	**Bella Bella**	**78.78**	**39**	P	**P**	**18 16 49.2**	**-0.7**
HUMO	**Hull Mountain**	**83.70**	**48**	*e*P	**P**	**18 17 16.8**	**+0.9**
	3.3nm,0.8s,mb4.5						
YKA	**Yellowknife Ar**	**84.05**	**27**	P	**P**	**18 17 15.8**	**-1.3**
	1.3nm,0.5s,mb4.3,baz=286,slow=5.0,SNR=5.7						
NEW	**Newport**	**86.43**	**41**	P	**P**	**18 17 30.1**	**+0.8**
	10nm,0.7s,mb5.2,baz=259,slow=1.6,SNR=11						
NEW	**Newport**	**86.43**	**41**	*e*P	**P**	**18 17 29.8**	**+0.6**
	3.8nm,0.6s,mb4.8						
EDM	**Edmonton**	**87.35**	**36**	*e*P	**P**	**18 17 33.9**	**+0.3**
NVAR	**Mina Array Bea**	**88.08**	**51**	P	**P**	**18 17 37.6**	**+0.1**
	1.9nm,0.5s,mb4.6,baz=260,slow=5.5,SNR=17						
WALA	**Waterton Lakes**	**88.26**	**40**	*e*P	**P**	**18 17 39.0**	**+1.0**
	3.0nm,0.6s,mb4.7						
HLID	**Hailey**	**89.53**	**45**	*e*P	**P**	**18 17 45.1**	**+0.8**
	9.6nm,1.2s,mb5.0						
HRY	**Holter Researc**	**90.31**	**42**	*e*P	**P**	**18 17 48.0**	**+0.2**
QLMT	**Earthquake Lak**	**91.19**	**44**	*e*P	**P**	**18 17 53.0**	**+1.0**
DUG	**Dugway**	**91.68**	**48**	*e*P	**P**	**18 17 55.0**	**+0.6**
	1.5nm,0.5s,mb4.6						
FINES	**FINESS Array B**	**91.74**	**335**	P	**P**	**18 17 54.0**	**-0.1**
	0.9nm,0.6s,mb4.2,baz=90,slow=3.8,SNR=6.1						
HWUT	**Hardware Ranch**	**92.14**	**47**	*e*P	**P**	**18 17 54.1**	**-2.4**
	7.8nm,1.4s,mb4.8						
PDAR	**Pinedale Array**	**93.16**	**45**	P	**P**	**18 18 01.2**	**+0.1**
	0.4nm,0.6s,mb4.0,baz=297,slow=2.0,SNR=4.2						
PDAR				LR	LR	18 56 04.2	
	comp=Z,26nm,18.2s,MS3.7,baz=71,slow=33						
DBIC	**Dimbokro**	**143.71**	**300**	PKP	PKPdf	18 24 20.9	-0.6
	2.4nm,0.5s,baz=22,slow=1.9,SNR=4.4						
LPAZ	**La Paz**	**148.56**	**101**	PKPbc	PKPdf	18 24 34.1	+4.5
	1.7nm,0.7s,baz=3.9,slow=4.2,SNR=7.6						
LPAZ	**La Paz**	**148.56**	**101**	*e*PKPbc	PKPdf	18 24 33.8	+4.2

BJI 11 18:08:04.1, 34.93N×103.73E, h16km, ML3.6, Ms3.2, Gansu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
LZH	**Lanzhou**	**1.16**	**5**	PG	Pb	18 08 25.2	-0.1
LZH				P		18 08 28.9	
LZH				SG	Sb	18 08 42.7	+2.8
LZH				S	Sb	18 08 48.8	+8.9
LZH				Smax			
	comp=N,2μm,0.6s						
LZH				Smax			
	comp=E,2μm,0.6s						
XAN	**Xi'an**	**4.38**	**100**	P	Pn	18 09 09.9	-1.7
XAN				PG	Pn	18 09 23.3	+12
XAN				SG	Sn	18 10 24.1	+21
XAN				Smax			
	comp=N,88nm,0.9s						
XAN				Smax			
	comp=E,66nm,0.8s						
GTA	**Gaotai**	**5.46**	**326**	P	Pn	18 09 25.5	-1.3
GTA				SG	Sn	18 10 54.9	+25
GTA				Smax			
	comp=N,15nm,0.6s						
GTA				Smax			
	comp=E,14nm,0.8s						
HHC	**Hu-ho-hao-te**	**8.56**	**44**	*e*P	P	18 10 13.7	+3.4
HHC				Smax			
	comp=N,22nm,0.4s						
HHC				Smax			
	comp=E,23nm,0.6s						

*IDC **11** 18:18:35.0±2.3, 21.90S×169.94E, mb4.2/3, mb1 4.3/4, mb1mx4.1/11, mbtmp4.3/4, ML4.2/1, MS3.7/9, Ms1 3.7/9, ms1mx3.5/18, Error ellipse: s-maj=73.3km s-min=31.0km az=154.0*
*NEIC **11** 18:18:35.5±0.6, 22.07S×170.04E, h10km, mb4.6/10, Error ellipse: s-maj=14.6km s-min=12.4km az=213.0*

ISC 11 18:18:37.3±0.7, 22.05±0.1×169.96E±0.07, h33km, n49, σ1§02/25, mb4.3/10, MS3.7/7, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
DZM	**Mont Dzumac**	**3.26**	**269**	*e*P	**P**	**18 19 27.1**	**-0.2**
DZM				*e*S	**S**	**18 20 04.0**	**-1.4**
DZM	**Mont Dzumac**	**3.26**	**269**	Pn	**Pn**	**18 19 27.2**	**-0.1**
	26nm,0.3s,baz=87,slow=18,SNR=674						
DZM				Sn	**Sn**	**18 20 06.5**	**+1.1**
	33nm,0.3s,baz=127,slow=15,SNR=8.4						
RAO	**Raoul Island**	**13.08**	**126**	LR	LR	18 25 32.2	
	comp=Z,355nm,18.8s,baz=335,slow=32						
HNR	**Honiara**	**15.79**	**321**	LR	LR	18 27 08.4	
	comp=Z,90nm,20.2s,baz=315,slow=33						
HNR	**Honiara**	**15.79**	**321**	P	**P**	**18 22 19.1**	**+0.2**
	49nm,1.1s						
RPZ	**Rata Peaks**	**21.65**	**178**	LR	LR	18 30 45.4	
	comp=Z,301nm,19.3s,MS3.7,baz=217,slow=34						
CTA	**Charters Tower**	**22.20**	**271**	*e*P	**P**	**18 23 34.6**	**+2.3**
	7.0nm,1.0s,mb4.0						
CTA	**Charters Tower**	**22.20**	**271**	P	**P**	**18 23 33.5**	**+1.2**
	4.8nm,0.7s,mb4.0,baz=109,slow=11,SNR=7.5						
CTA				LR	LR	18 30 55.5	
	comp=Z,219nm,21.3s,MS3.5,baz=71,slow=33						
CTAO	**Charters Tower**	**22.20**	**271**	*e*P	**P**	**18 23 34.4**	**+2.0**
	14nm,1.0s,mb4.3						
PMG	**Port Moresby**	**25.23**	**296**	LR	LR	18 32 41.4	
	comp=Z,228nm,18.3s,MS3.7,baz=110,slow=34						
STKA	**Stephens Creek**	**27.05**	**243**	P	**P**	**18 24 19.6**	**+1.0**
	4.0nm,0.7s,mb4.0,baz=86,slow=11,SNR=15						
STKA				LR	LR	18 35 23.2	
	comp=Z,181nm,18.4s,MS3.7,baz=227,slow=37						
WB2	**Warramunga Arr**	**33.26**	**267**	*e*P	**P**	**18 25 12.8**	**-1.1**
WRAB	**Tennant Creek**	**33.27**	**267**	*e*P	**P**	**18 25 12.9**	**-1.1**
	6.5nm,0.9s,mb4.6						
PPT	**Papeete**	**38.26**	**91**	LR	LR	18 38 02.2	
	comp=Z,108nm,18.4s,MS3.7,baz=276,slow=30						
FITZ	**Fitzroy Crossi**	**41.70**	**267**	*e*P	**P**	**18 26 26.0**	**+1.1**
	15nm,0.9s,mb4.6						
MBWA	**Marble Bar**	**46.54**	**261**	*e*P	**P**	**18 27 03.8**	**0.0**
	6.4nm,0.6s,mb4.7						
NWAO	**Narrogin (SRO)**	**47.59**	**245**	*e*P	**P**	**18 27 11.5**	**-0.5**
	4.8nm,0.8s,mb4.6						
VNDA	**Vanda**	**55.68**	**182**	LR	LR	18 45 45.0	
	comp=Z,83nm,21.8s,MS3.8,baz=179,slow=29						
SBA	**Scott Base**	**55.90**	**181**	*e*P	**P**	**18 28 12.8**	**-1.0**
	2.7nm,0.8s,mb4.3						
MAJO	**Matsushiro**	**65.52**	**332**	*e*P	**P**	**18 29 17.6**	**-2.0**
	8.8nm,1.0s,mb4.7						
MAT	**Matsushiro**	**65.52**	**332**	P	**P**	**18 29 19.6**	**-0.1**
MAT	**Matsushiro**	**65.52**	**332**	P	**P**	**18 29 20.0**	**+0.3**
SNAA	**Sanae**	**86.42**	**182**		**P**	**18 31 22.6**	**+5.7**
SNAA	**Sanae**	**86.42**	**182**		pP	18 31 27.7	+0.2
SNAA	**Sanae**	**86.42**	**182**		sP	18 31 31.3	+0.4
SNAA	**Sanae**	**86.42**	**182**	LR	LR	19 06 53.8	
	comp=Z,29nm,21.1s,MS3.6,baz=25,slow=34						
SNAA	**Sanae**	**86.42**	**182**	P	**P**	**18 31 16.4**	**-0.5**
	0.2nm,1.2s,mb3.2						
VNA3	**Neumayer Olymp**	**86.98**	**180**		**P**	**18 31 20.5**	**+0.8**
VNA3	**Neumayer Olymp**	**86.98**	**180**		**P**	**18 31 24.4**	**+4.7**
VNA3	**Neumayer Olymp**	**86.98**	**180**		pP	18 31 30.3	+0.1
VNA3	**Neumayer Olymp**	**86.98**	**180**		sP	18 31 35.2	+1.5
VNA2	**Neumayer--Watz**	**87.28**	**181**		**P**	**18 31 22.2**	**+1.0**
VNA2	**Neumayer--Watz**	**87.28**	**181**		**P**	**18 31 26.0**	**+4.8**
VNA2	**Neumayer--Watz**	**87.28**	**181**		pP	18 31 32.4	+0.7
VNA2	**Neumayer--Watz**	**87.28**	**181**		sP	18 31 36.3	+1.1
SONM	**Songino Array**	**89.84**	**323**	P	**P**	**18 31 35.1**	**+1.2**
	1.9nm,1.0s,mb4.4,baz=140,slow=3.8,SNR=10						
OKC	**Ostrava-Krasne**	**144.46**	**328**	AMS	AMS	19 28 20.0	
	100nm,15.9s						
VYHS	**Vyhne**	**144.98**	**326**	*e*PKP	PKPdf	18 38 13.0	+2.1
DPC	**Dobruska-Polom**	**144.98**	**330**	*e*PKP	PKPdf	18 38 11.1	+0.2
DPC				*ep*PKP		18 38 17.5	
DPC				AMS	AMS	19 27 20.0	
	100nm,21.2s						
UPC	**Upice**	**145.01**	**331**	*e*PKP	PKPdf	18 38 12.5	+1.6
UPC				*ex*	x	18 38 20.5	
PVCC	**Panska Ves**	**145.64**	**332**	AMS	AMS	19 28 20.0	
	100nm,9.1s						
BRG	**Berggiesshubel**	**145.65**	**333**	*i* P	PKPdf	18 38 14.4	+2.4
BRG				*i*		18 38 18.8	
CLL	**Collm**	**145.72**	**334**	*i* PKIKP	PKPdf	18 38 14.2	+2.1
	logA/T=1.2						
CLL				*i*		18 38 19.0	
CLL				*e*		18 38 24.0	
PRU	**Pruhonice**	**146.04**	**331**	*e*PKP	PKPdf	18 38 16.0	+3.3
PRU				*ex*	x	18 38 24.4	
PRU				AMS	AMS	19 27 00.0	
	100nm,9.1s						
NKC	**Novy Kostel**	**146.76**	**333**	*e*PKP	PKPdf	18 38 18.1	+4.2
NKC				AMS	AMS	19 28 20.0	
	100nm,9.2s						
MOX	**Moxa**	**146.78**	**335**	*i* P	PKPdf	18 38 16.3	+2.3
MOX	**Moxa**	**146.78**	**335**	*e*P	PKPdf	18 38 16.3	+2.3
KHC	**Kasperske Hory**	**147.10**	**331**	*e*PKP	PKPdf	18 38 18.7	+4.2
KHC				*ex*	x	18 38 27.7	
KHC				AMS	AMS	19 28 30.0	
	100nm,19.5s						
GERES	**GERESS Array B**	**147.25**	**331**	PKPbc	PKPdf	18 38 19.2	+4.4
	3.1nm,0.7s,baz=34,slow=3.5,SNR=14						

MAN 11 18:19:34.5, 13.16N×120.48E, h3km, mb3.5, ML2.2, MS1.7, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
PGP	**Puerto Galera**	**0.57**	**54**	*e*P	Pg	18 19 45.8	-0.3
PGP				*e*S	Sg	18 19 59.7	+6.0
LUBP	**Lubang**	**0.61**	**339**	*e*P	Pg	18 19 47.0	+0.3
SJMP	**San Jose**	**0.94**	**138**	*e*P	Pb	18 19 53.3	+0.2
SJMP				*e*S	Sb	18 20 11.8	+6.1
BUSP	**Coron**	**1.18**	**193**	*e*P	Pb	18 19 57.5	+0.2
ENPP	**El Nido**	**2.20**	**208**	*e*P	Pn	18 20 11.5	-0.9

MAN 11 18:44:08.3, 8.05N×125.21E, h4km, mb4.3, ML3.1, MS2.8, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
BUKP	**Musuan**	**0.22**	**222**	*e*P	Pg	18 44 13.6	+0.8
BUKP				*e*S	Sg	18 44 17.9	+2.1
CGP	**Cagayan de Oro**	**0.65**	**308**	⇓*e*P	Pg	18 44 20.5	-0.8
CGP				*e*S	Sg	18 44 30.6	+0.6
BUTP	**Butuan**	**1.00**	**24**	*e*P	Pb	18 44 28.3	+0.5
CTBH	**Cotabato--PC H**	**1.26**	**229**	⇑*i*P	Pb	18 44 31.2	-1.1
CTBH				*i* S	Sb	18 44 49.7	+1.0
MATI	**Mati**	**1.51**	**137**	*e*P	Pn	18 44 35.1	-1.1
PAGZ	**Pagadian**	**1.82**	**264**	*e*P	Pn	18 44 42.1	+1.4

MAN 11 18:54:55.0, 11.82N×126.00E, h15km, mb4.3, ML3.1, MS2.8, 1D, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
BESP	**Borongan**	**0.59**	**249**	*e*P	Pb	18 55 06.6	+0.1
BESP				*e*S	Sb	18 55 16.7	+2.3
PLP	**Palo**	**1.19**	**237**	*e*P	Pb	18 55 15.9	-0.9
PLP				*e*S	Sb	18 55 30.4	-1.4
CNP	**Catarman**	**1.48**	**298**	*e*P	Pn	18 55 20.9	-0.4
MSLP	**Maasin**	**2.01**	**214**	*e*P	Pn	18 55 29.2	+0.3
SCPH	**Surigao**	**2.08**	**194**	⇓*e*P	Pn	18 55 28.5	-1.4
PVCP	**Virac**	**2.52**	**315**	*e*P	Pn	18 55 35.1	-1.1
BUKP	**Musuan**	**4.02**	**193**	*e*P	Pn	18 55 59.4	+1.9

*IDC **11** 19:12:26.3±1.2, 76.96N×9.30E, mb3.5/4, mb1 3.7/7, mb1mx3.6/17, mbtmp3.6/7, ML2.9/3, MS3.4/14, Ms1 3.4/14, ms1mx3.3/22, Error ellipse: s-maj=34.1km s-min=13.5km az=58.0*
*NEIC **11** 19:12:26.0±0.7, 76.55N×7.00E, h10km, mb4.4/4, Error ellipse: s-maj=25.8km s-min=10.7km az=218.0*
*CSEM **11** 19:12:26.0±0.1, 76.55N×7.00E, h10km, mb4.3/3, Error ellipse: s-maj=5.1km s-min=1.9km az=37.0, After NEIC*

ISC 11 19:12:25.5±0.7, 76.86N±0.08×8.9E±0.3, h10km, n29, σ1§50/24, mb3.9/8, MS3.5/10, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
HSP	**Hornsund**	**1.52**	**81**	*e*P	**Pn**	**19 12 55.1**	**+2.2**
HSP				*e*S	**Sb**	**19 13 11.4**	**-1.2**
JMIC	**Jan Mayen**	**7.58**	**228**	LR	LR	19 16 25.4	
	comp=Z,102nm,19.8s,baz=218,slow=31						
ARCES	**ARCESS Array B**	**8.74**	**139**	Pn	**P**	**19 14 31.6**	**-3.2**
	0.1nm,0.3s,baz=333,slow=11,SNR=8.4						
ARCES				Sn	**Sn**	**19 16 05.5**	**-9.0**
	1.2nm,0.3s,baz=334,slow=21,SNR=10.0						
ARCES				LR	LR	19 17 59.4	
	comp=Z,243nm,20.0s,baz=11,slow=38						
ARE0	**ARCESS Array S**	**8.74**	**139**	*e*Pn	**P**	**19 14 35.7**	**+0.9**
ARE0				*e*Sn	**Sn**	**19 16 03.2**	**-11**
ARE0	**ARCESS Array S**	**8.74**	**139**	*e*Pn	**P**	**19 14 35.7**	**+0.8**
ARE0				*e*Sn	**Sn**	**19 16 03.2**	**-11**
SUMG	**Summit**	**12.85**	**275**	*e*P	**P**	**19 15 21.5**	**-9.3**
	20nm,1.0s						
SUMG	**Summit**	**12.85**	**275**	*e*P	**P**	**19 15 21.5**	**-9.3**
	20nm,1.0s						
NOA	**NORSAR Array B**	**15.91**	**176**	LR	LR	19 21 20.0	
	comp=Z,69nm,20.6s,baz=355,slow=33						
FINES	**FINESS Array B**	**16.51**	**150**	Pn	**P**	**19 16 17.4**	**-0.8**
	0.1nm,0.3s,slow=11,SNR=2.4						
FINES				LR	LR	19 22 41.1	
	comp=Z,117nm,19.8s,baz=352,slow=37						
HFS	**Hagfors**	**16.88**	**172**	Pn	**P**	**19 16 25.3**	**+2.3**
	0.0nm,0.3s,baz=346,slow=6.1,SNR=5.3						
OBN	**Obninsk**	**24.05**	**139**	P	**P**	**19 17 42.2**	**+1.2**
	18nm,1.4s,mb4.3						
OBN	**Obninsk**	**24.05**	**139**	P	**P**	**19 17 42.2**	**+1.2**
	18nm,1.4s,mb4.3						
VRAC	**Vranov**	**27.82**	**169**	LR	LR	19 28 31.9	
	comp=Z,47nm,21.0s,MS3.0,baz=24,slow=35						
GERES	**GERESS Array B**	**28.18**	**173**	LR	LR	19 29 08.0	
	comp=Z,58nm,19.9s,MS3.2,baz=7.6,slow=35						
INK	**Inuvik**	**33.26**	**336**	LR	LR	19 33 29.6	
	comp=Z,49nm,18.0s,MS3.3,baz=110,slow=38						
INK	**Inuvik**	**33.26**	**336**	*e*P	**P**	**19 19 04.3**	**+0.1**
	2.8nm,1.0s,mb4.2						
INK	**Inuvik**	**33.26**	**336**	*e*P	**P**	**19 19 04.3**	**0.0**
	2.8nm,1.0s,mb4.2						
YKA	**Yellowknife Ar**	**36.53**	**319**	LR	LR	19 33 57.0	
	comp=Z,38nm,18.6s,MS3.2,baz=330,slow=35						
KURK	**Kurchatov**	**36.69**	**94**	*e*P	**P**	**19 19 34.6**	**+0.8**
	7.9nm,1.3s,mb4.4						
KURK	**Kurchatov**	**36.69**	**94**	*e*P	**P**	**19 19 34.6**	**+0.8**
	7.9nm,1.3s,mb4.4						
ILAR	**Eielson Array**	**37.81**	**343**	P	**P**	**19 19 43.9**	**+0.8**
	0.9nm,0.8s,mb3.5,baz=3.6,slow=7.2,SNR=4.3						
ILAR	**Eielson Array**	**37.81**	**343**	P	**P**	**19 19 43.8**	**+0.8**
MKAR	**Makanchi Array**	**41.22**	**92**	P	**P**	**19 20 12.7**	**+1.2**
	0.7nm,0.7s,mb3.4,baz=359,slow=7.1,SNR=4.2						
MKAR				LR	LR	19 41 15.8	
	comp=Z,75nm,19.2s,MS3.6,baz=351,slow=42						
DLBC	**Dease Lake**	**

10nm,0.8s,baz=313,slow=7.8,SNR=7.3
KULM Kulim 28.80 294 *e*P **P 20 01 59.7 +0.7**
HNR Honiara 32.86 97 P **P 20 02 35.8 +1.9**
30nm,0.8s,mb4.7
JNU Nakatsue 39.97 5 P **P 20 03 32.5 -0.2**
4.7nm,0.7s,mb4.0,baz=198,slow=7.4,SNR=5.4
TAU Tasmania Unive 40.17 157 *e*P **P 20 03 33.2 -1.1**
85nm,1.4s,mb4.9
ENH Enshi 40.52 337 *e*P **P 20 03 36.6 -0.6**
8.5nm,0.6s,mb4.2
DZM Mont Dzumac 41.06 116 P **P 20 03 42.9 +1.3**
4.3nm,0.7s,mb3.9,baz=166,slow=8.3,SNR=5.0
KS15 Wonju Array Si 44.10 1 P **P 20 03 57.3 -8.5**
MAJO Matsushiro 44.49 13 *e*P **P 20 04 07.3 -1.6**
17nm,0.6s,mb4.6
MAT Matsushiro 44.49 13 P **P 20 04 08.0 -0.8**
MAT Matsushiro 44.49 13 *e*P **P 20 04 08.0 -0.8**
11nm,0.6s,mb4.3
LZH Lanzhou 47.89 335 *e*P **P 20 04 36.0 +0.9**
LZH AMB AMB
comp=Z,25nm,1.0s,mb4.5
LZH AMB AMB
comp=Z,120nm,4.0s
LSA Lhasa 49.99 318 P **P 20 04 52.5 +1.5**
comp=Z,5.8nm,0.6s,mb4.1
MDJ Mudanjiang 51.32 3 P **P 20 05 00.5 -0.1**
MDJ AMB AMB
comp=Z,9.0nm,1.0s,mb4.0
MDJ AMB AMB
comp=Z,34nm,3.7s
MDJ Mudanjiang 51.32 3 *e*P **P 20 05 01.0 +0.4**
comp=Z,21nm,1.2s,mb4.2
GTA Gaotai 52.41 334 *e*P **P 20 05 09.0 +0.3**
GTA AMB AMB
comp=Z,13nm,0.6s,mb4.3
PKI Pulchoki 52.70 312 *e*P **P 20 05 10.8 -0.1**
comp=Z,12nm,0.5s,mb4.4
KKN Kakani 52.91 313 *e*P **P 20 05 12.2 -0.3**
comp=Z,8.6nm,0.5s,mb4.3
DMN Daman 52.94 312 *e*P **P 20 05 12.5 -0.2**
comp=Z,8.9nm,0.6s,mb4.2
GKN Gorkha 53.50 312 *e*P **P 20 05 16.7 0.0**
comp=Z,16nm,0.3s,mb4.8
KOLN Koldanda 54.14 311 *e*P **P 20 05 21.2 -0.1**
comp=Z,20nm,0.7s,mb4.5
YSS Yuzh-Sakhalins 55.43 13 *e*P **P 20 05 28.3 -1.8**
comp=Z,11nm,0.6s,mb4.2
HIA Hailar 56.26 354 P **P 20 05 35.1 -0.7**
comp=Z,7.4nm,1.2s,mb3.9
SONM Songino Array 57.39 344 P **P 20 05 44.1 +0.5**
comp=Z,4.0nm,0.8s,mb3.8,baz=170,slow=7.1,SNR=37
SONM PcP PcP 20 06 31.7 -0.1
comp=Z,0.8nm,0.6s,baz=137,slow=4.2,SNR=4.1
MKAR Makanchi Array 66.44 328 P **P 20 06 43.2 +0.6**
comp=Z,2.0nm,0.4s,mb4.1,baz=119,slow=8.2,SNR=43
AAK Ala-Archa 68.45 321 P **P 20 06 53.5 -1.5**
comp=Z,5.6nm,1.1s,mb4.1
MA2 Magadan 68.93 13 *e*P **P 20 06 56.1 -1.5**
comp=Z,24nm,1.1s,mb4.7
KURK Kurchatov 70.81 330 *e*P **P 20 07 09.5 +0.5**
comp=Z,8.7nm,0.7s,mb4.4
VNDA Vanda 72.96 172 P **P 20 07 21.9 +0.9**
comp=Z,0.6nm,0.4s,mb3.5,baz=304,slow=8.2,SNR=8.8
VNDA pP pP 20 08 52.5 -4.4
comp=Z,0.5nm,0.3s,baz=3.9,slow=3.7,SNR=3.4
VNDA Vanda 72.96 172 *e*P **P 20 07 19.9 -1.1**
comp=Z,0.7nm,0.5s,mb3.5
VNDA pP pP 20 08 52.5 -4.4
SBA Scott Base 73.88 172 *e*P **P 20 07 27.8 +1.5**
comp=Z,0.8nm,0.6s,mb3.5
BVAR Borovoye Array 76.31 329 P **P 20 07 41.2 +0.9**
comp=Z,2.2nm,0.6s,mb4.0,baz=135,slow=6.1,SNR=23
BRVK Borovoye 76.39 329 *e*P **P 20 07 40.8 +0.1**
comp=Z,6.6nm,1.1s,mb4.2
ARU Arti 83.96 329 *e*P **P 20 08 19.4 -0.8**
comp=Z,2.6nm,0.5s,mb4.2
ILAR Eielson Array 94.58 25 P **P 20 09 09.3 -0.4**
comp=Z,0.5nm,0.7s,mb3.6,baz=240,slow=7.3,SNR=5.1
SCHQ Schefferville 130.94 10 PKP PKPdf 20 15 00.0 +2.9
comp=Z,1.0nm,0.5s,baz=349,slow=2.3,SNR=3.4
CPUP Villa Florida 146.74 173 PKPbc PKPbc 20 15 32.0 +3.8
comp=Z,2.9nm,0.5s,baz=191,slow=3.7,SNR=9.2
LPAZ La Paz 152.62 147 PKPbc PKPdf 20 15 45.7 +10
comp=Z,0.7nm,0.3s,baz=54,slow=1.0,SNR=5.3
LPAZ PKPab PKPab 20 16 00.2 +2.1
comp=Z,1.5nm,0.5s,baz=200,slow=4.9,SNR=7.0
LPAZ La Paz 152.62 147 PKPbc PKPdf 20 15 45.7 +10
LPAZ PKPab PKPab 20 16 00.2 +2.1

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*CSEM **11** 20:07:18.9±0.3,36.92N×3.53E,h10km,ML3.1,Error ellipse: s-maj=10.1km s-min=5.6km az=69.0*
*CRAAG **11** 20:07:19.3,36.86N×3.54E,Ml3.1*
*NEIC **11** 20:07:23.7,37.24N×3.46E,MG3.8(MDD),After MDD.*
MDD 11 20:07:20.1±0.9,36.92N×3.53E,h4km±13km,mbLg2.1/7, Error ellipse: s-maj=10.2km s-min=6.2km az=16.0, PRXIMO,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABMS	**Boumerdes**	**0.17**	**192**	P	Pg	20 07 22.4	-1.3
ABA	**Alger-Bouzarea**	**0.41**	**253**	P	Pg	20 07 28.5	+0.1
ADJB	**Djebel Djouab**	**0.77**	**185**	P	Pg	20 07 34.2	-1.2
EMHD	**Djebel Mahouad**	**0.85**	**213**	P	Pb	20 07 36.1	-1.1
AKF	**Akfadou**	**0.89**	**109**	P	Pb	20 07 36.8	-0.9
AKET	**Djebel Ketaf**	**0.92**	**162**	P	Pb	20 07 37.6	-0.7
ATAF	**Djebel Tarf**	**1.21**	**150**	P	Pb	20 07 43.0	-0.3
SET	**Setif**	**1.67**	**115**	P	Pn	20 07 53.0	+2.6
EBNR	**Beni Rached**	**1.72**	**249**	P	Pn	20 07 43.0	-8.2
ECHA	**Ech Chlef**	**1.90**	**247**	P	Pn	20 07 45.0	-8.7
DFRA	**Djebel Bou Aff**	**1.93**	**101**	P	Pn	20 07 55.0	+0.9
EANR	**'Ain N'Sour**	**2.18**	**244**	P	Pn	20 08 02.0	+4.3
ETRT	**Tiaret**	**2.36**	**230**	P	Pn	20 08 07.0	+6.7
EIBI	**Ibiza**	**2.72**	**321**	P	Pn	20 08 03.8	-1.6
1.6nm,0.1s,SNR=7.9
EIBI S Sn 20 08 33.0 -6.1
3.1nm,0.2s,SNR=7.9
EIBI Ibiza 2.72 321 Pn Pn 20 08 04.3 -1.1
1.6nm,0.1s,SNR=7.9
EIBI Sn Sn 20 08 33.0 -6.2
SNR=7.9
EIBI Ibiza 2.72 321 P Pn 20 08 04.4 -1.0
EIBI S Sn 20 08 34.1 -5.1
ETOS Mallorca 2.90 349 P Pn 20 08 05.0 -2.9
1.3nm,0.1s,SNR=15
ETOS S Sn 20 08 36.1 -7.6
5.0nm,0.3s,SNR=4.6
ETOS Mallorca 2.90 349 Pn Pn 20 08 05.1 -2.8
1.3nm,0.1s,SNR=15
ETOS Sn Sn 20 08 36.1 -7.6
SNR=4.6
ETOS Mallorca 2.90 349 P Pn 20 08 05.1 -2.8
ETOS S Sn 20 08 36.1 -7.6
ETOB Tobarra 4.37 295 P Pn 20 08 26.0 -2.9
3.3nm,0.2s,SNR=15
ETOB S Sn 20 09 14.7 -6.4
0.6nm,0.2s,SNR=7.9
ETOB Tobarra 4.37 295 Pn Pn 20 08 25.6 -3.3
3.3nm,0.2s,SNR=15
ETOB Sn Sn 20 09 14.7 -6.3
SNR=7.9
ETOB Tobarra 4.37 295 P Pn 20 08 26.3 -2.6
ETOB S Sn 20 09 15.8 -5.2
ECHE Chera 4.43 308 P Pn 20 08 27.5 -2.2
0.5nm,0.1s,SNR=7.3
ECHE Chera 4.43 308 Pn Pn 20 08 27.4 -2.3
0.5nm,0.1s,SNR=7.3
ECHE Chera 4.43 308 P Pn 20 08 27.4 -2.3
EMOS Mosqueruela 4.65 319 P Pn 20 08 29.7 -3.1
0.3nm,0.1s,SNR=4.0
EMOS S Sn 20 09 21.8 -6.2
0.8nm,0.3s,SNR=7.9
EMOS Mosqueruela 4.65 319 Pn Pn 20 08 29.7 -3.1
SNR=4.0
EMOS Sn Sn 20 09 19.7 -8.3
SNR=7.9
EMOS Mosqueruela 4.65 319 P Pn 20 08 29.7 -3.1
EMOS S Sn 20 09 19.7 -8.4
EPOB Poblet 4.82 337 P Pn 20 08 32.0 -3.2
0.6nm,0.1s,SNR=4.0
EPOB S Sn 20 09 24.3 -8.0
0.3nm,0.1s,SNR=4.0
EPOB Poblet 4.82 337 Pn Pn 20 08 32.0 -3.2
0.6nm,0.1s,SNR=4.0
EPOB Sn Sn 20 09 22.1 -10
SNR=4.0
EPOB Poblet 4.82 337 P Pn 20 08 32.0 -3.2
EPOB S Sn 20 09 24.7 -7.6
EHUE Huescar 4.95 282 P Pn 20 08 37.9 +0.7
1.3nm,0.1s,SNR=4.0
EHUE Huescar 4.95 282 P Pn 20 08 38.6 +1.5
EMIR Miracle 5.22 343 P Pn 20 08 38.2 -2.8
3.0nm,0.2s,SNR=8.1
EMIR S Sn 20 09 33.0 -9.4
SNR=7.9
EMIR Miracle 5.22 343 Pn Pn 20 08 38.2 -2.7
3.0nm,0.2s,SNR=8.1
EMIR Sn Sn 20 09 33.0 -9.5
SNR=7.9
EMIR Miracle 5.22 343 P Pn 20 08 38.6 -2.3
EMIR S Sn 20 09 33.0 -9.4
EQES Quesada 5.33 281 P Pn 20 08 42.9 +0.5
0.7nm,0.2s,SNR=4.0
EQES S Sn 20 09 38.8 -6.3
1.7nm,0.3s,SNR=7.9
EQES Quesada 5.33 281 S Sn 20 09 41.1 -4.0
EQES Quesada 5.33 281 P Pn 20 08 44.0 +1.6
EQES S Sn 20 09 41.1 -4.1
EJON La Jonquera 5.54 355 P Pn 20 08 41.4 -4.1
0.8nm,0.1s,SNR=7.9
EJON S Sn 20 09 41.2 -9.3
0.9nm,0.2s,SNR=4.0
EJON La Jonquera 5.54 355 Pn Pn 20 08 41.2 -4.3
0.8nm,0.1s,SNR=7.9
EJON Sn Sn 20 09 40.2 -10
SNR=4.0
EJON La Jonquera 5.54 355 P Pn 20 08 42.0 -3.5
EJON S Sn 20 09 40.2 -10

GUC 11 20:10:58.4±0.7,32.30S×71.76W,h12km±5km,MD3.5, ML2.3,3C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.47**	**28**	⇓*i*P	Pg	20 11 08.0	0.0
CHNG *i* S Sg 20 11 15.1 +0.7
CHNG AMP 20 11 15.5
comp=N,115nm,0.2s
ROCH El Roble 0.93 137 ⇓*i*P Pb 20 11 15.7 -0.3
ROCH *e*S Sb 20 11 28.6 +0.6
JACH Jahuel 1.06 112 ⇑*i*P Pb 20 11 17.7 -0.5
JACH *i* S Sb 20 11 32.4 +0.5
LCCH Las Cruces 1.19 172 ⇑*i*P Pb 20 11 19.4 -1.1
LCCH *i* S Sb 20 11 35.2 -0.4
PEL Peldehue 1.24 133 *i* S Sb 20 11 37.7 +0.6
RCDM Rinconada Maip 1.44 146 *e*P Pn 20 11 23.4 -1.1
RCDM *i* S Sb 20 11 42.5 -0.3
RCDM AMP 20 11 44.9
comp=N,133nm,0.1s
TACH Talagante 1.52 153 *e*P Pn 20 11 25.7 0.0
TACH *i* S Sb 20 11 44.2 -1.1
FCH Farellones 1.61 130 ⇓*i*P Pn 20 11 26.4 -0.5
FCH *i* S Sn 20 11 48.3 +0.5
FCH AMP 20 11 51.1
comp=E,71nm,0.1s
LNV Longovilo 1.68 170 *e*P Pn 20 11 27.9 -0.1
PCH Pirque 1.69 142 *e*P Pn 20 11 27.5 -0.5
CHCH Chadas Angostu 1.88 151 *e*P Pn 20 11 30.3 -0.5
CHCH *i* S Sn 20 11 55.4 +0.8
LMEL Las Melosas 2.03 140 ⇑*i*P Pn 20 11 32.9 0.0
LMEL *i* S Sn 20 11 59.5 +1.1
LMEL AMP 20 12 08.5
comp=N,73nm,0.1s
CICH Cipreses 2.31 151 *e*P Pn 20 11 38.0 +1.0

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*NEIC **11** 20:11:16.9±0.8,19.06S×172.95W,h10km,mb4.8/5,Error ellipse: s-maj=22.7km s-min=14.1km az=161.0*
*IDC **11** 20:11:20.0±0.9,18.82S×173.58W,mb4.2/7,mb1 4.4/8, mb1mx4.3/14,mbtmp4.2/8,MS3.9/9,Ms1 3.9/9, ms1mx3.7/16,Error ellipse: s-maj=40.8km s-min=19.7km az=127.0*
ISC 11 20:11:22.3±0.8,18.7S±0.1×173.6W±0.2,h33km,n38, σ1§44/19,mb4.3/10,MS4.0/8,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.11**	**20**	Pn	**Pn**	**20 12 37.8**	**-0.9**
3.9nm,0.3s,baz=260,slow=22,SNR=3.6
AFI Sn **Sn 20 13 29.8 -7.5**
17nm,0.3s,baz=354,slow=19,SNR=4.7
AFI Afiamalu 5.11 20 *e*Pn **Pn 20 12 35.1 -3.6**
AFI *e*Sn **Sn 20 13 28.2 -9.2**
AFI Sn **Sn 20 13 29.8 -7.5**
RAR Rarotonga 13.23 103 *e*P **P 20 14 15.4 -15**
41nm,0.9s
DZM Mont Dzumac 18.99 257 LR LR 20 20 39.1
comp=Z,124nm,18.1s,baz=199,slow=29
URZ Urewera 21.07 201 P **P 20 16 04.8 -1.2**
18nm,0.8s,mb4.4,baz=350,slow=5.9,SNR=5.8
PPT Papeete 22.86 91 LR LR 20 23 52.9
comp=Z,321nm,18.3s,MS3.8,baz=263,slow=33
HNR Honiara 27.24 286 LR LR 20 26 24.9
comp=Z,226nm,19.2s,MS3.8,baz=102,slow=33
CTA Charters Tower 37.82 261 *e*P **P 20 18 38.2 +0.5**
6.2nm,0.5s,mb4.6
CTA Charters Tower 37.82 261 P **P 20 18 38.2 +0.5**
11nm,0.7s,mb4.7,baz=90,slow=12,SNR=20
CTAO Charters Tower 37.82 261 *e*P **P 20 18 38.2 +0.6**
21nm,1.0s,mb4.8
STKA Stephens Creek 42.28 243 P **P 20 19 14.7 +0.1**
2.8nm,0.8s,mb3.9,baz=84,slow=8.5,SNR=5.0
STKA LR LR 20 34 45.1
comp=Z,120nm,18.3s,MS3.8,baz=26,slow=33
WB2 Warramunga Arr 48.96 260 *e*P **P 20 20 08.2 +0.4**
WRAB Tennant Creek 48.96 260 *e*P **P 20 20 07.1 -0.7**
18nm,1.0s,mb5.0
FITZ Fitzroy Crossi 57.39 260 *e*P **P 20 21 12.1 +1.9**
4.2nm,0.9s,mb4.5
VNDA Vanda 60.05 186 P **P 20 21 27.9 0.0**
0.6nm,0.7s,mb3.8,baz=13,slow=5.8,SNR=3.4
MBWA Marble Bar 62.29 255 *e*P **P 20 21 41.4 -2.4**
24nm,1.4s,mb5.1
NVAR Mina Array Bea 76.94 42 P **P 20 23 14.0 +0.6**
0.7nm,0.8s,mb3.7,baz=225,slow=8.9,SNR=4.5
MAW Mawson 84.58 199 LR LR 21 02 24.7
comp=Z,184nm,18.8s,MS4.5,baz=249,slow=36
PDAR Pinedale Array 84.87 42 P **P 20 23 56.9 +1.8**
0.4nm,0.3s,mb4.0,baz=214,slow=3.3,SNR=3.0
PDAR LR LR 20 59 42.3
comp=Z,48nm,18.1s,MS3.9,baz=69,slow=34
ILAR Eielson Array 85.74 11 P **P 20 24 01.1 +2.3**
1.0nm,0.9s,mb4.1,baz=217,slow=5.6,SNR=10
PLCA Paso Flores 87.42 132 LR LR 20 57 09.1
comp=Z,110nm,19.0s,MS4.3,baz=181,slow=32
SONM Songino Array 97.19 318 LR LR 21 04 08.3
comp=Z,32nm,19.9s,MS3.8,baz=13,slow=33
LPAZ La Paz 98.85 110 LR LR 21 00 43.7
comp=Z,52nm,18.5s,MS4.1,baz=348,slow=30
MALT Malatya 146.01 312 *e*PKPdf PKPdf 20 30 59.6 +1.4
MALT *e*PKPbc PKPbc 20 31 04.2 +5.1
CLL Collm 147.09 352 *i* PKP1 PKPdf 20 31 06.1 +6.6
CLL *i* 20 31 17.9
CLL *e* 20 31 28.0
BRG Berggiesshubel 147.38 351 *e*P PKPdf 20 31 09.0 +9.0
BRG *e* 20 31 23.7
UPC Upice 147.39 349 *e*PKPab PKPab 20 31 11.7 +5.2
DPC Dobruska-Polom 147.48 348 *e*PKPab PKPab 20 31 07.5 +0.6
OKC Ostrava-Krasne 147.58 346 *e*PKPab PKPab 20 31 13.2 +5.9
PVCC Panska Ves 147.62 350 *e*PKPab PKPab 20 31 07.6 +0.1
PRU Pruhonice 148.15 350 *e*PKPab PKPab 20 31 09.0 -0.6
NKC Novy Kostel 148.21 353 *e*PKPab PKPab 20 31 15.9 +6.1
BR131 Keskin Array S 148.55 317 *e*PKPbc PKPdf 20 31 09.2 +6.9
BRTR Keskin Array B 148.55 317 PKPbc PKPdf 20 31 10.0 +7.7
2.0nm,0.8s,baz=90,slow=1.2,SNR=7.4
GRA1 Grafenberg Arr 148.88 354 *e*PKP PKPdf 20 31 11.1 +8.6
GRF Grafenberg Arr 148.88 354 *e*PKP PKPdf 20 31 11.1 +8.6
KHC Kasperske Hory 149.13 351 *e*PKPab PKPab 20 31 09.9 -3.7
GERES GERESS Array B 149.39 351 PKPbc PKPdf 20 31 12.1 +8.8
0.8nm,0.9s,baz=90,slow=2.7,SNR=7.5

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*CSEM **11** 20:14:11.5±0.1,35.02N×3.85W,h5km,MD2.6,Error ellipse: s-maj=4.9km s-min=4.5km az=85.0,After CNRM*
*CNRM **11** 20:14:11.5,35.02N×3.85W,h5km,MD2.6*
MDD 11 20:14:11.3±0.5,35.02N×3.86W,h5km±8km,mbLg1.2/1, Error ellipse: s-maj=7.6km s-min=3.4km az=60.0,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOU	**Touzarine**	**0.10**	**122**	*i* P	Pg	20 14 13.0	-0.5
TOU *i* S Sg 20 14 15.3 +0.3
MPAL Palemas 0.22 342 *e*P Pg 20 14 15.0 -0.7
MPAL *i* S Sg 20 14 19.0 +0.3
ZAI Zaio 0.92 93 *e*P Pb 20 14 28.0 -1.3
ZAI *i* S Sb 20 14 41.0 -0.6
TZK Tazeka 0.96 196 *i* P Pb 20 14 29.0 -1.1
TZK *i* S Sb 20 14 43.0 0.0
EMIJ Mijas 1.71 335 P Pn 20 14 40.6 -1.4
0.3nm,0.1s,SNR=7.9
EMIJ S Sn 20 15 02.5 -2.1
0.5nm,0.1s,SNR=7.9

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*NIED **11** 20:17:00,23.10N×144.30E,h38km,Mw3.8 Best double couple: M0=5.37×10^14 NP1:φs=242°,δ85°,λ-135°. NP2: φs=146°,δ45°,λ-8°.*
*IDC **11** 20:17:39.2±3.2,22.70N×143.76E,h43km±28km,mb3.7/8, mb1 3.9/9,mb1mx3.8/16,mbtmp4.0/9,ML3.9/1,MS3.0/1, Ms1 3.0/1,ms1mx2.5/17,Error ellipse: s-maj=31.9km s-min=17.1km az=77.0*
*JMA **11** 20:17:42.2±0.1,23.07N×144.23E,h78km,M4.6*
ISC 11 20:17:38.8±2.3,22.7N±0.1×143.8E±0.2,h58km±20km,n14, σ1§07/15,mb3.9/8,MS3.0/1,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**4.15**	**340**	P	**P**	**20 18 42.5**	**+1.2**
JHHJ S **S 20 19 28.5 -0.5**
CBIJ Chichi jima 4.59 342 P **P 20 18 48.0 +0.6**
12nm,0.3s,baz=292,slow=19,SNR=21
CBIJ S **S 20 19 38.4 -1.6**
56nm,0.3s,baz=328,slow=23,SNR=10
CBIJ Chichi jima 4.59 342 P **P 20 18 48.2 +0.8**
CBIJ *e*S **S 20 19 38.5 -1.5**
JHO Hitachi 14.12 349 S **S 20 23 24.0 -9.0**
SONM Songino Array 38.90 319 P **P 20 25 01.9 +1.6**
0.5nm,0.4s,mb3.6,baz=133,slow=7.0,SNR=7.6
SONM LR LR 20 40 39.0
comp=Z,22nm,19.1s,MS3.0,baz=304,slow=36
CTA Charters Tower 42.61 177 P **P 20 25 30.7 -0.6**
1.3nm,0.7s,mb3.7,baz=338,slow=7.4,SNR=7.2
STKA Stephens Creek 54.32 182 P **P 20 27 00.4 -1.4**
2.2nm,0.9s,mb4.1,baz=313,slow=3.7,SNR=6.3
MKAR Makanchi Array 54.41 312 P **P 20 27 02.4 +0.2**
0.5nm,0.5s,mb3.7,baz=87,slow=9.6,SNR=9.8
MKAR PcP PcP 20 28 04.8 -0.3
0.2nm,0.4s,baz=72,slow=4.8,SNR=4.6
ILAR Eielson Array 60.89 27 P **P 20 27 46.4 -1.2**
0.7nm,0.8s,mb3.8,baz=264,slow=6.1,SNR=5.7
ARCES ARCESS Array B 78.13 342 P **P 20 29 33.6 +0.8**
1.7nm,0.8s,mb4.0,baz=45,slow=10,SNR=3.6
NVAR Mina Array Bea 82.10 52 P **P 20 29 56.0 +1.4**
1.6nm,0.6s,mb4.1,baz=270,slow=3.6,SNR=14
FINES FINESS Array B 82.49 335 P **P 20 29 55.5 -0.7**
0.5nm,0.4s,mb3.8,baz=61,slow=5.1,SNR=11
PLCA Paso Flores 146.01 130 PKPbc PKPbc 20 37 14.4 +2.0
2.2nm,0.5s,baz=205,slow=4.2,SNR=11
LPAZ La Paz 149.31 84 PKPbc PKPdf 20 37 25.6 +8.2
2.3nm,0.6s,baz=350,slow=6.1,SNR=13

NNC 11 20:26:35.5±7.7,36.92N×70.75E,h187km±129km,mpv3.6, 1C-2D,Error ellipse: s-maj=79.2km s-min=47.0km az=37.0,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.18**	**358**	P	P	20 28 05.0	-0.7
2.0nm,0.3s,baz=180,slow=13,SNR=29
KK31 S S 20 29 16.2 +0.3
1.3nm,0.3s,baz=182,slow=20,SNR=5.2
AAK Ala-Archa 6.39 26 P P 20 28 06.9 -1.5
2.2nm,0.5s
AAK ⇓S S 20 29 21.2 +0.4
8.4nm,0.8s
AB31 Akbulak array 14.62 331 ⇓P P 20 29 55.7 +1.3
0.5nm,0.3s,baz=160,slow=11,SNR=38
AB31 ⇑S S 20 32 33.6 +1.9
0.9nm,0.6s,baz=158,slow=23,SNR=3.7

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*ISK **11** 20:34:38.7,36.70N×27.37E,h2km,MD3.4*
*ATH **11** 20:34:41.2,36.73N×27.39E,h21km±2km,MD3.3/5*
*NEIC **11** 20:34:41.2,36.73N×27.39E,h21km,MD3.3(ATH),After ATH.*
*CSEM **11** 20:34:41.2±0.1,36.79N×27.43E,h12km,MD3.3,Error ellipse: s-maj=3.0km s-min=2.4km az=63.0*
ISC 11 20:34:40.1±0.8,36.69N±0.03×27.41E±0.04,h3km±5km, n25,σ1§07/38,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NISR	**Nisiros**	**0.24**	**250**	*e*PB	**Pb**	**20 34 47.2**	**+0.5**
BDRM Kayabasi 0.37 5 *i* P **Pg 20 34 47.5 -0.1**
BDRM *i* S **Sg 20 34 52.3 -0.3**
BODT Bodrum 0.38 348 PG **Pg 20 34 46.7 -1.0**
BODT SG **Sg 20 34 52.7 0.0**
MLSB Milas 0.67 26 *e*PG **Pg 20 34 52.9 -0.6**
ARG Arkhangelos 0.75 129 *e*PN **Pn 20 34 56.5 -0.8**
ARG *e*SN **Sn 20 35 07.6 -1.7**
YER Yerkesik 0.83 58 *e*PG **Pg 20 34 56.2 -0.5**
DALT Dalyan (Mudla) 0.99 85 PG **Pg 20 34 58.9 -1.0**
AYDN Tasoluk 1.04 21 *i* P **Pb 20 34 59.6 -0.8**
AYDN *i* S **Sb 20 35 15.4 +1.2**
SMG Samos 1.11 336 *e*PN **Pn 20 35 01.2 -1.3**
SMG *e*SN **Sn 20 35 16.8 -1.7**
KARP Karpathos 1.16 190 *e*PN **Pn 20 35 04.2 +1.0**
KARP *e*SN **Sn 20 35 19.8 +0.1**
APE Apeiranthos 1.55 285 *e*PN **Pn 20 35 09.5 +0.8**
DNZL Cakiroluk 1.65 52 *i* P **Pn 20 35 10.3 +0.2**
DNZL *i* S **Sb 20 35 34.0 +2.1**
DENT Denizli 1.68 50 PN **Pn 20 35 10.4 -0.2**
IZM Izmir 1.71 356 *e*PN **Pn 20 35 10.7 -0.3**
KDAG Bornova 1.71 356 *i* P **Pn 20 35 12.2 +1.2**
KDAG *i* S **Sg 20 35 38.7 +1.6**
BLCB Balcova 1.71 350 *e*PN **Pn 20 35 10.1 -1.0**
URLA Izmir 1.79 339 *i* P **Pn 20 35 11.8 -0.3**
URLA *i* S **Sg 20 35 41.2 +1.7**
GOLH Golhisar 1.81 72 *i* P **Pn 20 35 13.3 +0.8**
GOLH *i* S **Sg 20 35 41.0 +0.6**
AKAS Kas 1.83 104 *i* P **Pn 20 35 15.7 +2.9**
AKAS *i* S **Sg 20 35 44.0 +2.9**
ELL Elmali 2.01 88 *e*PN **Pn 20 35 14.9 -0.5**
MANT Manisa 2.02 27 *i* P **Pn 20 35 19.9 +4.4**
MANT *i* S **Sg 20 35 46.5 -0.8**
AKS Akhisar 2.21 8 *e*PN **Pn 20 35 18.0 -0.1**
TKTP Tekketepe 2.68 59 *e*P **Pn 20 35 25.4 +0.4**
TKTP *i* S **Sg 20 36 07.8 -1.7**
BALB Balikesir 2.97 7 *e*PN **Pn 20 35 28.9 -0.1**
ULDT Uludag 3.70 21 *i* P **Pg 20 35 50.3 -3.8**

NNC 11 21:53:55.4±6.0,40.52N×63.06E,mpv3.6,5C-5D,Error ellipse: s-maj=60.0km s-min=25.7km az=42.0, Northwestern Uzbekistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.14**	**63**	⇑Pn	Pn	21 55 29.0	-0.5
1.2nm,0.3s,baz=245,slow=16,SNR=72
KK31 ⇑Pg Pg 21 55 52.0 -5.9
4.5nm,0.5s
KK31 ⇓Lg 21 57 11.2
7.4nm,0.5s,baz=246,slow=29,SNR=3.6
AB31 Akbulak array 9.02 347 ⇓Pn P 21 56 09.2 -0.6
0.3nm,0.2s,baz=156,slow=14,SNR=11
AB31 ⇓Sn Sn 21 57 47.8 -5.5
0.7nm,0.4s,baz=168,slow=27,SNR=4.3
AB31 ⇓Lg 21 58 44.2
2.3nm,0.5s
VOSK Vostochnaya 13.36 21 ⇑Pn P 21 57 09.0 +0.3
0.8nm,0.7s
VOSK ⇓Sn S 21 59 31.9 -7.3
0.6nm,0.4s
BVA0 Borovoye Array 13.47 19 ⇑Pn P 21 57 11.3 +1.1
0.2nm,0.6s,baz=212,slow=9.3,SNR=11
BVA0 ⇑Sn S 21 59 40.3 -1.7
0.3nm,0.8s,baz=195,slow=28,SNR=3.6

*NNC **11** 22:11:16.5±10.0, 37.06N×70.89E, h198km±161km, mpv4.0, Error ellipse: s-maj=107.3km s-min=65.1km az=34.0*

ISC 11 22:11:11.5±2.8, 36.8N±0.2×70.9E±0.3, h192km±47km, n10, σ0§47/13, 2C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.74**	**21**	P	**P**	**22 12 35.6**	**-0.4**
	SNR=28						
EKS2	**Erkin-Say**	**6.25**	**20**	P	**P**	**22 12 42.8**	**0.0**
	SNR=7.6						
KK31	**Karatay Array**	**6.30**	**357**	P	**P**	**22 12 44.3**	**+0.9**
	3.4nm,0.2s,baz=178,slow=13,SNR=296						
KK31				⇑S	**S**	**22 13 54.4**	**-0.5**
	2.8nm,0.5s,baz=188,slow=25,SNR=5.4						
AAK	**Ala-Archa**	**6.45**	**24**	P	**P**	**22 12 45.4**	**+0.2**
	SNR=7.9						
AAK	**Ala-Archa**	**6.45**	**24**	⇓P	**P**	**22 12 45.1**	**-0.2**
	6.0nm,0.3s						
AAK				⇓S	**S**	**22 13 58.8**	**+0.6**
	6.7nm,0.8s						
KBK	**Karagaybulak**	**6.62**	**27**	P	**P**	**22 12 48.0**	**+0.4**
	SNR=5.6						
CHMS	**Chumysh**	**6.86**	**24**	P	**P**	**22 12 50.4**	**-0.3**
	SNR=11						
USP	**Ospenovka**	**7.02**	**22**	P	**P**	**22 12 52.5**	**-0.2**
	SNR=8.2						
TKM2	**Tokmak 2**	**7.09**	**29**	P	**P**	**22 12 53.3**	**-0.4**
	SNR=7.2						
AB31	**Akbulak array**	**14.79**	**331**	⇓P	**P**	**22 14 36.8**	**+4.4**
	0.2nm,0.3s,baz=198,slow=170,SNR=22						
AB31				⇑S	**S**	**22 17 11.2**	**0.0**
	0.7nm,0.6s,baz=150,slow=24,SNR=3.6						

MAN 11 22:23:10.8, 11.55N×125.75E, h7km, mb3.8, ML2.6, MS2.2, 1C, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.31**	**279**	*e*P	Pg	22 23 17.6	+0.5
BESP				*e*S	Sg	22 23 26.0	+4.6
PLP	**Palo**	**0.85**	**243**	*e*P	Pb	22 23 27.1	-0.4
PLP				*e*S	Sb	22 23 41.9	+3.0
CNP	**Cataman**	**1.43**	**312**	*e*P	Pn	22 23 31.9	-5.4
MSLP	**Maasin**	**1.66**	**212**	*e*P	Pn	22 23 40.8	+0.3
SCPH	**Surigao**	**1.78**	**188⇑**	*e*P	Pn	22 23 41.1	-1.1
PVCP	**Virac**	**2.56**	**323**	*e*P	Pn	22 23 53.2	-0.2

*NIED **11** 22:40:00, 30.40N×138.80E, h50km, Mw3.7 Best double couple: M∘3.96×10¹⁴ NP1:φs278°, δ68°, λ76°. NP2:φs131°, δ26°, λ121°.*

JMA 11 22:40:52.9±0.1, 30.38N×138.83E, h49km, M3.6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK02	**Tokai 2**	**3.67**	**346**	*e*S	S	22 42 30.7	-0.4
TK03	**Tokai 3**	**3.84**	**349**	*e*S	S	22 42 36.5	+1.0
TK04	**Tokai 4**	**4.07**	**349**	*e*S	S	22 42 41.0	-0.3
JWZ	**Kozaga**	**4.11**	**321**	P	P	22 41 55.1	+0.3
JWZ				*e*S	S	22 42 40.5	-1.6
JIE	**Ise**	**4.38**	**336**	P	P	22 41 58.7	0.0
JIE				*e*S	S	22 42 48.6	-0.5
JKN2	**Miekihoku**	**4.41**	**331**	P	P	22 41 58.9	-0.2
JKN2				*e*S	S	22 42 48.7	-1.2
JWY	**Kouya**	**4.71**	**325**	P	P	22 42 03.8	+0.5

*NEIC **11** 22:44:20.7, 18.63N×63.12W, h19km, MD3.5(TRN), After TRN.*

TRN 11 22:44:18.6, 18.65N×62.97W, h6km, MD3.5, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STMA	**St. Maarten, A**	**0.62**	**193**	*e*P	Pg	22 44 33.5	+2.4
STMA				*e*S	Sg	22 44 44.8	+5.4
SABS	**Saba**	**1.06**	**194**	*e*P	Pb	22 44 41.9	+2.9
SABS				*e*S	Sb	22 45 00.3	+7.4
SABT	**Saba**	**1.06**	**194**	*e*P	Pb	22 44 41.9	+2.9
SABT				*e*S	Sb	22 44 59.6	+6.8
STAT	**Sint Eustatius**	**1.15**	**181**	*e*P	Pb	22 44 42.0	+1.5
STAT				*e*S	Sb	22 44 59.5	+3.9
SKDB	**Saint Kitts 2**	**1.26**	**173**	*e*P	Pb	22 44 44.2	+1.9
SKDB				*e*S	Sb	22 45 03.6	+4.9
SKDB	**Saint Kitts 2**	**1.26**	**173**	*e*P	Pb	22 44 46.4	+4.0
SKDB				*e*S	Sb	22 45 03.6	+4.9
SKI	**Saint Kitts**	**1.33**	**171**	*e*P	Pb	22 44 46.6	+3.0
SKI				*e*S	Sb	22 45 05.4	+4.7
SKTB	**Turtle Beach**	**1.47**	**167**	*e*S	Sb	22 45 08.6	+3.7
MTP	**Monte Pirata**	**2.52**	**258**	*e*Pn	Pn	22 44 57.6	-3.3
SEG	**Port Louis**	**2.63**	**148**	*e*P	Pn	22 45 05.1	+2.6
SEG				*e*S	Sn	22 45 40.4	+5.3
LZG	**Guadaloupe-1**	**2.74**	**155**	*e*P	Pn	22 45 06.5	+2.5
DEG	**La Desirade**	**2.95**	**142**	*e*P	Pn	22 45 07.6	+0.6

*IDC **11** 22:44:56.9±1.5, 21.99S×170.14E, mb4.2/4, mb1 4.3/5, mb1mx4.2/11, mbtmp4.3/5, ML3.9/1, MS4.3/16, Ms1 4.3/16, ms1mx4.3/19, Error ellipse: s-maj=35.5km s-min=35.0km az=4.0*

*HRVD **11** 22:44:58.4±0.3, 22.14S×170.05E, h12km, MW4.9/59, Centroid moment Tensor Solution. LP body waves: s26,c32;Mantle waves: s59,c93; Half duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr1.36±.12; Mθθ-2.11±.12; Mφφ0.75±.13; Mrθ0.91±.30; Mθφ2.63±.08; Mφr0.20±.32; Best double couple: M∘3.207×10¹⁶ NP1:φs344°, δ65°, λ165°. NP2:φs80°, δ77°, λ26°. Principal axes: T 2.649, Plg28°, Azm304°; N 1.118, Plg61°, Azm106°; P -3.765, Plg8°, Azm210°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **11** 22:44:58.4±0.4, 22.15S×170.34E, h10km, mb4.9/13, MS4.8/1 Error ellipse: s-maj=11.8km s-min=11.6km az=108.0*

*LDG **11** 22:44:59.1±0.8, 21.29S×170.02E, h10km, Mb4.7/2, Ms4.4/5, Error ellipse: s-maj=75.3km s-min=19.1km az=153.0*

*BJI **11** 22:44:59.0, 22.10S×170.30E, h10km, mB5.2, mb4.7, Ms5.2, Msz4.7*

ISC 11 22:44:58.6±0.6, 22.35S±0.09×170.06E±0.08, h13km, h13km±1.1km: pP-P, n101, σ1§32/46, mb4.8/20, MS4.4/20, 5C-2D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.36**	**274**	*e*P	**Pn**	**22 45 50.1**	**-1.7**
DZM				*e*S	**Sn**	**22 46 33.8**	**+1.9**
DZM	**Mont Dzumac**	**3.36**	**274**	Pn	**Pn**	**22 45 50.8**	**-1.1**
	11nm,0.3s,baz=82,slow=19,SNR=130						
DZM				Sn	**Sn**	**22 46 31.3**	**-0.6**
	16nm,0.3s,baz=58,slow=16,SNR=4.0						
RAO	**Raoul Island**	**12.83**	**125**	LR	LR	22 51 54.3	
	comp=Z,2μm,19.2s,baz=122,slow=32						
RAO	**Raoul Island**	**12.83**	**125**	P	**P**	**22 47 50.4**	**-13**
HNR	**Honiara**	**16.09**	**321**	LR	LR	22 54 04.1	
	comp=Z,716nm,19.2s,baz=143,slow=34						
HNR	**Honiara**	**16.09**	**321**	*e*P	**P**	**22 48 46.9**	**+0.6**
	96nm,1.0s						
AFI	**Afiamalu**	**19.18**	**67**	LR	LR	22 55 02.0	
	comp=Z,642nm,18.6s,baz=184,slow=32						
AFI	**Afiamalu**	**19.18**	**67**	*e*P	**P**	**22 49 17.8**	**-6.9**
	61nm,1.0s						
RPZ	**Rata Peaks**	**21.33**	**178**	LR	LR	22 57 28.2	
	comp=Z,2μm,18.4s,MS4.5,baz=350,slow=35						
CTA	**Charters Tower**	**22.30**	**271**	*e*P	**P**	**22 50 01.4**	**+4.1**
	14nm,0.9s,mb4.4						
CTA	**Charters Tower**	**22.30**	**271**	P	**P**	**22 49 58.0**	**+0.7**
	17nm,1.0s,mb4.4,baz=88,slow=13,SNR=6.8						
CTA				LR	LR	22 58 06.4	
	comp=Z,931nm,18.7s,MS4.2,baz=89,slow=35						
CTAO	**Charters Tower**	**22.30**	**271**	*e*P	**P**	**22 49 59.5**	**+2.2**
	36nm,1.1s,mb4.7						
PMG	**Port Moresby**	**25.46**	**297**	LR	LR	22 59 13.0	
	comp=Z,1μm,18.6s,MS4.4,baz=343,slow=34						
STKA	**Stephens Creek**	**26.99**	**243**	*e*P	**P**	**22 50 44.0**	**+2.0**
	6.1nm,1.0s,mb4.1						
STKA	**Stephens Creek**	**26.99**	**243**	P	**P**	**22 50 42.1**	**+0.1**
	6.8nm,0.8s,mb4.2,baz=86,slow=8.2,SNR=9.6						
STKA				LR	LR	23 00 26.0	
	comp=Z,1μm,20.4s,MS4.5,baz=177,slow=34						
RAR	**Rarotonga**	**28.02**	**93**	P	**P**	**22 50 43.2**	**-8.3**
	42nm,1.2s,mb5.0						
WB2	**Warramunga Arr**	**33.34**	**267**	*e*P	**P**	**22 51 35.9**	**-2.7**
WRAB	**Tennant Creek**	**33.34**	**267**	*e*P	**P**	**22 51 36.1**	**-2.5**
	25nm,1.2s,mb5.0						
PPT	**Papeete**	**38.16**	**90**	LR	LR	23 04 07.5	
	comp=Z,206nm,20.7s,MS3.9,baz=260,slow=30						
FITZ	**Fitzroy Crossi**	**41.78**	**267**	*e*P	**P**	**22 52 50.5**	**+0.9**
	23nm,1.1s,mb4.7						
FITZ	**Fitzroy Crossi**	**41.78**	**267**	LR	LR	23 09 36.4	
	comp=Z,462nm,18.9s,MS4.4,baz=276,slow=35						
MBWA	**Marble Bar**	**46.58**	**262**	*e*P	**P**	**22 53 28.6**	**+0.4**
	11nm,0.8s,mb4.8						
NWAO	**Narrogin (SRO)**	**47.55**	**245**	*e*P	**P**	**22 53 34.6**	**-1.1**
VNDA	**Vanda**	**55.37**	**182**	P	**P**	**22 54 34.5**	**+0.3**
	0.7nm,0.6s,mb3.8,baz=4.5,slow=5.9,SNR=5.1						
VNDA				LR	LR	23 14 25.3	
	comp=Z,359nm,19.6s,MS4.5,baz=16,slow=32						
VNDA	**Vanda**	**55.37**	**182**	*e*P	**P**	**22 54 32.6**	**-1.6**
	5.8nm,1.4s,mb4.4						
SBA	**Scott Base**	**55.58**	**181**	*e*P	**P**	**22 54 35.4**	**-0.3**
	16nm,1.3s,mb4.9						
CASY	**Casey**	**57.61**	**204**	*e*P	**P**	**22 54 49.0**	**-1.3**
JHJ	**Hachijo jima 2**	**62.26**	**331**	LR	LR	23 16 37.2	
	comp=Z,119nm,21.0s,MS4.0,baz=133,slow=31						
MAT	**Matsushiro**	**65.84**	**332**	P	**P**	**22 55 40.2**	**-5.8**
MAT	**Matsushiro**	**65.84**	**332**	P	**P**	**22 55 40.0**	**-6.0**
	14nm,1.3s,mb4.8						
QSPA	**South Pole Qui**	**67.72**	**180**	*e*P	**P**	**22 55 58.7**	**+1.4**
	31nm,1.3s,mb5.2						
NJ2	**Nanjing**	**72.96**	**316**	*e*P	**P**	**22 56 29.4**	**-0.5**
NJ2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
MAW	**Mawson**	**75.86**	**202**	LR	LR	23 27 00.5	
	comp=Z,294nm,19.1s,MS4.6,baz=75,slow=33						
MDJ	**Mudanjiang**	**76.20**	**331**	P	**P**	**22 56 47.6**	**-0.7**
MDJ				AP	pP	22 56 51.2	-1.3
MDJ				XP	sP	22 56 53.2	-0.7
MDJ				PP	PP	22 59 39.1	-2.1
MDJ				S	S	23 06 33.3	+2.6
MDJ				SCS	ScS	23 06 56.9	-2.8
MDJ				PS	PS	23 07 10.8	+0.4
MDJ				SS	SS	23 11 22.4	-5.0
MDJ				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.8						
MDJ				LR	LR		
	comp=N,73nm,23.3s,MS4.2						
MDJ				LR	LR		
	comp=E,91nm,20.7s,MS4.2						
MDJ				LR	LR		
	comp=Z,283nm,9.3s						
MDJ	**Mudanjiang**	**76.20**	**331**	*e*P	**P**	**22 56 46.1**	**-2.2**
	comp=Z,12nm,1.1s,mb4.8						
CN2	**Changchun**	**77.50**	**329**	*e*P	**P**	**22 56 55.4**	**-0.1**
CN2				*e*XP	sP	22 57 02.1	+1.0
CN2				*e*S	S	23 06 47.0	+2.3
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
CN2				LR	LR		
	comp=N,360nm,19.0s,MS5.0						
CN2				LR	LR		
	comp=E,690nm,19.0s,MS5.0						
CN2				LR	LR		
	comp=Z,380nm,19.0s,MS4.7						
GYA	**Guiyang**	**78.22**	**305**	P	**P**	**22 57 01.2**	**+1.4**
GYA				AP	pP	22 57 05.4	+1.4
GYA				XP	sP	22 57 08.6	+3.2
GYA				PP	PP	23 00 01.4	+2.7
GYA				S	S	23 06 57.2	+4.4
GYA				SKS	SKS	23 07 10.8	-3.6
GYA				PS	PS	23 07 41.9	+5.7
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.7						
GYA				AMB	AMB		
	comp=Z,220nm,7.5s						
GYA				LR	LR		
	comp=N,340nm,22.1s,MS4.7						
GYA				LR	LR		
	comp=E,270nm,21.8s,MS4.7						
GYA				LR	LR		
	comp=Z,280nm,22.6s,MS4.5						
ENH	**Enshi**	**78.23**	**310**	P	**P**	**22 56 54.4**	**-5.5**
KMI	**Kunming**	**80.56**	**302**	P	**P**	**22 57 14.2**	**+1.7**
KMI				AP	pP	22 57 19.5	+2.8
KMI				XP	sP	22 57 22.0	+3.9
KMI				PP	PP	23 00 23.8	+5.8
KMI				PPP	PPP	23 02 14.3	+5.3
KMI				S	S	23 07 20.9	+3.4
KMI				PS	PS	23 08 11.5	+5.9
KMI				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.6						
KMI				AMB	AMB		
	comp=Z,136nm,3.7s						
KMI				LR	LR		
	comp=Z,127nm,24.8s,MS4.2						
SYO	**Syowa Base**	**82.18**	**196**	⇑pP	pP	22 57 21.4	-2.9
HHC	**Hu-ho-hao-te**	**83.06**	**319**	*e*P	**P**	**22 57 26.4**	**+1.2**
HHC				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.8						
LZH	**Lanzhou**	**85.36**	**312**	*e*P	**P**	**22 57 37.7**	**+0.7**
LZH				AP	pP	22 57 41.0	-0.2
LZH				XP	sP	22 57 42.5	-0.1
LZH				PP	PP	23 00 57.5	+0.8
LZH				AMB	AMB		
	comp=Z,28nm,1.0s,mb5.3						
LZH				AMB	AMB		
	comp=Z,130nm,4.1s						
SNAA	**Sanae**	**86.11**	**182**		**P**	**22 57 41.1**	**+1.3**
SNAA	**Sanae**	**86.11**	**182**		**P**	**22 57 43.9**	**+4.1**
SNAA	**Sanae**	**86.11**	**182**		**P**	**22 57 50.8**	**+11**
SNAA	**Sanae**	**86.11**	**182**		**P**	**22 57 58.9**	**+19**
VNA3	**Neumayer Olymp**	**86.67**	**180**		**P**	**22 57 44.5**	**+1.9**
VNA3	**Neumayer Olymp**	**86.67**	**180**		**P**	**22 57 49.3**	**+6.7**
VNA3	**Neumayer Olymp**	**86.67**	**180**		**P**	**22 57 59.1**	**+17**
VNA2	**Neumayer--Watz**	**86.97**	**181**		**P**	**22 57 45.4**	**+1.3**
VNA2	**Neumayer--Watz**	**86.97**	**181**		**P**	**22 57 56.9**	**+13**
GTA	**Gaotai**	**89.80**	**313**	*e*P	**P**	**22 57 58.2**	**-0.1**
GTA				AP	pP	22 58 02.9	+0.3
GTA				XP	sP	22 58 05.8	+1.9
GTA				PP	PP	23 01 33.6	+0.4
GTA				AMB	AMB		
	comp=Z,3.0nm,1.2s,mb4.5						
GTA				AMB	AMB		
	comp=Z,84nm,7.2s						
GTA				LR	LR		
	comp=N,113nm,17.5s,MS4.5						
GTA				LR	LR		
	comp=E,126nm,19.0s,MS4.5						
GTA				LR	LR		
	comp=Z,133nm,17.1s,MS4.4						
SONM	**Songino Array**	**90.15**	**323**	P	**P**	**22 57 57.4**	**-2.3**
	comp=Z,2.8nm,1.0s,mb4.5,baz=137,slow=2.9,SNR=9.4						
SONM				LR	LR	23 39 51.2	
	comp=Z,69nm,18.1s,MS4.1,baz=123,slow=37						
ILAR	**Eielson Array**	**92.96**	**17**	LR	LR	23 35 55.9	
	comp=Z,201nm,18.5s,MS4.6,baz=94,slow=33						
PLCA	**Paso Flores**	**95.72**	**138**	LR	LR	23 32 29.3	
	comp=Z,112nm,18.9s,MS4.4,baz=106,slow=30						
PDAR	**Pinedale Array**	**98.16**	**47**	LR	LR	23 38 39.0	
	comp=Z,84nm,18.3s,MS4.3,baz=263,slow=33						
WMQ	**Urumqi**	**99.89**	**313**	*e*P	**P**	**22 58 43.0**	**-1.3**
WMQ				AMB	AMB		
	comp=Z,14nm,1.0s,mb5.3						
WMQ				AMB	AMB		
	comp=Z,12nm,10.0s						
WMQ				LR	LR		
	comp=N,547nm,20.0s,MS5.2						
WMQ				LR	LR		
	comp=E,595nm,20.0s,MS5.2						
WMQ				LR	LR		
	comp=Z,837nm,20.0s,MS5.2						
KECS	**Kecovo**	**144.42**	**325**	*e*	PKPbc	23 04 27.5	-6.5
OKC	**Ostrava-Krasne**	**144.78**	**328**	*e*PKP	PKPdf	23 04 33.6	-4.8
KSP	**Ksiaz**	**144.97**	**331**	*e*P	PKPbc	23 04 34.6	-0.9
KSP				*ep*P		23 04 37.6	
PSZ	**Piszkesteto**	**145.07**	**324⇑**	*e*PKP/p	PKPdf	23 04 35.8	-3.2
VYHS	**Vyhne**	**145.29**	**326**	*e*PKP	PKPdf	23 04 36.6	-2.7
DPC	**Dobruska-Polom**	**145.30**	**330**	*e*PKP	PKPdf	23 04 35.6	-3.7
DPC				*ex*	x	23 04 45.9	
UPC	**Upice**	**145.33**	**331**	*e*PKP	PKPdf	23 04 35.8	-3.5
ZAPS	**Zavoj/Pirot**	**145.89**	**316**	⇓*i*PKP	PKPdf	23 04 38.0	-2.5
PVCC	**Panska Ves**	**145.96**	**332**	*e*PKP	PKPdf	23 04 37.8	-2.6
PVCC				*ex*	x	23 04 47.5	
BRG	**Berggiesshubel**	**145.97**	**333**	*i*P	PKPbc	23 04 37.5	-0.5
BRG				*i*		23 04 56.6	
BRG				PP	PP	23 08 38.6	+35
BRG				LR	LR		
	comp=Z,170nm,24.0s,MS4.7						
SMOL	**Smolenice**	**146.00**	**327**	*e*PKP	PKPdf	23 04 38.0	-2.5
CLL	**Collm**	**146.04**	**334**	⇓*i*PKP1	PKPbc	23 04 37.7	-0.5
CLL				*i* *PKP		23 04 39.8	
CLL				*i*		23 04 46.3	
CLL				*i*		23 04 56.9	
PRU	**Pruhonice**	**146.36**	**331**	*e*PKP	PKPdf	23 04 38.7	-2.4
PRU				*ex*	x	23 04 46.8	
ZST	**Bratislava**	**146.37**	**327**	*e*PKP	PKPdf	23 04 40.7	-0.5
CLZ	**Clausthal**	**146.63**	**337**	*e*PKPbc	PKPbc	23 04 39.2	-0.3
NKC	**Novy Kostel**	**147.09**	**333**	*e*PKP	PKPdf	23 04 41.2	-1.1
MOX	**Moxa**	**147.11**	**334**	*i* P	PKPdf	23 04 43.3	+1.0
	comp=Z,logA/T=1.0						
MOX	**Moxa**	**147.11**	**334**	*e*P	PKPdf	23 04 43.3	+1.0
SKO	**Skopje**	**147.27**	**314**	*e*P	PKPdf	23 04 42.5	-0.4
SKO				*i*		23 05 00.5	
KHC	**Kasperske Hory**	**147.42**	**331**	*e*PKP	PKPdf	23 04 42.0	-0.9
KHC				*ex*	x	23 04 52.5	
KHC				x	x	23 05 06.5	
KHC	**Kasperske Hory**	**147.42**	**331**	*e*P	PKPdf	23 04 42.0	-0.9
KHC				*e*		23 04 52.5	
KHC				*e*		23 05 06.5	
GERES	**GERESS Array B**	**147.57**	**330**	PKPbc	PKPdf	23 04 42.3	-0.8
	comp=Z,1.5nm,0.6s,baz=45,slow=1.9,SNR=18						
WET	**Wettzell**	**147.72**	**332**	*e*PKPbc	PKPdf	23 04 43.2	-0.2
GRA1	**Grafenberg Arr**	**148.01**	**334**	*e*PKPbc	PKPdf	23 04 43.3	-0.5
GRA1				*ep*PKPbc		23 05 01.9	
GRA1				*e*		23 07 08.5	
GRF	**Grafenberg Arr**	**148.01**	**334**	*e*PKP	PKPdf	23 04 43.3	-0.5
GRF				pPKPbc		23 05 01.9	
GRF				*e*		23 07 08.5	
MOA	**Molln**	**148.01**	**329⇑**	*i*P	PKPdf	23 04 45.6	+1.7
	comp=Z,6.2nm,1.5s						
TNS	**Taunus Mts**	**148.65**	**337**	*e*PKPbc	PKPdf	23 04 46.4	+1.6
MOTA	**Moosalm**	**149.85**	**331⇑**	*i*P	PKPdf	23 04 47.6	+0.8
	comp=Z,6.3nm,1.2s						
GIVF	**Givet**	**149.96**	**341**	*e*PKP1	PKPdf	23 04 48.7	+1.8
BAIF	**Baives**	**150.18**	**342**	*e*PKP1	PKPdf	23 04 49.4	+2.1
BFO	**Black Forest**	**150.25**	**335**	*e*PKPbc	PKPdf	23 04 48.9	+1.5
DAVA	**Damuels**	**150.44**	**332⇑**	*i*P	PKPdf	23 04 53.0	+5.3
	comp=Z,9.5nm,1.6s						
CDF	**Champ du Feu**	**150.58**	**336**	*e*PKP1	PKPdf	23 04 50.1	+2.2
	comp=Z,25nm,1.2s						
HAU	**Haudompre**	**151.26**	**337**	*e*PKP1	PKPdf	23 04 50.7	+1.7
	comp=Z,13nm,0.9s						
HAU				*e*R			
	comp=Z,114nm,22.8s						
MEZF	**Maizieres J'vi**	**151.29**	**339**	*e*PKP1	PKPdf	23 04 52.1	+3.1
CABF	**La Chapelle**	**152.53**	**336**	*e*PKP1	PKPdf	23 04 53.0	+2.1
LOR	**Lormes**	**152.76**	**339**	*e*PKP1	PKPdf	23 04 53.3	+2.1
	comp=Z,6.7nm,1.0s						
LOR				*e*R			
	comp=Z,153nm,21.2s						
SSF	**Saint Saulge**	**153.06**	**339**	*e*PKP1	PKPdf	23 04 54.0	+2.4
LPL	**La Plagne**	**153.17**	**333**	*e*PKP1	PKPdf	23 04 53.4	+1.6
	comp=Z,17nm,1.1s						
LPG	**La Plagne**	**153.18**	**333**	*e*PKP1	PKPdf	23 04 53.4	+1.6
	comp=Z,20nm,1.1s						
SMF	**Signal de Mont**	**153.31**	**339**	*e*PKP1	PKPdf	23 04 53.9	+2.0
AVF	**Avril sur Loir**	**153.34**	**339**	*e*PKP1	PKPdf	23 04 54.2	+2.2
	comp=Z,7.4nm,1.1s						
MBDF	**Montbardon**	**153.79**	**332**	*e*PKP1	PKPdf	23 04 55.4	+2.7
	comp=Z,18nm,1.2s						
ORIF	**Oris-en-Rattie**	**154.01**	**334**	*e*PKP1	PKPdf	23 04 54.8	+1.9
	comp=Z,10.0nm,0.9s						
ORIF				*e*R			
	comp=Z,78nm,22.2s						

*LDG **11** 22:58:31.5±0.1, 50.09N×87.81E, h10km, Mb4.7/23, Ms3.7/5, Error ellipse: s-maj=9.2km s-min=3.4km az=26.0*

*MOS **11** 22:58:32.5±1.0, 50.03N×87.76E, h13km, mb4.9/27, MS3.8/15, Error ellipse: s-maj=8.6km s-min=5.8km az=127.8*

*NEIC **11** 22:58:32.6±0.4, 50.08N×88.14E, h10km, mb4.6/30, MS4.0/6, Error ellipse: s-maj=9.0km s-min=6.9km az=183.0*

*BJI **11** 22:58:33.6, 49.99N×88.18E, h7km, mB4.9, mb4.5, ML5.3, Ms4.5, Msz4.2*

*IDC **11** 22:58:34.0±0.9, 50.06N×88.25E, h21km±4km, mb4.2/16, mb1 4.4/18, mb1mx4.3/21, mbtmp4.4/18, ML4.9/2, MS3.7/12, Ms1 3.8/12, ms1mx3.7/20, Error ellipse: s-maj=16.2km s-min=10.8km az=143.0*

*NNC **11** 22:58:36.3±5.2, 49.84N×87.69E, h21km±48km, mpv5.1, Error ellipse: s-maj=53.1km s-min=24.3km az=86.0*

ISC 11 22:58:34.3±0.7, 50.14N±0.03×87.94E±0.05, h26km±4km, h23km±1.6km: pP-P, n166, σ1§14/193, mb4.6/52, MS3.8/18, 22C-9D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAR	**Aktash**	**0.27**	**312**	*e*PG	**Pb**	**22 58 41.1**	**+0.1**
AKAR				*e*S	**Sb**	**22 58 46.1**	**+0.6**
ELDR	**Elanda**	**1.60**	**313**	*e*PN	**Pn**	**22 59 04.2**	**+3.0**
ELDR				*e*S	**Sn**	**22 59 26.7**	**+5.5**
UKR	**Ust'-Kan**	**2.17**	**293**	*e*PN	**Pn**	**22 59 14.1**	**+4.6**
UKR				*e*S	**Sn**	**22 59 44.4**	**+8.6**
ELT	**Yel'tsovka**	**3.30**	**342**	*e*PN	**Pn**	**22 59 34.9**	**+9.3**
ELT				*e*S	**Sn**	**23 00 19.9**	**+15**
CERR	**Cheremushki**	**3.48**	**37**	*e*PN	**Pn**	**22 59 32.1**	**+4.0**
CERR				*e*		22 59 39.6	
CERR				*e*S	**Sn**	**23 00 27.7**	**+19**
MK31	**Makanchi Array**	**5.03**	**230**	⇑Pn	**Pn**	**22 59 51.2**	**+1.1**
	258nm,0.5s,baz=58,slow=12,SNR=4913						
MK31				⇑Sn	**Sn**	**23 00 48.0**	**-0.2**
	157nm,0.4s,baz=20,slow=15,SNR=4.1						
MK31				⇑Lg		23 01 09.2	
	848nm,0.6s,baz=48,slow=28,SNR=8.0						
MK31	**Makanchi Array**	**5.03**	**230**	⇑Pn	**Pn**	**22 59 51.2**	**+1.1**
	258nm,0.5s						
MK31				Sn	**Sn**	**23 00 48.0**	**-0.2**
MK31				Lg		23 01 09.2	
MKAR	**Makanchi Array**

BVA0 Sn **S** **23 03 16.2 -7.2**
comp=Z,36nm,1.1s,baz=101,slow=21,SNR=7.9
BVA0 Borovoye Array 11.29 292 *e*P **P** **23 01 14.8 -2.2**
BVA0 *i* 23 03 16.2
BVA0 pmax pmax
comp=Z,4.0nm,0.8s
BVA0 smax
comp=Z,38nm,1.1s
BVAR Borovoye Array 11.29 292 Pn **P** **23 01 14.8 -2.3**
comp=Z,6.3nm,0.3s,baz=106,slow=15,SNR=79
BVAR Sn **S** **23 03 13.3 -10**
comp=Z,15nm,0.3s,baz=98,slow=21,SNR=9.4
ULHL Ulahol 11.30 230 P **P** **23 01 17.5 +0.3**
SNR=24
BRVK Borovoye 11.36 292 *e*P **P** **23 01 15.5 -2.4**
comp=Z,26nm,0.6s
BRVK *e*Sn **S** **23 03 15.8 -9.2**
BRVK Borovoye 11.36 292 *e*P **P** **23 01 15.5 -2.4**
BRVK *e* 23 03 15.8
BRVK pmax pmax
comp=Z,26nm,0.6s
USP Ospenovka 11.49 238 P **P** **23 01 19.4 -0.4**
SNR=39
CHMS Chumysh 11.54 237 P **P** **23 01 19.4 -0.9**
SNR=14
KBK Karagaybulak 11.67 235 P **P** **23 01 22.2 0.0**
SNR=26
FRU Bishkek 11.72 237 *e*P **P** **23 01 21.8 -1.1**
FRU *e*S **S** **23 03 27.2 -6.7**
FRU pmax pmax
comp=Z,60nm,1.6s
KZA Kyzart 11.93 232 P **P** **23 01 29.2 +3.6**
SNR=7.3
AAK Ala-Archa 11.93 236 P **P** **23 01 25.0 -0.6**
SNR=12
AAK Ala-Archa 11.93 236 ⇓Pn **P** **23 01 24.0 -1.6**
comp=Z,16nm,0.5s
AAK ⇑Sn **S** **23 03 31.0 -7.8**
comp=Z,91nm,0.9s
AAK ⇑Lg 23 04 44.0
comp=Z,203nm,1.2s
AAK Ala-Archa 11.93 236 *e*P **P** **23 01 23.0 -2.6**
AAK ⇓Pn **P** **23 01 24.0 -1.6**
AAK *e*S **S** **23 03 27.7 -11**
AAK Sn **S** **23 03 31.0 -7.8**
AAK Lg 23 04 44.0
AAK Ala-Archa 11.93 236 *e*P **P** **23 01 23.0 -2.6**
AAK *e*S **S** **23 03 27.7 -11**
EKS2 Erkin-Say 12.29 238 P **P** **23 01 30.1 -0.5**
SNR=30
SONM Songino Array 12.34 94 Pn **P** **23 01 30.9 -0.3**
comp=Z,0.3nm,0.3s,baz=284,slow=14,SNR=48
SONM Pg P 23 02 17.0 +46
comp=Z,0.7nm,0.3s,baz=290,slow=17,SNR=7.0
SONM Lg 23 04 60.0
comp=Z,0.7nm,0.3s,baz=277,slow=25,SNR=4.1
SONM LR LR 23 06 27.8
comp=Z,306nm,21.0s,baz=285,slow=39
SONM Songino Array 12.34 94 Pn **P** **23 01 30.9 -0.3**
SONM Pg P 23 02 17.0 +46
SONM Lg 23 04 60.0
SONM LR LR 23 06 27.8
GTA Gaotai 13.63 137 *e*P **P** **23 01 44.3 -3.9**
GTA AP 23 01 53.1
GTA XP 23 01 57.1
GTA AMB AMB
comp=Z,3.0nm,0.9s
GTA LR LR
comp=Z,1μm,8.0s
KK31 Karatay Array 13.87 246 Pn **P** **23 01 47.0 -4.3**
comp=Z,13nm,0.5s,baz=51,slow=13,SNR=258
KK31 ⇑Sn **S** **23 04 20.1 -5.4**
comp=Z,26nm,0.6s,baz=49,slow=28,SNR=4.3
KK31 Karatay Array 13.87 246 Pn **P** **23 01 47.0 -4.3**
comp=Z,13nm,0.4s
KK31 Sn **S** **23 04 20.1 -5.4**
KKAR Karatay Array 13.87 246 *i* P **P** **23 01 47.0 -4.3**
KKAR pmax pmax
comp=Z,3.0nm,0.3s
BOD Bodaibo 17.07 53 *e*P **P** **23 02 34.3 +1.9**
BOD pmax pmax
comp=Z,13nm,0.7s
AB31 Akbulak array 18.09 278 Pn **P** **23 02 43.7 -1.7**
comp=Z,8.4nm,0.6s,baz=76,slow=12,SNR=145
AB31 ⇑Sn **S** **23 06 06.6 +3.3**
comp=Z,11nm,0.8s
AB31 Akbulak array 18.09 278 Pn **P** **23 02 43.7 -1.7**
comp=Z,8.4nm,0.6s
AB31 Sn **S** **23 06 06.6 +3.3**
AB31 Akbulak array 18.09 278 P **P** **23 02 43.7 -1.6**
AB31 23 06 06.6
AB31 pmax pmax
comp=Z,8.0nm,0.6s
LZH Lanzhou 18.17 135 *e*P **P** **23 02 45.0 -1.4**
LZH AP 23 02 52.0
LZH XP 23 02 55.0
LZH PP PP 23 03 00.5 -0.8
LZH *e*S **S** **23 06 06.0 +0.8**
LZH *e*SS SS 23 06 31.0 +2.3
LZH AMB AMB
comp=Z,62nm,1.5s
LZH AMB AMB
comp=Z,210nm,4.0s
LZH LR LR
comp=Z,3μm,12.3s
ARU Arti 18.56 301 *e*P **P** **23 02 49.1 -1.9**
comp=Z,35nm,0.8s
ARU *e*Sn **S** **23 06 00.7 -13**
ARU Arti 18.56 301 *e*P **P** **23 02 50.3 -0.7**
ARU *e*S **S** **23 06 12.5 -1.3**
HHC Hu-ho-hao-te 18.92 110 *e*P **P** **23 02 52.7 -2.7**
HHC XP 23 02 58.7
HHC PP PP 23 03 08.9 -2.9
HHC S **S** **23 06 17.4 -4.7**
HHC AMB AMB
comp=Z,10.0nm,0.6s
HHC AMB AMB
comp=Z,108nm,5.5s
HHC LR LR
comp=N,776nm,8.9s
HHC LR LR
comp=E,587nm,11.3s
HHC LR LR
comp=Z,337nm,11.3s
AKTK Aktyubinsk 19.07 282 ⇓Pn **P** **23 02 57.1 0.0**
AKTK Sn **S** **23 06 30.9 +5.5**
AKTO Aktyubinsk 19.07 282 ⇓Pn **P** **23 02 57.2 0.0**
comp=Z,6.8nm,0.8s
AKTO ⇓Sn **S** **23 06 30.9 +5.5**
comp=Z,4.1nm,0.9s
LSA Lhasa 20.56 172 *e*P **P** **23 03 14.3 +0.8**
LSA Lhasa 20.56 172 *e*P **P** **23 03 16.4 +2.9**
comp=Z,12nm,0.6s
GKN Gorkha 22.25 188 *e*P **P** **23 03 32.3 +1.7**
XAN Xi'an 22.27 128 P **P** **23 03 29.4 -1.4**
XAN AMB AMB
comp=Z,7.0nm,1.1s,mb4.0
XAN LR LR
comp=N,444nm,15.1s,MS4.3
XAN LR LR
comp=E,774nm,15.3s,MS4.3
XAN LR LR
comp=Z,744nm,11.7s,MS4.3
KKN Kakani 22.41 186 *e*P **P** **23 03 33.5 +1.3**
comp=Z,81nm,0.6s,mb5.3
KOLN Koldanda 22.58 190 *e*P **P** **23 03 32.5 -1.4**
comp=Z,22nm,0.6s,mb4.7
DMN Daman 22.60 187 *e*P **P** **23 03 35.0 +0.9**
comp=Z,39nm,0.6s,mb5.0
PKI Pulchoki 22.62 186 *e*P **P** **23 03 35.7 +1.5**
comp=Z,31nm,0.7s,mb4.8
YAK Yakutsk 25.66 46 *d i*P **P** **23 04 09.9 +6.8**
YAK pmax pmax
comp=Z,24nm,0.7s,mb4.8
YAK MLR MLR
comp=Z,100nm,15.0s,MS3.5
VRSR Storozhevoye 30.46 291 *e*P **P** **23 04 46.4 -0.3**
VRSR *e**SP sP 23 04 52.9 -4.9
OBN Obninsk 30.98 299⇑ *e*P **P** **23 04 50.9 -0.4**
OBN *e* pP 23 04 57.6 -1.4
OBN 23 05 47.0
OBN pmax pmax
comp=Z,9.0nm,0.6s,mb4.8
OBN MLR MLR
comp=Z,100nm,9.0s

KIV Kislovodsk 31.06 276 P **P** **23 04 54.5 +2.4**
KIV 23 05 50.0
KIV pmax pmax
comp=Z,8.0nm,1.0s,mb4.5
KIV MLR MLR
comp=Z,100nm,19.0s,MS3.5
SSE Sheshan 31.24 115 P **P** **23 04 59.4 +5.6**
SSE AP pP 23 05 05.5 +4.0
SSE XP sP 23 05 08.2 +3.3
SSE AMB AMB
comp=Z,30nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,140nm,3.8s
SSE LR LR
comp=N,66nm,16.7s,MS3.6
SSE LR LR
comp=E,101nm,16.7s,MS3.6
SSE LR LR
comp=Z,153nm,16.4s,MS3.8
GNI Garni 31.66 268 LR LR 23 19 16.7
comp=Z,66nm,18.6s,MS3.3,baz=334,slow=39
GNI Garni 31.66 268 *i* P **P** **23 05 00.3 +2.9**
GNI pmax pmax
comp=Z,16nm,1.3s
GNI MLR MLR
comp=Z,100nm,19.0s
SOC Sochi 33.13 278 *e*P **P** **23 05 12.7 +2.5**
SOC *e* 23 06 16.2
SOC *e*SS SS 23 12 31.7 +3.4
SOC MLR MLR
comp=N,164nm,17.0s
SOC MLR MLR
comp=Z,170nm,17.0s,MS3.8
SOC MLR MLR
comp=E,37nm,8.0s
KEV Kevo 34.27 327 *e*p **P** **23 05 20.7 +0.9**
ARCES ARCESS Array B 34.78 327 P **P** **23 05 24.9 +0.7**
comp=E,3.7nm,0.8s,mb4.4,baz=90,slow=9.7,SNR=5.6
ARCES LR LR 23 20 30.9
comp=E,110nm,19.7s,MS3.6,baz=280,slow=38
KAF Kangasniemi 34.98 314 *e*p **P** **23 05 25.6 -0.4**
comp=E,2.5nm,0.6s,mb4.3,baz=81,slow=8.4
KAF Kangasniemi 34.98 314 *e*P **P** **23 05 25.6 -0.4**
KAF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
FINES FINESS Array B 35.20 313 P **P** **23 05 28.1 +0.2**
comp=Z,3.8nm,0.6s,mb4.5,baz=69,slow=9.1,SNR=38
FINES LR LR 23 20 28.0
comp=Z,62nm,20.9s,MS3.3,baz=127,slow=37
SIM Simferopol' 36.03 283 *e*P **P** **23 05 33.9 -1.1**
SIM pmax pmax
comp=Z,25nm,0.8s,mb5.2
SIM MLR MLR
comp=Z,70nm,14.8s,MS3.6
SEY Seymchan 36.13 44 *i* P **P** **23 05 43.0 +7.3**
BRTR Keskin Array B 39.02 276 P **P** **23 06 01.2 +1.0**
comp=Z,4.2nm,0.6s,mb4.3,baz=72,slow=4.6,SNR=16
BRTR pP pP 23 06 07.5 -0.6
comp=Z,9.3nm,0.5s,baz=79,slow=5.1,SNR=26
TIRR Tirgusor 39.83 285 ⇑P **P** **23 06 13.7 +6.9**
TIRR Tirgusor 39.83 285 ⇑P **P** **23 06 13.7 +6.8**
VRI Vrincioaia 40.17 288 ⇓P **P** **23 06 08.8 -0.8**
VRI Vrincioaia 40.17 288 ⇓P **P** **23 06 08.8 -0.9**
MLR Muntele Rosu 40.83 288 LR LR 23 23 58.6
comp=Z,84nm,20.8s,MS3.6,baz=54,slow=37
MLR Muntele Rosu 40.83 288 ⇑P **P** **23 06 16.3 +1.2**
MLR Muntele Rosu 40.83 288 ⇑P **P** **23 06 16.3 +1.2**
KOLS Kolonicke sedl 41.38 295 *e*P **P** **23 06 23.2 +3.6**
HFS Hagfors 41.40 313 P **P** **23 06 19.6 0.0**
comp=Z,11nm,0.8s,mb4.5,baz=97,slow=12,SNR=16
HFS pP pP 23 06 26.5 -0.9
comp=Z,13nm,0.8s,baz=74,slow=11,SNR=9.5
HFS LR LR 23 24 53.9
comp=Z,105nm,19.2s,MS3.7,baz=72,slow=38
ASF Jabal al Asfar 41.52 264 P **P** **23 06 21.6 +0.8**
comp=Z,2.7nm,0.6s,mb4.0,baz=252,slow=9.8,SNR=5.0
STHS Stebnicka Huta 41.76 296 *e*P **P** **23 06 26.4 +3.9**
NB2 NORSAR Subarra 42.22 315 P **P** **23 06 26.4 +0.3**
comp=Z,8.4nm,0.6s,mb4.5,baz=65,slow=7.9
NB2 NORSAR Subarra 42.22 315 P **P** **23 06 26.4 +0.3**
NB2 pmax pmax
comp=Z,8.0nm,0.6s,mb4.5
NOA NORSAR Array B 42.22 315 P **P** **23 06 26.2 +0.1**
comp=Z,7.9nm,0.6s,mb4.5,baz=64,slow=7.8,SNR=36
NOA pP pP 23 06 32.7 -1.3
comp=Z,7.6nm,0.6s,baz=66,slow=7.8,SNR=11
NOA LR LR 23 23 58.2
comp=Z,81nm,19.8s,MS3.6,baz=50,slow=36
OJC Ojcow 42.22 297 *e*P **P** **23 06 27.2 +0.9**
DPC Dobruska-Polom 44.13 299 *e*P **P** **23 06 42.7 +0.9**
DPC AMS AMS 23 25 30.0
comp=Z,200nm,20.1s
SMOL Smolenice 44.40 296 *e*P **P** **23 06 46.3 +2.2**
VRAC Vranov 44.48 298 LR LR 23 26 21.6
comp=Z,108nm,19.6s,MS3.8,baz=242,slow=37
PRU Pruhonice 45.30 300 *e*P **P** **23 06 46.5 -4.8**
PRU AMS AMS 23 26 30.0
comp=Z,100nm,14.5s
CLL Collm 45.50 302 P **P** **23 06 53.4 +0.6**
comp=Z,logA/T=1.1,mb4.8
CLL *e*PP PP 23 08 39.0 -0.9
JMIC Jan Mayen 45.61 333 LR LR 23 29 37.1
comp=Z,73nm,18.8s,MS3.6,baz=315,slow=41
KHC Kasperske Hory 46.28 299 *e*P **P** **23 07 02.6 +3.6**
KHC *e*PP PP 23 08 43.5 -4.2
KHC AMS AMS 23 26 50.0
comp=Z,200nm,18.7s
GERES GERESS Array B 46.36 299 P **P** **23 07 00.3 +0.7**
comp=Z,0.5nm,0.6s,mb3.6,baz=13,slow=18,SNR=3.2
GERES LR LR 23 27 17.9
comp=Z,159nm,18.4s,MS4.0,baz=245,slow=37
GERES GERESS Array B 46.36 299 P **P** **23 07 00.3 +0.7**
GERES LR LR 23 27 17.9
MOX Moxa 46.59 302 *e*P **P** **23 07 02.0 +0.6**
MOX pP pP 23 07 12.0 +2.7
MOX L 23 27 29.0
WTTA Wattenberg 48.37 298⇑ *i*P **P** **23 07 22.6 +7.1**
comp=Z,7.6nm,0.8s,mb4.8
DAVA Damuels 49.36 299⇑ *i*P **P** **23 07 24.4 +1.4**
comp=Z,4.8nm,0.9s,mb4.5
CDF Champ du Feu 50.18 301 *e*P **P** **23 07 29.3 0.0**
comp=Z,2.1nm,0.6s,mb4.1
CDF Champ du Feu 50.18 301 *e*P **P** **23 07 29.3 0.0**
CDF pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
HINF Hinteralfeld 50.75 301 *e*P **P** **23 07 33.3 -0.4**
comp=Z,4.4nm,0.5s,mb4.3
HINF Hinteralfeld 50.75 301 *e*P **P** **23 07 33.3 -0.4**
HINF pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
BAIF Baives 50.91 304 *e*P **P** **23 07 35.5 +0.7**
HAU Haudompre 50.92 301 *e*P **P** **23 07 34.9 -0.1**
comp=Z,12nm,0.9s,mb4.5
HAU *e*R
comp=Z,130nm,18.2s
HAU Haudompre 50.92 301 *e*P **P** **23 07 34.9 -0.1**
HAU pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
HAU MLR MLR
comp=Z,130nm,18.3s,MS4.0
MEZF Maizieres J'vi 51.34 302 *e*P **P** **23 07 38.9 +0.7**
comp=Z,29nm,0.9s,mb4.9
ESK Eskdalemuir 51.63 313 *e*P **P** **23 07 36.7 -3.6**
comp=Z,8.6nm,0.9s,mb4.7
CABF La Chapelle 51.87 300 *e*P **P** **23 07 41.9 -0.3**
LPG La Plagne 52.16 298 *e*P **P** **23 07 44.9 +0.5**
comp=Z,13nm,0.7s,mb4.7
LPG La Plagne 52.16 298 *e*P **P** **23 07 44.9 +0.5**
LPG pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
LPL La Plagne 52.16 298 *e*P **P** **23 07 44.9 +0.5**
comp=Z,11nm,0.6s,mb4.7
LPL La Plagne 52.16 298 *e*P **P** **23 07 44.9 +0.5**
LPL pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
MBDF Montbardon 52.61 298 *e*P **P** **23 07 48.7 +1.0**
comp=Z,30nm,0.7s,mb5.0
MBDF Montbardon 52.61 298 *e*P **P** **23 07 48.7 +1.0**
MBDF pmax pmax
comp=Z,15nm,0.7s,mb5.0
LOR Lormes 52.72 302 *e*P **P** **23 07 48.5 -0.1**
LOR *e*R
comp=Z,80nm,19.2s
ORIF Oris-en-Rattie 53.00 298 *e*P **P** **23 07 50.4 -0.3**
comp=Z,9.3nm,0.6s,mb4.6
ORIF *e*R
comp=Z,179nm,21.0s
SSF Saint Saulge 53.03 302 *e*P **P** **23 07 50.1 -0.8**
comp=Z,7.0nm,0.9s,mb4.6
SSF Saint Saulge 53.03 302 *e*P **P** **23 07 50.1 -0.8**
SSF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
SMF Signal de Mont 53.10 301 *e*P **P** **23 07 50.6 -0.8**
comp=Z,8.2nm,0.9s,mb4.4
SMF Signal de Mont 53.10 301 *e*P **P** **23 07 50.6 -0.8**
SMF pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
AVF Avril sur Loir 53.28 301 *e*P **P** **23 07 52.0 -0.7**
comp=Z,8.9nm,0.8s,mb4.4
AVF Avril sur Loir 53.28 301 *e*P **P** **23 07 52.0 -0.7**
AVF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
VIVF Saint-Julien-l 53.72 299 *e*P **P** **23 07 55.5 -0.4**
comp=Z,15nm,0.8s,mb4.7
VIVF Saint-Julien-l 53.72 299 *e*P **P** **23 07 55.5 -0.4**
VIVF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
SMRF Simiane la Rot 53.74 297 *e*P **P** **23 07 56.7 +0.6**
comp=Z,48nm,1.5s,mb4.9
LDF La Druitiere 54.06 305 *e*P **P** **23 07 57.9 -0.5**
comp=Z,14nm,0.7s,mb4.7
LDF La Druitiere 54.06 305 *e*P **P** **23 07 57.9 -0.5**
LDF pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
FLN La Foliniere 54.15 305 *e*P **P** **23 07 58.4 -0.6**
FLN *e*R
comp=Z,240nm,19.0s
TCF Toulx Ste Croi 54.21 302 *e*P **P** **23 07 59.2 -0.3**
comp=Z,9.5nm,0.9s,mb4.4
TCF Toulx Ste Croi 54.21 302 *e*P **P** **23 07 59.2 -0.3**
TCF pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
GRR Gorron 54.58 305 *e*P **P** **23 08 01.5 -0.7**
comp=Z,23nm,1.0s,mb4.9
GRR Gorron 54.58 305 *e*P **P** **23 08 01.5 -0.7**
GRR pmax pmax
comp=Z,12nm,1.0s,mb4.9
LASF Ste Croix 54.66 298 *e*P **P** **23 08 02.7 -0.2**
RJF Les Rejaudoux 55.20 301 *e*P **P** **23 08 06.4 -0.4**
RJF *e*R
comp=Z,120nm,21.8s
MFF Saint Martin d 55.30 303 *e*P **P** **23 08 07.1 -0.4**
comp=Z,4.5nm,0.5s,mb4.4
MFF Saint Martin d 55.30 303 *e*P **P** **23 08 07.1 -0.4**
MFF pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
SGMF Saint Gilles 55.55 306 *e*P **P** **23 08 08.9 -0.4**
LFF La Frestale 55.86 301 *e*P **P** **23 08 11.6 0.0**
comp=Z,27nm,1.0s,mb4.9
LFF La Frestale 55.86 301 *e*P **P** **23 08 11.6 0.0**
LFF pmax pmax
comp=Z,14nm,1.0s,mb5.0
ROSF Rostrenen 55.87 306 *e*P **P** **23 08 11.1 -0.5**
QUIF Quistinic 56.08 306 *e*P **P** **23 08 12.7 -0.4**
comp=Z,13nm,0.7s,mb4.8
QUIF Quistinic 56.08 306 *e*P **P** **23 08 12.7 -0.4**
QUIF pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
EPF Esparros 57.30 299 *e*P **P** **23 08 21.6 -0.3**
comp=Z,12nm,0.9s,mb4.6
EPF Esparros 57.30 299 *e*P **P** **23 08 21.6 -0.3**
EPF pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
ILAR Eielson Array 57.81 24 P **P** **23 08 24.4 -0.7**
comp=Z,1.6nm,0.6s,mb4.2,baz=313,slow=4.4,SNR=4.6
INK Inuvik 57.91 17 P **P** **23 08 22.6 -3.1**
comp=Z,4.1nm,0.7s,mb4.6,baz=354,slow=10.0,SNR=15
INK LR LR 23 37 07.9
comp=Z,198nm,20.9s,MS4.2,baz=42,slow=40
ESDC Sonseca Array 61.95 299 P **P** **23 08 53.9 -0.1**
comp=Z,2.1nm,0.6s,mb4.4,baz=50,slow=6.5,SNR=12
YKA Yellowknife Ar 66.30 11 P **P** **23 09 21.0 -0.7**
comp=Z,1.7nm,0.7s,mb4.2,baz=339,slow=6.9,SNR=3.5
YKA LR LR 23 37 57.2
comp=Z,170nm,20.4s,MS4.2,baz=260,slow=36
SCHQ Schefferville 73.29 345 P **P** **23 10 04.0 -0.5**
comp=Z,2.7nm,0.7s,mb4.3,baz=37,slow=10,SNR=4.4
SCHQ Schefferville 73.29 345 P **P** **23 10 04.0 -0.5**
FITZ Fitzroy Crossi 75.65 143 P **P** **23 10 17.0 -1.9**
comp=Z,6.0nm,0.9s,mb4.5,baz=349,slow=10,SNR=2.3
WRAB Tennant Creek 80.91 136 P **P** **23 10 45.9 -1.7**
comp=Z,4.3nm,0.7s,mb4.5
WRAB Tennant Creek 80.91 136 P **P** **23 10 45.9 -1.7**
WRAB pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
PDAR Pinedale Array 86.22 13 P **P** **23 11 14.2 +0.1**
comp=Z,0.5nm,0.5s,mb4.0,baz=26,slow=3.9,SNR=3.9
PDAR pP pP 23 11 20.6 -2.0
comp=Z,0.6nm,0.6s,baz=27,slow=3.0,SNR=4.1
DBIC Dimbokro 86.72 276 P **P** **23 11 17.1 -0.2**
comp=Z,1.5nm,0.8s,mb4.3,baz=74,slow=7.4,SNR=3.8
DBIC Dimbokro 86.72 276 *e*P **P** **23 11 17.9 +0.7**
STKA Stephens Creek 94.47 137 P **P** **23 11 50.2 -2.9**
comp=Z,1.8nm,0.9s,mb4.5,baz=344,slow=7.4,SNR=2.4
STKA Stephens Creek 94.47 137 P **P** **23 11 50.2 -2.9**
CPUP Villa Florida 144.32 299 PKP PKPdf 23 18 07.0 -5.4
comp=Z,9.6nm,0.8s,baz=58,slow=4.3,SNR=23
CPUP Villa Florida 144.32 299 *e*PKP PKPdf 23 18 06.9 -5.6
CPUP Villa Florida 144.32 299 PKIKP PKPdf 23 18 07.1 -5.3
CPUP pmax pmax
comp=Z,10.0nm,0.8s

CSEM ***11*** *23:18:49.9±0.6, 35.17N×22.29E, h20km, MD3.2, Error ellipse: s-maj=17.2km s-min=5.1km az=104.0*
ATH ***11*** *23:18:52.5, 35.33N×22.63E, h21km±2km, MD3.3/4*
HLW ***11*** *23:18:52.6, 35.60N×23.49E, h33km, Mb3.5*
NEIC ***11*** *23:18:52.5, 35.33N×22.63E, h21km, MD3.2(ATH), After ATH.*
ISC 11 23:18:51.0±1.3, 35.15N±0.05×22.5E±0.2, h21km, n8, σ0.86/10, 1C-1D, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**1.22**	**22**	*e*PN	**Pn**	**23 19 11.8**	**-1.2**
VAM	**Vamos**	**1.43**	**79**	*e*PN	**Pn**	**23 19 16.8**	**+0.7**
VLI	**Veliai**	**1.61**	**13**	*e*PN	**Pn**	**23 19 18.7**	**+0.1**
VLI				*e*SN	**Sn**	**23 19 38.2**	**-0.7**
NPS	**Neapolis**	**2.57**	**87**	*e*PN	**Pn**	**23 19 33.2**	**+0.8**
EVR	**Evrytania**	**3.80**	**352**	*e*PN	**Pn**	**23 19 51.1**	**+1.3**
SLUM		**4.31**	**147**	⇓P	**Pn**	**23 19 56.3**	**-0.8**
SWA2		**6.41**	**156**	P	**Pn**	**23 20 26.9**	**+0.2**
SWA2				S	**Sn**	**23 21 36.2**	**-3.8**
SWA1		**6.48**	**154**	⇑P	**Pn**	**23 20 27.9**	**+0.2**

ISK ***11*** *23:27:05.6, 39.65N×41.02E, h6km, MD3.5*
CSEM ***11*** *23:27:05.6±0.1, 39.65N×41.02E, h6km, MD3.5, Error ellipse: s-maj=2.1km s-min=1.8km az=143.0, After ISK*
ISC 11 23:27:06.4±0.4, 39.67N±0.03×41.05E±0.04, h6km, n22, σ1.04/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZM	**Erzurum**	**0.34**	**46**	*i* PG	**Pg**	**23 27 13.0**	**-0.2**
ERZM	**Erzurum**	**0.34**	**46**	*i* P	**Pg**	**23 27 12.0**	**-1.2**
ERZM				*i* S	**Sg**	**23 27 17.3**	**-0.5**
BNGL	**BINGOL**	**0.72**	**174**	*i* P	**Pg**	**23 27 18.1**	**-2.8**
BNGL				*i* S	**Sg**	**23 27 27.3**	**-3.3**
GUMT	**Gumushane**	**1.44**	**304**	PN	**Pn**	**23 27 33.2**	**+0.1**
KELT	**Kelkit**	**1.46**	**290**	*i* P	**Pn**	**23 27 32.3**	**-1.1**
KELT				*i* S	**Sb**	**23 27 54.6**	**+2.3**
PTK	**Pertek**	**1.50**	**239**	PN	**Pn**	**23 27 32.4**	**-1.6**
BTMT	**Batman**	**1.52**	**167**	PN	**Pn**	**23 27 34.1**	**-0.1**
BTMT				SN	**Sn**	**23 27 54.8**	**+0.3**
MACK	**Trabzon**	**1.60**	**323**	*i* P	**Pn**	**23 27 37.2**	**+1.8**
ARTV	**Artvin**	**1.65**	**24**	*i* P	**Pn**	**23 27 35.5**	**-0.6**
ARTV				*i* S	**Sb**	**23 27 58.1**	**+0.2**
BCA	**Borcka**	**1.82**	**14**	PN	**Pn**	**23 27 38.3**	**-0.3**
KARS	**Kars**	**1.83**	**58**	*e*PN	**Pn**	**23 27 38.8**	**+0.2**
DIY	**Diyarbakir**	**1.89**	**200**	*e*PN	**Pn**	**23 27 39.2**	**-0.3**
ELZG	**Elazig**	**1.99**	**235**	*i* P	**Pn**	**23 27 40.5**	**-0.4**
ELZG				*i* S	**Sn**	**23 28 10.0**	**+3.6**
VANB	**Van**	**2.12**	**120**	*e*PN	**Pn**	**23 27 43.1**	**+0.3**
TVAN	**Van**	**2.16**	**121**	*i* P	**Pn**	**23 27 43.6**	**+0.2**
TVAN				*i* S	**Sn**	**23 28 13.1**	**+2.2**
CLDR	**Caldiran**	**2.28**	**102**	*e*PN	**Pn**	**23 27 45.5**	**+0.3**
MARD	**Mardin**	**2.37**	**185**	*i* P	**Pn**	**23 27 47.0**	**+0.6**
MARD				*i* S	**Sn**	**23 28 19.7**	**+3.7**
SIRT	**Sirnak**	**2.43**	**153**	*e*PN	**Pn**	**23 27 47.5**	**+0.3**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MYA	Malataya	2.45	237	*e*PN	Pn	23 27 47.1	-0.4
MALT	Malatya	2.45	237	*e*PN	Pn	23 27 47.4	-0.2
GNI	Garni	2.88	79	PN	Pn	23 27 54.2	+0.5
SVSK	Karacayir	3.13	276	*e*PN	Pn	23 27 57.0	-0.3

IDC ***11*** *23:42:36.2±23.0, 36.78N×68.93E, mb3.8/2, mb1 3.9/3, mb1mx3.4/15, mbtmp3.7/3, ML3.3/1, MS3.1/1, Ms1 3.1/1, ms1mx2.7/20, Error ellipse: s-maj=438.8km s-min=36.6km az=165.0*
NNC ***11*** *23:42:55.9±5.6, 36.78N×70.14E, h180km±84km, mpv3.9, Error ellipse: s-maj=57.8km s-min=38.4km az=26.0*
ISC 11 23:42:55.2±2.6, 36.8N±0.2×70.3E±0.2, h237km±25km, n16, σ0°72/17, mb3.4/2, 1C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	5.96	25	P	P	23 44 23.0	-0.2
SNR=23							
KK31	Karatay Array	6.33	1	P	P	23 44 27.2	-0.7
1.7nm,0.2s,baz=190,slow=13,SNR=157							
KK31				⇑S	S	23 45 39.2	-1.2
2.5nm,0.4s							
UCH	Uchtor	6.35	29	P	P	23 44 28.4	+0.4
SNR=6.6							
EKS2	Erkin-Say	6.46	23	P	P	23 44 29.6	0.0
SNR=10.0							
AAK	Ala-Archa	6.69	27	P	P	23 44 32.4	0.0
SNR=6.4							
AAK	Ala-Archa	6.69	27	⇓P	P	23 44 32.3	0.0
5.6nm,0.5s							
AAK				⇓S	S	23 45 49.7	+1.3
5.5nm,0.5s							
KBK	Karagaybulak	6.88	30	P	P	23 44 35.3	+0.5
SNR=6.3							
ULHL	Ulahol	7.13	38	P	P	23 44 37.9	-0.2
SNR=12							
USP	Ospenovka	7.24	25	P	P	23 44 39.0	-0.4
SNR=7.8							
TKM2	Tokmak 2	7.37	32	P	P	23 44 41.2	+0.2
SNR=6.3							
MKAR	Makanchi Array	13.41	38	Pn	P	23 45 56.5	-0.9
0.2nm,0.3s,baz=229,slow=18,SNR=8.2							
AB31	Akbulak array	14.59	332	⇓P	P	23 46 13.6	+1.6
0.4nm,0.3s,baz=153,slow=12,SNR=23							
AKTO	Aktyubinsk	16.28	331	⇓P	P	23 46 32.4	+0.2
0.2nm,0.7s							
GNI	Garni	20.29	287	LR	LR	23 55 15.2	
comp=Z,54nm,19.3s,baz=328,slow=40							
ARCES	ARCESS Array B	40.69	338	P	P	23 50 14.1	+0.4
2.3nm,0.8s,mb3.7,baz=117,slow=8.1,SNR=6.9							
NOA	NORSAR Array B	43.84	323	P	P	23 50 38.3	-0.8
0.7nm,0.7s,mb3.1,baz=100,slow=8.0,SNR=3.1							

IDC 11 23:54:00.3±13.0, 28.48N×52.56E, mb3.8/5, mb1 3.7/6, mb1mx3.5/17, mbtmp3.7/6, ML3.4/1, Error ellipse: s-maj=255.8km s-min=35.5km az=1.0, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRTR	Keskin Array B	19.23	311	P	P	23 58 27.4	-1.1
0.1nm,0.3s,baz=131,slow=13,SNR=3.0							
BVAR	Borovoye Array	27.84	23	P	P	23 59 51.4	-1.7
0.8nm,0.5s,baz=225,slow=8.2,SNR=5.0							
MKAR	Makanchi Array	29.55	44	P	P	00 00 06.8	-1.9
0.4nm,0.7s,baz=232,slow=8.3,SNR=4.3							
FINES	FINESS Array B	37.38	339	P	P	00 01 13.7	-2.5
1.5nm,0.8s,baz=143,slow=11,SNR=3.6							
HFS	Hagfors	41.08	331	P	P	00 01 44.9	-2.1
1.0nm,0.4s,baz=113,slow=11,SNR=4.1							
ARCES	ARCESS Array B	43.96	347	P	P	00 02 08.8	-1.5
2.0nm,0.9s,baz=146,slow=8.7,SNR=6.1							

MAN 12 00:20:22.7, 7.47N×122.17E, h8km, mb4.3, ML3.1, MS2.8, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPIL	Ipil	0.51	51	*e*P	Pg	00 20 32.5	-0.6
IPIL				*e*S	Sg	00 20 42.0	+2.1
ZMPH	Zamboanga City	0.52	191	⇑*i*P	Pg	00 20 34.5	+1.4
ZMPH				*i*S	Sg	00 20 45.3	+5.2
PAGZ	Pagadian	1.26	72	*e*P	Pb	00 20 45.8	-0.5
PAGZ				*e*S	Sb	00 21 07.8	+5.3
DCPH	Dipolog City	1.61	46	*e*P	Pn	00 20 51.2	-0.5

MOS ***12*** *00:51:25.0±0.8, 24.07S×179.91E, h510km, mb4.5/6, Error ellipse: s-maj=17.2km s-min=15.6km az=150.2*
BJI ***12*** *00:51:26.4, 24.10S×180.00E, h520km, mB4.4, mb3.9*
IDC ***12*** *00:51:26.2±1.8, 24.05S×179.95W, h517km±20km, mb3.8/11, mb1 3.9/13, mb1mx3.9/15, mbtmp4.7/13, Error ellipse: s-maj=15.8km s-min=15.1km az=42.0*
NEIC ***12*** *00:51:26.4±0.7, 24.12S×179.97E, h520km±8km, mb4.4/23, Error ellipse: s-maj=8.5km s-min=7.0km az=164.0*
ISC 12 00:51:21.9±1.0, 24.09S±0.06×179.98W±0.07, h476km±11km, n96, σ0°88/77, mb4.3/31, 6C-9D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	5.46	161	P	P	00 52 58.1	+5.2
54nm,0.3s,baz=96,slow=19,SNR=5.5							
RAO				S	S	00 54 04.9	+0.2
46nm,0.3s,baz=253,slow=19,SNR=2.5							
DZM	Mont Dzumac	12.66	276	P	P	00 54 13.0	+4.0
1.0nm,0.3s,baz=95,slow=15,SNR=11							
AFI	Afiamalu	12.75	39	P	P	00 54 08.1	-1.9
3.1nm,0.3s,baz=38,slow=19,SNR=3.6							
AFI				S	S	00 56 17.0	-7.9
4.8nm,0.3s,baz=35,slow=19,SNR=6.4							
URZ	Urewera	14.34	189	P	P	00 54 27.2	+0.7
2.4nm,0.3s,baz=27,slow=5.3,SNR=13							
URZ				S	S	00 56 55.3	0.0
0.4nm,0.3s,baz=218,slow=18,SNR=7.6							
RPZ	Rata Peaks	20.92	198	P	P	00 55 31.9	+1.0
5.9nm,0.5s,baz=346,slow=4.2,SNR=5.1							
HNR	Honiara	24.07	304	P	P	00 55 59.7	-0.4
89nm,0.7s,mb5.3,baz=187,slow=5.4,SNR=4.0							
HNR	Honiara	24.07	304	*e*P	P	00 55 59.2	-0.9
100nm,0.9s,mb5.2							
HNR	Honiara	24.07	304	*e*P	P	00 55 59.2	-0.9
HNR				pmax	pmax		
comp=Z,100nm,0.9s,mb5.2							
ARMA	Armidale	25.98	250	⇑*i*P	P	00 56 04.8	-12
CTA	Charters Tower	31.50	271	⇓*i*P	P	00 57 06.0	+0.9
comp=Z,25nm,0.5s,mb4.9							
CTA	Charters Tower	31.50	271	P	P	00 57 06.1	+1.0
comp=Z,41nm,0.6s,mb5.0,baz=97,slow=11,SNR=39							
CTA	Charters Tower	31.50	271	⇓*i*P	P	00 57 06.0	+0.9
CTA				pmax	pmax		
comp=Z,25nm,0.5s							
CTAO	Charters Tower	31.50	271	*e*P	P	00 57 06.0	+0.9
comp=Z,73nm,0.9s,mb5.1							
CTAO	Charters Tower	31.50	271	*e*P	P	00 57 06.0	+0.9
CTAO				pmax	pmax		
comp=Z,73nm,0.9s,mb5.1							
PMG	Port Moresby	34.58	289	P	P	00 57 31.6	+0.6
comp=Z,41nm,0.8s,mb4.9,baz=110,slow=5.9,SNR=15							
PMG	Port Moresby	34.58	289	*e*P	P	00 57 31.4	+0.4
comp=Z,77nm,1.1s,mb5.0							
PMG	Port Moresby	34.58	289	*d*P	P	00 57 31.5	+0.4
STKA	Stephens Creek	34.67	248	⇓*i*P	P	00 57 32.5	+0.8
comp=Z,6.9nm,0.9s,mb4.1							
STKA	Stephens Creek	34.67	248	P	P	00 57 32.5	+0.8
comp=Z,8.3nm,0.8s,mb4.2,baz=95,slow=7.6,SNR=13							
WB2	Warramunga Arr	42.40	266	⇓*i*P	P	00 58 34.4	-0.6
WRAB	Tennant Creek	42.41	266	*e*P	P	00 58 34.1	-0.9
comp=Z,36nm,0.8s,mb4.9							
WRAB	Tennant Creek	42.41	266	*d*P	P	00 58 34.3	-0.8
KAKA	Kakadu	46.35	275	*e*P	P	00 59 14.0	+8.1
comp=Z,20nm,0.8s,mb4.6							
FITZ	Fitzoy Crossi	50.84	266	⇑*i*P	P	00 59 39.2	-0.5
comp=Z,30nm,0.9s,mb4.6							
VNDA	Vanda	54.19	185	P	P	01 00 03.4	+0.3
comp=Z,0.5nm,0.7s,baz=337,slow=6.0,SNR=2.5							
VNDA	Vanda	54.19	185	P	P	01 00 03.4	+0.3
MBWA	Marble Bar	55.36	260	*e*P	P	01 00 10.5	-1.6
comp=Z,18nm,0.9s,mb4.4							
CASY	Casey	59.95	206	*e*P	P	01 00 41.3	-1.3
comp=Z,3.9nm,0.8s,mb3.9							
MAW	Mawson	77.58	200	P	P	01 02 28.8	+0.1
comp=Z,3.3nm,0.9s,mb3.8,baz=139,slow=14,SNR=6.4							

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	Yuzh-Sakhalins	78.31	335	*i*P	P	01 02 40.5	+7.5
YSS				pmax	pmax		
comp=Z,6.0nm,0.6s,mb4.2							
MDJ	Mudanjiang	82.43	326	P	P	01 02 55.7	+1.4
MDJ				AMB	AMB		
comp=Z,4.0nm,0.7s,mb4.1							
MDJ				AMB	AMB		
comp=Z,36nm,3.6s							
SYO	Syowa Base	82.83	193	⇓P	P	01 02 53.9	-1.9
SYO	Syowa Base	82.83	193	⇓PcP	PcP	01 02 56.6	-3.3
CMB	Columbia Colle	83.32	43	*e*P	P	01 02 59.0	+0.1
comp=Z,14nm,1.2s,mb4.3							
CMB	Columbia Colle	83.32	43	*e*P	P	01 02 59.0	+0.1
CMB				pmax	pmax		
comp=Z,14nm,1.2s,mb4.4							
CN2	Changchun	84.05	324	*e*P	P	01 03 03.7	+1.3
YBH	Yreka Blue Hor	84.22	39	P	P	01 03 04.5	+1.2
comp=Z,3.8nm,0.9s,mb3.9,baz=205,slow=4.6,SNR=3.6							
SNAA	Sanae	84.48	179		P	01 03 02.9	-1.0
SNAA	Sanae	84.48	179	P	P	01 03 02.8	-1.1
comp=Z,0.3nm,0.5s,baz=146,slow=2.6,SNR=13							
SNAA	Sanae	84.48	179	P	P	01 03 02.9	-1.0
SNAA				*e*		01 05 03.7	
VNA3	Neumayer Olymp	84.69	177	*e*	P	01 03 09.9	+5.0
VNA3	Neumayer Olymp	84.69	177	P	P	01 03 04.2	-0.7
VNA3				*e*		01 05 00.2	
VNA3				*e*		01 05 09.4	
NVAR	Mina Array Bea	84.87	44	P	P	01 03 06.3	-0.3
comp=Z,2.0nm,0.8s,mb3.8,baz=222,slow=7.4,SNR=13							
VNA2	Neumayer--Watz	85.10	178	*e*	P	01 03 11.4	+4.4
VNA2	Neumayer--Watz	85.10	178	⇑*i*P	P	01 03 06.3	-0.7
VNA2				*e*		01 05 05.0	
VNA2				*e*		01 05 13.9	
VNA1	Neumayer--Stat	85.34	177	*e*	P	01 03 13.3	+5.2
VNA1	Neumayer--Stat	85.34	177	⇑*i*P	P	01 03 08.6	+0.5
VNA1				*e*		01 03 13.3	
VNA1				*e*		01 05 06.6	
TUC	Tucson	86.62	52	*e*P	P	01 03 16.4	+1.2
comp=Z,10nm,1.1s,mb4.5							
TUC	Tucson	86.62	52	*e*P	P	01 03 16.4	+1.3
TUC				pmax	pmax		
comp=Z,10.0nm,1.1s,mb4.5							
WVOR	Wild Horse Val	87.04	41	*e*P	P	01 03 17.1	+0.2
comp=Z,12nm,1.4s,mb4.5							
WVOR	Wild Horse Val	87.04	41	*e*P	P	01 03 17.1	+0.2
WVOR				pmax	pmax		
comp=Z,13nm,1.4s,mb4.5							
ELK	Elko	88.14	43	*e*P	P	01 03 22.0	-0.1
comp=Z,8.8nm,1.5s,mb4.3							
ELK	Elko	88.14	43	*e*P	P	01 03 22.0	-0.1
ELK				pmax	pmax		
comp=Z,9.0nm,1.5s							
BBB	Bella Bella	88.42	29	P	P	01 03 21.7	-1.4
comp=Z,9.0nm,0.8s,mb4.6,baz=154,slow=7.9,SNR=2.9							
MSU	Marysvale	88.90	47	*e*P	P	01 03 26.5	+0.7
TMUT	Trail Mountain	89.95	46	*e*P	P	01 03 31.6	+1.0
HLID	Hailey	90.22	41	*e*P	P	01 03 32.0	+0.3
comp=Z,3.6nm,1.0s,mb4.2							
MNTX	Cornudas Mount	90.30	55	*e*P	P	01 03 32.2	-0.2
comp=Z,1.6nm,0.8s,mb3.9							
SRU	San Rafael	90.31	47	*e*P	P	01 03 32.4	+0.2
LTX	Lajitas	90.51	58	*e*P	P	01 03 34.0	+0.5
comp=Z,1.8nm,0.7s,mb4.1							
LTX	Lajitas	90.51	58	*e*P	P	01 03 34.0	+0.6
LTX				pmax	pmax		
comp=Z,2.0nm,0.7s,mb4.2							
HWUT	Hardware Ranch	90.94	44	*e*P	P	01 03 34.5	-0.6
comp=Z,1.1nm,0.6s,mb4.0							
ANMO	Albuquerque	91.06	52	P	P	01 03 36.1	+0.3
comp=Z,1.4nm,0.9s,mb3.9,baz=236,slow=4.3,SNR=5.2							
ANMO	Albuquerque	91.06	52	*e*P	P	01 03 35.7	-0.1
comp=Z,4.7nm,1.3s,mb4.3							
ANMO	Albuquerque	91.06	52	*i*P	P	01 03 36.0	+0.2
RRI2	Red Ridge	92.00	43	*e*P	P	01 03 39.9	0.0
comp=Z,2.5nm,0.8s,mb4.2							
ILAR	Eielson Array	92.21	14	P	P	01 03 38.6	-1.7
comp=Z,0.8nm,0.8s,mb3.7,baz=223,slow=4.6,SNR=7.1							
LOHW	Long Hollow	92.59	43	*e*P	P	01 03 42.7	+0.1
comp=Z,1.2nm,0.5s,mb4.2							
BW06	Boulder Array	92.81	44	*e*P	P	01 03 44.0	+0.3
comp=Z,1.3nm,0.7s,mb4.1							
PDAR	Pinedale Array	92.81	44	P	P	01 03 43.4	-0.3
comp=Z,1.5nm,0.8s,mb4.1,baz=226,slow=2.9,SNR=12							
BOZ	Bozeman (W)	93.02	41	*e*P	P	01 03 44.8	+0.2
comp=Z,1.1nm,0.3s,mb4.4							
BOZ	Bozeman (W)	93.02	41	*e*P	P	01 03 44.8	+0.3
BOZ				pmax	pmax		
comp=Z,1.0nm,0.3s,mb4.3							
SDCO	Great Sand Dun	93.07	50	*e*P	P	01 03 44.6	-0.3
comp=Z,3.7nm,1.5s,mb4.2							
LZH	Lanzhou	93.51	308	*e*P	P	01 03 48.5	+1.5
LZH				AP	pP	01 05 41.0	+5.9
LZH				PP	PP	01 07 45.0	+4.0
LZH				AMB	AMB		
comp=Z,70nm,4.0s							
YAK	Yakutsk	94.76	339	*i*P	P	01 03 45.4	-6.7
SONM	Songino Array	97.26	319	PP	PP	01 08 11.9	+2.6
comp=Z,1.3nm,1.1s,baz=104,slow=6.1,SNR=4.1							
MKAR	Makanchi Array	112.30	313	PKiKP		01 09 01.4	
comp=Z,0.4nm,0.7s,baz=180,slow=2.4,SNR=5.0							
BVAR	Borovoye Array	120.59	319	PKP	PKPdf	01 09 17.7	-0.8
comp=Z,1.2nm,0.6s,baz=111,slow=1.0,SNR=11							
ARU	Arti	127.05	324	*e*PKPdf	PKPdf	01 09 30.6	-0.2
ARU	Arti	127.05	324	*e*PKIKP	PKPdf	01 09 30.6	-0.1
ARCES	ARCESS Array B	132.08	348	PKP	PKPdf	01 09 39.0	-1.0
comp=Z,2.9nm,0.8s,slow=1.2,SNR=8.5							
FINES	FINESS Array B	138.63	341	PKP	PKPdf	01 09 53.0	+0.8
comp=Z,2.8nm,1.1s,baz=63,slow=4.3,SNR=3.8							
NB2	NORSAR Subarra	142.27	351	PKPabc	PKPdf	01 09 55.0	-3.6
comp=Z,0.1nm,0.6s,baz=19,slow=3.3							
NOA	NORSAR Array B	142.27	351	PKhKP		01 09 55.2	
comp=Z,1.3nm,0.7s,baz=11,slow=2.3,SNR=4.4							
NOA	NORSAR Array B	142.27	351	PKP	PKPdf	01 09 55.2	-3.4
ASF	Jabal al Asfar	146.62	292	PKPbc	PKPbc	01 10 10.6	+1.7
comp=Z,2.1nm,0.7s,baz=355,slow=7.6,SNR=5.7							
BRTR	Keskin Array B	147.71	307	PKPbc	PKPdf	01 10 12.5	+4.0
comp=Z,1.4nm,0.7s,baz=136,slow=5.2,SNR=6.6							
BRTR				PKPab	PKPab	01 10 17.1	-1.2
comp=Z,1.9nm,0.7s,baz=93,slow=2.4,SNR=8.5							
KOLS	Kolonicke sedl	149.65	330	*e*PKP	PKPdf	01 10 18.0	+6.7
STHS	Stebnicka Huta	149.74	332	*e*PKP	PKPdf	01 10 17.9	+6.5
MLR	Muntele Rosu	150.08	322	PKPbc	PKPdf	01 10 17.9	+5.8
comp=Z,1.4nm,0.6s,baz=297,slow=6.4,SNR=6.2							
MORC	Moravsky Berou	150.93	336	*e*PKPbc	PKPdf	01 10 20.2	+7.0
CLL	Collm	151.04	343	⇑*i*PKP1	PKPdf	01 10 20.1	+6.8
CLL				*i* PKP2	PKPab	01 10 30.1	-1.5
CLL				*i* *PKPK		01 12 24.1	
CLL	Collm	151.04	343	⇑*i*PKP	PKPdf	01 10 20.1	+6.8
CLL				⇓*i*PKP	PKPab	01 10 30.1	-1.5
CLL				*i* pPKP		01 12 24.1	
BRG	Berggiesshubel	151.17	342	*i* PKP	PKPdf	01 10 20.8	+7.3
GERES	GERESS Array B	153.04	340	PKPbc	PKPdf	01 10 24.1	+7.9
comp=Z,0.5nm,0.6s,slow=1.3,SNR=6.5							
GERES				PKPab	PKPab	01 10 37.7	-2.5
comp=Z,0.4nm,0.7s,baz=27,slow=3.0,SNR=4.0							
ESDC	Sonseca Array	164.10	11	PKPab	PKPab	01 11 27.0	-1.0
comp=Z,1.6nm,1.0s,baz=355,slow=5.5,SNR=4.7							

NIED ***12*** *02:07:00, 44.00N×147.40E, h80km, Mw3.6 Best double couple: M0:2.9×10^14 NP1:φ=79°, δ77°, λ150°. NP2:φ=177°, δ61°, λ15°.*
JMA 12 02:07:09.5±0.3, 43.96N×147.39E, h34km, M3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	1.33	244	P	P	02 07 32.6	+0.6
NEM2				*e*S	S	02 07 49.5	+0.7
JRA	Rausu	1.64	270	P	P	02 07 36.6	+0.3
JRA				S	S	02 07 57.2	+0.8
JNK	Nakash	1.97	260	P	P	02 07 41.7	+0.6
JNK				*e*S	S	02 08 05.0	+0.2
JAK	Akkeshi	2.19	245	P	P	02 07 44.1	0.0
JAK				*e*S	S	02 08 09.7	-0.6
JTKR	Abashiri--Toko	2.51	271	P	P	02 07 48.5	-0.4
JAR	Ashorobuto	2.71	257	P	P	02 07 52.5	+0.8
JAR				*e*S	S	02 08 24.0	+0.4
JOB	Onbets	2.80	249	P	P	02 07 53.1	+0.2
JOB				S	S	02 08 25.5	-0.3
JMP	Maruseppu	2.91	272	P	P	02 07 54.0	-0.5
JCH	Churui	3.23	247	P	P	02 07 58.7	-0.4
JCH				*e*S	S	02 08 36.2	-0.7
JKK2	Kamakawa 2	3.35	270	P	P	02 08 01.1	+0.3
JSE	Soyaes	3.58	288	P	P	02 08 02.5	-1.6
JNBK	Urakawa-nobuka	3.79	245	P	P	02 08 06.4	-0.6

IDC ***12*** *02:13:17.3±0.8, 6.36N×93.43E, mb4.0/11, mb1 4.1/11, mb1mx4.0/17, mbtmp4.0/11, MS3.2/2, Ms1 3.2/2, ms1mx3.0/14, Error ellipse: s-maj=29.3km s-min=20.0km az=61.0*
NEIC ***12*** *02:13:21.8±0.4, 6.35N×93.46E, h30km, mb4.2/3, Error ellipse: s-maj=17.3km s-min=10.2km az=53.0*
ISC 12 02:13:20.0±0.6, 6.3N±0.1×93.5E±0.1, h30km, n16, σ0°64/15, mb4.0/13, MS3.3/2, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	39.97	128	P	P	02 20 53.6	-0.2
5.6nm,0.6s,mb4.4,baz=335,slow=10,SNR=6.1							
MKAR	Makanchi Array	41.44	348	P	P	02 21 05.8	+0.3
1.3nm,0.7s,mb3.7,baz=177,slow=8.4,SNR=9.2							
SONM	Songino Array	42.79	13	P	P	02 21 17.6	+0.8
0.2nm,0.4s,mb3.2,baz=180,slow=4.3,SNR=2.9							
KURK	Kurchatov	45.94	347	P	P	02 21 42.5	+0.6
2.4nm,0.8s,mb4.2							
WRAB	Tennant Creek	47.94	124	*e*P	P	02 21 58.0	-0.2
5.3nm,0.6s,mb4.8							
BVAR	Borovoye Array	50.23	342	P	P	02 22 14.3	-1.0
0.6nm,0.5s,mb3.9,baz=141,slow=9.2,SNR=5.1							
KMBO	Kilima Mbogo	56.61	264	P	P	02 23 03.9	+0.8
1.2nm,0.7s,mb4.1,baz=52,slow=18,SNR=3.9							
KMBO				LR	LR	02 45 59.2	
comp=Z,38nm,18.8s,MS3.5,baz=276,slow=35							
STKA	Stephens Creek	59.54	133	P	P	02 23 23.4	+0.1
0.9nm,0.4s,mb4.2,baz=300,slow=11,SNR=3.4							
BR131	Keskin Array S	62.94	312	*e*P	P	02 23 45.0	-1.1
1.0nm,0.7s,mb4.0							
BRTR	Keskin Array B	62.94	312	P	P	02 23 44.8	-1.3
0.9nm,0.8s,mb3.9,baz=131,slow=8.6,SNR=6.1							
FINES	FINESS Array B	73.75	332	P	P	02 24 52.0	-0.9
1.7nm,0.7s,mb4.1,baz=141,slow=12,SNR=4.9							
BOSA	Boshof	74.22	238	P	P	02 24 56.5	+0.1
1.8nm,0.8s,mb4.0,baz=51,slow=6.5,SNR=4.6							
ARCES	ARCESS Array B	76.48	340	P	P	02 25 08.8	+0.3
1.2nm,0.6s,mb4.0,baz=97,slow=6.9,SNR=9.5							
ARCES	ARCESS Array B	76.48	340	P	P	02 25 08.8	+0.3
GERES	GERESS Array B	78.53	318	P	P	02 25 20.4	+0.3
0.9nm,0.7s,mb3.8,baz=90,slow=4.0,SNR=8.9							
SNAA	Sanae	97.97	199	LR	LR	03 02 20.4	
comp=Z,7.1nm,21.4s,MS3.1,baz=100,slow=30							

LDG ***12*** *02:28:56.5±0.1, 46.95N×0.73W, h2km, Md2.9/3, Ml2.8/25, Error ellipse: s-maj=1.3km s-min=1.1km az=63.0*
CSEM ***12*** *02:28:56.4±0.1, 46.95N×0.72W, h8km, ML2.9/21, Error ellipse: s-maj=1.2km s-min=1.0km az=52.0*
MDD ***12*** *02:28:57.5±0.5, 46.92N×0.75W, h15km±5km, mbLg2.1/18, Error ellipse: s-maj=5.2km s-min=3.0km az=49.0*
NEIC ***12*** *02:28:57.0, 46.92N×0.69W, h5km, ML2.9(STR), ML2.8(LDG), After STR.*
STR 12 02:28:57.0±0.5, 46.92N×0.69W, h5km±1km, Ml2.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCHF	La Chataignera	0.25	188	Pg	Pg	02 29 02.7	+0.6
LCHF				Sg	Sg	02 29 06.3	+0.7
MFF	Saint Martin d	0.49	130	*e*Pg	Pg	02 29 06.5	-0.3
MFF				*e*Sg	Sg	02 29 13.5	+0.1
104nm,0.2s							
LRYF	La Roche-sur-Y	0.68	240	Pg	Pg	02 29 09.1	-1.5
LRYF				Sg	Sg	02 29 19.2	-0.5
CHIF	Chize	0.81	166	Pg	Pg	02 29 12.9	-0.3
CHIF				Sg	Sg	02 29 23.1	-0.9
OLEF	Ile d'Oleron	1.08	205	Pg	Pg	02 29 17.8	-0.7
OLEF				Sg	Sg	02 29 31.8	-1.1
RENF	Rennes	1.36	332	Pg	Pg	02 29 24.9	+0.7
RENF				Sg	Sg	02 29 38.6	-3.7
GRR	Gorron	1.47	356	*e*Pg	Pg	02 29 23.7	-2.7
GRR				*e*Sg	Sg	02 29 42.3	-3.8
40nm,0.2s							
LDF	La Druitiere	1.72	13	*e*Pn	Pn	02 29 25.3	-2.5
LDF				*e*Pg	Pg	02 29 28.0	-3.3
LDF				*e*Sg	Sg	02 29 49.8	-4.4
25nm,0.2s							
SGMF	Saint Gilles	1.84	317	*e*Pg	Pg	02 29 29.3	-4.4
SGMF				*e*Sn	Sn	02 29 48.6	-4.8
SGMF				*e*Sg	Sg	02 29 52.5	-5.7
8.7nm,0.2s							
FLN	La Foliniere	1.85	4	*e*Pg	Pg	02 29 30.3	-3.6
FLN				*e*Sg	Sg	02 29 53.8	-4.8
27nm,0.2s							
QUIF	Quistinic	1.96	302	*e*Pg	Pg	02 29 31.8	-4.2
QUIF				*e*Sg	Sg	02 29 55.5	-6.6
11nm,0.2s							
TCF	Toulx Ste Croi	2.10	106

0.2nm,0.2s,SNR=7.9
ELAN Sn Sn 02 30 44.0 -8.5
1.0nm,0.1s,SNR=7.9
MEZF Maizieres J'vi 4.19 66 *e*Pn Pn 02 29 59.6 -3.4
MEZF *e*Pg Pg 02 30 13.8 -6.8
EBIE Bielsa 4.28 172 Pn Pn 02 30 01.4 -2.8
SNR=7.9
EBIE Sn Sn 02 30 48.9 -6.3
0.5nm,0.2s,SNR=7.9
VIVF Saint-Julien-l 4.28 117 *e*Pg Pg 02 30 16.4 -6.0
VIVF *e*Sg Sg 02 31 12.0 -7.3
8.5nm,0.4s
LASF Ste Croix 4.28 130 *e*Pn Pn 02 30 01.2 -3.1
LASF *e*Pg Pg 02 30 16.7 -5.7
LASF *e*Sn Sn 02 30 48.7 -6.6
LASF *e*Sg Sg 02 31 11.5 -7.9
2.7nm,0.2s
LASF Ste Croix 4.28 130 Pn Pn 02 30 01.2 -3.1
LASF Sn Sn 02 30 48.7 -6.6
LASF Lg 02 31 11.5
1.4nm,0.2s
BAIF Baives 4.52 44 *e*Pn Pn 02 30 03.6 -4.2
EARI Arriondas 4.83 223 Pn Pn 02 30 08.8 -3.3
0.1nm,0.1s,SNR=7.9
EARI Sn Sn 02 30 58.9 -10
0.2nm,0.1s,SNR=7.9
GIVF Givet 4.85 47 *e*Pn Pn 02 30 08.7 -3.8
HAU Haudompre 4.90 75 *e*Sg Sg 02 31 30.7 -9.3
2.4nm,0.3s
ORIF Oris-en-Rattie 5.00 111 *e*Pn Pn 02 30 10.7 -3.9
ORIF *e*Sg Sg 02 31 34.8 -8.7
0.6nm,0.3s
HINF Hinteralfeld 5.20 77 *e*Sg Sg 02 31 40.4 -10
2.4nm,0.3s
CDF Champ du Feu 5.58 72 *e*Sg Sg 02 31 52.2 -11
1.5nm,0.3s

MOS ***12*** *03:01:34.8±0.9,51.67N×16.15E,h10km,mb4.0/1,Error ellipse: s-maj=11.6km s-min=4.7km az=72.3*
BGR ***12*** *03:01:36.1±0.6,51.53N×16.24E,h1km,ML3.3,Error ellipse: s-maj=4.4km s-min=4.4km az=138.0*
NEIC ***12*** *03:01:36.4±0.4,51.59N×16.19E,h5km,ML3.3(SZGRF), ML3.2(VIE),ML2.7(CLL),Error ellipse: s-maj=4.7km s-min=3.5km az=197.0*
LDG ***12*** *03:01:37.5±0.5,51.68N×16.22E,h1km,Ml3.0/4,Error ellipse: s-maj=12.9km s-min=4.4km az=9.0,Suspected Mining induced.*
IDC ***12*** *03:01:37.6±1.0,51.54N×16.03E,mb1 3.4/4, mb1mx3.3/17,mbtmp3.3/4,ML3.0/4,Error ellipse: s-maj=27.4km s-min=8.0km az=113.0*
IPEC ***12*** *03:01:37.1±0.3,51.56N×16.21E,h9km±1km,ML2.5/3, Error ellipse: s-maj=1.7km s-min=0.7km az=30.0*
PRU ***12*** *03:01:38.0,51.50N×16.10E,Felt In Harrachov*
CSEM ***12*** *03:01:39.0±0.1,51.48N×16.09E,h2km,ML3.5/8,Error ellipse: s-maj=2.1km s-min=1.3km az=22.0*

WAR 12 03:01:38.1,51.52N×16.11E,h1km,ML3.1,7C-4D,Mining Induced,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.69**	**170**	⇓*i*PG		Pg		03 01 50.7	-1.1
KSP				⇓*e*SG		Sg		03 02 00.7	-0.3
KSP	**Ksiaz**	**0.69**	**170**	*e*Pg		Pg		03 01 50.7	-1.1
KSP				*e*Sg		Sg		03 02 00.1	-0.9
KSP	**Ksiaz**	**0.69**	**170**	⇓*i*Pg		Pg		03 01 50.7	-1.1
KSP				*e*Sg		Sg		03 02 00.0	-1.0
KSP				*e*				03 02 06.4	
KSP	**Ksiaz**	**0.69**	**170**	⇓*i*P		Pg		03 01 50.7	-1.1
KSP				*e*				03 02 06.4	
UPC	**Upice**	**1.02**	**184**	*e*Pg		Pg		03 01 56.7	-1.7
UPC				*e*Sg		Sg		03 02 10.4	-1.5
DPC	**Dobruska-Polom**	**1.18**	**173**	*e*PG		Pg		03 01 59.4	-2.2
DPC				*e*SG		Sg		03 02 14.5	-2.9
42nm,0.3s									
PVCC	**Panska Ves**	**1.39**	**225**	*e*Pg		Pg		03 02 03.4	-2.5
PVCC				*e*Sg		Sg		03 02 22.6	-1.8
BRG	**Berggiesshubel**	**1.51**	**245**	*e*Pn		Pn		03 02 05.1	-1.2
BRG				*e*Sg		Sg		03 02 26.6	-1.8
BRG	**Berggiesshubel**	**1.51**	**245**	Pg		Pg		03 02 05.8	-2.4
BRG				*e*Sg		Sg		03 02 26.0	-2.4
BRG	**Berggiesshubel**	**1.51**	**245**	Pn		Pn		03 02 04.9	-1.5
BRG				Pg		Pg		03 02 05.8	-2.5
BRG				Sg		Sg		03 02 26.5	-1.8
BRG	**Berggiesshubel**	**1.51**	**245**	P		Pn		03 02 04.9	-1.5
BRG								03 02 26.5	
RUE	**Ruedersdorf**	**1.73**	**305**	*e*Pn		Pn		03 02 07.3	-2.3
RUE				*e*Sg		Sg		03 02 33.8	-2.0
RUE	**Ruedersdorf**	**1.73**	**305**	*e*Pn		Pn		03 02 07.3	-2.3
RUE				*e*Sg		Sg		03 02 33.8	-2.0
PRU	**Pruhonice**	**1.83**	**214**	*e*PG		Pn		03 02 11.1	+0.2
PRU				*e*SG		Sn		03 02 34.7	-0.4
PRU	**Pruhonice**	**1.83**	**214**	*e*Pn		Pn		03 02 09.1	-1.8
PRU	**Pruhonice**	**1.83**	**214**	Pg		Pn		03 02 11.1	+0.2
PRU				Sg		Sn		03 02 34.7	-0.4
FBE	**Freiberg**	**1.83**	**252**	Sg		Sg		03 02 36.4	-2.8
GKP	**Gorka Klasztor**	**1.88**	**21**	*e*PN		Pn		03 02 17.0	+5.3
GKP				*e*PN		Pg		03 02 20.0	+4.3
GKP				*e*SN		Sn		03 02 40.0	+3.6
GKP	**Gorka Klasztor**	**1.88**	**21**	*e*Pg		Pg		03 02 20.4	+4.7
GKP	**Gorka Klasztor**	**1.88**	**21**	*e*Pn		Pn		03 02 17.1	+5.4
GKP				*e*Pg		Pg		03 02 20.4	+4.7
GKP				*e*Sn		Sn		03 02 40.0	+3.6
RAC	**Raciborz**	**1.95**	**137**	*e*P		Pn		03 02 16.0	+3.3
RAC				*e*S		Sn		03 02 40.0	+1.8
CLL	**Collm**	**1.96**	**265**	*e*Pn		Pn		03 02 10.5	-2.3
CLL				*i*Pg		Pg		03 02 13.6	-3.6
CLL				*e*Sg		Sg		03 02 40.3	-3.0
CLL	**Collm**	**1.96**	**265**	*i*Pn		Pn		03 02 10.4	-2.4
CLL				*i*PG		Pg		03 02 13.6	-3.6
CLL				*i*				03 02 16.9	
CLL				*i*SG		Sg		03 02 40.2	-3.1
CLL	**Collm**	**1.96**	**265**	Pg		Pg		03 02 13.6	-3.6
CLL				Sg		Sg		03 02 40.3	-3.0
CLL	**Collm**	**1.96**	**265**	*i*Pn		Pn		03 02 10.4	-2.4
CLL				*i*Pg		Pg		03 02 13.6	-3.6
CLL				*i*Sg		Sg		03 02 40.2	-3.1
CLL	**Collm**	**1.96**	**265**	*i*P		Pn		03 02 10.4	-2.4
CLL				*i*				03 02 40.2	
MORC	**Moravsky Berou**	**1.97**	**152**	*e*Pn		Pn		03 02 10.9	-2.0
MORC				*e*Sg		Sg		03 02 39.5	-4.2
MORC	**Moravsky Berou**	**1.97**	**152**	*e*Pn		Pn		03 02 10.9	-2.0
MORC				*e*Sg		Sg		03 02 39.5	-4.2
OKC	**Ostrava-Krasne**	**2.12**	**142**	*e*PN		Pn		03 02 13.4	-1.8
OKC				*e*PG		Pg		03 02 17.1	-3.4
OKC				*e*SG		Sg		03 02 44.2	-4.6
OKC	**Ostrava-Krasne**	**2.12**	**142**	Pg		Pg		03 02 17.1	-3.4
OKC				Sg		Sg		03 02 44.2	-4.6
OKC	**Ostrava-Krasne**	**2.12**	**142**	*e*P		Pn		03 02 13.4	-1.8
OKC				*e*				03 02 44.2	
VRAC	**Vranov**	**2.24**	**172**	*e*Pn		Pn		03 02 15.6	-1.2
VRAC				*e*Sg		Sg		03 02 47.7	-4.8
25nm,0.5s									
KRUC	**Moravsky**	**2.47**	**176**	*e*Pn		Pn		03 02 19.4	-0.7
KRUC	**Moravsky**	**2.47**	**176**	*e*Pg		Pg		03 02 23.1	-4.3
KRUC				*e*Sg		Sg		03 02 56.4	-3.9
20nm,0.4s									
TANN	**Tannenbergstha**	**2.56**	**246**	*e*Pn		Pn		03 02 19.6	-1.8
TANN				*e*Sg		Sg		03 02 59.8	-3.5
WERD	**Werda**	**2.63**	**247**	*e*Pn		Pn		03 02 20.5	-2.0
WERD				*e*Sg		Sg		03 03 01.9	-3.9
NKC	**Novy Kostel**	**2.65**	**242**	*e*PN		Pn		03 02 21.3	-1.5
NKC				*e*PG		Pg		03 02 27.7	-3.4
NKC				*e*SG		Sg		03 03 01.9	-4.6
93nm,0.4s									
NKC	**Novy Kostel**	**2.65**	**242**	*e*P		Pn		03 02 21.3	-1.5
NKC				*e*				03 03 01.9	
GUNZ	**Gunzen**	**2.66**	**246**	*e*Pn		Pn		03 02 21.8	-1.0
GUNZ				*e*Sg		Sg		03 03 02.5	-4.0
OJC	**Ojcow**	**2.67**	**118**	*i*PG		Pg		03 02 27.8	-3.7
OJC				*i*SG		Sg		03 03 04.1	-3.0
OJC	**Ojcow**	**2.67**	**118**	*e*Pg		Pg		03 02 27.8	-3.7
OJC				*e*Sg		Sg		03 03 04.1	-3.0
JAVC	**Velka Javorina**	**2.85**	**159**	*e*Pn		Pn		03 02 25.1	-0.4
JAVC				*e*Sg		Sg		03 03 09.1	-3.8
KHC	**Kasperske Hory**	**2.89**	**215**	*e*PN		Pn		03 02 24.1	-2.0
KHC				*e*PG		Pg		03 02 29.7	-6.1
KHC				*e*SG		Sg		03 03 07.7	-6.6
KHC	**Kasperske Hory**	**2.89**	**215**	*e*Pg		Pg		03 02 29.7	-6.1
KHC				*e*Sg		Sg		03 03 07.7	-6.6
KHC	**Kasperske Hory**	**2.89**	**215**	*e*P		Pn		03 02 24.1	-2.0
KHC				*e*				03 03 07.7	
MOX	**Moxa**	**2.97**	**255**	*e*Pn		Pn		03 02 24.8	-2.4
MOX				*e*Pg		Pg		03 02 33.3	-4.0
MOX				*e*Sg		Sg		03 03 13.3	-3.5
MOX	**Moxa**	**2.97**	**255**	*i*P		Pn		03 02 25.3	-1.9
MOX				Pg		Pg		03 02 33.0	-4.3
MOX				Sg		Sg		03 03 14.0	-2.9
MOX	**Moxa**	**2.97**	**255**	*e*P		Pn		03 02 25.3	-1.9
MOX	**Moxa**	**2.97**	**255**	Pg		Pg		03 02 33.3	-4.0
MOX				*e*Sg		Sg		03 03 12.8	-4.1
MOX	**Moxa**	**2.97**	**255**	*e*Pn		Pn		03 02 25.3	-1.9
MOX				*e*Pg		Pg		03 02 33.3	-4.0
MOX				*e*Sg		Sg		03 03 13.7	-3.2
GEC2	**GERESS Array S**	**3.09**	**211**	*e*Pn		Pn		03 02 27.2	-1.8
GEC2				*e*Sg		Sg		03 03 15.7	-5.4
GEC2	**GERESS Array S**	**3.09**	**211**	*e*Pn		Pn		03 02 27.2	-1.8
GEC2				*e*Sg		Sg		03 03 15.7	-5.4
GERES	**GERESS Array B**	**3.09**	**211**	Pn		Pn		03 02 26.8	-2.2
1.4nm,0.3s,baz=31,slow=12,SNR=54									
GERES				Pg		Pg		03 02 33.8	-6.0
3.0nm,0.3s,baz=22,slow=16,SNR=41									
GERES				Lg				03 03 17.3	
3.9nm,0.3s,baz=40,slow=29,SNR=5.9									
GERES	**GERESS Array B**	**3.09**	**211**	Pg		Pg		03 02 33.8	-6.1
SMOL	**Smolenice**	**3.13**	**164**	*e*PN		Pn		03 02 29.6	+0.1
SMOL				*e*PG		Pg		03 02 37.3	-3.2
SMOL				*e*SG		Sg		03 03 16.8	-5.4
SMOL	**Smolenice**	**3.13**	**164**	*e*Pg		Pg		03 02 37.3	-3.2
SMOL				*e*Sg		Sg		03 03 16.8	-5.4
SMOL	**Smolenice**	**3.13**	**164**	*e*P		Pn		03 02 29.6	+0.1
SMOL				*e*				03 03 16.8	
WET	**Wettzell**	**3.15**	**222**	*e*Pn		Pn		03 02 27.9	-1.9
WET	**Wettzell**	**3.15**	**222**	*e*Pn		Pn		03 02 27.9	-2.0
VKA	**Vienna**	**3.26**	**178**	⇑*i*PG		Pg		03 02 38.4	-4.8
VKA				*e*SG		Sg		03 03 23.0	-3.7
ZST	**Bratislava**	**3.39**	**169**	*e*SG		Sg		03 03 24.8	-6.1
NIE	**Niedzica**	**3.41**	**126**	*e*PN		Pg		03 02 41.0	-5.2
NIE				*e*S		Sg		03 03 26.0	-5.6
VYHS	**Vyhne**	**3.50**	**149**	*e*PN		Pn		03 02 32.6	-2.2
VYHS				*e*PG		Pg		03 02 44.1	-3.9
VYHS				*e*				03 03 24.8	
VYHS	**Vyhne**	**3.50**	**149**	*e*P		Pn		03 02 32.6	-2.2
VYHS				*e*				03 03 24.8	
GRA1	**Grafenberg Arr**	**3.61**	**241**	*e*Pn		Pn		03 02 34.4	-2.0
GRA1				*e*Sg		Sg		03 03 33.6	-4.8
GRF	**Grafenberg Arr**	**3.61**	**241**	*e*Pn		Pn		03 02 34.4	-2.0
GRF				*e*Sg		Sg		03 03 33.6	-4.8
MOA	**Molln**	**3.87**	**199**	⇑*i*PN		Pn		03 02 38.0	-2.0
MOA				*i*SG		Sg		03 03 41.6	-5.2
33nm,0.8s									
STHS	**Stebnicka Huta**	**3.90**	**121**	*e*PN		Pn		03 02 40.2	-0.2
STHS				*e*PG		Pg		03 02 51.7	-4.2
STHS				*e*SG		Sg		03 03 46.2	-1.6
KECS	**Kecovo**	**4.15**	**135**	*e*PG		Pg		03 02 56.4	-4.5
KECS				*e*SG		Sg		03 03 52.0	-4.2
ARSA	**Arzberg**	**4.29**	**185**	⇑*i*PN		Pn		03 02 44.6	-1.4
ARSA				*i*SG		Sg		03 03 53.7	-7.3
15nm,0.5s									
CRVS	**Cervenica-Dubn**	**4.32**	**125**	*e*PG		Pg		03 03 00.2	-4.2
CRVS				*e*SG		Sg		03 04 01.6	-0.4
KWP	**Kalwaria**	**4.61**	**112**	*e*PG		Pg		03 03 02.0	-8.1
KWP				*e*S		Sg		03 04 13.0	+1.4
KWP	**Kalwaria**	**4.61**	**112**	*e*Pg		Pg		03 03 02.1	-8.0
KWP				*e*Sg		Sg		03 04 12.9	+1.3
KBA	**Koelnbreinsper**	**4.80**	**203**	⇑*i*PN		Pn		03 02 51.3	-1.9
KBA				*i*SG		Sg		03 04 11.7	-6.2
9.1nm,0.5s									
WTTA	**Wattenberg**	**5.17**	**216**	⇑*i*Pn		Pn		03 02 56.0	-2.4
6.8nm,0.6s									
WTTA				*i*Sg		Sg		03 04 21.9	-8.2
6.8nm,0.6s									
MOTA	**Moosalm**	**5.30**	**220**	⇑*i*Pn		Pn		03 02 58.0	-2.4
6.0nm,0.5s									
MOTA				*i*Sg		Sg		03 04 27.4	-7.3
6.0nm,0.5s									
SQTA	**Sankt Quirin**	**5.36**	**219**	⇑*i*Pn		Pn		03 02 58.4	-2.8
5.5nm,0.4s									
SQTA				*i*Sg		Sg		03 04 29.8	-6.9
5.5nm,0.4s									
CDF	**Champ du Feu**	**6.49**	**245**	*e*Pn		Pn		03 03 13.2	-3.9
CDF				*e*Pg		Pg		03 03 40.4	-7.3
CDF				*e*Sg		Sg		03 05 05.6	-8.6
2.5nm,0.3s									
HINF	**Hinteralfeld**	**7.06**	**242**	*e*Pn		Pn		03 03 20.9	-4.2
HINF				*e*Sg		Sg		03 05 23.3	-10
2.3nm,0.4s									
HAU	**Haudompre**	**7.24**	**245**	*e*Pn		Pn		03 03 23.3	-4.3
HAU				*e*Pg		Pg		03 03 53.1	-9.4
HAU				*e*Sg		Sg		03 05 29.0	-10
1.7nm,0.3s									
LPL	**La Plagne**	**8.65**	**230**	*e*Pn		P		03 03 43.1	-4.2
LPL				*e*Pg		P		03 04 20.7	+33
LPG	**La Plagne**	**8.65**	**230**	*e*Pn		P		03 03 44.2	-3.1
LPG				*e*Pg		P		03 04 21.0	+34
MBDF	**Montbardon**	**9.22**	**226**	*e*Pn		P		03 03 51.8	-3.5
NOA	**NORSAR Array B**	**9.92**	**346**	Pn		P		03 03 58.3	-6.4
0.1nm,0.3s,baz=157,slow=13,SNR=2.5									
FINES	**FINESS Array B**	**11.35**	**25**	Pn		P		03 04 17.4	-6.9
0.2nm,0.3s,baz=218,slow=11,SNR=6.2									
FINES				Sn		S		03 06 17.3	-16
0.2nm,0.3s,baz=216,slow=19,SNR=4.6									
ARCES	**ARCESS Array B**	**18.61**	**10**	Pn		P		03 05 51.0	-7.5
0.1nm,0.3s,baz=188,slow=13,SNR=5.2									

GUC ***12*** *03:15:26.0±0.9,31.69S×69.61W,h130km±10km,MD3.7, ML3.8*
NEIC ***12*** *03:15:26.0±0.6,31.67S×69.44W,h116km±18km,mb3.9/2, Error ellipse: s-maj=13.0km s-min=6.7km az=79.0*

ISC 12 03:15:25.5±0.6,31.69S±0.03×69.54W±0.08,h129km±9km, n25,σ0°85/44,10C-5D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MDZ	**Mendoza**	**1.33**	**154**	*i*P		**P**		**03 15 51.4**	**-0.6**
MDZ				*i*S		**S**		**03 16 11.4**	**-0.9**
JACH	**Jahuel**	**1.34**	**222**	⇑*i*P		**P**		**03 15 52.4**	**+0.2**
JACH				*i*S		**S**		**03 16 12.5**	**0.0**
CMCH	**Combarbala**	**1.35**	**292**	⇓*i*P		**P**		**03 15 52.4**	**+0.1**
CMCH				*i*S		**S**		**03 16 12.4**	**-0.3**
CMCH				AMP				03 16 14.7	
comp=N,6μm,0.6s									
ILCH	**Illapel**	**1.40**	**272**	*e*P		**P**		**03 15 53.0**	**+0.2**
ILCH				*i*S		**S**		**03 16 12.7**	**-0.8**
ILCH				AMP				03 16 14.0	
comp=E,2μm,0.2s									
CHNG	**Los Chungos**	**1.69**	**263**	⇓*i*P		**P**		**03 15 56.2**	**+0.1**
CHNG				*i*S		**S**		**03 16 18.6**	**-0.7**
CHNG				AMP				03 16 27.0	
comp=E,381nm,0.6s									
PEL	**Peldehue**	**1.75**	**213**	*e*P		**P**		**03 15 57.1**	**+0.3**
PEL				*i*S		**S**		**03 16 20.2**	**-0.5**
PEL				*i*S		**S**		**03 16 20.2**	**-0.5**
FCH	**Farellones**	**1.76**	**201**	⇑*i*P		**P**		**03 15 57.9**	**+1.0**
FCH				*i*S		**S**		**03 16 22.2**	**+1.4**
FCH				AMP				03 16 23.4	
comp=N,632nm,0.3s									
ROCH	**El Roble**	**1.79**	**224**	⇓*i*P		**P**		**03 15 57.4**	**+0.1**
ROCH				*i*S		**S**		**03 16 21.1**	**-0.3**
TLL	**Tololo Astrono**	**1.86**	**324**	*e*P		**P**		**03 15 59.0**	**+0.8**
TLL				*i*S		**S**		**03 16 24.2**	**+1.2**
TLL				AMP				03 16 26.9	
comp=N,611nm,0.7s									
CLCH	**Cerro Calan**	**1.90**	**206**	⇑*i*P		**P**		**03 15 59.2**	**+0.5**
CLCH				*i*S		**S**		**03 16 24.5**	**+0.6**
CLCH				AMP				03 16 25.8	
comp=E,1μm,0.3s									
DSCH	**Colegio Aleman**	**1.92**	**207**	⇑*i*P		**P**		**03 15 59.5**	**+0.7**
DSCH				*i*S		**S**		**03 16 24.6**	**+0.4**
DSCH				AMP				03 16 26.2	
comp=E,955nm,0.5s									
FSR	**Penalolen**	**1.98**	**205**	⇑*i*P		**P**		**03 16 00.3**	**+0.8**
FSR				*i*S		**S**		**03 16 26.4**	**+1.0**
FSR				AMP				03 16 27.0	
comp=E,653nm,0.3s									
ANTU	**Antumapu**	**2.10**	**206**	⇑*i*P		**P**		**03 16 01.4**	**+0.3**
ANTU				*i*S		**S**		**03 16 27.8**	**-0.2**
ANTU				AMP				03 16 29.9	
comp=N,623nm,0.2s									
RCDM	**Rinconada Maip**	**2.10**	**210**	⇓*i*P		**P**		**03 16 01.1**	**0.0**
RCDM				*i*S		**S**		**03 16 28.1**	**+0.1**
RCDM				AMP				03 16 28.8	
comp=E,689nm,0.2s									
PCH	**Pirque**	**2.10**	**203**	⇑*i*P		**P**		**03 16 01.8**	**+0.7**
PCH				*i*S		**S**		**03 16 28.4**	**+0.2**
LMEL	**Las Melosas**	**2.23**	**194**	⇑*i*P		**P**		**03 16 03.2**	**+0.4**
LMEL				AMP				03 16 40.0	
comp=N,352nm,0.1s									
TACH	**Talagante**	**2.29**	**211**	⇓*i*P		**P**		**03 16 03.2**	**-0.4**
TACH				*i*S		**S**		**03 16 31.7**	**-0.8**
CHCH	**Chadas Angostu**	**2.43**	**202**	⇑*i*P		**P**		**03 16 05.5**	**0.0**
CHCH				*i*S		**S**		**03 16 35.6**	**-0.1**
LCCH	**Las Cruces**	**2.48**	**223**	⇑*i*P		**P**		**03 16 05.8**	**-0.2**
CICH	**Cipreses**	**2.73**	**196**	*i*P		**P**		**03 16 10.0**	**+0.6**
LNV	**Longovilo**	**2.76**	**214**	*e*P		**P**		**03 16 08.1**	**-1.7**
LNV				*e*S		**S**		**03 16 41.2**	**-2.2**
VACH	**Vallenar**	**3.27**	**341**	*i*S		**S**		**03 16 54.5**	**-1.0**
VACH				AMP				03 16 59.1	
comp=E,567nm,0.1s									
TRQA	**Tornquist**	**8.88**	**138**	*e*P		**P**		**03 17 30.4**	**-1.6**
comp=E,5.0nm,0.6s									
LVC	**Limon Verde**	**9.05**	**4**	*e*Pn		**P**		**03 17 31.9**	**-2.3**
comp=E,3.1nm,0.3s									
LPAZ	**La Paz**	**15.38**	**5**	*e*P		**P**		**03 18 58.9**	**+2.1**
comp=E,1.5nm,0.8s									

BJI ***12*** *05:00:45.0,52.70N×174.30W,h176km,mB4.3,mb4.4*
MOS ***12*** *05:00:45.3±0.9,52.68N×174.10W,h190km,mb4.2/24, Error ellipse: s-maj=14.6km s-min=8.5km az=63.0*
NEIC ***12*** *05:00:45.1±0.2,52.73N×174.25W,h176km±2km,mb4.2/32, Error ellipse: s-maj=7.1km s-min=3.3km az=169.0*
IDC ***12*** *05:00:48.5±1.0,52.90N×174.18W,h202km±7km,mb3.6/12, mb1 3.9/14,mb1mx3.7/20,mbtmp4.2/14,Error ellipse: s-maj=18.2km s-min=11.0km az=1.0*

ISC 12 05:00:44.0±0.2,52.66N±0.06×174.23W±0.04, h181km±2km,h195km±7.9km:pP-P,n155,σ0°93/165, mb4.1/46,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.46**	**177**	P		**P**		**05 01 08.8**	**-0.4**
ATKA				S		**S**		**05 01 26.7**	**-1.7**
GSIG	**Igitkin Island**	**1.24**	**238**	P		**P**		**05 01 14.3**	**+0.3**
GSTR	**Great Sitkin T**	**1.26**	**244**	P		**P**		**05 01 14.9**	**+0.7**
GSMY	**Great Sitkin M**	**1.28**	**242**	P		**P**		**05 01 14.7**	**+0.3**
GSMY				S		**S**		**05 01 37.7**	**-0.1**
GSSP	**Great Sitkin S**	**1.32**	**245**	P		**P**		**05 01 15.3**	**+0.6**
GSSP				S		**S**		**05 01 38.4**	**-0.1**
GSTD	**Great Sitkin T**	**1.32**	**243**	P		**P**		**05 01 15.2**	**+0.4**
GSTD				S		**S**		**05 01 37.7**	**-0.9**
GSCK	**Great Sitkin C**	**1.35**	**242**	P		**P**		**05 01 15.6**	**+0.5**
ADAG	**Mount Adagdak**	**1.61**	**246**	P		**P**		**05 01 17.8**	**+0.3**
ADAG				S		**S**		**05 01 42.3**	**-1.0**
KIRH	**Kanaga Island**	**1.92**	**248**	P		**P**		**05 01 22.0**	**+1.4**
KINC	**Kanaga Island**	**1.92**	**249**	P		**P**		**05 01 21.3**	**+0.6**
KINC				S		**S**		**05 01 49.1**	**+0.2**
KIKV	**Kanaga Island**	**1.97**	**248**	P		**P**		**05 01 21.9**	**+0.8**
KIKV				S		**S**		**05 01 50.2**	**+0.4**
KIWB	**Kanaga Island**	**1.97**	**247**	P		**P**		**05 01 22.4**	**+1.3**
KIMD	**Kanaga Island**	**2.06**	**245**	P		**P**		**05 01 22.7**	**+0.6**
KIMD				S		**S**		**05 01 50.0**	**-1.5**
NIKO	**Nikolski**	**3.28**	**82**	P		**P**		**05 01 35.8**	**-0.9**
MSW	**Makushin Switc**	**4.64**	**71**	P		**P**		**05 01 54.7**	**+0.6**
MNAT	**Makushin Natee**	**4.69**	**72**	P		**P**		**05 01 55.1**	**+0.3**
MNAT				S		**S**		**05 02 49.0**	**-0.6**
MTBL	**Makushin Table**	**4.71**	**71**	P		**P**		**05 01 55.8**	**+0.7**
UNV	**Unalaska Valle**	**4.79**	**73**	P		**P**		**05 01 56.2**	**+0.1**
UNV				S		**S**		**05 02 50.2**	**-1.6**
SPIA	**Saint Paul Isl**	**5.08**	**25**	P		**P**		**05 02 02.8**	**+3.1**
LVA	**Lava Point**	**5.13**	**70**	P		**P**		**05 02 01.4**	**+0.9**
AHB	**Akutan Harbor**	**5.24**	**71**	P		**P**		**05 02 02.5**	**+0.5**
FX1	**Attu Island--F**	**7.65**	**277**	P		**P**		**05 02 35.7**	**+2.1**
1.1nm,0.3s,baz=66,slow=20,SNR=12									
FX1				S		**S**		**05 03 57.7**	**-1.4**
2.9nm,0.3s,baz=341,slow=18,SNR=11									
FX1	**Attu Island--F**	**7.65**	**277**	P		**P**		**05 02 31.3**	**-2.3**
FX1	**Attu Island--F**	**7.65**	**277**	P		**P**		**05 02 35.7**	**+2.1**
FX1				S		**S**		**05 03 57.7**	**-1.4**
FX1				pmax	pmax				
comp=Z,1.0nm,0.

CMB	Columbia Colle	39.61	90	eP		P	05 07 59.5 +0.4
	comp=Z,9.7nm,1.2s,mb4.3						
CMB	Columbia Colle	39.61	90	eP		P	05 07 59.5 +0.4
CMB					pmax	pmax	
	comp=Z,10.0nm,1.2s,mb4.3						
HLID	Hailey	39.89	78	eP		P	05 08 01.1 -0.3
	comp=Z,2.3nm,0.8s,mb3.9						
CN2	Changchun	40.06	282	eP		P	05 08 02.4 -0.3
MCMT	McKenzie Canyo	40.11	76	eP		P	05 08 02.8 -0.3
BOZ	Bozeman (W)	40.37	74	eP		P	05 08 05.1 -0.2
	comp=Z,1.8nm,0.6s,mb3.9						
BOZ	Bozeman (W)	40.37	74	eP		P	05 08 05.1 -0.2
BOZ					pmax	pmax	
	comp=Z,2.0nm,0.6s,mb3.9						
NVAR	Mina Array Bea	40.63	88	P		P	05 08 08.6 +1.1
	comp=Z,5.6nm,0.7s,mb4.3,baz=294,slow=6.9,SNR=66						
NVAR				PcP		PcP	05 10 06.2 -0.1
	comp=Z,0.9nm,0.7s,baz=285,slow=2.7,SNR=7.4						
OMM	Old Mammoth Mi	40.73	89	eP		P	05 08 09.0 +0.7
ELK	Elko	41.06	83	eP		P	05 08 11.2 +0.2
	comp=Z,5.1nm,0.8s,mb4.2						
ELK				ePcP		PcP	05 10 07.2 -0.5
ELK	Elko	41.06	83	eP		P	05 08 11.2 +0.2
ELK				e			05 10 07.2
ELK					pmax	pmax	
	comp=Z,5.0nm,0.8s						
MTUM	Tungsten Hills	41.16	89	eP		P	05 08 12.6 +0.7
PTRM	Twissleman Ran	41.27	92	eP		P	05 08 13.0 +0.3
DUG	Dugway	42.86	81	eP		P	05 08 25.6 +0.1
	comp=Z,10nm,1.1s,mb4.4						
DUG	Dugway	42.86	81	eP		P	05 08 25.6 +0.1
DUG					pmax	pmax	
	comp=Z,10.0nm,1.1s,mb4.4						
BW06	Boulder Array	43.24	76	eP		P	05 08 28.2 -0.4
	comp=Z,6.3nm,0.8s,mb4.3						
PDAR	Pinedale Array	43.24	76	P		P	05 08 28.7 +0.1
	comp=Z,6.9nm,0.6s,mb4.5,baz=311,slow=4.1,SNR=88						
PDAR				PcP		PcP	05 10 14.2 -0.7
	comp=Z,0.4nm,0.5s,baz=270,slow=1.8,SNR=3.5						
DAU	Daniels Canyon	43.66	80	eP		P	05 08 32.2 +0.2
MSU	Marysvale	44.30	83	eP		P	05 08 37.7 +0.6
TMUT	Trail Mountain	44.38	81	eP		P	05 08 38.0 +0.3
NEN	Nelson	44.54	88	eP		P	05 08 39.2 +0.2
LDFC	Landfair	44.76	89	eP		P	05 08 40.7 -0.1
RSSD	Black Hills	45.67	71	eP		P	05 08 46.7 -1.1
	comp=Z,2.2nm,0.6s,mb4.0						
RSSD	Black Hills	45.67	71	eP		P	05 08 46.7 -1.2
RSSD					pmax	pmax	
	comp=Z,2.0nm,0.6s,mb3.9						
SONM	Songino Array	48.57	298	pP		pP	05 09 55.5 +4.8
	comp=Z,0.7nm,0.7s,baz=45,slow=9.0,SNR=5.1						
SDCO	Great Sand Dun	48.81	79	eP		P	05 09 12.2 -0.1
	comp=Z,3.3nm,0.9s,mb4.0						
TUC	Tucson	49.27	88	eP		P	05 09 16.0 +0.1
	comp=Z,7.4nm,0.9s,mb4.3						
TUC	Tucson	49.27	88	eP		P	05 09 16.0 0.0
TUC					pmax	pmax	
	comp=Z,7.0nm,0.9s,mb4.3						
ANMO	Albuquerque	50.09	82	eP		P	05 09 21.8 -0.3
	comp=Z,3.5nm,1.4s,mb3.8						
ANMO	Albuquerque	50.09	82	eP		P	05 09 21.8 -0.3
ANMO					pmax	pmax	
	comp=Z,3.0nm,1.4s						
LPM	Los Pinos Moun	50.42	83	eP		P	05 09 24.4 -0.3
NJ2	Nanjing	51.56	274	eP		P	05 09 33.5 +0.2
NJ2					AMB	AMB	
	comp=Z,10.0nm,1.0s,mb4.4						
CPRX	Cap Rock	52.97	82	eP		P	05 09 43.0 -0.7
MNTX	Cornudas Mount	52.98	85	eP		P	05 09 43.4 -0.4
	comp=Z,7.9nm,0.9s,mb4.4						
GDL2	Guadalupe Moun	53.25	83	eP		P	05 09 44.9 -0.8
LTX	Lajitas	55.70	85	eP		P	05 10 02.4 -1.2
	comp=Z,7.8nm,0.9s,mb4.5						
LTX	Lajitas	55.70	85	eP		P	05 10 02.4 -1.1
LTX					pmax	pmax	
	comp=Z,8.0nm,0.9s,mb4.5						
JCT	Junction City	57.22	82	eP		P	05 10 13.0 -1.3
	comp=Z,3.4nm,0.4s,mb4.5						
JCT	Junction City	57.22	82	eP		P	05 10 13.0 -1.3
JCT					pmax	pmax	
	comp=Z,3.0nm,0.4s,mb4.5						
ARCES	ARCESS Array B	57.26	352	P		P	05 10 13.3 -0.7
	comp=Z,1.8nm,0.8s,mb4.0,baz=12,slow=8.3,SNR=6.3						
ARCES				PcP		PcP	05 11 04.8 -1.3
	comp=Z,3.8nm,1.1s,baz=14,slow=5.0,SNR=3.8						
ARCES	ARCESS Array B	57.26	352	P		P	05 10 13.3 -0.7
ARCES							05 11 04.8
ARCES					pmax	pmax	
	comp=Z,2.0nm,0.8s						
ARCES					pmax	pmax	
	comp=Z,4.0nm,1.1s						
LZH	Lanzhou	57.70	288	eP		P	05 10 15.8 -1.7
LZH				PP		PP	05 12 25.5 -3.6
LZH				AMB		AMB	
	comp=Z,13nm,1.2s,mb4.6						
LZH				AMB		AMB	
	comp=Z,43nm,4.0s						
KURK	Kurchatov	60.13	316	eP		P	05 10 32.7 -1.4
OXF	Oxford	60.48	71	eP		P	05 10 34.7 -2.0
	comp=Z,34nm,0.9s,mb5.2						
OXF	Oxford	60.48	71	eP		P	05 10 34.7 -2.0
OXF					pmax	pmax	
	comp=Z,35nm,0.9s,mb5.2						
WMQ	Urumqi	60.97	305	eP		P	05 10 40.0 +0.2
WMQ				AP		pP	05 11 21.0 -1.0
WMQ				PP		PP	05 12 58.0 -0.3
WMQ				S		S	05 18 42.0 +0.1
WMQ				SS		SS	05 22 45.0 -0.9
WMQ				AMB		AMB	
	comp=Z,11nm,1.0s,mb4.6						
WMQ				AMB		AMB	
	comp=Z,10.0nm,7.0s						
WMQ				LR		LR	
	comp=N,42nm,18.0s						
WMQ				LR		LR	
	comp=E,57nm,18.0s						
WMQ				LR		LR	
	comp=Z,25nm,16.0s						
MKAR	Makanchi Array	61.40	310	P		P	05 10 41.3 -1.4
	comp=Z,0.3nm,0.4s,mb3.5,baz=45,slow=8.6,SNR=3.7						
MKAR				pP		pP	05 11 27.9 +3.0
	comp=Z,0.9nm,0.7s,baz=59,slow=7.1,SNR=4.7						
MKAR	Makanchi Array	61.40	310	P		P	05 10 41.3 -1.4
MKAR				*PP		pP	05 11 27.9 +3.0
MKAR				pmax		pmax	
	comp=Z,1.0nm,0.7s						
BVAR	Borovoye Array	61.68	322	P		P	05 10 44.3 -0.2
	comp=Z,2.1nm,0.4s,mb4.3,baz=57,slow=6.7,SNR=8.6						
BVAR				pP		pP	05 11 31.0 +4.2
	comp=Z,2.1nm,0.5s,baz=56,slow=5.3,SNR=6.7						
FWV	Forest Hill	63.08	63	eP		P	05 10 52.6 -1.3
ELN	Prospectdale	63.37	63	eP		P	05 10 53.9 -2.0
BLA	Blacksburg	63.56	63	eP		P	05 10 55.2 -1.9
	comp=Z,8.6nm,1.1s,mb4.5						
BLA	Blacksburg	63.56	63	eP		P	05 10 55.2 -1.8
BLA					pmax	pmax	
	comp=Z,9.0nm,1.1s,mb4.5						
FINES	FINESS Array B	65.10	349	P		P	05 11 05.5 -1.0
	comp=Z,1.1nm,0.7s,mb3.8,baz=18,slow=8.8,SNR=3.0						
FINES	FINESS Array B	65.10	349	P		P	05 11 05.5 -1.1
FINES					pmax	pmax	
	comp=Z,1.0nm,0.7s						
GERES	GERESS Array B	78.65	355	P		P	05 12 26.3 -0.3
	comp=Z,0.7nm,0.6s,mb3.5,baz=14,slow=5.5,SNR=6.9						
GERES	GERESS Array B	78.65	355	P		P	05 12 26.3 -0.3
GERES					pmax	pmax	
	comp=Z,1.0nm,0.6s						
LDF	La Druitiere	79.00	4	eP		P	05 12 28.3 -0.2
	comp=Z,5.8nm,0.7s,mb4.0						
ROSF	Rostrenen	79.08	6	eP		P	05 12 28.4 -0.6
GRR	Gorron	79.17	4	eP		P	05 12 29.5 0.0
SGMF	Saint Gilles	79.21	6	eP		P	05 12 29.5 -0.2
CDF	Champ du Feu	79.30	359	eP		P	05 12 30.5 +0.4
	comp=Z,2.0nm,0.4s,mb3.8						
HAU	Haudompre	79.71	360	eP		P	05 12 32.7 +0.3
	comp=Z,3.8nm,0.6s,mb3.9						
HAU	Haudompre	79.71	360	eP		P	05 12 32.7 +0.3
HAU					pmax	pmax	
	comp=Z,2.0nm,0.6s,mb3.9						
HINF	Hinteralfeld	79.90	359	eP		P	05 12 33.5 +0.1
	comp=Z,5.8nm,0.5s,mb4.2						
HINF	Hinteralfeld	79.90	359	eP		P	05 12 33.5 +0.1
HINF					pmax	pmax	
	comp=Z,3.0nm,0.5s,mb4.2						
LOR	Lormes	80.44	1	eP		P	05 12 36.6 +0.3
	comp=Z,3.2nm,0.5s,mb3.9						
LOR	Lormes	80.44	1	eP		P	05 12 36.6 +0.3
LOR					pmax	pmax	
	comp=Z,2.0nm,0.5s,mb4.0						
SSF	Saint Saulge	80.64	2	eP		P	05 12 37.7 +0.4
	comp=Z,3.0nm,0.7s,mb4.0						
SSF	Saint Saulge	80.64	2	eP		P	05 12 37.7 +0.4
SSF					pmax	pmax	
	comp=Z,3.0nm,0.7s,mb4.0						
AVF	Avril sur Loir	80.91	2	eP		P	05 12 38.9 +0.1
	comp=Z,4.7nm,0.7s,mb3.9						
AVF	Avril sur Loir	80.91	2	eP		P	05 12 38.9 +0.1
AVF					pmax	pmax	
	comp=Z,2.0nm,0.7s,mb3.9						
MFF	Saint Martin d	80.99	4	eP		P	05 12 39.5 +0.3
SMF	Signal de Mont	81.06	1	eP		P	05 12 39.8 +0.2
	comp=Z,3.5nm,0.5s,mb3.9						
SMF	Signal de Mont	81.06	1	eP		P	05 12 39.8 +0.2
SMF					pmax	pmax	
	comp=Z,2.0nm,0.5s,mb4.0						
CABF	La Chapelle	81.11	360	eP		P	05 12 40.6 +0.8
	comp=Z,14nm,0.9s,mb4.3						
CABF	La Chapelle	81.11	360	eP		P	05 12 40.6 +0.8
CABF					pmax	pmax	
	comp=Z,7.0nm,0.9s,mb4.3						
LPL	La Plagne	82.20	359	eP		P	05 12 47.1 +1.7
	comp=Z,2.4nm,0.6s,mb3.7						
LPL	La Plagne	82.20	359	eP		P	05 12 47.1 +1.7
LPL					pmax	pmax	
	comp=Z,1.0nm,0.6s,mb3.6						
LPG	La Plagne	82.22	359	eP		P	05 12 47.1 +1.6
VIVF	Saint-Julien-l	82.86	1	eP		P	05 12 49.6 +0.7
MBDF	Montbardon	82.99	359	eP		P	05 12 50.9 +1.4
MTLF	Montolieu	84.33	3	eP		P	05 12 57.0 +0.8
SJPF	Ste Jean	84.41	5	eP		P	05 12 57.3 +0.7
ETSF	Etsaut	84.66	5	eP		P	05 12 58.4 +0.5
BRTR	Keskin Array B	84.86	339	P		P	05 13 00.1 +1.2
	comp=Z,0.6nm,0.5s,mb3.6,baz=14,slow=5.1,SNR=3.9						
BRTR	Keskin Array B	84.86	339	P		P	05 13 00.1 +1.2
BRTR					pmax	pmax	
	comp=Z,1.0nm,0.5s						
QSPA	South Pole Qui	142.42	180	ePKP		PKPdf	05 19 50.2 -2.9
BOSA	Boshof	151.97	321	PKPbc		PKPdf	05 20 17.7 +7.5
	comp=Z,1.0nm,0.4s,baz=76,slow=1.2,SNR=3.5						
BOSA	Boshof	151.97	321	PKIKP		PKPdf	05 20 17.7 +7.5
BOSA					pmax	pmax	
	comp=Z,1.0nm,0.4s						

IDC 12 05:47:03.7±1.1,9.18N×70.36W,mb3.9/4,mb1 4.1/6, mb1mx3.8/19,mbtmp4.0/6,Error ellipse: s-maj=35.9km s-min=8.1km az=130.0
NEIC 12 05:47:03.5±2.4,9.18N×70.33W,h1km±17km,mb3.9/1, Error ellipse: s-maj=22.4km s-min=11.5km az=106.0
FUNV 12 05:47:04.9,9.12N×70.37W,h0km,MW2.9
ISC 12 05:47:04.7±0.8,9.07N±0.03×70.33W±0.03,h13km±6km, n23,σ1°11/38,mb3.8/4,2D,Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	Santo Domingo	0.35	238	Pg	Pg	05 47 11.8	-0.3
	276nm,0.3s,baz=81,slow=12,SNR=4364						
SDV				Lg		05 47 16.7	
	baz=337,slow=18						
SDV	Santo Domingo	0.35	238	ePg	Pg	05 47 12.0	0.0
SDV				eSg	Sg	05 47 16.2	-0.8
SDV				Lg		05 47 16.8	
SANV	Sanarito	0.89	62	⇓iP	Pb	05 47 21.9	+0.4
SOCV	Socops	0.94	214	eP	Pb	05 47 23.5	+1.1
SOCV				eS	Sb	05 47 36.7	+2.2
VIGV	El Vigia	1.05	257	⇓iP	Pb	05 47 24.5	+0.3
VIGV				eS	Sb	05 47 38.0	+0.3
QARV	Quebrada Arrib	1.14	350	eP	Pb	05 47 25.6	-0.3
QARV				eS	Sb	05 47 40.5	+0.1
TEPV	Terepaima	1.43	52	eP	Pn	05 47 31.2	+0.6
TEPV				eS	Sb	05 47 51.5	+2.7
SIQV	Siquisique	1.65	18	eP	Pn	05 47 35.0	+1.4
SIQV				eS	Sn	05 47 56.2	+1.3
DABV	Dabajuro	1.86	351	eP	Pn	05 47 37.2	+0.5
DABV				eS	Sn	05 48 01.2	+0.9
BAUV	El Baul	2.27	93	eP	Pn	05 47 43.0	+0.5
BAUV				eS	Sn	05 48 11.3	+0.8
VIRV	Villa del Rosa	2.49	305	eP	Pn	05 47 44.5	-1.2
VIRV				eS	Sn	05 48 15.4	-0.8
TURV	Turiamo	2.81	61	eP	Pn	05 47 51.4	+1.1
TURV				eS	Sn	05 48 23.8	-0.6
MONV	Montecano	2.88	7	eP	Pn	05 47 50.8	-0.6
MONV				eS	Sn	05 48 24.5	-1.7
BIRV	Birongo	4.24	70	eP	Pn	05 48 10.7	+0.2
BIRV				eS	Sn	05 48 57.8	-2.7
CAOV	Caicara del Or	4.33	113	eP	Pn	05 48 11.5	-0.4
CAOV				eS	Sn	05 49 00.7	-2.2
ROSC	El Rosal	5.77	224	Pn	Pn	05 48 30.4	-1.8
	3.2nm,0.3s,baz=103,slow=20,SNR=22						
ROSC				Sn	Sn	05 49 39.9	+0.8
	1.1nm,0.3s,baz=270,slow=20,SNR=2.0						
SJG	San Juan	9.86	24	Pn	P	05 49 24.2	-5.2
	3.5nm,0.3s,baz=215,slow=17,SNR=8.6						
SJG				Sn	Sn	05 51 05.4	-16
	0.6nm,0.3s,baz=351,slow=18,SNR=3.0						
SAML	Samuel	19.27	158	eP	P	05 51 30.6	-1.3
LPAZ	La Paz	25.29	175	P	P	05 52 33.9	+1.2
	1.5nm,0.6s,mb3.7,baz=0,2,slow=12,SNR=7.8						
LPAZ	La Paz	25.29	175	eP	P	05 52 33.7	+1.0
	1.7nm,0.7s,mb3.7						
PDAR	Pinedale Array	47.98	321	P	P	05 55 44.1	-1.2
	0.3nm,0.5s,mb3.6,baz=122,slow=10,SNR=4.4						
GERES	GERESS Array B	79.31	42	P	P	05 59 10.9	-0.9
	0.6nm,0.5s,mb3.8,baz=270,slow=4.0,SNR=5.5						
FINES	FINESS Array B	85.16	29	P	P	05 59 41.7	0.0
	1.3nm,0.8s,mb4.1,baz=270,slow=4.2,SNR=3.4						

ECX 12 06:35:55.8±0.6,32.60N×118.12W,h8km,MD3.6,ML3.7
NEIC 12 06:35:55.5,32.59N×118.11W,h18km,ML3.6(PAS), 3C-3D,After PAS.,Off coast of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAR	Barrett	1.22	85	eP	Pb	06 36 16.0	-1.8
CBX	Cerro Bola	1.25	102	eP	Pn	06 36 17.7	-0.6
CBX				eS	Sb	06 36 35.0	+0.9
ENX	Ensenada	1.41	119	⇓eP	Pn	06 36 20.4	-0.2
ENX				eS	Sb	06 36 40.0	+1.3
ENX				⇑e		06 36 41.7	
	comp=N,1μm,0.3s						
ENX				⇑e		06 36 41.9	
	comp=E,1μm,0.3s						
PBX	Punta Banda	1.45	125	eP	Pn	06 36 20.4	-0.7
PBX				eS	Sb	06 36 41.5	+1.8
ECNX	Esteban Cantu	1.58	125	eP	Pn	06 36 22.7	-0.3
ECNX				eS	Sn	06 36 44.7	+1.5
MWC	Mount Wilson	1.63	2	eP	Pn	06 36 21.9	-1.8
PFO	Pinyon Flat Ob	1.72	53	eP	Pn	06 36 24.1	-1.0
RDX	Rancho Dowling	1.94	109	⇑eP	Pn	06 36 28.6	+0.4
RDX				eS	Sn	06 36 55.0	+2.7
RDX				⇓e		06 36 58.2	
	comp=E,507nm,0.3s						
RDX				⇓e		06 36 58.2	
	comp=N,634nm,0.3s						
SPX	San Pedro Mart	2.73	124	eP	Pn	06 36 39.4	0.0
GLA	Glamis	2.80	80	ePn	Pn	06 36 39.1	-1.4
GSC	Goldstone	2.92	21	ePn	Pn	06 36 41.6	-0.5
ISA	Isabella	3.08	354	ePn	Pn	06 36 42.9	-1.5
PTRM	Twissleman Ran	3.52	331	Pn	Pn	06 36 51.2	+0.6
LDFC	Landfair	3.52	44	ePn	Pn	06 36 50.2	-0.5
DAC	Darwin (Calif)	3.71	6	ePn	Pn	06 36 51.1	-2.2
NEN	Nelson	4.08	41	ePn	Pn	06 36 57.0	-1.7
MTUM	Tungsten Hills	4.77	356	Pn	Pn	06 37 07.5	-0.9
OMM	Old Mammoth Mi	5.07	352	ePn	Pn	06 37 10.9	-1.7
TPH	Tonopah	5.52	7	Pn	Pn	06 37 20.9	+1.9
ARUT	Antelope Range	6.44	35	Pn	Pn	06 37 31.1	-1.0
MSU	Marysvale	7.63	38	Pn	Pn	06 37 47.8	-1.0

IGQ 12 06:39:21.0,2.30S×77.38W,h12km±6km,mb4.1,3C-2D, Error ellipse: s-maj=8.4km s-min=4.6km az=98.3, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULBA	Ulba	1.33	309	⇑P	Pb	06 39 46.2	+0.8
ARRY	Arrayan	1.33	306	⇓P	Pb	06 39 45.5	+0.1
CUSU	Cusua	1.39	308	P	Pn	06 39 47.1	+0.8
PISA	Pisayambo	1.59	321	P	Pn	06 39 51.0	+1.8
TAMB	Tambo	1.87	328	⇑P	Pn	06 39 55.5	+2.2
VC1	Cotopaxi 1	1.94	328	P	Pn	06 39 57.2	+3.1
CAMI	Rancho Maria	1.96	325	P	Pn	06 39 57.2	+2.7
CAMI				S	Sn	06 40 23.2	+4.0
NAS1	Nasa	1.98	327	P	Pn	06 39 57.6	+2.8
ANTI	Antisana	2.00	337	⇓P	Pn	06 39 57.0	+2.1
QIL1	Quilotoa	2.12	313	P	Pn	06 40 01.3	+4.6
ECOPE	Copete-Rev Vol	2.19	354	⇑P	Pn	06 39 59.9	+2.1
ECOPE				S	Sn	06 40 28.3	+3.3
CONE	Cono NE Rev Vo	2.23	353	P	Pn	06 40 00.6	+2.3
CAYR	Refugio Cayamb	2.38	345	P	Pn	06 40 05.1	+4.5
CAYA	Cayambe	2.43	346	P	Pn	06 40 02.7	+1.5
PINO	Pino	2.45	330	P	Pn	06 40 04.5	+2.9
PINO				S	Sn	06 40 34.0	+2.2
JOR1	San Jorge 1	2.61	331	P	Pn	06 40 04.9	+1.2

ATH 12 06:42:32.3,38.93N×27.00E,h4km,MD3.1/3
ISK 12 06:42:33.3,38.78N×26.80E,h28km,MD2.9
CSEM 12 06:42:33.4±0.2,38.88N×26.95E,h15km,MD2.9,Error ellipse: s-maj=5.9km s-min=3.2km az=88.0
ISC 12 06:42:33.4±0.5,38.85N±0.02×26.81E±0.05,h12km±5km, n17,σ0°98/27,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYVA	Ayvalik	0.47	349	iP	Pg	06 42 43.3	+0.2
AYVA				iS	Sg	06 42 49.6	+0.1
BLCB	Balcova	0.49	158	iPG	Pg	06 42 43.3	-0.3
BLCB				iSG	Sg	06 42 50.4	+0.1
URLA	Izmir	0.51	199	iP	Pb	06 42 42.7	-1.2
URLA				iS	Sg	06 42 51.5	+0.5
KDAG	Bornova	0.57	141	iP	Pb	06 42 44.0	-0.9
KDAG				iS	Sb	06 42 52.3	-0.3
IZM	Izmir	0.57	142	PG	Pg	06 42 44.8	-0.2
IZM				SG	Sg	06 42 53.9	+1.1
PRK	Paraskevi	0.58	314	ePB	Pb	06 42 45.2	+0.2
PRK				eSG	Sg	06 42 53.5	+0.4
AKS	Akhisar	0.78	87	PG	Pg	06 42 48.8	-0.4
SMG	Samos	1.14	179	ePG	Pg	06 42 54.9	-1.3
SMG				eSB	Sb	06 43 12.3	+3.3
BALB	Balikesir	1.15	46	PN	Pn	06 42 54.6	-0.7
CANB	Canakkale	1.18	9	PN	Pn	06 42 55.8	0.0
BTOK	Tokmak	1.32	46	iP	Pb	06 42 57.2	-0.4
BTOK				iS	Sb	06 43 15.1	+0.8
MANT	Manisa	1.41	104	iP	Pn	06 42 59.7	+0.6
MANT				iS	Sb	06 43 18.4	+1.3
DST	Dursunbey	1.60	61	ePN	Pn	06 42 59.9	-1.9
LIA	Limnos Island	1.64	310	ePB	Pb	06 43 04.4	+1.2
MRMT	Marmara Adasi	1.86	19	ePN	Pn	06 43 04.5	-0.9
ORLT	Orhaneli	2.01	53	ePN	Pn	06 43 06.4	-1.2
ULDT	Uludag	2.22	54	iP	Pn	06 43 12.8	+2.2
ULDT				iS	Sn	06 43 42.5	+4.4

MEX 12 06:58:17.7±0.9,17.32N×101.29W,h16km±251km,MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	El Cayaco	1.02	105	eP	Pb	06 58 32.9	-3.5
CAIG				iS	Sb	06 58 45.6	-3.7
ACX	Acapulco	1.39	109	iP	Pn	06 58 40.0	-2.6
ACX				iS	Sb	06 58 56.0	-4.2
PLIG	Platanillo	2.01	58	eP	Pn	06 58 47.6	-3.9
PLIG				iS	Sn	06 59 09.9	-6.6

IDC 12 07:36:05.6±4.9,2.55N×128.48E,h223km±50km,mb3.9/9, mb1 4.0/9,mb1mx3.7/16,mbtmp4.5/9,Error ellipse: s-maj=35.1km s-min=12.7km az=70.0
BJI 12 07:36:07.7,2.60N×128.60E,h246km,mB4.7,mb4.3
NEIC 12 07:36:07.7±2.9,2.56N×128.62E,h246km±30km,mb4.4/12, Error ellipse: s-maj=15.4km s-min=7.0km az=69.0
ISC 12 07:36:06.2±4.1,2.57N±0.08×128.6E±0.1,h246km±43km, n31,σ0°73/31,mb4.3/23,2C,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	15.65	166	eP	P	07 39 43.9	+8.1
	18nm,0.6s						
KSM	Kuching	18.34	267	eP	P	07 40 05.0	0.0
FITZ	Fitzroy Crossi	20.75	188	eP	P	07 40 29.5	+0.4
	4.3nm,0.3s						
FITZ	Fitzroy Crossi	20.75	188	P	P	07 40 29.0	-0.1
	6.2nm,0.3s,baz=12,slow=9.4,SNR=29						
WRAB	Tennant Creek	23.06	166	eP	P	07 40 51.4	-0.1
	16nm,0.7s,mb4.7						
WB2	Warramunga Arr	23.07	166	⇑iP	P	07 40 52.0	+0.4
MBWA	Marble Bar	25.14	200	eP	P	07 41 09.6	-1.3
	3.1nm,0.7s,mb4.0						
JNU	Nakatsue	30.46	4	P	P	07 41 57.0	-1.4
	6.3nm,0.9s,mb4.2,baz=98,slow=19,SNR=3.6						
ENH	Enshi	32.98	329	eP	P	07 42 19.8	-0.4
	7.8nm,0.6s,mb4.4						
FORT	Forrest	33.17	181	eP	P	07 42 21.0	-0.8
	21nm,0.6s,mb4.8						
MAJO	Matsushiro	34.94	14	eP	P	07 42 36.3	-0.5
	5.1nm,0.6s,mb4.2						
STKA	Stephens Creek	36.40	161	⇑iP	P	07 42 48.8	-0.3
	3.4nm,0.5s,mb4.1						
STKA	Stephens Creek	36.40	161	P	P	07 42 48.9	-0.2
	3.9nm,0.4s,mb4.3,baz=338,slow=9.3,SNR=28						
LZH	Lanzhou	40.47	328	eP	P	07 43 24.0	+1.3
LZH				AMB	AMB		
	comp=Z,41nm,1.4s,mb4.7						
LZH				AMB	AMB		
	comp=Z,139nm,4.2s						
DZM	Mont Dzumac	44.32	126	P	P	07 43 55.5	+1.5
	comp=Z,1.8nm,0.7s,mb3.5,baz=325,slow=23,SNR=3.8						
LSA	Lhasa	44.62	311	eP	P	07 43 57.7	+1.5
	comp=Z,4.9nm,0.4s,mb4.2						
GT

OXX	Oaxaca	2.12	77	*i* P		Pn	07 48 55.0	-1.2
PPM	Popocatepetl	2.44	6	*e*P		Pn	07 49 00.0	-0.7
PPM				*i* S		Sn	07 49 25.5	-4.8

IDC ***12*** *07:52:40.7±3.2, 52.69N×169.08W, h37km±26km, mb3.6/8, mb1 3.8/10, mb1mx3.7/18, mbtmp3.8/10, ML3.7/2, MS2.8/1, Ms1 2.9/1, ms1mx2.2/17, Error ellipse: s-maj=48.3km s-min=17.1km az=169.0*

NEIC ***12*** *07:52:40.6±0.8, 52.50N×169.00W, h46km±6km, ML3.8(AEIC), Error ellipse: s-maj=17.7km s-min=4.3km az=156.0*

ISC 12 07:52:39.2±1.0,**52.5N**±0.1×**169.1W**±0.1,**h53**km±7km,**n28,** σ0**77**/32,**mb3.8**/8,**Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**0.52**	**15**	P	**P**	**07 52 49.8**	**-1.1**
NIKO				S	**S**	**07 52 58.8**	**-0.5**
OKER	**East Rim**	**1.16**	**32**	P	**P**	**07 52 59.5**	**+0.1**
OKER				S	**S**	**07 53 15.5**	**+1.1**
MCIR	**Makushin Cirqu**	**1.98**	**41**	P	**P**	**07 53 11.3**	**+0.4**
MSW	**Makushin Switc**	**1.99**	**43**	P	**P**	**07 53 10.8**	**-0.3**
MSW				S	**S**	**07 53 36.0**	**+1.1**
MNAT	**Makushin Natee**	**2.01**	**45**	P	**P**	**07 53 11.7**	**+0.2**
UNV	**Unalaska Valle**	**2.07**	**47**	P	**P**	**07 53 12.2**	**-0.1**
UNV				S	**S**	**07 53 36.0**	**-0.8**
MTBL	**Makushin Table**	**2.08**	**43**	P	**P**	**07 53 12.5**	**+0.1**
LVA	**Lava Point**	**2.48**	**46**	P	**P**	**07 53 19.0**	**+0.8**
AHB	**Akutan Harbor**	**2.55**	**49**	P	**P**	**07 53 17.6**	**-1.5**
AKUT	**Akutan**	**2.59**	**49**	P	**P**	**07 53 19.7**	**0.0**
ATKA	**Atka Island**	**3.15**	**267**	P	**P**	**07 53 27.9**	**+0.2**
GSTR	**Great Sitkin T**	**4.31**	**268**	P	**P**	**07 53 44.2**	**+0.3**
GSMY	**Great Sitkin M**	**4.31**	**267**	P	**P**	**07 53 44.2**	**+0.2**
GSTD	**Great Sitkin T**	**4.37**	**267**	P	**P**	**07 53 45.2**	**+0.4**
ADAG	**Mount Adagdak**	**4.66**	**267**	P	**P**	**07 53 49.1**	**+0.3**
SPIA	**Saint Paul Isl**	**4.76**	**352**	P	**P**	**07 53 51.5**	**+1.2**
KIMD	**Kanaga Island**	**5.08**	**265**	P	**P**	**07 53 54.7**	**0.0**
FX1	**Attu Island--F**	**10.80**	**279**	Pn	**P**	**07 55 12.3**	**-1.2**
	2.0nm,0.3s,baz=41,slow=5.1,SNR=16						
ILAR	**Eielson Array**	**16.76**	**34**	Pn	**P**	**07 56 28.2**	**-3.1**
	0.1nm,0.3s,baz=218,slow=8.6,SNR=4.4						
ILAR				LR	LR	08 03 30.3	
	comp=Z,29nm,19.4s,baz=183,slow=39						
INK	**Inuvik**	**23.16**	**33**	P	**P**	**07 57 40.8**	**-0.4**
	1.9nm,0.8s,mb3.6,baz=210,slow=8.1,SNR=4.5						
YKA	**Yellowknife Ar**	**30.04**	**49**	P	**P**	**07 58 44.7**	**-0.1**
	0.7nm,0.6s,mb3.6,baz=273,slow=8.3,SNR=4.8						
PDAR	**Pinedale Array**	**40.20**	**79**	P	**P**	**08 00 13.0**	**+1.2**
	0.6nm,0.5s,mb3.6,baz=270,slow=3.0,SNR=5.8						
SONM	**Songino Array**	**51.40**	**301**	P	**P**	**08 01 41.2**	**+0.8**
	0.8nm,0.5s,mb3.9,baz=59,slow=5.7,SNR=6.0						
ARCES	**ARCESS Array B**	**57.84**	**354**	P	**P**	**08 02 26.3**	**-0.7**
	1.4nm,0.7s,mb4.1,baz=1.3,slow=6.7,SNR=8.3						
ARCES				PcP	PcP	08 03 19.1	+0.3
	2.6nm,1.0s,baz=14,slow=3.7,SNR=4.2						
MKAR	**Makanchi Array**	**63.87**	**314**	P	**P**	**08 03 07.4**	**-0.6**
	0.3nm,0.3s,mb3.8,baz=46,slow=6.4,SNR=5.3						
FINES	**FINESS Array B**	**65.79**	**352**	P	**P**	**08 03 19.9**	**-0.3**
	1.2nm,0.9s,mb3.9,baz=0.5,slow=7.2,SNR=6.1						
NOA	**NORSAR Array B**	**66.84**	**360**	P	**P**	**08 03 26.9**	**+0.1**
	0.6nm,0.8s,mb3.7,baz=359,slow=6.2,SNR=3.3						
NOA	**NORSAR Array B**	**66.84**	**360**	P	**P**	**08 03 26.9**	**+0.1**

IDC ***12*** *08:02:50.7±1.3, 0.75N×125.24E, mb4.0/4, mb1 4.1/4, mb1mx3.9/11, mbtmp4.0/4, MS3.3/2, Ms1 3.3/2, ms1mx3.1/11, Error ellipse: s-maj=183.3km s-min=23.8km az=67.0*

NEIC ***12*** *08:02:56.0±0.8, 0.88N×125.69E, h35km, mb4.4/1, Error ellipse: s-maj=134.0km s-min=13.6km az=67.0*

ISC 12 08:02:53.8±1.0,**0.9N**±0.4×**125.6E**±1.0,**h33**km,**n7,** σ0**63**/7, **mb4.1**/5,**MS3.3**/2,**Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**22.40**	**158**	*e*P	**P**	**08 07 51.0**	**+0.1**
	13nm,0.8s,mb4.4						
STKA	**Stephens Creek**	**35.94**	**156**	P	**P**	**08 09 53.0**	**-0.4**
	4.2nm,0.8s,mb4.4,baz=325,slow=7.9,SNR=7.3						
SONM	**Songino Array**	**49.65**	**343**	P	**P**	**08 11 44.4**	**+0.1**
	0.5nm,0.4s,mb3.9,baz=168,slow=7.6,SNR=4.3						
SONM				LR	LR	08 32 30.2	
	comp=Z,26nm,19.0s,MS3.2,baz=241,slow=36						
MKAR	**Makanchi Array**	**59.26**	**327**	P	**P**	**08 12 53.4**	**-1.1**
	1.1nm,0.5s,mb4.2,baz=123,slow=7.3,SNR=11						
MKAR				LR	LR	08 40 26.9	
	comp=Z,22nm,18.2s,MS3.3,baz=180,slow=38						
KURK	**Kurchatov**	**63.54**	**329**	P	**P**	**08 13 24.2**	**+0.9**
VNDA	**Vanda**	**80.76**	**173**	P	**P**	**08 15 05.5**	**+0.4**
	0.8nm,0.8s,mb3.7,baz=317,slow=5.6,SNR=3.8						
VNDA	**Vanda**	**80.76**	**173**	P	**P**	**08 15 05.5**	**+0.4**

NEIC ***12*** *08:05:09.9±1.2, 53.43N×2.26E, h10km, ML3.4(LDG), Error ellipse: s-maj=16.9km s-min=7.7km az=48.0*

LDG ***12*** *08:05:10.3±0.4, 53.57N×2.35E, h11km, Ml3.4/8, Error ellipse: s-maj=8.2km s-min=4.3km az=26.0*

CSEM ***12*** *08:05:10.5±0.2, 53.50N×2.10E, h10km, ML3.2/4, Error ellipse: s-maj=3.8km s-min=1.6km az=45.0*

BGS ***12*** *08:05:10.2±0.7, 53.54N×2.38E, h5km, ML3.0*

ISC 12 08:05:05.8±0.8,**53.56N**±0.04×**2.69E**±0.08,**h10**km,**n28,** σ1**00**/41,**2C-1D**,**North Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AWI1	**Witton**	**1.04**	**226**	⇑*i*P	**Pb**	**08 05 26.6**	**+1.2**
ABA1	**Baconsthorpe**	**1.15**	**235**	⇑*i*P	**Pb**	**08 05 27.9**	**+0.7**
ABA1				*e*S	**Sb**	**08 05 41.2**	**-0.7**
AEU	**East Anglia Un**	**1.29**	**223**	*e*P	**Pb**	**08 05 30.8**	**+1.2**
AEU				*e*S	**Sb**	**08 05 46.2**	**+0.2**
AEU				AML	AML	08 05 47.8	
	comp=E,319nm,0.4s						
AEU				AML	AML	08 05 48.2	
	comp=N,295nm,0.3s						
AEU	**East Anglia Un**	**1.29**	**223**	*e*P	**Pb**	**08 05 30.8**	**+1.2**
AEU				*e*S	**Sb**	**08 05 46.2**	**+0.2**
AWH	**Whinburgh**	**1.40**	**229**	⇓*i*P	**Pn**	**08 05 32.3**	**+0.9**
APAE	**Packway**	**1.46**	**211**	*e*P	**Pn**	**08 05 34.2**	**+2.0**
APAE				*e*S	**Sb**	**08 05 51.7**	**+0.7**
APAE	**Packway**	**1.46**	**211**	*e*P	**Pn**	**08 05 34.2**	**+1.9**
APAE				*e*S	**Sb**	**08 05 51.7**	**+0.7**
LMK	**Market Rasen**	**1.80**	**268**	*e*P	**Pn**	**08 05 38.3**	**+1.1**
LWH	**Whinny Nab**	**2.13**	**293**	*e*P	**Pn**	**08 05 42.7**	**+0.9**
KBI1	**Birley Grange**	**2.54**	**265**	*e*P	**Pn**	**08 05 47.9**	**+0.1**
LHO	**Holmfirth**	**2.71**	**271**	*e*P	**Pn**	**08 05 49.9**	**-0.2**
KWE	**Weaver Farm**	**2.77**	**260**	*e*P	**Pn**	**08 05 50.8**	**-0.3**
BAIF	**Baives**	**3.63**	**164**	*e*Pg	**Pg**	**08 06 18.6**	**+0.3**
BAIF				*e*Sg	**Sg**	**08 07 06.5**	**-0.2**
	comp=N,25nm,0.4s						
GIVF	**Givet**	**3.71**	**158**	*e*Sg	**Sg**	**08 07 09.2**	**-0.1**
	comp=N,24nm,0.5s						
MCH1	**Michaelchurch**	**3.79**	**248**	*e*P	**Pn**	**08 06 04.6**	**-0.9**
MCH1				AML	AML	08 07 05.6	
	comp=E,24nm,0.5s						
MCH1				AML	AML	08 07 09.5	
	comp=N,29nm,0.6s						
ESK	**Eskdalemuir**	**3.86**	**299**	*e*Pn	**Pn**	**08 06 07.3**	**+0.7**
ESK	**Eskdalemuir**	**3.86**	**299**	*e*Pg	**Pg**	**08 06 21.5**	**-1.4**
ESK	**Eskdalemuir**	**3.86**	**299**	*e*Pn	**Pn**	**08 06 07.3**	**+0.8**
ESK				*e*Pg	**Pg**	**08 06 21.5**	**-1.3**
EAU	**Auchinoon**	**4.23**	**305**	*e*P	**Pn**	**08 06 11.6**	**-0.2**
FLN	**La Foliniere**	**5.20**	**204**	*e*Pn	**Pn**	**08 06 25.4**	**-0.2**
LDF	**La Druitiere**	**5.28**	**201**	*e*Pn	**Pn**	**08 06 26.4**	**-0.2**
SGMF	**Saint Gilles**	**6.26**	**214**	*e*Pn	**Pn**	**08 06 38.8**	**-1.7**
SGMF				*e*Sn	**Sn**	**08 07 45.5**	**-7.4**
	comp=N,6.1nm,0.3s						
LOR	**Lormes**	**6.34**	**173**	*e*Pn	**Pn**	**08 06 42.3**	**+0.6**
LOR				*e*Sn	**Sn**	**08 07 48.7**	**-6.3**
	comp=N,8.9nm,0.6s						
ROSF	**Rostrenen**	**6.44**	**218**	*e*Pn	**Pn**	**08 06 40.7**	**-2.4**
ROSF				*e*Sn	**Sn**	**08 07 50.2**	**-7.3**
	comp=N,18nm,0.6s						
SSF	**Saint Saulge**	**6.53**	**175**	*e*Pn	**Pn**	**08 06 44.5**	**+0.2**
SSF				*e*Sn	**Sn**	**08 07 53.9**	**-5.7**
	comp=N,1.4nm,0.4s						
QUIF	**Quistinic**	**6.76**	**216**	*e*Pn	**Pn**	**08 06 45.3**	**-2.2**
QUIF				*e*Sn	**Sn**	**08 07 57.5**	**-7.9**
	comp=N,12nm,0.4s						
MFF	**Saint Martin d**	**7.20**	**196**	*e*Pn	**Pn**	**08 06 52.4**	**-1.3**
CABF	**La Chapelle**	**7.29**	**161**	*e*Pn	**Pn**	**08 06 55.8**	**+0.8**
CABF				*e*Sn	**Sn**	**08 08 14.9**	**-3.8**

MOS ***12*** *08:23:35.0±1.6, 53.29N×155.35E, h544km, mb4.3/1, Error ellipse: s-maj=89.6km s-min=51.7km az=153.9*

KRSC 12 08:23:33.2±0.3,**54.29N**±**152.82E,h451**km±12km,**ML4.0, 1D,Sea of Okhotsk**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APC	**Apacha**	**2.92**	**116**	*i* P	P	08 24 41.3	+1.0
APC				*i* S	S	08 25 30.8	-2.5
GNL	**Ganaly**	**3.08**	**99**	*e*P	P	08 24 43.3	+1.8
MIPR	**Malaya Ipel'ka**	**3.11**	**129**	*e*P	P	08 24 42.4	+0.7
KOK	**Koryaka**	**3.59**	**104**	*e*P	P	08 24 46.9	+1.4
GRL	**Gorelyy**	**3.59**	**117**	*i* P	P	08 24 46.1	+0.5
AVH	**Avacha**	**3.66**	**104**	*e*P	P	08 24 46.7	+0.6
AVH				*i* S	S	08 25 40.4	-3.2
PET	**Petropavlovsk**	**3.69**	**108**	P	P	08 24 45.8	-0.6
PET	**Petropavlovsk**	**3.69**	**108**	*e*P	P	08 24 46.3	-0.1
PET	**Petropavlovsk**	**3.69**	**108**	⇓*i*P	P	08 24 46.2	-0.2
PET				pmax	pmax		
	comp=Z,82nm,0.7s						
SMAR	**Somma**	**3.69**	**104**	*i* P	P	08 24 47.4	+1.0
PAU	**Pauzhetka**	**3.72**	**138**	*i* P	P	08 24 45.7	-0.9
UGLR	**Uglovaya**	**3.73**	**104**	*i* P	P	08 24 47.5	+0.8
SDLR	**Sedlovina**	**3.74**	**103**	*i* P	P	08 24 47.5	+0.7
ESO	**Esso**	**3.75**	**62**	*e*P	P	08 24 45.6	-1.3
RUS	**Russkaya**	**3.88**	**116**	P	P	08 24 46.1	-1.9
RUS				S	S	08 25 37.6	-9.5
RUS	**Russkaya**	**3.88**	**116**	*i* P	P	08 24 46.3	-1.7
NLC	**Nalytchevo**	**4.03**	**103**	P	P	08 24 48.3	-1.0
NLC				S	S	08 25 41.4	-8.0
NLC	**Nalytchevo**	**4.03**	**103**	*i* P	P	08 24 48.7	-0.6
NLC				*i* S	S	08 25 43.7	-5.7
SPN	**Mys Shipunski**	**4.45**	**103**	P	P	08 24 50.5	-2.6
SPN				S	S	08 25 44.3	-12
SPN	**Mys Shipunski**	**4.45**	**103**	*i* P	P	08 24 50.9	-2.2
MKZ	**Mys Kozlova**	**5.21**	**83**	P	P	08 24 59.1	-1.4
MKZ				S	S	08 25 59.5	-10
MKZ	**Mys Kozlova**	**5.21**	**83**	*e*P	P	08 25 00.0	-0.5
MKZ				*i* S	S	08 26 03.5	-5.8
KBTR	**Krutoberegovo**	**6.03**	**67**	P	P	08 25 08.4	-0.4
KBTR				S	S	08 26 16.5	-7.7
KBTR	**Krutoberegovo**	**6.03**	**67**	*e*P	P	08 25 09.4	+0.6
KBTR				*e*S	S	08 26 20.1	-4.1
BKI	**Bering**	**7.67**	**78**	*e*S	S	08 26 42.7	-13

GUC ***12*** *08:59:19.3±0.7, 33.46S×70.68W, h88km±1km, ML4.7*

IDC ***12*** *08:59:19.4±3.7, 33.50S×70.63W, h73km±35km, mb3.6/3, mb1 4.0/6, mb1mx3.8/13, mbtmp4.0/6, ML4.1/3, MS3.1/1, Ms1 3.0/1, ms1mx2.7/12, Error ellipse: s-maj=52.7km s-min=23.4km az=86.0*

NEIC ***12*** *08:59:19.7±0.2, 33.46S×70.70W, h81km±2km, mb4.1/5, Error ellipse: s-maj=6.3km s-min=4.6km az=75.0*

NEIC Felt [III] at San Antonio, Santiago, Valparaiso and Vina del Mar; [II] at Los Andes and San Felipe.

ISC 12 08:59:18.9±0.3,**33.49S**±0.03×**70.74W**±0.05,**h87**km±2km, **n65,** σ0**84**/78,**mb3.9**/7,**14C-10D**,**Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCDM	**Rinconada Maip**	**0.06**	**275**	*e*P	**P**	**08 59 31.1**	**-0.1**
RCDM				*i* S	**S**	**08 59 40.2**	**-0.2**
RCDM				AMP		08 59 40.7	
	comp=E,102μm,0.1s						
SAN	**Santiago**	**0.08**	**58**	*i* P	**P**	**08 59 31.1**	**-0.1**
SAN				*i* S	**S**	**08 59 40.2**	**-0.3**
STL	**Santa Lucia**	**0.10**	**55**	*e*P	**P**	**08 59 30.2**	**-1.1**
STL				*i* S	**S**	**08 59 39.1**	**-1.4**
STL				AMP		08 59 39.6	
	comp=N,44μm,0.3s						
ANTU	**Antumapu**	**0.12**	**130**	⇑*i*P	**P**	**08 59 31.2**	**-0.1**
ANTU				*i* S	**S**	**08 59 40.5**	**0.0**
ANTU				AMP		08 59 41.0	
	comp=N,44μm,0.4s						
DSCH	**Colegio Aleman**	**0.17**	**56**	⇑*i*P	**P**	**08 59 31.5**	**+0.1**
DSCH				*i* S	**S**	**08 59 40.4**	**-0.4**
DSCH				AMP		08 59 41.5	
	comp=N,89μm,0.4s						
FSR	**Penalolen**	**0.18**	**85**	⇑*i*P	**P**	**08 59 31.5**	**+0.1**
FSR				*i* S	**S**	**08 59 40.8**	**-0.1**
FSR				AMP		08 59 41.9	
	comp=N,26μm,0.6s						
CLCH	**Cerro Calan**	**0.20**	**60**	⇓*i*P	**P**	**08 59 31.6**	**+0.1**
CLCH				*i* S	**S**	**08 59 40.6**	**-0.3**
CLCH				AMP		08 59 42.2	
	comp=N,46μm,0.6s						
PCH	**Pirque**	**0.23**	**124**	⇑*i*P	**P**	**08 59 31.5**	**-0.1**
PCH				*i* S	**S**	**08 59 41.1**	**-0.1**
TACH	**Talagante**	**0.23**	**226**	*i* P	**P**	**08 59 31.7**	**0.0**
PEL	**Peldehue**	**0.35**	**7**	⇓*i*P	**P**	**08 59 32.4**	**+0.1**
PEL				*i* S	**S**	**08 59 42.2**	**-0.3**
SJCH	**San Jose de Ma**	**0.35**	**115**	*e*P	**P**	**08 59 32.1**	**-0.2**
SJCH				*i* S	**S**	**08 59 42.3**	**-0.1**
SJCH				AMP		08 59 42.4	
	comp=N,16μm,0.4s						
FCH	**Farellones**	**0.41**	**66**	⇓*i*P	**P**	**08 59 33.2**	**+0.4**
FCH				⇓*i*P		08 59 33.3	
FCH				*i* S	**S**	**08 59 43.3**	**+0.2**
FCH				AMP		08 59 44.5	
	comp=E,53μm,0.2s						
CHCH	**Chadas Angostu**	**0.44**	**171**	⇑*i*P	**P**	**08 59 33.0**	**+0.1**
ROCH	**El Roble**	**0.57**	**336**	⇓*i*P	**P**	**08 59 34.1**	**0.0**
ROCH				⇓*i*S	**S**	**08 59 46.4**	**+1.0**
LMEL	**Las Melosas**	**0.57**	**128**	⇓*i*P	**P**	**08 59 34.5**	**+0.4**
LMEL				*i* S	**S**	**08 59 46.0**	**+0.6**
LMEL				AMP		08 59 50.2	
	comp=N,20μm,0.1s						
CACH	**El Canelo**	**0.63**	**169**	*i* P	**P**	**08 59 35.3**	**+0.6**
LCCH	**Las Cruces**	**0.69**	**271**	*i* P	**P**	**08 59 35.9**	**+0.6**
JACH	**Jahuel**	**0.82**	**9**	⇓*i*P	**P**	**08 59 36.5**	**-0.1**
JACH				*i* S	**S**	**08 59 49.2**	**-0.5**
CICH	**Cipreses**	**0.86**	**162**	⇑*i*P	**P**	**08 59 37.7**	**+0.6**
IHA	**Instituto Hidr**	**0.89**	**301**	⇑*i*P	**P**	**08 59 37.8**	**+0.5**
IHA				*i* S	**S**	**08 59 51.7**	**+0.6**
SFDO	**San Fernando**	**1.14**	**191**	⇑*i*P	**P**	**08 59 40.9**	**+0.5**
MDZ	**Mendoza**	**1.70**	**69**	*i* P	**P**	**08 59 48.4**	**+0.8**
MDZ				*i* S	**S**	**09 00 11.0**	**+2.4**
CHNG	**Los Chungos**	**1.73**	**338**	⇑*i*P	**P**	**08 59 48.0**	**0.0**
CHNG				*i* S	**S**	**09 00 09.4**	**0.0**
CHNG				AMP		09 00 15.2	
	comp=E,9μm,0.8s						
ILCH	**Illapel**	**1.89**	**349**	*e*P	**P**	**08 59 50.3**	**+0.2**
ILCH				*i* S	**S**	**09 00 13.1**	**+0.1**
ILCH				AMP		09 00 17.5	
	comp=E,11μm,0.3s						
CMCH	**Combarbala**	**2.32**	**354**	⇑*i*P	**P**	**08 59 55.3**	**-0.8**
CMCH				*e*P		08 59 55.5	
CMCH				*i* S	**S**	**09 00 23.3**	**-0.4**
CMCH				AMP		09 00 36.5	
	comp=N,21μm,0.7s						
CNCO	**Chanco**	**2.68**	**213**	AMP		09 00 46.2	
	comp=E,4μm,0.6s						
CCHI	**Chillan**	**3.29**	**199**	AMP		09 01 06.3	
	comp=N,1μm,0.6s						
PLCA	**Paso Flores**	**7.23**	**179**	P	**P**	**09 01 02.3**	**-1.5**
	comp=N,0.4nm,0.3s,baz=344,slow=11,SNR=6.4						
PLCA				LR	LR	09 04 01.6	
	comp=N,136nm,20.5s,baz=237,slow=39						
PLCA	**Paso Flores**	**7.23**	**179**	*e*Pn	**P**	**09 01 03.6**	**-0.2**
	comp=N,16nm,0.9s						
TRQA	**Tornquist**	**8.45**	**125**	*e*Pn	**P**	**09 01 17.8**	**-2.6**
	comp=N,111nm,1.1s						
CPUP	**Villa Florida**	**13.64**	**62**	P	**P**	**09 02 28.7**	**-1.1**
	comp=N,0.3nm,0.3s,baz=250,slow=15,SNR=8.3						
CPUP	**Villa Florida**	**13.64**	**62**	*e*Pn	**P**	**09 02 28.5**	**-1.3**
	comp=N,4.7nm,0.8s						
ARE	**Arequipa**	**16.97**	**358**	*e*P	**P**	**09 03 15.0**	**+2.8**
LPAZ	**La Paz**	**17.29**	**8**	P	**P**	**09 03 16.3**	**+0.1**
	comp=N,0.7nm,0.3s,baz=187,slow=9.3,SNR=39						
LPAZ	**La Paz**	**17.29**	**8**	*e*P	**P**	**09 03 16.3**	**+0.1**
	comp=N,12nm,0.8s						
SAML	**Samuel**	**25.40**	**18**	*e*P	**P**	**09 04 35.8**	**-4.2**
	comp=N,8.0nm,0.9s,mb4.2						
VNA3	**Neumayer Olymp**	**49.42**	**158**	⇑*i*	**P**	**09 08 01.3**	**-0.2**
VNA3	**Neumayer Olymp**	**49.42**	**158**	*e*	**P**	**09 08 02.6**	**+1.1**
VNA3	**Neumayer Olymp**	**49.42**	**158**	*e*	**P**	**09 08 04.9**	**+3.4**
VNA3	**Neumayer Olymp**	**49.42**	**158**	*e*	**P**	**09 08 06.4**	**+4.9**
VNA3	**Neumayer Olymp**	**49.42**	**158**	*e*	sP	09 08 32.2	-0.1
VNA1	**Neumayer--Stat**	**49.72**	**157**	⇓*i*	**P**	**09 08 04.2**	**+0.5**
VNA1	**Neumayer--Stat**	**49.72**	**157**	*e*	**P**	**09 08 05.2**	**+1.5**
VNA1	**Neumayer--Stat**	**49.72**	**157**	*e*	**P**	**09 08 07.8**	**+4.1**
VNA1	**Neumayer--Stat**	**49.72**	**157**	*e*	**P**	**09 08 09.4**	**+5.7**
VNA1	**Neumayer--Stat**	**49.72**	**157**	*e*	sP	09 08 35.4	+0.8
VNA2	**Neumayer--Watz**	**50.06**	**157**	⇑*i*	**P**	**09 08 05.9**	**-0.5**
VNA2	**Neumayer--Watz**	**50.06**	**157**	*e*	**P**	**09 08 07.1**	**+0.7**
VNA2	**Neumayer--Watz**	**50.06**	**157**	*e*	**P**	**09 08 09.7**	**+3.3**
VNA2	**Neumayer--Watz**	**50.06**	**157**	*e*	**P**	**09 08 11.1**	**+4.7**
VNA2	**Neumayer--Watz**	**50.06**	**157**	*e*	sP	09 08 35.5	-1.8
SNAA	**Sanae**	**51.65**	**158**	⇑*i*	**P**	**09 08 17.6**	**-0.8**
SNAA	**Sanae**	**51.65**	**158**	*e*	**P**	**09 08 19.2**	**+0.8**
SNAA	**Sanae**	**51.65**	**158**	*e*	**P**	**09 08 21.7**	**+3.3**
SNAA	**Sanae**	**51.65**	**158**	*e*	**P**	**09 08 23.2**	**+4.8**
SNAA	**Sanae**	**51.65**	**158**	*e*	sP	09 08 45.7	-3.7
SYO	**Syowa Base**	**65.94**	**158**	⇑P	**P**	**09 09 55.0**	**-2.4**
SYO	**Syowa Base**	**65.94**	**158**	⇓P	**P**	**09 10 03.8**	**+6.4**
WVT	**Waverly**	**71.08**	**345**	*e*P	**P**	**09 10 28.3**	**-1.3**
	comp=N,8.9nm,0.6s,mb4.8						
MNTX	**Cornudas Mount**	**72.61**	**329**	*e*P	**P**	**09 10 37.0**	**-1.8**
	comp=N,0.8nm,0.6s,mb3.7						
MAW	**Mawson**	**73.35**	**163**	P	**P**	**09 10 42.6**	**+0.2**
	comp=N,4.4nm,0.8s,mb4.3,baz=203,slow=6.5,SNR=12						
SDCO	**Great Sand Dun**	**77.91**	**332**	*e*P	**P**	**09 11 07.5**	**-1.4**
	comp=N,0.9nm,0.6s,mb3.7						
PDAR	**Pinedale Array**	**83.81**	**332**	P	**P**	**09 11 41.1**	**+1.3**
	comp=N,0.3nm,0.7s,mb3.3,baz=170,slow=5.5,SNR=2.2						
NVAR	**Mina Array Bea**	**84.09**	**324**	P	**P**	**09 11 42.6**	**+1.3**
	comp=N,0.3nm,0.6s,mb3.3,baz=157,slow=6.9,SNR=4.7						
NVAR	**Mina Array Bea**	**84.09**	**324**	P	**P**	**09 11 42.6**	**+1.3**

NEIC ***12*** *09:09:35.9±0.7, 44.30N×129.46W, h10km, mb3.6/7, Error ellipse: s-maj=8.2km s-min=4.6km az=76.0*

IDC ***12*** *09:09:37.1±2.4, 44.34N×129.12W, mb3.7/3, mb1 3.8/9, mb1mx3.7/24, mbtmp3.6/9, ML3.4/5, MS3.5/6, Ms1 3.5/6, ms1mx3.2/20, Error ellipse: s-maj=43.1km s-min=16.2km az=51.0*

ISC 12 09:09:35.6±4.9,**44.31N**±0.05×**129.3W**±0.1,**h14**km±32km, **n79,** σ0**91**/75,**mb4.1**/6,**MS3.7**/3,**Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COR	**Corvallis**	**4.32**	**84**	*e*P	**Pn**	**09 10 42.0**	**-0.4**
KMOR	**Kings Mountain**	**4.34**	**70**	P	**Pn**	**09 10 42.1**	**-0.7**
NLO	**Nicolai Mounta**	**4.51**	**65**	P	**Pn**	**09 10 45.7**	**+0.5**
WISH	**Wishkah**	**4.79**	**52**	P	**Pn**	**09 10 49.5**	**+0.3**
BMW	**Boistfort Moun**	**4.81**	**61**	P	**Pn**	**09 10 48.6**	**-0.8**
OSR	**Olympics--Salm**	**4.92**	**48**	P	**Pn**	**09 10 50.9**	**-0.1**
BROR	**Big Rock Looko**	**4.93**	**88**	P	**Pn**	**09 10 51.4**	**+0.3**
SSOR	**Sweet Springs**	**4.93**	**81**	P	**Pn**	**09 10 51.8**	**+0.7**
HUMO	**Hull Mountain**	**4.93**	**108**	*e*P	**Pn**	**09 10 50.7**	**-0.5**
OOW	**Octopus West**	**4.95**	**44**	P	**Pn**	**09 10 51.5**	**+0.1**
OCWA	**Octopus Mounta**	**4.97**	**44**	*e*P	**Pn**	**09 10 51.2**	**-0.4**
RVW	**Rose Valley**	**5.00**	**66**	P	**Pn**	**09 10 52.4**	**+0.3**
CPW	**Capitol Peak**	**5.09**	**56**	P	**Pn**	**09 10 53.1**	**-0.3**
OTR	**Olympics--Tyee**	**5.12**	**41**	P	**Pn**	**09 10 54.2**	**+0.4**
SMW	**South Mountain**	**5.15**	**52**	P	**Pn**	**09 10 54.0**	**-0.2**
FRIS	**Frissel Point**	**5.18**	**89**	P	**Pn**	**09 10 55.3**	**+0.6**
OBC	**Olympics--Boni**	**5.21**	**42**	P	**Pn**	**09 10 55.1**	**+0.1**
OSD	**Olympics--Snow**	**5.25**	**46**	P	**Pn**	**09 10 55.8**	**+0.1**
TDH	**Tom, Dick, Har**	**5.45**	**77**	P	**Pn**	**09 10 58.9**	**+0.5**
YBH	**Yreka Blue Hor**	**5.48**	**116**	Pn	**Pn**	**09 11 00.5**	**+1.6**
	0.2nm,0.3s,baz=298,slow=9.6,SNR=7.2						
YBH	**Yreka Blue Hor

6C-2D, Komandorsky Islands region

Code	Station Name	Δ°	ΔZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.66**	**297**	*i* P	**Pn**	**09 14 32.0**	**-0.2**
BKI				*e*S	**Sn**	**09 14 53.6**	**+0.7**
BKI				Smax			
	9μm,1.4s						
FX1	**Attu Island--F**	**3.18**	**118**	Pn	**Pn**	**09 14 50.6**	**-3.2**
	78nm,0.3s,baz=328,slow=6.5,SNR=279						
FX1				Sn	**Sn**	**09 15 26.1**	**-5.4**
	63nm,0.3s,baz=336,slow=23,SNR=9.1						
FX1	**Attu Island--F**	**3.18**	**118**	P	**Pn**	**09 14 50.9**	**-3.0**
KBTR	**Krutoberegovo**	**3.70**	**300**	P	**Pn**	**09 15 00.8**	**-0.5**
KBTR				S	**Sn**	**09 15 43.6**	**-1.2**
KBTR	**Krutoberegovo**	**3.70**	**300**	*e*P	**Pn**	**09 15 01.6**	**+0.3**
KBTR				*e*S	**Sn**	**09 15 46.4**	**+1.6**
SMY	**Shemya**	**3.74**	**115**	P	**Pn**	**09 14 59.9**	**-2.1**
SMY				S	**Sn**	**09 15 43.5**	**-2.3**
MKZ	**Mys Kozlova**	**3.97**	**274**	P	**Pn**	**09 15 04.8**	**-0.3**
MKZ				S	**Sn**	**09 15 49.7**	**-1.8**
MKZ	**Mys Kozlova**	**3.97**	**274**	*e*P	**Pn**	**09 15 05.2**	**+0.1**
MKZ				*e*S	**Sn**	**09 15 50.5**	**-1.0**
ZLN	**Zelenaya**	**4.69**	**292**	*e*P	**Pn**	**09 15 17.3**	**+1.9**
ZLN				*e*S	**Sn**	**09 16 11.0**	**+1.2**
CIRR	**Tsirk**	**4.75**	**294**	*e*P	**Pn**	**09 15 17.0**	**+0.8**
CIRR				*e*S	**Sn**	**09 16 10.3**	**-1.0**
LGNR	**Loginova**	**4.77**	**293**	*e*S	**Sn**	**09 16 11.2**	**-0.6**
KLY	**Klyuchi**	**4.86**	**296**	P	**Pn**	**09 15 18.2**	**+0.4**
KLY				S	**Sn**	**09 16 11.9**	**-2.2**
KLY	**Klyuchi**	**4.86**	**296**	*e*P	**Pn**	**09 15 18.3**	**+0.5**
KLY				*e*S	**Sn**	**09 16 12.3**	**-1.8**
KRSR	**Krestovskiy**	**4.88**	**294**	*e*P	**Pn**	**09 15 19.8**	**+1.8**
KRSR				*e*S	**Sn**	**09 16 14.8**	**+0.3**
TUMR	**Tumrok**	**4.92**	**283**	*e*S	**Sn**	**09 16 14.4**	**-1.1**
KMNR	**Kamenistaya**	**4.94**	**289**	*e*P	**Pn**	**09 15 20.2**	**+1.4**
KMNR				*e*S	**Sn**	**09 16 15.7**	**-0.3**
KPT	**Kopyto**	**4.99**	**291**	*e*P	**Pn**	**09 15 20.7**	**+1.1**
KPT				*e*S	**Sn**	**09 16 16.4**	**-1.0**
KOZR	**Kozyr**	**5.19**	**291**	PN	**Pn**	**09 15 24.2**	**+1.7**
KOZR				S	**Sn**	**09 16 22.6**	**+0.1**
KOZ	**Kozyrevsk**	**5.21**	**291**	P	**Pn**	**09 15 24.2**	**+1.6**
KOZ				S	**Sn**	**09 16 22.6**	**-0.1**
KOZ	**Kozyrevsk**	**5.21**	**291**	*e*P	**Pn**	**09 15 24.2**	**+1.6**
KOZ				*e*S	**Sn**	**09 16 22.5**	**-0.2**
SPN	**Mys Shipunski**	**5.23**	**258**	P	**Pn**	**09 15 22.1**	**-0.9**
SPN				S	**Sn**	**09 16 18.8**	**-4.6**
SPN	**Mys Shipunski**	**5.23**	**258**	*e*P	**Pn**	**09 15 22.6**	**-0.4**
SPN				*e*S	**Sn**	**09 16 20.0**	**-3.4**
SRDR	**Sredinnyy**	**5.36**	**294**	*e*P	**Pn**	**09 15 26.4**	**+1.6**
SRDR				*e*S	**Sn**	**09 16 26.8**	**+0.2**
NLC	**Nalytchevo**	**5.60**	**260**	P	**Pn**	**09 15 27.2**	**-1.0**
NLC				S	**Sn**	**09 16 28.5**	**-4.1**
NLC	**Nalytchevo**	**5.60**	**260**	*e*P	**Pn**	**09 15 27.9**	**-0.3**
NLC				*e*S	**Sn**	**09 16 28.9**	**-3.7**
OSSR	**Ossora**	**5.66**	**330**	*e*P	**Pn**	**09 15 30.7**	**+1.7**
ESO	**Esso**	**5.82**	**289**	*e*P	**Pn**	**09 15 31.7**	**+0.4**
ESO				*e*S	**Sn**	**09 16 35.9**	**-2.3**
ESO				Smax			
	240nm,1.3s						
SDLR	**Sedlovina**	**5.83**	**262**	*e*P	**Pn**	**09 15 31.1**	**-0.4**
SMAR	**Somma**	**5.89**	**262**	*e*P	**Pn**	**09 15 32.9**	**+0.7**
UGLR	**Uglovaya**	**5.89**	**262**	*e*P	**Pn**	**09 15 32.0**	**-0.2**
AVH	**Avacha**	**5.92**	**262**	*e*P	**Pn**	**09 15 32.7**	**0.0**
AVH				*e*S	**Sn**	**09 16 37.5**	**-3.2**
KOK	**Koryaka**	**5.97**	**263**	*e*P	**Pn**	**09 15 33.2**	**-0.3**
PET	**Petropavlovsk**	**6.04**	**260**	P	**Pn**	**09 15 33.3**	**-1.1**
PET				S	**Sn**	**09 16 37.5**	**-6.2**
PET	**Petropavlovsk**	**6.04**	**260**	*e*P	**Pn**	**09 15 33.4**	**-1.0**
PET				*e*S	**Sn**	**09 16 38.9**	**-4.8**
PET	**Petropavlovsk**	**6.04**	**260**	*e*Pn	**Pn**	**09 15 34.4**	**0.0**
	96nm,0.9s						
GNL	**Ganaly**	**6.29**	**267**	*e*P	**Pn**	**09 15 37.8**	**-0.1**
GNL				*e*S	**Sn**	**09 16 46.3**	**-3.5**
RUS	**Russkaya**	**6.33**	**255**	P	**Pn**	**09 15 37.6**	**-0.8**
RUS				S	**Sn**	**09 16 44.6**	**-6.2**
RUS	**Russkaya**	**6.33**	**255**	*e*P	**Pn**	**09 15 37.8**	**-0.6**
RUS				*e*S	**Sn**	**09 16 46.6**	**-4.2**
KRMR	**Karymshinskiy**	**6.40**	**259**	*e*P	**Pn**	**09 15 38.7**	**-0.8**
KRMR				*e*S	**Sn**	**09 16 47.7**	**-5.0**
GRL	**Gorelyy**	**6.53**	**257**	*e*P	**Pn**	**09 15 40.1**	**-1.2**
GRL				*e*S	**Sn**	**09 16 51.9**	**-4.0**
APC	**Apacha**	**6.93**	**262**	*e*P	**Pn**	**09 15 48.3**	**+1.3**
APC				Smax			
	70nm,1.2s						
PAU	**Pauzhetka**	**7.69**	**252**	*e*P	**Pn**	**09 15 57.7**	**+0.1**
SKR	**Severo-Kuril's**	**8.46**	**248**	*e*P	**P**	**09 16 05.0**	**-3.3**
SKR	**Severo-Kuril's**	**8.46**	**248**	*i* PN	**P**	**09 16 05.0**	**-3.3**
SKR				pmax	pmax		
	comp=E,30nm,0.5s						
SKR				pmax	pmax		
	comp=Z,50nm,0.5s						
SKR				MLR	MLR		
	comp=N,2μm,14.0s						
SKR				MLR	MLR		
	comp=E,1μm,14.0s						
SKR				MLR	MLR		
	comp=Z,1μm,14.0s						
ALID	**Alaid**	**8.68**	**251**	*e*P	**P**	**09 16 10.8**	**-0.5**
GSTR	**Great Sitkin T**	**9.53**	**98**	Pn	**P**	**09 16 20.5**	**-2.4**
SEY	**Seymchan**	**11.90**	**322**	*e*PN	**P**	**09 16 56.8**	**+1.5**
SEY				*e*SS	SS	09 19 19.5	-3.4
SEY				pmax	pmax		
	comp=Z,10.0nm,0.9s						
SEY				pmax	pmax		
	comp=N,10.0nm,0.8s						
NIKO	**Nikolski**	**13.46**	**87**	*e*Pn	**P**	**09 17 15.8**	**-0.2**
BILL	**Bilibino**	**13.66**	**356⇑**	*e*P	**P**	**09 17 20.6**	**+2.1**
BILL				pmax	pmax		
	comp=Z,30nm,1.3s						
BILL				MLR	MLR		
	comp=Z,800nm,16.0s						
UNV	**Unalaska Valle**	**14.62**	**82**	*e*Pn	**P**	**09 17 38.1**	**+7.0**
	comp=Z,351nm,1.1s						
YSS	**Yuzh-Sakhalins**	**17.90**	**256**	*e*P	**P**	**09 18 15.9**	**+2.9**
	comp=Z,65nm,1.3s						
YSS	**Yuzh-Sakhalins**	**17.90**	**256⇑**	*e*P	**P**	**09 18 16.3**	**+3.3**
YSS				pmax	pmax		
	comp=Z,39nm,0.9s						
YSS				MLR	MLR		
	comp=Z,400nm,15.0s						
CHGN	**Chignik**	**18.77**	**71**	*e*P	**P**	**09 18 24.1**	**+0.5**
ASAJ	**Asahikawa**	**19.72**	**249**	P	**P**	**09 18 34.9**	**0.0**
	comp=Z,0.6nm,0.3s,baz=57,slow=7.7,SNR=16						
ASAJ				LR	LR	09 24 57.6	
	comp=Z,200nm,19.8s,baz=358,slow=33						
ASAJ	**Asahikawa**	**19.72**	**249**	P	**P**	**09 18 34.9**	**+0.1**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,201nm,19.8s						
TT01	**Tatalina**	**20.02**	**51**	P	**P**	**09 18 36.8**	**-1.1**
TTA	**Tatalina**	**20.03**	**51**	*e*P	**P**	**09 18 37.5**	**-0.4**
SVW2	**Sparrevohn**	**20.04**	**56**	*e*P	**P**	**09 18 36.9**	**-1.2**
RSO	**Redoubt South**	**21.41**	**58**	*e*P	**P**	**09 18 52.1**	**-0.1**
YAK	**Yakutsk**	**21.51**	**306**	*e*P	**P**	**09 18 53.1**	**-0.1**
YAK				*e*S	**S**	**09 22 54.5**	**+8.9**
YAK				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.2						
YAK				pmax	pmax		
	comp=N,4.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,11nm,1.2s						
YAK				MLR	MLR		
	comp=Z,137nm,10.0s,MS3.6						
YAK				MLR	MLR		
	comp=N,269nm,19.0s						
YAK				MLR	MLR		
	comp=E,114nm,10.0s						
IMA	**Indian Mountai**	**21.64**	**43**	*e*P	**P**	**09 18 54.2**	**-0.3**
KDAK	**Kodiak Island**	**21.71**	**65**	*e*P	**P**	**09 18 54.0**	**-1.2**
SPU	**Mount Spurr**	**21.75**	**56**	*e*P	**P**	**09 18 55.5**	**-0.1**
FIB	**Fire Island**	**22.66**	**56**	*e*P	**P**	**09 19 04.5**	**+0.1**
SLKM	**Skilak Lake**	**22.67**	**58**	*e*P	**P**	**09 19 05.1**	**+0.6**
KLR	**Kul'dur**	**23.13**	**272**	*e*P	**P**	**09 19 08.0**	**-1.2**
KLR				*e*		09 19 15.0	
KLR				MLR	MLR		
	comp=Z,500nm,13.0s,MS4.2						
PMR	**Palmer**	**23.16**	**55**	*e*P	**P**	**09 19 10.6**	**+1.3**
MCK	**McKinley**	**23.29**	**50**	*e*P	**P**	**09 19 10.1**	**-0.4**
	comp=Z,153nm,0.9s,mb5.4						
MCK	**McKinley**	**23.29**	**50**	*e*P	**P**	**09 19 10.1**	**-0.4**
MCK				pmax	pmax		
	comp=Z,153nm,0.9s,mb5.4						
SML	**Sawmill**	**23.53**	**54**	*e*P	**P**	**09 19 12.3**	**-0.6**
ILAR	**Eielson Array**	**24.25**	**47**	P	**P**	**09 19 18.8**	**-1.1**
	comp=Z,11nm,0.8s,mb4.3,baz=249,slow=7.5,SNR=120						
ILAR				LR	LR	09 28 22.0	
	comp=Z,158nm,20.4s,MS3.5,baz=272,slow=36						
CLNS	**Chul'man**	**24.43**	**293**	*e*P	**P**	**09 19 24.9**	**+3.2**
CLNS				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.2						
CLNS				pmax	pmax		
	comp=N,9.0nm,0.7s						
CLNS				pmax	pmax		
	comp=E,10.0nm,0.9s						
CLNS				MLR	MLR		
	comp=Z,300nm,15.0s,MS3.9						
CLNS				MLR	MLR		
	comp=N,200nm,16.0s,MS3.7						
CLNS				MLR	MLR		
	comp=E,100nm,18.0s,MS3.7						
MID	**Middleton Isla**	**24.72**	**60**	*e*P	**P**	**09 19 25.3**	**+0.8**
DIV	**Divide**	**24.80**	**56**	*e*P	**P**	**09 19 24.1**	**-1.1**
	comp=E,59nm,0.9s,mb5.1						
EYAK	**Cordova Ski Ar**	**24.87**	**57**	*e*P	**P**	**09 19 25.3**	**-0.6**
MENT	**Mentasta**	**25.64**	**51**	*e*P	**P**	**09 19 34.6**	**+1.5**
MDJ	**Mudanjiang**	**26.80**	**265**	P	**P**	**09 19 44.0**	**-0.1**
MDJ				AP	pP	09 19 50.4	-0.1
MDJ				XP	sP	09 19 52.7	-0.7
MDJ				S	**S**	**09 24 19.7**	**+2.6**
MDJ				PCS		09 26 44.0	
MDJ				SCS	ScS	09 30 33.0	-1.0
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,29nm,5.7s						
MDJ				LR	LR		
	comp=N,157nm,22.9s,MS3.6						
MDJ				LR	LR		
	comp=E,126nm,27.4s,MS3.6						
MDJ				LR	LR		
	comp=Z,117nm,28.5s,MS3.3						
MAJO	**Matsushiro**	**27.49**	**242**	*e*P	**P**	**09 19 51.3**	**+0.9**
	comp=Z,48nm,1.1s,mb4.9						
MAJO	**Matsushiro**	**27.49**	**242**	*e*P	**P**	**09 19 51.3**	**+0.9**
MAJO				pmax	pmax		
	comp=Z,48nm,1.1s,mb4.9						
MAT	**Matsushiro**	**27.49**	**242**	P	**P**	**09 19 51.6**	**+1.2**
MAT				*e*S	**S**	**09 24 44.0**	**+16**
MAT	**Matsushiro**	**27.49**	**242**	*e*P	**P**	**09 19 52.0**	**+1.6**
	comp=Z,31nm,1.0s,mb4.8						
MAT	**Matsushiro**	**27.49**	**242**	*e*P	**P**	**09 19 52.0**	**+1.6**
MAT				pmax	pmax		
	comp=Z,31nm,1.0s,mb4.8						
DAWY	**Dawson**	**27.50**	**49**	*e*P	**P**	**09 19 49.0**	**-1.3**
DAWY				*e*pP	pP	09 19 59.6	+2.9
INK	**Inuvik**	**29.67**	**40**	P	**P**	**09 20 09.1**	**-0.7**
	comp=Z,3.4nm,0.8s,mb4.2,baz=261,slow=8.8,SNR=6.6						
INK	**Inuvik**	**29.67**	**40**	*e*P	**P**	**09 20 08.5**	**-1.3**
	comp=Z,32nm,1.5s,mb4.8						
INK				*e*pP	pP	09 20 15.5	-0.7
INK	**Inuvik**	**29.67**	**40**	*e*P	**P**	**09 20 08.5**	**-1.2**
INK				*e**PP	pP	09 20 15.5	-0.7
INK				pmax	pmax		
	comp=Z,32nm,1.5s						
CN2	**Changchun**	**29.69**	**267**	*e*P	**P**	**09 20 12.0**	**+1.8**
CN2				*e*S	**S**	**09 25 05.0**	**+1.5**
CN2				LR	LR		
	comp=N,360nm,19.0s,MS4.1						
CN2				LR	LR		
	comp=E,210nm,19.0s,MS4.1						
CN2				LR	LR		
	comp=Z,240nm,19.0s,MS3.9						
SNY	**Shenyang**	**31.99**	**266**	⇑P	**P**	**09 20 30.9**	**+0.4**
SNY				AMB	AMB		
	comp=Z,80nm,4.2s						
SNY				LR	LR		
	comp=N,290nm,12.7s						
SNY				LR	LR		
	comp=Z,230nm,12.9s,MS4.0						
DLBC	**Dease Lake**	**33.14**	**58**	P	**P**	**09 20 41.2**	**+0.9**
	comp=Z,8.9nm,0.8s,mb4.7,baz=290,slow=11,SNR=26						
DLBC	**Dease Lake**	**33.14**	**58**	*e*P	**P**	**09 20 40.7**	**+0.4**
BBB	**Bella Bella**	**36.77**	**67**	P	**P**	**09 21 12.6**	**+1.2**
	comp=Z,9.9nm,0.9s,mb4.7,baz=303,slow=8.5,SNR=11						
SONM	**Songino Array**	**38.39**	**286**	P	**P**	**09 21 25.9**	**+0.8**
	comp=Z,3.7nm,0.8s,mb4.2,baz=58,slow=7.9,SNR=26						
YKW3	**Yellowknife Ar**	**38.64**	**46**	*e*P	**P**	**09 21 26.2**	**-0.8**
YKW3				*e*pP	pP	09 21 33.1	-0.5
YKA	**Yellowknife Ar**	**38.67**	**46**	P	**P**	**09 21 26.8**	**-0.4**
	comp=Z,3.7nm,0.8s,mb4.2,baz=294,slow=7.6,SNR=16						
YKA				PcP	PcP	09 23 39.4	-0.2
	comp=Z,0.9nm,0.7s,baz=297,slow=3.8,SNR=3.9						
YKA	**Yellowknife Ar**	**38.67**	**46**	P	**P**	**09 21 26.8**	**-0.4**
YKA				PcP	PcP	09 23 39.4	-0.2
ZAK	**Zakamensk**	**38.73**	**292⇑**	*e*P	**P**	**09 21 28.9**	**+1.1**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.0						
SSE	**Sheshan**	**40.84**	**255**	P	**P**	**09 21 46.6**	**+1.1**
SSE				PCP	PcP	09 23 43.7	-3.1
SSE				S	**S**	**09 27 56.7**	**+1.5**
SSE				AMB	AMB		
	comp=Z,31nm,0.8s,mb5.0						
SSE				AMB	AMB		
	comp=Z,242nm,4.0s						
SSE				LR	LR		
	comp=Z,59nm,20.0s,MS3.4						
OCWA	**Octopus Mounta**	**41.30**	**71**	*e*P	**P**	**09 21 49.5**	**+0.5**
	comp=Z,19nm,1.3s,mb4.6						
OCWA				*e*pP	pP	09 21 56.8	+1.1
NJ2	**Nanjing**	**41.45**	**258**	*e*P	**P**	**09 21 54.4**	**+3.9**
NJ2				AP	pP	09 22 03.0	+5.9
NJ2				XP	sP	09 22 05.6	+5.7
NJ2				PP	PP	09 23 33.4	+4.0
NJ2				S	**S**	**09 28 08.0**	**+3.8**
NJ2				XS		09 28 20.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
NJ2				AMB	AMB		
	comp=Z,290nm,3.8s						
NJ2				LR	LR		
	comp=N,700nm,14.3s,MS4.8						
NJ2				LR	LR		
	comp=E,580nm,13.0s,MS4.8						
NJ2				LR	LR		
	comp=Z,350nm,21.0s						
EBG	**Ellensburg**	**43.77**	**69**	P	**P**	**09 22 11.0**	**+1.8**
EDM	**Edmonton**	**43.86**	**58**	*e*P	**P**	**09 22 09.6**	**-0.2**
EDM				*e*pP	pP	09 22 16.4	0.0
OD2	**Odessa Site #2**	**44.49**	**68**	P	**P**	**09 22 16.1**	**+1.0**
CROR	**Criterion Ridg**	**44.73**	**72**	P	**P**	**09 22 18.3**	**+1.3**
NEW	**Newport**	**44.82**	**66**	P	**P**	**09 22 18.6**	**+0.9**
	comp=Z,4.4nm,0.9s,mb4.3,baz=331,slow=7.3,SNR=9.9						
NEW	**Newport**	**44.82**	**66**	*e*P	**P**	**09 22 18.3**	**+0.7**
	comp=Z,15nm,1.2s,mb4.7						
NEW				*e*pP	pP	09 22 24.0	-0.3
NEW	**Newport**	**44.82**	**66**	*e*P	**P**	**09 22 18.3**	**+0.7**
NEW				*e**PP	pP	09 22 24.0	-0.3
NEW				pmax	pmax		
	comp=Z,15nm,1.2s						
YBH	**Yreka Blue Hor**	**45.83**	**77**	P	**P**	**09 22 26.8**	**+1.0**
	comp=Z,5.4nm,0.9s,mb4.5,baz=321,slow=13,SNR=6.5						
WALA	**Waterton Lakes**	**46.03**	**63**	*e*P	**P**	**09 22 26.2**	**-0.9**
	comp=Z,35nm,1.3s,mb5.1						
WALA				*e*pP	pP	09 22 33.8	-0.1
LHEM	**Herd Peak**	**46.18**	**76**	P	**P**	**09 22 30.6**	**+2.1**
WDC	**Whiskeytown Da**	**46.69**	**78**	*e*P	**P**	**09 22 33.9**	**+1.3**
	comp=Z,9.8nm,1.0s,mb4.7						
WDC	**Whiskeytown Da**	**46.69**	**78**	*e*P	**P**	**09 22 33.9**	**+1.4**
WDC				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
BMO	**Blue Mountains**	**46.84**	**70**	*e*P	**P**	**09 22 33.2**	**-0.5**
	comp=Z,9.6nm,1.2s,mb4.6						
MOD	**Modoc**	**47.08**	**75**	*e*P	**P**	**09 22 35.5**	**-0.1**
	comp=Z,16nm,0.9s,mb4.9						
MOD				*e*pP	pP	09 22 42.2	-0.2
LZH	**Lanzhou**	**47.29**	**275**	*e*P	**P**	**09 22 39.4**	**+2.0**
LZH				AP	pP	09 22 45.5	+1.4
LZH				XP	sP	09 22 48.5	+1.7
LZH				PP	PP	09 24 30.0	+2.0
LZH				PPP	PPP	09 25 36.0	+20
LZH				AMB	AMB		
	comp=Z,38nm,1.0s,mb5.3						
LZH				AMB	AMB		
	comp=Z,220nm,4.6s						
LZH				LR	LR		
	comp=N,1μm,14.2s						
LZH				LR	LR		
	comp=Z,2μm,15.3s,MS5.1						
GTA	**Gaotai**	**47.35**	**281**	*e*P	**P**	**09 22 34.5**	**-3.3**
GTA				PP	PP	09 24 25.5	-2.9
GTA				S	**S**	**09 29 26.3**	**-3.1**
GTA				XS		09 29 35.0	
GTA				SS	SS	09 32 45.5	-5.1
GTA				AMB	AMB		
	comp=Z,2.0nm,1.5s,mb3.8						
GTA				AMB	AMB		
	comp=Z,100nm,8.0s						
GTA				LR	LR		
	comp=N,282nm,15.6s,MS4.5						
GTA				LR	LR		
	comp=E,287nm,14.5s,MS4.5						
GTA				LR	LR		
	comp=Z,370nm,15.6s,MS4.5						
WVOR	**Wild Horse Val**	**47.67**	**73**	*e*P	**P**	**09 22 41.1**	**+0.8**
	comp=Z,8.7nm,1.0s,mb4.7						
WVOR	**Wild Horse Val**	**47.67**	**73**	*e*P	**P**	**09 22 41.1**	**+0.8**
WVOR				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
HRY	**Holter Researc**	**48.59**	**64**	*e*P	**P**	**09 22 47.5**	**+0.1**
FCC	**Fort Churchill**	**49.16**	**43**	*e*P	**P**	**09 22 50.8**	**-0.8**
	comp=Z,14nm,1.3s,mb4.8						
FCC				*e*pP	pP	09 22 57.6	-0.8
FCC	**Fort Churchill**	**49.16**	**43**	*e*P	**P**	**09 22 50.8**	**-0.8**
FCC				*e**PP	pP	09 22 57.6	-0.7
FCC				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.8						
HLID	**Hailey**	**49.26**	**69**	*e*P	**P**	**09 22 51.9**	**-0.7**
	comp=Z,6.7nm,1.1s,mb4.6						
HLID				*e*pP	pP	09 22 58.7	-0.6
BOZ	**Bozeman (W)**	**49.39**	**65**	*e*P	**P**	**09 22 54.5**	**+1.0**
	comp=Z,22nm,1.6s,mb5.0						
BOZ	**Bozeman (W)**	**49.39**	**65**	*e*P	**P**	**09 22 54.5**	**+1.0**
BOZ				pmax	pmax		
	comp=Z,22nm,1.6s,mb4.9						
CMB	**Columbia Colle**	**49.63**	**79**	*e*P	**P**	**09 22 56.2**	**+0.7**
	comp=Z,10nm,1.0s,mb4.8						
CMB	**Columbia Colle**	**49.63**	**79**	*e*P	**P**	**09 22 56.2**	**+0.7**
CMB				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
BMN	**Battle Mountai**	**49.80**	**74**	*e*P	**P**	**09 22 57.5**	**+0.8**
	comp=Z,7.1nm,0.8s,mb4.8						
BMN	**Battle Mountai**	**49.80**	**74**	*e*P	**P**	**09 22 57.5**	**+0.8**
BMN				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
QLMT	**Earthquake Lak**	**50.03**	**66**	*e*P	**P**	**09 22 58.5**	**+0.1**
NVAR	**Mina Array Bea**	**50.55**	**77**	P	**P**	**09 23 03.1**	**+0.6**
	comp=Z,5.1nm,0.8s,mb4.5,baz=291,slow=7.7,SNR=38						
NVAR	**Mina Array Bea**	**50.55**	**77**	P	**P**	**09 23 03.1**	**+0.6**
YFT	**Old Faithful**	**50.60**	**66**	*e*P	**P**	**09 23 03.5**	**+0.7**
ELK	**Elko**	**50.69**	**73**	*e*P	**P**	**09 23 03.6**	**0.0**
	comp=Z,6.6nm,1.0s,mb4.5						
ELK				*e*pP	pP	09 23 09.8	-0.5
ELK	**Elko**	**50.69**	**73**	*e*P	**P**	**09 23 03.6**	**+0.1**
ELK				*e**PP	pP	09 23 09.8	-0.5
ELK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
OMM	**Old Mammoth Mi**	**50.72**	**78**	*e*P	**P**	**09 23 05.5**	**+1.7**
IMW	**Indian Meadow**	**50.91**	**67**	*e*P	**P**	**09 23 05.9**	**+0.7**
	comp=Z,14nm,1.1s,mb4.8						
WMQ	**Urumqi**	**51.14**	**293**	*e*P	**P**	**09 23 07.2**	**+0.3**
WMQ				AP	pP	09 23 17.2	+3.6
WMQ				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.8						
MTUM	**Tungsten Hills**	**51.15**	**78**	*e*P	**P**	**09 23 07.5**	**+0.5**
MTUM				*e*pP	pP	09 23 14.3	+0.5
KURK	**Kurchatov**	**51.15**	**305**	*e*P	**P**	**09 23 05.3**	**-1.5**
	comp=Z,23nm,1.1s,mb5.0						
KURK	**Kurchatov**	**51.15**	**305**	*e*P	**P**	**09 23 05.7**	**-1.2**
TPAW	**Teton Pass**	**51.18**	**67**	P	**P**	**09 23 08.7**	**+1.5**
	comp=Z,8.5nm,1.1s,mb4.6						
LOHW	**Long Hollow**	**51.29**	**67**	*e*P	**P**	**09 23 07.9**	**-0.1**
	comp=Z,10nm,1.2s,mb4.6						
SNOW	**Snow King Moun**	**51.31**	**67**	*e*P	**P**	**09 23 08.2**	**+0.1**
	comp=Z,10.0nm,1.3s,mb4.6						
TPH	**Tonopah**	**51.41**	**76**	*e*P	**P**	**09 23 09.7**	**+0.7**
	comp=Z,9.0nm,0.9s,mb4.7						
TPH				*e*pP	pP	09 23 15.7	-0.1
TPH	**Tonopah**	**51.41**	**76**	*e*P	**P**	**09 23 09.7**	**+0.7**
TPH				*e**PP	pP	09 23 15.7	-0.1
TPH				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
LAO	**LASA Array**	**51.52**	**61**	*e*P	**P**	**09 23 09.0**	**-0.7**
	comp=Z,47nm,1.7s,mb5.1						
LAO				*e*PcP	PcP	09 24 29.2	+5.3
SUMG	**Summit**	**51.87**	**10**	*e*P	**P**	**09 23 11.5**	**-0.6**
	comp=Z,14nm,1.1s,mb4.8						
MKAR	**Makanchi Array**	**51.96**	**299**	P	**P**	**09 23 11.8**	**-1.3**
	comp=Z,1.6nm,0.7s,mb4.1,baz=55,slow=6.0,SNR=9.8						
MKAR				LR	LR	09 45 10.5	
	comp=Z,84nm,19.5s,MS3.8,baz=15,slow=36						
HWUT	**Hardware Ranch**	**52.13**	**69**	*e*P	**P**	**09 23 15.4**	**+0.9**
	comp=Z,11nm,1.2s,mb4.7						
DUG	**Dugway**	**52.41**	**71**	*e*P	**P**	**09 23 16.2**	**-0.3**
	comp=Z,3.1nm,0.9s,mb4.2						
DUG				*e*pP	pP	09 23 22.4	-1.0
DUG	**Dugway**	**52.

comp=N,249nm,10.4s
KMI LR LR
comp=E,233nm,17.8s
KMI LR LR
comp=Z,184nm,23.7s
SMCO Snowmass 56.33 68 *eP* **P 09 23 46.1 +0.8**
ISCO Idaho Springs 56.62 67 *eP* **P 09 23 48.0 +0.7**
comp=Z,18nm,1.3s,mb4.9
ISCO Idaho Springs 56.62 67 *eP* **P 09 23 48.0 +0.7**
ISCO pmax pmax
comp=Z,18nm,1.3s,mb4.9
SDCO Great Sand Dun 58.16 69 *eP* **P 09 23 59.1 +0.9**
comp=Z,31nm,1.8s,mb5.0
TUC Tucson 59.21 77 *eP* **P 09 24 06.5 +0.9**
comp=Z,6.2nm,1.1s,mb4.5
TUC Tucson 59.21 77 *eP* **P 09 24 06.5 +0.9**
TUC pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
ANMO Albuquerque 59.68 71 P **P 09 24 08.9 +0.1**
comp=Z,1.9nm,1.0s,mb4.1,baz=314,slow=6.2,SNR=7.2
ANMO Albuquerque 59.68 71 *eP* **P 09 24 08.9 +0.1**
comp=Z,6.3nm,1.3s,mb4.5
ANMO *e*pP pP 09 24 14.8 -0.9
ANMO Albuquerque 59.68 71 *eP* **P 09 24 08.9 +0.1**
ANMO *e**PP pP 09 24 14.8 -0.9
ANMO pmax pmax
comp=Z,6.0nm,1.3s
KAF Kangasniemi 60.03 341 *ep* **P 09 24 09.4 -1.4**
BNM Barren Site 60.18 72 P **P 09 24 12.6 +0.3**
FINES FINESS Array B 60.68 340 P **P 09 24 14.4 -0.9**
comp=Z,3.7nm,0.9s,mb4.5,baz=112,slow=10,SNR=7.0
SCHQ Schefferville 61.95 33 P **P 09 24 22.3 -1.7**
comp=Z,6.7nm,0.9s,mb4.8,baz=325,slow=5.3,SNR=7.5
SCHQ Schefferville 61.95 33 P **P 09 24 22.3 -1.7**
CPRX Cap Rock 62.55 71 *eP* **P 09 24 27.9 -0.4**
MNTX Cornudas Mount 62.71 73 *eP* **P 09 24 28.9 -0.4**
comp=Z,10nm,1.0s,mb4.9
MNTX *e*pP pP 09 24 35.8 -0.4
GDL2 Guadalupe Moun 62.90 72 *eP* **P 09 24 30.6 +0.1**
GDL2 *e*pP pP 09 24 36.8 -0.6
NB2 NORSAR Subarra 63.44 348 P **P 09 24 32.6 -1.1**
comp=Z,8.7nm,0.8s,mb4.9,baz=15,slow=6.5
NB2 NORSAR Subarra 63.44 348 P **P 09 24 32.6 -1.1**
NB2 pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
NOA NORSAR Array B 63.44 348 P **P 09 24 32.8 -0.9**
comp=Z,7.5nm,0.8s,mb4.9,baz=16,slow=6.6,SNR=28
NAO01 NORSAR Array S 63.67 348 *eP* **P 09 24 33.2 -1.9**
comp=Z,4.5nm,0.7s,mb4.6
OBN Obninsk 63.88 332⇓*eP* **P 09 24 34.9 -1.6**
OBN *eS* **S 09 33 08.8 -0.3**
OBN pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
OBN MLR MLR
comp=Z,200nm,16.0s,MS4.4
WMOK Wichita Mounta 64.02 66 *eP* **P 09 24 36.6 -1.2**
comp=Z,22nm,1.4s,mb5.0
WMOK *e*pP pP 09 24 43.6 -1.1
WMOK Wichita Mounta 64.02 66 *eP* **P 09 24 36.6 -1.2**
WMOK *e**PP pP 09 24 43.6 -1.1
WMOK pmax pmax
comp=Z,22nm,1.4s,mb5.0
LTX Lajitas 65.46 74 *eP* **P 09 24 46.5 -0.7**
comp=Z,13nm,1.0s,mb4.9
LTX *e*pP pP 09 24 52.9 -1.2
LTX Lajitas 65.46 74 *eP* **P 09 24 46.5 -0.7**
LTX *e**PP pP 09 24 52.9 -1.2
LTX pmax pmax
comp=Z,13nm,1.0s,mb4.9
JCT Junction City 66.72 70 *eP* **P 09 24 54.9 -0.4**
comp=Z,8.9nm,1.1s,mb4.7
JCT Junction City 66.72 70 *eP* **P 09 24 54.9 -0.4**
JCT pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
WCI Wyandotte Cave 67.66 55 *eP* **P 09 25 00.1 -1.0**
comp=Z,6.3nm,0.8s,mb4.7
WCI Wyandotte Cave 67.66 55 *eP* **P 09 25 00.1 -1.0**
WCI pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
WVT Waverly 68.58 58 *eP* **P 09 25 05.7 -1.2**
comp=Z,5.4nm,0.8s,mb4.5
WVT Waverly 68.58 58 *eP* **P 09 25 05.7 -1.2**
WVT pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
ACCN Adirondack Com 69.07 44 *eP* **P 09 25 06.9 -2.8**
ACCN *e*pP pP 09 25 14.2 -2.4
OXF Oxford 69.07 60 *eP* **P 09 25 09.0 -0.9**
comp=Z,23nm,1.0s,mb5.1
OXF *e*pP pP 09 25 15.1 -1.7
OXF Oxford 69.07 60 *eP* **P 09 25 09.0 -0.9**
OXF *e**PP pP 09 25 15.1 -1.7
OXF pmax pmax
comp=Z,23nm,1.0s,mb5.1
PLAL Pickwick Lake 69.36 59 *eP* **P 09 25 09.9 -1.8**
comp=Z,8.3nm,0.8s,mb4.7
TZTN Tazewell 70.32 54 *eP* **P 09 25 17.4 -0.1**
ESK Eskdalemuir 70.37 355 *eP* **P 09 25 17.6 +0.1**
comp=Z,7.4nm,0.8s,mb4.7
ESK Eskdalemuir 70.37 355 *eP* **P 09 25 17.6 +0.2**
ESK pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
CPCT Cooper Cave 70.74 56 *eP* **P 09 25 18.8 -1.3**
ELN Prospectdale 71.08 52 *eP* **P 09 25 20.9 -1.2**
MYNC Murphy 71.23 56 *eP* **P 09 25 21.8 -1.3**
comp=Z,9.2nm,0.8s,mb4.8
MYNC *e*pP pP 09 25 28.6 -1.4
MYNC Murphy 71.23 56 *eP* **P 09 25 21.8 -1.2**
MYNC *e**PP pP 09 25 28.6 -1.3
MYNC pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
BLA Blacksburg 71.24 52 *eP* **P 09 25 22.7 -0.4**
comp=Z,8.1nm,0.8s,mb4.7
BLA Blacksburg 71.24 52 *eP* **P 09 25 22.7 -0.4**
BLA pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
LRAL Lakeview Retre 71.46 59 *eP* **P 09 25 21.9 -2.5**
comp=Z,4.2nm,0.7s,mb4.5
BHPL Bhopal 72.05 285 *ex* x 09 24 49.2
KWP Kalwaria 72.37 337 *eP* **P 09 25 30.3 +0.7**
comp=Z,20nm,0.6s,mb5.2
KWP Kalwaria 72.37 337 *eP* **P 09 25 30.3 +0.7**
KWP pmax pmax
comp=Z,20nm,0.6s,mb5.2
CLL Collm 72.63 344 P **P 09 25 31.0 0.0**
CLL Collm 72.63 344 *eP* **P 09 25 31.0 0.0**
DPC Dobruska-Polom 72.99 342 *eP* **P 09 25 32.9 -0.2**
DPC *e*pP pP 09 25 40.5 +0.5
SOC Sochi 73.03 324 *eP* **P 09 25 27.1 -6.4**
SOC *e* 09 25 56.1
SOC *e*PPP PPP 09 30 07.6 +6.3
SOC *e*S S 09 34 46.0 -12
SOC *e* 09 35 35.7
SOC *e*SSS SSS 09 42 50.4 -1.2
SOC pmax pmax
comp=N,14nm,1.0s
SOC pmax pmax
comp=E,31nm,1.0s
SOC pmax pmax
comp=Z,25nm,1.0s,mb5.1
SOC MLR MLR
comp=Z,255nm,19.0s,MS4.5
SOC MLR MLR
comp=N,232nm,18.0s,MS4.5
SOC MLR MLR
comp=E,80nm,19.0s,MS4.5
MOX Moxa 73.49 345 *eP* **P 09 25 36.0 0.0**
MOX pP pP 09 25 42.0 -0.9
NKC Novy Kostel 73.76 344 *e*pP pP 09 25 43.2 -1.3
GRF Grafenberg Arr 74.48 345 *eP* **P 09 25 49.2 +7.5**
GRF pmax pmax
comp=Z,7.0nm,0.5s,mb4.8
KHC Kasperske Hory 74.64 343 *eP* **P 09 25 42.9 +0.2**
KHC *e*pP pP 09 25 50.0 +0.3
WET Wettzell 74.75 344 *eP* **P 09 25 50.7 +7.4**
WET pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
GEC2 GERESS Array S 74.90 343 *eP* **P 09 25 51.5 +7.3**
GEC2 pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
GERES GERESS Array B 74.90 343 P **P 09 25 45.1 +0.9**
comp=Z,1.6nm,0.8s,mb4.0,baz=18,slow=4.2,SNR=7.1
CTAO Charters Tower 76.67 201 *eP* **P 09 25 56.6 +1.7**
comp=Z,7.9nm,0.9s,mb4.6
CTAO Charters Tower 76.67 201 *eP* **P 09 25 56.6 +1.8**
CTAO pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
BR131 Keskin Array S 78.52 326 *eP* **P 09 26 05.7 +1.1**
comp=Z,1.4nm,0.7s,mb4.0
BRTR Keskin Array B 78.52 326 P **P 09 26 05.8 +1.2**
comp=Z,2.3nm,0.8s,mb4.2,baz=55,slow=3.8,SNR=11
WRAB Tennant Creek 79.68 213 *eP* **P 09 26 12.8 +1.5**
comp=Z,24nm,1.1s,mb5.0
WRAB *e*pP pP 09 26 18.0 -0.3
WRAB Tennant Creek 79.68 213 *eP* **P 09 26 12.9 +1.6**
WRAB *e**PP pP 09 26 18.0 -0.3
WRAB pmax pmax
comp=Z,24nm,1.1s,mb5.0
TIP Timpagrande 83.62 338 *eP* **P 09 26 31.5 0.0**
TIP *e*pP pP 09 26 39.5 +0.9
ESDC Sonseca Array 86.01 354 P **P 09 26 44.5 +1.1**
comp=Z,0.3nm,0.3s,mb4.0,slow=4.4,SNR=4.5
STKA Stephens Creek 89.08 203 P **P 09 27 00.4 +2.0**
comp=Z,3.8nm,0.8s,mb4.8,baz=341,slow=11,SNR=3.3
MAW Mawson 144.13 219 PKP PKPdf 09 33 37.3 -3.4
comp=Z,5.1nm,0.9s,baz=21,slow=3.6,SNR=6.6
MAW Mawson 144.13 219 PKIKP PKPdf 09 33 37.3 -3.3
MAW pmax pmax
comp=Z,5.0nm,0.9s
SNAA Sanae 162.33 189 P PKPdf 09 34 00.5 -5.5
SNAA Sanae 162.33 189 *e* PKPab 09 34 53.1 +1.6
VNA3 Neumayer Olymp 163.14 182⇑*iP* PKPdf 09 34 08.1 +1.2
VNA3 Neumayer Olymp 163.14 182 *e* PKPab 09 34 55.1 +0.1
VNA2 Neumayer--Watz 163.38 185⇑*iP* PKPdf 09 34 09.7 +2.6
VNA2 Neumayer--Watz 163.38 185 *e* PKPab 09 34 55.6 -0.5
VNA1 Neumayer--Stat 163.69 184 P PKPdf 09 34 13.4 +6.0
VNA1 Neumayer--Stat 163.69 184 *e* PKPab 09 34 58.2 +0.7

IDC ***12*** *09:15:36.0±1.2,54.48N×168.74E,mb4.0/6,mb1 4.2/7, mb1mx4.0/17,mbtmp4.0/7,Error ellipse: s-maj=34.6km s-min=12.0km az=35.0*
NEIC ***12*** *09:15:37.5±0.7,54.51N×168.74E,h10km,mb4.4/4,Error ellipse: s-maj=21.1km s-min=8.9km az=168.0*
ISC 12 09:15:38.4±6.5,54.4N±0.1×168.8E±0.1,h32km±49km,n15, σ0°71/16,mb4.1/10,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FX1	**Attu Island--F**	**3.00**	**118**	Pn	**Pn**		**09 16 24.5**	**-0.4**
FX1	baz=336,slow=10.0,SNR=1.7							
				Sn	**Sn**		**09 16 59.7**	**-0.5**
	47nm,0.3s,baz=202,slow=17,SNR=6.1							
SML	**Sawmill**	**23.49**	**54**	*eP*	**P**		**09 20 46.0**	**+0.4**
ILAR	**Eielson Array**	**24.23**	**47**	P	**P**		**09 20 53.4**	**+0.6**
	4.7nm,0.9s,mb3.9,baz=255,slow=8.0,SNR=4.6							
EYAK	**Cordova Ski Ar**	**24.82**	**57**	*eP*	**P**		**09 20 58.0**	**-0.5**
DAWY	**Dawson**	**27.48**	**49**	*eP*	**P**		**09 21 23.4**	**+0.3**
MAJO	**Matsushiro**	**27.55**	**242**	*eP*	**P**		**09 21 24.7**	**+0.6**
	5.8nm,0.8s,mb4.3							
SONM	**Songino Array**	**38.56**	**287**	P	**P**		**09 23 00.5**	**+1.0**
	1.5nm,0.7s,mb3.9,baz=52,slow=7.8,SNR=3.9							
YKA	**Yellowknife Ar**	**38.65**	**46**	P	**P**		**09 23 00.7**	**+0.5**
	0.6nm,0.7s,mb3.4,baz=303,slow=8.6,SNR=2.7							
YKA	**Yellowknife Ar**	**38.65**	**46**	P	**P**		**09 23 00.7**	**+0.5**
OCWA	**Octopus Mounta**	**41.21**	**71**	*eP*	**P**		**09 23 21.4**	**0.0**
	10nm,1.1s,mb4.4							
MOD	**Modoc**	**46.98**	**75**	*eP*	**P**		**09 24 08.4**	**+0.5**
	2.8nm,0.9s,mb4.2							
WVOR	**Wild Horse Val**	**47.57**	**73**	*eP*	**P**		**09 24 13.4**	**+0.8**
	1.9nm,0.8s,mb4.2							
BVAR	**Borovoye Array**	**53.52**	**312**	P	**P**		**09 24 56.3**	**-1.4**
	2.0nm,0.7s,mb4.2,baz=64,slow=8.3,SNR=3.3							
ARCES	**ARCESS Array B**	**53.56**	**345**	P	**P**		**09 24 56.5**	**-1.2**
	3.0nm,0.9s,mb4.2,baz=27,slow=8.1,SNR=3.3							
NOA	**NORSAR Array B**	**63.58**	**348**	P	**P**		**09 26 06.7**	**-0.8**
	1.3nm,0.7s,mb4.1,baz=4.9,slow=5.4,SNR=2.5							

GUC 12 09:21:05.3±0.3,22.00S×69.59W,h75km,ML4.0,1C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ANCH	**Antofagasta**	**1.84**	**204**	⇑*iP*		P	09 21 35.5	0.0
ANCH				*i* S		S	09 21 58.4	+0.7
ANCH				⇓*e*			09 24 27.2	
	baz=24,slow=8.6							
CPN1	**Cerro Paranal**	**2.72**	**196**	AMP			09 22 41.2	
	comp=E,604nm,0.3s							

TEH ***12*** *09:23:17.5,29.83N×51.65E,h10km,Mn3.2*
THR ***12*** *09:23:25.8±0.4,29.78N×52.21E,h18km±15km,ML3.5*
KISR ***12*** *09:23:25.6±0.9,29.70N×51.97E,h33km,ML3.3*
CSEM ***12*** *09:23:25.1±0.1,29.56N×52.21E,h37km±1km,ML3.2, Error ellipse: s-maj=6.9km s-min=3.2km az=170.0*
ISC 12 09:23:17.5±0.5,29.57N±0.05×51.52E±0.03,h10km,n23, σ1°24/29,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SHI	**Shiraz**	**0.87**	**85**	Pn	**Pb**		**09 23 33.0**	**-1.2**
IMOK	**Mook**	**1.17**	**116**	Pn	**Pg**		**09 23 40.7**	**-0.1**
IPAR	**Pars**	**1.35**	**78**	Pn	**Pn**		**09 23 40.8**	**-1.7**
ISRV	**Sarvestan**	**1.40**	**97**	Pn	**Pn**		**09 23 42.1**	**-1.1**
GHIR	**Ghir-Karzin**	**1.81**	**135**	*e*PG	**Pg**		**09 23 55.9**	**+2.1**
GHIR				*e*SG	**Sg**		**09 24 17.6**	**-0.4**
GHIR				AML	AML		09 24 30.6	
	comp=N,513nm,0.6s							
GHIR	**Ghir-Karzin**	**1.81**	**135**	*e*Pg	**Pg**		**09 23 55.9**	**+2.1**
	SNR=92							
GHIR				*e*Sg	**Sg**		**09 24 17.6**	**-0.4**
	comp=N,513nm,0.6s,SNR=92							
IGAR	**Garneh**	**2.73**	**12**	Pn	**Pn**		**09 23 59.0**	**-3.1**
ISAD	**Sadrabad**	**2.98**	**38**	Pn	**Pn**		**09 24 06.9**	**+1.1**
IMEH	**Mehriz**	**3.23**	**55**	Pn	**Pn**		**09 24 13.6**	**+4.4**
QRN	**Al-Qurain**	**3.26**	**256**	*e*P	**Pg**		**09 24 23.5**	**+1.0**
QRN				AML	AML		09 25 07.0	
	comp=Z,26nm,0.3s							
QRN				*e*S	**Sg**		**09 25 07.2**	**+1.2**
UMR	**Umm Al-Rimmam**	**3.32**	**271**	*e*P	**Pg**		**09 24 23.8**	**+0.1**
UMR				*e*S	**Sg**		**09 25 07.9**	**0.0**
UMR				AML	AML		09 25 15.6	
	comp=Z,60nm,0.4s							
KBD	**Kabd**	**3.37**	**264**	*e*P	**Pg**		**09 24 25.4**	**+0.7**
KBD				*e*S	**Sg**		**09 25 09.7**	**+0.1**
KBD				AML	AML		09 25 16.1	
	comp=Z,75nm,0.5s							
IZEF	**Zefreh**	**3.38**	**12**	Pn	**Pn**		**09 24 06.3**	**-5.2**
NASN	**Na'in**	**3.40**	**19**	*e*PN	**Pn**		**09 24 15.7**	**+3.9**
SHGR	**Shooshtar-Gavs**	**3.44**	**318**	*e*PN	**Pg**		**09 24 24.8**	**-1.5**
SHGR				AML	AML		09 25 42.7	
	comp=N,87nm,0.8s							
RDF	**Al-Radifah**	**3.53**	**260**	*e*P	**Pg**		**09 24 27.1**	**-0.9**
RDF				*e*S	**Sg**		**09 25 13.0**	**-2.0**
RDF				AML	AML		09 25 15.3	
	comp=Z,47nm,0.6s							
ICHK	**Chekchek**	**3.64**	**42**	Pn	**Pn**		**09 24 16.3**	**+1.2**
IKLH	**Kalahroud**	**3.73**	**1**	Pn	**Pn**		**09 24 11.2**	**-5.3**
IBAF	**Bafgh**	**4.03**	**59**	Pn	**Pn**		**09 24 24.9**	**+4.3**
IVRN	**Varamin**	**5.41**	**2**	Pn	**Pn**		**09 24 41.2**	**+1.0**
IFIR	**Firoozkooh**	**6.14**	**9**	Pn	**Pn**		**09 24 56.3**	**+5.8**
SNGE	**Sanandaj**	**6.54**	**328**	*e*Pn	**Pn**		**09 25 05.8**	**+10**
SNGE	**Sanandaj**	**6.54**	**328**	*e*Pn	**Pn**		**09 25 05.8**	**+10**
	SNR=52							

NEIC ***12*** *09:41:34.8±0.7, 18.53S×68.98W,h147km±13km,mb4.1/3, Error ellipse: s-maj=12.5km s-min=9.7km az=94.0*
IDC ***12*** *09:41:36.0±1.1,18.64S×68.72W,h139km±12km,mb4.0/3, mb1 3.8/7,mb1mx3.6/16,mbtmp4.2/7,Error ellipse: s-maj=26.4km s-min=8.3km az=102.0*
ISC 12 09:41:34.1±0.6,18.56S±0.05×69.03W±0.07, h155km±10km,n16,σ1°13/20,mb4.2/2,1C-1D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.42**	**21**	P	**P**		**09 42 16.1**	**+1.2**
	35nm,0.3s,baz=190,slow=8.2,SNR=1096							
LPAZ				S	**S**		**09 42 47.2**	**+0.9**
	5.7nm,0.3s,baz=54,slow=24,SNR=16							
LPAZ	**La Paz**	**2.42**	**21**	⇓*i*Pn	**P**		**09 42 16.1**	**+1.1**
ARE	**Arequipa**	**3.14**	**311**	⇑*iP*	**P**		**09 42 24.7**	**+0.6**
ARE				*i* S	**S**		**09 43 01.5**	**-0.9**
LVC	**Limon Verde**	**4.03**	**178**	P	**P**		**09 42 36.4**	**+0.7**
	4.2nm,0.3s,baz=6.4,slow=18,SNR=44							
LVC				S	**S**		**09 43 22.2**	**-0.9**
	7.7nm,0.3s,baz=288,slow=21,SNR=9.9							
SIV	**San Ignacio**	**8.02**	**73**	P	**P**		**09 43 26.3**	**-2.4**
	6.1nm,0.3s,baz=263,slow=13,SNR=142							
SIV				S	**S**		**09 44 52.3**	**-5.8**
	baz=336,slow=13,SNR=5.8							
NNA	**Nana**	**9.97**	**310**	*e*Pn	**P**		**09 43 53.0**	**-1.5**
	13nm,0.8s							
SAML	**Samuel**	**11.12**	**31**	Pn	**P**		**09 44 10.3**	**+0.8**
CFAA	**Coronel Fontan**	**13.01**	**177**	P	**P**		**09 44 34.7**	**+0.7**
	0.0nm,0.3s,baz=11,slow=12,SNR=3.8							
CFAA	**Coronel Fontan**	**13.01**	**177**	P	**P**		**09 44 34.7**	**+0.7**
CPUP	**Villa Florida**	**13.29**	**128**	P	**P**		**09 44 36.3**	**-1.3**
	0.1nm,0.3s,baz=344,slow=15,SNR=2.4							
BDFB	**Brasilia**	**20.30**	**85**	P	**P**		**09 45 59.1**	**-0.5**
	12nm,0.4s,baz=262,slow=7.0,SNR=14							
TRQA	**Tornquist**	**20.38**	**164**	*e*P	**P**		**09 46 00.9**	**+0.6**
	3.2nm,0.8s							
PLCA	**Paso Flores**	**22.14**	**183**	P	**P**		**09 46 19.6**	**+2.1**
	6.2nm,1.1s,mb3.9,baz=4.7,slow=13,SNR=4.3							
PLCA	**Paso Flores**	**22.14**	**183**	*e*P	**P**		**09 46 19.6**	**+2.1**
	5.8nm,1.0s,mb4.0							
DBIC	**Dimbokro**	**68.04**	**75**	P	**P**		**09 52 18.9**	**-0.4**
	4.0nm,0.6s,mb4.3,baz=235,slow=9.6,SNR=8.0							
DBIC	**Dimbokro**	**68.04**	**75**	P	**P**		**09 52 18.9**	**-0.4**

JMA ***12*** *10:09:36.8±0.6,45.06N×147.69E,h181km,M3.7*
IDC ***12*** *10:09:36.5±2.6,45.89N×147.01E,h194km±42km,mb3.2/6, mb1 3.5/6,mb1mx3.2/16,mbtmp3.7/6,Error ellipse: s-maj=61.8km s-min=26.7km az=2.0*
ISC 12 10:09:34.5±0.7,45.2N±0.1×147.5E±0.2,h200km,n17, σ1°38/24,mb3.3/6,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**2.21**	**216**	P	**P**		**10 10 16.2**	**+0.6**
NEM2				*e*S	**S**		**10 10 46.5**	**-0.8**
JTKR	**Abashiri--Toko**	**2.84**	**246**	P	**P**		**10 10 24.0**	**+1.2**
JAK	**Akkeshi**	**2.97**	**224**	P	**P**		**10 10 25.6**	**+1.3**
JAK				*e*S	**S**		**10 11 03.8**	**+1.0**
JAR	**Ashorobuto**	**3.28**	**236**	P	**P**		**10 10 30.4**	**+2.4**
JKK2	**Kamakawa 2**	**3.65**	**251**	P	**P**		**10 10 34.3**	**+1.8**
ASAJ	**Asahikawa**	**3.66**	**255**	P	**P**		**10 10 33.0**	**+0.3**
	0.9nm,0.3s,baz=81,slow=14,SNR=9.0							
JCH	**Churui**	**3.94**	**231**	P	**P**		**10 10 37.5**	**+1.3**
JCH				*e*S	**S**		**10 11 24.0**	**+0.2**
JNBK	**Urakawa-nobuka**	**4.50**	**232**	P	**P**		**10 10 43.8**	**+0.6**
JNBK				*e*S	**S**		**10 11 34.5**	**-1.9**
JKB	**Kayabe**	**5.74**	**237**	P	**P**		**10 10 59.6**	**+0.5**
JKB				*e*S	**S**		**10 12 03.6**	**-1.3**
JOT	**Ohata**	**6.05**	**233**	P	**P**		**10 11 02.9**	**-0.2**
JOT				*e*S	**S**		**10 12 09.4**	**-2.7**
JMK	**Ichinoseki**	**7.78**	**219**	P	**P**		**10 11 26.6**	**+0.9**
JMK				*e*S	**S**		**10 12 50.3**	**-2.2**
ILAR	**Eielson Array**	**40.19**	**37**	P	**P**		**10 16 49.9**	**-2.4**
	0.3nm,0.5s,mb3.0,baz=277,slow=8.9,SNR=7.9							
INK	**Inuvik**	**45.05**	**31**	P	**P**		**10 17 29.4**	**-1.9**
	0.9nm,0.7s,mb3.2,baz=310,slow=7.0,SNR=9.6							
FINES	**FINESS Array B**	**63.73**	**333**	P	**P**		**10 19 41.6**	**-4.6**
	1.2nm,0.8s,mb3.6,baz=56,slow=6.9,SNR=4.6							
NVAR	**Mina Array Bea**	**66.61**	**59**	P	**P**		**10 20 05.7**	**+0.6**
	0.5nm,0.7s,mb3.3,baz=294,slow=7.0,SNR=5.1							
NOA	**NORSAR Array B**	**68.37**	**339**	P	**P**		**10 20 11.6**	**-4.0**
	0.3nm,0.4s,mb3.3,baz=20,slow=6.3,SNR=2.4							
PDAR	**Pinedale Array**	**68.80**	**50**	P	**P**		**10 20 18.6**	**+0.1**
	0.7nm,0.6s,mb3.5,baz=334,slow=2.1,SNR=8.0							

IDC ***12*** *10:26:00.1±0.8,3.67S×134.50E,mb4.2/6,mb1 4.5/8, mb1mx4.4/11,mbtmp4.3/8,ML4.6/2,MS3.4/3,Ms1 3.4/3, ms1mx3.1/11,Error ellipse: s-maj=49.5km s-min=18.3km az=70.0*
NEIC ***12*** *10:26:04.8±5.2,3.87S×134.29E,h25km±38km,mb4.3/9, Error ellipse: s-maj=18.2km s-min=14.5km az=222.0*
ISC 12 10:26:05.1±2.9,3.93S±0.07×134.33E±0.10,h48km±28km, n23,σ1°32/24,mb4.2/10,MS3.5/1,1C,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**8.92**	**192**	*e*P	**P**		**10 28 25.1**	**+11**
	22nm,0.6s							
KAKA				*e*S	**S**		**10 30 06.8**	**+12**
PMG	**Port Moresby**	**13.85**	**114**	Pn	**P**		**10 29 21.3**	**+0.6**
	0.5nm,0.3s,baz=350,slow=6.5,SNR=4.1							
PMG				LR	LR		10 35 20.8	
	comp=Z,124nm,19.6s,baz=309,slow=41							
WRAB	**Tennant Creek**	**15.90**	**180**	*e*Pn	**P**		**10 29 46.4**	**-0.9**
	28nm,0.7s							
WRAB				*e*			10 29 54.5	
WB2	**Warramunga Arr**	**15.91**	**180**	*e*P	**P**		**10 29 46.0**	**-1.5**
WB2				*e*S	**S**		**10 32 43.0**	**+0.8**
FITZ	**Fitzroy Crossi**	**16.45**	**210**	*e*P	**P**		**10 29 56.0**	**+1.7**
	20nm,0.6s							
FITZ				*e*S	**S**		**10 32 52.8**	**-1.9**
FITZ	**Fitzroy Crossi**	**16.45**	**210**	Pn	**P**		**10 29 54.6**	**+0.4**
	2.3nm,0.3s,baz=24,slow=10,SNR=23							
CTA	**Charters Tower**	**19.82**	**145**	⇑*iP*	**P**		**10 30 35.6**	**+1.0**
	11nm,0.7s							
CTA	**Charters Tower**	**19.82**	**145**	P	**P**		**10 30 34.3**	**-0.3**
	0.8nm,0.3s,baz=325,slow=12,SNR=22							
CTA				LR	LR		10 37 50.1	
	comp=Z,113nm,19.2s,baz=316,slow=36							
CTAO	**Charters Tower**	**19.82**	**145**	*e*P	**P**		**10 30 35.2**	**+0.5**
	12nm,0.8s							
MBWA	**Marble Bar**	**22.24**	**218**	*e*P	**P**		**10 31 05.6**	**+6.3**
	4.4nm,0.5s,mb4.1							
KSM	**Kuching**	**24.60**	**282**	*e*P	**P**		**10 31 24.5**	**+2.0**
STKA	**Stephens Creek**	**28.62**	**167**	P	**P**		**10 31 59.1**	**-0.3**
	2.4nm,0.8s,mb4.0,baz=274,slow=10,SNR=3.2							
STKA				LR	LR		10 44 37.9	
	comp=Z,101nm,18.8s,MS3.5,baz=206,slow=39							
SONM	**Songino Array**	**57.08**	**338**	P	**P**		**10 35 46.9**	**-2.0**
	0.6nm,0.5s,mb3.9,baz=155,slow=6.2,SNR=6.3							
MKAR	**Makanchi Array**	**68.15**	**324**	P	**P**		**10 37 02.0**	**-0.3**
	5.3nm,0.6s,mb4.8,baz=111,slow=8.2,SNR=37							
KURK	**Kurchatov**	**72.26**	**327**	*e*P	**P**		**10 37 29.2**	**+1.9**
	4.6nm,0.6s,mb4.6							
VNDA	**Vanda**	**74.99**	**174**	P	**P**		**10 37 44.2**	**+1.5**
	1.8nm,0.9s,mb4.0,baz=319,slow=6.3,SNR=8.5							
VNDA	**Vanda**	**74.99**	**174**	*e*P	**P**		**10 37 44.6**	**+1.8**
	2.5nm,1.0s,mb4.1							
BVAR	**Borovoye Array**	**77.85**	**326**	P	**P**		**10 37 58.6**	**-0.6**
	1.5nm,0.6s,mb4.1,baz=120,slow=7.7,SNR=7.6							
BRVK	**Borovoye**	**77.92**	**326**	*e*P	**P**		**10 37 59.5**	**-0.2**
	1.1nm,0.6s,mb4.0							
MCK	**McKinley**	**87.66**	**26**	*e*P	**P**		**10 38 50.1**	**+0.7**
	1.3nm,0.6s,mb4.3							
ILAR	**Eielson Array**	**88.76**	**25**	P	**P**		**10 38 52.2**	**-2.4**
	1.0nm,0.9s,mb4.1,baz=274,slow=4.6,SNR=8.1							
CPUP	**Villa Florida**	**147.87**	**160**	PKPbc	PKPdf		10 45 48.8	+6.1
	2.6nm,0.9s,baz=254,slow=6.5,SNR=4.9							
LPAZ	**La Paz**	**150.05**	**133**	PKPbc	PKPdf		10 45 55.7	+9.3
	2.1nm,1.0s,baz=260,slow=1.8,SNR=

HMAT	**Matruh**	**4.33 149**	P	Px	10 45 04.4
HMAT			S	Sx	10 45 52.6
SWA2		**5.64 171**	⇓P	Px	10 45 24.4
SWA1		**5.65 169**	⇑P	Px	10 45 23.8
SWA1			S	Sx	10 46 26.5
GLL	**Jalalah**	**8.06 129**	⇑P	Px	10 45 55.3
HDK1	**Dakhla**	**10.19 154**	⇓P	Px	10 46 26.4

NNC 12 10:49:24.7±6.7, 50.05N×89.31E, h13km±38km, mpv3.7, 2C-3D, Error ellipse: s-maj=47.0km s-min=22.8km az=49.0, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**5.70**	**238**	⇑Pn	Pn	10 50 51.5	+0.4
	2.3nm,0.2s,baz=50,slow=17,SNR=139						
MK31				⇑Lg		10 52 27.8	
	13nm,0.6s,baz=53,slow=32,SNR=5.7						
KURK	**Kurchatov**	**6.87**	**280**	Pn	Pn	10 51 05.6	-2.1
KURK				⇓Sn	Sn	10 52 24.9	-1.6
	9.0nm,1.1s						
KURK				⇓Lg		10 53 01.2	
	12nm,0.6s						
VOSK	**Vostochnaya**	**11.76**	**290**	⇓Sn	S	10 54 21.3	-5.9
	3.0nm,0.8s						
BVA0	**Borovoye Array**	**12.15**	**291**	Sn	S	10 54 32.1	-4.6
	0.2nm,0.8s,baz=90,slow=24,SNR=5.9						
AB31	**Akbulak array**	**18.98**	**279**	Pn	P	10 53 49.3	+1.2
	1.4nm,0.8s,baz=86,slow=13,SNR=4.3						

*IDC **12** 11:08:50.2±0.8, 54.50N×168.72E, mb4.0/12, mb1 4.1/14, mb1mx4.0/20, mbtmp4.0/14, ML3.5/2, MS3.6/14, Ms1 3.6/14, ms1mx3.4/23, Error ellipse: s-maj=23.6km s-min=10.0km az=29.0*

*KRSC **12** 11:08:51.3±1.0, 54.22N×168.81E, h40km±25km, ML5.0*

*MOS **12** 11:08:51.4±1.2, 54.40N×168.64E, h25km, mb4.7/5, Error ellipse: s-maj=13.0km s-min=10.3km az=30.0*

*NEIC **12** 11:08:53.2±0.5, 54.37N×168.65E, mb4.2/4, Error ellipse: s-maj=15.3km s-min=7.2km az=192.0*

ISC 12 11:08:52.9±0.6, 54.23N±0.04×168.51E±0.04, h41km±6km, n81, σ1§25/106, mb4.1/17, MS3.7/15, 1C-1D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.76**	**304**	*i* P	P	11 09 19.8	-1.7
BKI				*e*S	S	11 09 43.1	+0.2
BKI				Smax			
	6μm,0.5s						
FX1	**Attu Island--F**	**3.09**	**114**	Pn	P	11 09 38.6	-1.8
	29nm,0.3s,baz=304,slow=5.6,SNR=163						
FX1				Sn	S	11 10 14.1	-2.4
	47nm,0.3s,baz=84,slow=23,SNR=13						
FX1	**Attu Island--F**	**3.09**	**114**	*e*Pn	P	11 09 38.5	-1.9
FX1				*e*Sn	S	11 10 15.0	-1.5
SMY	**Shemya**	**3.66**	**112**	*e*Pn	P	11 09 47.8	-0.8
KBTR	**Krutoberegovo**	**3.81**	**304**	P	P	11 09 48.6	-2.1
KBTR				S	S	11 10 29.9	-4.9
KBTR	**Krutoberegovo**	**3.81**	**304**	*e*P	P	11 09 48.9	-1.8
KBTR				*e*S	S	11 10 34.5	-0.3
MKZ	**Mys Kozlova**	**3.98**	**277**	P	P	11 09 53.2	+0.2
MKZ				S	S	11 10 37.1	-1.9
MKZ	**Mys Kozlova**	**3.98**	**277**	*e*P	P	11 09 53.4	+0.4
MKZ				*e*S	S	11 10 39.0	0.0
ZLN	**Zelenaya**	**4.77**	**295**	*e*P	P	11 10 05.1	+0.9
ZLN				*e*S	S	11 10 59.3	+0.3
CIRR	**Tsirk**	**4.83**	**296**	*e*P	P	11 10 05.7	+0.6
CIRR				*e*S	S	11 10 59.1	-1.4
LGNR	**Loginova**	**4.85**	**296**	*e*P	P	11 10 06.5	+1.1
KLY	**Klyuchi**	**4.95**	**298**	P	P	11 10 07.0	+0.2
KLY				S	S	11 11 00.6	-2.9
KLY	**Klyuchi**	**4.95**	**298**	*e*P	P	11 10 06.4	-0.4
KLY				*e*S	S	11 11 00.6	-2.9
KRSR	**Krestovskiy**	**4.96**	**297**	*e*P	P	11 10 07.9	+1.0
KRSR				*e*S	S	11 11 03.3	-0.5
KMNR	**Kamenistaya**	**5.00**	**291**	*e*P	P	11 10 08.9	+1.4
KMNR				*e*S	S	11 11 04.9	+0.1
KPT	**Kopyto**	**5.07**	**293**	*e*P	P	11 10 08.7	+0.3
KPT				*e*S	S	11 11 04.3	-2.1
SPN	**Mys Shipunski**	**5.17**	**261**	P	P	11 10 10.6	+0.7
SPN				S	S	11 11 06.8	-2.3
SPN	**Mys Shipunski**	**5.17**	**261**	*e*P	P	11 10 10.8	+0.9
SPN				*e*S	S	11 11 09.1	0.0
KOZR	**Kozyr**	**5.27**	**294**	PN	P	11 10 12.6	+1.4
KOZR				S	S	11 11 13.4	+1.9
KOZ	**Kozyrevsk**	**5.28**	**294**	P	P	11 10 12.6	+1.3
KOZ				S	S	11 11 13.4	+1.6
KOZ	**Kozyrevsk**	**5.28**	**294**	*e*P	P	11 10 12.8	+1.5
KOZ				*e*S	S	11 11 12.1	+0.3
SRDR	**Sredinnyy**	**5.44**	**296**	*e*S	S	11 11 16.1	+0.2
NLC	**Nalytchevo**	**5.55**	**263**	P	P	11 10 15.3	+0.2
NLC				S	S	11 11 16.0	-2.5
NLC	**Nalytchevo**	**5.55**	**263**	*e*P	P	11 10 16.3	+1.2
NLC				*e*S	S	11 11 18.3	-0.2
SDLR	**Sedlovina**	**5.79**	**264**	*e*P	P	11 10 18.6	+0.1
SMAR	**Somma**	**5.84**	**264**	*e*P	P	11 10 18.6	-0.6
UGLR	**Uglovaya**	**5.84**	**264**	*e*P	P	11 10 20.1	+0.9
AVH	**Avacha**	**5.88**	**264**	*e*P	P	11 10 20.0	+0.3
AVH				*e*S	S	11 11 24.1	-2.7
ESO	**Esso**	**5.88**	**291**	*e*P	P	11 10 20.4	+0.6
ESO				*e*S	S	11 11 24.8	-2.1
ESO				Smax			
	130nm,1.1s						
KOK	**Koryaka**	**5.93**	**265**	*e*P	P	11 10 21.3	+0.8
PET	**Petropavlovsk**	**5.99**	**262**	*e*P	P	11 10 22.5	+1.2
PET				*e*S	S	11 11 28.8	-0.7
PET	**Petropavlovsk**	**5.99**	**262**	*e*Pn	P	11 10 22.3	+1.1
	28nm,0.4s						
PET				*e*Sn	S	11 11 23.2	-6.3
PET	**Petropavlovsk**	**5.99**	**262**	*e*PN	P	11 10 22.1	+0.8
PET				pmax	pmax		
	comp=Z,39nm,0.4s						
PET				MLR	MLR		
	comp=Z,400nm,19.0s						
PET				MLR	MLR		
	comp=Z,400nm,18.0s						
RUS	**Russkaya**	**6.25**	**257**	P	P	11 10 25.2	+0.2
RUS				S	S	11 11 32.5	-3.6
RUS	**Russkaya**	**6.25**	**257**	*e*P	P	11 10 25.9	+0.9
RUS				*e*S	S	11 11 35.6	-0.5
GNL	**Ganaly**	**6.26**	**269**	*e*P	P	11 10 26.4	+1.3
GNL				*e*S	S	11 11 35.5	-0.8
KRMR	**Karymshinskiy**	**6.35**	**261**	*e*S	S	11 11 36.2	-2.3
GRL	**Gorelyy**	**6.47**	**259**	*e*P	P	11 10 30.0	+2.0
GRL				*e*S	S	11 11 41.6	+0.2
APC	**Apacha**	**6.89**	**264**	*e*P	P	11 10 36.2	+2.3
APC				*e*S	S	11 11 52.3	+0.4
APC				Smax			
	comp=Z,50nm,0.8s						
MIPR	**Malaya Ipel'ka**	**7.32**	**259**	*e*P	P	11 10 41.0	+1.1
PAU	**Pauzhetka**	**7.61**	**253**	*e*P	P	11 10 45.3	+1.4
PAU				*e*S	S	11 12 08.1	-1.6
SKR	**Severo-Kuril's**	**8.36**	**250**	*e*PN	P	11 10 51.7	-2.7
SKR				pmax	pmax		
	comp=Z,40nm,0.5s						
SKR				MLR	MLR		
	comp=N,1μm,16.0s						
SKR				MLR	MLR		
	comp=E,1μm,16.0s						
SKR				MLR	MLR		
	comp=Z,900nm,16.0s						
ALID	**Alaid**	**8.59**	**252**	*e*P	P	11 10 57.4	-0.1
SEY	**Seymchan**	**12.08**	**323**	*i* PN	P	11 11 52.4	+7.4
BILL	**Bilibino**	**13.89**	**356**	⇓*e*P	P	11 12 15.2	+6.4
BILL				pmax	pmax		
	comp=Z,12nm,1.2s						
BILL				MLR	MLR		
	comp=Z,200nm,10.0s						
ASAJ	**Asahikawa**	**19.63**	**250**	P	P	11 13 23.8	+3.3
	comp=Z,0.2nm,0.3s,baz=77,slow=12,SNR=6.7						
ASAJ				LR	LR	11 19 45.6	
	comp=Z,96nm,21.1s,baz=156,slow=33						
KLR	**Kul'dur**	**23.12**	**273**	*e*P	P	11 13 57.0	+1.2
KLR				MLR	MLR		
	comp=Z,500nm,12.0s,MS4.2						
SML	**Sawmill**	**23.68**	**54**	*e*P	P	11 14 02.0	+1.0
SML				*ep*P		11 14 09.0	
ILAR	**Eielson Array**	**24.42**	**47**	P	P	11 14 07.4	-0.8
	comp=Z,2.3nm,0.7s,mb3.7,baz=255,slow=7.2,SNR=31						
ILAR				LR	LR	11 23 21.1	
	comp=Z,86nm,20.8s,MS3.2,baz=270,slow=36						
INK	**Inuvik**	**29.86**	**39**	P	P	11 14 55.5	-2.5
	comp=Z,1.2nm,0.8s,mb3.7,baz=249,slow=8.6,SNR=2.3						
INK	**Inuvik**	**29.86**	**39**	*e*P	P	11 14 55.8	-2.2
	comp=Z,3.3nm,0.9s,mb4.1						
INK	**Inuvik**	**29.86**	**39**	*e*P	P	11 14 55.8	-2.2
INK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
SONM	**Songino Array**	**38.45**	**287**	P	P	11 16 14.0	+2.0
	comp=Z,1.7nm,0.6s,mb3.9,baz=58,slow=8.1,SNR=18						
SONM				LR	LR	11 33 22.4	
	comp=Z,132nm,19.7s,MS3.8,baz=63,slow=38						
YBH	**Yreka Blue Hor**	**45.90**	**76**	P	P	11 17 14.1	+1.2
	comp=Z,1.5nm,0.6s,mb4.1,baz=242,slow=5.9,SNR=4.3						
NVAR	**Mina Array Bea**	**50.62**	**77**	P	P	11 17 50.7	+1.1
	comp=Z,0.9nm,0.7s,mb3.8,baz=291,slow=7.7,SNR=9.4						
KURK	**Kurchatov**	**51.27**	**305**	*e*P	P	11 17 53.7	-0.6
	comp=Z,3.4nm,0.8s,mb4.3						
KURK	**Kurchatov**	**51.27**	**305**	*e*P	P	11 17 53.7	-0.6
KURK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
MKAR	**Makanchi Array**	**52.06**	**300**	P	P	11 17 60.0	-0.3
	comp=Z,0.8nm,0.5s,mb3.9,baz=51,slow=7.8,SNR=5.9						
MKAR				LR	LR	11 40 44.9	
	comp=Z,62nm,18.6s,MS3.7,baz=38,slow=37						
MKAR	**Makanchi Array**	**52.06**	**300**	P	P	11 17 60.0	-0.3
MKAR				LR	LR	11 40 44.9	
PDAR	**Pinedale Array**	**52.53**	**67**	P	P	11 18 04.0	+0.1
	comp=Z,0.2nm,0.5s,mb3.3,baz=307,slow=7.4,SNR=4.3						
BVAR	**Borovoye Array**	**53.48**	**312**	P	P	11 18 10.5	-0.3
	comp=Z,3.5nm,0.5s,mb4.5,baz=54,slow=7.5,SNR=24						
BRVK	**Borovoye**	**53.51**	**312**	*e*P	P	11 18 10.6	-0.4
	comp=Z,3.0nm,0.5s,mb4.5						
BRVK	**Borovoye**	**53.51**	**312**	*e*P	P	11 18 10.6	-0.4
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
ARCES	**ARCESS Array B**	**53.64**	**345**	P	P	11 18 10.1	-1.6
	comp=Z,2.3nm,0.8s,mb4.2,baz=22,slow=8.7,SNR=7.7						
ARCES				LR	LR	11 40 50.0	
	comp=Z,41nm,19.9s,MS3.5,baz=189,slow=36						
SRU	**San Rafael**	**54.53**	**71**	*e*P	P	11 18 19.6	+0.9
SRU				*ep*P	pP	11 18 26.9	-3.6
JMIC	**Jan Mayen**	**55.06**	**359**	LR	LR	11 41 32.6	
	comp=Z,29nm,19.4s,MS3.4,baz=61,slow=36						
ARU	**Arti**	**55.81**	**321**	⇑*e*P	P	11 18 19.3	-8.4
SDCO	**Great Sand Dun**	**58.26**	**68**	P	P	11 18 45.0	-0.4
	comp=Z,0.4nm,0.5s,mb3.7						
FINES	**FINESS Array B**	**60.90**	**340**	P	P	11 19 02.2	-0.9
	comp=Z,0.9nm,0.7s,mb4.0,baz=31,slow=8.1,SNR=3.7						
FINES				LR	LR	11 47 03.5	
	comp=Z,43nm,18.1s,MS3.6,baz=14,slow=38						
BORG	**Borgarnes**	**61.11**	**5**	LR	LR	11 45 14.0	
	comp=Z,34nm,18.4s,MS3.5,baz=14,slow=36						
NB2	**NORSAR Subarra**	**63.67**	**348**	P	P	11 19 20.7	-0.8
	comp=Z,2.4nm,0.6s,mb4.4,baz=15,slow=6.5						
NOA	**NORSAR Array B**	**63.67**	**348**	P	P	11 19 21.0	-0.4
	comp=Z,2.4nm,0.7s,mb4.4,baz=16,slow=6.7,SNR=12						
NOA				LR	LR	11 48 06.7	
	comp=Z,22nm,18.9s,MS3.4,slow=37						
NOA	**NORSAR Array B**	**63.67**	**348**	P	P	11 19 21.0	-0.4
NOA				LR	LR	11 48 06.7	
OBN	**Obninsk**	**64.08**	**332**	*e*P	P	11 19 22.2	-2.0
OBN				*e*S	S	11 27 57.2	+0.9
OBN				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.9						
OBN				MLR	MLR		
	comp=Z,100nm,18.0s,MS4.0						
HFS	**Hagfors**	**64.22**	**346**	LR	LR	11 45 15.0	
	comp=Z,66nm,21.4s,MS3.8,baz=7.0,slow=34						
KIV	**Kislovodsk**	**71.83**	**322**	*e*P	P	11 20 04.1	-8.6
KIV				*e*S	S	11 29 39.5	+10
KIV				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
VRAC	**Vranov**	**74.15**	**341**	LR	LR	11 54 43.5	
	comp=Z,32nm,19.8s,MS3.6,baz=17,slow=37						
GNI	**Garni**	**74.35**	**319**	LR	LR	11 57 53.6	
	comp=Z,76nm,18.9s,MS4.0,baz=1.4,slow=40						
GERES	**GERESS Array B**	**75.12**	**343**	P	P	11 20 33.1	+1.3
	comp=Z,0.2nm,0.3s,mb3.5,slow=2.9,SNR=4.0						
DAVOX	**Davos**	**77.74**	**345**	LR	LR	11 53 31.6	
	comp=Z,35nm,21.4s,MS3.6,baz=262,slow=35						
PPT	**Papeete**	**79.99**	**140**	LR	LR	11 47 05.3	
	comp=Z,126nm,21.8s,MS4.2,baz=342,slow=29						

*CASC **12** 11:13:06.1±3.6, 16.40N×88.91W, h27km±494km, MD4.0, ML3.3, mb3.8(NEIC)*

*IDC **12** 11:13:09.3±4.7, 14.03N×91.02W, h92km±67km, mb3.4/8, mb1 3.7/9, mb1mx3.5/20, mbtmp3.8/9, ML3.6/1, Error ellipse: s-maj=85.9km s-min=28.3km az=23.0*

*NEIC **12** 11:13:09.0±1.8, 14.14N×90.96W, h82km±24km, mb3.8/4, Error ellipse: s-maj=42.9km s-min=12.6km az=213.0*

ISC 12 11:13:08.1±2.0, 14.0N±0.3×91.0W±0.2, h98km±27km, n30, σ0§83/20, mb3.6/11, 2C-7D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RBDL	**Robledal**	**1.27**	**85**	⇑*e*P	Px	11 13 54.8	
RBDL				*e*S	Sx	11 14 23.8	
RTR	**El Retiro**	**1.31**	**95**	⇓*e*P	Px	11 13 54.7	
RTR				*e*S	Sx	11 14 25.3	
SNJE	**San Jose**	**1.35**	**96**	⇓*e*P	Px	11 13 55.0	
SNJE				*e*S	Sx	11 14 26.2	
BOQS	**Boqueron**	**1.68**	**99**	⇓*e*P	Px	11 13 59.7	
BOQS				*e*S	Sx	11 14 29.4	
LFU	**La Fuente**	**1.84**	**98**	*e*P	Px	11 14 02.1	
LFU				*e*S	Sx	11 14 33.1	
LBRS	**Las Brisas**	**1.91**	**98**	⇓*e*P	Px	11 14 02.7	
LBRS				*e*S	Sx	11 14 34.6	
LFRS	**El Faro**	**1.91**	**101**	⇑*e*P	Px	11 14 02.6	
LFRS				*e*S	Sx	11 14 35.1	
LCBS	**La Ceiba**	**1.98**	**100**	⇓*e*P	Px	11 14 03.6	
LCBS				*e*S	Sx	11 14 35.8	
SNVI	**San Vicente**	**2.12**	**101**	⇓*e*P	Px	11 14 05.3	
SNVI				*e*S	Sx	11 14 37.6	
BLLM	**Bellamira**	**2.73**	**102**	*e*P	Px	11 14 14.5	
BLLM				*e*S	Sx	11 14 50.3	
CNCH	**Conchagua**	**3.15**	**103**	⇓*e*P	Px	11 14 18.8	
CNCH				*e*S	Sx	11 14 57.5	
LEON	**Leon**	**4.29**	**111**	*e*P	P	11 14 11.6	-0.9
COPN	**Copaltepe**	**4.65**	**113**	*e*P	P	11 14 17.8	+0.4
COPN				*e*S	S	11 15 10.9	+0.3
COPN				*i*		11 15 18.1	
	comp=Z,58nm,0.5s						
JTS	**JuntasAbangare**	**6.96**	**121**	P	P	11 14 48.8	-0.3
	comp=Z,1.0nm,0.3s,baz=299,slow=18,SNR=5.1						
JTS	**JuntasAbangare**	**6.96**	**121**	*e*Pn	P	11 14 48.8	-0.3
SDV	**Santo Domingo**	**20.58**	**102**	P	P	11 17 42.1	+0.9
	comp=Z,3.0nm,0.6s,baz=325,slow=7.5,SNR=4.1						
WMOK	**Wichita Mounta**	**21.80**	**342**	*e*P	P	11 17 53.2	-0.2
	comp=Z,1.2nm,0.7s,mb3.3						
GDL2	**Guadalupe Moun**	**21.85**	**328**	*e*P	P	11 17 54.0	+0.2
BNM	**Barren Site**	**24.55**	**327**	*e*P	P	11 18 22.0	+2.0
ANMO	**Albuquerque**	**25.09**	**329**	P	P	11 18 26.5	+1.3
	comp=Z,1.1nm,0.7s,mb3.4,baz=142,slow=11,SNR=7.6						
PDAR	**Pinedale Array**	**32.83**	**334**	P	P	11 19 33.5	-0.9
	comp=Z,0.2nm,0.5s,mb3.2,baz=135,slow=8.9,SNR=2.8						
TPAW	**Teton Pass**	**34.01**	**334**	*e*P	P	11 19 44.0	-0.5
	comp=Z,1.1nm,0.6s,mb3.9						
ELK	**Elko**	**34.02**	**326**	*e*P	P	11 19 45.6	+1.0
	comp=Z,1.2nm,0.8s,mb3.8						
NVAR	**Mina Array Bea**	**34.29**	**320**	P	P	11 19 46.6	-0.3
	comp=Z,0.7nm,0.7s,mb3.6,baz=114,slow=8.9,SNR=7.5						
HLID	**Hailey**	**35.65**	**330**	*e*P	P	11 19 58.0	-0.4
	comp=Z,0.7nm,0.7s,mb3.7						
SCHQ	**Schefferville**	**44.88**	**20**	P	P	11 21 14.6	+0.3
	comp=Z,1.5nm,0.5s,mb4.0,baz=227,slow=6.4,SNR=6.3						
YKA	**Yellowknife Ar**	**51.24**	**346**	P	P	11 22 02.2	-1.4
	comp=Z,0.4nm,0.5s,mb3.7,baz=138,slow=8.6,SNR=4.1						
YKA	**Yellowknife Ar**	**51.24**	**346**	P	P	11 22 02.2	-1.4
INK	**Inuvik**	**60.71**	**343**	P	P	11 23 10.4	-0.8
	comp=Z,2.3nm,1.1s,mb4.1,baz=173,slow=8.9,SNR=3.5						
ILAR	**Eielson Array**	**63.22**	**337**	P	P	11 23 27.5	-0.6
	comp=Z,0.3nm,0.6s,mb3.4,baz=117,slow=4.0,SNR=6.7						

*ATH **12** 11:22:31.0, 33.91N×26.10E, h10km, MD3.4/3*

*CSEM **12** 11:22:34.9±0.1, 34.08N×26.25E, h25km, ML3.0, Error ellipse: s-maj=1.9km s-min=1.1km az=67.0*

*HLW **12** 11:22:38.1, 34.04N×26.24E, h33km, Mb3.0*

ISC 12 11:22:33.0±1.8, 34.05N±0.09×26.1E±0.1, h7km±21km, n13, σ1§25/16, 3C-5D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.90**	**336**	*e*PG	Pg	11 22 50.0	-1.0
NPS	**Neapolis**	**1.28**	**340**	*e*PG	Pg	11 22 57.5	-1.1
KARP	**Karpathos**	**1.71**	**29**	*e*PN	Pn	11 23 05.0	+1.6
SLUM		**2.67**	**197**	⇑P	Pn	11 23 18.9	+1.7
SLUM				S	Sn	11 23 49.0	-1.1
HMAT	**Matruh**	**3.06**	**164**	⇓P	Pn	11 23 24.9	+2.2
HMAT				S	Sn	11 23 57.3	-2.6
SWA1		**4.79**	**185**	⇓P	Pn	11 23 47.9	+0.7
SWA1				S	Sn	11 24 37.9	-5.8
SWA2		**4.83**	**187**	⇑P	Pn	11 23 48.6	+0.7
HNAT	**Natroun**	**5.82**	**138**	⇓P	Pn	11 24 02.9	+1.0
GLL	**Jalalah**	**6.51**	**132**	P	Pn	11 24 11.7	+0.2
AMAG	**Maghara**	**6.88**	**118**	⇑P	Pn	11 24 16.1	-0.6
SUZ		**7.07**	**125**	⇓P	Pn	11 24 18.6	-0.8
HKAT	**Jabal Katrina**	**8.69**	**127**	P	P	11 24 40.9	-1.1
HDK1	**Dakhla**	**8.94**	**161**	⇓P	P	11 24 45.6	+0.1

*CSEM **12** 11:31:24.0±0.2, 67.63N×34.14E, h2km, ML2.7, Error ellipse: s-maj=5.9km s-min=3.6km az=90.0, Mining explosion.*

*NAO **12** 11:31:26.5±1.9, 67.68N×33.83E, ML2.7*

*IDC **12** 11:31:31.3±2.1, 67.57N×32.92E, mb1 3.4/4, mb1mx3.2/17, mbtmp3.4/4, ML3.4/4, Error ellipse: s-maj=22.7km s-min=8.3km az=79.0*

HEL 12 11:31:26.0±0.3, 67.68N×33.96E, ML2.7, ML2.7(NAO), Explosion, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**0.38**	**259**	*i* P	Pg	11 31 32.5	-1.1
APA0				*i* S	Sg	11 31 37.7	-0.8
APA0				*e*RG		11 31 40.0	
APA0	**Apatity Array**	**0.38**	**259**	Pg	Pg	11 31 32.5	-1.1
	baz=91,slow=14						
APA0				Lg		11 31 37.7	
	baz=87,slow=37						
APA0				Rg		11 31 40.0	
	baz=86,slow=37						
KU4	**Liikasenvaara**	**2.17**	**234**	*e*P	Pn	11 32 03.6	-0.2
KU4				*e*S	Sn	11 32 31.6	-0.2
SGF	**Sodankyl**	**2.86**	**269**	*e*P	Pn	11 32 12.4	-1.3
SGF				*e*S	Sn	11 32 49.5	+0.1
SGF	**Sodankyl**	**2.86**	**269**	P	Pn	11 32 12.4	-1.3
SGF				S	Sn	11 32 49.4	0.0
KEV	**Kevo**	**3.28**	**313**	*e*P	Pn	11 32 19.6	-0.1
KEV				*e*S	Sn	11 32 59.2	-0.7
KEV	**Kevo**	**3.28**	**313**	P	Pn	11 32 19.5	-0.2
KEV				S	Sn	11 32 59.2	-0.8
ARA0	**ARCESS Array S**	**3.61**	**305**	*e*P	Pn	11 32 23.1	-1.3
ARA0				*e*PG	Pg	11 32 31.6	-6.5
ARA0				*e*S	Sn	11 33 04.8	-3.6
ARA0				*e*SG	Sg	11 33 16.9	-9.4
ARA0	**ARCESS Array S**	**3.61**	**305**	Pn	Pn	11 32 23.1	-1.3
	baz=122,slow=14						
ARA0				Pg	Pg	11 32 31.6	-6.5
	baz=124,slow=16						
ARA0				Sn	Sn	11 33 04.8	-3.6
	baz=140,slow=37						
ARA0				Lg		11 33 16.9	
	baz=123,slow=28						
ARCES	**ARCESS Array B**	**3.61**	**305**	Pn	Pn	11 32 23.3	-1.1
	11nm,0.3s,baz=122,slow=15,SNR=123						
ARCES				Pg	Pg	11 32 31.4	-6.7
	6.3nm,0.3s,baz=120,slow=16,SNR=16						
ARCES				Sn	Sn	11 33 04.8	-3.6
	7.2nm,0.3s,baz=119,slow=25,SNR=12						
ARCES				Lg		11 33 16.5	
	14nm,0.3s,baz=115,slow=34,SNR=13						
OUL	**Oulu**	**4.16**	**235**	*e*P	Pn	11 32 30.6	-1.5
OUL	**Oulu**	**4.16**	**235**	P	Pn	11 32 30.6	-1.6
KJN	**Kajaani**	**4.43**	**218**	*e*P	Pn	11 32 33.9	-2.1
KJN				*e*S	Sn	11 33 24.9	-4.1
KJN				MSG		11 33 42.9	
	comp=Z,15nm,0.2s						
KIF	**Kilpisjarvi**	**5.05**	**291**	*e*P	Pn	11 32 42.5	-2.4
KIF	**Kilpisjarvi**	**5.05**	**291**	P	Pn	11 32 42.4	-2.4
SUF	**Sumiainen**	**5.96**	**217**	*e*P	Pn	11 32 55.3	-2.4
SUF				*e*S	Sn	11 34 01.9	-5.9
SUF				MSG		11 34 33.1	
	comp=Z,8.0nm,0.3s						
SUF	**Sumiainen**	**5.96**	**217**	P	Pn	11 32 55.3	-2.4
SUF				S	Sn	11 34 01.8	-5.9
FIA0	**FINESS Array S**	**7.12**	**212**	Pn	Pn	11 33 10.2	-3.7
	baz=21,slow=14						
FIA0				Lg		11 35 02.1	
	baz=29,slow=28						
FIA0	**FINESS Array S**	**7.12**	**212**	*e*P	Pn	11 33 10.5	-3.5
FIA0	**FINESS Array S**	**7.12**	**212**	P	Pn	11 33 10.4	-3.6
FINES	**FINESS Array B**	**7.12**	**212**	Pn	Pn	11 33 09.9	-4.0
	comp=Z,0.4nm,0.3s,baz=26,slow=13,SNR=13						
FINES				Sn	Sn	11 34 27.2	-9.4
	comp=Z,0.6nm,0.3s,baz=45,slow=24,SNR=4.3						
FINES				Lg		11 35 02.1	
	comp=Z,2.3nm,0.3s,baz=30,slow=26,SNR=9.7						
HFS	**Hagfors**	**11.64**	**239**	*e*P	P	11 34 11.3	-4.9
HFS				*e*SG	S	11 37 21.5	+53
HFS	**Hagfors**	**11.64**	**239**	P

*TEH **12** 12:21:59.7, 32.04N×49.01E, h10km, Mn3.5*
*THR **12** 12:21:59.8±0.7, 32.16N×49.01E, h18km±3km, ML3.6*
*KISR **12** 12:21:59.9±0.7, 31.84N×49.05E, h1km±999km, ML3.3*
*CSEM **12** 12:21:59.8±0.1, 32.18N×49.01E, h16km, ML4.0/2, Error ellipse: s-maj=2.7km s-min=1.4km az=123.0*
ISC 12 12:21:59.8±0.8, 32.16N±0.04×49.04E±0.06, h13km±6km, n29, σ0=82/35, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.21**	**257**	*e*PG	**Pg**	**12 22 04.2**	**-0.3**
SHGR				*e*SG	**Sg**	**12 22 08.1**	**+0.4**
SHGR				AML	AML	12 22 11.4	
	comp=E,21μm,0.3s						
SHGR	**Shooshtar-Gavs**	**0.21**	**257**	*e*Pg	**Pg**	**12 22 04.2**	**-0.4**
	SNR=126						
SHGR				*e*Sg	**Sg**	**12 22 08.1**	**+0.4**
	comp=E,21μm,0.3s,SNR=126						
IKOM	**Komasi**	**2.39**	**328**	Pn	**Pn**	**12 22 39.9**	**+0.6**
IKLH	**Kalahroud**	**2.43**	**61**	Pn	**Pn**	**12 22 40.4**	**+0.4**
ASAO	**Ashtian**	**2.52**	**19**	*e*PN	**Pn**	**12 22 42.4**	**+1.1**
ASAO				*e*SG	**Sb**	**12 23 19.4**	**+3.8**
ASAO				AML	AML	12 23 24.5	
	comp=N,208nm,0.5s						
ASAO	**Ashtian**	**2.52**	**19**	*e*Pn	**Pn**	**12 22 42.4**	**+1.1**
	SNR=52						
ASAO				*e*Sg	**Sb**	**12 23 19.4**	**+3.8**
	comp=N,208nm,0.5s,SNR=91						
IGAR	**Garneh**	**2.68**	**87**	Pn	**Pn**	**12 22 40.9**	**-2.6**
UMR	**Umm Al-Rimmam**	**2.83**	**204**	AML	AML	12 23 32.5	
	comp=Z,166nm,0.4s						
IZEF	**Zefreh**	**2.87**	**74**	Pn	**Pn**	**12 22 45.8**	**-0.5**
QAM	**Qamsar**	**2.90**	**52**	Pn	**Pn**	**12 22 46.0**	**-0.6**
IVIS	**Veys**	**2.99**	**323**	Pn	**Pn**	**12 22 40.6**	**-7.3**
IGHG	**Ghaleghazi**	**3.00**	**317**	Pn	**Pn**	**12 22 47.5**	**-0.5**
KBD	**Kabd**	**3.19**	**202**	*e*P	**Pn**	**12 22 50.7**	**0.0**
KBD				*e*S	**Sn**	**12 23 29.5**	**+0.5**
NASN	**Na'in**	**3.25**	**78**	*e*PN	**Pn**	**12 22 52.8**	**+1.2**
NASN				*e*SG	**Sb**	**12 23 42.2**	**+5.6**
SNGE	**Sanandaj**	**3.25**	**335**	*e*PN	**Pn**	**12 22 52.1**	**+0.4**
SNGE				AML	AML	12 23 42.9	
	comp=N,119nm,0.5s						
IDHR	**Dehrash**	**3.37**	**320**	Pn	**Pn**	**12 22 50.8**	**-2.5**
RDF	**Al-Radifah**	**3.47**	**202**	*e*P	**Pn**	**12 22 54.8**	**+0.1**
RDF				*e*S	**Sn**	**12 23 36.1**	**+0.1**
RDF				AML	AML	12 23 37.8	
	comp=Z,74nm,0.3s						
QRN	**Al-Qurain**	**3.54**	**196**	*e*P	**Pn**	**12 22 56.0**	**+0.4**
QRN				*e*S	**Sn**	**12 23 37.3**	**-0.4**
QRN				AML	AML	12 23 38.0	
	comp=Z,84nm,0.3s						
IVRN	**Varamin**	**3.61**	**38**	Pn	**Pn**	**12 22 56.8**	**0.0**
IVRN	**Varamin**	**3.61**	**38**	Lg		12 23 55.6	
IMHD	**Mahdasht**	**3.77**	**21**	Pn	**Pn**	**12 22 58.7**	**-0.3**
IMHD	**Mahdasht**	**3.77**	**21**	Pn	**Pn**	**12 22 59.0**	**0.0**
IMHD	**Mahdasht**	**3.77**	**21**	Lg		12 24 00.4	
IMHD	**Mahdasht**	**3.77**	**21**	Pn	**Pn**	**12 22 59.0**	**0.0**
IDMV	**Damavand**	**4.22**	**35**	Pn	**Pn**	**12 23 05.5**	**+0.1**
DAMV	**Damavand**	**4.24**	**34**	*e*PN	**Pn**	**12 23 05.6**	**-0.1**
DAMV				*e*SG	**Sb**	**12 24 11.6**	**+6.3**
DAMV				AML	AML	12 24 18.0	
	comp=E,48nm,0.7s						
DAMV	**Damavand**	**4.24**	**34**	*e*Pn	**Pn**	**12 23 05.6**	**0.0**
	SNR=52						
DAMV				*e*Sg	**Sb**	**12 24 11.6**	**+6.3**
	comp=E,48nm,0.7s,SNR=91						
IFIR	**Firoozkooh**	**4.65**	**41**	Pn	**Pn**	**12 23 11.6**	**+0.1**
IFIR	**Firoozkooh**	**4.65**	**41**	Lg		12 24 27.9	

*NEIC **12** 12:27:38.7, 37.24N×3.65W, h34km, MN3.0(MDD), After MDD.*
*CSEM **12** 12:27:38.4±0.1, 37.25N×3.65W, h30km, ML3.4/15, Error ellipse: s-maj=3.0km s-min=2.2km az=176.0*
*SFS **12** 12:27:38.0, 37.24N×3.66W*
MDD 12 12:27:38.7±0.1, 37.24N×3.65W, h33km, mbLg3.0/15, 3C, Error ellipse: s-maj=2.0km s-min=1.4km az=141.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECOG	**Cogollos-Vega**	**0.08**	**59**	Pg	P	12 27 44.3	0.0
	76nm,0.1s,SNR=73						
ECOG				Lg		12 27 48.5	
	375nm,0.2s,SNR=13						
EQUE	**Quentar**	**0.17**	**101**	⇑Pg	P	12 27 44.7	-0.4
	110nm,0.1s,SNR=18						
EQUE				Lg		12 27 49.7	
	360nm,0.3s,SNR=7.9						
ERON	**Agron**	**0.25**	**210**	⇑Pg	P	12 27 45.2	-0.6
	122nm,0.1s,SNR=18						
ERON				Lg		12 27 51.1	
	175nm,0.2s,SNR=29						
EGUA	**Guajares**	**0.41**	**170**	Pg	P	12 27 47.4	-0.6
	35nm,0.1s,SNR=7.9						
EGUA				Lg		12 27 54.2	
	37nm,0.2s,SNR=7.9						
ELOJ	**Sierra Loja**	**0.41**	**258**	Pg	P	12 27 47.4	-0.6
	26nm,0.1s,SNR=7.9						
ELOJ				Lg		12 27 54.3	
	59nm,0.1s,SNR=9.9						
ELUQ	**Luque**	**0.59**	**303**	Pg	P	12 27 50.3	-0.1
	85nm,0.2s,SNR=52						
ELUQ				Lg		12 27 58.4	
	282nm,0.2s,SNR=41						
EBER	**Berja**	**0.70**	**119**	Pg	P	12 27 51.6	-0.4
	28nm,0.1s,SNR=88						
EBER				Lg		12 28 01.0	
	674nm,0.4s,SNR=33						
EBER	**Berja**	**0.70**	**119**	Pg	P	12 27 51.6	-0.4
	28nm,0.1s,SNR=88						
EQES	**Quesada**	**0.73**	**39**	⇑Pg	P	12 27 52.5	0.0
	124nm,0.1s,SNR=18						
EQES				Lg		12 28 02.3	
	595nm,0.1s,SNR=100						
EQES	**Quesada**	**0.73**	**39**	Pg	P	12 27 52.5	0.0
	124nm,0.1s,SNR=18						
EBAN	**Banos Encina**	**0.93**	**353**	Pg	P	12 27 54.4	-1.0
	23nm,0.1s,SNR=50						
EBAN				Lg		12 28 06.9	
	68nm,0.1s,SNR=19						
EHUE	**Huescar**	**1.02**	**55**	Pg	P	12 27 56.5	-0.2
	24nm,0.1s,SNR=39						
EHUE				Lg		12 28 10.4	
	80nm,0.2s,SNR=19						
EHUE	**Huescar**	**1.02**	**55**	Pg	P	12 27 56.5	-0.2
EHUE				Lg		12 28 10.6	
EMIJ	**Mijas**	**1.12**	**234**	Pg	P	12 27 57.7	-0.4
	23nm,0.1s,SNR=52						
EMIJ				Lg		12 28 12.8	
	88nm,0.3s,SNR=19						
EADA	**Adamuz**	**1.18**	**322**	Pn	P	12 27 57.5	-1.5
	2.9nm,0.1s,SNR=7.9						
EADA				Pg	P	12 27 59.2	+0.2
	41nm,0.1s,SNR=168						
EADA				Sn	S	12 28 12.0	-2.1
	29nm,0.1s,SNR=5.2						
EADA				Lg		12 28 15.1	
	196nm,0.1s,SNR=13						
EADA	**Adamuz**	**1.18**	**322**	Pn	P	12 27 57.5	-1.5
	2.9nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**1.18**	**322**	Pg	P	12 27 59.2	+0.2
	41nm,0.1s,SNR=168						
EADA				Sn	S	12 28 12.0	-2.2
	29nm,0.1s,SNR=5.2						
EADA	**Adamuz**	**1.18**	**322**	Pn	P	12 27 57.5	-1.5
EADA				Pg	P	12 27 59.2	+0.2
EADA				Sn	S	12 28 12.0	-2.1
EADA				Lg		12 28 15.3	
ENIJ	**Nijar**	**1.18**	**103**	Pg	P	12 27 58.6	-0.4
	0.3nm,0.1s,SNR=9.8						
ENIJ				Lg		12 28 13.2	
	0.9nm,0.2s,SNR=7.9						
EALB	**Alboran**	**1.39**	**159**	Pn	P	12 28 00.0	-1.9
	44nm,0.2s,SNR=54						
EALB				Lg		12 28 17.7	
	67nm,0.2s,SNR=10						
EALB	**Alboran**	**1.39**	**159**	Pn	P	12 28 00.0	-1.9
	44nm,0.2s,SNR=54						
EALB	**Alboran**	**1.39**	**159**	Pn	P	12 28 00.0	-1.9
EALB				Lg		12 28 17.2	
LIJA	**Lijar**	**1.44**	**257**	Pg	P	12 28 02.5	-0.2
LIJA				Lg		12 28 20.3	
LIJA	**Lijar**	**1.44**	**257**	*e*P	P	12 28 02.5	-0.2
LIJA				*e*S	S	12 28 20.3	-0.3
ECAB	**El Cabril**	**1.63**	**301**	Pn	P	12 28 03.5	-2.0
	0.2nm,0.0s,SNR=24						
ECAB				Pg	P	12 28 07.1	+1.6
	6.6nm,0.2s,SNR=7.9						
ECAB				Sn	S	12 28 22.6	-2.9
	12nm,0.1s,SNR=7.9						
ECAB				Lg		12 28 28.4	
	106nm,0.2s,SNR=42						
ECAB	**El Cabril**	**1.63**	**301**	Pn	P	12 28 03.5	-2.0
	0.2nm,0.0s,SNR=24						
ECAB	**El Cabril**	**1.63**	**301**	Pg	P	12 28 07.1	+1.6
	6.6nm,0.2s,SNR=7.9						
ECAB				Sn	S	12 28 22.6	-2.9
	12nm,0.1s,SNR=7.9						
EVIA	**Vianos**	**1.67**	**33**	Pn	P	12 28 05.6	-0.3
	5.9nm,0.2s,SNR=9.4						
EVIA				Sn	S	12 28 23.9	-2.4
	15nm,0.3s,SNR=9.8						
EVIA				Lg		12 28 28.6	
	34nm,0.2s,SNR=10						
ESPR	**Espera**	**1.80**	**259**	Pn	P	12 28 07.2	-0.7
	1.5nm,0.1s,SNR=12						
ESPR				Lg		12 28 28.8	
	22nm,0.2s,SNR=7.9						
ESPR	**Espera**	**1.80**	**259**	Pn	P	12 28 07.2	-0.7
	1.5nm,0.1s,SNR=12						
EMUR	**La Murta**	**2.01**	**72**	Pn	P	12 28 09.4	-1.4
	2.3nm,0.2s,SNR=9.7						
EMUR				Pg	P	12 28 11.0	+0.2
	13nm,0.3s,SNR=4.0						
EMUR				Sn	S	12 28 32.3	-2.6
	11nm,0.4s,SNR=4.5						
EMUR	**La Murta**	**2.01**	**72**	Pn	P	12 28 09.4	-1.4
	2.3nm,0.2s,SNR=9.7						
EMUR				Sn	S	12 28 31.5	-3.5
	11nm,0.4s,SNR=4.5						
EMUR	**La Murta**	**2.01**	**72**	Pn	P	12 28 09.4	-1.4
EMUR				Pg	P	12 28 15.5	+4.7
EMUR				Sn	S	12 28 31.5	-3.4
ETOB	**Tobarra**	**2.18**	**49**	Pn	P	12 28 11.7	-1.5
	0.3nm,0.1s,SNR=13						
ETOB				Sn	S	12 28 35.4	-3.9
	9.0nm,0.1s,SNR=8.9						
ETOB				Lg		12 28 44.0	
	43nm,0.1s,SNR=5.0						
ETOB	**Tobarra**	**2.18**	**49**	Pn	P	12 28 11.7	-1.5
	0.3nm,0.1s,SNR=13						
ETOB	**Tobarra**	**2.18**	**49**	Pg	P	12 28 15.9	+2.7
	2.7nm,0.2s,SNR=4.0						
ETOB				Sn	S	12 28 35.4	-3.8
	9.0nm,0.1s,SNR=8.9						
ETOB	**Tobarra**	**2.18**	**49**	Pn	P	12 28 11.7	-1.5
ETOB				Pg	P	12 28 15.9	+2.7
ETOB				Sn	S	12 28 35.4	-3.9
ETOB				Lg		12 28 44.0	
ESDC	**Sonseca Array**	**2.44**	**354**	Pn	P	12 28 14.8	-2.3
	2.6nm,0.1s,baz=174,slow=12,SNR=4.4						
ESDC				Pg	P	12 28 20.4	+3.4
	0.9nm,0.3s,baz=175,slow=17,SNR=4.0						
ESDC				Sn	S	12 28 41.1	-5.0
	6.1nm,0.1s,baz=176,slow=22,SNR=16						
ESDC				Lg		12 28 52.8	
	37nm,0.2s,baz=176,slow=27,SNR=7.0						
ESDC	**Sonseca Array**	**2.44**	**354**	Pn	P	12 28 14.8	-2.3
	2.6nm,0.1s,SNR=4.4						
ESDC				Sn	S	12 28 41.1	-5.0
	6.1nm,0.1s,SNR=16						
ESDC	**Sonseca Array**	**2.44**	**354**	Pn	P	12 28 14.8	-2.3
ESDC				Pg	P	12 28 22.1	+5.1
ESDC				Sn	S	12 28 41.1	-5.0
ESDC				Lg		12 28 52.8	
EMIN	**Mina Concepcio**	**2.46**	**283**	Pn	P	12 28 14.3	-3.0
	2.1nm,0.1s,SNR=19						
EMIN				Sn	S	12 28 41.8	-4.7
	3.8nm,0.1s,SNR=13						
EMIN				Lg		12 28 52.3	
	26nm,0.2s,SNR=6.2						
EMIN	**Mina Concepcio**	**2.46**	**283**	Pn	P	12 28 14.3	-3.0
	2.1nm,0.1s,SNR=19						
EMIN				Sn	S	12 28 41.8	-4.7
	3.8nm,0.1s,SNR=13						
EBAD	**Badajoz**	**3.06**	**301**	Pn	P	12 28 22.7	-3.1
	0.6nm,0.1s,SNR=8.6						
EBAD				Pg	P	12 28 30.5	+4.7
	1.9nm,0.1s,SNR=7.6						
EBAD				Sn	S	12 28 56.1	-5.6
	6.5nm,0.0s,SNR=11						
EBAD				Lg		12 29 07.3	
	73nm,0.3s,SNR=9.6						
EBAD	**Badajoz**	**3.06**	**301**	Pn	P	12 28 22.7	-3.1
	0.6nm,0.1s,SNR=8.6						
EBAD	**Badajoz**	**3.06**	**301**	Pg	P	12 28 30.0	+4.2
	1.9nm,0.1s,SNR=7.6						
EBAD				Sn	S	12 28 56.1	-5.6
	6.5nm,0.0s,SNR=11						
EBAD	**Badajoz**	**3.06**	**301**	Pn	P	12 28 22.7	-3.1
EBAD				Pg	P	12 28 30.0	+4.2
EBAD				Sn	S	12 28 56.1	-5.6
EBAD				Lg		12 29 10.6	
EGRO	**El Granado**	**3.07**	**277**	Pn	P	12 28 21.7	-4.2
	2.7nm,0.1s,SNR=7.9						
EGRO				Sn	S	12 28 56.7	-5.2
	8.3nm,0.1s,SNR=6.7						
EGRO				Lg		12 29 06.8	
	11nm,0.2s,SNR=5.5						
EGRO	**El Granado**	**3.07**	**277**	Pn	P	12 28 21.7	-4.2
	2.7nm,0.1s,SNR=7.9						
EGRO				Sn	S	12 28 56.7	-5.2
	8.3nm,0.1s,SNR=6.7						
EGRO	**El Granado**	**3.07**	**277**	Pn	P	12 28 21.7	-4.2
EGRO				Sn	S	12 28 56.7	-5.2
EGRO				Lg		12 29 11.4	
EBEN	**Beniarda**	**3.08**	**61**	Pn	P	12 28 24.2	-1.9
	2.3nm,0.1s,SNR=12						
EBEN				Sn	S	12 28 57.7	-4.4
	4.7nm,0.2s,SNR=7.5						
EBEN	**Beniarda**	**3.08**	**61**	Pn	P	12 28 24.2	-1.9
	2.3nm,0.1s,SNR=12						
EBEN				Sn	S	12 28 57.7	-4.4
	4.7nm,0.2s,SNR=7.5						
ECHE	**Chera**	**3.15**	**41**	Pn	P	12 28 25.8	-1.4
	0.5nm,0.2s,SNR=5.5						
ECHE				Sn	S	12 28 59.7	-4.4
	1.6nm,0.1s,SNR=7.1						
ECHE				Lg		12 29 14.6	
	4.0nm,0.2s,SNR=5.0						
PBEJ	**Beja**	**3.44**	**285**	*e*Pn	P	12 28 28.5	-2.7
PBEJ				*e*Sn	S	12 29 05.8	-5.6
	7.0nm,0.1s						
PBEJ	**Beja**	**3.44**	**285**	*e*Pn	P	12 28 28.5	-2.7
PBEJ				*e*Sn	S	12 29 05.8	-5.6
	7.0nm,0.1s						
PCBR	**Castelo Branco**	**3.97**	**312**	*e*Pn	P	12 28 36.5	-2.3
EMOS	**Mosqueruela**	**3.99**	**38**	Pn	P	12 28 37.3	-1.7
	0.1nm,0.1s,SNR=7.9						
EMOS				Sn	S	12 29 19.4	-5.9
	1.1nm,0.2s,SNR=7.9						
EMOS				Lg		12 29 42.3	
	4.1nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**3.99**	**38**	Pn	P	12 28 37.3	-1.7
EMOS				Sn	S	12 29 19.4	-5.9
PTEO	**Sao Teotonio**	**4.05**	**276**	*e*Sn	S	12 29 21.0	-5.9
	9.3nm,0.5s						
PTEO	**Sao Teotonio**	**4.05**	**276**	*e*Sn	S	12 29 21.0	-5.9
	9.3nm,0.5s						
EIBI	**Ibiza**	**4.32**	**64**	Pn	P	12 28 40.6	-3.2
	1.2nm,0.1s,SNR=7.9						
EIBI				Sn	S	12 29 29.0	-4.8
	1.1nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**4.32**	**64**	Pn	P	12 28 40.6	-3.2
EIBI				Sn	S	12 29 29.0	-4.7
MTE	**Manteigas**	**4.38**	**317**	*e*Sn	S	12 29 29.1	-6.2
	18nm,0.4s						
MTE	**Manteigas**	**4.38**	**317**	*e*Sn	S	12 29 29.1	-6.2
	18nm,0.4s						
PTOM	**Tomar**	**4.43**	**304**	*e*Sn	S	12 29 30.0	-6.4
PVRL	**Vila Real**	**5.12**	**323**	*e*Pn	P	12 28 52.4	-2.7
PVRL				*e*Sn	S	12 29 46.6	-7.2
	5.0nm,0.2s						
PVRL	**Vila Real**	**5.12**	**323**	*e*Pn	P	12 28 52.4	-2.7
PVRL				*e*Sn	S	12 29 46.6	-7.2
	5.0nm,0.2s						
PBRG	**Braganca**	**5.15**	**333**	*e*Pn	P	12 28 52.9	-2.6
ECAL	**Calabor**	**5.27**	**334**	Pn	P	12 28 54.3	-2.8
	1.1nm,0.2s,SNR=7.9						
ECAL				Sn	S	12 29 49.8	-7.7
	1.0nm,0.2s,SNR=4.0						
ECAL				Lg		12 30 17.5	
	9.4nm,0.4s,SNR=4.0						
ECAL	**Calabor**	**5.27**	**334**	Pn	P	12 28 54.3	-2.8
ECAL				Sn	S	12 29 49.8	-7.7
ELOB	**Lobios**	**5.74**	**325**	Pn	P	12 29 00.6	-3.2
	0.9nm,0.1s,SNR=5.6						
ELOB				Sn	S	12 30 00.1	-9.4
	2.4nm,0.1s,SNR=6.0						
ELOB	**Lobios**	**5.74**	**325**	Pn	P	12 29 00.6	-3.2
ELOB	**Lobios**	**5.74**	**325**	Pn	P	12 29 00.6	-3.2
ELOB				Sn	S	12 30 00.1	-9.4
ELOB				Lg		12 30 36.7	
EALK	**Alkurruntz**	**6.20**	**15**	Pn	P	12 29 08.1	-2.1
	0.4nm,0.1s,SNR=7.9						
EALK				Sn	S	12 30 11.9	-8.8
	3.4nm,0.3s,SNR=7.9						
EALK	**Alkurruntz**	**6.20**	**15**	Pn	P	12 29 08.1	-2.1
EALK				Sn	S	12 30 11.9	-8.8
EALK				Lg		12 30 53.3	

*CSEM **12** 12:30:18.9±0.1, 31.97N×48.88E, h33km, mb4.4/6, Error ellipse: s-maj=2.9km s-min=2.0km az=8.0*
*TEH **12** 12:30:19.7, 31.98N×48.89E, h10km, Mn4.0*
*MOS **12** 12:30:19.9±0.8, 32.11N×48.85E, h33km, mb4.3/6, Error ellipse: s-maj=15.5km s-min=10.8km az=98.9*
*THR **12** 12:30:19.9±0.6, 32.05N×49.07E, h18km±3km, ML4.0*
*NEIC **12** 12:30:19.7, 31.98N×48.89E, h10km, mb4.3/7, ML4.0(TEH), After TEH.*
*IDC **12** 12:30:23.7±4.7, 32.31N×48.88E, h39km±41km, mb3.8/11, mb1 3.9/13, mb1mx3.8/17, mbtmp4.0/13, ML3.5/2, MS3.1/2, Ms1 3.1/2, ms1mx2.7/16, Error ellipse: s-maj=25.1km s-min=19.8km az=128.0*
ISC 12 12:30:19.7±0.5, 31.96N±0.05×48.89E±0.04, h37km±4km, n77, σ1=02/75, mb4.1/17, MS3.1/2, 6C-1D, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.17**	**333**	*e*PG	**P**	**12 30 25.3**	**-1.1**
SHGR				*e*SG	**S**	**12 30 29.8**	**-1.3**
SHGR				AML	AML	12 30 30.9	
	comp=N,40μm,0.6s						
SHGR	**Shooshtar-Gavs**	**0.17**	**333**	*e*Pg	**P**	**12 30 25.3**	**-1.1**
	SNR=118						
SHGR				*e*Sg	**S**	**12 30 29.8**	**-1.3**
	comp=N,40μm,0.6s,SNR=118						
IKOM	**Komasi**	**2.50**	**333**	Pn	**P**	**12 31 01.2**	**+2.4**
IKLH	**Kalahroud**	**2.64**	**58**	Pn	**P**	**12 31 01.7**	**+0.8**
ASAO	**Ashtian**	**2.75**	**20**	*e*PN	**P**	**12 31 03.8**	**+1.3**
ASAO				*e*SG	**S**	**12 31 42.2**	**+7.4**
ASAO				AML	AML	12 31 45.6	
	comp=N,366nm,0.6s						
IGAR	**Garneh**	**2.82**	**83**	Pn	**P**	**12 31 03.6**	**+0.2**
IZEF	**Zefreh**	**3.05**	**71**	Pn	**P**	**12 31 03.6**	**-3.1**
IGHG	**Ghaleghazi**	**3.06**	**321**	Pn	**P**	**12 31 07.2**	**+0.3**
IVIS	**Veys**	**3.08**	**327**	Pn	**P**	**12 31 09.1**	**+2.0**
QAM	**Qamsar**	**3.12**	**51**	Pn	**P**	**12 31 06.0**	**-1.7**
SNGE	**Sanandaj**	**3.38**	**338**	*e*PN	**P**	**12 31 13.6**	**+2.2**
SNGE				AML	AML	12 32 05.3	
	comp=N,226nm,0.6s						
NASN	**Na'in**	**3.42**	**75**	*e*PN	**P**	**12 31 12.6**	**+0.7**
NASN				*e*SG	**S**	**12 32 01.5**	**+10**
IDHR	**Dehrash**	**3.44**	**323**	Pn	**P**	**12 31 12.7**	**+0.4**
IVRN	**Varamin**	**3.85**	**37**	Pn	**P**	**12 31 17.9**	**-0.1**
IVRN	**Varamin**	**3.85**	**37**	Lg		12 32 17.1	
IMHD	**Mahdasht**	**4.00**	**21**	Pn	**P**	**12 31 19.6**	**-0.6**
IMHD	**Mahdasht**	**4.00**	**21**	Lg		12 32 21.4	
BHD	**Baghdad**	**4.03**	**290**	*e*Pn	x	12 31 34.0	
BHD				*e*Pb	x	12 31 44.0	
BHD				*e*Sn	x	12 32 27.0	
BHD				*i* Sg	x	12 32 47.0	
IPAR	**Pars**	**4.15**	**119**	Pn	**P**	**12 31 22.7**	**+0.4**
THKV	**Tehran--Karaj**	**4.28**	**22**	*e*PN	**P**	**12 31 24.4**	**+0.2**
IMOK	**Mook**	**4.39**	**130**	Pn	**P**	**12 31 25.2**	**-0.6**
ISRV	**Sarvestan**	**4.45**	**124**	Pn	**P**	**12 31 26.3**	**-0.3**
IDMV	**Damavand**	**4.46**	**35**	Pn	**P**	**12 31 25.9**	**-0.8**
DAMV	**Damavand**	**4.47**	**34**	*e*PN	**P**	**12 31 26.7**	**-0.1**
DAMV				*e*SG	**S**	**12 32 33.9**	**+16**
ICHK	**Chekchek**	**4.69**	**85**	Pn	**P**	**12 31 30.4**	**+0.4**
IFIR	**Firoozkooh**	**4.88**	**40**	Pn	**P**	**12 31 32.2**	**-0.5**
IMEH	**Mehriz**	**4.91**	**95**	Pn	**P**	**12 31 33.7**	**+0.6**
GHIR	**Ghir-Karzin**	**5.10**	**135**	*e*PN	**P**	**12 31 37.0**	**+1.4**
GHIR				AML	AML	12 32 48.3	
	comp=N,153nm,0.7s						
GHIR	**Ghir-Karzin**	**5.10**	**135**	*e*Pn	**P**	**12 31 37.0**	**+1.3**
	SNR=52						
IBAF	**Bafgh**	**5.70**	**92**	Pn	**P**	**12 31 44.4**	**+0.3**
MSL	**Mosul**	**6.46**	**314**	*e*Pn	x	12 32 04.5	
MSL				*e*Sn	x	12 33 15.0	
GNI	**Garni**	**8.84**	**339**	LR	LR	12 36 13.6	
	comp=N,172nm,18.7s,baz=168,slow=41						
ASF	**Jabal al Asfar**	**10.18**	**274**	Pn	**P**	**12 32 45.4**	**-1.0**
	comp=N,0.9nm,0.3s,baz=327,slow=7.1,SNR=5.1						
ASF				Sn	**S**	**12 34 39.3**	**-1.1**
	comp=N,0.5nm,0.3s,baz=196,slow=20,SNR=3.3						
ASF				Lg		12 35 51.7	
	baz=122,slow=20,SNR=3.0						
BR131	**Keskin Array S**	**14.59**	**306**	*e*Pn	**P**	**12 33 52.2**	**+7.0**
	comp=N,1.3nm,0.4s						
BR131	**Keskin Array S**	**14.59**	**306**	*e*Pn	**P**	**12 33 52.2**	**+6.9**
	comp=N,1.3nm,0.4s						
BRTR	**Keskin Array B**	**14.59**	**306**	Pn	**P**	**12 33 44.8**	**-0.5**
	comp=N,0.1nm,0.3s,baz=145,slow=18,SNR=2.7						
ATD	**Arta Tunnel**	**21.08**	**197**	LR	LR	12 43 11.3	
	comp=N,44nm,21.5s,MS2.8,baz=270,slow=36						
VRI	**Vrincioaia**	**22.05**	**315**	⇑*i*P	**P**	**12 35 16.1**	**+3.5**
VRI	**Vrincioaia**	**22.05**	**315**	⇑*i*P	**P**	**12 35 16.1**	**+3.5**
MLR	**Muntele Rosu**	**22.33**	**314**	⇑*i*P	**P**	**12 35 20.1**	**+4.7**
MLR	**Muntele Rosu**	**22.33**	**314**	⇑*i*P	**

comp=Z,1.4nm,0.7s,mb3.8,baz=122,slow=8.3,SNR=6.2
ARCES ARCESS Array B 39.87 347 P **P 12 37 50.7 -0.3**
comp=Z,1.4nm,0.8s,mb3.7,baz=162,slow=7.7,SNR=10
ARCES ARCESS Array B 39.87 347 P **P 12 37 50.7 -0.3**
SONM Songino Array 45.82 52 P **P 12 38 39.5 -0.1**
comp=Z,0.4nm,0.7s,mb3.5,baz=270,slow=8.6,SNR=3.0
MATP Matopo 55.63 203 P **P 12 39 58.5 +4.1**
comp=Z,5.1nm,0.8s,mb4.6,baz=14,slow=8.0,SNR=13
SCHQ Schefferville 77.52 328 P **P 12 42 13.2 +0.2**
comp=Z,1.4nm,0.6s,mb4.0,baz=48,slow=12,SNR=4.6
SCHQ Schefferville 77.52 328 P **P 12 42 13.1 +0.2**
IMA Indian Mountai 80.75 9 *eP* **P 12 42 31.0 +0.8**
comp=Z,8.5nm,0.9s,mb4.7
IMA Indian Mountai 80.75 9 *eP* **P 12 42 31.1 +0.8**
comp=Z,8.5nm,0.9s,mb4.7
IMA Indian Mountai 80.75 9 *eP* **P 12 42 31.1 +0.9**
IMA pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
ILAR Eielson Array 82.80 7 P **P 12 42 41.0 +0.1**
comp=Z,0.5nm,0.7s,mb3.6,baz=325,slow=3.9,SNR=6.7
YKA Yellowknife Ar 84.94 352 P **P 12 42 52.1 +0.5**
comp=Z,0.5nm,0.8s,mb3.7,baz=359,slow=3.8,SNR=5.3

KRSC 12 12:33:46.1±1.2,54.38N×168.57E,h19km±16km,ML3.9,
Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.72**	**300**	*i* P			Pn	12 34 13.7	-1.7
BKI				*i* S			Sn	12 34 34.0	-3.0
BKI				Smax					
420nm,0.5s									
KBTR	**Krutoberegovo**	**3.76**	**301**	*eP*			Pn	12 34 43.2	-1.4
KBTR				*eS*			Sn	12 35 28.3	-0.6
MKZ	**Mys Kozlova**	**4.00**	**275**	*eP*			Pn	12 34 47.8	-0.1
MKZ				*eS*			Sn	12 35 32.5	-2.2
CIRR	**Tsirk**	**4.80**	**294**	*eP*			Pn	12 34 59.6	+0.3
CIRR				*eS*			Sn	12 35 52.9	-2.2
LGNR	**Loginova**	**4.82**	**294**	*eP*			Pn	12 35 00.7	+1.1
LGNR				*eS*			Sn	12 35 54.8	-0.9
KLY	**Klyuchi**	**4.92**	**296**	*eP*			Pn	12 34 58.7	-2.3
KLY				*eS*			Sn	12 35 51.6	-6.4
KRSR	**Krestovskiy**	**4.93**	**295**	*eP*			Pn	12 35 00.7	-0.5
KRSR				*eS*			Sn	12 35 54.7	-3.7
KMNR	**Kamenistaya**	**4.98**	**289**	*eS*			Sn	12 35 58.5	-1.2
KPT	**Kopyto**	**5.04**	**292**	*eP*			Pn	12 35 02.6	-0.1
KPT				*eS*			Sn	12 35 58.3	-2.9
SPN	**Mys Shipunski**	**5.23**	**259**	*eP*			Pn	12 35 05.2	-0.2
SPN				*eS*			Sn	12 36 02.8	-3.2
KOZ	**Kozyrevsk**	**5.25**	**292**	*eP*			Pn	12 35 06.4	+0.7
NLC	**Nalytchevo**	**5.60**	**261**	*eP*			Pn	12 35 09.7	-0.9
NLC				*eS*			Sn	12 36 10.6	-4.7
SDLR	**Sedlovina**	**5.84**	**263**	*eP*			Pn	12 35 11.8	-2.2
ESO	**Esso**	**5.87**	**289**	*eP*			Pn	12 35 14.5	+0.1
ESO				*eS*			Sn	12 36 18.7	-3.2
ESO				Smax					
10.0nm,1.1s									
SMAR	**Somma**	**5.89**	**263**	*eP*			Pn	12 35 14.3	-0.4
UGLR	**Uglovaya**	**5.89**	**262**	*eP*			Pn	12 35 14.7	0.0
AVH	**Avacha**	**5.93**	**263**	*eP*			Pn	12 35 14.5	-0.7
AVH				*eS*			Sn	12 36 18.6	-4.9
KOK	**Koryaka**	**5.98**	**264**	*eP*			Pn	12 35 15.5	-0.5
GNL	**Ganaly**	**6.30**	**268**	*eP*			Pn	12 35 20.8	+0.3
GNL				*eS*			Sn	12 36 29.4	-3.3
RUS	**Russkaya**	**6.32**	**256**	*eP*			Pn	12 35 21.0	+0.2
RUS				*eS*			Sn	12 36 29.7	-3.6
GRL	**Gorelyy**	**6.53**	**258**	*eP*			Pn	12 35 24.3	+0.6
GRL				*eS*			Sn	12 36 35.5	-3.0

KRSC 12 12:51:52.9±1.1,54.14N×168.67E,h40km±11km,ML3.8,
Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.90**	**305**	*eP*			P	12 52 21.0	-2.4
BKI				*eS*			S	12 52 41.9	-4.3
BKI				Smax					
260nm,0.5s									
KBTR	**Krutoberegovo**	**3.94**	**304**	*eP*			P	12 52 52.0	-0.5
KBTR				*eS*			S	12 53 37.6	-0.6
MKZ	**Mys Kozlova**	**4.08**	**279**	*eP*			P	12 52 53.9	-0.6
MKZ				*eS*			S	12 53 38.7	-3.0
ZLN	**Zelenaya**	**4.89**	**296**	*eP*			P	12 53 06.9	+0.9
ZLN				*eS*			S	12 54 00.6	-1.6
KRSR	**Krestovskiy**	**5.09**	**297**	*eP*			P	12 53 08.3	-0.4
KRSR				*eS*			S	12 54 02.9	-4.2
KMNR	**Kamenistaya**	**5.12**	**292**	*eP*			P	12 53 09.4	+0.2
KMNR				*eS*			S	12 54 05.2	-2.7
KPT	**Kopyto**	**5.19**	**294**	*eP*			P	12 53 10.4	+0.3
KPT				*eS*			S	12 54 06.4	-3.2
SPN	**Mys Shipunski**	**5.25**	**262**	*eP*			P	12 53 11.0	0.0
SPN				*eS*			S	12 54 07.3	-3.8
KOZ	**Kozyrevsk**	**5.40**	**294**	*eP*			P	12 53 12.8	-0.3
KOZ				*eS*			S	12 54 10.8	-4.2
NLC	**Nalytchevo**	**5.63**	**264**	*eP*			P	12 53 16.0	-0.3
NLC				*eS*			S	12 54 16.7	-3.9
SDLR	**Sedlovina**	**5.88**	**266**	*eP*			P	12 53 20.0	+0.3
UGLR	**Uglovaya**	**5.93**	**265**	*eP*			P	12 53 21.1	+0.7
SMAR	**Somma**	**5.93**	**265**	*eP*			P	12 53 21.0	+0.6
AVH	**Avacha**	**5.96**	**266**	*eP*			P	12 53 21.0	0.0
AVH				*eS*			S	12 54 24.9	-4.1
ESO	**Esso**	**6.01**	**291**	*eP*			P	12 53 21.8	+0.3
ESO				*eS*			S	12 54 26.5	-3.5
KOK	**Koryaka**	**6.02**	**266**	*eP*			P	12 53 21.9	+0.2
PET	**Petropavlovsk**	**6.07**	**263**	*eP*			P	12 53 22.4	-0.1
RUS	**Russkaya**	**6.33**	**258**	*eP*			P	12 53 26.2	+0.1
RUS				*eS*			S	12 54 34.0	-4.0
GNL	**Ganaly**	**6.36**	**270**	*eP*			P	12 53 26.9	+0.4
GNL				*eS*			S	12 54 35.4	-3.3

TEH ***12*** *12:55:10.6,31.96N×49.07E,h10km,Mn3.0*
THR ***12*** *12:55:10.2±0.4,31.97N×48.89E,h28km±1km,ML3.0*
CSEM ***12*** *12:55:10.4±0.1,32.17N×49.08E,h8km,ML3.0,Error ellipse: s-maj=3.3km s-min=1.7km az=121.0*
KISR ***12*** *12:55:12.0±0.8,32.11N×49.12E,h33km,ML2.8*
ISC 12 12:55:10.7±0.4,32.14N±0.03×49.13E±0.05,h10km,n23,
σ1§08/29,Western Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.28**	**264**	*ePG*			**Pg**	**12 55 15.7**	**-1.0**
SHGR				*eSG*			**Sg**	**12 55 19.7**	**-0.9**
SHGR				AML			AML	12 55 21.2	
comp=N,4μm,0.6s									
SHGR	**Shooshtar-Gavs**	**0.28**	**264**	*ePg*			**Pg**	**12 55 15.6**	**-1.0**
SNR=145									
SHGR				*eSg*			**Sg**	**12 55 19.7**	**-0.9**
comp=N,4μm,0.6s,SNR=145									
IKLH	**Kalahroud**	**2.38**	**60**	Pn			**Pn**	**12 55 48.9**	**-1.5**
IKOM	**Komasi**	**2.44**	**327**	Pn			**Pn**	**12 55 52.0**	**+0.7**
ASAO	**Ashtian**	**2.52**	**17**	*ePN*			**Pn**	**12 55 54.6**	**+2.2**
ASAO				*eSG*			**Sg**	**12 56 34.2**	**-0.3**
ASAO				AML			AML	12 56 44.6	
comp=E,41nm,0.8s									
ASAO	**Ashtian**	**2.52**	**17**	*ePn*			**Pn**	**12 55 54.6**	**+2.2**
SNR=54									
ASAO				*eSg*			**Sg**	**12 56 34.2**	**-0.3**
SNR=92									
IGAR	**Garneh**	**2.60**	**87**	Pn			**Pn**	**12 55 51.4**	**-2.2**
IZEF	**Zefreh**	**2.81**	**74**	Pn			**Pn**	**12 55 55.5**	**-1.0**
QAM	**Qamsar**	**2.85**	**51**	Pn			**Pn**	**12 55 57.0**	**-0.1**
IGHG	**Ghaleghazi**	**3.06**	**316**	Pn			**Pn**	**12 55 50.2**	**-10**
NASN	**Na'in**	**3.18**	**77**	*ePN*			**Pn**	**12 56 04.2**	**+2.4**
NASN	**Na'in**	**3.18**	**77**	*ePn*			**Pn**	**12 56 04.2**	**+2.4**
SNR=54									
KBD	**Kabd**	**3.20**	**203**	*eP*			**Pn**	**12 56 02.7**	**+0.5**
KBD				*eS*			**Sn**	**12 56 41.2**	**+0.4**
SNGE	**Sanandaj**	**3.30**	**334**	*ePN*			**Pn**	**12 56 03.5**	**0.0**
SNGE				AML			AML	12 56 55.6	
comp=N,23nm,0.5s									
IDHR	**Dehrash**	**3.43**	**319**	Pn			**Pn**	**12 56 04.7**	**-0.7**
RDF	**Al-Radifah**	**3.48**	**203**	*eP*			**Pn**	**12 56 07.4**	**+1.3**
RDF				*eS*			**Sn**	**12 56 47.7**	**-0.2**
RDF				AML			AML	12 56 50.2	
comp=Z,20nm,0.3s									
QRN	**Al-Qurain**	**3.54**	**198**	*eP*			**Pn**	**12 56 07.4**	**+0.4**
QRN				AML			AML	12 56 49.4	
comp=Z,20nm,0.2s									
QRN				*eS*			**Sn**	**12 56 49.7**	**+0.3**
IVRN	**Varamin**	**3.58**	**37**	Lg				12 57 07.2	
IVRN	**Varamin**	**3.58**	**37**	Pn			**Pn**	**12 56 08.4**	**+0.9**
IMHD	**Mahdasht**	**3.76**	**19**	Pn			**Pn**	**12 56 10.3**	**+0.2**
IPAR	**Pars**	**4.07**	**123**	Pn			**Pn**	**12 56 11.6**	**-2.9**
IDMV	**Damavand**	**4.19**	**34**	Pn			**Pn**	**12 56 16.8**	**+0.6**
IFIR	**Firoozkooh**	**4.61**	**40**	Pn			**Pn**	**12 56 22.3**	**+0.1**

CSEM ***12*** *13:10:29.8±0.4,37.29N×24.59W,h5km,ML2.0,Error ellipse: s-maj=15.8km s-min=3.6km az=81.0,After PDA*
PDA ***12*** *13:10:29.8±0.5,37.29N×24.59W,h5km,MD2.6,ML2.0, Error ellipse: s-maj=5.0km s-min=1.7km az=88.0*
SVSA 12 13:10:29.8±0.5,37.29N×24.59W,h5km,MD2.6,ML2.0,
Error ellipse: s-maj=5.0km s-min=1.7km az=88.0,
Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.47**	**233**	*i* P			Pg	13 10 38.2	-1.1
PSMN				*eS*			Sg	13 10 44.1	-1.5
MIRA	**Miradouro**	**0.74**	**312**	*eP*			Pg	13 10 42.0	-2.5
MIRA				*i* S			Sg	13 10 51.4	-3.0
PFAD	**Fenais da Ajud**	**0.80**	**314**	*eS*			Sg	13 10 52.5	-3.9
VIF	**Vila Franca**	**0.81**	**304**	*eP*			Pb	13 10 42.8	-3.2
VIF				*eS*			Sg	13 10 52.8	-4.1
12nm,0.2s									
PRCH	**Ribeira Ch**	**0.83**	**302**	*eS*			Sg	13 10 53.5	-4.0
39nm,0.2s									
MESC	**Monte Escuro**	**0.84**	**307**	*eP*			Pb	13 10 43.4	-3.2
MESC				*eS*			Sg	13 10 53.7	-4.3
LFA	**Lagoa do Fogo**	**0.86**	**305**	*eP*			Pb	13 10 43.9	-2.9
CML	**Cha da Macela**	**0.90**	**303**	*eS*			Sb	13 10 55.0	-4.5

ISK ***12*** *13:39:36.2,39.44N×33.16E,h6km,MD3.5,ML3.6*
CSEM ***12*** *13:39:36.2,39.44N×33.16E,h6km,MD3.5,After ISK*
ISC 12 13:39:36.6±0.4,39.41N±0.03×33.19E±0.04,h6km,n27,
σ1§07/35,Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KAMT	**Kaman**	**0.41**	**96**	*i* PG			**Pg**	**13 39 45.2**	**+0.3**
ANTO	**Ankara**	**0.55**	**326**	PG			**Pg**	**13 39 46.0**	**-1.6**
ANTO				SG			**Sg**	**13 39 54.7**	**-0.3**
ANTO	**Ankara**	**0.55**	**326**	*i* P			**Pg**	**13 39 46.8**	**-0.9**
ANTO				*i* S			**Sg**	**13 39 54.6**	**-0.3**
LOD	**Lodumlu**	**0.58**	**326**	PG			**Pg**	**13 39 47.3**	**-0.9**
CDAG	**Cicekdag**	**0.94**	**77**	*i* P			**Pb**	**13 39 53.4**	**-1.5**
CDAG				*i* S			**Sb**	**13 40 06.8**	**-0.6**
ELDT	**Eldivan**	**1.09**	**10**	*i* P			**Pb**	**13 39 56.1**	**-1.4**
ELDT				*i* S			**Sb**	**13 40 11.7**	**-0.2**
KIZT	**Kizilcal**	**1.15**	**243**	PN			**Pn**	**13 39 57.5**	**-1.7**
CANT	**Cankiri**	**1.24**	**15**	PN			**Pn**	**13 39 59.7**	**-0.8**
CORM	**Corum**	**1.35**	**55**	PN			**Pn**	**13 40 02.0**	**0.0**
SGKT	**Sivrigoynuk**	**1.45**	**323**	*i* P			**Pn**	**13 40 02.6**	**-0.9**
SGKT				*i* S			**Sb**	**13 40 23.5**	**+1.3**
KONT	**Konya--Tatoy**	**1.60**	**204**	PN			**Pn**	**13 40 06.1**	**+0.5**
YOZ	**Yozgat**	**1.66**	**81**	PN			**Pn**	**13 40 07.1**	**+0.5**
NIG	**Nigde**	**1.71**	**139**	PN			**Pn**	**13 40 08.3**	**+1.1**
CTKT	**Corum**	**1.73**	**45**	*i* P			**Pn**	**13 40 07.5**	**+0.1**
CTKT				*i* S			**Sn**	**13 40 32.5**	**+2.5**
TOS	**Tosya**	**1.74**	**21**	PN			**Pn**	**13 40 07.3**	**-0.4**
ESKT	**Eskisehir**	**1.81**	**274**	PN			**Pn**	**13 40 08.7**	**0.0**
MDU	**Mudurnu**	**1.85**	**305**	*e*PN			**Pn**	**13 40 09.4**	**+0.3**
SAFT	**Safranbolu**	**1.87**	**348**	PN			**Pn**	**13 40 09.5**	**0.0**
BALT	**Daday**	**2.12**	**4**	*i* P			**Pn**	**13 40 14.9**	**+1.8**
BALT				*i* S			**Sn**	**13 40 44.2**	**+4.0**
BNN	**Bunyan**	**2.14**	**104**	*e*PN			**Pn**	**13 40 14.5**	**+1.1**
HENT	**Hendek**	**2.25**	**309**	*i* P			**Pn**	**13 40 17.0**	**+2.1**
HENT				*i* S			**Sn**	**13 40 45.5**	**+2.1**
BYBT	**Boyabat**	**2.38**	**30**	*e*PN			**Pn**	**13 40 17.4**	**+0.6**
ALT	**Altintas**	**2.42**	**262**	*e*PN			**Pn**	**13 40 15.9**	**-1.4**
HDMB	**Hadim**	**2.51**	**193**	*e*PN			**Pn**	**13 40 19.0**	**+0.4**
BZK	**Bozkurt**	**2.62**	**13**	*e*PN			**Pn**	**13 40 19.1**	**-1.1**
TOKT	**Tokat**	**2.74**	**70**	*e*PN			**Pn**	**13 40 21.5**	**-0.4**
KVT	**Kavak**	**2.75**	**52**	*e*PN			**Pn**	**13 40 21.4**	**-0.7**

THR ***12*** *13:40:52.5±0.5,32.03N×49.05E,h14km±3km,ML3.2*
CSEM ***12*** *13:40:52.7±0.1,32.17N×49.03E,h14km,ML3.2,Error ellipse: s-maj=3.6km s-min=2.4km az=131.0*
TEH ***12*** *13:40:53.2,32.04N×49.11E,h10km,Mn3.2*
KISR ***12*** *13:40:54.5±0.6,32.08N×48.97E,h33km,ML3.3*
ISC 12 13:40:52.5±0.4,32.12N±0.03×49.11E±0.04,h10km,n22,
σ1§16/28,Western Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.27**	**267**	*e*PG			**Pg**	**13 40 57.4**	**-0.7**
SHGR				*e*SG			**Sg**	**13 41 01.4**	**-0.3**
SHGR				AML			AML	13 41 03.0	
comp=N,5μm,0.5s									
SHGR	**Shooshtar-Gavs**	**0.27**	**267**	*e*Pg			**Pg**	**13 40 57.4**	**-0.6**
SNR=106									
SHGR				*e*Sg			**Sg**	**13 41 01.4**	**-0.4**
comp=N,5μm,0.5s,SNR=106									
IKLH	**Kalahroud**	**2.40**	**60**	Pn			**Pn**	**13 41 32.4**	**0.0**
IKOM	**Komasi**	**2.45**	**327**	Pn			**Pn**	**13 41 34.2**	**+1.1**
ASAO	**Ashtian**	**2.54**	**17**	*e*PN			**Pn**	**13 41 36.9**	**+2.5**
ASAO				*e*SG			**Sg**	**13 42 15.3**	**-1.6**
ASAO				AML			AML	13 42 17.7	
comp=N,70nm,0.2s									
IGAR	**Garneh**	**2.62**	**87**	Pn			**Pn**	**13 41 33.6**	**-2.0**
IZEF	**Zefreh**	**2.82**	**73**	Pn			**Pn**	**13 41 38.2**	**-0.3**
QAM	**Qamsar**	**2.87**	**51**	Pn			**Pn**	**13 41 37.0**	**-2.2**
KBD	**Kabd**	**3.18**	**203**	*e*P			**Pn**	**13 41 44.5**	**+0.8**
KBD				*e*S			**Sn**	**13 42 21.2**	**-0.8**
KBD				AML			AML	13 42 28.1	
comp=Z,108nm,0.3s									
NASN	**Na'in**	**3.19**	**77**	*e*PN			**Pn**	**13 41 45.6**	**+1.8**
NASN				*e*SG			**Sg**	**13 42 34.5**	**-4.4**
IDHR	**Dehrash**	**3.44**	**319**	Pn			**Pn**	**13 41 46.8**	**-0.4**
RDF	**Al-Radifah**	**3.46**	**203**	*e*P			**Pn**	**13 41 48.1**	**+0.5**
RDF				*e*S			**Sn**	**13 42 28.6**	**-0.4**
RDF				AML			AML	13 42 29.2	
comp=Z,47nm,0.5s									
RDF	**Al-Radifah**	**3.46**	**203**	*e*P			**Pn**	**13 41 48.1**	**+0.5**
RDF				*e*S			**Sn**	**13 42 28.6**	**-0.5**
QRN	**Al-Qurain**	**3.52**	**197**	*e*P			**Pn**	**13 41 49.0**	**+0.6**
QRN				*e*S			**Sn**	**13 42 30.3**	**-0.3**
QRN				AML			AML	13 42 34.5	
comp=Z,67nm,0.3s									
IVRN	**Varamin**	**3.60**	**37**	Lg				13 42 47.5	
IVRN	**Varamin**	**3.60**	**37**	Pn			**Pn**	**13 41 50.0**	**+0.4**
IPAR	**Pars**	**4.07**	**123**	Pn			**Pn**	**13 41 54.9**	**-1.4**
IDMV	**Damavand**	**4.21**	**34**	Pn			**Pn**	**13 41 58.3**	**0.0**
DAMV	**Damavand**	**4.23**	**33**	*e*Pn			**Pn**	**13 42 00.6**	**+2.1**
IMOK	**Mook**	**4.37**	**134**	Pn			**Pn**	**13 42 02.0**	**+1.6**
IFIR	**Firoozkooh**	**4.63**	**40**	Lg				13 43 20.2	
IFIR	**Firoozkooh**	**4.63**	**40**	Pn			**Pn**	**13 42 03.9**	**-0.3**

WEL 12 14:06:17.9±0.4,39.65S×174.33E,h202km±3km,ML3.5/16,
2C,Error ellipse: s-maj=2.8km s-min=1.6km az=90.0,
North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RAEZ	**Rainy Point**	**0.36**	**7**	PN			P	14 06 44.7	-0.5
DFE	**Dawson Falls**	**0.36**	**331**	PN			P	14 06 44.9	-0.3
NEZ	**North Egmont**	**0.41**	**334**	PN			P	14 06 44.9	-0.4
NRZ	**Ngariki Road**	**0.44**	**315**	PN			P	14 06 44.9	-0.5
WAZ	**Wanganui**	**0.52**	**103**	⇑PN			P	14 06 46.1	+0.4
WAZ				SN			S	14 07 07.8	+0.6
NWEZ	**Newall Road**	**0.52**	**316**	*e*PN			P	14 06 44.7	-1.0
PKE	**Pukeiti**	**0.52**	**329**	*e*PN			P	14 06 45.0	-0.7
VRZ	**Vera Road**	**0.61**	**33**	PN			P	14 06 44.9	-1.2
VRZ				SN			S	14 07 06.3	-1.5
PKVZ	**Pokaka**	**0.86**	**66**	PN			P	14 06 46.8	-0.5
FWVZ	**Far West T-bar**	**1.02**	**68**	PN			P	14 06 48.1	-0.1
FWVZ				SN			S	14 07 10.4	-1.3
TWVZ	**Taurewa**	**1.03**	**57**	PN			P	14 06 47.5	-0.8
CNZ	**Chateau**	**1.04**	**65**	PN			P	14 06 48.1	-0.3
MOVZ	**Moawhango**	**1.12**	**78**	PN			P	14 06 48.4	-0.6
MOVZ				SN			S	14 07 11.2	-1.9
DUWZ	**D'Urville Isla**	**1.20**	**195**	PN			P	14 06 49.3	-0.3
DUWZ				SN			S	14 07 13.5	-0.6
KIW	**Kapiti Island**	**1.29**	**160**	PN			P	14 06 50.1	-0.3
KIW				SN			S	14 07 14.5	-1.0
TSZ	**Takapari Road**	**1.32**	**109**	⇑PN			P	14 06 50.5	-0.1
TSZ				SN			S	14 07 14.9	-1.0
MRZ	**Mangatainoka R**	**1.40**	**137**	PN			P	14 06 50.9	-0.4
MRZ				SN			S	14 07 16.0	-1.1
CAW	**Cannon Point**	**1.57**	**159**	PN			P	14 06 52.3	-0.5
CAW				SN			S	14 07 19.1	-0.6
TCW	**Tory Channel**	**1.57**	**182**	PN			P	14 06 52.4	-0.4
TCW				SN			S	14 07 17.9	-1.8
MRW	**Makara Radio**	**1.61**	**170**	PN			P	14 06 52.6	-0.5
SNZO	**South Karori**	**1.69**	**170**	PN			P	14 06 53.2	-0.7
NNZ	**Nelson**	**1.73**	**205**	PN			P	14 06 53.4	-0.9
NNZ				SN			S	14 07 20.3	-2.1
BKZ	**Black Stump Fm**	**1.74**	**75**	PN			P	14 06 53.4	-1.0
MTW	**Mount Morrison**	**1.76**	**150**	PN			P	14 06 53.9	-0.6

IDC ***12*** *14:29:26.5±1.8,58.50S×24.69W,mb4.0/2,mb1 4.2/2, mb1mx3.8/13,mbtmp4.0/2,Error ellipse: s-maj=80.7km s-min=38.4km az=62.0*
NEIC ***12*** *14:29:34.6±1.1,58.87S×24.75W,h55km,mb4.1/2,Error ellipse: s-maj=61.3km s-min=14.6km az=62.0*
ISC 12 14:29:28.0±3.9,58.8S±0.4×24.7W±0.9,h10km,n10,
σ0§43/8,mb4.0/2,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.77**	**157**				**P**	**14 32 45.5**	**+0.3**
VNA3	**Neumayer Olymp**	**13.98**	**160**				**P**	**14 32 47.1**	**-0.8**
VNA2	**Neumayer--Watz**	**14.16**	**156**				**P**	**14 32 50.7**	**+0.3**
SNAA	**Sanae**	**15.71**	**154**				**P**	**14 33 10.8**	**+0.2**
SNAA	**Sanae**	**15.71**	**154**	*eP*			**P**	**14 33 10.7**	**+0.2**
7.8nm,0.5s									
MAW	**Mawson**	**37.18**	**141**	P			**P**	**14 36 40.2**	**-0.1**
1.1nm,0.5s,mb3.9,baz=246,slow=8.6,SNR=5.7									
VNDA	**Vanda**	**43.92**	**182**	P			**P**	**14 37 36.2**	**+0.5**
1.9nm,0.6s,mb4.0,baz=189,slow=7.0,SNR=17									
VNDA	**Vanda**	**43.92**	**182**	*eP*			**P**	**14 37 35.4**	**-0.3**
1.8nm,0.6s,mb4.0									
YKA	**Yellowknife Ar**	**139.07**	**315**	PKP			PKPdf	14 48 53.1	-3.5
0.5nm,0.6s,baz=140,slow=2.0,SNR=3.5									
ILAR	**Eielson Array**	**152.88**	**307**	PKPbc			PKPdf	14 49 23.4	+4.1
1.3nm,0.8s,baz=146,slow=2.0,SNR=9.9									

NIED ***12*** *14:46:00,36.60N×140.00E,h125km,Mw4.1 Best double couple: M0.57×10^15 NP1:φs214°,δ63°,λ-116°. NP2: φs81°,δ36°,λ-49°.*
IDC ***12*** *14:46:20.2±1.7,36.62N×139.93E,h109km±19km,mb3.7/7, mb1 3.8/10,mb1mx3.6/18,mbtmp4.1/10,Error ellipse: s-maj=19.1km s-min=14.9km az=81.0*
JMA ***12*** *14:46:21.6±0.1,36.60N×140.03E,h117km±1km,M4.0 Broadband fault plane solution: P waves. NP1:φs86°,δ31°, λ-34°. NP2:φs206°,δ73°,λ-116°. Principal axes: T Plg24°, Azm316°; N Plg25°, Azm214°; P Plg54°, Azm84°;*
JMA Felt I J1.
MOS ***12*** *14:46:22.0±0.8,37.31N×139.76E,h107km,mb4.2/4 Error ellipse: s-maj=18.9km s-min=16.0km az=77.5*
NEIC ***12*** *14:46:22.6±0.7,36.60N×139.87E,h132km±6km,mb4.2/9, Error ellipse: s-maj=9.7km s-min=9.4km az=181.0*
NEIC Recorded [1 JMA] in Fukushima, Ibaraki, Saitama and Tochigi Prefectures.
ISC 12 14:46:20.2±0.3,36.62N±0.03×140.00E±0.05,h126km±2km,
n54,σ0§91/68,mb4.0/15,2C-10D,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JAG	**Ashikaga**	**0.48**	**247**	⇓P			**P**	**14 46 39.1**	**+0.2**
JAG				S			**S**	**14 46 52.7**	**-0.3**
JKT	**Katashina**	**0.62**	**284**	⇓P			**P**	**14 46 40.6**	**+0.9**
JFY	**Yanaizu**	**0.82**	**343**	⇓P			**P**	**14 46 42.1**	**+0.8**
JFY				S			**S**	**14 46 56.9**	**-0.5**
JFT	**Otama**	**0.94**	**17**	⇓P			**P**	**14 46 43.0**	**+0.6**
JFT				S			**S**	**14 46 59.2**	**0.0**
JFK	**Kawauchi**	**1.02**	**43**	⇓P			**P**	**14 46 43.7**	**+0.4**
JFK				S			**S**	**14 47 00.0**	**-0.7**
JRY	**Ryogami san**	**1.07**	**236**	⇓P			**P**	**14 46 44.6**	**+0.9**
JRY				S			**S**	**14 47 01.9**	**+0.4**
JNS	**Sasagawa**	**1.32**	**336**	P			**P**	**14 46 47.0**	**+0.6**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZ	**Bozeman (W)**	**75.80**	**43**	*e*P	**P**	**14 57 55.1**	**+1.5**
BOZ				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.5						
NVAR	**Mina Array Bea**	**76.14**	**52**	P	**P**	**14 57 57.4**	**+1.7**
	baz=294,slow=5.2						
ELK	**Elko**	**76.68**	**49**	*e*P	**P**	**14 58 00.3**	**+1.7**
	comp=Z,1.0nm,0.7s,mb3.6						
ELK	**Elko**	**76.68**	**49**	*e*P	**P**	**14 58 00.3**	**+1.7**
ELK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
PDAR	**Pinedale Array**	**78.77**	**45**	P	**P**	**14 58 10.9**	**+0.9**
	comp=Z,0.5nm,0.5s,mb3.6,baz=357,slow=1.0,SNR=6.8						
SAML	**Samuel**	**145.34**	**43**	*e*PKPbc	PKPbc	15 05 45.1	+1.1
LPAZ	**La Paz**	**147.88**	**58**	PKPbc	PKPdf	15 05 53.8	+6.3
	comp=Z,0.5nm,0.3s,baz=351,slow=3.2,SNR=7.2						
LPAZ	**La Paz**	**147.88**	**58**	*e*PKPbc	PKPdf	15 05 53.5	+5.9
PLCA	**Paso Flores**	**155.86**	**109**	*e*PKPab	PKPab	15 06 30.2	+1.8

ISK ***12*** *14:49:52.9, 36.28N×26.35E, h24km, MD3.4*
ATH ***12*** *14:49:57.0, 36.58N×26.46E, h5km, MD3.6/14*
NEIC ***12*** *14:49:57.3, 36.57N×26.47E, h5km, MD3.6(ATH), After ATH.*
CSEM ***12*** *14:49:57.3±0.1, 36.66N×26.53E, h10km, MD3.6, Error ellipse: s-maj=1.8km s-min=1.3km az=145.0*
THE ***12*** *14:49:57.4, 36.53N×26.67E, h20km*
ISC 12 14:49:56.3±0.4, 36.66N±0.02×26.52E±0.02, h5km±4km, n47, σ1§25/68, 1D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NISR	**Nisiros**	**0.50**	**96**	*e*PB	**Pb**	**14 50 08.0**	**+0.8**
BODT	**Bodrum**	**0.75**	**58**	PN	**Pn**	**14 50 12.9**	**-0.4**
BDRM	**Kayabasi**	**0.85**	**61**	*i* P	**Pb**	**14 50 13.1**	**-0.1**
BDRM				*i* S	**Sg**	**14 50 25.6**	**+1.0**
APE	**Apeiranthos**	**0.89**	**298**	PG	**Pg**	**14 50 12.2**	**-1.9**
APE				SG	**Sg**	**14 50 26.5**	**+0.5**
APE	**Apeiranthos**	**0.89**	**298**	||*i* Pg	**Pg**	**14 50 14.4**	**+0.3**
APE				*e*Sg	**Sg**	**14 50 26.5**	**+0.6**
APE				*e*Sb	**Sb**	**14 50 26.8**	**+1.0**
SANT	**Santorini**	**0.90**	**252**	*e*Pg	**Pg**	**14 50 13.7**	**-0.6**
SANT				*e*Sg	**Sg**	**14 50 24.2**	**-2.1**
SANT	**Santorini**	**0.90**	**252**	*e*Pg	**Pg**	**14 50 13.7**	**-0.6**
SANT				*e*Sg	**Sg**	**14 50 24.2**	**-2.1**
SANT				*e*Sn	**Sn**	**14 50 27.8**	**-1.2**
THR1	**Thera Island**	**0.90**	**251**	*e*Pg	**Pg**	**14 50 14.3**	**0.0**
THR1				*e*Sg	**Sg**	**14 50 27.2**	**+0.9**
THR4	**Thira Island,**	**0.92**	**258**	*e*Pg	**Pg**	**14 50 14.5**	**-0.2**
THR4				*e*Sg	**Sg**	**14 50 27.9**	**+0.8**
THR3	**Thira Island,**	**0.93**	**255**	*e*Pg	**Pg**	**14 50 15.1**	**+0.1**
THR3				*e*Sg	**Sg**	**14 50 29.4**	**+2.0**
THR6	**Thira Island,**	**0.95**	**252**	*e*Pg	**Pg**	**14 50 15.1**	**-0.3**
THR6				*e*Sg	**Sg**	**14 50 28.0**	**0.0**
THR5	**Thira Island,**	**0.97**	**256**	*e*Pg	**Pg**	**14 50 15.6**	**-0.1**
THR5				*e*Sg	**Sg**	**14 50 30.4**	**+1.7**
SMG	**Samos**	**1.08**	**14**	*e*PG	**Pg**	**14 50 19.0**	**+1.1**
MLSB	**Milas**	**1.19**	**58**	*e*PN	**Pn**	**14 50 19.7**	**+0.1**
KARP	**Karpathos**	**1.23**	**155**	*e*PB	**Pb**	**14 50 20.0**	**+0.3**
KARP				*e*SB	**Sb**	**14 50 36.5**	**+0.8**
KARP	**Karpathos**	**1.23**	**155**	*e*Pb	**Pb**	**14 50 20.1**	**+0.4**
KARP				*e*Sn	**Sn**	**14 50 37.2**	**-0.1**
ARG	**Arkhangelos**	**1.37**	**108**	*e*PG	**Pg**	**14 50 22.9**	**-0.9**
AYDN	**Tasoluk**	**1.48**	**47**	*i* P	**Pg**	**14 50 26.4**	**+0.5**
AYDN				*i* S	**Sg**	**14 50 46.4**	**+0.8**
YER	**Yerkesik**	**1.49**	**71**	*e*PN	**Pn**	**14 50 23.4**	**-0.6**
NPS	**Neapolis**	**1.58**	**208**	*e*PG	**Pg**	**14 50 24.6**	**-3.2**
NPS				*e*SB	**Sb**	**14 50 44.5**	**-1.3**
BLCB	**Balcova**	**1.77**	**14**	*e*PN	**Pn**	**14 50 28.8**	**+0.9**
IZM	**Izmir**	**1.83**	**19**	*e*PN	**Pn**	**14 50 30.0**	**+1.2**
KDAG	**Bornova**	**1.84**	**19**	*i* P	**Pn**	**14 50 28.9**	**0.0**
KDAG				*i* S	**Sn**	**14 50 57.9**	**+5.0**
XRY	**Khrisi**	**1.90**	**201**	*e*PN	**Pn**	**14 50 31.5**	**+1.7**
VAM	**Vamos**	**2.25**	**237**	*e*PN	**Pn**	**14 50 36.0**	**+1.1**
DNZL	**Cakiroluk**	**2.27**	**62**	*i* P	**Pg**	**14 50 39.2**	**-2.4**
DNZL				*i* S	**Sg**	**14 51 13.3**	**+1.4**
MANT	**Manisa**	**2.44**	**41**	*i* P	**Pg**	**14 50 45.4**	**+0.3**
MANT				*i* S	**Sg**	**14 51 19.2**	**+1.5**
PTL	**Penteli**	**2.52**	**304**	*e*PN	**Pn**	**14 50 42.0**	**+3.3**
PTL	**Penteli**	**2.52**	**304**	*e*Pg	**Pg**	**14 50 43.8**	**-3.0**
ATH	**Athens Observa**	**2.59**	**301**	*e*PN	**Pn**	**14 50 43.0**	**+3.4**
PRK	**Paraskevi**	**2.59**	**356**	*e*PN	**Pn**	**14 50 44.2**	**+4.6**
PRK	**Paraskevi**	**2.59**	**356**	*e*Pg	**Pg**	**14 50 46.2**	**-1.8**
NAIG	**Nisos Aigina**	**2.65**	**295**	*e*PN	**Pn**	**14 50 43.5**	**+2.9**
NAIG	**Nisos Aigina**	**2.65**	**295**	*e*Pn	**Pn**	**14 50 44.5**	**+3.9**
MPAR	**Parnis Oros**	**2.67**	**305**	*e*PN	**Pn**	**14 50 44.0**	**+3.2**
MPAR	**Parnis Oros**	**2.67**	**305**	*e*Pn	**Pn**	**14 50 41.0**	**+0.2**
NSAL	**Nisos Salamina**	**2.73**	**298**	*e*PN	**Pn**	**14 50 44.5**	**+2.8**
NSAL	**Nisos Salamina**	**2.73**	**298**	*e*Pg	**Pg**	**14 50 47.0**	**-3.9**
AOS	**Alonnisos**	**3.26**	**321**	*e*Pn	**Pn**	**14 50 48.2**	**-1.0**
TKTP	**Tekketepe**	**3.33**	**64**	*i* P	**Pg**	**14 51 00.5**	**-2.4**
TKTP				*i* S	**Sg**	**14 51 52.4**	**+5.1**
LOS	**Limnos**	**3.46**	**341**	*e*Pn	**Pn**	**14 50 50.9**	**-1.1**
XOR	**Xorichti**	**3.77**	**317**	*e*Pn	**Pn**	**14 50 55.5**	**-0.8**
PAIG	**Paliouri**	**3.95**	**326**	*e*Pn	**Pn**	**14 50 57.9**	**-1.1**
ULDT	**Uludag**	**4.04**	**30**	*i* P	**Pg**	**14 51 14.4**	**-2.6**
ULDT				*i* S	**Sg**	**14 52 06.2**	**-4.6**
AGG	**Agios Georgios**	**4.07**	**307**	*e*Pn	**Pn**	**14 51 00.1**	**-0.5**
OUR	**Ouranopolis**	**4.17**	**332**	*e*Pn	**Pn**	**14 51 01.0**	**-1.1**
ALN	**Alexandroupoli**	**4.25**	**355**	*e*Pn	**Pn**	**14 51 01.8**	**-1.5**

BJI ***12*** *15:14:24.6, 6.80S×156.50E, h72km, mB4.9, mb4.7*
IDC ***12*** *15:14:24.4±2.7, 6.76S×156.45E, h69km±25km, mb4.1/10, mb1 4.2/14, mb1mx4.2/15, mbtmp4.4/14, MS3.5/5, Ms1 3.5/5, ms1mx3.2/17, Error ellipse: s-maj=20.5km s-min=16.3km az=3.0*
NEIC ***12*** *15:14:24.6±1.3, 6.77S×156.52E, h72km±12km, mb4.5/9, Error ellipse: s-maj=12.0km s-min=10.0km az=163.0*
ISC 12 15:14:22.9±1.8, 6.77S±0.10×156.46E±0.07, h69km±17km, n29, σ0§98/28, mb4.4/17, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.35**	**128**	P	**P**	**15 15 27.4**	**-0.6**
	22nm,0.3s,baz=256,slow=5.2,SNR=14						
HNR				S	**S**	**15 16 18.6**	**+0.7**
	18nm,0.3s,baz=221,slow=20,SNR=3.4						
PMG	**Port Moresby**	**9.57**	**254**	P	**P**	**15 16 41.2**	**+1.0**
	5.8nm,0.3s,baz=51,slow=9.9,SNR=22						
PMG				LR	LR	15 20 16.6	
	comp=Z,189nm,18.9s,baz=38,slow=37						
CTA	**Charters Tower**	**16.53**	**216**	*e*P	**P**	**15 18 16.3**	**+4.6**
	5.7nm,0.7s						
CTA	**Charters Tower**	**16.53**	**216**	P	**P**	**15 18 13.1**	**+1.4**
	0.4nm,0.3s,baz=29,slow=10,SNR=8.4						
CTA				LR	LR	15 23 35.8	
	comp=Z,130nm,20.8s,baz=52,slow=33						
CTA	**Charters Tower**	**16.53**	**216**	P	**P**	**15 18 13.1**	**+1.4**
CTA				*e*P		15 18 16.3	
CTA				LR	LR	15 23 35.8	
CTAO	**Charters Tower**	**16.53**	**216**	*e*P	**P**	**15 18 16.4**	**+4.7**
	7.3nm,0.6s						
DZM	**Mont Dzumac**	**18.01**	**149**	P	**P**	**15 18 28.1**	**-2.0**
	0.4nm,0.3s,baz=77,slow=17,SNR=9.8						
KAKA	**Kakadu**	**24.39**	**254**	*e*P	**P**	**15 19 45.3**	**+9.2**
	53nm,0.6s,mb5.0						
WRAB	**Tennant Creek**	**25.13**	**236**	*e*P	**P**	**15 19 43.6**	**+0.4**
	14nm,0.7s,mb4.5						
WB2	**Warramunga Arr**	**25.13**	**236**	*e*P	**P**	**15 19 43.8**	**+0.6**
STKA	**Stephens Creek**	**28.57**	**207**	*e*P	**P**	**15 20 14.7**	**+0.1**
	2.5nm,0.6s,mb4.0						
STKA	**Stephens Creek**	**28.57**	**207**	P	**P**	**15 20 14.0**	**-0.6**
	3.5nm,0.8s,mb4.1,baz=26,slow=14,SNR=9.5						
FITZ	**Fitzroy Crossi**	**32.07**	**247**	*e*P	**P**	**15 20 44.3**	**-1.3**
	20nm,0.6s,mb5.0						
FITZ	**Fitzroy Crossi**	**32.07**	**247**	P	**P**	**15 20 44.0**	**-1.6**
	26nm,0.6s,mb5.1,baz=90,slow=3.8,SNR=40						
MBWA	**Marble Bar**	**38.28**	**244**	*e*P	**P**	**15 21 37.5**	**-0.9**
	11nm,0.6s,mb4.9						
MAJO	**Matsushiro**	**46.36**	**340**	*e*P	**P**	**15 22 43.5**	**-0.7**
	3.5nm,0.6s,mb4.3						
HHC	**Hu-ho-hao-te**	**62.78**	**323**	*e*P	**P**	**15 24 48.7**	**+5.2**
HHC				AMB	AMB		
	comp=Z,54nm,0.6s,mb5.7						
CASY	**Casey**	**67.25**	**198**	*e*P	**P**	**15 25 11.3**	**-0.5**
	comp=Z,3.2nm,0.7s,mb4.3						
SONM	**Songino Array**	**69.94**	**327**	P	**P**	**15 25 28.6**	**-0.1**
	comp=Z,1.1nm,0.6s,mb3.9,baz=144,slow=6.9,SNR=7.1						
VNDA	**Vanda**	**70.77**	**179**	P	**P**	**15 25 33.7**	**+0.4**
	comp=Z,1.1nm,0.9s,mb3.7,baz=305,slow=6.6,SNR=3.7						
MCK	**McKinley**	**81.31**	**22**	*e*P	**P**	**15 26 32.7**	**-0.3**
	comp=Z,5.4nm,1.0s,mb4.3						
ILAR	**Eielson Array**	**82.64**	**21**	P	**P**	**15 26 39.5**	**-0.3**
	comp=Z,1.7nm,0.8s,mb3.9,baz=245,slow=5.8,SNR=10						
MKAR	**Makanchi Array**	**84.20**	**318**	P	**P**	**15 26 48.7**	**+0.6**
	comp=Z,3.7nm,0.7s,mb4.3,baz=103,slow=6.2,SNR=27						
MAW	**Mawson**	**85.16**	**203**	P	**P**	**15 26 53.4**	**+1.1**
	comp=Z,2.7nm,0.6s,mb4.3,baz=94,slow=7.3,SNR=7.8						
YBH	**Yreka Blue Hor**	**87.67**	**48**	LR	LR	16 01 06.3	
	comp=Z,33nm,19.6s,baz=61,slow=32						
NEW	**Newport**	**92.62**	**42**	LR	LR	16 01 20.1	
	comp=Z,45nm,20.5s,baz=332,slow=30						
BVAR	**Borovoye Array**	**93.00**	**323**	P	**P**	**15 27 28.2**	**-1.6**
	comp=Z,0.8nm,0.6s,mb4.2,baz=56,slow=5.3,SNR=7.9						
YKA	**Yellowknife Ar**	**95.46**	**28**	P	**P**	**15 27 42.3**	**+1.5**
	comp=Z,1.3nm,0.9s,mb4.3,baz=261,slow=4.6,SNR=6.3						
PDAR	**Pinedale Array**	**97.47**	**48**	P	**P**	**15 27 52.0**	**+1.5**
	comp=Z,0.6nm,0.9s,mb4.0,baz=256,slow=3.7,SNR=3.1						
PDAR				LR	LR	16 09 50.0	
	comp=Z,16nm,19.0s,baz=79,slow=34						

NEIC ***12*** *16:07:17.6, 37.14S×177.44E, h134km, MG4.4(WEL), After WEL.*
WEL 12 16:07:17.7±0.3, 37.12S×177.42E, h132km±3km, ML4.4/17, 3D, Error ellipse: s-maj=1.8km s-min=1.5km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.45**	**205**	PN	P	16 07 36.4	-0.5
WIZ	**White Island**	**0.45**	**205**	P	P	16 07 36.4	-0.5
MXZ	**Matakaoa Point**	**0.83**	**122**	PN	P	16 07 39.5	+0.1
MXZ				SN	S	16 07 56.6	+0.5
MXZ	**Matakaoa Point**	**0.83**	**122**	P	P	16 07 39.5	+0.1
MXZ				S	S	16 07 56.6	+0.5
MYRZ	**Mayor Island**	**0.96**	**260**	PN	P	16 07 40.5	-0.2
MARZ	**Manawahe**	**1.05**	**214**	PN	P	16 07 41.4	-0.1
MARZ	**Manawahe**	**1.05**	**214**	P	P	16 07 41.4	-0.1
TGRZ	**Tauranga**	**1.11**	**236**	PN	P	16 07 41.8	-0.4
TGRZ	**Tauranga**	**1.11**	**236**	P	P	16 07 41.8	-0.3
EDRZ	**Edgecumbe**	**1.12**	**209**	PN	P	16 07 42.2	0.0
EDRZ	**Edgecumbe**	**1.12**	**209**	P	P	16 07 42.3	0.0
PUZ	**Puketiti**	**1.16**	**145**	||PN	P	16 07 42.3	-0.3
PUZ				SN	S	16 08 00.4	-1.1
PUZ	**Puketiti**	**1.16**	**145**	P	P	16 07 42.3	-0.3
PUZ				S	S	16 08 07.7	+6.2
URZ	**Urewera**	**1.16**	**192**	||PN	P	16 07 42.2	-0.5
URZ				SN	S	16 08 00.8	-0.8
URZ	**Urewera**	**1.16**	**192**	P	P	16 07 42.2	-0.5
LIRZ	**Lichensteins R**	**1.21**	**223**	PN	P	16 07 43.2	+0.1
LIRZ	**Lichensteins R**	**1.21**	**223**	P	P	16 07 43.2	0.0
MWZ	**Matawai**	**1.21**	**176**	PN	P	16 07 42.7	-0.5
MWZ				SN	S	16 08 02.5	-0.1
MWZ	**Matawai**	**1.21**	**176**	P	P	16 07 42.7	-0.5
TAZ	**Tarawera**	**1.33**	**213**	PN	P	16 07 44.7	+0.2
TAZ	**Tarawera**	**1.33**	**213**	P	P	16 07 44.7	+0.2
KUZ	**Kuaotunu**	**1.42**	**285**	PN	P	16 07 44.7	-0.8
UTU	**Utuhina**	**1.44**	**222**	PN	P	16 07 46.2	+0.5
UTU	**Utuhina**	**1.44**	**222**	P	P	16 07 46.2	+0.5
PATZ	**Paeroa**	**1.56**	**216**	PN	P	16 07 47.2	+0.1
PATZ	**Paeroa**	**1.56**	**216**	P	P	16 07 47.2	+0.1
TOZ	**Tahuroa Road**	**1.65**	**248**	||PN	P	16 07 48.2	+0.1
TOZ				SN	S	16 08 10.7	-0.5
TOZ	**Tahuroa Road**	**1.65**	**248**	P	P	16 07 48.2	+0.2
TOZ				S	S	16 08 10.7	-0.5
KNZ	**Kokohu**	**1.91**	**174**	PN	P	16 07 49.8	-1.3
KNZ	**Kokohu**	**1.91**	**174**	P	P	16 07 49.8	-1.3
WHTZ	**Whakaora**	**1.93**	**216**	PN	P	16 07 52.1	+0.7
WHTZ	**Whakaora**	**1.93**	**216**	P	P	16 07 52.1	+0.7
HATZ	**Hinemaiaia**	**2.06**	**210**	PN	P	16 07 52.3	-0.6
HATZ				SN	S	16 08 19.5	-0.3
HATZ	**Hinemaiaia**	**2.06**	**210**	P	P	16 07 52.3	-0.6
WATZ	**Wairara**	**2.07**	**220**	PN	P	16 07 53.2	+0.1
WATZ	**Wairara**	**2.07**	**220**	P	P	16 07 53.2	0.0
BKZ	**Black Stump Fm**	**2.17**	**199**	PN	P	16 07 52.7	-1.7
BKZ				SN	S	16 08 21.9	-0.4
BKZ	**Black Stump Fm**	**2.17**	**199**	P	P	16 07 52.7	-1.7
RATZ	**Rangitukua**	**2.18**	**216**	PN	P	16 07 54.1	-0.4
RATZ	**Rangitukua**	**2.18**	**216**	P	P	16 07 54.1	-0.4
RITZ	**Rihia Road**	**2.23**	**213**	PN	P	16 07 54.9	-0.3
RITZ	**Rihia Road**	**2.23**	**213**	P	P	16 07 54.9	-0.3
KATZ	**Kakaramea**	**2.30**	**216**	PN	P	16 07 56.0	0.0
KATZ	**Kakaramea**	**2.30**	**216**	P	P	16 07 56.0	-0.1
KRVZ	**Karewarewa**	**2.42**	**215**	PN	P	16 07 56.9	-0.8
WTVZ	**West Tongariro**	**2.46**	**215**	PN	P	16 07 57.5	-0.7
WTVZ	**West Tongariro**	**2.46**	**215**	P	P	16 07 57.5	-0.7
TWVZ	**Taurewa**	**2.50**	**218**	PN	P	16 07 58.0	-0.6
TWVZ	**Taurewa**	**2.50**	**218**	P	P	16 07 58.2	-0.5
NGZ	**Ngauruhoe**	**2.50**	**214**	P	P	16 07 58.2	-0.6
CNZ	**Chateau**	**2.55**	**215**	P	P	16 07 58.8	-0.5
WPVZ	**Whakapapa**	**2.55**	**215**	P	P	16 07 58.5	-0.9
TUVZ	**Tukino**	**2.56**	**213**	P	P	16 07 58.5	-0.9
FWVZ	**Far West T-bar**	**2.59**	**214**	P	P	16 07 59.1	-0.8
DRZ	**Dome Shelter**	**2.60**	**214**	P	P	16 07 59.9	-0.1
WNVZ	**Wahianoa**	**2.63**	**213**	P	P	16 07 59.4	-1.0
MOVZ	**Moawhango**	**2.63**	**209**	P	P	16 07 58.4	-2.0
WCZ	**Waipu Caves**	**2.75**	**295**	*e*P	P	16 08 01.2	-0.7
VRZ	**Vera Road**	**2.90**	**226**	*e*P	P	16 08 03.7	-0.3
PWZ	**Pawanui**	**2.94**	**188**	P	P	16 08 01.4	-3.0
TSZ	**Takapari Road**	**3.15**	**201**	P	P	16 08 03.7	-3.5
RAEZ	**Rainy Point**	**3.22**	**227**	P	P	16 08 08.3	+0.1
WAZ	**Wanganui**	**3.25**	**215**	P	P	16 08 06.7	-1.9
NRZ	**Ngariki Road**	**3.53**	**230**	*e*P	P	16 08 13.0	+0.8
BFZ	**Birch Farm**	**3.67**	**194**	*e*P	P	16 08 10.0	-4.1
MRZ	**Mangatainoka R**	**3.82**	**202**	P	P	16 08 11.8	-4.3
KIW	**Kapiti Island**	**4.22**	**207**	P	P	16 08 16.9	-4.5
MTW	**Mount Morrison**	**4.30**	**200**	P	P	16 08 16.5	-6.0
CAW	**Cannon Point**	**4.38**	**204**	P	P	16 08 18.4	-5.2
MSWZ	**Moikau Station**	**4.61**	**201**	P	P	16 08 21.0	-5.6
MRW	**Makara Radio**	**4.62**	**206**	P	P	16 08 21.5	-5.2
WEL	**Wellington**	**4.64**	**206**	P	P	16 08 21.9	-5.2
SNZO	**South Karori**	**4.69**	**206**	P	P	16 08 22.2	-5.5
BHW	**Baring Head**	**4.72**	**204**	P	P	16 08 22.5	-5.6
TCW	**Tory Channel**	**4.76**	**210**	P	P	16 08 23.8	-4.9
QRZ	**Quartz Range**	**5.31**	**224**	*e*P	P	16 08 31.3	-4.8
BSWZ	**Blackbirch Sta**	**5.35**	**210**	P	P	16 08 30.9	-5.6
THZ	**Tophouse**	**5.81**	**216**	P	P	16 08 37.2	-5.5
KHZ	**Kahutara**	**6.08**	**208**	*e*P	P	16 08 40.1	-6.2
DSZ	**Denniston Nort**	**6.34**	**222**	*e*P	P	16 08 44.5	-5.5
LTZ	**Lake Taylor**	**6.90**	**213**	*e*P	P	16 08 50.5	-7.1
CRLZ	**Canterbury Las**	**7.42**	**208**	*e*P	P	16 08 56.9	-7.6
MQZ	**McQueen's Vall**	**7.52**	**207**	P	P	16 08 57.4	-8.5
RPZ	**Rata Peaks**	**8.18**	**214**	*e*P	P	16 09 06.7	-8.1
ODZ	**Otahua Downs**	**9.42**	**211**	*e*P	P	16 09 23.9	-7.4
TUZ	**Tuapeka**	**10.58**	**211**	*e*P	P	16 09 40.3	-6.2

IDC ***12*** *16:22:06.4±1.1, 51.42N×16.15E, mb1 3.3/4, mb1mx3.2/16, mbtmp3.1/4, ML2.5/4, Error ellipse: s-maj=18.5km s-min=9.8km az=108.0*
PRU ***12*** *16:22:06.6, 51.44N×16.06E*
WAR 12 16:22:06.5, 51.49N×16.06E, h1km, 1D, Location given by Polkowice mine, origin time based upon KSP, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.67**	**167**	*e*Pg	Pg	16 22 18.7	-1.1
KSP				*e*Sg	Sg	16 22 28.0	-0.7
UPC	**Upice**	**0.98**	**182**	*e*PG	Pg	16 22 24.2	-1.9
DPC	**Dobruska-Polom**	**1.16**	**172**	*e*PG	Pg	16 22 27.4	-2.1
DPC				*e*SG	Sg	16 22 42.2	-2.7
	18nm,0.2s						
PVCC	**Panska Ves**	**1.35**	**225**	*e*PG	Pg	16 22 31.6	-1.8
PRU	**Pruhonice**	**1.79**	**213**	*e*PG	Pg	16 22 38.5	-3.6
PRU				*e*SG	Sg	16 23 00.9	-5.1
CLL	**Collm**	**1.92**	**266**	*e*PG	Pg	16 22 41.0	-3.9
CLL				*e*		16 22 46.0	
CLL				*i* SG	Sg	16 23 07.3	-3.2
OKC	**Ostrava-Krasne**	**2.12**	**140**	*e*PG	Pg	16 22 45.1	-3.8
OKC				*e*SG	Sg	16 23 12.1	-5.1
VRAC	**Vranov**	**2.21**	**171**	Pn	Pn	16 22 43.7	-1.1
	0.4nm,0.3s,baz=328,slow=17,SNR=3.2						
VRAC				Pg	Pg	16 22 45.6	-5.1
	0.5nm,0.3s,baz=336,slow=18,SNR=4.7						
VRAC				Lg		16 23 15.9	
	2.9nm,0.3s,baz=83,slow=19,SNR=6.6						
NKC	**Novy Kostel**	**2.61**	**243**	*e*PN	Pn	16 22 49.4	-1.1
NKC				*e*PG	Pg	16 22 55.9	-2.7
NKC				*e*SG	Sg	16 23 29.2	-4.2
	33nm,0.5s						
KHC	**Kasperske Hory**	**2.85**	**215**	*e*PN	Pn	16 22 52.5	-1.4
KHC				*e*PG	Pg	16 22 57.9	-5.4
KHC				*e*SG	Sg	16 23 35.0	-6.3
GERES	**GERESS Array B**	**3.05**	**211**	Pn	Pn	16 22 55.9	-0.9
	0.4nm,0.3s,baz=35,slow=12,SNR=12						
GERES				Pg	Pg	16 23 01.4	-6.0
	1.3nm,0.3s,baz=32,slow=15,SNR=24						
GERES				Sn	Sn	16 23 31.4	-3.1
	0.7nm,0.3s,baz=38,slow=24,SNR=4.6						
GERES				Lg		16 23 42.7	
	1.8nm,0.3s,baz=30,slow=26,SNR=6.4						
MOA	**Molln**	**3.83**	**198**	||*i* PN	Pn	16 23 06.1	-1.7
MOA				*i* SG	Sg	16 24 08.7	-5.2
	4.4nm,0.6s						
FINES	**FINESS Array B**	**11.39**	**25**	Pn	P	16 24 46.7	-6.6
	0.1nm,0.3s,baz=216,slow=12,SNR=3.8						
ARCES	**ARCESS Array B**	**18.65**	**10**	Pn	P	16 26 20.1	-7.1
	0.1nm,0.3s,baz=184,slow=14,SNR=3.7						

MOS ***12*** *16:31:13.4±1.4, 54.31N×168.67E, h18km, mb4.1/1, Error ellipse: s-maj=17.0km s-min=13.7km az=7.4*
KRSC ***12*** *16:31:14.7±1.5, 54.22N×168.62E, h17km±14km, ML4.3*
IDC ***12*** *16:31:14.9±2.3, 54.72N×168.54E, mb3.7/7, mb1 4.0/7, mb1mx3.8/17, mbtmp3.7/7, MS3.1/4, Ms1 3.2/4, ms1mx2.9/18, Error ellipse: s-maj=67.1km s-min=22.4km az=4.0*
NEIC ***12*** *16:31:18.2±0.7, 54.36N×168.66E, h35km, mb3.9/1, Error ellipse: s-maj=19.6km s-min=10.5km az=180.0*
ISC 12 16:31:14.2±0.4, 54.26N±0.04×168.54E±0.04, h17km, n49, σ1§36/76, mb3.7/8, MS3.1/4, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.76**	**303**	*i* P	**Pn**	**16 31 42.8**	**-1.6**
BKI				*e*S	**Sn**	**16 32 05.5**	**-1.0**
BKI				Smax			
	1μm,1.0s						
FX1	**Attu Island--F**	**3.09**	**115**	*e*Pn	**Pn**	**16 32 02.8**	**-0.5**
FX1				*e*Sn	**Sn**	**16 32 38.9**	**-1.2**
KBTR	**Krutoberegovo**	**3.81**	**303**	P	**Pn**	**16 32 13.1**	**-0.5**
KBTR				S	**Sn**	**16 32 55.8**	**-2.6**
KBTR	**Krutoberegovo**	**3.81**	**303**	*e*P	**Pn**	**16 32 14.8**	**+1.2**
KBTR				*e*S	**Sn**	**16 32 59.0**	**+0.6**
MKZ	**Mys Kozlova**	**3.99**	**277**	P	**Pn**	**16 32 16.4**	**+0.3**
MKZ				S	**Sn**	**16 32 59.9**	**-3.0**
MKZ	**Mys Kozlova**	**3.99**	**277**	*e*P	**Pn**	**16 32 16.3**	**+0.2**
MKZ				*e*S	**Sn**	**16 33 02.1**	**-0.8**
ZLN	**Zelenaya**	**4.77**	**295**	*e*P	**Pn**	**16 32 29.4**	**+2.2**
ZLN				*e*S	**Sn**	**16 33 23.6**	**+0.8**
CIRR	**Tsirk**	**4.83**	**296**	*e*P	**Pn**	**16 32 29.9**	**+1.8**
CIRR				*e*S	**Sn**	**16 33 25.3**	**+1.0**
LGNR	**Loginova**	**4.85**	**295**	*e*P	**Pn**	**16 32 28.3**	**-0.1**
LGNR				*e*S	**Sn**	**16 33 24.9**	**0.0**
KLY	**Klyuchi**	**4.95**	**298**	P	**Pn**	**16 32 30.3**	**+0.5**
KLY				S	**Sn**	**16 33 25.7**	**-1.6**
KLY	**Klyuchi**	**4.95**	**298**	*e*P	**Pn**	**16 32 30.3**	**+0.5**
KLY				*e*S	**Sn**	**16 33 25.1**	**-2.2**
KRSR	**Krestovskiy**	**4.96**	**296**	*e*P	**Pn**	**16 32 30.4**	**+0.5**
KRSR				*e*S	**Sn**	**16 33 27.6**	**0.0**
KMNR	**Kamenistaya**	**5.01**	**291**	*e*P	**Pn**	**16 32 31.6**	**+1.1**
KMNR				*e*S	**Sn**	**16 33 27.4**	**-1.3**
KPT	**Kopyto**	**5.07**	**293**	*e*P	**Pn**	**16 32 34.5**	**+3.1**
KPT				*e*S	**Sn**	**16 33 29

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
CBIJ				Sn	Sn	17 27 05.9	-0.9
	1μm,0.3s,baz=287,slow=20,SNR=57						
CBIJ	**Chichi jima**	**0.60**	**55**	P	Pb	17 26 55.5	-1.4
CBIJ				eS	Sb	17 27 06.1	+1.2
BSO1	**Boso 1**	**7.90**	**356**	P	Pn	17 28 37.8	-3.6
JOD2	**Odawara 2**	**8.76**	**346**	P	P	17 28 53.0	-0.4
JRY	**Ryogami san**	**9.53**	**346**	P	P	17 29 01.2	-2.8
SONM	**Songino Array**	**34.63**	**317**	P	P	17 33 36.7	+2.3
	0.3nm,0.6s,mb4.4,baz=118,slow=7.4,SNR=3.0						
WRAB	**Tennant Creek**	**46.94**	**189**	eP	P	17 35 14.7	-1.3
	4.3nm,0.4s,mb4.7						
WB2	**Warramunga Arr**	**46.95**	**189**	eP	P	17 35 14.7	-1.4
FITZ	**Fitzroy Crossi**	**47.21**	**201**	P	P	17 35 18.3	+0.1
	4.2nm,0.7s,mb4.5,baz=5.4,slow=9.9,SNR=3.2						
MKAR	**Makanchi Array**	**50.32**	**310**	P	P	17 35 42.1	+0.3
	0.3nm,0.5s,mb3.6,baz=92,slow=10.0,SNR=5.8						
BVAR	**Borovoye Array**	**57.97**	**318**	P	P	17 36 38.1	+0.3
	2.6nm,0.5s,mb4.6,baz=90,slow=7.1,SNR=27						
BRVK	**Borovoye**	**58.03**	**318**	eP	P	17 36 38.6	+0.4
	1.3nm,0.7s,mb4.1						
ARCES	**ARCESS Array B**	**73.70**	**341**	P	P	17 38 20.3	+2.1
	1.7nm,0.6s,mb4.2,baz=63,slow=8.1,SNR=13						
FINES	**FINESS Array B**	**78.04**	**334**	P	P	17 38 42.7	-0.1
	1.3nm,0.6s,mb4.0,baz=77,slow=5.7,SNR=7.4						
NOA	**NORSAR Array B**	**83.75**	**338**	P	P	17 39 14.3	+1.3
	0.7nm,0.6s,mb4.0,baz=45,slow=4.9,SNR=3.0						

MOS ***12*** *17:31:17.4±0.7,51.63N×16.13E,h10km,mb4.0/1,Error ellipse: s-maj=10.1km s-min=5.4km az=80.5*
NEIC ***12*** *17:31:18.9±0.5,51.55N×16.15E,h5km,ML3.3(SZGRF), ML3.3(VIE),ML2.9(CLL),Error ellipse: s-maj=6.4km s-min=3.8km az=194.0*
BGR ***12*** *17:31:19.2±0.6,51.47N×16.18E,h1km,ML3.3,Error ellipse: s-maj=5.6km s-min=4.4km az=117.0*
IPEC ***12*** *17:31:19.1±0.3,51.52N×16.22E,h7km±1km,ML2.7/3, Error ellipse: s-maj=2.0km s-min=0.7km az=22.0*
PRU ***12*** *17:31:19.8,51.48N×16.14E*
LDG ***12*** *17:31:20.7±0.4,51.54N×16.23E,h1km,Ml3.9/5,Error ellipse: s-maj=9.8km s-min=3.2km az=10.0,Suspected Mining induced.*
IDC ***12*** *17:31:20.2±1.0,51.53N×15.87E,mb1 3.4/4, mb1mx3.3/17,mbtmp3.2/4,ML3.3/4,Error ellipse: s-maj=30.1km s-min=7.5km az=111.0*
CSEM ***12*** *17:31:20.7±0.1,51.44N×16.13E,h2km,ML3.5/6,Error ellipse: s-maj=2.3km s-min=1.2km az=19.0*
WAR ***12*** *17:31:20.4,51.48N×16.11E,h1km,ML3.3,Mining Induced*

ISC 12 17:31:17.9±0.4,51.42N±0.02×16.13E±0.02,n77, σ1§32/148,4C-5D,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.58**	**169**	⇓iPG	Pg	17 31 32.2	+2.7
KSP				⇓eSG	Sg	17 31 41.2	+3.9
KSP	**Ksiaz**	**0.58**	**169**	⇓ePg	Pg	17 31 32.3	+2.7
KSP				eSg	Sg	17 31 41.0	+3.6
KSP	**Ksiaz**	**0.58**	**169**	ePg	Pg	17 31 32.2	+2.7
KSP				eSg	Sg	17 31 40.7	+3.4
KSP	**Ksiaz**	**0.58**	**169**	⇓iPg	Pg	17 31 32.2	+2.7
KSP				eSg	Sg	17 31 40.7	+3.4
KSP				e		17 31 45.0	
KSP	**Ksiaz**	**0.58**	**169**	⇓iP	Pg	17 31 32.2	+2.7
KSP				e		17 31 45.0	
UPC	**Upice**	**0.91**	**185**	ePG	Pg	17 31 38.2	+2.1
DPC	**Dobruska-Polom**	**1.07**	**173**	ePG	Pg	17 31 41.0	+1.7
DPC				eSG	Sg	17 31 55.5	+1.9
	146nm,0.6s						
DPC	**Dobruska-Polom**	**1.07**	**173**	ePg	Pg	17 31 41.0	+1.7
DPC				eSg	Sg	17 31 55.4	+1.8
PVCC	**Panska Ves**	**1.32**	**229**	ePg	Pg	17 31 45.2	+0.8
PVCC				eSg	Sg	17 32 04.0	+2.0
BRG	**Berggiesshubel**	**1.48**	**249**	ePn	Pn	17 31 47.3	+1.5
BRG				eSg	Sg	17 32 08.4	+1.3
BRG	**Berggiesshubel**	**1.48**	**249**	Pg	Pg	17 31 48.1	+0.7
BRG				eSg	Sg	17 32 07.8	+0.7
BRG	**Berggiesshubel**	**1.48**	**249**	Pn	Pn	17 31 46.5	+0.7
BRG				Pg	Pg	17 31 48.1	+0.7
BRG				Sg	Sg	17 32 08.3	+1.2
BRG	**Berggiesshubel**	**1.48**	**249**	P	Pn	17 31 46.5	+0.7
BRG						17 32 08.3	
PRU	**Pruhonice**	**1.75**	**216**	ePN	Pn	17 31 50.8	+1.1
PRU				ePG	Pg	17 31 52.5	-0.3
PRU				eSG	Sg	17 32 16.2	+0.1
PRU	**Pruhonice**	**1.75**	**216**	ePg	Pg	17 31 52.5	-0.3
PRU				eSg	Sg	17 32 16.2	+0.1
PRU	**Pruhonice**	**1.75**	**216**	eP	Pn	17 31 50.8	+1.1
PRU				e		17 32 16.2	
RUE	**Ruedersdorf**	**1.80**	**307**	eSg	Sg	17 32 16.9	-1.0
FBE	**Freiberg**	**1.81**	**255**	Pn	Pn	17 31 52.6	+2.0
FBE				Sg	Sg	17 32 18.3	0.0
RAC	**Raciborz**	**1.87**	**135**	eP	Pn	17 31 55.0	+3.5
RAC				eS	Sn	17 32 20.0	+3.8
MORC	**Moravsky Berou**	**1.87**	**151**	ePn	Pn	17 31 52.8	+1.3
MORC				eSg	Sg	17 32 19.8	-0.4
	38nm,0.4s						
CLL	**Collm**	**1.96**	**268**	ePn	Pn	17 31 52.9	+0.2
CLL				i Pg	Pg	17 31 56.8	-0.2
CLL				eSg	Sg	17 32 22.6	-0.6
CLL	**Collm**	**1.96**	**268**	ePN	Pn	17 31 53.0	+0.3
CLL				i PG	Pg	17 31 56.8	-0.2
CLL				i		17 32 00.0	
CLL				i		17 32 10.8	
CLL				i SG	Sg	17 32 21.6	-1.6
CLL	**Collm**	**1.96**	**268**	Pg	Pg	17 31 56.8	-0.2
CLL				Sg	Sg	17 32 22.6	-0.6
CLL	**Collm**	**1.96**	**268**	ePn	Pn	17 31 53.0	+0.3
CLL				i Pg	Pg	17 31 56.8	-0.2
CLL				i Sg	Sg	17 32 21.6	-1.6
CLL	**Collm**	**1.96**	**268**	eP	Pn	17 31 53.0	+0.3
CLL				i		17 32 21.6	
OKC	**Ostrava-Krasne**	**2.04**	**140**	ePN	Pn	17 31 54.3	+0.5
OKC				ePG	Pg	17 31 58.4	-0.2
OKC				eSG	Sg	17 32 24.7	-1.0
OKC	**Ostrava-Krasne**	**2.04**	**140**	ePg	Pg	17 31 58.4	-0.2
OKC				Sg	Sg	17 32 24.7	-1.0
OKC	**Ostrava-Krasne**	**2.04**	**140**	eP	Pn	17 31 54.3	+0.5
OKC				e		17 32 24.7	
VRAC	**Vranov**	**2.13**	**172**	ePn	Pn	17 31 57.0	+1.8
VRAC				eSg	Sg	17 32 28.7	-0.1
	38nm,0.5s						
KRUC	**Moravsky**	**2.36**	**176**	ePg	Pg	17 32 03.9	-1.2
KRUC				eSg	Sg	17 32 37.4	+0.9
	52nm,0.7s						
TANN	**Tannenbergstha**	**2.53**	**248**	ePn	Pn	17 32 02.1	+1.2
TANN				eSg	Sg	17 32 40.2	-1.8
WERD	**Werda**	**2.60**	**250**	ePn	Pn	17 32 02.9	+1.0
NKC	**Novy Kostel**	**2.62**	**245**	ePN	Pn	17 32 02.8	+0.7
NKC				ePG	Pg	17 32 09.5	-0.6
NKC				eSG	Sg	17 32 44.3	-0.7
	126nm,0.6s						
NKC	**Novy Kostel**	**2.62**	**245**	eP	Pn	17 32 02.8	+0.7
NKC				e		17 32 44.3	
OJC	**Ojcow**	**2.62**	**116**	ePG	Pg	17 32 09.0	-1.2
OJC				eSG	Sg	17 32 44.0	-1.1
OJC	**Ojcow**	**2.62**	**116**	ePg	Pg	17 32 08.7	-1.5
OJC				eSg	Sg	17 32 43.7	-1.4
GUNZ	**Gunzen**	**2.62**	**248**	ePn	Pn	17 32 03.7	+1.5
GUNZ				eSg	Sg	17 32 44.8	-0.4
JAVC	**Velka Javorina**	**2.75**	**158**	ePn	Pn	17 32 07.0	+3.0
JAVC				eSg	Sg	17 32 50.2	+0.9
KHC	**Kasperske Hory**	**2.81**	**217**	ePN	Pn	17 32 06.1	+1.2
KHC				ePG	Pg	17 32 12.1	-1.9
KHC				eSN	Sn	17 32 41.5	+1.5
KHC				eSG	Sg	17 32 50.8	-0.7
KHC	**Kasperske Hory**	**2.81**	**217**	eP	Pn	17 32 06.1	+1.2
KHC				e		17 32 41.5	
MOX	**Moxa**	**2.95**	**257**	ePn	Pn	17 32 07.4	+0.6
MOX				ePg	Pg	17 32 15.2	-1.6
MOX				eSg	Sg	17 32 55.2	-0.9
MOX	**Moxa**	**2.95**	**257**	i P	Pn	17 32 07.0	+0.1
MOX				Pg	Pg	17 32 15.0	-1.8
MOX				Sg	Sg	17 32 55.0	-1.1
MOX	**Moxa**	**2.95**	**257**	Pg	Pg	17 32 15.2	-1.6
MOX				eSg	Sg	17 32 54.8	-1.3
MOX	**Moxa**	**2.95**	**257**	ePn	Pn	17 32 07.0	+0.1
MOX				ePg	Pg	17 32 15.2	-1.6
MOX				eSg	Sg	17 32 55.2	-0.9
GEC2	**GERESS Array S**	**3.01**	**212**	ePn	Pn	17 32 09.2	+1.5
GEC2				eSg	Sg	17 32 58.1	0.0
GEC2	**GERESS Array S**	**3.01**	**212**	ePn	Pn	17 32 09.2	+1.5
GEC2				eSg	Sg	17 32 58.1	0.0
GERES	**GERESS Array B**	**3.01**	**212**	Pn	Pn	17 32 08.8	+1.1
	2.1nm,0.3s,baz=29,slow=12,SNR=57						
GERES				Pg	Pg	17 32 15.4	-2.5
	6.7nm,0.3s,baz=27,slow=17,SNR=41						
GERES				Sn	Sn	17 32 46.6	+1.6
	3.4nm,0.3s,baz=30,slow=24,SNR=6.1						
GERES				Lg		17 32 56.1	
	6.8nm,0.3s,baz=29,slow=25,SNR=8.9						
GERES	**GERESS Array B**	**3.01**	**212**	Pg	Pg	17 32 15.4	-2.6
GERES				S	Sn	17 32 46.6	+1.6
GERES	**GERESS Array B**	**3.01**	**212**	P	Pn	17 32 08.8	+1.1
GERES						17 32 46.6	
NOTT	**Nottersdorf**	**3.01**	**239**	ePn	Pn	17 32 08.4	+0.6
NOTT				eSg	Sg	17 32 56.2	-2.0
SMOL	**Smolenice**	**3.02**	**163**	ePG	Pg	17 32 18.3	0.0
SMOL				eSG	Sg	17 32 58.4	-0.2
WET	**Wettzell**	**3.08**	**224**	ePn	Pn	17 32 09.9	+1.1
WET				eSg	Sg	17 32 58.5	-2.1
WET	**Wettzell**	**3.08**	**224**	ePn	Pn	17 32 09.6	+0.8
WET				eSg	Sg	17 32 58.5	-2.0
WET	**Wettzell**	**3.08**	**224**	ePn	Pn	17 32 09.9	+1.1
WET				eSg	Sg	17 32 58.5	-2.0
VKA	**Vienna**	**3.16**	**178**	⇑iPG	Pg	17 32 19.9	-1.0
VKA				i SG	Sg	17 33 03.4	+0.4
ZST	**Bratislava**	**3.28**	**169**	ePG	Pg	17 32 21.0	-2.5
ZST				eSG	Sg	17 33 06.2	-1.0
NIE	**Niedzica**	**3.34**	**125**	eP	Pg	17 32 22.0	-2.6
NIE				eS	Sg	17 33 07.0	-2.2
VYHS	**Vyhne**	**3.41**	**148**	ePN	Pn	17 32 14.1	+0.7
VYHS				ePG	Pg	17 32 24.7	-1.2
GRA1	**Grafenberg Arr**	**3.57**	**243**	ePn	Pn	17 32 16.6	+0.9
GRA1				eSg	Sg	17 33 14.8	-2.0
GRF	**Grafenberg Arr**	**3.57**	**243**	ePn	Pn	17 32 16.6	+0.9
GRF				eSg	Sg	17 33 14.8	-2.0
MOA	**Molln**	**3.77**	**199**	⇑iPN	Pn	17 32 19.7	+1.2
MOA				i SG	Sg	17 33 23.1	-0.2
	33nm,0.6s						
STHS	**Stebnicka Huta**	**3.84**	**119**	ePN	Pn	17 32 20.3	+0.8
STHS				ePG	Pg	17 32 33.7	-0.8
KECS	**Kecovo**	**4.07**	**134**	ePN	Pn	17 32 23.0	+0.3
KECS				ePG	Pg	17 32 37.7	-1.4
ARSA	**Arzberg**	**4.19**	**186**	⇑iPN	Pn	17 32 26.1	+1.6
ARSA				i SG	Sg	17 33 35.3	-2.0
	34nm,0.9s						
CRVS	**Cervenica-Dubn**	**4.25**	**124**	ePN	Pn	17 32 27.4	+2.0
CRVS				ePG	Pg	17 32 39.8	-3.0
KOLS	**Kolonicke sedl**	**4.67**	**120**	ePN	Pn	17 32 31.0	-0.3
KOLS				ePG	Pg	17 32 48.1	-3.0
KBA	**Koelnbreinsper**	**4.71**	**204**	⇑iPN	Pn	17 32 33.2	+1.4
KBA				i SG	Sg	17 33 53.9	-0.7
	18nm,0.7s						
GOLS	**Golise**	**5.42**	**184**	ePn	Pn	17 32 43.0	+1.0
BOJS	**Bojanci**	**5.94**	**186**	ePn	Pn	17 32 47.9	-1.4
CDF	**Champ du Feu**	**6.46**	**246**	ePn	Pn	17 32 55.8	-0.7
CDF				eSg	Sg	17 34 46.9	-5.9
	39nm,1.0s						
HINF	**Hinteralfeld**	**7.02**	**243**	eSg	Sg	17 35 04.8	-6.7
	23nm,0.9s						
HAU	**Haudompre**	**7.20**	**246**	eSg	Sg	17 35 10.7	-6.8
	22nm,0.9s						
SFTF	**Sexfontaines**	**7.86**	**250**	ePn	Pn	17 33 14.8	-1.4
LOR	**Lormes**	**9.02**	**247**	ePn	P	17 33 30.6	-1.7
NOA	**NORSAR Array B**	**10.02**	**346**	Pn	P	17 33 40.6	-5.5
	0.1nm,0.3s,baz=168,slow=12,SNR=2.7						
FINES	**FINESS Array B**	**11.45**	**25**	Pn	P	17 34 00.3	-5.2
	0.2nm,0.3s,baz=210,slow=11,SNR=6.5						
FINES				Sn	S	17 36 01.8	-14
	0.3nm,0.3s,baz=215,slow=18,SNR=6.0						
ARCES	**ARCESS Array B**	**18.71**	**10**	Pn	P	17 35 34.3	-5.3
	0.4nm,0.3s,baz=193,slow=12,SNR=15						

NEIC ***12*** *18:21:23.3±1.7,24.44N×142.68E,h499km±18km,mb3.6/2, Error ellipse: s-maj=32.7km s-min=13.0km az=82.0*
IDC ***12*** *18:21:27.2±1.1,24.32N×142.33E,h536km±10km,mb3.1/5, mb1 3.4/8,mb1mx3.2/17,mbtmp4.3/8,Error ellipse: s-maj=43.7km s-min=18.4km az=73.0*
JMA ***12*** *18:21:28.2±0.2,24.56N×142.48E,h550km,M5.0*

ISC 12 18:21:26.8±0.7,24.32N±0.06×142.2E±0.2,h547km±7km, n33,σ0§89/40,mb3.6/8,1C,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHHJ	**Haha-jima-NKT**	**2.31**	**359**	P	P	18 22 39.1	+1.0
JHHJ				eS	S	18 23 34.9	+0.2
CBIJ	**Chichi jima**	**2.77**	**359**	P	P	18 22 40.9	+0.2
	135nm,0.3s,baz=106,slow=1.7,SNR=91						
CBIJ				S	S	18 23 38.6	-0.6
	20nm,0.3s,baz=296,slow=23,SNR=7.7						
CBIJ	**Chichi jima**	**2.77**	**359**	P	P	18 22 40.9	+0.2
CBIJ				eS	S	18 23 38.1	-1.2
JHJ2	**Mitsune**	**9.02**	**347**	P	P	18 23 34.9	-0.5
JHJ	**Hachijo jima 2**	**9.03**	**347**	P	P	18 23 34.6	-0.9
	23nm,0.3s,baz=70,slow=18,SNR=14						
BSO1	**Boso 1**	**10.36**	**354**	P	P	18 23 49.1	0.0
BSO3	**Boso 3**	**10.56**	**352**	eS	S	18 25 48.3	+1.7
JIM2	**Oshima 3**	**10.65**	**347**	P	P	18 23 52.0	0.0
BSO4	**Boso 4**	**10.76**	**352**	eS	S	18 25 51.5	+1.0
JIE	**Ise**	**11.13**	**336**	P	P	18 23 56.5	-0.4
JKN2	**Miekihoku**	**11.17**	**334**	P	P	18 23 58.9	+1.7
HMMJ	**Hamamatsu 2**	**11.21**	**341**	P	P	18 23 56.7	-1.0
JOD2	**Odawara 2**	**11.24**	**347**	P	P	18 23 57.8	-0.2
JHU	**Hanno**	**11.78**	**348**	P	P	18 24 02.7	-0.7
JHU				eS	S	18 26 08.1	-1.2
JRY	**Ryogami san**	**12.01**	**347**	P	P	18 24 05.6	-0.1
JRY				eS	S	18 26 13.4	-0.2
JAG	**Ashikaga**	**12.30**	**349**	P	P	18 24 08.2	-0.5
JAG				eS	S	18 26 17.6	-1.4
JHO	**Hitachi**	**12.34**	**354**	P	P	18 24 09.4	+0.3
MAJO	**Matsushiro**	**12.67**	**345**	ePn	P	18 24 10.2	-2.2
MAT	**Matsushiro**	**12.67**	**345**	P	P	18 24 11.1	-1.3
MAT				eS	S	18 26 26.4	+0.7
MAT	**Matsushiro**	**12.67**	**345**	P	P	18 24 07.0	-5.4
JKT	**Katashina**	**12.67**	**349**	P	P	18 24 12.5	0.0
JOW	**Kunigami**	**12.84**	**284**	P	P	18 24 14.9	+0.7
	6.2nm,0.3s,baz=114,slow=15,SNR=24						
JFK	**Kawauchi**	**13.06**	**355**	P	P	18 24 18.4	+2.0
JMK	**Ichinoseki**	**14.62**	**357**	P	P	18 24 33.4	+1.4
SONM	**Songino Array**	**36.78**	**319**	P	P	18 27 50.2	+0.9
	0.2nm,0.3s,mb3.1,baz=128,slow=8.6,SNR=6.1						
WRAB	**Tennant Creek**	**44.64**	**191**	eP	P	18 28 52.6	+0.2
	18nm,0.5s,mb4.8						
WB2	**Warramunga Arr**	**44.65**	**191**	⇑iP	P	18 28 52.5	0.0
MKAR	**Makanchi Array**	**52.30**	**311**	P	P	18 29 49.2	-0.1
	0.6nm,0.4s,mb3.3,baz=88,slow=8.7,SNR=12						
MKAR				PcP	PcP	18 30 51.5	+0.1
	0.3nm,0.8s,baz=70,slow=6.5,SNR=3.4						
KURK	**Kurchatov**	**54.98**	**316**	eP	P	18 30 07.7	-0.5
	1.4nm,0.4s,mb3.5						
STKA	**Stephens Creek**	**55.88**	**181**	P	P	18 30 14.0	-0.7
	3.4nm,0.9s,mb3.6,baz=4.6,slow=8.0,SNR=7.7						
BRVK	**Borovoye**	**60.19**	**319**	eP	P	18 30 42.8	-0.6
	1.1nm,0.6s,mb3.4						
ARCES	**ARCESS Array B**	**76.17**	**341**	P	P	18 32 20.4	+1.0
	1.7nm,0.8s,mb3.5,baz=72,slow=7.7,SNR=9.2						
FINES	**FINESS Array B**	**80.45**	**334**	P	P	18 32 42.3	+0.1
	0.8nm,0.4s,mb3.4,baz=66,slow=5.5,SNR=18						

CSEM ***12*** *18:23:23.4,34.73N×9.07E,h2km,MD3.5,After SBS*

TUN 12 18:23:23.4,34.73N×9.07E,h2km,MD3.5,Tunisia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BERT	**Berda**	**0.49**	**185**	i P	Pg	18 23 38.8	+5.6
OAR	**Oum El Arais**	**0.59**	**250**	i P	Pg	18 23 40.0	+4.9
TROT	**Trozza**	**0.94**	**28**	i P	Pb	18 23 44.5	+2.4
SGNT	**Sidi Gnaou**	**1.26**	**148**	i P	Pb	18 23 51.0	+3.4
KRIT	**Krib**	**1.60**	**0**	i P	Pn	18 23 55.0	+2.1
ZGN	**Zaghouan**	**1.84**	**27**	i P	Pn	18 23 57.5	+1.2
GHAT	**Ghardimaou**	**1.87**	**341**	i P	Pn	18 23 58.0	+1.3

INET ***12*** *18:38:26.6,11.05N×86.61W,h26km,ML4.1*

CASC 12 18:38:26.8±1.4,11.11N×86.60W,h30km±6km,MD4.0, ML4.0,9C-10D,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SSNN	**San Juan del S**	**0.76**	**77**	⇓eP	Pb	18 38 40.6	-0.8
SSNN				eS	Sb	18 38 52.5	+1.0
CRUN	**El Crucero**	**0.92**	**19**	⇑eP	Pn	18 38 43.9	+0.2
APON	**Apoyo**	**0.96**	**33**	⇓eP	Pn	18 38 44.0	-0.3
TICN	**Ticuantepe**	**0.99**	**22**	⇓eP	Pn	18 38 44.6	-0.1
CONN	**Concepcion**	**1.06**	**65**	⇓eP	Pn	18 38 45.1	-0.6
CONN				eS	Sn	18 39 00.7	+1.1
COPN	**Copaltepe**	**1.06**	**1**	⇑eP	Pn	18 38 45.5	-0.3
COPN				eS	Sn	18 39 00.4	+0.8
XAVN	**Gruta Xavier**	**1.07**	**15**	⇑eP	Pn	18 38 45.8	-0.1
MGAN	**Managua**	**1.09**	**19**	⇓eP	Pn	18 38 46.0	-0.1
MGAN				eS	Sn	18 39 00.7	+0.4
MGAN				eS	Sn	18 39 01.1	+0.9
	comp=E,4μm,0.4s						
MADN	**Villa Maderas**	**1.09**	**74**	⇓eP	Pn	18 38 45.5	-0.7
WILN	**Americas 2**	**1.12**	**21**	⇓eP	Pn	18 38 46.3	-0.3
WILN				eS	Sn	18 39 01.5	+0.4
APYN	**Apoyeque**	**1.14**	**12**	⇓eP	Pn	18 38 46.6	-0.4
MOMJ	**Momotombo**	**1.29**	**3**	⇓eP	Pn	18 38 48.4	-0.7
MIRN	**Miramar**	**1.32**	**355**	⇑eP	Pn	18 38 49.2	-0.3
LEON	**Leon**	**1.33**	**348**	⇓eP	Pn	18 38 49.1	-0.5
CNGN	**Cerro Negro**	**1.38**	**356**	⇑eP	Pn	18 38 50.0	-0.4
CNGN				eS	Sn	18 39 07.2	-0.6
TEL3	**Telica 3**	**1.47**	**351**	⇑eP	Pn	18 38 51.3	-0.3
TELN	**Telica**	**1.50**	**351**	⇑eP	Pn	18 38 51.7	-0.4
PYTN	**Playitas**	**1.52**	**21**	⇑eP	Pn	18 38 51.8	-0.5
CRIN	**San Cristobal**	**1.64**	**345**	⇑eP	Pn	18 38 53.7	-0.4
LCBS	**La Ceiba**	**3.43**	**318**	eP	Pn	18 39 19.2	-0.4
LCBS				eS	Sn	18 39 57.7	-2.0
LFRS	**El Faro**	**3.46**	**316**	eP	Pn	18 39 20.3	+0.3
LFRS				eS	Sn	18 40 00.3	-0.3

BJI ***12*** *18:44:12.2,40.04N×77.12E,h10km,ML3.3*
NNC ***12*** *18:44:15.8±13.0,40.28N×77.25E,mpv3.1,Error ellipse: s-maj=140.2km s-min=110.5km az=179.0*

ISC 12 18:44:07.2±3.2,39.7N±0.2×77.5E±0.2,h10km,n9, σ0§28/10,1C-4D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**1.18**	**263**	⇓iPG	Pg	18 44 31.0	+0.2
KSH				SG	Sg	18 44 46.4	-0.2
KSH				Smax			
	comp=N,400nm,0.4s						
KSH				Smax			
	comp=E,470nm,0.4s						
ULHL	**Ulahol**	**2.75**	**340**	P	Pn	18 44 52.6	+0.5
	SNR=57						
KZA	**Kyzart**	**2.95**	**326**	P	Pn	18 44 54.9	-0.1
	SNR=83						
TKM2	**Tokmak 2**	**3.56**	**337**	P	Pn	18 45 03.9	+0.3
	SNR=25						
AAK	**Ala-Archa**	**3.73**	**324**	⇓Pn	Pn	18 45 05.7	-0.4
	comp=E,14nm,0.9s						
AAK				⇑Lg		18 45 53.2	
	comp=E,29nm,0.6s						
AML	**Almayashu**	**3.79**	**312**	P	Pn	18 45 07.1	+0.1
	SNR=24						
CHMS	**Chumysh**	**3.92**	**329**	P	Pn	18 45 08.6	-0.2
	SNR=8.2						
KK31	**Karatay Array**	**6.27**	**305**	⇓Pn	Pn	18 45 47.1	+5.0
	comp=E,1.1nm,0.6s,baz=134,slow=14,SNR=9.1						
MK31	**Makanchi Array**	**7.94**	**25**	Pn	Pn	18 46 05.2	-0.3
	comp=E,0.2nm,0.3s,baz=212,slow=14,SNR=6.7						
MK31				⇓Lg		18 48 12.9	
	comp=E,2.9nm,0.8s,baz=229,slow=24						

CSEM ***12*** *18:49:09.3±0.1,32.56N×48.58E,h8km,ML2.6,Error ellipse: s-maj=5.1km s-min=4.2km az=64.0*
THR ***12*** *18:49:14.1±0.3,32.12N×49.00E,h18km±4km,ML2.9*
KISR ***12*** *18:49:14.1±0.8,32.18N×49.14E,h34km,ML2.6*

ISC 12 18:49:13.9±1.6,32.2N±0.1×49.0E±0.2,h6km±16km,n7, σ0§78/11,Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHGR	**Shooshtar-Gavs**	**0.20**	**249**	ePG	Pg	18 49 18.6	+0.4
SHGR				AML	AML	18 49 28.2	
	comp=N,3μm,0.5s						
ASAO	**Ashtian**	**2.50**	**19**	ePN	Pn	18 49 57.0	+1.2
ASAO				eSG	Sg	18 50 34.7	-2.6
ASAO				AML	AML	18 50 41.7	
	comp=N,48nm,0.5s						
KBD	**Kabd**	**3.21**	**201**	eP	Pn	18 50 06.2	+0.2
KBD				eS	Sn	18 50 45.0	0.0
NASN	**Na'in**	**3.25**	**78**	ePN	Pn	18 50 07.2	+0.6
NASN				AML	AML	18 51 03.0	
	comp=N,16nm,0.5s						
NAY	**Al-Naaiem**	**3.30**	**208**	eP	Pn	18 50 07.0	-0.2
NAY				eS	Sn	18 50 47

KZN Kozani 1.60 84 *e*Pn **Pn 18 53 49.7 +0.3**
KZN *e*Sn **Sn 18 54 16.2 +5.9**
ULC Ulcinj 1.84 350⇑ *i*Pn **Pn 18 53 53.4 +0.6**
ULC *e*Sn **Sn 18 54 24.1 +7.9**
ULC Ulcinj 1.84 350⇑ *i*Pn **Pn 18 53 53.3 +0.6**
PUK Puka 1.89 5 *i* Pn **Pn 18 53 56.4 +2.9**
PUK *i* Sn **Sn 18 54 23.3 +5.6**
PUK Puka 1.89 5 *e*Pn **Pn 18 53 56.4 +2.9**
PUK *i* Sn **Sn 18 54 23.3 +5.6**
EVR Evrytania 2.05 126⇑ *i*PN **Pn 18 53 57.0 +1.2**
EVR *e*SN **Sn 18 54 26.3 +4.6**
EVR Evrytania 2.05 126⇑ *i*Pn **Pn 18 53 57.3 +1.5**
EVR *e*Sn **Sn 18 54 26.3 +4.6**
VLS Valsamata 2.10 160 *e*PN **Pn 18 53 55.3 -1.1**
VLS *e*SN **Sn 18 54 25.0 +2.2**
NOCI Noci 2.10 288 Pn **Pn 18 53 57.1 +0.6**
219nm,0.4s
GRG Griva 2.22 68 *e*Pn **Pn 18 53 59.2 +1.0**
GRG *e*Sn **Sn 18 54 29.6 +3.7**
BUM Brajici-Budva 2.23 345⇑ *i*Pn **Pn 18 53 58.8 +0.5**
BUM *e*Sn **Sn 18 54 32.9 +6.8**
LTRZ Laterza 2.23 283 Pn **Pn 18 53 59.6 +1.2**
123nm,0.6s
SKO Skopje 2.25 36 *i* Pn **Pn 18 53 59.3 +0.7**
SKO *i* Sn **Sn 18 54 29.4 +2.7**
SKO Lg 18 54 38.4
comp=Z,0.4nm,0.8s
TTG Podgorica 2.30 352⇑ *i*Pn **Pn 18 53 59.5 +0.2**
TTG *e*Sn **Sn 18 54 34.9 +7.0**
AGG Agios Georgios 2.33 118 *e*Pn **Pn 18 54 01.0 +1.1**
AGG *e*Sn **Sn 18 54 32.9 +4.0**
PVY Plav 2.45 5⇑ *i*Pn **Pn 18 54 03.0 +1.5**
PVY *e*Sn **Sn 18 54 38.7 +7.0**
HCY Herceg Novi 2.46 339⇑ *i*Pn **Pn 18 54 02.3 +0.7**
HCY *e*Sn **Sn 18 54 37.9 +5.8**
TIP Timpagrande 2.46 248 Pn **Pn 18 54 04.5 +2.8**
TIP Timpagrande 2.46 248 *e*Pn **Pn 18 54 03.5 +1.8**
TIP Timpagrande 2.46 248 *e*Pn **Pn 18 54 03.5 +1.9**
AMUR Altamura 2.47 289 Pn **Pn 18 54 01.9 +0.2**
comp=Z,52nm,0.4s
VAY Valandovo 2.48 61 *e*Pn **Pn 18 54 02.9 +0.9**
VAY *i* 18 54 06.6
VAY *e*Sn **Sn 18 54 42.7 +10**
VAY Valandovo 2.48 61 *e*P **Pn 18 54 02.9 +0.9**
VAY *e* 18 54 42.7
RLS Riolos of Patr 2.51 146⇑ *i*PB **Pb 18 54 02.2 -3.4**
THE Thessaloniki 2.55 78 *e*Pn **Pn 18 54 03.8 +0.8**
THE *e*Sn **Sn 18 54 38.0 +3.7**
KNT Kendrikon 2.64 67 *e*Pn **Pn 18 54 05.5 +1.2**
KNT *e*Sn **Sn 18 54 40.5 +3.8**
KNT Kendrikon 2.64 67 *e*Pn **Pn 18 54 05.4 +1.1**
NKY Niksic 2.71 349⇑ *i*Pn **Pn 18 54 05.9 +0.8**
NKY *e*Sn **Sn 18 54 44.8 +6.4**
IVA Berane 2.72 3⇑ *i*Pn **Pn 18 54 06.6 +1.2**
IVA *e*Sn **Sn 18 54 44.8 +6.1**
XOR Xorichti 2.81 105 *e*Pn **Pn 18 54 07.4 +0.7**
XOR *e*Sn **Sn 18 54 45.0 +3.9**
GRI Girifalco 2.85 243 Pn **Pn 18 54 08.1 +0.8**
NEO Neokhori 2.86 106 *e*PN **Pn 18 54 07.2 -0.1**
BRY Bratogost 2.88 343⇑ *i*Pn **Pn 18 54 08.3 +0.7**
BRY *e*Sn **Sn 18 54 48.3 +5.7**
CUC Castrocucco 2.97 268 Pn **Pn 18 54 11.6 +2.6**
comp=Z,551nm,1.1s
LKR Lokris 2.97 119 *e*PN **Pn 18 54 09.2 +0.2**
PAIG Paliouri 3.07 93 *e*Pn **Pn 18 54 10.1 -0.4**
PAIG *e*Sn **Sn 18 54 50.5 +2.9**
KKB Krupnik 3.09 55 *i* P **Pn 18 54 12.0 +1.4**
UPM Unac-Piva 3.10 349⇑ *i*Pn **Pn 18 54 12.1 +1.3**
UPM *e*Sn **Sn 18 54 53.7 +5.4**
SLCN Sala Consilina 3.11 276 Pn **Pn 18 54 11.6 +0.7**
comp=Z,40nm,0.3s
SRS Serrai 3.12 71 *e*Pn **Pn 18 54 11.8 +0.7**
SRS *e*Sn **Sn 18 54 52.1 +3.2**
MGR Morigerati 3.17 271 Pn **Pn 18 54 13.8 +2.1**
comp=Z,109nm,0.7s
PLE Pljevlja 3.18 356⇑ *i*Pn **Pn 18 54 13.0 +1.1**
PLE *e*Sn **Sn 18 54 56.4 +6.0**
MRLC Muro Lucano 3.26 282 Pn **Pn 18 54 14.0 +1.0**
comp=Z,96nm,0.8s
OUR Ouranopolis 3.29 85 *e*Pn **Pn 18 54 13.9 +0.4**
OUR *e*Sn **Sn 18 54 56.7 +3.5**
SGO Sicignano 3.37 278 Pn **Pn 18 54 15.0 +0.4**
comp=Z,48nm,0.6s
AOS Alonnisos 3.38 106 *e*Pn **Pn 18 54 14.4 -0.3**
AOS *e*Sn **Sn 18 54 59.1 +3.7**
MMB Musomiste 3.38 64 *i* P **Pn 18 54 15.0 +0.2**
NVR Nevrokopi 3.39 68⇓ *i*PN **Pn 18 54 15.4 +0.5**
ITM Ithomi 3.45 149 *e*PN **Pn 18 54 15.1 -0.6**
RGNG Rignano Grg 3.46 297 Pn **Pn 18 54 16.1 +0.2**
CAFE Carife 3.50 286 Pn **Pn 18 54 18.1 +1.7**
comp=Z,338nm,1.2s
CEL Celeste 3.50 239 Pn **Pn 18 54 15.7 -0.8**
MCRV Calabrutti - M 3.50 282 Pn **Pn 18 54 17.0 +0.5**
comp=Z,120nm,0.7s
SOI Samo 3.51 235 Pn **Pn 18 54 15.8 -0.7**
MGER Gerania Oros 3.52 127 *e*PN **Pn 18 54 16.0 -0.8**
VTS Vitosha 3.60 46 *i* P **Pn 18 54 19.0 +1.1**
SCLL Scilla 3.62 240 Pn **Pn 18 54 18.3 +0.1**
CSSN Cassano Irpino 3.62 283⇓ *i*Pn **Pn 18 54 20.1 +1.9**
comp=Z,41nm,0.5s
NSAL Nisos Salamina 3.70 126 *e*PN **Pn 18 54 19.5 +0.2**
BBLS Bajina Basta - 3.72 357 *i* Pn **Pn 18 54 21.4 +1.8**
BBLS *e*Sn **Sn 18 55 03.5 -0.4**
MPAR Parnis Oros 3.73 121 *e*PN **Pn 18 54 20.0 +0.3**
MTTG Motta San Giov 3.78 237 Pn **Pn 18 54 19.8 -0.6**
NAIG Nisos Aigina 3.81 128 *e*PN **Pn 18 54 20.0 -0.8**
GRUS Gruza 3.81 11 *i* Pn **Pn 18 54 19.9 -1.0**
GRUS *e*Sn **Sn 18 55 02.2 -4.1**
ATH Athens Observa 3.82 123 *e*PN **Pn 18 54 20.4 -0.6**
ZAPS Zavoj/Pirot 3.83 34⇑ *i*Pn **Pn 18 54 20.5 -0.7**
ZAPS *e*Sn **Sn 18 55 06.7 0.0**
PTL Penteli 3.87 122 *e*PN **Pn 18 54 21.0 -0.7**
DIVS Divcibare 3.95 3⇓ *i*Pn **Pn 18 54 22.8 0.0**
DIVS *e*Sn **Sn 18 55 08.6 -1.1**
SACR S. Croce Del S 3.98 290 Pn **Pn 18 54 25.2 +1.9**
comp=Z,128nm,0.8s
BOLS Boljevac 4.05 24 *i* Pn **Pn 18 54 23.3 -1.0**
BOLS *e*Sn **Sn 18 55 11.8 -0.4**
MMME Mongiuffi-Meli 4.10 239 Pn **Pn 18 54 24.3 -0.7**
BSSO Busso 4.11 291 Pn **Pn 18 54 25.8 +0.7**
comp=Z,343nm,1.2s
RZN Rozhen 4.11 66 *i* P **Pn 18 54 25.5 +0.4**
ISOR Termini 4.11 278 Pn **Pn 18 54 25.1 0.0**
PGB Panagyurishte 4.14 53 *e*P **Pn 18 54 26.0 +0.5**
LOS Limnos 4.15 91 *e*Pn **Pn 18 54 25.4 -0.2**
TRIV Trivento 4.21 294 Pn **Pn 18 54 27.2 +0.7**
SGG Gregorio Mates 4.21 289 Pn **Pn 18 54 28.9 +2.3**
LIA Limnos Island 4.23 92 *e*PN **Pn 18 54 26.5 -0.3**
PLD Plovdiv 4.26 61 *i* P **Pn 18 54 30.0 +2.7**
VLI Veliai 4.28 142 *e*PN **Pn 18 54 26.4 -1.1**
SVIS Svilajnac 4.29 15⇓ *i*Pn **Pn 18 54 26.6 -1.1**
SVIS *e*Sn **Sn 18 55 15.9 -2.6**
VAGA Valle Agricola 4.33 289 Pn **Pn 18 54 29.7 +1.5**
CII Carovilli 4.37 293 Pn **Pn 18 54 30.2 +1.4**
comp=Z,42nm,0.4s
CII Carovilli 4.37 293 *e*Pn **Pn 18 54 29.3 +0.5**
CII Carovilli 4.37 293 *e*Pn **Pn 18 54 29.3 +0.5**
MIDA Miranda 4.38 292 Pn **Pn 18 54 30.2 +1.3**
comp=Z,269nm,1.3s
RNI2 Rionero Sannit 4.47 292 Pn **Pn 18 54 31.4 +1.2**
comp=Z,280nm,1.3s
RDO Rodhopi 4.56 76 *e*PN **Pn 18 54 31.4 -0.1**
KYTH Kithira 4.68 145 *e*PN **Pn 18 54 33.0 -0.2**
INTR Introdacqua 4.75 295 Pn **Pn 18 54 35.1 +0.9**
comp=Z,259nm,0.9s
VVLD Villa Vallelon 4.90 292 Pn **Pn 18 54 37.1 +0.8**
ALN Alexandroupoli 4.90 79 *e*Pn **Pn 18 54 36.3 -0.1**
VAE Valguarnera 4.91 239 Pn **Pn 18 54 37.5 +1.0**
comp=Z,0.7nm,0.3s,baz=107,slow=19,SNR=2.7
VAE Sn **Sn 18 55 33.8 -0.2**
comp=Z,1.7nm,0.3s,baz=312,slow=15,SNR=2.5
DJES Djerdap 4.95 24 *e*Pn **Pn 18 54 37.3 +0.3**
DJES Sn **Sn 18 55 34.6 -0.3**
FAGN Fagnano 5.06 297 Pn **Pn 18 54 40.0 +1.4**
comp=Z,147nm,0.6s
PTQR Pietraquaria 5.10 293⇑ *i*Pn **Pn 18 54 40.4 +1.2**
comp=Z,23nm,0.7s
PRK Paraskevi 5.16 98 *e*PN **Pn 18 54 41.1 +1.1**
TERO Teramo 5.20 300 Pn **Pn 18 54 40.5 0.0**
comp=Z,73nm,0.6s
PVL Pavlikeni 5.22 52 *e*P **Pn 18 54 39.0 -1.8**
AQU L'Aquila 5.22 297 *e*Pn **Pn 18 54 41.5 +0.6**
AQU L'Aquila 5.22 297 *e*Pn **Pn 18 54 41.5 +0.6**
FIAM Fiamignano 5.38 295 Pn **Pn 18 54 44.6 +1.4**
comp=Z,122nm,1.1s
NRCA Norcia 5.61 301 Pn **Pn 18 54 44.4 -2.0**
SZH Strazhica 5.62 54 *e*P **Pn 18 54 49.0 +2.6**
NVLJ Novalja 5.67 323 *i* Pn **Pn 18 54 45.5 -1.6**
NVLJ *i* Sn **Sn 18 55 48.4 -4.7**
JMB Yambol 5.69 64 *e*P **Pn 18 54 47.0 -0.4**
MNS Montasola 5.73 295 Pn **Pn 18 54 49.5 +1.5**
comp=Z,39nm,0.8s
CING Cingoli 5.82 306 Pn **Pn 18 54 48.2 -1.1**
SANT Santorini 5.91 128 *e*PN **Pn 18 54 51.1 +0.6**
SANT Santorini 5.91 128 *e*PN **Pn 18 54 51.1 +0.5**
VAM Vamos 5.94 142 *e*PN **Pn 18 54 49.4 -1.5**
ARV Arcevia 6.04 306 Pn **Pn 18 54 51.3 -1.2**
RHK1 Bakonya 6.05 349 *e*P **Pn 18 54 53.9 +1.3**
PKSM Moragy 6.10 353⇑ *e*P **Pn 18 54 51.4 -1.9**
FSSB Fossombrone 6.25 307 Pn **Pn 18 54 53.9 -1.5**
BOJS Bojanci 6.26 330 *e*Pn **Pn 18 54 54.9 -0.6**
BOJS *e*Sn **Sn 18 56 03.3 -4.6**
GVD Gavdhos 6.35 145 *e*Pn **Pn 18 54 53.6 -3.2**
GVD Gavdhos 6.35 145 *e*Pn **Pn 18 54 53.6 -3.3**
IDI Anoyia 6.37 138 Pn **Pn 18 54 52.6 -4.5**
comp=Z,2.5nm,0.3s,baz=343,slow=7.4,SNR=14
IDI Sn **Sn 18 55 59.2 -11**
comp=Z,2.4nm,0.3s,baz=314,slow=22,SNR=2.9
GCIS Gornji Cirnik 6.44 334 *e*Pn **Pn 18 54 59.6 +1.6**
GCIS *e*Sn **Sn 18 56 07.7 -4.7**
VOIR 6.59 35⇓ *i*P **Pn 18 55 01.6 +1.4**
VOIR 6.59 35⇓ *i*P **Pn 18 55 01.6 +1.5**
LEGS Legarje 6.62 333 *e*Pn **Pn 18 55 00.7 +0.2**
LEGS *e*Sn **Sn 18 56 08.5 -8.3**
VISS Visnje 6.67 329 *e*Pn **Pn 18 55 00.3 -1.0**
VISS *e*Sn **Sn 18 56 13.4 -4.7**
CEY Cerknica 6.78 327 *e*Pn **Pn 18 55 00.8 -2.2**
LJU Ljubljana 6.99 329 *e*Pn **Pn 18 55 04.1 -1.8**
PGD Poggio Sodo 7.00 305 Pn **Pn 18 55 05.9 0.0**
MLR Muntele Rosu 7.04 39 Pn **Pn 18 55 05.2 -1.4**
comp=Z,0.3nm,0.3s,baz=290,slow=13,SNR=9.3
MLR Sn **Sn 18 56 27.6 +0.1**
baz=270,slow=22,SNR=1.9
MLR Lg 18 57 09.5
comp=Z,0.2nm,0.3s,baz=52,slow=19,SNR=2.0
MLR LR LR 18 57 41.7
comp=Z,128nm,18.9s,baz=47,slow=38
MLR Muntele Rosu 7.04 39⇓ *i*P **Pn 18 55 08.1 +1.6**
MLR S **Sn 18 56 27.6 +0.1**
VMG Vicchio 7.15 305 Pn **Pn 18 55 09.2 +1.1**
VOY Vojsko 7.24 326 *e*Pn **Pn 18 55 07.8 -1.5**
VOY *e*Sn **Sn 18 56 27.4 -5.1**
OBKA Obir 7.37 331⇑ *i*PN **Pn 18 55 08.8 -2.4**
OBKA *i* SN **Sn 18 56 28.8 -6.9**
VRI Vrincioaia 7.69 40⇓ *i*P **Pn 18 55 16.0 +0.3**
VRI Vrincioaia 7.69 40⇓ *i*P **Pn 18 55 16.0 +0.4**
KBA Koelnbreinsper 8.31 329⇑ *i*PN **P 18 55 22.2 -2.0**
KBA *i* SN **Sn 18 56 51.3 -7.8**
KECS Kecovo 8.35 4 *e*PN **P 18 55 27.3 +2.5**
VYHS Vyhne 8.36 356 *e*PN **P 18 55 23.6 -1.4**
PGF Pioggiola 8.39 290 *e*Pn **P 18 55 25.1 -0.2**
MOA Molln 8.63 335⇑ *i*PN **P 18 55 26.1 -2.5**
MOA *i* SN **Sn 18 56 58.6 -8.4**
CRVS Cervenica-Dubn 8.84 8 *e*PN **P 18 55 34.9 +3.3**
KOLS Kolonicke sedl 8.97 11 *e*PN **P 18 55 41.8 +8.4**
WTTA Wattenberg 9.19 323⇑ *i*PN **P 18 55 34.4 -2.0**
WTTA *i* SN **Sn 18 57 13.7 -7.2**
WATA Walderalm 9.27 323⇑ *i*PN **P 18 55 35.0 -2.5**
WATA *i* SN **Sn 18 57 16.1 -6.8**
STHS Stebnicka Huta 9.33 6 *e*PN **P 18 55 42.4 +4.0**
SQTA Sankt Quirin 9.36 322⇑ *i*PN **P 18 55 37.0 -1.7**
SQTA *i* SN **Sn 18 57 18.2 -6.9**
MOTA Moosalm 9.49 322⇑ *i*PN **P 18 55 38.5 -2.1**
MOTA *i* SN **Sn 18 57 21.8 -6.7**
GERES GERESS Array B 9.68 336 Pn **P 18 55 40.6 -2.6**
comp=Z,0.5nm,0.3s,baz=162,slow=14,SNR=16
GERES Sn **Sn 18 57 28.2 -4.8**
comp=Z,0.3nm,0.3s,baz=153,slow=22,SNR=4.3
DAVOX Davos 9.73 316 Pn **P 18 55 41.5 -2.3**
comp=Z,0.4nm,0.3s,baz=128,slow=19,SNR=4.3
DAVOX Sn **Sn 18 57 30.9 -3.3**
comp=Z,0.2nm,0.3s,baz=330,slow=23,SNR=2.6
DAVOX LR LR 19 00 08.7
comp=Z,185nm,19.2s,baz=264,slow=42
SLUM 9.73 151⇑ P **P 18 55 36.4 -7.5**
OKC Ostrava-Krasne 9.74 354 *e*P **P 18 55 41.2 -2.8**
OKC AMS AMS 19 01 00.0
comp=Z,300nm,16.6s
KHC Kasperske Hory 9.97 336 *e*P **P 18 55 44.0 -3.1**
KHC AMS AMS 19 00 20.0
comp=Z,400nm,15.9s
FRF La Foret Royal 10.30 294 *e*Pn **P 18 55 47.2 -4.5**
DPC Dobruska-Polom 10.47 348 *e*P **P 18 55 58.3 +4.4**
DPC AMS AMS 19 00 40.0
comp=Z,400nm,16.4s
PRU Pruhonice 10.48 341 *e*P **P 18 55 51.8 -2.4**
PRU AMS AMS 19 00 50.0
comp=Z,400nm,13.6s
BRTR Keskin Array B 10.73 88 Pn **P 18 55 53.0 -4.5**
comp=Z,0.1nm,0.3s,baz=252,slow=4.6,SNR=2.4
LPG La Plagne 10.89 304 *e*Pn **P 18 55 55.5 -4.3**
LPG *e*Sn **S 18 57 47.9 -15**
comp=Z,19nm,0.9s
LPL La Plagne 10.91 304 *e*Pn **P 18 55 56.1 -4.0**
LPL *e*Sn **S 18 57 48.2 -15**
comp=Z,10.0nm,0.6s
PVCC Panska Ves 10.98 343 AMS AMS 19 01 10.0
comp=Z,300nm,17.6s
NKC Novy Kostel 11.29 336 AMS AMS 19 01 00.0
comp=Z,400nm,13.9s
CABF La Chapelle 11.80 308 *e*Pn **P 18 56 06.4 -5.8**
SWA2 11.87 155 P **P 18 56 06.0 -7.1**
MOX Moxa 11.92 334 *i* P **P 18 56 11.1 -2.6**
MOX L 19 01 44.0
MOX Moxa 11.92 334 *e*P **P 18 56 11.1 -2.6**
SWA1 11.94 154 ⇓P **P 18 56 07.5 -6.6**
SWA1 S S 18 57 57.5 -31
HINF Hinteralfeld 11.99 314 *e*Pn **P 18 56 07.4 -7.3**
HINF *e*Sn **S 18 58 15.2 -14**
comp=Z,8.4nm,0.7s
HAU Haudompre 12.38 314 *e*Pn **P 18 56 17.0 -2.9**
HAU *e*Sn **S 18 58 23.9 -15**
comp=Z,11nm,0.6s
LOR Lormes 13.46 307 *e*Pn **P 18 56 29.8 -4.5**
LOR *e*Sn **S 18 58 51.9 -13**
comp=Z,2.9nm,0.4s
GLL Jalalah 14.43 133 ⇓P **P 18 56 38.7 -8.4**
MALT Malatya 14.64 91 *e*P **P 18 56 53.7 +3.8**
comp=Z,4.2nm,1.0s
MALT Malatya 14.64 91 *e*P **P 18 56 53.7 +3.9**
MALT pmax pmax
comp=Z,4.0nm,1.0s
ESDC Sonseca Array 18.14 276 P **P 18 57 34.9 +0.5**
baz=79,slow=11,SNR=2.9
OBN Obninsk 18.72 31 *c*e**P P 18 57 35.8 -5.7**
OBN *e*S **S 19 01 08.1 +1.0**
OBN pmax pmax
comp=Z,17nm,1.2s
GNI Garni 19.14 82 P **P 18 57 43.8 -2.8**
comp=Z,0.2nm,0.3s,baz=183,slow=19,SNR=1.7
GNI LR LR 19 05 29.5
comp=Z,61nm,18.6s,baz=255,slow=38
MOS Moscow 19.59 31 *e*P **P 18 57 50.3 -1.4**
HFS Hagfors 20.35 351 P **P 18 57 57.5 -2.3**
comp=Z,2.6nm,0.5s,baz=157,slow=11,SNR=15
HFS LR LR 19 06 12.0
comp=Z,102nm,18.6s,MS3.2,baz=185,slow=38
NB2 NORSAR Subarra 21.56 349 P **P 18 58 10.9 -1.3**
comp=Z,1.3nm,0.6s,mb3.5,baz=161,slow=12
NOA NORSAR Array B 21.56 349 P **P 18 58 10.3 -1.8**
comp=Z,3.0nm,0.9s,mb3.7,baz=163,slow=11,SNR=7.4
NOA LR LR 19 07 38.9
comp=Z,81nm,19.4s,MS3.1,baz=180,slow=40
FINES FINESS Array B 21.68 8 P **P 18 58 09.8 -3.5**
comp=Z,1.2nm,0.5s,mb3.6,baz=164,slow=11,SNR=11
KAF Kangasniemi 22.35 8 *e*p **P 18 58 18.9 -1.2**
ARCES ARCESS Array B 29.61 4 P **P 18 59 23.7 -4.2**
comp=Z,1.8nm,0.8s,mb3.8,baz=180,slow=9.7,SNR=7.8
ARCES LR LR 19 11 48.4
comp=Z,42nm,19.4s,MS3.1,baz=198,slow=38
ARCES ARCESS Array B 29.61 4 P **P 18 59 23.7 -4.2**
ARCES LR LR 19 11 48.4
BRVK Borovoye 36.32 52 *e*P **P 19 00 23.6 -2.6**
comp=Z,2.0nm,0.8s,mb4.1
BRVK Borovoye 36.32 52 *e*P **P 19 00 23.6 -2.7**
BRVK pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
BVAR Borovoye Array 36.38 52 P **P 19 00 23.4 -3.4**
comp=Z,0.6nm,0.6s,mb3.7,baz=256,slow=6.1,SNR=5.1
MKAR Makanchi Array 44.85 60 P **P 19 01 33.6 -3.1**
comp=Z,2.6nm,0.7s,mb4.2,baz=284,slow=7.4,SNR=30
MKAR LR LR 19 21 57.1
comp=Z,32nm,18.5s,MS3.3,baz=1.9,slow=38
MKAR Makanchi Array 44.85 60 P **P 19 01 33.6 -3.1**
MKAR pmax pmax
comp=Z,3.0nm,0.7s
MKAR MLR MLR
comp=Z,32nm,18.5s
ZAK Zakamensk 56.76 50 *e*P **P 19 03 09.5 +2.5**
comp=Z,1.0nm,1.0s,mb3.8
ZAK Zakamensk 56.76 50 *e*P **P 19 03 09.5 +2.5**
ZAK pmax pmax
comp=Z,1.0nm,1.0s,mb3.8
SONM Songino Array 59.72 51 P **P 19 03 25.4 -2.3**
comp=Z,1.0nm,0.8s,mb3.9,baz=292,slow=9.3,SNR=7.3
BOSA Boshof 68.61 175 P **P 19 04 23.7 -2.4**
comp=Z,2.7nm,0.9s,mb4.2,baz=35,slow=7.7,SNR=3.9
BOSA Boshof 68.61 175 P **P 19 04 23.7 -2.4**
BOSA pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
YKA Yellowknife Ar 71.31 339 P **P 19 04 40.3 -1.7**
comp=Z,0.5nm,0.5s,mb3.7,baz=38,slow=6.5,SNR=4.8
YKA Yellowknife Ar 71.31 339 P **P 19 04 40.3 -1.7**
YKA pmax pmax
comp=Z,1.0nm,0.5s

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*NEIC **12** 19:11:31.3, 37.74N×23.07E, h2km, MD2.5(ATH), After ATH.*
*CSEM **12** 19:11:31.4±0.1, 37.75N×23.07E, h10km, MD2.5, Error ellipse: s-maj=2.3km s-min=1.1km az=14.0*

ATH 12 19:11:31.3, 37.74N×23.07E, h2km, MD2.5/5, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGER	**Gerania Oros**	**0.29**	**31**	*e*Pg	Pg	19 11 37.0	-0.1
NAIG	**Nisos Aigina**	**0.33**	**87**	*e*PG	Pg	19 11 37.8	-0.1
NSAL	**Nisos Salamina**	**0.35**	**62**	*e*PG	Pg	19 11 38.0	-0.4
MPAR	**Parnis Oros**	**0.67**	**52**	*e*PG	Pg	19 11 44.0	-0.6
PTL	**Penteli**	**0.70**	**64**	*e*PG	Pg	19 11 44.5	-0.8

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*NSSP **12** 19:22:41.0, 40.18N×47.30E, h10km, ML3.3*
*IDC **12** 19:22:50.8±2.1, 40.27N×47.47E, mb3.7/4, mb1 3.9/5, mb1mx3.6/16, mbtmp3.8/5, ML1.8/1, MS2.7/1, Ms1 2.7/1, ms1mx2.3/19, Error ellipse: s-maj=56.3km s-min=11.8km az=165.0*
*TIF **12** 19:22:51.5, 40.12N×47.20E, h7km±6km*
*THR **12** 19:22:52.9±0.3, 40.20N×47.30E, h14km±4km, ML3.9*
*CSEM **12** 19:22:52.2±0.1, 40.38N×47.49E, h20km, mb3.8/1, Error ellipse: s-maj=3.4km s-min=1.8km az=22.0*
*TEH **12** 19:22:53.3, 40.40N×47.44E, h10km, Mn3.7*
*MOS **12** 19:22:53.3±1.3, 40.70N×47.39E, h10km, mb3.9/1, Error ellipse: s-maj=20.5km s-min=17.1km az=147.2*
*NEIC **12** 19:22:58.2±1.4, 40.52N×47.45E, h50km, mb3.7/2, Error ellipse: s-maj=34.4km s-min=10.8km az=160.0*
*NNC **12** 19:23:05.5±8.4, 40.72N×48.47E, h36km±84km, Error ellipse: s-maj=52.3km s-min=43.4km az=131.0*

ISC 12 19:22:53.9±1.8, **40.34N**±0.03×**47.65E**±0.04, **h28**km±17km, **n52**, σ1$**17/67, **mb3.6**/4, **MS2.6**/1, **5C-2D, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRMI	**Germi**	**1.54**	**173**	*e*PG	**Pn**	**19 23 19.9**	**0.0**
GRMI				*e*SG	**Sn**	**19 23 39.5**	**+0.4**
GRMI				AML	AML	19 23 40.3	
	comp=N,2μm,0.3s						
GRMI	**Germi**	**1.54**	**173**	*e*Pg	**Pn**	**19 23 19.9**	**0.0**
	SNR=90						
GRMI				*e*Sg	**Sn**	**19 23 39.5**	**+0.4**
	comp=N,2μm,0.3s,SNR=90						
DGRG	**David-gareji**	**2.05**	**304**	P	**Pn**	**19 23 26.5**	**-0.7**
DGRG				S	**Sn**	**19 23 53.1**	**+0.9**
IMRD	**Marand**	**2.21**	**223**	Pn	**Pn**	**19 23 28.9**	**-0.7**
GNI	**Garni**	**2.23**	**266**	Pn	**Pn**	**19 23 30.0**	**+0.2**
	comp=N,80nm,0.3s,baz=50,slow=1.6,SNR=254						
GNI				Pg	**Pn**	**19 23 31.2**	**+1.3**
	comp=N,80nm,0.3s,baz=40,slow=1.9,SNR=241						
GNI				Lg		19 23 59.2	
	comp=N,39nm,0.3s,baz=183,slow=21,SNR=9.6						
GNI	**Garni**	**2.23**	**266**	Pg	**Pn**	**19 23 31.2**	**+1.4**
GNI	**Garni**	**2.23**	**266**	*e*Pn	**Pn**	**19 23 30.2**	**+0.4**
GNI				Pg	**Pn**	**19 23 31.2**	**+1.3**
GNI				Lg		19 23 59.2	
GNI	**Garni**	**2.23**	**266**	*e*PN	**Pn**	**19 23 30.2**	**+0.4**
GNI						19 23 59.2	
ITBZ	**Tabriz**	**2.40**	**209**	Pn	**Pn**	**19 23 29.0**	**-3.3**
MAKU	**Maku**	**2.48**	**248**	*e*PG	**Pn**	**19 23 32.6**	**-0.9**
MTA	**Mtatsminda**	**2.55**	**303**	P	**Pn**	**19 23 35.7**	**+1.3**
MTA				S	**Sn**	**19 24 07.1**	**+2.2**
ISHB	**Shabestar**	**2.58**	**218**	Pn	**Pn**	**19 23 34.9**	**0.0**
TI2	**Plekhanov**	**2.60**	**303⇑**	*i*P	**Pn**	**19 23 30.4**	**-4.7**
	comp=N,9μm,0.4s						
TI2	**Plekhanov**	**2.60**	**303⇑**	*i*PN	**Pn**	**19 23 30.4**	**-4.7**
TI2				pmax	pmax		
	comp=Z,40nm,0.4s						
TBLG	**Delisi**	**2.60**	**303**	P	**Pn**	**19 23 36.2**	**+1.0**
TBLG				S	**Sn**	**19 24 09.5**	**+3.2**
IAZR	**Azarshahr**	**2.95**	**207**	Pn	**Pn**	**19 23 39.6**	**-0.6**
GOR	**Gori**	**3.14**	**303**	P	**Pn**	**19 23 41.3**	**-1.4**
GOR				S	**Sn**	**19 24 19.3**	**-0.4**
ONI	**Oni**	**3.87**	**307**	P	**Pn**	**19 23 52.6**	**-0.5**
ONI				S	**Sn**	**19 24 52.0**	**+14**
THKV	**Tehran--Karaj**	**5.10**	**149**	*e*PN	**Pn**	**19 24 11.5**	**+0.9**
IMHD	**Mahdasht**	**5.22**	**152**	Pn	**Pn**	**19 24 13.2**	**+0.9**
IMHD				Sn	**Sn**	**19 25 11.2**	**-1.1**
SNGE	**Sanandaj**	**5.24**	**183**	*e*Pn	**Pn**	**19 24 11.3**	**-1.3**
IPRN	**Paran-Amol**	**5.46**	**137**	Pn	**Pn**	**19 24 15.7**	**+0.1**
IAFJ	**Afjeh**	**5.50**	**143**	Pn	**Pn**	**19 24 17.1**	**+0.8**
DAMV	**Damavand**	**5.81**	**143**	*e*Pn	**Pn**	**19 24 21.8**	**+1.3**
DAMV				AML	AML	19 25 30.2	
	comp=N,40nm,0.4s						
IDMV	**Damavand**	**5.88**	**143**	Pn	**Pn**	**19 24 22.1**	**+0.5**
IGLO	**Galoogah**	**6.11**	**129**	Pn	**Pn**	**19 24 25.2**	**+0.4**
IFIR	**Firoozkooh**	**6.18**	**138**	Pn	**Pn**	**19 24 26.2**	**+0.3**
IFIR				Sn	**Sn**	**19 25 34.3**	**-2.1**
IVRN	**Varamin**	**6.24**	**147**	Pn	**Pn**	**19 24 26.3**	**-0.3**
IKIA	**Kiasar**	**6.29**	**129**	Pn	**Pn**	**19 24 27.2**	**-0.2**
ISHM	**Shahmirzad**	**6.35**	**134**	Pn	**Pn**	**19 24 28.0**	**-0.2**
ILAS	**Lasjerd**	**6.49**	**138**	Pn	**Pn**	**19 24 32.4**	**+2.2**
IANJ	**Anjiloo**	**6.94**	**132**	Pn	**Pn**	**19 24 39.0**	**+2.5**
BRTR	**Keskin Array B**	**10.76**	**271**	Pn	**P**	**19 25 27.1**	**-2.3**
	comp=N,0.1nm,0.3s,baz=98,slow=10,SNR=2.1						
BRTR	**Keskin Array B**	**10.76**	**271**	Pn	**P**	**19 25 27.0**	**-2.3**
AKTO	**Aktyubinsk**	**12.44**	**32**	⇑P	**P**	**19 25 50.8**	**-1.2**
	comp=N,0.1nm,0.5s						
AKTO				⇓S	**S**	**19 27 59.9**	**-11**
	comp=N,1.0nm,0.9s						
AB31	**Akbulak array**	**12.47**	**40**	⇓P	**P**	**19 25 51.8**	**-0.6**
	comp=N,0.3nm,0.3s,baz=212,slow=12,SNR=4.5						
AB31				⇑S	**S**	**19 28 03.5**	**-7.9**
	comp=N,2.2nm,0.6s						
KK31	**Karatay Array**	**17.29**	**73**	P	**P**	**19 26 54.0**	**-0.8**
	comp=N,0.8nm,0.5s,slow=0.1,SNR=14						
KK31				⇑S	**S**	**19 29 58.6**	**-5.9**
	comp=N,0.4nm,0.5s				

comp=Z,2.2nm,0.7s,mb3.7
KURK Kurchatov 23.89 54 *e*P **P 19 28 07.3 +1.4**
KURK pmax pmax
comp=Z,2.0nm,0.7s,mb3.7
FINES FINESS Array B 24.91 335 P **P 19 28 14.4 -1.2**
comp=Z,1.0nm,0.5s,mb3.6,baz=138,slow=9.0,SNR=10
KAF Kangasniemi 25.34 336 *e*p **P 19 28 28.9 +9.2**
GERES GERESS Array B 25.45 301 P **P 19 28 21.2 +0.3**
comp=Z,1.3nm,0.6s,mb3.6,baz=103,slow=9.4,SNR=16
MKAR Makanchi Array 25.77 64 P **P 19 28 25.4 +1.5**
comp=Z,1.2nm,0.6s,mb3.6,baz=270,slow=9.7,SNR=8.6

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*IDC **12** 19:24:42.7±0.8, 64.57S×175.46E, mb4.4/8, mb1 4.5/9, mb1mx4.5/12, mbtmp4.4/9, ML3.9/1, MS4.5/8, Ms1 4.4/8, ms1mx4.3/11, Error ellipse: s-maj=29.3km s-min=20.4km az=76.0*
*NEIC **12** 19:24:44.1±0.4, 64.63S×175.43E, h10km, mb4.7/6, Error ellipse: s-maj=17.7km s-min=8.9km az=84.0*
ISC 12 19:24:42.5±0.6, 64.61S±0.07×175.2E±0.3, h10km, n31, σ0§87/20, mb4.4/11, MS4.4/7, 2D, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**13.56**	**188**	*e*Pn	**P**	**19 27 56.1**	**-0.8**
	40nm,1.3s						
VNDA	**Vanda**	**13.61**	**192**	Pn	**P**	**19 27 56.8**	**-0.7**
	0.6nm,0.3s,baz=38,slow=16,SNR=29						
VNDA				LR	LR	19 32 04.8	
	comp=Z,3μm,18.7s,baz=34,slow=32						
RPZ	**Rata Peaks**	**21.07**	**352**	P	**P**	**19 29 29.7**	**+0.8**
	23nm,1.0s,mb4.5,baz=184,slow=18,SNR=3.6						
RPZ				LR	LR	19 35 57.6	
	comp=Z,1μm,19.7s,MS4.4,baz=173,slow=32						
QSPA	**South Pole Qui**	**25.48**	**180**	⇓*i*P	**P**	**19 30 16.0**	**+4.4**
	34nm,0.9s,mb4.9						
URZ	**Urewera**	**26.41**	**3**	P	**P**	**19 30 20.0**	**-0.6**
	6.8nm,0.9s,mb4.2,baz=264,slow=10,SNR=3.0						
URZ				LR	LR	19 38 54.3	
	comp=Z,932nm,20.4s,MS4.3,baz=24,slow=32						
STKA	**Stephens Creek**	**38.77**	**311**	*e*P	**P**	**19 32 09.9**	**+1.3**
	6.6nm,1.1s,mb4.3						
STKA	**Stephens Creek**	**38.77**	**311**	P	**P**	**19 32 07.9**	**-0.7**
	9.2nm,1.0s,mb4.5,baz=143,slow=5.9,SNR=7.2						
STKA				LR	LR	19 44 30.1	
	comp=Z,462nm,20.5s,MS4.3,baz=334,slow=31						
MAW	**Mawson**	**39.60**	**214**	P	**P**	**19 32 16.8**	**+1.8**
	4.3nm,1.0s,mb4.1,baz=122,slow=9.2,SNR=5.4						
MAW				LR	LR	19 48 36.5	
	comp=Z,833nm,19.3s,MS4.6,baz=131,slow=36						
DZM	**Mont Dzumac**	**42.92**	**348**	*e*P	**P**	**19 32 39.0**	**-3.7**
DZM				*e*S	**S**	**19 39 17.2**	**+10**
SYO	**Syowa Base**	**43.06**	**202**	⇓P	**P**	**19 32 43.0**	**-0.3**
SNAA	**Sanae**	**43.98**	**181**	*e*P	**P**	**19 32 51.0**	**+0.4**
	1.7nm,0.8s,mb3.8						
WB2	**Warramunga Arr**	**52.22**	**309**	*e*P	**P**	**19 33 54.9**	**-0.6**
WRAB	**Tennant Creek**	**52.23**	**309**	*e*P	**P**	**19 33 54.8**	**-0.8**
	17nm,0.8s,mb5.0						
PPT	**Papeete**	**52.64**	**44**	LR	LR	19 49 43.1	
	comp=Z,400nm,19.3s,MS4.5,baz=189,slow=29						
FITZ	**Fitzroy Crossi**	**57.01**	**300**	*e*P	**P**	**19 34 31.3**	**+0.8**
	9.2nm,1.0s,mb4.8						
FITZ	**Fitzroy Crossi**	**57.01**	**300**	P	**P**	**19 34 30.4**	**-0.1**
	9.8nm,0.9s,mb4.8,baz=185,slow=8.3,SNR=3.0						
PLCA	**Paso Flores**	**63.13**	**129**	P	**P**	**19 35 11.6**	**-0.5**
	3.3nm,1.0s,mb4.4,baz=211,slow=11,SNR=3.0						
BOSA	**Boshof**	**84.17**	**206**	P	**P**	**19 37 15.2**	**+0.6**
	1.4nm,0.7s,mb4.2,baz=100,slow=15,SNR=3.7						
BOSA				LR	LR	20 11 30.6	
	comp=Z,580nm,20.9s,MS4.9,baz=162,slow=33						
LPAZ	**La Paz**	**86.23**	**121**	P	**P**	**19 37 25.8**	**+0.7**
	1.5nm,0.8s,mb4.3,baz=203,slow=1.2,SNR=6.7						
LPAZ				LR	LR	20 07 38.6	
	comp=Z,44nm,18.1s,MS3.9,baz=324,slow=30						
LPAZ	**La Paz**	**86.23**	**121**	*e*P	**P**	**19 37 25.9**	**+0.8**
	10nm,1.4s,mb4.9						
ILAR	**Eielson Array**	**132.02**	**21**	PKP	PKPdf	19 43 56.2	-1.7
	2.5nm,0.9s,baz=230,slow=3.3,SNR=13						
YKA	**Yellowknife Ar**	**136.99**	**40**	PKP	PKPdf	19 44 06.8	-0.2
	0.2nm,0.3s,baz=217,slow=3.1,SNR=2.5						
YKA	**Yellowknife Ar**	**136.99**	**40**	PKP	PKPdf	19 44 06.8	-0.2
BVAR	**Borovoye Array**	**141.79**	**289**	PKP	PKPdf	19 44 16.5	+0.6
	0.6nm,0.6s,baz=162,slow=4.7,SNR=4.6						
IDI	**Anoyia**	**145.63**	**226**	PKPbc	PKPbc	19 44 22.1	+1.3
	9.4nm,0.8s,baz=166,slow=4.2,SNR=3.4						
KIV	**Kislovodsk**	**146.57**	**255**	*e*PKPbc	PKPbc	19 44 24.8	+2.0
BR131	**Keskin Array S**	**146.61**	**241**	*e*PKPbc	PKPbc	19 44 23.5	+0.5
BRTR	**Keskin Array B**	**146.61**	**241**	PKPbc	PKPbc	19 44 24.8	+1.8
	5.1nm,0.8s,baz=153,slow=5.5,SNR=26						
SCHQ	**Schefferville**	**148.52**	**78**	PKPbc	PKPdf	19 44 28.2	+1.0
	4.4nm,1.0s,baz=270,slow=1.0,SNR=2.5						
ARU	**Arti**	**149.06**	**285**	*e*PKPbc	PKPdf	19 44 29.7	+1.6
ARU				*e*PKPab	PKPab	19 44 36.2	+0.6
TIP	**Timpagrande**	**151.57**	**217**	*e*PKPbc	PKPdf	19 44 37.0	+4.5

WEL 12 20:23:43.0±0.6, 38.22S×179.13E, h12km, ML3.5/6, 1C, Error ellipse: s-maj=4.7km s-min=2.6km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**0.70**	**281**	⇑P*	Pb	20 23 56.4	-0.3
PUZ				S*	Sb	20 24 06.1	+0.1
PUZ				S*	Sb	20 24 06.2	+0.2
MXZ	**Matakaoa Point**	**0.92**	**315**	P*	Pb	20 23 59.7	-0.7
MXZ				S*	Sb	20 24 12.0	-0.4
MWZ	**Matawai**	**1.27**	**264**	PN	Pn	20 24 05.3	-1.2
MWZ				S*	Sb	20 24 21.2	-1.3
KNZ	**Kokohu**	**1.40**	**234**	PN	Pn	20 24 07.5	-0.9
URZ	**Urewera**	**1.59**	**268**	PN	Pn	20 24 10.9	-0.3
BKZ	**Black Stump Fm**	**2.27**	**244**	PN	Pn	20 24 20.0	-1.0
BKZ				SN	Sn	20 24 47.0	-2.1
TSZ	**Takapari Road**	**3.08**	**232**	PN	Pn	20 24 29.5	-2.9
TSZ				SN	Sn	20 25 04.9	-4.6

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*NEIC **12** 20:53:48.0±0.5, 42.21N×120.05W, h5km, ML3.8, MW3.9(SLM), Error ellipse: s-maj=7.1km s-min=4.5km az=152.0*
*IDC **12** 20:53:49.8±2.3, 42.06N×119.97W, mb3.0/1, mb1 3.6/3, mb1mx3.4/19, mbtmp3.2/3, ML3.6/2, Error ellipse: s-maj=32.3km s-min=12.2km az=96.0*
ISC 12 20:53:47.4±0.4, 42.22N±0.04×120.04W±0.05, h10km, n44, σ1§07/49, 3C, Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOD	**Modoc**	**0.37**	**212**	*e*P	**Pg**	**20 53 55.0**	**0.0**
WVOR	**Wild Horse Val**	**1.06**	**78**	⇑*e*P	**Pb**	**20 54 07.8**	**+0.5**
YBH	**Yreka Blue Hor**	**2.05**	**257**	⇑*e*P	**Pn**	**20 54 23.1**	**+0.7**
HUMO	**Hull Mountain**	**2.19**	**281**	⇑*e*Pn	**Pn**	**20 54 25.7**	**+1.3**
HUMO				*e*Pg	**Pg**	**20 54 29.1**	**-2.1**
BEKR	**Beckwourth**	**2.37**	**186**	*e*Pn	**Pn**	**20 54 27.3**	**+0.4**
BEKR				*e*S	**Sn**	**20 54 56.2**	**0.0**
WDC	**Whiskeytown Da**	**2.50**	**230**	*e*Pn	**Pn**	**20 54 28.2**	**-0.5**
PAHR	**Pah Rah Range**	**2.56**	**169**	*e*Pn	**Pn**	**20 54 30.1**	**+0.5**
BMN	**Battle Mountai**	**2.77**	**129**	*e*Pn	**Pn**	**20 54 33.4**	**+0.7**
BMO	**Blue Mountains**	**3.30**	**36**	*e*Pn	**Pn**	**20 54 41.0**	**+0.8**
ELK	**Elko**	**3.90**	**111**	*e*Pn	**Pn**	**20 54 49.1**	**+0.4**
HOPS	**Hopland**	**3.96**	**217**	*e*Pn	**Pn**	**20 54 49.0**	**-0.7**
NVAR	**Mina Array Bea**	**4.01**	**160**	Pn	**Pn**	**20 54 50.9**	**+0.5**
	1.0nm,0.3s,baz=337,slow=13,SNR=21						
NVAR				Pg	**Pg**	**20 54 58.5**	**-9.0**
	7.7nm,0.3s,baz=328,slow=16,SNR=46						
NVAR				Lg		20 55 48.8	
	13nm,0.3s,baz=344,slow=28,SNR=8.1						
CMB	**Columbia Colle**	**4.19**	**184**	*e*Pn	**Pn**	**20 54 52.7**	**-0.1**
HLID	**Hailey**	**4.34**	**70**	*e*PN	**Pn**	**20 54 54.6**	**-0.4**
OMM	**Old Mammoth Mi**	**4.67**	**170**	*e*Pn	**Pn**	**20 54 58.4**	**-1.2**
TPH	**Tonopah**	**4.67**	**152**	Pn	**Pn**	**20 54 59.1**	**-0.6**
HVU	**Hansel Valley**	**5.43**	**92**	Pn	**Pn**	**20 55 10.3**	**-0.1**
SAO	**San Andreas Ge**	**5.56**	**192**	Pn	**Pn**	**20 55 12.2**	**0.0**
SPUT	**South Promonto**	**5.75**	**97**	Pn	**Pn**	**20 55 14.7**	**-0.2**
MCMT	**McKenzie Canyo**	**5.84**	**61**	*e*Pn	**Pn**	**20 55 15.5**	**-0.7**
DAC	**Darwin (Calif)**	**6.23**	**161**	Pn	**Pn**	**20 55 23.1**	**+1.3**
MSO	**Missoula**	**6.34**	**41**	Pn	**Pn**	**20 55 23.3**	**0.0**
HWUT	**Hardware Ranch**	**6.35**	**93**	Pn	**Pn**	**20 55 22.6**	**-0.8**
RRI2	**Red Ridge**	**6.51**	**77**	*e*Pn	**Pn**	**20 55 24.8**	**-0.8**
AHID	**Auburn Hatcher**	**6.63**	**82**	Pn	**Pn**	**20 55 30.6**	**+3.3**
ARUT	**Antelope Range**	**6.73**	**129**	Pn	**Pn**	**20 55 26.9**	**-1.7**
QLMT	**Earthquake Lak**	**6.78**	**64**	Pn	**Pn**	**20 55 29.1**	**-0.3**
QLMT				*e*Pg	**Pg**	**20 55 52.7**	**-10**
TPAW	**Teton Pass**	**6.80**	**76**	Pn	**Pn**	**20 55 29.0**	**-0.7**
DAU	**Daniels Canyon**	**6.86**	**102**	*e*Pn	**Pn**	**20 55 30.0**	**-0.5**
REDW	**Red Top Meadow**	**6.86**	**77**	Pn	**Pn**	**20 55 30.1**	**-0.3**
IMW	**Indian Meadow**	**6.87**	**73**	Pn	**Pn**	**20 55 31.1**	**+0.3**
SNOW	**Snow King Moun**	**6.94**	**77**	Pn	**Pn**	**20 55 33.1**	**+1.5**
BOZ	**Bozeman (W)**	**6.97**	**58**	*e*Pn	**Pn**	**20 55 30.7**	**-1.4**
MSU	**Marysvale**	**7.05**	**119**	*e*Pn	**Pn**	**20 55 30.9**	**-2.4**
LOHW	**Long Hollow**	**7.07**	**75**	Pn	**Pn**	**20 55 32.8**	**-0.6**
YFT	**Old Faithful**	**7.07**	**69**	Pn	**Pn**	**20 55 35.1**	**+1.6**
YNR	**Norris Junctio**	**7.25**	**67**	Pn	**Pn**	**20 55 38.8**	**+2.8**
TMUT	**Trail Mountain**	**7.31**	**111**	Pn	**Pn**	**20 55 38.3**	**+1.4**
NEN	**Nelson**	**7.71**	**147**	Pn	**Pn**	**20 55 44.6**	**+2.2**
PDAR	**Pinedale Array**	**7.77**	**82**	Pn	**Pn**	**20 55 46.8**	**+3.5**
	0.2nm,0.3s,baz=270,slow=13,SNR=8.1						
PDAR				Pg	**Pg**	**20 56 04.0**	**-18**
	0.4nm,0.3s,baz=270,slow=13,SNR=8.1						
PDAR				Lg		20 57 48.2	
	0.4nm,0.3s,baz=256,slow=22,SNR=2.6						
WALA	**Waterton Lakes**	**8.07**	**30**	*e*Pn	**P**	**20 55 46.8**	**-0.7**
PHWY	**Pilot Hill**	**10.94**	**90**	Pn	**P**	**20 56 25.1**	**-1.9**
YKA	**Yellowknife Ar**	**20.56**	**7**	P	**P**	**20 58 29.7**	**+1.1**
	0.6nm,0.7s,baz=191,slow=11,SNR=4.0						
YKA	**Yellowknife Ar**	**20.56**	**7**	P	**P**	**20 58 29.7**	**+1.1**

NNC 12 20:57:46.2±29.0, 37.70N×71.35E, h125km±526km, mpv3.1, 2C, Error ellipse: s-maj=247.3km s-min=133.0km az=177.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.43**	**354**	P	P	20 59 05.4	-0.7
	0.6nm,0.2s,baz=186,slow=16,SNR=53						
KK31				⇑S	S	21 00 08.4	+0.5
	5.5nm,0.4s,baz=172,slow=23						
AAK	**Ala-Archa**	**5.48**	**25**	⇑S	S	21 00 06.7	-2.5
	4.2nm,0.7s						
AB31	**Akbulak array**	**14.19**	**328**	P	P	21 01 02.7	+0.5
	0.3nm,0.3s,baz=161,slow=11,SNR=9.0						
AB31				S	S	21 03 33.9	-2.8
	0.5nm,0.5s,baz=136,slow=25,SNR=3.0						

IDC 12 21:46:21.7±12.0, 4.55N×95.53E, mb3.7/3, mb1 3.9/3, mb1mx3.6/16, mbtmp3.7/3, Error ellipse: s-maj=390.5km s-min=110.5km az=111.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**43.61**	**347**	P	P	21 54 27.7	-1.8
	0.4nm,0.3s,baz=167,slow=7.6,SNR=12						
ARCES	**ARCESS Array B**	**78.84**	**340**	P	P	21 58 26.4	-1.4
	1.0nm,0.9s,baz=90,slow=6.1,SNR=4.2						
GERES	**GERESS Array B**	**81.21**	**319**	P	P	21 58 39.7	-1.2
	0.3nm,0.7s,baz=90,slow=5.3,SNR=4.5						

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*IDC **12** 21:57:03.0±5.1, 17.51N×145.82E, mb3.9/5, mb1 4.2/5, mb1mx4.0/14, mbtmp3.9/5, MS3.7/13, Ms1 3.7/13, ms1mx3.6/24, Error ellipse: s-maj=149.2km s-min=35.4km az=7.0*
*NEIC **12** 21:57:27.7±2.9, 17.76N×145.60E, h200km, mb4.1/3, Error ellipse: s-maj=90.9km s-min=19.4km az=188.0*
ISC 12 21:57:27.3±3.7, 18.0N±0.8×145.6E±0.2, h200km, n21, σ0§62/10, mb3.7/8, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**18.22**	**302**	LR	LR	22 06 52.6	
	comp=Z,188nm,18.5s,baz=126,slow=32						
ASAJ	**Asahikawa**	**26.16**	**355**	LR	LR	22 12 07.5	
	comp=Z,137nm,21.6s,baz=356,slow=34						
PMG	**Port Moresby**	**27.27**	**177**	LR	LR	22 11 03.8	
	comp=Z,116nm,18.9s,baz=30,slow=31						
HNR	**Honiara**	**30.74**	**151**	LR	LR	22 12 50.0	
	comp=Z,94nm,20.9s,baz=108,slow=31						
SONM	**Songino Array**	**43.61**	**322**	P	**P**	**22 05 14.1**	**+0.8**
	0.7nm,0.5s,mb3.2,baz=135,slow=6.3,SNR=3.7						
SONM				LR	LR	22 24 26.9	
	comp=Z,81nm,18.3s,baz=84,slow=37						
STKA	**Stephens Creek**	**49.73**	**184**	LR	LR	22 27 26.1	
	comp=Z,157nm,20.3s,baz=194,slow=37						
MKAR	**Makanchi Array**	**58.85**	**314**	P	**P**	**22 07 06.8**	**-0.2**
	1.1nm,0.5s,mb3.7,baz=94,slow=7.5,SNR=20						
MKAR	**Makanchi Array**	**58.85**	**314**	P	**P**	**22 07 06.8**	**-0.2**
KURK	**Kurchatov**	**61.70**	**318**	*e*P	**P**	**22 07 25.8**	**-0.5**
	11nm,1.2s,mb4.3						
ILAR	**Eielson Array**	**64.33**	**26**	P	**P**	**22 07 42.2**	**-1.1**
	0.7nm,0.5s,mb3.5,baz=252,slow=5.6,SNR=6.4						
ILAR				LR	LR	22 32 23.4	
	comp=Z,54nm,20.6s,baz=356,slow=33						
DLBC	**Dease Lake**	**71.95**	**33**	*e*P	**P**	**22 08 31.5**	**+1.1**
ARU	**Arti**	**73.56**	**325**	*e*P	**P**	**22 08 39.9**	**0.0**
	1.6nm,0.5s,mb3.9						
YKA	**Yellowknife Ar**	**78.67**	**28**	P	**P**	**22 09 08.1**	**-0.1**
	1.2nm,0.7s,mb3.6,baz=281,slow=5.2,SNR=5.5						
ARCES	**ARCESS Array B**	**83.12**	**342**	LR	LR	22 50 19.8	
	comp=Z,63nm,20.2s,baz=202,slow=38						
NVAR	**Mina Array Bea**	**83.68**	**52**	P	**P**	**22 09 35.4**	**+0.4**
	0.6nm,0.5s,mb3.5,baz=267,slow=5.9,SNR=4.3						
ELK	**Elko**	**85.18**	**49**	*e*P	**P**	**22 09 42.1**	**-0.3**
	0.6nm,0.4s,mb3.7						
FINES	**FINESS Array B**	**87.46**	**335**	LR	LR	22 48 21.4	
	comp=Z,36nm,20.0s,baz=48,slow=35						
PDAR	**Pinedale Array**	**88.41**	**45**	LR	LR	22 41 48.7	
	comp=Z,23nm,20.8s,baz=255,slow=30						
HFS	**Hagfors**	**92.98**	**338**	LR	LR	22 53 11.9	
	comp=Z,33nm,18.2s,baz=99,slow=36						
NOA	**NORSAR Array B**	**93.18**	**340**	LR	LR	22 53 52.5	
	comp=Z,36nm,20.5s,baz=5.0,slow=36						
VRAC	**Vranov**	**99.18**	**329**	LR	LR	22 57 59.0	
	comp=Z,42nm,18.7s,baz=55,slow=37						

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*NEIC **12** 22:09:27.9±3.6, 30.70N×131.89E, h35km, mb3.9/1, Error ellipse: s-maj=81.3km s-min=13.0km az=101.0*
*IDC **12** 22:09:28.2±8.1, 30.74N×131.82E, h34km±48km, mb3.4/3, mb1 3.3/5, mb1mx3.2/19, mbtmp3.5/5, ML2.9/1, Error ellipse: s-maj=99.0km s-min=25.3km az=101.0*
*JMA **12** 22:09:29.6±0.1, 30.87N×131.71E, h46km±2km, M3.2*
ISC 12 22:09:27.5±1.6, 30.78N±0.06×131.8E±0.1, h43km±11km, n14, σ0§82/21, mb3.5/4, 8C, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**0.75**	**260**	⇑P	**P**	**22 09 42.8**	**+1.0**
JTN				S	**S**	**22 09 53.1**	**+0.8**
JTSR	**Tashiro 2**	**0.88**	**296**	⇑P	**P**	**22 09 43.3**	**-0.3**
JNAR	**Kushima--Naru**	**0.89**	**327**	⇑P	**P**	**22 09 44.1**	**+0.4**
JNAR				S	**S**	**22 09 54.4**	**-1.2**
JTZ	**Takazaki**	**1.29**	**330**	⇑P	**P**	**22 09 49.8**	**+0.4**
JTZ				S	**S**	**22 10 04.9**	**-0.8**
JSU	**Suzuyama**	**1.39**	**302**	⇑P	**P**	**22 09 50.9**	**0.0**
JKC	**Kuchinoerabu**	**1.46**	**258**	⇑P	**P**	**22 09 52.8**	**+1.0**
JKC				S	**S**	**22 10 10.1**	**+0.2**
JTSN	**Tsuno**	**1.48**	**349**	⇑P	**P**	**22 09 52.8**	**+0.5**
JTSN				S	**S**	**22 10 10.2**	**-0.5**
JZO	**Okuchi**	**1.72**	**322**	⇑P	**P**	**22 09 55.8**	**+0.2**
JNU	**Nakatsue**	**2.47**	**341**	Pn	**P**	**22 10 06.8**	**+0.5**
	4.4nm,0.3s,baz=169,slow=6.3,SNR=28						
JNU				Sn	**S**	**22 10 35.1**	**-0.3**
	6.1nm,0.3s,baz=357,slow=15,SNR=6.8						
JOW	**Kunigami**	**5.03**	**219**	Pn	**P**	**22 10 40.2**	**-2.2**
	1.0nm,0.3s,baz=73,slow=17,SNR=9.8						
JOW				Sn	**S**	**22 11 37.1**	**-2.9**
	1.7nm,0.3s,baz=102,slow=30,SNR=5.6						
SONM	**Songino Array**	**25.85**	**318**	P	**P**	**22 14 57.3**	**+0.6**
	0.6nm,0.5s,mb3.4,baz=124,slow=10,SNR=4.2						
MKAR	**Makanchi Array**	**41.09**	**307**	P	**P**	**22 17 08.8**	**+0.2**
	0.3nm,0.5s,mb3.2,baz=90,slow=13,SNR=4.3						
BRVK	**Borovoye**	**49.20**	**315**	*e*P	**P**	**22 18 13.4**	**+0.2**
	1.2nm,0.9s,mb3.9						
FINES	**FINESS Array B**	**70.47**	**331**	P	**P**	**22 20 39.0**	**-0.1**
	0.3nm,0.4s,mb3.5,baz=45,slow=5.4,SNR=5.3						

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*NEIC **12** 22:16:01.6, 61.94N×147.79W, h9km, ML3.8(AEIC), ML3.7(PMR), After AEIC.*
*IDC **12** 22:16:02.8±6.2, 61.90N×147.66W, h71km±41km, mb3.4/4, mb1 3.6/5, mb1mx3.4/16, mbtmp3.8/5, ML4.3/2, Error ellipse: s-maj=46.3km s-min=33.5km az=5.0*
ISC 12 22:15:59.3±0.6, 61.97N±0.01×147.78W±0.03, h10km±4km, n83, σ0§96/105, mb3.8/4, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCM	**Sheep Creek Mo**	**0.25**	**122**	P	**Sg**	**22 16 09.0**	**+0.8**
SML	**Sawmill**	**0.31**	**238**	P	**Sg**	**22 16 09.2**	**-0.8**
GHO	**Glory Hole Cre**	**0.58**	**250**	P	**Pb**	**22 16 12.5**	**+1.5**
GHO				S	**Sg**	**22 16 20.8**	**+2.0**
KNK	**Knik Glacier**	**0.65**	**210**	P	**Pb**	**22 16 13.5**	**+1.4**
PMR	**Palmer**	**0.75**	**240**	P	**Pb**	**22 16 14.4**	**+0.6**
PMR				S	**Sb**	**22 16 24.5**	**+0.7**
CFI	**College Fiord**	**0.79**	**180**	P	**Pb**	**22 16 15.4**	**+0.8**
CFI				S	**Sb**	**22 16 25.0**	**-0.1**
KLU	**Klutina**	**1.01**	**118**	P	**Pb**	**22 16 18.7**	**+0.4**
JPK	**Jack Peak**	**1.08**	**148**	P	**Pb**	**22 16 19.4**	**-0.1**
VLZ	**Valdez**	**1.09**	**140**	P	**Pb**	**22 16 19.1**	**-0.7**
TZL	**Tazlina**	**1.11**	**85**	P	**Pb**	**22 16 21.4**	**+1.3**
GLI	**Glacier Island**	**1.14**	**163**	P	**Pb**	**22 16 20.6**	**0.0**
GLI				S	**Sb**	**22 16 36.6**	**+1.2**
PWL	**Port Wells**	**1.15**	**194**	P	**Pb**	**22 16 20.9**	**+0.2**
PWL				S	**Sb**	**22 16 37.7**	**+2.2**
SDG	**Sourdough**	**1.19**	**61**	P	**Pb**	**22 16 22.2**	**+0.8**
CUT	**Chulitna**	**1.25**	**292**	P	**Pb**	**22 16 22.7**	**+0.3**
DIV	**Divide**	**1.28**	**130**	P	**Pb**	**22 16 22.0**	**-0.9**
DIV				S	**Sb**	**22 16 40.4**	**+1.1**
RC01	**Rabbit Creek A**	**1.29**	**228**	P	**Pb**	**22 16 23.4**	**+0.2**
FID	**Port Fidalgo**	**1.38**	**152**	P	**Pn**	**22 16 24.2**	**-0.4**
FIB	**Fire Island**	**1.40**	**236**	P	**Pn**	**22 16 26.0**	**+1.1**
PAX	**Paxson**	**1.47**	**46**	P	**Pn**	**22 16 26.5**	**+0.6**
PAX				S	**Sb**	**22 16 45.2**	**+0.4**
RND	**Reindeer**	**1.52**	**342**	P	**Pn**	**22 16 27.2**	**+0.5**
RND				S	**Sb**	**22 16 46.2**	**-0.3**
VOGL	**Vogel Lake**	**1.60**	**234**	P	**Pn**	**22 16 29.4**	**+1.5**
VOGL				S	**Sn**	**22 16 51.4**	**+2.6**
MPA	**Moose Pass**	**1.67**	**208**	P	**Pn**	**22 16 28.4**	**-0.4**
MPA				S	**Sn**	**22 16 49.8**	**-0.6**
HIN	**Hinchinbrook I**	**1.70**	**158**	P	**Pn**	**22 16 29.5**	**+0.3**
HIN				S	**Sn**	**22 16 50.1**	**-1.0**
EYAK	**Cordova Ski Ar**	**1.73**	**145**	P	**Pn**	**22 16 29.9**	**+0.3**
BMRM	**Bremner River**	**1.83**	**122**	P	**Pn**	**22 16 30.9**	**-0.2**
BMRM				S	**Sn**	**22 16 55.3**	**+0.9**
MCK	**McKinley**	**1.85**	**344**	P	**Pn**	**22 16 32.1**	**+0.8**
MCK				S	**Sn**	**22 16 55.1**	**+0.2**
SLKM	**Skilak Lake**	**1.88**	**220**	P	**Pn**	**22 16 32.3**	**+0.4**
SLKM				S	**Sn**	**22 16 56.2**	**+0.4**
SGAM	**Sherman Glacie**	**1.93**	**139**	P	**Pn**	**22 16 32.5**	**0.0**
LTI	**Latouche**	**1.94**	**181**	P	**Pn**	**22 16 31.7**	**-0.9**
GLB	**Gilahina Butte**	**1.96**	**104**	P	**Pn**	**22 16 33.0**	**0.0**
GLB				S	**Sn**	**22 16 57.7**	**-0.2**
DDM	**Donnelly Dome**	**2.02**	**25**	P	**Pn**	**22 16 36.2**	**+2.3**
SEW	**Seward**	**2.04**	**204**	P	**Pn**	**22 16 34.3**	**+0.1**
SEW				S	**Sn**	**22 17 00.2**	**+0.4**
MENT	**Mentasta**	**2.12**	**61**	P	**Pn**	**22 16 36.0**	**+0.7**
MENT				S	**Sn**	**22 17 03.5**	**+1.6**
KTH	**Kantishna Hill**	**2.15**	**319**	P	**Pn**	**22 16 36.3**	**+0.7**
KTH				S	**Sn**	**22 17 02.2**	**-0.3**
SPU	**Mount Spurr**	**2.19**	**251**	P	**Pn**	**22 16 36.4**	**+0.1**
BGL	**Barrier Glacie**	**2.31**	**254**	P	**Pn**	**22 16 38.8**	**+0.8**
CKL	**Chakachamna La**	**2.31**	**252**	P	**Pn**	**22 16 38.1**	**+0.1**
BWN	**Browne**	**2.34**	**342**	P	**Pn**	**22 16 38.5**	**+0.1**
DOT	**Dot Lake**	**2.40**	**44**	P	**Pn**	**22 16 40.0**	**+0.7**
HDA	**Harding Lake**	**2.47**	**8**	P	**Pn**	**22 16 41.4**	**+1.1**
WRH	**Wood River Hil**	**2.52**	**357**	P	**Pn**	**22 16 40.8**	**-0.1**
CRQM	**Cirque**	**2.54**	**117**	P	**Pn**	**22 16 41.2**	**-0.1**
RDT	**Redoubt**	**2.64**	**240**	P	**Pn**	**22 16 42.8**	**+0.1**
MID	**Middleton Isla**	**2.65**	**164**	P	**Pn**	**22 16 42.9**	**+0.1**
TGL	**Tana Glacier**	**2.68**	**115**	P	**Pn**	**22 16 42.5**	**

0.1nm,0.3s,baz=246,slow=14,SNR=3.0
AMAG Maghara 9.58 115 ⇓P **P 22 43 16.1 -5.1**
MLR Muntele Rosu 10.61 11 P **P 22 43 33.3 -1.8**
0.1nm,0.3s,baz=179,slow=12,SNR=3.5
VRAC Vranov 14.99 343 P **P 22 44 35.6 +2.7**
0.1nm,0.3s,baz=108,slow=8.4,SNR=4.2
GERES GERESS Array B 15.40 336 P **P 22 44 42.1 +4.0**
0.1nm,0.3s,baz=139,slow=12,SNR=4.8
HFS Hagfors 25.79 349 P **P 22 46 29.5 +0.1**
0.5nm,0.3s,mb3.4,baz=141,slow=9.5,SNR=5.9
FINES FINESS Array B 26.44 3 P **P 22 46 34.4 -1.0**
0.8nm,0.7s,mb3.2,baz=164,slow=14,SNR=5.3
FINES FINESS Array B 26.44 3 P **P 22 46 34.4 -1.0**
ARCES ARCESS Array B 34.52 1 P **P 22 47 45.6 -1.1**
0.8nm,0.7s,mb3.7,baz=187,slow=9.8,SNR=7.7
MKAR Makanchi Array 45.21 56 P **P 22 49 15.7 +0.4**
0.3nm,0.5s,mb3.2,baz=268,slow=8.1,SNR=6.3

*NEIC **12** 22:43:35.3, 19.87N×68.78W, h86km, MD3.9(RSPR), After RSPR.*
RSPR 12 22:43:35.3, 19.87N×68.78W, h86km±28km, MD3.9/7, MD3.9/7, 2C-5D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSP	**Las Mesas**	**2.33**	**136⇑**	*e*P	P	22 44 11.7	-0.9
LSP				*e*S	S	22 44 39.8	-0.4
LRS	**Lares**	**2.41**	**130⇓**	*e*P	P	22 44 11.9	-1.9
LRS				*e*S	S	22 44 40.7	-1.6
CRPR	**Cabo Rojo, PR**	**2.44**	**139⇓**	*e*P	P	22 44 12.2	-1.8
CRPR				*e*S	S	22 44 41.9	-1.1
AOPR	**Arecibo Observ**	**2.45**	**128⇓**	*e*P	P	22 44 12.4	-1.8
AOPR				*e*S	S	22 44 42.7	-0.5
MGP	**Maguayo**	**2.45**	**139⇓**	*e*P	P	22 44 13.1	-1.1
MGP				*e*S	S	22 44 42.6	-0.6
PORP	**Portuguez**	**2.72**	**131⇑**	*e*P	P	22 44 17.4	-0.6
PORP				*e*S	S	22 44 49.2	-0.7
MTP	**Monte Pirata**	**3.53**	**120⇓**	*e*P	P	22 44 28.4	-0.8
MTP				*e*S	S	22 45 08.7	-1.3

*IDC **12** 23:11:23.1±9.0, 60.43N×153.35W, h115km±73km, mb3.3/2, mb1 3.7/5, mb1mx3.2/18, mbtmp3.8/5, Error ellipse: s-maj=87.6km s-min=28.7km az=44.0*
*NEIC **12** 23:11:24.6, 60.33N×153.03W, h129km, MG3.3(AEIC), After AEIC.*
ISC 12 23:11:23.2±0.3, 60.38N±0.03×153.05W±0.07, h129km, n71, σ0§86/85, mb3.5/2, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSO	**Redoubt South**	**0.17**	**62**	P	**P**	**23 11 41.7**	**+0.8**
RSO				S	**S**	**23 11 56.1**	**+1.8**
ILIM	**Iliamna**	**0.31**	**172**	P	**P**	**23 11 41.8**	**+0.6**
ILIM				S	**S**	**23 11 55.5**	**+0.4**
INE	**Iliamna NE**	**0.32**	**181**	P	**P**	**23 11 41.9**	**+0.6**
INE				S	**S**	**23 11 56.3**	**+1.1**
ILW	**Iliamna West**	**0.33**	**188**	P	**P**	**23 11 41.9**	**+0.6**
ILW				S	**S**	**23 11 55.7**	**+0.5**
RDT	**Redoubt**	**0.37**	**59**	P	**P**	**23 11 42.3**	**+0.7**
RDT				S	**S**	**23 11 56.5**	**+1.0**
IVS	**Iliamna South**	**0.38**	**182**	P	**P**	**23 11 42.5**	**+0.9**
IVS				S	**S**	**23 11 57.0**	**+1.4**
OPT	**Oil Point**	**0.74**	**187**	P	**P**	**23 11 44.3**	**+0.5**
OPT				S	**S**	**23 12 00.4**	**+0.8**
CKL	**Chakachamna La**	**0.89**	**23**	P	**P**	**23 11 46.3**	**+1.3**
CKL				S	**S**	**23 12 03.5**	**+1.7**
CKT	**Bend**	**0.92**	**26**	P	**P**	**23 11 46.4**	**+1.1**
SPU	**Mount Spurr**	**0.94**	**31**	P	**P**	**23 11 46.5**	**+0.9**
SPU				S	**S**	**23 12 03.9**	**+1.3**
BGL	**Barrier Glacie**	**0.94**	**20**	P	**P**	**23 11 47.0**	**+1.5**
AUL	**Augustine Lava**	**1.02**	**191**	P	**P**	**23 11 46.5**	**+0.1**
AUW	**Augustine West**	**1.04**	**192**	P	**P**	**23 11 46.7**	**+0.2**
AUE	**Augustine Isla**	**1.04**	**189**	P	**P**	**23 11 46.5**	**-0.1**
AGU	**Augustine-Summ**	**1.04**	**191**	P	**P**	**23 11 46.9**	**+0.2**
XLV	**Seldovia**	**1.15**	**144**	P	**P**	**23 11 47.5**	**-0.2**
XLV				S	**S**	**23 12 05.9**	**-0.3**
CNPM	**China Poot**	**1.25**	**133**	P	**P**	**23 11 49.0**	**+0.2**
CNPM				S	**S**	**23 12 08.1**	**-0.2**
MCNL	**McNeil River**	**1.37**	**209**	P	**P**	**23 11 49.8**	**-0.3**
SLKM	**Skilak Lake**	**1.41**	**84**	*e*P	**P**	**23 11 50.3**	**-0.3**
VOGL	**Vogel Lake**	**1.43**	**63**	P	**P**	**23 11 52.2**	**+1.4**
SVW2	**Sparrevohn**	**1.44**	**301**	P	**P**	**23 11 50.5**	**-0.3**
FIB	**Fire Island**	**1.61**	**60**	P	**P**	**23 11 54.0**	**+1.2**
RC01	**Rabbit Creek A**	**1.77**	**65**	P	**P**	**23 11 54.9**	**+0.1**
SYI	**Shuyak Island**	**1.81**	**169**	P	**P**	**23 11 54.6**	**-0.6**
SEW	**Seward**	**1.82**	**97**	P	**P**	**23 11 55.2**	**-0.1**
MPA	**Moose Pass**	**1.83**	**85**	P	**P**	**23 11 55.2**	**-0.3**
KAPH	**Katmai Pasha**	**1.91**	**201**	P	**P**	**23 11 56.2**	**-0.2**
PMR	**Palmer**	**2.26**	**56**	P	**P**	**23 12 00.7**	**-0.2**
CUT	**Chulitna**	**2.43**	**32**	P	**P**	**23 12 03.5**	**+0.4**
CUT				S	**S**	**23 12 33.5**	**+0.2**
GHO	**Glory Hole Cre**	**2.44**	**53**	P	**P**	**23 12 02.4**	**-0.8**
GHO				S	**S**	**23 12 32.6**	**-1.0**
KABR	**Katmai Barrier**	**2.47**	**204**	P	**P**	**23 12 02.8**	**-0.8**
MGLS	**Mageik LS**	**2.47**	**209**	P	**P**	**23 12 03.7**	**0.0**
ANCK	**Angle Creek**	**2.52**	**211**	P	**P**	**23 12 03.8**	**-0.5**
CAHL	**Cahill**	**2.61**	**207**	P	**P**	**23 12 04.9**	**-0.5**
KDAK	**Kodiak Island**	**2.62**	**175**	P	**P**	**23 12 03.4**	**-2.2**
KDAK				S	**S**	**23 12 33.9**	**-3.9**
KJL	**Kejulik**	**2.67**	**210**	P	**P**	**23 12 06.1**	**-0.1**
SML	**Sawmill**	**2.70**	**56**	P	**P**	**23 12 06.4**	**-0.2**
TT01	**Tatalina**	**2.90**	**332**	P	**P**	**23 12 08.8**	**-0.5**
TTA	**Tatalina**	**2.92**	**332**	P	**P**	**23 12 08.8**	**-0.7**
GLI	**Glacier Island**	**2.98**	**78**	P	**P**	**23 12 10.1**	**-0.2**
SCM	**Sheep Creek Mo**	**3.13**	**60**	P	**P**	**23 12 11.2**	**-1.2**
FID	**Port Fidalgo**	**3.26**	**81**	P	**P**	**23 12 13.2**	**-0.8**
KTH	**Kantishna Hill**	**3.34**	**17**	P	**P**	**23 12 14.9**	**-0.1**
VLZ	**Valdez**	**3.38**	**74**	P	**P**	**23 12 15.4**	**-0.3**
MID	**Middleton Isla**	**3.51**	**103**	*e*P	**P**	**23 12 17.1**	**-0.3**
RND	**Reindeer**	**3.62**	**31**	P	**P**	**23 12 18.6**	**-0.3**
DIV	**Divide**	**3.65**	**75**	P	**P**	**23 12 19.3**	**+0.1**
KLU	**Klutina**	**3.65**	**69**	P	**P**	**23 12 17.8**	**-1.4**
MCK	**McKinley**	**3.88**	**28**	P	**P**	**23 12 22.3**	**+0.1**
SDG	**Sourdough**	**4.20**	**56**	P	**P**	**23 12 26.1**	**-0.4**
BMRM	**Bremner River**	**4.20**	**78**	P	**P**	**23 12 27.1**	**+0.5**
PAX	**Paxson**	**4.45**	**51**	P	**P**	**23 12 29.4**	**-0.5**
GLB	**Gilahina Butte**	**4.63**	**73**	P	**P**	**23 12 32.1**	**-0.3**
WRH	**Wood River Hil**	**4.70**	**27**	P	**P**	**23 12 32.2**	**-1.2**
CCB	**Clear Creek Bu**	**4.92**	**27**	P	**P**	**23 12 35.1**	**-1.1**
CHGN	**Chignik**	**4.97**	**217**	*e*P	**P**	**23 12 35.4**	**-1.5**
MENT	**Mentasta**	**5.13**	**56**	*e*P	**P**	**23 12 40.3**	**+1.3**
IL1	**Eielson Array**	**5.24**	**30**	P	**P**	**23 12 39.6**	**-0.9**
ILAR	**Eielson Array**	**5.24**	**30**	P	**P**	**23 12 39.6**	**-1.0**
3.2nm,0.3s,baz=214,slow=13,SNR=81							
BALM	**Baldy**	**5.30**	**78**	P	**P**	**23 12 41.0**	**-0.2**
DOT	**Dot Lake**	**5.35**	**48**	P	**P**	**23 12 41.5**	**-0.4**
IM3	**Indian Mountai**	**5.63**	**357**	P	**P**	**23 12 45.4**	**-0.3**
IMA	**Indian Mountai**	**5.71**	**357**	*e*P	**P**	**23 12 47.5**	**+0.7**
PNL	**Peninsula**	**6.88**	**90**	P	**P**	**23 13 01.7**	**-1.0**
BM3	**Burnt Mountain**	**7.97**	**24**	P	**P**	**23 13 15.0**	**-2.5**
INK	**Inuvik**	**11.55**	**38**	P	**P**	**23 14 04.9**	**+0.2**
0.5nm,0.3s,baz=234,slow=8.4,SNR=4.9							
DLBC	**Dease Lake**	**11.87**	**89**	S	**S**	**23 16 20.1**	**+0.9**
0.4nm,0.3s,baz=155,slow=26,SNR=7.0							
YKA	**Yellowknife Ar**	**18.32**	**67**	P	**P**	**23 15 28.6**	**-0.8**
0.4nm,0.3s,baz=279,slow=9.9,SNR=7.3							
YKA	**Yellowknife Ar**	**18.32**	**67**	P	**P**	**23 15 28.6**	**-0.9**
NVAR	**Mina Array Bea**	**30.93**	**119**	P	**P**	**23 17 31.1**	**+1.5**
0.5nm,0.5s,mb3.5,baz=316,slow=7.6,SNR=4.3							
BVAR	**Borovoye Array**	**61.72**	**332**	P	**P**	**23 21 27.4**	**-2.0**
0.5nm,0.7s,mb3.5,baz=18,slow=9.4,SNR=3.7							

*CSEM **12** 23:49:32.7±1.1, 38.66N×29.07W, h5km±5km, ML1.9, Error ellipse: s-maj=16.3km s-min=9.6km az=18.0, After PDA*
*PDA **12** 23:49:32.7±1.1, 38.66N×29.07W, h5km±5km, MD3.2, ML1.9, Error ellipse: s-maj=16.3km s-min=9.6km az=18.0*
SVSA 12 23:49:32.7±1.1, 38.66N×29.07W, h5km±5km, MD3.2, ML1.9, Error ellipse: s-maj=16.3km s-min=9.6km az=18.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.29**	**95**	*i*P	Pg	23 49 37.8	-0.7
PCED				*e*S	Sg	23 49 41.9	-0.4
53nm,0.2s							
PCED	**Cedros**	**0.29**	**95**	*e*S	Sg	23 49 41.9	-0.4
CALA	**Caldeira**	**0.29**	**104**	*e*P	Pg	23 49 38.1	-0.5
CALA				*e*S	Sg	23 49 42.2	-0.4
HOR	**Horta**	**0.36**	**110**	*e*S	Sg	23 49 43.7	-1.2
PICO	**Pico**	**0.53**	**107**	*e*P	Pg	23 49 42.0	-1.2
PICO				*e*S	Sg	23 49 49.0	-1.2
PMAN	**Manadas**	**0.77**	**91**	*e*S	Sg	23 49 54.6	-3.6
13nm,0.1s							

*IDC **12** 23:52:14.4±1.2, 18.50N×103.21W, mb4.1/9, mb1 4.3/9, mb1mx4.2/16, mbtmp4.1/9, ML3.0/1, MS3.5/6, Ms1 3.6/6, ms1mx3.3/17, Error ellipse: s-maj=59.8km s-min=18.8km az=65.0*
*NEIC **12** 23:52:16.7, 18.06N×103.64W, h30km, mb4.1/18, MD4.8(MEX), After MEX.*
NEIC Felt at Tecoman.
*MEX **12** 23:52:17.7±0.7, 18.20N×103.57W, h19km±42km, MD4.9*
ISC 12 23:52:16.6±1.5, 18.24N±0.05×103.53W±0.04, h32km±10km, n83, σ1§27/97, mb4.3/28, MS3.6/5, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	**Chamela**	**1.90**	**311**	*i*P	**Pn**	**23 52 46.5**	**-1.0**
CJM				*i*S	**Sn**	**23 53 08.2**	**-2.4**
CJM	**Chamela**	**1.90**	**311**	*e*P	**Pn**	**23 52 46.5**	**-1.0**
CJM				*i*S	**Sn**	**23 53 08.2**	**-2.4**
SFJM	**Santa Fe**	**2.28**	**12**	*i*P	**Pn**	**23 52 52.0**	**-0.9**
MOIG	**Morelia**	**2.63**	**57**	*e*P	**Pn**	**23 52 58.0**	**0.0**
MOIG				*i*S	**Sn**	**23 53 29.3**	**+0.1**
MOIG	**Morelia**	**2.63**	**57**	*e*P	**Pn**	**23 52 58.0**	**0.0**
MOIG				*i*S	**Sn**	**23 53 31.4**	**+2.3**
CAIG	**El Cayaco**	**3.33**	**110**	*e*P	**Pn**	**23 53 07.0**	**-0.8**
CAIG				*i*S	**Sn**	**23 53 44.6**	**-2.1**
CAIG	**El Cayaco**	**3.33**	**110**	*e*P	**Pn**	**23 53 07.0**	**-0.8**
CAIG				*i*S	**Sn**	**23 53 42.9**	**-3.9**
ACX	**Acapulco**	**3.71**	**111**	*i*P	**Pn**	**23 53 12.5**	**-0.7**
ACX				*i*S	**Sn**	**23 53 53.0**	**-3.3**
ACX	**Acapulco**	**3.71**	**111**	*i*P	**Pn**	**23 53 13.0**	**-0.2**
PLIG	**Platanillo**	**3.83**	**87**	*e*P	**Pn**	**23 53 13.6**	**-1.3**
PLIG				*i*S	**Sn**	**23 53 57.7**	**-1.7**
PLIG	**Platanillo**	**3.83**	**87**	*e*P	**Pn**	**23 53 17.4**	**+2.5**
PLIG				*i*S	**Sn**	**23 53 57.7**	**-1.7**
UNM	**Universidad Na**	**4.26**	**75**	*e*P	**Pn**	**23 53 22.0**	**+0.9**
UNM				*i*S	**Sn**	**23 54 13.0**	**+2.7**
YAIG	**Yautepec**	**4.28**	**81**	*e*P	**Pn**	**23 53 20.6**	**-0.7**
YAIG				*i*S	**Sn**	**23 54 10.3**	**-0.5**
YAIG	**Yautepec**	**4.28**	**81**	*e*P	**Pn**	**23 53 23.7**	**+2.4**
YAIG				*i*S	**Sn**	**23 54 10.3**	**-0.5**
ZAIG	**Zacatecas**	**4.59**	**11**	*e*P	**Pn**	**23 53 26.7**	**+0.9**
ZAIG				*i*S	**Sn**	**23 54 19.8**	**+1.1**
ZAIG	**Zacatecas**	**4.59**	**11**	*e*P	**Pn**	**23 53 26.7**	**+0.9**
ZAIG				*i*S	**Sn**	**23 54 22.7**	**+4.0**
PPM	**Popocatepetl**	**4.72**	**79**	*e*P	**Pn**	**23 53 29.0**	**+1.4**
PNIG	**Pinotepa**	**5.48**	**109**	*i*S	**Sn**	**23 54 40.9**	**0.0**
MAIG	**Mazatlaan**	**5.62**	**332**	*i*P	**Pn**	**23 53 38.9**	**-1.3**
MAIG				*i*S	**Sn**	**23 54 44.8**	**+0.4**
VHO	**Vista Hermosa**	**6.58**	**99**	*i*P	**Pn**	**23 53 54.5**	**+0.7**
OXX	**Oaxaca**	**6.59**	**99**	*e*P	**Pn**	**23 53 54.0**	**+0.1**
OXX				*i*S	**Sn**	**23 55 10.0**	**+1.3**
CMIG	**Matias Romero**	**8.32**	**97**	*e*P	**P**	**23 54 17.9**	**-0.1**
CMIG				*i*S	**Sn**	**23 55 51.6**	**-0.4**
CMIG	**Matias Romero**	**8.32**	**97**	*e*P	**P**	**23 54 17.9**	**-0.1**
CMIG				*i*S	**Sn**	**23 56 11.8**	**+20**
LTX	**Lajitas**	**11.04**	**359**	*e*P	**P**	**23 54 54.9**	**-0.7**
40nm,1.4s							
MNTX	**Cornudas Mount**	**13.50**	**353**	*e*P	**P**	**23 55 29.6**	**+1.0**
4.9nm,0.9s							
TUC	**Tucson**	**15.46**	**336**	Pn	**P**	**23 55 57.1**	**+2.9**
5.7nm,1.0s							
TUC				*ep*P		23 56 06.4	
NATX	**Nacogdoches**	**15.66**	**29**	Pn	**P**	**23 55 53.5**	**-3.3**
73nm,0.8s							
NATX				*ep*Pn		23 55 59.4	
BNM	**Barren Site**	**16.08**	**351**	*e*P	**P**	**23 56 04.5**	**+2.4**
BNM				*ep*P		23 56 12.7	
LAZ	**Ladron**	**16.41**	**349**	P	**P**	**23 56 06.5**	**+0.2**
ANMO	**Albuquerque**	**16.84**	**352**	Pn	**P**	**23 56 09.2**	**-2.6**
baz=190,slow=11,SNR=1.8							
ANMO				LR	LR	00 02 04.8	
comp=Z,109nm,20.2s,slow=36							
ANMO	**Albuquerque**	**16.84**	**352**	*e*P	**P**	**23 56 13.7**	**+2.0**
3.4nm,0.9s							
ANMO				LR	LR	00 02 04.8	
WMOK	**Wichita Mounta**	**16.96**	**14**	*e*P	**P**	**23 56 10.6**	**-2.7**
3.2nm,1.0s							
WMOK				*e*		23 56 19.8	
PFO	**Pinyon Flat Ob**	**19.19**	**325**	*e*P	**P**	**23 56 42.2**	**+1.6**
6.4nm,1.0s							
PFO				*ep*P		23 56 50.4	
SDCO	**Great Sand Dun**	**19.51**	**355**	*e*P	**P**	**23 56 44.2**	**+0.1**
15nm,1.2s							
SDCO				*ep*P		23 56 53.7	
LDFC	**Landfair**	**19.68**	**331**	*e*P	**P**	**23 56 47.4**	**+1.3**
NEN	**Nelson**	**20.03**	**332**	*e*P	**P**	**23 56 51.1**	**+1.3**
LRAL	**Lakeview Retre**	**20.91**	**42**	*e*P	**P**	**23 56 55.2**	**-3.7**
9.8nm,0.9s							
SMCO	**Snowmass**	**21.07**	**353**	*e*P	**P**	**23 56 59.7**	**-0.8**
SMCO				*ep*P		23 57 07.0	
MSU	**Marysvale**	**21.56**	**341**	*e*P	**P**	**23 57 04.5**	**-1.0**
PLAL	**Pickwick Lake**	**21.60**	**36**	*e*P	**P**	**23 57 02.7**	**-3.2**
8.3nm,0.6s,mb4.3							
CCM	**Cathedral Cave**	**22.47**	**26**	*e*P	**P**	**23 57 11.2**	**-3.4**
5.8nm,0.6s,mb4.2							
CCM				*ep*P		23 57 17.4	
WVT	**Waverly**	**22.58**	**35**	*e*P	**P**	**23 57 11.9**	**-3.8**
6.0nm,0.8s,mb4.1							
CPCT	**Cooper Cave**	**24.04**	**41**	*e*P	**P**	**23 57 27.0**	**-2.9**
CPCT				*ep*P		23 57 33.6	
MYNC	**Murphy**	**24.04**	**42**	*e*P	**P**	**23 57 27.1**	**-2.8**
18nm,0.8s,mb4.6							
MYNC				*ep*P		23 57 34.5	
ELK	**Elko**	**24.59**	**338**	*e*P	**P**	**23 57 36.9**	**+1.7**
0.8nm,0.5s,mb3.5							
CMB	**Columbia Colle**	**24.62**	**327**	P	**P**	**23 57 37.5**	**+2.0**
4.4nm,0.9s,mb4.0							
CMB				*ep*P		23 57 43.7	
WCI	**Wyandotte Cave**	**24.96**	**34**	*e*P	**P**	**23 57 36.2**	**-2.6**
12nm,0.7s,mb4.5							
PDAR	**Pinedale Array**	**24.98**	**349**	P	**P**	**23 57 38.4**	**-0.5**
0.5nm,0.8s,mb3.1,baz=158,slow=8.0,SNR=7.0							
PDAR				PcP	PcP	00 01 13.9	-0.5
0.7nm,0.7s,baz=153,slow=3.3,SNR=5.5							
TZTN	**Tazewell**	**25.34**	**40**	*e*P	**P**	**23 57 39.1**	**-3.3**
LOHW	**Long Hollow**	**25.99**	**348**	P	**P**	**23 57 48.3**	**0.0**
1.7nm,0.6s,mb3.8							
FWV	**Forest Hill**	**27.70**	**41**	*e*P	**P**	**23 57 59.5**	**-4.6**
FWV				*ep*P	pP	23 58 07.8	-5.5
BLA	**Blacksburg**	**27.72**	**42**	*e*P	**P**	**23 57 59.5**	**-4.8**
6.9nm,0.9s,mb4.3							
BLA				*ep*P	pP	23 58 07.7	-5.8
YBH	**Yreka Blue Hor**	**28.58**	**329**	LR	LR	00 11 06.6	
comp=Z,33nm,18.6s,MS3.0,baz=295,slow=40							
YKA	**Yellowknife Ar**	**44.88**	**353**	LR	LR	00 20 51.6	
comp=Z,274nm,18.0s,MS4.2,baz=155,slow=38							
SAML	**Samuel**	**48.12**	**121**	*e*P	**P**	**00 00 50.9**	**-5.1**
6.2nm,1.3s,mb4.5							
LPAZ	**La Paz**	**48.91**	**132**	P	**P**	**00 01 03.1**	**+1.1**
0.6nm,0.6s,mb3.8,baz=310,slow=7.8,SNR=4.7							
LPAZ	**La Paz**	**48.91**	**132**	*e*P	**P**	**00 00 54.9**	**-7.1**
1.2nm,0.8s,mb4.0							
SLKM	**Skilak Lake**	**53.63**	**333**	*e*P	**P**	**00 01 36.4**	**-0.7**
RSO	**Redoubt South**	**54.70**	**333**	P	**P**	**00 01 44.4**	**-0.5**
ILAR	**Eielson Array**	**54.74**	**339**	P	**P**	**00 01 44.7**	**-0.5**
4.3nm,0.8s,mb4.5,baz=148,slow=5.6,SNR=25							
ILAR				PcP	PcP	00 02 47.0	-0.4
1.4nm,0.6s,baz=155,slow=3.0,SNR=8.4							
SPU	**Mount Spurr**	**54.75**	**334**	*e*P	**P**	**00 01 44.5**	**-0.8**
CPUP	**Villa Florida**	**63.06**	**133**	P	**P**	**00 02 43.1**	**-0.3**
2.1nm,0.7s,mb4.4,baz=354,slow=9.4,SNR=7.2							
PLCA	**Paso Flores**	**66.20**	**153**	P	**P**	**00 03 05.1**	**+1.5**
1.4nm,0.8s,mb4.0,baz=322,slow=11,SNR=3.7							
GRR	**Gorron**	**84.66**	**41**	*e*P	**P**	**00 04 48.2**	**-0.3**
23nm,1.0s,mb5.0							
FLN	**La Foliniere**	**84.76**	**40**	*e*P	**P**	**00 04 49.7**	**+0.7**
31nm,0.9s,mb5.2							
FLN				*e*R			
69nm,17.5s							
LDF	**La Druitiere**	**85.04**	**40**	*e*P	**P**	**00 04 51.0**	**+0.6**
24nm,1.0s,mb5.0							
ARCES	**ARCESS Array B**	**85.37**	**16**	P	**P**	**00 04 51.2**	**-0.3**
2.2nm,0.8s,mb4.4,baz=319,slow=4.0,SNR=12							
ARCES				LR	LR	00 44 34.3	
comp=Z,32nm,18.9s,MS3.7,baz=75,slow=37							
NB2	**NORSAR Subarra**	**85.51**	**26**	P	**P**	**00 04 52.0**	**-0.4**
1.0nm,0.7s,mb4.2,baz=299,slow=4.8							
NOA	**NORSAR Array B**	**85.51**	**26**	P	**P**	**00 04 52.6**	**+0.2**
1.7nm,0.8s,mb4.3,baz=300,slow=4.7,SNR=7.3							
NOA				LR	LR	00 42 05.7	
comp=Z,15nm,18.2s,MS3.4,baz=55,slow=35							
ESDC	**Sonseca Array**	**85.64**	**50**	P	**P**	**00 04 53.9**	**+0.3**
2.4nm,0.8s,mb4.5,baz=302,slow=5.5,SNR=15							
SJPF	**Ste Jean**	**86.35**	**46**	*e*P	**P**	**00 04 57.6**	**+0.6**
ETSF	**Etsaut**	**86.89**	**46**	*e*P	**P**	**00 05 00.5**	**+0.8**
9.1nm,0.7s,mb4.8							
LFF	**La Frestale**	**86.98**	**44**	*e*P	**P**	**00 05 00.6**	**+0.6**
17nm,0.8s,mb5.0							
BAIF	**Baives**	**87.06**	**38**	*e*P	**P**	**00 05 01.0**	**+0.7**
RJF	**Les Rejaudoux**	**87.34**	**43**	*e*P	**P**	**00 05 01.2**	**-0.6**
11nm,0.9s,mb4.8							
RJF				*e*R			
67nm,19.5s							
TCF	**Toulx Ste Croi**	**87.40**	**42**	*e*P	**P**	**00 05 02.3**	**+0.3**
4.0nm,0.8s,mb4.4							
EPF	**Esparros**	**87.45**	**45**	*e*P	**P**	**00 05 02.9**	**+0.5**
8.2nm,0.7s,mb4.7							
AVF	**Avril sur Loir**	**87.91**	**41**	*e*P	**P**	**00 05 04.6**	**+0.1**
LOR	**Lormes**	**88.03**	**41**	*e*P	**P**	**00 05 04.3**	**-0.7**
2.6nm,0.5s,mb4.4							
LOR				*e*R			
57nm,18.8s							
MEZF	**Maizieres J'vi**	**88.23**	**39**	*e*P	**P**	**00 05 06.8**	**+0.9**
FINES	**FINESS Array B**	**91.05**	**22**	LR	LR	00 44 44.3	
comp=Z,23nm,18.9s,MS3.6,baz=310,slow=35							
GERES	**GERESS Array B**	**93.08**	**36**	P	**P**	**00 05 27.8**	**-0.6**
0.4nm,0.8s,mb3.9,baz=323,slow=6.7,SNR=4.9							
MKAR	**Makanchi Array**	**115.06**	**356**	PKP	PKPdf	00 10 57.8	-2.0
0.4nm,0.6s,baz=297,slow=2.7,SNR=3.6							

*CNRM **13** 00:36:28.8, 35.03N×5.33W, h30km, MD3.4*
*MDD **13** 00:36:30.8±0.6, 34.90N×5.22W, h37km±21km, mb3.7/12, mbLg2.0/15, Error ellipse: s-maj=7.2km s-min=5.4km az=69.0, PRXIMO*
*CSEM **13** 00:36:30.1±0.2, 34.83N×5.21W, h30km, ML3.2/3, Error ellipse: s-maj=4.7km s-min=3.1km az=82.0*
*INMG **13** 00:36:31.5±0.8, 35.21N×5.37W, ML2.1, Error ellipse: s-maj=10.6km s-min=3.4km az=179.0*
ISC 13 00:36:26.7±0.5, 34.97N±0.03×5.34W±0.04, h10km, n39, σ1§60/67, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAL	**Palmes**	**1.17**	**77**	*i*P	**Pb**	**00 36 48.0**	**-0.6**
MPAL				*i*S	**Sb**	**00 37 02.0**	**-1.7**
TZK	**Tazeka**	**1.29**	**132**	*i*P	**Pb**	**00 36 50.0**	**-0.7**
TZK				*i*S	**Sb**	**00 37 07.0**	**-0.2**
TOU	**Touzarine**	**1.30**	**90**	*i*P	**Pb**	**00 36 49.0**	**-1.8**
TOU				*i*S	**Sb**	**00 37 05.0**	**-2.4**
EMIJ	**Mijas**	**1.66**	**16**	P	**Pn**	**00 36 57.1**	**+1.0**
3.2nm,0.2s,SNR=19							
EMIJ				S	**Sn**	**00 37 16.9**	**-0.6**
6.4nm,0.3s,SNR=4.5							
EMIJ	**Mijas**	**1.66**	**16**	P	**Pn**	**00 36 56.9**	**+0.8**
3.2nm,0.2s,SNR=19							
EMIJ				S	**Sn**	**00 37 16.9**	**-0.6**
6.4nm,0.3s,SNR=4.5							
ESPR	**Espera**	**1.94**	**348**	P	**Pn**	**00 37 03.1**	**+3.0**
2.0nm,0.2s,SNR=6.7							
ESPR				S	**Sn**	**00 37 25.1**	**+0.4**
7.9nm,0.3s,SNR=5.0							
ESPR	**Espera**	**1.94**	**348**	P	**Pn**	**00 37 03.3**	**+3.2**
2.0nm,0.2s,SNR=6.7							
CZD	**Col de Zad**	**1.95**	**173**	*e*P	**Pn**	**00 37 00.0**	**-0.2**
CZD				*i*S	**Sn**	**00 37 21.0**	**-3.9**
EALB	**Alboran**	**2.12**	**62**	P	**Pn**	**00 37 03.2**	**+0.6**
3.7nm,0.1s,SNR=4.0							
EALB				S	**Sn**	**00 37 25.0**	**-4.2**
5.6nm,0.2s,SNR=7.9							
EALB	**Alboran**	**2.12**	**62**	P	**Pn**	**00 37 03.2**	**+0.6**
3.7nm,0.1s,SNR=4.0					

WEL 13 01:16:42.9±0.5, 37.13S×179.63W, h33km, ML3.8/5, Error ellipse: s-maj=4.8km s-min=3.7km az=90.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.70**	**254**	PN	Pn	01 17 09.4	-1.3
MXZ				*e*SN	Sn	01 17 29.8	-1.7
PUZ	**Puketiti**	**1.92**	**240**	PN	Pn	01 17 13.3	-0.6
PUZ				*e*SN	Sn	01 17 35.1	-2.1
MWZ	**Matawai**	**2.55**	**241**	PN	Pn	01 17 21.7	-1.2
MWZ				*e*SN	Sn	01 17 51.3	-1.9
URZ	**Urewera**	**2.82**	**245**	*e*PN	Pn	01 17 24.7	-2.1
URZ				*e*SN	Sn	01 17 57.4	-2.6
KNZ	**Kokohu**	**2.84**	**227**	PN	Pn	01 17 25.2	-2.0
KNZ				SN	Sn	01 17 57.2	-3.5
BKZ	**Black Stump Fm**	**3.67**	**235**	*e*PN	Pn	01 17 36.6	-2.2

*ISK **13** 01:23:06.9, 39.32N×41.04E, h5km, MD3.8*
*CSEM **13** 01:23:06.9, 39.32N×41.04E, h5km, MD3.8, After ISK*

ISC 13 01:23:08.5±0.3, 39.34N±0.03×41.05E±0.04, h5km, n35, σ0§83/48, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZM	**Erzurum**	**0.61**	**23**	*i* PG	**Pg**	**01 23 19.9**	**-0.9**
ERZM	**Erzurum**	**0.62**	**23**	*i* P	**Pg**	**01 23 18.8**	**-2.0**
ERZM				*i* S	**Sg**	**01 23 29.9**	**+0.9**
BTMT	**Batman**	**1.20**	**163**	*i* PN	**Pn**	**01 23 30.8**	**-1.0**
PTK	**Pertek**	**1.36**	**251**	*i* PN	**Pn**	**01 23 32.9**	**-1.3**
PTK				*i* SN	**Sn**	**01 23 53.2**	**+0.4**
BEST	**Besiri**	**1.46**	**173**	*i* P	**Pn**	**01 23 35.5**	**0.0**
BEST				*i* S	**Sb**	**01 23 56.8**	**+2.4**
DIY	**Diyarbakir**	**1.58**	**204**	*i* PN	**Pn**	**01 23 37.2**	**0.0**
DIY				*i* SN	**Sn**	**01 23 58.8**	**+0.5**
GUMT	**Gumushane**	**1.65**	**313**	PN	**Pn**	**01 23 38.5**	**+0.3**
ELZG	**Elazig**	**1.82**	**243**	*i* P	**Pn**	**01 23 40.3**	**-0.4**
ELZG				*i* S	**Sn**	**01 24 09.6**	**+5.3**
ARTV	**Artvin**	**1.96**	**20**	*i* P	**Pn**	**01 23 42.8**	**0.0**
ARTV				*i* S	**Sn**	**01 24 11.0**	**+3.0**
VANB	**Van**	**1.97**	**111**	PN	**Pn**	**01 23 43.2**	**+0.3**
TVAN	**Van**	**2.01**	**113**	*i* P	**Pn**	**01 23 43.3**	**-0.1**
TVAN				*i* S	**Sn**	**01 24 14.6**	**+5.4**
KARS	**Kars**	**2.02**	**50**	PN	**Pn**	**01 23 43.8**	**+0.2**
MARD	**Mardin**	**2.03**	**186**	*i* P	**Pn**	**01 23 43.9**	**+0.1**
MARD				*i* S	**Sn**	**01 24 11.1**	**+1.2**
VANT	**Van**	**2.03**	**115**	PN	**Pn**	**01 23 42.4**	**-1.3**
DIGO	**Kars**	**2.09**	**58**	*i* P	**Pn**	**01 23 44.0**	**-0.5**
DIGO				*i* S	**Sn**	**01 24 15.5**	**+4.3**
SIRT	**Sirnak**	**2.14**	**149**	PN	**Pn**	**01 23 44.4**	**-0.8**
BCA	**Borcka**	**2.15**	**12**	PN	**Pn**	**01 23 45.5**	**+0.1**
CLDR	**Caldiran**	**2.24**	**94**	PN	**Pn**	**01 23 46.9**	**+0.3**
MYA	**Malataya**	**2.29**	**245**	PN	**Pn**	**01 23 47.5**	**+0.1**
MALT	**Malatya**	**2.29**	**244**	PN	**Pn**	**01 23 47.4**	**-0.1**
URFA	**Urfa**	**2.58**	**223**	PN	**Pn**	**01 23 51.0**	**-0.6**
GRSN	**GIRESUNGRSN**	**2.66**	**307**	*i* P	**Pn**	**01 23 52.5**	**-0.2**
GRSN				*i* S	**Sn**	**01 24 31.1**	**+5.5**
HKR	**Hakkari**	**2.75**	**129**	*e*PN	**Pn**	**01 23 53.5**	**-0.5**
GNI	**Garni**	**2.96**	**73**	PN	**Pn**	**01 23 56.6**	**-0.4**
SVSK	**Karacayir**	**3.18**	**282**	*e*PN	**Pn**	**01 24 00.6**	**+0.5**
SVST	**Sivas**	**3.20**	**279**	*e*P	**Pb**	**01 24 07.1**	**+1.6**
SVST				*i* S	**Sg**	**01 24 59.8**	**+4.9**
GZT	**Gaziantep**	**3.38**	**235**	*i* P	**Pn**	**01 24 02.5**	**-0.4**
GZT				*i* S	**Sb**	**01 24 55.1**	**+4.9**
MSL	**Mosul**	**3.45**	**151**	*e*Pn	Px	01 24 20.0	
MSL				*e*Sn	Sx	01 25 07.0	
TBLG	**Delisi**	**3.69**	**48**	P	**Pn**	**01 24 07.3**	**-0.1**
TBLG				S	**Pg**	**01 24 23.3**	**+1.2**
ONI	**Oni**	**3.71**	**29**	P	**Pb**	**01 24 14.9**	**+0.6**
ONI				S	**Sb**	**01 25 05.0**	**+5.1**
GAZ	**Gaziantep**	**3.72**	**236**	*e*PN	**Pn**	**01 24 08.0**	**+0.2**
DGRG	**David-gareji**	**3.92**	**56**	P	**Pn**	**01 24 10.8**	**+0.2**
BNN	**Bunyan**	**4.08**	**265**	*e*PN	**Pn**	**01 24 12.6**	**-0.3**
KVT	**Kavak**	**4.21**	**296**	*e*PN	**Pn**	**01 24 13.9**	**-0.8**
KAMT	**Kaman**	**5.69**	**273**	*e*PN	**Pn**	**01 24 35.3**	**-0.4**

*IDC **13** 01:51:24.9±9.3, 12.62S×168.54E, h649km±117km, mb3.3/4, mb1 3.5/4, mb1mx3.1/12, mbtmp4.4/4, Error ellipse: s-maj=74.0km s-min=58.0km az=131.0*

ISC 13 01:51:20.3±2.1, 12.5S±0.5×168.6E±0.4, h600km, n31, σ0§17/6, mb4.2/5, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**31.40**	**228**	P	**P**	**01 56 55.3**	**0.0**
	1.2nm,0.4s,mb3.9,baz=55,slow=8.8,SNR=11						
WB2	**Warramunga Arr**	**33.64**	**253**	*e*P	**P**	**01 57 14.3**	**+0.1**
WRA	**Warramunga Arr**	**33.66**	**253**	P	**P**	**01 57 14.1**	**-0.2**
	3.7nm,0.3s,mb4.5,baz=84,slow=8.7,SNR=57						
KAKA	**Kakadu**	**35.27**	**266**	*e*P	**P**	**01 57 38.3**	**+11**
	4.8nm,0.2s,mb4.8						
FITZ	**Fitzroy Crossi**	**41.73**	**257**	P	**P**	**01 58 20.2**	**+0.1**
	4.7nm,0.8s,mb4.1,baz=50,slow=4.5,SNR=7.7						
ILAR	**Eielson Array**	**84.06**	**18**	P	**P**	**02 02 49.5**	**0.0**
	1.0nm,0.5s,mb3.6,baz=230,slow=7.0,SNR=9.2						
ARCES	**ARCESS Array B**	**118.46**	**346**	PKP	PKPdf	02 08 59.8	-0.3
	1.1nm,0.7s,baz=62,slow=2.0,SNR=10						
FLN	**La Foliniere**	**142.77**	**348**	*e*PKP1	PKPdf	02 09 44.6	-1.4
	8.7nm,0.8s						
LDF	**La Druitiere**	**142.85**	**348**	*e*PKP1	PKPdf	02 09 45.7	-0.5
CABF	**La Chapelle**	**142.97**	**340**	*e*PKP1	PKPdf	02 09 46.2	-0.2
LOR	**Lormes**	**143.09**	**343**	*e*PKP1	PKPbc	02 09 46.1	+0.9
GRR	**Gorron**	**143.20**	**348**	*e*PKP1	PKPbc	02 09 46.5	+1.0
	13nm,0.7s						
SSF	**Saint Saulge**	**143.38**	**343**	*e*PKP1	PKPbc	02 09 47.3	+1.2
	6.7nm,0.6s						
SGMF	**Saint Gilles**	**143.64**	**350**	*e*PKP1	PKPbc	02 09 47.7	+0.9
	4.6nm,0.4s						
SMF	**Signal de Mont**	**143.65**	**342**	*e*PKP1	PKPbc	02 09 48.3	+1.4
	3.6nm,0.5s						
AVF	**Avril sur Loir**	**143.67**	**343**	*e*PKP1	PKPbc	02 09 48.3	+1.3
	2.9nm,0.6s						
LPL	**La Plagne**	**143.69**	**338**	*e*PKP1	PKPbc	02 09 49.7	+2.6
LPG	**La Plagne**	**143.70**	**338**	*e*PKP1	PKPbc	02 09 49.9	+2.8
BGF	**Bois d'Agland**	**144.02**	**343**	*e*PKP1	PKPbc	02 09 48.7	+0.7
QUIF	**Quistinic**	**144.07**	**351**	*e*PKP1	PKPbc	02 09 47.8	-0.3
TCF	**Toulx Ste Croi**	**144.45**	**344**	*e*PKP1	PKPbc	02 09 51.4	+2.2
	1.7nm,0.4s						
ORIF	**Oris-en-Rattie**	**144.52**	**339**	*e*PKP1	PKPbc	02 09 51.4	+1.9
	4.9nm,0.7s						
MFF	**Saint Martin d**	**144.75**	**347**	*e*PKP1	PKPbc	02 09 51.2	+1.1
	17nm,0.9s						
SBF	**Sospel**	**144.83**	**336**	*e*PKP1	PKPbc	02 09 52.5	+2.1
PGF	**Pioggiola**	**145.25**	**333**	*e*PKP1	PKPbc	02 09 52.6	+1.1
FRF	**La Foret Royal**	**145.39**	**337**	*e*PKP1	PKPbc	02 09 52.8	+0.9
	5.6nm,0.6s						
RJF	**Les Rejaudoux**	**145.54**	**344**	*e*PKP1	PKPbc	02 09 54.1	+1.9
	1.9nm,0.5s						
LMR	**La Mourre**	**145.64**	**337**	*e*PKP1	PKPbc	02 09 53.5	+1.0
	3.0nm,0.5s						
LASF	**Ste Croix**	**145.95**	**340**	*e*PKP1	PKPbc	02 09 54.9	+1.7
LFF	**La Frestale**	**146.09**	**344**	*e*PKP1	PKPbc	02 09 55.1	+1.6
	7.0nm,0.6s						
MTLF	**Montolieu**	**147.13**	**342**	*e*PKP1	PKPdf	02 09 57.9	+4.3
	4.4nm,0.7s						

*IDC **13** 02:01:54.3±5.5, 14.55S×175.07W, mb4.2/1, mb1 4.2/1, mb1mx3.6/9, mbtmp4.2/1, Error ellipse: s-maj=396.7km s-min=43.2km az=134.0*

LDG 13 02:02:01.8±0.6, 18.06S×166.39E, h10km, Error ellipse: s-maj=145.5km s-min=8.7km az=85.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.99**	**179**	*e*P	Pn	02 03 01.8	-2.7
DZM				*e*S	Sn	02 03 44.8	-7.2
ARCES	**ARCESS Array B**	**123.23**	**345**	PKP	PKPdf	02 20 53.5	-8.1
	1.3nm,0.8s,baz=45,slow=1.7,SNR=7.7						
FINES	**FINESS Array B**	**128.46**	**337**	PKP	PKPdf	02 21 05.6	-6.3
	0.8nm,1.0s,baz=45,slow=3.9,SNR=4.1						
KECS	**Kecovo**	**138.95**	**325**	*e*	PKPdf	02 21 26.8	-4.9
DPC	**Dobruska-Polom**	**139.88**	**330**	*e*P	PKPdf	02 21 26.3	-7.1
UPC	**Upice**	**139.92**	**331**	*e*P	PKPdf	02 21 26.0	-7.4
SMOL	**Smolenice**	**140.54**	**327**	*e*	PKPdf	02 21 29.5	-5.1
PVCC	**Panska Ves**	**140.57**	**332**	*e*P	PKPdf	02 21 28.1	-6.5
PRU	**Pruhonice**	**140.96**	**331**	*e*P	PKPdf	02 21 28.9	-6.4
KHC	**Kasperske Hory**	**142.01**	**331**	*e*P	PKPdf	02 21 32.5	-4.6
GERES	**GERESS Array B**	**142.16**	**330**	PKPbc	PKPdf	02 21 32.5	-4.9
	2.7nm,0.6s,baz=28,slow=2.9,SNR=32						
CDF	**Champ du Feu**	**145.28**	**335**	*e*PKP1	PKPbc	02 21 40.3	+0.1
	4.2nm,0.8s						
HINF	**Hinteralfeld**	**145.93**	**335**	*e*PKP1	PKPbc	02 21 41.7	-0.2
	2.5nm,0.6s						
HAU	**Haudompre**	**145.97**	**336**	*e*PKP1	PKPbc	02 21 41.8	-0.2
	5.1nm,0.6s						
MEZF	**Maizieres J'vi**	**146.05**	**338**	*e*PKP1	PKPbc	02 21 42.3	+0.2
	20nm,1.0s						
CABF	**La Chapelle**	**147.21**	**335**	*e*PKP1	PKPdf	02 21 45.2	-0.9
	4.7nm,0.6s						
LOR	**Lormes**	**147.52**	**338**	*e*PKP1	PKPdf	02 21 45.1	-1.5
	2.7nm,0.7s						
FLN	**La Foliniere**	**147.57**	**344**	*e*PKP1	PKPdf	02 21 44.2	-2.4
LDF	**La Druitiere**	**147.62**	**343**	*e*PKP1	PKPdf	02 21 44.3	-2.4
LPL	**La Plagne**	**147.81**	**333**	*e*PKP1	PKPdf	02 21 46.7	-0.4
LPG	**La Plagne**	**147.81**	**333**	*e*PKP1	PKPdf	02 21 46.8	-0.3
SSF	**Saint Saulge**	**147.82**	**338**	*e*PKP1	PKPdf	02 21 45.9	-1.2
MFF	**Saint Martin d**	**149.44**	**342**	*e*PKP1	PKPdf	02 21 49.4	-0.3

*NEIC **13** 02:39:55.7, 19.10N×68.10W, h88km, MD3.8(RSPR), After RSPR.*

RSPR 13 02:39:55.7, 19.10N×68.10W, h88km±9km, MD3.8/10, MD3.8/10, 6C-4D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPR	**Mayaguez**	**1.27**	**134**	⇓*e*P	P	02 40 18.4	-0.5
MPR				*e*S	S	02 40 35.2	-1.0
LSP	**Las Mesas**	**1.33**	**134**	⇑*e*P	P	02 40 18.3	-1.4
LSP				*e*S	S	02 40 36.8	-0.7
LRS	**Lares**	**1.44**	**124**	⇓*e*P	P	02 40 20.0	-1.1
LRS				*e*S	S	02 40 39.0	-0.8
CRPR	**Cabo Rojo, PR**	**1.44**	**139**	⇑*e*P	P	02 40 20.1	-1.0
CRPR				*e*S	S	02 40 39.8	-0.1
MGP	**Maguayo**	**1.45**	**139**	⇑*e*P	P	02 40 20.3	-0.9
MGP				*e*S	S	02 40 38.7	-1.4
AOPR	**Arecibo Observ**	**1.48**	**120**	⇓*e*P	P	02 40 20.8	-0.8
PORP	**Portuguez**	**1.74**	**127**	⇓*e*P	P	02 40 24.6	-0.3
PORP				*e*S	S	02 40 45.7	-0.7
SJG	**San Juan**	**2.10**	**118**	⇑*e*P	P	02 40 28.6	-1.1
SJG				*e*S	S	02 40 54.6	-0.2
CBYP	**Canovanas**	**2.28**	**111**	⇑*e*P	P	02 40 31.1	-1.3
CBYP				*e*S	S	02 40 59.0	-0.4
MTP	**Monte Pirata**	**2.61**	**112**	⇑*e*P	P	02 40 35.4	-1.5

*MOS **13** 03:09:57.4±0.8, 8.01S×117.19E, h115km, mb5.4/35, Error ellipse: s-maj=11.0km s-min=6.3km az=121.2*
*BJI **13** 03:10:06.3, 8.20S×117.30E, h187km, mB5.2, mb5.2*
*HRVD **13** 03:10:06.3±0.2, 8.43S×117.41E, h201km±1km, MW5.3/66, Centroid moment Tensor Solution. LP body waves: s49,c72;Mantle waves: s66,c133; Half duration: 1§1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.32±.02; $M_{\theta\theta}$0.51±.02; $M_{\phi\phi}$-0.82±.03; $M_{r\theta}$0.41±.02; $M_{\theta\phi}$0.53±.02; $M_{\phi r}$0.31±.02; Best double couple: $M_0$1.034×10^{17} NP1:ϕ_s121°, δ60°, λ21°. NP2:ϕ_s20°, δ72°, λ149°. Principal axes: T 1.034, Plg35°, Azm338°; N .001, Plg54°, Azm174°; P -1.034, Plg7°, Azm73°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **13** 03:10:06.3±0.1, 8.18S×117.27E, mb5.2/39 Error ellipse: s-maj=5.4km s-min=3.4km az=60.0*
NEIC Felt [III] at Sumbawa Besar and [II] at Jereweh. Also felt [II] at Denpasar, Bali and at Mataram, Lombok.
*IDC **13** 03:10:07.2±0.4, 8.13S×117.31E, h192km±3km, mb4.8/25, mb1 4.8/25, mb1mx4.8/26, mbtmp5.2/25, MS4.0/7, Ms1 4.0/7, ms1mx3.8/16, Error ellipse: s-maj=9.3km s-min=8.0km az=60.0*

ISC 13 03:10:05.0±0.2, 8.18S±0.03×117.28E±0.04, h187km, h187km±1.2km: pP-P, n445, σ1§27/273, mb5.2/105, 43C-15D, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSM	**Kuching**	**11.85**	**324**	P	**P**	**03 12 51.8**	**+2.6**
TSM	**Tawau**	**12.41**	**3**	P	**P**	**03 13 01.5**	**+5.2**
FITZ	**Fitzroy Crossi**	**12.78**	**141**	⇑*i*P	**P**	**03 13 00.3**	**-0.7**
	598nm,1.1s						
FITZ				*e*S	**S**	**03 15 14.9**	**-4.8**
FITZ	**Fitzroy Crossi**	**12.78**	**141**	P	**P**	**03 12 59.8**	**-1.2**
	31nm,0.3s,baz=344,slow=9.3,SNR=299						
FITZ				S	**S**	**03 15 16.8**	**-2.9**
	201nm,0.3s,baz=180,slow=19,SNR=12						
FITZ				LR	LR	03 17 48.5	
	comp=Z,693nm,18.3s,baz=303,slow=36						
MBWA	**Marble Bar**	**13.12**	**170**	*e*P	**P**	**03 13 03.1**	**-2.1**
	9.2nm,0.4s						
KKM	**Kota Kinabalu**	**14.17**	**356**	P	**P**	**03 13 23.4**	**+4.7**
KKM	**Kota Kinabalu**	**14.17**	**356**	*e*P	**P**	**03 13 21.7**	**+3.0**
KAKA	**Kakadu**	**15.57**	**108**	⇓*i*P	**P**	**03 13 43.4**	**+7.3**
	625nm,0.4s						
KAKA				*e*S	**S**	**03 16 25.0**	**+2.0**
KGM	**Kluang**	**17.22**	**305**	P	**P**	**03 13 58.0**	**+2.2**
PPR	**Puerto Princes**	**17.90**	**5**	⇑*e*P	**P**	**03 14 06.5**	**+3.2**
SNPH	**Sibulan**	**18.39**	**19**	⇑*e*P	**P**	**03 14 11.5**	**+3.1**
PPI	**Padang Panjang**	**18.49**	**294**	P	**P**	**03 14 09.0**	**-0.4**
	133nm,0.9s						
WRA	**Warramunga Arr**	**20.23**	**127**	P	**P**	**03 14 26.4**	**-0.9**
	181nm,0.6s,baz=299,slow=12,SNR=1702						
WRAB	**Tennant Creek**	**20.24**	**127**	*e*P	**P**	**03 14 26.3**	**-1.1**
	386nm,0.6s						
WRAB	**Tennant Creek**	**20.24**	**127**	*d*P	**P**	**03 14 26.6**	**-0.7**
WB2	**Warramunga Arr**	**20.25**	**127**	*e*P	**P**	**03 14 26.6**	**-0.8**
WB2				*e*S	**S**	**03 18 06.9**	**+8.1**
WB2				*e*SCS	ScS	03 25 30.4	-2.6
IPM	**Ipoh**	**20.58**	**307**	P	**P**	**03 14 33.6**	**+2.8**
KULM	**Kulim**	**21.31**	**308**	*e*P	**P**	**03 14 39.1**	**+1.1**
SNG	**Songkhla**	**22.56**	**312**	P	**P**	**03 14 52.0**	**+1.7**
KLBR	**Kellerberrin**	**23.30**	**179**	*e*P	**P**	**03 14 57.4**	**+0.2**
	12nm,0.3s,mb4.8						
KLBR				*e*		03 15 21.4	
KLBR				*e*S	S	03 19 18.1	+26
NWAO	**Narrogin (SRO)**	**24.62**	**180**	P	**P**	**03 15 09.0**	**-0.7**
	31nm,0.6s,mb5.0,baz=355,slow=8.6,SNR=13						
NWAO	**Narrogin (SRO)**	**24.62**	**180**	*e*P	**P**	**03 15 08.9**	**-0.8**
	158nm,0.6s,mb5.7						
NWAO	**Narrogin (SRO)**	**24.62**	**180**	*e*P	**P**	**03 15 08.9**	**-0.8**
NWAO				pmax	pmax		
	comp=Z,158nm,0.6s						
FORT	**Forrest**	**24.64**	**157**	*e*P	**P**	**03 15 11.3**	**+1.4**
	comp=Z,90nm,0.7s,mb5.4						
UBT	**Ubonrachathani**	**26.26**	**332**	P	**P**	**03 15 26.0**	**+1.0**
NNT	**Nongplab**	**27.02**	**320**	P	**P**	**03 15 32.8**	**+0.9**
QIZ	**Qiongzhong**	**28.02**	**345**	P	**P**	**03 15 42.8**	**+1.9**
QIZ				AP	pP	03 16 21.3	+2.3
QIZ				*e*S	**S**	**03 20 12.1**	**+2.2**
QIZ				AMB	AMB		
	comp=Z,51nm,1.0s,mb5.2						
QIZ	**Qiongzhong**	**28.02**	**345**	*e*P	**P**	**03 15 42.5**	**+1.6**
	comp=Z,43nm,0.9s,mb5.2						
NST	**Nakhon Sawan**	**29.16**	**324**	P	**P**	**03 15 52.0**	**+0.9**
	comp=Z,57nm,1.0s,mb5.2						
PMG	**Port Moresby**	**29.55**	**95**	P	**P**	**03 15 52.6**	**-1.9**
	comp=Z,36nm,0.5s,mb5.3,baz=289,slow=11,SNR=16						
CTA	**Charters Tower**	**30.43**	**116**	⇓*i*P	**P**	**03 16 02.5**	**+0.3**
	comp=Z,116nm,0.7s,mb5.7						
CTA	**Charters Tower**	**30.43**	**116**	P	**P**	**03 16 02.7**	**+0.4**
	comp=Z,158nm,0.8s,mb5.8,baz=286,slow=11,SNR=131						
CTA				ScP		03 22 19.6	
	comp=Z,21nm,0.7s,baz=274,slow=6.5,SNR=5.8						
CTA	**Charters Tower**	**30.43**	**116**	⇓*i*P	**P**	**03 16 02.5**	**+0.3**
CTA				pmax	pmax		
	comp=Z,116nm,0.7s						
CTAO	**Charters Tower**	**30.43**	**116**	*e*P	**P**	**03 16 02.1**	**-0.1**
	comp=Z,165nm,0.8s,mb5.8						
CTAO	**Charters Tower**	**30.43**	**116**	*e*P	**P**	**03 16 02.1**	**-0.1**
CTAO				pmax	pmax		
	comp=Z,165nm,0.8s,mb5.8						
GZH	**Guangzhou**	**31.31**	**353**	P	**P**	**03 16 15.9**	**+5.9**
NANT	**Nan**	**31.41**	**329**	⇑P	**P**	**03 16 13.5**	**+2.7**
	comp=Z,388nm,0.4s						
STKA	**Stephens Creek**	**32.67**	**140**	⇓*i*P	**P**	**03 16 21.2**	**-0.4**
	comp=Z,18nm,0.4s,mb5.2						
STKA	**Stephens Creek**	**32.67**	**140**	P	**P**	**03 16 21.3**	**-0.3**
	comp=Z,18nm,0.5s,mb5.1,baz=314,slow=9.2,SNR=67						
STKA				LR	LR	03 31 34.9	
	comp=Z,230nm,19.8s,baz=146,slow=39						
CHRT	**Chiangrai**	**32.77**	**328**	⇑P	**P**	**03 16 24.5**	**+1.9**
	comp=Z,410nm,1.0s,mb6.1						
ADE	**Adelaide**	**33.12**	**147**	*e*P	**P**	**03 16 25.6**	**+0.1**
TATO	**Taipei**	**33.21**	**7**	*e*P	**P**	**03 16 25.4**	**-0.9**
	comp=Z,335nm,1.4s,mb5.9						
GYA	**Guiyang**	**35.94**	**344**	⇑*i*P	**P**	**03 16 51.5**	**+2.1**
GYA				AP	pP	03 17 31.6	+2.3
GYA				XP	sP	03 17 53.8	+2.7
GYA				PP	PP	03 18 21.5	+5.0
GYA				PCP	PcP	03 19 12.9	+0.5
GYA				SCP		03 22 40.1	
GYA				XS		03 23 27.4	
GYA				SCS	ScS	03 26 45.0	+1.0
GYA				AMB	AMB		
	comp=Z,100nm,0.8s,mb5.5						
GYA				LR	LR		
	comp=N,410nm,17.9s						
GYA				LR	LR		
	comp=E,490nm,18.0s						
GYA				LR	LR		
	comp=Z,310nm,18.4s						
KMI	**Kunming**	**36.01**	**337**	⇑P	**P**	**03 16 53.5**	**+3.5**
KMI				AP	pP	03 17 33.6	+3.8
KMI				XP	sP	03 17 53.6	+2.0
KMI				PCP	PcP	03 19 14.3	+1.7
KMI				S	**S**	**03 22 20.3**	**+6.1**
KMI				XS		03 23 29.9	
KMI				AMB	AMB		
	comp=Z,79nm,1.4s,mb5.2						
KMI				LR	LR		
	comp=N,540nm,11.5s						
KMI				LR	LR		
	comp=E,461nm,10.1s						
KMI				LR	LR		
	comp=Z,384nm,17.0s						
JOW	**Kunigami**	**36.40**	**17**	P	**P**	**03 16 54.5**	**+1.2**
	comp=Z,74nm,0.8s,mb5.4,baz=212,slow=6.1,SNR=16						
JOW				ScP		03 22 40.8	
	comp=Z,19nm,1.0s,baz=176,slow=2.8,SNR=3.9						
SARN	**Sarigan**	**37.49**	**49**	*e*P	**P**	**03 17 01.4**	**-1.1**
WHN	**Wuhan**	**38.61**	**356**	⇓P	**P**	**03 17 14.1**	**+2.4**
TOO	**Toolangi**	**38.83**	**143**	⇓*i*P	**P**	**03 17 15.1**	**+1.6**
	comp=Z,25nm,0.4s,mb5.2						
TOO	**Toolangi**	**38.83**	**143**	⇓*i*P	**P**	**03 17 15.1**	**+1.6**
TOO				pmax	pmax		
	comp=Z,25nm,0.4s,mb5.2						
ENH	**Enshi**	**38.96**	**349**	*e*P	**P**	**03 17 15.5**	**+0.9**
	comp=Z,90nm,0.7s,mb5.5						
SSE	**Sheshan**	**39.23**	**5**	*e*P	**P**	**03 17 19.1**	**+2.3**
SSE				AP	pP	03 17 57.6	+0.5
SSE				XP	sP	03 18 18.3	-0.8
SSE				PP	PP	03 18 53.8	+0.8
SSE				S	**S**	**03 23 09.3**	**+6.5**
SSE				SCS	ScS	03 27 04.1	+1.3
SSE				AMB	AMB		
	comp=Z,48nm,0.8s,mb5.2						
SSE				AMB	AMB		
	comp=Z,269nm,4.2s						
SSE				LR	LR		
	comp=N,35nm,24.8s						
SSE				LR	LR		
	comp=E,166nm,24.7s						
SSE				LR	LR		
	comp=Z,114nm,19.4s						
CNB	**Canberra Magne**	**39.89**	**137**	⇓*i*P	**P**	**03 17 23.2**	**+1.0**
	comp=Z,38nm,1.3s,mb4.9						
NJ2	**Nanjing**	**40.03**	**2**	*e*P	**P**	**03 17 26.1**	**+2.7**
NJ2				AP	pP	03 18 04.3	+0.5
NJ2				XP	sP	03 18 25.3	-0.5
NJ2				S	**S**	**03 23 20.0**	**+5.2**
NJ2				XS		03 24 26.0	
NJ2				SS	SS	03 26 17.0	+3.5
NJ2				AMB	AMB		
	comp=Z,40nm,0.6s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,600nm,5.5s						
NJ2				LR	LR		
	comp=N,1μm,20.4s						
NJ2				LR	LR		
	comp=E,1μm,27.1s						
NJ2				LR	LR		
	comp=Z,1μm,23.1s						
RIV	**Riverview**	**40.31**	**134**	*e*P	**P**	**03 17 27.7**	**+2.0**
CD2	**Chengdu**	**40.97**	**342**	⇑*i*P	**P**	**03 17 32.5**	**+1.4**
CD2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.8						
HNR	**Honiara**	**42.16**	**95**	P	**P**	**03 17 40.3**	**-0.8**
	comp=Z,618nm,0.9s,mb6.2,baz=205,slow=3.2,SNR=9.3						
VIS	**Vishakhapatnam**	**42.27**	**308**	*e*P	**P**	**03 17 42.5**	**+0.5**
VIS				AMb	AMB	03 17 42.7	
	comp=Z,40nm,1.0s,mb5.0						
CBIJ	**Chichi jima**	**42.57**	**34**	P	**P**	**03 17 43.8**	**-0.5**
	comp=Z,165nm,0.6s,mb5.9,ba

DZM	**Mont Dzumac**	**49.21**	**112**	*e*P	**P**	**03 18 36.6**	**+0.2**
DZM	**Mont Dzumac**	**49.21**	**112**	P	**P**	**03 18 37.5**	**+1.0**
	comp=Z,34nm,0.9s,mb5.0,baz=262,slow=7.7,SNR=33						
DZM	**Mont Dzumac**	**49.21**	**112**	*e*P	**P**	**03 18 36.6**	**+0.2**
KAD	**Karad**	**49.55**	**301**	*e*P	**P**	**03 18 37.9**	**-1.2**
KAD				AMb	AMB	03 18 40.2	
	comp=Z,55nm,1.7s,mb4.9						
BHPL	**Bhopal**	**49.94**	**310**	*e*P	**P**	**03 18 40.7**	**-1.3**
BHPL				AMb	AMB	03 18 42.7	
	comp=Z,37nm,1.3s,mb4.8						
GTA	**Gaotai**	**50.05**	**342**	*e*P	**P**	**03 18 43.4**	**+0.8**
GTA				AP	pP	03 19 25.1	+0.6
GTA				XP	sP	03 19 47.0	+1.6
GTA				PCP	PcP	03 19 59.8	0.0
GTA				PP	PP	03 20 42.0	+2.0
GTA				PPP	PPP	03 21 43.6	+1.1
GTA				SCP		03 23 35.8	
GTA				S	**S**	**03 25 39.6**	**+1.9**
GTA				XS		03 26 52.8	
GTA				SCS	ScS	03 28 09.6	-1.5
GTA				SS	SS	03 29 11.1	+0.4
GTA				AMB	AMB		
	comp=Z,25nm,1.2s,mb4.7						
GTA				AMB	AMB		
	comp=Z,270nm,6.5s						
GTA				LR	LR		
	comp=N,121nm,15.6s						
GTA				LR	LR		
	comp=E,297nm,16.7s						
GTA				LR	LR		
	comp=Z,155nm,17.1s						
SNY	**Shenyang**	**50.10**	**6**	⇑P	**P**	**03 18 42.4**	**-0.5**
SNY				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.1						
AGRA	**Agra**	**51.87**	**314**	*e*P	**P**	**03 18 53.7**	**-2.8**
AGRA				AMb	AMB	03 18 58.2	
	comp=Z,91nm,0.3s,mb5.8						
CN2	**Changchun**	**52.27**	**7**	*e*P	**P**	**03 18 58.1**	**-1.0**
CN2				*e*AP	pP	03 19 47.1	+5.7
CN2				*e*S	**S**	**03 26 08.8**	**+0.8**
CN2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.1						
BISR	**Bishrakh**	**53.04**	**315**	*e*P	**P**	**03 19 02.2**	**-2.9**
SONA	**Sohna**	**53.09**	**315**	*e*P	**P**	**03 19 02.7**	**-2.7**
NDI	**New Delhi**	**53.26**	**315**	*ex*	x	03 19 00.0	
BHGR	**Bahadurgarh**	**53.46**	**315**	*e*P	**P**	**03 19 05.3**	**-2.8**
BHGR				AMb	AMB	03 19 07.2	
	comp=Z,158nm,0.3s,mb6.3						
MDJ	**Mudanjiang**	**53.72**	**11**	P	**P**	**03 19 09.6**	**-0.2**
MDJ				AP	pP	03 19 50.1	-2.1
MDJ				XP	sP	03 20 10.4	-2.5
MDJ				PCP	PcP	03 20 14.1	+0.7
MDJ				PP	PP	03 21 13.8	-0.2
MDJ				SCP		03 23 53.8	
MDJ				PCS		03 24 12.5	
MDJ				SCS	ScS	03 28 33.5	-2.9
MDJ				AMB	AMB		
	comp=Z,66nm,0.9s,mb5.4						
MDJ				AMB	AMB		
	comp=Z,150nm,4.8s						
MDJ				LR	LR		
	comp=N,49nm,36.7s						
MDJ				LR	LR		
	comp=E,247nm,32.3s						
MDJ				LR	LR		
	comp=Z,52nm,24.9s						
MDJ	**Mudanjiang**	**53.72**	**11**	*e*P	**P**	**03 19 09.3**	**-0.5**
	comp=Z,80nm,0.8s,mb5.5						
KHET	**Khetri**	**53.90**	**314**	*e*P	**P**	**03 19 08.4**	**-2.9**
RTK	**Rohtak**	**54.03**	**315**	*e*P	**P**	**03 19 10.1**	**-2.3**
RTK				AMb	AMB	03 19 13.4	
	comp=Z,102nm,0.3s,mb6.1						
SONM	**Songino Array**	**56.60**	**351**	P	**P**	**03 19 30.4**	**-0.1**
	comp=Z,55nm,0.7s,mb5.5,baz=170,slow=8.6,SNR=229						
SONM				ScP		03 24 02.0	
	comp=Z,1.9nm,0.8s,baz=181,slow=6.1,SNR=2.6						
JASL	**Jaisalmer**	**56.90**	**310**	*e*P	**P**	**03 19 30.4**	**-2.5**
HIA	**Hailar**	**57.24**	**2**	*e*P	**P**	**03 19 33.5**	**-1.5**
	comp=Z,20nm,0.8s,mb5.0						
HIA	**Hailar**	**57.24**	**2**	*e*P	**P**	**03 19 33.5**	**-1.5**
HIA				pmax	pmax		
	comp=Z,20nm,0.8s						
WMQ	**Urumqi**	**58.29**	**335**	P	**P**	**03 19 42.0**	**-0.4**
WMQ				AP	pP	03 20 26.0	+0.5
WMQ				XP	sP	03 20 47.0	+1.1
WMQ				PP	PP	03 21 55.0	-0.2
WMQ				S	**S**	**03 27 28.0**	**+0.1**
WMQ				SS	SS	03 31 25.0	+0.3
WMQ				AMB	AMB		
	comp=Z,41nm,1.0s,mb5.2						
WMQ				LR	LR		
	comp=N,127nm,20.0s						
WMQ				LR	LR		
	comp=E,157nm,20.0s						
WMQ				LR	LR		
	comp=Z,122nm,20.0s						
KLR	**Kul'dur**	**58.56**	**11**	*e*P	**P**	**03 19 40.2**	**-3.9**
KLR				pmax	pmax		
	comp=Z,28nm,1.6s,mb4.8						
RPZ	**Rata Peaks**	**58.56**	**137**	P	**P**	**03 19 44.1**	**-0.1**
	comp=Z,26nm,0.7s,mb5.2,baz=259,slow=3.5,SNR=9.6						
RPZ				pP	pP	03 20 27.1	-0.3
	comp=Z,20nm,0.7s,baz=4.3,slow=8.5,SNR=1.9						
RPZ	**Rata Peaks**	**58.56**	**137**	P	**P**	**03 19 44.1**	**-0.1**
RPZ				pP	pP	03 20 27.1	-0.3
YSS	**Yuzh-Sakhalins**	**59.39**	**20**	*e*P	**P**	**03 19 49.5**	**-0.4**
	comp=Z,44nm,0.6s,mb5.5						
YSS	**Yuzh-Sakhalins**	**59.39**	**20**	⇑*i*P	**P**	**03 19 49.4**	**-0.5**
YSS				*e*		03 20 38.2	
YSS				pmax	pmax		
	comp=N,50nm,0.8s						
YSS				pmax	pmax		
	comp=Z,50nm,0.8s,mb5.4						
ZAK	**Zakamensk**	**59.58**	**350**	⇑*i*P	**P**	**03 19 50.5**	**-0.6**
ZAK				*e*	pP	03 20 34.8	+0.3
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.5						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s						
CIT	**Chita**	**60.05**	**357**	*e*P	**P**	**03 19 54.5**	**+0.2**
CIT				*e*		03 20 45.4	
CIT				*e*		03 27 52.6	
CIT				pmax	pmax		
	comp=Z,87nm,1.3s,mb5.4						
KSH	**Kashi**	**60.95**	**324**	*e*P	**P**	**03 20 00.0**	**-0.5**
KSH				*e*PCP	PcP	03 20 41.3	-0.6
KSH				*e*AP	pP	03 20 44.1	0.0
KSH				*e*XP	sP	03 21 04.3	0.0
KSH				*e*PP	PP	03 22 18.4	-0.6
KSH				*e*PPP	PPP	03 23 48.3	-0.1
KSH				*e*SCP		03 24 23.3	
KSH				*e*PCS		03 24 43.3	
KSH				*e*S	**S**	**03 27 57.3**	**-4.7**
KSH				*e*XS		03 29 17.1	
KSH				*e*SCS	ScS	03 29 28.1	-1.0
KSH				*e*SS	SS	03 32 04.0	-2.0
KSH				AMB	AMB		
	comp=Z,160nm,1.7s,mb5.6						
KSH				LR	LR		
	comp=N,140nm,4.2s						
KSH				LR	LR		
	comp=E,160nm,4.8s						
IRK	**Irkutsk**	**61.21**	**351**	*e*P	**P**	**03 20 00.6**	**-1.5**
IRK				*e*		03 20 38.0	
IRK				pmax	pmax		
	comp=Z,53nm,2.1s,mb5.0						
URZ	**Urewera**	**61.39**	**129**	P	**P**	**03 20 02.6**	**-0.9**
	comp=Z,12nm,0.5s,mb4.9,baz=258,slow=3.7,SNR=11						
MKAR	**Makanchi Array**	**62.97**	**334**	P	**P**	**03 20 12.2**	**-1.7**
	comp=Z,26nm,0.5s,mb5.3,baz=153,slow=7.1,SNR=232						
MKAR				LR	LR	03 50 30.9	
	comp=Z,105nm,21.5s,slow=38						
MKAR	**Makanchi Array**	**62.97**	**334**	*i* P	**P**	**03 20 13.0**	**-0.9**
MKAR				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KZA	**Kyzart**	**63.06**	**326**	P	**P**	**03 20 14.5**	**-0.1**
	SNR=24						
TKM2	**Tokmak 2**	**63.44**	**327**	P	**P**	**03 20 16.0**	**-1.0**
	SNR=13						
KBK	**Karagaybulak**	**63.61**	**326**	P	**P**	**03 20 17.6**	**-0.6**
	SNR=19						
AAK	**Ala-Archa**	**63.85**	**326**	P	**P**	**03 20 19.3**	**-0.4**
	SNR=12						
FRU	**Bishkek**	**63.91**	**326**	*e*P	**P**	**03 20 18.5**	**-1.6**
FRU				pmax	pmax		
	comp=Z,70nm,2.0s,mb5.1						
AML	**Almayashu**	**63.97**	**325**	P	**P**	**03 20 20.2**	**-0.3**
	SNR=33						
USP	**Ospenovka**	**64.27**	**327**	P	**P**	**03 20 21.4**	**-1.1**
	SNR=6.2						
CLNS	**Chul'man**	**65.09**	**5**	*e*P	**P**	**03 20 25.8**	**-1.7**
CLNS				pmax	pmax		
	comp=Z,44nm,0.7s,mb5.4						
CLNS				pmax	pmax		
	comp=N,27nm,0.9s						
CLNS				pmax	pmax		
	comp=E,14nm,0.6s						
KKAR	**Karatay Array**	**66.40**	**324**	*i* P	**P**	**03 20 33.8**	**-2.3**
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.3						
KURK	**Kurchatov**	**67.52**	**335**	*e*P	**P**	**03 20 41.5**	**-1.4**
	comp=Z,43nm,0.9s,mb5.2						
KURK	**Kurchatov**	**67.52**	**335**	*e*P	**P**	**03 20 41.5**	**-1.5**
KURK				pmax	pmax		
	comp=Z,43nm,0.9s,mb5.2						
SKR	**Severo-Kuril's**	**67.58**	**26**	*e*P	**P**	**03 20 44.0**	**+0.7**
SKR				pmax	pmax		
	comp=Z,50nm,0.6s,mb5.4						
OPO	**Ambohidratompo**	**68.62**	**253**	P	**P**	**03 20 51.1**	**+0.8**
	comp=Z,8.8nm,0.7s,mb4.6,baz=90,slow=4.7,SNR=14						
OPO				pP	pP	03 21 34.6	-0.2
	comp=Z,9.7nm,0.9s,baz=83,slow=6.0,SNR=2.5						
NVS	**Novosibirsk**	**68.95**	**340**	*e*P	**P**	**03 20 49.4**	**-2.2**
NVS				*e*		03 21 11.8	
NVS				pmax	pmax		
	comp=Z,58nm,1.3s,mb5.2						
NVS				pmax	pmax		
	comp=N,54nm,1.6s						
MAW	**Mawson**	**69.43**	**199**	*e*P	**P**	**03 20 55.3**	**+1.0**
	comp=N,7.7nm,0.8s,mb4.5						
MAW				*i*	pP	03 21 39.7	+0.7
MAW	**Mawson**	**69.43**	**199**	P	**P**	**03 20 55.1**	**+0.8**
	comp=N,3.9nm,0.5s,mb4.4,baz=67,slow=7.9,SNR=16						
MAW				pP	pP	03 21 39.5	+0.5
	comp=N,11nm,0.8s,baz=72,slow=12,SNR=4.4						
MAW	**Mawson**	**69.43**	**199**	*e*P	**P**	**03 20 55.3**	**+1.0**
MAW				*i*	pP	03 21 39.7	+0.7
MAW				pmax	pmax		
	comp=Z,8.0nm,0.8s						
PET	**Petropavlovsk**	**70.36**	**25**	*e*P	**P**	**03 20 59.3**	**-1.0**
	comp=Z,22nm,0.8s,mb5.0						
PET	**Petropavlovsk**	**70.36**	**25**	⇑*i*P	**P**	**03 21 00.5**	**+0.2**
PET				*e*		03 23 42.3	
PET				*i* S	S	03 29 54.8	-1.1
PET				*e*SS	SS	03 34 30.3	-2.1
PET				*e*SSS	SSS	03 37 39.3	-0.9
PET				pmax	pmax		
	comp=Z,32nm,0.7s,mb5.2						
PET				pmax	pmax		
	comp=Z,30nm,11.3s						
PET				pmax	pmax		
	comp=Z,30nm,12.9s						
PET				pmax	pmax		
	comp=Z,30nm,15.0s						
PET				smax			
	comp=N,100nm,14.8s						
PET				smax			
	comp=E,200nm,16.9s						
PET				pmax	pmax		
	comp=N,100nm,13.5s						
PET				MLR	MLR		
	comp=Z,100nm,16.0s						
YAK	**Yakutsk**	**70.66**	**6**	*e*P	**P**	**03 21 01.4**	**-0.5**
	comp=Z,67nm,0.9s,mb5.4						
YAK	**Yakutsk**	**70.66**	**6**	⇓*e*P	**P**	**03 21 01.5**	**-0.4**
YAK				pmax	pmax		
	comp=Z,90nm,1.1s,mb5.4						
VOSK	**Vostochnaya**	**72.31**	**333**	P	**P**	**03 21 10.5**	**-1.4**
VOSK				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.6						
MA2	**Magadan**	**72.63**	**17**	*e*P	**P**	**03 21 13.4**	**-0.2**
	comp=Z,54nm,0.8s,mb5.3						
MA2	**Magadan**	**72.63**	**17**	*de*P	**P**	**03 21 15.0**	**+1.4**
MA2				*e*		03 21 31.7	
MA2				*e*S	S	03 30 23.4	+1.8
MA2				*e*PS	PS	03 31 02.4	-20
MA2				pmax	pmax		
	comp=Z,30nm,0.7s,mb5.1						
MA2				pmax	pmax		
	comp=N,10.0nm,0.8s						
BVA0	**Borovoye Array**	**72.78**	**333**	*i* P	**P**	**03 21 13.4**	**-1.3**
BVA0				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.4						
BRVK	**Borovoye**	**72.85**	**332**	*e*P	**P**	**03 21 13.8**	**-1.3**
	comp=Z,83nm,1.4s,mb5.3						
BRVK	**Borovoye**	**72.85**	**332**	*e*P	**P**	**03 21 13.8**	**-1.3**
BRVK				pmax	pmax		
	comp=Z,83nm,1.4s,mb5.3						
VNDA	**Vanda**	**73.06**	**171**	P	**P**	**03 21 16.6**	**+0.7**
	comp=Z,2.5nm,0.5s,mb4.2,baz=312,slow=8.5,SNR=18						
VNDA				pP	pP	03 22 01.0	+0.1
	comp=Z,4.3nm,0.5s,baz=292,slow=5.8,SNR=3.9						
VNDA	**Vanda**	**73.06**	**171**	*e*P	**P**	**03 21 15.1**	**-0.8**
	comp=Z,26nm,1.4s,mb4.8						
VNDA	**Vanda**	**73.06**	**171**	*e*P	**P**	**03 21 15.1**	**-0.7**
VNDA				pmax	pmax		
	comp=Z,26nm,1.4s						
HASS	**Wahat al Ahsa'**	**73.61**	**299**	P	**P**	**03 21 18.0**	**-2.1**
SEY	**Seymchan**	**75.83**	**16**	*e*P	**P**	**03 21 32.2**	**+0.3**
SEY				*e*		03 31 31.2	
SEY				pmax	pmax		
	comp=N,10.0nm,0.7s						
SEY				pmax	pmax		
	comp=E,10.0nm,0.7s						
SEY				pmax	pmax		
	comp=Z,20nm,0.7s,mb4.9						
AB31	**Akbulak array**	**75.92**	**325**	P	**P**	**03 21 31.5**	**-1.2**
AB31				pmax	pmax		
	comp=Z,16nm,0.6s,mb4.8						
QRN	**Al-Qurain**	**76.19**	**302**	*e*P	**P**	**03 21 32.8**	**-1.8**
QRN				AMb	AMB	03 21 35.5	
	comp=Z,124nm,0.8s,mb5.6						
KBD	**Kabd**	**76.50**	**303**	*e*P	**P**	**03 21 35.2**	**-1.1**
RDF	**Al-Radifah**	**76.55**	**302**	*e*P	**P**	**03 21 34.7**	**-1.9**
RDF				AMb	AMB	03 21 37.4	
	comp=Z,126nm,0.6s,mb5.7						
UMR	**Umm Al-Rimmam**	**76.60**	**303**	*e*P	**P**	**03 21 35.1**	**-1.8**
UMR				AMb	AMB	03 21 37.7	
	comp=Z,100nm,0.6s,mb5.7						
NAY	**Al-Naaiem**	**76.90**	**303**	*e*P	**P**	**03 21 37.2**	**-1.3**
NAY				AMb	AMB	03 21 40.0	
	comp=Z,56nm,0.7s,mb5.3						
MIB	**Mutribah**	**76.98**	**303**	*e*P	**P**	**03 21 37.5**	**-1.5**
MIB				AMb	AMB	03 21 40.3	
	comp=Z,75nm,0.8s,mb5.4						
FX1	**Attu Island--F**	**77.06**	**31**	*e*P	**P**	**03 21 39.5**	**+0.7**
DJNS	**Zahran al Janu**	**77.20**	**290**	P	**P**	**03 21 40.9**	**+0.6**
TATS	**Tathlith**	**77.68**	**292**	P	**P**	**03 21 43.1**	**+0.1**
SYO	**Syowa Base**	**78.00**	**201**	⇓P	**P**	**03 21 43.5**	**-0.2**
SYO	**Syowa Base**	**78.00**	**201**	⇓PcP	PcP	03 21 52.0	-1.1
SYO	**Syowa Base**	**78.00**	**201**	⇑pP	pP	03 22 28.2	-1.1
SVE	**Sverdlovsk**	**79.56**	**332**	⇑*e*P	**P**	**03 21 51.5**	**-0.9**
SVE				*e*		03 22 16.0	
SVE				*e*		03 22 30.0	
SVE				pmax	pmax		
	comp=Z,100nm,1.6s,mb5.2						
KMBO	**Kilima Mbogo**	**79.97**	**270**	P	**P**	**03 21 56.7**	**+1.2**
	comp=Z,39nm,1.0s,mb5.0,baz=63,slow=7.4,SNR=46						
KMBO				pP	pP	03 22 41.9	+0.5
	comp=Z,6.7nm,1.0s,baz=84,slow=6.7,SNR=1.3						
KMBO	**Kilima Mbogo**	**79.97**	**270**	P	**P**	**03 21 56.7**	**+1.2**
KMBO				pP	pP	03 22 41.9	+0.5
TIXI	**Tiksi**	**80.03**	**4**	⇑*e*P	**P**	**03 21 55.0**	**+0.3**
TIXI				pmax	pmax		
	comp=Z,38nm,0.8s,mb5.1						
ARU	**Arti**	**80.33**	**331**	*e*P	**P**	**03 21 54.5**	**-2.0**
	comp=Z,80nm,1.4s,mb5.2						
ARU	**Arti**	**80.33**	**331**	⇑*i*P	**P**	**03 21 55.0**	**-1.5**
ARU				*e*		03 25 00.1	
ARU				*e*SS	SS	03 36 58.7	-4.8
ARU				pmax	pmax		
	comp=Z,44nm,1.2s,mb5.0						
BHD	**Baghdad**	**80.41**	**306**	*e*P	**P**	**03 21 54.0**	**-3.4**
QSPA	**South Pole Qui**	**81.81**	**180**	*e*P	**P**	**03 22 05.1**	**+1.3**
	comp=Z,53nm,1.3s,mb5.0						
DGRG	**David-gareji**	**82.08**	**314**	P	**P**	**03 22 05.8**	**-0.1**
GNI	**Garni**	**82.13**	**312**	*c i*P	**P**	**03 22 06.6**	**+0.4**
HAKT	**HAKKARI**	**82.14**	**310**	*i* P	**P**	**03 22 04.5**	**-1.8**
MSL	**Mosul**	**82.27**	**308**	*e*P	**P**	**03 22 17.0**	**+10**
TI2	**Plekhanov**	**82.61**	**314**	*i* P	**P**	**03 22 02.4**	**-6.3**
TBLG	**Delisi**	**82.61**	**314**	P	**P**	**03 22 09.3**	**+0.6**
KBRS	**Khaybar**	**82.87**	**297**	P	**P**	**03 22 11.3**	**+1.0**
BILL	**Bilibino**	**83.49**	**17**	*i* P	**P**	**03 22 15.1**	**+2.5**
BILL				*e*		03 25 28.4	
BILL				*e*S	S	03 32 14.8	-1.9
BILL				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.3						
BILL				MLR	MLR		
	comp=Z,100nm,21.0s						
ONI	**Oni**	**83.78**	**314**	P	**P**	**03 22 15.3**	**+0.7**
UMJS	**Umm Lajj**	**84.48**	**296**	P	**P**	**03 22 19.7**	**+1.2**
ERZM	**Erzurum**	**84.55**	**311**	*i* P	**P**	**03 22 18.7**	**+0.2**
KIV	**Kislovodsk**	**84.71**	**316**	*e*P	**P**	**03 22 19.0**	**-0.2**
	comp=Z,10nm,0.8s,mb4.6						
KIV	**Kislovodsk**	**84.71**	**316**	*c i*P	**P**	**03 22 19.3**	**+0.1**
KIV				*e*S	S	03 32 23.4	-5.8
KIV				pmax	pmax		
	comp=Z,30nm,1.4s,mb4.8						
GOF	**Gofitskoye**	**84.79**	**317**	⇓*i*P	**P**	**03 22 18.2**	**-1.4**
GOF				pmax	pmax		
	comp=Z,120nm,1.7s,mb5.3						
QURS	**Qurayyt al Mil**	**85.73**	**302**	P	**P**	**03 22 25.8**	**+1.2**
TBKS	**Tabuk**	**85.75**	**299**	P	**P**	**03 22 25.8**	**+1.0**
ELZG	**Elazig**	**85.99**	**310**	*i* P	**P**	**03 22 26.0**	**+0.3**
MATP	**Matopo**	**86.05**	**250**	P	**P**	**03 22 27.4**	**+1.1**
	comp=Z,24nm,0.7s,mb5.1,baz=108,slow=4.6,SNR=72						
MATP				pP	pP	03 23 14.4	+1.6
	comp=Z,15nm,0.9s,baz=113,slow=7.4,SNR=3.4						
MATP	**Matopo**	**86.05**	**250**	P	**P**	**03 22 27.4**	**+1.0**
MATP				pP	pP	03 23 14.4	+1.6
KELT	**Kelkit**	**86.18**	**311**	*i* P	**P**	**03 22 25.9**	**-0.7**
MALT	**Malatya**	**86.37**	**309**	*e*P	**P**	**03 22 27.9**	**+0.4**
	comp=Z,44nm,0.9s,mb5.2						
MALT	**Malatya**	**86.37**	**309**	*e*P	**P**	**03 22 27.9**	**+0.4**
MALT				pmax	pmax		
	comp=Z,44nm,0.9s,mb5.2						
MBAR	**Mbarara**	**86.49**	**270**	*e*P	**P**	**03 22 28.4**	**-0.3**
	comp=Z,90nm,0.8s,mb5.5						
MBAR				*e*pP	pP	03 23 15.2	+0.1
MBAR	**Mbarara**	**86.49**	**270**	*e*P	**P**	**03 22 28.4**	**-0.3**
MBAR				*e**PP	pP	03 23 15.2	+0.1
MBAR				pmax	pmax		
	comp=Z,90nm,0.8s,mb5.5						
SOC	**Sochi**	**86.69**	**315**	*e*P	**P**	**03 22 27.9**	**-1.0**
SOC				*e*		03 25 48.5	
SOC				*e*PPP	PPP	03 27 52.5	-1.4
SOC				*e*S	S	03 32 34.5	-14
SOC				*e**SS		03 34 06.5	
SOC				pmax	pmax		
	comp=Z,32nm,0.9s,mb5.2						
SOC				pmax	pmax		
	comp=N,39nm,1.1s						
SOC				pmax	pmax		
	comp=E,19nm,0.9s						
GZT	**Gaziantep**	**86.82**	**308**	*i* P	**P**	**03 22 29.0**	**-0.7**
BDAS	**Al Bad'**	**87.04**	**299**	P	**P**	**03 22 31.4**	**+0.5**
JMOS	**Jabal al Moall**	**87.17**	**300**	P	**P**	**03 22 32.3**	**+0.8**
MKRJ	**Makawir**	**87.18**	**302**	P	**P**	**03 22 32.7**	**+1.2**
ALWS	**Ilw as Safayha**	**87.23**	**300**	P	**P**	**03 22 32.6**	**+0.7**
HAQS	**Haql**	**87.30**	**300**	P	**P**	**03 22 32.9**	**+0.7**
KSHT	**Keshet**	**87.32**	**304**	P	**P**	**03 22 33.6**	**+1.4**
NVL	**N'lazarevskaya**	**87.36**	**199**	⇑*i*P	**P**	**03 22 32.4**	**+0.9**
NVL				*i* *PP	pP	03 23 18.5	+0.5
NVL				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ZFRI	**Zfri**	**87.37**	**301**	P	**P**	**03 22 33.5**	**+1.0**
HRFI	**Mount Harif**	**87.39**	**301**	P	**P**	**03 22 32.8**	**+0.2**
EIL	**Elat**	**87.40**	**300**	P	**P**	**03 22 33.4**	**+0.8**
KAHT	**Ahir Dag**	**87.42**	**308**	*i* P	**P**	**03 22 32.9**	**+0.3**
KSDI	**Kefar Szold**	**87.48**	**304**	P	**P**	**03 22 34.1**	**+1.2**
PRNI	**Paran**	**87.48**	**301**	P	**P**	**03 22 34.1**	**+1.1**
MMLI	**Mount Malkishu**	**87.53**	**303**	P	**P**	**03 22 34.6**	**+1.4**
MMC4	**Mount Meron ar**	**87.64**	**304**	P	**P**	**03 22 36.4**	**+2.7**
MMC5	**Mount Meron ar**	**87.65**	**304**	P	**P**	**03 22 36.4**	**+2.7**
MMB1	**Mount Meron ar**	**87.65**	**304**	P	**P**	**03 22 34.2**	**+0.4**
MMA2	**Mount Meron ar**	**87.66**	**304**	P	**P**	**03 22 35.0**	**+1.2**
MMC6	**Mount Meron ar**	**87.67**	**304**	P	**P**	**03 22 36.4**	**+2.6**
COBT	**Iskenderun**	**87.67**	**307**	*i* P	**P**	**03 22 33.2**	**-0.5**
MASH	**Mash'abbe Sade**	**87.79**	**302**	P	**P**	**03 22 35.1**	**+0.7**
SLTI	**Sal'it**	**87.81**	**303**	P	**P**	**03 22 35.4**	**+0.9**
HNTI	**Hanita**	**87.86**	**304**	P	**P**	**03 22 35.9**	**+1.2**
BOSA	**Boshof**	**87.90**	**242**	P	**P**	**03 22 36.1**	**+1.1**
	comp=Z,13nm,0.7s,mb4.9,baz=107,slow=4.2,SNR=24						
BOSA				pP	pP	03 23 23.3	+1.7
	comp=Z,15nm,0.8s,baz=102,slow=4.4,SNR=5.2						
BOSA				LR	LR	03 58 34.9	
	comp=Z,170nm,20.3s,baz=253,slow=33						
BOSA	**Boshof**	**87.90**	**242**	P	**P**	**03 22 36.1**	**+1.1**
BOSA				pP	pP	03 23 23.3	+1.7
BOSA				LR	LR	03 58 34.9	
HAF	**Haifa**	**87.93**	**303**	P	**P**	**03 22 36.0**	**+0.9**
OFRI	**'Ofer**	**87.93**	**303**	P	**P**	**03 22 35.9**	**+0.8**
KZIT	**Kziot**	**88.10**	**301**	P	**P**	**03 22 36.6**	**+0.7**
LBTB	**Lobatse**	**88.10**	**245**	P	**P**	**03 22 37.4**	**+1.3**
	comp=Z,29nm,0.8s,mb5.1,baz=133,slow=5.3,SNR=39						
LBTB				pP	pP	03 23 26.0	+3.4
	comp=Z,6.1nm,0.7s,baz=108,slow=4.5,SNR=2.1						
LBTB	**Lobatse**	**88.10**	**245**	*e*P	**P**	**03 22 35.8**	**-0.2**
	comp=Z,28nm,0.8s,mb5.2						
LBTB	**Lobatse**	**88.10**	**245**	*e*P	**P**	**03 22 35.8**	**-0.3**
LBTB				pmax	pmax		
	comp=Z,28nm,0.8s,mb5.1						
UNV	**Unalaska Valle**	**88.52**	**35**	P	**P**	**03 22 38.0**	**+0.7**
ANN	**Anapa**	**88.57**	**315**	*e*P	**P**	**03 22 36.2**	**-1.6**
ANN				pmax	pmax		
	comp=Z,44nm,1.0s,mb5.3						
VORD	**Divnogorie**	**88.81**	**322**	*e*P	**P**	**03 22 37.4**	**-1.3**
VORD				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.2						
VOR

VNA2	Neumayer--Watz	92.96	196	⇑*iP*		P	03 22 59.4 +1.8
VNA2				*e*			03 23 00.3
VNA2				*e*		pP	03 23 46.4 +1.9
VNA2				*e*			03 23 57.6
VNA2				*e*			03 24 05.0
VNA1	Neumayer--Stat	93.35	196	*e*		P	03 23 02.7 +3.3
VNA1	Neumayer--Stat	93.35	196	*e*		pP	03 23 48.3 +2.0
VNA1	Neumayer--Stat	93.35	196	⇑*iP*		P	03 23 01.4 +2.0
VNA1				*e*			03 23 02.7
VNA1				*e*		pP	03 23 48.3 +2.0
VNA1				*e*			03 24 00.3
VNA1				*e*			03 24 06.4
VNA3	Neumayer Olymp	93.37	195	*e*		P	03 23 02.0 +2.5
VNA3	Neumayer Olymp	93.37	195	*e*		pP	03 23 47.9 +1.6
VNA3	Neumayer Olymp	93.37	195	⇑*iP*		P	03 23 01.0 +1.5
VNA3				*e*			03 23 02.0
VNA3				*e*		pP	03 23 47.9 +1.6
VNA3				*e*			03 23 58.9
VNA3				*e*			03 24 05.9
SVW2	Sparrevohn	95.72	29	*e*P		P	03 23 11.8 +1.5
IMA	Indian Mountai	97.03	24	*e*P		P	03 23 17.3 +1.1
KAF	Kangasniemi	97.63	332	*e*p		P	03 23 17.1 -1.9
FINES	FINESS Array B	97.70	331	P		P	03 23 18.2 -1.1
	comp=Z,6.0nm,0.8s,mb5.1,baz=124,slow=6.9,SNR=23						
FINES				PKiKP			03 27 52.4
	comp=Z,1.4nm,0.5s,baz=87,slow=2.4,SNR=11						
FINES				LR		LR	04 14 02.9
	comp=Z,76nm,18.6s,baz=127,slow=39						
ARCES	ARCESS Array B	98.23	339	P		P	03 23 20.4 -1.2
	comp=Z,4.3nm,0.8s,mb4.9,baz=90,slow=3.6,SNR=12						
ARCES				PKiKP			03 27 52.6
	comp=Z,0.8nm,0.6s,baz=144,slow=1.7,SNR=6.3						
ARCES				LR		LR	04 09 51.9
	comp=Z,56nm,18.2s,baz=282,slow=36						
KOLS	Kolonicke sedl	99.40	318	*e*P		P	03 23 26.7 -0.7
ILAR	Eielson Array	99.84	26	P		P	03 23 27.9 -1.1
	comp=Z,0.5nm,0.6s,mb4.1,baz=244,slow=4.5,SNR=4.8						
ILAR				PKKPbc			03 39 49.0
	comp=Z,0.8nm,0.6s,baz=72,slow=1.9,SNR=6.5						
STHS	Stebnicka Huta	100.08	319	*e*P		P	03 23 30.0 -0.4
KECS	Kecovo	100.57	318	*e*P		P	03 23 31.2 -1.5
DAWY	Dawson	103.14	26	Pdif		Pdif	03 23 43.5 -0.2
NB2	NORSAR Subarra	104.88	331	PKPabc			03 28 05.2
	comp=Z,1.0nm,0.7s,baz=12,slow=2.6						
NOA	NORSAR Array B	104.88	331	PKiKP			03 28 05.0
	comp=Z,1.3nm,0.8s,baz=75,slow=1.7,SNR=4.2						
GERES	GERESS Array B	105.05	318	Pdiff		Pdif	03 23 51.3 -1.1
	comp=Z,0.2nm,0.3s,baz=68,slow=5.3,SNR=5.4						
GERES				PKiKP			03 28 05.8
	comp=Z,1.8nm,0.7s,baz=90,slow=1.3,SNR=16						
KHC	Kasperske Hory	105.11	319	*e*P			03 28 06.0
CLL	Collm	105.27	321	*e*			03 28 07.0
GRA1	Grafenberg Arr	106.58	319	*e*PKPdf			03 28 09.1
GRF	Grafenberg Arr	106.58	319	*e*PKP			03 28 09.1
PGF	Pioggiola	108.95	312	*e*PKIKP			03 28 13.5
	comp=Z,37nm,1.2s						
CDF	Champ du Feu	109.33	318	*e*PKIKP			03 28 13.4
	comp=Z,3.3nm,0.7s						
HINF	Hinteralfeld	109.71	318	⇑*i*PKIKP			03 28 14.3
	comp=Z,6.1nm,0.6s						
SBF	Sospel	109.92	314	*e*PKIKP			03 28 15.2
	comp=Z,29nm,0.9s						
HAU	Haudompre	110.02	318	⇑*i*PKIKP	PKPdf		03 28 15.1 +1.2
	comp=Z,5.4nm,0.5s						
LPG	La Plagne	110.16	315	*e*PKIKP	PKPdf		03 28 16.1 +1.9
	comp=Z,9.7nm,0.9s						
LPL	La Plagne	110.17	315	⇑*i*PKIKP	PKPdf		03 28 16.1 +1.8
MBDF	Montbardon	110.27	315	*e*PKIKP	PKPdf		03 28 15.9 +1.4
	comp=Z,11nm,1.0s						
CABF	La Chapelle	110.43	317	⇑*i*PKIKP	PKPdf		03 28 16.4 +1.6
	comp=Z,23nm,1.0s						
FRF	La Foret Royal	110.53	313	*e*PKIKP	PKPdf		03 28 16.4 +1.4
	comp=Z,21nm,0.9s						
GIVF	Givet	110.59	321	*e*PKIKP	PKPdf		03 28 16.6 +1.6
LMR	La Mourre	110.66	313	*e*PKIKP	PKPdf		03 28 16.8 +1.5
MEZF	Maizieres J'vi	110.77	319	*e*PKIKP	PKPdf		03 28 16.7 +1.3
ORIF	Oris-en-Rattie	110.86	315	*e*PKIKP	PKPdf		03 28 17.1 +1.4
	comp=Z,14nm,1.0s						
BAIF	Baives	110.99	321	⇑*i*PKIKP	PKPdf		03 28 17.5 +1.7
	comp=Z,7.7nm,0.6s						
SMRF	Simiane la Rot	111.23	314	*e*PKIKP	PKPdf		03 28 18.2 +1.8
	comp=Z,8.9nm,0.7s						
VIVF	Saint-Julien-l	111.72	315	*e*PKIKP	PKPdf		03 28 18.7 +1.4
	comp=Z,11nm,0.9s						
LOR	Lormes	111.81	318	⇑*i*PKIKP	PKPdf		03 28 18.7 +1.3
	comp=Z,7.0nm,0.6s						
SMF	Signal de Mont	111.95	317	*e*PKIKP	PKPdf		03 28 18.7 +1.0
SSF	Saint Saulge	112.09	318	⇑*i*PKIKP	PKPdf		03 28 19.4 +1.5
	comp=Z,20nm,0.7s						
AVF	Avril sur Loir	112.25	317	⇑*i*PKIKP	PKPdf		03 28 19.3 +1.0
	comp=Z,8.1nm,0.7s						
LASF	Ste Croix	112.44	314	*e*PKIKP	PKPdf		03 28 20.2 +1.5
	comp=Z,16nm,1.0s						
BGF	Bois d'Agland	112.64	317	⇑*i*PKIKP	PKPdf		03 28 20.7 +1.6
	comp=Z,27nm,0.6s						
TCF	Toulx Ste Croi	113.13	317	⇑*i*PKIKP	PKPdf		03 28 21.4 +1.4
	comp=Z,11nm,0.8s						
CAF	Calviac	113.52	315	⇑*i*PKIKP	PKPdf		03 28 22.6 +1.7
	comp=Z,16nm,0.9s						
MTLF	Montolieu	113.74	314	*e*PKIKP	PKPdf		03 28 22.4 +1.0
	comp=Z,7.5nm,0.9s						
RJF	Les Rejaudoux	113.82	316	⇑*i*PKIKP	PKPdf		03 28 23.1 +1.6
	comp=Z,25nm,0.9s						
ETOS	Mallorca	113.96	310	PKP	PKPdf		03 28 23.7 +1.8
LDF	La Druitiere	114.09	320	⇑*i*PKIKP	PKPdf		03 28 22.9 +1.0
	comp=Z,5.2nm,0.5s						
YKA	Yellowknife Ar	114.14	24	PKP	PKPdf		03 28 22.0 +0.4
	comp=Z,4.0nm,0.7s,baz=312,slow=1.9,SNR=16						
YKA				SKP			03 31 37.9
	comp=Z,0.9nm,0.5s,baz=307,slow=1.9,SNR=4.2						
YKA	Yellowknife Ar	114.14	24	PKP	PKPdf		03 28 22.1 +0.4
YKA				SKP			03 31 37.9
FLN	La Foliniere	114.28	320	⇑*i*PKIKP	PKPdf		03 28 23.4 +1.1
	comp=Z,8.6nm,0.6s						
LFF	La Frestale	114.44	316	⇑*i*PKIKP	PKPdf		03 28 24.4 +1.7
	comp=Z,18nm,0.7s						
EMIR	Miracle	114.53	312	PKP	PKPdf		03 28 23.1 +0.1
GRR	Gorron	114.62	320	⇑*i*PKIKP	PKPdf		03 28 24.0 +1.1
	comp=Z,11nm,0.4s						
MFF	Saint Martin d	114.63	318	⇑*i*PKIKP	PKPdf		03 28 24.1 +1.1
	comp=Z,21nm,0.7s						
EPOB	Poblet	114.97	312	PKP	PKPdf		03 28 24.8 +1.0
EPF	Esparros	115.15	314	*e*PKIKP	PKPdf		03 28 25.3 +1.2
EGRA	Graus	115.35	313	PKP	PKPdf		03 28 26.6 +2.1
EBIE	Bielsa	115.37	313	PKP	PKPdf		03 28 26.3 +1.7
SGMF	Saint Gilles	115.74	320	*e*PKIKP	PKPdf		03 28 26.0 +0.9
	comp=Z,5.9nm,0.7s						
ETSF	Etsaut	115.82	314	*e*PKIKP	PKPdf		03 28 27.5 +2.1
	comp=Z,6.7nm,0.7s						
ROSF	Rostrenen	116.17	320	*e*PKIKP	PKPdf		03 28 26.8 +0.8
	comp=Z,12nm,0.7s						
QUIF	Quistinic	116.24	320	*e*PKIKP	PKPdf		03 28 26.4 +0.3
	comp=Z,12nm,0.8s						
SJPF	Ste Jean	116.25	314	*e*PKIKP	PKPdf		03 28 28.1 +1.9
	comp=Z,24nm,1.1s						
EMOS	Mosqueruela	116.32	311	PKP	PKPdf		03 28 28.5 +2.0
EBEN	Beniarda	116.47	309	PKP	PKPdf		03 28 28.8 +2.0
ECHE	Chera	116.86	310	PKP	PKPdf		03 28 29.5 +2.1
USHA	Ushuaia	117.04	176	PKP	PKPdf		03 28 28.2 +0.8
	comp=Z,9.6nm,0.9s,baz=211,slow=5.9,SNR=3.7						
ETOB	Tobarra	117.50	309	PKP	PKPdf		03 28 30.1 +1.4
ETOB				pPKP			03 28 37.0
YBH	Yreka Blue Hor	117.67	47	PKP	PKPdf		03 28 30.6 +1.7
	comp=Z,1.6nm,0.8s,baz=225,slow=8.6,SNR=4.1						
ELAN	Lanestosa	117.78	315	PKP	PKPdf		03 28 31.0 +1.8
EVIA	Vianos	118.23	310	PKP	PKPdf		03 28 31.9 +1.7
ENIJ	Nijar	118.35	308	PKP	PKPdf		03 28 31.9 +1.5
EHUE	Huescar	118.48	309	PKP	PKPdf		03 28 31.9 +1.2
EQES	Quesada	118.85	309	PKP	PKPdf		03 28 32.4 +1.0
EBER	Berja	118.90	308	PKP	PKPdf		03 28 33.1 +1.6
EARI	Arriondas	119.00	315	PKP	PKPdf		03 28 33.3 +1.7
ESDC	Sonseca Array	119.09	311	PKP	PKPdf		03 28 33.0 +1.2
	comp=Z,7.0nm,0.9s,baz=27,slow=3.1,SNR=23						
ESDC	Sonseca Array	119.09	311	PKP	PKPdf		03 28 33.2 +1.4
EBAN	Banos Encina	119.32	309	PKP	PKPdf		03 28 33.5 +1.2
NEW	Newport	119.36	39	PKP	PKPdf		03 28 33.9 +1.8
EDM	Edmonton	119.38	32	*e*PKP	PKPdf		03 28 33.1 +1.0
ERON	Agron	119.59	308	PKP	PKPdf		03 28 33.7 +0.9
ERON				pPKP			03 28 40.5
ELOJ	Sierra Loja	119.84	308	PKP	PKPdf		03 28 34.2 +0.9
EADA	Adamuz	119.92	309	PKP	PKPdf		03 28 34.8 +1.3
EADA				pPKP			03 28 42.8
EPON	Pontenova	120.34	316	PKP	PKPdf		03 28 35.8 +1.7
WVOR	Wild Horse Val	120.38	45	*e*PKP	PKPdf		03 28 35.8 +1.6
EMIJ	Mijas	120.45	308	PKP	PKPdf		03 28 35.1 +0.6
ECAL	Calabor	120.49	314	PKP	PKPdf		03 28 35.9 +1.4
BMO	Blue Mountains	120.49	42	*e*PKP	PKPdf		03 28 34.9 +0.4
PBRG	Braganca	120.53	314	*e*PKPdf	PKPdf		03 28 36.3 +1.7
WALA	Waterton Lakes	120.97	37	*e*PKP	PKPdf		03 28 36.1 +0.8
ESPR	Espera	121.23	308	PKP	PKPdf		03 28 37.3 +1.2
PVRL	Vila Real	121.39	314	*e*PKPdf	PKPdf		03 28 38.1 +1.8
ELOB	Lobios	121.45	314	PKP	PKPdf		03 28 38.2 +1.8
STS	Santiago	121.45	316	PKP	PKPdf		03 28 37.9 +1.6
OMM	Old Mammoth Mi	121.50	51	PKP	PKPdf		03 28 38.2 +1.6
MTE	Manteigas	121.53	313	*e*PKPdf	PKPdf		03 28 38.1 +1.5
EBAD	Badajoz	121.62	311	PKP	PKPdf		03 28 38.0 +1.3
EMIN	Mina Concepcio	121.63	309	PKP	PKPdf		03 28 38.5 +1.7
PCBR	Castelo Branco	121.65	312	*e*PKPdf	PKPdf		03 28 38.4 +1.6
EMAZ	Mazaricos	121.73	316	PKP	PKPdf		03 28 38.3 +1.4
MSO	Missoula	121.91	39	*e*PKP	PKPdf		03 28 37.8 +0.7
CHMT	Chamberlain Mo	122.30	39	*e*PKP	PKPdf		03 28 38.7 +0.9
EGRO	El Granado	122.31	309	PKP	PKPdf		03 28 39.8 +1.7
PTOM	Tomar	122.41	312	*e*PKPdf	PKPdf		03 28 40.0 +1.8
PBEJ	Beja	122.47	310	*e*PKPdf	PKPdf		03 28 40.1 +1.7
DBIC	Dimbokro	122.64	273	PKP	PKPdf		03 28 40.7 +1.4
	comp=Z,18nm,0.9s,baz=115,slow=4.2,SNR=19						
DBIC	Dimbokro	122.64	273	PKP	PKPdf		03 28 40.7 +1.4
LIC	Lamto	122.77	272	⇑*i*PKIKP	PKPdf		03 28 40.6 +1.1
	comp=Z,25nm,0.6s						
HLID	Hailey	122.90	43	*e*PKP	PKPdf		03 28 41.1 +2.1
HLID				SKP			03 31 57.2
PLOU	Loures	123.18	311	*e*PKPdf	PKPdf		03 28 41.4 +1.7
PTEO	Sao Teotonio	123.25	310	*e*PKPdf	PKPdf		03 28 41.6 +1.7
HRY	Holter Researc	123.27	38	*e*PKP	PKPdf		03 28 40.8 +1.0
ELK	Elko	123.34	46	*e*PKP	PKPdf		03 28 41.9 +1.8
BOZ	Bozeman (W)	123.86	40	*e*PKP	PKPdf		03 28 42.5 +1.6
BOZ				SKP			03 31 58.8
FFC	Flin Flon	124.04	26	*e*PKP	PKPdf		03 28 41.9 +0.9
PFO	Pinyon Flat Ob	124.51	55	*e*PKP	PKPdf		03 28 44.1 +1.6
RRI2	Red Ridge	125.05	42	*e*PKP	PKPdf		03 28 45.2 +1.9
IMW	Indian Meadow	125.07	41	*e*PKP	PKPdf		03 28 45.2 +1.9
TPAW	Teton Pass	125.23	42	*e*PKP	PKPdf		03 28 45.9 +2.3
NEN	Nelson	125.25	52	*e*PKP	PKPdf		03 28 45.9 +2.0
DUG	Dugway	125.27	46	*e*PKP	PKPdf		03 28 45.3 +1.5
SNOW	Snow King Moun	125.37	42	*e*PKP	PKPdf		03 28 46.0 +2.1
LOHW	Long Hollow	125.41	41	*e*PKP	PKPdf		03 28 45.7 +1.7
HWUT	Hardware Ranch	125.60	44	*e*PKP	PKPdf		03 28 45.8 +1.5
MSU	Marysvale	126.33	48	*e*PKP	PKPdf		03 28 48.3 +2.4
PDAR	Pinedale Array	126.47	42	PKP	PKPdf		03 28 47.7 +1.7
	comp=Z,1.8nm,0.8s,SNR=20						
LAO	LASA Array	126.65	36	*e*PKP	PKPdf		03 28 48.4 +2.2
SRU	San Rafael	127.31	46	*e*PKP	PKPdf		03 28 48.8 +1.1
RWWY	Rawlins	128.51	42	*e*PKP	PKPdf		03 28 51.9 +1.9
RSSD	Black Hills	129.32	38	*e*PKP	PKPdf		03 28 52.1 +0.6
RSSD				SKP			03 31 53.5
TUC	Tucson	129.45	55	*e*PKP	PKPdf		03 28 54.1 +2.1
CFTV	Fuerteventura	130.03	300	PKP	PKPdf		03 28 56.0 +2.8
ISCO	Idaho Springs	130.46	44	*e*PKP	PKPdf		03 28 55.2 +1.4
ISCO				SKP			03 31 58.6
PLCA	Paso Flores	130.80	172	PKP	PKPdf		03 28 57.0 +2.6
	comp=Z,1.6nm,0.6s,baz=29,slow=5.1,SNR=5.8						
PLCA				SKPbc			03 32 01.9
	comp=Z,22nm,1.2s,baz=204,slow=4.6,SNR=8.6						
PLCA	Paso Flores	130.80	172	PKP	PKPdf		03 28 57.0 +2.6
PLCA				SKPbc			03 32 01.9
EOSO	Osorio	131.37	300	PKP	PKPdf		03 28 58.4 +2.6
ANMO	Albuquerque	131.93	50	PKP	PKPdf		03 28 59.9 +3.2
	comp=Z,3.1nm,0.7s,baz=206,slow=2.7,SNR=14						
ANMO				SKPbc			03 32 05.1
	comp=Z,33nm,0.8s,baz=290,slow=4.2,SNR=71						
ANMO	Albuquerque	131.93	50	*e*PKP	PKPdf		03 28 58.5 +1.8
ANMO				SKP			03 32 04.5
BNM	Barren Site	132.10	51	*e*PKP	PKPdf		03 28 59.1 +2.1
SCHQ	Schefferville	133.36	3	PKP	PKPdf		03 29 00.5 +1.7
	comp=Z,9.3nm,0.7s,baz=20,slow=0.8,SNR=18						
SCHQ				SKPbc			03 32 08.0
	comp=Z,8.3nm,0.8s,baz=29,slow=2.0,SNR=7.0						
SCHQ	Schefferville	133.36	3	PKP	PKPdf		03 29 00.5 +1.7
SCHQ				SKPbc			03 32 08.0
MNTX	Cornudas Mount	133.99	53	*e*PKPdf	PKPdf		03 29 02.3 +1.7
MNTX				SKP			03 32 11.3
GDL2	Guadalupe Moun	134.60	52	*e*PKP	PKPdf		03 29 03.1 +1.4
WMOK	Wichita Mounta	137.67	46	*e*PKP	PKPdf		03 28 59.4 -7.9
WMOK				SKP			03 32 21.8
CFAA	Coronel Fontan	140.09	173	PKhKP			03 29 05.9
	comp=Z,0.2nm,0.4s,baz=207,slow=6.6,SNR=5.2						
CFAA				PKP	PKPdf		03 29 12.1 +0.3
	comp=Z,0.9nm,0.6s,baz=206,slow=3.1,SNR=12						
CFAA				pPKP			03 30 01.4
	comp=Z,0.5nm,0.7s,baz=266,slow=5.0,SNR=2.1						
CFAA				SKPbc			03 32 30.7
	comp=Z,0.7nm,0.8s,baz=266,slow=0.9,SNR=6.9						
CFAA	Coronel Fontan	140.09	173	PKP	PKPdf		03 29 05.9 -5.9
CFAA				PKP	PKPdf		03 29 12.1 +0.3
CFAA				pPKP			03 30 01.4
CFAA				SKPbc			03 32 30.7
CCM	Cathedral Cave	140.66	36	PKP	PKPdf		03 29 08.1 -4.5
FVM	French Village	141.19	36	PKP	PKPdf		03 29 10.1 -3.5
UALR	University of	142.06	41	PKP	PKPdf		03 29 12.1 -3.1
BLO	Bloomington	142.47	31	*e*PKP	PKPdf		03 29 13.7 -2.0
HALT	Halls	143.23	37	PKP	PKPdf		03 29 15.6 -1.5
WCI	Wyandotte Cave	143.29	32	*e*PKP	PKPdf		03 29 14.9 -2.3
HNH	Hanover	143.64	12	*e*PKP	PKPdf		03 29 16.6 -1.0
ACCN	Adirondack Com	143.65	14	*e*PKP	PKPdf		03 29 16.0 -1.6
CAM4	Nova Friburgo	143.79	213	⇓*i*P	PKPbc		03 29 18.9 +1.3
CAM4				*i*			03 29 19.4
CAM4				*i*			03 29 20.8
CAM4				*i*			03 29 32.3
CAM4				*i*			03 29 50.7
CAM4				*i*			03 30 11.7
CAM3	Guarapari	143.92	217	(P)	PKPbc		03 29 08.2 -10
WVT	Waverly	143.97	36	*e*PKP	PKPdf		03 29 17.4 -1.1
FFD	Franklin Falls	143.99	11	*e*PKP	PKPdf		03 29 17.7 -0.5
OXF	Oxford	144.11	39	*e*PKP	PKPdf		03 29 17.8 -0.9
BINY	Binghamton	144.15	17	*e*PKP	PKPdf		03 29 17.6 -0.9
PLAL	Pickwick Lake	144.62	37	*e*PKP	PKPdf		03 29 18.8 -0.8
PLAL				SKP			03 32 38.6
HRV	Harvard--Oak R	144.94	11	*e*PKP	PKPdf		03 29 20.7 +0.8
QUA2	Belchertown	144.99	13	*e*PKP	PKPdf		03 29 20.6 +0.6
WES	Weston	145.10	11	*e*PKP	PKPdf		03 29 21.1 +0.9
MCWV	Mont Chateau	145.11	23	*e*PKP	PKPdf		03 29 21.3 +1.0
CPUP	Villa Florida	145.30	189	PKPbc	PKPbc		03 29 23.6 +1.9
	comp=Z,22nm,0.6s,baz=194,slow=2.9,SNR=67						
CPUP				pPKPbc			03 30 11.9
	comp=Z,87nm,0.9s,baz=192,slow=3.9,SNR=15						
CPUP				SKPbc			03 32 43.8
	comp=Z,11nm,0.8s,baz=185,slow=0.7,SNR=10						
CPUP	Villa Florida	145.30	189	*e*PKP	PKPdf		03 29 22.7 +1.7
CPUP				epPKP			03 30 10.4
PAL	Palisades	145.83	15	*e*PKP	PKPdf		03 29 23.2 +1.7
BRNJ	Basking Ridge	145.96	16	*e*PKP	PKPdf		03 29 23.7 +2.0
TZTN	Tazewell	145.99	31	*e*PKP	PKPdf		03 29 22.8 +0.9
CPCT	Cooper Cave	146.31	33	*e*PKP	PKPdf		03 29 23.8 +1.4
FWV	Forest Hill	146.46	27	*e*PKP	PKPdf		03 29 23.4 +0.8
LRAL	Lakeview Retre	146.59	39	*e*PKP	PKPdf		03 29 24.2 +1.2
ELN	Prospectdale	146.78	27	*e*PKP	PKPdf		03 29 24.1 +1.0
BLA	Blacksburg	146.94	26	*e*PKP	PKPdf		03 29 24.2 +0.7
CBN	Corbin	147.31	22	*e*PKP	PKPdf		03 29 25.9 +1.9
LVC	Limon Verde	148.80	169	PKPbc	PKPdf		03 29 34.6 +7.8
	comp=Z,9.7nm,0.6s,baz=272,slow=1.7,SNR=16						
LVC				pPKPbc			03 30 23.3
	comp=Z,15nm,0.9s,baz=254,slow=1.3,SNR=3.6						
JSC	Jenkinsville	148.92	31	*e*PKP	PKPdf		03 29 28.6 +1.8
NHSC	New Hope	150.40	31	*e*PKPdf	PKPdf		03 29 30.8 +1.7
NHSC				*e*PKPbc	PKPdf		03 29 35.9 +6.8
RGRS	Roger Stewart	150.55	31	*e*PKPbc	PKPdf		03 29 36.4 +7.1
BAO	Brasilia Array	152.20	212	PKPdf	PKPdf		03 29 35.0 +2.8
BDFB	Brasilia	152.21	212	PKP	PKPdf		03 29 35.0 +2.8
	comp=Z,11nm,0.6s,baz=159,slow=2.5,SNR=5.4						
BDFB				PKPbc	PKPdf		03 29 41.6 +9.4
	comp=Z,18nm,0.8s,baz=170,slow=1.5,SNR=22						
BDFB				PKPab	PKPab		03 29 51.3 -0.7
	comp=Z,20nm,0.8s,baz=172,slow=5.1,SNR=9.9						
BDFB				pPKPbc			03 30 29.8
	comp=Z,14nm,0.7s,baz=51,slow=6.2,SNR=3.8						
BDFB	Brasilia	152.21	212	PKIKP	PKPdf		03 29 35.0 +2.8
BDFB							03 29 51.3
LPAZ	La Paz	155.10	168	PKP	PKPdf		03 29 39.7 +3.6
	comp=Z,2.4nm,0.8s,baz=72,slow=0.2,SNR=8.4						
LPAZ				PKPab	PKPab		03 30 03.1 -1.1
	comp=Z,2.6nm,0.8s,baz=160,slow=7.6,SNR=5.9						
LPAZ				pPKPab			03 30 52.5
	comp=Z,10nm,0.9s,baz=210,slow=3.6,SNR=6.7						
LPAZ	La Paz	155.10	168	*e*PKP	PKPdf		03 29 39.1 +3.1
SIV	San Ignacio	155.93	184	PKP	PKPdf		03 29 40.1 +2.9
	comp=Z,3.5nm,0.8s,baz=190,slow=1.4,SNR=22						
SIV				PKPab	PKPab		03 30 08.0 +0.3
	comp=Z,2.6nm,0.7s,baz=192,slow=4.4,SNR=4.6						
SIV				pPKP			03 30 29.5
	comp=Z,7.8nm,1.1s,baz=189,slow=2.8,SNR=4.5						
SIV				pPKPab			03 30 54.6
	comp=Z,9.7nm,0.9s,baz=181,slow=3.8,SNR=9.5						
SAML	Samuel	162.98	178	*e*PKPdf	PKPdf		03 29 47.2 +1.9
ROSC	El Rosal	168.00	105	PKP	PKPdf		03 29 52.4 +2.9
	comp=Z,2.2nm,0.3s,baz=269,slow=22,SNR=6.4						
SJG	San Juan	169.58	18	PKP	PKPdf		03 29 51.7 +1.4
	comp=Z,5.4nm,0.5s,baz=347,slow=7.9,SNR=3.4						
SDV	Santo Domingo	172.14	84	PKP	PKPdf		03 29 53.8 +1.9
	comp=Z,7.5nm,0.9s,baz=253,slow=2.4,SNR=8.6						
SDV				PKPab	PKPab		03 31 19.6 +1.1
	comp=Z,5.9nm,0.7s,baz=59,slow=3.2,SNR=5.9						

THR ***13*** *03:21:37.0±0.8, 32.59N×54.81E, h14km, ML3.4*
TEH ***13*** *03:21:39.3, 32.80N×54.95E, h13km, Mn3.7*
CSEM ***13*** *03:21:39.3, 32.80N×54.95E, h13km, ML3.7, After TEH*

ISC 13 03:21:39.1±1.0, 32.79N±0.06×54.80E±0.09, h10km, n17, σ1§10/15, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ICHK	Chekchek	0.64	211	Pg	Pg	03 21 52.3	+0.3
IBAF	Bafgh	1.36	151	Pg	Pg	03 22 02.9	-3.5
IMEH	Mehriz	1.41	187	Pn	Pn	03 22 05.2	+0.3
NASN	Na'in	1.68	271	*e*PG	Pg	03 22 09.4	-3.2
NASN				*e*SG	Sg	03 22 33.7	-1.3
NASN				AML	AML	03 22 35.1	
	comp=N,474nm,0.5s						
IZEF	Zefreh	2.08	273	Pn	Pn	03 22 15.2	+0.7
IGAR	Garneh	2.27	257	Pn	Pn	03 22 19.0	+1.8
IKLH	Kalahroud	2.76	282	Pn	Pn	03 22 24.5	+0.4
IFIR	Firoozkooh	3.31	330	Lg		03 23 24.2	
IFIR	Firoozkooh	3.31	330	Pn	Pn	03 22 30.9	-1.1
IVRN	Varamin	3.37	312	Lg		03 23 28.0	
IVRN	Varamin	3.37	312	Pn	Pn	03 22 32.5	-0.4
IDMV	Damavand	3.60	321	Pn	Pn	03 22 35.9	-0.3
DAMV	Damavand	3.67	321	*e*PN	Pn	03 22 38.1	+0.9
IAFJ	Afjeh	3.98	321	Lg		03 23 45

SVSK	**Karacayir**	**3.02**	**280**	*e*PN	**Pn**	**04 16 54.5 -0.2**
GNI	**Garni**	**3.07**	**75**	*e*PN	**Pn**	**04 16 55.7 +0.2**
GZT	**Gaziantep**	**3.32**	**232**	*i* P	**Pb**	**04 17 05.7 +1.2**
GZT				*i* S	**Sg**	**04 17 56.0 +0.1**
GAZ	**Gaziantep**	**3.66**	**233**	*e*PN	**Pn**	**04 17 03.7 0.0**
ONI	**Oni**	**3.70**	**31**	P	**Pn**	**04 17 12.8 +8.5**
ONI				S	**Sn**	**04 18 03.4 +15**

*IDC **13** 04:35:26.6±6.6, 12.11S×167.21E, h248km±67km, mb3.8/5, mb1 3.9/6, mb1mx3.6/12, mbtmp4.3/6, Error ellipse: s-maj=59.9km s-min=28.0km az=157.0*
*NEIC **13** 04:35:26.3±0.7, 12.09S×167.26E, h250km, mb4.1/1, Error ellipse: s-maj=23.9km s-min=13.5km az=112.0*
ISC 13 04:35:25.4±1.2, 12.1S±0.1×167.2E±0.2, h250km, n11, σ0§93/8, mb4.1/5, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.95**	**184**	P	**P**	**04 37 44.3**	**+0.1**
	0.2nm,0.3s,baz=12,slow=19,SNR=2.9						
CTA	**Charters Tower**	**21.63**	**246**	*e*P	**P**	**04 39 58.2**	**+1.7**
	4.1nm,0.6s,mb4.1						
CTA	**Charters Tower**	**21.63**	**246**	P	**P**	**04 39 58.2**	**+1.7**
	4.6nm,0.6s,mb4.2,baz=78,slow=19,SNR=9.3						
STKA	**Stephens Creek**	**30.71**	**226**	P	**P**	**04 41 18.9**	**-0.5**
	2.6nm,0.6s,mb4.0,baz=52,slow=3.9,SNR=3.4						
WRA	**Warramunga Arr**	**32.50**	**252**	P	**P**	**04 41 33.4**	**-1.5**
	1.3nm,0.6s,mb3.6,baz=85,slow=9.1,SNR=6.5						
ILAR	**Eielson Array**	**84.05**	**18**	P	**P**	**04 47 28.7**	**0.0**
	6.7nm,0.6s,mb4.5,baz=259,slow=5.3,SNR=35						
MKAR	**Makanchi Array**	**95.26**	**317**	P	**P**	**04 48 22.2**	**+0.2**
	2.0nm,0.8s,mb4.3,baz=95,slow=6.6,SNR=15						
MKAR	**Makanchi Array**	**95.26**	**317**	P	**P**	**04 48 22.2**	**+0.2**
ARCES	**ARCESS Array B**	**117.70**	**346**	PKP	PKPdf	04 53 42.3	+1.0
	1.9nm,0.8s,baz=63,slow=1.9,SNR=13						
FINES	**FINESS Array B**	**123.26**	**339**	PKP	PKPdf	04 53 52.4	+0.1
	1.7nm,0.9s,baz=24,slow=1.7,SNR=4.4						
ESDC	**Sonseca Array**	**151.44**	**346**	PKP	PKPdf	04 54 44.8	+1.5
	0.5nm,0.6s,baz=296,slow=38,SNR=2.8						
ESDC				PKPbc	PKPdf	04 54 52.0	+8.7
	0.4nm,0.5s,baz=3.0,slow=3.5,SNR=5.6						
ESDC				PKPab	PKPab	04 55 01.6	+0.3
	0.3nm,0.4s,baz=9.2,slow=4.7,SNR=3.6						

*BJI **13** 04:58:43.9, 23.60N×104.13E, h11km, mB4.8, mb4.7, ML5.1, Ms5.2, Msz4.9*
*NEIC **13** 04:58:44.9±0.2, 23.63N×104.10E, h10km, mb4.8/61, MS4.5/8, Error ellipse: s-maj=5.5km s-min=3.7km az=219.0*
NEIC At least 26 people injured, several houses destroyed and roads and reservoirs damaged in Wenshan County.
*MOS **13** 04:58:46.4±0.8, 23.60N×104.15E, h33km, mb5.0/63, MS4.5/24, Error ellipse: s-maj=10.7km s-min=4.6km az=125.8*
*PLV **13** 04:58:46.6±1.6, 23.33N×104.17E, MD5.5*
*IDC **13** 04:58:49.5±6.6, 23.64N×104.10E, h39km±57km, mb4.3/19, mb1 4.4/19, mb1mx4.4/21, mbtmp4.5/19, MS4.3/14, Ms1 4.3/14, ms1mx4.2/21, Error ellipse: s-maj=19.6km s-min=13.3km az=54.0*
ISC 13 04:58:42.6±0.1, 23.45N±0.01×104.10E±0.02, h10km, (h12km±1.1km:pP-P), n288, σ1§14/325, mb4.7/96, MS4.5/36, 15C-16D, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGV	**Tuan Giao**	**1.96**	**199**	*e*PN	**Pn**	**04 59 19.4**	**+3.1**
TGV				*e*PG	**Pg**	**04 59 23.1**	**+1.4**
TGV				*e*SG	**Sg**	**04 59 46.7**	**-1.1**
KMI	**Kunming**	**2.07**	**324**	⇓P	**Pn**	**04 59 19.4**	**+1.5**
KMI				PG	**Pg**	**04 59 22.6**	**-1.4**
KMI				SG	**Sg**	**04 59 49.8**	**-1.9**
KMI				Smax			
	comp=N,5μm,1.1s						
KMI				Smax			
	comp=E,6μm,1.2s						
KMI				LR	LR		
	comp=N,61μm,5.4s						
KMI				LR	LR		
	comp=E,51μm,3.8s						
KMI				LR	LR		
	comp=Z,41μm,6.6s						
DHV	**Doan Hung**	**2.08**	**151**	*e*Pn	**Pn**	**04 59 21.4**	**+3.4**
DHV				*e*Pg	**Pg**	**04 59 24.5**	**+0.4**
DHV				*e*Sg	**Sg**	**04 59 48.8**	**-3.0**
DBV	**Dienbien**	**2.28**	**206**	*e*PN	**Pn**	**04 59 23.7**	**+2.8**
DBV				*e*PG	**Pg**	**04 59 28.3**	**+0.1**
DBV				*e*SG	**Sg**	**04 59 57.2**	**-1.4**
TDV	**Tam Dao**	**2.44**	**144**	*e*Pn	**Pn**	**04 59 25.6**	**+2.4**
TDV				*e*Pg	**Pg**	**04 59 31.1**	**-0.2**
TDV				*e*Sg	**Sg**	**05 00 00.8**	**-3.1**
BVV	**Ba Vi**	**2.62**	**153**	*e*PN	**Pn**	**04 59 28.9**	**+3.2**
BVV				*i* Pg	**Pg**	**04 59 35.2**	**+0.3**
BVV				*i* Sg	**Sg**	**05 00 08.0**	**-1.8**
TLV	**Tu Ly**	**2.78**	**157**	*e*PN	**Pn**	**04 59 30.8**	**+2.8**
TLV				*e*PG	**Pg**	**04 59 37.2**	**-0.9**
TLV				*e*SG	**Sg**	**05 00 11.6**	**-3.6**
MTZV	**Met**	**2.81**	**132**	*i* Pn	**Pn**	**04 59 31.1**	**+2.7**
MTZV				*i* Pg	**Pg**	**04 59 38.6**	**-0.1**
MTZV				*i* Sg	**Sg**	**05 00 12.8**	**-3.4**
KSVV	**Ky Son**	**2.82**	**155**	*e*PN	**Pn**	**04 59 31.9**	**+3.4**
KSVV				*e*PG	**Pg**	**04 59 37.9**	**-1.0**
KSVV				*e*SG	**Sg**	**05 00 15.5**	**-1.0**
HNV	**Hanoi**	**2.87**	**146**	*i* Pn	**Pn**	**04 59 31.6**	**+2.4**
HNV				*i* Pg	**Pg**	**04 59 39.6**	**-0.2**
HNV				*i* Sg	**Sg**	**05 00 15.8**	**-2.2**
BGV	**Bac-Giang**	**2.92**	**137**	*i* Pn	**Pn**	**04 59 32.1**	**+2.1**
BGV				*i* Pg	**Pg**	**04 59 40.2**	**-0.6**
BGV				*i* Sg	**Sg**	**05 00 15.4**	**-4.3**
YTV	**Yen Tu**	**3.33**	**133**	*i* Pn	**Pn**	**04 59 38.2**	**+2.3**
YTV				*i* Pg	**Pg**	**04 59 48.1**	**-1.0**
YTV				*i* Sg	**Sg**	**05 00 29.7**	**-3.9**
DSV	**Doi Son**	**3.34**	**148**	*i* Pn	**Pn**	**04 59 37.9**	**+1.8**
DSV				*e*Pg	**Pg**	**04 59 47.8**	**-1.5**
DSV				*i* Sg	**Sg**	**05 00 30.1**	**-3.8**
PLV	**Phu-Lien**	**3.53**	**138**	*i* Pn	**Pn**	**04 59 40.5**	**+1.8**
PLV				*i* Pg	**Pg**	**04 59 51.9**	**-1.1**
PLV				*i* Sg	**Sg**	**05 00 34.9**	**-5.2**
GYA	**Guiyang**	**3.79**	**37**	P	**Pn**	**04 59 41.5**	**-0.9**
GYA				PG	**Pg**	**04 59 51.3**	**-7.0**
GYA				S	**Sn**	**05 00 23.5**	**-4.1**
GYA				SG	**Sg**	**05 00 32.3**	**-17**
CHRT	**Chiangrai**	**5.37**	**229**	⇑PN	**Pn**	**05 00 03.0**	**-1.7**
CHRT				PG	Pg	05 00 09.0	-21
CHRT				SG	**Sg**	**05 01 36.5**	**-4.8**
NANT	**Nan**	**5.61**	**215**	PN	**Pn**	**05 00 08.0**	**-0.2**
QIZ	**Qiongzhong**	**6.93**	**128**	P	**Pn**	**05 00 26.6**	**-0.2**
QIZ				*e*S	**Sn**	**05 01 46.9**	**+0.3**
QIZ				LR	LR		
	comp=N,16μm,11.7s						
QIZ				LR	LR		
	comp=E,11μm,12.1s						
QIZ	**Qiongzhong**	**6.93**	**128**	*e*P	**Pn**	**05 00 25.6**	**-1.2**
	comp=E,113nm,0.7s						
KKTK	**Khon Kaen**	**7.18**	**190**	PN	**Pn**	**05 00 31.0**	**+0.7**
KKTK				PG	**Pg**	**05 01 05.5**	**-0.4**
KKTK				SG	**Sg**	**05 02 33.0**	**-8.7**
CD2	**Chengdu**	**7.43**	**358**	P	**Pn**	**05 00 31.6**	**-2.2**
CD2				Smax			
	comp=N,2μm,0.4s						
CD2				Smax			
	comp=E,2μm,0.4s						
CD2				LR	LR		
	comp=E,17μm,8.0s						
CD2				LR	LR		
	comp=Z,5μm,10.1s						
UBT	**Ubonrachathani**	**8.21**	**174**	P	**P**	**05 00 47.5**	**+2.8**
ENH	**Enshi**	**8.32**	**34**	*e*P	**P**	**05 00 44.2**	**-2.0**
	comp=Z,386nm,1.0s						
GZH	**Guangzhou**	**8.51**	**91**	P	**P**	**05 00 50.4**	**+1.6**
GZH				S	**Sn**	**05 02 31.1**	**+5.2**
GZH				Smax			
	comp=N,2μm,0.8s						
GZH				Smax			
	comp=E,2μm,0.9s						
NST	**Nakhon Sawan**	**8.59**	**206**	PN	**P**	**05 01 05.5**	**+16**
NST				PG	P	05 01 35.0	+45
NST				SG	**Sg**	**05 03 28.0**	**-0.7**
IMP	**Imphal**	**9.38**	**280**	*e*P	**P**	**05 01 03.0**	**+2.1**
IMP				*ex*	x	05 03 52.0	
XAN	**Xi'an**	**11.36**	**21**	P	**P**	**05 01 23.9**	**-4.2**
XAN				S	**S**	**05 03 25.0**	**-11**
XAN				LR	LR		
	comp=N,6μm,11.8s						
XAN				LR	LR		
	comp=E,12μm,11.3s						
XAN				LR	LR		
	comp=Z,4μm,8.0s						
WHN	**Wuhan**	**11.55**	**50**	P	**P**	**05 01 28.5**	**-2.1**
WHN				S	**S**	**05 03 30.8**	**-10**
WHN				LR	LR		
	comp=Z,15μm,7.0s						
LSA	**Lhasa**	**13.15**	**301**	*e*P	**P**	**05 01 54.3**	**+2.3**
LSA				LR	LR		
	comp=N,3μm,21.1s						
LSA				LR	LR		
	comp=E,3μm,19.6s						
LSA				LR	LR		
	comp=Z,2μm,10.2s						
LSA	**Lhasa**	**13.15**	**301**	P	**P**	**05 01 49.7**	**-2.4**
LSA	comp=Z,7.9nm,0.8s						
LSA	**Lhasa**	**13.15**	**301**	P	**P**	**05 01 49.7**	**-2.3**
LSA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
QZH	**Quanzhou**	**13.31**	**81**	P	**P**	**05 01 53.8**	**-0.5**
QZH				S	**S**	**05 04 23.4**	**0.0**
QZH				LR	LR		
	comp=Z,10μm,15.5s						
CAL	**Calcutta**	**14.55**	**270**	*ex*	x	05 03 54.8	
CAL				*ex*	x	05 06 01.9	
CAL				*i* x	x	05 07 15.2	
NJ2	**Nanjing**	**15.61**	**54**	*e*P	**P**	**05 02 25.8**	**+1.4**
NJ2				AP		05 02 29.1	
NJ2				XP		05 02 33.6	
NJ2				PP	PP	05 02 38.1	+1.1
NJ2				PPP	PPP	05 02 45.8	+1.2
NJ2				S	**S**	**05 05 19.0**	**+1.2**
NJ2				XS		05 05 26.0	
NJ2				AMB	AMB		
	comp=Z,30nm,1.0s						
NJ2				AMB	AMB		
	comp=Z,830nm,4.5s						
NJ2				LR	LR		
	comp=N,9μm,10.5s						
NJ2				LR	LR		
	comp=E,8μm,8.5s						
NJ2				LR	LR		
	comp=Z,4μm,10.2s						
TIY	**Taiyuan**	**15.91**	**25**	*e*P	**P**	**05 02 25.0**	**-3.2**
TIY				S	**S**	**05 05 29.0**	**+4.2**
TIY				LR	LR		
	comp=E,7μm,12.0s						
TIY				LR	LR		
	comp=Z,3μm,8.0s						
GTA	**Gaotai**	**16.32**	**348**	*e*P	**P**	**05 02 30.1**	**-3.3**
GTA				AP		05 02 34.5	
GTA				XP		05 02 36.8	
GTA				S	**S**	**05 05 28.9**	**-5.4**
GTA				LG1		05 07 12.3	
GTA				LG2		05 07 40.1	
GTA				AMB	AMB		
	comp=Z,11nm,1.2s						
GTA				AMB	AMB		
	comp=Z,264nm,6.1s						
GTA				LR	LR		
	comp=N,3μm,8.4s						
GTA				LR	LR		
	comp=E,3μm,11.8s						
GTA				LR	LR		
	comp=Z,2μm,14.4s						
SSE	**Sheshan**	**16.98**	**60**	*e*P	**P**	**05 02 40.9**	**-1.0**
SSE				AP		05 02 45.3	
SSE				XP		05 02 47.3	
SSE				S	**S**	**05 05 50.3**	**+0.7**
SSE				AMB	AMB		
	comp=Z,20nm,0.9s						
SSE				AMB	AMB		
	comp=Z,292nm,5.8s						
SSE				LR	LR		
	comp=N,2μm,15.4s						
SSE				LR	LR		
	comp=E,3μm,15.4s						
SSE				LR	LR		
	comp=Z,4μm,14.6s						
TIA	**Tai'an**	**16.99**	**39**	⇓P	**P**	**05 02 42.3**	**+0.4**
TIA				AMB	AMB		
	comp=Z,115nm,1.3s						
TIA				LR	LR		
	comp=N,3μm,10.5s						
TIA				LR	LR		
	comp=E,3μm,8.8s						
PKI	**Pulchoki**	**17.36**	**288**	*e*P	**P**	**05 02 48.9**	**+2.3**
	comp=E,47nm,0.7s						
PKI	**Pulchoki**	**17.36**	**288**	*e*P	**P**	**05 02 48.9**	**+2.3**
PKI				pmax	pmax		
	comp=Z,24nm,0.7s						
KKN	**Kakani**	**17.51**	**288**	*e*P	**P**	**05 02 48.9**	**+0.4**
	comp=Z,341nm,1.8s						
KKN	**Kakani**	**17.51**	**288**	*e*P	**P**	**05 02 48.9**	**+0.4**
KKN				pmax	pmax		
	comp=Z,171nm,1.8s						
DMN	**Daman**	**17.63**	**288**	*e*P	**P**	**05 02 51.5**	**+1.5**
	comp=Z,76nm,0.9s						
BTO	**Baotou**	**17.82**	**15**	*e*P	**P**	**05 02 50.6**	**-1.6**
BTO				S	**S**	**05 06 10.5**	**+2.0**
BTO				AMB	AMB		
	comp=Z,41nm,1.1s						
BTO				LR	LR		
	comp=N,6μm,9.2s						
BTO				LR	LR		
	comp=E,7μm,14.9s						
GKN	**Gorkha**	**18.11**	**289**	*e*P	**P**	**05 02 55.5**	**-0.5**
HHC	**Hu-ho-hao-te**	**18.45**	**18**	*e*P	**P**	**05 02 57.8**	**-2.3**
HHC				AP		05 03 01.0	
HHC				XP		05 03 03.5	
HHC				PP	PP	05 03 13.1	-2.6
HHC				S	**S**	**05 06 18.1**	**-4.8**
HHC				AMB	AMB		
	comp=Z,110nm,1.5s						
HHC				AMB	AMB		
	comp=Z,946nm,4.8s						
HHC				LR	LR		
	comp=Z,7μm,10.1s						
KOLN	**Koldanda**	**18.97**	**287**	*e*P	**P**	**05 03 05.3**	**-1.3**
	comp=Z,49nm,1.0s						
VIS	**Vishakhapatnam**	**20.25**	**258**	*i* P	**P**	**05 03 21.4**	**+0.4**
KKM	**Kota Kinabalu**	**20.87**	**144**	*e*P	**P**	**05 03 29.7**	**+2.2**
DL2	**Dalian**	**21.44**	**40**	P	**P**	**05 03 36.8**	**+3.7**
DL2				AMB	AMB		
	comp=Z,40nm,1.6s,mb4.5						
DL2				LR	LR		
	comp=N,1μm,13.9s,MS4.6						
DL2				LR	LR		
	comp=E,910nm,12.6s,MS4.6						
DL2				LR	LR		
	comp=Z,2μm,12.6s,MS4.6						
JOW	**Kunigami**	**22.14**	**76**	LR	LR	05 13 16.1	
	comp=Z,2μm,18.4s,MS4.6,baz=310,slow=39						
JBP	**Jabalpur**	**22.14**	**274**	*e*P	**P**	**05 03 41.3**	**+1.1**
JBP				AMb	AMB	05 03 49.0	
	comp=Z,53nm,1.9s,mb4.6						
JBP				*e*S	**S**	**05 07 47.1**	**+8.0**
KSM	**Kuching**	**22.66**	**164**	*e*P	**P**	**05 03 48.0**	**+2.4**
WMQ	**Urumqi**	**24.39**	**330**	P	**P**	**05 04 03.0**	**+0.9**
WMQ				XP		05 04 10.0	
WMQ				PP	PP	05 04 38.0	+0.5
WMQ				S	**S**	**05 08 18.0**	**-0.6**
WMQ				SS	SS	05 09 11.0	-1.6
WMQ				AMB	AMB		
	comp=Z,16nm,1.0s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,27nm,7.0s						
WMQ				LR	LR		
	comp=N,594nm,10.0s,MS4.5						
WMQ				LR	LR		
	comp=E,486nm,10.0s,MS4.5						
WMQ				LR	LR		
	comp=Z,754nm,10.0s,MS4.5						
SONM	**Songino Array**	**24.40**	**4**	P	**P**	**05 04 03.0**	**+0.9**
	comp=Z,18nm,0.7s,mb4.6,baz=186,slow=10,SNR=89						
SNY	**Shenyang**	**24.49**	**37**	⇑P	**P**	**05 04 04.3**	**+1.2**
SNY				S	**S**	**05 08 20.0**	**-0.4**
SNY				AMB	AMB		
	comp=Z,250nm,8.1s						
SNY				LR	LR		
	comp=N,2μm,15.7s,MS4.9						
SNY				LR	LR		
	comp=E,2μm,17.9s,MS4.9						
SNY				LR	LR		
	comp=Z,2μm,14.1s,MS4.8						
HYB	**Hyderabad**	**24.66**	**261**	*i* P	**P**	**05 04 08.0**	**+3.1**
HYB				*e*S	**S**	**05 08 28.0**	**+4.6**
HYB	**Hyderabad**	**24.66**	**261**	*e*P	**P**	**05 04 08.0**	**+3.1**
HYB				*e*S	**S**	**05 08 28.0**	**+4.6**
MDRS	**Chennai**	**24.86**	**250**	*ex*	x	05 08 46.0	
MDRS				*ex*	x	05 10 32.0	
JNU	**Nakatsue**	**25.41**	**62**	P	**P**	**05 04 12.8**	**+0.9**
	comp=Z,12nm,1.0s,mb4.4,baz=68,slow=8.0,SNR=4.1						
JNU				LR	LR	05 14 39.9	
	comp=Z,642nm,19.8s,MS4.1,baz=75,slow=38						
CN2	**Changchun**	**26.84**	**36**	*e*P	**P**	**05 04 25.8**	**+0.8**
CN2				*e*XP	sP	05 04 33.8	+4.5
CN2				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.7						
CN2				LR	LR		
	comp=N,2μm,17.0s,MS4.9						
CN2				LR	LR		
	comp=E,1μm,17.0s,MS4.9						
CN2				LR	LR		
	comp=Z,1μm,17.0s,MS4.6						
ZAK	**Zakamensk**	**26.89**	**359**	*e*P	**P**	**05 04 28.0**	**+2.6**
ZAK				pmax	pmax		
	comp=Z,30nm,0.9s,mb4.8						
HIA	**Hailar**	**28.56**	**22**	*e*P	**P**	**05 04 38.8**	**-1.8**
	comp=Z,22nm,1.0s,mb4.8						
HIA	**Hailar**	**28.56**	**22**	*e*P	**P**	**05 04 38.8**	**-1.8**
HIA				pmax	pmax		
	comp=Z,22nm,1.0s						
KSH	**Kashi**	**28.68**	**311**	*e*P	**P**	**05 04 45.0**	**+3.2**
KSH				*e*AP	pP	05 04 49.3	+4.6
KSH				*e*XP	sP	05 04 52.3	+6.3
KSH				*e*PP	PP	05 05 38.3	+4.0
KSH				*e*PCP	PcP	05 07 53.6	+1.0
KSH				*e*S	**S**	**05 09 30.0**	**+0.8**
KSH				XS		05 09 41.1	
KSH				*e*SCP		05 11 33.0	
KSH				*e*PCS		05 11 35.1	
KSH				*e*SCS	ScS	05 15 25.3	+0.6
KSH				LR	LR		
	comp=N,920nm,9.5s						
KSH				LR	LR		
	comp=E,880nm,10.3s						
IRK	**Irkutsk**	**28.74**	**0**	*e*P	**P**	**05 04 42.7**	**+0.5**
IRK				*e*		05 05 29.3	
IRK				pmax	pmax		
	comp=Z,40nm,2.7s,mb4.7						
MKAR	**Makanchi Array**	**29.15**	**328**	P	**P**	**05 04 46.0**	**0.0**
	comp=Z,5.2nm,0.8s,mb4.3,baz=144,slow=10,SNR=29						
MKAR				PcP	PcP	05 07 53.6	-0.1
	comp=Z,2.6nm,0.7s,baz=101,slow=6.2,SNR=4.3						
MKAR				LR	LR	05 17 56.0	
	comp=Z,639nm,19.4s,MS4.2,baz=180,slow=40						
CIT	**Chita**	**29.43**	**12**	*e*P	**P**	**05 04 49.0**	**+0.6**
CIT				*e*		05 05 03.4	
MDJ	**Mudanjiang**	**29.66**	**38**	P	**P**	**05 04 49.5**	**-1.0**
MDJ				AP	pP	05 04 52.6	-0.8
MDJ				PCP	PcP	05 07 54.5	-0.5
MDJ				S	**S**	**05 09 46.4**	**+1.7**
MDJ				SCP		05 11 32.4	
MDJ				PCS		05 11 36.8	
MDJ				SCS	ScS	05 15 30.3	+1.1
MDJ				AMB	AMB		
	comp=Z,3.0nm,1.1s,mb3.9						
MDJ				AMB	AMB		
	comp=Z,26nm,4.2s						
MDJ				LR	LR		
	comp=N,782nm,16.6s,MS4.6						
MDJ				LR	LR		
	comp=E,936nm,18.9s,MS4.6						
MDJ				LR	LR		
	comp=Z,1μm,16.1s,MS4.7						
TRD	**Trivandrum**	**29.94**	**245**	*ex*	x	05 06 29.8	
AAK	**Ala-Archa**	**31.09**	**315**	P	**P**	**05 05 04.3**	**+1.1**
AAK				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.7						
FRU	**Bishkek**	**31.11**	**316**	*e*P	**P**	**05 05 04.0**	**+0.6**
FRU				pmax	pmax		
	comp=Z,150nm,3.0s						
FRU				MLR	MLR		
	comp=Z,1μm,18.0s,MS4.6						
BHJ	**Bhuj**	**31.58**	**277**	*ex*	x	05 10 30.3	
BHJ				*ex*	x	05 12 54.8	
MAJO	**Matsushiro**	**32.12**	**58**	P	**P**	**05 05 11.8**	**-0.5**
KURK	**Kurchatov**	**33.64**	**330**	*e*P	**P**	**05 05 24.7**	**-0.7**
	comp=Z,29nm,0.7s,mb5.3						
KURK	**Kurchatov**	**33.64**	**330**	P	**P**	**05 05 25.2**	**-0.2**
KURK				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.9						
KLR	**Kul'dur**	**33.68**	**33**	*e*P	**P**	**05 05 22.0**	**-3.8**
KLR				MLR	MLR		
	comp=N,2μm,16.0s,MS5.1						
KLR				MLR	MLR		
	comp=E,2μm,16.0s,MS5.1						
KLR				MLR	MLR		
	comp=N,2μm,13.0s						
KLR				MLR	MLR		
	comp=E,1μm,13.0s						
KLR				MLR	MLR		
	comp=Z,2μm,13.0s,MS5.0						
KKAR	**Karatay Array**	**33.92**	**313**	*e*P	**P**	**05 05 27.6**	**-0.3**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
CBIJ	**Chichi jima**	**34.55**	**76**	LR	LR	05 18 02.9	
	comp=Z,347nm,21.2s,MS4.1,baz=235,slow=33						
NVS	**Novosibirsk**	**34.99**	**339**	*e*P	**P**	**05 05 36.0**	**-1.0**
NVS				pmax	pmax		
	comp=Z,100nm,2.7s,mb5.3						
NVS				pmax	pmax		
	comp=N,33nm,2.0s						
ASAJ	**Asahikawa**	**37.61**	**47**	P	**P**	**05 05 59.1**	**0.0**
	comp=N,13nm,1.1s,mb4.6,baz=261,slow=16,SNR=4.8						
VOSK	**Vostochnaya**	**38.56**	**328**	P	**P**	**05 06 07.2**	**+0.1**
VOSK				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.7						
BVA0	**Borovoye Array**	**39.03**	**328**	*i* P	**P**	**05 06 11.5**	**+0.5**
BVA0				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.0						
BVAR	**Borovoye Array**	**39.03**	**328**	P	**P**	**05 06 11.3**	**+0.3**
	comp=Z,9.7nm,0.7s,mb4.6,baz=129,slow=9.5,SNR=63						
BVAR				PcP	PcP	05 08 21.1	-0.6
	comp=Z,3.5nm,0.6s,baz=132,slow=4.3,SNR=6.1						
BRVK	**Borovoye**	**39.10**	**328**	*e*P	**P**	**05 06 11.6**	**0.0**
	comp=Z,17nm,0.8s,mb4.8						
BRVK	**Borovoye**	**39.10**	**328**	*e*P	**P**	**05 06 11.6**	**0.0**
BRVK				pmax	pmax		
	comp=Z,17nm,0.8s,mb4.8						
YAK	**Yakutsk**	**42.31**	**18**	*e*P	**P**	**05 06 39.1**	**+1.2**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.3						
YAK				MLR	MLR		
	comp=Z,754nm,13.0s,MS4.8						
YAK				MLR	MLR		
	comp=N,518nm,12.0s,MS4.7						
YAK				MLR	MLR		
	comp=E,432nm,13.0s,MS4.7						
AB31	**Akbulak array**	**43.06**	**318**	*i* P	**P**	**05 06 44.7**	**+0.6**
AB31				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.6						
SVE	**Sverdlovsk**	**45.81**	**328**	*e*P	**P**	**05 07 08.0**	**+1.8**
SVE				MLR	MLR		
	comp=N,400nm,14.0s,MS4.7						
SVE				MLR	MLR		
	comp=E,400nm,14.0s,MS4.7						
SVE				MLR	MLR		
	comp=Z,500nm,14.0s,MS4.6						
FITZ	**Fitzroy Crossi**	**46.35**	**151**	*e*P	**P**	**05 07 13.5**	**+2.5**
	comp=Z,14nm,0.9s,mb4.9						
FITZ	**Fitzroy Crossi**	**46.35**	**151**	P	**P**	**05 07 13.2**	**+2.2**
	comp=Z,15nm,0.9s,mb4.9,baz=333,slow=7.0,SNR=5.1						
FITZ				LR	LR	05 27 40.8	
	comp=Z,168nm,19.2s,MS4.0,baz=294,slow=37						
ARU	**Arti**	**46.65**	**327**	*e*P	**P**	**05 07 12.4**	**-0.5**
	comp=Z,45nm,1.0s,mb5.4						
ARU	**Arti**	**46.65**	**327**	⇓*i* P	**P

ARU pmax pmax
comp=Z,47nm,1.1s,mb5.3
ARU MLR MLR
comp=Z,500nm,18.0s,MS4.5
ARU MLR MLR
comp=N,100nm,16.0s,MS4.5
ARU MLR MLR
comp=E,400nm,18.0s,MS4.5
MBWA Marble Bar 46.88 160 *e*P **P 05 07 15.6 +0.4**
comp=E,21nm,1.1s,mb5.0
MA2 Magadan 48.59 30 *e*P **P 05 07 25.3 -2.7**
PET Petropavlovsk 50.42 40 *e*P **P 05 07 46.4 +4.2**
PET *e*PPP PPP 05 10 34.3 -1.5
PET *e*S **S 05 14 57.5 +3.3**
PET pmax pmax
comp=Z,14nm,0.7s,mb5.1
PET MLR MLR
comp=Z,700nm,16.0s,MS4.8
WRAB Tennant Creek 52.25 143 *e*P **P 05 07 57.0 +0.5**
comp=Z,11nm,0.7s,mb4.9
WRAB Tennant Creek 52.25 143 *e*P **P 05 07 57.0 +0.6**
WRAB pmax pmax
comp=Z,11nm,0.7s,mb4.9
WRA Warramunga Arr 52.25 143 P **P 05 07 58.0 +1.5**
comp=Z,10.0nm,0.9s,mb4.7,baz=331,slow=8.5,SNR=30
WB2 Warramunga Arr 52.26 143 *e*P **P 05 07 57.6 +1.1**
ONI Oni 53.18 306 P **P 05 08 03.5 +0.4**
GOF Gofitskoye 53.55 310 *e*P **P 05 07 59.7 -6.1**
GOF pmax pmax
comp=Z,20nm,1.2s,mb4.9
KIV Kislovodsk 53.77 308 *e*P **P 05 08 07.2 -0.1**
comp=Z,26nm,0.8s,mb5.2
KIV Kislovodsk 53.77 308 *e*P **P 05 08 07.2 -0.1**
KIV pmax pmax
comp=Z,26nm,0.8s,mb5.2
KAMS Al Khamasin 54.98 279 P **P 05 08 15.9 -0.7**
HILS Ha'il 55.90 288 P **P 05 08 23.1 -0.1**
SOC Sochi 55.91 308 *e*P **P 05 08 20.1 -2.9**
SOC *e*S **S 05 16 04.6 -4.3**
SOC *e*SSS SSS 05 21 57.4 -3.5
SOC pmax pmax
comp=N,13nm,0.9s
SOC pmax pmax
comp=Z,34nm,0.9s,mb5.4
SOC pmax pmax
comp=E,13nm,0.8s
SOC MLR MLR
comp=N,336nm,19.0s,MS4.6
SOC MLR MLR
comp=Z,263nm,19.0s,MS4.3
SOC MLR MLR
comp=E,269nm,18.0s,MS4.6
TATS Tathlith 56.19 278 P **P 05 08 25.3 0.0**
VRSR Storozhevoye 56.45 317 *e*P **P 05 08 25.8 -1.0**
VOR Voronezh 56.48 318 *e*P **P 05 08 26.5 -0.5**
VOR pmax pmax
comp=Z,60nm,1.8s,mb5.3
DJNS Zahran al Janu 56.63 276 P **P 05 08 29.3 +0.8**
MALT Malatya 57.18 301 *e*P **P 05 08 31.8 -0.4**
comp=Z,5.5nm,0.8s,mb4.6
MALT Malatya 57.18 301 *e*P **P 05 08 31.8 -0.4**
MALT pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
NWAO Narrogin (SRO) 57.45 167 P **P 05 08 36.3 +2.2**
comp=Z,19nm,1.0s,mb5.1,baz=349,slow=10,SNR=3.2
ANN Anapa 57.53 309 *e*P **P 05 08 29.9 -4.6**
ANN *e**PP pP 05 08 43.8 +6.2
ANN *e*S **S 05 16 26.3 -3.9**
ANN pmax pmax
comp=Z,18nm,0.8s,mb5.2
ANN MLR MLR
comp=N,194nm,17.0s,MS4.6
ANN MLR MLR
comp=E,330nm,17.0s,MS4.6
ANN MLR MLR
comp=Z,347nm,17.0s,MS4.5
MOS Moscow 57.74 322 *e*P **P 05 08 34.2 -1.7**
GZT Gaziantep 57.96 300 *i* P **P 05 08 36.9 -0.8**
BILL Bilibino 58.13 23 *e*P **P 05 08 36.5 -1.9**
BILL *e*S **S 05 16 32.5 -5.4**
BILL pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
BILL MLR MLR
comp=Z,500nm,17.0s,MS4.7
OBN Obninsk 58.29 321 *e*P **P 05 08 38.7 -1.0**
OBN *e*SS SS 05 20 27.4 -6.3
OBN pmax pmax
comp=Z,12nm,1.0s,mb4.9
OBN MLR MLR
comp=Z,200nm,17.0s,MS4.3
ASF Jabal al Asfar 59.24 295 P **P 05 08 46.9 +0.3**
comp=Z,3.1nm,0.5s,mb4.6,baz=307,slow=5.7,SNR=5.9
BOYT Boyabat 59.59 305 *i* P **P 05 08 47.6 -1.3**
CTAO Charters Tower 59.68 133 P **P 05 08 49.9 0.0**
SIM Simferopol' 59.88 310 *e*P **P 05 08 50.1 -0.8**
SIM pmax pmax
comp=Z,12nm,0.6s,mb5.1
SIM MLR MLR
comp=Z,320nm,19.1s,MS4.5
UMJS Umm Lajj 60.29 287 P **P 05 08 54.2 +0.2**
BALT Daday 60.71 306 *i* P **P 05 08 54.7 -2.0**
BRTR Keskin Array B 60.74 304 P **P 05 08 56.4 -0.5**
comp=Z,1.8nm,0.8s,mb4.3,baz=130,slow=8.9,SNR=12
APA Apatity 61.19 336⇓*i*P **P 05 08 59.0 -0.5**
APA MLR MLR
comp=Z,800nm,16.0s,MS5.0
ALWS Ilw as Safayha 61.33 292 P **P 05 09 01.2 +0.3**
BDAS Al Bad' 61.49 291 P **P 05 09 02.0 -0.1**
CSS Prodhromos 61.69 298 *e*P **P 05 09 02.6 -0.7**
comp=Z,11nm,0.7s,mb5.1
SGKT Sivrigoynuk 61.83 305 *i* P **P 05 09 03.1 -1.2**
KEV Kevo 63.74 338 *e*p **P 05 09 14.3 -2.1**
comp=Z,8.4nm,0.7s,mb4.9
KEV Kevo 63.74 338 *e*P **P 05 09 14.3 -2.1**
KEV pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
KAF Kangasniemi 63.86 329 *e*p **P 05 09 16.1 -1.2**
comp=Z,3.8nm,0.8s,mb4.5,baz=87,slow=6.4
KAF Kangasniemi 63.86 329 *e*P **P 05 09 16.1 -1.2**
KAF pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
FINES FINESS Array B 63.98 328 P **P 05 09 17.3 -0.8**
comp=Z,4.9nm,0.7s,mb4.6,baz=108,slow=6.0,SNR=19
FINES LR LR 05 38 56.5
comp=Z,373nm,21.0s,MS4.5,baz=218,slow=38
ARCES ARCESS Array B 64.26 337 P **P 05 09 18.8 -0.9**
comp=Z,1.4nm,0.7s,mb4.1,baz=90,slow=4.9,SNR=8.6
ARCES LR LR 05 39 23.1
comp=Z,307nm,18.4s,MS4.5,baz=275,slow=38
VRI Vrincioaia 64.95 311⇑P **P 05 09 24.7 0.0**
VRI Vrincioaia 64.95 311⇑P **P 05 09 24.7 +0.1**
MLR Muntele Rosu 65.55 311⇓P **P 05 09 28.6 +0.1**
MLR Muntele Rosu 65.55 311⇓P **P 05 09 28.6 +0.1**
STKA Stephens Creek 65.67 145 P **P 05 09 29.9 +0.3**
comp=Z,4.9nm,0.9s,mb4.5,baz=348,slow=14,SNR=4.4
SUW Suwalki 66.11 320 *e*P **P 05 09 30.7 -1.2**
comp=Z,32nm,0.6s,mb5.5
SUW Suwalki 66.11 320 *e*P **P 05 09 30.7 -1.2**
SUW pmax pmax
comp=Z,32nm,0.6s,mb5.5
LVV L'vov 66.16 316 *e*P **P 05 09 31.3 -1.1**
KOLS Kolonicke sedl 67.44 315 *e*pP pP 05 09 43.6 0.0
DRGR 67.54 313⇑P **P 05 09 40.0 -1.2**
DRGR 67.54 313⇑P **P 05 09 40.0 -1.2**
STHS Stebnicka Huta 68.02 316 *e*P **P 05 09 44.1 0.0**
NIE Niedzica 68.61 316 *e*P **P 05 09 48.8 +1.0**
KECS Kecovo 68.69 315 *e*P **P 05 09 48.5 +0.2**
OJC Ojcow 68.78 317 *e*P **P 05 09 48.5 -0.4**
KMBO Kilima Mbogo 69.31 259 P **P 05 09 53.6 +0.9**
comp=Z,3.2nm,0.8s,mb4.3,baz=49,slow=9.4,SNR=11
KMBO LR LR 05 42 24.8
comp=Z,133nm,19.5s,MS4.2,baz=223,slow=38
VYHS Vyhne 69.76 315 *e*P **P 05 09 54.7 -0.2**
KSP Ksiaz 70.83 318 *e*P **P 05 10 01.3 0.0**
KSP *e*S S 05 19 59.3 +44
DPC Dobruska-Polom 70.93 317 *e*P **P 05 10 02.0 0.0**
DPC AMS AMS 05 43 10.0
comp=Z,300nm,16.0s
UPC Upice 71.09 318 *e*P **P 05 10 02.8 -0.1**
NB2 NORSAR Subarra 71.14 329 P **P 05 10 01.7 -1.4**
comp=Z,8.0nm,0.8s,mb4.7,baz=76,slow=6.2
NB2 NORSAR Subarra 71.14 329 P **P 05 10 01.7 -1.4**
NB2 pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
NOA NORSAR Array B 71.14 329 P **P 05 10 01.9 -1.1**
comp=Z,7.4nm,0.8s,mb4.7,baz=77,slow=6.0,SNR=26
NOA LR LR 05 43 07.5
comp=Z,262nm,19.5s,MS4.5,baz=65,slow=37
NOA NORSAR Array B 71.14 329 P **P 05 10 01.9 -1.1**
NOA LR LR 05 43 07.5
PVCC Panska Ves 71.97 318 *e*P **P 05 10 07.4 -0.8**
PVCC AMS AMS 05 43 50.0
comp=Z,300nm,15.2s
PRU Pruhonice 72.13 317 *e*P **P 05 10 08.4 -0.8**
PRU AMS AMS 05 44 00.0
comp=Z,300nm,15.8s
ARSA Arzberg 72.23 314⇓*i*P **P 05 10 09.5 -0.3**
comp=Z,2.3nm,0.9s,mb4.1
BRG Berggiesshubel 72.27 318 *i* P **P 05 10 10.2 +0.3**
comp=Z,7.5nm,0.9s,mb4.6
BRG LR LR
comp=Z,220nm,20.2s,MS4.4
BRG Berggiesshubel 72.27 318 *i* P **P 05 10 10.2 +0.3**
BRG pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
BRG MLR MLR
comp=Z,220nm,20.2s,MS4.4
CLL Collm 72.72 319⇓P **P 05 10 12.3 -0.3**
comp=Z,logA/T=1.0,mb4.7
CLL *i* *PP pP 05 10 15.8 +0.1
CLL Collm 72.72 319⇓*i*P **P 05 10 12.3 -0.3**
comp=Z,9.0nm,1.0s,mb4.7
CLL *i* pP pP 05 10 15.8 +0.1
CLL Collm 72.72 319⇓*i*P **P 05 10 12.3 -0.3**
CLL pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
MOA Molln 72.88 315⇑*i*P **P 05 10 14.0 +0.4**
comp=Z,9.0nm,1.4s,mb4.5
KHC Kasperske Hory 72.97 317 *e*P **P 05 10 14.0 -0.1**
KHC AMS AMS 05 42 30.0
comp=Z,200nm,22.6s
GERES GERESS Array B 72.97 316 P **P 05 10 14.1 0.0**
comp=Z,2.4nm,0.7s,mb4.2,baz=76,slow=5.5,SNR=24
NKC Novy Kostel 73.36 318 AMS AMS 05 44 40.0
comp=Z,300nm,16.6s
IMA Indian Mountai 73.62 25 *e*P **P 05 10 17.9 +0.3**
comp=Z,32nm,1.0s,mb5.2
IMA Indian Mountai 73.62 25 *e*P **P 05 10 17.9 +0.3**
IMA pmax pmax
comp=Z,32nm,1.0s,mb5.2
KBA Koelnbreinsper 73.70 315⇓*i*P **P 05 10 18.3 -0.1**
comp=Z,6.0nm,0.9s,mb4.5
KBA Koelnbreinsper 73.70 315⇓*i*P **P 05 10 18.3 -0.1**
KBA pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
MOX Moxa 73.75 319 *i* P **P 05 10 18.7 +0.1**
comp=Z,logA/T=0.9,mb4.6
MOX L 05 43 39.0
MOX Moxa 73.75 319 *e*P **P 05 10 18.7 +0.1**
comp=Z,11nm,1.3s,mb4.6
MOX LR LR
comp=Z,200nm,18.0s,MS4.5
MOX Moxa 73.75 319 *e*P **P 05 10 18.7 +0.1**
MOX pmax pmax
comp=Z,11nm,1.3s,mb4.6
MOX MLR MLR
comp=Z,200nm,18.0s,MS4.5
GRA1 Grafenberg Arr 74.28 318 *e*P **P 05 10 22.3 +0.6**
comp=Z,8.0nm,0.9s,mb4.7
GRA1 LR LR
comp=Z,300nm,21.6s,MS4.5
GRF Grafenberg Arr 74.28 318 *e*P **P 05 10 22.3 +0.6**
comp=Z,8.0nm,0.9s,mb4.7
GRF LR LR
comp=Z,300nm,21.6s,MS4.5
GRF Grafenberg Arr 74.28 318 *e*P **P 05 10 22.3 +0.6**
GRF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
GRF MLR MLR
comp=Z,300nm,21.6s,MS4.5
GRF Grafenberg Arr 74.28 318 *e*P **P 05 10 22.3 +0.6**
GRF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
GRF MLR MLR
comp=Z,300nm,21.6s,MS4.5
WTTA Wattenberg 74.76 315⇓*i*P **P 05 10 22.9 -1.6**
comp=Z,8.1nm,0.8s,mb4.7
WTTA Wattenberg 74.76 315⇓*i*P **P 05 10 22.9 -1.6**
WTTA pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
SQTA Sankt Quirin 75.05 315⇑*i*P **P 05 10 26.1 -0.1**
comp=Z,5.3nm,0.8s,mb4.5
SQTA Sankt Quirin 75.05 315⇑*i*P **P 05 10 26.1 -0.1**
SQTA pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
MOTA Moosalm 75.08 315⇑*i*P **P 05 10 25.4 -1.0**
comp=Z,13nm,1.3s,mb4.7
MOTA Moosalm 75.08 315⇑*i*P **P 05 10 25.4 -1.0**
MOTA pmax pmax
comp=Z,13nm,1.3s,mb4.7
PGD Poggio Sodo 75.77 312 P **P 05 10 32.1 +1.7**
comp=Z,14nm,1.0s,mb4.8
PGD Poggio Sodo 75.77 312 P **P 05 10 32.1 +1.7**
PGD pmax pmax
comp=Z,14nm,1.0s,mb4.8
BRMO Bormio 75.83 315 P **P 05 10 31.1 +0.4**
VMG Vicchio 75.86 312⇓*i*P **P 05 10 32.6 +1.7**
SEI Scarperia 75.96 312⇓*i*P **P 05 10 33.1 +1.6**
DAVOX Davos 76.05 315 P **P 05 10 32.1 +0.2**
MCK McKinley 76.40 26 *e*P **P 05 10 33.6 0.0**
comp=Z,3.6nm,0.9s,mb4.3
MCK McKinley 76.40 26 *e*P **P 05 10 33.6 +0.1**
MCK pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
ILAR Eielson Array 76.74 25 P **P 05 10 34.8 -0.7**
comp=Z,1.0nm,0.7s,mb3.9,baz=301,slow=2.1,SNR=6.7
ILAR LR LR 05 49 09.0
comp=Z,183nm,19.0s,MS4.4,baz=348,slow=39
MUGIO Muggio 76.89 314 P **P 05 10 36.0 -0.6**
VAI Varese 77.08 314 P **P 05 10 36.8 -0.9**
comp=Z,8.6nm,0.8s,mb4.7
VAI Varese 77.08 314 P **P 05 10 36.8 -0.9**
VAI pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
CDF Champ du Feu 77.15 317 *e*P **P 05 10 37.5 -0.5**
comp=Z,12nm,1.0s,mb4.5
CDF Champ du Feu 77.15 317 *e*P **P 05 10 37.5 -0.5**
CDF pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
SML Sawmill 77.49 28 *e*P **P 05 10 39.6 0.0**
MCGN Macugnaga 77.56 315 P **P 05 10 41.0 +0.6**
HINF Hinteralfeld 77.63 317 *e*P **P 05 10 40.0 -0.7**
HAU Haudompre 77.87 317 *e*P **P 05 10 42.4 +0.4**
HAU *e*R
comp=Z,344nm,18.2s
DIX Grande Dixence 77.89 315 P **P 05 10 43.2 +1.0**
GIVF Givet 78.03 319 *e*P **P 05 10 42.7 -0.1**
PGF Pioggiola 78.09 311 *e*P **P 05 10 43.2 -0.1**
comp=Z,26nm,0.9s,mb4.9
PGF Pioggiola 78.09 311 *e*P **P 05 10 43.2 -0.1**
PGF pmax pmax
comp=Z,13nm,0.9s,mb4.9
BAIF Baives 78.41 320 *e*P **P 05 10 44.9 0.0**
MEZF Maizieres J'vi 78.49 318 *e*P **P 05 10 45.2 -0.2**
comp=Z,14nm,0.8s,mb4.6
LPG La Plagne 78.54 315 *e*P **P 05 10 46.2 +0.5**
comp=Z,16nm,0.7s,mb4.8
LPG La Plagne 78.54 315 *e*P **P 05 10 46.2 +0.5**
LPG pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
LPL La Plagne 78.54 315 *e*P **P 05 10 46.2 +0.5**
comp=Z,17nm,0.7s,mb4.8
LPL La Plagne 78.54 315 *e*P **P 05 10 46.2 +0.5**
LPL pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
CABF La Chapelle 78.55 316 *e*P **P 05 10 45.5 -0.3**
SBF Sospel 78.69 313 *e*P **P 05 10 46.4 -0.2**
comp=Z,22nm,0.7s,mb4.9
SBF Sospel 78.69 313 *e*P **P 05 10 46.4 -0.2**
SBF pmax pmax
comp=Z,11nm,0.7s,mb4.9
BNI Bardonecchia 78.75 314 *e*P **P 05 10 46.2 -0.7**
comp=Z,3.6nm,0.6s,mb4.5
BNI Bardonecchia 78.75 314 *e*P **P 05 10 46.2 -0.7**
BNI pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
MBDF Montbardon 78.81 314 *e*P **P 05 10 46.6 -0.6**
comp=Z,14nm,1.0s,mb4.6
MBDF Montbardon 78.81 314 *e*P **P 05 10 46.6 -0.6**
MBDF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
DIV Divide 78.89 28 *e*P **P 05 10 47.5 +0.2**
ORIF Oris-en-Rattie 79.33 314 *e*P **P 05 10 49.9 -0.1**
ORIF *e*R
comp=Z,226nm,22.5s
FRF La Foret Royal 79.33 313 *e*P **P 05 10 50.4 +0.3**
comp=Z,21nm,1.1s,mb4.7
FRF La Foret Royal 79.33 313 *e*P **P 05 10 50.4 +0.3**
FRF pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
INK Inuvik 79.37 19 P **P 05 10 49.8 0.0**
comp=Z,8.6nm,0.8s,mb4.7,baz=320,slow=9.3,SNR=9.4
INK Inuvik 79.37 19 *e*P **P 05 10 49.6 -0.2**
comp=Z,8.1nm,0.8s,mb4.7
INK Inuvik 79.37 19 *e*P **P 05 10 49.6 -0.2**
INK pmax pmax
comp=Z,8.0nm,0.8s
LMR La Mourre 79.51 313 *e*P **P 05 10 50.9 -0.2**
comp=Z,24nm,1.1s,mb4.7
LMR La Mourre 79.51 313 *e*P **P 05 10 50.9 -0.2**
LMR pmax pmax
comp=Z,12nm,1.1s,mb4.7
LOR Lormes 79.71 317 *e*P **P 05 10 51.5 -0.6**
comp=Z,14nm,1.0s,mb4.5
LOR *e*R
comp=Z,204nm,18.5s
LOR Lormes 79.71 317 *e*P **P 05 10 51.5 -0.6**
LOR pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
LOR MLR MLR
comp=Z,200nm,18.5s,MS4.5
DAWY Dawson 79.91 24 *e*P **P 05 10 52.5 -0.3**
SMF Signal de Mont 79.97 316 *e*P **P 05 10 53.1 -0.4**
comp=Z,17nm,0.9s,mb4.7
SMF Signal de Mont 79.97 316 *e*P **P 05 10 53.1 -0.4**
SMF pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
SSF Saint Saulge 80.01 317 *e*P **P 05 10 53.4 -0.3**
comp=Z,9.9nm,1.0s,mb4.7
SSF Saint Saulge 80.01 317 *e*P **P 05 10 53.4 -0.3**
SSF pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
VIVF Saint-Julien-l 80.14 315 *e*P **P 05 10 54.2 -0.2**
comp=Z,9.2nm,0.8s,mb4.4
VIVF Saint-Julien-l 80.14 315 *e*P **P 05 10 54.2 -0.2**
VIVF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
AVF Avril sur Loir 80.22 317 *e*P **P 05 10 54.4 -0.4**
comp=Z,10nm,0.7s,mb4.6
AVF Avril sur Loir 80.22 317 *e*P **P 05 10 54.4 -0.4**
AVF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
SUMG Summit 80.93 349 *e*P **P 05 10 58.1 0.0**
comp=Z,13nm,1.1s,mb4.8
LASF Ste Croix 80.99 314 *e*P **P 05 10 59.2 +0.3**
comp=Z,15nm,1.1s,mb4.5
TCF Toulx Ste Croi 81.14 317 *e*P **P 05 10 59.8 +0.1**
comp=Z,12nm,0.8s,mb4.5
TCF Toulx Ste Croi 81.14 317 *e*P **P 05 10 59.8 +0.1**
TCF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
LDF La Druitiere 81.59 319 *e*P **P 05 11 01.9 -0.1**
comp=Z,36nm,1.3s,mb4.8
LDF La Druitiere 81.59 319 *e*P **P 05 11 01.9 -0.1**
LDF pmax pmax
comp=Z,18nm,1.3s,mb4.8
FLN La Foliniere 81.73 320 *e*P **P 05 11 02.7 0.0**
FLN *e*R
comp=Z,310nm,19.5s
CAF Calviac 81.81 315 *e*P **P 05 11 03.6 +0.4**
comp=Z,11nm,1.0s,mb4.4
CAF Calviac 81.81 315 *e*P **P 05 11 03.6 +0.4**
CAF pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
RJF Les Rejaudoux 82.00 316 *e*P **P 05 11 04.8 +0.7**
comp=Z,17nm,0.9s,mb4.7
RJF *e*R
comp=Z,209nm,18.2s
RJF Les Rejaudoux 82.00 316 *e*P **P 05 11 04.8 +0.7**
RJF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
RJF MLR MLR
comp=Z,210nm,18.3s,MS4.5
GRR Gorron 82.12 319 *e*P **P 05 11 04.9 +0.2**
comp=Z,16nm,1.1s,mb4.6
GRR Gorron 82.12 319 *e*P **P 05 11 04.9 +0.2**
GRR pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
MTLF Montolieu 82.37 314 *e*P **P 05 11 06.3 +0.2**
comp=Z,16nm,1.1s,mb4.6
MTLF Montolieu 82.37 314 *e*P **P 05 11 06.3 +0.2**
MTLF pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
MFF Saint Martin d 82.48 318 *e*P **P 05 11 06.8 +0.2**
comp=Z,23nm,1.4s,mb4.6
MFF Saint Martin d 82.48 318 *e*P **P 05 11 06.8 +0.2**
MFF pmax pmax
comp=Z,12nm,1.4s,mb4.6
LFF La Frestale 82.65 316 *e*P **P 05 11 07.9 +0.4**
SGMF Saint Gilles 83.20 320 *e*P **P 05 11 10.8 +0.5**
comp=Z,28nm,0.9s,mb5.0
SGMF Saint Gilles 83.20 320 *e*P **P 05 11 10.8 +0.5**
SGMF pmax pmax
comp=Z,14nm,0.9s,mb5.0
ROSF Rostrenen 83.58 320 *e*P **P 05 11 12.9 +0.7**
comp=Z,38nm,1.1s,mb5.2
ROSF Rostrenen 83.58 320 *e*P **P 05 11 12.9 +0.7**
ROSF pmax pmax
comp=Z,19nm,1.1s,mb5.1
QUIF Quistinic 83.71 320 *e*P **P 05 11 13.3 +0.4**
EPF Esparros 83.75 314 *e*P **P 05 11 14.0 +0.8**
ETSF Etsaut 84.40 314 *e*P **P 05 11 17.3 +0.8**
comp=Z,8.7nm,0.9s,mb4.6
ETSF Etsaut 84.40 314 *e*P **P 05 11 17.3 +0.8**
ETSF pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
SJPF Ste Jean 84.73 315 *e*P **P 05 11 19.1 +0.9**
comp=Z,24nm,1.3s,mb4.9
SJPF Ste Jean 84.73 315 *e*P **P 05 11 19.1 +0.9**
SJPF pmax pmax
comp=Z,12nm,1.3s,mb4.9
ESDC Sonseca Array 88.17 313 P **P 05 11 35.7 +0.6**
comp=Z,0.2nm,0.4s,mb3.7,slow=6.4,SNR=3.0
YKA Yellowknife Ar 88.98 17 P **P 05 11 39.1 +0.7**
comp=Z,1.5nm,0.7s,mb4.5,baz=328,slow=4.7,SNR=5.5
YKA LR LR 05 52 22.6
comp=Z,167nm,21.5s,MS4.4,baz=340,slow=36
AFI Afiamalu 90.19 105 LR LR 05 54 16.6
comp=Z,107nm,18.0s,MS4.3,baz=223,slow=37
RAO Raoul Island 91.45 121 LR LR 05 46 51.3
comp=Z,94nm,21.9s,MS4.2,baz=298,slow=32
BOSA Boshof 91.85 240 LR LR 05 50 56.2
comp=Z,176nm,20.3s,MS4.5,baz=347,slow=34
SNAA Sanae 117.39 200⇑*i* PKPdf 05 17 28.0 -3.0
VNA2 Neumayer--Watz 118.97 200 *e* PKPdf 05 17 35.6 +1.5
VNA2 Neumayer--Watz 118.97 200⇑*i*P PKPdf 05 17 33.6 -0.5
VNA2 *e* 05 17 35.6
VNA1 Neumayer--Stat 119.31 201 *e* PKPdf 05 17 37.3 +2.6
VNA1 Neumayer--Stat 119.31 201⇑*i*P PKPdf 05 17 35.4 +0.7
VNA1 *e* 05 17 37.3
VNA3 Neumayer Olymp 119.62 200 *e* PKPdf 05 17 35.4 +0.2
VNA3 Neumayer Olymp 119.62 200⇑*i*P PKPdf 05 17 33.3 -1.9
VNA3 *e* 05 17 35.4
ROSC El Rosal 151.82 357 PKPbc PKPdf 05 18 42.2 +7.2
comp=Z,14nm,0.7s,baz=84,slow=9.0,SNR=11
LPAZ La Paz 169.79 313 PKP PKPdf 05 18 54.5 +0.7
comp=Z,0.8nm,0.8s,baz=112,slow=3.5,SNR=5.4
LPAZ La Paz 169.79 313 PKP PKPdf 05 18 54.5 +0.7

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*MOS **13** 05:23:50.0±0.8, 19.69S×68.98W, h92km, mb4.5/13, Error ellipse: s-maj=17.9km s-min=8.5km az=115.3*
*IDC **13** 05:23:52.9±0.5, 19.77S×69.01W, h105km±4km, mb4.3/10, mb1 4.4/13, mb1mx4.4/16, mbtmp4.8/13, MS3.6/6, Ms1 3.6/6, ms1mx3.4/21, Error ellipse: s-maj=17.3km s-min=8.1km az=88.0*
*NEIC **13** 05:23:52.9±0.2, 19.70S×68.93W, mb4.7/35, Error ellipse: s-maj=6.2km s-min=3.8km az=63.0*
*GUC **13** 05:23:53.1±0.5, 19.83S×69.33W, h100km±3km, MD4.7, ML4.7*
*BJI **13** 05:23:54.9, 19.70S×68.90W, h104km, mB5.3*
ISC 13 05:23:51.5±0.2, 19.67S±0.04×68.97W±0.06, h105km, h105km±.7km:pP-P, n158, σ0s89/129, mb4.5/42, 7C-11D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.93**	**179**	P	**P**	**05 24 36.7**	**-0.6**
	277nm,0.3s,baz=356,slow=9.5,SNR=661						
LVC				S	**S**	**05 25 10.4**	**-1.5**
	200nm,0.3s,baz=100,slow=19,SNR=12						
SPCH	**San Pedro de A**	**3.30**	**168**	*eP*	**P**	**05 24 43.0**	**+0.5**
LPAZ	**La Paz**	**3.46**	**13**	P	**P**	**05 24 50.1**	**+5.5**
	76nm,0.3s,baz=207,slow=7.7,SNR=1856						
LPAZ				LR	LR	05 25 46.1	
	comp=Z,496nm,21.5s,baz=272,slow=32						
LPAZ	**La Paz**	**3.46**	**13**	⇑*iP*	**P**	**05 24 50.1**	**+5.6**
ARE	**Arequipa**	**3.99**	**323**	⇑*iP*	**P**	**05 24 50.8**	**-1.1**
ARE				*i*		05 24 54.8	
ARE				*e*S	**S**	**05 25 37.0**	**-0.9**
ARE	**Arequipa**	**3.99**	**323**	⇑*iP*	**P**	**05 24 50.8**	**-1.1**
ARE				*e*S	**S**	**05 25 37.0**	**-0.9**
SIV	**San Ignacio**	**8.36**	**65**	P	**P**	**05 25 52.0**	**+0.6**
	26nm,0.3s,baz=256,slow=12,SNR=1527						
NNA	**Nana**	**10.76**	**314**	*eP*	**P**	**05 26 26.0**	**+2.3**
	36nm,0.8s						
CFAA	**Coronel Fontan**	**11.90**	**177**	P	**P**	**05 26 33.1**	**-5.7**
	0.1nm,0.3s,baz=349,slow=13,SNR=12						
SAML	**Samuel**	**12.04**	**29**	⇑*iP*	**P**	**05 26 39.6**	**-1.1**
	20nm,0.9s						
CPUP	**Villa Florida**	**12.60**	**124**	P	**P**	**05 26 47.5**	**-0.5**
	0.9nm,0.3s,baz=318,slow=12,SNR=67						
CPUP	**Villa Florida**	**12.60**	**124**	*eP*	**P**	**05 26 47.1**	**-0.9**
	24nm,0.9s						
CPUP	**Villa Florida**	**12.60**	**124**	*eP*	**P**	**05 26 47.1**	**-0.9**
CPUP				pmax	pmax		
	comp=Z,24nm,0.9s						
BDFB	**Brasilia**	**20.36**	**82**	P	**P**	**05 28 22.1**	**+0.3**
	comp=Z,9.3nm,0.4s,baz=266,slow=9.7,SNR=17						
BDFB				LR	LR	05 37 37.3	
	comp=Z,166nm,18.3s,baz=269,slow=40						
BAO	**Brasilia Array**	**20.38**	**82**	P	**P**	**05 28 22.5**	**+0.5**
PLCA	**Paso Flores**	**21.04**	**183**	P	**P**	**05 28 26.7**	**-1.7**
	comp=Z,29nm,0.9s,mb4.6,baz=8.1,slow=12,SNR=31						
PLCA				PcP	PcP	05 32 30.0	-2.1
	comp=Z,2.3nm,0.6s,baz=235,slow=5.2,SNR=5.2						
PLCA	**Paso Flores**	**21.04**	**183**	*eP*	**P**	**05 28 26.6**	**-1.9**
	comp=Z,37nm,1.0s,mb4.7						
PLCA	**Paso Flores**	**21.04**	**183**	*eP*	**P**	**05 28 26.6**	**-1.9**
PLCA				pmax	pmax		
	comp=Z,37nm,1.0s						
CAM4	**Nova Friburgo**	**24.78**	**101**	*eP*	**P**	**05 29 07.5**	**+2.5**
CAM4				*i*		05 29 23.6	
ROSC	**El Rosal**	**24.94**	**347**	P	**P**	**05 29 07.1**	**+0.5**
	comp=Z,4.8nm,0.4s,mb4.2,baz=60,slow=22,SNR=4.5						
ROSC				LR	LR	05 39 55.9	
	comp=Z,134nm,18.6s,baz=318,slow=38						
SDV	**Santo Domingo**	**28.42**	**357**	P	**P**	**05 29 37.6**	**-1.0**
	comp=Z,9.4nm,0.4s,mb4.7,baz=206,slow=10,SNR=14						
SDV				LR	LR	05 42 06.8	
	comp=Z,117nm,18.0s,baz=40,slow=38						
JTS	**JuntasAbangare**	**33.68**	**331**	*eP*	**P**	**05 30 20.6**	**-4.1**
MTP	**Monte Pirata**	**37.68**	**5**	*eP*	**P**	**05 30 56.1**	**-2.2**
RGRS	**Roger Stewart**	**53.37**	**348**	*eP*	**P**	**05 33 02.3**	**-0.2**
RGRS				*e*	pP	05 33 28.5	+0.6
NHSC	**New Hope**	**53.56**	**348**	*eP*	**P**	**05 33 04.0**	**0.0**
	comp=Z,36nm,0.9s,mb5.4						
NHSC				*ep*P	pP	05 33 28.8	-0.5
JSC	**Jenkinsville**	**54.91**	**348**	*eP*	**P**	**05 33 13.2**	**-0.5**
JSC				*ep*P	pP	05 33 39.1	-0.1
LRAL	**Lakeview Retre**	**55.17**	**342**	*eP*	**P**	**05 33 13.8**	**-1.8**
	comp=Z,7.3nm,1.5s,mb4.5						
LRAL				*ep*P	pP	05 33 39.7	-1.4
CPCT	**Cooper Cave**	**56.77**	**345**	*eP*	**P**	**05 33 25.8**	**-1.2**
CPCT				*ep*P	pP	05 33 51.8	-0.9
PLAL	**Pickwick Lake**	**57.30**	**341**	*eP*	**P**	**05 33 28.9**	**-1.9**
	comp=Z,5.9nm,0.9s,mb4.6						
PLAL				*ep*P	pP	05 33 54.6	-1.9
PLAL				*e*PcP	PcP	05 34 22.2	-1.3
BLA	**Blacksburg**	**57.60**	**349**	*eP*	**P**	**05 33 32.5**	**-0.3**
	comp=Z,6.6nm,0.5s,mb4.9						
BLA				*ep*P	pP	05 33 57.9	-0.7
BLA	**Blacksburg**	**57.60**	**349**	*eP*	**P**	**05 33 32.5**	**-0.3**
BLA				*e**PP	pP	05 33 57.9	-0.6
BLA				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb5.0						
ELN	**Prospectdale**	**57.67**	**349**	*eP*	**P**	**05 33 33.6**	**+0.2**
ELN				*ep*P	pP	05 33 59.6	+0.5
ELN				*es*P	sP	05 34 11.1	+0.2
FWV	**Forest Hill**	**58.03**	**349**	*eP*	**P**	**05 33 35.1**	**-0.7**
FWV				*ep*P	pP	05 34 01.3	-0.3
WVT	**Waverly**	**58.30**	**342**	*eP*	**P**	**05 33 35.8**	**-1.9**
	comp=Z,8.2nm,0.7s,mb4.9						
WVT				*ep*P	pP	05 34 01.4	-2.1
WVT				*es*P	sP	05 34 15.7	+0.4
WVT	**Waverly**	**58.30**	**342**	*eP*	**P**	**05 33 35.8**	**-1.9**
WVT				*e**PP	pP	05 34 01.4	-2.1
WVT				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.9						
WCI	**Wyandotte Cave**	**59.85**	**344**	*eP*	**P**	**05 33 46.1**	**-2.2**
	comp=Z,5.2nm,0.8s,mb4.6						
WCI				*ep*P	pP	05 34 12.7	-1.6
WCI	**Wyandotte Cave**	**59.85**	**344**	*eP*	**P**	**05 33 46.1**	**-2.3**
WCI				*e**PP	pP	05 34 12.7	-1.6
WCI				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
MCWV	**Mont Chateau**	**59.89**	**350**	*eP*	**P**	**05 33 48.4**	**-0.2**
	comp=Z,15nm,0.7s,mb5.1						
MCWV				*ep*P	pP	05 34 14.8	+0.3
FVM	**French Village**	**60.79**	**341**	*eP*	**P**	**05 33 53.5**	**-1.4**
	comp=Z,25nm,1.0s,mb5.2						
FVM				*ep*P	pP	05 34 19.3	-1.5
FVM	**French Village**	**60.79**	**341**	*eP*	**P**	**05 33 53.5**	**-1.3**
FVM				*e**PP	pP	05 34 19.3	-1.5
FVM				pmax	pmax		
	comp=Z,25nm,1.0s,mb5.2						
CCM	**Cathedral Cave**	**61.12**	**340**	*eP*	**P**	**05 33 55.5**	**-1.5**
	comp=Z,7.5nm,0.8s,mb4.8						
CCM				*ep*P	pP	05 34 21.5	-1.5
CCM	**Cathedral Cave**	**61.12**	**340**	*eP*	**P**	**05 33 55.5**	**-1.5**
CCM				*e**PP	pP	05 34 21.5	-1.5
CCM				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
GDL2	**Guadalupe Moun**	**61.72**	**326**	*eP*	**P**	**05 34 00.5**	**-0.6**
GDL2				*ep*P	pP	05 34 26.2	-1.0
VNA3	**Neumayer Olymp**	**61.82**	**162**	*e*	**P**	**05 34 02.2**	**+0.9**
VNA3	**Neumayer Olymp**	**61.82**	**162**	*e*	**P**	**05 34 17.8**	**+17**
VNA3	**Neumayer Olymp**	**61.82**	**162**	*e*	pP	05 34 28.2	+0.9
VNA3	**Neumayer Olymp**	**61.82**	**162**	*e*	PcP	05 34 38.1	-2.9
VNA3	**Neumayer Olymp**	**61.82**	**162**	⇓*iP*	**P**	**05 34 00.7**	**-0.6**
VNA3				*e*		05 34 02.2	
VNA3				*e*		05 34 17.8	
VNA3				*e*	pP	05 34 28.2	+0.9
VNA3				*e*		05 34 38.1	
MNTX	**Cornudas Mount**	**61.87**	**325**	*eP*	**P**	**05 34 00.5**	**-1.7**
	comp=Z,4.4nm,0.9s,mb4.5						
MNTX				*ep*P	pP	05 34 25.2	-3.0
ALLY	**Alegheny Colle**	**61.88**	**351**	*eP*	**P**	**05 34 01.5**	**-0.5**
ALLY				*ep*P	pP	05 34 28.1	-0.1
BINY	**Binghamton**	**61.90**	**354**	*eP*	**P**	**05 34 02.0**	**-0.2**
	comp=Z,5.2nm,0.7s,mb4.7						
BINY				*ep*P	pP	05 34 26.1	-2.1
VNA1	**Neumayer--Stat**	**62.02**	**161**	*e*	**P**	**05 34 04.2**	**+1.6**
VNA1	**Neumayer--Stat**	**62.02**	**161**	*e*	**P**	**05 34 19.8**	**+17**
VNA1	**Neumayer--Stat**	**62.02**	**161**	*e*	pP	05 34 31.3	+2.6
VNA1	**Neumayer--Stat**	**62.02**	**161**	*e*	PcP	05 34 40.1	-1.7
VNA1	**Neumayer--Stat**	**62.02**	**161**	⇓*iP*	**P**	**05 34 02.5**	**-0.1**
VNA1				*e*		05 34 04.2	
VNA1				*e*		05 34 19.8	
VNA1				*e*	pP	05 34 31.3	+2.6
VNA1				*e*		05 34 40.1	
CPRX	**Cap Rock**	**62.11**	**327**	*eP*	**P**	**05 34 03.8**	**0.0**
CPRX				PcP	PcP	05 34 42.4	-0.3
VNA2	**Neumayer--Watz**	**62.39**	**161**	*e*	**P**	**05 34 06.2**	**+1.1**
VNA2	**Neumayer--Watz**	**62.39**	**161**	*e*	**P**	**05 34 21.7**	**+17**
VNA2	**Neumayer--Watz**	**62.39**	**161**	*e*	pP	05 34 33.0	+1.8
VNA2	**Neumayer--Watz**	**62.39**	**161**	*e*	PcP	05 34 42.0	-1.3
VNA2	**Neumayer--Watz**	**62.39**	**161**	⇓*iP*	**P**	**05 34 04.5**	**-0.6**
VNA2				*e*		05 34 06.2	
VNA2				*e*		05 34 21.7	
VNA2				*e*	pP	05 34 33.0	+1.8
VNA2				*e*		05 34 42.0	
SNAA	**Sanae**	**64.02**	**161**	*e*	**P**	**05 34 16.8**	**+1.1**
SNAA	**Sanae**	**64.02**	**161**	*e*	**P**	**05 34 32.5**	**+17**
SNAA	**Sanae**	**64.02**	**161**	*e*	pP	05 34 43.6	+1.7
SNAA	**Sanae**	**64.02**	**161**	*e*	PcP	05 34 52.4	+2.5
SNAA	**Sanae**	**64.02**	**161**	LR	LR	06 04 06.9	
	comp=Z,25nm,18.1s,baz=25,slow=38						
SNAA	**Sanae**	**64.02**	**161**	⇓*iP*	**P**	**05 34 15.0**	**-0.7**
SNAA				*e*		05 34 16.8	
SNAA				*e*		05 34 32.5	
SNAA				*e*	pP	05 34 43.6	+1.7
SNAA				*e*		05 34 52.4	
SNAA	**Sanae**	**64.02**	**161**	⇓*iP*	**P**	**05 34 15.0**	**-0.7**
SNAA				*e*	pP	05 34 43.6	+1.7
SNAA				*e*		05 34 52.4	
LPM	**Los Pinos Moun**	**64.55**	**326**	*eP*	**P**	**05 34 19.9**	**+0.1**
LPM				*ep*P	pP	05 34 45.6	-0.4
LPM				*es*P	sP	05 34 60.0	+2.4
LPM				*e*		05 37 06.4	
LAZ	**Ladron**	**64.89**	**326**	*eP*	**P**	**05 34 22.0**	**0.0**
LAZ				pP	pP	05 34 47.9	-0.4
ANMO	**Albuquerque**	**64.95**	**327**	*eP*	**P**	**05 34 21.9**	**-0.5**
	comp=Z,2.0nm,0.7s,mb4.1						
ANMO				*ep*P	pP	05 34 47.9	-0.8
ANMO	**Albuquerque**	**64.95**	**327**	*eP*	**P**	**05 34 21.9**	**-0.5**
ANMO				*e**PP	pP	05 34 47.9	-0.7
ANMO				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SDCO	**Great Sand Dun**	**66.66**	**329**	*eP*	**P**	**05 34 33.2**	**0.0**
	comp=Z,4.9nm,0.8s,mb4.4						
SDCO				*e*PcP	PcP	05 34 57.8	-3.6
LIC	**Lamto**	**67.94**	**75**	*eP*	**P**	**05 34 40.4**	**-1.2**
	comp=Z,8.3nm,0.5s,mb4.6						
DBIC	**Dimbokro**	**68.28**	**74**	P	**P**	**05 34 43.3**	**-0.3**
	comp=Z,10nm,0.5s,mb4.9,baz=221,slow=5.3,SNR=28						
DBIC				pP	pP	05 35 11.2	+1.0
	comp=Z,6.7nm,0.7s,baz=195,slow=6.7,SNR=3.1						
ISCO	**Idaho Springs**	**68.34**	**330**	*eP*	**P**	**05 34 43.8**	**+0.2**
	comp=Z,2.9nm,0.8s,mb4.2						
ISCO				*e*PcP	PcP	05 35 08.7	+0.3
ISCO	**Idaho Springs**	**68.34**	**330**	*eP*	**P**	**05 34 43.8**	**+0.2**
ISCO				*e*	pP	05 35 08.7	-1.4
ISCO				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.2						
SMCO	**Snowmass**	**68.49**	**329**	*eP*	**P**	**05 34 45.2**	**+0.6**
SMCO				*e*PcP	PcP	05 35 12.6	+3.5
MAIT	**Maitri**	**68.52**	**159**	*eP*	**P**	**05 34 44.3**	**+0.1**
NVL	**N'lazarevskaya**	**68.55**	**159**	⇑*iP*	**P**	**05 34 43.9**	**-0.5**
NVL				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.0						
PHWY	**Pilot Hill**	**69.46**	**331**	*eP*	**P**	**05 34 50.8**	**+0.3**
NEN	**Nelson**	**70.11**	**322**	*eP*	**P**	**05 34 54.9**	**+0.3**
NEN				*ep*P	pP	05 35 21.1	-0.1
SRU	**San Rafael**	**70.22**	**327**	*eP*	**P**	**05 34 55.4**	**+0.3**
SRU				⇓*ip*P	pP	05 35 21.8	0.0
QSPA	**South Pole Qui**	**70.51**	**180**	⇓*iP*	**P**	**05 34 56.6**	**+0.3**
	comp=Z,35nm,1.0s,mb5.1						
MSU	**Marysvale**	**70.65**	**325**	*eP*	**P**	**05 34 58.8**	**+1.1**
MSU				*ep*P	pP	05 35 24.8	+0.3
MSU				*es*P	sP	05 35 37.2	+1.6
TMUT	**Trail Mountain**	**70.71**	**326**	*eP*	**P**	**05 34 58.5**	**+0.4**
MWC	**Mount Wilson**	**71.09**	**319**	*eP*	**P**	**05 35 01.0**	**+0.5**
RSSD	**Black Hills**	**71.13**	**334**	*eP*	**P**	**05 35 00.9**	**+0.4**
RSSD				*ep*P	pP	05 35 27.1	-0.1
MPU	**Maple Canyon**	**71.47**	**327**	*eP*	**P**	**05 35 03.0**	**+0.4**
NLU	**North Lily Min**	**71.65**	**326**	*eP*	**P**	**05 35 02.9**	**-0.8**
JLU	**Jordanelle**	**71.81**	**327**	*eP*	**P**	**05 35 04.9**	**+0.3**
JLU				*ep*P	pP	05 35 31.6	+0.2
DUG	**Dugway**	**72.21**	**326**	*eP*	**P**	**05 35 07.5**	**+0.5**
	comp=Z,7.5nm,1.0s,mb4.5						
DUG				*ep*P	pP	05 35 33.8	0.0
DUG	**Dugway**	**72.21**	**326**	*eP*	**P**	**05 35 07.5**	**+0.5**
DUG				*e**PP	pP	05 35 33.8	0.0
DUG				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
PDAR	**Pinedale Array**	**72.51**	**330**	P	**P**	**05 35 08.5**	**-0.2**
	comp=Z,1.8nm,0.8s,mb3.9,baz=132,slow=7.1,SNR=16						
PDAR				pP	pP	05 35 35.7	+0.1
	comp=Z,1.0nm,0.7s,baz=117,slow=3.3,SNR=3.3						
HWUT	**Hardware Ranch**	**72.61**	**328**	*eP*	**P**	**05 35 09.4**	**0.0**
	comp=Z,5.5nm,0.7s,mb4.5						
HWUT				*ep*P	pP	05 35 36.7	+0.5
MTUM	**Tungsten Hills**	**73.47**	**321**	*eP*	**P**	**05 35 15.5**	**+1.0**
SNOW	**Snow King Moun**	**73.61**	**330**	*eP*	**P**	**05 35 15.8**	**+0.7**
	comp=Z,6.1nm,0.7s,mb4.4						
LOHW	**Long Hollow**	**73.65**	**330**	*eP*	**P**	**05 35 15.9**	**+0.5**
	comp=Z,3.5nm,0.8s,mb4.1						
RRI2	**Red Ridge**	**73.79**	**329**	*eP*	**P**	**05 35 16.9**	**+0.8**
	comp=Z,12nm,0.8s,mb4.7						
RRI2				*ep*P	pP	05 35 43.1	0.0
ELK	**Elko**	**73.90**	**325**	*eP*	**P**	**05 35 17.5**	**+0.6**
	comp=Z,4.8nm,1.0s,mb4.2						
ELK				*e*PcP	PcP	05 35 32.3	+0.3
ELK	**Elko**	**73.90**	**325**	*eP*	**P**	**05 35 17.5**	**+0.6**
ELK				*e*		05 35 32.3	
ELK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
OMM	**Old Mammoth Mi**	**73.90**	**321**	*eP*	**P**	**05 35 18.1**	**+1.1**
IMW	**Indian Meadow**	**74.02**	**330**	*eP*	**P**	**05 35 18.3**	**+0.8**
	comp=Z,6.6nm,0.9s,mb4.4						
IMW				*ep*P	pP	05 35 44.6	+0.1
SCHQ	**Schefferville**	**74.22**	**1**	P	**P**	**05 35 18.8**	**+0.3**
	comp=Z,4.3nm,0.8s,mb4.2,baz=231,slow=1.6,SNR=4.9						
SCHQ				pP	pP	05 35 45.1	-0.3
	comp=Z,3.7nm,0.6s,baz=174,slow=9.9,SNR=2.6						
LRV	**Little Rabbit**	**74.36**	**319**	*eP*	**P**	**05 35 20.0**	**+0.4**
DGMT	**Dagmar**	**74.78**	**337**	*eP*	**P**	**05 35 22.5**	**+0.7**
	comp=Z,8.2nm,0.6s,mb4.6						
DGMT				*ep*P	pP	05 35 49.4	+0.6
HLID	**Hailey**	**75.47**	**328**	*eP*	**P**	**05 35 26.9**	**+1.1**
	comp=Z,6.1nm,0.8s,mb4.4						
HLID				*ep*P	pP	05 35 53.6	+0.7
BOZ	**Bozeman (W)**	**75.66**	**331**	*eP*	**P**	**05 35 27.2**	**+0.4**
	comp=Z,14nm,1.6s,mb4.5						
BOZ	**Bozeman (W)**	**75.66**	**331**	*eP*	**P**	**05 35 27.2**	**+0.4**
BOZ				pmax	pmax		
	comp=Z,14nm,1.6s,mb4.4						
BMO	**Blue Mountains**	**77.86**	**327**	*eP*	**P**	**05 35 39.8**	**+0.7**
	comp=Z,5.2nm,0.8s,mb4.3						
BMO				⇑*ep*P	pP	05 36 06.2	-0.1
BMO	**Blue Mountains**	**77.86**	**327**	*eP*	**P**	**05 35 39.8**	**+0.7**
BMO				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.3						
SYO	**Syowa Base**	**78.23**	**160**	⇑P	**P**	**05 35 39.6**	**-1.0**
VNDA	**Vanda**	**78.63**	**190**	P	**P**	**05 35 43.6**	**+0.9**
	comp=Z,3.5nm,0.8s,mb4.2,baz=131,slow=4.9,SNR=17						
WALA	**Waterton Lakes**	**79.24**	**332**	*eP*	**P**	**05 35 47.0**	**+0.4**
	comp=Z,4.6nm,0.7s,mb4.4						
WTV	**Waterville**	**81.14**	**328**	P	**P**	**05 35 57.8**	**+1.1**
ETW	**Entiat**	**81.27**	**328**	P	**P**	**05 35 58.7**	**+1.3**
RVC	**Mount Rainier-**	**81.67**	**326**	P	**P**	**05 36 00.7**	**+1.2**
EDM	**Edmonton**	**82.09**	**335**	⇓*iP*	**P**	**05 36 01.1**	**-0.5**
EDM				*ep*P	pP	05 36 28.0	-0.9
JCW	**Jim Creek**	**82.47**	**327**	P	**P**	**05 36 03.8**	**+0.2**
CMW	**Cultus Mountai**	**82.71**	**327**	P	**P**	**05 36 05.5**	**+0.6**
BOSA	**Boshof**	**84.35**	**118**	P	**P**	**05 36 13.5**	**-0.1**
	comp=Z,8.0nm,0.9s,mb4.5,baz=159,slow=0.7,SNR=12						
BOSA				pP	pP	05 36 40.9	-0.2
	comp=Z,12nm,1.0s,baz=249,slow=1.7,SNR=6.0						
ESDC	**Sonseca Array**	**84.57**	**45**	P	**P**	**05 36 14.9**	**+0.5**
	comp=Z,1.0nm,0.5s,mb4.0,baz=245,slow=5.7,SNR=7.0						
ESDC				pP	pP	05 36 43.2	+1.3
	comp=Z,3.3nm,1.0s,baz=251,slow=5.4,SNR=4.2						
MAW	**Mawson**	**86.09**	**163**	⇓*iP*	**P**	**05 36 21.8**	**+0.6**
	comp=Z,3.3nm,0.6s,mb4.4						
MAW	**Mawson**	**86.09**	**163**	P	**P**	**05 36 21.9**	**+0.8**
	comp=Z,5.1nm,0.6s,mb4.6,baz=225,slow=7.3,SNR=16						
MAW	**Mawson**	**86.09**	**163**	⇓*iP*	**P**	**05 36 21.8**	**+0.6**
MAW				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ETSF	**Etsaut**	**88.40**	**43**	*eP*	**P**	**05 36 33.7**	**+0.8**
	comp=Z,2.0nm,0.6s,mb4.1						
ETSF	**Etsaut**	**88.40**	**43**	*eP*	**P**	**05 36 33.7**	**+0.8**
ETSF				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
YKA	**Yellowknife Ar**	**89.45**	**341**	P	**P**	**05 36 37.9**	**+0.6**
	comp=Z,18nm,0.7s,mb5.2,baz=134,slow=4.6,SNR=64						
YKA				pP	pP	05 37 05.1	-0.1
	comp=Z,16nm,0.9s,baz=134,slow=4.7,SNR=10						
YKA	**Yellowknife Ar**	**89.45**	**341**	P	**P**	**05 36 37.9**	**+0.6**
YKA				pP	pP	05 37 05.1	-0.1
YKW3	**Yellowknife Ar**	**89.50**	**341**	*eP*	**P**	**05 36 38.2**	**+0.6**
YKW3				*ep*P	pP	05 37 05.3	-0.2
LFF	**La Frestale**	**90.19**	**42**	*eP*	**P**	**05 36 41.5**	**+0.2**
	comp=Z,14nm,0.8s,mb4.9						
LFF	**La Frestale**	**90.19**	**42**	*eP*	**P**	**05 36 41.5**	**+0.2**
LFF				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.8						
BORG	**Borgarnes**	**91.71**	**18**	LR	LR	06 14 09.9	
	comp=Z,42nm,18.3s,baz=237,slow=33						
SSF	**Saint Saulge**	**92.87**	**41**	*eP*	**P**	**05 36 53.4**	**-0.2**
LOR	**Lormes**	**93.18**	**41**	*eP*	**P**	**05 36 55.7**	**+0.7**
KIV	**Kislovodsk**	**118.85**	**50**	*e*PKIKP	PKPdf	05 42 22.3	-5.3
KIV				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BILL	**Bilibino**	**120.81**	**339**	*e*PKIKP	PKPdf	05 42 30.5	-0.4
BILL				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BILL				MLR	MLR		
	comp=Z,200nm,16.0s						
STKA	**Stephens Creek**	**120.97**	**210**	PKP	PKPdf	05 42 32.4	+0.3
	comp=Z,2.3nm,0.6s,baz=36,slow=1.7,SNR=8.4						
STKA	**Stephens Creek**	**120.97**	**210**	PKP	PKPdf	05 42 32.4	+0.3
ARU	**Arti**	**126.66**	**33**	*i* PKIKP	PKPdf	05 42 39.9	-2.4
ARU				*e*		05 49 47.7	
ARU				*e*SS	SS	06 01 33.3	-5.0
CTA	**Charters Tower**	**127.54**	**223**	*eP*	PKPdf	05 42 46.3	+1.2
	comp=Z,9.2nm,1.8s						
CTA	**Charters Tower**	**127.54**	**223**	PKP	PKPdf	05 42 46.5	+1.4
	comp=Z,4.4nm,0.9s,baz=103,slow=8.5,SNR=4.7						
SEY	**Seymchan**	**128.40**	**337**	*i* PKIKP	PKPdf	05 42 47.5	+1.9
WB2	**Warramunga Arr**	**134.48**	**211**	*eP*	PKPdf	05 42 59.0	+0.8
WRA	**Warramunga Arr**	**134.49**	**211**	PKP	PKPdf	05 42 58.6	+0.4
	comp=Z,6.2nm,0.5s,baz=157,slow=1.8,SNR=50						
NVS	**Novosibirsk**	**139.04**	**24**	*e*PKIKP	PKPdf	05 43 07.0	+1.4
FITZ	**Fitzroy Crossi**	**139.82**	**202**	*eP*	PKPdf	05 43 09.0	+1.0
	comp=Z,9.5nm,0.7s						
MKAR	**Makanchi Array**	**144.17**	**34**	PKP	PKPdf	05 43 15.2	+0.4
	comp=Z,3.9nm,0.8s,baz=319,slow=3.6,SNR=18						
MKAR				pPKP		05 43 43.3	
	comp=Z,1.7nm,0.7s,baz=308,slow=2.1,SNR=3.3						
ZAK	**Zakamensk**	**148.74**	**10**	⇓*e*PKP2	PKPab	05 43 28.8	-3.7
ZAK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
WMQ	**Urumqi**	**149.00**	**34**	*e*PKP	PKPdf	05 43 26.5	+3.5
MAJO	**Matsushiro**	**150.87**	**311**	*e*PKPbc	PKPdf	05 43 33.6	+7.5
MAT	**Matsushiro**	**150.87**	**311**	PKP	PKPdf	05 43 33.3	+7.2
MAT	**Matsushiro**	**150.87**	**311**	*eP*	PKPdf	05 43 33.0	+6.9
SONM	**Songino Array**	**151.65**	**7**	PKP	PKPdf	05 43 29.9	+3.0
	comp=Z,1.9nm,0.8s,baz=324,slow=2.4,SNR=11						
SONM				PKPbc	PKPdf	05 43 35.7	+8.8
	comp=Z,9.3nm,0.5s,baz=298,slow=1.1,SNR=54						
SONM				pPKP		05 43 55.1	
	comp=Z,1.4nm,0.5s,baz=320,slow=1.5,SNR=2.1						
SONM				pPKPbc		05 44 04.7	
	comp=Z,4.9nm,0.7s,baz=335,slow=1.8,SNR=5.8						
SONM	**Songino Array**	**151.65**	**7**	PKIKP	PKPdf	05 43 29.9	+3.0
SONM						05 43 55.1	
SONM						05 44 04.7	
SSE	**Sheshan**	**165.40**	**323**	*e*PKP	PKPdf	05 43 42.5	-1.2
SSE				PP	PP		
	comp=Z,140nm,4.1s						
NJ2	**Nanjing**	**165.81**	**332**	*e*PKP	PKPdf	05 43 42.0	-2.0
NJ2				PP	PP	05 48 32.0	-2.1
NJ2				PP	PP		
	comp=Z,610nm,8.2s						
NJ2				LR	LR		
	comp=N,3μm,25.0s						
NJ2				LR	LR		
	comp=E,2μm,22.4s						
NJ2				LR	LR		
	comp=Z,430nm,22.2s						

*IDC **13** 05:40:38.5±1.0

NRZ	Ngariki Road	3.87 238	P	P	05 41 46.2	+1.1
OUZ	Omahuta	4.27 299	⇓P	P	05 41 51.4	+0.5
KIW	Kapiti Island	4.31 215	P	P	05 41 46.7	-4.7
CAW	Cannon Point	4.44 212	P	P	05 41 47.7	-5.5
MSWZ	Moikau Station	4.63 208	P	P	05 41 49.8	-6.1
SNZO	South Karori	4.76 213	P	P	05 41 51.7	-6.1
BHW	Baring Head	4.77 211	*e*P	P	05 41 51.5	-6.4
QRZ	Quartz Range	5.58 230	P	P	05 42 04.6	-4.6
THZ	Tophouse	5.98 221	*e*P	P	05 42 08.4	-6.3
KHZ	Kahutara	6.17 214	*e*P	P	05 42 09.8	-7.6
MQZ	McQueen's Vall	7.59 212	*e*P	P	05 42 28.6	-8.7
RPZ	Rata Peaks	8.34 218	Pn	P	05 42 38.4	-9.1
	8.7nm,0.3s,baz=8.6,slow=2.4,SNR=14					
RPZ			LR	LR	05 46 30.9	
	comp=Z,555nm,20.2s,baz=196,slow=40					
DZM	Mont Dzumac	18.31 323	LR	LR	05 50 40.8	
	comp=Z,228nm,19.3s,baz=128,slow=33					
STKA	Stephens Creek	30.46 269	⇑*i*P	P	05 46 56.9	0.0
	7.9nm,0.8s,mb4.5					
STKA	Stephens Creek	30.46 269	P	P	05 46 56.6	-0.4
	9.5nm,0.7s,mb4.6,baz=106,slow=11,SNR=10					
STKA			LR	LR	05 57 55.3	
	comp=Z,170nm,20.5s,MS3.7,baz=28,slow=34					
CTA	Charters Tower	32.65 293	*e*P	P	05 47 17.1	+0.9
	6.0nm,0.9s,mb4.5					
CTA	Charters Tower	32.65 293	P	P	05 47 17.1	+0.9
	5.6nm,0.5s,mb4.7,baz=128,slow=9.0,SNR=8.9					
CTAO	Charters Tower	32.65 293	*e*P	P	05 47 17.1	+0.9
	4.0nm,0.5s,mb4.6					
CTAO			*e*	pP	05 47 32.0	+2.9
VNDA	Vanda	40.87 185	P	P	05 48 25.5	+0.6
	2.4nm,0.9s,mb3.8,baz=3.1,slow=7.5,SNR=10					
VNDA	Vanda	40.87 185	*e*P	P	05 48 25.2	+0.3
	2.1nm,0.8s,mb3.8					
VNDA			*e*	pP	05 48 33.8	-4.2
SBA	Scott Base	40.88 184	*e*P	P	05 48 26.9	+1.8
	4.6nm,1.0s,mb4.1					
WB2	Warramunga Arr	41.78 282	*e*P	P	05 48 31.9	-1.1
WRAB	Tennant Creek	41.79 282	*e*P	P	05 48 32.0	-1.1
	17nm,0.6s,mb4.9					
WRA	Warramunga Arr	41.79 282	P	P	05 48 31.9	-1.2
	10nm,0.5s,mb4.7,baz=121,slow=7.8,SNR=250					
CASY	Casey	47.52 210	*e*P	P	05 49 16.9	-1.5
	10.0nm,0.5s,mb5.1					
FITZ	Fitzroy Crossi	49.64 278	*e*P	P	05 49 33.3	-2.2
	7.0nm,0.4s,mb5.0					
MBWA	Marble Bar	52.69 271	*e*P	P	05 49 55.0	-3.5
MBWA			*e*	pP	05 50 05.9	-6.0
QSPA	South Pole Qui	52.75 180	*e*P	P	05 49 58.8	+0.6
	15nm,0.8s,mb5.0					
GUMO	Guam	59.58 322	*e*P	P	05 50 49.6	+1.8
MAW	Mawson	64.67 203	P	P	05 51 20.2	-0.9
	2.2nm,0.7s,mb4.3,baz=91,slow=8.4,SNR=3.9					
SYO	Syowa Base	69.60 195	⇑P	P	05 51 48.6	-3.4
SYO	Syowa Base	69.60 195	⇑pP	pP	05 52 03.4	-2.6
SNAA	Sanae	71.26 180	*e*	P	05 52 02.7	+0.7
SNAA	Sanae	71.26 180	P	P	05 52 01.0	-1.0
	3.3nm,1.0s,mb4.2,baz=178,slow=6.5,SNR=34					
SNAA	Sanae	71.26 180	⇓*i*P	P	05 52 01.0	-1.0
SNAA			*e*		05 52 02.7	
VNA3	Neumayer Olymp	71.54 177	*e*	P	05 52 04.9	+1.2
VNA3	Neumayer Olymp	71.54 177	*e*	P	05 52 12.2	+8.5
VNA3	Neumayer Olymp	71.54 177	*e*	P	05 52 20.8	+17
VNA3	Neumayer Olymp	71.54 177	⇓*i*P	P	05 52 02.6	-1.1
VNA3			*e*		05 52 04.9	
VNA3			*e*	pP	05 52 12.2	-5.5
VNA3			*e*	pP	05 52 20.8	+3.1
VNA2	Neumayer--Watz	71.93 178	*e*	P	05 52 07.7	+1.7
VNA2	Neumayer--Watz	71.93 178	*e*	P	05 52 15.2	+9.2
VNA2	Neumayer--Watz	71.93 178	*e*	P	05 52 22.8	+17
VNA2	Neumayer--Watz	71.93 178	⇓*i*P	P	05 52 05.4	-0.6
VNA2			*e*		05 52 07.7	
VNA2			*e*	pP	05 52 15.2	-4.9
VNA2			*e*	pP	05 52 22.8	+2.7
VNA1	Neumayer--Stat	72.19 178	*e*	P	05 52 09.4	+1.9
VNA1	Neumayer--Stat	72.19 178	*e*	P	05 52 25.3	+18
VNA1	Neumayer--Stat	72.19 178	⇓*i*P	P	05 52 07.2	-0.3
VNA1			*e*		05 52 09.4	
VNA1			*e*	pP	05 52 25.3	+3.8
PLCA	Paso Flores	80.03 134	P	P	05 52 52.0	-0.3
	1.6nm,0.7s,mb4.0,baz=299,slow=8.8,SNR=4.6					
MKAR	Makanchi Array	119.69 308	PKP	PKPdf	05 59 28.2	-2.8
	0.3nm,0.7s,baz=180,slow=1.4,SNR=3.4					
KEV	Kevo	144.05 343	*e*pkp	PKPdf	06 00 13.0	-2.6
ARCES	ARCESS Array B	144.56 344	PKP	PKPdf	06 00 14.3	-2.2
	2.2nm,0.5s,baz=28,slow=2.5,SNR=26					
ARCES	ARCESS Array B	144.56 344	PKP	PKPdf	06 00 14.3	-2.2
DBIC	Dimbokro	149.32 174	PKPbc	PKPdf	06 00 30.4	+4.3
	3.5nm,0.9s,baz=48,slow=1.6,SNR=4.4					
KAF	Kangasniemi	149.74 334	*e*pkp	PKPdf	06 00 28.0	+2.7
FINES	FINESS Array B	150.27 333	PKPbc	PKPdf	06 00 30.0	+3.8
	1.8nm,0.5s,baz=61,slow=4.0,SNR=22					
BRTR	Keskin Array B	152.27 286	PKPbc	PKPdf	06 00 34.7	+4.9
	1.7nm,0.8s,baz=143,slow=6.2,SNR=6.4					

MOS ***13*** *05:48:23.9±1.8, 52.29N×134.67E, h10km, mb4.1/3, Error ellipse: s-maj=34.3km s-min=21.3km az=113.2*
SKHL ***13*** *05:48:28.1±0.7, 52.34N×133.54E, h18km±2km, mb4.7/8, Ms4.0/2, msh5.3/2*
IDC ***13*** *05:48:31.2±13.0, 52.70N×133.45E, mb3.8/5, mb1 3.9/5, mb1mx3.6/17, mbtmp3.8/5, Error ellipse: s-maj=280.5km s-min=60.9km az=139.0*

ISC 13 05:48:26.6±0.5, 52.30N±0.07×133.7E±0.1, h10km, n23, σ1§40/22, mb3.8/5, 4C, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKMR	Ekimchan	0.90	330	⇑*i*Pg	Pg	05 48 42.5	-2.2
EKMR				AMB	AMB	05 48 43.5	
	360nm,0.2s						
EKMR				AMB	AMB	05 48 43.5	
	180nm,0.2s						
EKMR				AMB	AMB	05 48 43.5	
	680nm,0.2s						
GRNR	Gornyy	2.29	131	*e*Pg	Pg	05 49 11.0	-1.3
GRNR				AMB	AMB	05 49 11.9	
	550nm,0.5s						
GRNR				AMB	AMB	05 49 11.9	
	470nm,0.5s						
GRNR				AMB	AMB	05 49 11.9	
	520nm,0.5s						
GRNR				*e*Sg	Sg	05 49 42.0	-0.8
GRNR				A		05 49 42.6	
	1μm,0.6s						
KLR	Kul'dur	3.31	203	*e*P	Pn	05 49 20.3	+0.7
KLR				*e*		05 49 58.0	
KLR				MLR	MLR		
	comp=Z,1μm,8.0s						
YASR	Yasnyy	3.61	288	⇑*i*Pn	Pn	05 49 22.6	-1.3
YASR				*e*Pg	Px	05 49 32.2	
YASR				AMB	AMB	05 49 33.7	
	comp=Z,70nm,0.5s						
YASR				pPg		05 49 37.2	
YASR				*e*Sn	Sn	05 50 02.7	-4.4
YASR				*e*Sg	Sx	05 50 17.0	
YASR				A		05 50 17.9	
	comp=Z,430nm,0.4s						
BMKR	Bomnak	3.78	312	⇑*i*Pn	Pn	05 49 25.4	-0.8
BMKR				*e*Pg	Pg	05 49 34.0	-8.1
BMKR				AMB	AMB	05 49 35.8	
	comp=Z,60nm,0.5s						
BMKR				AMB	AMB	05 49 35.8	
	comp=Z,50nm,0.5s						
BMKR				AMB	AMB	05 49 35.8	
	comp=Z,104nm,0.5s						
BMKR				pPg		05 49 38.7	
BMKR				*e*Sg	Sx	05 50 21.9	
BMKR				A		05 50 26.9	
	comp=Z,255nm,0.5s						
BMKR				A		05 50 26.9	
	comp=Z,800nm,0.5s						
BMKR				A		05 50 26.9	
	comp=Z,244nm,0.5s						
ZEA	Zeya	4.16	293	*e*Pn	Pn	05 49 30.0	-1.6
ZEA				pPn		05 49 35.4	
ZEA				*e*Pg	Px	05 49 41.1	
ZEA				AMB	AMB	05 49 44.7	
	comp=Z,60nm,0.4s						
ZEA				AMB	AMB	05 49 44.7	
	comp=Z,68nm,0.4s						
ZEA				AMB	AMB	05 49 44.7	
	comp=Z,77nm,0.4s						
ZEA				*i*Sg	Sx	05 50 33.5	
ZEA				A		05 50 35.0	
	comp=Z,1μm,1.3s						
ZEA				A		05 50 35.4	
	comp=Z,850nm,0.7s						
NKL	Nikolayevsk	4.33	76	*e*Pn	Pn	05 49 34.7	+0.6
NKL				*e*Pg	Px	05 49 47.0	
NKL				AMB	AMB	05 49 49.0	
	comp=Z,88nm,0.4s						
NKL				*e*Sg	Sx	05 50 45.2	
NKL				A		05 50 47.4	
	comp=Z,435nm,0.5s						
KROS	Kirovskiy	4.56	301	⇑*i*Pn	Pn	05 49 36.5	-0.9
KROS				AMB	AMB	05 49 37.1	
	comp=Z,24nm,0.6s						
KROS				AMB	AMB	05 49 37.1	
	comp=Z,40nm,0.6s						
KROS				AMB	AMB	05 49 37.1	
	comp=Z,56nm,0.6s						
KROS				sPn		05 49 47.0	
KROS				*i*Sg	Sx	05 50 47.0	
KROS				A		05 50 54.2	
	comp=Z,260nm,0.6s						
KROS				A		05 50 54.2	
	comp=Z,310nm,0.6s						
KROS				A		05 50 54.2	
	comp=Z,240nm,0.6s						
OKH	Okha	5.72	74	*e*Sg	Px	05 51 30.0	
OKH				A		05 51 38.0	
	comp=Z,300nm,1.0s						
OKH				A		05 51 42.2	
	comp=Z,2μm,2.4s						
TYV	Tymovskoe	5.76	101	*e*Pg	Px	05 50 15.0	
TYV				AMB	AMB	05 50 25.8	
	comp=Z,11nm,0.7s						
TYV				*e*Sg	Sx	05 51 31.5	
TYV				A		05 51 42.8	
	comp=Z,391nm,1.0s						
TYV				AMS	AMS	05 52 44.0	
	comp=Z,500nm,7.0s						
UGL	Uglegorsk	6.21	118	*e*Sg	Px	05 51 46.0	
UGL				A		05 51 54.0	
	comp=Z,1μm,3.0s						
UGL				A		05 51 57.1	
	comp=Z,600nm,0.8s						
UGL				AMS	AMS	05 52 46.0	
	comp=Z,500nm,10.0s						
CLNS	Chul'man	6.85	315	*e*P	Pn	05 50 11.4	+1.7
CLNS				pmax	pmax		
	comp=N,14nm,0.3s						
CLNS				pmax	pmax		
	comp=Z,24nm,0.3s						
CLNS				pmax	pmax		
	comp=E,17nm,0.4s						
CLNS				pmax	pmax		
	comp=N,10.0nm,0.3s						
CLNS				pmax	pmax		
	comp=Z,12nm,0.3s						
CLNS				pmax	pmax		
	comp=E,18nm,0.4s						
CLNS				MLR	MLR		
	comp=Z,200nm,10.0s						
TEY	Ternei	7.51	164	*e*Sg	Px	05 52 26.0	
TEY				A		05 52 32.0	
	comp=Z,60nm,0.9s						
YSS	Yuzh-Sakhalins	7.94	129	*e*rx	rx	05 52 09.1	
YSS				*e*Sg	Sx	05 52 37.7	
YSS				A		05 52 38.5	
	comp=Z,31nm,1.0s						
ZAK	Zakamensk	19.04	276	*e*P	P	05 52 58.0	+7.0
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.3s						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.2s						
MKAR	Makanchi Array	33.22	281	P	P	05 55 07.7	+2.2
	comp=Z,2.3nm,0.7s,mb4.2,baz=61,slow=8.3,SNR=22						
MKAR	Makanchi Array	33.22	281	P	P	05 55 07.7	+2.2
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BVAR	Borovoye Array	37.29	297	P	P	05 55 41.2	+1.0
	comp=Z,0.4nm,0.5s,mb3.5,baz=72,slow=9.1,SNR=3.2						
FINES	FINESS Array B	52.93	325	P	P	05 57 45.6	+1.0
	comp=Z,0.7nm,0.5s,mb3.8,baz=56,slow=6.9,SNR=7.0						
FINES	FINESS Array B	52.93	325	P	P	05 57 45.6	+1.0
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NOA	NORSAR Array B	58.07	331	P	P	05 58 22.4	+0.7
	comp=Z,0.5nm,0.8s,mb3.6,baz=35,slow=6.6,SNR=3.2						
NOA	NORSAR Array B	58.07	331	P	P	05 58 22.4	+0.7
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BRTR	Keskin Array B	65.19	303	P	P	05 59 11.9	+2.1
	comp=Z,0.4nm,0.4s,mb3.8,baz=45,slow=5.2,SNR=3.7						

IDC ***13*** *05:57:45.9±2.3, 19.05S×173.85W, mb4.1/4, mb1 4.4/5, mb1mx4.1/13, mbtmp4.2/5, Error ellipse: s-maj=105.6km s-min=24.8km az=138.0*
NEIC ***13*** *05:57:51.6±0.7, 18.94S×173.68W, h55km, mb4.4/4, Error ellipse: s-maj=20.3km s-min=13.7km az=127.0*

ISC 13 05:57:47.3±0.7, 18.94S±0.09×173.7W±0.1, h33km, n14, σ0§94/16, mb4.3/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	5.32	20	Pn	Pn	05 59 07.4	+0.9
	6.9nm,0.3s,baz=80,slow=22,SNR=8.5						
AFI				Sn	Sn	06 00 06.2	-1.2
	11nm,0.3s,baz=195,slow=23,SNR=3.5						
AFI	Afiamalu	5.32	20	Pn	Pn	05 59 07.4	+0.9
AFI				Sn	Sn	06 00 06.2	-1.2
CTAO	Charters Tower	37.74	261	*e*P	P	06 05 02.5	+0.5
	13nm,0.8s,mb4.7						
STKA	Stephens Creek	42.15	243	P	P	06 05 37.8	-0.7
	3.5nm,0.6s,mb4.1,baz=86,slow=9.2,SNR=7.2						
WB2	Warramunga Arr	48.88	260	*e*P	P	06 06 32.4	+0.3
WRAB	Tennant Creek	48.88	260	*e*P	P	06 06 31.0	-1.2
	6.6nm,0.8s,mb4.7						
WRA	Warramunga Arr	48.89	260	P	P	06 06 32.5	+0.3
	3.1nm,0.5s,mb4.6,baz=97,slow=7.8,SNR=44						
FITZ	Fitzroy Crossi	57.31	260	*e*P	P	06 07 35.5	+0.8
	7.6nm,0.4s,mb5.1						
SBA	Scott Base	59.72	185	*e*P	P	06 07 49.9	-0.9
	1.3nm,0.8s,mb4.0						
VNDA	Vanda	59.85	186	P	P	06 07 50.9	-0.7
	0.5nm,0.7s,mb3.6						
PDAR	Pinedale Array	85.05	42	P	P	06 10 23.9	+2.9
	0.3nm,0.7s,mb3.5,baz=225,slow=4.2,SNR=4.1						
ILAR	Eielson Array	85.94	11	P	P	06 10 29.4	+4.5
	1.0nm,0.6s,mb4.2,baz=224,slow=5.9,SNR=12						
VNA3	Neumayer Olymp	89.38	175		P	06 10 42.0	+0.7
VNA2	Neumayer--Watz	89.86	176		P	06 10 43.3	-0.3

LDG ***13*** *06:06:41.5±0.2, 51.67N×6.82E, h2km, Ml2.5/9*
CSEM ***13*** *06:06:41.3±0.2, 51.68N×6.82E, h2km, ML2.5/7, Error ellipse: s-maj=3.8km s-min=2.8km az=144.0*
BNS ***13*** *06:06:42.3±0.6, 51.67N×7.08E, h1km, ML1.7*
BUG ***13*** *06:06:43.6, 51.58N×7.06E, h1km, ML1.1*

BGR 13 06:06:44.1±1.3, 51.58N×7.00E, h1km, ML1.7/3, 1D, Error ellipse: s-maj=18.9km s-min=4.4km az=84.0, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUG	Bochum--Univer	0.22	130	⇓*i*Pg	Pg	06 06 48.1	-0.4
BUG				Sg	Sg	06 06 51.6	+0.2
WTSB	Winterswijk	0.40	342	*e*Pg	Pg	06 06 49.7	-2.4
WTSB				*e*Sg	Sg	06 06 55.1	-2.3
WTSB	Winterswijk	0.40	342	*e*Sg	Sg	06 06 55.1	-2.4
IBBN	Ibbenburen	0.86	33	*e*Pg	Pg	06 07 00.2	-1.1
	SNR=4.7						
IBBN				*e*Sg	Sg	06 07 11.6	-1.2
	SNR=3.9						
STB	Steinbach	1.00	186	*e*Pg	Pg	06 07 02.7	-1.2
STB				*e*Sg	Sg	06 07 17.9	+0.7
	20nm,0.4s						
KLL	Kalltalsperre	1.03	205	*e*Pg	Pg	06 07 03.0	-1.7
HGN	Heimansgroeve	1.06	220	*e*Pg	Pg	06 07 03.5	-1.8
HGN				*e*Sg	Sg	06 07 19.5	+0.1
TNS	Taunus Mts	1.64	146	*e*Pn	Pn	06 07 13.2	-1.1
	SNR=2.5						
TNS				*e*Sg	Sg	06 07 36.5	-2.3
	SNR=2.3						
GIVF	Givet	2.03	224	*e*Pg	Pg	06 07 19.1	-5.4
GIVF				*e*Sg	Sg	06 07 45.6	-5.9
	9.9nm,0.2s						
BAIF	Baives	2.34	230	*e*Pn	Pn	06 07 18.6	-5.6
BAIF				*e*Pg	Pg	06 07 24.3	-6.4
BAIF				*e*Sg	Sg	06 07 53.9	-8.0
	2.1nm,0.2s						
CDF	Champ du Feu	3.18	177	*e*Pn	Pn	06 07 32.3	-3.9
CDF				*e*Sg	Sg	06 08 24.5	-5.4
	1.3nm,0.3s						
HINF	Hinteralfeld	3.77	182	*e*Pn	Pn	06 07 39.8	-4.8
LOR	Lormes	4.78	207	*e*Pn	Pn	06 07 52.7	-6.2
LOR				*e*Sg	Sg	06 09 12.4	-11
	0.8nm,0.3s						
CABF	La Chapelle	5.01	187	*e*Pn	Pn	06 07 57.3	-4.9
SSF	Saint Saulge	5.07	208	*e*Pn	Pn	06 07 56.8	-6.2
SSF				*e*Sg	Sg	06 09 21.4	-11
	0.9nm,0.3s						
HYF	Humbligny	5.17	215	*e*Pn	Pn	06 07 57.8	-6.7
AVF	Avril sur Loir	5.36	208	*e*Pn	Pn	06 08 00.3	-6.8
AVF				*e*Sn	Sn	06 08 59.0	-11
	1.6nm,0.4s						
SMF	Signal de Mont	5.36	204	*e*Pn	Pn	06 08 00.5	-6.6
FLN	La Foliniere	5.58	242	*e*Pn	Pn	06 08 04.1	-6.1
BGF	Bois d'Agland	5.72	210	*e*Pn	Pn	06 08 06.9	-5.3
GRR	Gorron	5.99	241	*e*Pn	Pn	06 08 10.5	-5.5
GRR				*e*Sn	Sn	06 09 13.6	-13
	3.3nm,0.4s						
TCF	Toulx Ste Croi	6.17	213	*e*Pn	Pn	06 08 11.4	-7.1

NEIC 13 06:07:35.7, 54.84N×161.08W, h36km, ML3.5(AEIC), After AEIC., Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOL	Dolgoi Island	0.55	305	P	P	06 07 46.0	-1.0
SDPT	Sand Point	0.62	34	P	P	06 07 47.1	-0.9
SDPT				S	S	06 07 56.5	-0.4
HAG	Hague Volcano	0.68	316	P	P	06 07 47.9	-0.9
PVV	Pavlof Volcano	0.68	323	P	P	06 07 47.7	-1.1
PS1A	Pavlof South-1	0.70	327	P	P	06 07 48.1	-1.0
PS1A				S	S	06 07 58.4	-0.5
DT1	Dutton Round H	0.74	292	P	P	06 07 48.6	-1.1
DT1				S	S	06 07 59.1	-0.9
DTNA	Dutton South F	0.74	295	P	P	06 07 48.8	-1.0
BLHA	Black Hill	1.04	327	P	P	06 07 52.6	-1.3
BALA	Baldy Mountain	1.04	291	P	P	06 07 53.5	-0.5
BALA				S	S	06 08 07.1	-0.5
WESN	West Dahl Nort	2.05	264	P	P	06 08 07.4	-1.0
WESE	West Dahl East	2.07	261	P	P	06 08 07.9	-0.8
WESE				S	S	06 08 32.9	-0.6
CHGN	Chignik	2.11	45	P	P	06 08 07.9	-1.5
WFAR	Faris Peak	2.17	264	P	P	06 08 09.2	-0.9
ANPK	Aniakchak Peak	2.61	38	P	P	06 08 14.7	-1.8
AKUT	Akutan	2.82	258	P	P	06 08 18.4	-1.2
AHB	Akutan Harbor	2.85	257	P	P	06 08 18.3	-1.6
UNV	Unalaska Valle	3.32	255	P	P	06 08 24.3	-2.3
MTBL	Makushin Table	3.38	257	P	P	06 08 26.1	-1.4
CAHL	Cahill	4.55	42	P	P	06 08 41.5	-2.5
ANCK	Angle Creek	4.58	40	P	P	06 08 42.2	-2.2
MGLS	Mageik LS	4.65	41	P	P	06 08 43.2	-2.2
KABR	Katmai Barrier	4.73	43	P	P	06 08 43.8	-2.8
KDAK	Kodiak Island	5.58	55	P	P	06 08 54.2	-4.3
MCNL	McNeil River	5.71	37	P	P	06 08 57.6	-2.7
SVW2	Sparrevohn	6.92	23	P	P	06 09 12.4	-5.0
SEW	Seward	8.19	45	P	P	06 09 30.4	-4.7
TT01	Tatalina	8.51	16	P	P	06 09 34.3	-5.1
RC01	Rabbit Creek A	8.69	39	P	P	06 09 37.0	-5.0
LTI	Latouche	8.83	48	P	P	06 09 38.5	-5.4
KNK	Knik Glacier	9.37	40	P	P	06 09 46.3	-5.1
HIN	Hinchinbrook I	9.59	49	P	P	06 09 49.2	-5.1
EYAK	Cordova Ski Ar	9.99	49	P	P	06 09 53.7	-6.1
VLZ	Valdez	10.04	45	P	P	06 09 55.2	-5.3
SCM	Sheep Creek Mo	10.06	40	P	P	06 09 55.1	-5.6
MCK	McKinley	10.85	30	*e*P	P	06 10 09.3	-2.2

JMA 13 06:15:30.6±0.2, 44.06N×146.91E, h74km±4km, M3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	1.09	231	P	P	06 15 50.6	-0.1
NEM2				S	S	06 16 05.1	-0.7
JRA	Rausu	1.30	265	P	P	06 15 53.3	-0.1
JRA				*e*S	S	06 16 10.0	-0.4
JNK	Nakash	1.66	254	P	P	06 15 58.0	-0.3
JNK				*e*S	S	06 16 18.7	0.0
JAK	Akkeshi	1.93	237	P	P	06 16 01.3	-0.7
JAK				*e*S	S	06 16 24.2	-0.9
JTKR	Abashiri--Toko	2.17	269	P	P	06 16 04.7	-0.6
JAR	Ashorobuto	2.40	253	P	P	06 16 08.8	+0.2
JAR				*e*S	S	06 16 37.3	+0.4
JOB	Onbets	2.52	244	P	P	06 16 10.1	-0.2
JOB				S	S	06 16 38.9	-0.9
JMP	Maruseppu	2.56	270	P	P	06 16 10.2	-0.7
JMP				*e*S	S	06 16 40.6	-0.3
JCH	Churui	2.96	242	*e*S	S	06 16 49.2	-1.8
JKK2	Kamakawa 2	3.01	268	P	P	06 16 16.8	-0.4
JKK2				*e*S	S	06 16 52.4	+0.2
ASAJ	Asahikawa	3.11	273	P	P	06 16 18.1	-0.4
JSE	Soyaes	3.22	288	P	P	06 16 18.5	-1.6
JFR	Furan	3.26	256	P	P	06 16 20.7	+0.1

HRVD ***13*** *06:25:57.2±0.2, 52.11N×178.08E, h16km±1km, MW5.1/63, Centroid moment Tensor Solution. LP body waves: s39,c61;Mantle waves: s63,c130; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.82±.16; $M_{\theta\theta}$2.12±.16; $M_{\phi\phi}$-1.30±.15; $M_{r\theta}$-1.02±.43; $M_{\theta\phi}$-4.72±.13; $M_{\phi r}$-1.69±.49; Best double couple: $M_0$5.441×10^{16} NP1: ϕ_s82°, δ73°, λ-164°. NP2:ϕ_s348°, δ75°, λ-18°. Principal axes: T 5.433, Plg1°, Azm35°; N .018, Plg67°, Azm128°; P -5.448, Plg23°, Azm305°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***13*** *06:25:57.1±0.6, 52.12N×178.05E, mb4.6/20, mb1 4.8/21, mb1mx4.8/24, mbtmp4.7/21, ML4.4/1, MS4.4/17, Ms1 4.4/17, ms1mx4.3/26 Error ellipse: s-maj=19.9km s-min=10.5km az=173.0*
NEIC ***13*** *06:25:57.2±1.5, 51.90N×178.11E, h6km±9km, mb4.9/89, MS4.5/6, ML5.0(PMR), ML4.7(AEIC), Error ellipse: s-maj=5.6km s-min=2.9km az=185.0*
BJI ***13*** *06:25:59.9, 52.58N×177.47E, h16km, mB5.1, mb4.9, Ms4.9, Msz4.4*
MOS ***13*** *06:25:59.9±1.1, 51.94N×178.16E, h33km, mb5.0/69, MS4.4/17, Error ellipse: s-maj=7.9km s-min=5.0km az=90.1*

ISC 13 06:25:58.2±1.0, 51.92N±0.04×178.18E±0.03, h23km±7km, h22km±1.3km: pP-P, n347, σ1§10/347, mb4.8/127, MS4.5/34, 18C-12D, Rat Islands

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

PET *e*S **S** **06 30 56.5 -7.5**
PET pmax pmax
comp=Z,200nm,3.5s
PET pmax pmax
comp=Z,100nm,10.3s
PET pmax pmax
comp=Z,14nm,1.0s
PET pmax pmax
comp=Z,200nm,6.8s
PET smax
comp=E,52nm,0.6s
PET smax
comp=N,45nm,0.7s
PET MLR MLR
comp=Z,2μm,17.0s
PET MLR MLR
comp=Z,1μm,18.0s
PET MLR MLR
comp=N,1μm,15.0s
PET MLR MLR
comp=N,1μm,13.0s
PET MLR MLR
comp=E,2μm,17.0s
PET MLR MLR
comp=E,2μm,16.0s
SDPT Sand Point 13.11 66 *e*P **P** **06 29 05.8 +0.1**
CHGN Chignik 14.39 63 *e*P **P** **06 29 26.0 +3.7**
TNA Tin City 15.41 22 *e*P **P** **06 29 35.5 -0.1**
comp=E,73nm,1.5s
SVW2 Sparrevohn 17.04 47 *e*P **P** **06 29 56.4 0.0**
BILL Bilibino 17.18 345⇑ *i*P **P** **06 29 59.3 +1.2**
BILL *e*S **S** **06 33 04.9 -2.0**
BILL pmax pmax
comp=Z,54nm,1.7s
BILL MLR MLR
comp=Z,1μm,16.0s
SEY Seymchan 17.59 319 *e*P **P** **06 30 02.7 -0.6**
SEY pmax pmax
comp=E,30nm,0.9s
SEY pmax pmax
comp=Z,50nm,0.9s
SEY pmax pmax
comp=N,20nm,1.1s
TTA Tatalina 17.60 41 *e*P **P** **06 30 04.7 +1.4**
KDAK Kodiak Island 17.74 59 *e*P **P** **06 30 05.0 -0.1**
RSO Redoubt South 18.16 51 *e*P **P** **06 30 13.2 +2.7**
SPU Mount Spurr 18.69 49 *e*P **P** **06 30 18.1 +1.2**
SLKM Skilak Lake 19.39 51 *e*P **P** **06 30 23.8 -1.3**
FIB Fire Island 19.56 49 P **P** **06 30 26.7 -0.4**
IMA Indian Mountai 20.02 34 *e*P **P** **06 30 31.5 -0.5**
PMR Palmer 20.15 49 *e*P **P** **06 30 35.1 +1.6**
SML Sawmill 20.57 48 *e*P **P** **06 30 36.1 -1.7**
MID Middleton Isla 21.16 55 *e*P **P** **06 30 44.6 +0.8**
EYAK Cordova Ski Ar 21.58 52 *e*P **P** **06 30 47.6 -0.4**
DIV Divide 21.65 51 *e*P **P** **06 30 48.7 0.0**
comp=N,429nm,1.2s,mb5.8
ILAR Eielson Array 22.04 41 P **P** **06 30 52.8 +0.1**
comp=N,11nm,0.8s,mb4.3,baz=254,slow=10,SNR=72
ILAR LR LR 06 40 03.6
comp=N,1μm,19.7s,MS4.3,baz=61,slow=39
MENT Mentasta 22.91 46 *e*P **P** **06 31 04.7 +3.5**
YSS Yuzh-Sakhalins 23.41 272 *e*P **P** **06 31 06.9 +0.9**
comp=N,32nm,0.9s,mb4.8
YSS Yuzh-Sakhalins 23.41 272⇑ *e*P **P** **06 31 07.2 +1.1**
YSS pmax pmax
comp=Z,10.0nm,0.8s,mb4.3
MIDW Midway 23.91 170 P **P** **06 31 10.9 -0.3**
ASAJ Asahikawa 24.84 266 P **P** **06 31 20.1 0.0**
comp=Z,30nm,0.8s,mb4.9,baz=61,slow=4.9,SNR=26
ASAJ LR LR 06 40 06.5
comp=Z,741nm,19.2s,MS4.2,baz=178,slow=34
ASAJ Asahikawa 24.84 266 P **P** **06 31 20.1 0.0**
ASAJ pmax pmax
comp=Z,30nm,0.8s
ASAJ MLR MLR
comp=Z,741nm,19.2s
DAWY Dawson 25.02 45 *e*P **P** **06 31 21.4 -0.1**
YAK Yakutsk 27.64 310 P **P** **06 31 43.7 -2.0**
YAK Yakutsk 27.64 310 *e*P **P** **06 31 46.5 +0.8**
YAK *e**PP pP 06 31 55.8 +3.4
YAK *e*PPP tx 06 32 36.2
YAK *e* 06 35 06.9
YAK *e*S **S** **06 36 19.9 -4.7**
YAK *e*SSS SS 06 37 44.0 0.0
YAK *e* 06 42 36.3
YAK pmax pmax
comp=Z,16nm,0.8s,mb4.7
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK pmax pmax
comp=E,7.0nm,1.2s
YAK pmax pmax
comp=N,2.0nm,0.9s
YAK pmax pmax
comp=Z,8.0nm,0.9s,mb4.3
YAK pmax pmax
comp=E,4.0nm,1.0s
YAK smax
comp=E,74nm,12.1s
YAK MLR MLR
comp=Z,409nm,18.0s,MS4.0
YAK MLR MLR
comp=N,582nm,16.0s,MS4.3
YAK MLR MLR
comp=E,314nm,16.0s,MS4.3
INK Inuvik 28.12 36 P **P** **06 31 49.5 -0.5**
comp=E,6.7nm,0.8s,mb4.3,baz=249,slow=12,SNR=9.1
INK LR LR 06 45 01.3
comp=E,885nm,18.2s,MS4.4,baz=358,slow=41
INK Inuvik 28.12 36 *e*P **P** **06 31 48.8 -1.2**
comp=E,17nm,1.0s,mb4.6
INK Inuvik 28.12 36 *e*P **P** **06 31 48.8 -1.2**
INK pmax pmax
comp=Z,17nm,1.0s
KLR Kul'dur 29.22 283 *e*P **P** **06 31 55.0 -5.1**
DLBC Dease Lake 29.63 57 P **P** **06 32 05.1 +1.4**
comp=Z,4.8nm,0.8s,mb4.3,baz=280,slow=11,SNR=18
DLBC LR LR 06 44 09.1
comp=Z,1μm,19.2s,MS4.5,baz=275,slow=37
DLBC Dease Lake 29.63 57 *e*P **P** **06 32 04.4 +0.6**
MAJO Matsushiro 32.04 257 *e*P **P** **06 32 24.8 -0.3**
comp=Z,28nm,1.3s,mb4.9
MAJO Matsushiro 32.04 257 *e*P **P** **06 32 24.8 -0.4**
MAJO pmax pmax
comp=Z,28nm,1.3s,mb4.9
MAT Matsushiro 32.04 257 P **P** **06 32 25.1 -0.1**
MAT S **S** **06 37 36.0 +1.4**
MAT Matsushiro 32.04 257 *e*P **P** **06 32 25.0 -0.2**
comp=Z,19nm,1.2s,mb4.8
MAT *e*S **S** **06 37 37.0 +2.5**
MAT Matsushiro 32.04 257 *e*P **P** **06 32 25.0 -0.2**
MAT *e*S **S** **06 37 37.0 +2.5**
MAT pmax pmax
comp=Z,19nm,1.2s,mb4.8
MDJ Mudanjiang 32.63 277 P **P** **06 32 27.9 -2.3**
MDJ AP pP 06 32 34.0 -3.0
MDJ XP sP 06 32 36.8 -3.1
MDJ PCP PcP 06 35 13.6 -2.6
MDJ S **S** **06 37 42.4 -1.3**
MDJ XS 06 37 53.3
MDJ SCP 06 38 57.0
MDJ AMB AMB
comp=Z,6.0nm,1.0s,mb4.5
MDJ AMB AMB
comp=Z,66nm,8.7s
MDJ LR LR
comp=N,734nm,18.9s,MS4.4
MDJ LR LR
comp=E,335nm,22.9s,MS4.4
MDJ LR LR
comp=Z,681nm,16.9s
CN2 Changchun 35.60 278 *e*P **P** **06 32 54.8 -1.0**
CN2 *e*XP sP 06 33 03.3 -2.2
CN2 *e*S **S** **06 38 27.5 -2.3**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
CN2 LR LR
comp=N,1μm,17.0s,MS4.7
CN2 LR LR
comp=E,530nm,17.0s,MS4.7
CN2 LR LR
comp=Z,630nm,16.0s,MS4.5
KIP Kipapa 35.60 140 P **P** **06 32 54.7 -1.4**
BOD Bodaibo 36.14 305 *e*P **P** **06 32 57.4 -2.8**
BOD pmax pmax
comp=Z,18nm,1.0s,mb5.0
YKW3 Yellowknife Ar 36.20 46 *e*P **P** **06 33 00.3 -0.4**
YKA Yellowknife Ar 36.23 46 P **P** **06 33 01.1 +0.2**
comp=Z,14nm,0.7s,mb5.0,baz=282,slow=8.3,SNR=39
YKA LR LR 06 49 30.5
comp=Z,1μm,19.3s,MS4.7,baz=280,slow=39
YKA Yellowknife Ar 36.23 46 P **P** **06 33 01.1 +0.2**
YKA LR LR 06 49 30.5
KS15 Wonju Array Si 37.79 268 *e*P **P** **06 33 14.4 0.0**
SNY Shenyang 37.84 277⇑ P **P** **06 33 14.8 +0.1**
SNY S **S** **06 39 02.4 -1.6**
SNY LR LR
comp=N,420nm,15.7s,MS4.6
SNY LR LR
comp=E,560nm,15.9s,MS4.6
SNY LR LR
comp=Z,370nm,13.0s,MS4.4
INCN Inchon 38.54 269 *e*P **P** **06 33 20.3 -0.4**
CIT Chita 38.62 297 *e*P **P** **06 33 20.2 -1.0**
CIT *e* 06 34 50.3
CIT pmax pmax
comp=Z,44nm,2.0s,mb4.8
EDM Edmonton 40.19 60 *e*P **P** **06 33 33.7 -0.4**
NEW Newport 40.45 69 P **P** **06 33 36.0 -0.3**
comp=Z,8.9nm,0.9s,mb4.5,baz=295,slow=6.5,SNR=13
NEW Newport 40.45 69 *e*P **P** **06 33 36.4 0.0**
comp=Z,19nm,1.1s,mb4.7
NEW Newport 40.45 69 *e*P **P** **06 33 36.4 +0.1**
NEW pmax pmax
comp=Z,19nm,1.1s
KHMM Horse Mountain 40.53 82 *e*P **P** **06 33 39.4 +2.3**
YBH Yreka Blue Hor 40.66 80 P **P** **06 33 39.4 +1.3**
comp=Z,9.1nm,0.9s,mb4.4,baz=266,slow=4.7,SNR=13
YBH Yreka Blue Hor 40.66 80 *e*P **P** **06 33 39.4 +1.3**
comp=Z,9.0nm,0.9s,mb4.4
YBH Yreka Blue Hor 40.66 80 *e*P **P** **06 33 39.4 +1.3**
YBH pmax pmax
comp=Z,9.0nm,0.9s
WDC Whiskeytown Da 41.44 82 *e*P **P** **06 33 45.6 +1.1**
comp=Z,31nm,1.4s,mb4.8
WDC Whiskeytown Da 41.44 82 *e*P **P** **06 33 45.6 +1.1**
WDC pmax pmax
comp=Z,31nm,1.4s,mb4.8
WALA Waterton Lakes 41.88 66 *e*P **P** **06 33 47.5 -0.5**
comp=Z,48nm,1.4s,mb4.9
MOD Modoc 42.02 79 *e*P **P** **06 33 50.5 +1.2**
comp=Z,8.4nm,0.7s,mb4.5
HOPS Hopland 42.06 84 *e*P **P** **06 33 51.4 +1.8**
BMO Blue Mountains 42.15 73 *e*P **P** **06 33 50.0 -0.3**
comp=Z,16nm,1.4s,mb4.4
MSO Missoula 43.04 69 *e*P **P** **06 33 56.9 -0.6**
comp=Z,31nm,1.5s,mb4.8
BEKR Beckwourth 43.20 81 *e*P **P** **06 33 59.6 +0.8**
comp=Z,15nm,1.1s,mb4.6
CHMT Chamberlain Mo 43.39 68 *e*P **P** **06 33 59.5 -0.8**
CMB Columbia Colle 44.31 83 *e*P **P** **06 34 08.9 +1.0**
comp=Z,36nm,1.4s,mb4.9
CMB Columbia Colle 44.31 83 *e*P **P** **06 34 09.0 +1.1**
CMB pmax pmax
comp=Z,36nm,1.4s,mb4.9
HRY Holter Researc 44.32 68 *e*P **P** **06 34 07.3 -0.5**
HLID Hailey 44.59 73 *e*P **P** **06 34 09.9 -0.3**
comp=Z,23nm,1.4s,mb4.8
SONM Songino Array 44.72 295 P **P** **06 34 10.7 -0.3**
comp=Z,12nm,0.6s,mb4.9,baz=60,slow=8.3,SNR=89
SONM LR LR 06 52 15.9
comp=Z,532nm,21.2s,MS4.4,baz=74,slow=35
BMN Battle Mountai 44.77 78 *e*P **P** **06 34 11.6 0.0**
comp=Z,22nm,1.3s,mb4.8
BMN Battle Mountai 44.77 78 *e*P **P** **06 34 11.6 0.0**
BMN pmax pmax
comp=Z,22nm,1.3s,mb4.8
JOW Kunigami 44.85 256 LR LR 06 49 24.0
comp=Z,246nm,20.8s,MS4.1,baz=32,slow=31
LRV Little Rabbit 44.94 85 *e*P **P** **06 34 13.8 +0.8**
BOZ Bozeman (W) 45.03 69 *e*P **P** **06 34 13.1 -0.4**
comp=Z,21nm,1.2s,mb4.8
BOZ Bozeman (W) 45.03 69 *e*P **P** **06 34 13.1 -0.5**
BOZ pmax pmax
comp=Z,21nm,1.2s,mb4.8
ZAK Zakamensk 45.05 299 *e*P **P** **06 34 12.6 -1.1**
ZAK *e* 06 35 54.8
ZAK pmax pmax
comp=Z,4.0nm,1.2s,mb4.1
ZAK pmax pmax
comp=Z,2.0nm,1.0s,mb3.9
NVAR Mina Array Bea 45.34 81 P **P** **06 34 17.6 +1.5**
comp=Z,4.7nm,0.7s,mb4.4,baz=303,slow=6.1,SNR=40
NVAR Mina Array Bea 45.34 81 P **P** **06 34 17.6 +1.4**
FFC Flin Flon 45.34 53 *e*P **P** **06 34 14.9 -1.1**
comp=Z,8.4nm,1.0s,mb4.5
FFC Flin Flon 45.34 53 *e*P **P** **06 34 14.9 -1.0**
FFC pmax pmax
comp=Z,8.0nm,1.0s,mb4.5
OMM Old Mammoth Mi 45.43 83 *e*P **P** **06 34 17.6 +0.8**
QLMT Earthquake Lak 45.61 70 *e*P **P** **06 34 17.4 -0.8**
HHC Hu-ho-hao-te 45.73 283 *e*P **P** **06 34 22.8 +3.6**
HHC AP pP 06 34 29.8 +3.8
HHC XP sP 06 34 32.6 +3.8
HHC S **S** **06 41 05.1 +4.7**
HHC SCS ScS 06 44 15.5 +4.1
HHC AMB AMB
comp=Z,64nm,1.7s,mb5.3
HHC AMB AMB
comp=Z,630nm,4.3s
HHC LR LR
comp=N,2μm,21.4s,MS5.3
HHC LR LR
comp=E,3μm,20.2s,MS5.3
HHC LR LR
comp=Z,3μm,19.0s,MS5.2
ELK Elko 45.78 77 *e*P **P** **06 34 20.1 +0.6**
comp=Z,10nm,1.2s,mb4.6
ELK Elko 45.78 77 *e*P **P** **06 34 20.1 +0.5**
ELK pmax pmax
comp=Z,10.0nm,1.2s
MTUM Tungsten Hills 45.86 83 *e*P **P** **06 34 21.6 +1.3**
PTRM Twissleman Ran 45.94 86 *e*P **P** **06 34 21.9 +0.9**
YMR Madison River 45.98 70 *e*P **P** **06 34 21.1 0.0**
SSE Sheshan 46.14 266 *e*P **P** **06 34 19.8 -2.7**
SSE AP pP 06 34 26.0 -3.4
SSE XP sP 06 34 28.8 -3.4
SSE PCP PcP 06 35 57.3 -1.6
SSE PP PP 06 36 05.3 -5.7
SSE S **S** **06 41 03.1 -3.3**
SSE XS 06 41 15.0
SSE SCS ScS 06 44 17.8 +3.6
SSE AMB AMB
comp=Z,46nm,0.7s,mb5.5
SSE AMB AMB
comp=Z,424nm,4.5s
SSE LR LR
comp=N,222nm,23.8s,MS4.1
SSE LR LR
comp=E,123nm,23.7s,MS4.1
SSE LR LR
comp=Z,204nm,23.9s,MS4.0
TPH Tonopah 46.23 81 *e*P **P** **06 34 23.9 +0.8**
comp=Z,48nm,1.5s,mb5.2
TPH Tonopah 46.23 81 *e*P **P** **06 34 23.9 +0.7**
TPH pmax pmax
comp=Z,49nm,1.5s,mb5.2
IMW Indian Meadow 46.44 70 *e*P **P** **06 34 24.0 -0.8**
comp=Z,8.2nm,1.0s,mb4.6
RRI2 Red Ridge 46.55 71 *e*P **P** **06 34 26.6 +1.0**
comp=Z,4.3nm,0.7s,mb4.5
HVU Hansel Valley 46.62 74 *e*P **P** **06 34 26.7 +0.4**
BTO Baotou 46.81 284 *e*P **P** **06 34 29.8 +2.1**
BTO AMB AMB
comp=Z,8.0nm,0.5s,mb4.9
LOHW Long Hollow 46.81 71 *e*P **P** **06 34 27.7 0.0**
comp=Z,5.4nm,1.1s,mb4.4
NJ2 Nanjing 46.92 269 *e*P **P** **06 34 30.1 +1.4**
NJ2 AP pP 06 34 37.5 +1.9
NJ2 XP sP 06 34 40.6 +2.2
NJ2 PCP PcP 06 36 03.4 +1.8
NJ2 S **S** **06 41 17.0 -0.6**
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
NJ2 AMB AMB
comp=Z,590nm,4.8s
NJ2 LR LR
comp=N,930nm,23.1s,MS4.8
NJ2 LR LR
comp=E,780nm,24.2s,MS4.8
NJ2 LR LR
comp=Z,560nm,25.6s,MS4.4
FCC Fort Churchill 46.94 45 *e*P **P** **06 34 27.7 -0.8**
comp=Z,33nm,1.1s,mb5.2
FCC Fort Churchill 46.94 45 *e*P **P** **06 34 27.7 -0.8**
FCC pmax pmax
comp=Z,33nm,1.1s,mb5.2
DAC Darwin (Calif) 47.15 83 *e*P **P** **06 34 30.9 +0.5**
comp=Z,8.1nm,0.9s,mb4.7
DAC Darwin (Calif) 47.15 83 *e*P **P** **06 34 30.9 +0.4**
DAC pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
HWUT Hardware Ranch 47.45 73 *e*P **P** **06 34 31.8 -1.0**
comp=Z,5.3nm,1.0s,mb4.4
DUG Dugway 47.57 76 *e*P **P** **06 34 33.5 -0.3**
comp=Z,27nm,1.5s,mb5.0
DUG Dugway 47.57 76 *e*P **P** **06 34 33.5 -0.3**
DUG pmax pmax
comp=Z,27nm,1.5s,mb5.1
BW06 Boulder Array 47.93 71 *e*P **P** **06 34 35.5 -1.0**
comp=Z,7.1nm,0.8s,mb4.8
PDAR Pinedale Array 47.93 71 P **P** **06 34 36.5 -0.1**
comp=Z,4.1nm,0.8s,mb4.5,baz=314,slow=4.5,SNR=35
PDAR LR LR 06 52 00.9
comp=Z,318nm,20.4s,MS4.3,baz=305,slow=33
JLU Jordanelle 48.14 74 *e*P **P** **06 34 37.5 -0.6**
MWC Mount Wilson 48.21 85 *e*P **P** **06 34 38.0 -0.8**
DAU Daniels Canyon 48.37 74 *e*P **P** **06 34 38.9 -1.1**
MSU Marysvale 49.02 77 *e*P **P** **06 34 44.0 -0.9**
TMUT Trail Mountain 49.10 76 *e*P **P** **06 34 45.9 +0.3**
NEN Nelson 49.25 82 *e*P **P** **06 34 46.7 -0.1**
LDFC Landfair 49.46 82 *e*P **P** **06 34 48.9 +0.4**
PFO Pinyon Flat Ob 49.61 85 *e*P **P** **06 34 49.6 0.0**
comp=Z,13nm,1.3s,mb4.8
PFO Pinyon Flat Ob 49.61 85 *e*P **P** **06 34 49.6 0.0**
PFO pmax pmax
comp=Z,13nm,1.3s,mb4.8
SRU San Rafael 49.63 75 *e*P **P** **06 34 49.5 -0.2**
BAR Barrett 50.10 86 *e*P **P** **06 34 53.5 +0.1**
WHN Wuhan 50.75 271⇓ P **P** **06 34 57.8 -0.6**
PHWY Pilot Hill 51.23 70 P **P** **06 35 02.6 +0.7**
NVS Novosibirsk 52.44 313⇑ *i*P **P** **06 35 08.3 -2.5**
NVS *e*S **S** **06 42 33.0 -1.1**
NVS pmax pmax
comp=Z,12nm,0.7s,mb4.9
NVS pmax pmax
comp=N,7.0nm,0.7s
NVS pmax pmax
comp=E,7.0nm,0.7s
NVS smax
comp=E,18nm,2.0s
SUMG Summit 53.21 13 *e*P **P** **06 35 15.5 -0.8**
comp=E,31nm,1.1s,mb5.2
SDCO Great Sand Dun 53.51 73 *e*P **P** **06 35 19.1 +0.2**
comp=E,10nm,1.3s,mb4.6
GTA Gaotai 53.61 290 *e*P **P** **06 35 18.5 -1.2**
GTA AP pP 06 35 25.3 -1.3
GTA XP sP 06 35 28.3 -1.0
GTA PP PP 06 37 20.8 -1.2
GTA PPP PPP 06 38 30.0 -0.2
GTA S **S** **06 42 49.6 -0.6**
GTA XS 06 43 03.0
GTA AMB AMB
comp=Z,14nm,0.7s,mb5.0
GTA AMB AMB
comp=Z,140nm,4.9s
GTA LR LR
comp=N,811nm,17.5s,MS4.9
GTA LR LR
comp=E,711nm,19.4s,MS4.9
GTA LR LR
comp=Z,521nm,17.9s,MS4.6
ENH Enshi 53.95 275 *e*P **P** **06 35 20.7 -1.5**
comp=Z,11nm,0.7s,mb4.9
TUC Tucson 53.98 82 *e*P **P** **06 35 22.6 +0.1**
comp=Z,22nm,1.5s,mb4.9
TUC Tucson 53.98 82 *e*P **P** **06 35 22.6 +0.1**
TUC pmax pmax
comp=Z,21nm,1.5s,mb4.8
LAZ Ladron 54.77 77 *e*P **P** **06 35 27.7 -0.6**
ANMO Albuquerque 54.81 77 *e*P **P** **06 35 28.0 -0.5**
comp=Z,2.8nm,0.9s,mb4.3
ANMO Albuquerque 54.81 77⇑ *i*P **P** **06 35 29.1 +0.5**
BNM Barren Site 55.25 77 *e*P **P** **06 35 31.4 -0.4**
CBKS Cedar Bluff 56.17 69 *e*P **P** **06 35 37.6 -0.7**
comp=Z,17nm,0.9s,mb5.1
CBKS Cedar Bluff 56.17 69 *e*P **P** **06 35 37.6 -0.7**
CBKS pmax pmax
comp=Z,17nm,0.9s,mb5.1
ARCES ARCESS Array B 57.22 349 P **P** **06 35 43.2 -2.2**
comp=Z,6.1nm,0.7s,mb4.8,baz=11,slow=6.2,SNR=22
ARCES LR LR 07 02 51.0
comp=Z,287nm,19.6s,MS4.4,baz=188,slow=39
ARE0 ARCESS Array S 57.22 349 *e*P **P** **06 35 43.1 -2.3**
KURK Kurchatov 57.27 312 *e*P **P** **06 35 44.0 -2.0**
comp=Z,25nm,0.7s,mb5.3
KURK Kurchatov 57.27 312 *e*P **P** **06 35 44.0 -2.0**
KURK pmax pmax
comp=Z,25nm,0.7s,mb5.3
LVZ Lovozero 57.44 345 *i*P **P** **06 35 45.0 -2.0**
LVZ *i*S **S** **06 43 35.0 -5.8**
LVZ pmax pmax
comp=Z,16nm,1.0s,mb5.0
LVZ pmax pmax
comp=N,11nm,1.1s
LVZ pmax pmax
comp=E,9.0nm,1.8s
LVZ smax
comp=E,48nm,10.2s
LVZ MLR MLR
comp=N,244nm,23.0s
LVZ MLR MLR
comp=Z,413nm,23.0s,MS4.5
WMQ Urumqi 57.46 301 P **P** **06 35 47.0 -0.4**
WMQ XP sP 06 35 56.0 -1.1
WMQ PP PP 06 37 56.0 -0.5
WMQ SCP 06 40 38.0
WMQ S **S** **06 43 40.0 -1.4**
WMQ AMB AMB
comp=Z,16nm,1.0s,mb5.0
WMQ AMB AMB
comp=Z,22nm,8.0s
WMQ LR LR
comp=N,1μm,10.0s,MS5.3
WMQ LR LR
comp=E,587nm,10.0s,MS5.3
WMQ LR LR
comp=Z,485nm,10.0s,MS4.9
CPRX Cap Rock 57.69 76 *e*P **P** **06 35 48.7 -0.5**
MNTX Cornudas Mount 57.70 79 *e*P **P** **06 35 48.7 -0.6**
comp=Z,5.7nm,0.8s,mb4.7
KSU1 Kansas State U 57.77 66 *e*P **P** **06 35 47.4 -2.2**
APA Apatity 57.94 345 *e*P **P** **06 35 50.0 -0.4**
GDL2 Guadalupe Moun 57.97 77 *e*P **P** **06 35 49.1 -2.1**
MKAR Makanchi Array 58.21 306 P **P** **06 35 50.5 -2.1**
comp=Z,10nm,0.6s,mb5.0,baz=48,slow=7.0,SNR=119
MKAR LR LR 07 04 35.7
comp=Z,201nm,19.6s,MS4.2,baz=1.3,slow=40
MKAR Makanchi Array 58.21 306 *i*P **P** **06 35 50.3 -2.3**
MKAR pmax pmax
comp=Z,5.0nm,0.6s
VOSK Vostochnaya 59.22 317 P **P** **06 35 57.7 -1.9**
VOSK pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
BVA0 Borovoye Array 59.24 318 *i*P **P** **06 35 58.5 -1.2**
BVA0 pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
BRVK Borovoye 59.26 318 *e*P **P** **06 35 58.2 -1.7**
comp=Z,14nm,0.6s,mb5.2
BRVK Borovoye 59.26 318 *e*P **P** **06 35 58.2 -1.7**
BRVK pmax pmax
comp=Z,14nm,0.6s,mb5.2
WMOK Wichita Mounta 59.53 72 *e*P **P** **06 36 01.4 -0.6**
comp=Z,4.9nm,0.9s,mb4.5
WMOK Wichita Mounta 59.53 72 *e*P **P** **06 36 01.4 -0.6**
WMOK pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
LTX Lajitas 60.42 79 *e*P **P** **06 36 07.6 -0.5**
comp=Z,29nm,1.6s,mb5.1
LTX Lajitas 60.42 79 *e*P **P** **06 36 07.6 -0.5**
LTX pmax pmax
comp=Z,29nm,1.6s,mb5.1
SCHQ Schefferville 60.73 37 P **P** **06 36 08.3 -1.6**
comp=Z,18nm,1.1s,mb5.2,baz=343,slow=7.5,SNR=11
SCHQ LR LR 07 03 16.7
comp=Z,544nm,19.6s,MS4.7,baz=158,slow=37

ARU	**Arti**	**61.13**	**327**	*e*P	**P**	**06 36 11.2**	**-1.4**
	comp=Z,16nm,0.6s,mb5.3						
ARU	**Arti**	**61.13**	**327**	⇓*i*P	**P**	**06 36 11.4**	**-1.2**
ARU				*e*		06 36 54.1	
ARU				*e*S	**S**	**06 44 28.7**	**-0.1**
ARU				*e*SS	SS	06 48 30.3	0.0
ARU				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb5.1						
ARU				MLR	MLR		
	comp=Z,400nm,18.0s,MS4.6						
ARU				MLR	MLR		
	comp=N,300nm,17.0s,MS4.7						
ARU				MLR	MLR		
	comp=E,400nm,19.0s,MS4.7						
CCM	**Cathedral Cave**	**61.51**	**64**	*e*P	**P**	**06 36 14.2**	**-1.2**
	comp=E,9.9nm,1.1s,mb4.8						
CCM	**Cathedral Cave**	**61.51**	**64**	*e*P	**P**	**06 36 14.2**	**-1.2**
CCM				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.9						
KMI	**Kunming**	**61.79**	**275**	P	**P**	**06 36 18.8**	**+1.3**
KMI				XP	sP	06 36 27.8	+0.6
KMI				S	**S**	**06 44 35.4**	**-2.2**
KMI				AMB	AMB		
	comp=Z,12nm,0.9s,mb5.0						
KMI				LR	LR		
	comp=N,298nm,32.4s,MS4.3						
KMI				LR	LR		
	comp=E,212nm,29.0s,MS4.3						
KMI				LR	LR		
	comp=Z,172nm,23.8s						
NATX	**Nacogdoches**	**64.06**	**71**	*e*P	**P**	**06 36 32.3**	**-0.1**
KAF	**Kangasniemi**	**64.15**	**346**	*ep*	**P**	**06 36 30.8**	**-1.6**
	comp=Z,7.2nm,0.7s,mb4.8,baz=15,slow=5.9						
KAF	**Kangasniemi**	**64.15**	**346**	*e*P	**P**	**06 36 30.8**	**-1.6**
KAF				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.8						
TKM2	**Tokmak 2**	**64.30**	**307**	P	**P**	**06 36 33.1**	**-0.6**
	SNR=10						
USP	**Ospenovka**	**64.58**	**308**	P	**P**	**06 36 35.1**	**-0.5**
	SNR=24						
WVT	**Waverly**	**64.79**	**63**	*e*P	**P**	**06 36 36.2**	**-0.9**
	comp=Z,5.3nm,1.0s,mb4.5						
WVT	**Waverly**	**64.79**	**63**	*e*P	**P**	**06 36 36.2**	**-0.8**
WVT				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
ALLY	**Alegheny Colle**	**64.80**	**54**	*e*P	**P**	**06 36 37.1**	**+0.1**
FINES	**FINESS Array B**	**64.82**	**346**	P	**P**	**06 36 35.2**	**-1.6**
	comp=Z,4.5nm,0.7s,mb4.6,baz=24,slow=8.1,SNR=35						
FINES				LR	LR	07 08 25.7	
	comp=Z,307nm,18.9s,MS4.5,baz=198,slow=40						
KBK	**Karagaybulak**	**64.82**	**307**	P	**P**	**06 36 36.5**	**-0.6**
	SNR=8.4						
FRU	**Bishkek**	**64.85**	**308**	*e*P	**P**	**06 36 38.0**	**+0.7**
FRU				pmax	pmax		
	comp=Z,50nm,1.9s,mb5.2						
AAK	**Ala-Archa**	**65.06**	**308**	P	**P**	**06 36 38.3**	**-0.4**
	SNR=9.9						
AAK	**Ala-Archa**	**65.06**	**308**	P	**P**	**06 36 38.0**	**-0.7**
AAK				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.9						
OXF	**Oxford**	**65.09**	**65**	*e*P	**P**	**06 36 38.0**	**-1.0**
	comp=Z,67nm,1.2s,mb5.5						
OXF	**Oxford**	**65.09**	**65**	*e*P	**P**	**06 36 38.0**	**-1.0**
OXF				pmax	pmax		
	comp=Z,67nm,1.2s,mb5.5						
KZA	**Kyzart**	**65.10**	**307**	P	**P**	**06 36 39.0**	**+0.1**
	SNR=9.8						
LSA	**Lhasa**	**65.48**	**287**	*e*P	**P**	**06 36 42.3**	**+0.7**
	comp=Z,9.4nm,0.7s,mb4.9						
LSA	**Lhasa**	**65.48**	**287**	*e*P	**P**	**06 36 42.3**	**+0.7**
LSA				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.9						
PLAL	**Pickwick Lake**	**65.49**	**64**	*e*P	**P**	**06 36 40.0**	**-1.6**
	comp=Z,13nm,1.3s,mb4.8						
AML	**Almayashu**	**65.83**	**308**	P	**P**	**06 36 44.0**	**+0.4**
	SNR=18						
AB31	**Akbulak array**	**66.35**	**321**	*i* P	**P**	**06 36 46.0**	**-0.8**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
BINY	**Binghamton**	**66.43**	**51**	*e*P	**P**	**06 36 47.2**	**-0.3**
	comp=Z,9.4nm,0.8s,mb4.9						
KKAR	**Karatay Array**	**66.62**	**311**	*i* P	**P**	**06 36 47.6**	**-1.0**
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.7						
NB2	**NORSAR Subarra**	**66.91**	**353**	P	**P**	**06 36 49.2**	**-1.0**
	comp=Z,24nm,1.2s,mb5.1,baz=9.0,slow=6.5						
NB2	**NORSAR Subarra**	**66.91**	**353**	P	**P**	**06 36 49.2**	**-1.0**
	baz=9.2,slow=6.5						
NB2	**NORSAR Subarra**	**66.91**	**353**	P	**P**	**06 36 49.2**	**-1.0**
NB2				pmax	pmax		
	comp=Z,24nm,1.2s,mb5.1						
NOA	**NORSAR Array B**	**66.91**	**353**	P	**P**	**06 36 49.1**	**-1.0**
	comp=Z,4.8nm,0.6s,mb4.7,baz=9.3,slow=6.4,SNR=25						
NOA				LR	LR	07 10 15.3	
	comp=Z,197nm,19.4s,MS4.3,baz=350,slow=40						
CPCT	**Cooper Cave**	**67.11**	**62**	*e*P	**P**	**06 36 51.1**	**-0.7**
MYNC	**Murphy**	**67.60**	**62**	*e*P	**P**	**06 36 53.7**	**-1.3**
	comp=Z,10nm,0.9s,mb4.9						
MYNC	**Murphy**	**67.60**	**62**	*e*P	**P**	**06 36 53.7**	**-1.3**
MYNC				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.9						
MOS	**Moscow**	**67.85**	**337**	*e*P	**P**	**06 36 58.7**	**+2.5**
WES	**Weston**	**68.50**	**48**	*e*P	**P**	**06 36 59.2**	**-1.3**
OBN	**Obninsk**	**68.67**	**337**	⇑*i*P	**P**	**06 37 00.5**	**-0.8**
OBN				*e*	pP	06 37 06.4	-2.0
OBN				pmax	pmax		
	comp=Z,26nm,1.0s,mb5.1						
OBN				MLR	MLR		
	comp=Z,300nm,18.0s,MS4.6						
KKN	**Kakani**	**70.34**	**290**	*e*P	**P**	**06 37 11.8**	**-0.2**
	comp=Z,31nm,0.6s,mb5.4						
KKN	**Kakani**	**70.34**	**290**	*e*P	**P**	**06 37 11.8**	**-0.2**
KKN				pmax	pmax		
	comp=Z,15nm,0.6s,mb5.1						
PKI	**Pulchoki**	**70.43**	**290**	*e*P	**P**	**06 37 12.3**	**-0.3**
	comp=Z,29nm,0.6s,mb5.4						
PKI	**Pulchoki**	**70.43**	**290**	*e*P	**P**	**06 37 12.3**	**-0.3**
PKI				pmax	pmax		
	comp=Z,15nm,0.6s,mb5.1						
GKN	**Gorkha**	**70.56**	**291**	*e*P	**P**	**06 37 12.9**	**-0.4**
	comp=Z,28nm,0.6s,mb5.3						
DMN	**Daman**	**70.58**	**290**	*e*P	**P**	**06 37 13.3**	**-0.2**
	comp=Z,24nm,0.6s,mb5.3						
NHSC	**New Hope**	**71.22**	**60**	P	**P**	**06 37 14.7**	**-2.6**
	comp=Z,47nm,1.3s,mb5.3						
KOLN	**Koldanda**	**71.33**	**291**	*e*P	**P**	**06 37 17.6**	**-0.4**
	comp=Z,22nm,0.7s,mb5.2						
PPT	**Papeete**	**74.68**	**148**	LR	LR	07 07 53.8	
	comp=Z,206nm,18.3s,MS4.5,baz=336,slow=34						
GOF	**Gofitskoye**	**75.96**	**329**	⇑*i*P	**P**	**06 37 45.7**	**+1.2**
GOF				pmax	pmax		
	comp=Z,60nm,1.3s,mb5.4						
CLL	**Collm**	**76.39**	**350**	P	**P**	**06 37 43.0**	**-3.8**
CLL				*e**PP	pP	06 37 50.0	-4.0
CLL	**Collm**	**76.39**	**350**	*e*P	**P**	**06 37 43.0**	**-3.8**
CLL				*ep*P	pP	06 37 50.0	-4.0
OJC	**Ojcow**	**76.60**	**346**	*e*P	**P**	**06 37 47.4**	**-0.6**
KWP	**Kalwaria**	**76.70**	**344**	*e*P	**P**	**06 37 48.7**	**+0.1**
	comp=Z,59nm,1.0s,mb5.5						
KWP	**Kalwaria**	**76.70**	**344**	*e*P	**P**	**06 37 48.7**	**+0.1**
KWP				pmax	pmax		
	comp=Z,59nm,1.0s,mb5.5						
UPC	**Upice**	**76.84**	**348**	*e*P	**P**	**06 37 50.4**	**+1.1**
DPC	**Dobruska-Polom**	**76.95**	**348**	*e*P	**P**	**06 37 50.1**	**+0.1**
DPC				AMS	AMS	07 14 40.0	
	comp=Z,300nm,16.5s						
PVCC	**Panska Ves**	**76.99**	**349**	AMS	AMS	07 10 40.0	
	comp=Z,200nm,19.5s						
KIV	**Kislovodsk**	**77.05**	**329**	⇓*i*P	**P**	**06 37 52.9**	**+2.2**
KIV				*e*		06 38 04.6	
KIV				pmax	pmax		
	comp=Z,16nm,1.5s,mb4.7						
STHS	**Stebnicka Huta**	**77.15**	**345**	*e*P	**P**	**06 37 51.9**	**+0.8**
MOX	**Moxa**	**77.18**	**351**	*i* P	**P**	**06 37 51.7**	**+0.4**
MOX				L		07 16 32.0	
MOX	**Moxa**	**77.18**	**351**	*e*P	**P**	**06 37 51.7**	**+0.4**
MOX				LR	LR		
	comp=Z,100nm,20.0s,MS4.1						
OKC	**Ostrava-Krasne**	**77.21**	**347**	*e*P	**P**	**06 37 52.6**	**+1.2**
OKC				AMS	AMS	07 16 50.0	
	comp=Z,300nm,17.9s						
MORC	**Moravsky Berou**	**77.35**	**347**	*e*P	**P**	**06 37 51.2**	**-1.0**
	comp=Z,15nm,1.5s,mb4.7						
MORC	**Moravsky Berou**	**77.35**	**347**	*e*P	**P**	**06 37 51.2**	**-1.0**
MORC				pmax	pmax		
	comp=Z,15nm,1.5s,mb4.7						
KOLS	**Kolonicke sedl**	**77.45**	**344**	*e*P	**P**	**06 37 53.3**	**+0.5**
NKC	**Novy Kostel**	**77.51**	**351**	*e*P	**P**	**06 37 54.2**	**+1.1**
PRU	**Pruhonice**	**77.52**	**349**	*e*P	**P**	**06 37 53.3**	**+0.1**
PRU				AMS	AMS	07 14 30.0	
	comp=Z,200nm,20.3s						
CRVS	**Cervenica-Dubn**	**77.61**	**345**	*e*P	**P**	**06 37 53.9**	**+0.2**
CRVS				*e*	pP	06 37 59.3	-1.6
ANN	**Anapa**	**77.88**	**333**	*e*P	**P**	**06 37 55.3**	**+0.1**
ANN				*e*S	S	06 47 45.9	+0.3
ANN				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.9						
ANN				MLR	MLR		
	comp=N,288nm,21.0s,MS4.6						
ANN				MLR	MLR		
	comp=E,88nm,21.0s,MS4.6						
ANN				MLR	MLR		
	comp=Z,212nm,21.0s,MS4.4						
GRA1	**Grafenberg Arr**	**78.16**	**351**	*e*P	**P**	**06 37 56.5**	**-0.2**
	comp=Z,8.0nm,1.1s,mb4.6						
GRF	**Grafenberg Arr**	**78.16**	**351**	*e*P	**P**	**06 37 56.5**	**-0.2**
	comp=Z,8.0nm,1.1s,mb4.6						
GRF	**Grafenberg Arr**	**78.16**	**351**	*e*P	**P**	**06 37 56.5**	**-0.2**
GRF				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
GRF	**Grafenberg Arr**	**78.16**	**351**	*e*P	**P**	**06 37 56.5**	**-0.2**
GRF				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
KECS	**Kecovo**	**78.18**	**345**	*e*P	**P**	**06 37 57.5**	**+0.7**
BAIF	**Baives**	**78.27**	**356**	*e*P	**P**	**06 37 58.2**	**+0.9**
SOC	**Sochi**	**78.32**	**331**	*e*P	**P**	**06 38 02.1**	**+4.4**
SOC				*e*		06 41 01.2	
SOC				*e*PPP	PPP	06 42 48.8	+2.7
SOC				*e*S	S	06 47 58.6	+8.3
SOC				*e*		06 48 24.3	
SOC				*e*SSS	SSS	06 56 18.8	+4.5
SOC				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.9						
SOC				pmax	pmax		
	comp=N,15nm,0.8s						
SOC				pmax	pmax		
	comp=E,14nm,0.9s						
SOC				MLR	MLR		
	comp=N,277nm,18.0s,MS4.7						
SOC				MLR	MLR		
	comp=Z,378nm,18.0s,MS4.8						
SOC				MLR	MLR		
	comp=E,174nm,19.0s,MS4.7						
VYHS	**Vyhne**	**78.42**	**346**	*e*P	**P**	**06 37 59.5**	**+1.4**
KHC	**Kasperske Hory**	**78.48**	**350**	*e*P	**P**	**06 38 00.0**	**+1.6**
KHC				AMS	AMS	07 11 00.0	
	comp=E,300nm,24.0s						
GERES	**GERESS Array B**	**78.75**	**350**	P	**P**	**06 38 00.2**	**+0.3**
	comp=E,1.4nm,0.7s,mb4.0,baz=27,slow=6.0,SNR=7.8						
GERES				LR	LR	07 11 57.7	
	comp=E,225nm,21.7s,MS4.5,baz=359,slow=35						
PSZ	**Piszkesteto**	**78.82**	**345**	*e*P	**P**	**06 37 58.9**	**-1.4**
	comp=E,13nm,1.1s,mb4.8						
PSZ	**Piszkesteto**	**78.82**	**345**	*e*P	**P**	**06 37 58.9**	**-1.4**
PSZ				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.8						
DRGR		**79.44**	**343**	⇓P	**P**	**06 38 03.7**	**0.0**
DRGR		**79.44**	**343**	⇓P	**P**	**06 38 03.6**	**-0.1**
VRI	**Vrincioaia**	**79.54**	**340**	⇑P	**P**	**06 38 05.5**	**+1.2**
VRI	**Vrincioaia**	**79.54**	**340**	⇑P	**P**	**06 38 05.5**	**+1.2**
FLN	**La Foliniere**	**79.69**	**359**	*e*P	**P**	**06 38 04.8**	**-0.2**
	comp=Z,13nm,0.8s,mb4.6						
FLN				*e*R			
	comp=Z,189nm,21.5s						
FLN	**La Foliniere**	**79.69**	**359**	*e*P	**P**	**06 38 04.8**	**-0.2**
FLN				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
FLN				MLR	MLR		
	comp=Z,190nm,21.5s,MS4.4						
CDF	**Champ du Feu**	**79.75**	**354**	*e*P	**P**	**06 38 05.9**	**+0.6**
	comp=Z,5.5nm,0.7s,mb4.3						
CDF	**Champ du Feu**	**79.75**	**354**	*e*P	**P**	**06 38 05.9**	**+0.6**
CDF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
GNI	**Garni**	**79.76**	**326**	*e*P	**P**	**06 38 06.9**	**+1.3**
GNI				pmax	pmax		
	comp=Z,27nm,1.6s						
GNI				MLR	MLR		
	comp=Z,600nm,20.0s						
LDF	**La Druitiere**	**79.86**	**359**	*e*P	**P**	**06 38 06.4**	**+0.5**
	comp=Z,6.8nm,0.8s,mb4.3						
LDF	**La Druitiere**	**79.86**	**359**	*e*P	**P**	**06 38 06.4**	**+0.5**
LDF				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
MLR	**Muntele Rosu**	**80.07**	**341**	⇓P	**P**	**06 38 08.4**	**+1.3**
MLR	**Muntele Rosu**	**80.07**	**341**	⇓P	**P**	**06 38 08.4**	**+1.3**
GRR	**Gorron**	**80.07**	**359**	*e*P	**P**	**06 38 07.8**	**+0.7**
ARSA	**Arzberg**	**80.10**	**348**	⇓*i*P	**P**	**06 38 08.6**	**+1.4**
	comp=Z,9.4nm,1.3s,mb4.6						
HAU	**Haudompre**	**80.21**	**354**	*e*P	**P**	**06 38 09.0**	**+1.2**
HAU				*e*R			
	comp=Z,244nm,21.5s						
TIRR	**Tirgusor**	**80.52**	**339**	⇓P	**P**	**06 38 09.8**	**+0.3**
WTTA	**Wattenberg**	**80.53**	**351**	⇑*i*P	**P**	**06 38 10.2**	**+0.7**
	comp=Z,10nm,1.0s,mb4.7						
WTTA	**Wattenberg**	**80.53**	**351**	⇑*i*P	**P**	**06 38 10.2**	**+0.7**
WTTA				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
KBA	**Koelnbreinsper**	**80.53**	**350**	⇑*i*P	**P**	**06 38 11.2**	**+1.7**
	comp=Z,36nm,1.0s,mb5.2						
KBA	**Koelnbreinsper**	**80.53**	**350**	⇑*i*P	**P**	**06 38 11.2**	**+1.7**
KBA				pmax	pmax		
	comp=Z,36nm,1.0s,mb5.3						
OBKA	**Obir**	**80.95**	**349**	⇓*i*P	**P**	**06 38 13.1**	**+1.3**
	comp=Z,17nm,0.7s,mb5.1						
LOR	**Lormes**	**81.07**	**356**	*e*P	**P**	**06 38 13.7**	**+1.3**
	comp=Z,5.4nm,0.7s,mb4.3						
LOR				*e*R			
	comp=Z,208nm,19.2s						
LOR	**Lormes**	**81.07**	**356**	*e*P	**P**	**06 38 13.7**	**+1.3**
LOR				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
LOR				MLR	MLR		
	comp=Z,210nm,19.3s,MS4.5						
WRAB	**Tennant Creek**	**81.12**	**221**	P	**P**	**06 38 10.9**	**-2.3**
WRAB	**Tennant Creek**	**81.12**	**221**	⇓*i*P	**P**	**06 38 14.2**	**+1.0**
WB2	**Warramunga Arr**	**81.13**	**221**	*e*P	**P**	**06 38 14.8**	**+1.6**
WRA	**Warramunga Arr**	**81.14**	**221**	P	**P**	**06 38 14.2**	**+0.9**
	comp=Z,3.3nm,0.7s,mb4.4,baz=32,slow=6.2,SNR=22						
DAVOX	**Davos**	**81.17**	**352**	P	**P**	**06 38 13.5**	**+0.6**
	comp=Z,4.5nm,0.7s,mb4.5,baz=348,slow=13,SNR=10						
PTCC	**Patocco-Chiusa**	**81.19**	**349**	P	**P**	**06 38 14.1**	**+1.1**
FUORN	**Ofenpass**	**81.30**	**352**	P	**P**	**06 38 14.9**	**+1.3**
SSF	**Saint Saulge**	**81.30**	**356**	*e*P	**P**	**06 38 14.4**	**+0.8**
	comp=Z,3.0nm,0.7s,mb4.3						
SSF	**Saint Saulge**	**81.30**	**356**	*e*P	**P**	**06 38 14.4**	**+0.8**
SSF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
AVF	**Avril sur Loir**	**81.57**	**356**	*e*P	**P**	**06 38 15.8**	**+0.8**
	comp=Z,4.0nm,0.7s,mb4.2						
AVF	**Avril sur Loir**	**81.57**	**356**	*e*P	**P**	**06 38 15.8**	**+0.8**
AVF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
SMF	**Signal de Mont**	**81.70**	**356**	*e*P	**P**	**06 38 15.7**	**+0.1**
	comp=Z,5.6nm,0.6s,mb4.3						
SMF	**Signal de Mont**	**81.70**	**356**	*e*P	**P**	**06 38 15.7**	**+0.1**
SMF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
BGF	**Bois d'Agland**	**81.82**	**357**	*e*P	**P**	**06 38 17.1**	**+0.8**
TCF	**Toulx Ste Croi**	**82.11**	**357**	*e*P	**P**	**06 38 18.7**	**+0.9**
	comp=Z,8.1nm,0.9s,mb4.3						
TCF	**Toulx Ste Croi**	**82.11**	**357**	*e*P	**P**	**06 38 18.7**	**+0.9**
TCF				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
MCGN	**Macugnaga**	**82.14**	**353**	P	**P**	**06 38 21.5**	**+3.5**
LPL	**La Plagne**	**82.67**	**354**	*e*P	**P**	**06 38 22.4**	**+1.7**
	comp=Z,6.9nm,0.7s,mb4.5						
LPL	**La Plagne**	**82.67**	**354**	*e*P	**P**	**06 38 22.4**	**+1.7**
LPL				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
LPG	**La Plagne**	**82.69**	**354**	*e*P	**P**	**06 38 22.3**	**+1.5**
RJF	**Les Rejaudoux**	**83.12**	**358**	*e*P	**P**	**06 38 23.8**	**+0.8**
RJF				*e*R			
	comp=Z,298nm,19.8s						
BNI	**Bardonecchia**	**83.13**	**354**	*e*P	**P**	**06 38 23.7**	**+0.5**
	comp=Z,8.5nm,1.1s,mb4.7						
BNI	**Bardonecchia**	**83.13**	**354**	*e*P	**P**	**06 38 23.7**	**+0.6**
BNI				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.7						
BOB	**Bobbio (Coli)**	**83.21**	**352**	⇑*i*P	**P**	**06 38 25.0**	**+1.5**
	comp=Z,20nm,0.7s,mb5.2						
BOB	**Bobbio (Coli)**	**83.21**	**352**	⇑*i*P	**P**	**06 38 25.0**	**+1.5**
BOB				pmax	pmax		
	comp=Z,20nm,0.7s,mb5.3						
ORIF	**Oris-en-Rattie**	**83.32**	**354**	*e*P	**P**	**06 38 24.8**	**+0.7**
	comp=Z,6.9nm,0.7s,mb4.5						
ORIF				*e*R			
	comp=Z,205nm,18.2s						
FITZ	**Fitzroy Crossi**	**83.35**	**229**	*e*P	**P**	**06 38 25.6**	**+0.9**
	comp=Z,9.9nm,0.6s,mb5.0						
VIVF	**Saint-Julien-I**	**83.44**	**355**	*e*P	**P**	**06 38 25.2**	**+0.5**
	comp=Z,4.5nm,0.7s,mb4.3						
VIVF	**Saint-Julien-I**	**83.44**	**355**	*e*P	**P**	**06 38 25.2**	**+0.5**
VIVF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
MBDF	**Montbardon**	**83.45**	**354**	*e*P	**P**	**06 38 26.4**	**+1.6**
	comp=Z,8.1nm,0.6s,mb4.6						
MBDF	**Montbardon**	**83.45**	**354**	*e*P	**P**	**06 38 26.4**	**+1.6**
MBDF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
MALT	**Malatya**	**83.52**	**329**	*e*P	**P**	**06 38 24.3**	**-0.9**
	comp=Z,46nm,1.8s,mb5.3						
MALT	**Malatya**	**83.52**	**329**	*e*P	**P**	**06 38 24.3**	**-0.9**
MALT				pmax	pmax		
	comp=Z,46nm,1.8s,mb5.3						
BR131	**Keskin Array S**	**83.64**	**333**	*e*P	**P**	**06 38 25.9**	**+0.1**
	comp=Z,2.0nm,0.6s,mb4.4						
BRTR	**Keskin Array B**	**83.64**	**333**	P	**P**	**06 38 25.9**	**+0.1**
	comp=Z,2.3nm,0.6s,mb4.5,baz=62,slow=3.0,SNR=8.5						
SEI	**Scarperia**	**83.73**	**350**	⇑*i*P	**P**	**06 38 28.6**	**+2.5**
PGD	**Poggio Sodo**	**83.87**	**350**	P	**P**	**06 38 29.0**	**+2.2**
	comp=Z,9.1nm,0.6s,mb5.1						
PGD	**Poggio Sodo**	**83.87**	**350**	P	**P**	**06 38 29.0**	**+2.2**
PGD				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb5.1						
MTLF	**Montolieu**	**85.06**	**357**	*e*P	**P**	**06 38 33.4**	**+0.6**
	comp=Z,9.9nm,0.9s,mb4.7						
MTLF	**Montolieu**	**85.06**	**357**	*e*P	**P**	**06 38 33.4**	**+0.6**
MTLF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.6						
MNS	**Montasola**	**85.24**	**349**	⇓*i*P	**P**	**06 38 34.7**	**+1.0**
FIAM	**Fiamignano**	**85.30**	**349**	P	**P**	**06 38 35.7**	**+1.7**
	comp=Z,82nm,2.0s,mb5.5						
SJPF	**Ste Jean**	**85.35**	**360**	*e*P	**P**	**06 38 35.3**	**+1.1**
PGF	**Pioggiola**	**85.45**	**352**	*e*P	**P**	**06 38 36.0**	**+1.3**
	comp=Z,66nm,1.1s,mb5.4						
PGF	**Pioggiola**	**85.45**	**352**	*e*P	**P**	**06 38 36.0**	**+1.3**
PGF				pmax	pmax		
	comp=Z,33nm,1.1s,mb5.4						
PTQR	**Pietraquaria**	**85.51**	**349**	P	**P**	**06 38 36.8**	**+1.7**
ETSF	**Etsaut**	**85.56**	**359**	*e*P	**P**	**06 38 36.1**	**+0.8**
	comp=Z,6.6nm,0.7s,mb4.7						
ETSF	**Etsaut**	**85.56**	**359**	*e*P	**P**	**06 38 36.1**	**+0.8**
ETSF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.6						
MIB	**Mutribah**	**87.92**	**319**	*e*P	**P**	**06 38 47.2**	**+0.1**
RDF	**Al-Radifah**	**88.61**	**318**	*e*P	**P**	**06 38 51.0**	**+0.5**
STKA	**Stephens Creek**	**89.39**	**210**	*e*P	**P**	**06 38 57.9**	**+3.8**
	comp=Z,7.4nm,1.1s,mb4.9						
STKA	**Stephens Creek**	**89.39**	**210**	P	**P**	**06 38 55.9**	**+1.7**
	comp=Z,5.6nm,0.9s,mb4.9,baz=339,slow=1.2,SNR=7.7						
STKA				LR	LR	07 15 25.0	
	comp=Z,292nm,18.6s,MS4.7,baz=204,slow=33						
DBIC	**Dimbokro**	**121.59**	**4**	PKP	PKPdf	06 44 52.2	-2.6
	comp=Z,4.1nm,0.9s,baz=38,slow=4.8,SNR=7.0						
DBIC	**Dimbokro**	**121.59**	**4**	PKP	PKPdf	06 44 52.2	-2.6
PLCA	**Paso Flores**	**132.93**	**105**	PKP	PKPdf	06 45 14.0	-1.8
	comp=Z,1.3nm,0.6s,baz=224,slow=17,SNR=7.5						
PLCA	**Paso Flores**	**132.93**	**105**	PKP	PKPdf	06 45 14.0	-1.8
MAW	**Mawson**	**145.75**	**218**	*e*P	PKPbc	06 45 36.4	+2.2
	comp=Z,2.9nm,0.5s						
MAW	**Mawson**	**145.75**	**218**	PKPbc	PKPbc	06 45 36.8	+2.6
	comp=Z,3.6nm,0.5s,baz=77,slow=3.5,SNR=11						
LBTB	**Lobatse**	**145.99**	**312**	*e*PKP	PKPdf	06 45 36.9	-2.6
BOSA	**Boshof**	**149.19**	**309**	PKPbc	PKPdf	06 45 46.9	+2.2
	comp=Z,5.1nm,0.6s,baz=340,slow=2.8,SNR=17						
SNAA	**Sanae**	**160.17**	**179**	⇑*i*P	PKPdf	06 46 39.6	+41
VNA3	**Neumayer Olymp**	**160.28**	**172**	*e*	PKPdf	06 46 08.3	+10
VNA3	**Neumayer Olymp**	**160.28**	**172**	*e*	PKPdf	06 46 43.5	+45
VNA3	**Neumayer Olymp**	**160.28**	**172**	PKPdf	PKPdf	06 46 02.6	+4.3
VNA3				*e*		06 46 08.3	
VNA3				*e*		06 46 43.5	
VNA3				*e*		06 46 52.9	
VNA3				*e*		06 46 56.7	
VNA2	**Neumayer--Watz**	**160.76**	**174**	*e*	PKPdf	06 46 08.1	+9.3
**VN

Ms4.3
*MOS **13** 07:28:39.7±1.9,51.60N×173.73W,h33km,mb4.3/4,Error ellipse: s-maj=20.8km s-min=12.3km az=90.7*
*NEIC **13** 07:28:40.6±0.8,51.43N×173.85W,h36km±6km,mb4.1/6, ML3.8(AEIC),Error ellipse: s-maj=13.9km s-min=5.3km az=175.0*
*IDC **13** 07:28:47.5±3.6,51.86N×173.91W,h80km±31km,mb3.5/11, mb1 3.7/13,mb1mx3.6/20,mbtmp3.9/13,Error ellipse: s-maj=31.1km s-min=16.4km az=2.0*

ISC 13 07:28:39.2±1.0,51.37N±0.09×173.78W±0.06,h42km±7km, n51,σ1§21/52,mb3.9/19,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.87**	**343**	P	**P**	**07 28 54.4**	**-0.7**
ATKA				S	**S**	**07 29 07.1**	**+0.3**
GSMY	**Great Sitkin M**	**1.57**	**296**	P	**P**	**07 29 04.7**	**-0.4**
GSTR	**Great Sitkin T**	**1.59**	**298**	P	**P**	**07 29 05.3**	**-0.1**
GSTD	**Great Sitkin T**	**1.62**	**296**	P	**P**	**07 29 05.6**	**-0.3**
GSTD				S	**S**	**07 29 27.3**	**+1.6**
ADAG	**Mount Adagdak**	**1.86**	**290**	P	**P**	**07 29 09.3**	**+0.1**
KIWB	**Kanaga Island**	**2.16**	**284**	*e*P	**P**	**07 29 13.8**	**+0.3**
KIKV	**Kanaga Island**	**2.18**	**285**	P	**P**	**07 29 14.2**	**+0.5**
KIMD	**Kanaga Island**	**2.19**	**282**	P	**P**	**07 29 14.1**	**+0.1**
NIKO	**Nikolski**	**3.43**	**60**	P	**P**	**07 29 31.1**	**-0.5**
UNV	**Unalaska Valle**	**5.08**	**58**	P	**P**	**07 29 54.1**	**-0.7**
FX1	**Attu Island--F**	**8.18**	**286**	P	**P**	**07 30 41.2**	**+3.1**
	3.0nm,0.3s,baz=183,slow=3.3,SNR=27						
FX1	**Attu Island--F**	**8.18**	**286**	P	**P**	**07 30 34.9**	**-3.2**
FX1	**Attu Island--F**	**8.18**	**286**	P	**P**	**07 30 41.2**	**+3.1**
FX1				pmax	pmax		
	comp=Z,3.0nm,0.3s						
KDAK	**Kodiak Island**	**13.83**	**54**	*e*P	**P**	**07 31 52.4**	**-1.9**
SVW2	**Sparrevohn**	**13.99**	**39**	*e*P	**P**	**07 32 00.9**	**+4.5**
IMA	**Indian Mountai**	**17.91**	**27**	*e*P	**P**	**07 32 48.7**	**+2.3**
	comp=Z,8.5nm,1.0s						
IMA	**Indian Mountai**	**17.91**	**27**	*e*P	**P**	**07 32 48.7**	**+2.3**
IMA				pmax	pmax		
	comp=Z,9.0nm,1.0s						
ILAR	**Eielson Array**	**19.34**	**36**	P	**P**	**07 33 01.6**	**-1.8**
	comp=Z,0.8nm,0.3s,baz=241,slow=8.4,SNR=32						
BILL	**Bilibino**	**19.34**	**337**	P	**P**	**07 33 04.3**	**+1.0**
BILL	**Bilibino**	**19.34**	**337**	P	**P**	**07 33 04.3**	**+0.9**
INK	**Inuvik**	**25.69**	**34**	P	**P**	**07 34 05.8**	**-0.6**
	comp=Z,1.9nm,0.5s,mb3.9,baz=232,slow=5.3,SNR=7.0						
INK	**Inuvik**	**25.69**	**34**	P	**P**	**07 34 06.6**	**+0.1**
DLBC	**Dease Lake**	**25.73**	**57**	P	**P**	**07 34 11.4**	**+4.5**
	comp=Z,1.3nm,0.7s,mb3.6,baz=269,slow=16,SNR=3.8						
DLBC	**Dease Lake**	**25.73**	**57**	P	**P**	**07 34 07.7**	**+0.8**
DLBC				P		07 34 11.4	
MDJ	**Mudanjiang**	**37.66**	**283**	P	**P**	**07 35 50.3**	**-1.4**
MDJ				PP	PP	07 37 15.8	-5.2
MDJ				PCP	PcP	07 38 08.0	-1.0
MDJ				S	**S**	**07 41 40.0**	**+1.7**
MDJ				SCP		07 41 54.9	
MDJ				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb4.1						
HLID	**Hailey**	**39.89**	**77**	P	**P**	**07 36 11.6**	**+1.3**
NVAR	**Mina Array Bea**	**40.42**	**86**	P	**P**	**07 36 19.9**	**+5.3**
	comp=Z,0.2nm,0.4s,mb3.2,baz=272,slow=10,SNR=3.3						
BOZ	**Bozeman (W)**	**40.47**	**73**	*e*P	**P**	**07 36 16.1**	**+1.1**
	comp=Z,1.9nm,0.6s,mb4.0						
BOZ	**Bozeman (W)**	**40.47**	**73**	*e*P	**P**	**07 36 16.1**	**+1.1**
BOZ				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
FFC	**Flin Flon**	**41.56**	**56**	P	**P**	**07 36 24.1**	**+0.4**
BW06	**Boulder Array**	**43.29**	**75**	*e*P	**P**	**07 36 39.5**	**+1.4**
	comp=Z,3.2nm,0.8s,mb4.1						
PDAR	**Pinedale Array**	**43.29**	**75**	P	**P**	**07 36 39.8**	**+1.7**
	comp=Z,0.8nm,0.7s,mb3.6,baz=312,slow=2.5,SNR=6.9						
SDCO	**Great Sand Dun**	**48.78**	**78**	P	**P**	**07 37 22.9**	**+1.2**
	comp=Z,1.0nm,0.7s,mb4.0						
SONM	**Songino Array**	**49.43**	**299**	P	**P**	**07 37 26.8**	**+0.3**
	comp=Z,1.2nm,0.5s,mb4.2,baz=43,slow=7.9,SNR=7.3						
ZAK	**Zakamensk**	**49.62**	**303**	*e*P	**P**	**07 37 28.3**	**+0.4**
ZAK				*e*		07 38 49.9	
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.1s,mb3.8						
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.9						
SSE	**Sheshan**	**51.15**	**273**	*e*P	**P**	**07 37 37.8**	**-2.0**
SSE				AMB	AMB		
	comp=Z,108nm,3.5s						
NJ2	**Nanjing**	**51.95**	**276**	*e*P	**P**	**07 37 43.3**	**-2.6**
WMOK	**Wichita Mounta**	**54.86**	**77**	*e*P	**P**	**07 38 06.9**	**-0.4**
	comp=Z,1.7nm,0.8s,mb4.1						
WMOK	**Wichita Mounta**	**54.86**	**77**	*e*P	**P**	**07 38 06.9**	**-0.4**
WMOK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
ARCES	**ARCESS Array B**	**58.58**	**352**	P	**P**	**07 38 31.3**	**-2.0**
	comp=Z,0.7nm,0.7s,mb3.8,baz=24,slow=7.8,SNR=5.5						
ARCES				PcP	PcP	07 39 23.1	+0.1
	comp=Z,3.0nm,0.8s,baz=34,slow=4.4,SNR=7.8						
KURK	**Kurchatov**	**61.25**	**316**	*e*P	**P**	**07 38 50.6**	**-1.3**
	comp=Z,3.2nm,0.6s,mb4.6						
KURK	**Kurchatov**	**61.25**	**316**	*e*P	**P**	**07 38 50.6**	**-1.3**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.6						
WMQ	**Urumqi**	**61.95**	**306**	*e*P	**P**	**07 38 58.0**	**+1.4**
WMQ				AP	pP	07 39 09.0	+0.2
MKAR	**Makanchi Array**	**62.46**	**311**	P	**P**	**07 38 58.6**	**-1.3**
	comp=Z,0.7nm,0.4s,mb4.2,baz=50,slow=6.4,SNR=15						
BVAR	**Borovoye Array**	**62.87**	**322**	P	**P**	**07 39 01.9**	**-0.8**
	comp=Z,1.2nm,0.5s,mb4.3,baz=45,slow=6.3,SNR=6.8						
BVAR				PcP	PcP	07 39 41.0	+0.6
	comp=Z,1.9nm,0.7s,baz=63,slow=3.3,SNR=7.1						
FINES	**FINESS Array B**	**66.42**	**350**	P	**P**	**07 39 24.0**	**-1.3**
	comp=Z,1.4nm,0.8s,mb4.0,baz=90,slow=5.7,SNR=4.3						
NOA	**NORSAR Array B**	**67.87**	**357**	P	**P**	**07 39 33.7**	**-0.8**
	comp=Z,0.5nm,0.6s,mb3.7,baz=242,slow=11,SNR=2.2						
GERES	**GERESS Array B**	**79.96**	**355**	P	**P**	**07 40 45.2**	**+0.4**
	comp=Z,0.5nm,0.6s,mb3.6,baz=53,slow=6.7,SNR=4.3						
BRTR	**Keskin Array B**	**86.17**	**339**	P	**P**	**07 41 18.6**	**+2.0**
	comp=Z,1.0nm,0.7s,mb4.2,baz=63,slow=5.5,SNR=4.5						
MAW	**Mawson**	**148.40**	**218**	PKPbc	PKPdf	07 48 21.8	+5.9
	comp=Z,2.5nm,0.8s,baz=38,slow=3.7,SNR=7.9						
BOSA	**Boshof**	**153.15**	**321**	PKPab	PKPab	07 48 46.2	+0.4
	comp=Z,12nm,1.3s,baz=5.6,slow=22,SNR=4.8						

*CSEM **13** 07:30:45.6±0.2,32.01N×54.92E,h5km,ML3.2,Error ellipse: s-maj=5.0km s-min=3.7km az=136.0*
*TEH **13** 07:30:46.9,31.86N×54.95E,h10km,Mn3.2*
*THR **13** 07:30:46.7±0.6,32.56N×55.09E,h14km±10km,ML2.8*

ISC 13 07:30:46.5±0.8,32.00N±0.07×54.86E±0.06,h10km,n18, σ1§33/17,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ICHK	**Chekchek**	**0.46**	**302**	Pg	**Pg**	**07 30 55.8**	**0.0**
IMEH	**Mehriz**	**0.64**	**199**	Pg	**Pg**	**07 30 59.0**	**-0.5**
IBAF	**Bafgh**	**0.72**	**124**	Pg	**Pg**	**07 30 57.5**	**-3.6**
ISAD	**Sadrabad**	**1.00**	**265**	Pg	**Pg**	**07 31 06.4**	**-0.3**
NASN	**Na'in**	**1.91**	**295**	*e*PG	**Pg**	**07 31 22.0**	**-2.8**
NASN				*e*Sg	**Sg**	**07 31 48.3**	**-2.0**
NASN				AML	AML	07 31 54.0	
	comp=E,108nm,0.5s						
IGAR	**Garneh**	**2.27**	**277**	Pn	**Pn**	**07 31 27.2**	**+2.4**
IZEF	**Zefreh**	**2.32**	**293**	Pn	**Pn**	**07 31 27.5**	**+2.1**
IKLH	**Kalahroud**	**3.07**	**296**	Pn	**Pn**	**07 31 37.9**	**+1.8**
IVRN	**Varamin**	**3.97**	**320**	Pn	**Pn**	**07 31 49.7**	**+0.8**
IVRN	**Varamin**	**3.97**	**320**	Lg		07 32 55.8	
IFIR	**Firoozkooh**	**4.04**	**335**	Lg		07 32 57.2	
IFIR	**Firoozkooh**	**4.04**	**335**	Pn	**Pn**	**07 31 49.5**	**-0.3**
GHIR	**Ghir-Karzin**	**4.04**	**204**	*e*PN	**Pn**	**07 31 58.5**	**+8.6**
IDMV	**Damavand**	**4.28**	**327**	Pn	**Pn**	**07 31 53.4**	**+0.2**
ASAO	**Ashtian**	**4.78**	**303**	*e*PN	**Pn**	**07 31 59.3**	**-1.1**
ASAO				AML	AML	07 33 28.6	
	comp=N,5.9nm,0.7s						
IMOG	**Moghan**	**5.53**	**41**	Pn	**Pn**	**07 32 10.6**	**-0.4**
IKRD	**Kardeh**	**5.64**	**31**	Pn	**Pn**	**07 32 17.8**	**+5.3**
IMYA	**Miamay**	**6.13**	**44**	Pn	**Pn**	**07 32 19.4**	**-0.1**

*NEIC **13** 07:31:29.4,18.41N×103.60W,h12km,MD4.2(MEX),After MEX.*

MEX 13 07:31:30.7±0.7,18.41N×103.64W,h34km±116km,MD4.3, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	**Chamela**	**1.71**	**310**	*i* P	P	07 31 56.8	-1.8
CJM				*i* S	S	07 32 16.1	-3.4
SFJM	**Santa Fe**	**2.14**	**15**	*i* P	P	07 32 03.2	-1.5
SFJM				*i* S	S	07 32 26.0	-4.4
MOIG	**Morelia**	**2.64**	**61**	*i* P	P	07 32 09.0	-2.9
MOIG				*i* S	S	07 32 39.6	-3.5
MOIG	**Morelia**	**2.64**	**61**	*i* P	P	07 32 06.8	-5.1
MOIG				*i* S	S	07 32 36.3	-6.8
ACX	**Acapulco**	**3.87**	**113**	*e*P	P	07 32 26.0	-3.4
ACX				*i* S	S	07 33 11.0	-3.3
PLIG	**Platanillo**	**3.93**	**90**	*i* P	P	07 32 28.6	-1.7
PLIG				*e*S	S	07 33 11.7	-4.2
PLIG	**Platanillo**	**3.93**	**90**	*i* P	P	07 32 30.4	+0.1
PLIG				*e*S	S	07 33 11.1	-4.8
UNM	**Universidad Na**	**4.33**	**77**	*e*P	P	07 32 33.0	-2.8
UNM				*e*P		07 32 35.0	
UNM				*e*S	S	07 33 20.9	-5.0
YAIG	**Yautepec**	**4.36**	**83**	*i* P	P	07 32 34.5	-1.9
YAIG				*i* S	S	07 33 24.1	-2.6
YAIG	**Yautepec**	**4.36**	**83**	*i* P	P	07 32 32.5	-3.8
YAIG				*i* S	S	07 33 20.8	-5.9
ZAIG	**Zacatecas**	**4.45**	**13**	*i* P	P	07 32 35.2	-2.5
ZAIG				*e*S	S	07 33 24.9	-4.1
ZAIG	**Zacatecas**	**4.45**	**13**	*i* P	P	07 32 33.0	-4.7
ZAIG				*e*S	S	07 33 19.9	-9.1
PPM	**Popocatepetl**	**4.80**	**81**	*e*P	P	07 32 45.0	+2.5
VHO	**Vista Hermosa**	**6.72**	**100**	*i* S	S	07 34 24.1	-1.7
OXX	**Oaxaca**	**6.73**	**100**	*e*P	P	07 33 09.0	-0.6
OXX				*i* S	S	07 34 22.0	-3.9

*MOS **13** 07:36:49.5±0.9,20.13N×145.75E,h33km,mb6.0/91, MS5.6/71,Error ellipse: s-maj=7.4km s-min=4.4km az=102.7*
*BJI **13** 07:36:50.7,20.44N×146.08E,h45km,mB5.6,mb5.6, Ms5.8,Msz5.7*
*IDC **13** 07:36:50.8±1.2,20.13N×145.78E,h31km±7km,mb5.7/26, mb1 5.7/29,mb1mx5.7/29,mbtmp5.9/29,ML5.7/3,MS5.7/13, Ms1 5.7/13,ms1mx5.6/20,Error ellipse: s-maj=15.2km s-min=9.3km az=83.0*
*HRVD **13** 07:36:52.8±0.1,20.29N×145.98E,h32km,MW6.0/74, Centroid moment Tensor Solution. LP body waves: s72,c169;Mantle waves: s74,c273; Half duration: 2s4 Moment tensor: Scale 10^{18}Nm; M_{rr}0.58±.01; $M_{\theta\theta}$-0.76±.01; $M_{\phi\phi}$0.17±.01; $M_{r\theta}$0.34±.02; $M_{\theta\phi}$-0.98±.01; $M_{\phi r}$-0.02±.02; Best double couple: $M_0$1.168×10^{18} NP1: ϕ_s196°,δ61°,λ19°. NP2:ϕ_s97°,δ74°,λ150°. Principal axes: T.923, Plg33°, Azm53°; N.49, Plg56°, Azm251°; P -1.414, Plg8°, Azm148°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **13** 07:36:52.8±0.1,20.13N×145.80E,mb5.8/136,ME5.7, MS5.6/131,MW5.9 Error ellipse: s-maj=3.3km s-min=2.8km az=92.0 Broadband fault plane solution: P waves. NP1:ϕ_s190°,δ45°,λ40°. NP2:ϕ_s69°,δ63°,λ127°. Principal axes: T Plg55°, Azm28°; N Plg0°, Azm0°; P Plg10°, Azm133°; Centroid moment tensor: Scale 10^{17} Nm; M_{rr}1.49; $M_{\theta\theta}$-5.33; $M_{\phi\phi}$3.84; $M_{r\theta}$6.16; $M_{\theta\phi}$-5.00; $M_{\phi r}$-2.54; Best double couple: $M_0$9.6×10^{17} NP1:ϕ_s204°,δ45°,λ9°. NP2:ϕ_s108°, δ84°,λ135°. Principal axes: T 9.48, Plg35°, Azm55°; N .24, Plg44°, Azm282°; P -9.72, Plg25°, Azm164°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

ISC 13 07:36:51.0±0.1,20.19N±0.02×145.86E±0.02,h44km, h44km±1.6km:pP-P,n834,σ1§14/729,mb5.9/213,MS5.6/186, 69C-36D,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARN	**Sarigan**	**3.47**	**181**	*i*P	**P**	**07 37 42.7**	**-1.3**
ANA2	**Anatahan**	**3.83**	**182**	P	**P**	**07 37 49.1**	**0.0**
CBIJ	**Chichi jima**	**7.66**	**335**	Pn	**P**	**07 38 41.9**	**-0.7**
	634nm,0.3s,baz=226,slow=2.7,SNR=169						
CBIJ				Sn	**S**	**07 40 07.2**	**-1.8**
	582nm,0.3s,baz=102,slow=24,SNR=9.5						
CBIJ	**Chichi jima**	**7.66**	**335**	P	**P**	**07 38 41.3**	**-1.3**
CBIJ				*e*S	**S**	**07 40 05.2**	**-3.8**
JHJ2	**Mitsune**	**13.95**	**339**	P	**P**	**07 40 05.2**	**-2.8**
JHJ2				*e*S	**S**	**07 42 38.5**	**-3.9**
JHJ	**Hachijo jima 2**	**13.97**	**338**	Pn	**P**	**07 40 05.3**	**-3.0**
	32nm,0.3s,baz=169,slow=13,SNR=28						
JHJ				Sn	**S**	**07 42 38.3**	**-4.5**
	38nm,0.3s,baz=85,slow=18,SNR=3.3						
JHJ				ScP		07 48 57.2	
	4.1nm,0.3s,baz=147,slow=1.5,SNR=7.7						
JMZ	**Minamidaito 2**	**14.59**	**295**	P	**P**	**07 40 22.9**	**+6.4**
JSG	**Sagara**	**15.95**	**336**	P	**P**	**07 40 34.0**	**+0.1**
JWZ	**Kozaga**	**16.06**	**328**	P	**P**	**07 40 33.7**	**-1.6**
JOD2	**Odawara 2**	**16.16**	**340**	P	**P**	**07 40 34.6**	**-2.0**
JOD2				*e*S	**S**	**07 43 35.0**	**+1.0**
JIE	**Ise**	**16.30**	**332**	P	**P**	**07 40 37.8**	**-0.6**
JYT	**Yasato**	**16.73**	**344**	P	**P**	**07 40 43.2**	**-0.6**
JYT				*e*S	**S**	**07 43 43.1**	**-4.1**
JRY	**Ryogami san**	**16.91**	**340**	P	**P**	**07 40 43.8**	**-2.2**
JRY				*e*S	**S**	**07 43 47.0**	**-4.3**
JAM	**Amami Oshima**	**16.91**	**302**	P	**P**	**07 40 48.9**	**+2.8**
JGF	**Kuroka**	**17.08**	**336**	P	**P**	**07 40 45.5**	**-2.6**
JMN	**Monobe**	**17.18**	**324**	P	**P**	**07 40 50.0**	**+0.6**
JMN				*e*S	**S**	**07 44 09.5**	**+12**
JOW	**Kunigami**	**17.42**	**296**	P	**P**	**07 40 54.5**	**+2.0**
	31nm,0.3s,baz=121,slow=12,SNR=29						
JOW				LR	LR	07 46 43.0	
	comp=Z,45μm,19.0s,baz=121,slow=34						
JOW				ScP		07 49 04.7	
	0.6nm,0.3s,baz=286,slow=6.3,SNR=5.1						
JOW	**Kunigami**	**17.42**	**296**	P	**P**	**07 40 54.6**	**+2.1**
MAT	**Matsushiro**	**17.62**	**339**	P	**P**	**07 40 52.0**	**-2.9**
MAT				S	**S**	**07 44 04.3**	**-2.9**
MAT	**Matsushiro**	**17.62**	**339**	P	**P**	**07 40 52.5**	**-2.4**
MAT				*e*S	**S**	**07 44 04.4**	**-2.8**
MAT	**Matsushiro**	**17.62**	**339**	*e*P	**P**	**07 40 52.0**	**-2.9**
MAT				*e*S	**S**	**07 44 04.0**	**-3.2**
JWT	**Wachi**	**17.64**	**331**	P	**P**	**07 40 54.5**	**-0.6**
JWT				*e*S	**S**	**07 44 12.0**	**+4.3**
JSU	**Suzuyama**	**17.84**	**312**	P	**P**	**07 40 58.9**	**+1.2**
JAD	**Aida**	**17.96**	**327**	P	**P**	**07 40 59.4**	**+0.3**
JAD				*e*S	**S**	**07 44 25.1**	**+10**
JMM	**Marumori**	**18.16**	**347**	P	**P**	**07 41 00.6**	**-1.0**
JMM				*e*S	**S**	**07 44 10.1**	**-9.3**
JNU	**Nakatsue**	**18.55**	**317**	P	**P**	**07 41 06.6**	**+0.2**
	19nm,0.3s,baz=101,slow=9.3,SNR=171						
JNU				LR	LR	07 47 45.4	
	comp=Z,18μm,21.1s,baz=117,slow=35						
JNU				ScP		07 49 06.0	
	0.4nm,0.3s,baz=76,slow=9.7,SNR=6.0						
JNU	**Nakatsue**	**18.55**	**317**	P	**P**	**07 41 06.5**	**+0.1**
JNU				*e*S	**S**	**07 44 37.9**	**+10**
JHS	**Saijyo**	**18.55**	**325**	P	**P**	**07 41 06.2**	**-0.2**
JHS				*e*S	**S**	**07 44 35.7**	**+7.3**
JSD	**Sado**	**18.97**	**341**	P	**P**	**07 41 10.0**	**-1.3**
JYA	**Atsumi**	**19.10**	**345**	P	**P**	**07 41 12.9**	**+0.1**
WAKE	**Wake Island**	**19.60**	**89**	*e*P	**P**	**07 41 16.4**	**-2.0**
	754nm,1.0s						
JFU	**Fukue jima 2**	**19.69**	**313**	P	**P**	**07 41 18.4**	**-0.9**
JFU				*e*S	**S**	**07 44 58.5**	**+4.9**
JTU	**Tsushima**	**20.39**	**318**	P	**P**	**07 41 25.2**	**-1.6**
JTU				*e*S	**S**	**07 45 11.9**	**+4.1**
JTM	**Tenmabayashi**	**20.93**	**350**	P	**P**	**07 41 33.1**	**+0.8**
JTM				*e*S	**S**	**07 45 18.2**	**+0.1**
JOT	**Ohata**	**21.52**	**350**	P	**P**	**07 41 38.6**	**+0.5**
YOJ	**Yonaguni jima**	**21.55**	**286**	P	**P**	**07 41 39.5**	**+0.9**
PVCP	**Virac**	**21.77**	**256**	*e*P	**P**	**07 41 44.5**	**+3.7**
JEM	**Erimo**	**21.88**	**355**	P	**P**	**07 41 42.7**	**+1.0**
JEM				*e*S	**S**	**07 45 36.1**	**+0.4**
SCPH	**Surigao**	**22.20**	**245**	*i*,*e*P	**P**	**07 41 48.8**	**+3.7**
BIPH	**Bislig**	**22.32**	**240**	*i*,*i*P	**P**	**07 41 48.5**	**+2.1**
NACB	**Ninganchiao**	**22.81**	**284**	*e*P	**P**	**07 41 50.8**	**-0.2**
CVP	**Callao Caves**	**22.86**	**268**	*i*,*e*P	**P**	**07 41 55.0**	**+3.3**
	126μm,1.0s						
JEW	**Eniwo**	**22.89**	**352**	P	**P**	**07 41 53.8**	**+2.1**
JSH	**Shimam**	**22.92**	**349**	P	**P**	**07 41 52.7**	**+0.7**
TATO	**Taipei**	**22.99**	**286**	PFAKE		07 42 00.0	+7.1
TATO				LR	LR		
	comp=Z,11μm,20.0s,MS5.3						
AUQP	**San Andres**	**23.21**	**257**	*e*P	**P**	**07 42 00.5**	**+5.4**
GQP	**Guinayangan**	**23.23**	**258**	*i*,*e*P	**P**	**07 41 59.2**	**+4.0**
KS15	**Wonju Array Si**	**23.24**	**322**	*e*P	**P**	**07 41 55.3**	**+0.1**
LLP	**Lapu-Lapu**	**23.26**	**248**	*i*,*e*P	**P**	**07 41 58.8**	**+3.2**
CGP	**Cagayan de Oro**	**23.56**	**243**	*i*,*e*P	**P**	**07 42 01.6**	**+3.1**
	comp=Z,795μm,0.8s						
DAV	**Davao City (W)**	**23.59**	**239**	*i*,*e*P	**P**	**07 42 00.0**	**+1.2**
TBP	**Tagbilaran**	**23.64**	**247**	*i*,*e*P	**P**	**07 42 01.5**	**+2.2**
YUK	**Yuzh-Kuril'sk**	**23.78**	**0**	*e*P	**P**	**07 41 57.8**	**-2.5**
YUK				*e*		07 42 38.2	
YUK				*e*SS	SS	07 47 22.0	+21
YUK				pmax	pmax		
	comp=Z,2μm,2.0s,mb6.3						
YUK				pmax	pmax		
	comp=N,7μm,3.0s						
YUK				pmax	pmax		
	comp=E,2μm,1.0s						
RCP	**Roxas**	**23.80**	**252**	*i*,*e*P	**P**	**07 42 03.3**	**+2.5**
KWAJ	**Kwajalein Atol**	**23.88**	**115**	*e*P	**P**	**07 42 00.9**	**-0.6**
	comp=E,203nm,0.9s,mb5.5						
KWAJ				LR	LR		
	comp=Z,5μm,22.0s,MS4.9						
PCPH	**Palayan**	**24.00**	**263**	*i*,*e*P	**P**	**07 42 05.7**	**+3.0**
ASAJ	**Asahikawa**	**24.01**	**354**	P	**P**	**07 42 04.8**	**+2.3**
	comp=Z,196nm,0.7s,mb5.7,baz=223,slow=13,SNR=59						
ASAJ				ScP		07 49 21.3	
	comp=Z,38nm,0.7s,baz=243,slow=8.0,SNR=6.9						
ASAJ				LR	LR	07 51 29.9	
	comp=Z,18μm,21.5s,MS5.5,baz=180,slow=36						
ASAJ	**Asahikawa**	**24.01**	**354**	P	**P**	**07 42 04.5**	**+1.9**
INCN	**Inchon**	**24.02**	**320**	*e*P	**P**	**07 42 01.6**	**-1.1**
	comp=Z,1μm,1.3s,mb6.3						
INCN				LR	LR		
	comp=Z,29μm,21.0s,MS5.7						
KALP	**Kalibo**	**24.12**	**253**	*i*,*e*P	**P**	**07 42 09.2**	**+5.3**
OTRP	**Odiongan**	**24.15**	**255**	*e*P	**P**	**07 42 07.4**	**+3.2**
BCPH	**Baguio City Da**	**24.29**	**265**	*i*,*i*P	**P**	**07 42 09.9**	**+4.4**
SNPH	**Sibulan**	**24.35**	**247**	*i*,*e*P	**P**	**07 42 08.3**	**+2.1**
TGY	**Tagaytay City**	**24.55**	**260**	*i*,*e*P	**P**	**07 42 12.8**	**+4.6**
DCPH	**Dipolog City**	**24.63**	**245**	*i*,*e*P	**P**	**07 42 10.7**	**+1.9**
GSPH	**General Santos**	**24.67**	**238**	*i*,*i*P	**P**	**07 42 11.6**	**+2.3**
SSE	**Sheshan**	**24.70**	**301**	*i*P	**P**	**07 42 11.5**	**+2.1**
SSE				AP		07 42 21.6	
SSE				XP		07 42 27.3	
SSE				S	**S**	**07 46 30.3**	**+4.9**
SSE				XS		07 46 46.3	
SSE				SCS	ScS	07 53 11.3	+4.1
SSE				AMB	AMB		
	comp=Z,259nm,1.0s,mb5.7						
SSE				AMB	AMB		
	comp=Z,181nm,3.5s						
SSE				LR	LR		
	comp=N,2μm,22.7s,MS5.4						
SSE				LR	LR		
	comp=E,15μm,22.6s,MS5.4						
SSE				LR	LR		
	comp=Z,19μm,17.2s						
PGP	**Puerto Galera**	**24.73**	**258**	*e*P	**P**	**07 42 12.4**	**+2.6**
KUR	**Kuril'sk**	**25.03**	**3**	*e*P	**P**	**07 42 11.3**	**-1.2**
KUR				*e*S	**S**	**07 46 30.0**	**-0.8**
KUR				pmax	pmax		
	comp=Z,3μm,2.0s,mb6.5						
KUR				pmax	pmax		
	comp=N,190nm,1.0s						
KUR				pmax	pmax		
	comp=E,190nm,1.0s						
KUR				pmax	pmax		
	comp=Z,600nm,1.0s,mb6.1						
KUR				smax			
	comp=N,8μm,8.0s						
KUR				smax			
	comp=E,15μm,8.0s						
KUR				smax			
	comp=N,400nm,1.0s						
KUR				smax			
	comp=E,230nm,1.0s						
KUR				MLR	MLR		
	comp=N,5μm,15.0s,MS5.4						
KUR				MLR	MLR		
	comp=E,8μm,15.0s,MS5.4						
KUR				MLR	MLR		
	comp=Z,9μm,15.0s,MS5.4						
QZH	**Quanzhou**	**25.60**	**286**	P	**P**	**07 42 19.6**	**+1.6**
QZH				S	**S**	**07 46 46.0**	**+5.6**
QZH				AMB	AMB		
	comp=Z,810nm,1.5s,mb6.0						
QZH				LR	LR		
	comp=N,11μm,12.0s,MS5.7						
QZH				LR	LR		
	comp=E,6μm,11.9s,MS5.7						
QZH				LR	LR		
	comp=Z,20μm,19.4s						
CUYO	**Cuyo Island**	**25.64**	**252**	*e*P	**P**	**07 42 20.5**	**+2.0**
YSS	**Yuzh-Sakhalins**	**26.82**	**355**	*i*,*i*P	**P**	**07 42 28.8**	**-0.2**
YSS				LR	LR		
	comp=Z,20μm,22.0s,MS5.6						
YSS	**Yuzh-Sakhalins**	**26.82**	**355**	*i*P	**P**	**07 42 29.0**	**-0.1**
YSS				*i* *PP	pP	07 42 40.0	-0.7
YSS				*i* *SP

comp=N,5μm,18.3s,MS5.2
DL2 LR LR
comp=E,4μm,22.5s,MS5.2
DL2 LR LR
comp=Z,6μm,24.1s,MS5.1
PPR Puerto Princes 28.13 252⇑*i*P P 07 42 44.0 +2.6
SNY Shenyang 28.65 324 ⇑P P 07 42 43.8 -1.9
SNY AP pP 07 42 53.4 -4.0
SNY PP PP 07 43 35.3 -3.7
SNY S **S 07 47 25.0 -4.8**
SNY AMB AMB
comp=Z,200nm,1.6s,mb5.6
SNY LR LR
comp=N,17μm,24.7s,MS5.5
SNY LR LR
comp=E,6μm,29.2s,MS5.5
SNY LR LR
comp=Z,22μm,24.7s,MS5.7
CN2 Changchun 29.07 329 *e*P P 07 42 48.3 -1.1
CN2 *e*XP sP 07 43 04.8 -1.9
CN2 *e*S **S 07 47 35.6 -0.8**
CN2 SCP 07 49 34.1
CN2 SCS ScS 07 53 26.5 +0.5
CN2 AMB AMB
comp=Z,90nm,1.0s,mb5.5
CN2 AMB AMB
comp=Z,2μm,9.0s
CN2 LR LR
comp=N,18μm,22.0s,MS5.8
CN2 LR LR
comp=E,15μm,22.0s,MS5.8
CN2 LR LR
comp=Z,28μm,25.0s,MS5.8
PMG Port Moresby 29.44 177 P P 07 42 50.5 -2.4
comp=Z,174nm,0.7s,mb5.9,baz=8.6,slow=6.0,SNR=37
PMG PcP PcP 07 45 56.7 -1.4
comp=Z,27nm,0.7s,baz=347,slow=9.0,SNR=3.9
PMG Port Moresby 29.44 177 P P 07 42 50.5 -2.4
PMG PcP PcP 07 45 56.7 -1.4
PMG LR LR
comp=Z,9μm,19.0s,MS5.4
PMG Port Moresby 29.44 177 P P 07 42 50.5 -2.4
PMG 07 45 56.7
PMG pmax pmax
comp=Z,174nm,0.7s
PMG pmax pmax
comp=Z,27nm,0.7s
TIA Tai'an 29.79 308 ⇓P P 07 42 54.8 -1.0
TIA S **S 07 47 42.8 -5.1**
TIA AMB AMB
comp=Z,126nm,1.2s,mb5.5
TIA LR LR
comp=N,8μm,17.0s,MS5.7
TIA LR LR
comp=E,12μm,16.0s,MS5.7
WHN Wuhan 30.19 296 P P 07 43 00.5 +1.0
WHN XP sP 07 43 14.0 -2.9
WHN PP PP 07 44 01.0 +1.9
WHN S **S 07 47 57.0 +2.7**
WHN LR LR
comp=Z,23μm,17.1s,MS5.9
GZH Guangzhou 30.33 281 P P 07 42 59.4 -1.4
GZH LR LR
comp=N,4μm,15.2s,MS5.3
GZH LR LR
comp=E,5μm,17.4s,MS5.3
GZH LR LR
comp=Z,7μm,18.3s,MS5.3
KLR Kul'dur 31.10 342 *e*P P 07 43 04.0 -3.4
KLR *e*S **S 07 48 09.0 +0.5**
KLR *e*S **S 07 48 14.3 +5.8**
KLR *e*SSS SS 07 49 53.5 -1.9
KLR pmax pmax
comp=N,1μm,11.5s
KLR pmax pmax
comp=Z,2μm,11.5s
KLR MLR MLR
comp=N,4μm,15.5s
KLR MLR MLR
comp=Z,6μm,15.5s,MS5.3
SKR Severo-Kuril's 31.49 13 *e*P P 07 43 08.0 -2.8
SKR *e* 07 44 10.0
SKR *e*PPP PPP 07 44 30.0 -0.8
SKR *e*S **S 07 48 12.0 -2.6**
SKR *e*SSS SSS 07 50 13.0 -15
SKR *e* 07 53 37.0
SKR pmax pmax
comp=N,110nm,1.0s
SKR pmax pmax
comp=E,130nm,1.0s
SKR pmax pmax
comp=Z,220nm,1.0s,mb5.9
SKR pmax pmax
comp=N,1μm,6.0s
SKR pmax pmax
comp=E,1μm,6.0s
SKR pmax pmax
comp=Z,1μm,6.0s
SKR smax
comp=N,2μm,8.0s
SKR smax
comp=E,4μm,8.0s
SKR MLR MLR
comp=N,7μm,18.0s,MS5.5
SKR MLR MLR
comp=Z,11μm,18.0s,MS5.6
SKR MLR MLR
comp=E,5μm,16.0s,MS5.5
TSM Tawau 31.49 244 P P 07 43 13.1 +1.9
KKM Kota Kinabalu 32.03 248 P P 07 43 18.2 +2.3
KKM Kota Kinabalu 32.03 248 *e*P P 07 43 16.7 +0.8
HNR Honiara 32.54 153 P P 07 43 17.6 -2.7
comp=E,189nm,0.8s,mb6.1,baz=221,slow=3.1,SNR=9.1
HNR Honiara 32.54 153 P P 07 43 17.6 -2.7
HNR LR LR
comp=Z,30μm,22.0s,MS6.0
QIZ Qiongzhong 33.91 274 P P 07 43 35.3 +3.2
QIZ AP pP 07 43 46.0 +1.9
QIZ XP sP 07 43 49.3 -0.4
QIZ PPP PPP 07 45 08.4 +4.0
QIZ S **S 07 48 57.9 +5.4**
QIZ SS SS 07 51 05.3 +4.2
QIZ AMB AMB
comp=Z,75nm,1.4s,mb5.4
QIZ LR LR
comp=N,3μm,17.2s,MS5.3
QIZ LR LR
comp=E,5μm,17.7s,MS5.3
QIZ LR LR
comp=Z,7μm,18.1s,MS5.4
QIZ Qiongzhong 33.91 274 *e*P P 07 43 35.1 +3.1
comp=Z,70nm,1.1s,mb5.5
QIZ LR LR
comp=Z,7μm,19.0s,MS5.4
PET Petropavlovsk 34.24 14 *e*P P 07 43 34.8 +0.3
comp=Z,128nm,1.0s,mb5.8
PET LR LR
comp=Z,8μm,19.0s,MS5.5
PET Petropavlovsk 34.24 14α*i*P P 07 43 34.6 0.0
PET *e* 07 44 48.7
PET *i*S **S 07 49 00.0 +2.7**
PET *e*SS SS 07 51 08.8 +0.5
PET pmax pmax
comp=Z,1μm,6.7s
PET pmax pmax
comp=Z,86nm,0.9s,mb5.7
PET pmax pmax
comp=Z,2μm,18.3s
PET pmax pmax
comp=Z,900nm,10.8s
PET MLR MLR
comp=Z,9μm,22.0s,MS5.5
PET MLR MLR
comp=Z,9μm,14.0s
ENH Enshi 34.27 294 *e*P P 07 43 34.6 -0.4
comp=Z,46nm,0.5s,mb5.7
ENH *e*PcP PcP 07 46 11.2 +0.3
ENH LR LR
comp=Z,20μm,20.0s,MS5.8
MIDW Midway 34.38 69 *e*P P 07 43 36.0 0.0
comp=Z,221nm,1.0s,mb6.0
MIDW LR LR
comp=Z,6μm,19.0s,MS5.3
KAKA Kakadu 35.26 203⇑*i*P P 07 43 52.1 +8.4
comp=Z,185nm,0.6s,mb6.2
XAN Xi'an 35.45 301 P **P 07 43 45.3 +0.1**
XAN S **S 07 49 09.5 -6.8**
XAN AMB AMB
comp=Z,42nm,0.7s,mb5.5
XAN LR LR
comp=E,8μm,17.9s
XAN LR LR
comp=Z,14μm,17.9s,MS5.8
HHC Hu-ho-hao-te 35.69 313 *e*P P 07 43 46.0 -1.1
HHC AP pP 07 43 55.5 -3.6
HHC XP sP 07 43 59.8 -5.0
HHC PP PP 07 45 06.9 -1.7
HHC PCP PcP 07 46 17.1 +2.1
HHC S **S 07 49 19.0 -0.8**
HHC XS 07 49 37.5
HHC SS SS 07 51 38.4 -3.3
HHC SCS ScS 07 54 00.5 +0.9
HHC AMB AMB
comp=Z,899nm,1.1s,mb6.6
HHC LR LR
comp=N,13μm,17.8s,MS6.1
HHC LR LR
comp=E,28μm,17.8s,MS6.1
HHC LR LR
comp=Z,42μm,17.8s,MS6.2
HIA Hailar 35.74 330 *e*P P 07 43 46.5 -0.9
comp=Z,101nm,0.8s,mb5.8
HIA *e*S **S 07 49 26.6 +6.1**
HIA LR LR
comp=Z,16μm,22.0s,MS5.7
HIA Hailar 35.74 330 *e*P P 07 43 46.5 -0.9
HIA *e*S **S 07 49 26.6 +6.1**
HIA pmax pmax
comp=Z,101nm,0.8s
HIA MLR MLR
comp=Z,16μm,22.0s
GYA Guiyang 36.43 287⇓*i*P P 07 43 54.4 +0.9
GYA AP pP 07 44 04.1 -1.5
GYA XP sP 07 44 07.9 -3.2
GYA S **S 07 49 31.6 +0.3**
GYA SCP 07 50 02.4
GYA SS SS 07 51 55.8 -2.6
GYA SCS ScS 07 54 06.9 +3.1
GYA AMB AMB
comp=Z,60nm,0.7s,mb5.6
GYA AMB AMB
comp=Z,780nm,4.5s
GYA LR LR
comp=N,3μm,17.2s,MS5.6
GYA LR LR
comp=E,9μm,17.1s,MS5.6
GYA LR LR
comp=Z,7μm,17.4s,MS5.5
BTO Baotou 36.66 312 *e*P P 07 43 55.3 0.0
BTO S **S 07 49 29.1 -5.7**
BTO AMB AMB
comp=Z,133nm,1.1s,mb5.7
FX1 Attu Island--F 38.86 26 P **P 07 44 15.4 +1.9**
comp=Z,172nm,0.7s,mb5.9,baz=202,slow=3.0,SNR=28
FX1 Attu Island--F 38.86 26 P **P 07 44 14.7 +1.2**
FX1 Attu Island--F 38.86 26 P **P 07 44 15.4 +1.9**
FX1 pmax pmax
comp=Z,172nm,0.7s
SMY Shemya 39.14 27 *e*P P 07 44 15.5 -0.4
SMY LR LR
comp=Z,13μm,20.0s,MS5.8
UBT Ubonrachathani 39.14 270 P **P 07 44 20.0 +3.8**
CD2 Chengdu 39.25 294 P **P 07 44 17.6 +0.6**
CD2 XP sP 07 44 31.4 -3.2
CD2 PP PP 07 45 51.4 0.0
CD2 S **S 07 50 15.1 +0.8**
CD2 XS 07 50 31.3
CD2 SS SS 07 53 03.3 +1.9
CD2 AMB AMB
comp=Z,20nm,0.6s,mb5.0
CD2 AMB AMB
comp=Z,260nm,4.5s
CD2 LR LR
comp=E,9μm,19.9s
CD2 LR LR
comp=Z,9μm,20.4s,MS5.6
KSM Kuching 39.40 246 *e*P P 07 44 18.1 -0.3
KSM *e*pP pP 07 44 31.5 +0.9
KSM *e*PP PP 07 45 51.8 -1.3
MA2 Magadan 39.50 4 *e*P P 07 44 19.1 +0.3
comp=Z,118nm,1.0s,mb5.6
MA2 *e*pP pP 07 44 28.1 -2.8
MA2 *e*PP PP 07 45 54.8 +1.0
MA2 *e*PcP PcP 07 46 26.7 +0.2
MA2 LR LR
comp=Z,6μm,22.0s,MS5.4
MA2 Magadan 39.50 4*c e*P P 07 44 18.9 +0.1
MA2 *e* 07 45 47.8
MA2 *e* 07 46 25.7
MA2 *e*S **S 07 50 18.5 +0.8**
MA2 pmax pmax
comp=Z,100nm,1.3s,mb5.4
MA2 pmax pmax
comp=N,60nm,1.4s
CLNS Chul'man 39.76 342 *e*P P 07 44 21.3 +0.3
CLNS Chul'man 39.76 342⇑*i*P P 07 44 21.4 +0.4
CLNS *e**PP pP 07 44 27.3 -5.8
CLNS *e* 07 45 57.9
CLNS *e*PPP PPP 07 46 16.9 -5.2
CLNS *e* 07 46 29.4
CLNS *e*S **S 07 50 17.9 -3.8**
CLNS *e*SS SS 07 53 06.8 -5.5
CLNS pmax pmax
comp=Z,569nm,1.0s,mb6.3
CLNS pmax pmax
comp=N,559nm,1.3s
CLNS pmax pmax
comp=E,117nm,0.8s
CLNS pmax pmax
comp=Z,78nm,0.9s,mb5.4
CLNS pmax pmax
comp=N,66nm,0.8s
CLNS pmax pmax
comp=E,50nm,0.9s
CLNS smax
comp=N,955nm,9.6s
CLNS smax
comp=Z,468nm,10.5s
CLNS smax
comp=E,269nm,8.4s
CLNS MLR MLR
comp=Z,9μm,18.0s,MS5.7
CLNS MLR MLR
comp=N,2μm,17.0s,MS5.5
CLNS MLR MLR
comp=E,5μm,17.0s,MS5.5
KMI Kunming 39.97 285 ⇑P P 07 44 25.3 +2.3
KMI AP pP 07 44 37.0 +1.8
KMI XP sP 07 44 40.9 +0.3
KMI PP PP 07 46 00.8 +1.8
KMI PPP PPP 07 46 28.3 +3.1
KMI PCP PcP 07 46 31.3 +3.0
KMI S **S 07 50 27.5 +2.4**
KMI XS 07 50 45.9
KMI SS SS 07 53 17.1 -0.1
KMI SCS ScS 07 54 26.1 +2.0
KMI AMB AMB
comp=Z,68nm,1.2s,mb5.2
KMI AMB AMB
comp=Z,606nm,4.9s
KMI LR LR
comp=N,6μm,25.0s,MS5.4
KMI LR LR
comp=E,4μm,21.7s,MS5.4
KMI LR LR
comp=Z,5μm,21.7s,MS5.3
CTA Charters Tower 40.03 179⇓*i*P P 07 44 21.5 -2.1
comp=Z,73nm,0.8s,mb5.5
CTA Charters Tower 40.03 179 P **P 07 44 22.0 -1.5**
comp=Z,80nm,0.8s,mb5.5,baz=358,slow=7.7,SNR=53
CTA Charters Tower 40.03 179⇓*i*P P 07 44 21.5 -2.1
CTA pmax pmax
comp=Z,73nm,0.8s
CTAO Charters Tower 40.03 179 *e*P P 07 44 21.8 -1.8
comp=Z,83nm,0.9s,mb5.5
CTAO LR LR
comp=Z,7μm,20.0s,MS5.5
CTAO Charters Tower 40.03 179 *e*P P 07 44 21.8 -1.8
CTAO pmax pmax
comp=Z,83nm,0.9s,mb5.5
CTAO MLR MLR
comp=Z,7μm,20.0s,MS5.5
CIT Chita 40.51 329 *e*P P 07 44 27.0 -0.2
CIT *e* pP 07 44 40.9 +1.5
CIT *e* 07 50 33.9
CIT pmax pmax
comp=Z,214nm,1.4s,mb5.6
WRAB Tennant Creek 41.44 196 *e*P P 07 44 34.2 -1.0
comp=Z,806nm,0.8s,mb6.4
WRAB LR LR
comp=Z,4μm,20.0s,MS5.3
WRAB Tennant Creek 41.44 196 *e*P P 07 44 34.2 -1.0
WRAB pmax pmax
comp=Z,806nm,0.8s,mb6.4
WRAB MLR MLR
comp=Z,4μm,20.0s,MS5.3
WB2 Warramunga Arr 41.45 196⇓*i*P P 07 44 34.1 -1.1
WB2 *e*S **S 07 50 43.1 -4.0**
WRA Warramunga Arr 41.45 196 P **P 07 44 35.0 -0.3**
comp=Z,568nm,0.9s,mb6.2,baz=16,slow=8.8,SNR=1076
SONM Songino Array 42.09 320 P **P 07 44 40.6 +0.4**
comp=Z,53nm,0.5s,mb5.5,baz=129,slow=8.3,SNR=134
SONM PcP PcP 07 46 35.6 +0.6
comp=Z,26nm,0.7s,baz=138,slow=3.0,SNR=4.9
SONM ScP 07 50 21.4
comp=Z,13nm,0.8s,baz=130,slow=3.1,SNR=4.2
SONM LR LR 08 02 43.0
comp=Z,20μm,21.4s,MS6.0,baz=115,slow=37
SONM P3KPbc 08 14 04.5
comp=Z,1.3nm,1.0s,baz=276,slow=2.0,SNR=4.9
SONM PKPPKP 08 16 42.0
comp=Z,0.8nm,0.9s,baz=225,slow=2.1,SNR=3.7
SONM Songino Array 42.09 320 P **P 07 44 40.6 +0.4**
SONM PcP PcP 07 46 35.6 +0.6
SONM ScP 07 50 21.4
SONM LR LR 08 02 43.0
SONM *e* 08 14 04.5
SONM P'P' 08 16 42.0
NANT Nan 42.49 276 P **P 07 44 47.0 +3.0**
comp=Z,500nm,0.5s,mb6.4
FITZ Fitzroy Crossi 42.91 209 *e*P P 07 44 46.8 -0.6
comp=Z,1μm,1.4s,mb6.4
FITZ *e*S **S 07 51 07.5 -1.2**
FITZ *e*SCS ScS 07 54 40.6 -1.3
FITZ Fitzroy Crossi 42.91 209 P **P 07 44 47.0 -0.4**
comp=Z,569nm,0.7s,mb6.4,baz=14,slow=8.3,SNR=256
SEY Seymchan 42.95 4⇑*i*P P 07 44 47.8 +0.7
SEY Seymchan 42.95 4 *i* P P 07 44 47.9 +0.8
SEY 07 46 32.6
SEY *e*S **S 07 51 10.6 +2.0**
SEY *e*SS SS 07 54 10.9 -3.9
SEY *e* 07 54 49.9
SEY *e*SSS SSS 07 55 12.5 +7.8
SEY pmax pmax
comp=Z,120nm,1.3s,mb5.5
SEY MLR MLR
comp=N,6μm,15.0s,MS5.7
SEY MLR MLR
comp=Z,12μm,15.0s,MS5.9
SEY MLR MLR
comp=E,3μm,14.0s,MS5.7
CHRT Chiangrai 43.18 278 ⇑P P 07 44 50.0 +0.4
comp=E,310nm,1.0s,mb6.0
YAK Yakutsk 43.29 349 *e*P P 07 44 49.6 -0.3
comp=E,613nm,0.8s,mb6.4
YAK LR LR
comp=Z,10μm,20.0s,MS5.7
YAK Yakutsk 43.29 349*c i*P P 07 44 49.8 -0.1
YAK *e**PP pP 07 44 56.3 -5.8
YAK *e* 07 46 29.8
YAK *e* 07 46 37.8
YAK *i*S **S 07 51 14.8 +1.1**
YAK *e*SS SS 07 54 24.9 +3.9
YAK *e* 07 54 47.9
YAK pmax pmax
comp=Z,285nm,0.9s,mb6.0
YAK pmax pmax
comp=N,101nm,1.2s
YAK pmax pmax
comp=E,29nm,0.8s
YAK pmax pmax
comp=Z,58nm,0.9s,mb5.3
YAK pmax pmax
comp=N,16nm,1.0s
YAK pmax pmax
comp=E,11nm,0.8s
YAK smax
comp=Z,21nm,1.0s
YAK smax
comp=N,54nm,1.3s
YAK smax
comp=E,68nm,1.1s
YAK MLR MLR
comp=Z,4μm,18.0s,MS5.4
YAK MLR MLR
comp=N,3μm,20.0s,MS5.3
YAK MLR MLR
comp=E,2μm,16.0s,MS5.3
GSTR Great Sitkin T 43.44 34 *e*P P 07 44 52.0 +0.8
GSTR *e*pP pP 07 45 07.4 +4.0
GSTR *e*sP sP 07 45 16.2 +7.4
FUNA Funafuti 43.48 128 *e*P P 07 44 53.4 +1.3
FUNA *e* pP 07 45 09.2 +4.9
NST Nakhon Sawan 43.63 272 P **P 07 44 53.5 +0.2**
comp=E,283nm,1.0s,mb6.0
GTA Gaotai 43.78 306 *e*P P 07 44 53.5 -0.7
GTA AP pP 07 45 04.5 -1.9
GTA XP sP 07 45 08.8 -3.0
GTA PP PP 07 46 36.3 -1.7
GTA PCP PcP 07 46 41.5 +0.7
GTA PPP PPP 07 47 14.3 -1.2
GTA SCP 07 50 29.8
GTA PCS 07 50 34.1
GTA S **S 07 51 18.8 -2.3**
GTA SS SS 07 54 28.9 -0.9
GTA SCS ScS 07 54 49.0 +2.0
GTA AMB AMB
comp=Z,53nm,1.1s,mb5.2
GTA AMB AMB
comp=Z,140nm,4.9s
GTA LR LR
comp=N,5μm,19.8s,MS5.6
GTA LR LR
comp=E,5μm,16.7s,MS5.6
GTA LR LR
comp=Z,6μm,17.9s,MS5.6
BOD Bodaibo 44.21 336 *e*P P 07 44 56.8 -0.6
BOD pmax pmax
comp=Z,112nm,1.5s,mb5.4
NNT Nongplab 44.77 268 P **P 07 45 04.0 +1.5**
ZAK Zakamensk 45.06 322 *e*P P 07 45 03.9 -0.4
ZAK *e* pP 07 45 20.3 +3.8
ZAK *e* 07 51 41.2
ZAK pmax pmax
comp=Z,80nm,0.9s,mb5.5
ZAK pmax pmax
comp=Z,120nm,0.9s,mb5.7
ZAK pmax pmax
comp=Z,12nm,1.1s
KGM Kluang 45.28 252 P **P 07 45 10.0 +3.5**
IRK Irkutsk 45.37 325⇑*i*P P 07 45 05.6 -1.1
IRK *e* 07 51 45.8
IRK pmax pmax
comp=Z,225nm,2.4s,mb5.6
SNG Songkhla 45.66 260 P **P 07 45 12.0 +2.4**
comp=Z,164nm,0.9s,mb6.0
IPM Ipoh 46.27 257 P **P 07 45 17.3 +2.9**
KULM Kulim 46.34 258 *e*P P 07 45 15.7 +0.7
DZM Mont Dzumac 46.57 153 *e*P P 07 45 15.3 -1.3
DZM Mont Dzumac 46.57 153 P **P 07 45 16.3 -0.3**
comp=Z,350nm,1.0s,mb6.3,baz=358,slow=7.4,SNR=146
MOY Mondy 46.92 323 *e*P P 07 45 19.0 +0.1
MOY pmax pmax
comp=Z,107nm,2.4s,mb5.3
NIKO Nikolski 47.71 36 *e*P P 07 45 24.7 -0.5
IMP Imphal 47.97 286 *e*P P 07 45 29.0 +1.4
IMP *ex* x 07 54 05.0
MBWA Marble Bar 48.39 213 *e*P P 07 45 30.5 -0.4
comp=Z,305nm,1.0s,mb6.3
MBWA *e*S **S 07 52 27.9 +0.9**
MBWA LR LR
comp=Z,2μm,19.0s,MS5.1
UNV Unalaska Valle 49.35 35 *e*P P 07 45 37.1 -0.8
comp=Z,363nm,0.9s,mb6.4
UNV LR LR
comp=Z,13μm,20.0s,MS5.9

BILL Bilibino 49.53 10 *eP* **P 07 45 39.5 +0.4**
comp=Z,90μm,8.6s
BILL LR LR
comp=Z,8μm,20.0s,MS5.7
BILL Bilibino 49.53 10*c i*P **P 07 45 39.1 0.0**
BILL *e* 07 45 45.6
BILL *e*S **S 07 52 40.7 -1.7**
BILL *e*SS SS 07 56 15.1 +4.2
BILL pmax pmax
comp=Z,186nm,1.3s,mb6.0
BILL MLR MLR
comp=Z,8μm,19.0s,MS5.7
AKUT Akutan 49.87 35 *e*P **P 07 45 41.2 -0.6**
LSA Lhasa 50.11 292 P **P 07 45 45.5 +1.5**
LSA AP pP 07 45 54.3 -2.1
LSA XP sP 07 45 58.3 -3.4
LSA PP PP 07 47 40.1 -0.1
LSA S **S 07 52 49.4 -1.6**
LSA AMB AMB
comp=Z,10.0nm,0.7s,mb5.0
LSA AMB AMB
comp=Z,520nm,7.2s
LSA LR LR
comp=N,6μm,33.4s
LSA LR LR
comp=E,6μm,21.5s
LSA LR LR
comp=Z,7μm,21.5s
LSA Lhasa 50.11 292 *e*P **P 07 45 45.5 +1.4**
comp=Z,128nm,0.5s,mb6.2
LSA *e*PcP PcP 07 47 05.4 +2.1
LSA *e*S **S 07 52 57.2 +6.3**
LSA LR LR
comp=Z,8μm,21.0s,MS5.7
LSA Lhasa 50.11 292 *e*P **P 07 45 45.5 +1.5**
LSA *e* 07 47 05.4
LSA *e*S **S 07 52 57.2 +6.2**
LSA pmax pmax
comp=Z,128nm,0.5s,mb6.2
LSA MLR MLR
comp=Z,8μm,21.0s,MS5.7
STKA Stephens Creek 51.93 185⇑ *i*P **P 07 45 55.3 -2.4**
comp=Z,36nm,0.6s,mb5.5
STKA Stephens Creek 51.93 185 P **P 07 45 55.4 -2.3**
comp=Z,22nm,0.5s,mb5.4,baz=352,slow=7.5,SNR=29
STKA LR LR 08 09 05.9
comp=Z,8μm,19.8s,MS5.7,baz=2.4,slow=37
KIP Kipapa 52.24 78 *e*P **P 07 45 59.3 -0.9**
comp=Z,140nm,1.0s,mb5.8
KIP *e*pP pP 07 46 15.6 +3.0
KIP *e*sP sP 07 46 20.9 +3.0
KIP LR LR
comp=Z,2μm,19.0s,MS5.2
KIP Kipapa 52.24 78 *e*P **P 07 45 59.3 -0.9**
KIP *e**PP pP 07 46 15.6 +3.0
KIP pmax pmax
comp=Z,140nm,1.0s,mb5.8
KIP MLR MLR
comp=Z,2μm,19.0s,MS5.2
TIXI Tiksi 52.41 353⇑ *i*P **P 07 45 59.0 -1.8**
TIXI LR LR
comp=Z,3μm,19.0s,MS5.4
TIXI Tiksi 52.41 353 *e*P **P 07 45 55.3 -5.5**
TIXI *e* 07 47 57.0
TIXI *e*S **S 07 53 17.6 -4.5**
TIXI pmax pmax
comp=E,24nm,0.8s
TIXI pmax pmax
comp=Z,89nm,0.8s,mb5.8
TIXI pmax pmax
comp=Z,651nm,3.9s
TIXI MLR MLR
comp=Z,3μm,17.0s,MS5.4
GTK Gangtok 52.49 289 *ex* x 07 46 08.0
SDPT Sand Point 53.17 35 *e*P **P 07 46 05.9 -0.8**
CAL Calcutta 53.34 284 *ex* x 07 46 15.1
CAL *ex* x 07 53 26.4
WMQ Urumqi 53.46 310 P **P 07 46 09.0 0.0**
WMQ AP pP 07 46 19.0 -2.5
WMQ XP sP 07 46 23.0 -3.7
WMQ PP PP 07 48 11.0 -0.2
WMQ SCP 07 51 11.0
WMQ S **S 07 53 37.0 +0.4**
WMQ SCS ScS 07 55 52.0 +0.8
WMQ SS SS 07 57 17.0 +0.5
WMQ AMB AMB
comp=Z,354nm,1.0s,mb6.2
WMQ AMB AMB
comp=Z,549nm,8.0s
WMQ LR LR
comp=N,6μm,20.0s,MS5.8
WMQ LR LR
comp=E,6μm,20.0s,MS5.8
WMQ LR LR
comp=Z,7μm,21.0s,MS5.7
FORT Forrest 53.48 199 *e*P **P 07 46 08.4 -1.0**
comp=Z,323nm,0.7s,mb6.4
SHBG Sahibganj 53.57 287 *e*P **P 07 46 11.5 +1.4**
AFI Afiamalu 53.70 126 PFAKE 07 46 20.0 +8.9
AFI LR LR
comp=Z,6μm,21.0s,MS5.7
RIV Riverview 53.95 175 *e*P **P 07 46 11.3 -1.5**
TNA Tin City 54.38 22 *e*P **P 07 46 15.5 +0.1**
comp=Z,25nm,0.8s,mb5.2
TNA LR LR
comp=Z,4μm,21.0s,MS5.5
CHGN Chignik 54.57 34 *e*P **P 07 46 14.8 -2.2**
POHA Pohakuloa 54.82 80 PFAKE 07 46 30.0 +11
POHA LR LR
comp=Z,29μm,21.0s,MS6.3
GUN Gumba 54.85 290 *e*P **P 07 46 19.9 +0.5**
comp=Z,199nm,0.4s,mb6.5
ADE Adelaide 55.27 187 *e*P **P 07 46 22.0 -0.3**
CNB Canberra Magne 55.30 177⇑ *i*P **P 07 46 20.9 -1.6**
comp=Z,49nm,0.8s,mb5.6
PKI Pulchoki 55.31 290 *e*P **P 07 46 22.5 -0.2**
comp=Z,154nm,0.5s,mb6.3
PKI Pulchoki 55.31 290 *e*P **P 07 46 22.5 -0.2**
PKI pmax pmax
comp=Z,77nm,0.5s,mb6.0
BOK Bokaro 55.38 285 *e*P **P 07 46 23.7 +0.4**
BOK AMb AMB 07 46 27.5
comp=Z,363nm,0.8s,mb6.5
KKN Kakani 55.40 290 *e*P **P 07 46 23.4 +0.1**
comp=Z,336nm,0.9s,mb6.4
KKN Kakani 55.40 290 *e*P **P 07 46 23.4 +0.1**
KKN pmax pmax
comp=Z,168nm,0.9s,mb6.1
DMN Daman 55.57 290 *e*P **P 07 46 24.5 -0.1**
comp=Z,191nm,0.5s,mb6.4
GKN Gorkha 55.94 291 *e*P **P 07 46 27.2 0.0**
comp=Z,343nm,0.4s,mb6.7
KOLN Koldanda 56.88 291 *e*P **P 07 46 34.1 +0.1**
comp=Z,468nm,0.9s,mb6.5
TOO Toolangi 57.45 180 *e*P **P 07 46 36.2 -1.7**
comp=Z,44nm,0.8s,mb5.5
TOO Toolangi 57.45 180 *e*P **P 07 46 36.2 -1.7**
TOO pmax pmax
comp=Z,44nm,0.8s,mb5.5
SVW2 Sparrevohn 57.46 29 *e*P **P 07 46 37.3 -0.3**
MKAR Makanchi Array 57.55 313 P **P 07 46 37.3 -1.2**
comp=Z,130nm,0.9s,mb6.0,baz=88,slow=8.6,SNR=255
MKAR PcP PcP 07 47 31.6 +0.3
comp=Z,45nm,0.4s,baz=78,slow=3.3,SNR=14
MKAR ScP 07 51 27.7
comp=Z,7.5nm,0.7s,baz=90,slow=7.2,SNR=4.6
MKAR LR LR 08 14 14.2
comp=Z,7μm,19.3s,MS5.8,baz=106,slow=39
MKAR PKPPKP 08 16 24.3
comp=Z,1.2nm,0.8s,SNR=7.5
MKAR PKP2bc 08 16 37.0
comp=Z,4.7nm,0.9s,baz=270,slow=1.2,SNR=13
MKAR Makanchi Array 57.55 313 P **P 07 46 37.3 -1.2**
MKAR PcP PcP 07 47 31.6 +0.3
MKAR ScP 07 51 27.7
MKAR LR LR 08 14 14.2
MKAR P'P' 08 16 24.3
MKAR ⇑ *e* 08 16 37.0
TTA Tatalina 57.86 27 *e*P **P 07 46 40.1 -0.3**
NVS Novosibirsk 58.02 323 *e*P **P 07 46 39.6 -2.0**
NVS *i* S **S 07 54 36.2 -0.9**
NVS pmax pmax
comp=Z,331nm,1.6s,mb6.1
NVS pmax pmax
comp=N,134nm,1.8s
NVS pmax pmax
comp=E,324nm,1.8s
NVS smax
comp=N,191nm,2.0s
KDAK Kodiak Island 58.04 34 *e*P **P 07 46 40.6 -1.1**
comp=N,113nm,0.7s,mb6.0
KDAK LR LR
comp=Z,1μm,20.0s,MS5.0
KLBR Kellerberrin 58.11 208⇑ *i*P **P 07 46 40.9 -1.7**
comp=Z,147nm,0.6s,mb6.2
RSO Redoubt South 58.61 31 *e*P **P 07 46 44.8 -0.8**
RSO *e*pP pP 07 46 58.2 -0.1
RSO *e*sP sP 07 47 03.5 0.0
VIS Vishakhapatnam 58.88 279 *e*P **P 07 46 48.2 +0.1**
VIS AMb AMB 07 46 52.4
comp=Z,234nm,1.0s,mb6.2
BLSP Bilaspur 59.07 284 *e*P **P 07 46 48.0 -1.4**
SPU Mount Spurr 59.13 30 *e*P **P 07 46 48.0 -1.3**
MUN Mundaring 59.14 209 *e*P **P 07 46 48.8 -0.9**
comp=Z,74nm,0.6s,mb5.9
MUN Mundaring 59.14 209 *e*P **P 07 46 48.8 -0.9**
MUN pmax pmax
comp=Z,74nm,0.6s,mb5.9
NWAO Narrogin (SRO) 59.48 208 *e*P **P 07 46 51.4 -0.7**
comp=Z,75nm,0.7s,mb5.8
NWAO *e*pP pP 07 47 04.1 -0.7
NWAO LR LR
comp=Z,3μm,19.0s,MS5.5
NWAO Narrogin (SRO) 59.48 208 *e*P **P 07 46 51.4 -0.7**
NWAO *e**PP pP 07 47 04.1 -0.7
NWAO pmax pmax
comp=Z,75nm,0.7s
NWAO MLR MLR
comp=Z,3μm,19.0s
SLKM Skilak Lake 59.84 31 *e*P **P 07 46 52.9 -1.3**
IMA Indian Mountai 59.86 24 *e*P **P 07 46 54.0 -0.3**
IMA *e*pP pP 07 47 08.0 +1.1
IMA *e*sP sP 07 47 14.4 +2.3
FIB Fire Island 60.01 30 *e*P **P 07 46 54.7 -0.6**
FIB LR LR
comp=Z,4μm,22.0s,MS5.5
KURK Kurchatov 60.27 318 *e*P **P 07 46 56.3 -1.0**
comp=Z,187nm,0.7s,mb6.2
KURK *e*S **S 07 55 08.6 +2.1**
KURK LR LR
comp=Z,4μm,19.0s,MS5.6
KURK Kurchatov 60.27 318 *e*P **P 07 46 56.3 -1.0**
KURK *e*S **S 07 55 08.6 +2.2**
KURK pmax pmax
comp=Z,187nm,0.7s,mb6.2
KURK MLR MLR
comp=Z,4μm,19.0s,MS5.6
PMR Palmer 60.59 30 *e*P **P 07 46 57.7 -1.6**
PMR Palmer 60.59 30 P **P 07 46 56.9 -2.4**
PMR pmax pmax
comp=Z,97nm,1.0s,mb5.9
JBP Jabalpur 60.82 286 *e*P **P 07 47 05.2 +3.8**
JBP *e*S **S 07 55 20.8 +7.0**
OUZ Omahuta 61.07 154 PN **P 07 47 03.2 +0.3**
OUZ Omahuta 61.07 154 *e*P **P 07 47 03.2 +0.3**
MCK McKinley 61.15 27 *e*P **P 07 47 01.9 -1.1**
comp=Z,44nm,0.9s,mb5.6
MCK LR LR
comp=Z,4μm,22.0s,MS5.5
MCK McKinley 61.15 27 *e*P **P 07 47 01.9 -1.2**
MCK pmax pmax
comp=Z,44nm,0.9s,mb5.6
MCK MLR MLR
comp=Z,4μm,22.0s,MS5.5
AAA Alma-Ata 61.24 309 *i*P **P 07 47 04.7 +0.8**
AAA *i* S **S 07 55 21.6 +2.7**
AAA pmax pmax
comp=Z,1μm,1.2s,mb6.8
AAA smax
comp=E,2μm,2.9s
AAA MLR MLR
comp=Z,7μm,19.5s,MS5.8
MID Middleton Isla 61.56 33 *e*P **P 07 47 05.4 -0.4**
ULHL Ulahol 61.79 308 P **P 07 47 08.4 +0.8**
SNR=23
ASOR Ausora 61.84 292 *e*P **P 07 47 09.0 +0.8**
ASOR AMb AMB 07 47 12.3
comp=Z,701nm,0.8s,mb6.8
AGRA Agra 61.92 291 *e*P **P 07 47 07.9 -0.9**
WCZ Waipu Caves 62.00 154 PN **P 07 47 08.7 -0.4**
comp=Z,87nm,0.6s,mb6.1
WCZ Waipu Caves 62.00 154 *e*P **P 07 47 08.7 -0.4**
EYAK Cordova Ski Ar 62.02 31 *e*P **P 07 47 08.3 -0.6**
EYAK *e*pP pP 07 47 21.7 +0.1
DIV Divide 62.10 31 *e*P **P 07 47 08.9 -0.5**
comp=Z,96nm,0.5s,mb6.2
DIV LR LR
comp=Z,9μm,20.0s,MS6.0
KSH Kashi 62.14 305 *i*PR 07 47 11.1
KSH *e*AP pP 07 47 21.3 -1.5
KSH *e*XP sP 07 47 25.4 -2.5
KSH *e*PCP PcP 07 47 51.0 +1.4
KSH *e*PP PP 07 49 29.4 +0.2
KSH *e*PPP PPP 07 50 59.3 +0.7
KSH *e*SCP 07 51 49.1
KSH *e*PCS 07 51 53.0
KSH S **S 07 55 30.8 +0.5**
KSH XS 07 55 48.3
KSH *e*PS PS 07 55 52.8 -0.7
KSH *e*SCS ScS 07 56 56.0 +1.6
KSH *e*SS SS 07 59 35.3 -0.1
KSH LR LR
comp=N,9μm,19.1s,MS6.1
KSH LR LR
comp=E,6μm,17.3s,MS6.1
TKM2 Tokmak 2 62.24 309 P **P 07 47 10.8 +0.2**
SNR=121
ILAR Eielson Array 62.25 27 P **P 07 47 08.1 -2.4**
comp=E,69nm,0.8s,mb5.9,baz=258,slow=5.2,SNR=337
ILAR PKP2bc 08 16 24.1
comp=E,0.7nm,0.7s,baz=146,slow=2.7,SNR=5.3
ILAR Eielson Array 62.25 27 P **P 07 47 08.1 -2.4**
ILAR ⇑ *e* 08 16 24.1
NDI New Delhi 62.33 292 *i*P **P 07 47 09.0 -2.4**
comp=E,576nm,0.8s,mb6.8
NDI *ex* x 07 55 21.0
KKR Kurukshetra 62.48 294 *e*P **P 07 47 14.3 +1.9**
SONA Sohna 62.51 292 *e*P **P 07 47 11.9 -0.7**
SONA AMb AMB 07 47 15.1
comp=Z,338nm,0.7s,mb6.6
KZA Kyzart 62.53 308 P **P 07 47 14.0 +1.4**
SNR=105
KBK Karagaybulak 62.73 308 P **P 07 47 13.7 -0.2**
SNR=79
TAU Tasmania Unive 62.80 179 *e*P **P 07 47 12.0 -2.4**
comp=Z,66nm,1.2s,mb5.6
TAU LR LR
comp=Z,2μm,22.0s,MS5.2
TAU Tasmania Unive 62.80 179 *e*P **P 07 47 12.0 -2.4**
TAU pmax pmax
comp=Z,66nm,1.2s,mb5.6
TAU MLR MLR
comp=Z,2μm,22.0s,MS5.2
CHMS Chumysh 62.85 309 P **P 07 47 15.2 +0.5**
SNR=26
MDRS Chennai 62.93 275 *ex* x 07 55 58.0
FRU Bishkek 62.96 309⇑ *i*P **P 07 47 14.0 -1.5**
FRU *i* S **S 07 55 44.0 +3.4**
FRU *i* 07 55 59.0
FRU pmax pmax
comp=Z,200nm,1.9s,mb5.9
FRU smax
comp=E,3μm,6.6s
FRU MLR MLR
comp=N,2μm,17.0s,MS5.9
FRU MLR MLR
comp=E,6μm,17.0s,MS5.9
FRU MLR MLR
comp=Z,6μm,17.0s,MS5.8
RTK Rohtak 62.97 293 *e*P **P 07 47 15.6 -0.1**
USP Ospenovka 63.02 309 P **P 07 47 15.6 -0.3**
SNR=48
AAK Ala-Archa 63.06 308 P **P 07 47 16.1 0.0**
SNR=32
UCH Uchtor 63.07 308 P **P 07 47 17.8 +1.6**
SNR=29
BHPL Bhopal 63.12 286 *e*P **P 07 47 16.1 -0.6**
BHPL AMb AMB 07 47 18.7
comp=Z,206nm,0.9s,mb6.3
MENT Mentasta 63.32 29 *e*P **P 07 47 17.3 -0.2**
HYB Hyderabad 63.38 280 *i*P **P 07 47 19.0 +0.4**
comp=Z,160nm,1.0s,mb6.1
HYB *e*S **S 07 55 48.0 +1.9**
HYB Hyderabad 63.38 280 *e*P **P 07 47 19.0 +0.4**
comp=Z,160nm,1.0s,mb6.1
HYB *e*S **S 07 55 48.0 +1.9**
HYB Hyderabad 63.38 280 *e*P **P 07 47 19.0 +0.4**
HYB *e*S **S 07 55 48.0 +1.9**
HYB pmax pmax
comp=Z,160nm,1.0s,mb6.1
KHET Khetri 63.65 292 *e*P **P 07 47 19.9 -0.4**
KHET AMb AMB 07 47 22.8
comp=Z,577nm,0.6s,mb6.8
AML Almayashu 63.69 308 P **P 07 47 21.7 +1.5**
SNR=36
PALK Pallekele 64.24 268 *e*P **P 07 47 23.1 -1.1**
comp=Z,45nm,0.9s,mb5.5
PALK LR LR
comp=Z,432nm,20.0s,MS4.6
HIZ Hauiti 64.42 155 PN **P 07 47 24.6 -0.4**
HIZ Hauiti 64.42 155 *e*P **P 07 47 24.6 -0.5**
WATZ Wairara 64.94 155 PN **P 07 47 28.3 -0.1**
WATZ Wairara 64.94 155 *e*P **P 07 47 28.3 -0.1**
AJM Ajmer 64.96 291 *i*P **P 07 47 28.0 -0.8**
VOSK Vostochnaya 65.08 320 P **P 07 47 27.1 -2.0**
VOSK pmax pmax
comp=Z,136nm,1.1s,mb5.9
URZ Urewera 65.13 153 PN **P 07 47 27.5 -2.2**
URZ pP pP 07 47 36.5 -6.0
URZ Urewera 65.13 153 *e*P **P 07 47 27.5 -2.2**
KRVZ Karewarewa 65.23 155 PN **P 07 47 29.8 -0.5**
CNZ Chateau 65.28 155 PN **P 07 47 30.0 -0.6**
CNZ Chateau 65.28 155 P **P 07 47 29.9 -0.8**
MWZ Matawai 65.37 153 PN **P 07 47 28.9 -2.4**
MWZ Matawai 65.37 153 *e*P **P 07 47 28.9 -2.3**
DAWY Dawson 65.37 28 *e*P **P 07 47 30.2 -0.5**
BVA0 Borovoye Array 65.43 320 *i*P **P 07 47 30.4 -0.9**
BVA0 pmax pmax
comp=Z,37nm,0.7s,mb5.5
BVAR Borovoye Array 65.43 320 P **P 07 47 30.3 -1.1**
comp=Z,317nm,0.6s,mb6.5,baz=94,slow=7.2,SNR=649
BVAR PKP2bc 08 16 12.8
comp=Z,1.7nm,0.8s,baz=288,slow=4.7,SNR=7.9
BVAR Borovoye Array 65.43 320 P **P 07 47 30.3 -1.1**
BVAR ⇑ *e* 08 16 12.8
PUZ Puketiti 65.46 152 PN **P 07 47 29.4 -2.5**
PUZ Puketiti 65.46 152 *e*P **P 07 47 29.4 -2.4**
BRVK Borovoye 65.50 320 *e*P **P 07 47 31.4 -0.4**
comp=Z,148nm,0.6s,mb6.2
BRVK LR LR
comp=Z,2μm,22.0s,MS5.3
BRVK Borovoye 65.50 320 *e*P **P 07 47 31.4 -0.3**
BRVK pmax pmax
comp=Z,148nm,0.6s,mb6.2
BRVK MLR MLR
comp=Z,2μm,22.0s,MS5.3
QRZ Quartz Range 65.57 158 PN **P 07 47 31.7 -0.8**
QRZ Quartz Range 65.57 158 *e*P **P 07 47 31.7 -0.8**
BKZ Black Stump Fm 65.64 154 PN **P 07 47 30.5 -2.4**
BKZ Black Stump Fm 65.64 154 *e*P **P 07 47 30.3 -2.6**
KKAR Karatay Array 65.94 309 *e*P **P 07 47 35.1 +0.3**
KKAR pmax pmax
comp=Z,103nm,0.7s,mb6.0
KNZ Kokohu 66.01 153 PN **P 07 47 33.3 -1.9**
KNZ Kokohu 66.01 153 *e*P **P 07 47 33.3 -2.0**
NNZ Nelson 66.22 158 PN **P 07 47 34.5 -2.0**
NNZ Nelson 66.22 158 *e*P **P 07 47 34.3 -2.3**
PWZ Pawanui 66.52 154 *e*PN **P 07 47 36.1 -2.4**
THZ Tophouse 66.53 158 PN **P 07 47 35.8 -2.7**
THZ Tophouse 66.53 158 *e*P **P 07 47 36.0 -2.5**
MRZ Mangatainoka R 66.55 156 PN **P 07 47 36.8 -1.9**
MRZ Mangatainoka R 66.55 156 *e*P **P 07 47 36.8 -1.9**
SNZO South Karori 66.78 157 *e*P **P 07 47 37.9 -2.2**
comp=Z,477nm,0.9s,mb6.5
SNZO LR LR
comp=Z,5μm,22.0s,MS5.7
LTZ Lake Taylor 67.22 159 PN **P 07 47 40.8 -2.0**
LTZ Lake Taylor 67.22 159 *e*P **P 07 47 40.8 -2.0**
RAR Rarotonga 67.22 125 PFAKE 07 47 50.0 +6.8
RAR LR LR
comp=Z,5μm,20.0s,MS5.7
SIT Sitka 67.24 36 *e*P **P 07 47 42.9 +0.2**
SIT LR LR
comp=Z,4μm,22.0s,MS5.6
SIT Sitka 67.24 36 *e*P **P 07 47 42.7 0.0**
SIT pmax pmax
comp=Z,210nm,1.7s,mb5.9
POO Poona 67.44 282 *e*P **P 07 47 43.9 -0.7**
KAD Karad 67.44 281 *e*P **P 07 47 45.5 +0.8**
RPZ Rata Peaks 67.66 161 PN **P 07 47 43.2 -2.4**
RPZ Rata Peaks 67.66 161 *e*P **P 07 47 43.2 -2.4**
INK Inuvik 67.95 23 P **P 07 47 46.6 -0.4**
comp=Z,88nm,0.8s,mb5.9,baz=277,slow=5.8,SNR=158
INK Inuvik 67.95 23 *e*P **P 07 47 45.9 -1.1**
comp=Z,99nm,0.8s,mb5.9
INK Inuvik 67.95 23 *e*P **P 07 47 45.9 -1.1**
INK pmax pmax
comp=Z,99nm,0.8s
JASL Jaisalmer 68.15 292 *e*P **P 07 47 48.6 -0.3**
BHV Bhavnagar 68.21 286 *e*P **P 07 47 50.0 +0.6**
CRAG Craig 68.56 37 *e*P **P 07 47 57.5 +6.5**
ODZ Otahua Downs 68.74 161 PN **P 07 47 50.6 -1.7**
ODZ Otahua Downs 68.74 161 *e*P **P 07 47 50.6 -1.7**
DLBC Dease Lake 69.97 34 P **P 07 48 00.5 +0.8**
comp=Z,117nm,0.9s,mb5.8,baz=283,slow=6.3,SNR=251
DLBC Dease Lake 69.97 34 *e*P **P 07 48 00.0 +0.4**
BHJ Bhuj 70.08 288 *e*P **P 07 48 00.9 0.0**
BHJ AMb AMB 07 48 05.7
comp=Z,227nm,0.9s,mb6.1
SVE Sverdlovsk 70.76 325⇑ *i*P **P 07 48 04.0 -0.4**
SVE *e* pP 07 48 16.0 -1.4
SVE *e* 07 50 36.0
SVE *e*S S 07 57 10.0 -4.3
SVE *e*SS SS 08 01 51.0 +2.0
SVE pmax pmax
comp=Z,380nm,1.8s,mb6.0
SVE MLR MLR
comp=N,1μm,20.0s,MS5.7
SVE MLR MLR
comp=E,4μm,20.0s,MS5.7
SVE MLR MLR
comp=Z,5μm,20.0s,MS5.8
QUE Quetta 70.85 296 *e*P **P 07 48 23.0 +18**
QUE *e*S S 07 57 31.0 +15
BBB Bella Bella 71.92 40 P **P 07 48 11.5 +0.1**
comp=Z,70nm,0.8s,mb5.7,baz=294,slow=5.8,SNR=53
BBB Bella Bella 71.92 40 P **P 07 48 11.5 +0.1**
ARU Arti 71.95 324 *e*P **P 07 48 11.0 -0.5**
comp=Z,67nm,0.7s,mb5.7
ARU LR LR
comp=Z,2μm,22.0s,MS5.3
ARU Arti 71.95 324⇑ *i*P **P 07 48 10.9 -0.6**
ARU *e* 07 48 29.9
ARU *e*PPP PPP 07 52 35.6 +0.3
ARU *e*S S 07 57 29.1 +1.0
ARU *e* 07 58 16.6
ARU *e*SSS SSS 08 05 21.4 +5.3
ARU pmax pmax
comp=Z,96nm,0.8s,mb5.8
AB31 Akbulak array 72.36 317 *i*P **P 07 48 13.0 -1.1**
AB31 pmax pmax
comp=Z,31nm,0.5s,mb5.5
PPT Papeete 73.63 116 *e*P **P 07 48 22.6 +0.5**
comp=Z,120nm,1.3s,mb5.7
PPT Papeete 73.63 116 *e*LQ 08 07 21.0
PPT *e*LR LR 08 10 44.2
comp=Z,22μm,24.2s,baz=299
PPT Papeete 73.63 116 P **P 07 48 23.1 +1.0**
comp=Z,81nm,1.1s,mb5.6,baz=250,slow=4.1,SNR=5.3
PPT LR LR 08 13 32.3
comp=Z,8μm,21.8s,MS6.0,baz=298,slow=30
PAE Paea 73.67 116 *e*P **P 07 48 23.1 +0.7**
comp=Z,252nm,1.2s,mb6.0
PMOR Pomariorio Ree 73.90 113 *e*P **P 07 48 24.3 +0.5**
comp=Z,397nm,1.3s,mb6.2
TVO Taravao 74.00 116 *e*P **P 07 48 24.9 +0.6**
comp=Z,243nm,1.1s,mb6.0
VAH Vaihoa 74.23 113 *e*P **P 07 48 26.1 +0.4**
comp=Z,186nm,1.4s,mb5.8
OCWA Octopus Mounta 75.31 44 *e*P **P 07 48 32.7 +1.5**
comp=Z,43nm,0.7s,mb5.5
OCWA *e*PP PP 07 51 20.9 -1.5
OCWA LR LR
comp=Z,4μm,19.0s,MS5.8

PGC Sidney 75.57 43 *e*P **P 07 48 33.4 +0.7**
comp=Z,68nm,0.7s,mb5.7
WISH Wishkah 75.73 45 P **P 07 48 35.4 +1.6**
VAN Vannovskaya 76.16 306 *i* P **P 07 48 36.7 +0.4**
VAN S S 07 58 17.5 +1.9
GNW Green Mountain 76.24 44 P **P 07 48 37.2 +0.6**
KEBM Edson Butte 76.42 49 *e*P **P 07 48 38.5 +0.8**
TBI Tubuai 76.47 121 *e*LQ 08 08 36.6
TBI Tubuai 76.47 121 *e*P **P 07 48 38.8 +0.4**
comp=Z,100nm,0.9s,mb5.7
TBI Tubuai 76.47 121 *e*LR LR 08 11 35.5
comp=Z,6μm,21.8s,baz=300
YKW3 Yellowknife Ar 76.58 28 *e*P **P 07 48 37.5 -0.8**
YKA Yellowknife Ar 76.61 28 P **P 07 48 37.8 -0.6**
comp=Z,109nm,0.7s,mb5.9,baz=290,slow=5.5,SNR=199
YKA LR LR 08 20 22.9
comp=Z,2μm,20.8s,MS5.5,baz=285,slow=34
YKA Yellowknife Ar 76.61 28 P **P 07 48 37.8 -0.6**
YKA LR LR 08 20 22.9
KBO Bosley Butte 76.66 50 *e*P **P 07 48 39.6 +0.5**
KBO *e*PP PP 07 51 31.7 -1.6
COR Corvallis 76.69 47 *e*P **P 07 48 40.4 +1.2**
comp=Z,111nm,1.0s,mb5.7
COR LR LR
comp=Z,3μm,21.0s,MS5.5
COR Corvallis 76.69 47 *e*P **P 07 48 40.4 +1.2**
COR pmax pmax
comp=Z,111nm,1.0s,mb5.8
COR MLR MLR
comp=Z,3μm,21.0s,MS5.5
LON Longmire 77.13 45 P **P 07 48 42.0 +0.4**
DGAR Diego Garcia 77.17 257 PFAKE 07 48 50.0 +7.5
DGAR LR LR
comp=Z,397nm,19.0s,MS4.8
SSOR Sweet Springs 77.20 47 P **P 07 48 43.0 +1.0**
KHMM Horse Mountain 77.38 51 *e*P **P 07 48 44.6 +1.4**
HUMO Hull Mountain 77.46 49 *e*P **P 07 48 44.2 +0.6**
comp=Z,102nm,1.2s,mb5.6
HUMO *e*PP PP 07 51 38.4 -1.8
HUMO LR LR
comp=Z,2μm,20.0s,MS5.5
KCPM Cahto Peak 77.81 52 *e*P **P 07 48 46.8 +1.2**
KBS Kingsbay 77.84 352 *e*P **P 07 48 45.5 +0.5**
KBS AMb AMB 07 48 49.6
comp=Z,186nm,1.0s,mb6.0
KBS *e*S S 07 58 32.1 -1.0
KBS AMS AMS 08 24 16.5
comp=Z,931nm,19.2s,MS5.1
KBS Kingsbay 77.84 352 *e*P **P 07 48 45.5 +0.5**
comp=Z,186nm,1.0s,mb6.0
KBS LR LR
comp=Z,931μm,19.2s
KBS Kingsbay 77.84 352 *e*P **P 07 48 45.5 +0.5**
KBS pmax pmax
comp=Z,186nm,1.0s,mb6.0
KBS MLR MLR
comp=Z,931μm,19.2s
KIPM Iron Peak 77.85 52 *e*P **P 07 48 46.8 +1.1**
YBH Yreka Blue Hor 77.88 50 *e*P **P 07 48 47.0 +1.1**
comp=Z,57nm,0.8s,mb5.5
YBH LR LR
comp=Z,2μm,20.0s,MS5.3
YBH Yreka Blue Hor 77.88 50 *e*P **P 07 48 47.0 +1.1**
YBH pmax pmax
comp=Z,57nm,0.8s
YBH MLR MLR
comp=Z,2μm,20.0s
RES Resolute Bay 77.95 14 *e*P **P 07 48 46.3 +0.6**
comp=Z,105nm,0.8s,mb5.8
RES Resolute Bay 77.95 14 *e*P **P 07 48 46.3 +0.7**
RES pmax pmax
comp=Z,105nm,0.8s,mb5.8
WDC Whiskeytown Da 78.33 51 *e*P **P 07 48 48.7 +0.3**
comp=Z,40nm,1.0s,mb5.3
WDC LR LR
comp=Z,2μm,20.0s,MS5.5
WDC Whiskeytown Da 78.33 51 *e*P **P 07 48 48.7 +0.3**
WDC pmax pmax
comp=Z,40nm,1.0s,mb5.3
WDC MLR MLR
comp=Z,2μm,20.0s,MS5.5
HOPS Hopland 78.39 53 *e*P **P 07 48 49.4 +0.7**
comp=Z,31nm,0.8s,mb5.3
HOPS LR LR
comp=Z,2μm,20.0s,MS5.5
EPH Ephrata 78.41 44 P **P 07 48 48.7 0.0**
HSP Hornsund 78.66 350 *e*P **P 07 48 50.1 +0.6**
WRD Warden 78.87 44 P **P 07 48 51.5 +0.4**
LVZ Lovozero 79.11 339⇑ *i*P **P 07 48 51.8 -0.3**
LVZ Lovozero 79.11 339*c i*P **P 07 48 51.7 -0.4**
LVZ *i* 07 51 57.0
LVZ *i* PPP PPP 07 53 48.3 +4.8
LVZ *i* S S 07 58 42.0 -4.7
LVZ *i* 07 59 04.9
LVZ *i* SS SS 08 03 57.8 +1.7
LVZ pmax pmax
comp=Z,215nm,1.2s,mb6.0
LVZ pmax pmax
comp=N,96nm,1.1s
LVZ pmax pmax
comp=E,49nm,1.0s
LVZ smax
comp=E,1μm,12.4s
LVZ smax
comp=Z,489nm,14.1s
LVZ smax
comp=N,458nm,9.8s
LVZ smax
comp=E,985nm,3.8s
LVZ smax
comp=Z,388nm,4.6s
LVZ smax
comp=N,264nm,3.1s
LVZ MLR MLR
comp=Z,4μm,22.0s,MS5.7
LVZ MLR MLR
comp=N,2μm,20.0s,MS5.6
LVZ MLR MLR
comp=E,2μm,23.0s,MS5.6
SAC San Andreas 79.29 54 *e*P **P 07 48 54.1 +0.4**
MOD Modoc 79.55 49 *e*P **P 07 48 55.4 +0.3**
comp=E,40nm,0.8s,mb5.4
MOD *e*PP PP 07 51 56.5 -0.9
MOD LR LR
comp=Z,2μm,19.0s,MS5.5
APA Apatity 79.68 339⇓ *i*P **P 07 48 54.8 -0.4**
APA *i* 07 49 00.0
APA *i* *PP pP 07 49 08.0 -0.3
APA *i* S S 07 58 54.0 +1.3
APA *i* *SS 07 59 10.0
APA *i* PS PS 07 59 44.0 +0.9
APA *i* SS SS 08 04 02.0 -2.7
APA pmax pmax
comp=Z,143nm,1.0s,mb5.9
APA MLR MLR
comp=Z,4μm,18.0s,MS5.8
NEW Newport 79.72 42 *e*P **P 07 48 55.9 +0.1**
comp=Z,96nm,1.0s,mb5.7
NEW LR LR
comp=Z,4μm,19.0s,MS5.8
NEW Newport 79.72 42 *e*P **P 07 48 55.9 +0.1**
NEW pmax pmax
comp=Z,96nm,1.0s
NEW MLR MLR
comp=Z,4μm,19.0s
PECR Pechory 79.74 326⇓ *i*P **P 07 48 56.0 +0.3**
PECR *e* pP 07 49 14.0 +5.1
PECR *e* 07 52 05.0
PECR *i* S S 07 58 51.0 -2.6
PECR *e* 07 59 07.6
PECR *i* 07 59 35.0
PECR *e*PS PS 07 59 53.7 +10
PECR pmax pmax
comp=Z,1μm,8.0s
PECR smax
comp=E,1μm,4.0s
PECR smax
comp=N,400nm,5.0s
PECR MLR MLR
comp=N,2μm,18.0s,MS5.6
PECR MLR MLR
comp=E,2μm,18.0s,MS5.6
PECR MLR MLR
comp=N,1μm,16.0s
PECR MLR MLR
comp=E,2μm,16.0s
BEKR Beckwourth 80.14 51 *e*P **P 07 48 58.7 +0.6**
comp=E,94nm,0.8s,mb5.8
SAO San Andreas Ge 80.27 54 *e*P **P 07 48 59.6 +0.6**
comp=E,43nm,0.8s,mb5.4
SAO LR LR
comp=Z,2μm,19.0s,MS5.6
SAO San Andreas Ge 80.27 54 *e*P **P 07 48 59.6 +0.6**
SAO pmax pmax
comp=Z,43nm,0.8s,mb5.4
SAO MLR MLR
comp=Z,2μm,19.0s,MS5.6
EDM Edmonton 80.31 37 *e*P **P 07 48 58.7 -0.1**
EDM Edmonton 80.31 37 P **P 07 48 59.2 +0.4**
WVOR Wild Horse Val 80.57 48 *e*P **P 07 49 00.9 +0.4**
comp=Z,92nm,0.9s,mb5.7
WVOR LR LR
comp=Z,4μm,20.0s,MS5.7
WVOR Wild Horse Val 80.57 48 *e*P **P 07 49 00.9 +0.5**
WVOR pmax pmax
comp=Z,92nm,0.9s,mb5.7
WVOR MLR MLR
comp=Z,4μm,20.0s,MS5.7
KEV Kevo 80.57 342 *e*p **P 07 48 59.1 -0.8**
comp=Z,96nm,0.9s,mb5.7
KEV Kevo 80.57 342 P **P 07 48 59.7 -0.2**
KEV pmax pmax
comp=Z,110nm,0.9s,mb5.8
CMB Columbia Colle 80.68 53 *e*P **P 07 49 01.4 +0.3**
comp=Z,59nm,0.8s,mb5.6
CMB LR LR
comp=Z,3μm,20.0s,MS5.6
CMB Columbia Colle 80.68 53 *e*P **P 07 49 01.4 +0.3**
CMB pmax pmax
comp=Z,59nm,0.8s,mb5.6
CMB MLR MLR
comp=Z,3μm,20.0s,MS5.6
BMO Blue Mountains 80.70 46 *e*P **P 07 49 01.4 +0.3**
comp=Z,120nm,1.0s,mb5.8
BMO LR LR
comp=Z,2μm,22.0s,MS5.5
BMO Blue Mountains 80.70 46 *e*P **P 07 49 01.4 +0.3**
BMO pmax pmax
comp=Z,120nm,1.0s,mb5.8
BMO MLR MLR
comp=Z,2μm,22.0s,MS5.5
LRV Little Rabbit 80.70 55 *e*P **P 07 49 02.2 +0.9**
PAHR Pah Rah Range 80.90 51 *e*P **P 07 49 03.5 +1.2**
ARCES ARCESS Array B 81.13 342 P **P 07 49 02.7 -0.1**
comp=Z,34nm,0.5s,mb5.5,baz=60,slow=5.2,SNR=270
ARCES PKKPbc 08 07 38.3
comp=Z,2.5nm,0.8s,baz=225,slow=3.4,SNR=6.8
ARCES LR LR 08 28 46.9
comp=Z,8μm,21.0s,MS6.1,baz=59,slow=38
ARCES ARCESS Array B 81.13 342 P **P 07 49 02.7 -0.1**
ARCES PKKPbc 08 07 38.3
ARCES LR LR 08 28 46.9
ARE0 ARCESS Array S 81.13 342 *e*P **P 07 49 03.1 +0.3**
ARE0 *e*PP PP 07 52 04.1 -6.3
WALA Waterton Lakes 81.45 41 *e*P **P 07 49 05.8 +0.9**
comp=Z,115nm,0.9s,mb5.8
WALA *e* pP 07 49 14.8 -3.3
PTRM Twissleman Ran 81.57 55 *e*P **P 07 49 06.9 +1.1**
OMM Old Mammoth Mi 81.86 53 *e*P **P 07 49 07.9 +0.6**
OMM *e*PP PP 07 52 16.3 -0.6
KTK1 Kautokeino 82.09 342⇑ *i*P **P 07 49 08.6 +0.7**
KTK1 AMb AMB 07 49 11.2
comp=Z,96nm,1.4s,mb5.5
KTK1 Kautokeino 82.09 342 *e*P **P 07 49 08.6 +0.8**
comp=Z,108nm,1.2s,mb5.7
NVAR Mina Array Bea 82.11 52 P **P 07 49 09.5 +0.9**
comp=Z,142nm,0.8s,mb5.9,baz=267,slow=3.4,SNR=537
BMN Battle Mountai 82.23 50 *e*P **P 07 49 10.0 +0.9**
comp=Z,63nm,0.9s,mb5.5
BMN LR LR
comp=Z,2μm,20.0s,MS5.5
BMN Battle Mountai 82.23 50 *e*P **P 07 49 10.0 +0.9**
BMN pmax pmax
comp=Z,63nm,0.9s,mb5.5
BMN MLR MLR
comp=Z,2μm,20.0s,MS5.5
MSO Missoula 82.23 43 *e*P **P 07 49 09.1 +0.1**
comp=Z,12nm,0.9s,mb4.8
MSO *e*PP PP 07 52 14.9 -4.8
MSO LR LR
comp=Z,1μm,22.0s,MS5.2
MTUM Tungsten Hills 82.27 53 *e*P **P 07 49 10.1 +0.6**
MAK Makhachkala 82.37 313*d i*P **P 07 49 10.5 +0.7**
MAK *e* pP 07 49 19.0 -4.0
MAK *e* 07 52 24.0
MAK *i* S S 07 59 20.0 -1.0
MAK *e*PS PS 08 00 06.0 -11
MAK pmax pmax
comp=Z,2μm,4.0s
MAK pmax pmax
comp=Z,1μm,10.0s
MAK pmax pmax
comp=E,800nm,8.0s
MAK smax
comp=N,2μm,10.0s
MAK smax
comp=E,2μm,10.0s
MAK smax
comp=Z,500nm,10.0s
CHMT Chamberlain Mo 82.64 43 *e*P **P 07 49 11.4 +0.3**
DAG Danmarks Havn 82.80 356⇓ *i*P **P 07 49 11.7 +0.3**
comp=Z,54nm,1.3s,mb5.4
DAG Danmarks Havn 82.80 356⇓ *i*P **P 07 49 11.7 +0.3**
DAG pmax pmax
comp=Z,54nm,1.3s,mb5.4
TRO Tromso 82.89 344 *e*P **P 07 49 14.1 +2.2**
TRO AMb AMB 07 49 42.0
comp=Z,135nm,1.2s,mb5.8
TRO *e*PP PP 07 52 27.3 +2.9
TRO *e*S S 07 59 26.5 +0.8
TRO *e*SS SS 08 04 53.6 +0.8
TRO AMS AMS 08 30 05.6
comp=Z,3μm,21.0s,MS5.7
TRO Tromso 82.89 344 *e*P **P 07 49 14.1 +2.2**
comp=Z,135nm,1.2s,mb5.8
TRO LR LR
comp=Z,3330μm,21.0s
TRO Tromso 82.89 344 *e*P **P 07 49 14.1 +2.2**
TRO pmax pmax
comp=Z,135nm,1.2s,mb5.8
TRO MLR MLR
comp=Z,3330μm,21.0s
ISA Isabella 82.90 55 PFAKE 07 49 20.0 +7.3
ISA LR LR
comp=Z,378nm,19.0s,MS4.8
TPH Tonopah 83.03 52 *e*P **P 07 49 14.1 +0.9**
comp=Z,127nm,1.0s,mb5.9
TPH LR LR
comp=Z,2μm,20.0s,MS5.5
TPH Tonopah 83.03 52 *e*P **P 07 49 14.1 +0.8**
TPH pmax pmax
comp=Z,127nm,1.0s,mb5.9
TPH MLR MLR
comp=Z,2μm,20.0s,MS5.5
HLID Hailey 83.10 46 *e*P **P 07 49 13.9 +0.4**
comp=Z,36nm,1.0s,mb5.4
HLID LR LR
comp=Z,3μm,20.0s,MS5.6
MOS Moscow 83.30 327⇑ *i*P **P 07 49 14.7 +0.5**
MOS Moscow 83.30 327*α i*P **P 07 49 13.6 -0.6**
MOS *e* 07 49 19.4
MOS *e* pP 07 49 28.4 +0.9
MOS *e* 07 52 25.4
MOS *e*S S 07 59 28.7 -1.3
MOS pmax pmax
comp=Z,600nm,1.4s,mb6.4
MOS pmax pmax
comp=Z,327nm,1.0s,mb6.3
MOS smax
comp=E,400nm,2.8s
MOS MLR MLR
comp=Z,8μm,21.0s,MS6.1
DAC Darwin (Calif) 83.36 54 *e*P **P 07 49 16.1 +1.1**
comp=Z,121nm,1.2s,mb5.8
DAC LR LR
comp=Z,2μm,19.0s,MS5.6
DAC Darwin (Calif) 83.36 54 *e*P **P 07 49 16.1 +1.1**
DAC pmax pmax
comp=Z,121nm,1.2s,mb5.8
DAC MLR MLR
comp=Z,2μm,19.0s,MS5.6
ELK Elko 83.53 49 *e*P **P 07 49 16.9 +1.1**
comp=Z,125nm,0.9s,mb6.0
ELK *e*pP pP 07 49 32.5 +3.4
ELK *e*sP sP 07 49 39.1 +5.3
ELK LR LR
comp=Z,2μm,20.0s,MS5.5
ELK Elko 83.53 49 *e*P **P 07 49 16.9 +1.1**
ELK *e**PP pP 07 49 32.5 +3.5
ELK pmax pmax
comp=Z,125nm,0.9s
ELK MLR MLR
comp=Z,2μm,20.0s
HRY Holter Researc 83.62 43 *e*P **P 07 49 17.0 +0.9**
MCMT McKenzie Canyo 83.68 45 *e*P **P 07 49 17.4 +1.0**
MWC Mount Wilson 83.71 56 *e*P **P 07 49 17.1 +0.2**
MWC *e*PP PP 07 52 27.9 -3.9
OBN Obninsk 84.12 327 *e*P **P 07 49 18.5 +0.1**
comp=Z,143nm,0.8s,mb6.2
OBN *e*pP pP 07 49 32.6 +1.0
OBN LR LR
comp=Z,2μm,21.0s,MS5.6
OBN Obninsk 84.12 327*c i*P **P 07 49 18.2 -0.2**
OBN *i* pP 07 49 33.1 +1.5
OBN *e*S S 07 59 37.6 -0.6
OBN *e*SS SS 08 05 08.1 -2.3
OBN pmax pmax
comp=Z,398nm,1.7s,mb6.3
OBN MLR MLR
comp=Z,11μm,24.0s,MS6.2
BOZ Bozeman (W) 84.16 44 *e*P **P 07 49 20.0 +1.2**
comp=Z,61nm,1.0s,mb5.7
BOZ LR LR
comp=Z,2μm,21.0s,MS5.4
BOZ Bozeman (W) 84.16 44 *e*P **P 07 49 20.0 +1.2**
BOZ pmax pmax
comp=Z,61nm,1.0s,mb5.7
BOZ MLR MLR
comp=Z,2μm,21.0s,MS5.4
VOR Voronezh 84.19 323 *e*P **P 07 49 18.0 -0.8**
VOR *e**PP pP 07 49 25.5 -6.6
VOR *e**SP sP 07 49 31.3 -5.6
VOR *e*S S 07 59 40.5 +1.5
VOR pmax pmax
comp=N,60nm,1.5s
VOR pmax pmax
comp=Z,160nm,1.5s,mb5.9
VOR pmax pmax
comp=E,100nm,1.4s
VOR smax
comp=E,600nm,1.4s
VOR smax
comp=Z,50nm,1.8s
VOR smax
comp=N,830nm,1.5s
DGRG David-gareji 84.39 312 P **P 07 49 19.8 -0.3**
VRSR Storozhevoye 84.42 323 *e*P **P 07 49 19.6 -0.4**
VRSR *e**SP sP 07 49 32.5 -5.5
VRSR *e*S S 07 59 38.9 -2.4
GOF Gofitskoye 84.59 316⇑ *i*P **P 07 49 18.5 -2.5**
GOF *i* S S 07 59 41.4 -1.8
GOF pmax pmax
comp=Z,130nm,1.5s,mb5.8
GOF smax
comp=N,910nm,2.9s
GOF smax
comp=E,750nm,2.9s
QLMT Earthquake Lak 84.61 44 *e*P **P 07 49 22.4 +1.3**
MTA Mtatsminda 84.70 312 P **P 07 49 22.0 +0.4**
TI2 Plekhanov 84.72 312 *i* P **P 07 49 20.0 -1.7**
TI2 *i* pP 07 49 32.0 -3.0
TI2 *i* S S 07 59 39.0 -5.5
TI2 *e* 07 59 45.4
TI2 pmax pmax
comp=Z,120nm,0.6s,mb6.2
TI2 MLR MLR
comp=N,2μm,20.0s,MS5.7
TI2 MLR MLR
comp=E,2μm,20.0s,MS5.7
TI2 MLR MLR
comp=Z,4μm,20.0s,MS5.8
TBLG Delisi 84.73 312 P **P 07 49 22.8 +1.0**
PUL Pulkovo 84.78 333⇓ *i*P **P 07 49 21.7 +0.1**
PUL Pulkovo 84.78 333 *i* P **P 07 49 23.3 +1.7**
PUL *i* PPP PPP 07 54 41.1 +5.4
PUL *i* S S 07 59 36.8 -7.9
PUL *i* SS SS 08 05 25.0 +4.7
PUL *i* SSS SSS 08 08 51.8 +3.5
PUL pmax pmax
comp=Z,327nm,1.2s,mb6.3
PUL pmax pmax
comp=N,776nm,1.0s
PUL pmax pmax
comp=E,714nm,1.1s
PUL smax
comp=E,1μm,14.7s
PUL smax
comp=Z,357nm,12.9s
PUL smax
comp=N,954nm,15.1s
PUL MLR MLR
comp=Z,4μm,24.0s,MS5.7
PUL MLR MLR
comp=N,1μm,21.0s,MS5.7
PUL MLR MLR
comp=E,4μm,24.0s,MS5.7
HVU Hansel Valley 84.88 47 *e*P **P 07 49 24.1 +1.5**
ZEI Tsey 84.91 314 *e*P **P 07 49 21.2 -1.4**
ZEI *i* *PP pP 07 49 33.7 -2.2
ZEI S S 07 59 48.5 +2.2
ZEI pmax pmax
comp=Z,137nm,1.0s,mb6.0
YMR Madison River 84.98 44 *e*P **P 07 49 24.6 +1.6**
KAF Kangasniemi 85.13 336 *e*p **P 07 49 21.8 -1.4**
comp=Z,85nm,0.9s,mb5.9,baz=53,slow=4.5
KAF Kangasniemi 85.13 336 *e*P **P 07 49 21.8 -1.4**
KAF pmax pmax
comp=Z,85nm,0.9s,mb5.9
YNR Norris Junctio 85.14 44 *e*P **P 07 49 26.2 +2.5**
YFT Old Faithful 85.15 44 *e*P **P 07 49 26.6 +2.8**
PFO Pinyon Flat Ob 85.17 56 *e*P **P 07 49 24.1 0.0**
comp=Z,99nm,1.0s,mb5.9
PFO LR LR
comp=Z,475nm,20.0s,MS4.9
PFO Pinyon Flat Ob 85.17 56 *e*P **P 07 49 24.2 0.0**
PFO pmax pmax
comp=Z,99nm,1.0s,mb5.9
PFO MLR MLR
comp=Z,475nm,20.0s,MS4.9
KIV Kislovodsk 85.26 315 *e*P **P 07 49 25.6 +1.3**
comp=Z,83nm,0.8s,mb5.9
KIV LR LR
comp=Z,3μm,22.0s,MS5.6
KIV Kislovodsk 85.26 315⇑ *i*P **P 07 49 24.9 +0.6**
KIV *e* pP 07 49 39.5 +1.9
KIV *e*S S 07 59 44.0 -5.7
KIV *e*SS SS 08 05 21.8 -6.0
KIV pmax pmax
comp=Z,42nm,0.6s,mb5.8
KIV MLR MLR
comp=Z,9μm,21.0s,MS6.2
RRI2 Red Ridge 85.26 46 *e*P **P 07 49 25.2 +0.8**
comp=Z,112nm,0.9s,mb6.0
ONI Oni 85.28 314 P **P 07 49 24.5 0.0**
SPUT South Promonto 85.29 48 *e*P **P 07 49 25.7 +1.2**
SPUT *e*pP pP 07 49 37.6 -0.2
SPUT *e*sP sP 07 49 44.3 +1.7
IMW Indian Meadow 85.30 45 *e*P **P 07 49 25.8 +1.3**
comp=Z,109nm,0.9s,mb6.0
GNI Garni 85.32 311 *e*P **P 07 49 25.0 +0.2**
comp=Z,234nm,1.1s,mb6.2
GNI LR LR
comp=Z,3μm,20.0s,MS5.6
GNI Garni 85.32 311*c i*P **P 07 49 25.7 +0.9**
GNI pmax pmax
comp=Z,217nm,1.6s
BAR Barrett 85.33 57 *e*P **P 07 49 25.4 +0.4**
LOF Lofoten 85.34 344 *e*P **P 07 49 26.0 +1.8**
LOF AMb AMB 07 49 30.1
comp=Z,106nm,1.3s,mb5.8
LOF Lofoten 85.34 344 *e*P **P 07 49 26.0 +1.8**
comp=Z,106nm,1.2s,mb5.8
GCMT Greycliff 85.36 43 *e*P **P 07 49 25.6 +0.8**
LKWY Lake 85.39 44 *e*P **P 07 49 27.1 +2.1**
comp=Z,38nm,0.8s,mb5.6
LKWY LR LR

comp=Z,3μm,20.0s,MS5.7
LKWY Lake 85.39 44 *e*P **P 07 49 27.1 +2.1**
LKWY pmax pmax
comp=Z,38nm,0.8s,mb5.6
LKWY MLR MLR
comp=Z,3μm,20.0s,MS5.7
TPAW Teton Pass 85.45 45 *e*P **P 07 49 26.6 +1.3**
comp=Z,94nm,1.0s,mb5.9
TPAW *e*sP sP 07 49 45.2 +1.9
TPAW *e*PP PP 07 52 43.3 -2.2
DUG Dugway 85.46 49 *e*P **P 07 49 25.7 +0.3**
comp=Z,193nm,1.2s,mb6.1
DUG LR LR
comp=Z,2μm,21.0s,MS5.5
DUG Dugway 85.46 49 *e*P **P 07 49 25.7 +0.3**
DUG pmax pmax
comp=Z,193nm,1.2s,mb6.1
DUG MLR MLR
comp=Z,2μm,21.0s,MS5.5
REDW Red Top Meadow 85.57 45 *e*P **P 07 49 27.3 +1.4**
comp=Z,144nm,1.4s,mb6.0
SNOW Snow King Moun 85.60 45 *e*P **P 07 49 27.2 +1.2**
comp=Z,142nm,1.3s,mb6.0
SNOW *e*pP pP 07 49 42.1 +2.8
FINES FINESS Array B 85.60 335 P **P 07 49 24.9 -0.7**
comp=Z,72nm,0.6s,mb6.1,baz=65,slow=4.8,SNR=314
FINES LR LR 08 32 29.0
comp=Z,4μm,20.5s,MS5.8,baz=197,slow=39
LOHW Long Hollow 85.64 45 *e*P **P 07 49 27.0 +0.8**
comp=Z,54nm,1.0s,mb5.7
AHID Auburn Hatcher 85.64 46 PFAKE 07 49 40.0 +14
AHID LR LR
comp=Z,2μm,20.0s,MS5.5
NEN Nelson 85.67 54 *e*P **P 07 49 27.1 +0.5**
NEN *e*pP pP 07 49 42.6 +2.8
NEN *e*PP PP 07 52 46.2 -1.3
LDFC Landfair 85.68 54 *e*P **P 07 49 27.8 +1.2**
FFC Flin Flon 85.76 33 *e*P **P 07 49 27.0 +0.4**
comp=Z,152nm,0.9s,mb6.2
FFC LR LR
comp=Z,1μm,22.0s,MS5.2
FFC Flin Flon 85.76 33 *e*P **P 07 49 27.0 +0.5**
FFC pmax pmax
comp=Z,152nm,0.9s,mb6.2
FFC MLR MLR
comp=Z,1μm,22.0s,MS5.2
NOQ North Oquirrh 85.77 48 *e*P **P 07 49 28.0 +1.0**
HWUT Hardware Ranch 85.78 47 *e*P **P 07 49 27.7 +0.7**
comp=Z,140nm,0.9s,mb6.2
HWUT LR LR
comp=Z,2μm,20.0s,MS5.5
ARUT Antelope Range 85.92 51 *e*P **P 07 49 29.0 +1.2**
ARUT Antelope Range 85.92 51 P **P 07 49 29.2 +1.5**
CTU Camp Tracy 86.01 48 *e*P **P 07 49 29.3 +1.2**
NLU North Lily Min 86.07 49 *e*P **P 07 49 29.0 +0.6**
NLU *e*PP PP 07 52 49.5 -1.1
TCUT Toone Canyon 86.08 48 *e*P **P 07 49 29.2 +0.7**
MELSS Ber_school_2 86.21 343 *e*P **P 07 49 28.2 -0.3**
MELSS *e*pP pP 07 49 43.4 +1.7
JLU Jordanelle 86.26 48 *e*P **P 07 49 30.1 +0.8**
MPU Maple Canyon 86.36 49 *e*P **P 07 49 31.0 +1.2**
DAU Daniels Canyon 86.47 48 *e*P **P 07 49 31.2 +0.8**
DAU Daniels Canyon 86.47 48 P **P 07 49 31.1 +0.7**
MOR8 Moi Rana 86.50 342 *e*P **P 07 49 28.3 -1.6**
MOR8 AMb AMB 07 49 37.1
comp=Z,199nm,1.2s,mb6.2
MOR8 Moi Rana 86.50 342 *e*P **P 07 49 28.3 -1.6**
comp=Z,199nm,1.2s,mb6.2
MSU Marysvale 86.56 50 *e*P **P 07 49 31.9 +1.1**
MSU *e*pP pP 07 49 46.9 +2.7
MSU *e*PP PP 07 52 53.8 -1.3
BW06 Boulder Array 86.68 46 PFAKE 07 49 40.0 +8.7
BW06 LR LR
comp=Z,3μm,20.0s,MS5.7
PDAR Pinedale Array 86.68 46 P **P 07 49 31.6 +0.3**
comp=Z,18nm,0.6s,mb5.5,baz=259,slow=2.5,SNR=172
PDAR PKKPbc 08 07 27.4
comp=Z,0.4nm,0.7s,baz=89,slow=4.7,SNR=3.9
DRV Dumont d'Urvil 86.70 182 P **P 07 49 39.0 +8.1**
STOK Stokkvaagen 86.79 343⇑ *i*P **P 07 49 31.0 -0.3**
STOK AMb AMB 07 49 47.8
comp=Z,221nm,1.1s,mb6.3
STOK Stokkvaagen 86.79 343 *e*P **P 07 49 31.0 -0.3**
comp=Z,221nm,1.1s,mb6.3
ARTV Artvin 86.88 313 *i*P **P 07 49 31.7 -0.7**
HASS Wahat al Ahsa' 86.91 296 P **P 07 49 32.4 -0.5**
TMUT Trail Mountain 86.95 49 *e*P **P 07 49 33.7 +1.0**
TMUT PP PP 07 52 56.1 -2.4
UMR Umm Al-Rimmam 87.00 300 *e*P **P 07 49 33.0 -0.2**
UMR AMb AMB 07 49 37.1
comp=Z,374nm,0.9s,mb6.6
VSU Vasula 87.04 333⇑ *i*P **P 07 49 31.9 -0.8**
VSU Vasula 87.04 333 *c i*P **P 07 49 31.8 -0.9**
QRN Al-Qurain 87.12 299 *e*P **P 07 49 33.8 -0.1**
QRN AMb AMB 07 49 37.8
comp=Z,430nm,1.0s,mb6.7
LAO LASA Array 87.14 41 *e*P **P 07 49 34.0 +0.5**
comp=Z,125nm,0.9s,mb6.1
LAO LR LR
comp=Z,3μm,20.0s,MS5.6
KBD Kabd 87.15 300 *e*P **P 07 49 34.1 +0.1**
KBD AMb AMB 07 49 38.5
comp=Z,719nm,1.0s,mb6.9
MIB Mutribah 87.21 301 *e*P **P 07 49 34.2 0.0**
MIB AMb AMB 07 49 38.4
comp=Z,784nm,0.6s
FCC Fort Churchill 87.27 27 *e*P **P 07 49 33.8 0.0**
comp=Z,134nm,0.9s,mb6.2
FCC Fort Churchill 87.27 27 P **P 07 49 34.4 +0.6**
FCC pmax pmax
comp=Z,130nm,1.0s,mb6.1
RDF Al-Radifah 87.36 300 *e*P **P 07 49 35.2 +0.2**
RDF AMb AMB 07 49 39.9
comp=Z,362nm,0.7s,mb6.7
SOC Sochi 87.37 316 *c i*P **P 07 49 33.2 -1.5**
SOC *e*PPP PPP 07 54 59.2 -0.2
SOC *e*S 07 59 57.9
SOC *e* 08 00 12.7
SOC *e*SS SS 08 06 04.2 +5.7
SOC *e*SSS SSS 08 09 34.8 +4.7
SOC pmax pmax
comp=Z,71nm,0.9s,mb5.9
SOC pmax pmax
comp=N,10.0nm,0.7s
SOC pmax pmax
comp=E,13nm,0.7s
SOC MLR MLR
comp=N,5μm,21.0s,MS6.0
SOC MLR MLR
comp=E,2μm,21.0s,MS6.0
SOC MLR MLR
comp=Z,7μm,21.0s,MS6.0
SUMG Summit 87.42 1 *e*P **P 07 49 36.1 +1.8**
comp=Z,109nm,1.4s,mb5.9
SRU San Rafael 87.51 49 *e*P **P 07 49 35.8 +0.4**
DGMT Dagmar 87.55 39 *e*P **P 07 49 35.8 +0.4**
comp=Z,48nm,0.9s,mb5.7
DGMT LR LR
comp=Z,2μm,21.0s,MS5.6
ERZM Erzurum 87.80 312 *i*P **P 07 49 36.7 -0.2**
MSL Mosul 88.03 308 *e*P **P 07 49 48.0 +10**
MSL Mosul 88.03 308 *e*SKS SKS 08 00 11.0 +11
MSL *e*S S 08 00 27.0 +11
MSL *e*sS 08 00 40.0
BHD Baghdad 88.24 305 *e*P **P 07 49 35.5 -3.6**
BHD Baghdad 88.24 305 *e*SKS SKS 08 00 02.0 +0.2
BHD *e*S S 08 00 16.5 -1.9
BHD *i*sS 08 00 30.5
ANN Anapa 88.31 317 *e*P **P 07 49 37.8 -1.3**
ANN Anapa 88.31 317 *e*P **P 07 49 37.5 -1.6**
ANN *e* 07 53 02.4
ANN *e* 08 00 03.5
ANN *e* 08 00 18.6
ANN *e*PS PS 08 01 17.7 -12
ANN pmax pmax
comp=Z,111nm,1.0s,mb6.0
RKT Rikitea 88.36 115 *e*SS SS 08 06 10.1 -3.4
RKT *e*LQ 08 12 50.1
RKT *e*LR LR 08 17 05.3
comp=Z,9μm,30.2s,baz=291
NSS Namsos 88.41 342 *e*P **P 07 49 36.9 -2.3**
NSS AMb AMB 07 49 46.0
comp=Z,103nm,1.1s,mb6.0
NSS AMS AMS 08 36 36.2
comp=Z,3μm,20.2s,MS5.7
NSS Namsos 88.41 342 *e*P **P 07 49 36.9 -2.3**
comp=Z,103nm,1.1s,mb6.0
BEST Besiri 88.70 310 *i*P **P 07 49 41.2 0.0**
RWWY Rawlins 88.72 46 *e*P **P 07 49 41.4 +0.2**
comp=Z,251nm,1.5s,mb6.3
RWWY *e* pP 07 49 55.8 +1.3
MNK Minsk 88.78 329 *e*P **P 07 49 39.0 -2.1**
IZAR Zarasai 88.82 331 *e*P **P 07 49 40.9 -0.4**
IDID Didziasalis 88.84 330 *e*P **P 07 49 41.4 0.0**
IDID AMb AMB 07 49 44.5
comp=Z,35nm,1.0s,mb5.7
ISAL Salakas 88.98 330 *e*P **P 07 49 41.7 -0.4**
ISAL AMb AMB 07 49 45.2
comp=Z,35nm,0.9s,mb5.7
KELT Kelkit 89.16 313 *i*P **P 07 49 42.3 -1.0**
SCO Scoresbysund 89.17 356 *i*P **P 07 49 43.5 +0.9**
comp=Z,18nm,0.8s,mb5.4
SCO Scoresbysund 89.17 356 *i*P **P 07 49 43.5 +0.9**
SCO pmax pmax
comp=Z,18nm,0.8s,mb5.5
MARD Mardin 89.30 310 *i*P **P 07 49 43.0 -1.1**
GRSN GIRESUNGRSN 89.50 314 *i*P **P 07 49 42.4 -2.5**
RSSD Black Hills 89.69 43 *e*P **P 07 49 46.1 +0.4**
comp=Z,32nm,1.0s,mb5.6
RSSD LR LR
comp=Z,2μm,20.0s,MS5.6
RSSD Black Hills 89.69 43 *e*P **P 07 49 46.1 +0.4**
RSSD pmax pmax
comp=Z,32nm,1.0s,mb5.6
RSSD MLR MLR
comp=Z,2μm,20.0s,MS5.6
RYDS Riyadh 89.86 296 P **P 07 49 46.1 -0.9**
SMCO Snowmass 89.98 48 *e*P **P 07 49 48.1 +0.9**
SMCO *e*pP pP 07 50 02.6 +2.0
PHWY Pilot Hill 90.07 46 *e*P **P 07 49 48.4 +0.9**
PHWY *e* pP 07 50 03.5 +2.5
ELZG Elazig 90.07 311 *i*P **P 07 49 47.1 -0.5**
TUC Tucson 90.07 55 *e*P **P 07 49 48.6 +0.8**
comp=Z,64nm,1.2s,mb5.8
TUC *e*pP pP 07 50 03.4 +2.2
TUC LR LR
comp=Z,2μm,19.0s,MS5.5
TUC Tucson 90.07 55 *e*P **P 07 49 48.6 +0.8**
TUC *e**PP pP 07 50 03.4 +2.2
TUC pmax pmax
comp=Z,64nm,1.2s,mb5.8
TUC MLR MLR
comp=Z,2μm,19.0s,MS5.5
CASY Casey 90.21 194 *e*P **P 07 49 49.0 +1.4**
CASY LR LR
comp=Z,2μm,20.0s,MS5.6
SIM Simferopol' 90.32 319 *e*P **P 07 49 47.3 -1.3**
SIM *i* 08 00 18.0
SIM *i*S S 08 00 32.6 -4.6
SIM pmax pmax
comp=Z,89μm,0.7s
SIM MLR MLR
comp=Z,3μm,18.4s,MS5.8
MALT Malatya 90.55 311 *e*P **P 07 49 50.2 +0.4**
comp=Z,42nm,0.8s,mb5.8
MALT Malatya 90.55 311 *e*P **P 07 49 50.2 +0.3**
MALT pmax pmax
comp=Z,42nm,0.8s,mb5.8
ISCO Idaho Springs 90.64 47 *e*P **P 07 49 51.4 +1.1**
comp=Z,20nm,0.8s,mb5.5
ISCO LR LR
comp=Z,3μm,20.0s,MS5.7
ISCO Idaho Springs 90.64 47 *e*P **P 07 49 51.4 +1.1**
ISCO pmax pmax
comp=Z,20nm,0.8s,mb5.5
ISCO MLR MLR
comp=Z,3μm,20.0s,MS5.7
HFS Hagfors 91.06 338 PP PP 07 53 29.3 -1.7
comp=Z,24nm,0.8s,baz=63,slow=6.6,SNR=8.3
DOMB Dombas 91.15 341 *e*P **P 07 49 52.0 -0.1**
DOMB AMb AMB 07 50 08.7
comp=Z,68nm,1.0s,mb5.9
DOMB Dombas 91.15 341 *e*P **P 07 49 52.0 -0.1**
comp=Z,68nm,1.0s,mb5.9
MOL Molde 91.19 342 *e*P **P 07 49 52.9 +0.6**
MOL AMb AMB 07 50 01.5
comp=Z,83nm,1.3s,mb5.9
MOL Molde 91.19 342 *e*P **P 07 49 52.9 +0.6**
comp=Z,83nm,1.3s,mb5.9
NB2 NORSAR Subarra 91.23 340 P **P 07 49 52.1 -0.4**
comp=Z,7.8nm,0.6s,mb5.2,baz=43,slow=4.5
NB2 NORSAR Subarra 91.23 340 P **P 07 49 52.1 -0.4**
baz=43,slow=4.6
NB2 NORSAR Subarra 91.23 340 P **P 07 49 52.1 -0.4**
NB2 pmax pmax
comp=Z,8.0nm,0.6s,mb5.2
NOA NORSAR Array B 91.23 340 P **P 07 49 51.6 -0.9**
comp=Z,10nm,0.7s,mb5.3,baz=45,slow=4.4,SNR=34
NOA PP PP 07 53 30.6 -1.7
comp=Z,13nm,0.9s,baz=39,slow=8.2,SNR=4.9
NOA PKKPbc 08 07 15.0
comp=Z,1.7nm,0.7s,baz=228,slow=2.5,SNR=5.7
NOA LR LR 08 35 11.3
comp=Z,4μm,20.8s,MS5.9,baz=35,slow=38
SUW Suwalki 91.28 330 *e*P **P 07 49 52.4 -0.5**
SUW *e*SKS SKS 08 00 22.2 +2.6
SUW *e*S S 08 00 43.2 -2.3
SUW MLR MLR 08 31 08.6
comp=Z,8μm,24.8s,MS6.1
SUW Suwalki 91.28 330 *e*P **P 07 49 52.4 -0.5**
SUW *e*SKS SKS 08 00 22.2 +2.6
SUW *e*S S 08 00 43.2 -2.3
NAO01 NORSAR Array S 91.49 340 *e*P **P 07 49 53.1 -0.6**
comp=Z,7.1nm,0.5s,mb5.2
NAO01 *e*pP pP 07 50 07.8 +0.7
NAO01 PP PP 07 53 32.6 -1.7
NAO01 LR LR
comp=Z,6μm,20.0s,MS6.0
BOYT Boyabat 91.52 315 *i*P **P 07 49 52.5 -1.8**
GZT Gaziantep 91.59 311 *i*P **P 07 49 54.0 -0.8**
SDCO Great Sand Dun 91.66 49 *e*P **P 07 49 55.5 +0.5**
comp=Z,110nm,1.5s,mb6.0
SDCO PP PP 07 53 32.9 -3.4
SDCO LR LR
comp=Z,3μm,21.0s,MS5.8
KAHT Ahir Dag 91.95 311 *i*P **P 07 49 56.6 +0.2**
LAZ Ladron 91.96 52 *e*P **P 07 49 58.1 +1.6**
CTKT Corum 91.98 315 *i*P **P 07 49 55.2 -1.2**
LENM Lemitar 92.19 52 *e*P **P 07 49 58.9 +1.4**
ANMO Albuquerque 92.22 52 *e*P **P 07 49 58.6 +0.9**
comp=Z,56nm,1.0s,mb5.8
ANMO *e*PP PP 07 53 38.6 -2.3
ANMO LR LR
comp=Z,2μm,20.0s,MS5.5
ANMO Albuquerque 92.22 52 *e*P **P 07 49 58.6 +0.9**
ANMO *e* 07 53 38.6
ANMO pmax pmax
comp=Z,56nm,1.0s
ANMO MLR MLR
comp=Z,2μm,20.0s
LPM Los Pinos Moun 92.38 52 *e*P **P 07 49 59.5 +1.1**
KIS Kishinev 92.42 322 *e*P **P 07 49 53.0 -5.3**
KIS *e* 07 53 40.0
KIS *e*PPP PPP 07 55 45.0 +1.3
KIS *e* 08 00 24.0
KIS *e*PS PS 08 02 08.0 -10
BNM Barren Site 92.45 52 *e*P **P 07 50 00.2 +1.4**
BALT Daday 92.46 316 *i*P **P 07 49 57.5 -1.2**
HILS Ha'il 92.64 300 P **P 07 49 59.7 -0.1**
CDAG Cicekdag 92.74 314 *i*P **P 07 49 58.6 -1.4**
KONO Kongsberg 92.81 339 *e*P **P 07 49 59.7 -0.1**
KONO *e*PP PP 07 53 42.5 -2.5
KONO *e*SKSa 08 00 28.9
KONO *e*SS SS 08 07 17.4 +0.6
KONO Kongsberg 92.81 339 PFAKE 07 50 10.0 +10
KONO LR LR
comp=Z,6μm,21.0s,MS6.0
AVNT Avonos 92.82 313 *i*P **P 07 49 59.4 -0.9**
COBT Iskenderun 92.90 311 *i*P **P 07 49 59.9 -0.8**
ELDT Eldivan 92.95 315 *i*P **P 07 49 59.0 -1.9**
BR131 Keskin Array S 93.19 314 *e*P **P 07 50 01.0 -1.0**
comp=Z,20nm,0.7s,mb5.7
BR131 LR LR
comp=Z,1μm,20.0s,MS5.4
BRTR Keskin Array B 93.19 314 P **P 07 50 01.3 -0.7**
comp=Z,50nm,1.0s,mb5.9,baz=93,slow=3.6,SNR=76
BRTR PKKPbc 08 07 13.6
comp=Z,1.4nm,0.7s,baz=189,slow=3.4,SNR=4.9
WAR Warsaw 93.40 330 *e*P **P 07 50 02.6 0.0**
WAR *e*PcP PcP 07 50 03.2 -0.2
WAR *e*pP pP 07 50 10.1 -6.0
WAR *e*SKS SKS 08 00 37.5 +5.8
WAR *e*S S 08 01 05.8 +1.7
WAR MLR MLR 08 32 37.0
comp=Z,10μm,24.0s,MS6.2
WAR Warsaw 93.40 330 *e*P **P 07 50 02.6 -0.1**
WAR *e*PcP PcP 07 50 03.2 -0.2
WAR *e*pP pP 07 50 10.1 -6.0
WAR *e*SKS SKS 08 00 37.5 +5.9
WAR *e*S S 08 01 05.8 +1.7
WAR LR LR
comp=Z,10μm,24.0s,MS6.2
WAR Warsaw 93.40 330 *e*P **P 07 50 02.6 -0.1**
WAR *e**PP pP 07 50 10.1 -6.0
WAR *e* 08 00 37.5
WAR *e*S S 08 01 05.8 +1.7
WAR MLR MLR
comp=Z,10μm,24.0s,MS6.2
TLCR 93.41 321 ⇓P **P 07 50 02.7 -0.2**
TLCR 93.41 321 ⇓P **P 07 50 02.7 -0.1**
LVV L'vov 93.41 327 *e*P **P 07 50 02.3 -0.5**
LVV *e* 07 53 43.9
LVV *i* 08 00 36.1
LVV *i*S S 08 01 04.9 +0.7
LVV *e*PS PS 08 02 50.9 +22
LVV MLR MLR
comp=Z,7μm,22.0s,MS6.1
LVV MLR MLR
comp=N,3μm,21.0s,MS6.0
LVV MLR MLR
comp=E,4μm,22.0s,MS6.0
BER Bergen 93.58 342 *e*SKSa 08 00 33.6
BER *e*SS SS 08 07 28.7 +1.0
BER AMS AMS 08 33 04.7
comp=Z,3μm,23.1s,MS5.6
SGKT Sivrigoynuk 93.81 316 *i*P **P 07 50 03.6 -1.2**
CFR Carcaliu 93.81 321 ⇑P **P 07 50 04.1 -0.6**
TIRR Tirgusor 94.05 320 ⇓P **P 07 50 04.7 -1.0**
TIRR Tirgusor 94.05 320 ⇓P **P 07 50 04.7 -1.1**
BSD Bornholm Skovb 94.18 334 *i*P **P 07 50 05.7 -0.4**
comp=Z,68nm,0.6s,mb6.2
BSD *i* pP 07 50 20.7 +1.2
BSD Bornholm Skovb 94.18 334 *i*P **P 07 50 05.7 -0.4**
BSD *i* pP 07 50 20.7 +1.2
BSD pmax pmax
comp=Z,68nm,0.6s,mb6.2
HARR Harsova 94.21 321 ⇑P **P 07 50 05.6 -0.9**
HARR Harsova 94.21 321 ⇑P **P 07 50 05.5 -0.9**
KWP Kalwaria 94.21 327 *e*P **P 07 50 06.2 -0.2**
KWP *e*pP pP 07 50 13.3 -6.5
KWP MLR MLR 08 32 18.4
comp=Z,10μm,25.8s,MS6.2
KWP Kalwaria 94.21 327 *e*P **P 07 50 06.2 -0.1**
KWP *e*pP pP 07 50 13.3 -6.5
VRI Vrincioaia 94.25 322 ⇓P **P 07 50 08.5 +1.9**
VRI Vrincioaia 94.25 322 ⇓P **P 07 50 08.5 +1.9**
TATS Tathlith 94.35 293 P **P 07 50 07.8 +0.1**
MEST Erdemli 94.36 311 *i*P **P 07 50 06.3 -1.1**
QURS Qurayyt al Mil 94.45 306 P **P 07 50 07.8 -0.1**
GKP Gorka Klasztor 94.47 332 *e*P **P 07 50 06.5 -1.0**
GKP *e*PcP PcP 07 50 07.2 -1.0
GKP *e*pP pP 07 50 15.4 -5.5
GKP *e*SKS SKS 08 00 39.1 +1.7
GKP *e*S S 08 01 15.0 +1.8
GKP MLR MLR 08 37 40.2
comp=Z,6μm,20.5s,MS6.1
GKP Gorka Klasztor 94.47 332 *e*P **P 07 50 06.5 -0.9**
GKP *e*PcP PcP 07 50 07.2 -1.0
GKP *e*pP pP 07 50 15.4 -5.5
GKP *e*SKS SKS 08 00 39.1 +1.7
GKP *e*S S 08 01 15.0 +1.8
GKP LR LR
comp=Z,6μm,20.5s,MS6.1
GKP Gorka Klasztor 94.47 332 *e*P **P 07 50 06.5 -0.9**
GKP *e**PP pP 07 50 15.4 -5.5
GKP *e* 08 00 39.1
GKP *e*S S 08 01 15.0 +1.8
GKP MLR MLR
comp=Z,6μm,20.5s,MS6.1
MNTX Cornudas Mount 94.48 54 *e*P **P 07 50 09.0 +1.0**
comp=Z,64nm,1.2s,mb5.9
MNTX LR LR
comp=Z,1μm,20.0s,MS5.5
PSN Preselentsi 94.61 320 *e*P **P 07 50 09.0 +0.6**
COP Copenhagen 94.76 336 *i*P **P 07 50 08.8 +0.1**
comp=Z,48nm,0.9s,mb5.9
COP *i* 07 54 06.7
COP *i*S S 08 00 58.4 -17
COP *i* 08 02 35.0
COP *e* 08 06 57.2
comp=Z,2μm,22.0s
COP Copenhagen 94.76 336 *i*P **P 07 50 08.8 +0.1**
COP *i* 07 54 06.7
COP *i* 08 02 35.0
COP pmax pmax
comp=Z,48nm,0.9s,mb5.9
COP MLR MLR
comp=Z,2μm,22.0s,MS5.5
KDHN Kadinhani 94.81 314 *i*P **P 07 50 07.0 -2.5**
KOLS Kolonicke sedl 94.86 327 *e*P **P 07 50 08.5 -0.9**
KOLS *e* 07 50 32.8
MLR Muntele Rosu 94.91 322 PKKPbc 08 07 06.8
comp=Z,2.4nm,0.4s,baz=160,slow=6.1,SNR=6.1
MLR Muntele Rosu 94.91 322 ⇓P **P 07 50 10.5 +0.8**
MLR Muntele Rosu 94.91 322 ⇓P **P 07 50 10.5 +0.8**
DJNS Zahran al Janu 95.00 291 P **P 07 50 11.4 +0.6**
CPRX Cap Rock 95.01 52 *e*P **P 07 50 10.9 +0.4**
MIR Mirnyy 95.01 199 *e*P **P 07 50 11.0 +1.3**
MIR *i* 07 54 03.0
MIR pmax pmax
comp=Z,51nm,1.6s,mb5.7
GDL2 Guadalupe Moun 95.02 53 *e*P **P 07 50 11.5 +0.9**
UZH Uzhgorod 95.04 326 *i*P **P 07 50 00.0 -10**
STHS Stebnicka Huta 95.09 327 *e*P **P 07 50 10.9 +0.5**
STHS *e*sP sP 07 50 31.8 +3.4
CBKS Cedar Bluff 95.11 46 *e*P **P 07 50 10.9 +0.2**
comp=Z,22nm,0.9s,mb5.6
CBKS LR LR
comp=Z,2μm,20.0s,MS5.7
CBKS Cedar Bluff 95.11 46 *e*P **P 07 50 10.9 +0.1**
CBKS pmax pmax
comp=Z,22nm,0.9s,mb5.6
CBKS MLR MLR
comp=Z,2μm,20.0s,MS5.7
ESKT Eskisehir 95.15 315 *i*P **P 07 50 09.1 -1.8**
OJC Ojcow 95.29 329 *e*P **P 07 50 11.0 -0.3**
OJC *e*PP PP 07 54 04.9 +0.8
OJC ⇑*e*SKSa 08 00 44.3
OJC ⇑*e*SKKSa 08 01 01.3
OJC MLR MLR 08 33 41.5
comp=Z,7μm,22.7s,MS6.1
OJC Ojcow 95.29 329 *e*P **P 07 50 11.0 -0.3**
OJC *e* 07 54 04.9
OJC *e* 08 00 44.3
OJC MLR MLR
comp=Z,7μm,22.7s,MS6.1
CRVS Cervenica-Dubn 95.30 327 *e*P **P 07 50 12.1 +0.7**
CRVS *e*PS 08 00 47.7
PRD Provadia 95.35 320 *e*P **P 07 50 12.0 +0.2**
CLNB Carlsbad 95.36 53 *e*P **P 07 50 12.6 +0.5**
MUD Monsted U'grnd 95.40 338 ⇓*i*P **P 07 50 27.9 +16**
comp=Z,20nm,0.6s,mb5.7
MUD *i* 07 53 51.1
MUD *i*S S 08 01 01.5 -20
MUD *i* 08 08 08.1
MUD *e* 08 15 48.6
comp=Z,3μm,20.0s
MUD Monsted U'grnd 95.40 338 ⇓*i*P **P 07 50 27.9 +16**
MUD *i* 08 08 08.1
MUD pmax pmax
comp=Z,20nm,0.6s,mb5.7
MUD MLR MLR
comp=Z,3μm,20.0s,MS5.8
VOIR 95.46 323 ⇓P **P 07 50 14.4 +2.2**
VOIR 95.46 323 ⇓P **P 07 50 14.3 +2.2**
NIE Niedzica 95.56 328 *e*P **P 07 50 13.0 +0.5**
BLJS Baljurashi 95.84 294 P **P 07 50 14.7 +0.2**
ULDT Uludag 95.94 316 *i*P **P 07 50 12.9 -1.6**
DRGR 95.95 325 ⇓P **P 07 50 13.3 -1.0**
DRGR 95.95 325 ⇓P **P 07 50 13.3 -1.1**
KECS Kecovo 96.07 327 *e*P **P 07 50 14.8 0.0**
KECS *e*sP sP 07 50 32.3 -0.5
GDZ Gediz 96.28 315 *i*P **P 07 50 12.4 -3.6**

OKC Ostrava-Krasne 96.35 329 *eP* **P 07 50 13.9 -2.2**
OKC *epP* pP 07 50 32.2 +2.7
OKC *ex* x 08 01 04.2
OKC AMS AMS 08 34 10.0
comp=Z,6µm,21.8s
TBKS Tabuk 96.47 303 P **P 07 50 17.1 -0.1**
KSP Ksiaz 96.55 331 *eP* **P 07 50 16.9 -0.1**
KSP *e*SKS SKS 08 00 53.4 +4.7
KSP *e*S S 08 01 32.2 +1.3
KSP MLR MLR 08 34 14.2
comp=Z,10µm,24.4s,MS6.2
KSP Ksiaz 96.55 331⇑ *eP* **P 07 50 16.7 -0.3**
KSP *e* pP 07 50 30.0 -0.4
KSP *e*PP PP 07 54 13.7 -0.4
KSP *e*SKS SKS 08 01 03.4 +15
KSP *e*SS SS 08 08 06.7 -2.7
KSP LR LR
comp=Z,12µm,25.4s,MS6.2
KSP Ksiaz 96.55 331⇑ *eP* **P 07 50 16.7 -0.3**
KSP *e* pP 07 50 30.0 -0.4
KSP *e* 07 54 13.7
KSP *e*SS SS 08 08 06.7 -2.7
KSP MLR MLR
comp=Z,12µm,25.4s,MS6.2
MORC Moravsky Berou 96.68 329 *eP* **P 07 50 16.9 -0.7**
comp=Z,23nm,1.3s,mb5.4
MORC Moravsky Berou 96.68 329 *eP* **P 07 50 16.9 -0.7**
MORC pmax pmax
comp=Z,23nm,1.3s,mb5.5
JMQS Jabal Moqyreh 96.69 304 P **P 07 50 18.1 -0.1**
LTHS Al Lith 96.70 294 P **P 07 50 18.4 0.0**
DPC Dobruska-Polom 96.87 330 *eP* **P 07 50 18.3 -0.2**
DPC *e*PP PP 07 54 16.3 -0.4
DPC *ex* x 08 01 03.9
DPC *ex* x 08 08 04.7
DPC AMS AMS 08 33 50.0
comp=Z,5µm,23.0s
DPC Dobruska-Polom 96.87 330 *eP* **P 07 50 18.3 -0.2**
DPC *e* 07 54 16.3
DPC MLR MLR
comp=Z,5µm,23.0s,MS6.0
LTX Lajitas 96.88 55 *eP* **P 07 50 19.9 +0.9**
comp=Z,26nm,1.2s,mb5.5
LTX LR LR
comp=Z,3µm,20.0s,MS5.7
LTX Lajitas 96.88 55 *eP* **P 07 50 19.9 +0.9**
LTX pmax pmax
comp=Z,26nm,1.2s,mb5.5
LTX MLR MLR
comp=Z,3µm,20.0s,MS5.7
BSEG Bad Segeberg 96.88 335 *e*Pdif **P 07 50 17.9 -0.5**
BSEG *e*PP PP 07 54 14.7 -1.9
VYHS Vyhne 96.90 328 *eP* **P 07 50 18.5 -0.1**
VYHS *e* pP 07 50 29.6 -2.5
VYHS *e*PP PP 07 54 13.2 -3.7
VYHS *e* 08 01 08.3
UPC Upice 96.91 330 *eP* **P 07 50 17.9 -0.7**
UPC *epP* pP 07 50 30.7 -1.4
ALWS Ilw as Safayha 97.13 305 P **P 07 50 20.5 +0.3**
DIM Dimitrovgrad 97.14 320 *eP* **P 07 50 20.0 +0.1**
JMOS Jabal al Moall 97.16 304 P **P 07 50 20.0 -0.3**
UMJS Umm Lajj 97.19 300 P **P 07 50 20.8 +0.3**
HAQS Haql 97.35 304 P **P 07 50 20.7 -0.5**
BDAS Al Bad' 97.51 304 P **P 07 50 21.8 -0.1**
PVCC Panska Ves 97.56 331 *eP* **P 07 50 21.6 0.0**
PVCC *e*PP PP 07 54 20.6 -1.5
PVCC AMS AMS 08 34 40.0
comp=Z,5µm,23.6s
BRG Berggiesshubel 97.59 332 *i* PKP **P 07 50 21.3 -0.5**
comp=Z,9.3nm,0.9s,mb5.3
BRG *i* PKP pP 07 50 33.7 -1.5
BRG PP PP 07 54 18.9 -3.6
BRG *e* 07 54 30.0
BRG *e* 08 00 57.7
BRG *i* 08 01 05.0
BRG SS SS 08 08 19.0 -5.1
BRG Berggiesshubel 97.59 332 *i* P **P 07 50 21.3 -0.5**
BRG *i* pP 07 50 33.7 -1.5
BRG 07 54 18.9
BRG *e* 08 00 57.7
BRG SS SS 08 08 19.0 -5.1
BRG pmax pmax
comp=Z,9.0nm,0.9s,mb5.3
CLL Collm 97.70 332 ⇑P **P 07 50 21.5 -0.7**
comp=Z,logA/T=1.4,mb5.7
CLL *i* *PP pP 07 50 35.3 -0.4
CLL *i* *SP sP 07 50 42.2 +2.0
CLL *i* PP PP 07 54 20.5 -2.8
CLL *i* *PPP 07 54 28.2
CLL *i* *SPP 07 54 36.3
CLL *e*PPP PPP 07 56 27.0 -3.1
CLL *e* 08 01 02.0
CLL *e*PS PS 08 03 21.0 +6.5
CLL *e* 08 04 45.0
CLL *e*PKKP PKKP 08 07 01.0 +9.4
CLL *e*PKKP PKKP 08 07 28.0 +36
CLL *e*SS SS 08 08 31.0 +5.4
CLL *e*SSS SSS 08 12 12.0 -0.1
CLL *e* 08 15 54.0
CLL Collm 97.70 332⇑ *i*P **P 07 50 21.5 -0.7**
comp=Z,23nm,0.9s,mb5.7
CLL *i* pP pP 07 50 35.3 -0.4
CLL *e*SKS SKS 08 01 02.0 +7.3
CLL *e*PKKP PKKP 08 07 01.0 +9.4
CLL *e*PKKP PKKP 08 07 28.0 +36
CLL LR LR
comp=Z,4µm,17.3s,MS6.0
CLL Collm 97.70 332⇑ *i*P **P 07 50 21.5 -0.7**
CLL *i* *PP pP 07 50 35.3 -0.4
CLL *e* 08 01 02.0
CLL pmax pmax
comp=Z,23nm,0.9s,mb5.7
CLL MLR MLR
comp=Z,4µm,17.3s,MS6.0
AKAS Kas 97.70 313 *i* P **P 07 50 20.6 -2.1**
RZN Rozhen 97.85 320 *i* P **P 07 50 23.0 -0.1**
WMOK Wichita Mounta 97.86 49⇑ *i*P **P 07 50 23.6 +0.2**
comp=Z,22nm,1.0s,mb5.6
WMOK LR LR
comp=Z,2µm,20.0s,MS5.5
WMOK Wichita Mounta 97.86 49⇑ *i*P **P 07 50 23.6 +0.2**
WMOK pmax pmax
comp=Z,22nm,1.0s,mb5.6
WMOK MLR MLR
comp=Z,2µm,20.0s,MS5.5
PRU Pruhonice 97.95 331 *eP* **P 07 50 23.3 -0.1**
PRU *epP* pP 07 50 34.9 -1.9
PRU *e*PP PP 07 54 22.7 -2.6
PRU *ex* x 08 01 08.1
PRU *e*SS SS 08 08 27.0 -2.1
PRU AMS AMS 08 34 40.0
comp=Z,5µm,23.4s
PRU Pruhonice 97.95 331 *eP* **P 07 50 23.3 -0.1**
PRU *e* pP 07 50 34.9 -1.9
PRU *e* 07 54 22.7
PRU *e* 08 08 27.0
PRU MLR MLR
comp=Z,5µm,23.4s,MS5.9
VNDA Vanda 97.96 177 P **P 07 50 22.9 0.0**
comp=Z,1.6nm,0.5s,mb4.8,baz=330,slow=6.2,SNR=9.0
VNDA LR LR 08 31 12.7
comp=Z,2µm,21.0s,MS5.6,baz=351,slow=33
ZST Bratislava 97.96 328 *eP* **P 07 50 23.2 -0.3**
ZST *e*PP PP 07 54 21.2 -4.2
ZST *e* 08 01 14.8
ZST *e*L 08 39 38.9
VTS Vitosha 98.22 321 *i* P **P 07 50 25.0 +0.2**
MMB Musomiste 98.50 320 *i* P **P 07 50 25.9 -0.2**
SBA Scott Base 98.59 176 PFAKE 07 50 40.0 +14
SBA LR LR
comp=Z,2µm,20.0s,MS5.6
NKC Novy Kostel 98.72 332 *eP* **P 07 50 26.2 -0.6**
NKC *e*SS SS 08 08 36.6 -3.3
NKC AMS AMS 08 38 30.0
comp=Z,4µm,21.0s
MOX Moxa 98.78 333 *i* P **P 07 50 26.8 -0.3**
comp=Z,logA/T=1.4,mb5.7
MOX *i* pP 07 50 40.0 -0.6
MOX PP PP 07 54 26.0 -5.2
MOX S 08 01 14.0
MOX PS PS 08 03 30.0 +4.1
MOX SS SS 08 08 42.0 +1.2
MOX LQ 08 16 00.0
MOX LR LR 08 26 00.0
MOX L 08 37 39.0
MOX Moxa 98.78 333 *eP* **P 07 50 26.8 -0.3**
KHC Kasperske Hory 99.00 331 *eP* **P 07 50 24.5 -3.6**
KHC *epP* pP 07 50 38.1 -3.5
KHC *e*PP PP 07 54 27.1 -5.6
KHC *ex* x 08 01 18.5
KHC AMS AMS 08 34 40.0
comp=Z,6µm,25.7s
KHC Kasperske Hory 99.00 331 *eP* **P 07 50 24.5 -3.6**
KHC *e* pP 07 50 38.1 -3.5
KHC *e* 07 54 27.1
KHC MLR MLR
comp=Z,6µm,25.7s,MS6.0
GEC2 GERESS Array S 99.14 330 *e*Pdif **P 07 50 28.0 -0.8**
GERES GERESS Array B 99.14 330 P **P 07 50 28.1 -0.7**
comp=Z,5.1nm,0.8s,mb5.1,baz=34,slow=4.8,SNR=23
GERES PP PP 07 54 33.7 -0.2
comp=Z,4.7nm,0.8s,baz=45,slow=7.5,SNR=6.3
GERES PKKPbc 08 06 54.6
comp=Z,1.7nm,0.7s,baz=225,slow=3.8,SNR=9.5
GERES LR LR 08 40 03.1
comp=Z,4µm,19.8s,MS6.0,baz=50,slow=38
WET Wettzell 99.31 331 *e*Pdif **P 07 50 29.2 -0.4**
WET *e*PP PP 07 54 33.6 -1.6
ARSA Arzberg 99.38 328⇓ *i*P **P 07 50 29.9 0.0**
comp=Z,7.7nm,0.9s,mb5.2
MOA Molln 99.58 329⇓ *i*P **P 07 50 30.8 0.0**
comp=Z,9.9nm,1.0s,mb5.2
SKO Skopje 99.63 321 *i* P **P 07 50 31.6 +0.4**
GRA1 Grafenberg Arr 99.66 332 *e*Pdif **P 07 50 31.0 -0.1**
GRA1 *e*PP PP 07 54 34.7 -3.3
GRA1 *e*SKKSac 08 01 29.2
GRA1 *e*SP SP 08 03 23.1 -6.1
GRA1 *e*SS SS 08 09 04.1 +11
GRA1 LR LR
comp=Z,4µm,21.1s,MS5.9
GRF Grafenberg Arr 99.66 332 *e*Pdif **P 07 50 31.0 -0.1**
GRF *e*PP PP 07 54 34.7 -3.3
GRF *e*SKKS 08 01 29.2
GRF *e*SP SP 08 03 23.1 -6.1
GRF *e*SS SS 08 09 04.1 +11
GRF LR LR
comp=Z,4µm,21.1s,MS5.9
GRF Grafenberg Arr 99.66 332 *eP* **P 07 50 31.0 -0.1**
GRF *e* 07 54 34.7
GRF *e*SP SP 08 03 23.1 -6.1
GRF *e*SS SS 08 09 04.1 +11
GRF MLR MLR
comp=Z,4µm,21.1s,MS5.9
GRF Grafenberg Arr 99.66 332 *eP* **P 07 50 31.0 -0.1**
GRF *e* 07 54 34.7
GRF *e*SP SP 08 03 23.1 -6.1
GRF *e*SS SS 08 09 04.1 +11
GRF LR LR
comp=Z,4µm,21.1s,MS5.9
WTSB Winterswijk 99.76 336 *e*PP PP 07 54 34.7 -4.0
PERS Pernice 100.01 328 *eP* P 07 50 31.8 -1.0
SCHQ Schefferville 100.23 19 P P 07 50 33.9 +0.3
comp=Z,7.3nm,0.8s,baz=345,slow=4.3,SNR=12
ESK Eskdalemuir 100.31 343 PFAKE 07 50 50.0 +16
ESK LR LR
comp=Z,700nm,22.0s,MS5.1
TNS Taunus Mts 100.44 334 *e*Pdif P 07 50 34.1 -0.6
TNS *e*PP PP 07 54 42.0 -2.3
LJU Ljubljana 100.71 328 *eP* P 07 50 34.8 -1.3
BOJS Bojanci 100.72 327 *eP* P 07 50 35.6 -0.4
VISS Visnje 100.72 328 *eP* P 07 50 34.8 -1.2
FUR Furstenfeldbru 100.75 331 *e*Pdif P 07 50 35.8 -0.3
TOD Tromm 100.77 333 *eP* P 07 50 35.2 -0.9
HGN Heimansgroeve 101.04 335 *e*PKP PP 07 54 43.7 -5.2
comp=Z,47nm,1.8s
HGN *ex* x 07 55 00.8
HGN *ex* x 07 55 14.2
CCM Cathedral Cave 101.08 42 *e*Pdif P 07 50 37.1 -0.8
comp=Z,6.9nm,0.8s
CCM LR LR
comp=Z,2µm,21.0s,MS5.6
RUP Ruppelstein 101.42 334 *eP* P 07 50 38.4 -0.7
NVLJ Novalja 101.57 327 *i* P P 07 50 30.3 -10
LANF Langenberg 101.67 333 *eP* P 07 50 40.4 +0.2
WLF Walferdange 101.82 335 P P 07 50 56.0 +15
BFO Black Forest 101.94 333 *e*Pdif P 07 50 40.7 -0.7
BFO *e*PP PP 07 54 51.1 -4.2
GIVF Givet 102.00 336 *eP* P 07 50 40.7 -0.9
DAVA Damuels 102.04 331⇑ *i*P Pdif 07 50 41.2 -0.7
comp=Z,10nm,1.0s
WLS Welschbruch 102.29 333 *eP* Pdif 07 50 43.0 0.0
CDF Champ du Feu 102.33 333 *eP* Pdif 07 50 42.1 -1.1
comp=Z,56nm,1.3s
NATX Nacogdoches 102.36 49 PFAKE 07 51 00.0 +16
NATX LR LR
comp=Z,2µm,20.0s,MS5.7
DAVOX Davos 102.41 331 PP PP 07 54 58.1 -1.0
comp=Z,15nm,0.9s,baz=39,slow=5.3,SNR=9.2
DAVOX PKKPbc 08 06 45.6
comp=Z,3.3nm,0.6s,baz=260,slow=1.2,SNR=5.1
FELD Feldberg 102.43 332 *eP* Pdif 07 50 43.6 0.0
ECH Echery 102.53 333 *eP* Pdif 07 50 42.5 -1.6
MOF Molkenrain 102.82 333 *eP* Pdif 07 50 46.7 +1.3
HINF Hinteralfeld 102.97 333 *eP* Pdif 07 50 44.6 -1.4
comp=Z,21nm,1.1s
HAU Haudompre 103.03 333 *eP* Pdif 07 50 45.0 -1.3
comp=Z,13nm,0.8s
HAU *e*R
comp=Z,5µm,21.2s
MEZF Maizieres J'vi 103.18 334 *eP* Pdif 07 50 46.3 -0.6
GRAM 104.02 329 P 07 55 04.4
WCI Wyandotte Cave 104.03 40 PFAKE 07 51 00.0 +9.1
WCI LR LR
comp=Z,2µm,20.0s,MS5.7
VALM 104.04 329 P 07 55 07.4
SARO Sassorosso 104.08 329 P 07 55 06.8
ORX Oropa 104.15 331 P 07 55 10.8
BACM 104.18 329 P 07 55 06.1
CODM 104.20 329 P 07 55 07.5
CABF La Chapelle 104.23 333 *eP* Pdif 07 50 50.6 -1.0
MAIM 104.24 328 P 07 55 07.3
VINC Vinca 104.24 329 P 07 55 05.7
TRAV 104.34 331 P 07 55 09.9
OXF Oxford 104.39 44 PFAKE 07 51 00.0 +7.4
OXF LR LR
comp=Z,3µm,21.0s,MS5.8
WVT Waverly 104.41 42 PFAKE 07 51 00.0 +7.3
WVT LR LR
comp=Z,4µm,21.0s,MS5.9
LOR Lormes 104.65 334 *eP* Pdif 07 50 52.3 -1.1
comp=Z,22nm,1.0s
LOR *e*R
comp=Z,4µm,21.5s
LSD Ceresole Reale 104.65 331 P 07 55 11.1
PCP Pian Castagno 104.71 330 P 07 55 09.9
LPL La Plagne 104.80 332 *eP* Pdif 07 50 53.2 -0.9
comp=Z,29nm,1.1s
LPG La Plagne 104.81 332 *eP* Pdif 07 50 53.5 -0.6
comp=Z,15nm,0.8s
RSP Reno Superiore 104.84 331 P 07 55 15.1
SSF Saint Saulge 104.96 334 *eP* Pdif 07 50 53.8 -1.0
comp=Z,20nm,1.0s
PLAL Pickwick Lake 104.97 43 *e*PKPdf 07 55 12.0
PLAL LR LR
comp=Z,2µm,20.0s,MS5.7
FENE Fenestrelle 105.03 331 P 07 55 11.3
FLN La Foliniere 105.08 338 *eP* Pdif 07 50 54.4 -0.9
FLN *e*R
comp=Z,8µm,21.2s
BHB Bricherasio 105.08 331 P 07 55 15.7
FIN Finale Ligure 105.12 330 P 07 55 12.7
SMF Signal de Mont 105.15 334 *eP* Pdif 07 50 54.6 -1.1
comp=Z,13nm,0.9s
BNI Bardonecchia 105.18 331 *e*PKPdf 07 55 16.6
ROB Roburent 105.21 330 P 07 55 15.9
RRL Cesana Torines 105.24 331 P 07 55 14.4
AVF Avril sur Loir 105.24 334 *eP* Pdif 07 50 55.2 -0.8
comp=Z,30nm,1.1s
MBDF Montbardon 105.39 331 *eP* Pdif 07 50 55.9 -0.8
comp=Z,11nm,0.9s
ENR Entracque 105.47 330 P 07 55 14.0
IMI Imperia 105.50 330 P 07 55 15.2
BGF Bois d'Agland 105.63 334 *eP* Pdif 07 50 56.9 -0.9
NEGI Negi 105.63 330 P 07 55 07.4
ORIF Oris-en-Rattie 105.64 332 *eP* Pdif 07 50 57.0 -0.9
comp=Z,7.6nm,0.7s
ORIF *e*R
comp=Z,3µm,21.8s
SBF Sospel 105.75 330 *eP* Pdif 07 50 57.0 -1.3
PLDF La Plantade 105.79 334 *eP* Pdif 07 50 59.9 +1.4
MAW Mawson 105.84 203 *eP* 07 55 15.5
comp=Z,13nm,1.0s
MAW Mawson 105.84 203 Pdiff Pdif 07 50 58.4 +0.2
comp=Z,4.3nm,0.9s,baz=85,slow=4.2,SNR=9.7
MAW PP PP 07 55 15.8 -8.4
comp=Z,11nm,0.9s,baz=81,slow=12,SNR=7.5
MAW PKKPbc 08 06 34.0
comp=Z,1.5nm,0.7s,baz=261,slow=5.0,SNR=4.6
MAW PKKPab 08 06 48.3
comp=Z,3.4nm,1.0s,baz=243,slow=6.2,SNR=4.4
MAW Mawson 105.84 203 *eP* Pdif 07 51 00.0 +1.8
comp=Z,3.6nm,0.8s
MAW *eP* 07 55 15.5
MAW Mawson 105.84 203 P Pdif 07 50 58.4 +0.2
MAW pmax pmax
comp=Z,4.0nm,0.9s
MAW pmax pmax
comp=Z,11nm,0.9s
MAW pmax pmax
comp=Z,2.0nm,0.7s
MAW pmax pmax
comp=Z,3.0nm,1.0s
TCF Toulx Ste Croi 106.11 335 *eP* Pdif 07 50 59.1 -0.8
VIVF Saint-Julien-l 106.22 332 *eP* Pdif 07 50 59.5 -0.9
comp=Z,26nm,1.1s
FRF La Foret Royal 106.34 330 *eP* Pdif 07 51 00.1 -0.9
ROSF Rostrenen 106.41 339 *eP* Pdif 07 51 00.2 -0.9
comp=Z,41nm,1.1s
SMRF Simiane la Rot 106.52 331 *eP* Pdif 07 51 00.4 -1.3
PQI Presque Isle 106.75 24 PFAKE 07 55 20.0
PQI LR LR
comp=Z,15µm,20.0s,MS6.5
MCWV Mont Chateau 106.76 35 PFAKE 07 55 20.0
MCWV LR LR
comp=Z,6µm,22.0s,MS6.1
MFF Saint Martin d 106.77 336 *eP* Pdif 07 51 02.3 -0.4
LRAL Lakeview Retre 106.88 44 *e*PKPdf 07 55 17.3
LRAL LR LR
comp=Z,3µm,20.0s,MS5.8
BINY Binghamton 106.88 31 PFAKE 07 55 20.0
BINY LR LR
comp=Z,4µm,21.0s,MS5.9
RJF Les Rejaudoux 107.19 334 *eP* Pdif 07 51 04.2 -0.4
RJF *e*R
comp=Z,4µm,22.5s
CAF Calviac 107.28 334 *eP* Pdif 07 51 04.9 -0.1
comp=Z,16nm,1.1s
MYNC Murphy 107.41 41 PFAKE 07 55 30.0
MYNC LR LR
comp=Z,4µm,20.0s,MS5.9
LFF La Frestale 107.80 335 *eP* Pdif 07 51 07.2 -0.2
WVL Waterville 107.86 26 PFAKE 07 55 30.0
WVL LR LR
comp=Z,15µm,21.0s,MS6.5
BLA Blacksburg 108.16 37 PFAKE 07 55 30.0
BLA LR LR
comp=Z,2µm,22.0s,MS5.6
EMMW East Machias 108.61 24 PFAKE 07 55 30.0
EMMW LR LR
comp=Z,12µm,20.0s,MS6.5
HRV Harvard--Oak R 108.71 28 PFAKE 07 55 30.0
HRV LR LR
comp=Z,2µm,22.0s,MS5.6
WES Weston 108.91 28 PFAKE 07 55 30.0
WES LR LR
comp=Z,2µm,19.0s,MS5.7
CBN Corbin 109.14 35 PFAKE 07 55 30.0
CBN LR LR
comp=Z,6µm,22.0s,MS6.1
QSPA South Pole Qui 109.99 180 *eP* 07 55 17.6
NHSC New Hope 111.15 40 PFAKE 07 55 30.0 +10
NHSC LR LR
comp=Z,2µm,21.0s,MS5.7
RPN Rapa Nui 111.69 112 PFAKE 07 55 30.0 +8.8
RPN LR LR
comp=Z,680nm,19.0s,MS5.2
PBRG Braganca 113.31 338 *e-* 08 06 19.1
DWPF Disney 113.70 45 PFAKE 07 55 40.0 +15
DWPF LR LR
comp=Z,3µm,20.0s,MS5.9
MBAR Mbarara 113.72 279 PFAKE 07 55 40.0 +14
MBAR LR LR
comp=Z,273nm,20.0s,MS4.8
ESDC Sonseca Array 114.11 335 PP PP 07 56 22.0 -3.8
comp=Z,7.7nm,0.8s,baz=26,slow=6.8,SNR=13
ESDC PKKPbc 08 06 08.6
comp=Z,1.7nm,0.6s,baz=225,slow=2.4,SNR=12
ESDC PKKPab 08 06 16.3
comp=Z,15nm,0.8s,baz=216,slow=4.6,SNR=46
ESLA Sonseca Array 114.11 335 PFAKE 07 55 40.0 +14
ESLA LR LR
comp=Z,22µm,20.0s
PVRL Vila Real 114.11 338 *e-* 08 06 15.4
MTE Manteigas 114.83 338 *e*PP PP 07 56 34.9 +4.1
MTE *e-* 08 06 12.4
MTE *e*SS SS 08 12 47.5 +29
MTE *e*LQ 08 25 35.8
MTE *e*LR LR 08 31 22.1
comp=Z,3µm,22.0s
PCBR Castelo Branco 115.30 338 *e-* 08 06 10.1
PBEJ Beja 117.05 337 *e-* 08 06 03.4
BBSR BB Station 120.11 30 PFAKE 07 55 50.0 +12
BBSR LR LR
comp=Z,2µm,22.0s,MS5.8
LSZ Lusaka 120.72 264 PFAKE 07 55 50.0 +11
LSZ LR LR
comp=Z,1µm,19.0s,MS5.6
CMLA Cha da Macela 121.79 352 PFAKE 07 55 50.0 +9.4
CMLA LR LR
comp=Z,2µm,19.0s,MS5.9
PAYG Puerto Ayora 121.82 78 PFAKE 07 55 50.0 +8.7
PAYG LR LR
comp=Z,1µm,20.0s,MS5.6
LBTB Lobatse 125.01 253 *e*PKPdf PKPdf 07 55 48.8 +1.6
LBTB LR LR
comp=Z,1µm,22.0s,MS5.5
SNAA Sanae 125.41 192 PKKPab 08 05 24.5
comp=Z,0.4nm,0.7s,baz=339,slow=7.7,SNR=7.6
SNAA Sanae 125.41 192⇑ *i*PKPdf PKPdf 07 55 47.3 +0.6
SNAA *e*PKPdf PKPdf 07 55 47.5 +0.7
SNAA *e* 07 56 00.7
SNAA *e* 07 57 36.6
SNAA *e* 07 59 02.2
SNAA *e* 08 09 10.6
SNAA *e* 08 09 17.6
SNAA *e* 08 09 41.5
SNAA *e* 08 09 47.9
SNAA Sanae 125.41 192⇑ *i*PKIKP PKPdf 07 55 47.3 +0.6
SNAA *e* 07 56 00.7
SNAA *e* 07 57 36.6
SNAA *e* 08 09 10.6
BOSA Boshof 125.72 249 PKP PKPdf 07 55 49.6 +1.1
comp=Z,6.8nm,0.7s,baz=92,slow=1.7,SNR=10.0
VNA2 Neumayer--Watz 126.85 191⇑ *i*PKPdf PKPdf 07 55 50.7 +1.1
VNA2 *e* 07 56 02.1
VNA2 *e* 07 56 03.6
VNA2 *e* 07 56 07.9
VNA2 *e* 07 57 43.7
VNA2 *e* 07 59 04.8
VNA2 *e* 08 09 05.8
VNA2 *e* 08 09 14.2
VNA2 *e* 08 09 38.9
VNA2 *e* 08 09 44.7
VNA3 Neumayer Olymp 126.95 190⇑ *i*PKPdf PKPdf 07 55 50.6 +0.8
VNA3 *e* 07 56 01.7
VNA3 *e* 07 56 03.4
VNA3 *e* 07 56 07.5
VNA3 *e* 07 57 41.3
VNA3 *e* 07 59 08.3
VNA3 *e* 08 09 03.1
VNA3 *e* 08 09 12.5
VNA3 *e* 08 09 43.1
VNA1 Neumayer--Stat 127.24 191⇑ *i*PKPdf PKPdf 07 55 51.6 +1.3
VNA1 *e* 07 56 02.6
VNA1 *e* 07 56 04.8
VNA1 *e* 07 56 08.4
VNA1 *e* 07 59 12.6
SUR Sutherland 129.74 244 PFAKE 07 56 10.0 +14
SUR LR LR
comp=Z,312nm,20.0s,MS5.0

SJG	**San Juan**	**130.66**	**42**	SKPbc		07 59 22.4	
	comp=Z,37nm,0.7s,baz=23,slow=3.9,SNR=10						
PMSA	**Palmer Station**	**131.22**	**163**	PFAKE		07 56 10.0	+12
PMSA				LR	LR		
	comp=Z,2μm,21.0s,MS5.8						
TSUM	**Tsumeb**	**131.45**	**262**	SKPbc		07 59 20.6	
	comp=Z,19nm,0.9s,baz=76,slow=5.5,SNR=13						
TSUM	**Tsumeb**	**131.45**	**262**	PFAKE		07 56 10.0	+10
TSUM				LR	LR		
	comp=Z,1μm,22.0s,MS5.6						
ROSC	**El Rosal**	**133.33**	**62**	PKP	PKPdf	07 56 04.7	+1.3
	comp=Z,3.1nm,0.6s,baz=75,slow=21,SNR=4.1						
SDV	**Santo Domingo**	**133.91**	**55**	SKPbc		07 59 32.0	
	comp=Z,51nm,0.9s,baz=310,slow=0.6,SNR=9.3						
SDV	**Santo Domingo**	**133.91**	**55**	PFAKE		07 56 20.0	+16
SDV				LR	LR		
	comp=Z,1μm,22.0s,MS5.5						
USHA	**Ushuaia**	**136.79**	**152**	SKPbc		07 59 40.9	
	comp=Z,19nm,1.0s,baz=191,slow=7.8,SNR=3.5						
NNA	**Nana**	**138.27**	**85**	PFAKE		07 56 30.0	+18
NNA				LR	LR		
	comp=Z,429nm,21.0s,MS5.2						
DBIC	**Dimbokro**	**140.73**	**310**	PKhKP		07 56 10.3	
	comp=Z,18nm,0.5s,baz=20,slow=4.0,SNR=68						
DBIC				PKP	PKPdf	07 56 18.2	+1.1
	comp=Z,45nm,0.7s,baz=51,slow=2.9,SNR=14						
DBIC				SKPbc		07 59 51.7	
	comp=Z,40nm,0.8s,baz=39,slow=3.2,SNR=6.8						
DBIC	**Dimbokro**	**140.73**	**310**	PKP	PKPdf	07 56 10.3	-6.7
DBIC				PKP	PKPdf	07 56 18.2	+1.1
DBIC				SKPbc		07 59 51.7	
DBIC	**Dimbokro**	**140.73**	**310**	PKHKP		07 56 10.3	
DBIC						07 56 18.2	
DBIC				pmax	pmax		
	comp=Z,18nm,0.5s						
DBIC				pmax	pmax		
	comp=Z,45nm,0.7s						
DBIC				pmax	pmax		
	comp=Z,40nm,0.9s						
LIC	**Lamto**	**141.16**	**310**	*e*PKIKP	PKPdf	07 56 12.6	-5.2
	comp=Z,174nm,0.8s						
PLCA	**Paso Flores**	**142.89**	**132**	PKP	PKPdf	07 56 20.1	+0.2
	comp=Z,12nm,0.7s,baz=226,slow=4.0,SNR=23						
PLCA				SKPbc		07 59 57.7	
	comp=Z,55nm,1.2s,baz=221,slow=3.2,SNR=6.8						
PLCA	**Paso Flores**	**142.89**	**132**	*e*PKPdf	PKPdf	07 56 17.7	-2.2
PLCA				LR	LR		
	comp=Z,2μm,22.0s,MS5.7						
PLCA	**Paso Flores**	**142.89**	**132**	PKIKP	PKPdf	07 56 20.1	+0.2
PLCA				pmax	pmax		
	comp=Z,12nm,0.7s						
PLCA				pmax	pmax		
	comp=Z,55nm,1.2s						
ARE	**Arequipa**	**144.40**	**90**	⇑*i*P	PKPbc	07 56 24.6	+1.8
DSCH	**Colegio Aleman**	**145.11**	**120**	*e*P	PKPdf	07 56 26.2	+2.2
CLCH	**Cerro Calan**	**145.13**	**120**	*e*P	PKPdf	07 56 26.0	+1.9
CMCH	**Combarbala**	**145.18**	**116**	⇓*i*P	PKPdf	07 56 25.4	+1.1
FCH	**Farellones**	**145.35**	**120**	*e*P	PKPdf	07 56 27.4	+3.0
TLL	**Tololo Astrono**	**145.50**	**114**	⇑*i*P	PKPdf	07 56 26.9	+2.1
CFAA	**Coronel Fontan**	**147.42**	**117**	PKPbc	PKPdf	07 56 32.1	+4.1
	comp=Z,4.8nm,0.8s,baz=255,slow=3.7,SNR=81						
LPAZ	**La Paz**	**147.52**	**89**	PKPbc	PKPdf	07 56 33.8	+5.2
	comp=Z,24nm,0.8s,baz=320,slow=2.6,SNR=54						
LPAZ	**La Paz**	**147.52**	**89**	*e*PKPdf	PKPdf	07 56 31.2	+2.7
LPAZ				LR	LR		
	comp=Z,1μm,22.0s,MS5.6						
LVC	**Limon Verde**	**147.58**	**101**	PFAKE		07 56 40.0	+12
LVC				LR	LR		
	comp=Z,893nm,19.0s,MS5.6						
SAML	**Samuel**	**149.81**	**73**	*e*PKPdf	PKPdf	07 56 33.8	+1.5
SAML				*e*PKPbc	PKPdf	07 56 38.8	+6.5
SAML				*e*PKPab	PKPab	07 56 43.5	-1.3
SAML				LR	LR		
	comp=Z,3μm,22.0s,MS6.0						
TRQA	**Tornquist**	**150.03**	**132**	PFAKE		07 56 40.0	+8.0
TRQA				LR	LR		
	comp=Z,2μm,19.0s,MS5.8						
SIV	**San Ignacio**	**154.08**	**85**	PKP	PKPdf	07 56 40.1	+1.8
	comp=Z,2.7nm,0.8s,baz=283,slow=1.2,SNR=13						
SIV				PKPbc	PKPdf	07 56 46.8	+8.4
	comp=Z,14nm,0.9s,baz=219,slow=2.4,SNR=36						
CPUP	**Villa Florida**	**157.85**	**110**	*e*PKPab	PKPdf	07 56 47.3	+4.1
CPUP				LR	LR		
	comp=Z,1μm,20.0s,MS5.8						
RCBR	**Riachuelo**	**165.62**	**7**	PFAKE		07 57 00.0	+8.4
RCBR				LR	LR		
	comp=Z,2μm,22.0s						
BDFB	**Brasilia**	**166.05**	**73**	PKP	PKPdf	07 56 53.4	+1.6
	comp=Z,13nm,0.8s,baz=225,slow=2.1,SNR=16						
BDFB				PKPab	PKPab	07 57 53.4	-0.9
	comp=Z,16nm,1.0s,baz=235,slow=5.9,SNR=3.2						
BAO	**Brasilia Array**	**166.06**	**73**	PKPdf	PKPdf	07 56 56.0	+4.2
CAM4	**Nova Friburgo**	**171.85**	**107**	*e*P	PKPdf	07 56 58.1	+2.8
CAM4				*i*		07 56 59.9	
CAM4				*i*		07 57 12.2	
CAM4				*i*		07 57 33.7	
CAM4				*i*		07 58 19.7	

*THE **13** 07:44:20.9, 38.97N×23.32E, h5km, ML3.0*
*ATH **13** 07:44:21.0, 39.01N×23.34E, h15km±6km, MD3.0/10, ML3.0*
*NEIC **13** 07:44:21.0, 39.01N×23.34E, h14km, ML3.0(ATH), After ATH.*
*CSEM **13** 07:44:21.1±0.1, 38.98N×23.34E, h2km, ML3.0, Error ellipse: s-maj=1.8km s-min=1.2km az=89.0*
ISC 13 07:44:20.2±0.6, 38.98N±0.02×23.33E±0.04, h7km±4km, n20, σ0=74/31, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.34**	**345**	⇑*i*PB	**Pb**	**07 44 27.6**	**-0.5**
NEO				*e*SB	**Sb**	**07 44 32.6**	**-0.7**
XOR	**Xorichti**	**0.40**	**344**	*e*Pg	**Pg**	**07 44 28.7**	**+0.4**
XOR				*e*Sg	**Sg**	**07 44 34.1**	**+0.4**
LKR	**Lokris**	**0.42**	**218**	*e*PB	**Pg**	**07 44 29.0**	**+0.2**
LKR				*e*SB	**Sb**	**07 44 35.5**	**-0.3**
LKR	**Lokris**	**0.42**	**218**	*e*Pg	**Pg**	**07 44 29.0**	**+0.2**
LKR				*e*Sb	**Sb**	**07 44 34.9**	**-0.9**
AOS	**Alonnisos**	**0.47**	**66**	*e*Pg	**Pg**	**07 44 29.6**	**0.0**
AOS				*e*Sg	**Sg**	**07 44 36.4**	**+0.6**
AGG	**Agios Georgios**	**0.78**	**273**	*e*Pg	**Pg**	**07 44 35.1**	**-0.8**
AGG				*e*Sg	**Sg**	**07 44 46.6**	**+0.2**
MPAR	**Parnis Oros**	**0.89**	**159**	*e*PN	**Pn**	**07 44 38.0**	**-0.9**
PAIG	**Paliouri**	**0.98**	**16**	*e*Pg	**Pg**	**07 44 40.0**	**+0.1**
PAIG				*e*Sg	**Sg**	**07 44 54.5**	**+1.5**
MGER	**Gerania Oros**	**1.00**	**183**	*e*PN	**Pn**	**07 44 40.5**	**0.0**
PTL	**Penteli**	**1.02**	**156**	*e*PN	**Pn**	**07 44 41.0**	**+0.2**
ATH	**Athens Observa**	**1.05**	**163**	*e*PN	**Pn**	**07 44 42.1**	**+0.8**
ATH				*e*SN	**Sn**	**07 44 55.7**	**-0.6**
NSAL	**Nisos Salamina**	**1.08**	**175**	*e*PN	**Pn**	**07 44 42.2**	**+0.5**
EVR	**Evrytania**	**1.19**	**267**	*e*PN	**Pn**	**07 44 44.5**	**+1.2**
NAIG	**Nisos Aigina**	**1.23**	**174**	*e*PN	**Pn**	**07 44 44.5**	**+0.7**
PLG	**Polygyros**	**1.39**	**4**	*e*PN	**Pn**	**07 44 45.9**	**-0.3**
OUR	**Ouranopolis**	**1.44**	**20**	*e*Pg	**Pg**	**07 44 46.7**	**-2.4**
OUR				*e*Sg	**Sg**	**07 45 06.8**	**-1.5**
LOS	**Limnos**	**1.65**	**54**	*e*Pb	**Pb**	**07 44 50.6**	**-0.1**
GRG	**Griva**	**2.10**	**340**	*e*Pn	**Pn**	**07 44 56.0**	**-0.2**
SRS	**Serrai**	**2.14**	**5**	*e*Pn	**Pn**	**07 44 57.0**	**+0.1**
SRS				*e*Sn	**Sn**	**07 45 24.4**	**+0.5**
KNT	**Kendrikon**	**2.20**	**351**	*e*Pn	**Pn**	**07 44 58.0**	**+0.2**
KNT				*e*Sn	**Sn**	**07 45 25.9**	**+0.4**

IDC 13 08:07:51.5±6.4, 46.38N×153.16E, mb3.7/4, mb1 3.9/4, mb1mx3.7/14, mbtmp3.7/4, Error ellipse: s-maj=160.0km s-min=42.0km az=5.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAR	**Eielson Array**	**36.81**	**38**	P	P	08 15 00.6	-1.9
	0.4nm,0.5s,baz=255,slow=7.5,SNR=12						
FINES	**FINESS Array B**	**64.39**	**335**	P	P	08 18 28.7	-2.1
	0.9nm,0.5s,baz=31,slow=11,SNR=6.1						
PDAR	**Pinedale Array**	**64.94**	**54**	P	P	08 18 33.0	-1.7
	0.5nm,0.8s,baz=315,slow=2.1,SNR=5.1						
NOA	**NORSAR Array B**	**68.59**	**341**	P	P	08 18 55.6	-1.9
	0.5nm,0.7s,baz=26,slow=5.9,SNR=3.3						

MAN 13 08:36:23.8, 15.02N×119.77E, h4km, mb4.3, ML3.2, MS3.0, 2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**0.76**	**11**	*e*P	Pg	08 36 38.8	-0.2
PCPH	**Palayan**	**1.39**	**67**	⇓*e*P	Pb	08 36 49.1	-0.9
PCPH				*i* S	Sb	08 37 08.4	+0.4
BCPH	**Baguio City Da**	**1.56**	**30**	⇓*e*P	Pn	08 36 52.1	-0.3
BCPH				*e*S	Sb	08 37 13.9	+1.0
BOAC	**Boac**	**2.55**	**127**	*e*P	Pn	08 37 09.7	+3.2
SJMP	**San Jose**	**2.87**	**153**	*e*P	Pn	08 37 12.7	+1.6
CVP	**Callao Caves**	**3.32**	**36**	*e*P	Pn	08 37 20.0	+2.5

*IDC **13** 09:07:13.4±0.5, 4.02S×128.72E, mb4.9/18, mb1 4.9/20, mb1mx4.9/23, mbtmp4.9/20, ML4.3/2, MS4.0/2, Ms1 3.9/2, ms1mx3.6/17, Error ellipse: s-maj=20.2km s-min=11.9km az=71.0*
*CSEM **13** 09:07:16.1, 4.20S×128.84E, h40km, mb5.5*
*BJI **13** 09:07:16.4, 4.30S×128.84E, h38km, mB5.3, mb5.0, Ms4.7, Msz4.4*
*NEIC **13** 09:07:16.9±0.1, 4.03S×128.84E, mb5.0/27, Error ellipse: s-maj=6.7km s-min=4.1km az=73.0*
*HRVD **13** 09:07:16.9±0.6, 3.85S×128.64E, h29km±1km, MW5.1/37, Centroid moment Tensor Solution. LP body waves: s13,c13; Mantle waves: s37,c46; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}5.93±.76; $M_{\theta\theta}$-4.94±.46; $M_{\phi\phi}$-0.98±.43; $M_{r\theta}$-1.76±.58; $M_{\theta\phi}$0.14±.30; $M_{\phi r}$-1.23±.77; Best double couple: $M_0$5.817×10^{16} NP1:φs100°, δ37°, λ106°. NP2:φs261°, δ55°, λ79°. Principal axes: T 6.414, Plg77°, Azm133°; N -1.193, Plg9°, Azm268°; P -5.219, Plg9°, Azm359°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **13** 09:07:17.2±1.0, 3.94S×128.81E, h33km, mb5.2/29 Error ellipse: s-maj=12.3km s-min=6.8km az=111.4*
ISC 13 09:07:15.2±0.2, 4.06S±0.03×128.84E±0.05, h23km, h23km±.7km: pP-P, n202, σ0=92/159, mb5.0/71, MS4.4/11, 17C-9D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**9.31**	**158**	⇑*i*P	**P**	**09 09 40.5**	**+9.4**
	90nm,0.5s						
FITZ	**Fitzroy Crossi**	**14.30**	**192**	*e*P	**P**	**09 10 39.2**	**+0.5**
	61nm,0.5s						
FITZ	**Fitzroy Crossi**	**14.30**	**192**	Pn	**P**	**09 10 38.2**	**-0.5**
	2.6nm,0.3s,baz=14,slow=11,SNR=16						
FITZ				LR	LR	09 16 22.6	
	comp=Z,468nm,18.7s,baz=52,slow=38						
KKM	**Kota Kinabalu**	**16.11**	**308**	*e*P	**P**	**09 11 02.4**	**+0.2**
WRAB	**Tennant Creek**	**16.67**	**162**	*e*P	**P**	**09 11 06.7**	**-2.5**
	139nm,0.9s						
WRAB	**Tennant Creek**	**16.67**	**162**	*d i*P	**P**	**09 11 07.1**	**-2.1**
WRA	**Warramunga Arr**	**16.68**	**162**	Pn	**P**	**09 11 07.0**	**-2.3**
	1.7nm,0.3s,baz=340,slow=13,SNR=88						
WB2	**Warramunga Arr**	**16.68**	**162**	⇓*i*P	**P**	**09 11 07.0**	**-2.3**
PMG	**Port Moresby**	**18.95**	**107**	P	**P**	**09 11 38.7**	**+1.2**
	1.3nm,0.3s,baz=304,slow=5.5,SNR=9.2						
MBWA	**Marble Bar**	**19.17**	**207**	*e*P	**P**	**09 11 40.3**	**+0.3**
	57nm,0.6s						
KSM	**Kuching**	**19.32**	**286**	*e*P	**P**	**09 11 42.0**	**+0.2**
CTA	**Charters Tower**	**23.28**	**135**	⇑*i*P	**P**	**09 12 24.1**	**+1.7**
	37nm,0.9s,mb4.8						
CTA	**Charters Tower**	**23.28**	**135**	P	**P**	**09 12 24.4**	**+2.0**
	55nm,1.0s,mb5.0,baz=317,slow=11,SNR=34						
CTA	**Charters Tower**	**23.28**	**135**	⇑*i*P	**P**	**09 12 24.1**	**+1.7**
CTA				pmax	pmax		
	comp=Z,37nm,0.9s						
CTAO	**Charters Tower**	**23.28**	**135**	*e*P	**P**	**09 12 23.6**	**+1.2**
	comp=Z,62nm,1.0s,mb5.0						
CTAO	**Charters Tower**	**23.28**	**135**	*e*P	**P**	**09 12 23.6**	**+1.2**
CTAO				pmax	pmax		
	comp=Z,62nm,1.0s,mb5.0						
FORT	**Forrest**	**26.59**	**181**	*e*P	**P**	**09 12 54.5**	**+0.7**
	comp=Z,100nm,0.8s,mb5.4						
KLBR	**Kellerberrin**	**29.30**	**200**	*e*P	**P**	**09 13 18.9**	**+0.5**
	comp=Z,43nm,0.6s,mb5.4						
STKA	**Stephens Creek**	**30.16**	**158**	⇑*i*P	**P**	**09 13 26.3**	**+0.3**
	comp=Z,8.8nm,0.7s,mb4.6						
STKA	**Stephens Creek**	**30.16**	**158**	P	**P**	**09 13 26.2**	**+0.2**
	comp=Z,8.2nm,0.8s,mb4.5,baz=325,slow=10,SNR=21						
STKA				LR	LR	09 25 49.5	
	comp=Z,338nm,21.5s,MS4.0,baz=112,slow=37						
MUN	**Mundaring**	**30.20**	**202**	*e*P	**P**	**09 13 26.8**	**+0.5**
	comp=Z,32nm,0.9s,mb5.0						
MUN	**Mundaring**	**30.20**	**202**	*e*P	**P**	**09 13 26.8**	**+0.5**
MUN				pmax	pmax		
	comp=Z,32nm,0.9s,mb5.0						
NWAO	**Narrogin (SRO)**	**30.70**	**199**	P	**P**	**09 13 30.8**	**0.0**
	comp=Z,24nm,0.7s,mb5.1,baz=30,slow=5.4,SNR=10						
JOW	**Kunigami**	**30.71**	**359**	P	**P**	**09 13 31.1**	**+0.2**
	comp=Z,29nm,0.7s,mb5.2,baz=194,slow=10.0,SNR=18						
HNR	**Honiara**	**31.34**	**101**	P	**P**	**09 13 35.0**	**-1.5**
	comp=Z,82nm,0.8s,mb5.6,baz=179,slow=4.8,SNR=4.3						
ADE	**Adelaide**	**32.09**	**165**	P	**P**	**09 13 44.1**	**+1.2**
KKTK	**Khon Kaen**	**32.75**	**309**	P	**P**	**09 13 47.5**	**-1.3**
	comp=Z,679nm,0.7s						
SSE	**Sheshan**	**35.71**	**349**	*e*P	**P**	**09 14 16.0**	**+1.8**
SSE				AMB	AMB		
	comp=Z,22nm,0.8s,mb5.1						
SSE				AMB	AMB		
	comp=Z,165nm,6.9s						
NANT	**Nan**	**35.83**	**310**	⇓P	**P**	**09 14 17.0**	**+1.7**
	comp=Z,100nm,0.7s,mb5.8						
TOO	**Toolangi**	**36.67**	**158**	*e*P	**P**	**09 14 24.3**	**+2.1**
	comp=Z,7.4nm,0.7s,mb4.6						
TOO	**Toolangi**	**36.67**	**158**	*e*P	**P**	**09 14 24.3**	**+2.1**
TOO				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.6						
JNU	**Nakatsue**	**37.03**	**3**	P	**P**	**09 14 24.9**	**-0.4**
	comp=Z,13nm,0.7s,mb4.8,baz=163,slow=4.0,SNR=8.4						
NJ2	**Nanjing**	**37.14**	**346**	*e*P	**P**	**09 14 27.3**	**+1.1**
NJ2				AP	pP	09 14 34.1	+1.0
NJ2				XP	sP	09 14 38.3	+2.2
NJ2				PP	PP	09 15 54.9	+1.6
NJ2				S	**S**	**09 20 09.0**	**-1.8**
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,610nm,4.6s						
NJ2				LR	LR		
	comp=N,5μm,15.1s,MS5.5						
NJ2				LR	LR		
	comp=E,4μm,19.4s,MS5.5						
NJ2				LR	LR		
	comp=Z,840nm,16.9s,MS4.6						
CHRT	**Chiangrai**	**37.16**	**311**	⇑P	**P**	**09 14 27.5**	**+1.0**
	comp=Z,118nm,0.7s,mb5.8						
GYA	**Guiyang**	**37.16**	**326**	⇑*i*P	**P**	**09 14 27.3**	**+0.9**
GYA				AP	pP	09 14 33.8	+0.5
GYA				PP	PP	09 15 56.6	+3.0
GYA				PCP	PcP	09 16 47.5	+0.7
GYA				S	**S**	**09 20 16.8**	**+5.7**
GYA				XS		09 20 26.8	
GYA				SCP		09 20 29.8	
GYA				SCS	ScS	09 24 36.6	-0.8
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0						
GYA				LR	LR		
	comp=N,370nm,18.4s,MS4.4						
GYA				LR	LR		
	comp=E,410nm,17.5s,MS4.4						
GYA				LR	LR		
	comp=Z,350nm,17.6s,MS4.2						
KMI	**Kunming**	**38.52**	**320**	P	**P**	**09 14 39.9**	**+2.0**
KMI				AP	pP	09 14 48.0	+3.2
KMI				XP	sP	09 14 50.4	+2.7
KMI				S	**S**	**09 20 35.9**	**+4.1**
KMI				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.8						
KMI				AMB	AMB		
	comp=Z,206nm,4.6s						
KMI				LR	LR		
	comp=N,375nm,9.3s						
KMI				LR	LR		
	comp=E,300nm,11.2s						
KMI				LR	LR		
	comp=Z,238nm,16.5s						
ENH	**Enshi**	**38.83**	**333**	*e*P	**P**	**09 14 40.1**	**-0.3**
NOUC	**Port Laguerre**	**40.49**	**120**	*e*P	**P**	**09 14 53.9**	**-0.3**
DZM	**Mont Dzumac**	**40.60**	**120**	*e*P	**P**	**09 14 56.1**	**+1.0**
DZM	**Mont Dzumac**	**40.60**	**120**	P	**P**	**09 14 56.4**	**+1.3**
	comp=Z,15nm,0.6s,mb4.8,baz=127,slow=6.4,SNR=26						
DZM	**Mont Dzumac**	**40.60**	**120**	*e*P	**P**	**09 14 56.1**	**+1.0**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KS15	**Wonju Array Si**	**41.30**	**359**	⇓*e*P	**P**	**09 15 01.6**	**+0.9**
KS15				*e*	pP	09 15 09.2	+1.6
MAJO	**Matsushiro**	**41.33**	**11**	*e*P	**P**	**09 15 00.1**	**-0.8**
	comp=Z,22nm,0.9s,mb4.8						
MAJO	**Matsushiro**	**41.33**	**11**	*e*P	**P**	**09 15 00.1**	**-0.8**
MAJO				pmax	pmax		
	comp=Z,22nm,0.9s,mb4.8						
MAT	**Matsushiro**	**41.33**	**11**	P	**P**	**09 14 59.8**	**-1.1**
MAT	**Matsushiro**	**41.33**	**11**	*e*P	**P**	**09 15 00.0**	**-0.9**
	comp=Z,7.6nm,0.9s,mb4.3						
MAT	**Matsushiro**	**41.33**	**11**	*e*P	**P**	**09 15 00.0**	**-0.9**
MAT				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.3						
XAN	**Xi'an**	**42.30**	**335**	P	**P**	**09 15 08.3**	**-0.7**
XAN				AMB	AMB		
	comp=Z,12nm,1.2s,mb4.4						
SNY	**Shenyang**	**45.92**	**355**	⇑P	**P**	**09 15 44.1**	**+6.0**
SNY				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
HHC	**Hu-ho-hao-te**	**47.41**	**342**	*e*P	**P**	**09 15 50.9**	**+1.0**
HHC				AP	pP	09 15 58.5	+1.6
HHC				PP	PP	09 17 43.8	+3.3
HHC				S	**S**	**09 22 42.3**	**+0.7**
HHC				AMB	AMB		
	comp=Z,66nm,0.4s,mb5.9						
HHC				AMB	AMB		
	comp=Z,734nm,5.5s						
HHC				LR	LR		
	comp=N,523nm,19.6s,MS4.8						
HHC				LR	LR		
	comp=E,727nm,16.0s,MS4.8						
HHC				LR	LR		
	comp=Z,1μm,19.0s,MS4.8						
CN2	**Changchun**	**47.74**	**357**	*e*P	**P**	**09 15 52.8**	**+0.4**
CN2				*e*AP	pP	09 15 59.3	-0.1
CN2				*e*S	**S**	**09 22 54.6**	**+8.3**
CN2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.3						
CN2				LR	LR		
	comp=Z,230nm,17.0s,MS4.2						
MDJ	**Mudanjiang**	**48.46**	**1**	P	**P**	**09 15 57.5**	**-0.5**
MDJ				PCP	PcP	09 17 22.8	-1.6
MDJ				PP	PP	09 17 50.4	0.0
MDJ				SCP		09 21 17.1	
MDJ				PCS		09 21 19.8	
MDJ				S	**S**	**09 22 57.8**	**+1.3**
MDJ				AMB	AMB		
	comp=Z,13nm,1.2s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,207nm,11.9s						
MDJ				LR	LR		
	comp=N,112nm,15.0s,MS4.4						
MDJ				LR	LR		
	comp=E,247nm,12.7s,MS4.4						
MDJ				LR	LR		
	comp=Z,321nm,14.5s,MS4.4						
MDJ	**Mudanjiang**	**48.46**	**1**	*e*P	**P**	**09 15 58.1**	**+0.1**
	comp=Z,12nm,0.8s,mb5.0						
LSA	**Lhasa**	**49.29**	**315**	P	**P**	**09 16 05.5**	**+0.9**
LSA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
LSA	**Lhasa**	**49.29**	**315**	*e*P	**P**	**09 16 05.6**	**+1.0**
	comp=Z,9.1nm,0.5s,mb5.1						
LSA	**Lhasa**	**49.29**	**315**	*e*P	**P**	**09 16 05.6**	**+1.0**
LSA				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb5.1						
ASAJ	**Asahikawa**	**49.52**	**13**	P	**P**	**09 16 06.5**	**+0.3**
	comp=Z,15nm,0.7s,mb5.1,baz=230,slow=12,SNR=20						
GTA	**Gaotai**	**50.85**	**331**	*e*P	**P**	**09 16 16.1**	**-0.3**
GTA				PCP	PcP	09 17 33.5	+0.4
GTA				PP	PP	09 18 13.1	-0.5
GTA				PPP	PPP	09 19 11.3	-1.4
GTA				S	**S**	**09 23 31.8**	**+2.0**
GTA				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.8						
GTA				AMB	AMB		
	comp=Z,273nm,6.5s						
GTA				LR	LR		
	comp=N,221nm,18.3s,MS4.5						
GTA				LR	LR		
	comp=E,260nm,13.3s,MS4.5						
GTA				LR	LR		
	comp=Z,299nm,12.9s,MS4.5						
YSS	**Yuzh-Sakhalins**	**52.26**	**12**	*e*P	**P**	**09 16 26.0**	**-1.0**
YSS				*e*	pP	09 16 32.0	-2.1
PKI	**Pulchoki**	**52.36**	**310**	*e*P	**P**	**09 16 27.0**	**-1.0**
	comp=Z,16nm,0.8s,mb5.0						
PKI	**Pulchoki**	**52.36**	**310**	*e*P	**P**	**09 16 27.0**	**-1.0**
PKI				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
KKN	**Kakani**	**52.57**	**310**	*e*P	**P**	**09 16 28.8**	**-0.7**
	comp=Z,22nm,0.7s,mb5.2						
KKN	**Kakani**	**52.57**	**310**	*e*P	**P**	**09 16 28.8**	**-0.7**
KKN				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.9						
DMN	**Daman**	**52.61**	**309**	*e*P	**P**	**09 16 29.4**	**-0.5**
	comp=Z,58nm,1.1s,mb5.4						
KLR	**Kul'dur**	**53.13**	**2**	*e*P	**P**	**09 16 29.3**	**-4.1**
GKN	**Gorkha**	**53.16**	**310**	*e*P	**P**	**09 16 33.0**	**-1.0**
	comp=Z,45nm,0.8s,mb5.5						
KOLN	**Koldanda**	**53.85**	**309**	*e*P	**P**	**09 16 38.5**	**-0.5**
	comp=Z,52nm,0.8s,mb5.5						
HYB	**Hyderabad**	**54.01**	**295**	*i* P	**P**	**09 16 39.5**	**-0.8**
HYB	**Hyderabad**	**54.01**	**295**	*e*P	**P**	**09 16 39.5**	**-0.8**
SONM	**Songino Array**	**55.30**	**342**	P	**P**	**09 16 48.6**	**-0.8**
	comp=Z,6.1nm,1.1s,mb4.6,baz=158,slow=8.0,SNR=8.9						
CIT	**Chita**	**57.36**	**349**	*e*P	**P**	**09 17 04.5**	**+0.5**
CIT				*e*		09 25 09.5	
CIT				pmax	pmax		
	comp=Z,37nm,2.6s,mb5.0						
**Z

MKAR Makanchi Array 65.15 327 P **P** **09 17 56.0 -0.7**
comp=E,16nm,0.7s,mb5.2,baz=126,slow=7.8,SNR=197
MKAR Makanchi Array 65.15 327 *e*P **P** **09 17 55.4 -1.3**
MKAR pmax pmax
comp=Z,8.0nm,0.6s
YAK Yakutsk 65.90 0 *e*P **P** **09 18 01.0 -0.3**
comp=Z,141nm,0.7s
YAK *e* pP 09 18 08.4 -0.1
YAK Yakutsk 65.90 0 *c i*P **P** **09 18 00.9 -0.4**
YAK *e* pP 09 18 07.5 -1.0
YAK pmax pmax
comp=Z,45nm,0.9s,mb5.5
YAK pmax pmax
comp=N,18nm,1.2s
YAK pmax pmax
comp=N,12nm,0.8s
YAK pmax pmax
comp=E,6.0nm,1.0s
KZA Kyzart 66.80 319 P **P** **09 18 08.0 +0.6**
SNR=9.7
TKM2 Tokmak 2 66.99 320 P **P** **09 18 08.3 -0.3**
SNR=15
KBK Karagaybulak 67.28 320 P **P** **09 18 10.5 +0.1**
SNR=5.3
AAK Ala-Archa 67.56 320 P **P** **09 18 11.7 -0.5**
AAK pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
AML Almayashu 67.84 319 P **P** **09 18 14.3 +0.3**
SNR=12
USP Osenovka 67.86 320 P **P** **09 18 13.6 -0.4**
SNR=13
FX1 Attu Island--F 67.88 27 *e*P **P** **09 18 13.6 -0.3**
SEY Seymchan 69.15 11 *e*P **P** **09 18 22.2 +0.5**
SEY pmax pmax
comp=N,10.0nm,0.7s
SEY pmax pmax
comp=E,8.0nm,0.7s
SEY pmax pmax
comp=Z,40nm,0.7s,mb5.5
KURK Kurchatov 69.42 329 *e*P **P** **09 18 22.8 -0.8**
comp=Z,32nm,0.8s,mb5.3
KURK *e* pP 09 18 29.6 -1.2
KURK *e* 09 18 32.0
KURK Kurchatov 69.42 329 *e*P **P** **09 18 22.8 -0.7**
KURK *e* pP 09 18 32.0 +1.3
KURK pmax pmax
comp=Z,32nm,0.8s,mb5.3
NVS Novosibirsk 69.73 334⇑ *i*P **P** **09 18 23.8 -1.6**
NVS pmax pmax
comp=Z,45nm,1.9s,mb5.1
NVS pmax pmax
comp=N,25nm,1.5s
NVS pmax pmax
comp=E,27nm,1.3s
KKAR Karatay Array 70.38 319 *i*P **P** **09 18 28.2 -1.3**
KKAR pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
VOSK Vostochnaya 74.51 328 P **P** **09 18 52.9 -0.9**
VOSK pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
BVA0 Borovoye Array 74.97 328 *i*P **P** **09 18 56.0 -0.4**
BVA0 pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
BVAR Borovoye Array 74.97 328 P **P** **09 18 56.1 -0.4**
comp=Z,12nm,0.9s,mb4.8,baz=135,slow=6.3,SNR=58
BRVK Borovoye 75.04 328 *e*P **P** **09 18 56.6 -0.3**
comp=Z,11nm,0.9s,mb4.8
BRVK *e* pP 09 19 04.7 +0.6
BRVK Borovoye 75.04 328 *e*P **P** **09 18 56.6 -0.2**
BRVK *e* pP 09 19 04.7 +0.6
BRVK pmax pmax
comp=Z,11nm,0.9s,mb4.8
VNDA Vanda 75.49 173 P **P** **09 18 58.9 0.0**
comp=Z,7.7nm,0.8s,mb4.7,baz=320,slow=6.5,SNR=45
VNDA Vanda 75.49 173 *e*P **P** **09 18 58.3 -0.6**
comp=Z,10nm,0.9s,mb4.8
VNDA *e*pP pP 09 19 05.2 -1.1
VNDA Vanda 75.49 173 *e*P **P** **09 18 58.3 -0.7**
VNDA *e**PP pP 09 19 05.2 -1.1
VNDA pmax pmax
comp=Z,10.0nm,0.9s
TIXI Tiksi 75.56 0 *d i*P **P** **09 18 58.7 -0.8**
TIXI pmax pmax
comp=Z,42nm,1.7s,mb5.1
SBA Scott Base 76.39 172 *e*P **P** **09 19 03.8 -0.3**
comp=Z,9.4nm,0.9s,mb4.7
SBA *e*pP pP 09 19 11.0 -0.3
SBA Scott Base 76.39 172 *e*P **P** **09 19 03.8 -0.2**
SBA *e**PP pP 09 19 11.0 -0.4
SBA pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
BILL Bilibino 76.54 14 *d i*P **P** **09 19 04.9 -0.1**
BILL *e* 09 19 14.9
BILL *e*SS SS 09 33 40.0 -6.4
BILL pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
BILL MLR MLR
comp=Z,100nm,17.0s,MS4.2
MAW Mawson 77.26 201 P **P** **09 19 09.0 0.0**
comp=Z,3.7nm,0.9s,mb4.3,baz=76,slow=6.3,SNR=5.1
AB31 Akbulak array 79.50 322 *i*P **P** **09 19 21.2 -0.4**
AB31 pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
OPO Ambohidratompo 80.81 252 P **P** **09 19 29.5 +0.2**
comp=Z,2.0nm,0.6s,mb4.2,baz=290,slow=1.4,SNR=7.0
SVE Sverdlovsk 81.67 329⇑ *e*P **P** **09 19 33.4 +0.5**
SVE *e* pP 09 19 40.5 +0.2
SVE *e* 09 19 51.0
SVE pmax pmax
comp=Z,44nm,1.1s,mb5.3
HASS Wahat al Ahsa' 81.92 296 P **P** **09 19 35.3 +0.4**
SDPT Sand Point 82.49 33 *e*P **P** **09 19 37.3 +0.1**
ARU Arti 82.61 328 *e*P **P** **09 19 37.3 -0.6**
comp=Z,39nm,1.0s,mb5.4
ARU Arti 82.61 328⇑ *i*P **P** **09 19 37.6 -0.3**
ARU *e* 09 22 50.3
ARU *e*PPP PPP 09 24 44.6 +2.5
ARU *e*S S 09 29 50.0 -2.3
ARU *e*SS SS 09 35 19.5 +1.8
ARU pmax pmax
comp=Z,26nm,0.8s,mb5.3
CHGN Chignik 83.88 32 *e*P **P** **09 19 44.6 +0.2**
SYO Syowa Base 85.97 201 ⇑P **P** **09 19 53.5 -1.0**
SVW2 Sparrevohn 86.60 28 *e*P **P** **09 19 59.5 +1.7**
TTA Tatalina 86.88 26 *e*P **P** **09 19 59.3 +0.2**
KDAK Kodiak Island 87.34 32 *e*P **P** **09 20 02.3 +0.9**
DGRG David-gareji 87.77 312 P **P** **09 20 04.0 +0.1**
GNI Garni 88.08 310 *d i*P **P** **09 20 04.4 -1.0**
GNI pmax pmax
comp=Z,16nm,1.7s
IMA Indian Mountai 88.62 23 *e*P **P** **09 20 07.9 +0.5**
BLJS Baljurashi 88.77 290 P **P** **09 20 10.6 +1.4**
ZEI Tsey 89.01 313 *e* **P** **09 20 10.7 +0.9**
SLKM Skilak Lake 89.05 29 *e*P **P** **09 20 09.7 +0.1**
HILS Ha'il 89.22 297 P **P** **09 20 12.0 +0.7**
ONI Oni 89.32 313 P **P** **09 20 12.3 +1.0**
PMR Palmer 89.75 28 *e*P **P** **09 20 12.8 0.0**
KIV Kislovodsk 90.02 314⇓ *i*P **P** **09 20 13.4 -1.1**
KIV *e* 09 23 49.0
KIV *e*S S 09 30 45.2 -19
KIV pmax pmax
comp=Z,6.0nm,0.9s,mb4.9
KIV MLR MLR
comp=Z,100nm,15.0s,MS4.4
SML Sawmill 90.16 28 *e*P **P** **09 20 14,7 0.0**
SML *e* pP 09 20 21.8 -0.4
MCK McKinley 90.17 26 *e*P **P** **09 20 14.0 -0.7**
comp=Z,5.7nm,1.0s,mb4.9
MCK *e* pP 09 20 21.4 -0.8
MCK McKinley 90.17 26 *e*P **P** **09 20 14.0 -0.7**
MCK *e* pP 09 20 21.4 -0.8
MCK pmax pmax
comp=Z,6.0nm,1.0s,mb4.9
ILAR Eielson Array 91.19 25 P **P** **09 20 18.4 -1.0**
comp=Z,5.1nm,0.6s,mb5.0,baz=247,slow=4.8,SNR=101
ILAR PP PP 09 24 00.5 +1.4
comp=Z,0.6nm,0.8s,baz=252,slow=6.8,SNR=4.7
ILAR PKKPbc 09 37 42.5
comp=Z,0.6nm,0.7s,baz=40,slow=1.6,SNR=8.7
DIV Divide 91.29 29 *e*P **P** **09 20 21.1 +1.1**
comp=Z,35nm,0.6s,mb5.9
MENT Mentasta 92.42 27 *e*P **P** **09 20 25.7 +0.6**
UMJS Umm Lajj 93.09 295 P **P** **09 20 30.1 +1.0**
ANN Anapa 93.83 314 *e*P **P** **09 20 30.6 -1.4**
ANN pmax pmax
comp=Z,32nm,1.0s,mb5.7
DAWY Dawson 94.40 26 *e*P **P** **09 20 35.0 +0.8**
DAWY *e* pP 09 20 42.1 +0.5
JMQS Jabal Moqyreh 94.53 299 P **P** **09 20 36.3 +0.6**
OBN Obninsk 94.60 325⇓ *i*P **P** **09 20 34.2 -1.1**
OBN pmax pmax
comp=Z,8.0nm,0.5s,mb5.4
OBN MLR MLR
comp=Z,200nm,21.0s,MS4.6
JMOS Jabal al Moall 95.21 299 P **P** **09 20 39.3 +0.5**
HAQS Haql 95.36 299 P **P** **09 20 40.2 +0.7**
BRTR Keskin Array B 96.57 309 P **P** **09 20 43.8 -0.9**
comp=Z,1.4nm,0.8s,mb4.4,baz=121,slow=7.2,SNR=7.5
INK Inuvik 96.58 22 *e*P **P** **09 20 43.3 -0.8**
comp=Z,12nm,1.1s,mb5.2
INK Inuvik 96.58 22 *e*P **P** **09 20 43.3 -0.8**
INK pmax pmax
comp=Z,12nm,1.1s
SNAA Sanae 98.23 194⇑ *i*Pdif **P** **09 20 51.7 +0.2**
SNAA *e* 09 21 13.6
ARCES ARCESS Array B 98.44 340 P **P** **09 20 51.4 -1.0**
comp=Z,3.3nm,0.7s,mb5.0,baz=83,slow=5.8,SNR=19
FINES FINESS Array B 99.64 332 P **P** **09 20 56.7 -1.3**
comp=Z,1.0nm,0.6s,mb4.4,baz=63,slow=4.3,SNR=5.5
FINES PKiKP 09 25 27.0
comp=Z,1.1nm,0.7s,baz=153,slow=4.3,SNR=4.2
FINES FINESS Array B 99.64 332 P **P** **09 20 56.7 -1.3**
VNA2 Neumayer--Watz 99.81 193⇑ *i*Pdif **P** **09 21 00.5 +1.8**
VNA2 *e* 09 21 23.1
VNA2 *e* 09 37 18.8
VNA3 Neumayer Olymp 100.09 193⇑ *i*Pdif P 09 20 58.9 -1.0
VNA3 *e* 09 21 20.3
CLL Collm 109.12 323 *e* 09 25 45.0
CLL *i **PPP 09 26 20.1
GERES GERESS Array B 109.43 321 PKiKP 09 25 45.0
comp=Z,1.2nm,0.5s,baz=27,slow=3.0,SNR=9.0
HINF Hinteralfeld 114.08 321 *e*PKIKP PKPdf 09 25 53.8 -3.4
comp=Z,4.6nm,0.5s
HAU Haudompre 114.32 322 *e*PKIKP PKPdf 09 25 54.5 -3.2
SNOW Snow King Moun 114.57 44 *e*PKPdf PKPdf 09 25 56.7 -1.5
LOHW Long Hollow 114.62 43 *e*PKPdf PKPdf 09 25 55.5 -2.8
BAIF Baives 114.78 324 *e*PKIKP PKPdf 09 25 55.8 -2.7
comp=Z,4.9nm,0.7s
LPG La Plagne 115.00 319 *e*PKIKP PKPdf 09 25 56.5 -2.5
comp=Z,8.6nm,0.7s
LPL La Plagne 115.01 319 *e*PKIKP PKPdf 09 25 56.4 -2.6
comp=Z,10nm,0.7s
CABF La Chapelle 115.02 320 *e*PKIKP PKPdf 09 25 56.4 -2.6
comp=Z,14nm,0.6s
MBDF Montbardon 115.27 318 *e*PKIKP PKPdf 09 25 56.9 -2.7
comp=Z,6.8nm,0.7s
PDAR Pinedale Array 115.63 44 PKP PKPdf 09 25 58.1 -2.3
comp=Z,0.7nm,0.8s,baz=19,slow=0.5,SNR=6.9
PDAR PKKPbc 09 36 29.9
comp=Z,0.4nm,0.8s,baz=108,slow=4.7,SNR=3.9
PDAR PKKPab 09 36 36.9
comp=Z,0.5nm,0.8s,baz=117,slow=6.6,SNR=4.3
ORIF Oris-en-Rattie 115.79 319 *e*PKIKP PKPdf 09 25 57.6 -3.0
comp=Z,4.3nm,0.5s
LOR Lormes 116.16 322 *e*PKIKP PKPdf 09 25 58.2 -3.1
SMF Signal de Mont 116.43 321 *e*PKIKP PKPdf 09 25 58.4 -3.4
comp=Z,5.0nm,0.8s
SSF Saint Saulge 116.47 321 *e*PKIKP PKPdf 09 25 58.9 -3.0
comp=Z,10nm,0.8s
VIVF Saint-Julien-l 116.61 319 *e*PKIKP PKPdf 09 25 59.1 -3.1
comp=Z,3.6nm,0.7s
AVF Avril sur Loir 116.68 321 *e*PKIKP PKPdf 09 25 58.9 -3.4
comp=Z,2.4nm,0.5s
BGF Bois d'Agland 117.09 321 *e*PKIKP PKPdf 09 26 00.3 -2.8
comp=Z,15nm,0.7s
LASF Ste Croix 117.45 318 *e*PKIKP PKPdf 09 26 00.9 -2.9
TCF Toulx Ste Croi 117.60 321 *e*PKIKP PKPdf 09 26 01.2 -2.8
comp=Z,4.7nm,0.6s
LDF La Druitiere 117.97 324 *e*PKIKP PKPdf 09 26 01.7 -3.0
FLN La Foliniere 118.09 325 *e*PKIKP PKPdf 09 26 01.8 -3.1
CAF Calviac 118.27 320 *e*PKIKP PKPdf 09 26 02.3 -3.1
RJF Les Rejaudoux 118.46 320 *e*PKIKP PKPdf 09 26 02.5 -3.3
MTLF Montolieu 118.83 318 *e*PKIKP PKPdf 09 26 03.4 -3.1
comp=Z,2.3nm,0.4s
MFF Saint Martin d 118.92 322 *e*PKIKP PKPdf 09 26 03.5 -3.1
comp=Z,14nm,0.6s
LFF La Frestale 119.12 320 *e*PKIKP PKPdf 09 26 04.4 -2.7
comp=Z,7.7nm,0.5s
SGMF Saint Gilles 119.55 325 *e*PKIKP PKPdf 09 26 04.5 -3.3
comp=Z,18nm,0.9s
ROSF Rostrenen 119.91 325 *e*PKIKP PKPdf 09 26 05.3 -3.1
comp=Z,8.6nm,0.7s
QUIF Quistinic 120.07 325 *e*PKIKP PKPdf 09 26 05.6 -3.2
comp=Z,13nm,0.7s
EPF Esparros 120.21 318 *e*PKIKP PKPdf 09 26 06.4 -2.8
comp=Z,4.0nm,0.6s
ANMO Albuquerque 120.44 52 *e*PKPdf PKPdf 09 26 08.0 -1.9
ANMO *e* 09 26 15.2
ANMO Albuquerque 120.44 52 *c i*PKIKP PKPdf 09 26 07.2 -2.7
BNM Barren Site 120.55 52 *e*PKPdf PKPdf 09 26 08.3 -1.8
ETSF Etsaut 120.86 319 *e*PKIKP PKPdf 09 26 08.1 -2.4
comp=Z,8.4nm,0.8s
MNTX Cornudas Mount 122.27 55 *e*PKPdf PKPdf 09 26 11.5 -2.0
CCM Cathedral Cave 130.22 42 *e*PKPdf PKPdf 09 26 23.4 -5.3
PLCA Paso Flores 132.02 160 PKP PKPdf 09 26 29.9 -2.1
comp=Z,2.1nm,0.9s,baz=230,slow=17,SNR=4.6
PLCA Paso Flores 132.02 160 PKP PKPdf 09 26 29.9 -2.1
DBIC Dimbokro 133.84 275 PKhKP 09 26 28.5
comp=Z,2.7nm,0.7s,baz=135,slow=11,SNR=3.1
LRAL Lakeview Retre 135.84 45 *e*PKPdf PKPdf 09 26 36.0 -3.3
MYNC Murphy 136.61 41 *e*PKPdf PKPdf 09 26 38.9 -1.7
CFAA Coronel Fontan 140.99 157 PKhKP 09 26 40.1
comp=Z,0.5nm,0.7s,baz=258,slow=5.1,SNR=11
CPUP Villa Florida 149.21 169 PKPbc PKPdf 09 27 04.7 +1.8
comp=Z,12nm,0.7s,baz=209,slow=2.4,SNR=43
CPUP Villa Florida 149.21 169 *e*PKPdf PKPdf 09 27 00.0 -2.8
CPUP *e*PKPbc PKPdf 09 27 04.3 +1.5
NNA Nana 149.90 122 *e*PKPbc PKPdf 09 27 07.1 +2.9
NNA *e*PKPab PKPab 09 27 13.0 +0.5
LPAZ La Paz 153.73 141 PKP PKPdf 09 27 09.9 +0.1
comp=Z,0.5nm,0.7s,baz=124,slow=4.8,SNR=4.1
LPAZ PKPbc PKPdf 09 27 16.6 +6.8
comp=Z,2.5nm,0.8s,baz=98,slow=2.4,SNR=15
LPAZ PKPab PKPab 09 27 29.9 +1.4
comp=Z,3.4nm,0.6s,baz=246,slow=5.0,SNR=11
BDFB Brasilia 160.18 189 PKP PKPdf 09 27 13.6 -4.3
comp=Z,1.4nm,0.5s,baz=180,slow=7.7,SNR=3.5
SAML Samuel 162.38 137 *e*PKPdf PKPdf 09 27 15.8 -4.4
SAML *e* 09 27 24.6

*NEIC **13** 09:22:05.5,36.84N×6.82W,h16km,MN2.7(MDD),After MDD.*
*CSEM **13** 09:22:05.2±0.2,36.86N×6.80W,h10km,ML2.6/6,Error ellipse: s-maj=4.4km s-min=2.1km az=26.0*
*SFS **13** 09:22:05.0,36.86N×6.82W*
*INMG **13** 09:22:06.3±1.1,36.91N×6.78W,ML2.5,Error ellipse: s-maj=5.1km s-min=2.1km az=27.0*
MDD 13 09:22:06.0±0.6,36.86N×6.82W,h17km±5km,mbLg2.6/15, Error ellipse: s-maj=6.7km s-min=2.9km az=29.0, PRXIMO,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
SCRT	**Cerro San Cris**	**0.56**	**114**	*e*S	Sb	09 22 30.5	+5.9
GIBL	**Gibalbin**	**0.68**	**92**	Pg	Pb	09 22 19.2	+0.2
GIBL				Lg		09 22 28.8	
GIBL	**Gibalbin**	**0.68**	**92**	*i* P	Pb	09 22 19.2	+0.2
ESPR	**Espera**	**0.77**	**89**	Pg	Pb	09 22 19.3	-1.2
	16nm,0.3s,SNR=41						
ESPR				Lg		09 22 30.4	
	237nm,0.3s,SNR=12						
ESPR	**Espera**	**0.77**	**89**	Pg	Pb	09 22 19.3	-1.3
	16nm,0.3s,SNR=41						
CNIL	**Conil**	**0.79**	**128**	Pg	Pb	09 22 20.7	-0.1
CNIL	**Conil**	**0.79**	**128**	*e*P	Pb	09 22 20.7	-0.1
EGRO	**El Granado**	**0.86**	**322**	Pg	Pb	09 22 21.4	-0.7
	0.9nm,0.1s,SNR=115						
EGRO				Lg		09 22 33.2	
	102nm,0.1s,SNR=53						
EGRO	**El Granado**	**0.86**	**322**	Pg	Pb	09 22 21.4	-0.6
	0.9nm,0.1s,SNR=115						
EMIN	**Mina Concepcio**	**0.91**	**7**	Pg	Pb	09 22 22.3	-0.7
	12nm,0.5s,SNR=381						
EMIN				Lg		09 22 35.4	
	139nm,0.1s,SNR=57						
EMIN	**Mina Concepcio**	**0.91**	**7**	Pg	Pb	09 22 22.3	-0.6
	12nm,0.5s,SNR=381						
LIJA	**Lijar**	**1.13**	**87**	Lg		09 22 41.8	
LIJA	**Lijar**	**1.13**	**87**	*i* P	Pb	09 22 29.0	+2.2
LIJA				*e*S	Sb	09 22 41.8	+0.7
PBEJ	**Beja**	**1.43**	**325**	*e*P	Pn	09 22 31.9	+0.5
PBEJ				*e*S	Sb	09 22 50.3	+0.6
	26nm,0.1s						
PBEJ	**Beja**	**1.43**	**325**	*e*P	Pn	09 22 31.9	+0.5
PBEJ				*e*S	Sb	09 22 50.3	+0.6
	26nm,0.1s						
ECAB	**El Cabril**	**1.65**	**42**	Pg	Pn	09 22 34.3	-0.1
	0.1nm,0.0s,SNR=68						
ECAB				Lg		09 22 56.8	
	63nm,0.2s,SNR=24						
ECAB	**El Cabril**	**1.65**	**42**	Pg	Pn	09 22 34.3	-0.1
	0.1nm,0.0s,SNR=68						
PTEO	**Sao Teotonio**	**1.67**	**295**	*e*P	Pn	09 22 35.3	+0.5
EBAD	**Badajoz**	**1.90**	**355**	Pn	Pn	09 22 36.1	-2.0
	1.7nm,0.2s,SNR=7.9						
EBAD				Pg	Pn	09 22 39.5	+1.5
	2.9nm,0.3s,SNR=9.9						
EBAD				Sn	Sn	09 22 59.7	-2.0
	19nm,0.3s,SNR=5.3						
EBAD				Lg		09 23 05.0	
	92nm,0.2s,SNR=14						
EBAD	**Badajoz**	**1.90**	**355**	Pn	Pn	09 22 36.1	-1.9
	1.7nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**1.90**	**355**	Pg	Pn	09 22 39.5	+1.5
	2.9nm,0.3s,SNR=9.9						
EBAD				Sn	Sn	09 22 59.7	-2.0
	19nm,0.3s,SNR=5.3						
ELOJ	**Sierra Loja**	**2.15**	**82**	Pg	Pn	09 22 43.9	+2.2
	SNR=4.0						
ELOJ				Lg		09 23 12.2	
	3.6nm,0.3s,SNR=4.8						
ELUQ	**Luque**	**2.15**	**70**	Pg	Pn	09 22 44.8	+3.1
	3.3nm,0.2s,SNR=4.0						
ELUQ				Sn	Sn	09 23 06.5	-1.7
	3.5nm,0.2s,SNR=7.9						
ELUQ				Lg		09 23 12.3	
	8.5nm,0.2s,SNR=4.5						
ELUQ	**Luque**	**2.15**	**70**	Pg	Pn	09 22 44.8	+3.1
ELUQ				Sn	Sn	09 23 06.5	-1.7
ELUQ				Lg		09 23 10.2	
EADA	**Adamuz**	**2.21**	**53**	Pn	Pn	09 22 40.5	-2.0
	0.4nm,0.2s,SNR=7.9						
EADA				Pg	Pn	09 22 45.4	+2.9
	6.7nm,0.2s,SNR=49						
EADA				Lg		09 23 14.0	
	13nm,0.1s,SNR=4.8						
EADA	**Adamuz**	**2.21**	**53**	Pn	Pn	09 22 41.0	-1.5
	0.4nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**2.21**	**53**	Pg	Pn	09 22 45.4	+2.9
	6.7nm,0.2s,SNR=49						
EADA	**Adamuz**	**2.21**	**53**	Pn	Pn	09 22 41.0	-1.5
EADA				Pg	Pn	09 22 45.4	+2.9
EADA				Lg		09 23 14.0	
EQUE	**Quentar**	**2.72**	**82**	Pn	Pn	09 22 48.5	-1.3
	0.9nm,0.2s,SNR=7.9						
EQUE				Sn	Sn	09 23 18.5	-4.2
	0.4nm,0.3s,SNR=7.9						
EQUE				Lg		09 23 28.8	
	1.4nm,0.2s,SNR=7.9						
EBAN	**Banos Encina**	**2.74**	**61**	Pn	Pn	09 22 47.0	-3.1
	1.3nm,0.2s,SNR=7.9						
EBAN				Sn	Sn	09 23 20.3	-2.8
	1.3nm,0.2s,SNR=7.9						
EBAN				Lg		09 23 30.2	
	6.5nm,0.1s,SNR=6.1						
EBAN	**Banos Encina**	**2.74**	**61**	Pn	Pn	09 22 46.8	-3.3
	1.3nm,0.2s,SNR=7.9						
EBAN				Sn	Sn	09 23 20.3	-2.8
	1.3nm,0.2s,SNR=7.9						
EBAN	**Banos Encina**	**2.74**	**61**	Pn	Pn	09 22 46.8	-3.3
EBAN				Sn	Sn	09 23 20.3	-2.8
EBAN				Lg		09 23 30.2	
PCBR	**Castelo Branco**	**3.02**	**350**	*e*Pn	Pn	09 22 52.5	-1.6
PCBR				*e*Sn	Sn	09 23 27.7	-2.5
	10nm,0.4s						
PCBR	**Castelo Branco**	**3.02**	**350**	*e*Pn	Pn	09 22 52.5	-1.6
PCBR				*e*Sn	Sn	09 23 27.7	-2.5
	10nm,0.4s						
EQES	**Quesada**	**3.13**	**71**	Pn	Pn	09 22 53.6	-2.1
	0.8nm,0.4s,SNR=7.9						
EQES				Sn	Sn	09 23 28.0	-5.0
	1.0nm,0.2s,SNR=7.9						
EQES				Lg		09 23 42.3	
	2.0nm,0.2s,SNR=7.9						
EQES	**Quesada**	**3.13**	**71**	Pn	Pn	09 22 53.6	-2.0
	0.8nm,0.4s,SNR=7.9						
MTE	**Manteigas**	**3.58**	**351**	*e*Pn	Pn	09 23 01.1	-0.9
MTE				*e*Sn	Sn	09 23 41.0	-3.3
	20nm,0.5s						
MTE	**Manteigas**	**3.58**	**351**	Pn	Pn	09 23 01.1	-0.9
MTE				Sn	Sn	09 23 41.0	-3.3
	9.8nm,0.5s						
ESDC	**Sonseca Array**	**3.59**	**38**	Pn	Pn	09 22 59.8	-2.5
	0.3nm,0.3s,baz=355,slow=3.9,SNR=3.6						
ESDC				Sn	Sn	09 23 39.9	-4.9
	0.7nm,0.1s,SNR=7.9						
ESDC				Lg		09 23 56.7	
	2.4nm,0.3s,baz=222,slow=27,SNR=7.9						
ETOB	**Tobarra**	**4.54**	**65**	Pn	Pn	09 23 11.1	-4.6
	1.0nm,0.4s,SNR=15						
ETOB				Sn	Sn	09 24 01.9	-6.7
	0.3nm,0.2s,SNR=7.9						
ETOB				Lg		09 24 25.5	
	1.5nm,0.2s,SNR=4.0						
ETOB	**Tobarra**	**4.54**	**65**	Pn	Pn	09 23 11.1	-4.6
	1.0nm,0.4s,SNR=15						
ETOB				Sn	Sn	09 24 01.9	-6.7
	0.3nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**4.54**	**65**	Pn	Pn	09 23 11.1	-4.6
ETOB				Sn	Sn	09 24 01.9	-6.7
ETOB				Lg		09 24 27.2	
ECAL	**Calabor**	**5.07**	**1**	Pn	Pn	09 23 19.9	-3.3
	0.9nm,0.4s,SNR=7.9						
ECAL				Sn	Sn	09 24 15.9	-6.2
	1.5nm,0.2s,SNR=7.9						
ECAL				Lg		09 24 42.5	
	8.2nm,0.4s,SNR=7.9						
ECAL	**Calabor**	**5.07**	**1**	Pn	Pn	09 23 19.9	-3.3
ECAL				Sn	Sn	09 24 16.6	-5.5
ECAL	**Calabor**	**5.07**	**1**	Pn	Pn	09 23 19.9	-3.3
ECAL				Sn	Sn	09 24 16.6	-5.4
ECAL				Lg		09 24 44.5	

*NEIC **13** 10:26:13.8,31.74S×69.76W,h133km,MD3.5(GUC),After GUC.*
GUC 13 10:26:13.8±0.8,31.74S×69.76W,h133km±9km,MD3.5, ML3.4,1C-8D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
JACH	**Jahuel**	**1.17**	**217⇓**	*i*P	P	10 26 39.4	+0.5
JACH				*i* S	S	10 26 58.4	+0.5
CMCH	**Combarbala**	**1.20**	**298⇓**	*i*P	P	10 26 39.3	+0.2
CMCH				*i* S	S	10 26 58.8	+0.4
CMCH				AMP		10 27 00.5	
	comp=E,3μm,0.2s						
CHNG	**Los Chungos**	**1.49**	**264**	*i* P	P	10 26 42.5	+0.2
CHNG				*i* S	S	10 27 03.6	-0.6
CHNG				AMP		10 27 08.2	
	comp=N,184nm,0.3s						
PEL	**Peldehue**	**1.60**	**209**	*e*P	P	10 26 43.3	-0.3
ROCH	**El Roble**	**1.62**	**220⇓**	*i*P	P	10 26 43.9	+0.1
ROCH				*i* S	S	10 27 07.5	+0.8
FCH	**Farellones**	**1.64**	**196⇓**	*i*P	P	10 26 45.0	+0.9
FCH				*i* S	S	10 27 08.1	+1.0
FCH				AMP		10 27 08.8	
	comp=E,422nm,0.2s						
CLCH	**Cerro Calan**	**1.77**	**201**	*e*P	P	10 26 46.1	+0.5
CLCH				*i* S	S	10 27 10.1	+0.2
CLCH				AMP		10 27 11.1	
	comp=E,326nm,0.4s						
CLCH				AMP		10 27 12.3	
	comp=E,230nm,0.4s						
DSCH	**Colegio Aleman**	**1.79**	**202**	*i* S	S	10 27 10.0	-0.1
DSCH				AMP		10 27 11.9	
	comp=E,392nm,0.3s						
TLL	**Tololo Astrono**	**1.81**	**330⇑**	*i*P	P	10 26 46.9	+0.9
TLL				*i* S	S	10 27 10.8	+0.2
TLL				AMP		10 27 13.7	
	comp=E,670nm,0.4s						
RCDM	**Rinconada Maip**	**1.95**	**207⇓**	*i*P	P	10 26 47.6	-0.1
RCDM				*i* S	S	10 27 13.4	-0.1
RCDM				AMP		10 27 14.4	

comp=E,386nm,0.1s
ANTU Antumapu 1.96 202 *i* S S 10 27 13.5 -0.3
ANTU AMP 10 27 15.2
comp=N,310nm,0.3s
PCH Pirque 1.98 199 ⇓*i*P P 10 26 48.7 +0.7
PCH *i* S S 10 27 14.2 +0.1
TACH Talagante 2.15 207 ⇓*i*P P 10 26 49.7 -0.5
TACH *i* S S 10 27 17.8 -0.1
LCCH Las Cruces 2.30 221 *e*P P 10 26 51.9 -0.4
CHCH Chadas Angostu 2.31 199 ⇓*i*P P 10 26 52.1 -0.2
CHCH *i* S S 10 27 21.7 +0.2
CICH Cipreses 2.63 192 *e*P P 10 26 56.2 -0.2
CICH *i* S S 10 27 30.0 +1.1
TRQA Tornquist 8.97 137 *e*P P 10 28 18.2 -3.1
comp=N,2.5nm,0.6s

*LDG **13** 10:58:13.1±0.1,45.91N×1.42W,h2km,Ml3.2/32,Error ellipse: s-maj=1.3km s-min=0.9km az=68.0*
*MDD **13** 10:58:13.7±0.4,45.91N×1.41W,h11km,mbLg2.5/31, Error ellipse: s-maj=4.3km s-min=3.5km az=99.0,PRXIMO ARTIFICIAL POSIBLE*
*CSEM **13** 10:58:13.1±0.1,45.91N×1.41W,h5km,ML3.2/27,Error ellipse: s-maj=1.3km s-min=0.9km az=55.0*
*NEIC **13** 10:58:14.7,45.94N×1.32W,h5km,ML3.2(LDG), ML2.9(STR),After STR.*

STR 13 10:58:14.7±0.4,45.94N×1.32W,h5km±1km,Ml2.9,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0,France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OLEF	**Ile d'Oleron**	**0.02**	**283**	Pg	Pg	10 58 15.6	-0.1
OLEF				Sg	Sg	10 58 16.8	+0.5
LRYF	**La Roche-sur-Y**	**0.66**	**346**	Pg	Pg	10 58 26.1	-1.8
LRYF				Sg	Sg	10 58 35.3	-1.4
CHIF	**Chize**	**0.66**	**73**	Pg	Pg	10 58 27.5	-0.5
CHIF				Sg	Sg	10 58 37.1	+0.2
LCHF	**La Chataignera**	**0.83**	**29**	Pg	Pg	10 58 30.8	-0.5
LCHF				Sg	Sg	10 58 42.5	0.0
MFF	**Saint Martin d**	**1.05**	**50**	*e*Pg	Pg	10 58 34.3	-1.4
MFF				*e*Sg	Sg	10 58 48.4	-1.3
89nm,0.2s							
LFF	**La Frestale**	**1.76**	**124**	*e*Pn	Pn	10 58 43.7	-2.4
LFF				*e*Pg	Pg	10 58 45.8	-4.1
LFF				*e*Sg	Sg	10 59 09.9	-3.5
86nm,0.3s							
RJF	**Les Rejaudoux**	**2.09**	**107**	*e*Pn	Pn	10 58 48.4	-2.4
RJF				*e*Pg	Pg	10 58 52.5	-3.9
RJF				*e*Sg	Sg	10 59 20.1	-4.2
57nm,0.2s							
QUIF	**Quistinic**	**2.35**	**328**	*e*Pg	Pg	10 58 56.0	-5.6
QUIF				*e*Sg	Sg	10 59 26.4	-6.5
20nm,0.2s							
SGMF	**Saint Gilles**	**2.46**	**340**	*e*Pg	Pg	10 58 58.7	-5.2
SGMF				*e*Sg	Sg	10 59 30.5	-6.3
24nm,0.3s							
GRR	**Gorron**	**2.47**	**7**	*e*Pg	Pg	10 58 59.5	-4.5
GRR				*e*Sg	Sg	10 59 31.6	-5.3
22nm,0.3s							
TCF	**Toulx Ste Croi**	**2.48**	**81**	*e*Pn	Pn	10 58 53.8	-2.6
TCF				*e*Pg	Pg	10 59 00.4	-3.8
TCF				*e*Sn	Sn	10 59 23.0	-4.4
TCF				*e*Sg	Sg	10 59 32.8	-4.5
31nm,0.2s							
CAF	**Calviac**	**2.59**	**112**	*e*Pn	Pn	10 58 55.4	-2.6
CAF				*e*Pg	Pg	10 59 02.0	-4.4
CAF				*e*Sg	Sg	10 59 35.6	-5.3
30nm,0.2s							
EALK	**Alkurruntz**	**2.72**	**183**	Pn	Pn	10 58 56.5	-3.4
1.0nm,0.3s,SNR=7.9							
EALK				Pg	Pg	10 59 03.2	-5.9
0.7nm,0.1s,SNR=7.9							
EALK				Sn	Sn	10 59 26.8	-6.8
1.8nm,0.2s,SNR=7.9							
EALK				Lg		10 59 38.4	
6.4nm,0.3s,SNR=7.9							
ROSF	**Rostrenen**	**2.74**	**332**	*e*Pg	Pg	10 59 03.9	-5.6
ROSF				*e*Sg	Sg	10 59 38.8	-7.2
8.2nm,0.2s							
LDF	**La Druitiere**	**2.78**	**17**	*e*Pn	Pn	10 58 57.4	-3.3
LDF				*e*Pg	Pg	10 59 04.9	-5.3
LDF				*e*Sg	Sg	10 59 41.6	-5.6
9.3nm,0.2s							
SJPF	**Ste Jean**	**2.83**	**179**	*e*Pn	Pn	10 58 56.7	-4.7
SJPF				*e*Pg	Pg	10 59 04.8	-6.3
SJPF				*e*Sg	Sg	10 59 40.7	-8.1
13nm,0.2s							
FLN	**La Foliniere**	**2.88**	**11**	*e*Pn	Pn	10 58 58.6	-3.5
FLN				*e*Pg	Pg	10 59 07.7	-4.5
FLN				*e*Sg	Sg	10 59 44.0	-6.6
12nm,0.2s							
BGF	**Bois d'Agland**	**2.96**	**76**	*e*Pn	Pn	10 59 00.3	-2.9
BGF				*e*Pg	Pg	10 59 09.2	-4.5
BGF				*e*Sn	Sn	10 59 33.9	-5.6
BGF				*e*Sg	Sg	10 59 47.7	-5.4
90nm,0.3s							
PYM	**Petit Puy Mans**	**3.03**	**92**	Pn	Pn	10 59 02.6	-1.7
HYF	**Humbligny**	**3.04**	**63**	*e*Pn	Pn	10 59 00.7	-3.6
HYF				*e*Pg	Pg	10 59 10.6	-4.7
HYF				*e*Sg	Sg	10 59 50.9	-4.9
ETSF	**Etsaut**	**3.09**	**170**	*e*Pn	Pn	10 58 59.9	-5.2
ETSF				*e*Pg	Pg	10 59 10.1	-6.3
ETSF				*e*Sg	Sg	10 59 49.1	-8.5
4.8nm,0.2s							
ELAN	**Lanestosa**	**3.10**	**210**	Pn	Pn	10 59 00.7	-4.5
0.2nm,0.1s,SNR=7.9							
ELAN				Sn	Sn	10 59 35.1	-8.1
3.0nm,0.2s,SNR=7.9							
AGO	**Saint Agoulin**	**3.10**	**86**	Pn	Pn	10 59 03.5	-1.8
EPF	**Esparros**	**3.14**	**157**	*e*Pn	Pn	10 59 01.5	-4.3
EPF				*e*Pg	Pg	10 59 10.9	-6.5
EPF				*e*Sg	Sg	10 59 52.1	-7.2
11nm,0.2s							
LBL	**Lubilhac**	**3.28**	**101**	Pn	Pn	10 59 06.0	-1.9
LBL				Sg	Sg	10 59 59.4	-4.6
AVF	**Avril sur Loir**	**3.34**	**74**	*e*Pn	Pn	10 59 05.2	-3.5
AVF				*e*Pg	Pg	10 59 16.2	-5.3
AVF				*e*Sg	Sg	11 00 00.2	-5.9
16nm,0.3s							
EBIE	**Bielsa**	**3.42**	**162**	Pn	Pn	10 59 06.3	-3.5
0.2nm,0.1s,SNR=7.9							
EBIE				Sn	Sn	10 59 44.8	-6.4
1.7nm,0.1s,SNR=7.9							
EBIE				Lg		11 00 01.2	
2.8nm,0.3s,SNR=7.9							
PLDF	**La Plantade**	**3.45**	**88**	Pn	Pn	10 59 07.7	-2.5
SSF	**Saint Saulge**	**3.52**	**70**	*e*Pn	Pn	10 59 07.8	-3.4
SSF				*e*Pg	Pg	10 59 19.9	-5.0
SSF				*e*Sn	Sn	10 59 47.8	-5.9
SSF				*e*Sg	Sg	11 00 05.4	-6.4
14nm,0.2s							
MTLF	**Montolieu**	**3.62**	**135**	*e*Pn	Pn	10 59 08.9	-3.8
MTLF				*e*Sn	Sn	10 59 49.6	-6.8
MTLF				*e*Sg	Sg	11 00 07.8	-7.5
7.3nm,0.2s							
SMF	**Signal de Mont**	**3.65**	**77**	*e*Pn	Pn	10 59 10.0	-3.0
SMF				*e*Pg	Pg	10 59 22.1	-5.4
SMF				*e*Sg	Sg	11 00 09.1	-7.0
10nm,0.2s							
LOR	**Lormes**	**3.81**	**68**	*e*Pn	Pn	10 59 11.3	-4.0
LOR				*e*Pg	Pg	10 59 25.0	-5.7
LOR				*e*Sn	Sn	10 59 55.5	-5.6
LOR				*e*Sg	Sg	11 00 14.0	-7.5
11nm,0.3s							
EARI	**Arriondas**	**3.83**	**228**	Pn	Pn	10 59 10.0	-5.6
0.3nm,0.1s,SNR=7.9							
EARI				Sn	Sn	10 59 51.5	-10
1.0nm,0.1s,SNR=7.9							
LASF	**Ste Croix**	**4.12**	**115**	*e*Pn	Pn	10 59 16.3	-3.4
LASF				*e*Sg	Sg	11 00 23.0	-8.8
11nm,0.4s							
VIVF	**Saint-Julien-l**	**4.36**	**102**	*e*Pn	Pn	10 59 19.5	-3.6
VIVF				*e*Pg	Pg	10 59 34.8	-6.9
VIVF				*e*Sg	Sg	11 00 31.4	-8.4
7.5nm,0.2s							
EJON	**La Jonquera**	**4.62**	**138**	Pn	Pn	10 59 22.6	-4.2
2.1nm,0.2s,SNR=7.9							
EJON				Sn	Sn	11 00 13.5	-8.1
0.6nm,0.2s,SNR=7.9							
EJON				Lg		11 00 39.4	
0.6nm,0.1s,SNR=7.9							
EPON	**Pontenova**	**4.91**	**240**	Pn	Pn	10 59 24.6	-6.4
1.6nm,0.2s,SNR=7.9							
EPON				Sn	Sn	11 00 17.3	-12
1.6nm,0.2s,SNR=7.9							
MEZF	**Maizieres J'vi**	**5.04**	**57**	*e*Pn	Pn	10 59 28.3	-4.5
MEZF				*e*Pg	Pg	10 59 47.5	-7.8
MEZF				*e*Sg	Sg	11 00 54.0	-8.5
8.6nm,0.4s							
MEZF	**Maizieres J'vi**	**5.04**	**57**	Pn	Pn	10 59 28.3	-4.5
MEZF				Lg		11 00 54.0	
8.6nm,0.4s							
ORIF	**Oris-en-Rattie**	**5.17**	**99**	*e*Sg	Sg	11 00 56.5	-10
1.2nm,0.3s							
CABF	**La Chapelle**	**5.18**	**80**	*e*Sg	Sg	11 00 57.9	-9.2
2.6nm,0.3s							
SMRF	**Simiane la Rot**	**5.27**	**109**	*e*Pn	Pn	10 59 32.0	-4.1
BAIF	**Baives**	**5.54**	**40**	*e*Pn	Pn	10 59 35.3	-4.6
BAIF				*e*Sg	Sg	11 01 08.9	-10
0.9nm,0.2s							
ECAL	**Calabor**	**5.59**	**226**	Pn	Pn	10 59 34.8	-5.8
0.5nm,0.1s,SNR=7.9							
ECAL				Sn	Sn	11 00 34.0	-12
1.3nm,0.3s,SNR=7.9							
LPL	**La Plagne**	**5.65**	**91**	*e*Sg	Sg	11 01 12.2	-11
0.8nm,0.2s							
LPG	**La Plagne**	**5.67**	**92**	*e*Sg	Sg	11 01 12.8	-11
1.9nm,0.4s							
GIVF	**Givet**	**5.86**	**42**	*e*Pn	Pn	10 59 39.2	-5.1
HINF	**Hinteralfeld**	**5.91**	**69**	*e*Sg	Sg	11 01 20.2	-11
2.4nm,0.2s							
FRF	**La Foret Royal**	**6.15**	**110**	*e*Pn	Pn	10 59 43.6	-4.9
CDF	**Champ du Feu**	**6.36**	**64**	*e*Pg	Pg	11 00 12.4	-9.3
CDF				*e*Sn	Sn	11 00 55.7	-10
CDF				*e*Sg	Sg	11 01 33.8	-13
2.1nm,0.3s							

IGQ 13 10:59:54.8,5.05S×76.35W,h12km±13km,mb4.7,5C-5D, Error ellipse: s-maj=15.0km s-min=12.7km az=130.9, Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARRY	**Arrayan**	**4.10**	**329**	⇑P	Pn	11 00 59.1	+0.4
ARRY				S	Sn	11 01 45.6	-1.5
ULBA	**Ulba**	**4.12**	**330**	⇑P	Pn	11 00 59.7	+0.6
ULBA				S	Sn	11 01 46.5	-1.3
RUN5	**Runtun**	**4.16**	**330**	P	Pn	11 01 00.0	+0.4
RUN5				S	Sn	11 01 48.0	-0.7
CUSU	**Cusua**	**4.17**	**329**	⇓P	Pn	11 01 00.5	+0.9
CUSU				S	Sn	11 01 48.2	-0.6
JUIV	**Juive**	**4.17**	**330**	⇓P	Pn	11 01 00.4	+0.7
JUIV				S	Sn	11 01 47.3	-1.7
PISA	**Pisayambo**	**4.45**	**333**	P	Pn	11 01 04.3	+0.6
PISA				S	Sn	11 01 52.8	-3.3
TAMB	**Tambo**	**4.77**	**335**	P	Pn	11 01 09.0	+0.7
TAMB				S	Sn	11 02 02.2	-1.9
VC1	**Cotopaxi 1**	**4.83**	**335**	⇑P	Pn	11 01 10.1	+1.0
VC1				S	Sn	11 02 06.0	+0.2
CAMI	**Rancho Maria**	**4.85**	**334**	⇓P	Pn	11 01 10.7	+1.4
CAMI				S	Sn	11 02 07.0	+1.0
QIL1	**Quilotoa**	**4.91**	**328**	P	Pn	11 01 13.3	+3.1
QIL1				S	Sn	11 02 11.0	+3.4
ANTI	**Antisana**	**4.91**	**338**	P	Pn	11 01 10.0	-0.3
ECOPE	**Copete-Rev Vol**	**5.07**	**345**	⇓P	Pn	11 01 12.6	+0.1
CHAR	**Charly**	**5.10**	**345**	P	Pn	11 01 14.1	+1.2
CAYR	**Refugio Cayamb**	**5.29**	**342**	⇑P	Pn	11 01 17.0	+1.3
CAYR				S	Sn	11 02 15.4	-1.9
JUA2	**San Juan 2**	**5.30**	**335**	P	Pn	11 01 18.1	+2.3
GGP	**Refugio Guagua**	**5.33**	**335**	⇑P	Pn	11 01 18.0	+1.8
TERV	**Terraza Guagua**	**5.34**	**335**	P	Pn	11 01 18.2	+1.9
CAYA	**Cayambe**	**5.34**	**342**	⇓P	Pn	11 01 17.5	+1.1
CAYA				S	Sn	11 02 17.0	-1.5
PINO	**Pino**	**5.36**	**335**	P	Pn	11 01 20.1	+3.6
YANA	**Yana**	**5.38**	**336**	P	Pn	11 01 18.6	+1.8
JOR1	**San Jorge 1**	**5.51**	**335**	P	Pn	11 01 16.9	-1.8
ECEN	**Cerro Negro**	**6.05**	**344**	P	Pn	11 01 28.0	+1.6

*CRAAG **13** 11:18:22.7,35.38N×0.10W,Ml2.5*
*CSEM **13** 11:18:24.9±0.3,35.52N×0.16W,h20km,ML2.5,Error ellipse: s-maj=9.3km s-min=6.9km az=17.0*
*MDD **13** 11:18:26.8±0.5,35.47N×0.11W,h20km±6km,mbLg1.9/8, Error ellipse: s-maj=8.4km s-min=4.4km az=177.0, PRXIMO*

ISC 13 11:18:25.3±0.6,35.64N±0.05×0.20W±0.04,h10km,n23, σ1°05/35,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USTO	**Oran**	**0.30**	**288**	P	**Sg**	**11 18 35.0**	**-0.7**
OJBR	**Djebel Berber**	**0.45**	**97**	P	**Pg**	**11 18 34.0**	**-0.4**
OTSS	**Djebel Tessala**	**0.60**	**234**	P	**Pb**	**11 18 37.0**	**-0.5**
OJGS	**Djebel Guires**	**0.79**	**100**	P	**Pb**	**11 18 39.0**	**-1.6**
EANR	**'Ain N'Sour**	**1.10**	**73**	P	**Pb**	**11 18 47.0**	**+1.0**
ETRT	**Tiaret**	**1.25**	**101**	P	**Pb**	**11 18 47.0**	**-1.5**
ECHA	**Ech Chlef**	**1.37**	**68**	P	**Pn**	**11 18 52.0**	**+1.5**
EBNR	**Beni Rached**	**1.54**	**65**	P	**Pn**	**11 18 58.0**	**+4.9**
EMUR	**La Murta**	**2.35**	**339**	P	**Pn**	**11 19 05.9**	**+1.3**
0.5nm,0.1s,SNR=7.9							
EMUR				S	**Sn**	**11 19 34.2**	**+0.5**
3.8nm,0.3s,SNR=6.4							
EMUR	**La Murta**	**2.35**	**339**	P	**Pn**	**11 19 05.9**	**+1.3**
0.5nm,0.1s,SNR=7.9							
EMUR				S	**Sn**	**11 19 33.0**	**-0.7**
3.8nm,0.3s,SNR=6.4							
EBER	**Berja**	**2.51**	**301**	P	**Pn**	**11 19 07.4**	**+0.5**
1.0nm,0.1s,SNR=7.9							
EBER				S	**Sn**	**11 19 36.9**	**-0.9**
1.5nm,0.1s,SNR=7.9							
EBER	**Berja**	**2.51**	**301**	P	**Pn**	**11 19 07.4**	**+0.6**
1.0nm,0.1s,SNR=7.9							
EBER				S	**Sn**	**11 19 36.6**	**-1.2**
1.5nm,0.1s,SNR=7.9							
EMHD	**Djebel Mahouad**	**2.62**	**77**	P	**Pn**	**11 19 16.0**	**+7.6**
EQUE	**Quentar**	**3.04**	**302**	P	**Pn**	**11 19 14.5**	**+0.1**
0.7nm,0.2s,SNR=7.9							
EQUE				S	**Sn**	**11 19 51.5**	**+0.1**
1.8nm,0.5s,SNR=4.0							
EBEN	**Beniarda**	**3.06**	**360**	S	**Sn**	**11 19 51.5**	**-0.1**
0.8nm,0.3s,SNR=7.9							
EBEN	**Beniarda**	**3.06**	**360**	S	**Sn**	**11 19 51.5**	**-0.2**
0.8nm,0.3s,SNR=7.9							
EQES	**Quesada**	**3.16**	**314**	P	**Pn**	**11 19 17.8**	**+1.8**
0.7nm,0.2s,SNR=15							
EQES				S	**Sn**	**11 19 53.6**	**-0.6**
2.1nm,0.3s,SNR=4.7							
EQES	**Quesada**	**3.16**	**314**	P	**Pn**	**11 19 17.8**	**+1.7**
0.7nm,0.2s,SNR=15							
EQES				S	**Sn**	**11 19 53.6**	**-0.6**
2.1nm,0.3s,SNR=4.7							
ETOB	**Tobarra**	**3.18**	**341**	P	**Pn**	**11 19 17.6**	**+1.1**
0.3nm,0.1s,SNR=5.7							
ETOB				S	**Sn**	**11 19 54.0**	**-0.9**
2.4nm,0.1s,SNR=4.7							
ETOB	**Tobarra**	**3.18**	**341**	P	**Pn**	**11 19 17.6**	**+1.1**
0.3nm,0.1s,SNR=5.7							
ETOB				S	**Sn**	**11 19 54.0**	**-0.9**
2.4nm,0.1s,SNR=4.7							
EVIA	**Vianos**	**3.51**	**329**	P	**Pn**	**11 19 22.9**	**+1.8**
0.7nm,0.1s,SNR=4.0							
EVIA				S	**Sn**	**11 20 02.4**	**-0.8**
1.3nm,0.2s,SNR=7.9							
EIBI	**Ibiza**	**3.59**	**20**	P	**Pn**	**11 19 23.1**	**+0.8**
1.7nm,0.3s,SNR=8.9							
EIBI				S	**Sn**	**11 20 03.7**	**-1.6**
1.4nm,0.2s,SNR=7.9							
EIBI	**Ibiza**	**3.59**	**20**	P	**Pn**	**11 19 23.1**	**+0.8**
1.7nm,0.3s,SNR=8.9							
EIBI				S	**Sn**	**11 20 03.7**	**-1.6**
1.4nm,0.2s,SNR=7.9							

*HLW **13** 11:32:04.2,35.11N×23.55E,h33km,Mb3.0*
*CSEM **13** 11:32:07.0±0.2,35.00N×24.05E,h60km±2km,MD3.4, Error ellipse: s-maj=7.4km s-min=2.6km az=72.0*
*ATH **13** 11:32:08.6,34.98N×23.76E,h40km±5km,MD3.4/5*
*NEIC **13** 11:32:08.6,34.98N×23.76E,h40km,MD3.4(ATH),After ATH.*

ISC 13 11:32:07.4±0.9,34.81N±0.07×23.8E±0.1,h50km±24km, n10,σ0°91/13,3D,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.27**	**84**	*e*P	**P**	**11 32 17.5**	**+1.2**
GVD	**Gavdhos**	**0.27**	**84**	*e*Pn	**P**	**11 32 17.1**	**+0.7**
VAM	**Vamos**	**0.69**	**31**	*e*P	**P**	**11 32 20.0**	**-1.1**
VAM				*e*S	**S**	**11 32 30.3**	**-1.0**
KYTH	**Kithira**	**1.58**	**338**	*e*P	**P**	**11 32 33.0**	**-0.6**
VLI	**Veliai**	**2.02**	**341**	*e*P	**P**	**11 32 40.5**	**+0.8**
KARP	**Karpathos**	**2.88**	**74**	*e*P	**P**	**11 32 53.4**	**+1.4**
SLUM		**3.53**	**159**	P	**P**	**11 33 02.6**	**+1.4**
HMAT	**Matruh**	**4.65**	**142**	⇓P	**P**	**11 33 16.9**	**0.0**
HMAT				S	**S**	**11 34 10.0**	**-0.2**
SWA2		**5.74**	**165**	⇓P	**P**	**11 33 31.8**	**-0.2**
SWA1		**5.77**	**163**	⇓P	**P**	**11 33 32.6**	**0.0**
SWA1				S	**S**	**11 34 37.0**	**-1.4**

*STR **13** 11:41:21.2±0.3,48.09N×8.08E,h10km±1km,Ml2.4,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **13** 11:41:21.2,48.09N×8.08E,h10km,ML2.6(LDG), ML2.4(STR),ML2.2(SZGRF),After STR.*
*CSEM **13** 11:41:21.7±0.1,48.08N×8.04E,h16km,ML2.6/17,Error ellipse: s-maj=1.2km s-min=1.0km az=105.0*
*LDG **13** 11:41:22.0±0.1,48.08N×8.02E,h14km,Md2.6/3,Ml2.6/20, Error ellipse: s-maj=1.0km s-min=0.8km az=153.0*
*ZUR **13** 11:41:22.4,48.05N×8.04E,h15km,ML2.4/11*
*LEDBW **13** 11:41:22.3±0.1,48.08N×8.04E,h9km±1km,ML2.4,Error ellipse: s-maj=1.8km s-min=1.2km az=143.0*

BGR 13 11:41:22.2±0.2,48.10N×8.05E,h10km,ML2.6/2,9C-12D, Error ellipse: s-maj=1.1km s-min=1.1km az=78.0, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FBB	**Freiburg**	**0.16**	**233**	Pg	Pg	11 41 25.9	-0.1
FBB				Sg	Sg	11 41 28.1	-0.3
FBB	**Freiburg**	**0.16**	**233**	P	Pg	11 41 25.9	-0.1
FBB				S	Sg	11 41 28.1	-0.3
KIZ	**Kirchzarten**	**0.17**	**211**	⇓*i*Pg	Pg	11 41 25.7	-0.3
KIZ				Sg	Sg	11 41 28.1	-0.4
KIZ				PmP		11 41 29.5	
FELD	**Feldberg**	**0.23**	**187**	⇓*i*Pg	Pg	11 41 26.8	-0.3
FELD				*e*Sg	Sg	11 41 29.9	-0.4
SNR=8.1							
FELD	**Feldberg**	**0.23**	**187**	⇓*i*P	Pg	11 41 26.8	-0.3
FELD				S	Sg	11 41 29.9	-0.5
FELD	**Feldberg**	**0.23**	**187**	Pg	Pg	11 41 26.6	-0.5
FELD				Sg	Sg	11 41 29.8	-0.5
BFO	**Black Forest**	**0.30**	**39**	⇑*i*Pg	Pg	11 41 28.5	+0.1
BFO				Sg	Sg	11 41 32.8	+0.2
BFO	**Black Forest**	**0.30**	**39**	*e*Pg	Pg	11 41 28.3	-0.2
BFO				*e*Sg	Sg	11 41 32.7	+0.1
LIBD	**Limburg**	**0.30**	**280**	⇑*i*Pg	Pg	11 41 28.7	+0.2
LIBD				*e*Sg	Sg	11 41 32.9	+0.1
SNR=3.4							
LIBD	**Limburg**	**0.30**	**280**	⇑*i*P	Pg	11 41 28.7	+0.2
LIBD				S	Sg	11 41 33.3	+0.6
SLE	**Schleitheim**	**0.45**	**138**	*e*Pg	Pg	11 41 30.8	-0.6
SNR=57							
SLE				*e*Sg	Sg	11 41 36.6	-0.9
SNR=20							
SLE	**Schleitheim**	**0.45**	**138**	⇓*i*Pg	Pg	11 41 30.8	-0.6
SLE				*i* Sg	Sg	11 41 36.6	-0.9
SPAK	**Spaichingen**	**0.50**	**90**	⇑*i*Pg	Pg	11 41 32.1	-0.2
WLS	**Welschbruch**	**0.56**	**304**	Pg	Pg	11 41 33.4	-0.1
WLS				*e*Sg	Sg	11 41 39.9	-1.2
SNR=22							
WLS	**Welschbruch**	**0.56**	**304**	P	Pg	11 41 33.4	-0.1
WLS				S	Sg	11 41 40.9	-0.2
WLS	**Welschbruch**	**0.56**	**304**	Pg	Pg	11 41 33.3	-0.2
SULZ	**Sulz-Cheisache**	**0.57**	**175**	*e*Pg	Pg	11 41 33.0	-0.9
SNR=20							
SULZ				*e*Sg	Sg	11 41 40.7	-0.9
SNR=4.5							
SULZ	**Sulz-Cheisache**	**0.57**	**175**	⇓*i*P	Pg	11 41 33.0	-0.9
CDF	**Champ du Feu**	**0.60**	**302**	*e*Pg	Pg	11 41 33.7	-0.7
CDF				*e*Sg	Sg	11 41 41.7	-0.8
63nm,0.2s							
ECH	**Echery**	**0.61**	**281**	⇑*i*Pg	Pg	11 41 33.9	-0.6
ECH				*e*Sg	Sg	11 41 41.6	-1.0
SNR=5.6							
ECH	**Echery**	**0.61**	**281**	⇑*i*P	Pb	11 41 33.9	-0.5
ECH				S	Sg	11 41 41.9	-0.8
ECH	**Echery**	**0.61**	**281**	Pg	Pg	11 41 33.7	-0.8
ECH				Sg	Sg	11 41 41.6	-1.0
TRULL	**Truellikon**	**0.62**	**136**	*e*Pg	Pg	11 41 33.1	-1.7
TRULL				*e*Sg	Sg	11 41 41.4	-1.8
FLACH	**Flaach**	**0.64**	**146**	⇓*i*P	Pb	11 41 34.3	-0.6
MOF	**Molkenrain**	**0.66**	**248**	P	Pb	11 41 35.0	-0.5
MOF				S	Sb	11 41 43.9	-0.4
MOF	**Molkenrain**	**0.66**	**248**	Pg	Pg	11 41 34.8	-0.8
STEIN	**Stein am Rhein**	**0.70**	**128**	*e*Pg	Pg	11 41 35.8	-0.6
GUT	**Gutenstein**	**0.72**	**92**	⇑*i*Pg	Pg	11 41 36.0	-0.6
GUT				PmP		11 41 36.4	
GUT				Sg	Sg	11 41 46.1	-0.2
GUT	**Gutenstein**	**0.72**	**92**	⇑*i*P	Pb	11 41 36.0	-0.3
GUT				P		11 41 36.9	
GUT				S	Sb	11 41 45.6	-0.4
GUT				S	Sb	11 41 47.2	+1.2
GUT	**Gutenstein**	**0.72**	**92**	⇑*i*P	Pb	11 41 36.0	-0.4
GUT				S	Sb	11 41 46.1	+0.1
BBS	**Basel-Blauen**	**0.73**	**210**	⇓*i*Pg	Pg	11 41 36.0	-1.0
BBS				*e*Sg	Sg	11 41 45.6	-1.1
SNR=8.4							
BBS	**Basel-Blauen**	**0.73**	**210**	⇓*i*P	Pb	11 41 36.0	-0.6
BBS				S	Sb	11 41 45.5	-0.9
BBS	**Basel-Blauen**	**0.73**	**210**	Pg	Pg	11 41 35.8	-1.2
BBS				Sg	Sg	11 41 44.9	-1.9
SISB	**Singen-Sch Ber**	**0.74**	**123**	⇑*i*Pg	Pg	11 41 36.5	-0.7
SISB				PmP		11 41 36.8	
SISB				Sg	Sg	11 41 46.4	-

HDH	**Heidenheim**	**1.52 71**	Pg	Pg	11 41 50.9	-1.7
HDH			Sn	Sn	11 42 06.6	-3.0
HDH			Sg	Sg	11 42 10.7	-2.3
HDH	**Heidenheim**	**1.52 71**	P	Pn	11 41 51.0	+1.3
HDH			S	Sb	11 42 10.8	+1.4
HDH	**Heidenheim**	**1.52 71**	PG	Pg	11 41 50.9	-1.8
HDH			SG	Sg	11 42 10.7	-2.3
TOD	**Tromm**	**1.59 18**	Sg	Sg	11 42 12.3	-2.9
TOD	**Tromm**	**1.59 18**	Pg	Pg	11 41 52.3	-1.7
TOD			Sg	Sg	11 42 11.9	-3.3
SIND	**Sindeldorf**	**1.62 39**	Sg	Sg	11 42 12.6	-3.7
SIND	**Sindeldorf**	**1.62 39**	S	Sn	11 42 13.9	+1.8
RUP	**Ruppelstein**	**1.73 338**	Pg	Pg	11 41 55.2	-1.6
RUP	**Ruppelstein**	**1.73 338**	S	Sn	11 42 18.2	+3.2
RFYF	**Reffroy**	**1.79 288**	*e*Pn	Pn	11 41 49.2	-4.4
RFYF			*e*Pg	Pg	11 41 54.9	-3.2
RFYF			*e*Sg	Sg	11 42 19.2	-2.9
	21nm,0.2s					
ABH	**Alteburg**	**1.81 350**	Pg	Pg	11 41 56.6	-1.9
CABF	**La Chapelle**	**2.00 223**	*e*Pn	Pn	11 41 53.2	-3.3
CABF			*e*Pg	Pg	11 41 59.1	-3.1
CABF			*e*Sg	Sg	11 42 23.8	-5.0
	4.9nm,0.2s					
WLF	**Walferdange**	**2.00 322**	*e*Pg	Pg	11 41 59.3	-2.9
	SNR=1.6					
WLF			*e*Sg	Sg	11 42 25.3	-3.7
	SNR=2.9					
SFTF	**Sexfontaines**	**2.02 274**	*e*Pn	Pn	11 41 53.4	-3.4
SFTF			*e*Pg	Pg	11 41 59.2	-3.3
SFTF			*e*Sg	Sg	11 42 25.8	-3.6
	9.3nm,0.2s					
MEZF	**Maizieres J'vi**	**2.04 282**	*e*Pg	Pg	11 41 59.7	-3.3
MEZF			*e*Sg	Sg	11 42 26.2	-4.0
	4.7nm,0.2s					
TNS	**Taunus Mts**	**2.14 7**	*e*Sg	Sg	11 42 30.1	-3.5
	SNR=1.9					
GRF	**Grafenberg Arr**	**2.63 52**	*e*Sg	Sg	11 42 44.4	-5.5
LPL	**La Plagne**	**2.74 200**	*e*Pg	Pg	11 42 12.4	-4.5
LPL			*e*Sg	Sg	11 42 47.9	-5.5
	1.9nm,0.3s					
LPG	**La Plagne**	**2.75 199**	*e*Pg	Pg	11 42 12.9	-4.3
LPG			*e*Sg	Sg	11 42 48.6	-5.3
	1.7nm,0.3s					
LOR	**Lormes**	**2.95 255**	*e*Pn	Pn	11 42 07.5	-2.6
LOR			*e*Pg	Pg	11 42 16.4	-4.7
LOR			*e*Sg	Sg	11 42 53.9	-6.6
	4.6nm,0.2s					
SMF	**Signal de Mont**	**3.21 245**	*e*Pg	Pg	11 42 21.2	-5.1
SMF			*e*Sg	Sg	11 43 01.6	-7.4
	4.5nm,0.2s					
SSF	**Saint Saulge**	**3.24 253**	*e*Pn	Pn	11 42 11.0	-3.3
SSF			*e*Pg	Pg	11 42 21.8	-5.2
SSF			*e*Sg	Sg	11 43 02.7	-7.6
	1.6nm,0.2s					
WET	**Wettzell**	**3.37 70**	*e*Sg	Sg	11 43 08.3	-6.2
	SNR=3.8					
AVF	**Avril sur Loir**	**3.44 249**	*e*Pg	Pg	11 42 25.4	-5.6
AVF			*e*Sg	Sg	11 43 08.9	-8.0
	0.8nm,0.2s					
MBDF	**Montbardon**	**3.49 195**	*e*Pg	Pg	11 42 26.1	-5.8
ORIF	**Oris-en-Rattie**	**3.52 206**	*e*Pg	Pg	11 42 26.7	-5.8
ORIF			*e*Sg	Sg	11 43 11.8	-7.5
	1.5nm,0.2s					
HYF	**Humbligny**	**3.75 259**	*e*Pg	Pg	11 42 31.9	-5.1
HYF			*e*Sg	Sg	11 43 18.5	-8.5
	53nm,0.3s					
BGF	**Bois d'Agland**	**3.86 248**	*e*Pg	Pg	11 42 33.4	-5.9
BGF			*e*Sg	Sg	11 43 22.1	-8.6
	5.1nm,0.3s					
VIVF	**Saint-Julien-l**	**4.00 217**	*e*Sn	Sn	11 43 03.6	-8.8
VIVF			*e*Sg	Sg	11 43 24.9	-10
	3.1nm,0.3s					
TCF	**Toulx Ste Croi**	**4.37 248**	*e*Pn	Pn	11 42 25.1	-5.2
TCF			*e*Pg	Pg	11 42 42.8	-6.7
TCF			*e*Sg	Sg	11 43 36.4	-11
	0.9nm,0.2s					
SMRF	**Simiane la Rot**	**4.47 204**	*e*Pn	Pn	11 42 26.2	-5.5
FRF	**La Foret Royal**	**4.64 193**	*e*Pn	Pn	11 42 29.3	-4.9
LASF	**Ste Croix**	**4.97 217**	*e*Pg	Pg	11 42 52.6	-8.8
LASF			*e*Sg	Sg	11 43 56.6	-11
	0.7nm,0.3s					

*UCR **13** 12:28:41.8, 8.64N×81.99W, h35km, MD4.0*
CASC 13 12:28:43.4±2.4, 9.00N×82.27W, h0km±5km, MD4.0, MW4.5, 3C-2D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRU	**Baru**	**0.35**	**236**	↓*i*P	Pg	12 28 51.7	+1.3
BRU				*e*S	Sg	12 28 57.6	+2.7
BRU2	**Volcan**	**0.47**	**244**	↓*i*P	Pg	12 28 53.6	+0.9
BRU2				*e*S	Sg	12 29 01.7	+2.8
CNI	**Changuinola**	**0.48**	**329**	↑*i*P	Pg	12 28 53.7	+0.7
CNI				*e*S	Sg	12 29 02.0	+2.7
DVD	**David**	**0.59**	**198**	*e*P	Pg	12 28 55.9	+0.7
DVD				*e*S	Sg	12 29 05.7	+2.6
PTP1	**Petroterminal**	**0.81**	**191**	*e*S	Sg	12 29 18.9	+8.6
ACR	**Cerro Adams**	**0.95**	**249**	*e*P	Pg	12 29 02.0	-0.4
ACR				*e*S	Sg	12 29 16.0	+0.9
LCR2	**La Lucha 2**	**1.86**	**293**	↑*e*P	Pn	12 29 17.1	+0.3
LCR2				*e*S	Sn	12 29 42.6	+1.3
PRS1	**Puriscal**	**2.24**	**296**	*e*P	Pn	12 29 22.7	+0.5
PRS1				*e*S	Sn	12 29 54.0	+3.2
AZU	**Azuero**	**2.31**	**121**	↑*i*P	Pn	12 29 22.6	-0.6
AZU				*e*S	Sn	12 29 51.9	-0.9
UPA	**Univ. de Panam**	**2.70**	**90**	*e*S	Sn	12 29 56.0	-6.7

*NEIC **13** 14:00:43.6, 32.78S×70.10W, h105km, MD3.7(GUC), After GUC.*
GUC 13 14:00:43.6±0.9, 32.78S×70.10W, h105km±5km, MD3.7, ML3.7, 9C-5D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCH	**Farellones**	**0.57**	**196**	↑*i*P	P	14 01 01.0	+0.5
FCH				*i*S	S	14 01 14.3	+1.0
FCH				AMP		14 01 15.3	
	comp=N,5μm,0.2s						
PEL	**Peldehue**	**0.61**	**233**	↓*i*P	P	14 01 00.9	0.0
PEL				*e*P		14 01 01.0	
PEL				*i*S	S	14 01 14.2	+0.3
PEL				*i*S	S	14 01 14.5	+0.6
PEL	**Peldehue**	**0.61**	**233**	*e*P	P	14 01 01.0	+0.1
PEL				*i*S	S	14 01 14.5	+0.6
CLCH	**Cerro Calan**	**0.71**	**211**	↑*i*P	P	14 01 01.9	+0.1
CLCH				*i*S	S	14 01 16.2	+0.8
CLCH				AMP		14 01 16.9	
	comp=E,5μm,0.5s						
CLCH				AMP		14 01 17.4	
	comp=E,6μm,0.4s						
DSCH	**Colegio Aleman**	**0.73**	**212**	*e*P	P	14 01 02.0	+0.1
DSCH				*i*S	S	14 01 15.8	+0.1
DSCH				AMP		14 01 18.2	
	comp=N,3μm,0.5s						
FSR	**Penalolen**	**0.78**	**207**	↑*i*P	P	14 01 02.8	+0.3
FSR				*i*S	S	14 01 17.6	+1.1
FSR				AMP		14 01 18.1	
	comp=N,3μm,0.4s						
STL	**Santa Lucia**	**0.79**	**214**	↓*i*P	P	14 01 01.7	-0.9
STL				*i*S	S	14 01 16.3	-0.4
STL				AMP		14 01 16.6	
	comp=N,2μm,0.2s						
SJCH	**San Jose de Ma**	**0.88**	**194**	↑*i*P	P	14 01 03.3	-0.1
SJCH				AMP		14 01 20.0	
	comp=N,1μm,0.5s						
ANTU	**Antumapu**	**0.90**	**209**	↑*i*P	P	14 01 03.6	-0.1
ANTU				*i*S	S	14 01 19.1	+0.3
ANTU				AMP		14 01 20.0	
	comp=E,5μm,0.3s						
RCDM	**Rinconada Maip**	**0.92**	**220**	*e*P	P	14 01 03.7	-0.1
RCDM				*i*S	S	14 01 19.9	+0.8
RCDM				AMP		14 01 22.2	
	comp=E,5μm,0.1s						
MDZ	**Mendoza**	**1.06**	**96**	*i*P	P	14 01 05.4	0.0
MDZ				*i*S	S	14 01 21.4	-0.3
PACH	**Papudo**	**1.15**	**282**	*e*P	P	14 01 06.1	-0.3
PACH				*i*S	S	14 01 23.2	-0.4
CHCH	**Chadas Angostu**	**1.24**	**202**	↓*i*P	P	14 01 07.3	-0.1
CHCH				*i*S	S	14 01 25.4	+0.1
IHA	**Instituto Hidr**	**1.32**	**259**	*e*P	P	14 01 07.6	-0.8
CACH	**El Canelo**	**1.40**	**197**	↑*i*P	P	14 01 09.7	+0.4
CACH				*i*S	S	14 01 29.9	+1.3
ILCH	**Illapel**	**1.46**	**321**	↓*i*P	P	14 01 10.4	+0.3
ILCH				*i*S	S	14 01 30.0	+0.2
ILCH				AMP		14 01 31.4	
	comp=N,1μm,0.2s						
CHNG	**Los Chungos**	**1.48**	**307**	↑*i*P	P	14 01 10.3	0.0
CHNG				*i*S	S	14 01 30.1	-0.3
CHNG				AMP		14 01 35.3	
	comp=N,574nm,0.3s						
CICH	**Cipreses**	**1.56**	**190**	↓*i*P	P	14 01 11.7	+0.4
CICH				*e*S	S	14 01 32.6	+0.7
LNV	**Longovilo**	**1.60**	**223**	↑*i*P	P	14 01 10.6	-1.2
LNV				*i*S	S	14 01 31.5	-1.4
CMCH	**Combarbala**	**1.77**	**334**	↑*i*P	P	14 01 14.3	+0.3
CMCH				*i*S	S	14 01 37.4	+0.8
CMCH				AMP		14 01 39.7	
	comp=E,2μm,0.6s						
TLL	**Tololo Astrono**	**2.67**	**347**	*e*P	P	14 01 26.3	+0.3
TLL				*e*S	S	14 01 58.3	+0.4
TLL				AMP		14 02 30.8	
	comp=N,262nm,0.6s						

MAN 13 14:08:32.5, 9.71N×126.30E, h2km, mb4.6, ML3.5, MS3.4, 3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.80**	**275**	↓*e*P	Pg	14 08 49.0	+0.4
SCPH				*e*S	Sg	14 08 54.3	-5.0
MSLP	**Maasin**	**1.48**	**287**	*e*P	Pn	14 09 01.4	+1.1
BIPH	**Bislig**	**1.51**	**178**	↓*e*P	Pn	14 09 02.4	+1.6
BIPH				*e*S	Sb	14 09 12.5	-8.1
BESP	**Borongan**	**2.06**	**336**	*e*P	Pn	14 09 08.4	-0.2
SNPH	**Sibulan**	**3.04**	**263**	↓*e*P	Pn	14 09 23.3	+0.6
SNPH				*i*S	Sn	14 10 02.6	+2.5
CNP	**Catarman**	**3.22**	**330**	*e*P	Pn	14 09 24.8	-0.3
GUIM	**Jordan**	**3.77**	**284**	*e*P	Pn	14 09 32.4	-0.5

*BJI **13** 15:47:16.9, 0.94N×96.74E, h30km, mB4.9, mb4.8*
*IDC **13** 15:47:22.7±1.4, 1.79N×96.55E, mb4.3/10, mb1 4.4/10, mb1mx4.1/20, mbtmp4.3/10, Error ellipse: s-maj=63.5km s-min=17.1km az=50.0*
*NEIC **13** 15:47:27.8±0.5, 1.91N×96.68E, h30km, mb4.3/8, Error ellipse: s-maj=14.3km s-min=6.5km az=224.0*
ISC 13 15:47:27.2±4.3, 2.0N±0.2×96.8E±0.2, h38km±34km, n26, σ0°61/26, mb4.5/19, 2C, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.10**	**50**	↑*e*P	**P**	**15 48 43.0**	**-0.2**
KKM	**Kota Kinabalu**	**19.83**	**78**	*e*P	**P**	**15 51 58.4**	**+0.7**
PKI	**Pulchoki**	**27.67**	**338**	*e*P	**P**	**15 53 14.6**	**+0.7**
	12nm,0.9s,mb4.5						
DMN	**Daman**	**27.82**	**337**	*e*P	**P**	**15 53 14.5**	**-0.8**
	13nm,0.8s,mb4.6						
KKN	**Kakani**	**27.92**	**338**	*e*P	**P**	**15 53 16.5**	**+0.4**
	9.1nm,0.7s,mb4.5						
LSA	**Lhasa**	**28.09**	**350**	P	**P**	**15 53 18.1**	**+0.5**
GKN	**Gorkha**	**28.36**	**337**	*e*P	**P**	**15 53 19.9**	**-0.1**
	13nm,0.7s,mb4.6						
KOLN	**Koldanda**	**28.57**	**335**	*e*P	**P**	**15 53 22.1**	**+0.2**
	19nm,0.8s,mb4.9						
FITZ	**Fitzroy Crossi**	**34.74**	**126**	P	**P**	**15 54 14.5**	**-1.6**
	7.5nm,1.0s,mb4.6,baz=213,slow=3.3,SNR=3.6						
GTA	**Gaotai**	**37.37**	**4**	*e*P	**P**	**15 54 38.0**	**-0.1**
GTA				AP	pP	15 54 46.4	-2.5
GTA				XP	sP	15 54 50.6	-3.2
GTA				AMB	AMB		
	comp=Z,11nm,0.9s,mb4.7						
WRA	**Warramunga Arr**	**42.82**	**122**	P	**P**	**15 55 24.0**	**+0.5**
	comp=Z,3.8nm,0.6s,mb4.3,baz=301,slow=9.3,SNR=32						
WRAB	**Tennant Creek**	**42.83**	**122**	*e*P	**P**	**15 55 24.1**	**+0.5**
	comp=Z,3.5nm,0.6s,mb4.3						
WB2	**Warramunga Arr**	**42.83**	**122**	*e*P	**P**	**15 55 24.2**	**+0.6**
MKAR	**Makanchi Array**	**46.39**	**346**	P	**P**	**15 55 52.0**	**+0.2**
	comp=Z,6.9nm,0.8s,mb4.6,baz=161,slow=7.2,SNR=47						
MKAR	**Makanchi Array**	**46.39**	**346**	P	**P**	**15 55 52.0**	**+0.2**
SONM	**Songino Array**	**46.44**	**9**	P	**P**	**15 55 52.6**	**+0.5**
	comp=Z,3.3nm,0.8s,mb4.3,baz=194,slow=8.8,SNR=11						
CN2	**Changchun**	**48.83**	**28**	*e*P	**P**	**15 56 10.6**	**-0.3**
KURK	**Kurchatov**	**50.94**	**345**	*e*P	**P**	**15 56 26.8**	**-0.1**
	comp=Z,2.7nm,0.7s,mb4.3						
PMG	**Port Moresby**	**51.47**	**104**	P	**P**	**15 56 31.2**	**-0.2**
	comp=Z,15nm,0.8s,mb5.0,baz=202,slow=5.4,SNR=3.8						
ZAL	**Zalesovo**	**52.72**	**351**	P	**P**	**15 56 40.2**	**-0.1**
	comp=Z,5.1nm,0.8s,mb4.5,baz=295,slow=7.0,SNR=29						
BVAR	**Borovoye Array**	**55.38**	**341**	P	**P**	**15 56 58.8**	**-0.9**
	comp=Z,2.3nm,0.7s,mb4.3,baz=141,slow=9.5,SNR=16						
YAK	**Yakutsk**	**64.81**	**16**	↑*e*P	**P**	**15 58 02.8**	**-1.4**
	comp=Z,14nm,0.8s,mb5.0						
FINES	**FINESS Array B**	**79.11**	**332**	P	**P**	**15 59 29.3**	**+0.1**
	comp=Z,0.8nm,0.6s,mb3.8,baz=90,slow=6.9,SNR=6.0						
ARCES	**ARCESS Array B**	**81.66**	**340**	P	**P**	**15 59 43.4**	**+0.8**
	comp=Z,1.8nm,0.9s,mb4.0,baz=90,slow=5.4,SNR=9.3						
ARCES	**ARCESS Array B**	**81.66**	**340**	P	**P**	**15 59 43.4**	**+0.8**
GERES	**GERESS Array B**	**83.94**	**319**	P	**P**	**15 59 54.7**	**0.0**
	comp=Z,0.2nm,0.3s,mb3.8,baz=90,slow=4.0,SNR=5.8						

*IDC **13** 15:55:58.2±1.6, 3.12N×97.84E, mb3.9/6, mb1 4.0/6, mb1mx3.7/17, mbtmp3.9/6, Error ellipse: s-maj=96.8km s-min=24.9km az=48.0*
*NEIC **13** 15:56:02.2±0.9, 3.12N×98.06E, h30km, mb4.4/1, Error ellipse: s-maj=25.6km s-min=17.1km az=218.0*
ISC 13 15:56:00.8±1.0, 3.2N±0.1×98.0E±0.1, h30km, n11, σ0°89/11, mb3.8/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**3.31**	**52**	*e*Pn	**Pn**	**15 56 52.7**	**+0.8**
SNG	**Songkhla**	**4.68**	**33**	P	**Pn**	**15 57 11.0**	**-0.4**
	248nm,1.0s						
PKT	**Phuket**	**4.82**	**2**	P	**Pn**	**15 57 12.5**	**-0.8**
WRA	**Warramunga Arr**	**42.44**	**124**	P	**P**	**16 03 55.9**	**+0.9**
	1.9nm,0.7s,mb3.9,baz=304,slow=8.9,SNR=12						
WRAB	**Tennant Creek**	**42.44**	**124**	P	**P**	**16 03 52.3**	**-2.8**
	7.7nm,1.0s,mb4.3						
MKAR	**Makanchi Array**	**45.50**	**345**	P	**P**	**16 04 19.5**	**+0.1**
	0.3nm,0.5s,mb3.4,baz=161,slow=9.2,SNR=5.6						
BVAR	**Borovoye Array**	**54.63**	**340**	P	**P**	**16 05 29.8**	**+0.8**
	0.3nm,0.5s,mb3.6,baz=141,slow=9.2,SNR=3.2						
BRTR	**Keskin Array B**	**68.39**	**312**	P	**P**	**16 07 01.4**	**-0.6**
	0.5nm,0.6s,mb3.7,baz=135,slow=7.0,SNR=5.7						
FINES	**FINESS Array B**	**78.60**	**332**	P	**P**	**16 08 01.7**	**+0.6**
	0.5nm,0.4s,mb3.8,baz=92,slow=5.2,SNR=8.9						
ARCES	**ARCESS Array B**	**80.92**	**340**	P	**P**	**16 08 13.6**	**+0.1**
	2.7nm,1.1s,mb4.1,baz=90,slow=4.9,SNR=6.6						
ARCES	**ARCESS Array B**	**80.92**	**340**	P	**P**	**16 08 13.6**	**+0.1**

NNC 13 16:07:49.2±5.7, 38.14N×71.85E, h254km±84km, mpv3.2, 3C-3D, Error ellipse: s-maj=83.6km s-min=45.9km az=35.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**4.92**	**23**	↑P	P	16 09 03.6	-1.1
	2.2nm,0.3s						
AAK				↓S	S	16 10 05.4	+1.8
	6.6nm,0.6s						
KK31	**Karatay Array**	**5.06**	**349**	↓P	P	16 09 05.7	-0.7
	0.6nm,0.3s,baz=172,slow=12,SNR=6.1						
KK31				↑S	S	16 10 07.7	+1.0
	2.9nm,0.2s,baz=176,slow=21,SNR=5.2						
AB31	**Akbulak array**	**14.04**	**326**	↑P	P	16 11 00.6	+2.0
	0.4nm,0.6s						
AB31				↓S	S	16 13 29.5	+0.9
	1.2nm,0.5s						

*NEIC **13** 16:09:20.6, 59.88N×153.05W, h113km, MG3.8(AEIC), After AEIC.*
*IDC **13** 16:09:21.0±3.1, 60.29N×153.33W, h97km±28km, mb3.5/5, mb1 3.9/10, mb1mx3.7/21, mbtmp4.2/10, Error ellipse: s-maj=33.9km s-min=22.2km az=148.0*
ISC 13 16:09:18.3±0.3, 59.88N±0.03×153.01W±0.05, h124km±2km, n100, σ0°73/112, mb3.9/5, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILS	**Iliamna Low So**	**0.09**	**339**	P	**P**	**16 09 35.7**	**+0.3**
IVE	**Iliamna Volcan**	**0.14**	**358**	P	**P**	**16 09 35.7**	**+0.3**
IVE				S	**S**	**16 09 47.9**	**-0.4**
ILW	**Iliamna West**	**0.19**	**341**	P	**P**	**16 09 35.7**	**+0.2**
OPT	**Oil Point**	**0.25**	**207**	P	**P**	**16 09 36.0**	**+0.4**
AUL	**Augustine Lava**	**0.54**	**204**	P	**P**	**16 09 37.3**	**+0.2**
AUL				S	**S**	**16 09 50.8**	**-0.5**
AUE	**Augustine Isla**	**0.55**	**200**	P	**P**	**16 09 37.3**	**+0.2**
RED	**Redoubt Volcan**	**0.56**	**12**	P	**P**	**16 09 37.7**	**+0.6**
RED				S	**S**	**16 09 51.2**	**-0.3**
AUI	**Augustine Isla**	**0.58**	**202**	P	**P**	**16 09 37.5**	**+0.2**
AUI				S	**S**	**16 09 50.8**	**-1.0**
RSO	**Redoubt South**	**0.60**	**12**	P	**P**	**16 09 38.2**	**+0.8**
PDB	**Pedro Bay**	**0.60**	**262**	P	**P**	**16 09 37.6**	**+0.1**
PDB				S	**S**	**16 09 51.0**	**-1.1**
HOM	**Homer**	**0.72**	**107**	P	**P**	**16 09 39.3**	**+1.0**
HOM				S	**S**	**16 09 53.7**	**0.0**
RDT	**Redoubt**	**0.76**	**23**	P	**P**	**16 09 39.4**	**+0.7**
RDT				S	**S**	**16 09 53.7**	**-0.4**
XLV	**Seldovia**	**0.78**	**122**	P	**P**	**16 09 39.3**	**+0.5**
XLV				S	**S**	**16 09 54.4**	**+0.1**
NNL	**Ninilchik**	**0.88**	**78**	P	**P**	**16 09 41.5**	**+1.8**
CNPM	**China Poot**	**0.96**	**111**	P	**P**	**16 09 41.3**	**+0.7**
CNPM				S	**S**	**16 09 57.1**	**-0.3**
MCNL	**McNeil River**	**0.97**	**225**	P	**P**	**16 09 40.7**	**0.0**
SYI	**Shuyak Island**	**1.31**	**166**	P	**P**	**16 09 44.8**	**+0.5**
SYI				S	**S**	**16 10 03.7**	**-0.3**
SPU	**Mount Spurr**	**1.39**	**19**	P	**P**	**16 09 45.9**	**+0.7**
BGL	**Barrier Glacie**	**1.42**	**12**	P	**P**	**16 09 46.7**	**+1.2**
CRP	**Crater Peak**	**1.46**	**16**	P	**P**	**16 09 47.0**	**+1.1**
KAPH	**Katmai Pasha**	**1.46**	**209**	P	**P**	**16 09 46.3**	**+0.4**
SLKM	**Skilak Lake**	**1.53**	**64**	P	**P**	**16 09 47.4**	**+0.6**
VOGL	**Vogel Lake**	**1.70**	**48**	P	**P**	**16 09 50.9**	**+2.1**
SWW2	**Sparrevohn**	**1.77**	**311**	P	**P**	**16 09 49.5**	**0.0**
SEW	**Seward**	**1.80**	**81**	P	**P**	**16 09 50.5**	**+0.5**
FIB	**Fire Island**	**1.91**	**46**	P	**P**	**16 09 53.0**	**+1.8**
MPA	**Moose Pass**	**1.92**	**70**	P	**P**	**16 09 52.3**	**+0.9**
KABR	**Katmai Barrier**	**2.02**	**211**	P	**P**	**16 09 52.9**	**+0.2**
RC01	**Rabbit Creek A**	**2.02**	**52**	P	**P**	**16 09 53.3**	**+0.6**
RC01				S	**S**	**16 10 18.4**	**-0.4**
MGLS	**Mageik LS**	**2.06**	**217**	P	**P**	**16 09 53.8**	**+0.6**
KDAK	**Kodiak Island**	**2.11**	**174**	P	**P**	**16 09 53.2**	**-0.7**
KJL	**Kejulik**	**2.26**	**217**	P	**P**	**16 09 56.5**	**+0.7**
PWL	**Port Wells**	**2.52**	**65**	P	**P**	**16 09 59.0**	**-0.3**
PMR	**Palmer**	**2.57**	**46**	P	**P**	**16 09 59.5**	**-0.4**
LTI	**Latouche**	**2.60**	**84**	P	**P**	**16 10 00.7**	**+0.4**
KNK	**Knik Glacier**	**2.72**	**54**	P	**P**	**16 10 01.6**	**-0.3**
GHO	**Glory Hole Cre**	**2.76**	**45**	P	**P**	**16 10 02.2**	**-0.2**
CUT	**Chulitna**	**2.86**	**26**	P	**P**	**16 10 04.1**	**+0.3**
SML	**Sawmill**	**3.00**	**48**	P	**P**	**16 10 05.2**	**-0.4**
GLI	**Glacier Island**	**3.10**	**69**	P	**P**	**16 10 05.6**	**-1.4**
HIN	**Hinchinbrook I**	**3.30**	**78**	P	**P**	**16 10 09.7**	**+0.2**
FID	**Port Fidalgo**	**3.36**	**72**	P	**P**	**16 10 09.1**	**-1.4**
TT01	**Tatalina**	**3.37**	**336**	P	**P**	**16 10 10.2**	**-0.3**
JPK	**Jack Peak**	**3.39**	**67**	P	**P**	**16 10 10.2**	**-0.6**
TTA	**Tatalina**	**3.39**	**336**	*e*P	**P**	**16 10 10.3**	**-0.5**
SCM	**Sheep Creek Mo**	**3.40**	**52**	P	**P**	**16 10 10.7**	**-0.2**
MID	**Middleton Isla**	**3.42**	**95**	P	**P**	**16 10 11.0**	**-0.1**
HUR	**Hurricane**	**3.51**	**26**	P	**P**	**16 10 13.1**	**+0.7**
VLZ	**Valdez**	**3.53**	**66**	P	**P**	**16 10 12.2**	**-0.6**
EYAK	**Cordova Ski Ar**	**3.69**	**76**	P	**P**	**16 10 14.2**	**-0.6**
KTH	**Kantishna Hill**	**3.82**	**14**	P	**P**	**16 10 16.4**	**-0.1**
KLU	**Klutina**	**3.84**	**62**	P	**P**	**16 10 16.4**	**-0.4**
SGAM	**Sherman Glacie**	**3.94**	**78**	P	**P**	**16 10 18.0**	**-0.2**
RND	**Reindeer**	**4.06**	**27**	P	**P**	**16 10 19.5**	**-0.3**
ANPK	**Aniakchak Peak**	**4.07**	**224**	P	**P**	**16 10 19.6**	**-0.3**
RAGM	**Ragged Mountai**	**4.20**	**79**	P	**P**	**16 10 21.5**	**-0.2**
TZL	**Tazlina**	**4.29**	**56**	P	**P**	**16 10 22.9**	**+0.1**
BMRM	**Bremner River**	**4.31**	**72**	P	**P**	**16 10 22.2**	**-1.0**
MCK	**McKinley**	**4.32**	**25**	P	**P**	**16 10 23.7**	**+0.3**
KAIM	**Kayak Island**	**4.33**	**86**	P	**P**	**16 10 23.7**	**+0.3**
SDG	**Sourdough**	**4.48**	**50**	P	**P**	**16 10 25.4**	**-0.1**
CHGN	**Chignik**	**4.59**	**221**	P	**P**	**16 10 26.5**	**-0.4**
BWN	**Browne**	**4.62**	**20**	P	**P**	**16 10 27.9**	**+0.5**
PAX	**Paxson**	**4.77**	**46**	P	**P**	**16 10 29.4**	**+0.1**
GLB	**Gilahina Butte**	**4.79**	**67**	P	**P**	**16 10 29.1**	**-0.5**
CRQM	**Cirque**	**4.99**	**76**	P	**P**	**16 10 32.5**	**+0.2**
NEA	**Nenana**	**5.06**	**20**	P	**P**	**16 10 32.9**	**-0.3**
SNH	**Sunshine Point**	**5.11**	**82**	P	**P**	**16 10 34.4**	**+0.5**
TGL	**Tana Glacier**	**5.14**	**76**	P	**P**	**16 10 34.6**	**+0.3**
WRH	**Wood River Hil**	**5.15**	**24**	P	**P**	**16 10 33.6**	**-0.8**
GCSA	**Galena City Sc**	**5.21**	**341**	P	**P**	**16 10 35.0**	**-0.2**
MLY	**Manley**	**5.28**	**11**	P	**P**	**16 10 35.6**	**-0.5**
HDA	**Harding Lake**	**5.36**	**29**	P	**P**	**16 10 36.9**	**-0.3**
CCB	**Clear Creek Bu**	**5.37**	**

1.7nm,1.1s
CFAA Coronel Fontan 14.97 173 Pn **P 16 54 55.3 -0.3**
0.0nm,0.3s,baz=346,slow=12,SNR=11
CFAA LR LR 17 01 20.1
comp=Z,144nm,19.0s,baz=160,slow=40
CPUP Villa Florida 15.35 131 Pn **P 16 54 59.6 -1.0**
0.1nm,0.3s,baz=320,slow=16,SNR=3.1
CPUP Villa Florida 15.35 131 *eP* **P 16 54 59.8 -0.8**
LPA La Plata 21.22 151 *deP* **P 16 56 08.0 -2.4**
LPA *eS* **S 17 00 07.0 +5.7**
LPA *es*S 17 00 24.0
LPA *es*S 17 00 27.0
BDFB Brasilia 21.35 90 P **P 16 56 12.0 +0.2**
5.9nm,0.8s,mb4.0,baz=257,slow=8.8,SNR=8.6
BDFB LR LR 17 05 09.9
comp=Z,2μm,19.4s,MS4.5,baz=149,slow=38
BAO Brasilia Array 21.37 90 P **P 16 56 09.0 -3.0**
PLCA Paso Flores 23.97 181 P **P 16 56 36.9 -0.7**
11nm,1.1s,mb4.2,baz=3.8,slow=12,SNR=14
PLCA LR LR 17 06 05.7
comp=Z,1μm,19.5s,MS4.4,baz=340,slow=37
PLCA Paso Flores 23.97 181 *eP* **P 16 56 37.2 -0.3**
68nm,1.5s,mb4.8
PLCA Paso Flores 23.97 181 *eP* **P 16 56 37.2 -0.3**
PLCA pmax pmax
comp=Z,68nm,1.5s
SDV Santo Domingo 25.40 359 P **P 16 56 49.4 -2.2**
comp=Z,1.1nm,0.3s,mb3.8,baz=338,slow=11,SNR=2.1
SDV Santo Domingo 25.40 359 *eP* **P 16 56 53.8 +2.2**
comp=Z,49nm,1.4s,mb4.8
SDV *e* 16 57 28.9
JTS JuntasAbangare 30.51 330 *eP* **P 16 57 39.7 +1.8**
LRAL Lakeview Retre 51.97 342 *eP* **P 17 00 32.6 -1.2**
comp=Z,24nm,1.2s,mb5.0
NATX Nacogdoches 53.57 334 *eP* **P 17 00 46.4 +0.7**
PLAL Pickwick Lake 54.11 342 *eP* **P 17 00 46.8 -2.8**
comp=Z,13nm,1.0s,mb4.8
WVT Waverly 55.10 343 *eP* **P 17 00 54.7 -2.2**
comp=Z,12nm,1.1s,mb4.8
WVT Waverly 55.10 343 *eP* **P 17 00 54.7 -2.2**
WVT pmax pmax
comp=Z,12nm,1.1s,mb4.8
UALR University of 55.33 338 *eP* **P 17 00 57.4 -1.1**
comp=Z,61nm,1.4s,mb5.4
LTX Lajitas 56.00 325 *eP* **P 17 01 03.0 -0.4**
comp=Z,10nm,1.3s,mb4.7
LTX Lajitas 56.00 325 *eP* **P 17 01 03.0 -0.4**
LTX pmax pmax
comp=Z,10.0nm,1.3s,mb4.7
PARMO Parma 56.17 341 *eP* **P 17 01 03.3 -1.2**
SIUC Southern Illin 56.98 342 *eP* **P 17 01 09.3 -1.0**
comp=Z,222nm,1.4s
FVM French Village 57.59 341 *eP* **P 17 01 13.5 -1.2**
comp=Z,64nm,1.0s,mb5.6
FVM French Village 57.59 341 *eP* **P 17 01 13.5 -1.2**
FVM pmax pmax
comp=Z,64nm,1.0s,mb5.6
WMOK Wichita Mounta 57.90 332 *eP* **P 17 01 14.6 -2.2**
comp=Z,2.9nm,0.8s,mb4.4
WMOK Wichita Mounta 57.90 332 *eP* **P 17 01 14.6 -2.2**
WMOK pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
CCM Cathedral Cave 57.92 340 *eP* **P 17 01 15.2 -1.7**
comp=Z,45nm,1.1s,mb5.4
CCM Cathedral Cave 57.92 340 *eP* **P 17 01 15.3 -1.6**
CCM pmax pmax
comp=Z,45nm,1.1s,mb5.4
SLM Saint Louis 58.14 342 *eP* **P 17 01 17.2 -1.2**
CLNB Carlsbad 58.38 327 *eP* **P 17 01 20.5 +0.3**
GDL2 Guadalupe Moun 58.59 326 *eP* **P 17 01 21.8 +0.1**
MNTX Cornudas Mount 58.76 325 *eP* **P 17 01 21.9 -0.9**
comp=Z,8.1nm,1.0s,mb4.7
CPRX Cap Rock 58.97 327 *eP* **P 17 01 24.2 -0.1**
KSU1 Kansas State U 60.73 337 *eP* **P 17 01 35.3 -1.1**
BNM Barren Site 61.30 326 *eP* **P 17 01 40.6 +0.4**
LPM Los Pinos Moun 61.42 326 *eP* **P 17 01 41.0 -0.1**
LAZ Ladron 61.76 326 *eP* **P 17 01 44.1 +0.6**
ANMO Albuquerque 61.82 327 *eP* **P 17 01 43.6 -0.2**
comp=Z,9.8nm,1.0s,mb4.9
ANMO Albuquerque 61.82 327 *d iP* **P 17 01 43.5 -0.3**
TUC Tucson 62.30 322 *eP* **P 17 01 49.5 +2.4**
comp=Z,10nm,1.4s,mb4.8
TUC Tucson 62.30 322 *eP* **P 17 01 49.5 +2.4**
TUC pmax pmax
comp=Z,10.0nm,1.4s,mb4.8
SDCO Great Sand Dun 63.49 329 *eP* **P 17 01 55.3 +0.4**
comp=Z,19nm,1.0s,mb5.2
VNA3 Neumayer Olymp 65.02 162 P **P 17 02 03.9 -0.4**
VNA3 Neumayer Olymp 65.02 162 **P 17 02 12.9 +8.6**
VNA3 Neumayer Olymp 65.02 162 **P 17 02 17.3 +13**
ISCO Idaho Springs 65.16 331 *eP* **P 17 02 05.8 0.0**
comp=Z,8.6nm,1.0s,mb4.7
ISCO Idaho Springs 65.16 331 *eP* **P 17 02 05.8 +0.1**
ISCO pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
VNA2 Neumayer--Watz 65.59 161 P **P 17 02 08.5 +0.6**
VNA2 Neumayer--Watz 65.59 161 **P 17 02 16.7 +8.8**
VNA2 Neumayer--Watz 65.59 161 **P 17 02 20.3 +12**
BAR Barrett 66.20 318 *eP* **P 17 02 13.4 +0.9**
NEN Nelson 67.04 322 *eP* **P 17 02 18.7 +0.8**
SRU San Rafael 67.08 327 *eP* **P 17 02 17.4 -0.6**
SNAA Sanae 67.22 162 P **P 17 02 17.4 -0.9**
SNAA Sanae 67.22 162 **P 17 02 27.7 +9.4**
SNAA Sanae 67.22 162 **P 17 02 32.4 +14**
SNAA Sanae 67.22 162 *eP* **P 17 02 17.9 -0.4**
RWWY Rawlins 67.40 331 *eP* **P 17 02 20.8 +0.9**
comp=Z,14nm,1.0s,mb4.9
MSU Marysvale 67.53 325 *eP* **P 17 02 21.6 +0.7**
ARUT Antelope Range 67.71 324 *eP* **P 17 02 23.5 +1.5**
RSSD Black Hills 67.94 334 *eP* **P 17 02 23.9 +0.5**
comp=Z,15nm,1.3s,mb4.9
RSSD Black Hills 67.94 334 *eP* **P 17 02 23.9 +0.6**
RSSD pmax pmax
comp=Z,15nm,1.3s,mb4.9
DAU Daniels Canyon 68.42 327 *eP* **P 17 02 25.9 -0.5**
DBIC Dimbokro 68.65 76 P **P 17 02 27.1 -1.1**
comp=Z,7.7nm,0.9s,mb4.7,baz=212,slow=13,SNR=5.1
DBIC LR LR 17 30 36.7
comp=Z,1μm,20.2s,MS5.2,baz=224,slow=34
DUG Dugway 69.08 326 *eP* **P 17 02 30.3 -0.2**
comp=Z,18nm,1.2s,mb4.9
DUG Dugway 69.08 326 *eP* **P 17 02 30.3 -0.2**
DUG pmax pmax
comp=Z,18nm,1.2s,mb4.9
DAC Darwin (Calif) 69.12 320 *eP* **P 17 02 31.4 +0.7**
comp=Z,7.5nm,1.0s,mb4.6
DAC Darwin (Calif) 69.12 320 *eP* **P 17 02 31.5 +0.7**
DAC pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
BW06 Boulder Array 69.34 330 *eP* **P 17 02 30.6 -1.4**
comp=Z,4.6nm,0.9s,mb4.4
PDAR Pinedale Array 69.34 330 P **P 17 02 31.4 -0.5**
comp=Z,1.8nm,0.5s,mb4.3,baz=119,slow=7.7,SNR=14
PDAR LR LR 17 38 51.2
comp=Z,190nm,18.2s,MS4.4,baz=20,slow=41
HWUT Hardware Ranch 69.46 328 *eP* **P 17 02 33.0 +0.2**
comp=Z,14nm,1.1s,mb4.8
HVU Hansel Valley 70.20 327 *eP* **P 17 02 36.7 -0.6**
REDW Red Top Meadow 70.41 330 *eP* **P 17 02 38.2 -0.3**
comp=Z,17nm,1.3s,mb4.8
LOHW Long Hollow 70.48 330 *eP* **P 17 02 39.7 +0.7**
comp=Z,5.9nm,0.8s,mb4.6
RRI2 Red Ridge 70.63 329 *eP* **P 17 02 40.7 +0.8**
comp=Z,14nm,0.8s,mb5.0
ELK Elko 70.78 325 *eP* **P 17 02 40.9 +0.1**
comp=Z,5.3nm,0.9s,mb4.5
ELK Elko 70.78 325 *eP* **P 17 02 40.9 +0.1**
ELK pmax pmax
comp=Z,5.0nm,0.9s
OMM Old Mammoth Mi 70.84 321 *eP* **P 17 02 42.3 +1.0**
IMW Indian Meadow 70.85 330 *eP* **P 17 02 41.8 +0.6**
comp=Z,18nm,1.2s,mb4.9
LAO LASA Array 70.92 335 *eP* **P 17 02 42.1 +0.5**
comp=Z,19nm,1.1s,mb4.9
LKWY Lake 71.10 331 P **P 17 02 41.9 -0.8**
comp=Z,18nm,0.9s,mb5.0
LKWY Lake 71.10 331 P **P 17 02 41.9 -0.8**
LKWY pmax pmax
comp=Z,18nm,0.9s,mb5.0
SCHQ Schefferville 71.28 2 LR LR 17 32 48.6
comp=Z,280nm,19.2s,MS4.5,baz=170,slow=35
DGMT Dagmar 71.58 337 *eP* **P 17 02 46.2 +0.7**
comp=Z,23nm,1.0s,mb5.1
GCMT Greycliff 71.70 332 *eP* **P 17 02 44.5 -1.7**
QLMT Earthquake Lak 71.78 330 *eP* **P 17 02 47.5 +0.7**

HLID Hailey 72.33 328 *eP* **P 17 02 51.3 +1.2**
comp=Z,6.2nm,0.9s,mb4.5
MCMT McKenzie Canyo 72.46 330 *eP* **P 17 02 51.7 +0.9**
BOZ Bozeman (W) 72.49 331 *eP* **P 17 02 51.6 +0.6**
comp=Z,5.7nm,0.9s,mb4.5
BOZ Bozeman (W) 72.49 331 *eP* **P 17 02 51.6 +0.6**
BOZ pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
HRY Holter Researc 73.38 332 *eP* **P 17 02 56.3 +0.2**
WVOR Wild Horse Val 73.79 325 *eP* **P 17 02 57.6 -1.1**
comp=Z,6.5nm,1.3s,mb4.4
WVOR Wild Horse Val 73.79 325 *eP* **P 17 02 57.6 -1.1**
WVOR pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
CHMT Chamberlain Mo 74.18 331 *eP* **P 17 03 01.5 +0.7**
MOD Modoc 74.38 324 *eP* **P 17 03 03.0 +1.0**
comp=Z,8.2nm,0.8s,mb4.7
MSO Missoula 74.44 330 *eP* **P 17 03 03.7 +1.4**
comp=Z,7.9nm,1.2s,mb4.5
BMO Blue Mountains 74.71 327 *eP* **P 17 03 03.7 -0.2**
comp=Z,7.2nm,1.0s,mb4.6
PPT Papeete 75.27 256 LR LR 17 27 23.1
comp=Z,284nm,19.7s,MS4.6,baz=128,slow=29
YBH Yreka Blue Hor 75.67 322 *eP* **P 17 03 09.5 +0.1**
comp=Z,5.5nm,1.0s,mb4.4
YBH Yreka Blue Hor 75.67 322 *eP* **P 17 03 09.5 0.0**
YBH pmax pmax
comp=Z,5.0nm,1.0s
WALA Waterton Lakes 76.06 332 *eP* **P 17 03 11.7 +0.2**
comp=Z,9.8nm,1.0s,mb4.7
FFC Flin Flon 76.09 342 *eP* **P 17 03 11.8 +0.2**
comp=Z,13nm,1.4s,mb4.7
FFC Flin Flon 76.09 342 *eP* **P 17 03 11.8 +0.2**
FFC pmax pmax
comp=Z,13nm,1.4s,mb4.7
EDM Edmonton 78.89 335 *eP* **P 17 03 26.2 -0.9**
PGC Sidney 80.39 327 P **P 17 03 36.9 +1.6**
comp=Z,66nm,1.3s,mb5.4
VNDA Vanda 81.36 190 P **P 17 03 40.0 +0.2**
comp=Z,0.5nm,0.7s,baz=130,slow=6.8,SNR=2.8
SYO Syowa Base 81.43 160 ⇑P **P 17 03 41.0 +0.7**
ESDC Sonseca Array 83.31 45 P **P 17 03 50.0 -0.7**
comp=Z,0.5nm,0.5s,mb3.8,baz=253,slow=5.8,SNR=7.0
YKA Yellowknife Ar 86.25 341 P **P 17 04 05.8 +0.9**
comp=Z,11nm,1.0s,mb5.0,baz=132,slow=4.8,SNR=8.7
BOSA Boshof 86.81 119 LR LR 17 37 53.5
comp=Z,481nm,21.2s,MS4.9,baz=256,slow=32
MAW Mawson 89.28 164 P **P 17 04 18.7 -0.7**
comp=Z,2.3nm,0.7s,mb4.7,baz=257,slow=8.0,SNR=5.4
MAW LR LR 17 45 47.8
comp=Z,278nm,19.1s,MS4.7,baz=139,slow=37
DLBC Dease Lake 89.38 333 *eP* **P 17 04 20.5 +0.5**
RAO Raoul Island 96.66 237 LR LR 17 37 57.4
comp=Z,157nm,19.4s,MS4.5,baz=347,slow=29
AFI Afiamalu 96.80 253 LR LR 17 39 08.2
comp=Z,100nm,19.8s,MS4.3,baz=140,slow=30
GERES GERESS Array B 98.45 42 LR LR 17 49 57.4
comp=Z,128nm,19.2s,MS4.4,baz=76,slow=36
ILAR Eielson Array 99.38 335 LR LR 17 52 10.4
comp=Z,272nm,20.0s,MS4.8,baz=282,slow=37
OBN Obninsk 113.11 37 *i* PKIKP PKPdf 17 10 01.3 -1.3
OBN pmax pmax
comp=Z,2.0nm,0.9s
OBN MLR MLR
comp=Z,200nm,17.0s,MS4.8
BILL Bilibino 117.61 339 ⇓ *i* PKIKP PKPdf 17 10 12.6 +1.6
BILL *e* 17 16 57.2
BILL pmax pmax
comp=Z,1.0nm,0.7s
BILL MLR MLR
comp=Z,200nm,20.0s,MS4.7
KIV Kislovodsk 117.82 49 *i* PKIKP PKPdf 17 10 09.4 -2.6
KIV *e* 17 16 51.6
KIV pmax pmax
comp=Z,1.0nm,0.5s
KIV MLR MLR
comp=Z,100nm,20.0s,MS4.4
GNI Garni 119.55 53 *i* PKIKP PKPdf 17 10 10.6 -4.8
GNI MLR MLR
comp=Z,100nm,23.0s
ARU Arti 124.80 32 *i* PKIKP PKPdf 17 10 24.5 -0.8
ARU *e* 17 12 11.8
ARU *e* 17 17 33.2
ARU *e*SS SS 17 29 04.2 -1.6
ARU MLR MLR
comp=Z,200nm,20.0s,MS4.8
ARU MLR MLR
comp=N,100nm,18.0s,MS4.8
ARU MLR MLR
comp=E,200nm,20.0s,MS4.8
YAK Yakutsk 132.57 347 *i* PKIKP PKPdf 17 10 38.5 -1.5
YAK MLR MLR
comp=Z,200nm,24.0s,MS4.7
WRA Warramunga Arr 136.34 214 PKP PKPdf 17 10 47.6 -0.4
comp=Z,1.8nm,0.9s,baz=143,slow=1.6,SNR=11
WRAB Tennant Creek 136.34 215 *i* PKIKP PKPdf 17 10 47.9 -0.1
NVS Novosibirsk 136.77 22 *e*PKIKP PKPdf 17 10 40.0 -7.8
ZAL Zalesovo 138.05 22 PKP PKPdf 17 10 49.2 -1.1
comp=Z,4.1nm,0.9s,baz=173,slow=2.5,SNR=21
AAK Ala-Archa 140.34 42 *i* PKIKP PKPdf 17 10 55.6 +0.8
AAK MLR MLR
comp=Z,300nm,21.0s,MS5.0
MKAR Makanchi Array 142.32 31 PKhKP 17 10 51.5
comp=Z,0.1nm,0.4s,baz=187,slow=28,SNR=3.4
MKAR PKP PKPdf 17 10 55.4 -2.7
comp=Z,1.2nm,0.8s,baz=339,slow=1.7,SNR=8.1
IRK Irkutsk 144.25 6 *e*PKHKP 17 10 50.6
IRK pmax pmax
comp=Z,50nm,3.4s
CIT Chita 144.61 356 *e*PKIKP PKPdf 17 11 00.6 -1.3
ZAK Zakamensk 145.97 7 *e*PKP2 PKPab 17 11 04.1 -0.5
ZAK pmax pmax
comp=Z,11nm,1.0s
WMQ Urumqi 147.10 30 *e*PKP PKPdf 17 11 05.0 -1.4
WMQ SKS SKS 17 18 05.0 -9.2
WMQ PP PP
comp=Z,32nm,10.0s
WMQ LR LR
comp=N,405nm,24.0s,MS5.2
WMQ LR LR
comp=E,325nm,24.0s,MS5.2
WMQ LR LR
comp=Z,392nm,24.0s,MS5.1
MDJ Mudanjiang 147.53 333 PKP PKPdf 17 11 09.1 +2.0
MAJO Matsushiro 147.99 314 *e*PKPab PKPab 17 11 09.2 -3.7
MAT Matsushiro 147.99 314 PKP PKPdf 17 11 09.8 +1.7
MAT Matsushiro 147.99 314 *e*P PKPdf 17 11 10.0 +1.9
SONM Songino Array 148.81 4 PKPbc PKPdf 17 11 11.0 +2.0
comp=Z,4.0nm,0.5s,baz=334,slow=2.0,SNR=20
GTA Gaotai 155.74 19 *e*PKP PKPdf 17 11 23.9 +4.7
SSE Sheshan 162.28 326 *e*PKP PKPdf 17 11 24.4 -2.7
SSE PP PP
comp=Z,53nm,3.7s
NJ2 Nanjing 162.62 333 *e*PKP PKPdf 17 11 25.3 -2.1
NJ2 PP PP
comp=Z,300nm,9.6s
NJ2 LR LR
comp=N,4μm,31.0s
NJ2 LR LR
comp=E,2μm,29.0s
NJ2 LR LR
comp=Z,1μm,33.9s
KMI Kunming 169.33 37 PKP PKPdf 17 11 33.6 +0.6
KMI XPKP 17 11 52.8
KMI LR LR
comp=N,197nm,28.1s
KMI LR LR
comp=E,239nm,26.9s
KMI LR LR
comp=Z,263nm,28.5s

*NEIC **13** 16:51:47.1, 19.42N×68.06W, h85km, MD3.6(RSPR), After RSPR.*
RSPR 13 16:51:47.1, 19.42N×68.06W, h85km±18km, MD3.6/10, MD3.6/10, 10C, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSP	**Las Mesas**	**1.54**	**143**	⇑*eP*	P	16 52 11.9	-1.7
LSP				*eS*	S	16 52 31.8	-1.4
LRS	**Lares**	**1.60**	**134**	⇑*eP*	P	16 52 13.1	-1.3
LRS				*eS*	S	16 52 34.2	-0.4
AOPR	**Arecibo Observ**	**1.64**	**130**	⇑*eP*	P	16 52 14.3	-0.5
AOPR				*eS*	S	16 52 34.7	-0.6
CRPR	**Cabo Rojo, PR**	**1.67**	**147**	⇑*eP*	P	16 52 13.5	-1.7
CRPR				*eS*	S	16 52 36.0	-0.1
MGP	**Maguayo**	**1.68**	**147**	⇑*eP*	P	16 52 14.4	-1.0
MGP				*eS*	S	16 52 35.8	-0.4
PORP	**Portuguez**	**1.91**	**135**	⇑*eP*	P	16 52 17.8	-0.7
PORP				*eS*	S	16 52 41.7	0.0
SJG	**San Juan**	**2.23**	**125**	⇑*eP*	P	16 52 22.2	-0.6
SJG				*eS*	S	16 52 48.6	-0.7
CBYP	**Canovanas**	**2.38**	**118**	⇑*eP*	P	16 52 23.4	-1.5
CBYP				*eS*	S	16 52 53.0	-0.1
HUMP	**Col San Antoni**	**2.45**	**121**	⇑*eP*	P	16 52 25.4	-0.5
HUMP				*eS*	S	16 52 53.4	-1.5
MTP	**Monte Pirata**	**2.71**	**119**	⇑*eP*	P	16 52 28.4	-1.2
MTP				*eS*	S	16 52 59.8	-1.6

IDC 13 17:27:03.8±1.9, 2.66S×139.22E, mb3.9/3, mb1 4.1/4, mb1mx3.9/11, mbtmp3.9/4, ML3.8/1, Error ellipse: s-maj=70.3km s-min=37.5km az=96.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**17.82**	**195**	*eP*	P	17 31 15.9	+0.9
	12nm,0.6s						
WB2	**Warramunga Arr**	**17.83**	**195**	*eP*	P	17 31 14.8	-0.3
WRA	**Warramunga Arr**	**17.83**	**195**	P	P	17 31 13.7	-1.4
	0.3nm,0.3s,baz=17,slow=13,SNR=14						
WRA				S	S	17 34 22.4	-10
	0.0nm,0.3s,baz=5.0,slow=23,SNR=3.3						
MKAR	**Makanchi Array**	**70.06**	**322**	P	P	17 38 17.8	-1.9
	0.8nm,0.6s,baz=116,slow=7.6,SNR=11						
MKAR	**Makanchi Array**	**70.06**	**322**	P	P	17 38 17.8	-1.9
BVAR	**Borovoye Array**	**79.56**	**325**	P	P	17 39 12.7	-1.5
	0.8nm,0.7s,baz=112,slow=8.0,SNR=5.9						
ILAR	**Eielson Array**	**85.57**	**24**	P	P	17 39 43.6	-1.3
	0.4nm,0.6s,baz=254,slow=3.9,SNR=4.5						

*IDC **13** 17:27:11.0±0.9, 2.63S×139.13E, mb4.4/4, mb1 4.6/5, mb1mx4.3/11, mbtmp4.4/5, ML4.4/1, Error ellipse: s-maj=53.0km s-min=24.2km az=76.0*
*NEIC **13** 17:27:14.0±1.2, 2.71S×137.78E, h35km, mb4.2/1, Error ellipse: s-maj=57.9km s-min=14.2km az=89.0*
ISC 13 17:27:14.6±0.9, 2.7S±0.1×138.9E±0.2, h33km, n9, σ0°61/7, mb4.3/4, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**10.59**	**130**	Pn	P	**17 29 47.8**	**+0.5**
	0.8nm,0.3s,baz=295,slow=17,SNR=3.2						
WRA	**Warramunga Arr**	**17.74**	**194**	P	P	**17 31 21.3**	**+0.5**
	1.2nm,0.3s,baz=16,slow=12,SNR=35						
FITZ	**Fitzroy Crossi**	**20.11**	**219**	*eP*	P	**17 31 48.3**	**-0.2**
	13nm,0.9s						
MKAR	**Makanchi Array**	**69.87**	**322**	P	P	**17 38 24.7**	**+0.6**
	3.0nm,0.6s,mb4.4,baz=109,slow=7.9,SNR=30						
VNDA	**Vanda**	**75.81**	**175**	P	P	**17 38 57.5**	**-1.1**
	1.6nm,0.8s,mb4.0,baz=328,slow=8.6,SNR=8.9						
BVAR	**Borovoye Array**	**79.38**	**325**	P	P	**17 39 19.4**	**+0.5**
	3.3nm,0.7s,mb4.4,baz=112,slow=8.0,SNR=22						
ILAR	**Eielson Array**	**85.71**	**24**	P	P	**17 39 50.5**	**-0.6**
	1.3nm,0.6s,mb4.4,baz=262,slow=4.4,SNR=18						
CPUP	**Villa Florida**	**147.18**	**152**	PKPbc	PKPdf	17 46 57.0	+4.0
	3.6nm,1.0s,baz=252,slow=5.0,SNR=9.5						
LPAZ	**La Paz**	**147.32**	**126**	PKPbc	PKPdf	17 46 58.1	+4.7
	1.5nm,0.7s,baz=241,slow=3.8,SNR=4.1						

NNC 13 17:37:55.6±3.8, 36.89N×71.05E, h138km±53km, mpv3.8, 4C, Error ellipse: s-maj=39.2km s-min=34.6km az=39.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.22**	**356**	P	P	17 39 25.2	-1.0
	2.6nm,0.3s,baz=190,slow=15,SNR=64						
KK31				⇑S	S	17 40 36.5	0.0
	1.2nm,0.3s,baz=175,slow=22,SNR=6.3						
AAK	**Ala-Archa**	**6.32**	**24**	⇑P	P	17 39 26.1	-1.5
	3.0nm,0.3s						
AAK				⇑S	S	17 40 38.4	-0.5
	2.3nm,0.5s						
AB31	**Akbulak array**	**14.77**	**330**	P	P	17 41 17.6	-0.8
	0.4nm,0.3s,baz=145,slow=14,SNR=32						
AB31				⇑S	S	17 43 55.1	-3.5
	0.5nm,0.6s,baz=155,slow=23,SNR=2.8						

*NIED **13** 18:04:00, 39.80N×143.40E, h23km, Mw4.0 Best double couple: $M_0$1.04×10^15 NP1:φ=42°, δ=66°, λ=97°. NP2:φ=205°, δ=25°, λ=74°.*
*IDC **13** 18:04:42.1±1.0, 39.62N×143.37E, mb3.8/8, mb1 4.0/10, mb1mx3.8/19, mbtmp3.9/10, ML3.6/2, MS3.4/1, Ms1 3.4/1, ms1mx2.6/29, Error ellipse: s-maj=25.9km s-min=21.8km az=102.0*
*JMA **13** 18:04:43.9±0.2, 39.75N×143.44E, h23km±5km, M4.0*
*MOS **13** 18:04:44.3±1.2, 39.69N×143.61E, h33km, mb4.6/1, Error ellipse: s-maj=19.2km s-min=11.1km az=83.9*
*NEIC **13** 18:04:48.2±1.1, 39.69N×143.39E, h42km±9km, mb4.3/1, Error ellipse: s-maj=13.5km s-min=8.3km az=118.0*
ISC 13 18:04:43.2±1.7, 39.67N±0.04×143.48E±0.07, h19km±12km, n38, σ0°71/44, mb3.7/9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.28**	**283**	P	**Pn**	**18 05 05.6**	**-0.6**
JTH				*eS*	**Sb**	**18 05 21.8**	**-0.7**
MIYJ	**Miyakonagasawa**	**1.29**	**267**	P	**Pn**	**18 05 06.4**	**0.0**
MIYJ				*eS*	**Sb**	**18 05 23.2**	**+0.4**
OFUJ	**Ofunato**	**1.52**	**248**	P	**Pn**	**18 05 10.1**	**+0.4**
OFUJ				*eS*	**Sn**	**18 05 29.0**	**-0.1**
JANG	**Nango**	**1.67**	**296**	P	**Pn**	**18 05 10.9**	**-0.9**
JOM	**Ohasama**	**1.70**	**264**	P	**Pn**	**18 05 13.0**	**+0.7**
JMK	**Ichinoseki**	**1.90**	**249**	P	**Pn**	**18 05 15.6**	**+0.5**
JIO	**Ouri**	**2.06**	**235**	P	**Pn**	**18 05 17.6**	**+0.2**
JTM	**Tenmabayashi**	**2.16**	**302**	P	**Pn**	**18 05 19.1**	**+0.2**
JTM				*eS*	**Sn**	**18 05 45.7**	**+0.3**
JOT	**Ohata**	**2.53**	**314**	P	**Pn**	**18 05 23.7**	**-0.4**
JYK	**Kaneyama**	**2.54**	**254**	P	**Pn**	**18 05 24.9**	**+0.6**
JNBK	**Urakawa-nobuka**	**2.67**	**348**	P	**Pn**	**18 05 26.6**	**+0.4**
JNBK				*eS*	**Sn**	**18 05 58.4**	**+0.1**
JMM	**Marumori**	**2.77**	**230**	P	**Pn**	**18 05 27.2**	**-0.3**
JMM				*eS*	**Sn**	**18 06 00.5**	**-0.2**
ASAJ	**Asahikawa**	**4.50**	**352**	Pn	**Pn**	**18 05 52.1**	**0.0**
	1.5nm,0.3s,baz=208,slow=16,SNR=23						
ASAJ	**Asahikawa**	**4.50**	**352**	P	**Pn**	**18 05 52.2**	**+0.1**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MAJO	**Matsushiro**	**5.20**	**235**	*eP*	**Pn**	**18 06 03.3**	**+1.3**
	comp=Z,22nm,0.6s						
MAJO	**Matsushiro**	**5.20**	**235**	*eP*	**Pn**	**18 06 03.3**	**+1.3**
MAJO				pmax	pmax		
	comp=Z,22nm,0.6s						
MAT	**Matsushiro**	**5.20**	**235**	P	**Pn**	**18 06 02.7**	**+0.7**
MAT				*eS*	rx	18 07 15.6	
MAT	**Matsushiro**	**5.20**	**235**	*eP*	**Pn**	**18 06 03.0**	**+1.0**
	comp=Z,9.0nm,1.0s						
MAT				S	rx	18 07 16.0	
MAT	**Matsushiro**	**5.20**	**235**	*eP*	**Pn**	**18 06 03.0**	**+1.0**
MAT				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KUR	**Kuril'sk**	**6.44**	**29**	*eP*	**Pn**	**18 06 15.8**	**-3.7**
KUR				*eS*	**Sn**	**18 07 25.3**	**-8.0**
KUR				pmax	pmax		
	comp=Z,50nm,0.5s						
KUR				smax			
	comp=N,170nm,1.0s						
KUR				smax			
	comp=E,150nm,1.0s						
JHJ	**Hachijo jima 2**	**7.18**	**206**	Pn	**Pn**	**18 06 27.2**	**-2.8**
	comp=E,11nm,0.3s,baz=59,slow=19,SNR=6.7						
YSS	**Yuzh-Sakhalins**	**7.30**	**356**	P	**Pn**	**18 06 31.4**	**-0.3**
	comp=E,1.3nm,0.4s						
YSS	**Yuzh-Sakhalins**	**7.30**	**356**	P	**Pn**	**18 06 31.4**	**-0.3**
YSS				pmax	pmax		
	comp=Z,1.0nm,0.4s						
JNU	**Nakatsue**	**12.07**	**241**	LR	LR	18 12 38.5	
	comp=Z,171nm,18.3s,baz=35,slow=40						
SONM	**Songino Array**	**27.79**	**299**	P	**P**	**18 10 32.8**	**0.0**
	comp=Z,1.4nm,0.8s,mb3.7,baz=94,slow=7.2,SNR=7.2						
ZAL	**Zalesovo**	**41.42**	**310**	P	**P**	**18 12 29.8**	**0.0**
	comp=Z,1.5nm,0.5s,mb3.9,baz=33,slow=6.4,SNR=6.8						
ZAL	**Zalesovo**	**41.42**	**310**	P	**P**	**18 12 29.8**	**0.0**

MKAR	**Makanchi Array**	**44.15**	**300**	P	**P**		**18 12 51.6**	**-0.6**
	comp=Z,1.6nm,0.8s,mb3.8,baz=81,slow=9.2,SNR=16							
KURK	**Kurchatov**	**45.64**	**306**	*e*P	**P**		**18 13 03.6**	**-0.3**
	comp=Z,3.2nm,0.7s,mb4.4							
KURK	**Kurchatov**	**45.64**	**306**	*e*P	**P**		**18 13 03.6**	**-0.4**
KURK				pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.3							
ILAR	**Eielson Array**	**46.41**	**34**	P	**P**		**18 13 10.8**	**+1.0**
	comp=Z,0.7nm,0.8s,mb3.7,baz=258,slow=6.5,SNR=8.7							
WRA	**Warramunga Arr**	**59.91**	**190**	P	**P**		**18 14 49.3**	**-1.1**
	comp=Z,0.3nm,0.7s,mb3.4,baz=8.5,slow=7.0,SNR=6.2							
FINES	**FINESS Array B**	**67.24**	**332**	P	**P**		**18 15 37.5**	**-0.5**
	comp=Z,1.3nm,0.8s,mb4.0,baz=18,slow=13,SNR=3.9							
MCMT	**McKenzie Canyo**	**71.53**	**47**	*e*P	**P**		**18 16 04.7**	**+0.1**
NB2	**NORSAR Subarra**	**72.38**	**338**	P	**P**		**18 16 09.2**	**-0.2**
	comp=Z,0.1nm,0.7s,mb2.9,baz=46,slow=5.8							
NOA	**NORSAR Array B**	**72.38**	**338**	P	**P**		**18 16 09.3**	**-0.1**
	comp=Z,1.1nm,0.8s,mb3.9,baz=37,slow=5.9,SNR=5.4							
NOA	**NORSAR Array B**	**72.38**	**338**	P	**P**		**18 16 09.3**	**-0.1**
PDAR	**Pinedale Array**	**74.67**	**47**	P	**P**		**18 16 24.3**	**+1.3**
	comp=Z,0.3nm,0.6s,mb3.4,baz=270,slow=3.6,SNR=2.5							

NNC ***13*** *18:14:15.5±5.5, 39.75N×71.20E, mpv3.5, Error ellipse: s-maj=52.7km s-min=27.6km az=16.0*

ISC 13 18:14:08.5±4.9,**39.0N**±0.4×**70.8E**±0.2,**h33**km,**n11**, σ**0**°**64**/12,**5C-1D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.84**	**34**	P	**P**	**18 15 07.1**	**+0.4**
	SNR=78						
KK31	**Karatay Array**	**4.13**	**357**	⇑Pn	**Pn**	**18 15 12.7**	**+1.7**
	4.3nm,0.4s,baz=168,slow=14,SNR=71						
KK31				⇑Lg		18 16 04.5	
	39nm,0.6s,baz=174,slow=18,SNR=7.8						
UCH	**Uchtor**	**4.30**	**40**	P	**P**	**18 15 13.6**	**+0.3**
	SNR=8.9						
KZA	**Kyzart**	**4.59**	**46**	P	**P**	**18 15 17.0**	**-0.3**
	SNR=39						
AAK	**Ala-Archa**	**4.60**	**36**	P	**P**	**18 15 18.1**	**+0.5**
	SNR=8.2						
AAK	**Ala-Archa**	**4.60**	**36**	⇑Pn	**Pn**	**18 15 17.4**	**-0.2**
	12nm,0.8s						
AAK				⇑Lg		18 16 10.1	
	18nm,0.6s						
KBK	**Karagaybulak**	**4.84**	**39**	P	**P**	**18 15 20.9**	**0.0**
	SNR=13						
CHMS	**Chumysh**	**5.01**	**35**	P	**P**	**18 15 23.0**	**-0.3**
	SNR=14						
USP	**Ospenovka**	**5.11**	**32**	P	**P**	**18 15 24.4**	**-0.4**
	SNR=6.2						
TKM2	**Tokmak 2**	**5.36**	**41**	P	**P**	**18 15 27.2**	**-0.9**
	SNR=13						
AB31	**Akbulak array**	**12.89**	**326**	⇓Pn	**P**	**18 17 11.9**	**-0.1**
	0.3nm,0.3s						
AB31				⇑Sn	**S**	**18 19 34.5**	**-0.7**
	1.9nm,0.5s						

MEX 13 18:21:09.3±0.7,**17.23N**×**100.21W**,**h51**km±11km,**MD3.5, Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.19**	**197**	*i* P	P	18 21 16.2	-1.4
CAIG				*i* S	S	18 21 22.0	-1.6
ACX	**Acapulco**	**0.46**	**142**	*i* P	P	18 21 18.7	-1.5
ACX				*i* S	S	18 21 26.3	-1.7
PLIG	**Platanillo**	**1.34**	**30**	*i* P	P	18 21 31.0	-1.1
PLIG				*i* S	S	18 21 48.3	-0.7

BJI ***13*** *18:21:13.0, 4.00N×126.40E, h37km, mB5.3, mb4.4*
NEIC ***13*** *18:21:13.1±0.4, 4.01N×126.41E, mb4.8/12, Error ellipse: s-maj=20.0km s-min=8.8km az=78.0*
IDC ***13*** *18:21:14.0±0.5, 3.92N×125.91E, h38km±4km, mb4.1/17, mb1 4.2/17, mb1mx4.1/21, mbtmp4.3/17, MS3.7/2, Ms1 3.7/2, ms1mx3.3/18, Error ellipse: s-maj=32.1km s-min=10.1km az=79.0*
MOS ***13*** *18:21:31.1±1.7, 7.05N×125.83E, h48km, mb4.5/5, Error ellipse: s-maj=33.9km s-min=14.3km az=115.7*

ISC 13 18:21:11.5±0.3,**3.96N**±0.04×**126.41E**±0.08,**h38**km, **h38**km±1.5km:**pP-P,n65,**σ**1**§**25/60,mb4.4**/35,**MS3.6**/2, **5C-4D,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**2.57**	**326**	⇑*i*P	**P**	**18 21 52.5**	**+0.8**
GSPH				*i* S	**S**	**18 22 22.7**	**+0.7**
KCP	**Kidapawan**	**3.31**	**337**	⇓*e*P	**P**	**18 22 04.1**	**+1.9**
KCP				*e*S	**S**	**18 22 42.3**	**+1.6**
BIPH	**Bislig**	**4.20**	**359**	⇑*e*P	**P**	**18 22 15.6**	**+0.8**
BIPH				*e*S	**S**	**18 23 01.7**	**-1.6**
CGP	**Cagayan de Oro**	**4.78**	**339**	⇓*e*P	**P**	**18 22 25.6**	**+2.5**
SCPH	**Surigao**	**5.86**	**351**	⇑*e*P	**P**	**18 22 45.3**	**+7.2**
KKM	**Kota Kinabalu**	**10.36**	**282**	*e*P	**P**	**18 23 42.1**	**+1.2**
KSM	**Kuching**	**16.27**	**262**	P	**P**	**18 25 05.3**	**+6.3**
KAKA	**Kakadu**	**17.61**	**160**	*e*P	**P**	**18 25 26.3**	**+10**
	22nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.93**	**182**	*e*P	**P**	**18 26 04.0**	**+0.5**
	30nm,0.6s,mb4.9						
FITZ	**Fitzroy Crossi**	**21.93**	**182**	P	**P**	**18 26 03.9**	**+0.4**
	71nm,1.0s,mb5.0,baz=5.8,slow=9.3,SNR=35						
FITZ				sP		18 26 19.6	
	47nm,0.7s,baz=4.0,slow=9.7,SNR=7.6						
JOW	**Kunigami**	**22.82**	**4**	P	**P**	**18 26 14.7**	**+2.3**
	11nm,0.8s,mb4.3,baz=190,slow=13,SNR=4.7						
WRAB	**Tennant Creek**	**24.99**	**162**	*e*P	**P**	**18 26 33.4**	**-0.1**
	39nm,0.9s,mb4.9						
WRA	**Warramunga Arr**	**24.99**	**162**	P	**P**	**18 26 34.0**	**+0.5**
	10.0nm,0.7s,mb4.5,baz=343,slow=10,SNR=51						
WB2	**Warramunga Arr**	**25.00**	**162**	*e*P	**P**	**18 26 33.7**	**+0.1**
MBWA	**Marble Bar**	**25.80**	**194**	*e*P	**P**	**18 26 41.6**	**+0.4**
	18nm,0.8s,mb4.7						
CBIJ	**Chichi jima**	**27.51**	**32**	LR	LR	18 36 37.6	
	comp=Z,77nm,20.4s,MS3.3,baz=187,slow=33						
JNU	**Nakatsue**	**29.32**	**8**	pP	pP	18 27 25.8	+2.3
	10nm,0.8s,baz=27,slow=10,SNR=5.2						
KLBR	**Kellerberrin**	**36.30**	**193**	*e*P	**P**	**18 28 13.7**	**+0.1**
	198nm,1.7s,mb5.8						
NWAO	**Narrogin (SRO)**	**37.70**	**193**	P	**P**	**18 28 25.2**	**-0.1**
	16nm,0.9s,mb4.8,baz=77,slow=9.2,SNR=8.1						
NWAO				LR	LR	18 44 16.5	
	comp=Z,212nm,21.3s,MS3.9,baz=17,slow=37						
STKA	**Stephens Creek**	**38.45**	**159**	⇓*i*P	**P**	**18 28 32.6**	**+1.0**
	19nm,0.8s,mb4.9						
STKA	**Stephens Creek**	**38.45**	**159**	P	**P**	**18 28 32.3**	**+0.7**
	26nm,0.8s,mb5.0,baz=329,slow=7.8,SNR=32						
STKA				pP	pP	18 28 44.0	+1.6
	12nm,0.7s,baz=318,slow=7.2,SNR=5.8						
HHC	**Hu-ho-hao-te**	**39.09**	**342**	*e*P	**P**	**18 28 36.6**	**-0.2**
HHC				AMB	AMB		
	comp=Z,52nm,0.9s,mb5.3						
HHC				AMB	AMB		
	comp=Z,347nm,3.8s						
MDJ	**Mudanjiang**	**40.59**	**3**	P	**P**	**18 28 52.0**	**+2.8**
	comp=Z,8.1nm,0.8s,mb4.4						
ASAJ	**Asahikawa**	**42.47**	**17**	P	**P**	**18 29 07.6**	**+2.9**
	comp=Z,2.8nm,0.7s,mb4.0,baz=239,slow=12,SNR=4.0						
YSS	**Yuzh-Sakhalins**	**45.11**	**16**	*e*P	**P**	**18 29 21.5**	**-4.5**
KLR	**Kul'dur**	**45.34**	**5**	*e*P	**P**	**18 29 35.0**	**+7.2**
SONM	**Songino Array**	**46.98**	**342**	P	**P**	**18 29 41.3**	**+0.5**
	comp=Z,1.0nm,0.7s,mb3.9,baz=159,slow=7.8,SNR=5.3						
SONM				pP	pP	18 29 51.6	-0.1
	comp=Z,1.4nm,0.7s,baz=157,slow=8.1,SNR=5.3						
SONM				PcP	PcP	18 31 13.2	+0.1
	comp=Z,0.9nm,0.9s,baz=166,slow=5.9,SNR=2.8						
SONM				pPcP		18 31 26.8	
	comp=Z,2.3nm,0.8s,baz=169,slow=3.6,SNR=5.4						
MK02	**Makanchi Array**	**57.16**	**325**	P	**P**	**18 30 55.2**	**-1.9**
MK02				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
MKAR	**Makanchi Array**	**57.19**	**325**	P	**P**	**18 30 55.4**	**-1.8**
	comp=Z,1.0nm,0.5s,mb4.1,baz=120,slow=7.3,SNR=16						
MKAR				PcP	PcP	18 31 50.5	-0.8
	comp=Z,1.9nm,0.7s,baz=117,slow=5.4,SNR=4.9						
MKAR				ScP		18 35 47.3	
	comp=Z,37nm,0.7s,baz=128,slow=6.0,SNR=138						
MKAR	**Makanchi Array**	**57.19**	**325**	P	**P**	**18 30 55.4**	**-1.8**
MKAR				PcP	PcP	18 31 50.5	-0.8
MKAR				ScP		18 35 47.3	
YAK	**Yakutsk**	**57.99**	**2**	*e*P	**P**	**18 31 02.6**	**0.0**
	comp=Z,39nm,0.9s,mb5.4						
YAK				*e*pP	pP	18 31 11.0	-2.9
YAK	**Yakutsk**	**57.99**	**2**	*e*P	pP	18 31 11.9	-2.0
YAK				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.1						
YAK				pmax	pmax		
	comp=N,15nm,1.2s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.3s						
MA2	**Magadan**	**58.57**	**14**	*e*P	**P**	**18 31 07.1**	**+0.4**
MA2				*e*		18 34 32.8	
MA2				pmax	pmax		
	comp=Z,30nm,1.2s,mb5.2						
AAK	**Ala-Archa**	**59.98**	**318**	*e*P	**P**	**18 31 17.2**	**+0.5**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.2						
ZAL	**Zalesovo**	**60.24**	**333**	P	**P**	**18 31 17.0**	**-1.4**
	comp=Z,0.6nm,0.4s,mb4.0,baz=323,slow=8.0,SNR=3.6						
KURK	**Kurchatov**	**61.38**	**328**	*e*P	**P**	**18 31 24.2**	**-1.9**
	comp=Z,4.5nm,0.6s,mb4.8						
KURK	**Kurchatov**	**61.38**	**328**	P	**P**	**18 31 25.7**	**-0.4**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.4						
NVS	**Novosibirsk**	**61.53**	**333**	*e*P	**P**	**18 31 26.7**	**-0.3**
SEY	**Seymchan**	**61.89**	**13**	*e*P	**P**	**18 31 27.7**	**-1.6**
KKAR	**Karatay Array**	**62.85**	**317**	P	**P**	**18 31 35.1**	**-0.9**
VOSK	**Vostochnaya**	**66.50**	**327**	P	**P**	**18 31 57.7**	**-1.8**
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
BVA0	**Borovoye Array**	**66.96**	**327**	P	**P**	**18 32 02.2**	**-0.1**
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.4s,mb3.6						
BVAR	**Borovoye Array**	**66.96**	**327**	P	**P**	**18 32 01.4**	**-1.0**
	comp=Z,1.1nm,0.6s,mb4.1,baz=127,slow=7.4,SNR=11						
BRVK	**Borovoye**	**67.03**	**327**	*e*P	**P**	**18 32 00.4**	**-2.4**
	comp=Z,4.9nm,1.4s,mb4.3						
BILL	**Bilibino**	**69.42**	**15**	*e*P	**P**	**18 32 17.2**	**-0.2**
BILL				*e*	pP	18 32 28.8	-0.1
BILL				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb3.9						
AB31	**Akbulak array**	**71.77**	**321**	P	**P**	**18 32 30.8**	**-1.1**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
ARU	**Arti**	**74.58**	**328**	*e*P	**P**	**18 32 46.8**	**-1.5**
	comp=Z,1.3nm,0.3s,mb4.3						
ARU	**Arti**	**74.58**	**328**	⇑*i*P	**P**	**18 32 47.5**	**-0.8**
ARU				*e*		18 33 07.9	
ARU				*e*S	S	18 41 57.8	-22
ARU				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
KIV	**Kislovodsk**	**82.75**	**314**	*e*P	pP	18 33 40.1	-4.7
KIV				*e*		18 33 48.8	
KIV				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
VNDA	**Vanda**	**83.69**	**173**	P	**P**	**18 33 38.7**	**+1.5**
	comp=Z,3.1nm,0.9s,mb4.4,baz=321,slow=5.6,SNR=14						
VNDA				pP	pP	18 33 50.8	+1.9
	comp=Z,4.6nm,0.8s,baz=309,slow=5.7,SNR=12						
VNDA	**Vanda**	**83.69**	**173**	*e*P	**P**	**18 33 38.3**	**+1.1**
	comp=Z,5.8nm,0.9s,mb4.7						
MAW	**Mawson**	**83.85**	**200**	P	**P**	**18 33 40.2**	**+2.0**
	comp=Z,0.7nm,0.3s,mb4.2,baz=66,slow=12,SNR=4.0						
SML	**Sawmill**	**84.29**	**28**	*e*P	**P**	**18 33 41.5**	**+1.0**
ILAR	**Eielson Array**	**85.04**	**25**	P	**P**	**18 33 47.2**	**+3.0**
	comp=Z,0.4nm,0.8s,mb3.6,baz=220,slow=7.0,SNR=3.6						
ILAR				pP	pP	18 33 59.7	+3.8
	comp=Z,1.3nm,0.8s,baz=251,slow=5.2,SNR=6.8						
OBN	**Obninsk**	**86.69**	**325**	*e*P	pP	18 33 59.4	-4.9
OBN				*e*		18 34 14.2	
OBN				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.8						
ARCES	**ARCESS Array B**	**90.13**	**340**	P	**P**	**18 34 08.0**	**-0.7**
	comp=Z,2.1nm,0.7s,mb4.6,baz=78,slow=5.6,SNR=7.6						
ARCES				pP	pP	18 34 20.3	-0.1
	comp=Z,2.3nm,0.7s,baz=76,slow=5.0,SNR=3.3						
KAF	**Kangasniemi**	**91.25**	**332**	*e*p	**P**	**18 34 12.3**	**-1.7**
FINES	**FINESS Array B**	**91.48**	**332**	P	**P**	**18 34 14.2**	**-0.9**
	comp=Z,1.5nm,0.8s,mb4.3,baz=135,slow=3.9,SNR=5.0						
FINES				pP	pP	18 34 26.6	-0.3
	comp=Z,1.2nm,0.7s,baz=127,slow=9.5,SNR=3.3						
AKASG	**Malin Array Be**	**91.52**	**321**	P	**P**	**18 34 15.0**	**-0.5**
	comp=Z,0.1nm,0.3s,mb3.6,baz=45,slow=2.6,SNR=3.3						
AKASG				pP	pP	18 34 26.0	-1.3
	comp=Z,0.7nm,0.6s,baz=64,slow=5.0,SNR=3.5						
SYO	**Syowa Base**	**92.52**	**201**	⇓P	**P**	**18 34 19.5**	**-0.2**
SYO	**Syowa Base**	**92.52**	**201**	⇑pP	pP	18 34 43.2	+12
NB2	**NORSAR Subarra**	**98.44**	**334**	P	**P**	**18 34 45.4**	**-1.4**
	comp=Z,0.8nm,0.7s,mb4.4,baz=68,slow=4.5						
NOA	**NORSAR Array B**	**98.44**	**334**	P	**P**	**18 34 45.7**	**-1.1**
	comp=Z,0.9nm,0.7s,mb4.4,baz=66,slow=4.5,SNR=4.9						
NOA				pP	pP	18 34 57.9	-0.7
	comp=Z,1.2nm,0.8s,baz=68,slow=4.6,SNR=4.1						
GERES	**GERESS Array B**	**101.71**	**322**	pP		18 35 14.4	
	comp=Z,0.4nm,0.8s,baz=59,slow=5.7,SNR=3.5						
CPUP	**Villa Florida**	**157.47**	**171**	PKPab	PKPab	18 41 38.9	+0.6
	comp=Z,1.1nm,0.4s,baz=227,slow=3.1,SNR=5.4						
CPUP				pPKPab		18 41 53.2	
	comp=Z,3.8nm,1.0s,baz=175,slow=3.0,SNR=7.6						

BJI ***13*** *18:27:22.7, 1.21N×97.20E, h42km, mB5.3, mb5.4, Ms5.1, Msz5.1*
MOS ***13*** *18:27:22.4±1.0, 1.48N×97.27E, h33km, mb5.4/61, MS4.5/14, Error ellipse: s-maj=10.0km s-min=4.6km az=121.0*
IDC ***13*** *18:27:22.2±0.3, 1.39N×97.17E, h22km±2km, mb5.0/25, mb1 4.9/25, mb1mx4.9/26, mbtmp5.1/25, MS4.6/9, Ms1 4.6/9, ms1mx4.5/12, Error ellipse: s-maj=12.2km s-min=8.6km az=66.0*
HRVD ***13*** *18:27:23.4±0.5, 1.20N×96.95E, h22km, MW5.0/46, Centroid moment Tensor Solution. LP body waves: s29,c43;Mantle waves: s46,c72; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.64±.20; Mθθ-1.10±.13; Mφφ-1.53±.15; Mrθ2.54±.25; Mθφ1.93±.10; Mφr-2.60±.25; Best double couple: M0=4.681×10^16 NP1:φs321°, δ20°, λ95°. NP2:φs136°, δ70°, λ88°. Principal axes: T 4.375, Plg64°, Azm43°; N .622, Plg2°, Azm137°; P -4.987, Plg25°, Azm227°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***13*** *18:27:23.4±0.1, 1.37N×97.21E, h30km, mb5.1/68, MS4.5/9 Error ellipse: s-maj=5.3km s-min=3.5km az=213.0*
NEIC Felt [III] at Gunungsitoli.

ISC 13 18:27:20.7±0.2,**1.37N**±0.03×**97.22E**±0.03,**h23**km, **h23**km±.5km:**pP-P,n355,**σ**1**§**02/333,mb5.2**/134,**MS4.8**/44, **61C-12D,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**3.66**	**120**	P	**Pn**	**18 28 18.4**	**+1.0**
	736nm,1.0s						
IPM	**Ipoh**	**4.96**	**50**	P	**Pn**	**18 28 37.8**	**+2.0**
KULM	**Kulim**	**5.18**	**41**	⇑*e*P	**Pn**	**18 28 40.4**	**+1.4**
KULM				pP		18 28 46.7	
KGM	**Kluang**	**6.13**	**84**	P	**Pn**	**18 28 54.5**	**+2.2**
PKT	**Phuket**	**6.73**	**8**	P	**Pn**	**18 29 02.0**	**+1.2**
NNT	**Nongplab**	**11.42**	**12**	P	**P**	**18 30 05.0**	**-0.7**
KSM	**Kuching**	**13.08**	**89**	Pn	**P**	**18 30 25.8**	**-2.2**
KSM				*e*pPn		18 30 40.3	
NST	**Nakhon Sawan**	**14.50**	**11**	P	**P**	**18 30 44.5**	**-2.2**
	53nm,0.7s						
UBT	**Ubonrachathani**	**15.79**	**29**	P	**P**	**18 31 04.5**	**+1.0**
	444nm,0.8s						
KKTK	**Khon Kaen**	**15.86**	**20**	PG	**P**	**18 31 12.0**	**+7.5**
PALK	**Pallekele**	**17.48**	**290**	*e*P	**P**	**18 31 25.6**	**+0.7**
	7.4nm,0.6s						
NANT	**Nan**	**17.65**	**11**	⇓P	**P**	**18 31 28.0**	**+1.0**
	1μm,0.4s						
CHRT	**Chiangrai**	**18.56**	**8**	⇓P	**P**	**18 31 38.5**	**+0.3**
	705nm,1.0s						
KKM	**Kota Kinabalu**	**19.51**	**76**	P	**P**	**18 31 50.3**	**+0.8**
KKM	**Kota Kinabalu**	**19.51**	**76**	⇑*i*P	**P**	**18 31 49.6**	**+0.1**
VIS	**Vishakhapatnam**	**21.22**	**321**	*e*P	**P**	**18 32 06.9**	**-0.5**
VIS				AMb	AMB	18 32 10.7	
	comp=Z,121nm,1.1s,mb5.1						
VIS				*ex*	x	18 35 50.4	
QIZ	**Qiongzhong**	**21.47**	**34**	P	**P**	**18 32 10.3**	**+0.4**
QIZ				*e*S	**S**	**18 36 05.8**	**+3.9**
QIZ				AMB	AMB		
	comp=Z,68nm,1.4s,mb4.8						
QIZ				LR	LR		
	comp=N,1μm,16.4s,MS4.7						
QIZ				LR	LR		
	comp=E,2μm,15.7s,MS4.7						
QIZ				LR	LR		
	comp=Z,2μm,13.7s,MS4.7						
BWNR	**Bhubaneshwar**	**21.87**	**330**	*e*P	**P**	**18 32 17.8**	**+3.9**
BWNR				AMb	AMB	18 32 24.0	
	comp=Z,108nm,0.9s,mb5.3						
BWNR				*e*S	**S**	**18 36 20.3**	**+11**
CAL	**Calcutta**	**22.75**	**338**	*e*P	**P**	**18 32 26.4**	**+3.7**
	comp=Z,2μm,0.4s						
CAL				*ex*	x	18 36 18.1	
IMP	**Imphal**	**23.49**	**352**	*ex*	**P**	**18 32 30.0**	**+0.1**
KMI	**Kunming**	**24.21**	**12**	⇑P	**P**	**18 32 39.3**	**+2.4**
KMI				AP		18 32 45.4	
KMI				PP	PP	18 33 16.4	+4.5
KMI				S	**S**	**18 36 55.9**	**+5.0**
KMI				SS	SS	18 37 49.8	+5.8
KMI				AMB	AMB		
	comp=Z,242nm,1.5s,mb5.4						
KMI				LR	LR		
	comp=N,6μm,15.8s,MS5.3						
KMI				LR	LR		
	comp=E,3μm,13.4s,MS5.3						
KMI				LR	LR		
	comp=Z,7μm,14.7s,MS5.2						
HYB	**Hyderabad**	**24.31**	**312**	*i* P	**P**	**18 32 40.0**	**+2.0**
HYB	**Hyderabad**	**24.31**	**312**	*e*P	**P**	**18 32 40.0**	**+2.0**
HYB				*e*S	**S**	**18 37 08.0**	**+15**
SHL	**Shillong**	**24.60**	**348**	*e*P	**P**	**18 32 40.0**	**-0.7**
	comp=Z,507nm,0.5s						
SHL				*ex*	x	18 36 08.0	
BOK	**Bokaro**	**24.85**	**335**	*i* P	**P**	**18 32 42.9**	**-0.2**
BOK				*i* S	**S**	**18 37 07.9**	**+6.1**
GYA	**Guiyang**	**26.55**	**19**	⇑*i*P	**P**	**18 32 58.3**	**-0.6**
GYA				AMB	AMB		
	comp=Z,90nm,1.3s,mb5.1						
GYA				AMB	AMB		
	comp=Z,380nm,5.7s						
GYA				LR	LR		
	comp=N,5μm,14.1s,MS5.2						
GYA				LR	LR		
	comp=E,2μm,12.0s,MS5.2						
GYA				LR	LR		
	comp=Z,6μm,14.4s,MS5.3						
GZH	**Guangzhou**	**26.66**	**35**	P	**P**	**18 33 06.0**	**+5.9**
GZH				LR	LR		
	comp=N,2μm,13.1s,MS5.0						
GZH				LR	LR		
	comp=E,2μm,14.3s,MS5.0						
GZH				LR	LR		
	comp=Z,4μm,13.4s,MS5.1						
GTK	**Gangtok**	**27.10**	**343**	*e*P	**P**	**18 33 04.0**	**0.0**
JBP	**Jabalpur**	**27.37**	**324**	*i* P	**P**	**18 33 04.2**	**-2.3**
JBP				*i* x	x	18 37 51.2	
KAD	**Karad**	**27.64**	**306**	*e*P	**P**	**18 33 08.1**	**-0.9**
KAD				AMb	AMB	18 33 29.3	
	comp=Z,61nm,2.1s,mb4.9						
KAD				*ex*	x	18 39 29.3	
PKI	**Pulchoki**	**28.40**	**338**	*e*P	**P**	**18 33 16.6**	**+0.8**
	comp=Z,149nm,0.9s,mb5.6						
PKI	**Pulchoki**	**28.40**	**338**	*e*P	**P**	**18 33 16.6**	**+0.8**
PKI				pmax	pmax		
	comp=Z,74nm,0.9s,mb5.3						
DMN	**Daman**	**28.55**	**337**	*e*P	**P**	**18 33 18.1**	**+0.9**
	comp=Z,121nm,0.8s,mb5.7						
POO	**Poona**	**28.57**	**308**	*e*P	**P**	**18 33 15.8**	**-1.6**
POO				AMb	AMB	18 33 21.0	
	comp=Z,37nm,2.2s,mb4.7						
KKN	**Kakani**	**28.65**	**338**	*e*P	**P**	**18 33 18.9**	**+0.9**
	comp=Z,168nm,0.9s,mb5.8						
KKN	**Kakani**	**28.65**	**338**	*e*P	**P**	**18 33 18.9**	**+0.9**
KKN				pmax	pmax		
	comp=Z,84nm,0.9s,mb5.5						
LSA	**Lhasa**	**28.76**	**349**	P	**P**	**18 33 20.3**	**+1.3**
LSA				AP	pP	18 33 28.6	+2.8
LSA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
LSA				LR	LR		
	comp=N,590nm,17.6s,MS4.5						
LSA				LR	LR		
	comp=E,1μm,18.7s,MS4.5						
LSA				LR	LR		
	comp=Z,1μm,18.7s,MS4.5						
BHPL	**Bhopal**	**29.01**	**320**	*e*P	**P**	**18 33 21.0**	**-0.3**
BHPL				AMb	AMB	18 33 24.3	
	comp=Z,11nm,0.3s,mb5.0						
BHPL				*e*S	**S**	**18 38 08.5**	**-1.3**
GKN	**Gorkha**	**29.09**	**337**	*e*P	**P**	**18 33 22.8**	**+0.8**
	comp=Z,283nm,0.9s,mb6.0						
KOLN	**Koldanda**	**29.31**	**335**	*e*P	**P**	**18 33 25.1**	**+1.1**
	comp=Z,189nm,0.8s,mb5.9						
BOM	**Bombay**	**29.59**	**308**	*e*S	**S**	**18 38 21.9**	**+2.9**
CD2	**Chengdu**	**30.02**	**11**	P	**P**	**18 33 29.5**	**-0.8**
CD2				AP	pP	18 33 38.5	+1.3
CD2				XP	sP	18 33 44.5	+4.3
CD2				S	**S**	**18 38 18.3**	**-7.5**
CD2				AMB	AMB		
	comp=Z,50nm,0.7s,mb5.3						
CD2				LR	LR		
	comp=E,3μm,15.0s						
CD2				LR	LR		
	comp=Z,2μm,16.1s,MS4.9						
MBWA	**Marble Bar**	**31.41**	**137**	*e*P	**P**	**18 33 42.8**	**+0.2**
	comp=Z,16nm,0.8s,mb4.9						
NDI	**New Delhi**	**33.20**	**327**	*e*P	**P**	**18 33 57.0**	**-1.2**
WHN	**Wuh

comp=Z,398nm,7.2s
GTA LR LR
comp=N,1µm,12.9s,MS5.0
GTA LR LR
comp=E,1µm,14.8s,MS5.0
GTA LR LR
comp=Z,2µm,13.7s,MS5.0
NWAO Narrogin (SRO) 39.00 153 P **P** **18 34 48.2 +0.9**
comp=Z,28nm,1.0s,mb4.9,baz=292,slow=19,SNR=3.0
NWAO Narrogin (SRO) 39.00 153 P **P** **18 34 48.2 +0.9**
JOW Kunigami 39.11 47 P **P** **18 34 49.2 +0.9**
comp=Z,170nm,0.6s,mb5.9,baz=244,slow=7.9,SNR=109
TIA Tai'an 39.27 26 *e*P **P** **18 34 49.0 -0.5**
BTO Baotou 40.74 15 *e*P **P** **18 35 02.3 +0.7**
BTO AMB AMB
comp=Z,22nm,0.8s,mb4.8
WRA Warramunga Arr 42.11 122 P **P** **18 35 12.4 -0.7**
comp=Z,22nm,0.6s,mb4.9,baz=300,slow=9.1,SNR=169
WRA PcP PcP 18 37 07.8 -0.5
comp=Z,4.0nm,0.8s,baz=304,slow=2.4,SNR=4.4
WRA S **S** **18 41 27.4 -3.7**
comp=Z,2.2nm,1.0s,baz=273,slow=14,SNR=5.3
WRAB Tennant Creek 42.11 122 *e*P **P** **18 35 12.6 -0.6**
comp=Z,34nm,0.7s,mb5.1
WRAB Tennant Creek 42.11 122⇑ *i*P **P** **18 35 12.4 -0.8**
WB2 Warramunga Arr 42.12 122 *e*P **P** **18 35 12.5 -0.7**
WMQ Urumqi 43.11 350 P **P** **18 35 22.3 +1.3**
WMQ AP pP 18 35 32.3 +4.3
WMQ AMB AMB
comp=Z,65nm,1.2s,mb5.2
FORT Forrest 43.39 140 *e*P **P** **18 35 25.1 +1.6**
comp=Z,50nm,0.6s,mb5.4
DL2 Dalian 43.52 28 P **P** **18 35 25.5 +1.1**
DL2 AP pP 18 35 32.3 +0.9
DL2 *e*S **S** **18 41 57.8 +6.4**
DL2 XS 18 42 13.0
DL2 AMB AMB
comp=Z,50nm,0.8s,mb5.3
DL2 LR LR
comp=N,380nm,18.6s,MS4.5
DL2 LR LR
comp=E,370nm,16.5s,MS4.5
DL2 LR LR
comp=Z,630nm,15.5s,MS4.6
JNU Nakatsue 44.66 41 P **P** **18 35 34.1 +0.3**
comp=Z,79nm,0.8s,mb5.6,baz=220,slow=3.0,SNR=60
ULHL Ulahol 44.84 338 P **P** **18 35 36.7 +1.5**
SNR=7.8
INCN Inchon 44.99 34 *e*P **P** **18 35 35.4 -0.9**
comp=Z,94nm,1.4s,mb5.4
KZA Kyzart 45.08 337 P **P** **18 35 38.6 +1.6**
SNR=10.0
UCH Uchtor 45.50 336 P **P** **18 35 42.4 +2.1**
SNR=8.1
KS15 Wonju Array Si 45.66 35⇑ *e*P **P** **18 35 42.1 +0.4**
TKM2 Tokmak 2 45.67 338 P **P** **18 35 42.9 +1.2**
SNR=30
KBK Karagaybulak 45.69 337 P **P** **18 35 43.7 +1.9**
SNR=28
AML Almayashu 45.76 336 P **P** **18 35 43.9 +1.5**
SNR=36
AAK Ala-Archa 45.85 337 P **P** **18 35 45.0 +1.9**
SNR=5.3
AAK Ala-Archa 45.85 337⇑ *e*P **P** **18 35 43.3 +0.2**
comp=Z,28nm,0.9s,mb5.2
AAK Ala-Archa 45.85 337⇑ *e*P **P** **18 35 43.3 +0.2**
AAK pmax pmax
comp=Z,28nm,0.9s,mb5.2
FRU Bishkek 45.97 337⇑ *e*P **P** **18 35 48.0 +4.0**
FRU *e* pP 18 35 56.0 +5.0
FRU pmax pmax
comp=Z,100nm,2.3s,mb5.3
FRU MLR MLR
comp=Z,1µm,20.0s,MS4.8
CHMS Chumysh 46.06 337 P **P** **18 35 45.6 +0.9**
SNR=8.3
USP Ospenovka 46.38 337 P **P** **18 35 48.3 +1.0**
SNR=49
SNY Shenyang 46.74 27 ⇑P **P** **18 35 50.1 0.0**
SNY AMB AMB
comp=Z,50nm,0.9s,mb5.4
SNY LR LR
comp=N,1µm,16.5s,MS5.1
SNY LR LR
comp=E,1µm,15.3s,MS5.1
SNY LR LR
comp=Z,2µm,15.1s,MS5.2
SONM Songino Array 46.96 8 P **P** **18 35 52.6 +0.9**
comp=Z,53nm,0.7s,mb5.6,baz=188,slow=8.9,SNR=281
SONM pP pP 18 35 59.2 +0.4
comp=Z,47nm,0.8s,baz=192,slow=9.0,SNR=20
SONM PcP PcP 18 37 24.2 -0.2
comp=Z,8.5nm,0.7s,baz=191,slow=3.8,SNR=5.3
SONM LR LR 18 58 06.0
comp=Z,2µm,18.3s,MS5.0,baz=41,slow=39
MK02 Makanchi Array 47.05 346 P **P** **18 35 53.1 +0.6**
MK02 pmax pmax
comp=Z,27nm,0.7s,mb5.3
MKAR Makanchi Array 47.08 346 P **P** **18 35 53.0 +0.2**
comp=Z,40nm,0.7s,mb5.5,baz=157,slow=7.8,SNR=248
MKAR pP pP 18 36 00.1 +0.3
comp=Z,46nm,0.7s,baz=156,slow=7.2,SNR=18
MKAR LR LR 18 59 28.6
comp=Z,542nm,21.1s,MS4.5,baz=178,slow=41
KKAR Karatay Array 47.91 334 *i* P **P** **18 35 59.3 0.0**
ZAK Zakamensk 49.10 5⇑ *e*P **P** **18 36 09.0 +0.6**
ZAK pmax pmax
comp=Z,18nm,0.9s,mb5.1
CN2 Changchun 49.14 27 *e*P **P** **18 36 08.8 0.0**
CN2 AMB AMB
comp=Z,80nm,0.9s,mb5.8
CN2 LR LR
comp=N,1µm,16.0s,MS5.1
CN2 LR LR
comp=E,780nm,16.0s,MS5.1
CN2 LR LR
comp=Z,2µm,16.0s,MS5.1
CBIJ Chichi jima 50.11 55 P **P** **18 36 15.4 -1.0**
comp=Z,84nm,0.6s,mb5.9,baz=274,slow=13,SNR=5.6
MOY Mondy 50.22 3 *e*P **P** **18 36 17.8 +0.9**
PMG Port Moresby 50.87 103 P **P** **18 36 21.8 -0.6**
comp=Z,28nm,0.8s,mb5.3,baz=120,slow=3.1,SNR=6.3
JHJ Hachijo jima 2 50.89 47 P **P** **18 36 21.0 -1.3**
comp=Z,41nm,0.6s,mb5.6,baz=216,slow=19,SNR=2.4
MAJO Matsushiro 51.55 42 P **P** **18 36 21.9 -5.4**
comp=Z,12nm,0.8s,mb4.9
MAJO Matsushiro 51.55 42 P **P** **18 36 21.9 -5.4**
MAJO pmax pmax
comp=Z,12nm,0.8s,mb4.9
MAT Matsushiro 51.55 42 P **P** **18 36 26.2 -1.1**
MAT Matsushiro 51.55 42 *e*P **P** **18 36 26.0 -1.3**
comp=Z,20nm,1.2s,mb4.9
MAT LR LR
comp=Z,710nm,20.0s,MS4.7
MAT Matsushiro 51.55 42 *e*P **P** **18 36 26.0 -1.3**
MAT pmax pmax
comp=Z,20nm,1.2s,mb4.9
MAT MLR MLR
comp=Z,710nm,20.0s,MS4.7
KURK Kurchatov 51.63 345⇑ *i*P **P** **18 36 27.6 -0.1**
comp=Z,44nm,0.9s,mb5.4
KURK Kurchatov 51.63 345⇑ *i*P **P** **18 36 27.6 -0.1**
KURK pmax pmax
comp=Z,44nm,0.9s,mb5.4
MDJ Mudanjiang 51.71 29 P **P** **18 36 28.8 +0.4**
MDJ AP pP 18 36 37.4 +1.9
MDJ XP sP 18 36 43.6 +5.4
MDJ PP PP 18 38 31.8 +5.1
MDJ SCP 18 41 29.4
MDJ AMB AMB
comp=Z,35nm,1.4s,mb5.1
MDJ AMB AMB
comp=Z,191nm,7.1s
MDJ LR LR
comp=N,910nm,15.8s,MS5.0
MDJ LR LR
comp=E,602nm,16.4s,MS5.0
MDJ LR LR
comp=Z,1µm,16.4s,MS5.1
MDJ Mudanjiang 51.71 29⇑ *e*P **P** **18 36 28.7 +0.4**
comp=Z,40nm,0.8s,mb5.4
MDJ pP pP 18 36 37.1 +1.6
CIT Chita 52.30 13 *e*P **P** **18 36 32.9 +0.2**
CIT *e* pP 18 36 41.2 +1.4
CIT pmax pmax
comp=Z,12nm,1.6s,mb4.6
CTA Charters Tower 52.56 117 *e*P **P** **18 36 34.7 -0.4**
comp=Z,13nm,0.9s,mb4.9
CTA Charters Tower 52.56 117 *e*P **P** **18 36 34.7 -0.4**
CTA pmax pmax
comp=Z,13nm,0.9s
CTAO Charters Tower 52.56 117 P **P** **18 36 34.0 -1.2**
comp=Z,20nm,0.9s,mb5.0
CTAO Charters Tower 52.56 117 P **P** **18 36 34.0 -1.1**
CTAO pmax pmax
comp=Z,20nm,0.9s,mb5.0
OPO Ambohidratompo 53.01 246 P **P** **18 36 37.8 -0.7**
comp=Z,9.0nm,1.0s,mb4.7,baz=76,slow=10.0,SNR=10.0
ZAL Zalesovo 53.38 351 P **P** **18 36 40.8 0.0**
comp=Z,52nm,0.6s,mb5.6,baz=312,slow=5.6,SNR=227
ZAL S **S** **18 44 11.7 +2.0**
comp=Z,0.9nm,0.6s,baz=193,slow=22,SNR=5.9
ZAL LR LR 19 03 41.1
comp=Z,345nm,18.1s,MS4.5,baz=298,slow=41
STKA Stephens Creek 53.45 132⇓ *i*P **P** **18 36 41.9 +0.3**
comp=Z,14nm,0.6s,mb5.1
STKA Stephens Creek 53.45 132 P **P** **18 36 41.6 0.0**
comp=Z,19nm,0.7s,mb5.1,baz=308,slow=7.4,SNR=23
STKA LR LR 19 01 15.2
comp=Z,974nm,20.8s,MS4.8,baz=321,slow=38
NVS Novosibirsk 54.51 350⇑ *i*P **P** **18 36 47.7 -1.3**
NVS *i* S **S** **18 44 24.4 -0.6**
NVS pmax pmax
comp=Z,34nm,0.8s,mb5.4
NVS pmax pmax
comp=N,26nm,0.8s
NVS pmax pmax
comp=E,14nm,0.6s
NVS smax
comp=N,32nm,1.9s
KBD Kabd 54.62 305 *e*P **P** **18 36 50.2 0.0**
KBD AMb AMB 18 36 58.6
comp=Z,159nm,0.8s,mb6.1
RDF Al-Radifah 54.65 305 *e*P **P** **18 36 50.6 +0.3**
RDF AMb AMB 18 36 59.3
comp=Z,80nm,0.9s,mb5.8
NAY Al-Naaiem 55.01 305 *e*P **P** **18 36 52.9 -0.2**
NAY AMb AMB 18 37 01.5
comp=Z,29nm,1.2s,mb5.2
VOSK Vostochnaya 55.65 341 *i* P **P** **18 36 56.5 -0.8**
KLR Kul'dur 56.09 27 *d i*P **P** **18 36 57.5 -3.0**
KLR *e*S **S** **18 44 39.5 -6.7**
KLR *e*SS SS 18 48 24.0 -8.7
KLR pmax pmax
comp=N,32nm,1.0s
KLR pmax pmax
comp=E,56nm,1.0s
KLR pmax pmax
comp=Z,66nm,1.0s,mb5.6
KLR MLR MLR
comp=N,1µm,13.0s,MS5.2
KLR MLR MLR
comp=E,700nm,13.0s,MS5.2
KLR MLR MLR
comp=Z,2µm,13.0s,MS5.3
BVA0 Borovoye Array 56.09 341 *i* P **P** **18 36 59.6 -0.9**
BVA0 pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
BVAR Borovoye Array 56.09 341 P **P** **18 36 59.5 -1.0**
comp=Z,40nm,0.7s,mb5.6,baz=142,slow=8.7,SNR=264
BVAR S **S** **18 44 44.8 -1.4**
comp=Z,0.7nm,0.7s,baz=153,slow=9.7,SNR=4.2
BRVK Borovoye 56.16 341⇑ *i*P **P** **18 36 59.9 -1.1**
comp=Z,23nm,0.8s,mb5.3
BRVK Borovoye 56.16 341⇑ *i*P **P** **18 36 59.9 -1.1**
BRVK pmax pmax
comp=Z,23nm,0.8s,mb5.3
AB31 Akbulak array 57.37 332 *i* P **P** **18 37 08.6 -1.1**
BOD Bodaibo 57.84 11 *e*P **P** **18 37 12.3 -0.5**
BOD pmax pmax
comp=Z,57nm,0.9s,mb5.6
ASAJ Asahikawa 58.51 37 P **P** **18 37 17.8 0.0**
comp=Z,16nm,1.0s,mb5.0,baz=247,slow=15,SNR=15
CLNS Chul'man 59.57 17 *e*P **P** **18 37 24.4 -0.5**
CLNS *e* 18 38 10.8
CLNS *e* 18 39 33.6
CLNS *e*S **S** **18 45 31.8 +0.1**
CLNS pmax pmax
comp=Z,90nm,0.8s,mb5.8
CLNS pmax pmax
comp=N,33nm,0.7s
CLNS pmax pmax
comp=E,35nm,0.8s
CLNS pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
CLNS pmax pmax
comp=N,9.0nm,0.7s
CLNS pmax pmax
comp=E,12nm,0.9s
CLNS smax
comp=E,96nm,12.9s
CLNS smax
comp=Z,69nm,11.3s
CLNS smax
comp=N,103nm,15.1s
CLNS MLR MLR
comp=Z,2µm,14.0s,MS5.4
CLNS MLR MLR
comp=N,400nm,12.0s,MS5.3
CLNS MLR MLR
comp=E,1µm,16.0s,MS5.3
KMBO Kilima Mbogo 60.02 268 P **P** **18 37 28.8 +0.3**
comp=E,1.4nm,0.7s,mb4.1,baz=58,slow=14,SNR=6.5
YSS Yuzh-Sakhalins 60.20 34⇑ *e*P **P** **18 37 29.3 0.0**
comp=E,89nm,1.0s,mb5.8
YSS Yuzh-Sakhalins 60.20 34 *c i*P **P** **18 37 29.2 -0.1**
YSS pmax pmax
comp=Z,93nm,1.0s,mb5.8
GNI Garni 61.18 316 LR LR 19 08 59.3
comp=Z,214nm,18.0s,MS4.3,baz=295,slow=41
GNI Garni 61.18 316 P **P** **18 37 33.7 -2.4**
comp=Z,33nm,0.8s,mb5.5
GNI Garni 61.18 316 *c i*P **P** **18 37 35.4 -0.7**
GNI pmax pmax
comp=Z,26nm,1.1s
DGRG David-gareji 61.32 318 P **P** **18 37 35.7 -1.3**
MTA Mtatsminda 61.82 318 P **P** **18 37 39.4 -1.0**
TI2 Plekhanov 61.86 318 *i* P **P** **18 37 36.2 -4.5**
TI2 *i* pP 18 37 43.6 -4.4
TI2 pmax pmax
comp=Z,40nm,0.4s,mb5.9
TBLG Delisi 61.87 318 P **P** **18 37 40.4 -0.3**
SVE Sverdlovsk 62.54 338⇑ *e*P **P** **18 37 43.9 -1.1**
SVE *e* 18 40 09.0
SVE *e*S **S** **18 46 10.0 +0.5**
SVE *e* 18 47 38.0
SVE *e* 18 50 12.0
SVE pmax pmax
comp=Z,80nm,1.2s,mb5.7
SVE MLR MLR
comp=N,300nm,16.0s,MS4.7
SVE MLR MLR
comp=E,300nm,16.0s,MS4.7
SVE MLR MLR
comp=Z,400nm,16.0s,MS4.7
ZEI Tsey 62.88 318 *e*P **P** **18 37 43.8 -3.7**
ZEI *i* *PP pP 18 37 54.2 -0.5
ZEI pmax pmax
comp=Z,16nm,0.8s,mb5.2
ARU Arti 63.03 337⇑ *e*P **P** **18 37 46.9 -1.4**
comp=Z,26nm,0.8s,mb5.4
ARU Arti 63.03 337⇑ *i*P **P** **18 37 47.0 -1.2**
ARU *e* 18 38 24.8
ARU *e* 18 40 01.5
ARU *e*S **S** **18 46 15.8 +0.1**
ARU *e*SS SS 18 50 21.1 -2.5
ARU pmax pmax
comp=Z,30nm,0.9s,mb5.4
ARU MLR MLR
comp=Z,400nm,18.0s,MS4.6
ARU MLR MLR
comp=N,100nm,19.0s,MS4.7
ARU MLR MLR
comp=E,400nm,17.0s,MS4.7
HNR Honiara 63.38 101 P **P** **18 37 49.6 -1.5**
comp=E,107nm,0.8s,mb6.0,baz=196,slow=3.1,SNR=14
KIV Kislovodsk 64.19 319⇑ *e*P **P** **18 37 55.2 -0.9**
comp=E,47nm,0.9s,mb5.5
KIV pP pP 18 38 02.3 -1.1
KIV Kislovodsk 64.19 319⇑ *e*P **P** **18 37 55.2 -0.9**
KIV *PP pP 18 38 02.3 -1.1
KIV pmax pmax
comp=Z,47nm,0.9s,mb5.5
GOF Gofitskoye 64.44 320⇓ *i*P **P** **18 37 55.3 -2.4**
GOF pmax pmax
comp=Z,20nm,1.3s,mb5.0
MALT Malatya 65.03 312 *e*P **P** **18 38 01.4 -0.2**
comp=Z,17nm,0.9s,mb5.1
MALT *e*pP pP 18 38 08.7 -0.2
MALT Malatya 65.03 312 *e*P **P** **18 38 01.4 -0.2**
MALT *e**PP pP 18 38 08.7 -0.2
MALT pmax pmax
comp=Z,17nm,0.9s,mb5.1
YAK Yakutsk 65.25 16⇑ *i*P **P** **18 38 01.7 -0.9**
comp=Z,205nm,0.9s,mb6.2
YAK pP pP 18 38 08.6 -1.3
YAK Yakutsk 65.25 16 *c i*P **P** **18 38 01.8 -0.8**
YAK *i* *PP pP 18 38 08.9 -1.0
YAK *e* 18 38 32.6
YAK *e* 18 40 26.7
YAK *e*S S 18 46 46.3 +3.3
YAK *e* 18 47 48.8
YAK *e*SS SS 18 51 02.5 +4.8
YAK pmax pmax
comp=Z,105nm,0.9s,mb5.9
YAK pmax pmax
comp=N,31nm,1.0s
YAK pmax pmax
comp=E,22nm,1.1s
YAK pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
YAK pmax pmax
comp=N,3.0nm,1.1s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK smax
comp=N,44nm,9.7s
YAK smax
comp=E,36nm,12.2s
YAK MLR MLR
comp=Z,810nm,15.0s,MS5.0
YAK MLR MLR
comp=N,526nm,14.0s,MS5.0
YAK MLR MLR
comp=E,367nm,15.0s,MS5.0
SOC Sochi 66.01 318 *e*P **P** **18 38 05.7 -2.1**
SOC *e* 18 38 36.6
SOC *e* 18 40 31.2
SOC *e*S S 18 46 54.9 +2.2
SOC *e*SS SS 18 51 06.5 -2.9
SOC pmax pmax
comp=N,11nm,0.8s
SOC pmax pmax
comp=Z,26nm,0.8s,mb5.3
SOC pmax pmax
comp=E,12nm,1.0s
MBAR Mbarara 66.51 269 *e*P **P** **18 38 11.0 -0.4**
comp=E,12nm,1.1s,mb4.8
MBAR *e*pP pP 18 38 16.6 -2.2
MBAR Mbarara 66.51 269 *e*P **P** **18 38 11.0 -0.5**
MBAR *e**PP pP 18 38 16.6 -2.2
MBAR pmax pmax
comp=Z,12nm,1.1s,mb4.8
BR131 Keskin Array S 69.01 312 *e*P **P** **18 38 25.3 -1.5**
comp=Z,7.1nm,0.8s,mb4.7
BRTR Keskin Array B 69.01 312 P **P** **18 38 25.4 -1.4**
comp=Z,5.3nm,0.7s,mb4.6,baz=130,slow=7.0,SNR=30
BRTR pP pP 18 38 32.2 -1.8
comp=Z,8.5nm,0.8s,baz=126,slow=6.8,SNR=16
VORD Divnogorie 69.26 325 *e*P **P** **18 38 25.2 -2.9**
VORD pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
VORD pmax pmax
comp=N,20nm,0.7s
VORD pmax pmax
comp=E,30nm,0.7s
VRSR Storozhevoye 69.43 325 *e*P **P** **18 38 27.2 -1.9**
VOR Voronezh 69.64 326 *e*P **P** **18 38 29.0 -1.4**
VOR *e**PP pP 18 38 38.0 +0.3
VOR pmax pmax
comp=Z,30nm,1.1s,mb5.1
SIM Simferopol' 70.25 318 *e*P **P** **18 38 32.8 -1.4**
SIM *i* pP 18 38 40.0 -1.5
SIM *e* 18 38 45.0
SIM *e*S S 18 47 41.9 -1.4
SIM pmax pmax
comp=Z,16nm,0.6s,mb5.1
SIM smax
comp=Z,100nm,15.8s
MA2 Magadan 71.17 26⇑ *i*P **P** **18 38 39.6 +0.1**
MA2 Magadan 71.17 26 *c e*P **P** **18 38 39.5 0.0**
MA2 *e* 18 48 17.7
MA2 pmax pmax
comp=Z,30nm,0.8s,mb5.3
DZM Mont Dzumac 71.33 114 P **P** **18 38 40.1 -1.1**
comp=Z,12nm,1.0s,mb4.8,baz=292,slow=18,SNR=3.0
PET Petropavlovsk 72.08 34⇑ *e*P **P** **18 38 44.8 -0.3**
comp=Z,61nm,0.8s,mb5.6
PET Petropavlovsk 72.08 34⇑ *i*P **P** **18 38 44.9 -0.2**
PET *e* 18 41 33.3
PET *e*PPP PPP 18 43 09.1 +0.1
PET *e*S S 18 48 11.3 +7.1
PET pmax pmax
comp=Z,96nm,0.7s,mb5.8
PET pmax pmax
comp=E,30nm,0.8s
PET pmax pmax
comp=N,38nm,0.7s
PET pmax pmax
comp=Z,100nm,16.0s
PET pmax pmax
comp=Z,100nm,21.1s
PET pmax pmax
comp=Z,100nm,21.7s
PET smax
comp=N,200nm,21.0s
PET MLR MLR
comp=Z,400nm,17.0s,MS4.8
MOS Moscow 72.20 329 *e*P **P** **18 38 42.8 -2.9**
MOS *e* 18 38 52.6
MOS *e* 18 39 05.8
MOS pmax pmax
comp=Z,41nm,0.7s,mb5.5
OBN Obninsk 72.48 328 *e*P **P** **18 38 46.2 -1.3**
comp=Z,47nm,1.2s,mb5.3
OBN Obninsk 72.48 328 *c i*P **P** **18 38 46.1 -1.4**
OBN *e* pP 18 38 54.0 -0.8
OBN *e*S S 18 48 10.0 +1.2
OBN pmax pmax
comp=Z,27nm,0.8s,mb5.2
OBN MLR MLR
comp=Z,200nm,23.0s,MS4.3
MAW Mawson 72.88 193 P **P** **18 38 49.6 +0.1**
comp=Z,2.3nm,0.7s,mb4.2,baz=34,slow=6.1,SNR=7.0
MAW pP pP 18 38 56.6 -0.3
comp=Z,9.9nm,1.0s,baz=29,slow=9.7,SNR=9.9
MAW LR LR 19 04 58.6
comp=Z,320nm,22.0s,MS4.6,baz=195,slow=31
TIXI Tiksi 73.02 10⇑ *i*P **P** **18 38 48.9 -1.4**
SEY Seymchan 73.60 23⇑ *i*P **P** **18 38 53.8 0.0**
SEY Seymchan 73.60 23 *e*P **P** **18 38 53.9 +0.1**
SEY *e* 18 41 42.2
SEY *e*PPP PPP 18 43 28.6 +4.6
SEY *e*S S 18 48 19.8 -1.4
SEY pmax pmax
comp=N,90nm,0.8s
SEY pmax pmax
comp=Z,50nm,0.8s,mb5.5
SEY pmax pmax
comp=E,10.0nm,1.0s
SEY smax
comp=N,300nm,23.5s
SEY smax
comp=E,180nm,22.4s
SEY MLR MLR
comp=Z,400nm,21.0s,MS4.7
SEY MLR MLR
comp=N,980nm,19.0s
PSN Preselentsi 73.99 315 *e*P **P** **18 38 56.0 -0.5**
TIRR Tirgusor 74.01 316⇑ *i*P **P** **18 38 55.8 -0.8**
TIRR Tirgusor 74.01 316⇑ P **P** **18 38 55.8 -0.8**
CFR Carcaliu 74.38 317⇓ *i*P **P** **18 38 56.4 -2.3**
CFR Carcaliu 74.38 317⇓ P **P** **18 38 56.4 -2.3**
PRD Provadia 74.43 315 *e*P **P** **18 38 58.5 -0.5**
BOSA Boshof 74.88 240 P **P** **18 39 01.3 -0.7**
comp=N,5.2nm,0.9s,mb4.5,baz=86,slow=17,SNR=6.0
BOSA pP pP 18 39 08.8 -0.6
comp=N,6.5nm,0.9s,baz=78,slow=5.8,SNR=4.7

BOSA LR LR 19 06 37.6
comp=N,329nm,19.2s,MS4.6,baz=60,slow=32
BOSA Boshof 74.88 240 P **P 18 39 01.3 -0.7**
BOSA pP pP 18 39 08.8 -0.6
BOSA LR LR 19 06 37.6
AKASG Malin Array Be 75.14 322 P **P 18 39 01.4 -1.6**
comp=N,10nm,0.8s,mb4.8,baz=88,slow=4.8,SNR=51
AKASG pP pP 18 39 07.9 -2.4
comp=N,12nm,0.9s,baz=87,slow=5.0,SNR=17
VRI Vrincioaia 75.51 317 ⇑P **P 18 39 06.1 +0.9**
VRI Vrincioaia 75.51 317 ⇑P **P 18 39 06.1 +0.9**
MLR Muntele Rosu 75.96 317 ⇓P **P 18 39 07.7 0.0**
MLR Muntele Rosu 75.96 317 ⇓P **P 18 39 07.7 0.0**
VOIR 76.56 316 ⇑P **P 18 39 10.1 -1.0**
VOIR 76.56 316 ⇑P **P 18 39 10.1 -1.0**
VTS Vitosha 77.33 313 *e*P **P 18 39 14.5 -1.0**
LVV L'vov 78.15 321 *e*P **P 18 39 17.5 -2.3**
LVV *e* pP 18 39 25.7 -1.5
LVV *e* 18 42 11.5
LVV *e*S S 18 49 05.7 -5.8
LVZ Lovozero 78.68 340 *e*P **P 18 39 22.3 -0.1**
KOLS Kolonicke sedl 79.10 320 *e*P **P 18 39 25.6 +0.6**
KOLS *e* pP 18 39 32.7 +0.3
SUW Suwalki 79.55 325 *e*P **P 18 39 27.1 -0.2**
SUW *e* pP 18 39 34.0 -0.8
SUW Suwalki 79.55 325 *e*P **P 18 39 27.1 -0.2**
SUW *e* pP 18 39 34.0 -0.7
CRVS Cervenica-Dubn 79.62 319 *e*P **P 18 39 29.4 +1.5**
CRVS *e*S S 18 49 24.1 -3.0
STHS Stebnicka Huta 79.85 320 *i* P **P 18 39 30.0 +0.9**
STHS *e* pP 18 39 36.5 0.0
FINES FINESS Array B 79.86 332 P **P 18 39 28.3 -0.5**
comp=N,8.1nm,0.8s,mb4.7,baz=92,slow=6.1,SNR=29
FINES pP pP 18 39 35.1 -1.1
comp=N,6.8nm,0.8s,baz=108,slow=6.0,SNR=9.9
KAF Kangasniemi 79.94 333 *e*p **P 18 39 28.4 -0.9**
comp=N,12nm,0.8s,mb4.9,baz=103,slow=5.0
KAF Kangasniemi 79.94 333 *e*P **P 18 39 28.4 -0.9**
KAF pmax pmax
comp=Z,12nm,0.8s,mb4.9
SYO Syowa Base 80.17 198 ⇑P **P 18 39 29.6 -0.8**
SYO Syowa Base 80.17 198 ⇓P pP 18 39 36.8 -1.0
KECS Kecovo 80.19 319 *e*P **P 18 39 31.0 +0.1**
KECS *e* pP 18 39 37.9 -0.4
PSZ Piszkesteto 80.50 318⇑*e*P **P 18 39 32.5 0.0**
PSZ Piszkesteto 80.50 318⇑*e*P **P 18 39 32.6 +0.1**
comp=Z,16nm,0.9s,mb5.0
PSZ *e*PcP PcP 18 39 40.0 +0.1
PSZ Piszkesteto 80.50 318⇑*e*P **P 18 39 32.6 +0.1**
PSZ *e* pP 18 39 40.0 0.0
PSZ pmax pmax
comp=Z,16nm,0.9s,mb5.0
OJC Ojcow 80.91 321 *e*P **P 18 39 34.9 +0.2**
OJC *e*S S 18 49 42.2 +1.8
OJC MLR MLR 19 21 45.9
comp=Z,200nm,21.5s,MS4.4
BILL Bilibino 81.00 21 *e*P **P 18 39 34.1 -0.6**
comp=Z,8.7nm,0.7s,mb4.8
BILL Bilibino 81.00 21 *e*P **P 18 39 33.6 -1.2**
BILL *e* pP 18 39 41.0 -1.2
BILL *e* 18 42 38.7
BILL pmax pmax
comp=Z,12nm,1.3s,mb4.7
BILL MLR MLR
comp=Z,800nm,15.0s,MS5.2
PKSM Moragy 81.11 316 P **P 18 39 35.7 -0.1**
VYHS Vyhne 81.28 319 *e*P **P 18 39 36.7 +0.1**
VYHS *e* pP 18 39 43.9 -0.2
KOLL Kolacno 81.58 319 *e*P **P 18 39 38.4 +0.2**
OKC Ostrava-Krasne 81.91 320 *e*P **P 18 39 40.2 +0.3**
OKC *e*pP pP 18 39 47.2 -0.1
OKC *e*S S 18 49 45.1 -5.7
OKC AMS AMS 19 25 50.0
comp=Z,100nm,16.9s
KEV Kevo 81.95 341 *e*p **P 18 39 38.0 -1.7**
comp=Z,12nm,0.9s,mb4.8
KEV Kevo 81.95 341 *e*P **P 18 39 38.0 -1.7**
KEV pmax pmax
comp=Z,12nm,0.9s,mb4.8
MORC Moravsky Berou 82.29 320⇑*e*P **P 18 39 42.3 +0.4**
comp=Z,10nm,0.9s,mb4.8
MORC *e*PcP PcP 18 39 48.2 +0.6
MORC Moravsky Berou 82.29 320⇑*e*P **P 18 39 42.3 +0.5**
MORC *e* pP 18 39 48.2 -1.1
MORC pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
ARCES ARCESS Array B 82.38 340 P **P 18 39 41.9 -0.1**
comp=Z,13nm,0.9s,mb4.9,baz=124,slow=4.4,SNR=30
ARCES pP pP 18 39 49.0 -0.4
comp=Z,8.2nm,0.8s,baz=100,slow=5.5,SNR=8.0
ARCES LR LR 19 22 33.4
comp=Z,371nm,18.8s,MS4.8,baz=215,slow=40
ARE0 ARCESS Array S 82.38 340⇑*e*P **P 18 39 42.4 +0.5**
ZST Bratislava 82.39 318 *e*P **P 18 39 43.0 +0.6**
ZST *e* pP 18 39 49.6 -0.3
ZST *e*S S 18 49 57.8 +2.1
DPC Dobruska-Polom 83.13 320 *e*P **P 18 39 46.9 +0.7**
DPC *e*pP pP 18 39 53.1 -0.6
DPC *e*S S 18 50 05.5 +2.3
KSP Ksiaz 83.20 321 *e*P **P 18 39 47.3 +0.8**
KSP *e* pP 18 39 54.1 +0.1
UPC Upice 83.35 321 *e*P **P 18 39 47.1 -0.2**
UPC *e*pP pP 18 39 54.8 0.0
ARSA Arzberg 83.35 317⇑*i*P **P 18 39 47.8 +0.4**
comp=Z,57nm,3.1s
BOJS Bojanci 83.39 315 *e*P **P 18 39 47.8 +0.1**
BOJS *e* pP 18 39 54.7 -0.4
PERS Pernice 83.58 317 *e*P **P 18 39 48.9 +0.3**
PERS *e* pP 18 39 55.4 -0.6
LJU Ljubljana 83.94 316 *e*P **P 18 39 50.9 +0.4**
LJU *e* pP 18 39 57.8 -0.2
PRU Pruhonice 84.24 320 *e*P **P 18 39 51.9 0.0**
PRU *e*pP pP 18 39 58.8 -0.5
PRU *e*S S 18 50 16.1 +1.8
PRU AMS AMS 19 23 30.0
comp=Z,100nm,17.3s
PVCC Panska Ves 84.27 320 *e*P **P 18 39 52.0 0.0**
PVCC *e*S S 18 50 16.6 +2.1
PVCC AMS AMS 19 23 10.0
comp=Z,200nm,18.5s
AQU L'Aquila 84.51 312 *e*P **P 18 39 53.5 +0.2**
comp=Z,8.9nm,0.8s,mb5.0
AQU L'Aquila 84.51 312 *e*P **P 18 39 53.6 +0.2**
AQU pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
TRO Tromso 84.65 340 *e*P **P 18 39 56.1 +2.7**
TRO *e*PP PP 18 43 04.7 -6.4
TRO *e*SKSa 18 50 14.9
TRO *e*SS SS 18 55 53.0 +0.5
TRO AMS AMS 19 22 08.1
comp=Z,303nm,19.1s,MS4.7
ROBS Robic 84.66 316 *e*P **P 18 39 53.7 -0.3**
BRG Berggiesshubel 84.69 321 *e*P **P 18 39 54.6 +0.5**
comp=Z,7.7nm,0.9s,mb4.8
BRG *e* pP 18 40 01.7 +0.1
BRG *e* 18 40 08.3
BRG LR LR
comp=Z,190nm,22.6s,MS4.4
BRG Berggiesshubel 84.69 321 *e*P **P 18 39 54.6 +0.5**
BRG *e* pP 18 40 01.7 +0.1
BRG *e* 18 40 08.3
BRG pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
BRG MLR MLR
comp=Z,190nm,22.6s,MS4.4
GERES GERESS Array B 84.70 319 P **P 18 39 54.6 +0.4**
comp=Z,5.8nm,0.8s,mb4.7,baz=90,slow=4.0,SNR=54
GERES pP pP 18 40 01.5 -0.2
comp=Z,9.7nm,0.9s,baz=108,slow=4.2,SNR=26
KHC Kasperske Hory 84.80 319 *e*P **P 18 39 54.8 +0.1**
KHC *e*pP pP 18 40 01.7 -0.5
KHC *e*S S 18 50 20.0 +0.1
KHC AMS AMS 19 25 20.0
comp=Z,200nm,17.4s
KBA Koelnbreinsper 84.82 317⇑*i*P **P 18 39 54.6 -0.2**
comp=Z,23nm,2.3s,mb4.9
KBA Koelnbreinsper 84.82 317⇑*i*P **P 18 39 54.6 -0.2**
KBA pmax pmax
comp=Z,23nm,2.3s,mb4.9
CLL Collm 85.31 321 P **P 18 39 56.4 -0.8**
comp=Z,logA/T=0.8,mb4.7
CLL *i* *PP pP 18 40 04.5 -0.2
CLL *e* 18 40 11.0
CLL *e*S S 18 50 26.0 +1.2
CLL Collm 85.31 321 *i* P **P 18 39 56.4 -0.8**
comp=Z,6.0nm,0.9s,mb4.7
CLL *i* pP 18 40 04.5 -0.2
CLL S S 18 50 26.0 +1.2
CLL Collm 85.31 321 *i* P **P 18 39 56.4 -0.8**
CLL *i* pP 18 40 04.5 -0.2
CLL S S 18 50 26.0 +1.2
CLL pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
NKC Novy Kostel 85.60 320 *e*P **P 18 39 58.8 +0.1**
NKC *e*pP pP 18 40 05.7 -0.4
NKC *e*S S 18 50 26.7 -0.9
NKC AMS AMS 19 24 20.0
comp=Z,200nm,16.1s
VNDA Vanda 85.99 169 P **P 18 40 00.5 +0.5**
comp=Z,0.4nm,0.6s,baz=283,slow=5.1,SNR=3.9
VNDA pP pP 18 40 07.7 +0.2
comp=Z,8.7nm,1.1s,baz=300,slow=5.0,SNR=21
VNDA LR LR 19 15 59.4
comp=Z,328nm,18.9s,baz=302,slow=34
VNDA Vanda 85.99 169 P **P 18 40 01.2 +1.1**
comp=Z,10nm,1.1s,mb5.0
VNDA pP pP 18 40 07.5 0.0
VNDA Vanda 85.99 169 P **P 18 40 01.2 +1.2**
VNDA *PP pP 18 40 07.6 +0.1
VNDA pmax pmax
comp=Z,10.0nm,1.1s
WTTA Wattenberg 86.00 317⇑*i*P **P 18 40 00.4 -0.3**
comp=Z,58nm,2.8s,mb5.3
WTTA Wattenberg 86.00 317⇑*i*P **P 18 40 00.4 -0.3**
WTTA pmax pmax
comp=Z,58nm,2.8s,mb5.3
WATA Walderalm 86.04 317⇑*i*P **P 18 40 00.4 -0.5**
comp=Z,4.7nm,0.9s,mb4.7
WATA Walderalm 86.04 317⇑*i*P **P 18 40 00.4 -0.5**
WATA pmax pmax
comp=Z,5.0nm,0.9s,mb4.7
MOX Moxa 86.15 320 *e*P **P 18 40 08.0 +6.6**
MOX pP pP 18 40 22.0 +13
MOX L 19 29 02.0
MOX Moxa 86.15 320 *e*P **P 18 40 08.0 +6.6**
MOX *e*pP pP 18 40 22.0 +13
MOX LR LR
comp=Z,100nm,19.0s,MS4.2
SQTA Sankt Quirin 86.28 317⇓*i*P **P 18 40 01.9 -0.2**
comp=Z,3.9nm,0.9s,mb4.6
SQTA Sankt Quirin 86.28 317⇓*i*P **P 18 40 01.9 -0.2**
SQTA pmax pmax
comp=Z,4.0nm,0.9s,mb4.7
MOTA Moosalm 86.36 317⇑*i*P **P 18 40 02.1 -0.4**
comp=Z,5.6nm,0.9s,mb4.8
MOTA Moosalm 86.36 317⇑*i*P **P 18 40 02.1 -0.4**
MOTA pmax pmax
comp=Z,6.0nm,0.9s,mb4.8
GRA1 Grafenberg Arr 86.37 320 *e*P **P 18 40 03.1 +0.6**
comp=Z,10.0nm,1.0s,mb5.0
GRA1 *e*pP pP 18 40 10.5 +0.6
GRA1 LR LR
comp=Z,200nm,20.4s,MS4.5
GRF Grafenberg Arr 86.37 320 *e*P **P 18 40 03.1 +0.6**
comp=Z,10.0nm,1.0s,mb5.0
GRF *e*pP pP 18 40 10.5 +0.6
GRF LR LR
comp=Z,200nm,20.4s,MS4.5
GRF Grafenberg Arr 86.37 320 *e*P **P 18 40 03.1 +0.6**
GRF *e**PP pP 18 40 10.5 +0.6
GRF pmax pmax
comp=Z,10.0nm,1.0s,mb5.0
GRF MLR MLR
comp=Z,200nm,20.4s,MS4.5
NB2 NORSAR Subarra 86.87 331 P **P 18 40 04.5 -0.1**
comp=Z,7.9nm,0.8s,mb5.0,baz=96,slow=4.8
NB2 NORSAR Subarra 86.87 331 P **P 18 40 04.5 -0.1**
baz=96,slow=5.1
NB2 NORSAR Subarra 86.87 331 P **P 18 40 04.5 -0.1**
baz=96,slow=5.1
NB2 NORSAR Subarra 86.87 331 P **P 18 40 04.5 -0.1**
NB2 pmax pmax
comp=Z,8.0nm,0.8s,mb5.0
NOA NORSAR Array B 86.87 331 P **P 18 40 04.7 0.0**
comp=Z,6.4nm,0.8s,mb4.9,baz=94,slow=4.9,SNR=23
NOA pP pP 18 40 11.6 -0.5
comp=Z,7.1nm,0.8s,baz=94,slow=4.9,SNR=16
NOA PP PP 18 43 30.1 +0.2
comp=Z,2.2nm,1.0s,baz=90,slow=8.0,SNR=3.4
GSTR Great Sitkin T 86.91 38 P **P 18 40 05.0 0.0**
NAO01 NORSAR Array S 87.02 331 P **P 18 40 05.8 +0.4**
comp=Z,8.6nm,0.8s,mb5.0
SBA Scott Base 87.09 169 P **P 18 40 07.8 +2.3**
comp=Z,15nm,1.0s,mb5.2
SBA *e*pP pP 18 40 13.7 +0.8
SBA Scott Base 87.09 169 P **P 18 40 07.8 +2.4**
SBA *e**PP pP 18 40 13.7 +0.8
SBA pmax pmax
comp=Z,15nm,1.0s,mb5.2
DAVA Damuels 87.19 317⇑*i*P **P 18 40 07.0 +0.5**
comp=Z,26nm,2.3s,mb5.0
KONO Kongsberg 87.62 329 *e*S S 18 50 47.7 +1.0
KBS Kingsbay 87.75 349 *e*P **P 18 40 06.6 -2.0**
KBS AMS AMS 19 28 10.5
comp=Z,199nm,18.5s,MS4.6
PGF Pioggiola 87.77 312 *e*P **P 18 40 10.3 +0.9**
comp=Z,20nm,0.8s,mb5.1
PGF Pioggiola 87.77 312 *e*P **P 18 40 10.3 +0.9**
PGF pmax pmax
comp=Z,10.0nm,0.8s,mb5.1
SBF Sospel 88.90 314 *e*P **P 18 40 15.0 +0.2**
CDF Champ du Feu 88.95 318 *e*P **P 18 40 15.1 +0.2**
HINF Hinteralfeld 89.24 318 *e*P **P 18 40 16.8 +0.5**
LPG La Plagne 89.36 315 *e*P **P 18 40 17.7 +0.7**
comp=Z,19nm,0.9s,mb5.1
LPG La Plagne 89.36 315 *e*P **P 18 40 17.7 +0.7**
LPG pmax pmax
comp=Z,9.0nm,0.9s,mb5.1
LPL La Plagne 89.38 315 *e*P **P 18 40 17.7 +0.7**
comp=Z,24nm,1.0s,mb5.2
LPL La Plagne 89.38 315 *e*P **P 18 40 17.7 +0.7**
LPL pmax pmax
comp=Z,12nm,1.0s,mb5.2
FRF La Foret Royal 89.48 313 *e*P **P 18 40 18.0 +0.4**
comp=Z,15nm,0.8s,mb5.1
FRF La Foret Royal 89.48 313 *e*P **P 18 40 18.0 +0.4**
FRF pmax pmax
comp=Z,7.0nm,0.8s,mb5.0
HAU Haudompre 89.58 318 *e*P **P 18 40 18.1 +0.2**
HAU *e*R
comp=Z,196nm,21.5s
BER Bergen 89.75 330 *e*S S 18 51 03.5 -3.0
BER AMS AMS 19 25 35.4
comp=Z,187nm,20.0s,MS4.5
NVL N'lazarevskaya 89.76 199⇑*i*P **P 18 40 20.4 +2.1**
NVL *i* *SP sP 18 40 29.7 +1.6
NVL *i* S S 18 50 58.1 -8.2
NVL *i* SS SS 18 57 15.6 +8.5
NVL pmax pmax
comp=Z,1.0nm,0.9s,mb4.2
NVL MLR MLR
comp=Z,12nm,16.2s
MAIT Maitri 89.79 199 *e*P **P 18 40 21.0 +2.6**
CABF La Chapelle 89.79 316 *e*P **P 18 40 19.6 +0.6**
comp=Z,26nm,1.0s,mb5.2
CABF La Chapelle 89.79 316 *e*P **P 18 40 19.6 +0.6**
CABF pmax pmax
comp=Z,13nm,1.0s,mb5.2
ORIF Oris-en-Rattie 89.99 315 *e*P **P 18 40 20.7 +0.8**
comp=Z,7.4nm,0.7s,mb4.8
ORIF *e*R
comp=Z,221nm,20.0s
SMRF Simiane la Rot 90.25 314 *e*P **P 18 40 22.2 +1.1**
MEZF Maizieres J'vi 90.42 318 *e*P **P 18 40 22.4 +0.6**
GIVF Givet 90.50 320 *e*P **P 18 40 22.8 +0.7**
VIVF Saint-Julien-l 90.85 315 *e*P **P 18 40 24.4 +0.5**
comp=Z,19nm,1.1s,mb5.0
VIVF Saint-Julien-l 90.85 315 *e*P **P 18 40 24.4 +0.5**
VIVF pmax pmax
comp=Z,9.0nm,1.1s,mb5.0
BAIF Baives 90.90 320 *e*P **P 18 40 24.9 +0.9**
comp=Z,44nm,0.9s,mb5.5
BAIF Baives 90.90 320 *e*P **P 18 40 24.9 +0.9**
BAIF pmax pmax
comp=Z,22nm,0.9s,mb5.5
LOR Lormes 91.29 317 *e*P **P 18 40 26.4 +0.6**
comp=Z,31nm,0.9s,mb5.3
LOR *e*R
comp=Z,208nm,20.0s
LOR Lormes 91.29 317 *e*P **P 18 40 26.4 +0.6**
LOR pmax pmax
comp=Z,16nm,0.9s,mb5.3
LOR MLR MLR
comp=Z,210nm,20.0s,MS4.6
QSPA South Pole Qui 91.31 180⇑*i*P **P 18 40 33.4 +8.2**
comp=Z,14nm,1.1s,mb5.2
SMF Signal de Mont 91.34 317 *e*P **P 18 40 26.5 +0.4**
comp=Z,37nm,1.0s,mb5.3
SMF Signal de Mont 91.34 317 *e*P **P 18 40 26.5 +0.4**
SMF pmax pmax
comp=Z,18nm,1.0s,mb5.4
LASF Ste Croix 91.48 314 *e*P **P 18 40 27.6 +0.8**
comp=Z,23nm,1.1s,mb5.1
SSF Saint Saulge 91.54 317 *e*P **P 18 40 27.7 +0.7**
comp=Z,10nm,1.1s,mb5.1
SSF Saint Saulge 91.54 317 *e*P **P 18 40 27.7 +0.7**
SSF pmax pmax
comp=Z,10.0nm,1.1s,mb5.1
AVF Avril sur Loir 91.67 317 *e*P **P 18 40 28.1 +0.5**
comp=Z,18nm,1.0s,mb5.1
AVF Avril sur Loir 91.67 317 *e*P **P 18 40 28.1 +0.5**
AVF pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
BGF Bois d'Agland 92.03 316 *e*P **P 18 40 30.1 +0.8**
comp=Z,43nm,1.0s,mb5.4
BGF Bois d'Agland 92.03 316 *e*P **P 18 40 30.1 +0.8**
BGF pmax pmax
comp=Z,21nm,1.0s,mb5.4
TCF Toulx Ste Croi 92.49 316 *e*P **P 18 40 32.2 +0.8**
CAF Calviac 92.70 315 *e*P **P 18 40 33.4 +1.0**
comp=Z,14nm,1.0s,mb5.0
CAF Calviac 92.70 315 *e*P **P 18 40 33.4 +1.0**
CAF pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
MTLF Montolieu 92.71 313 *e*P **P 18 40 33.3 +0.8**
comp=Z,26nm,1.1s,mb5.3
MTLF Montolieu 92.71 313 *e*P **P 18 40 33.3 +0.8**
MTLF pmax pmax
comp=Z,13nm,1.1s,mb5.3
RJF Les Rejaudoux 93.05 315 *e*P **P 18 40 35.1 +1.1**
comp=Z,13nm,0.9s,mb5.0
RJF *e*R
comp=Z,170nm,19.5s
RJF Les Rejaudoux 93.05 315 *e*P **P 18 40 35.1 +1.1**
RJF pmax pmax
comp=Z,6.0nm,0.9s,mb5.0
RJF MLR MLR
comp=Z,170nm,19.5s,MS4.5
LFF La Frestale 93.64 315 *e*P **P 18 40 37.0 +0.3**
JMIC Jan Mayen 93.81 342 AMS AMS 19 28 49.2
comp=Z,103nm,21.4s,MS4.3
MFF Saint Martin d 94.08 317 *e*P **P 18 40 38.4 -0.3**
comp=Z,13nm,0.9s,mb5.1
MFF Saint Martin d 94.08 317 *e*P **P 18 40 38.4 -0.3**
MFF pmax pmax
comp=Z,6.0nm,0.9s,mb5.0
SNAA Sanae 94.46 198 P **P 18 40 47.7 +7.8**
SNAA Sanae 94.46 198 *i* P **P 18 40 48.0 +8.1**
VNA2 Neumayer--Watz 96.05 199 P **P 18 40 56.8 +10**
VNA2 Neumayer--Watz 96.05 199 **P 18 40 59.1 +12**
IMA Indian Mountai 96.42 23 *e*P **P 18 40 50.3 +1.3**
comp=Z,46nm,0.8s,mb6.0
IMA *e*pP pP 18 40 58.3 +1.9
IMA Indian Mountai 96.42 23 *e*P **P 18 40 50.3 +1.4**
IMA *e**PP pP 18 40 58.3 +1.9
IMA pmax pmax
comp=Z,46nm,0.8s,mb6.0
ILAR Eielson Array 99.53 23 P **P 18 41 02.4 -0.7**
comp=Z,0.6nm,0.8s,mb4.1,baz=282,slow=5.1,SNR=6.3
ILAR pP pP 18 41 10.4 -0.1
comp=Z,0.7nm,0.7s,baz=307,slow=3.9,SNR=4.4
ILAR PP PP 18 44 56.9 -12
comp=Z,0.9nm,0.9s,baz=291,slow=7.9,SNR=4.9
ILAR PKKP PKKP 18 57 30.1 +7.2
comp=Z,1.7nm,1.2s,baz=159,slow=2.4,SNR=5.5
NEW Newport 122.27 26 PKP PKPdf 18 46 15.3 -3.2
comp=Z,2.4nm,0.8s,baz=300,slow=3.1,SNR=5.4
SCHQ Schefferville 122.46 349 PKP PKPdf 18 46 15.7 -3.1
comp=Z,1.8nm,0.7s,baz=315,slow=1.4,SNR=3.4
SCHQ pPKP 18 46 22.8
comp=Z,1.8nm,0.6s,baz=136,slow=2.2,SNR=2.4
HUMO Hull Mountain 123.22 35 *e*PKPdf PKPdf 18 46 18.8 -1.8
YBH Yreka Blue Hor 123.92 35 PKP PKPdf 18 46 19.6 -2.4
comp=Z,1.2nm,0.6s,baz=342,slow=6.4,SNR=3.8
MSO Missoula 124.76 26 *e*PKPdf PKPdf 18 46 19.9 -3.6
MOD Modoc 125.17 34 *e*PKPdf PKPdf 18 46 22.3 -2.2
WVOR Wild Horse Val 125.72 32 *e*PKPdf PKPdf 18 46 23.0 -2.5
BEKR Beckwourth 126.48 36 PKPdf PKPdf 18 46 24.8 -2.2
BOZ Bozeman (W) 126.68 25 *e*PKPdf PKPdf 18 46 24.6 -2.6
LAO LASA Array 127.89 20 PKPdf PKPdf 18 46 27.3 -2.2
RRI2 Red Ridge 128.64 27 *e*PKPdf PKPdf 18 46 29.3 -1.8
ELK Elko 128.72 32 *e*PKPdf PKPdf 18 46 29.8 -1.5
REDW Red Top Meadow 128.84 26 *e*PKPdf PKPdf 18 46 29.4 -2.0
PDAR Pinedale Array 129.88 26 PKP PKPdf 18 46 31.2 -2.2
comp=Z,1.3nm,0.4s,baz=278,slow=0.5,SNR=12
PDAR pPKP 18 46 38.4
comp=Z,1.7nm,0.5s,baz=252,slow=1.2,SNR=5.3
DUG Dugway 130.37 30 *e*PKPdf PKPdf 18 46 32.6 -1.9
RSSD Black Hills 130.88 20 PKPdf PKPdf 18 46 32.4 -3.0
RSSD *e*SKPbc 18 49 55.5
RSSD *e*SKPdf 18 50 08.5
MSU Marysvale 131.96 31 *e*PKPdf PKPdf 18 46 36.5 -1.1
SRU San Rafael 132.33 29 *e*PKPdf PKPdf 18 46 36.8 -1.5
SADO Sadowa 133.95 356 PKhKP 18 46 32.5
comp=Z,3.0nm,0.7s,baz=315,slow=4.3,SNR=3.5
SADO PKP PKPdf 18 46 38.4 -2.7
comp=Z,3.0nm,0.8s,baz=315,slow=5.7,SNR=2.8
SADO pPKP 18 46 46.0
comp=Z,5.5nm,0.8s,baz=269,slow=3.2,SNR=3.5
SADO Sadowa 133.95 356 PKP 18 46 32.5
SADO PKP PKPdf 18 46 38.4 -2.7
SADO pPKP 18 46 46.0
ANMO Albuquerque 137.61 29 PKhKP 18 46 32.1
comp=Z,0.5nm,0.4s,baz=307,slow=5.1,SNR=2.9
ANMO PKP PKPdf 18 46 46.6 -1.5
comp=Z,2.5nm,0.8s,baz=229,slow=1.0,SNR=5.7
ANMO pPKP 18 46 54.2
comp=Z,1.3nm,0.6s,baz=332,slow=3.3,SNR=3.0
ANMO Albuquerque 137.61 29 PKP 18 46 32.1
ANMO PKPdf PKPdf 18 46 39.5 -8.5
ANMO PKP PKPdf 18 46 46.6 -1.5
ANMO pPKP 18 46 54.2
PLCA Paso Flores 139.28 194 PKP PKPdf 18 46 48.2 -2.7
comp=Z,2.4nm,0.9s,baz=100,slow=8.7,SNR=3.7
PLCA pPKP 18 46 54.9
comp=Z,3.3nm,1.0s,baz=213,slow=1.6,SNR=4.8
MNTX Cornudas Mount 140.74 31 *e*PKPpre 18 46 44.3
MNTX *e*PKPdf PKPdf 18 46 51.4 -2.6
GDL2 Guadalupe Mou 140.85 30 *e*PKP 18 46 44.6
WMOK Wichita Mounta 141.07 21 PKPpre 18 46 44.0
WVT Waverly 142.40 7 PKPpre 18 46 47.6
BDFB Brasilia 142.90 246 pPKP 18 47 02.9
comp=Z,5.3nm,0.9s,baz=98,slow=6.1,SNR=4.2
LTX Lajitas 143.51 32 *e*PKPdf PKPdf 18 46 53.8 -4.9
MYNC Murphy 143.72 2 *e*PKPpre 18 46 52.5
CPUP Villa Florida 145.15 222 PKPbc PKPbc 18 46 58.4 +0.9
comp=Z,3.6nm,0.6s,baz=130,slow=1.5,SNR=13
CPUP pPKPbc 18 47 05.5
comp=Z,52nm,1.0s,baz=132,slow=4.2,SNR=61
CPUP Villa Florida 145.15 222 *e*PKP PKPdf 18 46 58.1 -3.6
CPUP *e*pPKPdf 18 47 05.6
CPUP *e*sPKPdf 18 47 11.4
NATX Nacogdoches 145.18 18 *e*PKP PKPdf 18 46 58.4 -3.2
NATX *e*pPKPdf 18 47 06.3
LRAL Lakeview Retre 145.55 6 *e*PKP PKPdf 18 46 58.6 -3.6
RGRS Roger Stewart 145.82 356 PKP PKPdf 18 47 00.6 -2.0
LPAZ La Paz 159.31 223 PKP PKPdf 18 47 21.6 -0.9
comp=Z,0.5nm,0.3s,baz=86,slow=3.1,SNR=4.2
LPAZ pPKP 18 47 28.3
comp=Z,2.4nm,0.8s,baz=82,slow=5.2,SNR=5.9
LPAZ La Paz 159.31 223 PKP PKPdf 18 47 21.6 -0.9
LPAZ pPKP 18 47 28.3

*NEIC **13** 18:33:28.2,31.99S×71.59W,h34km,ML2.7(GUC),After GUC.*

GUC 13 18:33:28.2±0.8, 31.99S×71.59W, h34km±3km, MD3.6, ML2.7, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.13**	**37**	⇑*i*P	P	18 33 34.3	0.0
CHNG				*i*S	S	18 33 38.6	+0.1
CHNG				AMP		18 33 39.2	
	comp=E,1μm,0.5s						
CMCH	**Combarbala**	**0.95**	**32**	⇓*i*P	P	18 33 45.3	+0.1
CMCH				*i*S	S	18 33 58.9	+1.1
CMCH				AMP		18 34 01.1	
	comp=E,885nm,0.4s						
JACH	**Jahuel**	**1.09**	**130**	⇓*i*P	P	18 33 47.9	+0.7
JACH				*e*S	S	18 34 02.7	+1.4
ROCH	**El Roble**	**1.10**	**154**	*e*P	P	18 33 47.6	+0.3
ROCH				*i*S	S	18 34 03.3	+1.8
RCDM	**Rinconada Maip**	**1.64**	**156**	⇑*i*P	P	18 33 56.0	+1.0
RCDM				*i*S	S	18 34 16.9	+1.8
RCDM				AMP		18 34 20.6	
	comp=E,103nm,0.1s						
FCH	**Farellones**	**1.73**	**141**	*e*P	P	18 33 57.6	+1.3
FCH				AMP		18 34 22.8	
	comp=E,71nm,0.3s						
TACH	**Talagante**	**1.75**	**162**	*e*P	P	18 33 57.7	+1.1
TACH				*i*S	S	18 34 20.5	+2.5
TLL	**Tololo Astrono**	**1.93**	**21**	AMP		18 34 30.3	
	comp=N,151nm,0.6s						
CHCH	**Chadas Angostu**	**2.10**	**158**	*i*S	S	18 34 29.0	+2.3

MAN 13 18:36:56.3, 17.72N×119.31E, h62km, mb4.1, ML3.0, MS2.7, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**1.45**	**157**	*e*P	P	18 37 21.3	+0.4
BCPH	**Baguio City Da**	**1.80**	**138**	*e*P	P	18 37 26.1	+0.4
BCPH				*e*S	S	18 37 49.6	+2.2
BBP	**Basco**	**3.69**	**42**	*e*P	P	18 38 06.5	+14
BUSP	**Coron**	**5.75**	**171**	*e*P	P	18 38 21.8	+0.9
ENPP	**El Nido**	**6.48**	**179**	*e*P	P	18 38 30.6	-0.5

IDC 13 18:41:39.8±4.4, 5.64N×92.54E, mb3.6/3, mb1 3.8/3, mb1mx3.4/18, mbtmp3.6/3, Error ellipse: s-maj=228.2km s-min=31.2km az=54.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**41.95**	**349**	P	P	18 49 33.0	-1.0
	0.3nm,0.5s,baz=171,slow=7.8,SNR=4.7						
WRA	**Warramunga Arr**	**48.33**	**123**	P	P	18 50 23.5	-1.9
	0.5nm,0.6s,baz=304,slow=9.0,SNR=7.1						
ARCES	**ARCESS Array B**	**76.83**	**341**	P	P	18 53 32.5	-2.3
	1.3nm,0.9s,baz=101,slow=6.2,SNR=3.6						

*ATH **13** 19:09:24.1, 39.24N×22.22E, h89km±2km, ML3.4*
*NEIC **13** 19:09:24.0, 39.23N×22.21E, h90km, After ATH.*
*CSEM **13** 19:09:24.1±0.1, 39.26N×22.22E, h80km, ML2.6, Error ellipse: s-maj=2.5km s-min=2.3km az=120.0*
*THE **13** 19:09:25.8, 39.27N×22.24E, h82km, ML2.6*

ISC 13 19:09:24.5±0.7, 39.23N±0.03×22.22E±0.04, h90km±7km, n33, σ0§45/49, 6C-4D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGG	**Agios Georgios**	**0.22**	**156**	*e*Pg	**P**	**19 09 37.8**	**+0.2**
AGG				*e*Sg	**S**	**19 09 47.4**	**-0.1**
EVR	**Evrytania**	**0.44**	**226**	⇑*i*P	**P**	**19 09 39.0**	**+0.1**
EVR				*e*S	**S**	**19 09 49.2**	**-0.6**
EVR	**Evrytania**	**0.44**	**226**	⇑*i*P	**P**	**19 09 39.1**	**+0.2**
EVR				*e*S	**S**	**19 09 49.3**	**-0.5**
XOR	**Xorichti**	**0.77**	**79**	*e*Pg	**P**	**19 09 42.2**	**+0.3**
XOR				*e*Sg	**S**	**19 09 55.0**	**+0.1**
NEO	**Neokhori**	**0.79**	**84**	⇑*i*P	**P**	**19 09 42.4**	**+0.3**
NEO				*e*S	**S**	**19 09 54.8**	**-0.4**
NEO	**Neokhori**	**0.79**	**84**	*e*P	**P**	**19 09 42.4**	**+0.3**
NEO				*e*S	**S**	**19 09 54.8**	**-0.4**
LKR	**Lokris**	**0.84**	**133**	⇓*i*P	**P**	**19 09 42.8**	**+0.1**
LKR				*e*S	**S**	**19 09 56.5**	**+0.3**
LKR	**Lokris**	**0.84**	**133**	⇓*i*P	**P**	**19 09 42.7**	**+0.1**
KZN	**Kozani**	**1.13**	**343**	⇓*i*P	**P**	**19 09 46.4**	**+0.3**
KZN				*e*S	**S**	**19 10 02.1**	**-0.1**
KZN	**Kozani**	**1.13**	**343**	*e*P	**P**	**19 09 46.4**	**+0.3**
KZN				*e*S	**S**	**19 10 02.3**	**+0.1**
JAN	**Janina**	**1.14**	**293**	⇑*i*P	**P**	**19 09 46.5**	**+0.3**
JAN				*e*S	**S**	**19 10 02.5**	**+0.1**
JAN	**Janina**	**1.14**	**293**	*e*P	**P**	**19 09 47.1**	**+0.9**
AOS	**Alonnisos**	**1.29**	**92**	*e*Pg	**P**	**19 09 48.1**	**0.0**
RLS	**Riolos of Patr**	**1.30**	**207**	P	**P**	**19 09 48.5**	**+0.3**
RLS				*e*S	**S**	**19 10 06.5**	**+0.6**
RLS	**Riolos of Patr**	**1.30**	**207**	*e*P	**P**	**19 09 48.5**	**+0.3**
PAIG	**Paliouri**	**1.33**	**58**	*e*Pg	**P**	**19 09 48.4**	**-0.2**
PLG	**Polygyros**	**1.49**	**39**	⇑*i*P	**P**	**19 09 50.2**	**-0.3**
PLG				*e*S	**S**	**19 10 08.7**	**-1.1**
PLG	**Polygyros**	**1.49**	**39**	*e*P	**P**	**19 09 50.2**	**-0.3**
PLG				*e*S	**S**	**19 10 08.6**	**-1.2**
MPAR	**Parnis Oros**	**1.60**	**132**	*e*P	**P**	**19 09 52.0**	**0.0**
MPAR	**Parnis Oros**	**1.60**	**132**	*e*P	**P**	**19 09 52.3**	**+0.3**
VLS	**Valsamata**	**1.65**	**231**	⇑*i*P	**P**	**19 09 51.4**	**-1.2**
VLS	**Valsamata**	**1.65**	**231**	*e*P	**P**	**19 09 51.5**	**-1.1**
FNA	**Florina**	**1.69**	**338**	*e*Pb	**P**	**19 09 53.1**	**0.0**
FNA				*e*Sb	**S**	**19 10 14.6**	**+0.4**
ATH	**Athens Observa**	**1.72**	**136**	*e*P	**P**	**19 09 54.0**	**+0.5**
GRG	**Griva**	**1.73**	**5**	*e*Pb	**P**	**19 09 53.6**	**-0.1**
OUR	**Ouranopolis**	**1.75**	**50**	*e*Pb	**P**	**19 09 54.3**	**+0.3**
OUR				*e*Sb	**S**	**19 10 15.9**	**+0.2**
KEK	**Kerkira**	**1.93**	**285**	⇓*i*P	**P**	**19 09 55.7**	**-0.6**
KEK	**Kerkira**	**1.93**	**285**	*e*P	**P**	**19 09 55.7**	**-0.6**
KNT	**Kendrikon**	**2.00**	**15**	*e*Pb	**P**	**19 09 57.8**	**+0.5**
KNT				*e*Sb	**S**	**19 10 21.6**	**+0.2**
SRS	**Serrai**	**2.16**	**29**	*e*Pn	**P**	**19 09 59.2**	**-0.2**
SRS	**Serrai**	**2.16**	**29**	*e*Pn	**P**	**19 09 59.2**	**-0.3**
VLI	**Veliai**	**2.57**	**167**	*e*P	**P**	**19 10 04.6**	**-0.5**
VLI	**Veliai**	**2.57**	**167**	*e*P	**P**	**19 10 04.0**	**-1.1**

NEIC 13 19:13:20.7, 36.63N×121.25W, h8km, MW3.6(BRK), After NCEDC., Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAO	**San Andreas Ge**	**0.20**	**309**	*e*P	Pg	19 13 24.5	-0.6
LRV	**Little Rabbit**	**0.28**	**138**	*e*P	Pg	19 13 26.5	0.0
PTRM	**Twissleman Ran**	**1.29**	**139**	*e*P	Pb	19 13 44.1	-0.8
SAC	**San Andreas**	**1.33**	**316**	*e*P	Pb	19 13 43.3	-2.3
CMB	**Columbia Colle**	**1.56**	**26**	*e*P	Pn	19 13 47.5	-1.5
OMM	**Old Mammoth Mi**	**2.05**	**61**	*e*Pn	Pn	19 13 55.8	-0.2
NSHM	**Saint Helena R**	**2.17**	**331**	*e*Pn	Pn	19 13 55.8	-1.9
MTUM	**Tungsten Hills**	**2.27**	**71**	*e*Pn	Pn	19 13 58.6	-0.5
DAC	**Darwin (Calif)**	**2.97**	**96**	Pn	Pn	19 14 08.6	-0.5
BEKR	**Beckwourth**	**3.30**	**12**	Pn	Pn	19 14 12.4	-1.4
PAHR	**Pah Rah Range**	**3.40**	**25**	Pn	Pn	19 14 14.0	-1.3
TPH	**Tonopah**	**3.52**	**65**	Pn	Pn	19 14 14.8	-2.2
MWC	**Mount Wilson**	**3.55**	**132**	*e*Pn	Pn	19 14 15.5	-1.8
WDC	**Whiskeytown Da**	**4.07**	**346**	Pn	Pn	19 14 21.2	-3.6
BMN	**Battle Mountai**	**4.93**	**39**	Pn	Pn	19 14 34.9	-2.1
PFO	**Pinyon Flat Ob**	**4.95**	**126**	*e*Pn	Pn	19 14 34.2	-3.1
NEN	**Nelson**	**5.28**	**99**	Pn	Pn	19 14 39.6	-2.3
MOD	**Modoc**	**5.31**	**8**	Pn	Pn	19 14 41.0	-1.4
WVOR	**Wild Horse Val**	**6.13**	**18**	*e*Pn	Pn	19 14 50.8	-3.1
ELK	**Elko**	**6.24**	**47**	*e*Pn	Pn	19 14 52.4	-3.1
ARUT	**Antelope Range**	**6.34**	**77**	Pn	Pn	19 14 52.8	-4.0
MSU	**Marysvale**	**7.44**	**73**	Pn	Pn	19 15 14.3	+1.9
DUG	**Dugway**	**7.52**	**59**	*e*Pn	Pn	19 15 09.3	-4.1

*ATH **13** 19:21:03.7, 36.93N×28.52E, h45km, MD3.4/3*
*NEIC **13** 19:21:03.7, 36.93N×28.52E, h45km, MD3.4(ATH), After ATH.*
*CSEM **13** 19:21:09.5±0.1, 36.02N×28.67E, h20km, MD3.3, Error ellipse: s-maj=2.6km s-min=2.0km az=167.0*
*ISK **13** 19:21:10.9, 36.03N×28.65E, h31km, MD3.3*

ISC 13 19:21:10.4±1.0, 35.95N±0.07×28.67E±0.05, h24km±8km, n14, σ1§05/21, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.51**	**301**	*e*P	**Pb**	**19 21 20.1**	**-0.6**
ARG				*e*S	**Sb**	**19 21 30.4**	**+2.7**
KSL	**Kastellorizon**	**0.77**	**75**	*e*P	**Pb**	**19 21 24.5**	**-0.5**
AKAS	**Kas**	**0.81**	**70**	*i*P	**Pb**	**19 21 24.7**	**-1.0**
AKAS				*i*S	**Sb**	**19 21 38.7**	**+2.4**
DALT	**Dalyan (Mudla)**	**0.81**	**358**	PG	**Pb**	**19 21 24.8**	**-1.0**
DALT				SG	**Sb**	**19 21 35.9**	**-0.4**
YER	**Yerkesik**	**1.22**	**345**	*e*PN	**Pn**	**19 21 31.4**	**-0.7**
ELL	**Elmali**	**1.28**	**51**	*e*PN	**Pn**	**19 21 32.6**	**-0.3**
KARP	**Karpathos**	**1.29**	**252**	*e*P	**Pn**	**19 21 33.3**	**+0.2**
GOLH	**Golhisar**	**1.47**	**29**	*i*P	**Pn**	**19 21 35.5**	**-0.2**
GOLH				*i*S	**Sn**	**19 21 55.4**	**+1.1**
BDRM	**Kayabasi**	**1.48**	**319**	*i*P	**Pn**	**19 21 37.4**	**+1.6**
BDRM				*i*S	**Sn**	**19 22 01.7**	**+7.1**
MLSB	**Milas**	**1.52**	**332**	*e*PN	**Pn**	**19 21 35.8**	**-0.6**
BODT	**Bodrum**	**1.56**	**316**	*e*PN	**Pn**	**19 21 36.0**	**-0.9**
DNZL	**Cakiroluk**	**1.76**	**10**	*i*P	**Pn**	**19 21 40.8**	**+0.9**
DNZL				*i*S	**Sn**	**19 22 07.0**	**+5.4**
AYDN	**Tasoluk**	**1.82**	**340**	*i*P	**Pn**	**19 21 42.0**	**+1.4**
AYDN				*i*S	**Sn**	**19 22 02.3**	**-0.8**
DENT	**Denizli**	**1.82**	**9**	*e*PN	**Pn**	**19 21 39.7**	**-1.0**

MAN 13 19:30:14.1, 6.64N×124.16E, h6km, mb4.6, ML3.5, MS3.4, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**0.96**	**125**	⇑*i*P	Pb	19 30 35.6	+3.0
GSPH				*i*S	Sb	19 30 50.3	+4.9
PAGZ	**Pagadian**	**1.43**	**327**	*e*P	Pn	19 30 40.0	-0.7
PAGZ				*e*S	Sb	19 31 02.4	+3.3
BUKP	**Musuan**	**1.53**	**36**	*e*P	Pn	19 30 41.8	-0.2
BUKP				*e*S	Sb	19 31 02.1	+0.2
IPIL	**Ipil**	**1.95**	**306**	*e*P	Pn	19 30 47.6	-0.4
IPIL				*e*S	Sn	19 31 13.8	+0.7
MATI	**Mati**	**2.11**	**81**	*e*P	Pn	19 31 12.4	+22

*IDC **13** 19:39:06.5±0.9, 54.36N×168.48E, mb3.6/6, mb1 3.9/7, mb1mx3.7/18, mbtmp3.7/7, ML3.7/1, Error ellipse: s-maj=29.4km s-min=11.5km az=31.0*
*KRSC **13** 19:39:07.8±0.8, 54.37N×169.00E, h40km±13km, ML4.1*
*MOS **13** 19:39:09.1±0.8, 54.35N×168.51E, h33km, mb4.1/2, Error ellipse: s-maj=35.6km s-min=21.8km az=98.3*
*NEIC **13** 19:39:11.3±0.6, 54.29N×168.61E, h35km, mb3.9/2, Error ellipse: s-maj=16.6km s-min=11.3km az=202.0*

ISC 13 19:39:10.0±0.7, 54.38N±0.07×168.67E±0.07, h38km±10km, n32, σ0§78/39, mb3.6/6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.77**	**299**	*i*P	**P**	**19 39 37.2**	**-1.5**
BKI				*i*S	**S**	**19 39 58.6**	**-1.6**
BKI				Smax			
	320nm,1.3s						
FX1	**Attu Island--F**	**3.06**	**117**	Pn	**P**	**19 39 56.6**	**-0.5**
	27nm,0.3s,baz=336,slow=6.4,SNR=72						
FX1				Sn	**S**	**19 40 31.2**	**-1.8**
	36nm,0.3s,baz=275,slow=22,SNR=16						
FX1	**Attu Island--F**	**3.06**	**117**	*e*P	**P**	**19 39 57.0**	**-0.1**
FX1				S	**S**	**19 40 32.2**	**-0.8**
KBTR	**Krutoberegovo**	**3.82**	**301**	*e*P	**P**	**19 40 08.1**	**+0.2**
KBTR				*e*S	**S**	**19 40 52.2**	**0.0**
MKZ	**Mys Kozlova**	**4.06**	**275**	*e*P	**P**	**19 40 11.1**	**-0.1**
MKZ				*e*S	**S**	**19 40 58.1**	**-0.1**
ZLN	**Zelenaya**	**4.80**	**293**	*e*P	**P**	**19 40 22.4**	**+0.6**
KRSR	**Krestovskiy**	**4.99**	**295**	*e*P	**P**	**19 40 24.0**	**-0.4**
KMNR	**Kamenistaya**	**5.04**	**289**	*e*P	**P**	**19 40 25.0**	**-0.2**
KPT	**Kopyto**	**5.10**	**292**	*e*P	**P**	**19 40 25.9**	**-0.1**
SPN	**Mys Shipunski**	**5.29**	**260**	*e*P	**P**	**19 40 28.5**	**-0.2**
NLC	**Nalytchevo**	**5.66**	**261**	*e*P	**P**	**19 40 34.8**	**+0.9**
NLC				*e*S	**S**	**19 41 37.2**	**-1.4**
SDLR	**Sedlovina**	**5.90**	**263**	*e*P	**P**	**19 40 37.1**	**-0.1**
ESO	**Esso**	**5.93**	**289**	*e*P	**P**	**19 40 39.3**	**+1.8**
SMAR	**Somma**	**5.95**	**263**	*e*P	**P**	**19 40 38.6**	**+0.7**
UGLR	**Uglovaya**	**5.96**	**263**	*e*P	**P**	**19 40 38.2**	**+0.3**
AVH	**Avacha**	**5.99**	**263**	*e*P	**P**	**19 40 39.5**	**+1.1**
AVH				*e*S	**S**	**19 41 45.7**	**-1.1**
KOK	**Koryaka**	**6.04**	**264**	*e*P	**P**	**19 40 39.6**	**+0.4**
GNL	**Ganaly**	**6.36**	**268**	*e*P	**P**	**19 40 45.0**	**+1.3**
RUS	**Russkaya**	**6.38**	**256**	*e*P	**P**	**19 40 44.6**	**+0.6**
GRL	**Gorelyy**	**6.59**	**258**	*e*P	**P**	**19 40 47.4**	**+0.5**
TTA	**Tatalina**	**20.02**	**51**	*e*P	**P**	**19 43 42.7**	**+0.7**
	6.0nm,1.0s						
TTA	**Tatalina**	**20.02**	**51**	*e*P	**P**	**19 43 42.7**	**+0.7**
TTA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ILAR	**Eielson Array**	**24.25**	**47**	P	**P**	**19 44 24.4**	**+0.4**
	comp=Z,1.8nm,0.8s,mb3.5,baz=250,slow=7.5,SNR=14						
MKAR	**Makanchi Array**	**52.08**	**300**	P	**P**	**19 48 17.1**	**-0.7**
	comp=Z,0.2nm,0.5s,mb3.3,baz=45,slow=5.8,SNR=2.8						
BVAR	**Borovoye Array**	**53.46**	**312**	P	**P**	**19 48 27.8**	**-0.3**
	comp=Z,0.6nm,0.4s,mb3.9,baz=56,slow=7.3,SNR=8.3						
ARCES	**ARCESS Array B**	**53.52**	**345**	P	**P**	**19 48 28.3**	**-0.1**
	comp=Z,1.3nm,0.9s,mb3.9,baz=20,slow=11,SNR=3.8						
ARCES	**ARCESS Array B**	**53.52**	**345**	P	**P**	**19 48 28.3**	**-0.1**
NB2	**NORSAR Subarra**	**63.55**	**348**	P	**P**	**19 49 38.2**	**+0.1**
	comp=Z,0.6nm,0.5s,mb3.9,baz=16,slow=6.5						
NB2	**NORSAR Subarra**	**63.55**	**348**	P	**P**	**19 49 38.2**	**+0.1**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
NOA	**NORSAR Array B**	**63.55**	**348**	P	**P**	**19 49 38.2**	**0.0**
	comp=Z,1.1nm,0.8s,mb4.0,baz=17,slow=6.6,SNR=5.2						
NOA	**NORSAR Array B**	**63.55**	**348**	P	**P**	**19 49 38.2**	**0.0**
WRA	**Warramunga Arr**	**79.66**	**213**	P	**P**	**19 51 14.8**	**-0.3**
	comp=Z,0.3nm,0.6s,mb3.4,baz=1.8,slow=7.4,SNR=6.6						

JMA 13 19:53:15.0±0.3, 28.33N×140.67E, h405km±4km, M3.8, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.82**	**132**	P	P	19 54 10.7	-0.1
CBIJ				*e*S	S	19 54 54.8	+0.3
JHHJ	**Haha-jima-NKT**	**2.16**	**141**	P	P	19 54 12.8	0.0
JHJ2	**Mitsune**	**4.82**	**351**	P	P	19 54 36.0	-0.1
BSO1	**Boso 1**	**6.31**	**2**	P	P	19 54 52.4	+0.6
JIM2	**Oshima 3**	**6.46**	**351**	P	P	19 54 53.9	+0.4
JIE	**Ise**	**6.93**	**332**	P	P	19 54 58.7	-0.1
JKN2	**Miekihoku**	**6.99**	**329**	P	P	19 54 59.1	-0.3
JRY	**Ryogami san**	**7.81**	**349**	P	P	19 55 08.2	-0.6
JAG	**Ashikaga**	**8.14**	**353**	P	P	19 55 11.2	-1.3
JAG				*e*S	S	19 56 42.2	-3.0

*NIED **13** 20:18:00, 24.20N×126.50E, h8km, Mw4.5 Best double couple: M0:5.83×10^15 NP1:φs262°, δ57°, λ-68°. NP2:φs46°, δ39°, λ-120°.*
*BJI **13** 20:18:49.9, 24.03N×126.69E, h13km, mB4.9, mb4.5, ML4.1, Ms4.2, Msz4.0*
*IDC **13** 20:18:49.3±0.4, 23.97N×126.56E, mb4.5/27, mb1 4.6/30, mb1mx4.6/32, mbtmp4.6/30, ML5.0/3, MS3.7/11, Ms1 3.7/11, ms1mx3.6/24, Error ellipse: s-maj=17.6km s-min=10.9km az=73.0*
*HRVD **13** 20:18:50.6±0.5, 23.97N×126.75E, h16km±1km, MW4.8/42, Centroid moment Tensor Solution. LP body waves: s13,c14;Mantle waves: s42,c70; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.31±.13; Mθθ1.30±.09; Mφφ0.01±.07; Mrθ0.88±.25; Mrφ0.32±.06; Mθφ-0.98±.34; Best double couple: M0 1.827×10^16 NP1:φs56°, δ36°, λ-137°. NP2:φs289°, δ66°, λ-62°. Principal axes: T 1.567, Plg17°, Azm359°; N .522, Plg25°, Azm97°; P -2.087, Plg59°, Azm239°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **13** 20:18:50.6±0.2, 24.04N×126.65E, h10km, mb4.9/37, MW4.4(NIED) Error ellipse: s-maj=5.8km s-min=5.0km az=100.0*
*JMA **13** 20:18:53.2±0.2, 24.21N×126.52E, h102km, M4.7*
*MOS **13** 20:18:55.6±0.8, 24.55N×126.53E, h33km, mb5.1/24, Error ellipse: s-maj=12.5km s-min=7.7km az=119.2*

ISC 13 20:18:50.5±0.9, 24.12N±0.03×126.68E±0.03, h18km±6km, n181, σ1§21/205, mb4.7/76, MS4.0/18, 4C-12D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**1.32**	**299**	P	**Pn**	**20 19 15.7**	**+1.4**
JOGS				S	**Sb**	**20 19 32.1**	**+1.1**
JMJ	**Miyako jima 2**	**1.44**	**299**	P	**Pn**	**20 19 17.1**	**+1.1**
JMJ				S	**Sb**	**20 19 35.0**	**+0.6**
JTJ	**Tarama**	**1.88**	**286**	P	**Pn**	**20 19 22.6**	**+0.4**
JTJ				S	**Sn**	**20 19 43.6**	**-2.0**
JKE	**Kume jima 2**	**2.20**	**3**	P	**Pn**	**20 19 28.2**	**+1.4**
JKE				S	**Sn**	**20 19 54.2**	**+0.4**
JJT2	**Tamagusuku 2**	**2.23**	**26**	P	**Pn**	**20 19 28.8**	**+1.5**
JJT2				S	**Sn**	**20 19 55.6**	**+1.0**
NAH1	**Naha**	**2.27**	**24**	P	**Pn**	**20 19 29.1**	**+1.3**
NAH1				S	**Sn**	**20 19 55.0**	**-0.5**
JIJ	**Ishigaki jima**	**2.33**	**276**	P	**Pn**	**20 19 28.2**	**-0.5**
JIJ				S	**Sn**	**20 19 53.9**	**-3.2**
JKRS	**Kuro-shima**	**2.44**	**273**	P	**Pn**	**20 19 30.3**	**0.0**
JKRS				S	**Sn**	**20 19 56.8**	**-3.2**
JAGN	**Aguni-jima**	**2.51**	**12**	P	**Pn**	**20 19 32.6**	**+1.3**
JAGN				S	**Sn**	**20 20 01.1**	**-0.6**
HATJ	**Hateruma jima**	**2.63**	**269**	P	**Pn**	**20 19 31.8**	**-1.2**
HATJ				S	**Sn**	**20 20 00.1**	**-4.6**
IRIF	**Iriomote-Funau**	**2.70**	**275**	P	**Pn**	**20 19 33.5**	**-0.5**
IRIF				S	**Sn**	**20 20 03.3**	**-3.2**
JOW	**Kunigami**	**3.06**	**28**	Pn	**Pn**	**20 19 39.8**	**+0.7**
	102nm,0.3s,baz=194,slow=12,SNR=409						
JOW				Sn	**Sn**	**20 20 15.3**	**-0.3**
	116nm,0.3s,baz=115,slow=26,SNR=10.0						
JOW				LR	LR	20 20 31.7	
	comp=Z,183nm,20.8s,baz=251,slow=32						
JOW	**Kunigami**	**3.06**	**28**	P	**Pn**	**20 19 40.2**	**+1.1**
JOW				S	**Sn**	**20 20 15.6**	**0.0**
JIH	**Iheya**	**3.12**	**22**	P	**Pn**	**20 19 41.1**	**+1.1**
JIH				S	**Sn**	**20 20 16.6**	**-0.7**
YOJ	**Yonaguni jima**	**3.36**	**277**	P	**Pn**	**20 19 42.4**	**-1.0**
YOJ				S	**Sn**	**20 20 19.3**	**-4.0**
JTK	**Tokunoshima**	**4.18**	**29**	P	**Pn**	**20 19 55.0**	**-0.1**
JTK				S	**Sn**	**20 20 41.1**	**-3.0**
JMZ	**Minamidaito 2**	**4.46**	**67**	P	**Pn**	**20 19 56.4**	**-2.5**
JMZ				S	**Sn**	**20 20 45.3**	**-5.7**
NACB	**Ninganchiao**	**4.64**	**272**	*e*Pn	**Pn**	**20 19 58.9**	**-2.7**
NACB				*e*Sn	**Sn**	**20 20 42.1**	**-14**
TATO	**Taipei**	**4.80**	**281**	*e*Pn	**Pn**	**20 20 03.3**	**-0.6**
JAM	**Amami Oshima**	**5.01**	**31**	P	**Pn**	**20 20 06.4**	**-0.5**
JAM				S	**Sn**	**20 21 02.6**	**-2.5**
JZK	**Kikaishima**	**5.12**	**35**	P	**Pn**	**20 20 08.0**	**-0.3**
JZK				S	**Sn**	**20 21 07.5**	**-0.1**
JNN	**Nakanoshima**	**6.37**	**26**	P	**Pn**	**20 20 25.7**	**-0.3**
JNN				S	**Sn**	**20 21 38.4**	**-0.6**
JKC	**Kuchinoerabu**	**7.05**	**26**	P	**Pn**	**20 20 34.2**	**-1.3**
JKC				S	**Sn**	**20 21 54.0**	**-2.0**
QZH	**Quanzhou**	**7.41**	**278**	P	**Pn**	**20 20 37.4**	**-3.2**
QZH				Smax			
	comp=N,70nm,0.3s						
QZH				Smax			
	comp=E,60nm,0.5s						
JTN	**Tanegashima 3**	**7.55**	**29**	P	**Pn**	**20 20 41.0**	**-1.5**
JTN				*e*S	**Sn**	**20 22 06.5**	**-1.9**
SSE	**Sheshan**	**8.48**	**326**	*e*P	**P**	**20 20 54.8**	**-0.7**
SSE				S	**Sn**	**20 22 30.6**	**-1.2**
SSE				AMB	AMB		
	comp=Z,32nm,0.6s						
SSE				AMB	AMB		
	comp=Z,95nm,3.7s						
SSE				LR	LR		
	comp=N,780nm,13.3s						
SSE				LR	LR		
	comp=E,331nm,13.2s						
SSE				LR	LR		
	comp=Z,1μm,12.9s						
JNU	**Nakatsue**	**9.70**	**21**	Pn	**P**	**20 21 10.9**	**-1.4**
	comp=Z,30nm,0.3s,baz=326,slow=3.7,SNR=145						
JNU				Sn	**Sn**	**20 22 59.5**	**-2.3**
	comp=Z,2.4nm,0.3s,baz=113,slow=20,SNR=5.0						
JNU				LR	LR	20 25 25.2	
	comp=Z,488nm,20.1s,baz=18,slow=40						
NJ2	**Nanjing**	**10.49**	**321**	*e*P	**P**	**20 21 23.5**	**+0.2**
NJ2				AP		20 21 30.1	
NJ2				PP	PP	20 21 31.3	0.0
NJ2				XP		20 21 33.6	
NJ2				PPP	PPP	20 21 38.0	-0.8
NJ2				S	**S**	**20 23 19.0**	**-2.4**
NJ2				XS		20 23 33.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.9s						
NJ2				LR	LR		
	comp=N,1μm,13.9s						
NJ2				LR	LR		
	comp=E,2μm,12.0s						
NJ2				LR	LR		
	comp=Z,690nm,19.0s						
WHN	**Wuhan**	**12.68**	**303**	P	**P**	**20 21 52.5**	**-0.5**
KS15	**Wonju Array Si**	**13.32**	**4**	*e*P	**P**	**20 22 01.4**	**+0.1**
INCN	**Inchon**	**13.32**	**360**	*e*P	**P**	**20 22 01.7**	**+0.4**
	comp=Z,30nm,0.8s						
JHJ	**Hachijo jima 2**	**14.58**	**49**	Pn	**P**	**20 22 19.6**	**+1.7**
	comp=Z,51nm,0.3s,baz=27,slow=6.3,SNR=16						
JHJ				LR	LR	20 27 28.7	
	comp=Z,165nm,18.2s,baz=248,slow=35						
**TI

MDJ LR LR
comp=E,230nm,11.0s
MDJ LR LR
comp=Z,280nm,17.4s,MS3.7
MDJ Mudanjiang 20.58 6 *e*P **P 20 23 29.4 -1.7**
comp=Z,9.7nm,0.6s
HHC Hu-ho-hao-te 20.94 326 *e*P **P 20 23 35.4 +0.6**
HHC AP 20 23 44.5
HHC XP 20 23 47.5
HHC PP PP 20 23 56.4 -1.2
HHC S **S 20 27 20.3 -2.3**
HHC XS 20 27 36.9
HHC PCP PcP 20 27 44.1 +1.7
HHC AMB AMB
comp=Z,112nm,1.0s
HHC AMB AMB
comp=Z,555nm,3.8s
HHC LR LR
comp=N,781nm,14.3s,MS4.5
HHC LR LR
comp=E,2µm,15.5s,MS4.5
HHC LR LR
comp=Z,2µm,13.7s,MS4.6
CD2 Chengdu 21.40 293 P **P 20 23 38.9 -0.7**
CD2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.4
BTO Baotou 21.57 324 *e*P **P 20 23 41.0 -0.3**
BTO AMB AMB
comp=Z,12nm,0.8s,mb4.4
KMI Kunming 21.78 278 P **P 20 23 45.1 +1.7**
KMI AP 20 23 50.3
KMI XP 20 23 52.8
KMI S **S 20 27 44.9 +6.4**
KMI XS 20 27 54.1
KMI AMB AMB
comp=Z,9.0nm,1.7s,mb3.9
KMI AMB AMB
comp=Z,132nm,3.8s
KMI LR LR
comp=N,376nm,13.0s,MS4.1
KMI LR LR
comp=E,292nm,13.0s,MS4.1
KMI LR LR
comp=Z,221nm,13.5s,MS3.7
KKTK Khon Kaen 23.66 255 P **P 20 24 02.0 0.0**
ASAJ Asahikawa 23.82 29 P **P 20 24 05.3 +1.9**
comp=Z,14nm,0.5s,mb4.6,baz=235,slow=18,SNR=15
ASAJ LR LR 20 33 11.2
comp=Z,132nm,21.0s,MS3.4,baz=204,slow=36
NANT Nan 24.73 263 P **P 20 24 12.0 -0.4**
KLR Kul'dur 25.38 8 *e*P **P 20 24 15.8 -2.4**
YSS Yuzh-Sakhalins 26.17 25 *e*P **P 20 24 29.1 +3.4**
comp=Z,120nm,1.0s,mb5.4
YSS *e* 20 24 37.2
YSS Yuzh-Sakhalins 26.17 25⇓*e*P **P 20 24 30.1 +4.5**
YSS *e* 20 24 40.2
YSS pmax pmax
comp=Z,50nm,0.9s,mb5.0
YSS MLR MLR
comp=Z,300nm,14.0s,MS4.0
GTA Gaotai 27.32 310 *e*P **P 20 24 36.3 0.0**
GTA AP pP 20 24 41.5 0.0
GTA XP sP 20 24 44.8 +1.0
GTA AMB AMB
comp=Z,4.0nm,0.8s,mb4.0
GTA AMB AMB
comp=Z,398nm,7.2s
GTA LR LR
comp=N,207nm,14.8s,MS4.2
GTA LR LR
comp=E,435nm,14.8s,MS4.2
GTA LR LR
comp=Z,2µm,13.7s,MS4.7
SONM Songino Array 28.63 331 P **P 20 24 47.5 -0.6**
comp=Z,2.6nm,0.8s,mb4.0,baz=158,slow=7.8,SNR=4.7
SONM LR LR 20 38 09.5
comp=Z,394nm,18.4s,MS4.0,baz=64,slow=40
ZAK Zakamensk 31.89 331 *e*P **P 20 25 27.8 +11**
ZAK pmax pmax
comp=Z,1.0nm,1.2s,mb3.5
LSA Lhasa 32.08 288 *e*P **P 20 25 19.6 +0.8**
KAKA Kakadu 37.04 171⇓*i*P **P 20 26 08.5 +7.1**
comp=Z,29nm,0.8s,mb5.2
PKI Pulchoki 37.18 284 *e*P **P 20 26 02.6 +0.1**
comp=Z,15nm,0.8s,mb4.9
PKI Pulchoki 37.18 284 *e*P **P 20 26 02.6 +0.1**
PKI pmax pmax
comp=Z,8.0nm,0.8s,mb4.6
KKN Kakani 37.28 285 *e*P **P 20 26 03.7 +0.3**
comp=Z,18nm,0.7s,mb5.0
KKN Kakani 37.28 285 *e*P **P 20 26 03.7 +0.3**
KKN pmax pmax
comp=Z,9.0nm,0.7s,mb4.7
WMQ Urumqi 37.39 311 *e*P **P 20 26 05.0 +0.9**
WMQ XP sP 20 26 19.0 +7.4
WMQ PP PP 20 27 33.0 +0.9
WMQ S **S 20 31 50.0 -1.0**
WMQ SS SS 20 34 21.0 -2.3
WMQ AMB AMB
comp=Z,14nm,1.0s,mb4.8
WMQ AMB AMB
comp=Z,12nm,6.0s
WMQ LR LR
comp=N,275nm,15.0s,MS4.2
WMQ LR LR
comp=E,158nm,15.0s,MS4.2
WMQ LR LR
comp=Z,178nm,15.0s,MS4.0
DMN Daman 37.45 284 *e*P **P 20 26 05.1 +0.3**
comp=Z,30nm,1.0s,mb5.1
PET Petropavlovsk 37.62 32 *e*P **P 20 26 06.8 +0.8**
comp=Z,15nm,0.6s,mb4.9
PET Petropavlovsk 37.62 32 *e*P pP 20 26 12.3 +1.1
PET *e*S **S 20 31 52.3 -2.0**
PET *e*SS tx 20 34 57.5
PET pmax pmax
comp=Z,19nm,0.5s,mb5.1
PET pmax pmax
comp=Z,20nm,11.7s
PET MLR MLR
comp=Z,100nm,17.0s,MS3.7
GKN Gorkha 37.83 285 *e*P **P 20 26 07.5 -0.5**
comp=Z,19nm,0.8s,mb4.9
YAK Yakutsk 37.95 2 *e*P **P 20 26 07.7 -0.9**
comp=Z,38nm,0.9s,mb5.1
YAK Yakutsk 37.95 2⇑*i*P **P 20 26 08.6 0.0**
YAK pmax pmax
comp=Z,54nm,1.3s,mb5.1
KOLN Koldanda 38.77 285 *e*P **P 20 26 15.5 -0.3**
comp=Z,21nm,0.9s,mb4.8
MK02 Makanchi Array 41.92 314 P **P 20 26 41.4 -0.2**
MK02 pmax pmax
comp=Z,4.0nm,0.6s,mb4.2
MKAR Makanchi Array 41.94 314 P **P 20 26 41.6 -0.1**
comp=Z,5.5nm,0.6s,mb4.3,baz=99,slow=10,SNR=42
MKAR LR LR 20 45 49.0
comp=Z,112nm,18.9s,MS3.8,baz=208,slow=39
FITZ Fitzroy Crossi 41.98 181⇓*i*P **P 20 26 40.0 -2.5**
comp=Z,40nm,1.2s,mb4.9
FITZ Fitzroy Crossi 41.98 181 P **P 20 26 40.1 -2.4**
comp=Z,23nm,0.5s,mb5.0,baz=12,slow=8.0,SNR=44
SEY Seymchan 42.44 17⇓*i*P **P 20 26 49.8 +4.1**
ZAL Zalesovo 43.12 325 P **P 20 26 50.7 -0.6**
comp=Z,12nm,0.6s,mb4.8,baz=0.1,slow=6.9,SNR=70
ZAL LR LR 20 46 54.8
comp=Z,112nm,21.8s,MS3.7,baz=346,slow=39
ZAL Zalesovo 43.12 325 P **P 20 26 50.7 -0.7**
ZAL LR LR 20 46 54.8
NVS Novosibirsk 44.34 325 *e*P **P 20 27 04.1 +2.9**
WRAB Tennant Creek 44.42 170 *e*P **P 20 26 59.9 -2.4**
comp=Z,119nm,0.9s,mb5.6
WRAB Tennant Creek 44.42 170 *d*i*P **P 20 27 00.6 -1.8**
WRA Warramunga Arr 44.43 170 P **P 20 27 00.7 -1.8**
comp=Z,57nm,0.8s,mb5.4,baz=352,slow=8.7,SNR=162
WB2 Warramunga Arr 44.43 170⇓*i*P **P 20 27 00.7 -1.8**
MDRS Chennai 45.18 265 *ex* x 20 27 31.0
KURK Kurchatov 45.42 318 *e*P **P 20 27 09.1 -0.8**
comp=Z,5.4nm,0.3s,mb4.9
KURK Kurchatov 45.42 318 *e*P **P 20 27 09.1 -0.8**
KURK pmax pmax
comp=Z,5.0nm,0.3s,mb4.8
MBWA Marble Bar 45.51 189 *e*P **P 20 27 05.9 -5.2**
comp=Z,15nm,1.0s,mb4.9
AAK Ala-Archa 46.55 307 *e*P **P 20 27 17.1 -2.0**
AAK Ala-Archa 46.55 307⇓*i*P **P 20 27 19.7 +0.7**
AAK pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
HNR Honiara 46.56 132 LR LR 20 43 10.8
comp=Z,40nm,19.9s,MS3.4,baz=16,slow=31
TIXI Tiksi 47.57 1 *e*P **P 20 27 30.4 +3.7**
TIXI pmax pmax
comp=Z,12nm,0.8s,mb5.0
CTA Charters Tower 47.90 155 P **P 20 27 28.9 -1.1**
comp=Z,4.1nm,0.7s,mb4.6,baz=329,slow=11,SNR=3.1
KKAR Karatay Array 49.51 307 *i*P **P 20 27 42.7 +0.6**
KKAR pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
BILL Biiibino 50.10 18 P **P 20 27 44.6 -1.7**
comp=Z,21nm,1.3s,mb5.0
BILL Biiibino 50.10 18⇑*i*P **P 20 27 51.2 +4.9**
BILL *e* 20 29 05.0
BILL pmax pmax
comp=Z,4.0nm,0.4s,mb4.8
BILL MLR MLR
comp=Z,100nm,17.0s,MS3.9
VOSK Vostochnaya 50.52 319 P **P 20 27 49.1 -0.6**
VOSK pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
BVA0 Borovoye Array 50.94 320 *i*P **P 20 27 53.0 +0.2**
BVAR Borovoye Array 50.94 320 P **P 20 27 53.1 +0.3**
comp=Z,2.8nm,0.5s,mb4.4,baz=104,slow=11,SNR=25
BVAR PcP PcP 20 29 08.5 -0.8
comp=Z,1.5nm,0.6s,baz=132,slow=2.7,SNR=4.2
BRVK Borovoye 51.01 320 *e*P **P 20 27 53.5 +0.2**
comp=Z,7.6nm,0.9s,mb4.6
BRVK Borovoye 51.01 320 *e*P **P 20 27 53.5 +0.2**
BRVK pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
KLBR Kellerberrin 56.05 189⇓*i*P **P 20 28 28.7 -2.2**
comp=Z,14nm,0.5s,mb5.2
AB31 Akbulak array 57.08 314 *i*P **P 20 28 38.1 +0.1**
AB31 pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
SVE Sverdlovsk 57.08 323 *e*P **P 20 28 32.8 -5.2**
SVE *e* pP 20 28 39.6 -3.8
SVE MLR MLR
comp=N,100nm,12.0s,MS4.3
SVE MLR MLR
comp=E,100nm,12.0s,MS4.3
SVE MLR MLR
comp=Z,300nm,12.0s,MS4.6
NWAO Narrogin (SRO) 57.44 189 P **P 20 28 39.1 -1.7**
comp=Z,15nm,0.5s,mb5.3,baz=85,slow=4.5,SNR=16
NWAO Narrogin (SRO) 57.44 189 *e*P **P 20 28 39.0 -1.8**
STKA Stephens Creek 57.48 165⇓*i*P **P 20 28 39.0 -2.1**
comp=Z,8.3nm,0.6s,mb4.9
STKA Stephens Creek 57.48 165 P **P 20 28 39.0 -2.1**
comp=Z,11nm,0.6s,mb5.1,baz=340,slow=6.6,SNR=36
ARU Arti 58.19 323 *e*P **P 20 28 43.7 -2.0**
comp=Z,10nm,0.9s,mb4.9
ARU Arti 58.19 323⇑*i*P **P 20 28 46.6 +0.9**
ARU *e* 20 29 33.5
ARU *e* 20 30 59.7
ARU *e*PPP PPP 20 32 18.3 -0.9
ARU *e*S **S 20 36 48.0 +3.3**
ARU *e*SS SS 20 40 39.4 +1.3
ARU pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
DZM Mont Dzumac 60.02 137 P **P 20 28 57.2 -1.7**
comp=Z,3.9nm,0.6s,mb4.6,baz=225,slow=16,SNR=4.0
CNB Canberra Magne 62.90 159 *e*P **P 20 29 17.5 -0.6**
comp=Z,20nm,0.9s,mb5.2
TOO Toolangi 63.87 163 *e*P **P 20 29 23.9 -0.6**
comp=Z,14nm,0.7s,mb5.1
TOO Toolangi 63.87 163 *e*P **P 20 29 23.9 -0.6**
TOO pmax pmax
comp=Z,14nm,0.7s,mb5.1
KDAK Kodiak Island 65.04 36 P **P 20 29 31.3 -0.4**
comp=Z,12nm,0.7s,mb5.0
KDAK *e* 20 29 43.1
MCK McKinley 66.19 29 P **P 20 29 36.1 -2.9**
comp=Z,3.3nm,0.6s,mb4.5
MCK McKinley 66.19 29 P **P 20 29 36.1 -2.9**
MCK pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
ILAR Eielson Array 66.95 28 P **P 20 29 45.6 +1.8**
comp=Z,1.1nm,0.7s,mb4.0,baz=267,slow=6.2,SNR=6.8
ILAR LR LR 21 02 36.0
comp=Z,32nm,18.9s,MS3.6,baz=182,slow=39
ZEI Tsey 68.93 308 *e*P **P 20 29 56.1 -0.5**
ZEI *i* *PP pP 20 30 24.7 +23
ZEI pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
GNI Garni 68.95 306 *d*i*P **P 20 29 57.5 +0.8**
GNI pmax pmax
comp=Z,19nm,1.7s
KIV Kislovodsk 69.50 310 *e*P **P 20 30 00.1 0.0**
comp=Z,8.2nm,0.7s,mb4.8
KIV Kislovodsk 69.50 310 *d*i*P **P 20 30 00.4 +0.3**
KIV *e*S S 20 39 08.5 +3.1
KIV pmax pmax
comp=Z,14nm,1.3s,mb4.7
KBD Kabd 69.53 294 *e*P **P 20 30 00.6 +0.1**
MIB Mutribah 69.64 294 *e*P **P 20 30 00.8 -0.4**
MIB AMb AMB 20 30 09.2
comp=Z,11nm,1.0s,mb4.7
RDF Al-Radifah 69.72 293 *e*P **P 20 30 01.6 0.0**
RDF AMb AMB 20 30 14.2
comp=Z,18nm,0.6s,mb5.2
NAY Al-Naaiem 69.88 294 *e*P **P 20 30 02.5 -0.1**
NAY AMb AMB 20 30 11.1
comp=Z,8.3nm,0.7s,mb4.8
OBN Obninsk 70.63 322 *e*P **P 20 30 05.4 -1.4**
comp=Z,9.7nm,0.7s,mb4.8
OBN Obninsk 70.63 322 *d*i*P **P 20 30 06.7 -0.1**
OBN pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
OBN MLR MLR
comp=Z,100nm,16.0s,MS4.2
INK Inuvik 71.37 23 P **P 20 30 11.9 +0.9**
comp=Z,3.7nm,0.9s,mb4.3,baz=318,slow=8.5,SNR=3.4
INK Inuvik 71.37 23 *e*P **P 20 30 11.1 +0.1**
comp=Z,5.0nm,0.7s,mb4.5
INK Inuvik 71.37 23 *e*P **P 20 30 11.1 +0.1**
INK pmax pmax
comp=Z,5.0nm,0.7s
ARCES ARCESS Array B 71.45 339 P **P 20 30 12.4 +0.9**
comp=Z,1.6nm,0.7s,mb4.0,baz=77,slow=6.1,SNR=9.3
ANN Anapa 72.91 312 *e*P **P 20 30 27.4 +6.9**
ANN pmax pmax
comp=Z,23nm,0.8s,mb5.2
FINES FINESS Array B 74.00 331 P **P 20 30 27.0 +0.5**
comp=Z,3.5nm,0.8s,mb4.3,baz=58,slow=6.8,SNR=9.9
FINES LR LR 21 06 29.1
comp=Z,72nm,18.4s,MS4.0,baz=255,slow=39
MALT Malatya 74.17 305 *e*P **P 20 30 29.2 +1.2**
comp=Z,5.3nm,0.8s,mb4.5
MALT Malatya 74.17 305 *e*P **P 20 30 29.2 +1.2**
MALT pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
VSU Vasula 74.77 328 *e*P **P 20 30 32.6 +1.6**
HILS Ha'il 75.03 294 P **P 20 30 33.8 +0.6**
KAMS Al Khamasin 75.04 286 P **P 20 30 33.2 -0.2**
AFFS 'Afif 75.17 290 P **P 20 30 34.5 +0.4**
ARCES Malin Array Be 76.22 320 P **P 20 30 39.3 -0.1**
comp=Z,3.7nm,0.8s,mb4.4,baz=57,slow=6.3,SNR=10
DLBC Dease Lake 76.40 32 P **P 20 30 43.4 +3.1**
comp=Z,1.0nm,0.7s,mb3.8,baz=317,slow=9.5,SNR=3.4
DLBC Dease Lake 76.40 32 *e*P **P 20 30 41.5 +1.1**
DLBC *e* 20 30 52.8
BR131 Keskin Array S 77.21 308 *e*P **P 20 30 45.5 +0.3**
comp=Z,2.2nm,0.8s,mb4.1
BRTR Keskin Array B 77.21 308 P **P 20 30 45.8 +0.5**
comp=Z,2.8nm,1.0s,mb4.2,baz=108,slow=3.9,SNR=14
ASF Jabal al Asfar 77.39 300 P **P 20 30 47.5 +1.1**
comp=Z,1.4nm,0.4s,mb4.2,baz=283,slow=3.2,SNR=5.8
BLJS Baljurashi 77.81 286 P **P 20 30 50.2 +1.3**
UMJS Umm Lajj 79.55 293 P **P 20 30 60.0 +1.7**
JMOS Jabal al Moall 79.91 297 P **P 20 31 01.2 +1.0**
HFS Hagfors 80.02 332 P **P 20 31 00.9 +0.8**
comp=Z,4.5nm,0.8s,mb4.5,baz=76,slow=6.1,SNR=6.3
HAQS Haql 80.10 297 P **P 20 31 01.9 +0.6**
MLR Muntele Rosu 80.26 315 P **P 20 31 02.0 +0.3**
comp=Z,3.1nm,1.0s,mb4.2,baz=117,slow=11,SNR=4.8
NB2 NORSAR Subarra 80.57 334 P **P 20 31 03.4 +0.4**
comp=Z,7.1nm,1.0s,mb4.5,baz=56,slow=5.3
NB2 NORSAR Subarra 80.57 334 P **P 20 31 03.4 +0.4**
NB2 pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
NOA NORSAR Array B 80.57 334 P **P 20 31 03.6 +0.6**
comp=Z,4.3nm,0.9s,mb4.4,baz=56,slow=5.2,SNR=11
NOA LR LR 21 11 11.6
comp=Z,153nm,18.1s,MS4.4,baz=40,slow=39
OJC Ojcow 81.89 322 *e*P **P 20 31 11.3 +1.1**
SUMG Summit 83.03 356 *e*P **P 20 31 17.9 +2.2**
comp=Z,15nm,1.1s,mb4.9
VRAC Vranov 84.15 322 P **P 20 31 23.1 +1.3**
comp=Z,2.5nm,0.6s,mb4.5,baz=60,slow=12,SNR=4.1
SKO Skopje 84.74 314 *i*P **P 20 31 26.6 +1.7**
CLL Collm 85.06 325 P **P 20 31 26.7 +0.4**
comp=Z,logA/T=0.8,mb4.7
CLL *i* *PP pP 20 31 40.1 +8.1
CLL *i* *SP sP 20 31 46.6 +13
IDI Anoyia 85.36 307 P **P 20 31 27.5 -0.7**
comp=Z,4.0nm,0.8s,mb4.6,baz=72,slow=9.6,SNR=3.0
GERES GERESS Array B 86.02 322 P **P 20 31 32.4 +1.3**
comp=Z,1.5nm,0.7s,mb4.4,baz=34,slow=4.8,SNR=6.0
NEW Newport 88.12 37 *e*P **P 20 31 42.7 +1.4**
comp=Z,3.5nm,0.8s,mb4.6
NEW Newport 88.12 37 *e*P **P 20 31 42.7 +1.4**
NEW pmax pmax
comp=Z,4.0nm,0.8s
DAVOX Davos 89.31 322 P **P 20 31 48.1 +1.1**
comp=Z,2.3nm,0.6s,mb4.7,baz=104,slow=4.2,SNR=2.9
WALA Waterton Lakes 89.37 35 *e*P **P 20 31 48.5 +1.2**
comp=Z,4.0nm,0.9s,mb4.8
WALA *e* 20 32 03.4
KMBO Kilima Mbogo 89.93 269 P **P 20 31 51.8 +1.1**
comp=Z,0.9nm,0.8s,mb4.2,baz=20,slow=6.2,SNR=5.8
FFC Flin Flon 91.09 26 *e*P **P 20 31 55.2 +0.1**
comp=Z,2.8nm,0.6s,mb4.8
FFC *e* 20 32 08.3
FFC Flin Flon 91.09 26 *e*P **P 20 31 55.2 +0.1**
FFC *e* 20 32 08.4
FFC pmax pmax
comp=Z,3.0nm,0.6s,mb4.8
CMB Columbia Colle 91.82 47 *e*P **P 20 32 00.5 +1.6**
comp=Z,6.1nm,1.1s,mb4.8
CMB Columbia Colle 91.82 47 *e*P **P 20 32 00.5 +1.6**
CMB pmax pmax
comp=Z,6.0nm,1.1s,mb4.8
HRY Holter Researc 91.92 36 *e*P **P 20 31 59.7 +0.6**
HLID Hailey 92.41 40 *e*P **P 20 32 02.2 +0.8**
comp=Z,3.7nm,0.8s,mb4.8
HLID *e* 20 32 15.2
TPH Tonopah 93.88 45 P **P 20 32 09.4 +1.0**
comp=Z,11nm,1.2s,mb5.2
TPH Tonopah 93.88 45 P **P 20 32 09.4 +1.1**
TPH pmax pmax
comp=Z,11nm,1.2s,mb5.2
HVU Hansel Valley 94.45 40 *e*P **P 20 32 13.2 +2.3**
PDAR Pinedale Array 95.68 38 P **P 20 32 17.9 +1.4**
comp=Z,0.5nm,0.6s,mb4.1,baz=180,slow=1.5,SNR=4.1
SDV Santo Domingo 143.09 29 PKhKP 20 38 22.8
comp=Z,4.9nm,0.8s,baz=45,slow=2.7,SNR=8.2
SDV Santo Domingo 143.09 29 *e*PKPdf PKPdf 20 38 19.2 -8.9
SDV PKP PKPdf 20 38 22.8 -5.4
LPAZ La Paz 164.07 63 PKP PKPdf 20 38 57.4 +0.3
comp=Z,1.3nm,0.7s,baz=4.8,slow=4.8,SNR=6.1
CFAA Coronel Fontan 164.86 123 PKPab PKPab 20 39 51.8 -0.1
comp=Z,0.4nm,0.7s,baz=245,slow=5.0,SNR=5.8
SIV San Ignacio 169.12 43 PKP PKPdf 20 39 00.1 -0.8
comp=Z,2.4nm,0.8s,baz=325,slow=2.9,SNR=12
SIV PKPab PKPab 20 40 10.0 -0.9
comp=Z,0.7nm,0.7s,baz=346,slow=12,SNR=2.5

IDC ***13*** *20:19:01.4±0.9, 2.02N×66.69E, mb4.2/13, mb1 4.3/13, mb1mx4.1/22, mbtmp4.2/13, MS3.8/6, Ms1 3.8/6, ms1mx3.4/18, Error ellipse: s-maj=25.3km s-min=19.5km az=110.0*
NEIC ***13*** *20:19:05.1±0.8, 2.23N×66.32E, h10km, Error ellipse: s-maj=26.8km s-min=12.8km az=106.0*
ISC 13 20:19:01.0±0.8, 2.0N±0.1×66.7E±0.2, h10km, n21, σ1§13/17, mb4.1/13, MS3.8/6, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=Z,126nm,20.1s,MS3.4,baz=260,slow=32						
KMBO	**Kilima Mbogo**	**29.62**	**264**	LR	LR	20 35 57.1	
	comp=Z,163nm,18.1s,MS3.7,baz=269,slow=34						
GNI	**Garni**	**42.85**	**335**	P	**P**	**20 27 02.0**	**+0.8**
	6.4nm,0.8s,mb4.4,baz=131,slow=9.3,SNR=5.1						
GNI				LR	LR	20 45 27.8	
	comp=Z,40nm,19.9s,MS3.3,baz=336,slow=37						
MATP	**Matopo**	**43.59**	**237**	P	**P**	**20 27 08.1**	**+0.6**
	1.3nm,0.9s,mb3.7,baz=62,slow=9.7,SNR=5.6						
MATP	**Matopo**	**43.59**	**237**	P	**P**	**20 27 08.1**	**+0.6**
BRTR	**Keskin Array B**	**48.05**	**326**	P	**P**	**20 27 42.9**	**+0.1**
	1.0nm,0.8s,mb3.9,baz=140,slow=9.6,SNR=6.5						
LBTB	**Lobatse**	**48.06**	**233**	P	**P**	**20 27 42.2**	**-0.7**
	2.8nm,0.7s,mb4.4,baz=91,slow=9.6,SNR=6.0						
BOSA	**Boshof**	**50.08**	**229**	P	**P**	**20 27 59.6**	**+1.2**
	1.7nm,0.6s,mb4.2,baz=84,slow=11,SNR=7.1						
BOSA				LR	LR	20 47 05.4	
	comp=Z,153nm,18.2s,MS4.0,baz=234,slow=34						
BOSA	**Boshof**	**50.08**	**229**	P	**P**	**20 27 59.6**	**+1.2**
BOSA				LR	LR	20 47 05.4	
IDI	**Anoyia**	**50.98**	**315**	P	**P**	**20 28 05.7**	**+0.6**
	7.4nm,0.9s,mb4.6,baz=141,slow=9.2,SNR=5.7						
ZAL	**Zalesovo**	**53.83**	**13**	P	**P**	**20 28 27.5**	**+1.2**
	2.6nm,0.7s,mb4.2,baz=282,slow=9.1,SNR=5.0						
SONM	**Songino Array**	**57.02**	**31**	P	**P**	**20 28 51.3**	**+1.8**
	2.3nm,0.8s,mb4.3,baz=230,slow=11,SNR=4.9						
SONM				LR	LR	20 53 19.9	
	comp=Z,148nm,20.1s,MS4.1,baz=56,slow=36						
AKASG	**Malin Array Be**	**57.89**	**333**	P	**P**	**20 28 54.0**	**-1.6**
	0.2nm,0.3s,mb3.6,baz=128,slow=6.1,SNR=8.8						
AKASG	**Malin Array Be**	**57.89**	**333**	P	**P**	**20 28 54.0**	**-1.6**
KAF	**Kangasniemi**	**67.11**	**341**	*e*p	**P**	**20 29 53.6**	**-3.2**
WRA	**Warramunga Arr**	**69.77**	**112**	P	**P**	**20 30 12.9**	**-1.1**
	4.3nm,0.9s,mb4.4,baz=288,slow=6.0,SNR=6.6						
HFS	**Hagfors**	**70.64**	**335**	P	**P**	**20 30 17.5**	**-1.1**
	4.0nm,0.7s,mb4.5,baz=135,slow=10,SNR=7.8						
DBIC	**Dimbokro**	**71.45**	**276**	LR	LR	21 03 46.7	
	comp=Z,82nm,18.1s,MS4.0,baz=21,slow=38						
NOA	**NORSAR Array B**	**72.16**	**335**	P	**P**	**20 30 26.8**	**-1.0**
	1.6nm,1.0s,mb3.9,baz=116,slow=6.6,SNR=3.2						
ESDC	**Sonseca Array**	**73.87**	**311**	P	**P**	**20 30 38.5**	**+0.3**
	0.4nm,0.5s,mb3.6,baz=83,slow=5.4,SNR=4.5						
PDAR	**Pinedale Array**	**135.27**	**356**	PKP	PKPdf	20 38 24.1	-0.6
	0.2nm,0.3s,baz=27,slow=4.0,SNR=2.4						

NEIC ***13*** *20:27:00.3±0.4, 51.62N×16.17E, h5km, ML3.3(VIE), ML3.2(SZGRF), Error ellipse: s-maj=4.9km s-min=4.0km az=204.0*
IPEC ***13*** *20:27:00.0±0.3, 51.64N×16.22E, ML2.6/4, Error ellipse: s-maj=1.9km s-min=1.5km az=48.0*
LDG ***13*** *20:27:01.4±0.3, 51.69N×16.12E, h1km, Ml3.4/5, Error ellipse: s-maj=9.0km s-min=3.4km az=10.0, Suspected Mining induced.*
BGR ***13*** *20:27:01.9±0.6, 51.40N×16.20E, h1km, ML3.2, Error ellipse: s-maj=10.0km s-min=7.8km az=163.0*
IDC ***13*** *20:27:01.8±0.8, 51.59N×15.87E, mb1 3.4/7, mb1mx3.3/20, mbtmp3.3/7, ML2.9/5, Error ellipse: s-maj=13.9km s-min=7.9km az=104.0*
WAR ***13*** *20:27:02.6, 51.54N×16.13E, h1km, ML3.2, Mining Induced*
PRU ***13*** *20:27:02.2, 51.53N×16.13E*
CSEM ***13*** *20:27:02.0±0.1, 51.54N×16.14E, h2km, ML3.4/15, Error ellipse: s-maj=2.2km s-min=1.2km az=18.0*
ISC 13 20:27:00.7±0.4, 51.42N±0.02×16.08E±0.02, n77, σ1§50/136, 6C-5D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.60**	**167**	⇓*i*PG	**Pg**	**20 27 15.5**	**+2.9**
KSP				⇓*e*SG	**Sg**	**20 27 25.5**	**+4.9**
KSP	**Ksiaz**	**0.60**	**167**	*e*Pg	**Pg**	**20 27 15.5**	**+2.9**
KSP				*e*Sg	**Sg**	**20 27 24.8**	**+4.2**
KSP	**Ksiaz**	**0.60**	**167**	*e*Pg	**Pg**	**20 27 15.5**	**+2.9**
KSP				*e*Sg	**Sg**	**20 27 24.7**	**+4.1**
KSP	**Ksiaz**	**0.60**	**167**	⇓*i*Pg	**Pg**	**20 27 15.5**	**+2.9**
KSP				*i*		20 27 16.4	
KSP				*e*Sg	**Sg**	**20 27 24.7**	**+4.1**
UPC	**Upice**	**0.92**	**183**	*e*PG	**Pg**	**20 27 21.4**	**+2.4**
DPC	**Dobruska-Polom**	**1.09**	**172**	*e*PG	**Pg**	**20 27 24.2**	**+1.8**
DPC				*e*SG	**Sg**	**20 27 39.7**	**+2.8**
	45nm,0.4s						
PVCC	**Panska Ves**	**1.31**	**227**	*e*PG	**Pn**	**20 27 27.9**	**+1.7**
PVCC	**Panska Ves**	**1.31**	**227**	*e*Pn	**Pn**	**20 27 28.0**	**+1.8**
PVCC				*e*Sg	**Sg**	**20 27 48.0**	**+3.7**
BRG	**Berggiesshubel**	**1.45**	**249**	*e*Pn	**Pn**	**20 27 29.0**	**+0.7**

BRG			*e*Sg	**Sg**	**20 27 51.4**	**+2.3**
BRG	**Berggiesshubel**	**1.45 249**	Pg	**Pg**	**20 27 30.5**	**+0.8**
BRG			Sg	**Sg**	**20 27 51.4**	**+2.3**
BRG	**Berggiesshubel**	**1.45 249**	Pn	**Pn**	**20 27 29.0**	**+0.8**
BRG			Pg	**Pg**	**20 27 30.5**	**+0.8**
BRG			Sg	**Sg**	**20 27 51.4**	**+2.3**
PRU	**Pruhonice**	**1.74 215**	*e*PN	**Pn**	**20 27 33.5**	**+1.2**
PRU			*e*PG	**Pg**	**20 27 35.9**	**+0.5**
PRU			*e*SG	**Sg**	**20 28 00.1**	**+1.5**
PRU	**Pruhonice**	**1.74 215**	*e*Pg	**Pg**	**20 27 35.9**	**+0.5**
PRU			*e*Sg	**Sg**	**20 28 00.1**	**+1.5**
RUE	**Ruedersdorf**	**1.77 308**	*e*P	**Pn**	**20 27 31.6**	**-1.2**
RUE	**Ruedersdorf**	**1.77 308**	*e*P	**Pn**	**20 27 31.6**	**-1.2**
FBE	**Freiberg**	**1.79 255**	Pg	**Pn**	**20 27 35.9**	**+2.9**
FBE			Sg	**Sn**	**20 28 01.1**	**+4.3**
MORC	**Moravsky Berou**	**1.90 150**	*e*Pn	**Pn**	**20 27 35.0**	**+0.4**
MORC			*e*Sg	**Sg**	**20 28 04.5**	**+0.7**
29nm,0.3s						
MORC	**Moravsky Berou**	**1.90 150**	*e*Pn	**Pn**	**20 27 35.0**	**+0.4**
RAC	**Raciborz**	**1.90 134**	*e*P	**Pn**	**20 27 39.0**	**+4.3**
RAC			*e*S	**Sn**	**20 28 04.0**	**+4.4**
CLL	**Collm**	**1.93 268**	*e*Pn	**Pn**	**20 27 35.1**	**0.0**
CLL			*i* Pg	**Pg**	**20 27 38.4**	**-0.8**
CLL			*e*Sg	**Sg**	**20 28 04.6**	**-0.4**
CLL	**Collm**	**1.93 268**	*i* PN	**Pn**	**20 27 35.1**	**0.0**
CLL			*i* PG	**Pg**	**20 27 38.4**	**-0.8**
CLL			*e*		20 27 42.0	
CLL			*i* SG	**Sg**	**20 28 04.7**	**-0.3**
CLL	**Collm**	**1.93 268**	Pg	**Pg**	**20 27 38.4**	**-0.8**
CLL			Sg	**Sg**	**20 28 04.6**	**-0.4**
CLL	**Collm**	**1.93 268**	*i* Pn	**Pn**	**20 27 35.1**	**0.0**
CLL			*i* Pg	**Pg**	**20 27 38.4**	**-0.8**
CLL			*i* Sg	**Sg**	**20 28 04.7**	**-0.3**
GKP	**Gorka Klasztor**	**1.98 21**	*e*Pg	**Pg**	**20 27 41.2**	**+1.0**
GKP	**Gorka Klasztor**	**1.98 21**	*e*Pg	**Pg**	**20 27 41.2**	**+1.0**
OKC	**Ostrava-Krasne**	**2.06 140**	*e*PG	**Pg**	**20 27 41.2**	**-0.7**
OKC			*e*SG	**Sg**	**20 28 08.3**	**-1.1**
VRAC	**Vranov**	**2.14 171**	Pn	**Pn**	**20 27 39.9**	**+1.8**
2.1nm,0.3s,baz=347,slow=14,SNR=17						
VRAC			Sn	**Sn**	**20 28 11.3**	**+5.5**
11nm,0.3s,baz=88,slow=24,SNR=11						
VRAC	**Vranov**	**2.14 171**	*e*Pn	**Pn**	**20 27 39.9**	**+1.7**
VRAC			*e*Sg	**Sg**	**20 28 13.4**	**+1.3**
34nm,0.3s						
KRUC	**Moravsky**	**2.37 175**	*e*Pn	**Pn**	**20 27 43.5**	**+2.1**
KRUC			*e*Sg	**Sg**	**20 28 21.2**	**+1.5**
15nm,0.3s						
TANN	**Tannenbergstha**	**2.50 248**	*e*Pn	**Pn**	**20 27 44.2**	**+0.9**
TANN			*e*Sg	**Sg**	**20 28 23.5**	**-0.5**
WERD	**Werda**	**2.58 249**	*e*Pn	**Pn**	**20 27 45.1**	**+0.7**
WERD			*e*Sg	**Sg**	**20 28 24.1**	**-2.5**
NKC	**Novy Kostel**	**2.59 244**	*e*PN	**Pn**	**20 27 45.7**	**+1.1**
NKC			*e*PG	**Pg**	**20 27 51.3**	**-1.1**
NKC			*e*SG	**Sg**	**20 28 26.8**	**-0.2**
84nm,0.4s						
GUNZ	**Gunzen**	**2.60 247**	*e*Pn	**Pn**	**20 27 46.4**	**+1.7**
GUNZ			*e*Sg	**Sg**	**20 28 25.6**	**-1.6**
OJC	**Ojcow**	**2.65 116**	*e*PG	**Pg**	**20 27 51.0**	**-2.6**
OJC			*e*SG	**Sg**	**20 28 27.0**	**-1.9**
JAVC	**Velka Javorina**	**2.77 158**	*e*Pn	**Pn**	**20 27 49.2**	**+2.2**
KHC	**Kasperske Hory**	**2.80 216**	*e*PN	**Pn**	**20 27 48.5**	**+1.0**
KHC			*e*PG	**Pg**	**20 27 54.9**	**-1.7**
KHC			*e*SG	**Sg**	**20 28 33.3**	**-0.6**
KHC	**Kasperske Hory**	**2.80 216**	*e*Pg	**Pg**	**20 27 54.9**	**-1.7**
KHC			*e*Sg	**Sg**	**20 28 33.3**	**-0.6**
MOX	**Moxa**	**2.92 256**	*e*Pn	**Pn**	**20 27 49.9**	**+0.6**
MOX			*e*Pg	**Pg**	**20 27 58.0**	**-1.1**
MOX			*e*Sg	**Sg**	**20 28 38.3**	**+0.3**
MOX	**Moxa**	**2.92 256**	*i* P	**Pn**	**20 27 49.9**	**+0.6**
MOX			Pg	**Pg**	**20 27 58.0**	**-1.1**
MOX			Sg	**Sg**	**20 28 38.0**	**0.0**
MOX	**Moxa**	**2.92 256**	Pg	**Pg**	**20 27 58.0**	**-1.1**
MOX			Sg	**Sg**	**20 28 38.3**	**+0.3**
NOTT	**Nottersdorf**	**2.99 239**	*e*Pn	**Pn**	**20 27 51.2**	**+0.9**
GEC2	**GERESS Array S**	**3.00 212**	*e*Pn	**Pn**	**20 27 52.0**	**+1.6**
GEC2			*e*Sg	**Sn**	**20 28 35.3**	**+7.7**
GEC2	**GERESS Array S**	**3.00 212**	*e*Pn	**Pn**	**20 27 52.0**	**+1.6**
GEC2			*e*Sg	**Sn**	**20 28 35.3**	**+7.7**
GERES	**GERESS Array B**	**3.00 212**	Pn	**Pn**	**20 27 51.7**	**+1.3**
2.3nm,0.3s,baz=29,slow=12,SNR=106						
GERES			Pg	**Pg**	**20 27 58.4**	**-2.2**
3.2nm,0.3s,baz=27,slow=13,SNR=40						
GERES			Lg		20 28 39.0	
4.8nm,0.3s,baz=39,slow=28,SNR=11						
GERES	**GERESS Array B**	**3.00 212**	Pg	**Pg**	**20 27 58.4**	**-2.2**
SMOL	**Smolenice**	**3.04 163**	*e*PG	**Pg**	**20 28 01.0**	**-0.4**
SMOL			*e*SG	**Sg**	**20 28 41.1**	**-0.8**
WET	**Wettzell**	**3.07 223**	*e*Pn	**Pn**	**20 27 52.4**	**+1.1**
WET			*e*Sg	**Sg**	**20 28 41.0**	**-1.9**
VKA	**Vienna**	**3.17 177**	⇓*i*PG	**Pg**	**20 28 02.2**	**-1.7**
VKA			*e*SG	**Sg**	**20 28 46.0**	**-0.1**
ZST	**Bratislava**	**3.30 168**	*e*SG	**Sg**	**20 28 48.9**	**-1.6**
NIE	**Niedzica**	**3.37 125**	*e*P	**Pg**	**20 28 06.0**	**-2.0**
NIE			*e*S	**Sg**	**20 28 50.0**	**-2.9**
GRA1	**Grafenberg Arr**	**3.55 243**	*e*Pn	**Pn**	**20 27 59.1**	**+0.9**
GRA1			*e*Sg	**Sg**	**20 28 58.1**	**-0.8**
GRF	**Grafenberg Arr**	**3.55 243**	*e*Pn	**Pn**	**20 27 59.1**	**+0.9**
GRF			*e*Sg	**Sg**	**20 28 58.1**	**-0.7**
MOA	**Molln**	**3.77 199**	⇑*i*PN	**Pn**	**20 28 02.7**	**+1.4**
MOA			*i* SG	**Sg**	**20 29 05.8**	**-0.3**
16nm,0.4s						
STHS	**Stebnicka Huta**	**3.87 119**	*e*SG	**Sg**	**20 29 11.1**	**+1.7**
KECS	**Kecovo**	**4.09 134**	*e*PG	**Pg**	**20 28 20.9**	**-1.5**
ARSA	**Arzberg**	**4.19 185**	⇑*i*PN	**Pn**	**20 28 09.1**	**+1.8**
ARSA			*i* SG	**Sg**	**20 29 16.8**	**-3.5**
25nm,0.7s						
CRVS	**Cervenica-Dubn**	**4.28 124**	*e*PG	**Pg**	**20 28 24.2**	**-2.0**
KBA	**Koelnbreinsper**	**4.70 203**	⇑*i*PN	**Pn**	**20 28 16.0**	**+1.4**
KBA			*i* SG	**Sg**	**20 29 36.3**	**-1.0**
11nm,0.5s						
WATA	**Walderalm**	**5.04 217**	⇓*i*Pn	**Pn**	**20 28 20.4**	**+1.1**
6.2nm,0.5s						
WATA			*i* Sg	**Sg**	**20 29 47.4**	**-1.0**
6.2nm,0.5s						
WTTA	**Wattenberg**	**5.08 217**	⇑*i*Pn	**Pn**	**20 28 20.5**	**+0.6**
8.7nm,0.7s						
WTTA			*i* Sg	**Sg**	**20 29 48.1**	**-1.6**
8.7nm,0.7s						
MOTA	**Moosalm**	**5.22 220**	⇑*i*Pn	**Pn**	**20 28 22.7**	**+0.8**
18nm,1.1s						
MOTA			*i* Sg	**Sg**	**20 29 53.8**	**-0.6**
18nm,1.1s						
SQTA	**Sankt Quirin**	**5.28 219**	⇑*i*Pn	**Pn**	**20 28 23.5**	**+0.8**
3.3nm,0.4s						
SQTA			*i* Sg	**Sg**	**20 29 55.1**	**-1.2**
3.3nm,0.4s						
DAVOX	**Davos**	**6.18 224**	Pn	**Pn**	**20 28 34.3**	**-1.1**
baz=7.1,slow=16						
CDF	**Champ du Feu**	**6.43 245**	*e*Pn	**Pn**	**20 28 36.7**	**-2.3**
CDF			*e*Sg	**Sg**	**20 30 28.0**	**-6.9**
18nm,0.9s						
HINF	**Hinteralfeld**	**7.00 243**	*e*Pn	**Pn**	**20 28 44.2**	**-2.7**
HINF			*e*Sg	**Sg**	**20 30 44.6**	**-9.0**
4.5nm,0.5s						
HAU	**Haudompre**	**7.18 245**	*e*Sg	**Sg**	**20 30 50.2**	**-9.4**
10.0nm,0.6s						
RFYF	**Reffroy**	**7.38 252**	*e*Pn	**Pn**	**20 28 48.8**	**-3.5**
MEZF	**Maizieres J'vi**	**7.69 252**	*e*Sg	**Sb**	**20 31 04.7**	**+16**
2.5nm,0.4s						
AKASG	**Malin Array Be**	**8.32 90**	Pn	**P**	**20 29 02.5**	**-2.8**
0.8nm,0.3s,baz=280,slow=12,SNR=4.0						
AKASG	**Malin Array Be**	**8.32 90**	Pn	**P**	**20 29 02.5**	**-2.9**
AKASG	**Malin Array Be**	**8.32 90**	Pn	**P**	**20 29 02.5**	**-2.8**
HFS	**Hagfors**	**8.83 352**	Pn	**P**	**20 29 04.7**	**-7.9**
0.0nm,0.3s,baz=196,slow=21,SNR=2.6						
LOR	**Lormes**	**8.99 247**	*e*Pn	**P**	**20 29 11.6**	**-3.2**
SSF	**Saint Saulge**	**9.31 247**	*e*Pn	**P**	**20 29 15.5**	**-3.7**
CAF	**Calviac**	**11.38 241**	*e*Pn	**P**	**20 29 44.2**	**-3.3**
FINES	**FINESS Array B**	**11.45 25**	Pn	**P**	**20 29 41.6**	**-6.8**
0.1nm,0.3s,baz=203,slow=11,SNR=3.5						
ARCES	**ARCESS Array B**	**18.71 10**	Pn	**P**	**20 31 15.9**	**-6.5**
baz=203,slow=14,SNR=2.8						

*CSEM **13** 20:59:25.3±0.3, 37.76N×25.41W, h4km±2km, ML2.7, Error ellipse: s-maj=6.3km s-min=4.9km az=22.0, After PDA*
*PDA **13** 20:59:25.3±0.8, 37.76N×25.41W, h4km±2km, MD2.5, ML2.7, Error ellipse: s-maj=1.6km s-min=1.3km az=143.0*
SVSA 13 20:59:25.3±0.8, 37.76N×25.41W, h4km±2km, MD2.5, ML2.7, Error ellipse: s-maj=1.6km s-min=1.3km az=143.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCNG	**Congro**	**0.01**	**56**	*i* P	Pg	20 59 26.5	+0.4
PCNG				*e*S	Sg	20 59 27.3	+0.7
PCNG	**Congro**	**0.01**	**56**	*e*S	Sg	20 59 27.3	+0.7
VIF	**Vila Franca**	**0.03**	**238**	*e*P	Pg	20 59 26.8	+0.6
VIF				*e*S	Sg	20 59 27.8	+1.0
MESC	**Monte Escuro**	**0.04**	**321**	*i* P	Pg	20 59 27.1	+0.7
MESC				*e*S	Sg	20 59 28.3	+1.1
MESC	**Monte Escuro**	**0.04**	**321**	*e*S	Sg	20 59 28.3	+1.1
FRA1	**Furnas**	**0.05**	**110**	*e*P	Pg	20 59 27.1	+0.6
LFA	**Lagoa do Fogo**	**0.06**	**283**	*e*P	Pg	20 59 27.4	+0.7
PRCH	**Ribeira Ch**	**0.06**	**241**	*e*P	Pg	20 59 27.3	+0.6
PRCH				*e*S	Sg	20 59 28.7	+1.0
4μm,0.3s							
PMAT	**Coroa da Mata**	**0.07**	**320**	*e*P	Pg	20 59 27.5	+0.6
PMAT				*e*S	Sg	20 59 29.0	+1.0
2μm,0.2s							
CMLA	**Cha da Macela**	**0.09**	**273**	*e*P	Pg	20 59 26.6	-0.6
CMLA				*e*S	Sg	20 59 28.9	+0.4
PVER	**Pico Vermelho**	**0.09**	**295**	*e*P	Pg	20 59 28.9	+1.7
PVER				*e*S	Sg	20 59 30.6	+2.1
PFAD	**Fenais da Ajud**	**0.11**	**41**	*e*P	Pg	20 59 28.2	+0.7
PFAD				*e*S	Sg	20 59 30.5	+1.5
CML	**Cha da Macela**	**0.11**	**276**	*e*P	Pg	20 59 29.3	+1.7
CML				*e*S	Sg	20 59 31.4	+2.3
MIRA	**Miradouro**	**0.11**	**76**	*e*P	Pg	20 59 29.0	+1.4
MIRA				*e*S	Sg	20 59 31.1	+2.0
FAC	**Faja de Cima**	**0.19**	**274**	*e*P	Pg	20 59 31.7	+2.5
FAC				*e*S	Sg	20 59 34.4	+2.7
PDA	**Ponta Delgada**	**0.20**	**267**	*i* P	Pg	20 59 29.5	+0.1
PSMN	**Pico do Norte,**	**0.80**	**160**	*e*P	Pg	20 59 40.6	-0.8
PSMN				*e*S	Sg	20 59 49.7	-2.4

*NEIC **13** 21:08:03.6, 37.19N×20.61E, h11km, MD3.4(ATH), After ATH.*
*CSEM **13** 21:08:03.6, 37.19N×20.61E, h11km, MD3.4/5, After ATH*
ATH 13 21:08:01.9, 37.11N×20.45E, h11km±9km, MD3.5/5, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**1.07**	**6**	*e*PB	Pb	21 08 22.7	+0.7
VLS				*e*SB	Sb	21 08 36.6	+0.8
VLS	**Valsamata**	**1.07**	**6**	*e*Pb	Pb	21 08 22.7	+0.7
VLS				*e*Sb	Sb	21 08 36.4	+0.6
ITM	**Ithomi**	**1.18**	**86**	*e*PB	Pb	21 08 24.1	+0.2
RLS	**Riolos of Patr**	**1.24**	**40**	*e*PB	Pb	21 08 26.1	+1.2
RLS	**Riolos of Patr**	**1.24**	**40**	*e*Pb	Pb	21 08 23.0	-1.9
VLI	**Veliai**	**2.03**	**100**	*e*PN	Pn	21 08 37.9	+1.4
EVR	**Evrytania**	**2.10**	**30**	*e*PN	Pn	21 08 40.0	+2.5
EVR	**Evrytania**	**2.10**	**30**	*e*Pg	Pg	21 08 40.6	-3.2

*IDC **13** 21:20:44.8±2.5, 3.54N×96.16E, mb3.8/5, mb1 4.0/5, mb1mx3.7/17, mbtmp3.8/5, Error ellipse: s-maj=104.6km s-min=26.2km az=56.0*
*NEIC **13** 21:20:49.1±1.1, 3.53N×96.17E, h30km, mb3.9/3, Error ellipse: s-maj=52.3km s-min=9.7km az=52.0*
ISC 13 21:20:47.4±1.8, 3.6N±0.4×96.2E±0.5, h30km, n13, σ0 71/13, mb3.9/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKTK	**Khon Kaen**	**14.29**	**27**	P	**P**	**21 24 19.5**	**+10**
DMN	**Daman**	**26.16**	**337**	*e*P	**P**	**21 26 21.7**	**+0.6**
KKN	**Kakani**	**26.26**	**338**	*e*P	**P**	**21 26 22.4**	**+0.4**
GKN	**Gorkha**	**26.70**	**337**	*e*P	**P**	**21 26 25.7**	**-0.3**
KOLN	**Koldanda**	**26.91**	**335**	*e*P	**P**	**21 26 28.3**	**+0.3**
9.8nm,0.7s,mb4.4							
WRA	**Warramunga Arr**	**44.15**	**123**	P	**P**	**21 28 55.7**	**+0.2**
0.6nm,0.5s,mb3.6,baz=302,slow=9.1,SNR=9.9							
WRAB	**Tennant Creek**	**44.15**	**123**	*e*P	**P**	**21 28 55.4**	**-0.1**
MKAR	**Makanchi Array**	**44.73**	**346**	P	**P**	**21 28 59.9**	**0.0**
0.8nm,0.6s,mb3.8,baz=160,slow=8.6,SNR=18							
SONM	**Songino Array**	**44.99**	**10**	P	**P**	**21 29 01.9**	**0.0**
1.0nm,0.6s,mb3.8,baz=181,slow=9.7,SNR=2.7							
KURK	**Kurchatov**	**49.28**	**345**	*e*P	**P**	**21 29 34.9**	**-0.6**
0.6nm,0.6s,mb3.8							
ZAL	**Zalesovo**	**51.09**	**351**	P	**P**	**21 29 49.4**	**+0.2**
1.5nm,0.5s,mb4.2,baz=268,slow=3.7,SNR=8.7							
BRVK	**Borovoye**	**53.78**	**341**	*e*P	**P**	**21 30 08.0**	**-1.3**
0.7nm,0.6s,mb3.8							
ARCES	**ARCESS Array B**	**80.00**	**340**	P	**P**	**21 32 55.5**	**+0.4**
1.2nm,0.8s,mb3.9,baz=100,slow=5.5,SNR=6.4							

*NEIC **13** 21:41:21.6, 42.21N×9.66W, h10km, MN2.5(MDD), After MDD.*
*CSEM **13** 21:41:21.1±0.3, 42.19N×9.68W, h10km, ML3.2/9, Error ellipse: s-maj=5.7km s-min=2.8km az=96.0*
*INMG **13** 21:41:22.7±1.1, 42.26N×9.62W, h17km±4km, ML2.4, Error ellipse: s-maj=6.5km s-min=1.9km az=97.0*
MDD 13 21:41:21.6±1.1, 42.21N×9.67W, h10km±1km, mbLg2.4/13, 2C, Error ellipse: s-maj=11.7km s-min=4.6km az=98.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMAZ	**Mazaricos**	**0.90**	**34**	⇑Pg	Pg	21 41 38.2	-1.4
23nm,0.1s,SNR=18							
EMAZ				Lg		21 41 49.3	
36nm,0.1s,SNR=8.7							
EMAZ	**Mazaricos**	**0.90**	**34**	Pg	Pg	21 41 38.2	-1.4
23nm,0.1s,SNR=18							
EMAZ	**Mazaricos**	**0.90**	**34**	⇑Pg	Pg	21 41 38.2	-1.4
EMAZ				Lg		21 41 49.0	
STS	**Santiago**	**1.07**	**50**	Pg	Pg	21 41 41.0	-1.9
9.6nm,0.2s,SNR=22							
STS				Lg		21 41 55.1	
78nm,0.2s,SNR=15							
PVRL	**Vila Real**	**1.73**	**122**	*e*Pn	Pn	21 41 51.0	-1.0
PVRL				*e*Pg	Pg	21 41 54.5	-1.7
PVRL				*e*Sn	Sn	21 42 11.4	-2.9
PVRL				*e*Sg	Sg	21 42 17.6	-1.7
44nm,0.1s							
PVRL	**Vila Real**	**1.73**	**122**	Pn	Pn	21 41 51.0	-1.0
PVRL				Pg	Pg	21 41 54.5	-1.7
PVRL				Sn	Sn	21 42 11.4	-2.9
PVRL				Lg		21 42 17.6	
22nm,0.1s							
ERUA	**La Rua**	**1.88**	**84**	Pn	Pn	21 41 52.1	-2.0
1.3nm,0.2s,SNR=11							
ERUA				Sn	Sn	21 42 15.0	-3.1
3.8nm,0.2s,SNR=7.9							
ERUA				Lg		21 42 22.0	
16nm,0.2s,SNR=7.9							
EPON	**Pontenova**	**2.16**	**58**	Pn	Pn	21 41 55.8	-2.4
0.4nm,0.1s,SNR=12							
EPON				Pg	Pg	21 42 01.3	-3.5
0.8nm,0.1s,SNR=5.9							
EPON				Sn	Sn	21 42 20.0	-5.2
4.7nm,0.1s,SNR=8.2							
EPON				Lg		21 42 31.0	
8.5nm,0.1s,SNR=12							
EPON	**Pontenova**	**2.16**	**58**	Pn	Pn	21 41 55.8	-2.4
0.4nm,0.1s,SNR=12							
EPON	**Pontenova**	**2.16**	**58**	Pg	Pg	21 42 02.0	-2.8
0.8nm,0.1s,SNR=5.9							
EPON	**Pontenova**	**2.16**	**58**	Pn	Pn	21 41 55.8	-2.4
EPON				Pg	Pg	21 42 02.0	-2.8
EPON				Sn	Sn	21 42 20.1	-5.2
EPON				Lg		21 42 31.0	
ECAL	**Calabor**	**2.20**	**96**	Pn	Pn	21 41 57.2	-1.5
1.1nm,0.1s,SNR=20							
ECAL				Pg	Pg	21 42 02.7	-2.8
5.2nm,0.2s,SNR=19							
ECAL				Sn	Sn	21 42 23.2	-2.9
3.7nm,0.1s,SNR=7.9							
ECAL				Lg		21 42 30.9	
12nm,0.1s,SNR=8.5							
ECAL	**Calabor**	**2.20**	**96**	Pn	Pn	21 41 57.2	-1.5
1.1nm,0.1s,SNR=20							
ECAL	**Calabor**	**2.20**	**96**	Pg	Pg	21 42 02.7	-2.8
5.2nm,0.2s,SNR=19							
ECAL				Sn	Sn	21 42 23.2	-2.9
3.7nm,0.1s,SNR=7.9							
PBRG	**Braganca**	**2.22**	**100**	*e*Pn	Pn	21 41 57.3	-1.6
PBRG				*e*Sg	Sg	21 42 32.1	-3.4
15nm,0.3s							
PBRG	**Braganca**	**2.22**	**100**	*e*Pn	Pn	21 41 57.3	-1.6
PBRG				*e*Sg	Sg	21 42 32.1	-3.4
15nm,0.3s							
MTE	**Manteigas**	**2.41**	**138**	*e*Pg	Pg	21 42 05.2	-4.6
MTE				*e*Sg	Sg	21 42 37.5	-4.5
23nm,0.4s							
MTE	**Manteigas**	**2.41**	**138**	*e*Pg	Pg	21 42 05.2	-4.6
MTE				*e*Sg	Sg	21 42 37.5	-4.5
23nm,0.4s							
PTOM	**Tomar**	**2.76**	**159**	*e*Sn	Sn	21 42 36.2	-4.2
15nm,0.1s							
PTOM	**Tomar**	**2.76**	**159**	*e*Sn	Sn	21 42 36.2	-4.2
15nm,0.1s							
PCBR	**Castelo Branco**	**2.89**	**144**	*e*Pn	Pn	21 42 06.2	-2.3
PCBR				*e*Sn	Sn	21 42 39.5	-4.2
PCBR				*e*Sg	Sg	21 42 52.5	-5.3
6.1nm,0.2s							
PCBR	**Castelo Branco**	**2.89**	**144**	Pn	Pn	21 42 06.2	-2.3
PCBR				Sn	Sn	21 42 39.5	-4.2
PCBR				Lg		21 42 52.5	
3.0nm,0.2s							
EARI	**Arriondas**	**3.46**	**70**	Pn	Pn	21 42 15.2	-1.4
0.8nm,0.1s,SNR=16							
EARI				Sn	Sn	21 42 53.1	-5.0
1.2nm,0.2s,SNR=7.2							
EARI				Lg		21 43 11.5	
1.1nm,0.2s,SNR=5.0							
EARI	**Arriondas**	**3.46**	**70**	Pn	Pn	21 42 15.2	-1.4
0.8nm,0.1s,SNR=16							
EARI				Sn	Sn	21 42 53.1	-5.0
1.2nm,0.2s,SNR=7.2							
EBAD	**Badajoz**	**4.00**	**149**	Pn	Pn	21 42 21.5	-2.8
0.5nm,0.1s,SNR=6.9							
EBAD				Pg	Pg	21 42 34.2	-7.2
0.7nm,0.1s,SNR=7.3							
EBAD				Sn	Sn	21 43 04.5	-7.3
2.0nm,0.1s,SNR=5.0							
EBAD				Lg		21 43 26.6	
1.1nm,0.1s,SNR=4.5							
EBAD	**Badajoz**	**4.00**	**149**	Pn	Pn	21 42 21.5	-2.8
0.5nm,0.1s,SNR=6.9							
EBAD	**Badajoz**	**4.00**	**149**	Pg	Pg	21 42 34.2	-7.3
0.7nm,0.1s,SNR=7.3							
EBAD				Sn	Sn	21 43 05.4	-6.4
2.0nm,0.1s,SNR=5.0							
EBAD	**Badajoz**	**4.00**	**149**	Pn	Pn	21 42 21.5	-2.8
EBAD				Pg	Pg	21 42 34.2	-7.2
EBAD				Sn	Sn	21 43 05.4	-6.4
EBAD				Lg		21 43 26.6	
ELAN	**Lanestosa**	**4.70**	**75**	Pn	Pn	21 42 32.1	-2.2
0.3nm,0.1s,SNR=7.9							
ELAN				Sn	Sn	21 43 22.3	-7.3
1.7nm,0.4s,SNR=5.0							
ELAN				Lg		21 43 50.7	
0.9nm,0.2s,SNR=4.0							
ELAN	**Lanestosa**	**4.70**	**75**	Pn	Pn	21 42 32.1	-2.2
SNR=7.9							
EGRO	**El Granado**	**4.96**	**160**	Pn	Pn	21 42 34.4	-3.6
0.2nm,0.1s,SNR=7.9							
EGRO				Sn	Sn	21 43 28.8	-7.4
0.9nm,0.1s,SNR=7.9							
EGRO	**El Granado**	**4.96**	**160**	Pn	Pn	21 42 34.4	-3.6
0.2nm,0.1s,SNR=7.9							
EGRO				Sn	Sn	21 43 27.7	-8.4
SNR=7.9							
EGRO	**El Granado**	**4.96**	**160**	Pn	Pn	21 42 34.4	-3.6
EGRO				Sn	Sn	21 43 27.7	-8.5
EMIN	**Mina Concepcio**	**5.00**	**152**	Pn	Pn	21 42 34.7	-3.7
0.2nm,0.3s,SNR=7.9							
EMIN				Sn	Sn	21 43 28.9	-8.1
0.3nm,0.1s,SNR=7.0							
EMIN				Lg		21 44 00.1	
1.3nm,0.3s,SNR=7.9							
EMIN	**Mina Concepcio**	**5.00**	**152**	Pn	Pn	21 42 34.7	-3.8
0.2nm,0.3s,SNR=7.9							
EMIN				Sn	Sn	21 43 28.0	-9.0
0.3nm,0.1s,SNR=7.0							
EMIN	**Mina Concepcio**	**5.00**	**152**	Pn	Pn	21 42 34.7	-3.7
EMIN				Sn	Sn	21 43 28.0	-9.0
EMIN				Lg		21 44 00.1	
ESDC	**Sonseca Array**	**5.01**	**118**	Pn	Pn	21 42 35.8	-2.8
0.3nm,0.2s,baz=304,slow=13,SNR=15							
ESDC				Sn	Sn	21 43 30.1	-7.2
0.4nm,0.1s,SNR=7.9							
ESDC				Lg		21 44 01.8	
0.2nm,0.3s,SNR=7.9							
ESDC	**Sonseca Array**	**5.01**	**118**	Pn	Pn	21 42 35.8	-2.8
0.3nm,0.2s,SNR=15							
EADA	**Adamuz**	**5.61**	**134**	Pn	Pn	21 42 43.6	-3.5
0.3nm,0.1s,SNR=7.9							
EADA				Sn	Sn	21 43 44.8	-7.6
0.3nm,0.2s,SNR=7.9							
EADA				Lg		21 44 18.8	
0.6nm,0.3s,SNR=7.9							
EADA	**Adamuz**	**5

KMI				S	S	22 29 20.1	+11
KMI				XS		22 29 30.5	
KMI				AMB	AMB		
	comp=Z,12nm,1.2s,mb4.2						
KMI				AMB	AMB		
	comp=Z,99nm,5.1s						
KMI				LR	LR		
	comp=N,408nm,9.8s						
KMI				LR	LR		
	comp=E,222nm,10.9s						
KMI				LR	LR		
	comp=Z,351nm,12.8s,MS4.0						
GYA	**Guiyang**	**26.67**	**19**⇑	*i* P	**P**	**22 25 17.6**	**+0.3**
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.6						
PKI	**Pulchoki**	**28.42**	**338**	*e* P	**P**	**22 25 34.0**	**+0.8**
	comp=Z,9.6nm,0.8s,mb4.5						
DMN	**Daman**	**28.57**	**337**	*e* P	**P**	**22 25 34.5**	**0.0**
KKN	**Kakani**	**28.67**	**338**	*e* P	**P**	**22 25 35.7**	**+0.3**
	comp=Z,14nm,0.9s,mb4.7						
GKN	**Gorkha**	**29.11**	**337**	*e* P	**P**	**22 25 39.8**	**+0.4**
	comp=Z,12nm,0.6s,mb4.8						
KOLN	**Koldanda**	**29.32**	**335**	*e* P	**P**	**22 25 42.0**	**+0.7**
	comp=Z,16nm,0.8s,mb4.8						
FITZ	**Fitzroy Crossi**	**34.08**	**126**	P	**P**	**22 26 22.5**	**-0.6**
	comp=Z,5.3nm,1.0s,mb4.4,baz=352,slow=9.9,SNR=3.8						
GTA	**Gaotai**	**38.02**	**3**	*e* P	**P**	**22 26 55.8**	**-0.5**
GTA				AP	pP	22 27 03.5	-1.7
GTA				XP	sP	22 27 07.8	-1.2
GTA				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb4.0						
WRA	**Warramunga Arr**	**42.19**	**122**	P	**P**	**22 27 30.7**	**-0.3**
	comp=Z,1.6nm,0.7s,mb3.8,baz=303,slow=9.0,SNR=14						
WRAB	**Tennant Creek**	**42.19**	**122**	*e* P	**P**	**22 27 31.1**	**0.0**
SONM	**Songino Array**	**47.06**	**9**	P	**P**	**22 28 09.4**	**-0.3**
	comp=Z,3.3nm,0.7s,mb4.4,baz=186,slow=9.4,SNR=10						
SONM				LR	LR	22 48 07.5	
	comp=Z,41nm,19.8s,MS3.4,baz=62,slow=36						
MKAR	**Makanchi Array**	**47.12**	**346**	P	**P**	**22 28 10.2**	**0.0**
	comp=Z,1.8nm,0.5s,mb4.3,baz=158,slow=8.8,SNR=43						
KURK	**Kurchatov**	**51.67**	**345**	*e* P	**P**	**22 28 44.8**	**-0.4**
	comp=Z,3.7nm,0.8s,mb4.4						
ZAL	**Zalesovo**	**53.44**	**351**	P	**P**	**22 28 57.6**	**-0.7**
	comp=Z,4.5nm,0.5s,mb4.6,baz=311,slow=5.1,SNR=22						
STKA	**Stephens Creek**	**53.51**	**132**	P	**P**	**22 28 59.5**	**+0.4**
	comp=Z,3.2nm,1.0s,mb4.2,baz=314,slow=12,SNR=2.4						
BVAR	**Borovoye Array**	**56.12**	**341**	P	**P**	**22 29 16.2**	**-1.6**
	comp=Z,2.4nm,0.7s,mb4.3,baz=143,slow=7.4,SNR=14						
AKASG	**Malin Array Be**	**75.11**	**322**	P	**P**	**22 31 18.8**	**-1.2**
	comp=Z,0.4nm,0.5s,mb3.6,baz=93,slow=5.3,SNR=2.4						
FINES	**FINESS Array B**	**79.86**	**333**	P	**P**	**22 31 46.0**	**0.0**
	comp=Z,0.9nm,0.8s,mb3.8,baz=117,slow=3.1,SNR=7.9						
FINES	**FINESS Array B**	**79.86**	**333**	P	**P**	**22 31 46.0**	**0.0**
ARCES	**ARCESS Array B**	**82.41**	**340**	P	**P**	**22 31 59.6**	**+0.4**
	comp=Z,1.6nm,0.8s,mb4.0,baz=90,slow=4.9,SNR=7.9						
GERES	**GERESS Array B**	**84.67**	**319**	P	**P**	**22 32 12.1**	**+1.0**
	comp=Z,0.2nm,0.6s,mb3.5,baz=204,slow=39,SNR=3.3						

JMA 13 22:47:25.3±0.4, 22.41N×125.49E, h17km, M3.5, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HATJ	**Hateruma jima**	**2.26**	**317**	P	Pn	22 48 02.8	+0.3
HATJ				*e*S	Sn	22 48 29.1	-1.0
JKRS	**Kuro-shima**	**2.27**	**323**	P	Pn	22 48 03.5	+0.8
JKRS				*e*S	Sn	22 48 31.2	+0.6
JIJ	**Ishigaki jima**	**2.31**	**328**	P	Pn	22 48 03.2	0.0
JIJ				*e*S	Sn	22 48 31.2	-0.2
JTJ	**Tarama**	**2.33**	**342**	P	Pn	22 48 04.2	+0.6
JTJ				*e*S	Sn	22 48 32.1	-0.1
JOGS	**Gusukube**	**2.34**	**358**	P	Pn	22 48 03.8	+0.1
JOGS				*e*S	Sn	22 48 33.3	+1.0
JMJ	**Miyako jima 2**	**2.40**	**356**	*e*S	Sn	22 48 34.3	+0.5
IRIF	**Iriomote-Funau**	**2.51**	**320**	P	Pn	22 48 06.8	+0.7
IRIF				*e*S	Sn	22 48 37.6	+1.1
YOJ	**Yonaguni jima**	**3.06**	**312**	P	Pn	22 48 14.5	+0.5
YOJ				*e*S	Sn	22 48 49.8	-0.7
JKE	**Kume jima 2**	**4.07**	**17**	P	Pn	22 48 25.5	-2.9

CSEM ***13*** *23:23:18.4, 79.62N×4.43E, h5km, mb5.0*
MOS ***13*** *23:23:19.7±1.0, 79.48N×4.41E, h10km, mb5.2/102, Error ellipse: s-maj=29.8km s-min=2.7km az=92.1*
IDC ***13*** *23:23:20.2±0.4, 79.53N×4.12E, mb4.5/20, mb1 4.6/25, mb1mx4.6/26, mbtmp4.6/25, ML4.6/6, MS4.1/19, Ms1 4.1/19, ms1mx4.0/23, Error ellipse: s-maj=13.6km s-min=10.4km az=54.0*
BJI ***13*** *23:23:21.6, 79.60N×4.40E, h10km, mB5.1, mb5.0, Ms4.8, Msz4.4*
NEIC ***13*** *23:23:21.7±0.1, 79.58N×4.40E, h10km, mb5.0/159, Error ellipse: s-maj=3.6km s-min=1.9km az=62.0*
HRVD ***13*** *23:23:21.7±0.2, 79.45N×3.67E, h12km, MW5.0/60, Centroid moment Tensor Solution. LP body waves: s30,c44;Mantle waves: s60,c120; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.05±.09; $M_{\theta\theta}$-0.17±.10; $M_{\phi\phi}$3.22±.07; $M_{r\theta}$-0.98±.32; $M_{\theta\phi}$0.81±.07; $M_{\phi r}$-0.59±.23; Best double couple: $M_0$3.436×10^{16} NP1: ϕ_s178°, δ40°, λ-114°. NP2:ϕ_s28°, δ54°, λ-71°. Principal axes: T 3.504, Plg7°, Azm104°; N -.135, Plg15°, Azm196°; P -3.369, Plg73°, Azm350°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NAO ***13*** *23:23:22.9±5.9, 79.45N×5.53E, h14km±46km, ML4.1*
BER ***13*** *23:23:23.0±2.8, 79.57N×5.31E, h15km±29km, MD3.8, ML4.2, ML4.1(NAO)*

ISC 13 23:23:19.9±0.1, 79.55N±0.02×4.3E±0.1, h10km, (h21km±2.3km:pP-P), n688, σ0$97/690, mb5.0/217, MS4.1/46, 29C-35D, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**1.56**	**110**	Pn	**Pn**	**23 23 46.2**	**-1.8**
KBS				Lg		23 24 04.2	
KBS	**Kingsbay**	**1.56**	**110**	*e* P	**Pn**	**23 23 45.9**	**-2.1**
KBS				*e*S	**Sb**	**23 24 03.1**	**-5.2**
KBS				AML	AML	23 24 17.6	
	comp=Z,4μm,0.6s						
KBS	**Kingsbay**	**1.56**	**110**	Pn	**Pn**	**23 23 46.2**	**-1.8**
KBS				*e*S	**Sb**	**23 24 03.1**	**-5.2**
	comp=Z,4μm,0.6s,SNR=55						
SPA0	**Spitsbergen Ar**	**2.71**	**115**	Pn	**Pn**	**23 24 01.8**	**-2.7**
	baz=322,slow=8.6						
SPA0				Sn	**Sn**	**23 24 31.8**	**-5.9**
HSP	**Hornsund**	**3.43**	**132**	*e* P	**Pn**	**23 24 12.0**	**-2.6**
HSP				*e*S	**Sn**	**23 24 48.7**	**-7.1**
HOPEN	**Hopen**	**5.25**	**115**	*e* P	**Pn**	**23 24 37.4**	**-3.0**
HOPEN				*e*S	**Sn**	**23 25 33.2**	**-8.5**
DAG	**Danmarks Havn**	**5.45**	**251**⇓	*i* P	**Pn**	**23 24 39.3**	**-4.0**
	comp=Z,158nm,0.8s						
DAG				*i*		23 25 35.4	
DAG				*i*		23 25 40.5	
DAG	**Danmarks Havn**	**5.45**	**251**⇓	*i* P	**Pn**	**23 24 39.3**	**-4.0**
DAG				*i*		23 25 40.5	
DAG				pmax	pmax		
	comp=Z,158nm,0.8s						
JNW	**Jan Mayen West**	**9.12**	**207**	*e* P	**P**	**23 25 31.0**	**-3.6**
JNW				*e*S	**Sn**	**23 27 04.3**	**-14**
JNW				AML	AML	23 27 10.5	
	comp=Z,161nm,0.3s						
JNE	**Jan Mayen East**	**9.15**	**207**	*e* P	**P**	**23 25 31.2**	**-3.8**
JNE				*e*S	**Sn**	**23 27 07.4**	**-12**
JNE				AML	AML	23 27 15.9	
	comp=Z,156nm,0.5s						
JMIC	**Jan Mayen**	**9.17**	**207**	Pn	**P**	**23 25 31.1**	**-4.2**
JMIC				Sn	**Sn**	**23 27 06.7**	**-13**
JMIC	**Jan Mayen**	**9.17**	**207**	Pn	**P**	**23 25 31.6**	**-3.7**
	comp=Z,130nm,0.3s,baz=68,slow=1.5,SNR=73						
JMIC				Sn	**Sn**	**23 27 06.5**	**-13**
	comp=Z,82nm,0.3s,baz=151,slow=18,SNR=11						
JMIC	**Jan Mayen**	**9.17**	**207**	*e* P	**P**	**23 25 31.8**	**-3.5**
JMIC				*e*S	**Sn**	**23 27 06.6**	**-13**
JMIC	**Jan Mayen**	**9.17**	**207**	Pn	**P**	**23 25 31.0**	**-4.3**
JMIC				Sn	**Sn**	**23 27 06.7**	**-13**
JMI	**Jan Mayen**	**9.24**	**207**	*e* P	**P**	**23 25 32.3**	**-4.0**
JMI				*e*S	**Sn**	**23 27 09.6**	**-12**
JMI				AML	AML	23 27 13.3	
	comp=Z,185nm,0.5s						
TRO	**Tromso**	**10.64**	**151**	*e* P	**P**	**23 25 53.6**	**-1.6**
SCO	**Scoresbysund**	**11.18**	**230**	*i* P	**P**	**23 25 59.4**	**-3.2**
	comp=Z,33nm,0.6s						
SCO				*e*		23 27 56.7	
SCO	**Scoresbysund**	**11.18**	**230**	*e* P	**P**	**23 25 59.4**	**-3.2**
SCO				pmax	pmax		
	comp=Z,33nm,0.6s						
KEV	**Kevo**	**11.38**	**137**	*e* P	**P**	**23 26 05.5**	**+0.1**
	comp=Z,20nm,0.5s						
KEV				*e*S	**S**	**23 28 00.8**	**-13**
KEV	**Kevo**	**11.38**	**137**	*e* P	**P**	**23 26 00.2**	**-5.2**
KEV				*e*S	**S**	**23 28 00.8**	**-13**
ARA0	**ARCESS Array S**	**11.41**	**140**	Pn	**P**	**23 26 00.8**	**-5.0**
	baz=348,slow=12						
ARA0				Sn	**S**	**23 27 59.9**	**-14**
	baz=350,slow=22						
ARCES	**ARCESS Array B**	**11.41**	**140**	Pn	**P**	**23 26 01.0**	**-4.8**
	comp=Z,8.8nm,0.3s,baz=349,slow=12,SNR=214						
ARCES				Sn	**S**	**23 28 00.1**	**-14**
	comp=Z,4.1nm,0.3s,baz=352,slow=19,SNR=4.3						
ARCES				LR	LR	23 30 18.5	
	comp=Z,613nm,21.2s,baz=335,slow=37						
ARCES	**ARCESS Array B**	**11.41**	**140**	Pn	**P**	**23 26 01.0**	**-4.8**
ARCES				Sn	**S**	**23 28 00.1**	**-14**
ARCES				LR	LR	23 30 18.4	
ARE0	**ARCESS Array S**	**11.41**	**140**	*e* P	**P**	**23 26 01.5**	**-4.3**
ARE0				*e*S	**S**	**23 27 54.9**	**-19**
ARE0	**ARCESS Array S**	**11.41**	**140**	*e* P	**P**	**23 26 01.5**	**-4.3**
ARE0				*e*S	**S**	**23 27 54.9**	**-19**
KTK1	**Kautokeino**	**11.66**	**145**	*e* P	**P**	**23 26 07.6**	**-1.5**
KTK1				*e*S	**S**	**23 28 10.5**	**-10**
KTK1	**Kautokeino**	**11.66**	**145**	*e* P	**P**	**23 26 07.5**	**-1.6**
KTK1				*e*S	**S**	**23 28 10.5**	**-10**
LOF	**Lofoten**	**11.74**	**163**	*e*Pn	**P**	**23 26 10.4**	**+0.1**
SUMG	**Summit**	**12.07**	**258**	*e* P	**P**	**23 26 08.8**	**-5.9**
	comp=Z,390nm,0.6s						
SUMG				*e*S	S	23 28 08.8	-22
SUMG	**Summit**	**12.07**	**258**	*e* P	**P**	**23 26 08.8**	**-5.9**
	comp=Z,391nm,0.6s						
SUMG				*e*S	S	23 28 08.8	-22
MELSS	**Ber_school_2**	**13.01**	**163**	*e*Pn	**P**	**23 26 25.8**	**-1.4**
STOK	**Stokkvaagen**	**13.50**	**165**	*e*Pn	**P**	**23 26 33.0**	**-0.5**
MOR8	**Moi Rana**	**13.74**	**162**	*e*Pn	**P**	**23 26 36.2**	**-0.5**
LVZ	**Lovozero**	**14.14**	**129**	*i* P	**P**	**23 26 37.6**	**-4.4**
LVZ				MLR	MLR		
	comp=Z,1μm,18.0s						
APA0	**Apatity Array**	**14.18**	**131**	P	**P**	**23 26 37.0**	**-5.5**
	baz=343,slow=11						
APA0				Sn	**S**	**23 29 05.0**	**-16**
	baz=342,slow=22						
APA0	**Apatity Array**	**14.18**	**131**	P	**P**	**23 26 37.0**	**-5.5**
APA0				Sn	**S**	**23 29 05.0**	**-16**
APA	**Apatity**	**14.28**	**131**⇑	*i* P	**P**	**23 26 38.8**	**-4.9**
APA				pmax	pmax		
	comp=Z,42nm,0.8s						
APA				MLR	MLR		
	comp=Z,4μm,12.0s						
NSS	**Namsos**	**15.26**	**167**	*e*Pn	**P**	**23 26 57.2**	**+0.7**
NSS	**Namsos**	**15.26**	**167**	*e*Pn	**P**	**23 26 57.2**	**+0.6**
	SNR=55						
BORG	**Borgarnes**	**16.52**	**221**	Pn	**P**	**23 27 13.8**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=42,slow=12,SNR=2.0						
BORG				Sn	**S**	**23 30 12.9**	**-2.8**
	comp=Z,0.3nm,0.3s,baz=250,slow=20,SNR=3.1						
BORG	**Borgarnes**	**16.52**	**221**	P	**P**	**23 27 15.0**	**+2.2**
	comp=Z,53nm,1.1s						
BORG	**Borgarnes**	**16.52**	**221**	P	**P**	**23 27 15.0**	**+2.3**
	comp=Z,53nm,1.1s						
MOL	**Molde**	**17.10**	**175**	*e*Pn	**P**	**23 27 21.4**	**+1.3**
DOMB	**Dombas**	**17.66**	**173**	*e*Pn	**P**	**23 27 27.2**	**+0.1**
KAF	**Kangasniemi**	**18.68**	**147**	*e*p	**P**	**23 27 37.2**	**-2.6**
	comp=Z,25nm,0.9s,baz=346,slow=13						
KAF	**Kangasniemi**	**18.68**	**147**	*e* P	**P**	**23 27 37.2**	**-2.6**
KAF				pmax	pmax		
	comp=Z,25nm,0.9s						
NB2	**NORSAR Subarra**	**18.72**	**169**	P	**P**	**23 27 39.5**	**-0.8**
	baz=351,slow=11						
NB2	**NORSAR Subarra**	**18.72**	**169**	P	**P**	**23 27 39.5**	**-0.8**
	comp=Z,68nm,1.2s,baz=356,slow=11						
NB2	**NORSAR Subarra**	**18.72**	**169**	P	**P**	**23 27 39.5**	**-0.8**
NB2				pmax	pmax		
	comp=Z,68nm,1.2s						
NOA	**NORSAR Array B**	**18.72**	**169**	P	**P**	**23 27 39.8**	**-0.6**
	comp=Z,1.0nm,0.3s,baz=351,slow=12,SNR=50						
NOA				LR	LR	23 33 52.6	
	comp=Z,228nm,18.3s,slow=34						
NOA	**NORSAR Array B**	**18.72**	**169**	P	**P**	**23 27 39.8**	**-0.6**
NOA				LR	LR	23 33 52.6	
NAO01	**NORSAR Array S**	**18.91**	**170**	*e* P	**P**	**23 27 41.9**	**-0.6**
	comp=Z,42nm,0.9s						
NAO01	**NORSAR Array S**	**18.91**	**170**	*e* P	**P**	**23 27 41.9**	**-0.6**
	comp=Z,42nm,0.9s						
SFJD	**Kangerlussuaq**	**19.04**	**260**⇑	*i* P	**P**	**23 27 38.7**	**-5.4**
	comp=Z,101nm,0.7s						
SFJD				*i* S	**S**	**23 30 54.8**	**-18**
	comp=Z,850nm,19.0s						
SFJD	**Kangerlussuaq**	**19.04**	**260**⇑	*i* P	**P**	**23 27 38.7**	**-5.4**
SFJD				pmax	pmax		
	comp=Z,101nm,0.7s						
FIA0	**FINESS Array S**	**19.32**	**147**	P	**P**	**23 27 45.3**	**-2.1**
	baz=354,slow=11						
FINES	**FINESS Array B**	**19.32**	**147**	P	**P**	**23 27 45.8**	**-1.6**
	comp=Z,1.5nm,0.3s,baz=345,slow=7.9,SNR=63						
FINES				LR	LR	23 36 21.1	
	comp=Z,174nm,18.6s,baz=346,slow=40						
HFS	**Hagfors**	**19.73**	**166**	P	**P**	**23 27 50.8**	**-1.2**
	baz=2.1,slow=12						
HFS	**Hagfors**	**19.73**	**166**	P	**P**	**23 27 50.8**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=11,slow=7.6,SNR=50						
HFS				LR	LR	23 34 16.7	
	comp=Z,504nm,20.4s,baz=238,slow=33						
RES	**Resolute Bay**	**19.93**	**310**	*e* P	**P**	**23 27 50.7**	**-3.6**
	comp=Z,30nm,0.9s						
RES	**Resolute Bay**	**19.93**	**310**	*e* P	**P**	**23 27 50.7**	**-3.6**
RES				pmax	pmax		
	comp=Z,30nm,0.9s						
KONO	**Kongsberg**	**20.07**	**172**	*e* P	**P**	**23 27 53.3**	**-2.5**
KONO	**Kongsberg**	**20.07**	**172**	*i* P	**P**	**23 27 53.8**	**-2.0**
KONO	**Kongsberg**	**20.07**	**172**	*d i* P	**P**	**23 27 53.8**	**-2.0**
VSU	**Vasula**	**22.32**	**148**	*i* P	**P**	**23 28 17.7**	**-1.0**
VSU	**Vasula**	**22.32**	**148**	*d i* P	**P**	**23 28 17.7**	**-1.0**
KAC	**Achnashellach**	**22.37**	**194**⇑	*e* P	**P**	**23 28 19.1**	**-0.1**
KAC				AMb	AMB	23 28 21.8	
	comp=Z,184nm,1.5s,mb5.3						
KPL	**Plockton**	**22.54**	**194**⇑	*e* P	**P**	**23 28 20.7**	**-0.1**
KPL				AMb	AMB	23 28 23.0	
	comp=Z,108nm,1.6s,mb5.0						
KSB	**Sheil Bridge**	**22.66**	**194**⇑	*e* P	**P**	**23 28 21.8**	**-0.1**
KSB				AMb	AMB	23 28 23.2	
	comp=Z,55nm,1.5s,mb4.8						
KAR1	**Arisaig**	**22.97**	**194**	*e* P	**P**	**23 28 24.1**	**-0.8**
KAR1				AMb	AMB	23 28 26.3	
	comp=Z,72nm,1.5s,mb4.9						
MUD	**Monsted U'grnd**	**23.26**	**173**	*i* P	**P**	**23 28 28.9**	**+1.2**
	comp=Z,99nm,1.6s,mb5.0						
MUD				*i* S	**S**	**23 32 45.2**	**+9.5**
	comp=Z,200nm,21.0s						
MUD	**Monsted U'grnd**	**23.26**	**173**	*i* P	**P**	**23 28 28.9**	**+1.2**
MUD				pmax	pmax		
	comp=Z,99nm,1.6s,mb5.0						
COP	**Copenhagen**	**24.12**	**169**⇓	*i* P	**P**	**23 28 36.5**	**+0.4**
	comp=Z,76nm,0.9s,mb5.1						
COP				*i* S	**S**	**23 32 59.3**	**+8.6**
	comp=Z,120nm,18.0s						
COP	**Copenhagen**	**24.12**	**169**⇓	*i* P	**P**	**23 28 36.5**	**+0.4**
COP				*i* S	**S**	**23 32 59.3**	**+8.6**
COP				pmax	pmax		
	comp=Z,76nm,0.9s,mb5.1						
COP				MLR	MLR		
	comp=Z,130nm,18.0s,MS3.5						
ESK	**Eskdalemuir**	**24.47**	**190**	*e* P	**P**	**23 28 38.4**	**-1.1**
	comp=Z,22nm,0.8s,mb4.6						
ESK	**Eskdalemuir**	**24.47**	**190**	*e* P	**P**	**23 28 38.4**	**-1.1**
ESK				pmax	pmax		
	comp=Z,22nm,0.8s,mb4.6						
BSD	**Bornholm Skovb**	**24.80**	**165**	*i* P	**P**	**23 28 42.9**	**+0.2**
	comp=Z,286nm,0.6s,mb6.0						
BSD	**Bornholm Skovb**	**24.80**	**165**	*i* P	**P**	**23 28 42.9**	**+0.2**
BSD				pmax	pmax		
	comp=Z,286nm,0.6s,mb6.0						
ISAL	**Salakas**	**25.11**	**150**	*e* P	**P**	**23 28 45.3**	**-0.4**
ISAL				AMb	AMB	23 28 47.6	
	comp=Z,11nm,0.9s,mb4.4						
ISAL	**Salakas**	**25.11**	**150**	*e* P	**P**	**23 28 45.3**	**-0.4**
	comp=Z,11nm,0.9s,mb4.4,SNR=33						
RGN	**Rugen**	**25.29**	**168**	P	**P**	**23 28 47.5**	**+0.1**
	comp=Z,152nm,1.0s,mb5.5						
RGN	**Rugen**	**25.29**	**168**	P	**P**	**23 28 47.5**	**0.0**
	comp=Z,152nm,1.0s,mb5.5						
IIGN	**Ignalina**	**25.34**	**150**	*e* P	**P**	**23 28 47.5**	**-0.3**
IIGN	**Ignalina**	**25.34**	**150**	*e* P	**P**	**23 28 47.5**	**-0.3**
	SNR=28						
IDID	**Didziasalis**	**25.42**	**149**	*e* P	**P**	**23 28 48.2**	**-0.5**
IDID				AMb	AMB	23 28 50.5	
	comp=Z,20nm,0.9s,mb4.7						
IDID	**Didziasalis**	**25.42**	**149**	*e* P	**P**	**23 28 48.2**	**-0.4**
	comp=Z,20nm,0.9s,mb4.7,SNR=28						
BSEG	**Bad Segeberg**	**25.81**	**172**	*e* P	**P**	**23 28 52.6**	**+0.3**
TIXI	**Tiksi**	**25.87**	**37**	*i* P	**P**	**23 28 55.4**	**+2.7**
MOS	**Moscow**	**26.22**	**135**	*e* P	**P**	**23 28 55.1**	**-0.9**
	comp=Z,33nm,1.3s,mb4.7						
MOS	**Moscow**	**26.22**	**135**	*e* P	**P**	**23 28 55.1**	**-0.9**
MOS				*e*		23 29 31.9	
MOS				*e*S	**S**	**23 33 22.6**	**-3.3**
MOS				pmax	pmax		
	comp=Z,33nm,1.3s,mb4.7						
MNK	**Minsk**	**26.33**	**148**	*e* P	**P**	**23 28 55.0**	**-2.1**
SUW	**Suwalki**	**26.41**	**155**	*e* P	**P**	**23 28 56.7**	**-1.1**
SUW				*e*pP	pP	23 29 02.7	+2.0
SUW				MLR	MLR	23 37 46.3	
	comp=Z,300nm,27.9s,MS3.7						
PECR	**Pechory**	**26.54**	**127**	*i* P	**P**	**23 28 59.0**	**0.0**
	comp=Z,500nm,13.0s						
PECR	**Pechory**	**26.54**	**127**	*i* P	**P**	**23 28 59.0**	**0.0**
PECR				pmax	pmax		
	comp=Z,140nm,2.0s,mb5.2						
PECR				MLR	MLR		
	comp=N,1.0nm,14.0s						
PECR				MLR	MLR		
	comp=N,500nm,16.0s						
PECR				MLR	MLR		
	comp=N,500nm,13.0s						
DCN	**Croghan**	**26.61**	**196**⇑	*i* P	**P**	**23 29 00.6**	**+0.9**
DLF	**Lyons Farm**	**26.62**	**195**⇑	*i* P	**P**	**23 29 01.9**	**+2.1**
OBN	**Obninsk**	**26.70**	**137**	*e* P	**P**	**23 28 59.6**	**-0.8**
	comp=N,27nm,0.6s,mb5.0						
OBN	**Obninsk**	**26.70**	**137**	*e* P	**P**	**23 28 59.6**	**-0.8**
	comp=N,27nm,0.6s,mb5.0						
OBN				LR	LR		
	comp=Z,166nm,21.0s,MS3.6						
OBN	**Obninsk**	**26.70**	**137**	*d i* P	**P**	**23 28 59.6**	**-0.8**
OBN				pmax	pmax		
	comp=Z,109nm,1.7s,mb5.1						
OBN				MLR	MLR		
	comp=Z,700nm,23.0s,MS4.2						
GKP	**Gorka Klasztor**	**26.75**	**163**⇓	*e* P	**P**	**23 29 00.8**	**-0.1**
GKP				MLR	MLR	23 38 21.0	
	comp=Z,400nm,20.2s,MS4.0						
GKP	**Gorka Klasztor**	**26.75**	**163**⇓	*e* P	**P**	**23 29 00.9**	**-0.1**
GKP				LR	LR		
	comp=Z,400nm,20.2s,MS4.0						
RUE	**Ruedersdorf**	**27.38**	**167**	*e* P	**P**	**23 29 06.9**	**+0.2**
RUE	**Ruedersdorf**	**27.38**	**167**	*e* P	**P**	**23 29 06.9**	**+0.2**
RUE				*e*		23 29 32.6	
WAR	**Warsaw**	**28.01**	**158**	*e* P	**P**	**23 29 13.7**	**+1.2**
WAR				MLR	MLR	23 39 06.4	
	comp=Z,300nm,22.3s,MS3.8						
WAR	**Warsaw**	**28.01**	**158**	*e* P	**P**	**23 29 13.7**	**+1.3**
WAR				LR	LR		
	comp=Z,300nm,22.3s,MS3.8						
CLL	**Collm**	**28.52**	**169**	P	**P**	**23 29 16.0**	**-1.0**
	comp=Z,logA/T=1.6,mb5.1						
CLL				*i* *SP	sP	23 29 25.5	+4.2
CLL	**Collm**	**28.52**	**169**	*i* P	**P**	**23 29 16.0**	**-1.0**
	comp=Z,61nm,1.5s,mb5.1						
CLL				*i*		23 29 25.5	
CLL				*e*		23 29 47.0	
CLL				LR	LR		
	comp=Z,300nm,17.8s,MS3.9						
CLL	**Collm**	**28.52**	**169**	*i* P	**P**	**23 29 16.0**	**-1.0**
CLL				pmax	pmax		
	comp=Z,61nm,1.5s,mb5.1						
CLL				MLR	MLR		
	comp=Z,300nm,17.8s,MS3.9						
SVE	**Sverdlovsk**	**28.73**	**108**	*e* P	**P**	**23 29 19.4**	**+0.6**
SVE				*e*		23 29 27.0	
SVE				*e*		23 30 08.0	
SVE				*e*S	**S**	**23 34 12.0**	**+5.4**
SVE				*e*		23 35 54.0	
SVE				pmax	pmax		
	comp=Z,44nm,1.4s,mb5.0						
SVE				MLR	MLR		
	comp=N,500nm,16.0s,MS4.4						
SVE				MLR	MLR		
	comp=E,500nm,16.0s,MS4.4						
SVE				MLR	MLR		
	comp=Z,1μm,16.0s,MS4.5						
ARU	**Arti**	**28.75**	**110**	*e* P	**P**	**23 29 19.4**	**+0.4**
	comp=Z,34nm,0.6s,mb5.2						
ARU				*e*S	tx	23 34 39.7	
ARU	**Arti**	**28.75**	**110**	*e* P	**P**	**23 29 19.4**	**+0.4**
	comp=Z,34nm,0.6s,mb5.2						
ARU				*e*S	tx	23 34 39.7	
ARU	**Arti**	**28.75**	**110**	*e* P	**P**	**23 29 19.4**	**+0.4**
ARU				pmax	pmax		
	comp=Z,34nm,0.6s,mb5.2						
BRG	**Berggiesshubel**	**28.99**	**167**	*i* P	**P**	**23 29 20.5**	**-0.8**
	comp=Z,40nm,1.1s,mb5.1						
BRG		

comp=Z,36nm,1.2s,mb5.0
GRF MLR MLR
comp=Z,100nm,20.5s,MS3.4
GRF Grafenberg Arr 30.08 171 *e*P **P 23 29 31.2 +0.1**
GRF pmax pmax
comp=Z,36nm,1.2s,mb5.0
GRF MLR MLR
comp=Z,100nm,20.5s,MS3.4
TOD Tromm 30.11 174 *e*P **P 23 29 31.3 0.0**
AKASG Malin Array Be 30.22 148 P **P 23 29 30.6 -1.7**
comp=Z,3.0nm,0.6s,mb4.2,baz=344,slow=8.9,SNR=50
AKASG PcP PcP 23 32 30.6 -2.7
comp=Z,2.2nm,0.8s,baz=348,slow=3.0,SNR=5.4
AKASG Malin Array Be 30.22 148 PcP PcP 23 32 30.6 -2.6
OKC Ostrava-Krasne 30.23 162 *e*P **P 23 29 31.7 -0.7**
OKC AMS AMS 23 40 40.0
comp=Z,200nm,18.4s
MORC Moravsky Berou 30.26 163 *i* P **P 23 29 32.4 -0.2**
MORC Moravsky Berou 30.26 163 *e*P **P 23 29 32.2 -0.4**
comp=Z,33nm,0.9s,mb5.1
MORC Moravsky Berou 30.26 163 *e*P **P 23 29 32.2 -0.4**
MORC pmax pmax
comp=Z,33nm,0.9s,mb5.1
VOR Voronezh 30.34 135 *e*P **P 23 29 32.0 -1.3**
VOR *e* 23 30 25.5
VOR pmax pmax
comp=Z,70nm,1.9s,mb5.1
VOR pmax pmax
comp=N,180nm,1.4s
VOR pmax pmax
comp=N,70nm,1.8s
VOR pmax pmax
comp=N,100nm,1.6s
VOR pmax pmax
comp=E,50nm,1.8s
VOR pmax pmax
comp=Z,70nm,2.0s,mb5.0
INK Inuvik 30.41 330 P **P 23 29 33.0 -0.8**
comp=Z,2.0nm,0.8s,mb3.9,baz=42,slow=7.8,SNR=3.6
INK PcP PcP 23 32 32.1 -1.4
comp=Z,3.3nm,0.8s,baz=70,slow=3.9,SNR=3.7
INK Inuvik 30.41 330 *e*P **P 23 29 32.8 -1.0**
comp=Z,19nm,1.3s,mb4.7
INK Inuvik 30.41 330 P **P 23 29 33.0 -0.8**
INK 23 32 32.1
INK pmax pmax
comp=Z,2.0nm,0.8s
INK pmax pmax
comp=Z,3.0nm,0.8s
LVV L'vov 30.64 155 *e*P **P 23 29 35.1 -0.9**
LVV MLR MLR
comp=Z,100nm,15.0s,MS3.6
WET Wettzell 30.68 169 *e*P **P 23 29 36.8 +0.5**
comp=Z,42nm,1.4s,mb5.1
WET Wettzell 30.68 169 *e*P **P 23 29 36.8 +0.5**
WET pmax pmax
comp=Z,42nm,1.4s,mb5.1
KHC Kasperske Hory 30.72 168 *e*P **P 23 29 37.0 +0.3**
KHC pP pP 23 29 44.5 +4.9
KHC AMS AMS 23 41 00.0
comp=Z,200nm,20.7s
KHC Kasperske Hory 30.72 168 *e*P **P 23 29 37.0 +0.3**
KHC *e* 23 29 44.5
KHC LR LR
comp=Z,200nm,20.7s,MS3.8
KWP Kalwaria 30.73 156 *e*P **P 23 29 36.6 -0.1**
KWP MLR MLR 23 41 05.8
comp=Z,300nm,20.3s,MS3.9
KWP Kalwaria 30.73 156 *e*P **P 23 29 36.6 -0.2**
NIE Niedzica 30.78 159 ⇓*i*P **P 23 29 37.6 +0.4**
STHS Stebnicka Huta 30.84 158 *i* P **P 23 29 38.2 +0.5**
VRSR Storozhevoye 30.84 135 *e*P **P 23 29 36.8 -1.0**
STU Stuttgart 30.95 174 *e*P **P 23 29 38.3 -0.4**
STU Stuttgart 30.95 174 *e*P **P 23 29 38.4 -0.4**
comp=Z,86nm,1.5s,mb5.4
STU *e* 23 29 49.2
STU Stuttgart 30.95 174 *e*P **P 23 29 38.4 -0.3**
STU pmax pmax
comp=Z,86nm,1.5s,mb5.4
FLN La Foliniere 30.96 186 *e*P **P 23 29 36.8 -2.0**
comp=Z,20nm,0.7s,mb4.8
FLN *e*R
comp=Z,159nm,20.0s
FLN La Foliniere 30.96 186 *e*P **P 23 29 36.8 -2.0**
FLN pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
FLN MLR MLR
comp=Z,160nm,20.0s,MS3.7
GEC2 GERESS Array S 31.01 168 *e*P **P 23 29 39.9 +0.7**
comp=Z,48nm,1.2s,mb5.2
GEC2 GERESS Array S 31.01 168 *e*P **P 23 29 39.9 +0.7**
GEC2 pmax pmax
comp=Z,48nm,1.2s,mb5.2
GERES GERESS Array B 31.01 168 P **P 23 29 39.9 +0.6**
comp=Z,17nm,0.9s,mb4.9,baz=9.5,slow=8.1,SNR=137
GERES PcP PcP 23 32 34.5 -0.8
comp=Z,1.0nm,0.8s,baz=315,slow=1.9,SNR=3.6
GERES LR LR 23 41 49.6
comp=Z,225nm,18.8s,MS3.9,baz=2.6,slow=36
GERES GERESS Array B 31.01 168 PcP PcP 23 32 34.5 -0.8
LDF La Druitiere 31.12 186 *e*P **P 23 29 38.4 -1.8**
comp=Z,42nm,1.0s,mb4.9
LDF La Druitiere 31.12 186 *e*P **P 23 29 38.4 -1.8**
LDF pmax pmax
comp=Z,21nm,1.0s,mb4.9
MEZF Maizieres J'vi 31.17 179 *e*P **P 23 29 40.4 -0.3**
comp=Z,38nm,1.1s,mb4.9
CDF Champ du Feu 31.28 176 *e*P **P 23 29 41.2 -0.4**
comp=Z,39nm,1.3s,mb4.8
CDF Champ du Feu 31.28 176 *e*P **P 23 29 41.2 -0.4**
CDF pmax pmax
comp=Z,19nm,1.3s,mb4.8
WLS Welschbruch 31.28 176 *e*P **P 23 29 41.3 -0.3**
GRR Gorron 31.34 187 *e*P **P 23 29 40.5 -1.7**
comp=Z,38nm,0.6s,mb5.1
GRR Gorron 31.34 187 *e*P **P 23 29 40.5 -1.7**
GRR pmax pmax
comp=Z,19nm,0.6s,mb5.1
CRVS Cervenica-Dubn 31.37 158 *e*pP pP 23 29 45.3 0.0
CRVS *e* 23 29 51.8
BFO Black Forest 31.38 175 *e*P **P 23 29 42.7 +0.2**
comp=Z,20nm,1.5s,mb4.7
BFO Black Forest 31.38 175 *e*P **P 23 29 42.7 +0.2**
BFO pmax pmax
comp=Z,20nm,1.5s,mb4.7
KOLS Kolonicke sedl 31.39 157 *e*P **P 23 29 42.2 -0.4**
THEF They Montfort 31.45 178 *e*P **P 23 29 42.8 -0.4**
ROSF Rostrenen 31.45 190 *e*P **P 23 29 41.5 -1.7**
comp=Z,67nm,1.4s,mb5.0
ROSF Rostrenen 31.45 190 *e*P **P 23 29 41.5 -1.7**
ROSF pmax pmax
comp=Z,33nm,1.4s,mb5.0
ECH Echery 31.48 176 *e*P **P 23 29 43.4 0.0**
SMOL Smolenice 31.51 163 *e*P **P 23 29 44.7 +1.0**
SGMF Saint Gilles 31.52 189 *e*P **P 23 29 42.6 -1.1**
comp=Z,53nm,1.0s,mb5.0
SGMF Saint Gilles 31.52 189 *e*P **P 23 29 42.6 -1.1**
SGMF pmax pmax
comp=Z,27nm,1.0s,mb5.0
VYHS Vyhne 31.61 161 *e*P **P 23 29 44.4 -0.1**
VYHS *e* 23 29 53.8
FUR Furstenfeldbru 31.61 171 *e*P **P 23 29 44.8 +0.3**
comp=Z,74nm,1.7s,mb5.2
FUR Furstenfeldbru 31.61 171 *e*P **P 23 29 44.8 +0.3**
FUR pmax pmax
comp=Z,74nm,1.7s,mb5.2
HAU Haudompre 31.68 177 *e*P **P 23 29 44.8 -0.3**
comp=Z,38nm,1.1s,mb4.8
HAU *e*R
comp=Z,139nm,17.2s
HAU Haudompre 31.68 177 *e*P **P 23 29 44.8 -0.3**
HAU pmax pmax
comp=Z,19nm,1.1s,mb4.8
HAU MLR MLR
comp=Z,140nm,17.3s,MS3.7
KECS Kecovo 31.72 159 *e*P **P 23 29 44.8 -0.7**
ZST Bratislava 31.81 164 *e*P **P 23 29 46.9 +0.6**
ZST *e* 23 29 56.4
ZST eL 23 45 35.5
FELD Feldberg 31.83 175 *e*P **P 23 29 46.4 -0.1**
MOF Molkenrain 31.84 176 *e*P **P 23 29 46.4 -0.2**
HINF Hinteralfeld 31.87 177 *e*P **P 23 29 46.5 -0.3**
QUIF Quistinic 31.87 190 *e*P **P 23 29 45.5 -1.3**
comp=Z,50nm,1.0s,mb5.0
QUIF Quistinic 31.87 190 *e*P **P 23 29 45.5 -1.3**
QUIF pmax pmax
comp=Z,25nm,1.0s,mb5.0
MOA Molln 32.03 167 ⇓*i*P **P 23 29 48.4 +0.2**
comp=Z,66nm,1.6s,mb5.2
PSZ Piszkesteto 32.24 160 *e*P **P 23 29 50.0 -0.1**
comp=Z,45nm,1.3s,mb5.1
PSZ Piszkesteto 32.24 160 *e*P **P 23 29 50.0 -0.1**
comp=Z,45nm,1.3s,mb5.1
PSZ Piszkesteto 32.24 160 *e*P **P 23 29 50.0 -0.1**
PSZ pmax pmax
comp=Z,45nm,1.3s,mb5.1
BILL Bilibino 32.25 13 *e*P **P 23 29 49.5 -0.4**
comp=Z,12nm,0.4s,mb5.1
BILL *e* 23 29 57.5
BILL Bilibino 32.25 13 *e*P **P 23 29 49.5 -0.5**
BILL *e* 23 29 57.5
BILL pmax pmax
comp=Z,12nm,0.4s,mb5.1
SRO Srobarova 32.26 162 *e*P **P 23 29 51.0 +0.8**
SRO1 Iza 32.30 162 *e*P **P 23 29 51.6 +1.0**
LOMF Lomont 32.34 177 *e*P **P 23 29 49.3 -1.6**
LOR Lormes 32.41 181 *e*P **P 23 29 50.5 -1.0**
comp=Z,25nm,0.8s,mb4.8
LOR *e*R
comp=Z,163nm,17.0s
LOR Lormes 32.41 181 *e*P **P 23 29 50.5 -1.0**
LOR pmax pmax
comp=Z,12nm,0.8s,mb4.8
LOR MLR MLR
comp=Z,160nm,17.0s,MS3.8
HYF Humbligny 32.41 182 *e*P **P 23 29 50.9 -0.7**
MOTA Moosalm 32.42 171 ⇓*i*P **P 23 29 52.2 +0.5**
comp=Z,44nm,1.4s,mb5.1
MOTA Moosalm 32.42 171 ⇓*i*P **P 23 29 52.2 +0.5**
MOTA pmax pmax
comp=Z,44nm,1.4s,mb5.1
WATA Walderalm 32.45 171 ⇓*i*P **P 23 29 52.4 +0.5**
comp=Z,32nm,1.4s,mb5.0
WATA Walderalm 32.45 171 ⇓*i*P **P 23 29 52.4 +0.5**
WATA pmax pmax
comp=Z,32nm,1.4s,mb5.0
DAVA Damuels 32.45 173 ⇑*i*P **P 23 29 52.4 +0.5**
comp=Z,74nm,2.0s,mb5.2
WTTA Wattenberg 32.52 171 ⇓*i*P **P 23 29 53.3 +0.8**
comp=Z,62nm,1.7s,mb5.3
WTTA Wattenberg 32.52 171 ⇓*i*P **P 23 29 53.3 +0.8**
WTTA pmax pmax
comp=Z,62nm,1.7s,mb5.3
SQTA Sankt Quirin 32.55 171 ⇑*i*P **P 23 29 53.5 +0.7**
comp=Z,56nm,1.8s,mb5.2
SQTA Sankt Quirin 32.55 171 ⇑*i*P **P 23 29 53.5 +0.7**
SQTA pmax pmax
comp=Z,56nm,1.8s,mb5.2
SSF Saint Saulge 32.62 181 *e*P **P 23 29 52.4 -0.9**
comp=Z,15nm,0.9s,mb4.9
SSF Saint Saulge 32.62 181 *e*P **P 23 29 52.4 -0.9**
SSF pmax pmax
comp=Z,15nm,0.9s,mb4.9
ARSA Arzberg 32.68 166 ⇓*i*P **P 23 29 54.4 +0.5**
comp=Z,40nm,1.4s,mb5.2
KBA Koelnbreinsper 32.76 169 ⇑*i*P **P 23 29 55.8 +1.2**
comp=Z,43nm,1.4s,mb5.2
KBA Koelnbreinsper 32.76 169 ⇑*i*P **P 23 29 55.8 +1.2**
KBA pmax pmax
comp=Z,43nm,1.4s,mb5.2
AVF Avril sur Loir 32.89 181 *e*P **P 23 29 54.7 -1.0**
comp=Z,60nm,1.1s,mb5.2
AVF Avril sur Loir 32.89 181 *e*P **P 23 29 54.7 -1.0**
AVF pmax pmax
comp=Z,30nm,1.1s,mb5.1
SMF Signal de Mont 33.03 181 *e*P **P 23 29 55.8 -1.1**
comp=Z,13nm,0.8s,mb4.6
SMF Signal de Mont 33.03 181 *e*P **P 23 29 55.8 -1.1**
SMF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
LCHF La Chataignera 33.06 186 *e*P **P 23 29 57.5 +0.3**
CABF La Chapelle 33.07 178 *e*P **P 23 29 56.9 -0.4**
comp=Z,34nm,1.1s,mb4.9
CABF La Chapelle 33.07 178 *e*P **P 23 29 56.9 -0.4**
CABF pmax pmax
comp=Z,17nm,1.1s,mb4.9
MFF Saint Martin d 33.11 186 *e*P **P 23 29 56.6 -1.1**
comp=Z,47nm,1.0s,mb5.1
MFF Saint Martin d 33.11 186 *e*P **P 23 29 56.6 -1.1**
MFF pmax pmax
comp=Z,24nm,1.0s,mb5.1
BGF Bois d'Agland 33.12 182 *e*P **P 23 29 57.0 -0.7**
comp=Z,93nm,0.8s,mb5.4
BGF Bois d'Agland 33.12 182 *e*P **P 23 29 57.0 -0.7**
BGF pmax pmax
comp=Z,46nm,0.8s,mb5.5
FUORN Ofenpass 33.13 172 P **P 23 29 58.7 +0.9**
FVI Forni Avoltri 33.22 169 P **P 23 29 59.5 +0.9**
comp=Z,78nm,1.6s,mb5.4
FVI Forni Avoltri 33.22 169 P **P 23 29 59.5 +0.9**
FVI pmax pmax
comp=Z,78nm,1.6s,mb5.4
TUE Stuetta 33.25 174 P **P 23 29 59.9 +1.0**
comp=Z,16nm,1.3s,mb4.8
BRMO Bormio 33.27 172 P **P 23 30 00.8 +1.7**
PERS Pernice 33.27 166 *e*P **P 23 29 59.5 +0.4**
SCHQ Schefferville 33.27 266 P **P 23 29 57.8 -1.2**
comp=Z,2.5nm,0.6s,mb4.3,baz=5.0,slow=5.3,SNR=6.4
SCHQ LR LR 23 43 51.2
comp=Z,358nm,18.7s,MS4.1,baz=196,slow=37
APPI Appiano 33.29 171 P **P 23 30 00.2 +1.0**
comp=Z,54nm,1.9s,mb5.2
OBKA Obir 33.38 167 ⇑*i*P **P 23 30 00.9 +0.9**
comp=Z,98nm,1.2s,mb5.6
TCF Toulx Ste Croi 33.40 183 *e*P **P 23 29 59.1 -1.0**
comp=Z,64nm,1.0s,mb5.2
TCF Toulx Ste Croi 33.40 183 *e*P **P 23 29 59.1 -1.0**
TCF pmax pmax
comp=Z,32nm,1.0s,mb5.2
PTCC Patocco-Chiusa 33.43 169 P **P 23 30 00.8 +0.3**
DRGR 33.55 157 P **P 23 30 00.9 -0.6**
DRGR 33.55 157 P **P 23 30 00.9 -0.6**
ROBS Robic 33.60 168 *e*P **P 23 30 01.1 -0.8**
DIX Grande Dixence 33.61 176 P **P 23 30 02.1 +0.1**
AGO Saint Agoulin 33.63 181 *e*P **P 23 30 02.5 +0.4**
MMK Mattmark 33.65 175 P **P 23 30 03.5 +1.1**
PLDF La Plantade 33.71 181 *e*P **P 23 30 03.0 +0.2**
CTI Castel Tesino 33.73 171 P **P 23 30 03.6 +0.5**
comp=Z,91nm,1.5s,mb5.5
CTI Castel Tesino 33.73 171 P **P 23 30 03.6 +0.5**
CTI pmax pmax
comp=Z,91nm,1.5s,mb5.5
MCGN Macugnaga 33.74 175 P **P 23 30 04.3 +1.1**
MUGIO Muggio 33.80 174 P **P 23 30 03.6 0.0**
LJU Ljubljana 33.84 167 *e*P **P 23 30 04.3 +0.3**
VAI Varese 33.85 174 ⇓*i*P **P 23 30 04.3 +0.2**
comp=Z,44nm,1.2s,mb5.3
VAI Varese 33.85 174 ⇓*i*P **P 23 30 04.3 +0.2**
VAI pmax pmax
comp=Z,44nm,1.2s,mb5.3
KIS Kishinev 33.85 149 *e*P **P 23 30 03.0 -1.1**
KIS *e*S **S 23 35 22.0 -5.2**
PKSM Moragy 33.87 162 P **P 23 30 04.3 0.0**
PKSM Moragy 33.87 162 P **P 23 30 04.3 +0.1**
YKA Yellowknife Ar 33.92 313 PcP PcP 23 32 41.8 -1.3
comp=Z,2.8nm,0.7s,baz=360,slow=2.8,SNR=5.0
YKA LR LR 23 43 45.1
comp=Z,453nm,18.4s,MS4.2,baz=330,slow=36
PYM Petit Puy Mans 33.93 182 *e*P **P 23 30 05.5 +0.7**
BRVK Borovoye 34.03 100 *e*P **P 23 30 06.2 +0.6**
comp=Z,29nm,0.9s,mb5.2
BRVK *e* 23 30 14.5
BRVK Borovoye 34.03 100 *e*P **P 23 30 06.2 +0.6**
BRVK *e* 23 30 14.5
BRVK pmax pmax
comp=Z,29nm,0.9s,mb5.2
BVA0 Borovoye Array 34.08 100 *i* P **P 23 30 06.9 +0.9**
BVA0 pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
BVAR Borovoye Array 34.08 100 P **P 23 30 06.6 +0.6**
comp=Z,14nm,0.6s,mb5.1,baz=334,slow=9.5,SNR=100
COLF Collangettes 34.16 181 *e*P **P 23 30 06.6 -0.2**
LPL La Plagne 34.17 177 *e*P **P 23 30 07.3 +0.4**
comp=Z,41nm,1.1s,mb5.0
LPL La Plagne 34.17 177 *e*P **P 23 30 07.3 +0.4**
LPL pmax pmax
comp=Z,21nm,1.1s,mb5.0
LPG La Plagne 34.19 177 *e*P **P 23 30 07.6 +0.6**
comp=Z,63nm,1.3s,mb5.1
LPG La Plagne 34.19 177 *e*P **P 23 30 07.6 +0.6**
LPG pmax pmax
comp=Z,31nm,1.3s,mb5.1
RJF Les Rejaudoux 34.39 183 *e*P **P 23 30 07.9 -0.8**
comp=Z,66nm,0.9s,mb5.3
RJF *e*R
comp=Z,98nm,19.9s
RJF Les Rejaudoux 34.39 183 *e*P **P 23 30 07.9 -0.8**
RJF pmax pmax
comp=Z,33nm,0.9s,mb5.3
RJF MLR MLR
comp=Z,100nm,19.9s,MS3.5
FCC Fort Churchill 34.39 294 *e*P **P 23 30 04.0 -4.6**
comp=Z,24nm,1.4s,mb4.9
FCC Fort Churchill 34.39 294 *e*P **P 23 30 04.0 -4.6**
comp=Z,24nm,1.4s,mb4.9
FCC Fort Churchill 34.39 294 *e*P **P 23 30 04.0 -4.6**
FCC pmax pmax
comp=Z,24nm,1.4s,mb4.9
BOJS Bojanci 34.41 166 *e*P **P 23 30 08.6 -0.4**
LBL Lubilhac 34.45 181 *e*P **P 23 30 10.0 +0.8**
VOSK Vostochnaya 34.48 99 P **P 23 30 09.7 +0.3**
VOSK pmax pmax
comp=Z,55nm,1.0s,mb5.4
NVS Novosibirsk 34.69 86 ⇓*i*P **P 23 30 11.2 0.0**
NVS *e* 23 31 30.3
NVS *e* 23 35 41.2
NVS pmax pmax
comp=Z,49nm,1.5s,mb5.2
NVS pmax pmax
comp=N,33nm,1.4s
NVS smax
comp=N,25nm,2.2s
CAF Calviac 34.76 183 *e*P **P 23 30 11.1 -0.8**
comp=N,14nm,0.9s,mb4.6
CAF Calviac 34.76 183 *e*P **P 23 30 11.1 -0.8**
CAF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
LFF La Frestale 34.76 184 *e*P **P 23 30 11.3 -0.7**
comp=Z,28nm,0.9s,mb4.9
LFF La Frestale 34.76 184 *e*P **P 23 30 11.3 -0.7**
LFF pmax pmax
comp=Z,14nm,0.9s,mb4.9
ORIF Oris-en-Rattie 34.76 178 *e*P **P 23 30 11.8 -0.2**
comp=Z,30nm,1.1s,mb4.8
ORIF *e*R
comp=Z,115nm,20.8s
VRI Vrincioaia 34.79 152 ⇑P **P 23 30 12.2 0.0**
VRI Vrincioaia 34.79 152 ⇑P **P 23 30 12.2 +0.1**
VIVF Saint-Julien-l 34.82 180 *e*P **P 23 30 12.1 -0.4**
comp=Z,37nm,1.1s,mb4.9
VIVF Saint-Julien-l 34.82 180 *e*P **P 23 30 12.1 -0.4**
VIVF pmax pmax
comp=Z,18nm,1.1s,mb4.9
COLA College 34.90 340 *e*P **P 23 30 07.7 -5.2**
COLA College 34.90 340 *e*P **P 23 30 07.7 -5.2**
ILAR Eielson Array 34.94 339 P **P 23 30 14.4 +1.1**
comp=Z,1.7nm,1.0s,mb3.9,baz=7.2,slow=6.0,SNR=8.7
ILAR PcP PcP 23 32 43.9 -2.2
comp=Z,1.7nm,0.8s,baz=335,slow=3.9,SNR=5.1
ILAR LR LR 23 44 44.4
comp=Z,130nm,19.9s,MS3.7,baz=20,slow=37
ILAR Eielson Array 34.94 339 PcP PcP 23 32 43.8 -2.2
MBDF Montbardon 34.96 177 *e*P **P 23 30 14.4 +0.7**
comp=Z,26nm,1.1s,mb4.8
MBDF Montbardon 34.96 177 *e*P **P 23 30 14.4 +0.7**
MBDF pmax pmax
comp=Z,13nm,1.1s,mb4.8
VOIR 35.08 154 ⇑P **P 23 30 14.5 -0.2**
VOIR 35.08 154 ⇑P **P 23 30 14.5 -0.1**
DAWY Dawson 35.08 333 *e*P **P 23 30 14.0 -0.5**
DAWY *e*PcP PcP 23 32 45.1 -1.3
MLR Muntele Rosu 35.10 153 ⇑P **P 23 30 15.9 +1.1**
MLR Muntele Rosu 35.10 153 ⇑P **P 23 30 15.9 +1.1**
YAK Yakutsk 35.19 42 *e*P **P 23 30 14.1 -1.3**
comp=Z,34nm,0.9s,mb5.3
YAK Yakutsk 35.19 42 *e*P **P 23 30 14.1 -1.3**
comp=Z,34nm,0.9s,mb5.3
YAK Yakutsk 35.19 42 *e*P **P 23 30 13.8 -1.6**
YAK pmax pmax
comp=Z,14nm,1.0s,mb4.8
YAK pmax pmax
comp=N,8.0nm,1.2s
CFR Carcaliu 35.60 151 ⇑P **P 23 30 17.1 -2.0**
CFR Carcaliu 35.60 151 ⇑P **P 23 30 17.1 -2.0**
LASF Ste Croix 35.60 181 *e*P **P 23 30 19.6 +0.5**
comp=N,92nm,1.4s,mb5.2
TOUF Mont Tournerai 35.68 176 *e*P **P 23 30 20.2 +0.4**
SMRF Simiane la Rot 35.70 178 *e*P **P 23 30 19.9 -0.1**
comp=N,23nm,1.0s,mb4.8
SAOF Saorge 35.71 176 *e*P **P 23 30 20.8 +0.8**
ZAL Zalesovo 35.83 85 P **P 23 30 21.1 +0.1**
comp=N,2.2nm,0.6s,mb4.3,baz=124,slow=9.0,SNR=12
ZAL PcP PcP 23 32 47.5 -1.2
comp=N,4.5nm,0.8s,baz=140,slow=3.6,SNR=5.9
ZAL LR LR 23 50 17.2
comp=N,409nm,18.1s,MS4.2,baz=126,slow=45
ZAL Zalesovo 35.83 85 PcP PcP 23 32 47.5 -1.2
SBF Sospel 35.83 176 *e*P **P 23 30 21.3 +0.2**
comp=N,158nm,1.1s,mb5.5
SBF Sospel 35.83 176 *e*P **P 23 30 21.3 +0.2**
SBF pmax pmax
comp=Z,79nm,1.1s,mb5.6
AB31 Akbulak array 35.88 113 P **P 23 30 21.4 0.0**
AB31 pmax pmax
comp=Z,47nm,1.3s,mb5.3
CALN Calern 35.94 177 *e*P **P 23 30 23.7 +1.7**
DIVS Divcibare 36.06 161 ⇑*i*P **P 23 30 22.4 -0.6**
FRF La Foret Royal 36.12 177 *e*P **P 23 30 23.3 -0.3**
comp=Z,33nm,0.9s,mb5.0
FRF La Foret Royal 36.12 177 *e*P **P 23 30 23.3 -0.3**
FRF pmax pmax
comp=Z,17nm,0.9s,mb5.0
GRUS Gruza 36.31 160 ⇓*i*P **P 23 30 23.5 -1.6**
TIRR Tirgusor 36.34 150 ⇓P **P 23 30 24.5 -0.8**
TIRR Tirgusor 36.34 150 ⇓P **P 23 30 24.5 -0.8**
MTLF Montolieu 36.34 183 *e*P **P 23 30 25.3 -0.1**
comp=Z,25nm,0.9s,mb4.8
MTLF Montolieu 36.34 183 *e*P **P 23 30 25.3 -0.1**
MTLF pmax pmax
comp=Z,12nm,0.9s,mb4.8
BOLS Boljevac 36.45 158 *i* P **P 23 30 25.8 -0.5**
EALK Alkurruntz 36.52 187 P **P 23 30 27.0 +0.1**
comp=Z,31nm,0.9s,mb5.1
EALK Alkurruntz 36.52 187 P **P 23 30 27.0 +0.2**
comp=Z,31nm,0.9s,mb5.1
SEY Seymchan 36.54 24 ⇑*i*P **P 23 30 27.9 +1.0**
EARI Arriondas 36.55 192 P **P 23 30 26.5 -0.6**
comp=Z,113nm,1.4s,mb5.5,SNR=10.0
EARI Arriondas 36.55 192 P **P 23 30 26.5 -0.7**
comp=Z,113nm,1.4s,mb5.5
ELAN Lanestosa 36.56 190 P **P 23 30 27.0 -0.2**
comp=Z,13nm,0.6s,mb4.9,SNR=13
ELAN Lanestosa 36.56 190 P **P 23 30 27.1 -0.2**
comp=Z,13nm,0.6s,mb4.9
SJPF Ste Jean 36.62 187 *e*P **P 23 30 27.0 -0.7**
comp=Z,43nm,1.2s,mb4.9
SJPF Ste Jean 36.62 187 *e*P **P 23 30 27.0 -0.7**
SJPF pmax pmax
comp=Z,22nm,1.2s,mb4.9
LABF Labassere 36.66 185 *e*P **P 23 30 27.5 -0.6**
EPF Esparros 36.67 185 *e*P **P 23 30 27.6 -0.6**
comp=Z,64nm,0.9s,mb5.1
EPF Esparros 36.67 185 *e*P **P 23 30 27.6 -0.6**
EPF pmax pmax
comp=Z,32nm,0.9s,mb5.2
MLS Moulis 36.74 184 *e*P **P 23 30 29.0 +0.3**
ETSF Etsaut 36.82 186 *e*P **P 23 30 29.1 -0.3**
comp=Z,48nm,1.0s,mb5.0
ETSF Etsaut 36.82 186 *e*P **P 23 30 29.1 -0.3**
ETSF pmax pmax
comp=Z,24nm,1.0s,mb5.0
VIEF Viey 36.83 185 *e*P **P 23 30 30.4 +0.9**
RESF Ens 36.90 185 *e*P **P 23 30 31.3 +1.2**
ANN Anapa 36.94 140 *e*P **P 23 30 27.4 -3.0**
ANN *e*PPP PP 23 32 02.1 +5.7
ANN *e*S **S 23 36 09.4 -5.4**
ANN *e*SS SS 23 38 47.3 +4.0
ANN *e*SSS SSS 23 39 05.9 -8.2
ANN pmax pmax
comp=Z,29nm,1.0s,mb5.1
ANN MLR MLR
comp=E,234nm,16.0s
ANN MLR MLR
comp=Z,210nm,16.0s,MS4.0
EARA Aranguren 36.97 187 P **P 23 30 31.9 +1.2**

comp=Z,21nm,1.1s,mb4.9,SNR=7.9
EBIE Bielsa 37.02 185 P **P 23 30 32.3 +1.2**
comp=Z,25nm,0.7s,mb5.2,SNR=33
EBIE Bielsa 37.02 185 P **P 23 30 32.3 +1.2**
comp=Z,25nm,0.7s,mb5.2
EMAZ Mazaricos 37.07 196 P **P 23 30 31.6 +0.1**
comp=Z,40nm,0.8s,mb5.3,SNR=7.4
EMAZ Mazaricos 37.07 196 P **P 23 30 31.6 +0.1**
comp=Z,40nm,0.8s,mb5.3
BOD Bodaibo 37.10 57 *e*P **P 23 30 30.2 -1.4**
BOD *e* 23 30 38.9
BOD pmax pmax
comp=Z,14nm,0.8s,mb4.8
BOD pmax pmax
comp=Z,25nm,0.7s,mb5.2
STS Santiago 37.11 196 P **P 23 30 32.7 +0.9**
comp=Z,18nm,0.9s,mb4.9,SNR=5.7
STS Santiago 37.11 196 P **P 23 30 32.7 +0.9**
comp=Z,18nm,0.9s,mb4.9
STS Santiago 37.11 196 P **P 23 30 32.7 +0.9**
STS pmax pmax
comp=Z,18nm,0.9s,mb4.9
TTA Tatalina 37.29 345 *e*P **P 23 30 38.5 +5.4**
GOF Gofitskoye 37.39 133 ⇑ *i*P **P 23 30 30.5 -3.7**
GOF pmax pmax
comp=Z,50nm,1.2s,mb5.2
AQU L'Aquila 37.48 169 *e*P **P 23 30 36.2 +1.2**
comp=Z,125nm,1.8s,mb5.4
AQU L'Aquila 37.48 169 *e*P **P 23 30 36.2 +1.2**
AQU pmax pmax
comp=Z,125nm,1.8s,mb5.4
EGRA Graus 37.51 185 P **P 23 30 35.9 +0.7**
comp=Z,7.1nm,0.6s,mb4.5,SNR=6.9
EGRA Graus 37.51 185 P **P 23 30 35.9 +0.7**
comp=Z,7.1nm,0.6s,mb4.6
ERUA La Rua 37.54 194 P **P 23 30 37.1 +1.7**
comp=Z,11nm,0.5s,mb4.8,SNR=7.9
ERUA La Rua 37.54 194 P **P 23 30 37.1 +1.7**
ERUA pmax pmax
comp=Z,11nm,0.5s,mb4.8
EMIR Miracle 37.77 183 P **P 23 30 38.0 +0.6**
comp=Z,9.5nm,0.6s,mb4.7
EMIR Miracle 37.77 183 P **P 23 30 38.0 +0.5**
comp=Z,9.5nm,0.6s,mb4.7
KURK Kurchatov 37.78 93 *e*P **P 23 30 37.7 +0.3**
comp=Z,80nm,0.9s,mb5.5
KURK *e* 23 30 46.0
KURK Kurchatov 37.78 93 *e*P **P 23 30 37.7 +0.3**
KURK *e* 23 30 46.0
KURK pmax pmax
comp=Z,80nm,0.9s,mb5.5
ECAL Calabor 37.97 193 P **P 23 30 39.8 +0.7**
comp=Z,32nm,0.9s,mb5.1,SNR=15
ECAL Calabor 37.97 193 P **P 23 30 39.8 +0.7**
comp=Z,32nm,0.9s,mb5.1
SML Sawmill 37.98 339 *e*P **P 23 30 39.4 +0.5**
SML *e* 23 30 47.4
ELOB Lobios 38.10 195 P **P 23 30 40.8 +0.6**
comp=Z,12nm,0.9s,mb4.6,SNR=5.1
ELOB Lobios 38.10 195 P **P 23 30 40.8 +0.6**
comp=Z,12nm,0.9s,mb4.6
PBRG Braganca 38.10 193 *e*P **P 23 30 40.8 +0.6**
comp=Z,53nm,1.7s,mb5.0
PMR Palmer 38.24 340 *e*P **P 23 30 45.8 +4.6**
EPOB Poblet 38.34 184 P **P 23 30 42.8 +0.6**
comp=Z,18nm,0.8s,mb4.8,SNR=9.1
EPOB Poblet 38.34 184 P **P 23 30 42.8 +0.6**
comp=Z,18nm,0.8s,mb4.9
KIV Kislovodsk 38.43 134 *e*P **P 23 30 42.8 -0.1**
comp=Z,13nm,0.9s,mb4.7
KIV Kislovodsk 38.43 134 *e*P **P 23 30 42.9 -0.1**
comp=Z,13nm,0.9s,mb4.7
KIV Kislovodsk 38.43 134 *e*P **P 23 30 42.9 0.0**
KIV pmax pmax
comp=Z,13nm,0.9s,mb4.7
PVRL Vila Real 38.68 195 *e*P **P 23 30 46.1 +1.1**
comp=Z,62nm,1.4s,mb5.1
ERTA Horta de San J 38.75 185 P **P 23 30 46.4 +0.8**
comp=Z,13nm,0.9s,mb4.6,SNR=5.0
ERTA Horta de San J 38.75 185 P **P 23 30 46.4 +0.8**
comp=Z,13nm,0.9s,mb4.7
SVW2 Sparrevohn 39.10 345 *e*P **P 23 30 49.2 +0.9**
EMOS Mosqueruela 39.35 186 P **P 23 30 51.4 +0.7**
comp=Z,17nm,0.9s,mb4.8,SNR=7.8
EMOS Mosqueruela 39.35 186 P **P 23 30 51.4 +0.7**
comp=Z,17nm,0.9s,mb4.8
SLKM Skilak Lake 39.39 340 *e*PcP PcP 23 32 59.2 -0.4
SLKM Skilak Lake 39.39 340 *e*P **P 23 30 50.6 -0.2**
SLKM *e* 23 32 59.2
FFC Flin Flon 39.54 299 *e*P **P 23 30 51.7 -0.4**
comp=Z,15nm,1.3s,mb4.6
FFC *e* 23 30 59.8
FFC Flin Flon 39.54 299 *e*P **P 23 30 51.7 -0.4**
FFC *e* 23 30 59.8
FFC pmax pmax
comp=Z,15nm,1.3s,mb4.6
MTE Manteigas 39.54 194 *e*P **P 23 30 52.9 +0.7**
comp=Z,39nm,1.0s,mb5.1
MTE Manteigas 39.54 194 *e*P **P 23 30 52.4 +0.2**
comp=Z,22nm,0.9s,mb4.9
RSO Redoubt South 39.58 342 *e*P **P 23 30 52.7 +0.3**
RSO Redoubt South 39.58 342 *e*P **P 23 30 52.7 +0.3**
RSO *e* 23 31 01.1
CLNS Chul'man 39.62 48 *e*P **P 23 30 52.8 +0.1**
CLNS pmax pmax
comp=N,20nm,0.9s
CLNS pmax pmax
comp=Z,30nm,0.9s,mb5.0
CLNS pmax pmax
comp=E,11nm,0.8s
DLBC Dease Lake 39.73 324 P **P 23 30 53.9 +0.3**
comp=E,2.3nm,0.8s,mb4.0,baz=356,slow=8.2,SNR=8.2
DLBC PcP PcP 23 32 59.4 -1.3
comp=E,1.9nm,0.7s,baz=175,slow=1.7,SNR=3.5
DLBC Dease Lake 39.73 324 *e*P **P 23 30 52.4 -1.2**
DLBC Dease Lake 39.73 324 *e*P **P 23 30 52.4 -1.2**
DLBC *e* 23 31 02.4
DLBC *e*PcP PcP 23 32 59.6 -1.1
DLBC *e* 23 33 10.1
ZEI Tsey 39.75 133 *e*P **P 23 30 51.0 -3.0**
ZEI pmax pmax
comp=Z,13nm,0.8s,mb4.7
PCBR Castelo Branco 40.10 194 *e*P **P 23 30 57.4 +0.6**
comp=Z,58nm,1.4s,mb5.1
ESDC Sonseca Array 40.13 190 P **P 23 30 57.0 -0.1**
comp=Z,13nm,0.7s,mb4.8,baz=1.8,slow=8.3,SNR=71
ESDC Sonseca Array 40.13 190 P **P 23 30 57.3 +0.2**
comp=Z,26nm,0.8s,mb5.0,SNR=76
ESDC Sonseca Array 40.13 190 P **P 23 30 57.3 +0.2**
comp=Z,26nm,0.8s,mb5.0
ESLA Sonseca Array 40.13 190 *e*P **P 23 30 57.0 -0.1**
ESLA Sonseca Array 40.13 190 *e*P **P 23 30 57.0 0.0**
comp=Z,5.6nm,0.9s,mb4.3
ESLA *e* 23 31 13.1
ECHE Chera 40.13 186 P **P 23 30 58.0 +0.9**
comp=Z,9.3nm,0.8s,mb4.5,SNR=5.6
ECHE Chera 40.13 186 P **P 23 30 58.0 +0.9**
ECHE pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
HENT Hendek 40.17 148 *i*P **P 23 30 56.4 -1.1**
MID Middleton Isla 40.21 337 *e*P **P 23 30 58.5 +1.0**
PTOM Tomar 40.36 195 *e*P **P 23 31 00.0 +1.0**
comp=Z,110nm,1.2s,mb5.5
SGKT Sivrigoynuk 40.53 147 *i*P **P 23 31 00.7 +0.4**
EIBI Ibiza 40.66 184 P **P 23 31 02.9 +1.4**
comp=Z,12nm,0.8s,mb4.6,SNR=7.9
EIBI Ibiza 40.66 184 P **P 23 31 02.9 +1.4**
comp=Z,12nm,0.8s,mb4.6
ULDT Uludag 40.68 150 *i*P **P 23 31 01.0 -0.6**
ELDT Eldivan 40.75 145 *i*P **P 23 31 02.2 0.0**
CTKT Corum 40.77 144 *i*P **P 23 31 02.3 0.0**
TIP Timpagrande 40.79 165 *e*P **P 23 31 02.8 +0.3**
TIP Timpagrande 40.79 165 *e*P **P 23 31 02.8 +0.3**
TI2 Plekhanov 40.89 132 *i*P **P 23 31 01.2 -2.1**
TI2 *i* 23 32 43.6
TBLG Delisi 40.89 132 P **P 23 31 04.0 +0.7**
TBLG S PP 23 32 46.6 +5.8
MTA Mtatsminda 40.93 132 P **P 23 31 04.4 +0.7**
MTA S PP 23 32 46.8 +5.5
MACK Trabzon 41.02 138 *i*P **P 23 31 04.3 -0.1**
ARTV Artvin 41.05 135 *i*P **P 23 31 06.2 +1.5**
ETOB Tobarra 41.09 187 P **P 23 31 06.2 +1.2**
comp=Z,27nm,0.8s,mb4.9,SNR=21
ETOB Tobarra 41.09 187 P **P 23 31 06.2 +1.2**
comp=Z,27nm,0.8s,mb4.9
EVIA Vianos 41.12 188 P **P 23 31 06.5 +1.3**
comp=Z,20nm,0.7s,mb4.9,SNR=18
EVIA Vianos 41.12 188 P **P 23 31 06.5 +1.3**
comp=Z,20nm,0.7s,mb4.8
EVIA Vianos 41.12 188 P **P 23 31 06.5 +1.3**
EVIA pmax pmax
comp=Z,20nm,0.7s,mb4.9
PLOU Loures 41.13 196 *e*P **P 23 31 05.8 +0.5**
comp=Z,64nm,1.1s,mb5.2
EBAD Badajoz 41.16 193 P **P 23 31 05.9 +0.4**
comp=Z,17nm,0.7s,mb4.8,SNR=19
EBAD Badajoz 41.16 193 P **P 23 31 05.9 +0.3**
comp=Z,17nm,0.7s,mb4.8
DGRG David-gareji 41.25 131 P **P 23 31 06.4 +0.1**
EVO Evora 41.42 195 *e*P **P 23 31 07.1 -0.6**
comp=Z,19nm,1.1s,mb4.3
EVO *e*R
comp=Z,188nm,18.2s
ESKT Eskisehir 41.46 149 *i*P **P 23 31 08.1 +0.1**
BRTR Keskin Array B 41.53 145 P **P 23 31 09.2 +0.8**
comp=Z,7.5nm,1.0s,mb4.3,baz=338,slow=6.7,SNR=33
BRTR PP PP 23 32 48.5 +0.8
comp=Z,1.6nm,0.8s,baz=350,slow=8.7,SNR=3.2
BRTR Keskin Array B 41.53 145 PP PP 23 32 48.5 +0.8
EBAN Banos Encina 41.63 190 P **P 23 31 10.4 +1.1**
comp=Z,11nm,0.7s,mb4.6
EBAN Banos Encina 41.63 190 P **P 23 31 10.3 +1.1**
comp=Z,11nm,0.7s,mb4.6
EBAN Banos Encina 41.63 190 P **P 23 31 10.4 +1.1**
EBAN pmax pmax
comp=Z,11nm,0.7s,mb4.6
EADA Adamuz 41.65 191 P **P 23 31 10.5 +1.0**
comp=Z,62nm,1.0s,mb5.2,SNR=25
EADA Adamuz 41.65 191 P **P 23 31 10.5 +1.1**
comp=Z,62nm,1.0s,mb5.2
CDAG Cicekdag 41.71 144 *i*P **P 23 31 09.8 -0.1**
EMUR La Murta 41.88 187 P **P 23 31 12.8 +1.4**
comp=Z,16nm,0.9s,mb4.6,SNR=7.1
EMUR La Murta 41.88 187 P **P 23 31 12.8 +1.4**
comp=Z,16nm,0.9s,mb4.6
PBEJ Beja 41.92 194 *e*P **P 23 31 12.4 +0.7**
comp=Z,73nm,1.2s,mb5.2
EHUE Huescar 41.94 188 P **P 23 31 13.7 +1.8**
comp=Z,28nm,1.2s,mb4.8,SNR=12
EHUE Huescar 41.94 188 P **P 23 31 13.7 +1.8**
comp=Z,28nm,1.2s,mb4.8
EHUE Huescar 41.94 188 P **P 23 31 13.7 +1.8**
EHUE pmax pmax
comp=Z,28nm,1.2s,mb4.8
EQES Quesada 41.97 189 P **P 23 31 13.7 +1.6**
comp=Z,77nm,1.0s,mb5.3,SNR=30
DIGO Kars 42.00 134 *i*P **P 23 31 13.1 +0.8**
EMIN Mina Concepcio 42.13 193 P **P 23 31 13.8 +0.4**
comp=Z,9.0nm,0.7s,mb4.5,SNR=10.0
EMIN Mina Concepcio 42.13 193 P **P 23 31 13.8 +0.4**
comp=Z,9.0nm,0.7s,mb4.5
MKAR Makanchi Array 42.23 91 P **P 23 31 14.7 +0.7**
comp=Z,16nm,0.6s,mb4.8,baz=334,slow=6.3,SNR=174
MKAR LR LR 23 53 22.3
comp=Z,396nm,18.6s,MS4.3,baz=349,slow=43
MKAR Makanchi Array 42.23 91 *i*P **P 23 31 14.6 +0.6**
MKAR pmax pmax
comp=Z,13nm,0.6s
KDAK Kodiak Island 42.24 342 *e*P **P 23 31 15.0 +1.0**
ELUQ Luque 42.25 190 P **P 23 31 15.8 +1.4**
comp=Z,10nm,0.6s,mb4.6,SNR=16
ELUQ Luque 42.25 190 P **P 23 31 15.8 +1.5**
comp=Z,10nm,0.6s,mb4.6
ELUQ Luque 42.25 190 P **P 23 31 15.8 +1.4**
ELUQ pmax pmax
comp=Z,11nm,0.6s,mb4.7
EGRO El Granado 42.40 194 P **P 23 31 16.5 +0.9**
comp=Z,10nm,0.8s,mb4.5,SNR=7.3
EGRO El Granado 42.40 194 P **P 23 31 16.5 +0.9**
comp=Z,10nm,0.8s,mb4.5
GNI Garni 42.44 133 P **P 23 31 17.0 +1.0**
comp=Z,2.7nm,0.8s,mb4.0,baz=304,slow=5.7,SNR=4.2
GNI PP PP 23 33 00.6 +3.4
comp=Z,3.7nm,0.6s,baz=67,slow=7.7,SNR=2.7
GNI Garni 42.44 133 *e*P **P 23 31 16.4 +0.5**
GNI Garni 42.44 133 *e*P **P 23 31 16.4 +0.4**
comp=Z,14nm,1.0s,mb4.5
GNI *e* 23 31 32.9
GNI LR LR
comp=Z,234nm,22.0s,MS4.0
GNI Garni 42.44 133 P **P 23 31 17.0 +1.1**
GNI 23 33 00.6
GNI pmax pmax
comp=Z,3.0nm,0.8s
GNI pmax pmax
comp=Z,4.0nm,0.6s
ZAK Zakamensk 42.52 69 *e*P **P 23 31 16.0 -0.4**
ZAK pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
ZAK pmax pmax
comp=Z,4.0nm,1.2s,mb4.0
ZAK pmax pmax
comp=Z,1.0nm,1.0s
KDHN Kadinhani 42.57 147 *i*P **P 23 31 16.5 -0.5**
AVNT Avonos 42.60 144 *i*P **P 23 31 18.5 +1.3**
CIT Chita 42.62 59 *e*P **P 23 31 14.7 -2.5**
CIT pmax pmax
comp=Z,33nm,2.8s,mb4.6
ELOJ Sierra Loja 42.66 190 P **P 23 31 19.2 +1.5**
comp=Z,4.2nm,0.8s,mb4.2,SNR=8.8
ELOJ Sierra Loja 42.66 190 P **P 23 31 19.2 +1.5**
comp=Z,4.2nm,0.8s,mb4.2
ELOJ Sierra Loja 42.66 190 P **P 23 31 19.2 +1.5**
ELOJ pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
EDM Edmonton 42.72 308 *e*P **P 23 31 18.0 0.0**
EDM *e* 23 31 26.5
ERON Agron 42.77 190 P **P 23 31 20.4 +1.7**
comp=Z,31nm,0.7s,mb5.2,SNR=38
ERON Agron 42.77 190 P **P 23 31 20.4 +1.8**
comp=Z,31nm,0.7s,mb5.2
EBER Berja 42.87 188 P **P 23 31 20.9 +1.5**
comp=Z,13nm,0.6s,mb4.8,SNR=7.9
EBER Berja 42.87 188 P **P 23 31 20.9 +1.5**
comp=Z,13nm,0.6s,mb4.8
ESPR Espera 42.99 192 P **P 23 31 21.9 +1.4**
comp=Z,26nm,0.8s,mb5.0,SNR=20
ESPR Espera 42.99 192 P **P 23 31 21.9 +1.4**
comp=Z,26nm,0.8s,mb5.0
EMIJ Mijas 43.26 191 P **P 23 31 23.9 +1.3**
comp=Z,61nm,0.8s,mb5.4,SNR=29
EMIJ Mijas 43.26 191 P **P 23 31 23.9 +1.3**
comp=Z,61nm,0.8s,mb5.4
MALT Malatya 43.46 140 *e*P **P 23 31 25.4 +1.2**
comp=Z,34nm,1.1s,mb5.0
MALT *e* 23 33 08.4
MALT Malatya 43.46 140 *e*P **P 23 31 25.4 +1.2**
MALT *e* 23 33 08.5
MALT pmax pmax
comp=Z,34nm,1.1s,mb5.0
KKAR Karatay Array 43.67 104 *i*P **P 23 31 27.1 +1.3**
KKAR pmax pmax
comp=Z,9.0nm,0.7s,mb4.6
TVAN Van 43.86 134 *i*P **P 23 31 26.1 -1.3**
FRNY Flat Rock 44.10 268 *e*P **P 23 31 29.1 -0.2**
FRNY Flat Rock 44.10 268 *e*P **P 23 31 29.1 -0.2**
MSNY Massena 44.18 270 *e*P **P 23 31 30.1 +0.1**
USP Ospenovka 44.22 100 P **P 23 31 31.8 +1.5**
SNR=6.0
GZT Gaziantep 44.30 141 *i*P **P 23 31 31.5 +0.4**
CHMS Chumysh 44.53 100 P **P 23 31 34.7 +1.9**
SNR=24
FRU Bishkek 44.66 100 *i*P **P 23 31 35.0 +1.1**
FRU *i* 23 31 43.0
FRU *e* 23 33 26.0
FRU pmax pmax
comp=Z,50nm,1.5s,mb5.1
FRU pmax pmax
comp=Z,90nm,1.7s,mb5.3
FRU MLR MLR
comp=Z,1μm,20.0s,MS4.8
MARD Mardin 44.73 138 *i*P **P 23 31 30.3 -4.2**
TKM2 Tokmak 2 44.75 99 P **P 23 31 36.6 +2.0**
SNR=7.6
AAK Ala-Archa 44.83 100 P **P 23 31 36.9 +1.6**
SNR=9.7
AAK Ala-Archa 44.83 100 *e*P **P 23 31 35.8 +0.5**
AAK Ala-Archa 44.83 100 *e*P **P 23 31 35.8 +0.5**
comp=Z,34nm,1.0s,mb5.1
AAK *e* 23 31 44.0
AAK LR LR
comp=Z,186nm,20.0s,MS4.0
AAK Ala-Archa 44.83 100 *e*P **P 23 31 35.8 +0.5**
AAK *e* 23 31 44.0
AAK pmax pmax
comp=Z,34nm,1.0s,mb5.1
AAK MLR MLR
comp=Z,186nm,20.0s,MS4.0
COBT Iskenderun 44.98 143 *i*P **P 23 31 36.5 -0.1**
AML Almayashu 45.18 101 P **P 23 31 40.6 +2.6**
SNR=27
KZA Kyzart 45.51 99 P **P 23 31 43.0 +2.4**
SNR=9.7
SONM Songino Array 45.51 67 P **P 23 31 41.2 +0.6**
comp=Z,5.4nm,0.7s,mb4.6,baz=332,slow=8.5,SNR=19
SONM PcP PcP 23 33 19.2 -0.7
comp=Z,3.4nm,0.9s,baz=332,slow=3.6,SNR=4.3
SONM PP PP 23 33 32.9 +5.1
comp=Z,2.6nm,0.9s,baz=326,slow=10,SNR=3.3
SONM LR LR 23 51 19.3
comp=Z,227nm,21.7s,MS4.1,baz=10.0,slow=37
ACCN Adirondack Com 45.52 268 *e*P **P 23 31 40.7 0.0**
ACCN Adirondack Com 45.52 268 *e*P **P 23 31 40.7 0.0**
WMQ Urumqi 46.09 86 P **P 23 31 47.0 +1.8**
WMQ XP sP 23 31 54.0 +4.6
WMQ PP PP 23 33 36.0 +2.4
WMQ SCP 23 37 15.0
WMQ S **S 23 38 32.0 +2.0**
WMQ SS SS 23 41 50.0 +2.7
WMQ AMB AMB
comp=Z,28nm,1.0s,mb5.2
WMQ AMB AMB
comp=Z,23nm,8.0s
WMQ LR LR
comp=N,335nm,18.0s,MS4.6
WMQ LR LR
comp=E,476nm,18.0s,MS4.6
WMQ LR LR
comp=Z,297nm,17.0s,MS4.3
PET Petropavlovsk 46.83 21 *i*P **P 23 31 53.8 +2.9**
WALA Waterton Lakes 46.86 307 *e*P **P 23 31 50.2 -1.0**
WALA Waterton Lakes 46.86 307 *e*P **P 23 31 50.2 -1.0**
comp=Z,12nm,1.0s,mb4.8
WALA *e* 23 31 58.4
BINY Binghamton 47.09 270 *e*P **P 23 31 53.0 -0.2**
comp=Z,27nm,0.8s,mb5.2
BINY Binghamton 47.09 270 *e*P **P 23 31 53.0 -0.1**
comp=Z,27nm,0.8s,mb5.2
KLR Kul'dur 47.95 44 *e*P **P 23 31 56.4 -3.5**
LAO LASA Array 48.01 300 *e*P **P 23 32 00.6 +0.3**
LAO LASA Array 48.01 300 *e*P **P 23 32 00.6 +0.3**
comp=Z,30nm,0.9s,mb5.3
LAO *e* 23 32 08.7
NEW Newport 48.10 310 P **P 23 32 01.6 +0.6**
comp=Z,2.2nm,0.9s,mb4.2,baz=311,slow=8.6,SNR=5.7
NEW LR LR 23 51 58.7
comp=Z,184nm,20.8s,MS4.0,baz=229,slow=36
NEW Newport 48.10 310 *e*P **P 23 31 59.7 -1.2**
comp=Z,7.4nm,1.0s,mb4.7
NEW *e* 23 32 09.2
NEW Newport 48.10 310 *e*P **P 23 31 59.7 -1.3**
NEW pmax pmax
comp=Z,7.0nm,1.0s
MMC1 Mount Meron ar 48.34 144 P **P 23 32 00.5 -2.6**
MMA2 Mount Meron ar 48.36 144 P **P 23 32 03.7 +0.5**
ALLY Alegheny Colle 48.38 274 *e*P **P 23 32 03.4 +0.1**
ALLY Alegheny Colle 48.38 274 *e*P **P 23 32 03.4 +0.1**
ALLY *e* 23 32 11.6
KSHT Keshet 48.43 144 P **P 23 32 04.1 +0.3**
OFRI 'Ofer 48.70 145 P **P 23 32 05.7 -0.2**
HRY Holter Researc 48.85 305 *e*P **P 23 32 06.3 -0.5**
HRY Holter Researc 48.85 305 *e*P **P 23 32 06.3 -0.5**
CHMT Chamberlain Mo 48.86 306 *e*P **P 23 32 05.8 -1.1**
CHMT Chamberlain Mo 48.86 306 *e*P **P 23 32 05.8 -1.0**
CHMT *e* 23 32 14.6
MSO Missoula 49.04 307 *e*P **P 23 32 07.8 -0.5**
comp=Z,18nm,1.2s,mb5.0
MSO Missoula 49.04 307 *e*P **P 23 32 07.8 -0.5**
comp=Z,18nm,1.2s,mb5.0
SLTI Sal'it 49.08 145 P **P 23 32 09.0 +0.2**
MKRJ Makawir 49.83 144 P **P 23 32 14.5 -0.1**
BOZ Bozeman (W) 49.86 304 *e*P **P 23 32 15.4 +0.8**
comp=Z,24nm,1.8s,mb4.9
BOZ *e* 23 32 22.6
BOZ Bozeman (W) 49.86 304 *e*P **P 23 32 15.4 +0.8**
BOZ *e* 23 32 22.6
BOZ pmax pmax
comp=Z,25nm,1.8s,mb4.9
RSSD Black Hills 50.16 297 *e*P **P 23 32 16.7 -0.1**
comp=Z,21nm,1.1s,mb5.1
RSSD *e* 23 32 24.7
RSSD Black Hills 50.16 297 *e*P **P 23 32 16.7 -0.2**
RSSD *e* 23 32 24.7
RSSD pmax pmax
comp=Z,21nm,1.1s,mb5.1
QURS Qurayyt al Mil 50.17 143 P **P 23 32 18.0 +0.8**
MCWV Mont Chateau 50.26 273 *e*P **P 23 32 17.5 -0.2**
MCWV Mont Chateau 50.26 273 *e*P **P 23 32 17.5 -0.2**
comp=Z,50nm,1.4s,mb5.3
MCWV *e* 23 32 25.7
KZIT Kziot 50.34 146 P **P 23 32 17.9 -0.6**
ZFRI Zfri 50.77 145 P **P 23 32 21.4 -0.3**
MCMT McKenzie Canyo 50.84 305 *e*P **P 23 32 22.6 +0.5**
MCMT McKenzie Canyo 50.84 305 *e*P **P 23 32 22.6 +0.5**
PRNI Paran 50.95 145 P **P 23 32 23.0 -0.1**
IMW Indian Meadow 51.46 303 *e*P **P 23 32 27.9 +1.1**
comp=Z,40nm,1.4s,mb5.2
IMW Indian Meadow 51.46 303 *e*P **P 23 32 27.9 +1.1**
comp=Z,40nm,1.4s,mb5.2
BMO Blue Mountains 51.46 309 P **P 23 32 27.4 +0.6**
comp=Z,21nm,1.3s,mb4.9
BMO Blue Mountains 51.46 309 P **P 23 32 27.4 +0.6**
comp=Z,21nm,1.3s,mb4.9
YSS Yuzh-Sakhalins 51.49 36 P **P 23 32 26.6 -0.4**
YSS Yuzh-Sakhalins 51.49 36 P **P 23 32 26.6 -0.3**
YSS Yuzh-Sakhalins 51.49 36*d* *i*P **P 23 32 26.4 -0.6**
YSS pmax pmax
comp=Z,32nm,1.4s,mb5.1
EIL Elat 51.62 146 P **P 23 32 27.8 -0.4**
LOHW Long Hollow 51.69 303 *e*P **P 23 32 28.4 -0.1**
comp=Z,22nm,1.5s,mb4.9
LOHW Long Hollow 51.69 303 *e*P **P 23 32 28.4 -0.1**
comp=Z,22nm,1.5s,mb4.9
TPAW Teton Pass 51.86 303 P **P 23 32 31.1 +1.3**
TPAW Teton Pass 51.86 303 P **P 23 32 31.1 +1.2**
REDW Red Top Meadow 51.97 303 P **P 23 32 32.6 +1.9**
comp=Z,26nm,1.4s,mb5.0
REDW Red Top Meadow 51.97 303 P **P 23 32 32.6 +1.9**
comp=Z,26nm,1.4s,mb5.0
ALWS Ilw as Safayha 51.99 145 P **P 23 32 30.5 -0.5**
RRI2 Red Ridge 52.06 303 *e*P **P 23 32 32.9 +1.5**
comp=Z,33nm,1.5s,mb5.0
JMOS Jabal al Moall 52.13 145 P **P 23 32 31.9 -0.1**
MDJ Mudanjiang 52.20 48 P **P 23 32 31.8 -0.6**
MDJ PCP PcP 23 33 43.6 -0.5
MDJ PP PP 23 34 29.9 -1.9
MDJ SCP 23 37 39.8
MDJ PCS 23 37 42.8
MDJ S **S 23 39 56.3 +0.8**
MDJ SCS ScS 23 42 22.1 +2.7
MDJ AMB AMB
comp=Z,13nm,1.3s,mb4.7
MDJ AMB AMB
comp=Z,44nm,5.0s
MDJ LR LR
comp=N,88nm,16.8s,MS4.2
MDJ LR LR
comp=E,191nm,16.8s,MS4.2
MDJ LR LR
comp=Z,132nm,20.4s,MS4.0
HAQS Haql 52.23 146 P **P 23 32 32.9 +0.1**
HLID Hailey 52.31 306 P **P 23 32 29.5 -3.7**
comp=Z,23nm,1.8s,mb4.8
HLID Hailey 52.31 306 P **P 23 32 29.5 -3.7**
comp=Z,23nm,1.8s,mb4.8
PDAR Pinedale Array 52.35 302 P **P 23 32 32.8 -0.8**
comp=Z,2.3nm,1.0s,mb4.0,baz=34,slow=5.3,SNR=9.4
PDAR LR LR 23 56 10.2
comp=Z,163nm,18.3s,MS4.1,baz=108,slow=38
CN2 Changchun 52.43 51 *e*P **P 23 32 33.6 -0.5**
CN2 AMB AMB
comp=Z,20nm,0.8s,mb5.1
GTA Gaotai 52.55 76 *e*P **P 23 32 35.0 -0.1**
GTA AP pP 23 32 43.4 +5.3
GTA XP sP 23 32 47.8 +8.5
GTA PP PP 23 34 40.1 +4.8

GTA				SS	SS	23 43 43.8	+6.6
GTA				AMB	AMB		
	comp=Z,18nm,0.9s,mb5.0						
GTA				AMB	AMB		
	comp=Z,84nm,6.5s						
GTA				LR	LR		
	comp=N,273nm,15.6s,MS4.7						
GTA				LR	LR		
	comp=E,453nm,18.7s,MS4.7						
GTA				LR	LR		
	comp=Z,545nm,16.0s,MS4.7						
ELN	**Prospectdale**	**52.78**	**273**	*e*P	**P**	**23 32 35.4**	**-1.5**
BDAS	**Al Bad'**	**52.86**	**146**	P	**P**	**23 32 37.2**	**-0.4**
MIB	**Mutribah**	**52.98**	**132**	*e*P	**P**	**23 32 38.2**	**-0.2**
MIB				AMb	AMB	23 32 39.8	
	comp=Z,103nm,0.8s,mb5.8						
RWWY	**Rawlins**	**53.04**	**299**	*e*P	**P**	**23 32 37.0**	**-1.7**
	comp=Z,48nm,1.3s,mb5.3						
RWWY				*e*		23 32 45.9	
PHWY	**Pilot Hill**	**53.13**	**298**	*e*P	**P**	**23 32 38.6**	**-0.8**
HHC	**Hu-ho-hao-te**	**53.16**	**65**	*e*P	**P**	**23 32 39.8**	**+0.2**
HHC				AP	pP	23 32 43.6	+0.9
HHC				XP	sP	23 32 46.6	+2.7
HHC				PCP	PcP	23 33 47.3	-0.4
HHC				PP	PP	23 34 41.4	+0.1
HHC				S	**S**	**23 40 06.5**	**-2.1**
HHC				SCS	ScS	23 42 27.3	+1.2
HHC				SS	SS	23 43 46.9	-0.6
HHC				AMB	AMB		
	comp=Z,55nm,0.9s,mb5.5						
HHC				AMB	AMB		
	comp=Z,702nm,5.5s						
HHC				LR	LR		
	comp=N,888nm,20.2s,MS5.2						
HHC				LR	LR		
	comp=E,2μm,15.5s,MS5.2						
HHC				LR	LR		
	comp=Z,2μm,21.4s						
TBKS	**Tabuk**	**53.22**	**144**	P	**P**	**23 32 40.2**	**0.0**
UMR	**Umm Al-Rimmam**	**53.27**	**132**	*e*P	**P**	**23 32 41.2**	**+0.6**
UMR				AMb	AMB	23 32 42.8	
	comp=Z,124nm,0.8s,mb5.9						
NAY	**Al-Naaiem**	**53.51**	**132**	*e*P	**P**	**23 32 42.3**	**0.0**
NAY				AMb	AMB	23 32 43.1	
	comp=Z,32nm,0.6s,mb5.4						
KBD	**Kabd**	**53.64**	**132**	*e*P	**P**	**23 32 43.2**	**-0.1**
HWUT	**Hardware Ranch**	**53.80**	**303**	*e*P	**P**	**23 32 44.7**	**+0.4**
	comp=Z,28nm,1.5s,mb5.0						
RDF	**Al-Radifah**	**53.87**	**132**	*e*P	**P**	**23 32 45.4**	**+0.5**
RDF				AMb	AMB	23 32 46.3	
	comp=Z,95nm,0.6s,mb5.9						
CCM	**Cathedral Cave**	**53.87**	**283**	*e*P	**P**	**23 32 41.9**	**-3.0**
	comp=Z,8.7nm,0.9s,mb4.7						
CCM				*e*		23 32 50.3	
CCM	**Cathedral Cave**	**53.87**	**283**	*e*P	**P**	**23 32 41.9**	**-2.9**
CCM				*e*		23 32 50.3	
CCM				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
TZTN	**Tazewell**	**53.96**	**276**	*e*P	**P**	**23 32 44.7**	**-0.8**
TZTN				*e*		23 32 53.0	
SNY	**Shenyang**	**54.09**	**54**	⇓P	**P**	**23 32 46.3**	**-0.1**
SNY				S	**S**	**23 40 19.8**	**-1.4**
SNY				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
SNY				LR	LR		
	comp=N,210nm,23.9s						
SNY				LR	LR		
	comp=E,280nm,15.2s						
SNY				LR	LR		
	comp=Z,180nm,18.2s						
QRN	**Al-Qurain**	**54.10**	**132**	*e*P	**P**	**23 32 46.4**	**-0.2**
QRN				AMb	AMB	23 32 47.2	
	comp=Z,81nm,0.7s,mb5.8						
SPUT	**South Promonto**	**54.22**	**304**	*e*P	**P**	**23 32 44.9**	**-2.4**
ASAJ	**Asahikawa**	**54.27**	**36**	P	**P**	**23 32 45.2**	**-2.5**
	comp=Z,4.6nm,0.8s,mb4.4,baz=287,slow=14,SNR=3.5						
ASAJ	**Asahikawa**	**54.27**	**36**	P	**P**	**23 32 45.2**	**-2.5**
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BBSR	**BB Station**	**54.60**	**256**	P	**P**	**23 32 49.8**	**-0.5**
ISCO	**Idaho Springs**	**54.62**	**297**	*e*P	**P**	**23 32 49.3**	**-1.1**
	comp=Z,22nm,1.4s,mb5.0						
ISCO				*e*		23 32 58.8	
ISCO	**Idaho Springs**	**54.62**	**297**	*e*P	**P**	**23 32 49.3**	**-1.1**
ISCO				pmax	pmax		
	comp=Z,22nm,1.4s,mb5.0						
HILS	**Ha'il**	**54.65**	**138**	P	**P**	**23 32 51.1**	**+0.4**
MOD	**Modoc**	**54.77**	**311**	P	**P**	**23 32 52.8**	**+1.3**
	comp=Z,13nm,1.2s,mb4.8						
ELK	**Elko**	**55.19**	**306**	*e*P	**P**	**23 32 55.1**	**+0.6**
	comp=Z,14nm,1.3s,mb4.8						
ELK				*e*		23 33 02.6	
ELK	**Elko**	**55.19**	**306**	*e*P	**P**	**23 32 55.2**	**+0.7**
ELK				*e*		23 33 02.6	
ELK				pmax	pmax		
	comp=Z,14nm,1.3s						
DUG	**Dugway**	**55.37**	**304**	P	**P**	**23 32 57.5**	**+1.7**
	comp=Z,7.7nm,1.4s,mb4.5						
DUG	**Dugway**	**55.37**	**304**	P	**P**	**23 32 57.5**	**+1.7**
DUG				pmax	pmax		
	comp=Z,8.0nm,1.4s,mb4.6						
SMCO	**Snowmass**	**55.45**	**298**	*e*P	**P**	**23 32 56.7**	**+0.3**
SMCO				*e*		23 33 04.6	
NLU	**North Lily Min**	**55.49**	**303**	P	**P**	**23 32 56.5**	**-0.2**
MYNC	**Murphy**	**55.49**	**276**	*e*P	**P**	**23 32 55.8**	**-1.0**
	comp=Z,38nm,0.9s,mb5.4						
MYNC	**Murphy**	**55.49**	**276**	*e*P	**P**	**23 32 55.8**	**-1.0**
MYNC				pmax	pmax		
	comp=Z,38nm,0.9s,mb5.4						
GNAR	**Gosnell**	**55.69**	**282**	*e*P	**P**	**23 32 57.5**	**-0.7**
GNAR				*e*		23 33 04.8	
BMN	**Battle Mountai**	**55.79**	**308**	P	**P**	**23 32 58.9**	**+0.1**
	comp=Z,5.7nm,0.8s,mb4.7						
BMN				*e*		23 33 06.8	
BMN	**Battle Mountai**	**55.79**	**308**	P	**P**	**23 32 58.9**	**+0.1**
BMN				*e*		23 33 06.9	
BMN				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
KBRS	**Khaybar**	**55.92**	**141**	P	**P**	**23 33 00.2**	**+0.2**
SRU	**San Rafael**	**56.08**	**302**	*e*P	**P**	**23 33 01.4**	**+0.5**
UMJS	**Umm Lajj**	**56.26**	**144**	P	**P**	**23 33 02.6**	**+0.3**
PLAL	**Pickwick Lake**	**56.30**	**280**	*e*P	**P**	**23 33 00.2**	**-2.4**
	comp=Z,41nm,1.7s,mb5.2						
SDCO	**Great Sand Dun**	**56.61**	**297**	*e*P	**P**	**23 33 04.1**	**-0.6**
	comp=Z,45nm,1.5s,mb5.3						
SDCO				*e*		23 33 12.6	
MSU	**Marysvale**	**56.92**	**303**	*e*P	**P**	**23 33 06.5**	**-0.5**
AFFS	**'Afif**	**58.20**	**138**	P	**P**	**23 33 16.6**	**+0.4**
MZLS	**Mizel**	**58.38**	**135**	P	**P**	**23 33 17.5**	**0.0**
WMOK	**Wichita Mounta**	**58.42**	**290**	*e*P	**P**	**23 33 16.6**	**-1.0**
	comp=Z,13nm,1.3s,mb4.8						
WMOK				*e*		23 33 24.6	
WMOK	**Wichita Mounta**	**58.42**	**290**	*e*P	**P**	**23 33 16.6**	**-1.0**
WMOK				*e*		23 33 24.6	
WMOK				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.8						
CMB	**Columbia Colle**	**58.59**	**310**	PFAKE		23 33 30.0	+11
CMB				LR	LR		
	comp=Z,289nm,22.0s,MS4.3						
TIA	**Tai'an**	**58.60**	**61**	*e*P	**P**	**23 33 18.4**	**-0.4**
OMM	**Old Mammoth Mi**	**58.80**	**309**	*e*P	**P**	**23 33 21.1**	**+0.9**
ANMO	**Albuquerque**	**59.50**	**297**	LR	LR	23 59 20.1	
	comp=Z,366nm,19.1s,MS4.5,slow=36						
ANMO	**Albuquerque**	**59.50**	**297**	*e*P	**P**	**23 33 24.7**	**-0.4**
	comp=Z,26nm,1.5s,mb5.0						
ANMO				*e*		23 33 32.4	
ANMO	**Albuquerque**	**59.50**	**297**	*e*P	**P**	**23 33 24.7**	**-0.4**
ANMO				*e*		23 33 32.4	
ANMO				pmax	pmax		
	comp=Z,26nm,1.5s						
DAC	**Darwin (Calif)**	**59.92**	**308**	*e*P	**P**	**23 33 27.1**	**-0.8**
	comp=Z,20nm,1.4s,mb5.0						
DAC				*e*		23 33 36.2	
DAC	**Darwin (Calif)**	**59.92**	**308**	*e*P	**P**	**23 33 27.2**	**-0.7**
DAC				*e*		23 33 36.2	
DAC				pmax	pmax		
	comp=Z,20nm,1.4s,mb5.0						
NEN	**Nelson**	**60.13**	**305**	*e*P	**P**	**23 33 30.3**	**+0.9**
LAZ	**Ladron**	**60.15**	**297**	*e*P	**P**	**23 33 28.9**	**-0.7**
LPM	**Los Pinos Moun**	**60.15**	**297**	*e*P	**P**	**23 33 29.2**	**-0.4**
BNM	**Barren Site**	**60.31**	**297**	*e*P	**P**	**23 33 30.1**	**-0.6**
LSA	**Lhasa**	**60.44**	**87**	P	**P**	**23 33 32.8**	**+1.3**
GKN	**Gorkha**	**60.90**	**94**	*e*P	**P**	**23 33 34.5**	**-0.2**
	comp=Z,107nm,0.8s,mb6.0						
KOLN	**Koldanda**	**60.94**	**95**	*e*P	**P**	**23 33 34.4**	**-0.6**
	comp=Z,52nm,1.0s,mb5.6						
KKN	**Kakani**	**61.23**	**93**	*e*P	**P**	**23 33 36.9**	**0.0**
	comp=Z,200nm,0.7s						
KKN	**Kakani**	**61.23**	**93**	*e*P	**P**	**23 33 36.9**	**0.0**
KKN				pmax	pmax		
	comp=Z,100nm,0.7s,mb6.0						
MAJO	**Matsushiro**	**61.25**	**41**	*e*P	**P**	**23 33 36.1**	**-0.9**
	comp=Z,14nm,1.2s,mb5.0						
MAJO	**Matsushiro**	**61.25**	**41**	*e*P	**P**	**23 33 36.1**	**-0.9**
MAJO				pmax	pmax		
	comp=Z,14nm,1.2s,mb5.0						
MAT	**Matsushiro**	**61.25**	**41**	P	**P**	**23 33 36.0**	**-1.0**
MAT	**Matsushiro**	**61.25**	**41**	*e*P	**P**	**23 33 36.0**	**-1.0**
DMN	**Daman**	**61.37**	**94**	*e*P	**P**	**23 33 37.9**	**0.0**
	comp=Z,95nm,0.9s,mb5.9						
PKI	**Pulchoki**	**61.46**	**93**	*e*P	**P**	**23 33 38.6**	**+0.1**
	comp=Z,70nm,1.0s,mb5.7						
PKI	**Pulchoki**	**61.46**	**93**	*e*P	**P**	**23 33 38.6**	**+0.1**
PKI				pmax	pmax		
	comp=Z,35nm,1.0s,mb5.4						
LTHS	**Al Lith**	**61.50**	**141**	P	**P**	**23 33 39.3**	**+0.4**
CLNB	**Carlsbad**	**61.70**	**294**	*e*P	**P**	**23 33 40.0**	**-1.2**
CLNB				*e*		23 33 48.6	
GDL2	**Guadalupe Moun**	**61.84**	**294**	*e*P	**P**	**23 33 39.9**	**-1.2**
GDL2				*e*		23 33 49.0	
GDL2				*e*		23 33 53.4	
KAMS	**Al Khamasin**	**61.97**	**137**	P	**P**	**23 33 41.9**	**-0.1**
BLJS	**Baljurashi**	**62.03**	**140**	P	**P**	**23 33 43.0**	**+0.6**
MNTX	**Cornudas Mount**	**62.51**	**295**	*e*P	**P**	**23 33 44.2**	**-1.3**
	comp=Z,8.4nm,1.5s,mb4.7						
TATS	**Tathlith**	**62.59**	**138**	P	**P**	**23 33 46.6**	**+0.4**
TUC	**Tucson**	**62.78**	**300**	*e*P	**P**	**23 33 46.9**	**-0.4**
	comp=Z,30nm,1.5s,mb5.2						
TUC	**Tucson**	**62.78**	**300**	*e*P	**P**	**23 33 46.9**	**-0.4**
TUC				pmax	pmax		
	comp=Z,30nm,1.5s,mb5.2						
NJ2	**Nanjing**	**62.95**	**60**	*e*P	**P**	**23 33 53.0**	**+4.6**
NJ2				PCP	PcP	23 34 28.5	+2.2
NJ2				S	**S**	**23 42 20.0**	**+3.3**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,310nm,3.9s						
NJ2				LR	LR		
	comp=N,1μm,24.5s,MS5.0						
NJ2				LR	LR		
	comp=E,1μm,26.4s,MS5.0						
NJ2				LR	LR		
	comp=Z,180nm,16.7s						
JNU	**Nakatsue**	**63.68**	**49**	P	**P**	**23 33 52.5**	**-0.6**
	comp=Z,24nm,1.0s,mb5.2,baz=67,slow=9.6,SNR=9.1						
WHN	**Wuhan**	**63.69**	**65**	*e*P	**P**	**23 33 59.1**	**+5.9**
SSE	**Sheshan**	**64.25**	**58**	*e*P	**P**	**23 33 58.8**	**+2.0**
SSE				AP	pP	23 34 07.3	+7.3
SSE				XP	sP	23 34 11.4	+10
SSE				PCP	PcP	23 34 33.8	+2.3
SSE				PP	PP	23 36 19.8	-0.2
SSE				S	**S**	**23 42 32.6**	**-0.2**
SSE				XS		23 42 48.9	
SSE				SCS	ScS	23 43 50.9	+3.6
SSE				SS	SS	23 46 50.0	+6.1
SSE				AMB	AMB		
	comp=Z,22nm,0.8s,mb5.2						
SSE				AMB	AMB		
	comp=Z,103nm,4.5s						
SSE				LR	LR		
	comp=N,34nm,18.8s,MS4.5						
SSE				LR	LR		
	comp=E,276nm,18.8s,MS4.5						
SSE				LR	LR		
	comp=Z,109nm,24.3s						
LTX	**Lajitas**	**64.53**	**293**	*e*P	**P**	**23 33 57.8**	**-0.9**
	comp=Z,16nm,1.3s,mb4.9						
LTX				*e*		23 34 06.6	
LTX	**Lajitas**	**64.53**	**293**	*e*P	**P**	**23 33 57.8**	**-0.9**
LTX				*e*		23 34 06.6	
LTX				pmax	pmax		
	comp=Z,16nm,1.3s,mb4.9						
GYA	**Guiyang**	**66.38**	**73**	⇓*i*P	**P**	**23 34 10.3**	**-0.3**
GYA				AP	pP	23 34 14.8	+1.1
GYA				XP	sP	23 34 17.6	+2.7
GYA				PP	PP	23 36 38.8	-0.1
GYA				SCP		23 38 41.8	
GYA				S	S	23 42 57.9	-1.1
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.1						
GYA				AMB	AMB		
	comp=Z,180nm,4.2s						
GYA				LR	LR		
	comp=N,290nm,20.1s,MS4.7						
GYA				LR	LR		
	comp=E,380nm,20.8s,MS4.7						
GYA				LR	LR		
	comp=Z,370nm,21.0s,MS4.6						
KMI	**Kunming**	**66.99**	**77**	P	**P**	**23 34 13.6**	**-1.0**
KMI				XP	sP	23 34 21.8	+3.0
KMI				PP	PP	23 36 46.3	+2.5
KMI				S	S	23 43 07.3	+0.9
KMI				SS	SS	23 47 30.4	+3.5
KMI				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.9						
KMI				AMB	AMB		
	comp=Z,74nm,6.1s						
KMI				LR	LR		
	comp=N,303nm,20.4s,MS4.7						
KMI				LR	LR		
	comp=E,315nm,18.8s,MS4.7						
KMI				LR	LR		
	comp=Z,316nm,21.2s,MS4.5						
SJG	**San Juan**	**68.78**	**254**	LR	LR	00 02 16.4	
	comp=Z,129nm,21.2s,MS4.1,baz=54,slow=34						
JOW	**Kunigami**	**69.50**	**52**	P	**P**	**23 34 29.6**	**-0.6**
	comp=Z,19nm,0.7s,mb5.2,baz=358,slow=8.4,SNR=13						
HYB	**Hyderabad**	**70.14**	**102**	*i* P	**P**	**23 34 33.0**	**-1.1**
HYB	**Hyderabad**	**70.14**	**102**	*e*P	**P**	**23 34 33.0**	**-1.1**
DBIC	**Dimbokro**	**73.00**	**190**	P	**P**	**23 34 49.9**	**-1.4**
	comp=Z,5.6nm,0.9s,mb4.5,baz=355,slow=7.1,SNR=7.6						
DBIC	**Dimbokro**	**73.00**	**190**	*e*P	**P**	**23 34 50.3**	**-1.0**
	comp=Z,31nm,1.2s,mb5.1						
DBIC	**Dimbokro**	**73.00**	**190**	*e*P	**P**	**23 34 50.3**	**-1.0**
DBIC				pmax	pmax		
	comp=Z,31nm,1.2s						
LIC	**Lamto**	**73.44**	**190**	⇑*i*P	**P**	**23 34 53.3**	**-0.6**
	comp=Z,53nm,1.1s,mb5.4						
SDV	**Santo Domingo**	**78.59**	**257**	LR	LR	00 07 52.5	
	comp=Z,219nm,22.0s,MS4.4,baz=192,slow=34						
SDV	**Santo Domingo**	**78.59**	**257**	*e*P	**P**	**23 35 22.8**	**-0.2**
	comp=Z,9.9nm,0.8s,mb4.8						
JTS	**JuntasAbangare**	**79.81**	**271**	*i* P	**P**	**23 35 32.3**	**+2.7**
MBAR	**Mbarara**	**81.19**	**153**	*e*P	**P**	**23 35 36.7**	**-0.2**
	comp=Z,33nm,1.6s,mb5.0						
MBAR	**Mbarara**	**81.19**	**153**	*d i*P	**P**	**23 35 36.8**	**-0.1**
MBAR				*e*		23 35 37.7	
KMBO	**Kilima Mbogo**	**82.30**	**147**	P	**P**	**23 35 44.8**	**+2.1**
	comp=Z,4.7nm,0.9s,mb4.4,baz=10,slow=6.8,SNR=15						
KMBO				LR	LR	00 14 33.4	
	comp=Z,72nm,20.1s,MS4.0,baz=338,slow=37						
ROSC	**El Rosal**	**83.19**	**260**	P	**P**	**23 35 49.1**	**+1.9**
	comp=Z,2.6nm,0.4s,mb4.6,baz=80,slow=19,SNR=4.4						
ROSC				LR	LR	00 12 30.4	
	comp=Z,81nm,19.3s,MS4.1,baz=337,slow=36						
BDFB	**Brasília**	**98.97**	**231**	LR	LR	00 13 54.2	
	comp=Z,68nm,21.8s,MS4.1,baz=296,slow=31						
PLCA	**Paso Flores**	**127.07**	**247**	PKP	PKPdf	23 42 24.8	-1.5
	comp=Z,3.0nm,0.8s,baz=153,slow=1.1,SNR=7.9						
PLCA	**Paso Flores**	**127.07**	**247**	PKP	PKPdf	23 42 24.8	-1.5
SYO	**Syowa Base**	**149.71**	**156**	⇑PKPdf	PKPdf	23 43 07.8	+1.9
SYO	**Syowa Base**	**149.71**	**156**	⇓PKiKP		23 43 13.0	
SYO	**Syowa Base**	**149.71**	**156**	⇑pPKiKP		23 43 17.5	
VNA1	**Neumayer--Stat**	**150.18**	**188**	P	PKPdf	23 43 12.1	+5.5
VNA1	**Neumayer--Stat**	**150.18**	**188**		PKPdf	23 43 20.0	+13
NVL	**N'lazarevskaya**	**150.19**	**175**	⇑*i*PKIKP	PKPdf	23 43 08.7	+2.1
NVL				*i* *PP		23 43 17.1	
NVL				pmax	pmax		
	comp=Z,2.0nm,1.2s						
MAIT	**Maitri**	**150.20**	**175**	*e*PKP	PKPdf	23 43 10.6	+3.9
VNA2	**Neumayer--Watz**	**150.43**	**188**	P	PKPdf	23 43 03.7	-3.3
VNA2	**Neumayer--Watz**	**150.43**	**188**		PKPdf	23 43 12.3	+5.3
VNA2	**Neumayer--Watz**	**150.43**	**188**		PKPdf	23 43 13.8	+6.8
VNA2	**Neumayer--Watz**	**150.43**	**188**		PKPdf	23 43 19.7	+13
VNA2	**Neumayer--Watz**	**150.43**	**188**		PKPdf	23 43 22.7	+16
MAW	**Mawson**	**150.65**	**138**	⇓*i*P	PKPdf	23 43 11.8	+4.4
	comp=Z,14nm,0.8s						
MAW				*e*		23 43 20.2	
MAW	**Mawson**	**150.65**	**138**	PKPbc	PKPdf	23 43 11.9	+4.5
	comp=Z,15nm,0.7s,baz=324,slow=4.0,SNR=37						
MAW				PKPab	PKPab	23 43 20.5	+1.5
	comp=Z,19nm,0.7s,baz=308,slow=6.6,SNR=19						
VNA3	**Neumayer Olymp**	**150.81**	**189**	P	PKPdf	23 43 03.7	-3.9
VNA3	**Neumayer Olymp**	**150.81**	**189**		PKPdf	23 43 13.0	+5.4
VNA3	**Neumayer Olymp**	**150.81**	**189**		PKPdf	23 43 17.6	+10
VNA3	**Neumayer Olymp**	**150.81**	**189**		PKPdf	23 43 21.3	+14
SNAA	**Sanae**	**151.09**	**185**	P	PKPdf	23 43 02.4	-5.6
SNAA	**Sanae**	**151.09**	**185**		PKPdf	23 43 12.7	+4.7
SNAA	**Sanae**	**151.09**	**185**	PKPbc	PKPdf	23 43 12.5	+4.5
	comp=Z,7.6nm,0.8s,baz=22,slow=0.5,SNR=113						
SNAA				PKPab	PKPab	23 43 20.6	-0.2
	comp=Z,3.3nm,0.8s,baz=1.2,slow=3.2,SNR=8.4						

*ROM **13** 23:27:50.1±0.5, 41.59N×17.61E, h8km, Md3.0/7, Ml2.2/3, Error ellipse: s-maj=4.9km s-min=4.2km az=27.0*
*NEIC **13** 23:27:50.1, 41.59N×17.61E, h8km, MD3.0(ROM), After ROM.*

CSEM 13 23:27:49.1±0.1, 41.67N×17.60E, h12km, ML3.2/3, Error ellipse: s-maj=4.3km s-min=1.2km az=111.0, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOCI	**Noci**	**0.97**	**205**	Pg	Pg	23 28 08.3	-0.3
NOCI				Sg	Sg	23 28 22.2	+0.6
	39nm,0.3s						
AMUR	**Altamura**	**1.07**	**225**	Pg	Pg	23 28 09.9	-0.7
AMUR				Sg	Sg	23 28 25.8	+0.9
	39nm,0.5s						
STON	**Ston**	**1.20**	**3**	*i* Pg	Pg	23 28 13.4	+0.1
STON				*i* Sg	Sg	23 28 29.8	+0.5
STON	**Ston**	**1.20**	**3**	*i* Pg	Pg	23 28 13.3	+0.1
LTRZ	**Laterza**	**1.22**	**209**	Pg	Pg	23 28 12.9	-0.6
LTRZ				Sg	Sg	23 28 30.4	+0.6
	101nm,0.5s						
LCI	**Lecce**	**1.39**	**164**	Pg	Pg	23 28 14.9	-2.0
LCI				Sg	Sg	23 28 36.4	+0.9
QSH	**Qafa e Shtames**	**1.73**	**94**	*e*Pn	Pn	23 28 25.0	+5.7
MRLC	**Muro Lucano**	**1.84**	**241**	Pg	Pg	23 28 24.4	-1.4
	14nm,0.5s						
SLCN	**Sala Consilina**	**1.96**	**230**	Pg	Pg	23 28 25.5	-2.9
	11nm,0.3s						
SGO	**Sicignano**	**2.06**	**238**	Pg	Pg	23 28 26.0	-4.2
	7.0nm,0.4s						
BOJS	**Bojanci**	**4.20**	**337**	*i* Pn	Pn	23 28 56.0	+1.6
BOJS				*e*Sn	Sn	23 29 43.7	-0.2
VISS	**Visnje**	**4.59**	**335**	*e*Pn	Pn	23 29 00.8	+0.7
VISS				*i* Sn	Sn	23 29 53.8	-0.2
PERS	**Pernice**	**5.28**	**341**	*i* Pn	Pn	23 29 10.2	+0.5

*IDC **13** 23:29:50.8±5.0, 5.78S×147.81E, h135km±59km, mb3.5/3, mb1 3.6/4, mb1mx3.5/11, mbtmp3.9/4, MS4.0/1, Ms1 4.0/1, ms1mx2.9/14, Error ellipse: s-maj=70.0km s-min=28.1km az=139.0*
*NEIC **13** 23:29:50.9±3.3, 5.60S×147.62E, h129km±41km, Error ellipse: s-maj=67.2km s-min=16.4km az=132.0*

ISC 13 23:29:51.8±3.5, 5.9S±0.3×147.8E±0.4, h158km±44km, n11, σ0=56/11, mb3.9/4, 1D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.54**	**190**	P	**P**	**23 30 48.1**	**+0.9**
	10.0nm,0.3s,baz=23,slow=5.8,SNR=42						
PMG				S	**S**	**23 31 28.8**	**-0.9**
	45nm,0.3s,baz=189,slow=21,SNR=14						
KAKA	**Kakadu**	**16.59**	**245**	*e*P	**P**	**23 33 44.2**	**+7.4**
	17nm,0.5s						
WRAB	**Tennant Creek**	**19.12**	**222**	*e*P	**P**	**23 34 05.2**	**+0.2**
	60nm,0.6s						
WB2	**Warramunga Arr**	**19.13**	**222**	⇓*i*P	**P**	**23 34 05.2**	**+0.1**
WRA	**Warramunga Arr**	**19.13**	**222**	P	**P**	**23 34 05.3**	**+0.2**
	6.6nm,0.3s,baz=46,slow=11,SNR=393						
FITZ	**Fitzroy Crossi**	**24.80**	**239**	*e*P	**P**	**23 35 01.0**	**+0.2**
	30nm,0.8s,mb4.9						
FITZ	**Fitzroy Crossi**	**24.80**	**239**	*e*P	**P**	**23 35 01.4**	**+0.6**
	27nm,0.5s,mb5.0,baz=49,slow=5.1,SNR=58						
RPZ	**Rata Peaks**	**42.86**	**155**	LR	LR	23 53 00.1	
	comp=Z,170nm,18.8s,baz=321,slow=32						
MKAR	**Makanchi Array**	**77.93**	**320**	P	**P**	**23 41 33.0**	**-0.8**
	0.2nm,0.3s,mb3.2,baz=101,slow=7.2,SNR=7.0						
ILAR	**Eielson Array**	**85.08**	**23**	P	**P**	**23 42 10.9**	**+0.3**
	1.0nm,0.6s,mb3.7,baz=251,slow=5.1,SNR=12						
BVAR	**Borovoye Array**	**87.16**	**324**	P	**P**	**23 42 20.6**	**-0.4**
	0.5nm,0.5s,mb3.6,baz=101,slow=7.7,SNR=3.5						

*ATH **13** 23:34:24.3, 39.77N×23.49E, h29km, MD3.3/4*
*NEIC **13** 23:34:24.3, 39.77N×23.49E, h29km, MD3.3(ATH), After ATH.*
*THE **13** 23:34:25.6, 39.75N×23.49E, h7km, ML2.6*
*CSEM **13** 23:34:25.5±0.1, 39.78N×23.46E, h12km, ML2.6, Error ellipse: s-maj=3.0km s-min=1.8km az=107.0*

ISC 13 23:34:25.3±0.5, 39.74N±0.04×23.51E±0.06, h18km±7km, n20, σ1=15/28, 1C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAIG	**Paliouri**	**0.23**	**34**	*e*Pg	**Pb**	**23 34 30.0**	**-0.7**
PAIG				*e*Sg	**Sb**	**23 34 34.1**	**-0.2**
XOR	**Xorichti**	**0.45**	**214**	*e*Pg	**Pb**	**23 34 34.4**	**+0.1**
NEO	**Neokhori**	**0.48**	**208**	*e*PN	**Pn**	**23 34 35.1**	**-2.0**
AOS	**Alonnisos**	**0.63**	**153**	*e*Pg	**Pb**	**23 34 38.5**	**+1.1

HSAF	As Saff	2.69 321	⇓P	Pn	23 38 54.8	+0.2
TBKS	Tabuk	2.78 75	P	Pn	23 38 56.2	+0.4
TBKS			S	Sn	23 39 29.5	-1.0
EMRS	Mersa Alam	2.79 154	P	Pn	23 38 56.4	+0.5
AMAG	Maghara	3.10 355	P	Pn	23 38 59.9	-0.5
GTR	Jabal at Tayr	3.32 233	P	Pn	23 39 03.0	-0.6
AKRG	Al Kharijah	3.37 234	P	Pn	23 39 03.8	-0.4
AWBH		4.14 282	⇑P	Pn	23 39 14.1	-1.2
HDK1	Dakhla	4.18 243	⇓P	Pn	23 39 15.0	-0.7

*CASC **13** 23:55:38.7±2.7, 11.22N×87.68W, h20km±44km, MD3.9, ML3.8, mb4.2(NEIC)*
*IDC **13** 23:55:47.7±3.7, 11.65N×87.09W, h48km±33km, mb3.8/6, mb1 3.9/8, mb1mx3.6/20, mbtmp4.0/8, ML3.8/2, Error ellipse: s-maj=53.0km s-min=18.0km az=58.0*
*NEIC **13** 23:55:47.0±2.0, 11.63N×87.13W, h44km±19km, mb4.2/2, Error ellipse: s-maj=26.9km s-min=10.6km az=52.0*
ISC 13 23:55:47.0±1.8, 11.6N±0.1×87.1W±0.2, h64km±13km, n34, σ0§48/32, mb4.1/8, 11C-6D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	Copaltepe	0.83	40	⇑eP	P	23 56 03.7	+0.5
LEON	Leon	0.90	16	⇑iP	P	23 56 04.2	+0.1
CRUN	El Crucero	0.93	62	⇓eP	P	23 56 03.8	-0.7
MIRN	Miramar	0.98	25	⇓eP	P	23 56 05.4	+0.2
XAVN	Gruta Xavier	0.99	53	eP	P	23 56 05.9	+0.5
TICN	Ticuantepe	1.01	61	⇑eP	P	23 56 06.0	+0.3
APYN	Apoyeque	1.03	48	eP	P	23 56 05.4	-0.5
MOMJ	Momotombo	1.04	34	⇑eP	P	23 56 06.2	+0.2
CNGN	Cerro Negro	1.04	24	⇑eP	P	23 56 06.2	+0.1
MGAN	Managua	1.06	56	⇑eP	P	23 56 06.4	+0.2
MGAN				eS	S	23 56 28.5	+8.0
MGAN				i		23 56 29.3	
	comp=E,1μm,0.4s						
TEL3	Telica 3	1.06	16	⇑eP	P	23 56 06.3	0.0
TELN	Telica	1.09	16	⇑eP	P	23 56 06.7	-0.1
APON	Apoyo	1.11	71	⇑eP	P	23 56 07.1	+0.2
WILN	Americas 2	1.11	57	⇑eP	P	23 56 07.2	+0.3
WILN				eS	S	23 56 30.0	+8.2
CRIN	San Cristobal	1.15	4	⇑eP	P	23 56 07.4	0.0
SSNN	San Juan del S	1.29	101	⇓eP	P	23 56 08.7	-0.8
PYTN	Playitas	1.45	47	⇓eP	P	23 56 12.2	+0.6
CONN	Concepcion	1.48	89	⇓eP	P	23 56 11.4	-0.7
MADN	Villa Maderas	1.58	95	⇓eP	P	23 56 12.7	-0.8
CNCH	Conchagua	1.85	339	eP	Px	23 56 27.9	
CNCH				eS	Sx	23 56 52.4	
JTS	JuntasAbangare	2.48	120	P	P	23 56 25.4	-0.7
	comp=E,9.5nm,0.3s,baz=322,slow=12,SNR=25						
JTS				S	S	23 56 56.0	+0.7
	comp=E,15nm,0.3s,baz=271,slow=17,SNR=6.4						
SNVI	San Vicente	2.64	321	eP	Px	23 56 39.0	
SNVI				eS	Sx	23 57 09.3	
LCBS	La Ceiba	2.76	320	eP	Px	23 56 39.2	
LCBS				eS	Sx	23 57 11.2	
LFRS	El Faro	2.79	318	eP	Px	23 56 39.9	
LFRS				eS	Sx	23 57 11.6	
SDV	Santo Domingo	16.46	98	P	P	23 59 35.4	+0.1
	comp=E,0.7nm,0.3s,baz=225,slow=8.6,SNR=2.6						
SADO	Sadowa	33.81	10	P	P	00 02 24.4	-0.6
	comp=E,3.1nm,0.6s,mb4.4,baz=218,slow=7.4,SNR=6.2						
BW06	Boulder Array	36.71	332	eP	P	00 02 49.6	0.0
	comp=E,1.0nm,0.5s,mb3.9						
PDAR	Pinedale Array	36.71	332	P	P	00 02 50.0	+0.3
	comp=E,0.9nm,0.5s,mb3.9,baz=129,slow=10,SNR=12						
SIV	San Ignacio	37.60	136	P	P	00 02 58.3	+0.9
	comp=E,3.2nm,0.6s,mb4.2,baz=305,slow=8.5,SNR=20						
TPAW	Teton Pass	37.91	331	eP	P	00 02 59.6	-0.2
	comp=E,3.9nm,0.6s,mb4.3						
SCHQ	Schefferville	46.05	16	P	P	00 04 05.3	-0.7
	comp=E,2.5nm,0.9s,mb4.2,baz=225,slow=7.1,SNR=4.0						
BDFB	Brasilia	47.22	124	P	P	00 04 16.2	+0.5
	comp=E,1.9nm,0.5s,mb4.3,baz=298,slow=10.0,SNR=5.1						
ILAR	Eielson Array	66.96	336	P	P	00 06 34.6	-0.1
	comp=E,0.4nm,0.6s,mb3.6,baz=141,slow=5.8,SNR=4.6						
WRA	Warramunga Arr	139.30	253	PKP	PKPdf	00 15 15.1	+7.3
	comp=E,0.7nm,0.7s,baz=93,slow=2.1,SNR=5.0						

*ATH **13** 23:56:01.4, 37.79N×26.69E, h10km±2km, MD3.1/3*
*ISK **13** 23:56:01.3, 37.84N×26.74E, h32km, MD2.9*
*CSEM **13** 23:56:01.3±0.4, 37.76N×26.85E, h25km, MD2.9, Error ellipse: s-maj=11.4km s-min=8.4km az=85.0*
ISC 13 23:56:01.1±0.9, 37.79N±0.03×26.71E±0.05, h3km±7km, n11, σ1§06/18, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	Samos	0.13	130	ePG	Pg	23 56 04.6	+0.8
SMG				eSG	Sg	23 56 07.0	+1.4
IZM	Izmir	0.74	36	i PG	Pg	23 56 15.4	-0.5
IZM				i SG	Sg	23 56 25.0	-0.9
BODT	Bodrum	0.87	147	ePG	Pg	23 56 18.0	-0.5
BODT				eSG	Sg	23 56 30.0	-0.1
BDRM	Kayabasi	0.93	141	i P	Pb	23 56 20.0	+0.5
BDRM				i S	Sb	23 56 32.4	+0.3
AYDN	Tasoluk	0.94	98	i P	Pb	23 56 19.8	+0.2
AYDN				i S	Sb	23 56 31.7	-0.5
MLSB	Milas	0.98	120	ePG	Pg	23 56 19.5	-1.2
APE	Apeiranthos	1.18	233	ePN	Pn	23 56 22.4	-2.0
APE	Apeiranthos	1.18	233	ePb	Pb	23 56 23.6	-0.2
AKS	Akhisar	1.39	38	ePN	Pn	23 56 23.8	-3.6
PRK	Paraskevi	1.49	347	ePB	Pb	23 56 29.5	+0.5
PRK				eSB	Sb	23 56 50.0	+1.8
MANT	Manisa	1.62	64	i P	Pn	23 56 32.6	+2.0
MANT				i S	Sb	23 56 50.9	-1.0

ISC 14 00:21:35.6±0.8, 37.76N±0.04×29.41E±0.05, h8km±12km, n7, σ0§94/13, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNZL	Cakiroluk	0.30	257	i P	Pg	00 21 41.2	-0.6
DNZL				i S	Sg	00 21 46.5	+0.6
DENT	Denizli	0.30	269	PG	Pg	00 21 39.9	-1.9
DENT				SG	Sg	00 21 45.4	-0.5
GOLH	Golhisar	0.53	167	i P	Pg	00 21 45.2	-1.2
GOLH				i S	Sg	00 21 54.6	+1.1
KHL	Karahalli	0.57	9	ePG	Pg	00 21 47.0	-0.2
TKTP	Tekketepe	0.77	68	i P	Pg	00 21 51.5	+0.4
TKTP				i S	Sg	00 22 06.5	+5.1
MANT	Manisa	0.99	318	i P	Pb	00 21 54.2	-0.4
MANT				i S	Sg	00 22 10.0	+1.2
AYDN	Tasoluk	1.22	266	i P	Pb	00 21 58.3	-0.2
AYDN				i S	Sb	00 22 14.6	+0.4

*ATH **14** 00:46:38.2, 40.01N×24.24E, h29km, MD3.9/22, ML3.8*
*SOF **14** 00:46:38.5, 40.21N×24.46E, h2km, MD3.3*
*NEIC **14** 00:46:38.3, 40.03N×24.25E, h28km, ML3.8(ATH), After ATH.*
*CSEM **14** 00:46:38.6±0.1, 40.02N×24.26E, h15km, ML3.6, Error ellipse: s-maj=1.3km s-min=1.2km az=44.0*
*THE **14** 00:46:39.3, 40.03N×24.19E, h1km, ML3.6*
ISC 14 00:46:38.8±0.4, 40.00N±0.02×24.24E±0.02, h21km±4km, n109, σ1§11/139, 8C-9D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	Ouranopolis	0.39	330	ePg	Pb	00 46 46.7	-0.3
PAIG	Paliouri	0.44	261	ePg	Pb	00 46 47.4	-0.4
PAIG				eSg	Sb	00 46 53.5	-0.4
LOS	Limnos	0.65	96	ePg	Pb	00 46 52.3	+1.0
LOS				eSg	Sb	00 47 01.9	+1.9
PLG	Polygyros	0.71	302	⇓iPN	Pn	00 46 52.2	-1.5
PLG				eSN	Sn	00 47 01.5	-2.5
LIA	Limnos Island	0.73	98	ePN	Pn	00 46 53.1	-0.8
LIA				eSN	Sn	00 47 03.5	-1.0
AOS	Alonnisos	0.87	199	ePg	Pb	00 46 55.9	+0.7
AOS				eSg	Sb	00 47 08.7	+2.3
AOS	Alonnisos	0.87	199	ePg	Pb	00 46 55.8	+0.6
AOS				eSg	Sb	00 47 08.7	+2.3
XOR	Xorichti	1.03	232	ePg	Pb	00 46 58.8	+1.1
XOR				eSg	Sb	00 47 12.8	+2.0
NEO	Neokhori	1.05	229	⇑iPN	Pn	00 46 58.2	-0.2
NEO				eSN	Sn	00 47 14.0	+1.5
THE	Thessaloniki	1.16	303	ePg	Pb	00 47 00.1	0.0
THE				eSg	Sb	00 47 15.7	+1.0
SRS	Serrai	1.22	336	ePg	Pn	00 47 01.3	+0.4
SRS				eSg	Sb	00 47 17.5	+1.1
NVR	Nevrokopi	1.38	348	ePN	Pn	00 47 03.4	+0.2
RDO	Rodhopi	1.51	40	⇑iPN	Pn	00 47 04.8	-0.3
KNT	Kendrikon	1.55	319	ePg	Pn	00 47 07.0	+1.5
KNT				eSg	Sn	00 47 26.9	+1.8
EZN	Ezine	1.61	96	PN	Pn	00 47 07.3	+0.8
EZN				SN	Sn	00 47 31.7	+4.8
MMB	Musomiste	1.63	346	i Pg	Pn	00 47 07.0	+0.2
ALN	Alexandroupoli	1.64	56	ePb	Pb	00 47 07.9	-0.4
ALN				eSb	Sb	00 47 32.0	+3.4
LKR	Lokris	1.66	216	ePB	Pb	00 47 06.9	-1.6
GRG	Griva	1.70	305	ePb	Pb	00 47 08.6	-0.6
GRG				eSb	Sb	00 47 30.9	+0.7
RZN	Rozhen	1.73	12	i Pg	Pn	00 47 08.5	+0.4
PRK	Paraskevi	1.74	115	ePN	Pn	00 47 08.7	+0.3
AGG	Agios Georgios	1.77	237	ePb	Pb	00 47 09.6	-0.9
AGG				eSb	Sb	00 47 34.0	+1.7
VAY	Valandovo	1.83	317	ePg	Pn	00 47 13.1	+3.5
VAY				eSg	Sn	00 47 39.2	+6.8
KDZ	Kurdzhali	1.88	28	i Pg	Pn	00 47 09.8	-0.5
MPAR	Parnis Oros	1.89	192	ePN	Pn	00 47 10.4	0.0
KZN	Kozani	1.92	280	ePN	Pn	00 47 10.9	0.0
LPK	Lapseki	1.97	78	PN	Pn	00 47 12.0	+0.4
PTL	Penteli	1.97	189	ePN	Pn	00 47 11.5	-0.1
AYVA	Ayvalik	2.02	109	i P	Pn	00 47 12.8	+0.5
AYVA				i S	Sn	00 47 44.9	+7.8
KKB	Krupnik	2.06	335	i Pg	Pn	00 47 16.4	+3.5
ATH	Athens Observa	2.06	192	ePN	Pn	00 47 12.8	-0.2
PLD	Plovdiv	2.13	9	i P	Pn	00 47 15.0	+1.0
MGER	Gerania Oros	2.15	201	ePN	Pn	00 47 14.5	+0.3
MGER	Gerania Oros	2.15	201	ePb	Pb	00 47 16.5	-0.4
CANB	Canakkale	2.17	89	PN	Pn	00 47 14.9	+0.4
EVR	Evrytania	2.17	241	ePB	Pb	00 47 15.9	-2.3
NSAL	Nisos Salamina	2.18	196	ePN	Pn	00 47 14.0	-0.6
NSAL	Nisos Salamina	2.18	196	ePn	Pn	00 47 13.5	-1.1
NAIG	Nisos Aigina	2.31	195	ePN	Pn	00 47 16.5	-0.1
FNA	Florina	2.32	291	ePn	Pn	00 47 17.4	+0.7
FNA				eSn	Sn	00 47 46.4	+1.5
MFT	Murefte	2.45	70	PN	Pn	00 47 19.5	+1.0
PGB	Panagyurishte	2.55	359	eP	Pn	00 47 20.0	+0.1
JAN	Janina	2.63	264	ePN	Pn	00 47 21.2	+0.1
JAN	Janina	2.63	264	ePb	Pb	00 47 24.0	-1.1
MRMT	Marmara Adasi	2.64	76	PN	Pn	00 47 22.2	+1.0
EDRB	Edirne	2.65	45	PN	Pn	00 47 20.2	-1.1
VTS	Vitosha	2.70	344	i P	Pn	00 47 23.0	+0.9
LSK	Leskovik	2.80	274	i Pn	Pn	00 47 25.4	+2.0
LSK				i Sn	Sn	00 48 02.1	+5.2
LSK	Leskovik	2.80	274	ePn	Pn	00 47 25.4	+2.0
BALB	Balikesir	2.83	96	PN	Pn	00 47 24.2	+0.3
IZM	Izmir	2.84	123	PN	Pn	00 47 24.2	+0.1
KDAG	Bornova	2.84	123	i P	Pn	00 47 22.8	-1.3
KDAG				i S	Sn	00 48 06.3	+8.3
BNT	Bandirma	2.84	82	PN	Pn	00 47 24.4	+0.3
SKO	Skopje	2.89	314	i Pn	Pn	00 47 25.5	+0.7
SKO				i		00 47 32.5	
SKO				i		00 47 47.8	
RLS	Riolos of Patr	2.90	229	ePN	Pn	00 47 25.8	+0.9
RLS	Riolos of Patr	2.90	229	ePb	Pb	00 47 27.1	-2.6
BTOK	Tokmak	2.93	93	i P	Pn	00 47 29.6	+4.3
BTOK				i S	Sn	00 48 09.7	+9.4
AKS	Akhisar	2.98	111	ePN	Pn	00 47 26.2	+0.1
JMB	Yambol	3.03	35	eP	Pn	00 47 26.0	-0.8
IGT	Igoumenitsa	3.05	262	ePn	Pn	00 47 28.4	+1.4
SMG	Samos	3.06	138	ePN	Pn	00 47 26.9	-0.2
APE	Apeiranthos	3.10	161	PN	Pn	00 47 24.9	-2.8
APE	Apeiranthos	3.10	161	ePN	Pn	00 47 27.0	-0.7
APE	Apeiranthos	3.10	161	ePn	Pn	00 47 26.9	-0.8
PVL	Pavliveni	3.32	14	i P	Pn	00 47 40.0	+9.2
ITM	Ithomi	3.35	213	ePN	Pn	00 47 30.7	-0.6
ITM	Ithomi	3.35	213	ePb	Pb	00 47 34.4	-2.9
VLS	Valsamata	3.37	238	ePN	Pn	00 47 31.5	-0.1
VLS	Valsamata	3.37	238	ePb	Pb	00 47 34.5	-3.3
CTT	Catalca	3.39	69	ePN	Pn	00 47 31.6	-0.3
DST	Dursunbey	3.40	95	ePN	Pn	00 47 32.7	+0.6
KEK	Kerkira	3.43	267	ePN	Pn	00 47 33.0	+0.6
KEK	Kerkira	3.43	267	ePb	Pb	00 47 36.8	-1.9
VLI	Veliai	3.43	198	ePN	Pn	00 47 32.0	-0.5
ZAPS	Zavoj/Pirot	3.51	340	⇓iPn	Pn	00 47 33.8	+0.2
ZAPS				Sn	Sn	00 48 11.9	-3.1
ORLT	Orhaneli	3.58	88	ePN	Pn	00 47 34.3	-0.2
QSH	Qafa e Shtames	3.62	296	i Pn	Pn	00 47 38.5	+3.3
MANT	Manisa	3.68	113	i P	Pn	00 47 36.5	+0.6
MANT				i S	Sn	00 48 36.4	+17
AYDN	Tasoluk	3.68	128	i P	Pn	00 47 36.4	+0.4
ULDT	Uludag	3.76	86	i P	Pn	00 47 35.6	-1.5
ULDT				i S	Sn	00 48 36.9	+16
BODT	Bodrum	3.79	140	ePN	Pn	00 47 36.9	-0.7
ISK	Istanbul-Kandi	3.82	72	ePN	Pn	00 47 39.0	+1.0
MLSB	Milas	3.87	133	ePN	Pn	00 47 38.4	-0.3
YLV	Yalova	3.97	80	ePN	Pn	00 47 41.0	+0.9
PRD	Provadia	3.98	36	i P	Pn	00 47 39.0	-1.2
GDZ	Gediz	4.15	101	i P	Pn	00 47 42.4	-0.3
BOLS	Boljevac	4.19	337	⇓iPn	Pn	00 47 43.4	+0.2
BOLS				Sn	Sn	00 48 30.8	-1.4
YER	Yerkesik	4.27	131	ePN	Pn	00 47 43.9	-0.5
DENT	Denizli	4.36	119	ePN	Pn	00 47 45.2	-0.5
DNZL	Cakiroluk	4.41	120	i P	Pn	00 47 46.8	+0.5
DNZL				i S	Sn	00 48 42.1	+4.4
GRUS	Gruza	4.69	327	⇓iPn	Pn	00 47 49.2	-1.2
GRUS				Sn	Sn	00 48 40.9	-4.0
PSN	Preselentsi	4.71	37	i P	Pn	00 47 49.0	-1.7
ESKT	Eskisehir	5.12	93	i P	Pn	00 47 55.0	-1.3
ESKT				i S	Sn	00 48 57.9	+2.3
ESKT	Eskisehir	5.12	93	ePn	Pn	00 47 56.4	0.0
CVD	Cernavoda	5.15	32	⇓P	Pn	00 48 03.3	+6.5
CVD	Cernavoda	5.15	32	⇓P	Pn	00 48 03.2	+6.4
DIVS	Divcibare	5.17	324	⇓iPn	Pn	00 47 56.3	-0.9
DIVS				Sn	Sn	00 48 55.8	-1.2
TIRR	Tirgusor	5.43	33	eP	Pn	00 47 58.6	-2.1
TIRR	Tirgusor	5.43	33	eP	Pn	00 47 58.6	-2.1
VOIR		5.47	6	⇑P	Pn	00 48 01.1	-0.2
VOIR		5.47	6	⇑P	Pn	00 48 01.1	-0.2
MLR	Muntele Rosu	5.63	12	⇑P	Pn	00 48 03.3	-0.3
MLR	Muntele Rosu	5.63	12	⇑P	Pn	00 48 03.3	-0.3
CFR	Carcaliu	5.92	28	⇓P	Pn	00 48 03.3	-4.4
CFR	Carcaliu	5.92	28	⇓P	Pn	00 48 03.3	-4.4
SGKT	Sivrigoynuk	6.00	82	i P	Pn	00 48 07.6	-1.3
SGKT				i S	Sn	00 49 21.1	+3.3
VRI	Vrincioaia	6.14	16	⇑P	Pn	00 48 11.4	+0.6
VRI	Vrincioaia	6.14	16	⇑P	Pn	00 48 11.4	+0.6
BR131	Keskin Array S	7.24	89	eP	Pn	00 48 25.1	-1.1
	1.0nm,0.4s						

*IDC **14** 01:20:02.0±1.6, 2.70N×127.45E, mb4.1/5, mb1 4.3/5, mb1mx3.9/15, mbtmp4.1/5, Error ellipse: s-maj=94.0km s-min=23.3km az=69.0*
*NEIC **14** 01:20:04.2±0.8, 2.72N×127.48E, h15km, mb4.3/2, Error ellipse: s-maj=56.7km s-min=9.4km az=69.0*
ISC 14 01:20:05.5±1.1, 2.6N±0.2×127.1E±0.5, h33km, n12, σ0§49/11, mb4.0/5, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	16.12	161	eP	Px	01 24 06.0	
	36nm,1.5s						
FITZ	Fitzroy Crossi	20.61	184	eP	P	01 24 44.7	0.0
	4.7nm,0.4s						
FITZ	Fitzroy Crossi	20.61	184	P	P	01 24 44.2	-0.5
	9.2nm,0.6s,baz=3.3,slow=12,SNR=13						
WRAB	Tennant Creek	23.51	163	eP	P	01 25 13.7	+0.1
WRA	Warramunga Arr	23.51	163	P	P	01 25 13.5	-0.2
	2.2nm,0.6s,mb3.8,baz=344,slow=11,SNR=29						
WB2	Warramunga Arr	23.52	163	eP	P	01 25 14.3	+0.6
STKA	Stephens Creek	36.96	159	P	P	01 27 12.8	-0.9
	2.2nm,0.4s,mb4.4,baz=336,slow=10,SNR=6.1						
MKAR	Makanchi Array	58.66	325	P	P	01 30 02.2	+0.1
	0.3nm,0.3s,mb3.8,baz=124,slow=7.8,SNR=4.8						
KURK	Kurchatov	62.86	328	eP	P	01 30 30.7	+0.2
	1.5nm,0.6s,mb4.3						
BRVK	Borovoye	68.51	327	P	P	01 31 06.2	-0.5
VNDA	Vanda	82.27	173	P	P	01 32 25.4	+0.8
	0.4nm,0.5s,mb3.6,baz=315,slow=5.0,SNR=6.3						
VNDA	Vanda	82.27	173	P	P	01 32 25.4	+0.8

*CNRM **14** 01:50:24.9, 35.85N×8.68W, h30km, MD3.5*
*NEIC **14** 01:50:28.4, 36.06N×8.79W, h24km, MN3.0(MDD), After MDD.*
*LDG **14** 01:50:29.7±0.2, 36.14N×8.62W, h8km, Ml3.8/6, Error ellipse: s-maj=3.9km s-min=2.1km az=36.0*
*IGIL **14** 01:50:29.6±1.1, 36.10N×8.70W, h11km, ML3.2*
*MDD **14** 01:50:29.0±1.2, 35.99N×8.75W, h66km±27km, mb4.0/30, Error ellipse: s-maj=11.7km s-min=6.4km az=36.0, PRXIMO*
*INMG **14** 01:50:30.2±0.9, 36.06N×8.69W, h22km±12km, ML3.0, Error ellipse: s-maj=11.5km s-min=2.3km az=43.0*
*CSEM **14** 01:50:34.8±0.2, 36.62N×8.19W, h25km, ML3.6/3, Error ellipse: s-maj=3.5km s-min=2.3km az=38.0*
ISC 14 01:50:31.2±0.7, 36.27N±0.04×8.44W±0.04, h66km, n103, σ1§09/196, 7C-1D, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	Sao Teotonio	1.30	350	i P	P	01 50 53.8	0.0
PTEO				eS	S	01 51 12.2	+1.7
	68nm,0.2s						
PTEO	Sao Teotonio	1.30	350	⇓P	P	01 50 53.8	0.0
PTEO				S	S	01 51 12.2	+1.7
	34nm,0.2s						
EGRO	El Granado	1.48	31	⇑P	P	01 50 58.0	+1.7
	72nm,0.2s,SNR=18						
EGRO				S	S	01 51 19.0	+4.1
	0.8nm,0.1s,SNR=22						
EGRO	El Granado	1.48	31	P	P	01 50 58.0	+1.7
	72nm,0.2s,SNR=18						
EGRO				S	S	01 51 19.0	+4.1
	0.8nm,0.1s,SNR=22						
PBEJ	Beja	1.82	15	ePn	P	01 51 02.0	+1.1
PBEJ				eSn	S	01 51 26.0	+3.2
	58nm,0.2s						
PBEJ	Beja	1.82	15	⇑P	P	01 51 02.0	+1.1
PBEJ				S	S	01 51 26.0	+3.2
	29nm,0.2s						
EMIN	Mina Concepcio	2.06	43	⇑P	P	01 51 05.6	+1.3
	7.3nm,0.1s,SNR=18						
EMIN				S	S	01 51 32.1	+3.3
	33nm,0.1s,SNR=17						
EMIN	Mina Concepcio	2.06	43	P	P	01 51 05.6	+1.3
	7.3nm,0.1s,SNR=18						
EMIN				S	S	01 51 31.7	+2.9
	33nm,0.1s,SNR=17						
EMIN	Mina Concepcio	2.06	43	⇑P	P	01 51 05.6	+1.3
EMIN				S	S	01 51 32.1	+3.3
ESPR	Espera	2.17	73	⇑P	P	01 51 06.3	+0.6
	63nm,0.2s,SNR=18						
ESPR				S	S	01 51 34.5	+3.1
	48nm,0.2s,SNR=4.9						
ESPR	Espera	2.17	73	P	P	01 51 06.3	+0.5
	63nm,0.2s,SNR=18						
ESPR				S	S	01 51 34.0	+2.6
	48nm,0.2s,SNR=4.9						
ESPR	Espera	2.17	73	⇑P	P	01 51 06.3	+0.6
ESPR				S	S	01 51 34.0	+2.6
EVO	Evora	2.29	8	ePn	P	01 51 07.5	0.0
EVO				eSn	S	01 51 35.7	+1.2
	150nm,0.2s						
LIS	Lisbon	2.51	347	eP	P	01 51 10.8	+0.1
LIS				eS	S	01 51 39.9	-0.2
LIS				eS	S	01 51 39.9	-0.2
LIS				AML	AML	01 51 43.9	
	comp=N,146nm,0.4s						
PLOU	Loures	2.67	348	ePn	P	01 51 12.9	-0.1
PLOU				eSn	S	01 51 44.6	+0.4
	comp=N,32nm,0.2s						
PLOU	Loures	2.67	348	ePn	P	01 51 12.9	-0.1
PLOU				eSn	S	01 51 44.6	+0.4
	comp=N,32nm,0.2s						
EBAD	Badajoz	2.73	24	P	P	01 51 14.5	+0.7
	comp=N,5.4nm,0.1s,SNR=36						
EBAD				S	S	01 51 48.3	+2.6
	comp=N,29nm,0.1s,SNR=7.6						
EBAD	Badajoz	2.73	24	P	P	01 51 14.5	+0.7
	comp=N,5.4nm,0.1s,SNR=36						
EBAD				S	S	01 51 48.3	+2.6
	comp=N,29nm,0.1s,SNR=7.6						
ALMR	Almeirim	2.89	358	eP	P	01 51 15.8	-0.1
ALMR				e		01 51 16.2	
	baz=177,slow=3.5						
ALMR				eS	S	01 51 50.2	+0.6
ALMR				eS	S	01 51 50.3	+0.7
ALMR				AML	AML	01 51 52.0	
	comp=E,66nm,0.7s						
ALMR	Almeirim	2.89	358	eP	P	01 51 15.8	-0.2
ALMR				eS	S	01 51 50.2	+0.6
EMIJ	Mijas	2.98	83	P	P	01 51 16.3	-0.9
	comp=E,4.2nm,0.2s,SNR=30						
EMIJ				S	S	01 51 52.7	+0.9
	comp=E,3.9nm,0.2s,SNR=5.0						
EMIJ	Mijas	2.98	83	P	P	01 51 16.3	-0.9
EMIJ				S	S	01 51 52.4	+0.5
PTOM	Tomar	3.35	0	ePn	P	01 51 22.4	0.0
PTOM				eSn	S	01 52 01.3	+0.2
	comp=E,62nm,0.2s						
PTOM	Tomar	3.35	0	P	P	01 51 22.4	0.0
PTOM				S	S	01 52 01.3	+0.2
	comp=E,31nm,0.2s						
ELOJ	Sierra Loja	3.56	74	P	P	01 51 26.2	+0.9
	comp=E,6.0nm,0.3s,SNR=18						
ELOJ				S	S	01 52 08.7	+2.2
	comp=E,2.9nm,0.2s,SNR=4.9		

comp=E,4.5nm,0.2s,SNR=18
EQES S **S** **01 52 32.5 +0.9**
comp=E,1.6nm,0.2s,SNR=5.0
EQES Quesada 4.56 69 P **P** **01 51 39.7 +0.3**
comp=E,4.5nm,0.2s,SNR=18
EQES S **S** **01 52 32.5 +0.9**
comp=E,1.6nm,0.2s,SNR=5.0
CIA Chichaoua 4.70 183 *i* P **P** **01 51 27.0 -14**
CIA *i* S **S** **01 52 13.5 -21**
ESDC Sonseca Array 4.91 45 P **P** **01 51 44.6 +0.4**
comp=E,3.1nm,0.2s,baz=230,slow=13,SNR=62
ESDC S **S** **01 52 40.5 +0.2**
comp=E,2.7nm,0.3s,baz=230,slow=23,SNR=17
ESDC Sonseca Array 4.91 45 P **P** **01 51 44.6 +0.4**
comp=E,3.1nm,0.2s,SNR=62
ESDC S **S** **01 52 38.7 -1.6**
comp=E,2.7nm,0.3s,SNR=17
ESDC Sonseca Array 4.91 45 P **P** **01 51 44.6 +0.4**
ESDC S **S** **01 52 38.7 -1.6**
EHUE Huescar 4.93 70 P **P** **01 51 43.9 -0.6**
comp=E,2.6nm,0.2s,SNR=50
EHUE S **S** **01 52 40.4 -0.4**
comp=E,0.7nm,0.1s,SNR=5.0
PVRL Vila Real 5.04 6 *e*Pn **P** **01 51 45.5 -0.5**
PVRL *e*Sn **S** **01 52 42.1 -1.3**
comp=E,16nm,0.1s
PVRL Vila Real 5.04 6 P **P** **01 51 45.5 -0.5**
PVRL S **S** **01 52 42.1 -1.3**
comp=E,8.0nm,0.1s
EVIA Vianos 5.29 62 P **P** **01 51 49.0 -0.4**
comp=E,2.0nm,0.2s,SNR=7.9
EVIA S **S** **01 52 48.4 -1.3**
comp=E,1.9nm,0.2s,SNR=7.9
EVIA Vianos 5.29 62 P **P** **01 51 48.9 -0.5**
comp=E,7.1nm,0.3s,SNR=9.1
EVIA Vianos 5.29 62 P **P** **01 51 48.9 -0.5**
ZFT Errachidia 5.41 140 *i* P **P** **01 51 41.0 -10**
ZFT *i* S **S** **01 52 37.0 -16**
ELOB Lobios 5.60 3 P **P** **01 51 52.7 -1.0**
comp=E,1.5nm,0.2s,SNR=7.9
ELOB S **S** **01 52 54.2 -3.3**
comp=E,12nm,0.3s,SNR=7.9
ELOB Lobios 5.60 3 P **P** **01 51 52.6 -1.2**
comp=E,1.5nm,0.2s,SNR=7.9
ELOB S **S** **01 52 54.2 -3.4**
comp=E,12nm,0.3s,SNR=7.9
ELOB Lobios 5.60 3 P **P** **01 51 52.6 -1.2**
ELOB S **S** **01 52 54.2 -3.3**
PBRG Braganca 5.69 13 *e*Pn **P** **01 51 54.9 0.0**
PBRG *e*Sn **S** **01 52 57.9 -1.8**
comp=E,15nm,0.4s
PBRG Braganca 5.69 13 P **P** **01 51 54.9 0.0**
PBRG S **S** **01 52 57.9 -1.8**
comp=E,7.7nm,0.4s
ECAL Calabor 5.82 13 P **P** **01 51 56.3 -0.5**
comp=E,3.2nm,0.3s,SNR=7.9
ECAL S **S** **01 53 01.6 -1.4**
comp=E,20nm,0.3s,SNR=7.9
ECAL Calabor 5.82 13 P **P** **01 51 56.3 -0.5**
comp=E,3.2nm,0.3s,SNR=7.9
ECAL S **S** **01 53 01.6 -1.4**
comp=E,20nm,0.3s,SNR=7.9
EMUR La Murta 5.97 73 P **P** **01 51 58.0 -0.9**
comp=E,1.9nm,0.4s,SNR=7.9
EMUR S **S** **01 53 04.6 -2.1**
comp=E,2.1nm,0.4s,SNR=7.9
EMUR La Murta 5.97 73 P **P** **01 51 57.7 -1.2**
comp=E,1.9nm,0.4s,SNR=7.9
EMUR S **S** **01 53 04.6 -2.1**
comp=E,2.1nm,0.4s,SNR=7.9
EMUR La Murta 5.97 73 P **P** **01 51 57.7 -1.2**
EMUR S **S** **01 53 04.6 -2.1**
ETOB Tobarra 5.98 65 P **P** **01 51 57.8 -1.1**
comp=E,3.7nm,0.2s,SNR=7.9
ETOB S **S** **01 53 05.2 -1.6**
comp=E,0.9nm,0.1s,SNR=7.9
ETOB Tobarra 5.98 65 P **P** **01 51 57.8 -1.2**
comp=E,3.7nm,0.2s,SNR=7.9
ETOB S **S** **01 53 05.2 -1.7**
comp=E,0.9nm,0.1s,SNR=7.9
ETOB Tobarra 5.98 65 P **P** **01 51 57.8 -1.1**
ETOB S **S** **01 53 05.2 -1.6**
ERUA La Rua 6.20 9 S **S** **01 53 08.9 -3.5**
comp=E,3.3nm,0.3s,SNR=7.9
STS Santiago 6.61 359 S **S** **01 53 17.9 -4.7**
comp=E,0.9nm,0.1s,SNR=7.9
EMAZ Mazaricos 6.69 357 P **P** **01 52 06.6 -2.3**
comp=E,3.4nm,0.1s,SNR=7.9
EMAZ S **S** **01 53 20.5 -3.9**
comp=E,1.0nm,0.1s,SNR=7.9
EMAZ Mazaricos 6.69 357 P **P** **01 52 06.6 -2.4**
comp=E,3.4nm,0.1s,SNR=7.9
EMAZ S **S** **01 53 20.5 -3.9**
comp=E,1.0nm,0.1s,SNR=7.9
ECHE Chera 6.78 58 P **P** **01 52 09.9 -0.3**
comp=E,2.6nm,0.5s,SNR=7.9
EBEN Beniarda 6.97 67 P **P** **01 52 12.2 -0.7**
comp=E,2.8nm,0.4s,SNR=7.9
EBEN S **S** **01 53 29.2 -2.3**
comp=E,1.2nm,0.3s,SNR=7.9
EBEN Beniarda 6.97 67 P **P** **01 52 12.2 -0.7**
comp=E,2.8nm,0.4s,SNR=7.9
EBEN S **S** **01 53 29.2 -2.3**
comp=E,1.2nm,0.3s,SNR=7.9
EPON Pontenova 7.12 8 P **P** **01 52 14.4 -0.6**
comp=E,0.3nm,0.1s,SNR=7.9
EPON S **S** **01 53 31.4 -3.8**
comp=E,1.8nm,0.4s,SNR=7.9
EARI Arriondas 7.45 19 P **P** **01 52 19.8 +0.3**
comp=E,0.2nm,0.2s,SNR=7.9
EARI S **S** **01 53 40.1 -3.3**
comp=E,1.1nm,0.3s,SNR=7.9
EARI Arriondas 7.45 19 P **P** **01 52 19.8 +0.2**
comp=E,0.2nm,0.2s,SNR=7.9
EARI S **S** **01 53 40.1 -3.3**
comp=E,1.1nm,0.3s,SNR=7.9
EMOS Mosqueruela 7.48 54 P **P** **01 52 20.0 +0.1**
comp=E,1.6nm,0.5s,SNR=7.9
EMOS S **S** **01 53 42.2 -1.9**
comp=E,1.3nm,0.5s,SNR=7.9
EMOS Mosqueruela 7.48 54 P **P** **01 52 20.0 +0.1**
EMOS S **S** **01 53 39.2 -4.8**
ELAN Lanestosa 7.95 27 P **P** **01 52 25.1 -1.3**
comp=E,1.9nm,0.7s,SNR=7.9
ELAN S **S** **01 53 52.0 -3.7**
comp=E,1.9nm,0.4s,SNR=7.9
ELAN Lanestosa 7.95 27 P **P** **01 52 25.1 -1.3**
comp=E,1.9nm,0.7s,SNR=7.9
ELAN S **S** **01 53 52.0 -3.7**
comp=E,1.9nm,0.4s,SNR=7.9
ERTA Horta de San J 8.31 53 P **P** **01 52 31.5 +0.2**
comp=E,0.2nm,0.1s,SNR=7.9
ERTA S **S** **01 54 02.1 -2.5**
comp=E,1.8nm,0.5s,SNR=5.0
ERTA Horta de San J 8.31 53 P **P** **01 52 31.5 +0.2**
comp=E,0.2nm,0.1s,SNR=7.9
ERTA S **S** **01 54 02.1 -2.5**
comp=E,1.8nm,0.5s,SNR=5.0
EARA Aranguren 8.38 37 P **P** **01 52 32.3 0.0**
comp=E,0.2nm,0.1s,SNR=7.9
EARA S **S** **01 54 03.1 -3.3**
comp=E,16nm,0.3s,SNR=4.0
EALK Alkurruntz 8.76 35 P **P** **01 52 37.1 -0.3**
SNR=7.9
EALK S **S** **01 54 12.3 -3.3**
comp=E,2.0nm,0.4s,SNR=5.7
SJPF Ste Jean 8.81 37 *e*Pn **P** **01 52 38.4 +0.2**
SJPF *e*Sn **S** **01 54 12.7 -4.2**
comp=E,5.5nm,0.4s
ETSF Etsaut 8.99 40 *e*Pn **P** **01 52 40.9 +0.3**
ETSF *e*Sn **S** **01 54 16.5 -4.8**
comp=E,5.5nm,0.5s
EGRA Graus 9.01 46 P **P** **01 52 41.0 +0.1**
comp=E,1.8nm,0.2s,SNR=11
EGRA S **S** **01 54 18.1 -3.7**
comp=E,0.7nm,0.2s,SNR=5.4
EBIE Bielsa 9.22 43 P **P** **01 52 44.6 +0.7**
SNR=7.9
EBIE S **S** **01 54 23.4 -3.6**
comp=E,3.6nm,0.8s,SNR=19
EBIE Bielsa 9.22 43 P **P** **01 52 44.6 +0.8**
EBIE S **S** **01 54 24.8 -2.3**
EPF Esparros 9.56 42 *e*Pn **P** **01 52 49.3 +0.9**
EPF *e*Sn **S** **01 54 31.2 -4.0**
comp=E,4.5nm,0.5s
MTLF Montolieu 10.82 46 *e*Pn **P** **01 53 04.5 -1.0**
MTLF *e*Sn **S** **01 55 00.8 -4.9**
comp=E,6.6nm,0.8s
RJF Les Rejaudoux 11.76 37 *e*Pn **P** **01 53 17.4 -0.7**
CAF Calviac 11.76 39 *e*Pn **P** **01 53 18.1 -0.1**
CAF *e*Sn **S** **01 55 24.0 -4.5**
comp=E,1.0nm,0.3s
MFF Saint Martin d 12.05 28 *e*Pn **P** **01 53 21.4 -0.6**
LASF Ste Croix 12.21 47 *e*Pn **P** **01 53 23.6 -0.6**
VIVF Saint-Julien-l 13.14 45 *e*Pn **P** **01 53 36.4 -0.1**
LMR La Mourre 13.48 54 *e*Pn **P** **01 53 40.9 0.0**
LPG La Plagne 14.71 47 *e*Pn **P** **01 53 58.1 +1.2**

ATH ***14*** *02:04:22.3, 39.16N×21.96E, h15km±2km, MD3.3/10*
NEIC ***14*** *02:04:22.0, 39.14N×21.96E, h20km, MD3.3(ATH), After ATH.*
CSEM ***14*** *02:04:22.1±0.2, 39.15N×21.93E, h1km±1km, MD3.3, Error ellipse: s-maj=4.7km s-min=4.2km az=119.0*
THE ***14*** *02:04:24.1, 39.25N×22.06E, h10km, ML2.9*
ISC 14 02:04:22.7±0.4**, 39.14N**±0.03×**22.04E**±0.03**, h15**km**, n27,** σ1§**22/43, 1C, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGG	**Agios Georgios**	**0.26**	**116**	*e*Pg	**Pg**	**02 04 29.2**	**+0.8**
AGG				*e*Sg	**Sg**	**02 04 35.2**	**+2.9**
AGG	**Agios Georgios**	**0.26**	**116**	*e*Pg	**Pg**	**02 04 29.2**	**+0.7**
AGG				*e*Sg	**Sg**	**02 04 35.2**	**+2.9**
EVR	**Evrytania**	**0.28**	**219**	⇑*i*PB	**Pb**	**02 04 27.7**	**-1.2**
EVR				*e*SB	**Sb**	**02 04 32.5**	**-0.6**
LKR	**Lokris**	**0.89**	**123**	*e*PN	**Pn**	**02 04 40.3**	**-0.3**
XOR	**Xorichti**	**0.93**	**75**	*e*Pg	**Pg**	**02 04 41.0**	**-0.4**
XOR				*e*Sg	**Sg**	**02 04 54.3**	**+0.5**
NEO	**Neokhori**	**0.94**	**79**	*e*PN	**Pn**	**02 04 41.0**	**-0.2**
NEO				*e*SN	**Sn**	**02 04 55.6**	**+1.3**
JAN	**Janina**	**1.06**	**300**	*e*PN	**Pn**	**02 04 40.9**	**-2.0**
RLS	**Riolos of Patr**	**1.17**	**203**	*e*PN	**Pn**	**02 04 44.2**	**-0.3**
KZN	**Kozani**	**1.19**	**350**	*e*PB	**Pb**	**02 04 43.5**	**-0.9**
KZN				*e*SN	**Sn**	**02 05 01.0**	**+0.3**
KZN	**Kozani**	**1.19**	**350**	*e*Pb	**Pb**	**02 04 43.2**	**-1.2**
KZN				*e*Sn	**Sn**	**02 05 01.6**	**+0.9**
IGT	**Igoumenitsa**	**1.38**	**287**	*e*Pg	**Pg**	**02 04 49.8**	**-0.7**
IGT				*e*Sg	**Sg**	**02 05 10.2**	**+1.4**
IGT	**Igoumenitsa**	**1.38**	**287**	*e*Pg	**Pg**	**02 04 49.8**	**-0.6**
IGT				*e*Sg	**Sg**	**02 05 10.2**	**+1.3**
VLS	**Valsamata**	**1.48**	**230**	*e*PN	**Pn**	**02 04 50.5**	**+1.4**
VLS	**Valsamata**	**1.48**	**230**	*e*Pb	**Pb**	**02 04 48.3**	**-1.2**
PAIG	**Paliouri**	**1.50**	**58**	*e*Pg	**Pg**	**02 04 50.5**	**-2.2**
PAIG				*e*Sg	**Sg**	**02 05 10.3**	**-2.4**
LSK	**Leskovik**	**1.50**	**313**	*e*Pn	**Pn**	**02 04 50.0**	**+0.7**
LSK				*i* Sn	**Sn**	**02 05 11.7**	**+3.0**
PLG	**Polygyros**	**1.65**	**41**	*e*PN	**Pn**	**02 04 52.5**	**+1.1**
PLG	**Polygyros**	**1.65**	**41**	*e*Pb	**Pb**	**02 04 50.4**	**-1.9**
THE	**Thessaloniki**	**1.66**	**25**	*e*Pg	**Pg**	**02 04 51.4**	**-4.5**
FNA	**Florina**	**1.72**	**343**	*e*Pb	**Pb**	**02 04 52.6**	**-1.0**
FNA				*e*Sb	**Sb**	**02 05 15.5**	**+0.6**
KEK	**Kerkira**	**1.83**	**289**	*e*PN	**Pn**	**02 04 55.0**	**+1.0**
GRG	**Griva**	**1.84**	**9**	*e*Pb	**Pb**	**02 04 55.1**	**-0.5**
GRG				*e*Sb	**Sb**	**02 05 18.4**	**0.0**
OUR	**Ouranopolis**	**1.92**	**51**	*e*Pb	**Pb**	**02 04 55.4**	**-1.6**
OUR				*e*Sb	**Sb**	**02 05 21.4**	**+0.8**
OUR	**Ouranopolis**	**1.92**	**51**	*e*Pb	**Pb**	**02 04 55.3**	**-1.6**
OUR				*e*Sb	**Sb**	**02 05 21.4**	**+0.8**
KNT	**Kendrikon**	**2.13**	**18**	*e*Pn	**Pn**	**02 04 58.1**	**-0.2**
KNT				*e*Sn	**Sn**	**02 05 26.5**	**+1.9**
SRS	**Serrai**	**2.31**	**31**	*e*Pn	**Pn**	**02 05 01.2**	**+0.3**
VLI	**Veliai**	**2.52**	**163**	*e*PN	**Pn**	**02 05 05.3**	**+1.5**

KISR ***14*** *02:17:31.7±1.3, 32.14N×49.43E, h41km±999km, ML2.5*
CSEM ***14*** *02:17:31.9±0.2, 32.19N×49.04E, h5km, ML2.5, Error ellipse: s-maj=8.2km s-min=4.0km az=116.0*
THR ***14*** *02:17:32.6±0.5, 32.12N×48.98E, h18km±3km, ML2.9*
ISC 14 02:17:31.9±1.**7, 32.16N**±0.07×**49.1E**±0.1**, h1**km±14km**, n7,** σ0§**96/11, Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.22**	**258**	*e*PG	**Pg**	**02 17 37.0**	**+0.6**
SHGR				AML	AML	02 17 42.6	
comp=E,3μm,0.4s							
ASAO	**Ashtian**	**2.52**	**18**	*e*PN	**Pn**	**02 18 15.8**	**+1.2**
ASAO				*e*SG	**Sg**	**02 18 53.4**	**-2.3**
ASAO				AML	AML	02 19 07.3	
comp=N,41nm,0.5s							
NASN	**Na'in**	**3.23**	**78**	*e*PN	**Pn**	**02 18 25.8**	**+1.0**
SNGE	**Sanandaj**	**3.26**	**334**	*e*PN	**Pn**	**02 18 24.9**	**-0.2**
NAY	**Al-Naaiem**	**3.29**	**209**	*e*P	**Pn**	**02 18 25.2**	**-0.4**
NAY				*e*S	**Sn**	**02 19 06.9**	**+0.9**
NAY				AML	AML	02 19 16.8	
comp=Z,6.0nm,0.4s							
RDF	**Al-Radifah**	**3.47**	**202**	*e*P	**Pn**	**02 18 28.7**	**+0.5**
RDF				*e*S	**Sn**	**02 19 10.1**	**-0.5**
RDF				AML	AML	02 19 12.3	
comp=Z,16nm,0.3s							
QRN	**Al-Qurain**	**3.54**	**196**	*e*P	**Pn**	**02 18 28.6**	**-0.6**
QRN				*e*S	**Sn**	**02 19 11.0**	**-1.3**

MOS ***14*** *02:39:37.4±1.0, 19.71S×69.03W, h97km, mb5.8/74, MS5.1/14, Error ellipse: s-maj=8.7km s-min=5.1km az=101.0*
GUC ***14*** *02:39:39.8±0.6, 19.84S×69.27W, h117km±4km, ML5.8*
LDG ***14*** *02:39:40.6±0.2, 19.37S×69.03W, h115km, Mb5.6/37, Ms4.8/9, Error ellipse: s-maj=15.2km s-min=8.6km az=32.0*
BJI ***14*** *02:39:40.3, 19.80S×69.00W, h113km, mB5.6*
IDC ***14*** *02:39:41.0±0.4, 19.76S×69.02W, h118km±3km, mb5.0/22, mb1 5.0/23, mb1mx5.0/23, mbtmp5.4/23, MS4.8/12, Ms1 4.7/12, ms1mx4.5/26, Error ellipse: s-maj=13.4km s-min=8.5km az=77.0*
NEIC ***14*** *02:39:40.4±0.1, 19.78S×68.98W, mb5.7/160, ME5.6, MW5.8, Error ellipse: s-maj=4.6km s-min=3.1km az=49.0 Broadband fault plane solution: P waves. NP1:*ϕ_s*355°, δ85°, λ-100°. NP2:*ϕ_s*239°, δ11°, λ-27°. Principal axes: T Plg39°, Azm94°; N Plg0°, Azm0°; P Plg49°, Azm254°; Moment Tensor Solution. s44 Moment tensor: Scale* 10^{17} *Nm; Mrr~1.97; Mθθ~0.97; Mφφ2.93; Mrθ0.64; Mφφ0.83; Mφr~6.51; Best double couple: M0*7.1×10^{17} *NP1:*ϕ_s*219°, δ14°, λ-46°. NP2:*ϕ_s*354°, δ80°, λ-100°. Principal axes: T 7.45, Plg34°, Azm93°; N -.8, Plg9°, Azm356°; P -6.65, Plg54°, Azm253°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [V] at Pica; [IV] at Camina, Huara, Iquique and Mamina; [III] at Arica, Cuya, Pisagua, Pozo Almonte and Tocopilla. Power outages occurred and roads were blocked by landslides in Huavina and Mocha.
HRVD ***14*** *02:39:40.4±0.1, 19.89S×69.36W, h129km, MW5.8/71, Centroid moment Tensor Solution. LP body waves: s71,c161;Mantle waves: s68,c211; Half duration: 1§9 Moment tensor: Scale* 10^{17}*Nm; Mrr~2.80±.07; Mθθ~0.28±.07; Mφφ3.08±.09; Mrθ0.89±.05; Mφφ~0.81±.07; Mφr~4.43±.06; Best double couple: M0*5.442×10^{17} *NP1:*ϕ_s*165°, δ17°, λ-93°. NP2:*ϕ_s*348°, δ73°, λ-89°. Principal axes: T 5.673, Plg28°, Azm78°; N -.466, Plg1°, Azm168°; P -5.21, Plg62°, Azm260°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
CRAAG ***14*** *02:39:43.5, 17.81S×70.22W, Mb5.9*
BGS ***14*** *02:39:51.5, 19.78S×68.98W, h114km, mb5.8*
ISC 14 02:39:39.2±0.**1, 19.74S**±0.03×**69.08W**±0.04**, h115**km**, h115**km±1.4km**: pP-P, n727,** σ1§**06/569, mb5.6/195, 36C-54D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.86**	**177**	P	**P**	**02 40 23.7**	**-0.7**
770nm,0.3s,baz=354,slow=8.8,SNR=1013							
LVC				S	**S**	**02 40 51.8**	**-6.8**
2μm,0.3s,baz=343,slow=11,SNR=21							
LVC				LR	LR	02 41 37.4	
comp=Z,6μm,21.5s,baz=5.6,slow=41							
LVC	**Limon Verde**	**2.86**	**177**	⇑*i*P	**P**	**02 40 23.1**	**-1.3**
LVC				*e*S	**S**	**02 40 50.2**	**-8.3**
LPAZ	**La Paz**	**3.55**	**15**	P	**P**	**02 40 38.8**	**+5.1**
400nm,0.3s,baz=191,slow=9.0							
LPAZ				S	**S**	**02 41 16.9**	**+1.7**
74nm,0.3s,baz=41,slow=24,SNR=4.1							
LPAZ				LR	LR	02 41 30.3	
comp=Z,6μm,19.6s,baz=208,slow=31							
LPAZ	**La Paz**	**3.55**	**15**	⇑*i*P	**P**	**02 40 38.9**	**+5.1**
ARE	**Arequipa**	**3.99**	**325**	⇑*i*P	**P**	**02 40 38.9**	**-0.7**
CPN1	**Cerro Paranal**	**5.01**	**194**	*e*P	**P**	**02 40 48.1**	**-5.3**
CRCH	**Chaqaral**	**6.72**	**192**	*e*P	**P**	**02 41 08.8**	**-8.0**
SIV	**San Ignacio**	**8.49**	**65**	P	**P**	**02 41 39.8**	**-0.8**
203nm,0.3s,baz=253,slow=12,SNR=4722							
TLL	**Tololo Astrono**	**10.50**	**188**	*e*P	**P**	**02 41 59.9**	**-7.6**
NNA	**Nana**	**10.73**	**315**	⇑*i*P	**P**	**02 42 07.5**	**-3.2**
225nm,0.6s							
NNA				*e*S	**S**	**02 43 58.1**	**-11**
CMCH	**Combarbala**	**11.51**	**188**	*e*P	**P**	**02 42 11.9**	**-9.1**
CFAA	**Coronel Fontan**	**11.84**	**176**	P	**P**	**02 42 19.6**	**-5.7**
3.2nm,0.3s,baz=353,slow=15,SNR=254							
CFAA				S	**S**	**02 44 22.1**	**-13**
2.3nm,0.3s,baz=220,slow=22,SNR=7.9							
SAML	**Samuel**	**12.15**	**29**	⇑*i*P	**P**	**02 42 28.3**	**-1.3**
17nm,1.4s							
CPUP	**Villa Florida**	**12.65**	**123**	P	**P**	**02 42 32.7**	**-3.3**
5.0nm,0.3s,baz=318,slow=15,SNR=356							
CPUP				LR	LR	02 47 59.8	
comp=Z,4μm,21.5s,baz=336,slow=40							
CPUP	**Villa Florida**	**12.65**	**123**	⇑*i*P	**P**	**02 42 32.6**	**-3.4**
13nm,0.6s							
CPUP	**Villa Florida**	**12.65**	**123**	⇑*i*P	**P**	**02 42 32.6**	**-3.4**
CPUP				pmax	pmax		
comp=Z,13nm,0.6s							
JACH	**Jahuel**	**12.96**	**186**	*e*P	**P**	**02 42 32.2**	**-7.8**
MDZ	**Mendoza**	**13.09**	**179**	*e*P	**P**	**02 42 49.5**	**+7.8**
MDZ				S	**S**	**02 45 02.3**	**-2.7**
MDZ				SS	SS	02 45 46.1	+20
MDZ				LQ		02 47 02.2	
MDZ				LR	LR	02 47 56.7	
FCH	**Farellones**	**13.57**	**184**	*e*P	**P**	**02 42 40.5**	**-7.5**
FCH				*e*P		02 42 41.2	
LCCH	**Las Cruces**	**13.86**	**189**	*e*P	**P**	**02 42 43.2**	**-8.4**
PCH	**Pirque**	**13.88**	**185**	*e*P	**P**	**02 42 45.4**	**-6.6**
TACH	**Talagante**	**13.95**	**186**	*e*P	**P**	**02 42 45.6**	**-7.2**
CHCH	**Chadas Angostu**	**14.20**	**185**	*e*P	**P**	**02 42 48.4**	**-7.7**
LNV	**Longovilo**	**14.31**	**188**	*e*P	**P**	**02 42 50.3**	**-7.2**
LPA	**La Plata**	**18.04**	**149**	*de*P	**P**	**02 43 40.0**	**-3.8**
LPA	**La Plata**	**18.04**	**149**	*e*P	**P**	**02 43 45.0**	**+1.2**
LPA				*ep*P		02 44 05.0	
LPA				*es*P		02 44 18.0	
LPA				*e*S	**S**	**02 46 59.0**	**+0.9**
LPA				*e*S	**S**	**02 47 15.0**	**+17**
BDFB	**Brasilia**	**20.48**	**82**	P	**P**	**02 44 08.1**	**-1.7**
comp=Z,330nm,0.8s,baz=262,slow=12,SNR=178							
BDFB				LR	LR	02 53 27.3	
comp=Z,8μm,18.1s,baz=295,slow=40							
BAO	**Brasilia Array**	**20.50**	**82**	P	**P**	**02 44 09.0**	**-1.1**
PLCA	**Paso Flores**	**20.96**	**183**	P	**P**	**02 44 12.6**	**-2.0**
comp=Z,59nm,0.8s,baz=4.6,slow=12,SNR=82							
PLCA	**Paso Flores**	**20.96**	**183**	⇓*e*P	**P**	**02 44 12.4**	**-2.2**
comp=Z,1.7nm,0.9s							
PLCA	**Paso Flores**	**20.96**	**183**	⇓*e*P	**P**	**02 44 12.4**	**-2.2**
PLCA				pmax	pmax		
comp=Z,2.0nm,0.9s							
CAM4	**Nova Friburgo**	**24.87**	**101**	⇓*i*P	**P**	**02 44 51.8**	**-0.9**
CAM4				*i*		02 44 54.0	
CAM4				*i*		02 44 56.5	
ROSC	**El Rosal**	**24.98**	**348**	P	**P**	**02 44 55.2**	**+1.3**
comp=Z,44nm,0.7s,mb5.0,baz=215,slow=2.1,SNR=29							
ROSC				LR	LR	02 55 58.4	
comp=Z,3μm,19.4s,baz=184,slow=39							
CAM3	**Guarapari**	**26.80**	**97**	⇓*i*P	**P**	**02 45 04.4**	**-6.2**
CAM3				*i*		02 45 10.4	
CAM3				*i*		02 45 11.2	
CAM3				*i*		02 45 13.9	
CAM3				*i*	pP	02 45 28.4	-6.9
SDV	**Santo Domingo**	**28.49**	**357**	P	**P**	**02 45 25.0**	**-1.0**
comp=Z,47nm,0.6s,mb5.2,baz=193,slow=8.6,SNR=36							
SDV				LR	LR	02 58 08.4	
comp=Z,2μm,19.0s,baz=318,slow=39							
SDV	**Santo Domingo**	**28.49**	**357**	*e*P	**P**	**02 45 24.7**	**-1.3**
comp=Z,69nm,0.8s,mb5.2							
SDV				*e*S	**S**	**02 50 02.9**	**-0.8**
JTS	**JuntasAbangare**	**33.69**	**331**	P	**P**	**02 46 13.2**	**+1.7**
comp=Z,67nm,0.8s,mb5.5							
JTS	**JuntasAbangare**	**33.69**	**331**	*d i*P	**P**	**02 46 11.7**	**+0.2**
USHA	**Ushuaia**	**35.03**	**179**	P	**P**	**02 46 21.2**	**-1.4**
comp=Z,13nm,0.8s,mb4.8,baz=340,slow=8.8,SNR=9.1							
SCG	**Saint Claude**	**36.28**	**12**	*e*P	**P**	**02 46 31.3**	**-2.1**
RPN	**Rapa Nui**	**37.53**	**251**	LR	LR	02 56 58.4	
comp=Z,679nm,18.9s,baz=90,slow=28							
SJG	**San Juan**	**37.73**	**5**	P	**P**	**02 46 44.0**	**-1.5**
comp=Z,370nm,1.0s,mb6.2,baz=133,slow=2.6,SNR=64							
SJG				S	**S**	**02 52 20.0**	**-6.9**
comp=Z,148nm,1.1s,baz=72,slow=22,SNR=6.6							
MTP	**Monte Pirata**	**37.76**	**5**	*e*P	**P**	**02 46 43.5**	**-2.3**
PCJ	**Portland Cotta**	**38.08**	**347**	⇓*i*P	**P**	**02 46 48.3**	**-0.2**
STH	**Stony Hill**	**38.34**	**348**	⇓*i*P	**P**	**02 46 50.4**	**-0.2**
MCJ	**Malvern**	**38.37**	**347**	⇓*i*P	**P**	**02 46 51.1**	**+0.2**
CVJ	**Coleyville**	**38.63**	**347**	⇓*i*P	**P**	**02 46 53.3**	**+0.2**
MOAC	**Moa**	**40.56**	**352**	*e*P	**P**	**02 47 08.5**	**-0.5**
MOAC				*e*S	**S**	**02 53 05.6**	**-3.8**
comp=E,2μm,4.3s							
comp=N,1μm,3.3s							
HLGC	**Holguin**	**40.95**	**350**	*e*P	**P**	**02 47 12.7**	**+0.5**
CCIG	**Comitan**	**42.37**	**326**	*i* P	**P**	**02 47 24.5**	**+0.6**
MGV	**Manicaragua**	**42.94**	**345**	*e*P	**P**	**02 47 28.2**	**-0.3**
SOR	**Soroa**	**44.41**	**341**	*e*P	**P**	**02 47 40.0**	**-0.3**
baz=166							
SOR				*e*S	**S**	**02 54 03.2**	**-2.4**
comp=N,3μm,3.4s							
comp=E,3μm,3.4s							
TUIG	**Tuzandepetl**	**45.03**	**325**	*i* P	**P**	**02 47 45.7**	**+0.3**
PMSA	**Palmer Station**	**45.13**	**177**	*e*P	**P**	**02 47 44.4**	**-1.1**
comp=E,276nm,1.8s,mb5.7							
VHO	**Vista Hermosa**	**45.57**	**322**	*i* P	**P**	**02 47 51.2**	**+1.6**
CAIG	**El Cayaco**	**47.70**	**318**	*i* P	**P**	**02 48 07.0**	**+0.6**
YAIG	**Yautepec**	**48.34**	**321**	*i* P	**P**	**02 48 12.8**	**+1.5**
DWPF	**Disney**	**49.05**	**346**	*e*P	**P**	**02 48 15.8**	**-0.8**
comp=E,237nm,0.9s,mb6.1							
DWPF				*ep*P	pP	02 48 43.9	+0.3
BBSR	**BB Station**	**51.99**	**5**	*e*P	**P**	**02 48 37.7**	**-1.2**
comp=E,106nm,0.8s,mb5.9							
TRIS	**Tristan da Cun**	**52.09**	**122**	*e*P	**P**	**02 48 38.8**	**-0.8**
comp=E,189nm,0.8s,mb6.2							
TRIS				*ep*P	pP	02 49 07.0	+0.1
RGRS	**Roger Stewart**	**53.42**	**348**	*e*P	**P**	**02 48 49.1**	**-0.4**
RGRS				*ep*P	pP	02 49 16.9	0.0
CSU	**Charleston Sou**	**53.47**	**348**	*e*P	**P**	**02 48 49.8**	**-0.1**
CSU				*ep*P	pP	02 49 17.4	0.0
NHSC	**New Hope**	**53.61**	**348**	*e*P	**P**	**02 48 50.6**	**-0.3**
comp=E,965nm,1.0s							
NHSC				*ep*P	pP	02 49 18.1	-0.2
LRAL	**Lakeview Retre**	**55.20**	**342**	*e*P	**P**	**02 49 00.5**	**-2.1**
comp=E,131nm,1.1s,mb5.9							
LRAL				*ep*P	pP	02 49 28.4	-1.6
MYNC	**Murphy**	**56.35**	**345**	*e*P	**P**	**02 49 09.6

comp=Z,89nm,0.7s,mb5.9
ELN Prospectdale 57.72 349 *e*P **P 02 49 20.2 -0.1**
ELN *e*pP pP 02 49 48.3 +0.2
MET Memphis--Engin 58.04 340 *e*P **P 02 49 20.2 -2.4**
FWV Forest Hill 58.08 349 *e*P **P 02 49 22.3 -0.5**
CBN Corbin 58.16 352 *e*P **P 02 49 22.3 -1.1**
comp=Z,157nm,1.3s,mb5.9
WVT Waverly 58.33 342 *e*P **P 02 49 22.3 -2.4**
comp=Z,218nm,0.9s,mb6.2
WVT *e*pP pP 02 49 49.6 -2.9
WVT Waverly 58.33 342 *e*P **P 02 49 22.3 -2.3**
WVT *e**PP pP 02 49 49.6 -2.9
WVT pmax pmax
comp=Z,218nm,0.9s,mb6.2
UALR University of 58.55 338 *e*P **P 02 49 24.3 -1.9**
comp=Z,184nm,1.1s,mb6.0
UALR *e*pP pP 02 49 52.1 -1.9
HALT Halls 58.58 341 *e*P **P 02 49 24.7 -1.7**
HBAR Harrisburg 58.68 339 *e*P **P 02 49 25.3 -1.7**
UTMT University of 58.83 341 *e*P **P 02 49 26.6 -1.5**
comp=Z,799nm,1.2s,mb6.6
UTMT *e*pP pP 02 49 54.3 -1.7
GNAR Gosnell 58.84 340 *e*P **P 02 49 26.5 -1.7**
GNAR *e*pP pP 02 49 54.4 -1.7
GLAT Glass 58.90 341 *e*P **P 02 49 26.7 -1.8**
LTX Lajitas 59.10 325 *e*P **P 02 49 28.9 -1.1**
comp=Z,104nm,1.3s,mb5.7
LTX Lajitas 59.10 325 *e*P **P 02 49 28.9 -1.2**
LTX pmax pmax
comp=Z,104nm,1.3s,mb5.7
PVMO Portageville 59.16 341 *e*P **P 02 49 29.3 -1.0**
WCI Wyandotte Cave 59.89 344 *e*P **P 02 49 33.2 -2.1**
comp=Z,208nm,1.1s,mb6.1
WCI *e*pP pP 02 50 01.0 -2.3
WCI Wyandotte Cave 59.89 344 *e*P **P 02 49 33.2 -2.1**
WCI *e**PP pP 02 50 01.0 -2.3
WCI pmax pmax
comp=Z,208nm,1.1s,mb6.1
PAL Palisades 60.60 356 *e*P **P 02 49 38.1 -2.0**
comp=Z,15nm,0.8s,mb5.1
PAL *e*pP pP 02 50 07.4 -0.8
PAL Palisades 60.60 356 *e*P **P 02 49 38.1 -2.0**
PAL pmax pmax
comp=Z,15nm,0.8s,mb5.1
FVM French Village 60.83 341 *e*P **P 02 49 40.1 -1.6**
comp=Z,479nm,1.0s,mb6.5
FVM *e*pP pP 02 50 06.7 -3.1
FVM French Village 60.83 341 *e*P **P 02 49 40.1 -1.6**
FVM *e**PP pP 02 50 06.7 -3.1
FVM pmax pmax
comp=Z,479nm,1.0s,mb6.5
BLO Bloomington 60.84 345 *e*P **P 02 49 39.7 -2.0**
comp=Z,165nm,0.9s,mb6.1
BLO *e*pP pP 02 50 08.2 -1.6
BLO Bloomington 60.84 345 *e*P **P 02 49 39.7 -2.1**
BLO *e**PP pP 02 50 08.2 -1.6
BLO pmax pmax
comp=Z,165nm,0.9s,mb6.1
RKT Rikitea 60.97 254 *e*P **P 02 49 42.4 -0.5**
comp=Z,434nm,1.4s,mb6.3
RKT Rikitea 60.97 254 *e*LQ 03 05 04.3
RKT *e*LR LR 03 07 35.2
comp=Z,4μm,35.2s,baz=108
WMOK Wichita Mounta 61.09 332⇓*i*P **P 02 49 41.6 -1.9**
comp=Z,38nm,1.0s,mb5.4
WMOK Wichita Mounta 61.09 332⇓*i*P **P 02 49 41.7 -1.9**
WMOK pmax pmax
comp=Z,38nm,1.0s,mb5.4
CCM Cathedral Cave 61.15 340 *e*P **P 02 49 42.2 -1.7**
comp=Z,275nm,1.1s,mb6.2
CCM *e*pP pP 02 50 10.8 -1.2
CCM *e*sP sP 02 50 24.1 -0.6
CCM Cathedral Cave 61.15 340 *e*P **P 02 49 42.2 -1.7**
CCM *e**PP pP 02 50 10.8 -1.2
CCM *e**SP sP 02 50 24.1 -0.6
CCM pmax pmax
comp=Z,275nm,1.1s,mb6.2
SLM Saint Louis 61.37 341 *e*P **P 02 49 43.2 -2.2**
comp=Z,168nm,1.1s,mb6.0
SLM *e*pP pP 02 50 11.1 -2.3
SLM Saint Louis 61.37 341 *e*P **P 02 49 43.2 -2.2**
SLM *e**PP pP 02 50 11.1 -2.4
SLM pmax pmax
comp=Z,168nm,1.1s,mb6.0
CLNB Carlsbad 61.52 327 *e*P **P 02 49 45.7 -0.7**
GDL2 Guadalupe Moun 61.72 326 *e*P **P 02 49 47.1 -0.7**
GDL2 *e*pP pP 02 50 14.7 -1.2
QUA2 Belchertown 61.78 357 *e*P **P 02 49 46.5 -1.5**
comp=Z,29nm,0.9s,mb5.3
QUA2 *e*pP pP 02 50 14.7 -1.5
VNA3 Neumayer Olymp 61.78 162 *e* **P 02 49 50.4 +2.7**
VNA3 Neumayer Olymp 61.78 162 *e* **P 02 50 06.9 +19**
VNA3 Neumayer Olymp 61.78 162 *e* sP 02 50 26.8 -1.8
VNA3 Neumayer Olymp 61.78 162 *e*S **S 02 58 04.2 +4.3**
VNA3 Neumayer Olymp 61.78 162 *e*P **P 02 49 46.9 -0.8**
VNA3 *e* 02 49 50.4
VNA3 *e* 02 50 06.9
VNA3 *e* pP 02 50 15.7 -0.2
VNA3 *e* 02 50 26.8
VNA3 *e* 02 50 37.7
VNA3 *e* 02 52 01.8
VNA3 *e* 02 56 37.7
VNA3 *e*S **S 02 58 04.2 +4.3**
VNA3 *e* 02 58 14.7
VNA3 *e* 02 58 30.5
VNA3 *e* 02 58 44.1
VNA3 *e* 02 59 44.1
VNA3 *e* 03 18 50.9
VNA3 *e* 03 19 01.8
VNA3 *e* 03 19 34.2
VNA3 *e* 03 19 44.8
WES Weston 61.85 358 *e*P **P 02 49 47.1 -1.4**
comp=Z,65nm,1.1s,mb5.6
WES *e*pP pP 02 50 15.7 -1.0
WES Weston 61.85 358 P **P 02 49 48.1 -0.4**
WES *e* pP 02 50 16.7 0.0
WES pmax pmax
comp=Z,95nm,1.2s,mb5.7
MNTX Cornudas Mount 61.87 325⇓*e*P **P 02 49 47.0 -1.8**
comp=Z,122nm,1.1s,mb5.8
MNTX *e*pP pP 02 50 14.6 -2.4
ALLY Alegheny Colle 61.93 351 *e*P **P 02 49 48.4 -0.7**
ALLY *e*pP pP 02 50 16.6 -0.7
BINY Binghamton 61.96 354 *e*P **P 02 49 48.7 -0.6**
comp=Z,167nm,1.1s,mb6.0
BINY *e*pP pP 02 50 16.5 -0.9
HRV Harvard--Oak R 61.98 358 *e*P **P 02 49 48.3 -1.1**
comp=Z,74nm,0.9s,mb5.7
HRV *e*pP pP 02 50 16.6 -0.9
HRV Harvard--Oak R 61.98 358 *e*P **P 02 49 48.3 -1.1**
HRV *e**PP pP 02 50 16.6 -0.9
HRV pmax pmax
comp=Z,74nm,0.9s,mb5.7
VNA1 Neumayer--Stat 61.99 161 *e* **P 02 49 52.7 +3.6**
VNA1 Neumayer--Stat 61.99 161 *e* **P 02 50 08.6 +20**
VNA1 Neumayer--Stat 61.99 161 *e* sP 02 50 29.4 -0.5
VNA1 Neumayer--Stat 61.99 161 *e*S **S 02 58 09.6 +7.2**
VNA1 Neumayer--Stat 61.99 161 *e*P **P 02 49 48.6 -0.5**
VNA1 *e* 02 49 52.7
VNA1 *e* 02 50 08.6
VNA1 *e* pP 02 50 19.0 +1.8
VNA1 *e* 02 50 29.4
VNA1 *e* 02 50 40.2
VNA1 *e* 02 52 02.1
VNA1 *e*S **S 02 58 09.6 +7.2**
VNA1 *e* 02 59 53.1
VNA1 *e* 03 18 52.6
VNA1 *e* 03 19 03.0
VNA1 *e* 03 19 35.5
VNA1 *e* 03 19 46.3
CPRX Cap Rock 62.11 327 *e*P **P 02 49 49.0 -1.4**
VNA2 Neumayer--Watz 62.36 161 *e* **P 02 49 53.9 +2.4**
VNA2 Neumayer--Watz 62.36 161 *e* **P 02 50 09.5 +18**
VNA2 Neumayer--Watz 62.36 161 *e* sP 02 50 31.1 -1.3
VNA2 Neumayer--Watz 62.36 161 *e*S **S 02 58 09.1 +2.1**
VNA2 Neumayer--Watz 62.36 161 *e*P **P 02 49 50.6 -0.9**
VNA2 *e* 02 49 53.9
VNA2 *e* 02 50 09.5
VNA2 *e* pP 02 50 19.3 -0.4
VNA2 *e* 02 50 31.1
VNA2 *e* 02 50 42.7
VNA2 *e* 02 52 05.0
VNA2 *e* 02 56 40.1
VNA2 *e*S **S 02 58 09.1 +2.1**
VNA2 *e* 02 58 22.7
VNA2 *e* 02 58 35.9
VNA2 *e* 02 58 45.9
VNA2 *e* 02 59 51.3
VNA2 *e* 03 18 49.5
VNA2 *e* 03 19 01.0
VNA2 *e* 03 19 32.4
VNA2 *e* 03 19 43.7
GENY Geneseo 62.71 353 *e*P **P 02 49 55.5 +1.2**
GENY *e*pP pP 02 50 23.3 +0.8
FFD Franklin Falls 62.94 358 *e*P **P 02 49 55.1 -0.7**
comp=Z,34nm,0.6s,mb5.5
ACCN Adirondack Com 62.95 356 *e*P **P 02 49 55.4 -0.4**
HNH Hanover 63.20 357 *e*P **P 02 49 56.9 -0.6**
comp=Z,8.9nm,1.4s
MIV Mineville/With 63.63 356 *e*P **P 02 49 59.6 -0.7**
LBNH Lisbon 63.72 358 *e*P **P 02 50 00.6 -0.3**
comp=Z,60nm,0.9s,mb5.4
LBNH Lisbon 63.72 358 *e*P **P 02 50 00.6 -0.3**
LBNH pmax pmax
comp=Z,60nm,0.9s,mb5.4
KSU1 Kansas State U 63.96 336 *e*P **P 02 50 00.6 -1.9**
KSU1 *e*pP pP 02 50 29.0 -1.7
SNAA Sanae 63.99 161 *e* **P 02 50 04.6 +2.5**
SNAA Sanae 63.99 161 *e* **P 02 50 20.8 +19**
SNAA Sanae 63.99 161 *e* pP 02 50 29.7 -0.7
SNAA Sanae 63.99 161 *e* sP 02 50 41.3 -1.8
SNAA Sanae 63.99 161 *e*S **S 02 58 32.2 +4.9**
SNAA Sanae 63.99 161 P **P 02 50 01.1 -1.0**
comp=Z,23nm,1.0s,mb5.0,baz=290,slow=5.6,SNR=139
SNAA pP pP 02 50 30.4 -0.1
comp=Z,12nm,0.7s,baz=289,slow=5.5,SNR=12
SNAA Sanae 63.99 161 *e*P **P 02 50 01.0 -1.1**
SNAA *e* 02 50 04.6
SNAA *e* 02 50 20.8
SNAA *e* pP 02 50 29.7 -0.7
SNAA *e* 02 50 41.3
SNAA *e* 02 50 52.1
SNAA *e* 02 52 15.4
SNAA *e* 02 56 39.5
SNAA *e*S **S 02 58 32.2 +4.9**
SNAA *e* 02 58 45.1
SNAA *e* 02 58 56.6
SNAA *e* 02 59 11.1
SNAA *e* 02 59 45.2
SNAA *e* 03 18 46.2
SNAA *e* 03 18 56.1
SNAA *e* 03 19 24.5
SNAA *e* 03 19 35.2
SNAA Sanae 63.99 161 *e*P **P 02 50 01.0 -1.1**
SNAA *e* 02 50 20.8
SNAA *e* 02 50 41.3
SNAA *e*S **S 02 58 32.2 +4.9**
SNAA *e* 02 58 45.1
SNAA *e* 02 58 56.6
SNAA *e* 02 59 45.2
WVL Waterville 63.99 360 *e*P **P 02 50 02.1 -0.5**
comp=Z,99nm,0.8s,mb5.7
WVL *e*pP pP 02 50 30.3 -0.6
EMMW East Machias 64.15 1 *e*P **P 02 50 03.3 -0.4**
comp=Z,95nm,0.8s,mb5.7
EMMW *e*pP pP 02 50 32.1 +0.1
FRNY Flat Rock 64.39 356 *e*P **P 02 50 04.4 -0.8**
FRNY *e*pP pP 02 50 32.9 -0.7
BNM Barren Site 64.42 326 *e*P **P 02 50 05.4 -0.3**
BNM *e*pP pP 02 50 32.9 -1.0
LPM Los Pinos Moun 64.55 326 *e*P **P 02 50 06.2 -0.3**
LPM *e*pP pP 02 50 33.6 -1.1
LENM Lemitar 64.62 326 *e*P **P 02 50 06.5 -0.4**
LENM *e*pP pP 02 50 34.3 -0.9
MSNY Massena 64.64 355 *e*P **P 02 50 06.3 -0.5**
SADO Sadowa 64.85 352 P **P 02 50 07.1 -1.1**
comp=Z,69nm,0.8s,mb5.6,baz=189,slow=6.6,SNR=71
LAZ Ladron 64.89 326 *e*P **P 02 50 08.6 0.0**
LAZ *e*pP pP 02 50 36.7 -0.3
ANMO Albuquerque 64.95 327 *e*P **P 02 50 08.6 -0.5**
comp=Z,276nm,1.8s,mb5.8
ANMO *e*pP pP 02 50 36.3 -1.1
ANMO Albuquerque 64.95 327 *e*P **P 02 50 08.6 -0.4**
ANMO *e**PP pP 02 50 36.3 -1.1
ANMO pmax pmax
comp=Z,276nm,1.8s
TUC Tucson 65.36 322 *e*P **P 02 50 11.4 -0.3**
comp=Z,176nm,1.5s,mb5.7
TUC Tucson 65.36 322 *e*P **P 02 50 11.4 -0.3**
TUC pmax pmax
comp=Z,176nm,1.5s,mb5.7
SDCO Great Sand Dun 66.66 329 *e*P **P 02 50 19.7 -0.2**
comp=Z,235nm,1.2s,mb5.9
SDCO *e*pP pP 02 50 48.1 -0.2
LIC Lamto 68.06 75⇑*i*P **P 02 50 27.3 -1.7**
comp=Z,38nm,0.5s,mb5.2
ISCO Idaho Springs 68.34 330 *e*P **P 02 50 30.4 +0.1**
comp=Z,146nm,1.2s,mb5.7
ISCO Idaho Springs 68.34 330 *e*P **P 02 50 30.4 +0.1**
ISCO pmax pmax
comp=Z,146nm,1.2s,mb5.7
CHIE El Hierro 68.36 48 P **P 02 50 34.7 +4.0**
comp=Z,62nm,0.9s,mb5.4
DBIC Dimbokro 68.40 74 P **P 02 50 29.7 -1.4**
comp=Z,128nm,0.8s,mb5.8,baz=218,slow=6.4,SNR=122
DBIC pP pP 02 50 59.4 -0.3
comp=Z,60nm,0.7s,baz=201,slow=6.9,SNR=3.8
DBIC sP sP 02 51 11.9 -0.2
comp=Z,122nm,0.8s,baz=217,slow=5.8,SNR=5.3
DBIC LR LR 03 18 23.4
comp=Z,1μm,22.0s,baz=278,slow=34
DBIC Dimbokro 68.40 74 *e*P **P 02 50 29.7 -1.4**
comp=Z,187nm,0.9s,mb5.9
DBIC *e*pP pP 02 50 59.6 -0.1
DBIC *e*sP sP 02 51 10.9 -1.2
DBIC Dimbokro 68.40 74 *e*P **P 02 50 29.7 -1.4**
DBIC *e**PP pP 02 50 59.6 -0.1
DBIC pmax pmax
comp=Z,187nm,0.9s
MAIT Maitri 68.49 159 *e*P **P 02 50 30.4 -0.3**
MAIT *e*pP pP 02 50 45.5 -14
MAIT *e*PcP PcP 02 50 59.7 +4.6
SMCO Snowmass 68.50 329 *e*P **P 02 50 31.7 +0.5**
NVL N'lazarevskaya 68.53 159⇑*i*P **P 02 50 30.3 -0.6**
NVL *i* 03 00 03.8
NVL pmax pmax
comp=Z,8.0nm,1.1s
EGOM La Gomera 69.15 48 P **P 02 50 37.0 +1.6**
comp=Z,144nm,0.7s,mb5.9
BAR Barrett 69.19 318⇓*i*P **P 02 50 36.1 +0.5**
BAR *e*pP pP 02 51 04.2 -0.1
TAOE Nuku Hiva Isla 69.31 268 *e*LR LR 03 11 26.6
comp=Z,3μm,25.1s
PICO Pico 69.36 33 *e*P **P 02 50 39.8 +3.3**
PHWY Pilot Hill 69.47 332 *e*P **P 02 50 37.2 0.0**
CCAN Las Canadas 69.61 48 P **P 02 50 40.5 +2.2**
comp=Z,51nm,0.8s,mb5.4
PFO Pinyon Flat Ob 69.67 319 *e*P **P 02 50 39.2 +0.7**
comp=Z,142nm,1.1s,mb5.7
PFO *e*PcP PcP 02 51 01.0 +0.3
PFO *e*pP pP 02 51 07.4 +0.1
PFO Pinyon Flat Ob 69.67 319 *e*P **P 02 50 39.3 +0.7**
PFO *e* 02 51 01.0
PFO *e**PP pP 02 51 07.4 +0.1
PFO pmax pmax
comp=Z,142nm,1.1s,mb5.7
LDFC Landfair 69.86 321⇓*e*P **P 02 50 40.7 +1.0**
LDFC *e*pP pP 02 51 08.8 +0.4
ADH Angra Heroismo 70.09 34 *e*P **P 02 50 46.9 +5.9**
ADH Angra Heroismo 70.09 34 *e*LR LR 03 13 22.0
NEN Nelson 70.10 322 *e*P **P 02 50 41.5 +0.4**
NEN *e*pP pP 02 51 09.5 -0.3
SRU San Rafael 70.22 327 *e*P **P 02 50 41.7 -0.1**
SRU *e*pP pP 02 51 10.6 0.0
EOSO Osorio 70.27 49 P **P 02 50 45.6 +3.3**
comp=Z,60nm,0.9s,mb5.4
QSPA South Pole Qui 70.44 180⇓*i*P **P 02 50 42.3 -0.2**
comp=Z,236nm,1.3s,mb5.9
RWWY Rawlins 70.58 331 *e*P **P 02 50 44.0 +0.1**
comp=Z,249nm,1.4s,mb5.8
MSU Marysvale 70.65 325 *e*P **P 02 50 45.2 +0.9**
MSU *e*pP pP 02 51 13.5 +0.4
TMUT Trail Mountain 70.71 327 *e*P **P 02 50 45.3 +0.6**
ARUT Antelope Range 70.81 324 *e*P **P 02 50 46.5 +1.2**
ARUT *e*pP pP 02 51 15.1 +0.9
MWC Mount Wilson 71.08 319 *e*P **P 02 50 47.6 +0.6**
MWC *e*pP pP 02 51 15.8 -0.1
RSSD Black Hills 71.15 334⇓*i*P **P 02 50 47.4 +0.2**
comp=Z,118nm,1.1s,mb5.6
RSSD Black Hills 71.15 334⇓*i*P **P 02 50 47.4 +0.1**
RSSD pmax pmax
comp=Z,118nm,1.1s,mb5.6
MPU Maple Canyon 71.47 327 *e*P **P 02 50 49.6 +0.4**
CFTV Fuerteventura 71.52 50 P **P 02 50 51.4 +1.7**
comp=Z,42nm,1.0s,mb5.2
DAU Daniels Canyon 71.57 327 *e*P **P 02 50 50.6 +0.8**
NLU North Lily Min 71.65 326 *e*P **P 02 50 50.9 +0.5**
JLU Jordanelle 71.81 327⇓*i*P **P 02 50 51.9 +0.7**
JLU *e*pP pP 02 51 20.3 +0.2
CTU Camp Tracy 72.03 327 *e*P **P 02 50 52.7 +0.2**
DAC Darwin (Calif) 72.16 321 *e*P **P 02 50 54.1 +0.7**
comp=Z,127nm,1.0s,mb5.7
DAC *e*pP pP 02 51 22.4 +0.1
DAC sP sP 02 51 35.7 +1.0
DAC Darwin (Calif) 72.16 321 *e*P **P 02 50 54.1 +0.7**
DAC *e**PP pP 02 51 22.4 +0.1
DAC pmax pmax
comp=Z,127nm,1.0s,mb5.7
TCUT Toone Canyon 72.17 328 *e*P **P 02 50 53.8 +0.5**
NOQ North Oquirrh 72.19 327 *e*P **P 02 50 53.6 +0.1**
DUG Dugway 72.21 326⇓*i*P **P 02 50 54.5 +0.8**
comp=Z,199nm,1.3s,mb5.8
DUG *e*pP pP 02 51 22.7 +0.2
DUG Dugway 72.21 326⇓*i*P **P 02 50 54.5 +0.9**
DUG *e**PP pP 02 51 22.7 +0.1
DUG pmax pmax
comp=Z,199nm,1.3s,mb5.8
ISA Isabella 72.28 320⇓*i*P **P 02 50 55.0 +0.9**
comp=Z,163nm,1.5s,mb5.6
ISA *e*pP pP 02 51 23.3 +0.3
ISA Isabella 72.28 320⇓*i*P **P 02 50 55.0 +0.9**
ISA *e**PP pP 02 51 23.3 +0.2
ISA pmax pmax
comp=Z,163nm,1.5s,mb5.6
EFAM Famara 72.33 49 P **P 02 50 57.6 +3.1**
comp=Z,61nm,0.7s,mb5.5
BW06 Boulder Array 72.51 330⇓*e*P **P 02 50 55.1 -0.2**
comp=Z,16nm,0.5s,mb5.1
PDAR Pinedale Array 72.51 330 P **P 02 50 55.2 -0.2**
comp=Z,21nm,1.0s,mb4.9,baz=153,slow=6.6,SNR=109
PDAR pP pP 02 51 23.9 -0.4
comp=Z,9.5nm,0.8s,baz=180,slow=1.5,SNR=2.2
HWUT Hardware Ranch 72.61 328 *e*P **P 02 50 55.7 -0.2**
comp=Z,106nm,1.2s,mb5.5
SPUT South Promonto 72.84 327 *e*P **P 02 50 57.6 +0.3**
SPUT *e*pP pP 02 51 26.5 +0.2
TPH Tonopah 73.15 322⇓*i*P **P 02 51 00.1 +0.9**
comp=Z,150nm,1.1s,mb5.7
TPH *e*pP pP 02 51 28.6 +0.4
TPH Tonopah 73.15 322⇓*i*P **P 02 51 00.1 +0.9**
TPH *e**PP pP 02 51 28.6 +0.4
TPH pmax pmax
comp=Z,150nm,1.1s,mb5.7
AHID Auburn Hatcher 73.25 329⇓*i*P **P 02 50 59.8 +0.1**
comp=Z,172nm,1.2s,mb5.8
PTRM Twissleman Ran 73.35 319 *e*P **P 02 51 01.4 +1.1**
HVU Hansel Valley 73.35 327⇓*i*P **P 02 51 00.4 +0.1**
MTUM Tungsten Hills 73.45 321 *e*P **P 02 51 01.8 +0.8**
MTUM *e*pP pP 02 51 30.2 +0.2
REDW Red Top Meadow 73.58 330 *e*P **P 02 51 01.8 +0.2**
comp=Z,186nm,1.3s,mb5.7
SNOW Snow King Moun 73.61 330⇓*e*P **P 02 51 02.2 +0.4**
comp=Z,104nm,1.1s,mb5.5
LOHW Long Hollow 73.65 330 *e*P **P 02 51 02.5 +0.5**
comp=Z,175nm,1.4s,mb5.6
TPAW Teton Pass 73.73 330⇓*i*P **P 02 51 03.0 +0.5**
comp=Z,164nm,1.3s,mb5.6
RRI2 Red Ridge 73.80 329⇓*i*P **P 02 51 03.5 +0.7**
comp=Z,306nm,1.2s,mb5.9
OMM Old Mammoth Mi 73.88 321⇓*i*P **P 02 51 04.5 +1.1**
OMM *e*pP pP 02 51 33.2 +0.6
ELK Elko 73.89 325⇓*i*P **P 02 51 04.0 +0.6**
comp=Z,111nm,1.3s,mb5.4
ELK *e*pP pP 02 51 32.2 -0.4
ELK Elko 73.89 325⇓*i*P **P 02 51 04.0 +0.5**
ELK *e**PP pP 02 51 32.2 -0.4
ELK pmax pmax
comp=Z,111nm,1.3s
TBI Tubuai 73.92 251 *e*LQ 03 10 44.4
TBI Tubuai 73.92 251 *e*P **P 02 51 04.5 +0.5**
comp=Z,216nm,1.1s,mb5.8
TBI Tubuai 73.92 251 *e*LR LR 03 13 32.4
comp=Z,3μm,33.2s,baz=112
NVAR Mina Array Bea 74.02 322 P **P 02 51 04.9 +0.6**
comp=Z,54nm,0.9s,mb5.3,baz=142,slow=5.4,SNR=274
IMW Indian Meadow 74.03 330⇓*i*P **P 02 51 04.9 +0.7**
comp=Z,215nm,1.3s,mb5.7
LAO LASA Array 74.14 334⇓*i*P **P 02 51 04.8 0.0**
comp=Z,343nm,1.4s,mb5.9
LAO *e*pP pP 02 51 32.8 -1.1
LKWY Lake 74.28 331 *e*P **P 02 51 07.4 +1.8**
comp=Z,591nm,1.9s,mb6.0
LKWY Lake 74.28 331 *e*P **P 02 51 07.4 +1.8**
LKWY pmax pmax
comp=Z,591nm,1.9s,mb6.0
SCHQ Schefferville 74.29 1 P **P 02 51 05.0 -0.4**
comp=Z,32nm,1.0s,mb5.0,baz=182,slow=5.9,SNR=22
SCHQ pP pP 02 51 35.0 +0.4
comp=Z,38nm,1.0s,baz=154,slow=6.0,SNR=4.9
LRV Little Rabbit 74.34 319 *e*P **P 02 51 07.0 +0.8**
YFT Old Faithful 74.40 330 *e*P **P 02 51 08.1 +1.8**
VAH Vaihoa 74.44 259 *e*P **P 02 51 07.7 +0.6**
comp=Z,253nm,1.1s,mb5.8
YNR Norris Junctio 74.53 331 *e*P **P 02 51 08.1 +1.1**
YMR Madison River 74.62 330 *e*P **P 02 51 08.9 +1.4**
PMOR Pomariorio Ree 74.75 259 *e*P **P 02 51 09.8 +0.9**
comp=Z,212nm,1.0s,mb5.8
BMN Battle Mountai 74.76 324 *e*P **P 02 51 08.0 -0.4**
comp=Z,49nm,1.3s,mb5.1
BMN Battle Mountai 74.76 324 *e*P **P 02 51 08.0 -0.4**
BMN pmax pmax
comp=Z,49nm,1.3s,mb5.1
DGMT Dagmar 74.80 337 *e*P **P 02 51 08.8 +0.3**
comp=Z,294nm,1.1s,mb5.9
DGMT *e*pP pP 02 51 37.5 -0.1
GCMT Greycliff 74.89 332 *e*P **P 02 51 09.6 +0.5**
GCMT *e*pP pP 02 51 38.1 -0.2
QLMT Earthquake Lak 74.96 330 *e*P **P 02 51 10.4 +0.9**
CMB Columbia Colle 74.99 320 *e*P **P 02 51 09.5 -0.3**
comp=Z,29nm,0.9s,mb5.0
CMB Columbia Colle 74.99 320 *e*P **P 02 51 09.5 -0.3**
CMB pmax pmax
comp=Z,29nm,0.9s,mb5.0
TVO Taravao 75.22 256 *e*P **P 02 51 12.4 +0.9**
comp=Z,379nm,1.3s,mb6.0
HLID Hailey 75.48 328 *e*P **P 02 51 13.4 +1.0**
comp=Z,190nm,1.2s,mb5.7
HLID *e*pP pP 02 51 42.2 +0.5
HLID *e*sP sP 02 51 55.1 +1.0
PAHR Pah Rah Range 75.49 322 *e*P **P 02 51 13.9 +1.2**
comp=Z,137nm,1.0s,mb5.6
PAHR *e*pP pP 02 51 42.3 +0.4
PAE Paea 75.55 256 *e*P **P 02 51 14.2 +0.8**
comp=Z,334nm,1.2s,mb6.0
PPT Papeete 75.58 256 *e*P **P 02 51 14.7 +1.2**
comp=Z,158nm,1.4s,mb5.6
PPT Papeete 75.58 256 *e*LQ 03 11 13.5
PPT *e*LR LR 03 14 22.7
comp=Z,2μm,29.0s,baz=114
PPT Papeete 75.58 256 P **P 02 51 14.8 +1.3**
comp=Z,55nm,0.7s,mb5.4,baz=132,slow=10,SNR=6.3
PPT LR LR 03 16 07.2
comp=Z,564nm,19.6s,baz=92,slow=29
MCMT McKenzie Canyo 75.63 329 *e*P **P 02 51 14.3 +1.1**
MCMT *e*pP pP 02 51 43.0 +0.5
BOZ Bozeman (W) 75.67 331 *e*P **P 02 51 13.7 +0.2**
comp=Z,136nm,1.4s,mb5.5
BOZ pP pP 02 51 42.4 -0.3
BOZ Bozeman (W) 75.67 331 *e*P **P 02 51 13.7 +0.2**
BOZ *PP pP 02 51 42.4 -0.3
BOZ pmax pmax
comp=Z,136nm,1.4s,mb5.5
SAC San Andreas 75.94 319 *e*P **P 02 51 15.9 +0.8**
BEKR Beckwourth 76.17 322 *e*P **P 02 51 17.0 +0.6**
comp=Z,347nm,1.9s,mb5.8
BEKR *e*pP pP 02 51 46.0 +0.3
HRY Holter Researc 76.57 331 *e*P **P 02 51 19.3 +0.8**
WVOR Wild Horse Val 76.90 325 *e*P **P 02 51 20.3 -0.2**
comp=Z,153nm,1.9s,mb5.4
WVOR Wild Horse Val 76.90 325 *e*P **P 02 51 20.3 -0.2**
WVOR pmax pmax

comp=Z,153nm,1.9s,mb5.4
HOPS Hopland 77.22 320 *e*P **P 02 51 23.0 +0.7**
comp=Z,41nm,1.1s,mb5.1
CHMT Chamberlain Mo 77.37 331 *e*P **P 02 51 23.8 +0.8**
MOD Modoc 77.47 323 *e*P **P 02 51 24.3 +0.7**
comp=Z,167nm,1.4s,mb5.6
MOD *e*pP pP 02 51 51.8 -1.1
SBA Scott Base 77.52 190 *e*P **P 02 51 23.7 +0.5**
comp=Z,171nm,1.6s,mb5.5
SBA Scott Base 77.52 190 *e*P **P 02 51 23.7 +0.4**
SBA pmax pmax
comp=Z,171nm,1.6s,mb5.5
MSO Missoula 77.62 330 *e*P **P 02 51 25.1 +0.7**
comp=Z,109nm,1.4s,mb5.4
BMO Blue Mountains 77.86 327⇓*i*P **P 02 51 26.1 +0.4**
comp=Z,155nm,1.2s,mb5.6
BMO Blue Mountains 77.86 327⇓*i*P **P 02 51 26.1 +0.4**
BMO pmax pmax
comp=Z,155nm,1.2s,mb5.6
WDC Whiskeytown Da 77.90 321 *e*P **P 02 51 24.7 -1.4**
comp=Z,79nm,1.1s,mb5.3
WDC Whiskeytown Da 77.90 321 *e*P **P 02 51 24.7 -1.3**
WDC pmax pmax
comp=Z,79nm,1.1s,mb5.4
KCPM Cahto Peak 77.97 320 *e*P **P 02 51 27.6 +1.2**
KIPM Iron Peak 77.98 320 *e*P **P 02 51 27.4 +1.0**
SYO Syowa Base 78.20 160⇑P **P 02 51 25.2 -1.9**
SYO Syowa Base 78.20 160⇓PcP PcP 02 51 34.6 -1.9
SYO Syowa Base 78.20 160⇑pP pP 02 51 56.8 +0.4
VNDA Vanda 78.55 190 P **P 02 51 29.4 +0.5**
comp=Z,7.4nm,0.7s,mb4.6,baz=138,slow=4.9,SNR=39
VNDA pP pP 02 51 58.9 +0.6
comp=Z,6.1nm,0.9s,baz=97,slow=8.0,SNR=2.7
VNDA Vanda 78.55 190 *e*P **P 02 51 29.1 +0.3**
comp=Z,155nm,1.9s,mb5.5
VNDA Vanda 78.55 190 *e*P **P 02 51 29.1 +0.2**
VNDA pmax pmax
comp=Z,155nm,1.9s
YBH Yreka Blue Hor 78.73 322 *e*P **P 02 51 29.9 -0.6**
comp=Z,46nm,1.0s,mb5.3
YBH Yreka Blue Hor 78.73 322 *e*P **P 02 51 29.9 -0.6**
YBH pmax pmax
comp=Z,46nm,1.0s
KHMM Horse Mountain 78.79 321 *e*P **P 02 51 31.9 +1.1**
WALA Waterton Lakes 79.25 332⇓*i*P **P 02 51 33.7 +0.5**
comp=Z,148nm,1.1s,mb5.7
FFC Flin Flon 79.32 341 *e*P **P 02 51 32.8 -0.7**
comp=Z,95nm,1.2s,mb5.5
FFC Flin Flon 79.32 341 *e*P **P 02 51 32.8 -0.7**
FFC pmax pmax
comp=Z,95nm,1.2s,mb5.5
HUMO Hull Mountain 79.43 323 *e*P **P 02 51 33.9 -0.4**
comp=Z,35nm,1.1s,mb5.1
BBOR Butler Butte 79.45 323 P **P 02 51 34.2 -0.2**
SUR Sutherland 79.60 121 P **P 02 51 36.2 +0.7**
comp=Z,24nm,0.7s,mb5.1,baz=239,slow=6.9,SNR=17
SUR pP pP 02 52 06.3 +1.4
comp=Z,35nm,0.9s,baz=250,slow=4.3,SNR=4.9
SUR sP sP 02 52 17.9 +0.3
comp=Z,38nm,1.1s,baz=228,slow=4.0,SNR=3.1
SUR Sutherland 79.60 121 *e*P **P 02 51 35.8 +0.3**
comp=Z,37nm,0.9s,mb5.2
WIFE Three Sisters- 79.72 324 P **P 02 51 36.2 +0.4**
HBO Huckleberry Mo 79.86 324 P **P 02 51 37.2 +0.6**
NEW Newport 80.15 330 *e*P **P 02 51 37.8 -0.3**
comp=Z,118nm,1.5s,mb5.5
NEW Newport 80.15 330 *e*P **P 02 51 37.8 -0.3**
NEW pmax pmax
comp=Z,117nm,1.5s
KEBM Edson Butte 80.38 322 *e*P **P 02 51 40.4 +1.0**
PTEO Sao Teotonio 80.41 44 *e*P **P 02 51 40.9 +1.2**
comp=Z,55nm,1.4s,mb5.2
PTEO *e*pP pP 02 52 11.4 +2.2
TSUM Tsumeb 80.70 107 P **P 02 51 41.7 +0.2**
comp=Z,48nm,0.8s,mb5.4,baz=231,slow=5.0,SNR=61
TSUM pP pP 02 52 12.2 +1.2
comp=Z,36nm,0.9s,baz=226,slow=5.8,SNR=4.4
TSUM Tsumeb 80.70 107 *e*P **P 02 51 41.4 -0.1**
comp=Z,59nm,0.9s,mb5.4
TSUM *e*PcP PcP 02 51 48.1 -0.1
TSUM *e* pP 02 52 11.4 +0.3
COR Corvallis 80.87 324 *e*P **P 02 51 42.5 +0.5**
comp=Z,325nm,1.1s,mb6.1
COR *e*pP pP 02 52 12.1 +0.6
COR Corvallis 80.87 324 *e*P **P 02 51 42.5 +0.5**
COR *e**PP pP 02 52 12.1 +0.6
COR pmax pmax
comp=Z,325nm,1.1s,mb6.1
PLOU Loures 80.88 43 *e*P **P 02 51 43.6 +1.4**
PLOU *e*pP pP 02 52 15.5 +3.9
FCC Fort Churchill 80.89 347 *e*P **P 02 51 41.5 -0.3**
comp=Z,67nm,0.9s,mb5.5
FCC *e*pP pP 02 52 10.4 -0.9
FCC Fort Churchill 80.89 347 *e*P **P 02 51 41.5 -0.3**
FCC *e**PP pP 02 52 10.4 -0.8
FCC pmax pmax
comp=Z,67nm,0.9s,mb5.5
TBM Table Mountain 81.11 327 P **P 02 51 44.3 +1.1**
EGRO El Granado 81.23 45 P **P 02 51 49.5 +5.5**
comp=Z,20nm,1.0s,mb4.9
PBEJ Beja 81.24 44 *e*P **P 02 51 44.9 +0.8**
PBEJ *e*pP pP 02 52 18.6 +5.0
EVO Evora 81.43 44 *e*P **P 02 51 45.0 0.0**
comp=Z,59nm,0.6s,mb5.3
EVO *e*R
comp=Z,755nm,21.2s
LON Longmire 81.46 326 P **P 02 51 45.3 +0.3**
PTOM Tomar 81.77 43 *e*P **P 02 51 47.1 +0.3**
PTOM *e*pP pP 02 52 17.6 +1.3
EMIN Mina Concepcio 81.90 45 P **P 02 51 55.4 +7.9**
comp=Z,185nm,0.9s,mb5.9
ESPR Espera 81.97 46 P **P 02 51 53.4 +5.5**
comp=Z,48nm,1.0s,mb5.3
EDM Edmonton 82.11 335⇓*i*P **P 02 51 47.6 -0.7**
EDM *e*pP pP 02 52 16.8 -1.0
EBAD Badajoz 82.20 44 P **P 02 51 54.8 +5.8**
comp=Z,36nm,0.9s,mb5.2
PCBR Castelo Branco 82.49 43 *e*pP pP 02 52 20.4 +0.3
GNW Green Mountain 82.52 327 P **P 02 51 50.8 +0.3**
EMIJ Mijas 82.55 47 P **P 02 51 54.9 +4.0**
comp=Z,84nm,1.2s,mb5.4
MTE Manteigas 82.76 43 *e*P **P 02 51 51.9 +0.1**
comp=Z,23nm,1.2s,mb4.9
MTE *e*pP pP 02 52 22.6 +1.2
MTE *e*S S 03 02 03.8 +5.2
MTE Manteigas 82.76 43 *e*P **P 02 51 51.5 -0.3**
comp=Z,50nm,0.9s,mb5.3
PVRL Vila Real 83.13 42 *e*P **P 02 51 54.2 +0.5**
comp=Z,25nm,1.3s,mb4.9
PVRL *e*pP pP 02 52 24.1 +0.8
ELOB Lobios 83.25 41 P **P 02 52 03.6 +9.3**
comp=Z,48nm,0.9s,mb5.3
ELOJ Sierra Loja 83.28 47 P **P 02 52 00.1 +5.5**
comp=Z,97nm,1.0s,mb5.6
EMAZ Mazaricos 83.29 40 P **P 02 52 04.6 +10**
OCWA Octopus Mounta 83.34 326 *e*P **P 02 51 55.8 +1.2**
comp=Z,35nm,0.9s,mb5.2
ERON Agron 83.45 47 P **P 02 52 04.5 +9.2**
comp=Z,29nm,0.8s,mb5.2
EADA Adamuz 83.51 46 P **P 02 52 03.5 +7.8**
comp=Z,68nm,1.1s,mb5.4
STS Santiago 83.52 40 P **P 02 52 03.4 +7.8**
comp=Z,14nm,1.0s,mb4.8
EGUA Guajares 83.52 47 P **P 02 52 05.0 +9.2**
comp=Z,2.0nm,0.4s
PGC Sidney 83.54 327 *e*P **P 02 51 56.3 +0.7**
comp=Z,388nm,1.1s,mb6.2
PGC *e*pP pP 02 52 23.5 -1.7
EBER Berja 84.03 48 P **P 02 52 07.2 +8.9**
comp=Z,79nm,0.9s,mb5.5
PBRG Braganca 84.03 42 *e*P **P 02 51 58.7 +0.5**
PBRG *e*pP pP 02 52 29.1 +1.2
EBAN Banos Encina 84.05 46 P **P 02 52 06.6 +8.2**
comp=Z,29nm,0.6s,mb5.3
ERUA La Rua 84.11 41 P **P 02 52 09.4 +11**
ECAL Calabor 84.11 42 P **P 02 52 07.0 +8.4**
comp=Z,39nm,0.5s,mb5.5
EQES Quesada 84.35 47 P **P 02 52 08.2 +8.2**
comp=Z,116nm,0.8s,mb5.8
BOSA Boshof 84.41 118 P **P 02 52 00.1 -0.3**
comp=Z,39nm,1.0s,mb5.2,baz=244,slow=4.7,SNR=40
BOSA pP pP 02 52 31.2 +1.0
comp=Z,100nm,1.0s,baz=256,slow=4.2,SNR=17
BOSA LR LR 03 28 54.1
comp=Z,461nm,18.5s,baz=257,slow=35
BOSA Boshof 84.41 118 *e*P **P 02 51 59.9 -0.6**
comp=Z,138nm,1.0s,mb5.7
BOSA *e* pP 02 52 29.4 -0.8
BOSA Boshof 84.41 118 *e*P **P 02 51 59.9 -0.5**
BOSA *e* pP 02 52 29.4 -0.8
BOSA pmax pmax
comp=Z,138nm,1.0s,mb5.7
ENIJ Nijar 84.54 48 P **P 02 52 09.3 +8.4**
comp=Z,5.2nm,0.8s
EPON Pontenova 84.61 40 P **P 02 52 10.5 +9.4**
comp=Z,40nm,0.9s,mb5.3
EHUE Huescar 84.69 47 P **P 02 52 09.2 +7.7**
comp=Z,32nm,0.6s,mb5.4
ESDC Sonseca Array 84.70 45 P **P 02 52 02.1 +0.5**
comp=Z,7.3nm,0.9s,mb4.6,baz=246,slow=5.4,SNR=30
ESDC pP pP 02 52 32.8 +1.4
comp=Z,23nm,1.1s,baz=237,slow=5.4,SNR=2.2
ESDC Sonseca Array 84.70 45 P **P 02 52 02.1 +0.5**
ESDC P 02 52 10.0
ESDC pP pP 02 52 32.8 +1.4
ESLA Sonseca Array 84.70 45 *e*P **P 02 52 01.5 -0.1**
comp=Z,21nm,0.9s,mb5.1
EVIA Vianos 85.16 46 P **P 02 52 13.4 +10**
comp=Z,107nm,1.0s,mb5.7
EMUR La Murta 85.63 47 P **P 02 52 14.8 +8.6**
comp=Z,22nm,0.9s,mb5.1
EARI Arriondas 85.79 41 P **P 02 52 15.9 +9.0**
comp=Z,46nm,0.9s,mb5.4
ETOB Tobarra 85.81 47 P **P 02 52 15.9 +8.8**
comp=Z,114nm,1.1s,mb5.7
LBTB Lobatse 85.90 115 *e*P **P 02 52 07.6 -0.3**
comp=Z,174nm,1.2s,mb5.9
LBTB *e* pP 02 52 37.0 -0.7
LBTB Lobatse 85.90 115 *e*P **P 02 52 07.6 -0.3**
LBTB *e* pP 02 52 37.0 -0.7
LBTB pmax pmax
comp=Z,174nm,1.2s,mb5.9
MAW Mawson 86.05 163⇓*i*P **P 02 52 07.6 0.0**
comp=Z,17nm,1.1s,mb4.9
MAW *e*pP pP 02 52 37.6 +0.2
MAW *e*S S 03 02 31.2 +0.9
MAW *e* 03 02 23.8
MAW Mawson 86.05 163 P **P 02 52 07.9 +0.3**
comp=Z,25nm,1.1s,mb5.0,baz=218,slow=6.1,SNR=30
MAW pP pP 02 52 39.1 +1.6
comp=Z,15nm,0.6s,baz=226,slow=6.3,SNR=7.3
MAW LR LR 03 29 26.3
comp=Z,302nm,20.2s,baz=235,slow=35
MAW Mawson 86.05 163⇓*i*P **P 02 52 07.6 0.0**
MAW *e**PP pP 02 52 37.6 +0.2
MAW *e*S S 03 02 31.2 +0.9
MAW pmax pmax
comp=Z,17nm,1.1s
ETRT Tiaret 86.28 50 P **P 02 52 11.0 +1.5**
EANR 'Ain N'Sour 86.39 50 P **P 02 52 11.5 +1.5**
ECHE Chera 86.66 46 P **P 02 52 19.6 +8.4**
comp=Z,130nm,0.8s,mb5.9
ECHA Ech Chlef 86.68 50 P **P 02 52 18.5 +7.1**
EBEN Beniarda 86.75 47 P **P 02 52 22.0 +10**
EBNR Beni Rached 86.86 50 P **P 02 52 21.0 +8.7**
ELAN Lanestosa 86.86 42 P **P 02 52 23.0 +11**
EMOS Mosqueruela 87.37 45 P **P 02 52 25.4 +11**
VAL Valentia 87.82 32 *e*P **P 02 52 22.3 +5.8**
EMHD Djebel Mahouad 87.85 50 P **P 02 52 25.0 +8.0**
EIBI Ibiza 87.98 47 P **P 02 52 27.7 +10**
EALK Alkurruntz 88.08 43 P **P 02 52 29.6 +12**
ERTA Horta de San J 88.19 45 P **P 02 52 29.6 +11**
SJPF Ste Jean 88.20 43 *e*P **P 02 52 19.2 +0.7**
comp=Z,127nm,0.9s,mb5.7
SJPF Ste Jean 88.20 43 *e*P **P 02 52 19.2 +0.7**
SJPF pmax pmax
comp=Z,63nm,0.9s,mb5.7
OSSF Osses 88.25 43 *e*P **P 02 52 19.9 +1.1**
OSSF Osses 88.25 43 *e*P **P 02 52 29.8 +11**
LARF Larrau 88.32 43 *e*P **P 02 52 20.3 +1.2**
LARF Larrau 88.32 43 *e*P **P 02 52 30.8 +12**
FDAF Les Forges d'A 88.48 43 *e*P **P 02 52 19.9 0.0**
FDAF Les Forges d'A 88.48 43 *e*P **P 02 52 31.7 +12**
ETSF Etsaut 88.53 43 *e*P **P 02 52 20.8 +0.7**
comp=Z,44nm,0.6s,mb5.3
ETSF Etsaut 88.53 43 *e*P **P 02 52 20.8 +0.7**
ETSF pmax pmax
comp=Z,22nm,0.6s,mb5.4
REYF Montagne du Re 88.72 43 *e*P **P 02 52 22.2 +1.2**
REYF Montagne du Re 88.72 43 *e*P **P 02 52 32.7 +12**
EGRA Graus 88.76 44 P **P 02 52 31.9 +11**
EPOB Poblet 88.87 45 P **P 02 52 32.2 +10**
EBIE Bielsa 88.88 44 P **P 02 52 33.3 +12**
VIEF Viey 88.90 43 *e*P **P 02 52 33.1 +11**
LABF Labassere 89.01 43 *e*P **P 02 52 22.9 +0.6**
LABF Labassere 89.01 43 *e*P **P 02 52 34.3 +12**
RESF Ens 89.06 44 *e*P **P 02 52 24.6 +2.0**
RESF Ens 89.06 44 *e*P **P 02 52 32.4 +10**
EPF Esparros 89.17 43 *e*P **P 02 52 23.8 +0.7**
comp=Z,49nm,0.8s,mb5.3
EPF Esparros 89.17 43 *e*P **P 02 52 23.8 +0.7**
EPF pmax pmax
comp=Z,25nm,0.8s,mb5.3
ETOS Mallorca 89.33 47 P **P 02 52 34.5 +11**
QUIF Quistinic 89.42 38 *e*P **P 02 52 24.4 +0.3**
comp=Z,34nm,0.7s,mb5.2
QUIF Quistinic 89.42 38 *e*P **P 02 52 24.4 +0.3**
QUIF pmax pmax
comp=Z,17nm,0.7s,mb5.2
EMIR Miracle 89.43 45 P **P 02 52 35.0 +11**
YKA Yellowknife Ar 89.48 341 P **P 02 52 24.5 +0.5**
comp=Z,140nm,0.8s,mb6.0,baz=134,slow=4.7,SNR=224
YKA pP pP 02 52 54.4 +0.2
comp=Z,68nm,0.9s,baz=133,slow=4.7,SNR=4.9
YKW3 Yellowknife Ar 89.54 341 *e*P **P 02 52 24.8 +0.4**
YKW3 *e* pP 02 52 54.3 -0.1
ROSF Rostrenen 89.57 37 *e*P **P 02 52 25.3 +0.5**
comp=Z,46nm,0.8s,mb5.3
ROSF *e*pP pP 02 52 54.9 0.0
ROSF Rostrenen 89.57 37 *e*P **P 02 52 25.3 +0.5**
ROSF *e**PP pP 02 52 54.9 0.0
ROSF pmax pmax
comp=Z,23nm,0.8s,mb5.4
SALF Salau 89.60 44 *e*P **P 02 52 25.3 +0.2**
SALF Salau 89.60 44 *e*P **P 02 52 36.7 +12**
MLS Moulis 89.63 44 *e*P **P 02 52 36.2 +11**
SGMF Saint Gilles 89.94 38 *e*P **P 02 52 26.0 -0.6**
comp=Z,36nm,0.9s,mb5.2
SGMF Saint Gilles 89.94 38 *e*P **P 02 52 26.0 -0.6**
SGMF pmax pmax
comp=Z,18nm,0.9s,mb5.2
VALF Valcebollere 89.98 44 *e*P **P 02 52 37.8 +11**
DCN Croghan 90.11 32 *e*P **P 02 52 37.9 +11**
LCHF La Chataignera 90.23 40 *e*P **P 02 52 28.1 +0.1**
LCHF La Chataignera 90.23 40 *e*P **P 02 52 37.7 +10**
LFF La Frestale 90.32 42 *e*P **P 02 52 28.2 -0.2**
comp=Z,90nm,0.6s,mb5.8
LFF *e*pP pP 02 52 58.7 +0.1
LFF La Frestale 90.32 42 *e*P **P 02 52 28.2 -0.2**
LFF *e**PP pP 02 52 58.7 +0.1
LFF pmax pmax
comp=Z,45nm,0.6s,mb5.8
FILF Fillols 90.41 45 *e*P **P 02 52 39.5 +11**
DLF Lyons Farm 90.45 32 *e*P **P 02 52 37.0 +8.2**
MTLF Montolieu 90.53 44 *e*P **P 02 52 28.8 -0.7**
comp=Z,24nm,0.8s,mb5.1
MTLF Montolieu 90.53 44 *e*P **P 02 52 28.8 -0.7**
MTLF pmax pmax
comp=Z,12nm,0.8s,mb5.1
MFF Saint Martin d 90.56 40 *e*P **P 02 52 29.2 -0.3**
comp=Z,112nm,0.8s,mb5.7
MFF *e*pP pP 02 52 59.7 0.0
MFF Saint Martin d 90.56 40 *e*P **P 02 52 29.2 -0.3**
MFF *e**PP pP 02 52 59.7 0.0
MFF pmax pmax
comp=Z,56nm,0.8s,mb5.8
EJON La Jonquera 90.57 45 P **P 02 52 40.3 +11**
SJAF Saint Jean de 90.58 45 *e*P **P 02 52 40.0 +10**
HEX Exmoor 90.68 35⇑*e*P **P 02 52 40.8 +11**
RJF Les Rejaudoux 90.98 42 *e*P **P 02 52 31.0 -0.5**
comp=Z,68nm,0.9s,mb5.5
RJF *e*pP pP 02 53 01.5 -0.2
RJF *e*R
comp=Z,741nm,21.2s
RJF Les Rejaudoux 90.98 42 *e*P **P 02 52 31.0 -0.5**
RJF *e**PP pP 02 53 01.5 -0.2
RJF pmax pmax
comp=Z,34nm,0.9s,mb5.5
RJF MLR MLR
comp=Z,740nm,21.3s
GRR Gorron 90.99 38 *e*P **P 02 52 31.7 +0.2**
comp=Z,97nm,0.8s,mb5.7
GRR Gorron 90.99 38 *e*P **P 02 52 31.7 +0.2**
GRR pmax pmax
comp=Z,49nm,0.8s,mb5.7
DRV Dumont d'Urvil 91.14 191 P **P 02 52 38.0 +6.2**
CAF Calviac 91.15 42 *e*P **P 02 52 31.9 -0.4**
comp=Z,44nm,0.5s,mb5.5
CAF Calviac 91.15 42 *e*P **P 02 52 31.9 -0.4**
CAF pmax pmax
comp=Z,22nm,0.5s,mb5.5
FLN La Foliniere 91.39 38 *e*P **P 02 52 32.9 -0.5**
FLN *e*R
comp=Z,1µm,18.0s
HTR Trewern Hill 91.49 34⇑*e*P **P 02 52 44.6 +11**
HTR AMb AMB 02 52 45.5
comp=Z,88nm,0.8s,mb6.0
HGH Gray Hill 91.51 35⇑*e*P **P 02 52 44.5 +11**
HGH AMb AMB 02 52 45.6
comp=Z,103nm,1.0s,mb6.0
LDF La Druitiere 91.52 38 *e*P **P 02 52 33.5 -0.5**
comp=Z,82nm,0.8s,mb5.7
LDF La Druitiere 91.52 38 *e*P **P 02 52 33.5 -0.5**
LDF pmax pmax
comp=Z,41nm,0.8s,mb5.7
LSZ Lusaka 91.55 107 *e*P **P 02 52 35.3 +0.5**
comp=Z,62nm,1.4s,mb5.7
LSZ Lusaka 91.55 107 *e*P **P 02 52 35.3 +0.5**
LSZ pmax pmax
comp=Z,62nm,1.4s,mb5.7
MCH1 Michaelchurch 91.59 34⇑*e*P **P 02 52 45.0 +11**
SSP1 Stoney Pound 91.75 34⇑*e*P **P 02 52 45.8 +11**
SSP1 AMb AMB 02 52 46.6
comp=Z,107nm,0.9s,mb6.1
VERF Verneugheol 91.78 42 *e*P **P 02 52 44.5 +9.3**
BORG Borgarnes 91.81 19 P **P 02 52 36.4 +1.4**
comp=Z,6.5nm,0.8s,mb4.9,baz=166,slow=4.2,SNR=2.9
TCF Toulx Ste Croi 91.86 41 *e*P **P 02 52 35.0 -0.5**
comp=Z,69nm,0.8s,mb5.7
TCF Toulx Ste Croi 91.86 41 *e*P **P 02 52 35.0 -0.5**
TCF pmax pmax
comp=Z,35nm,0.8s,mb5.6
SBD1 Bryn Du 91.92 34⇑*e*P **P 02 52 46.5 +11**
HLM1 Long Mynd 91.92 34⇑*e*P **P 02 52 46.6 +11**
HLM1 AMb AMB 02 52 47.9
comp=Z,100nm,0.9s,mb6.1
LASF Ste Croix 91.92 44 *e*P **P 02 52 35.6 -0.3**
comp=Z,7.6nm,0.6s,mb4.8
LBL Lubilhac 92.04 42 *e*P **P 02 52 38.1 +1.7**
PYM Petit Puy Mans 92.11 42 *e*P **P 02 52 37.7 +1.0**
AGO Saint Agoulin 92.33 42 *e*P **P 02 52 38.9 +1.2**
BGF Bois d'Agland 92.37 41 *e*P **P 02 52 37.6 -0.3**
comp=Z,152nm,0.8s,mb6.0
BGF *e*pP pP 02 53 07.9 -0.2
BGF Bois d'Agland 92.37 41 *e*P **P 02 52 37.6 -0.3**
BGF *e**PP pP 02 53 07.9 -0.2
BGF pmax pmax
comp=Z,76nm,0.8s,mb6.0
COLF Collangettes 92.44 42 *e*P **P 02 52 38.9 +0.6**
COLF Collangettes 92.44 42 *e*P **P 02 52 48.7 +10**
HYF Humbligny 92.56 40 *e*P **P 02 52 38.6 -0.1**
DLBC Dease Lake 92.58 333 *e*P **P 02 52 39.2 +0.6**
DLBC *e*pP pP 02 53 08.6 -0.2
DLBC *e*PP PP 02 56 22.3 -1.4
PLDF La Plantade 92.59 42 *e*P **P 02 52 40.2 +1.3**
KWE Weaver Farm 92.72 34 *e*P **P 02 52 49.9 +11**
VIVF Saint-Julien-l 92.78 43 *e*P **P 02 52 39.8 0.0**
comp=Z,34nm,0.9s,mb5.4
VIVF Saint-Julien-l 92.78 43 *e*P **P 02 52 39.8 0.0**
VIVF pmax pmax
comp=Z,17nm,0.9s,mb5.4
AVF Avril sur Loir 92.79 41 *e*P **P 02 52 39.2 -0.6**
comp=Z,80nm,0.9s,mb5.8
AVF Avril sur Loir 92.79 41 *e*P **P 02 52 39.2 -0.6**
AVF pmax pmax
comp=Z,40nm,0.9s,mb5.8
LHO Holmfirth 92.97 33⇑*e*P **P 02 52 52.0 +12**
KBI1 Birley Grange 93.00 34 *e*P **P 02 52 51.8 +11**
SSF Saint Saulge 93.00 41 *e*P **P 02 52 40.1 -0.7**
comp=Z,46nm,0.8s,mb5.9
SSF Saint Saulge 93.00 41 *e*P **P 02 52 40.1 -0.7**
SSF pmax pmax
comp=Z,46nm,0.8s,mb5.9
SMRF Simiane la Rot 93.00 44 *e*P **P 02 52 41.0 +0.1**
SMF Signal de Mont 93.03 41 *e*P **P 02 52 40.7 -0.2**
comp=Z,158nm,0.8s,mb6.1
SMF *e*pP pP 02 53 11.0 -0.1
SMF Signal de Mont 93.03 41 *e*P **P 02 52 40.7 -0.2**
SMF *e**PP pP 02 53 11.0 -0.1
SMF pmax pmax
comp=Z,79nm,0.8s,mb6.1
ESK Eskdalemuir 93.18 32 P **P 02 52 40.9 -0.5**
comp=Z,20nm,0.8s,mb5.5
ESK Eskdalemuir 93.18 32 P **P 02 52 40.9 -0.5**
ESK pmax pmax
comp=Z,20nm,0.8s,mb5.5
LOR Lormes 93.31 41 *e*P **P 02 52 41.6 -0.6**
comp=Z,94nm,0.7s,mb5.9
LOR *e*R
comp=Z,595nm,17.5s
LOR Lormes 93.31 41 *e*P **P 02 52 41.6 -0.6**
LOR pmax pmax
comp=Z,47nm,0.7s,mb5.9
LOR MLR MLR
comp=Z,590nm,17.5s
EAU Auchinoon 93.33 31 *e*P **P 02 52 53.4 +11**
LMR La Mourre 93.36 45 *e*P **P 02 52 42.3 -0.2**
comp=Z,33nm,0.6s,mb5.5
LMR La Mourre 93.36 45 *e*P **P 02 52 42.3 -0.2**
LMR pmax pmax
comp=Z,17nm,0.6s,mb5.5
FRF La Foret Royal 93.54 45 *e*P **P 02 52 43.1 -0.2**
ORIF Oris-en-Rattie 93.59 43 *e*P **P 02 52 44.0 +0.5**
comp=Z,72nm,0.8s,mb5.8
ORIF *e*pP pP 02 53 14.5 +0.8
ORIF *e*R
comp=Z,902nm,21.8s
MDO Dochfour 93.72 29⇑*e*P **P 02 52 55.6 +12**
LMK Market Rasen 93.73 34⇑*e*P **P 02 52 55.5 +12**
LCP Cassop 93.75 33⇑*e*P **P 02 52 55.6 +12**
CALN Calern 93.78 45 *e*P **P 02 52 54.5 +10**
LWH Whinny Nab 93.97 33⇑*e*P **P 02 52 56.7 +12**
MBDF Montbardon 94.09 44 *e*P **P 02 52 46.1 +0.3**
comp=Z,33nm,0.9s,mb5.4
MBDF Montbardon 94.09 44 *e*P **P 02 52 46.1 +0.3**
MBDF pmax pmax
comp=Z,17nm,0.9s,mb5.4
TOUF Mont Tournerai 94.12 45 *e*P **P 02 52 55.1 +9.2**
BNI Bardonecchia 94.16 44 P **P 02 52 46.2 +0.1**
comp=Z,11nm,0.9s,mb5.2
BNI Bardonecchia 94.16 44 P **P 02 52 46.2 +0.1**
BNI pmax pmax
comp=Z,11nm,0.9s,mb5.2
RRL Cesana Torines 94.18 44 P **P 02 52 56.1 +10**
SBF Sospel 94.19 45 *e*P **P 02 52 47.5 +1.3**
comp=Z,57nm,0.8s,mb5.7
SBF Sospel 94.19 45 *e*P **P 02 52 47.5 +1.3**
SBF pmax pmax
comp=Z,29nm,0.8s,mb5.7
AUTN L'Aution 94.23 45 *e*P **P 02 52 57.2 +11**
CASY Casey 94.24 180 *e*P **P 02 52 44.6 -1.3**
CASY *i*pP pP 02 53 19.8 +3.6
STV Sta Anna Valdi 94.26 44 P **P 02 52 57.8 +11**
STV2 Anna di Valdie 94.27 44 P **P 02 52 57.8 +11**
SAOF Saorge 94.31 45 *e*P **P 02 52 55.8 +9.0**
ENR Entracque 94.32 45 P **P 02 52 56.8 +10**
SUMG Summit 94.36 9 *e*P **P 02 52 47.7 +1.4**
comp=Z,45nm,0.8s,mb5.8
NEGI Negi 94.36 45 P **P 02 52 56.2 +9.2**
LPL La Plagne 94.38 43 *e*P **P 02 52 47.8 +0.7**
comp=Z,49nm,0.9s,mb5.5
LPL La Plagne 94.38 43 *e*P **P 02 52 47.8 +0.7**
LPL pmax pmax
comp=Z,25nm,0.9s,mb5.5
LPG La Plagne 94.39 43 *e*P **P 02 52 48.0 +0.9**
comp=Z,44nm,0.8s,mb5.5
LPG La Plagne 94.39 43 *e*P **P 02 52 48.0 +0.9**
LPG pmax pmax
comp=Z,22nm,0.8s,mb5.5
FENE Fenestrelle 94.40 44 P **P 02 52 58.8 +12**
CABF La Chapelle 94.42 42 *e*P **P 02 52 47.1 -0.1**
comp=Z,60nm,0.9s,mb5.6
CABF La Chapelle 94.42 42 *e*P **P 02 52 47.1 -0.1**
CABF pmax pmax
comp=Z,30nm,0.9s,mb5.6

BHB Bricherasio 94.46 44 P **P 02 52 57.1 +10**
MONE Monesi 94.48 45 P **P 02 52 58.0 +10**
IMI Imperia 94.51 45 P **P 02 52 56.6 +8.9**
MEZF Maizieres J'vi 94.56 40 *e*P **P 02 52 47.8 0.0**
comp=Z,128nm,0.8s,mb6.1
RSP Reno Superiore 94.58 44 P **P 02 52 57.8 +10**
LSD Ceresole Reale 94.63 43 P **P 02 52 58.6 +10**
ROB Roburent 94.64 45 P **P 02 52 58.7 +10**
BAIF Baives 94.71 38 *e*P **P 02 52 48.2 -0.3**
PGF Pioggiola 94.73 47 *e*P **P 02 52 48.6 -0.1**
comp=Z,52nm,0.9s,mb5.7
PGF Pioggiola 94.73 47 *e*P **P 02 52 48.6 -0.1**
PGF pmax pmax
comp=Z,26nm,0.9s,mb5.7
FIN Finale Ligure 94.83 45 P **P 02 52 59.6 +10**
THEF They Montfort 95.01 40 *e*P **P 02 52 54.5 +4.6**
TRAV 95.04 43 P **P 02 53 00.2 +10**
GIVF Givet 95.09 38 *e*P **P 02 52 50.2 0.0**
comp=Z,65nm,0.8s,mb5.8
GIVF Givet 95.09 38 *e*P **P 02 52 50.2 0.0**
GIVF pmax pmax
comp=Z,33nm,0.8s,mb5.8
HAU Haudompre 95.14 41 *e*P **P 02 52 50.1 -0.4**
comp=Z,58nm,0.8s,mb5.8
HAU *e*R
comp=Z,812nm,19.2s
HAU Haudompre 95.14 41 *e*P **P 02 52 50.1 -0.4**
HAU pmax pmax
comp=Z,29nm,0.8s,mb5.8
HAU MLR MLR
comp=Z,810nm,19.3s
LOMF Lomont 95.18 41 *e*P **P 02 52 55.7 +5.0**
PCP Pian Castagno 95.19 45 P **P 02 53 01.2 +10**
ORX Oropa 95.24 43 P **P 02 53 01.0 +10**
HINF Hinteralfeld 95.38 41 *e*P **P 02 52 51.1 -0.5**
comp=Z,50nm,0.9s,mb5.7
HINF Hinteralfeld 95.38 41 *e*P **P 02 52 51.1 -0.5**
HINF pmax pmax
comp=Z,25nm,0.9s,mb5.6
MOF Molkenrain 95.57 41 *e*P **P 02 52 56.8 +4.4**
WLF Walferdange 95.69 39 *e*P **P 02 52 52.9 0.0**
comp=Z,70nm,0.9s,mb6.1
WLF Walferdange 95.69 39 *e*P **P 02 52 52.9 0.0**
WLF pmax pmax
comp=Z,70nm,0.9s,mb6.1
ECH Echery 95.73 41 *e*P **P 02 52 57.0 +3.9**
CDF Champ du Feu 95.88 41 *e*P **P 02 52 53.7 -0.1**
comp=Z,84nm,1.0s,mb5.8
CDF Champ du Feu 95.88 41 *e*P **P 02 52 53.7 -0.1**
CDF pmax pmax
comp=Z,42nm,1.0s,mb5.8
WLS Welschbruch 95.92 41 *e*P **P 02 52 58.6 +4.6**
CODM 95.99 45 P **P 02 53 04.7 +10**
HGN Heimansgroeve 96.01 38 *e*P **P 02 52 54.7 +0.4**
comp=Z,25nm,1.6s,mb5.4
BACM 96.10 45 P **P 02 53 04.4 +9.5**
VINC Vinca 96.10 45 P **P 02 53 03.8 +8.9**
FELD Feldberg 96.12 41 *e*P **P 02 52 59.6 +4.7**
GRAM 96.17 45 P **P 02 53 04.8 +10**
VALM 96.24 45 P **P 02 53 06.2 +11**
MAIM 96.25 46 P **P 02 53 04.1 +8.5**
RUP Ruppelstein 96.25 39 *e*P **P 02 52 57.9 +2.5**
VLC Villacollemand 96.27 45 P **P 02 52 54.5 -1.2**
comp=Z,33nm,1.1s,mb5.7
SARO Sassorosso 96.29 45 P **P 02 53 04.9 +9.2**
LANF Langenberg 96.42 40 *e*P **P 02 52 55.5 -0.7**
DAVOX Davos 96.89 43 LR LR 03 33 30.5
comp=Z,416nm,21.8s,baz=258,slow=33
WTSB Winterswijk 96.99 37 *e*P **P 02 52 56.4 -2.4**
DAVA Damuels 97.07 42⇓*i*P **P 02 53 10.4 +11**
comp=Z,44nm,1.4s,mb5.7
STU Stuttgart 97.19 41 *e*P **P 02 52 59.4 -0.4**
comp=Z,52nm,0.8s,mb6.0
STU Stuttgart 97.19 41 *e*P **P 02 52 59.4 -0.4**
STU pmax pmax
comp=Z,52nm,0.8s,mb6.0
AQU L'Aquila 97.70 48 *e*P **P 02 53 01.8 -0.5**
comp=Z,33nm,0.9s,mb5.9
AQU L'Aquila 97.70 48 *e*P **P 02 53 01.8 -0.5**
AQU pmax pmax
comp=Z,33nm,0.9s,mb5.9
MOTA Moosalm 97.87 43⇑*i*P **P 02 53 14.1 +11**
comp=Z,26nm,1.1s,mb5.7
SQTA Sankt Quirin 97.90 43⇑*i*P **P 02 53 14.3 +11**
comp=Z,36nm,0.8s,mb6.0
WATA Walderalm 98.17 43⇓*i*P **P 02 53 15.0 +11**
comp=Z,19nm,0.8s,mb5.7
WTTA Wattenberg 98.19 43⇑*i*P **P 02 53 15.3 +11**
comp=Z,58nm,1.0s,mb6.1
GRA1 Grafenberg Arr 98.76 40 *e*Pdif **P 02 53 06.6 -0.3**
GRA1 *e*PcP PcP 02 53 18.4 +11
GRA1 *e*PP PP 02 57 06.3 -5.2
GRF Grafenberg Arr 98.76 40 *e*Pdif **P 02 53 06.6 -0.3**
GRF *e*PcP PcP 02 53 18.4 +11
GRF *e*PP PP 02 57 06.3 -5.2
GRF Grafenberg Arr 98.76 40 *e*P **P 02 53 06.6 -0.3**
GRF *e* 02 57 06.3
GRF Grafenberg Arr 98.76 40 *e*P **P 02 53 06.6 -0.3**
GRF *e* 02 57 06.3
MBAR Mbarara 99.04 94 *i*P **P 02 53 19.5 +10**
ROBS Robic 99.06 44 *e*P **P 02 53 18.7 +10**
KBA Koelnbreinsper 99.22 43⇑*i*P **P 02 53 19.5 +10**
comp=Z,14nm,0.8s,mb5.5
INK Inuvik 99.24 340 *e*P **P 02 53 08.2 -0.5**
comp=Z,49nm,1.5s,mb5.8
INK Inuvik 99.24 340 *e*P **P 02 53 08.2 -0.5**
INK pmax pmax
comp=Z,49nm,1.5s
VOY Vojsko 99.24 44 *e*P **P 02 53 20.2 +11**
VOY *e* 02 53 26.2
MOX Moxa 99.32 40 *i*P **P 02 53 20.9 +11**
MOX PP PP 02 57 09.0 -6.7
MOX S 03 03 44.0
MOX L 03 48 50.0
MOX Moxa 99.32 40 *e*P **P 02 53 20.9 +11**
MOX *e*PP PP 02 57 09.1 -6.6
MOX *e*S 03 03 44.0
MOX LR LR
comp=Z,500nm,18.0s
MOX Moxa 99.32 40 *e*P **P 02 53 20.9 +11**
MOX *e* 02 57 09.1
MOX pmax pmax
comp=Z,76nm,2.2s,mb5.8
MOX MLR MLR
comp=Z,500nm,18.0s
DAWY Dawson 99.32 335 *e*Pdif **P 02 53 08.4 -0.8**
JMIC Jan Mayen 99.53 17 *e*SKSa 03 03 31.9
JMIC *e*SS SS 03 11 23.9 -1.7
JMIC AMS AMS 03 40 09.7
comp=Z,404nm,17.2s
BER Bergen 99.54 29 *e*PP PP 02 57 14.3 -2.9
BER *e*SKSa 03 03 39.6
BER *e*SS SS 03 11 26.1 +0.1
BER AMS AMS 03 42 13.4
comp=Z,467nm,19.8s
LJU Ljubljana 99.67 45 *e*P **P 02 53 21.4 +10**
NKC Novy Kostel 99.69 40 *e*PDIF **P 02 53 22.3 +11**
NKC *e*pP pP 02 53 42.0 +0.7
NKC *e*PP PP 02 57 14.3 -4.3
NKC *e*SKS SKS 03 03 42.8 +5.3
NKC AMS AMS 03 46 20.0
comp=Z,500nm,19.4s
NKC Novy Kostel 99.69 40 *e*P **P 02 53 22.3 +11**
NKC *e* 02 57 14.3
NKC *e* 03 03 42.8
NKC MLR MLR
comp=Z,500nm,19.4s
OBKA Obir 99.83 44⇑*i*P **P 02 53 22.7 +11**
comp=Z,39nm,1.0s,mb6.0
MUD Monsted U'grnd 99.95 33⇓*i*P P 02 53 24.2 +12
comp=Z,27nm,0.9s,mb5.9
MUD *i* 02 57 16.3
MUD *i* S 03 03 46.0
MUD *i* 03 04 41.8
MUD *i* 03 05 30.7
MUD *i* 03 15 15.7
comp=Z,400nm,17.0s
MUD Monsted U'grnd 99.95 33⇓*i*P P 02 53 24.2 +12
MUD *i* 02 57 16.3
MUD *i* 03 04 41.8
MUD *i* 03 15 15.7
MUD pmax pmax
comp=Z,27nm,0.9s,mb5.9
MUD MLR MLR
comp=Z,400nm,17.0s
BOJS Bojanci 99.98 45 *e*P P 02 53 23.4 +11
BOJS *e* 02 53 29.1
BOJS *e* 02 53 44.1
GERES GERESS Array B 100.01 42 P P 02 53 12.6 0.0
comp=Z,0.5nm,0.8s,baz=225,slow=6.9,SNR=6.3
GERES PP PP 02 57 14.5 -6.8
comp=Z,2.0nm,0.9s,baz=243,slow=6.0,SNR=4.9
KHC Kasperske Hory 100.03 41 *e*PDIF P 02 53 22.8 +10
KHC pP 02 53 44.5
KHC *e*PP PP 02 57 12.0 -9.4
KHC *e*SKS SKS 03 03 42.1 +2.9
KHC AMS AMS 03 51 50.0
comp=Z,500nm,16.9s
KHC Kasperske Hory 100.03 41 *e*P P 02 53 22.8 +10
KHC *e* 02 53 44.5
KHC *e* 03 03 42.1
KHC MLR MLR
comp=Z,500nm,16.9s
KHC Kasperske Hory 100.03 41 *e*P P 02 53 22.8 +10
KHC *e* 02 53 44.5
KHC *e*PP PP 02 57 12.0 -9.4
KHC *e*SKS SKS 03 03 42.1 +2.9
KHC LR LR
comp=Z,500nm,16.9s
KHC Kasperske Hory 100.03 41 *e*P P 02 53 22.8 +10
KHC *e* 02 53 44.5
KHC *e* 03 03 42.1
KHC MLR MLR
comp=Z,500nm,16.9s
MOA Molln 100.06 43⇓*i*P P 02 53 23.3 +10
comp=Z,13nm,0.9s
LEGS Legarje 100.16 45 *e*P P 02 53 22.4 +9.0
PERS Pernice 100.24 44 *e*P P 02 53 24.0 +10
CLL Collm 100.37 39⇓*i*PDIF P 02 53 25.3 +11
CLL *e**PP 02 53 45.0
CLL *e* 02 54 03.0
CLL *e*PP PP 02 57 17.0 -7.0
CLL *e* 02 57 35.0
CLL *e* 03 03 46.0
CLL *e* 03 04 16.0
CLL *e* 03 04 40.0
CLL *e*SP SP 03 06 12.0 +1.3
CLL *e* 03 06 48.0
CLL *e*SS SS 03 11 36.0 -1.8
CLL Collm 100.37 39⇓*i*P P 02 53 25.3 +11
CLL *e*pP 02 53 45.0
CLL *e*SKS SKS 03 03 46.0 +5.2
CLL *e*S S 03 04 40.0 +3.8
CLL LR LR
comp=Z,600nm,17.5s
CLL Collm 100.37 39⇓*i*P P 02 53 25.3 +11
CLL *e* 03 03 46.0
CLL *e*S S 03 04 40.0 +3.8
CLL pmax pmax
comp=Z,22nm,0.9s
CLL MLR MLR
comp=Z,600nm,17.5s
ARSA Arzberg 100.69 44⇓*i*P P 02 53 25.9 +10
comp=Z,21nm,1.1s
BRG Berggiesshubel 100.80 40 *i*P P 02 53 27.5 +11
BRG *e* 02 53 45.3
BRG PP PP 02 57 19.0 -8.5
BRG *i* 03 03 41.0
BRG S S 03 04 39.0 -0.8
BRG Berggiesshubel 100.80 40 *i*P P 02 53 27.5 +11
BRG *i* 03 03 41.0
BRG S S 03 04 39.0 -0.8
BRG pmax pmax
comp=Z,9.0nm,1.2s
BRG pmax pmax
comp=Z,9.0nm,1.4s
PRU Pruhonice 100.89 41 *e*PDIF P 02 53 26.8 +10
PRU *e*PP PP 02 57 22.1 -6.2
PRU *e*SKS SKS 03 03 47.4 +4.1
PRU AMS AMS 03 50 10.0
comp=Z,500nm,17.5s
PVCC Panska Ves 101.07 40 *e*PDIF P 02 53 27.4 +10
PVCC *e*SKS SKS 03 03 47.6 +3.4
PVCC AMS AMS 03 49 40.0
comp=Z,700nm,17.5s
KONO Kongsberg 101.27 31 *e*PP PP 02 57 21.2 -10
KONO *e*SKSa 03 03 44.9
KONO *e*SS SS 03 11 51.7 +1.5
UPC Upice 101.94 41 *e*PDIF 02 53 31.7
UPC *e*PP PP 02 57 23.8 -12
UPC *e*SKS SKS 03 03 51.6 +3.2
UPC Upice 101.94 41 *e*P 02 53 31.7
UPC *e* 03 03 51.6
ZST Bratislava 101.98 43 *e* 02 53 32.3
ZST *e* 02 57 22.4
ZST *e* 03 06 37.4
ZST Bratislava 101.98 43 *e*P 02 53 32.3
ZST *e* 03 06 37.4
DPC Dobruska-Polom 102.09 41 *e*PDIF Pdif 02 53 32.4 +11
DPC *e*PP PP 02 57 28.6 -8.2
DPC *e*SKS SKS 03 03 52.2 +3.1
DPC AMS AMS 03 50 30.0
comp=Z,600nm,17.5s
DPC Dobruska-Polom 102.09 41 *e*P Pdif 02 53 32.4 +11
DPC *e* 03 03 52.2
DPC MLR MLR
comp=Z,600nm,17.5s
KSP Ksiaz 102.21 40 *e*P Pdif 02 53 34.0 +12
KSP Ksiaz 102.21 40 *e*P Pdif 02 53 34.1 +12
KSP *e* 02 57 33.2
KSP S S 03 04 48.4 -3.2
KSP *e*SS SS 03 12 09.3 +5.7
SMOL Smolenice 102.28 43 *e* Pdif 02 53 31.8 +9.1
BBLS Bajina Basta - 102.35 48 *i*P PP 02 57 37.7 -1.4
NB2 NORSAR Subarra102.48 29 P Pdif 02 53 30.0 +6.8
comp=Z,8.1nm,1.0s,baz=248,slow=4.5
NB2 NORSAR Subarra102.48 29 P Pdif 02 53 30.0 +6.8
baz=248,slow=4.6
NOA NORSAR Array B 102.48 29 P Pdif 02 53 23.5 +0.2
comp=Z,1.2nm,1.0s,baz=252,slow=4.4,SNR=2.8
ILAR Eielson Array 102.60 335 P Pdif 02 53 23.1 -0.5
comp=Z,1.7nm,1.1s,baz=152,slow=4.4,SNR=12
ILAR PP PP 02 57 26.9 -14
comp=Z,2.3nm,1.0s,baz=95,slow=5.9,SNR=6.6
SRO Srobarova 102.66 44 *e*PP PP 02 57 37.7 -3.8
MORC Moravsky Berou 102.69 42 P Pdif 02 53 33.7 +9.2
MORC pmax pmax
comp=Z,11nm,0.8s
DIVS Divcibare 102.82 48 *e*(P) 02 57 31.0
OKC Ostrava-Krasne 103.08 42 *e*PDIF Pdif 02 53 37.0 +11
OKC AMS AMS 03 50 20.0
comp=Z,500nm,17.0s
VYHS Vyhne 103.18 43 *e* Pdif 02 53 37.6 +11
VYHS *e*PP PP 02 57 41.0 -4.4
GRUS Gruza 103.27 48 *i*P 02 57 40.7
BEO Belgrade 103.32 47 *i*P 02 57 43.2
BOLS Boljevac 104.13 48 *i*P 02 57 49.6
OJC Ojcow 104.21 41 *e*PKiKP 02 57 48.5
OJC ⇑*e*SKSa 03 04 02.4
OJC *e*SS SS 03 12 34.3 +3.7
OJC MLR MLR 03 49 52.9
comp=Z,400nm,19.5s
KECS Kecovo 104.24 43 *e* Pdif 02 53 42.2 +11
NIE Niedzica 104.35 42 *e*PKP 02 57 43.8
DJES Djerdap 104.71 48 *i*P 02 57 52.5
STHS Stebnicka Huta 104.94 43 *e*PP PP 02 57 55.1 -3.5
CRVS Cervenica-Dubn 104.96 43 *e* Pdif 02 53 51.3 +17
CRVS *e*PP PP 02 57 54.3 -4.6
CRVS *e* 03 09 02.4
KOLS Kolonicke sedl 105.49 43 *e*PP PP 02 57 56.5 -6.1
MLR Muntele Rosu 107.26 47 Pdiff Pdif 02 53 55.7 +11
comp=Z,2.9nm,0.7s,baz=171,slow=5.1,SNR=7.1
MLR PKiKP 02 57 54.8
comp=Z,3.2nm,0.9s,baz=117,slow=3.4,SNR=3.5
MLR PP PP 02 58 09.8 -6.3
comp=Z,17nm,1.1s,baz=271,slow=5.5,SNR=8.1
KBS Kingsbay 107.52 12 *e*SKSa 03 04 02.2
KBS *e*SS SS 03 13 16.4 +1.1
KBS AMS AMS 03 41 11.9
comp=Z,454nm,17.8s
TRO Tromso 107.64 22 *e*SKSa 03 04 14.8
TRO AMS AMS 03 41 08.3
comp=Z,223nm,19.9s
FINES FINESS Array B 109.58 31 Pdiff Pdif 02 53 59.7 +5.2
comp=Z,0.7nm,0.8s,baz=230,slow=15,SNR=2.3
FINES PKiKP 02 57 59.2
comp=Z,1.6nm,1.0s,baz=240,slow=1.4,SNR=3.0
FINES PP PP 02 58 30.6 -2.4
comp=Z,1.7nm,0.8s,baz=225,slow=14,SNR=4.4
FINES PKKPbc 03 09 01.4
comp=Z,0.4nm,0.5s,baz=108,slow=6.0,SNR=6.9
ARCES ARCESS Array B 109.93 22 Pdiff Pdif 02 54 03.2 +7.4
comp=Z,2.0nm,0.9s,baz=45,slow=21,SNR=2.5
ARCES PKKPbc 03 09 00.1
comp=Z,1.4nm,0.8s,baz=86,slow=3.1,SNR=9.0
AKASG Malin Array Be 110.22 42 Pdiff Pdif 02 54 06.5 +8.9
comp=Z,0.6nm,0.6s,baz=263,slow=4.0,SNR=4.3
AKASG PKiKP 02 57 58.1
comp=Z,0.5nm,0.5s,baz=286,slow=1.3,SNR=5.7
AKASG PP PP 02 58 21.0 -17
comp=Z,0.9nm,0.7s,baz=257,slow=8.1,SNR=6.4
AKASG PKKPbc 03 08 59.5
comp=Z,0.5nm,0.4s,baz=74,slow=3.2,SNR=5.5
BRTR Keskin Array B 111.94 54 PKiKP 02 58 02.8
comp=Z,1.6nm,0.8s,baz=206,slow=3.7,SNR=6.7
BRTR PP PP 02 58 39.9 -10
comp=Z,2.9nm,0.8s,baz=236,slow=3.8,SNR=6.2
BRTR PKKPab 03 09 03.1
comp=Z,1.5nm,0.9s,baz=90,slow=3.7,SNR=7.3
ASF Jabal al Asfar 113.44 63 PKiKP 02 58 06.5
comp=Z,1.8nm,0.5s,baz=332,slow=2.9,SNR=4.9
ASF PP PP 02 58 49.1 -13
comp=Z,1.3nm,0.3s,baz=72,slow=3.0,SNR=3.5
ASF PKKPab 03 08 57.9
comp=Z,2.6nm,0.5s,baz=18,slow=4.4,SNR=4.9
OBN Obninsk 114.89 38 *e*PKiKP 02 58 07.4
OBN Obninsk 114.89 38*c i*PKIKP PKPdf 02 58 07.5 +1.3
OBN *e* 02 59 05.3
OBN *e* 03 04 46.9
OBN *i*PS PS 03 08 49.9 +2.6
OBN *e*SS SS 03 14 53.7 +0.1
OBN pmax pmax
comp=Z,14nm,1.1s
OBN MLR MLR
comp=Z,500nm,22.0s
MALT Malatya 115.48 56 *e*PKPdf PKPdf 02 58 09.3 +1.5
VRSR Storozhevoye 116.54 42 *i*PKIKP PKPdf 02 58 10.4 +0.9
VRSR *e* 03 04 52.7
SOC Sochi 116.82 50 *i*PKIKP PKPdf 02 58 11.1 +0.9
SOC *e* 02 59 22.0
SOC *e*PPP PPP 03 01 53.1 -1.6
SOC *e*PS PS 03 08 56.4 -8.7
SOC *e*SS SS 03 15 14.2 -4.7
SOC *e*SSS SSS 03 19 40.9 -0.7
SOC pmax pmax
comp=N,23nm,0.9s
SOC pmax pmax
comp=E,13nm,0.9s
SOC pmax pmax
comp=Z,25nm,0.9s
KIV Kislovodsk 118.98 50α*i*PKIKP PKPdf 02 58 16.3 +1.9
KIV *e* 02 58 48.7
KIV *i* 02 59 40.6
KIV *e* 03 05 02.9
KIV *e* 03 05 11.6
KIV *e*PS PS 03 09 22.8 -1.6
KIV *e* 03 10 47.1
KIV SS SS 03 15 42.0 -4.7
KIV pmax pmax
comp=Z,12nm,1.0s
GOF Gofitskoye 119.22 49 *e*PKIKP PKPdf 02 58 15.7 +0.9
GNI Garni 120.48 54 *i*PKPr PKPdf 02 58 17.0 -0.4
GNI Garni 120.48 54*d i*PKIKP PKPdf 02 58 17.9 +0.5
STKA Stephens Creek 120.85 210 *e*P PKPdf 02 58 18.8 +0.5
comp=Z,3.2nm,0.5s
STKA Stephens Creek 120.85 210 PKP PKPdf 02 58 19.3 +1.0
comp=Z,3.6nm,0.5s,baz=123,slow=6.2,SNR=14
ARU Arti 126.78 33 *e*PKPdf PKPdf 02 58 29.9 +0.8
ARU Arti 126.78 33 *i*PKIKP PKPdf 02 58 30.5 +1.4
ARU *e* 03 00 29.4
ARU *e* 03 05 34.7
ARU *e*SP SP 03 10 24.0 +3.9
ARU *e*PS PS 03 10 32.6 -0.7
ARU *e*SS SS 03 17 19.6 -6.1
TIXI Tiksi 127.04 353 *i*PKP PKPdf 02 58 28.6 -0.6
CTA Charters Tower 127.42 223 *e*PKP PKPdf 02 58 31.6 +0.3
comp=Z,13nm,1.1s
SVE Sverdlovsk 127.69 32 *i*PKIKP PKPdf 02 58 32.4 +1.5
SVE *e* 02 59 03.0
SVE *e* 03 10 24.0
SVE *e* 03 17 34.0
SVE *e* 03 18 10.0
SVE pmax pmax
comp=Z,20nm,1.5s
SVE MLR MLR
comp=N,200nm,18.0s
SVE MLR MLR
comp=E,300nm,18.0s
SVE MLR MLR
comp=Z,300nm,18.0s
SEY Seymchan 128.43 337⇑*i*PKP PKPdf 02 58 34.1 +2.0
SEY Seymchan 128.43 337 *e*PKIKP PKPdf 02 58 32.0 -0.1
SEY *e* 02 59 06.4
SEY *e* 03 17 49.5
AB31 Akbulak array 129.96 42 *i*PKP PKPdf 02 58 37.4 +2.0
MA2 Magadan 131.08 334 *i*PKIKP PKPdf 02 58 35.8 -1.5
MA2 *i* 03 01 05.8
MA2 *e*PPP PPP 03 03 52.3 +2.2
BRVK Borovoye 134.36 33 *e*PKPdf PKPdf 02 58 44.6 +1.1
WB2 Warramunga Arr 134.37 212 *e*PKP PKPdf 02 58 45.0 +0.5
WB2 *i*SKP 03 02 03.4
WB2 *e*PKS PKS 03 02 14.2 -5.5
WRA Warramunga Arr 134.37 212 PKP PKPdf 02 58 45.1 +0.6
comp=Z,10nm,0.5s,baz=145,slow=1.6,SNR=55
WRA PP PP 03 01 15.0 -6.7
comp=Z,5.9nm,1.1s,baz=155,slow=5.2,SNR=7.3
WRA SKPbc 03 02 03.7
comp=Z,13nm,1.0s,baz=152,slow=3.2,SNR=8.6
WRAB Tennant Creek 134.37 212 *e*P PKPdf 02 58 44.1 -0.4
WRAB Tennant Creek 134.37 212*c i*PKIKP PKPdf 02 58 44.5 0.0
BVA0 Borovoye Array 134.43 33 PKIKP PKPdf 02 58 45.7 +2.0
BVA0 pmax pmax
comp=Z,12nm,2.3s
BVAR Borovoye Array 134.43 33 PKP PKPdf 02 58 45.1 +1.3
comp=Z,4.0nm,0.8s,baz=315,slow=2.7
VOSK Vostochnaya 134.90 33 *i*PKP PKPdf 02 58 45.9 +1.3
YAK Yakutsk 135.78 347 *i*PKPr PKPdf 02 58 46.8 +0.9
KKAR Karatay Array 138.93 46 *i*PKP PKPdf 02 58 54.3 +2.0
NVS Novosibirsk 139.15 24⇓*i*PKIKP PKPdf 02 58 53.5 +1.2
NVS *i* 02 59 25.3
NVS *i* 03 01 50.2
NVS pmax pmax
comp=E,19nm,1.3s
NVS pmax pmax
comp=Z,48nm,1.3s
FITZ Fitzroy Crossi 139.71 202 *e*PKP PKPdf 02 58 45.5 -8.8
comp=Z,20nm,1.8s
FITZ *i* 02 58 55.5
KURK Kurchatov 139.94 32 *e*PKPdf PKPdf 02 58 54.2 +0.4
KURK Kurchatov 139.94 32 PKIKP PKPdf 02 58 55.2 +1.4
KURK pmax pmax
comp=Z,8.0nm,1.0s
ZAL Zalesovo 140.43 24 PKhKP 02 58 52.5
comp=Z,8.2nm,0.7s,baz=197,slow=1.7,SNR=12
ZAL PKP PKPdf 02 58 56.4 +1.7
comp=Z,12nm,0.9s,baz=195,slow=2.6,SNR=40
ZAL Zalesovo 140.43 24 PKP PKPdf 02 58 52.5 -2.2
ZAL PKP PKPdf 02 58 56.4 +1.7
KAKA Kakadu 141.41 215 *e*PKP PKPdf 02 59 01.9 +4.4
comp=Z,33nm,1.2s
CLNS Chul'man 141.53 348 *e*PKIKP PKPdf 02 58 53.5 -3.0
CLNS pmax pmax
comp=N,13nm,1.0s
CLNS pmax pmax
comp=Z,25nm,1.0s
CLNS pmax pmax
comp=E,19nm,1.1s
FRU Bishkek 141.80 45 *e*PKIKP PKPdf 02 58 56.0 -1.4
FRU *e* 03 02 07.0
FRU pmax pmax
comp=Z,50nm,2.0s
FRU pmax pmax
comp=Z,310nm,2.8s
AAK Ala-Archa 141.81 45 *e*PKPpre 02 58 55.0
AAK *e*PKP PKPdf 02 58 59.1 +1.7
AAK Ala-Archa 141.81 45 *i*PKIKP PKPdf 02 58 59.0 +1.6
BOD Bodaibo 141.91 357 *e*PKHKP 02 58 52.2
BOD pmax pmax
comp=Z,26nm,0.9s
YSS Yuzh-Sakhalins 142.45 324 PKHKP 02 58 53.2
YSS *e* 03 02 10.0
YSS *e*SS SS 03 20 41.0 +6.6
AAA Alma-Ata 143.12 43 *e*PKIKP PKPdf 02 58 58.3 -1.3
AAA *e*S 03 14 38.2
AAA pmax pmax
comp=Z,347nm,6.0s

KSH	**Kashi**	**144.10**	**49**	PKP	PKPdf	02 59 02.0	+0.6
KSH				*e*APKP		02 59 28.1	
KSH				*e*PP	PP	03 02 17.3	-2.8
KSH				*e*PKS	PKS	03 02 35.1	-0.9
KSH				*e*SKS	SKS	03 05 59.1	+1.6
KSH				LR	LR		
	comp=N,600nm,18.0s						
KSH				LR	LR		
	comp=E,230nm,10.3s						
MKAR	**Makanchi Array**	**144.29**	**34**	PKP	PKPdf	02 59 01.4	-0.1
	comp=E,13nm,0.7s,baz=315,slow=3.4,SNR=81						
MKAR				pPKP		02 59 33.3	
	comp=E,51nm,1.1s,baz=301,slow=3.7,SNR=5.6						
POO	**Poona**	**145.00**	**86**	*e*P	PKPdf	02 59 04.6	+1.0
POO				AMb	AMB	02 59 05.3	
	comp=Z,105nm,1.1s						
KAD	**Karad**	**145.12**	**88**	*e*P	PKPdf	02 59 04.6	+0.8
KAD				AMb	AMB	02 59 05.6	
	comp=Z,98nm,1.2s						
AJM	**Ajmer**	**146.05**	**72**	*e*P	PKPdf	02 59 06.7	+1.5
THN	**Thein Dam**	**146.11**	**61**	*e*P	PKPdf	02 59 07.2	+2.1
KLR	**Kul'dur**	**146.17**	**335**	*e*PKHKP		02 59 03.5	
KLR				pmax	pmax		
	comp=N,48nm,1.6s						
KLR				pmax	pmax		
	comp=E,57nm,1.6s						
KLR				pmax	pmax		
	comp=Z,100nm,1.6s						
KLR				pmax	pmax		
	comp=Z,1μm,8.5s						
DLH	**Dalhousie**	**146.29**	**61**	*e*P	PKPdf	02 59 08.0	+2.6
DLH				*ex*	x	02 59 40.0	
BHK	**Bhakra**	**146.91**	**63**	*ex*	PKPdf	02 59 12.0	+5.5
IRK	**Irkutsk**	**147.15**	**8**	*e*PKP2	PKPab	02 59 08.6	-4.1
IRK				pmax	pmax		
	comp=Z,198nm,1.5s						
MOY	**Mondy**	**147.20**	**11**	*e*PKP2	PKPab	02 59 09.3	-3.6
MOY				pmax	pmax		
	comp=Z,182nm,2.0s						
SDNR	**Sundarnagar**	**147.36**	**62**	*e*P	PKPdf	02 59 09.8	+2.6
CIT	**Chita**	**147.72**	**357**	*e*PKIKP	PKPdf	02 59 09.2	+2.0
CIT				*e*		02 59 32.2	
CIT				*e*		02 59 43.2	
CIT				pmax	pmax		
	comp=Z,207nm,2.3s						
NDI	**New Delhi**	**148.09**	**67**	*e*P	PKPdf	02 59 09.5	+1.0
NDI				*ex*	x	03 09 10.0	
AKL	**Akola**	**148.20**	**82**	⇑*i*x	x	03 01 21.9	
	comp=Z,111nm,1.0s						
AKL				*i* x	x	03 01 53.7	
DDI	**Dehra Dun**	**148.52**	**64**	*e*P	PKPdf	02 59 11.0	+1.8
BHPL	**Bhopal**	**148.68**	**78**	*e*P	PKPdf	02 59 10.7	+1.1
BHPL				AMb	AMB	02 59 19.3	
	comp=Z,62nm,1.4s						
ZAK	**Zakamensk**	**148.83**	**9**	*e*PKIKP	PKPdf	02 59 11.1	+2.1
ZAK				pmax	pmax		
	comp=Z,26nm,1.2s						
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.2s						
WMQ	**Urumqi**	**149.12**	**34**	PKP	PKPdf	02 59 12.0	+2.3
WMQ				PP	PP	03 02 51.0	+2.0
WMQ				SKS	SKS	03 06 09.0	+4.6
WMQ				SKKS		03 09 30.0	
WMQ				PP	PP		
	comp=Z,194nm,10.0s						
WMQ				LR	LR		
	comp=N,438nm,24.0s						
WMQ				LR	LR		
	comp=E,356nm,22.0s						
WMQ				LR	LR		
	comp=Z,542nm,22.0s						
HYB	**Hyderabad**	**149.26**	**89**	*i* PKP	PKPdf	02 59 13.0	+2.4
HYB				*ep*PKP		02 59 46.0	
HYB	**Hyderabad**	**149.26**	**89**	*e*P	PKPdf	02 59 13.0	+2.4
HYB				*e*		02 59 46.0	
MDRS	**Chennai**	**149.87**	**98**	*ex*	x	02 59 31.0	
MDRS				*ex*	x	03 03 21.0	
NGP	**Nagpur**	**150.13**	**82**	*e*P	PKPdf	02 59 13.3	+1.4
CBIJ	**Chichi jima**	**150.45**	**290**	PKPbc	PKPdf	02 59 18.4	+6.2
	comp=Z,95nm,0.5s,baz=276,slow=4.3,SNR=12						
PTH	**Pithoragarh**	**150.51**	**65**	*ex*	PKPdf	02 59 19.6	+7.3
MDJ	**Mudanjiang**	**150.73**	**332**	PKP	PKPdf	02 59 12.8	+0.7
MDJ				APKP		02 59 41.3	
MDJ				SKS	SKS	03 06 09.9	+3.4
MDJ				SS	SS	03 22 06.4	-1.2
MDJ				LR	LR		
	comp=N,214nm,31.0s						
MDJ				LR	LR		
	comp=E,130nm,32.3s						
MDJ				LR	LR		
	comp=Z,258nm,32.3s						
MAJO	**Matsushiro**	**150.83**	**311**	*e*PKPdf	PKPdf	02 59 12.8	+0.3
MAJO				*e*PKPbc	PKPdf	02 59 19.6	+7.0
MAT	**Matsushiro**	**150.83**	**311**	PKP	PKPdf	02 59 13.6	+1.1
MAT	**Matsushiro**	**150.83**	**311**	*e*PKP	PKPdf	02 59 14.0	+1.5
JHJ	**Hachijo jima 2**	**151.03**	**303**	PKPbc	PKPdf	02 59 19.7	+6.8
	comp=Z,319nm,1.0s,baz=186,slow=4.7,SNR=8.1						
SONM	**Songino Array**	**151.74**	**6**	PKP	PKPdf	02 59 15.6	+2.1
	comp=Z,12nm,1.0s,baz=282,slow=0.6,SNR=28						
SONM				PKPbc	PKPdf	02 59 22.3	+8.8
	comp=Z,26nm,0.4s,baz=337,slow=1.5,SNR=56						
CN2	**Changchun**	**153.10**	**336**	*e*PKP	PKPdf	02 59 16.6	+1.0
CN2				*e*PKP2	PKPab	02 59 36.8	-0.7
CN2				*e*APKP		02 59 42.8	
CN2				PP	PP	03 03 08.3	-3.6
CN2				PP	PP		
	comp=Z,310nm,6.0s						
CN2				LR	LR		
	comp=N,430nm,22.0s						
CN2				LR	LR		
	comp=E,410nm,22.0s						
CN2				LR	LR		
	comp=Z,480nm,22.0s						
KOLN	**Koldanda**	**153.79**	**67**	*e*P	PKPdf	02 59 18.6	+1.6
	comp=Z,60nm,1.5s						
VIS	**Vishakhapatnam**	**153.80**	**90**	*e*P	PKPdf	02 59 17.9	+0.6
VIS				AMb	AMB	02 59 28.9	
	comp=Z,25nm,2.0s						
GKN	**Gorkha**	**154.64**	**66**	*e*P	PKPdf	02 59 19.7	+1.5
DMN	**Daman**	**155.13**	**67**	*e*P	PKPdf	02 59 21.3	+2.5
KKN	**Kakani**	**155.24**	**66**	*e*P	PKPdf	02 59 21.2	+2.2
PKI	**Pulchoki**	**155.40**	**67**	*e*P	PKPdf	02 59 21.2	+2.0
	comp=Z,28nm,1.2s						
KS15	**Wonju Array Si**	**156.98**	**324**	*e*PKPab	PKPab	02 59 53.6	-0.6
JNU	**Nakatsue**	**157.76**	**311**	PKP	PKPdf	02 59 23.2	+1.1
	comp=Z,3.7nm,0.8s,baz=335,slow=12,SNR=3.6						
JNU				PKPab	PKPab	02 59 56.0	-1.7
	comp=Z,16nm,0.9s,baz=41,slow=14,SNR=5.9						
GTA	**Gaotai**	**158.19**	**24**	PKP	PKPdf	02 59 24.8	+2.3
GTA				APKP		02 59 52.5	
GTA				XPKP		03 00 04.6	
GTA				PP	PP	03 03 42.6	+2.2
GTA				PPP	PPP	03 07 23.9	+2.1
GTA				SKKS		03 10 17.6	
GTA				PP	PP		
	comp=Z,134nm,9.1s						
GTA				LR	LR		
	comp=N,229nm,18.6s						
GTA				LR	LR		
	comp=E,477nm,27.0s						
GTA				LR	LR		
	comp=Z,172nm,18.6s						
DL2	**Dalian**	**158.77**	**336**	PKPR	PKPdf	02 59 24.6	+1.4
DL2				PKP2	PKPab	03 00 00.9	-1.0
DL2				XPKP		03 00 02.8	
DL2				PP	PP	03 03 39.5	-3.9
DL2				SS	SS	03 23 34.4	0.0
DL2				LR	LR		
	comp=N,210nm,17.9s						
DL2				LR	LR		
	comp=E,210nm,16.5s						
DL2				LR	LR		
	comp=Z,390nm,22.2s						
HHC	**Hu-ho-hao-te**	**158.95**	**359**	*e*PKP	PKPdf	02 59 26.4	+3.1
HHC				APKP		02 59 50.6	
HHC				PKS	PKS	03 03 00.9	+5.0
HHC				SKS	SKS	03 06 18.9	+3.4
HHC				LR	LR		
	comp=N,848nm,21.4s						
HHC				LR	LR		
	comp=E,2μm,22.6s						
HHC				LR	LR		
	comp=Z,2μm,19.0s						
BTO	**Baotou**	**159.19**	**2**	*e*PKP	PKPdf	02 59 25.1	+1.5
LSA	**Lhasa**	**159.51**	**57**	PKP	PKPdf	02 59 27.6	+3.3
LZH	**Lanzhou**	**162.57**	**19**	*e*PKP	PKPdf	02 59 30.4	+3.2
LZH				PP	PP	03 04 03.3	-0.1
LZH				*e*SKKS		03 10 42.0	
LZH				PP	PP		
	comp=Z,462nm,8.4s						
LZH				LR	LR		
	comp=E,659nm,19.0s						
LZH				LR	LR		
	comp=Z,1μm,20.0s						
JOW	**Kunigami**	**162.57**	**297**	PKP	PKPdf	02 59 30.6	+3.1
	comp=Z,31nm,1.1s,baz=122,slow=2.9,SNR=6.5						
JOW				PKPab	PKPab	03 00 16.1	-2.6
	comp=Z,16nm,1.0s,baz=209,slow=6.8,SNR=3.6						
TIA	**Tai'an**	**162.71**	**343**	*e*PKP	PKPdf	02 59 29.3	+2.0
IMP	**Imphal**	**163.50**	**69**	*ex*	x	03 00 42.0	
SSE	**Sheshan**	**165.39**	**323**	*e*PKP	PKPdf	02 59 29.8	-0.3
SSE				PP	PP	03 04 22.0	+3.3
SSE				PP	PP		
	comp=Z,130nm,12.0s						
SSE				LR	LR		
	comp=N,150nm,27.1s						
SSE				LR	LR		
	comp=E,260nm,27.8s						
SSE				LR	LR		
	comp=Z,235nm,24.1s						
XAN	**Xi'an**	**165.65**	**7**	PKP	PKPdf	02 59 32.3	+2.0
NJ2	**Nanjing**	**165.82**	**331**	*e*PKP	PKPdf	02 59 31.0	+0.5
NJ2				APKP		02 59 57.9	
NJ2				PKP2	PKPab	03 00 33.0	+0.3
NJ2				PKS	PKS	03 03 02.0	-0.2
NJ2				PP	PP	03 04 21.0	+0.2
NJ2				SKS	SKS	03 06 23.0	+1.8
NJ2				PPP	PPP	03 08 18.0	+0.5
NJ2				PP	PP		
	comp=Z,1μm,10.8s						
NJ2				LR	LR		
	comp=N,9μm,24.4s						
NJ2				LR	LR		
	comp=E,2μm,24.2s						
NJ2				LR	LR		
	comp=Z,2μm,22.6s						
CD2	**Chengdu**	**167.14**	**29**	PKP	PKPdf	02 59 33.6	+2.1
WHN	**Wuhan**	**168.81**	**345**	*e*PKP	PKPdf	02 59 34.5	+2.0
KMI	**Kunming**	**170.73**	**53**	⇑PKP	PKPdf	02 59 36.5	+2.7
KMI				APKP		02 59 59.5	
KMI				PKS	PKS	03 03 06.3	+0.8
KMI				PP	PP	03 04 45.9	+0.3
KMI				SKS	SKS	03 06 29.0	+4.9
KMI				PP	PP		
	comp=Z,161nm,7.9s						
KMI				LR	LR		
	comp=N,362nm,24.3s						
KMI				LR	LR		
	comp=E,313nm,24.8s						
KMI				LR	LR		
	comp=Z,618nm,35.0s						
GYA	**Guiyang**	**172.25**	**30**	*i* PKP	PKPdf	02 59 33.3	-1.3
GYA				PKS	PKS	03 03 04.5	-1.6
GYA				PP	PP		
	comp=Z,370nm,7.9s						
GYA				LR	LR		
	comp=N,620nm,20.8s						
GYA				LR	LR		
	comp=E,870nm,22.7s						
GYA				LR	LR		
	comp=Z,910nm,21.6s						
QIZ	**Qiongzhong**	**178.76**	**125**	PKP	PKPdf	02 59 37.8	+1.4
QIZ				PKP2	PKPab	03 01 35.5	+5.3
QIZ				PP	PP	03 05 26.8	+1.9
QIZ				SKKS		03 11 58.5	
QIZ				PP	PP		
	comp=Z,692nm,9.2s						

MAN 14 02:46:17.4, 9.12N×125.56E, h3km, mb4.6, ML3.5, MS3.4, 2C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGP	**Cagayan de Oro**	**1.09**	**232**	⇑*i*P	Pb	02 46 37.2	-1.3
CGP				*i* S	Sb	02 46 52.7	-0.2
BIPH	**Bislig**	**1.22**	**140**	⇓*i*P	Pb	02 46 37.2	-3.6
BIPH				*e*S	Sb	02 46 53.3	-3.5
TBP	**Tagbilaran**	**1.77**	**289**	*e*P	Pn	02 46 47.9	-1.3
TBP				*e*S	Sn	02 47 11.8	-0.7
LLP	**Lapu-Lapu**	**1.97**	**307**	⇑*e*P	Pn	02 46 50.4	-1.7
LLP				*e*S	Sn	02 47 17.2	-0.4
CTBH	**Cotabato--PC H**	**2.30**	**215**	⇓*e*P	Pn	02 46 55.6	-1.1
CTBH				*i* S	Sn	02 47 26.6	+0.7

BJI ***14*** *02:51:56.3, 16.16N×98.21W, h14km, mB5.6, Ms5.3, Msz5.2*

MEX ***14*** *02:51:57.9±0.9, 15.99N×98.40W, h15km±13km, MD5.8*

HRVD ***14*** *02:51:59.6±0.5, 16.30N×98.07W, h12km, MW5.4/50, Centroid moment Tensor Solution. LP body waves: s23,c33;Mantle waves: s50,c90; Half duration: 1±2 Moment tensor: Scale 10^17^Nm; Mrr0.71±.04; Mθθ-0.66±.03; Mφφ-0.04±.05; Mrθ1.04±.10; Mφθ0.34±.03; Mφr-0.87±.15; Best double couple: M0 1.559×10^17^ NP1: φs278°, δ16°, λ61°. NP2:φs128°, δ76°, λ98°. Principal axes: T 1.535, Plg58°, Azm49°; N .048, Plg8°, Azm306°; P -1.583, Plg30°, Azm211°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***14*** *02:51:59.6±0.8, 16.21N×98.14W, h19km±4km, mb5.4/146, MS4.8/80, MD5.8(MEX) Error ellipse: s-maj=4.3km s-min=2.3km az=208.0*

NEIC Felt [III] at Mexico City. Felt at Naucalpan, Oaxaca, Temixco and Tlalnepantla.

MOS ***14*** *02:52:00.2±0.9, 16.27N×98.16W, h33km, mb5.6/12, MS4.9/6, Error ellipse: s-maj=10.4km s-min=5.2km az=102.8*

IDC ***14*** *02:52:03.0±3.5, 16.18N×98.18W, h47km±32km, mb4.6/22, mb1 4.8/22, mb1mx4.8/23, mbtmp4.9/22, ML4.6/1, MS4.7/10, Ms1 4.7/10, ms1mx4.4/26, Error ellipse: s-maj=23.0km s-min=10.5km az=58.0*

ISC 14 02:51:59.1±0.7, 16.27N±0.03×98.20W±0.02, h24km±4km, h26km±3.9km; pP-P, n479, σ0°95/441, mb5.3/176, MS4.8/94, 57C-7D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.14**	**29**	*i* P	**Pb**	**02 52 05.4**	**+1.4**
PNIG				*i* S	**Sb**	**02 52 12.6**	**+5.3**
VHO	**Vista Hermosa**	**1.61**	**60**	*e*P	**Pn**	**02 52 28.0**	**+1.5**
VHO				*i* S	**Sn**	**02 52 49.9**	**+3.1**
VHO	**Vista Hermosa**	**1.61**	**60**	*e*P	**Pn**	**02 52 28.0**	**+1.5**
VHO				*i* S	**Sn**	**02 52 51.0**	**+4.3**
OXX	**Oaxaca**	**1.63**	**60**	*i* P	**Pn**	**02 52 28.1**	**+1.4**
OXX				*i* S	**Sn**	**02 52 50.3**	**+3.2**
OXX	**Oaxaca**	**1.63**	**60**	*i* P	**Pn**	**02 52 28.2**	**+1.4**
ACX	**Acapulco**	**1.75**	**290**	*e*P	**Pn**	**02 52 22.8**	**-5.7**
ACX				*i* S	**Sn**	**02 52 44.3**	**-6.0**
ACX	**Acapulco**	**1.75**	**290**	*e*P	**Pn**	**02 52 22.8**	**-5.7**
ACX				*i* S	**Sn**	**02 52 45.1**	**-5.2**
HUIG	**Huatulco**	**2.07**	**104**	*e*P	**Pn**	**02 52 31.3**	**-1.8**
HUIG				*i* S	**Sn**	**02 52 56.0**	**-2.4**
CAIG	**El Cayaco**	**2.13**	**292**	*e*P	**Pn**	**02 52 29.4**	**-4.6**
CAIG				*i* S	**Sn**	**02 52 53.0**	**-6.9**
PLIG	**Platanillo**	**2.45**	**330**	*e*P	**Pn**	**02 52 36.4**	**-2.1**
PLIG				*i* S	**Sn**	**02 53 07.3**	**-0.7**
PLIG	**Platanillo**	**2.45**	**330**	*e*P	**Pn**	**02 52 38.4**	**-0.1**
PLIG				*i* S	**Sn**	**02 53 08.3**	**+0.3**
YAIG	**Yautepec**	**2.71**	**342**	*e*P	**Pn**	**02 52 42.2**	**0.0**
YAIG				*i* S	**Sn**	**02 53 15.5**	**+1.0**
YAIG	**Yautepec**	**2.71**	**342**	*e*P	**Pn**	**02 52 43.2**	**+1.0**
YAIG				*i* S	**Sn**	**02 53 17.1**	**+2.5**
PPM	**Popocatepetl**	**2.81**	**352**	*e*P	**Pn**	**02 52 43.8**	**+0.1**
PPM	**Popocatepetl**	**2.81**	**352**	*e*P	**Pn**	**02 52 44.5**	**+0.8**
IISM	**Ciudad Serdan**	**2.81**	**16**	*i* P	**Pn**	**02 52 44.2**	**+0.5**
IISM	**Ciudad Serdan**	**2.81**	**16**	*i* P	**Pn**	**02 52 45.0**	**+1.3**
UNM	**Universidad Na**	**3.18**	**343**	*e*P	**Pn**	**02 52 46.5**	**-2.4**
UNM				*e*P		02 52 48.0	
UNM				*e*P		02 52 49.0	
UNM				*i* S	**Sn**	**02 53 29.0**	**+2.4**
UNM	**Universidad Na**	**3.18**	**343**	*e*P	**Pn**	**02 52 50.0**	**+1.1**
UNM				*i* S	**Sn**	**02 53 29.6**	**+3.0**
EVV	**El Vigia**	**3.48**	**51**	*e*P	**Pn**	**02 52 51.7**	**-1.5**
EVV				*i* S	**Sn**	**02 53 34.6**	**+0.5**
EVV	**El Vigia**	**3.48**	**51**	*e*P	**Pn**	**02 52 47.0**	**-6.2**
LVIG	**Laguna Verde**	**3.83**	**26**	*e*P	**Pn**	**02 52 57.0**	**-1.1**
LVIG				*i* S	**Sn**	**02 53 43.1**	**+0.1**
TUIG	**Tuzandepetl**	**4.01**	**64**	*e*P	**Pn**	**02 52 60.0**	**-0.8**
TUIG				*i* S	**Sn**	**02 53 50.0**	**+2.4**
MOIG	**Morelia**	**4.43**	**320**	*e*P	**Pn**	**02 53 05.2**	**-1.5**
MOIG				*i* S	**Sn**	**02 53 55.3**	**-2.8**
MOIG	**Morelia**	**4.43**	**320**	*e*P	**Pn**	**02 53 06.0**	**-0.6**
MOIG				*i* S	**Sn**	**02 53 55.3**	**-2.8**
SCX	**San Cristobal**	**5.36**	**84**	*e*P	**Pn**	**02 53 21.5**	**+1.8**
CCIG	**Comitan**	**5.82**	**89**	*e*P	**Pn**	**02 53 24.7**	**-1.6**
CCIG				*i* S	**Sn**	**02 54 36.6**	**+3.5**
SFJM	**Santa Fe**	**6.22**	**313**	*e*P	**Pn**	**02 53 30.0**	**-2.0**
SFJM				*i* S	**Sn**	**02 54 41.4**	**-1.7**
SFJM	**Santa Fe**	**6.22**	**313**	*e*P	**Pn**	**02 53 32.9**	**+1.0**
CJM	**Chamela**	**7.27**	**297**	*e*P	**Pn**	**02 53 44.1**	**-2.6**
ZAIG	**Zacatecas**	**7.67**	**328**	*e*P	**Pn**	**02 54 00.2**	**+8.0**
ZAIG				*i* S	**Sn**	**02 55 20.3**	**+1.1**
CRIN	**San Cristobal**	**11.36**	**107**	*e*P	**P**	**02 54 43.4**	**+0.1**
TEL3	**Telica 3**	**11.59**	**107**	*e*P	**P**	**02 54 47.6**	**+1.2**
LEON	**Leon**	**11.60**	**108**	*e*P	**P**	**02 54 46.0**	**-0.5**
CNGN	**Cerro Negro**	**11.75**	**107**	*e*P	**P**	**02 54 50.6**	**+2.0**
MIRN	**Miramar**	**11.76**	**107**	*e*P	**P**	**02 54 49.7**	**+1.0**
MOMJ	**Momotombo**	**11.93**	**107**	*e*P	**P**	**02 54 51.1**	**+0.2**
COPN	**Copaltepe**	**11.96**	**108**	*e*P	**P**	**02 54 51.7**	**+0.3**
XAVN	**Gruta Xavier**	**12.22**	**108**	*e*P	**P**	**02 54 55.7**	**+1.0**
MGAN	**Managua**	**12.29**	**108**	*e*P	**P**	**02 54 55.3**	**-0.4**
MGAN				*e*P		02 54 55.8	
CRUN	**El Crucero**	**12.30**	**109**	*e*P	**P**	**02 54 57.4**	**+1.5**
WILN	**Americas 2**	**12.34**	**108**	*e*P	**P**	**02 54 57.6**	**+1.1**
APON	**Apoyo**	**12.54**	**109**	*e*P	**P**	**02 54 59.4**	**+0.3**
SSNN	**San Juan del S**	**12.97**	**111**	*e*P	**P**	**02 55 05.5**	**+0.6**
CONN	**Concepcion**	**13.07**	**109**	*e*P	**P**	**02 55 04.9**	**-1.2**
CONN				*e*P		02 55 05.9	
LTX	**Lajitas**	**13.94**	**340**	*e*P	**P**	**02 55 17.4**	**-0.3**
	127nm,1.9s						
JTS	**JuntasAbangare**	**14.19**	**113**	P	**P**	**02 55 21.9**	**+0.9**
	3.0nm,0.3s,baz=288,slow=9.0,SNR=21						
JTS	**JuntasAbangare**	**14.19**	**113**	*e*P	**P**	**02 55 20.1**	**-0.9**
	334nm,1.2s						
SJS	**Escuela Geolog**	**15.14**	**113**	*e*P	**P**	**02 55 33.4**	**0.0**
SJS				AMb	AMB	02 56 14.7	
	comp=Z,526nm,1.4s						
SOR	**Soroa**	**15.71**	**63**	*e*P	**P**	**02 55 41.6**	**+0.8**
NATX	**Nacogdoches**	**15.75**	**11**	*e*P	**P**	**02 55 41.1**	**-0.2**
MNTX	**Cornugdas Mount**	**16.69**	**338**	*e*P	**P**	**02 55 53.5**	**+0.2**
	comp=Z,42nm,1.4s						
CLNB	**Carlsbad**	**16.74**	**343**	*e*P	**P**	**02 55 54.8**	**+1.0**
GDL2	**Guadalupe Moun**	**16.82**	**342**	*e*P	**P**	**02 55 54.9**	**+0.1**
CPRX	**Cap Rock**	**17.46**	**344**	*e*P	**P**	**02 56 01.9**	**-1.0**
MGV	**Manicaragua**	**18.15**	**69**	*e*P	**P**	**02 56 07.6**	**-4.0**
MGV				*e*S	**S**	**02 59 22.5**	**-7.9**
	comp=N,2μm,2.9s						
	comp=E,1μm,2.9s						
WMOK	**Wichita Mounta**	**18.40**	**358**	*e*P	**P**	**02 56 12.1**	**-2.4**
	comp=E,36nm,1.0s						
UALR	**University of**	**19.16**	**15**	*e*P	**P**	**02 56 20.3**	**-3.3**
BNM	**Barren Site**	**19.35**	**338**	*e*P	**P**	**02 56 25.5**	**-0.3**
DWPF	**Disney**	**19.46**	**50**	*e*P	**P**	**02 56 24.8**	**-2.3**
	comp=E,160nm,1.1s						
LENM	**Lemitar**	**19.49**	**338**	*e*P	**P**	**02 56 27.6**	**+0.2**
LPM	**Los Pinos Moun**	**19.50**	**339**	*e*P	**P**	**02 56 27.4**	**-0.2**
LRAL	**Lakeview Retre**	**19.52**	**29**	*e*P	**P**	**02 56 26.1**	**-1.8**
TUC	**Tucson**	**19.63**	**327**	*e*P	**P**	**02 56 28.9**	**-0.2**
MCJ	**Malvern**	**19.67**	**82**	⇓*i*P	**P**	**02 56 28.9**	**-0.7**
LAZ	**Ladron**	**19.76**	**338**	*e*P	**P**	**02 56 30.9**	**+0.5**
OXF	**Oxford**	**19.80**	**22**	*e*P	**P**	**02 56 29.3**	**-1.7**
	comp=E,239nm,1.0s						
CVJ	**Coleyville**	**19.83**	**81**	⇓*i*P	**P**	**02 56 30.8**	**-0.6**
ANMO	**Albuquerque**	**20.02**	**340**	P	**P**	**02 56 33.3**	**0.0**
	comp=E,105nm,0.9s,baz=152,slow=11,SNR=122						
ANMO				LR	LR	03 04 58.9	
	comp=E,10μm,18.3s,MS5.2,slow=39						
ANMO	**Albuquerque**	**20.02**	**340**	⇑*i*P	**P**	**02 56 33.0**	**-0.3**
	comp=E,12nm,2.1s						
HBAR	**Harrisburg**	**20.35**	**18**	*e*P	**P**	**02 56 35.1**	**-1.6**
LMGC	**Las Mercedes**	**20.48**	**76**	*e*P	**P**	**02 56 35.6**	**-2.6**
STH	**Stony Hill**	**20.51**	**82**	⇓*i*P	**P**	**02 56 37.4**	**-1.1**
PLAL	**Pickwick Lake**	**20.72**	**24**	⇑*e*P	**P**	**02 56 38.1**	**-2.5**
PLAL				*e*S	**S**	**03 00 14.2**	**-12**
PLAL				LR	LR		
	comp=Z,951nm,22.0s,MS4.1						
GNAR	**Gosnell**	**20.93**	**19**	*e*P	**P**	**02 56 42.0**	**-0.6**
HALT	**Halls**	**21.09**	**20**	*e*P	**P**	**02 56 43.5**	**-0.8**
GLAT	**Glass**	**21.44**	**20**	*e*P	**P**	**02 56 49.0**	**+1.2**
PVMO	**Portageville**	**21.44**	**19**	P	**P**	**02 56 47.5**	**-0.3**
HLGC	**Holguin**	**21.47**	**74**	*e*P	**P**	**02 56 46.3**	**-2.0**
UTMT	**University of**	**21.65**	**21**	*e*P	**P**	**02 56 48.6**	**-1.3**
	comp=Z,764nm,1.0s,mb6.1						
PARMO	**Parma**	**21.65**	**19**	*e*P	**P**	**02 56 47.8**	**-2.1**
WVT	**Waverly**	**21.83**	**23**	*e*P	**P**	**02 56 50.4**	**-1.3**
SDCO	**Great Sand Dun**	**22.34**	**345**	*e*P	**P**	**02 56 57.0**	**+0.2**
	comp=Z,235nm,1.0s,mb5.6						
SDCO				LR	LR		
	comp=Z,796nm,19.0s,MS4.2						
MOAC	**Moa**	**22.46**	**75**	*e*P	**P**	**02 56 57.9**	**-0.2**
MOAC				*e*S	**S**	**03 00 56.2**	**-2.2**
	comp=E,3μm,6.8s						
	comp=N,2μm,9.5s						
CBKS	**Cedar Bluff**	**22.50**	**357**	PFAKE		02 57 10.0	+12
CBKS				LR	LR		
	comp=Z,2μm,20.0s,MS4.6						
CCM	**Cathedral Cave**	**22.55**	**14**	*e*P	**P**	**02 56 57.6**	**-1.3**
	comp=Z,110nm,0.8s,mb5.3						
CCM				LR	LR		
	comp=Z,2μm,22.0s,MS4.5						
MYNC	**Murphy**	**22.57**	**31**	*e*P	**P**	**02 56 59.2**	**+0.1**
	comp=Z,91nm,1.3s,mb5.0						
MYNC				LR	LR		
	comp=Z,3μm,22.0s,MS4.7						
CPCT	**Cooper Cave**	**22.67**	**30**	*e*P	**P**	**02 56 59.6**	**-0.5**
FVM	**French Village**	**22.69**	**16**	*e*P	**P**	**02 56 59.1**	**-1.2**
SIUC	**Southern Illin**	**22.79**	**19**	*e*P	**P**	**02 57 00.7**	**

NLU North Lily Min 26.51 336 *eP* **P 02 57 37.9 +1.1**
DAU Daniels Canyon 26.60 337 *eP* **P 02 57 38.0 +0.5**
JLU Jordanelle 26.83 337 *eP* **P 02 57 40.3 +0.6**
DUG Dugway 27.02 335 *eP* **P 02 57 40.9 -0.4**
comp=Z,198nm,1.4s,mb5.5
DUG LR LR
comp=Z,7µm,19.0s,MS5.2
CTU Camp Tracy 27.02 337 *eP* **P 02 57 41.0 -0.5**
NOQ North Oquirrh 27.13 336 *eP* **P 02 57 43.2 +0.8**
TCUT Toone Canyon 27.27 338 *eP* **P 02 57 44.1 +0.4**
TPH Tonopah 27.43 326 *eP* **P 02 57 45.1 -0.1**
comp=Z,29nm,1.0s,mb4.8
TPH LR LR
comp=Z,3µm,19.0s,MS4.9
MTUM Tungsten Hills 27.66 323 *eP* **P 02 57 47.9 +0.7**
HWUT Hardware Ranch 27.75 338 *eP* **P 02 57 48.4 +0.3**
comp=Z,364nm,1.2s,mb5.9
HWUT LR LR
comp=Z,2µm,21.0s,MS4.8
SPUT South Promonto 27.82 337 *eP* **P 02 57 48.9 +0.2**
SDV Santo Domingo 27.86 102 P **P 02 57 49.8 +0.5**
comp=Z,30nm,0.8s,mb5.0,baz=304,slow=5.3,SNR=16
SDV LR LR 03 10 31.1
comp=Z,1µm,18.9s,MS4.5,baz=330,slow=40
SDV Santo Domingo 27.86 102 *eP* **P 02 57 48.8 -0.5**
OMM Old Mammoth Mi 28.09 323 *eP* **P 02 57 51.8 +0.7**
BW06 Boulder Array 28.14 342 *eP* **P 02 57 51.0 -0.5**
comp=Z,57nm,1.1s,mb5.1
BW06 LR LR
comp=Z,770nm,20.0s,MS4.3
PDAR Pinedale Array 28.14 342 P **P 02 57 51.8 +0.3**
comp=Z,27nm,1.0s,mb4.8,baz=143,slow=7.4,SNR=43
PDAR LR LR 03 10 17.7
comp=Z,698nm,20.4s,MS4.2,baz=343,slow=39
RSSD Black Hills 28.20 351 *eP* **P 02 57 52.4 +0.3**
comp=Z,164nm,1.7s,mb5.4
MCWV Mont Chateau 28.27 31 PFAKE 02 58 00.0 +7.3
MCWV LR LR
comp=Z,2µm,20.0s,MS4.6
NVAR Mina Array Bea 28.27 325 P **P 02 57 53.6 +0.8**
comp=Z,19nm,0.9s,mb4.7,baz=153,slow=8.1,SNR=73
HVU Hansel Valley 28.35 337 *eP* **P 02 57 53.8 +0.3**
ELK Elko 28.51 332 *eP* **P 02 57 55.5 +0.6**
ELK LR LR
comp=Z,3µm,20.0s,MS4.8
CBN Corbin 28.51 36 P **P 02 57 53.2 -1.8**
comp=Z,78nm,1.0s,mb5.4
CBN LR LR
comp=Z,2µm,22.0s,MS4.7
LRV Little Rabbit 28.52 319 *eP* **P 02 57 55.9 +0.8**
AHID Auburn Hatcher 28.62 340 *eP* **P 02 57 55.9 0.0**
AHID LR LR
comp=Z,5µm,20.0s,MS5.1
SAO San Andreas Ge 29.01 319 *eP* **P 02 57 57.9 -1.6**
comp=Z,21nm,1.0s,mb4.8
SAO LR LR
comp=Z,1µm,20.0s,MS4.4
REDW Red Top Meadow 29.08 341 *eP* **P 02 58 00.5 +0.5**
comp=Z,207nm,0.1s
SNOW Snow King Moun 29.14 341 *eP* **P 02 58 01.0 +0.5**
comp=Z,64nm,0.8s,mb5.4
CMB Columbia Colle 29.18 322 *eP* **P 02 58 00.7 -0.3**
comp=Z,21nm,1.1s,mb4.8
CMB LR LR
comp=Z,818nm,19.0s,MS4.4
BMN Battle Mountai 29.19 329 *eP* **P 02 58 01.4 +0.3**
comp=Z,17nm,1.0s,mb4.7
BMN LR LR
comp=Z,3µm,19.0s,MS4.9
RRI2 Red Ridge 29.21 340 *eP* **P 02 58 01.3 0.0**
comp=Z,64nm,1.4s,mb5.2
TPAW Teton Pass 29.22 341 *eP* **P 02 58 01.7 +0.4**
comp=Z,41nm,1.3s,mb5.0
LOHW Long Hollow 29.23 341⇑ *eP* **P 02 58 01.3 0.0**
comp=Z,23nm,1.7s,mb4.6
IMW Indian Meadow 29.59 341⇑ *eP* **P 02 58 04.4 -0.2**
ALLY Alegheny Colle 29.69 28 *eP* **P 02 58 03.1 -2.4**
LKWY Lake 30.03 342⇑ *eP* **P 02 58 09.9 +1.4**
comp=Z,76nm,1.4s,mb5.2
LKWY LR LR
comp=Z,14µm,19.0s,MS5.6
YFT Old Faithful 30.06 342⇑ *eP* **P 02 58 10.1 +1.4**
YNR Norris Junctio 30.25 342⇑ *eP* **P 02 58 10.8 +0.3**
YMR Madison River 30.29 342⇑ *eP* **P 02 58 11.5 +0.7**
BEKR Beckwourth 30.41 325⇑ *iP* **P 02 58 12.5 +0.6**
comp=Z,35nm,1.1s,mb5.0
HLID Hailey 30.50 336 PFAKE 02 58 20.0 +7.3
HLID LR LR
comp=Z,8µm,19.0s,MS5.4
QLMT Earthquake Lak 30.58 341 *eP* **P 02 58 13.9 +0.6**
SJG San Juan 30.65 82 P **P 02 58 13.2 -1.0**
comp=Z,45nm,0.8s,mb5.3,baz=267,slow=5.4,SNR=13
GCMT Greycliff 30.96 344 *eP* **P 02 58 16.9 +0.2**
MCMT McKenzie Canyo 31.04 340 *eP* **P 02 58 18.4 +1.0**
LAO LASA Array 31.06 349 *eP* **P 02 58 17.1 -0.4**
LAO LR LR
comp=Z,737nm,19.0s,MS4.4
MTP Monte Pirata 31.21 82 *eP* **P 02 58 18.2 -1.0**
BOZ Bozeman (W) 31.38 342 *eP* **P 02 58 20.6 +0.2**
comp=Z,63nm,1.3s,mb5.3
BOZ LR LR
comp=Z,5µm,21.0s,MS5.2
HOPS Hopland 31.40 321 PFAKE 02 58 30.0 +9.3
HOPS LR LR
comp=Z,2µm,19.0s,MS4.8
WVOR Wild Horse Val 31.41 330 *eP* **P 02 58 20.5 -0.2**
comp=Z,102nm,1.0s,mb5.6
WVOR LR LR
comp=Z,1µm,22.0s,MS4.6
GENY Geneseo 31.64 29 *eP* **P 02 58 23.6 +1.0**
BRNJ Basking Ridge 31.79 35 *eP* **P 02 58 23.8 -0.3**
MOD Modoc 31.84 328 *eP* **P 02 58 24.3 -0.1**
comp=Z,38nm,1.0s,mb5.2
MOD LR LR
comp=Z,2µm,21.0s,MS4.7
BINY Binghamton 32.11 32 *eP* **P 02 58 26.1 -0.7**
comp=Z,30nm,0.8s,mb5.2
KCPM Cahto Peak 32.15 322 P **P 02 58 27.8 +0.7**
PAL Palisades 32.38 36 *eP* **P 02 58 28.6 -0.6**
comp=Z,78nm,1.0s,mb5.5
HRY Holter Researc 32.40 342 *eP* **P 02 58 29.4 +0.1**
DGMT Dagmar 32.49 353 *eP* **P 02 58 30.1 +0.1**
comp=Z,99nm,1.0s,mb5.6
DGMT LR LR
comp=Z,2µm,20.0s,MS4.7
SADO Sadowa 32.64 26 P **P 02 58 29.8 -1.6**
comp=Z,24nm,0.8s,mb5.2,baz=236,slow=8.6,SNR=23
BMO Blue Mountains 32.73 334 *eP* **P 02 58 31.4 -0.7**
comp=Z,16nm,0.9s,mb5.0
BMO LR LR
comp=Z,2µm,20.0s,MS4.8
YBH Yreka Blue Hor 32.99 325 P **P 02 58 33.4 -1.1**
comp=Z,4.2nm,0.8s,mb4.4,baz=125,slow=4.4,SNR=6.2
YBH Yreka Blue Hor 32.99 325 *eP* **P 02 58 33.4 -1.1**
KHMM Horse Mountain 33.00 323 *eP* **P 02 58 35.0 +0.5**
CHMT Chamberlain Mo 33.01 341 *eP* **P 02 58 34.5 -0.1**
MSO Missoula 33.16 340 *eP* **P 02 58 35.5 -0.4**
comp=Z,15nm,0.8s,mb5.0
MSO LR LR
comp=Z,4µm,19.0s,MS5.1
KRMB Red Mountain 33.52 324 *eP* **P 02 58 38.0 -1.1**
HUMO Hull Mountain 33.73 326 PFAKE 02 58 50.0 +9.1
HUMO LR LR
comp=Z,2µm,19.0s,MS4.9
QUA2 Belchertown 34.09 35⇑ *eP* **P 02 58 42.9 -1.1**
comp=Z,92nm,0.9s,mb5.7
ACCN Adirondack Com 34.15 33⇑ *eP* **P 02 58 43.1 -1.4**
BBSR BB Station 34.30 56 *eP* **P 02 58 45.0 -1.0**
comp=Z,77nm,1.0s,mb5.6
BBSR LR LR
comp=Z,2µm,21.0s,MS4.8
KEBM Edson Butte 34.65 325 *eP* **P 02 58 49.6 +0.7**
HRV Harvard--Oak R 34.69 36 *eP* **P 02 58 48.2 -1.0**
comp=Z,64nm,1.1s,mb5.5
HRV LR LR
comp=Z,1µm,20.0s,MS4.6
MIV Mineville/With 34.70 32 *eP* **P 02 58 48.2 -1.1**
WES Weston 34.74 36 *eP* **P 02 58 48.6 -1.0**
comp=Z,135nm,1.5s,mb5.7
HNH Hanover 35.09 33 P **P 02 58 50.5 -2.1**
comp=Z,16nm,1.8s,mb4.6
WALA Waterton Lakes 35.13 342⇑ *iP* **P 02 58 53.1 +0.2**
comp=Z,59nm,1.3s,mb5.4
NNA Nana 35.13 142 PFAKE 02 59 00.0 +6.8
NNA LR LR
comp=Z,231nm,20.0s,MS3.9

FRNY Flat Rock 35.22 31 *eP* **P 02 58 52.5 -1.1**
FFD Franklin Falls 35.27 34 *eP* **P 02 58 53.9 -0.2**
comp=Z,38nm,0.9s,mb5.3
COR Corvallis 35.29 328 *eP* **P 02 58 54.1 -0.2**
comp=Z,125nm,1.4s,mb5.7
COR LR LR
comp=Z,4µm,19.0s,MS5.2
NEW Newport 35.49 338 *eP* **P 02 58 55.6 -0.3**
comp=Z,25nm,1.1s,mb5.1
NEW LR LR
comp=Z,2µm,19.0s,MS4.8
LBNH Lisbon 35.65 33 PFAKE 02 59 10.0 +13
LBNH LR LR
comp=Z,1µm,21.0s,MS4.7
TBM Table Mountain 35.96 334 P **P 02 59 01.2 +1.3**
LON Longmire 36.17 332 P **P 02 59 01.9 +0.3**
LON Longmire 36.17 332 *eP* **P 02 59 01.9 +0.2**
WVL Waterville 37.08 35 *eP* **P 02 59 09.4 +0.1**
comp=Z,187nm,1.0s,mb5.9
WVL LR LR
comp=Z,8µm,20.0s,MS5.5
RPW Rockport 37.35 334 P **P 02 59 11.7 +0.2**
OSD Olympics--Snow 37.82 332 P **P 02 59 17.1 +1.6**
OCWA Octopus Mounta 37.99 331 *eP* **P 02 59 18.1 +1.1**
comp=Z,59nm,1.0s,mb5.3
OCWA LR LR
comp=Z,4µm,19.0s,MS5.2
PGC Sidney 38.33 333 *eP* **P 02 59 19.4 -0.4**
comp=Z,390nm,1.8s,mb5.8
EMMW East Machias 38.39 36 *eP* **P 02 59 19.9 -0.5**
comp=Z,277nm,1.0s,mb5.9
EMMW LR LR
comp=Z,8µm,19.0s,MS5.5
FFC Flin Flon 38.49 356⇑ *eP* **P 02 59 20.5 -0.6**
comp=Z,119nm,1.0s,mb5.6
FFC *e* 02 59 25.4
FFC LR LR
comp=Z,427nm,21.0s,MS4.2
EDM Edmonton 38.75 345⇑ *eP* **P 02 59 23.0 -0.3**
PQI Presque Isle 39.32 33 PFAKE 02 59 40.0 +12
PQI LR LR
comp=Z,5µm,20.0s,MS5.3
FCC Fort Churchill 42.53 3 *eP* **P 02 59 54.4 +0.1**
comp=Z,145nm,1.5s,mb5.5
SAML Samuel 42.76 123⇑ *eP* **P 02 59 53.6 -3.3**
comp=Z,33nm,1.2s,mb4.9
SAML LR LR
comp=Z,574nm,19.0s,MS4.5
LPAZ La Paz 43.89 136 P **P 03 00 04.6 -1.3**
comp=Z,9.4nm,1.1s,mb4.4,baz=300,slow=9.2,SNR=7.4
LPAZ LR LR 03 16 08.4
comp=Z,640nm,20.3s,MS4.5,baz=138,slow=33
LPAZ La Paz 43.89 136 *eP* **P 03 00 04.7 -1.2**
comp=Z,19nm,1.2s,mb4.7
LPAZ LR LR
comp=Z,596nm,20.0s,MS4.5
SCHQ Schefferville 45.45 25 P **P 03 00 17.7 -0.2**
comp=Z,85nm,0.9s,mb5.6,baz=229,slow=7.0,SNR=56
SCHQ Schefferville 45.45 25 P **P 03 00 17.7 -0.2**
CRAG Craig 47.37 334 *eP* **P 03 00 34.4 +1.3**
YKA Yellowknife Ar 47.59 350 P **P 03 00 34.3 -0.5**
comp=Z,14nm,0.8s,mb5.0,baz=157,slow=7.4,SNR=22
YKA Yellowknife Ar 47.59 350 *eP* **P 03 00 34.4 -0.4**
YKW3 Yellowknife Ar 47.66 350 *eP* **P 03 00 33.9 -1.4**
LVC Limon Verde 48.12 143 P **P 03 00 39.0 -0.4**
comp=Z,6.4nm,1.1s,mb4.5,baz=281,slow=5.1,SNR=4.6
DLBC Dease Lake 48.24 338 LR LR 03 20 47.4
comp=Z,3µm,19.1s,MS5.3,baz=120,slow=36
DLBC Dease Lake 48.24 338 *eP* **P 03 00 41.1 +1.3**
SIV San Ignacio 48.68 129 P **P 03 00 41.7 -2.1**
comp=Z,3.9nm,0.8s,mb4.5,baz=292,slow=6.2,SNR=9.4
SIT Sitka 49.34 334 PFAKE 03 01 00.0 +12
SIT LR LR
comp=Z,3µm,21.0s,MS5.3
POHA Pohakuloa 54.42 283 PFAKE 03 01 40.0 +13
POHA LR LR
comp=Z,6µm,20.0s,MS5.7
DAWY Dawson 55.40 339⇑ *iP* **P 03 01 32.6 -1.0**
EYAK Cordova Ski Ar 55.78 334 *eP* **P 03 01 36.6 +0.2**
DIV Divide 56.09 334 *eP* **P 03 01 38.3 -0.3**
comp=Z,386nm,1.6s,mb6.2
DIV LR LR
comp=Z,3µm,20.0s,MS5.4
MENT Mentasta 56.26 337 *eP* **P 03 01 39.8 0.0**
INK Inuvik 56.65 345⇑ *eP* **P 03 01 40.3 -2.2**
comp=Z,66nm,1.0s,mb5.6
SML Sawmill 57.49 334 *eP* **P 03 01 47.8 -0.8**
KDAK Kodiak Island 57.67 329 *eP* **P 03 01 49.7 -0.2**
SLKM Skilak Lake 57.70 333 *eP* **P 03 01 49.5 -0.5**
PMR Palmer 57.72 334 *eP* **P 03 01 49.7 -0.5**
PMR LR LR
comp=Z,1µm,21.0s,MS5.0
CPUP Villa Florida 58.06 136 P **P 03 01 49.9 -3.2**
comp=Z,6.7nm,1.0s,mb4.6,baz=344,slow=10,SNR=9.9
CPUP LR LR 03 26 21.2
comp=Z,281nm,21.1s,MS4.3,baz=354,slow=36
CPUP Villa Florida 58.06 136 *eP* **P 03 01 49.6 -3.5**
comp=Z,22nm,1.2s,mb5.1
ILAR Eielson Array 58.45 338 P **P 03 01 54.5 -0.8**
comp=Z,24nm,1.0s,mb5.2,baz=134,slow=4.6,SNR=79
ILAR Eielson Array 58.45 338 *eP* **P 03 01 54.5 -0.7**
MCK McKinley 58.68 336 *eP* **P 03 01 56.2 -0.7**
comp=Z,24nm,0.9s,mb5.2
MCK LR LR
comp=Z,852nm,19.0s,MS4.9
SPU Mount Spurr 58.80 333 *eP* **P 03 01 57.0 -0.7**
BDFB Brasilia 58.81 120 P **P 03 01 56.7 -1.7**
comp=Z,17nm,0.8s,mb5.1,baz=295,slow=7.2,SNR=22
BDFB LR LR 03 25 02.6
comp=Z,367nm,19.7s,MS4.5,baz=203,slow=34
BDFB Brasilia 58.81 120 *eP* **P 03 01 56.7 -1.7**
RSO Redoubt South 58.81 332 *eP* **P 03 01 57.1 -0.7**
SFJD Kangerlussuaq 59.29 20⇑ *iP* **P 03 02 00.4 -0.7**
comp=Z,57nm,1.0s,mb5.6
SFJD *i* 03 02 31.2
SFJD *i* 03 02 46.4
SFJD *i* S **S 03 10 18.6 +12**
comp=Z,600nm,16.0s
SFJD Kangerlussuaq 59.29 20⇑ *iP* **P 03 02 00.4 -0.7**
SFJD *i* 03 02 46.4
SFJD *i* S **S 03 10 18.6 +12**
SFJD pmax pmax
comp=Z,57nm,1.0s,mb5.6
SFJD MLR MLR
comp=Z,610nm,16.0s,MS4.8
SVW2 Sparrevohn 60.34 332 *eP* **P 03 02 06.9 -1.4**
TTA Tatalina 61.21 334 *eP* **P 03 02 12.7 -1.5**
IMA Indian Mountai 61.56 338 *eP* **P 03 02 15.4 -1.2**
comp=Z,25nm,0.8s,mb5.4
PLCA Paso Flores 62.25 157 P **P 03 02 19.1 -2.5**
comp=Z,5.2nm,0.8s,mb4.7,baz=326,slow=8.4,SNR=15
PLCA LR LR 03 24 26.4
comp=Z,519nm,18.0s,MS4.7,baz=346,slow=31
PLCA Paso Flores 62.25 157 *eP* **P 03 02 19.0 -2.6**
comp=Z,20nm,1.1s,mb5.2
PLCA LR LR
comp=Z,1µm,22.0s,MS5.0
UNV Unalaska Valle 64.24 322 *eP* **P 03 02 33.1 -1.3**
comp=Z,608nm,1.5s
RCBR Riachuelo 65.41 104 PFAKE 03 02 50.0 +7.3
RCBR LR LR
comp=Z,697nm,21.0s,MS4.8
SUMG Summit 65.71 17 *eP* **P 03 02 42.9 -0.8**
comp=Z,75nm,0.9s,mb5.7
TNA Tin City 66.94 335 *eP* **P 03 02 51.1 -0.5**
comp=Z,52nm,1.4s,mb5.4
BORG Borgarnes 69.81 26 PFAKE 03 03 20.0 +11
BORG LR LR
comp=Z,184nm,19.0s,MS4.3
DAG Danmarks Havn 71.88 14⇓ *iP* **P 03 03 21.7 -0.1**
comp=Z,97nm,1.5s,mb5.5
DAG Danmarks Havn 71.88 14⇓ *iP* **P 03 03 21.7 -0.1**
DAG pmax pmax
comp=Z,97nm,1.5s,mb5.5
MIDW Midway 73.13 295 PFAKE 03 03 40.0 +10
MIDW LR LR
comp=Z,588nm,21.0s,MS4.8
SMY Shemya 75.85 321 PFAKE 03 04 00.0 +15
SMY LR LR
comp=Z,853nm,21.0s,MS5.0
FX1 Attu Island--F 76.39 321 *eP* **P 03 03 47.7 -0.5**
BILL Bilibino 77.11 337 PFAKE 03 04 00.0 +8.1
BILL LR LR
comp=Z,1µm,19.0s,MS5.3
CFTV Fuerteventura 77.38 64 P **P 03 03 55.0 +0.8**
comp=Z,31nm,1.0s,mb5.2

KBS Kingsbay 77.92 11 *eP* **P 03 03 56.9 +0.7**
comp=Z,52nm,1.1s,mb5.4
KBS LR LR
comp=Z,882nm,19.0s,MS5.1
STS Santiago 78.86 49 P **P 03 04 01.9 -0.2**
comp=Z,20nm,0.8s,mb5.1
ELOB Lobios 79.43 49 P **P 03 04 05.1 -0.1**
comp=Z,141nm,2.2s,mb5.5
ESK Eskdalemuir 79.59 35 PFAKE 03 04 20.0 +14
ESK LR LR
comp=Z,136nm,22.0s,MS4.2
PTOM Tomar 79.65 52 *eP* **P 03 04 06.1 -0.3**
comp=Z,53nm,1.6s,mb5.2
EPON Pontenova 79.77 48 P **P 03 04 07.3 +0.4**
comp=Z,65nm,1.7s,mb5.3
PVRL Vila Real 79.81 50 *eP* **P 03 04 07.0 -0.2**
comp=Z,37nm,1.7s,mb5.0
PTEO Sao Teotonio 79.86 54 *eP* **P 03 04 06.8 -0.8**
ERUA La Rua 79.98 49 P **P 03 04 08.2 +0.1**
comp=Z,30nm,1.0s,mb5.2
MTE Manteigas 80.13 51 *eP* **P 03 04 08.8 -0.2**
comp=Z,48nm,1.7s,mb5.2
MTE Manteigas 80.13 51 *eP* **P 03 04 08.5 -0.4**
comp=Z,29nm,0.9s,mb5.2
EVO Evora 80.19 53⇑ *iP* **P 03 04 09.0 -0.3**
comp=Z,77nm,1.0s,mb5.3
EVO *eR*
comp=Z,755nm,21.2s
PCBR Castelo Branco 80.31 51 *eP* **P 03 04 09.6 -0.3**
comp=Z,63nm,1.8s,mb5.2
ECAL Calabor 80.38 49 P **P 03 04 09.8 -0.4**
comp=Z,160nm,1.9s,mb5.6
PBRG Braganca 80.41 49 *eP* **P 03 04 10.3 -0.1**
comp=Z,43nm,1.6s,mb5.1
PBEJ Beja 80.42 53 *eP* **P 03 04 10.7 +0.1**
comp=Z,45nm,1.8s,mb5.1
EGRO El Granado 80.83 54 P **P 03 04 13.4 +0.6**
comp=Z,75nm,1.9s,mb5.3
EBAD Badajoz 80.91 52 P **P 03 04 12.8 -0.3**
comp=Z,11nm,0.7s,mb4.9
EARI Arriondas 81.16 48 P **P 03 04 14.8 +0.4**
comp=Z,101nm,2.0s,mb5.4
ROSF Rostrenen 81.24 42 *eP* **P 03 04 14.7 +0.1**
comp=Z,62nm,1.1s,mb5.2
EMIN Mina Concepcio 81.40 53 P **P 03 04 14.7 -1.0**
comp=Z,40nm,1.0s,mb5.3
QUIF Quistinic 81.41 43 *eP* **P 03 04 15.6 +0.1**
comp=Z,95nm,1.4s,mb5.2
SGMF Saint Gilles 81.72 42⇑ *iP* **P 03 04 18.6 +1.5**
comp=Z,80nm,1.3s,mb5.2
ESPR Espera 82.25 54 P **P 03 04 21.3 +1.2**
comp=Z,11nm,0.9s,mb4.8
ELAN Lanestosa 82.43 47 P **P 03 04 21.1 +0.2**
comp=Z,30nm,1.2s,mb5.1
GRR Gorron 82.78 42⇑ *iP* **P 03 04 23.0 +0.4**
comp=Z,60nm,0.9s,mb5.3
EADA Adamuz 82.90 52 P **P 03 04 23.8 +0.3**
comp=Z,177nm,2.3s,mb5.7
FLN La Foliniere 82.91 41⇑ *iP* **P 03 04 23.9 +0.6**
comp=Z,116nm,1.2s,mb5.5
ESDC Sonseca Array 82.97 51 P **P 03 04 24.1 +0.3**
comp=Z,6.6nm,0.8s,mb4.7,baz=298,slow=5.0,SNR=39
ESDC Sonseca Array 82.97 51 P **P 03 04 23.0 -0.9**
comp=Z,5.8nm,0.8s,mb4.7
ESLA Sonseca Array 82.97 51 *eP* **P 03 04 23.7 -0.1**
comp=Z,5.2nm,1.1s,mb4.5
ESLA LR LR
comp=Z,3µm,19.0s,MS5.6
EMIJ Mijas 83.17 54 P **P 03 04 25.2 +0.3**
comp=Z,94nm,1.6s,mb5.6
LDF La Druitiere 83.19 41⇑ *iP* **P 03 04 25.1 +0.4**
comp=Z,63nm,1.1s,mb5.3
ELOJ Sierra Loja 83.50 53 P **P 03 04 26.6 +0.1**
comp=Z,18nm,1.0s,mb5.1
EBAN Banos Encina 83.51 52 P **P 03 04 26.9 +0.3**
comp=Z,10nm,0.9s,mb5.0
MFF Saint Martin d 83.75 43⇑ *iP* **P 03 04 27.9 +0.2**
comp=Z,91nm,1.5s,mb5.4
ERON Agron 83.80 53 P **P 03 04 29.4 +1.3**
comp=Z,3.8nm,0.5s,mb4.8
ECOG Cogollos-Vega 83.91 53 P **P 03 04 29.1 +0.3**
comp=Z,0.4nm,0.2s,mb4.2
SJPF Ste Jean 84.02 47 *eP* **P 03 04 29.5 +0.4**
comp=Z,26nm,1.0s,mb5.0
EQES Quesada 84.15 52 P **P 03 04 31.0 +1.1**
comp=Z,76nm,1.6s,mb5.6
SEY Seymchan 84.17 334⇓ *iP* **P 03 04 30.1 +0.7**
SEY Seymchan 84.17 334 *i P* **P 03 04 30.1 +0.7**
LARF Larrau 84.21 47 *eP* **P 03 04 30.8 +0.7**
EVIA Vianos 84.35 52 P **P 03 04 30.9 +0.1**
comp=Z,79nm,1.4s,mb5.7
EHUE Huescar 84.51 52 P **P 03 04 31.5 -0.2**
comp=Z,87nm,1.4s,mb5.7
EBER Berja 84.54 53 P **P 03 04 32.6 +0.8**
comp=Z,26nm,0.7s,mb5.5
ETSF Etsaut 84.55 47⇑ *iP* **P 03 04 32.4 +0.6**
comp=Z,44nm,0.9s,mb5.3
REYF Montagne du Re 84.61 47 *eP* **P 03 04 32.7 +0.6**
EALB Alboran 84.69 54 P **P 03 04 34.8 +2.1**
comp=Z,96nm,1.1s,mb5.8
KONO Kongsberg 84.79 29 *eP* **P 03 04 33.5 +1.0**
comp=Z,132nm,1.5s,mb5.8
KONO LR LR
comp=Z,563nm,21.0s,MS4.9
LFF La Frestale 84.83 45⇑ *iP* **P 03 04 33.5 +0.4**
comp=Z,59nm,1.1s,mb5.3
PET Petropavlovsk 84.84 324 PFAKE 03 04 40.0 +7.0
PET LR LR
comp=Z,441nm,20.0s,MS4.8
PET Petropavlovsk 84.84 324 *eP* **P 03 04 32.7 -0.3**
PET *eS* S 03 15 00.4 +2.1
PET *ePS* PS 03 15 55.0 -2.3
PET *ePPS* PPS 03 16 13.1 -8.0
PET *eSS* SS 03 20 39.3 +5.4
PET pmax pmax
comp=Z,300nm,12.3s
PET smax
comp=E,300nm,13.5s
PET smax
comp=N,800nm,13.7s
PET MLR MLR
comp=Z,400nm,20.0s,MS4.8
NAO01 NORSAR Array S 84.89 28 *eP* **P 03 04 33.5 +0.4**
comp=Z,16nm,0.9s,mb5.1
NAO01 LR LR
comp=Z,473nm,20.0s,MS4.9
NB2 NORSAR Subarra 84.96 27 P **P 03 04 34.2 +0.8**
comp=Z,0.6nm,0.7s,baz=302,slow=5.0
NB2 NORSAR Subarra 84.96 27 *eP* **P 03 04 34.2 +0.8**
NOA NORSAR Array B 84.96 27 P **P 03 04 34.6 +1.2**
comp=Z,6.4nm,0.8s,mb4.8,baz=301,slow=5.0,SNR=21
NOA NORSAR Array B 84.96 27 *eP* **P 03 04 34.6 +1.2**
VIEF Viey 84.96 47 *eP* **P 03 04 34.4 +0.6**
ETOB Tobarra 85.06 51 P **P 03 04 35.9 +1.5**
comp=Z,75nm,1.5s,mb5.6
EBIE Bielsa 85.10 47 P **P 03 04 35.9 +1.3**
comp=Z,94nm,2.0s,mb5.6
EPF Esparros 85.14 47⇑ *iP* **P 03 04 35.2 +0.5**
comp=Z,207nm,1.4s,mb5.8
RESF Ens 85.20 47 *eP* **P 03 04 36.0 +1.0**
ECHE Chera 85.22 50 P **P 03 04 36.5 +1.3**
comp=Z,14nm,1.0s,mb5.0
RJF Les Rejaudoux 85.25 44⇑ *iP* **P 03 04 35.5 +0.3**
comp=Z,152nm,1.4s,mb5.6
EMOS Mosqueruela 85.36 49 P **P 03 04 37.5 +1.7**
comp=Z,82nm,1.4s,mb5.7
HYF Humbligny 85.36 42⇑ *iP* **P 03 04 36.3 +0.6**
EGRA Graus 85.37 48 P **P 03 04 37.1 +1.2**
comp=Z,72nm,1.4s,mb5.6
TCF Toulx Ste Croi 85.39 43⇑ *iP* **P 03 04 36.2 +0.3**
comp=Z,145nm,1.3s,mb5.7
BAIF Baives 85.42 39⇑ *iP* **P 03 04 36.5 +0.6**
comp=Z,161nm,1.5s,mb5.6
EMUR La Murta 85.53 52 P **P 03 04 37.3 +0.5**
comp=Z,29nm,1.0s,mb5.5
MLS Moulis 85.69 47 *eP* **P 03 04 37.6 +0.1**
BGF Bois d'Agland 85.72 43⇑ *iP* **P 03 04 37.7 +0.2**
comp=Z,107nm,1.2s,mb5.7
CAF Calviac 85.73 45⇑ *iP* **P 03 04 37.9 +0.3**
comp=Z,136nm,1.7s,mb5.6
VERF Verneugheol 85.75 44 *eP* **P 03 04 38.0 +0.3**
ERTA Horta de San J 85.76 49 P **P 03 04 38.8 +0.9**
comp=Z,72nm,1.6s,mb5.7
GIVF Givet 85.78 39⇑ *iP* **P 03 04 38.4 +0.7**
comp=Z,207nm,1.6s,mb5.8
ARCES ARCESS Array B 85.80 17 P **P 03 04 37.2 -0.2**
comp=Z,11nm,0.9s,mb5.1,baz=270,slow=6.1,SNR=22

ARCES LR LR 03 46 33.3
comp=Z,265nm,18.6s,MS4.7,baz=281,slow=38
ARCES ARCESS Array B 85.80 17 *eP* **P 03 04 37.3 -0.1**
ARE0 ARCESS Array S 85.80 17 *eP* **P 03 04 37.0 -0.4**
SALF Salau 85.81 47 *eP* **P 03 04 39.0 +0.9**
FRNF Fournols 85.92 44 *eP* **P 03 04 38.9 +0.4**
AVF Avril sur Loir 85.98 42⇑ *iP* **P 03 04 38.5 -0.3**
comp=Z,38nm,1.0s,mb5.3
SSF Saint Saulge 85.99 42⇑ *iP* **P 03 04 38.9 +0.1**
comp=Z,147nm,1.4s,mb5.7
KEV Kevo 86.08 17 *ep* **P 03 04 36.4 -2.4**
comp=Z,20nm,1.0s,mb5.3
KEV Kevo 86.08 17 *eP* **P 03 04 36.4 -2.4**
KEV pmax pmax
comp=Z,20nm,1.0s,mb5.3
PYM Petit Puy Mans 86.09 44 *eP* **P 03 04 40.5 +1.1**
LOR Lormes 86.14 42⇑ *iP* **P 03 04 39.9 +0.3**
comp=Z,146nm,1.2s,mb5.8
HGN Heimansgroeve 86.21 38 *eP* **P 03 04 38.9 -0.9**
comp=Z,55nm,1.7s,mb5.5
HGN *ep*P pP 03 04 47.2 -0.3
LPEF Le Peyrat 86.26 46 *eP* **P 03 04 40.4 +0.1**
WTSB Winterswijk 86.28 37 *eP* **P 03 04 42.0 +1.9**
comp=Z,20nm,1.0s,mb5.3
EMIR Miracle 86.32 47 P **P 03 04 41.7 +1.1**
comp=Z,94nm,1.0s,mb6.0
MA2 Magadan 86.32 332 PFAKE 03 04 50.0 +10
MA2 LR LR
comp=Z,516nm,20.0s,MS4.9
SMF Signal de Mont 86.34 42⇑ *iP* **P 03 04 40.4 -0.2**
comp=Z,98nm,1.6s,mb5.5
MTLF Montolieu 86.35 46⇑ *iP* **P 03 04 41.0 +0.3**
comp=Z,132nm,1.2s,mb5.7
LBL Lubilhac 86.42 44 *eP* **P 03 04 41.9 +0.9**
PLDF La Plantade 86.43 43 *eP* **P 03 04 41.7 +0.7**
MEZF Maizieres J'vi 86.47 40 *eP* **P 03 04 41.7 +0.5**
comp=Z,27nm,0.8s,mb5.2
VALF Valcebollere 86.51 47 *eP* **P 03 04 42.4 +0.9**
COLF Collangettes 86.63 44 *eP* **P 03 04 42.2 +0.2**
LRDF Laroque-de-Fa 86.70 46 *eP* **P 03 04 42.8 +0.4**
TIXI Tiksi 86.74 347 *i P* **P 03 04 41.9 -0.1**
TIXI Tiksi 86.74 347 *eP* **P 03 04 40.2 -1.8**
TIXI pmax pmax
comp=Z,32nm,1.3s,mb5.4
EJON La Jonquera 87.10 47 P **P 03 04 45.0 +0.5**
comp=Z,109nm,1.3s,mb5.9
THEF They Montfort 87.15 40 *eP* **P 03 04 44.5 0.0**
LASF Ste Croix 87.22 45⇑ *iP* **P 03 04 45.8 +0.8**
comp=Z,182nm,1.5s,mb5.8
HAU Haudompre 87.46 41⇑ *iP* **P 03 04 45.9 -0.1**
comp=Z,19nm,0.8s,mb5.1
ABH Alteburg 87.49 39 *eP* **P 03 04 51.2 +5.1**
VIVF Saint-Julien-l 87.50 44⇑ *iP* **P 03 04 46.9 +0.6**
comp=Z,24nm,1.1s,mb5.1
CABF La Chapelle 87.80 42⇑ *iP* **P 03 04 47.9 +0.2**
comp=Z,24nm,1.1s,mb5.0
HINF Hinteralfeld 87.85 41⇑ *iP* **P 03 04 47.6 -0.2**
comp=Z,32nm,1.3s,mb5.1
CDF Champ du Feu 87.89 40⇑ *iP* **P 03 04 47.8 -0.2**
comp=Z,25nm,1.0s,mb5.1
WLS Welschbruch 87.93 40 *eP* **P 03 04 48.2 0.0**
ORIF Oris-en-Rattie 88.28 44⇑ *iP* **P 03 04 50.9 +0.9**
comp=Z,44nm,1.4s,mb5.2
SMRF Simiane la Rot 88.42 45⇑ *iP* **P 03 04 50.9 +0.2**
comp=Z,27nm,1.0s,mb5.1
FELD Feldberg 88.54 40 *eP* **P 03 04 50.6 -0.6**
LPL La Plagne 88.62 43⇑ *iP* **P 03 04 52.4 +0.8**
comp=Z,10nm,1.1s,mb4.8
LPG La Plagne 88.64 43⇑ *iP* **P 03 04 52.7 +1.0**
comp=Z,27nm,1.2s,mb5.2
BNI Bardonecchia 88.76 43 *eP* **P 03 04 52.8 +0.5**
comp=Z,7.8nm,1.0s,mb5.0
MBDF Montbardon 88.94 44⇑ *iP* **P 03 04 53.4 +0.2**
comp=Z,18nm,0.9s,mb5.1
LMR La Mourre 89.29 45 *eP* **P 03 04 54.6 -0.2**
comp=Z,37nm,1.3s,mb5.2
FRF La Foret Royal 89.30 45⇑ *iP* **P 03 04 55.5 +0.6**
comp=Z,29nm,1.0s,mb5.3
LVZ Lovozero 89.40 16⇑ *iP* **P 03 04 53.8 -1.0**
LVZ Lovozero 89.40 16 *i P* **P 03 04 53.5 -1.3**
LVZ *i* 03 08 23.8
LVZ *i* S 03 15 18.2
LVZ *i* SSS SSS 03 25 14.3 0.0
LVZ pmax pmax
comp=Z,27nm,1.4s,mb5.4
LVZ pmax pmax
comp=N,9.0nm,1.2s
LVZ pmax pmax
comp=E,13nm,1.6s
LVZ smax
comp=N,159nm,12.9s
LVZ smax
comp=Z,113nm,15.8s
LVZ smax
comp=E,153nm,12.9s
LVZ MLR MLR
comp=Z,462nm,18.0s,MS5.0
LVZ MLR MLR
comp=N,174nm,17.0s,MS4.9
LVZ MLR MLR
comp=E,342nm,18.0s,MS4.9
MOX Moxa 89.57 37 *i P* **P 03 04 56.6 +0.6**
comp=E,logA/T=1.0,mb5.1
MOX PP PP 03 08 24.0 -6.1
MOX Moxa 89.57 37 *eP* **P 03 04 56.6 +0.6**
comp=E,15nm,1.5s,mb5.1
MOX *e*PP PP 03 08 24.0 -6.1
MOX Moxa 89.57 37 *eP* **P 03 04 56.6 +0.6**
MOX pmax pmax
comp=Z,15nm,1.5s,mb5.1
GRA1 Grafenberg Arr 89.75 38 *eP* **P 03 04 56.3 -0.6**
comp=Z,30nm,1.6s,mb5.4
GRA1 *e*PP PP 03 08 25.6 -5.9
GRF Grafenberg Arr 89.75 38 *eP* **P 03 04 56.3 -0.6**
comp=Z,30nm,1.6s,mb5.4
GRF *e*PP PP 03 08 25.6 -5.9
GRF Grafenberg Arr 89.75 38 *eP* **P 03 04 56.3 -0.6**
GRF *e* 03 08 25.6
GRF pmax pmax
comp=Z,30nm,1.6s,mb5.4
CLL Collm 90.07 36 P **P 03 04 58.0 -0.3**
comp=Z,logA/T=1.0,mb5.1
CLL *e**PP pP 03 05 08.0 +2.0
CLL *e*PP PP 03 08 30.0 -4.1
CLL *e*PPP PPP 03 10 37.0 +3.9
CLL *e* 03 15 32.0
CLL *e*S S 03 15 53.0 +5.3
CLL *e*PS PS 03 17 01.0 +0.9
CLL *e*SS SS 03 21 48.0 -2.3
CLL Collm 90.07 36 *eP* **P 03 04 58.0 -0.3**
comp=Z,13nm,1.3s,mb5.1
CLL *e*pP pP 03 05 08.0 +2.0
CLL *e*SKS SKS 03 15 32.0 -1.2
CLL *e*S S 03 15 53.0 +5.3
CLL Collm 90.07 36 *eP* **P 03 04 58.0 -0.3**
CLL *e**PP pP 03 05 08.0 +2.0
CLL *e*S S 03 15 53.0 +5.3
CLL pmax pmax
comp=Z,13nm,1.3s,mb5.1
NKC Novy Kostel 90.23 37 *eP* **P 03 04 59.3 +0.2**
NKC *e*PP PP 03 08 30.7 -4.7
KAF Kangasniemi 90.58 23 *ep* **P 03 04 57.0 -3.4**
comp=Z,10.0nm,0.9s,mb5.2,baz=304,slow=4.4
KAF Kangasniemi 90.58 23 *eP* **P 03 04 57.0 -3.4**
KAF pmax pmax
comp=Z,10.0nm,0.9s,mb5.2
BRG Berggiesshubel 90.80 36 *eP* **P 03 05 01.5 -0.2**
comp=Z,18nm,1.3s,mb5.2
BRG *e* 03 08 36.6
BRG LR LR
comp=Z,580nm,18.9s,MS5.0
BRG Berggiesshubel 90.80 36 *eP* **P 03 05 01.5 -0.2**
BRG *e* 03 08 36.6
BRG pmax pmax
comp=Z,18nm,1.3s,mb5.2
BRG pmax pmax
comp=Z,34nm,2.2s,mb5.3
BRG MLR MLR
comp=N,408nm,17.7s,MS5.1
BRG MLR MLR
comp=E,486nm,18.8s,MS5.1
BRG MLR MLR
comp=Z,579nm,18.9s,MS5.0
FINES FINESS Array B 90.90 23 P **P 03 05 01.1 -0.7**
comp=Z,4.6nm,0.9s,mb4.8,baz=270,slow=2.8,SNR=10.0
FINES PP PP 03 08 36.4 -4.0
comp=Z,3.3nm,1.0s,baz=315,slow=8.1,SNR=4.6
FINES FINESS Array B 90.90 23 *eP* **P 03 05 01.2 -0.7**
PGF Pioggiola 91.28 45⇑ *iP* **P 03 05 03.5 -0.6**
comp=Z,77nm,1.2s,mb5.6
PVCC Panska Ves 91.31 36 *eP* **P 03 05 04.5 +0.5**
DBIC Dimbokro 91.34 83 P **P 03 05 04.0 -1.1**
comp=Z,5.4nm,0.9s,mb4.9,baz=290,slow=8.4,SNR=3.1
DBIC LR LR 03 39 17.3
comp=Z,247nm,21.4s,MS4.6,baz=288,slow=31
DBIC Dimbokro 91.34 83 *eP* **P 03 05 03.9 -1.2**
KHC Kasperske Hory 91.38 38 *eP* **P 03 05 04.6 +0.2**
KHC x x 03 06 06.0
KHC *e*PP PP 03 08 41.7 -2.9
KHC Kasperske Hory 91.38 38 *eP* **P 03 05 04.6 +0.2**
KHC *e* 03 06 06.0
KHC *e*PP PP 03 08 41.7 -2.9
KHC Kasperske Hory 91.38 38 *eP* **P 03 05 04.6 +0.2**
KHC *e* 03 08 41.7
PRU Pruhonice 91.55 37 *eP* **P 03 05 05.2 +0.1**
PRU *e*PP PP 03 08 39.5 -6.4
KWAJ Kwajalein Atol 91.55 280 PFAKE 03 05 20.0 +14
KWAJ LR LR
comp=Z,170nm,20.0s,MS4.5
GERES GERESS Array B 91.58 38 P **P 03 05 05.6 +0.3**
comp=Z,1.0nm,0.7s,mb4.2,baz=315,slow=3.8,SNR=11
GERES PP PP 03 08 42.6 -3.6
comp=Z,1.6nm,1.0s,baz=304,slow=4.8,SNR=3.7
GERES GERESS Array B 91.58 38 *eP* **P 03 05 05.6 +0.3**
KSP Ksiaz 92.13 35 *eP* **P 03 05 06.9 -0.9**
KSP *e*PP PP 03 08 46.3 -4.2
KSP *e*S 03 15 44.2
KSP *e*SS SS 03 22 21.3 +2.1
KSP Ksiaz 92.13 35 *eP* **P 03 05 06.9 -0.9**
KSP *e* 03 08 46.3
KSP *e*SS SS 03 22 21.3 +2.1
UPC Upice 92.13 36 *eP* **P 03 05 08.0 +0.2**
UPC *e*PP PP 03 08 47.1 -3.5
DPC Dobruska-Polom 92.38 36 *eP* **P 03 05 09.5 +0.5**
DPC *e*PP PP 03 08 49.1 -3.5
VSU Vasula 92.99 26 *eP* **P 03 05 10.1 -1.5**
YAK Yakutsk 93.33 339 *i P* **P 03 05 13.5 +0.4**
YAK Yakutsk 93.33 339 *eP* **P 03 05 11.3 -1.8**
YAK pmax pmax
comp=Z,14nm,0.9s,mb5.4
OKC Ostrava-Krasne 93.66 36 *eP* **P 03 05 14.2 -0.6**
OKC *e*PP PP 03 08 58.8 -4.0
ZST Bratislava 93.88 37 *eP* **P 03 05 16.2 +0.3**
ZST *e*PP PP 03 09 00.1 -4.5
SMOL Smolenice 93.91 37 *eP* **P 03 05 16.3 +0.2**
OJC Ojcow 94.37 35 *eP* **P 03 05 18.3 +0.2**
VYHS Vyhne 94.73 36 *eP* **P 03 05 20.0 +0.2**
VYHS *e*PP PP 03 09 05.1 -5.6
STHS Stebnicka Huta 95.59 35 *eP* **P 03 05 23.7 -0.1**
STHS *e*PP PP 03 09 14.8 -2.5
KECS Kecovo 95.67 36 *eP* **P 03 05 20.8 -3.3**
KECS *e* 03 09 04.2
KOLS Kolonicke sedl 96.42 35 *eP* **P 03 05 29.9 +2.3**
AKASG Malin Array Be 98.99 31 P **P 03 05 38.0 -1.1**
comp=Z,0.6nm,0.6s,mb4.3,baz=302,slow=3.3,SNR=6.0
AKASG Malin Array Be 98.99 31 P **P 03 05 38.0 -1.1**
OBN Obninsk 99.25 24 *i P* **P 03 05 39.7 -0.4**
OBN LR LR
comp=Z,121nm,19.0s,MS4.4
OBN Obninsk 99.25 24 P **P 03 05 40.0 -0.1**
OBN *e* pP 03 05 46.5 -1.4
OBN *e* 03 09 40.5
OBN pmax pmax
comp=Z,28nm,1.8s,mb5.5
OBN MLR MLR
comp=Z,400nm,18.0s,MS5.0
HNR Honiara 103.89 264 PFAKE 03 06 10.0 +8.2
HNR LR LR
comp=Z,248nm,19.0s,MS4.8
ARU Arti 105.00 13 PFAKE 03 10 30.0
ARU LR LR
comp=Z,159nm,19.0s,MS4.6
MAJO Matsushiro 105.24 316 PFAKE 03 10 30.0
MAJO LR LR
comp=Z,355nm,20.0s,MS4.9
SIM Simferopol' 105.25 33 P Pdif 03 06 15.0 +7.9
SIM *e*SS SS 03 25 25.0 +2.0
SIM pmax pmax
comp=Z,40nm,10.8s
ANN Anapa 107.06 31 *eP* Pdif 03 06 11.1 -4.0
ANN *e* 03 17 32.5
ANN pmax pmax
comp=Z,28nm,1.5s
BR131 Keskin Array S 108.47 37 PFAKE 03 10 40.0
BR131 LR LR
comp=Z,351nm,22.0s,MS4.9
KIV Kislovodsk 110.22 29 PFAKE 03 10 40.0 +6.5
KIV LR LR
comp=Z,72nm,21.0s,MS4.2
KIV Kislovodsk 110.22 29 PKIKP PKPdf 03 10 34.0 +0.5
KIV SS SS 03 26 50.0 +20
KIV MLR MLR
comp=Z,300nm,21.0s,MS4.8
BRVK Borovoye 110.25 7 PFAKE 03 10 40.0 +6.7
BRVK LR LR
comp=Z,95nm,22.0s,MS4.3
BVAR Borovoye Array 110.29 7 PP PP 03 11 05.4 -3.1
comp=Z,2.5nm,1.1s,baz=342,slow=4.7,SNR=4.1
INCN Inchon 111.91 323 PFAKE 03 10 50.0 +13
INCN LR LR
comp=Z,462nm,20.0s,MS5.1
KURK Kurchatov 113.25 2 PFAKE 03 10 50.0 +11
KURK LR LR
comp=Z,112nm,20.0s,MS4.5
PMG Port Moresby 116.13 267 PFAKE 03 10 50.0 +4.2
PMG LR LR
comp=Z,510nm,19.0s,MS5.2
HHC Hu-ho-hao-te 116.81 335 *e*PKP PKPdf 03 10 40.6 -5.9
HHC PP PP 03 11 50.8 -4.6
HHC SKS SKS 03 17 48.1 +9.1
HHC SKKS 03 18 41.0
HHC LR LR
comp=Z,1μm,29.7s,MS5.3
MKAR Makanchi Array 117.23 360 PKP PKPdf 03 10 41.7 -5.4
comp=Z,0.5nm,0.8s,baz=72,slow=4.6,SNR=2.5
MKAR Makanchi Array 117.23 360 PKP PKPdf 03 10 41.7 -5.4
MKAR Makanchi Array 117.23 360 *e*PKIKP PKPdf 03 10 41.7 -5.4
CTAO Charters Tower 118.97 256 PFAKE 03 11 00.0 +8.9
CTAO LR LR
comp=Z,345nm,21.0s,MS5.0
TSUM Tsumeb 119.06 103 PFAKE 03 11 00.0 +8.7
TSUM LR LR
comp=Z,370nm,21.0s,MS5.0
SSE Sheshan 119.59 321 *e*PKP PKPdf 03 10 47.8 -4.3
SSE PP PP
comp=Z,202nm,4.9s
WMQ Urumqi 119.96 355 *e*PKP PKPdf 03 10 48.0 -4.5
WMQ PP PP 03 12 17.0 +0.6
WMQ SKS SKS 03 17 55.0 +4.9
WMQ SKKS 03 19 06.0
WMQ SS SS 03 28 38.0 0.0
WMQ PP PP
comp=Z,148nm,10.0s
NJ2 Nanjing 120.26 324 *e*PKP PKPdf 03 10 48.9 -4.5
NJ2 PP PP 03 12 19.0 +0.2
NJ2 PKS PKS 03 14 24.0 -0.6
NJ2 PPP PPP 03 14 53.0 +0.7
NJ2 SKS SKS 03 17 56.0 +4.6
NJ2 PP PP
comp=Z,1μm,8.8s
NJ2 LR LR
comp=Z,700nm,23.2s,MS5.2
AAK Ala-Archa 121.01 6 PFAKE 03 11 00.0 +5.4
AAK LR LR
comp=Z,121nm,22.0s,MS4.5
STKA Stephens Creek 123.88 242 *eP* PKPdf 03 11 00.6 +0.2
comp=Z,7.6nm,1.1s
STKA Stephens Creek 123.88 242 PKP PKPdf 03 10 57.5 -3.0
comp=Z,6.9nm,0.9s,baz=187,slow=2.0,SNR=6.1
LZH Lanzhou 123.91 339 *e*PKP PKPdf 03 10 54.8 -5.6
LZH XPKP 03 11 04.8
LZH *e*PP PP 03 12 42.0 -2.2
LZH *e*SKKS 03 19 29.8
LZH PP PP
comp=Z,382nm,6.8s
LZH LR LR
comp=Z,1μm,19.1s,MS5.6
BOSA Boshof 126.74 114 PKP PKPdf 03 11 02.0 -4.0
comp=Z,5.1nm,1.1s,baz=220,slow=7.9,SNR=3.7
BOSA Boshof 126.74 114 *e*PKIKP PKPdf 03 11 02.0 -4.0
LBTB Lobatse 127.00 109 PFAKE 03 11 10.0 +3.4
LBTB LR LR
comp=Z,259nm,21.0s,MS4.9
MAW Mawson 127.25 171 PKP PKPdf 03 11 01.4 -4.5
comp=Z,1.2nm,0.7s,baz=297,slow=4.5,SNR=3.4
MAW Mawson 127.25 171 *e*PKIKP PKPdf 03 11 01.5 -4.4
WB2 Warramunga Arr 130.08 257 *e*P PKPdf 03 11 07.7 -5.0
WRAB Tennant Creek 130.08 257 *e*PKPdf PKPdf 03 11 08.6 -4.1
WRA Warramunga Arr 130.09 257 PKP PKPdf 03 11 08.2 -4.5
comp=Z,5.8nm,0.9s,baz=86,slow=2.6,SNR=15
WRA Warramunga Arr 130.09 257 *e*PKIKP PKPdf 03 11 08.2 -4.5
GYA Guiyang 131.13 330⇓ *iP* PKP PKPdf 03 11 04.5 -10
GYA XPKP 03 11 18.9
GYA PKS PKS 03 14 39.8 -5.5
GYA PP PP
comp=Z,110nm,6.4s
GYA LR LR
comp=N,270nm,21.4s,MS5.0
GYA LR LR
comp=E,250nm,22.0s,MS5.0
GYA LR LR
comp=Z,310nm,20.6s,MS5.0
KMBO Kilima Mbogo 133.61 76 PKP PKPdf 03 11 16.3 -3.2
comp=Z,2.8nm,1.1s,baz=353,slow=3.9,SNR=5.8
KMI Kunming 134.07 333 PKP PKPdf 03 11 16.3 -3.7
KMI XPKP 03 11 25.6
KMI PP PP 03 13 47.9 -2.8
KMI PKS PKS 03 14 51.3 +0.6
KMI PPP PPP 03 16 43.3 -2.5
KMI SKS SKS 03 18 22.9 -7.1
KMI SKKS 03 20 40.8
KMI SS SS 03 31 34.3 -0.3
KMI SSS SSS 03 36 33.6 -0.6
KMI PP PP
comp=Z,218nm,6.8s
KMI LR LR
comp=N,289nm,28.5s
KMI LR LR
comp=E,230nm,19.1s
KMI LR LR
comp=Z,485nm,46.5s
FITZ Fitzroy Crossi 138.15 261 PKP PKPdf 03 11 24.6 -3.1
comp=Z,8.7nm,0.9s,slow=2.0,SNR=4.1
KAD Karad 145.80 13 *eP* PKPbc 03 11 38.0 +0.4
VIS Vishakhapatnam 146.19 357 *eP* PKPbc 03 11 35.6 -2.8
HYB Hyderabad 146.37 6 *i* PKP PKPdf 03 11 38.0 -4.2
HYB Hyderabad 146.37 6 *eP* PKPbc 03 11 38.0 -0.9
KSM Kuching 146.79 299 *e*PKPdf PKPdf 03 11 39.8 -3.3

*NEIC **14** 03:08:49.0, 19.28N×64.56W, h30km, MD3.6(RSPR), After RSPR.*

RSPR 14 03:08:49.0, 19.28N×64.56W, h30km±35km, MD3.6/13, MD3.6/13, 6C-7D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTP	**Monte Pirata**	**1.51**	**219**⇓	*eP*	Pn	03 09 11.8	-2.6
MTP				*eS*	Sn	03 09 30.1	-3.2
CDVI	**St. Croix**	**1.53**	**187**⇑	*eP*	Pn	03 09 13.6	-1.1
CDVI				*eS*	Sn	03 09 31.6	-2.2
CBYP	**Canovanas**	**1.59**	**231**⇓	*eP*	Pn	03 09 12.8	-2.7
CBYP				*eS*	Sn	03 09 32.2	-3.0
HUMP	**Col San Antoni**	**1.67**	**228**⇓	*eP*	Pn	03 09 14.1	-2.6
HUMP				*eS*	Sn	03 09 34.2	-3.1
SJG	**San Juan**	**1.91**	**233**⇑	*eP*	Pn	03 09 17.6	-2.5
SJG				*eS*	Sn	03 09 39.8	-3.5
AOPR	**Arecibo Observ**	**2.27**	**246**⇑	*eP*	Pn	03 09 22.9	-2.5
AOPR				*eS*	Sn	03 09 50.6	-2.0
ICM	**Isla Caja Muer**	**2.32**	**234**⇓	*eP*	Pn	03 09 24.5	-1.5
ICM				*eS*	Sn	03 09 51.1	-2.7
PORP	**Portuguez**	**2.32**	**239**⇑	*eP*	Pn	03 09 23.5	-2.5
LRS	**Lares**	**2.38**	**246**⇓	*eP*	Pn	03 09 24.5	-2.4
AGPR	**Aguadilla, PR**	**2.55**	**252**⇑	*eP*	Pn	03 09 27.1	-2.2
AGPR				*eS*	Sn	03 09 57.1	-2.6
LSP	**Las Mesas**	**2.63**	**246**⇓	*eP*	Pn	03 09 28.8	-1.8
MGP	**Maguayo**	**2.71**	**243**⇓	*iP*	Pn	03 09 29.4	-2.3
MGP				*eS*	Sn	03 10 00.6	-3.2
CRPR	**Cabo Rojo, PR**	**2.73**	**243**⇑	*eP*	Pn	03 09 29.5	-2.4
CRPR				*eS*	Sn	03 10 02.0	-2.2

MEX 14 03:13:04.3±0.6, 17.70N×95.07W, h119km±15km, MD3.6, 1C-1D, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.63**	**164**⇓	*iP*	P	03 13 22.0	-1.2
CMIG				*i* S	S	03 13 35.2	-2.3
OXX	**Oaxaca**	**1.69**	**249**	*eP*	P	03 13 33.0	-1.4
OXX				*i* S	S	03 13 55.0	-2.2
VHO	**Vista Hermosa**	**1.71**	**249**⇑	*iP*	P	03 13 32.9	-1.6
VHO				*i* S	S	03 13 55.5	-1.9
CCIG	**Comitan**	**3.14**	**116**	*i P*	P	03 13 50.3	-3.0
CCIG				*i* S	S	03 14 28.9	-1.7

*NEIC **14** 03:28:12.8, 35.01N×24.70E, h27km, MD3.5(ATH), After ATH.*
*CSEM **14** 03:28:12.8, 35.01N×24.70E, h27km, MD3.5/5, After ATH*

ATH 14 03:28:12.8, 35.01N×24.70E, h27km±3km, MD3.5/5, 1D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAM	**Vamos**	**0.57**	**314**⇓	*iP*	Pn	03 28 23.9	-1.1
VAM				*e*SN	Sn	03 28 33.7	+0.2
NPS	**Neapolis**	**0.79**	**71**	*e*PN	Pn	03 28 28.3	+0.1
NPS				*e*SN	Sn	03 28 38.9	-0.2
XRY	**Khrisi**	**0.83**	**99**	*e*PN	Pn	03 28 29.0	+0.3
SANT	**Santorini**	**1.49**	**24**	*eP*	Pn	03 28 40.1	+1.9
APE	**Apeiranthos**	**2.16**	**18**	*e*PN	Pn	03 28 49.0	+1.2
VLI	**Veliai**	**2.23**	**320**	*e*PB	Pb	03 28 50.5	-1.7

MAN 14 03:47:03.4, 8.88N×125.60E, h1km, mb4.2, ML3.1, MS2.8, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGP	**Cagayan de Oro**	**0.99**	**245**⇑	*iP*	Pb	03 47 21.6	-1.5
CGP				*i* S	Sg	03 47 40.2	+3.7
BIPH	**Bislig**	**1.02**	**132**	*i P*	Pb	03 47 21.5	-2.0
BIPH				*e*S	Sb	03 47 36.8	-0.4

MEX 14 04:02:09.7±0.6, 16.10N×98.33W, h13km±18km, MD3.7, 1C, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.35**	**34**⇑	*iP*	Pg	04 02 16.2	-0.9
PNIG				*i* S	Sg	04 02 21.8	-0.3
ACX	**Acapulco**	**1.70**	**297**	*i P*	Pn	04 02 35.5	-3.8
ACX				*i* S	Sn	04 02 56.0	-5.1
VHO	**Vista Hermosa**	**1.81**	**57**	*eP*	Pn	04 02 37.6	-3.4
VHO				*i* S	Sn	04 02 57.7	-6.3
OXX	**Oaxaca**	**1.83**	**57**	*eP*	Pn	04 02 39.0	-2.2
OXX				*i* S	Sn	04 03 02.0	-2.3
PPM	**Popocatepetl**	**2.97**	**355**	*eP*	Pn	04 02 55.0	-2.4

IDC 14 04:08:23.2±23.0, 18.97S×179.85W, h680km±217km, mb2.6/2, mb1 2.9/2, mb1mx2.7/10, mbtmp3.6/2, Error ellipse: s-maj=356.1km s-min=74.9km az=138.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.10**	**261**	P	P	04 15 27.5	-1.7
	0.2nm,0.3s,baz=97,slow=7.4,SNR=29						
ILAR	**Eielson Array**	**87.22**	**14**	P	P	04 19 59.5	-1.3
	0.2nm,0.3s,baz=217,slow=6.4,SNR=5.0						
AKASG	**Malin Array Be**	**140.83**	**331**	PKP	PKPdf	04 26 35.3	-2.7
	1.0nm,0.4s,baz=45,slow=4.2,SNR=13						
GERES	**GERESS Array B**	**148.24**	**343**	PKPbc	PKPdf	04 26 55.2	+4.8
	0.2nm,0.5s,baz=34,slow=3.5,SNR=3.7						

*NEIC **14** 04:53:25.1±1.7, 36.66N×71.39E, h177km±19km, mb4.0/10, Error ellipse: s-maj=28.7km s-min=5.8km az=56.0*

NNC 14 04:53:30.3±2.0, 37.09N×71.24E, h178km±21km, mpv4.1, Error ellipse: s-maj=18.0km s-min=12.9km az=15.0

ISC 14 04:53:24.6±2.0, 36.8N±0.1×71.5E±0.2, h183km±30km, n16, σ0°79/19, mb3.2/1, 4C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	6.33	21	⇑P	P	04 54 58.4	+1.7
	2.7nm,0.4s						
AAK				⇓S	S	04 56 08.2	-0.1
	7.1nm,0.6s						
AAK	Ala-Archa	6.33	21	P	P	04 54 58.4	+1.7
	2.7nm,0.4s						
AAK				S	S	04 56 08.2	-0.1
KK31	Karatay Array	6.38	354	⇑P	P	04 54 57.6	+0.1
	10nm,0.2s,baz=173,slow=12,SNR=241						
KK31				⇑S	S	04 56 06.9	-2.8
	4.8nm,0.2s,baz=181,slow=22,SNR=7.2						
KOLN	Koldanda	13.62	128	eP	P	04 56 30.1	-1.3
GKN	Gorkha	14.14	124	eP	P	04 56 38.0	+0.2
	11nm,0.3s						
KKN	Kakani	14.71	123	eP	P	04 56 44.6	-0.3
	9.3nm,0.4s						
DMN	Daman	14.71	124	eP	P	04 56 45.2	+0.2
	9.5nm,0.4s						
PKI	Pulchoki	14.94	124	eP	P	04 56 48.2	+0.4
	14nm,0.6s						
AB31	Akbulak array	15.04	330	⇓P	P	04 56 49.6	+0.7
	1.3nm,0.6s,baz=141,slow=13,SNR=30						
AB31	Akbulak array	15.04	330	P	P	04 56 49.6	+0.6
	1.3nm,0.6s						
VOSK	Vostochnaya	15.97	359	⇑P	P	04 57 00.0	-0.4
	2.0nm,0.7s						
BVA0	Borovoye Array	16.29	358	P	P	04 57 05.0	+0.6
	0.4nm,1.1s,baz=152,slow=9.6,SNR=8.4						
BRVK	Borovoye	16.33	357	P	P	04 57 05.1	+0.3
	0.8nm,0.4s						
AKTK	Aktyubinsk	16.75	329	P	P	04 57 09.8	-0.1
AKTO	Aktyubinsk	16.75	329	⇓P	P	04 57 09.8	-0.1
	0.8nm,1.0s						
NB2	NORSAR Subarra	44.40	323	P	P	05 01 17.9	-0.3
	0.3nm,0.5s,mb3.2,baz=94,slow=7.9						

IDC 14 05:08:34.8±1.7, 20.81S×179.16W, h679km±22km, mb3.8/9, mb1 3.9/12, mb1mx3.7/18, mbtmp4.9/12, Error ellipse: s-maj=25.8km s-min=12.2km az=159.0

NEIC 14 05:08:34.0±0.9, 20.83S×179.16W, h664km±12km, mb4.2/16, Error ellipse: s-maj=19.0km s-min=8.2km az=156.0

ISC 14 05:08:33.3±1.1, 20.8S±0.2×179.2W±0.1, h669km±15km, n41, σ0°77/35, mb4.2/21, 5D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	9.91	47	P	P	05 10 51.7	-0.8
	4.3nm,0.3s,baz=64,slow=5.6,SNR=6.0						
AFI	Afiamalu	9.91	47	eP	P	05 10 51.5	-1.0
DZM	Mont Dzumac	13.38	262	P	P	05 11 27.1	+2.0
	1.7nm,0.3s,baz=77,slow=18,SNR=17						
URZ	Urewera	17.64	190	P	P	05 12 03.7	-1.0
	3.4nm,0.3s,baz=332,slow=2.9,SNR=20						
CTA	Charters Tower	32.30	265	⇓iP	P	05 14 13.2	+0.6
	18nm,0.4s,mb5.0						
CTA	Charters Tower	32.30	265	P	P	05 14 13.3	+0.7
	23nm,0.5s,mb5.0,baz=93,slow=10,SNR=46						
CTAO	Charters Tower	32.30	265	eP	P	05 14 12.9	+0.3
	22nm,0.5s,mb4.9						
PMG	Port Moresby	34.29	284	P	P	05 14 29.1	0.0
	38nm,0.7s,mb5.1,baz=110,slow=6.4,SNR=9.8						
PMG	Port Moresby	34.29	284	eP	P	05 14 29.1	-0.1
STKA	Stephens Creek	36.59	244	⇓iP	P	05 14 49.4	+1.5
	5.1nm,0.6s,mb4.2						
STKA	Stephens Creek	36.59	244	P	P	05 14 49.5	+1.6
	6.5nm,0.5s,mb4.4,baz=85,slow=9.4,SNR=15						
WB2	Warramunga Arr	43.39	263	⇓iP	P	05 15 41.5	-0.6
WRAB	Tennant Creek	43.39	263	eP	P	05 15 41.3	-0.8
	38nm,1.0s,mb4.8						
WRA	Warramunga Arr	43.40	263	P	P	05 15 41.5	-0.6
	15nm,0.5s,mb4.7,baz=98,slow=8.0,SNR=502						
WRA				S	S	05 21 23.3	-2.0
	0.5nm,0.6s,baz=96,slow=14,SNR=1.9						
KAKA	Kakadu	46.82	272	⇓iP	P	05 16 17.4	+9.2
	13nm,0.4s,mb4.6						
FITZ	Fitzroy Crossi	51.83	263	⇓iP	P	05 16 44.5	-0.2
	12nm,0.4s,mb4.5						
FITZ	Fitzroy Crossi	51.83	263	P	P	05 16 44.8	+0.1
	13nm,0.5s,mb4.5,baz=156,slow=3.8,SNR=53						
CMB	Columbia Colle	80.50	43	eP	P	05 19 39.3	-0.3
	6.4nm,1.2s,mb3.9						
YBH	Yreka Blue Hor	81.28	39	P	P	05 19 43.2	-0.3
	5.5nm,0.7s,mb4.1,baz=138,slow=2.7,SNR=4.3						
MTUM	Tungsten Hills	81.30	45	eP	P	05 19 44.1	+0.5
NVAR	Mina Array Bea	82.07	44	P	P	05 19 47.4	-0.1
	3.9nm,0.8s,mb4.0,baz=225,slow=8.9,SNR=34						
TUC	Tucson	84.11	52	eP	P	05 19 58.5	+0.7
	3.0nm,0.9s,mb3.8						
ELK	Elko	85.32	43	eP	P	05 20 03.5	+0.2
	1.9nm,0.9s,mb3.7						
BMO	Blue Mountains	86.31	39	eP	P	05 20 07.7	-0.1
	1.4nm,0.7s,mb3.7						
HLID	Hailey	87.34	41	eP	P	05 20 13.2	+0.4
	4.2nm,1.0s,mb4.0						
MNTX	Cornudas Mount	87.90	55	eP	P	05 20 16.0	+0.3
	5.7nm,1.3s,mb4.0						
ANMO	Albuquerque	88.52	52	eP	P	05 20 18.5	0.0
	5.1nm,1.6s,mb4.0						
GDL2	Guadalupe Moun	88.89	55	eP	P	05 20 20.9	+0.6
ILAR	Eielson Array	88.91	13	P	P	05 20 17.8	-1.7
	1.9nm,0.7s,mb3.9,baz=224,slow=5.9,SNR=12						
MCMT	McKenzie Canyo	88.97	41	eP	P	05 20 20.7	+0.4
RRI2	Red Ridge	89.17	43	eP	P	05 20 21.4	+0.2
	5.5nm,0.8s,mb4.3						
IMW	Indian Meadow	89.68	42	eP	P	05 20 24.3	+0.7
	3.2nm,1.1s,mb4.1						
BW06	Boulder Array	90.01	44	eP	P	05 20 24.4	-0.7
	2.5nm,1.1s,mb4.0						
PDAR	Pinedale Array	90.01	44	P	P	05 20 25.2	+0.1
	1.3nm,0.7s,mb3.8,baz=197,slow=3.2,SNR=14						
BDFB	Brasilia	119.94	123	PKP	PKPdf	05 26 09.9	-0.8
	1.1nm,0.5s,baz=263,slow=5.2,SNR=3.8						
ARCES	ARCESS Array B	129.04	349	PKP	PKPdf	05 26 26.9	0.0
	1.2nm,0.8s,baz=315,slow=3.4,SNR=8.4						
FINES	FINESS Array B	135.76	343	PKP	PKPdf	05 26 40.7	+1.2
	0.2nm,0.5s,baz=45,slow=2.7,SNR=4.3						
FINES	FINESS Array B	135.76	343	PKP	PKPdf	05 26 40.7	+1.1
AKASG	Malin Array Be	142.74	330	PKP	PKPdf	05 26 50.3	-1.9
	1.4nm,0.5s,baz=40,slow=4.4,SNR=9.7						
CLL	Collm	148.11	345	iPKP1	PKPdf	05 27 06.8	+5.6
GERES	GERESS Array B	150.19	343	PKPbc	PKPdf	05 27 12.1	+7.6
	0.5nm,0.6s,baz=45,slow=1.9,SNR=7.2						

LDG 14 05:18:08.4±0.1, 47.64N×2.50W, h2km, Md2.6/3, Ml2.5/19, Error ellipse: s-maj=2.2km s-min=1.4km az=55.0

MDD 14 05:18:08.4±0.5, 47.64N×2.54W, h10km±1km, mbLg1.7/5, Error ellipse: s-maj=5.2km s-min=3.5km az=47.0

NEIC 14 05:18:08.4, 47.64N×2.50W, h2km, ML2.5(LDG), ML2.1(STR), After LDG.

CSEM 14 05:18:08.3±0.1, 47.64N×2.51W, h8km, ML2.6/16, Error ellipse: s-maj=2.2km s-min=1.2km az=51.0

STR 14 05:18:09.8±0.4, 47.70N×2.11W, h2km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0

ISC 14 05:18:05.2±0.5, 47.55N±0.02×2.39W±0.04, h6km±4km, n28, σ1°52/62, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUIF	Quistinic	0.64	306	ePg	Pg	05 18 18.0	-0.1
QUIF				eSg	Sg	05 18 24.6	-2.0
	14nm,0.2s						
SGMF	Saint Gilles	0.72	351	ePg	Pg	05 18 20.3	+0.7
SGMF				eSg	Sg	05 18 28.1	-1.1
	37nm,0.2s						
ROSF	Rostrenen	0.99	324	ePg	Pg	05 18 24.8	-0.2
ROSF				eSg	Sg	05 18 35.4	-2.8
	14nm,0.2s						
LRYF	La Roche-sur-Y	1.13	149	Pg	Pg	05 18 31.9	+4.1
LRYF				Sg	Sg	05 18 48.6	+5.8
GRR	Gorron	1.33	50	ePg	Pg	05 18 33.8	+1.9
GRR				eSg	Sg	05 18 50.7	+1.1
	15nm,0.2s						
FLN	La Foliniere	1.77	46	ePg	Pg	05 18 41.1	+0.6
FLN				eSg	Sg	05 19 02.9	-1.2
	11nm,0.3s						
MFF	Saint Martin d	1.80	121	ePn	Pn	05 18 40.3	+3.1
MFF				ePg	Pg	05 18 43.5	+2.2
MFF				eSg	Sg	05 19 08.2	+2.9
	12nm,0.4s						
LDF	La Druitiere	1.85	55	ePg	Pg	05 18 42.7	+0.5
LDF				eSg	Sg	05 19 06.7	-0.1
	7.8nm,0.2s						
CHIF	Chize	1.96	135	Pg	Pg	05 18 46.7	+2.2
CHIF				Sg	Sg	05 19 13.6	+3.0
LFF	La Frestale	3.40	139	ePn	Pn	05 19 01.9	+2.0
LFF				ePg	Pg	05 19 13.3	+0.3
LFF				eSg	Sg	05 19 59.1	+0.8
	5.5nm,0.4s						
TCF	Toulx Ste Croi	3.40	110	ePn	Pn	05 19 02.0	+2.1
TCF				ePg	Pg	05 19 13.1	0.0
TCF				eSg	Sg	05 19 56.5	-1.8
	1.8nm,0.3s						
RJF	Les Rejaudoux	3.51	128	ePg	Pg	05 19 15.0	-0.4
RJF				eSg	Sg	05 20 00.6	-1.6
	3.5nm,0.3s						
BGF	Bois d'Agland	3.72	104	ePn	Pn	05 19 06.5	+2.0
BGF				ePg	Pg	05 19 19.0	-0.4
BGF				eSg	Sg	05 20 06.2	-2.8
	11nm,0.5s						
AVF	Avril sur Loir	3.99	99	ePn	Pn	05 19 09.5	+1.1
AVF				eSg	Sg	05 20 14.2	-3.9
	1.3nm,0.4s						
SSF	Saint Saulge	4.04	95	ePn	Pn	05 19 10.6	+1.5
SSF				ePg	Pg	05 19 24.7	-1.3
SSF				eSn	Sn	05 19 56.1	-1.4
SSF				eSg	Sg	05 20 15.2	-4.7
	1.7nm,0.3s						
SSF	Saint Saulge	4.04	95	Pn	Pn	05 19 10.6	+1.5
SSF				Sn	Sn	05 19 56.1	-1.4
CAF	Calviac	4.05	129	ePn	Pn	05 19 10.0	+0.7
CAF				ePg	Pg	05 19 26.0	-0.2
CAF				eSg	Sg	05 20 19.8	-0.4
	4.5nm,0.5s						
LOR	Lormes	4.25	91	ePn	Pn	05 19 13.8	+1.7
LOR				ePg	Pg	05 19 29.2	-1.0
LOR				eSn	Sn	05 20 00.8	-2.0
LOR				eSg	Sg	05 20 23.0	-3.9
	2.4nm,0.4s						
LOR	Lormes	4.25	91	Pn	Pn	05 19 13.8	+1.7
LOR				Sn	Sn	05 20 00.8	-2.0
SMF	Signal de Mont	4.35	100	ePn	Pn	05 19 15.1	+1.6
SMF				ePg	Pg	05 19 30.7	-1.4
SJPF	Ste Jean	4.51	169	eSn	Sn	05 20 08.1	-1.2
	0.5nm,0.2s						
EARI	Arriondas	4.69	206	Pn	Pn	05 19 19.2	+0.9
	0.1nm,0.2s,SNR=7.9						
EARI				Sn	Sn	05 20 09.2	-4.5
	0.2nm,0.1s,SNR=7.9						
ETSF	Etsaut	4.83	164	ePn	Pn	05 19 21.5	+1.3
ETSF				eSn	Sn	05 20 15.7	-1.5
	0.8nm,0.4s						
EPF	Esparros	4.91	156	eSn	Sn	05 20 17.6	-1.8
EPF				eSg	Sg	05 20 44.6	-4.1
	1.1nm,0.3s						
EBIE	Bielsa	5.18	159	Sn	Sn	05 20 23.6	-2.6
	0.1nm,0.1s,SNR=7.9						
MTLF	Montolieu	5.31	141	ePn	Pn	05 19 28.2	+1.1
MTLF				eSg	Sg	05 20 59.1	-2.9
	0.9nm,0.3s						
EPON	Pontenova	5.38	220	Sn	Sn	05 20 24.8	-6.6
	0.6nm,0.2s,SNR=7.9						
VIVF	Saint-Julien-l	5.59	116	ePg	Pg	05 19 53.4	-3.5
VIVF				eSg	Sg	05 21 06.3	-5.2
	1.8nm,0.6s						

IDC 14 05:23:14.8±4.9, 47.94N×154.45E, mb3.4/4, mb1 3.7/4, mb1mx3.5/18, mbtmp3.4/4, Error ellipse: s-maj=138.6km s-min=34.0km az=176.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAR	Eielson Array	35.05	40	P	P	05 30 08.0	-2.8
	0.4nm,0.8s,baz=248,slow=6.3,SNR=5.1						
MKAR	Makanchi Array	47.21	297	P	P	05 31 48.4	-2.4
	0.2nm,0.5s,baz=72,slow=7.7,SNR=3.7						
PDAR	Pinedale Array	63.31	55	P	P	05 33 45.9	-1.5
	0.5nm,0.8s,slow=3.0,SNR=4.5						
FINES	FINESS Array B	63.34	335	P	P	05 33 45.8	-1.6
	0.4nm,0.6s,baz=37,slow=9.5,SNR=4.0						

IDC 14 06:11:29.0±4.1, 8.16N×91.74E, mb3.7/4, mb1 3.9/4, mb1mx3.6/18, mbtmp3.7/4, Error ellipse: s-maj=154.4km s-min=28.0km az=62.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	39.34	350	P	P	06 18 58.5	-3.2
	0.8nm,1.0s,baz=168,slow=7.7,SNR=4.3						
SONM	Songino Array	41.45	15	P	P	06 19 17.0	-2.1
	0.8nm,0.7s,baz=198,slow=9.4,SNR=3.9						
ZAL	Zalesovo	45.99	354	P	P	06 19 55.6	-0.1
	1.2nm,0.6s,baz=302,slow=2.3,SNR=4.0						
WRA	Warramunga Arr	50.37	124	P	P	06 20 28.4	-2.0
	0.8nm,0.7s,baz=301,slow=9.4,SNR=10						

CASC 14 06:14:17.8±2.1, 9.39N×80.20W, MD3.9, MW4.5, 4C-1D, Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AZU2	Pedas	1.85	175	eS	Sn	06 15 36.0	+20
BRU2	Volcan	2.53	257	eP	Pn	06 14 59.9	-0.9
BRU2				eS	Sn	06 15 33.8	+1.0
BUS	Buena Vista	3.51	273	⇑eP	Pn	06 15 14.2	-0.6
BUS				eS	Sn	06 15 59.4	+1.7
LCR2	La Lucha 2	3.77	276	⇑eP	Pn	06 15 17.5	-0.9
LCR2				eS	Sn	06 16 03.9	-0.1
SJS	Escuela Geolog	3.84	278	⇓P	Pn	06 15 20.8	+1.4
SJS				⇑iP		06 15 20.9	
SJS				eS	Sn	06 16 07.1	+1.2
SJS				eS	Sn	06 16 07.3	+1.4
PRS1	Puriscal	4.09	279	⇑eP	Pn	06 15 21.3	-1.8
PRS1				eS	Sn	06 16 12.3	-0.1

CSEM 14 06:20:55.7±1.2, 39.37N×29.84W, h5km, ML2.8, Error ellipse: s-maj=15.8km s-min=9.8km az=51.0, After PDA

PDA 14 06:20:55.7±1.2, 39.37N×29.84W, h5km, MD3.4, ML2.8, Error ellipse: s-maj=15.8km s-min=9.8km az=51.0

SVSA 14 06:20:55.7±1.2, 39.37N×29.84W, h5km, MD3.4, ML2.8, Error ellipse: s-maj=15.8km s-min=9.8km az=51.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	Cedros	1.15	129	eP	Pb	06 21 13.3	-4.4
PCED				eS	Sb	06 21 26.5	-6.3
	71nm,0.2s						
HOR	Horta	1.26	131	eP	Pb	06 21 15.2	-4.4
HOR				eS	Sb	06 21 29.7	-6.2
PICO	Pico	1.40	128	eP	Pn	06 21 17.2	-4.7
PICO				eS	Sb	06 21 33.5	-6.5
PMAN	Manadas	1.54	118	eP	Pn	06 21 18.7	-5.3
PMAN				eS	Sb	06 21 36.5	-7.7
	51nm,0.3s						
PSBA	Serra de Santa	2.04	106	eP	Pn	06 21 26.5	-4.7
PSBA				eS	Sn	06 21 48.6	-8.7
	16nm,0.4s						

CSEM 14 06:21:43.4±0.3, 39.69N×29.45W, h10km, ML2.3, Error ellipse: s-maj=5.3km s-min=4.0km az=170.0, After PDA

PDA 14 06:21:43.4±1.4, 39.69N×29.45W, h10km, MD3.5, ML2.3, Error ellipse: s-maj=11.8km s-min=9.8km az=108.0

SVSA 14 06:21:43.4±1.4, 39.69N×29.45W, h10km, MD3.5, ML2.3, Error ellipse: s-maj=11.8km s-min=9.8km az=108.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	Cedros	1.21	151	eS	Sb	06 22 14.8	-6.6
	28nm,0.3s						
STGR	Santa Cruz	1.27	118	eS	Sb	06 22 23.4	+0.1
	19nm,0.2s						
HOR	Horta	1.32	151	eP	Pb	06 22 03.2	-4.7
HOR				eS	Sb	06 22 18.0	-6.8
PICO	Pico	1.43	146	eP	Pn	06 22 05.3	-4.2
PICO				eS	Sb	06 22 21.2	-6.6
PMAN	Manadas	1.49	135	eP	Pn	06 22 05.3	-5.1
ASBA	Santa Barbara	1.91	120	eS	Sn	06 22 32.4	-8.3
	7.3nm,0.2s						
PBIS	Biscoitos	1.94	118	eS	Sn	06 22 33.3	-8.1
	5.3nm,0.1s						
PPAD	Pico dos Padre	1.95	120	eS	Sn	06 22 33.4	-8.2
	10nm,0.2s						
PVNV	Vila Nova	2.01	117	eS	Sn	06 22 34.8	-8.3
RIB2	Ribeirinha	2.04	119	eS	Sn	06 22 38.1	-5.8
SET4	Mosteiros	3.38	121	eP	Pn	06 22 31.2	-6.1
SET2	Ginetes	3.39	122	eP	Pn	06 22 32.1	-5.4

CSEM 14 06:23:57.5±1.1, 39.33N×29.80W, ML2.7, Error ellipse: s-maj=15.2km s-min=10.1km az=59.0, After PDA

PDA 14 06:23:57.5±1.1, 39.33N×29.80W, ML2.7, Error ellipse: s-maj=15.2km s-min=10.1km az=59.0

SVSA 14 06:23:57.5±1.1, 39.33N×29.80W, ML2.7, Error ellipse: s-maj=15.2km s-min=10.1km az=59.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	Cedros	1.11	129	eP	Pb	06 24 15.2	-4.0
PCED				eS	Sb	06 24 28.4	-5.7
	44nm,0.4s						
HOR	Horta	1.22	131	eS	Sb	06 24 31.5	-5.7
PICO	Pico	1.36	127	eP	Pb	06 24 19.1	-4.4
PICO				eS	Sb	06 24 35.3	-6.0
PMAN	Manadas	1.51	117	eS	Sb	06 24 38.2	-7.4
	33nm,0.3s						
PSBA	Serra de Santa	2.01	105	eP	Pn	06 24 28.0	-5.0
PSBA				eS	Sn	06 24 50.8	-8.5
	10.0nm,0.3s						

CSEM 14 06:24:31.5±1.1, 39.32N×29.81W, ML2.6, Error ellipse: s-maj=15.3km s-min=10.1km az=58.0, After PDA

PDA 14 06:24:31.5±1.1, 39.32N×29.81W, ML2.6, Error ellipse: s-maj=15.3km s-min=10.1km az=58.0

SVSA 14 06:24:31.5±1.1, 39.32N×29.81W, ML2.6, Error ellipse: s-maj=15.3km s-min=10.1km az=58.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	Cedros	1.10	128	eP	Pb	06 24 49.0	-4.1
PCED				eS	Sb	06 25 02.2	-5.7
	42nm,0.3s						
HOR	Horta	1.21	130	eS	Sb	06 25 05.3	-5.7
PICO	Pico	1.35	127	eP	Pb	06 24 53.0	-4.4
PICO				eS	Sb	06 25 09.2	-5.9
PMAN	Manadas	1.50	117	eS	Sb	06 25 12.1	-7.4
	46nm,0.4s						
PSBA	Serra de Santa	2.01	105	eP	Pn	06 25 02.0	-5.0
PSBA				eS	Sn	06 25 24.7	-8.5

OTT 14 06:24:43.5±1.3, 81.37N×108.99W, h18km, ML3.2/3, Off the Queen Elizabeth Islands, Nu. 310km northeast from Isachsen, Nu, Arctic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EUNU	Eureka	3.87	99	PN	Pn	06 25 42.5	-1.1
EUNU				SN	Sn	06 26 23.9	-5.2
EUNU				Trac		06 26 27.1	
	comp=Z,4.8nm,0.2s						
RES	Resolute Bay	7.29	149	PN	Pn	06 26 28.6	-3.4
RES				SN	Sn	06 27 48.4	-6.7
RES				Trac		06 27 55.9	
	comp=Z,1.7nm,0.1s						
TULEG	Thule	8.87	101	SN	Sn	06 28 22.0	-12
PINU	Pond Inlet	10.90	125	PN	P	06 27 01.8	-20
PINU				SN	S	06 28 55.9	-28
INK	Inuvik	14.36	218	PN	P	06 28 03.1	-4.4
INK				SN	S	06 30 33.5	-14
INK				Trac		06 30 40.8	
	comp=Z,1.3nm,0.4s						
QILN	Qililugaq Expl	15.81	146	PN	P	06 28 23.6	-2.8
QILN				SN	S	06 30 56.2	-25

IDC 14 06:33:25.9±1.9, 17.20N×73.92E, mb3.9/6, mb1 4.1/6, mb1mx3.7/18, mbtmp3.9/6, Error ellipse: s-maj=63.8km s-min=26.1km az=65.0

NDI 14 06:33:30.4±3.7, 17.37N×73.86E, h3km±15km, MD4.0, ML3.8

NEIC 14 06:33:32.5±0.8, 17.40N×74.12E, h35km, mb4.4/2, Error ellipse: s-maj=14.3km s-min=12.4km az=89.0

NEIC Damage [VII] at Kasani and minor damage [VI] at Koynanagar, Morna and Patan. Felt at Alore, Chiplun, Karad, Mahabaleshwar, Pophali, Satara and Shirala. Felt by people in a high-rise building at Santa Cruz, Mumbai.

ISC 14 06:33:31.1±0.6, 17.39N±0.05×74.13E±0.06, h36km±5km, n31, σ1°20/36, mb4.0/8, 1C-1D, Southern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAD	Karad	0.10	147	eP	P	06 33 35.5	-1.6
KAD				eS	S	06 33 40.8	-0.6
KAD				AML	AML	06 33 41.2	
	comp=E,3μm,0.3s						
KAD				AML	AML	06 33 41.4	
	comp=N,5μm,0.2s						
POO	Poona	1.16	347	eP	P	06 33 52.3	+1.3
POO				eS	S	06 34 10.1	+4.1
POO				AML	AML	06 34 12.3	
	comp=N,2μm,0.2s						
POO				AML	AML	06 34 12.5	
	comp=E,3μm,0.4s						
BOM	Bombay	1.95	320	eP	P	06 34 02.4	+0.1
BOM				eS	S	06 34 26.1	+0.3
HYB	Hyderabad	4.23	89	i Pn	P	06 34 35.9	+1.1
HYB				ePg	P	06 34 49.5	+15
HYB				eSn	S	06 35 26.1	+2.4
HYB				eSg	S	06 35 46.6	+23
HYB	Hyderabad	4.23	89	ePn	P	06 34 35.9	+1.1
HYB				ePg	P	06 34 49.5	+15
HYB				eSn	S	06 35 26.1	+2.4
HYB				eSg	S	06 35 46.6	+23
AKL	Akola	4.28	39	⇓ix	x	06 36 56.7	
AKL				i x	x	06 37 57.1	
MNGI	Mangalore	4.48	171	eP	P	06 34 41.0	+2.7
MNGI				ex	S	06 35 34.3	+4.4
BHV	Bhavnagar	4.72	337	ex	P	06 34 46.0	+4.2
BHPL	Bhopal	6.59	27	i P	P	06 35 09.2	+1.2
BHPL				eS	S	06 36 22.9	+0.1
BHPL				AML	AML	06 37 08.7	
	comp=N,124nm,0.4s						
BHPL				AML	AML	06 37 08.9	
	comp=E,257nm,0.6s						
SALM	Salem	6.94	145	ex	P	06 35 09.0	-4.0
SALM				ex	S	06 36 55.0	+23
VIS	Vishakhapatnam	8.79	86	i x	S	06 37 14.0	-3.5
VIS				ex	x	06 38 03.1	
BLSP	Bilaspur	8.89	57	ex	S	06 37 08.9	-11
BLSP				ex	x	06 38 10.0	
AJM	Ajmer	9.05	3	ex	x	06 37 52.0	
TRD	Trivandrum	9.25	162	ex	x	06 36 12.8	
TRD				i x	x	06 38 04.1	
BOK	Bokaro	12.72	58	eP	P	06 36 34.1	+1.9
BOK				ex	x	06 38 39.9	
KOLN	Koldanda	13.53	39	eP	P	06 36 42.8	-0.2
GKN	Gorkha	14.33	41	eP	P	06 36 51.6	-1.9
	comp=E,22nm,0.6s						
DMN	Daman	14.36	43	eP	P	06 36 52.9	-1.0
	comp=E,5.6nm,0.5s						
PKI	Pulchoki	14.53	44	eP	P	06 36 56.1

comp=E,1.5nm,0.9s,mb3.7,baz=229,slow=14,SNR=4.4
ARCES **ARCESS Array B 59.99 342** P **P 06 43 35.2 -1.0**
comp=E,1.4nm,0.6s,mb4.1,baz=124,slow=4.4,SNR=8.1
ARCES **ARCESS Array B 59.99 342** P **P 06 43 35.2 -1.0**
WRA **Warramunga Arr 69.79 120** P **P 06 44 39.3 -0.8**
comp=E,1.3nm,0.6s,mb4.1,baz=308,slow=5.9,SNR=32
WRAB **Tennant Creek 69.79 120** *eP* **P 06 44 39.9 -0.3**
comp=E,2.6nm,0.5s,mb4.4
WB2 **Warramunga Arr 69.80 120**⇑*iP* **P 06 44 40.0 -0.2**
PDAR **Pinedale Array 120.05 3** PKP PKPdf 06 52 18.2 -0.1
comp=E,0.3nm,0.5s,SNR=4.0

MEX 14 06:43:12.2±1.0, 16.61N×94.10W, h128km±17km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.89**	**303**	*i* P	P	06 43 32.4	-1.6
CMIG				*i* S	S	06 43 48.7	-2.1
SCX	**San Cristobal**	**1.41**	**85**	*e*P	P	06 43 39.0	-0.6
CCIG	**Comitan**	**1.91**	**100**	*i* P	P	06 43 43.7	-1.7
CCIG				*i* S	S	06 44 09.3	-1.4
HUIG	**Huatulco**	**2.10**	**247**	*i* P	P	06 43 45.3	-2.5
HUIG				*i* S	S	06 44 13.1	-1.8
OXX	**Oaxaca**	**2.55**	**281**	*i* P	P	06 43 52.5	-1.2
OXX				*i* S	S	06 44 20.0	-5.2
VHO	**Vista Hermosa**	**2.56**	**281**	*i* P	P	06 43 53.6	-0.2
VHO				*i* S	S	06 44 24.1	-1.3

KISR ***14*** *07:05:14.3±1.4, 30.15N×51.78E, h34km, ML3.0*
THR ***14*** *07:05:15.0±0.7, 30.18N×52.67E, h14km±9km, ML3.0*
CSEM ***14*** *07:05:15.7±0.1, 30.13N×51.85E, h54km±3km, ML3.1, Error ellipse: s-maj=5.1km s-min=3.3km az=142.0*
ISC 14 07:05:16.9±1.7, 30.00N±0.07×51.81E±0.07, h31km±16km, n8, σ1§02/13, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**1.99**	**148**	*e*PG	**Pn**	**07 05 49.7**	**+0.6**
GHIR				AML	AML	07 06 26.0	
comp=N,199nm,0.6s							
NASN	**Na'in**	**2.92**	**17**	*e*Pn	**Pn**	**07 05 59.4**	**-3.0**
NASN				*e*Sg	**Sn**	**07 06 36.9**	**+0.1**
SHGR	**Shooshtar-Gavs**	**3.33**	**310**	*e*PN	**Pb**	**07 06 15.4**	**+0.4**
QRN	**Al-Qurain**	**3.62**	**251**	*e*P	**Pn**	**07 06 11.7**	**-0.5**
QRN				*e*S	**Sn**	**07 06 54.2**	**-0.1**
QRN				AML	AML	07 06 55.5	
comp=Z,24nm,0.5s							
KBD	**Kabd**	**3.67**	**258**	*e*P	**Pn**	**07 06 12.4**	**-0.6**
KBD				*e*S	**Sn**	**07 06 56.1**	**+0.4**
RDF	**Al-Radifah**	**3.86**	**255**	*e*P	**Pn**	**07 06 16.0**	**+0.3**
RDF				*e*S	**Sn**	**07 07 01.6**	**+1.1**
RDF				AML	AML	07 07 06.1	
comp=Z,23nm,0.3s							
MIB	**Mutribah**	**3.88**	**268**	*e*P	**Pn**	**07 06 14.4**	**-1.6**
MIB				*e*S	**Sn**	**07 07 00.6**	**-0.5**
MIB				AML	AML	07 07 14.4	
comp=Z,32nm,0.5s							
ASAO	**Ashtian**	**4.78**	**342**	*e*PN	**Pn**	**07 06 30.9**	**+2.1**
ASAO				AML	AML	07 07 25.1	
comp=N,7.9nm,0.6s							

MEX 14 07:05:43.5±0.6, 16.05N×98.37W, h6km±7km, MD3.7, 1D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.41**	**35**	⇓*iP*	Pg	07 05 51.0	-0.7
PNIG				*i* S	Sg	07 05 57.2	-0.1
ACX	**Acapulco**	**1.69**	**299**	*i* P	Pn	07 06 10.0	-3.8
ACX				*i* S	Sn	07 06 32.0	-4.0
VHO	**Vista Hermosa**	**1.87**	**57**	*i* P	Pn	07 06 13.1	-3.3
VHO				*i* S	Sn	07 06 34.5	-6.1
OXX	**Oaxaca**	**1.88**	**57**	*i* P	Pn	07 06 13.0	-3.6
OXX				*i* S	Sn	07 06 33.0	-7.9
CMIG	**Matias Romero**	**3.50**	**72**	*e*P	Pn	07 06 34.2	-5.4
CMIG				*i* S	Sn	07 07 17.4	-4.5

NIED ***14*** *07:06:00, 41.30N×138.90E, h195km, Mw4.2 Best double couple: M0=2.59×10^15 NP1:φs=96°, δ88°, λ-150°. NP2:φs=4°, δ60°, λ-2°.*
BJI ***14*** *07:06:43.5, 41.40N×138.80E, h214km, mB4.4, mb4.4*
MOS ***14*** *07:06:44.3±0.8, 41.50N×138.72E, h199km, mb4.7/4, Error ellipse: s-maj=16.5km s-min=8.6km az=109.0*
IDC ***14*** *07:06:45.1±1.3, 41.27N×138.77E, h204km±13km, mb3.6/18, mb1 3.8/22, mb1mx3.7/30, mbtmp4.2/22, MS2.4/1, Ms1 2.4/1, ms1mx2.0/23, Error ellipse: s-maj=14.0km s-min=10.9km az=134.0*
NEIC ***14*** *07:06:46.5±0.6, 41.36N×138.77E, h215km±7km, mb4.4/6, Error ellipse: s-maj=9.6km s-min=6.3km az=120.0*
JMA ***14*** *07:06:47.1±0.1, 41.30N×138.88E, h223km±1km, M4.3*
ISC 14 07:06:45.8±0.2, 41.29N±0.03×138.91E±0.06, h228km±3km, n77, σ0§87/97, mb3.9/25, 13C-10D, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOSM	**Okushiri--Mats**	**0.90**	**28**	⇑P	**P**	**07 07 18.5**	**+0.4**
JOSM				S	**S**	**07 07 42.6**	**-0.7**
JIW	**Iwasaki**	**1.08**	**129**	⇓P	**P**	**07 07 19.9**	**+0.7**
JSR	**Shiriuchi**	**1.16**	**77**	⇑P	**P**	**07 07 20.5**	**+0.7**
JSR				S	**S**	**07 07 46.7**	**+0.5**
JYM2	**Yakumo 2**	**1.38**	**52**	⇑P	**P**	**07 07 22.1**	**+0.7**
JYM2				*e*S	**S**	**07 07 49.2**	**+0.2**
JSH	**Shimam**	**1.60**	**32**	⇑P	**P**	**07 07 23.8**	**+0.6**
JOT	**Ohata**	**1.62**	**86**	⇑P	**P**	**07 07 23.7**	**+0.3**
JKB	**Kayabe**	**1.71**	**69**	⇑P	**P**	**07 07 24.5**	**+0.4**
JTM	**Tenmabayashi**	**1.71**	**106**	⇓P	**P**	**07 07 24.6**	**+0.4**
JTM				*e*S	**S**	**07 07 53.4**	**-0.4**
JANG	**Nango**	**2.18**	**114**	⇓P	**P**	**07 07 28.4**	**-0.2**
JANG				*e*S	**S**	**07 08 00.8**	**-0.9**
JSK	**Shakotan**	**2.37**	**29**	⇑P	**P**	**07 07 31.4**	**+0.8**
JSK				*e*S	**S**	**07 08 06.0**	**+0.7**
JEW	**Eniwo**	**2.45**	**50**	⇑P	**P**	**07 07 32.0**	**+0.6**
JEW				*e*S	**S**	**07 08 07.4**	**+0.7**
JOM	**Ohasama**	**2.57**	**134**	⇓P	**P**	**07 07 32.4**	**-0.3**
JYK	**Kaneyama**	**2.61**	**154**	⇓P	**P**	**07 07 33.6**	**+0.4**
JYK				*e*S	**S**	**07 08 10.0**	**+0.1**
JMK	**Ichinoseki**	**2.93**	**142**	⇓P	**P**	**07 07 36.1**	**-0.5**
JNBK	**Urakawa-nobuka**	**3.04**	**70**	⇑P	**P**	**07 07 38.1**	**+0.2**
JNBK				*e*S	**S**	**07 08 17.8**	**-0.5**
JHR	**Hokuryu**	**3.22**	**39**	⇑P	**P**	**07 07 41.3**	**+1.4**
JFR	**Furan**	**3.32**	**54**	P	**P**	**07 07 41.2**	**+0.1**
JFR				*e*S	**S**	**07 08 24.0**	**0.0**
JCH	**Churui**	**3.58**	**67**	⇑P	**P**	**07 07 44.4**	**+0.2**
JCH				*e*S	**S**	**07 08 27.1**	**-2.3**
JYG	**Yagishiri**	**3.65**	**30**	P	**P**	**07 07 45.6**	**+0.6**
JMM	**Marumori**	**3.71**	**156**	⇓P	**P**	**07 07 45.0**	**-0.8**
JMM				*e*S	**S**	**07 08 31.6**	**-0.7**
JKK2	**Kamakawa 2**	**3.84**	**46**	P	**P**	**07 07 48.0**	**+0.7**
JKK2				*e*S	**S**	**07 08 33.9**	**-1.0**
ASAJ	**Asahikawa**	**3.92**	**43**	P	**P**	**07 07 48.9**	**+0.6**
109nm,0.3s,baz=234,slow=12,SNR=909							
ASAJ				S	**S**	**07 08 34.8**	**-2.0**
6.6nm,0.3s,baz=300,slow=20,SNR=2.4							
ASAJ	**Asahikawa**	**3.92**	**43**	P	**P**	**07 07 48.9**	**+0.6**
ASAJ				S	**S**	**07 08 34.8**	**-2.0**
ASAJ				pmax	pmax		
comp=Z,109nm,0.3s							
MAJO	**Matsushiro**	**4.77**	**187**	⇓*e*P	**P**	**07 07 59.4**	**+0.8**
MAT	**Matsushiro**	**4.77**	**187**	P	**P**	**07 07 59.4**	**+0.8**
MAT				S	**S**	**07 08 56.1**	**+0.8**
MAT	**Matsushiro**	**4.77**	**187**	*e*P	**P**	**07 07 59.0**	**+0.4**
MAT				*e*S	**S**	**07 08 56.0**	**+0.7**
YUK	**Yuzh-Kuril'sk**	**5.82**	**60**	*e*P	**P**	**07 08 09.8**	**-2.0**
YUK				*i* S	**S**	**07 09 15.0**	**-3.9**
YUK				pmax	pmax		
comp=Z,710nm,0.4s							
YUK				pmax	pmax		
comp=N,340nm,0.5s							
YUK				pmax	pmax		
comp=E,190nm,0.5s							
YUK				smax			
comp=N,1μm,0.5s							
YUK				smax			
comp=E,1μm,0.6s							
YUK				smax			
comp=N,2μm,1.0s							
YUK				smax			
comp=E,2μm,0.8s							
YSS	**Yuzh-Sakhalins**	**6.31**	**25**	⇑*e*P	**P**	**07 08 18.0**	**-0.1**
comp=E,222nm,0.6s							
YSS	**Yuzh-Sakhalins**	**6.31**	**25**	⇑*e*P	**P**	**07 08 17.9**	**-0.2**
YSS				*e*S	**S**	**07 09 26.0**	**-4.1**
YSS				pmax	pmax		
comp=N,370nm,1.0s							
YSS				pmax	pmax		
comp=Z,460nm,1.0s							
YSS				pmax	pmax		
comp=E,50nm,0.9s							
YSS				smax			
comp=N,80nm,1.0s							
MDJ	**Mudanjiang**	**7.60**	**299**	P	**P**	**07 08 34.1**	**-0.5**
MDJ				AMB	AMB		
comp=Z,63nm,1.3s							
MDJ				AMB	AMB		
comp=Z,120nm,4.5s							
JHJ	**Hachijo jima 2**	**8.18**	**175**	P	**P**	**07 08 39.0**	**-3.1**
comp=Z,17nm,0.3s,baz=209,slow=15,SNR=7.2							
JHJ				S	**S**	**07 10 07.7**	**-5.5**
comp=Z,25nm,0.3s,baz=262,slow=24,SNR=8.3							
KS15	**Wonju Array Si**	**9.36**	**249**	*e*P	**P**	**07 08 57.3**	**+0.1**
CN2	**Changchun**	**10.25**	**289**	*e*P	**P**	**07 09 07.8**	**-0.7**
CN2				AMB	AMB		
comp=Z,10.0nm,1.2s							
JNU	**Nakatsue**	**10.36**	**221**	P	**P**	**07 09 09.8**	**-0.2**
comp=Z,0.3nm,0.3s,baz=44,slow=8.6,SNR=6.6							
JNU				LR	LR	07 12 43.7	
comp=Z,23nm,20.0s,baz=3.8,slow=35							
JOW	**Kunigami**	**16.87**	**215**	P	**P**	**07 10 29.5**	**-0.6**
comp=Z,0.8nm,0.3s,baz=82,slow=13,SNR=5.5							
JOW	**Kunigami**	**16.87**	**215**	P	**P**	**07 10 29.5**	**-0.6**
MA2	**Magadan**	**19.75**	**18**	*e*P	**P**	**07 10 59.1**	**-0.5**
comp=Z,7.1nm,0.6s							
MA2	**Magadan**	**19.75**	**18**	*e*P	**P**	**07 10 59.1**	**-0.5**
MA2				pmax	pmax		
comp=Z,7.0nm,0.6s							
YAK	**Yakutsk**	**21.51**	**348**	*e*P	**P**	**07 11 15.5**	**-1.4**
comp=Z,64nm,0.9s,mb5.2							
YAK	**Yakutsk**	**21.51**	**348**	*e*P	**P**	**07 11 15.8**	**-1.1**
YAK				*e*		07 14 57.8	
YAK				pmax	pmax		
comp=Z,24nm,0.9s,mb4.7							
YAK				pmax	pmax		
comp=N,17nm,1.1s							
YAK				pmax	pmax		
comp=E,7.0nm,1.3s							
YAK				pmax	pmax		
comp=N,10.0nm,0.9s							
YAK				pmax	pmax		
comp=Z,6.0nm,0.9s,mb4.1							
YAK				pmax	pmax		
comp=E,10.0nm,1.3s							
BOD	**Bodaibo**	**22.92**	**325**	*e*P	**P**	**07 11 29.5**	**-1.0**
BOD				pmax	pmax		
comp=Z,13nm,0.9s,mb4.5							
SONM	**Songino Array**	**23.95**	**297**	P	**P**	**07 11 39.5**	**-0.8**
comp=Z,0.8nm,0.5s,mb3.6,baz=65,slow=8.8,SNR=3.5							
ZAK	**Zakamensk**	**26.22**	**302**	*e*P	**P**	**07 12 00.1**	**-1.1**
ZAK				pmax	pmax		
comp=Z,1.0nm,1.0s,mb3.4							
ZAK				pmax	pmax		
comp=Z,1.0nm,1.1s,mb3.4							
ZAL	**Zalesovo**	**37.69**	**308**	P	**P**	**07 13 40.0**	**-0.4**
comp=Z,6.0nm,0.6s,mb4.3,baz=28,slow=9.4,SNR=20							
NVS	**Novosibirsk**	**38.55**	**310**	*e*P	**P**	**07 13 46.1**	**-1.6**
NVS				*e*		07 14 55.8	
MKAR	**Makanchi Array**	**40.31**	**298**	P	**P**	**07 14 01.3**	**-0.9**
comp=Z,1.8nm,0.5s,mb3.8,baz=82,slow=8.6,SNR=22							
MKAR	**Makanchi Array**	**40.31**	**298**	P	**P**	**07 14 01.3**	**-0.9**
KURK	**Kurchatov**	**41.85**	**304**	⇓*e*P	**P**	**07 14 13.7**	**-0.9**
comp=Z,28nm,0.8s,mb4.7							
KURK	**Kurchatov**	**41.85**	**304**	⇓*e*P	**P**	**07 14 13.7**	**-0.9**
KURK				pmax	pmax		
comp=Z,28nm,0.8s,mb4.7							
BVAR	**Borovoye Array**	**46.33**	**309**	P	**P**	**07 14 50.0**	**-0.2**
comp=Z,7.7nm,0.5s,mb3.8,baz=67,slow=8.3,SNR=17							
BRVK	**Borovoye**	**46.38**	**309**	*e*P	**P**	**07 14 50.4**	**-0.2**
ILAR	**Eielson Array**	**47.02**	**34**	P	**P**	**07 14 56.5**	**+1.2**
comp=Z,1.6nm,0.7s,mb3.5,baz=273,slow=7.1,SNR=28							
SVE	**Sverdlovsk**	**50.71**	**316**	*e*P	**P**	**07 15 24.7**	**+1.1**
SVE				pmax	pmax		
comp=Z,20nm,1.0s,mb4.5							
INK	**Inuvik**	**51.53**	**28**	P	**P**	**07 15 30.2**	**+0.6**
comp=Z,2.0nm,0.4s,mb3.9,baz=322,slow=9.2,SNR=11							
INK	**Inuvik**	**51.53**	**28**	*e*P	**P**	**07 15 30.0**	**+0.4**
comp=Z,1.9nm,0.5s,mb3.8							
INK	**Inuvik**	**51.53**	**28**	*e*P	**P**	**07 15 30.0**	**+0.4**
INK				pmax	pmax		
comp=Z,2.0nm,0.5s							
ARU	**Arti**	**51.92**	**316**	*e*P	**P**	**07 15 32.4**	**-0.2**
comp=Z,23nm,1.1s,mb4.5							
ARU	**Arti**	**51.92**	**316**	*e*P	**P**	**07 15 32.4**	**-0.2**
ARU				pmax	pmax		
comp=Z,23nm,1.1s,mb4.5							
KEV	**Kevo**	**58.78**	**338**	*e*p	**P**	**07 16 27.8**	**+6.3**
WRA	**Warramunga Arr**	**61.06**	**185**	P	**P**	**07 16 36.7**	**-0.9**
comp=Z,0.9nm,0.8s,mb3.5,baz=2.3,slow=7.5,SNR=10							
KAF	**Kangasniemi**	**63.65**	**331**	*e*p	**P**	**07 16 52.7**	**-1.2**
FINES	**FINESS Array B**	**64.16**	**331**	P	**P**	**07 16 57.1**	**-0.2**
comp=Z,3.9nm,0.8s,mb4.1,baz=90,slow=5.7,SNR=13							
KIV	**Kislovodsk**	**66.69**	**309**	*e*P	**P**	**07 17 15.0**	**+1.3**
comp=Z,8.2nm,0.8s,mb4.4							
KIV	**Kislovodsk**	**66.69**	**309**	*e*P	**P**	**07 17 15.0**	**+1.3**
KIV				pmax	pmax		
comp=Z,8.0nm,0.8s,mb4.4							
HFS	**Hagfors**	**69.42**	**334**	P	**P**	**07 17 30.5**	**+0.3**
comp=Z,0.8nm,0.6s,mb3.6,baz=56,slow=5.3,SNR=4.8							
NB2	**NORSAR Subarra**	**69.52**	**336**	P	**P**	**07 17 30.7**	**-0.1**
comp=Z,0.7nm,0.6s,mb3.5,baz=38,slow=6.2							
NB2	**NORSAR Subarra**	**69.52**	**336**	P	**P**	**07 17 30.7**	**-0.1**
NB2				pmax	pmax		
comp=Z,1.0nm,0.6s,mb3.6							
NOA	**NORSAR Array B**	**69.52**	**336**	P	**P**	**07 17 30.9**	**+0.1**
comp=Z,1.1nm,0.7s,mb3.6,baz=41,slow=6.0,SNR=5.2							
AKASG	**Malin Array Be**	**69.77**	**320**	P	**P**	**07 17 32.1**	**-0.4**
comp=Z,1.8nm,0.6s,mb3.9,baz=46,slow=6.2,SNR=16							
NVAR	**Mina Array Bea**	**73.99**	**53**	P	**P**	**07 17 59.8**	**+2.0**
comp=Z,0.4nm,0.7s,mb3.2,baz=293,slow=6.0,SNR=7.0							
STHS	**Stebnicka Huta**	**74.38**	**323**	*e*P	**P**	**07 18 01.0**	**+1.2**
BRTR	**Keskin Array B**	**74.61**	**309**	P	**P**	**07 18 01.2**	**-0.1**
comp=Z,0.6nm,0.5s,mb3.5,baz=50,slow=5.0,SNR=4.2							
PDAR	**Pinedale Array**	**76.06**	**45**	P	**P**	**07 18 10.2**	**+0.8**
comp=Z,0.4nm,0.6s,mb3.2,baz=275,slow=1.8,SNR=5.1							
VRAC	**Vranov**	**76.51**	**325**	P	**P**	**07 18 12.7**	**+1.0**
comp=Z,1.4nm,0.3s,mb4.0,baz=339,slow=6.8,SNR=3.2							
ASF	**Jabal al Asfar**	**77.57**	**302**	P	**P**	**07 18 18.7**	**+0.8**
comp=Z,1.9nm,0.4s,mb4.1,baz=129,slow=2.9,SNR=4.0							
GERES	**GERESS Array B**	**78.09**	**327**	P	**P**	**07 18 21.0**	**+0.6**
comp=Z,0.5nm,0.4s,mb3.5,baz=37,slow=6.7,SNR=6.8							
DAVOX	**Davos**	**81.30**	**327**	P	**P**	**07 18 39.1**	**+1.7**
comp=Z,0.5nm,0.3s,mb3.6,baz=135,slow=23,SNR=3.7							

CSEM ***14*** *07:06:51.8, 38.77N×15.57E, h240km, mb4.7*
BJI ***14*** *07:06:51.3, 38.90N×15.50E, h222km, mB4.6, mb4.5*
BGS ***14*** *07:06:52.1±1.7, 39.32N×16.27E, h222km, mb4.4*
LDG ***14*** *07:06:52.8±0.5, 39.05N×15.65E, h220km, Mb4.6/43, Ms2.5/5, Error ellipse: s-maj=21.8km s-min=10.6km az=31.0*
MOS ***14*** *07:06:53.1±1.5, 38.91N×15.51E, h213km, mb4.5/7, Error ellipse: s-maj=5.2km s-min=2.6km az=110.2*
ROM ***14*** *07:06:53.3±0.3, 38.88N×15.50E, h222km±4km, Ml3.9/37, Error ellipse: s-maj=2.7km s-min=2.4km az=95.0*
NEIC ***14*** *07:06:53.3, 38.88N×15.50E, h222km, mb4.5/87, After ROM.*
IDC ***14*** *07:06:54.7±0.6, 39.07N×15.32E, h229km±6km, mb3.8/17, mb1 3.9/24, mb1mx3.9/28, mbtmp4.4/24, Error ellipse: s-maj=10.9km s-min=8.2km az=105.0*
ISC 14 07:06:53.7±0.1, 38.91N±0.02×15.45E±0.02, h223km, h223km±1.9km: pP-P, n525, σ1§30/538, mb4.2/35, 66C-30D, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STR5	**Stromboli 5**	**0.23**	**238**	Pg	**P**	**07 07 23.6**	**+0.4**
STR5				Sg	**S**	**07 07 46.0**	**+0.1**
SLNA	**Salina**	**0.59**	**234**	⇓*i*Pg	**P**	**07 07 24.7**	**+0.5**
614nm,0.4s							
LLI	**Lipari**	**0.61**	**220**	⇓*i*Pg	**P**	**07 07 24.9**	**+0.7**
5μm,0.6s							
VPL	**Vulcano Piano**	**0.65**	**215**	⇓*e*Pg	**P**	**07 07 24.3**	**-0.1**
2μm,0.5s							
MSRU	**Castanea**	**0.65**	**176**	⇓*i*Pg	**P**	**07 07 23.9**	**-0.5**
MSRU				Sg	**S**	**07 07 46.7**	**-1.5**
3μm,0.4s							
SCLL	**Scilla**	**0.69**	**162**	⇓*i*Pg	**P**	**07 07 24.1**	**-0.4**
CEL	**Celeste**	**0.74**	**152**	⇓*i*Pg	**P**	**07 07 24.4**	**-0.3**
1μm,0.3s							
GRI	**Girifalco**	**0.76**	**96**	⇓*e*Pg	**P**	**07 07 25.2**	**+0.3**
2μm,0.4s							
GMB	**Gambarie**	**0.80**	**158**	⇑*i*Pg	**P**	**07 07 25.0**	**0.0**
551nm,0.2s							
MTTG	**Motta San Giov**	**0.93**	**168**	⇓*i*Pg	**P**	**07 07 25.9**	**+0.2**
SOI	**Samo**	**0.96**	**150**	⇓*i*Pg	**P**	**07 07 25.9**	**0.0**
SOI				Sg	**S**	**07 07 50.9**	**+0.1**
1μm,0.4s							
MMME	**Mongiuffi-Meli**	**0.99**	**189**	⇓*i*Pg	**P**	**07 07 26.4**	**+0.4**
TIP	**Timpagrande**	**1.05**	**75**	⇓*i*Pg	**P**	**07 07 27.1**	**+0.7**
TIP				Sg	**S**	**07 07 51.1**	**-0.7**
3μm,1.1s							
CUC	**Castrocucco**	**1.12**	**15**	⇓*e*Pg	**P**	**07 07 27.1**	**+0.2**
MGR	**Morigerati**	**1.23**	**4**	⇑*i*Pg	**P**	**07 07 28.3**	**+0.6**
ESLN	**Serra La Nave**	**1.27**	**197**	Pg	**P**	**07 07 28.2**	**+0.1**
1μm,0.9s							
PLLN	**Pollina**	**1.38**	**229**	⇓*i*Pg	**P**	**07 07 28.9**	**0.0**
ORI	**Oriolo Calabro**	**1.39**	**34**	⇓*i*Pg	**P**	**07 07 29.7**	**+0.7**
275nm,0.2s							
GIB	**Gibilmanna**	**1.45**	**231**	⇓*i*Pg	**P**	**07 07 29.6**	**+0.1**
GIB				Sg	**S**	**07 07 57.1**	**0.0**
2μm,0.8s							
SLCN	**Sala Consilina**	**1.48**	**5**	⇑*e*Pg	**P**	**07 07 30.4**	**+0.6**
130nm,0.3s							
VAE	**Valguarnera**	**1.65**	**210**	P	**P**	**07 07 32.2**	**+1.1**
29nm,0.3s,baz=137,slow=0.4,SNR=56							
VAE				S	**S**	**07 08 03.7**	**+3.7**
28nm,0.3s,baz=78,slow=12,SNR=5.9							
VAE	**Valguarnera**	**1.65**	**210**	P	**P**	**07 07 32.2**	**+1.0**
VAE				S	**S**	**07 08 03.8**	**+3.7**
SGO	**Sicignano**	**1.65**	**356**	⇑*i*Pg	**P**	**07 07 32.2**	**+1.0**
176nm,0.4s							
AGST	**Augusta-Monte**	**1.66**	**186**	⇓*e*Pg	**P**	**07 07 30.4**	**-0.9**
367nm,0.2s							
SSY	**Sortino**	**1.78**	**190**	⇓*e*Pg	**P**	**07 07 31.9**	**-0.4**
1μm,0.3s							
USI	**Ustica**	**1.79**	**264**	⇑*i*Pg	**P**	**07 07 32.8**	**+0.4**
601nm,0.4s							
HVZN	**Vizzini**	**1.83**	**199**	⇓*i*Pg	**P**	**07 07 33.1**	**+0.4**
HVZN				Sg	**S**	**07 08 04.0**	**+1.2**
2μm,0.6s							
MRLC	**Muro Lucano**	**1.84**	**1**	Pg	**P**	**07 07 33.9**	**+1.0**
104nm,0.5s							
ISOR	**Termini**	**1.88**	**333**	⇑*i*Pg	**P**	**07 07 33.7**	**+0.5**
MCRV	**Calabrutti - M**	**1.88**	**353**	⇑*i*Pg	**P**	**07 07 34.3**	**+1.1**
302nm,0.3s							
PZI	**Palazzolo**	**1.89**	**192**	⇓*i*Pg	**P**	**07 07 33.6**	**+0.2**
576nm,0.3s							
CSSN	**Cassano Irpino**	**1.97**	**351**	⇑*i*Pg	**P**	**07 07 35.4**	**+1.3**
LTRZ	**Laterza**	**1.99**	**32**	⇓*i*Pg	**P**	**07 07 33.5**	**-0.8**
143nm,0.2s							
SNAL	**S. Angelo Dei**	**2.02**	**355**	⇑*i*Pg	**P**	**07 07 35.7**	**+1.1**
277nm,0.8s							
HMDC	**Modica**	**2.02**	**195**	⇓*i*Pg	**P**	**07 07 34.9**	**+0.3**
HMDC				Sg	**S**	**07 08 06.5**	**+0.4**
631nm,0.6s							
OVO	**Vesuviano**	**2.08**	**337**	⇑*i*Pg	**P**	**07 07 36.3**	**+1.2**
CAFE	**Carife**	**2.12**	**356**	⇑*i*Pg	**P**	**07 07 36.8**	**+1.2**
149nm,0.5s							
FAVR	**Favara**	**2.16**	**221**	Pg	**P**	**07 07 36.9**	**+0.9**
AMUR	**Altamura**	**2.18**	**24**	⇓*e*Pg	**P**	**07 07 35.7**	**-0.5**
114nm,0.7s							
CLTB	**Caltabellotta**	**2.21**	**234**	Pg	**P**	**07 07 36.8**	**+0.3**
CRJA	**Costa Raja**	**2.22**	**241**	⇑*e*Pg	**P**	**07 07 37.2**	**+0.6**
309nm,0.5s							
NOCI	**Noci**	**2.25**	**33**	⇓*i*Pg	**P**	**07 07 35.9**	**-1.0**
544nm,0.3s							
MFNL	**Monte Finestre**	**2.28**	**241**	⇑*e*Pg	**P**	**07 07 37.8**	**+0.6**
674nm,0.7s							
MMGO	**Monte Magaggia**	**2.31**	**238**	⇑*i*Pg	**P**	**07 07 37.6**	**0.0**
280nm,0.4s							
MTGR	**Montagna Grand**	**2.35**	**245**	Pg	**P**	**07 07 37.8**	**-0.1**
184nm,0.5s							
PSB1	**Pescosannita**	**2.36**	**348**	⇑*i*Pg	**P**	**07 07 39.2**	**+1.1**
198nm,0.7s							
IPES	**Pescosannita**	**2.37**	**349**	⇑*e*Pg	**P**	**07 07 39.2**	**+1.1**
BRT	**Bari-Castellan**	**2.38**	**34**	Pg	**P**	**07 07 37.2**	**-1.1**
55nm,0.1s							
ERC	**Erice**	**2.41**	**250**	Pg	**P**	**07 07 38.1**	**-0.5**
684nm,0.6s							
CAVT	**Castelvetrano**	**2.45**	**241**	Pg	**P**	**07 07 37.6**	**-1.4**
89nm,0.2s							
LCI	**Lecce**	**2.50**	**55**	⇓*i*Pg	**P**	**07 07 38.8**	**-0.7**
165nm,0.2s							
MSC	**Monte Massico**	**2.54**	**334**	⇑*i*Pg	**P**	**07 07 40.8**	**+0.8**
SACR	**S. Croce Del S**	**2.55**	**347**	⇑*i*Pg	**P**	**07 07 41.1**	**+1.0**
108nm,0.5s							
SGG	**Gregorio Mates**	**2.60**	**342**

PAIG **Paliouri** 6.45 78 *e*P P 07 08 25.9 -1.9
SARO **Sassorosso** 6.49 326 P P 07 08 30.9 +2.6
SARO **Sassorosso** 6.49 326 P P 07 08 30.9 +2.6
SARO **Sassorosso** 6.49 326 P P 07 08 30.9 +2.7
VINC **Vinca** 6.56 324 P P 07 08 32.5 +3.3
VINC **Vinca** 6.56 324 P P 07 08 32.5 +3.3
VINC **Vinca** 6.56 324 P P 07 08 32.5 +3.3
AOS **Alonnisos** 6.57 85 *e*P P 07 08 23.4 -5.9
KYTH **Kithira** 6.57 111 *e*P P 07 08 31.2 +1.9
BOJS **Bojanci** 6.59 359 *e*Pn P 07 08 30.1 +0.5
SRS **Serrai** 6.63 68 *e*P P 07 08 29.6 -0.4
VALM 6.68 326 P P 07 08 34.3 +3.5
OUR **Ouranopolis** 6.74 75 *e*P P 07 08 32.5 +1.0
GRAM 6.88 326 P P 07 08 36.7 +3.5
GRAM 6.88 326 P P 07 08 36.6 +3.4
VISS **Visnje** 6.90 356 *i* Pn P 07 08 34.1 +0.5
PDKS **Podkum** 7.15 357 ⇓*i*Pn P 07 08 36.8 0.0
LJU **Ljubljana** 7.16 355 *i* Pn P 07 08 37.4 +0.5
VOY **Vojsko** 7.21 351 *e*Pn P 07 08 37.6 +0.1
VOY *e* 07 08 46.4
RHK1 **Bakonya** 7.43 14 ⇓*i*P P 07 08 40.0 -0.4
IMI **Imperia** 7.56 314 P P 07 08 46.0 +3.9
FIN **Finale Ligure** 7.58 317 P P 07 08 46.9 +4.6
OBKA **Obir** 7.62 355 ⇑*i*P P 07 08 43.1 +0.2
22nm,0.8s
NEGI **Negi** 7.63 313 P P 07 08 45.5 +2.5
NEGI **Negi** 7.63 313 P P 07 08 45.5 +2.6
PCP **Pian Castagno** 7.63 320 P P 07 08 44.2 +1.2
PCP **Pian Castagno** 7.63 320 P P 07 08 44.2 +1.2
PERS **Pernice** 7.72 358 *e*Pn P 07 08 43.9 -0.2
SBF **Sospel** 7.79 312 *e*P P 07 08 43.9 -1.2
63nm,0.6s
SAOF **Saorge** 7.80 313 *e*P P 07 08 54.5 +9.4
ROB **Roburent** 7.82 316 P P 07 08 47.7 +2.3
ROB **Roburent** 7.82 316 P P 07 08 47.7 +2.3
AUTN **L'Aution** 7.88 313 *e*P P 07 08 55.5 +9.3
TOUF **Mont Tournerai** 7.99 312 *e*P P 07 08 57.0 +9.4
ENR **Entracque** 8.02 314 P P 07 08 49.8 +1.8
ENR **Entracque** 8.02 314 P P 07 08 49.8 +1.7
CALN **Calern** 8.05 310 *e*P P 07 08 59.2 +11
LMR **La Mourre** 8.06 306 *e*P P 07 08 51.8 +3.2
38nm,0.5s
STV **Sta Anna Valdi** 8.09 314 P P 07 08 50.9 +2.0
STV **Sta Anna Valdi** 8.09 314 P P 07 08 50.9 +2.0
STV2 **Anna di Valdie** 8.09 314 P P 07 08 50.7 +1.8
STV2 **Anna di Valdie** 8.09 314 P P 07 08 50.7 +1.8
FRF **La Foret Royal** 8.10 308 *e*P P 07 08 49.8 +0.8
58nm,0.7s
KBA **Koelnbreinsper** 8.31 350 ⇑*i*P P 07 08 52.1 +0.4
6.5nm,0.5s
KBA **Koelnbreinsper** 8.31 350 ⇑*i*P P 07 08 52.1 +0.4
KBA pmax pmax
comp=Z,7.0nm,0.5s
ARSA **Arzberg** 8.33 0 ⇑*i*P P 07 08 52.0 -0.1
comp=Z,4.4nm,0.5s
IDI **Anoyia** 8.36 113 P P 07 08 52.0 -0.5
comp=Z,3.8nm,0.3s,baz=296,slow=12,SNR=27
IDI S S 07 10 31.9 +6.6
comp=Z,0.3nm,0.3s,baz=300,slow=20,SNR=2.8
BHB **Bricherasio** 8.51 317 P P 07 08 55.6 +1.3
BHB **Bricherasio** 8.51 317 P P 07 08 55.6 +1.3
SURF **Saint Ours** 8.52 314 *e*P P 07 09 02.0 +7.5
MBDF **Montbardon** 8.70 315 *e*P P 07 08 58.1 +1.3
comp=Z,172nm,0.7s
ORX **Oropa** 8.70 323 P P 07 08 57.3 +0.5
ORX **Oropa** 8.70 323 P P 07 08 57.3 +0.5
RSP **Reno Superiore** 8.72 318 P P 07 08 57.7 +0.7
RSP **Reno Superiore** 8.72 318 P P 07 08 57.7 +0.7
TRAV 8.72 322 P P 07 08 56.8 -0.3
TRAV 8.72 322 P P 07 08 56.8 -0.3
FENE **Fenestrelle** 8.74 317 P P 07 09 00.2 +3.0
FENE **Fenestrelle** 8.74 317 P P 07 09 00.1 +2.9
AYVA **Ayvalik** 8.75 84 *i* P P 07 08 58.2 +0.8
WTTA **Wattenberg** 8.80 343 ⇑*i*P P 07 09 00.0 +1.9
comp=Z,23nm,0.8s
WTTA **Wattenberg** 8.80 343 ⇑*i*P P 07 09 00.0 +1.9
WTTA pmax pmax
comp=Z,23nm,0.8s
RRL **Cesana Torines** 8.81 316 P P 07 09 00.1 +1.8
RRL **Cesana Torines** 8.81 316 P P 07 09 00.1 +1.9
DAVOX **Davos** 8.86 334 P P 07 08 59.7 +0.9
comp=Z,6.6nm,0.3s,baz=146,slow=8.0,SNR=41
SQTA **Sankt Quirin** 8.86 341 ⇑*i*P P 07 09 01.2 +2.3
comp=Z,35nm,0.4s
SQTA **Sankt Quirin** 8.86 341 ⇑*i*P P 07 09 01.2 +2.3
SQTA pmax pmax
comp=Z,35nm,0.4s
WATA **Walderalm** 8.88 343 ⇑*i*P P 07 09 00.3 +1.2
comp=Z,20nm,0.4s
WATA **Walderalm** 8.88 343 ⇑*i*P P 07 09 00.3 +1.2
WATA pmax pmax
comp=Z,20nm,0.4s
BNI **Bardonecchia** 8.96 316 *e*P P 07 09 00.3 +0.2
comp=Z,48nm,0.8s
BNI **Bardonecchia** 8.96 316 *e*P P 07 09 00.3 +0.2
comp=Z,48nm,0.8s
BNI **Bardonecchia** 8.96 316 *e*P P 07 09 00.3 +0.2
BNI pmax pmax
comp=Z,48nm,0.8s
SMRF **Simiane la Rot** 8.97 307 *e*P P 07 09 01.5 +1.2
comp=Z,45nm,0.6s
MOA **Molln** 8.97 355 ⇑*i*P P 07 09 01.0 +0.7
comp=Z,16nm,0.5s
LSD **Ceresole Reale** 8.98 319 P P 07 09 01.6 +1.2
MOTA **Moosalm** 9.01 341 ⇑*i*P P 07 09 02.3 +1.6
comp=Z,17nm,0.4s
MOTA **Moosalm** 9.01 341 ⇑*i*P P 07 09 02.3 +1.6
MOTA pmax pmax
comp=Z,17nm,0.4s
LPG **La Plagne** 9.21 318 *e*P P 07 09 05.0 +1.6
comp=Z,73nm,0.8s
LPL **La Plagne** 9.23 318 *e*P P 07 09 05.2 +1.6
comp=Z,35nm,0.5s
DAVA **Damuels** 9.30 336 ⇑*i*P P 07 09 06.0 +1.5
comp=Z,16nm,0.5s
ORIF **Oris-en-Rattie** 9.32 313 *e*P P 07 09 06.1 +1.4
comp=Z,51nm,0.6s
ORIF *e*R
comp=Z,85nm,22.3s
GDM **Grand'Maison** 9.36 315 *e*P P 07 09 10.9 +5.7
UBR **Uberruh** 9.59 338 *e*P P 07 09 09.0 +0.9
GRN **Grenoble** 9.59 314 *e*P P 07 09 13.4 +5.3
SMOL **Smolenice** 9.70 8 *e*PN P 07 09 07.7 -1.9
FUR **Furstenfeldbru** 9.73 343 *e*P P 07 09 10.8 +0.9
BTOK **Tokmak** 9.79 81 *i* P P 07 09 11.2 +0.5
VIVF **Saint-Julien-l** 9.99 310 *e*P P 07 09 15.6 +2.4
comp=Z,35nm,0.5s
VIVF **Saint-Julien-l** 9.99 310 *e*P P 07 09 15.6 +2.4
VIVF pmax pmax
comp=Z,18nm,0.5s
GEC2 **GERESS Array S** 10.01 353 *e*P P 07 09 13.0 -0.5
GERES **GERESS Array B** 10.01 353 P P 07 09 13.0 -0.5
comp=Z,2.3nm,0.3s,baz=166,slow=13,SNR=186
JAVC **Velka Javorina** 10.07 8 *e*P P 07 09 15.0 +0.7
LASF **Ste Croix** 10.11 304 *e*P P 07 09 14.8 0.0
comp=Z,62nm,0.9s
KRUC **Moravsky** 10.17 4 *e*P P 07 09 15.4 -0.2
EJON **La Jonquera** 10.17 294 P P 07 09 17.0 +1.4
comp=Z,5.9nm,0.5s,SNR=8.3
EJON **La Jonquera** 10.17 294 P P 07 09 17.0 +1.4
comp=Z,5.9nm,0.5s
MLR **Muntele Rosu** 10.18 46 P P 07 09 17.3 +1.6
comp=Z,0.6nm,0.3s,baz=135,slow=7.3,SNR=5.7
KECS **Kecovo** 10.23 19 *e* P 07 09 24.2 +7.8
GUT **Gutenstein** 10.24 335 *e*P P 07 09 16.3 -0.2
KHC **Kasperske Hory** 10.30 353 *e*P P 07 09 16.8 -0.5
KHC *ex* x 07 09 23.4
KHC *ex* x 07 09 23.6
CABF **La Chapelle** 10.32 321 *e*P P 07 09 16.1 -1.4
comp=Z,102nm,0.7s
CABF **La Chapelle** 10.32 321 *e*P P 07 09 16.1 -1.4
CABF pmax pmax
comp=Z,51nm,0.7s
BBS **Basel-Blauen** 10.32 328 *e*P P 07 09 16.4 -1.1
BBS **Basel-Blauen** 10.32 328 *e*P P 07 09 17.4 -0.1
SPAK **Spaichingen** 10.38 334 *e*P P 07 09 18.1 -0.1
HDH **Heidenheim** 10.38 340 *e*P P 07 09 18.0 -0.3
WET **Wettzell** 10.39 351 *e*P P 07 09 18.2 -0.2
VRAC **Vranov** 10.43 4 P P 07 09 18.6 -0.3
comp=Z,1.4nm,0.3s,baz=189,slow=14,SNR=11
VRAC **Vranov** 10.43 4 *e*P P 07 09 18.6 -0.2
FELD **Feldberg** 10.46 331 *e*P P 07 09 18.6 -0.7
FELD **Feldberg** 10.46 331 *e*P P 07 09 18.7 -0.6

LOMF **Lomont** 10.52 326 *e*P P 07 09 18.5 -1.6
KIZ **Kirchzarten** 10.56 331 *e*P P 07 09 19.6 -1.0
LRDF **Laroque-de-Fa** 10.56 296 *e*P P 07 09 24.2 +3.6
ULDT **Uludag** 10.65 79 *i* P P 07 09 21.9 +0.3
BFO **Black Forest** 10.73 334 *e*P P 07 09 21.9 -0.8
DNZL **Cakiroluk** 10.76 92 *i* P P 07 09 24.5 +1.4
MOF **Molkenrain** 10.79 329 *e*P P 07 09 21.9 -1.5
STU **Stuttgart** 10.84 337 *e*P P 07 09 23.4 -0.7
comp=Z,17nm,0.6s
STU **Stuttgart** 10.84 337 *e*P P 07 09 23.4 -0.7
comp=Z,17nm,0.6s
STU **Stuttgart** 10.84 337 *e*P P 07 09 23.4 -0.7
STU pmax pmax
comp=Z,17nm,0.6s
LIBD **Limburg** 10.84 331 *e*P P 07 09 24.5 +0.3
LIBD **Limburg** 10.84 331 *e*P P 07 09 24.7 +0.5
LBG **Lerchenberg** 10.87 336 *e*P P 07 09 23.6 -0.9
HINF **Hinteralfeld** 10.87 328 *e*P P 07 09 21.7 -2.8
comp=Z,20nm,0.3s
HINF **Hinteralfeld** 10.87 328 *e*P P 07 09 21.7 -2.8
HINF pmax pmax
comp=Z,10.0nm,0.3s
MTLF **Montolieu** 10.92 298 *e*P P 07 09 28.0 +2.9
comp=Z,24nm,0.7s
MTLF **Montolieu** 10.92 298 *e*P P 07 09 28.0 +2.9
MTLF pmax pmax
comp=Z,12nm,0.7s
MORC **Moravsky Berou** 10.96 7 *e*P P 07 09 26.6 +0.9
MORC **Moravsky Berou** 10.96 7 *e*P P 07 09 25.2 -0.5
comp=Z,5.9nm,0.7s
MORC **Moravsky Berou** 10.96 7 *e*P P 07 09 25.2 -0.5
MORC pmax pmax
comp=Z,6.0nm,0.7s
EMIR **Miracle** 11.03 290 P P 07 09 29.6 +3.0
comp=Z,16nm,0.7s,SNR=7.4
EMIR **Miracle** 11.03 290 P P 07 09 29.6 +3.0
comp=Z,16nm,0.7s
LBL **Lubilhac** 11.04 309 *e*P P 07 09 28.3 +1.5
ECH **Echery** 11.07 330 *e*P P 07 09 25.8 -1.2
PRU **Pruhonice** 11.09 357 *e*P P 07 09 27.3 0.0
PRU *ex* x 07 09 32.3
WLS **Welschbruch** 11.15 331 *e*P P 07 09 26.7 -1.4
CDF **Champ du Feu** 11.18 331 *e*P P 07 09 26.5 -2.0
comp=Z,38nm,0.5s
CDF **Champ du Feu** 11.18 331 *e*P P 07 09 26.5 -2.0
CDF pmax pmax
comp=Z,19nm,0.5s
GRA1 **Grafenberg Arr** 11.19 346 *e*P P 07 09 27.9 -0.7
comp=Z,69nm,0.9s
GRF **Grafenberg Arr** 11.19 346 *e*P P 07 09 27.9 -0.7
comp=Z,69nm,0.9s
GRF **Grafenberg Arr** 11.19 346 *e*P P 07 09 27.9 -0.7
GRF pmax pmax
comp=Z,69nm,0.9s
GRF **Grafenberg Arr** 11.19 346 *e*P P 07 09 27.9 -0.7
GRF pmax pmax
comp=Z,69nm,0.9s
PLDF **La Plantade** 11.22 313 *e*P P 07 09 29.4 +0.4
HAU **Haudompre** 11.23 327 *e*P P 07 09 27.8 -1.3
comp=Z,24nm,0.4s
HAU *e*R
comp=Z,52nm,21.2s
GOLH **Golhisar** 11.25 94 *i* P P 07 09 31.0 +1.6
EPOB **Poblet** 11.27 287 P P 07 09 32.9 +3.3
comp=Z,28nm,0.7s,SNR=26
EPOB **Poblet** 11.27 287 P P 07 09 32.9 +3.3
comp=Z,28nm,0.7s
STHS **Stebnicka Huta** 11.29 20 *e*Pn P 07 09 32.1 +2.3
STHS *e* 07 09 36.1
DPC **Dobruska-Polom** 11.45 3 *e*P P 07 09 31.1 -0.8
DPC *ex* x 07 09 36.6
PYM **Petit Puy Mans** 11.46 311 *e*P P 07 09 32.7 +0.7
SALF **Salau** 11.46 294 *e*P P 07 09 37.0 +4.9
SMF **Signal de Mont** 11.50 316 *e*P P 07 09 30.9 -1.6
comp=Z,28nm,0.4s
SMF **Signal de Mont** 11.50 316 *e*P P 07 09 30.9 -1.6
SMF pmax pmax
comp=Z,14nm,0.4s
NKC **Novy Kostel** 11.52 350 *e*P P 07 09 31.8 -0.9
NKC *ex* x 07 09 37.7
AKAS **Kas** 11.55 99 *i* P P 07 09 32.3 -0.8
AGO **Saint Agoulin** 11.55 312 *e*P P 07 09 32.7 -0.4
THEF **They Montfort** 11.56 327 *e*P P 07 09 31.7 -1.5
MLS **Moulis** 11.58 295 *e*P P 07 09 37.4 +3.8
UPC **Upice** 11.60 2 *e*P P 07 09 34.1 +0.4
UPC *ex* x 07 09 38.3
PVCC **Panska Ves** 11.63 357 *e*P P 07 09 34.1 0.0
PVCC *ex* x 07 09 38.3
CAF **Calviac** 11.64 305 *e*P P 07 09 36.0 +1.8
comp=Z,47nm,0.7s
CAF **Calviac** 11.64 305 *e*P P 07 09 36.0 +1.8
CAF pmax pmax
comp=Z,23nm,0.7s
OJC **Ojcow** 11.72 14 *e*P P 07 09 39.9 +4.7
ERTA **Horta de San J** 11.79 285 P P 07 09 40.1 +4.0
comp=Z,26nm,0.6s
AVF **Avril sur Loir** 11.86 316 *e*P P 07 09 35.4 -1.6
comp=Z,23nm,0.5s
AVF **Avril sur Loir** 11.86 316 *e*P P 07 09 35.4 -1.6
AVF pmax pmax
comp=Z,11nm,0.5s
ISP **Isparta** 11.87 90 *e*P P 07 09 38.3 +1.1
comp=Z,16nm,0.6s
ISP **Isparta** 11.87 90 *d* ⇑*i*P P 07 09 38.9 +1.7
LOR **Lormes** 11.89 318 *e*P P 07 09 33.8 -3.5
comp=Z,15nm,0.5s
LOR *e*R
comp=Z,85nm,22.0s
SSF **Saint Saulge** 11.94 317 *e*P P 07 09 35.9 -2.1
comp=Z,13nm,0.4s
SSF **Saint Saulge** 11.94 317 *e*P P 07 09 35.9 -2.1
SSF pmax pmax
comp=Z,13nm,0.4s
ESKT **Eskisehir** 11.96 82 *i* P P 07 09 38.3 -0.1
EGRA **Graus** 11.97 291 P P 07 09 39.9 +1.5
comp=Z,6.3nm,0.4s,SNR=7.1
EGRA **Graus** 11.97 291 P P 07 09 39.9 +1.5
comp=Z,6.3nm,0.4s
BGF **Bois d'Agland** 12.00 314 *e*P P 07 09 37.6 -1.2
BRG **Berggiesshubel** 12.01 355 *i* P P 07 09 39.9 +1.0
comp=Z,8.0nm,0.9s
BRG *i* 07 09 43.3
BRG **Berggiesshubel** 12.01 355 *i* P P 07 09 39.9 +1.0
BRG pmax pmax
comp=Z,8.0nm,0.9s
MOX **Moxa** 12.04 348 *i* P P 07 09 38.9 -0.4
comp=Z,logA/T=1.4
MOX *i* 07 09 43.0
MOX *e* 07 09 47.0
MOX *e* 07 09 52.0
MOX **Moxa** 12.04 348 *e*P P 07 09 38.9 -0.4
comp=Z,26nm,1.0s
MOX *e* 07 09 43.1
MOX **Moxa** 12.04 348 *e*P P 07 09 38.9 -0.4
MOX pmax pmax
comp=Z,26nm,1.0s
EPF **Esparros** 12.14 295 *e*P P 07 09 41.3 +0.8
comp=Z,9.1nm,0.5s
EPF **Esparros** 12.14 295 *e*P P 07 09 41.3 +0.8
EPF pmax pmax
comp=Z,5.0nm,0.5s
RJF **Les Rejaudoux** 12.15 306 *e*P P 07 09 43.8 +3.1
comp=Z,106nm,0.9s
RJF *e*R
comp=Z,73nm,21.0s
MEZF **Maizieres J'vi** 12.17 325 *e*P P 07 09 40.9 0.0
comp=Z,52nm,0.6s
EBIE **Bielsa** 12.20 293 P P 07 09 42.6 +1.3
comp=Z,20nm,0.6s,SNR=24
EBIE **Bielsa** 12.20 293 P P 07 09 42.6 +1.3
comp=Z,20nm,0.6s
TCF **Toulx Ste Croi** 12.22 311 *e*P P 07 09 40.3 -1.2
comp=Z,15nm,0.6s
TCF **Toulx Ste Croi** 12.22 311 *e*P P 07 09 40.3 -1.2
TCF pmax pmax
comp=Z,8.0nm,0.6s
EBEN **Beniarda** 12.23 274 P P 07 09 45.2 +3.5
comp=Z,6.3nm,0.6s,SNR=7.9
EBEN **Beniarda** 12.23 274 P P 07 09 45.2 +3.5
comp=Z,6.3nm,0.6s
VIEF **Viey** 12.33 294 *e*P P 07 09 44.1 +1.2
ABH **Alteburg** 12.33 335 *e*P P 07 09 43.3 +0.4
LABF **Labassere** 12.33 294 *e*P P 07 09 43.8 +0.9
RUP **Ruppelstein** 12.34 334 *e*P P 07 09 43.5 +0.5
TNS **Taunus Mts** 12.35 339 *e*P P 07 09 43.9 +0.7
comp=Z,32nm,0.7s
TNS **Taunus Mts** 12.35 339 *e*P P 07 09 43.9 +0.7
TNS pmax pmax
comp=Z,32nm,0.7s
EMOS **Mosqueruela** 12.36 282 P P 07 09 48.3 +5.0
comp=Z,8.5nm,0.5s
LFF **La Frestale** 12.49 304 *e*P P 07 09 45.1 +0.1
comp=Z,107nm,0.8s
LFF **La Frestale** 12.49 304 *e*P P 07 09 45.1 +0.1
LFF pmax pmax
comp=Z,54nm,0.8s
CLL **Collm** 12.51 353 ⇑P P 07 09 45.7 +0.5
comp=Z,logA/T=1.0
CLL *i* 07 09 49.0
CLL *e* 07 10 04.0
CLL **Collm** 12.51 353 ⇑*i*P P 07 09 45.7 +0.5
comp=Z,14nm,1.3s
CLL *i* 07 09 49.0
CLL **Collm** 12.51 353 ⇑*i*P P 07 09 45.7 +0.5
CLL pmax pmax
comp=Z,14nm,1.3s
HYF **Humbligny** 12.53 316 *e*P P 07 09 47.6 +2.1
WLF **Walferdange** 12.63 331 *e*P P 07 09 45.7 -1.0
comp=Z,15nm,0.9s
WLF **Walferdange** 12.63 331 *e*P P 07 09 45.7 -1.0
comp=Z,15nm,0.9s
WLF **Walferdange** 12.63 331 *e*P P 07 09 45.7 -1.0
WLF pmax pmax
comp=Z,15nm,0.9s
FDAF **Les Forges d'A** 12.74 293 *e*P P 07 09 47.8 -0.2
ETSF **Etsaut** 12.75 293 *e*P P 07 09 47.7 -0.4
comp=Z,23nm,0.5s
ETSF **Etsaut** 12.75 293 *e*P P 07 09 47.7 -0.4
ETSF pmax pmax
comp=Z,11nm,0.5s
ECHE **Chera** 12.75 278 P P 07 09 52.0 +3.8
comp=Z,3.8nm,0.4s
ECHE **Chera** 12.75 278 P P 07 09 52.0 +3.8
ECHE pmax pmax
comp=Z,4.0nm,0.4s
SGKT **Sivrigoynuk** 12.89 77 *i* P P 07 09 50.1 +0.1
KDHN **Kadinhani** 13.03 86 *i* P P 07 09 43.7 -8.0
LARF **Larrau** 13.09 294 *e*P P 07 09 51.5 -0.8
LARF **Larrau** 13.09 294 *e*P P 07 09 52.5 +0.2
ETOB **Tobarra** 13.27 274 P P 07 09 56.1 +1.4
comp=Z,4.5nm,1.0s,SNR=7.9
ETOB **Tobarra** 13.27 274 P P 07 09 56.1 +1.5
comp=Z,4.5nm,1.0s
SJPF **Ste Jean** 13.27 294 *e*P P 07 09 54.9 +0.2
comp=Z,26nm,0.5s
SJPF **Ste Jean** 13.27 294 *e*P P 07 09 54.9 +0.2
SJPF pmax pmax
comp=Z,13nm,0.5s
IPRE **Itoiz** 13.30 292 P P 07 09 57.0 +2.0
comp=Z,19nm,0.7s,SNR=5.0
EARA **Aranguren** 13.46 292 P P 07 09 59.0 +2.0
comp=Z,31nm,0.7s,SNR=7.9
EALK **Alkurruntz** 13.50 294 P P 07 09 58.6 +1.1
comp=Z,18nm,0.8s,SNR=10
EALK **Alkurruntz** 13.50 294 P P 07 09 58.6 +1.2
comp=Z,18nm,0.8s
GIVF **Givet** 13.50 329 *e*P P 07 09 56.6 -0.8
comp=Z,74nm,0.8s
GIVF **Givet** 13.50 329 *e*P P 07 09 56.6 -0.8
GIVF pmax pmax
comp=Z,37nm,0.8s
BAIF **Baives** 13.71 328 *e*P P 07 09 58.9 -1.2
comp=Z,13nm,0.5s
BAIF **Baives** 13.71 328 *e*P P 07 09 58.9 -1.2
BAIF pmax pmax
comp=Z,6.0nm,0.5s
MFF **Saint Martin d** 13.78 309 *e*P P 07 10 02.5 +1.6
comp=Z,14nm,0.5s
MFF **Saint Martin d** 13.78 309 *e*P P 07 10 02.5 +1.6
MFF pmax pmax
comp=Z,7.0nm,0.5s
ELDT **Eldivan** 13.93 78 *i* P P 07 10 03.4 +0.5
EVIA **Vianos** 14.01 275 P P 07 10 05.9 +2.1
comp=Z,7.5nm,0.6s,SNR=4.6
EVIA **Vianos** 14.01 275 P P 07 10 05.9 +2.0
comp=Z,7.5nm,0.6s
EVIA **Vianos** 14.01 275 P P 07 10 05.9 +2.1
EVIA pmax pmax
comp=Z,8.0nm,0.6s
BR131 **Keskin Array S** 14.11 81 *e*P P 07 10 06.1 +1.1
comp=Z,14nm,0.9s
BR131 **Keskin Array S** 14.11 81 *e*P P 07 10 06.1 +1.1
comp=Z,14nm,0.9s
BRTR **Keskin Array B** 14.11 81 P P 07 10 06.5 +1.4
comp=Z,1.0nm,0.3s,baz=264,slow=11,SNR=22
BRTR **Keskin Array B** 14.11 81 P P 07 10 06.4 +1.4
ALFC **Alevga** 14.20 100 P P 07 10 04.6 -1.6
comp=Z,0.9nm,0.4s
EHUE **Huescar** 14.20 271 P P 07 10 06.4 +0.2
comp=Z,1.7nm,0.9s,SNR=7.9
EHUE **Huescar** 14.20 271 P P 07 10 06.4 +0.2
EHUE pmax pmax
comp=Z,2.0nm,0.9s
GKP **Gorka Klasztor** 14.41 4 *e*P P 07 10 09.9 +1.3
GKP **Gorka Klasztor** 14.41 4 *e*P P 07 10 09.9 +1.2
EQES **Quesada** 14.58 271 P P 07 10 12.4 +1.6
comp=Z,8.3nm,0.8s,SNR=10
EQES **Quesada** 14.58 271 P P 07 10 12.4 +1.6
comp=Z,8.3nm,0.8s
MAMC **Mammari** 14.67 99 P P 07 10 11.3 -0.7
LDF **La Druitiere** 14.81 316 *e*P P 07 10 12.4 -1.2
comp=Z,98nm,0.5s
LDF **La Druitiere** 14.81 316 *e*P P 07 10 12.4 -1.2
LDF pmax pmax
comp=Z,49nm,0.5s
CSS **Prodhromos** 14.83 100 P P 07 10 12.5 -1.4
comp=Z,0.5nm,0.4s
ELAN **Lanestosa** 14.88 293 P P 07 10 13.9 -0.6
comp=Z,15nm,0.7s,SNR=9.2
ESDC **Sonseca Array** 15.05 279 P P 07 10 15.7 -1.0
comp=Z,1.2nm,0.3s,baz=80,slow=12,SNR=25
ESDC **Sonseca Array** 15.05 279 P P 07 10 15.7 -1.0
comp=Z,3.9nm,0.4s
ESLA **Sonseca Array** 15.05 279 *e*P P 07 10 14.7 -2.0
comp=Z,1.2nm,0.8s
EBAN **Banos Encina** 15.08 273 P P 07 10 16.7 -0.2
comp=Z,3.3nm,0.6s,SNR=7.9
EBAN **Banos Encina** 15.08 273 P P 07 10 16.7 -0.3
comp=Z,3.3nm,0.6s
EBAN **Banos Encina** 15.08 273 P P 07 10 16.7 -0.2
EBAN pmax pmax
comp=Z,3.0nm,0.6s
BOYT **Boyabat** 15.08 74 *i* P P 07 10 17.2 +0.2
FLN **La Foliniere** 15.11 316 *e*P P 07 10 15.7 -1.5
comp=Z,100nm,0.6s
FLN *e*R
comp=Z,42nm,18.5s
GRR **Gorron** 15.11 314 *e*P P 07 10 15.8 -1.4
AKASG **Malin Array Be** 15.28 35 P P 07 10 17.8 -1.5
comp=Z,3.5nm,0.3s,baz=228,slow=10,SNR=24
AKASG S S 07 13 04.7 +2.2
comp=Z,0.4nm,0.3s,baz=223,slow=19,SNR=11
BSEG **Bad Segeberg** 15.43 349 *e*P P 07 10 19.1 -2.0
ELUQ **Luque** 15.55 271 P P 07 10 22.4 -0.4
comp=Z,7.5nm,1.0s,SNR=9.7
ELUQ **Luque** 15.55 271 P P 07 10 22.4 -0.3
comp=Z,7.5nm,1.0s
ELUQ **Luque** 15.55 271 P P 07 10 22.4 -0.4
ELUQ pmax pmax
comp=Z,8.0nm,1.0s
EADA **Adamuz** 15.69 274 P P 07 10 23.4 -1.0
comp=Z,4.3nm,0.6s,SNR=9.3
EADA **Adamuz** 15.69 274 P P 07 10 23.4 -1.0
comp=Z,4.3nm,0.6s
SUW **Suwalki** 16.00 17 *e*P P 07 10 26.1 -1.9
SGMF **Saint Gilles** 16.01 311 *e*P P 07 10 25.6 -2.5
comp=Z,34nm,0.5s
SGMF **Saint Gilles** 16.01 311 *e*P P 07 10 25.6 -2.5
SGMF pmax pmax
comp=Z,17nm,0.5s
EARI **Arriondas** 16.17 292 P P 07 10 27.7 -2.4
comp=Z,11nm,0.7s
EMIJ **Mijas** 16.17 268 P P 07 10 28.8 -1.3
comp=Z,8.9nm,0.5s,SNR=12
EMIJ **Mijas** 16.17 268 P P 07 10 28.8 -1.3
comp=Z,8.9nm,0.5s
BSD **Bornholm Skovb** 16.21 359 *i* P P 07 10 27.6 -2.9
QUIF **Quistinic** 16.21 310 *e*P P 07 10 28.2 -2.4
comp=Z,18nm,0.4s
QUIF **Quistinic** 16.21 310 *e*P P 07 10 28.2 -2.4
QUIF pmax pmax

comp=Z,9.0nm,0.4s
ECAB El Cabril 16.36 274 P **P 07 10 31.3 -1.1**
comp=Z,13nm,0.7s,SNR=18
ECAB El Cabril 16.36 274 P **P 07 10 31.3 -1.1**
comp=Z,13nm,0.7s
ROSF Rostrenen 16.47 311 *e*P **P 07 10 30.6 -3.0**
comp=Z,22nm,0.4s
ROSF Rostrenen 16.47 311 *e*P **P 07 10 30.6 -3.0**
ROSF pmax pmax
comp=Z,11nm,0.4s
COBT Iskenderun 16.64 92 *i* P **P 07 10 35.0 -0.6**
KAHT Ahir Dag 16.87 88 *i* P **P 07 10 37.9 -0.4**
HAF Haifa 17.00 105 P **P 07 10 38.9 -0.8**
SLTI Sal'it 17.26 107 P **P 07 10 42.1 -0.3**
KSDI Kefar Szold 17.30 103 P **P 07 10 43.2 +0.3**
HRI Mount Hermon 17.32 103 P **P 07 10 43.3 +0.2**
ANN Anapa 17.38 63 *i* P **P 07 10 41.3 -2.3**
comp=Z,16nm,1.0s
ANN Anapa 17.38 63⇑ *i*P **P 07 10 41.3 -2.3**
ANN pmax pmax
comp=Z,53nm,0.9s
ANN pmax pmax
comp=N,16nm,1.0s
ANN pmax pmax
comp=E,16nm,0.9s
EMIN Mina Concepcio 17.39 273 P **P 07 10 41.6 -2.2**
comp=E,27nm,0.5s
MMLI Mount Malkishu 17.45 106 P **P 07 10 44.6 +0.1**
KZIT Kziot 17.45 111 P **P 07 10 44.1 -0.4**
GZT Gaziantep 17.47 88 *i* P **P 07 10 43.6 -1.0**
ERUA La Rua 17.48 289 P **P 07 10 43.3 -1.4**
comp=E,25nm,0.8s,SNR=7.2
ERUA La Rua 17.48 289 P **P 07 10 43.3 -1.4**
comp=E,25nm,0.8s
ERUA La Rua 17.48 289 P **P 07 10 43.3 -1.4**
ERUA pmax pmax
comp=Z,25nm,0.8s
EBAD Badajoz 17.50 277 P **P 07 10 42.3 -2.7**
comp=Z,7.4nm,0.7s
EPON Pontenova 17.57 292 P **P 07 10 43.8 -1.9**
comp=Z,29nm,0.6s
GRSN GIRESUNGRSN 17.61 76 *i* P **P 07 10 44.8 -1.3**
MTE Manteigas 17.76 282 *e*P **P 07 10 45.0 -2.6**
comp=Z,17nm,0.8s
MZDA Masada 17.95 109 P **P 07 10 52.4 +2.7**
MALT Malatya 17.96 85 *e*P **P 07 10 49.3 -0.5**
comp=Z,18nm,0.9s
MALT Malatya 17.96 85 *e*P **P 07 10 49.4 -0.4**
comp=Z,18nm,0.9s
MALT Malatya 17.96 85 *e*P **P 07 10 49.4 -0.4**
MALT pmax pmax
comp=Z,18nm,0.9s
HGH Gray Hill 18.02 321 ⇑*i*P **P 07 10 47.6 -2.7**
HGH AMb AMB 07 10 51.4
comp=Z,72nm,1.3s
MKRJ Makawir 18.04 108 P **P 07 10 51.1 +0.5**
MUD Monsted U'grnd 18.04 349 *i* P **P 07 10 47.2 -3.2**
comp=Z,21nm,0.8s
MUD Monsted U'grnd 18.04 349 *i* P **P 07 10 47.2 -3.2**
MUD pmax pmax
comp=Z,21nm,0.8s
ELOB Lobios 18.14 287 P **P 07 10 50.0 -1.6**
comp=Z,18nm,0.8s
PRNI Paran 18.19 112 P **P 07 10 52.1 -0.1**
ZFRI Zfri 18.21 111 P **P 07 10 52.1 -0.2**
EVO Evora 18.31 276 *e*P **P 07 10 51.5 -1.8**
comp=Z,17nm,0.4s
MCH1 Michaelchurch 18.33 322 *e*P **P 07 10 50.9 -2.6**
ELZG Elazig 18.37 84 *i* P **P 07 10 52.6 -1.3**
HTR Trewern Hill 18.52 321 *e*P **P 07 10 52.6 -2.7**
HTR AMb AMB 07 10 57.7
comp=Z,70nm,1.3s
EIL Elat 18.54 114 P **P 07 10 55.7 0.0**
HLM1 Long Mynd 18.61 323⇑*e*P **P 07 10 53.3 -2.9**
HLM1 AMb AMB 07 10 53.9
comp=Z,73nm,0.9s
SSP1 Stoney Pound 18.65 322⇑*i*P **P 07 10 54.1 -2.6**
ASF Jabal al Asfar 18.68 105 P **P 07 10 58.0 +0.8**
comp=Z,2.0nm,0.3s,baz=163,slow=8.7,SNR=16
SOC Sochi 18.81 68 *e*P **P 07 10 57.8 -0.6**
comp=Z,18nm,0.8s
SOC Sochi 18.81 68 *e*P **P 07 10 57.8 -0.6**
SOC pmax pmax
comp=Z,38nm,0.9s
SOC pmax pmax
comp=N,18nm,0.8s
SOC pmax pmax
comp=E,43nm,1.1s
ALWS Ilw as Safayha 18.82 115 P **P 07 10 59.5 +0.9**
EMAZ Mazaricos 18.87 290 P **P 07 10 56.3 -2.7**
comp=E,12nm,0.7s
HAQS Haql 18.88 116 P **P 07 10 60.0 +0.8**
JMOS Jabal al Moall 18.94 115 P **P 07 11 00.9 +1.1**
SBD1 Bryn Du 19.03 323⇑*e*P **P 07 10 58.2 -2.4**
BDAS Al Bad' 19.37 117 P **P 07 11 05.8 +1.6**
WPM1 Penmaenmawr 19.56 323 *e*P **P 07 11 03.7 -2.2**
WPM1 AMb AMB 07 11 05.6
comp=Z,95nm,1.2s
YLL Llanberis 19.61 323 *e*P **P 07 11 04.1 -2.3**
YRE Yr Eifl 19.63 322 *e*P **P 07 11 04.6 -2.1**
JMQS Jabal Moqyreh 19.65 114 P **P 07 11 09.0 +2.0**
WLF1 Llynfaes 19.80 323⇑*i*P **P 07 11 06.3 -2.2**
WLF1 AMb AMB 07 11 07.9
comp=Z,88nm,1.0s
YRC Rhoscolyn 19.86 323⇑*i*P **P 07 11 07.0 -2.1**
YRC AMb AMB 07 11 08.7
comp=Z,92nm,1.3s
WCB1 Church Bay 19.93 323⇑*e*P **P 07 11 07.9 -1.8**
WCB1 AMb AMB 07 11 11.7
comp=Z,88nm,1.5s
TBKS Tabuk 20.51 115 P **P 07 11 18.2 +2.5**
ESK Eskdalemuir 20.64 329 *e*P **P 07 11 13.4 -3.4**
comp=Z,37nm,0.5s
ESK Eskdalemuir 20.64 329 *e*P **P 07 11 13.4 -3.4**
ESK pmax pmax
comp=Z,37nm,0.5s
DLF Lyons Farm 20.84 321 *e*P **P 07 11 16.6 -2.2**
VSU Vasula 20.88 17 *i* P **P 07 11 17.8 -1.3**
VSU Vasula 20.88 17 *c i*P **P 07 11 17.8 -1.3**
KIV Kislovodsk 20.99 67 P **P 07 11 20.6 +0.3**
KIV Kislovodsk 20.99 67 P **P 07 11 21.0 +0.7**
KIV pmax pmax
comp=Z,13nm,1.2s
KONO Kongsberg 21.09 352 *e*P **P 07 11 17.7 -3.5**
KONO Kongsberg 21.09 352 *i* P **P 07 11 18.9 -2.3**
DCN Croghan 21.23 320 *e*P **P 07 11 20.8 -1.8**
HFS Hagfors 21.27 358 P **P 07 11 20.5 -2.4**
comp=Z,15nm,0.3s,mb5.0,baz=174,slow=11,SNR=140
OBN Obninsk 21.54 34 P **P 07 11 23.8 -1.8**
comp=Z,19nm,1.7s,mb4.3
OBN *e*S **S 07 15 06.9 +1.5**
OBN Obninsk 21.54 34 P **P 07 11 23.8 -1.8**
OBN *e* 07 15 06.9
OBN pmax pmax
comp=Z,19nm,1.7s,mb4.3
ZEI Tsey 21.82 71 *e*P **P 07 11 28.2 -0.2**
comp=Z,4.0nm,0.7s,mb4.1
ZEI Tsey 21.82 71 *e*P **P 07 11 28.2 -0.2**
ZEI pmax pmax
comp=Z,4.0nm,0.7s,mb4.1
VAL Valentia 22.10 314 *e*P **P 07 11 25.2 -5.9**
NAO01 NORSAR Array S 22.14 354 *e*P **P 07 11 29.2 -2.2**
comp=Z,6.4nm,0.3s,mb4.6
NB2 NORSAR Subarra 22.31 355 P **P 07 11 30.7 -2.3**
comp=Z,2.8nm,0.3s,mb4.3,baz=171,slow=10
NB2 NORSAR Subarra 22.31 355 P **P 07 11 30.7 -2.3**
baz=171,slow=10
NOA NORSAR Array B 22.31 355 P **P 07 11 30.8 -2.3**
comp=Z,4.3nm,0.4s,mb4.4,baz=165,slow=10,SNR=42
NOA NORSAR Array B 22.31 355 P **P 07 11 30.8 -2.3**
GNI Garni 22.59 78 P **P 07 11 36.5 +0.7**
comp=Z,5.7nm,0.4s,mb4.5,baz=187,slow=12,SNR=6.1
GNI Garni 22.59 78 *i* P **P 07 11 37.1 +1.2**
GNI pmax pmax
comp=Z,34nm,1.7s
KSB Sheil Bridge 22.85 330⇑*e*P **P 07 11 35.7 -2.5**
UMJS Umm Lajj 22.93 120 P **P 07 11 42.0 +2.7**
KAC Achnashellach 23.01 331⇑*e*P **P 07 11 36.9 -2.8**
KPL Plockton 23.03 330⇑*e*P **P 07 11 37.1 -2.8**
FINES FINESS Array B 23.50 13 P **P 07 11 42.8 -1.5**
comp=Z,16nm,0.3s,mb5.0,baz=188,slow=7.7,SNR=400
FINES PcP PcP 07 15 21.8 -2.7
comp=Z,0.7nm,0.5s,baz=180,slow=2.8,SNR=5.0
FINES FINESS Array B 23.50 13 PcP PcP 07 15 21.8 -2.7
KBRS Khaybar 23.91 116 P **P 07 11 52.5 +3.9**

KAF Kangasniemi 24.16 12 *e*p **P 07 11 48.2 -2.3**
comp=Z,9.6nm,0.5s,mb4.7,baz=200,slow=9.2
KAF Kangasniemi 24.16 12 *e*P **P 07 11 48.2 -2.3**
KAF pmax pmax
comp=Z,10.0nm,0.5s,mb4.7
HILS Ha'il 24.78 110 P **P 07 11 58.2 +1.6**
NSS Namsos 25.74 357 *e*P **P 07 12 01.8 -3.3**
NSS AMb AMB 07 12 05.2
comp=Z,16nm,1.9s,mb4.3
NSS Namsos 25.74 357 *e*P **P 07 12 01.8 -3.3**
comp=Z,16nm,1.9s,mb4.3
MOR8 Moi Rana 27.31 359 *e*P **P 07 12 17.2 -2.2**
MOR8 AMb AMB 07 12 18.7
comp=Z,7.8nm,1.0s,mb4.3
MOR8 Moi Rana 27.31 359 *e*P **P 07 12 17.2 -2.2**
comp=Z,7.8nm,1.0s,mb4.3
LTHS Al Lith 28.42 124 P **P 07 12 32.5 +2.8**
MZLS Mizel 29.24 112 P **P 07 12 37.9 +0.9**
KTK1 Kautokeino 30.45 6 *e*P **P 07 12 45.1 -2.1**
KTK1 AMb AMB 07 12 47.0
comp=Z,23nm,1.1s,mb4.7
KTK1 Kautokeino 30.45 6 *e*P **P 07 12 45.1 -2.1**
comp=Z,23nm,1.1s,mb4.7
TRO Tromso 30.84 2 *e*P **P 07 12 50.3 -0.2**
ARCES ARCESS Array B 31.15 7 P **P 07 12 50.0 -3.3**
comp=Z,7.8nm,0.4s,mb4.7,baz=185,slow=8.8,SNR=176
ARE0 ARCESS Array S 31.15 7 *e*P **P 07 12 49.8 -3.5**
KEV Kevo 31.52 8 *e*p **P 07 12 52.6 -3.8**
comp=Z,3.8nm,0.3s,mb4.4
KEV Kevo 31.52 8 *e*P **P 07 12 52.6 -3.8**
KEV pmax pmax
comp=Z,4.0nm,0.3s,mb4.4
ARU Arti 33.22 44 *i* P **P 07 13 11.5 +0.3**
comp=Z,5.0nm,1.0s,mb4.0
ARU Arti 33.22 44⇑*i*P **P 07 13 11.5 +0.3**
ARU *e* 07 14 36.2
ARU pmax pmax
comp=Z,5.0nm,1.0s,mb4.0
DBIC Dimbokro 36.97 215 P **P 07 13 42.4 -0.9**
comp=Z,2.9nm,0.4s,mb4.2,baz=55,slow=5.2,SNR=12
BRVK Borovoye 39.65 51 *e*P **P 07 14 05.4 +0.3**
comp=Z,1.3nm,0.6s,mb3.5
BRVK Borovoye 39.65 51 *e*P **P 07 14 05.4 +0.4**
comp=Z,1.3nm,0.6s,mb3.5
BRVK Borovoye 39.65 51 *e*P **P 07 14 05.4 +0.3**
BRVK pmax pmax
comp=Z,1.0nm,0.6s,mb3.4
BVAR Borovoye Array 39.71 51 P **P 07 14 04.5 -1.1**
comp=Z,0.7nm,0.3s,mb3.5,baz=270,slow=10,SNR=7.3
AAK Ala-Archa 44.09 65 P **P 07 14 39.9 -1.2**
AAK Ala-Archa 44.09 65 P **P 07 14 39.9 -1.2**
KMBO Kilima Mbogo 44.60 148 P **P 07 14 47.0 +1.4**
comp=Z,2.1nm,0.7s,mb3.6,baz=354,slow=12,SNR=7.9
MKAR Makanchi Array 48.29 58 P **P 07 15 13.2 -0.7**
comp=Z,1.5nm,0.5s,mb3.6,baz=281,slow=7.2,SNR=20
MKAR pP pP 07 16 00.6 -2.0
comp=Z,0.6nm,0.6s,baz=304,slow=4.4,SNR=1.7
MKAR S **S 07 21 51.9 -3.6**
comp=Z,0.3nm,0.8s,baz=293,slow=11,SNR=3.9
WMQ Urumqi 52.85 60 *e*P **P 07 15 49.0 +0.8**
WMQ AP pP 07 16 39.0 +1.2
WMQ S S **07 22 59.0 +1.0**
WMQ SCS ScS 07 25 12.0 +0.7
WMQ AMB AMB
comp=Z,10.0nm,1.0s,mb4.2
WMQ AMB AMB
comp=Z,12nm,7.0s
SCHQ Schefferville 55.19 316 P **P 07 16 01.6 -3.3**
comp=Z,1.4nm,0.3s,mb3.9,baz=81,slow=7.8,SNR=10
LSZ Lusaka 55.21 165 P **P 07 16 04.9 -0.7**
LSZ Lusaka 55.21 165 P **P 07 16 04.9 -0.7**
SONM Songino Array 63.03 49 P **P 07 16 57.1 -1.6**
comp=Z,0.8nm,0.5s,mb3.6,baz=284,slow=7.7,SNR=4.0
LBTB Lobatse 64.30 170 P **P 07 17 06.4 -0.9**
LBTB Lobatse 64.30 170 P **P 07 17 06.5 -0.9**
LZH Lanzhou 67.38 61 *e*P **P 07 17 26.5 -0.2**
LZH PCP PcP 07 17 52.0 -0.7
LZH AP pP 07 18 19.5 +0.6
LZH XP sP 07 18 43.5 +0.9
LZH AMB AMB
comp=Z,23nm,1.0s,mb4.8
LZH AMB AMB
comp=Z,98nm,4.0s
BOSA Boshof 67.80 171 P **P 07 17 28.7 -0.7**
comp=Z,1.9nm,0.3s,mb4.2,baz=95,slow=9.3,SNR=19
BOSA Boshof 67.80 171 P **P 07 17 28.7 -0.7**
YKA Yellowknife Ar 71.28 338 P **P 07 17 48.1 -1.8**
comp=Z,1.6nm,0.4s,mb4.0,baz=38,slow=5.7,SNR=6.4
FWV Forest Hill 71.80 304 *e*P **P 07 17 50.7 -2.8**
KMI Kunming 72.69 72 P **P 07 17 58.0 -1.0**
KMI AMB AMB
comp=Z,9.0nm,0.6s,mb4.6
ULM Lac du Bonnet 72.69 321 P **P 07 17 56.6 -1.9**
comp=Z,2.4nm,0.6s,mb4.0,baz=44,slow=4.8,SNR=3.7
DAWY Dawson 75.44 349 *e*P **P 07 18 12.8 -1.2**
ILAR Eielson Array 75.72 352 P **P 07 18 14.0 -1.6**
comp=Z,0.7nm,0.5s,mb3.5,baz=349,slow=3.8,SNR=14
CN2 Changchun 76.22 44 *e*P **P 07 18 19.1 +0.4**
MDJ Mudanjiang 77.88 42 P **P 07 18 25.9 -2.0**
MDJ AMB AMB
comp=Z,3.0nm,1.1s,mb3.8
MDJ AMB AMB
comp=Z,76nm,6.0s
MDJ LR LR
comp=N,15nm,24.2s
MDJ LR LR
comp=E,18nm,24.7s
MDJ LR LR
comp=Z,26nm,19.6s
LRAL Lakeview Retre 78.57 303 *e*P **P 07 18 29.3 -2.6**
comp=Z,3.6nm,0.6s,mb4.2
DLBC Dease Lake 78.82 342 *e*P **P 07 18 32.4 -0.3**
NJ2 Nanjing 79.82 57 *e*P **P 07 18 37.0 -1.5**
NJ2 AP pP 07 19 30.8 -1.6
NJ2 XP sP 07 19 54.3 -1.3
NJ2 PP PP 07 21 43.3 -0.9
NJ2 S S 07 28 16.0 -5.3
NJ2 XS 07 29 54.0
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.7
NJ2 AMB AMB
comp=Z,610nm,5.3s
NJ2 LR LR
comp=N,4μm,19.1s
NJ2 LR LR
comp=E,2μm,17.4s
NJ2 LR LR
comp=Z,940nm,23.1s
BDFB Brasília 80.32 241 P **P 07 18 41.2 -0.2**
comp=Z,1.5nm,0.4s,mb4.0,baz=69,slow=3.2,SNR=8.1
SSE Sheshan 81.95 57 *e*P **P 07 18 46.8 -2.9**
SSE AMB AMB
comp=Z,13nm,0.7s,mb4.7
SSE AMB AMB
comp=Z,134nm,5.2s
YSS Yuzh-Sakhalins 82.42 33 *e*P **P 07 18 51.5 -0.3**
PHWY Pilot Hill 83.72 319 *e*P **P 07 18 56.9 -1.6**
BW06 Boulder Array 84.63 323 *e*P **P 07 19 01.6 -1.4**
PDAR Pinedale Array 84.63 323 P **P 07 19 02.4 -0.6**
comp=Z,0.8nm,0.4s,mb3.8,baz=62,slow=6.8,SNR=14
PGC Sidney 85.51 334 P **P 07 19 05.4 -1.8**
HLID Hailey 86.21 326 P **P 07 19 09.8 -0.9**
SDCO Great Sand Dun 86.37 317 *e*P **P 07 19 10.9 -0.8**
comp=Z,0.8nm,0.7s,mb3.6
SRU San Rafael 87.91 321 *e*P **P 07 19 17.5 -1.4**
ELK Elko 88.84 325 P **P 07 19 22.8 -0.4**
ELK Elko 88.84 325 P **P 07 19 22.8 -0.4**
WRA Warramunga Arr 124.52 89 PKP PKPdf 07 25 26.7 +0.1
comp=Z,0.5nm,1.0s,baz=317,slow=1.6,SNR=8.3

NIED ***14*** *07:10:00,41.70N×144.40E,h20km,Mw3.7 Best double couple: M₀3.5×10¹⁴ NP1:φ₀12°,δ69°,λ52°. NP2:φ₀257°, δ43°,λ148°.*

JMA 14 07:10:49.9±0.2,41.71N×144.37E,h27km±2km,M3.5, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**0.96**	**289**	P	Pn	07 11 08.2	+0.5
JCH	**Churui**	**1.17**	**321**	P	Pn	07 11 10.5	-0.3
JCH				*e*S	Sn	07 11 25.6	-0.4
JOB	**Onbets**	**1.26**	**342**	P	Pn	07 11 11.9	-0.1
JOB				*e*S	Sn	07 11 27.9	-0.2
JAK	**Akkeshi**	**1.31**	**11**	P	Pn	07 11 12.0	-0.7
JAK				*e*S	Sn	07 11 28.4	-1.0
JNBK	**Urakawa-nobuka**	**1.33**	**296**	P	Pn	07 11 14.0	+0.9

IDC 14 07:11:14.1±10.0,15.44S×173.16W,mb3.5/2,mb1 3.9/2, mb1mx3.7/13,mbtmp3.5/2,MS3.1/4,Ms1 3.1/4, ms1mx3.0/12,Error ellipse: s-maj=458.6km s-min=42.0km az=141.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPT	**Papeete**	**22.71**	**99**	LR	LR	07 24 24.2	
	comp=Z,74nm,18.1s,baz=240,slow=35						
HNR	**Honiara**	**26.92**	**280**	LR	LR	07 24 45.9	
	comp=Z,62nm,18.5s,baz=212,slow=30						
CTA	**Charters Tower**	**38.86**	**257**	LR	LR	07 31 46.4	
	comp=Z,57nm,20.0s,baz=52,slow=32						
WRA	**Warramunga Arr**	**50.06**	**257**	P	P	07 20 10.5	-2.5
	0.3nm,0.3s,baz=94,slow=6.5,SNR=17						
FX1	**Attu Island--F**	**69.06**	**351**	LR	LR	07 45 11.0	
	comp=Z,1.5nm,20.8s,baz=52,slow=30						
ILAR	**Eielson Array**	**82.44**	**11**	P	P	07 23 37.0	-2.3
	0.4nm,0.7s,baz=225,slow=3.8,SNR=4.4						
BRTR	**Keskin Array B**	**146.34**	**321**	PKPbc	PKPbc	07 30 58.0	+1.0
	2.8nm,0.9s,baz=85,slow=2.5,SNR=8.7						

CASC 14 07:24:59.3±10.0,12.63N×88.73W,h20km±107km,MD3.5, ML2.7,4C-4D,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSM	**San Miguel**	**0.90**	**29**⇓	*e*P	Pb	07 25 28.3	+12
VSM				*e*S	Sb	07 25 38.5	+11
BLLM	**Bellamira**	**0.93**	**31**⇓	*e*P	Pb	07 25 28.4	+12
BLLM				*e*S	Sb	07 25 38.3	+10
SNVI	**San Vicente**	**0.98**	**354**	*e*P	Pb	07 25 27.2	+10
SNVI				*e*S	Sb	07 25 37.9	+8.0
LFRS	**El Faro**	**1.04**	**342**⇓	*e*P	Pb	07 25 27.8	+9.4
LFRS				*e*S	Sb	07 25 37.0	+5.4
LCBS	**La Ceiba**	**1.04**	**346**⇓	*e*P	Pb	07 25 26.0	+7.4
LCBS				*e*S	Sb	07 25 37.4	+5.6
CNCH	**Conchagua**	**1.08**	**54**⇑	*e*P	Pb	07 25 31.7	+13
CNCH				*e*S	Sb	07 25 43.6	+11
LBRS	**Las Brisas**	**1.14**	**344**⇑	*e*P	Pb	07 25 31.1	+11
LBRS				*e*S	Sb	07 25 40.5	+5.9
LFU	**La Fuente**	**1.17**	**341**⇑	*e*P	Pb	07 25 29.8	+9.1
LFU				*e*S	Sb	07 25 41.5	+6.1
BOQS	**Boqueron**	**1.22**	**334**⇑	*e*P	Pn	07 25 30.4	+9.0
BOQS				*e*S	Sb	07 25 43.3	+6.4
SBLS	**San Blas**	**1.48**	**324**	*e*P	Pn	07 25 34.9	+10
SBLS				*e*S	Sn	07 25 50.2	+6.1
CRIN	**San Cristobal**	**1.64**	**88**	*e*P	Pn	07 25 27.5	+0.1
RBDL	**Robledal**	**1.74**	**328**	*e*P	Pn	07 25 37.2	+8.3
RBDL				*e*S	Sn	07 25 54.9	+4.2
LEON	**Leon**	**1.80**	**97**	*e*P	Pn	07 25 29.6	-0.2
TEL3	**Telica 3**	**1.84**	**92**	*e*P	Pn	07 25 29.8	-0.5
TEL3				*i*		07 25 57.5	
	comp=Z,74nm,0.3s						
TELN	**Telica**	**1.85**	**91**	*e*P	Pn	07 25 29.3	-1.1
MIRN	**Miramar**	**1.98**	**95**	*e*P	Pn	07 25 31.3	-1.0
COPN	**Copaltepe**	**2.13**	**102**	*e*P	Pn	07 25 33.9	-0.6
MGAN	**Managua**	**2.47**	**101**	*e*S	Sn	07 26 08.6	-0.6
MGAN				*i*		07 26 10.7	
	comp=E,46nm,0.3s						

IDC ***14*** *07:30:44.1±1.0,45.07N×150.69E,mb3.7/5,mb1 4.1/6, mb1mx3.8/20,mbtmp3.8/6,ML4.2/1,Error ellipse: s-maj=35.8km s-min=21.0km az=138.0*

NEIC ***14*** *07:30:45.7±0.7,45.05N×150.74E,h10km,mb4.1/2,Error ellipse: s-maj=28.5km s-min=15.7km az=127.0*

MOS ***14*** *07:30:55.0±0.2,45.48N×149.64E,h119km,mb4.1/3,Error ellipse: s-maj=44.2km s-min=17.9km az=48.5*

NIED ***14*** *07:31:00,45.20N×149.10E,h140km,Mw4.0 Best double couple: M₀9.86×10¹⁴ NP1:φ₀325°,δ87°,λ51°. NP2:φ₀231°, δ39°,λ175°.*

JMA ***14*** *07:31:00.7±0.5,45.24N×149.13E,h160km,M4.0*

ISC 14 07:30:55.2±0.7,45.37N±0.09×149.6E±0.1,h125km±9km, n46,σ1°23/61,mb3.6/6,1C-1D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.22**	**264**⇓	*i*PN	**P**	**07 31 20.0**	**-0.2**
KUR				*i* S	**S**	**07 31 38.8**	**-0.3**
KUR				pmax	pmax		
	comp=N,130nm,0.4s						
KUR				pmax	pmax		
	comp=E,150nm,0.4s						
KUR				pmax	pmax		
	comp=Z,460nm,0.4s						
KUR				smax			
	comp=N,380nm,0.6s						
KUR				smax			
	comp=E,210nm,0.6s						
KUR				smax			
	comp=N,3μm,1.6s						
YUK	**Yuzh-Kuril'sk**	**2.97**	**245**⇑	*i*PN	**P**	**07 31 43.5**	**+1.4**
YUK				*i* S	**S**	**07 32 18.0**	**+0.2**
YUK				pmax	pmax		
	comp=Z,560nm,0.4s						
YUK				pmax	pmax		
	comp=N,150nm,0.5s						
YUK				pmax	pmax		
	comp=E,340nm,0.4s						
YUK				smax			
	comp=N,2μm,2.0s						
YUK				smax			
	comp=E,560μm,1.0s						
YUK				smax			
	comp=N,560nm,0.5s						
YUK				smax			
	comp=E,840nm,0.6s						
NEM2	**Nemuro 2**	**3.41**	**235**	P	**P**	**07 31 49.4**	**+1.5**
NEM2				*e*S	**S**	**07 32 27.5**	**-0.6**
JRA	**Rausu**	**3.49**	**247**	P	**P**	**07 31 51.1**	**+2.0**
JNK	**Nakash**	**3.91**	**245**	P	**P**	**07 31 56.9**	**+2.2**
JAK	**Akkeshi**	**4.24**	**238**	P	**P**	**07 32 00.1**	**+1.0**
JAK				*e*S	**S**	**07 32 45.9**	**-2.2**
JTKR	**Abashiri--Toko**	**4.28**	**253**	P	**P**	**07 32 00.6**	**+0.9**
JTKR				*e*S	**S**	**07 32 49.1**	**-0.1**
JMP	**Maruseppu**	**4.64**	**255**	P	**P**	**07 32 05.2**	**+0.7**
JAR	**Ashorobuto**	**4.66**	**246**	P	**P**	**07 32 06.6**	**+1.9**
JOB	**Onbets**	**4.82**	**241**	P	**P**	**07 32 08.3**	**+1.4**
JOB				*e*S	**S**	**07 32 59.5**	**-2.5**
ASAJ	**Asahikawa**	**5.13**	**258**	Pn	**P**	**07 32 11.8**	**+0.7**
	comp=E,6.4nm,0.3s,baz=79,slow=14,SNR=46						
ASAJ				Sn	**S**	**07 33 10.2**	**+0.5**
	comp=E,1.2nm,0.3s,baz=133,slow=31,SNR=3.6						
ASAJ	**Asahikawa**	**5.13**	**258**	P	**P**	**07 32 12.1**	**+1.0**
ASAJ	**Asahikawa**	**5.13**	**258**	PN	**P**	**07 32 11.8**	**+0.7**
ASAJ						07 33 10.2	
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.3s						
JCH	**Churui**	**5.27**	**241**	P	**P**	**07 32 13.4**	**+0.5**
JCH				*e*S	**S**	**07 33 09.3**	**-3.6**
JWK2	**Keihoku**	**5.42**	**272**	P	**P**	**07 32 15.5**	**+0.6**
JFR	**Furan**	**5.48**	**249**	P	**P**	**07 32 17.6**	**+1.8**
JFR				*e*S	**S**	**07 33 17.8**	**-0.4**
JAB	**Ashibetsu**	**5.59**	**253**	P	**P**	**07 32 19.5**	**+2.3**
JEM	**Erimo**	**5.74**	**237**	P	**P**	**07 32 20.4**	**+1.2**
JEM				*e*S	**S**	**07 33 20.3**	**-4.1**
JBT2	**Biratori 2**	**5.81**	**246**	P	**P**	**07 32 20.9**	**+0.7**
JBT2				*e*S	**S**	**07 33 23.4**	**-2.7**
JNBK	**Urakawa-nobuka**	**5.83**	**240**	P	**P**	**07 32 20.0**	**-0.4**
JNBK				*e*S	**S**	**07 33 21.6**	**-4.9**
JEW	**Eniwo**	**6.38**	**250**	P	**P**	**07 32 28.9**	**+0.9**
JNB	**Noboribetsu**	**6.82**	**248**	P	**P**	**07 32 33.4**	**-0.6**
JNB				*e*S	**S**	**07 33 46.1**	**-4.5**
SKR	**Severo-Kuril's**	**6.89**	**37**	*e*PN	**P**	**07 32 33.0**	**-1.9**
SKR				*e*S	**S**	**07 33 51.0**	**-1.2**
SKR				pmax	pmax		
	comp=Z,50nm,0.5s						
SKR				smax			
	comp=N,40nm,0.5s						
SKR				smax			
	comp=E,50nm,0.5s						
JKB	**Kayabe**	**7.11**	**244**	P	**P**	**07 32 36.5**	**-1.5**
JKB				*e*S	Sx	07 33 50.4	
JSH	**Shimam**	**7.40**	**252**	P	**P**	**07 32 41.8**	**0.0**
JYM2	**Yakumo 2**	**7.42**	**247**	P	**P**	**07 32 41.3**	**-0.8**
JYM2				*e*S	**S**	**07 34 00.5**	**-4.7**

JSR	**Shiriuchi**	**7.69 243**	P	**P**	**07 32 44.7**	**-1.1**
JSR			*e*S	Sx	07 34 05.2	
JTM	**Tenmabayashi**	**7.73 237**	P	**P**	**07 32 44.8**	**-1.6**
JTM			*e*S	Sx	07 34 03.4	
JANG	**Nango**	**7.75 233**	P	**P**	**07 32 44.6**	**-1.9**
JANG			*e*S	Sx	07 34 05.8	
JTH	**Tanohata**	**7.86 229**	P	**P**	**07 32 46.9**	**-1.2**
JTH			*e*S	Sx	07 34 08.8	
JOSM	**Okushiri--Mats**	**8.02 249**	P	**P**	**07 32 49.3**	**-1.0**
OFUJ	**Ofunato**	**8.60 226**	P	**P**	**07 32 57.4**	**-0.5**
OFUJ			*e*S	Sx	07 34 27.9	
JRG	**Rokugo**	**8.91 231**	P	**P**	**07 33 01.5**	**-0.6**
JRG			*e*S	**S**	**07 34 36.3**	**-4.9**
JIO	**Ouri**	**9.24 224**	P	**P**	**07 33 05.8**	**-0.7**
JIO			*e*S	Sx	07 34 41.6	
JYA	**Atsumi**	**9.99 231**	*e*S	Sx	07 35 01.7	
ILAR	**Eielson Array**	**39.15 37**	P	**P**	**07 38 11.2**	**-0.5**
	comp=E,0.5nm,0.5ms,mb3.6,baz=269,slow=8.5,SNR=10					
ILAR	**Eielson Array**	**39.15 37**	P	**P**	**07 38 11.2**	**-0.5**
ILAR			pmax	pmax		
	comp=Z,1.0nm,0.5s					
INK	**Inuvik**	**44.12 31**	P	**P**	**07 38 51.5**	**-0.6**
	comp=Z,1.4nm,0.4s,mb4.1,baz=305,slow=6.2,SNR=14					
INK	**Inuvik**	**44.12 31**	*e*P	**P**	**07 38 51.1**	**-0.9**
	comp=Z,1.9nm,0.5s,mb4.1					
INK	**Inuvik**	**44.12 31**	P	**P**	**07 38 51.5**	**-0.6**
INK			pmax	pmax		
	comp=Z,1.0nm,0.4s					
MKAR	**Makanchi Array**	**45.39 297**	P	**P**	**07 39 11.3**	**+8.9**
	comp=Z,0.2nm,0.7s,mb3.0,baz=81,slow=8.9,SNR=3.0					
WRAB	**Tennant Creek**	**66.45 196**	*e*P	**P**	**07 41 34.4**	**+1.1**
WRA	**Warramunga Arr**	**66.46 196**	P	**P**	**07 41 34.6**	**+1.2**
	comp=Z,1.5nm,0.5s,mb4.0,baz=12,slow=6.8,SNR=14					
WRA	**Warramunga Arr**	**66.46 196**	P	**P**	**07 41 34.6**	**+1.2**
WRA			pmax	pmax		
	comp=Z,2.0nm,0.5s					
BW06	**Boulder Array**	**67.54 51**	*e*P	**P**	**07 41 40.1**	**+0.4**
	comp=Z,0.9nm,0.7s,mb3.7					
PDAR	**Pinedale Array**	**67.54 51**	P	**P**	**07 41 40.0**	**+0.3**
	comp=Z,0.4nm,0.6s,mb3.4,baz=315,slow=2.1,SNR=5.3					

IDC 14 07:43:45.0±2.4, 4.09N×96.14E, mb3.8/5, mb1 4.0/5, mb1mx3.7/18, mbtmp3.8/5, Error ellipse: s-maj=103.7km s-min=27.9km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**44.20**	**346**	P	P	07 51 55.4	-2.2
	0.3nm,0.4s,baz=165,slow=7.7,SNR=4.8						
SONM	**Songino Array**	**44.47**	**10**	P	P	07 51 58.1	-1.6
	1.3nm,0.6s,baz=192,slow=9.1,SNR=7.2						
SONM				PcP	PcP	07 53 41.9	-1.9
	0.5nm,0.6s,baz=225,slow=4.1,SNR=3.3						
WRA	**Warramunga Arr**	**44.49**	**124**	P	P	07 51 58.3	-2.0
	0.5nm,0.4s,baz=303,slow=9.3,SNR=6.5						
ZAL	**Zalesovo**	**50.55**	**351**	P	P	07 52 45.3	-2.0
	1.8nm,0.5s,baz=266,slow=5.9,SNR=3.2						
ARCES	**ARCESS Array B**	**79.48**	**340**	P	P	07 55 52.9	-1.7
	0.8nm,0.7s,baz=97,slow=7.3,SNR=5.8						

PLV 14 08:59:37.3±0.6, 23.23N×104.57E, h4km±3km, MD3.7, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BVV	**Ba Vi**	**2.25**	**161**	*e*Pn	Pn	09 00 15.8	0.0
BVV				*e*Pg	Pg	09 00 21.4	-0.7
BVV				*e*Sg	Sg	09 00 51.2	-1.0
MTZV	**Met**	**2.35**	**135**	*e*Pg	Pg	09 00 22.9	-1.3
MTZV				*e*Sg	Sg	09 00 53.1	-2.3
HNV	**Hanoi**	**2.46**	**152**	*e*Pn	Pn	09 00 18.9	+0.2
HNV				*e*Pg	Pg	09 00 25.4	-1.0
HNV				*e*Sg	Sg	09 00 58.5	-0.6
BGV	**Bac-Giang**	**2.47**	**141**	*e*Pn	Pn	09 00 18.1	-0.9
BGV				*e*Pg	Pg	09 00 24.2	-2.3
BGV				*e*Sg	Sg	09 00 57.1	-2.4
YTV	**Yen Tu**	**2.87**	**136**	*e*Pg	Pg	09 00 32.7	-1.9
YTV				*e*Sg	Sg	09 01 10.0	-2.9
DSV	**Doi Son**	**2.94**	**153**	*e*Pn	Pn	09 00 24.5	-1.2
DSV				*e*Pg	Pg	09 00 33.5	-2.5
DSV				*e*Sg	Sg	09 01 11.7	-3.5
PLV	**Phu-Lien**	**3.08**	**141**	*e*Pn	Pn	09 00 26.5	-1.2
PLV				*e*Pg	Pg	09 00 36.3	-2.5
PLV				*e*Sg	Sg	09 01 16.7	-3.2

IDC 14 09:30:11.5±4.4, 1.85N×96.39E, mb3.8/4, mb1 3.9/4, mb1mx3.6/17, mbtmp3.8/4, MS3.3/1, Ms1 3.3/1, ms1mx2.9/19, Error ellipse: s-maj=174.4km s-min=27.6km az=57.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.06**	**122**	P	P	09 38 13.5	-1.7
	0.5nm,1.0s,baz=299,slow=9.7,SNR=2.4						
MKAR	**Makanchi Array**	**46.43**	**347**	P	P	09 38 39.9	-1.9
	1.9nm,0.7s,baz=162,slow=7.4,SNR=20						
SONM	**Songino Array**	**46.62**	**9**	P	P	09 38 41.8	-1.6
	0.4nm,0.4s,baz=180,slow=7.5,SNR=3.4						
ZAL	**Zalesovo**	**52.79**	**351**	P	P	09 39 28.2	-2.5
	1.4nm,0.7s,baz=318,slow=7.8,SNR=5.6						
ZAL				LR	LR	10 04 45.3	
	comp=Z,29nm,18.1s,baz=171,slow=39						

*CSEM **14** 09:53:04.9±0.1, 45.95N×11.06E, h20km, ML3.0/8, Error ellipse: s-maj=1.5km s-min=1.1km az=8.0*
*ROM **14** 09:53:05.5±0.2, 45.98N×11.06E, h12km, Md2.7/8, Ml2.1/6, Error ellipse: s-maj=2.5km s-min=1.9km az=168.0*
*NEIC **14** 09:53:05.5, 45.98N×11.06E, h12km, MD2.7(ROM), ML2.6(VIE), ML2.2(ZUR), After ROM.*
*ZUR **14** 09:53:07.4, 45.97N×10.92E, h10km, ML2.2/6*

ISC 14 09:53:05.4±0.3, 45.99N±0.02×11.07E±0.02, h10km, n36, σ0991/60, 10C-10D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTI	**Castel Tesino**	**0.41**	**82**	⇑*i*Pg	**Pg**	**09 53 14.0**	**+0.2**
	155nm,0.1s						
APPI	**Appiano**	**0.50**	**13**	Pg	**Pg**	**09 53 16.5**	**+1.0**
APPI				Sg	**Sg**	**09 53 23.5**	**+1.3**
	134nm,0.2s						
CGRP	**Cima Grappa**	**0.52**	**102**	⇑*e*Pg	**Pg**	**09 53 16.1**	**+0.1**
CGRP				*e*Sg	**Sg**	**09 53 22.5**	**-0.6**
SAL	**Salo**	**0.54**	**225**	Pg	**Pg**	**09 53 16.5**	**+0.2**
SAL				Sg	**Sg**	**09 53 24.4**	**+0.8**
FAU	**Forcella Aurin**	**0.68**	**69**	⇓*i*Pg	**Pg**	**09 53 19.3**	**+0.3**
BRMO	**Bormio**	**0.68**	**315**	Pg	**Pg**	**09 53 20.0**	**+0.9**
BRMO				Sg	**Sg**	**09 53 29.7**	**+1.4**
	70nm,0.1s						
TEOL	**Teolo**	**0.76**	**146**	⇓*i*Pg	**Pg**	**09 53 19.9**	**-0.8**
TEOL				*i* Sg	**Sg**	**09 53 29.6**	**-1.3**
BERNI	**Berninapass**	**0.84**	**300**	⇑*i*Pg	**Pg**	**09 53 22.7**	**+0.5**
FUORN	**Ofenpass**	**0.84**	**319**	⇑*i*Pg	**Pg**	**09 53 22.8**	**+0.6**
FUORN				*e*Sg	**Sg**	**09 53 33.8**	**+0.3**
FUORN	**Ofenpass**	**0.84**	**319**	Pg	**Pg**	**09 53 22.9**	**+0.7**
FUORN				Sg	**Sg**	**09 53 34.0**	**+0.5**
CAE	**Caneva**	**0.95**	**89**	⇓*i*Pg	**Pg**	**09 53 23.9**	**-0.6**
CAE				Sg	**Sg**	**09 53 38.5**	**+1.2**
MDI	**Monti di Nese**	**0.97**	**258**	Pg	**Pg**	**09 53 24.2**	**-0.7**
	38nm,0.2s						
MLNI	**Malnisio**	**1.08**	**81**	⇓*e*Pg	**Pg**	**09 53 26.6**	**-0.5**
MLNI				*e*Sg	**Sg**	**09 53 44.0**	**+2.4**
MLNI	**Malnisio**	**1.08**	**81**	*e*Pg	**Pg**	**09 53 26.6**	**-0.5**
MLNI				*e*Sg	**Sg**	**09 53 44.0**	**+2.3**
SEST	**Monte Rota**	**1.10**	**46**	Pg	**Pg**	**09 53 27.5**	**+0.1**
	45nm,0.2s						
SCE	**Schlegeis**	**1.14**	**23**	⇓*i*Pg	**Pg**	**09 53 28.1**	**0.0**
SCE				*e*Sg	**Sg**	**09 53 43.3**	**0.0**
DAVOX	**Davos**	**1.14**	**314**	⇑*i*Pg	**Pg**	**09 53 28.4**	**+0.2**
DAVOX				*i* Sg	**Sg**	**09 53 43.1**	**-0.3**
DAVOX	**Davos**	**1.14**	**314**	Pg	**Pg**	**09 53 28.3**	**+0.1**
DAVOX				*i* Sg	**Sg**	**09 53 43.1**	**-0.3**
VDL	**Val di Lei**	**1.21**	**295**	*e*Pg	**Pg**	**09 53 29.3**	**-0.4**
CSMI	**Casera Mimoias**	**1.22**	**64**	*e*Pg	**Pg**	**09 53 29.4**	**-0.3**
CSMI				*e*Sg	**Sg**	**09 53 46.2**	**+0.2**
SQTA	**Sankt Quirin**	**1.23**	**4**	⇑*i*PG	**Pg**	**09 53 30.2**	**+0.2**
SQTA				*i* SG	**Sg**	**09 53 45.7**	**-0.8**
	22nm,0.2s						
TUE	**Stuetta**	**1.29**	**292**	Pg	**Pg**	**09 53 30.4**	**-0.7**
	25nm,0.4s						
WTTA	**Wattenberg**	**1.33**	**17**	⇑*i*PG	**Pg**	**09 53 31.7**	**-0.3**
WTTA				*i* SG	**Sg**	**09 53 49.1**	**-0.7**
	9.2nm,0.1s						
FVI	**Forni Avoltri**	**1.33**	**62**	Pg	**Pg**	**09 53 31.6**	**-0.5**
	22nm,0.3s						
MOTA	**Moosalm**	**1.35**	**1**	⇑*i*PG	**Pg**	**09 53 32.3**	**-0.1**
MOTA				*i* SG	**Sg**	**09 53 49.7**	**-0.8**
	3.2nm,0.1s						
WATA	**Walderalm**	**1.39**	**14**	⇓*i*PG	**Pg**	**09 53 32.6**	**-0.6**
WATA				*i* SG	**Sg**	**09 53 51.1**	**-0.6**
	9.3nm,0.1s						
MUGIO	**Muggio**	**1.42**	**268**	⇓*i*Pg	**Pg**	**09 53 32.2**	**-1.5**
MUGIO	**Muggio**	**1.42**	**268**	Pg	**Pg**	**09 53 32.3**	**-1.4**
DAVA	**Damuels**	**1.53**	**328**	⇑*i*PG	**Pg**	**09 53 35.4**	**-0.6**
DAVA				*i* SG	**Sg**	**09 53 55.9**	**-0.5**
	4.3nm,0.2s						
PLRO	**Paularo**	**1.55**	**68**	⇓*e*Pg	**Pg**	**09 53 35.0**	**-1.3**
PLRO				*e*Sg	**Sg**	**09 53 56.7**	**-0.3**
PTCC	**Patocco-Chiusa**	**1.64**	**75**	Pg	**Pg**	**09 53 36.0**	**-2.2**
	10.0nm,0.2s						
FUSIO	**Fusio**	**1.73**	**286**	⇓*i*P*	**Pb**	**09 53 38.7**	**+1.8**
KBA	**Koelnbreinsper**	**1.91**	**55**	⇓*i*PG	**Pg**	**09 53 42.4**	**-1.2**
KBA				*i* SG	**Sg**	**09 54 08.9**	**-0.2**
	12nm,0.3s						
VOY	**Vojsko**	**1.97**	**88**	*e*Pn	**Pn**	**09 53 41.6**	**+2.4**
VOY				*e*Sn	**Sn**	**09 54 05.7**	**+1.5**
OBKA	**Obir**	**2.47**	**77**	⇑*i*PN	**Pn**	**09 53 47.2**	**+0.8**
OBKA				*i* SN	**Sn**	**09 54 18.5**	**+1.6**
OBKA				*i* SG	**Sg**	**09 54 27.2**	**-0.5**
	1.9nm,0.2s						
BOJS	**Bojanci**	**2.97**	**98**	*i* Pn	**Pn**	**09 54 01.9**	**+8.3**

WEL 14 09:57:23.7±0.2, 38.48S×175.74E, h177km±2km, ML3.7/16, Error ellipse: s-maj=2.5km s-min=2.2km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NGZ	**Ngauruhoe**	**0.71**	**189**	PN	P	09 57 49.5	0.0
NGZ				SN	S	09 58 08.7	-0.7
CNZ	**Chateau**	**0.74**	**192**	PN	P	09 57 49.7	0.0
FWVZ	**Far West T-bar**	**0.79**	**191**	PN	P	09 57 50.0	0.0
FWVZ				SN	S	09 58 09.7	-0.5
WNVZ	**Wahianoa**	**0.86**	**187**	PN	P	09 57 50.4	0.0
WNVZ				SN	S	09 58 10.2	-0.7
PKVZ	**Pokaka**	**0.87**	**201**	PN	P	09 57 50.1	-0.3
PKVZ				SN	S	09 58 10.7	-0.3
BKZ	**Black Stump Fm**	**0.91**	**140**	PN	P	09 57 50.7	+0.1
BKZ				SN	S	09 58 10.4	-1.1
MOVZ	**Moawhango**	**0.93**	**179**	PN	P	09 57 50.5	-0.3
MOVZ				SN	S	09 58 09.9	-1.8
VRZ	**Vera Road**	**1.00**	**229**	PN	P	09 57 51.0	-0.3
URZ	**Urewera**	**1.10**	**79**	PN	P	09 57 51.7	-0.5
URZ				SN	S	09 58 13.3	-0.8
WAZ	**Wanganui**	**1.40**	**204**	PN	P	09 57 54.2	-0.7
WAZ				SN	S	09 58 18.0	-1.0
MWZ	**Matawai**	**1.41**	**85**	PN	P	09 57 54.7	-0.3
MWZ				SN	S	09 58 18.8	-0.3
TSZ	**Takapari Road**	**1.59**	**174**	PN	P	09 57 55.9	-0.7
TSZ				SN	S	09 58 19.5	-2.6
KNZ	**Kokohu**	**1.61**	**110**	PN	P	09 57 56.9	0.0
PWZ	**Pawanui**	**1.78**	**151**	PN	P	09 57 58.1	-0.5
MRZ	**Mangatainoka R**	**2.19**	**183**	PN	P	09 58 01.1	-1.9
MXZ	**Matakaoa Point**	**2.22**	**67**	PN	P	09 58 02.9	-0.6
BFZ	**Birch Farm**	**2.24**	**170**	PN	P	09 58 02.0	-1.7
KIW	**Kapiti Island**	**2.47**	**195**	PN	P	09 58 03.7	-2.6
CAW	**Cannon Point**	**2.68**	**191**	PN	P	09 58 06.1	-2.7
MTW	**Mount Morrison**	**2.68**	**184**	PN	P	09 58 06.1	-2.8
DUWZ	**D'Urville Isla**	**2.71**	**211**	PN	P	09 58 06.2	-3.1
MRW	**Makara Radio**	**2.86**	**196**	PN	P	09 58 08.1	-3.0
WEL	**Wellington**	**2.90**	**195**	PN	P	09 58 08.6	-3.0
PAWZ	**Paruwai Farm**	**2.91**	**185**	PN	P	09 58 08.6	-3.1
TRWZ	**Traveller**	**2.92**	**181**	PN	P	09 58 09.0	-2.8

SKHL 14 09:59:36.3±0.3, 51.58N×122.88E, h14km±1km, mb3.9/5, msh4.5/1, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUP	**Tupik**	**3.35**	**329**	*e*Pn	Pn	10 00 29.3	-0.1
TUP				*e*Pg	Pg	10 00 36.8	-6.5
TUP				AMB	AMB	10 00 43.0	
	48nm,0.4s						
TUP				*e*Sn	Sn	10 01 09.8	+0.4
TUP				*e*Sg	Sg	10 01 20.9	-7.1
TUP				A		10 01 27.7	
	299nm,0.8s						
ZEA	**Zeya**	**3.43**	**49**	*e*rx	rx	10 00 34.3	
ZEA				*e*Pg	Pg	10 00 39.4	-5.4
ZEA				AMB	AMB	10 00 41.4	
	24nm,0.4s						
ZEA				sPg		10 00 44.2	
ZEA				*e*Sg	Sg	10 01 24.5	-6.0
ZEA				A		10 01 27.8	
	220nm,0.7s						
ZEA				A		10 01 27.8	
	160nm,0.7s						
ZEA				A		10 01 27.8	
	74nm,0.7s						
ZEA				A		10 01 28.5	
	600nm,3.0s						
ZEA				A		10 01 28.5	
	500nm,3.0s						
YASR	**Yasnyy**	**3.56**	**59**	*e*Pn	Pn	10 00 29.9	-2.5
YASR				pPg		10 00 33.6	
YASR				sPg		10 00 36.4	
YASR				*e*Sg	Sg	10 01 27.3	-7.6
YASR				A		10 01 38.2	
	100nm,0.5s						
YASR				A		10 01 38.2	
	70nm,0.5s						
YASR				A		10 01 38.2	
	40nm,0.5s						
KROS	**Kirovskiy**	**3.78**	**39**	*e*Pn	Pn	10 00 35.6	+0.1
KROS				*e*Pg	Pg	10 00 44.4	-7.4
KROS				AMB	AMB	10 00 47.6	
	5.0nm,0.4s						
KROS				AMB	AMB	10 00 47.6	
	11nm,0.4s						
KROS				*i* Sg	Sg	10 01 33.5	-8.6
KROS				A		10 01 37.5	
	94nm,0.5s						
KROS				A		10 01 37.5	
	51nm,0.5s						
KROS				A		10 01 37.5	
	95nm,0.5s						
BMKR	**Bomnak**	**4.76**	**47**	*e*Pn	Pn	10 00 50.1	+0.6
BMKR				*e*Pg	Pg	10 01 03.5	-8.0
BMKR				AMB	AMB	10 01 03.9	
	7.0nm,0.5s						
BMKR				AMB	AMB	10 01 03.9	
	6.0nm,0.5s						
BMKR				*e*Sg	Sg	10 02 06.5	-8.5
BMKR				A		10 02 13.1	
	37nm,0.6s						
BMKR				A		10 02 13.1	
	59nm,0.6s						
BMKR				A		10 02 13.1	
	105nm,0.6s						
CRS	**Chara**	**5.98**	**335**	*e*Pn	Pn	10 01 09.0	+2.4
CRS				*e*Pg	Pg	10 01 27.8	-7.8
CRS				*e*Sg	Sg	10 02 41.3	-14
KLR	**Kul'dur**	**6.14**	**109**	*e*rx	rx	10 01 54.0	
KLR				*e*Sg	Sg	10 02 45.4	-15
EKMR	**Ekimchan**	**6.35**	**72**	*e*Pn	Pn	10 01 09.0	-2.9
EKMR				AMB	AMB	10 01 10.5	
	4.0nm,0.5s						
EKMR				*e*Sg	Sg	10 02 54.3	-14
EKMR				A		10 03 09.3	
	19nm,0.5s						
EKMR				A		10 03 09.3	
	12nm,0.5s						

*IDC **14** 10:36:24.1±1.9, 33.51N×22.84E, mb4.0/2, mb1 3.8/7, mb1mx3.6/25, mbtmp3.8/7, ML4.1/4, Error ellipse: s-maj=34.8km s-min=23.5km az=14.0*
*HLW **14** 10:36:26.2, 33.78N×22.84E, h33km, Mb4.3*
*NEIC **14** 10:36:28.4±2.8, 33.44N×22.87E, h32km±22km, Error ellipse: s-maj=13.1km s-min=5.1km az=183.0*
*CSEM **14** 10:36:28.3±0.1, 33.51N×22.90E, h100km, ML4.3, Error ellipse: s-maj=2.6km s-min=1.3km az=37.0*

ISC 14 10:36:26.2±0.3, 33.46N±0.03×22.82E±0.03, h33km, n74, σ1917/80, mb3.8/2, 1C-1D, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAM	**Vamos**	**2.26**	**30**	*e*P	**P**	**10 37 04.6**	**+2.6**
IDI	**Anoyia**	**2.51**	**43**	Pn	**Pn**	**10 37 06.2**	**+0.5**
	1.8nm,0.3s,baz=230,slow=6.9,SNR=17						
IDI				Sn	**Sn**	**10 37 36.4**	**+0.9**
	6.5nm,0.3s,baz=322,slow=18,SNR=5.7						
XRY	**Khrisi**	**2.77**	**59**	*e*P	**P**	**10 37 10.5**	**+1.2**
SLUM		**2.82**	**133**	P	**P**	**10 37 13.3**	**+3.3**
NPS	**Neapolis**	**2.93**	**51**	*e*P	**P**	**10 37 14.0**	**+2.4**
VLI	**Veliai**	**3.26**	**2**	*e*P	**P**	**10 37 18.8**	**+2.6**
THR5	**Thira Island,**	**3.61**	**34**	*e*P	**P**	**10 37 22.4**	**+1.1**
SANT	**Santorini**	**3.63**	**36**	*e*P	**P**	**10 37 20.7**	**-0.8**
SANT				S	**S**	**10 38 01.8**	**-2.0**
SANT	**Santorini**	**3.63**	**36**	*e*P	**P**	**10 37 20.7**	**-0.8**
SANT				S	**S**	**10 38 01.8**	**-2.0**
THR3	**Thira Island,**	**3.63**	**35**	*e*P	**P**	**10 37 22.8**	**+1.3**
THR4	**Thira Island,**	**3.67**	**35**	*e*P	**P**	**10 37 23.4**	**+1.3**
ITM	**Ithomi**	**3.79**	**349**	*e*P	**P**	**10 37 25.5**	**+1.8**
KARP	**Karpathos**	**4.15**	**59**	*e*P	**P**	**10 37 29.7**	**+0.8**
HMAT	**Matruh**	**4.32**	**122**	P	**P**	**10 37 31.2**	**-0.2**
NAIG	**Nisos Aigina**	**4.33**	**7**	*e*P	**P**	**10 37 32.5**	**+1.1**
NSAL	**Nisos Salamina**	**4.47**	**7**	*e*P	**P**	**10 37 34.5**	**+1.0**
PTL	**Penteli**	**4.66**	**10**	*e*P	**P**	**10 37 36.4**	**+0.2**
RLS	**Riolos of Patr**	**4.72**	**347**	*e*P	**P**	**10 37 38.8**	**+1.8**
MPAR	**Parnis Oros**	**4.75**	**9**	*e*P	**P**	**10 37 37.5**	**+0.1**
SWA2		**4.77**	**151**	P	**P**	**10 37 39.7**	**+2.1**
SWA1		**4.86**	**149**	P	**P**	**10 37 40.7**	**+1.8**
SWA1				S	**S**	**10 38 35.0**	**+0.3**
VLS	**Valsamata**	**5.05**	**340**	*e*P	**P**	**10 37 42.0**	**+0.4**
LKR	**Lokris**	**5.19**	**2**	*e*P	**P**	**10 37 43.2**	**-0.4**
EVR	**Evrytania**	**5.51**	**352**	*e*P	**P**	**10 37 50.7**	**+2.6**
AGG	**Agios Georgios**	**5.57**	**356**	*e*P	**P**	**10 37 48.6**	**-0.3**
XOR	**Xorichti**	**5.91**	**3**	*e*P	**P**	**10 37 52.5**	**-1.1**
IGT	**Igoumenitsa**	**6.39**	**342**	*e*P	**P**	**10 37 59.8**	**-0.6**
JAN	**Janina**	**6.39**	**346**	*e*P	**P**	**10 38 00.6**	**+0.2**
PAIG	**Paliouri**	**6.50**	**6**	*e*P	**P**	**10 37 59.9**	**-2.1**
KEK	**Kerkira**	**6.70**	**340**	*e*P	**P**	**10 38 04.0**	**-0.8**
KEK	**Kerkira**	**6.70**	**340**	Pn	**Pn**	**10 38 04.1**	**-0.9**
SOI	**Samo**	**7.17**	**312**	Pn	**Pn**	**10 38 12.0**	**+0.4**
	33nm,1.0s						
SSY	**Sortino**	**7.33**	**302**	Pn	**Pn**	**10 38 13.6**	**-0.2**
	91nm,0.2s						
MTTG	**Motta San Giov**	**7.36**	**310**	Pn	**Pn**	**10 38 14.4**	**+0.2**
PZI	**Palazzolo**	**7.37**	**301**	Pn	**Pn**	**10 38 14.5**	**+0.1**
	107nm,0.2s						
CEL	**Celeste**	**7.38**	**312**	Pn	**Pn**	**10 38 14.8**	**+0.2**
FNA	**Florina**	**7.41**	**351**	*e*P	**P**	**10 38 13.4**	**-1.2**
GRI	**Girifalco**	**7.45**	**318**	Pn	**Pn**	**10 38 15.8**	**+0.3**
	16nm,0.2s						
SCLL	**Scilla**	**7.50**	**312**	Pn	**Pn**	**10 38 16.3**	**+0.1**
TIP	**Timpagrande**	**7.52**	**321**	Pn	**Pn**	**10 38 15.5**	**-1.0**
	22nm,0.2s						
HNAT	**Natroun**	**7.67**	**118**	P	**P**	**10 38 17.9**	**-0.4**
LCI	**Lecce**	**7.83**	**333**	Pn	**Pn**	**10 38 19.4**	**-1.4**
	63nm,0.2s						
VAE	**Valguarnera**	**7.94**	**303**	Pn	**Pn**	**10 38 22.6**	**+0.2**
	4.4nm,0.3s,baz=271,slow=24,SNR=4.3						
VAE				Sn	**Sn**	**10 39 52.0**	**0.0**
	2.4nm,0.3s,baz=235,slow=13,SNR=2.2						
FYM	**Al Fayyum**	**7.96**	**116**	P	**P**	**10 38 23.8**	**+1.5**
AYT	**Al 'Ayyat**	**8.03**	**115**	P	**P**	**10 38 23.0**	**-0.4**
ORI	**Oriolo Calabro**	**8.34**	**324**	Pn	**P**	**10 38 27.5**	**-0.2**
	42nm,0.3s						
HSAF	**As Saff**	**8.38**	**115**	⇑P	**P**	**10 38 27.7**	**-0.5**
KOT	**Kottamia**	**8.45**	**112**	P	**P**	**10 38 27.9**	**-1.2**
GIB	**Gibilmanna**	**8.46**	**305**	Pn	**P**	**10 38 30.7**	**+1.4**
GLL	**Jalalah**	**8.52**	**115**	⇓P	**P**	**10 38 30.0**	**-0.1**
LTRZ	**Laterza**	**8.59**	**328**	Pn	**P**	**10 38 29.5**	**-1.7**
CUC	**Castrocucco**	**8.61**	**321**	Pn	**P**	**10 38 30.8**	**-0.6**
	48nm,0.3s						
HHAG	**Hagoal**	**8.64**	**111**	P	**P**	**10 38 31.4**	**-0.5**
MGR	**Morigerati**	**8.85**	**321**	Pn	**P**	**10 38 33.8**	**-1.0**
	20nm,0.4s						
SLCN	**Sala Consilina**	**9.00**	**322**	Pn	**P**	**10 38 36.7**	**-0.1**
AMAG	**Maghara**	**9.26**	**105**	P	**P**	**10 38 37.8**	**-2.5**
SGO	**Sicignano**	**9.29**	**322**	Pn	**P**	**10 38 40.1**	**-0.7**
	13nm,0.2s						
MRLC	**Muro Lucano**	**9.34**	**323**	Pn	**P**	**10 38 41.8**	**+0.2**
HRSH	**Kfar Ka'horesh**	**9.57**	**102**	P	**P**	**10 38 42.5**	**-2.3**
RSH		**9.57**	**102**	P	**P**	**10 38 42.5**	**-2.2**
CSSN	**Cassano Irpino**	**9.66**	**322**	Pn	**P**	**10 38 46.1**	**+0.2**
HDK1	**Dakhla**	**9.75**	**142**	P	**P**	**10 38 47.4**	**+0.2**
HNKL	**Nakhl**	**10.14**	**107**	P	**P**	**10 38 50.2**	**-2.4**
STON	**Ston**	**10.22**	**338**	*i* Pn	**P**	**10 38 49.4**	**-4.3**
STON				*i* Sn	**S**	**10 40 31.2**	**-17**
AKRG	**Al Kharijah**	**10.37**	**138**	P	**P**	**10 38 56.6**	**+0.9**
HKAT	**Jabal Katrina**	**10.78**	**114**	P	**P**	**10 39 01.0**	**-0.4**
ASF	**Jabal al Asfar**	**11.92**	**92**	Pn	**P**	**10 39 13.8**	**-2.9**
	0.7nm

RUS *e*S Sn 11 29 34.0 -2.8

MOS 14 11:52:26.6±2.7, 52.44N×97.93E, h35km, mb4.3/1, Error ellipse: s-maj=21.0km s-min=12.3km az=17.0, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORL	**Orlik**	**1.15**	**84**	*e*P	P	11 52 44.4	-2.0
ORL				*e*		11 52 59.6	
ORL				pmax	pmax		
	comp=Z,181nm,0.2s						
ORL				smax			
	comp=E,508nm,0.4s						
MOY	**Mondy**	**2.04**	**111**	*e*PN	P	11 52 56.0	-3.2
MOY				pmax	pmax		
	comp=Z,67nm,0.7s						
ARS	**Arshan**	**2.81**	**99**	*e*PN	P	11 53 11.4	+1.2
ARS				*e*		11 53 45.5	
ARS				pmax	pmax		
	comp=Z,97nm,0.4s						
ARS				smax			
	comp=E,785nm,0.7s						
TLY	**Talaya**	**3.61**	**100**	*e*PN	P	11 53 24.9	+3.4
TLY				*e*		11 54 08.9	
TLY				pmax	pmax		
	comp=Z,15nm,0.4s						
TLY				smax			
	comp=E,127nm,0.7s						
IRK	**Irkutsk**	**3.89**	**90**	*e*PN	P	11 53 29.8	+4.2
IRK				*e*		11 54 16.9	
IRK				pmax	pmax		
	comp=Z,136nm,0.2s						
IRK				smax			
	comp=N,678nm,0.4s						
ZAK	**Zakamensk**	**3.93**	**120**	*e*PN	P	11 53 26.8	+0.7
ZAK				*e*		11 54 14.1	
ZAK				pmax	pmax		
	comp=Z,22nm,0.6s						
ZAK				smax			
	comp=N,87nm,0.4s						
TRG	**Tyrgan**	**5.14**	**83**	*e*PN	P	11 53 40.0	-3.2
TRG				pmax	pmax		
	comp=Z,11nm,0.5s						
OGRR	**Ongureny**	**5.95**	**74**	*e*PN	P	11 53 54.1	-0.5
OGRR				pmax	pmax		
	comp=Z,4.0nm,0.2s						
KMO	**Kumora**	**8.52**	**61**	*e*P	P	11 54 28.8	-1.6

*IDC **14** 11:59:45.2±0.9, 3.97S×129.00E, mb4.3/8, mb1 4.4/10, mb1mx4.3/18, mbtmp4.3/10, ML4.1/2, Error ellipse: s-maj=59.2km s-min=19.6km az=77.0*
*NEIC **14** 11:59:48.3±5.9, 3.97S×129.04E, h20km±37km, mb4.2/5, Error ellipse: s-maj=17.5km s-min=9.6km az=60.0*
ISC 14 11:59:46.0±6.9, 4.0S±0.1×129.0E±0.2, h17km±51km, n22, σ0§57/20, mb4.3/10, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**9.34**	**159**	*e*P	P	**12 02 15.6**	**+13**
	17nm,0.5s						
FITZ	**Fitzroy Crossi**	**14.41**	**193**	*e*P	P	**12 03 11.3**	**-0.2**
	10nm,0.6s						
FITZ	**Fitzroy Crossi**	**14.41**	**193**	Pn	P	**12 03 11.3**	**-0.1**
	0.8nm,0.3s,baz=2.6,slow=14,SNR=10						
WRAB	**Tennant Creek**	**16.71**	**162**	*e*P	P	**12 03 41.7**	**+0.6**
	21nm,0.8s						
WRA	**Warramunga Arr**	**16.71**	**162**	Pn	P	**12 03 40.2**	**-1.0**
	0.6nm,0.3s,baz=337,slow=14,SNR=42						
MBWA	**Marble Bar**	**19.30**	**207**	*e*P	P	**12 04 13.3**	**+0.4**
	12nm,0.7s						
KSM	**Kuching**	**19.41**	**286**	*e*P	P	**12 04 14.4**	**+0.1**
KULM	**Kulim**	**29.74**	**288**	*e*P	P	**12 05 54.1**	**+0.1**
JOW	**Kunigami**	**30.63**	**359**	P	P	**12 06 02.6**	**+0.9**
	5.6nm,0.5s,mb4.6,baz=195,slow=15,SNR=5.8						
SONM	**Songino Array**	**55.26**	**342**	P	P	**12 09 20.0**	**-0.7**
	0.6nm,0.6s,mb3.8,baz=157,slow=11,SNR=5.4						
MKAR	**Makanchi Array**	**65.14**	**327**	P	P	**12 10 28.6**	**+0.3**
	4.5nm,0.7s,mb4.6,baz=123,slow=8.0,SNR=48						
ZAL	**Zalesovo**	**68.43**	**334**	P	P	**12 10 47.8**	**-1.3**
	1.4nm,0.5s,mb4.3,baz=339,slow=8.5,SNR=6.3						
KURK	**Kurchatov**	**69.41**	**328**	*e*P	P	**12 10 54.8**	**-0.4**
	9.8nm,0.8s,mb4.8						
BVAR	**Borovoye Array**	**74.97**	**328**	P	P	**12 11 28.7**	**+0.6**
	3.6nm,0.9s,mb4.3,baz=135,slow=6.3,SNR=17						
BRVK	**Borovoye**	**75.04**	**328**	*e*P	P	**12 11 28.3**	**-0.2**
	1.6nm,0.7s,mb4.1						
VNDA	**Vanda**	**75.56**	**173**	P	P	**12 11 31.4**	**+0.4**
	1.1nm,0.8s,mb3.8,baz=310,slow=6.7,SNR=6.4						
VNDA	**Vanda**	**75.56**	**173**	*e*P	P	**12 11 31.3**	**+0.2**
	1.7nm,1.0s,mb3.9						
ILAR	**Eielson Array**	**91.07**	**25**	P	P	**12 12 50.9**	**+0.3**
	0.7nm,0.6s,mb4.2,baz=244,slow=5.4,SNR=17						
ARCES	**ARCESS Array B**	**98.40**	**340**	P	P	**12 13 23.9**	**0.0**
	0.9nm,0.6s,mb4.5,baz=72,slow=3.8,SNR=5.0						
ARCES	**ARCESS Array B**	**98.40**	**340**	P	P	**12 13 23.9**	**0.0**
CPUP	**Villa Florida**	**149.27**	**169**	PKPbc	PKPdf	12 19 36.8	+2.7
	1.4nm,0.6s,baz=198,slow=1.8,SNR=5.7						
CPUP	**Villa Florida**	**149.27**	**169**	*e*PKPbc	PKPdf	12 19 36.9	+2.8

*IDC **14** 12:07:43.8±0.8, 38.31S×93.78W, mb4.4/8, mb1 4.6/9, mb1mx4.5/16, mbtmp4.4/9, ML4.0/1, MS4.4/14, Ms1 4.4/14, ms1mx4.2/20, Error ellipse: s-maj=26.3km s-min=19.6km az=148.0*
*BJI **14** 12:07:45.7, 38.20S×93.70W, h10km, mB5.2, Ms4.5, Msz4.6*
*NEIC **14** 12:07:45.8±0.3, 38.20S×93.74W, h10km, mb4.8/27, MS4.1/3, Error ellipse: s-maj=9.0km s-min=6.5km az=62.0*
*MOS **14** 12:07:47.7±1.1, 38.25S×93.71W, h33km, mb4.9/14, Error ellipse: s-maj=20.2km s-min=11.4km az=92.5*
ISC 14 12:07:44.3±0.3, 38.21S±0.06×93.73W±0.10, h10km, (h21km±1.0km:pP-P), n116, σ0§96/84, mb4.6/32, MS4.3/18, 3C-2D, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**17.14**	**306**	LR	LR	12 16 19.0	
	comp=Z,2μm,18.4s,baz=128,slow=30						
PLCA	**Paso Flores**	**18.06**	**105**	P	P	**12 11 58.2**	**+1.3**
	0.1nm,0.3s,baz=279,slow=13,SNR=16						
PLCA				LR	LR	12 17 12.6	
	comp=Z,1μm,20.6s,baz=264,slow=32						
CFAA	**Coronel Fontan**	**21.88**	**80**	P	P	**12 12 39.5**	**+0.3**
	3.1nm,0.8s,mb3.8,baz=245,slow=10,SNR=38						
CFAA				LR	LR	12 19 48.2	
	comp=Z,44nm,18.4s,MS2.9,baz=227,slow=33						
CFAA	**Coronel Fontan**	**21.88**	**80**	P	P	**12 12 39.5**	**+0.3**
CFAA				LR	LR	12 19 48.2	
USHA	**Ushuaia**	**23.87**	**142**	P	P	**12 13 01.2**	**+2.8**
	12nm,0.9s,mb4.3,baz=278,slow=7.1,SNR=3.7						
USHA				LR	LR	12 20 41.5	
	comp=Z,831nm,22.0s,MS4.2,baz=272,slow=33						
LVC	**Limon Verde**	**26.34**	**61**	P	P	**12 13 22.5**	**+0.3**
	25nm,1.1s,mb4.7,baz=229,slow=9.3,SNR=14						
LVC				LR	LR	12 21 11.4	
	comp=Z,1μm,18.8s,MS4.4,baz=199,slow=31						
LVC	**Limon Verde**	**26.34**	**61**	*e*P	P	**12 13 22.3**	**+0.1**
	40nm,1.1s,mb4.9						
LPAZ	**La Paz**	**31.35**	**53**	P	P	**12 14 08.5**	**+1.2**
	13nm,1.0s,mb4.7,baz=220,slow=7.3,SNR=24						
LPAZ				LR	LR	12 23 49.7	
	comp=Z,467nm,21.0s,MS4.1,baz=37,slow=31						
LPAZ	**La Paz**	**31.35**	**53**	*e*P	P	**12 14 08.2**	**+0.9**
	29nm,1.1s,mb5.0						
LPAZ	**La Paz**	**31.35**	**53**	*e*P	P	**12 14 08.2**	**+0.9**
LPAZ				pmax	pmax		
	comp=Z,29nm,1.1s						
CPUP	**Villa Florida**	**32.78**	**80**	P	P	**12 14 18.0**	**-1.6**
	comp=Z,2.5nm,0.7s,mb4.2,baz=270,slow=9.1,SNR=5.5						
CPUP				LR	LR	12 25 47.5	
	comp=Z,569nm,18.1s,MS4.3,baz=276,slow=33						
CPUP	**Villa Florida**	**32.78**	**80**	*e*P	P	**12 14 17.6**	**-2.1**
	comp=Z,12nm,1.2s,mb4.7						
CPUP	**Villa Florida**	**32.78**	**80**	*e*P	P	**12 14 17.6**	**-2.1**
CPUP				pmax	pmax		
	comp=Z,13nm,1.2s						
SAML	**Samuel**	**40.05**	**51**	*e*P	P	**12 15 20.7**	**-0.7**
	comp=Z,14nm,1.3s,mb4.5						
BDFB	**Brasilia**	**45.98**	**74**	P	P	**12 16 08.5**	**-1.0**
	comp=Z,3.4nm,0.7s,mb4.4,baz=254,slow=7.3,SNR=5.8						
BDFB				LR	LR	12 34 18.5	
	comp=Z,606nm,19.4s,MS4.6,baz=238,slow=35						
ROSC	**El Rosal**	**46.48**	**27**	LR	LR	12 34 03.6	
	comp=Z,168nm,19.0s,MS4.0,baz=167,slow=34						
JTS	**JuntasAbangare**	**48.94**	**11**	*e*P	P	**12 16 32.3**	**-0.4**
	comp=Z,13nm,1.0s,mb4.9						
JTS	**JuntasAbangare**	**48.94**	**11**	*e*P	P	**12 16 32.3**	**-0.4**
JTS				pmax	pmax		
	comp=Z,13nm,1.0s						
SDV	**Santo Domingo**	**51.57**	**30**	P	P	**12 16 49.8**	**-3.1**
QSPA	**South Pole Qui**	**52.02**	**180**	⇑*i*P	P	**12 16 55.5**	**+0.1**
	comp=Z,12nm,1.3s,mb4.7						
VNA3	**Neumayer Olymp**	**52.47**	**156**		P	**12 16 59.2**	**+0.3**
VNA3	**Neumayer Olymp**	**52.47**	**156**		P	**12 17 00.6**	**+1.7**
VNA3	**Neumayer Olymp**	**52.47**	**156**		P	**12 17 08.2**	**+9.3**
PPT	**Papeete**	**52.65**	**277**	LR	LR	12 33 15.3	
	comp=Z,352nm,18.7s,MS4.4,baz=143,slow=29						
VNA1	**Neumayer--Stat**	**53.02**	**155**		P	**12 17 05.3**	**+2.3**
VNA1	**Neumayer--Stat**	**53.02**	**155**		P	**12 17 13.1**	**+10**
VNA2	**Neumayer--Watz**	**53.25**	**156**		P	**12 16 56.1**	**-8.6**
VNA2	**Neumayer--Watz**	**53.25**	**156**		P	**12 17 06.4**	**+1.7**
VNA2	**Neumayer--Watz**	**53.25**	**156**		P	**12 17 13.8**	**+9.1**
SNAA	**Sanae**	**54.52**	**157**		P	**12 17 08.1**	**-5.9**
SNAA	**Sanae**	**54.52**	**157**		P	**12 17 12.5**	**-1.5**
SNAA	**Sanae**	**54.52**	**157**		P	**12 17 15.2**	**+1.2**
SNAA	**Sanae**	**54.52**	**157**		P	**12 17 21.0**	**+7.0**
SNAA	**Sanae**	**54.52**	**157**	*i* P	P	**12 17 13.2**	**-0.8**
SBA	**Scott Base**	**54.94**	**195**	*e*P	P	**12 17 16.9**	**-0.2**
	comp=Z,9.0nm,1.0s,mb4.8						
SBA	**Scott Base**	**54.94**	**195**	*e*P	P	**12 17 16.9**	**-0.2**
SBA				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
VNDA	**Vanda**	**56.05**	**195**	P	P	**12 17 23.8**	**-1.3**
	comp=Z,2.4nm,0.9s,mb4.2,baz=115,slow=6.6,SNR=6.6						
VNDA				LR	LR	12 36 39.3	
	comp=Z,114nm,19.1s,MS4.0,baz=105,slow=31						
VNDA	**Vanda**	**56.05**	**195**	*e*P	P	**12 17 23.3**	**-1.8**
	comp=Z,3.9nm,1.0s,mb4.4						
VNDA	**Vanda**	**56.05**	**195**	*e*P	P	**12 17 23.3**	**-1.7**
VNDA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
URZ	**Urewera**	**67.11**	**239**	LR	LR	12 41 33.4	
	comp=Z,361nm,19.1s,MS4.6,baz=235,slow=30						
SYO	**Syowa Base**	**67.68**	**164**	⇓P	P	**12 18 40.7**	**-2.4**
SYO	**Syowa Base**	**67.68**	**164**	⇓pP	pP	12 18 42.0	-4.2
LTX	**Lajitas**	**67.83**	**351**	*e*P	P	**12 18 44.1**	**-0.6**
	comp=Z,19nm,1.4s,mb4.9						
LTX	**Lajitas**	**67.83**	**351**	*e*P	P	**12 18 44.1**	**-0.6**
LTX				pmax	pmax		
	comp=Z,19nm,1.4s,mb4.9						
RPZ	**Rata Peaks**	**68.15**	**231**	LR	LR	12 43 44.9	
	comp=Z,318nm,18.1s,MS4.6,baz=174,slow=32						
MNTX	**Cornudas Mount**	**70.39**	**349**	*e*P	P	**12 18 58.6**	**-1.9**
	comp=Z,7.5nm,1.2s,mb4.5						
GDL2	**Guadalupe Moun**	**70.75**	**350**	*e*P	P	**12 19 02.5**	**-0.1**
LRAL	**Lakeview Retre**	**71.16**	**6**	*e*P	P	**12 19 04.2**	**-0.8**
	comp=Z,11nm,1.2s,mb4.7						
LRAL				*e*pP	pP	12 19 11.4	+3.2
WMOK	**Wichita Mounta**	**72.73**	**356**	*e*P	P	**12 19 13.0**	**-1.4**
	comp=Z,6.7nm,1.4s,mb4.4						
WMOK				*e*pP	pP	12 19 19.9	+2.3
WMOK	**Wichita Mounta**	**72.73**	**356**	*e*P	P	**12 19 13.0**	**-1.4**
WMOK				*e**PP	pP	12 19 19.9	+2.4
WMOK				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.4						
MAW	**Mawson**	**73.03**	**171**	P	P	**12 19 14.0**	**-1.5**
	comp=Z,3.8nm,1.0s,mb4.3,baz=197,slow=8.8,SNR=5.7						
LPM	**Los Pinos Moun**	**73.14**	**349**	*e*P	P	**12 19 16.5**	**-0.3**
LAZ	**Lazron**	**73.31**	**348**	*e*P	P	**12 19 17.7**	**-0.1**
MYNC	**Murphy**	**73.46**	**8**	*e*P	P	**12 19 17.8**	**-0.9**
	comp=Z,26nm,1.3s,mb5.0						
MYNC				*e*pP	pP	12 19 24.9	+3.1
MYNC	**Murphy**	**73.46**	**8**	*e*P	P	**12 19 17.8**	**-0.8**
MYNC				*e**PP	pP	12 19 24.9	+3.1
MYNC				pmax	pmax		
	comp=Z,26nm,1.3s,mb5.0						
ANMO	**Albuquerque**	**73.74**	**349**	*e*P	P	**12 19 20.1**	**-0.2**
	comp=Z,6.3nm,1.3s,mb4.4						
ANMO				LR	LR		
	comp=Z,122nm,19.0s,MS4.2						
ANMO	**Albuquerque**	**73.74**	**349**	*i* P	P	**12 19 20.4**	**+0.1**
LDFC	**Landfair**	**75.57**	**342**	*e*P	P	**12 19 29.9**	**-1.0**
CCM	**Cathedral Cave**	**75.92**	**2**	*e*P	P	**12 19 31.7**	**-1.1**
	comp=Z,18nm,1.4s,mb4.8						
CCM	**Cathedral Cave**	**75.92**	**2**	*e*P	P	**12 19 31.7**	**-1.1**
CCM				pmax	pmax		
	comp=Z,18nm,1.4s,mb4.8						
ELN	**Prospectdale**	**76.01**	**11**	*e*P	P	**12 19 33.5**	**+0.1**
ELN				*e*pP	pP	12 19 38.8	+2.4
NEN	**Nelson**	**76.05**	**342**	*e*P	P	**12 19 33.2**	**-0.3**
SDCO	**Great Sand Dun**	**76.36**	**350**	*e*P	P	**12 19 35.5**	**+0.3**
	comp=Z,7.4nm,1.3s,mb4.5						
SDCO				*e*pP	pP	12 19 41.8	+3.4
SDCO				LR	LR		
	comp=Z,99nm,19.0s,MS4.1						
CBKS	**Cedar Bluff**	**76.85**	**355**	P	P	**12 19 38.3**	**+0.4**
ARUT	**Antelope Range**	**77.78**	**344**	*e*P	P	**12 19 43.7**	**+0.6**
SMCO	**Snowmass**	**77.97**	**350**	*e*P	P	**12 19 45.2**	**+1.1**
MSU	**Marysvale**	**78.21**	**345**	*e*P	P	**12 19 46.3**	**+0.8**
SRU	**San Rafael**	**78.48**	**347**	*e*P	P	**12 19 47.3**	**+0.4**
OMM	**Old Mammoth Mi**	**78.97**	**340**	*e*P	P	**12 19 49.7**	**+0.1**
CMB	**Columbia Colle**	**79.75**	**339**	*e*P	P	**12 19 53.6**	**-0.2**
	comp=Z,6.0nm,1.1s,mb4.4						
CMB	**Columbia Colle**	**79.75**	**339**	*e*P	P	**12 19 53.6**	**-0.2**
CMB				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
DAU	**Daniels Canyon**	**79.87**	**346**	*e*P	P	**12 19 55.1**	**+0.7**
DUG	**Dugway**	**79.96**	**345**	*e*P	P	**12 19 55.5**	**+0.5**
	comp=Z,11nm,1.1s,mb4.7						
DUG				*e*pP	pP	12 20 02.6	+4.5
DUG				LR	LR		
	comp=Z,69nm,21.0s,MS4.0						
DUG	**Dugway**	**79.96**	**345**	*e*P	P	**12 19 55.5**	**+0.5**
DUG				*e**PP	pP	12 20 02.6	+4.5
DUG				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.7						
DUG				MLR	MLR		
	comp=Z,69nm,21.0s,MS4.0						
ELK	**Elko**	**81.00**	**344**	*e*P	P	**12 20 01.1**	**+0.6**
	comp=Z,8.8nm,1.2s,mb4.6						
ELK	**Elko**	**81.00**	**344**	*e*P	P	**12 20 01.1**	**+0.6**
ELK				pmax	pmax		
	comp=Z,9.0nm,1.2s						
BW06	**Boulder Array**	**81.87**	**348**	*e*P	P	**12 20 05.0**	**0.0**
	comp=Z,10nm,1.0s,mb4.7						
PDAR	**Pinedale Array**	**81.87**	**348**	P	P	**12 20 05.5**	**+0.6**
	comp=Z,5.6nm,0.9s,mb4.5,baz=157,slow=4.9,SNR=34						
RSSD	**Black Hills**	**82.48**	**353**	*e*P	P	**12 20 08.4**	**+0.4**
	comp=Z,6.3nm,1.0s,mb4.5						
RSSD	**Black Hills**	**82.48**	**353**	*e*P	P	**12 20 08.4**	**+0.3**
RSSD				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
TPAW	**Teton Pass**	**82.81**	**347**	*e*P	P	**12 20 10.0**	**+0.2**
	comp=Z,13nm,1.1s,mb4.9						
LOHW	**Long Hollow**	**82.87**	**348**	*e*P	P	**12 20 09.9**	**-0.2**
	comp=Z,7.3nm,1.1s,mb4.6						
IMW	**Indian Meadow**	**83.20**	**348**	*e*P	P	**12 20 12.5**	**+0.7**
	comp=Z,10nm,1.1s,mb4.8						
MOD	**Modoc**	**83.33**	**340**	*e*P	P	**12 20 13.1**	**+0.6**
	comp=Z,17nm,1.4s,mb4.9						
WVOR	**Wild Horse Val**	**83.40**	**342**	*e*P	P	**12 20 13.6**	**+0.7**
	comp=Z,6.5nm,1.1s,mb4.6						
WVOR	**Wild Horse Val**	**83.40**	**342**	*e*P	P	**12 20 13.6**	**+0.7**
WVOR				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.5						
HLID	**Hailey**	**83.53**	**345**	*e*P	P	**12 20 14.1**	**+0.7**
	comp=Z,9.6nm,1.1s,mb4.8						
QLMT	**Earthquake Lak**	**84.19**	**347**	*e*P	P	**12 20 17.1**	**+0.3**
MCMT	**McKenzie Canyo**	**84.44**	**346**	*e*P	P	**12 20 19.2**	**+1.2**
CHMT	**Chamberlain Mo**	**86.53**	**347**	*e*P	P	**12 20 29.6**	**+1.3**
BOSA	**Boshof**	**92.42**	**130**	LR	LR	12 53 38.9	
	comp=Z,132nm,21.4s,MS4.3,baz=166,slow=30						
DBIC	**Dimbokro**	**93.19**	**84**	LR	LR	13 00 39.1	
	comp=Z,149nm,18.4s,MS4.5,baz=188,slow=34						
GRA1	**Grafenberg Arr**	**126.90**	**52**	*e*PKP	PKPdf	12 26 49.3	-1.7
GRF	**Grafenberg Arr**	**126.90**	**52**	*e*PKP	PKPdf	12 26 49.3	-1.7
GERES	**GERESS Array B**	**128.19**	**53**	PKP	PKPdf	12 26 51.1	-2.6
	comp=Z,0.6nm,0.8s,baz=180,slow=1.3,SNR=4.9						
MJAR	**Matsushiro Arr**	**139.14**	**284**	PKP	PKPdf	12 27 10.7	-3.8
	comp=Z,2.1nm,1.1s,baz=189,slow=4.1,SNR=4.2						
OBN	**Obninsk**	**142.83**	**46**	*i* PKIKP	PKPdf	12 27 21.0	+0.7
OBN				*e*		12 27 27.1	
YAK	**Yakutsk**	**144.39**	**326**	*e*PKP	PKPdf	12 27 18.0	-4.8
YAK	**Yakutsk**	**144.39**	**326**	*i* PKIKP	PKPdf	12 27 18.3	-4.5
VRSR	**Storozhevoye**	**144.71**	**53**	*e*PKIKP	PKPdf	12 27 22.3	-1.4
SOC	**Sochi**	**144.77**	**66**	*e*PKIKP	PKPdf	12 27 22.4	-1.6
SOC				pmax	pmax		
	comp=Z,25nm,0.9s						
KLR	**Kul'dur**	**145.82**	**304**	*e*PKHKP		12 27 20.3	
KIV	**Kislovodsk**	**146.95**	**66***c*	*i* PKP2	PKPab	12 27 29.7	-0.5
KIV				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MDJ	**Mudanjiang**	**147.19**	**295**	PKP	PKPdf	12 27 27.8	-0.3
MDJ				PP	PP		
	comp=Z,65nm,4.7s						
MDJ				LR	LR		
	comp=N,27nm,30.5s,MS4.3						
MDJ				LR	LR		
	comp=E,67nm,29.9s,MS4.3						
MDJ				LR	LR		
	comp=Z,90nm,27.0s,MS4.4						
GOF	**Gofitskoye**	**147.28**	**64**⇓	*i* PKP2	PKPab	12 27 28.0	-3.4
GOF				pmax	pmax		
	comp=Z,30nm,1.4s						
CLNS	**Chul'man**	**148.52**	**319**	*e*PKP2	PKPab	12 27 31.1	-4.9
CLNS				pmax	pmax		
	comp=Z,30nm,1.0s						
CLNS				pmax	pmax		
	comp=N,10.0nm,0.8s						
CLNS				pmax	pmax		
	comp=E,13nm,1.0s						
CN2	**Changchun**	**150.12**	**293**	*e*PKP	PKPdf	12 27 35.8	+3.0
SSE	**Sheshan**	**150.54**	**267**	*e*PKP	PKPdf	12 27 30.1	-3.7
SSE				PP	PP		
	comp=Z,72nm,4.6s						
NJ2	**Nanjing**	**152.75**	**267**	*e*PKP	PKPdf	12 27 33.1	-4.0
NJ2				APKP		12 27 43.9	
NJ2				PKP2	PKPab	12 27 53.6	-0.8
NJ2				PKS	PKS	12 31 03.0	-4.2
NJ2				PP	PP	12 31 28.0	-0.2
NJ2				PP	PP		
	comp=Z,1μm,7.8s						
NJ2				LR	LR		
	comp=Z,340nm,23.0s,MS5.1						
KMI	**Kunming**	**160.89**	**232**	PKP	PKPdf	12 27 45.9	-1.6
KMI				LR	LR		
	comp=Z,66nm,31.4s						
BVAR	**Borovoye Array**	**161.55**	**31**	PKP	PKPdf	12 27 45.5	-1.8
	comp=Z,2.1nm,1.1s,baz=225,slow=2.1,SNR=6.8						
BVAR				PKPab	PKPab	12 28 31.7	+0.3
	comp=Z,0.3nm,0.4s,baz=297,slow=3.2,SNR=2.8						
SONM	**Songino Array**	**162.47**	**310**	PKPab	PKPab	12 28 34.7	-0.9
	comp=Z,2.8nm,1.0s,baz=97,slow=3.2,SNR=12						
ZAK	**Zakamensk**	**162.84**	**321**	*e*PKP2	PKPab	12 28 36.6	-0.5
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.2s						
ZAL	**Zalesovo**	**164.24**	**3**	PKP	PKPdf	12 27 48.9	-1.0
	comp=Z,0.8nm,0.5s,baz=285,slow=3.3,SNR=3.9						
MKAR	**Makanchi Array**	**170.93**	**18**	PKP	PKPdf	12 27 52.0	-2.8
	comp=Z,0.6nm,0.8s,baz=297,slow=2.7,SNR=5.6						
WMQ	**Urumqi**	**174.29**	**350**	*e*PKP	PKPdf	12 27 53.0	-3.5

*PRU **14** 12:30:16.9, 51.42N×16.18E*
*NEIC **14** 12:30:17.3±3.6, 51.37N×16.17E, h2km±13km, ML2.6(VIE), Error ellipse: s-maj=31.9km s-min=9.1km az=213.0*
*CSEM **14** 12:30:17.2±0.2, 51.41N×16.17E, h2km, ML2.7/2, Error ellipse: s-maj=3.1km s-min=1.4km az=33.0*
WAR 14 12:30:17.4, 51.45N×16.17E, h1km, ML2.2, 1C, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.61**	**173**	*e*PG	Pg	12 30 29.0	-0.6
KSP				*e*SG	Sg	12 30 36.0	-1.8
UPC	**Upice**	**0.95**	**186**	*e*PG	Pg	12 30 34.5	-1.8
DPC	**Dobruska-Polom**	**1.10**	**175**	*e*PG	Pg	12 30 37.3	-2.1
DPC				*e*SG	Sg	12 30 51.6	-2.6
	9.5nm,0.3s						
PVCC	**Panska Ves**	**1.37**	**228**	*e*PG	Pg	12 30 42.4	-2.3
BRG	**Berggiesshubel**	**1.52**	**249**	Pn	Pn	12 30 44.5	-1.3
BRG	**Berggiesshubel**	**1.52**	**249**	Pg	Pg	12 30 45.3	-2.4
BRG	**Berggiesshubel**	**1.52**	**249**	Pn	Pn	12 30 44.5	-1.2
BRG				Pg	Pg	12 30 45.3	-2.3
BRG				Sg	Sg	12 31 05.8	-2.1
PRU	**Pruhonice**	**1.79**	**216**	*e*PG	Pg	12 30 49.8	-3.4
PRU				*e*SG	Sg	12 31 12.6	-4.5
MORC	**Moravsky Berou**	**1.89**	**152**	*e*P	Pn	12 30 49.3	-1.8
MORC				*e*S	Sn	12 31 12.7	-3.2
MORC				*e*Sg	Sg	12 31 15.6	-4.7
MORC	**Moravsky Berou**	**1.89**	**152**	*e*P	Pn	12 30 49.3	-1.8
MORC				*e*S	Sn	12 31 12.7	-3.2
CLL	**Collm**	**1.99**	**267**	*e*PG	Pg	12 30 53.0	-4.1
CLL				*e*SG	Sg	12 31 20.0	-3.7
OKC	**Ostrava-Krasne**	**2.05**	**141**	*e*SG	Sg	12 31 20.2	-5.3
VRAC	**Vranov**	**2.16**	**173**	*e*Sg	Sg	12 31 25.2	-4.1
KRUC	**Moravsky**	**2.39**	**176**	*e*Sg	Sg	12 31 33.5	-3.6
NKC	**Novy Kostel**	**2.66**	**244**	*e*PN	Pn	12 31 00.8	-1.3
NKC				*e*SG	Sg	12 31 40.2	-5.6
**KHC

VNA3	Neumayer Olymp	52.45 156			P	12 40 53.9	+0.8
PPT	Papeete	52.58 277	LR		LR	12 56 51.6	
	comp=Z,413nm,20.4s,MS4.5,baz=142,slow=29						
VNA1	Neumayer--Stat	53.00 155			P	12 40 58.5	+1.2
VNA2	Neumayer--Watz	53.23 156			P	12 40 59.9	+0.9
SNAA	Sanae	54.50 157			P	12 41 08.5	+0.3
SNAA	Sanae	54.50 157			P	12 41 19.2	+11
SNAA	Sanae	54.50 157	*e*P		P	12 41 07.1	-1.1
VNDA	Vanda	55.97 195	P		P	12 41 18.1	-0.8
	1.4nm,0.9s,mb4.0,baz=89,slow=3.0,SNR=3.9						
VNDA			LR		LR	13 02 44.6	
	comp=Z,80nm,18.2s,MS3.8,baz=110,slow=33						
SYO	Syowa Base	67.64 164	||P		P	12 42 35.4	-1.9
LTX	Lajitas	67.88 351	*e*P		P	12 42 40.0	+0.7
	3.3nm,0.8s,mb4.4						
MNTX	Cornudas Mount	70.43 350	*e*P		P	12 42 53.9	-1.1
	4.3nm,1.2s,mb4.2						
MAW	Mawson	72.98 171	P		P	12 43 10.2	+0.6
	1.8nm,0.9s,mb4.0,baz=200,slow=9.6,SNR=4.9						
MAW			LR		LR	13 12 02.3	
	comp=Z,87nm,21.3s,MS4.0,baz=66,slow=33						
LAZ	Ladron	73.35 349	*e*P		P	12 43 12.9	+0.5
ANMO	Albuquerque	73.78 349	*e*P		P	12 43 14.0	-1.0
	14nm,1.7s,mb4.6						
NEN	Nelson	76.08 342	*e*P		P	12 43 27.2	-0.9
SDCO	Great Sand Dun	76.40 351	*e*P		P	12 43 29.7	-0.1
	8.5nm,1.6s,mb4.4						
SMCO	Snowmass	78.01 350	*e*P		P	12 43 39.3	+0.6
MSU	Marysvale	78.25 345	*e*P		P	12 43 41.6	+1.6
NLU	North Lily Min	79.62 346	P		P	12 43 47.7	+0.2
DAU	Daniels Canyon	79.91 347	*e*P		P	12 43 49.7	+0.7
ELK	Elko	81.04 344	*e*P		P	12 43 55.0	0.0
	4.3nm,1.1s,mb4.3						
PDAR	Pinedale Array	81.91 348	P		P	12 43 59.5	-0.1
	1.7nm,0.7s,mb4.1,baz=168,slow=6.0,SNR=17						
PDAR			LR		LR	13 16 23.2	
	comp=Z,35nm,20.6s,MS3.7,baz=88,slow=33						
RSSD	Black Hills	82.53 353	*e*P		P	12 44 01.0	-1.6
	21nm,1.6s,mb4.9						
REDW	Red Top Meadow	82.70 348	*e*P		P	12 44 04.2	+0.6
	21nm,1.5s,mb5.0						
TPAW	Teton Pass	82.84 348	*e*P		P	12 44 04.4	0.0
	9.1nm,1.1s,mb4.7						
IMW	Indian Meadow	83.24 348	*e*P		P	12 44 06.7	+0.4
	8.4nm,1.3s,mb4.6						
DZM	Mont Dzumac	83.85 247	LR		LR	13 13 08.5	
	comp=Z,159nm,18.1s,MS4.4,baz=195,slow=30						
BOZ	Bozeman (W)	85.06 348	*e*P		P	12 44 15.7	+0.3
	26nm,2.0s,mb5.0						
CHMT	Chamberlain Mo	86.57 347	P		P	12 44 21.5	-1.4
ULM	Lac du Bonnet	88.16 359	P		P	12 44 30.6	+0.1
	4.5nm,1.1s,mb4.6,baz=250,slow=6.5,SNR=3.6						
ULM			LR		LR	13 21 23.1	
	comp=Z,57nm,20.4s,MS4.0,baz=10,slow=34						
BOSA	Boshof	92.44 130	LR		LR	13 20 06.8	
	comp=Z,122nm,18.4s,MS4.4,baz=226,slow=31						
STKA	Stephens Creek	93.20 225	LR		LR	13 20 05.0	
	comp=Z,143nm,18.0s,MS4.5,baz=206,slow=31						
DBIC	Dimbokro	93.28 84	LR		LR	13 24 41.2	
	comp=Z,107nm,18.5s,MS4.3,baz=200,slow=34						
GRA1	Grafenberg Arr	127.00 52	ePKP		PKPdf	12 50 43.9	-1.7
GERES	GERESS Array B	128.29 53	PKP		PKPdf	12 50 46.9	-1.3
	0.5nm,0.7s,baz=284,slow=4.0,SNR=4.0						
AKASG	Malin Array Be	138.50 54	PKP		PKPdf	12 51 06.1	-1.2
	0.2nm,0.3s,baz=56,slow=3.4,SNR=5.9						
SONM	Songino Array	162.44 309	PKPab		PKPab	12 52 28.9	-0.9
	1.6nm,1.0s,baz=85,slow=4.7,SNR=11						
ZAL	Zalesovo	164.30 3	PKP		PKPdf	12 51 42.0	-2.3
	0.6nm,0.5s,baz=346,slow=8.3,SNR=2.7						
MKAR	Makanchi Array	171.01 17	PKP		PKPdf	12 51 46.7	-2.5
	0.2nm,0.7s,slow=1.4,SNR=2.9						

*CSEM **14** 13:04:30.6±0.1,37.88N×26.25W,h5km,ML3.4,Error ellipse: s-maj=16.0km s-min=1.9km az=30.0,After PDA*
*PDA **14** 13:04:30.6±1.1,37.88N×26.25W,h5km±5km,MD3.3, ML3.4,Error ellipse: s-maj=7.4km s-min=1.7km az=29.0*

SVSA 14 13:04:30.6±1.1,37.88N×26.25W,h5km±5km,MD3.3, ML3.4,Error ellipse: s-maj=7.4km s-min=1.7km az=29.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SET2	Ginetes	0.35	96	*e*P	Pg	13 04 36.9	-0.7
SET4	Mosteiros	0.35	91	*e*P	Pg	13 04 36.9	-0.8
PFET	Feteiras	0.37	99	*e*P	Pg	13 04 37.1	-0.9
PSAN	Santo Antonio	0.41	94	*e*P	Pg	13 04 37.6	-1.3
PSET	Sete Cidades	0.42	97	*e*P	Pg	13 04 37.7	-1.3
PSET				*e*S	Sg	13 04 43.5	-1.1
	1μm,0.3s						
PDA	Ponta Delgada	0.48	106	*e*P	Pg	13 04 39.0	-1.2
PDA				*i* S	Sg	13 04 45.5	-1.2
FAC	Faja de Cima	0.48	102	*e*P	Pg	13 04 39.3	-1.0
CML	Cha da Macela	0.56	101	*e*P	Pg	13 04 40.2	-1.7
CMLA	Cha da Macela	0.58	101	*e*S	Sg	13 04 47.9	-2.2
PVER	Pico Vermelho	0.58	98	*e*P	Pg	13 04 40.4	-1.9
LFA	Lagoa do Fogo	0.61	100	*e*P	Pg	13 04 41.1	-1.8
PMAT	Coroa da Mata	0.62	96	*e*P	Pg	13 04 40.9	-2.0
PMAT				*e*S	Sg	13 04 48.7	-2.5
	806nm,0.2s						
PRCH	Ribeira Ch	0.62	104	*e*P	Pg	13 04 41.3	-1.8
PRCH				*e*S	Sg	13 04 49.5	-2.0
	609nm,0.3s						
MESC	Monte Escuro	0.64	97	*e*P	Pg	13 04 41.3	-2.1
MESC				*e*S	Sg	13 04 49.1	-2.8
VIF	Vila Franca	0.65	102	*e*P	Pg	13 04 42.1	-1.6
VIF				*e*S	Sg	13 04 49.7	-2.7
	207nm,0.3s						
PCNG	Congro	0.68	99	*e*P	Pg	13 04 42.1	-2.2
PCNG				*e*S	Sg	13 04 50.4	-3.0
	418nm,0.4s						
PFAD	Fenais da Ajud	0.73	93	*e*P	Pg	13 04 42.7	-2.5
PFAV	Pico das Favas	1.06	322	*e*P	Pb	13 04 47.0	-4.1
PFAV				*e*S	Sb	13 04 59.8	-5.3
	346nm,0.3s						
PSCM	Serra do Cume	1.07	320	*i* P	Pb	13 04 46.9	-4.3
PSCM				*e*S	Sb	13 04 59.6	-5.7
	716nm,0.2s						
RIB2	Ribeirinha	1.08	318	*e*P	Pb	13 04 47.3	-4.0
RIB2				*e*S	Sb	13 05 00.5	-5.0
	526nm,0.1s						
ADH	Angra Heroismo	1.10	315	*e*P	Pb	13 04 47.5	-4.2
ADH				*e*S	Sb	13 05 00.6	-5.5
PVNV	Vila Nova	1.14	321	*e*P	Pb	13 04 48.1	-4.2
PVNV				*e*S	Sb	13 05 01.6	-5.6
	446nm,0.1s						
PPAD	Pico dos Padre	1.16	315	*e*P	Pb	13 04 48.5	-4.2
PPAD				*e*S	Sb	13 05 02.5	-5.4
	180nm,0.2s						
PBIS	Biscoitos	1.18	318	*e*P	Pb	13 04 48.8	-4.4
PBIS				*e*S	Sb	13 05 02.8	-5.9
	176nm,0.3s						
ASBA	Santa Barbara	1.19	315	*e*P	Pb	13 04 49.1	-4.2
ASBA				*e*S	Sb	13 05 02.7	-6.2
	304nm,0.1s						
PIED	Piedade	1.52	291	*e*P	Pn	13 04 55.4	-3.2
PMAN	Manadas	1.63	298	*e*P	Pn	13 04 55.2	-5.0
PMAN				*e*S	Sb	13 05 13.1	-8.6
	218nm,0.1s						
PICO	Pico	1.83	291	*e*P	Pn	13 04 58.0	-5.0
PICO				*e*S	Sn	13 05 18.2	-8.5
STGR	Santa Cruz	1.83	312	*e*S	Sn	13 05 18.8	-8.0
	42nm,0.1s						
HOR	Horta	1.99	290	*e*S	Sn	13 05 22.1	-8.7

*KRSC **14** 13:31:21.6±0.8,53.23N×160.50E,h36km±3km,ML4.4*
*MOS **14** 13:31:21.0±1.4,53.29N×160.41E,h55km,mb4.3/3,Error ellipse: s-maj=14.4km s-min=7.9km az=75.9*
*IDC **14** 13:31:21.9±3.1,53.36N×160.37E,h50km±33km,mb3.5/10, mb1 3.7/11,mb1mx3.6/22,mbtmp3.8/11,ML3.8/2,Error ellipse: s-maj=27.2km s-min=18.4km az=104.0*
*NEIC **14** 13:31:22.1±0.8,53.39N×160.41E,h51km±8km,mb4.0/3, Error ellipse: s-maj=8.9km s-min=7.1km az=141.0*

ISC 14 13:31:20.8±0.4,53.18N±0.02×160.64E±0.05,h36km,n65, σ1°04/99,mb3.9/13,2D,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.38	258	P	P	13 31 30.6	+0.8
SPN				S	S	13 31 36.5	+0.5
SPN	Mys Shipunski	0.38	258	*i* P	P	13 31 30.6	+0.8
SPN				*i* S	S	13 31 36.7	+0.7
NLC	Nalytchevo	0.78	270	P	P	13 31 35.3	0.0
NLC				S	S	13 31 44.8	-1.2
NLC	Nalytchevo	0.78	270	*i* P	P	13 31 35.4	+0.1
NLC				*i* S	S	13 31 45.0	-1.0
SDLR	Sedlovina	1.06	276	*i* P	P	13 31 39.5	+0.2
UGLR	Uglovaya	1.09	272	*i* P	P	13 31 40.4	+0.6
SMAR	Somma	1.11	275	*i* P	P	13 31 40.1	+0.1
KII	Karymskiy	1.11	321	*i* P	P	13 31 39.7	-0.4
AVH	Avacha	1.15	275	*i* P	P	13 31 40.9	+0.4
AVH				*e*S	S	13 31 54.9	-0.4
PET	Petropavlovsk	1.21	263	*i* P	P	13 31 41.3	-0.1
PET				*e*S	S	13 31 55.7	-1.2
PET	Petropavlovsk	1.21	263	‖*e*P	P	13 31 41.3	-0.1
PET	Petropavlovsk	1.21	263	*d*PN	P	13 31 41.1	-0.3
PET				*i* S	S	13 31 57.4	+0.5
KOK	Koryaka	1.21	276	*i* P	P	13 31 41.6	+0.2
RUS	Russkaya	1.49	241	P	P	13 31 45.6	+0.1
RUS				S	S	13 32 03.1	-0.9
RUS	Russkaya	1.49	241	*i* P	P	13 31 45.5	0.0
RUS				*e*S	S	13 32 03.1	-0.9
MKZ	Mys Kozlova	1.52	25	P	P	13 31 46.3	+0.3
MKZ				S	S	13 32 03.6	-1.2
MKZ	Mys Kozlova	1.52	25	*i* P	P	13 31 45.9	-0.1
MKZ				*i* S	S	13 32 05.2	+0.4
KRMR	Karymshinskiy	1.56	258	*i* P	P	13 31 46.7	+0.2
KRMR				*i* S	S	13 32 04.7	-0.9
GRL	Gorelyy	1.68	249	*i* P	P	13 31 48.9	+0.7
GRL				*e*S	S	13 32 09.1	+0.4
GNL	Ganaly	1.69	289	*i* P	P	13 31 48.5	+0.1
GNL				*i* S	S	13 32 07.8	-1.3
APC	Apacha	2.12	265	*i* P	P	13 31 55.4	+0.9
APC				*i* S	S	13 32 20.3	+0.5
APC				Smax			
	330nm,1.0s						
TUMR	Tumrok	2.13	352	*e*P	P	13 31 55.2	+0.6
TUMR				*e*S	S	13 32 20.3	+0.2
MIPR	Malaya Ipel'ka	2.53	251	*e*P	P	13 32 01.4	+1.1
MIPR				*e*S	S	13 32 30.6	+0.4
KMNR	Kamenistaya	2.59	355	*e*P	P	13 32 02.6	+1.3
KMNR				*e*S	S	13 32 32.5	+0.6
KPT	Kopyto	2.81	355	*e*P	P	13 32 04.4	+0.1
KPT				*e*S	S	13 32 35.7	-1.6
ZLN	Zelenaya	2.85	2	*i* P	P	13 32 06.4	+1.5
ZLN				*e*S	S	13 32 39.1	+0.8
PAU	Pauzhetka	2.91	235	*e*P	P	13 32 07.3	+1.5
PAU				*e*S	S	13 32 40.7	+0.8
PAU				Smax			
	310nm,0.8s						
LGNR	Loginova	2.91	1	*i* P	P	13 32 08.5	+2.7
KOZ	Kozyrevsk	2.92	352	*e*P	P	13 32 06.7	+0.8
KOZ				*e*S	S	13 32 39.9	-0.3
KOZR	Kozyr	2.93	352	PN	P	13 32 06.7	+0.7
KOZR				S	S	13 32 39.9	-0.5
CIRR	Tsirk	2.94	1	*e*P	P	13 32 07.7	+1.4
CIRR				*e*S	S	13 32 41.5	+0.7
ESO	Esso	2.98	338	*e*P	P	13 32 06.9	+0.2
ESO				*e*S	S	13 32 40.3	-1.3
ESO				Smax			
	110nm,0.9s						
KRSR	Krestovskiy	3.05	359	*e*P	P	13 32 08.5	+0.8
KRSR				*e*S	S	13 32 42.8	-0.6
KLY	Klyuchi	3.14	0	P	P	13 32 10.2	+1.1
KLY				S	S	13 32 45.2	-0.6
KLY	Klyuchi	3.14	0	*e*P	P	13 32 10.2	+1.1
KLY				*e*S	S	13 32 45.6	-0.2
SRDR	Sredinnyy	3.19	351	*e*P	P	13 32 09.9	+0.1
SRDR				*e*S	S	13 32 45.1	-2.0
KBTR	Krutoberegovo	3.29	22	P	P	13 32 12.0	+0.8
KBTR				S	S	13 32 50.1	+0.5
KBTR	Krutoberegovo	3.29	22	*e*P	P	13 32 12.2	+1.0
KBTR				*e*S	S	13 32 49.4	-0.2
BKI	Bering	3.73	55	*i* P	P	13 32 16.9	-0.6
BKI				*i* S	S	13 32 57.1	-3.7
BKI				Smax			
	100nm,0.2s						
SKR	Severo-Kuril's	3.75	230	*e*PN	P	13 32 20.6	+2.9
SKR				*e*S	S	13 33 01.9	+0.6
SKR				pmax	pmax		
	comp=N,400nm,1.5s						
SKR				pmax	pmax		
	comp=Z,400nm,1.5s						
SKR				pmax	pmax		
	comp=E,90nm,1.0s						
SKR				smax			
	comp=N,70nm,0.2s						
SKR				smax			
	comp=E,120nm,0.5s						
SKR				smax			
	comp=Z,500nm,0.5s						
FX1	Attu Island--F	7.56	87	P	P	13 33 11.5	+0.2
	comp=Z,15nm,0.3s,baz=261,slow=13,SNR=88						
FX1				S	S	13 34 32.2	-4.5
	comp=Z,13nm,0.3s,slow=7.1,SNR=8.4						
FX1	Attu Island--F	7.56	87	*e*P	P	13 33 11.3	0.0
ASAJ	Asahikawa	14.94	240	P	P	13 34 48.8	-2.2
	comp=Z,0.2nm,0.3s,baz=83,slow=15,SNR=3.8						
BILL	Bilibino	15.15	8	*i* P	P	13 34 41.9	-12
BILL				pmax	pmax		
	comp=Z,2.0nm,0.4s						
YAK	Yakutsk	18.63	311	*e*P	P	13 35 32.5	-4.9
	comp=Z,7.6nm,0.7s						
YAK	Yakutsk	18.63	311	*i* P	P	13 35 31.6	-5.8
YAK				pmax	pmax		
	comp=Z,7.0nm,0.7s						
MJAR	Matsushiro Arr	22.86	232	P	P	13 36 20.8	-0.9
	comp=Z,2.9nm,0.5s,mb3.9,baz=20,slow=9.2,SNR=22						
MAJO	Matsushiro	22.86	232	*e*P	P	13 36 21.0	-0.7
	comp=Z,3.8nm,0.5s,mb4.1						
MAJO	Matsushiro	22.86	232	*e*P	P	13 36 21.0	-0.7
MAJO				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.1						
MAT	Matsushiro	22.86	232	P	P	13 36 21.6	-0.1
MAT	Matsushiro	22.86	232	*e*P	P	13 36 22.0	+0.3
TIXI	Tiksi	23.14	335	*i* P	P	13 36 13.9	-10
TIXI				pmax	pmax		
	comp=Z,13nm,1.9s,mb4.0						
SONM	Songino Array	34.20	283	P	P	13 38 01.0	-3.6
	comp=Z,0.4nm,0.6s,mb3.6,baz=79,slow=7.3,SNR=3.6						
MKAR	Makanchi Array	48.41	296	P	P	13 39 56.6	-4.4
	comp=Z,0.5nm,0.5s,mb3.8,baz=62,slow=7.3,SNR=4.1						
BVAR	Borovoye Array	50.59	309	P	P	13 40 13.4	-4.2
	comp=Z,0.5nm,0.4s,mb3.8,baz=60,slow=8.0,SNR=5.7						
ARCES	ARCESS Array B	53.31	342	P	P	13 40 33.4	-4.3
	comp=Z,1.6nm,0.8s,mb4.0,baz=41,slow=8.6,SNR=8.6						
ARCES	ARCESS Array B	53.31	342	P	P	13 40 33.4	-4.3
KAF	Kangasniemi	59.54	337	*e*p	P	13 41 18.1	-4.2
FINES	FINESS Array B	60.17	337	P	P	13 41 22.6	-4.0
	comp=Z,0.6nm,0.4s,mb4.0,baz=33,slow=8.5,SNR=13						
NOA	NORSAR Array B	63.55	344	P	P	13 41 45.6	-3.6
	comp=Z,0.3nm,0.4s,mb3.7,baz=21,slow=6.7,SNR=3.3						
GERES	GERESS Array B	74.56	338	P	P	13 42 53.4	-3.6
	comp=Z,0.5nm,0.7s,mb3.6,baz=34,slow=4.8,SNR=5.5						
WRAB	Tennant Creek	76.28	205	*e*P	P	13 43 06.0	-1.5
	comp=Z,0.6nm,0.4s,mb3.9						
WRAB	Tennant Creek	76.28	205	*e*P	P	13 43 06.0	-1.4
WRAB				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
WRA	Warramunga Arr	76.30	205	P	P	13 43 06.0	-1.5
	comp=Z,0.3nm,0.4s,mb3.6,baz=18,slow=6.0,SNR=12						
FITZ	Fitzroy Crossi	77.15	214	P	P	13 43 10.2	-2.2
	comp=Z,1.6nm,0.7s,mb4.1,slow=10,SNR=2.8						

IDC 14 14:04:20.3±1.5,0.06S×121.36E,mb3.9/3,mb1 4.1/3, mb1mx3.6/17,mbtmp4.0/3,Error ellipse: s-maj=232.2km s-min=25.0km az=59.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.50	148	P	P	14 09 31.9	-1.0
	4.3nm,0.8s,baz=324,slow=10,SNR=34						
STKA	Stephens Creek	36.99	151	P	P	14 11 31.6	-1.9
	1.4nm,0.5s,baz=328,slow=9.5,SNR=5.2						
MKAR	Makanchi Array	57.81	329	P	P	14 14 13.6	-2.3
	0.5nm,0.5s,baz=127,slow=8.4,SNR=7.0						

*IDC **14** 14:14:07.3±1.3,34.75N×137.88E,mb3.7/2,mb1 3.8/3, mb1mx3.5/20,mbtmp3.7/3,ML3.2/1,Error ellipse: s-maj=30.2km s-min=13.0km az=89.0*
*JMA **14** 14:14:08.3±0.2,35.74N×140.21E,h68km±2km,M2.9*

ISC 14 14:14:07.3±0.7,35.67N±0.04×140.22E±0.06,h82km±5km, n17,σ1°01/31,mb3.7/2,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	Nagara	0.25	183	P	P	14 14 20.0	+0.4
JCN				*e*S	S	14 14 29.4	+0.6
TOK	Tokyo	0.37	273	P	P	14 14 20.8	+0.5
TOK				*e*S	S	14 14 29.8	-0.3
JYT	Yasato	0.56	358	P	P	14 14 20.9	-1.0
JYT				S	S	14 14 30.1	-2.6
BSO3	Boso 3	0.90	164	P	P	14 14 26.0	+0.5
BSO3				S	S	14 14 41.3	+2.1
JAG	Ashikaga	0.97	321	P	P	14 14 26.2	-0.2
JAG				S	S	14 14 39.9	-0.8
JOD2	Odawara 2	1.01	246	P	P	14 14 27.0	+0.2
JOD2				*e*S	S	14 14 40.2	-1.2
JRY	Ryogami san	1.12	288	P	P	14 14 29.0	+0.8
JRY				*e*S	S	14 14 44.7	+0.8
JIM2	Oshima 3	1.15	214	P	P	14 14 29.0	+0.5
JIM2				S	S	14 14 43.4	-1.1
BSO1	Boso 1	1.19	148	P	P	14 14 29.4	+0.3
BSO1				*e*S	S	14 14 45.9	+0.5
JKT	Katashina	1.34	325	P	P	14 14 31.2	0.0
JKT				S	S	14 14 48.8	-0.1
JYN	Shimob	1.37	263	P	P	14 14 31.9	+0.3
JYN				*e*S	S	14 14 49.7	+0.2
JIZS	Izushimoda	1.45	229	P	P	14 14 32.7	+0.1
JIZS				S	S	14 14 50.9	-0.3
MJAR	Matsushiro Arr	1.84	299	Pg	P	14 14 38.7	+0.9
	8.1nm,0.3s,baz=103,slow=15,SNR=124						
MJAR				Lg		14 15 05.9	
	6.6nm,0.3s,baz=75,slow=21,SNR=7.8						
MAT	Matsushiro	1.84	299	P	P	14 14 38.7	+0.9
MAT				S	S	14 15 03.0	+2.8
JHJ	Hachijo jima 2	2.57	188	Pn	P	14 14 45.9	-2.0
	14nm,0.3s,baz=237,slow=18,SNR=11						
JHJ				Sn	S	14 15 15.5	-2.6
	44nm,0.3s,baz=74,slow=24,SNR=5.8						
MKAR	Makanchi Array	44.04	303	P	P	14 22 07.3	-1.0
	0.5nm,0.7s,mb3.3,baz=82,slow=10,SNR=5.2						
WRA	Warramunga Arr	55.59	187	P	P	14 23 37.4	+0.5
	0.9nm,0.6s,mb4.0,baz=2.0,slow=7.6,SNR=22						

IDC 14 14:15:47.9±6.7,18.89S×169.94E,mb4.0/4,mb1 4.2/4, mb1mx3.9/12,mbtmp4.0/4,Error ellipse: s-maj=151.8km s-min=38.7km az=35.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	28.59	238	P	P	14 21 46.9	-1.0
	2.2nm,0.6s,baz=71,slow=7.6,SNR=6.5						
WRA	Warramunga Arr	33.55	262	P	P	14 22 29.4	-2.3
	0.4nm,0.3s,baz=98,slow=8.4,SNR=50						
FITZ	Fitzroy Crossi	41.94	264	P	P	14 23 39.9	-2.3
	2.9nm,0.5s,baz=111,slow=8.2,SNR=6.2						
VNDA	Vanda	58.80	182	P	P	14 25 47.5	-2.5
	0.4nm,0.9s,baz=17,slow=5.7,SNR=3.2						

*NIED **14** 14:47:00,36.40N×141.00E,h14km,Mw3.5 Best double couple: M0 1.92×10^14 NP1:φs70°,δs85°,λ113°. NP2:φs171°, δ23°,λ12°.*
*IDC **14** 14:47:43.8±1.3,36.43N×141.07E,mb3.6/4,mb1 3.7/7, mb1mx3.5/21,mbtmp3.6/7,ML3.4/3,Error ellipse: s-maj=26.0km s-min=18.9km az=106.0*
*JMA **14** 14:47:47.3±0.1,36.42N×140.96E,h40km±1km,M3.9*
JMA Felt I J1.
*NEIC **14** 14:47:47.4,36.42N×140.96E,h40km,MG3.9(JMA),After JMA.*

ISC 14 14:47:46.1±0.9,36.43N±0.03×141.09E±0.05,h28km±5km, n21,σ0°98/35,mb3.5/4,3C-4D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	Hitachi	0.46	293	‖P	Pb	14 47 56.1	+0.5
JHO				S	Sb	14 48 02.1	-0.1
ONAJ	Iwakimizuishiy	0.71	341	‖P	Pb	14 48 00.4	+0.6
ONAJ				S	Sb	14 48 09.5	+0.3
JYT	Yasato	0.75	254	‖P	Pb	14 48 00.0	-0.5
JYT				S	Sb	14 48 08.7	-1.7
JFK	Kawauchi	0.95	350	‖P	Pn	14 48 03.9	+0.2
JFK				S	Sb	14 48 15.6	-0.4
JFT	Otama	1.24	331	⇑P	Pn	14 48 09.1	+1.3
JFT				S	Sn	14 48 24.0	+0.3
JAG	Ashikaga	1.32	270	P	Pn	14 48 08.2	-0.8
JAG				S	Sn	14 48 23.3	-2.4
JMM	Marumori	1.45	351	⇑P	Pn	14 48 11.4	+0.6
JMM				S	Sn	14 48 28.9	-0.2
JFY	Yanaizu	1.48	312	P	Pn	14 48 11.9	+0.7
JFY				S	Sn	14 48 30.9	+1.2
JKT	Katashina	1.52	283	⇑P	Pn	14 48 12.1	+0.3
JKT				S	Sn	14 48 29.6	-1.2
MJAR	Matsushiro Arr	2.32	274	Pn	Pn	14 48 24.0	+0.7
	5.2nm,0.3s,baz=114,slow=8.0,SNR=84						
MJAR				Sn	Sn	14 48 52.6	+1.3
	16nm,0.3s,baz=104,slow=20,SNR=12						
MAJO	Matsushiro	2.33	274	*e*P	Pn	14 48 24.0	+0.6
MAT	Matsushiro	2.33	274	P	Pn	14 48 23.6	+0.2
MAT				S	Sn	14 48 51.1	-0.2
MAT	Matsushiro	2.33	274	*e*P	Pn	14 48 24.0	+0.6
MAT				*e*S	Sn	14 48 53.0	+1.7
JHJ	Hachijo jima 2	3.48	198	Pn	Pn	14 48 41.0	+1.3
	12nm,0.3s,baz=28,slow=17,SNR=10.0						
JHJ				Sn	Sn	14 49 21.4	+1.0
	21nm,0.3s,baz=69,slow=23,SNR=6.5						
ASAJ	Asahikawa	7.76	8	Pn	Pn	14 49 38.1	-2.0
	0.7nm,0.3s,baz=211,slow=14,SNR=8.8						
ASAJ				Sn	Sn	14 51 07.2	-0.8
	0.1nm,0

CTA Charters Tower 31.48 270⇓*i*P P 14 59 54.1 +1.4
CTA pmax pmax
comp=Z,66nm,0.4s
CTAO Charters Tower 31.48 270 *e*P **P 14 59 54.1 +1.4**
comp=Z,79nm,0.5s,mb5.4
CTAO Charters Tower 31.48 270 *e*P **P 14 59 54.1 +1.4**
CTAO pmax pmax
comp=Z,79nm,0.5s,mb5.4
TOO Toolangi 32.47 237 *e*P **P 15 00 02.1 +1.2**
comp=Z,16nm,0.6s,mb4.6
TOO Toolangi 32.47 237 *e*P **P 15 00 02.1 +1.2**
TOO pmax pmax
comp=Z,16nm,0.6s,mb4.6
PMG Port Moresby 34.48 289 P **P 15 00 19.1 +1.0**
comp=Z,63nm,0.7s,mb5.2,baz=102,slow=6.3,SNR=23
PMG Port Moresby 34.48 289 *e*P **P 15 00 19.4 +1.3**
PMG Port Moresby 34.48 289 *i*P **P 15 00 19.3 +1.2**
STKA Stephens Creek 34.74 248⇓*i*P **P 15 00 21.1 +1.0**
comp=Z,7.8nm,0.8s,mb4.2
STKA Stephens Creek 34.74 248 P **P 15 00 21.1 +1.1**
comp=Z,7.5nm,0.4s,mb4.5,baz=89,slow=8.4,SNR=34
WRAB Tennant Creek 42.40 266⇓*e*P **P 15 01 22.4 -0.4**
comp=Z,68nm,0.6s,mb5.2
WRAB Tennant Creek 42.40 266⇓*e*P **P 15 01 22.4 -0.4**
WRAB pmax pmax
comp=Z,68nm,0.6s,mb5.2
WRA Warramunga Arr 42.41 266 P **P 15 01 22.7 -0.2**
comp=Z,32nm,0.3s,mb5.2,baz=96,slow=8.4,SNR=683
WRA ScP 15 06 09.1
comp=Z,7.3nm,0.9s,baz=97,slow=4.1,SNR=20
KAKA Kakadu 46.31 275⇓*i*P **P 15 02 02.9 +9.5**
comp=Z,22nm,0.3s,mb5.1
FORT Forrest 46.33 250⇓*i*P **P 15 01 52.4 -1.0**
comp=Z,98nm,0.6s,mb5.4
FITZ Fitzroy Crossi 50.83 266⇓*i*P **P 15 02 27.0 -0.5**
comp=Z,38nm,0.7s,mb4.8
SBA Scott Base 54.41 183 *e*P **P 15 02 53.7 +1.2**
comp=Z,2.8nm,0.9s,mb3.6
SBA Scott Base 54.41 183 *e*P **P 15 02 53.7 +1.2**
SBA pmax pmax
comp=Z,3.0nm,0.9s,mb3.6
VNDA Vanda 54.41 185 P **P 15 02 52.5 0.0**
comp=Z,0.4nm,0.7s,baz=3.0,slow=8.1,SNR=3.4
VNDA PcP PcP 15 03 47.7 -1.3
comp=Z,1.3nm,0.7s,baz=8.4,slow=5.6,SNR=8.7
VNDA ScP 15 06 56.6
comp=Z,0.2nm,0.5s,baz=338,slow=5.0,SNR=3.8
VNDA Vanda 54.41 185 P **P 15 02 52.5 0.0**
VNDA PcP PcP 15 03 47.7 -1.3
VNDA ScP 15 06 56.6
KLBR Kellerberrin 55.00 247⇓*i*P **P 15 02 55.8 -1.5**
comp=Z,17nm,0.6s,mb4.6
MBWA Marble Bar 55.38 260 *e*P **P 15 02 58.6 -1.4**
comp=Z,20nm,0.9s,mb4.5
MUN Mundaring 56.25 247⇓*i*P **P 15 03 04.7 -1.2**
comp=Z,7.2nm,0.4s,mb4.4
MUN Mundaring 56.25 247⇓*i*P **P 15 03 04.7 -1.2**
MUN pmax pmax
comp=Z,7.0nm,0.4s,mb4.3
QSPA South Pole Qui 66.22 180⇑*i*P **P 15 04 10.6 +0.1**
comp=Z,6.8nm,0.7s,mb4.4
JOW Kunigami 70.97 312 P **P 15 04 39.6 -0.4**
comp=Z,18nm,0.8s,mb4.7,baz=144,slow=6.3,SNR=8.0
MJAR Matsushiro Arr 71.87 326 P **P 15 04 44.4 -0.7**
comp=Z,2.3nm,0.8s,mb3.8,baz=162,slow=6.5,SNR=8.9
FX1 Attu Island--F 76.65 356 P **P 15 05 11.2 -0.5**
comp=Z,6.7nm,0.7s,mb4.3,baz=286,slow=7.4,SNR=3.6
MAW Mawson 77.78 200 P **P 15 05 17.4 -0.2**
comp=Z,1.4nm,0.2s,mb4.0,baz=132,slow=7.6,SNR=11
CMB Columbia Colle 83.17 43 *e*P **P 15 05 45.8 -0.2**
comp=Z,12nm,1.0s,mb4.4
CMB Columbia Colle 83.17 43 *e*P **P 15 05 45.8 -0.2**
CMB pmax pmax
comp=Z,12nm,1.0s,mb4.4
WDC Whiskeytown Da 83.43 40 *e*P **P 15 05 47.3 0.0**
comp=Z,8.7nm,1.0s,mb4.2
WDC Whiskeytown Da 83.43 40 *e*P **P 15 05 47.3 +0.1**
WDC pmax pmax
comp=Z,9.0nm,1.0s,mb4.2
MTUM Tungsten Hills 83.93 45 *e*P **P 15 05 50.4 +0.6**
YBH Yreka Blue Hor 84.06 39 P **P 15 05 51.2 +0.9**
comp=Z,3.8nm,0.7s,mb4.0,baz=27,slow=4.5,SNR=6.3
YBH Yreka Blue Hor 84.06 39 *e*P **P 15 05 51.0 +0.6**
LDFC Landfair 84.92 48 *e*P **P 15 05 55.4 +0.6**
NEN Nelson 85.42 48 *e*P **P 15 05 57.2 0.0**
MOD Modoc 85.57 40 *e*P **P 15 05 57.8 0.0**
comp=Z,6.2nm,0.9s,mb4.2
TUC Tucson 86.50 52 *e*P **P 15 06 03.1 +0.7**
comp=Z,7.6nm,0.8s,mb4.4
TUC Tucson 86.50 52 *e*P **P 15 06 03.1 +0.7**
TUC pmax pmax
comp=Z,8.0nm,0.8s,mb4.4
WVOR Wild Horse Val 86.88 41 *e*P **P 15 06 04.0 0.0**
comp=Z,16nm,1.4s,mb4.6
WVOR Wild Horse Val 86.88 41 *e*P **P 15 06 04.0 0.0**
WVOR pmax pmax
comp=Z,16nm,1.4s,mb4.6
TDL Tradedollar La 87.25 36 P **P 15 06 06.7 +1.1**
ELK Elko 87.99 43 *e*P **P 15 06 09.2 -0.1**
comp=Z,1.4nm,0.6s,mb3.9
ELK Elko 87.99 43 *e*P **P 15 06 09.2 -0.1**
ELK pmax pmax
comp=Z,1.0nm,0.6s
RMW Rattlesnake Mo 88.17 35 P **P 15 06 10.3 +0.3**
PLCA Paso Flores 88.29 134 P **P 15 06 10.5 -0.1**
comp=Z,1.2nm,0.7s,mb3.8,baz=255,slow=8.7,SNR=5.1
PLCA Paso Flores 88.29 134 P **P 15 06 10.5 -0.1**
MCW Mount Constitu 88.41 34 P **P 15 06 12.1 +1.1**
EBG Ellensburg 88.49 36 P **P 15 06 11.9 +0.5**
MSU Marysvale 88.76 47 *e*P **P 15 06 13.8 +0.9**
RPW Rockport 88.94 35 P **P 15 06 13.6 0.0**
BMO Blue Mountains 89.08 39 *e*P **P 15 06 13.8 -0.5**
comp=Z,8.9nm,1.4s,mb4.4
BMO Blue Mountains 89.08 39 *e*P **P 15 06 13.8 -0.5**
BMO pmax pmax
comp=Z,9.0nm,1.4s,mb4.4
NLW Nelson Butte 89.33 35 P **P 15 06 15.5 +0.2**
TMUT Trail Mountain 89.81 46 *e*P **P 15 06 18.2 +0.4**
HLID Hailey 90.07 41 *e*P **P 15 06 19.0 +0.2**
comp=Z,5.1nm,1.0s,mb4.3
SRU San Rafael 90.17 47 *e*P **P 15 06 19.5 0.0**
LAZ Ladron 90.18 52 *e*P **P 15 06 20.1 +0.5**
MNTX Cornudas Mount 90.19 55 *e*P **P 15 06 19.6 -0.1**
comp=Z,2.7nm,0.9s,mb4.1
BNM Barren Site 90.43 53 *e*P **P 15 06 21.0 +0.2**
ANMO Albuquerque 90.93 52 *e*P **P 15 06 22.4 -0.6**
comp=Z,4.0nm,1.2s,mb4.2
ANMO Albuquerque 90.93 52 *e*P **P 15 06 22.5 -0.5**
ANMO pmax pmax
comp=Z,4.0nm,1.2s
GDL2 Guadalupe Moun 91.19 55 *e*P **P 15 06 24.9 +0.6**
MCMT McKenzie Canyo 91.70 41 *e*P **P 15 06 26.7 +0.4**
ILAR Eielson Array 92.00 14 P **P 15 06 25.8 -1.4**
comp=Z,0.8nm,0.7s,mb3.8,baz=225,slow=6.0,SNR=12
SMCO Snowmass 92.60 48 *e*P **P 15 06 30.3 -0.3**
BW06 Boulder Array 92.66 44 *e*P **P 15 06 29.9 -0.9**
comp=Z,2.0nm,0.8s,mb4.2
PDAR Pinedale Array 92.66 44 P **P 15 06 30.5 -0.3**
comp=Z,2.1nm,0.7s,mb4.3,baz=221,slow=3.0,SNR=21
SDCO Great Sand Dun 92.94 50 *e*P **P 15 06 32.0 -0.1**
comp=Z,2.3nm,0.8s,mb4.3
DAWY Dawson 93.19 17 *e*P **P 15 06 31.7 -1.0**
MKAR Makanchi Array 112.13 313 PKiKP 15 11 49.4
comp=Z,0.4nm,0.6s,baz=178,slow=1.2,SNR=7.8
BDFB Brasilia 116.83 125 PKP PKPdf 15 12 03.1 -0.6
comp=Z,1.6nm,0.7s,baz=76,slow=4.2,SNR=3.4
ARU Arti 126.86 324 *i*PKIKP PKPdf 15 12 17.7 -0.5
ARCES ARCESS Array B 131.85 348 PKP PKPdf 15 12 26.8 -0.7
comp=Z,2.0nm,0.6s,baz=30,slow=1.0,SNR=20
ARCES SKPbc 15 15 06.1
comp=Z,3.0nm,0.8s,slow=3.6,SNR=5.6
KAF Kangasniemi 137.81 342 *e*p PKPdf 15 12 39.2 +0.6
FINES FINESS Array B 138.41 341 PKhKP 15 12 30.9
comp=Z,0.3nm,0.5s,slow=3.8,SNR=4.3
FINES PKP PKPdf 15 12 39.8 +0.1
comp=Z,0.4nm,0.4s,baz=50,slow=4.5,SNR=4.8
FINES SKPbc 15 15 26.1
comp=Z,2.8nm,0.6s,baz=63,slow=4.3,SNR=14
NB2 NORSAR Subarra142.05 351 PKPabc PKPdf 15 12 42.2 -3.9
comp=Z,1.2nm,0.7s,baz=10.0,slow=3.2
NOA NORSAR Array B 142.05 351 PKhKP 15 12 41.5
comp=Z,1.6nm,0.7s,baz=16,slow=4.7,SNR=7.1
NOA PKP PKPdf 15 12 46.6 +0.5
comp=Z,0.7nm,0.7s,slow=1.8,SNR=3.7
NOA SKPbc 15 15 35.6
comp=Z,0.7nm,0.6s,baz=13,slow=4.2,SNR=3.8

AKASG Malin Array Be 144.94 327 PKP PKPdf 15 12 51.4 -0.1
comp=Z,1.4nm,0.5s,baz=42,slow=3.7,SNR=6.5
AKASG SKPbc 15 15 43.2
comp=Z,2.8nm,0.5s,baz=42,slow=2.9,SNR=15
AKASG Malin Array Be 144.94 327 PKP PKPdf 15 12 51.4 0.0
AKASG SKPbc 15 15 43.2
BRTR Keskin Array B 147.56 307 PKPbc PKPdf 15 13 04.0 +8.0
comp=Z,2.0nm,0.6s,baz=91,slow=3.2,SNR=9.1
KOLS Kolonicke sedl 149.44 331 *e*PKP PKPdf 15 13 05.2 +6.4
KOLS *e* 15 13 12.6
STHS Stebnicka Huta 149.54 332 *e*PKP PKPdf 15 13 05.3 +6.4
KSP Ksiaz 150.26 339 *e*P PKPdf 15 13 06.7 +6.7
OKC Ostrava-Krasne 150.45 336 *e*PKPbc PKPdf 15 13 06.7 +6.4
UPC Upice 150.64 339 *e*PKPbc PKPdf 15 13 07.3 +6.7
DPC Dobruska-Polom 150.67 338 *e*PKPbc PKPdf 15 13 07.5 +6.8
CLL Collm 150.82 343⇑*i*PKP1 PKPdf 15 13 07.4 +6.6
CLL *e*PKP2 PKPab 15 13 15.0 -3.6
BRG Berggiesshubel 150.96 342 *i*P PKPdf 15 13 08.0 +6.9
PVCC Panska Ves 151.08 341 *e*PKPbc PKPdf 15 13 08.4 +7.2
PRU Pruhonice 151.56 340 *e*PKPbc PKPdf 15 13 08.2 +6.3
NKC Novy Kostel 151.95 343 *e*PKPbc PKPdf 15 13 10.4 +7.9
KHC Kasperske Hory 152.61 340 *e*PKPbc PKPdf 15 13 11.5 +8.1
GRA1 Grafenberg Arr 152.76 344 *e*PKP PKPdf 15 13 12.2 +8.6
GRF Grafenberg Arr 152.76 344 *e*PKIKP PKPdf 15 13 12.2 +8.6
WET Wettzell 152.81 341 *e*PKP PKPdf 15 13 11.9 +8.2
GERES GERESS Array B 152.83 340 PKP PKPdf 15 13 04.1 +0.4
comp=Z,0.1nm,0.3s,baz=338,slow=1.0,SNR=3.0
GERES PKPbc PKPdf 15 13 11.9 +8.1
comp=Z,0.5nm,0.5s,baz=117,slow=3.0,SNR=5.3
ESDC Sonseca Array 163.89 11 PKPab PKPab 15 14 13.4 -1.5
comp=Z,1.3nm,0.8s,baz=346,slow=6.0,SNR=6.6

*IDC **14** 15:36:52.1±1.0, 0.25N×98.85E, mb4.1/10, mb1 4.2/10, mb1mx4.0/20, mbtmp4.1/10, Error ellipse: s-maj=42.0km s-min=16.4km az=58.0*
*NEIC **14** 15:36:55.7±0.8, 0.08N×98.57E, h30km, mb4.1/1, Error ellipse: s-maj=21.2km s-min=12.8km az=60.0*
ISC 14 15:36:53.7±4.1, 0.0N±0.2×98.4E±0.2, h37km±31km, n19, σ0§88/18, mb4.2/11, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.22**	**30**	P	**P**	**15 38 11.8**	**+0.4**
KULM	**Kulim**	**5.68**	**23**	*e*P	**P**	**15 38 17.1**	**-0.7**
KKM	**Kota Kinabalu**	**18.73**	**71**	P	**P**	**15 41 14.0**	**+2.0**
KKM	**Kota Kinabalu**	**18.73**	**71**	*e*P	**P**	**15 41 13.2**	**+1.2**
TSM	**Tawau**	**19.88**	**77**	P	**P**	**15 41 25.0**	**+0.1**
FITZ	**Fitzroy Crossi**	**32.24**	**125**	P	**P**	**15 43 20.2**	**-1.0**
	6.0nm,1.0s,mb4.4,baz=329,slow=5.9,SNR=3.5						
WRA	**Warramunga Arr**	**40.37**	**122**	P	**P**	**15 44 30.1**	**+0.2**
	0.9nm,0.4s,mb3.8,baz=308,slow=9.1,SNR=37						
WRA				PcP	PcP	15 46 35.6	+2.3
	0.4nm,0.6s,baz=306,slow=2.8,SNR=4.3						
WRAB	**Tennant Creek**	**40.38**	**122**	*e*P	**P**	**15 44 30.0**	**+0.1**
KS15	**Wonju Array Si**	**46.11**	**33**	*e*P	**P**	**15 45 15.5**	**-0.8**
SONM	**Songino Array**	**48.12**	**7**	P	**P**	**15 45 33.0**	**+1.0**
	1.3nm,0.3s,mb4.4,baz=188,slow=9.0,SNR=16						
MKAR	**Makanchi Array**	**48.68**	**345**	P	**P**	**15 45 36.9**	**+0.5**
	1.6nm,0.6s,mb4.2,baz=154,slow=7.8,SNR=20						
STKA	**Stephens Creek**	**51.66**	**132**	P	**P**	**15 45 59.4**	**+0.2**
	4.4nm,1.0s,mb4.3,baz=318,slow=5.1,SNR=2.5						
MJAR	**Matsushiro Arr**	**51.74**	**41**	P	**P**	**15 45 57.8**	**-2.0**
	0.7nm,0.6s,mb3.8,baz=209,slow=7.0,SNR=5.1						
KURK	**Kurchatov**	**53.24**	**344**	*e*P	**P**	**15 46 10.8**	**-0.1**
	2.0nm,0.8s,mb4.1						
ZAL	**Zalesovo**	**54.91**	**350**	P	**P**	**15 46 22.9**	**0.0**
	2.2nm,0.4s,mb4.5,baz=310,slow=7.9,SNR=4.9						
BVAR	**Borovoye Array**	**57.76**	**340**	P	**P**	**15 46 42.6**	**-0.8**
	0.9nm,0.5s,mb4.0,baz=143,slow=7.4,SNR=4.9						
FINES	**FINESS Array B**	**81.61**	**332**	P	**P**	**15 49 13.2**	**+4.0**
	2.6nm,1.2s,mb4.0,baz=230,slow=8.4,SNR=3.1						
ARCES	**ARCESS Array B**	**84.05**	**340**	P	**P**	**15 49 22.6**	**+1.2**
	2.1nm,1.0s,mb4.2,baz=124,slow=4.4,SNR=4.5						
CPUP	**Villa Florida**	**144.93**	**220**	PKPbc	PKPbc	15 56 31.9	+3.9
	1.8nm,0.6s,baz=133,slow=3.0,SNR=7.8						

*IDC **14** 16:34:56.8±0.7, 27.85N×139.96E, h482km±14km, mb2.8/4, mb1 2.8/7, mb1mx2.7/21, mbtmp3.7/7, Error ellipse: s-maj=37.6km s-min=18.3km az=73.0*
*JMA **14** 16:34:57.5±0.3, 28.04N×140.49E, h502km±5km, M3.4*
*NEIC **14** 16:34:57.3±1.8, 27.88N×139.94E, h492km±17km, mb3.6/1, Error ellipse: s-maj=32.8km s-min=18.4km az=96.0*
ISC 14 16:34:56.0±0.6, 27.86N±0.07×140.1E±0.2, h501km±10km, n18, σ0§89/22, mb3.2/5, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.03**	**112**	P	**P**	**16 36 01.9**	**+0.1**
	14nm,0.3s,baz=278,slow=22,SNR=6.5						
CBIJ				S	**S**	**16 36 52.9**	**-1.1**
	45nm,0.3s,baz=260,slow=24,SNR=10						
CBIJ	**Chichi jima**	**2.03**	**112**	P	**P**	**16 36 02.1**	**+0.3**
CBIJ				*e*S	**S**	**16 36 53.0**	**-0.9**
JHHJ	**Haha-jima-NKT**	**2.25**	**123**	P	**P**	**16 36 03.4**	**+0.4**
JHHJ				S	**S**	**16 36 56.3**	**+0.3**
JIE	**Ise**	**7.12**	**337**	P	**P**	**16 36 46.0**	**+1.6**
JKN2	**Miekihoku**	**7.14**	**334**	P	**P**	**16 36 46.2**	**+1.5**
JOD2	**Odawara 2**	**7.43**	**354**	P	**P**	**16 36 49.1**	**+1.5**
JRY	**Ryogami san**	**8.19**	**353**	P	**P**	**16 36 55.3**	**-0.3**
JYT	**Yasato**	**8.34**	**1**	P	**P**	**16 36 56.8**	**-0.4**
JAG	**Ashikaga**	**8.56**	**357**	P	**P**	**16 36 58.4**	**-1.0**
JHO	**Hitachi**	**8.74**	**3**	P	**P**	**16 37 01.4**	**+0.1**
JHO				*e*S	**S**	**16 38 40.1**	**-0.8**
MJAR	**Matsushiro Arr**	**8.80**	**350**	P	**P**	**16 37 01.3**	**-0.7**
	0.1nm,0.3s,baz=144,slow=10,SNR=3.4						
JOW	**Kunigami**	**10.53**	**267**	P	**P**	**16 37 19.2**	**-1.1**
	1.1nm,0.3s,baz=134,slow=18,SNR=5.2						
WRA	**Warramunga Arr**	**47.84**	**187**	P	**P**	**16 42 49.7**	**+0.3**
	0.1nm,0.3s,mb2.6,baz=1.6,slow=7.7,SNR=9.3						
MKAR	**Makanchi Array**	**48.54**	**309**	P	**P**	**16 42 54.2**	**-0.1**
	0.2nm,0.4s,mb2.8,baz=89,slow=9.4,SNR=7.5						
MKAR	**Makanchi Array**	**48.54**	**309**	P	**P**	**16 42 54.2**	**-0.1**
KURK	**Kurchatov**	**51.11**	**314**	*e*P	**P**	**16 43 11.8**	**-1.6**
	1.1nm,0.4s,mb3.5						
BVAR	**Borovoye Array**	**56.21**	**317**	P	**P**	**16 43 49.6**	**+0.1**
	1.6nm,0.4s,mb3.7,baz=94,slow=7.0,SNR=11						
FINES	**FINESS Array B**	**76.43**	**333**	P	**P**	**16 45 55.3**	**+1.1**
	0.4nm,0.3s,mb3.4,baz=60,slow=6.0,SNR=9.2						

*IDC **14** 16:49:51.6±2.3, 6.90N×76.32W, h52km±20km, mb3.7/11, mb1 3.9/14, mb1mx3.8/22, mbtmp4.0/14, ML3.3/3, MS3.5/7, Ms1 3.5/7, ms1mx3.2/26, Error ellipse: s-maj=17.7km s-min=15.3km az=82.0*
*NEIC **14** 16:49:51.7±1.1, 6.86N×76.31W, h53km±11km, mb4.2/2, Error ellipse: s-maj=14.9km s-min=9.7km az=48.0*
ISC 14 16:49:49.4±1.5, 6.90N±0.08×76.32W±0.07, h44km±14km, n24, σ0§96/22, mb3.9/12, MS3.5/5, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.83**	**136**	P	**P**	**16 50 36.3**	**+3.0**
	32nm,0.3s,baz=289,slow=1.2,SNR=46						
ROSC				S	**S**	**16 51 14.5**	**+8.0**
	129nm,0.3s,baz=111,slow=22,SNR=14						
SDV	**Santo Domingo**	**5.97**	**70**	P	**P**	**16 51 16.5**	**-1.0**
	6.7nm,0.3s,baz=292,slow=9.7,SNR=22						
SDV				S	**S**	**16 52 25.4**	**-0.2**
	13nm,0.3s,baz=49,slow=18,SNR=6.0						
SDV				LR	LR	16 53 56.5	
	comp=Z,442nm,18.7s,baz=59,slow=41						
SDV	**Santo Domingo**	**5.97**	**70**	*e*P	**P**	**16 51 17.0**	**-0.5**
SDV				S	**S**	**16 52 25.4**	**-0.2**
SDV				LR	LR	16 53 56.5	
JTS	**JuntasAbangare**	**9.18**	**292**	P	**P**	**16 52 01.2**	**-0.8**
	0.2nm,0.3s,baz=17,slow=19,SNR=2.6						
JTS				LR	LR	16 55 40.1	
	comp=Z,242nm,18.1s,baz=118,slow=38						
SAML	**Samuel**	**20.48**	**140**	*e*P	**P**	**16 54 22.6**	**-3.5**
	15nm,1.1s						
SIV	**San Ignacio**	**27.30**	**147**	P	**P**	**16 55 30.9**	**-1.3**
	1.3nm,0.8s,mb3.5,baz=288,slow=19,SNR=6.9						
BDFB	**Brasilia**	**35.88**	**129**	P	**P**	**16 56 46.1**	**-1.4**
	3.8nm,1.0s,mb4.3,baz=316,slow=10.0,SNR=4.1						
SADO	**Sadowa**	**37.81**	**357**	LR	LR	17 12 55.2	
	comp=Z,55nm,18.6s,MS3.4,baz=268,slow=37						
CPUP	**Villa Florida**	**37.82**	**152**	LR	LR	17 14 03.5	
	comp=Z,108nm,18.9s,MS3.7,baz=291,slow=38						
CFAA	**Coronel Fontan**	**39.05**	**169**	P	**P**	**16 57 14.4**	**+0.6**
	0.4nm,0.7s,mb3.3,baz=343,slow=7.2,SNR=11						
PDAR	**Pinedale Array**	**46.19**	**326**	P	**P**	**16 58 11.4**	**-0.4**
	1.0nm,1.1s,mb3.6,baz=90,slow=9.0,SNR=4.0						

ULM Lac du Bonnet 46.20 343 LR LR 17 19 30.6
comp=Z,27nm,19.5s,MS3.2,baz=328,slow=38
LOHW Long Hollow 47.32 326 *e*P **P 16 58 21.4 +0.7**
3.0nm,1.1s,mb4.1
PLCA Paso Flores 47.69 174 P **P 16 58 23.6 0.0**
1.2nm,0.8s,mb4.0,baz=339,slow=13,SNR=3.9
PLCA Paso Flores 47.69 174 *e*P **P 16 58 23.4 -0.2**
ESDC Sonseca Array 72.06 51 P **P 17 01 10.6 -0.4**
1.8nm,0.9s,mb4.0,baz=270,slow=5.4,SNR=40
ILAR Eielson Array 75.56 335 P **P 17 01 31.0 +0.1**
0.6nm,0.9s,mb3.5,baz=99,slow=4.1,SNR=6.1
NB2 NORSAR Subarra 82.82 29 P **P 17 02 11.3 +1.1**
0.8nm,0.8s,mb3.8,baz=272,slow=5.0
NOA NORSAR Array B 82.82 29 P **P 17 02 11.3 +1.1**
1.6nm,0.8s,mb4.1,baz=274,slow=5.1,SNR=5.1
GERES GERESS Array B 84.88 42 P **P 17 02 21.6 +0.7**
1.8nm,0.9s,mb4.2,baz=288,slow=4.2,SNR=11
ARCES ARCESS Array B 87.70 20 P **P 17 02 34.2 0.0**
2.0nm,0.8s,mb4.4,baz=259,slow=6.2,SNR=8.0
ARCES LR LR 17 38 47.4
comp=Z,21nm,18.7s,MS3.6,slow=34
FINES FINESS Array B 89.88 28 P **P 17 02 45.3 +0.6**
0.7nm,0.7s,mb4.1,baz=252,slow=6.0,SNR=4.8
FINES LR LR 17 40 17.0
comp=Z,22nm,18.9s,MS3.6,baz=192,slow=34
WRAB Tennant Creek 147.55 243 *e*P PKPdf 17 09 29.2 +2.1
WRA Warramunga Arr 147.55 243 PKPbc PKPdf 17 09 29.0 +1.9
3.7nm,1.0s,baz=101,slow=2.0,SNR=16

*IDC **14** 17:10:40.1±1.6, 19.30S×68.90W, h94km±25km, mb3.4/2, mb1 3.6/6, mb1mx3.5/18, mbtmp3.8/6, Error ellipse: s-maj=39.2km s-min=8.8km az=100.0*
*NEIC **14** 17:10:40.0±1.0, 19.32S×68.89W, h90km±19km, Error ellipse: s-maj=21.8km s-min=8.9km az=108.0*
ISC 14 17:10:39.7±1.0, 19.32S±0.05×68.8W±0.2, h105km±15km, n11, σ0§68/15, mb3.3/1, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.09**	**12**	P	**P**	**17 11 27.1**	**-0.6**
	2.4nm,0.3s,baz=186,slow=8.3,SNR=50						
LPAZ				S	**S**	**17 12 04.5**	**+0.5**
	2.0nm,0.3s,baz=234,slow=17,SNR=4.4						
LPAZ	**La Paz**	**3.09**	**12**	*e*P	**P**	**17 11 27.0**	**-0.7**
LPAZ				S	**S**	**17 12 04.5**	**+0.5**
LVC	**Limon Verde**	**3.27**	**182**	P	**P**	**17 11 29.8**	**-0.5**
	5.5nm,0.3s,baz=345,slow=10,SNR=62						
LVC				S	**S**	**17 12 09.3**	**+0.7**
	19nm,0.3s,baz=115,slow=22,SNR=6.1						
LVC	**Limon Verde**	**3.27**	**182**	*e*P	**P**	**17 11 30.3**	**0.0**
LVC				S	**S**	**17 12 09.3**	**+0.7**
SIV	**San Ignacio**	**8.09**	**67**	P	**P**	**17 12 34.9**	**-1.1**
	1.9nm,0.3s,baz=266,slow=9.9,SNR=53						
SAML	**Samuel**	**11.67**	**29**	P	**P**	**17 13 24.5**	**+0.5**
CFAA	**Coronel Fontan**	**12.24**	**178**	P	**P**	**17 13 31.4**	**-0.2**
	0.0nm,0.3s,baz=3.0,slow=14,SNR=3.2						
CPUP	**Villa Florida**	**12.68**	**125**	P	**P**	**17 13 36.8**	**-0.5**
	0.1nm,0.3s,baz=320,slow=15,SNR=5.6						
CPUP	**Villa Florida**	**12.68**	**125**	*e*P	**P**	**17 13 37.4**	**0.0**
	1.7nm,0.7s						
BDFB	**Brasilia**	**20.18**	**83**	P	**P**	**17 15 09.3**	**+1.2**
	5.3nm,0.5s,baz=262,slow=9.9,SNR=15						
PLCA	**Paso Flores**	**21.39**	**184**	P	**P**	**17 15 19.7**	**-0.5**
	1.6nm,1.1s,mb3.3,baz=355,slow=10,SNR=3.3						

*IDC **14** 17:11:02.0±2.5, 18.66S×68.90W, h48km±26km, mb3.6/2, mb1 3.9/4, mb1mx3.6/16, mbtmp3.7/4, ML4.0/1, Error ellipse: s-maj=62.3km s-min=21.1km az=92.0*
*NEIC **14** 17:11:02.1±1.6, 18.72S×68.79W, h50km±14km, Error ellipse: s-maj=34.4km s-min=14.1km az=89.0*
ISC 14 17:11:00.9±1.0, 18.71S±0.09×68.8W±0.2, h50km, n11, σ1§27/9, mb3.7/2, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.49**	**14**	P	**P**	**17 11 41.0**	**+1.1**
	3.0nm,0.3s,baz=194,slow=12,SNR=5.9						
LVC	**Limon Verde**	**3.88**	**182**	P	**P**	**17 11 59.6**	**0.0**
	37nm,0.3s,baz=344,slow=12,SNR=7.3						
LVC				S	**S**	**17 12 36.2**	**-8.2**
	31nm,0.3s,baz=196,slow=20,SNR=6.6						
LVC	**Limon Verde**	**3.88**	**182**	*e*P	**P**	**17 11 59.4**	**-0.2**
LVC				S	**S**	**17 12 36.2**	**-8.2**
CPUP	**Villa Florida**	**13.00**	**128**	P	**P**	**17 14 04.4**	**-0.8**
	0.2nm,0.3s,baz=306,slow=14,SNR=3.2						
CPUP	**Villa Florida**	**13.00**	**128**	*e*P	**P**	**17 14 04.4**	**-0.7**
PLCA	**Paso Flores**	**22.00**	**184**	P	**P**	**17 15 54.2**	**+1.9**
	1.9nm,0.9s,mb3.5,baz=355,slow=12,SNR=4.4						
PDAR	**Pinedale Array**	**71.78**	**330**	P	**P**	**17 22 18.4**	**-1.7**
	0.5nm,0.3s,mb3.9,baz=135,slow=8.9,SNR=3.8						
WRA	**Warramunga Arr**	**135.40**	**212**	PKP	PKPdf	17 30 14.6	-1.6
	0.3nm,0.8s,baz=145,slow=1.6,SNR=5.4						
KURK	**Kurchatov**	**138.91**	**31**	PKP	PKPdf	17 30 24.0	+2.1
MKAR	**Makanchi Array**	**143.28**	**34**	PKP	PKPdf	17 30 29.5	-0.1
	0.3nm,0.7s,baz=2.9,slow=2.0,SNR=3.5						
SONM	**Songino Array**	**150.69**	**7**	PKPbc	PKPdf	17 30 49.3	+7.5
	0.5nm,0.6s,baz=12,slow=1.5,SNR=4.6						
SONM				PKPab	PKPab	17 30 56.1	-0.6
	0.2nm,0.3s,baz=356,slow=3.2,SNR=3.4						

*IDC **14** 17:18:19.2±1.3, 12.23N×143.92E, mb3.8/5, mb1 4.0/5, mb1mx3.8/18, mbtmp3.8/5, MS3.2/1, Ms1 3.2/1, ms1mx2.5/27, Error ellipse: s-maj=56.0km s-min=28.7km az=100.0*
*NEIC **14** 17:18:21.5±0.9, 12.22N×143.70E, h10km, mb4.1/3, Error ellipse: s-maj=34.6km s-min=22.0km az=95.0*
ISC 14 17:18:23.4±1.0, 12.2N±0.2×143.6E±0.3, h33km, n9, σ1§01/8, mb3.9/8, MS3.3/1, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**33.17**	**196**	P	**P**	**17 24 59.1**	**-0.2**
	0.5nm,0.6s,mb3.6,baz=19,slow=9.8,SNR=8.6						
**AF

THE	**Thessaloniki**	**0.67**	**207**	*e*Pg	**Pg**	**17 23 18.1**	**0.0**
THE				*e*Sg	**Sg**	**17 23 26.9**	**-0.2**
THE	**Thessaloniki**	**0.67**	**207**	*e*Pg	**Pg**	**17 23 18.1**	**0.0**
THE				*e*Sg	**Sg**	**17 23 26.9**	**-0.2**
KKB	**Krupnik**	**0.67**	**341**	*i* Pg	**Pg**	**17 23 17.5**	**-0.7**
PLG	**Polygyros**	**0.86**	**176**	*e*PB	**Pb**	**17 23 21.1**	**-0.1**
PLG				*e*SN	**Sn**	**17 23 34.5**	**-0.9**
OUR	**Ouranopolis**	**1.01**	**152**	*e*Pg	**Pg**	**17 23 24.7**	**-0.1**
OUR				*e*Sg	**Sg**	**17 23 37.3**	**-1.0**
RZN	**Rozhen**	**1.11**	**65**	*i* Pg	**Pg**	**17 23 25.5**	**-1.3**
PLD	**Plovdiv**	**1.33**	**48**	*i* Pg	**Pg**	**17 23 32.0**	**+0.8**
VTS	**Vitosha**	**1.37**	**355**	*i* Pg	**Pg**	**17 23 31.5**	**-0.5**
FNA	**Florina**	**1.57**	**254**	*e*Pg	**Pg**	**17 23 33.9**	**-2.2**
FNA				*e*Sg	**Sg**	**17 23 56.0**	**-1.1**
FNA	**Florina**	**1.57**	**254**	*e*Pg	**Pg**	**17 23 33.9**	**-2.2**
FNA				*e*Sg	**Sg**	**17 23 56.0**	**-1.1**
KDZ	**Kurdzhali**	**1.59**	**74**	*i* Pg	**Pg**	**17 23 32.0**	**-4.5**
RDO	**Rodhopi**	**1.64**	**92**	*e*PN	**Pn**	**17 23 33.8**	**-0.1**
LOS	**Limnos**	**1.83**	**134**	*e*Pb	**Pb**	**17 23 38.4**	**+0.4**
LOS				*e*Sb	**Sb**	**17 24 03.0**	**+2.0**
XOR	**Xorichti**	**1.86**	**184**	*e*Pb	**Pb**	**17 23 37.1**	**-1.4**
ALN	**Alexandroupoli**	**2.05**	**98**	*e*Pn	**Pn**	**17 23 41.7**	**+1.9**
ALN				*e*Sn	**Sn**	**17 24 09.2**	**+3.5**
AOS	**Alonnisos**	**2.09**	**169**	*e*Pn	**Pn**	**17 23 40.9**	**+0.5**

MAN 14 17:29:15.3, 7.34N×123.69E, h6km, mb4.0, ML2.7, MS2.4, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.57**	**102**	⇓*i*P	Pg	17 29 26.5	-0.1
CTBH				*i* S	Sg	17 29 34.8	+0.6

*IDC **14** 17:34:03.5±2.7, 14.42S×167.84E, mb4.0/5, mb1 4.1/5, mb1mx3.9/12, mbtmp4.0/5, MS3.0/5, Ms1 3.0/5, ms1mx3.0/16, Error ellipse: s-maj=96.1km s-min=30.9km az=128.0*

*NEIC **14** 17:34:08.8±2.2, 14.65S×168.13E, h44km±18km, mb3.9/1, Error ellipse: s-maj=26.1km s-min=15.8km az=79.0*

ISC 14 17:34:06.2±3.1, 14.7S±0.1×168.1E±0.2, h33km±25km, n15, σ0 88/12, mb3.9/6, MS3.1/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.52**	**192**	*e*P	**P**	**17 35 56.3**	**0.0**
DZM				*e*S	**S**	**17 37 16.1**	**-5.3**
DZM	**Mont Dzumac**	**7.52**	**192**	LR	LR	17 38 37.9	
comp=Z,111nm,18.3s,baz=347,slow=36							
DZM	**Mont Dzumac**	**7.52**	**192**	*e*P	**P**	**17 35 56.3**	**0.0**
DZM				*e*S	**S**	**17 37 16.1**	**-5.3**
HNR	**Honiara**	**9.49**	**302**	LR	LR	17 38 42.7	
comp=Z,27nm,20.1s,baz=91,slow=30							
HNR	**Honiara**	**9.49**	**302**	P	**P**	**17 36 23.6**	**0.0**
PMG	**Port Moresby**	**21.10**	**282**	LR	LR	17 44 08.2	
comp=Z,25nm,21.1s,MS2.6,baz=78,slow=29							
CTA	**Charters Tower**	**21.49**	**252**	LR	LR	17 45 17.8	
comp=Z,80nm,20.7s,MS3.1,baz=203,slow=32							
CTAO	**Charters Tower**	**21.49**	**252**	*e*P	**P**	**17 38 55.7**	**+1.4**
4.0nm,0.7s,mb3.9							
STKA	**Stephens Creek**	**29.62**	**230**	P	**P**	**17 40 10.8**	**0.0**
7.2nm,0.7s,mb4.5,baz=43,slow=8.4,SNR=12							
STKA	**Stephens Creek**	**29.62**	**230**	*e*P	**P**	**17 40 11.1**	**+0.4**
WRA	**Warramunga Arr**	**32.59**	**256**	P	**P**	**17 40 35.1**	**-1.9**
0.5nm,0.8s,mb3.5,baz=87,slow=9.6,SNR=8.4							
PPT	**Papeete**	**40.74**	**100**	LR	LR	17 54 57.0	
comp=Z,88nm,18.1s,MS3.7,baz=274,slow=31							
SONM	**Songino Array**	**82.90**	**323**	P	**P**	**17 46 29.2**	**+0.3**
0.2nm,0.5s,mb3.4,baz=135,slow=6.3,SNR=3.8							
ILAR	**Eielson Array**	**86.23**	**18**	P	**P**	**17 46 45.0**	**-0.2**
0.4nm,1.0s,mb3.6,baz=239,slow=5.0,SNR=4.2							
MKAR	**Makanchi Array**	**97.69**	**316**	P	**P**	**17 47 39.2**	**+0.3**
0.7nm,0.8s,mb4.2,baz=104,slow=5.0,SNR=7.6							

*BJI **14** 17:47:13.2, 6.80N×76.30W, h37km, mB4.6, Ms4.7, Msz4.4*

*NEIC **14** 17:47:13.2±0.9, 6.83N×76.33W, h38km±8km, mb4.6/47, Error ellipse: s-maj=7.0km s-min=4.7km az=219.0*

*IDC **14** 17:47:16.1±1.8, 6.85N×76.24W, h63km±16km, mb4.0/18, mb1 4.2/21, mb1mx4.1/26, mbtmp4.3/21, MS3.8/7, Ms1 3.8/7, ms1mx3.4/18, Error ellipse: s-maj=14.1km s-min=10.8km az=67.0*

ISC 14 17:47:08.8±3.0, 6.85N±0.06×76.32W±0.05, h16km±21km, n103, σ0 81/96, mb4.5/62, MS3.8/5, 26C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.80**	**135**	P	**Pn**	**17 47 59.9**	**+6.1**
66nm,0.3s,baz=307,slow=2.3,SNR=45							
ROSC				S	**Sn**	**17 48 39.3**	**+12**
194nm,0.3s,baz=260,slow=20,SNR=7.1							
SDV	**Santo Domingo**	**5.98**	**70**	P	**Pn**	**17 48 40.1**	**+1.3**
6.9nm,0.3s,baz=270,slow=11,SNR=29							
SDV				S	**Sn**	**17 49 48.5**	**+0.7**
14nm,0.3s,baz=270,slow=15,SNR=4.4							
SDV				LR	LR	17 51 20.2	
comp=Z,754nm,19.2s,baz=85,slow=41							
SDV	**Santo Domingo**	**5.98**	**70**	*e*Pn	**Pn**	**17 48 39.2**	**+0.4**
106nm,0.6s							
SDV				Sn	**Sn**	**17 49 45.8**	**-1.9**
JTS	**JuntasAbangare**	**9.20**	**292**	P	**P**	**17 49 25.2**	**+1.4**
1.4nm,0.3s,baz=353,slow=17,SNR=3.3							
JTS				S	**Sn**	**17 51 13.1**	**+5.1**
0.2nm,0.3s,baz=324,slow=19,SNR=2.6							
JTS				LR	LR	17 53 02.7	
comp=Z,439nm,19.6s,baz=111,slow=37							
SJG	**San Juan**	**14.95**	**41**	P	**P**	**17 50 37.0**	**-4.4**
1.2nm,0.3s,baz=356,slow=19,SNR=3.5							
SAML	**Samuel**	**20.44**	**140**	*e*P	**P**	**17 51 45.9**	**-2.4**
0.4nm,0.4s							
LPAZ	**La Paz**	**24.38**	**161**	P	**P**	**17 52 28.4**	**+0.8**
4.7nm,1.0s,mb3.9,baz=349,slow=14,SNR=12							
LPAZ				LR	LR	18 02 38.4	
comp=Z,290nm,19.3s,MS3.8,baz=110,slow=38							
LPAZ	**La Paz**	**24.38**	**161**	*e*P	**P**	**17 52 27.9**	**+0.4**
11nm,1.2s,mb4.2							
SIV	**San Ignacio**	**27.25**	**146**	P	**P**	**17 52 52.8**	**-1.6**
4.4nm,0.8s,mb4.0,baz=327,slow=9.9,SNR=19							
LVC	**Limon Verde**	**30.17**	**166**	P	**P**	**17 53 20.0**	**-0.6**
4.3nm,1.0s,mb4.1,baz=13,slow=4.7,SNR=4.1							
LVC	**Limon Verde**	**30.17**	**166**	P	**P**	**17 53 17.6**	**-3.0**
15nm,1.5s,mb4.5							
FVM	**French Village**	**33.53**	**340**	*e*P	**P**	**17 53 49.2**	**-0.7**
10nm,0.6s,mb4.9							
FVM				*e*		17 53 57.2	
CCM	**Cathedral Cave**	**33.89**	**339**	*e*P	**P**	**17 53 52.2**	**-0.8**
5.2nm,0.6s,mb4.6							
WMOK	**Wichita Mounta**	**34.62**	**326**	*e*P	**P**	**17 53 58.4**	**-1.0**
2.0nm,0.9s,mb4.0							
BDFB	**Brasilia**	**35.85**	**129**	P	**P**	**17 54 09.2**	**-0.8**
5.7nm,0.7s,mb4.6,baz=299,slow=9.7,SNR=11							
BDFB				LR	LR	18 09 44.2	
comp=Z,335nm,19.6s,MS4.1,baz=303,slow=38							
BAO	**Brasilia Array**	**35.86**	**129**	P	**P**	**17 54 10.0**	**-0.1**
MNTX	**Cornudas Mount**	**36.70**	**316**	*e*P	**P**	**17 54 16.2**	**-0.8**
4.8nm,1.1s,mb4.2							
CPUP	**Villa Florida**	**37.78**	**152**	LR	LR	18 11 09.7	
comp=Z,150nm,21.1s,MS3.8,baz=318,slow=38							
CFAA	**Coronel Fontan**	**39.01**	**169**	P	**P**	**17 54 37.6**	**+1.2**
1.0nm,0.8s,mb3.6,baz=339,slow=8.0,SNR=20							
ANMO	**Albuquerque**	**39.38**	**319**	P	**P**	**17 54 40.8**	**+1.3**
2.3nm,0.9s,mb3.9,baz=148,slow=7.9,SNR=5.6							
ANMO	**Albuquerque**	**39.38**	**319**	*e*P	**P**	**17 54 40.4**	**+0.9**
10nm,1.4s,mb4.4							
SDCO	**Great Sand Dun**	**40.59**	**324**	*e*P	**P**	**17 54 50.7**	**+1.3**
6.1nm,0.9s,mb4.2							
SMCO	**Snowmass**	**42.40**	**324**	P	**P**	**17 55 05.1**	**+0.8**
MSU	**Marysvale**	**45.19**	**320**	P	**P**	**17 55 24.6**	**-2.3**
NEN	**Nelson**	**45.46**	**315**	*e*P	**P**	**17 55 28.7**	**-0.3**
DAU	**Daniels Canyon**	**45.73**	**322**	P	**P**	**17 55 31.2**	**+0.1**
BW06	**Boulder Array**	**46.23**	**326**	*e*P	**P**	**17 55 35.2**	**+0.2**
2.3nm,1.0s,mb4.1							
PDAR	**Pinedale Array**	**46.23**	**326**	P	**P**	**17 55 35.2**	**+0.1**
0.7nm,0.3s,mb4.0,baz=117,slow=9.9,SNR=6.0							
ULM	**Lac du Bonnet**	**46.25**	**343**	LR	LR	18 15 24.3	
comp=Z,71nm,18.4s,MS3.6,baz=8.0,slow=36							
DUG	**Dugway**	**46.56**	**321**	*e*P	**P**	**17 55 38.3**	**+0.6**
5.8nm,1.1s,mb4.4							
PLCA	**Paso Flores**	**47.64**	**174**	P	**P**	**17 55 47.1**	**+0.9**
3.9nm,1.0s,mb4.4,baz=0,slow=10,SNR=7.8							
SCHQ	**Schefferville**	**48.45**	**7**	P	**P**	**17 55 52.5**	**+0.2**
3.5nm,0.8s,mb4.5,baz=177,slow=8.6,SNR=5.8							
BOZ	**Bozeman (W)**	**49.24**	**328**	*e*P	**P**	**17 55 57.7**	**-0.9**
6.9nm,1.4s,mb4.5							
HLID	**Hailey**	**49.50**	**324**	*e*P	**P**	**17 55 59.6**	**-1.0**
2.2nm,1.0s,mb4.1							
WVOR	**Wild Horse Val**	**51.45**	**320**	*e*P	**P**	**17 56 14.6**	**-0.8**
9.9nm,1.1s,mb4.7							
YKA	**Yellowknife Ar**	**62.17**	**341**	P	**P**	**17 57 30.4**	**-1.1**
4.4nm,0.7s,mb4.7,baz=132,slow=6.8,SNR=8.0							
SUMG	**Summit**	**69.56**	**11**	*e*P	**P**	**17 58 17.2**	**-1.4**
12nm,0.8s,mb4.9							
ESDC	**Sonseca Array**	**72.08**	**51**	P	**P**	**17 58 33.9**	**-0.4**
5.5nm,0.9s,mb4.5,baz=271,slow=5.6,SNR=18							
ROSF	**Rostrenen**	**73.65**	**42**⇑	*i*P	**P**	**17 58 43.3**	**-0.1**
7.6nm,0.7s,mb4.5							
SGMF	**Saint Gilles**	**74.11**	**42**	*e*P	**P**	**17 58 45.8**	**-0.3**
SJPF	**Ste Jean**	**74.47**	**47**⇑	*i*P	**P**	**17 58 48.7**	**+0.4**
35nm,1.0s,mb5.0							
EKA	**Eskdalemuir Ar**	**74.83**	**35**	P	**P**	**17 58 49.4**	**-0.7**
2.3nm,0.7s,mb4.2,baz=244,slow=4.2,SNR=7.9							
ETSF	**Etsaut**	**74.94**	**48**⇑	*i*P	**P**	**17 58 51.3**	**+0.3**
12nm,1.1s,mb4.4							
GRR	**Gorron**	**75.25**	**42**⇑	*i*P	**P**	**17 58 52.1**	**-0.6**
10.0nm,0.6s,mb4.6							
FLN	**La Foliniere**	**75.54**	**41**⇑	*i*P	**P**	**17 58 54.3**	**0.0**
7.5nm,0.6s,mb4.5							
MFF	**Saint Martin d**	**75.55**	**44**⇑	*i*P	**P**	**17 58 54.4**	**0.0**
12nm,0.6s,mb4.7							
EPF	**Esparros**	**75.60**	**47**⇑	*i*P	**P**	**17 58 55.2**	**+0.4**
25nm,1.0s,mb4.8							
ILAR	**Eielson Array**	**75.60**	**335**	P	**P**	**17 58 53.9**	**-0.5**
1.5nm,0.9s,mb3.9,baz=113,slow=4.3,SNR=14							
LDF	**La Druitiere**	**75.76**	**42**⇑	*i*P	**P**	**17 58 55.4**	**-0.2**
19nm,0.9s,mb4.7							
LFF	**La Frestale**	**76.03**	**46**⇑	*i*P	**P**	**17 58 57.1**	**-0.1**
8.9nm,0.6s,mb4.5							
RJF	**Les Rejaudoux**	**76.60**	**45**⇑	*i*P	**P**	**17 59 00.2**	**-0.2**
13nm,0.8s,mb4.6							
CAF	**Calviac**	**76.97**	**46**⇑	*i*P	**P**	**17 59 02.5**	**+0.1**
13nm,1.1s,mb4.5							
MTLF	**Montolieu**	**76.99**	**47**⇑	*i*P	**P**	**17 59 02.4**	**-0.2**
19nm,1.1s,mb4.7							
TCF	**Toulx Ste Croi**	**77.15**	**44**⇑	*i*P	**P**	**17 59 03.2**	**-0.2**
17nm,1.2s,mb4.5							
BGF	**Bois d'Agland**	**77.61**	**44**⇑	*i*P	**P**	**17 59 05.7**	**-0.2**
9.7nm,0.7s,mb4.6							
AVF	**Avril sur Loir**	**77.97**	**44**⇑	*i*P	**P**	**17 59 07.4**	**-0.5**
12nm,1.1s,mb4.4							
SSF	**Saint Saulge**	**78.08**	**43**	*e*P	**P**	**17 59 08.2**	**-0.3**
27nm,1.2s,mb4.8							
LASF	**Ste Croix**	**78.21**	**47**⇑	*i*P	**P**	**17 59 09.2**	**-0.1**
35nm,1.3s,mb4.8							
SMF	**Signal de Mont**	**78.30**	**44**⇑	*i*P	**P**	**17 59 09.4**	**-0.3**
22nm,1.1s,mb4.7							
LOR	**Lormes**	**78.33**	**43**⇑	*i*P	**P**	**17 59 09.4**	**-0.5**
36nm,1.4s,mb4.8							
BAIF	**Baives**	**78.70**	**40**	*e*P	**P**	**17 59 11.6**	**-0.2**
VIVF	**Saint-Julien-l**	**78.82**	**46**	*e*P	**P**	**17 59 12.5**	**-0.1**
28nm,1.3s,mb4.7							
GIVF	**Givet**	**79.10**	**40**⇑	*i*P	**P**	**17 59 14.1**	**+0.1**
MEZF	**Maizieres J'vi**	**79.19**	**42**⇑	*i*P	**P**	**17 59 14.5**	**0.0**
7.7nm,0.6s,mb4.5							
ORIF	**Oris-en-Rattie**	**79.68**	**46**⇑	*i*P	**P**	**17 59 17.3**	**0.0**
22nm,0.9s,mb4.8							
HAU	**Haudompre**	**80.04**	**43**⇑	*i*P	**P**	**17 59 19.0**	**-0.2**
LPL	**La Plagne**	**80.28**	**45**	*e*P	**P**	**17 59 21.5**	**+1.0**
20nm,1.2s,mb4.6							
HINF	**Hinteralfeld**	**80.38**	**43**⇑	*i*P	**P**	**17 59 20.6**	**-0.4**
9.3nm,0.9s,mb4.4							
CDF	**Champ du Feu**	**80.66**	**42**⇑	*i*P	**P**	**17 59 22.4**	**-0.1**
8.8nm,0.9s,mb4.4							
SBF	**Sospel**	**80.79**	**47**⇑	*i*P	**P**	**17 59 23.3**	**+0.1**
59nm,1.1s,mb5.1							
BFO	**Black Forest**	**81.37**	**42**	*e*P	**P**	**17 59 25.4**	**-0.7**
31nm,2.5s,mb4.8							
TNS	**Taunus Mts**	**81.43**	**40**	*e*P	**P**	**17 59 27.4**	**+1.0**
8.0nm,1.0s,mb4.6							
NB2	**NORSAR Subarra**	**82.86**	**29**	P	**P**	**17 59 34.3**	**+0.7**
6.4nm,1.0s,mb4.6,baz=271,slow=5.0							
NOA	**NORSAR Array B**	**82.86**	**29**	P	**P**	**17 59 33.8**	**+0.2**
2.2nm,0.7s,mb4.3,baz=274,slow=6.7,SNR=12							
GRA1	**Grafenberg Arr**	**83.23**	**41**	*e*P	**P**	**17 59 36.5**	**+0.7**
5.0nm,0.9s,mb4.5							
NKC	**Novy Kostel**	**84.00**	**40**	AMS	AMS	18 35 20.0	
HFS	**Hagfors**	**84.12**	**30**	P	**P**	**17 59 39.8**	**-0.2**
1.9nm,0.8s,mb4.3,baz=180,slow=4.4,SNR=4.5							
HFS	**Hagfors**	**84.12**	**30**	P	**P**	**17 59 39.8**	**-0.3**
CLL	**Collm**	**84.28**	**39**	P	**P**	**17 59 41.5**	**+0.4**
logA/T=0.7,mb4.6							
CLL	**Collm**	**84.28**	**39**	*i* P	**P**	**17 59 41.5**	**+0.4**
5.0nm,1.0s,mb4.6							
CLL				*i*	pP	17 59 47.8	+1.5
WET	**Wettzell**	**84.34**	**41**	*e*P	**P**	**17 59 42.2**	**+0.8**
7.0nm,1.2s,mb4.7							
KHC	**Kasperske Hory**	**84.80**	**41**	*e*P	**P**	**17 59 44.8**	**+1.1**
KHC				*ex*	x	17 59 51.2	
KHC				*e*pP	pP	17 59 56.7	+7.7
KHC				AMS	AMS	18 41 30.0	
KHC	**Kasperske Hory**	**84.80**	**41**	*e*P	**P**	**17 59 44.8**	**+1.1**
KHC				*e*	pP	17 59 51.2	+2.2
KHC				*e*		17 59 56.7	
BRG	**Berggiesshubel**	**84.90**	**40**	*e*P	**P**	**17 59 44.9**	**+0.7**
6.9nm,1.1s,mb4.7							
GEC2	**GERESS Array S**	**84.91**	**42**	*e*P	**P**	**17 59 45.0**	**+0.7**
5.0nm,0.9s,mb4.6							
GERES	**GERESS Array B**	**84.91**	**42**	P	**P**	**17 59 45.1**	**+0.8**
2.8nm,0.8s,mb4.4,baz=252,slow=4.2,SNR=21							
PVCC	**Panska Ves**	**85.33**	**40**	AMS	AMS	18 42 10.0	
PRU	**Pruhonice**	**85.36**	**40**	*e*P	**P**	**17 59 47.3**	**+0.8**
PRU				AMS	AMS	18 30 30.0	
PRU	**Pruhonice**	**85.36**	**40**	*e*P	**P**	**17 59 47.3**	**+0.8**
1.1nm,0.2s,mb4.6							
UPC	**Upice**	**86.25**	**40**	*e*P	**P**	**17 59 52.3**	**+1.4**
DPC	**Dobruska-Polom**	**86.46**	**40**	*e*P	**P**	**17 59 53.0**	**+1.0**
DPC				AMS	AMS	18 31 40.0	
OKC	**Ostrava-Krasne**	**87.69**	**40**	*e*P	**P**	**17 59 59.6**	**+1.7**
ARCES	**ARCESS Array B**	**87.74**	**20**	P	**P**	**17 59 57.9**	**+0.2**
3.2nm,0.6s,mb4.8,baz=284,slow=5.0,SNR=22							
STHS	**Stebnicka Huta**	**89.75**	**40**	*e*P	**P**	**18 00 10.1**	**+2.4**
KAF	**Kangasniemi**	**89.85**	**27**	*e*p	**P**	**18 00 07.4**	**-0.5**
FINES	**FINESS Array B**	**89.91**	**28**	P	**P**	**18 00 07.9**	**-0.3**
2.5nm,0.8s,mb4.6,baz=270,slow=1.9,SNR=11							
FINES				LR	LR	18 37 31.0	
comp=Z,22nm,18.4s,MS3.6,baz=12,slow=34							
MKAR	**Makanchi Array**	**123.31**	**17**	PKP	PKPdf	18 06 06.0	-3.0
0.2nm,0.5s,baz=300,slow=3.4,SNR=5.1							
SONM	**Songino Array**	**125.50**	**358**	PKP	PKPdf	18 06 10.2	-3.1
0.5nm,0.7s,baz=331,slow=1.5,SNR=4.0							
WMQ	**Urumqi**	**127.53**	**15**	*e*PKP	PKPdf	18 06 16.0	-1.3
CTA	**Charters Tower**	**136.70**	**248**	PKP	PKPdf	18 06 33.3	-1.8
4.5nm,1.0s,baz=188,slow=14,SNR=3.1							
STKA	**Stephens Creek**	**136.78**	**230**	PKP	PKPdf	18 06 33.5	-1.5
2.1nm,0.7s,baz=119,slow=22,SNR=4.2							
GYA	**Guiyang**	**146.76**	**355**⇑	*i*PKP	PKPdf	18 06 51.5	-1.4
WRA	**Warramunga Arr**	**147.54**	**243**	PKPbc	PKPdf	18 06 52.2	-2.1
8.7nm,0.9s,baz=110,slow=2.7,SNR=53							

*IGIL **14** 18:10:04.6±17.0, 43.30N×16.15W, h2km±999km, ML3.8*

*LDG **14** 18:10:05.0±0.6, 43.55N×15.94W, h2km, Ml4.1/26, Error ellipse: s-maj=10.4km s-min=6.6km az=104.0*

*INMG **14** 18:10:05.1±0.8, 43.38N×16.56W, h10km, ML3.4, Error ellipse: s-maj=7.5km s-min=5.5km az=89.0*

*CSEM **14** 18:10:06.8±0.4, 43.05N×15.51W, h10km, ML4.1/16, Error ellipse: s-maj=7.3km s-min=4.5km az=101.0*

MDD 14 18:10:02.7±2.2, 43.40N×16.48W, h94km±52km, mb4.0/12, 1C, Error ellipse: s-maj=19.3km s-min=15.6km az=100.0, PRXIMO, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMAZ	**Mazaricos**	**5.51**	**92**	P	P	18 11 21.5	-2.2
4.8nm,0.1s,SNR=18							
EMAZ				S	S	18 12 19.3	-7.0
19nm,0.1s,SNR=6.4							
EMAZ	**Mazaricos**	**5.51**	**92**	P	P	18 11 21.5	-2.2
4.8nm,0.1s,SNR=18							
EMAZ				S	S	18 12 19.3	-7.0
19nm,0.1s,SNR=6.4							
STS	**Santiago**	**5.83**	**92**	P	P	18 11 26.0	-2.0
42nm,0.1s,SNR=18							
STS				S	S	18 12 27.6	-6.5
18nm,0.1s,SNR=8.1							
ELOB	**Lobios**	**6.40**	**101**	⇑P	P	18 11 34.2	-1.8
9.5nm,0.2s,SNR=18							
ELOB				S	S	18 12 40.7	-7.5
6.0nm,0.2s,SNR=6.5							
ELOB	**Lobios**	**6.40**	**101**	P	P	18 11 34.3	-1.7
9.5nm,0.2s,SNR=18							
ELOB				S	S	18 12 40.7	-7.5
6.0nm,0.2s,SNR=6.5							
EPON	**Pontenova**	**6.80**	**87**	P	P	18 11 38.9	-2.7
3.1nm,0.2s,SNR=18							
EPON				S	S	18 12 49.6	-8.5
47nm,0.4s,SNR=7.9							
EPON	**Pontenova**	**6.80**	**87**	P	P	18 11 38.9	-2.7
3.1nm,0.2s,SNR=18							
EPON				S	S	18 12 48.8	-9.3
47nm,0.4s,SNR=7.9							
PVRL	**Vila Real**	**6.83**	**105**	*e*P	P	18 11 39.5	-2.5
PVRL				*e*S	S	18 12 50.7	-8.1
21nm,0.1s							
PVRL	**Vila Real**	**6.83**	**105**	*e*P	P	18 11 39.5	-2.5
PVRL				*e*S	S	18 12 50.7	-8.1
21nm,0.1s							
ERUA	**La Rua**	**6.93**	**95**	P	P	18 11 41.3	-2.1
4.4nm,0.1s,SNR=7.9							
ERUA				S	S	18 12 52.8	-8.5
12nm,0.2s,SNR=7.9							
ERUA	**La Rua**	**6.93**	**95**	P	P	18 11 40.1	-3.3
4.4nm,0.1s,SNR=7.9							
ERUA				S	S	18 12 52.8	-8.5
12nm,0.2s,SNR=7.9							
PLOU	**Loures**	**7.13**	**127**	*e*P	P	18 11 43.5	-2.6
PLOU				*e*S	S	18 12 57.2	-9.0
34nm,0.2s							
PLOU	**Loures**	**7.13**	**127**	*e*P	P	18 11 43.5	-2.6
PLOU				*e*S	S	18 12 57.2	-9.0
34nm,0.2s							
PTOM	**Tomar**	**7.14**	**119**	*e*P	P	18 11 43.3	-2.9
PTOM				*e*S	S	18 12 57.1	-9.2
32nm,0.1s							
PTOM	**Tomar**	**7.14**	**119**	*e*P	P	18 11 43.3	-2.9
PTOM				*e*S	S	18 12 57.1	-9.2
32nm,0.1s							
ALMR	**Almeirim**	**7.31**	**123**	*e*P	P	18 11 46.0	-2.5
ALMR				*e*		18 11 53.2	
baz=218,slow=6.5							
ALMR				*e*S	S	18 12 59.8	-11
ALMR				*e*S	S	18 12 59.9	-11
ALMR				AML	AML	18 13 03.8	
comp=E,77nm,0.2s							
ALMR	**Almeirim**	**7.31**	**123**	*e*P	P	18 11 46.0	-2.5
ALMR				*e*S	S	18 12 59.8	-11
MTE	**Manteigas**	**7.31**	**111**	*e*S	S	18 13 02.6	-7.9
comp=E,14nm,0.4s							
MTE	**Manteigas**	**7.31**	**111**	*e*S	S	18 13 02.6	-7.9
comp=E,14nm,0.4s							
ECAL	**Calabor**	**7.33**	**98**	P	P	18 11 47.0	-1.8
comp=E,5.4nm,0.1s,SNR=41							
ECAL				S	S	18 13 03.4	-7.7
comp=E,16nm,0.2s,SNR=7.9							
ECAL	**Calabor**	**7.33**	**98**	P	P	18 11 47.0	-1.8
comp=E,5.4nm,0.1s,SNR=41							
ECAL				S	S	18 13 03.4	-7.6
comp=E,16nm,0.2s,SNR=7.9							
PBRG	**Braganca**	**7.36**	**99**	*e*P	P	18 11 47.5	-1.8
PBRG				*e*S	S	18 13 04.0	-7.8
comp=E,6.5nm,0.1s							
PBRG	**Braganca**	**7.36**	**99**	*e*P	P	18 11 47.5	-1.8
PBRG				*e*S	S	18 13 04.0	-7.8
comp=E,6.5nm,0.1s							
PCBR	**Castelo Branco**	**7.62**	**115**	*e*P	P	18 11 49.9	-2.9
PCBR				*e*S	S	18 13 09.0	-9.2
comp=E,8.0nm,0.1s							
PCBR	**Castelo Branco**	**7.62**	**115**	P	P	18 11 49.9	-2.9
PCBR				S	S	18 13 09.0	-9.2
comp=E,4.0nm,0.1s							
EVO	**Evora**	**8.04**	**124**	*e*Pn	P	18

comp=E,11nm,0.4s,SNR=7.9
SJPF Ste Jean 11.14 86 eSn S 18 14 29.1 -14
comp=E,2.9nm,0.2s
EMIJ Mijas 11.28 123 S S 18 14 35.8 -11
comp=E,0.3nm,0.4s,SNR=7.9
EQES Quesada 11.62 114 P P 18 12 44.9 -1.7
comp=E,0.5nm,0.1s,SNR=7.9
EQES S S 18 14 45.3 -10
comp=E,1.2nm,0.2s,SNR=7.9
EQES Quesada 11.62 114 P P 18 12 44.9 -1.7
comp=E,0.5nm,0.1s,SNR=7.9
EQES S S 18 14 45.8 -9.0
SNR=7.9
ETSF Etsaut 11.65 87 ePn P 18 12 44.9 -2.0
ETSF eSn S 18 14 46.3 -9.2
comp=E,4.8nm,0.3s
EQUE Quentar 11.72 117 P P 18 12 46.7 -1.1
comp=E,1.2nm,0.2s,SNR=7.9
EQUE S S 18 14 46.7 -10
comp=E,0.5nm,0.2s,SNR=7.9
GRR Gorron 11.97 60 ePn P 18 12 49.0 -2.2
GRR eSn S 18 14 49.3 -14
comp=E,7.6nm,0.5s
MFF Saint Martin d 12.00 69 ePn P 18 12 48.0 -3.6
MFF eSn S 18 14 50.5 -13
comp=E,6.8nm,0.4s
EBIE Bielsa 12.19 88 P P 18 12 53.8 -0.3
comp=E,0.3nm,0.1s,SNR=7.0
EBIE S S 18 15 00.7 -7.7
comp=E,0.3nm,0.4s,SNR=7.9
EBIE Bielsa 12.19 88 P P 18 12 54.7 +0.6
comp=E,0.3nm,0.1s,SNR=7.0
EBIE S S 18 15 00.7 -7.7
SNR=7.9
ETOB Tobarra 12.23 108 P P 18 12 52.6 -2.1
comp=E,0.2nm,0.1s,SNR=7.9
ETOB S S 18 14 59.4 -10
comp=E,0.6nm,0.2s,SNR=7.9
ETOB Tobarra 12.23 108 P P 18 12 52.6 -2.2
comp=E,0.2nm,0.1s,SNR=7.9
EBER Berja 12.25 117 S S 18 15 02.9 -7.0
comp=E,0.9nm,0.2s,SNR=7.9
EPF Esparros 12.29 86 ePn P 18 12 53.4 -2.0
EPF eSn S 18 14 53.4 -17
comp=E,2.0nm,0.2s
EMOS Mosqueruela 12.31 99 P P 18 12 55.1 -0.7
comp=E,0.1nm,0.1s,SNR=7.9
EMOS S S 18 15 05.0 -6.3
comp=E,0.5nm,0.2s,SNR=7.9
FLN La Foliniere 12.33 59 eSn S 18 14 59.5 -12
comp=E,4.0nm,0.3s
LFF La Frestale 12.47 77 eSn S 18 15 01.0 -14
comp=E,7.2nm,0.3s
LDF La Druitiere 12.50 60 eSn S 18 15 02.2 -14
comp=E,2.0nm,0.3s
RJF Les Rejaudoux 13.03 75 eSn S 18 15 15.0 -13
comp=E,5.5nm,0.2s
CAF Calviac 13.41 77 eSn S 18 15 21.1 -16
comp=E,11nm,0.5s
TCF Toulx Ste Croi 13.58 71 ePn P 18 13 10.0 -2.2
TCF eSn S 18 15 26.7 -14
comp=E,8.4nm,0.4s
MTLF Montolieu 13.61 84 eSn S 18 15 26.4 -15
comp=E,7.0nm,0.5s
BGF Bois d'Agland 14.04 70 ePn P 18 13 16.4 -1.8
BGF eSn S 18 15 36.9 -15
comp=E,14nm,0.3s
AVF Avril sur Loir 14.41 70 eSn S 18 15 45.9 -15
comp=E,2.1nm,0.3s
SSF Saint Saulge 14.55 68 ePn P 18 13 22.7 -2.1
SSF eSn S 18 15 50.0 -14
comp=E,0.8nm,0.3s
LASF Ste Croix 14.72 80 eSn S 18 15 54.7 -13
comp=E,9.3nm,0.5s
SMF Signal de Mont 14.73 70 eSn S 18 15 53.2 -15
comp=E,1.9nm,0.3s
LOR Lormes 14.82 68 ePn P 18 13 26.4 -1.8
LOR eSn S 18 15 54.9 -15
comp=E,1.7nm,0.3s
VIVF Saint-Julien-l 15.26 77 eSn S 18 16 08.6 -12
comp=E,2.9nm,0.4s
BAIF Baives 15.65 58 eSn S 18 16 19.0 -10
comp=E,2.2nm,0.5s
MEZF Maizieres J'vi 15.81 64 eSn S 18 16 20.1 -13
comp=E,3.3nm,0.4s

*BJI **14** 18:15:05.7,22.88N×104.42E,h15km,ML3.5*
*PLV **14** 18:15:11.4±0.8,23.32N×104.17E,MD3.7*
ISC 14 18:15:11.2±0.6,23.41N±0.04×104.41E±0.07,h10km,n9,
σ1°24/26,1C,Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHV	**Doan Hung**	**1.91**	**158**	ePn	**Pn**	**18 15 45.1**	**+0.9**
DHV				ePg	**Pg**	**18 15 48.5**	**-0.9**
DHV				eSg	**Sg**	**18 16 13.7**	**-1.1**
KMI	**Kunming**	**2.29**	**319**	P	**Pn**	**18 15 49.9**	**+0.2**
KMI				S	**Sn**	**18 16 17.1**	**-1.1**
KMI				Smax			
	comp=N,84nm,1.1s						
KMI				Smax			
	comp=E,80nm,0.9s						
BVV	**Ba Vi**	**2.46**	**159**	ePn	**Pn**	**18 15 53.5**	**+1.5**
BVV				ePg	**Pg**	**18 15 60.0**	**-0.4**
BVV				eSg	**Sg**	**18 16 32.5**	**-0.6**
MTZV	**Met**	**2.57**	**136**	ePn	**Pn**	**18 15 56.0**	**+2.4**
MTZV				ePg	**Pg**	**18 16 02.5**	**-0.1**
MTZV				eSg	**Sg**	**18 16 38.4**	**+1.5**
HNV	**Hanoi**	**2.67**	**151**	ePn	**Pn**	**18 15 56.6**	**+1.5**
HNV				ePg	**Pg**	**18 16 04.2**	**-0.5**
HNV				eSg	**Sg**	**18 16 40.3**	**0.0**
YTV	**Yen Tu**	**3.09**	**136**	ePn	**Pn**	**18 16 03.3**	**+2.2**
YTV				ePg	**Pg**	**18 16 12.8**	**-0.1**
YTV				eSg	**Sg**	**18 16 54.4**	**+0.1**
DSV	**Doi Son**	**3.16**	**152**	ePn	**Pn**	**18 16 03.0**	**+1.0**
DSV				ePg	**Pg**	**18 16 12.6**	**-1.7**
DSV				eSg	**Sg**	**18 16 54.1**	**-2.3**
PLV	**Phu-Lien**	**3.30**	**141**	ePn	**Pn**	**18 16 05.6**	**+1.5**
PLV				ePg	**Pg**	**18 16 15.7**	**-1.6**
PLV				eSg	**Sg**	**18 17 00.5**	**-0.7**
GYA	**Guiyang**	**3.66**	**33⇑**	iP	**Pn**	**18 16 09.9**	**+0.7**
GYA				S	**Sn**	**18 16 50.8**	**-2.2**
GYA				SG	**Sg**	**18 17 06.8**	**-6.4**
GYA				Smax			
	comp=N,90nm,0.9s						
GYA				Smax			
	comp=E,110nm,0.9s						

MEX 14 18:21:16.4±0.6,16.15N×97.91W,h12km±7km,MD3.8,
Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.32**	**319**	iP	Pg	18 21 22.8	-0.3
PNIG				iS	Sg	18 21 27.0	-0.6
VHO	**Vista Hermosa**	**1.46**	**51**	iP	Pn	18 21 38.4	-4.3
VHO				iS	Sb	18 21 57.0	-4.3
OXX	**Oaxaca**	**1.47**	**51**	eP	Pn	18 21 40.0	-2.8
OXX				iS	Sb	18 21 57.0	-4.7

*IDC **14** 18:26:13.9±1.8,29.34S×69.31W,h102km±13km,mb4.0/2,*
mb1 3.8/5,mb1mx3.6/15,mbtmp4.1/5,Error ellipse:
s-maj=37.0km s-min=11.5km az=84.0
*NEIC **14** 18:26:14.8±1.2,29.34S×69.27W,h112km±10km,mb3.7/1,*
Error ellipse: s-maj=21.6km s-min=11.3km az=83.0
ISC 14 18:26:14.2±1.2,29.26S±0.07×69.1W±0.2,h98km±15km,
n16,σ0°84/14,mb4.1/2,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**2.46**	**162**	P	**P**	**18 26 54.0**	**+0.6**
	1.7nm,0.3s,baz=341,slow=7.1,SNR=351						
CFAA				S	**S**	**18 27 22.1**	**-0.6**
	13nm,0.3s,baz=256,slow=20,SNR=10						
LVC	**Limon Verde**	**6.62**	**2**	P	**P**	**18 27 51.2**	**+0.7**
	2.3nm,0.3s,baz=179,slow=11,SNR=78						
LVC				S	**S**	**18 29 03.8**	**-1.2**
	0.8nm,0.3s,baz=38,slow=19,SNR=3.2						
LVC	**Limon Verde**	**6.62**	**2**	eP	**P**	**18 27 50.9**	**+0.4**
LVC				S	**S**	**18 29 03.8**	**-1.2**
CPUP	**Villa Florida**	**10.83**	**77**	P	**P**	**18 28 47.6**	**+0.1**
	0.4nm,0.3s,baz=264,slow=14,SNR=8.7						
CPUP	**Villa Florida**	**10.83**	**77**	eP	**P**	**18 28 47.6**	**+0.1**
LPAZ	**La Paz**	**12.94**	**4**	P	**P**	**18 29 16.5**	**+1.0**
	0.4nm,0.3s,baz=191,slow=8.7,SNR=20						
LPAZ	**La Paz**	**12.94**	**4**	P	**P**	**18 29 15.8**	**+0.3**
SIV	**San Ignacio**	**15.13**	**31**	P	**P**	**18 29 48.0**	**+4.2**
	0.4nm,0.3s,baz=218,slow=9.9,SNR=20						
SAML	**Samuel**	**20.95**	**17**	eP	**P**	**18 30 51.5**	**+0.4**
	2.3nm,0.6s						
BDFB	**Brasilia**	**23.69**	**60**	P	**P**	**18 31 18.6**	**+0.8**
	2.4nm,0.5s,mb3.8,baz=223,slow=7.4,SNR=4.4						
DBIC	**Dimbokro**	**71.28**	**71**	P	**P**	**18 37 23.8**	**-1.5**
	5.8nm,1.0s,mb4.4,baz=219,slow=8.7,SNR=5.8						
WRA	**Warramunga Arr**	**126.11**	**208**	PKP	PKPdf	18 45 03.1	-2.5
	0.2nm,0.5s,baz=154,slow=1.8,SNR=5.6						
ZAL	**Zalesovo**	**148.88**	**30**	PKPbc	PKPdf	18 45 49.7	+3.9
	2.1nm,0.4s,baz=115,slow=2.0,SNR=6.6						
ZAL	**Zalesovo**	**148.88**	**30**	PKPbc	PKPdf	18 45 49.7	+3.9
MKAR	**Makanchi Array**	**151.69**	**44**	PKPbc	PKPdf	18 45 56.2	+5.8
	0.8nm,0.7s,baz=303,slow=1.5,SNR=8.2						
MKAR				PKPab	PKPab	18 46 06.7	-1.6
	1.2nm,0.7s,baz=289,slow=4.2,SNR=12						
MKAR	**Makanchi Array**	**151.69**	**44**	PKPbc	PKPdf	18 45 56.2	+5.8
MKAR				PKPab	PKPab	18 46 06.7	-1.5

*NEIC **14** 18:51:34.1,57.83N×156.31W,h129km,MG3.7(AEIC),*
After AEIC.
*IDC **14** 18:51:39.8±8.2,58.48N×156.10W,h189km±77km,mb3.3/5,*
mb1 3.5/8,mb1mx3.2/23,mbtmp3.8/8,Error ellipse:
s-maj=69.4km s-min=14.9km az=35.0
ISC 14 18:51:31.2±0.2,57.84N±0.05×156.27W±0.08,
h143km±4km,n90,σ0°88/104,mb3.6/5,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KJL	**Kejulik**	**0.43**	**59**	P	**P**	**18 51 52.2**	**+0.3**
CNTC	**Contact Creek**	**0.48**	**25**	P	**P**	**18 51 52.3**	**+0.1**
ANCK	**Angle Creek**	**0.55**	**48**	P	**P**	**18 51 52.9**	**+0.4**
CAHL	**Cahill**	**0.56**	**67**	P	**P**	**18 51 52.8**	**+0.2**
CAHL				S	**S**	**18 52 07.7**	**-1.3**
ACHA	**Angle Creek He**	**0.63**	**53**	P	**P**	**18 51 53.5**	**+0.6**
ACHA				S	**S**	**18 52 08.9**	**-0.7**
MGLS	**Mageik LS**	**0.63**	**53**	P	**P**	**18 51 53.3**	**+0.4**
KABR	**Katmai Barrier**	**0.75**	**66**	P	**P**	**18 51 53.9**	**+0.1**
KAPH	**Katmai Pasha**	**1.27**	**52**	P	**P**	**18 51 59.1**	**+0.9**
ANPK	**Aniakchak Peak**	**1.42**	**226**	P	**P**	**18 52 00.1**	**+0.3**
ANPK				S	**S**	**18 52 20.5**	**-1.1**
ANPB	**Aniakchak Plen**	**1.50**	**227**	P	**P**	**18 52 00.7**	**0.0**
ANPB				S	**S**	**18 52 22.4**	**-0.9**
CHGN	**Chignik**	**1.93**	**218**	P	**P**	**18 52 05.8**	**+0.3**
KDAK	**Kodiak Island**	**1.97**	**90**	P	**P**	**18 52 06.7**	**+0.7**
KDAK				S	**S**	**18 52 31.1**	**-1.5**
AUI	**Augustine Isla**	**2.12**	**43**	P	**P**	**18 52 08.6**	**+0.9**
AUI				S	**S**	**18 52 36.1**	**+0.4**
AUW	**Augustine West**	**2.12**	**42**	P	**P**	**18 52 09.0**	**+1.1**
AUH	**Augustine H**	**2.13**	**43**	P	**P**	**18 52 09.2**	**+1.3**
AGU	**Augustine-Summ**	**2.13**	**43**	P	**P**	**18 52 09.1**	**+1.2**
AUL	**Augustine Lava**	**2.15**	**42**	P	**P**	**18 52 09.0**	**+0.9**
OPT	**Oil Point**	**2.42**	**40**	P	**P**	**18 52 12.5**	**+0.9**
ILW	**Iliamna West**	**2.76**	**35**	P	**P**	**18 52 16.4**	**+0.4**
ILIM	**Iliamna**	**2.83**	**36**	P	**P**	**18 52 17.6**	**+0.7**
CNPM	**China Poot**	**3.13**	**55**	P	**P**	**18 52 21.4**	**+0.6**
RSO	**Redoubt South**	**3.20**	**33**	P	**P**	**18 52 22.6**	**+1.0**
SVW2	**Sparrevohn**	**3.29**	**6**	P	**P**	**18 52 23.0**	**+0.2**
RDT	**Redoubt**	**3.39**	**34**	P	**P**	**18 52 25.2**	**+1.1**
BRLK	**Bradley Lake**	**3.40**	**53**	P	**P**	**18 52 24.4**	**0.0**
BRLK				S	**S**	**18 53 01.7**	**-3.3**
SDPT	**Sand Point**	**3.41**	**225**	P	**P**	**18 52 23.6**	**-0.8**
BLHA	**Black Hill**	**3.84**	**239**	P	**P**	**18 52 30.5**	**+0.4**
CKL	**Chakachamna La**	**3.92**	**29**	P	**P**	**18 52 32.5**	**+1.4**
PVV	**Pavlof Volcano**	**3.92**	**233**	P	**P**	**18 52 32.1**	**+0.9**
PN7A	**Pavlof North-7**	**3.98**	**235**	P	**P**	**18 52 32.2**	**+0.4**
PN7A				S	**S**	**18 53 18.7**	**+0.3**
SPU	**Mount Spurr**	**3.98**	**31**	P	**P**	**18 52 32.5**	**+0.5**
SPU				S	**S**	**18 53 17.9**	**-0.7**
HAG	**Hague Volcano**	**4.01**	**233**	P	**P**	**18 52 33.0**	**+0.7**
DOL	**Dolgoi Island**	**4.11**	**231**	P	**P**	**18 52 33.9**	**+0.3**
DOL				S	**S**	**18 53 19.2**	**-2.3**
SLKM	**Skilak Lake**	**4.11**	**47**	P	**P**	**18 52 34.5**	**+0.9**
SEW	**Seward**	**4.20**	**54**	P	**P**	**18 52 34.4**	**-0.4**
DTNA	**Dutton South F**	**4.27**	**233**	P	**P**	**18 52 36.0**	**+0.3**
DRIA	**Deer Island**	**4.40**	**232**	P	**P**	**18 52 37.1**	**-0.4**
MPA	**Moose Pass**	**4.44**	**50**	P	**P**	**18 52 38.3**	**+0.2**
BALA	**Baldy Mountain**	**4.48**	**237**	P	**P**	**18 52 39.3**	**+0.8**
RC01	**Rabbit Creek A**	**4.66**	**43**	P	**P**	**18 52 40.9**	**-0.1**
PWL	**Port Wells**	**5.07**	**50**	P	**P**	**18 52 45.7**	**-0.6**
TT01	**Tatalina**	**5.09**	**1**	P	**P**	**18 52 47.1**	**+0.5**
TTA	**Tatalina**	**5.12**	**1**	eP	**P**	**18 52 47.3**	**+0.4**
PMR	**Palmer**	**5.22**	**41**	P	**P**	**18 52 47.5**	**-0.9**
SSLW	**Shishaldin Wes**	**5.34**	**238**	P	**P**	**18 52 50.4**	**+0.4**
KNK	**Knik Glacier**	**5.35**	**45**	P	**P**	**18 52 49.4**	**-0.7**
GHO	**Glory Hole Cre**	**5.42**	**40**	P	**P**	**18 52 50.2**	**-0.8**
WTUG	**Tugumak**	**5.42**	**240**	P	**P**	**18 52 51.1**	**+0.1**
MID	**Middleton Isla**	**5.43**	**69**	P	**P**	**18 52 51.6**	**+0.5**
CUT	**Chulitna**	**5.48**	**31**	P	**P**	**18 52 51.8**	**0.0**
GLI	**Glacier Island**	**5.60**	**53**	P	**P**	**18 52 52.5**	**-0.9**
SML	**Sawmill**	**5.65**	**42**	P	**P**	**18 52 52.7**	**-1.3**
HIN	**Hinchinbrook I**	**5.65**	**59**	P	**P**	**18 52 54.2**	**+0.2**
WESE	**West Dahl East**	**5.74**	**238**	P	**P**	**18 52 55.9**	**+0.7**
FID	**Port Fidalgo**	**5.80**	**56**	P	**P**	**18 52 55.3**	**-0.8**
JPK	**Jack Peak**	**5.89**	**53**	P	**P**	**18 52 57.6**	**+0.3**
SCM	**Sheep Creek Mo**	**6.03**	**45**	P	**P**	**18 52 58.4**	**-0.8**
SCM				S	**S**	**18 54 04.0**	**-3.5**
VLZ	**Valdez**	**6.04**	**53**	P	**P**	**18 52 59.3**	**-0.1**
EYAK	**Cordova Ski Ar**	**6.05**	**59**	P	**P**	**18 52 59.0**	**-0.4**
EYAK				S	**S**	**18 54 04.7**	**-3.3**
DIV	**Divide**	**6.28**	**54**	P	**P**	**18 53 02.5**	**-0.1**
DIV				S	**S**	**18 54 10.7**	**-2.9**
SGAM	**Sherman Glacie**	**6.28**	**60**	P	**P**	**18 53 02.6**	**0.0**
KLU	**Klutina**	**6.40**	**51**	P	**P**	**18 53 03.8**	**-0.3**
AKUT	**Akutan**	**6.49**	**239**	P	**P**	**18 53 05.7**	**+0.2**
LVA	**Lava Point**	**6.60**	**240**	P	**P**	**18 53 07.2**	**+0.3**
MCK	**McKinley**	**6.92**	**28**	P	**P**	**18 53 11.2**	**+0.1**
UNV	**Unalaska Valle**	**7.01**	**240**	P	**P**	**18 53 11.5**	**-0.9**
MTBL	**Makushin Table**	**7.02**	**241**	P	**P**	**18 53 11.5**	**-1.0**
MNAT	**Makushin Natee**	**7.07**	**240**	P	**P**	**18 53 12.9**	**-0.4**
MSW	**Makushin Switc**	**7.10**	**241**	P	**P**	**18 53 13.2**	**-0.4**
GLB	**Gilahina Butte**	**7.27**	**55**	P	**P**	**18 53 15.9**	**-0.1**
CRQM	**Cirque**	**7.33**	**61**	P	**P**	**18 53 17.2**	**+0.5**
PAX	**Paxson**	**7.42**	**42**	P	**P**	**18 53 18.1**	**+0.2**
WRH	**Wood River Hil**	**7.74**	**27**	P	**P**	**18 53 20.9**	**-1.3**
BALM	**Baldy**	**7.79**	**60**	P	**P**	**18 53 23.2**	**+0.4**
YAH	**Yahtse**	**7.89**	**65**	P	**P**	**18 53 24.6**	**+0.3**
CCB	**Clear Creek Bu**	**7.95**	**27**	P	**P**	**18 53 23.4**	**-1.7**
MENT	**Mentasta**	**8.04**	**45**	eP	**P**	**18 53 26.2**	**-0.1**
CTGM	**Chitina Glacie**	**8.24**	**61**	P	**P**	**18 53 29.5**	**+0.6**
IM3	**Indian Mountai**	**8.26**	**7**	P	**P**	**18 53 30.1**	**+0.9**
ILAR	**Eielson Array**	**8.29**	**29**	P	**P**	**18 53 27.6**	**-1.8**
	2.0nm,0.3s,baz=216,slow=13,SNR=178						
ILAR				S	**S**	**18 54 55.9**	**-5.9**
	0.7nm,0.3s,baz=221,slow=23,SNR=18						
IL1	**Eielson Array**	**8.29**	**29**	P	**P**	**18 53 27.8**	**-1.7**
DOT	**Dot Lake**	**8.34**	**41**	P	**P**	**18 53 31.2**	**+1.0**
NIKO	**Nikolski**	**8.65**	**241**	P	**P**	**18 53 33.8**	**-0.6**
DLBC	**Dease Lake**	**13.85**	**76**	P	**P**	**18 54 46.4**	**+4.5**
	0.3nm,0.3s,baz=262,slow=16,SNR=4.2						
INK	**Inuvik**	**14.59**	**35**	P	**P**	**18 54 50.7**	**-0.6**
	0.2nm,0.3s,baz=254,slow=7.4,SNR=6.1						
YBH	**Yreka Blue Hor**	**26.63**	**113**	P	**P**	**18 57 02.2**	**+4.4**
	1.2nm,0.7s,mb3.6,baz=320,slow=7.3,SNR=4.3						
NVAR	**Mina Array Bea**	**31.33**	**112**	P	**P**	**18 57 43.7**	**+3.8**
	0.9nm,0.7s,mb3.6,baz=290,slow=8.8,SNR=7.4						
PDAR	**Pinedale Array**	**32.68**	**97**	P	**P**	**18 57 54.1**	**+2.6**
	1.3nm,0.6s,mb3.8,baz=314,slow=5.9,SNR=10.0						
SONM	**Songino Array**	**54.67**	**305**	P	**P**	**19 00 47.0**	**+0.1**
	2.4nm,0.8s,mb4.0,baz=38,slow=6.9,SNR=11						
MKAR	**Makanchi Array**	**65.03**	**320**	P	**P**	**19 01 55.9**	**-1.7**
	0.2nm,0.5s,mb3.2,baz=36,slow=6.9,SNR=4.7						

CASC 14 18:52:43.2±1.5,12.21N×87.91W,h27km±5km,MD3.6,
ML3.3,4C-9D,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.97**	**59**	iP	Pn	18 53 01.4	+0.2
CRIN				eS	Sb	18 53 14.8	+1.1
LEON	**Leon**	**1.01**	**78**	iP	Pn	18 53 00.7	-1.1
CNCH	**Conchagua**	**1.07**	**4**	iP	Pn	18 53 02.8	+0.2
CNCH				eS	Sb	18 53 17.4	+0.9
TEL3	**Telica 3**	**1.10**	**70**	iP	Pn	18 53 02.3	-0.7
TEL3				eS	Sn	18 53 18.1	+0.7
TELN	**Telica**	**1.12**	**69**	eP	Pn	18 53 03.4	+0.1
MIRN	**Miramar**	**1.19**	**79**	eP	Pn	18 53 03.4	-0.9
MIRN				eS	Sn	18 53 20.3	+0.6
CNGN	**Cerro Negro**	**1.22**	**76**	eP	Pn	18 53 04.8	+0.2
CNGN				eS	Sn	18 53 21.9	+1.6
VSM	**San Miguel**	**1.27**	**344**	eP	Pn	18 53 05.5	+0.1
BLLM	**Bellamira**	**1.27**	**345**	eP	Pn	18 53 05.0	-0.4
BLLM				eS	Sn	18 53 21.4	-0.3
COPN	**Copaltepe**	**1.28**	**91⇑**	eP	Pn	18 53 04.7	-1.0
COPN				eS	Sn	18 53 22.1	0.0
MOMJ	**Momotombo**	**1.35**	**81**	eP	Pn	18 53 05.7	-0.9
MOMJ				eS	Sn	18 53 25.2	+1.4
APYN	**Apoyeque**	**1.52**	**89**	eP	Pn	18 53 08.3	-0.8
XAVN	**Gruta Xavier**	**1.55**	**92**	eP	Pn	18 53 10.1	+0.7
CRUN	**El Crucero**	**1.59**	**98**	eP	Pn	18 53 09.5	-0.5
MGAN	**Managua**	**1.62**	**92⇑**	eP	Pn	18 53 09.8	-0.7
MGAN				eS	Sn	18 53 29.8	-0.9
	comp=N,431nm,0.3s						
TICN	**Ticuantepe**	**1.65**	**96⇑**	eP	Pn	18 53 10.8	-0.1
TICN				eS	Sn	18 53 31.6	+0.4
SNVI	**San Vicente**	**1.67**	**327**	eP	Pn	18 53 10.4	-0.7
SNVI				eS	Sn	18 53 32.9	+1.0
WILN	**Americas 2**	**1.68**	**91**	eS	Sn	18 53 31.7	-0.5
LCBS	**La Ceiba**	**1.78**	**324**	eP	Pn	18 53 12.2	-0.5
LCBS				eS	Sn	18 53 34.9	+0.2
LFRS	**El Faro**	**1.81**	**321**	eP	Pn	18 53 12.5	-0.6
APON	**Apoyo**	**1.82**	**99**	eP	Pn	18 53 12.8	-0.5
CONN	**Concepcion**	**2.32**	**106**	eP	Pn	18 53 19.4	-1.1
RBDL	**Robledal**	**2.57**	**318**	eP	Pn	18 53 24.4	+0.3
RBDL				eS	Sn	18 53 55.7	+1.0

*THR **14** 19:05:02.1±0.3,32.23N×49.08E,h5km,ML2.8*
*CSEM **14** 19:05:02.1,32.23N×49.08E,h5km,ML2.8,After THR*
*KISR **14** 19:05:06.1±1.2,30.62N×50.84E,h33km,ML2.9*
ISC 14 19:05:02.5±1.2,32.15N±0.05×49.1E±0.1,h9km±9km,n9,
σ0°85/15,Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.24**	**260**	ePG	**Pg**	**19 05 07.7**	**0.0**
SHGR				eSG	**Sg**	**19 05 11.6**	**+0.5**
SHGR				AML	AML	19 05 12.8	
	comp=N,2μm,0.6s						
SHGR	**Shooshtar-Gavs**	**0.24**	**260**	ePg	**Pg**	**19 05 07.7**	**0.0**
	SNR=100						
SHGR				eSg	**Sg**	**19 05 11.6**	**+0.5**
	comp=N,2μm,0.6s,SNR=100						
MIB	**Mutribah**	**2.78**	**213**	eP	**Pg**	**19 05 57.0**	**-1.1**
MIB				AML	AML	19 06 31.6	
	comp=Z,25nm,0.4s						
MIB				eS	**Sg**	**19 06 34.0**	**-1.1**
KBD	**Kabd**	**3.20**	**202**	eP	**Pn**	**19 05 55.3**	**+1.3**
KBD				eS	**Sn**	**19 06 32.5**	**-0.2**
KBD				AML	AML	19 06 34.2	
	comp=Z,57nm,0.3s						
NASN	**Na'in**	**3.21**	**77**	ePN	**Pn**	**19 05 55.3**	**+1.1**
SNGE	**Sanandaj**	**3.27**	**334**	ePN	**Pn**	**19 05 55.2**	**+0.3**
SNGE				AML	AML	19 06 51.7	
	comp=N,16nm,0.7s						
SNGE	**Sanandaj**	**3.27**	**334**	ePn	**Pn**	**19 05 55.2**	**+0.2**
	SNR=42						
RDF	**Al-Radifah**	**3.48**	**203**	eP	**Pn**	**19 05 58.9**	**+0.9**
RDF				eS	**Sn**	**19 06 39.5**	**-0.2**
RDF				AML	AML	19 06 41.6	
	comp=Z,16nm,0.2s						
DAMV	**Damavand**	**4.22**	**34**	ePN	**Pn**	**19 06 08.4**	**-0.1**
DAMV				SN	**Sn**	**19 06 57.0**	**-1.5**

CASC 14 19:07:19.4±1.7,11.09N×85.74W,h96km±5km,MD3.8,
ML3.7,8C-16D,Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSNN	**San Juan del S**	**0.22**	**330**	iP	P	19 07 33.5	+0.3
SSNN				eS	S	19 07 44.2	+0.6
MADN	**Villa Maderas**	**0.37**	**33**	iP	P	19 07 34.4	+0.4
CONN	**Concepcion**	**0.48**	**13**	iP	P	19 07 35.0	+0.2
LIM1	**Limonal**	**0.62**	**129**	iP	P	19 07 36.1	+0.2
LIM1				iS	S	19 07 48.7	+0.5
APON	**Apoyo**	**0.88**	**339**	eP	P	19 07 38.5	+0.1
MASN	**Masaya**	**0.98**	**336**	eP	P	19 07 39.5	0.0
CRUN	**El Crucero**	**1.04**	**328**	eP	P	19 07 40.8	+0.5
TICN	**Ticuantepe**	**1.05**	**333**	eP	P	19 07 40.7	+0.3
WILN	**Americas 2**	**1.15**	**337**	iP	P	19 07 41.6	0.0
WILN				eP		19 07 41.6	
WILN				eS	S	19 07 58.2	+0.1
MGAN	**Managua**	**1.16**	**335**	eP	P	19 07 41.6	-0.1
MGAN				eS	S	19 07 58.4	0.0
	comp=N,1μm,0.4s						
XAVN	**Gruta Xavier**	**1.20**	**331**	iP	P	19 07 42.1	-0.1
XAVN				eS	S	19 07 59.7	+0.5
APYN	**Apoyeque**	**1.28**	**332⇑**	eP	P	19 07 43.1	-0.1
APYN				eS	S	19 08 01.6	+0.5
COPN	**Copaltepe**	**1.36**	**322⇑**	iP	P	19 07 44.0	-0.1
COPN				eS	S	19 08 01.4	-1.3
PYTN	**Playitas**	**1.47**	**348**	iP	P	19 07 45.5	0.0
PYTN				eS	S	19 08 07.4	+2.6
MOMJ	**Momotombo**	**1.52**	**329**	iP	P	19 07 45.9	-0.3
MOMJ				eS	S	19 08 06.2	+0.2
MIRN	**Miramar**	**1.64**	**325⇑**	eP	P	19 07 47.7	+0.1
MIRN				eS	S	19 08 08.2	-0.3
CNGN	**Cerro Negro**	**1.68**	**326**	eP	P	19 07 48.0	-0.1
CNGN				eS	S	19 08 09.8	+0.3
LEON	**Leon**	**1.73**	**319**	eP	P	19 07 48.6	-0.2
LEON				eS	S	19 08 09.8	-0.7
PRS1	**Puriscal**	**1.79**	**128**	eP	P	19 07 50.0	+0.5
P

YBH				Sn	Sn	19 22 35.0	0.0
	baz=16,slow=18,SNR=2.3						
YBH				LR	LR	19 23 12.9	
	comp=Z,584nm,21.7s,baz=215,slow=42						
YBH	**Yreka Blue Hor**	**2.95**	**70**	*eP*	**Pn**	**19 22 00.5**	**+0.8**
HOPS	**Hopland**	**3.11**	**123**	*eP*	**Pn**	**19 22 01.3**	**-0.6**
HUMO	**Hull Mountain**	**3.17**	**53**	*eP*	**Pn**	**19 22 02.8**	**-0.1**
LHEM	**Herd Peak**	**3.27**	**73**	P	**Pn**	**19 22 05.7**	**+1.4**
DBO	**Dodson Butte**	**3.33**	**44**	P	**Pn**	**19 22 04.9**	**-0.2**
BUOR	**Burton Butte**	**3.47**	**63**	P	**Pn**	**19 22 09.2**	**+2.1**
BBOR	**Butler Butte**	**3.50**	**51**	P	**Pn**	**19 22 08.0**	**+0.5**
VSP	**Spence Mountai**	**3.70**	**63**	P	**Pn**	**19 22 11.9**	**+1.6**
HSO	**Harness Mounta**	**3.70**	**41**	P	**Pn**	**19 22 10.0**	**-0.4**
LASM	**Arnica Sink**	**3.74**	**75**	P	**Pn**	**19 22 12.3**	**+1.4**
LTIM	**Timbered Crate**	**3.74**	**82**	P	**Pn**	**19 22 12.2**	**+1.2**
HOG	**Hogback Mounta**	**3.83**	**66**	P	**Pn**	**19 22 13.6**	**+1.4**
HBO	**Huckleberry Mo**	**4.32**	**43**	P	**Pn**	**19 22 19.5**	**+0.4**
SAC	**San Andreas**	**4.43**	**134**	*eP*	**Pn**	**19 22 19.4**	**-1.4**
BROR	**Big Rock Looko**	**4.56**	**38**	P	**Pn**	**19 22 22.8**	**+0.2**
FRIS	**Frissel Point**	**4.69**	**41**	P	**Pn**	**19 22 24.5**	**+0.1**
BEKR	**Beckwourth**	**4.71**	**99**	*eP*	**Pn**	**19 22 24.6**	**0.0**
MOD	**Modoc**	**4.73**	**74**	*eP*	**Pn**	**19 22 25.3**	**+0.3**
WIFE	**Three Sisters-**	**4.73**	**44**	P	**Pn**	**19 22 24.3**	**-0.7**
HUOR	**Husband**	**4.76**	**44**	P	**Pn**	**19 22 25.6**	**+0.3**
NCOR	**Newberry Crate**	**4.89**	**51**	P	**Pn**	**19 22 27.9**	**+0.6**
BKCOR	**Black Crater**	**4.96**	**43**	P	**Pn**	**19 22 28.2**	**0.0**
PINOR	**Pine Mountain**	**5.11**	**52**	P	**Pn**	**19 22 30.7**	**+0.4**
CMB	**Columbia Colle**	**5.39**	**118**	*eP*	**Pn**	**19 22 35.2**	**+0.9**
GMO	**Grizzlie Mount**	**5.45**	**46**	P	**Pn**	**19 22 35.0**	**-0.1**
SAO	**San Andreas Ge**	**5.56**	**134**	*eP*	**Pn**	**19 22 34.5**	**-2.1**
VIPM	**Ingram Point**	**5.68**	**47**	P	**Pn**	**19 22 38.4**	**0.0**
WVOR	**Wild Horse Val**	**6.06**	**71**	*eP*	**Pn**	**19 22 42.8**	**-0.9**
OMM	**Old Mammoth Mi**	**6.55**	**116**	P	**Pn**	**19 22 51.0**	**+0.3**
NVAR	**Mina Array Bea**	**6.67**	**108**	Pn	**Pn**	**19 22 55.1**	**+2.8**
	0.3nm,0.3s,baz=287,slow=14,SNR=6.3						
NVAR				Sn	**Sn**	**19 24 12.7**	**+3.9**
	0.3nm,0.3s,baz=303,slow=25,SNR=3.0						
MTUM	**Tungsten Hills**	**6.98**	**117**	*eP*	**Pn**	**19 22 56.2**	**-0.5**
BMO	**Blue Mountains**	**7.84**	**56**	*eP*	**Pn**	**19 23 08.6**	**-0.2**
HLID	**Hailey**	**9.33**	**69**	*eP*	**P**	**19 23 28.4**	**-1.0**
NEW	**Newport**	**10.01**	**38**	LR	LR	19 27 29.0	
	comp=Z,171nm,19.8s,baz=196,slow=39						
MCMT	**McKenzie Canyo**	**10.76**	**63**	*eP*	**P**	**19 23 45.6**	**-3.3**
MSO	**Missoula**	**10.86**	**52**	*eP*	**P**	**19 23 49.5**	**-0.8**
HWUT	**Hardware Ranch**	**11.22**	**81**	P	**P**	**19 23 53.4**	**-1.8**
CHMT	**Chamberlain Mo**	**11.31**	**53**	*eP*	**P**	**19 23 55.5**	**-1.0**
BBB	**Bella Bella**	**11.49**	**355**	LR	LR	19 27 24.4	
	comp=Z,109nm,19.7s,baz=186,slow=33						
RRI2	**Red Ridge**	**11.51**	**72**	*eP*	**P**	**19 23 58.5**	**-0.7**
QLMT	**Earthquake Lak**	**11.73**	**65**	P	**P**	**19 24 00.7**	**-1.4**
TPAW	**Teton Pass**	**11.79**	**72**	*eP*	**P**	**19 24 02.3**	**-0.8**
BOZ	**Bozeman (W)**	**11.83**	**61**	*eP*	**P**	**19 24 02.5**	**-1.1**
IMW	**Indian Meadow**	**11.87**	**70**	P	**P**	**19 24 03.0**	**-1.1**
HRY	**Holter Researc**	**12.10**	**56**	*eP*	**P**	**19 24 06.0**	**-1.1**
PDAR	**Pinedale Array**	**12.74**	**75**	Pn	**P**	**19 24 18.5**	**+2.8**
	baz=260,slow=10,SNR=5.4						
LAO	**LASA Array**	**15.73**	**61**	P	**P**	**19 24 56.1**	**+1.3**
	31nm,0.9s						
SDCO	**Great Sand Dun**	**16.46**	**94**	P	**P**	**19 25 04.7**	**+0.4**
	4.7nm,1.2s						
ANMO	**Albuquerque**	**16.77**	**104**	Pn	**P**	**19 25 14.3**	**+6.1**
	baz=305,slow=9.3,SNR=4.0						
ANMO				LR	LR	19 31 41.4	
	comp=Z,34nm,18.2s,slow=37						
DLBC	**Dease Lake**	**17.85**	**354**	P	**P**	**19 25 19.0**	**-2.5**
	0.1nm,0.3s,baz=146,slow=15,SNR=2.2						
DLBC				LR	LR	19 31 14.7	
	comp=Z,40nm,20.0s,baz=316,slow=34						
DLBC	**Dease Lake**	**17.85**	**354**	P	**P**	**19 25 19.0**	**-2.5**
DLBC				*eP*		19 25 24.2	
DLBC				LR	LR	19 31 14.7	
FFC	**Flin Flon**	**21.41**	**41**	*eP*	**P**	**19 26 01.2**	**-0.3**
	3.4nm,0.6s,mb3.9						
ULM	**Lac du Bonnet**	**23.26**	**56**	P	**P**	**19 26 21.2**	**+1.4**
	7.2nm,0.8s,mb4.2,baz=261,slow=9.5,SNR=9.5						
ULM				LR	LR	19 35 54.7	
	comp=Z,88nm,19.6s,MS3.2,baz=343,slow=38						
MENT	**Mentasta**	**24.49**	**341**	*eP*	**P**	**19 26 33.5**	**+1.8**
ILAR	**Eielson Array**	**26.80**	**341**	P	**P**	**19 26 53.6**	**+0.3**
	0.6nm,0.6s,mb3.3,baz=155,slow=7.7,SNR=8.0						
ILAR				LR	LR	19 35 32.4	
	comp=Z,60nm,20.2s,MS3.1,baz=177,slow=32						
ARCES	**ARCESS Array B**	**68.09**	**10**	LR	LR	20 02 53.3	
	comp=Z,20nm,20.9s,MS3.3,baz=250,slow=37						

*NEIC **14** 19:56:16.0, 33.08S×70.36W, h102km, MD3.2(GUC), After GUC.*

GUC 14 19:56:15.5±0.6, 33.08S×70.33W, h99km±2km, MD3.6, ML3.5, 14C-15D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCH	**Farellones**	**0.25**	**173**	⇓*iP*	P	19 56 30.3	+0.5
FCH				*i* S	S	19 56 41.9	+1.2
FCH				AMP		19 56 47.5	
	comp=E,3μm,0.2s						
PEL	**Peldehue**	**0.31**	**257**	⇑*iP*	P	19 56 30.2	+0.1
PEL				*i* S	S	19 56 41.3	+0.1
PEL	**Peldehue**	**0.31**	**257**	⇑*iP*	P	19 56 30.2	+0.1
PEL				*i* S	S	19 56 41.3	+0.2
CLCH	**Cerro Calan**	**0.36**	**209**	⇓*iP*	P	19 56 30.7	+0.3
CLCH				*i* S	S	19 56 42.6	+0.9
CLCH				AMP		19 56 43.8	
	comp=E,4μm,0.6s						
DSCH	**Colegio Aleman**	**0.38**	**212**	*i* P	P	19 56 30.8	+0.3
DSCH				*i* S	S	19 56 42.4	+0.5
DSCH				AMP		19 56 44.3	
	comp=E,4μm,0.4s						
DSCH	**Colegio Aleman**	**0.38**	**212**	⇑*iP*	P	19 56 30.9	+0.4
DSCH				*i* S	S	19 56 42.5	+0.6
FSR	**Penalolen**	**0.43**	**203**	*i* P	P	19 56 31.2	+0.3
FSR				*i* S	S	19 56 43.0	+0.6
FSR				AMP		19 56 43.7	
	comp=E,4μm,0.5s						
FSR	**Penalolen**	**0.43**	**203**	⇓*iP*	P	19 56 31.2	+0.3
FSR				*i* S	S	19 56 43.0	+0.6
STL	**Santa Lucia**	**0.45**	**216**	*eP*	P	19 56 30.2	-0.8
STL				*i* S	S	19 56 42.2	-0.4
STL				AMP		19 56 42.6	
	comp=E,3μm,0.3s						
JACH	**Jahuel**	**0.45**	**330**	⇑*iP*	P	19 56 31.1	+0.1
JACH				*i* S	S	19 56 43.2	+0.5
JACH	**Jahuel**	**0.45**	**330**	⇑*iP*	P	19 56 31.1	+0.1
JACH				*i* S	S	19 56 43.3	+0.7
SAN	**Santiago**	**0.47**	**217**	⇓*iP*	P	19 56 31.3	+0.1
SAN				*i* S	S	19 56 43.3	+0.4
SAN	**Santiago**	**0.47**	**217**	⇓*iP*	P	19 56 31.3	+0.2
SAN				*i* S	S	19 56 43.3	+0.4
ANTU	**Antumapu**	**0.56**	**208**	*i* P	P	19 56 31.9	+0.1
ANTU				*i* S	S	19 56 44.3	+0.4
ANTU				AMP		19 56 45.0	
	comp=E,9μm,0.3s						
ANTU	**Antumapu**	**0.56**	**208**	⇑*iP*	P	19 56 32.0	+0.2
ANTU				*i* S	S	19 56 44.4	+0.5
SJCH	**San Jose de Ma**	**0.56**	**182**	*i* P	P	19 56 31.7	-0.1
SJCH				*i* S	S	19 56 44.5	+0.4
SJCH				AMP		19 56 45.2	
	comp=N,1μm,0.6s						
SJCH	**San Jose de Ma**	**0.56**	**182**	⇑*iP*	P	19 56 31.9	0.0
SJCH				*i* S	S	19 56 44.7	+0.6
PCH	**Pirque**	**0.57**	**196**	⇑*iP*	P	19 56 32.2	+0.3
PCH				*i* S	S	19 56 44.5	+0.4
PCH	**Pirque**	**0.57**	**196**	⇑*iP*	P	19 56 32.2	+0.3
PCH				*i* S	S	19 56 44.1	0.0
RCDM	**Rinconada Maip**	**0.58**	**224**	*eP*	P	19 56 32.0	0.0
RCDM				*i* S	S	19 56 44.5	+0.2
RCDM				AMP		19 56 45.2	
	comp=N,9μm,0.1s						
RCDM	**Rinconada Maip**	**0.58**	**224**	*i* P	P	19 56 32.1	+0.1
RCDM				*i* S	S	19 56 44.4	+0.2
ROCH	**El Roble**	**0.58**	**280**	⇑*iP*	P	19 56 32.2	+0.1
ROCH				*i* S	S	19 56 44.9	+0.5
SCR	**San Cristobal**	**0.70**	**233**	⇓*iP*	P	19 56 30.8	-2.3
SCR				*i* S	S	19 56 42.8	-3.5
SCR				AMP		19 56 43.4	
	comp=E,3μm,0.2s						
TACH	**Talagante**	**0.77**	**221**	⇓*iP*	P	19 56 33.7	-0.1
TACH				*i* S	S	19 56 47.3	+0.1
LMEL	**Las Melosas**	**0.78**	**172**	⇓*iP*	P	19 56 34.1	+0.3
LMEL				*i* S	S	19 56 49.4	+2.0
LMEL				AMP		19 56 53.4	
	comp=N,2μm,0.1s						
LMEL	**Las Melosas**	**0.78**	**172**	⇓*iP*	P	19 56 34.1	+0.3
LMEL				*i* S	S	19 56 48.4	+1.0
CHCH	**Chadas Angostu**	**0.90**	**198**	⇓*iP*	P	19 56 35.1	+0.1
CHCH				*i* S	S	19 56 49.8	+0.2
CHCH	**Chadas Angostu**	**0.90**	**198**	⇓*iP*	P	19 56 35.1	+0.1
CHCH				*i* S	S	19 56 50.0	+0.3
CACH	**El Canelo**	**1.06**	**192**	⇑*iP*	P	19 56 37.5	+0.6
CACH				*i* S	S	19 56 54.0	+1.1
CACH	**El Canelo**	**1.06**	**192**	⇑*iP*	P	19 56 37.5	+0.6
CACH				*i* S	S	19 56 54.4	+1.5
IHA	**Instituto Hidr**	**1.11**	**272**	*eP*	P	19 56 37.0	-0.4
LCCH	**Las Cruces**	**1.11**	**249**	⇓*iP*	P	19 56 37.3	-0.2
LCCH				*i* S	S	19 56 53.4	-0.6
LCCH	**Las Cruces**	**1.11**	**249**	⇓*iP*	P	19 56 37.3	-0.2
LCCH				*i* S	S	19 56 53.5	-0.5
CICH	**Cipreses**	**1.24**	**184**	⇑*iP*	P	19 56 39.3	+0.3
CICH				*i* S	S	19 56 56.9	+0.2
LNV	**Longovilo**	**1.26**	**226**	⇑*iP*	P	19 56 38.4	-0.9
LNV				*i* S	S	19 56 56.2	-0.8
CHNG	**Los Chungos**	**1.55**	**320**	*eP*	P	19 56 42.8	0.0
CHNG				*i* S	S	19 57 03.0	0.0
CHNG				AMP		19 57 03.8	
	comp=N,180nm,0.3s						
SFDO	**San Fernando**	**1.64**	**200**	⇓*iP*	P	19 56 43.6	-0.3
SFDO				*i* S	S	19 57 05.6	+0.7
SFDO	**San Fernando**	**1.64**	**200**	⇓*iP*	P	19 56 43.6	-0.3
SFDO				*i* S	S	19 57 04.9	0.0
CMCH	**Combarbala**	**1.98**	**343**	*i* P	P	19 56 47.8	-0.4
CMCH				*i* S	S	19 57 12.8	+0.3
CMCH				AMP		19 57 19.2	
	comp=E,340nm,0.5s						
CMCH	**Combarbala**	**1.98**	**343**	*i* P	P	19 56 48.1	-0.2
CMCH				*i* S	S	19 57 12.8	+0.3

*IDC **14** 20:08:02.7±1.2, 31.41S×76.62E, mb3.8/4, mb1 4.0/4, mb1mx3.7/15, mbtmp3.8/4, MS3.6/3, Ms1 3.5/3, ms1mx3.3/16, Error ellipse: s-maj=45.9km s-min=32.1km az=105.0*

*NEIC **14** 20:08:04.5±0.7, 31.48S×76.75E, h10km, mb4.4/3, Error ellipse: s-maj=22.3km s-min=19.7km az=108.0*

ISC 14 20:08:02.7±0.8, 31.5S±0.2×76.8E±0.2, h10km, n9, σ0§48/7, mb4.0/6, MS3.6/3, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**44.34**	**260**	LR	LR	20 30 19.5	
	comp=Z,87nm,18.4s,MS3.7,baz=151,slow=30						
LSZ	**Lusaka**	**47.04**	**279**	*eP*	**P**	**20 16 37.0**	**+0.5**
	2.1nm,0.7s,mb4.2						
WRA	**Warramunga Arr**	**52.61**	**92**	P	**P**	**20 17 19.6**	**+0.4**
	0.4nm,0.8s,mb3.4,baz=249,slow=7.7,SNR=3.9						
SNAA	**Sanae**	**57.15**	**202**	P	**P**	**20 17 51.1**	**-0.4**
	0.2nm,0.6s,mb3.3,baz=161,slow=14,SNR=6.4						
SNAA				LR	LR	20 38 28.1	
	comp=Z,13nm,18.4s,MS3.1,baz=15,slow=32						
SNAA	**Sanae**	**57.15**	**202**	*eP*	**P**	**20 17 51.2**	**-0.3**
	1.1nm,1.7s,mb4.6						
SNAA				LR	LR	20 38 28.1	
QSPA	**South Pole Qui**	**58.61**	**180**	P	**P**	**20 18 01.6**	**0.0**
	3.8nm,1.0s,mb4.4						
MKAR	**Makanchi Array**	**78.12**	**4**	P	**P**	**20 20 02.5**	**-0.8**
	0.6nm,0.6s,mb3.7,baz=190,slow=6.4,SNR=8.8						
HNR	**Honiara**	**79.35**	**95**	LR	LR	20 52 25.7	
	comp=Z,77nm,19.8s,MS4.0,baz=84,slow=34						
ZAL	**Zalesovo**	**85.40**	**5**	P	**P**	**20 20 41.5**	**+0.3**
	1.1nm,0.4s,mb4.3,baz=350,slow=4.9,SNR=5.1						

*NEIC **14** 20:12:48.0, 16.15N×98.95W, h12km, MD4.0(MEX), After MEX.*

MEX 14 20:12:48.0±0.8, 16.15N×98.95W, h12km±23km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.83**	**73**	*i* P	Pb	20 13 01.8	-2.0
PNIG				*i* S	Sb	20 13 11.7	-3.0
ACX	**Acapulco**	**1.17**	**308**	*eP*	Pb	20 13 06.0	-3.7
ACX				*i* S	Sb	20 13 22.0	-2.6
PLIG	**Platanillo**	**2.29**	**347**	*i* S	Sn	20 13 49.6	-5.0
VHO	**Vista Hermosa**	**2.31**	**66**	*i* P	Pn	20 13 23.4	-3.2
VHO				*i* S	Sn	20 13 51.7	-3.6
OXX	**Oaxaca**	**2.33**	**66**	*eP*	Pn	20 13 24.0	-2.8

*IDC **14** 20:18:02.2±0.5, 13.19N×92.49E, mb4.5/19, mb1 4.6/19, mb1mx4.5/23, mbtmp4.5/19, MS4.3/14, Ms1 4.2/14, ms1mx4.1/22, Error ellipse: s-maj=19.7km s-min=11.4km az=60.0*

*BJI **14** 20:18:05.6, 13.37N×92.58E, h18km, mB4.9, mb4.6, Ms4.6, Msz4.3*

*MOS **14** 20:18:06.0±0.8, 13.13N×92.61E, h39km, mb5.0/21, MS4.2/13, Error ellipse: s-maj=13.8km s-min=6.9km az=112.9*

*NEIC **14** 20:18:07.1±0.3, 13.24N×92.54E, h30km, mb4.8/22, MS4.1/1, Error ellipse: s-maj=12.6km s-min=6.1km az=52.0*

ISC 14 20:18:04.5±0.3, 13.18N±0.04×92.50E±0.03, h26km, h26km±2.2km: pP-P, n160, σ1§18/165, mb4.7/57, MS4.4/38, 8C-7D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.53**	**171**	*eP*	**Pn**	**20 18 34.0**	**+3.4**
PBA				*ex*	**Sn**	**20 18 57.7**	**+7.8**
NST	**Nakhon Sawan**	**7.80**	**71**	P	**Pn**	**20 20 00.0**	**+0.7**
CHG	**Chiang Mai**	**8.35**	**47**	PG	**P**	**20 20 05.2**	**-1.8**
CHG				SG	**Sn**	**20 21 33.6**	**-7.9**
BWNR	**Bhubaneshwar**	**9.55**	**319**	*eP*	**P**	**20 20 27.1**	**+3.5**
BWNR				*ex*	**Sn**	**20 22 05.3**	**-5.9**
BWNR				AML	AML	20 22 10.3	
	comp=E,376nm,0.3s						
BWNR				AML	AML	20 22 10.5	
	comp=N,627nm,0.2s						
BWNR				*i* x	x	20 23 31.1	
BWNR				*i* x	x	20 29 36.3	
CHRT	**Chiangrai**	**9.64**	**45**	PG	**P**	**20 20 24.5**	**-0.5**
CHRT				SG	rx	20 22 33.5	
VIS	**Vishakhapatnam**	**9.93**	**298**	*eP*	**P**	**20 20 26.6**	**-2.2**
VIS				*eS*	**Sn**	**20 22 07.9**	**-13**
VIS				*i* T		20 30 19.9	
CAL	**Calcutta**	**10.12**	**338**	*ex*	**P**	**20 20 35.0**	**+3.5**
CAL				*ex*	x	20 22 56.3	
KKTK	**Khon Kaen**	**10.47**	**71**	PG	**P**	**20 20 36.6**	**+0.3**
KKTK				SG	rx	20 20 49.5	
KULM	**Kulim**	**11.23**	**134**	*eP*	**P**	**20 20 48.5**	**+1.8**
MDRS	**Chennai**	**11.94**	**271**	*eP*	**P**	**20 20 54.3**	**-2.0**
MDRS				AMb	AMB	20 21 05.5	
	comp=Z,146nm,2.0s						
MDRS				*eS*	**S**	**20 22 56.1**	**-14**
SHL	**Shillong**	**12.34**	**357**	*ex*	**P**	**20 20 56.0**	**-5.6**
SHL				*ex*	**S**	**20 23 10.0**	**-9.3**
BLSP	**Bilaspur**	**13.29**	**313**	*eP*	**P**	**20 21 13.1**	**-1.2**
BLSP				AMb	AMB	20 21 42.0	
	comp=Z,56nm,1.1s						
BLSP				*eS*	**S**	**20 23 29.5**	**-13**
SALM	**Salem**	**14.05**	**265**	*ex*	**S**	**20 23 48.0**	**-12**
GTK	**Gangtok**	**14.54**	**346**	*ex*	**S**	**20 23 55.0**	**-17**
GTK				*ex*	x	20 24 01.0	
KMI	**Kunming**	**15.31**	**38**	⇑P	**P**	**20 21 42.9**	**+2.1**
KMI				AP		20 21 47.8	
KMI				XP		20 21 51.8	
KMI				PP	PP	20 21 57.5	+4.6
KMI				AMB	AMB		
	comp=Z,23nm,1.9s						
KMI				AMB	AMB		
	comp=Z,292nm,5.1s						
KMI				LR	LR		
	comp=N,1μm,16.7s						
KMI				LR	LR		
	comp=E,2μm,17.6s						
KMI				LR	LR		
	comp=Z,2μm,16.7s						
JBP	**Jabalpur**	**15.48**	**312**	*i* P	**P**	**20 21 47.6**	**+4.6**
JBP				*i* x	**S**	**20 24 27.9**	**-6.3**
PKI	**Pulchoki**	**15.78**	**336**	*eP*	**P**	**20 21 45.0**	**-1.9**
PKI				*eS*	**S**	**20 24 32.2**	**-8.8**
DMN	**Daman**	**15.93**	**335**	*eP*	**P**	**20 21 46.8**	**-2.0**
TRD	**Trivandrum**	**15.95**	**255**	*ex*	**P**	**20 21 38.8**	**-10**
TRD				*i* x	**S**	**20 24 38.8**	**-6.3**
KKN	**Kakani**	**16.02**	**336**	*eP*	**P**	**20 21 47.3**	**-2.7**
GKN	**Gorkha**	**16.47**	**335**	*eP*	**P**	**20 21 54.9**	**-0.8**
LSA	**Lhasa**	**16.49**	**356**	P	**P**	**20 22 00.4**	**+4.5**
LSA				S	**S**	**20 25 01.1**	**+3.7**
LSA				LR	LR		
	comp=N,590nm,14.8s						
LSA				LR	LR		
	comp=E,1μm,14.8s						
LSA				LR	LR		
	comp=Z,950nm,15.5s						
KOLN	**Koldanda**	**16.73**	**332**	*eP*	**P**	**20 21 58.9**	**0.0**
BHPL	**Bhopal**	**17.46**	**307**	*eP*	**P**	**20 22 10.1**	**+2.0**
BHPL				AMb	AMB	20 22 18.9	
	comp=Z,33nm,1.1s						
BHPL				*ex*	x	20 25 13.3	
BHPL				*i* x	x	20 33 47.3	
QIZ	**Qiongzhong**	**17.64**	**68**	P	**P**	**20 22 11.5**	**+1.1**
QIZ				*eS*	**S**	**20 25 22.6**	**-1.3**
QIZ				AMB	AMB		
	comp=Z,462nm,8.9s						
QIZ				LR	LR		
	comp=N,1μm,16.2s						
QIZ				LR	LR		
	comp=E,885nm,16.2s						
QIZ				LR	LR		
	comp=Z,2μm,15.4s						
KAD	**Karad**	**18.14**	**285**	*eP*	**P**	**20 22 18.1**	**+1.4**
POO	**Poona**	**18.71**	**289**	*ex*	**P**	**20 22 19.0**	**-4.6**
POO				*i* x	**S**	**20 25 57.0**	**+9.0**
GYA	**Guiyang**	**18.74**	**43**	⇑*iP*	**P**	**20 22 23.3**	**-0.6**
GYA				AP		20 22 32.4	
GYA				XP		20 22 36.6	
GYA				PP	PP	20 22 41.8	+1.9
GYA				AMB	AMB		
	comp=Z,40nm,1.1s						
GYA				AMB	AMB		
	comp=Z,440nm,4.2s						
GYA				LR	LR		
	comp=N,1μm,14.2s						
GYA				LR	LR		
	comp=E,900nm,15.5s						
GYA				LR	LR		
	comp=Z,1μm,15.2s						
CD2	**Chengdu**	**20.47**	**29**	P	**P**	**20 22 42.3**	**-0.9**
CD2				AP		20 22 50.8	
CD2				XP		20 22 55.8	
CD2				S	**S**	**20 26 27.5**	**+1.5**
CD2				XS		20 26 38.0	
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CD2				AMB	AMB		
	comp=Z,120nm,3.6s						
CD2				LR	LR		
	comp=E,640nm,16.0s						
CD2				LR	LR		
	comp=Z,430nm,16.8s,MS3.9						
NDI	**New Delhi**	**20.98**	**320**	*ex*	x	20 23 10.0	
NDI				*eS*	**S**	**20 26 46.0**	**+10**
LZH	**Lanzhou**	**24.99**	**22**	⇑P	**P**	**20 23 28.9**	**+1.1**
LZH				AP		20 23 32.5	
LZH				XP		20 23 34.4	
LZH				XS		20 28 04.0	
LZH				AMB	AMB		
	comp=Z,89nm,1.7s,mb5.0						
LZH				AMB	AMB		
	comp=Z,400nm,4.5s						
LZH				LR	LR		
	comp=E,896nm,13.0s						
LZH				LR	LR		
	comp=Z,2μm,14.8s,MS4.6						
XAN	**Xi'an**	**25.57**	**33**	P	**P**	**20 23 32.4**	**-0.9**
XAN				AMB	AMB		
	comp=Z,19nm,1.0s,mb4.6						
XAN				AMB	AMB		
	comp=Z,198nm,10.2s						
XAN				LR	LR		
	comp=N,500nm,16.9s,MS4.3						
XAN				LR	LR		
	comp=E,648nm,16.3s,MS4.3						
XAN				LR	LR		
	comp=Z,834nm,17.1s,MS4.3						
GTA	**Gaotai**	**26.92**	**13**	*eP*	**P**	**20 23 46.6**	**+1.0**
GTA				AP	pP	20 23 55.0	+1.9
GTA				XP	sP	20 23 59.1	+2.6
GTA				PP	PP	20 24 34.6	+3.3
GTA				PPP	PPP	20 24 47.5	+4.2
GTA				PCP	PcP	20 27 07.3	-0.5
GTA				S	**S**	**20 28 22.0**	**+2.9**
GTA				SCS	ScS	20 34 32.8	-1.7
GTA				AMB	AMB		
	comp=Z,19nm,1.3s,mb4.5						
GTA				AMB	AMB		
	comp=Z,153nm,8.0s						
GTA				LR	LR		
	comp=N,384nm,16.4s,MS4.1						
GTA				LR	LR		
	comp=E,319nm,18.6s,MS4.1						
GTA				LR	LR		
	comp=Z,367nm,17.1s,MS4.0						
QZH	**Quanzhou**	**27.24**	**61**	P	**P**	**20 23 51.0**	**+2.3**
QZH				LR	LR		
	comp=N,1μm,11.9s						
QZH				LR	LR		
	comp=E,1μm,9.3s						
QZH				LR	LR		
	comp=Z,2μm,16.8s,MS4.8						
NJ2	**Nanjing**	**30.60**	**48**	*eP*	**P**	**20 24 18.6**	**-0.2**
NJ2				AP	pP	20 24 27.9	+1.5
NJ2				XP	sP	20 24 32.0	+2.3
NJ2				AMB	AMB		
	comp=Z,130nm,1.1s,mb5.7						
NJ2				AMB	AMB		
	comp=Z,410nm,4.3s						
NJ2				LR	LR		
	comp=N,2μm,11.6s						
NJ2				LR	LR		
	comp=E,3μm,21.0s						
NJ2				LR	LR		
	comp=Z,740nm,14.1s,MS4.5						
BTO	**Baotou**	**31.35**	**26**	*eP*	**P**	**20 24 24.3**	**-1.0**
SSE	**Sheshan**	**31.85**	**51**	*eP*	**P**	**20 24 35.6**	**+5.8**
SSE				AMB	AMB		
	comp=Z,36nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,81nm,5.6s						
SSE				LR	LR		
	comp=N,255nm,16.3s,MS4.5						

ZAK e 20 27 41.8
ZAK pmax pmax
comp=Z,3.0nm,1.1s,mb3.9
ZAK pmax pmax
comp=Z,2.0nm,0.8s,mb3.9
KURK Kurchatov 39.10 346 eP **P 20 25 31.5 0.0**
comp=Z,20nm,1.2s,mb4.7
KURK Kurchatov 39.10 346 eP **P 20 25 31.5 +0.1**
KURK pmax pmax
comp=Z,20nm,1.2s,mb4.7
SNY Shenyang 39.29 38 ⇑P **P 20 25 32.9 -0.2**
SNY S **S 20 31 29.4 -2.6**
SNY SS SS 20 34 16.0 -2.3
SNY AMB AMB
comp=Z,20nm,2.0s,mb4.5
SNY AMB AMB
comp=Z,90nm,5.1s
SNY LR LR
comp=N,460nm,14.1s,MS4.7
SNY LR LR
comp=E,730nm,17.7s,MS4.7
SNY LR LR
comp=Z,420nm,18.2s,MS4.3
KS15 Wonju Array Si 39.72 46 eP **P 20 25 36.4 -0.3**
ZAL Zalesovo 41.11 353 P **P 20 25 48.1 +0.1**
comp=Z,3.8nm,1.0s,mb4.0,baz=301,slow=8.0,SNR=23
CN2 Changchun 41.58 36 ⇑P **P 20 25 52.3 +0.4**
CN2 AMB AMB
comp=Z,20nm,1.3s,mb4.6
CN2 AMB AMB
comp=Z,140nm,4.0s
CN2 LR LR
comp=N,470nm,15.0s,MS4.7
CN2 LR LR
comp=E,620nm,15.0s,MS4.7
CN2 LR LR
comp=Z,690nm,18.0s,MS4.6
CIT Chita 42.28 19 eP **P 20 25 57.7 +0.1**
CIT pmax pmax
comp=Z,162nm,1.3s,mb5.5
VOSK Vostochnaya 43.03 341 P **P 20 26 03.7 0.0**
VOSK pmax pmax
comp=Z,16nm,1.6s,mb4.5
MBWA Marble Bar 43.36 142 eP **P 20 26 06.0 -0.7**
MDJ Mudanjiang 44.48 38 P **P 20 26 15.5 -0.1**
MDJ AMB AMB
comp=Z,9.0nm,1.9s,mb4.2
MDJ AMB AMB
comp=Z,89nm,5.1s
MDJ LR LR
comp=N,137nm,19.2s,MS4.2
MDJ LR LR
comp=E,200nm,18.2s,MS4.2
MDJ LR LR
comp=Z,252nm,19.2s,MS4.2
AB31 Akbulak array 44.84 330 eP **P 20 26 19.4 +1.0**
AB31 pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
FITZ Fitzroy Crossi 45.11 133 ⇑iP **P 20 26 19.7 -1.2**
comp=Z,23nm,0.5s,mb5.3
FITZ Fitzroy Crossi 45.11 133 P **P 20 26 19.8 -1.1**
comp=Z,17nm,0.4s,mb5.2,baz=348,slow=6.6,SNR=125
MAT Matsushiro 46.99 52 P **P 20 26 35.2 -0.4**
MAT Matsushiro 46.99 52 eP **P 20 26 35.0 -0.6**
comp=Z,25nm,1.3s,mb5.0
MAT Matsushiro 46.99 52 eP **P 20 26 35.0 -0.6**
MAT pmax pmax
comp=Z,25nm,1.3s,mb5.0
MJAR Matsushiro Arr 47.00 52 P **P 20 26 35.4 -0.2**
comp=Z,9.3nm,1.2s,mb4.6,baz=267,slow=9.9,SNR=12
MJAR LR LR 20 49 18.0
comp=Z,333nm,18.8s,MS4.3,baz=265,slow=40
KAKA Kakadu 47.22 121 ⇑iP **P 20 26 46.2 +8.6**
comp=Z,4.9nm,0.4s,mb4.8
BOD Bodaibo 47.44 15 eP **P 20 26 33.2 -5.6**
BOD pmax pmax
comp=Z,13nm,1.2s,mb4.7
ATD Arta Tunnel 48.47 274 LR LR 20 44 34.3
comp=Z,112nm,18.5s,MS3.9,baz=238,slow=33
SVE Sverdlovsk 49.91 338 eP **P 20 26 58.6 +0.7**
SVE e pP 20 27 05.7 -0.1
SVE eS **S 20 34 16.0 +11**
SVE e 20 36 50.0
SVE e 20 37 32.0
SVE MLR MLR
comp=N,200nm,14.0s,MS4.4
SVE MLR MLR
comp=E,200nm,14.0s,MS4.4
SVE MLR MLR
comp=Z,300nm,14.0s,MS4.5
MUN Mundaring 50.32 154 eP **P 20 27 01.1 -0.3**
comp=Z,16nm,1.4s,mb4.9
MUN Mundaring 50.32 154 eP **P 20 27 01.1 -0.3**
MUN pmax pmax
comp=Z,16nm,1.4s,mb4.9
ARU Arti 50.41 336 eP **P 20 27 01.5 -0.3**
comp=Z,7.0nm,0.9s,mb4.7
ARU Arti 50.41 336 eP **P 20 27 03.2 +1.5**
ARU eSSS SS 20 37 48.8 +5.6
ARU MLR MLR
comp=N,200nm,17.0s,MS4.2
ARU MLR MLR
comp=Z,300nm,17.0s,MS4.4
ARU MLR MLR
comp=E,100nm,16.5s,MS4.2
KLBR Kellerberrin 50.68 152 eP **P 20 27 03.4 -0.7**
comp=E,26nm,1.2s,mb5.0
ZEI Tsey 51.13 315 eP **P 20 27 01.4 -6.0**
ZEI pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
NWAO Narrogin (SRO) 51.58 153 P **P 20 27 10.0 -0.9**
comp=Z,5.5nm,0.4s,mb4.9,baz=135,slow=12,SNR=16
NWAO Narrogin (SRO) 51.58 153 eP **P 20 27 09.8 -1.1**
comp=Z,4.4nm,0.4s,mb4.7
NWAO Narrogin (SRO) 51.58 153 eP **P 20 27 09.8 -1.1**
NWAO pmax pmax
comp=Z,4.0nm,0.4s
KIV Kislovodsk 52.37 316 eP **P 20 27 14.2 -2.5**
comp=Z,14nm,0.9s,mb4.9
KIV Kislovodsk 52.37 316 eP **P 20 27 14.2 -2.5**
KIV pmax pmax
comp=Z,14nm,0.9s,mb4.9
WRA Warramunga Arr 52.71 128 P **P 20 27 18.4 -1.3**
comp=Z,4.2nm,0.5s,mb4.7,baz=310,slow=7.9,SNR=120
WRA PcP PcP 20 28 29.0 -0.1
comp=Z,1.6nm,0.4s,baz=322,slow=3.1,SNR=11
WRAB Tennant Creek 52.71 128 eP **P 20 27 18.1 -1.6**
comp=Z,14nm,0.5s,mb5.1
WRAB Tennant Creek 52.71 128 eP **P 20 27 18.1 -1.5**
WRAB pmax pmax
comp=Z,14nm,0.5s,mb5.2
YSS Yuzh-Sakhalins 53.73 41 P **P 20 27 27.4 +0.7**
YSS MLR MLR
comp=E,400nm,16.0s
YSS MLR MLR
comp=Z,300nm,16.0s,MS4.5
MALT Malatya 53.88 308 eP **P 20 27 28.3 +0.3**
comp=Z,152nm,0.6s
MALT Malatya 53.88 308 eP **P 20 27 28.3 +0.3**
MALT pmax pmax
comp=Z,153nm,0.6s
SOC Sochi 54.29 315 eP **P 20 27 43.2 +12**
SOC e 20 29 31.4
SOC eS **S 20 34 58.2 -7.1**
SOC eSS SS 20 38 45.1 -1.9
SOC pmax pmax
comp=Z,13nm,1.1s,mb4.8
SOC pmax pmax
comp=N,10.0nm,1.5s
SOC pmax pmax
comp=E,9.0nm,1.1s
SOC MLR MLR
comp=Z,144nm,17.0s,MS4.1
SOC MLR MLR
comp=N,146nm,23.0s
SOC MLR MLR
comp=E,148nm,22.0s
YAK Yakutsk 55.55 20 eP **P 20 27 38.5 -1.4**
comp=E,15nm,0.8s,mb5.1
YAK Yakutsk 55.55 20c iP **P 20 27 38.7 -1.2**
YAK pmax pmax
comp=Z,19nm,1.0s,mb5.1
ANN Anapa 56.21 315 eP **P 20 27 41.5 -3.3**
ANN pmax pmax
comp=Z,54nm,1.3s,mb5.4
KMBO Kilima Mbogo 56.59 260 LR LR 20 50 33.5
comp=Z,272nm,19.3s,MS4.4,baz=94,slow=34
BR131 Keskin Array S 57.81 309 eP **P 20 27 55.1 -1.2**
comp=Z,1.2nm,0.4s,mb4.3
BRTR Keskin Array B 57.81 309 P **P 20 27 55.3 -1.0**
comp=Z,1.8nm,0.8s,mb4.2,baz=120,slow=7.2,SNR=8.3
OBN Obninsk 60.07 327 P **P 20 28 11.4 -0.3**
OBN e 20 28 26.6
OBN e 20 36 25.3
OBN 20 38 03.0
OBN pmax pmax
comp=Z,10.0nm,1.5s,mb4.6
OBN MLR MLR
comp=Z,200nm,24.0s,MS4.2
CTAO Charters Tower 62.36 121 eP **P 20 28 25.7 -2.0**
TIXI Tiksi 62.40 12 iP **P 20 28 25.5 -1.8**
TIXI pmax pmax
comp=Z,23nm,1.0s,mb5.3
CFR Carcaliu 62.73 314 ⇓P **P 20 28 29.3 -0.5**
CFR Carcaliu 62.73 314 ⇓P **P 20 28 29.3 -0.5**
AKASG Malin Array Be 63.04 320 P **P 20 28 30.3 -1.4**
comp=Z,0.8nm,0.6s,mb4.0,baz=89,slow=5.0,SNR=7.7
VRI Vrincioaia 63.81 315 ⇓P **P 20 28 38.9 +2.0**
VRI Vrincioaia 63.81 315 ⇓P **P 20 28 38.9 +2.0**
MLR Muntele Rosu 64.30 314 ⇓P **P 20 28 42.2 +2.0**
MLR Muntele Rosu 64.30 314 ⇓P **P 20 28 42.2 +2.0**
STKA Stephens Creek 64.94 135 eP **P 20 28 43.8 -0.7**
comp=Z,8.3nm,1.4s,mb4.6
STKA Stephens Creek 64.94 135 P **P 20 28 44.0 -0.6**
comp=Z,3.0nm,0.6s,mb4.5,baz=171,slow=6.2,SNR=8.5
STKA LR LR 20 58 19.4
comp=Z,214nm,18.6s,MS4.4,baz=211,slow=37
PET Petropavlovsk 65.27 37 eP **P 20 28 57.8 +12**
PET MLR MLR
comp=Z,300nm,21.0s,MS4.5
FINES FINESS Array B 67.30 331 P **P 20 28 59.0 -0.1**
comp=Z,1.7nm,0.7s,mb4.2,baz=98,slow=6.6,SNR=15
FINES LR LR 21 04 32.4
comp=Z,208nm,18.5s,MS4.4,baz=121,slow=42
KAF Kangasniemi 67.37 332 ep **P 20 28 59.3 -0.2**
comp=Z,5.5nm,0.9s,mb4.6,baz=103,slow=5.8
KAF Kangasniemi 67.37 332 eP **P 20 28 59.3 -0.2**
KAF pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
OJC Ojcow 68.92 319 eP **P 20 29 10.0 +0.6**
KEV Kevo 69.33 340 ep **P 20 29 11.0 -0.6**
comp=Z,9.0nm,1.0s,mb4.7
KEV Kevo 69.33 340 eP **P 20 29 11.0 -0.6**
KEV pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
ARCES ARCESS Array B 69.76 340 P **P 20 29 14.3 +0.1**
comp=Z,2.4nm,0.7s,mb4.2,baz=100,slow=7.2,SNR=10
ARCES LR LR 21 03 17.2
comp=Z,300nm,18.3s,MS4.6,baz=285,slow=39
ARCES ARCESS Array B 69.76 340 P **P 20 29 14.3 +0.1**
ARCES LR LR 21 03 17.2
OKC Ostrava-Krasne 69.96 318 eP **P 20 29 21.0 +5.3**
OKC ePCP PcP 20 29 36.9 -1.1
OKC eS S 20 38 24.1 +1.3
OKC AMS AMS 21 06 00.0
comp=Z,100nm,12.7s
OKC Ostrava-Krasne 69.96 318 eP **P 20 29 21.0 +5.3**
OKC eS S 20 38 24.1 +1.3
MORC Moravsky Berou 70.34 318 eP **P 20 29 17.8 -0.2**
comp=Z,11nm,1.3s,mb4.6
MORC Moravsky Berou 70.34 318 eP **P 20 29 17.8 -0.3**
MORC pmax pmax
comp=Z,11nm,1.3s,mb4.6
DPC Dobruska-Polom 71.15 319 eP **P 20 29 24.0 +1.0**
DPC eS S 20 38 39.4 +2.6
DPC AMS AMS 21 06 20.0
comp=Z,100nm,18.6s
UPC Upice 71.36 319 epP pP 20 29 34.5 +2.2
BILL Bilibino 71.80 22⇓eP **P 20 29 26.8 +0.2**
BILL e 20 29 43.3
BILL 20 32 11.0
BILL pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
BILL MLR MLR
comp=Z,400nm,21.0s,MS4.7
TRO Tromso 72.02 339 eS S 20 38 49.9 +3.5
TRO AMS AMS 21 04 49.0
comp=Z,215nm,17.8s,MS4.5
PVCC Panska Ves 72.28 319 eP **P 20 29 35.9 +6.2**
PVCC eS S 20 38 52.1 +2.4
PVCC AMS AMS 21 08 10.0
comp=Z,100nm,17.2s
PRU Pruhonice 72.29 318 eP **P 20 29 32.5 +2.7**
PRU eS S 20 38 49.9 +0.1
PRU AMS AMS 21 05 00.0
comp=Z,100nm,14.4s
BRG Berggiesshubel 72.68 319 eP **P 20 29 33.0 +0.9**
comp=Z,5.5nm,1.2s,mb4.4
BRG e 20 29 50.5
BRG S S 20 38 57.0 +2.7
BRG LR LR
comp=Z,150nm,17.2s,MS4.3
BRG Berggiesshubel 72.68 319 eP **P 20 29 33.0 +0.9**
BRG e 20 29 50.5
BRG S S 20 38 57.0 +2.7
BRG pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
BRG MLR MLR
comp=Z,150nm,17.2s,MS4.3
GERES GERESS Array B 72.84 317 P **P 20 29 33.5 +0.5**
comp=Z,1.9nm,0.7s,mb4.2,baz=86,slow=5.1,SNR=23
GERES LR LR 21 08 12.8
comp=Z,111nm,18.4s,MS4.2,baz=160,slow=41
KHC Kasperske Hory 72.92 318 eP **P 20 29 33.6 +0.1**
KHC pP pP 20 29 40.0 -1.6
KHC PCP PcP 20 29 51.0 +0.4
KHC eS S 20 38 57.8 +0.8
KHC AMS AMS 21 07 40.0
comp=Z,100nm,17.2s
KHC Kasperske Hory 72.92 318 eP **P 20 29 33.6 +0.1**
KHC e pP 20 29 40.0 -1.6
KHC e 20 29 51.0
KHC eS S 20 38 57.8 +0.8
KHC LR LR
comp=Z,100nm,17.2s,MS4.2
CLL Collm 73.27 320 e*PP pP 20 29 44.0 +0.4
CLL eS S 20 39 03.0 +2.0
CLL Collm 73.27 320 eP **P 20 29 44.0 +8.5**
CLL eS S 20 38 59.0 -2.0
NKC Novy Kostel 73.64 319 eS tx 20 38 37.4
NKC AMS AMS 21 06 20.0
comp=Z,100nm,21.5s
FX1 Attu Island--F 73.98 38 P **P 20 29 40.1 +0.5**
comp=Z,7.8nm,0.5s,mb4.9,baz=286,slow=5.5,SNR=6.0
FX1 Attu Island--F 73.98 38 eP **P 20 29 39.9 +0.3**
MOX Moxa 74.16 319 eP **P 20 29 40.0 -0.7**
NB2 NORSAR Subarra 74.35 330 P **P 20 29 41.1 -0.5**
comp=Z,2.2nm,0.7s,mb4.2,baz=92,slow=5.8
NB2 NORSAR Subarra 74.35 330 P **P 20 29 41.1 -0.5**
baz=92,slow=5.9
NB2 NORSAR Subarra 74.35 330 P **P 20 29 41.1 -0.5**
NB2 pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
NOA NORSAR Array B 74.35 330 P **P 20 29 41.4 -0.2**
comp=Z,1.2nm,0.6s,mb4.0,baz=90,slow=5.8,SNR=9.6
NOA LR LR 21 08 31.1
comp=Z,136nm,18.2s,MS4.3,baz=75,slow=41
GRA1 Grafenberg Arr 74.44 318 eP **P 20 29 43.4 +1.1**
comp=Z,3.0nm,1.0s,mb4.2
GRF Grafenberg Arr 74.44 318 eP **P 20 29 43.4 +1.1**
comp=Z,3.0nm,1.0s,mb4.2
GRF Grafenberg Arr 74.44 318 eP **P 20 29 43.4 +1.1**
GRF pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
GRF Grafenberg Arr 74.44 318 eP **P 20 29 43.4 +1.1**
GRF pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
KONO Kongsberg 75.15 329 eS S 20 39 23.7 +1.9
KBS Kingsbay 75.34 349 eS S 20 39 27.1 +3.6
KBS AMS AMS 21 10 02.3
comp=Z,121nm,18.1s,MS4.2
BOSA Boshof 77.10 236 P **P 20 29 59.0 +1.2**
comp=Z,1.9nm,0.6s,mb4.2,baz=89,slow=13,SNR=4.3
BOSA LR LR 21 04 23.2
comp=Z,199nm,18.5s,MS4.5,baz=346,slow=36
BER Bergen 77.26 329 AMS AMS 21 09 45.0
comp=Z,236nm,18.5s,MS4.5
LPG La Plagne 77.77 314 eP **P 20 30 02.1 +0.9**
comp=Z,15nm,0.9s,mb4.6
LPG La Plagne 77.77 314 eP **P 20 30 02.1 +0.9**
LPG pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
JMIC Jan Mayen 81.20 341 AMS AMS 21 14 49.4
comp=Z,100nm,18.8s,MS4.2
MAW Mawson 83.39 191 LR LR 20 59 26.7
comp=Z,110nm,19.1s,MS4.2,baz=242,slow=30
ESDC Sonseca Array 86.59 310 P **P 20 30 48.8 +1.6**
comp=Z,0.4nm,0.6s,mb3.8,baz=97,slow=4.1,SNR=4.1
MCK McKinley 90.25 23 eP **P 20 31 04.9 +0.9**
comp=Z,7.4nm,1.3s,mb4.9
MCK McKinley 90.25 23 eP **P 20 31 04.9 +0.9**
MCK pmax pmax
comp=Z,7.0nm,1.3s,mb4.8
SPU Mount Spurr 90.26 26 eP **P 20 31 05.1 +1.0**
ILAR Eielson Array 90.45 22 P **P 20 31 04.1 -0.8**
comp=Z,0.7nm,0.5s,mb4.2,baz=275,slow=5.9,SNR=16
ILAR LR LR 21 19 20.8
comp=Z,87nm,20.9s,MS4.2,baz=153,slow=41
INK Inuvik 92.36 16 P **P 20 31 14.1 +0.5**
comp=Z,1.8nm,0.4s,mb4.7,baz=317,slow=4.9,SNR=13
DBIC Dimbokro 95.61 278 LR LR 21 16 53.0
comp=Z,106nm,20.6s,MS4.3,baz=34,slow=37
VNDA Vanda 98.42 168 LR LR 21 14 05.3
comp=Z,141nm,18.6s,MS4.5,baz=301,slow=34
PLCA Paso Flores 148.79 205 PKPbc PKPdf 20 37 51.9 +1.1
comp=Z,0.8nm,0.6s,baz=279,slow=6.4,SNR=4.1
PLCA Paso Flores 148.79 205 PKPbc PKPdf 20 37 51.9 +1.1
PLCA ePKPab PKPab 20 37 53.8 -2.2
SDV Santo Domingo 152.41 322 PKPbc PKPdf 20 38 01.0 +3.9
comp=Z,0.8nm,0.3s,baz=3.3,slow=11,SNR=3.3

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*TIF **14** 20:21:46.0, 43.34N×46.57E, h15km±6km*
*MOS **14** 20:21:48.1±2.0, 43.07N×46.50E, h15km, mb3.6/1, Error ellipse: s-maj=19.3km s-min=14.6km az=174.7*
ISC 14 20:21:47.1±2.0, 43.4N±0.1×46.6E±0.1, h15km, n9, σ1§07/15, 2C, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBC	**Dubki**	**0.39**	**154**	*i* PG	**Pb**	**20 21 54.0**	**-1.2**
DBC				*e* S	**Sb**	**20 22 00.5**	**-0.1**
BTLR	**Botlikh**	**0.76**	**202**	⇑*i* PG	**Pb**	**20 21 55.5**	**-6.0**
BTLR				*i* S	**Sb**	**20 22 04.2**	**-7.1**
XNZR	**Khunzakh**	**0.83**	**175**	*e* PG	**Pb**	**20 22 03.0**	**+0.3**
VLKR	**Vladikavkaz**	**1.44**	**258**	*i* PG	**Pn**	**20 22 12.8**	**0.0**
VLKR				*i* S	**Sb**	**20 22 30.6**	**-0.5**
ARNR	**Ardon**	**1.71**	**265**	*i* PN	**Pn**	**20 22 17.8**	**+1.2**
ARNR				*i* S	**Sn**	**20 22 39.4**	**+1.2**
LACR	**Lac**	**1.77**	**253**	⇑*i* PN	**Pn**	**20 22 16.6**	**-1.0**
LACR				*i* S	**Sn**	**20 22 38.0**	**-1.9**
ZEI	**Tsey**	**2.07**	**254**	*i* PN	**Pn**	**20 22 21.1**	**-0.7**
DGRG	**David-gareji**	**2.12**	**206**	P	**Pn**	**20 22 24.0**	**+1.4**
DGRG				S	**Sn**	**20 22 51.9**	**+3.1**
DIGR	**Digorskoe uzhe**	**2.26**	**259**	*e* PN	**Pn**	**20 22 25.0**	**+0.5**

IDC 14 20:29:29.3±1.2, 12.20N×94.58E, mb3.7/6, mb1 3.8/6, mb1mx3.6/19, mbtmp3.7/6, Error ellipse: s-maj=59.0km s-min=20.8km az=57.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**36.01**	**346**	P	P	20 36 33.1	-0.9
	0.5nm,0.8s,baz=164,slow=10,SNR=3.8						
SONM	**Songino Array**	**36.87**	**13**	P	P	20 36 39.1	-2.2
	0.4nm,0.7s,baz=190,slow=8.8,SNR=2.9						
WRA	**Warramunga Arr**	**50.52**	**129**	P	P	20 38 29.8	-1.9
	1.2nm,0.6s,baz=307,slow=8.3,SNR=21						
STKA	**Stephens Creek**	**62.82**	**136**	P	P	20 39 57.0	-2.3
	4.7nm,1.0s,baz=307,slow=5.1,SNR=3.8						
FINES	**FINESS Array B**	**69.12**	**331**	P	P	20 40 36.5	-2.8
	0.4nm,0.8s,baz=79,slow=7.1,SNR=2.5						
GERES	**GERESS Array B**	**74.93**	**318**	P	P	20 41 12.6	-1.4
	0.1nm,0.4s,baz=82,slow=6.9,SNR=2.9						

MEX 14 21:25:41.5±1.1, 17.36N×101.40W, h13km±650km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**1.12**	**106**	*i* P	Pb	21 25 58.8	-3.5
CAIG				*i* S	Sb	21 26 12.1	-4.4
ACX	**Acapulco**	**1.50**	**109**	*i* P	Pn	21 26 05.0	-3.2
ACX				*i* S	Sb	21 26 24.0	-3.5

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*IDC **14** 21:27:55.5±1.1, 0.58N×97.07E, mb3.9/12, mb1 4.0/12, mb1mx3.9/21, mbtmp3.9/12, Error ellipse: s-maj=35.5km s-min=25.9km az=61.0*
*NEIC **14** 21:28:01.1±3.2, 0.61N×97.13E, h38km±28km, mb4.0/1, Error ellipse: s-maj=28.5km s-min=16.9km az=65.0*
ISC 14 21:27:59.0±0.9, 0.7N±0.1×97.1E±0.1, h33km, n16, σ0§81/16, mb3.9/13, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.80**	**37**	⇑*i* P	**P**	**21 29 25.1**	**+0.2**
WRA	**Warramunga Arr**	**41.81**	**121**	P	**P**	**21 35 47.6**	**0.0**
	1.5nm,0.8s,mb3.7,baz=300,slow=9.3,SNR=6.1						
SONM	**Songino Array**	**47.68**	**8**	P	**P**	**21 36 33.4**	**-0.9**
	1.2nm,0.9s,mb3.9,baz=191,slow=10,SNR=6.6						
MKAR	**Makanchi Array**	**47.75**	**346**	P	**P**	**21 36 36.0**	**+1.1**
	2.9nm,0.7s,mb4.4,baz=158,slow=8.3,SNR=30						
KURK	**Kurchatov**	**52.30**	**345**	P	**P**	**21 37 08.3**	**-1.2**
	2.0nm,1.0s,mb4.0						
ZAL	**Zalesovo**	**54.08**	**351**	P	**P**	**21 37 23.2**	**+0.5**
	1.9nm,0.4s,mb4.3,baz=301,slow=6.3,SNR=6.0						
ZAL	**Zalesovo**	**54.08**	**351**	P	**P**	**21 37 23.2**	**+0.5**
BVAR	**Borovoye Array**	**56.74**	**341**	P	**P**	**21 37 40.7**	**-1.2**
	1.0nm,0.6s,mb4.0,baz=266,slow=39,SNR=4.8						
MATP	**Matopo**	**70.25**	**248**	P	**P**	**21 39 10.8**	**-0.6**
	0.8nm,0.6s,mb3.9,baz=266,slow=22,SNR=4.4						
MATP	**Matopo**	**70.25**	**248**	P	**P**	**21 39 10.8**	**-0.6**
AKASG	**Malin Array Be**	**75.65**	**323**	P	**P**	**21 39 41.8**	**-0.8**
	0.4nm,0.5s,mb3.6,baz=94,slow=4.3,SNR=3.2						
MLR	**Muntele Rosu**	**76.42**	**317**	P	**P**	**21 39 48.1**	**+1.0**
	1.7nm,0.9s,mb4.0,baz=176,slow=16,SNR=2.4						
FINES	**FINESS Array B**	**80.45**	**333**	P	**P**	**21 40 09.1**	**+0.2**
	0.3nm,0.5s,mb3.5,baz=108,slow=4.4,SNR=3.3						
ARCES	**ARCESS Array B**	**83.03**	**340**	P	**P**	**21 40 22.4**	**+0.3**
	2.2nm,0.9s,mb4.2,baz=56,slow=4.4,SNR=4.9						
GERES	**GERESS Array B**	**85.18**	**319**	P	**P**	**21 40 34.6**	**+1.3**
	0.1nm,0.5s,mb3.2,baz=342,slow=3.1,SNR=2.7						
HFS	**Hagfors**	**86.16**	**330**	P	**P**	**21 40 38.1**	**+0.2**
	0.9nm,0.7s,mb4.1,baz=127,slow=7.2,SNR=3.1						

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*CSEM **14** 21:30:47.7±0.1, 37.01N×31.41E, h120km, Mw3.0, Error ellipse: s-maj=3.1km s-min=1.9km az=49.0*
*ISK **14** 21:30:51.0, 37.09N×31.37E, h124km, MD3.3*
*NIC **14** 21:30:54.6±0.3, 36.89N×31.60E, h27km, ML3.2, MW3.0*
*NEIC **14** 21:30:54.6, 36.89N×31.60E, h27km, ML3.2(NIC), After NIC.*
ISC 14 21:30:49.9±0.5, 36.91N±0.05×31.36E±0.06, h127km±9km, n33, σ0§99/40, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCK	**Bucak**	**0.83**	**312**	*i* PG	**P**	**21 31 11.6**	**+0.5**
HDMB	**Hadim**	**0.90**	**86**	*i* PG	**P**	**21 31 13.7**	**+1.9**
HDMB				*i* SG	**S**	**21 31 28.6**	**+0.2**
ISP	**Isparta**	**1.15**	**324**	*i* PG	**P**	**21 31 14.2**	**-0.1**
ISP				*i* SG	**S**	**21 31 30.6**	**-2.2**
ISP	**Isparta**	**1.15**	**324**	*e* P	**P**	**21 31 14.9**	**+0.6**
ISP				*e* S	**S**	**21 31 33.5**	**+0.7**
ELL	**Elmali**	**1.18**	**263**	PN	**P**	**21 31 16.0**	**+1.4**
KONT	**Konya--Tatoy**	**1.30**	**37**	PN	**P**	**21 31 15.6**	**-0.4**
IKL	**Isikli**	**1.99**	**109**	*e* PN	**P**	**21 31 26.1**	**+2.2**
KIZT	**Kizilcal**	**2.01**	**12**	PN	**P**	**21 31 23.3**	**-0.9**
ALFC	**Alevga**	**2.02**	**150**	P	**P**	**21 31 23.3**	**-1.0**
	7.3nm,0.2s						
ALFC				S	**S**	**21 31 46.7**	**-3.8**
DENT	**Denizli**	**2.04**	**295**	*e* PN	**P**	**21 31 24.6**	**0.0**
PPCY	**Paphos**	**2.17**	**158**	P	**P**	**21 31 26.2**	**-0.2**
MAMC	**Mammari**	**2.30**	**139**	P	**P**	**21 31 27.6**	**-0.4**
ALT	**Altintas**	**2.36**	**336**	*e* PN	**P**	**21 31 27.3**	**-1.5**
YER	**Yerkesik**	**2.48**	**276**	*e* PN	**P**	**21 31 31.0**	**+0.7**
SZAC	**Souni-Zanaja**	**2.48**	**150**	P	**P**	**21 31 30.4**	**0.0**
CSS	**Prodhromos**	**2.52**	**140**	P	**P**	**21 31 30.1**	**-0.8**
	1.0nm,0.2s						
CSS				S	**S**	**21 31 58.1**	**-3.8**
ESKT	**Eskisehir**	**2.64**	**351**	*e* PN	**P**	**21 31 31.2**	**-1.3**
PHNC	**Paralimni**	**2.88**	**131**	P	**P**	**21 31 37.2**	**+1.5**

KAMT	Kaman	3.08	36	*e*PN	P	21 31 37.3	-1.0
BODT	Bodrum	3.25	274	*e*PN	P	21 31 40.8	+0.3
BR131	Keskin Array S	3.33	32	*e*P	P	21 31 43.1	+1.4
CEYT	Ceyhan	3.51	87	*e*PN	P	21 31 44.8	+0.7
HNTI	Hanita	4.94	140	Pn	P	21 32 03.1	-0.1
HNTI				Sn	S	21 32 55.5	-4.1
HAF	Haifa	5.10	143	Pn	P	21 32 04.7	-0.7
KSDI	Kefar Szold	5.12	135	Pn	P	21 32 05.5	-0.1
OFRI	'Ofer	5.21	144	Pn	P	21 32 06.6	-0.3
KSHT	Keshet	5.36	136	Pn	P	21 32 09.4	+0.6
SLTI	Sal'it	5.56	146	Pn	P	21 32 10.9	-0.6
SLTI				Sn	S	21 33 09.6	-5.1
MMLI	Mount Malkishu	5.58	142	Pn	P	21 32 11.7	0.0
MKRJ	Makawir	6.41	145	Pn	P	21 32 24.1	+1.0
MZDA	Masada	6.50	148	Pn	P	21 32 24.2	-0.1
PRNI	Paran	7.21	154	Pn	P	21 32 33.9	-0.1
EIL	Elat	7.82	156	Pn	P	21 32 41.8	-0.4

WEL 14 21:31:18.3±0.4, 36.35S×177.11E, h33km, ML3.6/5, Error ellipse: s-maj=2.8km s-min=2.7km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.54	142	P*	Pb	21 31 43.1	-3.1
MXZ				S*	Sb	21 32 01.8	-3.8
MXZ				S*	Sb	21 32 01.8	-3.8
URZ	Urewera	1.91	180	P*	Pb	21 31 48.7	-3.6
URZ				S*	Sb	21 32 10.9	-5.0
MWZ	Matawai	2.01	171	P*	Pb	21 31 49.8	-4.3
MWZ				S*	Sb	21 32 13.2	-5.7
BKZ	Black Stump Fm	2.85	190	P*	Pb	21 32 01.3	-7.2

CSEM 14 21:35:13.9±0.1, 36.08N×31.17E, h40km, Mw3.2, Error ellipse: s-maj=2.1km s-min=1.4km az=16.0
ISK 14 21:35:14.1, 36.05N×31.15E, h32km, MD3.7
NEIC 14 21:35:15.7±0.5, 36.12N×31.19E, h35km, MD3.6(ATH), MD3.6(ISK), ML3.7(NIC), Error ellipse: s-maj=10.8km s-min=5.8km az=21.0
NIC 14 21:35:18.1±0.3, 36.17N×31.67E, h46km, mb4.0, ML3.7, MW3.2
ATH 14 21:35:27.9, 36.07N×29.90E, h53km, MD3.6/5
ISC 14 21:35:14.5±0.4, 36.06N±0.03×31.14E±0.03, h57km±18km, n42, σ0°92/55, 3C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTB	Antalya	0.93	335	*i* PG	P	21 35 30.5	-1.1
ANTB				*i* SG	S	21 35 43.4	-1.0
ELL	Elmali	1.21	305	PN	P	21 35 36.0	+0.5
AKAS	Kas	1.25	278	*i* P	P	21 35 36.2	0.0
AKAS				*i* S	S	21 35 52.5	+0.1
KSL	Kastellorizon	1.27	274	*e*P	P	21 35 37.5	+1.1
HDMB	Hadim	1.41	50	PN	P	21 35 38.5	+0.1
AKMC	Akamas	1.42	136	P	P	21 35 39.8	+1.3
BCK	Bucak	1.47	343	PN	P	21 35 39.3	+0.1
ALFC	Alevga 21nm,0.2s	1.49	127⇑	*e*P	P	21 35 38.9	-0.7
ALFC				S	S	21 35 56.2	-1.9
PPCY	Paphos	1.53	140	P	P	21 35 41.2	+1.1
LEF	Lefka	1.71	123	PN	P	21 35 41.8	-0.7
GOLH	Golhisar	1.73	313	*i* P	P	21 35 44.5	+1.7
GOLH				*i* S	S	21 36 07.1	+3.3
ISP	Isparta	1.85	344	PN	P	21 35 45.0	+0.5
ISP				SN	S	21 36 06.6	-0.1
ISP	Isparta	1.85	344	*e*P	P	21 35 44.6	+0.1
MAMC	Mammari	1.91	117⇑	*e*P	P	21 35 44.8	-0.6
SZAC	Souni-Zanaja	1.93	132	P	P	21 35 48.3	+2.7
SZAC				S	S	21 36 12.9	+4.3
IKL	Isikli	2.07	84	PN	P	21 35 47.2	-0.3
TKTP	Tekketepe	2.08	342	*i* P	P	21 35 48.1	+0.3
TKTP				*i* S	S	21 36 13.5	+1.0
CSS	Prodhromos 4.2nm,0.5s	2.10	121⇑	*e*P	P	21 35 46.9	-1.1
CSS				S	S	21 36 09.7	-3.1
KONT	Konya--Tatoy	2.12	27	PN	P	21 35 48.8	+0.5
DALT	Dalyan (Mudla)	2.14	290	PN	P	21 35 48.4	-0.2
DNZL	Cakiroluk	2.34	315	*i* P	P	21 35 52.3	+0.9
DNZL				*i* S	S	21 36 23.4	+4.4
DENT	Denizli	2.39	316	PN	P	21 35 52.5	+0.3
ARG	Arkhangelos	2.45	275	*e*P	P	21 35 53.0	0.0
MEST	Erdemli	2.48	77	*i* P	P	21 35 54.9	+1.4
MEST				*i* S	S	21 36 24.2	+1.6
YER	Yerkesik	2.54	296	PN	P	21 35 54.7	+0.4
PHNC	Paralimni	2.58	113	P	P	21 35 54.9	0.0
KHL	Karahalli	2.60	331	PN	P	21 35 55.4	+0.2
KIZT	Kizilcal	2.88	12	PN	P	21 35 58.9	-0.1
MLSB	Milas	2.97	295	*e*PN	P	21 36 00.5	+0.1
AYDN	Tasoluk	3.06	302	*i* P	P	21 36 01.4	-0.4
AYDN				*i* S	S	21 36 35.8	-1.5
ALT	Altintas	3.10	345	PN	P	21 36 02.2	0.0
BDRM	Kayabasi	3.14	290	*i* P	P	21 36 03.0	+0.2
BDRM				*i* S	S	21 36 37.8	-1.4
MANT	Manisa	3.18	320	*i* P	P	21 36 02.8	-0.6
MANT				*i* S	S	21 36 39.2	-1.1
KARP	Karpathos	3.28	262	*e*P	P	21 36 04.5	-0.2
ESKT	Eskisehir	3.46	356	*e*PN	P	21 36 06.7	-0.6
CEYT	Ceyhan	3.83	74	*e*PN	P	21 36 12.3	-0.2
IZM	Izmir	3.88	308	*e*PN	P	21 36 12.7	-0.4
KAMT	Kaman	3.88	31	*e*PN	P	21 36 13.0	-0.2
BR131	Keskin Array S	4.16	28	*e*P	P	21 36 16.0	-1.1
NPS	Neapolis	4.57	262	*e*P	P	21 36 22.5	-0.4
XRY	Khrisi	4.60	257	*e*P	P	21 36 24.5	+1.2
GAZ	Gaziantep	5.01	75	*e*PN	P	21 36 28.8	-0.2

IDC 14 21:42:47.6±2.5, 2.67N×97.11E, mb3.8/6, mb1 3.9/6, mb1mx3.6/19, mbtmp3.8/6, Error ellipse: s-maj=104.2km s-min=25.4km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr 0.5nm,0.5s,baz=300,slow=9.2,SNR=11	42.90	123	P	P	21 50 48.1	-1.8
SONM	Songino Array 0.2nm,0.4s,baz=191,slow=11,SNR=3.1	45.70	9	P	P	21 51 10.2	-1.9
MKAR	Makanchi Array 0.9nm,0.4s,baz=158,slow=8.9,SNR=26	45.80	346	P	P	21 51 11.0	-1.9
ZAL	Zalesovo 1.2nm,0.5s,baz=285,slow=3.1,SNR=5.1	52.09	351	P	P	21 51 59.3	-2.2
BVAR	Borovoye Array 0.5nm,0.7s,baz=135,slow=10,SNR=4.0	54.84	341	P	P	21 52 18.7	-3.1
ARCES	ARCESS Array B 2.5nm,1.0s,baz=119,slow=9.3,SNR=4.5	81.13	340	P	P	21 55 05.3	-0.7

NEIC 14 21:56:50.1, 37.79N×15.17E, h4km, ML3.2(ROM), After ROM.
CSEM 14 21:56:50.1±0.2, 37.79N×15.17E, h4km±3km, MD3.8/4, Error ellipse: s-maj=3.0km s-min=2.0km az=60.0, After ROM
ROM 14 21:56:50.1±0.2, 37.79N×15.17E, h4km±3km, Md3.8/4, Ml3.2/12, Error ellipse: s-maj=3.0km s-min=2.0km az=60.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMME	Mongiuffi-Meli	0.16	26	Pg	Pg	21 56 53.6	+0.3
MMME				Sg	Sg	21 56 57.2	+1.7
ESLN	Serra La Nave	0.18	237	Pg	Pg	21 56 54.0	+0.2
ESLN				Sg	Sg	21 56 58.2	+1.9
MTTG	Motta San Giov 617nm,0.6s	0.47	63	Pg	Pg	21 57 01.1	+1.7
MSI	Messina ING 1μm,0.5s	0.51	37	Pg	Pg	21 57 01.9	+1.6
AGST	Augusta-Monte 322nm,0.7s	0.54	175	Pg	Pg	21 57 01.9	+1.0
AGST				Sg	Sg	21 57 12.7	+4.6
MSRU	Castanea 3μm,1.2s	0.54	30	Pg	Pg	21 57 01.2	+0.3
MSRU				Sg	Sg	21 57 12.2	+4.1
VPL	Vulcano Piano 4μm,0.7s	0.60	346	Pg	Pg	21 57 02.0	-0.1
VPL				Sg	Sg	21 57 14.0	+3.8
SCLL	Scilla 311nm,0.7s	0.63	43	Pg	Pg	21 57 03.6	+0.9
SSY	Sortino 773nm,0.5s	0.64	187	Pg	Pg	21 57 03.1	+0.1
LLI	Lipari 7μm,0.8s	0.67	345	Pg	Pg	21 57 04.3	+0.8
HVZN	Vizzini 2μm,0.8s	0.71	210	Pg	Pg	21 57 05.5	+1.2
CEL	Celeste 927nm,0.7s	0.74	51	Pg	Pg	21 57 05.1	+0.2
SOI	Samo 504nm,0.7s	0.76	68	Pg	Pg	21 57 05.9	+0.7
PZI	Palazzolo 23nm,0.1s	0.76	193	Pg	Pg	21 57 05.1	-0.1
SLNA	Salina 802nm,0.4s	0.81	341	Pg	Pg	21 57 06.7	+0.4
PLLN	Pollina	0.83	284	Pg	Pg	21 57 08.6	+1.8
HMDC	Modica 610nm,0.7s	0.89	200	Pg	Pg	21 57 08.3	+0.4
GIB	Gibilmanna 2μm,0.8s	0.92	283	Pg	Pg	21 57 09.1	+0.6
GRI	Girifalco 635nm,1.1s	1.42	43	Pg	Pg	21 57 19.4	+0.9
TIP	Timpagrande 119nm,0.8s	1.86	42	Pg	Pg	21 57 25.3	-2.0
CUC	Castrocucco 145nm,0.8s	2.25	13	Pg	Pg	21 57 28.3	-6.8
MGR	Morigerati 42nm,0.8s	2.36	7	Pg	Pg	21 57 29.9	-7.3
SLCN	Sala Consilina 51nm,1.0s	2.62	8	Pg	Pg	21 57 34.3	-8.1
SGO	Sicignano 16nm,0.6s	2.77	2	Pg	Pg	21 57 36.5	-8.8

NEIC 14 22:02:27.0, 37.80N×15.17E, h5km, ML3.0(ROM), After ROM.
CSEM 14 22:02:27.0±0.2, 37.80N×15.17E, h5km, MD3.6/1, Error ellipse: s-maj=3.3km s-min=1.8km az=49.0, After ROM
ROM 14 22:02:27.0±0.2, 37.80N×15.17E, h5km, Md3.6/1, Ml3.0/7, Error ellipse: s-maj=3.3km s-min=1.8km az=49.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMME	Mongiuffi-Meli	0.15	26	Pg	Pg	22 02 30.5	+0.5
MMME				Sg	Sg	22 02 32.9	+0.8
ESLN	Serra La Nave	0.19	235	Pg	Pg	22 02 30.4	-0.5
ESLN				Sg	Sg	22 02 34.1	+0.5
MTTG	Motta San Giov 217nm,0.7s	0.46	64	Pg	Pg	22 02 38.2	+2.0
MSI	Messina ING 524nm,0.6s	0.50	37	Pg	Pg	22 02 38.1	+1.0
MSRU	Castanea 2μm,1.3s	0.53	30	Pg	Pg	22 02 37.8	+0.2
AGST	Augusta-Monte 146nm,0.7s	0.55	175	Pg	Pg	22 02 38.8	+0.8
VPL	Vulcano Piano 958nm,0.6s	0.59	346	Pg	Pg	22 02 38.9	0.0
SCLL	Scilla 96nm,0.7s	0.62	43	Pg	Pg	22 02 40.1	+0.6
SSY	Sortino 1μm,1.7s	0.65	187	Pg	Pg	22 02 40.8	+0.7
LLI	Lipari 2μm,0.8s	0.66	345	Pg	Pg	22 02 42.0	+1.7
HVZN	Vizzini	0.72	210	Pg	Pg	22 02 43.4	+1.9
CEL	Celeste 1μm,1.7s	0.73	51	Pg	Pg	22 02 41.9	+0.3
SOI	Samo 100nm,0.6s	0.75	69	Pg	Pg	22 02 42.4	+0.4
SLNA	Salina 240nm,0.4s	0.80	341	Pg	Pg	22 02 43.9	+0.8
PLLN	Pollina	0.83	283	Pg	Pg	22 02 44.6	+0.9
GIB	Gibilmanna 630nm,1.0s	0.93	282	Pg	Pg	22 02 46.3	+0.8
TIP	Timpagrande	1.85	42	Pg	Pg	22 03 02.6	-1.4

IDC 14 22:25:01.9±3.0, 2.82N×94.35E, h27km±6km, mb3.7/4, mb1 3.9/4, mb1mx3.5/19, mbtmp3.9/4, Error ellipse: s-maj=113.5km s-min=21.1km az=58.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array 1.5nm,0.6s,baz=166,slow=8.6,SNR=20	45.04	348	P	P	22 33 15.1	-2.0
MKAR				pP	pP	22 33 23.4	-2.0
	2.0nm,0.6s,baz=168,slow=8.1,SNR=16						
WRA	Warramunga Arr 0.9nm,0.9s,baz=301,slow=8.7,SNR=4.8	45.30	122	P	P	22 33 17.6	-2.1
WRA				pP	pP	22 33 26.0	-1.8
	0.5nm,0.6s,baz=298,slow=9.1,SNR=3.9						
SONM	Songino Array 0.8nm,0.8s,baz=186,slow=8.7,SNR=6.5	46.03	11	P	P	22 33 23.0	-2.0
SONM				pP	pP	22 33 32.0	-1.3
	0.6nm,0.8s,baz=185,slow=9.6,SNR=3.9						
ZAL	Zalesovo 1.6nm,0.3s,baz=310,slow=4.6,SNR=4.6	51.55	353	P	P	22 34 05.2	-2.4
ZAL				pP	pP	22 34 13.4	-2.6
	2.3nm,0.3s,baz=292,slow=4.0,SNR=5.2						

MOS 14 22:44:03.9±1.0, 36.64N×71.20E, h235km, mb3.9/2, Error ellipse: s-maj=19.8km s-min=10.5km az=95.7
NEIC 14 22:44:05.5±1.6, 36.66N×71.30E, h234km±18km, mb4.1/9, Error ellipse: s-maj=18.9km s-min=7.7km az=64.0
NNC 14 22:44:07.6±8.2, 36.94N×70.81E, h181km±90km, mpv3.6, Error ellipse: s-maj=74.4km s-min=42.7km az=8.0
IDC 14 22:44:09.1±4.9, 36.69N×71.43E, h272km±50km, mb3.1/7, mb1 3.2/10, mb1mx3.0/21, mbtmp3.7/10, Error ellipse: s-maj=24.1km s-min=21.6km az=43.0
ISC 14 22:44:04.3±1.2, 36.68N±0.07×71.3E±0.1, h236km±13km, n33, σ0°93/35, mb3.4/8, 3C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array 3.6nm,0.6s,baz=182,slow=14,SNR=101	6.45	355	P	P	22 45 37.8	-0.7
KK31				⇓S	S	22 46 47.8	-4.3
	7.0nm,0.3s,baz=183,slow=22,SNR=17						
AAK	Ala-Archa 2.1nm,0.4s	6.45	22	⇑P	P	22 45 38.8	+0.3
AAK				⇓S	S	22 46 51.5	-0.7
	14nm,0.8s						
AAK	Ala-Archa 3.5nm,0.5s	6.45	22	*e*P	P	22 45 37.8	-0.8
AAK	Ala-Archa	6.45	22	*e*PN	P	22 45 37.8	-0.8
AAK				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MK31	Makanchi Array comp=Z,6.0nm,1.8s,baz=213,slow=13,SNR=18	13.03	36	⇓P	P	22 47 04.4	+2.5
MKAR	Makanchi Array comp=Z,0.1nm,0.3s,baz=212,slow=14,SNR=7.1	13.03	36	P	P	22 47 01.5	-0.4
KOLN	Koldanda comp=Z,4.0nm,0.2s	13.70	127	*e*P	P	22 47 11.6	+1.3
GKN	Gorkha comp=Z,16nm,0.3s	14.23	124	*e*P	P	22 47 16.8	0.0
KKN	Kakani comp=Z,23nm,0.5s	14.80	123	*e*P	P	22 47 23.5	-0.4
KKN	Kakani	14.80	123	*e*P	P	22 47 23.5	-0.4
KKN				pmax	pmax		
	comp=Z,11nm,0.5s						
DMN	Daman comp=Z,10nm,0.4s	14.80	124	*e*P	P	22 47 23.3	-0.6
PKI	Pulchoki comp=Z,22nm,0.6s	15.03	123	*e*P	P	22 47 26.2	-0.4
PKI	Pulchoki	15.03	123	*e*P	P	22 47 26.2	-0.4
PKI				pmax	pmax		
	comp=Z,11nm,0.6s						
AB31	Akbulak array comp=Z,1.9nm,0.9s,baz=143,slow=11,SNR=9.8	15.03	330	P	P	22 47 27.6	+1.0
BVA0	Borovoye Array comp=Z,1.0nm,2.1s,slow=0.1,SNR=7.2	16.36	358	⇑P	P	22 47 43.6	+1.3
BVAR	Borovoye Array comp=Z,0.3nm,0.3s,baz=150,slow=10,SNR=8.8	16.36	358	P	P	22 47 42.3	+0.1
BRVK	Borovoye comp=Z,0.6nm,0.5s	16.40	358	*e*P	P	22 47 42.9	+0.2
BRVK	Borovoye	16.40	358	*e*P	P	22 47 42.9	+0.3
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKTO	Aktyubinsk comp=Z,0.6nm,1.4s	16.73	329	⇑P	P	22 47 45.6	-0.8
ZAL	Zalesovo comp=Z,0.6nm,0.3s,baz=249,slow=7.0,SNR=3.3	19.65	24	P	P	22 48 17.9	+1.2
FINES	FINESS Array B comp=Z,0.8nm,0.4s,mb3.6,baz=117,slow=10,SNR=14	37.45	326	P	P	22 50 56.6	+0.2
KAF	Kangasniemi	37.59	327	*e*p	P	22 50 55.6	-1.9
ARCES	ARCESS Array B comp=Z,1.1nm,0.4s,mb3.6,baz=116,slow=8.1,SNR=20	41.06	337	P	P	22 51 26.7	+0.7
NB2	NORSAR Subarra comp=Z,1.2nm,0.4s,mb3.6,baz=97,slow=7.4	44.36	323	P	P	22 51 51.8	-0.8
NB2	NORSAR Subarra	44.36	323	P	P	22 51 51.8	-0.8
NB2				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.5						
NOA	NORSAR Array B comp=Z,1.2nm,0.5s,mb3.5,baz=97,slow=7.7,SNR=10	44.36	323	P	P	22 51 52.5	-0.1
KMBO	Kilima Mbogo comp=Z,0.7nm,0.8s,mb3.0,baz=40,slow=18,SNR=4.1	49.10	228	P	P	22 52 31.0	+1.1
KMBO	Kilima Mbogo	49.10	228	P	P	22 52 31.0	+1.0
ESDC	Sonseca Array comp=Z,0.3nm,0.7s,mb3.0,baz=59,slow=7.2,SNR=4.3	57.56	298	P	P	22 53 30.9	-0.3
INK	Inuvik comp=Z,1.2nm,0.5s,mb3.8	73.70	9	*e*P	P	22 55 13.9	+0.5
INK	Inuvik	73.70	9	*e*P	P	22 55 13.9	+0.5
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ILAR	Eielson Array comp=Z,0.3nm,0.7s,mb3.0,baz=329,slow=3.5,SNR=4.2	74.56	16	P	P	22 55 17.4	-1.0
WRA	Warramunga Arr comp=Z,0.7nm,1.2s,mb3.2,baz=324,slow=4.9,SNR=5.1	81.91	122	P	P	22 55 57.8	-1.2

HLW 14 22:45:06.4, 36.53N×27.03E, h33km, Mb3.5
ATH 14 22:45:08.4, 36.62N×26.53E, h132km±34km
CSEM 14 22:45:10.8±0.4, 36.13N×27.04E, h150km, ML3.5, Error ellipse: s-maj=15.7km s-min=6.6km az=137.0
ISC 14 22:45:10.4±1.7, 36.2N±0.1×26.9E±0.1, h159km±11km, n14, σ0°98/18, 1C-1D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.65	161	*e*P	P	22 45 34.5	+0.6
KARP				*e*S	S	22 45 52.0	0.0
KARP	Karpathos	0.65	161	*e*P	P	22 45 34.8	+0.9
ARG	Arkhangelos	0.99	87	*e*P	P	22 45 35.0	-1.1
ARG				*e*S	S	22 45 56.5	+0.6
ARG	Arkhangelos	0.99	87	*e*P	P	22 45 35.1	-1.0
NPS	Neapolis	1.38	230	*e*P	P	22 45 38.5	-1.3
NPS	Neapolis	1.38	230	*e*P	P	22 45 38.7	-1.1
XRY	Khrisi	1.62	218	*e*P	P	22 45 42.0	-0.2
XRY	Khrisi	1.62	218	*e*P	P	22 45 42.5	+0.3
VAM	Vamos	2.32	252	*e*P	P	22 45 46.2	-4.1
SLUM		4.87	197	⇓P	P	22 46 23.9	+0.9
HMAT	Matruh	5.06	178	P	P	22 46 27.8	+2.2
HMAT				S	S	22 47 23.1	-0.6
SWA1		6.96	189	⇑P	P	22 46 51.6	+0.8
SWA1				S	S	22 48 08.3	-0.6
SWA2		7.01	190	P	P	22 46 51.7	+0.2
AMAG	Maghara	7.62	134	P	P	22 46 58.4	-1.3

ISK 14 22:54:58.9, 36.92N×27.81E, h24km, MD3.0
CSEM 14 22:54:59.6±0.1, 37.02N×27.77E, h25km, MD3.0, Error ellipse: s-maj=1.8km s-min=1.6km az=167.0
ATH 14 22:55:01.7, 36.84N×27.61E, h22km±3km, MD3.0/4
NEIC 14 22:55:01.7, 36.85N×27.61E, h23km, MD3.0(ATH), After ATH.
ISC 14 22:55:00.2±0.5, 36.94N±0.03×27.81E±0.04, h18km±7km, n17, σ0°95/26, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.32	294	*i* P	Pb	22 55 07.2	0.0
BDRM				*i* S	Sb	22 55 12.0	+0.2
MLSB	Milas	0.36	356	*i* PG	Pb	22 55 08.0	+0.2
BODT	Bodrum	0.42	287	*i* PG	Pb	22 55 08.2	-0.6
BODT				*i* SG	Sb	22 55 14.7	+0.1
YER	Yerkesik	0.43	62	*i* PG	Pb	22 55 09.3	+0.3
YER				*i* SG	Sb	22 55 14.8	-0.1
NISR	Nisiros	0.64	239	*e*PB	Pb	22 55 11.0	-1.5
DALT	Dalyan (Mudla)	0.69	104	PG	Pb	22 55 13.1	-0.2
AYDN	Tasoluk	0.72	4	*i* P	Pb	22 55 14.6	+0.6
AYDN				*i* S	Sb	22 55 24.2	+0.8
ARG	Arkhangelos	0.76	160	*e*PB	Pb	22 55 15.5	+0.8
ARG				*e*SN	Sn	22 55 27.5	+0.4
ARG	Arkhangelos	0.76	160	*e*Pb	Pb	22 55 14.8	+0.1
ARG				*e*Sn	Sn	22 55 28.4	+1.3
SMG	Samos	1.09	315	*e*PN	Pn	22 55 22.2	+1.5
DNZL	Cakiroluk	1.24	52	*i* P	Pn	22 55 24.1	+1.2
DNZL				*i* S	Sb	22 55 42.6	+4.2
DENT	Denizli	1.27	50	PN	Pn	22 55 22.1	-1.1
KARP	Karpathos	1.48	201	*e*PN	Pn	22 55 26.7	+0.4
KARP				*e*SN	Sn	22 55 45.8	+0.5
IZM	Izmir	1.52	344	PN	Pn	22 55 25.9	-1.0
MANT	Manisa	1.66	21	*i* P	Pn	22 55 29.6	+0.7
MANT				*i* S	Sn	22 55 54.0	+4.2
ELL	Elmali	1.69	96	*e*PN	Pn	22 55 27.2	-2.2
AKS	Akhisar	1.94	0	*e*PN	Pn	22 55 30.9	-1.9

KRSC 14 23:28:11.7±1.9, 54.17N×168.94E, h40km±10km, ML4.3
IDC 14 23:28:11.8±0.9, 54.61N×168.84E, mb3.7/5, mb1 3.9/7, mb1mx3.7/21, mbtmp3.8/7, ML3.5/2, MS3.0/3, Ms1 3.0/3, ms1mx2.5/23, Error ellipse: s-maj=29.5km s-min=11.1km az=31.0
MOS 14 23:28:12.5±1.1, 54.46N×168.75E, h25km, mb4.3/1, Error ellipse: s-maj=18.2km s-min=11.8km az=18.0
NEIC 14 23:28:16.3±1.9, 54.08N×168.74E, h55km±36km, mb4.1/1, Error ellipse: s-maj=61.2km s-min=12.4km az=177.0
ISC 14 23:28:14.1±0.4, 54.22N±0.04×168.56E±0.04, h33km, n55, σ1°20/84, mb3.7/6, MS3.0/2, 1C, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	1.80	305	*i* P	P	23 28 41.2	-2.0
BKI				*e*S	S	23 29 05.6	+0.6
BKI				Smax			
	1μm,1.5s						
FX1	Attu Island--F 20nm,0.3s,baz=321,slow=3.2,SNR=74	3.06	114	Pn	Pn	23 29 01.2	0.0
FX1				Sn	Sn	23 29 35.1	-2.0
	44nm,0.3s,baz=144,slow=18,SNR=17						
FX1	Attu Island--F	3.06	114	*e*P	P	23 28 59.6	-1.5
FX1				*e*S	S	23 29 37.6	+0.6
FX1	Attu Island--F	3.06	114	PN	Pn	23 29 01.2	-0.1
FX1						23 29 35.1	
FX1				pmax	pmax		
	comp=Z,20nm,0.3s						
KBTR	Krutoberegovo	3.85	304	P	P	23 29 10.3	-2.1
KBTR				S	S	23 29 52.2	-4.9
KBTR	Krutoberegovo	3.85	304	*e*P	P	23 29 12.5	+0.1
KBTR				*e*S	S	23 29 57.8	+0.7
MKZ	Mys Kozlova	4.01	278	P	P	23 29 14.9	+0.2
MKZ				S	S	23 29 59.0	-2.1
MKZ	Mys Kozlova	4.01	278	*e*P	P	23 29 14.8	+0.1
MKZ				*e*S	S	23 30 01.5	+0.4
ZLN	Zelenaya	4.80	295	*e*P	P	23 29 27.1	+1.1
ZLN				*e*S	S	23 30 21.8	+0.6
LGNR	Loginova	4.88	296	*e*P	P	23 29 29.5	+2.4
KLY	Klyuchi	4.99	298	P	P	23 29 28.7	+0.1
KLY				S	S	23 30 25.2	-0.6
KLY	Klyuchi	4.99	298	*e*P	P	23 29 28.6	0.0
KLY				*e*S	S	23 30 24.2	-1.6
TUMR	Tumrok	4.99	286	*e*P	P	23 29 28.9	+0.3
TUMR				*e*S	S	23 30 24.5	-1.4
KRSR	Krestovskiy	5.00	297	*e*P	P	23 29 28.4	-0.3
KRSR				*e*S	S	23 30 24.3	-1.8
KMNR	Kamenistaya	5.03	291	*e*P	P	23 29 30.6	+1.4
KMNR				*e*S	S	23 30 27.7	+0.7
KPT	Kopyto	5.10	294	*e*P	P	23 29 30.9

NLC				S	S	23 30 38.8	-1.8
NLC	Nalytchevo	5.57	263	P	P	23 29 37.2	+0.4
NLC				eS	S	23 30 38.7	-1.9
SDLR	Sedlovina	5.82	265	eP	P	23 29 41.0	+0.8
SMAR	Somma	5.87	265	eP	P	23 29 41.9	+1.0
UGLR	Uglovaya	5.87	264	eP	P	23 29 42.2	+1.3
AVH	Avacha	5.91	265	eP	P	23 29 42.2	+0.8
AVH				eS	S	23 30 47.6	-1.3
ESO	Esso	5.92	291	eP	P	23 29 42.0	+0.4
ESO				eS	S	23 30 47.3	-1.9
KOK	Koryaka	5.96	265	eP	P	23 29 43.1	+0.9
PET	Petropavlovsk	6.01	263	eP	P	23 29 43.4	+0.4
PET				eS	S	23 30 49.9	-1.7
PET	Petropavlovsk	6.01	263	eP	P	23 29 43.8	+0.8
PET	Petropavlovsk	6.01	263	ePN	Pn	23 29 45.4	+2.2
PET				pmax	pmax		
	comp=Z,24nm,0.5s						
PET				MLR	MLR		
	comp=Z,50nm,13.0s						
RUS	Russkaya	6.28	258	P	P	23 29 47.0	+0.3
RUS				S	S	23 30 56.2	-2.0
RUS	Russkaya	6.28	258	eP	P	23 29 47.2	+0.5
RUS				eS	S	23 30 56.2	-2.0
GNL	Ganaly	6.29	270	eP	P	23 29 48.2	+1.3
GNL				eS	S	23 30 58.0	-0.5
GRL	Gorelyy	6.49	259	eP	P	23 29 50.6	+0.9
GRL				eS	S	23 31 02.4	-1.1
APC	Apacha	6.91	264	eP	P	23 29 57.3	+1.7
APC				eS	S	23 31 13.6	-0.4
ALID	Alaid	8.61	252	eP	P	23 30 20.5	+1.3
BILL	Bilibino	13.91	356⇑	eP	P	23 31 42.1	+11
BILL				pmax	pmax		
	comp=Z,9.0nm,0.9s						
ASAJ	Asahikawa	19.64	250	P	P	23 32 46.0	+3.5
	comp=Z,0.3nm,0.3s,baz=61,slow=26,SNR=3.6						
ASAJ				LR	LR	23 39 29.9	
	comp=Z,26nm,19.8s,baz=236,slow=34						
SPU	Mount Spurr	21.89	56	eP	P	23 33 06.1	+0.6
ILAR	Eielson Array	24.41	47	P	P	23 33 28.1	-2.0
	comp=Z,2.1nm,0.9s,mb3.5,baz=252,slow=7.8,SNR=19						
ILAR				LR	LR	23 42 53.7	
	comp=Z,34nm,19.1s,MS2.9,baz=174,slow=37						
SONM	Songino Array	38.48	287	P	P	23 35 36.0	+1.7
	comp=Z,0.7nm,0.7s,mb3.5,baz=61,slow=8.2,SNR=7.7						
ZAL	Zalesovo	46.33	306	P	P	23 36 37.2	-0.9
	comp=Z,0.7nm,0.8s,mb3.7,baz=26,slow=4.5,SNR=3.4						
KURK	Kurchatov	51.31	305	eP	P	23 37 14.5	-2.1
MKAR	Makanchi Array	52.10	300	P	P	23 37 21.9	-0.6
	comp=Z,0.4nm,0.6s,mb3.5,baz=52,slow=7.3,SNR=5.5						
BRVK	Borovoye	53.54	312	eP	P	23 37 31.5	-1.8
	comp=Z,1.1nm,0.6s,mb4.0						
BRVK	Borovoye	53.54	312	eP	P	23 37 31.5	-1.7
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
SCHQ	Schefferville	62.15	33	LR	LR	00 08 03.7	
	comp=Z,18nm,19.4s,MS3.2,baz=68,slow=39						
NB2	NORSAR Subarra	63.69	348	P	P	23 38 42.1	-1.6
	comp=Z,0.7nm,0.6s,mb3.9,baz=15,slow=6.5						
NOA	NORSAR Array B	63.69	348	P	P	23 38 42.4	-1.3
	comp=Z,0.8nm,0.6s,mb4.0,baz=16,slow=6.7,SNR=6.6						
MOX	Moxa	73.74	345	eP	P	23 39 46.0	+0.2

MAN 15 00:34:30.8, 9.23N×122.49E, h31km, mb4.5, ML3.3, MS3.2, 1C-2D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	Sibulan	0.74	81⇓	eP	Pn	00 34 45.0	-0.2
SNPH				i S	Sb	00 34 56.0	+0.9
DCPH	Dipolog City	1.06	127⇓	eP	Pn	00 34 48.9	-0.9
DCPH				eS	Sn	00 35 03.2	-0.3
TBP	Tagbilaran	1.43	71	eP	Pn	00 34 54.9	-0.1
TBP				eS	Sn	00 35 12.0	-0.8
LLP	Lapu-Lapu	1.81	53	eP	Pn	00 35 00.4	0.0
LLP				eS	Sn	00 35 23.2	+0.7
CUYO	Cuyo Island	2.17	318	eP	Pn	00 35 04.7	-0.9
RCP	Roxas	2.33	6⇑	iP	Pn	00 35 10.3	+2.4
RCP				eS	Sn	00 35 38.7	+2.9

*IDC **15** 00:44:04.2±1.0, 12.42S×43.57E, mb3.8/11, mb1 4.1/13, mb1mx4.0/23, mbtmp4.0/13, ML4.3/1, MS3.8/13, Ms1 3.8/13, ms1mx3.6/23, Error ellipse: s-maj=33.4km s-min=21.0km az=109.0*
*NEIC **15** 00:44:07.1±0.8, 12.19S×43.25E, h10km, mb4.2/3, Error ellipse: s-maj=18.1km s-min=11.4km az=123.0*
*LDG **15** 00:44:09.0±0.2, 12.47S×43.75E, h10km, Mb4.7/13, Ms3.5/7, Error ellipse: s-maj=32.2km s-min=6.4km az=60.0*
ISC 15 00:44:04.2±0.7, 12.39S±0.07×43.26E±0.06, h10km, n42, σ1§37/24, mb3.9/13, MS3.8/11, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	Ambohidratompo	7.22	149	Pn	Pn	00 45 48.5	-3.9
	43nm,0.3s,baz=313,slow=12,SNR=397						
OPO				Sn	Sn	00 47 01.5	-14
	79nm,0.3s,baz=254,slow=18,SNR=12						
KMBO	Kilima Mbogo	12.68	332	Pn	P	00 47 04.5	-3.0
	0.6nm,0.3s,baz=147,slow=14,SNR=43						
KMBO				Sn	S	00 49 23.8	-6.0
	1.0nm,0.3s,baz=228,slow=23,SNR=3.8						
KMBO				LR	LR	00 51 29.2	
	comp=Z,219nm,19.9s,baz=175,slow=35						
LSZ	Lusaka	14.92	257	ePn	P	00 47 38.9	+1.8
	8.8nm,3.0s						
LSZ				eSn	S	00 50 21.7	-1.5
MATP	Matopo	16.25	239	Pn	P	00 47 57.1	+2.8
	1.1nm,0.3s,baz=62,slow=13,SNR=40						
MATP				Sn	S	00 50 53.4	-1.1
	1.3nm,0.3s,baz=122,slow=14,SNR=4.3						
MATP				LR	LR	00 54 09.3	
	comp=Z,293nm,18.4s,baz=63,slow=37						
MBAR	Mbarara	17.07	312	ePn	P	00 48 04.3	-0.5
	7.0nm,0.8s						
MBAR				Sn	S	00 51 13.5	+0.1
BOSA	Boshof	23.29	223	P	P	00 49 15.6	+2.4
	9.3nm,0.8s,mb4.2,baz=61,slow=10,SNR=9.9						
BOSA				LR	LR	00 58 07.5	
	comp=Z,309nm,21.3s,MS3.7,baz=54,slow=36						
ATD	Arta Tunnel	23.77	359	P	P	00 49 18.6	+0.6
	3.9nm,0.4s,mb4.2,baz=227,slow=8.6,SNR=9.8						
ATD				LR	LR	00 58 06.2	
	comp=Z,116nm,20.3s,MS3.3,baz=348,slow=35						
SUR	Sutherland	28.64	222	LR	LR	01 02 59.4	
	comp=Z,228nm,18.8s,MS3.8,baz=41,slow=39						
SUR	Sutherland	28.64	222	eP	P	00 50 06.9	+3.7
	28nm,1.0s,mb5.0						
IDI	Anoyia	50.51	340	LR	LR	01 17 21.8	
	comp=Z,75nm,19.6s,MS3.7,baz=174,slow=39						
MALT	Malatya	50.64	355	eP	P	00 53 07.2	+1.6
	4.1nm,1.1s,mb4.3						
GNI	Garni	52.29	1	LR	LR	01 15 50.9	
	comp=Z,55nm,20.0s,MS3.6,baz=45,slow=36						
BRTR	Keskin Array B	52.61	351	P	P	00 53 20.4	-0.2
	0.5nm,0.5s,mb3.7,baz=157,slow=11,SNR=4.8						
MAW	Mawson	56.66	171	LR	LR	01 12 54.7	
	comp=Z,142nm,21.4s,MS4.0,baz=219,slow=31						
AKASG	Malin Array Be	64.01	350	P	P	00 54 38.8	-1.3
	0.1nm,0.3s,mb3.3,baz=180,slow=6.8,SNR=3.4						
MBDF	Montbardon	65.77	332	eP	pP	00 54 59.1	+4.3
	14nm,1.0s						
GERES	GERESS Array B	66.34	339	P	P	00 54 55.1	-0.1
	0.6nm,0.7s,mb3.8,baz=149,slow=7.8,SNR=5.1						
LPL	La Plagne	66.40	333	eP	pP	00 55 01.5	+2.8
	18nm,1.3s						
VIVF	Saint-Julien-l	66.84	331	eP	pP	00 55 05.5	+3.9
	14nm,0.9s						
MTLF	Montolieu	66.93	329	eP	pP	00 55 06.1	+3.9
	14nm,1.1s						
CABF	La Chapelle	67.53	333	eP	pP	00 55 09.2	+3.3
	36nm,1.4s						
EPF	Esparros	67.69	327	eP	pP	00 55 10.9	+3.9
ESDC	Sonseca Array	67.88	322	P	P	00 55 07.2	+2.0
	0.7nm,0.7s,mb3.8,baz=140,slow=4.8,SNR=3.7						
ETSF	Etsaut	68.07	327	eP	pP	00 55 13.9	+4.5
	7.5nm,0.8s						
CAF	Calviac	68.15	330	eP	pP	00 55 13.7	+3.9
	6.9nm,0.9s						
HAU	Haudompre	68.49	334	eP	pP	00 55 14.6	+2.7
HAU				eR			
	44nm,19.8s						
MKAR	Makanchi Array	68.50	28	P	P	00 55 07.9	-0.9
	0.2nm,0.3s,mb3.6,baz=233,slow=14,SNR=3.1						
MKAR				LR	LR	01 20 12.5	
	comp=Z,28nm,21.8s,MS3.5,baz=179,slow=32						
SJPF	Ste Jean	68.58	327	eP	pP	00 55 16.3	+3.8
MOX	Moxa	68.58	339	eP	pP	00 55 16.0	+3.6
RJF	Les Rejaudoux	68.69	330	eP	pP	00 55 17.0	+3.8
	5.5nm,0.8s						
RJF				eR			
	76nm,22.8s						
LOR	Lormes	69.02	332	eP	pP	00 55 18.3	+3.1
	22nm,1.4s						
LOR				eR			
	47nm,19.0s						
SSF	Saint Saulge	69.03	332	eP	pP	00 55 18.6	+3.4
	32nm,1.7s						
TCF	Toulx Ste Croi	69.06	331	eP	pP	00 55 19.6	+4.1
	13nm,1.1s						
BVAR	Borovoye Array	69.19	17	P	P	00 55 11.9	-1.1
	0.9nm,0.9s,mb3.7,baz=194,slow=6.1,SNR=6.2						
MEZF	Maizieres J'vi	69.43	334	eP	pP	00 55 20.5	+2.8
ZAL	Zalesovo	74.90	24	P	P	00 55 46.6	-0.3
	0.8nm,0.4s,mb4.0,baz=97,slow=11,SNR=2.2						
NB2	NORSAR Subarra	77.48	345	P	P	00 56 02.2	+0.9
	2.1nm,0.9s,mb4.1,baz=150,slow=5.3						
NOA	NORSAR Array B	77.48	345	P	P	00 56 02.4	+1.1
	0.8nm,0.7s,mb3.8,baz=133,slow=7.7,SNR=4.8						
SONM	Songino Array	81.96	37	P	P	00 56 25.5	-0.1
	0.5nm,0.9s,mb3.5,baz=270,slow=2.9,SNR=2.3						
SONM				LR	LR	01 31 43.6	
	comp=Z,30nm,19.2s,MS3.7,baz=50,slow=35						
ARCES	ARCESS Array B	82.67	354	LR	LR	01 36 31.4	
	comp=Z,38nm,19.6s,MS3.8,baz=157,slow=38						
VNDA	Vanda	83.89	169	LR	LR	01 32 43.1	
	comp=Z,91nm,18.3s,MS4.2,baz=241,slow=35						
CPUP	Villa Florida	93.85	242	LR	LR	01 37 35.2	
	comp=Z,112nm,21.1s,MS4.3,baz=309,slow=34						

*NEIC **15** 00:54:08.3, 14.84N×93.66W, h139km, MD4.3(MEX), After MEX.*
MEX 15 00:54:08.7±0.4, 14.71N×93.82W, h25km, MD4.3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	Comitan	2.26	46	i P	Pn	00 54 42.4	-2.9
CCIG				i S	Sn	00 55 08.9	-3.7
CCIG	Comitan	2.26	46	i P	Pn	00 54 42.1	-3.1
CCIG				i S	Sn	00 55 08.9	-3.7
SCX	San Cristobal	2.32	29	i P	Pn	00 54 43.5	-2.6
SCX				i S	Sn	00 55 10.5	-3.7
TUIG	Tuzandepetl	3.36	350	i P	Pn	00 55 05.9	+5.0
TUIG				i S	Sn	00 55 34.7	-5.7
OXX	Oaxaca	3.66	311	ePn	Pn	00 55 03.0	-2.1
VHO	Vista Hermosa	3.66	310	i S	Sn	00 55 43.6	-4.4
VHO	Vista Hermosa	3.66	310	ePn	Pn	00 55 11.0	+5.9
VHO				i S	Sn	00 55 46.8	-1.2
EVV	El Vigia	4.00	339	ePn	Pn	00 55 01.0	-9.1
LTX	Lajitas	17.16	330	P	P	00 57 59.3	-9.3
SDV	Santo Domingo	23.42	102	eP	P	00 59 04.8	-12

*LDG **15** 00:59:20.6±0.3, 44.67N×10.30E, h10km, Ml2.8/8, Error ellipse: s-maj=7.7km s-min=3.8km az=92.0*
*ROM **15** 00:59:21.4±0.2, 44.63N×10.11E, h35km±3km, Md2.7/11, Ml2.5/4, Error ellipse: s-maj=5.3km s-min=4.8km az=123.0*
*NEIC **15** 00:59:21.4, 44.73N×10.23E, h22km, ML2.8(LDG), After GEN.*
*CSEM **15** 00:59:21.5±0.1, 44.58N×10.26E, h30km, ML2.9/9, Error ellipse: s-maj=2.1km s-min=1.4km az=87.0*
*GEN **15** 00:59:21.4, 44.73N×10.23E, h22km, ML2.0*
ISC 15 00:59:22.2±0.3, 44.61N±0.02×10.02E±0.03, h36km±7km, n59, σ1§09/99, 1C-5D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRAM		0.12	165	P	P	00 59 28.2	-0.2
GRAM				S	S	00 59 32.1	-0.7
GRAM		0.12	165	P	P	00 59 28.2	-0.2
GRAM				S	S	00 59 32.1	-0.7
CODM		0.25	209	P	P	00 59 30.2	+0.6
CODM				S	S	00 59 36.1	+1.3
CODM		0.25	209	P	P	00 59 30.2	+0.6
CODM				S	S	00 59 36.1	+1.3
VALM		0.31	148	P	P	00 59 29.5	-0.8
VALM				S	S	00 59 34.9	-1.0
VALM		0.31	148	P	P	00 59 29.5	-0.8
VALM				S	S	00 59 34.9	-1.0
BACM		0.34	174	P	P	00 59 30.4	-0.2
BACM				S	S	00 59 37.2	+0.7
BACM		0.34	174	P	P	00 59 30.4	-0.2
BACM				S	S	00 59 37.2	+0.7
ERBM	Eremo	0.34	124	Pg	P	00 59 30.0	-0.7
ERBM				Sg	S	00 59 37.1	+0.5
	214nm,0.9s						
VINC	Vinca	0.48	169	P	P	00 59 32.2	-0.3
VINC	Vinca	0.48	169	P	P	00 59 32.2	-0.3
VINC				S	S	00 59 40.3	+0.5
VINC				S	S	00 59 40.3	+0.5
VINC	Vinca	0.48	169	P	P	00 59 32.2	-0.3
VINC				S	S	00 59 40.3	+0.5
GSCL	Gusciola	0.48	123	Pg	P	00 59 31.9	-0.6
	23nm,0.1s						
SARO	Sassorosso	0.51	147	P	P	00 59 32.1	-0.8
SARO	Sassorosso	0.51	147	P	P	00 59 32.1	-0.8
SARO				S	S	00 59 40.2	-0.3
SARO				S	S	00 59 40.2	-0.3
SARO	Sassorosso	0.51	147	P	P	00 59 32.1	-0.8
SARO				S	S	00 59 40.2	-0.2
VLC	Villacollemand	0.52	150	eP	P	00 59 32.6	-0.5
VLC				eS	S	00 59 39.8	-1.1
VLC	Villacollemand	0.52	150	eP	P	00 59 32.6	-0.5
VLC				eS	S	00 59 39.8	-1.1
BDI	Bagni Di Lucca	0.69	143	Pg	P	00 59 35.0	-0.4
	185nm,0.3s						
MAIM		0.78	154	P	P	00 59 37.0	+0.3
MAIM				S	S	00 59 47.6	+0.3
MAIM		0.78	154	P	P	00 59 37.0	+0.4
MAIM				S	S	00 59 47.6	+0.3
RAVA	Ravarino	0.80	79	Pg	P	00 59 37.2	+0.2
PII	Pisa	0.96	158	Pg	P	00 59 39.6	+0.3
	60nm,0.2s						
SAL	Salo	1.06	20	Pg	P	00 59 40.8	+0.1
SAL				Sg	S	00 59 55.6	+1.2
	77nm,0.3s						
SEI	Scarperia	1.11	120	Pg	P	00 59 42.9	+1.5
	84nm,0.4s						
MDI	Monti di Nese	1.19	349	Pg	P	00 59 43.6	+1.1
	66nm,0.3s						
TEOL	Teolo	1.39	57⇓	iPg	P	00 59 45.2	-0.3
TEOL				i Sg	S	01 00 03.4	+0.5
CSNT	Castellina Chi	1.46	141	Pg	P	00 59 46.7	+0.2
	11nm,0.2s						
VAI	Varese	1.54	325	Pg	P	00 59 49.2	+1.6
	10.0nm,0.2s						
IMI	Imperia	1.68	246	Pg	P	00 59 50.6	+0.9
	16nm,0.2s						
CTI	Castel Tesino	1.84	38	Pg	P	00 59 50.6	-1.3
	25nm,0.2s						
SBF	Sospel	2.00	249	ePn	P	00 59 55.4	+1.2
SBF				eSn	S	01 00 20.9	+2.6
	14nm,0.2s						
APPI	Appiano	2.05	24	Pg	P	00 59 54.0	-0.9
	53nm,0.3s						
PGF	Pioggiola	2.19	200	ePn	P	00 59 56.9	0.0
MBDF	Montbardon	2.32	274	ePn	P	00 59 59.8	+1.0
LPL	La Plagne	2.50	292	ePn	P	01 00 01.3	0.0
FRF	La Foret Royal	2.65	248	ePn	P	01 00 04.1	+0.6
FRF				eSn	S	01 00 36.1	+1.4
	11nm,0.2s						
DAVA	Damuels	2.68	358⇓	iPN	P	01 00 04.2	+0.3
DAVA				i SN	S	01 00 37.1	+1.7
SQTA	Sankt Quirin	2.74	17⇓	iPN	P	01 00 05.4	+0.7
SQTA				i SN	S	01 00 38.3	+1.3
MOTA	Moosalm	2.83	15⇓	iPN	P	01 00 06.6	+0.5
MOTA				i SN	S	01 00 40.7	+1.3
LMR	La Mourre	2.84	244	ePn	P	01 00 06.5	+0.3
LMR				eSn	S	01 00 39.7	+0.2
	15nm,0.3s						
WTTA	Wattenberg	2.88	22⇓	iPN	P	01 00 06.5	-0.3
WTTA				i SN	S	01 00 41.5	+0.9
WATA	Walderalm	2.93	21⇑	iPN	P	01 00 07.6	+0.1
WATA				i SN	S	01 00 42.8	+0.9
ORIF	Oris-en-Rattie	2.96	277	ePn	P	01 00 08.8	+0.8
ORIF				ePg	P	01 00 18.7	+11
ORIF				eSn	S	01 00 45.0	+2.3
	2.6nm,0.3s						
SMRF	Simiane la Rot	3.25	260	ePn	P	01 00 13.8	+1.7
CABF	La Chapelle	3.41	307	ePn	P	01 00 14.5	+0.2
NVLJ	Novalja	3.47	89	i Pn	P	01 00 12.9	-2.2
NVLJ				i Sn	S	01 00 49.1	-6.4
NVLJ	Novalja	3.47	89	i Pn	P	01 00 12.9	-2.2
NVLJ				i Sn	S	01 00 49.0	-6.5
VIVF	Saint-Julien-l	3.82	276	ePn	P	01 00 20.4	+0.3
HINF	Hinteralfeld	3.89	327	ePn	P	01 00 19.6	-1.4
HINF				eSn	S	01 01 01.8	-4.3
	1.9nm,0.2s						
HAU	Haudompre	4.24	324	ePn	P	01 00 24.7	-1.4
HAU				eSn	S	01 01 10.7	-4.4
	7.4nm,0.3s						
CDF	Champ du Feu	4.25	334	ePn	P	01 00 24.2	-2.0
CDF				eSn	S	01 01 09.4	-5.8
	1.8nm,0.3s						
LASF	Ste Croix	4.45	265	ePn	P	01 00 29.1	0.0
SMF	Signal de Mont	4.79	297	ePn	P	01 00 32.4	-1.4
SMF				eSn	S	01 01 26.8	-2.0
LOR	Lormes	5.05	304	ePn	P	01 00 36.0	-1.6
LOR				eSn	S	01 01 32.8	-2.7
	1.1nm,0.2s						
AVF	Avril sur Loir	5.15	297	ePn	P	01 00 37.3	-1.7
AVF				eSn	S	01 01 35.7	-2.4
SSF	Saint Saulge	5.17	301	ePn	P	01 00 37.5	-1.7
SSF				eSn	S	01 01 35.1	-3.4
BGF	Bois d'Agland	5.40	294	ePn	P	01 00 41.0	-1.4
MTLF	Montolieu	5.77	260	ePn	P	01 00 47.6	0.0

*NEIC **15** 01:03:16.5, 19.53N×68.77W, h104km, MD3.7(RSPR), After RSPR.*
RSPR 15 01:03:16.5, 19.53N×68.77W, h104km±7km, MD3.7/7, MD3.7/7, 7C, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	Aguadilla, PR	1.90	124⇑	eP	P	01 03 47.7	-0.7
AGPR				eS	S	01 04 11.9	-0.1
LSP	Las Mesas	2.09	130⇑	eP	P	01 03 50.0	-1.0
LSP				eS	S	01 04 16.4	-0.2
CRPR	Cabo Rojo, PR	2.19	134⇑	eP	P	01 03 50.8	-1.5
CRPR				eS	S	01 04 18.4	-0.6
MGP	Maguayo	2.20	133⇑	eP	P	01 03 51.7	-0.8
LRS	Lares	2.20	124⇑	eP	P	01 03 51.2	-1.3
LRS				eS	S	01 04 18.9	-0.4
PORP	Portuguez	2.50	126⇑	eP	P	01 03 55.9	-0.7
PORP				eS	S	01 04 26.0	-0.6
CBYP	Canovanas	3.03	114	eS	S	01 04 38.4	-1.1
MTP	Monte Pirata	3.37	115⇑	eP	P	01 04 07.3	-1.0
MTP				eS	S	01 04 47.2	-0.4

WEL 15 01:29:59.3±0.8, 34.76S×178.13E, h33km, ML4.1/4, Error ellipse: s-maj=15.5km s-min=4.9km az=90.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	2.80	177	ePN	Pn	01 30 40.9	-2.0
MXZ				SN	Sn	01 31 12.9	-3.0
PUZ	Puketiti	3.31	178	ePN	Pn	01 30 46.9	-3.2
PUZ				SN	Sn	01 31 26.1	-2.7
URZ	Urewera	3.59	193	ePN	Pn	01 30 51.9	-2.2
MWZ	Matawai	3.60	188	PN	Pn	01 30 52.7	-1.6
MWZ				eSN	Sn	01 31 31.6	-4.6
MQZ	McQueen's Vall	9.89	204	eSN	Sn	01 33 58.4	-15

NNC 15 01:38:55.3±6.2, 38.10N×72.08E, h233km±84km, mpv3.6, 2C-1D, Error ellipse: s-maj=72.9km s-min=41.5km az=25.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	4.89	21	⇑P	P	01 40 08.6	-1.3
	3.8nm,0.5s						
AAK				⇓S	S	01 41 09.1	+1.2
	17nm,0.9s						
KK31	Karatay Array	5.14	347	P	P	01 40 12.1	-0.9
	3.5nm,0.4s,baz=154,slow=11,SNR=92						
KK31				S	S	01 41 14.0	+0.5
	4.2nm,0.2s,baz=155,slow=18,SNR=22						
AB31	Akbulak array	14.17	326	P	P	01 42 09.2	+2.1
	0.4nm,0.5s,baz=139,slow=10,SNR=8.5						
AB31				⇑S	S	01 44 40.8	+1.9
	0.4nm,0.4s,baz=135,slow=25,SNR=3.3						

*CSEM **15** 01:52:15.8±0.9, 38.63N×28.60W, h5km, ML1.4, Error ellipse: s-maj=3.6km s-min=2.3km az=8.0, After PDA*
*PDA **15** 01:52:15.8±0.9, 38.63N×28.60W, h5km, MD2.8, ML1.4, Error ellipse: s-maj=3.6km s-min=2.3km az=8.0*
SVSA 15 01:52:15.8±0.9, 38.63N×28.60W, h5km, MD2.8, ML1.4, Error ellipse: s-maj=3.6km s-min=2.3km az=8.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	Cedros	0.08	270	i P	Pg	01 52 17.1	-0.5
PCED				i S	Sg	01 52 19.2	+0.3
	29nm,0.1s						
PCED	Cedros	0.08	270	i S	Sg	01 52 19.2	+0.3
CALA	Caldeira	0.09	240	eP	Pg	01 52 17.6	-0.3
CALA				eS	Sg	01 52 19.4	+0.1
HOR	Horta	0.10	193	eS	Sg	01 52 19.3	-0.3
PICO	Pico	0.19	133	eP	Pg	01 52 19.4	-0.2
PICO				i S	Sg	01 52 22.1	-0.1
PMAN	Manadas	0.40	89	eS	Sg	01 52 28.2	-1.0
	20nm,0.1s						

*IDC **15** 01:55:27.8±1.0, 9.92N×69.92W, mb3.7/6, mb1 3.9/7, mb1mx3.8/19, mbtmp3.8/7, ML3.2/1, MS4.0/3, Ms1 4.0/3, ms1mx3.3/17, Error ellipse: s-maj=35.0km s-min=11.8km az=113.0*
*FUNV **15** 01:55:29.1, 9.78N×69.70W, MW3.5*
*BJI **15** 01:55:32.4, 9.80N×69.80W, h30km, mB4.7, Ms4.9, Msz4.5*
*NEIC **15** 01:55:32.4±0.7, 9.76N×69.80W, h30km, mb4.3/11, MD4.2(CAR), Error ellipse: s-maj=19.1km s-min=8.6km az=83.0*
ISC 15 01:55:29.0±0.5, 9.75N±0.03×69.68W±0.02, h19km±4km, n56, σ1§20/67, mb4.1/16, MS4.0/3, 6C-11D, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANV	Sanarito	0.28	150⇓	eP	Pb	01 55 35.2	-0.1
SANV				eS	Sb	01 55 39.6	0.0
CURV	Curarigua	0.39	314⇓	eP	Pb	01 55 35.8	-1.3
CURV				eS	Sb	01 55 40.4	-2.1
TEPV	Terepaima	0.53	66⇓	eP	Pb	01 55 39.8	+0.4
TEPV				eS	Sb	01 55 47.0	+0.5
SIQV	Siquisique	0.91

CAPV eS Sn 01 56 57.2 -0.4
MERV Las Mercedes 3.37 98⇑ eP Pn 01 56 22.7 +0.8
BIRV Birongo 3.44 78 eP Pn 01 56 23.7 +0.9
BIRV eS Sn 01 57 03.5 +0.1
CUPV Cępira 3.85 85⇓ eP Pn 01 56 29.3 +0.7
CAOV Caicara del Or 4.10 126⇓ eP Pn 01 56 32.1 -0.1
CAOV eS Sn 01 57 18.6 -1.7
IBAV Isla La Blanqu 5.42 67⇓ eP Pn 01 56 48.7 -2.2
ORIV Oritupano 6.22 96 eP Pn 01 57 00.3 -2.0
CRUV Carupano 6.41 81 eP Pn 01 57 03.9 -1.0
ITEV Isla Los Testi 6.63 75 eP Pn 01 57 06.3 -1.8
ROSC El Rosal 6.70 224 Pn Pn 01 57 09.3 +0.4
9.8nm,0.3s,baz=85,slow=12,SNR=27
GURV El Guri 6.81 106⇑ eP Pn 01 57 08.0 -2.5
SJG San Juan 8.99 22 Pn P 01 57 36.7 -4.3
25nm,0.3s,baz=200,slow=12,SNR=65
SAML Samuel 19.66 161 eP P 01 59 59.4 -0.6
LPAZ La Paz 25.91 177 P P 02 01 05.0 +3.1
1.2nm,0.8s,mb3.5,baz=358,slow=11,SNR=6.4
LPAZ La Paz 25.91 177 eP P 02 01 03.0 +1.0
2.6nm,1.1s,mb3.7
WVT Waverly 31.01 331 eP P 02 01 46.7 -1.1
1.3nm,0.6s,mb3.9
LVC Limon Verde 32.17 179 LR LR 02 14 39.6
comp=Z,323nm,21.0s,MS4.0,baz=330,slow=36
BDFB Brasilia 33.12 139 LR LR 02 17 26.1
comp=Z,184nm,20.1s,MS3.8,baz=132,slow=40
WMOK Wichita Mounta 36.42 318 eP P 02 02 32.7 -1.7
3.9nm,1.0s,mb4.3
MNTX Cornudas Mount 39.62 309 eP P 02 03 00.7 -0.6
11nm,1.4s,mb4.4
ANMO Albuquerque 41.89 313 eP P 02 03 20.2 +0.2
2.8nm,1.1s,mb3.8
LAZ Ladron 42.13 311 eP P 02 03 22.3 +0.3
SMCO Snowmass 44.33 318 eP P 02 03 40.2 +0.4
SCHQ Schefferville 45.02 2 P P 02 03 44.1 -1.1
1.3nm,0.5s,mb4.0,baz=188,slow=7.1,SNR=4.4
MSU Marysvale 47.59 314 P P 02 04 06.6 +1.0
PDAR Pinedale Array 47.87 320 P P 02 04 06.1 -1.7
0.4nm,0.6s,mb3.7,baz=118,slow=13,SNR=3.2
HWUT Hardware Ranch 48.58 318 eP P 02 04 10.1 -3.2
1.9nm,0.7s,mb4.2
DUG Dugway 48.77 316 eP P 02 04 16.6 +1.8
5.7nm,1.3s,mb4.4
LOHW Long Hollow 48.96 321 eP P 02 04 15.2 -1.0
6.6nm,1.1s,mb4.6
REDW Red Top Meadow 48.99 320 eP P 02 04 16.8 +0.4
8.7nm,1.1s,mb4.7
TPAW Teton Pass 49.12 321 eP P 02 04 17.0 -0.4
7.9nm,1.1s,mb4.7
PLCA Paso Flores 50.23 181 P P 02 04 27.0 +1.0
1.2nm,0.7s,mb4.0,baz=333,slow=9.4,SNR=5.2
MCMT McKenzie Canyo 50.97 321 eP P 02 04 31.4 -0.1
HRY Holter Researc 51.33 324 P P 02 04 32.1 -2.1
HLID Hailey 51.35 319 eP P 02 04 35.0 +0.5
2.6nm,1.0s,mb4.1
ILAR Eielson Array 75.79 334 P P 02 07 14.1 -1.1
0.3nm,0.6s,mb3.4,baz=114,slow=4.9,SNR=5.5
NOA NORSAR Array B 77.12 30 P P 02 07 22.1 -0.6
0.3nm,0.7s,mb3.3,baz=264,slow=6.0,SNR=3.9
BOSA Boshof 98.90 118 LR LR 02 53 22.1
comp=Z,85nm,18.0s,MS4.3,baz=162,slow=35
CN2 Changchun 124.96 347 ePKP PKPdf 02 14 29.6 -2.8
NJ2 Nanjing 137.65 349 ePKP PKPdf 02 14 52.8 -3.9

LDG ***15*** *01:56:49.6±0.9, 9.59N×69.37W, h10km, Mb5.0/12, Ms3.4/7, Error ellipse: s-maj=58.8km s-min=27.0km az=115.0*
IDC ***15*** *01:56:50.7±0.5, 9.68N×69.59W, mb4.2/18, mb1 4.3/19, mb1mx4.3/24, mbtmp4.2/19, MS3.2/1, Ms1 3.3/1, ms1mx2.9/17, Error ellipse: s-maj=17.6km s-min=10.1km az=124.0*
BJI ***15*** *01:56:52.8, 9.70N×69.60W, h12km, mB5.2, Ms5.0, Msz4.7*
NEIC ***15*** *01:56:52.8±3.4, 9.73N×69.59W, h12km±21km, mb4.8/48, MD4.4(CAR), Error ellipse: s-maj=7.1km s-min=5.4km az=222.0*
NEIC Felt at Caracas and El Tocuyo.
FUNV ***15*** *01:56:53.5, 9.76N×69.71W, h0km, MW3.7*
ISC 15 01:56:53.6±0.4, 9.73N±0.02×69.61W±0.03, h29km±3km, h31km±3.4km: pP-P, n134, σ1§19/144, mb4.6/65, MS4.2/3, 3C-3D, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANV	**Sanarito**	**0.24**	**162⇓**	*i*P	**Pb**	**01 56 59.6**	**-0.6**
SANV				*e*S	**Sb**	**01 57 03.8**	**-0.8**
CURV	**Curarigua**	**0.44**	**309⇓**	*i*P	**Pb**	**01 57 00.2**	**-2.8**
CURV				*e*S	**Sb**	**01 57 05.0**	**-4.5**
TEPV	**Terepaima**	**0.47**	**61**	*e*P	**Pb**	**01 57 04.3**	**+0.8**
TEPV				*i* S	**Sb**	**01 57 11.6**	**+1.4**
SIQV	**Siquisique**	**0.93**	**348**	*e*P	**Pn**	**01 57 11.0**	**+0.1**
SIQV				*e*S	**Sb**	**01 57 23.4**	**+0.3**
QARV	**Quebrada Arrib**	**1.01**	**298⇓**	*i*P	**Pn**	**01 57 11.3**	**-0.8**
QARV				*e*S	**Sb**	**01 57 24.8**	**-0.7**
SDV	**Santo Domingo**	**1.31**	**230**	Pg	**Pn**	**01 57 16.1**	**-0.3**
	2μm,0.3s,baz=86,slow=9.7,SNR=54						
SDV				Lg		01 57 32.7	
	2μm,0.3s,baz=355,slow=20,SNR=8.2						
SDV	**Santo Domingo**	**1.31**	**230**	*e*Pn	**Pn**	**01 57 14.9**	**-1.4**
SDV				*e*Sn	**Sn**	**01 57 33.8**	**+0.7**
DABV	**Dabajuro**	**1.55**	**320**	*e*P	**Pn**	**01 57 21.1**	**+1.4**
DABV				*e*S	**Sn**	**01 57 41.4**	**+2.2**
BAUV	**El Baul**	**1.74**	**117**	*e*P	**Pn**	**01 57 25.9**	**+3.5**
BAUV				*e*S	**Sn**	**01 57 49.8**	**+6.0**
TURV	**Turiamo**	**1.88**	**68**	*e*P	**Pn**	**01 57 27.4**	**+2.8**
TURV				*e*S	**Sn**	**01 57 53.1**	**+5.5**
SOCV	**Socops**	**1.89**	**221**	*e*P	**Pn**	**01 57 25.5**	**+0.9**
SOCV				*e*S	**Sn**	**01 57 50.1**	**+2.3**
VIGV	**El Vigia**	**1.94**	**243**	*e*P	**Pn**	**01 57 27.0**	**+1.6**
VIGV				*e*S	**Sn**	**01 57 50.7**	**+1.6**
MONV	**Montecano**	**2.24**	**351**	*e*P	**Pn**	**01 57 30.2**	**+0.6**
MONV				*e*S	**Sn**	**01 57 58.2**	**+1.7**
FUNV	**FUNVISIS**	**2.85**	**75**	*e*P	**Pn**	**01 57 41.0**	**+2.6**
VIRV	**Villa del Rosa**	**2.86**	**286**	*e*P	**Pn**	**01 57 38.0**	**-0.5**
IMOV	**Isla Los Monje**	**2.90**	**334**	*e*P	**Pn**	**01 57 38.8**	**-0.2**
IMOV				*e*S	**Sn**	**01 58 12.7**	**-0.6**
CAPV	**Capacho**	**3.25**	**235**	*e*P	**Pn**	**01 57 44.7**	**+0.7**
ROSC	**El Rosal**	**6.74**	**224**	Pn	**Pn**	**01 58 33.1**	**-0.2**
	36nm,0.3s,baz=96,slow=18,SNR=15						
TRN	**Trinidad (W)**	**8.13**	**83**	*e*P	**P**	**01 58 53.2**	**+0.4**
SJG	**San Juan**	**8.98**	**22**	Pn	**P**	**01 59 01.2**	**-3.3**
	47nm,0.3s,baz=200,slow=12,SNR=25						
SJG				Sn	**Sn**	**02 00 33.4**	**-12**
	8.5nm,0.3s,baz=351,slow=15,SNR=6.2						
SAML	**Samuel**	**19.63**	**161**	*e*P	**P**	**02 01 21.6**	**-1.6**
	0.7nm,0.7s						
SAML				*e*S	**S**	**02 04 50.0**	**-7.3**
NHSC	**New Hope**	**25.22**	**339**	*e*P	**P**	**02 02 16.5**	**-2.2**
	70nm,1.2s,mb5.1						
LPAZ	**La Paz**	**25.89**	**177**	P	**P**	**02 02 27.1**	**+1.9**
	4.4nm,0.7s,mb4.1,baz=343,slow=11,SNR=9.2						
LPAZ	**La Paz**	**25.89**	**177**	P	**P**	**02 02 25.4**	**+0.2**
SIV	**San Ignacio**	**26.92**	**162**	P	**P**	**02 02 36.0**	**+1.4**
	1.4nm,0.7s,mb3.6,baz=11,slow=15,SNR=3.2						
LRAL	**Lakeview Retre**	**28.19**	**328**	*e*P	**P**	**02 02 46.2**	**+0.2**
	28nm,1.6s,mb4.7						
CPCT	**Cooper Cave**	**28.98**	**334**	*e*P	**P**	**02 02 53.4**	**+0.3**
PLAL	**Pickwick Lake**	**30.27**	**329**	*e*P	**P**	**02 03 04.8**	**+0.2**
	6.1nm,0.8s,mb4.4						
WVT	**Waverly**	**31.06**	**331**	*e*P	**P**	**02 03 10.8**	**-0.8**
	7.0nm,0.9s,mb4.5						
NATX	**Nacogdoches**	**31.93**	**317**	*e*P	**P**	**02 03 20.8**	**+1.6**
	35nm,1.0s,mb5.2						
WCI	**Wyandotte Cave**	**32.09**	**335**	P	**P**	**02 03 20.4**	**-0.2**
	6.5nm,0.7s,mb4.6						
LVC	**Limon Verde**	**32.15**	**179**	P	**P**	**02 03 20.3**	**-1.0**
	5.6nm,0.6s,mb4.6,baz=357,slow=5.4,SNR=11						
BLO	**Bloomington**	**32.98**	**335**	*e*P	**P**	**02 03 28.1**	**-0.2**
	10nm,0.7s,mb4.9						
FVM	**French Village**	**33.79**	**330**	*e*P	**P**	**02 03 35.1**	**-0.3**
	21nm,0.9s,mb5.1						
CCM	**Cathedral Cave**	**34.26**	**329**	*e*P	**P**	**02 03 39.6**	**+0.1**
	11nm,0.8s,mb4.8						
WMOK	**Wichita Mounta**	**36.47**	**318**	*e*P	**P**	**02 03 57.5**	**-0.8**
	8.1nm,0.7s,mb4.8						
CPUP	**Villa Florida**	**37.78**	**162**	P	**P**	**02 04 07.6**	**-1.8**
	0.9nm,0.6s,mb3.7,baz=1.6,slow=11,SNR=4.0						
CPUP	**Villa Florida**	**37.78**	**162**	P	**P**	**02 04 07.6**	**-1.8**
KSU1	**Kansas State U**	**37.91**	**325**	P	**P**	**02 04 08.6**	**-1.7**
GDL2	**Guadalupe Moun**	**39.13**	**310**	*e*P	**P**	**02 04 21.1**	**+0.6**
CPRX	**Cap Rock**	**39.14**	**311**	*e*P	**P**	**02 04 20.4**	**-0.3**
CBKS	**Cedar Bluff**	**39.56**	**322**	*e*P	**P**	**02 04 24.4**	**+0.3**
	30nm,1.0s,mb5.0						
MNTX	**Cornudas Mount**	**39.68**	**309**	*e*P	**P**	**02 04 24.9**	**-0.2**
	24nm,1.1s,mb4.8						
CFAA	**Coronel Fontan**	**41.12**	**178**	P	**P**	**02 04 35.3**	**-1.7**
	0.8nm,0.8s,mb3.4,baz=342,slow=7.7,SNR=18						
BNM	**Barren Site**	**41.70**	**311**	*e*P	**P**	**02 04 42.2**	**+0.4**
LPM	**Los Pinos Moun**	**41.78**	**312**	*e*P	**P**	**02 04 44.4**	**+2.0**
ANMO	**Albuquerque**	**41.95**	**313**	P	**P**	**02 04 44.5**	**+0.7**
	1.2nm,0.5s,mb3.8,baz=123,slow=8.9,SNR=7.2						
ANMO	**Albuquerque**	**41.95**	**313**	*e*P	**P**	**02 04 44.5**	**+0.8**
	13nm,1.1s,mb4.5						
LAZ	**Ladron**	**42.19**	**311**	*e*P	**P**	**02 04 46.8**	**+1.0**
SDCO	**Great Sand Dun**	**42.65**	**317**	*e*P	**P**	**02 04 49.7**	**+0.2**
	14nm,1.0s,mb4.6						
ISCO	**Idaho Springs**	**43.82**	**319**	*e*P	**P**	**02 04 57.9**	**-1.2**
	5.0nm,0.9s,mb4.2						
TUC	**Tucson**	**44.14**	**307**	*e*P	**P**	**02 05 01.6**	**0.0**
	3.8nm,0.8s,mb4.2						
SMCO	**Snowmass**	**44.38**	**318**	*e*P	**P**	**02 05 04.0**	**+0.5**
SCHQ	**Schefferville**	**45.03**	**2**	P	**P**	**02 05 08.5**	**-0.1**
	2.7nm,0.5s,mb4.3,baz=201,slow=8.2,SNR=7.3						
RWWY	**Rawlins**	**45.87**	**320**	*e*P	**P**	**02 05 17.0**	**+1.6**
	9.8nm,0.9s,mb4.7						
SRU	**San Rafael**	**46.76**	**316**	*e*P	**P**	**02 05 22.0**	**-0.4**
MSU	**Marysvale**	**47.64**	**314**	*e*P	**P**	**02 05 29.8**	**+0.3**
DAU	**Daniels Canyon**	**47.86**	**317**	P	**P**	**02 05 32.4**	**+1.2**
BW06	**Boulder Array**	**47.92**	**320**	*e*P	**P**	**02 05 30.3**	**-1.3**
	11nm,1.0s,mb4.9						
PDAR	**Pinedale Array**	**47.92**	**320**	P	**P**	**02 05 31.2**	**-0.3**
	1.1nm,0.5s,mb4.1,baz=125,slow=12,SNR=6.1						
MPU	**Maple Canyon**	**47.93**	**316**	*e*P	**P**	**02 05 31.4**	**-0.2**
JLU	**Jordanelle**	**48.08**	**317**	*e*P	**P**	**02 05 33.8**	**+1.0**
LAO	**LASA Array**	**48.20**	**327**	*e*P	**P**	**02 05 31.3**	**-2.3**
	12nm,1.0s,mb4.9						
NLU	**North Lily Min**	**48.21**	**316**	P	**P**	**02 05 33.3**	**-0.5**
ARUT	**Antelope Range**	**48.25**	**313**	*e*P	**P**	**02 05 34.8**	**+0.7**
CTU	**Camp Tracy**	**48.32**	**317**	*e*P	**P**	**02 05 36.4**	**+1.7**
NEN	**Nelson**	**48.48**	**309**	*e*P	**P**	**02 05 35.9**	**-0.1**
HWUT	**Hardware Ranch**	**48.63**	**318**	*e*P	**P**	**02 05 35.7**	**-1.4**
	7.1nm,0.6s,mb4.9						
DUG	**Dugway**	**48.82**	**316**	P	**P**	**02 05 36.9**	**-1.6**
	11nm,1.1s,mb4.8						
LOHW	**Long Hollow**	**49.01**	**321**	*e*P	**P**	**02 05 38.3**	**-1.7**
	22nm,0.9s,mb5.2						
SNOW	**Snow King Moun**	**49.03**	**321**	*e*P	**P**	**02 05 40.4**	**+0.3**
	28nm,0.8s,mb5.3						
REDW	**Red Top Meadow**	**49.04**	**320**	*e*P	**P**	**02 05 39.9**	**-0.2**
	41nm,1.0s,mb5.4						
TPAW	**Teton Pass**	**49.17**	**321**	*e*P	**P**	**02 05 41.4**	**+0.2**
	20nm,0.7s,mb5.3						
RRI2	**Red Ridge**	**49.33**	**320**	*e*P	**P**	**02 05 41.3**	**-1.0**
	16nm,0.7s,mb5.2						
IMW	**Indian Meadow**	**49.37**	**321**	*e*P	**P**	**02 05 42.8**	**+0.2**
	11nm,0.8s,mb5.0						
HVU	**Hansel Valley**	**49.51**	**318**	P	**P**	**02 05 45.3**	**+1.4**
QLMT	**Earthquake Lak**	**50.15**	**322**	*e*P	**P**	**02 05 50.0**	**+1.3**
PLCA	**Paso Flores**	**50.22**	**181**	P	**P**	**02 05 47.8**	**-1.4**
	3.1nm,0.7s,mb4.4,baz=350,slow=7.3,SNR=12						
BOZ	**Bozeman (W)**	**50.70**	**323**	*e*P	**P**	**02 05 52.4**	**-0.4**
	7.9nm,0.9s,mb4.6						
ELK	**Elko**	**50.73**	**315**	*e*P	**P**	**02 05 52.7**	**-0.4**
	5.3nm,0.7s,mb4.6						
DAC	**Darwin (Calif)**	**50.79**	**309**	P	**P**	**02 05 53.0**	**-0.6**
	6.2nm,0.9s,mb4.5						
MCMT	**McKenzie Canyo**	**51.02**	**321**	*e*P	**P**	**02 05 56.3**	**+1.0**
HRY	**Holter Researc**	**51.37**	**324**	*e*P	**P**	**02 05 57.7**	**-0.2**
HLID	**Hailey**	**51.41**	**319**	*e*P	**P**	**02 05 59.0**	**+0.8**
	12nm,1.0s,mb4.8						
FFC	**Flin Flon**	**51.70**	**337**	*e*P	**P**	**02 05 58.7**	**-1.5**
	12nm,0.9s,mb4.8						
CHMT	**Chamberlain Mo**	**52.31**	**323**	*e*P	**P**	**02 06 04.5**	**-0.5**
WVOR	**Wild Horse Val**	**53.74**	**316**	*e*P	**P**	**02 06 12.4**	**-3.2**
	7.6nm,0.9s,mb4.6						
BMO	**Blue Mountains**	**53.84**	**319**	*e*P	**P**	**02 06 15.9**	**-0.4**
	2.8nm,0.7s,mb4.3						
BEKR	**Beckwourth**	**54.03**	**313**	*e*P	**P**	**02 06 19.9**	**+2.1**
	4.5nm,0.7s,mb4.5						
NEW	**Newport**	**55.26**	**323**	*e*P	**P**	**02 06 24.4**	**-2.3**
	6.9nm,1.0s,mb4.6						
EDM	**Edmonton**	**55.77**	**330**	*e*P	**P**	**02 06 27.5**	**-2.8**
YBH	**Yreka Blue Hor**	**56.33**	**314**	*e*P	**P**	**02 06 33.2**	**-1.3**
	3.6nm,0.7s,mb4.5						
KBO	**Bosley Butte**	**57.55**	**314**	*e*P	**P**	**02 06 44.1**	**+1.0**
EVO	**Evora**	**61.84**	**51**	*e*P	**P**	**02 07 15.1**	**+2.4**
	11nm,0.9s,mb4.7						
EVO				*e*R			
	60nm,19.8s						
DBIC	**Dimbokro**	**64.09**	**87**	P	**P**	**02 07 27.0**	**-1.0**
	3.5nm,0.8s,mb4.4,baz=249,slow=8.6,SNR=2.0						
DBIC	**Dimbokro**	**64.09**	**87**	P	**P**	**02 07 27.0**	**-1.0**
ESDC	**Sonseca Array**	**65.13**	**51**	P	**P**	**02 07 34.4**	**0.0**
	0.3nm,0.6s,mb3.5,baz=265,slow=7.6,SNR=3.9						
DLBC	**Dease Lake**	**66.49**	**330**	*e*P	**P**	**02 07 41.6**	**-1.2**
SJPF	**Ste Jean**	**67.65**	**47**	*e*P	**P**	**02 07 50.2**	**-0.1**
	39nm,1.3s,mb5.0						
ETSF	**Etsaut**	**68.11**	**48**	*e*P	**P**	**02 07 51.8**	**-1.4**
	38nm,1.7s,mb4.9						
GRR	**Gorron**	**68.69**	**42**	*e*P	**P**	**02 07 53.3**	**-3.4**
EKA	**Eskdalemuir Ar**	**68.72**	**34**	P	**P**	**02 07 56.4**	**-0.4**
	1.4nm,0.8s,mb4.0,baz=258,slow=5.0,SNR=4.9						
EPF	**Esparros**	**68.78**	**48**	*e*P	**P**	**02 07 57.9**	**+0.6**
	18nm,1.1s,mb4.6						
MFF	**Saint Martin d**	**68.90**	**44**	*e*P	**P**	**02 07 55.8**	**-2.2**
LFF	**La Frestale**	**69.29**	**46**	*e*P	**P**	**02 07 59.6**	**-0.9**
RJF	**Les Rejaudoux**	**69.88**	**45**	*e*P	**P**	**02 08 01.9**	**-2.1**
	21nm,1.0s,mb4.7						
RJF				*e*R			
	83nm,22.8s						
MTLF	**Montolieu**	**70.17**	**47**	*e*P	**P**	**02 08 03.5**	**-2.4**
	17nm,0.9s,mb4.7						
CAF	**Calviac**	**70.22**	**46**	*e*P	**P**	**02 08 06.2**	**+0.1**
	6.2nm,0.6s,mb4.4						
BGF	**Bois d'Agland**	**70.94**	**44**	*e*P	**P**	**02 08 07.4**	**-3.1**
INK	**Inuvik**	**71.51**	**339**	*e*P	**P**	**02 08 12.3**	**-1.2**
	3.9nm,0.8s,mb4.4						
DIV	**Divide**	**74.85**	**331**	*e*P	**P**	**02 08 34.3**	**+1.1**
	26nm,0.9s,mb5.2						
DAVOX	**Davos**	**75.78**	**44**	P	**P**	**02 08 39.3**	**+0.5**
	2.4nm,0.7s,mb4.2,baz=342,slow=3.2,SNR=2.5						
ILAR	**Eielson Array**	**75.83**	**334**	P	**P**	**02 08 37.9**	**-0.8**
	1.3nm,0.7s,mb3.9,baz=102,slow=4.4,SNR=15						
SML	**Sawmill**	**76.15**	**331**	*e*P	**P**	**02 08 41.1**	**+0.5**
NAO01	**NORSAR Array S**	**76.93**	**30**	*e*P	**P**	**02 08 45.4**	**+0.5**
SLKM	**Skilak Lake**	**76.97**	**330**	*e*P	**P**	**02 08 45.8**	**+0.7**
NB2	**NORSAR Subarra**	**77.10**	**30**	P	**P**	**02 08 46.7**	**+0.8**
	2.8nm,0.8s,mb4.2,baz=267,slow=5.6						
NOA	**NORSAR Array B**	**77.10**	**30**	P	**P**	**02 08 46.9**	**+1.0**
	2.7nm,0.8s,mb4.2,baz=266,slow=5.8,SNR=8.3						
NOA				LR	LR	02 38 26.7	
	comp=Z,14nm,19.7s,MS3.3,baz=250,slow=32						
NOA	**NORSAR Array B**	**77.10**	**30**	P	**P**	**02 08 46.9**	**+1.0**
NOA				LR	LR	02 38 26.7	
CLL	**Collm**	**77.86**	**40**	P	**P**	**02 08 52.0**	**+1.7**
CLL				*e*PP	pP	02 08 56.0	-3.3
CLL				*e*	pP	02 09 02.0	+2.7
CLL	**Collm**	**77.86**	**40**	*e*P	**P**	**02 08 52.0**	**+1.7**
CLL				*e*pP	pP	02 08 56.0	-3.3
HFS	**Hagfors**	**78.29**	**31**	P	**P**	**02 08 53.0**	**+0.6**
	1.1nm,0.7s,mb3.9,baz=256,slow=6.1,SNR=6.1						
GERES	**GERESS Array B**	**78.35**	**42**	P	**P**	**02 08 53.8**	**+0.8**
	1.5nm,0.6s,mb4.1,baz=270,slow=5.3,SNR=11						
ARCES	**ARCESS Array B**	**82.74**	**21**	P	**P**	**02 09 15.8**	**-0.2**
	2.1nm,0.7s,mb4.3,baz=304,slow=4.4,SNR=8.8						
FINES	**FINESS Array B**	**84.24**	**29**	P	**P**	**02 09 23.9**	**+0.3**
	1.0nm,0.6s,mb4.1,baz=225,slow=2.7,SNR=4.6						
MLR	**Muntele Rosu**	**87.01**	**45**	P	**P**	**02 09 39.6**	**+1.8**
	4.8nm,0.8s,mb4.8,baz=64,slow=4.3,SNR=6.7						
VNA3	**Neumayer Olymp**	**89.95**	**164⇑**	*i*P	**P**	**02 09 52.1**	**+0.9**
VNA3				*e*	pP	02 10 02.5	+2.1
VNA1	**Neumayer--Stat**	**90.05**	**163⇑**	*i*P	**P**	**02 09 53.6**	**+2.0**
VNA1				*e*	pP	02 10 03.5	+2.7
VNA1				*e*		02 10 07.4	
SNAA	**Sanae**	**92.08**	**163⇑**	*i*P	**P**	**02 09 58.6**	**-2.4**
SNAA				*e*	pP	02 10 08.6	-1.5
SNAA				*e*		02 10 12.3	
WMQ	**Urumqi**	**122.85**	**19**	*e*PKP	PKPdf	02 15 48.0	-4.3
CN2	**Changchun**	**124.99**	**347**	*e*PKP	PKPdf	02 15 51.6	-5.0
NJ2	**Nanjing**	**137.67**	**349**	*e*PKP	PKPdf	02 16 16.3	-4.5
NJ2				PP	PP	02 19 06.0	-0.6
NJ2				PKS	PKS	02 19 50.0	-0.9
NJ2				PPP	PPP	02 22 08.0	+0.4
NJ2				SKS	SKS	02 23 20.0	-10
NJ2				PP	PP		
	comp=Z,40nm,5.6s						
NJ2				LR	LR		
	comp=Z,430nm,21.5s,MS5.2						
SSE	**Sheshan**	**138.10**	**346**	PKP	PKPdf	02 16 16.3	-5.3
SSE				PP	PP		
	comp=Z,95nm,4.9s						
KMI	**Kunming**	**144.56**	**12**	PKP	PKPdf	02 16 28.3	-4.9
KMI				XPKP		02 16 34.4	
KMI				PP	PP	02 19 47.8	-0.8
KMI				SS	SS	02 38 34.4	+3.5
KMI				PP	PP		
	comp=Z,90nm,4.6s						
KMI				LR	LR		
	comp=Z,34nm,20.1s,MS4.1						

ISK ***15*** *02:02:23.0, 34.17N×26.41E, h60km, MD4.1, ML4.0*
MOS ***15*** *02:03:20.6±1.4, 34.16N×26.31E, h10km, mb4.4/16, Error ellipse: s-maj=7.8km s-min=3.6km az=110.8*
THE ***15*** *02:03:23.8, 33.88N×26.13E, h27km, ML4.4*
ATH ***15*** *02:03:25.6, 34.41N×26.47E, h24km±1km, MD4.1/17*
CSEM ***15*** *02:03:25.8±0.1, 34.33N×26.64E, h62km, mb4.2/13, Ms2.6, Error ellipse: s-maj=2.2km s-min=0.9km az=57.0*
NEIC ***15*** *02:03:25.2, 34.33N×26.46E, h25km, mb4.1/32, MD4.1(ATH), After ATH.*
HLW ***15*** *02:03:25.1, 34.57N×26.61E, h30km, Mb3.8*
IDC ***15*** *02:03:30.2±2.4, 34.55N×26.44E, h54km±21km, mb3.8/15, mb1 3.9/21, mb1mx3.9/28, mbtmp4.0/21, ML4.3/5, MS3.0/4, Ms1 3.0/4, ms1mx2.7/26, Error ellipse: s-maj=18.8km s-min=15.4km az=145.0*
ISC 15 02:03:24.6±0.2, 34.32N±0.02×26.59E±0.02, h33km, n230, σ1§38/228, mb4.0/31, MS3.2/4, 8C-12D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.92**	**307**	*e*PN	**Pn**	**02 03 41.0**	**-0.3**
XRY	**Khrisi**	**0.92**	**307**	*e*Pb	**Pb**	**02 03 40.5**	**-1.4**
NPS	**Neapolis**	**1.23**	**320**	*e*PN	**Pn**	**02 03 46.6**	**+0.8**
NPS				*e*SN	**Sn**	**02 04 01.5**	**+0.1**
NPS	**Neapolis**	**1.23**	**320**	*e*Pn	**Pn**	**02 03 46.6**	**+0.8**
NPS				*e*Sn	**Sn**	**02 04 04.4**	**+3.0**
KARP	**Karpathos**	**1.31**	**21**	*e*PN	**Pn**	**02 03 49.4**	**+2.5**
IDI	**Anoyia**	**1.69**	**305**	P	**P**	**02 03 54.7**	**+2.5**
	23nm,0.3s,baz=127,slow=14,SNR=50						
GVD	**Gavdhos**	**2.12**	**285**	*e*PB	**Pb**	**02 04 00.0**	**-2.3**
VAM	**Vamos**	**2.24**	**300**	*e*PN	**Pn**	**02 04 02.5**	**+2.3**
VAM	**Vamos**	**2.24**	**300**	*e*Pb	**Pb**	**02 04 03.2**	**-1.1**
THR1	**Thera Island**	**2.24**	**336**	*e*Pn	**Pn**	**02 04 01.5**	**+1.3**
ARG	**Arkhangelos**	**2.27**	**33**	*e*PB	**Pb**	**02 04 03.9**	**-0.9**
THR3	**Thira Island,**	**2.30**	**335**	*e*Pn	**Pn**	**02 04 02.4**	**+1.4**
THR5	**Thira Island,**	**2.32**	**335**	*e*Pn	**Pn**	**02 04 02.7**	**+1.4**
NISR	**Nisiros**	**2.33**	**11**	*e*PB	**Pb**	**02 04 04.5**	**-1.2**
NISR	**Nisiros**	**2.33**	**11**	*e*Pb	**Pb**	**02 04 06.0**	**+0.3**
BODT	**Bodrum**	**2.80**	**12**	PN	Px	02 03 10.2	
BDRM	**Kayabasi**	**2.82**	**14**	*i* P	**P**	**02 04 10.0**	**+1.6**
APE	**Apeiranthos**	**2.87**	**343**	PN	Px	02 03 09.5	
APE				SN	Sx	02 03 43.3	
APE	**Apeiranthos**	**2.87**	**343**	*e*PN	**Pn**	**02 04 10.5**	**+1.3**
APE				*e*SN	**Sn**	**02 04 44.2**	**+1.2**
APE	**Apeiranthos**	**2.87**	**343**	*e*Pn	**Pn**	**02 04 10.0**	**+0.8**
APE				*e*Sn	**Sn**	**02 04 44.2**	**+1.2**
DALT	**Dalyan (Mudla)**	**2.96**	**34**	PN	Px	02 03 11.3	
SLUM		**3.05**	**203**	⇓P	**P**	**02 04 13.8**	**+2.3**
SLUM				S	**S**	**02 04 49.6**	**+2.2**
MLSB	**Milas**	**3.12**	**18**	PN	Px	02 03 14.3	
AKAS	**Kas**	**3.12**	**51**	*i* P	**P**	**02 04 13.8**	**+1.2**
YER	**Yerkesik**	**3.13**	**26**	*i* PN	Px	02 03 14.5	
HMAT	**Matruh**	**3.25**	**172**	⇓P	**P**	**02 04 17.1**	**+2.7**
HMAT				S	**S**	**02 04 54.1**	**+1.7**
SMG

GTR Jabal at Tayr 9.43 158 ⇓P **P 02 05 40.9 -0.2**
HSFG 9.99 139 P **P 02 05 47.8 -1.1**
VAE Valguarnera 10.36 291 P **P 02 05 53.9 -0.1**
1.7nm,0.3s,baz=95,slow=24,SNR=8.5
VAE S **S 02 07 45.0 -5.1**
2.1nm,0.3s,baz=275,slow=21,SNR=3.5
MLR Muntele Rosu 11.16 358 LR LR 02 10 49.0
comp=Z,89nm,20.8s,baz=178,slow=40
KOLS Kolonicke sedl 14.95 349 *e*PN **P 02 06 57.4 +2.4**
GNI Garni 15.58 63 *i* P **P 02 07 06.3 +3.0**
GNI pmax pmax
comp=Z,3.0nm,1.0s
STHS Stebnicka Huta 15.59 347 *e*PN **P 02 07 05.9 +2.6**
KIV Kislovodsk 15.74 48 *i* P **P 02 07 10.0 +4.7**
KIV pmax pmax
comp=Z,10.0nm,1.3s
ZEI Tsey 15.94 53 *e*P **P 02 07 09.9 +2.1**
AKASG Malín Array Be 16.48 6 P **P 02 07 14.4 -0.3**
comp=Z,2.3nm,0.3s,baz=192,slow=11,SNR=13
VRAC Vranov 16.70 337 P **P 02 07 17.0 -0.4**
comp=Z,0.8nm,0.3s,baz=138,slow=10,SNR=4.7
VRAC LR LR 02 14 05.5
comp=Z,36nm,21.2s,baz=156,slow=39
MORC Moravsky Berou 16.82 339 P **P 02 07 17.8 -1.1**
comp=Z,3.0nm,0.8s
MORC Moravsky Berou 16.82 339 P **P 02 07 17.8 -1.1**
comp=Z,3.0nm,0.8s
MORC Moravsky Berou 16.82 339 P **P 02 07 17.8 -1.1**
MORC pmax pmax
comp=Z,3.0nm,0.8s
TREC Trest 17.07 335 *e*P **P 02 07 23.4 +1.4**
WTTA Wattenberg 17.14 323 ⇓*i*P **P 02 07 23.3 +0.3**
comp=Z,4.3nm,0.5s
WTTA Wattenberg 17.14 323 ⇓*i*P **P 02 07 23.3 +0.3**
WTTA pmax pmax
comp=Z,4.0nm,0.5s
WATA Walderalm 17.22 323 ⇑*i*P **P 02 07 22.3 -1.7**
comp=Z,8.9nm,1.2s
WATA Walderalm 17.22 323 ⇑*i*P **P 02 07 22.3 -1.7**
WATA pmax pmax
comp=Z,9.0nm,1.2s
SQTA Sankt Quirin 17.33 323 ⇑*i*P **P 02 07 23.7 -1.6**
comp=Z,4.3nm,1.1s
SQTA Sankt Quirin 17.33 323 ⇑*i*P **P 02 07 23.7 -1.6**
SQTA pmax pmax
comp=Z,4.0nm,1.1s
GEC2 GERESS Array S 17.38 330 *e*P **P 02 07 26.8 +0.8**
comp=Z,5.0nm,0.8s
GEC2 GERESS Array S 17.38 330 *e*P **P 02 07 26.8 +0.8**
GEC2 pmax pmax
comp=Z,5.0nm,0.8s
GERES GERESS Array B 17.38 330 P **P 02 07 26.3 +0.3**
comp=Z,0.3nm,0.3s,baz=144,slow=12,SNR=29
GERES LR LR 02 15 05.4
comp=Z,37nm,18.3s,baz=56,slow=41
MOTA Moosalm 17.46 323 ⇓*i*P **P 02 07 26.5 -0.5**
comp=Z,5.7nm,1.1s
MOTA Moosalm 17.46 323 ⇓*i*P **P 02 07 26.5 -0.5**
MOTA pmax pmax
comp=Z,6.0nm,1.1s
KHC Kasperske Hory 17.66 331 *e*P **P 02 07 27.7 -1.7**
KHC x x 02 07 45.5
KHC x x 02 08 53.0
KHC AMS AMS 02 15 20.0
comp=Z,100nm,17.7s
KHC Kasperske Hory 17.66 331 *e*P **P 02 07 27.7 -1.7**
KHC *e* 02 07 45.5
KHC *e* 02 08 53.0
DPC Dobruska-Polom 17.69 338 *e*P **P 02 07 28.6 -1.3**
DAVOX Davos 17.73 320 P **P 02 07 31.9 +1.6**
comp=Z,0.4nm,0.3s,baz=126,slow=16,SNR=7.4
DAVOX LR LR 02 15 53.7
comp=Z,59nm,19.2s,baz=82,slow=42
DAVOX Davos 17.73 320 P **P 02 07 31.9 +1.6**
DAVOX LR LR 02 15 53.7
UPC Upice 17.93 338 *e*P **P 02 07 31.7 -1.1**
FUR Furstenfeldbru 17.95 325 *e*P **P 02 07 33.1 +0.1**
comp=Z,14nm,1.2s
FUR Furstenfeldbru 17.95 325 *e*P **P 02 07 33.1 +0.1**
FUR pmax pmax
comp=Z,14nm,1.2s
PRU Pruhonice 17.98 334 *e*P **P 02 07 31.4 -2.1**
PRU AMS AMS 02 16 30.0
comp=Z,100nm,11.3s
PRU Pruhonice 17.98 334 *e*P **P 02 07 31.4 -2.1**
DAVA Damuels 18.05 321 ⇑*i*P **P 02 07 34.4 0.0**
comp=Z,7.0nm,0.6s
PVCC Panska Ves 18.42 335 *e*P **P 02 07 38.5 -0.6**
MBDF Montbardon 18.44 310 *e*P **P 02 07 37.6 -1.7**
comp=Z,37nm,0.9s
MBDF Montbardon 18.44 310 *e*P **P 02 07 37.6 -1.7**
MBDF pmax pmax
comp=Z,19nm,0.9s
LPG La Plagne 18.82 312 *e*P **P 02 07 41.9 -2.0**
LPL La Plagne 18.84 312 *e*P **P 02 07 40.4 -3.7**
comp=Z,8.2nm,0.6s
LPL La Plagne 18.84 312 *e*P **P 02 07 40.4 -3.7**
LPL pmax pmax
comp=Z,4.0nm,0.6s
BRG Berggiesshubel 18.93 335 *e*P **P 02 07 44.3 -0.9**
comp=Z,4.9nm,0.8s
BRG Berggiesshubel 18.93 335 *e*P **P 02 07 44.3 -0.9**
comp=Z,4.9nm,0.8s
BRG Berggiesshubel 18.93 335 *e*P **P 02 07 44.3 -0.9**
BRG pmax pmax
comp=Z,5.0nm,0.8s
NKC Novy Kostel 18.98 331 *e*pP 02 07 40.2
GRA1 Grafenberg Arr 19.08 328 *e*P **P 02 07 44.1 -2.8**
comp=Z,21nm,1.4s
GRF Grafenberg Arr 19.08 328 *e*P **P 02 07 44.1 -2.8**
comp=Z,21nm,1.4s
GRF Grafenberg Arr 19.08 328 *e*P **P 02 07 44.1 -2.8**
GRF pmax pmax
comp=Z,21nm,1.4s
GRF Grafenberg Arr 19.08 328 *e*P **P 02 07 44.1 -2.8**
GRF pmax pmax
comp=Z,21nm,1.4s
BFO Black Forest 19.52 321 *e*P **P 02 07 48.5 -3.3**
comp=Z,14nm,1.4s
BFO Black Forest 19.52 321 *e*P **P 02 07 48.5 -3.3**
BFO pmax pmax
comp=Z,14nm,1.4s
CLL Collm 19.63 334 ⇑P **P 02 07 51.2 -1.7**
comp=Z,logA/T=1.0
CLL Collm 19.63 334 ⇑*i*P **P 02 07 51.2 -1.7**
comp=Z,6.0nm,0.6s
CLL Collm 19.63 334 ⇑*i*P **P 02 07 51.2 -1.7**
CLL pmax pmax
comp=Z,6.0nm,0.6s
MOX Moxa 19.63 331 *e*P **P 02 07 50.0 -3.0**
CABF La Chapelle 19.78 314 *e*P **P 02 07 51.9 -2.7**
comp=Z,25nm,1.0s
CABF La Chapelle 19.78 314 *e*P **P 02 07 51.9 -2.7**
CABF pmax pmax
comp=Z,13nm,1.0s
SUW Suwalki 19.83 354 *e*P **P 02 07 54.2 -1.0**
VIVF Saint-Julien-l 19.84 309 *e*P **P 02 07 53.1 -2.2**
comp=Z,28nm,1.2s
VIVF Saint-Julien-l 19.84 309 *e*P **P 02 07 53.1 -2.2**
VIVF pmax pmax
comp=Z,14nm,1.2s
HINF Hinteralfeld 20.00 318 *e*P **P 02 07 54.4 -2.6**
comp=Z,19nm,0.8s
HINF Hinteralfeld 20.00 318 *e*P **P 02 07 54.4 -2.6**
HINF pmax pmax
comp=Z,9.0nm,0.8s
CDF Champ du Feu 20.12 320 *e*P **P 02 07 54.4 -3.9**
comp=Z,22nm,0.7s
CDF Champ du Feu 20.12 320 *e*P **P 02 07 54.4 -3.9**
CDF pmax pmax
comp=Z,11nm,0.7s
HAU Haudompre 20.39 318 *e*P **P 02 07 59.2 -1.9**
comp=Z,22nm,0.8s
HAU *e*R
comp=Z,69nm,17.2s
HAU Haudompre 20.39 318 *e*P **P 02 07 59.2 -1.9**
HAU pmax pmax
comp=Z,11nm,0.8s
HAU MLR MLR
comp=Z,70nm,17.3s,MS3.1
SMF Signal de Mont 21.14 312 *e*P **P 02 08 07.5 -1.4**
comp=Z,15nm,0.8s,mb4.1
SMF Signal de Mont 21.14 312 *e*P **P 02 08 07.5 -1.4**
SMF pmax pmax
comp=Z,8.0nm,0.8s,mb4.1
MEZF Maizieres J'vi 21.38 318 *e*P **P 02 08 10.3 -0.9**
comp=Z,52nm,0.9s,mb4.6
LOR Lormes 21.43 314 *e*P **P 02 08 10.1 -1.6**
comp=Z,9.8nm,0.7s,mb4.0
LOR *e*R
comp=Z,42nm,22.8s
LOR Lormes 21.43 314 *e*P **P 02 08 10.1 -1.6**
LOR pmax pmax
comp=Z,5.0nm,0.7s,mb4.0
LOR MLR MLR
comp=Z,40nm,22.8s,MS2.8
WLF Walferdange 21.48 322 *e*P **P 02 08 07.4 -4.7**
comp=Z,10.0nm,0.9s,mb4.2
WLF Walferdange 21.48 322 *e*P **P 02 08 07.4 -4.7**
WLF pmax pmax
comp=Z,10.0nm,0.9s,mb4.2
AVF Avril sur Loir 21.51 312 *e*P **P 02 08 11.2 -1.3**
comp=Z,11nm,0.9s,mb4.0
SSF Saint Saulge 21.54 313 *e*P **P 02 08 11.7 -1.1**
comp=Z,8.6nm,0.7s,mb4.3
OBN Obninsk 21.92 15 *i* P **P 02 08 18.1 +1.5**
OBN *e* 02 08 39.3
OBN *i* 02 12 18.6
OBN *e*S **S 02 12 24.0 +12**
OBN pmax pmax
comp=Z,11nm,1.0s,mb4.2
TCF Toulx Ste Croi 22.00 310 *e*P **P 02 08 16.2 -1.2**
GIVF Givet 22.43 321 *e*P **P 02 08 20.7 -0.9**
BAIF Baives 22.72 321 *e*P **P 02 08 24.5 0.0**
comp=Z,32nm,0.6s,mb4.6
BAIF Baives 22.72 321 *e*P **P 02 08 24.5 0.0**
BAIF pmax pmax
comp=Z,16nm,0.6s,mb4.6
VSU Vasula 24.15 0 *i* P **P 02 08 38.8 +0.5**
LDF La Druitiere 24.41 314 *e*P **P 02 08 39.8 -1.2**
comp=Z,11nm,0.7s,mb4.1
LDF La Druitiere 24.41 314 *e*P **P 02 08 39.8 -1.2**
LDF pmax pmax
comp=Z,5.0nm,0.6s,mb4.1
FLN La Foliniere 24.70 314 *e*P **P 02 08 43.3 -0.5**
comp=Z,29nm,0.9s,mb4.5
FLN *e*R
comp=Z,36nm,21.5s
FLN La Foliniere 24.70 314 *e*P **P 02 08 43.3 -0.5**
FLN pmax pmax
comp=Z,15nm,0.9s,mb4.5
FLN MLR MLR
comp=Z,40nm,21.5s,MS2.9
GRR Gorron 24.77 313 *e*P **P 02 08 44.1 -0.4**
comp=Z,7.5nm,0.6s,mb4.1
GRR Gorron 24.77 313 *e*P **P 02 08 44.1 -0.4**
GRR pmax pmax
comp=Z,4.0nm,0.6s,mb4.1
ESDC Sonseca Array 24.91 291 P **P 02 08 46.7 +0.9**
comp=Z,1.3nm,0.5s,mb3.7,baz=80,slow=9.4,SNR=16
SGMF Saint Gilles 25.76 312 *e*P **P 02 08 54.2 +0.4**
QUIF Quistinic 26.02 310 *e*P **P 02 08 55.6 -0.6**
comp=Z,13nm,0.7s,mb4.3
QUIF Quistinic 26.02 310 *e*P **P 02 08 55.6 -0.6**
QUIF pmax pmax
comp=Z,6.0nm,0.7s,mb4.2
ROSF Rostrenen 26.24 311 *e*P **P 02 08 57.3 -0.9**
comp=Z,6.6nm,0.5s,mb4.1
ROSF Rostrenen 26.24 311 *e*P **P 02 08 57.3 -0.9**
ROSF pmax pmax
comp=Z,3.0nm,0.5s,mb4.1
FINES FINESS Array B 27.14 359 P **P 02 09 05.3 -1.1**
comp=Z,1.0nm,0.4s,mb3.7,baz=154,slow=10,SNR=14
HFS Hagfors 27.16 346 P **P 02 09 05.2 -1.5**
comp=Z,1.7nm,0.6s,mb3.8,baz=120,slow=12,SNR=8.4
KAF Kangasniemi 27.81 360 *e*p **P 02 09 10.9 -1.6**
NB2 NORSAR Subarra 28.51 344 P **P 02 09 17.1 -1.7**
comp=Z,0.7nm,0.8s,mb3.4,baz=146,slow=8.6
NB2 NORSAR Subarra 28.51 344 P **P 02 09 17.1 -1.7**
NB2 pmax pmax
comp=Z,1.0nm,0.8s,mb3.6
NOA NORSAR Array B 28.51 344 P **P 02 09 17.7 -1.1**
comp=Z,1.1nm,0.8s,mb3.6,baz=165,slow=9.4,SNR=4.2
EKA Eskdalemuir Ar 29.40 325 P **P 02 09 25.6 -1.1**
comp=Z,1.5nm,0.5s,mb4.0,baz=120,slow=9.4,SNR=9.8
ARCES ARCESS Array B 35.27 359 P **P 02 10 16.3 -1.6**
comp=Z,2.0nm,0.5s,mb4.3,baz=168,slow=7.0,SNR=17
KEV Kevo 35.49 0 *e*p **P 02 10 19.4 -0.3**
BVAR Borovoye Array 36.09 45 P **P 02 10 25.6 +0.6**
comp=Z,0.2nm,0.5s,mb3.4,baz=270,slow=10,SNR=2.3
DBIC Dimbokro 39.99 234 P **P 02 10 59.5 +1.6**
comp=Z,1.4nm,0.5s,mb4.0,baz=32,slow=8.9,SNR=7.6
DBIC Dimbokro 39.99 234 P **P 02 10 59.5 +1.6**
KURK Kurchatov 40.81 50 *e*P **P 02 11 04.8 +0.5**
comp=Z,3.1nm,0.9s,mb3.9
KURK Kurchatov 40.81 50 *e*P **P 02 11 04.8 +0.5**
comp=Z,3.1nm,0.9s,mb3.9
KURK Kurchatov 40.81 50 *e*P **P 02 11 04.8 +0.5**
KURK pmax pmax
comp=Z,3.0nm,0.9s,mb3.9
MKAR Makanchi Array 43.26 56 P **P 02 11 25.9 +1.4**
comp=Z,1.5nm,0.7s,mb3.8,baz=268,slow=6.9,SNR=7.3
MATP Matopo 54.47 178 P **P 02 12 53.5 +2.2**
comp=Z,1.6nm,0.8s,mb4.0,baz=23,slow=10,SNR=6.1
ZAK Zakamensk 56.42 48 *e*P **P 02 13 07.0 +2.0**
ZAK pmax pmax
comp=Z,1.0nm,1.0s,mb3.8
SONM Songino Array 59.11 51 P **P 02 13 25.9 +1.9**
comp=Z,1.2nm,0.8s,mb4.0,baz=286,slow=7.5,SNR=6.8
SCHQ Schefferville 64.58 320 P **P 02 14 00.7 +0.2**
comp=Z,4.5nm,0.5s,mb4.8,baz=63,slow=5.1,SNR=21
SCHQ Schefferville 64.58 320 P **P 02 14 00.6 +0.2**
BILL Bilibino 73.58 15 *e*P **P 02 14 54.3 -1.2**
comp=Z,100nm,19.0s
BILL Bilibino 73.58 15 *e*P **P 02 14 54.3 -1.2**
BILL pmax pmax
comp=Z,1.0nm,0.8s,mb3.8
BILL MLR MLR
comp=Z,100nm,19.0s,MS4.1
ILAR Eielson Array 81.10 357 P **P 02 15 38.6 +1.2**
comp=Z,0.6nm,0.9s,mb3.5,baz=346,slow=4.5,SNR=6.2
MJAR Matsushiro Arr 85.00 49 P **P 02 16 00.2 +2.3**
comp=Z,0.5nm,0.4s,mb4.0,baz=319,slow=5.2,SNR=4.0
MJAR Matsushiro Arr 85.00 49 P **P 02 16 00.2 +2.3**
MJAR pmax pmax
comp=Z,1.0nm,0.4s
NEW Newport 91.61 337 P **P 02 16 31.3 +2.1**
comp=Z,0.9nm,0.6s,mb4.3,baz=43,slow=9.7,SNR=4.2
NEW Newport 91.61 337 P **P 02 16 31.3 +2.1**

*IDC **15** 02:50:57.0±1.0, 0.49N×126.36E, mb4.0/5, mb1 4.1/5, mb1mx3.9/15, mbtmp4.0/5, Error ellipse: s-maj=66.6km s-min=20.9km az=74.0*
*NEIC **15** 02:51:01.4±0.5, 0.47N×126.34E, h30km, mb4.2/2, Error ellipse: s-maj=35.5km s-min=9.9km az=77.0*
ISC 15 02:50:59.8±0.7, 0.5N±0.1×126.3E±0.3, h33km, n10, σ0=43/10, mb4.2/7, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.46**	**182**	*e*P	**P**	**02 55 14.5**	**-0.6**
	6.6nm,0.9s						
WRAB	**Tennant Creek**	**21.76**	**159**	*e*P	**P**	**02 55 50.4**	**-0.1**
	23nm,0.6s,mb4.8						
STKA	**Stephens Creek**	**35.28**	**157**	P	**P**	**02 57 53.9**	**+0.1**
	5.0nm,0.9s,mb4.4,baz=322,slow=9.6,SNR=8.5						
STKA	**Stephens Creek**	**35.28**	**157**	*e*P	**P**	**02 57 54.4**	**+0.6**
MJAR	**Matsushiro Arr**	**37.57**	**16**	P	**P**	**02 58 12.6**	**-0.5**
	1.8nm,0.8s,mb3.9,baz=185,slow=9.3,SNR=4.9						
SONM	**Songino Array**	**50.25**	**343**	P	**P**	**02 59 55.3**	**+0.4**
	0.5nm,0.4s,mb3.9,baz=162,slow=8.2,SNR=3.8						
MKAR	**Makanchi Array**	**59.99**	**327**	P	**P**	**03 01 05.8**	**+0.2**
	1.4nm,0.5s,mb4.2,baz=119,slow=8.3,SNR=11						
MKAR				PcP	PcP	03 01 50.6	-0.6
	0.9nm,0.6s,baz=122,slow=4.2,SNR=4.4						
KURK	**Kurchatov**	**64.25**	**329**	*e*P	**P**	**03 01 33.5**	**-0.4**
	2.3nm,0.4s,mb4.6						
VNDA	**Vanda**	**80.26**	**173**	P	**P**	**03 03 09.1**	**+0.6**
	0.6nm,0.8s,mb3.6,baz=306,slow=5.1,SNR=5.3						
VNDA	**Vanda**	**80.26**	**173**	P	**P**	**03 03 09.1**	**+0.6**

*IDC **15** 03:15:51.0±0.5, 3.71S×140.05E, mb4.7/15, mb1 4.8/16, mb1mx4.8/17, mbtmp4.8/16, ML5.0/1, MS5.1/16, Ms1 5.1/16, ms1mx5.0/20, Error ellipse: s-maj=21.1km s-min=12.7km az=77.0*
*CSEM **15** 03:15:51.7, 3.82S×140.12E, h20km, mb5.5*
*MOS **15** 03:15:53.8±1.2, 3.68S×140.14E, h33km, mb5.4/28, MS5.0/9, Error ellipse: s-maj=14.0km s-min=6.9km az=103.7*
*BJI **15** 03:15:54.2, 3.65S×140.48E, h40km, mB5.5, mb5.0, Ms5.2, Msz4.9*
*HRVD **15** 03:15:55.3±0.1, 3.72S×140.25E, h12km, MW5.6/71, Centroid moment Tensor Solution. LP body waves: s62, c136; Mantle waves: s71, c170; Half duration: 1s5 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.65±.04; $M_{\theta\theta}$-1.48±.03; $M_{\phi\phi}$2.13±.04; $M_{r\theta}$-2.11±.09; $M_{\theta\phi}$1.22±.03; $M_{\phi r}$0.30±.09; Best double couple: $M_0$3.001×10^{17} NP1: ϕ_s160°, δ58°, λ-158° NP2: ϕ_s57°, δ71°, λ-34°. Principal axes: T 2.553, Plg9°, Azm111°; N .893, Plg52°, Azm212°; P -3.449, Plg37°, Azm15°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **15** 03:15:55.3±0.2, 3.72S×140.12E, h30km, mb5.2/32, MS5.0/11, MW5.5 Error ellipse: s-maj=8.9km s-min=6.4km az=89.0, Moment Tensor Solution. s20 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.96; $M_{\theta\theta}$-0.18; $M_{\phi\phi}$2.14; $M_{r\theta}$-0.78; $M_{\theta\phi}$0.22; $M_{\phi r}$0.08; Best double couple: $M_0$2.2×10^{17} NP1: ϕ_s25°, δ49°, λ-62°. NP2: ϕ_s166°, δ49°, λ-118°. Principal axes: T 2.16, Plg0°, Azm275°; N .1, Plg21°, Azm185°; P -2.26, Plg69°, Azm5°;*
NEIC Felt [III] at Wamena and [II] at Jayapura.
ISC 15 03:15:52.8±1.3, 3.75S±0.04×140.19E±0.04, h25km±8km, h19km±2.6km: pP-P, n216, σ1§17/191, mb5.1/69, MS5.0/51, 8C-8D, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**11.75**	**220**	*e*P	**P**	**03 18 49.2**	**+7.1**
	410nm,0.5s						
KAKA				*e*S	**S**	**03 20 58.0**	**+4.6**
WRAB	**Tennant Creek**	**17.06**	**199**	*e*P	**P**	**03 19 47.7**	**-3.9**
	390nm,0.8s						
WRAB				*e*S	**S**	**03 22 49.2**	**-10**
WRAB	**Tennant Creek**	**17.06**	**199**	*e*P	**P**	**03 19 47.7**	**-3.9**
WRAB				pmax	pmax		
	comp=Z,391nm,0.8s						
CTA	**Charters Tower**	**17.28**	**160**	*e*P	**P**	**03 19 53.9**	**-0.4**
	comp=Z,65nm,0.7s						
CTA				*i* S	**S**	**03 23 11.8**	**+7.7**
CTA	**Charters Tower**	**17.28**	**160**	P	**P**	**03 19 53.6**	**-0.7**
	comp=Z,3.4nm,0.3s,baz=332,slow=13,SNR=34						
CTA				LR	LR	03 26 00.7	
	comp=Z,7μm,20.0s,baz=346,slow=35						
CTA	**Charters Tower**	**17.28**	**160**	*e*P	**P**	**03 19 53.9**	**-0.4**
CTA				*i* S	**S**	**03 23 11.8**	**+7.7**
CTA				pmax	pmax		
	comp=Z,65nm,0.7s						
CTAO	**Charters Tower**	**17.28**	**160**	*e*P	**P**	**03 19 53.8**	**-0.6**
	comp=Z,70nm,0.6s						
CTAO	**Charters Tower**	**17.28**	**160**	*e*P	**P**	**03 19 53.8**	**-0.5**
CTAO				pmax	pmax		
	comp=Z,70nm,0.6s						
DAV	**Davao City (W)**	**18.12**	**306**	*e*P	**P**	**03 20 10.0**	**+5.2**
BUKP	**Musuan**	**19.01**	**307**	*e*P	**P**	**03 20 17.9**	**+2.3**
FITZ	**Fitzroy Crossi**	**20.16**	**224**	⇓*i*P	**P**	**03 20 27.3**	**-1.1**
	comp=Z,162nm,0.6s						
FITZ				*e*S	**S**	**03 24 01.4**	**-6.8**
FITZ	**Fitzroy Crossi**	**20.16**	**224**	P	**P**	**03 20 26.5**	**-1.9**
	comp=Z,63nm,0.7s,baz=33,slow=8.5,SNR=45						
FITZ				LR	LR	03 29 11.1	
	comp=Z,11μm,22.0s,MS5.2,baz=63,slow=40						
HNR	**Honiara**	**20.41**	**107**	P	**P**	**03 20 31.2**	**+0.2**
	comp=Z,432nm,0.7s,baz=7.3,slow=4.1,SNR=7.9						
HNR	**Honiara**	**20.41**	**107**	*e*P	**P**	**03 20 29.9**	**-1.2**
	comp=Z,1μm,1.0s						
HNR	**Honiara**	**20.41**	**107**	*e*P	**P**	**03 20 29.9**	**-1.2**
HNR				pmax	pmax		
	comp=Z,1μm,1.0s						
TBP	**Tagbilaran**	**21.05**	**309**	*e*P	**P**	**03 20 37.5**	**-0.1**
SNPH	**Sibulan**	**21.32**	**308**	*e*P	**P**	**03 20 41.1**	**+0.7**
RCP	**Roxas**	**23.08**	**311**	⇑*e*P	**P**	**03 20 59.7**	**+1.8**
TSM	**Tawau**	**23.69**	**290**	P	**P**	**03 21 06.5**	**+2.6**
SJMP	**San Jose**	**24.87**	**311**	*e*P	**P**	**03 21 17.7**	**+2.4**
PPR	**Puerto Princes**	**25.25**	**302**	⇓*i*P	**P**	**03 21 20.2**	**+1.3**
KKM	**Kota Kinabalu**	**25.84**	**292**	P	**P**	**03 21 24.9**	**+0.5**
KKM	**Kota Kinabalu**	**25.84**	**292**	*e*P	**P**	**03 21 24.0**	**-0.5**
MBWA	**Marble Bar**	**26.36**	**227**	*e*P	**P**	**03 21 28.7**	**-0.5**
	comp=Z,58nm,0.9s,mb5.1						
MBWA				LR	LR		
	comp=Z,5μm,22.0s,MS5.0						
STKA	**Stephens Creek**	**28.01**	**177**	*e*P	**P**	**03 21 43.1**	**-1.0**
	comp=Z,6.1nm,0.6s,mb4.4						
STKA				*e*S	**S**	**03 26 24.6**	**-0.7**
STKA	**Stephens Creek**	**28.01**	**177**	P	**P**	**03 21 43.6**	**-0.5**
	comp=Z,15nm,1.2s,mb4.5,baz=326,slow=8.9,SNR=6.4						
STKA				LR	LR	03 34 00.8	
	comp=Z,19μm,19.1s,MS5.7,baz=350,slow=39						
FORT	**Forrest**	**29.22**	**202**	*e*P	**P**	**03 21 54.6**	**-0.4**
	comp=Z,23nm,0.6s,mb5.1						
KSM	**Kuching**	**30.31**	**279**	*e*P	**P**	**03 22 04.1**	**-0.8**
CBIJ	**Chichi jima**	**30.73**	**3**	LR	LR	03 32 38.5	
	comp=Z,3μm,21.8s,MS4.9,baz=348,slow=33						
ADE	**Adelaide**	**31.09**	**182**	*e*P	**P**	**03 22 15.9**	**+4.4**
DZM	**Mont Dzumac**	**31.30**	**128**	P	**P**	**03 22 14.6**	**+1.1**
	comp=Z,8.8nm,0.6s,mb4.8,baz=272,slow=16,SNR=9.7						
JOW	**Kunigami**	**32.51**	**340**	LR	LR	03 35 25.1	
	comp=Z,3μm,18.7s,MS5.0,baz=297,slow=36						
KLBR	**Kellerberrin**	**34.82**	**215**	*e*P	**P**	**03 22 43.3**	**-0.7**
	comp=Z,49nm,1.3s,mb5.3						
QZH	**Quanzhou**	**35.41**	**325**	⇑*i*P	**P**	**03 22 50.0**	**+0.9**
QZH				S	**S**	**03 28 22.5**	**+1.0**
QZH				LR	LR		
	comp=N,2μm,16.9s,MS5.1						
QZH				LR	LR		
	comp=E,2μm,20.2s,MS5.1						
QZH				LR	LR		
	comp=Z,3μm,19.2s,MS5.0						
NWAO	**Narrogin (SRO)**	**36.10**	**214**	P	**P**	**03 22 54.6**	**-0.3**
	comp=Z,11nm,0.9s,mb4.8,baz=169,slow=16,SNR=3.3						
NWAO				LR	LR	03 37 33.9	
	comp=Z,3μm,20.6s,MS5.0,baz=38,slow=36						
NWAO	**Narrogin (SRO)**	**36.10**	**214**	*e*P	**P**	**03 22 54.4**	**-0.5**
JHJ	**Hachijo jima 2**	**36.67**	**359**	LR	LR	03 35 28.2	
	comp=Z,6μm,20.0s,MS5.4,baz=253,slow=32						
KGM	**Kluang**	**37.30**	**278**	P	**P**	**03 23 08.8**	**+3.7**
GZH	**Guangzhou**	**37.39**	**317**	P	**P**	**03 23 08.1**	**+2.3**
GZH				PP	PP	03 24 33.8	0.0
GZH				S	**S**	**03 28 51.3**	**-0.6**
GZH				LR	LR		
	comp=N,2μm,19.0s						
GZH				LR	LR		
	comp=E,1μm,27.0s						
GZH				LR	LR		
	comp=Z,2μm,22.4s,MS4.7						
QIZ	**Qiongzhong**	**37.48**	**308**	P	**P**	**03 23 06.4**	**-0.1**
QIZ				PP	PP	03 24 35.6	+0.7
QIZ				S	**S**	**03 28 51.8**	**-1.5**
QIZ				SS	SS	03 31 25.3	-1.3
QIZ				AMB	AMB		
	comp=Z,35nm,1.4s,mb5.0						
QIZ				AMB	AMB		
	comp=Z,487nm,9.1s						
QIZ				LR	LR		
	comp=E,973nm,18.7s						
QIZ				LR	LR		
	comp=Z,988nm,16.9s,MS4.7						
QIZ	**Qiongzhong**	**37.48**	**308**	*e*P	**P**	**03 23 06.2**	**-0.4**
	comp=Z,67nm,1.4s,mb5.3						
JNU	**Nakatsue**	**37.72**	**347**	P	**P**	**03 23 08.0**	**-0.4**
	comp=Z,19nm,0.8s,mb4.9,baz=169,slow=11,SNR=12						
JNU				LR	LR	03 37 54.8	
	comp=Z,2μm,18.8s,MS5.0,baz=306,slow=35						
SSE	**Sheshan**	**39.11**	**334**	P	**P**	**03 23 20.3**	**+0.2**
SSE				AP	pP	03 23 27.9	+0.3
SSE				PP	PP	03 24 52.5	-1.3
SSE				PCP	PcP	03 25 27.4	-2.7
SSE				SCP		03 29 14.9	
SSE				S	**S**	**03 29 22.3**	**+4.5**
SSE				AMB	AMB		
	comp=Z,24nm,0.7s,mb5.0						
SSE				AMB	AMB		
	comp=Z,447nm,5.3s						
SSE				LR	LR		
	comp=N,624nm,21.1s,MS4.6						
SSE				LR	LR		
	comp=E,620nm,21.5s,MS4.6						
SSE				LR	LR		
	comp=Z,978nm,19.1s,MS4.7						
IPM	**Ipoh**	**40.00**	**282**	P	**P**	**03 23 29.1**	**+1.4**
MJAR	**Matsushiro Arr**	**40.13**	**358**	P	**P**	**03 23 26.4**	**-2.1**
	comp=Z,4.0nm,0.7s,mb4.2,baz=180,slow=9.9,SNR=12						
MJAR				LR	LR	03 38 22.5	

comp=Z,1μm,21.3s,MS4.7,baz=160,slow=34
MJAR Matsushiro Arr 40.13 358 P **P 03 23 26.4 -2.1**
MJAR LR LR 03 38 22.5
MAJO Matsushiro 40.13 358 *e*P **P 03 23 27.0 -1.5**
comp=Z,133nm,1.8s,mb5.4
MAJO LR LR
comp=Z,2μm,22.0s,MS4.9
MAJO Matsushiro 40.13 358 *e*P **P 03 23 27.0 -1.5**
MAJO pmax pmax
comp=Z,133nm,1.8s,mb5.4
MAJO MLR MLR
comp=Z,2μm,22.0s,MS4.9
MAT Matsushiro 40.13 358 P **P 03 23 26.3 -2.2**
MAT S **S 03 29 30.0 -3.1**
MAT Matsushiro 40.13 358 *e*P **P 03 23 26.0 -2.5**
comp=Z,162nm,2.2s,mb5.4
MAT *e*S **S 03 29 31.0 -2.1**
MAT LR LR
comp=Z,2μm,21.0s,MS5.0
MAT Matsushiro 40.13 358 *e*P **P 03 23 26.0 -2.5**
MAT *e*S **S 03 29 31.0 -2.1**
MAT pmax pmax
comp=Z,162nm,2.2s,mb5.4
MAT MLR MLR
comp=Z,2μm,21.0s,MS5.0
KULM Kulim 40.51 283 *e*P **P 03 23 32.8 +1.0**
SNG Songkhla 40.96 285 P **P 03 23 36.5 +1.0**
comp=Z,240nm,0.9s,mb5.8
NJ2 Nanjing 40.98 332 *e*P **P 03 23 37.6 +2.1**
NJ2 AP pP 03 23 41.6 -1.5
NJ2 PP PP 03 25 17.6 +4.6
NJ2 S **S 03 29 52.0 +6.2**
NJ2 XS 03 29 59.0
NJ2 AMB AMB
comp=Z,30nm,0.8s,mb5.0
NJ2 AMB AMB
comp=Z,370nm,4.9s
NJ2 LR LR
comp=N,9μm,21.1s,MS5.8
NJ2 LR LR
comp=E,11μm,23.6s,MS5.8
NJ2 LR LR
comp=Z,1μm,23.0s,MS4.8
INCN Inchon 42.92 344 *e*P **P 03 23 51.1 -0.3**
comp=Z,108nm,1.3s,mb5.4
NST Nakhon Sawan 44.09 297 P **P 03 24 00.0 -1.2**
GYA Guiyang 44.20 315⇑*i*P **P 03 24 02.9 +0.9**
GYA AP pP 03 24 17.3 +7.8
GYA PP PP 03 25 45.8 -0.6
GYA S **S 03 30 29.8 -3.4**
GYA AMB AMB
comp=Z,40nm,0.8s,mb5.2
GYA AMB AMB
comp=Z,560nm,9.6s
GYA LR LR
comp=N,1μm,18.3s,MS5.0
GYA LR LR
comp=E,1μm,18.0s,MS5.0
GYA LR LR
comp=Z,1μm,18.0s,MS4.9
ENH Enshi 44.79 321 *e*P **P 03 24 06.5 -0.2**
comp=Z,26nm,0.8s,mb5.1
ENH LR LR
comp=Z,847nm,20.0s,MS4.7
NANT Nan 44.87 301⇑P **P 03 24 05.0 -2.5**
comp=Z,138nm,1.0s,mb5.7
TIA Tai'an 45.23 333 *e*P **P 03 24 09.8 -0.3**
TIA *e*S **S 03 30 46.5 -1.4**
TIA LR LR
comp=N,814nm,16.0s
DL2 Dalian 45.78 340 PR **P 03 24 14.0 -0.4**
DL2 S **S 03 30 58.8 +3.1**
DL2 AMB AMB
comp=Z,20nm,0.6s,mb5.2
DL2 AMB AMB
comp=Z,390nm,7.1s
DL2 LR LR
comp=N,550nm,16.7s,MS4.6
DL2 LR LR
comp=E,340nm,17.5s,MS4.6
DL2 LR LR
comp=Z,780nm,20.0s,MS4.7
KMI Kunming 46.32 310 P **P 03 24 17.9 -0.9**
KMI PCP PcP 03 25 53.3 -1.0
KMI PP PP 03 26 07.3 -0.3
KMI PPP PPP 03 26 48.0 -4.3
KMI PCS 03 29 50.8
KMI S **S 03 31 01.8 -1.8**
KMI AMB AMB
comp=Z,21nm,1.5s,mb4.8
KMI AMB AMB
comp=Z,201nm,4.9s
KMI LR LR
comp=N,505nm,17.0s,MS4.8
KMI LR LR
comp=E,830nm,17.7s,MS4.8
KMI LR LR
comp=Z,1μm,23.5s
CHG Chiang Mai 46.38 300⇑P **P 03 24 19.9 +0.5**
comp=Z,20nm,0.9s,mb5.0
ASAJ Asahikawa 47.70 2 P **P 03 24 29.3 -0.2**
comp=Z,16nm,0.9s,mb5.0,baz=205,slow=8.3,SNR=5.6
ASAJ LR LR 03 45 22.6
comp=Z,776nm,19.2s,MS4.7,baz=185,slow=37
XAN Xi'an 47.77 324 P **P 03 24 29.4 -0.8**
XAN S **S 03 31 23.4 -0.7**
XAN AMB AMB
comp=Z,23nm,1.5s,mb5.0
XAN AMB AMB
comp=Z,523nm,11.5s
XAN LR LR
comp=N,760nm,33.5s,MS4.7
XAN LR LR
comp=E,1μm,29.1s,MS4.7
XAN LR LR
comp=Z,1μm,19.4s
SNY Shenyang 47.82 343⇑P **P 03 24 28.5 -2.0**
SNY AP pP 03 24 36.4 -1.7
SNY S **S 03 31 27.6 +2.9**
SNY XS 03 31 40.8
SNY AMB AMB
comp=Z,510nm,11.0s
SNY LR LR
comp=N,2μm,17.2s,MS5.1
SNY LR LR
comp=E,1μm,19.2s,MS5.1
SNY LR LR
comp=Z,2μm,16.7s,MS5.2
AFI Afiamalu 48.43 105 P **P 03 24 36.5 +0.9**
comp=Z,181nm,0.9s,mb6.1,baz=119,slow=3.9,SNR=7.2
AFI Afiamalu 48.43 105 *e*P **P 03 24 35.9 +0.4**
comp=Z,451nm,1.1s,mb6.4
AFI Afiamalu 48.43 105 *e*P **P 03 24 35.9 +0.4**
AFI pmax pmax
comp=Z,451nm,1.1s,mb6.4
CD2 Chengdu 48.94 317 P **P 03 24 39.4 +0.1**
CD2 PP PP 03 26 33.1 +0.3
CD2 S **S 03 31 45.0 +4.3**
CD2 SS SS 03 35 11.0 +3.9
MDJ Mudanjiang 49.08 350 P **P 03 24 41.0 +0.9**
MDJ PP PP 03 26 31.3 -2.7
MDJ S **S 03 31 48.1 +5.7**
MDJ AMB AMB
comp=Z,19nm,2.2s,mb4.7
MDJ AMB AMB
comp=Z,516nm,9.7s
MDJ LR LR
comp=N,2μm,19.8s,MS5.1
MDJ LR LR
comp=E,1μm,18.0s,MS5.1
MDJ LR LR
comp=Z,2μm,20.7s,MS5.2
MDJ Mudanjiang 49.08 350 *e*P **P 03 24 39.2 -0.9**
comp=Z,12nm,0.8s,mb5.0
CN2 Changchun 49.16 346 *e*P **P 03 24 40.1 -0.7**
CN2 *e*S **S 03 31 44.9 +1.4**
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
CN2 AMB AMB
comp=Z,550nm,4.0s
CN2 LR LR
comp=N,2μm,18.0s,MS5.2
CN2 LR LR
comp=E,1μm,18.0s,MS5.2
CN2 LR LR
comp=Z,2μm,20.0s,MS5.1

YSS Yuzh-Sakhalins 50.54 2 *e*P **P 03 24 51.5 +0.2**
YSS LR LR
comp=Z,2μm,21.0s,MS5.2
YSS Yuzh-Sakhalins 50.54 2⇑*e*P **P 03 24 51.0 -0.3**
YSS *e* 03 25 01.2
YSS *e*S **S 03 32 08.0 +5.4**
YSS pmax pmax
comp=Z,20nm,0.8s,mb5.1
HHC Hu-ho-hao-te 51.53 332 *e*P **P 03 24 59.4 +0.5**
HHC PP PP 03 27 00.5 +3.5
HHC PCS 03 30 08.4
HHC S **S 03 32 20.4 +4.1**
HHC AMB AMB
comp=Z,58nm,1.1s,mb5.4
HHC AMB AMB
comp=Z,2μm,9.4s
HHC LR LR
comp=N,2μm,20.2s,MS5.4
HHC LR LR
comp=E,3μm,17.8s,MS5.4
HHC LR LR
comp=Z,5μm,26.2s
BTO Baotou 52.07 331 *e*P **P 03 25 01.0 -2.0**
BTO S **S 03 32 21.6 -2.1**
LZH Lanzhou 52.20 323⇑P **P 03 25 04.9 +0.9**
LZH PP PP 03 27 05.0 +1.7
LZH S **S 03 32 30.3 +4.7**
LZH SS SS 03 36 02.5 +1.1
LZH AMB AMB
comp=Z,51nm,1.7s,mb5.2
LZH AMB AMB
comp=Z,250nm,4.0s
LZH LR LR
comp=E,1μm,15.1s
LZH LR LR
comp=Z,2μm,16.8s,MS5.1
KLR Kul'dur 53.27 353 *e*P **P 03 25 08.5 -3.3**
KLR *e* 03 26 13.5
KLR *e*PPP PPP 03 28 14.0 -6.4
KLR *e*S **S 03 32 46.0 +6.0**
KLR *e*SSS SSS 03 38 08.5 -0.1
KLR pmax pmax
comp=N,60nm,2.2s
KLR pmax pmax
comp=Z,110nm,2.2s,mb5.4
KLR pmax pmax
comp=N,600nm,11.0s
KLR pmax pmax
comp=Z,900nm,11.0s
KLR smax
comp=N,1μm,7.0s
KLR smax
comp=E,700nm,7.0s
KLR MLR MLR
comp=N,800nm,16.0s,MS5.0
KLR MLR MLR
comp=E,700nm,16.0s,MS5.0
KLR MLR MLR
comp=Z,900nm,16.0s,MS4.9
HIA Hailar 55.71 344 *e*P **P 03 25 29.0 -0.6**
comp=Z,63nm,1.4s,mb5.5
HIA LR LR
comp=Z,3μm,21.0s,MS5.3
HIA Hailar 55.71 344 *e*P **P 03 25 29.0 -0.6**
HIA pmax pmax
comp=Z,63nm,1.4s
HIA MLR MLR
comp=Z,3μm,21.0s
GTA Gaotai 56.78 323 *e*P **P 03 25 37.0 -0.5**
GTA PCP PcP 03 26 28.4 -4.6
GTA PP PP 03 27 45.3 0.0
GTA PPP PPP 03 29 03.9 -0.3
GTA S **S 03 33 30.8 +3.7**
GTA SS SS 03 37 17.4 +1.1
GTA AMB AMB
comp=Z,9.0nm,0.9s,mb4.8
GTA AMB AMB
comp=Z,444nm,6.8s
GTA LR LR
comp=N,554nm,16.0s,MS4.8
GTA LR LR
comp=E,417nm,16.7s,MS4.8
GTA LR LR
comp=Z,692nm,17.1s,MS4.8
LSA Lhasa 57.51 309 P **P 03 25 44.3 +1.5**
LSA S **S 03 33 41.8 +4.9**
LSA LR LR
comp=N,270nm,18.7s,MS4.7
LSA LR LR
comp=E,480nm,22.4s,MS4.7
LSA LR LR
comp=Z,560nm,22.4s,MS4.6
LSA Lhasa 57.51 309 *e*P **P 03 25 43.1 +0.3**
PET Petropavlovsk 58.67 13*d i*P **P 03 25 50.5 0.0**
PET *e*S **S 03 33 50.8 -0.9**
PET pmax pmax
comp=Z,500nm,12.1s
PET pmax pmax
comp=Z,800nm,16.3s
PET smax
comp=N,1μm,18.5s
SONM Songino Array 59.29 334 P **P 03 25 54.2 -0.7**
comp=N,1.4nm,0.6s,mb4.2,baz=154,slow=6.3,SNR=9.3
SONM LR LR 03 52 15.5
comp=N,1μm,21.2s,MS5.0,baz=144,slow=37
CIT Chita 59.99 341 *e*P **P 03 26 00.3 +0.6**
CIT *e* 03 26 41.1
CIT pmax pmax
comp=Z,12nm,2.3s,mb4.5
CLNS Chul'man 61.66 351*c i*P **P 03 26 12.4 +1.4**
CLNS *e**PP pP 03 26 18.0 -0.8
CLNS *e*S **S 03 34 45.1 +15**
CLNS *e*PS PS 03 35 02.1 +12
CLNS pmax pmax
comp=Z,16nm,1.0s,mb5.1
CLNS pmax pmax
comp=N,12nm,0.7s
CLNS pmax pmax
comp=E,7.0nm,0.9s
CLNS pmax pmax
comp=Z,13nm,1.1s,mb5.0
CLNS pmax pmax
comp=N,9.0nm,1.0s
CLNS pmax pmax
comp=E,11nm,1.0s
CLNS smax
comp=N,377nm,3.2s
CLNS smax
comp=Z,132nm,3.7s
CLNS smax
comp=E,170nm,3.3s
MDRS Chennai 61.81 287 *ex* **P 03 26 11.0 -1.5**
MDRS *ex* **S 03 34 36.0 +3.5**
MDRS *ex* SS 03 38 34.0 -2.2
ZAK Zakamensk 62.55 334 *e*P **P 03 26 16.9 -0.1**
ZAK pmax pmax
comp=Z,12nm,1.0s,mb5.0
DRV Dumont d'Urvil 62.80 180 S **S 03 35 02.0 +18**
FX1 Attu Island--F 62.89 22 P **P 03 26 19.5 +0.3**
comp=Z,40nm,0.9s,mb5.6,baz=79,slow=13,SNR=8.9
FX1 LR LR 03 48 30.9
comp=Z,97nm,21.4s,MS3.9,baz=232,slow=31
FX1 Attu Island--F 62.89 22 *e*P **P 03 26 19.1 -0.1**
SMY Shemya 63.12 22 *e*P **P 03 26 22.2 +1.5**
IRK Irkutsk 63.53 336 *e*P **P 03 26 23.0 -0.5**
IRK pmax pmax
comp=Z,76nm,3.3s
MA2 Magadan 63.69 6 *i*P **P 03 26 24.3 0.0**
MA2 pmax pmax
comp=Z,91nm,2.2s,mb5.4
TRD Trivandrum 64.22 281 *ex* x 03 26 46.8
BOD Bodaibo 64.89 345 *e*P **P 03 26 27.5 -4.7**
BOD pmax pmax
comp=Z,172nm,0.9s,mb6.1
CASY Casey 65.78 193 *e*P **P 03 26 37.0 -0.8**
YAK Yakutsk 66.09 355*d i*P **P 03 26 39.2 -0.6**
YAK pmax pmax
comp=Z,22nm,0.8s,mb5.2
WMQ Urumqi 66.74 321 *e*P **P 03 26 44.0 -0.3**
WMQ PP PP 03 29 13.0 -0.1
WMQ SCP 03 31 14.0
WMQ S S 03 35 34.0 +0.8
WMQ SCS ScS 03 36 37.0 +1.0
WMQ SS SS 03 39 54.0 +1.2
WMQ AMB AMB

comp=Z,18nm,1.0s,mb5.1
WMQ AMB AMB
comp=Z,168nm,8.0s
WMQ LR LR
comp=N,1μm,20.0s,MS5.2
WMQ LR LR
comp=E,658nm,20.0s,MS5.2
WMQ LR LR
comp=Z,587nm,20.0s,MS4.8
GSTR Great Sitkin T 66.82 28 *e*P **P 03 26 46.0 +1.3**
SEY Seymchan 67.14 6 *e*P **P 03 26 45.9 -0.6**
SEY 03 27 13.9
SEY *e*S S 03 35 39.3 +1.6
SEY 03 36 34.8
SEY *e*SSS SSS 03 42 59.0 +2.8
SEY pmax pmax
comp=Z,40nm,1.1s,mb5.4
SEY pmax pmax
comp=N,20nm,1.2s
SEY pmax pmax
comp=E,10.0nm,1.2s
SEY smax
comp=N,1μm,11.9s
SEY smax
comp=E,940nm,8.4s
PPT Papeete 70.04 107 *e*S S 03 36 09.8 -3.0
PPT *e*SS SS 03 40 43.6 -0.3
PPT *e*LR LR 03 48 25.8
comp=E,2μm,27.8s
PPT Papeete 70.04 107 LR LR 03 54 04.6
comp=E,547nm,19.5s,MS4.8,baz=67,slow=33
TVO Taravao 70.35 107 *e*P **P 03 27 10.9 +3.8**
comp=E,234nm,1.4s,mb5.9
TBI Tubuai 70.48 113 *e*S S 03 36 16.2 -1.8
TBI *e*SS SS 03 40 43.9 -7.2
TBI *e*LR LR 03 48 25.1
comp=E,1μm,36.5s
MIR Mirnyy 70.67 198 *e*P **P 03 27 09.0 +0.8**
MIR pmax pmax
comp=Z,110nm,2.2s,mb5.4
MIR MLR MLR
comp=N,1μm,18.0s,MS5.2
MIR MLR MLR
comp=E,620nm,18.0s,MS5.2
MIR MLR MLR
comp=Z,2μm,18.0s,MS5.4
NIKO Nikolski 70.83 30 *e*P **P 03 27 08.7 -0.7**
MKAR Makanchi Array 71.51 322 P **P 03 27 13.7 0.0**
comp=Z,2.5nm,0.6s,mb4.3,baz=108,slow=7.7,SNR=16
MKAR LR LR 04 00 10.3
comp=Z,610nm,20.3s,MS4.9,baz=177,slow=37
MKAR Makanchi Array 71.51 322 *i*P **P 03 27 13.5 -0.2**
MKAR pmax pmax
comp=Z,32nm,1.1s
UNV Unalaska Valle 72.48 30 *e*P **P 03 27 20.5 +1.2**
comp=Z,277nm,1.1s,mb6.1
KSH Kashi 72.87 313 *e*P **P 03 27 26.0 +4.1**
KSH *e*AP pP 03 27 30.3 +0.5
KSH *e*XP sP 03 27 35.4 +2.8
KSH *e*PCP PcP 03 27 42.1 +3.0
KSH *e*S S 03 36 53.3 +8.1
KSH XS 03 37 05.0
KSH AMB AMB
comp=Z,160nm,4.5s
KSH LR LR
comp=N,190nm,6.0s
KSH LR LR
comp=E,220nm,5.4s
AKUT Akutan 73.00 30 *e*P **P 03 27 23.2 +0.8**
ZAL Zalesovo 73.58 330 P **P 03 27 24.1 -1.7**
comp=E,1.6nm,0.4s,mb4.3,baz=231,slow=4.3,SNR=2.5
BILL Bilibino 73.92 10*d i*P **P 03 27 26.9 -0.5**
BILL pmax pmax
comp=Z,9.0nm,1.4s,mb4.5
BILL MLR MLR
comp=Z,600nm,22.0s,MS4.8
VNDA Vanda 74.62 175 P **P 03 27 30.9 -0.4**
comp=Z,2.0nm,0.8s,mb4.1,baz=331,slow=6.7,SNR=14
VNDA LR LR 04 00 31.7
comp=Z,3μm,18.3s,MS5.7,baz=351,slow=36
VNDA Vanda 74.62 175 *e*P **P 03 27 30.7 -0.7**
comp=Z,6.0nm,0.7s,mb4.6
VNDA LR LR
comp=Z,3μm,19.0s,MS5.6
VNDA Vanda 74.62 175 *e*P **P 03 27 30.7 -0.7**
VNDA pmax pmax
comp=Z,6.0nm,0.7s
VNDA MLR MLR
comp=Z,3μm,19.0s
NVS Novosibirsk 74.83 330 *e*P **P 03 27 31.6 -1.3**
NVS pmax pmax
comp=N,32nm,1.8s
NVS pmax pmax
comp=E,46nm,1.8s
NVS pmax pmax
comp=Z,75nm,1.8s,mb5.3
FRU Bishkek 74.96 316 *e*P **P 03 27 34.0 +0.1**
FRU pmax pmax
comp=Z,600nm,16.0s
AAK Ala-Archa 74.98 316 *e*P **P 03 27 33.9 -0.2**
comp=Z,20nm,1.2s,mb4.9
AAK LR LR
comp=Z,153nm,19.0s,MS4.3
AAK Ala-Archa 74.98 316 *e*P **P 03 27 33.9 -0.1**
AAK pmax pmax
comp=Z,20nm,1.2s,mb4.9
AAK MLR MLR
comp=Z,153nm,19.0s,MS4.3
SBA Scott Base 75.37 174 *e*P **P 03 27 37.1 +1.5**
comp=Z,160nm,2.1s,mb5.6
SBA Scott Base 75.37 174 *e*P **P 03 27 37.2 +1.5**
SBA pmax pmax
comp=Z,160nm,2.1s,mb5.6
KURK Kurchatov 75.41 325 *e*P **P 03 27 35.9 -0.5**
comp=Z,30nm,1.3s,mb5.1
KURK Kurchatov 75.41 325 *i*P **P 03 27 35.5 -0.9**
KURK pmax pmax
comp=Z,27nm,1.8s,mb4.9
TIXI Tiksi 75.62 356 *e*P **P 03 27 40.5 +3.3**
TIXI *e*S S 03 37 07.1 -8.2
TIXI pmax pmax
comp=Z,15nm,0.8s,mb5.0
TIXI MLR MLR
comp=Z,504nm,18.0s,MS4.9
SDPT Sand Point 76.27 30 *e*P **P 03 27 42.0 +0.9**
CHGN Chignik 77.74 30 *e*P **P 03 27 49.9 +0.7**
KKAR Karatay Array 77.90 315 *i*P **P 03 27 50.4 0.0**
KKAR pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
VOSK Vostochnaya 80.57 325 P **P 03 28 03.7 -1.0**
VOSK pmax pmax
comp=Z,31nm,1.4s,mb5.0
BVA0 Borovoye Array 81.01 325 P **P 03 28 06.2 -0.7**
BVA0 pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
BRVK Borovoye 81.08 325 *e*P **P 03 28 07.5 +0.2**
comp=Z,11nm,0.8s,mb4.8
BRVK LR LR
comp=Z,109nm,19.0s,MS4.2
BRVK Borovoye 81.08 325 *e*P **P 03 28 07.6 +0.3**
BRVK pmax pmax
comp=Z,11nm,0.8s,mb4.8
BRVK MLR MLR
comp=Z,109nm,19.0s,MS4.2
SVW2 Sparrevohn 81.14 26 *e*P **P 03 28 08.6 +1.1**
KDAK Kodiak Island 81.25 30 *e*P **P 03 28 11.9 +3.8**
MAW Mawson 81.72 202 *e*P **P 03 28 12.1 +1.7**
comp=Z,13nm,0.9s,mb4.9
MAW Mawson 81.72 202 P **P 03 28 10.9 +0.5**
comp=Z,4.0nm,0.9s,mb4.3,baz=38,slow=6.1,SNR=3.0
MAW LR LR 04 02 55.4
comp=Z,2μm,19.0s,MS5.6,baz=80,slow=35
MAW Mawson 81.72 202 *e*P **P 03 28 12.1 +1.7**
MAW pmax pmax
comp=Z,13nm,0.9s
TTA Tatalina 81.73 25 *e*P **P 03 28 11.2 +0.7**
SLKM Skilak Lake 83.35 28 *e*P **P 03 28 18.6 -0.4**
RKT Rikitea 83.80 113 *e*S S 03 38 38.0 -4.2
RKT *e*SS SS 03 44 07.2 -5.5
RKT *e*LR LR 03 54 31.8
IMA Indian Mountai 83.95 22 *e*P **P 03 28 21.3 -0.6**
PMR Palmer 84.21 27 *e*P **P 03 28 23.3 0.0**
PMR LR LR
comp=Z,2μm,22.0s,MS5.4
SML Sawmill 84.64 27 P **P 03 28 25.3 -0.1**
MCK McKinley 84.99 25 *e*P **P 03 28 26.6 -0.6**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
	comp=Z,17nm,0.9s,mb5.2							
MCK				LR	LR			
	comp=Z,689nm,20.0s,MS5.0							
MCK	**McKinley**	**84.99**	**25**	*e*P	**P**		**03 28 26.6**	**-0.5**
MCK				pmax	pmax			
	comp=Z,17nm,0.9s,mb5.2							
MCK				MLR	MLR			
	comp=Z,689nm,20.0s,MS5.0							
EYAK	**Cordova Ski Ar**	**85.47**	**28**	*e*P	**P**		**03 28 29.7**	**+0.1**
DIV	**Divide**	**85.62**	**28**	*e*P	**P**		**03 28 30.9**	**+0.6**
	comp=Z,94nm,0.7s,mb6.1							
ILAR	**Eielson Array**	**86.17**	**24**	P	**P**		**03 28 31.2**	**-1.8**
	comp=Z,8.1nm,0.7s,mb5.1,baz=256,slow=4.7,SNR=0.3							
ILAR				LR	LR		04 05 45.0	
	comp=Z,743nm,19.5s,MS5.1,baz=265,slow=35							
QSPA	**South Pole Qui**	**86.20**	**180**	*e*P	**P**		**03 28 34.4**	**+1.6**
	comp=Z,64nm,0.9s,mb5.8							
AB31	**Akbulak array**	**86.47**	**320**	P	**P**		**03 28 33.8**	**-1.0**
AB31				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.5							
MENT	**Mentasta**	**87.02**	**26**	*e*P	**P**		**03 28 37.8**	**+0.6**
ARU	**Arti**	**88.47**	**327**	*e*P	**P**		**03 28 42.5**	**-1.7**
	comp=Z,18nm,0.9s,mb5.3							
ARU	**Arti**	**88.47**	**327**	⇓*i*P	**P**		**03 28 42.2**	**-2.1**
ARU				*e*			03 32 12.0	
ARU				*e*PPP	PPP		03 34 08.7	-4.5
ARU				*e*S	S		03 39 14.8	-12
ARU				*e*SP	SP		03 40 28.5	-3.1
ARU				*e*PS	PS		03 40 36.7	+1.3
ARU				*e*SS	SS		03 45 17.2	-3.1
ARU				pmax	pmax			
	comp=Z,21nm,1.2s,mb5.2							
DAWY	**Dawson**	**89.16**	**26**	*e*P	**P**		**03 28 47.9**	**+0.5**
SYO	**Syowa Base**	**90.32**	**201**	⇓P	**P**		**03 28 54.0**	**+1.3**
SYO	**Syowa Base**	**90.32**	**201**	⇓PcP	PcP		03 28 55.6	+1.5
INK	**Inuvik**	**92.08**	**22**	P	**P**		**03 29 00.0**	**-0.8**
	comp=Z,3.6nm,1.0s,mb4.7,baz=252,slow=10,SNR=4.1							
INK	**Inuvik**	**92.08**	**22**	*e*P	**P**		**03 29 01.4**	**+0.5**
	comp=Z,16nm,1.2s,mb5.2							
INK	**Inuvik**	**92.08**	**22**	*e*P	**P**		**03 29 01.4**	**+0.6**
INK				pmax	pmax			
	comp=Z,16nm,1.2s							
GNI	**Garni**	**96.57**	**310**	*i*P	**P**		**03 29 16.4**	**-5.7**
GNI				pmax	pmax			
	comp=Z,4.0nm,1.3s							
YBH	**Yreka Blue Hor**	**97.78**	**49**	P	**P**		**03 29 28.1**	**+0.7**
	comp=Z,5.2nm,0.9s,mb5.1							
YBH	**Yreka Blue Hor**	**97.78**	**49**	P	**P**		**03 29 28.1**	**+0.6**
YBH				pmax	pmax			
	comp=Z,5.0nm,0.9s							
KIV	**Kislovodsk**	**98.00**	**314**	*i*P	**P**		**03 29 25.9**	**-2.5**
KIV				pmax	pmax			
	comp=Z,4.0nm,0.7s,mb5.1							
BEKR	**Beckwourth**	**99.65**	**50**	*e*P	**P**		**03 29 39.2**	**+3.2**
	comp=Z,5.3nm,0.9s,mb5.0							
SOC	**Sochi**	**100.17**	**313**	*e*P	P		03 29 37.1	-1.2
SOC				*e*PPP	PPP		03 35 47.6	-8.2
SOC				*e*			03 40 11.8	
SOC				*e*PS	PS		03 42 42.3	-1.8
KBS	**Kingsbay**	**100.56**	**351**	*e*PP	PP		03 33 43.8	-5.2
KBS				*e*SKSa			03 40 17.6	
KBS				*e*SS	SS		03 48 24.2	+13
KBS				AMS	AMS		04 17 00.6	
	comp=Z,250nm,18.9s,MS4.8							
WVOR	**Wild Horse Val**	**100.77**	**48**	P	P		03 29 41.6	+0.6
	comp=Z,6.8nm,1.0s							
WVOR	**Wild Horse Val**	**100.77**	**48**	P	P		03 29 41.6	+0.6
WVOR				pmax	pmax			
	comp=Z,7.0nm,1.0s							
OBN	**Obninsk**	**100.85**	**325**	*i*P	P		03 29 38.4	-2.6
OBN				*e*			03 33 49.3	
OBN				*e*SS	SS		03 48 19.3	+3.7
OBN				pmax	pmax			
	comp=Z,16nm,1.7s							
SNAA	**Sanae**	**100.99**	**191**	P	PP		03 33 52.9	+0.3
SNAA	**Sanae**	**100.99**	**191**	*e*			03 34 08.9	
SNAA	**Sanae**	**100.99**	**191**	*e*			03 34 11.6	
SNAA	**Sanae**	**100.99**	**191**	Pdif	P		03 29 42.2	+0.9
	comp=Z,17nm,1.7s							
SNAA	**Sanae**	**100.99**	**191**	*i*P	P		03 29 33.8	-7.5
ANN	**Anapa**	**101.69**	**315**	*e*P	P		03 29 35.0	-10
ANN				pmax	pmax			
	comp=Z,12nm,0.7s							
ARCES	**ARCESS Array B**	**101.97**	**341**	Pdiff	P		03 29 45.3	-0.5
	comp=Z,7.0nm,0.9s,baz=76,slow=4.6,SNR=15							
VNA2	**Neumayer--Watz**	**102.45**	**190**	P	PP		03 34 02.8	-0.5
VNA2	**Neumayer--Watz**	**102.45**	**190**	*e*			03 34 15.7	
VNA3	**Neumayer Olymp**	**102.57**	**190**	P	PP		03 34 01.3	-3.0
VNA3	**Neumayer Olymp**	**102.57**	**190**	*e*			03 34 14.8	
VNA3	**Neumayer Olymp**	**102.57**	**190**	*e*			03 34 18.7	
TRO	**Tromso**	**104.02**	**342**	*e*PP	PP		03 34 13.2	-1.6
TRO				*e*SKSa			03 40 36.4	
TRO				*e*SS	SS		03 49 04.6	+5.9
TRO				AMS	AMS		04 18 55.8	
	comp=Z,650nm,21.4s,MS5.1							
JMIC	**Jan Mayen**	**109.93**	**350**	*e*PP	PP		03 34 49.6	-10
JMIC				*e*			03 44 24.0	
JMIC				AMS	AMS		04 20 34.6	
	comp=Z,232nm,21.1s,MS4.7							
ANMO	**Albuquerque**	**111.22**	**54**	*i*PKIKP	PKPdf		03 34 21.8	-7.6
KONO	**Kongsberg**	**112.69**	**335**	*e*PP	PP		03 35 15.5	-3.9
OKC	**Ostrava-Krasne**	**113.10**	**323**	AMS	AMS		04 26 40.0	
	comp=Z,600nm,20.3s							
BER	**Bergen**	**113.95**	**337**	*e*PP	PP		03 35 23.8	-4.8
BER				*e*SS	SS		03 51 12.4	-0.6
BER				AMS	AMS		04 30 36.4	
	comp=Z,799nm,18.4s,MS5.3							
DPC	**Dobruska-Polom**	**113.97**	**324**	*e*PP	PP		03 35 27.4	-1.5
DPC				AMS	AMS		04 27 50.0	
	comp=Z,700nm,21.2s							
PVCC	**Panska Ves**	**114.90**	**325**	*e*PP	PP		03 35 30.4	-5.0
PVCC				AMS	AMS		04 27 50.0	
	comp=Z,800nm,20.1s							
PRU	**Pruhonice**	**115.15**	**325**	*e*PP	PP		03 35 33.8	-3.4
PRU				AMS	AMS		04 29 50.0	
	comp=Z,600nm,19.6s							
KHC	**Kasperske Hory**	**116.10**	**324**	*e*PP	PP		03 35 37.1	-6.8
KHC				AMS	AMS		04 29 00.0	
	comp=Z,600nm,19.1s							
GERES	**GERESS Array B**	**116.16**	**324**	PKP	PKPdf		03 34 36.0	-2.8
	comp=Z,0.1nm,0.3s,baz=117,slow=2.2,SNR=2.9							
NKC	**Novy Kostel**	**116.24**	**326**	AMS	AMS		04 27 00.0	
	comp=Z,800nm,22.1s							
LOR	**Lormes**	**122.63**	**326**	*e*PKIKP	PKPdf		03 34 45.8	-5.5
	comp=Z,18nm,1.3s							
ORIF	**Oris-en-Rattie**	**122.75**	**323**	*e*PKIKP	PKPdf		03 34 43.9	-7.7
SSF	**Saint Saulge**	**122.94**	**326**	*e*PKIKP	PKPdf		03 34 46.1	-5.8
	comp=Z,14nm,1.2s							
SMF	**Signal de Mont**	**123.00**	**325**	*e*PKIKP	PKPdf		03 34 46.2	-5.8
	comp=Z,19nm,1.2s							
AVF	**Avril sur Loir**	**123.19**	**326**	*e*PKIKP	PKPdf		03 34 46.6	-5.8
	comp=Z,18nm,1.4s							
TCF	**Toulx Ste Croi**	**124.12**	**326**	*e*PKIKP	PKPdf		03 34 48.3	-6.0
	comp=Z,15nm,1.0s							
LRAL	**Lakeview Retre**	**127.22**	**51**	PKPdf	PKPdf		03 34 57.0	-3.6
PLCA	**Paso Flores**	**127.56**	**151**	PKP	PKPdf		03 34 59.3	-1.7
	comp=Z,5.1nm,0.9s,baz=165,slow=3.0,SNR=7.0							
DBIC	**Dimbokro**	**145.08**	**276**	PKP	PKPdf		03 35 31.0	-2.9
	comp=Z,30nm,0.7s,baz=100,slow=3.8,SNR=23							
DBIC	**Dimbokro**	**145.08**	**276**	PKP	PKPdf		03 35 31.0	-2.9
LIC	**Lamto**	**145.27**	**275**	*e*PKIKP	PKPdf		03 35 31.7	-2.5
	comp=Z,86nm,0.9s							
ROSC	**El Rosal**	**145.56**	**87**	PKPbc	PKPbc		03 35 33.6	+2.9
	comp=Z,2.7nm,0.3s,baz=107,slow=19,SNR=7.5							
CPUP	**Villa Florida**	**145.62**	**151**	PKPbc	PKPbc		03 35 32.4	+1.9
	comp=Z,36nm,1.0s,baz=238,slow=5.5,SNR=28							
CPUP	**Villa Florida**	**145.62**	**151**	*e*PKP	PKPdf		03 35 32.4	-2.1
LPAZ	**La Paz**	**145.64**	**126**	PKPbc	PKPbc		03 35 33.7	+2.8
	comp=Z,30nm,0.9s,baz=282,slow=4.4,SNR=84							
LPAZ	**La Paz**	**145.64**	**126**	*e*PKP	PKPdf		03 35 33.6	-1.1
SDV	**Santo Domingo**	**148.95**	**79**	*e*PKPbc	PKPdf		03 35 41.9	+1.6
SDV				*e*PKPab	PKPab		03 35 46.1	+0.1
SAML	**Samuel**	**153.50**	**119**	*e*PKPdf	PKPdf		03 35 45.5	-1.5
BDFB	**Brasilia**	**159.09**	**157**	PKP	PKPdf		03 35 53.0	-1.3
	comp=Z,3.8nm,0.8s,baz=190,slow=6.1,SNR=6.6							
BDFB				PKPab	PKPab		03 36 28.7	0.0
	comp=Z,5.4nm,0.7s,baz=220,slow=2.2,SNR=3.1							
BAO	**Brasilia Array**	**159.10**	**157**	PKPdf	PKPdf		03 35 54.5	+0.2

NEIC ***15*** *03:33:21.8, 43.27N×16.22W, MG4.1(MDD), After MDD.*
MDD 15 03:33:22.3±3.0, 43.31N×16.19W, mbLg2.9/18, Error ellipse: s-maj=26.9km s-min=23.0km az=64.0, PRXIMO, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EMAZ	**Mazaricos**	**5.29**	**91**	P	P	Pn	03 34 40.7	-3.8
	0.9nm,0.1s,SNR=4.0							
EMAZ				S	Sn	Sn	03 35 39.0	-8.1
	2.6nm,0.1s,SNR=7.9							
EMAZ	**Mazaricos**	**5.29**	**91**	P	Pn	Pn	03 34 40.3	-4.2
	0.9nm,0.1s,SNR=4.0							
EMAZ				S	Sn	Sn	03 35 39.0	-8.1
	2.6nm,0.1s,SNR=7.9							
EMAZ	**Mazaricos**	**5.29**	**91**	P	Pn	Pn	03 34 40.3	-4.2
EMAZ				S	Sn	Sn	03 35 39.3	-7.8
STS	**Santiago**	**5.61**	**92**	P	Pn	Pn	03 34 45.5	-3.5
	3.1nm,0.1s,SNR=7.9							
STS				S	Sn	Sn	03 35 46.6	-8.4
	2.6nm,0.2s,SNR=7.9							
STS	**Santiago**	**5.61**	**92**	P	Pn	Pn	03 34 45.6	-3.4
STS				S	Sn	Sn	03 35 47.8	-7.3
ELOB	**Lobios**	**6.17**	**101**	P	Pn	Pn	03 34 53.9	-3.0
	1.7nm,0.5s,SNR=7.9							
ELOB				S	Sn	Sn	03 36 00.4	-8.8
	1.0nm,0.1s,SNR=7.9							
ELOB	**Lobios**	**6.17**	**101**	P	Pn	Pn	03 34 53.9	-3.0
	1.7nm,0.5s,SNR=7.9							
ELOB				S	Sn	Sn	03 36 00.4	-8.7
	1.0nm,0.1s,SNR=7.9							
EPON	**Pontenova**	**6.59**	**87**	P	Pn	Pn	03 34 58.9	-4.0
	4.1nm,0.6s,SNR=7.9							
EPON				S	Sn	Sn	03 36 10.8	-8.9
	3.4nm,0.4s,SNR=7.9							
EPON	**Pontenova**	**6.59**	**87**	P	Pn	Pn	03 34 58.9	-4.0
	4.1nm,0.6s,SNR=7.9							
EPON				S	Sn	Sn	03 36 10.8	-8.9
	3.4nm,0.4s,SNR=7.9							
PTOM	**Tomar**	**6.91**	**120**	*e*P	Pn	Pn	03 35 03.5	-3.8
PTOM				*e*S	Sn	Sn	03 36 18.3	-9.3
	3.6nm,0.1s							
PTOM	**Tomar**	**6.91**	**120**	P	Pn	Pn	03 35 03.5	-3.8
PTOM				S	Sn	Sn	03 36 18.3	-9.3
	1.8nm,0.1s							
PLOU	**Loures**	**6.91**	**127**	*e*S	Sn	Sn	03 36 17.6	-10
	4.6nm,0.2s							
PLOU	**Loures**	**6.91**	**127**	S	Sn	Sn	03 36 17.6	-10
	2.3nm,0.2s							
MTE	**Manteigas**	**7.08**	**111**	*e*S	Sn	Sn	03 36 21.8	-10
	1.3nm,0.3s							
MTE	**Manteigas**	**7.08**	**111**	S	Sn	Sn	03 36 21.8	-10
	0.6nm,0.3s							
ECAL	**Calabor**	**7.10**	**98**	P	Pn	Pn	03 35 07.0	-3.1
	1.1nm,0.3s,SNR=7.9							
ECAL				S	Sn	Sn	03 36 23.4	-9.1
	1.9nm,0.3s,SNR=7.9							
ECAL	**Calabor**	**7.10**	**98**	P	Pn	Pn	03 35 07.0	-3.1
	1.1nm,0.3s,SNR=7.9							
ECAL				S	Sn	Sn	03 36 23.4	-9.1
	1.9nm,0.3s,SNR=7.9							
PBRG	**Braganca**	**7.13**	**99**	*e*P	Pn	Pn	03 35 07.6	-2.9
PBRG				*e*S	Sn	Sn	03 36 24.0	-9.3
	0.7nm,0.2s							
PBRG	**Braganca**	**7.13**	**99**	P	Pn	Pn	03 35 07.6	-2.9
PBRG				S	Sn	Sn	03 36 24.0	-9.3
	0.3nm,0.2s							
PCBR	**Castelo Branco**	**7.39**	**115**	*e*S	Sn	Sn	03 36 29.0	-11
	0.7nm,0.1s							
PCBR	**Castelo Branco**	**7.39**	**115**	S	Sn	Sn	03 36 29.0	-11
	0.3nm,0.1s							
EARI	**Arriondas**	**8.01**	**86**	P	P	P	03 35 18.8	-4.0
	3.4nm,0.7s,SNR=7.9							
EARI				S	Sn	Sn	03 36 43.4	-12
	3.1nm,0.5s,SNR=7.9							
EARI	**Arriondas**	**8.01**	**86**	P	P	P	03 35 18.8	-3.9
	3.4nm,0.7s,SNR=7.9							
EARI				S	Sn	Sn	03 36 42.9	-12
	3.1nm,0.5s,SNR=7.9							
EARI	**Arriondas**	**8.01**	**86**	P	P	P	03 35 18.8	-4.0
EARI				S	Sn	Sn	03 36 43.6	-12
PTEO	**Sao Teotonio**	**8.09**	**133**	*e*S	Sn	Sn	03 36 46.3	-11
	2.0nm,0.1s							
PTEO	**Sao Teotonio**	**8.09**	**133**	S	Sn	Sn	03 36 46.3	-11
	1.0nm,0.1s							
PBEJ	**Beja**	**8.23**	**127**	*e*S	Sn	Sn	03 36 49.4	-11
	0.9nm,0.2s							
PBEJ	**Beja**	**8.23**	**127**	S	Sn	Sn	03 36 49.4	-11
	0.4nm,0.2s							
EBAD	**Badajoz**	**8.29**	**120**	P	P	P	03 35 22.2	-4.4
	0.2nm,0.1s,SNR=7.9							
EBAD				S	Sn	Sn	03 36 50.2	-12
	2.1nm,0.2s,SNR=7.9							
EBAD	**Badajoz**	**8.29**	**120**	P	P	P	03 35 20.9	-5.8
	0.2nm,0.1s,SNR=7.9							
EBAD				S	Sn	Sn	03 36 50.2	-12
	2.1nm,0.2s,SNR=7.9							
EBAD	**Badajoz**	**8.29**	**120**	P	P	P	03 35 20.9	-5.8
EBAD				S	Sn	Sn	03 36 50.2	-12
EGRO	**El Granado**	**8.79**	**128**	S	Sn	Sn	03 37 02.1	-13
	0.7nm,0.1s,SNR=7.9							
EGRO	**El Granado**	**8.79**	**128**	S	Sn	Sn	03 37 02.1	-13
	0.7nm,0.1s,SNR=7.9							
EMIN	**Mina Concepcio**	**9.11**	**124**	P	P	P	03 35 33.7	-4.4
	1.8nm,0.6s,SNR=4.0							
EMIN				S	Sn	Sn	03 37 10.7	-12
	0.6nm,0.2s,SNR=7.9							
EMIN	**Mina Concepcio**	**9.11**	**124**	P	P	P	03 35 33.7	-4.4
	1.8nm,0.6s,SNR=4.0							
EMIN				S	Sn	Sn	03 37 08.5	-14
	0.6nm,0.2s,SNR=7.9							
EMIN	**Mina Concepcio**	**9.11**	**124**	P	P	P	03 35 33.0	-5.1
EMIN				S	Sn	Sn	03 37 09.7	-13
ELAN	**Lanestosa**	**9.31**	**86**	S	Sn	Sn	03 37 15.2	-12
	3.2nm,0.5s,SNR=7.9							
ELAN	**Lanestosa**	**9.31**	**86**	S	Sn	Sn	03 37 16.3	-11
	3.2nm,0.5s,SNR=7.9							
EADA	**Adamuz**	**10.19**	**116**	P	P	P	03 35 48.3	-4.6
	0.3nm,0.1s,SNR=7.9							
EADA				S	S	S	03 37 36.9	-12
	0.9nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**10.19**	**116**	P	P	P	03 35 48.3	-4.7
	0.3nm,0.1s,SNR=7.9							
EADA				S	S	S	03 37 36.9	-12
	0.9nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**10.19**	**116**	P	P	P	03 35 48.3	-4.6
	0.3nm,0.1s							
EADA				S	S	S	03 37 36.3	-13

KRSC 15 03:40:32.0±0.4, 55.88N×162.73E, h50km±4km, ML3.9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.33**	**9**	*i*P	P		03 40 41.9	+0.4
KBTR				*i*S	S		03 40 49.2	+0.9
ZLN	**Zelenaya**	**1.09**	**278**	*e*P	P		03 40 51.2	0.0
ZLN				*e*S	S		03 41 05.1	-0.4
CIRR	**Tsirk**	**1.14**	**283**	*e*P	P		03 40 52.1	+0.3
CIRR				*e*S	S		03 41 06.9	+0.3
LGNR	**Loginova**	**1.17**	**281**	*i*P	P		03 40 52.7	+0.5
LGNR				*e*S	S		03 41 07.9	+0.7
KLY	**Klyuchi**	**1.24**	**291**	*i*P	P		03 40 52.3	-1.0
KLY				*i*S	S		03 41 07.1	-2.1
KRSR	**Krestovskiy**	**1.26**	**286**	*i*P	P		03 40 53.7	+0.1
KRSR				*e*S	S		03 41 09.4	-0.3
KMNR	**Kamenistaya**	**1.41**	**266**	*e*P	P		03 40 56.4	+0.6
KMNR				*e*S	S		03 41 14.1	+0.6
KPT	**Kopyto**	**1.41**	**275**	*i*P	P		03 40 56.4	+0.5
KPT				*i*S	S		03 41 13.9	+0.4
MKZ	**Mys Kozlova**	**1.45**	**204**	*e*P	P		03 40 56.1	-0.2
MKZ				*e*S	S		03 41 14.4	+0.1
TUMR	**Tumrok**	**1.58**	**249**	*e*P	P		03 40 59.2	+1.0
TUMR				*e*S	S		03 41 18.7	+1.0
KOZ	**Kozyrevsk**	**1.62**	**278**	*i*P	P		03 41 00.3	+1.6
KOZ				*e*S	S		03 41 20.7	+2.3
SRDR	**Sredinnyy**	**1.74**	**286**	*i*P	P		03 41 01.8	+1.4
SRDR				*e*S	S		03 41 23.4	+1.9
BKI	**Bering**	**1.96**	**109**	*e*P	P		03 41 03.7	+0.2
BKI				*e*S	S		03 41 27.0	+0.1
BKI				Smax				
	50nm,0.8s							
ESO	**Esso**	**2.27**	**273**	*e*P	P		03 41 09.1	+1.2
ESO				*e*S	S		03 41 36.0	+1.3
SPN	**Mys Shipunski**	**3.20**	**211**	*e*P	P		03 41 20.6	-0.6
SPN				*e*S	S		03 41 56.9	-1.5
NLC	**Nalytchevo**	**3.35**	**217**	*e*P	P		03 41 23.3	0.0
NLC				*e*S	S		03 42 01.2	-1.0
SDLR	**Sedlovina**	**3.44**	**222**	*e*P	P		03 41 25.2	+0.8
SMAR	**Somma**	**3.48**	**223**	*e*P	P		03 41 25.6	+0.6
AVH	**Avacha**	**3.50**	**223**	*e*P	P		03 41 25.1	-0.3
AVH				*e*S	S		03 42 03.7	-2.2
UGLR	**Uglovaya**	**3.51**	**222**	*e*P	P		03 41 26.5	+1.0
KOK	**Koryaka**	**3.52**	**224**	*e*P	P		03 41 27.0	+1.4
GNL	**Ganaly**	**3.53**	**234**	*e*P	P		03 41 26.4	+0.6
GNL				*e*S	S		03 42 06.7	0.0
PET	**Petropavlovsk**	**3.72**	**221**	*e*P	P		03 41 28.7	+0.2
PET				*e*S	S		03 42 10.4	-1.1
RUS	**Russkaya**	**4.25**	**217**	*e*P	P		03 41 36.5	+0.6
RUS				*e*S	S		03 42 23.7	-1.1
GRL	**Gorelyy**	**4.31**	**221**	*e*P	P		03 41 37.7	+0.9

CSEM ***15*** *03:49:07.0, 35.27N×26.37E, h10km, MD3.7/3, After ATH*
ATH 15 03:49:07.0, 35.27N×26.37E, h10km, MD3.7/3, Crete

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NPS	**Neapolis**	**0.62**	**270**	*e*PB	Pb		03 49 18.5	-1.0
XRY	**Khrisi**	**0.68**	**235**	*e*PB	Pb		03 49 20.0	-0.5
KARP	**Karpathos**	**0.70**	**67**	*e*PB	Pb		03 49 20.5	-0.4

CSEM ***15*** *04:01:22.7±0.2, 39.13N×28.24W, ML2.3, Error ellipse: s-maj=5.7km s-min=2.8km az=162.0, After PDA*
PDA ***15*** *04:01:22.7±0.9, 39.13N×28.24W, MD3.3, ML2.3, Error ellipse: s-maj=6.8km s-min=2.3km az=146.0*
SVSA 15 04:01:22.7±0.9, 39.13N×28.24W, MD3.3, ML2.3, Error ellipse: s-maj=6.8km s-min=2.3km az=146.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
STGR	**Santa Cruz**	**0.19**	**105**	*e*P		Pg	04 01 26.9	+0.4
STGR				*e*S		Sg	04 01 30.0	+1.0
	438nm,0.3s							
PMAN	**Manadas**	**0.51**	**167**	*i*P		Pg	04 01 31.8	-1.1
PMAN				*e*S		Sg	04 01 38.6	-1.1
	122nm,0.3s							
PMAN	**Manadas**	**0.51**	**167**	*e*S		Sg	04 01 38.6	-1.1
PCED	**Cedros**	**0.62**	**216**	*i*P		Pg	04 01 33.5	-1.5
PCED				*i*S		Sg	04 01 41.8	-1.4
	163nm,0.1s							
PCED	**Cedros**	**0.62**	**216**	*i*S		Sg	04 01 41.8	-1.4
PICO	**Pico**	**0.64**	**193**	*i*P		Pg	04 01 34.1	-1.5
PICO				*e*S		Sg	04 01 42.6	-1.5
PICO	**Pico**	**0.64**	**193**	*e*S		Sg	04 01 42.6	-1.5
CALA	**Caldeira**	**0.66**	**214**	*e*P		Pg	04 01 34.6	-1.2
HOR	**Horta**	**0.67**	**207**	*e*P		Pg	04 01 34.2	-2.0
HOR				*e*S		Sg	04 01 43.3	-1.8
PSBA	**Serra de Santa**	**0.80**	**117**	*e*P		Pg	04 01 36.5	-2.2
PSBA				*e*S		Sg	04 01 46.3	-3.0
	72nm,0.3s							
ASBA	**Santa Barbara**	**0.82**	**119**	*e*S		Sg	04 01 47.0	-3.1
	21nm,0.2s							
PBIS	**Biscoitos**	**0.85**	**115**	*e*S		Sg	04 01 47.7	-3.4
	41nm,0.2s							
PPAD	**Pico dos Padre**	**0.86**	**120**	*e*S		Sg	04 01 47.8	-3.5
	12nm,0.2s							
PVNV	**Vila Nova**	**0.92**	**113**	*e*S		Sg	04 01 49.5	-3.9
	15nm,0.1s							
RIB2	**Ribeirinha**	**0.95**	**118**	*e*S		Sg	04 01 50.0	-4.3
	15nm,0.2s							
PFAV	**Pico das Favas**	**0.99**	**114**	*e*S		Sg	04 01 50.9	-4.9
	13nm,0.3s							

ISC 15 04:18:16.0±1.0, 38.05N±0.06×37.58E±0.06, h10km, n6, σ1§22/10, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GZT	**Gaziantep**	**0.69**	**181**	*i*P		**Pb**	**04 18 30.9**	**+1.2**
GZT				*i*S		**Sb**	**04 18 37.9**	**-1.1**
KAHT	**Ahir Dag**	**0.70**	**234**	*i*P		**Pb**	**04 18 29.4**	**-0.3**
KAHT				*i*S		**Sb**	**04 18 39.6**	**+0.4**
MALT	**Malatya**	**0.72**	**68**	*e*PG		**Pg**	**04 18 28.8**	**-1.6**
MYA	**Malataya**	**0.72**	**67**	*e*PG		**Pg**	**04 18 29.2**	**-1.2**
MYA				*e*SG		**Sg**	**04 18 41.7**	**+1.5**
ATAB	**Bozova**	**0.81**	**135**	*i*P		**Pb**	**04 18 33.6**	**+1.9**
ATAB				*i*S		**Sb**	**04 18 41.7**	**-0.7**
URFA	**Urfa**	**1.16**	**121**	*e*PN		**Pn**	**04 18 43.9**	**+5.8**

CASC 15 04:37:03.1±2.8, 9.13N×82.69W, h1km±8km, MD3.5, MW4.0, 2D, Panama-Costa Rica border region

| Code | Station Name |

SNR=32
AAA Alma-Ata 4.18 351 *e*PN **Pn 04 50 24.9 +7.2**
AAA pmax pmax
comp=Z,704nm,0.5s
AAK Ala-Archa 4.30 325 P **Pn 04 50 19.9 +0.5**
SNR=20
AAK Ala-Archa 4.30 325 ⇓Pn **Pn 04 50 19.7 +0.4**
comp=Z,15nm,0.5s
AAK ⇑Pg **Pg 04 50 27.1 -11**
comp=Z,89nm,0.8s
AAK ⇑Lg 04 51 19.9
comp=Z,805nm,0.8s
AAK Ala-Archa 4.30 325 *e*Pn **Pn 04 50 18.9 -0.4**
AAK Ala-Archa 4.30 325 PN **Pn 04 50 19.7 +0.3**
AAK 04 51 20.4
AAK pmax pmax
comp=Z,14nm,0.3s
AAK smax
comp=Z,239nm,0.7s
AML Almayashu 4.33 315 P **Pn 04 50 19.8 0.0**
SNR=80
FRU Bishkek 4.41 328 *i* PN **Pn 04 50 20.8 -0.1**
FRU *i* S **Sn 04 51 25.0 +12**
FRU pmax pmax
comp=Z,250nm,1.0s
FRU smax
comp=N,1μm,1.8s
CHMS Chumysh 4.49 330 P **Pn 04 50 22.3 +0.2**
SNR=14
USP Ospenovka 4.82 330 P **Pn 04 50 26.6 -0.1**
SNR=5.7
KK31 Karatay Array 6.78 308 Pn **Pn 04 50 52.9 -1.5**
comp=N,1.6nm,0.5s,baz=137,slow=13,SNR=17
KK31 ⇑Pg **Pg 04 51 09.9 -18**
comp=N,4.3nm,0.4s,baz=121,slow=17,SNR=23
KK31 Lg 04 52 37.6
comp=N,38nm,0.6s,baz=134,slow=29,SNR=5.9
KKAR Karatay Array 6.78 308 PN **Pn 04 50 52.9 -1.5**
KKAR 04 52 37.6
KKAR pmax pmax
comp=Z,1.0nm,0.3s
KKAR smax
comp=Z,24nm,0.5s
MK31 Makanchi Array 8.33 22 ⇑Pn **P 04 51 14.3 -1.8**
comp=Z,1.1nm,0.5s,baz=191,slow=13
MK31 ⇓Lg 04 53 34.6
comp=Z,16nm,0.8s,baz=204,slow=27
MKAR Makanchi Array 8.33 22 Pn **P 04 51 14.2 -1.9**
comp=Z,0.3nm,0.3s,baz=194,slow=12,SNR=12
MKAR Sn **Sn 04 52 52.7 +1.5**
comp=Z,0.7nm,0.3s,baz=204,slow=17,SNR=5.0
WMQ Urumqi 8.78 55 *e*P **P 04 51 20.5 -1.8**
WMQ S **Sn 04 53 01.3 -1.0**
WMQ Smax
comp=N,76nm,1.0s
WMQ Smax
comp=E,70nm,1.0s
KKR Kurukshetra 9.19 185 *e*S **Sn 04 53 09.5 -3.0**
NDI New Delhi 10.44 183 *e*P **P 04 51 45.0 -0.2**
NDI *e*S Sx 04 53 39.0
BISR Bishrakh 10.54 182 *ex* x 04 53 32.6
SONA Sohna 10.88 183 *e*P **P 04 51 51.5 +0.3**
SONA *e*S Sx 04 53 50.6
SONA AML AML 04 54 01.1
comp=E,32nm,0.6s
SONA AML AML 04 54 02.3
comp=N,12nm,0.2s
KUDL Kundal 11.02 186 *e*P **P 04 51 53.6 +0.5**
KUDL *e*S Sx 04 53 51.5
KHET Khetri 11.16 189 *e*P **P 04 51 56.0 +0.9**
KHET *e*S Sx 04 53 54.8
KHET AML AML 04 54 01.2
comp=N,9.9nm,0.4s
KHET AML AML 04 54 04.2
comp=E,9.1nm,0.0s
KURK Kurchatov 11.59 3 ⇑P **P 04 51 56.8 -4.0**
KURK ⇑Lg 04 55 13.9
comp=E,38nm,1.4s
KURK Kurchatov 11.59 3 *e*P **P 04 51 57.1 -3.8**
comp=E,2.2nm,0.6s
KURK Kurchatov 11.59 3 *e*P **P 04 51 57.1 -3.8**
KURK pmax pmax
comp=Z,2.0nm,0.6s
VOSK Vostochnaya 14.38 343 ⇑P **P 04 52 33.7 -4.1**
comp=Z,3.3nm,1.2s
VOSK ⇑Lg 04 56 40.4
comp=Z,20nm,1.1s
BVA0 Borovoye Array 14.80 342 ⇓P **P 04 52 44.8 +1.5**
comp=Z,0.5nm,0.8s
BVA0 ⇑Lg 04 56 43.7
comp=Z,6.2nm,1.6s
BVA0 Borovoye Array 14.80 342 P **P 04 52 44.7 +1.4**
BVAR Borovoye Array 14.80 342 Pn **P 04 52 39.7 -3.7**
comp=Z,0.3nm,0.3s,baz=158,slow=16,SNR=4.6
BRVK Borovoye 14.85 342 *e*Pn **P 04 52 45.5 +1.4**
comp=Z,1.9nm,0.7s
BRVK Borovoye 14.85 342 *e*P **P 04 52 45.5 +1.5**
BRVK pmax pmax
comp=Z,2.0nm,0.7s
AB31 Akbulak array 16.28 314 ⇑P **P 04 53 00.5 -2.0**
comp=Z,0.8nm,0.5s,baz=114,slow=12,SNR=6.3
AB31 ⇓Lg 04 57 52.1
comp=Z,29nm,2.2s
AB31 Akbulak array 16.28 314 P **P 04 53 04.7 +2.2**
GTA Gaotai 17.05 82 *e*P **P 04 53 16.9 +4.6**
GTA AP 04 53 23.8
GTA XP 04 53 27.4
GTA LG2 04 58 32.4
GTA AMB AMB
comp=Z,5.0nm,1.3s
AKTO Aktyubinsk 17.96 315 ⇑P **P 04 53 20.1 -3.6**
comp=Z,0.7nm,0.9s
AKTO ⇑Lg 04 58 30.0
comp=Z,2.3nm,1.8s
LZH Lanzhou 20.83 90 *e*P **P 04 53 59.0 +2.4**
LZH AP 04 54 04.0
LZH XP 04 54 07.0
LZH PP PP 04 54 19.5 +0.7
LZH AMB AMB
comp=Z,15nm,1.0s
ZAK Zakamensk 21.19 50 *e*P **P 04 54 00.8 +0.7**
ZAK pmax pmax
comp=Z,1.0nm,0.8s,mb3.2
ARU Arti 21.47 330 *e*P **P 04 54 02.9 0.0**
SONM Songino Array 22.39 58 P **P 04 54 14.2 +2.0**
comp=Z,1.2nm,0.8s,mb3.4,baz=258,slow=9.9,SNR=7.1
BRTR Keskin Array B 33.86 285 P **P 04 55 57.2 +0.1**
comp=Z,0.5nm,0.6s,mb3.7,baz=90,slow=7.2,SNR=3.5
FINES FINESS Array B 38.48 323 P **P 04 56 34.7 -1.2**
comp=Z,0.6nm,0.5s,mb3.6,baz=106,slow=10,SNR=4.2
ARCES ARCESS Array B 40.91 335 P **P 04 56 54.7 -1.3**
comp=Z,2.6nm,0.9s,mb3.9,baz=109,slow=8.9,SNR=16
GERES GERESS Array B 45.87 304 P **P 04 57 35.8 -0.5**
comp=Z,0.8nm,0.5s,mb3.9,baz=66,slow=8.8,SNR=9.7

*PRU **15** 05:14:55.4, 51.39N×16.17E*
WAR 15 05:14:55.0, 51.45N×16.17E, h1km, ML2.6, 2C, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.61**	**172**	⇑*i*PG	Pg	05 15 06.2	-1.0
KSP				⇑*e*SG	Sg	05 15 14.2	-1.2
KSP	**Ksiaz**	**0.61**	**172**	*e*Pg	Pg	05 15 06.2	-1.1
KSP				*e*Sg	Sg	05 15 14.3	-1.1
UPC	**Upice**	**0.95**	**186**	*e*PG	Pg	05 15 12.3	-1.6
DPC	**Dobruska-Polom**	**1.11**	**175**	*e*PG	Pg	05 15 14.9	-2.2
DPC				*e*SG	Sg	05 15 29.6	-2.2
26nm,0.4s							
PVCC	**Panska Ves**	**1.37**	**228**	*e*PG	Pg	05 15 20.8	-1.5
PRU	**Pruhonice**	**1.79**	**216**	*e*PG	Pg	05 15 28.2	-2.6
PRU				*e*SG	Sg	05 15 50.8	-3.8
CLL	**Collm**	**1.99**	**267**	*e*PG	Pg	05 15 32.0	-2.7
CLL				*e*		05 15 34.0	
CLL				*e*SG	Sg	05 15 58.0	-3.2
OKC	**Ostrava-Krasne**	**2.05**	**141**	*e*PG	Pg	05 15 33.3	-2.6
OKC				*e*SG	Sg	05 15 59.6	-3.6
OJC	**Ojcow**	**2.61**	**117**	*e*PG	Pg	05 15 43.0	-4.1
OJC				*e*SG	Sg	05 16 18.0	-4.0
KHC	**Kasperske Hory**	**2.85**	**217**	*e*PN	Pn	05 15 41.0	-1.5
KHC				*e*PG	Pg	05 15 47.0	-5.0
KHC				*e*SN	Sn	05 16 15.0	-3.0
KHC				*e*SG	Sg	05 16 23.7	-6.3

MEX 15 06:02:33.5±0.3, 15.63N×96.35W, h21km±135km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.28**	**59**	*i* P	Pb	06 02 38.8	-1.0
HUIG				*e*S	Sb	06 02 43.2	-1.0
VHO	**Vista Hermosa**	**1.48**	**346**	*i* P	Pn	06 02 56.1	-3.2
VHO				*i* S	Sn	06 03 13.7	-4.5
OXX	**Oaxaca**	**1.49**	**346**	*i* P	Pn	06 02 56.5	-2.9
OXX				*i* S	Sn	06 03 14.0	-4.4

*IDC **15** 06:44:50.7±1.1, 22.54S×66.08W, h240km±20km, mb2.4/1, mb1 3.3/7, mb1mx3.2/17, mbtmp3.9/7, Error ellipse: s-maj=27.8km s-min=13.6km az=113.0*
*GUC **15** 06:44:51.8±0.7, 22.77S×66.67W, h278km±22km, ML3.2*
*NEIC **15** 06:44:51.8, 22.77S×66.67W, h278km, mb3.9/3, After GUC.*
ISC 15 06:44:49.4±0.8, 22.70S±0.06×66.0W±0.1, h241km±18km, n16, σ1§17/22, mb2.6/1, 3C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPCH	**San Pedro de A**	**2.02**	**264**	⇑*i*P	P	**06 45 34.8**	**+3.3**
SPCH				AMP		06 46 17.4	
comp=E,63nm,0.4s							
LVC	**Limon Verde**	**2.67**	**271**	P	P	**06 45 39.7**	**+1.6**
comp=E,30nm,0.3s,baz=83,slow=6.4,SNR=234							
LVC				S	**S**	**06 46 17.2**	**+1.3**
comp=E,7.6nm,0.3s,baz=223,slow=21,SNR=7.7							
LVC	**Limon Verde**	**2.67**	**271**	⇑*i*P	P	**06 45 39.6**	**+1.5**
LVC				*e*S	**S**	**06 46 15.8**	**-0.2**
LVC				AMP		06 46 22.5	
comp=N,49nm,0.3s							
LVC	**Limon Verde**	**2.67**	**271**	⇑*i*Pn	P	**06 45 39.8**	**+1.6**
LVC				*e*Sn	**S**	**06 46 19.4**	**+3.4**
CPN1	**Cerro Paranal**	**4.45**	**244**	*e*P	P	**06 45 59.7**	**+1.0**
CPN1				*i* S	**S**	**06 46 51.5**	**-1.1**
CRCH	**Chaqaral**	**5.54**	**228**	*i* S	**S**	**06 47 15.4**	**-1.4**
LPAZ	**La Paz**	**6.68**	**342**	P	P	**06 46 26.1**	**-0.5**
comp=N,1.8nm,0.3s,baz=150,slow=9.5,SNR=60							
LPAZ				S	**S**	**06 47 40.9**	**-1.7**
comp=N,0.7nm,0.3s,baz=238,slow=25,SNR=5.1							
LPAZ	**La Paz**	**6.68**	**342**	*e*P	P	**06 46 26.2**	**-0.4**
comp=N,9.2nm,0.6s							
LPAZ				*e*Sn	**S**	**06 47 51.1**	**+8.5**
SIV	**San Ignacio**	**8.15**	**36**	P	P	**06 46 44.5**	**-0.8**
comp=N,2.6nm,0.3s,baz=232,slow=9.9,SNR=117							
CFAA	**Coronel Fontan**	**9.08**	**192**	P	P	**06 46 57.9**	**+0.6**
comp=N,0.3nm,0.3s,baz=16,slow=14,SNR=32							
CFAA				S	**S**	**06 48 35.9**	**-1.6**
comp=N,0.2nm,0.3s,baz=127,slow=22,SNR=16							
SAML	**Samuel**	**13.94**	**12**	*e*P	P	**06 47 58.0**	**-0.4**
comp=N,2.1nm,1.0s							
PLCA	**Paso Flores**	**18.38**	**191**	P	P	**06 48 49.0**	**+0.4**
comp=N,0.4nm,0.3s,baz=16,slow=13,SNR=5.3							
PLCA	**Paso Flores**	**18.38**	**191**	*e*P	P	**06 48 49.3**	**+0.7**
comp=N,13nm,1.6s							
BDFB	**Brasilia**	**18.40**	**71**	P	P	**06 48 48.8**	**-0.1**
comp=N,0.7nm,0.3s,baz=255,slow=12,SNR=14							
SNAA	**Sanae**	**60.28**	**161**	P	P	**06 54 35.3**	**+1.1**
comp=N,0.1nm,0.6s,mb2.6,baz=275,slow=11,SNR=4.0							
MKAR	**Makanchi Array**	**144.96**	**39**	PKP	PKPdf	07 03 58.3	+0.8
comp=N,0.5nm,0.6s,baz=297,slow=5.4,SNR=5.4							

*CSEM **15** 06:49:04.9±0.7, 38.71N×28.56W, h10km, MD3.1, Error ellipse: s-maj=5.2km s-min=3.8km az=17.0, After PDA*
*PDA **15** 06:49:04.9±0.7, 38.71N×28.56W, h10km, MD3.1, Error ellipse: s-maj=5.2km s-min=3.8km az=17.0*
SVSA 15 06:49:04.9±0.7, 38.71N×28.56W, h10km, MD3.1, Error ellipse: s-maj=5.2km s-min=3.8km az=17.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**0.17**	**221**	*i* P	Pg	06 49 08.3	-0.5
CALA				*e*S	Sg	06 49 11.1	-0.3
CALA	**Caldeira**	**0.17**	**221**	*e*S	Sg	06 49 11.1	-0.3
HOR	**Horta**	**0.19**	**197**	*e*P	Pg	06 49 08.2	-1.0
PICO	**Pico**	**0.23**	**154**	*e*P	Pg	06 49 09.4	-0.5
PICO				*e*S	Sg	06 49 12.8	-0.5

NEIC 15 07:05:20.7, 36.50S×177.72E, h226km, MG3.9(WEL), **After WEL., Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.16**	**156**	*e*P	P	07 05 53.8	-0.7
PUZ	**Puketiti**	**1.63**	**165**	*e*P	P	07 05 57.9	-0.3
PUZ				S	S	07 06 26.0	-1.1
URZ	**Urewera**	**1.82**	**195**	P	P	07 05 59.8	-0.1
MWZ	**Matawai**	**1.84**	**185**	*e*P	P	07 06 00.0	0.0
MWZ				S	S	07 06 30.3	-0.1
BKZ	**Black Stump Fm**	**2.83**	**200**	P	P	07 06 09.8	-0.5

*MOS **15** 07:35:00.2±0.8, 7.95S×107.16E, h33km, mb5.0/7, Error ellipse: s-maj=28.0km s-min=9.8km az=108.9*
*BJI **15** 07:35:01.4, 8.10S×107.00E, h30km, mB4.8, mb4.8, Ms4.4, Msz4.1*
*NEIC **15** 07:35:01.5±0.3, 8.09S×106.97E, h30km, mb4.8/8, Error ellipse: s-maj=15.2km s-min=7.0km az=68.0*
NEIC Felt [II] at Pelabuhanratu.
*IDC **15** 07:35:13.2±5.5, 8.01S×107.27E, h134km±49km, mb4.1/15, mb1 4.2/15, mb1mx4.2/19, mbtmp4.5/15, MS3.6/3, Ms1 3.6/3, ms1mx3.2/20, Error ellipse: s-maj=18.2km s-min=10.9km az=55.0*
ISC 15 07:35:00.6±0.3, 7.98S±0.06×107.16E±0.09, h37km, h37km±3.7km:pP-P, n74, σ0§98/70, mb4.7/32, MS3.6/6, 10C-3D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**16.61**	**33**	P	P	**07 38 57.6**	**+5.2**
MBWA	**Marble Bar**	**17.86**	**139**	⇑*i*P	P	**07 39 07.7**	**-0.4**
36nm,0.6s							
FITZ	**Fitzroy Crossi**	**20.60**	**121**	*e*P	P	**07 39 41.0**	**+1.7**
12nm,0.3s							
FITZ				*e*S	**S**	**07 43 21.9**	**-0.8**
FITZ	**Fitzroy Crossi**	**20.60**	**121**	P	P	**07 39 40.8**	**+1.4**
22nm,0.7s,baz=244,slow=2.6,SNR=20							
FITZ				S	**S**	**07 43 22.3**	**-0.4**
15nm,0.8s,baz=206,slow=22,SNR=4.9							
FITZ				LR	LR	07 47 48.9	
comp=Z,154nm,19.7s,MS3.4,baz=265,slow=37							
NWAO	**Narrogin (SRO)**	**26.52**	**161**	LR	LR	07 49 40.1	
comp=Z,139nm,21.2s,MS3.5,baz=211,slow=33							
WRAB	**Tennant Creek**	**28.89**	**117**	*e*P	P	**07 40 54.3**	**-4.0**
58nm,1.2s,mb5.2							
WRAB	**Tennant Creek**	**28.89**	**117**	*e*P	P	**07 40 54.3**	**-4.1**
WRAB				pmax	pmax		
comp=Z,58nm,1.2s,mb5.2							
KMI	**Kunming**	**33.19**	**353**	P	P	**07 41 42.3**	**+6.1**
KMI				AP	pP	07 41 52.3	+5.7
KMI				XP	sP	07 41 56.6	+5.2
KMI				S	**S**	**07 46 57.6**	**+5.3**
KMI				AMB	AMB		
comp=Z,7.0nm,0.7s,mb4.7							
KMI				AMB	AMB		
comp=Z,66nm,4.4s							
KMI				LR	LR		
comp=N,95nm,16.7s,MS3.7							
KMI				LR	LR		
comp=E,71nm,14.7s,MS3.7							
KMI				LR	LR		
comp=Z,90nm,18.0s,MS3.5							
CTA	**Charters Tower**	**39.69**	**112**	LR	LR	07 59 38.5	
comp=Z,90nm,21.3s,MS3.6,baz=348,slow=37							
STKA	**Stephens Creek**	**39.87**	**131**	⇑*i*P	P	**07 42 33.8**	**+1.2**
comp=Z,4.9nm,0.3s,mb4.7							
STKA	**Stephens Creek**	**39.87**	**131**	P	P	**07 42 33.9**	**+1.2**
comp=Z,6.3nm,0.4s,mb4.7,baz=316,slow=6.5,SNR=38							
JOW	**Kunigami**	**40.22**	**30**	P	P	**07 42 37.1**	**+1.6**
comp=Z,12nm,0.4s,mb5.0,baz=220,slow=8.3,SNR=5.2							
LSA	**Lhasa**	**40.51**	**338**	P	P	**07 42 38.9**	**+1.0**
SSE	**Sheshan**	**41.12**	**18**	P	P	**07 42 41.8**	**-1.1**
SSE				AMB	AMB		
comp=Z,27nm,0.7s,mb5.0							
SSE				AMB	AMB		
comp=Z,54nm,5.5s							
PKI	**Pulchoki**	**41.14**	**330**	*e*P	P	**07 42 43.4**	**+0.3**
DMN	**Daman**	**41.32**	**330**	*e*P	P	**07 42 44.2**	**-0.4**
comp=Z,3.3nm,0.3s,mb4.5							
NJ2	**Nanjing**	**41.35**	**15**	*e*P	P	**07 42 43.1**	**-1.7**
NJ2				AP	pP	07 42 54.3	-1.1
NJ2				XP	sP	07 42 56.8	-3.1
NJ2				PP	PP	07 44 21.5	-1.9
NJ2				S	**S**	**07 48 53.0**	**-3.6**
NJ2				AMB	AMB		
comp=Z,460nm,5.8s							
NJ2				LR	LR		
comp=N,550nm,30.6s,MS4.3							
NJ2				LR	LR		
comp=E,320nm,32.0s,MS4.3							
NJ2				LR	LR		
comp=Z,610nm,24.1s							
KKN	**Kakani**	**41.38**	**330**	*e*P	P	**07 42 45.0**	**-0.1**
GKN	**Gorkha**	**41.88**	**330**	*e*P	P	**07 42 49.8**	**+0.5**
comp=Z,12nm,0.3s,mb5.0							
KOLN	**Koldanda**	**42.22**	**328**	*e*P	P	**07 42 52.3**	**+0.2**
comp=Z,18nm,0.6s,mb4.9							
GTA	**Gaotai**	**47.64**	**352**	*e*P	P	**07 43 37.8**	**+2.5**
GTA				AMB	AMB		
comp=Z,6.0nm,0.8s,mb4.7							
HHC	**Hu-ho-hao-te**	**48.76**	**4**	*e*P	P	**07 43 50.6**	**+6.7**
HHC				AP	pP	07 43 56.0	+1.4
HHC				XP	sP	07 44 00.3	+1.3
HHC				PP	PP	07 45 43.0	+6.0
HHC				S	**S**	**07 50 52.8**	**+10**
HHC				AMB	AMB		
comp=Z,55nm,0.4s,mb5.9							
HHC				AMB	AMB		
comp=Z,269nm,3.8s							
HHC				LR	LR		
comp=E,593nm,19.6s							
MJAR	**Matsushiro Arr**	**53.02**	**31**	P	P	**07 44 14.7**	**-1.6**
comp=E,1.5nm,0.4s,mb4.3,baz=203,slow=8.0,SNR=7.0							
CN2	**Changchun**	**54.14**	**16**	*e*P	P	**07 44 23.8**	**-0.7**
CN2				AMB	AMB		
comp=Z,10.0nm,1.0s,mb4.7							
WMQ	**Urumqi**	**54.49**	**343**	*e*P	P	**07 44 29.0**	**+1.9**
WMQ				AP	pP	07 44 42.0	+4.1
WMQ				XP	sP	07 44 47.0	+4.8
WMQ				PP	PP	07 46 33.0	+2.1
WMQ				S	**S**	**07 52 03.0**	**+1.2**
WMQ				SS	SS	07 55 46.0	+1.9
WMQ				AMB	AMB		
comp=Z,15nm,1.0s,mb4.9							
WMQ				AMB	AMB		
comp=Z,74nm,7.0s							
WMQ				LR	LR		
comp=N,15nm,16.0s,MS3.8							
WMQ				LR	LR		
comp=E,74nm,17.0s,MS3.8							
WMQ				LR	LR		
comp=Z,17nm,16.0s,MS3.2							
SONM	**Songino Array**	**55.58**	**359**	P	P	**07 44 35.1**	**+0.2**
comp=Z,2.3nm,0.6s,mb4.4,baz=175,slow=7.9,SNR=12							
SONM				PcP	PcP	07 45 34.1	-0.1
comp=Z,3.8nm,0.6s,baz=178,slow=3.8,SNR=11							
MDJ	**Mudanjiang**	**56.13**	**19**	P	P	**07 44 41.5**	**+2.6**
MDJ				AMB	AMB		
comp=Z,3.0nm,0.7s,mb4.4							
MDJ				AMB	AMB		
comp=Z,37nm,4.2s							
ZAK	**Zakamensk**	**58.22**	**357**	*e*P	P	**07 44 51.7**	**-1.9**
ZAK				pmax	pmax		
comp=Z,1.0nm,1.0s,mb3.8							
MKAR	**Makanchi Array**	**58.86**	**340**	P	P	**07 44 58.0**	**-0.1**
comp=Z,8.3nm,0.5s,mb5.0,baz=147,slow=7.2,SNR=83							
MKAR	**Makanchi Array**	**58.86**	**340**	*i* P	P	**07 44 57.6**	**-0.5**
MKAR				pmax	pmax		
comp=Z,6.0nm,0.5s							
KKAR	**Karatay Array**	**60.78**	**330**	*i* P	P	**07 45 09.8**	**-1.6**
KURK	**Kurchatov**	**63.47**	**340**	⇑*i*P	P	**07 45 28.8**	**-0.4**
comp=Z,8.6nm,0.6s,mb5.1							
KURK	**Kurchatov**	**63.47**	**340**	⇑*i*P	P	**07 45 28.8**	**-0.4**
KURK				pmax	pmax		
comp=Z,9.0nm,0.6s,mb5.1							
BOD	**Bodaibo**	**65.81**	**4**	*e*P	P	**07 45 42.7**	**-1.5**
MAW	**Mawson**	**66.48**	**197**	P	P	**07 45 47.4**	**-0.9**
comp=Z,3.4nm,0.5s,mb4.6,baz=61,slow=4.4,SNR=7.4							
VOSK	**Vostochnaya**	**67.86**	**337**	*i* P	P	**07 45 56.8**	**-0.5**
BVA0	**Borovoye Array**	**68.33**	**337**	*i* P	P	**07 45 59.7**	**-0.4**
BVA0				pmax	pmax		
comp=Z,2.0nm,0.7s,mb4.3							
BRVK	**Borovoye**	**68.39**	**337**	⇑*i*P	P	**07 46 00.5**	**0.0**
comp=Z,6.4nm,0.6s,mb4.8							
BRVK	**Borovoye**	**68.39**	**337**	⇑*i*P	P	**07 46 00.5**	**-0.1**
BRVK				pmax	pmax		
comp=Z,6.0nm,0.6s,mb4.8							
AB31	**Akbulak array**	**70.33**	**329**	*i* P	P	**07 46 12.3**	**-0.2**
YAK	**Yakutsk**	**71.96**	**11**	⇓*e*P	P	**07 46 21.6**	**-0.4**
SVE	**Sverdlovsk**	**74.96**	**336**	⇑*e*P	P	**07 46 40.2**	**+0.5**
SVE				pmax	pmax		
comp=Z,36nm,1.5s,mb5.1							
VNDA	**Vanda**	**74.98**	**169**	P	P	**07 46 39.4**	**-0.1**
comp=Z,3.0nm,0.8s,mb4.2,baz=314,slow=6.0,SNR=10							
VNDA	**Vanda**	**74.98**	**169**	*e*P	P	**07 46 39.3**	**-0.2**
comp=Z,4.1nm,0.9s,mb4.4							
VNDA	**Vanda**	**74.98**	**169**	*e*P	P	**07 46 39.3**	**-0.2**
VNDA				pmax	pmax		
comp=Z,4.0nm,0.9s							
ARU	**Arti**	**75.57**	**335**	⇑*e*P	P	**07 46 43.5**	**+0.3**
SBA	**Scott Base**	**76.06**	**169**	*e*P	P	**07 46 46.3**	**+0.7**
ASF	**Jabal al Asfar**	**77.84**	**305**	P	P	**07 46 56.2**	**-0.3**
comp=Z,3.4nm,0.7s,mb4.4,baz=359,slow=5.0,SNR=5.5							
BOSA	**Boshof**	**79.14**	**242**	P	P	**07 47 03.5**	**-0.1**
comp=Z,3.8nm,0.8s,mb4.4,baz=246,slow=15,SNR=6.6							
BOSA	**Boshof**	**79.14**	**242**	*e*P	P	**07 47 03.6**	**-0.1**
BR131	**Keskin Array S**	**82.59**	**312**	P	P	**07 47 21.8**	**+0.1**
comp=Z,1.2nm,0.4s,mb4.3							
BRTR	**Keskin Array B**	**82.59**	**312**	P	P	**07 47 21.8**	**+0.1**
comp=Z,3.9nm,0.8s,mb4.5,baz=127,slow=6.2,SNR=11							
VRSR	**Storozhevoye**	**82.73**	**324**	*e*P	P	**07 47 22.2**	**+0.1**
OBN	**Obninsk**	**85.63**	**327**	⇓*e*P	P	**07 47 37.4**	**+0.9**
OBN	**Obninsk**	**85.63**	**327**	⇓*e*P	P	**07 47 37.3**	**+0.8**
OBN				*e*S	S	07 57 58.1	-6.3
OBN				pmax	pmax		
comp=Z,13nm,0.6s,mb5.3							
BILL	**Bilibino**	**86.36**	**19**	*e*P	P	**07 47 39.5**	**-0.3**
BILL				*e*S	S	07 58 01.9	-9.3
BILL				pmax	pmax		
comp=Z,2.0nm,0.8s,mb4.4							
AKASG	**Malin Array Be**	**88.56**	**322**	P	P	**07 47 50.7**	**-0.1**
comp=Z,0.3nm,0.3s,mb4.1,baz=86,slow=3.8,SNR=4.6							
AKASG	**Malin Array Be**	**88.56**	**322**	P	P	**07 47 50.7**	**-0.1**
SNAA	**Sanae**	**88.64**	**197**	⇑*i*P	P	**07 47 50.8**	**0.0**
SNAA				*e*	*e*	pP	07 48 02.1	-0.1
SNAA				*e*		07 48 05.9	
MLR	**Muntele Rosu**	**89.52**	**316**	P	P	**07 47 56.3**	**+0.7**
comp=Z,2.2nm,0.6s,mb4.7,baz=320,slow=1.8,SNR=5.6							
VNA2	**Neumayer--Watz**	**90.29**	**197**	P	P	**07 47 57.9**	**-0.6**
VNA2				*e*	pP	07 48 07.5	-2.5
VNA2				*e*	pP	07 48 11.1	+1.1
VNA3	**Neumayer Olymp**	**90.81**	**197**	*e*	P	**07 48 07.3**	**+6.3**
VNA3	**Neumayer Olymp**	**90.81**	**197**	*e*	P	**07 48 10.3**	**+9.3**
VNA3	**Neumayer Olymp**	**90.81**	**197**	⇑*i*P	P	**07 47 58.0**	**-3.0**
VNA3				*e*	pP	07 48 07.3	-5.2
VNA3				*e*	pP	07 48 10.3	-2.2
FINES	**FINESS Array B**	**92.70**	**332**	P	P	**07 48 10.7**	**+0.8**
comp=Z,0.5nm,0.5s,mb4.2,baz=90,slow=7.6,SNR=4.3							
ARCES	**ARCESS Array B**	**94.51**	**340**	P	P	**07 48 18.0**	**+0.1**
comp=Z,0.6nm,0.4s,mb4.3,baz=108,slow=5.6,SNR=5.4							
PDAR	**Pinedale Array**	**132.69**	**37**	PKP	PKPdf	07 54 14.5	+2.3
comp=Z,0.3nm,0.6s,baz=101,slow=1.2,SNR=3.9							
WMOK	**Wichita Mounta**	**144.27**	**38**	*e*PKP	PKPdf	07 54 33.9	+0.6
CCM	**Cathedral Cave**	**145.75**	**26**	*e*PKP	PKPdf	07 54 38.0	+2.2
BDFB	**Brasilia**	**146.00**	**226**	PKPbc	PKPbc	07 54 39.0	+1.2
comp=Z,5.9nm,0.6s,baz=96,slow=2.5,SNR=14							
WCI	**Wyandotte Cave**	**147.53**	**20**	*e*PKP	PKPdf	07 54 43.1	+4.4
OXF	**Oxford**	**149.51**	**28**	*e*P	PKPdf	07 54 48.5	+6.5
PLAL	**Pickwick Lake**	**149.71**	**25**	*e*PKP	PKPdf	07

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**12.11**	**48**	LR	LR	07 46 49.0	
	comp=Z,197nm,21.9s,baz=270,slow=31						
IDI	**Anoyia**	**51.47**	**41**	P	**P**	**07 49 39.3**	**+0.7**
	12nm,1.0s,mb4.8,baz=221,slow=9.3,SNR=4.0						
DAVOX	**Davos**	**52.38**	**20**	P	**P**	**07 49 45.6**	**+0.3**
	4.8nm,0.9s,mb4.5,baz=206,slow=15,SNR=8.0						
GERES	**GERESS Array B**	**55.51**	**22**	P	**P**	**07 50 07.9**	**-0.4**
	3.6nm,0.9s,mb4.4,baz=198,slow=6.2,SNR=16						
BRTR	**Keskin Array B**	**59.71**	**41**	P	**P**	**07 50 37.4**	**-0.7**
	1.6nm,0.8s,mb4.1,baz=236,slow=8.9,SNR=5.6						
HFS	**Hagfors**	**65.07**	**15**	P	**P**	**07 51 13.3**	**-0.1**
	2.2nm,0.6s,mb4.3,baz=198,slow=4.7,SNR=5.6						
NB2	**NORSAR Subarra**	**65.26**	**13**	P	**P**	**07 51 15.2**	**+0.6**
	0.7nm,0.7s,mb3.8,baz=204,slow=5.8						
NOA	**NORSAR Array B**	**65.26**	**13**	P	**P**	**07 51 15.1**	**+0.4**
	1.1nm,0.7s,mb4.0,baz=204,slow=6.8,SNR=4.6						
FINES	**FINESS Array B**	**69.76**	**11**	P	**P**	**07 51 43.1**	**+0.3**
	1.8nm,0.7s,mb4.1,baz=207,slow=4.3,SNR=8.2						
KAF	**Kangasniemi**	**70.32**	**19**	*ep*	**P**	**07 51 42.8**	**-3.5**
SNAA	**Sanae**	**70.47**	**176**	*e*	**P**	**07 51 47.1**	**0.0**
SNAA	**Sanae**	**70.47**	**176**	*e*	**P**	**07 51 47.1**	**0.0**
RPN	**Rapa Nui**	**94.18**	**243**	LR	LR	08 30 20.2	
	comp=Z,196nm,21.7s,MS4.5,baz=259,slow=32						

SOF ***15*** *07:42:05.7, 40.04N×24.28E, h9km, MD2.7*
THE ***15*** *07:42:07.5, 39.98N×24.23E, h6km, ML2.8*
CSEM ***15*** *07:42:07.4±0.1, 40.01N×24.24E, h15km, ML2.8, Error ellipse: s-maj=2.0km s-min=1.8km az=124.0*
ATH ***15*** *07:42:08.5, 40.14N×24.27E, h11km±2km, MD3.2/5*
NEIC ***15*** *07:42:08.5, 40.13N×24.27E, h11km, MD3.2(ATH), After ATH.*

ISC 15 07:42:06.2±0.4,**40.03N**±0.02×**24.24E**±0.03,**h5**km±5km, **n24**,σ1§**11**/38,**1D**,**Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.36**	**327**	*e*Pg	**Pg**	**07 42 15.5**	**+2.1**
OUR				*e*Sg	**Sg**	**07 42 20.7**	**+2.5**
PAIG	**Paliouri**	**0.44**	**256**	*e*Pg	**Pg**	**07 42 15.8**	**+0.7**
PAIG				*e*Sg	**Sg**	**07 42 22.4**	**+1.4**
LOS	**Limnos**	**0.66**	**98**	*e*Pg	**Pg**	**07 42 20.1**	**+0.8**
PLG	**Polygyros**	**0.70**	**300**	⇓*i*PB	**Pb**	**07 42 20.8**	**+0.3**
PLG				*e*SB	**Sb**	**07 42 30.2**	**+0.1**
LIA	**Limnos Island**	**0.74**	**100**	*e*PG	**Pg**	**07 42 22.5**	**+1.5**
LIA				*e*SB	**Sb**	**07 42 33.2**	**+1.8**
AOS	**Alonnisos**	**0.91**	**198**	*e*Pg	**Pg**	**07 42 23.6**	**-0.7**
AOS				*e*Sg	**Sg**	**07 42 36.5**	**+0.1**
SOH	**Sokhos**	**1.04**	**320**	*e*Pg	**Pg**	**07 42 27.5**	**+0.6**
XOR	**Xorichti**	**1.05**	**231**	*e*Pg	**Pg**	**07 42 26.7**	**-0.4**
XOR				*e*Sg	**Sg**	**07 42 40.0**	**-1.1**
THE	**Thessaloniki**	**1.14**	**302**	*e*Pg	**Pg**	**07 42 29.4**	**+0.4**
SRS	**Serrai**	**1.19**	**336**	*e*Pg	**Pg**	**07 42 29.9**	**-0.1**
SRS				*e*Sg	**Sg**	**07 42 48.3**	**+2.5**
NVR	**Nevrokopi**	**1.35**	**348**	*e*PB	**Pb**	**07 42 32.2**	**+0.6**
RDO	**Rodhopi**	**1.49**	**41**	*e*PG	**Pg**	**07 42 34.0**	**-1.9**
RDO	**Rodhopi**	**1.49**	**41**	*e*Pn	**Pn**	**07 42 33.5**	**-0.3**
KNT	**Kendrikon**	**1.52**	**318**	*e*Pg	**Pg**	**07 42 35.1**	**-1.4**
KNT				*e*Sg	**Sg**	**07 42 55.9**	**-1.0**
MMB	**Musomiste**	**1.60**	**346**	*e*P	**Pn**	**07 42 35.1**	**-0.3**
MMB				*e*Pg	**Pg**	**07 42 37.5**	**-0.7**
ALN	**Alexandroupoli**	**1.63**	**57**	*e*Pb	**Pb**	**07 42 35.3**	**-1.1**
GRG	**Griva**	**1.68**	**304**	*e*Pb	**Pb**	**07 42 37.5**	**+0.3**
RZN	**Rozhen**	**1.69**	**12**	*e*P	**Pn**	**07 42 37.0**	**+0.3**
RZN				*e*Pg	**Pg**	**07 42 40.0**	**0.0**
PRK	**Paraskevi**	**1.76**	**116**	*e*PN	**Pg**	**07 42 40.9**	**-0.4**
PRK				*e*SN	**Sg**	**07 43 05.5**	**+0.8**
AGG	**Agios Georgios**	**1.79**	**236**	*e*Pb	**Pb**	**07 42 37.7**	**-1.4**
KDZ	**Kurdzhali**	**1.85**	**29**	*e*P	**Pn**	**07 42 38.5**	**-0.4**
KDZ				*e*Pg	**Pg**	**07 42 41.5**	**-1.6**
KKB	**Krupnik**	**2.03**	**335**	*e*P	**Pn**	**07 42 42.0**	**+0.5**
KKB				*e*Pg	**Pg**	**07 42 44.5**	**-2.2**
PGB	**Panagyurishte**	**2.52**	**359**	*e*P	**Pn**	**07 42 48.0**	**-0.5**
PGB				*e*Pg	**Pg**	**07 42 54.5**	**-1.9**
VTS	**Vitosha**	**2.67**	**343**	*e*P	**Pn**	**07 42 51.5**	**+0.8**

NEIC ***15*** *07:47:11.0±0.5, 4.31S×144.53E, h30km, mb4.6/3, Error ellipse: s-maj=14.1km s-min=11.5km az=110.0*
IDC ***15*** *07:47:19.5±6.5, 4.50S×144.45E, h99km±57km, mb4.2/10, mb1 4.4/12, mb1mx4.3/15, mbtmp4.6/12, MS3.6/1, Ms1 3.5/1, ms1mx3.0/13, Error ellipse: s-maj=28.2km s-min=16.4km az=52.0*

ISC 15 07:47:15.0±5.5,**4.5S**±0.1×**144.5E**±0.1,**h73**km±49km,**n30**, σ0§**63**/20,**mb4.4**/13,**1C**,**Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**14.41**	**235**	*e*P	**P**	**07 50 47.7**	**+11**
	35nm,0.5s						
CTA	**Charters Tower**	**15.58**	**174**	P	**P**	**07 50 55.7**	**+4.0**
	0.4nm,0.3s,baz=352,slow=11,SNR=8.1						
CTAO	**Charters Tower**	**15.58**	**174**	*e*P	**P**	**07 50 52.4**	**+0.7**
CTAO				*e*		07 50 56.8	
WRAB	**Tennant Creek**	**18.22**	**212**	*e*P	**P**	**07 51 24.6**	**-0.1**
	37nm,0.6s						
WRA	**Warramunga Arr**	**18.24**	**212**	P	**P**	**07 51 24.5**	**-0.2**
	2.8nm,0.3s,baz=36,slow=12,SNR=101						
FITZ	**Fitzroy Crossi**	**22.84**	**232**	*e*P	**P**	**07 52 12.5**	**-0.3**
	31nm,0.5s,mb4.9						
FITZ	**Fitzroy Crossi**	**22.84**	**232**	P	**P**	**07 52 13.2**	**+0.4**
	37nm,0.5s,mb5.0,baz=40,slow=6.1,SNR=93						
STKA	**Stephens Creek**	**27.36**	**185**	*e*P	**P**	**07 52 54.6**	**-0.8**
	3.5nm,0.6s,mb4.1						
STKA	**Stephens Creek**	**27.36**	**185**	P	**P**	**07 52 54.9**	**-0.5**
	5.4nm,0.7s,mb4.2,baz=354,slow=9.4,SNR=11						
STKA				LR	LR	08 03 59.4	
	comp=Z,124nm,18.6s,baz=26,slow=36						
DZM	**Mont Dzumac**	**27.53**	**131**	P	**P**	**07 52 56.3**	**-0.8**
	4.2nm,0.7s,mb4.1,baz=82,slow=17,SNR=4.1						
MBWA	**Marble Bar**	**29.17**	**233**	*e*P	**P**	**07 53 11.6**	**-0.2**
	5.4nm,0.4s,mb4.5						
FORT	**Forrest**	**30.36**	**209**	*e*P	**P**	**07 53 21.9**	**-0.4**
	9.0nm,0.4s,mb4.8						
KLBR	**Kellerberrin**	**36.80**	**220**	*e*P	**P**	**07 54 17.8**	**+0.1**
	58nm,1.7s,mb5.2						
URZ	**Urewera**	**44.84**	**143**	P	**P**	**07 55 24.7**	**+0.9**
	12nm,1.0s,mb4.6,baz=262,slow=6.8,SNR=11						
RPZ	**Rata Peaks**	**45.55**	**153**	P	**P**	**07 55 30.2**	**+0.8**
	9.2nm,0.4s,mb4.9,baz=238,slow=1.4,SNR=16						
SONM	**Songino Array**	**61.90**	**332**	P	**P**	**07 57 29.5**	**+0.3**
	0.7nm,0.6s,mb3.9,baz=158,slow=8.0,SNR=3.6						
VNDA	**Vanda**	**73.55**	**176**	P	**P**	**07 58 41.5**	**+0.1**
	1.7nm,0.6s,mb4.0,baz=336,slow=10,SNR=6.4						
MKAR	**Makanchi Array**	**74.76**	**321**	P	**P**	**07 58 49.4**	**+0.4**
	1.0nm,0.4s,mb3.9,baz=106,slow=7.4,SNR=14						
BVAR	**Borovoye Array**	**84.09**	**324**	*e*P	**P**	**07 59 39.7**	**+0.6**
	3.2nm,0.7s,mb4.2,baz=108,slow=4.7,SNR=17						
ILAR	**Eielson Array**	**85.12**	**24**	P	**P**	**07 59 42.5**	**-1.4**
	4.1nm,0.6s,mb4.5,baz=254,slow=5.5,SNR=43						
SNAA	**Sanae**	**101.03**	**190**	*e*		08 05 18.1	
VNA2	**Neumayer--Watz**	**102.43**	**189**	*e*		08 05 15.4	
VNA3	**Neumayer Olymp**	**102.49**	**188**	*e*		08 05 16.7	
VNA1	**Neumayer--Stat**	**102.81**	**189**	*e*		08 05 15.3	
BARS	**Barje**	**116.65**	**316**	⇑*i*P	PKPdf	08 05 46.5	-4.6
VLI	**Velíai**	**117.74**	**309**	*e*P	Pdif	08 02 18.8	+6.9
PLCA	**Paso Flores**	**124.73**	**148**	PKP	PKPdf	08 06 08.2	+1.4
	2.2nm,0.6s,baz=197,slow=5.0,SNR=9.6						
CFAA	**Coronel Fontan**	**132.46**	**141**	PKP	PKPdf	08 06 22.6	+0.7
	0.3nm,0.6s,baz=120,slow=3.0,SNR=7.1						
SDV	**Santo Domingo**	**144.88**	**81**	PKP	PKPdf	08 06 44.6	-0.2
	1.7nm,0.4s,baz=308,slow=4.5,SNR=3.7						
SIV	**San Ignacio**	**147.54**	**129**	PKPbc	PKPdf	08 06 52.8	+3.7
	8.3nm,0.6s,baz=247,slow=3.8,SNR=51						

BJI ***15*** *07:53:39.6, 1.48S×13.30W, h8km, mB5.6, mb5.6, Ms5.4, Msz4.9*
IDC ***15*** *07:53:41.0±0.4, 1.59S×13.04W, mb4.7/29, mb1 4.7/30, mb1mx4.7/31, mbtmp4.7/30, ML4.3/1, MS4.8/20, Ms1 4.8/20, ms1mx4.8/20, Error ellipse: s-maj=15.7km s-min=10.1km az=134.0*
HRVD ***15*** *07:53:42.6±0.1, 1.50S×13.01W, h12km, MW5.3/69, Centroid moment Tensor Solution. LP body waves: s54,c99;Mantle waves: s69,c159; Half duration: 1§2 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.26±.02; $M_{\theta\theta}$0.01±.02; $M_{\phi\phi}$1.24±.02; $M_{r\theta}$-0.01±.06; $M_{\theta\phi}$-0.15±.02; $M_{\phi r}$-0.28±.05; Best double couple: $M_0$1.29×10^{17} NP1: ϕ_s171°,δ39°,λ-93°. NP2:ϕ_s355°,δ51°,λ-88°. Principal axes: T 1.288, Plg6°, Azm83°; N -.003, Plg2°, Azm174°; P -1.291, Plg84°, Azm279°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***15*** *07:53:42.6±0.2, 1.68S×13.05W, h10km, mb5.3/132, MS4.9/100 Error ellipse: s-maj=5.3km s-min=3.2km az=128.0*
CRAAG ***15*** *07:53:43.7, 1.67S×13.12W, Mb5.3*
MOS ***15*** *07:53:43.9±0.7, 1.57S×13.11W, h33km, mb5.6/25, MS4.8/18, Error ellipse: s-maj=34.7km s-min=5.4km az=65.6*

ISC 15 07:53:41.4±1.8,**1.69S**±0.04×**13.00W**±0.04,**h15**km±11km, **h23**km±.9km:**pP-P**,**n552**,σ0§**99**/496,**mb5.1**/173,**MS4.9**/134, **16C-114D**,**North of Ascension Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIC	**Lamto**	**11.18**	**45**	*e*Pn	**P**	**07 56 20.4**	**-3.6**
LIC				*e*Sn	**S**	**07 58 18.6**	**-11**
	20nm,0.5s						
DBIC	**Dimbokro**	**11.62**	**44**	Pn	**P**	**07 56 25.6**	**-4.4**
	1.8nm,0.3s,baz=206,slow=15,SNR=17						
DBIC				Sn	**S**	**07 58 27.8**	**-13**
	1.5nm,0.3s,baz=133,slow=19,SNR=4.4						
DBIC				LR	LR	07 59 58.1	
	comp=Z,11μm,21.7s,baz=205,slow=33						
DBIC				T		08 05 35.8	
	0.6nm,0.3s,baz=135,slow=20,SNR=6.1						
RCBR	**Riachuelo**	**23.22**	**259**	*e*P	**P**	**07 58 50.4**	**+1.2**
	138nm,1.6s,mb5.1						
TSUM	**Tsumeb**	**34.63**	**122**	P	**P**	**08 00 33.4**	**+0.8**
	7.8nm,1.1s,mb4.5,baz=289,slow=6.7,SNR=3.9						
TSUM				LR	LR	08 11 56.0	
	comp=Z,3μm,20.6s,MS5.0,baz=287,slow=32						
TSUM	**Tsumeb**	**34.63**	**122**	*e*P	**P**	**08 00 33.9**	**+1.4**
	33nm,1.3s,mb5.1						
TSUM				LR	LR		
	comp=Z,3μm,22.0s,MS5.0						
BDFB	**Brasília**	**37.20**	**246**	P	**P**	**08 00 54.6**	**+0.3**
	comp=Z,7.3nm,0.8s,mb4.6,baz=53,slow=8.0,SNR=10.0						
BDFB				LR	LR	08 13 36.0	
	comp=Z,1μm,21.2s,MS4.7,baz=77,slow=32						
EALB	**Alboran**	**38.57**	**13**	P	**P**	**08 01 06.9**	**+1.3**
	comp=Z,13nm,0.2s,mb5.3						
EMIJ	**Mijas**	**38.82**	**11**	P	**P**	**08 01 08.2**	**+0.5**
	comp=Z,6.1nm,0.7s,mb4.4						
ESPR	**Espera**	**38.93**	**9**	P	**P**	**08 01 10.3**	**+1.7**
	comp=Z,21nm,1.0s,mb4.8						
ETRT	**Tiaret**	**39.23**	**19**	P	**P**	**08 01 12.5**	**+1.3**
PTEO	**Sao Teotonio**	**39.23**	**5**	*e*P	**P**	**08 01 12.6**	**+1.5**
	comp=Z,66nm,1.6s,mb5.1						
ERON	**Agron**	**39.44**	**12**	P	**P**	**08 01 13.6**	**+0.7**
	comp=Z,1.7nm,0.8s						
ELOJ	**Sierra Loja**	**39.50**	**11**	P	**P**	**08 01 14.4**	**+1.0**
	comp=Z,12nm,0.8s,mb4.7						
EBER	**Berja**	**39.52**	**13**	P	**P**	**08 01 14.2**	**+0.7**
	comp=Z,4.6nm,0.5s,mb4.5						
EANR	**`Ain N'Sour**	**39.69**	**18**	P	**P**	**08 01 16.5**	**+1.6**
EMIN	**Mina Concepcio**	**39.69**	**8**	P	**P**	**08 01 16.3**	**+1.4**
	comp=Z,52nm,1.4s,mb5.1						
PBEJ	**Beja**	**39.80**	**6**	*e*P	**P**	**08 01 17.1**	**+1.3**
	comp=Z,31nm,1.6s,mb4.8						
ELUQ	**Luque**	**39.88**	**11**	P	**P**	**08 01 17.4**	**+0.9**
	comp=Z,8.5nm,0.7s,mb4.6						
ECHA	**Ech Chlef**	**39.95**	**18**	P	**P**	**08 01 19.0**	**+1.9**
EBNR	**Beni Rached**	**40.13**	**18**	P	**P**	**08 01 21.0**	**+2.4**
ECAB	**El Cabril**	**40.18**	**9**	P	**P**	**08 01 20.2**	**+1.3**
	comp=Z,6.8nm,0.7s,mb4.5						
EVO	**Evora**	**40.28**	**6**	*e*P	**P**	**08 01 19.6**	**-0.2**
	comp=Z,242nm,1.9s,mb5.3						
EVO				*e*R			
	comp=Z,592nm,19.5s						
EQES	**Quesada**	**40.35**	**12**	P	**P**	**08 01 21.9**	**+1.6**
	comp=Z,8.2nm,0.6s,mb4.6						
EADA	**Adamuz**	**40.41**	**10**	P	**P**	**08 01 22.0**	**+1.2**
	comp=Z,24nm,1.2s,mb4.8						
EHUE	**Huescar**	**40.47**	**13**	P	**P**	**08 01 22.2**	**+0.9**
	comp=Z,1.6nm,0.5s						
EMHD	**Djebel Mahouad**	**40.52**	**20**	P	**P**	**08 01 25.0**	**+3.2**
EBAN	**Banos Encina**	**40.55**	**11**	P	**P**	**08 01 22.4**	**+0.3**
	comp=Z,58nm,1.2s,mb5.1						
EBAD	**Badajoz**	**40.62**	**7**	P	**P**	**08 01 24.1**	**+1.6**
	comp=Z,9.9nm,1.2s,mb4.3						
EMUR	**La Murta**	**40.81**	**14**	P	**P**	**08 01 23.0**	**-1.1**
	comp=Z,4.1nm,1.0s						
EVIA	**Vianos**	**41.27**	**12**	P	**P**	**08 01 27.2**	**-0.7**
	comp=Z,6.6nm,0.8s,mb4.3						
CKHR	**Kef el Ahmar**	**41.29**	**23**	P	**P**	**08 01 30.0**	**+1.9**
PTOM	**Tomar**	**41.32**	**5**	*e*P	**P**	**08 01 29.8**	**+1.5**
	comp=Z,28nm,1.3s,mb4.7						
SET	**Setif**	**41.41**	**23**	P	**P**	**08 01 32.0**	**+2.9**
ETOB	**Tobarra**	**41.50**	**14**	P	**P**	**08 01 30.2**	**+0.5**
	comp=Z,51nm,1.3s,mb5.0						
PCBR	**Castelo Branco**	**41.63**	**6**	*e*P	**P**	**08 01 32.2**	**+1.3**
CTEI	**Djebel Teioual**	**41.69**	**24**	P	**P**	**08 01 31.0**	**-0.4**
CASM	**Ain Smara**	**41.89**	**24**	P	**P**	**08 01 34.0**	**+0.9**
ESDC	**Sonseca Array**	**41.98**	**10**	P	**P**	**08 01 33.6**	**-0.2**
	comp=Z,3.9nm,0.9s,baz=190,slow=8.4,SNR=20						
ESDC				PP	PP	08 03 11.8	-2.5
	comp=Z,8.1nm,1.1s,baz=193,slow=12,SNR=10						
ESDC	**Sonseca Array**	**41.98**	**10**	P	**P**	**08 01 34.9**	**+1.1**
	comp=Z,19nm,1.3s,mb4.6						
ESLA	**Sonseca Array**	**41.98**	**10**	*e*P	**P**	**08 01 34.8**	**+1.0**
	comp=Z,11nm,1.4s,mb4.3						
ESLA				LR	LR		
	comp=Z,3μm,19.0s,MS5.2						
CKFL	**Kef-Lekhel**	**42.10**	**24**	P	**P**	**08 01 35.0**	**+0.2**
MTE	**Manteigas**	**42.18**	**6**	*e*P	**P**	**08 01 36.5**	**+1.1**
	comp=Z,46nm,1.2s,mb5.0						
MTE				*e*PP	PP	08 03 22.3	+6.1
MTE				*e*S	**S**	**08 08 01.6**	**+7.0**
MTE				*e*SS	SS	08 11 07.5	+10
MTE				*e*LR	LR	08 16 14.7	
	comp=Z,641nm,18.0s						
MTE	**Manteigas**	**42.18**	**6**	*e*P	**P**	**08 01 36.2**	**+0.8**
	comp=Z,86nm,1.6s,mb5.1						
ECHE	**Chera**	**42.53**	**14**	P	**P**	**08 01 40.1**	**+1.8**
	comp=Z,24nm,1.1s,mb4.8						
CMAH	**Djebel Manchou**	**42.59**	**25**	P	**P**	**08 01 40.5**	**+1.7**
LSZ	**Lusaka**	**42.80**	**111**	*e*P	**P**	**08 01 42.3**	**+1.5**
	comp=Z,53nm,1.3s,mb5.1						
LSZ				LR	LR		
	comp=Z,2μm,22.0s,MS4.9						
PVRL	**Vila Real**	**43.03**	**6**	*e*P	**P**	**08 01 42.0**	**-0.3**
	comp=Z,47nm,1.5s,mb5.0						
ELOB	**Lobios**	**43.58**	**5**	P	**P**	**08 01 51.4**	**+4.6**
	comp=Z,7.0nm,0.8s,mb4.4						
PBRG	**Braganca**	**43.66**	**7**	*e*P	**P**	**08 01 48.7**	**+1.3**
MBAR	**Mbarara**	**43.74**	**89**	*e*P	**P**	**08 01 47.4**	**-1.1**
	comp=Z,88nm,1.5s,mb5.3						
MBAR				LR	LR		
	comp=Z,932nm,20.0s,MS4.7						
ECAL	**Calabor**	**43.79**	**7**	P	**P**	**08 01 50.0**	**+1.5**
	comp=Z,8.9nm,1.0s,mb4.5						
SUR	**Sutherland**	**44.08**	**137**	PFAKE		08 02 00.0	+9.0
SUR				LR	LR		
	comp=Z,390nm,22.0s,MS4.3						
MATP	**Matopo**	**44.58**	**118**	P	**P**	**08 01 55.0**	**-0.1**
	comp=Z,20nm,0.9s,mb5.0,baz=290,slow=7.7,SNR=32						
MATP				LR	LR	08 18 21.2	
	comp=Z,2μm,19.3s,MS5.1,baz=294,slow=33						
BOSA	**Boshof**	**45.25**	**130**	P	**P**	**08 02 00.8**	**+0.5**
	comp=Z,15nm,1.0s,mb4.8,baz=296,slow=8.0,SNR=8.4						
EGRA	**Graus**	**45.31**	**14**	P	**P**	**08 02 00.9**	**+0.2**
	comp=Z,9.5nm,0.8s,mb4.7						
EARI	**Arriondas**	**45.33**	**8**	P	**P**	**08 02 02.5**	**+1.6**
EMIR	**Miracle**	**45.35**	**15**	P	**P**	**08 02 02.0**	**+0.9**
ELAN	**Lanestosa**	**45.53**	**10**	P	**P**	**08 02 04.2**	**+1.7**
	comp=Z,41nm,1.2s,mb5.2						
EBIE	**Bielsa**	**45.73**	**14**	P	**P**	**08 02 05.7**	**+1.7**
	comp=Z,7.1nm,0.9s,mb4.6						
ETSF	**Etsaut**	**45.77**	**13**	⇓*i*P	**P**	**08 02 05.1**	**+0.7**
	comp=Z,76nm,1.3s,mb5.2						
LARF	**Larrau**	**45.81**	**12**	⇓*e*P	**P**	**08 02 05.6**	**+0.9**
SJPF	**Ste Jean**	**45.84**	**12**	⇓*i*P	**P**	**08 02 05.6**	**+0.7**
	comp=Z,87nm,1.3s,mb5.2						
EALK	**Alkurruntz**	**45.88**	**12**	P	**P**	**08 02 06.4**	**+1.2**
REYF	**Montagne du Re**	**45.98**	**13**	⇓*e*P	**P**	**08 02 06.8**	**+0.8**
MELF	**Melles**	**46.06**	**14**	⇓*e*P	**P**	**08 02 07.6**	**+1.0**
SALF	**Salau**	**46.06**	**15**	*e*P	**P**	**08 02 07.9**	**+1.3**
LABF	**Labassere**	**46.06**	**13**	⇓*e*P	**P**	**08 02 07.6**	**+1.0**
EPF	**Esparros**	**46.10**	**14**	⇓*i*P	**P**	**08 02 07.9**	**+0.9**
	comp=Z,188nm,1.7s,mb5.4						
MTLF	**Montolieu**	**46.86**	**15**	⇓*i*P	**P**	**08 02 13.0**	**0.0**
	comp=Z,61nm,1.3s,mb5.1						
SOI	**Samo**	**47.80**	**31**	P	**P**	**08 02 21.9**	**+1.4**
	comp=Z,44nm,1.3s,mb5.3						
CEL	**Celeste**	**47.86**	**31**	P	**P**	**08 02 22.4**	**+1.5**
LASF	**Ste Croix**	**47.99**	**16**	⇓*i*P	**P**	**08 02 22.0**	**+0.1**
	comp=Z,170nm,1.5s,mb5.5						
LFF	**La Frestale**	**48.01**	**13**	⇓*i*P	**P**	**08 02 22.1**	**+0.1**
	comp=Z,142nm,1.5s,mb5.5						
LMR	**La Mourre**	**48.12**	**19**	⇓*i*P	**P**	**08 02 23.1**	**+0.2**
	comp=Z,116nm,1.4s,mb5.4						
PGF	**Pioggiola**	**48.30**	**22**	⇓*i*P	**P**	**08 02 24.6**	**+0.3**
	comp=Z,139nm,1.5s,mb5.5						
CAF	**Calviac**	**48.31**	**14**	⇓*i*P	**P**	**08 02 24.2**	**-0.1**
	comp=Z,104nm,1.3s,mb5.4						
FRF	**La Foret Royal**	**48.37**	**19**	⇓*i*P	**P**	**08 02 24.9**	**+0.1**
	comp=Z,76nm,1.2s,mb5.3						
RJF	**Les Rejaudoux**	**48.53**	**14**	⇓*i*P	**P**	**08 02 25.8**	**-0.2**
	comp=Z,125nm,1.5s,mb5.4						
RJF				*e*R			
	comp=Z,1μm,21.5s						
LBL	**Lubilhac**	**48.89**	**15**	⇓*e*P	**P**	**08 02 30.2**	**+1.4**
SBF	**Sospel**	**48.90**	**20**	⇓*i*P	**P**	**08 02 29.2**	**+0.3**
	comp=Z,144nm,1.2s,mb5.6						
VIVF	**Saint-Julien-l**	**48.94**	**17**	⇓*i*P	**P**	**08 02 29.6**	**+0.5**
	comp=Z,101nm,1.5s,mb5.3						
TOUF	**Mont Tournerai**	**48.97**	**19**	*e*P	**P**	**08 02 30.4**	**+1.0**
TIP	**Timpagrande**	**49.00**	**31**	*e*P	**P**	**08 02 30.0**	**+0.3**
AUTN	**L'Aution**	**49.02**	**19**	*e*P	**P**	**08 02 30.0**	**+0.2**
IMI	**Imperia**	**49.10**	**20**	P	**P**	**08 02 30.1**	**-0.3**
CPUP	**Villa Florida**	**49.12**	**236**	P	**P**	**08 02 30.8**	**0.0**
	comp=Z,4.8nm,0.9s,mb4.5,baz=85,slow=10.0,SNR=7.0						
CPUP				LR	LR	08 20 40.2	
	comp=Z,1μm,19.7s,MS4.9,baz=93,slow=33						
CPUP	**Villa Florida**	**49.12**	**236**	*e*P	**P**	**08 02 30.8**	**0.0**
	comp=Z,65nm,1.5s,mb5.4						
CPUP				LR	LR		
	comp=Z,1μm,19.0s,MS5.0						
MGR	**Morigerati**	**49.13**	**29**	P	**P**	**08 02 31.5**	**+0.8**
	comp=Z,39nm,1.6s,mb5.2						
CUC	**Castrocucco**	**49.14**	**29**	P	**P**	**08 02 31.4**	**+0.6**
MONE	**Monesi**	**49.20**	**20**	P	**P**	**08 02 32.8**	**+1.6**
STV	**Sta Anna Valdi**	**49.20**	**19**	P	**P**	**08 02 31.9**	**+0.7**
STV2	**Anna di Valdie**	**49.20**	**19**	P	**P**	**08 02 32.1**	**+0.9**
ENR	**Entracque**	**49.22**	**19**	P	**P**	**08 02 32.5**	**+1.2**
PYM	**Petit Puy Mans**	**49.31**	**15**	*e*P	**P**	**08 02 33.9**	**+1.9**
ORIF	**Oris-en-Rattie**	**49.35**	**18**	⇓*i*P	**P**	**08 02 32.5**	**+0.2**
	comp=Z,183nm,1.6s,mb5.5						
ORIF				*e*R			
	comp=Z,2μm,20.8s						
MFF	**Saint Martin d**	**49.40**	**12**	⇓*i*P	**P**	**08 02 32.5**	**-0.2**
	comp=Z,70nm,1.4s,mb5.2						
ROB	**Roburent**	**49.43**	**20**	P	**P**	**08 02 33.8**	**+0.8**
SIV	**San Ignacio**	**49.43**	**250**	P	**P**	**08 02 34.1**	**+0.8**
	comp=Z,5.5nm,1.0s,mb4.5,baz=95,slow=9.4,SNR=13						
CSSN	**Cassano Irpino**	**49.44**	**28**	P	**P**	**08 02 34.3**	**+1.2**
MBDF	**Montbardon**	**49.45**	**18**	⇓*i*P	**P**	**08 02 34.3**	**+1.2**
	comp=Z,100nm,1.2s,mb5.4						
FIN	**Finale Ligure**	**49.47**	**20**	P	**P**	**08 02 32.4**	**-0.8**
MRLC	**Muro Lucano**	**49.58**	**28**	P	**P**	**08 02 35.7**	**+1.6**
TCF	**Toulx Ste Croi**	**49.62**

BNALP	**Bannalp**	51.89	19	⇓	*i*P	**P**	**08 02 50.8 -0.8**
BOURR	**Bourrignon**	51.99	17	⇓	*i*P	**P**	**08 02 51.9 -0.5**
BERNI	**Berninapass**	52.02	20	⇓	*i*P	**P**	**08 02 52.0 -0.6**
BERNI	**Berninapass**	52.02	20	⇓	*i*P	**P**	**08 02 52.1 -0.5**
ATH	**Athens Observa**	52.02	37		*e*P	**P**	**08 02 43.5 -9.2**
LKR	**Lokris**	52.04	36		*e*P	**P**	**08 02 53.1 +0.2**
MUO	**Muotathal**	52.04	19	⇓	*i*P	**P**	**08 02 52.0 -0.8**
LLS	**Linth-Limmern**	52.06	19	⇓	*i*P	**P**	**08 02 51.9 -1.0**
BALST	**Balsthal**	52.08	18	⇓	*i*P	**P**	**08 02 52.4 -0.7**
BBS	**Basel-Blauen**	52.13	18	⇓	*e*P	**P**	**08 02 53.1 -0.4**
BRMO	**Bormio**	52.19	20		P	**P**	**08 02 53.7 -0.2**
HINF	**Hinteralfeld**	52.26	17		*e*P	**P**	**08 02 53.6 -0.8**
	comp=Z,136nm,1.8s,mb5.3						
FUORN	**Ofenpass**	52.28	20	⇓	*i*P	**P**	**08 02 54.0 -0.6**
FUORN	**Ofenpass**	52.28	20		P	**P**	**08 02 54.8 +0.2**
CTI	**Castel Tesino**	52.28	22		P	**P**	**08 02 54.1 -0.5**
	comp=Z,155nm,1.8s,mb5.6						
HAU	**Haudompre**	52.29	16	⇓	*i*P	**P**	**08 02 54.0 -0.6**
	comp=Z,114nm,1.2s,mb5.4						
HAU					*e*R		
	comp=Z,913nm,19.5s						
DAVOX	**Davos**	52.29	20		P	**P**	**08 02 54.0 -0.6**
	comp=Z,32nm,0.9s,mb5.2,baz=224,slow=7.6,SNR=34						
DAVOX	**Davos**	52.29	30	⇓	*i*P	**P**	**08 02 53.9 -0.7**
DAVOX	**Davos**	52.29	20		P	**P**	**08 02 54.2 -0.4**
PLONS	**Plons**	52.36	19	⇓	*i*P	**P**	**08 02 53.9 -1.3**
MOF	**Molkenrain**	52.37	17	⇓	*e*P	**P**	**08 02 54.5 -0.8**
SULZ	**Sulz-Cheisache**	52.38	18	⇓	*i*P	**P**	**08 02 54.4 -0.9**
THEF	**They Montfort**	52.39	16	⇓	*e*P	**P**	**08 02 55.1 -0.3**
MEZF	**Maizieres J'vi**	52.39	15	⇓	*i*P	**P**	**08 02 55.3 -0.1**
	comp=Z,156nm,1.5s,mb5.4						
KZN	**Kozani**	52.47	33		*e*P	**P**	**08 02 56.7 +0.5**
WILA	**Wila**	52.52	19	⇓	*i*P	**P**	**08 02 55.5 -0.9**
APE	**Apeiranthos**	52.56	39		*e*P	**P**	**08 02 56.5 -0.4**
LIENZ	**Alp Oberkamor**	52.61	19	⇓	*i*P	**P**	**08 02 56.0 -1.1**
NEO	**Neokhori**	52.61	35		*e*P	**P**	**08 02 57.1 -0.1**
FELD	**Feldberg**	52.65	18	⇓	*e*P	**P**	**08 02 56.7 -0.7**
FELD	**Feldberg**	52.65	18	⇓	*e*P	**P**	**08 02 56.6 -0.8**
KARP	**Karpathos**	52.69	41		*e*P	**P**	**08 02 58.0 +0.2**
KIZ	**Kirchzarten**	52.70	18		*e*P	**P**	**08 02 56.9 -0.8**
SLE	**Schleitheim**	52.71	18	⇓	*i*P	**P**	**08 02 56.7 -1.1**
ECH	**Echery**	52.71	17		*e*P	**P**	**08 02 57.5 -0.3**
DAVA	**Damuels**	52.73	19	⇓	*i*P	**P**	**08 02 56.9 -1.0**
	comp=Z,121nm,1.6s,mb5.6						
LIBD	**Limburg**	52.78	17	⇓	*e*P	**P**	**08 02 57.9 -0.4**
CDF	**Champ du Feu**	52.92	17	⇓	*i*P	**P**	**08 02 58.5 -0.8**
	comp=Z,68nm,1.3s,mb5.1						
WLS	**Welschbruch**	52.94	17	⇓	*e*P	**P**	**08 02 58.6 -0.9**
SEST	**Monte Rota**	53.08	21		P	**P**	**08 03 03.7 +3.1**
SPAK	**Spaichingen**	53.09	18	⇓	*e*P	**P**	**08 02 59.9 -0.8**
VOY	**Vojsko**	53.12	23		*e*P	**P**	**08 03 00.8 -0.1**
VOY					*e*		08 03 26.8
SQTA	**Sankt Quirin**	53.12	20	⇓	*i*P	**P**	**08 03 00.0 -0.9**
	comp=Z,41nm,1.1s,mb5.3						
ROBS	**Robic**	53.15	23		*e*P	**P**	**08 03 00.8 -0.2**
UBR	**Uberruh**	53.15	19	⇓	*e*P	**P**	**08 03 00.2 -0.9**
BFO	**Black Forest**	53.16	18		*e*P	**P**	**08 03 00.4 -0.7**
	comp=Z,52nm,1.4s,mb5.3						
BFO					*e*pP	pP	08 03 07.3 +1.7
BFO					*e*sP	sP	08 03 12.9 +5.6
BFO					*e*PP	PP	08 04 56.5 -6.3
BFO	**Black Forest**	**53.16**	**18**		***e*P**	**P**	**08 03 00.4 -0.7**
BFO					*e**PP	pP	08 03 07.3 +1.7
BFO					*e**SP	sP	08 03 12.9 +5.6
BFO					*e*		08 04 56.5
BFO					pmax	pmax	
	comp=Z,52nm,1.4s,mb5.3						
GUT	**Gutenstein**	53.17	18	⇓	*e*P	**P**	**08 03 00.4 -0.8**
MOTA	**Moosalm**	53.20	20	⇓	*i*P	**P**	**08 03 00.1 -1.3**
	comp=Z,64nm,1.3s,mb5.4						
BOJS	**Bojanci**	53.24	25		*e*P	**P**	**08 03 01.6 -0.1**
WTTA	**Wattenberg**	53.31	21	⇑	*i*P	**P**	**08 03 01.4 -0.9**
	comp=Z,202nm,1.9s,mb5.7						
WATA	**Walderalm**	53.35	21	⇑	*i*P	**P**	**08 03 01.7 -0.9**
	comp=Z,64nm,1.3s,mb5.4						
LJU	**Ljubljana**	53.38	24		*i*P	**P**	**08 03 02.9 +0.1**
PLG	**Polygyros**	53.45	34		*e*P	**P**	**08 03 03.6 +0.2**
SKO	**Skopje**	53.47	32		*e*P	**P**	**08 03 02.1 -1.4**
LANF	**Langenberg**	53.58	17	⇓	*e*P	**P**	**08 03 03.5 -0.7**
LBG	**Lerchenberg**	53.60	18		*e*P	**P**	**08 03 03.3 -1.0**
BAIF	**Baives**	53.62	14	⇓	*i*P	**P**	**08 03 03.5 -1.0**
	comp=Z,168nm,1.4s,mb5.5						
MENF	**Mencas**	53.64	12	⇓	*e*P	**P**	**08 03 03.4 -1.2**
ARG	**Arkhangelos**	53.72	41		*e*P	**P**	**08 03 01.6 -3.8**
WLF	**Walferdange**	53.74	15		*e*P	**P**	**08 03 05.3 -0.1**
	comp=Z,17nm,1.2s,mb4.9						
OBKA	**Obir**	53.77	23	⇓	*i*P	**P**	**08 03 05.9 +0.3**
	comp=Z,97nm,1.9s,mb5.4						
SMG	**Samos**	53.77	39		*e*P	**P**	**08 03 00.9 -4.8**
KBA	**Koelnbreinsper**	53.78	22	⇓	*i*P	**P**	**08 03 05.5 -0.2**
	comp=Z,243nm,3.0s						
GIVF	**Givet**	53.81	14		*e*P	**P**	**08 03 04.8 -1.0**
	comp=Z,176nm,1.5s,mb5.5						
BBLS	**Bajina Basta -**	53.83	29		*i*P	**P**	**08 03 06.6 +0.6**
FUR	**Furstenfeldbru**	53.96	20		*e*P	**P**	**08 03 06.2 -0.8**
	comp=Z,71nm,1.0s,mb5.5						
FUR					*e*pP	pP	08 03 13.2 +1.8
FUR	**Furstenfeldbru**	**53.96**	**20**		***e*P**	**P**	**08 03 06.2 -0.8**
FUR					*e**PP	pP	08 03 13.2 +1.8
FUR					pmax	pmax	
	comp=Z,71nm,1.0s,mb5.5						
HDH	**Heidenheim**	53.97	19	⇓	*e*P	**P**	**08 03 06.3 -0.7**
KTD	**Kalmit**	53.97	17		*e*P	**P**	**08 03 06.6 -0.4**
URLA	**Izmir**	54.02	38		*i*P	**P**	**08 03 04.7 -2.8**
RUP	**Ruppelstein**	54.02	16		*e*P	**P**	**08 03 07.0 -0.4**
RUP	**Ruppelstein**	54.02	16	⇓	*e*P	**P**	**08 03 07.0 -0.4**
PERS	**Pernice**	54.10	24		*e*P	**P**	**08 03 07.5 -0.5**
LIA	**Limnos Island**	54.14	36		*e*P	**P**	**08 03 09.2 +0.8**
KKB	**Krupnik**	54.27	33		*e*P	**P**	**08 03 10.0 +0.7**
DIVS	**Divcibare**	54.28	29	⇑	*i*P	**P**	**08 03 10.1 +0.7**
SWS	**Schriesheim**	54.30	17		*e*P	**P**	**08 03 08.4 -1.0**
ABH	**Alteburg**	54.32	16	⇓	*e*P	**P**	**08 03 08.8 -0.8**
ABH	**Alteburg**	54.32	16	⇓	*e*P	**P**	**08 03 08.5 -1.1**
NVR	**Nevrokopi**	54.34	34		*e*P	**P**	**08 03 10.0 +0.2**
PRK	**Paraskevi**	54.37	37		*e*P	**P**	**08 03 11.4 +1.3**
KOGS	**Kog**	54.41	25		*e*P	**P**	**08 03 10.0 -0.3**
MMB	**Musomiste**	54.43	33		*e*P	**P**	**08 03 10.5 0.0**
TOD	**Tromm**	54.44	17	⇓	*e*P	**P**	**08 03 09.8 -0.6**
TOD	**Tromm**	54.44	17	⇓	*e*P	**P**	**08 03 09.6 -0.8**
SIND	**Sindeldorf**	54.45	18	⇓	*e*P	**P**	**08 03 09.7 -0.9**
GRUS	**Gruza**	54.48	30	⇑	*i*P	**P**	**08 03 11.0 +0.2**
HGN	**Heimansgroeve**	54.70	15		*e*P	**P**	**08 03 11.1 -1.3**
	comp=Z,65nm,1.5s,mb5.5						
HGN					*e*x	x	08 03 19.1
HGN					*e*x	x	08 03 24.8
HGN					*e*PP	PP	08 05 18.3 +1.8
HGN					*e*PPP	PPP	08 06 33.3 +5.2
HGN					*e*S	**S**	**08 10 59.7 +9.4**
HGN					*e*SS	SS	08 14 41.8 +8.7
ARSA	**Arzberg**	**54.76**	**23**	⇓	***i*P**	**P**	**08 03 12.4 -0.5**
	comp=Z,151nm,2.8s,mb5.5						
MOA	**Molln**	**54.77**	**22**	⇓	***i*P**	**P**	**08 03 11.4 -1.5**
	comp=Z,64nm,1.4s,mb5.5						
TAYS	**Tayyib Ism**	54.83	53		P	**P**	**08 03 14.5 +0.8**
VTS	**Vitosha**	54.84	32		*e*P	**P**	**08 03 13.5 0.0**
VTS	**Vitosha**	54.84	32		P	**P**	**08 03 15.0 +1.5**
TNS	**Taunus Mts**	54.88	17		*e*P	**P**	**08 03 13.1 -0.7**
	comp=Z,30nm,1.1s,mb5.2						
TNS					*e*pP	pP	08 03 19.8 +1.6
TNS					*e*sP	sP	08 03 25.3 +5.4
TNS					*e*PP	PP	08 05 12.7 -5.6
TNS	**Taunus Mts**	**54.88**	**17**		***e*P**	**P**	**08 03 13.1 -0.7**
TNS					*e**PP	pP	08 03 19.8 +1.6
TNS					*e**SP	sP	08 03 25.3 +5.4
TNS					*e*		08 05 12.7
TNS					pmax	pmax	
	comp=Z,30nm,1.1s,mb5.2						
BDAS	**Al Bad'**	54.96	53		P	**P**	**08 03 15.1 +0.5**
SVIS	**Svilajnac**	55.03	30	⇑	*i*P	**P**	**08 03 15.2 +0.3**
BEO	**Belgrade**	55.04	29	⇑	*i*P	**P**	**08 03 15.4 +0.5**
RZN	**Rozhen**	55.05	34		*e*P	**P**	**08 03 11.0 -4.1**
RDO	**Rodhopi**	55.15	35		*e*P	**P**	**08 03 16.3 +0.4**
DBAS	**Duba**	55.18	55		P	**P**	**08 03 16.6 +0.4**
GOLH	**Golhisar**	55.25	41		*i*P	**P**	**08 03 15.5 -1.1**
PKSM	**Moragy**	55.25	26		P	**P**	**08 03 16.8 +0.3**
GRA1	**Grafenberg Arr**	55.26	19		*e*P	**P**	**08 03 15.6 -0.9**
	comp=Z,47nm,1.5s,mb5.3						
GRA1					*e*S	**S**	**08 11 05.8 +7.9**
GRA1					*e*SS	SS	08 14 46.3 +4.1
GRA1					LR	LR	
	comp=Z,700nm,21.2s,MS4.7						
GRF	**Grafenberg Arr**	**55.26**	**19**		***e*P**	**P**	**08 03 15.6 -0.9**
	comp=Z,47nm,1.5s,mb5.3						
GRF					*e*S	**S**	**08 11 05.8 +7.9**
GRF					*e*SS	SS	08 14 46.3 +4.1
GRF					LR	LR	
	comp=Z,700nm,21.2s,MS4.7						
JMOS	**Jabal al Moall**	**55.28**	**52**		P	**P**	**08 03 18.0 +1.0**
PGB	**Panagyurishte**	**55.32**	**33**		***e*P**	**P**	**08 03 18.0 +0.9**
WET	**Wettzell**	**55.35**	**20**		***e*P**	**P**	**08 03 16.3 -0.9**
	comp=Z,48nm,1.2s,mb5.4						
WET					*e*sP	sP	08 03 28.9 +5.6
WET	**Wettzell**	**55.35**	**20**		***e*P**	**P**	**08 03 16.3 -0.9**
WET					*e**SP	sP	08 03 28.9 +5.6
WET					pmax	pmax	
	comp=Z,48nm,1.2s,mb5.4						
GEC2	**GERESS Array S**	**55.39**	**21**		***e*P**	**P**	**08 03 16.8 -0.7**
	comp=Z,87nm,1.2s,mb5.7						
GEC2					*e*sP	sP	08 03 29.5 +5.9
GEC2					*e*PP	PP	08 05 19.0 -3.8
GEC2	**GERESS Array S**	**55.39**	**21**		***e*P**	**P**	**08 03 16.8 -0.7**
GEC2					*e**SP	sP	08 03 29.5 +5.9
GEC2					*e*		08 05 19.0
GEC2					pmax	pmax	
	comp=Z,87nm,1.2s,mb5.7						
GERES	**GERESS Array B**	**55.39**	**21**		P	**P**	**08 03 16.6 -0.8**
	comp=Z,27nm,0.9s,mb5.2,baz=207,slow=6.0,SNR=105						
GERES					PP	PP	08 05 19.5 -3.3
	comp=Z,16nm,1.2s,baz=207,slow=9.0,SNR=7.3						
GERES					LR	LR	08 26 51.8
	comp=Z,864nm,18.4s,MS4.9,baz=214,slow=36						
SOP	**Sopron**	**55.53**	**24**		***e*P**	**P**	**08 03 18.3 -0.2**
UMJS	**Umm Lajj**	**55.54**	**58**		P	**P**	**08 03 20.0 +1.1**
KHC	**Kasperske Hory**	**55.59**	**21**		***e*P**	**P**	**08 03 17.8 -1.1**
KHC					*e*pP	pP	08 03 24.5 +1.2
KHC					*e*PP	PP	08 05 20.2 -4.4
KHC					*e*S	**S**	**08 11 04.5 +2.3**
KHC					AMS	AMS	08 27 50.0
	comp=Z,1μm,17.3s						
JMQS	**Jabal Moqyreh**	**55.77**	**53**		P	**P**	**08 03 21.7 +1.2**
SJG	**San Juan**	**55.87**	**293**		LR	LR	08 21 41.9
	comp=Z,1μm,21.1s,MS5.0,baz=95,slow=30						
WTSB	**Winterswijk**	**56.02**	**15**		***e*P**	**P**	**08 03 21.9 0.0**
	comp=Z,46nm,1.2s,mb5.4						
WTSB					*e*x	x	08 03 28.5
WTSB					*e*x	x	08 03 33.8
TBKS	**Tabuk**	**56.04**	**54**		P	**P**	**08 03 23.9 +1.5**
NKC	**Novy Kostel**	**56.13**	**19**		***e*P**	**P**	**08 03 22.0 -0.8**
NKC					*e*pP	pP	08 03 29.5 +2.3
NKC					AMS	AMS	08 27 40.0
	comp=Z,700nm,17.8s						
LPAZ	**La Paz**	**56.16**	**252**		P	**P**	**08 03 22.9 -0.5**
	comp=Z,3.4nm,1.1s,mb4.3,baz=63,slow=9.3,SNR=5.7						
LPAZ					LR	LR	08 26 26.4
	comp=Z,2μm,19.7s,MS5.2,baz=86,slow=35						
LPAZ	**La Paz**	**56.16**	**252**		***e*P**	**P**	**08 03 23.0 -0.4**
	comp=Z,38nm,1.6s,mb5.2						
LPAZ					LR	LR	
	comp=Z,2μm,20.0s,MS5.3						
ZST	**Bratislava**	**56.16**	**24**		***e*P**	**P**	**08 03 21.9 -1.1**
ZST					*e*PP	PP	08 05 26.5 -3.3
ZST					*e*L		08 29 03.9
ZST	**Bratislava**	**56.16**	**24**		***e*P**	**P**	**08 03 21.9 -1.1**
ZST					*e*PP	PP	08 05 26.5 -3.3
TKTP	**Tekketepe**	**56.20**	**41**		***i*P**	**P**	**08 03 23.0 -0.5**
ISP	**Isparta**	**56.21**	**41**	⇓	***e*P**	**P**	**08 03 24.4 +0.9**
ISP	**Isparta**	**56.21**	**41**	⇓	***e*P**	**P**	**08 03 24.3 +0.8**
MOX	**Moxa**	**56.22**	**19**	⇓	***i*P**	**P**	**08 03 22.3 -1.1**
	comp=Z,logA/T=1.6,mb5.4						
MOX					*e*	pP	08 03 28.0 +0.2
MOX					*e*		08 03 40.0
MOX					PP	PP	08 05 30.0 -0.2
MOX					S	**S**	**08 11 15.0 +4.4**
MOX					SS	SS	08 15 00.0 +2.3
MOX					SSS	SSS	08 17 00.0 -5.8
MOX					LR	LR	08 20 30.0
MOX					L		08 28 50.0
MOX	**Moxa**	**56.22**	**19**	⇓	***e*P**	**P**	**08 03 22.3 -1.1**
	comp=Z,59nm,1.6s,mb5.4						
MOX					*i*	pP	08 03 28.0 +0.2
MOX					*e*		08 03 40.0
MOX					*e*PP	PP	08 05 30.0 -0.2
MOX					*e*S	**S**	**08 11 15.0 +4.4**
MOX					*e*SS	SS	08 15 00.0 +2.3
MOX					*e*SSS	SSS	08 17 00.0 -5.8
MOX					*e*LR	LR	08 21 30.0
MOX	**Moxa**	**56.22**	**19**		***e*P**	**P**	**08 03 22.3 -1.1**
MOX					pmax	pmax	
	comp=Z,59nm,1.6s,mb5.4						
MOX					MLR	MLR	
	comp=Z,800nm,19.0s,MS4.8						
GDZ	**Gediz**	**56.26**	**39**		***i*P**	**P**	**08 03 23.2 -0.7**
SRO	**Srobarova**	**56.35**	**25**		***e*P**	**P**	**08 03 23.5 -0.9**
TREC	**Trest**	**56.42**	**22**		***e*P**	**P**	**08 03 23.5 -1.3**
TREC					*e*pP	pP	08 03 30.6 +1.3
PRU	**Pruhonice**	**56.65**	**21**		***e*P**	**P**	**08 03 24.8 -1.7**
PRU					*e*pP	pP	08 03 30.9 -0.1
PRU					AMS	AMS	08 28 40.0
	comp=Z,900nm,17.7s						
VRAC	**Vranov**	**56.85**	**23**		P	**P**	**08 03 26.6 -1.3**
	comp=Z,27nm,1.1s,mb5.2,baz=215,slow=7.4,SNR=25						
VRAC	**Vranov**	**56.85**	**23**		P	**P**	**08 03 26.9 -1.0**
VYHS	**Vyhne**	**57.10**	**25**		***i*P**	**P**	**08 03 29.3 -0.5**
PVCC	**Panska Ves**	**57.11**	**21**		***e*P**	**P**	**08 03 28.5 -1.3**
PVCC					*e*pP	pP	08 03 34.9 +0.7
PVCC					AMS	AMS	08 29 00.0
	comp=Z,800nm,17.6s						
PSZ	**Piszkesteto**	**57.11**	**26**	⇓	***e*P**	**P**	**08 03 29.6 -0.2**
PSZ	**Piszkesteto**	**57.11**	**26**		***e*P**	**P**	**08 03 29.7 -0.1**
	comp=Z,43nm,1.2s,mb5.4						
PSZ	**Piszkesteto**	**57.11**	**26**		P	**P**	**08 03 29.8 0.0**
ERMK	**Ermenek**	**57.18**	**43**		***i*P**	**P**	**08 03 28.8 -1.6**
BRG	**Berggiesshubel**	**57.18**	**20**		***e*P**	**P**	**08 03 29.5 -0.8**
	comp=Z,42nm,1.3s,mb5.3						
BRG					*e*		08 05 37.8
BRG					S	**S**	**08 11 27.0 +3.7**
BRG					*e*		08 12 36.0
BRG					SS	SS	08 15 19.0 +5.1
BRG					LR	LR	
	comp=Z,830nm,16.3s,MS4.9						
BRG	**Berggiesshubel**	**57.18**	**20**		***e*P**	**P**	**08 03 29.5 -0.8**
BRG					*e*		08 05 37.8
BRG					S	**S**	**08 11 27.0 +3.7**
BRG					pmax	pmax	
	comp=Z,41nm,1.3s,mb5.3						
BRG					pmax	pmax	
	comp=Z,55nm,1.7s,mb5.3						
BRG					pmax	pmax	
	comp=Z,6.0nm,1.2s,mb4.5						
BRG					MLR	MLR	
	comp=N,732nm,15.2s						
BRG					MLR	MLR	
	comp=E,355nm,21.7s						
BRG					MLR	MLR	
	comp=Z,834nm,16.3s,MS4.9						
CLL	**Collm**	**57.23**	**19**	⇓	P	**P**	**08 03 29.5 -1.1**
	comp=Z,logA/T=1.4,mb5.2						
CLL					*i**PP	pP	08 03 36.3 +1.2
CLL					*i**SP	sP	08 03 42.2 +5.4
CLL					*i* PP	PP	08 05 34.7 -4.7
CLL					*e*		08 07 07.0
CLL					*e*S	**S**	**08 11 29.0 +5.0**
CLL					*e*SS	SS	08 15 18.0 +3.3
CLL					*e*		08 18 16.0
CLL	**Collm**	**57.23**	**19**	⇓	***i*P**	**P**	**08 03 29.5 -1.1**
	comp=Z,35nm,1.4s,mb5.2						
CLL					*i* pP	pP	08 03 36.3 +1.2
CLL					*e*S	**S**	**08 11 29.0 +5.0**
CLL	**Collm**	**57.23**	**19**	⇓	***i*P**	**P**	**08 03 29.5 -1.1**
CLL					*i**PP	pP	08 03 36.3 +1.2
CLL					*e*S	**S**	**08 11 29.0 +5.0**
CLL					pmax	pmax	
	comp=Z,35nm,1.4s,mb5.2						
ESK	**Eskdalemuir**	**57.38**	**7**		***e*P**	**P**	**08 03 30.8 -0.8**
	comp=Z,23nm,1.1s,mb5.1						
ESK					LR	LR	
	comp=Z,91nm,21.0s,MS3.9						
ESKT	**Eskisehir**	**57.38**	**40**		***i*P**	**P**	**08 03 31.2 -0.6**
ESKA	**Eskdalemuir Ar**	**57.40**	**7**		P	**P**	**08 03 30.6 -1.1**
	comp=Z,10nm,1.0s,mb4.8,baz=188,slow=8.4,SNR=15						
DRGR		**57.56**	**28**		P	**P**	**08 03 32.0 -1.0**
DPC	**Dobruska-Polom**	**57.59**	**22**		***e*P**	**P**	**08 03 31.8 -1.4**
DPC					*e*pP	pP	08 03 38.7 +1.0
DPC					*e*S	**S**	**08 11 32.8 +4.1**
DPC					AMS	AMS	08 27 20.0
	comp=Z,1μm,16.1s						
MORC	**Moravsky Berou**	**57.59**	**23**		***e*P**	**P**	**08 03 32.4 -0.8**
	comp=Z,27nm,1.3s,mb5.1						
UPC	**Upice**	**57.61**	**22**		***e*P**	**P**	**08 03 32.0 -1.3**
UPC					*e*pP	pP	08 03 39.1 +1.3
KDHN	**Kadinhani**	**57.64**	**41**		***i*P**	**P**	**08 03 26.6 -7.1**
BLJS	**Baljurashi**	**57.65**	**65**		P	**P**	**08 03 38.4 +4.5**
VOIR		**57.76**	**31**	⇓	P	**P**	**08 03 33.9 -0.5**
VOIR		**57.76**	**31**		P	**P**	**08 03 34.1 -0.3**
KECS	**Kecovo**	**57.80**	**26**		***e*P**	**P**	**08 03 34.2 -0.4**
OKC	**Ostrava-Krasne**	**57.88**	**23**		***e*P**	**P**	**08 03 34.4 -0.8**
OKC					*e*pP	pP	08 03 40.9 +1.2
OKC					AMS	AMS	08 27 50.0
	comp=Z,600nm,19.3s						
ASF	**Jabal al Asfar**	**57.95**	**50**		P	**P**	**08 03 35.8 -0.1**
	comp=Z,17nm,1.1s,mb5.0,baz=171,slow=1.5,SNR=7.5						
KSP	**Ksiaz**	**57.99**	**21**		***e*P**	**P**	**08 03 35.2 -0.7**
KSP					*e*S	**S**	**08 11 29.8 -4.1**
KSP					MLR	MLR	08 30 06.9
	comp=Z,2μm,17.7s,MS5.2						
KSP	**Ksiaz**	**57.99**	**21**		***e*P**	**P**	**08 03 34.9 -1.0**
KSP					*e*		08 03 41.6
KSP					*e*PP	PP	08 05 46.5 +0.3
KSP					*e*S	**S**	**08 11 38.8 +4.9**
KSP					*e*SS	SS	08 15 33.3 +6.5
KSP					LR	LR	
	comp=Z,1μm,27.6s,MS4.8						
LVC	**Limon Verde**	**58.08**	**244**		P	**P**	**08 03 37.0 +0.1**
	comp=Z,3.1nm,0.6s,mb4.5,baz=80,slow=3.7,SNR=7.3						
LVC					LR	LR	08 26 11.0
	comp=Z,776nm,21.5s,MS4.8,baz=72,slow=34						
LVC	**Limon Verde**	**58.08**	**244**		***e*P**	**P**	**08 03 37.1 +0.2**
	comp=Z,8.5nm,0.8s,mb4.8						
LVC					LR	LR	
	comp=Z,810nm,22.0s,MS4.8						
RAC	**Raciborz**	**58.09**	**23**		***e*P**	**P**	**08 03 36.6 -0.1**
RAC					MLR	MLR	08 28 39.1
	comp=Z,600nm,21.3s,MS4.7						
HENT	**Hendek**	**58.16**	**38**		***i*P**	**P**	**08 03 35.7 -1.5**
MLR	**Muntele Rosu**	**58.26**	**31**		P	**P**	**08 03 37.2 -0.7**
	comp=Z,22nm,1.1s,mb5.1,baz=248,slow=1.9,SNR=11						
MLR	**Muntele Rosu**	**58.26**	**31**	⇓	P	**P**	**08 03 37.3 -0.6**
MLR	**Muntele Rosu**	**58.26**	**31**		P	**P**	**08 03 37.2 -0.7**
SDV	**Santo Domingo**	**58.38**	**281**		***e*P**	**P**	**08 03 39.0 -0.2**
	comp=Z,12nm,1.2s,mb4.8						
SDV					LR	LR	
	comp=Z,540nm,22.0s,MS4.6						
NIE	**Niedzica**	**58.44**	**25**		***e*P**	**P**	**08 03 39.6 +0.5**
CRVS	**Cervenica-Dubn**	**58.54**	**26**		***e*P**	**P**	**08 03 39.4 -0.4**
UZH	**Uzhgorod**	**58.71**	**27**		***i*P**	**P**	**08 03 42.0 +1.0**
UZH					*e*S	**S**	**08 11 57.0 +14**
BSEG	**Bad Segeberg**	**58.72**	**16**		***e*P**	**P**	**08 03 40.1 -0.9**
BSEG					*e**PP	pP	08 03 47.1 +1.6
BSEG					*e**SP	sP	08 03 52.8 +5.6
BSEG					pmax	pmax	
	comp=Z,29nm,1.0s,mb5.3						
ANTO	**Ankara**	**58.82**	**40**		***e*P**	**P**	**08 03 43.0 +1.1**
	comp=Z,77nm,1.4s,mb5.5						
STHS	**Stebnicka Huta**	**58.83**	**25**		***e*P**	**P**	**08 03 41.9 +0.1**
OJC	**Ojcow**	**58.84**	**24**	⇓	***i*P**	**P**	**08 03 41.0 -0.9**
OJC					*e*S	**S**	**08 11 49.5 +4.4**
OJC					MLR	MLR	08 29 51.1
	comp=Z,1μm,20.1s,MS5.0						
VRI	**Vrincioaia**	**58.91**	**31**	⇓	P	**P**	**08 03 41.5 -1.0**
KOLS	**Kolonicke sedl**	**58.92**	**26**		***i*P**	**P**	**08 03 42.5 0.0**
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PLCA Paso Flores      64.75 225  P     P     08 04 21.5 -0.3
     comp=Z,5.0nm,1.1s,mb4.4,baz=85,slow=6.2,SNR=3.7
PLCA                             LR    LR    08 27 53.3
     comp=Z,785nm,19.6s,MS4.9,baz=57,slow=32
PLCA Paso Flores      64.75 225  eP    P     08 04 20.9 -0.9
PLCA                             ePP   PP    08 06 44.1 -2.2
PLCA                             LR    LR
     comp=Z,1μm,20.0s,MS5.1
HFS  Hagfors          65.06  14  P     P     08 04 21.9 -1.4
     comp=Z,11nm,0.5s,mb5.1,baz=180,slow=5.9,SNR=60
SOC  Sochi            65.17  40  eP    P     08 04 23.7 -0.7
SOC                              eS    S     08 13 06.1 +0.9
SOC                              e           08 14 12.5
SOC                              eSSS  SSS   08 20 04.8 -6.7
SOC                              pmax  pmax
     comp=Z,25nm,1.0s,mb5.2
SOC                              pmax  pmax
     comp=N,17nm,1.2s
SOC                              pmax  pmax
     comp=E,17nm,1.0s
NB2  NORSAR Subarra   65.28  13  P     P     08 04 23.7 -1.1
     comp=E,32nm,1.1s,mb5.3,baz=204,slow=7.0
NB2  NORSAR Subarra   65.28  13  P     P     08 04 23.7 -1.1
     baz=204,slow=6.9
NOA  NORSAR Array B   65.28  13  P     P     08 04 23.8 -1.1
     comp=E,12nm,0.9s,mb4.9,baz=205,slow=6.7,SNR=17
NOA                              LR    LR    08 33 03.9
     comp=E,242nm,18.7s,MS4.4,baz=205,slow=36
MNK  Minsk            65.33  25  eP    P     08 04 22.0 -3.2
BORG Borgarnes        66.56 356  LR    LR    08 30 13.3
     comp=E,230nm,20.9s,MS4.4,baz=174,slow=33
EMMW East Machias     66.81 321  PFAKE       08 04 50.0 +15
EMMW                             LR    LR
     comp=Z,3μm,20.0s,MS5.4
GNI  Garni            67.03  45  P     P     08 04 36.6 +0.2
     comp=Z,3.7nm,0.3s,mb4.8,baz=160,slow=6.0,SNR=6.4
GNI  Garni            67.03  45  P     P     08 04 36.6 +0.2
GNI                              LR    LR
     comp=Z,390nm,20.0s,MS4.6
GNI  Garni            67.03  45d iP    P     08 04 36.5 +0.1
GNI                              pmax  pmax
     comp=Z,26nm,1.3s
GNI                              MLR   MLR
     comp=Z,200nm,13.0s
KIV  Kislovodsk       67.25  40  eP    P     08 04 37.6 -0.1
     comp=Z,41nm,1.2s,mb5.3
KIV                              LR    LR
     comp=Z,59nm,20.0s,MS3.8
KIV  Kislovodsk       67.25  40⇓ eP    P     08 04 37.4 -0.3
KIV                              pmax  pmax
     comp=Z,25nm,0.8s,mb5.3
KIV                              MLR   MLR
     comp=Z,300nm,25.0s,MS4.4
TI2  Plekhanov        67.67  43  i P   P     08 04 31.0 -9.4
VSU  Vasula           67.72  21d iP    P     08 04 38.8 -1.6
GOF  Gofitskoye       67.96  39⇑ iP    P     08 04 38.0 -4.1
GOF                              pmax  pmax
     comp=Z,70nm,1.2s,mb5.6
DGRG David-gareji     67.99  44  P     P     08 04 41.1 -1.3
PQI  Presque Isle     68.07 323  PFAKE       08 04 50.0 +7.2
PQI                              LR    LR
     comp=Z,2μm,19.0s,MS5.5
HRV  Harvard--Oak R   68.54 317  PFAKE       08 05 00.0 +14
HRV                              LR    LR
     comp=Z,750nm,20.0s,MS4.9
VNA1 Neumayer--Stat   68.92 178  e     P     08 04 51.2 +3.5
VNA1 Neumayer--Stat   68.92 178  e     P     08 04 55.9 +8.2
VNA1 Neumayer--Stat   68.92 178  eS    S     08 13 56.9 +6.9
VNA1 Neumayer--Stat   68.92 178⇑ iP    P     08 04 48.7 +1.0
VNA1                             e           08 04 55.9
VNA1                             e           08 11 03.3
VNA1                             eS    S     08 13 56.9 +6.9
VNA1                             e           08 14 21.4
VNA1                             e           08 14 38.5
VNA1                             e           08 14 47.6
VNA1                             e           08 14 53.3
VOR  Voronezh         69.01  32  eP    P     08 04 48.2 -0.3
VOR                              pmax  pmax
     comp=Z,120nm,2.5s,mb5.4
VNA2 Neumayer--Watz   69.23 178  e     P     08 04 52.6 +3.1
VNA2 Neumayer--Watz   69.23 178  e     P     08 04 57.3 +7.8
VNA2 Neumayer--Watz   69.23 178  eS    S     08 13 55.1 +1.5
VNA2 Neumayer--Watz   69.23 178⇑ iP    P     08 04 50.2 +0.7
VNA2                             e           08 04 57.3
VNA2                             eS    S     08 13 55.1 +1.5
VNA2                             e           08 14 22.0
VNA2                             e           08 14 36.0
VNA2                             e           08 14 44.1
VNA3 Neumayer Olymp   69.48 179  e     P     08 04 54.0 +2.9
VNA3 Neumayer Olymp   69.48 179  e     P     08 04 58.8 +7.7
VNA3 Neumayer Olymp   69.48 179  eS    S     08 13 52.1 -4.5
VNA3 Neumayer Olymp   69.48 179⇑ iP    P     08 04 50.9 -0.2
VNA3                             e           08 04 58.8
VNA3                             e           08 11 05.6
VNA3                             eS    S     08 13 52.1 -4.5
VNA3                             e           08 14 32.8
VNA3                             e           08 14 41.1
OBN  Obninsk          69.60  28⇑ eP    P     08 04 51.1 -1.0
OBN                              LR    LR
     comp=Z,900nm,23.0s,MS5.0
OBN  Obninsk          69.60  28⇑ eP    P     08 04 51.1 -1.0
OBN                              e           08 07 25.0
OBN                              pmax  pmax
     comp=Z,26nm,0.9s,mb5.2
OBN                              MLR   MLR
     comp=Z,900nm,23.0s,MS5.0
FINES FINESS Array B  69.68  19  P     P     08 04 51.4 -1.0
     comp=Z,11nm,0.6s,mb4.9,baz=214,slow=6.9,SNR=38
MAK  Makhachkala      70.03  43  eP    P     08 04 54.0 -0.9
MAK                              e           08 05 18.0
MAK                              eS    S     08 13 57.0 -6.6
MAK                              e           08 14 50.0
MAK                              eSS   SS    08 18 34.0 -0.7
MAK                              pmax  pmax
     comp=Z,400nm,4.0s
MAK                              pmax  pmax
     comp=Z,500nm,8.0s
MAK                              smax
     comp=E,300nm,6.0s
SNAA Sanae            70.18 177  e     P     08 04 58.4 +3.0
SNAA Sanae            70.18 177  e     P     08 05 02.7 +7.3
SNAA Sanae            70.18 177  eS    S     08 14 00.6 -4.3
SNAA Sanae            70.18 177⇓ iP    P     08 04 55.3 -0.1
SNAA                             e           08 05 02.7
SNAA                             eS    S     08 14 00.6 -4.3
SNAA                             e           08 14 27.9
SNAA                             e           08 14 36.8
SNAA                             e           08 14 47.6
SNAA                             e           08 14 54.2
SNAA Sanae            70.18 177d iP    P     08 04 55.2 -0.2
KAF  Kangasniemi      70.25  18  ep    P     08 04 54.2 -1.7
     comp=E,19nm,1.1s,mb5.0,baz=221,slow=6.1
KAF  Kangasniemi      70.25  18  eP    P     08 04 54.2 -1.7
KAF                              pmax  pmax
     comp=Z,19nm,1.1s,mb4.9
MOS  Moscow           70.45  28  eP    P     08 04 55.5 -1.7
MOS                              pmax  pmax
     comp=Z,112nm,1.5s,mb5.6
MOS                              MLR   MLR
     comp=Z,800nm,20.7s,MS5.0
BINY Binghamton       71.47 316  eP    P     08 05 04.4 +0.7
     comp=Z,11nm,0.8s,mb4.8
BINY                             LR    LR
     comp=Z,991nm,22.0s,MS5.0
SCHQ Schefferville    71.49 330  P     P     08 05 03.5 -0.1
     comp=Z,3.8nm,0.8s,mb4.4,baz=87,slow=13,SNR=3.8
SCHQ                             LR    LR    08 31 08.7
     comp=Z,264nm,19.8s,MS4.5,baz=354,slow=32
SCHQ Schefferville    71.49 330  P     P     08 05 03.5 -0.1
SCHQ                             LR    LR    08 31 08.7
DWPF Disney           71.89 300  PFAKE       08 05 20.0 +14
DWPF                             LR    LR
     comp=Z,849nm,22.0s,MS5.0
NHSC New Hope         71.97 306  PFAKE       08 05 20.0 +13
NHSC                             LR    LR
     comp=Z,718nm,20.0s,MS4.9
JMIC Jan Mayen        72.60  2  eP    P     08 05 13.9 +4.0
JMIC                             AMS   AMS   08 40 54.0
     comp=Z,154nm,17.6s,MS4.3
PMSA Palmer Station   72.80 200  eP    P     08 05 11.1 -0.1
BLA  Blacksburg       73.22 310  P     P     08 05 14.7 +0.5
BLA                              LR    LR
     comp=Z,649nm,20.0s,MS4.9
MCWV Mont Chateau     73.45 312  PFAKE       08 05 30.0 +15
MCWV                             LR    LR
     comp=Z,438nm,19.0s,MS4.8
ELN  Prospectdale     73.47 310  eP    P     08 05 14.3 -1.4
FWV  Forest Hill      73.61 310  eP    P     08 05 16.7 +0.3
ALLY Alegheny Colle   74.24 314  eP    P     08 05 20.1 +0.1
TRO  Tromso           74.36  11  eP    P     08 05 22.1 +2.1
TRO                              AMb   AMB   08 05 25.9
     comp=Z,50nm,1.4s,mb5.2
TRO                              AMS   AMS   08 37 23.9
     comp=Z,222nm,21.6s,MS4.4
MYNC Murphy           75.61 307  eP    P     08 05 27.9 -0.1
     comp=Z,55nm,1.6s,mb5.2
ARCES ARCESS Array B  75.65  13  P     P     08 05 26.9 -0.6
     comp=Z,10nm,1.0s,mb4.7,baz=218,slow=5.3,SNR=17
ARCES ARCESS Array B  75.65  13  P     P     08 05 26.9 -0.6
SUMG Summit           75.87 352  eP    P     08 05 29.8 +1.1
     comp=Z,363nm,2.5s,mb5.9
KEV  Kevo             76.16  13  eP    P     08 05 29.7 -0.7
     comp=Z,27nm,1.1s,mb5.1
KEV                              LR    LR
     comp=Z,462nm,20.0s,MS4.8
APA  Apatity          76.26  17⇓ iP    P     08 05 30.5 -0.5
APA                              eS    S     08 15 16.0 +2.5
APA                              pmax  pmax
     comp=Z,64nm,1.5s,mb5.3
APA                              MLR   MLR
     comp=Z,1μm,18.0s,MS5.2
LVZ  Lovozero         76.83  17  i P   P     08 05 32.9 -1.3
LVZ                              i S   S     08 15 16.2 -3.6
LVZ                              pmax  pmax
     comp=Z,47nm,1.4s,mb5.2
LVZ                              pmax  pmax
     comp=N,18nm,1.5s
LVZ                              pmax  pmax
     comp=E,6.0nm,1.2s
LVZ                              smax
     comp=N,94nm,12.3s
LVZ                              smax
     comp=Z,25nm,8.6s
LVZ                              smax
     comp=E,40nm,14.6s
LVZ                              MLR   MLR
     comp=Z,453nm,20.0s,MS4.8
LVZ                              MLR   MLR
     comp=N,315nm,19.0s,MS4.7
LVZ                              MLR   MLR
     comp=E,169nm,18.0s,MS4.7
LRAL Lakeview Retre   77.55 304  eP    P     08 05 38.1 -0.8
     comp=E,17nm,1.4s,mb4.8
LRAL                             LR    LR
     comp=Z,1μm,21.0s,MS5.1
WCI  Wyandotte Cave   77.98 310  eP    P     08 05 40.9 -0.2
     comp=Z,15nm,1.2s,mb4.8
WCI                              LR    LR
     comp=Z,429nm,22.0s,MS4.7
PLAL Pickwick Lake    78.78 306  eP    P     08 05 44.8 -0.8
     comp=Z,25nm,1.5s,mb4.9
PLAL                             LR    LR
     comp=Z,421nm,20.0s,MS4.8
WVT  Waverly          78.78 307  eP    P     08 05 44.9 -0.7
     comp=Z,16nm,1.3s,mb4.8
WVT                              LR    LR
     comp=Z,648nm,22.0s,MS4.9
OXF  Oxford           79.78 305  eP    P     08 05 49.6 -1.5
     comp=Z,20nm,1.1s,mb5.0
OXF                              LR    LR
     comp=Z,431nm,19.0s,MS4.8
FVM  French Village   81.14 309  eP    P     08 05 57.4 -0.7
     comp=Z,24nm,1.3s,mb5.0
ARU  Arti             81.29  32  eP    P     08 05 58.6 +0.1
     comp=Z,36nm,1.3s,mb5.1
ARU                              LR    LR
     comp=Z,130nm,20.0s,MS4.3
ARU  Arti             81.29  32⇓ iP    P     08 05 58.5 -0.1
ARU                              e           08 09 04.7
ARU                              eS    S     08 16 08.4 +1.2
ARU                              eSS   SS    08 21 26.5 +0.2
ARU                              pmax  pmax
     comp=Z,21nm,1.4s,mb4.9
KBS  Kingsbay         81.57  5  eP    P     08 06 03.5 +3.9
KBS                              eS    S     08 16 15.3 +5.6
KBS                              AMS   AMS   08 44 35.4
     comp=Z,92nm,19.2s,MS4.2
KBS  Kingsbay         81.57  5  PFAKE       08 06 10.0 +10
KBS                              LR    LR
     comp=Z,212nm,19.0s,MS4.5
CCM  Cathedral Cave   81.79 309  eP    P     08 06 00.0 -1.5
     comp=Z,26nm,1.3s,mb5.0
UALR University of    82.21 305  eP    P     08 06 03.8  0.0
     comp=Z,7.5nm,0.8s,mb4.7
SVE  Sverdlovsk       82.50  32  eP    P     08 06 05.7 +0.9
SVE                              pmax  pmax
     comp=Z,125nm,2.1s,mb5.6
SVE                              MLR   MLR
     comp=N,100nm,12.0s,MS5.0
SVE                              MLR   MLR
     comp=E,400nm,12.0s,MS5.0
SVE                              MLR   MLR
     comp=Z,500nm,12.0s,MS5.1
MAW  Mawson           83.08 158  P     P     08 06 09.3 +1.7
     comp=Z,6.2nm,0.7s,mb4.8,baz=266,slow=5.2,SNR=8.9
MAW                              LR    LR    08 34 43.6
     comp=Z,295nm,20.9s,MS4.6,baz=274,slow=30
NATX Nacogdoches      83.79 302  eP    P     08 06 12.6 +0.5
     comp=Z,39nm,1.1s,mb5.5
KSU1 Kansas State U   86.09 309  eP    P     08 06 22.4 -1.0
BRVK Borovoye         87.29  37  eP    P     08 06 29.5 +0.6
     comp=Z,21nm,2.1s,mb5.0
BRVK                             LR    LR
     comp=Z,81nm,20.0s,MS4.1
BVAR Borovoye Array   87.35  37  P     P     08 06 29.5 +0.3
     comp=Z,1.0nm,0.6s,mb4.2,baz=243,slow=3.2,SNR=6.2
BVAR Borovoye Array   87.35  37  P     P     08 06 29.5 +0.3
WMOK Wichita Mounta   87.48 305  eP    P     08 06 30.0 -0.3
     comp=Z,21nm,1.3s,mb5.2
WMOK                             LR    LR
     comp=Z,857nm,22.0s,MS5.1
QSPA South Pole Qui   88.39 180  eP    P     08 06 35.6 +2.0
     comp=Z,43nm,1.0s,mb5.6
QSPA                             e           08 06 44.1
CBKS Cedar Bluff      88.50 309  eP    P     08 06 35.6 +0.5
     comp=Z,29nm,1.2s,mb5.5
CBKS                             LR    LR
     comp=Z,769nm,22.0s,MS5.1
AAK  Ala-Archa        89.28  48  eP    P     08 06 38.6 -0.1
     comp=Z,13nm,1.4s,mb5.0
AAK                              LR    LR
     comp=Z,96nm,20.0s,MS4.2
FRU  Bishkek          89.38  47  eP    P     08 06 39.0 -0.1
FRU                              e           08 06 54.0
FRU                              pmax  pmax
     comp=Z,60nm,2.0s,mb5.6
RES  Resolute Bay     89.47 345  P     P     08 06 38.0 -0.8
LTX  Lajitas          91.40 299  eP    P     08 06 48.8  0.0
LTX                              LR    LR
     comp=Z,419nm,21.0s,MS4.9
RSSD Black Hills      91.91 314  eP    P     08 06 51.5 +0.8
RSSD                             LR    LR
     comp=Z,752nm,20.0s,MS5.1
GDL2 Guadalupe Moun   92.05 302  P     P     08 06 52.8 +1.1
KURK Kurchatov        92.32  39  eP    P     08 06 52.9 +0.4
     comp=Z,17nm,2.0s,mb5.0
KURK                             LR    LR
     comp=Z,77nm,21.0s,MS4.1
MNTX Cornudas Mount   92.91 301  PFAKE       08 07 10.0 +14
MNTX                             LR    LR
     comp=Z,473nm,22.0s,MS4.9
SDCO Great Sand Dun   93.01 308  eP    P     08 06 57.4 +1.4
     comp=Z,25nm,1.8s,mb5.3
SDCO                             LR    LR
     comp=Z,511nm,20.0s,MS5.0
ISCO Idaho Springs    93.08 310  PFAKE       08 07 10.0 +14
ISCO                             LR    LR
     comp=Z,953nm,22.0s,MS5.2
LAO  LASA Array       93.44 316  PFAKE       08 07 10.0 +12
LAO                              LR    LR
     comp=Z,687nm,21.0s,MS5.1
ANMO Albuquerque      93.80 305  eP    P     08 07 00.1 +0.4
     comp=Z,3.3nm,1.3s,mb4.6
ANMO                             LR    LR
     comp=Z,704nm,21.0s,MS5.1
ANMO Albuquerque      93.80 305⇓ eP    P     08 07 00.0 +0.3
PALK Pallekele        93.88  83  PFAKE       08 07 10.0 +9.4
PALK                             LR    LR
     comp=Z,176nm,22.0s,MS4.5
BNM  Barren Site      93.95 304  P     P     08 07 01.4 +1.0
MKAR Makanchi Array   94.85  43  P     P     08 07 04.9 +0.6
     comp=Z,0.4nm,0.6s,baz=270,slow=3.6,SNR=3.9
MKAR                             LR    LR    08 56 58.2
     comp=Z,204nm,19.4s,MS4.6,baz=180,slow=40
BW06 Boulder Array    95.96 313  PFAKE       08 07 20.0 +11
BW06                             LR    LR
     comp=Z,770nm,22.0s,MS5.1
PDAR Pinedale Array   95.96 313  LR    LR    08 44 53.5
     comp=Z,667nm,21.7s,MS5.1,baz=113,slow=32
LKWY Lake             96.46 314  PFAKE       08 07 20.0 +8.3
LKWY                             LR    LR
     comp=Z,724nm,21.0s,MS5.1
YKA  Yellowknife Ar   96.85 333  LR    LR    08 50 35.5
     comp=Z,285nm,18.3s,MS4.8,baz=100,slow=35
AHID Auburn Hatcher   97.10 313  PFAKE       08 07 30.0 +15
AHID                             LR    LR
     comp=Z,556nm,19.0s,MS5.1
BOZ  Bozeman (W)      97.24 316  PFAKE       08 07 30.0 +15
BOZ                              LR    LR
     comp=Z,461nm,20.0s,MS5.0
TUC  Tucson           97.48 302  PFAKE       08 07 30.0 +13
TUC                              LR    LR
     comp=Z,324nm,21.0s,MS4.8
HWUT Hardware Ranch   97.53 312  PFAKE       08 07 30.0 +13
HWUT                             LR    LR
     comp=Z,602nm,20.0s,MS5.1
EDM  Edmonton         97.55 323  P     P     08 07 16.7 +0.4
DUG  Dugway           98.59 310  PFAKE       08 07 30.0 +8.6
DUG                              LR    LR
     comp=Z,683nm,20.0s,MS5.1
MSO  Missoula         98.72 317  PFAKE       08 07 30.0 +8.2
MSO                              LR    LR
     comp=Z,472nm,20.0s,MS5.0
WMQ  Urumqi           98.88  46  eP    P     08 07 23.0 +0.4
WMQ                              PP    PP    08 11 27.0 +0.3
WMQ                              SKS   SKS   08 17 59.0 -6.0
WMQ                              S     S     08 18 50.0 +1.5
WMQ                              SS    SS    08 25 41.0 +1.5
WMQ                              AMB   AMB
     comp=Z,12nm,1.0s,mb5.4
WMQ                              AMB   AMB
     comp=Z,21nm,10.0s
WMQ                              LR    LR
     comp=N,244nm,24.0s,MS4.9
WMQ                              LR    LR
     comp=E,365nm,24.0s,MS4.9
WMQ                              LR    LR
     comp=Z,248nm,24.0s,MS4.6
HLID Hailey           99.43 314  PFAKE       08 07 40.0 +15
HLID                             LR    LR
     comp=Z,1μm,22.0s,MS5.4
ELK  Elko             100.37 311 PFAKE       08 07 40.0 +11
ELK                              LR    LR
     comp=Z,710nm,22.0s,MS5.1
NEW  Newport          100.65 319 PFAKE       08 07 40.0 +9.5
NEW                              LR    LR
     comp=Z,861nm,22.0s,MS5.2
VNDA Vanda            100.84 179 P     P     08 07 31.1 +0.3
VNDA                             LR    LR
     comp=Z,433nm,21.0s,MS4.9
BMO  Blue Mountains   101.32 315 PFAKE       08 07 50.0 +16
BMO                              LR    LR
     comp=Z,483nm,21.0s,MS5.0
BMN  Battle Mountai   101.91 311 PFAKE       08 07 50.0 +14
BMN                              LR    LR
     comp=Z,602nm,21.0s,MS5.1
PFO  Pinyon Flat Ob   102.14 304 PFAKE       08 07 50.0 +12
PFO                              LR    LR
     comp=Z,88nm,20.0s,MS4.3
TPH  Tonopah          102.23 308 PFAKE       08 07 50.0 +12
TPH                              LR    LR
     comp=Z,459nm,20.0s,MS5.0
WVOR Wild Horse Val   102.66 313 PFAKE       08 07 50.0 +10
WVOR                             LR    LR
     comp=Z,560nm,21.0s,MS5.1
DAC  Darwin (Calif)   102.75 307 PFAKE       08 07 50.0 +10
DAC                              LR    LR
     comp=Z,432nm,22.0s,MS4.9
LSA  Lhasa            103.12  60 PFAKE       08 07 50.0 +7.9
LSA                              LR    LR
     comp=Z,420nm,20.0s,MS5.0
ISA  Isabella         103.54 306 PFAKE       08 08 00.0 +16
ISA                              LR    LR
     comp=Z,125nm,22.0s,MS4.4
MOD  Modoc            103.97 313 PFAKE       08 08 00.0 +14
MOD                              LR    LR
     comp=Z,412nm,22.0s,MS4.9
CMB  Columbia Colle   104.70 309 PFAKE       08 08 00.0 +11
CMB                              LR    LR
     comp=Z,378nm,20.0s,MS4.9
OCWA Octopus Mounta   105.39 319 PFAKE       08 12 20.0
OCWA                             LR    LR
     comp=Z,1μm,20.0s,MS5.4
COR  Corvallis        105.56 316 PFAKE       08 12 20.0
COR                              LR    LR
     comp=Z,641nm,22.0s,MS5.1
SAO  San Andreas Ge   105.75 308 PFAKE       08 12 20.0
SAO                              LR    LR
     comp=Z,418nm,20.0s,MS5.0
HUMO Hull Mountain    105.76 314 PFAKE       08 12 20.0
HUMO                             LR    LR
     comp=Z,452nm,19.0s,MS5.0
YBH  Yreka Blue Hor   105.77 313 PFAKE       08 12 20.0
YBH                              LR    LR
     comp=Z,524nm,22.0s,MS5.0
WDC  Whiskeytown Da   105.88 312 PFAKE       08 12 20.0
WDC                              LR    LR
     comp=Z,304nm,20.0s,MS4.8
HOPS Hopland          106.60 310 PFAKE       08 12 20.0
HOPS                             LR    LR
     comp=Z,482nm,19.0s,MS5.1
SIT  Sitka            108.45 331 PFAKE       08 12 20.0
SIT                              LR    LR
     comp=Z,725nm,19.0s,MS5.3
MCK  McKinley         110.23 341 PFAKE       08 12 30.0 +14
MCK                              LR    LR
     comp=Z,102nm,21.0s,MS4.4
PMR  Palmer           111.73 339 PFAKE       08 12 30.0 +11
PMR                              LR    LR
     comp=Z,213nm,20.0s,MS4.7
LZH  Lanzhou          112.50  51 ePKP  PKPdf 08 12 16.5 -4.6
LZH                              XPKP        08 12 20.0
LZH                              ePP   PP    08 13 07.8 -0.9
LZH                              eSKKS       08 19 57.5
LZH                              SS    SS    08 28 42.5 -2.9
LZH                              PP    PP
     comp=Z,122nm,8.2s
LZH                              LR    LR
     comp=N,992nm,20.0s
LZH                              LR    LR
     comp=Z,1μm,21.0s,MS5.5
YAK  Yakutsk          113.61  18 PFAKE       08 12 30.0 +7.3
YAK                              LR    LR
     comp=Z,397nm,20.0s,MS5.0
TNA  Tin City         113.78 349 PFAKE       08 12 30.0 +7.0
TNA                              LR    LR
     comp=Z,106nm,19.0s,MS4.5
KMI  Kunming          113.94  63 PKP   PKPdf 08 12 20.5 -3.8
KMI                              XPKP        08 12 26.8
KMI                              PP    PP    08 13 19.8 +0.2
KMI                              PP    PP
     comp=Z,109nm,3.8s
KMI                              LR    LR
     comp=N,212nm,18.7s,MS4.9
KMI                              LR    LR
     comp=E,227nm,18.7s,MS4.9
KMI                              LR    LR
     comp=Z,235nm,22.5s,MS4.7
KDAK Kodiak Island    115.62 337 PFAKE       08 12 40.0 +13
KDAK                             LR    LR
     comp=Z,73nm,20.0s,MS4.3
HHC  Hu-ho-hao-te     116.69  44 ePKP  PKPdf 08 12 23.1 -6.1
HHC                              SKS   SKS   08 19 32.6 +11
HHC                              LR    LR
     comp=E,1μm,25.0s
HIA  Hailar           117.80  33 PFAKE       08 12 40.0 +8.9
HIA                              LR    LR
     comp=Z,451nm,22.0s,MS5.0
ENH  Enshi            118.62  56 PFAKE       08 12 40.0 +6.8
ENH                              LR    LR
     comp=Z,224nm,22.0s,MS4.8
QIZ  Qiongzhong       121.48  69 ePKP  PKPdf 08 12 35.8 -3.2
QIZ                              PP    PP    08 14 09.6 -1.9
QIZ                              SS    SS    08 30 43.1  0.0
QIZ                              LR    LR
     comp=Z,293nm,22.5s,MS4.9
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QIZ	**Qiongzhong**	**121.48**	**69**	PFAKE		08 12 50.0	+11
QIZ				LR	LR		
comp=Z,300nm,20.0s,MS4.9							
CN2	**Changchun**	**124.18**	**35**	*e*PKP	PKPdf	08 12 38.3	-5.4
CN2				PP	PP	08 14 27.6	-2.0
CN2				LR	LR		
comp=N,280nm,19.0s,MS5.1							
CN2				LR	LR		
comp=E,270nm,19.0s,MS5.1							
CN2				LR	LR		
comp=Z,240nm,21.0s,MS4.8							
NJ2	**Nanjing**	**125.57**	**51**	*e*PKP	PKPdf	08 12 40.0	-6.7
NJ2				PP	PP	08 14 36.0	-2.9
NJ2				PKS	PKS	08 16 14.0	-4.7
NJ2				SKS	SKS	08 19 46.0	-5.5
NJ2				PP	PP		
comp=Z,200nm,10.0s							
NJ2				LR	LR		
comp=N,530nm,26.0s,MS5.2							
NJ2				LR	LR		
comp=E,310nm,22.1s,MS5.2							
NJ2				LR	LR		
comp=Z,990nm,26.0s,MS5.4							
MDJ	**Mudanjiang**	**125.98**	**32**	PKP	PKPdf	08 12 44.9	-2.2
MDJ				PP	PP	08 14 36.0	-5.4
MDJ				PKS	PKS	08 16 21.5	+2.4
MDJ				SS	SS	08 31 40.8	+1.8
MDJ				PP	PP		
comp=Z,62nm,6.6s							
MDJ				LR	LR		
comp=N,167nm,28.7s,MS4.6							
MDJ				LR	LR		
comp=E,100nm,26.5s,MS4.6							
MDJ				LR	LR		
comp=Z,237nm,22.1s,MS4.8							
MDJ	**Mudanjiang**	**125.98**	**32**	PFAKE		08 13 00.0	+13
MDJ				LR	LR		
comp=Z,306nm,20.0s,MS5.0							
SSE	**Sheshan**	**127.78**	**51**	PKP	PKPdf	08 12 49.8	-1.2
SSE				PP	PP	08 14 55.3	+1.9
SSE				SS	SS	08 32 05.3	+3.3
SSE				PP	PP		
comp=Z,119nm,6.0s							
SSE				LR	LR		
comp=N,61nm,26.0s,MS4.6							
SSE				LR	LR		
comp=E,152nm,26.7s,MS4.6							
SSE				LR	LR		
comp=Z,152nm,29.3s,MS4.5							
PET	**Petropavlovsk**	**128.37**	**6**	PFAKE		08 13 00.0	+8.5
PET				LR	LR		
comp=Z,194nm,21.0s,MS4.8							
MBWA	**Marble Bar**	**128.50**	**119**	PFAKE		08 13 00.0	+7.4
MBWA				LR	LR		
comp=Z,948nm,19.0s,MS5.5							
INCN	**Inchon**	**128.57**	**41**	PFAKE		08 13 00.0	+7.7
INCN				LR	LR		
comp=Z,258nm,21.0s,MS4.9							
SMY	**Shemya**	**128.79**	**354**	PFAKE		08 13 00.0	+7.7
SMY				LR	LR		
comp=Z,332nm,19.0s,MS5.0							
YSS	**Yuzh-Sakhalins**	**130.21**	**22**	PFAKE		08 13 00.0	+4.8
YSS				LR	LR		
comp=Z,362nm,21.0s,MS5.0							
MAJO	**Matsushiro**	**136.28**	**34**	PFAKE		08 13 20.0	+13
MAJO				LR	LR		
comp=Z,233nm,20.0s,MS4.9							
WRAB	**Tennant Creek**	**141.43**	**125**	PFAKE		08 13 30.0	+13
WRAB				LR	LR		
comp=Z,244nm,19.0s,MS5.0							
CTA	**Charters Tower**	**150.29**	**138**	*e*PKP	PKPdf	08 13 34.8	+3.4
comp=Z,15nm,1.0s							
CTAO	**Charters Tower**	**150.29**	**138**	*e*PKP	PKPdf	08 13 34.9	+3.4
CTAO				LR	LR		
comp=Z,686nm,21.0s,MS5.4							
HNR	**Honiara**	**166.91**	**148**	PFAKE		08 14 00.0	+8.9
HNR				LR	LR		
comp=Z,375nm,19.0s							

*IDC **15** 08:02:46.0±0.6, 1.64S×13.02W, mb4.4/16, mb1 4.4/16, mb1mx4.3/23, mbtmp4.4/16, MS4.3/3, Ms1 4.3/3, ms1mx3.9/18, Error ellipse: s-maj=21.1km s-min=14.5km az=113.0*

*NEIC **15** 08:02:47.8±0.3, 1.82S×12.88W, h10km, mb4.7/28, Error ellipse: s-maj=12.7km s-min=6.7km az=118.0*

ISC 15 08:02:46.4±0.4, 1.71S±0.07×12.97W±0.10, h10km, (h33km±3.3km:pP-P), n75, σ1§05/72, mb4.6/41, MS4.4/2, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIC	**Lamto**	**11.18**	**45**	*e*Pn	**P**	**08 05 26.5**	**-3.0**
LIC				*e*Sn	**S**	**08 07 24.1**	**-11**
DBIC	**Dimbokro**	**11.61**	**44**	LR	LR	08 08 52.5	
comp=Z,1μm,19.3s,baz=175,slow=32							
TRIS	**Tristan da Cun**	**35.19**	**179**	P	**P**	**08 09 46.4**	**+3.6**
TRIS				*e*		08 09 53.0	
BAO	**Brasilia Array**	**37.20**	**246**	P	**P**	**08 10 00.5**	**+0.6**
BDFB	**Brasilia**	**37.22**	**246**	P	**P**	**08 09 59.7**	**-0.4**
4.3nm,0.7s,mb4.4,baz=69,slow=3.1,SNR=7.6							
BDFB				LR	LR	08 22 05.2	
comp=Z,467nm,19.0s,MS4.3,baz=357,slow=31							
ESDC	**Sonseca Array**	**42.00**	**10**	PP	PP	08 12 16.5	-3.7
1.5nm,0.8s,baz=191,slow=11,SNR=5.5							
MATP	**Matopo**	**44.54**	**118**	P	**P**	**08 11 00.8**	**+0.3**
5.6nm,0.6s,mb4.6,baz=286,slow=7.3,SNR=19							
MATP	**Matopo**	**44.54**	**118**	P	**P**	**08 11 00.8**	**+0.2**
BOSA	**Boshof**	**45.21**	**130**	P	**P**	**08 11 06.0**	**+0.2**
3.1nm,0.8s,mb4.2,baz=299,slow=14,SNR=2.7							
BOSA				LR	LR	08 26 31.0	
comp=Z,427nm,18.1s,MS4.4,baz=91,slow=32							
BOSA	**Boshof**	**45.21**	**130**	P	**P**	**08 11 02.7**	**-3.1**
12nm,1.2s,mb4.6							
BOSA				LR	LR	08 26 31.0	
ETSF	**Etsaut**	**45.79**	**13**	*e*P	**P**	**08 11 11.4**	**+1.2**
17nm,1.1s,mb4.6							
SJPF	**Ste Jean**	**45.85**	**12**	*e*P	**P**	**08 11 12.0**	**+1.3**
3.9nm,0.7s,mb4.2							
EPF	**Esparros**	**46.12**	**14**	*e*P	**P**	**08 11 14.1**	**+1.3**
VAE	**Valguarnera**	**46.51**	**30**	P	**P**	**08 11 15.4**	**-0.5**
5.2nm,0.4s,mb4.9,baz=111,slow=2.7,SNR=3.1							
MTLF	**Montolieu**	**46.88**	**15**	*e*P	**P**	**08 11 19.2**	**+0.4**
19nm,1.1s,mb4.7							
LASF	**Ste Croix**	**48.01**	**16**	*e*P	**P**	**08 11 28.4**	**+0.7**
30nm,1.1s,mb4.9							
LFF	**La Frestale**	**48.02**	**13**	*e*P	**P**	**08 11 28.4**	**+0.6**
LMR	**La Mourre**	**48.14**	**19**	*e*P	**P**	**08 11 29.4**	**+0.7**
19nm,0.9s,mb4.8							
PGF	**Pioggiola**	**48.31**	**22**	*e*P	**P**	**08 11 30.7**	**+0.7**
CAF	**Calviac**	**48.32**	**14**	*e*P	**P**	**08 11 30.6**	**+0.5**
15nm,1.0s,mb4.7							
RJF	**Les Rejaudoux**	**48.55**	**14**	*e*P	**P**	**08 11 32.3**	**+0.5**
15nm,0.9s,mb4.7							
SBF	**Sospel**	**48.91**	**20**	*e*P	**P**	**08 11 35.6**	**+0.9**
34nm,0.8s,mb5.1							
CPUP	**Villa Florida**	**49.13**	**236**	*e*P	**P**	**08 11 35.7**	**-0.8**
4.4nm,1.0s,mb4.4							
CPUP				*e*		08 11 43.4	
ORIF	**Oris-en-Rattie**	**49.37**	**18**	*e*P	**P**	**08 11 39.0**	**+0.9**
MFF	**Saint Martin d**	**49.42**	**12**	*e*P	**P**	**08 11 38.8**	**+0.3**
11nm,1.0s,mb4.6							
SIV	**San Ignacio**	**49.45**	**250**	P	**P**	**08 11 38.1**	**-1.1**
2.1nm,0.9s,mb4.2,baz=95,slow=9.2,SNR=6.6							
MBDF	**Montbardon**	**49.47**	**18**	*e*P	**P**	**08 11 40.6**	**+1.7**
14nm,0.8s,mb4.8							
TCF	**Toulx Ste Croi**	**49.64**	**14**	*e*P	**P**	**08 11 41.1**	**+0.9**
14nm,1.0s,mb4.7							
LPG	**La Plagne**	**50.15**	**18**	*e*P	**P**	**08 11 45.8**	**+1.6**
22nm,0.9s,mb4.9							
LPL	**La Plagne**	**50.16**	**18**	*e*P	**P**	**08 11 45.8**	**+1.6**
24nm,1.0s,mb4.9							
SMF	**Signal de Mont**	**50.38**	**15**	*e*P	**P**	**08 11 46.2**	**+0.4**
AVF	**Avril sur Loir**	**50.39**	**15**	*e*P	**P**	**08 11 46.4**	**+0.5**
SSF	**Saint Saulge**	**50.68**	**15**	*e*P	**P**	**08 11 48.6**	**+0.5**
LOR	**Lormes**	**50.96**	**15**	*e*P	**P**	**08 11 50.6**	**+0.4**
15nm,1.0s,mb4.6							
CABF	**La Chapelle**	**50.96**	**17**	*e*P	**P**	**08 11 50.7**	**+0.4**
14nm,0.9s,mb4.6							
GRR	**Gorron**	**51.00**	**10**	*e*P	**P**	**08 11 50.7**	**+0.2**
42nm,1.1s,mb5.0							
HINF	**Hinteralfeld**	**52.27**	**17**	*e*P	**P**	**08 11 59.7**	**-0.5**
DAVOX	**Davos**	**52.30**	**20**	P	**P**	**08 11 59.6**	**-0.9**
8.5nm,0.7s,mb4.8,baz=202,slow=8.6,SNR=18							
HAU	**Haudompre**	**52.30**	**16**	*e*P	**P**	**08 12 00.4**	**0.0**
11nm,0.8s,mb4.6							
MEZF	**Maizieres J'vi**	**52.41**	**15**	*e*P	**P**	**08 12 01.6**	**+0.4**
17nm,1.0s,mb4.6							
CDF	**Champ du Feu**	**52.93**	**17**	*e*P	**P**	**08 12 04.8**	**-0.3**
16nm,1.0s,mb4.6							
GIVF	**Givet**	**53.83**	**14**	*e*P	**P**	**08 12 11.1**	**-0.6**
51nm,1.3s,mb5.0							
GRA1	**Grafenberg Arr**	**55.28**	**19**	*e*P	**P**	**08 12 20.6**	**-1.7**
10.0nm,1.2s,mb4.7							
GRA1				*e*pP	pP	08 12 29.8	+4.4
GRF	**Grafenberg Arr**	**55.28**	**19**	*e*P	**P**	**08 12 20.6**	**-1.7**
10.0nm,1.2s,mb4.7							
GRF				*e*pP	pP	08 12 29.8	+4.4
GERES	**GERESS Array B**	**55.40**	**21**	P	**P**	**08 12 22.3**	**-1.0**
6.9nm,0.8s,mb4.8,baz=207,slow=6.0,SNR=41							
KHC	**Kasperske Hory**	**55.60**	**21**	*e*P	**P**	**08 12 23.5**	**-1.1**
LPAZ	**La Paz**	**56.18**	**252**	P	**P**	**08 12 29.1**	**-0.1**
0.6nm,0.7s,mb3.8,baz=129,slow=4.1,SNR=3.6							
MOX	**Moxa**	**56.23**	**19**	*e*P	**P**	**08 12 28.0**	**-1.2**
MOX				pP	pP	08 12 40.0	+7.8
MOX	**Moxa**	**56.23**	**19**	*e*P	**P**	**08 12 28.0**	**-1.2**
MOX				*e*pP	pP	08 12 40.0	+7.8
PRU	**Pruhonice**	**56.66**	**21**	*e*P	**P**	**08 12 32.0**	**-0.3**
PRU				*e*x	x	08 12 42.6	
VYHS	**Vyhne**	**57.12**	**25**	*e*P	**P**	**08 12 35.7**	**+0.2**
VYHS				*e*		08 12 47.6	
EKA	**Eskdalemuir Ar**	**57.42**	**7**	P	**P**	**08 12 35.9**	**-1.7**
2.4nm,0.8s,mb4.3,baz=180,slow=7.5,SNR=8.0							
BRTR	**Keskin Array B**	**59.29**	**41**	P	**P**	**08 12 50.8**	**0.0**
7.6nm,0.8s,mb4.8,baz=232,slow=7.2,SNR=20							
AKASG	**Malin Array Be**	**63.38**	**29**	P	**P**	**08 13 16.1**	**-2.2**
0.8nm,0.6s,mb4.0,baz=231,slow=6.8,SNR=11							
NB2	**NORSAR Subarra**	**65.30**	**13**	P	**P**	**08 13 29.5**	**-1.1**
5.5nm,1.0s,mb4.5,baz=204,slow=6.2							
NOA	**NORSAR Array B**	**65.30**	**13**	P	**P**	**08 13 28.6**	**-2.0**
2.8nm,0.8s,mb4.3,baz=206,slow=6.6,SNR=9.1							
VNA1	**Neumayer--Stat**	**68.90**	**178**	*e*	**P**	**08 14 03.4**	**+10**
VNA1	**Neumayer--Stat**	**68.90**	**178**	*e*	**P**	**08 14 05.0**	**+12**
VNA2	**Neumayer--Watz**	**69.20**	**178**	*e*	**P**	**08 14 01.2**	**+6.1**
VNA2	**Neumayer--Watz**	**69.20**	**178**	*e*	**P**	**08 14 03.6**	**+8.5**
VNA3	**Neumayer Olymp**	**69.46**	**179**	*e*	**P**	**08 13 57.6**	**+0.9**
VNA3	**Neumayer Olymp**	**69.46**	**179**	*e*	**P**	**08 14 00.0**	**+3.3**
VNA3	**Neumayer Olymp**	**69.46**	**179**	*e*	PcP	08 14 17.7	-2.4
FINES	**FINESS Array B**	**69.69**	**19**	P	**P**	**08 13 56.5**	**-1.8**
3.9nm,0.7s,mb4.5,baz=207,slow=4.3,SNR=19							
FINES	**FINESS Array B**	**69.69**	**19**	P	**P**	**08 13 56.5**	**-1.8**
SNAA	**Sanae**	**70.16**	**177**	*e*	**P**	**08 14 06.6**	**+5.7**
SNAA	**Sanae**	**70.16**	**177**	*e*	**P**	**08 14 08.6**	**+7.7**
SNAA	**Sanae**	**70.16**	**177**	P	**P**	**08 14 00.8**	**-0.1**
1.6nm,1.0s,mb3.9,baz=12,slow=5.6,SNR=11							
SNAA	**Sanae**	**70.16**	**177**	*e*P	**P**	**08 14 00.4**	**-0.5**
3.2nm,0.8s,mb4.3							
SNAA				*e*		08 14 08.7	
KAF	**Kangasniemi**	**70.27**	**18**	*e*p	**P**	**08 14 00.0**	**-1.7**
4.9nm,0.8s,mb4.5,baz=220,slow=5.9							
ARCES	**ARCESS Array B**	**75.67**	**13**	P	**P**	**08 14 32.6**	**-0.7**
2.2nm,0.9s,mb4.1,baz=180,slow=2.4,SNR=6.2							
KEV	**Kevo**	**76.18**	**13**	*e*p	**P**	**08 14 35.1**	**-1.1**
8.9nm,1.1s,mb4.6							
MAW	**Mawson**	**83.04**	**158**	P	**P**	**08 15 12.5**	**-0.7**
2.5nm,0.6s,mb4.5,baz=277,slow=8.1,SNR=4.0							
QSPA	**South Pole Qui**	**88.37**	**180**	*e*P	**P**	**08 15 41.0**	**+1.8**
26nm,1.2s,mb5.3							
WRA	**Warramunga Arr**	**141.38**	**125**	PKhKP		08 22 14.6	
0.4nm,0.5s,baz=238,slow=2.6,SNR=9.1							

WEL 15 08:07:40.5±0.2, 38.17S×177.93E, h44km±2km, ML3.6/4, 2C, Error ellipse: s-maj=1.3km s-min=1.2km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**0.28**	**69**	⇑PN	P	08 07 48.6	-0.3
PUZ				SN	S	08 07 55.1	+0.4
MWZ	**Matawai**	**0.36**	**243**	⇑PN	P	08 07 49.4	-0.4
MWZ				SN	S	08 07 56.0	-0.1
URZ	**Urewera**	**0.65**	**262**	PN	P	08 07 53.2	-0.3
URZ				SN	S	08 08 02.9	0.0
MXZ	**Matakaoa Point**	**0.68**	**26**	PN	P	08 07 53.5	-0.3
MXZ				SN	S	08 08 03.7	+0.3
WIZ	**White Island**	**0.87**	**317**	PN	P	08 07 55.5	-1.0
KNZ	**Kokohu**	**0.87**	**193**	PN	P	08 07 56.1	-0.3
EDRZ	**Edgecumbe**	**0.94**	**274**	PN	P	08 07 57.1	-0.4
TAZ	**Tarawera**	**1.12**	**266**	PN	P	08 07 59.9	-0.1
PATZ	**Paeroa**	**1.33**	**260**	*e*PN	P	08 08 02.4	-0.8
TGRZ	**Tauranga**	**1.39**	**288**	PN	P	08 08 02.3	-1.7
BKZ	**Black Stump Fm**	**1.50**	**228**	PN	P	08 08 04.9	-0.6
KRVZ	**Karewarewa**	**2.02**	**242**	*e*PN	P	08 08 12.4	-0.4
CNZ	**Chateau**	**2.13**	**240**	PN	P	08 08 13.9	-0.4
WNVZ	**Wahianoa**	**2.16**	**237**	*e*PN	P	08 08 14.0	-0.7
KUZ	**Kuautunu**	**2.26**	**308**	PN	P	08 08 13.6	-2.7
MTVZ	**Mangateitei**	**2.27**	**237**	PN	P	08 08 15.3	-1.1
TSZ	**Takapari Road**	**2.43**	**218**	PN	P	08 08 16.2	-2.5
VRZ	**Vera Road**	**2.66**	**248**	PN	P	08 08 21.6	-0.3
WAZ	**Wanganui**	**2.79**	**235**	*e*PN	P	08 08 22.9	-0.8
BFZ	**Birch Farm**	**2.83**	**207**	PN	P	08 08 21.3	-3.0
MRZ	**Mangatainoka R**	**3.08**	**215**	PN	P	08 08 23.9	-4.1
MTW	**Mount Morrison**	**3.52**	**211**	*e*PN	P	08 08 29.1	-5.1
SNZO	**South Karori**	**4.00**	**217**	*e*PN	P	08 08 35.6	-5.4
QRZ	**Quartz Range**	**4.95**	**236**	PN	P	08 08 49.7	-4.7

*IDC **15** 09:01:33.0±3.0, 64.56N×31.82E, mb1 2.9/4, mb1mx2.8/17, mbtmp2.8/4, ML2.7/4, Error ellipse: s-maj=39.5km s-min=9.8km az=106.0*

*NAO **15** 09:01:35.1±1.6, 64.69N×30.47E, ML2.2*

*BER **15** 09:01:36.2±2.4, 64.59N×30.86E, ML2.0, ML2.2(NAO), Suspected explosion*

HEL 15 09:01:35.7±0.2, 64.70N×30.67E, ML1.8, ML2.0(BER), **ML2.2**(NAO), **Explosion, Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KJN	**Kajaani**	**1.43**	**246**	*e*P	Pb	09 02 00.8	-2.1
KJN				*e*S	Sb	09 02 19.8	-1.7
KU4	**Liikasenvaara**	**1.74**	**345**	*e*P	Pn	09 02 06.0	-1.3
KU4				*e*S	Sn	09 02 29.3	-1.2
OUL	**Oulu**	**2.08**	**283**	*e*P	Pn	09 02 11.8	-0.4
OUL				*e*S	Sn	09 02 37.9	-1.3
SUF	**Sumiainen**	**2.83**	**227**	*e*P	Pn	09 02 22.4	-0.5
SUF				*e*S	Sn	09 02 56.9	-1.3
SUF				MSG		09 03 08.1	
comp=Z,2.5nm,0.2s							
APA0	**Apatity Array**	**3.07**	**17**	Pn	Pn	09 02 25.5	-0.9
baz=206,slow=12							
APA0	**Apatity Array**	**3.07**	**17**	*e*P	Pn	09 02 25.5	-0.9
SGF	**Sodankyl**	**3.23**	**330**	*e*SB	Sb	09 03 11.7	-2.3
SGF				MSG		09 03 17.6	
comp=Z,2.2nm,0.2s							
KEF	**Keuruu**	**3.64**	**228**	*e*SG	Sg	09 03 27.8	-9.0
KEF				MSG		09 03 36.7	
comp=Z,1.9nm,0.2s							
FIA0	**FINESS Array S**	**3.88**	**215**	*e*P	Pn	09 02 34.3	-3.5
FIA0				*e*SG		09 03 33.9	
FIA0	**FINESS Array S**	**3.88**	**215**	Pn	Pn	09 02 34.3	-3.5
baz=35,slow=12							
FIA0				Lg		09 03 33.9	
baz=28,slow=28							
FINES	**FINESS Array B**	**3.88**	**215**	Pn	Pn	09 02 35.7	-2.1
comp=Z,0.1nm,0.3s,baz=35,slow=12,SNR=2.5							
FINES				Lg		09 03 40.3	
comp=Z,1.2nm,0.3s,baz=30,slow=27,SNR=11							
FINES				Rg		09 03 53.4	
comp=Z,8.8nm,1.0s,baz=28,slow=32,SNR=5.9							
KTK1	**Kautokeino**	**5.23**	**329**	*e*P	Pn	09 02 55.8	-1.2
KTK1				AML	AML	09 04 20.9	
comp=Z,4.0nm,0.9s							
ARA0	**ARCESS Array S**	**5.26**	**340**	Pn	Pn	09 02 53.9	-3.6
baz=153,slow=16							
ARA0				Sn	Sn	09 03 55.0	-4.8
baz=156,slow=28							
ARA0				Lg		09 04 17.1	
baz=156,slow=37							
ARA0	**ARCESS Array S**	**5.26**	**340**	*e*P	Pn	09 02 53.9	-3.6
ARA0				*e*S	Sn	09 03 55.0	-4.8
ARA0				*e*SG		09 04 17.1	
ARCES	**ARCESS Array B**	**5.26**	**340**	Pn	Pn	09 02 54.2	-3.3
comp=Z,0.5nm,0.3s,baz=148,slow=14,SNR=22							
ARCES				Sn	Sn	09 03 56.8	-3.0
comp=Z,0.4nm,0.3s,baz=156,slow=21,SNR=5.7							
ARCES				Lg		09 04 20.7	
comp=Z,1.0nm,0.3s,baz=157,slow=28,SNR=12							
HFS	**Hagfors**	**9.09**	**248**	*e*P	P	09 03 44.8	-6.4
HFS				*e*SG		09 06 18.1	
HFS	**Hagfors**	**9.09**	**248**	Pn	P	09 03 46.9	-4.3
comp=Z,0.0nm,0.3s,baz=55,slow=12,SNR=2.2							
HFS	**Hagfors**	**9.09**	**248**	P	P	09 03 44.8	-6.4
baz=57,slow=12							
HFS				Lg		09 06 18.1	
baz=44,slow=28							
NB2	**NORSAR Subarra**	**9.60**	**257**	*e*P	P	09 03 52.6	-5.3
NOA	**NORSAR Array B**	**9.60**	**257**	Pn	P	09 03 54.2	-3.7
comp=Z,0.1nm,0.3s,baz=145,slow=22,SNR=2.6							

*NNC **15** 09:10:32.6±14.0, 41.97N×71.08E, mpv3.5, Error ellipse: s-maj=241.2km s-min=55.9km az=10.0*

ISC 15 09:10:31.7±2.4, 41.6N±0.2×70.9E±0.1, h33km, n11, σ1§33/13, 3C-1D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**2.18**	**75**	P	**P**	**09 11 01.9**	**-4.3**
SNR=70							
EKS2	**Erkin-Say**	**2.41**	**63**	P	**P**	**09 11 08.1**	**-1.5**
SNR=14							
UCH	**Uchtor**	**2.79**	**76**	P	**P**	**09 11 13.5**	**-1.6**
SNR=8.2							
AAK	**Ala-Archa**	**2.89**	**68**	P	**P**	**09 11 16.0**	**-0.4**
SNR=8.1							
AAK	**Ala-Archa**	**2.89**	**68**	⇑P	**P**	**09 11 15.6**	**-0.8**
12nm,0.5s							
AAK				⇑S	**S**	**09 11 50.5**	**+0.1**
70nm,0.7s							
USP	**Ospenovka**	**3.16**	**57**	P	**P**	**09 11 21.9**	**+1.5**
SNR=16							
CHMS	**Chumysh**	**3.20**	**63**	P	**P**	**09 11 21.7**	**+0.8**
SNR=9.2							
KBK	**Karagaybulak**	**3.21**	**69**	P	**P**	**09 11 20.9**	**-0.1**
SNR=10							
KZA	**Kyzart**	**3.31**	**80**	P	**P**	**09 11 21.8**	**-0.6**
SNR=21							
TKM2	**Tokmak 2**	**3.75**	**68**	P	**P**	**09 11 31.3**	**+2.6**
SNR=9.0							
AB31	**Akbulak array**	**10.83**	**319**	⇓P	**P**	**09 13 08.9**	**+1.5**
0.2nm,0.5s,baz=123,slow=13,SNR=5.1							
AB31				⇑S	**S**	**09 15 06.4**	**-2.1**
0.3nm,0.3s							

*CSEM **15** 09:11:53.8, 38.18N×20.81E, h5km, MD3.5/1, After ATH*

ATH 15 09:11:53.8, 38.18N×20.81E, h5km, MD3.4/3, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.17**	**269**	*e*PG	Pg	09 11 57.2	-0.2
VLS				*e*SG	Sg	09 12 00.8	+1.0
RLS	**Riolos of Patr**	**0.53**	**103**	*e*PB	Pb	09 12 03.6	-1.6
EVR	**Evrytania**	**1.07**	**46**	*e*PB	Pb	09 12 14.6	+0.1
ITM	**Ithomi**	**1.33**	**138**	*e*PB	Pb	09 12 20.0	+1.0

SKHL 15 09:23:32.1±0.2, 50.93N×132.23E, h8km±1km, mb3.9/6, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLR	**Kul'dur**	**1.73**	**190**	*e*Pg	Pg	09 24 04.0	-2.7
KLR				*e*Sn	Sn	09 24 25.8	+0.6
KLR				A		09 24 28.0	
150nm,1.0s							
KLR				A		09 24 28.0	
260nm,1.0s							
EKMR	**Ekimchan**	**2.19**	**11**	*e*Pn	Pn	09 24 08.6	-0.7
EKMR				*e*Pg	Pg	09 24 11.2	-4.6
EKMR				pPg		09 24 14.0	
EKMR				AMB	AMB	09 24 14.5	
37nm,0.5s							
EKMR				AMB	AMB	09 24 14.5	
25nm,0.5s							
EKMR				AMB	AMB	09 24 14.5	
46nm,0.5s							
EKMR				*e*Sn	Sn	09 24 37.7	+0.8
EKMR				*e*Sg	Sg	09 24 39.5	-5.5
EKMR				A		09 24 41.8	
68nm,0.6s							
EKMR				A		09 24 41.8	
81nm,0.6s							
EKMR				A		09 24 41.8	
69nm,0.6s							
GRNR	**Gornyy**	**2.66**	**92**	*e*Pg	Pg	09 24 21.1	-4.2
GRNR				AMB	AMB	09 24 22.5	
14nm,0.3s							
GRNR				*e*Sg	Sg	09 24 56.1	-4.7
GRNR				A		09 24 59.5	
72nm,0.7s							
YASR	**Yasnyy**	**3.53**	**314**	*e*Pn	Pn	09 24 28.2	-0.2
YASR				pPn		09 24 30.8	
YASR				*e*Pg	Pg	09 24 36.5	-6.1
YASR				AMB	AMB	09 24 38.8	
12nm,0.5s							
YASR				*e*Sg	Sg	09 25 22.6	-7.0
YASR				A		09 25 28.1	
43nm,0.7s							
YASR				A		09 25 28.1	
33nm,0.7s							
YASR				A		09 25 28.1	
30nm,0.7s							
ZEA	**Zeya**	**4.15**	**315**	*e*Pn	Pn	09 24 36.3	-1.0
ZEA				AMB	AMB	09 24 37.4	
17nm,0.4s							
ZEA				*e*Sg	Sg	09 25 41.0	-9.3
ZEA				A		09 25 43.4	
69nm,0.6s							
ZEA				A		09 25 43.4	
22nm,0.6s							
KROS	**Kirovskiy**	**4.75**	**320**	*e*Pn	Pn	09 24 44.7	-1.0
KROS				AMB	AMB	09 24 46.4	
8.0nm,0.5s							
KROS		

*NEIC **15** 10:30:40.6±0.7, 4.69N×96.15E, h30km, mb4.7/2, Error ellipse: s-maj=21.9km s-min=11.0km az=47.0*

ISC 15 10:30:40.7±4.3,**4.7N**±0.1×**96.3E**±0.2,**h44**km±35km,**n16,**
σ1♀**04**/17,**mb4.0**/10,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.37**	**83**	*e*Pn	**P**	**10 31 46.9**	**+0.5**
KULM				Sn	**S**	**10 32 36.1**	**-0.7**
FITZ	**Fitzroy Crossi**	**36.78**	**129**	*e*P	**P**	**10 37 46.1**	**-0.2**
	7.2nm,0.5s,mb4.8						
FITZ	**Fitzroy Crossi**	**36.78**	**129**	P	**P**	**10 37 46.3**	**0.0**
	8.2nm,0.5s,mb4.8,baz=342,slow=6.4,SNR=32						
MKAR	**Makanchi Array**	**43.61**	**346**	P	**P**	**10 38 41.4**	**-1.1**
	0.9nm,0.7s,mb3.6,baz=172,slow=8.6,SNR=4.9						
MKAR	**Makanchi Array**	**43.61**	**346**	P	**P**	**10 38 41.4**	**-1.1**
SONM	**Songino Array**	**43.80**	**10**	P	**P**	**10 38 45.1**	**+1.1**
	1.0nm,0.7s,mb3.7,baz=192,slow=9.4,SNR=8.4						
SONM				PcP	PcP	10 40 30.9	+0.3
	0.5nm,0.5s,baz=204,slow=3.3,SNR=4.3						
WRA	**Warramunga Arr**	**44.72**	**125**	P	**P**	**10 38 52.0**	**+0.3**
	1.9nm,0.5s,mb4.2,baz=302,slow=9.2,SNR=28						
WRA				PcP	PcP	10 40 34.4	+0.4
	0.4nm,0.5s,baz=314,slow=2.7,SNR=6.5						
WRAB	**Tennant Creek**	**44.72**	**124**	*e*P	**P**	**10 38 52.0**	**+0.2**
	3.8nm,0.5s,mb4.5						
MJAR	**Matsushiro Arr**	**49.77**	**45**	P	**P**	**10 39 32.5**	**+1.5**
	0.7nm,0.5s,mb4.0,baz=229,slow=5.7,SNR=3.9						
BVAR	**Borovoye Array**	**52.63**	**341**	P	**P**	**10 39 51.3**	**-1.1**
	0.7nm,0.7s,mb3.7,baz=135,slow=8.4,SNR=4.9						
STKA	**Stephens Creek**	**56.41**	**133**	*e*P	**P**	**10 40 20.8**	**+0.4**
	2.3nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**56.41**	**133**	P	**P**	**10 40 21.2**	**+0.9**
	2.8nm,0.6s,mb4.4,baz=315,slow=7.5,SNR=9.2						
STKA	**Stephens Creek**	**56.41**	**133**	*e*P	**P**	**10 40 21.0**	**+0.7**
ARCES	**ARCESS Array B**	**78.92**	**340**	P	**P**	**10 42 40.1**	**-0.8**
	2.1nm,0.9s,mb4.1,baz=90,slow=4.9,SNR=5.0						
GERES	**GERESS Array B**	**81.58**	**319**	P	**P**	**10 42 56.7**	**+1.3**
	0.4nm,0.6s,mb3.5,baz=90,slow=5.3,SNR=4.1						
SNZO	**South Karori**	**84.44**	**132**	*e*P	**P**	**10 43 07.6**	**-2.6**

*ISK **15** 10:45:07.5, 37.62N×25.14E, h14km, MD3.1, ML3.1*
*CSEM **15** 10:45:11.8±1.1, 36.64N×25.36E, h32km±7km, MD3.1, Error ellipse: s-maj=32.7km s-min=9.6km az=88.0*
*THE **15** 10:45:14.0, 36.30N×25.16E, h3km*

ISC 15 10:45:12.9±0.6,**36.62N**±0.04×**25.61E**±0.07,**h10**km,**n9,**
σ1♀**14**/14,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THR4	**Thira Island,**	**0.24**	**227**	*e*Pg	**Pg**	**10 45 18.9**	**+0.9**
THR4				*e*Sg	**Sg**	**10 45 23.0**	**+1.7**
THR3	**Thira Island,**	**0.27**	**219**	*e*Pg	**Pg**	**10 45 18.6**	**0.0**
THR3				*e*Sg	**Sg**	**10 45 22.3**	**-0.1**
THR1	**Thera Island**	**0.28**	**206**	*e*Pg	**Pg**	**10 45 19.5**	**+0.7**
THR1				*e*Sg	**Sg**	**10 45 22.9**	**+0.2**
THR5	**Thira Island,**	**0.29**	**226**	*e*Pg	**Pg**	**10 45 17.9**	**-1.2**
THR5				*e*Sg	**Sg**	**10 45 21.3**	**-1.9**
APE	**Apeiranthos**	**0.45**	**352**	PG	**Pg**	**10 45 20.3**	**-1.8**
APE				SG	**Sg**	**10 45 29.6**	**+1.4**
BODT	**Bodrum**	**1.43**	**72**	PN	**Pn**	**10 45 39.2**	**+0.1**
MLSB	**Milas**	**1.86**	**68**	*e*PN	**Pn**	**10 45 44.0**	**-1.2**
YER	**Yerkesik**	**2.20**	**76**	*e*PN	**Pn**	**10 45 49.6**	**-0.5**
DALT	**Dalyan (Mudla)**	**2.44**	**86**	*e*PN	**Pn**	**10 45 55.2**	**+1.7**

*IDC **15** 10:49:33.7±0.7, 3.83S×140.02E, mb4.4/8, mb1 4.6/10, mb1mx4.6/11, mbtmp4.5/10, ML4.8/2, MS4.4/11, Ms1 4.4/11, ms1mx4.2/17, Error ellipse: s-maj=31.2km s-min=16.2km az=77.0*
*MOS **15** 10:49:36.8±2.3, 3.78S×140.22E, h33km, mb5.0/10, Error ellipse: s-maj=17.7km s-min=8.4km az=99.5*
*HRVD **15** 10:49:37.9±0.3, 3.74S×140.24E, h17km, MW5.1/56, Centroid moment Tensor Solution. LP body waves: s29,c34;Mantle waves: s56,c89; Half duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}0.10±.13; $M_{\theta\theta}$-0.60±.10; $M_{\phi\phi}$0.49±.12; $M_{r\theta}$-4.53±.25; $M_{\theta\phi}$2.23±.07; $M_{\phi r}$-0.28±.28; Best double couple: $M_0$5.084×10^16^ NP1:ϕ_s174°,δ27°, λ178°. NP2:ϕ_s265°,δ89°,λ63°. Principal axes: T 4.986, Plg40°, Azm151°; N .197, Plg27°, Azm266°; P -5.183, Plg38°, Azm19°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **15** 10:49:37.9±0.3, 3.85S×140.27E, h30km, mb5.0/15 Error ellipse: s-maj=10.9km s-min=8.2km az=87.0*
*BJI **15** 10:49:43.7, 3.06S×139.85E, h30km, mB5.2, mb4.9, Ms4.6, Msz4.3*

ISC 15 10:49:32.5±3.6,**3.82S**±0.04×**140.17E**±0.08,**h6**km±22km,
n80,σ1♀**09**/73,**mb4.8**/32,**MS4.3**/14,**4C**,**Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**11.69**	**220**	⇑*i*P	Px	10 52 32.4	
	220nm,0.5s						
KAKA				*e*S	Sx	10 54 38.3	
WRAB	**Tennant Creek**	**17.00**	**199**	*e*Pn	**P**	**10 53 31.8**	**-0.8**
	127nm,0.7s						
WRAB				*e*Sn	**S**	**10 56 40.3**	**-0.5**
WRAB	**Tennant Creek**	**17.00**	**199**	*e*P	**P**	**10 53 31.8**	**-0.8**
WRAB				*e*		10 56 40.3	
WRAB				pmax	pmax		
	comp=Z,127nm,0.7s						
WRA	**Warramunga Arr**	**17.01**	**199**	Pn	**P**	**10 53 31.2**	**-1.5**
	comp=Z,2.8nm,0.3s,baz=17,slow=13,SNR=40						
WRA				Sn	**S**	**10 56 34.1**	**-7.0**
	comp=Z,3.1nm,0.3s,baz=22,slow=25,SNR=5.3						
WRA				Lg		10 58 38.8	
	comp=Z,3.8nm,0.3s,baz=22,slow=27,SNR=6.2						
CTA	**Charters Tower**	**17.23**	**160**	*e*P	**P**	**10 53 37.0**	**+1.5**
	comp=Z,51nm,0.7s						
CTA	**Charters Tower**	**17.23**	**160**	P	**P**	**10 53 36.9**	**+1.4**
	comp=Z,2.4nm,0.3s,baz=333,slow=11,SNR=23						
CTA				Lg		10 58 44.5	
	comp=Z,0.8nm,0.3s,baz=252,slow=23,SNR=7.2						
CTA				LR	LR	11 00 37.1	
	comp=Z,3μm,18.8s,baz=345,slow=38						
CTA	**Charters Tower**	**17.23**	**160**	*e*P	**P**	**10 53 37.0**	**+1.5**
CTA				pmax	pmax		
	comp=Z,51nm,0.7s						
CTAO	**Charters Tower**	**17.23**	**160**	*e*Pn	**P**	**10 53 39.0**	**+3.5**
	comp=Z,70nm,0.8s						
CTAO	**Charters Tower**	**17.23**	**160**	*e*P	**P**	**10 53 39.0**	**+3.5**
CTAO				pmax	pmax		
	comp=Z,70nm,0.8s						
FITZ	**Fitzroy Crossi**	**20.10**	**224**	⇑*i*P	**P**	**10 54 09.6**	**-0.3**
	comp=Z,114nm,0.9s						
FITZ				*e*S	**S**	**10 57 44.5**	**-6.0**
FITZ	**Fitzroy Crossi**	**20.10**	**224**	P	**P**	**10 54 09.8**	**-0.1**
	comp=Z,4.2nm,0.3s,baz=21,slow=8.7,SNR=28						
FITZ				S	**S**	**10 57 44.7**	**-5.8**
	comp=Z,8.1nm,0.3s,baz=191,slow=16,SNR=5.1						
HNR	**Honiara**	**20.41**	**107**	P	**P**	**10 54 13.6**	**+0.4**
	comp=Z,110nm,0.7s,baz=167,slow=2.3,SNR=5.1						
HNR	**Honiara**	**20.41**	**107**	P	**P**	**10 54 09.5**	**-3.7**
KKM	**Kota Kinabalu**	**25.85**	**292**	*e*P	**P**	**10 55 08.4**	**+1.5**
MBWA	**Marble Bar**	**26.31**	**227**	*e*P	**P**	**10 55 11.9**	**+0.9**
	comp=Z,20nm,0.8s,mb4.7						
STKA	**Stephens Creek**	**27.95**	**177**	*e*P	**P**	**10 55 25.8**	**0.0**
	comp=Z,8.9nm,1.6s,mb4.2						
STKA	**Stephens Creek**	**27.95**	**177**	P	**P**	**10 55 24.6**	**-1.2**
	comp=Z,2.4nm,0.5s,mb4.1,baz=350,slow=8.2,SNR=13						
STKA				LR	LR	11 08 01.2	
	comp=Z,2μm,20.3s,MS4.7,baz=352,slow=40						
FORT	**Forrest**	**29.15**	**202**	*e*P	**P**	**10 55 36.7**	**0.0**
	comp=Z,14nm,0.5s,mb4.9						
KSM	**Kuching**	**30.31**	**279**	*e*P	**P**	**10 55 50.9**	**+3.7**
CBIJ	**Chichi jima**	**30.79**	**4**	LR	LR	11 08 16.6	
	comp=Z,360nm,18.1s,MS4.1,baz=132,slow=36						
SSE	**Sheshan**	**39.16**	**334**	P	**P**	**10 57 08.8**	**+5.9**
SSE				AP	pP	10 57 17.4	+13
SSE				XP	sP	10 57 21.3	+16
SSE				AMB	AMB		
	comp=Z,25nm,0.8s,mb5.0						
SSE				AMB	AMB		
	comp=Z,72nm,3.5s						
SSE				LR	LR		
	comp=N,105nm,20.6s,MS3.7						
SSE				LR	LR		
	comp=E,74nm,20.6s,MS3.7						
SSE				LR	LR		
	comp=Z,173nm,23.2s,MS3.8						
MJAR	**Matsushiro Arr**	**40.19**	**358**	P	**P**	**10 57 12.5**	**+1.1**
	comp=Z,2.7nm,0.9s,mb4.0,baz=178,slow=9.2,SNR=5.1						
MJAR				LR	LR	11 12 16.3	
	comp=Z,133nm,20.2s,MS3.8,baz=150,slow=34						
KULM	**Kulim**	**40.50**	**283**	*e*P	**P**	**10 57 15.6**	**+1.4**
NST	**Nakhon Sawan**	**44.10**	**297**	P	**P**	**10 57 41.2**	**-2.5**
ENSH	**Enshi**	**44.83**	**321**	*e*P	**P**	**10 57 54.5**	**+5.1**
NANT	**Nan**	**44.89**	**301**	P	**P**	**10 57 48.0**	**-2.0**
KMI	**Kunming**	**46.34**	**310**	P	**P**	**10 58 02.8**	**+1.3**
KMI				S	**S**	**11 04 37.6**	**-11**
KMI				SS	SS	11 07 55.8	-10
KMI				SSS	Sx	11 08 34.5	
KMI				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.7						
KMI				LR	LR		
	comp=N,208nm,19.6s,MS4.2						
KMI				LR	LR		
	comp=E,179nm,21.8s,MS4.2						
KMI				LR	LR		
	comp=Z,257nm,21.8s,MS4.1						
CHG	**Chiang Mai**	**46.40**	**300**	P	**P**	**10 58 01.9**	**-0.1**
ASAJ	**Asahikawa**	**47.76**	**2**	LR	LR	11 18 03.3	
	comp=Z,191nm,21.2s,MS4.0,baz=180,slow=36						
URZ	**Urewera**	**48.04**	**140**	LR	LR	11 15 24.2	
	comp=Z,225nm,18.7s,MS4.2,baz=327,slow=32						
RPZ	**Rata Peaks**	**48.21**	**150**	LR	LR	11 17 16.4	
	comp=Z,870nm,19.0s,MS4.8,baz=244,slow=34						
CD2	**Chengdu**	**48.98**	**317**	P	**P**	**10 58 26.6**	**+4.6**
CN2	**Changchun**	**49.22**	**346**	*e*P	**P**	**10 58 28.3**	**+4.6**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
YSS	**Yuzh-Sakhalins**	**50.60**	**2**	*e*P	**P**	**10 58 32.7**	**-1.5**
YSS				*e*		10 58 39.0	
LZH	**Lanzhou**	**52.24**	**323**	*e*P	**P**	**10 58 46.9**	**+0.1**
LZH				AMB	AMB		
	comp=Z,25nm,1.0s,mb5.1						
LZH				AMB	AMB		
	comp=Z,120nm,4.2s						
LZH				LR	LR		
	comp=E,539nm,15.3s						
LZH				LR	LR		
	comp=Z,859nm,16.0s,MS4.9						
KLR	**Kul'dur**	**53.34**	**353**	*e*P	**P**	**10 58 51.0**	**-3.8**
GTA	**Gaotai**	**56.82**	**323**	*e*P	**P**	**10 59 20.4**	**+0.1**
GTA				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.7						
LSA	**Lhasa**	**57.54**	**309**	P	**P**	**10 59 27.0**	**+1.5**
PET	**Petropavlovsk**	**58.74**	**13**	*e*P	**P**	**10 59 37.3**	**+3.8**
PET				*e*		11 07 44.4	
SONM	**Songino Array**	**59.34**	**334**	P	**P**	**10 59 37.4**	**-0.4**
	comp=Z,0.8nm,0.9s,mb3.8,baz=158,slow=7.8,SNR=2.7						
SONM				LR	LR	11 25 46.0	
	comp=Z,227nm,20.2s,MS4.3,baz=321,slow=37						
CIT	**Chita**	**60.05**	**341**	*e*P	**P**	**10 59 42.7**	**+0.1**
CIT				*e*		11 03 20.7	
CIT				pmax	pmax		
	comp=Z,46nm,2.1s,mb5.1						
PKI	**Pulchoki**	**61.27**	**304**	*e*P	**P**	**10 59 51.3**	**0.0**
	comp=Z,26nm,1.0s,mb5.3						
PKI	**Pulchoki**	**61.27**	**304**	*e*P	**P**	**10 59 51.3**	**0.0**
PKI				pmax	pmax		
	comp=Z,13nm,1.0s,mb5.0						
KKN	**Kakani**	**61.46**	**304**	*e*P	**P**	**10 59 52.9**	**+0.4**
	comp=Z,55nm,1.1s,mb5.6						
KKN	**Kakani**	**61.46**	**304**	*e*P	**P**	**10 59 52.9**	**+0.4**
KKN				pmax	pmax		
	comp=Z,28nm,1.1s,mb5.3						
DMN	**Daman**	**61.54**	**304**	*e*P	**P**	**10 59 53.3**	**+0.2**
	comp=Z,78nm,1.2s,mb5.7						
GKN	**Gorkha**	**62.07**	**304**	*e*P	**P**	**10 59 56.9**	**+0.2**
	comp=Z,104nm,1.2s,mb5.8						
ZAK	**Zakamensk**	**62.60**	**334**	*e*P	**P**	**10 59 58.8**	**-1.1**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.5						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.1s,mb3.9						
KOLN	**Koldanda**	**62.84**	**304**	*e*P	**P**	**11 00 00.8**	**-1.0**
	comp=Z,95nm,1.4s,mb5.7						
MA2	**Magadan**	**63.75**	**6**	*i*P	**P**	**11 00 04.0**	**-3.3**
MA2				pmax	pmax		
	comp=Z,33nm,2.0s,mb5.0						
BOD	**Bodaibo**	**64.95**	**345**	*e*P	**P**	**11 00 11.9**	**-3.2**
BOD				pmax	pmax		
	comp=Z,9.0nm,1.4s,mb4.6						
YAK	**Yakutsk**	**66.16**	**355**	⇑*e*P	**P**	**11 00 22.1**	**-0.7**
YAK				pmax	pmax		
	comp=Z,15nm,0.9s,mb5.0						
WMQ	**Urumqi**	**66.78**	**321**	P	**P**	**11 00 32.0**	**+4.9**
WMQ				AP	pP	11 00 42.0	+13
WMQ				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.8						
SEY	**Seymchan**	**67.21**	**6**	⇑*e*P	**P**	**11 00 29.7**	**+0.2**
MKAR	**Makanchi Array**	**71.55**	**322**	P	**P**	**11 00 55.8**	**-0.6**
	comp=Z,3.0nm,0.9s,mb4.2,baz=117,slow=8.1,SNR=11						
MKAR				LR	LR	11 34 13.3	
	comp=Z,69nm,18.1s,MS4.0,baz=18,slow=38						
BILL	**Bilibino**	**73.99**	**10**	*i*P	**P**	**11 01 10.5**	**+0.1**
VNDA	**Vanda**	**74.56**	**175**	P	**P**	**11 01 13.9**	**+0.4**
	comp=Z,1.6nm,0.6s,mb4.2,baz=327,slow=6.7,SNR=12						
VNDA				LR	LR	11 33 54.6	
	comp=Z,514nm,18.3s,MS4.9,baz=349,slow=36						
VNDA	**Vanda**	**74.56**	**175**	*e*P	**P**	**11 01 13.7**	**+0.2**
	comp=Z,1.3nm,0.6s,mb4.0						
VNDA	**Vanda**	**74.56**	**175**	*e*P	**P**	**11 01 13.7**	**+0.1**
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NVS	**Novosibirsk**	**74.87**	**330**	*i*P	**P**	**11 01 19.2**	**+3.4**
KURK	**Kurchatov**	**75.45**	**325**	*e*P	**P**	**11 01 19.5**	**+0.3**
	comp=Z,6.4nm,1.0s,mb4.5						
KURK				*e*		11 01 31.9	
KURK	**Kurchatov**	**75.45**	**325**	*e*P	**P**	**11 01 19.5**	**+0.3**
KURK				*e*		11 01 31.9	
KURK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
BVAR	**Borovoye Array**	**81.05**	**325**	P	**P**	**11 01 49.2**	**-0.5**
	comp=Z,1.1nm,0.5s,mb4.1,baz=124,slow=5.3,SNR=10						
BRVK	**Borovoye**	**81.12**	**325**	*e*P	**P**	**11 01 50.4**	**+0.2**
	comp=Z,8.1nm,1.0s,mb4.6						
BRVK	**Borovoye**	**81.12**	**325**	*e*P	**P**	**11 01 50.4**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
KDAK	**Kodiak Island**	**81.32**	**30**	*e*P	**P**	**11 01 51.9**	**+0.8**
	comp=Z,43nm,1.4s,mb5.2						
MAW	**Mawson**	**81.66**	**202**	P	**P**	**11 01 53.4**	**+0.8**
	comp=Z,2.8nm,0.7s,mb4.3,baz=61,slow=5.7,SNR=4.4						
MAW				LR	LR	11 36 36.4	
	comp=Z,279nm,18.9s,MS4.6,baz=307,slow=35						
SML	**Sawmill**	**84.71**	**27**	*e*P	**P**	**11 02 08.8**	**+0.5**
DIV	**Divide**	**85.69**	**28**	*e*P	**P**	**11 02 13.2**	**-0.1**
	comp=Z,41nm,0.8s,mb5.7						
QSPA	**South Pole Qui**	**86.14**	**180**	*e*P	**P**	**11 02 16.5**	**+1.3**
	comp=Z,42nm,1.0s,mb5.6						
ILAR	**Eielson Array**	**86.23**	**24**	P	**P**	**11 02 14.1**	**-1.8**
	comp=Z,3.6nm,0.8s,mb4.7,baz=260,slow=4.7,SNR=49						
ARU	**Arti**	**88.52**	**327**	*i*P	**P**	**11 02 31.2**	**+4.1**
ARU				pmax	pmax		
	comp=Z,8.0nm,1.6s,mb4.8						
ARU				MLR	MLR		
	comp=Z,100nm,20.0s,MS4.2						
DAWY	**Dawson**	**89.22**	**26**	*e*P	**P**	**11 02 31.0**	**+0.7**
SNAA	**Sanae**	**100.92**	**191**	*i*P	**P**	11 03 25.9	+2.2
DBIC	**Dimbokro**	**145.07**	**276**	PKP	PKPdf	11 09 14.4	-0.1
	comp=Z,9.8nm,0.7s,baz=72,slow=4.4,SNR=18						
DBIC	**Dimbokro**	**145.07**	**276**	*e*P	PKPbc	11 09 14.7	+2.5
CPUP	**Villa Florida**	**145.57**	**151**	*e*P	PKPbc	11 09 15.4	+2.3
LPAZ	**La Paz**	**145.62**	**126**	PKPbc	PKPbc	11 09 17.1	+3.6
	comp=Z,9.6nm,0.7s,baz=297,slow=2.3,SNR=37						
LPAZ	**La Paz**	**145.62**	**126**	*e*PKPdf	PKPdf	11 09 16.9	+1.5
SDV	**Santo Domingo**	**148.99**	**79**	*e*PKPdf	PKPdf	11 09 22.1	+1.1

CASC 15 10:57:15.9±2.6,**12.00N**×**89.13W**,**h36**km±999km,**MD3.9,**
ML3.6,11C-7D,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFRS	**El Faro**	**1.61**	**2**	⇑*e*P	P	10 57 42.0	-0.4
VSM	**San Miguel**	**1.64**	**30**	⇑*e*P	P	10 57 43.9	+1.1
VSM				*e*S	S	10 58 03.8	+0.9
LCBS	**La Ceiba**	**1.65**	**5**	⇑*e*P	P	10 57 42.5	-0.4
BLLM	**Bellamira**	**1.67**	**31**	⇑*e*P	P	10 57 44.5	+1.2
BLLM				*e*S	S	10 58 03.3	-0.4
LBRS	**Las Brisas**	**1.73**	**3**	⇓*i*P	P	10 57 44.2	+0.2
BOQS	**Boqueron**	**1.73**	**355**	⇑*e*P	P	10 57 44.1	0.0
BOQS				*e*S	S	10 58 03.2	-1.9
LFU	**La Fuente**	**1.74**	**0**	⇓*e*P	P	10 57 44.1	0.0
CNCH	**Conchagua**	**1.79**	**45**	⇑*e*P	P	10 57 46.5	+1.6
CNCH				*e*S	S	10 58 08.0	+1.4
SBLS	**San Blas**	**1.89**	**345**	*e*P	P	10 57 45.8	-0.5
SNJE	**San Jose**	**1.91**	**346**	⇑*e*P	P	10 57 46.5	-0.2
RTR	**El Retiro**	**1.95**	**345**	⇓*e*P	P	10 57 47.3	+0.1
RTR				*e*S	S	10 58 09.1	-1.5
CRIN	**San Cristobal**	**2.15**	**71**	⇓*e*P	P	10 57 48.6	-1.4
RBDL	**Robledal**	**2.17**	**345**	⇑*e*P	P	10 57 50.7	+0.4
RBDL				*e*S	S	10 58 13.5	-2.7
LEON	**Leon**	**2.22**	**79**	⇓*e*P	P	10 57 49.1	-2.0
TEL3	**Telica 3**	**2.30**	**76**	⇑*e*P	P	10 57 50.6	-1.6
TELN	**Telica**	**2.32**	**75**	⇑*e*P	P	10 57 50.7	-1.8
TELN				*e*S	S	10 58 22.1	+2.0
MTO2	**Montecristo 2**	**2.39**	**355**	*e*P	P	10 57 55.0	+1.5
MTO2				*e*S	S	10 58 22.3	+0.4
MIRN	**Miramar**	**2.40**	**79**	⇓*e*P	P	10 57 52.0	-1.7
COPN	**Copaltepe**	**2.49**	**86**	⇓*e*P	P	10 57 54.0	-0.9
COPN				*e*S	S	10 58 24.6	+0.3
MOMJ	**Momotombo**	**2.56**	**81**	*e*P	P	10 57 55.0	-0.9
APYN	**Apoyeque**	**2.73**	**85**	*e*P	P	10 57 57.1	-1.1
MGAN	**Managua**	**2.82**	**87**	*e*S	S	10 58 31.1	-1.6
	comp=N,362nm,0.4s						
CONN	**Concepcion**	**3.46**	**97**	⇑*e*P	P	10 58 07.5	-1.1

*NIED **15** 10:57:00, 29.60N×130.10E, h8km, Mw4.3 Best double couple: $M_0$3.59×10^15^ NP1:ϕ_s112°,δ46°,λ-72°. NP2: ϕ_s267°,δ46°,λ-108°.*
*BJI **15** 10:57:34.0, 28.56N×130.63E, h35km, mB4.5, mb4.1, Ms3.6, Msz3.7*
*IDC **15** 10:57:37.8±0.9, 29.52N×130.29E, mb4.1/8, mb1 4.3/12, mb1mx4.1/24, mbtmp4.1/12, ML3.8/4, MS3.7/2, Ms1 3.8/2, ms1mx3.2/30, Error ellipse: s-maj=28.1km s-min=17.4km az=108.0*
*JMA **15** 10:57:39.8±0.2, 29.59N×130.12E, h26km±3km, M4.5*
JMA Felt II J1.
*NEIC **15** 10:57:43.0±0.7, 29.31N×130.57E, h35km, mb4.4/2, Error ellipse: s-maj=20.1km s-min=10.7km az=125.0*

ISC 15 10:57:38.4±1.0,**29.56N**±0.03×**130.22E**±0.06,**h12**km±6km,
n38,σ1♀**14**/46,**mb4.2**/12,**MS4.4**/1,**Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.41**	**313**	P	**Pg**	**10 57 47.1**	**+0.2**
JNN				S	**Sg**	**10 57 52.5**	**-0.1**
JKC	**Kuchinoerabu**	**0.90**	**359**	P	**Pb**	**10 57 56.1**	**+0.6**
JKC				S	**Sb**	**10 58 09.1**	**+1.9**
JZK	**Kikaishima**	**1.26**	**190**	P	**Pb**	**10 58 03.5**	**+2.0**
JZK				S	**Sb**	**10 58 23.2**	**+5.7**
JAM	**Amami Oshima**	**1.26**	**205**	P	**Pb**	**10 58 01.1**	**-0.5**
JAM				S	**Sb**	**10 58 17.1**	**-0.6**
JTN	**Tanegashima 3**	**1.27**	**31**	P	**Pb**	**10 58 02.5**	**+0.7**
JTSR	**Tashiro 2**	**1.71**	**20**	P	**Pn**	**10 58 08.4**	**+0.1**
JTSR				S	**Sn**	**10 58 30.3**	**0.0**
JSU	**Suzuyama**	**1.95**	**6**	P	**Pn**	**10 58 11.3**	**-0.4**
JSU				S	**Sn**	**10 58 35.6**	**-0.7**
JTK	**Tokunoshima**	**2.09**	**213**	P	**Pn**	**10 58 12.7**	**-1.0**
JSJ	**Shimokoshiki**	**2.16**	**348**	P	**Pn**	**10 58 13.9**	**-0.8**
JSJ				S	**Sn**	**10 58 40.2**	**-1.4**
JNAR	**Kushima--Naru**	**2.16**	**24**	P	**Pn**	**10 58 15.2**	**+0.5**
JIH	**Iheya**	**3.21**	**219**	P	**Pn**	**10 58 29.3**	**-0.3**
JIH				S	**Sn**	**10 59 04.2**	**-3.9**
JOW	**Kunigami**	**3.21**	**213**	Pn	**Pn**	**10 58 30.0**	**+0.3**
	31nm,0.3s,baz=92,slow=19,SNR=53						
JOW				Sn	**Sn**	**10 59 09.3**	**+1.0**
	30nm,0.3s,baz=80,slow=25,SNR=9.0						
JOW				LR	LR	10 59 59.7	
	comp=Z,260nm,19.4s,baz=220,slow=44						
JOW	**Kunigami**	**3.21**	**213**	P	**Pn**	**10 58 30.5**	**+0.8**
JNU	**Nakatsue**	**3.60**	**9**	Pn	**Pn**	**10 58 36.4**	**+1.2**
	6.3nm,0.3s,baz=179,slow=1.1,SNR=35						
KS15	**Wonju Array Si**	**8.10**	**347**	*e*P	**P**	**10 59 43.9**	**+5.2**
MAJO	**Matsushiro**	**9.66**	**42**	*e*P	**P**	**10 59 58.5**	**-1.8**
	9.1nm,0.8s						
MAT	**Matsushiro**	**9.66**	**42**	P	**P**	**11 00 00.3**	**0.0**
MAT	**Matsushiro**	**9.66**	**42**	P	**P**	**11 00 00.0**	**-0.3**
MJAR	**Matsushiro Arr**	**9.66**	**42**	Pn	**P**	**10 59 59.0**	**-1.3**
	0.7nm,0.3s,baz=228,slow=15,SNR=11						
CN2	**Changchun**	**14.72**	**346**	*e*P	**P**	**11 01 15.4**	**+7.2**
CN2				AMB	AMB		
	comp=Z,20nm,0.8s						
CN2				LR	LR		
	comp=N,350nm,19.0s						
CN2				LR	LR		
	comp=E,190nm,19

KAKA Kakadu 11.53 220⇑ *i*P P 11 24 47.4 +8.8
34nm,0.4s
KAKA *e*S **S 11 26 57.0 +10**
WRAB Tennant Creek 16.87 199 *e*Pn **P 11 25 47.0 -1.0**
30nm,0.7s
WRAB *e*Sn **S 11 28 52.5 -0.1**
WRA Warramunga Arr 16.88 199 P **P 11 25 47.4 -0.8**
1.0nm,0.3s,baz=14,slow=13,SNR=50
WRA S **S 11 28 52.7 -0.2**
0.5nm,0.3s,baz=16,slow=22,SNR=4.3
CTA Charters Tower 17.19 160 P **P 11 25 52.8 +0.7**
0.4nm,0.3s,baz=331,slow=11,SNR=9.4
CTA LR LR 11 33 07.8
comp=Z,483nm,18.8s,baz=347,slow=39
CTA Charters Tower 17.19 160 P **P 11 25 52.8 +0.7**
CTA LR LR 11 33 07.8
CTAO Charters Tower 17.19 160 *e*Pn **P 11 25 53.9 +1.8**
12nm,0.8s
FITZ Fitzroy Crossi 19.95 224 *e*P **P 11 26 24.2 -0.2**
16nm,0.7s
FITZ *e*S **S 11 30 00.5 -0.3**
FITZ Fitzroy Crossi 19.95 224 P **P 11 26 25.2 +0.8**
24nm,0.8s,baz=24,slow=9.4,SNR=29
FITZ S **S 11 30 00.6 -0.2**
12nm,0.6s,baz=177,slow=19,SNR=4.0
HNR Honiara 20.52 107 LR LR 11 33 52.3
comp=Z,110nm,19.2s,MS3.2,baz=103,slow=35
KKM Kota Kinabalu 25.76 292 *e*P **P 11 27 21.9 +0.1**
MBWA Marble Bar 26.15 227 *e*P **P 11 27 27.5 +2.2**
STKA Stephens Creek 27.87 177 P **P 11 27 41.1 +0.1**
1.9nm,0.8s,mb3.8,slow=9.1,SNR=2.9
STKA LR LR 11 39 59.3
comp=Z,427nm,20.8s,MS4.0,baz=23,slow=39
STKA Stephens Creek 27.87 177 P **P 11 27 40.6 -0.3**
STKA LR LR 11 39 59.3
JOW Kunigami 32.60 340 LR LR 11 40 37.8
comp=Z,84nm,19.2s,MS3.5,baz=195,slow=35
JHJ Hachijo jima 2 36.82 360 LR LR 11 41 56.7
comp=Z,235nm,21.0s,MS4.0,baz=51,slow=33
JNU Nakatsue 37.83 347 LR LR 11 42 38.4
comp=Z,96nm,19.2s,MS3.6,baz=39,slow=33
SONM Songino Array 59.36 334 LR LR 11 55 02.6
comp=Z,66nm,21.2s,MS3.7,baz=340,slow=34
VNDA Vanda 74.49 175 P **P 11 33 28.4 +0.3**
0.7nm,0.7s,mb3.7,baz=342,slow=5.2,SNR=5.1
VNDA Vanda 74.49 175 *e*P **P 11 33 28.7 +0.6**
ILAR Eielson Array 86.36 24 P **P 11 34 30.1 -1.2**
0.9nm,0.7s,mb4.1,baz=262,slow=4.6,SNR=18
DBIC Dimbokro 144.94 276 PKP PKPdf 11 41 28.3 +2.0
7.1nm,0.9s,baz=98,slow=9.2,SNR=5.7
CPUP Villa Florida 145.56 152 PKPbc PKPbc 11 41 30.7 +2.9
4.5nm,1.0s,baz=207,slow=4.5,SNR=7.3
CPUP Villa Florida 145.56 152 PKPbc PKPbc 11 41 30.7 +2.9
LPAZ La Paz 145.68 126 PKPbc PKPbc 11 41 32.3 +4.0
3.5nm,0.8s,baz=264,slow=2.7,SNR=13
SIV San Ignacio 151.25 134 PKPbc PKPdf 11 41 47.1 +11
2.8nm,0.8s,baz=142,slow=4.2,SNR=7.3

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*NEIC **15** 11:39:11.4±1.4,5.18S×105.21W,h10km,mb4.3/4,Error ellipse: s-maj=64.4km s-min=14.3km az=64.0*
*IDC **15** 11:39:16.9±3.1,4.00S×103.37W,mb3.8/6,mb1 4.1/6, mb1mx3.9/17,mbtmp3.8/6,Error ellipse: s-maj=128.5km s-min=25.6km az=55.0*
ISC 15 11:39:10.2±1.3,5.2S±0.2×105.1W±0.4,h10km,n15, σ1°36/15,mb4.0/10,Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**38.99**	**120**	P	**P**	**11 46 38.6**	**-0.2**
	1.6nm,0.8s,mb3.8,baz=270,slow=6.1,SNR=3.3						
LVC	**Limon Verde**	**38.99**	**120**	P	**P**	**11 46 38.9**	**+0.1**
ANMO	**Albuquerque**	**39.92**	**358**	P	**P**	**11 46 44.5**	**-1.8**
	0.3nm,0.4s,mb3.3,baz=165,slow=5.3,SNR=3.6						
ARUT	**Antelope Range**	**43.44**	**350**	*e*P	**P**	**11 47 16.6**	**+1.5**
SRU	**San Rafael**	**44.34**	**354**	*e*P	**P**	**11 47 22.6**	**+0.1**
NVAR	**Mina Array Bea**	**45.08**	**345**	P	**P**	**11 47 30.9**	**+2.5**
	0.6nm,0.9s,mb3.4,baz=168,slow=8.3,SNR=3.9						
DUG	**Dugway**	**45.69**	**352**	*e*P	**P**	**11 47 29.0**	**-4.3**
	9.9nm,1.8s,mb4.4						
HWUT	**Hardware Ranch**	**46.92**	**353**	*e*P	**P**	**11 47 42.2**	**-0.7**
	1.9nm,0.8s,mb4.1						
PDAR	**Pinedale Array**	**47.88**	**356**	P	**P**	**11 47 49.1**	**-1.4**
	1.3nm,0.8s,mb4.0,baz=170,slow=5.5,SNR=10.0						
IMW	**Indian Meadow**	**49.12**	**354**	*e*P	**P**	**11 47 59.0**	**-1.0**
	3.5nm,1.0s,mb4.3						
HLID	**Hailey**	**49.23**	**351**	*e*P	**P**	**11 48 01.2**	**+0.3**
	4.4nm,1.5s,mb4.3						
CPUP	**Villa Florida**	**50.17**	**120**	*e*P	**P**	**11 48 09.7**	**+1.3**
ULM	**Lac du Bonnet**	**55.76**	**7**	P	**P**	**11 48 44.9**	**-4.8**
	3.3nm,0.8s,mb4.4,baz=202,slow=5.4,SNR=3.9						
PMSA	**Palmer Station**	**66.25**	**162**	P	**P**	**11 49 59.0**	**-1.4**
ILAR	**Eielson Array**	**76.27**	**343**	P	**P**	**11 51 03.0**	**+2.4**
	0.9nm,1.0s,mb3.7,baz=149,slow=5.0,SNR=8.2						

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*IDC **15** 11:40:31.3±1.8,3.68S×103.88W,mb4.2/10,mb1 4.4/10, mb1mx4.3/18,mbtmp4.2/10,MS4.3/3,Ms1 4.3/3, ms1mx4.0/8,Error ellipse: s-maj=77.0km s-min=19.6km az=58.0*
*NEIC **15** 11:40:34.7±0.5,3.48S×103.35W,h10km,mb4.7/22, MS4.2/6,Error ellipse: s-maj=12.3km s-min=8.2km az=59.0*
ISC 15 11:40:32.9±0.6,3.50S±0.09×103.3W±0.1,h10km,n66, σ0°90/64,mb4.4/32,MS4.2/8,Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**22.87**	**53**	LR	LR	11 52 14.8	
	comp=Z,2μm,20.9s,MS4.5,baz=186,slow=30						
RPN	**Rapa Nui**	**24.18**	**193**	LR	LR	11 52 24.4	
	comp=Z,1μm,21.4s,MS4.3,baz=267,slow=30						
PTCN	**Pitcairn Islan**	**33.50**	**228**	P	**P**	**11 47 15.8**	**+0.9**
SDV	**Santo Domingo**	**34.85**	**69**	*e*P	**P**	**11 47 27.5**	**+0.8**
	14nm,1.0s,mb4.9						
SDV				LR	LR		
	comp=Z,383nm,22.0s,MS4.1						
MNTX	**Cornudas Mount**	**35.06**	**357**	*e*P	**P**	**11 47 27.8**	**-0.5**
	comp=Z,4.0nm,1.1s,mb4.3						
GDL2	**Guadalupe Moun**	**35.52**	**359**	P	**P**	**11 47 32.0**	**-0.2**
NATX	**Nacogdoches**	**36.02**	**13**	*e*P	**P**	**11 47 36.5**	**+0.1**
NATX				LR	LR		
	comp=Z,446nm,19.0s,MS4.2						
CPRX	**Cap Rock**	**36.34**	**359**	*e*P	**P**	**11 47 39.3**	**+0.3**
LPAZ	**La Paz**	**36.86**	**113**	P	**P**	**11 47 46.4**	**+2.9**
	comp=Z,1.5nm,0.9s,mb3.8,baz=289,slow=6.7,SNR=3.4						
LPAZ	**La Paz**	**36.86**	**113**	P	**P**	**11 47 46.4**	**+2.9**
BNM	**Barren Site**	**37.58**	**356**	*e*P	**P**	**11 47 50.5**	**+1.0**
WMOK	**Wichita Mounta**	**38.28**	**6**	*e*P	**P**	**11 47 55.0**	**-0.3**
	comp=Z,3.8nm,0.9s,mb4.1						
ANMO	**Albuquerque**	**38.36**	**356**	P	**P**	**11 47 56.8**	**+0.8**
	comp=Z,1.3nm,0.8s,mb3.7,baz=162,slow=9.4,SNR=6.1						
LVC	**Limon Verde**	**38.37**	**123**	P	**P**	**11 48 00.9**	**+4.6**
	comp=Z,4.1nm,0.9s,mb4.1,baz=311,slow=8.6,SNR=3.9						
SAML	**Samuel**	**40.26**	**100**	*e*P	**P**	**11 48 10.3**	**-1.8**
	comp=Z,7.3nm,1.1s,mb4.3						
SAML				LR	LR		
	comp=Z,839nm,19.0s,MS4.6						
NEN	**Nelson**	**40.41**	**345**	*e*P	**P**	**11 48 13.4**	**+0.4**
PLAL	**Pickwick Lake**	**40.88**	**19**	*e*P	**P**	**11 48 17.1**	**+0.1**
	comp=Z,59nm,1.4s,mb5.0						
PLAL				LR	LR		
	comp=Z,253nm,19.0s,MS4.1						
SDCO	**Great Sand Dun**	**41.09**	**357**	*e*P	**P**	**11 48 19.7**	**+1.1**
	comp=Z,18nm,1.4s,mb4.5						
UTMT	**University of**	**41.88**	**18**	P	**P**	**11 48 24.5**	**-0.7**
WVT	**Waverly**	**42.01**	**19**	*e*P	**P**	**11 48 25.9**	**-0.3**
	comp=Z,52nm,1.5s,mb4.9						
ARUT	**Antelope Range**	**42.14**	**348**	*e*P	**P**	**11 48 28.5**	**+1.3**
MYNC	**Murphy**	**42.40**	**24**	*e*P	**P**	**11 48 29.3**	**-0.2**
	comp=Z,42nm,1.4s,mb4.9						
CPCT	**Cooper Cave**	**42.58**	**23**	*e*P	**P**	**11 48 31.5**	**+0.6**
MSU	**Marysvale**	**42.59**	**350**	*e*P	**P**	**11 48 31.5**	**+0.5**
SMCO	**Snowmass**	**42.60**	**356**	*e*P	**P**	**11 48 32.1**	**+1.1**
CCM	**Cathedral Cave**	**42.84**	**14**	*e*P	**P**	**11 48 33.1**	**+0.1**
	comp=Z,15nm,0.8s,mb4.8						
KSU1	**Kansas State U**	**42.84**	**8**	*e*P	**P**	**11 48 33.3**	**+0.2**
SRU	**San Rafael**	**42.91**	**352**	*e*P	**P**	**11 48 34.1**	**+0.5**
FVM	**French Village**	**42.98**	**15**	*e*P	**P**	**11 48 34.6**	**+0.4**
	comp=Z,4.9nm,0.7s,mb4.3						
MTUM	**Tungsten Hills**	**43.04**	**342**	P	**P**	**11 48 35.4**	**+0.7**
ISCO	**Idaho Springs**	**43.14**	**357**	*e*P	**P**	**11 48 35.6**	**+0.2**
	comp=Z,14nm,1.4s,mb4.5						
TMUT	**Trail Mountain**	**43.20**	**351**	*e*P	**P**	**11 48 36.6**	**+0.6**
TZTN	**Tazewell**	**43.91**	**23**	*e*P	**P**	**11 48 41.7**	**0.0**
NVAR	**Mina Array Bea**	**43.96**	**343**	P	**P**	**11 48 42.1**	**0.0**
	comp=Z,1.3nm,0.9s,mb3.6,baz=168,slow=8.3,SNR=9.8						
MPU	**Maple Canyon**	**43.97**	**351**	*e*P	**P**	**11 48 43.2**	**+1.0**
DAU	**Daniels Canyon**	**44.30**	**351**	*e*P	**P**	**11 48 45.2**	**+0.4**
DUG	**Dugway**	**44.34**	**350**	*e*P	**P**	**11 48 46.1**	**+0.9**
	comp=Z,14nm,1.3s,mb4.5						
JLU	**Jordanelle**	**44.51**	**351**	*e*P	**P**	**11 48 47.3**	**+0.7**
PHWY	**Pilot Hill**	**44.63**	**358**	*e*P	**P**	**11 48 48.0**	**+0.5**
ELK	**Elko**	**45.36**	**347**	*e*P	**P**	**11 48 53.7**	**+0.4**
	comp=Z,5.2nm,1.3s,mb4.2						
HWUT	**Hardware Ranch**	**45.52**	**351**	*e*P	**P**	**11 48 54.9**	**+0.3**
	comp=Z,24nm,1.4s,mb4.9						
ELN	**Prospectdale**	**45.65**	**25**	*e*P	**P**	**11 48 56.0**	**+0.3**
HVU	**Hansel Valley**	**45.88**	**350**	*e*P	**P**	**11 48 57.5**	**+0.1**
PDAR	**Pinedale Array**	**46.40**	**354**	P	**P**	**11 49 00.7**	**-0.8**
	comp=Z,3.8nm,0.7s,mb4.4,baz=165,slow=5.8,SNR=34						
RRI2	**Red Ridge**	**47.19**	**352**	*e*P	**P**	**11 49 07.7**	**0.0**
	comp=Z,9.7nm,0.8s,mb4.8						
TPAW	**Teton Pass**	**47.28**	**352**	*e*P	**P**	**11 49 08.1**	**-0.3**
	comp=Z,4.9nm,0.9s,mb4.4						
LOHW	**Long Hollow**	**47.35**	**353**	*e*P	**P**	**11 49 08.2**	**-0.8**
	comp=Z,7.6nm,1.0s,mb4.6						
PLCA	**Paso Flores**	**47.38**	**146**	P	**P**	**11 49 08.8**	**-0.5**
	comp=Z,5.3nm,1.1s,mb4.4,baz=294,slow=7.6,SNR=4.3						
PLCA	**Paso Flores**	**47.38**	**146**	P	**P**	**11 49 08.9**	**-0.4**
	comp=Z,14nm,1.4s,mb4.7						
RSSD	**Black Hills**	**47.41**	**359**	*e*P	**P**	**11 49 09.8**	**+0.3**
	comp=Z,4.7nm,1.0s,mb4.4						
IMW	**Indian Meadow**	**47.67**	**353**	*e*P	**P**	**11 49 11.0**	**-0.6**
	comp=Z,41nm,1.5s,mb5.2						
WVOR	**Wild Horse Val**	**47.78**	**345**	*e*P	**P**	**11 49 13.0**	**+0.5**
	comp=Z,6.4nm,1.3s,mb4.5						
HLID	**Hailey**	**47.90**	**349**	*e*P	**P**	**11 49 13.8**	**+0.5**
	comp=Z,3.2nm,0.8s,mb4.4						
HLID				LR	LR		
	comp=Z,190nm,20.0s,MS4.1						
YBH	**Yreka Blue Hor**	**48.35**	**341**	P	**P**	**11 49 15.5**	**-1.3**
	comp=Z,1.5nm,0.8s,mb4.1,baz=160,slow=3.5,SNR=4.8						
QLMT	**Earthquake Lak**	**48.66**	**352**	*e*P	**P**	**11 49 19.8**	**+0.6**
MCMT	**McKenzie Canyo**	**48.86**	**351**	*e*P	**P**	**11 49 19.5**	**-1.3**
HRY	**Holter Researc**	**50.56**	**352**	*e*P	**P**	**11 49 32.9**	**-0.8**
CHMT	**Chamberlain Mo**	**50.96**	**351**	*e*P	**P**	**11 49 35.1**	**-1.7**
NEW	**Newport**	**52.94**	**348**	P	**P**	**11 49 50.1**	**-1.6**
	comp=Z,3.0nm,0.7s,mb4.3,baz=146,slow=8.9,SNR=7.2						
NEW				LR	LR	12 08 40.0	
	comp=Z,72nm,18.8s,MS3.7,baz=172,slow=32						
ULM	**Lac du Bonnet**	**53.92**	**6**	P	**P**	**11 49 57.0**	**-1.9**
	comp=Z,9.7nm,1.0s,mb4.7,baz=202,slow=7.6,SNR=7.9						
ULM	**Lac du Bonnet**	**53.92**	**6**	P	**P**	**11 49 57.0**	**-1.9**
EDM	**Edmonton**	**57.14**	**353**	*e*P	**P**	**11 50 20.5**	**-1.7**
DLBC	**Dease Lake**	**65.32**	**345**	*e*P	**P**	**11 51 17.1**	**-0.2**
YKA	**Yellowknife Ar**	**66.37**	**354**	P	**P**	**11 51 21.3**	**-2.6**
	comp=Z,1.8nm,0.9s,mb4.1,baz=164,slow=6.9,SNR=4.7						
YKA	**Yellowknife Ar**	**66.37**	**354**	P	**P**	**11 51 21.3**	**-2.6**
ILAR	**Eielson Array**	**75.21**	**342**	P	**P**	**11 52 14.6**	**-2.7**
	comp=Z,2.3nm,0.9s,mb4.1,baz=154,slow=4.5,SNR=21						

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*IDC **15** 11:48:52.3±0.9,57.31N×33.93W,mb4.0/14,mb1 4.1/16, mb1mx4.0/26,mbtmp4.0/16,ML3.1/2,MS3.8/12,Ms1 3.8/12, ms1mx3.6/23,Error ellipse: s-maj=27.1km s-min=14.8km az=7.0*
*NEIC **15** 11:48:53.5±0.4,57.15N×33.95W,h10km,mb4.5/15, MS3.8/2,Error ellipse: s-maj=14.6km s-min=5.6km az=7.0*
*CSEM **15** 11:48:54.3±0.1,57.03N×33.99W,h33km,mb4.5/15,Ms3.8, Error ellipse: s-maj=8.1km s-min=2.3km az=9.0*
ISC 15 11:48:51.9±0.4,57.2N±0.1×33.96W±0.08,h10km,n69, σ0°97/62,mb4.2/28,MS3.8/10,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**9.75**	**34**	LR	LR	11 54 08.8	
	comp=Z,495nm,19.1s,baz=60,slow=33						
BORG	**Borgarnes**	**9.75**	**34**	*e*P	**P**	**11 51 24.1**	**+9.0**
BORG	**Borgarnes**	**9.75**	**34**	*e*P	**P**	**11 51 24.1**	**+9.0**
EKA	**Eskdalemuir Ar**	**17.14**	**83**	P	**P**	**11 52 54.1**	**+1.3**
	0.2nm,0.3s,baz=293,slow=6.4,SNR=4.4						
JMIC	**Jan Mayen**	**17.54**	**28**	LR	LR	11 58 13.0	
	comp=Z,123nm,19.2s,baz=289,slow=32						
SCHQ	**Schefferville**	**18.43**	**277**	P	**P**	**11 53 07.4**	**-1.5**
	0.1nm,0.3s,baz=77,slow=9.5,SNR=6.4						
SCHQ				LR	LR	11 58 50.1	
	comp=Z,272nm,21.5s,baz=116,slow=32						
ROSF	**Rostrenen**	**20.41**	**103**	*e*P	**P**	**11 53 32.6**	**+1.1**
GRR	**Gorron**	**21.67**	**100**	*e*P	**P**	**11 53 44.8**	**+0.4**
	26nm,1.1s,mb4.3						
KONO	**Kongsberg**	**22.64**	**65**	*e*P	**P**	**11 53 56.9**	**+3.1**
	16nm,1.3s,mb4.3						
KONO	**Kongsberg**	**22.64**	**65**	*e*P	**P**	**11 53 56.9**	**+3.0**
	16nm,1.3s,mb4.3						
NB2	**NORSAR Subarra**	**23.15**	**61**	P	**P**	**11 54 00.6**	**+1.9**
	6.2nm,1.0s,mb4.0,baz=279,slow=9.3						
NOA	**NORSAR Array B**	**23.15**	**61**	P	**P**	**11 53 59.8**	**+1.1**
	3.4nm,1.0s,mb3.7,baz=279,slow=9.7,SNR=4.5						
NOA				LR	LR	12 01 33.1	
	comp=Z,50nm,21.1s,MS2.9,baz=75,slow=33						
MFF	**Saint Martin d**	**23.15**	**103**	*e*P	**P**	**11 53 58.8**	**-0.2**
	62nm,1.7s,mb4.5						
HFS	**Hagfors**	**24.54**	**63**	P	**P**	**11 54 12.9**	**+0.6**
	4.6nm,0.7s,mb4.1,baz=281,slow=7.6,SNR=11						
HFS				LR	LR	12 01 22.4	
	comp=Z,173nm,20.4s,MS3.5,baz=278,slow=31						
TCF	**Toulx Ste Croi**	**24.61**	**101**	*e*P	**P**	**11 54 12.6**	**-0.5**
	27nm,1.4s,mb4.3						
BGF	**Bois d'Agland**	**24.78**	**99**	*e*P	**P**	**11 54 14.1**	**-0.7**
	10nm,0.6s,mb4.2						
MEZF	**Maizieres J'vi**	**24.80**	**94**	*e*P	**P**	**11 54 14.3**	**-0.7**
SSF	**Saint Saulge**	**24.82**	**98**	*e*P	**P**	**11 54 14.4**	**-0.8**
LOR	**Lormes**	**24.89**	**97**	*e*P	**P**	**11 54 14.3**	**-1.5**
LOR				*e*R			
	224nm,20.2s						
AVF	**Avril sur Loir**	**24.91**	**99**	*e*P	**P**	**11 54 14.8**	**-1.2**
SMF	**Signal de Mont**	**25.26**	**98**	*e*P	**P**	**11 54 19.0**	**-0.3**
	53nm,1.7s,mb4.5						
HAU	**Haudompre**	**25.80**	**93**	*e*P	**P**	**11 54 23.8**	**-0.5**
HAU				*e*R			
	378nm,20.5s						
CDF	**Champ du Feu**	**26.06**	**92**	*e*P	**P**	**11 54 27.0**	**+0.2**
HINF	**Hinteralfeld**	**26.18**	**93**	*e*P	**P**	**11 54 27.1**	**-0.8**
ESDC	**Sonseca Array**	**26.19**	**119**	P	**P**	**11 54 28.0**	**0.0**
	0.7nm,0.8s,mb3.2,baz=324,slow=11,SNR=3.5						
MOX	**Moxa**	**27.20**	**84**	*i*P	**P**	**11 54 38.5**	**+1.3**
MOX				L		12 05 09.0	
MOX	**Moxa**	**27.20**	**84**	*e*P	**P**	**11 54 38.5**	**+1.3**
MOX				LR	LR		
	comp=Z,200nm,19.0s,MS3.7						
GRA1	**Grafenberg Arr**	**27.49**	**86**	*e*P	**P**	**11 54 41.2**	**+1.3**
GRF	**Grafenberg Arr**	**27.49**	**86**	*e*P	**P**	**11 54 41.2**	**+1.3**
	comp=Z,7.0nm,1.1s,mb4.1						
CLL	**Collm**	**27.60**	**82**	*e*P	**P**	**11 54 45.0**	**+4.1**
ARCES	**ARCESS Array B**	**28.07**	**40**	P	**P**	**11 54 43.2**	**-1.7**
	comp=Z,1.0nm,0.7s,mb3.5,baz=280,slow=7.4,SNR=6.8						
ARCES				LR	LR	12 03 43.0	
	comp=Z,75nm,19.1s,MS3.3,baz=58,slow=32						
ARCES	**ARCESS Array B**	**28.07**	**40**	P	**P**	**11 54 43.2**	**-1.7**
DAVOX	**Davos**	**28.45**	**92**	LR	LR	12 05 25.6	
	comp=Z,207nm,19.6s,MS3.7,baz=264,slow=35						
GERES	**GERESS Array B**	**29.31**	**86**	P	**P**	**11 54 56.9**	**+0.6**
	comp=Z,0.6nm,0.7s,mb3.5,baz=288,slow=8.4,SNR=4.9						
GERES				LR	LR	12 05 49.6	
	comp=Z,158nm,18.7s,MS3.7,baz=344,slow=35						
FINES	**FINESS Array B**	**29.98**	**56**	P	**P**	**11 55 01.6**	**-0.6**
	comp=Z,1.7nm,0.8s,mb3.9,baz=270,slow=5.7,SNR=6.5						
FINES	**FINESS Array B**	**29.98**	**56**	P	**P**	**11 55 01.5**	**-0.7**
AKASG	**Malin Array Be**	**36.53**	**72**	P	**P**	**11 55 57.4**	**-1.6**
	comp=Z,5.6nm,0.7s,mb4.5,baz=304,slow=8.4,SNR=22						
YKA	**Yellowknife Ar**	**38.39**	**312**	LR	LR	12 11 29.2	
	comp=Z,211nm,18.5s,MS4.0,baz=110,slow=35						
SIUC	**Southern Illin**	**40.80**	**266**	*e*P	**P**	**11 56 34.2**	**-0.6**
SIUC	**Southern Illin**	**40.80**	**266**	*e*P	**P**	**11 56 34.2**	**-0.6**
EDM	**Edmonton**	**43.08**	**300**	*e*P	**P**	**11 56 54.7**	**+1.5**
EDM	**Edmonton**	**43.08**	**300**	*e*P	**P**	**11 56 54.7**	**+1.5**
LAO	**LASA Array**	**43.74**	**288**	*e*P	**P**	**11 56 59.5**	**+0.9**
	comp=Z,11nm,0.8s,mb4.6						
LAO	**LASA Array**	**43.74**	**288**	*e*P	**P**	**11 56 59.5**	**+0.9**
	comp=Z,11nm,0.8s,mb4.6						
WALA	**Waterton Lakes**	**46.04**	**296**	*e*P	**P**	**11 57 16.8**	**-0.2**
	comp=Z,12nm,1.3s,mb4.7						
WALA	**Waterton Lakes**	**46.04**	**296**	*e*P	**P**	**11 57 16.8**	**-0.2**
	comp=Z,12nm,1.3s,mb4.7						
BRTR	**Keskin Array B**	**46.06**	**82**	P	**P**	**11 57 17.3**	**+0.1**
	comp=Z,2.6nm,0.7s,mb4.3,baz=294,slow=4.7,SNR=7.7						
BOZ	**Bozeman (W)**	**47.22**	**291**	*e*P	**P**	**11 57 27.6**	**+1.3**
	comp=Z,4.4nm,1.1s,mb4.3						
BOZ	**Bozeman (W)**	**47.22**	**291**	*e*P	**P**	**11 57 27.6**	**+1.3**
	comp=Z,4.4nm,1.1s,mb4.3						
NEW	**Newport**	**48.15**	**297**	P	**P**	**11 57 33.4**	**-0.2**
	comp=Z,1.7nm,0.8s,mb4.2,baz=53,slow=3.4,SNR=4.2						
NEW	**Newport**	**48.15**	**297**	P	**P**	**11 57 33.3**	**-0.3**
PDAR	**Pinedale Array**	**48.16**	**287**	P	**P**	**11 57 33.8**	**0.0**
	comp=Z,0.6nm,0.7s,mb3.7,baz=68,slow=8.0,SNR=7.0						
PDAR				LR	LR	12 16 50.1	
	comp=Z,146nm,18.1s,MS4.0,baz=118,slow=35						
ILAR	**Eielson Array**	**48.18**	**328**	P	**P**	**11 57 34.1**	**+0.5**
	comp=Z,1.0nm,0.9s,mb3.9,baz=37,slow=6.0,SNR=11						
ILAR				PcP	PcP	11 58 59.9	-1.5
	comp=Z,0.3nm,0.7s,baz=1.8,slow=2.5,SNR=4.4						
ILAR	**Eielson Array**	**48.18**	**328**	PcP	PcP	11 58 59.8	-1.5
WMOK	**Wichita Mounta**	**48.20**	**271**	*e*P	**P**	**11 57 34.5**	**+0.3**
	comp=Z,8.1nm,1.3s,mb4.6						
WMOK	**Wichita Mounta**	**48.20**	**271**	*e*P	**P**	**11 57 34.5**	**+0.3**
	comp=Z,8.1nm,1.3s,mb4.6						
MALT	**Malatya**	**49.65**	**80**	*e*P	**P**	**11 57 46.6**	**+1.3**
	comp=Z,6.6nm,1.2s,mb4.5						
MALT	**Malatya**	**49.65**	**80**	*e*P	**P**	**11 57 46.6**	**+1.3**
	comp=Z,6.6nm,1.2s,mb4.5						
HLID	**Hailey**	**50.09**	**291**	*e*P	**P**	**11 57 48.8**	**+0.2**
	comp=Z,5.6nm,1.4s,mb4.4						
HLID	**Hailey**	**50.09**	**291**	*e*P	**P**	**11 57 48.8**	**+0.2**
	comp=Z,5.6nm,1.4s,mb4.4						
GDL2	**Guadalupe Moun**	**53.16**	**274**	*e*P	**P**	**11 58 11.3**	**-0.6**
GDL2	**Guadalupe Moun**	**53.16**	**274**	*e*P	**P**	**11 58 11.3**	**-0.7**
DBIC	**Dimbokro**	**55.28**	**144**	P	**P**	**11 58 28.9**	**+1.2**
	comp=Z,5.2nm,0.9s,mb4.5,baz=342,slow=6.4,SNR=4.3						
KURK	**Kurchatov**	**59.04**	**43**	*e*P	**P**	**11 58 52.9**	**-1.0**
	comp=Z,3.8nm,0.8s,mb4.5						
KURK	**Kurchatov**	**59.04**	**43**	*e*P	**P**	**11 58 52.9**	**-1.0**
	comp=Z,3.8nm,0.8s,mb4.5						
MKAR	**Makanchi Array**	**63.65**	**43**	P	**P**	**11 59 23.9**	**-1.0**
	comp=Z,2.3nm,0.7s,mb4.3,baz=335,slow=6.5,SNR=16						
SONM	**Songino Array**	**70.30**	**27**	P	**P**	**12 00 06.2**	**-0.7**
	comp=Z,0.6nm,0.7s,mb3.6,baz=337,slow=5.6,SNR=4.1						
MJAR	**Matsushiro Arr**	**86.41**	**6**	LR	LR	12 37 22.9	
	comp=Z,215nm,21.4s,MS4.5,baz=80,slow=34						
BOSA	**Boshof**	**98.88**	**130**	LR	LR	12 45 33.1	
	comp=Z,168nm,20.5s,MS4.5,baz=76,slow=34						

JMA 15 11:50:18.7±0.1,31.09N×130.34E,h160km±2km,M3.8, 6C-2D,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSU	**Suzuyama**	**0.43**	**13**	⇑P	P	11 50 41.1	-0.2
JTSR	**Tashiro 2**	**0.51**	**81**	⇑P	P	11 50 41.3	-0.3
JTSR				S	S	11 50 57.9	-1.3
JKC	**Kuchinoerabu**	**0.64**	**191**	⇓P	P	11 50 42.0	-0.3
JKC				S	S	11 50 59.7	-0.7
JTN	**Tanegashima 3**	**0.70**	**128**	P	P	11 50 42.6	0.0
JTN				S	S	11 51 00.7	-0.3
JSJ	**Shimokoshiki**	**0.79**	**318**	⇑P	P	11 50 42.9	-0.2
JSJ				S	S	11 51 01.2	-0.8
JNAR	**Kushima--Naru**	**0.91**	**61**	⇑P	P	11 50 44.3	+0.4
JNAR				S	S	11 51 02.9	-0.4
JTZ	**Takazaki**	**1.03**	**38**	⇑P	P	11 50 45.0	+0.2
JTZ				S	S	11 51 03.9	-1.0
JNN	**Nakanoshima**	**1.31**	**198**	⇓P	P	11 50 47.1	-0.3
JNN				*e*S	S	11 51 09.5	-0.1
JIU2	**Izumi 2**	**1.51**	**15**	⇑P	P	11 50 49.5	+0.1

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*IDC **15** 12:

2.8nm,0.4s,baz=21,slow=8.6,SNR=8.4
HNR Honiara 24.76 111 P **P 13 14 58.2 -0.2**
MBWA Marble Bar 25.90 218 *eP* **P 13 15 09.3 +0.3**
2.3nm,0.4s,mb4.1
STKA Stephens Creek 31.09 172 *eP* **P 13 15 56.1 +0.3**
2.6nm,0.8s,mb4.1
STKA Stephens Creek 31.09 172 P **P 13 15 56.1 +0.4**
2.7nm,0.5s,mb4.4,baz=353,slow=8.3,SNR=11
STKA Stephens Creek 31.09 172 *eP* **P 13 15 56.4 +0.6**
HIA Hailar 52.11 346 P **P 13 18 48.0 +0.7**
MKAR Makanchi Array 67.11 323 P **P 13 20 30.4 -0.3**
0.5nm,0.6s,mb3.7,baz=117,slow=8.1,SNR=4.0
VNDA Vanda 77.68 175 P **P 13 21 33.8 +1.1**
0.3nm,0.5s,mb3.5,baz=323,slow=8.5,SNR=2.7
ILAR Eielson Array 85.18 25 P **P 13 22 11.2 -0.9**
0.3nm,0.6s,mb3.6,baz=259,slow=4.9,SNR=8.0

ISC 15 13:52:49.8±1.1, 37.35N±0.08×38.63E±0.04, h10km, n7, σ1°23/11, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URFA	**Urfa**	**0.17**	**59**	PG	**Pg**	**13 52 53.3**	**-0.4**
URFA				SG	**Sg**	**13 52 57.0**	**+0.7**
ATAB	**Bozova**	**0.29**	**294**	*i* P	**Pg**	**13 52 55.6**	**-0.3**
ATAB				*i* S	**Sg**	**13 52 59.6**	**-0.4**
GZT	**Gaziantep**	**0.85**	**271**	*i* P	**Pb**	**13 53 06.1**	**-0.2**
GZT				*i* S	**Sb**	**13 53 19.8**	**+2.3**
MALT	**Malatya**	**0.97**	**350**	*e*PG	**Pg**	**13 53 07.3**	**-2.0**
MYA	**Malataya**	**0.99**	**350**	*e*PG	**Pg**	**13 53 06.7**	**-2.9**
ELZG	**Elazig**	**1.18**	**14**	*i* P	**Pb**	**13 53 12.7**	**+0.9**
ELZG				*i* S	**Sb**	**13 53 28.3**	**+1.4**
MARD	**Mardin**	**1.71**	**91**	*i* P	**Sn**	**13 53 41.7**	**-0.3**

MEX 15 13:58:01.0±0.7, 16.05N×98.27W, h7km±6km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.37**	**21**	*i* P	Pg	13 58 07.6	-0.8
PNIG				*i* S	Sg	13 58 13.3	-0.1
ACX	**Acapulco**	**1.78**	**297**	*i* P	Pn	13 58 30.0	-2.5
ACX				*i* S	Sn	13 58 50.0	-5.6
VHO	**Vista Hermosa**	**1.79**	**55**	*e*P	Pn	13 58 29.1	-3.5
VHO				*i* S	Sn	13 58 50.8	-5.0
OXX	**Oaxaca**	**1.80**	**55**	*e*P	Pn	13 58 30.0	-2.8
OXX				*i* S	Sn	13 58 55.0	-1.1
YAIG	**Yautepec**	**2.90**	**345**	*e*P	Pn	13 58 44.6	-3.9
YAIG				*i* S	Sn	13 59 20.4	-3.7

*IDC **15** 14:16:56.9±0.9, 16.76S×70.69W, mb3.8/4, mb1 4.2/7, mb1mx3.9/19, mbtmp3.9/7, ML4.2/2, MS3.2/5, Ms1 3.2/5, ms1mx3.0/22, Error ellipse: s-maj=27.7km s-min=21.7km az=31.0*
*NEIC **15** 14:17:01.7±0.6, 16.73S×70.66W, h35km, mb4.2/2, Error ellipse: s-maj=14.4km s-min=13.1km az=213.0*
ISC 15 14:17:01.4±0.9, 16.86S±0.09×70.69W±0.06, h44km±10km, n22, σ0°94/19, mb3.9/5, MS3.2/2, 1C, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**0.86**	**297**	⇑*i*P	**P**	**14 17 15.9**	**-1.3**
ARE				*i* S	**S**	**14 17 29.9**	**+1.1**
LPAZ	**La Paz**	**2.52**	**77**	Pn	**P**	**14 17 40.6**	**-0.3**
28nm,0.3s,baz=256,slow=15,SNR=936							
LPAZ				Sn	**S**	**14 18 12.3**	**+1.7**
11nm,0.3s,baz=322,slow=19,SNR=4.7							
LPAZ				LR	LR	14 18 48.1	
comp=Z,794nm,19.4s,baz=261,slow=44							
LPAZ	**La Paz**	**2.52**	**77**	*e*Pn	**P**	**14 17 40.8**	**-0.1**
LPAZ				*e*Sn	**S**	**14 18 09.9**	**-0.7**
LPAZ				LR	LR	14 18 48.1	
LVC	**Limon Verde**	**5.96**	**164**	Pn	**P**	**14 18 28.8**	**-0.5**
1.5nm,0.3s,baz=333,slow=11,SNR=9.4							
LVC				Sn	**S**	**14 19 46.6**	**+9.2**
0.8nm,0.3s,baz=204,slow=20,SNR=3.3							
LVC	**Limon Verde**	**5.96**	**164**	*e*Pn	**P**	**14 18 29.3**	**0.0**
29nm,1.1s							
LVC				*e*Sn	**S**	**14 19 43.3**	**+5.9**
SIV	**San Ignacio**	**9.27**	**86**	Pn	**P**	**14 19 09.7**	**-5.7**
0.6nm,0.3s,baz=267,slow=12,SNR=13							
SAML	**Samuel**	**10.74**	**44**	*e*Pn	**P**	**14 19 29.5**	**-6.1**
3.7nm,1.0s							
CFAA	**Coronel Fontan**	**14.85**	**172**	LR	LR	14 26 03.8	
comp=Z,24nm,21.5s,baz=341,slow=37							
CPUP	**Villa Florida**	**15.59**	**129**	LR	LR	14 27 56.2	
comp=Z,107nm,21.1s,baz=131,slow=42							
BDFB	**Brasilia**	**21.81**	**90**	LR	LR	14 30 03.4	
comp=Z,71nm,21.6s,MS3.0,baz=103,slow=36							
PLCA	**Paso Flores**	**23.79**	**180**	P	**P**	**14 22 11.5**	**+0.7**
2.7nm,1.1s,mb3.6,baz=346,slow=11,SNR=2.8							
PLCA	**Paso Flores**	**23.79**	**180**	P	**P**	**14 22 11.5**	**+0.7**
5.8nm,1.6s,mb3.8							
JTS	**JuntasAbangare**	**30.44**	**331**	LR	LR	14 34 23.5	
comp=Z,70nm,21.0s,MS3.3,baz=44,slow=34							
PDAR	**Pinedale Array**	**69.26**	**330**	P	**P**	**14 28 04.2**	**-1.8**
0.8nm,0.8s,mb3.7,baz=143,slow=7.4,SNR=6.6							
RRI2	**Red Ridge**	**70.55**	**330**	*e*P	**P**	**14 28 13.9**	**+0.1**
4.3nm,0.8s,mb4.4							
NVAR	**Mina Array Bea**	**70.81**	**322**	P	**P**	**14 28 16.3**	**+0.9**
0.6nm,0.8s,mb3.5,baz=129,slow=5.8,SNR=4.2							
YKA	**Yellowknife Ar**	**86.27**	**341**	P	**P**	**14 29 39.5**	**+0.2**
0.8nm,0.7s,mb4.1,baz=135,slow=5.0,SNR=4.0							
YKA	**Yellowknife Ar**	**86.27**	**341**	P	**P**	**14 29 39.5**	**+0.2**
MJAR	**Matsushiro Arr**	**147.78**	**313**	PKPbc	PKPdf	14 36 43.9	+5.1
5.4nm,1.0s,baz=90,slow=1.2,SNR=11							
MAT	**Matsushiro**	**147.78**	**313**	P	PKPdf	14 36 43.2	+4.4
MAT	**Matsushiro**	**147.78**	**313**	*e*P	PKPdf	14 36 43.0	+4.2
SONM	**Songino Array**	**149.02**	**4**	PKPbc	PKPdf	14 36 46.6	+6.1
2.4nm,0.8s,baz=322,slow=1.7,SNR=15							

*IDC **15** 14:21:56.0±1.3, 27.73N×143.07E, mb4.1/4, mb1 4.3/5, mb1mx3.9/18, mbtmp4.0/5, ML3.8/1, MS3.4/4, Ms1 3.4/4, ms1mx3.0/29, Error ellipse: s-maj=32.1km s-min=19.6km az=106.0*
*NEIC **15** 14:22:01.2±0.8, 27.79N×143.00E, h35km, mb4.4/2, Error ellipse: s-maj=30.2km s-min=10.3km az=78.0*
ISC 15 14:21:58.2±3.6, 27.88N±0.06×143.0E±0.2, h27km±26km, n18, σ0°82/15, mb4.3/7, MS3.6/3, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.04**	**221**	Pn	**Pn**	**14 22 17.4**	**+0.3**
91nm,0.3s,baz=54,slow=12,SNR=16							
JHJ	**Hachijo jima 2**	**5.89**	**333**	Sn	**Sn**	**14 24 33.3**	**-0.3**
10nm,0.3s,baz=66,slow=21,SNR=4.3							
MJAR	**Matsushiro Arr**	**9.52**	**336**	Pn	**P**	**14 24 17.1**	**+0.3**
0.9nm,0.3s,baz=148,slow=9.3,SNR=16							
MJAR				Sn	**Sn**	**14 26 02.8**	**-1.2**
0.4nm,0.3s,baz=124,slow=14,SNR=4.5							
MAJO	**Matsushiro**	**9.53**	**336**	*e*P	**P**	**14 24 17.1**	**+0.3**
MAT	**Matsushiro**	**9.53**	**336**	P	**P**	**14 24 16.3**	**-0.5**
MAT	**Matsushiro**	**9.53**	**336**	*e*P	**P**	**14 24 16.0**	**-0.8**
JNU	**Nakatsue**	**11.65**	**300**	LR	LR	14 29 03.6	
comp=Z,72nm,18.9s,baz=123,slow=36							
WRAB	**Tennant Creek**	**48.26**	**191**	*e*P	**P**	**14 30 37.8**	**-1.3**
7.1nm,0.8s,mb4.8							
WRA	**Warramunga Arr**	**48.27**	**191**	P	**P**	**14 30 38.0**	**-1.2**
4.5nm,0.7s,mb4.6,baz=12,slow=8.4,SNR=18							
MKAR	**Makanchi Array**	**50.51**	**309**	P	**P**	**14 30 56.7**	**+0.7**
0.9nm,0.6s,mb3.9,baz=90,slow=8.5,SNR=5.3							
MKAR	**Makanchi Array**	**50.51**	**309**	P	**P**	**14 30 56.7**	**+0.7**
ILAR	**Eielson Array**	**56.70**	**29**	P	**P**	**14 31 41.5**	**+0.1**
1.1nm,1.0s,mb3.8,baz=254,slow=5.7,SNR=8.1							
BVAR	**Borovoye Array**	**57.93**	**317**	P	**P**	**14 31 51.0**	**+0.7**
2.6nm,0.5s,mb4.5,baz=94,slow=8.0,SNR=19							
BRVK	**Borovoye**	**57.99**	**317**	*e*P	**P**	**14 31 52.2**	**+1.6**
1.5nm,0.7s,mb4.1							
AFI	**Afiamalu**	**60.40**	**128**	LR	LR	14 57 58.0	
comp=Z,68nm,18.4s,MS3.8,baz=237,slow=36							
ARU	**Arti**	**64.23**	**322**	P	**P**	**14 32 33.4**	**+0.6**
2.8nm,0.5s,mb4.5							
FINES	**FINESS Array B**	**77.55**	**334**	LR	LR	15 09 03.9	
comp=Z,27nm,18.8s,MS3.6,baz=61,slow=36							
NOA	**NORSAR Array B**	**83.14**	**339**	LR	LR	15 13 07.1	
comp=Z,17nm,20.3s,MS3.4,baz=320,slow=37							

*NAO **15** 14:34:11.4±3.1, 60.83N×29.23E, ML2.0*
*BER **15** 14:34:13.6±2.6, 60.96N×29.24E, ML2.0(NAO),*
Suspected explosion
*IDC **15** 14:34:15.3±2.2, 61.12N×29.12E, mb1 3.2/2, mb1mx3.0/17, mbtmp3.0/2, ML3.0/2, Error ellipse: s-maj=19.7km s-min=10.1km az=157.0*
HEL 15 14:34:14.2±0.2, 60.94N×29.09E, ML2.0, ML2.0(NAO), Explosion, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VJF	**Virojoki**	**0.86**	**243**	*e*P	Pg	14 34 29.7	-1.6
FIA0	**FINESS Array S**	**1.54**	**290**	*e*P	Pn	14 34 41.2	-1.9
FIA0				*e*S	Sb	14 35 01.4	-2.0
FIA0	**FINESS Array S**	**1.54**	**290**	Pn	Pn	14 34 41.4	-1.7
baz=113,slow=16							
FIA0				Lg		14 35 03.5	
baz=104,slow=37							
FIA0				Rg		14 35 12.1	
baz=113,slow=37							
FINES	**FINESS Array B**	**1.54**	**290**	Pg	Pg	14 34 41.3	-3.8
2.5nm,0.3s,baz=105,slow=16,SNR=108							
FINES				Lg		14 35 02.9	
7.5nm,0.3s,baz=99,slow=28,SNR=37							
PVF	**Pernaja**	**1.64**	**257**	*e*P	Pn	14 34 43.0	-1.5
PVF				*e*S	Sb	14 35 04.8	-1.3
KAF	**Kangasniemi**	**1.78**	**313**	*e*P	Pn	14 34 45.8	-0.7
KAF				*e*S	Sn	14 35 08.7	-1.4
SUF	**Sumiainen**	**2.27**	**323**	*e*P	Pn	14 34 52.9	-0.5
SUF				MSG		14 35 25.7	
comp=Z,8.6nm,0.1s							
KEF	**Keuruu**	**2.37**	**303**	MSG		14 35 31.3	
comp=Z,3.9nm,0.1s							
KJN	**Kajaani**	**3.22**	**349**	*e*P	Pn	14 35 06.0	-1.0
KJN				*e*SB	Sb	14 35 49.0	-3.1
HFS	**Hagfors**	**7.64**	**271**	Pn	Pn	14 36 05.2	-4.2
baz=68,slow=12							
HFS				Sn	Sn	14 37 29.7	-8.1
baz=80,slow=22							
HFS				Lg		14 38 10.9	
baz=89,slow=28							
HFS	**Hagfors**	**7.64**	**271**	*e*P	Pn	14 36 05.2	-4.2
HFS				*e*S	Sn	14 37 29.7	-8.1
HFS				*e*SG		14 38 10.9	
NOA	**NORSAR Array B**	**8.69**	**278**	Pn	P	14 36 19.6	-4.5
comp=Z,0.1nm,0.3s,baz=101,slow=9.5,SNR=2.8							
NOA				Sn	Sn	14 37 53.9	-10
comp=Z,0.1nm,0.3s,baz=55,slow=13,SNR=2.5							
NOA				Lg		14 38 46.9	
comp=Z,0.3nm,0.3s,baz=324,slow=23,SNR=2.6							
ARA0	**ARCESS Array S**	**8.76**	**352**	Pn	P	14 36 19.0	-6.1
baz=166,slow=16							
ARA0	**ARCESS Array S**	**8.76**	**352**	*e*P	P	14 36 19.0	-6.1
ARCES	**ARCESS Array B**	**8.76**	**352**	Pn	P	14 36 18.9	-6.1
comp=Z,0.2nm,0.3s,baz=169,slow=13,SNR=10							
ARCES				Sn	Sn	14 37 51.0	-15
comp=Z,0.1nm,0.3s,baz=175,slow=21,SNR=2.6							

*IDC **15** 14:40:33.3±10.0, 15.27N×145.58E, h146km±92km, mb3.9/10, mb1 4.1/10, mb1mx3.9/19, mbtmp4.3/10, Error ellipse: s-maj=29.6km s-min=16.4km az=82.0*
*NEIC **15** 14:40:36.8±0.9, 15.22N×145.56E, h180km±8km, mb4.5/4, Error ellipse: s-maj=14.1km s-min=9.2km az=94.0*
ISC 15 14:40:35.7±1.2, 15.20N±0.08×145.6E±0.1, h188km±10km, n24, σ0°76/22, mb4.2/13, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARN	**Sarigan**	**1.50**	**5**	*e*P	**P**	**14 41 08.7**	**-0.1**
WRAB	**Tennant Creek**	**36.63**	**198**	*e*P	**P**	**14 47 26.1**	**+0.2**
3.3nm,0.5s,mb4.2							
WRA	**Warramunga Arr**	**36.65**	**198**	P	**P**	**14 47 26.0**	**0.0**
2.7nm,0.6s,mb4.0,baz=21,slow=9.8,SNR=38							
FITZ	**Fitzroy Crossi**	**38.51**	**211**	*e*P	**P**	**14 47 41.5**	**-0.1**
2.8nm,0.3s,mb4.4							
FITZ	**Fitzroy Crossi**	**38.51**	**211**	P	**P**	**14 47 41.5**	**-0.1**
4.2nm,0.3s,mb4.5,baz=22,slow=10.0,SNR=29							
KULM	**Kulim**	**45.26**	**262**	*e*P	**P**	**14 48 36.5**	**0.0**
SONM	**Songino Array**	**45.87**	**324**	P	**P**	**14 48 41.2**	**+0.4**
0.6nm,0.4s,mb3.6,baz=135,slow=6.1,SNR=6.4							
SONM				PcP	PcP	14 50 15.1	-0.1
0.6nm,0.5s,baz=134,slow=3.5,SNR=4.6							
STKA	**Stephens Creek**	**46.97**	**185**	P	**P**	**14 48 50.0**	**+0.4**
1.6nm,0.4s,mb4.0,baz=360,slow=7.7,SNR=4.5							
LSA	**Lhasa**	**51.95**	**296**	*e*P	**P**	**14 49 28.0**	**+0.5**
7.1nm,0.5s,mb4.5							
MKAR	**Makanchi Array**	**60.86**	**315**	P	**P**	**14 50 30.6**	**+0.2**
4.9nm,0.4s,mb4.7,baz=90,slow=8.7,SNR=102							
SNZO	**South Karori**	**62.33**	**156**	P	**P**	**14 50 39.5**	**-0.9**
RSO	**Redoubt South**	**63.02**	**29**	*e*P	**P**	**14 50 45.7**	**+1.1**
KURK	**Kurchatov**	**63.84**	**319**	*e*P	**P**	**14 50 49.8**	**-0.3**
4.2nm,0.4s,mb4.6							
ILAR	**Eielson Array**	**66.80**	**26**	P	**P**	**14 51 07.9**	**-0.9**
0.7nm,0.3s,mb3.9,baz=264,slow=5.4,SNR=14							
BRVK	**Borovoye**	**69.20**	**321**	P	**P**	**14 51 24.1**	**+0.3**
INK	**Inuvik**	**72.61**	**23**	P	**P**	**14 51 43.6**	**-0.3**
1.3nm,0.5s,mb3.9,baz=286,slow=4.2,SNR=4.2							
KEV	**Kevo**	**85.23**	**342**	*e*p	**P**	**14 52 51.3**	**-0.5**
NVAR	**Mina Array Bea**	**85.34**	**52**	P	**P**	**14 52 56.1**	**+3.0**
0.9nm,0.6s,mb3.7,baz=265,slow=6.1,SNR=11							
ARCES	**ARCESS Array B**	**85.79**	**342**	P	**P**	**14 52 54.7**	**+0.2**
1.6nm,0.5s,mb4.0,baz=73,slow=6.8,SNR=17							
ARCES	**ARCESS Array B**	**85.79**	**342**	P	**P**	**14 52 54.7**	**+0.2**
KAF	**Kangasniemi**	**89.56**	**336**	*e*p	**P**	**14 53 09.2**	**-3.4**
FINES	**FINESS Array B**	**90.02**	**335**	P	**P**	**14 53 14.0**	**-0.8**
1.6nm,0.5s,mb4.2,baz=58,slow=4.7,SNR=9.5							
CFAA	**Coronel Fontan**	**145.07**	**124**	PKPbc	PKPbc	14 59 54.4	+2.9
0.3nm,0.5s,baz=253,slow=4.9,SNR=5.0							
LPAZ	**La Paz**	**147.50**	**97**	PKPbc	PKPdf	15 00 01.8	+6.4
1.2nm,0.6s,baz=301,slow=5.9,SNR=1.8							

CASC 15 14:57:04.1±2.3, 11.87N×87.69W, h12km±15km, MD3.7, ML3.4, 10C-4D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEON	**Leon**	**0.95**	**55**	⇑*i*P	Pb	14 57 21.4	-0.5
LEON				*e*S	Sb	14 57 34.5	+0.3
CRIN	**San Cristobal**	**1.03**	**37**	⇑*e*P	Pb	14 57 22.2	-1.2
TEL3	**Telica 3**	**1.08**	**50**	⇑*e*P	Pb	14 57 22.9	-1.3
MIRN	**Miramar**	**1.11**	**59**	⇓*e*P	Pb	14 57 23.7	-1.0
TELN	**Telica**	**1.11**	**49**	⇑*e*P	Pb	14 57 23.1	-1.7
COPN	**Copaltepe**	**1.11**	**74**	⇓*e*P	Pb	14 57 24.5	-0.3
CNGN	**Cerro Negro**	**1.15**	**57**	⇑*e*P	Pb	14 57 24.0	-1.5
MOMJ	**Momotombo**	**1.24**	**64**	⇑*e*P	Pb	14 57 25.6	-1.4
APYN	**Apoyeque**	**1.35**	**74**	⇑*e*P	Pn	14 57 27.8	-1.1
CRUN	**El Crucero**	**1.36**	**85**	*e*P	Pn	14 57 29.7	+0.7
CNCH	**Conchagua**	**1.41**	**354**	⇑*e*P	Pn	14 57 31.6	+2.0
TICN	**Ticuantepe**	**1.43**	**83**	⇓*e*P	Pn	14 57 29.0	-1.0
MGAN	**Managua**	**1.43**	**79**	⇓*e*P	Pn	14 57 29.0	-1.0
MGAN				*e*S	Sb	14 57 51.7	+3.4
MGAN				*i*		14 57 52.6	
comp=E,574nm,0.2s							
APON	**Apoyo**	**1.58**	**88**	⇑*e*P	Pn	14 57 31.2	-1.0
LCBS	**La Ceiba**	**2.18**	**325**	⇑*e*P	Pn	14 57 39.2	-1.5
LFRS	**El Faro**	**2.20**	**323**	*e*P	Pn	14 57 39.5	-1.5
LFRS				*e*S	Sn	14 58 08.8	+0.5
LBRS	**Las Brisas**	**2.28**	**325**	*e*P	Pn	14 57 42.2	0.0
LIM1	**Limonal**	**2.65**	**116**	*i* P	Pn	14 57 47.3	-0.2
SBLS	**San Blas**	**2.72**	**316**	*e*P	Pn	14 57 47.0	-1.5
RTR	**El Retiro**	**2.78**	**317**	*e*P	Pn	14 57 48.2	-1.1

*SKHL **15** 14:57:15.5±0.8, 45.94N×143.66E, h347km±12km, mb4.0/2, msh4.2/1*
*JMA **15** 14:57:17.9±0.2, 45.75N×143.45E, h333km, M3.5*
*IDC **15** 14:57:18.8±1.0, 45.96N×143.16E, h320km±20km, mb2.9/6, mb1 3.2/7, mb1mx3.0/19, mbtmp3.6/7, Error ellipse: s-maj=40.1km s-min=18.9km az=175.0*
ISC 15 14:57:18.0±0.5, 45.63N±0.07×143.4E±0.1, h338km±5km, n27, σ1°11/38, mb3.1/6, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSE	**Soyaes**	**0.86**	**219**	P	**P**	**14 58 01.9**	**-0.3**
JSE				*e*S	**S**	**14 58 36.1**	**-0.7**
JWK2	**Keihoku**	**1.07**	**253**	P	**P**	**14 58 02.9**	**-0.1**
JWK2				*e*S	**S**	**14 58 37.0**	**-1.3**
JRR	**Rishiri**	**1.52**	**252**	P	**P**	**14 58 05.2**	**-0.2**
ASAJ	**Asahikawa**	**1.61**	**200**	P	**P**	**14 58 06.5**	**+0.6**
8.8nm,0.3s,baz=6.7,slow=6.4,SNR=103							
ASAJ				S	**S**	**14 58 45.1**	**+1.7**
baz=256,slow=32,SNR=2.4							
ASAJ	**Asahikawa**	**1.61**	**200**	P	**P**	**14 58 06.5**	**+0.6**
JMP	**Maruseppu**	**1.62**	**180**	P	**P**	**14 58 06.3**	**+0.3**
JSS	**Shosan**	**1.63**	**221**	P	**P**	**14 58 06.5**	**+0.4**
JTKR	**Abashiri--Toko**	**1.71**	**166**	P	**P**	**14 58 07.1**	**+0.5**
JTKR				*e*S	**S**	**14 58 46.0**	**+1.5**
JKK2	**Kamakawa 2**	**1.81**	**194**	P	**P**	**14 58 08.1**	**+0.9**
JHR	**Hokuryu**	**2.22**	**212**	P	**P**	**14 58 11.0**	**+0.8**
JAR	**Ashorobuto**	**2.35**	**173**	P	**P**	**14 58 12.2**	**+0.9**
JAR				*e*S	**S**	**14 58 54.5**	**+1.5**
JFR	**Furan**	**2.53**	**193**	P	**P**	**14 58 13.8**	**+1.1**
JAK	**Akkeshi**	**2.80**	**159**	P	**P**	**14 58 14.7**	**-0.4**
JAK				*e*S	**S**	**14 58 58.5**	**-1.3**
NEM2	**Nemuro 2**	**2.84**	**142**	P	**P**	**14 58 13.8**	**-1.6**
NEM2				*e*S	**S**	**14 58 57.7**	**-2.6**
JCH	**Churui**	**3.02**	**180**	P	**P**	**14 58 16.7**	**-0.3**
JCH				*e*S	**S**	**14 59 00.8**	**-2.4**
JEW	**Eniwo**	**3.11**	**207**	P	**P**	**14 58 18.7**	**+0.8**
JNBK	**Urakawa-nobuka**	**3.38**	**188**	P	**P**	**14 58 20.9**	**+0.4**
JNBK				*e*S	**S**	**14 59 08.5**	**-0.9**
JKB	**Kayabe**	**4.10**	**205**	P	**P**	**14 58 27.8**	**0.0**
JKB				*e*S	**S**	**14 59 22.3**	**-0.3**
JOSM	**Okushiri--Mats**	**4.52**	**220**	P	**P**	**14 58 32.6**	**+0.3**
JOT	**Ohata**	**4.57**	**202**	P	**P**	**14 58 32.5**	**-0.3**
JOT				*e*S	**S**	**14 59 28.3**	**-3.2**
MJAR	**Matsushiro Arr**	**9.87**	**205**	P	**P**	**14 59 37.0**	**+1.7**
0.8nm,0.3s,baz=5.1,slow=12,SNR=23							
SONM	**Songino Array**	**25.28**	**288**	P	**P**	**15 02 15.1**	**-0.8**
0.3nm,0.4s,mb2.9,baz=84,slow=9.3,SNR=4.2							
MKAR	**Makanchi Array**	**41.33**	**294**	P	**P**	**15 04 32.4**	**-0.4**
0.1nm,0.3s,mb2.5,baz=78,slow=8.9,SNR=3.3							
ILAR	**Eielson Array**	**41.60**	**37**	P	**P**	**15 04 33.7**	**-1.0**
0.4nm,0.5s,mb2.8,baz=252,slow=6.1,SNR=6.0							
FINES	**FINESS Array B**	**61.95**	**331**	P	**P**	**15 07 01.6**	**-2.3**
0.6nm,0.5s,mb3.4,baz=27,slow=8.5,SNR=6.5							
NVAR	**Mina Array Bea**	**68.83**	**56**	P	**P**	**15 07 49.6**	**+1.9**
0.5nm,0.7s,mb3.4,baz=300,slow=7.3,SNR=4.1							
PDAR	**Pinedale Array**	**70.72**	**48**	P	**P**	**15 08 00.0**	**+0.9**
0.6nm,0.6s,mb3.5,baz=297,slow=2.0,SNR=5.6							

*CSEM **15** 15:20:25.5±0.1, 45.54N×27.58E, h5km, MD3.6/3, Error ellipse: s-maj=4.3km s-min=3.2km az=22.0*
*NEIC **15** 15:20:26.5, 45.53N×27.55E, h6km, ML3.8(BUC), After BUC.*
BUC 15 15:20:26.0±1.1, 45.49N×27.54E, h7km±9km, MD3.6/3, 10C-2D, Error ellipse: s-maj=12.1km s-min=5.3km az=26.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFR	**Carcaliu**	**0.52**	**126**	⇑*i*P	Pg	15 20 36.8	+0.3
CFR				*i* S	Sg	15 20 44.2	+0.7
CFR	**Carcaliu**	**0.52**	**126**	⇑P	Pg	15 20 36.8	+0.3
CFR				S	Sg	15 20 44.2	+0.7
VRI	**Vrincioaia**	**0.68**	**304**	⇑*i*P	Pg	15 20 39.5	-0.2
VRI				*i* S	Sg	15 20 47.8	-1.1
VRI	**Vrincioaia**	**0.68**	**304**	⇑P	Pg	15 20 39.5	-0.3
VRI				S	Sg	15 20 47.8	-1.1
ISR	**Istrita**	**0.80**	**243**	⇑*i*P	Pb	15 20 43.4	+1.7
ISR				*i* S	Sb	15 20 53.2	+0.8
ISR	**Istrita**	**0.80**	**243**	⇑P	Pb	15 20 43.4	+1.7
ISR				S	Sb	15 20 53.2	+0.8
HARR	**Harsova**	**0.84**	**161**	⇑*i*P	Pb	15 20 42.4	-0.2
HARR				*i* S	Sb	15 20 57.0	+3.1
TLCR		**0.95**	**108**	⇓*i*P	Pb	15 20 45.5	+1.2
TLCR		**0.95**	**108**	P	Pb	15 20 45.8	+1.5
MLR	**Muntele Rosu**	**1.12**	**271**	⇑*i*P	Pb	15 20 48.8	+1.5
MLR				*i* S	Sb	15 21 03.9	+2.0
MLR	**Muntele Rosu**	**1.12**	**271**	P	Pb	15 20 49.1	+1.8
TIRR	**Tirgusor**	**1.20**	**149**	⇓*i*P	Pb	15 20 49.2	+0.5
TIRR				*i* S	Sb	15 21 07.0	+2.8
TIRR	**Tirgusor**	**1.20**	**149**	P	Pb	15 20 49.2	+0.6
KIS	**Kishinev**	**1.75**	**30**	*e*P	Pn	15 20 56.0	-1.0
420nm,0.5s							
KIS				*i* S	Sn	15 21 18.0	-1.8
2μm,0.5s							
VOIR		**1.75**	**269**	⇑*i*P	Pn	15 20 57.8	+0.7
VOIR		**1.75**	**269**	P	Pn	15 20 59.4	+2.3
VTS	**Vitosha**	**4.26**	**229**	⇑*i*P	Pn	15 21 32.1	-0.7
VTS	**Vitosha**	**4.26**	**229**	P	Pn	15 21 32.1	-0.6

**MAN 15 15:41:42.6, 11.97N×125.94E, h24km, mb4.

comp=Z,24nm,18.7s,baz=62,slow=39
PDAR Pinedale Array 48.16 70 P **P 16 24 39.3 -0.5**
0.5nm,0.7s,mb3.5,baz=350,slow=5.5,SNR=3.7
PDAR Pinedale Array 48.16 70 P **P 16 24 39.3 -0.5**
ARCES ARCESS Array B 57.75 349 P **P 16 25 50.7 +0.3**
2.7nm,1.0s,mb4.2,baz=29,slow=9.3,SNR=3.3
MKAR Makanchi Array 58.50 307 P **P 16 25 55.8 -0.1**
1.0nm,0.6s,mb4.0,baz=54,slow=6.7,SNR=16
BVAR Borovoye Array 59.62 318 P **P 16 26 04.0 +0.5**
1.3nm,0.2s,mb4.5,baz=53,slow=6.7,SNR=19
TXAR Lajitas Array 60.57 79 P **P 16 26 11.4 +1.0**
0.2nm,0.4s,mb3.5,baz=314,slow=4.4,SNR=4.7

IDC 15 16:44:22.1±4.2,1.34N×97.29E,mb3.7/3,mb1 3.8/3, mb1mx3.5/17,mbtmp3.7/3,Error ellipse: s-maj=158.6km s-min=28.9km az=58.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.03**	**122**	P	P	16 52 15.6	-1.8
	0.7nm,0.6s,baz=301,slow=9.1,SNR=7.5						
SONM	**Songino Array**	**46.98**	**8**	P	P	16 52 55.2	-1.5
	1.0nm,0.8s,baz=190,slow=9.0,SNR=8.0						
MKAR	**Makanchi Array**	**47.12**	**346**	P	P	16 52 55.8	-2.1
	0.7nm,0.5s,baz=165,slow=9.1,SNR=15						

*CSEM **15** 16:54:41.1±0.2,40.77N×20.09E,h35km±3km,MD2.8, Error ellipse: s-maj=8.2km s-min=5.1km az=103.0*
*TIR **15** 16:54:44.8,41.34N×19.95E,h17km,Ml2.4*
*PDG **15** 16:54:44.1±0.2,41.22N×19.92E,h14km*
*NEIC **15** 16:54:44.1,41.22N×19.92E,h14km,MD2.8(PDG),After PDG.*
ISC 15 16:54:42.7±1.2,41.12N±0.06×19.93E±0.07,h10km,n15, σ1§14/30,12C,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.23**	**348**	*i* Pg	**Pg**	**16 54 48.0**	**+0.4**
TIR				*i* Sg	**Sg**	**16 54 51.5**	**+0.5**
QSH	**Qafa e Shtames**	**0.40**	**358**	*i* Pg	**Pg**	**16 54 49.7**	**-1.2**
QSH				*i* Sg	**Sg**	**16 54 55.7**	**-0.7**
ULC	**Ulcinj**	**0.98**	**329**	⇑*i* Pg	**Pg**	**16 55 01.2**	**-1.2**
ULC				*e*Sg	**Sg**	**16 55 15.1**	**-0.5**
TTG	**Podgorica**	**1.40**	**339**	⇑*i* Pg	**Pg**	**16 55 08.4**	**-2.3**
TTG				*e*Sg	**Sg**	**16 55 28.8**	**-0.6**
BUM	**Brajici-Budva**	**1.41**	**327**	⇑*i* Pg	**Pg**	**16 55 08.7**	**-2.1**
BUM				*e*Sg	**Sg**	**16 55 29.6**	**-0.1**
SKO	**Skopje**	**1.42**	**53**	*i* Pn	**Pn**	**16 55 08.1**	**-0.6**
SKO				*i* Sn	**Sn**	**16 55 28.4**	**+0.9**
PVY	**Plav**	**1.47**	**1**	⇑*i* Pg	**Pg**	**16 55 09.6**	**-2.5**
PVY				*e*Sg	**Sg**	**16 55 31.1**	**-0.8**
PVY	**Plav**	**1.47**	**1**	⇑*i* Pg	**Pg**	**16 55 09.6**	**-2.6**
PVY				*e*Sg	**Sg**	**16 55 31.0**	**-0.8**
HCY	**Herceg Novi**	**1.70**	**322**	⇑*i* Pn	**Pn**	**16 55 14.0**	**+1.3**
HCY				*e*Sn	**Sn**	**16 55 36.4**	**+1.7**
IVA	**Berane**	**1.75**	**359**	⇑*i* Pn	**Pn**	**16 55 14.4**	**+1.1**
IVA				*e*Sn	**Sn**	**16 55 37.5**	**+1.6**
IVA	**Berane**	**1.75**	**359**	⇑*i* Pn	**Pn**	**16 55 14.4**	**+1.0**
IVA				*e*Sn	**Sn**	**16 55 37.5**	**+1.6**
NKY	**Niksic**	**1.83**	**338**	⇑*i* Pn	**Pn**	**16 55 14.9**	**+0.4**
NKY				*e*Sn	**Sn**	**16 55 39.5**	**+1.6**
UPM	**Unac-Piva**	**2.21**	**340**	⇑*i* Pn	**Pn**	**16 55 20.2**	**+0.1**
UPM				*e*Sn	**Sn**	**16 55 48.5**	**+0.8**
PLE	**Pljevlja**	**2.24**	**350**	⇑*i* Pn	**Pn**	**16 55 20.6**	**+0.1**
PLE				*e*Sn	**Sn**	**16 55 49.1**	**+0.7**
PLE	**Pljevlja**	**2.24**	**350**	⇑*i* Pn	**Pn**	**16 55 20.5**	**+0.1**
PLE				*e*Sn	**Sn**	**16 55 49.1**	**+0.7**

*MDD **15** 16:59:52.9±6.8,37.08N×11.20E,mb4.4/7,Error ellipse: s-maj=121.0km s-min=63.9km az=27.0*
ISC 15 16:59:58.0±2.1,37.0N±0.1×10.4E±0.1,h10km,n27, σ1§15/31,Tunisia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGF	**Pioggiola**	**5.64**	**349**	*e*P	**Pn**	**17 01 24.6**	**+0.6**
ETOS	**Mallorca**	**6.57**	**297**	P	**Pn**	**17 01 37.1**	**+0.1**
	1.8nm,0.2s,SNR=6.6						
ETOS				S	**Sn**	**17 02 53.6**	**+0.8**
	1.7nm,0.3s,SNR=7.9						
ETOS	**Mallorca**	**6.57**	**297**	P	**Pn**	**17 01 37.1**	**+0.1**
	1.8nm,0.2s,SNR=6.6						
ETOS				S	**Sn**	**17 02 53.6**	**+0.8**
	1.7nm,0.3s,SNR=7.9						
LMR	**La Mourre**	**6.99**	**336**	*e*P	**Pn**	**17 01 42.0**	**-1.0**
FRF	**La Foret Royal**	**7.15**	**338**	*e*P	**Pn**	**17 01 44.7**	**-0.6**
	7.2nm,0.3s						
SBF	**Sospel**	**7.22**	**343**	*e*P	**Pn**	**17 01 45.6**	**-0.6**
EIBI	**Ibiza**	**7.43**	**289**	P	**Pn**	**17 01 48.6**	**-0.5**
	13nm,0.3s,SNR=13						
EIBI	**Ibiza**	**7.43**	**289**	P	**Pn**	**17 01 48.6**	**-0.5**
	13nm,0.3s,SNR=13						
SMRF	**Simiane la Rot**	**7.88**	**334**	*e*P	**Pn**	**17 01 51.9**	**-3.5**
MBDF	**Montbardon**	**8.19**	**342**	*e*P	**P**	**17 02 01.5**	**+1.7**
ORIF	**Oris-en-Rattie**	**8.62**	**338**	*e*P	**P**	**17 02 06.1**	**+0.4**
	5.8nm,0.5s						
LASF	**Ste Croix**	**8.64**	**327**	*e*P	**P**	**17 02 04.5**	**-1.6**
	3.8nm,0.3s						
MTLF	**Montolieu**	**8.90**	**318**	*e*P	**P**	**17 02 07.4**	**-2.3**
LPG	**La Plagne**	**8.92**	**343**	*e*P	**P**	**17 02 12.4**	**+2.5**
LPL	**La Plagne**	**8.94**	**343**	*e*P	**P**	**17 02 12.2**	**+2.0**
VIVF	**Saint-Julien-l**	**8.96**	**333**	*e*P	**P**	**17 02 09.8**	**-0.7**
EMOS	**Mosqueruela**	**9.14**	**295**	P	**P**	**17 02 12.4**	**-0.5**
	2.5nm,0.4s,SNR=7.3						
EMOS	**Mosqueruela**	**9.14**	**295**	P	**P**	**17 02 12.4**	**-0.5**
	2.5nm,0.4s,SNR=7.3						
EMUR	**La Murta**	**9.30**	**279**	P	**P**	**17 02 15.7**	**+0.6**
	4.2nm,0.4s,SNR=7.9						
EMUR	**La Murta**	**9.30**	**279**	P	**P**	**17 02 15.7**	**+0.6**
	4.2nm,0.4s,SNR=7.9						
ECHE	**Chera**	**9.30**	**290**	P	**P**	**17 02 15.0**	**-0.2**
	1.7nm,0.2s,SNR=9.0						
ETOB	**Tobarra**	**9.60**	**283**	P	**P**	**17 02 19.8**	**+0.6**
	1.0nm,0.3s,SNR=7.9						
ETOB				S	**Sn**	**17 04 06.4**	**-1.8**
	1.9nm,0.4s,SNR=7.9						
ETOB	**Tobarra**	**9.60**	**283**	P	**P**	**17 02 19.8**	**+0.6**
	1.0nm,0.3s,SNR=7.9						
ETOB				S	**Sn**	**17 04 09.8**	**+1.6**
	1.9nm,0.4s,SNR=7.9						
CABF	**La Chapelle**	**10.13**	**343**	*e*P	**P**	**17 02 20.9**	**-5.6**
	7.4nm,1.0s						
EQES	**Quesada**	**10.75**	**278**	P	**P**	**17 02 35.5**	**+0.4**
	1.3nm,0.4s,SNR=5.6						
EQES	**Quesada**	**10.75**	**278**	P	**P**	**17 02 35.5**	**+0.5**
	1.3nm,0.4s,SNR=5.6						
AVF	**Avril sur Loir**	**11.10**	**334**	*e*P	**P**	**17 02 39.7**	**-0.1**
	1.9nm,0.5s						

*NIED **15** 17:17:00,40.40N×142.10E,h65km,Mw3.7 Best double couple: M:3.46×10¹⁴ NP1:φs25°,δ75°,λ90°. NP2:φs206°, δ15°,λ91°.*
JMA 15 17:17:09.0±0.1,40.35N×142.08E,h50km±1km,M3.5, 1C-5D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JANG	**Nango**	**0.43**	**273**	⇓P	P	17 17 19.4	-0.1
JANG				S	S	17 17 26.5	-0.5
JTH	**Tanohata**	**0.44**	**202**	⇑P	P	17 17 19.6	0.0
JTH				S	S	17 17 27.0	-0.2
JKZ	**Kuzumaki**	**0.68**	**238**	⇓P	P	17 17 22.7	+0.2
JKZ				S	S	17 17 32.3	-0.2
JTM	**Tenmabayashi**	**0.89**	**300**	⇓P	P	17 17 24.7	-0.6
JTM				S	S	17 17 36.2	-1.2
JOM	**Ohasama**	**1.06**	**215**	⇓P	P	17 17 27.9	+0.1
JOM				S	S	17 17 41.4	-0.4
JAH	**Hinai**	**1.12**	**262**	⇓P	P	17 17 28.3	-0.2
JAH				S	S	17 17 42.5	-0.6
MAT	**Matsushiro**	**4.87**	**220**	P	P	17 18 21.3	-0.3
MAT				*e*S	S	17 19 18.8	+1.5

*IDC **15** 17:18:23.5±0.8,1.02N×97.11E,mb4.5/15,mb1 4.5/15, mb1mx4.4/21,mbtmp4.5/15,MS4.1/9,Ms1 4.1/9, ms1mx3.8/22,Error ellipse: s-maj=27.7km s-min=15.7km az=45.0*
*BJI **15** 17:18:24.5,0.70N×97.45E,h35km,mB5.1,mb5.0,Ms4.6, Msz4.4*
*NEIC **15** 17:18:26.8±0.3,1.02N×97.17E,mb4.7/24,Error ellipse: s-maj=9.3km s-min=6.2km az=211.0*
*MOS **15** 17:18:27.1±1.0,1.15N×97.30E,h33km,mb4.9/22,Error ellipse: s-maj=17.0km s-min=7.4km az=106.4*
ISC 15 17:18:25.5±0.5,1.08N±0.06×97.20E±0.05,h23km, h23km±1.7km:pP-P,n109,σ1§03/108,mb4.7/58,MS4.3/24, 4C-4D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.16**	**48**	P	**Pn**	**17 19 44.6**	**+1.1**
KULM	**Kulim**	**5.41**	**39**	*e*Pn	**Pn**	**17 19 47.2**	**+0.2**
KGM	**Kluang**	**6.18**	**81**	P	**Pn**	**17 19 59.1**	**+1.2**
SNG	**Songkhla**	**6.95**	**29**	P	**Pn**	**17 20 08.0**	**-0.6**
	248nm,0.8s						
NST	**Nakhon Sawan**	**14.79**	**11**	P	**P**	**17 21 55.0**	**-0.3**
KKTK	**Khon Kaen**	**16.14**	**20**	P	**P**	**17 22 19.0**	**+6.2**
CHG	**Chiang Mai**	**17.70**	**5**	P	**P**	**17 22 33.1**	**+0.6**
NANT	**Nan**	**17.94**	**11**	⇓P	**P**	**17 22 35.0**	**-0.4**
	450nm,1.0s						
CHRT	**Chiangrai**	**18.84**	**8**	⇑P	**P**	**17 22 46.0**	**-0.5**
	184nm,1.0s						
KKM	**Kota Kinabalu**	**19.60**	**75**	P	**P**	**17 22 56.1**	**+0.7**
KKM	**Kota Kinabalu**	**19.60**	**75**	*e*P	**P**	**17 22 55.0**	**-0.3**
TSM	**Tawau**	**20.89**	**81**	P	**P**	**17 23 09.0**	**+0.1**
QIZ	**Qiongzhong**	**21.72**	**34**	P	**P**	**17 23 13.9**	**-3.4**
QIZ				LR	LR		
	comp=E,747nm,13.1s						
QIZ				LR	LR		
	comp=Z,654nm,11.6s,MS4.3						
KMI	**Kunming**	**24.49**	**12**	P	**P**	**17 23 46.3**	**+1.8**
KMI				AP		17 23 52.9	
KMI				XP		17 23 55.6	
KMI				AMB	AMB		
	comp=Z,48nm,1.1s,mb4.8						
KMI				AMB	AMB		
	comp=Z,285nm,4.1s						
KMI				LR	LR		
	comp=N,1μm,17.0s,MS4.5						
KMI				LR	LR		
	comp=E,559nm,14.3s,MS4.5						
KMI				LR	LR		
	comp=Z,1μm,15.5s,MS4.6						
GYA	**Guiyang**	**26.82**	**19**	⇑*i*P	**P**	**17 24 07.8**	**+1.5**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.3						
PKI	**Pulchoki**	**28.66**	**338**	*e*P	**P**	**17 24 23.6**	**+0.6**
	comp=Z,15nm,0.6s,mb4.9						
PKI	**Pulchoki**	**28.66**	**338**	*e*P	**P**	**17 24 23.6**	**+0.6**
PKI				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.6						
DMN	**Daman**	**28.82**	**337**	*e*P	**P**	**17 24 24.7**	**+0.3**
	comp=Z,42nm,1.1s,mb5.1						
KKN	**Kakani**	**28.91**	**338**	*e*P	**P**	**17 24 26.3**	**+1.1**
	comp=Z,21nm,0.6s,mb5.0						
KKN	**Kakani**	**28.91**	**338**	*e*P	**P**	**17 24 26.3**	**+1.1**
KKN				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.7						
LSA	**Lhasa**	**29.04**	**349**	*e*P	**P**	**17 24 27.8**	**+1.4**
LSA				LR	LR		
	comp=N,190nm,25.6s,MS3.8						
LSA				LR	LR		
	comp=E,280nm,27.0s,MS3.8						
LSA				LR	LR		
	comp=Z,320nm,18.9s						
LSA	**Lhasa**	**29.04**	**349**	*e*P	**P**	**17 24 27.4**	**+1.1**
	comp=Z,9.4nm,0.8s,mb4.6						
LSA	**Lhasa**	**29.04**	**349**	*e*P	**P**	**17 24 27.4**	**+1.0**
LSA				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.5						
GKN	**Gorkha**	**29.35**	**337**	*e*P	**P**	**17 24 29.4**	**+0.2**
	comp=Z,46nm,0.9s,mb5.2						
ENH	**Enshi**	**31.29**	**21**	*e*P	**P**	**17 24 44.8**	**-1.5**
	comp=Z,25nm,0.6s,mb5.2						
ENH				*e*pP	pP	17 24 51.5	-1.5
FITZ	**Fitzroy Crossi**	**33.85**	**126**	*e*P	**P**	**17 25 07.7**	**-1.1**
	comp=Z,4.8nm,0.6s,mb4.6						
FITZ	**Fitzroy Crossi**	**33.85**	**126**	P	**P**	**17 25 07.7**	**-1.1**
	comp=Z,6.1nm,0.7s,mb4.6,baz=358,slow=6.0,SNR=12						
XAN	**Xi'an**	**34.58**	**17**	P	**P**	**17 25 13.5**	**-1.4**
XAN				AMB	AMB		
	comp=Z,28nm,0.7s,mb5.3						
XAN				LR	LR		
	comp=E,471nm,15.4s						
XAN				LR	LR		
	comp=Z,607nm,18.2s,MS4.4						
LZH	**Lanzhou**	**35.37**	**9**	*e*P	**P**	**17 25 21.5**	**-0.1**
LZH				AP	pP	17 25 28.0	-0.3
LZH				XP	sP	17 25 32.5	+1.3
LZH				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.2						
LZH				AMB	AMB		
	comp=Z,212nm,4.4s						
LZH				LR	LR		
	comp=E,1μm,15.6s						
LZH				LR	LR		
	comp=Z,2μm,17.5s,MS4.9						
NJ2	**Nanjing**	**36.96**	**31**	*e*P	**P**	**17 25 32.1**	**-3.0**
NJ2				AP	pP	17 25 43.1	+1.3
NJ2				XP	sP	17 25 45.6	+0.9
NJ2				S	**S**	**17 31 09.0**	**-9.5**
NJ2				AMB	AMB		
	comp=Z,120nm,0.7s,mb5.8						
NJ2				AMB	AMB		
	comp=Z,300nm,8.0s						
NJ2				LR	LR		
	comp=N,950nm,16.2s,MS4.8						
NJ2				LR	LR		
	comp=E,990nm,15.5s,MS4.8						
NJ2				LR	LR		
	comp=Z,620nm,18.2s,MS4.4						
SSE	**Sheshan**	**37.51**	**35**	P	**P**	**17 25 37.5**	**-2.2**
SSE				XP	sP	17 25 49.9	+0.7
SSE				PP	PP	17 27 02.6	-5.5
SSE				PCP	PcP	17 27 56.4	-1.8
SSE				S	**S**	**17 31 23.5**	**-3.4**
SSE				XS		17 31 38.3	
SSE				SS	SS	17 34 06.3	+6.0
SSE				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.7						
SSE				LR	LR		
	comp=N,139nm,16.3s,MS4.0						
SSE				LR	LR		
	comp=E,152nm,16.5s,MS4.0						
SSE				LR	LR		
	comp=Z,231nm,16.3s,MS4.1						
GTA	**Gaotai**	**38.22**	**3**	*e*P	**P**	**17 25 46.1**	**+0.5**
GTA				AP	pP	17 25 52.8	+0.5
GTA				XP	sP	17 25 56.3	+1.1
GTA				PP	PP	17 27 14.3	-2.2
GTA				PCP	PcP	17 28 01.4	+1.1
GTA				S	**S**	**17 31 33.1**	**-4.5**
GTA				AMB	AMB		
	comp=Z,22nm,0.8s,mb4.9						
GTA				AMB	AMB		
	comp=Z,84nm,6.8s						
GTA				LR	LR		
	comp=N,346nm,17.5s,MS4.3						
GTA				LR	LR		
	comp=E,243nm,14.4s,MS4.3						
GTA				LR	LR		
	comp=Z,352nm,15.6s,MS4.3						
JOW	**Kunigami**	**39.32**	**47**	P	**P**	**17 25 56.4**	**+1.4**
	comp=Z,12nm,0.6s,mb4.8,baz=238,slow=9.0,SNR=6.3						
JOW				LR	LR	17 40 50.4	
	comp=Z,118nm,20.4s,MS3.7,baz=351,slow=34						
WRA	**Warramunga Arr**	**41.97**	**122**	P	**P**	**17 26 16.4**	**-0.4**
	comp=Z,4.1nm,0.7s,mb4.2,baz=300,slow=9.0,SNR=43						
WRAB	**Tennant Creek**	**41.97**	**122**	*e*P	**P**	**17 26 16.6**	**-0.3**
	comp=Z,7.7nm,0.7s,mb4.4						
WRAB	**Tennant Creek**	**41.97**	**122**	*e*P	**P**	**17 26 16.6**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.5						
WMQ	**Urumqi**	**43.39**	**350**	P	**P**	**17 26 29.6**	**+1.4**
WMQ				AP	pP	17 26 39.6	+4.7
WMQ				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.5						
DL2	**Dalian**	**43.78**	**28**	P	**P**	**17 26 32.3**	**+0.9**
DL2				*e*S	**S**	**17 33 03.4**	**+3.2**
DL2				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.1						
DL2				LR	LR		
	comp=N,170nm,13.5s,MS4.2						
DL2				LR	LR		
	comp=E,70nm,13.0s,MS4.2						
DL2				LR	LR		
	comp=Z,200nm,15.1s,MS4.2						
JNU	**Nakatsue**	**44.89**	**41**	P	**P**	**17 26 41.0**	**+0.5**
	comp=Z,6.5nm,0.8s,mb4.5,baz=356,slow=7.4,SNR=5.1						
KS15	**Wonju Array Si**	**45.91**	**34**	*e*P	**P**	**17 26 48.4**	**-0.1**
KS15				*e*pP	pP	17 26 54.7	-0.6
AAK	**Ala-Archa**	**46.11**	**337**	*e*P	**P**	**17 26 50.6**	**+0.6**
	comp=Z,4.1nm,0.8s,mb4.4						
AAK				*e*pP	pP	17 26 55.5	-1.3
AAK	**Ala-Archa**	**46.11**	**337**	*e*P	**P**	**17 26 50.6**	**+0.6**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
SNY	**Shenyang**	**47.01**	**27**	⇑P	**P**	**17 26 56.8**	**-0.3**
SNY				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.2						
SNY				LR	LR		
	comp=N,310nm,15.2s,MS4.5						
SNY				LR	LR		
	comp=E,240nm,14.2s,MS4.5						
SNY				LR	LR		
	comp=Z,460nm,13.4s,MS4.6						
SONM	**Songino Array**	**47.25**	**8**	P	**P**	**17 26 59.2**	**+0.3**
	comp=Z,16nm,0.8s,mb5.0,baz=192,slow=9.2,SNR=42						
SONM				PcP	PcP	17 28 30.4	+0.1
	comp=Z,4.8nm,0.8s,baz=198,slow=3.1,SNR=7.9						
SONM				LR	LR	17 49 35.8	
	comp=Z,661nm,18.8s,MS4.6,baz=189,slow=40						
MK02	**Makanchi Array**	**47.33**	**346**	P	**P**	**17 27 00.0**	**+0.4**
MK02				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
MKAR	**Makanchi Array**	**47.36**	**346**	P	**P**	**17 26 59.9**	**+0.1**
	comp=Z,10nm,0.7s,mb4.9,baz=158,slow=7.7,SNR=62						
MKAR				LR	LR	17 51 02.5	
	comp=Z,125nm,19.9s,MS3.9,baz=178,slow=41						
MKAR	**Makanchi Array**	**47.36**	**346**	P	**P**	**17 26 59.9**	**+0.1**
MKAR				LR	LR	17 51 02.5	
KKAR	**Karatay Array**	**48.16**	**334**	*i* P	**P**	**17 27 06.6**	**+0.5**
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
ZAK	**Zakamensk**	**49.39**	**5**	*e*P	**P**	**17 27 15.9**	**+0.4**
ZAK				*e*		17 28 38.3	
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.9						
CN2	**Changchun**	**49.41**	**27**	*e*P	**P**	**17 27 15.3**	**-0.4**
CN2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.2						
CN2				LR	LR		
	comp=N,360nm,16.0s,MS4.6						
CN2				LR	LR		
	comp=E,270nm,16.0s,MS4.6						
CN2				LR	LR		
	comp=Z,380nm,16.0s,MS4.5						
HIA	**Hailar**	**51.75**	**19**	*e*P	**P**	**17 27 32.8**	**-0.7**
	comp=Z,13nm,0.8s,mb4.9						
HIA	**Hailar**	**51.75**	**19**	*e*P	**P**	**17 27 32.8**	**-0.7**
HIA				pmax	pmax		
	comp=Z,13nm,0.8s						
MJAR	**Matsushiro Arr**	**51.77**	**42**	P	**P**	**17 27 33.0**	**-0.8**
	comp=Z,1.2nm,0.5s,mb4.1,baz=218,slow=7.6,SNR=9.7						
KURK	**Kurchatov**	**51.91**	**345**	*e*P	**P**	**17 27 34.2**	**-0.4**
	comp=Z,9.7nm,0.9s,mb4.7						
KURK				*e*pP	pP	17 27 40.9	-0.6
KURK	**Kurchatov**	**51.91**	**345**	*e*P	**P**	**17 27 34.2**	**-0.4**
KURK				*e**PP	pP	17 27 40.9	-0.6
KURK				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
MDJ	**Mudanjiang**	**51.97**	**29**	P	**P**	**17 27 36.0**	**+0.8**
MDJ				AP	pP	17 27 41.1	-1.0
MDJ				XP	sP	17 27 44.0	-0.7
MDJ				PCP	PcP	17 28 40.4	-7.2
MDJ				PP	PP	17 29 34.3	+0.4
MDJ				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,105nm,5.9s						
MDJ				LR	LR		
	comp=N,282nm,17.1s,MS4.4						
MDJ				LR	LR		
	comp=E,177nm,17.1s,MS4.4						
MDJ				LR	LR		
	comp=Z,408nm,16.1s,MS4.5						
MDJ	**Mudanjiang**	**51.97**	**29**	*e*P	**P**	**17 27 36.1**	**+0.9**
	comp=Z,8.5nm,0.8s,mb4.7						
MDJ				*e*pP	pP	17 27 41.4	-0.7
CTA	**Charters Tower**	**52.45**	**116**	LR	LR	17 53 12.2	
	comp=Z,188nm,18.6s,MS4.2,baz=283,slow=40						
CIT	**Chita**	**52.59**	**13**	*e*P	**P**	**17 27 39.7**	**0.0**
STKA	**Stephens Creek**	**53.27**	**132**	⇓*i* P	**P**	**17 27 45.5**	**+0.4**
	comp=Z,5.6nm,0.7s,mb4.6						
STKA	**Stephens Creek**	**53.27**	**132**	P	**P**	**17 27 45.5**	**+0.4**
	comp=Z,5.8nm,0.6s,mb4.7,baz=303,slow=7.0,SNR=17						
NVS	**Novosibirsk**	**54.79**	**350**	*i* P	**P**	**17 27 54.0**	**-1.9**
NVS				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.8						
NVS				pmax	pmax		
	comp=N,5.0nm,0.9s						
NVS				pmax	pmax		
	comp=E,3.0nm,0.9s						
VOSK	**Vostochnaya**	**55.92**	**341**	P	**P**	**17 28 02.2**	**-1.9**
VOSK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
KLR	**Kul'dur**	**56.36**	**27**	*e*P	**P**	**17 28 04.2**	**-3.1**
KLR				MLR	MLR		
	comp=N,700nm,12.0s						
KLR				MLR	MLR		
	comp=Z,900nm,12.0s,MS5.1						
BVA0	**Borovoye Array**	**56.36**	**341**	P	**P**	**17 28 06.3**	**-1.0**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.9						
BRVK	**Borovoye**	**56.43**	**341**	*e*P	**P**	**17 28 06.4**	**-1.4**
	comp=Z,5.0nm,0.7s,mb4.7						
BRVK				*e*pP	pP	17 28 13.2	-1.4
BRVK	**Borovoye**	**56.43**	**341**	*e*P	**P**	**17 28 06.4**	**-1.3**
BRVK				*e**PP	pP	17 28 13.2	-1.5
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
AB31	**Akbulak array**	**57.62**	**332**	*i* P	**P**	**17 28 15.0**	**-1.3**
AB31				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
BOD	**Bodaibo**	**58.12**	**10**	*e*P	**P**	**17 28 15.4**	**-4.3**
BOD				*e*	pP	17 28 23.0	-3.6
BOD				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.9						
BOD				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.9						
YSS	**Yuzh-Sakhalins**	**60.44**	**34**	*e*P	**P**	**17 28 35.6**	**-0.3**
	comp=Z,21nm,1.0s,mb5.1						
YSS	**Yuzh-Sakhalins**	**60.44**	**34**	*i* P	**P**	**17 28 36.6**	**+0.7**
SVE	**Sverdlovsk**	**62.80**

YAK				pmax	pmax		
	comp=N,4.0nm,1.2s						
ANN	**Anapa**	**68.19**	**319**	*e*P	pP	17 29 38.3	+4.8
ANN				*i* *PP	PcP	17 29 49.2	-3.1
ANN				*e*S		17 38 47.3	
ANN				pmax	pmax		
	comp=Z,28nm,1.1s,mb5.2						
BRTR	**Keskin Array B**	**69.19**	**312**	P	**P**	**17 29 32.2**	**-0.5**
	comp=Z,1.6nm,0.9s,mb4.0,baz=127,slow=6.2,SNR=6.4						
BR131	**Keskin Array S**	**69.19**	**312**	*e*P	**P**	**17 29 32.4**	**-0.3**
	comp=Z,1.5nm,0.8s,mb4.0						
MA2	**Magadan**	**71.44**	**26**	P	**P**	**17 29 46.1**	**+0.1**
	comp=Z,6.9nm,0.7s,mb4.7						
MA2	**Magadan**	**71.44**	**26**	P	**P**	**17 29 46.1**	**+0.1**
MA2				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7						
TIXI	**Tiksi**	**73.30**	**10⇓**	*e*P	**P**	**17 29 56.8**	**0.0**
TIXI				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.9						
SEY	**Seymchan**	**73.87**	**23**	*c i*P	**P**	**17 30 00.0**	**-0.2**
BOSA	**Boshof**	**74.72**	**240**	LR	LR	18 00 47.8	
	comp=Z,133nm,19.7s,MS4.2,baz=155,slow=34						
AKASG	**Malin Array Be**	**75.36**	**322**	P	**P**	**17 30 07.8**	**-1.3**
	comp=Z,2.3nm,0.7s,mb4.2,baz=89,slow=4.7,SNR=9.3						
FINES	**FINESS Array B**	**80.11**	**333**	P	**P**	**17 30 35.8**	**+0.8**
	comp=Z,1.5nm,0.8s,mb4.0,baz=117,slow=3.1,SNR=5.8						
FINES				LR	LR	18 12 48.8	
	comp=Z,51nm,18.3s,MS3.9,baz=64,slow=41						
KAF	**Kangasniemi**	**80.19**	**333**	*e*p	**P**	**17 30 34.7**	**-0.8**
FX1	**Attu Island--F**	**80.68**	**37**	P	**P**	**17 30 39.2**	**+0.9**
	comp=Z,6.5nm,0.8s,mb4.6,baz=347,slow=18,SNR=4.7						
FX1	**Attu Island--F**	**80.68**	**37**	*e*P	**P**	**17 30 39.6**	**+1.3**
BILL	**Bilibino**	**81.27**	**21**	*e*P	**P**	**17 30 43.3**	**+2.2**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
BILL				MLR	MLR		
	comp=Z,200nm,15.0s,MS4.6						
MORC	**Moravsky Berou**	**82.50**	**320**	*e*P	**P**	**17 30 47.9**	**+0.1**
	comp=Z,1.9nm,0.8s,mb4.1						
MORC	**Moravsky Berou**	**82.50**	**320**	*e*P	**P**	**17 30 47.9**	**+0.1**
MORC				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
ARCES	**ARCESS Array B**	**82.65**	**340**	P	**P**	**17 30 48.7**	**+0.5**
	comp=Z,2.1nm,0.7s,mb4.3,baz=101,slow=6.0,SNR=12						
ARCES				LR	LR	18 11 58.8	
	comp=Z,117nm,18.8s,MS4.3,baz=287,slow=39						
ARCES	**ARCESS Array B**	**82.65**	**340**	P	**P**	**17 30 48.7**	**+0.5**
ARCES				LR	LR	18 11 58.8	
BRG	**Berggiesshubel**	**84.90**	**321**	P	**P**	**17 31 01.6**	**+1.5**
	comp=Z,3.4nm,1.0s,mb4.4						
BRG	**Berggiesshubel**	**84.90**	**321**	*e*P	**P**	**17 31 01.5**	**+1.5**
BRG				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.4						
GERES	**GERESS Array B**	**84.91**	**319**	P	**P**	**17 31 01.2**	**+1.1**
	comp=Z,2.2nm,0.9s,mb4.3,baz=90,slow=4.0,SNR=18						
VNDA	**Vanda**	**85.71**	**169**	LR	LR	18 06 57.8	
	comp=Z,91nm,18.9s,MS4.2,baz=303,slow=34						
GRA1	**Grafenberg Arr**	**86.58**	**320**	*e*P	**P**	**17 31 08.5**	**+0.2**
	comp=Z,4.0nm,0.9s,mb4.7						
GRF	**Grafenberg Arr**	**86.58**	**320**	*e*P	**P**	**17 31 08.5**	**+0.2**
	comp=Z,4.0nm,0.9s,mb4.7						
GRF	**Grafenberg Arr**	**86.58**	**320**	*e*P	**P**	**17 31 08.5**	**+0.2**
GRF				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.7						
GRF	**Grafenberg Arr**	**86.58**	**320**	*e*P	**P**	**17 31 08.5**	**+0.2**
GRF				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.7						
NB2	**NORSAR Subarra**	**87.11**	**331**	P	**P**	**17 31 11.0**	**+0.3**
	comp=Z,0.3nm,0.7s,mb3.6,baz=95,slow=5.6						
NOA	**NORSAR Array B**	**87.11**	**331**	P	**P**	**17 31 10.7**	**0.0**
	comp=Z,2.5nm,0.8s,mb4.5,baz=94,slow=4.8,SNR=8.5						
NOA				LR	LR	18 16 03.6	
	comp=Z,62nm,20.2s,MS4.0,baz=45,slow=40						
LPG	**La Plagne**	**89.56**	**315**	*e*P	**P**	**17 31 24.3**	**+1.6**
	comp=Z,16nm,1.1s,mb5.0						
LPG	**La Plagne**	**89.56**	**315**	*e*P	**P**	**17 31 24.3**	**+1.6**
LPG				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb5.0						
TXAR	**Lajitas Array**	**143.77**	**32**	PKP	PKPdf	17 37 59.7	-4.2
	comp=Z,0.6nm,0.6s,baz=117,slow=0.5,SNR=11						
CPUP	**Villa Florida**	**144.92**	**222**	PKP	PKPdf	17 38 03.4	-2.7
	comp=Z,1.6nm,0.6s,baz=137,slow=2.8,SNR=7.6						

MAN 15 17:20:39.7,11.98N×125.97E,h20km,mb4.6,ML3.4, MS3.3,Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.64**	**234**	*e*P	Pb	17 20 52.2	+0.1
PLP	**Palo**	**1.27**	**230**	*i* P	Pn	17 21 01.9	-0.6
PLP				*e*S	Sb	17 21 18.4	-0.2
CNP	**Catarman**	**1.38**	**292**	*e*P	Pn	17 21 04.1	0.0
MSLP	**Maasin**	**2.14**	**211**	*e*P	Pn	17 21 15.9	+0.9
MSLP				*e*S	Sn	17 21 48.8	+7.6
SCPH	**Surigao**	**2.24**	**192**	*e*P	Pn	17 21 15.8	-0.7
SCPH				*e*S	Sn	17 21 42.2	-1.5
PVCP	**Virac**	**2.39**	**312**	*e*P	Pn	17 21 17.6	-0.9

*CSEM **15** 17:25:53.4±0.1,34.92N×3.83W,h2km,MD3.2,Error ellipse: s-maj=3.6km s-min=2.1km az=108.0*
*CNRM **15** 17:25:54.3,35.02N×3.81W,h4km,MD3.2*
*MDD **15** 17:25:58.2±1.5,35.11N×3.90W,h1km±6km,mbLg1.7/10, Error ellipse: s-maj=11.1km s-min=5.1km az=31.0, PRXIMO*

ISC 15 17:25:54.0±0.5,35.01N±0.02×4.00W±0.04,h1km,n28, σ1§27/46,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOU	**Touzarine**	**0.21**	**103**	*i* P	**Pg**	**17 25 55.5**	**-2.7**
MPAL	**Palemas**	**0.22**	**13**	S	**Sg**	**17 26 02.0**	**+0.6**
MPAL	**Palemas**	**0.22**	**13**	*i* P	**Pg**	**17 25 58.0**	**-0.4**
EMEL	**Melilla**	**0.90**	**71**	P	**Pg**	**17 26 12.5**	**+0.5**
	130nm,0.2s,SNR=14						
EMEL				S	**Sg**	**17 26 24.0**	**-0.2**
	109nm,0.4s,SNR=4.7						
EMLI	**Melilla**	**0.91**	**71**	P	**Pg**	**17 26 12.5**	**+0.3**
	130nm,0.2s,SNR=14						
EMLI				S	**Sg**	**17 26 24.0**	**-0.3**
	109nm,0.4s,SNR=4.7						
TZK	**Tazeka**	**0.93**	**189**	*i* P	**Pg**	**17 26 12.0**	**-0.6**
TZK				*i* S	**Sg**	**17 26 26.0**	**+1.1**
ZAI	**Zaio**	**1.03**	**92**	*i* P	**Pb**	**17 26 10.0**	**-4.3**
EALB	**Alboran**	**1.22**	**40**	P	**Pb**	**17 26 17.7**	**+0.2**
	16nm,0.3s,SNR=7.9						
EALB				S	**Sb**	**17 26 33.0**	**-0.7**
	13nm,0.3s,SNR=7.9						
EALB	**Alboran**	**1.22**	**40**	P	**Pb**	**17 26 18.3**	**+0.7**
	16nm,0.3s,SNR=7.9						
EALB				S	**Sb**	**17 26 33.0**	**-0.7**
	13nm,0.3s,SNR=7.9						
EMIJ	**Mijas**	**1.68**	**338**	P	**Pn**	**17 26 26.3**	**+1.6**
	0.3nm,0.1s,SNR=7.9						
EMIJ				S	**Sb**	**17 26 46.2**	**-0.7**
	3.0nm,0.3s,SNR=5.1						
EMIJ	**Mijas**	**1.68**	**338**	P	**Pn**	**17 26 26.3**	**+1.6**
	0.3nm,0.1s,SNR=7.9						
EMIJ				S	**Sb**	**17 26 47.0**	**+0.1**
	3.0nm,0.3s,SNR=5.1						
EBER	**Berja**	**2.09**	**25**	P	**Pn**	**17 26 30.8**	**+0.2**
	0.3nm,0.1s,SNR=7.9						
EBER				S	**Sn**	**17 26 55.6**	**-2.0**
	7.0nm,0.4s,SNR=6.4						
EBER	**Berja**	**2.09**	**25**	P	**Pn**	**17 26 30.8**	**+0.2**
	0.3nm,0.1s,SNR=7.9						
EBER				S	**Sn**	**17 26 55.3**	**-2.3**
	7.0nm,0.4s,SNR=6.4						
ELOJ	**Sierra Loja**	**2.14**	**357**	P	**Pn**	**17 26 31.4**	**+0.1**
	0.3nm,0.1s,SNR=7.9						
CZD	**Col de Zad**	**2.15**	**204**	*e*P	**Pn**	**17 26 31.0**	**-0.5**
CZD				*i* S	**Sn**	**17 26 57.0**	**-2.2**
EQUE	**Quentar**	**2.24**	**12**	P	**Pn**	**17 26 34.5**	**+1.8**
	0.6nm,0.3s,SNR=7.9						
EQUE				S	**Sn**	**17 26 59.5**	**-1.9**
	1.0nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**2.56**	**355**	P	**Pn**	**17 26 39.5**	**+2.3**
	0.2nm,0.3s,SNR=7.9						
ELUQ	**Luque**	**2.56**	**355**	P	**Pn**	**17 26 40.7**	**+3.4**
	0.2nm,0.3s,SNR=7.9						
EQES	**Quesada**	**2.89**	**15**	P	**Pn**	**17 26 43.9**	**+1.9**
	0.1nm,0.1s,SNR=4.6						
EQES				S	**Sn**	**17 27 18.2**	**+0.3**
	3.8nm,0.4s,SNR=5.3						
EQES	**Quesada**	**2.89**	**15**	P	**Pn**	**17 26 44.1**	**+2.1**
	0.1nm,0.1s,SNR=4.6						
EQES				S	**Sn**	**17 27 18.2**	**+0.3**
	3.8nm,0.4s,SNR=5.3						
ECAB	**El Cabril**	**3.27**	**340**	P	**Pn**	**17 26 48.3**	**+0.9**
	0.0nm,0.1s,SNR=7.9						
ECAB				S	**Sn**	**17 27 25.9**	**-1.5**
	0.3nm,0.7s,SNR=7.9						
ECAB	**El Cabril**	**3.27**	**340**	P	**Pn**	**17 26 48.3**	**+0.9**
	SNR=7.9						
ECAB				S	**Sn**	**17 27 25.9**	**-1.6**
	0.3nm,0.7s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.50**	**323**	P	**Pn**	**17 26 51.7**	**+1.0**
	0.2nm,0.1s,SNR=7.8						
EMIN				S	**Sn**	**17 27 32.0**	**-1.3**
	0.4nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.50**	**323**	P	**Pn**	**17 26 52.4**	**+1.8**
	0.2nm,0.1s,SNR=7.8						
EMUR	**La Murta**	**3.60**	**37**	S	**Sn**	**17 27 31.1**	**-4.7**
	34nm,1.0s,SNR=7.9						
EMUR	**La Murta**	**3.60**	**37**	S	**Sn**	**17 27 31.1**	**-4.8**
	34nm,1.0s,SNR=7.9						
EGRO	**El Granado**	**3.78**	**313**	P	**Pn**	**17 26 56.1**	**+1.5**
	0.2nm,0.2s,SNR=5.6						
EGRO				S	**Sn**	**17 27 38.4**	**-2.0**
	0.3nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**4.13**	**28**	P	**Pn**	**17 27 00.8**	**+1.1**
	0.7nm,0.3s,SNR=7.9						
ETOB				S	**Sn**	**17 27 45.1**	**-4.2**
	0.1nm,0.4s,SNR=7.9						

*ATH **15** 17:53:53.2,39.16N×21.78E,h17km±1km,MD3.4/6*
*NEIC **15** 17:53:53.2,39.16N×21.77E,h18km,MD3.4(ATH),After ATH.*
*CSEM **15** 17:53:53.9±0.1,39.16N×21.72E,h15km,ML3.0,Error ellipse: s-maj=2.9km s-min=2.1km az=25.0*
*THE **15** 17:53:55.1,39.03N×21.78E,h21km,ML3.0*

ISC 15 17:53:53.5±0.6,39.15N±0.03×21.76E±0.03,h12km±5km, n18,σ1§08/31,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.24**	**171**	*e*PB	**Pb**	**17 53 58.5**	**-0.7**
EVR				*e*SB	**Sb**	**17 54 02.6**	**-0.4**
AGG	**Agios Georgios**	**0.46**	**106**	*e*Pg	**Pg**	**17 54 03.5**	**+0.5**
AGG				*e*Sg	**Sg**	**17 54 11.2**	**+1.8**
AGG	**Agios Georgios**	**0.46**	**106**	*e*Pg	**Pg**	**17 54 03.5**	**+0.5**
AGG				*e*Sg	**Sg**	**17 54 11.1**	**+1.8**
JAN	**Janina**	**0.86**	**306**	*e*PN	**Pn**	**17 54 09.9**	**-1.4**
JAN				*e*SN	**Sn**	**17 54 21.6**	**-2.1**
LKR	**Lokris**	**1.09**	**117**	*e*PN	**Pn**	**17 54 13.5**	**-1.0**
RLS	**Riolos of Patr**	**1.12**	**192**	*e*PN	**Pn**	**17 54 14.7**	**-0.2**
RLS				*e*SN	**Sn**	**17 54 30.8**	**+0.6**
XOR	**Xorichti**	**1.13**	**79**	*e*Pg	**Pg**	**17 54 14.8**	**-1.4**
XOR				*e*Sg	**Sg**	**17 54 31.7**	**+0.4**
NEO	**Neokhori**	**1.15**	**82**	*e*PN	**Pn**	**17 54 15.5**	**+0.2**
KZN	**Kozani**	**1.15**	**0**	*e*PN	**Pn**	**17 54 15.3**	**0.0**
KZN				*e*SN	**Sn**	**17 54 30.9**	**-0.1**
IGT	**Igoumenitsa**	**1.17**	**289**	*e*Pg	**Pg**	**17 54 15.4**	**-1.5**
IGT				*e*Sg	**Sg**	**17 54 33.6**	**+1.0**
VLS	**Valsamata**	**1.34**	**224**	*e*PN	**Pn**	**17 54 18.2**	**+0.2**
VLS				*e*SN	**Sn**	**17 54 38.0**	**+2.2**
VLS	**Valsamata**	**1.34**	**224**	*e*Pb	**Pb**	**17 54 17.8**	**-0.2**
AOS	**Alonnisos**	**1.65**	**89**	*e*Pb	**Pb**	**17 54 22.3**	**-1.0**
AOS				*e*Sb	**Sb**	**17 54 43.0**	**-0.9**
FNA	**Florina**	**1.65**	**350**	*e*Pb	**Pb**	**17 54 23.9**	**+0.5**
FNA				*e*Sb	**Sb**	**17 54 47.2**	**+3.1**
PAIG	**Paliouri**	**1.67**	**62**	*e*Pb	**Pb**	**17 54 22.7**	**-1.0**
PAIG				*e*Sb	**Sb**	**17 54 44.4**	**-0.3**
PLG	**Polygyros**	**1.78**	**46**	*e*PN	**Pn**	**17 54 24.3**	**0.0**
KNT	**Kendrikon**	**2.19**	**23**	*e*Pn	**Pn**	**17 54 31.2**	**+1.0**
KNT				*e*Sn	**Sn**	**17 54 59.2**	**+1.9**
VLI	**Veliai**	**2.60**	**159**	*e*PN	**Pn**	**17 54 37.0**	**+0.9**

*NEIC **15** 18:27:59.1,31.94S×68.49W,h150km,MD3.5(GUC),After GUC.*

GUC 15 18:27:59.0±0.6,31.94S×68.49W,h150km,MD3.6,ML3.4, 2C-4D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZON	**Zonda**	**0.43**	**338**	⇓*i*P	P	18 28 17.2	-3.3
ZON				*e*S	S	18 28 32.2	-4.7
MDZ	**Mendoza**	**0.99**	**198**	*e*P	P	18 28 21.4	-2.4
MDZ				*i* S	S	18 28 38.6	-4.3
JACH	**Jahuel**	**1.93**	**247**	*i* P	P	18 28 34.1	+0.6
JACH	**Jahuel**	**1.93**	**247**	⇑*i*P	P	18 28 34.3	+0.8
FCH	**Farellones**	**2.05**	**227**	*e*P	P	18 28 35.8	+0.7
FCH				AMP		18 29 07.4	
	comp=E,102nm,0.3s						
CMCH	**Combarbala**	**2.28**	**289**	*e*P	P	18 28 37.9	+0.1
CMCH				*i* S	S	18 29 08.1	+0.4
CMCH				AMP		18 29 11.9	
	comp=E,874nm,0.5s						
CMCH	**Combarbala**	**2.28**	**289**	*e*P	P	18 28 37.9	+0.1
CMCH				*i* S	S	18 29 08.2	+0.5
ROCH	**El Roble**	**2.37**	**244**	*e*P	P	18 28 39.1	+0.1
ROCH				*i* S	S	18 29 10.1	+0.5
ROCH	**El Roble**	**2.37**	**244**	*e*P	P	18 28 39.3	+0.3
ROCH				*i* S	S	18 29 10.4	+0.8
PCH	**Pirque**	**2.39**	**225**	*e*P	P	18 28 39.6	+0.3
PCH	**Pirque**	**2.39**	**225**	*e*P	P	18 28 39.6	+0.4
RCDM	**Rinconada Maip**	**2.49**	**231**	*i* P	P	18 28 40.6	+0.1
RCDM				AMP		18 29 16.8	
	comp=E,202nm,0.1s						
RCDM	**Rinconada Maip**	**2.49**	**231**	⇓*i*P	P	18 28 40.6	+0.1
RCDM				S	S	18 29 13.8	+1.5
CHNG	**Los Chungos**	**2.56**	**271**	*i* P	P	18 28 41.0	-0.4
CHNG				*i* S	S	18 29 13.1	-0.8
CHNG				AMP		18 29 17.8	
	comp=E,76nm,0.3s						
SCR	**San Cristobal**	**2.62**	**233**	*e*P	P	18 28 38.7	-3.6
SCR				AMP		18 29 14.9	
	comp=N,58nm,0.8s						
TLL	**Tololo Astrono**	**2.66**	**311**	*e*P	P	18 28 43.1	+0.4
TLL				*i* S	S	18 29 16.6	+0.5
TLL				AMP		18 29 18.8	
	comp=N,234nm,0.4s						
TLL	**Tololo Astrono**	**2.66**	**311**	*e*P	P	18 28 43.1	+0.4
TACH	**Talagante**	**2.67**	**230**	⇓*i*P	P	18 28 42.7	-0.2
TACH				S	S	18 29 17.9	+1.4
CHCH	**Chadas Angostu**	**2.69**	**222**	*i* P	P	18 28 43.0	-0.1
CHCH	**Chadas Angostu**	**2.69**	**222**	⇑*i*P	P	18 28 43.5	+0.3
CACH	**El Canelo**	**2.80**	**219**	*i* P	P	18 28 45.0	+0.5
CACH	**El Canelo**	**2.80**	**219**	⇓*i*P	P	18 28 45.2	+0.7
CICH	**Cipreses**	**2.87**	**214**	*e*P	P	18 28 45.7	+0.3
LCCH	**Las Cruces**	**3.01**	**239**	*e*P	P	18 28 46.4	-0.9
LCCH	**Las Cruces**	**3.01**	**239**	*e*P	P	18 28 46.5	-0.7
SFDO	**San Fernando**	**3.40**	**218**	*e*P	P	18 28 51.5	-0.7
SFDO	**San Fernando**	**3.40**	**218**	*e*P	P	18 28 51.8	-0.5

*MOS **15** 18:46:19.3±1.0,35.46N×73.66E,h33km,mb4.8/38,Error ellipse: s-maj=7.9km s-min=4.9km az=104.4*
*BJI **15** 18:46:22.6,35.55N×73.88E,h49km,mB4.8,mb4.9,ML5.3, Ms4.3,Msz4.1*
*IDC **15** 18:46:25.2±3.0,35.58N×73.70E,h66km±26km,mb4.3/17, mb1 4.4/19,mb1mx4.4/23,mbtmp4.6/19,ML4.8/2,MS3.7/14, Ms1 3.7/14,ms1mx3.5/28,Error ellipse: s-maj=18.3km s-min=13.0km az=175.0*
*NEIC **15** 18:46:28.2±0.3,35.69N×73.71E,mb4.7/42,Error ellipse: s-maj=6.2km s-min=5.0km az=12.0*
*NNC **15** 18:46:34.4±6.7,36.13N×72.99E,h127km±52km,mpv4.8, Error ellipse: s-maj=58.3km s-min=51.2km az=43.0*

ISC 15 18:46:21.8±0.1,35.46N±0.02×73.72E±0.03,h55km, h55km±3.3km:pP-P,n250,σ1§27/281,mb4.7/76,MS3.8/28, 22C-13D,Northwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**1.83**	**192**	⇓P	**P**	**18 46 57.0**	**+5.5**
CEP	**Cherat**	**2.21**	**223**	⇓P	**P**	**18 47 00.8**	**+4.0**
THW	**Thamme Wali**	**3.12**	**212**	P	**P**	**18 47 12.5**	**+2.7**
THN	**Thein Dam**	**3.44**	**151**	*e*P	**P**	**18 47 18.4**	**+4.0**
THN				*e*S	**S**	**18 47 54.1**	**-0.2**
DLH	**Dalhousie**	**3.46**	**147**	*e*P	**P**	**18 47 18.0**	**+3.5**
DLH				*e*S	**S**	**18 47 56.0**	**+1.4**
SARP	**Sargodha**	**3.63**	**194**	⇓P	**P**	**18 47 19.3**	**+2.3**
SARP				S	**S**	**18 48 01.0**	**+2.0**
SBDP	**Sheikh Budin**	**3.97**	**218**	⇑P	**P**	**18 47 23.8**	**+2.0**
KSH	**Kashi**	**4.43**	**23**	P	**P**	**18 47 31.0**	**+2.8**
KSH				*e*S	**S**	**18 48 23.1**	**+4.0**
DRP	**Derazinda**	**4.72**	**219**	⇑P	**P**	**18 47 34.5**	**+2.2**
SDNR	**Sundarnagar**	**4.79**	**145**	*e*P	**P**	**18 47 36.5**	**+3.2**
SDNR				*ex*	x	18 48 36.0	
SMLA	**Simla**	**5.20**	**145**	*e*P	**P**	**18 47 37.9**	**-0.9**
SMLA				*ex*	x	18 48 30.8	
KKR	**Kurukshetra**	**6.07**	**154**	*e*P	**P**	**18 47 53.6**	**+2.5**
DDI	**Dehra Dun**	**6.29**	**143**	*e*P	**P**	**18 47 56.3**	**+2.2**
AML	**Almayashu**	**6.66**	**360**	P	**P**	**18 48 00.9**	**+1.5**
	SNR=220						
KZA	**Kyzart**	**6.72**	**10**	P	**P**	**18 48 01.8**	**+1.6**
	SNR=60						
UCH	**Uchtor**	**6.79**	**5**	P	**P**	**18 48 03.0**	**+1.8**
	SNR=40						
RTK	**Rohtak**	**6.80**	**160**	*e*P	**P**	**18 48 01.1**	**-0.2**
JOSI	**Joshimath**	**6.93**	**133**	AML	AML	18 48 48.1	
	comp=N,1μm,0.8s						
JOSI				AML	AML	18 48 53.5	
	comp=E,1μm,0.9s						
ULHL	**Ulahol**	**7.06**	**15**	P	**P**	**18 48 07.0**	**+2.1**
	SNR=54						
AAK	**Ala-Archa**	**7.19**	**5**	P	**P**	**18 48 08.3**	**+1.6**
	SNR=47						
AAK	**Ala-Archa**	**7.19**	**5**	⇑P	**P**	**18 48 07.3**	**+0.5**
	comp=E,49nm,0.7s						
AAK				S	**S**	**18 49 23.5**	**-4.3**
AAK	**Ala-Archa**	**7.19**	**5**	P	**P**	**18 48 07.3**	**+0.5**
	comp=E,49nm,0.6s						
AAK				S	**S**	**18 49 23.5**	**-4.3**
AAK	**Ala-Archa**	**7.19**	**5**	P	**P**	**18 48 07.3**	**+0.5**
AAK				S	**S**	**18 49 23.5**	**-4.3**
AAK				pmax	pmax		
	comp=Z,49nm,0.6s						
EKS2	**Erkin-Say**	**7.19**	**0**	P	**P**	**18 48 08.2**	**+1.3**
	SNR=203						
KBK	**Karagaybulak**	**7.25**	**7**	P	**P**	**18 48 09.2**	**+1.6**
	SNR=63						
BHGR	**Bahadurgarh**	**7.28**	**157**	*e*P	**P**	**18 48 07.8**	**-0.2**
NDI	**New Delhi**	**7.38**	**155**	*e*P	**P**	**18 48 08.5**	**-0.8**
NDI				*e*S	**S**	**18 49 25.5**	**-7.0**
FRU	**Bishkek**	**7.40**	**5**	*e*P	**P**	**18 48 11.0**	**+1.4**
FRU				pmax	pmax		
	comp=Z,120nm,2.0s						
BISR	**Bishrakh**	**7.56**	**154**	*e*P	**P**	**18 48 11.7**	**-0.2**
BISR				*e*S	**S**	**18 49 31.2**	**-5.7**
CHMS	**Chumysh**	**7.57**	**6**	P	**P**	**18 48 13.3**	**+1.3**
	SNR=8.6						
KHET	**Khetri**	**7.57**	**166**	*e*P	**P**	**18 48 10.5**	**-1.6**
KHET				*e*S	**S**	**18 49 29.4**	**-8.0**
TKM2	**Tokmak 2**	**7.59**	**11**	P	**P**	**18 48 13.8**	**+1.4**
	SNR=32						
SONA	**Sohna**	**7.74**	**157**	*e*P	**P**	**18 48 14.2**	**-0.1**
SONA				*e*S	**S**	**18 49 34.4**	**-6.9**
USP	**Ospenovka**	**7.82**	**4**	P	**P**	**18 48 17.5**	**+2.1**
	SNR=9.6						
KK31	**Karatay Array**	**8.03**	**343**	⇑P	**P**	**18 48 17.5**	**-0.8**
	comp=Z,44nm,0.7s,baz=150,slow=13,SNR=608						
KK31				⇑S	**S**	**18 49 40.2**	**-8.4**
	comp=Z,119nm,0.6s,baz=151,slow=23						
KKAR	**Karatay Array**	**8.03**	**343**	*i* P	**P**	**18 48 17.5**	**-0.8**
KKAR				pmax	pmax		
	comp=Z,17nm,0.2s						
JASL	**Jaisalmer**	**8.84**	**197**	*e*P	**P**	**18 48 28.4**	**-1.0**
AGRA	**Agra**	**8.96**	**155**	*e*P	**P**	**18 48 31.1**	**-0.1**
AGRA				AML	AML	18 50 18.0	
	comp=N,251nm,0.3s						
AGRA				AML	AML	18 51 19.6	
	comp=E,174nm,0.3s						
AJM	**Ajmer**	**8.98**	**175**	*e*P	**P**	**18 48 30.6**	**-0.9**
AJM				*e*S	**S**	**18 50 03.5**	**-8.8**
AJM				AML	AML	18 50 11.6	
	comp=N,137nm,0.1s						
AJM				AML	AML	18 51 29.9	
	comp=E,166nm,0.5s						
JHNI	**Jhansi**	**10.79**	**156**	*i* P	**P**	**18 48 54.0**	**-2.2**
JHNI				*i* S	**S**	**18 50 46.0**	**-10**
KOLN	**Koldanda**	**11.38**	**130**	*e*P	**P**	**18 49 02.2**	**-2.0**
	comp=E,102nm,0.5s						
KOLN				*e*S	**S**	**18 51 03.1**	**-7.6**
GKN	**Gorkha**	**11.90**	**126**	*e*P	**P**	**18 49 08.3**	**-2.8**
	comp=E,215nm,0.6s						
GKN				*e*S	**S**	**18 51 13.9**	**-9.2**
KKN	**Kakani**	**12.46**	**125**	*e*P	**P**	**18 49 15.3**	**-3.4**
	comp=E,105nm,0.5s						
KKN				*e*S	**S**	**18 51 26.4**	**-10**
DMN	**Daman**	**12.47**	**126**	*e*P	**P**	**18 49 16.0**	**-2.7**
	comp=E,112nm,0.5s						
DMN				*e*S	**S**	**18 51 27.8**	**-9.0**
BHPL	**Bhopal**	**12.59**	**164**	*e*P	**P**	**18 49 18.7**	**-1.7**
BHPL				*e*S	**S**	**18 51 28.2**	**-12**
BHPL				AML	AML	18 51 32.6	
	comp=N,51nm,0.7s						
BHPL				AML	AML	18 51 39.2	
	comp=E,51nm,0.1s						
BHJ	**Bhuj**	**12.66**	**197**	*e*P	**P**	**18 49 18.9**	**-2.4**
PKI	**

comp=E,30nm,0.9s
VOSK S **S** **18 53 33.4 +2.3**
VOSK Vostochnaya 17.37 354 P **P** **18 50 18.9 -2.8**
VOSK S **S** **18 53 33.4 +2.2**
VOSK pmax pmax
comp=Z,30nm,0.9s
BVA0 Borovoye Array 17.72 353 ⇓P **P** **18 50 24.1 -1.9**
comp=Z,3.4nm,0.6s
BVA0 ⇓S **S** **18 53 38.1 -0.9**
comp=Z,6.3nm,1.1s
BVA0 Borovoye Array 17.72 353 P **P** **18 50 24.1 -1.9**
comp=Z,3.4nm,0.6s
BVA0 S **S** **18 53 38.1 -0.9**
BVA0 Borovoye Array 17.72 353 P **P** **18 50 24.1 -2.0**
BVA0 S **S** **18 53 38.1 -0.9**
BVA0 pmax pmax
comp=Z,3.0nm,0.6s
BVAR Borovoye Array 17.72 353 P **P** **18 50 24.2 -1.9**
comp=Z,6.5nm,0.3s,baz=163,slow=11,SNR=100
BRVK Borovoye 17.76 353 *e*P **P** **18 50 24.6 -2.0**
comp=Z,22nm,0.8s
BRVK Borovoye 17.76 353 *e*P **P** **18 50 24.6 -2.0**
BRVK pmax pmax
comp=Z,22nm,0.8s
KAD Karad 18.08 179 *e*P **P** **18 50 32.0 +1.2**
HYB Hyderabad 18.48 165 *i* P **P** **18 50 38.0 +2.4**
HYB *e* 18 53 44.0
HYB Hyderabad 18.48 165 *e*P **P** **18 50 38.0 +2.4**
HYB *e*S **S** **18 53 44.0 -12**
AKTK Aktyubinsk 18.81 328 P **P** **18 50 38.0 -1.3**
AKTK S **S** **18 53 53.0 -11**
AKTO Aktyubinsk 18.81 328 P **P** **18 50 38.0 -1.2**
AKTO S **S** **18 53 53.0 -11**
VIS Vishakhapatnam 19.62 152 *i x* **P** **18 50 41.8 -6.7**
VIS *i x* x 18 54 10.3
NVS Novosibirsk 20.48 16 *i* P **P** **18 50 54.6 -2.6**
NVS *i* 18 51 10.9
NVS *e*S **S** **18 54 33.6 -4.8**
NVS *i* 18 55 07.2
NVS pmax pmax
comp=Z,74nm,1.2s
NVS pmax pmax
comp=N,60nm,1.0s
NVS pmax pmax
comp=E,12nm,0.7s
NVS smax
comp=N,38nm,1.6s
NVS smax
comp=E,15nm,1.0s
GTA Gaotai 21.07 71 *e*P **P** **18 51 04.5 +1.1**
GTA AP 18 51 15.6
GTA XP 18 51 22.4
GTA PP PP 18 51 30.1 +2.4
GTA PCP PcP 18 55 06.8 -1.8
GTA AMB AMB
comp=Z,198nm,0.9s,mb5.4
GTA AMB AMB
comp=Z,387nm,4.9s
GTA LR LR
comp=N,147nm,12.2s,MS3.8
GTA LR LR
comp=E,215nm,14.5s,MS3.8
GTA LR LR
comp=Z,259nm,14.8s,MS3.7
UMR Umm Al-Rimmam 22.67 262 *e*P **P** **18 51 20.7 +1.3**
QRN Al-Qurain 22.82 260 *e*P **P** **18 51 22.1 +1.3**
KBD Kabd 22.83 261 *e*P **P** **18 51 21.7 +0.8**
MIB Mutribah 22.88 263 *e*P **P** **18 51 21.8 +0.4**
MIB AMb AMB 18 51 29.2
comp=Z,105nm,0.7s,mb5.4
RDF Al-Radifah 23.04 261 *e*P **P** **18 51 24.3 +1.3**
RDF AMb AMB 18 51 26.0
comp=Z,84nm,0.9s,mb5.2
MDRS Chennai 23.06 164 *ex* x 18 55 03.0
SVE Sverdlovsk 23.14 342 *e*P **P** **18 51 24.5 +0.9**
SVE *e* 18 51 40.4
SVE *e*PPP PPP 18 52 06.0 +0.1
SVE *e*S **S** **18 55 19.0 -8.1**
SVE pmax pmax
comp=Z,20nm,1.0s,mb4.5
SVE MLR MLR
comp=N,200nm,9.0s
SVE MLR MLR
comp=E,200nm,9.0s
SVE MLR MLR
comp=Z,300nm,9.0s
GNI Garni 23.31 290 P **P** **18 51 27.2 +1.7**
comp=Z,11nm,0.7s,mb4.4,baz=3.1,slow=12,SNR=6.4
GNI LR LR 19 02 26.7
comp=Z,107nm,18.5s,MS3.3,baz=283,slow=41
GNI Garni 23.31 290 *e*P **P** **18 51 27.8 +2.3**
comp=Z,16nm,0.9s,mb4.5
GNI Garni 23.31 290 ⇓*e*P **P** **18 51 28.3 +2.8**
GNI pmax pmax
comp=Z,17nm,1.0s
GNI MLR MLR
comp=Z,100nm,25.0s
ARU Arti 23.37 339 *e*P **P** **18 51 26.4 +0.5**
comp=Z,21nm,0.9s,mb4.6
TI2 Plekhanov 23.42 294 *e*P **P** **18 51 19.0 -7.5**
LZH Lanzhou 24.41 80 ⇑P **P** **18 51 38.1 +1.9**
LZH AP 18 51 52.9
LZH PCP PcP 18 55 16.5 +1.1
LZH *e*S **S** **18 55 40.4 -8.9**
LZH SS SS 18 56 48.0 +1.2
LZH AMB AMB
comp=Z,76nm,1.0s,mb5.1
LZH AMB AMB
comp=Z,370nm,4.5s
LZH LR LR
comp=N,905nm,11.9s
LZH LR LR
comp=Z,1μm,12.9s,MS4.6
GOF Gofitskoye 25.17 302 ⇑*i*P **P** **18 51 44.0 +0.6**
GOF pmax pmax
comp=Z,22nm,0.8s,mb4.7
KIV Kislovodsk 25.22 299 ⇑*e*P **P** **18 51 44.1 +0.2**
KIV pmax pmax
comp=Z,11nm,1.4s,mb4.2
KIV MLR MLR
comp=Z,100nm,19.0s,MS3.4
MOY Mondy 25.35 42 *e*P **P** **18 51 46.6 +1.6**
MOY pmax pmax
comp=Z,50nm,1.8s,mb4.7
CD2 Chengdu 25.50 92 P **P** **18 51 47.0 +0.4**
CD2 XP sP 18 52 05.0 -1.8
CD2 PP PP 18 52 25.0 -2.3
CD2 PPP PPP 18 52 39.3 +0.2
CD2 S **S** **18 56 10.0 +2.5**
CD2 SS SS 18 57 10.0 -3.4
CD2 AMB AMB
comp=Z,20nm,1.0s,mb4.6
ZAK Zakamensk 26.07 46 ⇑*i*P **P** **18 51 52.7 +0.9**
ZAK *e* pP 18 52 10.0 +4.7
ZAK pmax pmax
comp=Z,20nm,1.0s,mb4.6
ZAK pmax pmax
comp=Z,15nm,0.8s,mb4.6
TRD Trivandrum 26.99 173 *ex* x 18 52 20.8
TRD *i x* x 18 57 20.8
TRD *ex* x 18 58 56.8
KMI Kunming 27.01 104 P **P** **18 52 00.8 +0.2**
KMI PP PP 18 52 43.8 -4.2
KMI S **S** **18 56 31.1 -1.3**
KMI AMB AMB
comp=Z,11nm,0.8s,mb4.4
KMI AMB AMB
comp=Z,73nm,4.4s
KMI LR LR
comp=N,213nm,20.0s,MS3.8
KMI LR LR
comp=E,99nm,16.4s,MS3.8
KMI LR LR
comp=Z,116nm,16.7s,MS3.5
SONM Songino Array 27.16 53 P **P** **18 52 02.8 +1.0**
comp=Z,34nm,0.8s,mb4.9,baz=255,slow=9.5,SNR=308
SONM ScP 18 58 55.9
comp=Z,1.0nm,0.9s,baz=198,slow=4.6,SNR=4.6
SONM LR LR 19 04 37.4
comp=Z,347nm,19.8s,MS3.9,baz=253,slow=40
IRK Irkutsk 27.41 43 *e*P **P** **18 52 04.3 +0.2**
IRK pmax pmax
comp=Z,30nm,2.6s,mb4.4
CHG Chiang Mai 27.79 120 ⇓P **P** **18 52 08.7 +0.9**
comp=Z,11nm,0.8s,mb4.5

MALT Malatya 28.27 286 *e*P **P** **18 52 11.9 0.0**
comp=Z,11nm,1.4s,mb4.3
MALT *e* pP 18 52 21.1 -4.5
MALT Malatya 28.27 286 *e*P **P** **18 52 11.9 0.0**
MALT *e* pP 18 52 21.1 -4.6
MALT pmax pmax
comp=Z,11nm,1.4s,mb4.3
XAN Xi'an 28.87 82 P **P** **18 52 17.3 -0.1**
XAN AMB AMB
comp=Z,11nm,1.0s,mb4.5
BTO Baotou 28.92 69 *e*P **P** **18 52 18.8 +1.1**
NANT Nan 29.05 118 P **P** **18 52 16.0 -3.1**
VRSR Storozhevoye 29.31 313 *e*P **P** **18 52 20.2 -0.8**
VRSR *e**PP pP 18 52 32.9 -2.0
GYA Guiyang 29.54 98 ⇑*i*P **P** **18 52 23.4 +0.1**
GYA AP pP 18 52 37.8 +0.6
GYA XP sP 18 52 43.9 0.0
GYA PP PP 18 53 21.5 +0.7
GYA S **S** **18 57 13.0 +0.2**
GYA AMB AMB
comp=Z,20nm,0.8s,mb4.9
GYA LR LR
comp=N,410nm,17.8s,MS4.2
GYA LR LR
comp=E,370nm,17.4s,MS4.2
GYA LR LR
comp=Z,380nm,17.0s,MS4.1
KAMS Al Khamasin 29.71 247 P **P** **18 52 24.2 -0.7**
HHC Hu-ho-hao-te 30.08 68 *e*P **P** **18 52 28.9 +0.9**
HHC AP pP 18 52 41.6 -0.3
HHC XP sP 18 52 49.8 +1.2
HHC PP PP 18 53 28.8 +1.0
HHC PCP PcP 18 55 29.5 +0.7
HHC S **S** **18 57 22.5 +1.1**
HHC XS 18 57 46.0
HHC SS SS 18 59 04.0 +2.1
HHC SCS ScS 19 02 58.3 -0.8
HHC AMB AMB
comp=Z,72nm,1.3s,mb5.2
HHC AMB AMB
comp=Z,322nm,5.6s
HHC LR LR
comp=N,261nm,14.9s,MS4.3
HHC LR LR
comp=E,534nm,17.8s,MS4.3
HHC LR LR
comp=Z,877nm,21.4s,MS4.4
ENH Enshi 30.38 90 *e*P **P** **18 52 31.3 +0.5**
comp=Z,23nm,1.0s,mb4.9
ASF Jabal al Asfar 30.65 275 LR LR 19 06 48.5
comp=Z,97nm,18.3s,MS3.5,baz=187,slow=40
TATS Tathlith 31.00 247 P **P** **18 52 37.1 +0.8**
KBRS Khaybar 31.04 262 P **P** **18 52 38.4 +1.8**
BR131 Keskin Array S 31.85 290 *e*P **P** **18 52 43.6 -0.1**
comp=Z,2.9nm,0.8s,mb4.2
BRTR Keskin Array B 31.85 290 P **P** **18 52 43.4 -0.3**
comp=Z,3.2nm,0.7s,mb4.2,baz=98,slow=8.9,SNR=14
DJNS Zahran al Janu 32.08 244 P **P** **18 52 47.2 +1.4**
OBN Obninsk 32.16 319 *e*P **P** **18 52 47.3 +1.1**
OBN *e**PP pP 18 53 02.9 +2.7
OBN *e*S **S** **18 57 51.0 -2.8**
OBN pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
KKTK Khon Kaen 32.19 119 P **P** **18 52 46.0 -0.8**
BLJS Baljurashi 32.22 250 P **P** **18 52 48.8 +1.7**
JMQS Jabal Moqyreh 32.55 269 P **P** **18 52 51.1 +1.3**
CIT Chita 32.71 47 *e*P **P** **18 52 50.9 -0.1**
CIT *e* pP 18 53 07.3 +2.3
CIT pmax pmax
comp=Z,48nm,1.5s,mb5.2
WHN Wuhan 34.26 86 ⇓P **P** **18 53 05.6 +1.0**
BOD Bodaibo 34.80 37 *e*P **P** **18 53 05.8 -3.1**
BOD pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
TIA Tai'an 34.98 76 *e*P **P** **18 53 11.0 +0.3**
AKASG Malin Array Be 35.31 310 P **P** **18 53 12.7 -0.6**
comp=Z,4.2nm,0.7s,mb4.5,baz=85,slow=7.0,SNR=24
HIA Hailar 36.13 53 *e*P **P** **18 53 20.5 +0.2**
comp=Z,22nm,0.9s,mb5.1
HIA Hailar 36.13 53 *e*P **P** **18 53 20.5 +0.2**
HIA pmax pmax
comp=Z,22nm,0.9s
ATD Arta Tunnel 36.73 237 LR LR 19 09 59.7
comp=Z,100nm,21.5s,MS3.6,baz=34,slow=38
MLR Muntele Rosu 37.21 301 P **P** **18 53 31.2 +1.8**
comp=Z,11nm,0.8s,mb4.7,baz=135,slow=3.2
NJ2 Nanjing 37.44 82 *e*P **P** **18 53 32.3 +0.8**
NJ2 AP pP 18 53 47.3 +1.6
NJ2 XP sP 18 53 53.3 +0.9
NJ2 PP PP 18 55 01.5 +1.3
NJ2 S **S** **18 59 18.0 +2.5**
NJ2 AMB AMB
comp=Z,20nm,0.7s,mb5.1
NJ2 AMB AMB
comp=Z,50nm,4.4s
NJ2 LR LR
comp=N,140nm,14.0s,MS4.1
NJ2 LR LR
comp=E,170nm,14.3s,MS4.1
NJ2 LR LR
comp=Z,130nm,19.5s
LVV L'vov 38.55 308 *e*P **P** **18 53 29.2 -11**
SNY Shenyang 39.01 65 ⇑P **P** **18 53 45.1 +0.7**
SNY AMB AMB
comp=Z,40nm,0.5s,mb5.4
SNY AMB AMB
comp=Z,70nm,7.3s
SNY LR LR
comp=E,170nm,15.7s
SNY LR LR
comp=Z,210nm,17.7s,MS4.0
IDI Anoyia 39.48 284 P **P** **18 53 47.9 -0.5**
comp=Z,6.8nm,0.9s,mb4.4,baz=73,slow=17,SNR=5.2
FINES FINESS Array B 39.58 326 P **P** **18 53 49.0 +0.1**
comp=Z,1.2nm,0.3s,mb4.1,baz=118,slow=9.1,SNR=23
SSE Sheshan 39.63 82 P **P** **18 53 50.1 +0.4**
SSE XP sP 18 54 09.4 -1.2
SSE PP PP 18 55 21.9 -3.3
SSE PCP PcP 18 55 56.4 -0.1
SSE S **S** **18 59 49.8 +1.2**
SSE AMB AMB
comp=Z,42nm,0.8s,mb5.2
SSE AMB AMB
comp=Z,85nm,4.5s
SSE LR LR
comp=N,64nm,23.7s,MS3.5
SSE LR LR
comp=E,56nm,24.4s,MS3.5
SSE LR LR
comp=Z,85nm,25.3s,MS3.5
KAF Kangasniemi 39.69 327 *ep* **P** **18 53 49.7 -0.2**
comp=Z,1.1nm,0.4s,mb3.9,baz=108,slow=8.3
KAF Kangasniemi 39.69 327 *e*P **P** **18 53 49.7 -0.2**
KAF pmax pmax
comp=Z,1.0nm,0.4s,mb3.9
CN2 Changchun 40.15 62 *e*P **P** **18 53 54.1 +0.3**
CN2 *e*S **S** **18 59 56.8 +0.6**
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.5
CN2 AMB AMB
comp=Z,90nm,6.0s
CN2 LR LR
comp=N,180nm,17.0s,MS4.2
CN2 LR LR
comp=E,210nm,17.0s,MS4.2
CN2 LR LR
comp=Z,330nm,18.0s,MS4.2
INCN Inchon 42.14 71 *e*P **P** **18 54 10.9 +0.6**
comp=Z,39nm,0.9s,mb5.0
OKC Ostrava-Krasne 42.35 308 AMS AMS 19 07 50.0
comp=Z,100nm,12.8s
KEV Kevo 42.59 338 *ep* **P** **18 54 13.4 -0.1**
comp=Z,356nm,3.1s
KEV Kevo 42.59 338 *e*P **P** **18 54 13.4 -0.1**
KEV pmax pmax
comp=Z,356nm,3.1s
MORC Moravsky Berou 42.75 307 *e*P **P** **18 54 15.3 +0.2**
comp=Z,4.3nm,1.1s,mb4.1
MORC Moravsky Berou 42.75 307 *e*P **P** **18 54 15.3 +0.2**
MORC pmax pmax
comp=Z,4.0nm,1.1s,mb4.1
ARCES ARCESS Array B 42.95 337 P **P** **18 54 16.9 +0.4**
comp=Z,4.6nm,0.5s,mb4.5,baz=112,slow=8.6,SNR=77
ARCES LR LR 19 13 21.1
comp=Z,56nm,20.4s,MS3.4,baz=119,slow=38

ARCES ARCESS Array B 42.95 337 P **P** **18 54 16.9 +0.4**
ARCES LR LR 19 13 21.1
MDJ Mudanjiang 43.00 60 P **P** **18 54 18.0 +0.7**
MDJ AP pP 18 54 26.8 -4.9
MDJ PP PP 18 56 03.0 +3.0
MDJ AMB AMB
comp=Z,21nm,1.1s,mb4.8
MDJ AMB AMB
comp=Z,66nm,5.2s
MDJ LR LR
comp=N,51nm,21.3s,MS3.8
MDJ LR LR
comp=E,118nm,22.9s,MS3.8
MDJ LR LR
comp=Z,137nm,22.9s,MS3.8
MDJ Mudanjiang 43.00 60 *e*P **P** **18 54 18.0 +0.7**
comp=Z,26nm,1.1s,mb4.9
KS15 Wonju Array Si 43.12 71 *e*P **P** **18 54 18.4 +0.2**
VRAC Vranov 43.39 307 P **P** **18 54 20.1 -0.3**
baz=166,slow=4.2
DPC Dobruska-Polom 43.51 308 *e*P **P** **18 54 21.5 +0.2**
DPC *ex* x 18 56 26.0
DPC AMS AMS 19 10 50.0
comp=Z,100nm,18.0s
DPC Dobruska-Polom 43.51 308 *e*P **P** **18 54 21.5 +0.2**
DPC MLR MLR
comp=Z,100nm,18.0s,MS3.8
YAK Yakutsk 43.55 35 *e*P **P** **18 54 21.0 -0.5**
comp=Z,31nm,0.6s,mb5.2
YAK Yakutsk 43.55 35 *c i*P **P** **18 54 21.1 -0.4**
YAK pmax pmax
comp=Z,40nm,0.8s,mb5.2
YAK MLR MLR
comp=Z,200nm,26.0s,MS3.9
UPC Upice 43.70 309 *e*P **P** **18 54 19.2 -3.6**
KLR Kul'dur 43.99 53 *e*P **P** **18 54 21.7 -3.5**
PVCC Panska Ves 44.62 309 AMS AMS 19 09 30.0
comp=Z,100nm,17.9s
PRU Pruhonice 44.67 308 *e*P **P** **18 54 42.5 +12**
PRU AMS AMS 19 15 20.0
comp=Z,100nm,21.7s
BRG Berggiesshubel 44.99 309 *e*P **P** **18 54 33.7 +0.5**
comp=Z,6.7nm,1.1s,mb4.4
BRG *e* 18 54 55.5
BRG *e* 19 00 45.5
BRG Berggiesshubel 44.99 309 *e*P **P** **18 54 33.7 +0.5**
BRG pmax pmax
comp=Z,7.0nm,1.1s,mb4.4
HFS Hagfors 45.24 322 LR LR 19 13 23.2
comp=Z,65nm,19.3s,MS3.6,baz=84,slow=36
GERES GERESS Array B 45.32 306 P **P** **18 54 36.2 +0.4**
comp=Z,0.4nm,0.7s,mb3.3,baz=101,slow=6.8,SNR=4.7
KHC Kasperske Hory 45.38 307 *ex* **P** **18 54 27.0 -9.3**
KHC x x 18 54 46.0
KHC x x 18 55 03.0
KHC *e*PP PP 18 56 20.7 -2.9
KHC AMS AMS 19 08 30.0
comp=Z,100nm,20.3s
TIXI Tiksi 45.93 21 *e*P **P** **18 54 36.2 -4.2**
TIXI *e*S **S** **19 01 29.7 +9.5**
TIXI pmax pmax
comp=Z,40nm,0.9s,mb5.3
TIXI MLR MLR
comp=Z,285nm,19.0s,MS4.2
NKC Novy Kostel 45.99 308 AMS AMS 19 09 20.0
comp=Z,100nm,20.7s
MOX Moxa 46.48 309 *i* P **P** **18 54 45.3 +0.3**
MOX Moxa 46.48 309 *e*P **P** **18 54 45.3 +0.3**
NB2 NORSAR Subarra 46.53 323 P **P** **18 54 43.5 -1.8**
comp=Z,6.7nm,0.8s,mb4.6,baz=93,slow=7.9
NB2 NORSAR Subarra 46.53 323 P **P** **18 54 43.5 -1.8**
NB2 pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
NOA NORSAR Array B 46.53 323 P **P** **18 54 44.6 -0.6**
comp=Z,5.4nm,0.8s,mb4.5,baz=95,slow=7.7,SNR=16
NOA LR LR 19 16 22.9
comp=Z,41nm,20.8s,MS3.4,baz=140,slow=39
GRA1 Grafenberg Arr 46.84 308 *e*P **P** **18 54 48.2 +0.3**
comp=Z,36nm,1.8s,mb5.0
GRA1 *e*pP pP 18 55 01.1 -1.2
GRF Grafenberg Arr 46.84 308 *e*P **P** **18 54 48.2 +0.3**
comp=Z,36nm,1.8s,mb5.0
GRF *e*pP pP 18 55 01.1 -1.2
GRF Grafenberg Arr 46.84 308 *e*P **P** **18 54 48.2 +0.3**
GRF *e**PP pP 18 55 01.1 -1.2
GRF pmax pmax
comp=Z,36nm,1.8s,mb5.0
GRF Grafenberg Arr 46.84 308 *e*P **P** **18 54 48.2 +0.3**
GRF *e**PP pP 18 55 01.1 -1.2
GRF pmax pmax
comp=Z,36nm,1.8s,mb5.0
BSEG Bad Segeberg 47.01 314 *e*P **P** **18 54 49.6 +0.5**
KSM Kuching 47.93 127 *e*P **P** **18 54 57.8 +0.9**
KKM Kota Kinabalu 48.78 117 *e*P **P** **18 55 03.8 +0.4**
KKM *e*pP pP 18 55 18.6 +0.6
KMBO Kilima Mbogo 49.82 231 P **P** **18 55 13.5 +2.0**
comp=Z,6.4nm,0.8s,mb4.7,baz=36,slow=11,SNR=18
KMBO LR LR 19 19 52.5
comp=Z,67nm,18.5s,MS3.7,baz=93,slow=40
HINF Hinteralfeld 50.00 306 *e*P **P** **18 55 10.3 -2.1**
comp=Z,16nm,1.0s,mb4.7
HINF *e*pP pP 18 55 33.5 +6.6
HINF Hinteralfeld 50.00 306 *e*P **P** **18 55 10.3 -2.1**
HINF pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
WLF Walferdange 50.10 308 *e*P **P** **18 55 12.4 -0.7**
comp=Z,2.4nm,0.6s,mb4.4
WLF Walferdange 50.10 308 *e*P **P** **18 55 12.5 -0.6**
WLF pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
HAU Haudompre 50.29 306 *e*P **P** **18 55 13.4 -1.2**
LPG La Plagne 50.56 303 *e*P **P** **18 55 16.3 -0.4**
LPL La Plagne 50.57 303 *e*P **P** **18 55 16.3 -0.5**
MBDF Montbardon 50.73 302 *e*P **P** **18 55 16.9 -1.1**
MAJO Matsushiro 51.28 69 *e*P **P** **18 55 21.5 -0.8**
comp=Z,13nm,0.8s,mb4.9
MAJO Matsushiro 51.28 69 *e*P **P** **18 55 21.5 -0.8**
MAJO pmax pmax
comp=Z,13nm,0.8s,mb4.9
MAT Matsushiro 51.28 69 P **P** **18 55 21.5 -0.8**
MAT Matsushiro 51.28 69 *e*P **P** **18 55 22.0 -0.3**
comp=Z,13nm,0.9s,mb4.8
MAT Matsushiro 51.28 69 *e*P **P** **18 55 22.0 -0.3**
MAT pmax pmax
comp=Z,13nm,0.9s,mb4.9
MJAR Matsushiro Arr 51.28 69 P **P** **18 55 22.0 -0.3**
comp=Z,8.4nm,0.8s,mb4.7,baz=285,slow=10.0,SNR=21
MJAR LR LR 19 20 09.2
comp=Z,47nm,19.3s,MS3.5,baz=340,slow=40
YSS Yuzh-Sakhalins 51.63 55 *e*P **P** **18 55 24.6 -0.1**
comp=Z,7.2nm,0.7s,mb4.7
YSS Yuzh-Sakhalins 51.63 55 *e*P **P** **18 55 24.6 -0.1**
YSS pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
ASAJ Asahikawa 52.23 58 LR LR 19 19 18.1
comp=Z,72nm,21.6s,MS3.7,baz=346,slow=38
SMF Signal de Mont 52.26 305 *e*P **P** **18 55 28.0 -1.4**
comp=Z,18nm,0.8s,mb4.7
SMF *e*pP pP 18 55 51.3 +7.2
SMF Signal de Mont 52.26 305 *e*P **P** **18 55 28.0 -1.4**
SMF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
SSF Saint Saulge 52.38 306 *e*P **P** **18 55 28.9 -1.4**
comp=Z,9.8nm,0.9s,mb4.5
SSF *e*pP pP 18 55 52.1 +7.1
SSF Saint Saulge 52.38 306 *e*P **P** **18 55 28.9 -1.4**
SSF pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
AVF Avril sur Loir 52.55 305 *e*P **P** **18 55 30.2 -1.4**
comp=Z,17nm,0.7s,mb4.8
AVF *e*pP pP 18 55 53.4 +7.1
AVF Avril sur Loir 52.55 305 *e*P **P** **18 55 30.2 -1.4**
AVF pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
TCF Toulx Ste Croi 53.44 305 *e*P **P** **18 55 37.2 -1.1**
comp=Z,13nm,0.9s,mb4.6
TCF *e*pP pP 18 56 00.4 +7.4
TCF Toulx Ste Croi 53.44 305 *e*P **P** **18 55 37.2 -1.1**
TCF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
MBAR Mbarara 53.76 238 *e*P **P** **18 55 40.1 -1.0**
comp=Z,18nm,1.1s,mb4.9
MBAR Mbarara 53.76 238 *e*P **P** **18 55 40.1 -0.9**
MBAR pmax pmax
comp=Z,18nm,1.1s,mb4.9

MA2	**Magadan**	**53.83**	**38**	*e*P	**P**	**18 55 40.8**	**-0.1**
	comp=Z,42nm,1.2s,mb5.2						
MA2	**Magadan**	**53.83**	**38**	*e*P	**P**	**18 55 40.8**	**-0.1**
MA2				pmax	pmax		
	comp=Z,41nm,1.2s,mb5.2						
CAF	**Calviac**	**53.91**	**303**	*e*P	**P**	**18 55 40.9**	**-0.9**
	comp=Z,8.3nm,0.8s,mb4.4						
CAF				*e*pP	pP	18 56 04.2	+7.7
CAF	**Calviac**	**53.91**	**303**	*e*P	**P**	**18 55 40.9**	**-0.9**
CAF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
SEY	**Seymchan**	**54.06**	**34**	*e*P	**P**	**18 55 42.6**	**0.0**
SEY				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
SEY				pmax	pmax		
	comp=N,10.0nm,1.1s						
RJF	**Les Rejaudoux**	**54.18**	**304**	*e*P	**P**	**18 55 42.9**	**-0.8**
	comp=N,9.5nm,0.8s,mb4.5						
RJF				*e*pP	pP	18 56 06.1	+7.6
RJF	**Les Rejaudoux**	**54.18**	**304**	*e*P	**P**	**18 55 42.9**	**-0.8**
RJF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
LFF	**La Frestale**	**54.81**	**304**	*e*P	**P**	**18 55 47.3**	**-1.0**
GRR	**Gorron**	**54.88**	**308**	*e*P	**P**	**18 55 46.9**	**-1.9**
MFF	**Saint Martin d**	**54.92**	**306**	*e*P	**P**	**18 55 47.2**	**-1.9**
DAG	**Danmarks Havn**	**56.34**	**344⇑**	*i*P	**P**	**18 55 58.3**	**-0.7**
	comp=Z,2.2nm,0.8s,mb4.2						
DAG	**Danmarks Havn**	**56.34**	**344⇑**	*e*P	**P**	**18 55 58.3**	**-0.7**
	comp=Z,2.2nm,0.8s,mb4.2						
DAG	**Danmarks Havn**	**56.34**	**344⇑**	*e*P	**P**	**18 55 58.3**	**-0.7**
DAG				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
ROSF	**Rostrenen**	**56.44**	**309**	*e*P	**P**	**18 55 58.3**	**-1.7**
ROSF				*e*pP	pP	18 56 17.4	+2.5
ROSF	**Rostrenen**	**56.44**	**309**	*e*P	**P**	**18 55 58.3**	**-1.7**
ROSF				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
BILL	**Bilibino**	**58.57**	**26**	*e*P	**P**	**18 56 14.8**	**+0.1**
	comp=Z,28nm,0.8s,mb5.3						
BILL	**Bilibino**	**58.57**	**26**	*c i*P	**P**	**18 56 15.0**	**+0.3**
BILL				pmax	pmax		
	comp=Z,31nm,1.0s,mb5.3						
BILL				MLR	MLR		
	comp=Z,200nm,22.0s,MS4.2						
ESDC	**Sonseca Array**	**59.89**	**299**	P	**P**	**18 56 23.0**	**-1.3**
	comp=Z,1.7nm,0.7s,mb4.2,baz=64,slow=6.9,SNR=9.6						
SUMG	**Summit**	**62.75**	**342**	*e*P	**P**	**18 56 43.5**	**+0.4**
	comp=Z,14nm,0.9s,mb5.1						
SUMG				pP	pP	18 56 57.0	-1.3
LSZ	**Lusaka**	**66.37**	**229**	*e*P	**P**	**18 57 07.0**	**-0.3**
	comp=Z,5.3nm,0.8s,mb4.6						
LSZ	**Lusaka**	**66.37**	**229**	*e*P	**P**	**18 57 07.0**	**-0.3**
LSZ				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
FX1	**Attu Island--F**	**67.78**	**40**	*e*P	**P**	**18 57 15.2**	**-0.3**
KNA	**Kununurra**	**72.87**	**124⇓**	*i*P	**P**	**18 57 46.1**	**-0.9**
	comp=Z,4.1nm,0.7s,mb4.5						
KAKA	**Kakadu**	**73.30**	**119**	*e*P	**P**	**18 58 00.5**	**+11**
	comp=Z,5.3nm,0.5s,mb4.7						
INK	**Inuvik**	**74.56**	**10**	P	**P**	**18 57 56.1**	**+0.2**
	comp=Z,5.3nm,0.7s,mb4.6,baz=6.3,slow=7.7,SNR=8.5						
INK	**Inuvik**	**74.56**	**10**	*e*P	**P**	**18 57 55.6**	**-0.2**
	comp=Z,14nm,1.3s,mb4.8						
INK	**Inuvik**	**74.56**	**10**	*e*P	**P**	**18 57 55.6**	**-0.2**
INK				pmax	pmax		
	comp=Z,14nm,1.3s						
ILAR	**Eielson Array**	**75.16**	**17**	P	**P**	**18 57 58.8**	**-0.6**
	comp=Z,5.9nm,1.0s,mb4.5,baz=314,slow=5.2,SNR=28						
ILAR				PP	PP	19 00 48.8	-1.5
	comp=Z,3.3nm,1.0s,baz=312,slow=7.8,SNR=8.6						
ILAR				LR	LR	19 34 14.5	
	comp=Z,40nm,18.2s,MS3.8,baz=352,slow=38						
MCK	**McKinley**	**75.52**	**18**	*e*P	**P**	**18 58 01.4**	**-0.1**
	comp=Z,2.0nm,0.6s,mb4.2						
MCK	**McKinley**	**75.52**	**18**	*e*P	**P**	**18 58 01.4**	**0.0**
MCK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
DBIC	**Dimbokro**	**76.86**	**269**	LR	LR	19 34 31.8	
	comp=Z,80nm,20.3s,MS4.0,baz=44,slow=38						
SML	**Sawmill**	**77.27**	**19**	*e*P	**P**	**18 58 10.9**	**-0.4**
SML				*e*pP	pP	18 58 26.4	-0.6
BOSA	**Boshof**	**78.41**	**222**	P	**P**	**18 58 18.0**	**-0.3**
	comp=Z,8.0nm,1.0s,mb4.6,baz=9.5,slow=6.1,SNR=3.1						
WRA	**Warramunga Arr**	**79.58**	**124**	P	**P**	**18 58 25.8**	**+1.0**
	comp=Z,6.5nm,0.8s,mb4.6,baz=327,slow=5.2,SNR=64						
WRAB	**Tennant Creek**	**79.58**	**124**	*e*P	**P**	**18 58 25.4**	**+0.6**
	comp=Z,8.5nm,0.6s,mb4.8						
WRAB	**Tennant Creek**	**79.58**	**124**	*e*P	**P**	**18 58 25.5**	**+0.7**
WRAB				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.9						
YKW3	**Yellowknife Ar**	**82.09**	**4**	*e*P	**P**	**18 58 37.5**	**+0.3**
YKA	**Yellowknife Ar**	**82.16**	**4**	P	**P**	**18 58 37.6**	**+0.1**
	comp=Z,2.6nm,0.6s,mb4.3,baz=344,slow=5.0,SNR=14						
YKA				PP	PP	19 01 45.9	-2.1
	comp=Z,1.1nm,0.7s,baz=354,slow=7.9,SNR=4.7						
YKA				LR	LR	19 36 05.7	
	comp=Z,46nm,19.9s,MS3.9,baz=240,slow=36						
YKA	**Yellowknife Ar**	**82.16**	**4**	P	**P**	**18 58 37.6**	**+0.1**
YKA				PP	PP	19 01 45.9	-2.1
YKA				LR	LR	19 36 05.7	
YKA	**Yellowknife Ar**	**82.16**	**4**	P	**P**	**18 58 37.6**	**0.0**
YKA						19 01 45.9	
YKA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA				MLR	MLR		
	comp=Z,46nm,19.9s						
EDM	**Edmonton**	**91.47**	**4**	*e*P	**P**	**18 59 23.2**	**+0.2**
LVC	**Limon Verde**	**145.11**	**281**	*e*PKPdf	PKPdf	19 05 54.5	+1.2
PLCA	**Paso Flores**	**151.52**	**249**	*e*PKPbc	PKPdf	19 06 11.5	+8.4

*MOS **15** 18:56:24.4±1.2, 34.29N×25.99E, h10km, mb4.3/27, Error ellipse: s-maj=7.9km s-min=3.7km az=118.0*
*HLW **15** 18:56:28.3, 34.28N×26.30E, h9km, Mb3.8*
*CSEM **15** 18:56:28.2±0.0, 34.29N×26.24E, h60km, mb4.1/21, Ms2.8, Error ellipse: s-maj=2.4km s-min=1.0km az=47.0*
*ATH **15** 18:56:32.1, 34.60N×26.05E, h31km±2km, MD4.0/9*
*NEIC **15** 18:56:32.4, 34.60N×26.04E, h36km, mb4.1/44, MD4.0(ATH), After ATH.*
*IDC **15** 18:56:33.4±2.1, 34.50N×26.03E, h59km±18km, mb4.0/14, mb1 4.1/20, mb1mx4.0/28, mbtmp4.2/20, Error ellipse: s-maj=21.8km s-min=15.5km az=9.0*

ISC 15 18:56:27.9±0.3,**34.25N**±0.02×**26.11E**±0.03,**h49**km±4km, **n205**,σ1$**30**/211,**mb4.2**/38,**MS3.0**/3,**5C-8D,Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.71**	**331**	*e*PB	**P**	**18 56 41.0**	**-0.8**
XRY	**Khrisi**	**0.71**	**331**	*e*Pb	**P**	**18 56 41.5**	**-0.3**
NPS	**Neapolis**	**1.09**	**338**	*e*PN	**P**	**18 56 47.5**	**+0.4**
NPS	**Neapolis**	**1.09**	**338**	*e*Pn	**P**	**18 56 48.0**	**+0.9**
IDI	**Anoyia**	**1.44**	**316**	P	**P**	**18 56 54.6**	**+2.5**
	36nm,0.3s,baz=139,slow=14,SNR=262						
KARP	**Karpathos**	**1.55**	**33**	*e*PN	**P**	**18 56 56.4**	**+2.7**
GVD	**Gavdhos**	**1.77**	**290**	*e*Pn	**P**	**18 56 59.1**	**+2.4**
GVD	**Gavdhos**	**1.77**	**290**	*e*Pn	**P**	**18 56 59.1**	**+2.4**
VAM	**Vamos**	**1.95**	**307**	*e*PN	**P**	**18 57 02.1**	**+2.9**
ARG	**Arkhangelos**	**2.56**	**40**	*e*PN	**P**	**18 57 10.6**	**+2.6**
APE	**Apeiranthos**	**2.85**	**351**	*e*PN	**P**	**18 57 12.5**	**+0.4**
APE	**Apeiranthos**	**2.85**	**351**	*e*Pn	**P**	**18 57 12.2**	**+0.1**
SLUM		**2.86**	**196**	⇑P	**P**	**18 57 14.4**	**+2.2**
SLUM				S	**S**	**18 57 47.4**	**+1.8**
BDRM	**Kayabasi**	**3.01**	**21**	*i* P	**P**	**18 57 15.1**	**+0.8**
KYTH	**Kithira**	**3.23**	**310**	*e*PN	**P**	**18 57 20.0**	**+2.6**
HMAT	**Matruh**	**3.26**	**165**	P	**P**	**18 57 20.1**	**+2.3**
HMAT				S	**S**	**18 57 56.4**	**+0.6**
AKAS	**Kas**	**3.47**	**54**	*i* P	**P**	**18 57 21.1**	**+0.1**
SMG	**Samos**	**3.50**	**9**	*e*PN	**P**	**18 57 22.0**	**+0.8**
VLI	**Veliai**	**3.57**	**314**	*e*PN	**P**	**18 57 23.0**	**+0.7**
VLI	**Veliai**	**3.57**	**314**	*e*Pn	**P**	**18 57 22.6**	**+0.3**
AYDN	**Tasoluk**	**3.69**	**22**	*i* P	**P**	**18 57 25.3**	**+1.4**
GOLH	**Golhisar**	**4.09**	**42**	*i* P	**P**	**18 57 30.5**	**+0.9**
URLA	**Izmir**	**4.12**	**5**	*i* P	**P**	**18 57 24.9**	**-5.1**
DNZL	**Cakiroluk**	**4.17**	**34**	*i* P	**P**	**18 57 31.5**	**+0.7**
MANT	**Manisa**	**4.67**	**24**	*i* P	**P**	**18 57 37.8**	**+0.1**
SWA1		**4.99**	**184**	⇓P	**P**	**18 57 43.5**	**+1.2**
SWA1				S	**S**	**18 58 38.5**	**-0.9**
SWA2		**5.03**	**187**	P	**P**	**18 57 44.0**	**+1.2**
ISP	**Isparta**	**5.05**	**44**	*i* P	**P**	**18 57 54.8**	**+12**
TKTP	**Tekketepe**	**5.08**	**41**	*i* P	**P**	**18 57 41.9**	**-1.7**
CSS	**Prodhromos**	**5.99**	**81**	*e*Pn	**P**	**18 57 55.0**	**-1.2**
	14nm,0.5s						
CSS				*e*Sn	**S**	**18 59 00.2**	**-4.3**
CSS	**Prodhromos**	**5.99**	**81**	*e*Pn	**P**	**18 57 55.0**	**-1.3**
	14nm,0.5s						
CSS				*e*Sn	**S**	**18 59 00.2**	**-4.3**
ERMK	**Ermenek**	**6.04**	**65**	*i* P	**P**	**18 57 56.8**	**-0.1**
FYM	**Al Fayyum**	**6.18**	**136**	P	**P**	**18 57 58.5**	**-0.4**
AWBH		**6.38**	**157**	P	**P**	**18 58 01.8**	**+0.1**
KOT	**Kottamia**	**6.49**	**130**	P	**P**	**18 58 02.6**	**-0.7**
HSAF	**As Saff**	**6.54**	**134**	⇑P	**P**	**18 58 03.2**	**-0.7**
GLL	**Jalalah**	**6.66**	**133**	P	**P**	**18 58 05.1**	**-0.5**
MEST	**Erdemli**	**6.96**	**68**	*i* P	**P**	**18 58 09.3**	**-0.5**
AMAG	**Maghara**	**6.99**	**119**	P	**P**	**18 58 09.1**	**-1.2**
SUZ		**7.20**	**126**	P	**P**	**18 58 12.2**	**-1.0**
HRSH	**Kfar Ka'horesh**	**7.21**	**115**	⇑P	**P**	**18 58 12.2**	**-1.1**
RSH		**7.21**	**115**	P	**P**	**18 58 12.2**	**-1.1**
HNKL	**Nakhl**	**7.95**	**121**	P	**P**	**18 58 22.6**	**-0.9**
BRTR	**Keskin Array B**	**8.13**	**46**	P	**P**	**18 58 27.1**	**+1.2**
	0.2nm,0.3s,baz=221,slow=14,SNR=5.6						
GRB	**Gharib**	**8.26**	**134**	P	**P**	**18 58 27.3**	**-0.4**
COBT	**Iskenderun**	**8.59**	**72**	*i* P	**P**	**18 58 29.2**	**-3.1**
HKAT	**Jabal Katrina**	**8.83**	**128**	P	**P**	**18 58 35.1**	**-0.6**
TIP	**Timpagrande**	**8.97**	**306**	*e*Pn	**P**	**18 58 34.8**	**-2.8**
SOI	**Samo**	**8.98**	**298**	⇓*i*Pn	**P**	**18 58 36.5**	**-1.2**
	18nm,0.4s						
SOI	**Samo**	**8.98**	**298**	⇓*i*P	**P**	**18 58 36.5**	**-1.2**
SOI				pmax	pmax		
	comp=Z,18nm,0.4s						
HDHB	**Dhahab**	**9.12**	**125**	P	**P**	**18 58 38.9**	**-0.7**
HDK1	**Dakhla**	**9.14**	**161**	P	**P**	**18 58 39.8**	**-0.1**
CEL	**Celeste**	**9.17**	**299**	⇓*i*Pn	**P**	**18 58 39.1**	**-1.2**
MTTG	**Motta San Giov**	**9.22**	**297**	Pn	**P**	**18 58 39.9**	**-1.1**
ASF	**Jabal al Asfar**	**9.27**	**100**	P	**P**	**18 58 40.2**	**-1.6**
	comp=Z,0.5nm,0.3s,baz=339,slow=6.8,SNR=3.7						
AGST	**Augusta-Monte**	**9.34**	**292**	⇑*i*Pn	**P**	**18 58 40.2**	**-2.5**
SSY	**Sortino**	**9.43**	**291**	Pn	**P**	**18 58 41.8**	**-2.2**
	comp=Z,71nm,0.6s						
PZI	**Palazzolo**	**9.51**	**290**	Pn	**P**	**18 58 43.3**	**-1.7**
	comp=Z,41nm,0.1s						
PZI	**Palazzolo**	**9.51**	**290**	P	**P**	**18 58 43.3**	**-1.7**
PZI				pmax	pmax		
	comp=Z,41nm,0.1s						
GTR	**Jabal at Tayr**	**9.53**	**155**	P	**P**	**18 58 44.1**	**-1.2**
CUC	**Castrocucco**	**10.02**	**308**	Pn	**P**	**18 58 50.4**	**-1.6**
	comp=Z,38nm,0.6s						
VAE	**Valguarnera**	**10.03**	**292**	P	**P**	**18 58 52.4**	**+0.4**
	comp=Z,3.6nm,0.3s,baz=87,slow=13,SNR=7.4						
VAE				S	**S**	**19 00 33.7**	**-11**
	comp=Z,0.9nm,0.3s,baz=56,slow=11,SNR=2.4						
VAE	**Valguarnera**	**10.03**	**292**	P	**P**	**18 58 52.5**	**+0.4**
MGR	**Morigerati**	**10.26**	**308**	Pn	**P**	**18 58 52.7**	**-2.6**
	comp=Z,5.9nm,0.4s						
SLCN	**Sala Consilina**	**10.35**	**309**	Pn	**P**	**18 58 55.1**	**-1.4**
SGO	**Sicignano**	**10.65**	**309**	⇓*i*Pn	**P**	**18 58 58.4**	**-2.2**
	comp=Z,9.8nm,0.4s						
SGO	**Sicignano**	**10.65**	**309**	⇓*i*P	**P**	**18 58 58.4**	**-2.2**
SGO				pmax	pmax		
	comp=Z,10.0nm,0.4s						
MALT	**Malatya**	**10.73**	**64**	*e*P	**P**	**18 58 57.7**	**-4.0**
	comp=Z,2.0nm,0.4s						
MALT	**Malatya**	**10.73**	**64**	*e*Pn	**P**	**18 58 57.7**	**-4.0**
	comp=Z,1.7nm,0.4s						
MALT	**Malatya**	**10.73**	**64**	*e*P	**P**	**18 58 57.7**	**-4.0**
MALT				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KOLS	**Kolonicke sedl**	**14.94**	**350**	*e*	**P**	**19 00 13.6**	**+16**
STHS	**Stebnicka Huta**	**15.57**	**348**	*e*PN	**P**	**19 00 04.5**	**-1.1**
STHS				*e*		19 00 09.9	
STHS				*e*		19 00 19.8	
PGF	**Pioggiola**	**15.75**	**307**	*e*P	**P**	**19 00 04.5**	**-3.3**
KIV	**Kislovodsk**	**16.08**	**48**	*e*P	**P**	**19 00 17.0**	**+5.0**
	comp=Z,19nm,0.8s						
KIV	**Kislovodsk**	**16.08**	**48**	*d i*P	**P**	**19 00 17.5**	**+5.5**
KIV				pmax	pmax		
	comp=Z,25nm,1.0s						
ZEI	**Tsey**	**16.29**	**53**	*e*P	**P**	**19 00 16.5**	**+1.8**
AKASG	**Malin Array Be**	**16.59**	**7**	P	**P**	**19 00 20.0**	**+1.6**
	comp=Z,2.8nm,0.3s,baz=196,slow=11,SNR=27						
AKASG	**Malin Array Be**	**16.59**	**7**	P	**P**	**19 00 20.0**	**+1.6**
VRAC	**Vranov**	**16.61**	**338**	P	**P**	**19 00 19.5**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=134,slow=11,SNR=4.0						
MORC	**Moravsky Berou**	**16.75**	**340**	*e*P	**P**	**19 00 19.1**	**-1.3**
	comp=Z,3.0nm,0.7s						
MORC	**Moravsky Berou**	**16.75**	**340**	*e*P	**P**	**19 00 19.1**	**-1.3**
	comp=Z,3.0nm,0.7s						
MORC	**Moravsky Berou**	**16.75**	**340**	*e*P	**P**	**19 00 19.1**	**-1.3**
MORC				pmax	pmax		
	comp=Z,3.0nm,0.7s						
GEC2	**GERESS Array S**	**17.25**	**331**	*e*P	**P**	**19 00 27.7**	**+0.9**
	comp=Z,3.0nm,0.8s						
GEC2	**GERESS Array S**	**17.25**	**331**	*e*P	**P**	**19 00 27.7**	**+0.9**
GEC2				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GERES	**GERESS Array B**	**17.25**	**331**	P	**P**	**19 00 27.2**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=142,slow=11,SNR=15						
SBF	**Sospel**	**17.36**	**309**	*e*P	**P**	**19 00 25.6**	**-2.5**
KHC	**Kasperske Hory**	**17.53**	**332**	*e*P	**P**	**19 00 31.0**	**+0.8**
DAVOX	**Davos**	**17.53**	**320**	P	**P**	**19 00 32.0**	**+1.7**
	comp=Z,0.7nm,0.3s,baz=133,slow=18,SNR=8.6						
DPC	**Dobruska-Polom**	**17.61**	**339**	*e*P	**P**	**19 00 30.9**	**-0.4**
LMR	**La Mourre**	**17.73**	**307**	*e*P	**P**	**19 00 31.2**	**-1.6**
	comp=Z,32nm,1.1s						
LMR	**La Mourre**	**17.73**	**307**	*e*P	**P**	**19 00 31.2**	**-1.6**
LMR				pmax	pmax		
	comp=Z,16nm,1.1s						
FRF	**La Foret Royal**	**17.74**	**307**	*e*P	**P**	**19 00 30.4**	**-2.5**
	comp=Z,38nm,1.1s						
FRF	**La Foret Royal**	**17.74**	**307**	*e*P	**P**	**19 00 30.4**	**-2.5**
FRF				pmax	pmax		
	comp=Z,19nm,1.1s						
WET	**Wettzell**	**17.82**	**331**	*e*P	**P**	**19 00 34.2**	**+0.4**
	comp=Z,3.0nm,1.0s						
WET	**Wettzell**	**17.82**	**331**	*e*P	**P**	**19 00 34.2**	**+0.4**
WET				pmax	pmax		
	comp=Z,3.0nm,1.0s						
UPC	**Upice**	**17.84**	**339**	*e*P	**P**	**19 00 32.9**	**-1.3**
MBDF	**Montbardon**	**18.18**	**311**	*e*P	**P**	**19 00 38.6**	**+0.2**
	comp=Z,22nm,0.9s						
MBDF	**Montbardon**	**18.18**	**311**	*e*P	**P**	**19 00 38.6**	**+0.2**
MBDF				pmax	pmax		
	comp=Z,11nm,0.9s						
LPG	**La Plagne**	**18.57**	**313**	*e*P	**P**	**19 00 42.6**	**-0.6**
	comp=Z,6.0nm,0.6s						
LPG	**La Plagne**	**18.57**	**313**	*e*P	**P**	**19 00 42.6**	**-0.6**
LPG				pmax	pmax		
	comp=Z,3.0nm,0.6s						
LPL	**La Plagne**	**18.60**	**313**	*e*P	**P**	**19 00 42.1**	**-1.3**
	comp=Z,6.6nm,0.5s						
LPL	**La Plagne**	**18.60**	**313**	*e*P	**P**	**19 00 42.1**	**-1.3**
LPL				pmax	pmax		
	comp=Z,3.0nm,0.5s						
SMRF	**Simiane la Rot**	**18.62**	**307**	*e*P	**P**	**19 00 44.0**	**+0.3**
ORIF	**Oris-en-Rattie**	**18.83**	**310**	*e*P	**P**	**19 00 45.5**	**-0.7**
	comp=Z,20nm,1.1s						
ORIF				*e*R			
	comp=Z,106nm,22.8s						
GRA1	**Grafenberg Arr**	**18.93**	**329**	*e*P	**P**	**19 00 47.4**	**+0.1**
	comp=Z,9.0nm,1.0s						
GRF	**Grafenberg Arr**	**18.93**	**329**	*e*P	**P**	**19 00 47.4**	**+0.1**
	comp=Z,9.0nm,1.0s						
GRF	**Grafenberg Arr**	**18.93**	**329**	*e*P	**P**	**19 00 47.4**	**+0.1**
GRF				pmax	pmax		
	comp=Z,9.0nm,1.0s						
GRF	**Grafenberg Arr**	**18.93**	**329**	*e*P	**P**	**19 00 47.4**	**+0.1**
GRF				pmax	pmax		
	comp=Z,9.0nm,1.0s						
VORD	**Divnogorie**	**19.26**	**26**	*e*P	**P**	**19 00 50.5**	**-0.5**
VORD				pmax	pmax		
	comp=N,40nm,0.8s						
VORD				pmax	pmax		
	comp=E,20nm,0.8s						
VORD				pmax	pmax		
	comp=Z,20nm,0.8s						
BFO	**Black Forest**	**19.33**	**322**	*e*P	**P**	**19 00 51.3**	**-0.5**
	comp=Z,9.0nm,1.1s						
BFO	**Black Forest**	**19.33**	**322**	*e*P	**P**	**19 00 51.3**	**-0.5**
BFO				pmax	pmax		
	comp=Z,9.0nm,1.1s						
CLL	**Collm**	**19.52**	**335**	P	**P**	**19 00 53.0**	**-0.8**
CABF	**La Chapelle**	**19.55**	**315**	*e*P	**P**	**19 00 52.5**	**-1.7**
	comp=Z,9.6nm,0.7s						
CABF	**La Chapelle**	**19.55**	**315**	*e*P	**P**	**19 00 52.5**	**-1.7**
CABF				pmax	pmax		
	comp=Z,5.0nm,0.7s						
VIVF	**Saint-Julien-l**	**19.57**	**309**	*e*P	**P**	**19 00 54.8**	**+0.3**
	comp=Z,1.9nm,0.5s						
VIVF	**Saint-Julien-l**	**19.57**	**309**	*e*P	**P**	**19 00 54.8**	**+0.3**
VIVF				pmax	pmax		
	comp=Z,1.0nm,0.5s						
HINF	**Hinteralfeld**	**19.79**	**319**	*e*P	**P**	**19 00 54.5**	**-2.3**
	comp=Z,7.1nm,0.6s						
HINF	**Hinteralfeld**	**19.79**	**319**	*e*P	**P**	**19 00 54.5**	**-2.3**
HINF				pmax	pmax		
	comp=Z,4.0nm,0.6s						
LASF	**Ste Croix**	**19.80**	**306**	*e*P	**P**	**19 00 58.3**	**+1.5**
SUW	**Suwalki**	**19.86**	**355**	*e*P	**P**	**19 00 57.2**	**-0.3**
	comp=Z,33nm,0.7s						
SUW	**Suwalki**	**19.86**	**355**	*e*P	**P**	**19 00 57.2**	**-0.3**
	comp=Z,33nm,0.7s						
SUW	**Suwalki**	**19.86**	**355**	*e*P	**P**	**19 00 57.2**	**-0.3**
SUW				pmax	pmax		
	comp=Z,33nm,0.7s						
CDF	**Champ du Feu**	**19.93**	**321**	*e*P	**P**	**19 00 57.8**	**-0.4**
	comp=Z,36nm,1.0s						
CDF	**Champ du Feu**	**19.93**	**321**	*e*P	**P**	**19 00 57.8**	**-0.4**
CDF				pmax	pmax		
	comp=Z,18nm,1.0s						
HAU	**Haudompre**	**20.18**	**319**	*e*P	**P**	**19 01 00.0**	**-0.9**
	comp=Z,7.5nm,0.5s						
HAU				*e*R			
	comp=Z,78nm,22.8s						
TNS	**Taunus Mts**	**20.55**	**326**	*e*P	**P**	**19 01 04.5**	**-0.2**
	comp=Z,9.0nm,0.9s						
TNS	**Taunus Mts**	**20.55**	**326**	*e*P	**P**	**19 01 04.5**	**-0.2**
TNS				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MTLF	**Montolieu**	**20.66**	**303**	*e*P	**P**	**19 01 05.4**	**-0.5**
	comp=Z,16nm,0.9s						
MTLF	**Montolieu**	**20.66**	**303**	*e*P	**P**	**19 01 05.4**	**-0.5**
MTLF				pmax	pmax		
	comp=Z,8.0nm,0.9s						
SMF	**Signal de Mont**	**20.90**	**313**	*e*P	**P**	**19 01 08.0**	**-0.4**
	comp=Z,5.2nm,0.5s						
SMF	**Signal de Mont**	**20.90**	**313**	*e*P	**P**	**19 01 08.0**	**-0.4**
SMF				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MEZF	**Maizieres J'vi**	**21.17**	**319**	*e*P	**P**	**19 01 10.8**	**-0.3**
	comp=Z,37nm,1.0s,mb4.4						
LOR	**Lormes**	**21.20**	**314**	*e*P	**P**	**19 01 10.7**	**-0.6**
	comp=Z,10nm,0.6s,mb4.0						
LOR				*e*R			
	comp=Z,72nm,21.8s						
LOR	**Lormes**	**21.20**	**314**	*e*P	**P**	**19 01 10.7**	**-0.6**
LOR				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.0						
LOR				MLR	MLR		
	comp=Z,70nm,21.8s,MS3.0						
AVF	**Avril sur Loir**	**21.27**	**313**	*e*P	**P**	**19 01 11.6**	**-0.4**
WLF	**Walferdange**	**21.29**	**322**	*e*P	**P**	**19 01 11.9**	**-0.3**
	comp=Z,18nm,1.1s,mb4.3						
WLF	**Walferdange**	**21.29**	**322**	*e*P	**P**	**19 01 11.9**	**-0.3**
	comp=Z,18nm,1.1s,mb4.3						
WLF	**Walferdange**	**21.29**	**322**	*e*P	**P**	**19 01 11.9**	**-0.3**
WLF				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.3						
CAF	**Calviac**	**21.30**	**307**	*e*P	**P**	**19 01 13.3**	**+0.9**
SSF	**Saint Saulge**	**21.30**	**314**	*e*P	**P**	**19 01 11.5**	**-0.9**
	comp=Z,4.4nm,0.8s,mb3.9						
SSF	**Saint Saulge**	**21.30**	**314**	*e*P	**P**	**19 01 11.5**	**-0.9**
SSF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb3.8						
BGF	**Bois d'Agland**	**21.47**	**312**	*e*P	**P**	**19 01 14.1**	**0.0**
	comp=Z,24nm,0.7s,mb4.3						
BGF	**Bois d'Agland**	**21.47**	**312**	*e*P	**P**	**19 01 14.1**	**0.0**
BGF				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.3						
TCF	**Toulx Ste Croi**	**21.75**	**311**	*e*P	**P**	**19 01 17.3**	**+0.4**
	comp=Z,19nm,1.3s,mb4.1						
TCF	**Toulx Ste Croi**	**21.75**	**311**	*e*P	**P**	**19 01 17.3**	**+0.4**
TCF				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.0						
RJF

comp=Z,0.8nm,0.6s,mb3.6,baz=147,slow=9.6,SNR=3.9
EKA Eskdalemuir Ar 29.23 325 P **P 19 02 27.6 +0.5**
comp=Z,3.5nm,0.9s,mb4.1,baz=118,slow=11,SNR=8.9
LVZ Lovozero 34.05 6⇑ *eP* **P 19 03 14.3 +5.2**
ARCES ARCESS Array B 35.34 360 P **P 19 03 18.9 -1.2**
comp=Z,2.4nm,0.6s,mb4.3,baz=179,slow=9.0,SNR=19
ARCES ARCESS Array B 35.34 360 P **P 19 03 18.9 -1.2**
KEV Kevo 35.56 1 *ep* **P 19 03 22.8 +0.8**
BVAR Borovoye Array 36.41 45 P **P 19 03 31.5 +2.0**
comp=Z,1.2nm,0.6s,mb4.0,baz=250,slow=6.4,SNR=8.8
KMBO Kilima Mbogo 36.72 161 P **P 19 03 36.0 +3.7**
comp=Z,0.7nm,0.6s,mb3.7,baz=34,slow=21,SNR=3.7
AAK Ala-Archa 38.37 63 *eP* **P 19 03 47.8 +1.9**
comp=Z,4.5nm,0.9s,mb4.2
AAK Ala-Archa 38.37 63 *eP* **P 19 03 47.8 +1.9**
AAK pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
KURK Kurchatov 41.15 50 *eP* **P 19 04 10.7 +1.9**
comp=Z,6.6nm,0.8s,mb4.3
KURK Kurchatov 41.15 50 *eP* **P 19 04 10.7 +1.9**
KURK pmax pmax
comp=Z,7.0nm,0.8s,mb4.3
MKAR Makanchi Array 43.63 56 P **P 19 04 31.5 +2.4**
comp=Z,7.6nm,0.6s,mb4.6,baz=277,slow=6.6,SNR=36
NVS Novosibirsk 44.18 44 *i* P **P 19 04 24.8 -8.7**
ZAL Zalesovo 45.06 46 P **P 19 04 41.9 +1.4**
comp=Z,3.6nm,0.4s,mb4.5,baz=198,slow=8.6
SUMG Summit 50.10 339 *eP* **P 19 05 21.2 +1.6**
comp=Z,2.9nm,0.6s,mb4.5
ZAK Zakamensk 56.76 48 *eP* **P 19 06 06.9 -2.2**
comp=Z,2.0nm,0.8s,mb4.2
ZAK Zakamensk 56.76 48 *eP* **P 19 06 06.9 -2.2**
ZAK pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
SONM Songino Array 59.45 50 P **P 19 06 30.2 +2.3**
comp=Z,1.8nm,0.5s,mb4.4,baz=286,slow=7.6,SNR=20
SCHQ Schefferville 64.38 320 P **P 19 07 02.2 +1.4**
comp=Z,3.1nm,0.4s,mb4.7,baz=65,slow=6.0,SNR=14
YKA Yellowknife Ar 78.55 343 P **P 19 08 27.2 +1.9**
comp=Z,0.8nm,0.6s,mb3.8,baz=36,slow=6.1,SNR=4.3
YKA Yellowknife Ar 78.55 343 P **P 19 08 27.2 +1.9**
YKA pmax pmax
comp=Z,1.0nm,0.6s
MJAR Matsushiro Arr 85.34 48 P **P 19 09 04.2 +3.2**
comp=Z,2.2nm,0.8s,mb4.3,baz=300,slow=4.7,SNR=7.3
MJAR Matsushiro Arr 85.34 48 P **P 19 09 04.2 +3.2**
MJAR pmax pmax
comp=Z,2.0nm,0.8s

*IDC **15** 19:03:01.9±1.1, 36.48N×71.22E, mb3.7/8, mb1 3.8/10, mb1mx3.6/22, mbtmp3.7/10, ML4.0/2, Error ellipse: s-maj=23.9km s-min=21.6km az=87.0*
*MOS **15** 19:03:04.4±1.6, 36.43N×70.97E, h33km, mb4.6/3, Error ellipse: s-maj=15.8km s-min=7.1km az=93.2*
*NEIC **15** 19:03:08.1±0.7, 36.48N×71.04E, h50km, mb3.7/5, Error ellipse: s-maj=14.9km s-min=7.0km az=51.0*
*NNC **15** 19:03:18.8±5.0, 37.26N×70.60E, h115km±62km, mpv4.4, Error ellipse: s-maj=48.0km s-min=32.3km az=18.0*

ISC 15 19:03:12.2±0.6, 36.70N±0.03×71.33E±0.07, h103km±8km, n61, σ1°25/70, mb3.9/13, 6C-7D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.91**	**170**	P	**P**	**19 03 59.5**	**+1.8**
CHCP	**Chirah Chowk**	**3.42**	**152**	P	**P**	**19 04 07.3**	**+2.6**
SBDP	**Sheikh Budin**	**4.41**	**186**	P	**P**	**19 04 18.3**	**+0.1**
SARP	**Sargodha**	**4.89**	**166**	P	**P**	**19 04 24.2**	**-0.6**
SARP				S	**S**	**19 05 18.0**	**-2.6**
DRP	**Derazinda**	**5.03**	**191**	P	**P**	**19 04 27.0**	**+0.4**
AML	**Almayashu**	**5.73**	**18**	P	**P**	**19 04 36.7**	**+0.6**
	SNR=97						
KZA	**Kyzart**	**6.17**	**28**	P	**P**	**19 04 43.4**	**+1.2**
	SNR=27						
EKS2	**Erkin-Say**	**6.25**	**17**	P	**P**	**19 04 44.2**	**+0.9**
	SNR=39						
AAK	**Ala-Archa**	**6.41**	**21**	P	**P**	**19 04 46.7**	**+1.2**
	SNR=19						
AAK	**Ala-Archa**	**6.41**	**21**	⇓P	**P**	**19 04 46.6**	**+1.1**
	13nm,0.3s						
AAK				⇑S	**S**	**19 05 57.9**	**+0.1**
	23nm,0.5s						
AAK	**Ala-Archa**	**6.41**	**21**	P	**P**	**19 04 46.6**	**+1.1**
	13nm,0.3s						
AAK				S	**S**	**19 05 57.9**	**+0.1**
KK31	**Karatay Array**	**6.43**	**355**	⇓P	**P**	**19 04 44.3**	**-1.4**
	18nm,0.5s,baz=175,slow=12,SNR=479						
KK31				⇓S	**S**	**19 05 50.1**	**-8.1**
	12nm,0.4s,baz=193,slow=26						
KK31	**Karatay Array**	**6.43**	**355**	P	**P**	**19 04 44.3**	**-1.4**
	18nm,0.5s						
KK31				S	**S**	**19 05 50.1**	**-8.1**
KKAR	**Karatay Array**	**6.43**	**355**	*i* PN	**P**	**19 04 44.3**	**-1.5**
KKAR				pmax	pmax		
	comp=Z,15nm,0.2s						
KBK	**Karagaybulak**	**6.57**	**24**	P	**P**	**19 04 49.0**	**+1.3**
	SNR=9.3						
ULHL	**Ulahol**	**6.72**	**33**	P	**P**	**19 04 50.6**	**+0.8**
	SNR=8.4						
CHMS	**Chumysh**	**6.82**	**22**	P	**P**	**19 04 51.7**	**+0.5**
	SNR=29						
USP	**Ospenovka**	**7.00**	**19**	P	**P**	**19 04 53.6**	**0.0**
	SNR=21						
TKM2	**Tokmak 2**	**7.03**	**27**	P	**P**	**19 04 54.7**	**+0.7**
	SNR=21						
MK31	**Makanchi Array**	**12.97**	**36**	P	**P**	**19 06 13.6**	**0.0**
	comp=Z,1.7nm,0.6s,baz=225,slow=13,SNR=3.8						
MKAR	**Makanchi Array**	**12.97**	**36**	Pn	**P**	**19 06 12.9**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=226,slow=15,SNR=4.0						
KOLN	**Koldanda**	**13.67**	**127**	*eP*	**P**	**19 06 22.4**	**-0.2**
	comp=Z,8.7nm,0.3s						
GKN	**Gorkha**	**14.19**	**124**	*eP*	**P**	**19 06 27.2**	**-2.1**
	comp=Z,33nm,0.5s						
KKN	**Kakani**	**14.76**	**123**	*eP*	**P**	**19 06 33.6**	**-3.1**
	comp=Z,12nm,0.5s						
KKN	**Kakani**	**14.76**	**123**	*eP*	**P**	**19 06 33.6**	**-3.1**
KKN				pmax	pmax		
	comp=Z,6.0nm,0.5s						
DMN	**Daman**	**14.76**	**124**	*eP*	**P**	**19 06 35.3**	**-1.4**
	comp=Z,6.2nm,0.3s						
KURK	**Kurchatov**	**14.96**	**18**	⇑P	**P**	**19 06 40.8**	**+1.7**
	comp=Z,1.7nm,0.8s						
KURK	**Kurchatov**	**14.96**	**18**	*eP*	**P**	**19 06 41.3**	**+2.3**
	comp=Z,3.8nm,0.8s						
KURK	**Kurchatov**	**14.96**	**18**	*eP*	**P**	**19 06 41.3**	**+2.3**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
PKI	**Pulchoki**	**14.99**	**123**	*eP*	**P**	**19 06 37.7**	**-1.9**
	comp=Z,5.5nm,0.3s						
PKI	**Pulchoki**	**14.99**	**123**	*eP*	**P**	**19 06 37.7**	**-1.9**
PKI				pmax	pmax		
	comp=Z,3.0nm,0.3s						
AB31	**Akbulak array**	**15.04**	**330**	⇑P	**P**	**19 06 36.3**	**-3.8**
	comp=Z,1.9nm,0.4s,baz=161,slow=11,SNR=3.7						
AB31				⇓S	**S**	**19 09 09.8**	**-14**
	comp=Z,1.3nm,0.5s,baz=153,slow=23						
AB31	**Akbulak array**	**15.04**	**330**	P	**P**	**19 06 36.3**	**-3.8**
	comp=Z,1.9nm,0.4s						
AB31				S	**S**	**19 09 09.8**	**-14**
VOSK	**Vostochnaya**	**16.02**	**359**	⇑P	**P**	**19 06 50.0**	**-2.4**
	comp=Z,2.7nm,0.7s						
VOSK	**Vostochnaya**	**16.02**	**359**	P	**P**	**19 06 50.0**	**-2.4**
	comp=Z,2.7nm,0.7s						
VOSK	**Vostochnaya**	**16.02**	**359**	P	**P**	**19 06 50.0**	**-2.5**
VOSK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BVA0	**Borovoye Array**	**16.34**	**358**	⇑P	**P**	**19 06 55.4**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=166,slow=10						
BVA0	**Borovoye Array**	**16.34**	**358**	P	**P**	**19 06 55.4**	**-0.9**
	comp=Z,0.4nm,0.5s						
BVAR	**Borovoye Array**	**16.34**	**358**	Pn	**P**	**19 06 52.9**	**-3.5**
	comp=Z,1.7nm,0.3s,baz=174,slow=15,SNR=19						
BRVK	**Borovoye**	**16.38**	**358**	*eP*	**P**	**19 06 56.4**	**-0.4**
	comp=Z,4.2nm,0.8s						
BRVK	**Borovoye**	**16.38**	**358**	*eP*	**P**	**19 06 56.4**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
AKTK	**Aktyubinsk**	**16.74**	**329**	P	**P**	**19 06 59.2**	**-2.1**
AKTK				S	**S**	**19 09 51.6**	**-11**
AKTO	**Aktyubinsk**	**16.74**	**329**	⇓P	**P**	**19 06 59.2**	**-2.1**
	comp=Z,1.0nm,0.6s						
AKTO				⇓S	**S**	**19 09 51.6**	**-11**
	comp=Z,1.6nm,2.0s						
NVS	**Novosibirsk**	**19.90**	**21**	*i* P	**P**	**19 07 36.4**	**-1.1**
UMR	**Umm Al-Rimmam**	**20.99**	**257**	*eP*	**P**	**19 07 53.0**	**+4.3**
UMR				AMb	AMB	19 07 54.5	
	comp=Z,24nm,0.4s						
MIB	**Mutribah**	**21.18**	**258**	*eP*	**P**	**19 07 51.3**	**+0.7**
MIB				AMb	AMB	19 07 55.9	
	comp=Z,37nm,0.7s,mb4.8						
RDF	**Al-Radifah**	**21.40**	**256**	*eP*	**P**	**19 07 54.1**	**+1.3**
RDF				AMb	AMB	19 07 55.0	
	comp=Z,28nm,0.7s,mb4.7						
ARU	**Arti**	**21.53**	**340**	*eP*	**P**	**19 07 54.2**	**+0.2**
	comp=Z,5.0nm,0.8s,mb3.9						
ARU	**Arti**	**21.53**	**340**	*i* P	**P**	**19 07 54.4**	**+0.4**
ARU				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb3.9						
KIV	**Kislovodsk**	**22.93**	**297**	⇓*eP*	**P**	**19 08 19.1**	**+11**
SONM	**Songino Array**	**28.00**	**56**	P	**P**	**19 08 55.9**	**+0.7**
	comp=Z,0.4nm,0.6s,mb3.1,baz=281,slow=9.4,SNR=4.9						
AKASG	**Malin Array Be**	**33.03**	**309**	P	**P**	**19 09 39.1**	**-0.2**
	comp=Z,0.3nm,0.4s,mb3.5,baz=85,slow=6.5,SNR=4.7						
FINES	**FINESS Array B**	**37.47**	**326**	P	**P**	**19 10 17.4**	**+0.5**
	comp=Z,1.0nm,0.9s,mb3.8,baz=112,slow=10,SNR=5.5						
ARCES	**ARCESS Array B**	**41.06**	**337**	P	**P**	**19 10 47.8**	**+1.3**
	comp=Z,1.3nm,0.4s,mb4.1,baz=113,slow=8.0,SNR=24						
HFS	**Hagfors**	**43.08**	**322**	P	**P**	**19 11 03.5**	**+0.5**
	comp=Z,0.9nm,0.5s,mb3.8,baz=76,slow=12,SNR=3.8						
YAK	**Yakutsk**	**43.65**	**36⇑**	*eP*	**P**	**19 11 08.6**	**+1.0**
YAK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.2						
NOA	**NORSAR Array B**	**44.38**	**323**	P	**P**	**19 11 13.6**	**+0.1**
	comp=Z,6.0nm,0.7s,mb3.5,baz=96,slow=7.7,SNR=3.4						
NOA	**NORSAR Array B**	**44.38**	**323**	P	**P**	**19 11 13.6**	**+0.1**
TIXI	**Tiksi**	**45.49**	**22**	*i* P	**P**	**19 11 27.4**	**+5.2**
TIXI				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.5						
MATP	**Matopo**	**69.73**	**223**	P	**P**	**19 14 13.8**	**+0.7**
	comp=Z,1.6nm,0.6s,mb4.0,baz=30,slow=7.0,SNR=8.1						
WRA	**Warramunga Arr**	**81.87**	**122**	P	**P**	**19 15 22.2**	**+0.6**
	comp=Z,0.2nm,0.6s,mb3.2,baz=323,slow=5.0,SNR=5.1						

*NEIC **15** 19:18:56.0, 18.07N×99.88W, h56km, MD3.5(MEX), After MEX.*

MEX 15 19:18:56.0±0.4, 18.07N×99.88W, h56km±10km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLIG	**Platanillo**	**0.48**	**48**	*eP*	P	19 19 06.1	-1.4
PLIG				*i* S	S	19 19 14.1	-1.7
CAIG	**El Cayaco**	**1.08**	**200**	*i* P	P	19 19 13.3	-2.1
CAIG				*i* S	S	19 19 27.5	-2.1
YAIG	**Yautepec**	**1.10**	**44**	*i* P	P	19 19 14.2	-1.3
YAIG				*i* S	S	19 19 27.8	-2.1
ACX	**Acapulco**	**1.20**	**182**	*i* P	P	19 19 14.8	-2.0
ACX				*i* S	S	19 19 30.3	-2.1

*BJI **15** 19:22:30.6, 0.22S×121.72E, h203km, mB4.7, mb4.4*
*IDC **15** 19:22:32.0±0.9, 0.14N×121.92E, h197km±8km, mb3.9/10, mb1 4.0/11, mb1mx3.8/20, mbtmp4.4/11, Error ellipse: s-maj=37.9km s-min=8.0km az=70.0*
*NEIC **15** 19:22:33.2±1.6, 0.19N×122.04E, h203km±15km, mb4.5/12, Error ellipse: s-maj=21.5km s-min=6.3km az=64.0*

ISC 15 19:22:32.1±1.9, 0.27N±0.08×122.1E±0.2, h209km±18km, h193km±1.3km: pP-P, n37, σ1°03/37, mb4.2/20, 2C-1D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**8.23**	**314**	*e*Pn	**P**	**19 24 28.9**	**-0.2**
KSM	**Kuching**	**11.88**	**276**	*eP*	**P**	**19 25 20.4**	**+4.2**
KAKA	**Kakadu**	**16.46**	**142**	*eP*	**P**	**19 26 23.5**	**+11**
	15nm,0.9s						
FITZ	**Fitzroy Crossi**	**18.58**	**169**	⇑*iP*	**P**	**19 26 34.9**	**-0.9**
	16nm,1.0s						
FITZ				*e*S	**S**	**19 29 53.8**	**+1.8**
FITZ	**Fitzroy Crossi**	**18.58**	**169**	P	**P**	**19 26 34.8**	**-1.0**
	3.3nm,0.3s,baz=5.6,slow=9.9,SNR=86						
FITZ				S	**S**	**19 29 53.5**	**+1.5**
	0.1nm,0.3s,baz=188,slow=21,SNR=16						
MBWA	**Marble Bar**	**21.43**	**186**	*eP*	**P**	**19 27 04.2**	**-0.3**
	3.0nm,0.3s,mb4.3						
KULM	**Kulim**	**22.02**	**283**	*eP*	**P**	**19 27 10.7**	**+0.4**
WRAB	**Tennant Creek**	**23.38**	**150**	*eP*	**P**	**19 27 24.1**	**+0.7**
	28nm,1.2s,mb4.7						
WRAB				*e*pP		19 28 10.7	
WRA	**Warramunga Arr**	**23.38**	**150**	P	**P**	**19 27 23.5**	**+0.1**
	13nm,0.7s,mb4.6,baz=325,slow=11,SNR=104						
WRA				PcP	PcP	19 31 04.0	-1.0
	0.5nm,0.3s,baz=331,slow=2.2,SNR=8.9						
WRA				S	**S**	**19 31 19.7**	**+1.9**
	0.8nm,1.0s,baz=330,slow=15,SNR=2.5						
ENH	**Enshi**	**32.17**	**339**	*eP*	**P**	**19 28 43.9**	**+1.5**
	13nm,0.8s,mb4.5						
NWAO	**Narrogin (SRO)**	**33.34**	**188**	P	**P**	**19 28 50.5**	**-1.9**
	9.1nm,0.8s,mb4.4,baz=274,slow=18,SNR=7.0						
STKA	**Stephens Creek**	**36.90**	**152**	⇑*iP*	**P**	**19 29 22.8**	**+0.3**
	7.5nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**36.90**	**152**	P	**P**	**19 29 22.6**	**+0.1**
	6.8nm,0.6s,mb4.4,baz=316,slow=7.1,SNR=41						
STKA				PcP	PcP	19 31 39.4	-0.4
	1.8nm,0.8s,baz=352,slow=7.1,SNR=4.7						
LSA	**Lhasa**	**41.56**	**318**	P	**P**	**19 30 03.5**	**+2.4**
LSA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.3						
LSA	**Lhasa**	**41.56**	**318**	*eP*	**P**	**19 30 03.1**	**+2.1**
	comp=Z,7.6nm,0.5s,mb4.4						
GTA	**Gaotai**	**43.98**	**335**	*eP*	**P**	**19 30 21.6**	**+1.2**
GTA				PCP	PcP	19 32 02.4	-0.4
GTA				AMB	AMB		
	comp=Z,16nm,0.9s,mb4.3						
PKI	**Pulchoki**	**44.46**	**311**	*eP*	**P**	**19 30 24.8**	**+0.4**
	comp=Z,18nm,0.7s,mb4.5						
KKN	**Kakani**	**44.68**	**311**	*eP*	**P**	**19 30 26.4**	**+0.3**
DMN	**Daman**	**44.71**	**311**	*eP*	**P**	**19 30 26.9**	**+0.5**
	comp=Z,57nm,1.0s,mb4.9						
GKN	**Gorkha**	**45.27**	**311**	*eP*	**P**	**19 30 31.1**	**+0.3**
	comp=Z,50nm,0.7s,mb4.9						
HYB	**Hyderabad**	**46.13**	**294**	*i* P	**P**	**19 30 38.0**	**+0.3**
HYB	**Hyderabad**	**46.13**	**294**	*eP*	**P**	**19 30 38.0**	**+0.3**
SONM	**Songino Array**	**49.31**	**346**	P	**P**	**19 31 01.9**	**+0.1**
	comp=Z,5.1nm,0.7s,mb3.9,baz=163,slow=8.9,SNR=46						
SONM				pP	pP	19 31 44.3	-3.6
	comp=Z,0.2nm,0.5s,baz=9.5,slow=18,SNR=2.3						
SONM				PcP	PcP	19 32 20.3	-1.3
	comp=Z,0.4nm,0.4s,baz=163,slow=5.0,SNR=5.0						
SONM	**Songino Array**	**49.31**	**346**	P	**P**	**19 31 01.9**	**+0.1**
SONM				pP	pP	19 31 44.3	-3.6
SONM				PcP	PcP	19 32 20.3	-1.3
WMQ	**Urumqi**	**53.12**	**329**	*eP*	**P**	**19 31 31.0**	**+0.7**
MKAR	**Makanchi Array**	**57.93**	**329**	P	**P**	**19 32 04.3**	**-0.4**
	comp=Z,3.0nm,0.4s,mb4.3,baz=129,slow=8.7,SNR=58						
MKAR				pP	pP	19 32 48.5	-3.6
	comp=Z,1.5nm,0.8s,baz=143,slow=6.1,SNR=2.7						
ZAL	**Zalesovo**	**61.71**	**336**	P	**P**	**19 32 28.4**	**-1.8**
	comp=Z,1.1nm,0.4s,mb3.8,baz=27,slow=3.3,SNR=6.9						
KURK	**Kurchatov**	**62.31**	**330**	*eP*	**P**	**19 32 33.0**	**-1.3**
	comp=Z,5.0nm,0.6s,mb4.3						
KURK				*e*pP	pP	19 33 18.4	-4.1
CASY	**Casey**	**66.92**	**185**	*eP*	**P**	**19 33 02.5**	**-1.2**
	comp=Z,2.4nm,0.8s,mb3.9						
BVAR	**Borovoye Array**	**67.81**	**329**	P	**P**	**19 33 07.9**	**-1.5**
	comp=Z,0.7nm,0.5s,mb3.5,baz=120,slow=12,SNR=5.8						
BVAR				pP	pP	19 33 53.9	-4.6
	comp=Z,0.3nm,0.5s,baz=225,slow=42,SNR=2.0						
VNDA	**Vanda**	**80.63**	**172**	P	**P**	**19 34 21.4**	**-1.1**
	comp=Z,1.8nm,0.9s,mb3.7,baz=301,slow=6.0,SNR=9.4						
VNDA	**Vanda**	**80.63**	**172**	*eP*	**P**	**19 34 22.5**	**0.0**
	comp=Z,2.2nm,0.9s,mb3.8						
SYO	**Syowa Base**	**87.57**	**201**	⇓X		19 35 05.8	
BRTR	**Keskin Array B**	**88.67**	**310**	P	**P**	**19 35 02.2**	**-0.8**
	comp=Z,0.8nm,0.6s,mb3.7,baz=127,slow=6.2,SNR=4.2						
ARCES	**ARCESS Array B**	**92.07**	**340**	P	**P**	**19 35 17.8**	**-0.4**
	comp=Z,1.5nm,0.8s,mb4.0,baz=45,slow=6.9,SNR=3.8						
TXAR	**Lajitas Array**	**127.33**	**52**	PKP	PKPdf	19 41 13.6	+0.9
	comp=Z,0.4nm,0.9s,baz=225,slow=3.5,SNR=4.1						
LPAZ	**La Paz**	**161.14**	**148**	PKP	PKPdf	19 42 11.9	+4.0
	comp=Z,0.3nm,0.4s,baz=167,slow=4.9,SNR=3.6						
LPAZ				PKPab	PKPab	19 42 55.1	+0.3
	comp=Z,1.0nm,0.6s,baz=207,slow=4.8,SNR=6.1						

*SKHL **15** 19:31:47.6±0.2, 48.93N×131.29E, h12km±3km, mb4.0/3*
*BJI **15** 19:31:49.3, 49.00N×131.40E, h15km, ML3.7*

ISC 15 19:31:41.6±0.7, 49.05N±0.03×131.25E±0.06, h12km, n10, σ0°94/19, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLR	**Kul'dur**	**0.38**	**61**	*i* Pg	**Sg**	**19 31 55.8**	**+1.2**
KLR				*e*rx	rx	19 31 58.5	
GRNR	**Gornyy**	**3.76**	**61**	*e*Pg	**Pg**	**19 32 55.9**	**-0.8**
GRNR				AMB	AMB	19 32 57.8	
	24nm,0.5s						
GRNR				*e*Sg	**Sg**	**19 33 46.0**	**-0.8**
GRNR				A		19 33 46.7	
	190nm,0.5s						
EKMR	**Ekimchan**	**4.17**	**14**	*e*Pn	**Pn**	**19 32 54.4**	**+8.0**
EKMR				*e*Pg	**Pg**	**19 33 04.5**	**-0.2**
EKMR				AMB	AMB	19 33 06.1	
	15nm,0.5s						
EKMR				AMB	AMB	19 33 06.1	
	8.0nm,0.5s						
EKMR				AMB	AMB	19 33 06.1	
	19nm,0.5s						
EKMR				pPg		19 33 08.4	
EKMR				*e*Sg	**Sg**	**19 34 00.5**	**+0.2**
EKMR				A		19 34 04.1	
	91nm,0.7s						
EKMR				A		19 34 04.1	
	100nm,0.7s						
EKMR				A		19 34 04.1	
	65nm,0.7s						
MDJ	**Mudanjiang**	**4.58**	**195**	PG	**Pg**	**19 33 13.5**	**+0.5**
MDJ				SG	**Sg**	**19 34 13.8**	**-0.3**
MDJ				Smax			
	comp=N,54nm,0.6s						
MDJ				Smax			
	comp=E,78nm,0.8s						
YASR	**Yasnyy**	**4.72**	**335**	*e*Pn	**Pn**	**19 33 01.9**	**+7.6**
YASR				sPn		19 33 08.4	
YASR				*e*Pg	**Pg**	**19 33 15.2**	**-0.5**
YASR				AMB	AMB	19 33 20.4	
	comp=E,6.0nm,0.4s						
YASR				AMB	AMB	19 33 20.4	
	comp=E,5.0nm,0.4s						
YASR				AMB	AMB	19 33 20.4	
	comp=E,9.0nm,0.4s						
YASR				*e*Sg	**Sg**	**19 34 19.4**	**+0.8**
YASR				A		19 34 22.3	
	comp=E,40nm,0.6s						
YASR				A		19 34 22.3	
	comp=E,80nm,0.6s						
ZEA	**Zeya**	**5.32**	**333**	*e*Pn	**Pn**	**19 33 10.4**	**+7.6**
ZEA				sPn		19 33 19.4	
ZEA				*e*Sn	**Sn**	**19 34 11.7**	**+7.0**
ZEA				*e*Sg	**Sg**	**19 34 38.5**	**-0.1**
ZEA				A		19 34 41.4	
	comp=E,100nm,0.7s						
ZEA				A		19 34 41.4	
	comp=E,80nm,0.7s						
TEY	**Ternei**	**5.43**	**136**	*e*Sg	**Sg**	**19 34 34.0**	**-8.5**
TEY				A		19 34 41.0	
	comp=E,67nm,0.9s						
KROS	**Kirovskiy**	**6.01**	**335**	*e*Pn	**Pn**	**19 33 16.0**	**+3.5**
KROS				*e*Sg	**Sg**	**19 34 58.5**	**-3.1**
KROS				A		19 35 04.5	
	comp=E,23nm,0.5s						
KROS				A		19 35 04.5	
	comp=E,13nm,0.5s						
NKL	**Nikolayevsk**	**7.22**	**52**	*e*Sg	**Sg**	**19 35 35.0**	**-6.9**
TYV	**Tymovskoe**	**7.58**	**72**	*e*Sg	**Sg**	**19 35 45.0**	**-8.9**

*HLW **15** 19:49:11.1, 34.49N×26.20E, h33km, Mb3.0*
*CSEM **15** 19:49:13.8±0.3, 34.20N×26.39E, h80km, ML3.0, Error ellipse: s-maj=13.7km s-min=8.9km az=84.0*
*ATH **15** 19:49:18.7, 34.82N×26.11E, h13km, MD3.6/4*

ISC 15 19:49:12.0±1.4, 34.31N±0.08×26.1E±0.2, h68km±40km, n9, σ1°17/11, 1C, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.67**	**328**	*e*PB	**P**	**19 49 25.7**	**-0.8**
NPS	**Neapolis**	**1.04**	**336**	*e*PB	**P**	**19 49 30.0**	**-1.2**
KARP	**Karpathos**	**1.50**	**34**	*e*PB	**P**	**19 49 40.0**	**+2.6**
VAM	**Vamos**	**1.93**	**305**	*e*PB	**P**	**19 49 50.0**	**+6.8**
SLUM		**2.91**	**196**	P	**P**	**19 49 57.8**	**+0.7**
SLUM				S	**S**	**19 50 31.1**	**+0.1**
HMAT	**Matruh**	**3.31**	**165**	P	**P**	**19 50 02.9**	**+0.3**
HMAT				S	**S**	**19 50 40.8**	**-0.1**
SWA2		**5.08**	**187**	P	**P**	**19 50 27.7**	**+0.4**
AWBH		**6.42**	**158**	P	**P**	**19 50 46.0**	**0.0**
AMAG	**Maghara**	**7.01**	**119**	⇑P	**P**	**19 50 52.2**	**-2.0**

*BJI **15** 19:56:20.0, 0.53N×97.66E, h10km, mB4.8, mb4.7, Ms4.1, Msz4.0*
*IDC **15** 19:56:24.5±1.1, 1.08N×97.19E, mb4.1/10, mb1 4.3/10, mb1mx4.0/20, mbtmp4.1/10, MS3.8/2, Ms1 3.8/2, ms1mx3.1/21, Error ellipse: s-maj=46.0km s-min=16.7km az=55.0*
*NEIC **15** 19:56:29.3±0.5, 1.08N×97.21E, h30km, mb4.4/8, Error ellipse: s-maj=14.3km s-min=8.0km az=49.0*

ISC 15 19:56:31.4±2.7, 1.2N±0.1×97.4E±0.1, h59km±21km, n35, σ1°04/33, mb4.5/22, MS3.9/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**4.98**	**47**	P	**P**	**19 57 45.3**	**-0.1**
KULM	**Kulim**	**5.24**	**39**	*e*Pn	**P**	**19 57 48.3**	**-0.7**
KGM	**Kluang**	**6.01**	**82**	P	**P**	**19 58 00.2**	**+0.5**
KKM	**Kota Kinabalu**	**19.42**	**75**	P	**P**	**20 00 56.9**	**+1.3**
KKM	**Kota Kinabalu**	**19.42**	**75**	*eP*	**P**	**20 00 56.0**	**+0.4**
TSM	**Tawau**	**20.71**

CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
MJAR Matsushiro Arr 51.60 42 P **P 20 05 33.8 -0.3**
comp=Z,0.7nm,0.5s,mb3.9,baz=217,slow=7.3,SNR=5.0
STKA Stephens Creek 53.22 132 P **P 20 05 46.7 +0.5**
comp=Z,5.5nm,1.2s,mb4.4,baz=262,slow=3.9,SNR=5.2
STKA Stephens Creek 53.22 132 P **P 20 05 46.7 +0.5**
ZAL Zalesovo 53.60 351 P **P 20 05 47.9 -0.9**
comp=Z,3.1nm,0.8s,mb4.3,baz=296,slow=6.4,SNR=17
BVAR Borovoye Array 56.33 341 P **P 20 06 06.8 -1.7**
comp=Z,2.0nm,0.8s,mb4.2,baz=142,slow=9.3,SNR=18
BRVK Borovoye 56.39 341 *e*P **P 20 06 07.7 -1.3**
comp=Z,1.4nm,0.9s,mb4.0
BRVK *e* 20 06 13.9
ARCES ARCESS Array B 82.61 340 P **P 20 08 49.1 -0.1**
comp=Z,1.8nm,0.8s,mb4.1,baz=79,slow=6.2,SNR=6.7
ARCES LR LR 20 49 38.3
comp=Z,33nm,20.1s,MS3.7,baz=22,slow=39
GERES GERESS Array B 84.94 319 P **P 20 09 02.2 +0.8**
comp=Z,0.2nm,0.2s,mb3.8,baz=72,slow=3.1,SNR=3.1
TXAR Lajitas Array 143.60 32 PKP PKPdf 20 16 01.9 +1.7
comp=Z,0.2nm,0.5s,SNR=3.2
CPUP Villa Florida 145.10 222 PKP PKPdf 20 16 02.0 -0.9
comp=Z,0.9nm,0.7s,baz=129,slow=7.3,SNR=3.2

*CSEM **15** 20:12:52.5±0.1, 46.99N×13.26E, h12km, ML3.0/11, Error ellipse: s-maj=1.7km s-min=1.5km az=163.0*
*LJU **15** 20:12:53.3, 46.99N×13.39E, h3km, ML1.7*
*PRU **15** 20:12:53.3, 46.99N×13.29E*
*ROM **15** 20:12:54.6±0.6, 46.86N×13.20E, h6km, Md2.6/6, Ml1.9/3, Error ellipse: s-maj=7.5km s-min=5.1km az=22.0*
ISC 15 20:12:51.5±0.3, 47.04N±0.01×13.29E±0.03, h10km, n30, σ1§08/51, 7C-4D, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBA	**Koelnbreinsper**	**0.06**	**43**	⇑*i*PG	**Pg**	**20 12 55.4**	**+1.8**
KBA				*i* SG	**Sg**	**20 12 56.8**	**+1.8**
	563nm,0.1s						
PLRO	**Paularo**	**0.50**	**191**	⇑*e*Pg	**Pg**	**20 13 02.0**	**+0.4**
PLRO				*e*Sg	**Sg**	**20 13 08.0**	**-0.3**
ZOU	**Zoufplan**	**0.53**	**204**	⇓*e*Pg	**Pg**	**20 13 02.8**	**+0.6**
ZOU				*e*Sg	**Sg**	**20 13 08.8**	**-0.5**
FVI	**Forni Avoltri**	**0.56**	**219**	⇑*i*Pg	**Pg**	**20 13 03.2**	**+0.4**
FVI				Sg	**Sg**	**20 13 10.4**	**0.0**
	61nm,0.3s						
PTCC	**Patocco-Chiusa**	**0.63**	**176**	Pg	**Pg**	**20 13 04.8**	**+0.5**
	14nm,0.3s						
CSMI	**Casera Mimoias**	**0.68**	**220**	*i* Pg	**Pg**	**20 13 05.3**	**+0.1**
CSMI				*i* Sg	**Sg**	**20 13 14.0**	**-0.4**
BAD	**Bernadia**	**0.80**	**182**	⇑*e*Pg	**Pg**	**20 13 08.3**	**+0.7**
BAD				*e*Sg	**Sg**	**20 13 18.0**	**-0.3**
ROBS	**Robic**	**0.81**	**169**	*i* Sg	**Sg**	**20 13 18.2**	**-0.3**
ROBS	**Robic**	**0.81**	**169**	*i* Sg	**Sg**	**20 13 18.2**	**-0.3**
GORS	**Gorjuse**	**0.87**	**146**	*i* Pg	**Pg**	**20 13 09.0**	**0.0**
GORS				*i* Sg	**Sg**	**20 13 20.2**	**-0.3**
	comp=Z,12nm,0.1s						
GORS	**Gorjuse**	**0.87**	**146**	*i* Pg	**Pg**	**20 13 09.0**	**+0.1**
GORS				*i* Sg	**Sg**	**20 13 20.2**	**-0.4**
	comp=Z,12nm,0.1s						
DRE	**Drenchia**	**0.90**	**164**	⇓*i*Pg	**Pg**	**20 13 10.8**	**+1.3**
DRE				*i* Sg	**Sg**	**20 13 22.5**	**+1.0**
OBKA	**Obir**	**1.01**	**121**	⇓*i*PG	**Pg**	**20 13 11.0**	**-0.8**
OBKA				*i* SG	**Sg**	**20 13 24.7**	**-0.7**
	comp=Z,22nm,0.2s						
MOA	**Molln**	**1.05**	**39**	⇑*i*PG	**Pg**	**20 13 13.4**	**+0.9**
MOA				*i* SG	**Sg**	**20 13 28.5**	**+2.0**
	comp=Z,18nm,0.2s						
VOY	**Vojsko**	**1.09**	**157**	*e*Pg	**Pg**	**20 13 15.8**	**+2.5**
VOY				*e*Sg	**Sg**	**20 13 27.7**	**-0.2**
WTTA	**Wattenberg**	**1.15**	**282**	⇑*i*PG	**Pg**	**20 13 14.6**	**+0.1**
WTTA				*i* SG	**Sg**	**20 13 30.5**	**+0.6**
	comp=Z,15nm,0.2s						
WATA	**Walderalm**	**1.21**	**285**	⇓*i*PG	**Pg**	**20 13 15.7**	**+0.1**
WATA				*i* SG	**Sg**	**20 13 32.0**	**+0.3**
	comp=Z,18nm,0.2s						
PERS	**Pernice**	**1.32**	**107**	*i* Pg	**Pg**	**20 13 16.9**	**-1.0**
PERS				*i* Sg	**Sg**	**20 13 34.8**	**-0.6**
SQTA	**Sankt Quirin**	**1.43**	**278**	⇑*i*PG	**Pg**	**20 13 19.5**	**-0.6**
SQTA				*i* SG	**Sg**	**20 13 39.5**	**+0.3**
	comp=Z,32nm,0.3s						
CTI	**Castel Tesino**	**1.50**	**229**	Pg	**Pg**	**20 13 21.2**	**-0.3**
	comp=Z,26nm,0.3s						
APPI	**Appiano**	**1.52**	**249**	Pg	**Pg**	**20 13 21.2**	**-0.7**
	comp=Z,26nm,0.3s						
PDKS	**Podkum**	**1.53**	**129**	*i* Pg	**Pg**	**20 13 22.0**	**-0.1**
GOLS	**Golise**	**1.91**	**122**	*i* Pn	**Pn**	**20 13 28.6**	**+4.1**
BRMO	**Bormio**	**2.08**	**255**	Pg	**Pg**	**20 13 30.9**	**-2.2**
	comp=Z,7.0nm,0.7s						
KHC	**Kasperske Hory**	**2.10**	**5**	*e*PN	**Pn**	**20 13 31.4**	**+4.2**
KHC				x	x	20 13 35.0	
KHC				*ex*	x	20 13 58.0	
KHC				*e*SG	**Sg**	**20 14 01.1**	**-0.5**
	comp=Z,1.7nm,0.2s						
DAVOX	**Davos**	**2.35**	**265**	Pg	**Pg**	**20 13 35.6**	**-2.8**
PRU	**Pruhonice**	**3.07**	**15**	*e*PG	**Pg**	**20 13 51.4**	**-1.4**
PRU				*e*SG	**Sg**	**20 14 32.4**	**-1.3**
	comp=Z,4.1nm,0.4s						
NKC	**Novy Kostel**	**3.25**	**350**	*e*SG	**Sg**	**20 14 35.4**	**-4.2**
MOX	**Moxa**	**3.78**	**344**	*i* P	**Pn**	**20 13 54.3**	**+3.2**
MOX				S	**Sn**	**20 14 37.0**	**+0.9**
MOX				Sg	**Sg**	**20 14 58.0**	**+0.8**
DPC	**Dobruska-Polom**	**3.88**	**30**	*e*PG	**Pg**	**20 14 06.0**	**-2.9**
DPC				*e*SG	**Sg**	**20 14 58.2**	**-2.4**

*IDC **15** 20:20:58.4±1.5, 5.30N×94.40E, mb4.1/7, mb1 4.3/7, mb1mx3.9/19, mbtmp4.1/7, Error ellipse: s-maj=62.3km s-min=24.8km az=54.0*
*NEIC **15** 20:21:03.1±0.9, 5.28N×94.44E, h30km, mb4.4/3, Error ellipse: s-maj=39.5km s-min=12.0km az=55.0*
ISC 15 20:21:01.3±1.2, 5.3N±0.2×94.4E±0.3, h30km, n11, σ0§69/11, mb4.2/10, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**24.51**	**353**	P	**P**	**20 26 21.2**	**+1.7**
	3.7nm,0.5s,mb4.2						
MKAR	**Makanchi Array**	**42.69**	**348**	P	**P**	**20 28 57.0**	**-0.1**
	3.1nm,0.6s,mb4.2,baz=166,slow=9.4,SNR=33						
SONM	**Songino Array**	**43.65**	**12**	P	**P**	**20 29 04.2**	**-0.8**
	1.5nm,0.8s,mb3.8,baz=190,slow=7.5,SNR=14						
SONM				PcP	PcP	20 30 52.0	-0.4
	0.3nm,0.5s,baz=198,slow=3.4,SNR=6.4						
WRA	**Warramunga Arr**	**46.55**	**124**	P	**P**	**20 29 28.6**	**+0.2**
	2.1nm,0.6s,mb4.3,baz=303,slow=9.4,SNR=23						
WRAB	**Tennant Creek**	**46.55**	**124**	*e*P	**P**	**20 29 28.6**	**+0.1**
	2.8nm,0.6s,mb4.4						
KURK	**Kurchatov**	**47.21**	**346**	*e*P	**P**	**20 29 33.6**	**+0.4**
	3.8nm,0.6s,mb4.5						
ZAL	**Zalesovo**	**49.16**	**352**	P	**P**	**20 29 47.8**	**-0.6**
	2.1nm,0.3s,mb4.7,baz=309,slow=5.9,SNR=10.0						
BRVK	**Borovoye**	**51.61**	**342**	*e*P	**P**	**20 30 07.0**	**0.0**
FINES	**FINESS Array B**	**75.15**	**332**	P	**P**	**20 32 41.6**	**-0.7**
	0.7nm,0.7s,mb3.7,baz=72,slow=6.0,SNR=4.1						
ARCES	**ARCESS Array B**	**77.81**	**340**	P	**P**	**20 32 56.5**	**-0.6**
	4.3nm,1.1s,mb4.3,baz=90,slow=4.9,SNR=7.6						
GERES	**GERESS Array B**	**79.96**	**319**	P	**P**	**20 33 09.9**	**+0.7**
	0.8nm,0.7s,mb3.8,baz=72,slow=4.2,SNR=5.0						

CASC 15 20:24:06.1±2.1, 13.59N×90.80W, h5km±16km, MD3.6, 8C-6D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.67**	**30**	⇑*e*P	Pg	20 24 20.1	+0.5
IXG				*e*S	Sg	20 24 31.0	+2.4
PCG	**Pacaya**	**0.82**	**13**	⇑*e*P	Pb	20 24 22.7	+0.1
FUG	**Fuego 3**	**0.86**	**357**	⇑*e*P	Pb	20 24 22.9	-0.2
RTR	**El Retiro**	**1.16**	**74**	⇑*e*P	Pb	20 24 36.5	+8.2
RTR				*e*S	Sb	20 24 53.0	+9.4
SBLS	**San Blas**	**1.17**	**77**	⇑*e*P	Pb	20 24 36.3	+7.8
SBLS				*e*S	Sb	20 24 52.5	+8.7
SNJE	**San Jose**	**1.19**	**76**	⇑*e*P	Pb	20 24 36.7	+7.9
SNJE				*e*S	Sb	20 24 53.3	+8.9
RBDL	**Robledal**	**1.20**	**64**	⇓*e*P	Pb	20 24 37.5	+8.5
RBDL				*e*S	Sb	20 24 55.0	+10
TP2	**Tecpan 2**	**1.21**	**350**	⇓*e*P	Pb	20 24 28.6	-0.5
TP2				*e*S	Sb	20 24 46.2	+1.3
BOQS	**Boqueron**	**1.48**	**84**	⇓*e*P	Pn	20 24 41.0	+7.5
BOQS				*e*S	Sb	20 25 02.0	+9.2
MTO2	**Montecristo 2**	**1.61**	**60**	⇑*e*P	Pn	20 24 44.2	+8.7
MTO2				*e*S	Sb	20 25 06.8	+10
LFU	**La Fuente**	**1.65**	**84**	⇓*e*P	Pn	20 24 43.8	+7.9
LFU				*e*S	Sb	20 25 07.1	+10
LFRS	**El Faro**	**1.69**	**89**	⇓*e*P	Pn	20 24 43.6	+7.1
LFRS				*e*S	Sn	20 25 07.0	+8.2
LCBS	**La Ceiba**	**1.77**	**88**	⇓*e*P	Pn	20 24 45.0	+7.3
LCBS				*e*S	Sn	20 25 09.6	+8.8
MRL	**Marmol**	**1.82**	**36**	⇑*e*P	Pn	20 24 37.4	-1.0
MRL				*e*S	Sn	20 25 04.6	+2.4

*ISK **15** 20:51:22.8, 38.08N×26.31E, h13km, MD3.5, ML3.5*
*NEIC **15** 20:51:22.0, 38.08N×26.31E, h13km, ML3.6(ATH), ML3.5(ISK), After ISK.*
*ATH **15** 20:51:23.5, 38.27N×26.97E, h36km±2km, MD3.4/7, ML3.6*
*CSEM **15** 20:51:24.0±0.1, 38.11N×26.39E, h20km, MD3.5, Error ellipse: s-maj=3.1km s-min=2.4km az=66.0*
ISC 15 20:51:23.1±0.6, 38.11N±0.03×26.29E±0.03, h9km±4km, n39, σ1§04/51, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.34**	**43**	*i* P	**Pg**	**20 51 29.9**	**-0.3**
URLA				*i* S	**Sg**	**20 51 34.5**	**-0.4**
SMG	**Samos**	**0.59**	**133**	*e*PN	**Pn**	**20 51 35.7**	**-1.7**
SMG				*e*SN	**Sn**	**20 51 44.5**	**-2.6**
BLCB	**Balcova**	**0.65**	**65**	*i* PG	**Pg**	**20 51 35.8**	**-0.4**
BLCB				*i* SG	**Sg**	**20 51 44.9**	**0.0**
IZM	**Izmir**	**0.81**	**69**	*i* PG	**Pg**	**20 51 39.4**	**-0.1**
KDAG	**Bornova**	**0.82**	**69**	*i* P	**Pb**	**20 51 38.1**	**-1.0**
KDAG				*i* S	**Sb**	**20 51 49.2**	**-0.9**
PRK	**Paraskevi**	**1.14**	**359**	*e*PN	**Pn**	**20 51 44.4**	**-0.8**
PRK				*e*SN	**Sn**	**20 51 59.8**	**-1.2**
APE	**Apeiranthos**	**1.20**	**211**	PN	**Pn**	**20 51 45.2**	**-1.0**
APE				SN	**Sn**	**20 52 02.5**	**-0.2**
AYVA	**Ayvalik**	**1.24**	**14**	*i* P	**Pb**	**20 51 46.9**	**+0.7**
AYVA				*i* S	**Sb**	**20 52 04.0**	**+1.8**
BODT	**Bodrum**	**1.32**	**142**	PN	**Pn**	**20 51 46.7**	**-1.1**
AYDN	**Tasoluk**	**1.33**	**109**	*i* P	**Pb**	**20 51 49.3**	**+1.4**
AYDN				*i* S	**Sb**	**20 52 06.3**	**+1.4**
BDRM	**Kayabasi**	**1.39**	**138**	*i* P	**Pn**	**20 51 48.8**	**0.0**
BDRM				*i* S	**Sb**	**20 52 08.7**	**+2.2**
AKS	**Akhisar**	**1.42**	**57**	PN	**Pn**	**20 51 48.8**	**-0.4**
MLSB	**Milas**	**1.43**	**124**	PN	**Pn**	**20 51 49.5**	**+0.1**
EZN	**Ezine**	**1.71**	**1**	PN	**Pn**	**20 51 53.2**	**-0.3**
MANT	**Manisa**	**1.82**	**77**	*i* P	**Pn**	**20 51 56.9**	**+1.8**
MANT				*i* S	**Sn**	**20 52 19.8**	**+1.3**
YER	**Yerkesik**	**1.85**	**121**	PN	**Pn**	**20 51 54.7**	**-0.8**
BALB	**Balikesir**	**1.97**	**39**	PN	**Pn**	**20 51 56.6**	**-0.5**
LIA	**Limnos Island**	**1.98**	**334**	*e*PN	**Pn**	**20 51 58.5**	**+1.2**
CANB	**Canakkale**	**2.00**	**17**	PN	**Pn**	**20 51 58.0**	**+0.5**
MPAR	**Parnis Oros**	**2.02**	**272**	*e*PN	**Pg**	**20 52 05.0**	**+1.5**
ATH	**Athens Observa**	**2.04**	**267**	*e*PN	**Pg**	**20 52 05.5**	**+1.6**
BTOK	**Tokmak**	**2.13**	**39**	*i* P	**Pn**	**20 52 02.6**	**+3.1**
DENT	**Denizli**	**2.19**	**98**	PN	**Pn**	**20 52 00.3**	**-0.1**
DNZL	**Cakiroluk**	**2.22**	**100**	*i* P	**Pn**	**20 52 00.7**	**0.0**
DNZL				*i* S	**Sn**	**20 52 36.8**	**+8.4**
NSAL	**Nisos Salamina**	**2.25**	**266**	*e*PN	**Pg**	**20 52 07.9**	**-0.1**
NAIG	**Nisos Aigina**	**2.25**	**262**	*e*PN	**Pg**	**20 52 07.5**	**-0.5**
NAIG	**Nisos Aigina**	**2.25**	**262**	*e*Pn	**Pg**	**20 52 07.0**	**-1.0**
LPK	**Lapseki**	**2.29**	**9**	PN	**Pn**	**20 52 02.1**	**+0.4**
DALT	**Dalyan (Mudla)**	**2.29**	**125**	*e*PN	**Pn**	**20 52 01.2**	**-0.6**
BNT	**Bandirma**	**2.57**	**29**	*e*PN	**Pn**	**20 52 05.1**	**-0.7**
GDZ	**Gediz**	**2.68**	**68**	*i* P	**Pg**	**20 52 13.1**	**-3.6**
MRMT	**Marmara Adasi**	**2.69**	**22**	*e*PN	**Pn**	**20 52 06.4**	**-1.0**
GOLH	**Golhisar**	**2.73**	**108**	*i* P	**Pn**	**20 52 09.3**	**+1.2**
MFT	**Murefte**	**2.78**	**16**	*e*PN	**Pn**	**20 52 09.0**	**+0.3**
ORLT	**Orhaneli**	**2.80**	**46**	*e*PN	**Pn**	**20 52 09.0**	**0.0**
RDO	**Rodhopi**	**3.09**	**349**	*e*PN	**Pn**	**20 52 12.3**	**-0.8**
TKTP	**Tekketepe**	**3.18**	**90**	*i* P	**Pg**	**20 52 22.3**	**-4.3**
TKTP				*i* S	**Sg**	**20 53 09.2**	**+0.2**
YLV	**Yalova**	**3.42**	**43**	*e*PN	**Pn**	**20 52 17.4**	**-0.5**
ESKT	**Eskisehir**	**3.83**	**67**	*i* P	**Pg**	**20 52 34.6**	**-5.0**

*BJI **15** 20:56:53.1, 60.17N×152.80W, h102km, mB4.8, mb4.9*
*MOS **15** 20:56:55.8±0.9, 60.30N×152.82W, h111km, mb4.6/41, Error ellipse: s-maj=9.8km s-min=4.5km az=86.8*
*IDC **15** 20:56:57.4±0.6, 60.42N×152.82W, h108km±4km, mb4.1/20, mb1 4.3/26, mb1mx4.3/29, mbtmp4.6/26, MS3.2/6, Ms1 3.1/6, ms1mx2.9/28, Error ellipse: s-maj=12.4km s-min=8.6km az=15.0*
*NEIC **15** 20:56:57.4, 60.13N×152.68W, h102km, mb4.5/48, After AEIC.*
NEIC Felt [III] at Anchorage and Homer; [II] at Palmer and Wasilla. Also felt at Anchor Point, Chugiak, Eagle River, Girdwood, Kasilof, Ninilchik, Seward, Soldotna and Sterling.
ISC 15 20:56:55.3±0.2, 60.22N±0.02×152.78W±0.03, h108km±1km, h106km±.7km: pP-P, n305, σ1§04/302, mb4.6/90, 31C-4D, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILIM	**Iliamna**	**0.17**	**214**	P	**P**	**20 57 11.1**	**+0.7**
RED	**Redoubt Volcan**	**0.20**	**1**	P	**P**	**20 57 11.8**	**+1.2**
IVE	**Iliamna Volcan**	**0.23**	**211**	P	**P**	**20 57 11.3**	**+0.6**
IVE				S	**S**	**20 57 22.4**	**+0.2**
ILW	**Iliamna West**	**0.24**	**229**	P	**P**	**20 57 11.5**	**+0.8**
RSO	**Redoubt South**	**0.25**	**3**	P	**P**	**20 57 12.1**	**+1.4**
RDT	**Redoubt**	**0.40**	**27**	P	**P**	**20 57 12.8**	**+1.3**
OPT	**Oil Point**	**0.61**	**202**	P	**P**	**20 57 13.3**	**+0.5**
NNL	**Ninilchik**	**0.76**	**103**	P	**P**	**20 57 15.6**	**+1.4**
HOM	**Homer**	**0.80**	**134**	P	**P**	**20 57 14.9**	**+0.3**
AUL	**Augustine Lava**	**0.90**	**202**	P	**P**	**20 57 15.7**	**+0.1**
AUL				S	**S**	**20 57 30.1**	**-0.8**
AUE	**Augustine Isla**	**0.91**	**200**	P	**P**	**20 57 15.7**	**0.0**
AGU	**Augustine-Summ**	**0.92**	**201**	P	**P**	**20 57 16.1**	**+0.3**
XLV	**Seldovia**	**0.93**	**145**	P	**P**	**20 57 15.7**	**-0.2**
SPU	**Mount Spurr**	**1.03**	**20**	P	**P**	**20 57 18.7**	**+1.8**
CNPM	**China Poot**	**1.04**	**131**	P	**P**	**20 57 17.2**	**+0.2**
BGL	**Barrier Glacie**	**1.07**	**10**	P	**P**	**20 57 19.5**	**+2.2**
MCNL	**McNeil River**	**1.30**	**218**	P	**P**	**20 57 20.1**	**+0.1**
SLKM	**Skilak Lake**	**1.30**	**76**	P	**P**	**20 57 20.4**	**+0.3**
VOGL	**Vogel Lake**	**1.40**	**55**	P	**P**	**20 57 23.5**	**+2.3**
BGM	**Big Mountain**	**1.49**	**237**	P	**P**	**20 57 22.3**	**0.0**
FIB	**Fire Island**	**1.60**	**52**	P	**P**	**20 57 25.4**	**+1.9**
SYI	**Shuyak Island**	**1.62**	**173**	P	**P**	**20 57 23.7**	**-0.3**
SYI				S	**S**	**20 57 44.0**	**-1.5**
SVW2	**Sparrevohn**	**1.64**	**304**	P	**P**	**20 57 25.2**	**+1.1**
SEW	**Seward**	**1.67**	**92**	P	**P**	**20 57 23.7**	**-0.8**
SEW				S	**S**	**20 57 44.8**	**-1.5**
MPA	**Moose Pass**	**1.72**	**79**	P	**P**	**20 57 25.5**	**+0.4**
RC01	**Rabbit Creek A**	**1.73**	**58**	P	**P**	**20 57 26.1**	**+0.8**
RC01				S	**S**	**20 57 48.5**	**+0.7**
KAPH	**Katmai Pasha**	**1.81**	**207**	P	**P**	**20 57 26.5**	**+0.2**
KAHC	**Katmai Hardscr**	**1.94**	**217**	P	**P**	**20 57 28.0**	**+0.1**
PMR	**Palmer**	**2.25**	**51**	P	**P**	**20 57 32.3**	**+0.2**
PWL	**Port Wells**	**2.29**	**72**	P	**P**	**20 57 32.0**	**-0.5**
KABR	**Katmai Barrier**	**2.38**	**209**	P	**P**	**20 57 33.5**	**-0.3**
MGLS	**Mageik LS**	**2.40**	**214**	P	**P**	**20 57 34.4**	**+0.3**
KNK	**Knik Glacier**	**2.43**	**59**	P	**P**	**20 57 34.6**	**+0.1**
GHO	**Glory Hole Cre**	**2.44**	**49**	P	**P**	**20 57 35.1**	**+0.5**
KDAK	**Kodiak Island**	**2.44**	**178**	P	**P**	**20 57 32.6**	**-2.1**
LTI	**Latouche**	**2.47**	**92**	P	**P**	**20 57 34.1**	**-0.9**
CUT	**Chulitna**	**2.51**	**28**	P	**P**	**20 57 36.9**	**+1.4**
KJL	**Kejulik**	**2.60**	**215**	P	**P**	**20 57 37.1**	**+0.3**
CFI	**College Fiord**	**2.65**	**66**	P	**P**	**20 57 36.5**	**-0.9**
SML	**Sawmill**	**2.69**	**52**	P	**P**	**20 57 38.1**	**+0.1**
GLI	**Glacier Island**	**2.88**	**74**	P	**P**	**20 57 38.8**	**-1.9**
SCM	**Sheep Creek Mo**	**3.11**	**56**	P	**P**	**20 57 43.5**	**-0.1**
TT01	**Tatalina**	**3.11**	**332**	P	**P**	**20 57 44.8**	**+1.0**
HIN	**Hinchinbrook I**	**3.13**	**84**	P	**P**	**20 57 42.4**	**-1.5**
TTA	**Tatalina**	**3.13**	**332**	*e*P	**P**	**20 57 44.8**	**+0.8**
HUR	**Hurricane**	**3.15**	**27**	P	**P**	**20 57 45.1**	**+0.9**
JPK	**Jack Peak**	**3.16**	**72**	P	**P**	**20 57 43.0**	**-1.3**
FID	**Port Fidalgo**	**3.16**	**78**	P	**P**	**20 57 42.2**	**-2.2**
VLZ	**Valdez**	**3.30**	**71**	P	**P**	**20 57 45.1**	**-1.1**
MID	**Middleton Isla**	**3.35**	**101**	P	**P**	**20 57 45.7**	**-1.1**
KTH	**Kantishna Hill**	**3.46**	**14**	P	**P**	**20 57 49.6**	**+1.2**
EYAK	**Cordova Ski Ar**	**3.51**	**82**	P	**P**	**20 57 47.3**	**-1.7**
DIV	**Divide**	**3.57**	**72**	P	**P**	**20 57 48.6**	**-1.2**
KLU	**Klutina**	**3.59**	**66**	P	**P**	**20 57 49.5**	**-0.7**
RND	**Reindeer**	**3.70**	**28**	P	**P**	**20 57 51.7**	**0.0**
SGAM	**Sherman Glacie**	**3.77**	**82**	P	**P**	**20 57 51.5**	**-1.2**
MCK	**McKinley**	**3.97**	**26**	P	**P**	**20 57 55.7**	**+0.4**
TZL	**Tazlina**	**4.01**	**60**	P	**P**	**20 57 55.6**	**-0.3**
RAGM	**Ragged Mountai**	**4.04**	**84**	P	**P**	**20 57 55.5**	**-0.8**
BMRM	**Bremner River**	**4.10**	**76**	P	**P**	**20 57 55.4**	**-1.8**
SDG	**Sourdough**	**4.18**	**53**	P	**P**	**20 57 58.3**	**+0.1**
KAIM	**Kayak Island**	**4.20**	**90**	P	**P**	**20 57 57.5**	**-0.9**
BWN	**Browne**	**4.26**	**20**	P	**P**	**20 58 00.5**	**+1.2**
ANPK	**Aniakchak Peak**	**4.39**	**222**	P	**P**	**20 58 00.3**	**-0.8**
PAX	**Paxson**	**4.45**	**48**	P	**P**	**20 58 02.2**	**+0.3**
GLB	**Gilahina Butte**	**4.56**	**70**	P	**P**	**20 58 02.2**	**-1.1**
NEA	**Nenana**	**4.70**	**20**	P	**P**	**20 58 05.9**	**+0.6**
WRH	**Wood River Hil**	**4.79**	**25**	P	**P**	**20 58 06.5**	**0.0**
MLY	**Manley**	**4.92**	**10**	P	**P**	**20 58 08.6**	**+0.3**
CHGN	**Chignik**	**4.93**	**220**	P	**P**	**20 58 07.4**	**-0.9**
GCSA	**Galena City Sc**	**4.93**	**339**	P	**P**	**20 58 09.2**	**+0.8**
SNH	**Sunshine Point**	**4.96**	**86**	P	**P**	**20 58 08.3**	**-0.5**
HDA	**Harding Lake**	**5.00**	**30**	P	**P**	**20 58 09.7**	**+0.3**
CCB	**Clear Creek Bu**	**5.01**	**25**	P	**P**	**20 58 09.3**	**-0.2**
MENT	**Mentasta**	**5.12**	**54**	P	**P**	**20 58 10.3**	**-0.6**
COLA	**College**	**5.20**	**24**	P	**P**	**20 58 12.1**	**+0.1**
BALM	**Baldy**	**5.20**	**76**	P	**P**	**20 58 10.7**	**-1.4**
IL1	**Eielson Array**	**5.32**	**28**	P	**P**	**20 58 13.7**	**0.0**
ILAR	**Eielson Array**	**5.32**	**28**	P	**P**	**20 58 13.4**	**-0.2**
	74nm,0.3s,baz=214,slow=14,SNR=2288						
ILAR				S	**S**	**20 59 10.2**	**-4.0**
	24nm,0.3s,baz=182,slow=20,SNR=7.0						
GLM	**Gilmore Dome**	**5.39**	**25**	P	**P**	**20 58 15.2**	**+0.6**
IM3	**Indian Mountai**	**5.81**	**356**	P	**P**	**20 58 21.1**	**+0.8**
IMA	**Indian Mountai**	**5.89**	**356**	*e*P	**P**	**20 58 22.5**	**+1.1**
SDPT	**Sand Point**	**6.38**	**223**	P	**P**	**20 58 26.1**	**-2.1**
YKU2	**Yakutat**	**6.64**	**90**	*e*P	**P**	**20 58 31.3**	**-0.4**
PNL	**Peninsula**	**6.75**	**89**	P	**P**	**20 58 31.7**	**-1.5**
HAG	**Hague Volcano**	**6.92**	**229**	P	**P**	**20 58 35.0**	**-0.6**
DOL	**Dolgoi Island**	**7.04**	**228**	P	**P**	**20 58 35.7**	**-1.4**
DTNA	**Dutton South F**	**7.18**	**229**	P	**P**	**20 58 37.8**	**-1.4**
BM3	**Burnt Mountain**	**8.07**	**23**	P	**P**	**20 58 50.1**	**-1.1**
TNA	**Tin City**	**8.73**	**314**	P	**P**	**20 59 00.4**	**+0.3**
WHY	**Whitehorse**	**8.86**	**79**	P	**P**	**20 58 59.7**	**-2.1**
BESE	**Bessie Mountai**	**9.29**	**92**	P	**P**	**20 59 05.3**	**-2.2**
SIT	**Sitka**	**9.63**	**102**	P	**P**	**20 59 09.1**	**-2.9**
UNV	**Unalaska Valle**	**9.82**	**236**	P	**P**	**20 59 13.2**	**-1.3**
CRAG	**Craig**	**11.48**	**106**	*e*P	**P**	**20 59 35.3**	**-1.4**
INK	**Inuvik**	**11.60**	**38**	P	**P**	**20 59 37.1**	**-1.1**
	1.6nm,0.3s,baz=235,slow=16,SNR=19						
INK				S	**S**	**21 01 43.5**	**-2.4**
	0.8nm,0.3s,baz=82,slow=7.1,SNR=5.4						
INK				LR	LR	21 04 00.6	
	comp=Z,153nm,20.4s,baz=12,slow=37						
INK				ScP		21 08 40.9	
	0.1nm,0.3s,baz=211,slow=5.3,SNR=3.4						
INK	**Inuvik**	**11.60**	**38**	*e*P	**P**	**20 59 37.0**	**-1.2**
DLBC	**Dease Lake**	**11.74**	**89**	P	**P**	**20 59 41.0**	**+0.9**
	16nm,0.3s,baz=262,slow=12,SNR=32						
DLBC				S	**S**	**21 01 47.7**	**-1.6**
	3.1nm,0.3s,baz=119,slow=25,SNR=6.8						
DLBC	**Dease Lake**	**11.74**	**89**	*e*P	**P**	**20 59 40.8**	**+0.8**
BBB	**Bella Bella**	**15.83**	**110**	P	**P**	**21 00 34.4**	**+1.7**
	1.4nm,0.3s,baz=308,slow=

GDL2 Guadalupe Moun 42.23 109 *e*P **P** **21 04 40.4 +1.7**
GDL2 *e*pP pP 21 05 03.9 0.0
KLR Kul'dur 42.57 290 *e*P **P** **21 04 39.2 -2.1**
WMOK Wichita Mounta 42.85 102 *e*P **P** **21 04 44.5 +0.7**
comp=Z,8.5nm,0.8s,mb4.5
WMOK *e*pP pP 21 05 09.4 +0.5
WMOK Wichita Mounta 42.85 102 *e*P **P** **21 04 44.5 +0.7**
WMOK *e**PP pP 21 05 09.4 +0.4
WMOK pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
SCHQ Schefferville 43.35 57 P **P** **21 04 47.7 +0.1**
comp=Z,3.5nm,0.6s,mb4.3,baz=300,slow=8.6,SNR=8.5
SCHQ pP pP 21 05 13.6 +0.8
comp=Z,5.4nm,0.8s,baz=332,slow=7.1,SNR=4.5
BOD Bodaibo 44.20 310 *e*P **P** **21 04 52.9 -1.4**
BOD pmax pmax
comp=Z,16nm,0.7s,mb4.9
SADO Sadowa 44.90 76 P **P** **21 05 00.2 +0.1**
comp=Z,2.7nm,0.4s,mb4.3,baz=339,slow=9.1,SNR=3.9
SADO pP pP 21 05 25.7 +0.2
comp=Z,6.2nm,0.7s,baz=330,slow=7.2,SNR=4.1
TXAR Lajitas Array 44.95 111 P **P** **21 05 02.2 +1.4**
comp=Z,1.7nm,0.7s,mb3.9,baz=329,slow=6.3,SNR=22
TXAR pP pP 21 05 27.1 +1.0
comp=Z,1.9nm,0.7s,baz=341,slow=5.5,SNR=5.7
TXAR Lajitas Array 44.95 111 P **P** **21 05 02.2 +1.4**
TXAR pP pP 21 05 27.1 +1.0
MSNY Massena 46.78 72 *e*P **P** **21 05 14.6 -0.4**
MSNY *e*pP pP 21 05 39.6 -0.9
MDJ Mudanjiang 46.93 287 P **P** **21 05 16.3 +0.1**
MDJ PP PP 21 07 02.0 -5.6
MDJ S **S** **21 11 52.9 -5.1**
MDJ SS SS 21 15 16.4 -3.2
MDJ AMB AMB
comp=Z,12nm,0.8s,mb4.7
MDJ AMB AMB
comp=Z,46nm,5.9s
MDJ LR LR
comp=N,83nm,14.8s
MDJ LR LR
comp=E,111nm,16.3s
MDJ LR LR
comp=Z,192nm,18.2s
OXF Oxford 47.66 93 *e*P **P** **21 05 21.9 -0.1**
comp=Z,24nm,0.7s,mb5.1
OXF *e*pP pP 21 05 47.2 -0.5
OXF Oxford 47.66 93 *e*P **P** **21 05 21.9 -0.2**
OXF *e**PP pP 21 05 47.2 -0.4
OXF pmax pmax
comp=Z,24nm,0.7s,mb5.1
CIT Chita 48.59 305 *e*P **P** **21 05 28.0 -0.9**
CIT *e* pP 21 05 55.7 +1.1
CIT pmax pmax
comp=Z,33nm,0.8s,mb5.3
MAJO Matsushiro 48.88 274 *e*P **P** **21 05 30.7 -0.7**
comp=Z,30nm,1.1s,mb5.1
MAJO Matsushiro 48.88 274 *e*P **P** **21 05 30.7 -0.7**
MAJO pmax pmax
comp=Z,30nm,1.1s,mb5.1
MJAR Matsushiro Arr 48.88 274 P **P** **21 05 31.0 -0.5**
comp=Z,4.6nm,0.8s,mb4.5,baz=14,slow=7.5,SNR=15
MAT Matsushiro 48.88 274 P **P** **21 05 30.8 -0.6**
MAT Matsushiro 48.88 274 *e*P **P** **21 05 31.0 -0.4**
comp=Z,15nm,0.9s,mb4.9
MAT Matsushiro 48.88 274 *e*P **P** **21 05 31.0 -0.4**
MAT pmax pmax
comp=Z,15nm,0.9s,mb4.9
CN2 Changchun 49.51 290 *e*P **P** **21 05 35.8 -0.3**
CN2 AMB AMB
comp=Z,100nm,0.7s,mb5.8
CN2 AMB AMB
comp=Z,90nm,7.0s
CN2 LR LR
comp=N,170nm,19.0s
CN2 LR LR
comp=E,170nm,19.0s
CN2 LR LR
comp=Z,180nm,23.0s
ELN Prospectdale 49.84 83 *e*P **P** **21 05 38.4 -0.4**
ELN *e*pP pP 21 06 04.2 -0.4
BLA Blacksburg 50.02 83 *e*P **P** **21 05 39.3 -0.9**
comp=Z,16nm,0.8s,mb5.0
BLA *e*pP pP 21 06 05.3 -0.6
BLA Blacksburg 50.02 83 *e*P **P** **21 05 39.3 -0.8**
BLA *e**PP pP 21 06 05.3 -0.6
BLA pmax pmax
comp=Z,16nm,0.8s,mb5.0
KEV Kevo 50.32 0 *e*p **P** **21 05 42.3 +0.3**
ARCES ARCESS Array B 50.54 1 P **P** **21 05 42.0 -1.6**
comp=Z,1.6nm,0.6s,mb4.2,baz=9.5,slow=7.4,SNR=11
ARCES pP pP 21 06 06.0 -3.5
comp=Z,3.0nm,0.7s,slow=7.3,SNR=3.0
SNY Shenyang 51.90 289 ⇑P **P** **21 05 54.0 -0.3**
SNY AMB AMB
comp=Z,30nm,1.0s,mb5.3
SNY AMB AMB
comp=Z,60nm,5.3s
SNY LR LR
comp=E,130nm,20.4s
SNY LR LR
comp=Z,130nm,20.4s
KS15 Wonju Array Si 53.27 283 *e*P **P** **21 06 04.6 0.0**
MOY Mondy 53.77 312 *e*P **P** **21 06 09.7 +1.7**
MOY pmax pmax
comp=Z,25nm,1.9s,mb4.9
ZAK Zakamensk 53.94 310 *e*P **P** **21 06 09.5 +0.2**
ZAK *e* 21 07 12.2
ZAK pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
ZAK pmax pmax
comp=Z,1.0nm,0.8s,mb3.9
SONM Songino Array 54.75 306 P **P** **21 06 15.4 +0.2**
comp=Z,40nm,0.7s,mb5.5,baz=40,slow=6.9,SNR=343
SONM pP pP 21 06 42.0 +0.6
comp=Z,9.4nm,1.0s,baz=40,slow=8.4,SNR=4.1
NVS Novosibirsk 56.95 325 *i* P **P** **21 06 28.8 -2.1**
NVS *i* pP 21 06 55.2 -2.1
NVS *i* S **S** **21 14 14.5 0.0**
NVS pmax pmax
comp=N,5.0nm,0.7s
NVS pmax pmax
comp=E,7.0nm,0.7s
NVS pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
NVS smax
comp=N,15nm,1.8s
NVS smax
comp=E,12nm,1.6s
ZAL Zalesovo 57.28 324 P **P** **21 06 32.9 -0.3**
comp=E,9.8nm,0.5s,mb5.1,baz=82,slow=6.4,SNR=48
KAF Kangasniemi 57.99 1 *e*p **P** **21 06 36.5 -1.6**
HHC Hu-ho-hao-te 58.18 297 *e*P **P** **21 06 39.8 +0.1**
HHC AP pP 21 07 06.4 +0.2
HHC XP sP 21 07 18.9 +0.6
HHC PP PP 21 08 52.9 +1.6
HHC AMB AMB
comp=Z,103nm,0.9s,mb5.9
HHC AMB AMB
comp=Z,454nm,6.1s
HHC LR LR
comp=N,269nm,19.0s
HHC LR LR
comp=E,471nm,18.4s
HHC LR LR
comp=Z,538nm,19.0s
NB2 NORSAR Subarra 58.44 9 P **P** **21 06 39.8 -1.4**
comp=Z,1.4nm,0.8s,mb4.0,baz=353,slow=6.5
NOA NORSAR Array B 58.44 9 P **P** **21 06 39.9 -1.3**
comp=Z,0.7nm,0.7s,mb3.8,baz=333,slow=7.2,SNR=3.6
FINES FINESS Array B 58.67 1 P **P** **21 06 41.2 -1.5**
comp=Z,1.1nm,0.5s,mb4.1,slow=7.6,SNR=8.5
FINES FINESS Array B 58.67 1 P **P** **21 06 41.2 -1.5**
ARU Arti 61.08 341 *e*P **P** **21 06 58.0 -1.3**
comp=Z,5.3nm,0.5s,mb4.8
ARU *e*pP pP 21 07 23.2 -2.9
ARU Arti 61.08 341 ⇑*i*P **P** **21 06 58.3 -1.1**
ARU *e* pP 21 07 23.9 -2.2
ARU *e* 21 07 40.0
ARU *e*S **S** **21 15 08.0 +0.1**
ARU *e*SS SS 21 19 07.4 -3.4
ARU *e*SSS SSS 21 21 58.2 +6.5
ARU pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
SSE Sheshan 61.65 283 P **P** **21 07 02.9 -0.6**
SSE AP pP 21 07 29.5 -0.8
SSE PP PP 21 09 19.4 -3.2
SSE AMB AMB
comp=Z,20nm,0.8s,mb5.2
SSE AMB AMB
comp=Z,73nm,4.0s
SSE LR LR
comp=N,26nm,22.8s
SSE LR LR
comp=E,18nm,23.0s
SSE LR LR
comp=Z,53nm,27.9s
KURK Kurchatov 61.91 326 *e*P **P** **21 07 03.7 -1.3**
comp=Z,9.7nm,0.7s,mb4.9
KURK *e*pP pP 21 07 30.1 -1.8
KURK Kurchatov 61.91 326 *e*P **P** **21 07 03.7 -1.3**
KURK *e**PP pP 21 07 30.1 -1.7
KURK pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
BRVK Borovoye 61.92 332 *e*P **P** **21 07 03.4 -1.6**
comp=Z,14nm,1.2s,mb4.8
BRVK *e*pP pP 21 07 30.1 -1.8
BRVK Borovoye 61.92 332 *e*P **P** **21 07 03.4 -1.7**
BRVK *e**PP pP 21 07 30.1 -1.8
BRVK pmax pmax
comp=Z,14nm,1.2s,mb4.9
BVA0 Borovoye Array 61.93 332 *i* P **P** **21 07 04.1 -1.0**
BVA0 pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
BVAR Borovoye Array 61.93 332 P **P** **21 07 04.1 -1.0**
comp=Z,9.9nm,0.5s,mb5.1,baz=30,slow=5.8,SNR=91
BVAR pP pP 21 07 30.4 -1.5
comp=Z,5.2nm,0.8s,baz=45,slow=6.3,SNR=4.8
NJ2 Nanjing 61.99 286 *e*P **P** **21 07 04.5 -1.3**
NJ2 AP pP 21 07 35.1 +2.5
NJ2 PP PP 21 09 28.0 +2.3
NJ2 AMB AMB
comp=Z,20nm,0.9s,mb5.2
NJ2 AMB AMB
comp=Z,100nm,4.0s
NJ2 LR LR
comp=N,190nm,22.0s
NJ2 LR LR
comp=E,170nm,16.0s
NJ2 LR LR
comp=Z,40nm,26.0s
VOSK Vostochnaya 62.07 332 P **P** **21 07 04.7 -1.3**
VOSK pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
MKAR Makanchi Array 64.33 321 P **P** **21 07 19.6 -1.3**
comp=Z,3.4nm,0.5s,mb4.4,baz=38,slow=6.7,SNR=63
MKAR Makanchi Array 64.33 321 *i* P **P** **21 07 19.8 -1.1**
MKAR pmax pmax
comp=Z,2.0nm,0.4s
GTA Gaotai 64.39 305 *e*P **P** **21 07 21.5 +0.1**
GTA AP pP 21 07 47.8 -0.6
GTA PCP PcP 21 07 55.4 +0.7
GTA XP sP 21 07 58.5 -1.8
GTA PP PP 21 09 45.9 -0.2
GTA PPP PPP 21 11 18.3 -1.2
GTA AMB AMB
comp=Z,18nm,0.9s,mb4.9
GTA AMB AMB
comp=Z,83nm,8.4s
GTA LR LR
comp=N,137nm,15.2s
GTA LR LR
comp=E,139nm,15.2s
GTA LR LR
comp=Z,190nm,17.5s
WMQ Urumqi 65.18 316 P **P** **21 07 27.0 +0.6**
WMQ AP pP 21 07 54.0 +0.6
WMQ XP sP 21 08 07.0 +1.6
WMQ PP PP 21 09 53.0 -0.1
WMQ SCP 21 11 50.0
WMQ AMB AMB
comp=Z,11nm,1.0s,mb4.6
WMQ AMB AMB
comp=Z,21nm,8.0s
WMQ LR LR
comp=N,212nm,20.0s
WMQ LR LR
comp=E,175nm,20.0s
WMQ LR LR
comp=Z,208nm,20.0s
LZH Lanzhou 65.51 300 *e*P **P** **21 07 28.5 -0.2**
LZH AP pP 21 07 54.5 -1.2
LZH XP sP 21 08 04.5 -3.1
LZH PP PP 21 09 54.0 -2.1
LZH AMB AMB
comp=Z,38nm,1.0s,mb5.2
LZH AMB AMB
comp=Z,210nm,4.0s
SUW Suwalki 66.08 3 *e*P **P** **21 07 30.4 -1.5**
SUW Suwalki 66.08 3 *e*P **P** **21 07 30.4 -1.5**
AB31 Akbulak array 67.71 337 *i* P **P** **21 07 41.2 -1.0**
AB31 pmax pmax
comp=Z,1.0nm,0.3s,mb4.1
CLL Collm 68.24 10 P **P** **21 07 45.0 -0.5**
CLL Collm 68.24 10 *e*P **P** **21 07 45.0 -0.5**
BAIF Baives 68.51 16 ⇑*i*P **P** **21 07 47.0 -0.2**
comp=Z,2.2nm,0.5s,mb4.0
BAIF Baives 68.51 16 ⇑*i*P **P** **21 07 47.0 -0.2**
BAIF pmax pmax
comp=Z,1.0nm,0.5s,mb3.9
GIVF Givet 68.55 15 *e*P **P** **21 07 47.1 -0.4**
BRG Berggiesshubel 68.75 9 *e*P **P** **21 07 48.5 -0.2**
comp=Z,3.6nm,0.8s,mb4.2
BRG *e* pP 21 08 15.2 -0.7
BRG Berggiesshubel 68.75 9 *e*P **P** **21 07 48.5 -0.1**
BRG *e* pP 21 08 15.3 -0.6
BRG pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
MOX Moxa 68.78 11 *i* P **P** **21 07 47.0 -1.8**
comp=Z,logA/T=1.0,mb4.6
MOX pP pP 21 08 13.0 -3.1
MOX Moxa 68.78 11 *e*P **P** **21 07 47.0 -1.8**
comp=Z,9.0nm,0.9s,mb4.6
MOX *e*pP pP 21 08 13.0 -3.1
MOX Moxa 68.78 11 *e*P **P** **21 07 47.0 -1.8**
MOX *e**PP pP 21 08 13.0 -3.1
MOX pmax pmax
comp=Z,9.0nm,0.9s,mb4.6
KSP Ksiaz 68.94 7 *e*P **P** **21 07 49.6 -0.3**
PVCC Panska Ves 69.14 9 *e*P **P** **21 07 51.3 +0.2**
PVCC *e*pP pP 21 08 16.7 -1.7
SGMF Saint Gilles 69.21 21 *e*P **P** **21 07 51.0 -0.5**
NKC Novy Kostel 69.26 10 *e*P **P** **21 07 51.8 0.0**
NKC *e*pP pP 21 08 18.6 -0.5
UPC Upice 69.26 8 *e*P **P** **21 07 51.9 +0.1**
UPC *e*pP pP 21 08 17.9 -1.2
GRR Gorron 69.37 20 *e*P **P** **21 07 52.2 -0.3**
AKASG Malin Array Be 69.43 359 P **P** **21 07 51.4 -1.4**
comp=Z,0.9nm,0.5s,mb3.9,baz=4.4,slow=6.0,SNR=7.3
AKASG pP pP 21 08 17.7 -2.5
comp=Z,2.0nm,0.5s,baz=358,slow=5.7,SNR=5.9
AKASG Malin Array Be 69.43 359 P **P** **21 07 51.4 -1.4**
AKASG pP pP 21 08 17.7 -2.5
DPC Dobruska-Polom 69.44 7 *e*P **P** **21 07 52.7 -0.2**
DPC *e*pP pP 21 08 19.1 -1.1
PRU Pruhonice 69.67 9 *e*P **P** **21 07 54.2 -0.1**
PRU *e*pP pP 21 08 20.3 -1.4
GRA1 Grafenberg Arr 69.68 11 *e*P **P** **21 07 54.5 +0.1**
comp=Z,4.0nm,0.8s,mb4.3
GRF Grafenberg Arr 69.68 11 *e*P **P** **21 07 54.5 +0.1**
comp=Z,4.0nm,0.8s,mb4.3
GRF Grafenberg Arr 69.68 11 *e*P **P** **21 07 54.5 +0.1**
GRF pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
GRF Grafenberg Arr 69.68 11 *e*P **P** **21 07 54.5 +0.1**
GRF pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
OKC Ostrava-Krasne 70.06 6 *e*P **P** **21 07 55.0 -1.7**
OKC *e*pP pP 21 08 22.6 -1.5
MEZF Maizieres J'vi 70.15 15 ⇑*i*P **P** **21 07 56.8 -0.5**
KHC Kasperske Hory 70.45 9 *e*P **P** **21 07 59.4 +0.4**
KHC *e*pP pP 21 08 26.1 -0.4
CDF Champ du Feu 70.52 14 ⇑*i*P **P** **21 07 59.4 -0.1**
comp=Z,5.1nm,0.8s,mb4.1
CDF Champ du Feu 70.52 14 ⇑*i*P **P** **21 07 59.4 -0.1**
CDF pmax pmax
comp=Z,3.0nm,0.8s,mb4.2
STHS Stebnicka Huta 70.62 4 *e*P **P** **21 07 59.3 -0.7**
STHS *e*pP pP 21 08 26.1 -1.4
GERES GERESS Array B 70.74 9 P **P** **21 08 00.4 -0.4**
comp=Z,1.5nm,0.6s,mb4.0,baz=342,slow=4.6,SNR=12
GERES pP pP 21 08 26.3 -2.0
comp=Z,0.7nm,0.6s,slow=2.7,SNR=3.4
HAU Haudompre 70.81 15 *e*P **P** **21 08 01.0 -0.2**
comp=Z,6.7nm,0.6s,mb4.4
HAU *e*R
comp=Z,49nm,21.8s
HAU Haudompre 70.81 15 *e*P **P** **21 08 01.0 -0.2**
HAU pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
HAU MLR MLR
comp=Z,50nm,21.8s
HINF Hinteralfeld 71.06 14 ⇑*i*P **P** **21 08 02.4 -0.3**
comp=Z,4.6nm,0.6s,mb4.2
HINF Hinteralfeld 71.06 14 ⇑*i*P **P** **21 08 02.4 -0.3**
HINF pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
KKAR Karatay Array 71.11 328 *i* P **P** **21 08 02.2 -0.9**
KKAR pmax pmax
comp=Z,2.0nm,0.4s,mb4.3
KOLS Kolonicke sedl 71.13 3 *e*P **P** **21 08 03.2 +0.1**
KOLS *e*pP pP 21 08 29.8 -0.8
LOR Lormes 71.19 17 ⇑*i*P **P** **21 08 03.3 -0.2**
comp=Z,11nm,0.8s,mb4.4
LOR Lormes 71.19 17 ⇑*i*P **P** **21 08 03.3 -0.2**
LOR pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
MFF Saint Martin d 71.22 20 *e*P **P** **21 08 03.5 -0.2**
comp=Z,22nm,1.0s,mb4.6
MFF Saint Martin d 71.22 20 *e*P **P** **21 08 03.5 -0.2**
MFF pmax pmax
comp=Z,11nm,1.0s,mb4.6
SSF Saint Saulge 71.35 17 ⇑*i*P **P** **21 08 04.3 -0.1**
comp=Z,5.1nm,0.7s,mb4.5
SSF Saint Saulge 71.35 17 ⇑*i*P **P** **21 08 04.3 -0.1**
SSF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
KECS Kecovo 71.52 5 *e*P **P** **21 08 04.6 -0.9**
KECS *e*pP pP 21 08 31.6 -1.4
AVF Avril sur Loir 71.59 17 ⇑*i*P **P** **21 08 05.5 -0.4**
comp=Z,7.5nm,0.5s,mb4.5
AVF Avril sur Loir 71.59 17 ⇑*i*P **P** **21 08 05.5 -0.4**
AVF pmax pmax
comp=Z,4.0nm,0.5s,mb4.5
BGF Bois d'Agland 71.74 17 ⇑*i*P **P** **21 08 06.4 -0.4**
comp=Z,9.3nm,0.7s,mb4.4
BGF Bois d'Agland 71.74 17 ⇑*i*P **P** **21 08 06.4 -0.4**
BGF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
SMF Signal de Mont 71.80 17 ⇑*i*P **P** **21 08 06.7 -0.5**
comp=Z,6.0nm,0.7s,mb4.2
SMF Signal de Mont 71.80 17 ⇑*i*P **P** **21 08 06.7 -0.5**
SMF pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
TCF Toulx Ste Croi 71.91 18 ⇑*i*P **P** **21 08 07.3 -0.5**
comp=Z,4.6nm,0.8s,mb4.1
TCF Toulx Ste Croi 71.91 18 ⇑*i*P **P** **21 08 07.3 -0.5**
TCF pmax pmax
comp=Z,2.0nm,0.8s,mb4.0
CABF La Chapelle 72.14 15 ⇑*i*P **P** **21 08 09.4 +0.2**
comp=Z,7.3nm,0.7s,mb4.3
CABF La Chapelle 72.14 15 ⇑*i*P **P** **21 08 09.4 +0.2**
CABF pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
GYA Guiyang 72.42 292 ⇑*i*P **P** **21 08 10.6 -0.6**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
LFF La Frestale 72.99 19 *e*P **P** **21 08 14.1 +0.1**
comp=Z,9.7nm,0.8s,mb4.4
LFF La Frestale 72.99 19 *e*P **P** **21 08 14.1 +0.1**
LFF pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
CAF Calviac 73.21 18 *e*P **P** **21 08 15.3 0.0**
comp=Z,6.5nm,0.8s,mb4.2
CAF Calviac 73.21 18 *e*P **P** **21 08 15.3 0.0**
CAF pmax pmax
comp=Z,3.0nm,0.8s,mb4.2
LPL La Plagne 73.30 15 *e*P **P** **21 08 16.9 +1.1**
LPG La Plagne 73.32 15 *e*P **P** **21 08 17.2 +1.2**
VIVF Saint-Julien-l 73.67 17 *e*P **P** **21 08 18.3 +0.3**
comp=Z,6.0nm,0.6s,mb4.2
VIVF Saint-Julien-l 73.67 17 *e*P **P** **21 08 18.3 +0.3**
VIVF pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
ORIF Oris-en-Rattie 73.78 16 *e*P **P** **21 08 19.1 +0.5**
comp=Z,3.0nm,0.6s,mb3.9
ORIF *e*R
comp=Z,24nm,21.8s
MBDF Montbardon 74.08 15 ⇑*i*P **P** **21 08 21.7 +1.3**
comp=Z,7.3nm,0.7s,mb4.2
MBDF Montbardon 74.08 15 ⇑*i*P **P** **21 08 21.7 +1.3**
MBDF pmax pmax
comp=Z,4.0nm,0.7s,mb4.3
GOF Gofitskoye 74.29 348 ⇓*i*P **P** **21 08 22.0 +0.4**
GOF pmax pmax
comp=Z,15nm,1.0s,mb4.7
SMRF Simiane la Rot 74.66 16 *e*P **P** **21 08 24.8 +1.0**
ETSF Etsaut 74.75 21 *e*P **P** **21 08 25.0 +0.7**
comp=Z,14nm,1.0s,mb4.4
ETSF Etsaut 74.75 21 *e*P **P** **21 08 25.0 +0.7**
ETSF pmax pmax
comp=Z,7.0nm,1.0s,mb4.3
MTLF Montolieu 74.78 19 ⇑*i*P **P** **21 08 24.8 +0.3**
comp=Z,16nm,0.9s,mb4.4
MTLF Montolieu 74.78 19 ⇑*i*P **P** **21 08 24.8 +0.3**
MTLF pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
FRF La Foret Royal 75.21 15 *e*P **P** **21 08 27.1 +0.2**
comp=Z,13nm,0.8s,mb4.4
FRF La Foret Royal 75.21 15 *e*P **P** **21 08 27.1 +0.2**
FRF pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
LSA Lhasa 76.34 306 P **P** **21 08 35.6 +2.0**
LSA AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
PGF Pioggiola 76.51 14 *e*P **P** **21 08 34.5 +0.3**
ESDC Sonseca Array 77.21 24 P **P** **21 08 38.6 +0.3**
comp=Z,2.7nm,0.9s,mb4.0,baz=338,slow=4.9,SNR=11
ESDC pP pP 21 09 04.3 -1.9
comp=Z,1.4nm,0.9s,baz=338,slow=6.0,SNR=2.5
KKN Kakani 80.34 310 *e*P **P** **21 08 55.8 +0.3**
comp=Z,10nm,0.6s,mb4.8
KKN Kakani 80.34 310 *e*P **P** **21 08 55.8 +0.3**
KKN pmax pmax
comp=Z,5.0nm,0.6s,mb4.5
GKN Gorkha 80.39 311 *e*P **P** **21 08 56.1 +0.3**
comp=Z,9.7nm,0.5s,mb4.9
PKI Pulchoki 80.49 310 *e*P **P** **21 08 56.7 +0.4**
comp=Z,15nm,0.8s,mb4.8
PKI Pulchoki 80.49 310 *e*P **P** **21 08 56.7 +0.4**
PKI pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
DMN Daman 80.57 310 *e*P **P** **21 08 57.6 +0.9**
comp=Z,15nm,0.7s,mb4.9
KOLN Koldanda 80.99 312 *e*P **P** **21 08 59.2 +0.3**
comp=Z,16nm,0.5s,mb5.1
WRA Warramunga Arr 98.95 246 P **P** **21 10 25.3 +1.0**
comp=Z,0.2nm,0.5s,mb3.9,baz=34,slow=5.9,SNR=5.6
KMBO Kilima Mbogo 120.56 348 PKP PKPdf 21 15 35.1 +1.0
comp=Z,1.3nm,0.6s,baz=90,slow=1.0,SNR=7.1
TSUM Tsumeb 138.45 14 PKP PKPdf 21 16 08.8 +1.1
VNDA Vanda 140.30 194 PKhKP 21 16 05.0
comp=Z,0.7nm,0.7s,baz=89,slow=4.9,SNR=5.1
VNDA PKP PKPdf 21 16 12.5 +2.9
comp=Z,0.9nm,0.7s,baz=153,slow=2.3,SNR=5.6
VNDA Vanda 140.30 194 PKP PKPdf 21 16 05.0 -4.6
VNDA PKP PKPdf 21 16 12.5 +2.9
BOSA Boshof 148.37 3 PKPbc PKPdf 21 16 29.4 +4.8
comp=Z,21nm,0.5s,baz=354,slow=2.9,SNR=98
QSPA South Pole Qui 150.02 180 *e*P PKPdf 21 16 24.7 -1.0
QSPA *e*PKPbc PKPdf 21 16 32.1 +6.4
MIR Mirnyy 151.16 229 *d*iPKIKP PKPdf 21 16 35.4 +7.7
MIR pmax pmax
comp=Z,57nm,1.0s
SUR Sutherland 151.83 12 PKPbc PKPdf 21 16 37.9 +8.2
comp=Z,5.1nm,0.5s,baz=147,slow=6.2,SNR=8.8
VNA3 Neumayer Olymp 161.63 142 P PKPab 21 17 28.2 -0.6
VNA3 Neumayer Olymp 161.63 142 21 17 58.2
VNA3 Neumayer Olymp 161.63 142 21 18 08.9
VNA1 Neumayer--Stat 162.25 141 P PKPab 21 17 31.3 -0.2
VNA2 Neumayer--Watz 162.44 142 P PKPab 21 17 31.8 -0.5
VNA2 Neumayer--Watz 162.44 142 21 18 01.3
SNAA Sanae 163.47 146 21 18 08.4

NEIC ***15*** *21:02:34.3±1.1,51.12N×179.55E,h54km±6km,mb4.4/5,*

ML4.1(AEIC), Error ellipse: s-maj=26.6km s-min=5.0km az=185.0
*IDC **15** 21:02:38.3±3.8, 51.67N×179.43E, h65km±33km, mb3.6/11, mb1 3.8/11, mb1mx3.6/23, mbtmp3.9/11, ML4.0/1, Error ellipse: s-maj=33.7km s-min=16.0km az=175.0*
ISC 15 21:02:35.2±1.1,**51.6N**±0.2×**179.60E**±0.09,**h56**km±9km, **n24**,σ0§90/25,**mb4.1**/15,**Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIMD	**Kanaga Island**	**1.98**	**85**	P	**P**	**21 03 07.2**	**+0.2**
GSMY	**Great Sitkin M**	**2.73**	**80**	P	**P**	**21 03 17.4**	**-0.2**
SMY	**Shemya**	**3.56**	**290**	P	**P**	**21 03 30.1**	**+0.8**
ATKA	**Atka Island**	**3.88**	**79**	P	**P**	**21 03 33.4**	**-0.6**
FX1	**Attu Island--F**	**4.15**	**290**	P	**P**	**21 03 37.2**	**-0.3**
	31nm,0.3s,baz=202,slow=5.2,SNR=64						
FX1				S	**S**	**21 04 31.2**	**+6.0**
	9.7nm,0.3s,baz=39,slow=22,SNR=2.8						
FX1	**Attu Island--F**	**4.15**	**290**	P	**P**	**21 03 37.2**	**-0.4**
ILAR	**Eielson Array**	**21.68**	**40**	P	**P**	**21 07 25.4**	**+2.9**
	0.5nm,0.5s,mb3.2,baz=236,slow=7.3,SNR=3.2						
ASAJ	**Asahikawa**	**25.71**	**268**	P	**P**	**21 08 01.8**	**+0.2**
	4.8nm,0.6s,mb4.2,baz=99,slow=6.0,SNR=4.8						
YKA	**Yellowknife Ar**	**35.78**	**46**	P	**P**	**21 09 30.8**	**+0.5**
	0.5nm,0.4s,mb3.8,baz=279,slow=9.9,SNR=3.3						
HLID	**Hailey**	**43.83**	**74**	P	**P**	**21 10 37.0**	**0.0**
	5.1nm,0.9s,mb4.2						
ELK	**Elko**	**44.98**	**77**	P	**P**	**21 10 45.2**	**-1.1**
SONM	**Songino Array**	**45.63**	**296**	P	**P**	**21 10 50.9**	**-0.4**
	0.8nm,0.7s,mb3.8,baz=68,slow=8.8,SNR=4.9						
BW06	**Boulder Array**	**47.18**	**72**	*eP*	**P**	**21 11 03.3**	**-0.3**
	1.8nm,0.6s,mb4.2						
PDAR	**Pinedale Array**	**47.18**	**72**	P	**P**	**21 11 03.4**	**-0.3**
	2.9nm,0.7s,mb4.3,baz=307,slow=4.3,SNR=18						
SDCO	**Great Sand Dun**	**52.74**	**74**	P	**P**	**21 11 45.1**	**-1.1**
KURK	**Kurchatov**	**58.12**	**313**	*eP*	**P**	**21 12 23.9**	**-0.9**
	3.3nm,0.6s,mb4.5						
MKAR	**Makanchi Array**	**59.09**	**307**	P	**P**	**21 12 29.8**	**-1.7**
	1.2nm,0.5s,mb4.2,baz=49,slow=6.6,SNR=19						
TXAR	**Lajitas Array**	**59.60**	**80**	P	**P**	**21 12 37.4**	**+2.0**
	0.2nm,0.4s,mb3.5,baz=5.0,slow=29,SNR=4.7						
BVAR	**Borovoye Array**	**60.04**	**319**	P	**P**	**21 12 38.0**	**-0.1**
	5.3nm,0.7s,mb4.7,baz=55,slow=6.7,SNR=31						
BRVK	**Borovoye**	**60.06**	**319**	*eP*	**P**	**21 12 38.1**	**-0.1**
	3.1nm,0.8s,mb4.4						
NB2	**NORSAR Subarra**	**67.29**	**354**	P	**P**	**21 13 25.5**	**+0.2**
	5.0nm,1.0s,mb4.5,baz=7.0,slow=6.2						
NOA	**NORSAR Array B**	**67.29**	**354**	P	**P**	**21 13 25.4**	**+0.2**
	1.9nm,0.8s,mb4.2,baz=7.2,slow=6.2,SNR=5.9						
WRA	**Warramunga Arr**	**81.52**	**223**	P	**P**	**21 14 48.8**	**+0.8**
	0.3nm,0.7s,mb3.3,baz=31,slow=6.1,SNR=3.0						
BRTR	**Keskin Array B**	**84.29**	**334**	P	**P**	**21 15 02.8**	**+1.2**
	1.1nm,0.6s,mb4.1,baz=42,slow=2.7,SNR=6.4						

*MOS **15** 21:03:57.8±1.3, 51.17N×179.49E, h33km, mb5.0/12, Error ellipse: s-maj=12.5km s-min=9.0km az=93.2*
*BJI **15** 21:03:59.3, 51.81N×179.21E, h29km, mB5.0, mb4.7, Ms4.3, Ms24.1*
*NEIC **15** 21:04:01.5±0.7, 51.14N×179.45E, h50km±5km, mb4.6/17, ML4.0(AEIC), Error ellipse: s-maj=10.7km s-min=4.3km az=180.0*
*IDC **15** 21:04:03.1±3.4, 51.21N×179.49E, h64km±30km, mb3.9/18, mb1 4.1/18, mb1mx4.0/25, mbtmp4.2/18, ML4.3/1, MS3.8/6, Ms1 3.8/6, ms1mx3.5/20, Error ellipse: s-maj=25.1km s-min=12.8km az=170.0*
ISC 15 21:03:59.2±0.4,**51.10N**±0.08×**179.48E**±0.05,**h42**km, **h42**km±3.0km:**pP-P**,**n91**,σ1§09/90,**mb4.5**/41,**MS4.0**/14,**1D**, **Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIMD	**Kanaga Island**	**2.16**	**71**	P	**P**	**21 04 34.7**	**+1.2**
KIMD				S	**S**	**21 05 04.0**	**+4.7**
ADAG	**Mount Adagdak**	**2.60**	**69**	P	**P**	**21 04 41.3**	**+1.5**
GSTD	**Great Sitkin T**	**2.90**	**69**	P	**P**	**21 04 44.6**	**+0.6**
GSTR	**Great Sitkin T**	**2.96**	**69**	*eP*	**P**	**21 04 45.7**	**+0.9**
SMY	**Shemya**	**3.71**	**298**	P	**P**	**21 04 56.4**	**+0.9**
ATKA	**Atka Island**	**4.09**	**72**	P	**P**	**21 05 01.1**	**+0.2**
FX1	**Attu Island--F**	**4.29**	**297**	P	**P**	**21 05 06.0**	**+2.3**
	57nm,0.3s,baz=206,slow=21,SNR=9.7						
FX1				S	**S**	**21 05 57.8**	**+4.6**
	25nm,0.3s,baz=53,slow=23,SNR=3.3						
FX1	**Attu Island--F**	**4.29**	**297**	P	**P**	**21 05 06.0**	**+2.3**
FX1				S	**S**	**21 05 57.8**	**+4.6**
FX1				pmax	pmax		
	comp=Z,57nm,0.3s						
RSO	**Redoubt South**	**18.08**	**48**	P	**P**	**21 08 09.8**	**+1.2**
BILL	**Bilibino**	**18.18**	**344**	*eP*	**P**	**21 08 08.8**	**-1.0**
BILL				*eS*	**S**	**21 11 31.5**	**+3.4**
BILL				pmax	pmax		
	comp=Z,8.0nm,1.1s						
BILL				MLR	MLR		
	comp=Z,300nm,17.0s						
SPU	**Mount Spurr**	**18.64**	**46**	*eP*	**P**	**21 08 16.8**	**+1.3**
SLKM	**Skilak Lake**	**19.29**	**49**	P	**P**	**21 08 22.5**	**-0.4**
IMA	**Indian Mountai**	**20.26**	**32**	*eP*	**P**	**21 08 32.8**	**-0.6**
	comp=Z,38nm,0.8s						
IMA	**Indian Mountai**	**20.26**	**32**	*eP*	**P**	**21 08 32.8**	**-0.5**
IMA				pmax	pmax		
	comp=Z,38nm,0.8s						
SML	**Sawmill**	**20.53**	**46**	*eP*	**P**	**21 08 32.1**	**-4.2**
MCK	**McKinley**	**20.92**	**41**	*eP*	**P**	**21 08 40.8**	**+0.6**
	comp=Z,2.0nm,0.6s						
MCK	**McKinley**	**20.92**	**41**	*eP*	**P**	**21 08 40.8**	**+0.6**
MCK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ILAR	**Eielson Array**	**22.14**	**39**	P	**P**	**21 08 51.9**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=241,slow=9.9,SNR=4.4						
YSS	**Yuzh-Sakhalins**	**24.26**	**275**	*eP*	**P**	**21 09 15.0**	**+1.9**
YSS				*e*		21 09 25.2	
ASAJ	**Asahikawa**	**25.62**	**269**	P	**P**	**21 09 26.7**	**+0.6**
	comp=Z,28nm,0.9s,mb4.8,baz=53,slow=9.6,SNR=11						
ASAJ				LR	LR	21 19 35.7	
	comp=Z,110nm,18.9s,MS3.4,baz=2.3,slow=36						
ASAJ	**Asahikawa**	**25.62**	**269**	P	**P**	**21 09 26.7**	**+0.6**
ASAJ				pmax	pmax		
	comp=Z,28nm,0.9s						
ASAJ				MLR	MLR		
	comp=Z,110nm,18.9s						
INK	**Inuvik**	**28.31**	**35**	P	**P**	**21 09 49.5**	**-0.9**
	comp=Z,0.9nm,0.3s,mb3.8,baz=252,slow=4.4,SNR=4.6						
INK				LR	LR	21 23 02.1	
	comp=Z,140nm,19.4s,MS3.6,baz=92,slow=40						
KLR	**Kul'dur**	**30.21**	**285**	*eP*	**P**	**21 10 04.2**	**-3.4**
MJAR	**Matsushiro Arr**	**32.67**	**260**	P	**P**	**21 10 28.4**	**-0.9**
	comp=Z,1.5nm,0.9s,mb3.9,baz=36,slow=29,SNR=4.7						
MJAR				LR	LR	21 21 30.8	
	comp=Z,109nm,21.1s,MS3.5,baz=65,slow=32						
YKA	**Yellowknife Ar**	**36.21**	**46**	P	**P**	**21 10 57.8**	**-1.6**
	comp=Z,1.5nm,0.5s,mb4.2,baz=280,slow=9.7,SNR=7.3						
YKA				LR	LR	21 27 24.1	
	comp=Z,439nm,18.4s,MS4.3,baz=285,slow=39						
YKA	**Yellowknife Ar**	**36.21**	**46**	P	**P**	**21 10 57.8**	**-1.6**
YKA				LR	LR	21 27 24.1	
CN2	**Changchun**	**36.53**	**280**	*eP*	**P**	**21 11 02.9**	**+0.6**
CBIJ	**Chichi jima**	**36.98**	**244**	LR	LR	21 22 29.0	
	comp=Z,75nm,21.1s,MS3.5,baz=119,slow=30						
BOD	**Bodaibo**	**37.27**	**306**	*eP*	**P**	**21 11 05.2**	**-3.2**
BOD				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.7						
NEW	**Newport**	**39.99**	**68**	P	**P**	**21 11 31.0**	**-0.2**
	comp=Z,2.8nm,0.4s,mb4.3,baz=323,slow=10,SNR=4.2						
HLID	**Hailey**	**44.06**	**73**	*eP*	**P**	**21 12 05.0**	**+0.6**
	comp=Z,5.1nm,0.9s,mb4.2						
BOZ	**Bozeman (W)**	**44.57**	**69**	*eP*	**P**	**21 12 08.2**	**-0.3**
	comp=Z,12nm,1.3s,mb4.6						
BOZ	**Bozeman (W)**	**44.57**	**69**	*eP*	**P**	**21 12 08.2**	**-0.2**
BOZ				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.6						
ELK	**Elko**	**45.17**	**77**	*eP*	**P**	**21 12 13.9**	**+0.5**
	comp=Z,1.8nm,0.8s,mb4.0						
ELK	**Elko**	**45.17**	**77**	*eP*	**P**	**21 12 13.9**	**+0.5**
ELK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SONM	**Songino Array**	**45.80**	**296**	P	**P**	**21 12 18.4**	**+0.1**
	comp=Z,2.2nm,0.8s,mb4.1,baz=60,slow=8.1,SNR=14						
RRI2	**Red Ridge**	**46.04**	**71**	*eP*	**P**	**21 12 20.7**	**+0.5**
	comp=Z,3.6nm,0.6s,mb4.5						
ZAK	**Zakamensk**	**46.17**	**300**	*eP*	**P**	**21 12 21.8**	**+0.7**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.1						
HHC	**Hu-ho-hao-te**	**46.72**	**285**	*eP*	**P**	**21 12 26.6**	**+1.0**
HHC				AP	pP	21 12 38.1	+0.8
HHC				XP	sP	21 12 43.5	+1.2
HHC				PP	PP	21 14 15.8	+0.4
HHC				PCS		21 17 54.5	
HHC				S	**S**	**21 19 11.8**	**+0.3**
HHC				XS		21 19 31.8	
HHC				SCS	ScS	21 22 15.3	+1.2
HHC				SS	SS	21 22 30.3	-0.4
HHC				AMB	AMB		
	comp=Z,58nm,1.3s,mb5.3						
HHC				AMB	AMB		
	comp=Z,376nm,4.4s						
HHC				LR	LR		
	comp=N,269nm,18.4s,MS4.5						
HHC				LR	LR		
	comp=E,471nm,17.8s,MS4.5						
HHC				LR	LR		
	comp=Z,538nm,18.4s,MS4.5						
SSE	**Sheshan**	**46.91**	**268**	P	**P**	**21 12 26.8**	**-0.4**
SSE				AMB	AMB		
	comp=Z,25nm,0.8s,mb5.2						
SSE				AMB	AMB		
	comp=Z,32nm,4.6s						
BW06	**Boulder Array**	**47.43**	**71**	*eP*	**P**	**21 12 30.9**	**-0.2**
	comp=Z,4.6nm,0.6s,mb4.6						
PDAR	**Pinedale Array**	**47.43**	**71**	P	**P**	**21 12 31.1**	**-0.1**
	comp=Z,5.2nm,0.6s,mb4.7,baz=270,slow=3.0,SNR=12						
NJ2	**Nanjing**	**47.73**	**271**	*eP*	**P**	**21 12 35.0**	**+1.3**
NJ2				AP	pP	21 12 47.4	+2.0
NJ2				PP	PP	21 14 26.1	+1.2
NJ2				S	**S**	**21 19 27.0**	**+1.0**
NJ2				XS		21 19 48.0	
NJ2				AMB	AMB		
	comp=Z,110nm,1.0s						
NJ2				AMB	AMB		
	comp=Z,150nm,3.6s						
NJ2				LR	LR		
	comp=N,390nm,22.5s,MS4.4						
NJ2				LR	LR		
	comp=E,170nm,18.9s,MS4.4						
NJ2				LR	LR		
	comp=Z,100nm,15.6s,MS3.9						
BTO	**Baotou**	**47.80**	**286**	*eP*	**P**	**21 12 34.3**	**+0.2**
PV01	**Paradox Valley**	**50.85**	**75**	*eP*	**P**	**21 12 57.6**	**0.0**
SDCO	**Great Sand Dun**	**52.96**	**74**	P	**P**	**21 13 13.8**	**+0.3**
ZAL	**Zalesovo**	**53.45**	**313**	P	**P**	**21 13 14.9**	**-1.9**
	comp=Z,0.9nm,0.3s,mb4.2,baz=56,slow=9.5,SNR=4.2						
NVS	**Novosibirsk**	**53.60**	**314**	*i* P	**P**	**21 13 15.6**	**-2.3**
LZH	**Lanzhou**	**54.42**	**285**	*eP*	**P**	**21 13 24.5**	**+0.3**
LZH				AP	pP	21 13 37.3	+1.2
LZH				XP	sP	21 13 41.5	+0.5
LZH				AMB	AMB		
	comp=Z,25nm,1.0s,mb5.1						
LZH				AMB	AMB		
	comp=Z,125nm,4.0s						
GTA	**Gaotai**	**54.66**	**291**	*eP*	**P**	**21 13 25.8**	**-0.1**
GTA				AP	pP	21 13 34.5	-3.3
GTA				XP	sP	21 13 39.3	-3.4
GTA				PP	PP	21 15 28.8	-1.2
GTA				PPP	PPP	21 16 42.5	+0.3
GTA				S	**S**	**21 21 01.4**	**+0.2**
GTA				XS		21 21 18.1	
GTA				SS	SS	21 24 43.8	-0.2
GTA				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.5						
GTA				AMB	AMB		
	comp=Z,90nm,5.3s						
GTA				LR	LR		
	comp=N,96nm,17.1s,MS4.2						
GTA				LR	LR		
	comp=E,147nm,13.7s,MS4.2						
GTA				LR	LR		
	comp=Z,195nm,18.6s,MS4.2						
MNTX	**Cornudas Mount**	**57.07**	**79**	*eP*	**P**	**21 13 42.8**	**-0.5**
	comp=Z,1.3nm,0.8s,mb4.0						
ARCES	**ARCESS Array B**	**58.18**	**350**	P	**P**	**21 13 48.1**	**-2.5**
	comp=Z,1.4nm,0.7s,mb4.1,baz=18,slow=7.7,SNR=5.9						
KURK	**Kurchatov**	**58.42**	**313**	*eP*	**P**	**21 13 51.2**	**-1.4**
	comp=Z,8.0nm,0.6s,mb4.9						
KURK	**Kurchatov**	**58.42**	**313**	*eP*	**P**	**21 13 51.2**	**-1.4**
KURK				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.9						
WMQ	**Urumqi**	**58.58**	**302**	*eP*	**P**	**21 13 55.0**	**+1.3**
WMQ				PP	PP	21 16 07.0	+1.8
WMQ				S	**S**	**21 21 55.0**	**+2.1**
WMQ				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.8						
WMQ				LR	LR		
	comp=N,201nm,20.0s,MS4.4						
WMQ				LR	LR		
	comp=E,185nm,20.0s,MS4.4						
WMQ				LR	LR		
	comp=Z,194nm,20.0s,MS4.2						
WMOK	**Wichita Mounta**	**59.01**	**72**	*eP*	**P**	**21 13 56.1**	**-0.8**
	comp=Z,1.4nm,0.6s,mb4.2						
WMOK				*e*pP	pP	21 14 09.3	+0.4
WMOK	**Wichita Mounta**	**59.01**	**72**	*eP*	**P**	**21 13 56.1**	**-0.8**
WMOK				*e**PP	pP	21 14 09.3	+0.4
WMOK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
MKAR	**Makanchi Array**	**59.35**	**308**	P	**P**	**21 13 57.6**	**-1.5**
	comp=Z,1.7nm,0.4s,mb4.4,baz=46,slow=6.9,SNR=16						
TXAR	**Lajitas Array**	**59.77**	**80**	P	**P**	**21 14 01.7**	**-0.5**
	comp=Z,0.6nm,0.4s,mb4.0,baz=304,slow=6.6,SNR=6.4						
TXAR	**Lajitas Array**	**59.77**	**80**	P	**P**	**21 14 01.7**	**-0.5**
BVAR	**Borovoye Array**	**60.40**	**319**	P	**P**	**21 14 05.7**	**-0.5**
	comp=Z,12nm,0.7s,mb5.0,baz=53,slow=7.4,SNR=40						
ARU	**Arti**	**62.26**	**327**	*eP*	**P**	**21 14 17.6**	**-1.0**
	comp=Z,18nm,1.3s,mb5.0						
ARU				*e*PcP	PcP	21 14 56.9	-1.1
ARU	**Arti**	**62.26**	**327**	*i* P	**P**	**21 14 17.8**	**-0.9**
ARU				*e*		21 14 57.0	
ARU				*e*		21 16 34.4	
ARU				*e*PPP	PPP	21 18 01.1	-6.5
ARU				*e*S	**S**	**21 22 43.9**	**+4.0**
ARU				*e*SS	SS	21 26 49.1	+3.7
ARU				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.9						
ARU				MLR	MLR		
	comp=N,100nm,20.0s,MS4.1						
ARU				MLR	MLR		
	comp=Z,100nm,20.0s,MS4.0						
ARU				MLR	MLR		
	comp=E,100nm,19.0s,MS4.1						
KMI	**Kunming**	**62.69**	**277**	P	**P**	**21 14 23.9**	**+2.0**
KMI				AP	pP	21 14 36.0	+1.9
KMI				PP	PP	21 16 41.9	+0.1
KMI				S	**S**	**21 22 44.1**	**-1.6**
KMI				PS	PS	21 23 13.4	+4.3
KMI				SS	SS	21 26 50.3	-2.3
KMI				AMB	AMB		
	comp=Z,4.0nm,1.6s,mb4.3						
KMI				AMB	AMB		
	comp=Z,84nm,4.2s						
KMI				LR	LR		
	comp=N,84nm,16.3s,MS4.1						
KMI				LR	LR		
	comp=E,86nm,17.5s,MS4.1						
KMI				LR	LR		
	comp=Z,88nm,22.1s,MS3.9						
FINES	**FINESS Array B**	**65.81**	**346**	P	**P**	**21 14 39.2**	**-2.3**
	comp=Z,0.4nm,0.4s,mb3.8,baz=25,slow=6.7,SNR=6.2						
AAK	**Ala-Archa**	**66.20**	**309**	*eP*	**P**	**21 14 43.4**	**-1.0**
	comp=Z,5.0nm,0.8s,mb4.6						
AAK	**Ala-Archa**	**66.20**	**309**	*eP*	**P**	**21 14 43.4**	**-1.0**
AAK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
NB2	**NORSAR Subarra**	**67.82**	**354**	P	**P**	**21 14 53.0**	**-1.2**
	comp=Z,10.0nm,1.0s,mb4.8,baz=7.0,slow=6.2						
NB2	**NORSAR Subarra**	**67.82**	**354**	P	**P**	**21 14 53.0**	**-1.2**
NB2				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
NOA	**NORSAR Array B**	**67.82**	**354**	P	**P**	**21 14 53.0**	**-1.2**
	comp=Z,4.0nm,0.8s,mb4.5,baz=8.0,slow=6.4,SNR=10.0						
OBN	**Obninsk**	**69.74**	**338**	*i* P	**P**	**21 15 05.4**	**-0.8**
OBN				*e*		21 15 25.8	
OBN				*e*SS	SS	21 28 38.6	-2.5
OBN				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
OBN				MLR	MLR		
	comp=Z,100nm,15.0s,MS4.2						
KKN	**Kakani**	**71.39**	**291**	*eP*	**P**	**21 15 17.2**	**+0.5**
	comp=Z,24nm,0.9s,mb5.1						
KKN	**Kakani**	**71.39**	**291**	*eP*	**P**	**21 15 17.2**	**+0.5**
KKN				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
PKI	**Pulchoki**	**71.48**	**291**	*eP*	**P**	**21 15 17.4**	**+0.2**
	comp=Z,37nm,1.2s,mb5.2						
PKI	**Pulchoki**	**71.48**	**291**	*eP*	**P**	**21 15 17.4**	**+0.2**
PKI				pmax	pmax		
	comp=Z,19nm,1.2s,mb4.9						
GKN	**Gorkha**	**71.61**	**292**	*eP*	**P**	**21 15 18.3**	**+0.3**
	comp=Z,14nm,0.7s,mb5.0						
DMN	**Daman**	**71.63**	**291**	*eP*	**P**	**21 15 18.9**	**+0.8**
	comp=Z,60nm,1.5s,mb5.3						
AKASG	**Malin Array Be**	**75.47**	**341**	P	**P**	**21 15 39.0**	**-1.0**
	comp=Z,0.6nm,0.3s,mb4.0,baz=24,slow=5.7,SNR=5.8						
LVV	**L'vov**	**77.30**	**344**	*eP*	pP	21 16 04.3	+1.5
LVV				MLR	MLR		
	comp=N,50nm,18.0s,MS4.2						
LVV				MLR	MLR		
	comp=E,80nm,18.0s,MS4.2						
LVV				MLR	MLR		
	comp=Z,50nm,18.0s,MS3.9						
DPC	**Dobruska-Polom**	**77.92**	**349**	AMS	AMS	21 53 20.0	
	comp=Z,100nm,21.9s						
PVCC	**Panska Ves**	**77.94**	**350**	AMS	AMS	21 55 00.0	
	comp=Z,100nm,16.5s						
KIV	**Kislovodsk**	**78.17**	**330**	*i* P	**P**	**21 15 55.8**	**+0.5**
KIV				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.3						
OKC	**Ostrava-Krasne**	**78.19**	**348**	AMS	AMS	21 55 10.0	
	comp=Z,100nm,22.0s						
NKC	**Novy Kostel**	**78.44**	**352**	AMS	AMS	21 56 30.0	
	comp=Z,100nm,19.0s						
PRU	**Pruhonice**	**78.47**	**350**	AMS	AMS	21 53 50.0	
	comp=Z,100nm,17.8s						
KHC	**Kasperske Hory**	**79.42**	**351**	AMS	AMS	21 54 00.0	
	comp=Z,100nm,22.1s						
GERES	**GERESS Array B**	**79.69**	**351**	LR	LR	21 55 01.6	
	comp=Z,84nm,21.2s,MS4.0,baz=348,slow=38						
WRA	**Warramunga Arr**	**81.07**	**222**	P	**P**	**21 16 10.2**	**-1.1**
	comp=Z,0.9nm,1.0s,mb3.6,baz=31,slow=5.8,SNR=4.6						
BRTR	**Keskin Array B**	**84.74**	**334**	P	**P**	**21 16 30.4**	**+0.7**
	comp=Z,1.6nm,0.7s,mb4.2,baz=71,slow=2.6,SNR=8.1						
TSUM	**Tsumeb**	**145.10**	**329**	PKPbc	PKPbc	21 23 33.2	+0.9
	comp=Z,7.2nm,1.0s,baz=100,slow=1.6,SNR=4.5						
BOSA	**Boshof**	**150.34**	**309**	PKPbc	PKPdf	21 23 47.4	+7.0
	comp=Z,3.4nm,0.7s,baz=203,slow=20,SNR=5.6						

*ISK **15** 21:04:50.0, 39.39N×33.13E, h5km, MD3.5*
*CSEM **15** 21:04:50.0±0.2, 39.39N×33.13E, h5km, MD3.5, Error ellipse: s-maj=4.5km s-min=2.8km az=25.0, After ISK*
ISC 15 21:04:50.9±0.4,**39.36N**±0.03×**33.13E**±0.03,**h5**km,**n25**, σ1§19/35,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAMT	**Kaman**	**0.46**	**89**	*i* PG	**Pg**	**21 04 59.8**	**-0.3**
ANTO	**Ankara**	**0.57**	**333**	*i* PG	**Pg**	**21 05 01.5**	**-0.8**
ANTO				*i* SG	**Sg**	**21 05 10.1**	**+0.2**
LOD	**Lodumlu**	**0.60**	**332**	*i* PG	**Pg**	**21 05 02.5**	**-0.4**
CDAG	**Cicekdag**	**1.00**	**74**	*i* P	**Pb**	**21 05 07.8**	**-2.6**
CDAG				*i* S	**Sb**	**21 05 21.4**	**-2.2**
KIZT	**Kizilcal**	**1.08**	**244**	*i* PN	**Pn**	**21 05 11.4**	**-1.2**
KIZT				*i* SN	**Sn**	**21 05 28.4**	**+0.3**
KDHN	**Kadinhani**	**1.15**	**224**	*i* P	**Pb**	**21 05 11.2**	**-1.7**
KDHN				*i* S	**Sb**	**21 05 27.8**	**-0.2**
ELDT	**Eldivan**	**1.15**	**12**	*i* P	**Pb**	**21 05 11.4**	**-1.5**
ELDT				*i* S	**Sb**	**21 05 28.0**	**-0.1**
CANT	**Cankiri**	**1.30**	**17**	*i* PN	**Pn**	**21 05 15.5**	**-0.3**
CORM	**Corum**	**1.42**	**54**	*i* PN	**Pn**	**21 05 17.3**	**-0.2**
SGKT	**Sivrigoynuk**	**1.46**	**326**	*i* P	**Pn**	**21 05 17.7**	**-0.5**
AVNT	**Avonos**	**1.47**	**113**	*i* P	**Pn**	**21 05 18.0**	**-0.1**
AVNT				*i* S	**Sb**	**21 05 39.6**	**+2.4**
NIG	**Nigde**	**1.71**	**137**	PN	**Pn**	**21 05 23.0**	**+1.4**
YOZ	**Yozgat**	**1.72**	**80**	PN	**Pn**	**21 05 22.3**	**+0.5**
ESKT	**Eskisehir**	**1.77**	**276**	PN	**Pn**	**21 05 23.6**	**+1.1**
ESKT	**Eskisehir**	**1.77**	**276**	*i* P	**Pn**	**21 05 22.3**	**-0.2**
ESKT				*i* S	**Sn**	**21 05 47.3**	**+1.7**
CTKT	**Corum**	**1.80**	**45**	*i* P	**Pn**	**21 05 22.8**	**-0.1**
CTKT				*i* S	**Sn**	**21 05 49.8**	**+3.5**
TOS	**Tosya**	**1.81**	**22**	PN	**Pn**	**21 05 23.0**	**-0.1**
SAFT	**Safranbolu**	**1.91**	**350**	PN	**Pn**	**21 05 25.1**	**+0.6**
BNN	**Bunyan**	**2.18**	**103**	PN	**Pn**	**21 05 29.1**	**+0.8**
BALT	**Daday**	**2.18**	**5**	*i* P	**Pn**	**21 05 30.2**	**+1.8**
BALT				*i* S	**Sn**	**21 05 57.0**	**+1.0**
HENT	**Hendek**	**2.25**	**311**	*i* P	**Pn**	**21 05 32.0**	**+2.7**
BYBT	**Boyabat**	**2.45**	**30**	PN	**Pn**	**21 05 31.8**	**-0.4**
BOYT	**Boyabat**	**2.46**	**33**	*i* P	**Pn**	**21 05 30.6**	**-1.8**
BOYT				*i* S	**Sn**	**21 06 07.3**	**+4.0**
TKTP	**Tekketepe**	**2.56**	**240**	*i* P	**Pn**	**21 05 32.8**	**-1.0**
SVSK	**Karacayir**	**3.04**	**78**	PN	**Pn**	**21 05 41.4**	**+0.7**

*NEIC **15** 21:19:40.7±5.9, 19.37N×145.55E, h205km±59km, mb3.9/1, Error ellipse: s-maj=38.8km s-min=14.7km az=90.0*
*IDC **15** 21:19:43.0±7.0, 19.37N×145.54E, h229km±69km, mb3.1/5, mb1 3.3/6, mb1mx3.2/19, mbtmp3.7/6, Error ellipse: s-maj=37.7km s-min=17.8km az=89.0*
ISC 15 21:19:38.4±1.1,**19

SML	Sawmill	28.93	74	eP	P	21 30 33.0 +0.3
DAWY	Dawson	29.25	64	eP	P	21 30 36.4 +0.7
ARCES	ARCESS Array B	29.28	317	P	P	21 30 36.0 +0.1
	comp=Z,1.8nm,0.8s,mb3.8,baz=32,slow=11,SNR=3.8					
SONM	Songino Array	29.36	220	P	P	21 30 37.3 +0.6
	comp=Z,0.9nm,0.7s,mb3.6,baz=7.4,slow=10,SNR=9.4					
ASAJ	Asahikawa	30.82	168	LR	LR	21 45 10.2
	comp=Z,134nm,18.4s,MS3.6,baz=182,slow=40					
KURK	Kurchatov	32.83	255	eP	P	21 31 09.8 +2.5
	comp=Z,2.4nm,0.8s,mb4.2					
KURK	Kurchatov	32.83	255	eP	P	21 31 09.8 +2.5
KURK				pmax	pmax	
	comp=Z,2.0nm,0.8s,mb4.1					
BVAR	Borovoye Array	32.90	265	P	P	21 31 07.1 -0.8
	comp=Z,0.2nm,0.3s,mb3.5,baz=32,slow=7.5,SNR=3.2					
MKAR	Makanchi Array	35.52	248	P	P	21 31 29.6 -1.0
	comp=Z,0.6nm,0.5s,mb3.8,baz=43,slow=6.9,SNR=8.7					
YKA	Yellowknife Ar	36.07	47	P	P	21 31 33.2 -1.9
	comp=Z,0.3nm,0.2s,mb3.8,baz=338,slow=9.3,SNR=3.1					
DLBC	Dease Lake	36.39	62	P	P	21 31 39.3 +1.6
	comp=Z,3.0nm,0.7s,mb4.3,baz=301,slow=14,SNR=7.5					
AAK	Ala-Archa	41.39	254	eP	P	21 32 18.9 -0.6
	comp=Z,3.8nm,0.6s,mb4.2					
AAK	Ala-Archa	41.39	254	eP	P	21 32 18.9 -0.6
AAK				pmax	pmax	
	comp=Z,4.0nm,0.6s,mb4.2					
EDM	Edmonton	44.91	52	eP	P	21 32 47.9 -0.1
AKASG	Malin Array Be	45.55	301	P	P	21 32 52.6 -0.4
	comp=Z,2.8nm,0.5s,mb4.4,baz=23,slow=8.8,SNR=15					
KIV	Kislovodsk	48.55	286	eP	P	21 33 21.5 +4.8
	comp=Z,5.1nm,0.6s,mb4.7					
WALA	Waterton Lakes	48.72	54	eP	P	21 33 18.7 +0.8
	comp=Z,8.9nm,0.7s,mb4.9					
NEW	Newport	48.76	57	LR	LR	21 53 14.3
	comp=Z,38nm,20.7s,MS3.4,baz=138,slow=35					
LSA	Lhasa	49.80	231	eP	P	21 33 29.1 +2.5
	comp=Z,4.9nm,0.6s,mb4.7					
LSA	Lhasa	49.80	231	eP	P	21 33 29.1 +2.5
LSA				pmax	pmax	
	comp=Z,5.0nm,0.6s,mb4.7					
SCHQ	Schefferville	50.10	16	P	P	21 33 26.1 -2.3
	comp=Z,2.6nm,0.9s,mb4.3,baz=353,slow=10,SNR=4.1					
BOZ	Bozeman (W)	52.45	54	eP	P	21 33 47.3 +0.9
	comp=Z,3.3nm,0.7s,mb4.4					
MCMT	McKenzie Canyo	52.96	55	eP	P	21 33 51.5 +1.2
IMW	Indian Meadow	54.26	54	eP	P	21 33 57.1 -2.6
	comp=Z,6.6nm,0.8s,mb4.6					
RRI2	Red Ridge	54.70	54	P	P	21 34 04.0 +0.9
	comp=Z,2.9nm,0.7s,mb4.4					
PDAR	Pinedale Array	55.64	53	P	P	21 34 09.7 -0.2
	comp=Z,1.5nm,0.6s,mb4.2,baz=18,slow=4.1,SNR=8.0					
DUG	Dugway	57.39	57	eP	P	21 34 23.1 +0.7
	comp=Z,3.2nm,0.8s,mb4.4					
MSU	Marysvale	59.14	57	eP	P	21 34 35.4 +0.8
CCM	Cathedral Cave	63.70	39	eP	P	21 35 03.1 -2.2
	comp=Z,3.9nm,0.6s,mb4.6					
CCM	Cathedral Cave	63.70	39	eP	P	21 35 03.1 -2.2
CCM				pmax	pmax	
	comp=Z,4.0nm,0.6s,mb4.6					
TXAR	Lajitas Array	69.82	52	P	P	21 35 43.3 -0.9
	comp=Z,1.9nm,0.7s,mb4.2,baz=357,slow=3.7,SNR=24					
WRA	Warramunga Arr	94.32	180	P	P	21 37 51.5 -0.9
	comp=Z,1.4nm,0.7s,mb4.5,baz=357,slow=5.2,SNR=16					
MAW	Mawson	148.98	225	PKPbc	PKPdf	21 44 19.3 +2.3
	comp=Z,1.5nm,0.5s,baz=359,slow=3.0,SNR=4.2					
VNDA	Vanda	152.77	167	PKPbc	PKPdf	21 44 28.5 +6.0
	comp=Z,0.9nm,0.9s,baz=316,slow=4.7,SNR=3.8					
VNDA	Vanda	152.77	167	PKPbc	PKPdf	21 44 28.5 +6.0

NIED ***15*** *21:39:00, 43.40N×147.40E, h71km, Mw3.9 Best double couple: M0=7.23×10^14 NP1:φs130°, δ62°, λ-37°. NP2: φs239°, δ58°, λ-147°.*
MOS ***15*** *21:39:30.6±1.6, 43.05N×147.73E, h51km, mb4.2/5, Error ellipse: s-maj=39.1km s-min=16.2km az=125.4*
JMA ***15*** *21:39:37.4±0.2, 43.42N×147.38E, h47km, M4.5*
IDC ***15*** *21:39:42.0±6.6, 44.28N×147.22E, h68km±53km, mb3.5/7, mb1 3.6/8, mb1mx3.4/20, mbtmp3.8/8, ML3.3/1, Error ellipse: s-maj=210.4km s-min=32.3km az=164.0*

ISC 15 21:39:36.6±1.3, 43.43N±0.09×147.4E±0.1, h78km±9km, n29, σ0°79/42, mb3.7/7, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	1.20	268	P	P	21 39 58.2	0.0
NEM2				eS	S	21 40 13.2	-1.3
YUK	Yuzh-Kuril'sk	1.26	299	⇓i PN	P	21 39 57.1	-2.0
YUK				i S	S	21 40 12.8	-3.2
YUK				pmax	pmax		
	comp=Z,3μm,0.3s						
YUK				pmax	pmax		
	comp=N,670nm,0.2s						
YUK				pmax	pmax		
	comp=E,330nm,0.2s						
YUK				pmax	pmax		
	comp=Z,3μm,0.2s						
YUK				smax			
	comp=N,6μm,0.3s						
YUK				smax			
	comp=E,3μm,0.5s						
YUK				smax			
	comp=N,6μm,0.8s						
YUK				smax			
	comp=E,12μm,0.4s						
JRA	Rausu	1.72	288	P	P	21 40 05.4	+0.2
JRA				eS	S	21 40 26.7	+0.3
JNK	Nakash	1.95	276	P	P	21 40 08.4	+0.1
JNK				eS	S	21 40 31.2	-0.5
JAK	Akkeshi	2.02	259	P	P	21 40 09.3	+0.1
JAK				eS	S	21 40 32.6	-0.6
JTKR	Abashiri--Toko	2.58	283	P	P	21 40 17.9	+0.7
JTKR				eS	S	21 40 48.0	+0.5
JAR	Ashorobuto	2.64	268	P	P	21 40 18.5	+0.5
JAR				eS	S	21 40 49.4	+0.4
JOB	Onbets	2.65	260	P	P	21 40 18.4	+0.3
JOB				eS	S	21 40 49.0	-0.2
JMP	Maruseppu	2.98	283	P	P	21 40 23.5	+0.8
JCH	Churui	3.06	256	P	P	21 40 23.8	-0.1
JCH				eS	S	21 40 59.2	-0.3
JKK2	Kamakawa 2	3.40	279	P	P	21 40 29.6	+1.1
JFR	Furan	3.51	267	P	P	21 40 31.2	+1.1
JFR				eS	S	21 41 10.7	+0.1
ASAJ	Asahikawa	3.54	283	P	P	21 40 31.4	+1.0
	comp=E,2.4nm,0.3s,baz=136,slow=12,SNR=23						
ASAJ				S	S	21 41 18.5	+7.2
	comp=E,6.3nm,0.3s,baz=15,slow=30,SNR=7.4						
ASAJ	Asahikawa	3.54	283	PN	P	21 40 31.5	+1.0
ASAJ				S	S	21 41 18.5	+7.2
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
JNBK	Urakawa-nobuka	3.60	253	P	P	21 40 31.3	0.0
JNBK				eS	S	21 41 11.9	-0.9
YSS	Yuzh-Sakhalins	4.81	319	ePN	P	21 40 49.0	+0.8
SONM	Songino Array	28.76	293	P	P	21 45 29.2	+0.5
	comp=Z,1.0nm,0.5s,mb3.7,baz=84,slow=9.2,SNR=12						
ILAR	Eielson Array	41.65	36	P	P	21 47 18.0	-0.1
	comp=Z,0.2nm,0.5s,mb3.1,baz=276,slow=9.1,SNR=3.1						
MKAR	Makanchi Array	44.89	298	P	P	21 47 45.4	+0.7
	comp=Z,0.5nm,0.4s,mb3.6,baz=78,slow=8.9,SNR=18						
MKAR	Makanchi Array	44.89	298	P	P	21 47 45.4	+0.7
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ARCES	ARCESS Array B	59.61	340	P	P	21 49 32.3	-1.7
	comp=Z,1.9nm,0.8s,mb4.2,baz=50,slow=6.8,SNR=7.9						
ARCES	ARCESS Array B	59.61	340	P	P	21 49 32.3	-1.7
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FINES	FINESS Array B	65.24	333	P	P	21 50 10.4	-1.1
	comp=Z,0.8nm,0.6s,mb3.7,baz=37,slow=9.5,SNR=5.9						
FINES	FINESS Array B	65.24	333	P	P	21 50 10.4	-1.1
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NB2	NORSAR Subarra	69.97	339	P	P	21 50 40.7	-0.2
	comp=Z,0.9nm,0.5s,mb3.9,baz=31,slow=6.2						
NOA	NORSAR Array B	69.97	339	P	P	21 50 40.5	-0.4
	comp=Z,1.3nm,0.7s,mb3.9,baz=32,slow=6.2,SNR=4.2						
NOA	NORSAR Array B	69.97	339	P	P	21 50 40.5	-0.4
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKASG	Malin Array Be	71.94	324	P	P	21 50 53.0	0.0
	comp=Z,0.6nm,0.4s,mb3.7,baz=38,slow=6.1,SNR=4.8						
AKASG	Malin Array Be	71.94	324	P	P	21 50 53.0	0.0
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						

FUNV ***15*** *21:51:21.1, 11.12N×62.03W, h104km, MW2.8*
TRN ***15*** *21:51:22.5, 10.75N×62.21W, h80km, MD3.1*

ISC 15 21:51:19.6±1.2, 11.04N±0.09×62.07W±0.04, h110km±9km, n12, σ1°01/22, 1C-1D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	Guiria	0.42	201	eP	P	21 51 37.1	+1.0
GUIV				eS	S	21 51 48.4	-0.1
TRN	Trinidad (W)	0.76	121	⇑i P	P	21 51 39.5	+0.8
TRN				eS	S	21 51 51.7	-1.3
TPP	Pointe-a-Pierr	0.94	140	eP	P	21 51 40.2	-0.3
TPP				eS	S	21 51 53.0	-3.2
ITEV	Isla Los Testi	1.09	287	eP	P	21 51 42.6	+0.5
ITEV				eS	S	21 51 58.7	-0.3
TBH	Brigand Hill	1.13	119	eP	P	21 51 43.4	+0.9
TBH				eS	S	21 51 59.2	-0.5
CRUV	Carupano	1.20	253	⇓i P	P	21 51 44.2	+0.8
CRUV				eS	S	21 52 00.9	-0.4
GUNV	Guanoco	1.22	225	eP	P	21 51 45.0	+1.3
GUNV				eS	S	21 52 02.3	+0.7
ORIV	Oritupano	2.36	214	eP	P	21 51 59.2	+1.3
ORIV				eS	S	21 52 27.3	+0.6
PCRV	Puerto La Cruz	2.67	251	eP	P	21 52 02.8	+0.7
PCRV				eS	S	21 52 32.6	-1.4
MERV	Las Mercedes	4.53	247	eP	P	21 52 26.5	-0.7
CAOV	Caicara del Or	5.59	229	eP	P	21 52 40.7	-0.9
CAOV				eS	S	21 53 40.0	-5.2
BAUV	El Baul	6.24	251	eP	P	21 52 48.5	-2.1

NIED ***15*** *21:53:00, 24.20N×125.20E, h23km, Mw3.8 Best double couple: M0=4.96×10^14 NP1:φs265°, δ63°, λ114°. NP2:φs41°, δ36°, λ52°.*
IDC ***15*** *21:53:04.6±1.3, 24.13N×125.03E, mb3.6/4, mb1 3.7/6, mb1mx3.6/19, mbtmp3.6/6, ML3.2/2, MS2.9/2, Ms1 2.9/2, ms1mx2.4/26, Error ellipse: s-maj=36.3km s-min=25.9km az=71.0*
JMA ***15*** *21:53:08.5±0.2, 24.22N×125.21E, h17km, M3.5*

ISC 15 21:53:06.5±1.7, 24.14N±0.09×125.34E±0.05, h25km±11km, n23, σ1°09/28, mb3.4/4, MS2.7/1, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	Gusukube	0.62	6	P	Pb	21 53 19.6	+1.0
JOGS				S	Sb	21 53 27.9	+1.1
JMJ	Miyako jima 2	0.67	356	P	Pb	21 53 19.9	+0.4
JMJ				S	Sb	21 53 28.2	-0.2
JTJ	Tarama	0.77	310	P	Pb	21 53 20.6	-0.5
JTJ				eS	Sb	21 53 28.5	-2.6
JIJ	Ishigaki jima	1.12	282	P	Pn	21 53 26.9	+0.2
JIJ				eS	Sb	21 53 40.4	-0.7
JKRS	Kuro-shima	1.22	275	P	Pn	21 53 29.0	+0.8
HATJ	Hateruma jima	1.41	267	P	Pn	21 53 31.3	+0.4
HATJ				eS	Sn	21 53 49.3	+0.5
IRIF	Iriomote-Funau	1.48	278	P	Pn	21 53 32.4	+0.4
IRIF				eS	Sn	21 53 53.9	+3.2
YOJ	Yonaguni jima	2.15	279	P	Pn	21 53 41.7	+0.1
JKE	Kume jima 2	2.54	31	P	Pn	21 53 48.4	+1.3
JJT2	Tamagusuku 2	2.95	47	P	Pn	21 53 52.6	-0.4
JAGN	Aguni-jima	2.98	35	P	Pn	21 53 53.4	0.0
JIH	Iheya	3.73	39	P	Pn	21 54 05.4	+1.4
JOW	Kunigami	3.77	44	Pn	Pn	21 54 05.3	+0.7
	1.8nm,0.3s,baz=154,slow=25,SNR=5.5						
JOW				LR	LR	21 55 51.0	
	comp=Z,162nm,20.5s,baz=303,slow=42						
JOW	Kunigami	3.77	44	P	Pn	21 54 05.7	+1.1
JTK	Tokunoshima	4.87	41	P	Pn	21 54 18.4	-1.8
JMZ	Minamidaito 2	5.59	71	P	Pn	21 54 27.5	-2.9
JAM	Amami Oshima	5.72	41	P	Pn	21 54 31.3	-0.9
MJAR	Matsushiro Ar	16.59	39	Pn	P	21 57 03.4	+4.2
	0.2nm,0.3s,baz=222,slow=13,SNR=3.5						
ASAJ	Asahikawa	24.42	31	LR	LR	22 07 17.2	
	comp=Z,28nm,20.2s,MS2.7,baz=173,slow=35						
SONM	Songino Array	28.03	322	P	P	21 58 57.9	+0.2
	0.2nm,0.5s,mb3.0,baz=146,slow=11,SNR=3.0						
MKAR	Makanchi Array	41.05	314	P	P	22 00 47.8	-1.8
	0.7nm,0.5s,mb3.5,baz=102,slow=10.0,SNR=16						
WRA	Warramunga Arr	44.69	168	P	P	22 01 20.0	+0.4
	0.4nm,0.4s,mb3.6,baz=348,slow=8.8,SNR=6.9						
FINES	FINESS Array B	73.38	330	P	P	22 04 36.7	-1.2
	0.4nm,0.5s,mb3.6,baz=40,slow=11,SNR=3.2						

NEIC ***15*** *22:00:06.5, 31.85N×115.73W, h2km, MD3.8(ECX), ML3.7(PAS), After ECX.*

ECX 15 22:00:06.5±0.6, 31.85N×115.73W, h2km±2km, MD3.7, ML3.8, 8C-2D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDX	Rancho Dowling	0.20	295	⇑eP	Pg	22 00 10.6	0.0
RDX				eS	Sg	22 00 13.6	+0.4
ECNX	Esteban Cantu	0.76	256	⇑eP	Pg	22 00 20.3	-1.4
ECNX				⇑i P		22 00 20.9	
ECNX				eS	Sg	22 00 31.1	-0.8
ECNX				eS	Sg	22 00 31.4	-0.4
ENX	Ensenada	0.80	273	⇑i P	Pg	22 00 21.0	-1.4
ENX				eS	Sg	22 00 31.5	-1.5
ENX				⇓e		22 00 32.2	
	comp=E,5μm,0.5s						
ENX				⇑e		22 00 32.3	
	comp=N,3μm,0.4s						
RMX	La Rumorosa	0.81	339	⇑eP	Pg	22 00 21.2	-1.4
RMX				eS	Sg	22 00 32.3	-1.1
SPX	San Pedro Mart	0.83	164	⇓eP	Pg	22 00 21.3	-1.8
SPX				eS	Sg	22 00 32.9	-1.3
PBX	Punta Banda	0.85	263	⇑eP	Pg	22 00 22.0	-1.5
PBX				eS	Sg	22 00 33.5	-1.4
CBX	Cerro Bola	0.92	301	⇑eP	Pb	22 00 22.5	-2.2
CBX				eS	Sg	22 00 35.1	-1.9
BAR	Barrett	1.15	316	eP	Pb	22 00 25.9	-2.9
BAR				eS	Sb	22 00 40.3	-3.7
GLA	Glamis	1.42	32	eP	Pn	22 00 29.7	-3.7
PFO	Pinyon Flat Ob	1.86	341	eP	Pn	22 00 36.9	-2.7
MWC	Mount Wilson	3.07	321	ePn	Pn	22 00 56.2	-0.7
GSC	Goldstone	3.56	346	Pn	Pn	22 01 03.0	-0.8
NEN	Nelson	3.86	11	ePn	Pn	22 01 04.7	-3.5
TUC	Tucson	4.22	82	ePn	Pn	22 01 09.8	-3.6

IDC ***15*** *22:28:14.3±0.8, 0.91N×27.68W, mb4.1/15, mb1 4.3/15, mb1mx4.2/24, mbtmp4.1/15, MS4.0/17, Ms1 4.0/17, ms1mx3.8/29, Error ellipse: s-maj=38.6km s-min=13.6km az=142.0*
NEIC ***15*** *22:28:16.4±0.4, 0.96N×27.75W, h10km, mb4.6/3, Error ellipse: s-maj=16.1km s-min=8.0km az=134.0*

ISC 15 22:28:14.5±0.5, 0.9N±0.1×27.7W±0.1, h10km, n43, σ0°96/33, mb4.1/18, MS4.0/17, 1C, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	Riachuelo	10.56	231	ePn	P	22 30 47.7	-1.5
	62nm,1.3s						
DBIC	Dimbokro	23.51	75	P	P	22 33 24.7	-1.1
	6.6nm,0.9s,mb4.1,baz=238,slow=9.4,SNR=5.4						
DBIC				LR	LR	22 40 46.4	
	comp=Z,710nm,19.1s,MS4.2,baz=152,slow=32						
BDFB	Brasilia	25.93	230	P	P	22 33 49.2	+0.3
	13nm,1.2s,mb4.4,baz=57,slow=9.1,SNR=8.3						
BDFB				LR	LR	22 43 02.3	
	comp=Z,553nm,20.3s,MS4.1,baz=71,slow=34						
SIV	San Ignacio	36.97	242	P	P	22 35 26.2	+0.1
	1.7nm,1.0s,mb3.8,baz=73,slow=11,SNR=6.5						
CPUP	Villa Florida	39.36	224	P	P	22 35 45.5	-0.6
	6.5nm,1.0s,mb4.3,baz=69,slow=9.5,SNR=7.1						
CPUP				LR	LR	22 51 27.2	
	comp=Z,325nm,21.1s,MS4.1,baz=96,slow=35						
LPAZ	La Paz	43.39	245	P	P	22 36 20.6	+1.3
	2.9nm,1.0s,mb4.0,baz=92,slow=4.1,SNR=8.0						
LPAZ				LR	LR	22 53 56.8	
	comp=Z,453nm,18.7s,MS4.4,baz=89,slow=36						
SDV	Santo Domingo	43.45	282	P	P	22 36 20.7	+0.9
	1.9nm,0.7s,mb4.0,baz=68,slow=11,SNR=3.1						
ESDC	Sonseca Array	44.25	26	P	P	22 36 26.7	+0.7
	2.1nm,0.9s,mb3.9,baz=224,slow=8.4,SNR=9.3						
ESLA	Sonseca Array	44.25	26	eP	P	22 36 27.7	+1.7
	1.8nm,1.0s,mb3.8						
ROSC	El Rosal	46.71	276	LR	LR	22 55 40.1	
	comp=Z,270nm,19.6s,MS4.2,baz=178,slow=35						
TSUM	Tsumeb	48.74	117	LR	LR	22 52 36.8	
	comp=Z,244nm,19.9s,MS4.2,baz=320,slow=30						
PLCA	Paso Flores	56.84	218	LR	LR	23 04 50.0	
	comp=Z,190nm,18.3s,MS4.2,baz=3.8,slow=39						
BOSA	Boshof	58.54	125	LR	LR	22 58 12.6	
	comp=Z,158nm,18.5s,MS4.2,baz=327,slow=31						
GERES	GERESS Array B	59.53	30	P	P	22 38 18.4	-2.1
	1.9nm,0.9s,mb4.1,baz=231,slow=8.5,SNR=6.1						
IDI	Anoyia	59.62	49	LR	LR	23 05 07.6	
	comp=Z,88nm,20.7s,MS3.9,baz=2.1,slow=37						
VRAC	Vranov	61.30	31	LR	LR	23 03 53.0	
	comp=Z,31nm,18.5s,MS3.5,baz=46,slow=35						
PSZ	Piszkesteto	62.28	34	eP	P	22 38 39.9	+0.7
	17nm,1.0s,mb5.1						
MLR	Muntele Rosu	64.66	39	P	P	22 38 55.3	+0.4
	6.2nm,1.0s,mb4.6,baz=274,slow=3.4,SNR=4.4						
KMBO	Kilima Mbogo	65.00	92	LR	LR	23 03 40.5	
	comp=Z,78nm,19.5s,MS3.9,baz=93,slow=33						
NOA	NORSAR Array B	66.90	19	P	P	22 39 08.4	-0.6
	0.8nm,0.9s,mb3.8,baz=222,slow=6.6,SNR=3.3						
NOA				LR	LR	23 04 47.6	
	comp=Z,31nm,18.7s,MS3.5,baz=65,slow=33						
HFS	Hagfors	67.11	21	LR	LR	23 03 36.2	
	comp=Z,54nm,19.7s,MS3.8,baz=238,slow=32						
BRTR	Keskin Array B	67.69	47	P	P	22 39 14.3	0.0
	1.5nm,0.8s,mb4.0,baz=225,slow=5.2,SNR=4.0						
ASF	Jabal al Asfar	68.17	56	LR	LR	23 09 24.1	
	comp=Z,177nm,19.6s,MS4.3,baz=266,slow=36						
AKASG	Malin Array Be	68.96	35	P	P	22 39 21.0	-1.0
	10nm,0.9s,mb4.8,baz=241,slow=6.8,SNR=13						
MALT	Malatya	70.86	50	eP	P	22 39 34.6	+0.7
	4.3nm,0.9s,mb4.4						
VNA1	Neumayer--Stat	72.58	173		P	22 39 45.0	+1.5
VNA1	Neumayer--Stat	72.58	173		P	22 39 53.0	+9.5
VNA2	Neumayer--Watz	72.94	173	⇑i	P	22 39 46.5	+0.9
VNA2	Neumayer--Watz	72.94	173		P	22 39 55.0	+9.4
VNA2	Neumayer--Watz	72.94	173		P	22 40 04.2	+19
VNA3	Neumayer Olymp	72.98	174		P	22 39 46.9	+1.0
VNA3	Neumayer Olymp	72.98	174		P	22 39 52.4	+6.5
VNA3	Neumayer Olymp	72.98	174		P	22 39 55.1	+9.2
VNA3	Neumayer Olymp	72.98	174		P	22 40 05.1	+19
SNAA	Sanae	74.21	172		P	22 39 35.6	-17
SNAA	Sanae	74.21	172		P	22 39 53.4	+0.4
SNAA	Sanae	74.21	172		P	22 40 01.0	+8.0
SNAA	Sanae	74.21	172		P	22 40 08.0	+15
ULM	Lac du Bonnet	75.47	322	LR	LR	23 07 52.5	
	comp=Z,39nm,18.5s,MS3.7,baz=355,slow=32						
ARCES	ARCESS Array B	76.98	17	P	P	22 40 08.5	-0.3
	2.4nm,0.9s,mb4.1,baz=270,slow=2.4,SNR=4.8						
ARCES				LR	LR	23 13 04.7	
	comp=Z,64nm,20.3s,MS3.9,baz=221,slow=35						
ARCES	ARCESS Array B	76.98	17	P	P	22 40 08.5	-0.3
ARCES				LR	LR	23 13 04.7	
TXAR	Lajitas Array	77.31	300	P	P	22 40 10.6	-0.8
	0.3nm,0.7s,mb3.4,baz=135,slow=5.3,SNR=3.6						
PDAR	Pinedale Array	83.39	313	P	P	22 40 42.8	-0.7
	0.4nm,0.4s,mb3.8,baz=108,slow=4.7,SNR=4.5						
PDAR				LR	LR	23 13 34.4	
	comp=Z,96nm,18.3s,MS4.2,baz=110,slow=33						

MOS ***15*** *22:33:39.6±1.2, 34.54N×26.48E, h10km, mb4.3/24, Error ellipse: s-maj=7.4km s-min=3.9km az=115.8*
NEIC ***15*** *22:33:39.8, 34.23N×26.52E, h10km, mb4.2/54, MD4.2(ATH), After ATH.*
HLW ***15*** *22:33:41.7, 34.55N×26.68E, h33km, Mb3.9*
CSEM ***15*** *22:33:41.7±0.0, 34.31N×26.63E, h40km, mb4.3/34, Ms2.9, Error ellipse: s-maj=1.7km s-min=0.9km az=44.0*
ATH ***15*** *22:33:42.3, 34.46N×26.52E, h14km±1km, MD4.2/12*
BJI ***15*** *22:33:44.9, 34.97N×27.44E, h10km, mb4.7*
IDC ***15*** *22:33:47.5±2.3, 34.62N×26.42E, h57km±20km, mb3.9/17, mb1 4.0/22, mb1mx4.0/28, mbtmp4.1/22, ML3.9/4, MS3.4/5, Ms1 3.4/5, ms1mx2.9/39, Error ellipse: s-maj=18.6km s-min=13.8km az=147.0*

ISC 15 22:33:41.6±0.2, 34.32N±0.02×26.63E±0.02, h33km, n281, σ1°43/296, mb4.3/53, MS3.2/8, 12C-8D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	Khrisi	0.95	306	ePB	Pb	22 33 57.5	-1.9
NPS	Neapolis	1.26	319	ePn	Pn	22 34 03.0	-0.1
NPS	Neapolis	1.26	319	ePg	P	22 34 03.8	+0.9
NPS				eSb	Sb	22 34 19.8	-0.7
KARP	Karpathos	1.30	20	ePB	Pb	22 34 05.0	-0.4
KARP	Karpathos	1.30	20	ePg	P	22 34 06.0	+2.4
KARP				eSb	Sb	22 34 26.3	+4.5
IDI	Anoyia	1.72	305	P	P	22 34 11.5	+1.8
	7.7nm,0.3s,baz=134,slow=14,SNR=69						
GVD	Gavdhos	2.16	285	ePn	Pn	22 34 18.0	+2.0
ARG	Arkhangelos	2.25	33	ePN	Pn	22 34 20.7	+3.3
THR1	Thera Island	2.26	335	eP	P	22 34 18.2	+0.9
VAM	Vamos	2.27	299	ePN	Pn	22 34 20.0	+2.3
VAM	Vamos	2.27	299	ePg	P	22 34 20.4	+2.9
THR3	Thira Island,	2.31	335	eP	P	22 34 19.8	+1.7
NISR	Nisiros	2.32	10	ePN	Pn	22 34 21.0	+2.6
NISR	Nisiros	2.32	10	ePn	Pn	22 34 22.0	+3.6
BODT	Bodrum	2.79	11	ePN	Pn	22 34 25.7	+0.6
BDRM	Kayabasi	2.82	13	i P	P	22 34 28.0	+2.7
AP

SLTI S **S** **22 36 49.2 -3.1**
KZIT Kziot 7.39 115 P **P** **22 35 30.0 +0.2**
KZIT S **S** **22 36 49.6 -3.7**
MMA0 Mount Meron ar 7.43 98 P **P** **22 35 30.1 -0.3**
KNT Kendrikon 7.44 338 *e*P **P** **22 35 31.4 +0.9**
KSDI Kefar Szold 7.61 96 P **P** **22 35 32.5 -0.3**
MMB Musomiste 7.61 343 *e*P **P** **22 35 33.0 +0.1**
HNKL Nakhl 7.62 123 ⇑P **P** **22 35 32.4 -0.6**
FNA Florina 7.68 329 *e*P **P** **22 35 34.5 +0.7**
FNA Florina 7.68 329 *e*P **P** **22 35 34.5 +0.7**
KSHT Keshet 7.77 97 P **P** **22 35 35.0 -0.1**
KSHT S **S** **22 37 00.8 -2.2**
BRTR Keskin Array B 7.78 44 P **P** **22 35 32.6 -2.6**
0.1nm,0.3s,baz=214,slow=15,SNR=6.3
BRTR S **S** **22 37 00.4 -2.7**
0.3nm,0.3s,baz=217,slow=25,SNR=7.1
BR131 Keskin Array S 7.78 44 Pn **Pn** **22 35 39.1 +3.6**
2.7nm,0.8s
BR131 Keskin Array S 7.78 44 Pn **Pn** **22 35 39.1 +3.6**
2.7nm,0.8s
MZDA Masada 7.94 110 P **P** **22 35 38.1 +0.6**
MZDA S **S** **22 37 03.9 -3.3**
KKB Krupnik 8.03 341 *e*P **P** **22 35 39.5 +0.7**
MKRJ Makawir 8.06 108 P **P** **22 35 38.9 -0.3**
MKRJ S **S** **22 37 08.0 -2.2**
PRNI Paran 8.12 117 P **P** **22 35 39.9 0.0**
PRNI S **S** **22 37 08.0 -3.5**
ZFRI Zfri 8.14 115 P **P** **22 35 39.7 -0.6**
ZFRI S **S** **22 37 08.9 -3.3**
EIL Elat 8.45 121 P **P** **22 35 44.8 +0.2**
TR2 8.47 132 P **P** **22 35 45.0 +0.2**
HKAT Jabal Katrina 8.54 131 ⇓P **P** **22 35 44.6 -1.2**
NUB 8.63 125 P **P** **22 35 46.7 -0.4**
VTS Vitosha 8.68 343 *e*P **P** **22 35 49.2 +1.4**
ALWS Ilw as Safayha 8.74 123 P **P** **22 35 49.1 +0.5**
HAQS Haql 8.81 124 P **P** **22 35 48.8 -0.7**
JMOS Jabal al Moall 8.86 123 P **P** **22 35 50.0 -0.3**
JMOS S **S** **22 37 26.8 -3.2**
ASF Jabal al Asfar 8.87 101 P **P** **22 35 49.2 -1.1**
0.3nm,0.3s,baz=167,slow=5.5,SNR=5.1
TR1 8.88 133 P **P** **22 35 50.5 -0.1**
HDK1 Dakhla 9.07 164 ⇓P **P** **22 35 54.3 +1.1**
TAYS Tayyib Ism 9.09 127 P **P** **22 35 53.9 +0.5**
HHRG Al Ghardaqah 9.26 138 ⇑P **P** **22 35 54.3 -1.4**
TIP Timpagrande 9.28 304 *e*Pn **P** **22 35 53.0 -3.1**
TIP Timpagrande 9.28 304 *e*Pn **P** **22 35 53.0 -3.1**
BDAS Al Bad' 9.32 127 P **P** **22 35 58.4 +1.8**
AKRG Al Kharijah 9.41 158 P **P** **22 35 58.0 +0.2**
GTR Jabal at Tayr 9.42 158 ⇑P **P** **22 35 57.8 -0.1**
HSFG 9.97 139 ⇑P **P** **22 36 04.0 -1.5**
MALT Malatya 10.32 64 *e*P **P** **22 36 10.4 0.0**
3.0nm,0.6s
MALT Malatya 10.32 64 *e*Pn **P** **22 36 10.4 0.0**
2.7nm,0.6s
MALT Malatya 10.32 64 *e*P **P** **22 36 10.4 0.0**
MALT pmax pmax
comp=Z,3.0nm,0.6s
VAE Valguarnera 10.40 291 P **P** **22 36 10.5 -0.9**
comp=Z,1.0nm,0.3s,baz=67,slow=14,SNR=3.4
VAE S **S** **22 37 58.9 -8.9**
comp=Z,1.2nm,0.3s,baz=292,slow=4.5,SNR=3.4
VAE Valguarnera 10.40 291 P **P** **22 36 10.6 -0.8**
MLR Muntele Rosu 11.17 358 P **P** **22 36 21.3 -0.6**
comp=Z,0.1nm,0.3s,baz=190,slow=11,SNR=2.5
MLR LR LR 22 41 06.0
comp=Z,184nm,21.6s,baz=184,slow=40
MLR Muntele Rosu 11.17 358 ⇑P **P** **22 36 29.2 +7.2**
VRI Vrincioaia 11.53 0 ⇓P **P** **22 36 31.7 +4.8**
KOLS Kolonicke sedl 14.96 349 *e*PN **P** **22 37 08.7 -3.4**
GNI Garni 15.55 63 P **P** **22 37 22.7 +2.8**
comp=Z,0.2nm,0.3s,baz=215,slow=18,SNR=2.7
GNI LR LR 22 45 02.4
comp=Z,131nm,21.2s,baz=269,slow=43
STHS Stebnicka Huta 15.60 347 *e*P **P** **22 37 24.3 +3.8**
LVV L'vov 15.61 354 *e*P **P** **22 37 29.7 +9.2**
LVV MLR MLR
comp=N,100nm,12.0s
LVV MLR MLR
comp=E,100nm,12.0s
LVV MLR MLR
comp=Z,100nm,12.0s
KIV Kislovodsk 15.72 48 *e*P **P** **22 37 25.3 +3.2**
comp=Z,14nm,1.0s
KIV Kislovodsk 15.72 48 *i*P **P** **22 37 25.9 +3.9**
KIV pmax pmax
comp=Z,15nm,1.0s
ZEI Tsey 15.91 53 *e*P **P** **22 37 26.9 +2.4**
AKASG Malin Array Be 16.48 6 P **P** **22 37 30.3 -1.3**
comp=Z,1.6nm,0.3s,baz=196,slow=11,SNR=17
GOF Gofitskoye 16.54 45⇑ *i*P **P** **22 37 38.0 +5.6**
GOF pmax pmax
comp=Z,31nm,1.3s
OKC Ostrava-Krasne 16.72 341 *e*P **P** **22 37 32.5 -2.1**
OKC AMS AMS 22 45 10.0
comp=Z,100nm,13.5s
OKC Ostrava-Krasne 16.72 341 *e*P **P** **22 37 32.5 -2.1**
MORC Moravsky Berou 16.83 339 *e*P **P** **22 37 34.7 -1.4**
MORC Moravsky Berou 16.83 339 *e*P **P** **22 37 33.3 -2.8**
comp=Z,4.2nm,0.8s
MORC Moravsky Berou 16.83 339 *e*P **P** **22 37 33.3 -2.8**
MORC pmax pmax
comp=Z,4.0nm,0.8s
TREC Trest 17.08 334 *e*P **P** **22 37 40.6 +1.4**
GERES GERESS Array B 17.40 330 P **P** **22 37 41.1 -2.1**
comp=Z,0.4nm,0.3s,baz=140,slow=10,SNR=23
SBF Sospel 17.65 308 *e*P **P** **22 37 42.7 -3.7**
comp=Z,48nm,1.0s
SBF Sospel 17.65 308 *e*P **P** **22 37 42.7 -3.7**
SBF pmax pmax
comp=Z,24nm,1.0s
KHC Kasperske Hory 17.68 331 *e*P **P** **22 37 46.2 -0.5**
KHC x x 22 38 04.0
KHC AMS AMS 22 45 50.0
comp=Z,100nm,15.6s
KHC Kasperske Hory 17.68 331 *e*P **P** **22 37 46.2 -0.5**
KHC *e* 22 38 04.0
DPC Dobruska-Polom 17.71 338 *e*P **P** **22 37 45.8 -1.3**
DPC AMS AMS 22 46 10.0
comp=Z,100nm,16.5s
DAVOX Davos 17.75 320 P **P** **22 37 48.9 +1.2**
comp=Z,0.3nm,0.3s,baz=163,slow=12,SNR=11
UPC Upice 17.94 338 *e*P **P** **22 37 48.6 -1.4**
PRU Pruhonice 18.00 334 *e*P **P** **22 37 48.5 -2.2**
PRU AMS AMS 22 46 10.0
comp=Z,100nm,17.2s
FRF La Foret Royal 18.04 307 *e*P **P** **22 37 44.8 -6.4**
comp=Z,42nm,1.2s
FRF La Foret Royal 18.04 307 *e*P **P** **22 37 44.8 -6.4**
FRF pmax pmax
comp=Z,21nm,1.2s
PVCC Panska Ves 18.44 335 *e*P **P** **22 37 55.7 -0.6**
PVCC AMS AMS 22 45 50.0
comp=Z,100nm,9.5s
MBDF Montbardon 18.46 310 *e*P **P** **22 37 55.5 -1.1**
comp=Z,28nm,0.8s
MBDF Montbardon 18.46 310 *e*P **P** **22 37 55.5 -1.1**
MBDF pmax pmax
comp=Z,14nm,0.8s
LPG La Plagne 18.84 312 *e*P **P** **22 37 59.3 -1.9**
comp=Z,13nm,0.9s
LPG La Plagne 18.84 312 *e*P **P** **22 37 59.3 -1.9**
LPG pmax pmax
comp=Z,6.0nm,0.9s
LPL La Plagne 18.86 312 *e*P **P** **22 37 59.2 -2.2**
comp=Z,9.0nm,0.8s
LPL La Plagne 18.86 312 *e*P **P** **22 37 59.2 -2.2**
LPL pmax pmax
comp=Z,5.0nm,0.8s
SMRF Simiane la Rot 18.92 307 *e*P **P** **22 38 00.8 -1.3**
comp=Z,31nm,1.3s
BRG Berggiesshubel 18.95 335 *e*P **P** **22 38 01.3 -1.1**
comp=Z,6.5nm,0.8s
BRG Berggiesshubel 18.95 335 *e*P **P** **22 38 01.3 -1.1**
BRG pmax pmax
comp=Z,7.0nm,0.8s
NKC Novy Kostel 19.00 331 *e*P **P** **22 38 03.1 +0.2**
NKC AMS AMS 22 47 00.0
comp=Z,100nm,15.5s
ORIF Oris-en-Rattie 19.12 310 *e*P **P** **22 38 00.9 -3.4**
ORIF *e*R
comp=Z,64nm,19.2s
CLL Collm 19.64 334 P **P** **22 38 07.8 -2.3**
comp=Z,logA/T=1.0
CLL *i*PP PP 22 38 18.8 -10
CLL *e*PPP PPP 22 38 34.0 -3.5
CLL Collm 19.64 334 *i*P **P** **22 38 07.8 -2.3**
comp=Z,7.0nm,0.7s
CLL *i* 22 38 18.8
CLL *e* 22 38 34.0
CLL Collm 19.64 334 *i*P **P** **22 38 07.8 -2.3**
CLL pmax pmax
comp=Z,7.0nm,0.7s
MOX Moxa 19.65 331 *i*P **P** **22 38 10.4 +0.2**
comp=Z,logA/T=1.3
MOX L 22 47 11.0
MOX Moxa 19.65 331 *e*P **P** **22 38 10.4 +0.2**
comp=Z,39nm,2.0s
MOX Moxa 19.65 331 *e*P **P** **22 38 10.4 +0.2**
MOX pmax pmax
comp=Z,39nm,2.0s
CABF La Chapelle 19.80 314 *e*P **P** **22 38 08.5 -3.4**
comp=Z,16nm,0.9s
CABF La Chapelle 19.80 314 *e*P **P** **22 38 08.5 -3.4**
CABF pmax pmax
comp=Z,8.0nm,0.9s
SUW Suwalki 19.84 354 *e*P **P** **22 38 08.7 -3.5**
comp=Z,44nm,0.8s
SUW Suwalki 19.84 354 *e*P **P** **22 38 08.7 -3.5**
SUW pmax pmax
comp=Z,44nm,0.8s
VIVF Saint-Julien-l 19.86 309 *e*P **P** **22 38 10.6 -2.0**
comp=Z,18nm,1.1s
VIVF Saint-Julien-l 19.86 309 *e*P **P** **22 38 10.6 -2.0**
VIVF pmax pmax
comp=Z,9.0nm,1.1s
HINF Hinteralfeld 20.02 318 *e*P **P** **22 38 11.9 -2.4**
comp=Z,9.4nm,0.6s
HINF Hinteralfeld 20.02 318 *e*P **P** **22 38 11.9 -2.4**
HINF pmax pmax
comp=Z,5.0nm,0.6s
CDF Champ du Feu 20.15 320 *e*P **P** **22 38 13.6 -2.0**
comp=Z,22nm,0.9s
CDF Champ du Feu 20.15 320 *e*P **P** **22 38 13.6 -2.0**
CDF pmax pmax
comp=Z,11nm,0.9s
HAU Haudompre 20.41 318 *e*P **P** **22 38 16.5 -1.8**
comp=Z,21nm,0.9s
HAU *e*R
comp=Z,95nm,21.5s
HAU Haudompre 20.41 318 *e*P **P** **22 38 16.5 -1.8**
HAU pmax pmax
comp=Z,11nm,0.9s
HAU MLR MLR
comp=Z,90nm,21.5s,MS3.1
MTLF Montolieu 20.98 303 *e*P **P** **22 38 22.4 -1.8**
comp=Z,12nm,1.0s
MTLF Montolieu 20.98 303 *e*P **P** **22 38 22.4 -1.8**
MTLF pmax pmax
comp=Z,6.0nm,1.0s
EMIR Miracle 21.11 298 P **P** **22 38 24.5 -1.0**
comp=Z,12nm,0.7s,mb4.3,SNR=4.9
EMIR Miracle 21.11 298 P **P** **22 38 24.5 -1.0**
comp=Z,12nm,0.7s,mb4.3
SMF Signal de Mont 21.17 312 *e*P **P** **22 38 24.4 -1.7**
comp=Z,8.8nm,0.6s,mb4.0
SMF Signal de Mont 21.17 312 *e*P **P** **22 38 24.4 -1.7**
SMF pmax pmax
comp=Z,4.0nm,0.6s,mb3.9
MEZF Maizieres J'vi 21.41 318 *e*P **P** **22 38 28.3 -0.2**
comp=Z,29nm,0.7s,mb4.4
LOR Lormes 21.45 314 *e*P **P** **22 38 26.8 -2.2**
comp=Z,12nm,0.9s,mb3.9
LOR *e*R
comp=Z,55nm,22.5s
LOR Lormes 21.45 314 *e*P **P** **22 38 26.8 -2.2**
LOR pmax pmax
comp=Z,6.0nm,0.9s,mb3.9
LOR MLR MLR
comp=Z,60nm,22.5s,MS2.9
WLF Walferdange 21.50 322 *e*P **P** **22 38 27.7 -1.7**
comp=Z,15nm,0.9s,mb4.3
WLF Walferdange 21.50 322 *e*P **P** **22 38 27.6 -1.7**
comp=Z,15nm,0.9s,mb4.3
WLF Walferdange 21.50 322 *e*P **P** **22 38 27.7 -1.7**
WLF pmax pmax
comp=Z,15nm,0.9s,mb4.3
AVF Avril sur Loir 21.54 312 *e*P **P** **22 38 28.4 -1.4**
comp=Z,13nm,1.0s,mb4.0
AVF Avril sur Loir 21.54 312 *e*P **P** **22 38 28.4 -1.4**
AVF pmax pmax
comp=Z,7.0nm,1.0s,mb4.0
SSF Saint Saulge 21.57 313 *e*P **P** **22 38 28.5 -1.6**
comp=Z,7.5nm,0.6s,mb4.3
SSF Saint Saulge 21.57 313 *e*P **P** **22 38 28.5 -1.6**
SSF pmax pmax
comp=Z,8.0nm,0.6s,mb4.3
CAF Calviac 21.60 307 *e*P **P** **22 38 30.2 -0.3**
comp=Z,17nm,1.1s,mb4.1
CAF Calviac 21.60 307 *e*P **P** **22 38 30.2 -0.3**
CAF pmax pmax
comp=Z,8.0nm,1.1s,mb4.1
BGF Bois d'Agland 21.75 311 *e*P **P** **22 38 30.4 -1.5**
comp=Z,14nm,0.9s,mb4.1
BGF Bois d'Agland 21.75 311 *e*P **P** **22 38 30.4 -1.5**
BGF pmax pmax
comp=Z,7.0nm,0.9s,mb4.1
OBN Obninsk 21.92 15 *e*P **P** **22 38 32.1 -1.4**
comp=Z,13nm,0.6s,mb4.5
OBN Obninsk 21.92 15 *e*P **P** **22 38 32.1 -1.4**
comp=Z,13nm,0.6s,mb4.5
OBN Obninsk 21.92 15 *e*P **P** **22 38 32.1 -1.4**
OBN pmax pmax
comp=Z,16nm,1.1s,mb4.4
OBN MLR MLR
comp=Z,100nm,17.0s,MS3.3
TCF Toulx Ste Croi 22.03 310 *e*P **P** **22 38 33.4 -1.3**
comp=Z,12nm,0.9s,mb4.0
TCF Toulx Ste Croi 22.03 310 *e*P **P** **22 38 33.4 -1.3**
TCF pmax pmax
comp=Z,6.0nm,0.9s,mb4.0
RJF Les Rejaudoux 22.10 307 *e*P **P** **22 38 34.1 -1.3**
comp=Z,20nm,1.0s,mb4.2
RJF *e*R
comp=Z,74nm,20.5s
RJF Les Rejaudoux 22.10 307 *e*P **P** **22 38 34.1 -1.3**
RJF pmax pmax
comp=Z,10.0nm,1.0s,mb4.2
RJF MLR MLR
comp=Z,70nm,20.5s,MS3.1
EBIE Bielsa 22.28 300 P **P** **22 38 37.6 +0.4**
comp=Z,3.3nm,0.6s,mb3.9,SNR=6.1
EBIE Bielsa 22.28 300 P **P** **22 38 37.6 +0.4**
comp=Z,3.3nm,0.6s,mb3.9
GIVF Givet 22.45 321 *e*P **P** **22 38 38.5 -0.3**
LFF La Frestale 22.49 306 *e*P **P** **22 38 38.7 -0.6**
comp=Z,9.9nm,0.7s,mb4.0
LFF La Frestale 22.49 306 *e*P **P** **22 38 38.7 -0.6**
LFF pmax pmax
comp=Z,5.0nm,0.7s,mb4.0
BAIF Baives 22.74 321 *e*P **P** **22 38 41.4 -0.3**
comp=Z,28nm,0.7s,mb4.5
BAIF Baives 22.74 321 *e*P **P** **22 38 41.4 -0.3**
BAIF pmax pmax
comp=Z,14nm,0.7s,mb4.5
ETSF Etsaut 22.83 300 *e*P **P** **22 38 43.6 +1.0**
comp=Z,4.9nm,0.7s,mb3.7
ETSF Etsaut 22.83 300 *e*P **P** **22 38 43.6 +1.0**
ETSF pmax pmax
comp=Z,2.0nm,0.7s,mb3.7
SJPF Ste Jean 23.35 300 *e*P **P** **22 38 51.0 +3.3**
comp=Z,54nm,1.4s,mb4.5
SJPF Ste Jean 23.35 300 *e*P **P** **22 38 51.0 +3.3**
SJPF pmax pmax
comp=Z,27nm,1.4s,mb4.5
MFF Saint Martin d 23.65 309 *e*P **P** **22 38 51.6 +1.0**
comp=Z,7.4nm,0.6s,mb4.0
MFF Saint Martin d 23.65 309 *e*P **P** **22 38 51.6 +1.0**
MFF pmax pmax
comp=Z,4.0nm,0.6s,mb4.0
VSU Vasula 24.15 0 *i*P **P** **22 39 03.3 +8.0**
LDF La Druitiere 24.44 314 *e*P **P** **22 38 57.6 -0.7**
FLN La Foliniere 24.73 314 *e*P **P** **22 39 00.3 -0.8**
comp=Z,15nm,0.7s,mb4.3
FLN *e*R
comp=Z,69nm,17.5s
FLN La Foliniere 24.73 314 *e*P **P** **22 39 00.3 -0.8**
FLN pmax pmax
comp=Z,8.0nm,0.7s,mb4.4
FLN MLR MLR
comp=Z,70nm,17.5s,MS3.2
GRR Gorron 24.80 313 *e*P **P** **22 39 00.3 -1.4**
comp=Z,9.7nm,0.7s,mb4.2
GRR Gorron 24.80 313 *e*P **P** **22 39 00.3 -1.4**
GRR pmax pmax
comp=Z,5.0nm,0.7s,mb4.2
ESDC Sonseca Array 24.94 291 P **P** **22 39 03.5 +0.3**
comp=Z,1.5nm,0.6s,mb3.7,baz=80,slow=9.5,SNR=18
ESDC Sonseca Array 24.94 291 P **P** **22 39 03.7 +0.5**
comp=Z,1.6nm,0.6s,mb3.8,SNR=21
ESDC Sonseca Array 24.94 291 P **P** **22 39 03.7 +0.5**
comp=Z,1.6nm,0.6s,mb3.7
ESLA Sonseca Array 24.94 291 *e*P **P** **22 39 03.3 +0.1**
comp=Z,0.4nm,0.6s
ELOJ Sierra Loja 25.09 285 P **P** **22 39 03.0 -1.6**
SNR=7.9
ELOJ Sierra Loja 25.09 285 P **P** **22 39 03.0 -1.6**
ELUQ Luque 25.16 286 P **P** **22 39 06.7 +1.4**
comp=Z,3.5nm,0.7s,mb4.0,SNR=5.1
ELUQ Luque 25.16 286 P **P** **22 39 06.7 +1.4**
comp=Z,3.5nm,0.7s,mb4.0
ELUQ Luque 25.16 286 P **P** **22 39 06.7 +1.4**
ELUQ pmax pmax
comp=Z,4.0nm,0.7s,mb4.1
EMIJ Mijas 25.62 284 P **P** **22 39 09.5 -0.2**
comp=Z,10nm,0.8s,mb4.4,SNR=6.3
EMIJ Mijas 25.62 284 P **P** **22 39 09.6 -0.1**
comp=Z,10nm,0.8s,mb4.4
SGMF Saint Gilles 25.79 311 *e*P **P** **22 39 11.7 +0.6**
comp=Z,28nm,1.0s,mb4.4
SGMF Saint Gilles 25.79 311 *e*P **P** **22 39 11.7 +0.6**
SGMF pmax pmax
comp=Z,14nm,1.0s,mb4.5
QUIF Quistinic 26.05 310 *e*P **P** **22 39 12.2 -1.3**
ROSF Rostrenen 26.26 311 *e*P **P** **22 39 14.2 -1.3**
comp=Z,34nm,1.1s,mb4.5
ROSF Rostrenen 26.26 311 *e*P **P** **22 39 14.2 -1.3**
ROSF pmax pmax
comp=Z,17nm,1.1s,mb4.5
FINES FINESS Array B 27.14 359 P **P** **22 39 21.6 -1.9**
comp=Z,2.5nm,0.7s,mb3.8,baz=163,slow=9.6,SNR=9.9
FINES LR LR 22 50 07.6
comp=Z,75nm,20.1s,MS3.2,baz=357,slow=36
HFS Hagfors 27.18 346 P **P** **22 39 21.3 -2.5**
comp=Z,3.9nm,0.8s,mb4.0,baz=141,slow=9.5,SNR=5.6
HFS LR LR 22 51 10.6
comp=Z,72nm,21.4s,MS3.2,baz=137,slow=39
EGRO El Granado 27.72 287 P **P** **22 39 28.1 -0.8**
comp=Z,5.4nm,0.6s,mb4.3
EGRO El Granado 27.72 287 P **P** **22 39 28.1 -0.9**
comp=Z,5.4nm,0.6s,mb4.3
KAF Kangasniemi 27.81 360 *e*p **P** **22 39 26.5 -3.0**
NB2 NORSAR Subarra 28.52 344 P **P** **22 39 33.0 -2.9**
comp=Z,0.8nm,0.6s,mb3.6,baz=150,slow=9.3
NB2 NORSAR Subarra 28.52 344 P **P** **22 39 33.0 -2.9**
NB2 pmax pmax
comp=Z,1.0nm,0.6s,mb3.7
NOA NORSAR Array B 28.52 344 P **P** **22 39 33.7 -2.2**
comp=Z,1.9nm,0.8s,mb3.9,baz=164,slow=6.1,SNR=4.8
EKA Eskdalemuir Ar 29.42 325 P **P** **22 39 41.8 -2.1**
comp=Z,2.9nm,0.8s,mb4.0,baz=135,slow=9.4,SNR=7.9
ARU Arti 31.04 35 *e*P **P** **22 40 07.5 +9.2**
APA Apatity 33.52 5 *e*P **P** **22 40 18.0 -1.9**
comp=Z,18nm,0.8s,mb5.0
APA Apatity 33.52 5 *e*P **P** **22 40 18.0 -1.9**
APA pmax pmax
comp=Z,18nm,0.8s,mb5.0
ARCES ARCESS Array B 35.27 359 P **P** **22 40 32.8 -2.1**
comp=Z,2.7nm,0.6s,mb4.3,baz=178,slow=8.6,SNR=20
ARCES LR LR 22 54 57.8
comp=Z,75nm,19.4s,MS3.5,baz=195,slow=36
BVAR Borovoye Array 36.07 45 P **P** **22 40 42.8 +1.1**
comp=Z,1.0nm,0.6s,mb3.9,baz=256,slow=6.1,SNR=10
AAK Ala-Archa 37.96 63 *e*P **P** **22 40 59.3 +1.5**
comp=Z,3.9nm,0.8s,mb4.2
AAK Ala-Archa 37.96 63 *e*P **P** **22 40 59.3 +1.5**
comp=Z,3.9nm,0.8s,mb4.2
AAK Ala-Archa 37.96 63 *e*P **P** **22 40 59.3 +1.5**
AAK pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
DBIC Dimbokro 40.02 234 P **P** **22 41 16.4 +1.3**
comp=Z,6.3nm,0.9s,mb4.3,baz=352,slow=7.1,SNR=3.8
MKAR Makanchi Array 43.24 56 P **P** **22 41 42.8 +1.5**
comp=Z,2.2nm,0.6s,mb4.1,baz=273,slow=6.8,SNR=23
NVS Novosibirsk 43.84 44 *i*P **P** **22 41 46.9 +0.9**
comp=Z,5.0nm,1.3s,mb4.1
NVS Novosibirsk 43.84 44 *i*P **P** **22 41 46.9 +0.9**
NVS *e* 22 43 31.7
NVS pmax pmax
comp=Z,11nm,1.0s,mb4.5
NVS pmax pmax
comp=N,5.0nm,1.3s
NVS pmax pmax
comp=E,6.0nm,1.0s
ZAL Zalesovo 44.71 46 P **P** **22 41 53.6 +0.6**
comp=E,1.7nm,0.7s,mb4.0,baz=214,slow=7.1,SNR=9.3
KOLN Koldanda 48.71 81 *e*P **P** **22 42 27.1 +2.2**
comp=E,22nm,1.0s,mb5.1
GKN Gorkha 49.47 81 *e*P **P** **22 42 32.6 +1.9**
comp=E,26nm,0.8s,mb5.3
DMN Daman 50.01 81 *e*P **P** **22 42 36.8 +1.9**
comp=E,34nm,0.9s
KKN Kakani 50.08 81 *e*P **P** **22 42 36.7 +1.3**
comp=E,18nm,0.7s,mb5.2
KKN Kakani 50.08 81 *e*P **P** **22 42 36.7 +1.3**
KKN pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
PKI Pulchoki 50.27 81 *e*P **P** **22 42 38.3 +1.4**
comp=Z,25nm,0.9s,mb5.2
PKI Pulchoki 50.27 81 *e*P **P** **22 42 38.3 +1.4**
PKI pmax pmax
comp=Z,13nm,0.9s,mb5.0
TSUM Tsumeb 53.91 191 P **P** **22 43 06.4 +2.2**
comp=Z,1.6nm,0.8s,mb4.0,baz=339,slow=12,SNR=9.6
TSUM Tsumeb 53.91 191 P **P** **22 43 06.4 +2.2**
ZAK Zakamensk 56.40 48 *i*P **P** **22 43 23.8 +2.0**
comp=Z,5.0nm,0.9s,mb4.5
ZAK Zakamensk 56.40 48⇑ *i*P **P** **22 43 23.8 +2.0**
ZAK pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
GTA Gaotai 57.30 62 *e*P **P** **22 43 29.9 +1.5**
GTA AP pP 22 43 38.4 -0.2
GTA XP sP 22 43 42.0 -0.4
GTA AMB AMB
comp=Z,4.0nm,0.8s,mb4.5
SONM Songino Array 59.09 51 P **P** **22 43 42.3 +1.4**
comp=Z,4.5nm,0.7s,mb4.6,baz=287,slow=7.8,SNR=44
SCHQ Schefferville 64.61 320 P **P** **22 44 17.3 -0.3**
comp=Z,4.3nm,0.5s,mb4.7,baz=66,slow=5.9,SNR=17
HIA Hailar 66.76 45 *e*P **P** **22 44 32.9 +1.4**
comp=Z,5.3nm,0.4s,mb4.9
HIA Hailar 66.76 45 *e*P **P** **22 44 32.9 +1.4**
comp=Z,5.3nm,0.4s,mb4.9
HIA Hailar 66.76 45 *e*P **P** **22 44 32.9 +1.4**
HIA pmax pmax
comp=Z,5.0nm,0.4s
YKA Yellowknife Ar 78.61 343 P **P** **22 45 40.6 -0.5**
comp=Z,0.4nm,0.5s,mb3.6,baz=34,slow=5.5,SNR=5.9
ILAR Eielson Array 81.11 357 P **P** **22 45 55.1 +0.7**
comp=Z,1.1nm,0.9s,mb3.8,baz=356,slow=4.7,SNR=9.3
MJAR Matsushiro Arr 84.98 49 P **P** **22 46 16.7 +2.0**
comp=Z,4.5nm,0.8s,mb4.6,baz=306,slow=4.6,SNR=13
BDFB Brasilia 86.51 249 P **P** **22 46 25.2 +2.5**
comp=Z,2.0nm,0.6s,mb4.5,baz=94,slow=7.0,SNR=3.0
LRAL Lakeview Retre 88.52 310 *e*P **P** **22 46 33.6 +1.5**
comp=Z,11nm,1.2s,mb5.1

IDC ***15*** *22:44:01.2±0.8, 34.87N×81.76E, mb4.0/15, mb1 4.2/17, mb1mx4.2/22, mbtmp4.0/17, ML3.7/2, MS3.5/3, Ms1 3.5/3, ms1mx3.2/23, Error ellipse: s-maj=20.7km s-min=18.5km az=53.0*

BJI ***15*** *22:44:05.7, 35.11N×81.48E, h25km, mB4.6, mb4.4, ML4.7, Ms4.0, Msz3.8*

NNC ***15*** *22:44:05.1±5.5, 35.39N×81.56E, Error ellipse: s-maj=82.8km s-min=43.7km az=45.0*

MOS ***15*** *22:44:06.3±1.7, 35.13N×81.53E, h34km, mb4.7/7, Error ellipse: s-maj=15.6km s-min=6.1km az=114.7*

NEIC ***15*** *22:44:08.5±0.5, 35.13N×81.53E, h35km, mb4.2/4, Error ellipse: s-maj=16.5km s-min=7.5km az=59.0*

NDI ***15*** *22:44:29.4±4.3, 34.02N×80.06E, h39km±112km, ML3.7, mb4.2(NEIC)*

DMN ***15*** *22:44:45.6±64.0, 31.91N×82.09E, h10km, Mb5.1/2, Error ellipse: s-maj=1779.2km s-min=57.1km az=154.0*

ISC 15 22:44:02.9±1.8, 35.06N±0.03×81.49E±0.05, h10km±12km, n96, σ1§54/90, mb4.2/28, MS3.7/8, 10C-9D, Southern

Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOSI	**Joshimath**	**4.77**	**200**	AML	AML	22 45 17.1	
	comp=N,252nm,0.7s						
JOSI				AML	AML	22 45 56.7	
	comp=E,279nm,0.9s						
SDNR	**Sundarnagar**	**5.19**	**228**	*e*P	**Pn**	**22 45 24.6**	**+2.1**
DLH	**Dalhousie**	**5.24**	**243**	*e*P	**Pn**	**22 45 24.0**	**+0.8**
DLH				*ex*	x	22 45 38.0	
THN	**Thein Dam**	**5.48**	**243**	*e*P	**Pn**	**22 45 27.2**	**+0.6**
DDI	**Dehra Dun**	**5.54**	**212**	*e*P	**Pn**	**22 45 27.1**	**-0.3**
KSH	**Kashi**	**6.26**	**317**	*e*P	**Pn**	**22 45 38.3**	**+0.7**
KSH				S	**Sn**	**22 46 52.5**	**+2.5**
KSH				Smax			
	comp=N,660nm,0.7s						
KSH				Smax			
	comp=E,640nm,0.6s						
CHCP	**Chirah Chowk**	**6.95**	**261**	P	**Pn**	**22 45 45.7**	**-1.6**
KOLN	**Koldanda**	**7.48**	**166**	*e*P	**Pn**	**22 45 53.6**	**-1.2**
	comp=E,53nm,0.5s						
GKN	**Gorkha**	**7.53**	**158**	*e*P	**Pn**	**22 45 55.3**	**-0.1**
	comp=E,75nm,0.6s						
SONA	**Sohna**	**7.75**	**210**	*e*P	**Pn**	**22 45 59.7**	**+1.1**
SONA				*e*S	Sn	22 47 04.6	-23
SONA				AML	AML	22 47 30.0	
	comp=E,112nm,0.5s						
SONA				AML	AML	22 47 35.5	
	comp=N,90nm,0.4s						
KKN	**Kakani**	**7.93**	**155**	*e*P	**Pn**	**22 46 02.0**	**+0.9**
	comp=N,48nm,0.5s						
KKN	**Kakani**	**7.93**	**155**	*e*P	**Pn**	**22 46 02.0**	**+0.9**
KKN				pmax	pmax		
	comp=Z,24nm,0.5s						
CEP	**Cherat**	**8.01**	**264**	P	**P**	**22 45 59.5**	**-2.7**
DMN	**Daman**	**8.04**	**156**	*e*P	**P**	**22 46 03.9**	**+1.3**
	comp=Z,51nm,0.6s						
PKI	**Pulchoki**	**8.18**	**155**	*e*P	**P**	**22 46 06.1**	**+1.6**
	comp=Z,65nm,0.5s						
PKI	**Pulchoki**	**8.18**	**155**	*e*P	**P**	**22 46 06.1**	**+1.6**
PKI				pmax	pmax		
	comp=Z,32nm,0.5s						
THW	**Thamme Wali**	**8.41**	**257**	P	**P**	**22 46 05.6**	**-2.1**
KHET	**Khetri**	**8.48**	**216**	*e*P	**P**	**22 46 08.2**	**-0.6**
KHET				*ex*	x	22 47 43.8	
UCH	**Uchtor**	**9.00**	**325**	P	**P**	**22 46 17.6**	**+1.6**
	SNR=6.4						
TKM2	**Tokmak 2**	**9.09**	**331**	P	**P**	**22 46 19.3**	**+2.1**
	SNR=14						
KBK	**Karagaybulak**	**9.14**	**328**	P	**P**	**22 46 20.4**	**+2.5**
	SNR=6.6						
AAK	**Ala-Archa**	**9.32**	**326**	⇓Pn	**P**	**22 46 22.0**	**+1.6**
	comp=Z,14nm,1.1s						
AAK				⇑Pg	P	22 46 54.5	+34
	comp=Z,57nm,1.4s						
AAK				⇑Sn	**Sn**	**22 48 18.4**	**+12**
	comp=Z,47nm,1.2s						
AAK				⇑Lg		22 48 53.0	
	comp=Z,85nm,0.8s						
AAK	**Ala-Archa**	**9.32**	**326**	*e*Pn	**P**	**22 46 20.9**	**+0.5**
	comp=Z,22nm,0.8s						
AAK	**Ala-Archa**	**9.32**	**326**	*e*P	**P**	**22 46 20.9**	**+0.5**
AAK				pmax	pmax		
	comp=Z,22nm,0.8s						
AML	**Almayashu**	**9.33**	**322**	P	**P**	**22 46 18.7**	**-1.8**
	SNR=20						
FRU	**Bishkek**	**9.43**	**327**	*e*P	**P**	**22 46 21.0**	**-0.8**
CHMS	**Chumysh**	**9.50**	**329**	P	**P**	**22 46 24.8**	**+1.9**
	SNR=11						
LSA	**Lhasa**	**9.76**	**121**	*e*P	**P**	**22 46 29.6**	**+3.2**
LSA				S	**Sn**	**22 48 16.9**	**-0.2**
LSA				LR	LR		
	comp=N,620nm,17.1s						
LSA				LR	LR		
	comp=E,750nm,15.9s						
LSA				LR	LR		
	comp=Z,520nm,9.1s						
LSA	**Lhasa**	**9.76**	**121**	*e*Pn	**P**	**22 46 30.0**	**+3.6**
	comp=Z,14nm,1.0s						
LSA	**Lhasa**	**9.76**	**121**	*e*P	**P**	**22 46 30.0**	**+3.6**
LSA				pmax	pmax		
	comp=Z,14nm,1.0s						
WMQ	**Urumqi**	**9.98**	**27**	*e*P	**P**	**22 46 29.8**	**+0.4**
WMQ				AP		22 46 40.8	
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.0s						
DRP	**Derazinda**	**10.00**	**254**	P	Px	22 46 26.2	
KK31	**Karatay Array**	**11.71**	**317**	⇓Pn	**P**	**22 46 50.3**	**-2.8**
	comp=Z,3.0nm,0.7s,baz=125,slow=13,SNR=28						
KK31				⇑Lg		22 50 06.3	
	comp=Z,20nm,1.1s,baz=118,slow=30						
KKAR	**Karatay Array**	**11.71**	**317**	*i* P	**P**	**22 46 50.3**	**-2.8**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MK31	**Makanchi Array**	**11.74**	**3**	⇓Pn	**P**	**22 46 49.7**	**-3.7**
	comp=Z,8.4nm,0.6s,baz=179,slow=12,SNR=66						
MK31				⇑Sn	**S**	**22 49 01.5**	**-4.1**
	comp=Z,8.6nm,0.8s						
MKAR	**Makanchi Array**	**11.74**	**3**	Pn	**P**	**22 46 49.6**	**-3.8**
	comp=Z,1.0nm,0.3s,baz=184,slow=13,SNR=41						
MKAR				Sn	**S**	**22 49 01.4**	**-4.3**
	comp=Z,0.5nm,0.3s,baz=190,slow=25,SNR=3.3						
MKAR				Lg		22 50 25.1	
	baz=190,slow=26,SNR=2.4						
GTA	**Gaotai**	**15.22**	**68**	*e*P	**P**	**22 47 45.8**	**+6.2**
GTA				AP		22 47 49.9	
GTA				XP		22 47 53.3	
GTA				S	**S**	**22 50 34.0**	**+5.0**
GTA				LG2		22 52 26.1	
GTA				AMB	AMB		
	comp=Z,7.0nm,0.7s						
GTA				LR	LR		
	comp=N,352nm,11.4s						
GTA				LR	LR		
	comp=E,249nm,11.4s						
GTA				LR	LR		
	comp=Z,285nm,12.5s						
KURK	**Kurchatov**	**15.79**	**353**	⇓P	**P**	**22 47 44.4**	**-2.4**
	comp=Z,15nm,1.3s						
KURK				⇑Lg		22 52 23.9	
	comp=Z,6.8nm,1.1s						
KURK	**Kurchatov**	**15.79**	**353**	*i* P	**P**	**22 47 44.4**	**-2.4**
KURK				pmax	pmax		
	comp=Z,15nm,1.3s						
POO	**Poona**	**17.81**	**204**	*e*P	**P**	**22 48 17.0**	**+4.5**
LZH	**Lanzhou**	**18.21**	**80**	*e*P	**P**	**22 48 14.4**	**-3.1**
LZH				AMB	AMB		
	comp=Z,13nm,1.0s						
LZH				LR	LR		
	comp=E,270nm,11.9s						
LZH				LR	LR		
	comp=Z,315nm,12.8s						
ZAL	**Zalesovo**	**19.02**	**6**	P	**P**	**22 48 24.4**	**-2.7**
	comp=Z,0.4nm,0.3s,baz=277,slow=11,SNR=12						
VOSK	**Vostochnaya**	**19.18**	**340**	⇓P	**P**	**22 48 27.3**	**-1.8**
	comp=Z,15nm,0.9s						
VOSK				⇑S	S	22 52 22.8	+23
	comp=Z,2.9nm,1.2s						
VOSK				⇑Lg		22 54 06.5	
	comp=Z,6.9nm,1.6s						
VOSK	**Vostochnaya**	**19.18**	**340**	P	**P**	**22 48 27.2**	**-1.9**
VOSK				pmax	pmax		
	comp=Z,13nm,0.9s						
BVA0	**Borovoye Array**	**19.61**	**340**	⇓P	**P**	**22 48 33.2**	**-0.9**
	comp=Z,2.9nm,1.6s,baz=199,slow=40,SNR=43						
BVA0				⇓Lg		22 54 13.6	
	comp=Z,1.6nm,1.4s						
BVA0	**Borovoye Array**	**19.61**	**340**	P	**P**	**22 48 33.7**	**-0.4**
BVA0				pmax	pmax		
	comp=Z,5.0nm,1.6s						
BVAR	**Borovoye Array**	**19.61**	**340**	P	**P**	**22 48 33.2**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=146,slow=11,SNR=35						
KMI	**Kunming**	**20.84**	**113**	P	**P**	**22 48 46.8**	**-0.5**
KMI				AP		22 48 51.4	
KMI				PP	PP	22 49 12.8	+3.2
KMI				S	**S**	**22 52 38.9**	**+4.0**
KMI				XS		22 52 48.5	
KMI				AMB	AMB		
	comp=Z,30nm,0.8s						
KMI				AMB	AMB		
	comp=Z,110nm,4.2s						
KMI				LR	LR		
	comp=N,170nm,13.2s,MS3.7						
KMI				LR	LR		
	comp=E,135nm,12.9s,MS3.7						
KMI				LR	LR		
	comp=Z,165nm,14.7s,MS3.5						
AB31	**Akbulak array**	**21.26**	**318**	⇑P	**P**	**22 48 48.6**	**-2.8**
	comp=Z,10nm,0.8s,mb4.2						
AB31	**Akbulak array**	**21.26**	**318**	P	**P**	**22 48 48.6**	**-2.8**
AB31				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.1						
ZAK	**Zakamensk**	**22.04**	**39**	*e*P	**P**	**22 49 00.3**	**+1.1**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb3.7						
SONM	**Songino Array**	**22.50**	**48**	P	**P**	**22 49 03.8**	**0.0**
	comp=Z,1.9nm,0.7s,mb3.6,baz=237,slow=12,SNR=7.8						
SONM				LR	LR	22 58 28.3	
	comp=Z,75nm,18.9s,MS3.1,baz=237,slow=39						
AKTO	**Aktyubinsk**	**22.95**	**319**	⇓P	**P**	**22 49 06.0**	**-2.2**
	comp=Z,1.4nm,0.8s,mb3.4						
GYA	**Guiyang**	**23.22**	**105**	P	**P**	**22 49 12.3**	**+1.2**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.4						
HHC	**Hu-ho-hao-te**	**24.34**	**67**	*e*P	**P**	**22 49 27.0**	**+5.2**
HHC				AMB	AMB		
	comp=Z,53nm,0.5s,mb5.2						
SVE	**Sverdlovsk**	**25.96**	**333**	*e*P	**P**	**22 49 39.3**	**+2.3**
SVE				*e*		22 50 18.0	
SVE				pmax	pmax		
	comp=Z,40nm,1.5s,mb4.7						
SVE				MLR	MLR		
	comp=N,200nm,16.0s,MS4.0						
SVE				MLR	MLR		
	comp=E,300nm,16.0s,MS4.0						
SVE				MLR	MLR		
	comp=Z,300nm,16.0s,MS3.9						
ARU	**Arti**	**26.47**	**331**	*e*P	**P**	**22 49 40.6**	**-1.1**
	comp=Z,13nm,0.9s,mb4.5						
ARU	**Arti**	**26.47**	**331**	*c i*P	**P**	**22 49 43.3**	**+1.6**
ARU				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.5						
ARU				MLR	MLR		
	comp=Z,200nm,17.0s,MS3.7						
ANN	**Anapa**	**34.79**	**300**	*e*P	**P**	**22 51 11.5**	**+16**
ANN				*i* *PP	pP	22 51 29.4	+31
ANN				*i*		22 52 18.6	
ANN				*e*PPP	PPP	22 52 37.5	+6.7
ANN				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
OBN	**Obninsk**	**36.70**	**317**	⇓*e*P	**P**	**22 51 12.9**	**+1.2**
OBN				*e*		22 52 32.0	
OBN				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.3						
OBN				MLR	MLR		
	comp=Z,100nm,15.0s,MS3.7						
BRTR	**Keskin Array B**	**37.95**	**292**	P	**P**	**22 51 22.2**	**-0.1**
	comp=Z,0.5nm,0.7s,mb3.4,baz=117,slow=9.7,SNR=3.1						
AKASG	**Malin Array Be**	**40.49**	**309**	P	**P**	**22 51 43.1**	**-0.1**
	comp=Z,1.3nm,0.6s,mb3.9,baz=75,slow=8.3,SNR=6.1						
MLR	**Muntele Rosu**	**42.87**	**302**	P	**P**	**22 52 03.3**	**+0.5**
	comp=Z,3.3nm,0.8s,mb4.1,baz=110,slow=6.3,SNR=5.6						
FINES	**FINESS Array B**	**43.51**	**325**	P	**P**	**22 52 09.4**	**+1.6**
	comp=Z,2.5nm,0.7s,mb4.1,baz=104,slow=7.9,SNR=10						
TIXI	**Tiksi**	**44.08**	**20**	*i* P	**P**	**22 52 22.3**	**+10**
TIXI				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.5						
ARCES	**ARCESS Array B**	**45.84**	**336**	P	**P**	**22 52 27.5**	**+1.1**
	comp=Z,4.5nm,0.8s,mb4.4,baz=100,slow=7.4,SNR=10						
OKC	**Ostrava-Krasne**	**47.62**	**308**	AMS	AMS	23 14 40.0	
	comp=Z,100nm,16.9s						
MORC	**Moravsky Berou**	**48.02**	**308**	*e*P	**P**	**22 52 42.2**	**-1.7**
	comp=Z,1.0nm,0.6s,mb4.0						
MORC	**Moravsky Berou**	**48.02**	**308**	*e*P	**P**	**22 52 42.2**	**-1.6**
MORC				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
DPC	**Dobruska-Polom**	**48.72**	**309**	*e*P	**P**	**22 52 50.1**	**+0.9**
DPC				AMS	AMS	23 15 10.0	
	comp=Z,300nm,15.5s						
HFS	**Hagfors**	**49.45**	**322**	P	**P**	**22 52 55.4**	**+0.7**
	comp=Z,4.0nm,0.8s,mb4.5,baz=162,slow=4.7,SNR=5.8						
PVCC	**Panska Ves**	**49.80**	**310**	AMS	AMS	23 15 50.0	
	comp=Z,300nm,15.9s						
PRU	**Pruhonice**	**49.91**	**309**	*e*P	**P**	**22 52 52.6**	**-5.8**
PRU				AMS	AMS	23 15 50.0	
	comp=Z,200nm,16.4s						
NB2	**NORSAR Subarra**	**50.64**	**324**	P	**P**	**22 53 05.5**	**+1.7**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
NOA	**NORSAR Array B**	**50.64**	**324**	P	**P**	**22 53 04.6**	**+0.8**
	comp=Z,2.7nm,0.9s,mb4.2,baz=88,slow=7.4,SNR=6.0						
NOA				LR	LR	23 15 11.1	
	comp=Z,74nm,20.4s,MS3.7,baz=90,slow=37						
GERES	**GERESS Array B**	**50.65**	**308**	P	**P**	**22 53 04.9**	**+0.9**
	comp=Z,0.9nm,0.8s,mb3.7,baz=72,slow=8.4,SNR=6.1						
GERES				LR	LR	23 19 02.1	
	comp=Z,41nm,18.5s,MS3.5,baz=47,slow=41						
KHC	**Kasperske Hory**	**50.67**	**308**	*e*P	**P**	**22 53 06.1**	**+1.9**
KHC				AMS	AMS	23 16 30.0	
	comp=Z,100nm,16.9s						
NKC	**Novy Kostel**	**51.19**	**310**	AMS	AMS	23 16 40.0	
	comp=Z,300nm,16.9s						
KMBO	**Kilima Mbogo**	**54.80**	**239**	P	**P**	**22 53 34.7**	**-0.8**
	comp=Z,0.8nm,0.7s,mb3.9,baz=52,slow=16,SNR=4.0						
BILL	**Bilibino**	**56.09**	**27**	*e*P	**P**	**22 53 56.5**	**+12**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.2						
BILL				MLR	MLR		
	comp=Z,100nm,19.0s,MS3.9						
SUMG	**Summit**	**65.05**	**343**	P	**P**	**22 54 45.5**	**+0.5**
	comp=Z,9.0nm,1.1s,mb4.7						
ILAR	**Eielson Array**	**73.56**	**20**	P	**P**	**22 55 35.2**	**-2.0**
	comp=Z,1.5nm,0.9s,mb3.9,baz=309,slow=5.1,SNR=12						
WRA	**Warramunga Arr**	**74.20**	**129**	P	**P**	**22 55 39.2**	**-2.7**
	comp=Z,1.7nm,0.7s,mb4.1,baz=326,slow=5.7,SNR=5.5						
YKA	**Yellowknife Ar**	**81.93**	**7**	P	**P**	**22 56 21.4**	**-2.0**
	comp=Z,1.3nm,0.7s,mb3.9,baz=343,slow=4.9,SNR=7.8						
YKA	**Yellowknife Ar**	**81.93**	**7**	P	**P**	**22 56 21.4**	**-2.1**
BOSA	**Boshof**	**82.62**	**227**	P	**P**	**22 56 25.7**	**-2.1**
	comp=Z,2.2nm,0.5s,mb4.4,baz=145,slow=21,SNR=9.0						
BOSA	**Boshof**	**82.62**	**227**	P	**P**	**22 56 25.7**	**-2.1**
BOSA				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
STKA	**Stephens Creek**	**87.28**	**132**	P	**P**	**22 56 48.6**	**-2.5**
	comp=Z,2.1nm,0.8s,mb4.4,baz=332,slow=0.7,SNR=3.0						
SNAA	**Sanae**	**121.12**	**202**	P	PKPdf	23 02 53.4	-4.9
SNAA	**Sanae**	**121.12**	**202**		PKPdf	23 03 00.7	+2.4
VNA2	**Neumayer--Watz**	**122.33**	**203**	P	PKPdf	23 02 56.7	-3.8
VNA2	**Neumayer--Watz**	**122.33**	**203**		PKPdf	23 03 00.5	0.0
VNA3	**Neumayer Olymp**	**123.12**	**203**	P	PKPdf	23 02 57.9	-4.2
VNA3	**Neumayer Olymp**	**123.12**	**203**		PKPdf	23 03 01.6	-0.5
LPAZ	**La Paz**	**147.04**	**297**	PKPbc	PKPdf	23 03 45.8	-1.6
	comp=Z,0.5nm,0.6s,slow=6.1,SNR=2.7						
LPAZ	**La Paz**	**147.04**	**297**	PKIKP	PKPdf	23 03 45.8	-1.6
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.6s						

CSEM ***15*** *22:52:22.4, 34.11N×26.41E, h10km, MD3.5/3, After ATH*
ATH 15 22:52:22.4, 34.11N×26.41E, h10km, MD3.5/3, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.96**	**322**	*e*PB	Pb	22 52 40.7	-0.1
NPS	**Neapolis**	**1.32**	**330**	*e*PB	Pb	22 52 47.0	+0.1
KARP	**Karpathos**	**1.56**	**23**	*e*PB	Pb	22 52 51.7	+0.7

IDC ***15*** *23:08:48.9±0.5, 14.29S×75.61W, h52km±3km, mb4.0/17, mb1 4.1/21, mb1mx4.1/23, mbtmp4.2/21, MS3.9/10, Ms1 3.9/10, ms1mx3.6/26, Error ellipse: s-maj=22.0km s-min=10.4km az=66.0*
NEIC ***15*** *23:08:48.8±0.2, 14.27S×75.51W, mb4.4/11, Error ellipse: s-maj=8.4km s-min=4.6km az=57.0*
NEIC Felt [III] at Ica.
ISC 15 23:08:46.9±0.3, 14.29S±0.06×75.53W±0.06, h50km, h50km±1.1km: pP-P, n59, φ0°9?72/54, mb4.2/24, MS4.0/9, 1C-2D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**7.41**	**107**	P	**P**	**23 10 40.4**	**+5.5**
	3.2nm,0.3s,baz=295,slow=9.2,SNR=50						
LPAZ				S	**S**	**23 12 04.5**	**+6.0**
	baz=332,slow=21,SNR=1.2						
LPAZ	**La Paz**	**7.41**	**107**	*e*Pn	**P**	**23 10 40.4**	**+5.5**
	27nm,0.8s						
LVC	**Limon Verde**	**10.39**	**144**	P	**P**	**23 11 16.2**	**+0.2**
	2.3nm,0.3s,baz=314,slow=11,SNR=18						
LVC				S	**S**	**23 13 08.8**	**-3.2**
	4.1nm,0.3s,baz=159,slow=19,SNR=6.0						
LVC				LR	LR	23 14 33.5	
	comp=Z,300nm,21.9s,baz=315,slow=33						
SAML	**Samuel**	**13.20**	**68**	*i* Pn	**P**	**23 11 53.4**	**-0.4**
	1.3nm,0.5s						
SIV	**San Ignacio**	**14.06**	**99**	P	**P**	**23 12 05.1**	**0.0**
	0.5nm,0.3s,baz=291,slow=12,SNR=12						
SIV				S	**S**	**23 14 40.8**	**+0.4**
	0.4nm,0.3s,baz=289,slow=15,SNR=3.5						
CFAA	**Coronel Fontan**	**18.49**	**160**	P	**P**	**23 13 01.4**	**+0.2**
	0.1nm,0.3s,baz=333,slow=12,SNR=42						
CFAA				LR	LR	23 19 07.1	
	comp=Z,31nm,21.4s,baz=360,slow=33						
ROSC	**El Rosal**	**19.05**	**4**	P	**P**	**23 13 06.9**	**-1.1**
	0.8nm,0.3s,baz=198,slow=6.4,SNR=2.4						
CPUP	**Villa Florida**	**20.82**	**128**	P	**P**	**23 13 27.0**	**+0.4**
	7.0nm,1.1s,baz=322,slow=13,SNR=13						
CPUP	**Villa Florida**	**20.82**	**128**	*e*P	**P**	**23 13 26.8**	**+0.2**
	15nm,1.2s						
SDV	**Santo Domingo**	**23.53**	**12**	P	**P**	**23 13 55.8**	**+2.3**
	15nm,0.9s,mb4.4,baz=236,slow=7.3,SNR=13						
SDV				LR	LR	23 24 13.2	
	comp=Z,554nm,19.2s,MS4.0,baz=222,slow=39						
SDV	**Santo Domingo**	**23.53**	**12**	*e*P	**P**	**23 13 56.0**	**+2.5**
	52nm,0.9s,mb5.0						
JTS	**JuntasAbangare**	**26.15**	**339**	LR	LR	23 22 54.6	
	comp=Z,45nm,20.1s,MS3.0,baz=152,slow=32						
BDFB	**Brasilia**	**26.61**	**96**	P	**P**	**23 14 22.7**	**0.0**
	3.0nm,0.8s,mb3.9,baz=291,slow=8.6,SNR=5.0						
BDFB				LR	LR	23 25 40.3	
	comp=Z,344nm,21.5s,MS3.9,baz=276,slow=38						
BAO	**Brasilia Array**	**26.63**	**96**	P	**P**	**23 14 22.0**	**-1.0**
PLCA	**Paso Flores**	**26.70**	**172**	P	**P**	**23 14 22.9**	**-0.5**
	10nm,0.7s,mb4.5,baz=346,slow=10,SNR=24						
PLCA	**Paso Flores**	**26.70**	**172**	*e*P	**P**	**23 14 22.4**	**-1.1**
	12nm,0.7s,mb4.5						
PLCA				*es*P	sP	23 14 41.3	-0.9
RPN	**Rapa Nui**	**33.99**	**243**	LR	LR	23 24 59.8	
	comp=Z,444nm,18.5s,MS4.2,baz=1.2,slow=29						
TXAR	**Lajitas Array**	**51.17**	**328**	P	**P**	**23 17 46.9**	**-0.6**
	0.8nm,0.6s,mb3.9,baz=150,slow=8.3,SNR=15						
TXAR				pP	pP	23 18 00.7	-0.4
	3.7nm,0.8s,baz=149,slow=8.8,SNR=17						
CPRX	**Cap Rock**	**54.28**	**331**	*e*P	**P**	**23 18 10.8**	**+0.3**
CPRX				*ep*P	pP	23 18 24.4	+0.1
ANMO	**Albuquerque**	**57.09**	**330**	P	**P**	**23 18 29.4**	**-1.4**
	0.8nm,0.5s,mb4.0,baz=135,slow=2.9,SNR=2.4						
ANMO				pP	pP	23 18 43.6	-1.1
	4.7nm,1.0s,baz=150,slow=8.2,SNR=5.9						
SDCO	**Great Sand Dun**	**58.92**	**332**	*e*P	**P**	**23 18 43.4**	**0.0**
	3.9nm,0.9s,mb4.4						
SDCO				*ep*P	pP	23 18 56.9	-0.5
ISCO	**Idaho Springs**	**60.66**	**334**	P	**P**	**23 18 55.8**	**+0.4**
	1.1nm,0.6s,mb4.2						
ISCO				*ep*P	pP	23 19 09.1	-0.2
TMUT	**Trail Mountain**	**62.85**	**329**	*e*P	**P**	**23 19 06.1**	**-4.0**
RSSD	**Black Hills**	**63.68**	**337**	*e*P	**P**	**23 19 15.6**	**+0.1**
	2.1nm,0.7s,mb4.3						
RSSD				*ep*P	pP	23 19 29.3	-0.3
DUG	**Dugway**	**64.33**	**329**	*e*P	**P**	**23 19 20.2**	**+0.5**
	4.9nm,0.8s,mb4.6						
DUG				*ep*P	pP	23 19 32.4	-1.4
PDAR	**Pinedale Array**	**64.80**	**333**	P	**P**	**23 19 22.6**	**-0.1**
	0.4nm,0.3s,mb3.9,baz=162,slow=9.4,SNR=4.1						
PDAR				pP	pP	23 19 36.4	-0.6
	1.4nm,0.8s,baz=169,slow=7.6,SNR=3.7						
ULM	**Lac du Bonnet**	**66.70**	**346**	P	**P**	**23 19 33.7**	**-1.1**
	2.2nm,0.6s,mb4.3,baz=124,slow=14,SNR=2.8						
ULM				pP	pP	23 19 48.1	-0.9
	9.9nm,1.0s,baz=142,slow=5.5,SNR=5.3						
HLID	**Hailey**	**67.66**	**330**	*e*P	**P**	**23 19 41.2**	**+0.3**
	1.3nm,0.6s,mb4.1						
HLID				*ep*P	pP	23 19 58.6	+3.5
BOZ	**Bozeman (W)**	**67.99**	**334**	*e*P	**P**	**23 19 43.2**	**+0.2**
	1.2nm,0.6s,mb4.1						
BOZ				*ep*P	pP	23 19 57.4	+0.2
VNA3	**Neumayer Olymp**	**68.88**	**162**		**P**	**23 19 48.8**	**+0.8**
VNA3	**Neumayer Olymp**	**68.88**	**162**		**P**	**23 20 03.9**	**+16**
VNA1	**Neumayer--Stat**	**69.14**	**161**		**P**	**23 19 50.9**	**+1.3**
VNA1	**Neumayer--Stat**	**69.14**	**161**		**P**	**23 20 06.1**	**+16**
SCHQ	**Schefferville**	**69.24**	**5**	P	**P**	**23 19 50.2**	**-0.3**
	3.4nm,0.9s,mb4.3,baz=212,slow=5.2,SNR=6.2						
SCHQ				LR	LR	23 52 05.4	
	comp=Z,48nm,19.4s,MS3.8,baz=29,slow=38						
SCHQ	**Schefferville**	**69.24**	**5**	P	**P**	**23 19 50.2**	**-0.3**
SCHQ				LR	LR	23 52 05.4	
VNA2	**Neumayer--Watz**	**69.50**	**161**		**P**	**23 19 51.9**	**+0.1**
VNA2	**Neumayer--Watz**	**69.50**	**161**		**P**	**23 20 00.8**	**+9.0**
VNA2	**Neumayer--Watz**	**69.50**	**161**		**P**	**23 20 07.7**	**+16**
CHMT	**Chamberlain Mo**	**69.69**	**333**	P	**P**	**23 19 53.7**	**+0.3**
CHMT				*ep*P	pP	23 20 07.1	-0.6
YBH	**Yreka Blue Hor**	**70.70**	**324**	P	**P**	**23 19 59.4**	**-0.2**
	2.1nm,1.0s,mb4.0,baz=157,slow=7.7,SNR=2.2						
YBH				pP	pP	23 20 13.2	-0.7
	3.7nm,1.0s,baz=169,slow=6.0,SNR=3.9						
SNAA	**Sanae**	**71.10**	**161**		**P**	**23 20 16.8**	**+15**
SNAA	**Sanae**	**71.10**	**161**	P	**P**	**23 20 01.5**	**-0.1**
	4.7nm,0.8s,mb4.5,baz=279,slow=5.5,SNR=74						
SNAA				pP	pP	23 20 16.6	+0.7
	4.8nm,0.8s,baz=291,slow=5.4,SNR=16						
SNAA	**Sanae**	**71.10**	**161**	P	**P**	**23 20 01.5**	**0.0**
WALA	**Waterton Lakes**	**71.63**	**335**	*e*P	**P**	**23 20 05.2**	**+0.2**

NP2:ϕ_s28°,δ53°,λ71°. Principal axes: T 1.263, Plg74°, Azm243°; N -.021, Plg15°, Azm39°; P -1.237, Plg6°, Azm131°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

IDC ***15*** *23:29:40.0±0.6, 42.37N×142.96E, h53km±5km, mb4.3/22, mb1 4.5/26, mb1mx4.4/28, mbtmp4.6/26, MS3.7/8, Ms1 3.7/8, ms1mx3.4/19 Error ellipse: s-maj=15.9km s-min=11.4km az=142.0*

NEIC ***15*** *23:29:40.2±0.2, 42.39N×142.94E, mb4.9/77, MW4.6(NIED), Error ellipse: s-maj=5.4km s-min=3.6km az=136.0*

NEIC Recorded [3 JMA] in the Obihiro area, [2 JMA] in south-central Hokkaido and [1 JMA] in the Chitose-Iwamizawa area and in eastern Hokkaido.

JMA ***15*** *23:29:41.6±0.1, 42.35N×143.04E, h51km±1km, M4.6 Broadband fault plane solution: P waves. NP1:ϕ_s248°, δ29°, λ128°. NP2:ϕ_s27°, δ67°, λ71°. Principal axes: T Plg63°, Azm266°; N Plg18°, Azm34°; P Plg20°, Azm131°;*

JMA Felt III J1.

ISC 15 23:29:39.6±0.3, 42.31N±0.03×143.02E±0.03, h63km±2km, h55km±2.5km: pP-P, n344, σ0.91/340, mb4.8/123, 99C-14D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.20**	**260**	⇓P	**P**	**23 29 50.0**	**+0.7**
JEM	**Erimo**	**0.32**	**161**	⇑P	**P**	**23 29 51.3**	**+1.1**
JCH	**Churui**	**0.39**	**40**	⇑P	**P**	**23 29 51.2**	**+0.4**
JCH				*e*S	**S**	**23 29 58.0**	**-1.2**
JBT2	**Biratori 2**	**0.67**	**314**	⇓P	**P**	**23 29 55.0**	**+1.3**
JOB	**Onbets**	**0.84**	**45**	⇑P	**P**	**23 29 57.1**	**+1.2**
JFR	**Furan**	**0.91**	**340**	⇓P	**P**	**23 29 56.8**	**+0.1**
JFR				*e*S	**S**	**23 30 08.9**	**-0.5**
JAR	**Ashorobuto**	**1.13**	**29**	⇑P	**P**	**23 30 00.2**	**+0.5**
JAR				*e*S	**S**	**23 30 14.2**	**-0.4**
JEW	**Eniwo**	**1.27**	**295**	⇓P	**P**	**23 30 03.0**	**+1.3**
JEW				*e*S	**S**	**23 30 19.5**	**+1.4**
JAB	**Ashibetsu**	**1.32**	**334**	⇓P	**P**	**23 30 04.0**	**+1.5**
JAK	**Akkeshi**	**1.41**	**61**	⇓P	**P**	**23 30 03.9**	**+0.2**
JAK				*e*S	**S**	**23 30 22.0**	**+0.4**
ASAJ	**Asahikawa**	**1.83**	**350**	P	**P**	**23 30 10.7**	**+1.3**
	619nm,0.3s,baz=229,slow=9.6,SNR=634						
ASAJ				S	**S**	**23 30 26.5**	**-4.9**
	384nm,0.3s,baz=185,slow=10.0,SNR=28						
ASAJ	**Asahikawa**	**1.83**	**350**	PN	**P**	**23 30 10.7**	**+1.3**
ASAJ				S	**S**	**23 30 26.5**	**-4.9**
ASAJ				pmax	pmax		
	comp=Z,619nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**2.70**	**49**	*e*P	**P**	**23 30 21.2**	**-0.5**
YUK				AMB	AMB	23 30 23.0	
	comp=Z,3μm,0.6s						
YUK				AMB	AMB	23 30 23.5	
	comp=Z,2μm,0.1s						
YUK				AMB	AMB	23 30 23.5	
	comp=Z,2μm,0.2s						
YUK				AMB	AMB	23 30 23.5	
	comp=Z,1μm,0.3s						
YUK				sP		23 30 34.5	
YUK				*i* S	**S**	**23 30 51.7**	**-1.5**
YUK				A		23 30 58.0	
	comp=Z,8μm,0.3s						
YUK				A		23 30 58.0	
	comp=Z,14μm,0.6s						
YUK				A		23 30 58.6	
	comp=Z,7μm,0.5s						
YUK				A		23 30 58.6	
	comp=Z,8μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**2.70**	**49**	*e*PN	**P**	**23 30 21.2**	**-0.5**
YUK				*i* S	**S**	**23 30 51.7**	**-1.5**
YUK				pmax	pmax		
	comp=Z,3μm,0.6s						
YUK				pmax	pmax		
	comp=Z,2μm,0.2s						
YUK				pmax	pmax		
	comp=N,2μm,0.2s						
YUK				pmax	pmax		
	comp=E,1μm,0.3s						
YUK				smax			
	comp=N,14μm,0.6s						
YUK				smax			
	comp=E,8μm,0.3s						
YUK				smax			
	comp=N,8μm,0.5s						
YUK				smax			
	comp=E,7μm,0.5s						
KUR	**Kuril'sk**	**4.56**	**49**	⇑*i*P	**P**	**23 30 47.0**	**-0.8**
KUR				AMB	AMB	23 31 02.7	
	comp=E,205nm,0.5s						
KUR				AMB	AMB	23 31 02.7	
	comp=E,76nm,0.5s						
KUR				AMB	AMB	23 31 02.7	
	comp=E,236nm,0.5s						
KUR				*e*S	**S**	**23 31 39.2**	**-0.9**
KUR				A		23 31 41.5	
	comp=E,4μm,1.0s						
KUR				A		23 31 41.5	
	comp=E,2μm,1.0s						
KUR				A		23 31 46.3	
	comp=E,380nm,0.5s						
KUR				A		23 31 46.3	
	comp=E,418nm,0.5s						
KUR	**Kuril'sk**	**4.56**	**49**	⇑*i*PN	**P**	**23 30 47.0**	**-0.8**
KUR				*e*S	**S**	**23 31 39.2**	**-0.9**
KUR				pmax	pmax		
	comp=N,210nm,0.5s						
KUR				pmax	pmax		
	comp=E,80nm,0.5s						
KUR				pmax	pmax		
	comp=Z,240nm,0.5s						
KUR				smax			
	comp=N,4μm,1.0s						
KUR				smax			
	comp=E,2μm,1.0s						
KUR				smax			
	comp=N,380nm,0.5s						
KUR				smax			
	comp=E,420nm,0.5s						
YSS	**Yuzh-Sakhalins**	**4.64**	**358**	⇑*i*P	**P**	**23 30 50.0**	**+1.1**
YSS				AMB	AMB	23 30 52.5	
	comp=E,160nm,1.0s						
YSS				*e*S	**S**	**23 31 40.7**	**-1.4**
YSS				A		23 31 45.0	
	comp=E,130nm,1.0s						
YSS				AMS	AMS	23 33 05.0	
	comp=E,400nm,13.0s						
YSS				AMS	AMS	23 33 05.0	
	comp=E,400nm,14.0s						
YSS	**Yuzh-Sakhalins**	**4.64**	**358**	*e*Pn	**P**	**23 30 50.3**	**+1.3**
YSS	**Yuzh-Sakhalins**	**4.64**	**358**	*e i*PN	**P**	**23 30 50.6**	**+1.7**
TEY	**Ternei**	**5.39**	**302**	*e*P	**P**	**23 30 58.0**	**-1.2**
TEY				*e*LR	LR	23 36 55.0	
UGL	**Uglegorsk**	**6.80**	**355**	*e*P	**P**	**23 31 20.0**	**+1.1**
UGL				AMB	AMB	23 31 21.0	
	comp=E,112nm,1.0s						
UGL				pP		23 31 29.5	
MAJO	**Matsushiro**	**6.86**	**214**	*e*Pn	**P**	**23 31 19.4**	**-0.4**
	comp=E,54nm,0.7s						
MAJO	**Matsushiro**	**6.86**	**214**	*e*PN	**P**	**23 31 19.4**	**-0.4**
MAJO				pmax	pmax		
	comp=Z,54nm,0.7s						
MAT	**Matsushiro**	**6.86**	**214**	P	**P**	**23 31 18.9**	**-0.9**
MAT				S	**S**	**23 32 47.7**	**+11**
MAT	**Matsushiro**	**6.86**	**214**	*e*P	**P**	**23 31 19.0**	**-0.8**
	comp=Z,15nm,0.6s						
MAT				*e*S	**S**	**23 32 51.0**	**+14**
MAT	**Matsushiro**	**6.86**	**214**	*e*PN	**P**	**23 31 19.0**	**-0.8**
MAT				*e*S	**S**	**23 32 51.0**	**+14**
MAT				pmax	pmax		
	comp=Z,15nm,0.6s						
MJAR	**Matsushiro Arr**	**6.86**	**214**	P	**P**	**23 31 19.1**	**-0.7**
	comp=Z,3.3nm,0.3s,baz=30,slow=12,SNR=49						
TYV	**Tymovskoe**	**8.56**	**358**	*e*P	**P**	**23 31 41.0**	**-2.1**
TYV				AMB	AMB	23 31 42.5	
	comp=Z,51nm,1.0s						
TYV				AMB	AMB	23 33 54.0	
	comp=Z,178nm,0.4s						
JHJ	**Hachijo jima 2**	**9.53**	**197**	P	**P**	**23 31 54.9**	**-1.5**
	comp=Z,17nm,0.3s,baz=15,slow=10.0,SNR=6.4						
JHJ				S	**S**	**23 33 34.7**	**-8.3**
	comp=Z,18nm,0.3s,baz=33,slow=22,SNR=7.8						
MDJ	**Mudanjiang**	**10.03**	**288**	P	**P**	**23 32 04.3**	**+1.1**
MDJ				AP		23 32 09.1	
MDJ				S	**S**	**23 33 56.9**	**+1.8**
MDJ				PCP	PcP	23 38 09.3	-0.1
MDJ				SCP		23 41 37.5	
MDJ				PCS		23 41 43.1	
MDJ				AMB	AMB		
	comp=Z,22nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,60nm,5.0s						
MDJ				LR	LR		
	comp=N,92nm,8.1s						
MDJ				LR	LR		
	comp=E,267nm,21.9s						
MDJ				LR	LR		
	comp=Z,459nm,20.5s						
KLR	**Kul'dur**	**10.47**	**315**	*e*PN	**P**	**23 32 08.9**	**-0.3**
KLR				MLR	MLR		
	comp=Z,700nm,13.0s						
CN2	**Changchun**	**12.94**	**283**	*e*P	**P**	**23 32 42.5**	**+0.2**
CN2				*e*S	**S**	**23 35 04.0**	**-1.2**
CN2				AMB	AMB		
	comp=Z,30nm,1.1s						
CN2				LR	LR		
	comp=N,310nm,16.0s						
CN2				LR	LR		
	comp=E,370nm,16.0s						
CN2				LR	LR		
	comp=Z,450nm,16.0s						
JNU	**Nakatsue**	**13.27**	**230**	P	**P**	**23 32 45.3**	**-1.4**
SNY	**Shenyang**	**14.45**	**275**	⇑P	**P**	**23 33 01.3**	**-0.7**
SNY				SS	SS	23 36 02.6	+3.2
SNY				AMB	AMB		
	comp=Z,10.0nm,0.9s						
SNY				LR	LR		
	comp=E,220nm,21.6s						
SNY				LR	LR		
	comp=Z,310nm,29.4s						
ZEA	**Zeya**	**15.51**	**323**	*e*P	**P**	**23 33 15.0**	**-0.6**
ZEA				AMB	AMB	23 33 15.7	
	comp=Z,25nm,0.7s						
ZEA				AMB	AMB	23 33 15.7	
	comp=Z,20nm,0.7s						
ZEA				AMB	AMB	23 33 15.7	
	comp=Z,27nm,0.9s						
DL2	**Dalian**	**16.59**	**265**	P	**P**	**23 33 30.3**	**+1.1**
DL2				AMB	AMB		
	comp=Z,20nm,0.6s						
HIA	**Hailar**	**17.62**	**301**	*e*P	**P**	**23 33 40.3**	**-1.7**
	comp=Z,9.0nm,0.5s						
HIA	**Hailar**	**17.62**	**301**	*e*P	**P**	**23 33 40.3**	**-1.8**
HIA				pmax	pmax		
	comp=Z,9.0nm,0.5s						
MA2	**Magadan**	**17.94**	**13**	*e*P	**P**	**23 33 43.2**	**-2.8**
	comp=Z,18nm,0.7s						
MA2	**Magadan**	**17.94**	**13**	*i* P	**P**	**23 33 44.5**	**-1.4**
MA2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
JOW	**Kunigami**	**19.60**	**223**	P	**P**	**23 34 03.6**	**-1.6**
	comp=Z,3.1nm,0.3s,baz=31,slow=15,SNR=6.4						
JOW				LR	LR	23 42 19.0	
	comp=Z,83nm,19.9s,baz=347,slow=39						
JOW	**Kunigami**	**19.60**	**223**	P	**P**	**23 34 03.6**	**-1.6**
JOW				LR	LR	23 42 19.0	
TIA	**Tai'an**	**20.91**	**262**	⇑P	**P**	**23 34 15.6**	**-3.3**
TIA				AMB	AMB		
	comp=Z,26nm,0.6s						
YAK	**Yakutsk**	**21.29**	**343**	*e*P	**P**	**23 34 19.3**	**-3.2**
YAK				*e**PP		23 34 38.5	
YAK				*e*S	**S**	**23 38 06.8**	**-3.5**
YAK				*e*		23 38 23.1	
YAK				*e**SS		23 38 38.4	
YAK				pmax	pmax		
	comp=Z,21nm,0.9s,mb4.5						
YAK				pmax	pmax		
	comp=N,5.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,2.0nm,0.8s						
YAK				smax			
	comp=N,11nm,1.0s						
YAK				smax			
	comp=E,5.0nm,1.0s						
SEY	**Seymchan**	**21.38**	**12**	*e*P	**P**	**23 34 20.4**	**-3.0**
SEY				*e*		23 34 31.6	
SEY				*e*		23 34 43.8	
SEY				*e*		23 38 58.4	
SEY				pmax	pmax		
	comp=N,10.0nm,0.8s						
SEY				pmax	pmax		
	comp=Z,20nm,0.8s,mb4.5						
CIT	**Chita**	**22.12**	**306**	*e*P	**P**	**23 34 33.0**	**+2.2**
CIT				*e*		23 34 50.6	
FX1	**Attu Island--F**	**22.75**	**52**	P	**P**	**23 34 38.4**	**+1.6**
	comp=Z,14nm,0.6s,mb4.6,baz=18,slow=5.5,SNR=18						
FX1	**Attu Island--F**	**22.75**	**52**	*e*P	**P**	**23 34 39.6**	**+2.7**
FX1				*e*pP		23 34 53.2	
FX1	**Attu Island--F**	**22.75**	**52**	P	**P**	**23 34 38.4**	**+1.6**
FX1				pmax	pmax		
	comp=Z,15nm,0.6s						
HHC	**Hu-ho-hao-te**	**23.51**	**277**	*e*P	**P**	**23 34 44.9**	**+0.6**
HHC				AP		23 34 56.9	
HHC				PP	PP	23 35 17.3	-0.9
HHC				S	**S**	**23 38 50.0**	**-0.1**
HHC				SS	SS	23 39 40.0	-1.9
HHC				PCS		23 42 08.8	
HHC				AMB	AMB		
	comp=Z,85nm,0.9s,mb5.2						
HHC				AMB	AMB		
	comp=Z,260nm,4.0s						
HHC				LR	LR		
	comp=N,287nm,18.4s						
HHC				LR	LR		
	comp=E,2μm,18.4s						
HHC				LR	LR		
	comp=Z,736nm,20.8s						
WHN	**Wuhan**	**25.76**	**252**	⇑P	**P**	**23 35 05.0**	**-1.0**
SONM	**Songino Array**	**26.27**	**295**	P	**P**	**23 35 10.1**	**-0.5**
	comp=Z,18nm,0.7s,mb4.7,baz=75,slow=8.5,SNR=138						
SONM				LR	LR	23 46 27.3	
	comp=Z,208nm,19.3s,baz=96,slow=38						
SONM	**Songino Array**	**26.27**	**295**	P	**P**	**23 35 10.1**	**-0.5**
SONM				LR	LR	23 46 27.3	
ZAK	**Zakamensk**	**28.31**	**300**	⇑*i*P	**P**	**23 35 28.5**	**-0.6**
ZAK				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.3						
BILL	**Bilibino**	**28.62**	**18**	*e*P	**P**	**23 35 29.3**	**-2.4**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.8						
BILL				MLR	MLR		
	comp=Z,100nm,16.0s						
ENH	**Enshi**	**29.39**	**257**	*e*P	**P**	**23 35 36.6**	**-2.3**
	comp=Z,18nm,0.6s,mb5.0						
MOY	**Mondy**	**29.78**	**303**	*e*P	**P**	**23 35 42.1**	**-0.1**
MOY				pmax	pmax		
	comp=Z,39nm,1.6s,mb4.9						
LZH	**Lanzhou**	**30.79**	**272**	*e*P	**P**	**23 35 51.0**	**-0.3**
LZH				AMB	AMB		
	comp=Z,25nm,1.0s,mb5.0						
LZH				AMB	AMB		
	comp=Z,125nm,4.0s						
GTA	**Gaotai**	**32.55**	**280**	⇑*i*P	**P**	**23 36 06.5**	**-0.1**
GTA				AP	pP	23 36 24.6	+2.4
GTA				XP	sP	23 36 31.6	+1.6
GTA				PCP	PcP	23 38 52.5	+0.4
GTA				S	**S**	**23 41 05.5**	**-11**
GTA				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.2						
GTA				AMB	AMB		
	comp=Z,81nm,7.6s						
GTA				LR	LR		
	comp=N,61nm,11.4s						
GTA				LR	LR		
	comp=E,154nm,14.8s						
GTA				LR	LR		
	comp=Z,162nm,20.2s						
CD2	**Chengdu**	**33.23**	**263**	P	**P**	**23 36 12.4**	**-0.3**
CD2				PP	PP	23 37 23.8	-1.7
CD2				S	**S**	**23 41 26.9**	**-0.2**
CD2				SS	SS	23 43 29.0	-3.1
GYA	**Guiyang**	**33.62**	**254**	⇓*i*P	**P**	**23 36 15.3**	**-0.7**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
KMI	**Kunming**	**37.24**	**256**	P	**P**	**23 36 47.3**	**+0.6**
KMI				AMB	AMB		
	comp=Z,19nm,0.8s,mb5.0						
KMI				LR	LR		
	comp=Z,62nm,29.8s						
ZAL	**Zalesovo**	**39.48**	**308**	P	**P**	**23 37 04.7**	**-0.4**
	comp=Z,18nm,0.7s,mb4.9,baz=25,slow=8.9,SNR=106						
ZAL				PcP	PcP	23 39 11.7	-0.8
	comp=Z,4.1nm,0.6s,baz=51,slow=2.3,SNR=5.9						
ZAL				LR	LR	23 55 07.8	
	comp=Z,118nm,19.9s,baz=28,slow=39						
WMQ	**Urumqi**	**39.80**	**292**	P	**P**	**23 37 08.0**	**+0.1**
WMQ				AP	pP	23 37 23.0	-0.8
WMQ				XP	sP	23 37 31.0	-0.3
WMQ				PP	PP	23 38 41.0	-3.0
WMQ				S	**S**	**23 43 00.0**	**-7.4**
WMQ				SS	SS	23 45 57.0	-2.4
WMQ				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,21nm,7.0s						
WMQ				LR	LR		
	comp=N,65nm,16.0s						
WMQ				LR	LR		
	comp=E,150nm,18.0s						
WMQ				LR	LR		
	comp=Z,145nm,16.0s						
NVS	**Novosibirsk**	**40.27**	**309**	⇑*i*P	**P**	**23 37 11.0**	**-0.6**
NVS				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.8						
IMA	**Indian Mountai**	**41.56**	**33**	*e*P	**P**	**23 37 21.9**	**-0.1**
	comp=Z,25nm,0.6s,mb5.0						
IMA				*e*pP	pP	23 37 41.6	+3.7
IMA	**Indian Mountai**	**41.56**	**33**	*e*P	**P**	**23 37 21.9**	**-0.1**
IMA				pmax	pmax		
	comp=Z,25nm,0.6s,mb5.0						
MKAR	**Makanchi Array**	**42.56**	**298**	P	**P**	**23 37 30.4**	**-0.1**
	comp=Z,15nm,0.6s,mb4.9,baz=82,slow=10.0,SNR=192						
MKAR				PcP	PcP	23 39 21.5	-1.1
	comp=Z,2.9nm,0.7s,baz=63,slow=2.7,SNR=3.7						
MKAR				LR	LR	23 56 19.8	
	comp=Z,66nm,18.1s,baz=271,slow=38						
MKAR	**Makanchi Array**	**42.56**	**298**	P	**P**	**23 37 30.4**	**-0.1**
MKAR				PcP	PcP	23 39 21.5	-1.1
MKAR				LR	LR	23 56 19.8	
NANT	**Nan**	**42.74**	**250**	⇓P	**P**	**23 37 30.0**	**-2.4**
	comp=Z,152nm,0.8s,mb5.8						
KKTK	**Khon Kaen**	**42.99**	**245**	P	**P**	**23 37 33.5**	**-0.9**
	comp=Z,370nm,0.6s						
LSA	**Lhasa**	**43.19**	**270**	*e*P	**P**	**23 37 37.6**	**+1.7**
LSA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
LSA	**Lhasa**	**43.19**	**270**	*e*P	**P**	**23 37 37.1**	**+1.3**
	comp=Z,9.0nm,0.6s,mb4.7						
LSA				*e*pP	pP	23 37 58.6	+6.7
LSA	**Lhasa**	**43.19**	**270**	*e*P	**P**	**23 37 37.1**	**+1.2**
LSA				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.7						
KURK	**Kurchatov**	**43.82**	**304**	⇑*i*P	**P**	**23 37 40.2**	**-0.5**
	comp=Z,58nm,0.8s,mb5.4						
KURK				*e*PcP	PcP	23 39 25.9	-0.8
KURK	**Kurchatov**	**43.82**	**304**	⇑*i*P	**P**	**23 37 40.2**	**-0.5**
KURK				*e*		23 39 25.9	
KURK				pmax	pmax		
	comp=Z,58nm,0.8s,mb5.4						
CHG	**Chiang Mai**	**43.97**	**252**	⇑P	**P**	**23 37 42.8**	**+0.5**
	comp=Z,14nm,0.8s,mb4.7						
SML	**Sawmill**	**44.07**	**39**	*e*P	**P**	**23 37 43.0**	**+0.5**
SML				*e*pP	pP	23 37 56.3	-2.3
ILAR	**Eielson Array**	**44.42**	**35**	P	**P**	**23 37 44.9**	**-0.4**
	comp=Z,6.6nm,0.9s,mb4.4,baz=264,slow=6.3,SNR=42						
VOSK	**Vostochnaya**	**47.82**	**309**	P	**P**	**23 38 11.8**	**-0.5**
VOSK				pmax	pmax		
	comp=Z,26nm,1.1s,mb5.2						
BVA0	**Borovoye Array**	**48.07**	**309**	*i* P	**P**	**23 38 14.2**	**-0.1**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
BVAR	**Borovoye Array**	**48.07**	**309**	P	**P**	**23 38 14.0**	**-0.3**
	comp=Z,13nm,0.3s,mb5.4,baz=80,slow=9.1,SNR=140						
BVAR				PcP	PcP	23 39 41.3	-0.3
	comp=Z,7.4nm,0.6s,baz=80,slow=2.4,SNR=9.5						
BRVK	**Borovoye**	**48.12**	**309**	*e*P	**P**	**23 38 14.2**	**-0.4**
	comp=Z,6.9nm,0.4s,mb5.0						
BRVK				*e*PcP	PcP	23 39 41.5	-0.3
BRVK	**Borovoye**	**48.12**	**309**	*e*P	**P**	**23 38 14.2**	**-0.4**
BRVK				*e*		23 39 41.5	
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.4s,mb5.0						
TKM2	**Tokmak 2**	**48.37**	**295**	P	**P**	**23 38 17.3**	**+0.5**
SNR=36							
KKN	**Kakani**	**48.56**	**272**	*e*P	**P**	**23 38 18.6**	**+0.2**
	comp=Z,48nm,0.8s,mb5.6						
KKN	**Kakani**	**48.56**	**272**	*e*P	**P**	**23 38 18.6**	**+0.2**
KKN				pmax	pmax		
	comp=Z,24nm,0.8s,mb5.3						
PKI	**Pulchoki**	**48.58**	**272**	*e*P	**P**	**23 38 18.3**	**-0.3**
	comp=Z,17nm,0.5s,mb5.3						
PKI	**Pulchoki**	**48.58**	**272**	*e*P	**P**	**23 38 18.3**	**-0.3**
PKI				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb5.1						
DMN	**Daman**	**48.79**	**272**	*e*P	**P**	**23 38 20.3**	**+0.1**
	comp=Z,28nm,0.5s,mb5.6						
KBK	**Karagaybulak**	**48.92**	**295**	P	**P**	**23 38 21.2**	**+0.2**
SNR=21							
GKN	**Gorkha**	**48.92**	**273**	*e*P	**P**	**23 38 21.0**	**-0.2**
	comp=Z,34nm,0.4s,mb5.7						
KZA	**Kyzart**	**48.95**	**294**	P	**P**	**23 38 22.5**	**+1.2**
SNR=9.3							
USP	**Ospenovka**	**48.97**	**296**	P	**P**	**23 38 21.2**	**-0.1**
SNR=12							
INK	**Inuvik**	**49.15**	**29**	P	**P**	**23 38 21.8**	**-0.7**
	comp=Z,4.4nm,0.4s,mb4.8,baz=301,slow=4.6,SNR=31						
INK	**Inuvik**	**49.15**	**29**	*e*P	**P**	**23 38 21.3**	**-1.1**
	comp=Z,5.6nm,0.5s,mb4.8						
INK	**Inuvik**	**49.15**	**29**	*e*P	**P**	**23 38 21.3**	**-1.2**
INK				pmax	pmax		
	comp=Z,6.0nm,0.5s						
AAK	**Ala-Archa**	**49.23**	**295**	P	**P**	**23 38 23.2**	**-0.1**
SNR=6.0							
AAK	**Ala-Archa**	**49.23**	**295**	*e*P	**P**	**23 38 21.7**	**-1.7**
	comp=Z,6.6nm,0.4s,mb5.0						
AAK	**Ala-Archa**	**49.23**	**295**	*e*P	**P**	**23 38 21.7**	**-1.7**
AAK				pmax	pmax		
	comp=Z,7.0nm,0.4s,mb5.0						
KSH	**Kashi**	**49.55**	**291**	*e*P	**P**	**23 38 25.1**	**-0.8**
KSH				*e*PP	PP	23 40 18.3	-2.8
KSH				*e*SCP		23 43 38.0	
KSH				*e*PCS		23 43 43.0	
KSH				*e*S	**S**	**23 45 25.3**	**-2.4**
KSH				*e*SCS	ScS	23 48 10.0	+1.5
KSH				*e*SS	SS	23 48 51.3	-5.3
KSH				AMB	AMB		
	comp=Z,110nm,2.4s,mb5.5						
KSH				LR	LR		
	comp=N,140nm,5.0s						
KSH				LR	LR		
	comp=E,180nm,5.1s						
KOLN	**Koldanda**	**49.82**	**273**	*e*P	**P**	**23 38 28.3**	**+0.2**
	comp=E,34nm,0.6s,mb5.6						
AML	**Almayashu**	**49.98**	**295**	P	**P**	**23 38 29.6**	**+0.4**
SNR=12							
KKAR	**Karatay Array**	**51.69**	**297**	*i* P	**P**	**23 38 41.3**	**-0.8**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
SVE	**Sverdlovsk**	**52.10**	**316**	⇑*e*P	**P**	**23 38 44.0**	**-0.9**
SVE				pmax	pmax		
	comp=Z,60nm,0.9s,mb5.5						
SVE				MLR	MLR		
	comp=E,100nm,9.0s						
SVE				MLR	MLR		
	comp=Z,200nm,9.0s						
ARU	**Arti**	**53.31**	**316**	⇑*i*P	**P**	**23 38 53.0**	**-1.0**
	comp=Z,38nm,0.6s,mb5.5						
ARU				*e*PcP	PcP	23 39 59.4	-1.4
ARU	**Arti**	**53.31**	**316**	⇑*i*P	**P**	**23 38 53.1**	**-0.9**
ARU				*e*		23 39 59.4	
ARU				pmax	pmax		
	comp=Z,38nm,0.6s,mb5.5						
AB31	**Akbulak array**	**55.58**	**308**	P	**P**	**23 39 09.9**	**-0.7**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.6						
RES	**Resolute Bay**	**57.19**	**16**	P	**P**	**23 39 20.5**	**-1.4**
YKA	**Yellowknife Ar**	**58.65**	**32**	P	**P**	**23 39 31.1**	**-1.0**
	comp=Z,1.4nm,0.5s,mb4.3,baz=304,slow=6.4,SNR=14						
YKA				pP	pP	23 39 45.1	-3.8
	comp=Z,2.5nm,0.7s,baz=306,slow=6.5,SNR=9.4						
YKA	**Yellowknife Ar**	**58.65**	**32**	P	**P**	**23 39 31.1**	**-1.1**
YKA				*PP	pP	23 39 45.1	-3.8
YKA	

KEV Kevo 58.97 339 *ep* **P 23 39 32.6 -1.7**
comp=Z,6.1nm,0.5s,mb4.9
KEV Kevo 58.97 339 *eP* **P 23 39 32.6 -1.7**
KEV pmax pmax
comp=Z,6.0nm,0.5s,mb4.9
ARCES ARCESS Array B 59.51 339 P **P 23 39 36.6 -1.4**
comp=Z,2.0nm,0.5s,mb4.4,baz=50,slow=8.0,SNR=37
ARCES PcP PcP 23 40 23.9 -0.8
comp=Z,1.4nm,0.5s,baz=53,slow=4.0,SNR=6.4
ARE0 ARCESS Array S 59.51 339 *eP* **P 23 39 37.2 -0.9**
KTK1 Kautokeino 60.47 339 *eP* **P 23 39 44.3 -0.3**
KTK1 AMb AMB 23 39 47.1
comp=Z,23nm,2.4s,mb4.8
KTK1 Kautokeino 60.47 339 *eP* **P 23 39 44.3 -0.3**
comp=Z,23nm,2.4s,mb4.8
TRO Tromso 61.14 341 *eP* **P 23 39 50.6 +1.5**
TRO AMb AMB 23 39 55.0
comp=Z,20nm,1.2s,mb5.1
TRO Tromso 61.14 341 *eP* **P 23 39 50.6 +1.5**
comp=Z,20nm,1.2s,mb5.1
WRA Warramunga Arr 62.46 189 P **P 23 39 57.2 -1.4**
comp=Z,2.5nm,0.7s,mb4.5,baz=3.8,slow=6.7,SNR=4.8
WRA pP pP 23 40 13.1 -2.4
comp=Z,3.3nm,0.8s,baz=7.6,slow=7.1,SNR=6.9
KAF Kangasniemi 64.20 332 *ep* **P 23 40 07.2 -2.2**
comp=Z,5.3nm,0.5s,mb4.8,baz=46,slow=6.3
KAF Kangasniemi 64.20 332 *eP* **P 23 40 07.2 -2.2**
KAF pmax pmax
comp=Z,5.0nm,0.5s,mb4.8
EDM Edmonton 64.48 40 *eP* **P 23 40 11.2 -0.2**
OBN Obninsk 64.64 322*c iP* **P 23 40 11.1 -1.3**
OBN *e* 23 40 44.9
OBN *e* 23 42 32.0
OBN pmax pmax
comp=Z,33nm,1.4s,mb5.2
OBN MLR MLR
comp=Z,100nm,26.0s
FINES FINESS Array B 64.74 332 P **P 23 40 11.5 -1.4**
comp=Z,7.9nm,0.4s,mb5.1,baz=47,slow=8.3,SNR=152
FINES LR LR 00 09 35.0
comp=Z,64nm,21.6s,baz=175,slow=37
FINES FINESS Array B 64.74 332 P **P 23 40 11.5 -1.4**
FINES LR LR 00 09 35.0
MOR8 Moi Rana 64.85 339 *eP* **P 23 40 10.9 -2.7**
MOR8 AMb AMB 23 40 12.6
comp=Z,35nm,0.7s,mb5.5
MOR8 Moi Rana 64.85 339 *eP* **P 23 40 10.9 -2.7**
comp=Z,35nm,0.7s,mb5.5
SUMG Summit 65.41 0 *eP* **P 23 40 16.7 -0.4**
comp=Z,22nm,0.8s,mb5.2
NEW Newport 65.54 46 P **P 23 40 18.2 -0.1**
comp=Z,1.2nm,0.4s,mb4.2,baz=339,slow=3.0,SNR=4.6
VSU Vasula 66.55 329*c iP* **P 23 40 23.4 -1.1**
GOF Gofitskoye 67.54 311⇑*iP* **P 23 40 31.0 0.0**
GOF pmax pmax
comp=Z,35nm,0.8s,mb5.4
KIV Kislovodsk 68.42 310⇑*eP* **P 23 40 36.4 0.0**
comp=Z,41nm,0.8s,mb5.5
KIV Kislovodsk 68.42 310*c iP* **P 23 40 36.7 +0.3**
KIV pmax pmax
comp=Z,28nm,0.7s,mb5.4
ZEI Tsey 68.45 309 *eP* **P 23 40 34.9 -1.8**
ZEI *i* *PP pP 23 40 51.1 -2.7
ZEI pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
TBLG Delisi 68.60 307 P **P 23 40 37.3 -0.3**
HRY Holter Researc 69.31 45 *eP* **P 23 40 42.3 +0.4**
HRY *ep*P pP 23 40 56.5 -2.6
GNI Garni 69.58 306 *i P* **P 23 40 45.1 +1.4**
GNI pmax pmax
comp=Z,13nm,1.4s
NB2 NORSAR Subarra 69.80 337 P **P 23 40 43.7 -0.9**
comp=Z,33nm,1.2s,mb5.1,baz=34,slow=6.2
NB2 NORSAR Subarra 69.80 337 P **P 23 40 43.7 -0.9**
baz=34,slow=6.5
NB2 NORSAR Subarra 69.80 337 P **P 23 40 43.7 -0.9**
NB2 pmax pmax
comp=Z,33nm,1.2s,mb5.1
NOA NORSAR Array B 69.80 337 P **P 23 40 43.6 -1.1**
comp=Z,5.6nm,0.5s,mb4.8,baz=34,slow=6.3,SNR=36
NOA LR LR 00 14 00.2
comp=Z,31nm,21.6s,baz=255,slow=38
BOZ Bozeman (W) 70.11 46 *eP* **P 23 40 47.4 +0.6**
comp=Z,3.9nm,0.8s,mb4.4
BOZ Bozeman (W) 70.11 46 *eP* **P 23 40 47.4 +0.6**
BOZ pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
ANN Anapa 70.78 313 *eP* **P 23 40 37.7 -13**
ANN *e* pP 23 40 50.3 -18
ANN *i* *PP pP 23 41 11.9 +3.8
ANN pmax pmax
comp=Z,35nm,1.2s,mb5.2
AKASG Malin Array Be 70.89 322 P **P 23 40 50.3 -1.1**
comp=Z,4.0nm,0.4s,mb4.7,baz=42,slow=5.9,SNR=38
IMW Indian Meadow 71.63 47 *eP* **P 23 40 57.3 +1.3**
comp=Z,2.0nm,0.8s,mb4.1
IMW *ep*P pP 23 41 11.5 -1.7
RRI2 Red Ridge 71.78 48 *eP* **P 23 40 57.4 +0.6**
comp=Z,3.1nm,0.8s,mb4.3
PDAR Pinedale Array 73.13 47 P **P 23 41 05.3 +0.6**
comp=Z,0.9nm,0.5s,mb3.9,baz=233,slow=7.4,SNR=10
PDAR pP pP 23 41 19.6 -2.5
comp=Z,1.7nm,0.7s,baz=333,slow=3.3,SNR=6.6
BSD Bornholm Skovb 73.38 332 *i P* **P 23 41 04.7 -1.3**
comp=Z,19nm,0.9s,mb5.0
BSD Bornholm Skovb 73.38 332 *i P* **P 23 41 04.7 -1.3**
BSD pmax pmax
comp=Z,19nm,0.9s,mb5.0
GKP Gorka Klasztor 73.99 330 *eP* **P 23 41 09.4 -0.2**
GKP Gorka Klasztor 73.99 330 *eP* **P 23 41 09.4 -0.2**
ULM Lac du Bonnet 74.44 35 P **P 23 41 11.4 -0.9**
comp=Z,1.9nm,0.5s,mb4.3,baz=291,slow=7.8,SNR=3.0
MIB Mutribah 74.46 296 *eP* **P 23 41 12.2 -0.6**
MIB AMb AMB 23 41 13.9
comp=Z,32nm,0.7s,mb5.3
MALT Malatya 74.51 308 *eP* **P 23 41 13.9 +1.0**
comp=Z,4.2nm,0.7s,mb4.5
MALT *ep*P pP 23 41 29.3 -0.9
MALT Malatya 74.51 308 *eP* **P 23 41 13.9 +1.0**
MALT *e**PP pP 23 41 29.3 -0.9
MALT pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
QRN Al-Qurain 74.75 295 *eP* **P 23 41 14.7 +0.2**
QRN AMb AMB 23 41 15.4
comp=Z,48nm,0.3s,mb5.9
NAY Al-Naaiem 74.88 296 *eP* **P 23 41 14.8 -0.5**
NAY AMb AMB 23 41 15.8
comp=Z,16nm,0.7s,mb5.0
RDF Al-Radifah 74.88 295 *eP* **P 23 41 15.5 +0.2**
RDF AMb AMB 23 41 16.5
comp=Z,36nm,0.7s,mb5.5
SRU San Rafael 75.06 51 *eP* **P 23 41 16.1 +0.1**
KOLS Kolonicke sedl 75.28 324 *eP* **P 23 41 16.0 -1.1**
CFR Carcaliu 75.32 318 ⇑*P* **P 23 41 16.7 -0.7**
OJC Ojcow 75.35 326⇑*eP* **P 23 41 17.7 +0.3**
STHS Stebnicka Huta 75.35 325 *eP* **P 23 41 18.0 +0.5**
VRI Vrincioaia 75.51 320 ⇑*P* **P 23 41 19.4 +0.9**
TIRR Tirgusor 75.70 318 ⇓*P* **P 23 41 19.9 +0.3**
NIE Niedzica 75.75 325 *eP* **P 23 41 20.6 +0.9**
HARR Harsova 75.77 318 ⇓*P* **P 23 41 19.5 -0.5**
BSEG Bad Segeberg 75.91 333 *eP* **P 23 41 19.0 -1.6**
MLR Muntele Rosu 76.16 320 ⇑*P* **P 23 41 22.1 -0.1**
KSP Ksiaz 76.26 328 *eP* **P 23 41 23.1 +0.4**
KSP Ksiaz 76.26 328⇑*eP* **P 23 41 22.9 +0.3**
BR131 Keskin Array S 76.28 312 *eP* **P 23 41 22.6 -0.3**
comp=Z,5.1nm,0.7s,mb4.6
BR131 *e*PcP PcP 23 41 35.2 +0.1
BRTR Keskin Array B 76.28 312 P **P 23 41 22.4 -0.5**
comp=Z,3.9nm,0.7s,mb4.5,baz=80,slow=3.7,SNR=21
BRTR PP PP 23 44 13.9 -2.5
comp=Z,1.0nm,0.8s,baz=72,slow=3.9,SNR=3.6
OKC Ostrava-Krasne 76.32 327 *eP* **P 23 41 23.6 +0.6**
KECS Kecovo 76.39 325 *eP* **P 23 41 23.2 -0.2**
KECS *ep*P pP 23 41 40.8 0.0
PV10 Paradox Valley 76.41 50 *eP* **P 23 41 24.6 +0.9**
MORC Moravsky Berou 76.61 327 *eP* **P 23 41 24.5 -0.1**
comp=Z,8.3nm,0.7s,mb4.8
MORC Moravsky Berou 76.61 327 *eP* **P 23 41 24.5 -0.1**
MORC pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
VOIR 76.62 320 ⇑*P* **P 23 41 26.1 +1.3**
UPC Upice 76.64 328 *eP* **P 23 41 25.2 +0.4**
DPC Dobruska-Polom 76.64 328 *eP* **P 23 41 25.4 +0.6**
DRGR 76.69 322 ⇓*P* **P 23 41 24.8 -0.4**
CLL Collm 77.13 330 ⇑*P* **P 23 41 27.1 -0.4**
comp=Z,logA/T=1.3,mb5.0
CLL Collm 77.13 330⇑*iP* **P 23 41 27.1 -0.4**
comp=Z,16nm,0.8s,mb5.0
CLL *e* 23 41 56.0
CLL *e* 23 42 11.0
CLL Collm 77.13 330⇑*iP* **P 23 41 27.1 -0.4**
CLL pmax pmax
comp=Z,16nm,0.8s,mb5.0
BRG Berggiesshubel 77.13 330 *eP* **P 23 41 27.4 -0.1**
comp=Z,3.6nm,0.8s,mb4.3
BRG Berggiesshubel 77.13 330 *eP* **P 23 41 27.4 -0.1**
BRG pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
PVCC Panska Ves 77.18 329 *eP* **P 23 41 28.0 +0.2**
PRU Pruhonice 77.62 329 *eP* **P 23 41 30.4 +0.2**
SMOL Smolenice 77.65 326 *eP* **P 23 41 31.0 +0.6**
MOX Moxa 78.18 331 *i P* **P 23 41 33.2 -0.1**
MOX Moxa 78.18 331 *eP* **P 23 41 33.2 -0.1**
NKC Novy Kostel 78.21 330 *eP* **P 23 41 33.7 +0.2**
KHC Kasperske Hory 78.68 329 *eP* **P 23 41 36.3 +0.2**
GERES GERESS Array B 78.87 329 P **P 23 41 36.9 -0.3**
comp=Z,2.6nm,0.6s,mb4.3,baz=37,slow=6.4,SNR=25
GERES LR LR 00 18 21.1
comp=Z,74nm,19.1s,baz=356,slow=37
WET Wettzell 78.94 329 *eP* **P 23 41 37.8 +0.3**
comp=Z,6.0nm,0.8s,mb4.6
WET Wettzell 78.94 329 *eP* **P 23 41 37.8 +0.3**
WET pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
GRA1 Grafenberg Arr 79.11 330 *eP* **P 23 41 38.7 +0.3**
comp=Z,16nm,0.7s,mb5.1
GRF Grafenberg Arr 79.11 330 *eP* **P 23 41 38.7 +0.3**
comp=Z,16nm,0.7s,mb5.1
GRF LR LR
comp=Z,100nm,21.8s
GRF Grafenberg Arr 79.11 330 *eP* **P 23 41 38.7 +0.3**
GRF pmax pmax
comp=Z,16nm,0.7s,mb5.1
GRF MLR MLR
comp=Z,100nm,21.8s
ARSA Arzberg 79.43 327 ⇑*iP* **P 23 41 40.7 +0.5**
comp=Z,5.5nm,1.2s,mb4.4
VTS Vitosha 79.63 319 *eP* **P 23 41 42.0 +0.6**
TNS Taunus Mts 79.65 332 *eP* **P 23 41 41.6 +0.3**
comp=Z,4.0nm,0.7s,mb4.5
TNS Taunus Mts 79.65 332 *eP* **P 23 41 41.6 +0.3**
TNS pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
MZLS Mizel 79.67 293 P **P 23 41 42.2 +0.2**
HILS Ha'il 79.72 298 P **P 23 41 42.8 +0.6**
SCHQ Schefferville 79.93 17 P **P 23 41 42.5 -0.2**
comp=Z,1.8nm,0.7s,mb4.1,slow=10,SNR=4.2
PERS Pernice 80.09 326 *eP* **P 23 41 44.0 +0.2**
MMB Musomiste 80.14 318 *i P* **P 23 41 45.0 +0.9**
KKB Krupnik 80.24 319 *eP* **P 23 41 45.3 +0.6**
ANMO Albuquerque 80.28 51⇓*eP* **P 23 41 46.8 +1.8**
FUR Furstenfeldbru 80.35 330 *eP* **P 23 41 45.3 +0.2**
comp=Z,18nm,0.9s,mb5.0
FUR Furstenfeldbru 80.35 330 *eP* **P 23 41 45.3 +0.2**
FUR pmax pmax
comp=Z,18nm,0.9s,mb5.0
LJU Ljubljana 80.81 326 *eP* **P 23 41 47.4 -0.2**
VISS Visnje 80.88 326 *eP* **P 23 41 47.7 -0.3**
WATA Walderalm 80.92 329 ⇑*iP* **P 23 41 48.5 +0.3**
comp=Z,5.5nm,1.1s,mb4.4
WATA Walderalm 80.92 329⇑*iP* **P 23 41 48.5 +0.3**
WATA pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
BOJS Bojanci 80.95 326 *eP* **P 23 41 48.3 0.0**
WTTA Wattenberg 80.96 329 ⇑*iP* **P 23 41 49.0 +0.6**
comp=Z,9.3nm,0.6s,mb4.9
WTTA Wattenberg 80.96 329⇑*iP* **P 23 41 49.0 +0.6**
WTTA pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
GIVF Givet 80.96 334 *eP* **P 23 41 47.9 -0.4**
comp=Z,15nm,0.9s,mb4.6
GIVF Givet 80.96 334 *eP* **P 23 41 47.9 -0.4**
GIVF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
PTCC Patocco-Chiusa 80.99 327⇓*iP* **P 23 41 47.9 -0.7**
MOTA Moosalm 81.10 329 ⇑*iP* **P 23 41 49.5 +0.4**
comp=Z,9.4nm,0.9s,mb4.7
MOTA Moosalm 81.10 329⇑*iP* **P 23 41 49.5 +0.4**
MOTA pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
SQTA Sankt Quirin 81.16 329 ⇑*iP* **P 23 41 49.8 +0.4**
comp=Z,5.0nm,0.9s,mb4.4
SQTA Sankt Quirin 81.16 329⇑*iP* **P 23 41 49.8 +0.4**
SQTA pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
BAIF Baives 81.20 335 ⇑*iP* **P 23 41 49.2 -0.3**
comp=Z,5.3nm,0.6s,mb4.3
BAIF Baives 81.20 335⇑*iP* **P 23 41 49.2 -0.3**
BAIF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
DLF Lyons Farm 81.22 342 *eP* **P 23 41 49.2 -0.4**
BFO Black Forest 81.29 331 *eP* **P 23 41 49.8 -0.3**
comp=Z,5.0nm,0.9s,mb4.4
BFO Black Forest 81.29 331 *eP* **P 23 41 49.8 -0.3**
BFO pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
DCN Croghan 81.35 343 *eP* **P 23 41 48.3 -2.0**
CDF Champ du Feu 81.59 332 ⇑*iP* **P 23 41 51.7 +0.1**
comp=Z,8.3nm,0.7s,mb4.5
CDF Champ du Feu 81.59 332⇑*iP* **P 23 41 51.7 +0.1**
CDF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
DAVA Damuels 81.60 330 ⇑*iP* **P 23 41 52.2 +0.5**
comp=Z,6.5nm,0.6s,mb4.7
FUORN Ofenpass 82.02 329 P **P 23 41 54.8 +0.9**
DAVOS Davos 82.03 330 P **P 23 41 54.2 +0.3**
comp=Z,5.2nm,0.5s,mb4.8,baz=252,slow=1.6,SNR=33
BRMO Bormio 82.10 329⇓*iP* **P 23 41 55.2 +0.9**
HINF Hinteralfeld 82.25 332 ⇑*iP* **P 23 41 54.6 -0.4**
comp=Z,5.4nm,0.7s,mb4.3
HINF Hinteralfeld 82.25 332⇑*iP* **P 23 41 54.6 -0.4**
HINF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
HAU Haudompre 82.26 332 ⇑*iP* **P 23 41 54.9 -0.2**
comp=Z,6.4nm,0.7s,mb4.3
HAU *e*R
comp=Z,46nm,22.0s
HAU Haudompre 82.26 332⇑*iP* **P 23 41 54.9 -0.2**
HAU pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
HAU MLR MLR
comp=Z,50nm,22.0s
MEZF Maizieres J'vi 82.27 333 ⇑*iP* **P 23 41 55.3 +0.1**
comp=Z,14nm,0.8s,mb4.6
KAMS Al Khamasin 82.57 291 P **P 23 41 57.8 +0.6**
JMOS Jabal al Moall 82.78 303 P **P 23 41 59.2 +1.1**
MUGIO Muggio 83.06 330 P **P 23 41 59.2 0.0**
VAI Varese 83.21 330 ⇑*iP* **P 23 41 59.7 -0.3**
BDAS Al Bad' 83.30 302 P **P 23 42 02.1 +1.3**
MCGN Macugnaga 83.43 330 P **P 23 42 01.6 +0.5**
GDL2 Guadalupe Moun 83.46 52 *eP* **P 23 42 03.0 +1.5**
CABF La Chapelle 83.55 332 ⇑*iP* **P 23 42 01.8 +0.2**
comp=Z,6.3nm,0.8s,mb4.5
CABF La Chapelle 83.55 332⇑*iP* **P 23 42 01.8 +0.2**
CABF pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
LOR Lormes 83.74 333 ⇑*iP* **P 23 42 02.6 0.0**
comp=Z,21nm,0.8s,mb5.0
LOR *e*R
comp=Z,51nm,18.2s
LOR Lormes 83.74 333⇑*iP* **P 23 42 02.6 0.0**
LOR pmax pmax
comp=Z,11nm,0.8s,mb5.0
LOR MLR MLR
comp=Z,50nm,18.3s
FLN La Foliniere 83.78 337 ⇑*iP* **P 23 42 02.6 -0.1**
comp=Z,7.8nm,0.6s,mb4.7
FLN *e*R
comp=Z,71nm,20.5s
FLN La Foliniere 83.78 337⇑*iP* **P 23 42 02.6 -0.1**
FLN pmax pmax
comp=Z,4.0nm,0.6s,mb4.7
FLN MLR MLR
comp=Z,70nm,20.5s
LDF La Druitiere 83.83 336 ⇑*iP* **P 23 42 02.8 -0.1**
SSF Saint Saulge 84.04 333 ⇑*iP* **P 23 42 04.2 +0.1**
comp=Z,7.4nm,0.9s,mb4.8
SSF Saint Saulge 84.04 333⇑*iP* **P 23 42 04.2 +0.1**
SSF pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
UMJS Umm Lajj 84.12 299 P **P 23 42 06.3 +1.3**
HYF Humbligny 84.14 334 *eP* **P 23 42 05.2 +0.6**
GRR Gorron 84.23 337 ⇑*iP* **P 23 42 05.1 +0.1**
comp=Z,16nm,0.6s,mb5.0
GRR Gorron 84.23 337⇑*iP* **P 23 42 05.1 +0.1**
GRR pmax pmax
comp=Z,8.0nm,0.6s,mb5.0
LPL La Plagne 84.26 331 ⇑*iP* **P 23 42 06.0 +0.8**
comp=Z,7.1nm,0.5s,mb4.7
LPL La Plagne 84.26 331⇑*iP* **P 23 42 06.0 +0.8**
LPL pmax pmax
comp=Z,4.0nm,0.5s,mb4.8
LPG La Plagne 84.27 331 ⇑*iP* **P 23 42 06.2 +0.9**
comp=Z,12nm,0.5s,mb5.0
LPG La Plagne 84.27 331⇑*iP* **P 23 42 06.2 +0.9**
LPG pmax pmax
comp=Z,6.0nm,0.5s,mb5.0
SMF Signal de Mont 84.29 333 ⇑*iP* **P 23 42 05.5 +0.2**
comp=Z,20nm,0.8s,mb5.0
SMF Signal de Mont 84.29 333⇑*iP* **P 23 42 05.5 +0.2**
SMF pmax pmax
comp=Z,10.0nm,0.8s,mb5.0
AVF Avril sur Loir 84.33 333 ⇑*iP* **P 23 42 05.8 +0.3**
comp=Z,25nm,0.7s,mb5.2
AVF Avril sur Loir 84.33 333⇑*iP* **P 23 42 05.8 +0.3**
AVF pmax pmax
comp=Z,13nm,0.7s,mb5.2
BGF Bois d'Agland 84.70 334 *eP* **P 23 42 07.6 +0.2**
comp=Z,7.1nm,0.7s,mb4.6
BGF Bois d'Agland 84.70 334 *eP* **P 23 42 07.6 +0.2**
BGF pmax pmax
comp=Z,4.0nm,0.7s,mb4.7
SGMF Saint Gilles 84.83 338 ⇑*iP* **P 23 42 08.5 +0.5**
comp=Z,8.5nm,0.5s,mb4.8
SGMF Saint Gilles 84.83 338⇑*iP* **P 23 42 08.5 +0.5**
SGMF pmax pmax
comp=Z,4.0nm,0.5s,mb4.8
BLJS Baljurashi 84.92 292 P **P 23 42 10.6 +1.5**
MBDF Montbardon 84.92 330 ⇑*iP* **P 23 42 08.7 +0.2**
comp=Z,9.7nm,0.5s,mb4.9
MBDF Montbardon 84.92 330⇑*iP* **P 23 42 08.7 +0.2**
MBDF pmax pmax
comp=Z,5.0nm,0.5s,mb4.9
ROSF Rostrenen 84.96 338 ⇑*iP* **P 23 42 09.4 +0.8**
comp=Z,30nm,1.1s,mb5.0
ROSF Rostrenen 84.96 338⇑*iP* **P 23 42 09.4 +0.8**
ROSF pmax pmax
comp=Z,15nm,1.1s,mb5.0
DJNS Zahran al Janu 85.05 289 P **P 23 42 11.6 +1.9**
ORIF Oris-en-Rattie 85.08 331 ⇑*iP* **P 23 42 10.0 +0.7**
comp=Z,11nm,0.8s,mb4.7
ORIF *e*R
comp=Z,61nm,22.5s
TCF Toulx Ste Croi 85.15 334 ⇑*iP* **P 23 42 10.1 +0.5**
comp=Z,5.2nm,0.5s,mb4.6
TCF Toulx Ste Croi 85.15 334⇑*iP* **P 23 42 10.1 +0.5**
TCF pmax pmax
comp=Z,3.0nm,0.5s,mb4.7
QUIF Quistinic 85.31 338 *eP* **P 23 42 10.8 +0.4**
comp=Z,15nm,0.7s,mb4.9
QUIF Quistinic 85.31 338 *eP* **P 23 42 10.8 +0.4**
QUIF pmax pmax
comp=Z,7.0nm,0.7s,mb4.9
SBF Sospel 85.42 329 ⇑*iP* **P 23 42 10.7 -0.3**
comp=Z,19nm,0.5s,mb5.1
SBF Sospel 85.42 329⇑*iP* **P 23 42 10.7 -0.3**
SBF pmax pmax
comp=Z,9.0nm,0.5s,mb5.2
VIVF Saint-Julien-l 85.57 332 ⇑*iP* **P 23 42 12.4 +0.7**
comp=Z,15nm,0.7s,mb5.0
VIVF Saint-Julien-l 85.57 332⇑*iP* **P 23 42 12.4 +0.7**
VIVF pmax pmax
comp=Z,8.0nm,0.7s,mb5.1
MFF Saint Martin d 85.61 336 ⇑*iP* **P 23 42 12.7 +0.8**
comp=Z,13nm,0.6s,mb5.0
MFF Saint Martin d 85.61 336⇑*iP* **P 23 42 12.7 +0.8**
MFF pmax pmax
comp=Z,6.0nm,0.6s,mb5.0
PPT Papeete 85.95 118 LR LR 00 19 02.6
comp=Z,161nm,18.8s,baz=50,slow=34
TXAR Lajitas Array 85.95 54 P **P 23 42 15.0 +1.0**
comp=Z,2.3nm,0.5s,mb4.7,baz=295,slow=3.6,SNR=42
TXAR pP pP 23 42 30.0 -1.7
comp=Z,2.6nm,0.6s,baz=292,slow=3.4,SNR=11
FRF La Foret Royal 85.97 330 ⇑*iP* **P 23 42 13.5 -0.2**
comp=Z,23nm,1.1s,mb5.0
FRF La Foret Royal 85.97 330⇑*iP* **P 23 42 13.5 -0.2**
FRF pmax pmax
comp=Z,12nm,1.0s,mb5.1
SMRF Simiane la Rot 86.01 331 *eP* **P 23 42 14.6 +0.7**
comp=Z,10nm,0.8s,mb4.8
LMR La Mourre 86.22 330 ⇑*iP* **P 23 42 15.1 +0.2**
comp=Z,16nm,0.5s,mb5.2
LMR La Mourre 86.22 330⇑*iP* **P 23 42 15.1 +0.2**
LMR pmax pmax
comp=Z,8.0nm,0.5s,mb5.2
RJF Les Rejaudoux 86.24 334 *eP* **P 23 42 15.8 +0.8**
comp=Z,13nm,1.0s,mb4.8
RJF *e*R
comp=Z,74nm,21.2s
RJF Les Rejaudoux 86.24 334 *eP* **P 23 42 15.8 +0.8**
RJF pmax pmax
comp=Z,6.0nm,1.0s,mb4.8
RJF MLR MLR
comp=Z,70nm,21.3s
CAF Calviac 86.40 333 ⇑*iP* **P 23 42 17.1 +1.3**
comp=Z,22nm,0.7s,mb5.2
CAF Calviac 86.40 333⇑*iP* **P 23 42 17.1 +1.3**
CAF pmax pmax
comp=Z,11nm,0.7s,mb5.2
LASF Ste Croix 86.53 332 ⇑*iP* **P 23 42 17.4 +0.9**
comp=Z,5.3nm,0.6s,mb4.6
LFF La Frestale 86.82 334 ⇑*iP* **P 23 42 19.0 +1.2**
comp=Z,28nm,0.8s,mb5.2
LFF La Frestale 86.82 334⇑*iP* **P 23 42 19.0 +1.2**
LFF pmax pmax
comp=Z,14nm,0.8s,mb5.2
MTLF Montolieu 87.75 333 *eP* **P 23 42 23.4 +1.0**
comp=Z,5.8nm,0.6s,mb4.7
MTLF Montolieu 87.75 333 *eP* **P 23 42 23.4 +1.0**
MTLF pmax pmax
comp=Z,3.0nm,0.6s,mb4.7
EPF Esparros 88.65 334 *eP* **P 23 42 27.2 +0.5**
comp=Z,2.9nm,0.5s,mb4.6
EPF Esparros 88.65 334 *eP* **P 23 42 27.2 +0.5**
EPF pmax pmax
comp=Z,1.0nm,0.5s,mb4.4
ETSF Etsaut 89.06 334 ⇑*iP* **P 23 42 30.0 +1.4**
comp=Z,19nm,0.6s,mb5.3
ETSF Etsaut 89.06 334⇑*iP* **P 23 42 30.0 +1.4**
ETSF pmax pmax
comp=Z,10.0nm,0.6s,mb5.3
SJPF Ste Jean 89.08 335 *eP* **P 23 42 29.8 +1.1**
ESDC Sonseca Array 93.07 335 P **P 23 42 47.5 +0.2**
comp=Z,0.2nm,0.3s,mb4.0,baz=18,slow=4.0,SNR=7.7
VNDA Vanda 120.13 175 PKP PKPdf 23 48 23.4 +1.1
comp=Z,0.7nm,0.7s,baz=298,slow=4.4,SNR=5.3
DBIC Dimbokro 123.13 321 PKP PKPdf 23 48 30.4 +0.9
comp=Z,1.8nm,0.6s,baz=326,slow=3.6,SNR=4.1
DBIC Dimbokro 123.13 321 PKP PKPdf 23 48 30.4 +0.9
BOSA Boshof 128.56 264 PKP PKPdf 23 48 40.7 +1.1
comp=Z,7.1nm,1.2s,baz=135,slow=1.4,SNR=3.3
LPAZ La Paz 142.80 55 PKP PKPdf 23 49 06.4 +0.4
comp=Z,0.4nm,0.4s,baz=301,slow=1.7,SNR=3.9
SNAA Sanae 146.15 199 P PKPdf 23 49 13.2 +3.0
SNAA Sanae 146.15 199 PKPdf 23 49 17.6 +7.4
SNAA Sanae 146.15 199 PKPdf 23 49 25.5 +15
SNAA Sanae 146.15 199 PKPdf 23 49 30.5 +20
SNAA Sanae 146.15 199 PKPdf 23 49 38.6 +28
VNA2 Neumayer--Watz 147.72 198 P PKPdf 23 49 18.6 +5.7
VNA2 Neumayer--Watz 147.72 198 PKPdf 23 49 26.5 +14
VNA2 Neumayer--Watz 147.72 198 PKPdf 23 49 34.6 +22
VNA2 Neumayer--Watz 147.72 198 PKPdf 23 49 43.4 +31
VNA2 Neumayer--Watz 147.72 198 PKPdf 23 49 52.2 +39
VNA2 Neumayer--Watz 147.72 198 PKPdf 23 49 57.4 +45
VNA2 Neumayer--Watz 147.72 198 PKPdf 23 50 04.0 +51
VNA3 Neumayer Olymp 147.98 196 P PKPdf 23 49 18.8 +5.5
VNA3 Neumayer Olymp 147.98 196 PKPdf 23 49 22.2 +8.9
VNA3 Neumayer Olymp 147.98 196 PKPdf 23 49 35.8 +23
VNA3 Neumayer Olymp 147.98 196 PKPdf 23 49 47.3 +34
VNA3 Neumayer Olymp 147.98 196 PKPdf 23 49 53.5 +40
VNA3 Neumayer Olymp 147.98 196 PKPdf 23 50 00.9 +48
VNA1 Neumayer--Stat 148.12 198 P PKPdf 23 49 19.9 +6.4
VNA1 Neumayer--Stat 148.12 198 PKPdf 23 49 34.5 +21
VNA1 Neumayer--Stat 148.12 198 PKPdf 23 49 37.9 +24
BDFB Brasilia 151.78 23 PKPbc PKPdf 23 49 28.9 +8.2

comp=Z,2.0nm,0.6s,baz=278,slow=6.1,SNR=10

WEL 15 23:45:27.1±0.3,37.60S×176.32E,h206km±4km,ML3.6/10, 1C,Error ellipse: s-maj=6.0km s-min=5.km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.91**	**137**	PN	P	23 45 56.8	-0.3
URZ				SN	S	23 46 19.9	-0.5
MWZ	**Matawai**	**1.20**	**128**	PN	P	23 45 59.3	+0.1
MWZ				SN	S	23 46 23.5	-0.6
BKZ	**Black Stump Fm**	**1.57**	**175**	PN	P	23 46 01.9	-0.5
BKZ				*e*SN	S	23 46 28.7	-0.9
MXZ	**Matakaoa Point**	**1.58**	**89**	PN	P	23 46 02.0	-0.5
MXZ				*e*SN	S	23 46 29.0	-0.6
PUZ	**Puketiti**	**1.60**	**108**	*e*PN	P	23 46 02.1	-0.6
PUZ				SN	S	23 46 28.7	-1.4
TUVZ	**Tukino**	**1.75**	**197**	PN	P	23 46 04.1	+0.1
KNZ	**Kokohu**	**1.77**	**144**	PN	P	23 46 04.2	0.0
WNVZ	**Wahianoa**	**1.82**	**198**	PN	P	23 46 04.5	-0.1
MOVZ	**Moawhango**	**1.86**	**194**	PN	P	23 46 04.4	-0.7
TSZ	**Takapari Road**	**2.47**	**186**	⇑PN	P	23 46 10.3	-1.3
MRZ	**Mangatainoka R**	**3.11**	**190**	PN	P	23 46 16.5	-2.4
KIW	**Kapiti Island**	**3.44**	**198**	PN	P	23 46 20.0	-2.9
KIW				*e*SN	S	23 47 02.6	-3.3
MSWZ	**Moikau Station**	**3.90**	**192**	PN	P	23 46 24.9	-3.6
MSWZ				SN	S	23 47 10.2	-5.8
TCW	**Tory Channel**	**3.94**	**203**	PN	P	23 46 25.6	-3.4
TCW				SN	S	23 47 12.5	-4.3
KHZ	**Kahutara**	**5.27**	**203**	PN	P	23 46 41.7	-4.1
KHZ				*e*SN	S	23 47 40.9	-5.9
DSZ	**Denniston Nort**	**5.41**	**219**	*e*SN	S	23 47 43.1	-7.1
LTZ	**Lake Taylor**	**6.04**	**210**	*e*PN	P	23 46 51.0	-4.6
MQZ	**McQueen's Vall**	**6.71**	**203**	SN	S	23 48 11.2	-9.0

MAN 16 00:17:58.3,9.71N×123.33E,h83km,mb3.9,ML2.7,MS2.4, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**1.17**	**321**	*e*P	P	00 18 20.2	+0.5
GUIM				*e*S	S	00 18 38.6	+2.7
PAGZ	**Pagadian**	**1.85**	**178**	*e*P	P	00 18 28.3	-0.6
PAGZ				*e*S	S	00 18 48.3	-3.1
IPIL	**Ipil**	**2.06**	**202**	*e*P	P	00 18 32.0	+0.4
IPIL				*e*S	S	00 18 40.9	-15

ATH ***16*** *01:21:13.0,37.82N×21.41E,h15km±1km,MD3.7/15, ML3.7*
NEIC ***16*** *01:21:13.1,37.81N×21.41E,h15km,MD3.6(ATH),After ATH.*
CSEM ***16*** *01:21:14.2±0.2,37.84N×21.40E,h15km,MD3.6,Error ellipse: s-maj=5.6km s-min=3.2km az=23.0*
IDC ***16*** *01:21:17.1±10.0,38.48N×22.13E,mb3.5/4,mb1 3.6/4, mb1mx3.4/19,mbtmp3.5/4,Error ellipse: s-maj=205.6km s-min=43.6km az=35.0*

ISC 16 01:21:12.3±1.6,37.80N±0.05×21.32E±0.06,h9km±13km, n37,σ1§26/42,mb3.4/4,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.29**	**24**	*e*PB	**Pb**	**01 21 18.6**	**-0.6**
RLS				*e*SB	**Sb**	**01 21 23.1**	**-0.7**
RLS	**Riolos of Patr**	**0.29**	**24**	*e*Pb	**Pb**	**01 21 18.6**	**-0.6**
RLS				*e*Sb	**Sb**	**01 21 23.5**	**-0.3**
VLS	**Valsamata**	**0.69**	**304**	*e*PN	**Pn**	**01 21 27.5**	**-0.5**
ITM	**Ithomi**	**0.78**	**142**	*e*PN	**Pn**	**01 21 27.5**	**-1.8**
EVR	**Evrytania**	**1.18**	**19**	*e*PB	**Pb**	**01 21 33.9**	**-0.7**
MGER	**Gerania Oros**	**1.55**	**82**	*e*PN	**Pn**	**01 21 40.0**	**-0.3**
LKR	**Lokris**	**1.58**	**57**	*e*PN	**Pn**	**01 21 40.9**	**+0.2**
VLI	**Veliai**	**1.68**	**129**	*e*PN	**Pn**	**01 21 43.9**	**+1.7**
NSAL	**Nisos Salamina**	**1.70**	**86**	*e*PN	**Pn**	**01 21 42.5**	**0.0**
NAIG	**Nisos Aigina**	**1.72**	**91**	*e*PN	**Pn**	**01 21 42.7**	**-0.1**
JAN	**Janina**	**1.89**	**349**	*e*PN	**Pn**	**01 21 46.7**	**+1.5**
IGT	**Igoumenitsa**	**1.90**	**336**	*e*P	**Pn**	**01 21 42.0**	**-3.2**
IGT	**Igoumenitsa**	**1.90**	**336**	*e*P	**Pn**	**01 21 42.0**	**-3.3**
ATH	**Athens Observa**	**1.91**	**84**	*e*PN	**Pn**	**01 21 46.3**	**+0.9**
MPAR	**Parnis Oros**	**1.94**	**79**	*e*PN	**Pn**	**01 21 46.5**	**+0.5**
MPAR				*e*SN	**Sn**	**01 22 11.5**	**+0.8**
MPAR	**Parnis Oros**	**1.94**	**79**	*e*Pn	**Pn**	**01 21 47.5**	**+1.5**
MPAR				*e*Sn	**Sn**	**01 22 12.0**	**+1.3**
PTL	**Penteli**	**2.03**	**82**	*e*PB	**Pb**	**01 21 47.0**	**-2.0**
NEO	**Neokhori**	**2.12**	**44**	*e*PN	**Pn**	**01 21 49.0**	**+0.5**
XOR	**Xorichti**	**2.15**	**43**	*e*P	**Pn**	**01 21 48.4**	**-0.5**
KEK	**Kerkira**	**2.25**	**329**	*e*PN	**Pn**	**01 21 52.5**	**+2.1**
LSK	**Leskovik**	**2.42**	**347**	*i* Pn	**Pn**	**01 21 53.8**	**+1.1**
LSK				*i* Sn	**Sg**	**01 22 36.3**	**+3.5**
LSK	**Leskovik**	**2.42**	**347**	*e*Pn	**Pn**	**01 21 53.8**	**+1.1**
AOS	**Alonnisos**	**2.44**	**55**	*e*P	**Pn**	**01 21 51.6**	**-1.3**
FNA	**Florina**	**2.98**	**1**	*e*P	**Pn**	**01 22 02.0**	**+1.2**
FNA	**Florina**	**2.98**	**1**	*e*P	**Pn**	**01 22 02.0**	**+1.2**
THE	**Thessaloniki**	**3.11**	**24**	*e*P	**Pn**	**01 22 03.0**	**+0.5**
THE	**Thessaloniki**	**3.11**	**24**	*e*P	**Pn**	**01 22 03.0**	**+0.4**
GRG	**Griva**	**3.27**	**15**	*e*P	**Pn**	**01 22 05.6**	**+0.8**
OUR	**Ouranopolis**	**3.28**	**38**	*e*P	**Pn**	**01 22 04.8**	**-0.1**
VAM	**Vamos**	**3.33**	**135**	*e*PN	**Pn**	**01 22 07.5**	**+1.8**
KNT	**Kendrikon**	**3.58**	**20**	*e*P	**Pn**	**01 22 10.0**	**+0.7**
SRS	**Serrai**	**3.75**	**27**	*e*P	**Pn**	**01 22 12.0**	**+0.3**
QSH	**Qafa e Shtames**	**3.88**	**344**	*i* Pn	**Pg**	**01 22 27.2**	**-2.5**
FINES	**FINESS Array B**	**23.86**	**6**	P	**P**	**01 26 24.8**	**-1.7**
	0.4nm,0.4s,mb3.2,baz=178,slow=11,SNR=7.0						
NOA	**NORSAR Array B**	**24.12**	**348**	P	**P**	**01 26 28.6**	**-0.4**
	0.3nm,0.6s,mb2.9,baz=155,slow=10,SNR=3.0						
ARCES	**ARCESS Array B**	**31.88**	**3**	P	**P**	**01 27 37.8**	**-1.9**
	1.5nm,0.9s,mb3.8,baz=196,slow=9.3,SNR=6.3						
MKAR	**Makanchi Array**	**44.97**	**58**	P	**P**	**01 29 26.4**	**-3.0**
	0.5nm,0.6s,mb3.5,baz=285,slow=7.4,SNR=5.5						

NIED ***16*** *02:24:00,37.70N×142.10E,h29km,Mw3.8 Best double couple: M0:6.3×10¹⁴ NP1:φs2°,δ86°,λ-74°. NP2:φs105°, δ16°,λ-167°.*
JMA ***16*** *02:24:37.5±0.1,37.73N×142.12E,h34km±3km,M4.3*
JMA Felt I J1.
MOS ***16*** *02:24:38.0±0.8,37.91N×142.09E,h33km,mb4.3/3,Error ellipse: s-maj=16.0km s-min=13.5km az=50.9*
IDC ***16*** *02:24:39.4±2.7,37.70N×142.18E,h40km±25km,mb3.7/10, mb1 3.9/13,mb1mx3.7/23,mbtmp4.0/13,ML4.0/3,MS3.1/2, Ms1 3.1/2,ms1mx2.5/20,Error ellipse: s-maj=21.2km s-min=17.0km az=113.0*
BJI ***16*** *02:24:41.6,37.70N×142.00E,h60km,mB4.4,mb4.1*
NEIC ***16*** *02:24:41.7±1.6,37.65N×142.02E,h60km±14km,mb4.4/2, Error ellipse: s-maj=16.6km s-min=15.1km az=151.0*
NEIC Recorded [1 JMA] in Fukushima Prefecture.

ISC 16 02:24:37.3±0.9,37.71N±0.04×142.18E±0.07,h37km±8km, n39,σ0§89/49,mb3.9/14,5C,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.99**	**319**	⇑P	**P**	**02 24 54.7**	**-0.1**
JIO				S	**S**	**02 25 06.4**	**-1.4**
JFK	**Kawauchi**	**1.09**	**252**	⇑P	**P**	**02 24 56.1**	**-0.2**
JFK				S	**S**	**02 25 09.3**	**-1.2**
JMM	**Marumori**	**1.11**	**278**	⇑P	**P**	**02 24 56.4**	**-0.1**
JMM				S	**S**	**02 25 09.9**	**-1.0**
ONAJ	**Iwakimizuishiy**	**1.26**	**241**	⇑P	**P**	**02 24 58.4**	**-0.3**
ONAJ				S	**S**	**02 25 13.6**	**-1.1**
JOU	**Okura**	**1.36**	**299**	P	**P**	**02 25 00.7**	**+0.5**
JMK	**Ichinoseki**	**1.45**	**329**	P	**P**	**02 25 01.5**	**0.0**
JMK				S	**S**	**02 25 18.8**	**-0.6**
JFT	**Otama**	**1.48**	**263**	⇑P	**P**	**02 25 02.6**	**+0.7**
JFT				*e*S	**S**	**02 25 20.5**	**+0.3**
JYS	**Shirataka**	**1.75**	**287**	P	**P**	**02 25 07.4**	**+1.7**
JYS				*e*S	**S**	**02 25 28.4**	**+1.5**
JYK	**Kaneyama**	**1.87**	**311**	P	**P**	**02 25 07.7**	**+0.3**
JOM	**Ohasama**	**1.89**	**339**	P	**P**	**02 25 07.9**	**+0.2**
JFY	**Yanaizu**	**1.99**	**262**	P	**P**	**02 25 10.0**	**+0.8**
JYA	**Atsumi**	**2.13**	**295**	P	**P**	**02 25 12.1**	**+0.9**
MJAR	**Matsushiro Arr**	**3.38**	**251**	Pn	**P**	**02 25 30.0**	**+1.0**
	7.3nm,0.3s,baz=78,slow=15,SNR=57						
MJAR				Sn	**S**	**02 26 16.8**	**+8.4**
	9.1nm,0.3s,baz=39,slow=22,SNR=6.1						
MJAR				LR	LR	02 27 03.7	
	comp=Z,525nm,18.3s,baz=80,slow=43						
MAJO	**Matsushiro**	**3.38**	**251**	*e*Pn	**P**	**02 25 30.2**	**+1.1**
MAT	**Matsushiro**	**3.38**	**251**	P	**P**	**02 25 29.6**	**+0.6**
MAT				*e*S	**S**	**02 26 09.2**	**+0.7**
MAT	**Matsushiro**	**3.38**	**251**	*e*P	**P**	**02 25 30.0**	**+1.0**
MAT				*e*S	**S**	**02 26 13.0**	**+4.5**
JHJ	**Hachijo jima 2**	**4.98**	**204**	Pn	**P**	**02 25 51.0**	**-0.7**
	64nm,0.3s,baz=80,slow=7.5,SNR=22						
JHJ				Sn	**S**	**02 26 47.3**	**-1.6**
	31nm,0.3s,baz=75,slow=20,SNR=4.1						
JHJ				LR	LR	02 28 11.3	
	comp=Z,84nm,18.9s,baz=108,slow=43						
ASAJ	**Asahikawa**	**6.40**	**3**	Pn	**P**	**02 26 11.2**	**-0.4**
	2.7nm,0.3s,baz=224,slow=12,SNR=15						
ASAJ				Sn	**S**	**02 27 22.2**	**-2.2**
	0.3nm,0.3s,baz=198,slow=19,SNR=3.9						
ASAJ	**Asahikawa**	**6.40**	**3**	P	**P**	**02 26 11.3**	**-0.3**
ASAJ						02 27 22.2	
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
FX1	**Attu Island--F**	**26.29**	**45**	P	**P**	**02 30 10.6**	**-0.4**
	comp=Z,3.9nm,0.6s,mb4.1,baz=233,slow=5.1,SNR=2.9						
FX1	**Attu Island--F**	**26.29**	**45**	P	**P**	**02 30 10.6**	**-0.4**
FX1				pmax	pmax		
	comp=Z,4.0nm,0.6s						
XAN	**Xi'an**	**27.11**	**272**	P	**P**	**02 30 19.6**	**+0.8**
XAN				AMB	AMB		
	comp=Z,5.0nm,0.7s,mb4.2						
SONM	**Songino Array**	**27.92**	**303**	P	**P**	**02 30 26.2**	**+0.2**
	comp=Z,3.7nm,0.7s,mb4.1,baz=102,slow=8.7,SNR=32						
ENH	**Enshi**	**28.00**	**264**	*e*P	**P**	**02 30 25.8**	**-1.0**
	comp=Z,7.5nm,0.6s,mb4.5						
ZAK	**Zakamensk**	**30.34**	**307**	*e*P	**P**	**02 30 47.2**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.5						
ZAL	**Zalesovo**	**41.92**	**312**	P	**P**	**02 32 25.8**	**+0.1**
	comp=Z,1.9nm,0.4s,mb4.1,baz=46,slow=11,SNR=4.9						
ZAL	**Zalesovo**	**41.92**	**312**	P	**P**	**02 32 25.8**	**+0.1**
MKAR	**Makanchi Array**	**44.28**	**302**	P	**P**	**02 32 45.0**	**+0.1**
	comp=Z,1.0nm,0.5s,mb3.8,baz=87,slow=9.3,SNR=9.0						
KURK	**Kurchatov**	**46.00**	**308**	*e*P	**P**	**02 32 57.4**	**-1.2**
	comp=Z,2.8nm,0.6s,mb4.4						
KURK	**Kurchatov**	**46.00**	**308**	*e*P	**P**	**02 32 57.4**	**-1.2**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
ILAR	**Eielson Array**	**48.59**	**33**	P	**P**	**02 33 19.1**	**+0.4**
	comp=Z,0.6nm,0.7s,mb3.7,baz=268,slow=8.4,SNR=5.7						
DLBC	**Dease Lake**	**57.72**	**38**	*e*P	**P**	**02 34 27.7**	**+1.3**
WRA	**Warramunga Arr**	**57.82**	**189**	P	**P**	**02 34 26.3**	**-1.3**
	comp=Z,0.7nm,0.5s,mb3.9,baz=6.2,slow=7.3,SNR=4.1						
FINES	**FINESS Array B**	**68.50**	**332**	P	**P**	**02 35 36.6**	**-0.7**
	comp=Z,0.5nm,0.7s,mb3.7,baz=37,slow=9.5,SNR=3.8						
NOA	**NORSAR Array B**	**73.80**	**337**	P	**P**	**02 36 09.2**	**+0.2**
	comp=Z,0.5nm,0.7s,mb3.5,baz=39,slow=5.8,SNR=2.3						
PDAR	**Pinedale Array**	**76.76**	**46**	P	**P**	**02 36 27.1**	**+0.7**
	comp=Z,0.3nm,0.5s,mb3.4,baz=270,slow=1.5,SNR=4.0						
TXAR	**Lajitas Array**	**89.22**	**53**	P	**P**	**02 37 31.8**	**+1.2**
	comp=Z,0.2nm,0.5s,mb3.7,baz=327,slow=4.2,SNR=4.6						
LPAZ	**La Paz**	**145.82**	**60**	PKPbc	PKPbc	02 44 15.1	+1.8
	comp=Z,1.0nm,0.8s,baz=52,slow=4.7,SNR=5.8						
LPAZ	**La Paz**	**145.82**	**60**	PKP2	PKPab	02 44 15.1	-0.4
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.8s						

BJI 16 02:27:17.1,22.69N×117.55E,h10km,ML3.7,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QZH	**Quanzhou**	**2.44**	**23**	P	Pn	02 27 56.0	-1.6
QZH				S	Sn	02 28 21.6	-6.2
QZH				Smax			
	comp=N,270nm,0.4s						
QZH				Smax			
	comp=E,680nm,0.5s						
GZH	**Guangzhou**	**3.90**	**277**	P	Pn	02 28 20.0	+1.6
GZH				SG	Sg	02 29 26.9	0.0
GZH				Smax			
	comp=N,174nm,0.6s						
GZH				Smax			
	comp=E,128nm,0.6s						

MOS ***16*** *02:32:02.1±2.2,49.47N×89.84E,h15km,mb3.9/1,Error ellipse: s-maj=24.4km s-min=11.4km az=98.4*
IDC ***16*** *02:32:04.3±1.6,49.44N×89.75E,mb3.7/2,mb1 3.6/5, mb1mx3.4/21,mbtmp3.5/5,ML3.2/1,Error ellipse: s-maj=22.6km s-min=14.3km az=129.0*
NNC ***16*** *02:32:15.2±5.7,49.37N×89.00E,h32km±18km,mpv3.7, Error ellipse: s-maj=43.7km s-min=31.5km az=107.0*

ISC 16 02:32:06.6±1.0,49.36N±0.04×89.53E±0.09,h10km,n17, σ1§51/26,mb3.7/2,6C-4D,Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAR	**Aktash**	**1.57**	**309**	*e*PN	**Pn**	**02 32 33.5**	**-1.1**
AKAR				*e*S	**Sb**	**02 32 54.4**	**-0.6**
UKR	**Ust'-Kan**	**3.44**	**299**	*e*PN	**Pb**	**02 33 06.4**	**-0.9**
UKR				*e*S	**Sb**	**02 33 51.7**	**+2.2**
TASR	**Tashtagol**	**3.56**	**344**	*e*PN	**Pb**	**02 33 07.8**	**-1.5**
TASR				*e*S	**Sb**	**02 33 52.7**	**-0.2**
CERR	**Cheremushki**	**3.70**	**18**	*e*PN	**Pn**	**02 33 06.6**	**+1.6**
CERR				*e*S	**Sn**	**02 33 50.8**	**+1.7**
ELT	**Yel'tsovka**	**4.42**	**333**	*e*PN	**Pb**	**02 33 21.5**	**-2.5**
ELT				*e*S	**Sb**	**02 34 19.6**	**+1.8**
ZAL	**Zalesovo**	**5.45**	**329**	Pn	**Pn**	**02 33 28.1**	**-1.8**
	0.8nm,0.3s,baz=341,slow=11,SNR=4.5						
ZAL				Pg	**Pb**	**02 33 38.1**	**-3.6**
	1.9nm,0.3s,baz=332,slow=6.2,SNR=6.5						
ZAL				Lg		02 34 51.1	
	3.6nm,0.3s,baz=294,slow=22,SNR=5.2						
ZAL	**Zalesovo**	**5.45**	**329**	PN	**Pn**	**02 33 28.1**	**-1.7**
ZAL						02 33 38.1	
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MK31	**Makanchi Array**	**5.49**	**245**	⇓Pn	**Pn**	**02 33 30.7**	**+0.3**
	comp=Z,12nm,0.6s,baz=77,slow=13,SNR=26						
MK31				⇓Pg	**Pg**	**02 33 49.1**	**-7.0**
	comp=Z,8.0nm,0.4s,baz=64,slow=17,SNR=14						
MK31				⇑Sn	**Sn**	**02 34 36.8**	**+2.5**
	comp=Z,7.3nm,0.4s,baz=53,slow=28,SNR=4.8						
MK31				⇑Lg		02 35 02.5	
	comp=Z,19nm,0.5s,baz=56,slow=29,SNR=7.2						
MKAR	**Makanchi Array**	**5.49**	**245**	Pn	**Pn**	**02 33 30.5**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=56,slow=14,SNR=10						
MKAR				Sn	**Sn**	**02 34 35.5**	**+1.1**
	comp=Z,5.0nm,0.3s,baz=60,slow=15,SNR=6.5						
MKAR				Lg		02 35 02.3	
	comp=Z,7.4nm,0.3s,baz=66,slow=33,SNR=7.6						
NVS	**Novosibirsk**	**6.72**	**327**	*e*PN	**Pb**	**02 34 04.8**	**+1.4**
KURK	**Kurchatov**	**7.16**	**285**	⇑Pn	**Pn**	**02 33 55.0**	**+1.0**
	comp=Z,1.3nm,0.8s						
KURK				⇑Sn	**Sn**	**02 35 09.3**	**-6.9**
	comp=Z,4.7nm,1.0s						
KURK				⇑Lg		02 35 51.0	
	comp=Z,34nm,0.9s						
SONM	**Songino Array**	**11.28**	**91**	Pn	**P**	**02 34 43.8**	**-6.9**
	comp=Z,0.1nm,0.3s,baz=291,slow=13,SNR=5.6						
SONM				Pg	P	02 35 25.8	+35
	comp=Z,0.2nm,0.3s,baz=282,slow=17,SNR=4.5						
SONM				Lg		02 37 50.2	
	comp=Z,0.4nm,0.3s,baz=270,slow=27,SNR=7.2						
VOSK	**Vostochnaya**	**12.15**	**293**	⇓Lg		02 38 29.8	
	comp=Z,10nm,1.6s						
KK31	**Karatay Array**	**14.56**	**252**	⇓Sn	**S**	**02 38 13.7**	**-3.0**
	comp=Z,1.2nm,0.6s						
KK31				⇑Lg		02 39 49.8	
	comp=Z,4.8nm,0.9s						
BRTR	**Keskin Array B**	**40.15**	**278**	P	**P**	**02 39 44.5**	**+0.4**
	comp=Z,0.6nm,0.6s,mb3.5,baz=75,slow=7.7,SNR=4.5						
BRTR	**Keskin Array B**	**40.15**	**278**	P	**P**	**02 39 44.6**	**+0.5**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ESDC	**Sonseca Array**	**63.23**	**300**	P	**P**	**02 42 35.7**	**-1.5**
	comp=Z,0.9nm,0.9s,mb3.9,baz=32,slow=8.9,SNR=4.0						

NIED ***16*** *02:46:00,38.20N×142.30E,h44km,Mw7.1 Best double couple: M0:5.43×10¹⁹ NP1:φs29°,δ69°,λ96°. NP2:φs194°, δ22°,λ76°.*
BJI ***16*** *02:46:25.7,38.15N×141.89E,h30km,mB7.2,mb6.4, Ms7.2,Msz7.0*
JMA ***16*** *02:46:25.7±0.1,38.15N×142.28E,h42km±1km,M7.2 Broadband fault plane solution: P waves. NP1:φs195°, δ27°,λ62°. NP2:φs46°,δ66°,λ104°. Principal axes: T Plg66°,Azm341°; N Plg13°, Azm221°; P Plg20°, Azm126°;*
MOS ***16*** *02:46:26.8±0.8,38.34N×142.07E,h33km,mb6.7/92, MS6.8/59 Error ellipse: s-maj=5.7km s-min=3.5km az=104.0*
BGS ***16*** *02:46:27.6,38.02N×141.39E,h33km,mb6.3,MS6.8*
CRAAG ***16*** *02:46:27.8,38.38N×141.99E,Mb7.0*
HRVD ***16*** *02:46:28.4±0.1,38.24N×142.05E,h37km,MW7.2/76, Centroid moment Tensor Solution. LP body waves: s73,c203;Mantle waves: s76,c390; Half duration: 9s4 Moment tensor: Scale 10¹⁹Nm; Mrr3.96±.02; Mθθ-0.28±.01; Mφφ-3.68±.01; Mrθ2.68±.07; Mrφ-1.32±.01; Mθφ5.90±.06; Best double couple: M0:7.64×10¹⁹ NP1: φs194°,δ16°,λ81°. NP2:φs24°,δ74°,λ93°. Principal axes: T 7.568, Plg61°, Azm298°; N .143, Plg3°, Azm203°; P -7.712, Plg29°, Azm111°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*
IDC ***16*** *02:46:28.5±2.6,38.23N×142.04E,h39km±22km,mb5.7/21, mb1 5.8/25,mb1mx5.8/25,mbtmp5.9/25,ML4.9/4,MS6.8/31, Ms1 6.8/31,ms1mx6.8/36 Error ellipse: s-maj=14.5km s-min=12.9km az=101.0*
DHMR ***16*** *02:46:28.4±2.5,38.24N×142.09E,h40km,mb7.0*
NEIC ***16*** *02:46:28.4±0.1,38.28N×142.04E,h36km,mb6.5/220, ME6.7,MS6.8/136,MW7.0,MW7.3(MOS),MW7.1(NIED), Error ellipse: s-maj=3.7km s-min=2.5km az=170.0 Broadband fault plane solution: P waves. NP1:φs23°,δ70°, λ100°. NP2:φs176°,δ22°,λ64°. Principal axes: T Plg64°, Azm309°; N Plg0°, Azm0°; P Plg24°, Azm105°; Moment Tensor Solution. s79 Moment tensor: Scale 10¹⁹ Nm; Mrr3.45; Mθθ-0.50; Mφφ-2.95; Mrθ1.51; Mθφ-1.24; Mφr2.76; Best double couple: M0:4.7×10¹⁹ NP1:φs199°,δ24°,λ82°. NP2:φs27°,δ66°,λ93°. Principal axes: T 4.67, Plg69°, Azm303°; N 0, Plg3°, Azm205°; P -4.67, Plg21°, Azm114°; Depth from synthetics of broadband displacement seismograms. Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC At least 39 people injured in Miyagi, 9 in Iwate, 5 in Fukushima and 3 in Saitama Prefectures. One building destroyed at Kazo and one damaged at Sendai. Power outages and landslides occurred in northern Japan. A local tsunami was generated with a wave height of 10 cm on the coast of northern Japan. Felt [VI] at Sendai, [V] at Misawa and [IV] at Tokyo. Felt [II] at Yuzhno-Kuril'sk, Kunashir. Recorded [6L JMA] in Miyagi and Yamagata; [5U JMA] in Fukushima and Iwate; [5L JMA] in Akita, Aomori, Ibaraki and Tochigi; [4 JMA] in Chiba, Gumma, Kanagawa, Nagano, Niigata, Saitama, Shizuoka, Tokyo and Yamanashi; [3 JMA] in Aichi, Gifu and Mie; [2 JMA] in Fukui, Ishikawa, Shiga and Toyama Prefectures. Recorded [2 JMA] on Kozu-shima, Miyake-jima, Nii-jima, O-shima and Sado-shima; [1 JMA] on Aoga-shima, Hachijo-jima and Mikura-jima. Also recorded [3 JMA] in southwestern Hokkaido and in the Chitose-Ebetsu-Shizunai and Obihiro areas, Hokkaido; [2 JMA] in much of central, south-central and eastern Hokkaido.

ISC 16 02:46:26.9±0.1,38.20N±0.02×142.11E±0.02,h38km, h38km±1.7km:pP-P,n1493,σ1§01/1434,mb6.4/310, MS6.9/191,390C-67D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.65**	**293**	⇓P	**P**	**02 46 40.6**	**+0.9**
JIO				*e*S	**S**	**02 46 51.2**	**+2.2**
OFUJ	**Ofunato**	**0.94**	**338**	⇓P	**P**	**02 46 44.1**	**+0.3**
OFUJ				*e*S	**S**	**02 46 57.7**	**+1.4**
JMK	**Ichinoseki**	**1.03**	**317**	⇓P	**P**	**02 46 45.9**	**+0.9**
JMK				*e*S	**S**	**02 47 00.3**	**+1.9**
JMM	**Marumori**	**1.10**	**253**	⇓P	**P**	**02 46 46.4**	**+0.4**
JMM				*e*S	**S**	**02 47 00.8**	**+0.6**
JOU	**Okura**	**1.15**	**279**	⇓P	**P**	**02 46 48.1**	**+1.3**
JOU				*e*S	**S**	**02 47 04.0**	**+2.4**
JFK	**Kawauchi**	**1.29**	**230**	⇓P	**P**	**02 46 48.6**	**-0.1**
JFK				*e*S	**S**	**02 47 05.1**	**0.0**
MIYJ	**Miyakonagasawa**	**1.39**	**351**	P	**P**	**02 46 50.2**	**-0.1**
JOM	**Ohasama**	**1.42**	**333**	⇓P	**P**	**02 46 51.5**	**+0.8**
ONAJ	**Iwakimizuishiy**	**1.52**	**224**	⇓P	**P**	**02 46 51.6**	**-0.4**
JYK	**Kaneyama**	**1.55**	**298**	⇓P	**P**	**02 46 53.6**	**+1.1**
JFT	**Otama**	**1.56**	**245**	⇓P	**P**	**02 46 53.7**	**+1.0**
JFT				*e*S	**S**	**02 47 12.9**	**+0.9**
JYS	**Shirataka**	**1.61**	**271**	⇓P	**P**	**02 46 54.4**	**+1.0**
JYS				*e*S	**S**	**02 47 15.9**	**+2.7**
JRG	**Rokugo**	**1.66**	**316**	⇓P	**P**	**02 46 55.2**	**+1.1**
JTH	**Tanohata**	**1.75**	**354**	⇓P	**P**	**02 46 55.1**	**-0.2**
JKZ	**Kuzumaki**	**1.88**	**341**	⇓P	**P**	**02 46 58.2**	**+1.0**
JYA	**Atsumi**	**1.93**	**282**	⇓P	**P**	**02 46 59.0**	**+1.1**
JYW	**Yuwa**	**2.00**	**313**	⇓P	**P**	**02 47 00.5**	**+1.6**
JHO	**Hitachi**	**2.01**	**218**	⇓P	**P**	**02 46 58.0**	**-1.0**
JFY	**Yanaizu**	**2.07**	**248**	⇓P	**P**	**02 47 00.7**	**+0.8**
JANG	**Nango**	**2.22**	**348**	P	**P**	**02 47 02.3**	**+0.2**
JAW	**Awa shima**	**2.27**	**277**	⇓P	**P**	**02 47 04.0**	**+1.2**
JAH	**Hinai**	**2.29**

YUK				MLR	MLR	
	comp=N,506μm,17.0s					
JKSM	**Kasumi**	**6.51 249**	⇓	P	**P**	**02 48 04.3 +1.5**
JMIK	**Miki**	**6.62 241**		P	**P**	**02 48 05.3 +1.0**
JAD	**Aida**	**7.17 245**		P	**P**	**02 48 12.9 +0.9**
JJS	**Sakaide**	**7.63 242**	⇓	P	**P**	**02 48 18.5 +0.1**
KUR	**Kuril'sk**	**8.24 30**	⇓	*i*P	**P**	**02 48 21.0 -5.8**
KUR				*i* S	**S**	**02 49 54.0 -5.6**
KUR				pmax	pmax	
	comp=N,1μm,0.6s					
KUR				pmax	pmax	
	comp=E,780nm,0.6s					
KUR				pmax	pmax	
	comp=Z,3μm,0.6s					
KUR				pmax	pmax	
	comp=N,120μm,3.0s					
KUR				pmax	pmax	
	comp=E,36μm,3.0s					
KUR				pmax	pmax	
	comp=Z,55μm,3.0s					
KUR				smax		
	comp=N,62μm,3.0s					
KUR				smax		
	comp=E,88μm,3.0s					
KUR				smax		
	comp=N,9μm,0.5s					
KUR				smax		
	comp=E,8μm,0.5s					
KUR				MLR	MLR	
	comp=N,255μm,17.0s					
KUR				MLR	MLR	
	comp=E,104μm,17.0s					
KUR				MLR	MLR	
	comp=Z,300μm,17.0s					
YSS	**Yuzh-Sakhalins**	**8.76 3**	⇑	*i*Pn	**P**	**02 48 31.2 -2.8**
	comp=Z,4μm,1.0s					
YSS	**Yuzh-Sakhalins**	**8.76 3**	α	*i*P	**P**	**02 48 31.0 -3.0**
YSS				*i* S	**S**	**02 50 09.0 -3.6**
YSS				pmax	pmax	
	comp=N,1μm,1.0s					
YSS				pmax	pmax	
	comp=Z,1μm,1.0s					
YSS				pmax	pmax	
	comp=Z,16μm,8.0s					
YSS				smax		
	comp=E,102μm,9.0s					
YSS				MLR	MLR	
	comp=Z,542μm,20.0s					
YSS				MLR	MLR	
	comp=E,418μm,16.0s					
JNU	**Nakatsue**	**10.45 244**		LR	LR	02 53 25.6
	comp=E,1699μm,18.2s,baz=52,slow=40					
UGL	**Uglegorsk**	**10.87 360**	⇑	*i*P	**P**	**02 49 02.0 -1.0**
UGL				pmax	pmax	
	comp=N,12μm,9.0s					
UGL				pmax	pmax	
	comp=E,4μm,9.0s					
UGL				pmax	pmax	
	comp=Z,15μm,9.0s					
UGL				pmax	pmax	
	comp=N,148nm,0.9s					
UGL				pmax	pmax	
	comp=E,191nm,0.9s					
UGL				pmax	pmax	
	comp=Z,262nm,0.9s					
CBIJ	**Chichi jima**	**11.07 180**		Pn	**P**	**02 49 00.1 -5.7**
	comp=Z,178nm,0.3s,baz=46,slow=6.1,SNR=30					
CBIJ				Sn	**S**	**02 51 01.9 -7.6**
	comp=Z,490nm,0.3s,baz=267,slow=23,SNR=3.9					
JUR	**Ureshino**	**11.13 246**		P	**P**	**02 49 06.9 +0.3**
KS15	**Wonju Array Si**	**11.28 271**		*e*Pn	**P**	**02 49 08.3 -0.4**
MDJ	**Mudanjiang**	**11.37 308**		P	**P**	**02 49 08.3 -1.5**
MDJ				AP		02 49 15.8
MDJ				XP		02 49 19.8
MDJ				S	**S**	**02 51 11.9 -4.7**
MDJ				XS		02 51 25.1
MDJ				PCP	PcP	02 55 06.0 +4.7
MDJ				SCP		02 58 32.1
MDJ				AMB	AMB	
	comp=Z,300nm,1.3s					
MDJ				AMB	AMB	
	comp=Z,135μm,10.2s					
MDJ				LR	LR	
	comp=N,747μm,31.7s					
MDJ				LR	LR	
	comp=E,731μm,30.6s					
MDJ				LR	LR	
	comp=Z,1251μm,24.1s					
MDJ	**Mudanjiang**	**11.37 308**	⇑	*e*P	**P**	**02 49 09.6 -0.2**
	comp=Z,9μm,1.2s					
INCN	**Inchon**	**12.26 271**	⇑	*i*Pn	**P**	**02 49 23.1 +1.3**
	comp=Z,4μm,1.3s					
KLR	**Kul'dur**	**13.32 329**	*d*	*i*P	**P**	**02 49 29.5 -6.3**
KLR				pmax	pmax	
	comp=N,950nm,2.6s					
KLR				pmax	pmax	
	comp=E,1μm,2.6s					
KLR				pmax	pmax	
	comp=Z,1μm,2.6s					
CN2	**Changchun**	**13.77 299**	⇑	*e*P	**P**	**02 49 40.8 -0.9**
CN2				*e*S	**S**	**02 52 20.5 +6.3**
CN2				AMB	AMB	
	comp=Z,520nm,1.3s					
CN2				AMB	AMB	
	comp=Z,48μm,8.0s					
CN2				LR	LR	
	comp=N,367μm,19.0s					
CN2				LR	LR	
	comp=E,739μm,19.0s					
CN2				LR	LR	
	comp=Z,828μm,19.0s					
SNY	**Shenyang**	**14.66 290**	⇑	P	**P**	**02 49 52.8 -0.5**
SNY				AMB	AMB	
	comp=Z,1μm,1.2s					
SNY				LR	LR	
	comp=E,1255μm,14.7s					
SNY				LR	LR	
	comp=Z,1396μm,16.8s					
SKR	**Severo-Kuril's**	**15.96 34**		*e*P	**P**	**02 50 08.0 -2.0**
SKR				*i* S	**S**	**02 53 03.0 -2.5**
SKR				pmax	pmax	
	comp=N,870nm,0.9s					
SKR				pmax	pmax	
	comp=Z,890nm,0.9s					
SKR				pmax	pmax	
	comp=E,760nm,1.0s					
SKR				pmax	pmax	
	comp=N,8μm,14.0s					
SKR				pmax	pmax	
	comp=E,8μm,14.0s					
SKR				pmax	pmax	
	comp=Z,10μm,14.0s					
SKR				smax		
	comp=N,670nm,1.0s					
SKR				smax		
	comp=E,1μm,1.0s					
SKR				MLR	MLR	
	comp=N,117μm,20.0s					
SKR				MLR	MLR	
	comp=Z,142μm,20.0s					
SKR				MLR	MLR	
	comp=E,139μm,18.0s					
DL2	**Dalian**	**16.05 279**	⇑	*i*P	**P**	**02 50 11.3 0.0**
DL2				S	**S**	**02 53 11.0 +3.3**
DL2				AMB	AMB	
	comp=Z,3μm,1.0s					
DL2				AMB	AMB	
	comp=Z,37μm,8.8s					
DL2				LR	LR	
	comp=N,148μm,14.8s					
DL2				LR	LR	
	comp=E,231μm,17.8s					
DL2				LR	LR	
	comp=Z,306μm,19.0s					
JOW	**Kunigami**	**16.25 230**		Pn	**P**	**02 50 11.9 -2.0**
	comp=Z,3.0nm,0.3s,baz=33,slow=13,SNR=24					
JOW				Sn	**S**	**02 53 19.6 +7.0**
	comp=Z,6.3nm,0.3s,baz=103,slow=28,SNR=6.0					
JOW				LR	LR	02 56 33.0
	comp=Z,127μm,18.8s,baz=56,slow=37					
SSE	**Sheshan**	**18.60 254**		P	**P**	**02 50 40.4 -2.9**
SSE				AP		02 50 50.6
SSE				XP		02 50 56.1
SSE				S	**S**	**02 54 08.1 +2.1**
SSE				PCP	PcP	02 55 07.3 -4.2
SSE				AMB	AMB	
	comp=Z,1μm,1.1s					
SSE				AMB	AMB	
	comp=Z,50μm,7.7s					
SSE				LR	LR	
	comp=N,160μm,35.4s					
SSE				LR	LR	
	comp=E,334μm,35.9s					
SSE				LR	LR	
	comp=Z,414μm,30.1s					
SSE	**Sheshan**	**18.60 254**		P	**P**	**02 50 40.4 -2.9**
	comp=Z,1μm,1.1s					
SSE				pP		02 50 50.6
SSE				sP		02 50 56.1
SSE				S	**S**	**02 54 08.1 +2.1**
SSE				sS		02 54 28.4
SSE				PcP	PcP	02 55 07.3 -4.2
PET	**Petropavlovsk**	**18.73 32**		*e*P	**P**	**02 50 42.9 -1.9**
	comp=Z,1μm,1.0s					
PET				*e*S	**S**	**02 54 13.8 +5.0**
PET	**Petropavlovsk**	**18.73 32**	*c*	*i*P	**P**	**02 50 43.1 -1.7**
PET				*e*S	**S**	**02 54 09.4 +0.6**
PET				pmax	pmax	
	comp=Z,9μm,11.5s					
PET				pmax	pmax	
	comp=Z,147nm,1.5s					
PET				pmax	pmax	
	comp=Z,14μm,13.6s					
PET				smax		
	comp=N,47μm,12.3s					
PET				smax		
	comp=N,151μm,24.4s					
PET				smax		
	comp=E,117μm,12.7s					
PET				smax		
	comp=E,89μm,8.3s					
PET				MLR	MLR	
	comp=Z,111μm,17.0s					
HIA	**Hailar**	**19.51 312**	⇑	*e*P	**P**	**02 50 48.6 -5.0**
	comp=Z,1μm,0.8s					
HIA	**Hailar**	**19.51 312**	⇑	*e*P	**P**	**02 50 48.6 -5.0**
HIA				pmax	pmax	
	comp=Z,1μm,0.8s					
NJ2	**Nanjing**	**19.97 259**		*e*P	**P**	**02 50 55.5 -3.2**
NJ2				AP		02 51 03.0
NJ2				XP		02 51 07.0
NJ2				S	**S**	**02 54 33.0 -3.2**
NJ2				XS		02 54 45.0
NJ2				AMB	AMB	
	comp=Z,950nm,0.9s					
NJ2				LR	LR	
	comp=N,535μm,16.5s					
NJ2				LR	LR	
	comp=E,1094μm,17.4s					
NJ2				LR	LR	
	comp=Z,568μm,18.7s					
TIA	**Tai'an**	**19.99 272**	⇑	P	**P**	**02 50 54.5 -4.4**
TIA				S	**S**	**02 54 34.5 -2.1**
TIA				XS		02 54 47.0
TIA				SS	SS	02 55 06.0 +0.5
TIA				AMB	AMB	
	comp=Z,310nm,1.4s					
TIA				AMB	AMB	
	comp=Z,17μm,8.0s					
TIA				LR	LR	
	comp=N,47μm,22.2s					
TIA				LR	LR	
	comp=E,96μm,27.6s					
CLNS	**Chul'man**	**21.86 334**	*c*	*i*P	**P**	**02 51 16.6 -1.2**
CLNS				*e*		02 51 29.0
CLNS				*e*PPP	PP	02 51 40.7 -3.0
CLNS				*e*S	**S**	**02 55 12.7 +0.6**
CLNS				*e*		02 55 17.9
CLNS				*e*		02 55 23.4
CLNS				*e*SS	SS	02 55 54.5 +3.5
CLNS				pmax	pmax	
	comp=Z,3μm,1.1s,mb6.6					
CLNS				pmax	pmax	
	comp=N,2μm,1.2s					
CLNS				pmax	pmax	
	comp=E,976nm,1.4s					
CLNS				smax		
	comp=N,2μm,1.3s					
CLNS				smax		
	comp=E,874nm,1.4s					
CLNS				smax		
	comp=Z,503nm,1.4s					
CLNS				MLR	MLR	
	comp=E,275μm,19.0s,MS6.9					
CLNS				MLR	MLR	
	comp=Z,781μm,19.0s,MS7.1					
CLNS				MLR	MLR	
	comp=N,363μm,20.0s,MS6.9					
TATO	**Taipei**	**21.91 239**	⇑	*i*P	**P**	**02 51 15.2 -3.3**
	comp=N,2μm,0.8s,mb6.5					
TATO				*e*S	**S**	**02 55 21.1 +7.9**
TATO				LR	LR	
	comp=Z,314μm,21.0s,MS6.7					
MA2	**Magadan**	**22.10 12**	⇑	*i*P	**P**	**02 51 19.6 -0.6**
	comp=Z,464nm,0.7s,mb6.0					
MA2				LR	LR	
	comp=Z,206μm,22.0s,MS6.5					
MA2	**Magadan**	**22.10 12**	⇑	*i*P	**P**	**02 51 19.6 -0.6**
MA2				pmax	pmax	
	comp=Z,464nm,0.7s,mb6.0					
MA2				MLR	MLR	
	comp=Z,206μm,22.0s,MS6.5					
NACB	**Ninganchiao**	**22.38 237**	⇑	*i*P	**P**	**02 51 17.5 -5.6**
HHC	**Hu-ho-hao-te**	**23.66 286**	⇑	*i*P	**P**	**02 51 32.9 -2.6**
HHC				AP		02 51 45.8
HHC				XP		02 51 51.9
HHC				PP	PP	02 52 05.4 -3.4
HHC				PCP	PcP	02 55 22.8 +1.7
HHC				S	**S**	**02 55 37.1 -7.3**
HHC				XS		02 55 59.1
HHC				SS	SS	02 56 27.6 -6.7
HHC				AMB	AMB	
	comp=Z,4μm,1.3s,mb6.7					
HHC				AMB	AMB	
	comp=Z,168μm,9.8s					
HHC				LR	LR	
	comp=N,358μm,18.4s,MS7.6					
HHC				LR	LR	
	comp=E,1681μm,15.5s,MS7.6					
HHC				LR	LR	
	comp=Z,2099μm,14.9s,MS7.7					
QZH	**Quanzhou**	**23.93 243**	⇑	*i*P	**P**	**02 51 36.1 -2.2**
QZH				S	**S**	**02 55 48.0 -1.2**
QZH				AMB	AMB	
	comp=Z,2μm,0.9s,mb6.5					
QZH				AMB	AMB	
	comp=Z,62μm,7.3s					
QZH				LR	LR	
	comp=N,298μm,14.6s,MS7.2					
QZH				LR	LR	
	comp=E,554μm,18.8s,MS7.2					
QZH				LR	LR	
	comp=Z,775μm,18.5s,MS7.2					
WHN	**Wuhan**	**24.09 260**		P	**P**	**02 51 37.3 -2.6**
WHN				S	**S**	**02 55 48.1 -3.9**
WHN				AMB	AMB	
	comp=Z,65μm,4.6s					
WHN				LR	LR	
	comp=N,445μm,17.4s,MS7.3					
WHN				LR	LR	
	comp=E,759μm,14.2s,MS7.3					
WHN				LR	LR	
	comp=Z,1294μm,19.2s,MS7.4					
CIT	**Chita**	**24.25 314**		*e*P	**P**	**02 51 40.1 -1.1**
CIT				*e*		02 51 49.4
CIT				*e*		02 52 13.9
CIT				*e*S	**S**	**02 55 49.4 -5.0**
BTO	**Baotou**	**24.84 286**		*e*P	**P**	**02 51 44.5 -2.6**
BTO				AMB	AMB	
	comp=Z,584nm,1.0s,mb6.1					
BTO				LR	LR	
	comp=N,173μm,15.8s,MS7.1					
BTO				LR	LR	
	comp=E,438μm,15.6s,MS7.1					
BBP	**Basco**	**24.84 230**		*e*P	**P**	**02 51 46.6 -0.7**
YAK	**Yakutsk**	**25.06 346**	⇑	*i*P	**P**	**02 51 47.5 -1.4**
	comp=E,4μm,1.0s,mb6.9					
YAK				*e*S	**S**	**02 56 08.4 +0.4**
YAK				LR	LR	
	comp=Z,461μm,20.0s,MS7.0					
YAK	**Yakutsk**	**25.06 346**	*c*	*i*P	**P**	**02 51 50.3 +1.4**
YAK				*e**PP	pP	02 52 01.0 +1.8
YAK				*e*PPP	PPP	02 52 29.5 -8.8
YAK				*e*		02 55 29.4
YAK				*e*S	**S**	**02 56 07.9 -0.2**
YAK				*e*SSS	SSS	02 57 10.1 -15
YAK				*e*		03 02 52.8
YAK				pmax	pmax	
	comp=Z,946nm,0.8s,mb6.4					
YAK				pmax	pmax	
	comp=N,978nm,1.1s					
YAK				pmax	pmax	
	comp=E,422nm,1.3s					
YAK				smax		
	comp=E,363nm,1.5s					
YAK				smax		
	comp=Z,316nm,1.0s					
YAK				smax		
	comp=N,253nm,0.8s					
YAK				MLR	MLR	
	comp=E,78μm,16.0s,MS6.8					
YAK				MLR	MLR	
	comp=Z,254μm,16.0s,MS6.8					
YAK				MLR	MLR	
	comp=N,233μm,18.0s,MS6.8					
SEY	**Seymchan**	**25.54 11**	⇑	*e*P	**P**	**02 51 53.8 +0.4**
SEY	**Seymchan**	**25.54 11**		*e*P	**P**	**02 51 53.9 +0.5**
SEY				*e*		02 52 39.6
SEY						02 55 22.7
SEY				*i* S	**S**	**02 56 20.9 +4.9**
SEY				SS	SS	02 57 15.3 -5.0
SEY				pmax	pmax	
	comp=N,370nm,0.9s					
SEY				pmax	pmax	
	comp=E,230nm,0.9s					
SEY				pmax	pmax	
	comp=Z,1μm,0.9s,mb6.3					
SEY				smax		
	comp=N,132μm,7.0s					
SEY				smax		
	comp=E,72μm,6.5s					
FX1	**Attu Island--F**	**25.98 46**		P	**P**	**02 51 59.2 +1.5**
	comp=E,53nm,0.8s,baz=3.4,slow=3.5,SNR=23					
FX1				S	**S**	**02 56 34.3 +11**
	comp=E,37nm,0.6s,baz=194,slow=20,SNR=1.3					
FX1				LR	LR	03 01 14.5
	comp=E,7μm,20.3s,baz=259,slow=34					
FX1	**Attu Island--F**	**25.98 46**		*e*P	**P**	**02 51 59.0 +1.3**
SMY	**Shemya**	**26.46 46**		*e*P	**P**	**02 52 04.5 +2.5**
SMY				LR	LR	
	comp=Z,184μm,22.0s,MS6.6					
SGCP	**Mt. Cagua**	**26.50 227**		*e*P	**P**	**02 52 02.4 -0.5**
BOD	**Bodaibo**	**26.86 326**		*e*P	**P**	**02 52 04.4 -1.3**
BOD				pmax	pmax	
	comp=Z,2μm,0.9s,mb6.6					
XAN	**Xi'an**	**27.05 271**		P	**P**	**02 52 05.6 -2.1**
XAN				S	**S**	**02 56 37.8 -3.2**
XAN				AMB	AMB	
	comp=Z,43μm,13.4s					
XAN				LR	LR	
	comp=N,86μm,17.2s,MS6.7					
XAN				LR	LR	
	comp=E,185μm,18.5s,MS6.7					
XAN				LR	LR	
	comp=Z,249μm,18.2s,MS6.8					
CVP	**Callao Caves**	**27.06 227**		*i* P	**P**	**02 52 06.0 -1.9**
APYP	**Conner**	**27.27 228**		*e*P	**P**	**02 52 08.1 -1.8**
APYP				*e*S	**S**	**02 56 38.5 -6.3**
SONM	**Songino Array**	**27.62 302**		P	**P**	**02 52 11.3 -1.4**
	comp=Z,983nm,1.2s,mb6.3,baz=101,slow=6.6,SNR=373					
SONM				LR	LR	03 03 27.4
	comp=Z,413μm,18.7s,MS7.0,baz=98,slow=37					
SONM				P3KPbc		03 24 49.2
	comp=Z,0.6nm,0.9s,baz=288,slow=4.6,SNR=3.2					
SONM				P3KP		03 25 36.4
	comp=Z,3.8nm,1.2s,baz=329,slow=2.5,SNR=3.9					
SONM	**Songino Array**	**27.62 302**		P	**P**	**02 52 11.3 -1.4**
SONM				LR	LR	03 03 27.4
SONM				*e*		03 24 49.2
CAUP	**Cauayan**	**27.67 226**		*e*P	**P**	**02 52 13.8 +0.3**
ABRA	**Dolores**	**27.75 228**		*e*P	**P**	**02 52 15.0 +0.8**
ENH	**Enshi**	**28.00 263**	⇑	*i*P	**P**	**02 52 14.3 -2.1**
	comp=Z,15nm,1.3s					
ENH				LR	LR	
	comp=Z,296μm,20.0s					
WAKE	**Wake Island**	**28.46 125**		*e*P	**P**	**02 52 18.3 -2.3**
	comp=Z,2μm,1.1s,mb6.5					
WAKE				LR	LR	
	comp=Z,204μm,20.0s,MS6.7					
HKC	**Hong Kong**	**28.72 245**	⇓	*i*P	**P**	**02 52 24.0 +1.1**
HKC				*i* S	**S**	**02 57 10.0 +1.9**
BALP	**Baler**	**28.78 225**		*e*P	**P**	**02 52 22.5 -0.9**
BALP				*e*S	**S**	**02 57 05.2 -3.8**
BCPH	**Baguio City Da**	**28.82 227**	⇓	*i*P	**P**	**02 52 23.1 -0.7**
GZH	**Guangzhou**	**28.83 247**		P	**P**	**02 52 17.3 -6.5**
GZH				S	**S**	**02 57 01.3 -8.4**
GZH				AMB	AMB	
	comp=Z,246nm,1.5s,mb5.7					
GZH				LR	LR	
	comp=N,295μm,15.2s,MS7.1					
GZH				LR	LR	
	comp=E,258μm,14.9s,MS7.1					
GZH				LR	LR	
	comp=Z,588μm,15.5s,MS7.3					
PCPH	**Palayan**	**29.19 225**	⇓	*e*P	**P**	**02 52 27.8 +0.7**
BOLP	**Bolinao**	**29.21 228**		*e*P	**P**	**02 52 26.6 -0.7**
PVCP	**Virac**	**29.24 218**		*e*P	**P**	**02 52 26.9 -0.6**
POLP	**Polilio Island**	**29.41 223**		*e*P	**P**	**02 52 29.7 +0.6**
SCZP	**Santa Cruz**	**29.69 227**		*e*P	**P**	**02 52 30.4 -1.2**
IRK	**Irkutsk**	**29.75 311**	⇑	*i*P	**P**	**02 52 30.5 -1.2**
IRK				pmax	pmax	
	comp=Z,3μm,4.3s					
GQP	**Guinayangan**	**29.83 221**		*e*P	**P**	**02 52 34.2 +1.4**
CNP	**Catarman**	**29.94 216**		*e*P	**P**	**02 52 34.6 +0.8**
ZAK	**Zakamensk**	**30.00 307**	⇓	*i*P	**P**	**02 52 33.6 -0.4**
ZAK				pmax	pmax	
	comp=Z,1μm,1.0s,mb6.6					
AUQP	**San Andres**	**30.21 220**		*e*P	**P**	**02 52 38.5 +2.3**
BESP	**Borongan**	**30.39 214**		*e*P	**P**	**02 52 45.8 +7.9**
LZH	**Lanzhou**	**30.44 278**	⇑	P	**P**	**02 52 36.0 -2.0**
LZH				AP	pP	02 52 49.4 +0.8
LZH				PP	PP	02 53 36.3 -2.0
LZH				PCP	PcP	02 55 37.3 +0.3
LZH				S	**S**	**02 57 30.0 -5.1**
LZH				XS		02 57 53.5
LZH				SS	SS	02 59 12.0 -4.6
LZH				AMB	AMB	
	comp=Z,3μm,1.3s,mb6.9					
LZH				AMB	AMB	
	comp=Z,25μm,7.1s					
LZH				LR	LR	
	comp=E,389μm,15.4s					
LZH				LR	LR	
	comp=Z,563μm,17.8s,MS7.3					
LZH	**Lanzhou**	**30.44 278**	⇑	P	**P**	**02 52 36.0 -2.0**
	comp=Z,3μm,1.3s,mb6.9					
LZH				pP	pP	02 52 49.4 +0.8
LZH				sP	sP	02 52 55.8 +2.3
LZH				PP	PP	02 53 36.2 -2.1
LZH				PcP	PcP	02 55 37.2 +0.2
LZH				S	**S**	**02 57 30.0 -5.1**
LZH				sS		02 57 53.5
LZH				SS	SS	02 59 12.0 -4.6
LZH				LR	LR	
	comp=Z,563μm,17.8s,MS7.3					
LZH	**Lanzhou**	**30.44 278**	⇑	P	**P**	**02 52 36.0 -2.0**
LZH				*PP	pP	02 52 49.4 +0.8
LZH						02 53 36.2
LZH						02 55 37.2
LZH				S	**S**	**02 57 30.0 -5.1**
LZH				SS	SS	02 59 12.0 -4.6
LZH				pmax	pmax	
	comp=Z,3μm,1.3s,mb6.9					
LZH				MLR	MLR	
	comp=Z,563μm,17.8s,MS7.3					
BOAC	**Boac**	**30.52 222**		*e*P	**P**	**02 52 38.9 0.0**
PGP	**Puerto Galera**	**30.96 223**		*i* P	**P**	**02 52 43.0 +0.2**
LUBP	**Lubang**	**31.15 224**		*e*P	**P**	**02 52 43.6 -0.9**
OTRP	**Odiongan**	**31.35 220**		*e*P	**P**	**02 52 45.2 -1.1**
MOY	**Mondy**	**31.63 309**		*e*P	**P**	**02 52 47.6 -0.8**
MOY				pmax	pmax	
	comp=Z,3μm,3.6s					
SJMP	**San Jose**	**31.73 222**		*e*P	**P**	**02 52 49.0 -0.7**
MSLP	**Maasin**	**31.95 213**		*e*P	**P**	**02 52 51.7 +0.1**
GYA	**Guiyang**	**31.98 259**	⇑	*i*P	**P**	**02 52 49.9 -1.8**
GYA				AP	pP	02 53 01.3 -1.0
GYA				PP	PP	02 53 53.5 -4.9

GYA S **S** **02 57 50.8 -8.6**
GYA SCP 02 59 20.0
GYA AMB AMB
comp=Z,3μm,0.8s,mb7.2
GYA AMB AMB
comp=Z,21μm,9.3s
GYA LR LR
comp=N,151μm,14.7s,MS7.1
GYA LR LR
comp=E,226μm,14.8s,MS7.1
GYA LR LR
comp=Z,293μm,16.1s,MS7.1
CD2 Chengdu 32.24 269⇑ *i*P **P** **02 52 52.0 -2.0**
CD2 AP pP 02 53 06.5 +1.9
CD2 S **S** **02 57 57.8 -5.7**
CD2 XS 02 58 16.4
CD2 SS SS 02 59 50.0 -9.1
CD2 AMB AMB
comp=Z,890nm,1.1s,mb6.5
CD2 AMB AMB
comp=Z,19μm,10.0s
CD2 LR LR
comp=N,156μm,17.4s
CD2 LR LR
comp=Z,218μm,17.4s,MS6.9
GUIM Jordan 32.56 218 *e*P **P** **02 52 56.8 -0.1**
BUSP Coron 32.60 223 *e*P **P** **02 52 56.0 -1.3**
BUTP Butuan 32.68 211 *e*P **P** **02 52 54.9 -3.0**
BUTP *e*S **S** **02 58 13.3 +2.8**
BILL Bilibino 32.75 17⇑ *i*P **P** **02 52 56.4 -1.6**
comp=Z,1μm,1.4s,mb6.6
BILL LR LR
comp=Z,131μm,21.0s,MS6.6
BILL Bilibino 32.75 17*c* *i*P **P** **02 52 55.1 -2.9**
BILL *i* *PP pP 02 53 06.6 -2.0
BILL *i* *SP sP 02 53 11.9 -1.6
BILL *i* 02 55 39.6
BILL *i* SS **S** **02 58 09.5 -1.5**
BILL pmax pmax
comp=Z,568nm,1.9s,mb6.2
BILL MLR MLR
comp=Z,215μm,23.0s,MS6.8
GTA Gaotai 32.77 286 *e*P **P** **02 52 57.0 -1.5**
GTA AP pP 02 53 07.5 -1.6
GTA XP sP 02 53 11.3 -2.7
GTA PP PP 02 54 06.3 -2.3
GTA PPP PPP 02 54 21.1 -3.3
GTA PCP PcP 02 55 45.8 +2.6
GTA S **S** **02 58 07.8 -3.8**
GTA XS 02 58 22.3
GTA SCP 02 59 25.3
GTA PCS 02 59 29.6
GTA SS SS 03 00 04.1 -7.0
GTA SCS ScS 03 03 23.8 +2.4
GTA AMB AMB
comp=Z,541nm,1.1s,mb6.4
GTA AMB AMB
comp=Z,30μm,7.2s
GTA LR LR
comp=N,201μm,19.4s,MS7.3
GTA LR LR
comp=E,491μm,18.2s,MS7.3
GTA LR LR
comp=Z,620μm,19.4s,MS7.3
CUYO Cuyo Island 33.15 220 *e*P **P** **02 53 01.7 -0.3**
CGP Cagayan de Oro 33.53 212⇓ *e*P **P** **02 53 05.4 +0.2**
comp=Z,312μm,1.0s
ENPP El Nido 33.68 223 *e*P **P** **02 53 05.8 -0.8**
BUKP Musuan 33.89 211 *e*P **P** **02 53 08.0 -0.4**
QIZ Qiongzhong 33.92 245 P **P** **02 53 09.1 +0.5**
QIZ XP sP 02 53 24.3 +0.2
QIZ S **S** **02 58 31.3 +1.6**
QIZ SS SS 03 00 38.1 +0.3
QIZ AMB AMB
comp=Z,25μm,12.3s
QIZ LR LR
comp=N,233μm,17.2s,MS7.1
QIZ LR LR
comp=E,182μm,16.6s,MS7.1
QIZ LR LR
comp=Z,323μm,17.7s,MS7.1
QIZ Qiongzhong 33.92 245⇑ *e*P **P** **02 53 08.7 +0.1**
comp=Z,535nm,0.9s,mb6.5
QIZ LR LR
comp=Z,315μm,19.0s,MS7.1
TIXI Tiksi 34.20 353⇑ *i*P **P** **02 53 08.3 -2.2**
TIXI LR LR
comp=Z,273μm,19.0s,MS7.0
TIXI Tiksi 34.20 353⇑ *i*P **P** **02 53 06.6 -3.9**
TIXI *e*S **S** **02 58 28.5 -5.0**
TIXI *e*SS SS 03 00 42.1 -1.6
TIXI pmax pmax
comp=Z,430nm,1.1s,mb6.3
TIXI pmax pmax
comp=E,178nm,1.3s
TIXI pmax pmax
comp=Z,15μm,9.0s
TIXI MLR MLR
comp=Z,257μm,18.0s,MS7.0
TIXI MLR MLR
comp=E,107μm,19.0s
MATI Mati 34.27 209 *e*P **P** **02 53 11.8 +0.1**
DAV Davao City (W) 34.42 210⇓ *e*P **P** **02 53 14.0 +1.1**
PAGZ Pagadian 34.64 214 *e*P **P** **02 53 13.5 -1.3**
CTBH Cotabato--PC H 34.83 212⇓ *e*P **P** **02 53 18.6 +2.1**
IPIL Ipil 35.05 215 *e*P **P** **02 53 16.6 -1.7**
MIDW Midway 35.09 94 *e*P **P** **02 53 20.2 +1.6**
comp=E,2μm,1.5s,mb6.7
MIDW LR LR
comp=Z,250μm,22.0s,MS6.9
KMI Kunming 35.70 260 P **P** **02 53 22.8 -0.9**
KMI AP pP 02 53 33.3 -1.1
KMI XP sP 02 53 37.1 -2.2
KMI PP PP 02 54 46.4 +1.3
KMI PPP PPP 02 55 02.8 -1.7
KMI PCP PcP 02 55 54.3 +2.6
KMI S **S** **02 58 53.9 -3.2**
KMI XS 02 59 08.8
KMI PCS 02 59 38.8
KMI SS SS 03 01 11.4 -7.1
KMI SSS SSS 03 01 35.8 -11
KMI AMB AMB
comp=Z,825nm,1.1s,mb6.6
KMI AMB AMB
comp=Z,27μm,8.5s
KMI LR LR
comp=N,212μm,16.7s,MS7.2
KMI LR LR
comp=E,249μm,15.8s,MS7.2
KMI LR LR
comp=Z,350μm,17.5s,MS7.2
KMI Kunming 35.70 260 P **P** **02 53 22.8 -0.9**
comp=Z,825nm,1.1s,mb6.6
KMI pP pP 02 53 33.2 -1.2
KMI sP sP 02 53 37.1 -2.2
KMI PP PP 02 54 46.4 +1.3
KMI PPP PPP 02 55 02.8 -1.7
KMI PcP PcP 02 55 54.3 +2.6
KMI S **S** **02 58 53.9 -3.2**
KMI sS 02 59 08.7
KMI PcS 02 59 38.8
KMI SS SS 03 01 11.4 -7.1
KMI SSS SSS 03 01 35.7 -11
KMI LR LR
comp=Z,350μm,17.5s,MS7.2
KMI Kunming 35.70 260 P **P** **02 53 22.8 -0.9**
KMI *PP pP 02 53 33.2 -1.2
KMI *SP sP 02 53 37.1 -2.2
KMI 02 54 46.4
KMI PPP PPP 02 55 02.8 -1.7
KMI 02 55 54.3
KMI S **S** **02 58 53.9 -3.2**
KMI *SS 02 59 08.7
KMI SS SS 03 01 11.4 -7.1
KMI pmax pmax
comp=Z,825nm,1.1s,mb6.6
KMI MLR MLR
comp=Z,350μm,17.5s,MS7.2
BATP Bataraza 36.56 223 *e*P **P** **02 53 31.2 +0.1**
NIKO Nikolski 36.60 50 *e*P **P** **02 53 30.2 -0.8**
NIKO *e*sP sP 02 53 48.6 +2.0
KWAJ Kwajalein Atol 37.20 135⇓ *e*P **P** **02 53 36.0 -0.5**
comp=Z,3μm,1.6s,mb6.8
KWAJ LR LR
comp=Z,48μm,20.0s,MS6.3
UNV Unalaska Valle 38.05 49 *e*P **P** **02 53 42.7 -0.5**
comp=Z,99nm,0.8s,mb5.6
UNV *e*PcP PcP 02 56 00.6 +2.1
UNV LR LR
comp=Z,235μm,20.0s,MS7.0
TNA Tin City 39.57 30⇑ *e*P **P** **02 53 56.1 +0.4**
comp=Z,209nm,1.2s,mb5.7
TNA LR LR
comp=Z,60μm,21.0s,MS6.4
KKM Kota Kinabalu 39.71 223 P **P** **02 53 58.1 +0.6**
KKM Kota Kinabalu 39.71 223⇑ *i*P **P** **02 53 57.7 +0.2**
LKP Lekhapani 39.85 268 *e*P **P** **02 54 02.0 +3.6**
TSM Tawau 40.34 219 P **P** **02 54 02.9 +0.2**
KKTK Khon Kaen 40.75 249⇑ P **P** **02 54 04.2 -1.8**
comp=Z,7μm,0.5s,mb7.5
WMQ Urumqi 40.82 296⇑ *i*P **P** **02 54 07.0 +0.7**
WMQ PP PP 02 55 45.0 +1.3
WMQ SCP 02 59 51.0
WMQ S **S** **03 00 12.0 -2.6**
WMQ SS SS 03 03 10.0 -1.9
WMQ AMB AMB
comp=Z,2μm,0.8s,mb6.9
WMQ LR LR
comp=N,16μm,18.0s,MS6.2
WMQ LR LR
comp=E,27μm,20.0s,MS6.2
WMQ LR LR
comp=Z,35μm,20.0s,MS6.2
CHRT Chiangrai 40.86 256⇑ P **P** **02 54 07.0 +0.1**
comp=Z,3μm,0.5s,mb7.2
ZAL Zalesovo 41.56 311 P **P** **02 54 12.2 0.0**
comp=Z,605nm,0.7s,mb6.3,baz=24,slow=8.5,SNR=242
ZAL LR LR 03 12 52.0
comp=Z,323μm,19.6s,MS7.2,baz=33,slow=38
ZAL PKPPKP 03 26 19.7
comp=Z,1.6nm,0.3s,baz=148,slow=0.2,SNR=3.3
ZAL Zalesovo 41.56 311 P **P** **02 54 12.2 0.0**
ZAL LR LR 03 12 52.0
ZAL P'P' 03 26 19.7
SDPT Sand Point 41.59 46 *e*P **P** **02 54 12.2 -0.2**
SDPT LR LR
comp=Z,102μm,22.0s,MS6.7
CHG Chiang Mai 42.12 255⇑ P **P** **02 54 16.7 -0.6**
comp=Z,150nm,0.9s,mb5.6
NVS Novosibirsk 42.45 313 *i* P **P** **02 54 18.7 -0.8**
NVS *i* PPP PPP 02 56 36.6 +2.5
NVS *i* S **S** **03 00 37.8 -0.5**
NVS pmax pmax
comp=N,434nm,1.2s
NVS pmax pmax
comp=E,2μm,1.2s
NVS pmax pmax
comp=Z,4μm,1.2s,mb7.0
NVS smax
comp=N,767nm,1.8s
NVS smax
comp=E,2μm,2.4s
LSA Lhasa 42.67 274 P **P** **02 54 22.6 +1.0**
LSA AP pP 02 54 31.3 -1.2
LSA XP sP 02 54 35.3 -1.9
LSA PP PP 02 55 59.4 -3.9
LSA AMB AMB
comp=Z,38μm,11.7s
LSA LR LR
comp=N,75μm,24.3s
LSA LR LR
comp=E,220μm,32.2s
LSA LR LR
comp=Z,340μm,34.7s
LSA Lhasa 42.67 274⇑ *i*P **P** **02 54 22.7 +1.0**
comp=Z,1μm,1.0s,mb6.5
LSA *e*S **S** **03 00 45.4 +3.5**
LSA LR LR
comp=Z,192μm,21.0s,MS7.0
LSA Lhasa 42.67 274⇑ *i*P **P** **02 54 22.7 +1.1**
LSA *e*S **S** **03 00 45.4 +3.5**
LSA pmax pmax
comp=Z,1μm,1.0s,mb6.5
LSA MLR MLR
comp=Z,192μm,21.0s,MS7.0
CHGN Chignik 42.74 45 *e*P **P** **02 54 23.4 +1.5**
NST Nakhon Sawan 43.16 250⇓ P **P** **02 54 25.5 -0.3**
comp=Z,567nm,1.4s,mb6.1
MKAR Makanchi Array 43.98 301 P **P** **02 54 31.6 -0.4**
comp=Z,1μm,0.8s,mb6.7,baz=83,slow=9.8,SNR=178
MKAR S **S** **03 00 59.2 -1.7**
comp=Z,10nm,0.8s,baz=274,slow=19,SNR=1.9
MKAR LR LR 03 14 08.8
comp=Z,174μm,18.1s,MS7.0,baz=76,slow=38
MKAR PKPPKP 03 26 17.9
comp=Z,4.4nm,1.1s,baz=225,slow=3.4,SNR=5.4
MKAR P4KPbc 03 32 27.2
comp=Z,4.3nm,0.9s,baz=63,slow=2.7,SNR=6.9
MKAR Makanchi Array 43.98 301 P **P** **02 54 31.6 -0.4**
MKAR S **S** **03 00 59.2 -1.7**
MKAR LR LR 03 14 08.8
MKAR P'P' 03 26 17.9
MKAR Makanchi Array 43.98 301 *i* P **P** **02 54 31.6 -0.5**
MKAR pmax pmax
comp=Z,3μm,1.1s
SHL Shillong 43.98 269 *e*P **P** **02 54 31.5 -0.9**
SHL *e*S **S** **03 00 59.0 -2.2**
TTA Tatalina 44.15 35 *e*P **P** **02 54 33.4 +0.2**
IMA Indian Mountai 45.40 31 *e*P **P** **02 54 43.0 -0.2**
IMA Indian Mountai 45.40 31 P **P** **02 54 43.4 +0.2**
IMA pmax pmax
comp=Z,4μm,1.2s,mb7.1
NNT Nongplab 45.45 247 P **P** **02 54 43.3 -0.9**
RSO Redoubt South 45.65 39 *e*P **P** **02 54 45.0 -0.2**
RSO *e*pP pP 02 54 55.4 -0.6
KURK Kurchatov 45.66 307⇑ *i*P **P** **02 54 44.6 -0.8**
comp=Z,4μm,0.8s,mb7.4
KURK *e*S **S** **03 01 28.0 +3.1**
KURK LR LR
comp=Z,77μm,19.0s,MS6.7
KURK Kurchatov 45.66 307⇑ *i*P **P** **02 54 44.6 -0.9**
KURK *e*S **S** **03 01 28.0 +3.1**
KURK pmax pmax
comp=Z,4μm,0.8s,mb7.4
KURK MLR MLR
comp=Z,77μm,19.0s,MS6.7
GTK Gangtok 45.72 273 *e*P **P** **02 54 46.0 -0.2**
KDAK Kodiak Island 45.86 43 *e*P **P** **02 54 45.8 -1.1**
comp=Z,324nm,0.9s,mb6.3
KDAK LR LR
comp=Z,47μm,22.0s,MS6.4
SPU Mount Spurr 45.97 38 *i* P **P** **02 54 47.8 0.0**
SLGI Shiliguri 46.17 272 *e*P **P** **02 54 51.0 +1.2**
KSM Kuching 46.76 226⇑ *i*P **P** **02 54 54.4 -0.2**
KSM *e*S **S** **03 01 45.5 +4.5**
FIB Fire Island 46.88 38 *e*P **P** **02 54 54.9 0.0**
FIB LR LR
comp=Z,52μm,22.0s,MS6.5
SLKM Skilak Lake 46.90 39 *e*P **P** **02 54 53.7 -1.3**
MCK McKinley 47.36 34⇑ *i*P **P** **02 54 57.8 -0.8**
comp=Z,40nm,0.9s
MCK LR LR
comp=Z,37μm,21.0s,MS6.3
MCK McKinley 47.36 34⇑ *i*P **P** **02 54 57.8 -0.8**
MCK pmax pmax
comp=Z,40nm,0.9s
MCK MLR MLR
comp=Z,37μm,21.0s,MS6.3
PMR Palmer 47.36 37 *e*P **P** **02 54 57.4 -1.3**
PMR LR LR
comp=Z,130μm,23.0s,MS6.8
SHBG Sahibganj 47.48 271 *ex* x 02 54 35.0
SHBG *e*P 02 55 00.0
PMG Port Moresby 47.59 173 LR LR 03 15 55.8
comp=Z,16μm,18.0s,MS6.0,baz=278,slow=37
PMG Port Moresby 47.59 173 *e*P **P** **02 55 02.1 +1.0**
comp=Z,538nm,1.3s,mb6.4
PMG LR LR
comp=Z,27μm,20.0s,MS6.2
PMG Port Moresby 47.59 173 *e*P **P** **02 55 02.1 +1.0**
PMG pmax pmax
comp=Z,538nm,1.3s
PMG MLR MLR
comp=Z,27μm,20.0s
SML Sawmill 47.73 37⇑ *i*P **P** **02 55 01.0 -0.6**
SML *e*PcP PcP 02 56 29.2 -1.6
KKN Kakani 48.13 275 *e*P **P** **02 55 04.9 -0.3**
comp=Z,5μm,0.8s
KKN Kakani 48.13 275 *e*P **P** **02 55 04.9 -0.3**
KKN pmax pmax
comp=Z,3μm,0.8s,mb7.3
PKI Pulchoki 48.13 275 *e*P **P** **02 55 04.6 -0.6**
comp=Z,2μm,0.8s,mb7.2
PKI Pulchoki 48.13 275 *e*P **P** **02 55 04.6 -0.6**
PKI pmax pmax
comp=Z,1μm,0.8s,mb7.0
ILAR Eielson Array 48.21 33 P **P** **02 55 04.2 -1.2**
comp=Z,92nm,0.7s,mb5.9,baz=271,slow=6.2,SNR=253
ILAR S **S** **03 02 00.9 0.0**
comp=Z,6.6nm,1.1s,baz=309,slow=5.8,SNR=2.4
ILAR PKPPKP 03 26 13.1
comp=Z,4.7nm,1.0s,baz=25,slow=0.7,SNR=6.4
ILAR P4KPbc 03 32 44.5
comp=Z,0.5nm,0.7s,baz=267,slow=4.1,SNR=5.5
CAL Calcutta 48.31 267 *e*P **P** **02 55 06.2 -0.4**
CAL *ex* x 02 58 40.3
CAL *ex* x 03 01 15.8
DMN Daman 48.35 275 *e*P **P** **02 55 06.5 -0.4**
AAA Alma-Ata 48.52 298 *i* P **P** **02 55 09.2 +1.2**
AAA *i* S **S** **03 02 05.3 -0.3**
AAA pmax pmax
comp=Z,54μm,10.4s
AAA smax
comp=N,56μm,19.4s
AAA MLR MLR
comp=Z,200μm,19.7s,MS7.1
GKN Gorkha 48.53 276 *e*P **P** **02 55 07.0 -1.3**
comp=Z,14μm,1.1s
SNG Songkhla 48.55 241 P **P** **02 55 08.5 -0.1**
comp=Z,2μm,1.0s,mb7.0
DIV Divide 49.01 38 *e*P **P** **02 55 11.1 -0.4**
comp=Z,659nm,1.6s,mb6.4
DIV LR LR
comp=Z,282μm,22.0s,MS7.2
EYAK Cordova Ski Ar 49.09 38⇑ *e*P **P** **02 55 11.8 -0.3**
EYAK *e*pP pP 02 55 21.7 -1.3
ULHL Ulahol 49.34 297 P **P** **02 55 18.2 +3.9**
SNR=6.5
KOLN Koldanda 49.45 276 *e*P **P** **02 55 15.1 -0.3**
comp=Z,3μm,0.8s,mb7.4
TKM2 Tokmak 2 49.57 298 P **P** **02 55 16.4 +0.3**
SNR=974
PKT Phuket 49.62 244 P **P** **02 55 20.0 +3.2**
MENT Mentasta 49.76 35 *e*P **P** **02 55 17.5 +0.2**
KULM Kulim 49.89 240⇑ *i*P **P** **02 55 18.4 -0.5**
VOSK Vostochnaya 49.93 311 *i* P **P** **02 55 17.7 -1.0**
VOSK Vostochnaya 49.93 311 P **P** **02 55 17.6 -1.1**
VOSK S **S** **03 02 24.3 -0.7**
VOSK pmax pmax
comp=Z,3μm,1.2s,mb7.1
KZA Kyzart 50.09 297 P **P** **02 55 21.0 +0.9**
SNR=117
KBK Karagaybulak 50.11 298 P **P** **02 55 20.3 +0.1**
SNR=258
CHMS Chumysh 50.14 298 P **P** **02 55 19.8 -0.6**
SNR=159
IPM Ipoh 50.15 239 P **P** **02 55 20.3 -0.7**
BVA0 Borovoye Array 50.21 312 *i* P **P** **02 55 19.9 -0.9**
BVA0 S **S** **03 02 30.3 +1.4**
BVA0 pmax pmax
comp=Z,291nm,1.4s,mb6.1
BVAR Borovoye Array 50.21 312 P4KPbc 03 32 54.6
comp=Z,9.4nm,1.0s,baz=72,slow=4.7,SNR=16
HNR Honiara 50.23 157 LR LR 03 15 36.6
comp=Z,91μm,20.2s,MS6.8,baz=320,slow=35
HNR Honiara 50.23 157 PFAKE 02 55 30.0 +8.5
HNR LR LR
comp=Z,94μm,20.0s,MS6.8
HNR Honiara 50.23 157 P **P** **02 55 21.4 -0.1**
BRVK Borovoye 50.26 312⇑ *i*P **P** **02 55 20.5 -0.7**
comp=Z,493nm,1.0s,mb6.5
BRVK *e*S **S** **03 02 43.9 +14**
BRVK LR LR
comp=Z,49μm,19.0s,MS6.5
BRVK Borovoye 50.26 312⇑ *i*P **P** **02 55 20.5 -0.7**
BRVK *e*S **S** **03 02 43.9 +14**
BRVK pmax pmax
comp=Z,493nm,1.0s,mb6.5
BRVK MLR MLR
comp=Z,49μm,19.0s,MS6.5
FRU Bishkek 50.28 298⇑ *i*P **P** **02 55 20.0 -1.5**
FRU *e* 02 57 20.0
FRU *i* S **S** **03 02 31.0 +0.9**
FRU *e* 03 02 50.0
FRU pmax pmax
comp=Z,3μm,1.9s,mb6.9
FRU pmax pmax
comp=Z,39μm,11.0s
FRU smax
comp=E,40μm,10.0s
FRU MLR MLR
comp=E,178μm,16.0s
AAK Ala-Archa 50.43 298 P **P** **02 55 22.3 -0.4**
SNR=152
AAK Ala-Archa 50.43 298 *i* P **P** **02 55 22.4 -0.3**
AAK LR LR
comp=Z,68μm,19.0s,MS6.7
KSH Kashi 50.45 293⇑ *i*P **P** **02 55 23.1 +0.3**
KSH AP pP 02 55 31.1 -2.7
KSH XP sP 02 55 35.1 -3.2
KSH PCP PcP 02 56 41.0 +0.1
KSH PP PP 02 57 17.1 -2.3
KSH PPP PPP 02 58 13.1 -4.2
KSH SCP 03 00 33.3
KSH PCS 03 00 37.4
KSH S **S** **03 02 31.8 -0.6**
KSH PS PS 03 02 41.1 -5.0
KSH XS 03 02 45.0
KSH SCS ScS 03 05 07.3 -0.2
KSH SS SS 03 05 58.1 -5.5
KSH AMB AMB
comp=Z,2μm,0.8s,mb7.1
KSH AMB AMB
comp=Z,27μm,5.4s
KSH LR LR
comp=N,161μm,14.3s,MS7.5
KSH LR LR
comp=E,300μm,14.8s,MS7.5
UCH Uchtor 50.55 297 P **P** **02 55 24.7 +1.1**
SNR=15
KGM Kluang 50.57 234 P **P** **02 55 24.0 0.0**
AML Almayashu 51.16 297 P **P** **02 55 28.7 +0.5**
SNR=265
KAKA Kakadu 51.45 192⇑ *i*P **P** **02 55 40.0 +9.3**
comp=E,825nm,0.9s,mb6.7
BWNR Bhubaneshwar 51.49 266 *e*P **P** **02 55 39.0 +8.1**
BWNR AMb AMB 02 55 50.2
comp=Z,2μm,1.6s,mb6.7
BWNR *e*S **S** **03 02 55.5 +8.4**
ALBI Allahabad 52.04 274 *e*P **P** **02 55 32.5 -2.5**
KKAR Karatay Array 53.03 300 *i* P **P** **02 55 41.4 -0.8**
KKAR Karatay Array 53.03 300 *i* P **P** **02 55 41.3 -0.9**
KKAR pmax pmax
comp=Z,2μm,1.2s,mb6.9
INK Inuvik 53.10 28 LR LR 03 21 47.6
comp=Z,48μm,21.0s,MS6.5,baz=280,slow=40
BLSP Bilaspur 53.41 271 *e*P **P** **02 55 44.5 -0.8**
BLSP AMb AMB 02 55 48.3
comp=Z,3μm,0.8s,mb7.2
BLSP *ex* x 03 03 10.5
KIP Kipapa 53.69 90 *e*P **P** **02 55 48.0 +0.6**
comp=Z,49nm,0.8s,mb5.5
KIP *e*sP sP 02 56 00.6 -2.4
KIP LR LR
comp=Z,43μm,21.0s,MS6.5
HON Honolulu 53.76 90 P **P** **02 55 48.2 +0.3**
NDI New Delhi 54.00 280 *e*P **P** **02 55 46.0 -3.6**
NDI *e*S **S** **03 03 22.0 +0.8**
AGRA Agra 54.13 278 *e*S **S** **03 03 23.4 +0.5**
AGRA AML AML 03 03 42.6
comp=N,214nm,0.4s
BHGR Bahadurgarh 54.22 281 *ex* x 03 03 38.0
SONA Sohna 54.31 280 *e*S **S** **03 03 28.0 +2.7**
SONA AML AML 03 03 39.7
comp=N,25nm,0.7s
SONA AML AML 03 03 39.9
comp=E,29nm,0.7s
PPI Padang Panjang 54.32 235 P **P** **02 55 51.7 -0.4**
JHNI Jhansi 54.53 276⇑ *i*P **P** **02 55 50.0 -3.5**
JHNI *ex* x 02 57 04.0
JBP Jabalpur 54.56 273 *i* S **S** **03 03 29.6 +0.9**
SVE Sverdlovsk 54.65 318⇑ *i*P **P** **02 55 52.5 -1.4**
SVE *e* 02 58 00.0
SVE *e*S **S** **03 03 24.0 -5.4**

SVE e 03 05 40.0
SVE pmax pmax
comp=Z,1μm,1.5s,mb6.7
SVE pmax pmax
comp=N,4μm,10.0s
SVE pmax pmax
comp=E,14μm,10.0s
SVE pmax pmax
comp=Z,24μm,10.0s
VIS Vishakhapatnam 54.87 265 *i* P **P 02 55 54.9 -1.2**
VIS *i* S **S 03 03 34.1 +1.3**
GSI Gunungsitoli 54.88 239 P **P 02 55 59.3 +3.1**
SIT Sitka 55.14 41 *e*P **P 02 55 57.3 -0.2**
SIT LR LR
comp=Z,46μm,21.0s,MS6.5
KHET Khetri 55.39 281 *e*S **S 03 03 41.2 +1.5**
KHET AML AML 03 03 52.8
comp=N,16nm,0.7s
HKL Haleakala 55.46 90 *e*P **P 02 56 02.2 +2.0**
ARU Arti 55.86 318⇑*i*P **P 02 56 00.8 -1.9**
ARU LR LR
comp=Z,89μm,20.0s,MS6.8
ARU Arti 55.86 318⇑*i*P **P 02 56 01.6 -1.1**
ARU *e* 02 57 00.3
ARU *e* 02 58 03.8
ARU *e*PPP PPP 02 59 19.3 -5.2
ARU *e*S **S 03 03 46.4 +0.7**
ARU *e* 03 05 44.9
ARU *e*SSS SSS 03 09 41.1 +2.1
ARU pmax pmax
comp=Z,2μm,1.2s,mb7.1
ARU MLR MLR
comp=N,79μm,18.0s,MS7.5
ARU MLR MLR
comp=E,319μm,18.0s,MS7.5
ARU MLR MLR
comp=Z,424μm,18.0s,MS7.6
POHA Pohakuloa 56.55 90 PFAKE 02 56 20.0 +12
POHA LR LR
comp=Z,525μm,21.0s,MS7.6
CRAG Craig 56.83 43 *e*P **P 02 56 11.6 +2.0**
CRAG LR LR
comp=Z,106μm,23.0s,MS6.9
AJM Ajmer 57.07 279 *e*P **P 02 56 09.9 -1.9**
AJM AMb AMB 02 56 21.2
comp=Z,2μm,1.9s,mb6.9
AJM *e*x x 03 03 52.7
DLBC Dease Lake 57.37 39⇑*i*P **P 02 56 13.8 +0.4**
DLBC *e*sP sP 02 56 28.4 -0.6
AB31 Akbulak array 57.62 310 *i* P **P 02 56 13.9 -1.4**
AB31 Akbulak array 57.62 310 *i* P **P 02 56 13.8 -1.5**
AB31 *i* S **S 03 04 03.0 -6.0**
AB31 pmax pmax
comp=Z,697nm,0.8s,mb6.7
FITZ Fitzroy Crossi 58.10 199⇑*i*P **P 02 56 17.9 -1.2**
comp=Z,2μm,1.6s,mb6.8
FITZ *e*S **S 03 04 17.6 +1.9**
FITZ *e*PKPPKP 03 26 02.6
CTA Charters Tower 58.11 175 *e*P **P 02 56 20.0 +0.9**
comp=Z,171nm,1.3s,mb5.9
CTA *e*S **S 03 04 15.7 0.0**
CTA *e*PKPPKP 03 26 12.6
CTA Charters Tower 58.11 175 *e*P **P 02 56 20.0 +0.9**
CTA *e*S **S 03 04 15.7 0.0**
CTA pmax pmax
comp=Z,171nm,1.3s
CTAO Charters Tower 58.11 175⇑*e*P **P 02 56 19.6 +0.5**
comp=Z,35nm,0.7s,mb5.5
CTAO *e*pP pP 02 56 28.6 -1.7
CTAO *e*sP sP 02 56 34.4 -0.4
CTAO *e*PcP PcP 02 57 09.2 -1.1
CTAO LR LR
comp=Z,27μm,20.0s,MS6.4
AKL Akola 58.20 272⇓*i*x x 02 58 26.1
AKL *i* x x 03 06 21.3
WRAB Tennant Creek 58.28 189 *e*P **P 02 56 18.3 -2.1**
comp=Z,1μm,1.1s,mb6.9
WRAB *e*S **S 03 04 19.0 +1.0**
WRAB LR LR
comp=Z,16μm,20.0s,MS6.1
WRAB Tennant Creek 58.28 189 *e*P **P 02 56 18.3 -2.0**
WRAB *e*S **S 03 04 19.0 +1.0**
WRAB pmax pmax
comp=Z,1μm,1.1s,mb6.9
WRAB MLR MLR
comp=Z,16μm,20.0s,MS6.1
WRA Warramunga Arr 58.29 189 P **P 02 56 19.2 -1.2**
comp=Z,142nm,0.8s,mb6.1,baz=5.9,slow=7.0,SNR=114
WRA S **S 03 04 17.3 -0.8**
comp=Z,20nm,1.2s,baz=5.4,slow=12,SNR=14
WRA PKP2bc 03 26 02.4
comp=Z,5.0nm,1.0s,baz=192,slow=2.2,SNR=6.7
WRA P4KPbc 03 33 32.1
comp=Z,5.4nm,1.1s,baz=1.0,slow=4.7,SNR=9.9
WRA Warramunga Arr 58.29 189 P **P 02 56 19.2 -1.2**
WRA S **S 03 04 17.3 -0.8**
WRA ⇑*e* 03 26 02.4
AKTO Aktyubinsk 58.31 312 P **P 02 56 18.7 -1.4**
AKTO pmax pmax
comp=Z,814nm,1.4s,mb6.6
HYB Hyderabad 58.79 268⇑*i*P **P 02 56 22.0 -1.9**
comp=Z,1μm,1.0s,mb7.0
HYB *e* 02 57 25.0
HYB *e* 02 58 08.0
HYB *e*PP PP 02 58 32.0 -3.8
HYB *e*PcS 03 01 14.0
HYB *e*S **S 03 04 25.0 +0.2**
HYB *e*PS PS 03 04 42.0 -2.1
HYB *e*ScS ScS 03 06 06.0 -0.9
HYB *e*SS SS 03 08 32.0 +12
HYB LR LR 03 24 16.0
comp=Z,109nm,18.0s
HYB *e*PKPPKP 03 26 03.0
HYB Hyderabad 58.79 268⇑*e*P **P 02 56 22.0 -1.9**
comp=Z,1μm,1.0s,mb7.0
HYB *e* 02 58 08.0
HYB *e*S **S 03 04 21.0 -3.8**
HYB *e*Rg 03 24 16.0
HYB *e*P'P' 03 26 03.0
HYB Hyderabad 58.79 268⇑*e*P **P 02 56 22.0 -1.9**
HYB *e*S **S 03 04 21.0 -3.8**
HYB pmax pmax
comp=Z,1μm,1.0s,mb7.0
KBS Kingsbay 59.60 350⇑*i*P **P 02 56 27.9 -0.9**
KBS AMb AMB 02 56 39.5
comp=Z,1μm,1.6s,mb6.6
KBS *e*S **S 03 04 35.8 +1.3**
KBS *e*SS SS 03 08 31.6 0.0
KBS AMS AMS 03 24 30.9
comp=Z,42μm,20.1s,MS6.6
KBS Kingsbay 59.60 350⇑*i*P **P 02 56 27.9 -0.9**
comp=Z,1μm,1.6s,mb6.6
KBS LR LR
comp=Z,42280μm,20.1s
JASL Jaisalmer 59.74 282 *e*x x 03 04 51.8
LATR Latur 59.81 270 *i* x x 02 57 30.0
MDRS Chennai 59.98 263 *e*P **P 02 56 33.3 +1.2**
MDRS AMb AMB 02 56 43.4
comp=Z,2μm,2.3s,mb6.8
MDRS *e*S **S 03 04 42.8 +2.7**
MDRS *e*x x 03 08 30.0
HSP Hornsund 60.42 348 *e*P **P 02 56 33.2 -1.2**
LVZ Lovozero 61.28 336⇑*i*P **P 02 56 38.8 -1.5**
LVZ Lovozero 61.28 336*c* *i*P **P 02 56 38.5 -1.8**
LVZ *i* 02 58 56.3
LVZ *i* S **S 03 04 54.8 -1.2**
LVZ *i* SS SS 03 08 57.2 -0.8
LVZ pmax pmax
comp=N,5μm,6.3s
LVZ pmax pmax
comp=Z,19μm,6.3s
LVZ pmax pmax
comp=E,7μm,6.2s
LVZ pmax pmax
comp=N,422nm,1.3s
LVZ pmax pmax
comp=Z,1μm,1.3s,mb6.9
LVZ pmax pmax
comp=E,391nm,1.0s
LVZ smax
comp=N,13μm,9.6s
LVZ smax
comp=Z,6μm,9.1s
LVZ smax
comp=E,5μm,7.8s
LVZ smax
comp=N,6μm,9.1s
LVZ smax
comp=Z,7μm,13.4s
LVZ smax
comp=E,5μm,12.6s
LVZ MLR MLR
comp=E,191μm,20.0s,MS7.3
LVZ MLR MLR
comp=Z,292μm,20.0s,MS7.4
LVZ MLR MLR
comp=N,82μm,18.0s,MS7.3
RES Resolute Bay 61.33 15 *e*P **P 02 56 38.4 -2.2**
comp=N,91nm,0.6s,mb6.1
RES Resolute Bay 61.33 15 *e*P **P 02 56 38.4 -2.2**
RES pmax pmax
comp=Z,91nm,0.6s,mb6.1
BHV Bhavnagar 61.46 276 *e*x x 03 07 59.0
BHV *e*x x 03 08 24.0
POO Poona 61.88 272 *i* S **S 03 05 04.0 -0.3**
KAD Karad 62.30 271 *e*P **P 02 56 46.1 -1.7**
KAD AMb AMB 02 56 56.7
comp=Z,2μm,1.5s,mb7.0
KAD *e*x x 03 05 03.1
YKW3 Yellowknife Ar 62.48 31⇑*i*P **P 02 56 46.8 -1.6**
YKW3 *e*PP PP 02 59 09.1 +1.2
BOM Bombay 62.49 273 *e*P **P 02 56 48.1 -0.9**
BOM *e*S **S 03 05 13.0 +1.0**
YKA Yellowknife Ar 62.52 31 P **P 02 56 47.2 -1.4**
comp=Z,37nm,0.7s,mb5.6,baz=303,slow=6.8,SNR=54
YKA S **S 03 05 07.7 -4.1**
comp=Z,3.3nm,0.8s,baz=336,slow=7.5,SNR=2.8
YKA LR LR 03 24 05.9
comp=Z,36μm,21.3s,MS6.5,baz=270,slow=36
YKA PKP2bc 03 25 55.4
comp=Z,7.0nm,1.1s,baz=123,slow=3.2,SNR=7.4
YKA P4KPbc 03 33 47.1
comp=Z,0.2nm,0.3s,baz=293,slow=4.0,SNR=4.0
YKA Yellowknife Ar 62.52 31 P **P 02 56 47.2 -1.4**
YKA S **S 03 05 07.7 -4.1**
YKA LR LR 03 24 05.9
YKA ⇑*e* 03 25 55.4
KEV Kevo 62.55 339 *e*P **P 02 56 46.6 -2.2**
comp=Z,3μm,1.4s,mb7.2
KEV LR LR
comp=Z,284μm,19.0s,MS7.5
KEV Kevo 62.55 339 *e*P **P 02 56 46.6 -2.2**
KEV pmax pmax
comp=Z,3μm,1.4s,mb7.2
KEV MLR MLR
comp=Z,284μm,19.0s,MS7.5
BHJ Bhuj 62.60 279 *e*P **P 02 56 48.9 -0.8**
BHJ AMb AMB 02 56 59.9
comp=Z,2μm,0.8s,mb7.4
BHJ *e*S **S 03 05 13.3 -0.1**
MBWA Marble Bar 62.68 204⇑*e*P **P 02 56 48.1 -2.1**
comp=Z,272nm,1.0s,mb6.3
MBWA *e*sP sP 02 57 04.6 -1.3
MBWA LR LR
comp=Z,18μm,21.0s,MS6.2
ARCES ARCESS Array B 63.10 339 P **P 02 56 51.2 -1.3**
comp=Z,62nm,0.4s,mb6.1,baz=52,slow=7.8,SNR=253
ARCES S **S 03 05 19.4 +0.4**
comp=Z,16nm,1.0s,baz=163,slow=19,SNR=2.5
ARCES PKP2bc 03 25 51.8
comp=Z,5.7nm,1.1s,baz=153,slow=4.0,SNR=5.9
ARCES LR LR 03 29 19.9
comp=Z,168μm,18.6s,MS7.2,baz=47,slow=41
ARCES ARCESS Array B 63.10 339 P **P 02 56 51.2 -1.3**
ARCES S **S 03 05 19.4 +0.4**
ARCES ⇑*e* 03 25 51.8
ARCES LR LR 03 29 19.9
ARE0 ARCESS Array S 63.10 339⇑*i*P **P 02 56 51.0 -1.4**
PALK Pallekele 63.16 257⇑*i*P **P 02 56 52.4 -1.2**
comp=Z,1μm,1.4s,mb6.8
PALK LR LR
comp=Z,16μm,19.0s,MS6.2
PECR Pechory 63.25 322⇓*i*P **P 02 56 52.7 -0.9**
PECR *e* 02 57 26.0
PECR *e* 02 59 12.4
PECR *i* S **S 03 05 22.0 +1.0**
PECR *e*SS SS 03 09 28.0 -1.5
PECR pmax pmax
comp=Z,26μm,5.0s
PECR pmax pmax
comp=N,6μm,7.3s
PECR pmax pmax
comp=Z,22μm,6.0s
PECR pmax pmax
comp=N,10μm,5.0s
PECR pmax pmax
comp=E,20μm,5.0s
PECR smax
comp=E,12μm,12.0s
PECR MLR MLR
comp=Z,75μm,19.0s,MS6.9
PECR MLR MLR
comp=N,23μm,17.0s,MS6.9
PECR MLR MLR
comp=E,70μm,20.0s,MS6.9
ASH Ashkhabad 63.59 299 *e*P **P 02 56 56.0 -0.1**
ASH *e*S **S 03 05 28.0 +2.5**
VAN Vannovskaya 63.76 299 P **P 02 56 56.0 -1.1**
VAN S **S 03 05 30.0 +2.4**
KTK1 Kautokeino 64.06 339⇑*i*P **P 02 56 58.5 0.0**
KTK1 AMb AMB 02 57 09.2
comp=Z,2μm,1.1s,mb7.1
KTK1 Kautokeino 64.06 339⇑*i*P **P 02 56 58.5 0.0**
comp=Z,2μm,1.1s,mb7.1
DZM Mont Dzumac 64.16 155 *e*P **P 02 57 01.1 +1.1**
DZM Mont Dzumac 64.16 155 LR LR 03 24 32.5
comp=Z,65μm,19.2s,MS6.8,baz=347,slow=36
MNGI Mangalore 64.31 266 *e*P **P 02 57 00.6 -0.4**
MNGI *e*S **S 03 05 33.6 -1.1**
DAG Danmarks Havn 64.66 355*j* *i*P **P 02 57 01.1 -1.3**
comp=Z,110nm,0.7s,mb6.0
DAG *i* pP 02 57 13.0 -0.7
comp=Z,44μm,22.0s
DAG Danmarks Havn 64.66 355 *i* Pdu **P 02 57 01.1 -1.3**
comp=Z,110nm,0.7s,mb6.0
DAG *i* pP 02 57 13.0 -0.7
DAG LR LR
comp=Z,44μm,22.0s,MS6.6
DAG Danmarks Havn 64.66 355⇓*i*P **P 02 57 01.1 -1.3**
DAG *i* pP 02 57 13.0 -0.7
DAG pmax pmax
comp=Z,110nm,0.7s,mb6.0
DAG MLR MLR
comp=Z,44μm,22.0s,MS6.6
TRO Tromso 64.79 341 *e*P **P 02 57 05.2 +1.9**
TRO AMb AMB 02 57 16.7
comp=Z,2μm,1.3s,mb6.9
TRO *e*S **S 03 05 41.1 +1.3**
TRO AMS AMS 03 28 27.0
comp=Z,106μm,22.3s,MS7.0
TRO Tromso 64.79 341 *e*P **P 02 57 05.2 +1.9**
comp=Z,2μm,1.3s,mb6.9
TRO LR LR
comp=Z,11μm,22.3s,MS6.0
PGC Sidney 65.13 47 *e*P **P 02 57 04.7 -1.2**
comp=Z,234nm,0.9s,mb6.2
OCWA Octopus Mounta 65.16 48 *e*P **P 02 57 05.1 -1.0**
comp=Z,266nm,1.1s,mb6.2
OCWA *e*sP sP 02 57 21.3 -0.4
OCWA LR LR
comp=Z,67μm,22.0s,MS6.8
TRD Trivandrum 65.30 261 *e*P **P 02 57 09.8 +2.3**
TRD *i* x x 03 05 44.2
OSR Olympics--Salm 65.41 48 P **P 02 57 08.5 +0.9**
VDB Vedder Mountai 65.71 46 P **P 02 57 08.9 -0.6**
GNW Green Mountain 66.04 48 P **P 02 57 11.8 +0.1**
TTW Tolt Reservoir 66.63 47 P **P 02 57 18.2 +2.8**
MOS Moscow 66.65 323α*i*P **P 02 57 14.7 -0.7**
MOS *e* 02 57 44.9
MOS *e* 02 59 38.2
MOS *i* S S 03 06 01.7 -0.9
MOS *e* 03 07 09.1
MOS *e*SSS SSS 03 13 18.1 -0.3
MOS pmax pmax
comp=Z,26μm,5.3s
MOS pmax pmax
comp=N,7μm,3.7s
MOS pmax pmax
comp=E,4μm,4.7s
MOS pmax pmax
comp=Z,3μm,1.7s,mb7.1
MOS pmax pmax
comp=N,1μm,1.4s
MOS pmax pmax
comp=E,314nm,1.4s
MOS smax
comp=N,27μm,6.5s
MOS smax
comp=E,4μm,8.9s
MOS MLR MLR
comp=Z,199μm,15.6s,MS7.4
MOS MLR MLR
comp=N,95μm,16.4s,MS7.2
MOS MLR MLR
comp=E,58μm,15.9s,MS7.2
LOF Lofoten 67.23 341 *e*P **P 02 57 20.2 +1.3**
LOF AMb AMB 02 57 26.4
comp=Z,672nm,1.0s,mb6.6
LOF Lofoten 67.23 341 *e*P **P 02 57 20.2 +1.3**
comp=Z,672nm,1.0s,mb6.6
COR Corvallis 67.30 51⇑*i*P **P 02 57 20.9 +1.3**
comp=Z,352nm,1.1s,mb6.3
COR LR LR
comp=Z,22μm,21.0s,MS6.3
COR Corvallis 67.30 51⇑*i*P **P 02 57 21.0 +1.3**
COR pmax pmax
comp=Z,352nm,1.1s,mb6.3
COR MLR MLR
comp=Z,22μm,21.0s,MS6.3
TWW Teanaway 67.40 47 P **P 02 57 20.6 +0.4**
LTY Liberty 67.45 47 P **P 02 57 20.3 -0.3**
AFI Afiamalu 67.46 131 LR LR 03 20 59.1
comp=Z,61μm,21.9s,MS6.8,baz=323,slow=31
AFI Afiamalu 67.46 131 P **P 02 57 21.0 -0.2**
comp=Z,449nm,1.3s,mb6.3
AFI LR LR
comp=Z,62μm,21.0s,MS6.8
AFI Afiamalu 67.46 131 P **P 02 57 21.0 -0.1**
AFI pmax pmax
comp=Z,449nm,1.3s,mb6.3
AFI MLR MLR
comp=Z,62μm,21.0s,MS6.8
PUL Pulkovo 67.47 329⇑*i*P **P 02 57 21.0 +0.5**
PUL Pulkovo 67.47 329*c* *i*P **P 02 57 19.6 -0.9**
PUL *i* 02 59 51.7
PUL *i* S S 03 06 11.3 -1.2
PUL *i* SS SS 03 10 31.3 -3.4
PUL pmax pmax
comp=Z,6μm,2.2s,mb7.2
PUL pmax pmax
comp=N,4μm,1.9s
PUL pmax pmax
comp=E,5μm,1.6s
PUL pmax pmax
comp=Z,2μm,1.2s,mb7.0
PUL pmax pmax
comp=N,2μm,1.3s
PUL pmax pmax
comp=E,4μm,1.7s
PUL smax
comp=N,15μm,7.4s
PUL smax
comp=Z,5μm,6.3s
PUL smax
comp=N,7μm,9.1s
PUL MLR MLR
comp=N,135μm,21.0s,MS7.3
PUL MLR MLR
comp=Z,191μm,21.0s,MS7.3
PUL MLR MLR
comp=E,137μm,25.0s,MS7.3
OBN Obninsk 67.50 323⇑*i*P **P 02 57 19.7 -1.0**
OBN LR LR
comp=Z,42μm,20.0s,MS6.7
OBN Obninsk 67.50 323*c* *i*P **P 02 57 19.6 -1.1**
OBN *i* *PP pP 02 57 29.4 -2.7
OBN *i* *SP sP 02 57 37.1 +0.8
OBN *i* 02 57 46.6
OBN *i* 02 59 48.4
OBN *i* S S 03 06 09.7 -3.1
OBN pmax pmax
comp=Z,4μm,2.3s,mb7.0
OBN MLR MLR
comp=Z,214μm,19.0s,MS7.4
KAF Kangasniemi 67.53 333 *e*p **P 02 57 18.7 -2.1**
comp=Z,660nm,1.0s,mb6.6,baz=48,slow=5.8
KAF Kangasniemi 67.53 333 *e*P **P 02 57 18.7 -2.1**
KAF pmax pmax
comp=Z,660nm,1.0s,mb6.6
KEBM Edson Butte 67.57 53 *e*P **P 02 57 21.4 +0.1**
KEBM *e*sP sP 02 57 39.1 +2.1
WTV Waterville 67.63 46 P **P 02 57 21.4 -0.2**
KBO Bosley Butte 67.98 53 *e*P **P 02 57 24.5 +0.5**
FINES FINESS Array B 68.04 332 P **P 02 57 22.9 -1.2**
comp=Z,292nm,0.9s,mb6.3,baz=37,slow=9.5,SNR=152
FINES S S 03 06 18.1 -1.1
comp=Z,5.7nm,0.8s,baz=225,slow=7.9,SNR=2.1
FINES PKP2bc 03 25 46.3
comp=Z,1.6nm,0.8s,baz=135,slow=11,SNR=3.8
FINES LR LR 03 29 36.6
comp=Z,132μm,18.3s,MS7.2,baz=53,slow=38
FINES FINESS Array B 68.04 332 P **P 02 57 22.9 -1.2**
FINES S S 03 06 18.1 -1.1
FINES ⇑*e* 03 25 46.3
FINES LR LR 03 29 36.6
EDM Edmonton 68.09 39⇑*i*P **P 02 57 23.3 -1.2**
VOR Voronezh 68.11 319 *e*P **P 02 57 23.5 -1.2**
VOR *e*S S 03 06 20.0 -0.3
VOR pmax pmax
comp=N,1μm,1.2s
VOR pmax pmax
comp=E,2μm,1.2s
VOR pmax pmax
comp=Z,3μm,1.2s,mb7.2
VOR smax
comp=N,630nm,1.3s
VOR smax
comp=E,270nm,1.3s
VOR smax
comp=Z,700nm,2.7s
MAK Makhachkala 68.18 308*d* *i*P **P 02 57 25.0 -0.2**
MAK *i* 02 57 54.0
MAK *e* 02 59 59.9
MAK *i* S S 03 06 20.0 -1.2
MAK *i* PS PS 03 06 48.0 -3.0
MAK *i* 03 07 24.0
MAK *i* SS SS 03 10 46.0 +0.2
MAK pmax pmax
comp=Z,32μm,8.0s
MAK pmax pmax
comp=N,10μm,10.0s
MAK pmax pmax
comp=E,10μm,10.0s
MAK pmax pmax
comp=E,2μm,2.0s
MAK pmax pmax
comp=Z,3μm,2.0s,mb6.9
MAK pmax pmax
comp=Z,21μm,8.0s
MAK pmax pmax
comp=N,6μm,10.0s
MAK pmax pmax
comp=E,8μm,10.0s
MAK smax
comp=N,20μm,10.0s
MAK smax
comp=E,7μm,10.0s
MAK smax
comp=Z,9μm,10.0s
HBO Huckleberry Mo 68.30 51 P **P 02 57 27.7 +1.7**
VRSR Storozhevoye 68.41 319 *e*P **P 02 57 25.1 -1.4**
VRSR *e**SP sP 02 57 33.3 -8.8
VRSR *e* 02 57 51.3
VRSR *e* 02 59 57.5
VRSR *e*S S 03 06 22.6 -1.2
VRSR *e* 03 07 16.5
VRSR *e*SS SS 03 10 50.9 +1.6
MOR8 Moi Rana 68.46 340 *e*P **P 02 57 24.2 -2.4**
MOR8 AMb AMB 02 57 35.1
comp=Z,2μm,1.0s,mb7.1
MOR8 Moi Rana 68.46 340 *e*P **P 02 57 24.2 -2.4**
comp=Z,2μm,1.0s,mb7.1
OD2 Odessa Site #2 68.50 46 P **P 02 57 26.5 -0.6**
MNCY Minicoy 68.51 264 *i* x x 02 57 34.0
MNCY *i* x x 03 00 49.0

KRMB Red Mountain 68.55 54 *eP* **P 02 57 25.2 -2.3**
KRMB *es*P sP 02 57 42.3 -0.8
HUMO Hull Mountain 68.57 52⇑*iP* **P 02 57 27.6 -0.1**
comp=Z,33nm,0.8s
HUMO LR LR
comp=Z,63μm,22.0s,MS6.8
STOK Stokkvaagen 68.72 340 *eP* **P 02 57 27.0 -1.2**
STOK AMb AMB 02 57 37.6
comp=Z,1μm,1.2s,mb6.7
STOK Stokkvaagen 68.72 340 *eP* **P 02 57 27.0 -1.2**
comp=Z,1μm,1.2s,mb6.7
NEW Newport 68.91 45 LR LR 03 23 01.4
comp=Z,55μm,21.7s,MS6.8,baz=296,slow=32
NEW Newport 68.91 45⇑*iP* **P 02 57 29.1 -0.6**
comp=Z,101nm,0.9s,mb5.8
NEW *es*P sP 02 57 43.6 -1.6
NEW LR LR
comp=Z,57μm,22.0s,MS6.8
NEW Newport 68.91 45⇑*iP* **P 02 57 29.1 -0.5**
NEW *e**SP sP 02 57 43.6 -1.6
NEW pmax pmax
comp=Z,101nm,0.9s
NEW MLR MLR
comp=Z,57μm,22.0s
KHMM Horse Mountain 69.01 54 *eP* **P 02 57 30.5 +0.1**
JNW Jan Mayen West 69.05 350 *eP* **P 02 57 33.0 +2.9**
JMIC Jan Mayen 69.09 350 LR LR 03 27 54.4
comp=Z,37μm,21.6s,MS6.6,baz=38,slow=36
JMIC Jan Mayen 69.09 350⇑*iP* **P 02 57 31.8 +1.4**
JMIC *eS* S 03 06 32.9 +1.2
JMIC AMS AMS 03 28 06.2
comp=Z,31μm,21.4s,MS6.5
JMIC Jan Mayen 69.09 350⇑*iP* **P 02 57 31.8 +1.4**
JMIC LR LR
comp=Z,31136μm,21.4s
YBH Yreka Blue Hor 69.19 53 LR LR 03 22 41.6
comp=Z,39μm,21.7s,MS6.6,baz=297,slow=31
YBH PKP2bc 03 25 44.3
comp=Z,4.3nm,1.0s,baz=116,slow=6.6,SNR=5.8
YBH Yreka Blue Hor 69.19 53⇑*iP* **P 02 57 31.8 +0.3**
comp=Z,179nm,1.2s,mb5.9
YBH LR LR
comp=Z,40μm,22.0s,MS6.6
YBH Yreka Blue Hor 69.19 53⇑*iP* **P 02 57 31.8 +0.3**
YBH pmax pmax
comp=Z,179nm,1.2s
YBH MLR MLR
comp=Z,40μm,22.0s
SUMG Summit 69.52 0⇑*iP* **P 02 57 33.0 0.0**
comp=Z,667nm,0.8s,mb6.6
STKA Stephens Creek 69.72 180 *eP* **P 02 57 33.8 -1.1**
comp=Z,75nm,0.6s,mb5.8
STKA *eS* S 03 06 39.9 +0.2
STKA *e*PKPPKP 03 25 41.1
STKA Stephens Creek 69.72 180 P **P 02 57 34.0 -0.9**
comp=Z,28nm,0.9s,baz=351,slow=7.3,SNR=21
STKA S S 03 06 36.1 -3.6
comp=Z,7.1nm,1.1s,baz=104,slow=17,SNR=1.5
STKA PKP2bc 03 25 43.8
comp=Z,11nm,0.9s,baz=164,slow=4.7,SNR=7.3
VSU Vasula 69.73 330⇑*iP* **P 02 57 33.8 -0.7**
VSU Vasula 69.73 330*c iP* **P 02 57 33.7 -0.8**
GOF Gofitskoye 69.74 312⇑*iP* **P 02 57 34.0 -0.8**
GOF *i* 03 07 02.5
GOF pmax pmax
comp=Z,4μm,1.3s,mb7.1
KIPM Iron Peak 69.75 55 *eP* **P 02 57 35.8 +0.8**
KCPM Cahto Peak 69.75 55 *eP* **P 02 57 35.4 +0.4**
FORT Forrest 69.87 193⇓*iP* **P 02 57 34.8 -1.0**
comp=Z,701nm,0.7s,mb6.7
FORT *eS* S 03 06 38.4 -3.0
FORT *e*PKPPKP 03 25 40.1
WDC Whiskeytown Da 69.93 54⇑*iP* **P 02 57 35.9 -0.1**
comp=Z,193nm,1.1s,mb5.9
WDC LR LR
comp=Z,32μm,20.0s,MS6.6
WDC Whiskeytown Da 69.93 54⇑*iP* **P 02 57 35.9 -0.1**
WDC pmax pmax
comp=Z,193nm,1.1s,mb5.9
WDC MLR MLR
comp=Z,32μm,20.0s,MS6.6
WALA Waterton Lakes 70.20 43⇑*iP* **P 02 57 37.3 -0.3**
comp=Z,119nm,0.9s,mb5.8
RORSS Ber_school_1 70.33 340 *eP* **P 02 57 37.4 -0.6**
DGRG David-gareji 70.33 308 P **P 02 57 36.6 -1.8**
NSS Namsos 70.39 339 *eP* **P 02 57 36.2 -2.2**
NSS AMb AMB 02 57 49.0
comp=Z,888nm,1.4s,mb6.5
NSS *e*PP PP 03 00 13.2 -3.2
NSS Namsos 70.39 339 *eP* **P 02 57 36.2 -2.2**
comp=Z,888nm,1.4s,mb6.5
HOPS Hopland 70.46 55 PFAKE 02 57 50.0 +11
HOPS LR LR
comp=Z,79μm,22.0s,MS6.9
ZEI Tsey 70.50 309 *eP* **P 02 57 36.0 -3.5**
ZEI *i **PP pP 02 57 45.4 -5.5
ZEI *i* 03 00 09.7
ZEI *eS* S 03 06 39.0 -10
ZEI pmax pmax
comp=Z,397nm,1.4s,mb6.2
MTA Mtatsminda 70.56 308 P **P 02 57 38.5 -1.3**
KIV Kislovodsk 70.56 311⇑*iP* **P 02 57 39.7 -0.1**
KIV LR LR
comp=Z,42μm,19.0s,MS6.7
KIV Kislovodsk 70.56 311*c iP* **P 02 57 39.6 -0.2**
KIV *e**PP pP 02 57 48.8 -2.4
KIV *i **SP sP 02 57 55.9 +0.5
KIV *i* 03 00 15.9
KIV *i* S S 03 06 39.1 -10
KIV *e*SS SS 03 11 28.4 +5.5
KIV pmax pmax
comp=Z,4μm,1.6s,mb7.2
KIV MLR MLR
comp=Z,141μm,17.0s,MS7.3
TBLG Delisi 70.57 308 P **P 02 57 40.9 +1.0**
MOD Modoc 70.60 52 PFAKE 02 57 50.0 +10
MOD LR LR
comp=Z,42μm,21.0s,MS6.7
BMO Blue Mountains 70.73 48⇑*iP* **P 02 57 40.5 -0.3**
comp=Z,133nm,1.1s,mb5.8
BMO LR LR
comp=Z,42μm,22.0s,MS6.7
ONI Oni 70.88 309 P **P 02 57 41.8 0.0**
SCO Scoresbysund 71.01 354 *i* P **P 02 57 42.4 +0.3**
comp=Z,148nm,0.9s,mb5.9
SCO *i* S S 03 06 56.2 +2.2
SCO Scoresbysund 71.01 354 *i* P **P 02 57 42.4 +0.3**
SCO *i* S S 03 06 56.2 +2.2
SCO pmax pmax
comp=Z,148nm,0.9s,mb5.9
BCHG Becho 71.15 310 P **P 02 57 48.9 +5.5**
WVOR Wild Horse Val 71.32 50⇑*iP* **P 02 57 44.2 -0.2**
comp=Z,21μm,0.4s
WVOR *es*P sP 02 58 00.1 +0.1
WVOR LR LR
comp=Z,53μm,20.0s,MS6.8
GNI Garni 71.46 307 LR LR 03 31 32.9
comp=Z,99μm,21.4s,MS7.0,baz=93,slow=38
GNI Garni 71.46 307⇑*iP* **P 02 57 45.7 +0.4**
comp=Z,2μm,1.2s,mb7.0
GNI LR LR
comp=Z,94μm,20.0s,MS7.0
GNI Garni 71.46 307*c iP* **P 02 57 45.4 +0.1**
GNI pmax pmax
comp=Z,2μm,1.8s
MSO Missoula 71.50 45⇑*iP* **P 02 57 44.8 -0.6**
comp=Z,125nm,1.0s,mb5.8
MSO LR LR
comp=Z,15μm,20.0s,MS6.3
SAC San Andreas 71.68 56 *eP* **P 02 57 52.8 +6.2**
SAC San Andreas 71.68 56 P **P 02 57 55.3 +8.7**
BEKR Beckwourth 71.71 53 *eP* **P 02 57 46.6 -0.1**
comp=Z,323nm,0.6s,mb6.4
BEKR *es*P sP 02 58 01.2 -1.1
IDID Didziasalis 71.80 327 *eP* **P 02 57 46.6 -0.4**
IDID AMb AMB 02 57 52.6
comp=Z,402nm,0.9s,mb6.3
IDID *ep*P pP 02 57 57.6 -0.8
CHMT Chamberlain Mo 71.83 44⇓*iP* **P 02 57 46.9 -0.4**
MNK Minsk 71.86 326⇑*eP* **P 02 57 45.0 -2.4**
MNK *eS* S 03 07 00.0 -4.2
ISAL Salakas 71.89 328 *eP* **P 02 57 47.2 -0.3**
ISAL AMb AMB 02 57 53.7
comp=Z,532nm,0.9s,mb6.5
ISAL *ep*P pP 02 57 58.3 -0.7

IIGN Ignalina 72.00 327 *eP* **P 02 57 47.7 -0.5**
RIV Riverview 72.16 172 *eP* **P 02 57 54.3 +4.8**
RIV *eS* S 03 07 15.9 +8.0
KARS Kars 72.23 308 P **P 02 57 50.7 +0.9**
PAHR Pah Rah Range 72.42 53 *eP* **P 02 57 52.4 +1.4**
comp=Z,148nm,1.2s,mb5.8
FFC Flin Flon 72.42 33 *eP* **P 02 57 49.9 -0.8**
comp=Z,630nm,1.1s,mb6.5
FFC LR LR
comp=Z,10μm,22.0s,MS6.1
FFC Flin Flon 72.42 33 *eP* **P 02 57 49.9 -0.8**
FFC pmax pmax
comp=Z,630nm,1.1s,mb6.5
FFC MLR MLR
comp=Z,10μm,22.0s,MS6.1
SOC Sochi 72.53 312*c iP* **P 02 57 50.9 -0.6**
SOC *e* pP 02 58 04.4 +1.4
SOC *e* 03 00 31.4
SOC *e*PPP PPP 03 02 17.3 -0.3
SOC *eS* S 03 07 11.7 -0.3
SOC *e* 03 07 46.8
SOC pmax pmax
comp=Z,2μm,1.6s,mb6.7
SOC pmax pmax
comp=N,693nm,1.5s
SOC pmax pmax
comp=E,1μm,2.2s
SOC MLR MLR
comp=Z,159μm,19.0s,MS7.3
SOC MLR MLR
comp=N,105μm,22.0s,MS7.2
SOC MLR MLR
comp=E,66μm,17.0s,MS7.2
CLDR Caldiran 72.55 306 P **P 02 57 51.5 -0.2**
BCA Borcka 72.65 309 P **P 02 57 51.8 -0.4**
FCC Fort Churchill 72.71 27⇑*eP* **P 02 57 51.5 -0.8**
comp=E,732nm,1.2s,mb6.5
FCC Fort Churchill 72.71 27⇑*eP* **P 02 57 51.5 -0.8**
FCC pmax pmax
comp=Z,732nm,1.2s,mb6.5
HRY Holter Researc 72.73 44⇓*iP* **P 02 57 53.0 +0.4**
CMB Columbia Colle 72.74 55⇓*iP* **P 02 57 53.1 +0.1**
comp=Z,322nm,1.1s,mb6.2
CMB LR LR
comp=Z,99μm,22.0s,MS7.0
CMB Columbia Colle 72.74 55⇓*iP* **P 02 57 53.1 +0.2**
CMB pmax pmax
comp=Z,322nm,1.1s,mb6.2
CMB MLR MLR
comp=Z,99μm,22.0s,MS7.0
SAO San Andreas Ge 72.78 57 PFAKE 02 58 10.0 +17
SAO LR LR
comp=Z,45μm,22.0s,MS6.7
SAO San Andreas Ge 72.78 57 P **P 02 57 56.2 +3.0**
SAO pmax pmax
comp=Z,310nm,1.5s,mb6.0
KLBR Kellerberrin 73.06 202 *eP* **P 02 57 54.8 -0.1**
comp=Z,381nm,1.1s,mb6.2
ANN Anapa 73.12 314⇑*iP* **P 02 57 54.0 -1.0**
ANN Anapa 73.12 314*c iP* **P 02 57 53.9 -1.1**
ANN *i **PP pP 02 58 04.1 -2.4
ANN *i* 03 00 35.3
ANN *i* PPP PPP 03 02 20.7 -2.7
ANN *i* S S 03 07 18.6 -0.1
ANN *e* 03 08 04.9
ANN pmax pmax
comp=N,215nm,1.4s
ANN pmax pmax
comp=E,328nm,1.4s
ANN pmax pmax
comp=Z,2μm,1.4s,mb6.8
ANN smax
comp=N,9μm,7.5s
ANN smax
comp=E,8μm,7.6s
ANN MLR MLR
comp=N,149μm,20.0s,MS7.4
ANN MLR MLR
comp=E,135μm,20.0s,MS7.4
ANN MLR MLR
comp=Z,122μm,20.0s,MS7.2
MOL Molde 73.16 340 *eP* **P 02 57 57.2 +2.4**
MOL AMb AMB 02 58 10.2
comp=Z,2μm,1.4s,mb6.8
MOL Molde 73.16 340 *eP* **P 02 57 57.2 +2.4**
comp=Z,2μm,1.4s,mb6.8
HLID Hailey 73.17 48⇑*iP* **P 02 57 55.5 +0.1**
comp=Z,98nm,1.0s,mb5.7
HLID LR LR
comp=Z,41μm,22.0s,MS6.7
VANB Van 73.21 306 P **P 02 57 57.0 +1.3**
VANB Van 73.21 306 P **P 02 57 56.3 +0.7**
HFA0 Hagfors New Ar 73.25 336 P **P 02 57 54.2 -1.2**
MCMT McKenzie Canyo 73.31 46 *eP* **P 02 57 55.7 -0.4**
NB2 NORSAR Subarra 73.33 337 P **P 02 57 55.9 0.0**
comp=Z,2μm,1.2s,mb7.0,baz=38,slow=5.8
NB2 NORSAR Subarra 73.33 337 P **P 02 57 55.9 0.0**
baz=38,slow=5.9
NB2 NORSAR Subarra 73.33 337 P **P 02 57 55.9 0.0**
NB2 pmax pmax
comp=Z,2μm,1.2s,mb7.0
NOA NORSAR Array B 73.33 337 P **P 02 57 55.1 -0.7**
comp=Z,147nm,0.8s,mb6.0,baz=156,slow=20,SNR=146
NOA S S 03 07 18.2 -2.4
comp=Z,2.5nm,0.9s,baz=37,slow=9.5,SNR=2.8
NOA LR LR 03 32 49.6
comp=Z,254μm,21.4s,MS7.5,baz=35,slow=38
BMN Battle Mountai 73.35 52⇑*iP* **P 02 57 56.7 +0.3**
comp=Z,246nm,1.0s,mb6.1
BMN LR LR
comp=Z,46μm,22.0s,MS6.7
BMN Battle Mountai 73.35 52⇑*iP* **P 02 57 56.7 +0.3**
BMN pmax pmax
comp=Z,246nm,1.0s,mb6.1
BMN MLR MLR
comp=Z,46μm,22.0s,MS6.7
CNB Canberra Magne 73.45 174 *eP* **P 02 58 00.3 +3.1**
comp=Z,291nm,1.6s,mb6.0
CNB *eS* S 03 07 28.5 +5.9
BOZ Bozeman (W) 73.49 45⇑*iP* **P 02 57 57.2 0.0**
comp=Z,286nm,1.3s,mb6.0
BOZ LR LR
comp=Z,20μm,20.0s,MS6.4
BOZ Bozeman (W) 73.49 45⇑*iP* **P 02 57 57.2 +0.1**
BOZ pmax pmax
comp=Z,286nm,1.3s,mb6.0
BOZ MLR MLR
comp=Z,20μm,20.0s,MS6.4
HKR Hakkari 73.57 305 P **P 02 57 58.1 +0.3**
NAO01 NORSAR Array S 73.58 337⇑*iP* **P 02 57 56.4 -0.9**
comp=Z,491nm,0.8s,mb6.5
NAO01 LR LR
comp=Z,267μm,21.0s,MS7.5
EZM Erzurum 73.71 308 P **P 02 57 59.1 +0.5**
EZM Erzurum 73.71 308 Pn **P 02 57 59.0 +0.4**
AKASG Malin Array Be 73.72 322 P **P 02 57 57.4 -0.9**
comp=Z,342nm,0.7s,mb6.4,baz=44,slow=6.4,SNR=192
AKASG S S 03 07 18.4 -6.8
comp=Z,0.3nm,0.3s,baz=38,slow=34,SNR=2.4
AKASG PKPPKP 03 25 42.6
comp=Z,0.2nm,0.4s,baz=240,slow=2.0,SNR=5.1
MUN Mundaring 73.88 203 *eP* **P 02 58 00.3 +0.6**
MUN *eS* S 03 07 25.9 -1.5
OMM Old Mammoth Mi 73.88 55⇑*eP* **P 02 57 59.7 +0.1**
OMM *ep*P pP 02 58 12.0 +1.0
QLMT Earthquake Lak 74.10 45 *eP* **P 02 58 00.9 +0.2**
SUW Suwalki 74.21 328 *eP* **P 02 58 00.3 -0.8**
SUW *ep*P pP 02 58 05.8 -6.7
SUW *es*P sP 02 58 10.5 -6.2
SUW *e*PcP PcP 02 58 13.9 -2.3
SUW *eS* S 03 07 32.1 +1.5
SUW *e*SKS SKS 03 08 01.0 +0.2
SUW *e*SS SS 03 12 16.4 -2.3
SUW MLR MLR 03 33 02.9
comp=Z,198μm,18.6s,MS7.4
SUW Suwalki 74.21 328 *eP* **P 02 58 00.3 -0.8**
SUW *ep*P pP 02 58 05.8 -6.7
SUW *es*P sP 02 58 10.5 -6.2
SUW *e*PcP PcP 02 58 13.9 -2.4
SUW *eS* S 03 07 32.1 +1.5
SUW *e*SKS SKS 03 08 01.0 +0.2
SUW *e*SS SS 03 12 16.4 -2.3
SUW Suwalki 74.21 328 *eP* **P 02 58 00.3 -0.8**
SUW *e**SP sP 02 58 10.5 -6.2
SUW *e* pP 02 58 13.9 +1.4

SUW *eS* S 03 07 32.1 +1.5
SUW *e* 03 08 01.0
SUW *e*SS SS 03 12 16.4 -2.3
PTRM Twissleman Ran 74.23 57 *eP* **P 02 58 01.9 +0.2**
MTUM Tungsten Hills 74.31 55 *eP* **P 02 58 02.6 +0.5**
OSL Oslo 74.35 337 *eP* **P 02 58 02.4 +0.6**
OSL AMb AMB 02 58 07.6
comp=Z,2μm,1.1s,mb6.8
OSL Oslo 74.35 337 *eP* **P 02 58 02.4 +0.6**
comp=Z,2μm,1.1s,mb6.9
ELK Elko 74.38 50 *eP* **P 02 58 02.8 +0.4**
comp=Z,82nm,1.1s,mb5.6
ELK LR LR
comp=Z,48μm,21.0s,MS6.8
ELK Elko 74.38 50 *eP* **P 02 58 02.8 +0.4**
ELK pmax pmax
comp=Z,83nm,1.1s
ELK MLR MLR
comp=Z,48μm,21.0s
SIRT Sirnak 74.45 306 P **P 02 58 04.1 +1.2**
NWAO Narrogin (SRO) 74.46 202 S S 03 07 30.0 -3.8
comp=Z,11nm,0.9s,baz=149,slow=19,SNR=1.7
NWAO Narrogin (SRO) 74.46 202 P **P 02 58 03.6 +0.6**
YMR Madison River 74.46 45⇑*iP* **P 02 58 03.2 +0.4**
GCMT Greycliff 74.48 44⇑*eP* **P 02 58 03.2 +0.3**
GUMT Gumushane 74.54 309 P **P 02 58 04.6 +1.2**
GUMT Gumushane 74.54 309 Pn **P 02 58 04.5 +1.2**
YNR Norris Junctio 74.59 45 *eP* **P 02 58 05.1 +1.6**
BTMT Batman 74.65 307 P **P 02 58 04.1 +0.1**
YFT Old Faithful 74.67 45⇑*iP* **P 02 58 06.0 +2.0**
SFJD Kangerlussuaq 74.68 5⇑*iP* **P 02 58 02.6 -1.0**
comp=Z,395nm,1.0s,mb6.3
SFJD *i* S S 03 07 37.6 +2.0
comp=Z,103μm,23.0s
SFJD Kangerlussuaq 74.68 5⇑*iP* **P 02 58 02.6 -1.0**
SFJD *i* S S 03 07 37.6 +2.0
SFJD pmax pmax
comp=Z,395nm,1.0s,mb6.3
SFJD MLR MLR
comp=Z,103μm,23.0s,MS7.1
TPH Tonopah 74.74 54 *eP* **P 02 58 06.3 +1.7**
comp=Z,365nm,1.2s,mb6.2
TPH LR LR
comp=Z,57μm,22.0s,MS6.8
TPH Tonopah 74.74 54 *eP* **P 02 58 06.3 +1.7**
TPH pmax pmax
comp=Z,365nm,1.2s,mb6.2
TPH MLR MLR
comp=Z,57μm,22.0s,MS6.8
LKWY Lake 74.84 45⇑*eP* **P 02 58 06.9 +1.9**
comp=Z,150nm,0.9s,mb5.9
LKWY LR LR
comp=Z,47μm,20.0s,MS6.8
LKWY Lake 74.84 45⇑*eP* **P 02 58 06.9 +1.9**
LKWY pmax pmax
comp=Z,150nm,0.9s,mb5.9
LKWY MLR MLR
comp=Z,47μm,20.0s,MS6.8
SIM Simferopol' 74.89 316*c iP* **P 02 58 04.0 -1.2**
SIM *e* 03 00 49.0
SIM *e*PPP PPP 03 02 41.0 +0.8
SIM *i* S S 03 07 38.0 -0.4
SIM pmax pmax
comp=Z,1μm,1.0s,mb6.7
SIM MLR MLR
comp=Z,108μm,16.4s,MS7.2
KONO Kongsberg 74.92 337⇑*iP* **P 02 58 04.3 -0.9**
KONO *e*PP PP 03 00 53.8 -1.3
KONO *eS* S 03 07 40.1 +1.6
KONO Kongsberg 74.92 337⇑*iP* **P 02 58 04.3 -0.9**
KONO LR LR
comp=Z,66μm,20.9s,MS6.9
KONO Kongsberg 74.92 337 P **P 02 58 04.4 -0.7**
IMW Indian Meadow 74.96 46⇑*iP* **P 02 58 06.6 +0.9**
comp=Z,412nm,1.0s,mb6.3
BEST Besiri 74.97 306 *i* P **P 02 58 06.2 +0.3**
RRI2 Red Ridge 75.09 46⇑*iP* **P 02 58 07.3 +0.9**
comp=Z,209nm,0.9s,mb6.1
SUE Sulen 75.16 340 *eP* **P 02 58 06.3 -0.2**
SUE AMb AMB 02 58 21.3
comp=Z,1μm,1.4s,mb6.6
SUE Sulen 75.16 340 *eP* **P 02 58 06.3 -0.2**
comp=Z,1μm,1.4s,mb6.6
TPAW Teton Pass 75.21 46⇑*iP* **P 02 58 08.0 +0.9**
comp=Z,89nm,0.7s,mb5.8
HVU Hansel Valley 75.22 48⇑*iP* **P 02 58 07.7 +0.5**
HVU *ep*P pP 02 58 17.6 -1.1
LOHW Long Hollow 75.33 46⇑*iP* **P 02 58 08.3 +0.5**
comp=Z,56nm,0.9s,mb5.5
LOHW *es*P sP 02 58 23.3 -0.2
SNOW Snow King Moun 75.34 46⇑*iP* **P 02 58 08.6 +0.7**
comp=Z,116nm,0.9s,mb5.8
ISA Isabella 75.37 56 *eP* **P 02 58 07.1 -1.1**
comp=Z,107nm,1.0s,mb5.7
ISA Isabella 75.37 56 *eP* **P 02 58 07.1 -1.1**
ISA pmax pmax
comp=Z,107nm,1.0s,mb5.7
TOO Toolangi 75.46 177 *eP* **P 02 58 11.9 +3.2**
comp=Z,37nm,0.7s,mb5.4
TOO *eS* S 03 07 48.3 +3.4
ASK Askoy 75.52 340 *eP* **P 02 58 08.3 -0.2**
ASK AMb AMB 02 58 23.8
comp=Z,3μm,1.6s,mb6.9
ASK Askoy 75.52 340 *eP* **P 02 58 08.3 -0.2**
comp=Z,3μm,1.6s,mb6.9
PTK Pertek 75.54 308 P **P 02 58 08.7 -0.5**
PTK Pertek 75.54 308 Pn **P 02 58 08.6 -0.5**
UMR Umm Al-Rimmam 75.55 296 *eP* **P 02 58 09.2 -0.2**
UMR AMb AMB 02 58 19.5
comp=Z,2μm,0.9s,mb7.0
BER Bergen 75.56 339⇑*iP* **P 02 58 08.1 -0.7**
BER ⇑*iP* 02 58 08.7
BER *eS* S 03 07 46.6 +1.0
BER AMS AMS 03 35 07.6
comp=Z,235μm,19.1s,MS7.5
BER Bergen 75.56 339⇑*iP* **P 02 58 08.1 -0.7**
BER LR LR
comp=Z,24μm,19.1s,MS6.5
AHID Auburn Hatcher 75.58 47 *eP* **P 02 58 09.4 +0.1**
comp=Z,89nm,0.8s,mb5.8
AHID LR LR
comp=Z,45μm,22.0s,MS6.7
DAC Darwin (Calif) 75.58 55 PFAKE 02 58 20.0 +11
DAC LR LR
comp=Z,64μm,22.0s,MS6.9
DGMT Dagmar 75.58 39⇑*iP* **P 02 58 08.6 -0.6**
comp=Z,176nm,0.8s,mb6.0
DGMT *es*P sP 02 58 24.4 -0.4
DGMT LR LR
comp=Z,46μm,22.0s,MS6.7
ODD1 Odda 75.59 339 *eP* **P 02 58 08.0 -0.9**
ODD1 AMb AMB 02 58 23.0
comp=Z,1μm,1.4s,mb6.7
ODD1 Odda 75.59 339 *eP* **P 02 58 08.0 -0.9**
comp=Z,1μm,1.4s,mb6.7
BGU Big Grassy Mou 75.59 49 *eP* **P 02 58 11.0 +1.7**
DIY Diyarbakir 75.62 307 P **P 02 58 10.8 +1.2**
DIY Diyarbakir 75.62 307 Pn **P 02 58 10.7 +1.1**
MIB Mutribah 75.67 297 *eP* **P 02 58 10.2 +0.2**
MIB AMb AMB 02 58 19.5
comp=Z,3μm,0.9s,mb7.2
EGD Espegrend 75.69 339 *eP* **P 02 58 09.4 -0.1**
EGD AMb AMB 02 58 20.5
comp=Z,2μm,1.6s,mb6.7
EGD Espegrend 75.69 339 *eP* **P 02 58 09.4 -0.1**
comp=Z,2μm,1.6s,mb6.7
SPUT South Promonto 75.70 49⇑*iP* **P 02 58 10.3 +0.3**
SPUT *es*P sP 02 58 26.6 +1.0
LAO LASA Array 75.73 41⇑*eP* **P 02 58 10.0 -0.1**
comp=Z,510nm,1.1s,mb6.4
LAO *es*P sP 02 58 25.6 -0.1
LAO LR LR
comp=Z,42μm,21.0s,MS6.7
KBD Kabd 75.78 296 *eP* **P 02 58 09.7 -1.0**
KBD AMb AMB 02 58 20.5
comp=Z,9μm,1.1s
QRN Al-Qurain 75.88 295 *eP* **P 02 58 11.0 -0.2**
QRN AMb AMB 02 58 21.7
comp=Z,4μm,0.8s,mb7.4
HWUT Hardware Ranch 76.03 48⇑*iP* **P 02 58 12.4 +0.5**
comp=Z,330nm,1.2s,mb6.1
HWUT LR LR
comp=Z,24μm,21.0s,MS6.5
RDF Al-Radifah 76.03 296 *eP* **P 02 58 12.0 -0.1**
RDF AMb AMB 02 58 20.5

comp=Z,4µm,0.8s,mb7.4
BLS5 Blasjo 76.04 338 *e*P **P 02 58 12.1 +0.6**
BLS5 AMb AMB 02 58 27.2
comp=Z,584nm,1.2s,mb6.4
BLS5 *e*PP PP 03 01 01.9 -2.3
BLS5 Blasjo 76.04 338 *e*P **P 02 58 12.1 +0.6**
comp=Z,584nm,1.2s,mb6.4
NAY Al-Naaiem 76.06 296 *e*P **P 02 58 11.4 -0.9**
NAY AMb AMB 02 58 22.2
comp=Z,2µm,1.1s,mb6.8
DUG Dugway 76.17 50⇑*i*P **P 02 58 13.0 +0.3**
comp=Z,242nm,1.1s,mb6.0
DUG LR LR
comp=Z,45µm,22.0s,MS6.7
DUG Dugway 76.17 50⇑*i*P **P 02 58 13.0 +0.3**
DUG pmax pmax
comp=Z,243nm,1.1s,mb6.0
DUG MLR MLR
comp=Z,45µm,22.0s,MS6.7
KVT Kavak 76.22 312 P **P 02 58 08.9 -4.0**
NOQ North Oquirrh 76.30 49 *e*P **P 02 58 14.2 +0.8**
KIS Kishinev 76.37 320*α i*P **P 02 58 12.0 -1.7**
KIS *i* 03 01 05.0
KIS *i* PPP PPP 03 02 50.0 -4.5
KIS *i* S S 03 07 52.0 -2.6
KIS *i* 03 08 12.0
KIS *i* PS PS 03 08 37.0 -0.7
KIS pmax pmax
comp=Z,900nm,1.0s,mb6.7
KIS pmax pmax
comp=N,1µm,2.0s
KIS pmax pmax
comp=E,10.0nm,2.0s
KIS pmax pmax
comp=N,7µm,8.0s
KIS pmax pmax
comp=E,7µm,8.0s
KIS pmax pmax
comp=Z,24µm,10.0s
KIS pmax pmax
comp=Z,10µm,19.0s
KIS smax
comp=N,16µm,12.0s
KIS smax
comp=E,4µm,10.0s
KIS MLR MLR
comp=Z,242µm,16.0s,MS7.6
KIS MLR MLR
comp=N,198µm,17.0s,MS7.6
KIS MLR MLR
comp=E,142µm,17.0s,MS7.6
SVSK Karacayir 76.37 310 P **P 02 58 13.7 -0.2**
WAR Warsaw 76.38 327 *e*P **P 02 58 14.0 +0.4**
WAR *e*pP pP 02 58 18.7 -6.4
WAR *e*PcP PcP 02 58 21.8 -3.8
WAR *e*sP sP 02 58 23.9 -5.4
WAR *e*S S 03 07 56.6 +1.9
WAR *e*SKS SKS 03 08 18.8 +2.0
WAR MLR MLR 03 35 30.9
comp=E,188µm,19.2s,MS7.4
WAR Warsaw 76.38 327 *e*P **P 02 58 14.0 +0.4**
WAR *e*pP pP 02 58 18.7 -6.4
WAR *e*PcP PcP 02 58 21.8 -3.9
WAR *e*sP sP 02 58 23.9 -5.4
WAR *e*S S 03 07 56.6 +2.0
WAR *e*SKS SKS 03 08 18.8 +2.1
WAR LR LR
comp=Z,188µm,19.2s,MS7.4
WAR Warsaw 76.38 327 *e*P **P 02 58 14.0 +0.4**
WAR *e* 02 58 21.8
WAR *e**SP sP 02 58 23.9 -5.4
WAR *e*S S 03 07 56.6 +2.0
WAR *e* 03 08 18.8
WAR MLR MLR
comp=Z,188µm,19.2s,MS7.4
TOKT Tokat 76.39 311 P **P 02 58 14.3 +0.4**
TOKT Tokat 76.39 311 Pn **P 02 58 14.3 +0.3**
TCUT Toone Canyon 76.43 48 *e*P **P 02 58 14.8 +0.7**
TCUT *e*sP sP 02 58 31.4 +1.6
BW06 Boulder Array 76.45 46⇑*i*P **P 02 58 14.1 -0.2**
comp=Z,69nm,0.8s,mb5.6
BW06 LR LR
comp=Z,45µm,22.0s,MS6.7
PDAR Pinedale Array 76.45 46 P **P 02 58 14.1 -0.2**
comp=Z,42nm,0.7s,mb5.5,baz=269,slow=2.0,SNR=151
PDAR PKPPKP 03 25 27.0
comp=Z,2.3nm,1.1s,baz=135,slow=2.1,SNR=6.0
PDAR LR LR 03 27 38.1
comp=Z,29µm,21.6s,MS6.5,baz=92,slow=32
MYA Malataya 76.49 308 P **P 02 58 14.6 0.0**
MYA Malataya 76.49 308 Pn **P 02 58 14.5 0.0**
SVST Sivas 76.49 310 *i* P **P 02 58 15.3 +0.8**
MALT Malatya 76.49 308⇑*e*P **P 02 58 15.2 +0.6**
comp=Z,1µm,1.1s,mb6.8
CTU Camp Tracy 76.50 49 *e*P **P 02 58 14.8 +0.2**
MWC Mount Wilson 76.51 57⇑*e*P **P 02 58 14.4 -0.3**
BORG Borgarnes 76.56 353 *e*P **P 02 58 15.7 +1.3**
comp=Z,313nm,0.9s,mb6.2
STAV Stavanger 76.67 338 *e*P **P 02 58 14.9 -0.2**
STAV AMb AMB 02 58 20.7
comp=Z,658nm,1.4s,mb6.4
STAV Stavanger 76.67 338 *e*P **P 02 58 14.9 -0.2**
comp=Z,658nm,1.4s,mb6.4
HASS Wahat al Ahsa' 76.67 292 P **P 02 58 14.4 -1.5**
GSC Goldstone 76.68 56 *e*P **P 02 58 15.4 -0.3**
BSD Bornholm Skovb 76.68 332⇑*i*P **P 02 58 14.3 -1.0**
comp=Z,879nm,0.9s,mb6.7
BSD *i* 03 01 08.0
BSD *e* 03 02 54.6
BSD *i* S S 03 08 20.4 +23
BSD Bornholm Skovb 76.68 332⇑*i*P **P 02 58 14.3 -1.0**
BSD *i* 03 01 08.0
BSD *e* 03 02 54.6
BSD *i* S S 03 08 20.4 +23
BSD pmax pmax
comp=Z,879nm,0.9s,mb6.7
SNART Snartemo 76.71 337 *e*P **P 02 58 15.2 -0.2**
SNART AMb AMB 02 58 30.4
comp=Z,914nm,1.3s,mb6.5
SNART Snartemo 76.71 337 *e*P **P 02 58 15.2 -0.2**
comp=Z,914nm,1.3s,mb6.5
BYBT Boyabat 76.72 313 P **P 02 58 16.2 +0.5**
BYBT Boyabat 76.72 313 Pn **P 02 58 16.2 +0.4**
JLU Jordanelle 76.73 49⇑*i*P **P 02 58 16.2 +0.3**
LVV L'vov 76.77 324 *i* P **P 02 58 13.9 -1.9**
LVV L'vov 76.77 324⇑*i*P **P 02 58 15.7 -0.1**
LVV *e* 02 58 30.9
LVV *e* 03 01 11.1
LVV *e*PPP PPP 03 02 59.9 +1.9
LVV *i* S S 03 07 58.3 -0.6
LVV *e*PS PS 03 08 17.3 -25
LVV *e*SS SS 03 12 54.9 -3.2
LVV MLR MLR
comp=Z,73µm,17.0s,MS7.1
LVV MLR MLR
comp=N,47µm,18.0s,MS6.9
LVV MLR MLR
comp=E,10µm,16.0s,MS6.9
NLU North Lily Min 76.77 49⇑*e*P **P 02 58 16.3 +0.2**
URFA Urfa 76.78 307 P **P 02 58 16.1 -0.1**
RAO Raoul Island 76.80 145 PFAKE 02 58 30.0 +13
RAO LR LR
comp=Z,42µm,20.0s,MS6.8
BZK Bozkurt 76.85 313 P **P 02 58 16.9 +0.4**
IAS Iasi 76.87 320 ⇓P **P 02 58 18.7 +2.2**
IAS Iasi 76.87 320 P **P 02 58 18.4 +1.9**
DAU Daniels Canyon 76.97 49⇑*i*P **P 02 58 17.7 +0.5**
MPU Maple Canyon 76.99 49⇑*e*P **P 02 58 17.5 +0.1**
MPU *e*sP sP 02 58 32.9 -0.1
COP Copenhagen 77.13 333⇑*i*P **P 02 58 17.6 -0.2**
comp=Z,961nm,0.9s,mb6.7
COP *i* 03 01 12.3
COP *e* 03 02 57.0
COP *i* S S 03 08 01.9 -0.9
COP *e* 03 13 44.8
comp=Z,95µm,17.0s
COP Copenhagen 77.13 333⇑*i*P **P 02 58 17.6 -0.2**
COP *i* 03 01 12.3
COP *e* 03 02 57.0
COP *i* S S 03 08 01.9 -0.9
COP pmax pmax
comp=Z,961nm,0.9s,mb6.7
COP MLR MLR
comp=Z,95µm,17.0s,MS7.2

GKP Gorka Klasztor 77.19 330 *e*P **P 02 58 18.2 +0.1**
GKP *e*pP pP 02 58 21.6 -8.1
GKP *e*S S 03 08 04.8 +1.4
GKP *e*SKS SKS 03 08 24.6 +2.1
GKP *e*SS SS 03 12 59.6 -4.8
GKP MLR MLR 03 34 39.1
comp=Z,315µm,21.3s,MS7.6
GKP Gorka Klasztor 77.19 330 *e*P **P 02 58 18.3 +0.2**
GKP *e*pP pP 02 58 21.6 -8.0
GKP *e*S S 03 08 04.8 +1.4
GKP *e*SKS SKS 03 08 24.6 +2.0
GKP *e*SS SS 03 12 59.6 -4.8
GKP LR LR
comp=Z,315µm,21.3s,MS7.6
GKP Gorka Klasztor 77.19 330 *e*P **P 02 58 18.3 +0.2**
GKP *e*S S 03 08 04.8 +1.4
GKP *e* 03 08 24.6
GKP *e*SS SS 03 12 59.6 -4.8
GKP MLR MLR
comp=Z,315µm,21.3s,MS7.6
ARUT Antelope Range 77.29 52 *i* P **P 02 58 19.5 +0.4**
TOS Tosya 77.43 313 P **P 02 58 20.5 +0.7**
LRW Lerwick 77.46 342⇑*e*P **P 02 58 19.4 -0.1**
LRW AMS AMS 03 36 57.9
comp=E,35µm,20.5s,MS6.8
LRW AMS AMS 03 37 55.6
comp=N,25µm,21.2s,MS6.8
WAL1 Walls 77.46 342 *e*P **P 02 58 19.6 0.0**
TLCR 77.58 318 ⇑P **P 02 58 22.1 +1.6**
TLCR 77.58 318 P **P 02 58 20.6 +0.1**
MSU Marysvale 77.61 51 *i* P **P 02 58 21.7 +0.9**
CORM Corum 77.62 312 P **P 02 58 21.9 +1.1**
MUD Monsted U'grnd 77.63 335⇑*i*P **P 02 58 20.4 -0.1**
comp=N,572nm,0.9s,mb6.5
MUD *i* 03 01 19.5
MUD *i* 03 03 09.1
MUD *i* S S 03 08 10.1 +2.0
MUD *i* 03 14 11.9
comp=Z,269µm,19.0s
MUD Monsted U'grnd 77.63 335⇑*i*P **P 02 58 20.4 -0.1**
MUD *i* 03 01 19.5
MUD *i* 03 03 09.1
MUD *i* S S 03 08 10.1 +2.0
MUD pmax pmax
comp=Z,572nm,0.9s,mb6.5
TMUT Trail Mountain 77.70 50⇑*i*P **P 02 58 21.6 +0.3**
RGN Rugen 77.70 332⇑*i*P **P 02 58 21.0 0.0**
comp=Z,1µm,1.0s,mb6.7
NEN Nelson 77.73 54 *i* P **P 02 58 20.9 -0.6**
BNN Bunyan 77.74 310 P **P 02 58 22.1 +0.6**
BNN Bunyan 77.74 310 Pn **P 02 58 22.0 +0.5**
KAHT Ahir Dag 77.88 308 *i* P **P 02 58 22.9 +0.6**
LDFC Landfair 77.91 55 *e*P **P 02 58 22.4 -0.1**
CANT Cankiri 77.94 312 P **P 02 58 23.8 +1.2**
CANT Cankiri 77.94 312 Pn **P 02 58 24.0 +1.4**
PFO Pinyon Flat Ob 77.94 57⇑*i*P **P 02 58 22.2 -0.5**
comp=Z,154nm,1.1s,mb5.8
PFO *e*PP PP 03 01 23.2 +2.3
PFO LR LR
comp=Z,20µm,22.0s,MS6.4
PFO Pinyon Flat Ob 77.94 57⇑*i*P **P 02 58 22.2 -0.5**
PFO *e* 03 01 23.2
PFO pmax pmax
comp=Z,154nm,1.1s,mb5.8
PFO MLR MLR
comp=Z,20µm,22.0s,MS6.4
CFR Carcaliu 77.94 319 ⇓P **P 02 58 22.6 +0.1**
GAZ Gaziantep 77.96 308 P **P 02 58 25.2 +2.5**
SAFT Safranbolu 78.06 313 P **P 02 58 23.4 +0.1**
VRI Vrincioaia 78.20 320 ⇓P **P 02 58 24.9 +1.0**
VRI Vrincioaia 78.20 320 P **P 02 58 24.1 +0.3**
KOLS Kolonicke sedl 78.20 324 *e*P **P 02 58 23.8 0.0**
KOLS *e* 02 58 26.2
KOLS *e* 02 58 29.2
KOLS *e* 03 01 11.3
KOLS Kolonicke sedl 78.20 324 *e*P **P 02 58 23.8 0.0**
KOLS *e* 02 58 29.2
ULM Lac du Bonnet 78.22 34 P **P 02 58 22.9 -1.0**
comp=Z,42nm,0.8s,mb5.4,baz=313,slow=6.4,SNR=20
ULM S S 03 08 08.7 -6.0
comp=Z,5.7nm,0.9s,baz=327,slow=10,SNR=1.6
ULM LR LR 03 33 23.5
comp=Z,27µm,21.9s,MS6.5,baz=328,slow=36
SRU San Rafael 78.23 49⇑*i*P **P 02 58 24.4 +0.2**
SRU *e*PcP PcP 02 58 33.9 0.0
TIRR Tirgusor 78.28 318 ⇑P **P 02 58 24.0 -0.4**
TIRR Tirgusor 78.28 318⇑*i*P **P 02 58 24.0 -0.3**
TIRR *e*PP PP 03 01 23.9 +0.5
TIRR *e*S S 03 08 15.6 +0.2
STHS Stebnicka Huta 78.33 325 *e*P **P 02 58 24.9 +0.4**
STHS *e* 02 58 27.3
STHS *e* 02 58 30.4
STHS Stebnicka Huta 78.33 325 *e*P **P 02 58 24.9 +0.4**
STHS *e* 02 58 30.4
BAR Barrett 78.36 58⇑*i*P **P 02 58 24.5 -0.6**
BAR *e*sP sP 02 58 38.7 -2.0
AVNT Avonos 78.38 310 *i* P **P 02 58 24.7 -0.3**
HARR Harsova 78.38 318 ⇑P **P 02 58 25.9 +1.0**
OJC Ojcow 78.38 326⇑*e*P **P 02 58 24.8 0.0**
OJC *e*PcP PcP 02 58 34.9 +0.6
OJC *e*PP PP 03 01 23.1 -1.0
OJC *e*S S 03 08 15.0 -1.3
OJC MLR MLR 03 35 49.0
comp=Z,330µm,19.3s,MS7.7
UZH Uzhgorod 78.41 324 *i* P **P 02 58 25.0 0.0**
UZH Uzhgorod 78.41 324 *i* P **P 02 58 26.0 +1.0**
RWWY Rawlins 78.48 46⇑*i*P **P 02 58 25.4 -0.1**
comp=Z,177nm,0.9s,mb6.0
BR131 Keskin Array S 78.49 312⇑*i*P **P 02 58 25.4 -0.2**
comp=Z,330nm,0.8s,mb6.3
BR131 *e*PcP PcP 02 58 33.0 -2.0
BR131 *e*PP PP 03 01 25.4 +0.2
BR131 LR LR
comp=Z,49µm,21.0s,MS6.8
BRTR Keskin Array B 78.49 312 P **P 02 58 25.4 -0.2**
comp=Z,229nm,1.1s,mb6.0,baz=70,slow=3.1,SNR=122
BRTR PP PP 03 01 27.4 +2.2
comp=Z,39nm,0.8s,baz=61,slow=4.3,SNR=3.7
BRTR PKPPKP 03 25 18.4
comp=Z,1.7nm,1.0s,baz=153,slow=2.8,SNR=3.9
RSSD Black Hills 78.59 42⇑*i*P **P 02 58 25.6 -0.4**
comp=Z,85nm,0.8s,mb5.7
RSSD LR LR
comp=Z,40µm,22.0s,MS6.7
RSSD Black Hills 78.59 42⇑*i*P **P 02 58 25.7 -0.4**
RSSD pmax pmax
comp=Z,85nm,0.8s,mb5.7
RSSD MLR MLR
comp=Z,40µm,22.0s,MS6.7
CRVS Cervenica-Dubn 78.60 325 *e*P **P 02 58 27.8 +1.8**
CRVS *e* 02 58 31.5
CRVS *e* 03 08 11.4
OWE Westray 78.63 343⇑*e*P **P 02 58 25.4 -0.5**
KAMT Kaman 78.68 311 P **P 02 58 26.8 +0.2**
KAMT Kaman 78.68 311 Pn **P 02 58 26.8 +0.1**
OST Stronsay 78.72 342⇑*e*P **P 02 58 26.0 -0.5**
NIE Niedzica 78.74 326⇑*i*P **P 02 58 27.1 +0.3**
NIE *i* PP PP 03 01 28.5 +1.5
ISR Istrita 78.81 319 ⇓P **P 02 58 28.3 +1.1**
MLR Muntele Rosu 78.85 320 P **P 02 58 27.4 -0.1**
comp=Z,274nm,1.2s,mb6.0,baz=36,slow=3.5,SNR=54
MLR S S 03 08 26.5 +5.1
comp=Z,6.4nm,0.8s,baz=186,slow=22,SNR=2.2
MLR PKPPKP 03 25 26.6
comp=Z,4.5nm,1.2s,baz=216,slow=14,SNR=4.4
MLR LR LR 03 36 00.9
comp=Z,234µm,20.3s,MS7.5,baz=48,slow=38
MLR Muntele Rosu 78.85 320 ⇓P **P 02 58 27.9 +0.4**
MLR Muntele Rosu 78.85 320 P **P 02 58 27.5 0.0**
DGAR Diego Garcia 78.89 251 *e*P **P 02 58 25.7 -2.6**
comp=Z,1µm,1.1s,mb6.7
DGAR LR LR
comp=Z,11µm,22.0s,MS6.2
DGAR Diego Garcia 78.89 251 *e*P **P 02 58 25.7 -2.6**
DGAR pmax pmax
comp=Z,1µm,1.1s,mb6.7
DGAR MLR MLR
comp=Z,11µm,22.0s,MS6.2
ANTO Ankara 78.90 312 P **P 02 58 28.1 +0.2**
LOD Lodumlu 78.90 312 P **P 02 58 27.8 -0.1**
LOD Lodumlu 78.90 312 Pn **P 02 58 27.7 -0.2**
PSN Preselentsi 78.93 317 *i* P **P 02 58 28.0 +0.1**
NIG Nigde 78.96 310 P **P 02 58 30.8 +2.5**

NIG Nigde 78.96 310 Pn **P 02 58 30.7 +2.5**
CEYT Ceyhan 78.97 309 P **P 02 58 29.0 +0.7**
OHO Hoy 79.11 342⇑*e*P **P 02 58 28.3 -0.3**
RUE Ruedersdorf 79.14 331 *e*P **P 02 58 28.5 -0.4**
comp=Z,1µm,1.3s,mb6.7
SNX Sinaia 79.17 320 ⇓P **P 02 58 29.7 +0.5**
RAC Raciborz 79.18 327⇑*e*P **P 02 58 29.6 +0.5**
RAC *e*PcP PcP 02 58 37.4 -0.3
RAC *e*PP PP 03 01 31.5 +1.1
RAC *e*S S 03 08 26.3 +1.6
RAC MLR MLR 03 38 00.8
comp=Z,177µm,19.9s,MS7.4
BSEG Bad Segeberg 79.27 333 *e*P **P 02 58 29.2 -0.4**
BSEG *e*PP PP 03 01 29.0 -2.1
BSEG *e*S S 03 08 27.8 +2.2
OBR Brabster 79.29 342⇑*e*P **P 02 58 28.9 -0.7**
VOIR 79.34 320 ⇑P **P 02 58 30.7 +0.5**
VOIR 79.34 320 P **P 02 58 30.3 +0.1**
KECS Kecovo 79.35 325 *e*P **P 02 58 30.0 -0.1**
KECS *e* 02 58 31.9
KECS *e* 02 58 35.0
KECS *e*PP PP 03 01 24.7 -7.1
KECS *e*S S 03 08 24.9 -1.6
KECS Kecovo 79.35 325 *e*P **P 02 58 30.0 -0.1**
KECS *e* 02 58 35.0
KECS *e* 03 01 24.7
KECS *e*S S 03 08 24.9 -1.6
OKC Ostrava-Krasne 79.38 327⇑*i*P **P 02 58 30.3 0.0**
OKC *e*PP PP 03 01 32.0 -0.1
OKC *e*S S 03 08 28.3 +1.4
OKC AMS AMS 03 36 40.0
comp=Z,191µm,17.3s
KSP Ksiaz 79.40 328 *e*P **P 02 58 30.6 +0.2**
KSP *e*PcP PcP 02 58 34.0 -4.6
KSP *e*pP pP 02 58 36.0 -5.9
KSP *e*S S 03 08 28.8 +1.7
KSP MLR MLR 03 35 15.7
comp=Z,276µm,23.0s,MS7.5
KSP Ksiaz 79.40 328⇑*e*P **P 02 58 30.4 0.0**
KSP *e* pP 02 58 40.0 -1.9
KSP *e*PP PP 03 01 29.8 -2.4
KSP *e*S S 03 08 24.7 -2.4
KSP *e*SS SS 03 14 03.3 +26
MDU Mudurnu 79.42 314 P **P 02 58 30.9 +0.3**
ORE Reay 79.49 343⇑*e*P **P 02 58 30.6 0.0**
DRGR 79.53 323 ⇑P **P 02 58 30.2 -0.9**
DRGR 79.53 323 P **P 02 58 30.4 -0.8**
PV10 Paradox Valley 79.59 49 *i* P **P 02 58 32.3 +0.7**
BUC1 Bucharest 79.61 319 ⇓P **P 02 58 34.6 +3.0**
BUC1 Bucharest 79.61 319 P **P 02 58 33.0 +1.4**
MORC Moravsky Berou 79.69 327⇑*i*P **P 02 58 31.9 0.0**
comp=Z,706nm,0.9s,mb6.6
MORC *e*sP sP 02 58 46.1 -1.5
MORC Moravsky Berou 79.69 327⇑*i*P **P 02 58 31.9 0.0**
MORC *e**SP sP 02 58 46.1 -1.5
MORC pmax pmax
comp=Z,705nm,0.9s,mb6.6
OTO Tongue 79.69 343⇑*e*P **P 02 58 31.8 +0.1**
PHWY Pilot Hill 79.72 45⇑*i*P **P 02 58 32.2 -0.1**
PHWY *e*sP sP 02 58 49.3 +1.3
DPC Dobruska-Polom 79.77 328⇑*i*P **P 02 58 32.7 +0.4**
DPC *e*PP PP 03 01 34.3 -0.8
DPC *e*S S 03 08 33.2 +2.3
DPC AMS AMS 03 36 40.0
comp=Z,178µm,17.8s
UPC Upice 79.77 328⇑*i*P **P 02 58 32.4 0.0**
UPC *e*PP PP 03 01 35.4 +0.2
UPC *e*S S 03 08 33.1 +2.1
UPC *e*SKS SKS 03 08 47.0 +5.8
EYL Eskiyayla 79.95 314 P **P 02 58 35.4 +1.9**
EYL Eskiyayla 79.95 314 Pn **P 02 58 35.4 +1.9**
PV01 Paradox Valley 80.03 49⇑*i*P **P 02 58 34.1 +0.1**
PSZ Piszkesteto 80.03 325⇑*i*P **P 02 58 34.1 +0.3**
comp=Z,698nm,0.9s,mb6.6
PSZ Piszkesteto 80.03 325⇑*i*P **P 02 58 34.1 +0.3**
PSZ pmax pmax
comp=Z,698nm,0.9s,mb6.6
GPA Golpazari 80.05 314 *e*P **P 02 58 35.8 +1.8**
GPA Golpazari 80.05 314 Pn **P 02 58 35.8 +1.7**
HRT Hereke 80.05 315 P **P 02 58 33.6 -0.4**
KIZT Kizilcal 80.08 312 P **P 02 58 34.2 0.0**
KIZT Kizilcal 80.08 312 Pn **P 02 58 34.2 -0.1**
VYHS Vyhne 80.08 326 *e*P **P 02 58 34.3 +0.2**
VYHS *e*PP PP 03 01 36.5 -1.3
VYHS *e*S S 03 08 31.0 -3.2
MVH1 Achvaich 80.15 343⇑*e*P **P 02 58 33.7 -0.5**
RTO Tolsta 80.20 344⇑*e*P **P 02 58 34.5 0.0**
P KOLL Kolacno 80.21 326 *e*P **P 02 58 35.0 +0.3**
KOLL *e* 02 58 37.1
KOLL *e* 02 58 40.0
MEST Erdemli 80.22 309 *i* P **P 02 58 34.6 -0.4**
ISK Istanbul-Kandi 80.23 315 P **P 02 58 30.8 -4.2**
REB Eisghbrachaidh 80.23 343⇑*e*P **P 02 58 34.2 -0.5**
MCD Coleburn Disti 80.23 342⇑*e*P **P 02 58 34.4 -0.3**
ESKT Eskisehir 80.25 313 P **P 02 58 36.4 +1.2**
ESKT Eskisehir 80.25 313 Pn **P 02 58 36.3 +1.1**
SMCO Snowmass 80.28 47⇑*i*P **P 02 58 35.8 +0.5**
JAVC Velka Javorina 80.32 326 P **P 02 58 36.2 +0.9**
BRG Berggiesshubel 80.33 330⇑*i*P **P 02 58 35.1 -0.2**
comp=Z,45nm,1.3s
BRG *i* 02 58 39.2
BRG *i* PcP PcP 02 58 43.6 +0.9
BRG *i* 02 58 54.4
BRG *i* PP PP 03 01 28.9 -11
BRG S S 03 08 41.0 +4.2
BRG *e* 03 09 26.2
BRG SS SS 03 13 54.0 +2.4
BRG *e*P'P' 03 25 21.0
BRG LR LR
comp=Z,31µm,20.0s,MS6.7
BRG Berggiesshubel 80.33 330⇑*i*P **P 02 58 35.1 -0.2**
BRG *i* 02 58 43.6
BRG S S 03 08 41.0 +4.2
BRG *e* 03 09 26.2
BRG SS SS 03 13 54.0 +2.4
BRG MLR MLR
comp=Z,31µm,20.0s,MS6.7
PVCC Panska Ves 80.35 329⇑*i*P **P 02 58 35.3 -0.1**
PVCC *e*PP PP 03 01 38.0 -2.1
PVCC *e*S S 03 08 39.4 +2.4
PVCC *e*XS 03 09 00.0
PVCC AMS AMS 03 36 30.0
comp=Z,279µm,21.3s
CLL Collm 80.36 330 ⇑P **P 02 58 35.0 -0.5**
comp=Z,logA/T=2.5,mb6.2
CLL *e* 02 58 39.0
CLL *i* *PP pP 02 58 43.4 -3.6
CLL *e**SP sP 02 58 48.0 -3.2
CLL *i* PP PP 03 01 29.0 -11
CLL *e* 03 02 00.0
CLL *e*PPP PPP 03 03 26.0 -5.3
CLL *e*S S 03 08 34.0 -3.1
CLL *e**SS 03 09 04.0
CLL *e*SP SP 03 09 19.0 -4.2
CLL *e*SS SS 03 13 55.0 +3.0
CLL *e*SSS SSS 03 17 13.0 -0.5
CLL *e* 03 25 19.0
CLL Collm 80.36 330⇑*i*P **P 02 58 35.0 -0.5**
comp=Z,303nm,1.0s,mb6.2
CLL *e* 02 58 39.0
CLL *i* pP pP 02 58 43.4 -3.6
CLL *e*S S 03 08 34.0 -3.1
CLL LR LR
comp=Z,212µm,17.2s,MS7.5
CLL Collm 80.36 330⇑*i*P **P 02 58 35.0 -0.5**
CLL *i* *PP pP 02 58 43.4 -3.6
CLL *e*S S 03 08 34.0 -3.1
CLL pmax pmax
comp=Z,303nm,1.0s,mb6.2
CLL MLR MLR
comp=Z,212µm,17.2s,MS7.5
YLV Yalova 80.39 315 P **P 02 58 30.8 -5.1**
RAR Rarotonga 80.40 127 *e*P **P 02 58 38.7 +2.4**
comp=Z,3µm,2.6s,mb6.7
RAR LR LR
comp=Z,54µm,22.0s,MS6.9
RAR Rarotonga 80.40 127 *e*P **P 02 58 38.7 +2.4**
RAR pmax pmax
comp=Z,3µm,2.6s
RAR MLR MLR
comp=Z,54µm,22.0s
MME1 Meikle Cairn 80.40 342⇑*e*P **P 02 58 35.1 -0.5**

SZH Strazhica 80.41 318 *eP* **P 02 58 35.7 -0.2**
KONT Konya--Tatoy 80.41 311 P **P 02 58 35.8 -0.2**
KONT Konya--Tatoy 80.41 311 Pn **P 02 58 35.8 -0.2**
ZIMR 80.43 319 ⇓P **P 02 58 39.9 +3.9**
VRAC Vranov 80.44 327 PKPPKP 03 25 25.2
comp=Z,3.6nm,0.4s,slow=4.0,SNR=3.8
VRAC LR LR 03 37 25.0
comp=Z,192μm,19.6s,MS7.5,baz=30,slow=38
VRAC Vranov 80.44 327 P **P 02 58 36.2 +0.2**
CTT Catalca 80.52 315 P **P 02 58 34.4 -2.2**
RRR Rubha Reidh 80.59 343⇑*eP* **P 02 58 36.1 -0.4**
JMB Yambol 80.62 317 *i P* **P 02 58 37.0 0.0**
JMB Yambol 80.62 317 P **P 02 58 37.6 +0.6**
MDO Dochfour 80.63 342⇑*eP* **P 02 58 36.1 -0.6**
MZLS Mizel 80.64 293 P **P 02 58 37.1 -0.4**
ISCO Idaho Springs 80.64 46⇑*iP* **P 02 58 37.8 +0.5**
comp=Z,31nm,0.8s
ISCO LR LR
comp=Z,47μm,21.0s,MS6.8
SMOL Smolenice 80.69 326 *eP* **P 02 58 37.9 +0.6**
SMOL *e* 02 58 39.8
SMOL *e* 02 58 42.7
SMOL *e*PP PP 03 01 44.6 +1.4
SMOL Smolenice 80.69 326 *eP* **P 02 58 37.9 +0.6**
SMOL *e* 03 01 44.6
KRUC Moravsky 80.72 327 P **P 02 58 37.3 -0.1**
IKL Isikli 80.73 309 P **P 02 58 37.8 0.0**
BUD Budapest 80.75 325⇑*eP* **P 02 58 39.2 +1.6**
PVL Pavlikeni 80.75 319 *i P* **P 02 58 40.0 +2.3**
PRA Prague 80.76 329 ⇑P **P 02 58 38.0 +0.4**
PRA PP PP 03 01 43.0 -0.8
PRA AMS AMS 03 37 30.0
PRU Pruhonice 80.78 329⇑*iP* **P 02 58 37.5 -0.2**
PRU *e*PP PP 03 01 43.0 -1.0
PRU *e*S S 03 08 43.9 +2.5
PRU *e*XS 03 09 03.0
PRU AMS AMS 03 36 10.0
comp=Z,200μm,21.5s
SRO Srobarova 80.82 325 *eP* **P 02 58 39.0 +1.0**
SRO *e* 02 58 40.6
SRO *e* 02 58 43.0
SRO2 Moca 80.82 325 *eP* **P 02 58 40.4 +2.4**
SRO2 *e* 02 58 48.9
TAU Tasmania Unive 80.87 176 *eP* **P 02 58 42.3 +3.9**
comp=Z,159nm,1.0s,mb5.9
TAU Tasmania Unive 80.87 176 P **P 02 58 43.7 +5.3**
TAU pmax pmax
comp=Z,160nm,1.0s,mb5.9
SRO1 Iza 80.90 325 *eP* **P 02 58 38.8 +0.4**
SRO1 *e* 02 58 41.4
SRO1 *e* 02 58 44.7
SRO1 Iza 80.90 325 *eP* **P 02 58 38.8 +0.4**
SRO1 *e* 02 58 44.7
TREC Trest 80.92 328⇑*iP* **P 02 58 38.5 0.0**
TREC *e*PP PP 03 01 42.2 -3.1
TREC *e*S S 03 08 45.2 +2.2
TREC AMS AMS 03 37 00.0
comp=Z,203μm,17.8s
EDRB Edirne 80.96 317 P **P 02 58 39.2 +0.3**
HDMB Hadim 80.98 310 P **P 02 58 36.9 -2.2**
ALT Altintas 80.99 313 P **P 02 58 38.9 -0.2**
ALT Altintas 80.99 313 Pn **P 02 58 38.8 -0.3**
BHL Bhannes 81.01 306 *eP* **P 02 58 39.2 -0.1**
ORLT Orhaneli 81.01 314 *eP* **P 02 58 29.7 -9.5**
HILS Ha'il 81.01 298 P **P 02 58 39.3 -0.1**
ZST Bratislava 81.07 326 *eP* **P 02 58 39.7 +0.4**
ZST *e*PP PP 03 01 45.4 -1.2
ZST *e*S S 03 08 46.4 +1.9
ZST *e*L 03 38 06.5
EDU Dundee 81.10 341⇑*eP* **P 02 58 38.4 -0.8**
EDU AMb AMB 02 58 45.0
comp=Z,1μm,1.6s,mb6.5
DJES Djerdap 81.17 321 *i* P **P 02 58 37.6 -2.3**
ASF Jabal al Asfar 81.32 304 P **P 02 58 41.2 +0.3**
comp=Z,179nm,0.9s,mb6.0,baz=280,slow=1.5,SNR=85
ASF PP PP 03 01 48.7 -0.2
comp=Z,148nm,0.9s,baz=269,slow=2.4,SNR=3.8
ASF S S 03 08 45.4 -2.0
comp=Z,4.0nm,0.9s,baz=160,slow=4.7,SNR=2.0
PHNC Paralimni 81.32 308 P **P 02 58 41.6 +0.7**
BNT Bandirma 81.35 315 P **P 02 58 40.9 0.0**
BNT Bandirma 81.35 315 Pn **P 02 58 40.8 -0.1**
MRMT Marmara Adasi 81.36 316 P **P 02 58 40.1 -0.9**
MRMT Marmara Adasi 81.36 316 Pn **P 02 58 40.0 -1.0**
VKA Vienna 81.36 327⇑*iP* **P 02 58 42.2 +1.4**
comp=Z,15μm,5.5s
VKA MLRZ 03 38 00.0
comp=Z,18nm,18.0s
HRI Mount Hermon 81.37 306 P **P 02 58 41.3 +0.1**
HRI Mount Hermon 81.37 306 P **P 02 58 42.3 +1.1**
MFT Murefte 81.40 316 P **P 02 58 38.8 -2.4**
MOX Moxa 81.42 331⇑*iP* **P 02 58 40.9 -0.2**
comp=Z,logA/T=2.7,mb6.4
MOX PP PP 03 01 48.0 -1.4
MOX S S 03 08 53.0 +4.9
MOX SS SS 03 14 07.0 -1.0
MOX PKKP PKKP 03 17 34.0 +38
MOX PKPPKP 03 25 40.0
MOX PKPPKS 03 28 40.0
MOX L 03 37 40.0
MOX Moxa 81.42 331⇑*eP* **P 02 58 40.9 -0.2**
comp=Z,796nm,1.7s,mb6.4
MOX *e*PP PP 03 01 47.7 -1.7
MOX *e*S S 03 08 53.0 +4.9
MOX *e*SS SS 03 14 07.0 -1.0
MOX LR LR
comp=Z,83μm,20.0s,MS7.1
MOX Moxa 81.42 331⇑*eP* **P 02 58 40.9 -0.2**
MOX *e* 03 01 47.7
MOX *e*S S 03 08 53.0 +4.9
MOX *e*SS SS 03 14 07.0 -1.0
MOX pmax pmax
comp=Z,796nm,1.7s,mb6.4
MOX MLR MLR
comp=Z,83μm,20.0s,MS7.1
NKC Novy Kostel 81.43 330⇑*iP* **P 02 58 41.0 -0.1**
NKC *e*PP PP 03 01 37.8 -12
NKC *e*S S 03 08 49.9 +1.8
NKC AMS AMS 03 37 50.0
comp=Z,185μm,16.9s
NKC Novy Kostel 81.43 330⇑*iP* **P 02 58 41.0 -0.1**
NKC *e*S S 03 08 49.9 +1.8
WIT Witteveen 81.45 334⇑*eP* **P 02 58 41.6 +0.4**
DST Dursunbey 81.46 314 *eP* **P 02 58 42.7 +1.1**
DST Dursunbey 81.46 314 Pn **P 02 58 42.6 +1.1**
KSDI Kefar Szold 81.47 306 P **P 02 58 41.7 0.0**
KSDI Kefar Szold 81.47 306 P **P 02 58 41.8 +0.1**
EBH Black Hill 81.49 341 *eP* **P 02 58 41.2 -0.1**
KSHT Keshet 81.50 305 P **P 02 58 42.1 +0.2**
KSHT Keshet 81.50 305 P **P 02 58 42.4 +0.5**
QURS Qurayyt al Mil 81.54 303 P **P 02 58 42.6 +0.5**
ISP Isparta 81.57 312 P **P 02 58 41.7 -0.4**
ISP Isparta 81.57 312⇑*iP* **P 02 58 41.4 -0.8**
comp=Z,273nm,1.2s,mb6.1
ISP *e*PP PP 03 01 50.3 -0.6
ISP Isparta 81.57 312⇑*iP* **P 02 58 41.4 -0.7**
ISP *e* 03 01 50.3
ISP pmax pmax
comp=Z,273nm,1.2s,mb6.1
BTOK Tokmak 81.69 315 *i* P **P 02 58 43.0 +0.3**
SOP Sopron 81.70 326⇑*iP* **P 02 58 43.3 +0.7**
MAMC Mammari 81.72 308 P **P 02 58 43.7 +0.8**
MMA1 Mount Meron ar 81.74 306 P **P 02 58 44.3 +1.2**
MMA0 Mount Meron ar 81.74 306 P **P 02 58 39.2 -3.9**
MMA2 Mount Meron ar 81.74 306 P **P 02 58 42.0 -1.1**
BCK Bucak 81.78 312 *eP* **P 02 58 36.5 -6.7**
CSS Prodhromos 81.78 308 ⇑P **P 02 58 42.9 -0.4**
CSS Prodhromos 81.78 308⇑*eP* **P 02 58 42.9 -0.4**
KHL Karahalli 81.82 313 P **P 02 58 42.9 -0.6**
KHL Karahalli 81.82 313 Pn **P 02 58 42.8 -0.6**
PGB Panagyurishte 81.83 319 *i P* **P 02 58 43.0 -0.4**
EAU Auchinoon 81.83 341⇑*eP* **P 02 58 43.0 -0.1**
EAU AMb AMB 02 58 49.2
comp=Z,680nm,1.2s,mb6.5
KHC Kasperske Hory 81.84 329⇑*iP* **P 02 58 43.3 0.0**
KHC *e*PP PP 03 01 50.6 -2.2
KHC *e*S S 03 08 53.3 +0.9
KHC *e*XS 03 09 13.9
KHC AMS AMS 03 36 50.0
comp=Z,237μm,21.8s
HNTI Hanita 81.85 306 P **P 02 58 43.8 +0.1**
HNTI Hanita 81.85 306 P **P 02 58 44.7 +1.0**

BALB Balikesir 81.86 315 P **P 02 58 41.7 -1.9**
BALB Balikesir 81.86 315 Pn **P 02 58 41.6 -2.0**
PLD Plovdiv 81.87 318 *i P* **P 02 58 44.0 +0.4**
PKSM Moragy 81.87 324 P **P 02 58 43.1 -0.4**
LEF Lefka 81.95 309 P **P 02 58 45.1 +1.0**
GERES GERESS Array B 82.01 328 P **P 02 58 43.9 -0.3**
comp=Z,47nm,0.7s,mb5.6,baz=45,slow=5.7,SNR=73
GERES S S 03 08 53.2 -1.0
comp=Z,1.7nm,0.8s,baz=40,slow=26,SNR=2.3
GERES PKKPbc 03 17 16.1
comp=Z,2.8nm,1.0s,baz=180,slow=2.7,SNR=3.9
GERES LR LR 03 37 55.4
comp=Z,197μm,21.0s,MS7.5,baz=27,slow=38
BOLS Boljevac 82.03 321 *eP* **P 02 58 43.2 -1.2**
BEO Belgrade 82.05 322⇓*iP* **P 02 58 44.1 -0.4**
SVIS Svilajnac 82.06 322⇓*iP* **P 02 58 44.0 -0.5**
SDCO Great Sand Dun 82.09 48⇑*iP* **P 02 58 45.4 +0.5**
comp=Z,62nm,1.0s,mb5.5
SDCO *es*P sP 02 59 00.7 +0.1
SDCO LR LR
comp=Z,35μm,22.0s,MS6.7
RDO Rodhopi 82.10 317 *eP* **P 02 58 44.6 -0.2**
MMLI Mount Malkishu 82.10 305 P **P 02 58 45.5 +0.5**
MMLI Mount Malkishu 82.10 305 P **P 02 58 45.1 +0.1**
ALFC Alevga 82.11 309 P **P 02 58 44.4 -0.6**
WTSB Winterswijk 82.11 334⇑*eP* **P 02 58 44.1 -0.5**
comp=Z,670nm,2.1s,mb6.2
WET Wettzell 82.11 329 *eP* **P 02 58 44.6 -0.1**
comp=Z,4μm,2.5s,mb6.9
WET Wettzell 82.11 329 *eP* **P 02 58 44.6 -0.1**
WET pmax pmax
comp=Z,4μm,2.5s,mb6.9
HAF Haifa 82.14 306 P **P 02 58 45.1 -0.1**
HAF Haifa 82.14 306 P **P 02 58 46.1 +0.9**
ESK Eskdalemuir 82.24 341⇑*iP* **P 02 58 45.0 -0.3**
comp=Z,180nm,0.9s,mb6.0
ESK Eskdalemuir 82.24 341⇑*iP* **P 02 58 45.0 -0.2**
ESK pmax pmax
comp=Z,180nm,0.9s,mb6.0
MANT Manisa 82.26 313 *i P* **P 02 58 45.4 -0.3**
OFRI 'Ofer 82.27 306 P **P 02 58 45.8 0.0**
OFRI 'Ofer 82.27 306 P **P 02 58 45.5 -0.3**
VTS Vitosha 82.30 319 *i P* **P 02 58 47.0 +1.2**
VTS Vitosha 82.30 319 P **P 02 58 46.1 +0.4**
LCP Cassop 82.30 340 *eP* **P 02 58 45.3 -0.2**
GRA1 Grafenberg Arr 82.34 330 *eP* **P 02 58 46.1 +0.3**
comp=Z,1μm,1.0s,mb6.7
GRA1 *e*S S 03 09 00.7 +3.2
GRA1 LR LR
comp=Z,160μm,18.0s,MS7.4
GRF Grafenberg Arr 82.34 330 *eP* **P 02 58 46.1 +0.3**
comp=Z,1μm,1.0s,mb6.7
GRF *e*S S 03 09 00.7 +3.2
GRF LR LR
comp=Z,160μm,18.0s,MS7.4
GRF Grafenberg Arr 82.34 330 *eP* **P 02 58 46.1 +0.3**
GRF *e*S S 03 09 00.7 +3.2
GRF pmax pmax
comp=Z,1μm,1.0s,mb6.7
GRF MLR MLR
comp=Z,160μm,18.0s,MS7.4
GRF Grafenberg Arr 82.34 330 *eP* **P 02 58 46.1 +0.3**
GRF *e*S S 03 09 00.7 +3.2
GRF pmax pmax
comp=Z,1μm,1.0s,mb6.7
GRF MLR MLR
comp=Z,160μm,18.0s,MS7.4
AKS Akhisar 82.42 314 P **P 02 58 46.1 -0.4**
TUC Tucson 82.45 55⇑*iP* **P 02 58 46.9 +0.1**
comp=Z,59nm,1.0s,mb5.5
TUC *es*P sP 02 59 03.3 +0.8
TUC LR LR
comp=Z,34μm,21.0s,MS6.7
SLTI Sal'it 82.48 305 P **P 02 58 47.2 +0.3**
SLTI Sal'it 82.48 305 P **P 02 58 46.4 -0.5**
ARSA Arzberg 82.48 327⇑*iP* **P 02 58 46.7 +0.1**
comp=Z,16μm,6.1s
DENT Denizli 82.49 313 P **P 02 58 45.3 -1.6**
DNZL Cakiroluk 82.53 313 *i P* **P 02 58 47.2 +0.2**
MKRJ Makawir 82.53 304 P **P 02 58 47.4 +0.2**
MOA Molln 82.56 328⇑*iP* **P 02 58 47.1 +0.1**
comp=Z,20μm,6.5s
EZN Ezine 82.59 316 P **P 02 58 47.3 -0.1**
GRUS Gruza 82.61 322⇑*iP* **P 02 58 47.0 -0.3**
ELL Elmali 82.66 311 P **P 02 58 48.2 +0.5**
ELL Elmali 82.66 311 Pn **P 02 58 48.2 +0.4**
DRGI Dragot 82.67 305 P **P 02 58 50.3 +2.4**
MMB Musomiste 82.75 318 *i P* **P 02 58 48.5 +0.4**
AYVA Ayvalik 82.75 315 *i P* **P 02 58 48.1 0.0**
KOGS Kog 82.78 326 *eP* **P 02 58 47.5 -0.6**
DIVS Divcibare 82.81 322⇓*iP* **P 02 58 48.1 -0.3**
GMK Mull of Kintyr 82.82 342⇑*eP* **P 02 58 48.1 0.0**
GCD Castle Douglas 82.84 341⇑*eP* **P 02 58 48.1 -0.1**
NVR Nevrokopi 82.85 318 *eP* **P 02 58 47.7 -0.9**
MZDA Masada 82.87 304 P **P 02 58 49.2 +0.3**
MZDA Masada 82.87 304 P **P 02 58 49.4 +0.5**
KKB Krupnik 82.88 319 *i P* **P 02 58 50.0 +1.2**
TNS Taunus Mts 82.96 332 *eP* **P 02 58 48.7 -0.3**
comp=Z,402nm,1.0s,mb6.4
TNS Taunus Mts 82.96 332 *eP* **P 02 58 48.7 -0.3**
TNS pmax pmax
comp=Z,402nm,1.0s,mb6.4
PRK Paraskevi 83.03 315 *eP* **P 02 58 47.7 -1.9**
GAL1 Galloway 83.03 341⇑*eP* **P 02 58 49.1 -0.2**
IZM Izmir 83.06 314 P **P 02 58 49.7 0.0**
IZM Izmir 83.06 314 Pn **P 02 58 49.7 -0.1**
SRS Serrai 83.16 318 *eP* **P 02 58 49.6 -0.6**
LIA Limnos Island 83.17 316 *eP* **P 02 58 49.2 -1.0**
GCL Cushendall 83.19 342⇑*eP* **P 02 58 50.3 +0.2**
BLCB Balcova 83.20 314 P **P 02 58 49.2 -1.3**
LOS Limnos 83.20 316 *eP* **P 02 58 50.8 +0.4**
AYDN Tasoluk 83.22 313 *i P* **P 02 58 51.3 +0.7**
SIND Sindeldorf 83.24 331⇑*eP* **P 02 58 50.1 -0.3**
SIND Sindeldorf 83.24 331 P **P 02 58 50.5 +0.1**
BBLS Bajina Basta - 83.26 322⇓*iP* **P 02 58 51.5 +0.9**
TOD Tromm 83.33 332⇑*eP* **P 02 58 50.8 -0.1**
YER Yerkesik 83.35 313 P **P 02 58 52.0 +0.8**
YER Yerkesik 83.35 313 Pn **P 02 58 52.0 +0.7**
LAZ Ladron 83.36 51 *eP* **P 02 58 52.3 +0.9**
KAMS Al Khamasin 83.37 290 P **P 02 58 50.9 -0.7**
DALT Dalyan (Mudla) 83.40 312 P **P 02 58 51.0 -0.5**
ANMO Albuquerque 83.41 50 PKKPbc 03 17 17.9
comp=Z,2.8nm,1.0s,baz=135,slow=3.9,SNR=3.9
ANMO PKPPKP 03 25 25.4
comp=Z,0.4nm,0.5s,baz=142,slow=5.7,SNR=3.5
ANMO Albuquerque 83.41 50 *eP* **P 02 58 52.4 +0.8**
comp=Z,132nm,1.4s,mb5.8
ANMO LR LR
comp=Z,40μm,21.0s,MS6.8
ANMO Albuquerque 83.41 50 *eP* **P 02 58 52.4 +0.8**
ANMO pmax pmax
comp=Z,131nm,1.4s
ANMO MLR MLR
comp=Z,40μm,21.0s
HGN Heimansgroeve 83.42 334⇑*eP* **P 02 58 50.9 -0.4**
HGN Heimansgroeve 83.42 334 *eS* S 03 09 05.4 -2.9
HGN *eSS* SS 03 14 34.6 -2.8
QRZ Quartz Range 83.42 157 PN **P 02 58 56.6 +5.0**
MASH Mash'abbe Sade 83.45 304 P **P 02 58 51.9 0.0**
MASH Mash'abbe Sade 83.45 304 P **P 02 58 52.2 +0.3**
LHO Holmfirth 83.46 339⇑*eP* **P 02 58 51.3 -0.1**
SWS Schriesheim 83.47 332⇑*eP* **P 02 58 51.3 -0.3**
SWS Schriesheim 83.47 332 P **P 02 58 53.3 +1.7**
OBKA Obir 83.48 327⇑*iP* **P 02 58 51.3 -0.4**
comp=Z,13μm,5.2s
RTMM Retamin 83.48 304 P **P 02 58 52.7 +0.7**
ZFRI Zfri 83.48 304 P **P 02 58 52.4 +0.3**
ZFRI Zfri 83.48 304 P **P 02 58 52.6 +0.5**
KNT Kendrikon 83.49 318 *eP* **P 02 58 51.4 -0.4**
OUR Ouranopolis 83.51 307 *eP* **P 02 58 51.9 -0.1**
MLSB Milas 83.53 313 P **P 02 58 52.5 +0.4**
FUR Furstenfeldbru 83.54 329 *eP* **P 02 58 52.2 +0.3**
comp=Z,1μm,0.9s,mb7.0
FUR Furstenfeldbru 83.54 329 *eP* **P 02 58 52.2 +0.3**
FUR pmax pmax
comp=Z,1μm,0.9s,mb7.0
VAY Valandovo 83.54 319⇑*iP* **P 02 58 52.3 +0.2**
VAY *i* 02 58 55.1
VAY *i* 03 02 28.7
VAY *i S* S 03 09 10.3 +0.6
KBA Koelnbreinsper 83.55 328⇑*iP* **P 02 58 52.1 +0.1**
comp=Z,6μm,4.2s
KBA Koelnbreinsper 83.55 328⇑*iP* **P 02 58 52.1 +0.1**

KBA pmax pmax
comp=Z,6μm,4.2s
MUKL Al Mukalla 83.57 283⇓*eP* **P 02 58 52.8 -0.1**
ABH Alteburg 83.57 332⇑*eP* **P 02 58 51.9 -0.1**
LENM Lemitar 83.62 51 *eP* **P 02 58 53.2 +0.5**
KBI1 Birley Grange 83.62 339⇑*eP* **P 02 58 52.2 0.0**
HDH Heidenheim 83.62 330⇑*eP* **P 02 58 52.1 -0.2**
HDH Heidenheim 83.62 330 P **P 02 58 53.2 +0.9**
SKO Skopje 83.65 320⇑*iP* **P 02 58 53.5 +0.9**
SKO *i* 02 58 56.0
PLE Pljevlja 83.67 322⇑*iP* **P 02 58 53.4 +0.7**
PRNI Paran 83.73 304 P **P 02 58 53.7 +0.4**
PRNI Paran 83.73 304 P **P 02 58 53.3 0.0**
LPM Los Pinos Moun 83.73 51 *eP* **P 02 58 53.5 +0.3**
IVA Berane 83.76 321⇑*iP* **P 02 58 53.7 +0.5**
KZIT Kziot 83.76 305 P **P 02 58 53.6 +0.1**
KZIT Kziot 83.76 305 P **P 02 58 53.2 -0.3**
PLG Polygyros 83.77 318 *eP* **P 02 58 52.3 -1.0**
KBRS Khaybar 83.77 298 P **P 02 58 54.2 +0.5**
SMG Samos 83.78 314 *eP* **P 02 58 50.8 -2.7**
THE Thessaloniki 83.83 318 *eP* **P 02 58 52.9 -0.7**
KTD Kalmit 83.84 332 *eP* **P 02 58 53.4 0.0**
KTD Kalmit 83.84 332 *eP* **P 02 58 53.8 +0.4**
BNM Barren Site 83.84 51 *i P* **P 02 58 54.4 +0.6**
LJU Ljubljana 83.85 326 *eP* **P 02 58 52.9 -0.7**
LJU *e* 02 58 56.5
LJU *e* 02 59 13.7
LJU *e*PP PP 03 02 08.4 -0.4
LJU *e* 03 04 01.1
LJU Ljubljana 83.85 326 *eP* **P 02 58 52.9 -0.7**
LJU *e* 02 59 13.7
LJU *e*PP PP 03 02 08.4 -0.4
LJU *e* 03 04 01.1
LJU Ljubljana 83.85 326 *eP* **P 02 58 52.9 -0.6**
LJU *e* 03 02 08.4
LJU *e* 03 04 01.1
STU Stuttgart 83.86 331 *eP* **P 02 58 53.4 -0.2**
comp=Z,2μm,1.5s,mb6.9
STU Stuttgart 83.86 331 *eP* **P 02 58 53.4 -0.2**
STU pmax pmax
comp=Z,2μm,1.5s,mb6.9
BDRM Kayabasi 83.88 313 *i P* **P 02 58 53.9 0.0**
GRG Griva 83.89 319 *eP* **P 02 58 53.5 -0.4**
RUP Ruppelstein 83.90 333⇑*eP* **P 02 58 53.7 0.0**
RUP Ruppelstein 83.90 333 *eP* **P 02 58 53.8 +0.1**
GMM Mts of Mourne 83.91 342⇑*eP* **P 02 58 53.6 0.0**
HRFI Mount Harif 83.91 304 P **P 02 58 58.1 +3.8**
KWE Weaver Farm 83.92 339⇑*eP* **P 02 58 53.6 -0.1**
PVY Plav 83.93 321⇑*iP* **P 02 58 54.5 +0.4**
BOJS Bojanci 83.95 326 *eP* **P 02 58 53.8 -0.3**
BOJS *e* 02 59 16.0
BOJS *e*PP PP 03 02 08.9 -0.7
BOJS *e* 03 04 04.6
BODT Bodrum 83.96 313 P **P 02 58 54.2 -0.2**
UPM Unac-Piva 84.00 322⇑*iP* **P 02 58 54.9 +0.5**
PLRO Paularo 84.05 327⇑*iP* **P 02 58 53.0 -1.5**
SCHQ Schefferville 84.06 16 P **P 02 58 54.2 -0.2**
comp=Z,52nm,0.9s,mb5.7,baz=356,slow=6.0,SNR=48
SCHQ S S 03 09 13.2 -1.4
comp=Z,5.9nm,0.9s,baz=302,slow=13,SNR=1.7
SCHQ PKKPbc 03 17 05.9
comp=Z,2.9nm,0.7s,baz=58,slow=2.1,SNR=3.7
SCHQ LR LR 03 40 26.9
comp=Z,51μm,20.9s,MS6.9,baz=338,slow=38
PTCC Patocco-Chiusa 84.07 327 P **P 02 58 53.5 -1.2**
ARG Arkhangelos 84.07 312 *eP* **P 02 58 53.8 -1.1**
TBKS Tabuk 84.08 301 P **P 02 58 55.4 +0.3**
WATA Walderalm 84.08 329⇑*iP* **P 02 58 54.7 0.0**
comp=Z,2μm,2.0s,mb6.8
WATA Walderalm 84.08 329⇑*iP* **P 02 58 54.7 0.0**
WATA pmax pmax
comp=Z,2μm,2.0s,mb6.8
LBG Lerchenberg 84.10 331⇑*eP* **P 02 58 54.7 -0.1**
LBG Lerchenberg 84.10 331 P **P 02 58 54.9 +0.1**
WTTA Wattenberg 84.11 329⇑*iP* **P 02 58 54.9 +0.1**
comp=Z,15μm,5.4s
ZOU Zoufplan 84.12 327⇑*eP* **P 02 58 53.0 -1.9**
ROBS Robic 84.13 327 *eP* **P 02 58 53.6 -1.4**
VOY Vojsko 84.13 327 *eP* **P 02 58 53.8 -1.2**
VOY *e* 02 58 57.5
PMOR Pomariorio Ree 84.14 114 *eP* **P 02 59 04.1 +8.4**
comp=Z,340nm,1.1s,mb6.4
FVI Forni Avoltri 84.17 328 P **P 02 58 53.5 -1.6**
EIL Elat 84.21 303 P **P 02 58 55.9 +0.1**
EIL Elat 84.21 303 P **P 02 58 55.3 -0.5**
LANF Langenberg 84.22 332 *eP* **P 02 58 55.3 0.0**
NKY Niksic 84.25 322⇑*iP* **P 02 58 55.2 -0.4**
WLF Walferdange 84.26 333⇑*iP* **P 02 58 55.6 +0.1**
comp=Z,850nm,1.4s,mb6.7
WLF Walferdange 84.26 333⇑*iP* **P 02 58 55.6 +0.1**
WLF pmax pmax
comp=Z,849nm,1.4s,mb6.7
MOTA Moosalm 84.27 329⇑*iP* **P 02 58 55.6 0.0**
comp=Z,839nm,1.2s,mb6.7
MOTA Moosalm 84.27 329⇑*iP* **P 02 58 55.6 0.0**
MOTA pmax pmax
comp=Z,839nm,1.2s,mb6.7
WPM1 Penmaenmawr 84.27 340⇑*eP* **P 02 58 55.6 +0.1**
WPM1 AMb AMB 02 59 02.5
comp=Z,1μm,1.6s,mb6.7
COLI Coloredo 84.28 327⇓*eP* **P 02 58 55.0 -0.7**
SEST Monte Rota 84.28 328 P **P 02 58 56.4 +0.7**
CSMI Casera Mimoias 84.29 328⇑*iP* **P 02 58 54.0 -1.7**
SQTA Sankt Quirin 84.32 329⇑*iP* **P 02 58 56.0 +0.1**
comp=Z,1μm,1.8s,mb6.7
SQTA Sankt Quirin 84.32 329⇑*iP* **P 02 58 56.0 +0.1**
SQTA pmax pmax
comp=Z,1μm,1.8s,mb6.7
WCB1 Church Bay 84.33 341⇑*eP* **P 02 58 55.0 -0.8**
WCB1 AMb AMB 02 59 01.7
comp=Z,523nm,1.7s,mb6.4
GIVF Givet 84.36 334 *eP* **P 02 58 55.6 -0.4**
comp=Z,1μm,1.5s,mb6.6
GIVF Givet 84.36 334 *eP* **P 02 58 55.6 -0.4**
GIVF pmax pmax
comp=Z,660nm,1.5s,mb6.5
MPRI Monte Prat 84.36 327⇑*eP* **P 02 58 55.0 -1.1**
ALWS Ilw as Safayha 84.36 303 P **P 02 58 56.7 +0.2**
WLF1 Llynfaes 84.37 341⇑*eP* **P 02 58 55.9 -0.1**
WLF1 AMb AMB 02 59 02.1
comp=Z,784nm,1.6s,mb6.6
THZ Tophouse 84.39 157 PN **P 02 58 58.4 +2.0**
UBR Uberruh 84.39 330⇑*eP* **P 02 58 56.0 -0.3**
UBR Uberruh 84.39 330 P **P 02 58 57.0 +0.7**
AOS Alonnisos 84.39 317 *eP* **P 02 58 56.3 -0.2**
BRY Bratogost 84.40 322⇑*iP* **P 02 58 55.8 -0.6**
TTG Podgorica 84.40 321⇑*iP* **P 02 58 56.1 -0.3**
JMOS Jabal al Moall 84.43 303 P **P 02 58 57.0 +0.1**
TRI Trieste 84.44 326 P **P 02 58 55.4 -1.1**
YLL Llanberis 84.45 340⇑*eP* **P 02 58 56.5 +0.1**
DMUB Kingscourt 84.45 342 *eP* **P 02 58 58.3 +1.9**
YRC Rhoscolyn 84.46 341⇑*eP* **P 02 58 56.5 +0.1**
YRC AMb AMB 02 59 02.4
comp=Z,493nm,1.7s,mb6.4
GUT Gutenstein 84.47 330⇑*eP* **P 02 58 56.5 -0.1**
GUT Gutenstein 84.47 330 P **P 02 58 56.6 0.0**
VAH Vaihoa 84.49 114 *eP* **P 02 59 05.8 +8.4**
comp=Z,272nm,1.3s,mb6.2
SNZO South Karori 84.54 156 PFAKE 02 59 10.0 +13
SNZO LR LR
comp=Z,75μm,22.0s,MS7.0
FNA Florina 84.55 319 *eP* **P 02 58 56.6 -0.6**
BFO Black Forest 84.56 331 *eP* **P 02 58 56.6 -0.5**
comp=Z,1μm,1.3s,mb6.9
BFO *e*S S 03 09 20.9 +1.3
BFO Black Forest 84.56 331 *eP* **P 02 58 56.6 -0.5**
BFO *e*S S 03 09 20.9 +1.3
BFO pmax pmax
comp=Z,1μm,1.3s,mb6.9
STR Strasbourg 84.56 332 *eP* **P 02 58 57.8 +0.7**
TLI Talmassons 84.56 327⇑*eP* **P 02 58 57.0 -0.1**
SPAK Spaichingen 84.57 331 *eP* **P 02 58 57.1 0.0**
SPAK Spaichingen 84.57 331 *eP* **P 02 58 58.7 +1.6**
MLNI Malnisio 84.59 327⇑*iP* **P 02 58 56.0 -1.3**
CBKS Cedar Bluff 84.60 44⇑*eP* **P 02 58 56.6 -0.9**
comp=Z,140nm,0.9s,mb6.1
CBKS LR LR
comp=Z,35μm,22.0s,MS6.7
CBKS Cedar Bluff 84.60 44⇑*eP* **P 02 58 56.7 -0.8**
CBKS pmax pmax
comp=Z,140nm,0.9s,mb6.1
CBKS MLR MLR
comp=Z,35μm,22.0s,MS6.7

BAIF Baives 84.60 334 eP P 02 58 57.1 -0.1
comp=Z,681nm,1.2s,mb6.3
OHR Ohrid 84.61 320 iP P 02 58 57.3 -0.2
OHR i 02 59 00.0
OHR i 03 02 15.4
OHR iS S 03 09 17.7 -2.6
HAQS Haql 84.62 303 P P 02 58 58.1 +0.2
XOR Xorichti 84.62 317 eP P 02 58 57.0 -0.6
NEO Neokhori 84.65 317 eP P 02 58 55.4 -2.4
TATS Tathlith 84.65 291 P P 02 58 58.4 +0.2
YRE Yr Eifl 84.66 340⇑eP P 02 58 57.7 +0.3
YRE AMb AMB 02 59 04.5
comp=Z,1μm,1.8s,mb6.8
PPT Papeete 84.66 117 eP P 02 59 06.9 +8.6
comp=Z,192nm,1.3s,mb6.1
PPT Papeete 84.66 117 P P 02 59 01.0 +2.7
comp=Z,4.8nm,0.3s,baz=5.5,slow=12,SNR=1.9
PPT LR LR 03 33 11.3
comp=Z,24μm,19.4s,MS6.6,baz=300,slow=33
PPT Papeete 84.66 117 P P 02 59 01.0 +2.7
PPT LR LR 03 33 11.3
BUM Brajici-Budva 84.68 321⇑iP P 02 58 57.5 -0.4
KZN Kozani 84.70 318 eP P 02 58 56.9 -1.1
PAE Paea 84.72 117 eP P 02 59 07.0 +8.4
comp=Z,442nm,1.3s,mb6.4
ULC Ulcinj 84.76 321⇑iP P 02 58 58.1 -0.1
QSH Qafa e Shtames 84.76 320 iP P 02 58 56.2 -2.0
HCY Herceg Novi 84.76 322⇑iP P 02 58 59.0 +0.8
SKP1 Kophill 84.77 338⇑eP P 02 58 57.4 -0.6
DAVA Damuels 84.80 330⇑iP P 02 58 58.4 +0.1
comp=Z,11μm,5.7s
STON Ston 84.83 322 iP P 02 58 57.0 -1.5
SISB Singen-Sch Ber 84.84 330 P P 02 58 58.6 +0.1
NVLJ Novalja 84.85 325⇑iP P 02 58 57.2 -1.4
WLS Welschbruch 84.86 332 eP P 02 58 58.6 +0.1
MENF Mencas 84.86 336 eP P 02 58 59.4 +0.9
CDF Champ du Feu 84.89 332 eP P 02 58 58.6 -0.1
comp=Z,1μm,1.2s,mb6.7
STEIN Stein am Rhein 84.89 330⇑iP P 02 58 58.4 -0.3
APPI Appiano 84.91 328 P P 02 58 57.6 -1.2
DLF Lyons Farm 84.91 342⇑iP P 02 58 58.9 +0.2
BDAS Al Bad' 84.91 302 P P 02 58 59.4 +0.1
DSB Dublin 84.92 342⇑iP P 02 58 58.8 +0.1
comp=Z,228nm,1.0s,mb6.3
LIENZ Alp Oberkamor 84.95 330⇑iP P 02 58 59.0 0.0
SLE Schleitheim 84.96 331⇑iP P 02 58 58.7 -0.4
WEIN Weingarten 84.96 330⇑iP P 02 58 58.7 -0.4
APE Apeiranthos 84.97 314 P P 02 58 57.6 -1.8
APE Apeiranthos 84.97 314 eP P 02 58 58.4 -1.0
APE Apeiranthos 84.97 314c iP P 02 58 56.7 -2.7
LIBD Limburg 84.98 331⇑eP P 02 58 59.4 +0.2
LIBD Limburg 84.98 331 eP P 02 58 59.3 +0.1
TRULL Truellikon 84.98 330⇑iP P 02 58 57.7 -1.5
TAYS Tayyib Ism 84.99 302 P P 02 59 00.5 +0.8
KIZ Kirchzarten 85.02 331⇑eP P 02 58 59.0 -0.4
KIZ Kirchzarten 85.02 331 P P 02 58 59.2 -0.2
TVO Taravao 85.03 117 eP P 02 59 08.9 +8.8
comp=Z,419nm,1.1s,mb6.5
DCN Croghan 85.05 342⇑iP P 02 58 59.1 -0.3
FELD Feldberg 85.06 331⇑eP P 02 58 59.3 -0.2
CTI Castel Tesino 85.08 328 P P 02 58 58.6 -1.1
WILA Wila 85.08 330⇑iP P 02 58 59.4 -0.3
FLACH Flaach 85.09 330⇑iP P 02 58 59.3 -0.4
ECH Echery 85.09 332 eP P 02 58 59.3 -0.4
KARP Karpathos 85.10 312 eP P 02 58 58.4 -1.7
MCH1 Michaelchurch 85.16 339⇑eP P 02 59 00.1 +0.1
MCH1 AMS AMS 03 40 11.8
comp=N,62μm,22.4s,MS7.1
MCH1 AMS AMS 03 40 34.1
comp=E,58μm,21.1s,MS7.1
KHZ Kahutara 85.18 157 PN P 02 59 05.4 +5.1
KHZ Kahutara 85.18 157 eP P 02 59 07.9 +7.6
FUORN Ofenpass 85.19 329⇑iP P 02 59 00.7 +0.5
PLONS Plons 85.20 330⇑iP P 02 59 00.0 -0.3
PLONS Plons 85.20 330⇑iP P 02 59 00.1 -0.2
DAVOX Davos 85.22 329 LR LR 03 40 31.8
comp=E,216μm,19.1s,MS7.6,baz=18,slow=38
DAVOX Davos 85.22 329⇑iP P 02 59 00.5 +0.1
SWN1 Swindon 85.24 338⇑eP P 02 59 00.5 +0.1
LKR Lokris 85.25 317 eP P 02 58 58.4 -2.3
ZUR Zurich 85.25 330⇑iP P 02 59 00.2 -0.3
BRMO Bormio 85.26 329 P P 02 59 00.8 +0.2
SULZ Sulz-Cheisache 85.30 331⇑iP P 02 59 00.4 -0.4
ATH Athens Observa 85.34 316 eP P 02 58 60.0 -1.3
MOF Molkenrain 85.41 331 eP P 02 59 01.0 -0.3
BERNI Berninapass 85.45 329⇑iP P 02 59 01.8 +0.3
UMJS Umm Lajj 85.48 299 P P 02 59 02.6 +0.4
LLS Linth-Limmern 85.51 330⇑iP P 02 59 01.7 -0.1
THR1 Thera Island 85.51 314 eP P 02 58 59.9 -2.2
THEF They Montfort 85.52 332 eP P 02 59 01.7 -0.1
HINF Hinteralfeld 85.54 332 eP P 02 59 01.4 -0.5
comp=E,931nm,1.2s,mb6.6
MUO Muotathal 85.56 330⇑iP P 02 59 02.0 0.0
MUO Muotathal 85.56 330⇑iP P 02 59 01.9 -0.1
HAU Haudompre 85.57 332 eP P 02 59 01.6 -0.5
comp=E,782nm,1.1s,mb6.6
HAU eR
comp=E,193μm,22.0s
BBS Basel-Blauen 85.58 331⇑eP P 02 59 02.0 -0.1
BALST Balsthal 85.62 331⇑iP P 02 59 02.0 -0.3
VDL Val di Lei 85.62 329⇑iP P 02 59 02.4 +0.1
MEZF Maizieres J'vi 85.63 333 eP P 02 59 02.4 +0.1
comp=E,2μm,1.3s,mb6.9
RPZ Rata Peaks 85.65 159 S S 03 09 20.2 -10
comp=E,11nm,0.9s,baz=18,slow=16,SNR=1.9
RPZ LR LR 03 32 40.3
comp=E,14μm,21.5s,MS6.3,baz=336,slow=32
JAN Janina 85.65 319 eP P 02 59 01.5 -1.2
EVR Evrytania 85.69 318 eP P 02 58 60.0 -2.9
SWK Warminster 85.70 338⇑eP P 02 59 02.6 0.0
BNALP Bannalp 85.72 330⇑iP P 02 59 02.7 -0.1
DJNS Zahran al Janu 85.74 289 P P 02 59 04.4 +0.8
BOURR Bourrignon 85.75 331⇑iP P 02 59 02.9 -0.1
BLJS Baljurashi 85.82 292 P P 02 59 04.5 +0.6
SIW Isle of Wight 85.86 338⇑eP P 02 59 03.4 0.0
SAL Salo 85.90 328 P P 02 59 03.6 -0.1
TAOE Nuku Hiva Isla 85.92 104 eLR LR 03 25 19.5
comp=E,1044μm,33.5s
HASLI Hasliberg 85.92 330⇑iP P 02 59 03.5 -0.3
LOMF Lomont 85.94 331 eP P 02 59 03.4 -0.5
FUSIO Fusio 85.97 330⇑iP P 02 59 04.0 0.0
IGT Igoumenitsa 86.01 319 eP P 02 59 04.1 -0.3
LBZ Lake Benmore 86.03 160 PN P 02 59 04.9 +0.5
KSU1 Kansas State U 86.07 42 eP P 02 59 03.7 -1.1
KEK Kerkira 86.16 319 eP P 02 59 04.5 -0.6
WIMIS Wimmis 86.20 331⇑iP P 02 59 04.8 -0.4
NPS Neapolis 86.20 313 eP P 02 59 03.0 -2.5
HEX Exmoor 86.21 339⇑eP P 02 59 04.8 -0.4
MUGIO Muggio 86.25 329⇑iP P 02 59 04.4 -1.0
MNTX Cornudas Mount 86.27 52⇑iP P 02 59 05.9 0.0
comp=E,70nm,0.9s,mb5.9
MNTX LR LR
comp=Z,22μm,21.0s,MS6.5
CPRX Cap Rock 86.29 50 eP P 02 59 06.1 +0.1
RAVA Ravarino 86.34 327 P P 02 59 06.9 +1.0
TORNY Torny 86.37 331⇑iP P 02 59 05.8 -0.2
VAI Varese 86.41 329 P P 02 59 05.4 -0.8
BRANT Les Verrieres 86.42 331⇑iP P 02 59 06.3 +0.1
LKBD Leukerbad 86.43 330⇑iP P 02 59 06.0 -0.3
LTHS Al Lith 86.44 293 P P 02 59 06.9 -0.1
FSSB Fossombrone 86.47 326 P P 02 59 07.0 +0.4
HTL Hartland 86.47 340⇑eP P 02 59 06.6 +0.2
HTL AMS AMS 03 41 25.3
comp=E,42μm,20.4s,MS7.1
HTL AMS AMS 03 41 48.6
comp=N,69μm,20.5s,MS7.1
RLS Riolos of Patr 86.50 317 eP P 02 59 06.1 -0.8
BDHA Al Bayda' 86.50 285⇑eP P 02 59 07.6 +0.1
LCI Lecce 86.55 321 P P 02 59 08.2 +1.2
ARV Arcevia 86.55 326 P P 02 59 07.3 +0.3
GDL2 Guadalupe Moun 86.56 51 eP P 02 59 07.7 +0.4
MMK Mattmark 86.57 330⇑iP P 02 59 07.3 +0.3
SENIN Lac Senin 86.58 331⇑iP P 02 59 07.0 0.0
BRT Bari-Castellan 86.58 321 P P 02 59 08.7 +1.5
IDI Anoyia 86.60 313 LR LR 03 43 09.3
comp=N,47μm,19.8s,MS6.9,baz=189,slow=39
MCGN Macugnaga 86.64 330 P P 02 59 07.2 -0.2
VLI Veliai 86.68 315 eP P 02 59 04.5 -3.2
AIGLE Aigle 86.73 331⇑iP P 02 59 07.4 -0.4
GRYON Gryon 86.74 331⇑iP P 02 59 07.6 -0.2
RGNG Rignano Grg 86.75 323 P P 02 59 08.1 +0.1
DIX Grande Dixence 86.77 330⇑iP P 02 59 08.2 +0.2

ODZ Otahua Downs 86.77 160 PN P 02 59 09.6 +1.5
ODZ Otahua Downs 86.77 160 eP P 02 59 09.6 +1.6
PGD Poggio Sodo 86.78 327 P P 02 59 08.6 +0.5
VMG Vicchio 86.79 327 P P 02 59 09.6 +1.5
CLNB Carlsbad 86.81 51 eP P 02 59 08.8 +0.3
GIMEL Gimel 86.83 331⇑iP P 02 59 08.2 -0.1
LBOS 86.83 285⇑eP P 02 59 09.4 +0.4
CABF La Chapelle 86.83 331 eP P 02 59 08.2 -0.1
comp=N,347nm,0.9s,mb6.3
VLS Valsamata 86.88 318 eP P 02 59 06.1 -2.6
SALAN Lac Salanfe 86.89 331⇑iP P 02 59 08.3 -0.2
CRE Caprese Michel 86.89 326 P P 02 59 08.8 +0.2
GSCL Gusciola 86.89 327 P P 02 59 10.1 +1.5
ITM Ithomi 86.90 316 eP P 02 59 07.6 -1.2
VAM Vamos 86.91 314 eP P 02 59 07.6 -1.3
ORX Oropa 86.91 330 P P 02 59 07.0 -1.6
ORO Oropa 86.92 330 P P 02 59 07.7 -1.0
MURB Monte Urbino 86.92 326 P P 02 59 09.2 +0.4
HAJJ Hajjah 86.95 287⇑eP P 02 59 09.7 +0.1
HAJJ AMb AMB 02 59 12.6
comp=Z,4μm,1.4s,mb7.5
EMV Vieux Emosson 86.98 331⇑iP P 02 59 09.0 0.0
LTRZ Laterza 86.98 322 P P 02 59 09.4 +0.2
GRAM 86.99 328 P P 02 59 08.5 -0.7
NRCA Norcia 86.99 325 P P 02 59 09.3 +0.1
BOB Bobbio (Coli) 87.03 328 P P 02 59 09.5 +0.2
VALM 87.03 328 P P 02 59 08.7 -0.6
VAL Valentia 87.04 343 eP P 02 59 08.1 -1.1
VAL iS S 03 09 47.9 +4.3
DHBB Dhamar BB 87.05 286⇑eP P 02 59 10.9 +0.8
DHBB AMb AMB 02 59 13.6
comp=Z,2μm,1.7s,mb7.2
LOR Lormes 87.10 333 eP P 02 59 09.4 -0.2
comp=Z,1μm,1.1s,mb6.8
LOR eR
comp=Z,175μm,21.5s
SARO Sassorosso 87.10 327 P P 02 58 08.9 -0.8
TRAV 87.11 330 P P 02 59 08.5 -1.2
VLC Villacollemand 87.13 327 P P 02 59 10.0 +0.2
comp=Z,200nm,1.0s,mb6.3
CSA1 St Austell 87.16 340⇑eP P 02 59 09.6 -0.2
BACM 87.16 328 P P 02 59 08.8 -1.2
CODM 87.17 328 P P 02 59 09.2 -0.7
FG4 Candela 87.21 323 P P 02 59 10.3 +0.1
AQU L'Aquila 87.24 325⇑iP P 02 59 10.2 -0.2
comp=Z,331nm,1.0s,mb6.5
AQU ePP PP 03 02 36.2 -0.8
VINC Vinca 87.24 328 P P 02 59 08.8 -1.6
FLN La Foliniere 87.27 336 eP P 02 59 10.2 -0.2
comp=Z,1μm,1.1s,mb6.7
FLN eR
comp=Z,346μm,20.5s
MAIM 87.28 327 P P 02 59 08.6 -1.9
CSNT Castellina Chi 87.29 327 P P 02 59 09.5 -1.1
LDF La Druitiere 87.30 336 eP P 02 59 10.3 -0.2
comp=Z,515nm,0.9s,mb6.5
CII Carovilli 87.32 324⇑iP P 02 59 10.9 +0.1
comp=Z,708nm,1.5s,mb6.7
CII eS S 03 10 00.8 +14
GVD Gavdhos 87.38 313 eP P 02 59 11.4 +0.2
comp=Z,808nm,0.9s,mb7.0
LSD Ceresole Reale 87.38 330 P P 02 59 10.9 -0.1
CCA1 Carnmenellis 87.40 340⇑eP P 02 59 10.7 -0.3
SSF Saint Saulge 87.40 333 eP P 02 59 10.9 -0.1
comp=Z,624nm,1.0s,mb6.5
CRQ2 Rosemanowes 2 87.40 340⇑eP P 02 59 10.8 -0.1
CRQ2 AMb AMB 02 59 16.9
comp=Z,563nm,1.6s,mb6.5
CMA1 Manaccan 87.47 340⇑eP P 02 59 11.6 +0.3
CGW Gweek 87.48 340⇑eP P 02 59 11.2 -0.2
LPL La Plagne 87.50 330 eP P 02 59 11.7 +0.2
comp=Z,1μm,1.2s,mb6.6
CGH1 Goonhilly 87.51 340⇑eP P 02 59 11.3 -0.1
LPG La Plagne 87.51 330 eP P 02 59 11.8 +0.2
comp=Z,696nm,1.0s,mb6.5
GENL Genova Univers 87.52 328 P P 02 59 11.7 0.0
CPZ Penzance 87.53 340⇑eP P 02 59 12.0 +0.4
CPZ AMb AMB 02 59 17.5
comp=Z,431nm,1.6s,mb6.4
HYF Humbligny 87.53 334 eP P 02 59 11.9 +0.3
ORI Oriolo Calabro 87.58 321 P P 02 59 11.9 -0.2
PCP Pian Castagno 87.58 329 P P 02 59 10.3 -1.6
RSP Reno Superiore 87.60 330 P P 02 59 12.1 0.0
SMF Signal de Mont 87.64 333 eP P 02 59 12.1 -0.1
comp=Z,2μm,1.3s,mb6.8
CSSN Cassano Irpino 87.65 323 P P 02 59 12.9 +0.5
AVF Avril sur Loir 87.69 333 eP P 02 59 12.4 0.0
comp=Z,2μm,1.1s,mb6.9
GRFL Gerfalco 87.69 327 P P 02 59 11.5 -1.0
GRR Gorron 87.72 336 eP P 02 59 12.7 +0.2
comp=Z,2μm,1.2s,mb6.9
SGO Sicignano 87.75 322 P P 02 59 12.1 -0.8
CERT Cerreto 87.75 325 P P 02 59 14.0 +1.2
FENE Fenestrelle 87.78 330 P P 02 59 12.3 -0.6
BHB Bricherasio 87.85 330 P P 02 59 12.3 -1.0
BNI Bardonecchia 87.91 330⇑iP P 02 59 13.3 -0.2
comp=Z,95nm,0.8s,mb6.1
RRL Cesana Torines 87.98 330 P P 02 59 12.5 -1.3
FIN Finale Ligure 87.99 329 P P 02 59 12.2 -1.7
GDM Grand'Maison 88.00 331 eP P 02 59 14.9 +1.0
MA9 Marino 88.04 325 P P 02 59 14.6 +0.4
ROB Roburent 88.06 329 P P 02 59 13.6 -0.6
BGF Bois d'Agland 88.07 333 eP P 02 59 14.2 0.0
comp=Z,2μm,1.7s,mb6.7
WMOK Wichita Mounta 88.07 46⇑eP P 02 59 14.3 -0.2
comp=Z,91nm,0.9s,mb6.0
WMOK LR LR
comp=Z,30μm,22.0s,MS6.7
WMOK Wichita Mounta 88.07 46⇑eP P 02 59 14.4 -0.1
WMOK pmax pmax
comp=Z,91nm,0.9s,mb6.0
WMOK MLR MLR
comp=Z,30μm,22.0s,MS6.7
TRBA At Turbah 88.09 285⇑eP P 02 59 15.3 +0.3
TIP Timpagrande 88.10 321⇑iP P 02 59 14.4 -0.1
GRN Grenoble 88.11 331 eP P 02 59 15.7 +1.2
MBDF Montbardon 88.14 330 eP P 02 59 13.9 -0.7
comp=Z,225nm,0.7s,mb6.2
MONE Monesi 88.28 329 P P 02 59 13.9 -1.4
PLDF La Plantade 88.29 332 eP P 02 59 16.5 +1.2
ENR Entracque 88.30 329 P P 02 59 14.1 -1.3
STV2 Anna di Valdie 88.32 329 P P 02 59 13.9 -1.6
STV Sta Anna Valdi 88.32 329 P P 02 59 13.1 -2.4
ORIF Oris-en-Rattie 88.33 331 eP P 02 59 15.5 0.0
comp=Z,320nm,1.0s,mb6.2
ORIF eR
comp=Z,209μm,22.0s
SURF Saint Ours 88.33 330 eP P 02 59 16.6 +1.1
SGMF Saint Gilles 88.36 337 eP P 02 59 15.9 +0.3
comp=Z,2μm,1.4s,mb6.8
IMI Imperia 88.37 329 P P 02 59 14.8 -1.0
AGO Saint Agoulin 88.40 333 eP P 02 59 16.7 +0.9
SAOF Saorge 88.44 329 eP P 02 59 18.4 +2.3
AUTN L'Aution 88.49 329 eP P 02 59 19.6 +3.3
AUTN L'Aution 88.49 329 eP P 02 59 17.2 +0.9
AUTN L'Aution 88.49 329 eP P 02 59 17.2 +0.9
ROSF Rostrenen 88.51 338 eP P 02 59 16.6 +0.3
comp=Z,2μm,1.4s,mb6.8
TCF Toulx Ste Croi 88.52 333 eP P 02 59 16.6 +0.2
comp=Z,2μm,1.7s,mb6.9
GRI Girifalco 88.54 321 P P 02 59 16.6 -0.1
TOUF Mont Tournerai 88.55 329 eP P 02 59 17.5 +0.9
SBF Sospel 88.59 329 eP P 02 59 16.2 -0.6
comp=Z,419nm,0.9s,mb6.5
TBI Tubuai 88.65 121 eP P 02 59 26.5 +8.9
comp=Z,217nm,1.0s,mb6.5
CFF Clermont-Ferra 88.65 333 eP P 02 59 18.4 +1.3
MVIF Mont Vial 88.68 329 eP P 02 59 18.0 +0.8
REVF Revere 88.72 329 eP P 02 59 19.2 +1.8
VIVF Saint-Julien-l 88.85 331 eP P 02 59 17.9 -0.1
QUIF Quistinic 88.85 337 eP P 02 59 17.9 0.0
CALN Calern 88.91 329 eP P 02 59 19.4 +1.1
LTX Lajitas 88.97 53⇑eP P 02 59 19.0 0.0
comp=Z,76nm,0.8s,mb6.1
LTX LR LR
comp=Z,35μm,21.0s,MS6.8
LTX Lajitas 88.97 53⇑eP P 02 59 19.0 0.0
LTX pmax pmax
comp=Z,76nm,0.8s,mb6.1
LTX MLR MLR
comp=Z,35μm,21.0s,MS6.8
TXAR Lajitas Array 88.97 53 P P 02 59 19.1 +0.1
comp=Z,21nm,0.6s,mb5.6,baz=301,slow=3.1,SNR=147

TXAR S 03 09 45.0
comp=Z,1.5nm,1.0s,baz=74,slow=6.6,SNR=2.3
TXAR PKKPbc 03 16 59.2
comp=Z,1.3nm,0.7s,baz=143,slow=4.0,SNR=5.2
TXAR PKPPKP 03 25 09.8
comp=Z,0.2nm,0.4s,baz=45,slow=1.3,SNR=4.4
TXAR LR LR 03 33 32.1
comp=Z,37μm,22.0s,MS6.8,baz=315,slow=32
TXAR Lajitas Array 88.97 53 P P 02 59 19.1 +0.1
TXAR S 03 09 45.0
TXAR PKKPbc 03 16 59.2
TXAR P'P' 03 25 09.8
TXAR LR LR 03 33 32.1
PGF Pioggiola 89.03 327 eP P 02 59 18.0 -0.9
comp=Z,447nm,1.2s,mb6.4
LBL Lubilhac 89.06 332 eP P 02 59 20.2 +1.2
MFF Saint Martin d 89.06 335 eP P 02 59 19.3 +0.3
comp=Z,821nm,1.1s,mb6.7
FRF La Foret Royal 89.16 329 eP P 02 59 19.0 -0.5
STR5 Stromboli 5 89.17 321 P P 02 59 19.7 0.0
SMRF Simiane la Rot 89.24 330 eP P 02 59 19.8 -0.1
SCLL Scilla 89.33 321 P P 02 59 22.4 +1.9
LMR La Mourre 89.41 329 eP P 02 59 19.7 -1.0
MSI Messina ING 89.45 321 P P 02 59 22.6 +1.6
SLNA Salina 89.53 321 P P 02 59 22.9 +1.5
MTTG Motta San Giov 89.54 321 P P 02 59 22.0 +0.5
CCM Cathedral Cave 89.61 39 eP P 02 59 21.5 -0.3
comp=Z,239nm,0.9s,mb6.5
CCM epP pP 02 59 35.1 +1.6
CCM LR LR
comp=Z,26μm,21.0s,MS6.6
CCM Cathedral Cave 89.61 39 eP P 02 59 21.5 -0.3
CCM e*PP pP 02 59 35.1 +1.6
CCM pmax pmax
comp=Z,239nm,0.9s,mb6.5
CCM MLR MLR
comp=Z,26μm,21.0s,MS6.6
RJF Les Rejaudoux 89.62 333 eP P 02 59 21.8 +0.2
comp=Z,2μm,1.7s,mb6.8
RJF eR
comp=Z,103μm,19.2s
RJF Les Rejaudoux 89.62 333 eP P 02 59 21.8 +0.2
RJF pmax pmax
comp=Z,811nm,1.7s,mb6.8
RJF MLR MLR
comp=Z,103μm,19.3s,MS7.3
SLM Saint Louis 89.65 38 eP P 02 59 21.5 -0.5
comp=Z,204nm,0.8s,mb6.5
SLM epP pP 02 59 35.1 +1.4
SLM Saint Louis 89.65 38 eP P 02 59 21.5 -0.5
SLM e*PP pP 02 59 35.1 +1.3
SLM pmax pmax
comp=Z,204nm,0.8s,mb6.5
CAF Calviac 89.75 333 eP P 02 59 22.7 +0.4
LASF Ste Croix 89.82 331 eP P 02 59 22.7 +0.1
comp=Z,1μm,1.9s,mb6.7
FVM French Village 90.07 39⇑iP P 02 59 23.8 -0.2
comp=Z,110nm,0.9s,mb6.2
FVM epP pP 02 59 37.2 +1.5
FVM French Village 90.07 39⇑iP P 02 59 23.8 -0.1
FVM e*PP pP 02 59 37.3 +1.6
FVM pmax pmax
comp=Z,110nm,0.9s,mb6.2
LFF La Frestale 90.21 334 eP P 02 59 24.7 +0.3
comp=Z,1μm,1.2s,mb6.7
LFF La Frestale 90.21 334 eP P 02 59 24.7 +0.3
LFF pmax pmax
comp=Z,504nm,1.2s,mb6.7
USI Ustica 90.22 323 P P 02 59 25.9 +1.3
AGST Augusta-Monte 90.35 320 P P 02 59 28.1 +2.8
DGI Dorgali Grotta 90.58 326 P P 02 59 28.3 +2.0
VAE Valguarnera 90.58 321 LR LR 03 45 23.5
comp=Z,140μm,18.4s,MS7.4,baz=46,slow=39
PZI Palazzolo 90.64 320 P P 02 59 29.0 +2.3
MSNY Massena 90.72 25⇑eP P 02 59 26.6 -0.2
BLO Bloomington 90.99 36⇑eP P 02 59 28.1 -0.1
comp=Z,56nm,0.8s,mb5.9
BLO Bloomington 90.99 36⇑eP P 02 59 28.1 -0.1
BLO pmax pmax
comp=Z,56nm,0.8s,mb6.0
ERC Erice 91.03 322 P P 02 59 31.2 +2.7
MTLF Montolieu 91.06 332 eP P 02 59 28.5 0.0
comp=Z,1μm,1.8s,mb6.6
MTLF Montolieu 91.06 332 eP P 02 59 28.5 0.0
MTLF pmax pmax
comp=Z,586nm,1.8s,mb6.6
LVI Isola Levanzo 91.19 323 P P 02 59 30.0 +0.8
LRDF Laroque-de-Fa 91.29 332 eP P 02 59 30.1 +0.6
FRNY Flat Rock 91.29 25 eP P 02 59 28.5 -1.0
PQI Presque Isle 91.30 20 eP P 02 59 25.0 -4.5
comp=Z,904nm,1.4s,mb6.9
PQI LR LR
comp=Z,101μm,22.0s,MS7.2
LPEF Le Peyrat 91.51 332 eP P 02 59 31.3 +0.7
SJAF Saint Jean de 91.55 331 eP P 02 59 32.4 +1.7
UALR University of 91.57 42⇑eP P 02 59 30.8 -0.3
comp=Z,43nm,0.8s,mb5.8
UALR epP pP 02 59 44.3 +1.5
EJON La Jonquera 91.57 331 P P 02 59 31.7 +0.8
comp=Z,1μm,3.5s
FILF Fillols 91.60 331 eP P 02 59 32.4 +1.4
GENY Geneseo 91.62 28 eP P 02 59 32.8 +1.8
GENY esP sP 02 59 46.5 -0.3
ALLY Alegheny Colle 91.68 30 eP P 02 59 32.6 +1.3
ALLY epP pP 02 59 44.7 +1.5
MLS Moulis 91.80 332 eP P 02 59 32.1 +0.2
HBAR Harrisburg 91.84 41 eP P 02 59 32.3 0.0
HBAR epP pP 02 59 46.3 +2.2
GNAR Gosnell 91.85 40 eP P 02 59 32.4 +0.1
WCI Wyandotte Cave 91.86 36⇑eP P 02 59 32.0 -0.3
comp=Z,76nm,0.8s,mb6.1
WCI LR LR
comp=Z,33μm,22.0s,MS6.7
WCI Wyandotte Cave 91.86 36⇑eP P 02 59 32.0 -0.3
WCI pmax pmax
comp=Z,76nm,0.8s,mb6.1
WCI MLR MLR
comp=Z,33μm,22.0s,MS6.7
SALF Salau 91.94 332 eP P 02 59 34.3 +1.8
MIV Mineville/With 91.98 25 eP P 02 59 33.4 +0.7
MELF Melles 92.00 333 eP P 02 59 34.0 +1.2
EPF Esparros 92.01 333 eP P 02 59 32.4 -0.4
comp=Z,262nm,1.2s,mb6.1
EPF Esparros 92.01 333 eP P 02 59 32.4 -0.4
EPF pmax pmax
comp=Z,131nm,1.2s,mb6.1
LABF Labassere 92.09 333 eP P 02 59 35.3 +2.1
UTMT University of 92.13 39 eP P 02 59 36.7 +3.2
comp=Z,618nm,1.1s,mb6.8
RESF Ens 92.21 333 eP P 02 59 35.0 +1.3
VIEF Viey 92.25 333 eP P 02 59 36.2 +2.2
ORDF Ordiarp 92.30 334 eP P 02 59 35.2 +1.0
OSSF Osses 92.38 334 eP P 02 59 36.6 +2.1
EBIE Bielsa 92.38 333 P P 02 59 36.3 +1.8
comp=Z,2μm,3.0s
ETSF Etsaut 92.45 334 eP P 02 59 35.5 +0.7
SJPF Ste Jean 92.49 334 eP P 02 59 35.3 +0.3
EALK Alkurruntz 92.49 334 P P 02 59 36.6 +1.6
comp=Z,2μm,2.8s,mb6.8
FDAF Les Forges d'A 92.52 333 eP P 02 59 37.3 +2.1
ACCN Adirondack Com 92.55 25 eP P 02 59 35.1 -0.2
EMIR Miracle 92.55 332 P P 02 59 35.8 +0.5
comp=Z,2μm,2.6s,mb7.0
NATX Nacogdoches 92.59 46 eP P 02 59 37.1 +1.3
comp=Z,102nm,0.9s,mb6.2
NATX epP pP 02 59 49.5 +1.9
NATX LR LR
comp=Z,71μm,22.0s,MS7.1
HNH Hanover 92.72 24 eP P 02 59 36.8 +0.8
comp=Z,8.2nm,1.1s
HNH esP sP 02 59 50.2 -1.5
EGRA Graus 92.75 333 P P 02 59 37.9 +1.6
comp=Z,110nm,1.0s,mb6.2
WVL Waterville 92.76 22 eP P 02 59 34.4 -1.8
comp=Z,226nm,1.0s,mb6.5
WVL LR LR
comp=Z,150μm,20.0s,MS7.4
BINY Binghamton 92.78 27⇑eP P 02 59 36.3 -0.1
comp=Z,63nm,1.0s,mb6.0
BINY LR LR
comp=Z,45μm,20.0s,MS6.9
WVT Waverly 92.81 38⇑iP P 02 59 36.3 -0.4
comp=Z,58nm,0.8s,mb6.1
WVT LR LR
comp=Z,40μm,22.0s,MS6.8

WVT	**Waverly**	**92.81**	**38**	⇑*i*P	**P**	**02 59 36.3**	**-0.4**
WVT				pmax	pmax		
	comp=Z,58nm,0.8s,mb6.1						
WVT				MLR	MLR		
	comp=Z,40μm,22.0s,MS6.8						
ELAN	**Lanestosa**	**93.13**	**336**	P	**P**	**02 59 39.6**	**+1.6**
	comp=Z,2μm,2.4s,mb7.0						
FFD	**Franklin Falls**	**93.13**	**24**	*e*P	**P**	**02 59 38.1**	**+0.2**
	comp=Z,90nm,0.7s,mb6.3						
EPOB	**Poblet**	**93.20**	**332**	P	**P**	**02 59 38.6**	**+0.3**
	comp=Z,2μm,2.9s,mb7.0						
EMMW	**East Machias**	**93.26**	**21**	*e*P	**P**	**02 59 39.0**	**+0.5**
	comp=Z,268nm,0.9s,mb6.7						
EMMW				*e*pP	pP	02 59 50.6	+0.3
EMMW				LR	LR		
	comp=Z,109μm,21.0s,MS7.3						
OXF	**Oxford**	**93.30**	**40**	P	**P**	**02 59 38.4**	**-0.5**
	comp=Z,321nm,1.2s,mb6.6						
OXF				*e*pP	pP	02 59 52.0	+1.3
OXF				*e*PKPdf		03 04 18.5	
OXF				LR	LR		
	comp=Z,38μm,22.0s,MS6.8						
OXF	**Oxford**	**93.30**	**40**	P	**P**	**02 59 38.4**	**-0.5**
OXF				*e**PP	pP	02 59 52.0	+1.3
OXF				pmax	pmax		
	comp=Z,321nm,1.2s,mb6.6						
OXF				MLR	MLR		
	comp=Z,38μm,22.0s,MS6.8						
MCWV	**Mont Chateau**	**93.49**	**31**	PFAKE		02 59 50.0	+10
MCWV				LR	LR		
	comp=Z,37μm,20.0s,MS6.8						
PLAL	**Pickwick Lake**	**93.60**	**39**	*e*P	**P**	**02 59 39.6**	**-0.7**
	comp=Z,29nm,0.9s,mb5.7						
PLAL				LR	LR		
	comp=Z,34μm,21.0s,MS6.8						
EARI	**Arriondas**	**93.63**	**337**	P	**P**	**02 59 39.9**	**-0.3**
	comp=Z,1μm,2.9s,mb6.9						
ERTA	**Horta de San J**	**93.82**	**332**	P	**P**	**02 59 42.3**	**+1.2**
	comp=Z,2μm,2.8s,mb7.0						
ETOS	**Mallorca**	**93.90**	**330**	P	**P**	**02 59 43.2**	**+1.7**
	comp=Z,2μm,3.5s						
QUA2	**Belchertown**	**93.97**	**25**	*e*P	**P**	**02 59 45.1**	**+3.3**
	comp=Z,261nm,1.6s,mb6.4						
HRV	**Harvard--Oak R**	**94.03**	**24**	*e*P	**P**	**02 59 42.6**	**+0.5**
	comp=Z,51nm,1.0s,mb5.9						
HRV				LR	LR		
	comp=Z,45μm,20.0s,MS6.9						
HRV	**Harvard--Oak R**	**94.03**	**24**	*e*P	**P**	**02 59 42.6**	**+0.6**
HRV				pmax	pmax		
	comp=Z,51nm,1.0s,mb5.9						
HRV				MLR	MLR		
	comp=Z,45μm,20.0s,MS6.9						
EPON	**Pontenova**	**94.19**	**338**	P	**P**	**02 59 43.9**	**+1.2**
	comp=Z,2μm,2.4s,mb7.0						
WES	**Weston**	**94.22**	**24**	*e*P	**P**	**02 59 42.0**	**-0.9**
	comp=Z,121nm,0.9s,mb6.3						
WES				LR	LR		
	comp=Z,58μm,22.0s,MS7.0						
WES	**Weston**	**94.22**	**24**	*e*P	**P**	**02 59 42.0**	**-0.9**
WES				pmax	pmax		
	comp=Z,121nm,0.9s,mb6.3						
WES				MLR	MLR		
	comp=Z,58μm,22.0s,MS7.0						
SWET	**Sewanee**	**94.46**	**38**	*e*P	**P**	**02 59 42.2**	**-2.0**
TZTN	**Tazewell**	**94.49**	**35**	*e*P	**P**	**02 59 44.0**	**-0.3**
PAL	**Palisades**	**94.57**	**27**	*e*P	**P**	**02 59 46.2**	**+1.6**
	comp=Z,23nm,0.8s,mb5.7						
CMAH	**Djebel Manchou**	**94.59**	**325**	P	**P**	**02 59 45.0**	**+0.3**
EMOS	**Mosqueruela**	**94.64**	**332**	P	**P**	**02 59 45.2**	**+0.3**
	comp=Z,1μm,2.8s,mb6.9						
CAEH	**`Ain El Ouahch**	**94.72**	**325**	P	**P**	**02 59 48.0**	**+2.7**
CPNY	**Central Park**	**94.75**	**27**	*e*P	**P**	**02 59 48.5**	**+3.1**
FWV	**Forest Hill**	**94.84**	**33**	*e*P	**P**	**02 59 47.2**	**+1.3**
ABSA	**Djebel Ababsia**	**94.85**	**325**	P	**P**	**02 59 48.0**	**+2.0**
CPCT	**Cooper Cave**	**94.94**	**37**	*e*P	**P**	**02 59 45.2**	**-1.2**
STS	**Santiago**	**95.00**	**339**	P	**P**	**02 59 47.3**	**+0.8**
	comp=Z,153nm,1.4s,mb6.2						
STS	**Santiago**	**95.00**	**339**	P	**P**	**02 59 47.3**	**+0.8**
STS				pmax	pmax		
	comp=Z,153nm,1.4s,mb6.2						
ERUA	**La Rua**	**95.05**	**338**	P	**P**	**02 59 47.8**	**+1.1**
	comp=Z,291nm,1.6s,mb6.5						
ERUA	**La Rua**	**95.05**	**338**	P	**P**	**02 59 47.8**	**+1.1**
ERUA				pmax	pmax		
	comp=Z,291nm,1.6s,mb6.5						
EMAZ	**Mazaricos**	**95.07**	**339**	P	**P**	**02 59 48.3**	**+1.5**
	comp=Z,1μm,3.1s						
CKFL	**Kef-Lekhel**	**95.09**	**325**	P	**P**	**02 59 49.0**	**+1.9**
EIBI	**Ibiza**	**95.11**	**330**	P	**P**	**02 59 46.6**	**-0.5**
	comp=Z,1μm,2.7s,mb6.9						
ELN	**Prospectdale**	**95.16**	**33**	*e*P	**P**	**02 59 49.1**	**+1.7**
CASM	**Ain Smara**	**95.31**	**325**	P	**P**	**02 59 50.0**	**+1.9**
BLA	**Blacksburg**	**95.32**	**33**	*e*P	**P**	**02 59 47.6**	**-0.5**
	comp=Z,132nm,0.9s,mb6.4						
BLA				LR	LR		
	comp=Z,47μm,21.0s,MS6.9						
BLA	**Blacksburg**	**95.32**	**33**	*e*P	**P**	**02 59 47.6**	**-0.5**
BLA				pmax	pmax		
	comp=Z,132nm,0.9s,mb6.4						
BLA				MLR	MLR		
	comp=Z,47μm,21.0s,MS6.9						
ECAL	**Calabor**	**95.33**	**337**	P	**P**	**02 59 48.4**	**+0.4**
	comp=Z,2μm,2.7s,mb7.0						
DFRA	**Djebel Bou Aff**	**95.34**	**326**	P	**P**	**02 59 50.0**	**+1.8**
MYNC	**Murphy**	**95.43**	**37**	PFAKE		03 00 00.0	+11
MYNC				LR	LR		
	comp=Z,45μm,22.0s,MS6.9						
PBRG	**Braganca**	**95.46**	**337**	*e*P	**P**	**02 59 50.6**	**+2.0**
	comp=Z,82nm,1.9s,mb5.8						
ECHE	**Chera**	**95.50**	**332**	P	**P**	**02 59 50.2**	**+1.3**
	comp=Z,84nm,1.4s,mb6.0						
ECHE	**Chera**	**95.50**	**332**	P	**P**	**02 59 50.2**	**+1.4**
ECHE				pmax	pmax		
	comp=Z,84nm,1.4s,mb6.0						
CTEI	**Djebel Teioual**	**95.51**	**325**	P	**P**	**02 59 51.0**	**+2.0**
LRAL	**Lakeview Retre**	**95.69**	**40**	*e*P	**P**	**02 59 49.8**	**-0.1**
	comp=Z,14nm,1.0s,mb5.4						
LRAL				LR	LR		
	comp=Z,37μm,21.0s,MS6.8						
CBN	**Corbin**	**95.72**	**30**	*e*P	**P**	**02 59 51.8**	**+1.9**
	comp=Z,47nm,0.9s,mb5.9						
CBN				LR	LR		
	comp=Z,52μm,21.0s,MS7.0						
ELOB	**Lobios**	**95.80**	**338**	P	**P**	**02 59 51.4**	**+1.2**
	comp=Z,1μm,3.2s						
SET	**Setif**	**95.84**	**326**	P	**P**	**02 59 54.0**	**+3.5**
CKHR	**Kef el Ahmar**	**95.94**	**326**	P	**P**	**02 59 54.0**	**+3.1**
EBEN	**Beniarda**	**96.00**	**331**	P	**P**	**02 59 52.2**	**+1.1**
	comp=Z,2μm,2.9s,mb6.9						
CMER	**Merouana**	**96.11**	**325**	P	**P**	**02 59 56.0**	**+4.3**
PVRL	**Vila Real**	**96.24**	**338**	*e*P	**P**	**02 59 54.4**	**+2.3**
	comp=Z,62nm,1.6s,mb5.8						
PVRL				*e*PP	PP	03 03 47.2	-0.9
ESDC	**Sonseca Array**	**96.49**	**334**	P	**P**	**02 59 52.8**	**-0.5**
	comp=Z,11nm,0.9s,baz=18,slow=3.9,SNR=28						
ESDC				PP	PP	03 03 46.9	-3.2
	comp=Z,42nm,1.0s,baz=24,slow=6.6,SNR=5.6						
ESDC				S		03 10 24.0	
	comp=Z,1.2nm,0.8s,baz=90,slow=3.8,SNR=2.6						
ESDC	**Sonseca Array**	**96.49**	**334**	P	**P**	**02 59 53.9**	**+0.6**
	comp=Z,102nm,1.6s,mb6.0						
ESLA	**Sonseca Array**	**96.49**	**334**	*e*P	**P**	**02 59 54.0**	**+0.7**
	comp=Z,11nm,1.1s						
ESLA				*e*pP	pP	03 00 05.0	-0.1
ETOB	**Tobarra**	**96.55**	**332**	P	**P**	**02 59 54.8**	**+1.2**
	comp=Z,2μm,3.4s						
ATAF	**Djebel Tarf**	**96.61**	**327**	P	**P**	**02 59 57.3**	**+3.4**
AKET	**Djebel Ketaf**	**96.63**	**327**	P	**P**	**02 59 57.7**	**+3.7**
ADJB	**Djebel Djouab**	**96.72**	**327**	P	**P**	**02 59 57.7**	**+3.2**
EMHD	**Djebel Mahouad**	**96.89**	**328**	P	**P**	**02 59 59.0**	**+3.7**
EVIA	**Vianos**	**96.90**	**333**	P	**P**	**02 59 55.4**	**+0.2**
	comp=Z,74nm,0.9s,mb6.1						
EVIA	**Vianos**	**96.90**	**333**	P	**P**	**02 59 55.4**	**+0.2**
EVIA				pmax	pmax		
	comp=Z,74nm,0.9s,mb6.1						
MTE	**Manteigas**	**96.99**	**337**	*e*P	**P**	**02 59 56.4**	**+0.8**
	comp=Z,71nm,1.6s,mb5.8						
MTE				*e*SS	SS	03 18 02.9	+10
MTE				*e*LQ		03 25 01.3	
MTE				*e*LR	LR	03 32 03.0	
	comp=Z,159μm,29.8s						
MTE	**Manteigas**	**96.99**	**337**	⇑*i*P	**P**	**02 59 56.5**	**+0.9**
	comp=Z,60nm,1.2s,mb5.9						
EMUR	**La Murta**	**97.14**	**332**	P	**P**	**02 59 56.0**	**-0.3**
	comp=Z,1μm,3.5s						
PCBR	**Castelo Branco**	**97.48**	**337**	*e*P	**P**	**02 59 59.6**	**+1.8**
	comp=Z,38nm,2.1s,mb5.5						
PCBR				*e*PP	PP	03 03 56.5	-1.6
EHUE	**Huescar**	**97.66**	**333**	P	**P**	**02 59 58.0**	**-0.7**
	comp=Z,40nm,1.2s,mb5.8						
EHUE	**Huescar**	**97.66**	**333**	P	**P**	**02 59 58.0**	**-0.7**
EHUE				pmax	pmax		
	comp=Z,40nm,1.2s,mb5.8						
EBAN	**Banos Encina**	**97.78**	**334**	P	**P**	**02 59 59.8**	**+0.6**
	comp=Z,102nm,1.5s,mb6.1						
EBAN	**Banos Encina**	**97.78**	**334**	P	**P**	**02 59 59.8**	**+0.6**
EBAN				pmax	pmax		
	comp=Z,103nm,1.5s,mb6.1						
EQES	**Quesada**	**97.84**	**333**	P	**P**	**02 59 59.4**	**-0.1**
	comp=Z,2μm,3.4s						
PTOM	**Tomar**	**97.97**	**337**	*e*P	**P**	**03 00 01.5**	**+1.5**
PTOM				*e*PP	PP	03 03 59.2	-2.8
EADA	**Adamuz**	**98.05**	**334**	P	**P**	**03 00 00.4**	**-0.1**
	comp=Z,752nm,2.7s,mb6.7						
ENIJ	**Nijar**	**98.27**	**332**	P	**P**	**03 00 01.2**	**-0.2**
	comp=Z,2.8nm,0.7s						
EBAD	**Badajoz**	**98.33**	**336**	P	**P**	**03 00 01.3**	**-0.3**
	comp=Z,943nm,3.4s						
EBER	**Berja**	**98.58**	**332**	P	**P**	**03 00 04.2**	**+1.3**
	comp=Z,858nm,3.2s						
RKT	**Rikitea**	**98.68**	**112**	*e*LR	LR	03 31 13.7	
	comp=Z,226μm,28.8s,baz=307						
ERON	**Agron**	**98.81**	**333**	P	**P**	**03 00 03.9**	**0.0**
	comp=Z,20nm,0.7s,mb5.8						
ELOJ	**Sierra Loja**	**98.81**	**333**	P	**P**	**03 00 04.1**	**+0.2**
	comp=Z,46nm,1.0s,mb6.0						
ELOJ	**Sierra Loja**	**98.81**	**333**	P	**P**	**03 00 04.1**	**+0.2**
ELOJ				pmax	pmax		
	comp=Z,46nm,1.0s,mb6.0						
EVO	**Evora**	**98.84**	**337**	*e*P	**P**	**03 00 04.4**	**+0.4**
	comp=Z,169nm,1.6s,mb6.0						
EVO				*e*R			
	comp=Z,246μm,22.5s						
PLOU	**Loures**	**98.87**	**338**	*e*P	**P**	**03 00 06.3**	**+2.2**
NHSC	**New Hope**	**98.88**	**35**	*e*P	**P**	**03 00 07.0**	**+2.7**
	comp=Z,66nm,0.9s,mb6.2						
NHSC				LR	LR		
	comp=Z,61μm,21.0s,MS7.1						
LIS	**Lisbon**	**99.02**	**338**	*e*P	**P**	**03 00 08.0**	**+3.2**
LIS				*e*		03 00 14.2	
	baz=216,slow=5.3						
LIS				*e*SS	SS	03 18 30.9	+10
LIS				*e*SS	SS	03 18 31.0	+10
LIS				*e*SS	SS	03 18 32.0	+11
LIS				*e*SS	SS	03 18 32.0	+11
LIS				AMS	AMS	03 48 58.3	
	comp=Z,139μm,18.8s,MS7.5						
LIS	**Lisbon**	**99.02**	**338**	*e*P	**P**	**03 00 08.0**	**+3.2**
LIS				*e*SS	SS	03 18 30.9	+10
	comp=Z,139μm,18.8s						
CSU	**Charleston Sou**	**99.03**	**35**	*e*P	**P**	**03 00 08.0**	**+3.1**
RGRS	**Roger Stewart**	**99.04**	**35**	*e*P	**P**	**03 00 08.0**	**+2.9**
EMIN	**Mina Concepcio**	**99.11**	**335**	P	**P**	**03 00 04.3**	**-1.0**
	comp=Z,869nm,2.7s,mb6.8						
PBEJ	**Beja**	**99.26**	**336**	*e*P	**P**	**03 00 07.9**	**+2.0**
EMIJ	**Mijas**	**99.56**	**334**	P	**P**	**03 00 08.1**	**+0.8**
	comp=Z,371nm,3.0s						
EGRO	**El Granado**	**99.59**	**336**	P	**P**	**03 00 08.5**	**+1.0**
	comp=Z,630nm,2.8s,mb6.5						
ESPR	**Espera**	**99.66**	**334**	P	**P**	**03 00 08.9**	**+1.1**
	comp=Z,878nm,2.8s,mb6.7						
PTEO	**Sao Teotonio**	**99.97**	**337**	*e*P	**P**	**03 00 07.8**	**-1.4**
PTEO				*e*PP	PP	03 04 14.6	-2.4
KMBO	**Kilima Mbogo**	**102.36**	**278**	P	Pdif	03 00 19.6	-0.8
	comp=Z,14nm,1.1s,baz=28,slow=6.6,SNR=23						
KMBO				PP	PP	03 04 32.2	-3.5
	comp=Z,22nm,1.0s,baz=39,slow=11,SNR=4.5						
DWPF	**Disney**	**102.46**	**39**	PFAKE		03 00 30.0	+9.4
DWPF				LR	LR		
	comp=Z,34μm,21.0s,MS6.8						
ADH	**Angra Heroismo**	**102.89**	**351**	*e*P	Pdif	03 00 25.0	+2.8
ADH	**Angra Heroismo**	**102.89**	**351**	*e*PP	PP	03 04 45.0	+5.6
ADH				*e*		03 14 00.0	
ADH				*e*		03 15 00.0	
ADH				*e*SS	SS	03 19 10.0	-5.4
ADH	**Angra Heroismo**	**102.89**	**351**	*e*LQ		03 29 30.0	
ADH				*e*LR	LR	03 35 00.0	
CALA	**Caldeira**	**103.13**	**353**	*e*PP	PP	03 04 35.4	-5.7
PICO	**Pico**	**103.18**	**352**	*e*PP	PP	03 04 33.3	-8.2
PTCN	**Pitcairn Islan**	**103.41**	**111**	PFAKE		03 00 40.0	+15
PTCN				LR	LR		
	comp=Z,37μm,20.0s,MS6.9						
CMLA	**Cha da Macela**	**103.56**	**350**	PFAKE		03 00 40.0	+15
CMLA				LR	LR		
	comp=Z,9μm,20.0s,MS6.3						
PDA	**Ponta Delgada**	**103.59**	**350**	*i* P	Pdif	03 00 30.0	+4.7
PDA	**Ponta Delgada**	**103.59**	**350**	*i* PP	PP	03 04 45.0	+0.6
PDA				*e*		03 11 10.0	
PDA				*i*		03 14 15.0	
PDA				*e*SS	SS	03 19 20.0	-4.6
PDA	**Ponta Delgada**	**103.59**	**350**	*e*LQ		03 29 35.0	
PDA				*i* LR	LR	03 34 23.0	
DRV	**Dumont d'Urvil**	**104.55**	**181**	Pdif	Pdif	03 00 31.0	+2.2
DRV	**Dumont d'Urvil**	**104.55**	**181**	PP	PP	03 04 54.0	+3.0
DRV				SKS	SKS	03 11 03.0	-1.4
DRV				SP	SP	03 13 59.0	+2.4
DRV				SS	SS	03 19 44.0	+7.1
BBSR	**BB Station**	**105.48**	**23**	*e*PKPdf		03 04 46.7	
BBSR				LR	LR		
	comp=Z,22μm,21.0s,MS6.7						
SOR	**Soroa**	**106.01**	**43**	*e*P	Pdif	03 00 42.8	+6.5
CASY	**Casey**	**106.96**	**193**	PFAKE		03 05 00.0	
CASY				LR	LR		
	comp=Z,7μm,20.0s,MS6.2						
MBAR	**Mbarara**	**107.07**	**283**	*e*Pdif	Pdif	03 00 43.2	+2.0
	comp=Z,34nm,1.4s						
MBAR				*e*PP	PP	03 05 05.0	-6.3
MBAR				LR	LR		
	comp=Z,16μm,21.0s,MS6.5						
MBAR	**Mbarara**	**107.07**	**283**	*e*P	Pdif	03 00 43.2	+2.0
MBAR				*e*		03 05 05.0	
MBAR				pmax	pmax		
	comp=Z,34nm,1.4s						
MBAR				MLR	MLR		
	comp=Z,16μm,21.0s,MS6.5						
MGV	**Manicaragua**	**108.16**	**41**	*e*P	Pdif	03 00 53.0	+7.2
MIR	**Mirnyy**	**110.97**	**199**	*e*P	Pdif	03 01 09.0	+12
MIR				*e*		03 05 37.0	
MIR				*e*		03 07 56.0	
MIR				*e*		03 21 05.0	
MIR				pmax	pmax		
	comp=N,400nm,7.0s						
MIR				pmax	pmax		
	comp=Z,900nm,5.0s						
MIR				pmax	pmax		
	comp=Z,42nm,1.8s						
MIR				MLR	MLR		
	comp=N,7μm,24.0s,MS6.2						
MIR				MLR	MLR		
	comp=E,5μm,24.0s,MS6.2						
MIR				MLR	MLR		
	comp=Z,15μm,24.0s,MS6.5						
LMGC	**Las Mercedes**	**111.38**	**40**	*e*P	PP	03 05 40.3	-2.0
MOAC	**Moa**	**111.88**	**37**	*e*P	Pdif	03 01 07.2	+5.0
MASC	**Masc**	**112.64**	**37**	*e*P	SP	03 15 18.7	+2.1
	baz=300						
MASC				*e*S	SS	03 21 30.3	+3.0
	comp=N,2.5nm,3.6s						
	comp=E,2.5nm,3.6s						
JTS	**JuntasAbangare**	**114.76**	**53**	PKP	PKPdf	03 05 05.3	+1.4
	comp=E,6.7nm,0.8s,baz=294,slow=17,SNR=1.5						
VNDA	**Vanda**	**116.09**	**175**	PKP	PKPdf	03 05 05.9	+0.8
	comp=E,5.9nm,0.9s,baz=318,slow=4.2,SNR=11						
VNDA				PKKPbc		03 15 41.5	
	comp=E,4.1nm,0.8s,baz=146,slow=1.8,SNR=3.8						
VNDA	**Vanda**	**116.09**	**175**	*e*PKPdf	PKPdf	03 05 06.8	+1.7
VNDA				LR	LR		
	comp=Z,11μm,20.0s,MS6.5						
SBA	**Scott Base**	**116.75**	**174**	*e*PKPdf	PKPdf	03 05 08.3	+1.9
SBA				LR	LR		
	comp=Z,12μm,21.0s,MS6.5						
LSZ	**Lusaka**	**118.01**	**272**	*e*PKPdf	PKPdf	03 05 10.5	+0.5
LSZ				LR	LR		
	comp=Z,36μm,20.0s,MS7.0						
PAYG	**Puerto Ayora**	**119.20**	**65**	PFAKE		03 05 30.0	+17
PAYG				LR	LR		
	comp=Z,33μm,22.0s,MS6.9						
RPN	**Rapa Nui**	**120.18**	**102**	PFAKE		03 05 30.0	+16
RPN				LR	LR		
	comp=Z,20μm,22.0s,MS6.7						
MAW	**Mawson**	**120.83**	**206**	PKP	PKPdf	03 05 14.8	+0.3
	comp=Z,12nm,0.7s,baz=94,slow=6.1,SNR=11						
MAW				PKKPbc		03 15 22.9	
	comp=Z,10nm,0.9s,baz=271,slow=8.5,SNR=5.2						
SDV	**Santo Domingo**	**124.08**	**40**	PKP	PKPdf	03 05 22.9	+1.0
	comp=Z,97nm,0.7s,baz=301,slow=2.4						
SDV	**Santo Domingo**	**124.08**	**40**	*e*PKPdf	PKPdf	03 05 22.4	+0.4
SDV				LR	LR		
	comp=Z,18μm,20.0s,MS6.7						
ROSC	**El Rosal**	**125.43**	**47**	PKP	PKPdf	03 05 26.2	+1.6
	comp=Z,25nm,0.8s,baz=106,slow=10,SNR=9.7						
DBIC	**Dimbokro**	**125.81**	**318**	PKP	PKPdf	03 05 25.7	+0.4
	comp=Z,30nm,0.7s,baz=100,slow=0.9,SNR=15						
DBIC				PP	PP	03 07 16.4	-6.1
	comp=Z,123nm,1.2s,baz=359,slow=9.6,SNR=6.2						
DBIC	**Dimbokro**	**125.81**	**318**	PKP	PKPdf	03 05 25.7	+0.4
DBIC				PP	PP	03 07 16.4	-6.1
LIC	**Lamto**	**126.27**	**318**	*e*PKIKP	PKPdf	03 05 25.8	-0.4
	comp=Z,190nm,0.9s						
QSPA	**South Pole Qui**	**127.94**	**180**	*e*P	PKPdf	03 05 29.1	+1.3
TSUM	**Tsumeb**	**128.56**	**275**	*e*PKPdf	PKPdf	03 05 32.4	+1.9
TSUM				LR	LR		
	comp=Z,49μm,20.0s,MS7.2						
SYO	**Syowa Base**	**129.50**	**207**	⇓P	PKPdf	03 05 23.8	-7.2
SYO	**Syowa Base**	**129.50**	**207**	⇑PKPdf	PKPdf	03 05 32.8	+1.8
SYO	**Syowa Base**	**129.50**	**207**	⇑pPKiKP		03 05 47.3	
SUR	**Sutherland**	**132.42**	**258**	PFAKE		03 05 50.0	+12
SUR				LR	LR		
	comp=Z,11μm,20.0s,MS6.6						
NNA	**Nana**	**136.60**	**64**	PFAKE		03 06 00.0	+14
NNA				LR	LR		
	comp=Z,10μm,22.0s,MS6.5						
NVL	**N'lazarevskaya**	**138.58**	**202**	⇓*i*PKHKP		03 05 41.1	
NVL				*i*		03 05 48.6	
NVL				*i* *SP		03 05 56.1	
NVL				*i* S	PP	03 08 38.6	-4.2
NVL				MLR	MLR		
	comp=Z,180nm,15.2s						
MAIT	**Maitri**	**138.60**	**202**	*e*PKPdf		03 05 31.0	
SNAA	**Sanae**	**142.03**	**197**	*e*	PKPdf	03 05 55.4	+1.6
SNAA	**Sanae**	**142.03**	**197**	*e*	PKPdf	03 06 04.3	+11
SNAA	**Sanae**	**142.03**	**197**	*e*	PKPdf	03 06 09.2	+15
SNAA	**Sanae**	**142.03**	**197**	*e*	PKPdf	03 06 15.8	+22
SNAA	**Sanae**	**142.03**	**197**	*e*	PKPdf	03 06 25.3	+32
SNAA	**Sanae**	**142.03**	**197**	*e*	PP	03 09 06.6	+3.3
SNAA	**Sanae**	**142.03**	**197**	*e*	tx	03 09 25.1	
SNAA	**Sanae**	**142.03**	**197**	*e*	tx	03 09 32.0	
SNAA	**Sanae**	**142.03**	**197**	*e*	tx	03 17 32.0	
SNAA	**Sanae**	**142.03**	**197**	*e*	tx	03 18 51.6	
SNAA	**Sanae**	**142.03**	**197**	*e*P	PKPdf	03 05 51.9	-1.9
SNAA				*e*		03 05 55.4	
SNAA				*e*PKPdf	PKPdf	03 05 55.6	+1.8
SNAA				*e*		03 06 04.3	
SNAA				*e*		03 06 09.2	
SNAA				*e*		03 06 15.8	
SNAA				*e*		03 06 25.3	
SNAA				*e*		03 09 06.6	
SNAA				*e*		03 09 25.1	
SNAA				*e*		03 09 32.0	
SNAA				*e*		03 17 32.0	
SNAA				*e*		03 17 49.5	
SNAA				*e*		03 17 53.8	
SNAA				*e*		03 18 51.6	
SNAA				*e*		03 20 40.9	
SNAA				*e*		03 21 16.3	
SNAA				*e*		03 27 52.1	
SNAA	**Sanae**	**142.03**	**197**	*c i*PKHKP		03 05 48.1	
SAML	**Samuel**	**143.03**	**45**	*e*PKPpre		03 05 54.0	
SAML				*e*PKPdf	PKPdf	03 05 59.0	+1.8
SAML				LR	LR		
	comp=Z,19μm,22.0s,MS6.8						
ARE	**Arequipa**	**143.42**	**63**	*e*P	PKPbc	03 05 57.0	+0.8
VNA2	**Neumayer--Watz**	**143.59**	**196**	*e*	PKPbc	03 06 00.1	+5.0
VNA2	**Neumayer--Watz**	**143.59**	**196**	*e*	PKPbc	03 06 11.4	+16
VNA2	**Neumayer--Watz**	**143.59**	**196**	*e*	PKPbc	03 06 18.0	+23
VNA2	**Neumayer--Watz**	**143.59**	**196**	*e*	PKPbc	03 06 28.8	+34
VNA2	**Neumayer--Watz**	**143.59**	**196**	*e*	PKPbc	03 06 39.2	+44
VNA2	**Neumayer--Watz**	**143.59**	**196**	*e*	PP	03 09 12.2	-0.5
VNA2	**Neumayer--Watz**	**143.59**	**196**	*e*	tx	03 09 31.7	
VNA2	**Neumayer--Watz**	**143.59**	**196**	*e*	tx	03 09 37.7	
VNA2	**Neumayer--Watz**	**143.59**	**196**	*e*	tx	03 16 01.3	
VNA2	**Neumayer--Watz**	**143.59**	**196**	*e*	tx	03 17 21.0	
VNA2	**Neumayer--Watz**	**143.59**	**196**	*e*	tx	03 17 39.1	
VNA2	**Neumayer--Watz**	**143.59**	**196**	*e*	tx	03 17 41.8	
VNA2	**Neumayer--Watz**	**143.59**	**196**	*e*	tx	03 18 51.0	
VNA2	**Neumayer--Watz**	**143.59**	**196**	*e*P	PKPbc	03 05 57.4	+2.3
VNA2				*e*		03 06 00.1	
VNA2				*e*		03 06 11.4	
VNA2				*e*		03 09 12.2	
VNA2				*e*		03 09 31.7	
VNA3	**Neumayer Olymp**	**143.84**	**195**	*e*	PKPbc	03 06 01.5	+5.6
VNA3	**Neumayer Olymp**	**143.84**	**195**	*e*	PKPbc	03 06 12.8	+17
VNA3	**Neumayer Olymp**	**143.84**	**195**	*e*	PKPbc	03 06 18.4	+23
VNA3	**Neumayer Olymp**	**143.84**	**195**	*e*	PKPbc	03 06 29.2	+33

comp=Z,20nm,0.8s,baz=14,slow=21,SNR=1.7
BAO Brasilia Array 155.82 24 PKPdf PKPdf 03 06 18.0 +1.1
TRIS Tristan da Cun 159.73 265 PFAKE
TRIS LR LR 03 06 30.0 +8.7
comp=Z,21μm,22.0s,MS6.9
CPUP Villa Florida 159.79 60 PKP PKPdf 03 06 24.1 +2.5
comp=Z,8.3nm,1.0s,baz=303,slow=2.2,SNR=15
CPUP PKPab PKPab 03 07 03.9 +0.9
comp=Z,22nm,0.9s,baz=321,slow=3.7,SNR=5.8
CPUP Villa Florida 159.79 60 *e*PKPdf PKPdf 03 06 22.9 +1.2
CPUP LR LR
comp=Z,27μm,21.0s,MS7.1
EFI East Falkland 160.45 140 PFAKE
EFI LR LR 03 06 30.0 +8.5
comp=Z,16μm,22.0s
TRQA Tornquist 161.05 97 PFAKE 03 06 40.0 +17
TRQA LR LR
comp=Z,47μm,22.0s
LPA La Plata 163.56 85 *e*PKP PKPdf 03 06 26.0 +0.8
LPA *es*PKP 03 06 46.0
LPA *ep*PKP 03 07 30.0
LPA *e*PP PP 03 11 07.0 +1.4
LPA *e*SKKS 03 17 47.0
comp=Z,34μm,22.0s
CAM4 Nova Friburgo 163.70 16 *e*P PKPdf 03 06 27.7 +2.0
CAM4 *i* 03 06 32.3
CAM4 *i* 03 06 56.0
CAM4 *i* 03 07 21.2
CAM4 *i* 03 07 27.6
CAM4 *i* 03 07 37.0
CAM4 *i* 03 07 44.6

JMA 16 02:52:05.7±0.2, 38.18N×142.15E, h38km±2km, M4.6, 3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.69**	**294**	⇓P	P	02 52 19.2	+0.2
JIO				*e*S	S	02 52 28.4	-0.2
OFUJ	**Ofunato**	**0.97**	**337**	P	P	02 52 22.8	-0.2
OFUJ				*e*S	S	02 52 34.9	-1.0
JMK	**Ichinoseki**	**1.06**	**317**	⇓P	P	02 52 24.6	+0.3
JMM	**Marumori**	**1.12**	**254**	⇓P	P	02 52 25.0	0.0
JMM				*e*S	S	02 52 38.2	-1.3
JOU	**Okura**	**1.18**	**279**	P	P	02 52 26.8	+0.8
JFK	**Kawauchi**	**1.30**	**232**	P	P	02 52 27.0	-0.6
JFK				*e*S	S	02 52 42.3	-1.8
JOM	**Ohasama**	**1.46**	**333**	P	P	02 52 30.3	+0.4
JOM				*e*S	S	02 52 47.9	-0.1
JFT	**Otama**	**1.58**	**246**	P	P	02 52 32.6	+0.9
JFT				*e*S	S	02 52 51.8	+0.7
JYK	**Kaneyama**	**1.59**	**298**	P	P	02 52 32.6	+0.8
JYS	**Shiratake**	**1.64**	**272**	P	P	02 52 33.4	+0.8

JMA 16 02:59:27.3±0.2, 38.29N×142.30E, h26km±2km, M4.1, 2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.77**	**283**	⇓P	Pb	02 59 41.8	-0.1
JIO				S	Sb	02 59 51.1	-0.8
OFUJ	**Ofunato**	**0.93**	**328**	P	Pb	02 59 44.2	-0.5
OFUJ				S	Sb	02 59 56.2	-0.4
JMK	**Ichinoseki**	**1.07**	**308**	P	Pn	02 59 46.7	-0.1
JMM	**Marumori**	**1.26**	**251**	⇓P	Pn	02 59 48.4	-1.1
JOU	**Okura**	**1.29**	**274**	P	Pn	02 59 50.3	+0.4
JOM	**Ohasama**	**1.42**	**327**	P	Pn	02 59 51.8	0.0

JMA 16 02:59:57.4±0.2, 38.30N×142.22E, h33km±2km, M4.0, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.70**	**283**	P	P	03 00 10.7	-0.1
JIO				*e*S	S	03 00 20.0	-0.5
OFUJ	**Ofunato**	**0.89**	**331**	*e*S	S	03 00 25.3	-0.1
JMM	**Marumori**	**1.21**	**249**	*e*S	S	03 00 32.9	-0.6
JOU	**Okura**	**1.23**	**274**	*e*S	S	03 00 35.4	+1.5

JMA 16 03:00:11.9±0.2, 38.26N×142.02E, h41km±2km, M3.7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.56**	**290**	P	P	03 00 23.6	+0.1
JIO				*e*S	S	03 00 31.8	0.0
OFUJ	**Ofunato**	**0.86**	**342**	S	S	03 00 38.8	-0.5
JMM	**Marumori**	**1.04**	**248**	*e*S	S	03 00 43.8	-0.1
JFK	**Kawauchi**	**1.27**	**226**	*e*S	S	03 00 47.7	-2.0

MOS ***16*** *03:16:10.9±1.4, 38.30N×142.19E, h33km, mb4.0/1, Error ellipse: s-maj=17.9km s-min=14.5km az=62.1*
JMA ***16*** *03:16:12.3±0.2, 38.20N×142.10E, h43km±2km, M4.0*
JMA Felt I J1.
IDC ***16*** *03:16:12.2±2.0, 38.01N×142.26E, h46km±18km, mb3.6/7, mb1 3.8/10, mb1mx3.6/23, mbtmp3.9/10, ML3.7/3, Error ellipse: s-maj=34.8km s-min=12.9km az=107.0*
NEIC ***16*** *03:16:15.2±1.9, 37.97N×142.21E, h74km±14km, mb4.5/1, Error ellipse: s-maj=23.7km s-min=15.9km az=118.0*
ISC 16 03:16:11.6±1.2, 38.14N±0.05×142.2E±0.1, h45km±8km, n29, σ0°96/40, mb3.8/9, 8D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.70**	**297**	⇓P	**P**	**03 16 25.2**	**+0.1**
JIO				*e*S	**S**	**03 16 34.1**	**-1.0**
OFUJ	**Ofunato**	**1.01**	**338**	⇓P	**P**	**03 16 28.9**	**-0.5**
OFUJ				*e*S	**S**	**03 16 40.9**	**-1.8**
JMK	**Ichinoseki**	**1.09**	**318**	⇓P	**P**	**03 16 30.7**	**+0.2**
JMM	**Marumori**	**1.10**	**256**	⇓P	**P**	**03 16 30.9**	**+0.1**
JMM				*e*S	**S**	**03 16 44.5**	**-0.7**
JOU	**Okura**	**1.19**	**281**	⇓P	**P**	**03 16 32.7**	**+0.7**
JFK	**Kawauchi**	**1.27**	**233**	⇓P	**P**	**03 16 33.2**	**0.0**
JFK				*e*S	**S**	**03 16 48.2**	**-1.2**
JOM	**Ohasama**	**1.49**	**334**	⇓P	**P**	**03 16 36.3**	**0.0**
JFT	**Otama**	**1.56**	**247**	P	**P**	**03 16 37.8**	**+0.4**
JFT				*e*S	**S**	**03 16 56.7**	**+0.1**
JYK	**Kaneyama**	**1.60**	**299**	⇓P	**P**	**03 16 38.2**	**+0.3**
JYS	**Shiratake**	**1.64**	**273**	P	**P**	**03 16 38.9**	**+0.4**
MJAR	**Matsushiro Arr**	**3.52**	**244**	P	**P**	**03 17 06.0**	**+0.8**
3.4nm,0.3s,baz=67,slow=11,SNR=27							
MJAR				S	**S**	**03 17 53.0**	**+6.9**
4.8nm,0.3s,baz=91,slow=26,SNR=5.8							
MAJO	**Matsushiro**	**3.52**	**244**	*e*P	**P**	**03 17 06.7**	**+1.5**
MAT	**Matsushiro**	**3.52**	**244**	P	**P**	**03 17 06.7**	**+1.5**
MAT				*e*S	**S**	**03 17 45.9**	**-0.2**
MAT	**Matsushiro**	**3.52**	**244**	*e*P	**P**	**03 17 08.0**	**+2.8**
MAT				*e*S	**S**	**03 17 52.0**	**+5.9**
JHJ	**Hachijo jima 2**	**5.37**	**202**	P	**P**	**03 17 28.0**	**-3.2**
12nm,0.3s,baz=38,slow=17,SNR=13							
JHJ				S	**S**	**03 18 27.7**	**-4.9**
12nm,0.3s,baz=246,slow=23,SNR=6.9							
ASAJ	**Asahikawa**	**5.98**	**3**	P	**P**	**03 17 39.9**	**+0.2**
2.0nm,0.3s,baz=210,slow=14,SNR=13							
ASAJ				S	**S**	**03 18 48.5**	**+0.7**
1.5nm,0.3s,baz=180,slow=20,SNR=3.8							
ASAJ	**Asahikawa**	**5.98**	**3**	P	**P**	**03 17 39.9**	**+0.2**
ASAJ				S	**S**	**03 18 48.5**	**+0.7**
ASAJ				pmax	pmax		
comp=Z,2.0nm,0.3s							
JNU	**Nakatsue**	**10.45**	**245**	P	**P**	**03 18 42.6**	**+1.0**
comp=Z,0.7nm,0.3s,baz=315,slow=13,SNR=2.7							
MDJ	**Mudanjiang**	**11.43**	**308**	P	**P**	**03 18 57.5**	**+2.7**
comp=Z,3.1nm,0.4s							
SONM	**Songino Array**	**27.67**	**302**	P	**P**	**03 21 57.3**	**+0.2**
comp=Z,0.3nm,0.4s,mb3.3,baz=114,slow=9.5,SNR=5.5							
ENH	**Enshi**	**28.02**	**264**	*e*P	**P**	**03 21 59.6**	**-0.8**
comp=Z,9.7nm,0.8s,mb4.5							
ZAK	**Zakamensk**	**30.06**	**307**	*e*P	**P**	**03 22 17.5**	**-0.9**
ZAK				pmax	pmax		
comp=Z,1.0nm,0.9s,mb3.5							
ZAL	**Zalesovo**	**41.62**	**311**	P	**P**	**03 23 56.9**	**+0.4**
comp=Z,2.0nm,0.3s,mb4.2,baz=140,slow=7.9,SNR=3.4							
ZAL	**Zalesovo**	**41.62**	**311**	P	**P**	**03 23 56.9**	**+0.4**
MKAR	**Makanchi Array**	**44.03**	**301**	P	**P**	**03 24 16.1**	**-0.2**
comp=Z,1.0nm,0.7s,mb3.6,baz=88,slow=7.3,SNR=4.6							
ILAR	**Eielson Array**	**48.25**	**33**	P	**P**	**03 24 49.1**	**-0.3**
comp=Z,0.7nm,0.8s,mb3.7,baz=270,slow=5.7,SNR=4.8							
FINES	**FINESS Array B**	**68.11**	**332**	P	**P**	**03 27 06.9**	**-1.3**
comp=Z,1.0nm,0.8s,mb3.9,baz=37,slow=9.5,SNR=6.4							
HFS	**Hagfors**	**73.32**	**336**	P	**P**	**03 27 39.7**	**+0.1**
comp=Z,0.7nm,0.4s,mb3.9,baz=27,slow=3.2,SNR=7.4							
NOA	**NORSAR Array B**	**73.39**	**337**	P	**P**	**03 27 40.4**	**+0.4**
comp=Z,0.3nm,0.4s,mb3.6,baz=31,slow=4.3,SNR=3.0							

MOS ***16*** *03:31:47.8±1.3, 38.12N×141.69E, h33km, mb4.7/1, Error ellipse: s-maj=49.4km s-min=22.7km az=95.0*
IDC ***16*** *03:31:51.3±2.8, 38.18N×141.79E, h41km±26km, mb3.5/7, mb1 3.7/10, mb1mx3.5/23, mbtmp3.7/10, ML3.4/3, Error ellipse: s-maj=28.1km s-min=20.4km az=92.0*
JMA ***16*** *03:31:52.0±0.1, 38.19N×141.69E, h51km±1km, M4.1 Broadband fault plane solution: P waves. NP1:φ0°309°, δ18°, λ-157°. NP2:φ0°197°, δ83°, λ-74°. Principal axes: T Plg36°, Azm273°; N Plg16°, Azm15°; P Plg49°, Azm125°;*
JMA Felt II J1.
NEIC ***16*** *03:31:54.3±2.0, 38.07N×141.67E, h71km±18km, mb4.6/1 Error ellipse: s-maj=21.8km s-min=13.8km az=65.0*
ISC 16 03:31:50.8±0.8, 38.16N±0.04×141.76E±0.08, h53km±6km, n27, σ0°83/41, mb3.7/8, 1C-7D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.44**	**312**	⇓P	**P**	**03 32 02.0**	**+0.4**
JIO				S	**S**	**03 32 08.8**	**-0.6**
JMM	**Marumori**	**0.82**	**249**	⇓P	**P**	**03 32 06.5**	**+0.2**
JMM				S	**S**	**03 32 17.0**	**-0.9**
JOU	**Okura**	**0.89**	**283**	⇓P	**P**	**03 32 07.7**	**+0.5**
JOU				S	**S**	**03 32 19.0**	**-0.5**
JMK	**Ichinoseki**	**0.90**	**332**	⇓P	**P**	**03 32 08.1**	**+0.8**
JMK				S	**S**	**03 32 19.4**	**-0.3**
OFUJ	**Ofunato**	**0.92**	**355**	⇓P	**P**	**03 32 08.2**	**+0.5**
OFUJ				S	**S**	**03 32 20.0**	**-0.2**
JFK	**Kawauchi**	**1.06**	**222**	⇓P	**P**	**03 32 10.1**	**+0.4**
JFT	**Otama**	**1.30**	**241**	⇑P	**P**	**03 32 13.8**	**+0.7**
JFT				S	**S**	**03 32 29.5**	**-0.1**
JYK	**Kaneyama**	**1.33**	**305**	P	**P**	**03 32 13.8**	**+0.2**
JYK				*e*S	**S**	**03 32 30.1**	**-0.4**
JYS	**Shiratake**	**1.34**	**273**	P	**P**	**03 32 14.2**	**+0.5**
JYS				S	**S**	**03 32 30.4**	**-0.2**
JOM	**Ohasama**	**1.36**	**344**	⇓P	**P**	**03 32 14.5**	**+0.5**
JOM				*e*S	**S**	**03 32 30.8**	**-0.3**
MJAR	**Matsushiro Arr**	**3.26**	**241**	P	**P**	**03 32 41.0**	**+0.2**
2.3nm,0.3s,baz=2.4,slow=5.6,SNR=25							
MJAR				S	**S**	**03 33 27.3**	**+8.7**
2.9nm,0.3s,baz=309,slow=25,SNR=6.5							
MAJO	**Matsushiro**	**3.26**	**241**	*e*P	**P**	**03 32 41.7**	**+0.9**
MAT	**Matsushiro**	**3.26**	**241**	P	**P**	**03 32 41.6**	**+0.8**
MAT				*e*S	**S**	**03 33 19.7**	**+1.0**
MAT	**Matsushiro**	**3.26**	**241**	P	**P**	**03 32 42.0**	**+1.2**
MAT				*e*S	**S**	**03 33 26.0**	**+7.3**
JHJ	**Hachijo jima 2**	**5.29**	**198**	P	**P**	**03 33 07.7**	**-1.4**
14nm,0.3s,baz=95,slow=10,SNR=15							
JHJ				S	**S**	**03 34 05.2**	**-4.3**
18nm,0.3s,baz=98,slow=21,SNR=7.3							
ASAJ	**Asahikawa**	**5.98**	**6**	P	**P**	**03 33 16.0**	**-2.8**
0.8nm,0.3s,baz=199,slow=17,SNR=8.8							
ASAJ				S	**S**	**03 34 31.8**	**+4.9**
0.8nm,0.3s,baz=357,slow=19,SNR=3.1							
ASAJ	**Asahikawa**	**5.98**	**6**	P	**P**	**03 33 16.0**	**-2.8**
ASAJ				S	**S**	**03 34 31.8**	**+4.9**
ASAJ				pmax	pmax		
comp=Z,1.0nm,0.3s							
SONM	**Songino Array**	**27.40**	**302**	P	**P**	**03 37 33.7**	**+0.5**
comp=Z,0.4nm,0.6s,mb3.2,baz=94,slow=10.0,SNR=2.9							
MKAR	**Makanchi Array**	**43.76**	**301**	P	**P**	**03 39 52.1**	**-0.5**
comp=Z,0.8nm,0.7s,mb3.6,baz=90,slow=8.5,SNR=4.8							
BVAR	**Borovoye Array**	**50.02**	**312**	P	**P**	**03 40 40.9**	**-0.8**
comp=Z,0.3nm,0.5s,mb3.6,baz=76,slow=5.9,SNR=2.9							
WRAB	**Tennant Creek**	**58.20**	**188**	P	**P**	**03 41 40.0**	**-2.0**
comp=Z,2.1nm,0.5s,mb4.4							
WRAB	**Tennant Creek**	**58.20**	**188**	P	**P**	**03 41 40.0**	**-2.0**
WRAB				pmax	pmax		
comp=Z,2.0nm,0.5s,mb4.4							
WRA	**Warramunga Arr**	**58.22**	**188**	P	**P**	**03 41 40.9**	**-1.1**
comp=Z,1.2nm,0.5s,mb4.2,baz=5.6,slow=7.2,SNR=9.9							
NOA	**NORSAR Array B**	**73.25**	**337**	P	**P**	**03 43 18.3**	**+0.8**
comp=Z,0.7nm,0.8s,mb3.7,baz=319,slow=25,SNR=2.6							
PDAR	**Pinedale Array**	**76.68**	**46**	P	**P**	**03 43 38.2**	**+0.6**
comp=Z,0.2nm,0.4s,mb3.4,baz=297,slow=4.0,SNR=2.5							
TXAR	**Lajitas Array**	**89.22**	**53**	P	**P**	**03 44 43.5**	**+1.3**
comp=Z,0.1nm,0.5s,mb3.5,baz=292,slow=4.1,SNR=4.5							
LPAZ	**La Paz**	**145.88**	**59**	PKPbc	PKPbc	03 51 27.1	+2.2
comp=Z,0.7nm,0.9s,baz=90,slow=3.0,SNR=3.4							

IDC ***16*** *03:45:47.8±0.8, 30.81N×78.55E, mb4.2/20, mb1 4.3/21, mb1mx4.2/27, mbtmp4.2/21, ML4.1/1, Error ellipse: s-maj=25.3km s-min=14.6km az=25.0*
LDG ***16*** *03:45:50.3±0.1, 30.76N×78.51E, h33km, Mb4.4/7, Error ellipse: s-maj=6.2km s-min=2.3km az=25.0*
MOS ***16*** *03:45:51.7±1.0, 30.92N×78.55E, h36km, mb4.5/14, Error ellipse: s-maj=11.2km s-min=6.4km az=122.3*
NDI ***16*** *03:45:52.0±3.6, 30.84N×78.47E, h10km, ML4.2, mb4.4(NEIC)*
BJI ***16*** *03:45:53.8, 30.91N×78.51E, h56km, mB4.4, mb4.5, Ms4.7, Msz4.5*
NEIC ***16*** *03:45:54.2±0.7, 30.92N×78.56E, h43km±7km, mb4.4/12, Error ellipse: s-maj=10.5km s-min=5.1km az=218.0*
NEIC Buildings damaged [VI] at Uttarkahi. Felt [V] at Bhilangna and Naugaon; [IV] at New Tehri. Also felt at Dehra Dun.
NNC ***16*** *03:46:05.3±3.5, 31.82N×78.28E, h60km±21km, Error ellipse: s-maj=36.7km s-min=15.2km az=126.0*
ISC 16 03:45:49.4±0.8, 30.93N±0.02×78.53E±0.03, h17km±6km, n128, σ1°25/157, mb4.2/37, 27C-4D, Northern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDI	**Dehra Dun**	**0.73**	**214**	*e*P	**Pb**	**03 46 02.4**	**-0.8**
SMLA	**Simla**	**1.19**	**280**	*e*P	**Pb**	**03 46 09.4**	**-1.6**
SMLA				*e*S	**Sb**	**03 46 24.3**	**-1.6**
SDNR	**Sundarnagar**	**1.45**	**293**	*e*P	**Pn**	**03 46 20.0**	**+5.0**
KKR	**Kurukshetra**	**1.76**	**237**	*e*P	**Pn**	**03 46 21.4**	**+1.9**
KKR				*e*S	**Sn**	**03 46 43.8**	**+2.1**
BHK	**Bhakra**	**1.87**	**286**	*e*P	**Pn**	**03 46 25.8**	**+4.7**
BHK				*e*S	**Sn**	**03 46 49.6**	**+5.1**
PTH	**Pithoragarh**	**2.01**	**133**	*e*P	**Pn**	**03 46 25.0**	**+2.0**
PTH				*e*S	**Sn**	**03 46 51.0**	**+3.1**
LGTI	**Lohaghat**	**2.10**	**134**	*e*P	**Pn**	**03 46 26.0**	**+1.7**
LGTI				*e*S	**Sn**	**03 46 53.0**	**+2.9**
ASOR	**Ausora**	**2.27**	**197**	*e*P	**Pn**	**03 46 28.9**	**+2.2**
ASOR				*ex*	x	03 47 06.5	
NDI	**New Delhi**	**2.51**	**207**	*e*P	**Pn**	**03 46 30.0**	**-0.2**
NDI				*e*S	**Sn**	**03 47 00.5**	**-0.2**
BISR	**Bishrakh**	**2.54**	**202**	*e*P	**Pn**	**03 46 32.0**	**+1.5**
BISR				*e*P		03 46 32.1	
BISR				*e*S	**Sn**	**03 47 02.8**	**+1.6**
BISR				*ex*	x	03 47 07.5	
BHGR	**Bahadurgarh**	**2.63**	**212**	*e*P	**Pn**	**03 46 33.2**	**+1.4**
BHGR				*e*P		03 46 35.4	
BHGR				*e*S	**Sn**	**03 47 05.6**	**+2.0**
BHGR				*ex*	x	03 47 06.8	
DLH	**Dalhousie**	**2.71**	**307**	*e*P	**Pn**	**03 46 37.0**	**+4.0**
DLH				*ex*	x	03 47 15.0	
THN	**Thein Dam**	**2.83**	**303**	*e*P	**Pn**	**03 46 37.5**	**+2.8**
THN				*ex*	x	03 47 13.9	
SONA	**Sohna**	**2.95**	**206**	AML	AML	03 47 18.6	
comp=E,1μm,0.6s							
SONA				AML	AML	03 47 19.7	
comp=N,972nm,0.5s							
KHET	**Khetri**	**3.71**	**220**	*e*P	**Pn**	**03 46 46.9**	**-0.3**
KHET				*e*P		03 46 47.2	
KHET				*e*S	**Sn**	**03 47 29.7**	**-1.2**
KHET				AML	AML	03 47 44.3	
comp=N,677nm,0.4s							
KHET				AML	AML	03 47 44.4	
comp=E,467nm,0.2s							
AGRA	**Agra**	**3.72**	**188**	*ex*	x	03 46 56.2	
AGRA				*ex*	x	03 47 39.9	
AGRA				AML	AML	03 47 51.4	
comp=N,2μm,0.6s							
AGRA				AML	AML	03 47 51.8	
comp=E,2μm,0.6s							
SARP	**Sargodha**	**5.10**	**283**	P	**Pn**	**03 47 06.9**	**-0.1**
CHCP	**Chirah Chowk**	**5.22**	**303**	P	**Pn**	**03 47 10.8**	**+2.1**
KOLN	**Koldanda**	**5.43**	**124**	*e*Pn	**Pn**	**03 47 13.4**	**+1.8**
KOLN				*e*Sn	**Sn**	**03 48 14.4**	**-0.1**
comp=E,483nm,0.6s							
KOLN	**Koldanda**	**5.43**	**124**	*e*Pn	**Pn**	**03 47 13.4**	**+1.8**
comp=E,242nm,0.6s							
KOLN				*e*Sn	**Sn**	**03 48 14.4**	**-0.1**
JHNI	**Jhansi**	**5.44**	**180**	*ex*	**Pn**	**03 47 09.0**	**-2.8**
JHNI				*ex*	**Sn**	**03 48 13.0**	**-1.8**
AJM	**Ajmer**	**5.59**	**219**	*e*P	**Pn**	**03 47 12.7**	**-1.3**
AJM				*e*S	**Sn**	**03 48 13.2**	**-5.4**
AJM				AML	AML	03 48 20.2	
comp=N,348nm,0.1s							
AJM				AML	AML	03 48 42.2	
comp=E,566nm,0.8s							
THW	**Thamme Wali**	**6.06**	**290**	⇑P	**Pn**	**03 47 20.8**	**+0.2**
GKN	**Gorkha**	**6.07**	**117**	*e*Pn	**Pn**	**03 47 21.5**	**+0.8**
GKN				*e*Sn	**Sn**	**03 48 27.8**	**-2.7**
comp=E,653nm,0.4s							
GKN	**Gorkha**	**6.07**	**117**	*e*Pn	**Pn**	**03 47 21.5**	**+0.8**
comp=E,326nm,0.4s							
GKN				*e*Sn	**Sn**	**03 48 27.8**	**-2.7**
CEP	**Cherat**	**6.30**	**299**	P	**Pn**	**03 47 24.4**	**+0.5**
CEP				S	**Sn**	**03 48 35.0**	**-1.2**
DMN	**Daman**	**6.63**	**118**	*e*Pn	**Pn**	**03 47 28.7**	**+0.2**
DMN				*e*Sn	**Sn**	**03 48 41.2**	**-3.3**
comp=E,886nm,0.8s							
DMN	**Daman**	**6.63**	**118**	*e*Pn	**Pn**	**03 47 28.7**	**+0.2**
comp=E,443nm,0.8s							
DMN				*e*Sn	**Sn**	**03 48 41.2**	**-3.3**
KKN	**Kakani**	**6.67**	**116**	*e*Pn	**Pn**	**03 47 29.3**	**+0.2**
KKN				*e*Sn	**Sn**	**03 48 42.3**	**-3.2**
comp=E,502nm,0.6s							
KKN	**Kakani**	**6.67**	**116**	*e*Pn	**Pn**	**03 47 29.3**	**+0.2**
comp=E,251nm,0.6s							
KKN				*e*Sn	**Sn**	**03 48 42.3**	**-3.2**
KKN	**Kakani**	**6.67**	**116**	*e*P	**Pn**	**03 47 29.3**	**+0.2**
KKN				*e*		03 48 42.3	
KKN				pmax	pmax		
comp=Z,251nm,0.6s							
SBDP	**Sheikh Budin**	**6.73**	**284**	⇑P	**Pn**	**03 47 31.0**	**+1.1**
PKI	**Pulchoki**	**6.88**	**117**	*e*Pn	**Pn**	**03 47 32.3**	**+0.2**
PKI				*e*Sn	**Sn**	**03 48 47.0**	**-3.7**
comp=Z,474nm,0.5s							
PKI	**Pulchoki**	**6.88**	**117**	*e*Pn	**Pn**	**03 47 32.3**	**+0.2**
comp=Z,237nm,0.5s							
PKI				*e*Sn	**Sn**	**03 48 47.0**	**-3.7**
PKI	**Pulchoki**	**6.88**	**117**	*e*P	**Pn**	**03 47 32.3**	**+0.2**
PKI				*e*		03 48 47.0	
PKI				pmax	pmax		
comp=Z,237nm,0.5s							
GUN	**Gumba**	**7.08**	**113**	*e*Pn	**Pn**	**03 47 34.8**	**-0.1**
GUN				*e*Sn	**Sn**	**03 48 51.8**	**-4.0**
DRP	**Derazinda**	**7.17**	**279**	P	**Pn**	**03 47 37.2**	**+1.1**
BHPL	**Bhopal**	**7.72**	**188**	*e*P	**Pn**	**03 47 42.1**	**-1.7**
BHPL				*e*S	**Sn**	**03 49 03.4**	**-8.4**
BHPL				AML	AML	03 49 51.2	
comp=N,123nm,0.4s							
BHPL				AML	AML	03 49 51.7	
comp=E,263nm,0.3s							
BLSP	**Bilaspur**	**9.34**	**159**	*e*S	**Sn**	**03 49 41.3**	**-11**
BLSP				*ex*	x	03 50 37.6	
BHV	**Bhavnagar**	**10.78**	**214**	*e*P	**P**	**03 48 25.0**	**-1.2**
LSA	**Lhasa**	**10.98**	**93**	P	**P**	**03 48 30.0**	**+1.2**
LSA	**Lhasa**	**10.98**	**93**	*e*Pn	**P**	**03 48 29.0**	**+0.2**
comp=E,14nm,0.8s							
LSA	**Lhasa**	**10.98**	**93**	*e*P	**P**	**03 48 29.0**	**+0.2**
LSA				pmax	pmax		
comp=Z,14nm,0.8s							
BHJ	**Bhuj**	**10.99**	**228**	*e*P	**P**	**03 48 26.7**	**-2.3**
BHJ				*ex*	x	03 50 26.5	
AAK	**Ala-Archa**	**12.12**	**346**	⇑P	**P**	**03 48 44.2**	**0.0**
comp=Z,6.4nm,0.7s							
AAK	**Ala-Archa**	**12.12**	**346**	*e*Pn	**P**	**03 48 43.8**	**-0.4**
comp=Z,8.6nm,0.8s							
AAK	**Ala-Archa**	**12.12**	**346**	*e*P	**P**	**03 48 43.8**	**-0.4**
AAK				pmax	pmax		
comp=Z,9.0nm,0.8s							
LATR	**Latur**	**12.59**	**189**	*ex*	**P**	**03 48 44.0**	**-6.6**
LATR				*ex*	x	03 52 44.6	
POO	**Poona**	**13.05**	**200**	⇓*i*x	**P**	**03 48 52.0**	**-4.8**
POO				*i*x	**S**	**03 51 12.0**	**-11**
HYB	**Hyderabad**	**13.45**	**180**	*i*P	**P**	**03 48 58.0**	**-4.1**
HYB				*e*S	**S**	**03 51 39.0**	**+6.9**
HYB	**Hyderabad**	**13.45**	**180**	*e*P	**P**	**03 48 58.0**	**-4.1**
HYB				*e*S	**S**	**03 51 39.0**	**+6.9**
KK31	**Karatay Array**	**13.72**	**334**	⇑P	**P**	**03 49 04.7**	**-0.8**
comp=Z,5.5nm,0.4s,baz=153,slow=13							
KK31				S	**S**	**03 51 26.1**	**-12**
comp=Z,16nm,0.6s,baz=152,slow=19,SNR=18							
KKAR	**Karatay Array**	**13.72**	**334**	P	**P**	**03 48 59.7**	**-5.8**
KKAR				pmax	pmax		
comp=Z,2.0nm,0.4s							
VIS	**Vishakhapatnam**	**13.86**	**161**	*i*x	**P**	**03 49 03.4**	**-4.1**
VIS				*i*x	**S**	**03 51 45.1**	**+3.3**
KAD	**Karad**	**14.13**	**197**	*i*x	**P**	**03 49 05.3**	**-5.7**
KAD				*i*x	x	03 51 36.9	
WMQ	**Urumqi**	**14.77**	**27**	*e*P	**P**	**03 49 23.0**	**+3.7**
WMQ				AP		03 49 31.0	
WMQ				XP		03 49 35.0	
WMQ				S	**S**	**03 52 09.0**	**+5.6**
WMQ				XS		03 52 21.0	
WMQ				SS	SS	03 52 27.0	+6.2
WMQ				AMB	AMB		
comp=Z,15nm,1.0s							
WMQ				AMB	AMB		
comp=Z,18nm,6.0s							
WMQ				LR	LR		
comp=N,1μm,8.0s							
WMQ				LR	LR		
comp=E,897nm,8.0s							
WMQ				LR	LR		
comp=Z,1μm,10.0s							
MK31	**Makanchi Array**	**16.11**	**9**	⇑P	**P**	**03 49 35.4**	**-1.2**
comp=Z,6.0nm,0.7s							
MK31				⇓S	**S**	**03 52 25.8**

BRVK Borovoye 22.91 347 *eP* **P 03 50 54.8 +1.5**
comp=Z,4.0nm,0.7s,mb4.0
BRVK *ep*P 03 51 04.1
BRVK Borovoye 22.91 347 *eP* **P 03 50 54.8 +1.5**
BRVK *e**PP 03 51 04.1
BRVK pmax pmax
comp=Z,4.0nm,0.7s,mb4.0
AB31 Akbulak array 23.07 328 ⇓P **P 03 50 56.5 +1.7**
comp=Z,4.3nm,0.6s,mb4.1
AB31 Akbulak array 23.07 328 P **P 03 50 56.4 +1.6**
AB31 S **S 03 55 02.0 +1.4**
AB31 pmax pmax
comp=Z,3.0nm,0.6s,mb3.9
GYA Guiyang 25.05 93⇑*iP* **P 03 51 14.4 +0.1**
GYA AMB AMB
comp=Z,20nm,0.6s,mb4.8
ENH Enshi 26.62 83 *eP* **P 03 51 30.0 +1.2**
comp=Z,3.8nm,0.4s,mb4.3
ZAK Zakamensk 26.81 36⇓*eP* **P 03 51 30.8 +0.4**
ZAK pmax pmax
comp=Z,3.0nm,0.8s,mb3.9
SONM Songino Array 27.16 44 P **P 03 51 35.3 +1.7**
comp=Z,3.0nm,0.8s,mb3.9,baz=241,slow=9.6,SNR=24
BRTR Keskin Array B 37.34 296 P **P 03 53 02.1 -0.4**
comp=Z,0.7nm,0.7s,mb3.6,baz=112,slow=6.7,SNR=4.6
CN2 Changchun 38.95 57 *eP* **P 03 53 16.9 +0.8**
AKASG Malin Array Be 41.32 313 P **P 03 53 34.9 -0.7**
comp=Z,0.8nm,0.5s,mb3.6,baz=108,slow=10,SNR=4.5
MDJ Mudanjiang 41.95 56 P **P 03 53 41.8 +1.0**
MDJ AMB AMB
comp=Z,10.0nm,1.2s,mb4.3
MDJ AMB AMB
comp=Z,6μm,13.7s
MLR Muntele Rosu 43.05 305 P **P 03 53 51.7 +1.9**
comp=Z,5.7nm,0.9s,mb4.3,baz=89,slow=3.4,SNR=9.9
JOW Kunigami 43.47 82 P **P 03 53 52.9 -0.5**
comp=Z,12nm,0.5s,mb4.8,baz=308,slow=7.8,SNR=5.6
FINES FINESS Array B 45.56 328 P **P 03 54 09.7 0.0**
comp=Z,1.3nm,0.5s,mb4.1,baz=104,slow=7.4,SNR=11
KAF Kangasniemi 45.56 329 *ep* **P 03 54 06.4 -4.1**
KEV Kevo 48.27 339 *ep* **P 03 54 28.3 -2.7**
ARCES ARCESS Array B 48.66 338 P **P 03 54 34.2 +0.2**
comp=Z,3.4nm,0.7s,mb4.5,baz=107,slow=7.3,SNR=16
HFS Hagfors 51.27 324 P **P 03 54 54.1 +0.1**
comp=Z,4.8nm,0.5s,mb4.7,baz=108,slow=9.4,SNR=32
ASAJ Asahikawa 51.28 56 P **P 03 54 54.6 +0.2**
comp=Z,3.4nm,0.6s,mb4.5,baz=220,slow=7.9,SNR=4.3
ASAJ Asahikawa 51.28 56 P **P 03 54 54.7 +0.3**
ASAJ pmax pmax
comp=Z,3.0nm,0.6s
GERES GERESS Array B 51.29 310 P **P 03 54 55.5 +1.1**
comp=Z,0.2nm,0.3s,mb3.5,baz=96,slow=24,SNR=2.0
NB2 NORSAR Subarra 52.55 326 P **P 03 55 03.3 -0.4**
comp=Z,1.8nm,0.6s,mb4.2,baz=95,slow=7.4
NB2 NORSAR Subarra 52.55 326 P **P 03 55 03.3 -0.4**
NB2 pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
NOA NORSAR Array B 52.55 326 P **P 03 55 03.6 -0.1**
comp=Z,1.6nm,0.6s,mb4.1,baz=95,slow=7.3,SNR=7.2
DAVOX Davos 54.09 308 P **P 03 55 14.7 -0.5**
comp=Z,0.7nm,0.4s,mb4.0,baz=106,slow=9.4,SNR=3.0
LPG La Plagne 56.46 307⇑*iP* **P 03 55 32.4 -0.1**
comp=Z,4.8nm,0.6s,mb4.4
LPG La Plagne 56.46 307⇑*iP* **P 03 55 32.4 -0.1**
LPG pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
LPL La Plagne 56.47 307⇑*iP* **P 03 55 32.4 -0.2**
comp=Z,8.4nm,0.5s,mb4.7
LPL La Plagne 56.47 307⇑*iP* **P 03 55 32.4 -0.2**
LPL pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
MBDF Montbardon 56.60 306⇑*iP* **P 03 55 34.0 +0.5**
CABF La Chapelle 56.69 308⇑*iP* **P 03 55 33.7 -0.4**
LOR Lormes 58.05 309⇑*iP* **P 03 55 43.1 -0.6**
comp=Z,2.6nm,0.5s,mb4.2
LOR Lormes 58.05 309⇑*iP* **P 03 55 43.1 -0.6**
LOR pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
SMF Signal de Mont 58.19 309⇑*iP* **P 03 55 44.0 -0.7**
comp=Z,4.3nm,0.7s,mb4.3
SMF Signal de Mont 58.19 309⇑*iP* **P 03 55 44.0 -0.7**
SMF pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
SSF Saint Saulge 58.33 309⇑*iP* **P 03 55 44.9 -0.7**
AVF Avril sur Loir 58.49 309⇑*iP* **P 03 55 46.5 -0.3**
CAF Calviac 59.81 307⇑*iP* **P 03 55 55.6 -0.4**
FLN La Foliniere 60.54 312⇑*iP* **P 03 55 59.8 -1.1**
EKA Eskdalemuir Ar 60.61 320 P **P 03 55 59.2 -2.1**
comp=Z,1.2nm,0.7s,mb4.1,baz=90,slow=6.7,SNR=6.4
SGMF Saint Gilles 62.00 312⇑*iP* **P 03 56 10.0 -0.8**
comp=Z,12nm,0.8s,mb4.7
SGMF Saint Gilles 62.00 312⇑*iP* **P 03 56 10.0 -0.8**
SGMF pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
ETSF Etsaut 62.20 305⇑*iP* **P 03 56 11.6 -0.6**
ESDC Sonseca Array 65.68 303 P **P 03 56 36.0 +1.0**
comp=Z,2.3nm,0.8s,mb4.3,baz=60,slow=7.4,SNR=11
WRA Warramunga Arr 73.69 126 P **P 03 57 23.5 -0.9**
comp=Z,1.8nm,0.4s,mb4.4,baz=321,slow=6.0,SNR=33
WRAB Tennant Creek 73.69 126 *eP* **P 03 57 23.4 -0.9**
comp=Z,4.0nm,0.4s,mb4.7
WRAB Tennant Creek 73.69 126 *eP* **P 03 57 23.5 -0.9**
WRAB pmax pmax
comp=Z,4.0nm,0.4s,mb4.7
INK Inuvik 78.23 12 P **P 03 57 48.2 -0.8**
comp=Z,1.7nm,0.8s,mb4.0,baz=319,slow=3.9,SNR=5.7
ILAR Eielson Array 78.25 18 P **P 03 57 48.7 -0.6**
comp=Z,1.8nm,0.8s,mb4.1,baz=311,slow=5.4,SNR=21
ILAR PP PP 04 00 44.0 -4.3
comp=Z,0.6nm,0.9s,baz=313,slow=7.8,SNR=4.5
YKA Yellowknife Ar 86.31 6 P **P 03 58 31.0 0.0**
comp=Z,1.0nm,0.5s,mb4.3,baz=342,slow=5.2,SNR=8.4
STKA Stephens Creek 86.42 131 P **P 03 58 31.4 -1.0**
comp=Z,2.2nm,0.8s,mb4.4,baz=324,slow=5.2,SNR=3.9
TXAR Lajitas Array 120.03 2 PKP PKPdf 04 04 40.9 -2.4
comp=Z,0.1nm,0.5s,baz=61,slow=0.4,SNR=4.8
LPAZ La Paz 146.30 288 PKPbc PKPbc 04 05 30.9 +1.2
comp=Z,0.7nm,0.8s,baz=28,slow=5.2,SNR=4.4

IDC 16 04:14:18.9±17.0, 28.77N×138.77E, h540km±186km, mb2.7/4, mb1 2.8/4, mb1mx2.6/18, mbtmp3.6/4, Error ellipse: s-maj=188.0km s-min=22.4km az=73.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**31.42**	**316**	P	P	04 19 55.7	-1.4
	0.6nm,0.6s,baz=126,slow=8.1,SNR=5.1						
MKAR	**Makanchi Array**	**47.08**	**309**	P	P	04 22 02.3	-1.0
	0.3nm,0.5s,baz=89,slow=9.0,SNR=3.4						
WRA	**Warramunga Arr**	**48.62**	**186**	P	P	04 22 13.5	-1.8
	0.3nm,0.8s,baz=360,slow=7.6,SNR=5.6						
FINES	**FINESS Array B**	**75.10**	**333**	P	P	04 25 05.2	-1.1
	0.4nm,0.3s,baz=72,slow=6.0,SNR=5.1						

*IDC **16** 04:33:42.0±0.7, 29.76S×178.96W, h304km±8km, mb3.6/2, mb1 3.9/3, mb1mx3.5/12, mbtmp4.4/3, Error ellipse: s-maj=39.0km s-min=19.0km az=121.0*

ISC 16 04:33:41.9±1.1, 30.0S±0.1×178.8W±0.5, h339km±19km, n25, σ1°30/28, mb3.7/2, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.06**	**45**	P	P	04 34 24.8	-2.1
	72nm,0.3s,baz=87,slow=24,SNR=9.3						
RAO				S	S	04 34 55.6	-6.5
	134nm,0.3s,baz=87,slow=23,SNR=9.3						
MXZ	**Matakaoa Point**	**7.92**	**197**	PN	P	04 35 36.5	+0.8
MXZ				SN	S	04 37 05.4	+0.2
PUZ	**Puketiti**	**8.41**	**196**	PN	P	04 35 40.7	-0.9
PUZ				SN	S	04 37 16.3	+0.4
MWZ	**Matawai**	**8.85**	**199**	PN	P	04 35 48.3	+1.5
MWZ				SN	S	04 37 25.8	+0.4
URZ	**Urewera**	**8.91**	**201**	P	P	04 35 50.1	+2.6
	3.7nm,0.3s,baz=353,slow=2.6,SNR=25						
URZ				S	S	04 37 29.4	+2.7
	19nm,0.3s,baz=79,slow=23,SNR=27						
URZ	**Urewera**	**8.91**	**201**	PN	P	04 35 49.9	+2.4
URZ				SN	S	04 37 28.9	+2.3
KNZ	**Kokohu**	**9.46**	**197**	PN	P	04 35 57.2	+3.1
WNVZ	**Wahianoa**	**10.39**	**205**	PN	P	04 36 06.9	+1.5
TSZ	**Takapari Road**	**10.92**	**202**	PN	P	04 36 11.6	-0.2
KIW	**Kapiti Island**	**11.99**	**204**	SN	S	04 38 30.5	-3.1
MSWZ	**Moikau Station**	**12.37**	**201**	SN	S	04 38 38.0	-4.0
TCW	**Tory Channel**	**12.52**	**205**	PN	P	04 36 30.5	-0.6
TCW				SN	S	04 38 42.7	-2.7
QRZ	**Quartz Range**	**12.91**	**211**	PN	P	04 36 36.4	+0.6
THZ	**Tophouse**	**13.52**	**208**	PN	P	04 36 42.0	-1.1
THZ				SN	S	04 39 06.5	-0.7
KHZ	**Kahutara**	**13.84**	**204**	PN	P	04 36 46.4	-0.4
KHZ				SN	S	04 39 12.1	-2.0
MQZ	**McQueen's Vall**	**15.29**	**204**	SN	S	04 39 43.2	-0.3
WVZ	**Waitaha Valley**	**15.51**	**210**	SN	S	04 39 48.4	+0.4
WRA	**Warramunga Arr**	**43.41**	**272**	P	P	04 41 14.3	+0.5
	4.3nm,0.7s,mb3.7,baz=110,slow=7.8,SNR=198						
MJAR	**Matsushiro Arr**	**77.54**	**326**	P	P	04 45 02.5	+0.2
	1.2nm,0.7s,mb3.8,baz=148,slow=5.2,SNR=4.9						
ARCES	**ARCESS Array B**	**138.06**	**348**	PKP	PKPdf	04 52 30.3	+4.4
	2.0nm,1.0s,baz=34,slow=3.3,SNR=4.7						
FINES	**FINESS Array B**	**144.55**	**340**	PKP	PKPdf	04 52 39.5	+2.1
	2.5nm,0.5s,baz=42,slow=3.6,SNR=17						
NB2	**NORSAR Subarra**	**148.26**	**351**	PKPabc	PKPdf	04 52 50.5	+7.0
	1.2nm,0.6s,baz=12,slow=2.8						
NOA	**NORSAR Array B**	**148.26**	**351**	PKPbc	PKPdf	04 52 50.8	+7.3
	2.5nm,0.8s,baz=16,slow=4.4,SNR=6.6						
AKASG	**Malin Array Be**	**150.58**	**323**	PKPbc	PKPdf	04 52 56.8	+9.4
	1.3nm,0.5s,baz=46,slow=2.5,SNR=9.3						
AKASG				PKPab	PKPab	04 53 03.5	-0.2
	1.3nm,0.8s,baz=44,slow=4.0,SNR=5.1						
BRTR	**Keskin Array B**	**151.82**	**299**	PKPbc	PKPdf	04 53 00.2	+11
	0.4nm,0.5s,baz=90,slow=3.7,SNR=4.1						

*BJI **16** 04:36:26.9, 23.50S×179.30E, h521km, mB4.2, mb4.2*
*NEIC **16** 04:36:27.0±1.2, 23.49S×179.28E, h522km±15km, mb4.5/15, Error ellipse: s-maj=14.4km s-min=12.7km az=85.0*
*IDC **16** 04:36:27.9±1.4, 23.53S×179.23E, h529km±13km, mb3.8/14, mb1 3.9/17, mb1mx3.9/20, mbtmp4.7/17, Error ellipse: s-maj=15.7km s-min=12.5km az=97.0*

ISC 16 04:36:25.3±1.6, 23.54S±0.06×179.14E±0.09, h508km±19km, n87, σ0°96/47, mb4.3/27, 4C-2D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**11.80**	**275**	P	P	04 39 07.3	+4.7
	1.2nm,0.3s,baz=73,slow=19,SNR=10						
AFI	**Afiamalu**	**12.88**	**43**	P	P	04 39 13.4	-0.5
	8.5nm,0.3s,baz=31,slow=4.7,SNR=12						
AFI	**Afiamalu**	**12.88**	**43**	*eP*	P	04 39 12.8	-1.0
	109nm,0.8s						
URZ	**Urewera**	**14.77**	**186**	P	P	04 39 33.5	+0.3
	5.7nm,0.3s,baz=5.9,slow=3.8,SNR=12						
URZ				S	S	04 42 03.0	-1.8
	3.1nm,0.3s,baz=247,slow=22,SNR=14						
RPZ	**Rata Peaks**	**21.19**	**196**	P	P	04 40 35.2	0.0
	5.7nm,0.5s,mb4.4,baz=326,slow=3.6,SNR=1.8						
CNB	**Canberra Magne**	**28.35**	**239**⇑*iP*		P	04 41 41.0	+1.7
	25nm,0.6s,mb4.8						
CTA	**Charters Tower**	**30.68**	**270**⇑*iP*		P	04 42 00.8	+1.3
	20nm,0.3s,mb5.0						
CTA	**Charters Tower**	**30.68**	**270**	P	P	04 42 00.9	+1.4
	22nm,0.3s,mb5.0,baz=95,slow=10,SNR=58						
CTAO	**Charters Tower**	**30.68**	**270**	*eP*	P	04 42 00.4	+0.9
	28nm,0.3s,mb5.2						
TOO	**Toolangi**	**31.98**	**236**	*eP*	P	04 42 11.7	+1.3
	5.1nm,1.0s,mb3.9						
STKA	**Stephens Creek**	**34.12**	**248**⇑*iP*		P	04 42 29.7	+1.2
	6.3nm,0.5s,mb4.3						
STKA	**Stephens Creek**	**34.12**	**248**	P	P	04 42 29.6	+1.1
	9.8nm,0.6s,mb4.4,baz=93,slow=10.0,SNR=14						
STKA				PcP	PcP	04 44 51.4	-0.6
	5.0nm,0.7s,baz=112,slow=16,SNR=4.3						
STKA				S	S	04 47 14.1	-5.3
	3.1nm,0.9s,baz=245,slow=14,SNR=2.8						
WRAB	**Tennant Creek**	**41.63**	**266**	*eP*	P	04 43 29.0	-1.0
	7.4nm,0.5s,mb4.4						
WRA	**Warramunga Arr**	**41.64**	**266**	P	P	04 43 29.8	-0.3
	7.4nm,0.6s,mb4.3,baz=101,slow=8.4,SNR=84						
WRA				PcP	PcP	04 45 14.8	-1.0
	2.3nm,0.8s,baz=100,slow=3.2,SNR=5.2						
WRA				ScP		04 48 15.9	
	2.4nm,0.8s,baz=99,slow=4.2,SNR=8.7						
WRA				S	S	04 49 04.6	-5.7
	2.7nm,1.0s,baz=100,slow=14,SNR=8.0						
FORT	**Forrest**	**45.69**	**249**	*eP*	P	04 44 01.3	-0.4
	19nm,0.7s,mb4.6						
FITZ	**Fitzroy Crossi**	**50.07**	**266**	*eP*	P	04 44 34.9	0.0
	6.9nm,1.5s,mb3.8						
KLBR	**Kellerberrin**	**54.40**	**247**	*eP*	P	04 45 05.0	-1.0
	11.1nm,1.8s,mb4.9						
MBWA	**Marble Bar**	**54.65**	**260**	*eP*	P	04 45 05.8	-2.1
	6.1nm,0.6s,mb4.1						
VNDA	**Vanda**	**54.67**	**185**	P	P	04 45 07.4	+0.1
	2.8nm,0.8s,mb3.7,baz=5.3,slow=7.4,SNR=7.7						
VNDA	**Vanda**	**54.67**	**185**	*eP*	P	04 45 07.0	-0.4
	1.9nm,0.6s,mb3.6						
SBA	**Scott Base**	**54.69**	**183**	*eP*	P	04 45 08.5	+1.1
	16nm,0.9s,mb4.4						
QSPA	**South Pole Qui**	**66.54**	**180**⇓*iP*		P	04 46 25.9	+0.6
	25nm,1.0s,mb4.8						
JOW	**Kunigami**	**70.17**	**313**	P	P	04 46 48.1	+0.1
	21nm,0.8s,mb4.8,baz=175,slow=6.9,SNR=5.2						
MJAR	**Matsushiro Arr**	**71.16**	**326**	P	P	04 46 53.2	-0.6
	5.0nm,0.8s,mb4.1,baz=162,slow=5.6,SNR=16						
MAJO	**Matsushiro**	**71.16**	**326**	*eP*	P	04 46 53.1	-0.6
	7.0nm,0.7s,mb4.3						
JNU	**Nakatsue**	**72.74**	**319**	P	P	04 47 02.3	-0.7
	6.6nm,0.7s,mb4.3,baz=96,slow=13,SNR=5.1						
FX1	**Attu Island--F**	**76.28**	**356**	P	P	04 47 21.9	-0.3
	3.6nm,0.6s,mb4.1,baz=114,slow=12						
MAW	**Mawson**	**77.81**	**201**	P	P	04 47 30.8	+0.5
	14nm,0.6s,mb4.5,baz=129,slow=6.9,SNR=21						
PMSA	**Palmer Station**	**79.55**	**157**	*eP*	P	04 47 39.9	+0.4
	18nm,0.7s,mb4.7						
MDJ	**Mudanjiang**	**81.53**	**327**	P	P	04 47 50.8	+0.6
MDJ				AP	pP	04 49 42.8	+1.1
MDJ				XP	sP	04 50 35.8	+2.8
MDJ				S	S	04 57 20.3	+0.9
MDJ				SCS	ScS	04 57 32.8	+1.6
MDJ				XS		05 00 39.8	
MDJ				SS	SS	05 02 54.3	+0.2
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.2						
CN2	**Changchun**	**83.13**	**324**	*eP*	P	04 47 59.0	+0.7
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.3						
SYO	**Syowa Base**	**83.17**	**194**⇑P		P	04 47 55.8	-2.2
SNAA	**Sanae**	**85.03**	**179**	*e*	P	04 48 06.2	-0.8
SNAA	**Sanae**	**85.03**	**179**	*e*	P	04 48 07.8	+0.8
SNAA	**Sanae**	**85.03**	**179**	P	P	04 48 06.3	-0.7
	comp=Z,1.5nm,0.4s,mb3.9,baz=210,slow=9.3,SNR=101						
SNAA	**Sanae**	**85.03**	**179**	*eP*	P	04 48 06.2	-0.8
SNAA				*e*		04 48 07.8	
VNA3	**Neumayer Olymp**	**85.27**	**177**	*e*	P	04 48 07.7	-0.5
VNA3	**Neumayer Olymp**	**85.27**	**177**	*e*	P	04 48 09.2	+1.0
VNA2	**Neumayer--Watz**	**85.68**	**178**	*e*	P	04 48 09.9	-0.2
VNA1	**Neumayer--Stat**	**85.92**	**178**	*e*	P	04 48 11.3	0.0
VNA1	**Neumayer--Stat**	**85.92**	**178**	*e*	P	04 48 12.9	+1.6
TXAR	**Lajitas Array**	**90.92**	**58**	P	P	04 48 36.9	+1.3
	comp=Z,1.2nm,0.8s,mb3.9,baz=212,slow=7.1,SNR=15						
ILAR	**Eielson Array**	**91.87**	**14**	P	P	04 48 38.1	-1.0
	comp=Z,0.3nm,0.6s,mb3.4,baz=227,slow=5.3,SNR=6.2						
ILAR				pP	pP	04 50 36.5	+3.3
	comp=Z,0.3nm,0.8s,baz=225,slow=6.4,SNR=3.6						
PDAR	**Pinedale Array**	**92.99**	**44**	P	P	04 48 45.6	+0.8
	comp=Z,0.4nm,0.7s,mb3.6,baz=207,slow=3.3,SNR=5.0						
MKAR	**Makanchi Array**	**111.33**	**313**	PKiKP		04 54 00.2	
	comp=Z,0.5nm,0.5s,baz=45,slow=1.7,SNR=4.4						
BVAR	**Borovoye Array**	**119.65**	**319**	PKP	PKPdf	04 54 16.3	-0.4
	comp=Z,1.7nm,0.4s,baz=72,slow=4.7,SNR=13						
BDFB	**Brasilia**	**119.66**	**126**	PKP	PKPdf	04 54 17.6	0.0
	comp=Z,1.7nm,0.7s,baz=214,slow=3.6,SNR=3.4						
BOSA	**Boshof**	**122.36**	**207**	PKP	PKPdf	04 54 22.6	0.0
	comp=Z,4.0nm,0.8s,baz=214,slow=0.8,SNR=3.6						
KEV	**Kevo**	**130.90**	**348**	*ep*	PKPdf	04 54 37.0	-0.9
ARCES	**ARCESS Array B**	**131.38**	**348**	PKP	PKPdf	04 54 38.6	-0.2
	comp=Z,3.3nm,0.8s,baz=56,slow=1.9,SNR=21						
ARCES				SKPbc		04 57 14.0	
	comp=Z,2.9nm,0.8s,baz=37,slow=4.5,SNR=11						
KAF	**Kangasniemi**	**137.26**	**342**	*ep*	PKPdf	04 54 49.3	-0.5
FINES	**FINESS Array B**	**137.86**	**341**	PKhKP		04 54 44.0	
	comp=Z,0.4nm,0.3s,baz=63,slow=4.3,SNR=4.8						
FINES				PKP	PKPdf	04 54 51.0	0.0
	comp=Z,1.5nm,0.6s,baz=2.7,slow=0.7,SNR=6.4						
FINES				SKPbc		04 57 34.5	
	comp=Z,1.1nm,0.6s,baz=45,slow=3.9,SNR=6.3						
NB2	**NORSAR Subarra**	**141.61**	**351**	PKPabc	PKPdf	04 54 53.4	-4.1
	comp=Z,1.5nm,0.6s,baz=14,slow=3.0						
NOA	**NORSAR Array B**	**141.61**	**351**	PKhKP		04 54 53.3	
	comp=Z,2.8nm,0.7s,baz=16,slow=4.7,SNR=7.4						
MALT	**Malatya**	**143.51**	**303**	*e*PKPdf	PKPdf	04 55 01.3	-0.2
AKASG	**Malin Array Be**	**144.24**	**327**	PKP	PKPdf	04 55 01.3	-1.1
	comp=Z,7.3nm,0.5s,baz=43,slow=4.1,SNR=65						
BR131	**Keskin Array S**	**146.73**	**307**	*e*PKP	PKPdf	04 55 10.1	+3.1
BRTR	**Keskin Array B**	**146.73**	**307**	PKPbc	PKPbc	04 55 10.1	+1.0
	comp=Z,4.3nm,0.7s,baz=140,slow=4.0,SNR=17						
KOLS	**Kolonicke sedl**	**148.77**	**330**	*e*PKP	PKPdf	04 55 16.0	+6.1
STHS	**Stebnicka Huta**	**148.88**	**332**	*e*PKP	PKPdf	04 55 16.2	+6.1
OKC	**Ostrava-Krasne**	**149.83**	**335**	*e*PKPbc	PKPdf	04 55 18.0	+6.4
UPC	**Upice**	**150.05**	**338**	*e*PKPbc	PKPdf	04 55 18.7	+6.8
DPC	**Dobruska-Polom**	**150.07**	**338**	*e*PKPbc	PKPdf	04 55 18.8	+6.8
DPC				*e*PKPab	PKPab	04 55 26.1	-1.8
CLL	**Collm**	**150.28**	**342**⇓*i*PKP1		PKPdf	04 55 18.9	+6.7
CLL				*e*PKP2	PKPab	04 55 28.0	-0.8
PVCC	**Panska Ves**	**150.50**	**340**	*e*PKPbc	PKPdf	04 55 19.8	+7.2
VYHS	**Vyhne**	**150.61**	**333**	*e*PKP	PKPdf	04 55 19.5	+6.7
PRU	**Pruhonice**	**150.98**	**339**	*e*PKPbc	PKPdf	04 55 20.4	+7.1
NKC	**Novy Kostel**	**151.40**	**342**	*e*PKPbc	PKPdf	04 55 21.6	+7.7
NKC				*e*PKPab	PKPab	04 55 33.0	-0.5
KHC	**Kasperske Hory**	**152.04**	**340**	*e*PKPbc	PKPdf	04 55 22.3	+7.5
KHC				*e*PKPab	PKPab	04 55 34.9	-1.3
GERES	**GERESS Array B**	**152.25**	**339**	PKPbc	PKPdf	04 55 23.4	+8.3
	comp=Z,1.2nm,0.4s,baz=45,slow=1.9,SNR=4.5						
GERES				PKPab	PKPab	04 55 36.5	-0.7
	comp=Z,1.2nm,0.7s,baz=45,slow=8.3,SNR=3.3						
BAIF	**Baives**	**153.24**	**353**	*e*PKP2	PKPab	04 55 39.5	-1.7
CDF	**Champ du Feu**	**154.35**	**347**	*e*PKP2	PKPab	04 55 44.3	-1.7
FLN	**La Foliniere**	**154.83**	**359**	*e*PKP2	PKPab	04 55 45.7	-2.3
HAU	**Haudompre**	**154.92**	**349**	*e*PKP2	PKPab	04 55 46.7	-1.7
	comp=Z,7.7nm,0.7s						
LDF	**La Druitiere**	**154.99**	**359**	*e*PKP2	PKPab	04 55 46.2	-2.5
HINF	**Hinteralfeld**	**155.01**	**348**	*e*PKP2	PKPab	04 55 46.9	-1.8
QUIF	**Quistinic**	**155.61**	**4**	*e*PKP2	PKPab	04 55 47.5	-3.8
	comp=Z,19nm,1.0s						
LOR	**Lormes**	**156.03**	**352**	*e*PKP2	PKPab	04 55 51.4	-1.7
SSF	**Saint Saulge**	**156.27**	**353**	*e*PKP2	PKPab	04 55 52.7	-1.5
	comp=Z,13nm,0.8s						
CABF	**La Chapelle**	**156.31**	**348**	*e*PKP2	PKPab	04 55 53.2	-1.2
	comp=Z,39nm,1.4s						
AVF	**Avril sur Loir**	**156.56**	**353**	*e*PKP2	PKPab	04 55 53.8	-1.6
	comp=Z,13nm,1.1s						
SMF	**Signal de Mont**	**156.64**	**352**	*e*PKP2	PKPab	04 55 54.2	-1.6
	comp=Z,13nm,0.8s						
BGF	**Bois d'Agland**	**156.84**	**353**	*e*PKP2	PKPab	04 55 55.0	-1.7
	comp=Z,8.3nm,0.7s						
TCF	**Toulx Ste Croi**	**157.17**	**354**	*e*PKP2	PKPab	04 55 55.4	-2.7
LPL	**La Plagne**	**157.23**	**346**	*e*PKP2	PKPab	04 55 57.8	-0.6
LPG	**La Plagne**	**157.24**	**346**	*e*PKP2	PKPab	04 55 58.0	-0.4
	comp=Z,8.4nm,0.9s						
MBDF	**Montbardon**	**157.97**	**345**	*e*PKP2	PKPab	04 56 00.4	-1.2

*MOS **16** 04:55:19.0±1.6, 38.36N×142.20E, h33km, mb4.5/4, Error ellipse: s-maj=15.1km s-min=10.5km az=74.3*
*JMA **16** 04:55:20.7±0.1, 38.29N×142.06E, h43km±1km, M4.5*
JMA Felt II J1.
*IDC **16** 04:55:21.4±1.9, 38.18N×141.97E, h42km±18km, mb3.7/12, mb1 4.0/15, mb1mx3.8/23, mbtmp4.0/15, ML4.0/3, Error ellipse: s-maj=20.8km s-min=11.6km az=101.0*
*NEIC **16** 04:55:25.0±1.4, 38.23N×141.93E, h75km±12km, mb4.6/4, Error ellipse: s-maj=13.6km s-min=11.1km az=62.0*
NEIC Recorded [2 JMA] in Iwate and Miyagi; [1 JMA] in Fukushima Prefectures.

ISC 16 04:55:19.8±0.8, 38.26N±0.04×142.13E±0.07, h47km±6km, n41, σ1°02/55, mb4.1/16, 4C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.65**	**288**	⇓P	P	04 55 32.7	-0.1
JIO				S	S	04 55 41.0	-1.3
OFUJ	**Ofunato**	**0.90**	**336**	⇓P	P	04 55 36.2	0.0
OFUJ				S	S	04 55 47.4	-1.0
JMK	**Ichinoseki**	**1.00**	**314**	⇓P	P	04 55 37.8	+0.2
JMM	**Marumori**	**1.13**	**250**	⇑P	P	04 55 39.2	-0.3
JOU	**Okura**	**1.16**	**276**	P	P	04 55 40.3	+0.4
JOU				*e*S	S	04 55 54.7	-0.2
JFK	**Kawauchi**	**1.34**	**229**	⇑P	P	04 55 42.1	-0.5
JFK				*e*S	S	04 55 58.2	-1.2
JOM	**Ohasama**	**1.38**	**332**	P	P	04 55 43.5	+0.3
JOM				*e*S	S	04 56 00.4	-0.1
JYK	**Kaneyama**	**1.54**	**296**	⇑P	P	04 55 45.6	+0.2
JYK				S	S	04 56 05.3	+1.0
JFT	**Otama**	**1.60**	**243**

TXAR	**Lajitas Array**	**88.92**	**53**	P	**P**	**05 08 12.4**	**+1.8**
	comp=Z,0.4nm,0.6s,mb3.9,baz=289,slow=3.4,SNR=7.7						
LPAZ	**La Paz**	**145.58**	**59**	PKPbc	PKPbc	05 14 57.0	+3.1
	comp=Z,2.2nm,0.9s,baz=11,slow=5.8,SNR=10						

WEL 16 05:03:31.4±0.3, 37.65S×178.38E, h50km±2km, ML3.6/4, 1C-2D, Error ellipse: s-maj=3.1km s-min=1.7km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.11**	**324**	⇓PN	P	05 03 39.2	0.0
MXZ				SN	S	05 03 44.5	-0.4
PUZ	**Puketiti**	**0.43**	**193**	⇑PN	P	05 03 41.8	-0.2
PUZ				SN	S	05 03 49.5	0.0
MWZ	**Matawai**	**0.96**	**224**	⇓PN	P	05 03 48.6	-0.2
MWZ				SN	S	05 04 01.0	-0.7
URZ	**Urewera**	**1.18**	**238**	PN	P	05 03 51.2	-0.5
URZ				SN	S	05 04 05.8	-1.2
KNZ	**Kokohu**	**1.48**	**202**	PN	P	05 03 54.7	-1.4
KUZ	**Kuaotunu**	**2.31**	**292**	PN	P	05 04 06.3	-1.5
WNVZ	**Wahianoa**	**2.75**	**232**	*e*PN	P	05 04 12.7	-1.5
TCW	**Tory Channel**	**4.77**	**221**	*e*SN	S	05 05 28.4	-9.0
MQZ	**McQueen's Vall**	**7.45**	**214**	SN	S	05 06 28.5	-16

NEIC 16 05:06:09.6, 51.50N×178.71E, h70km, ML3.6(AEIC), After AEIC., Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIMD	**Kanaga Island**	**2.54**	**82**	P	P	05 06 47.7	-1.8
KIKV	**Kanaga Island**	**2.59**	**80**	P	P	05 06 48.4	-1.9
KINC	**Kanaga Island**	**2.63**	**79**	P	P	05 06 48.8	-2.0
KINC				S	S	05 07 20.2	-1.3
ADAG	**Mount Adagdak**	**2.96**	**79**	P	P	05 06 52.7	-2.7
ADAG				S	S	05 07 27.0	-2.8
SMY	**Shemya**	**3.10**	**295**	*e*P	P	05 06 54.4	-3.0
GSSP	**Great Sitkin S**	**3.23**	**77**	P	P	05 06 56.7	-2.5
GSTD	**Great Sitkin T**	**3.25**	**78**	P	P	05 06 56.8	-2.6
GSMY	**Great Sitkin M**	**3.30**	**78**	P	P	05 06 57.5	-2.7
FX1	**Attu Island--F**	**3.68**	**294**	*e*P	P	05 07 02.1	-3.5
ATKA	**Atka Island**	**4.46**	**78**	P	P	05 07 13.7	-2.6
MTBL	**Makushin Table**	**9.21**	**69**	P	P	05 08 20.4	-1.5

JMA 16 05:06:50.1±0.1, 38.25N×141.93E, h46km±1km, M3.7, 2C-6D Broadband fault plane solution: P waves. NP1:ϕ_s182°, δ17°, λ114°. **NP2:**ϕ_s337°, δ74°, λ83°. **Principal axes:** T Plg60°, Azm237°; N Plg7°, Azm339°; P Plg29°, Azm73°; **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.50**	**294**	⇓P	P	05 07 01.2	+0.1
JIO				S	S	05 07 08.7	-0.3
OFUJ	**Ofunato**	**0.85**	**346**	⇑P	P	05 07 05.8	-0.1
OFUJ				*e*S	S	05 07 16.9	-0.6
JMK	**Ichinoseki**	**0.90**	**322**	⇓P	P	05 07 06.7	+0.3
JMK				*e*S	S	05 07 18.6	+0.1
JMM	**Marumori**	**0.98**	**247**	⇓P	P	05 07 07.0	-0.6
JOU	**Okura**	**1.00**	**277**	⇓P	P	05 07 08.2	+0.3
JOU				*e*S	S	05 07 21.4	+0.2
JFK	**Kawauchi**	**1.22**	**224**	⇓P	P	05 07 10.1	-0.8
JOM	**Ohasama**	**1.32**	**338**	⇑P	P	05 07 12.8	+0.2
JOM				*e*S	S	05 07 29.4	+0.2
JYK	**Kaneyama**	**1.40**	**299**	P	P	05 07 13.8	+0.1
JFT	**Otama**	**1.46**	**240**	⇓P	P	05 07 14.5	0.0
JFT				*e*S	S	05 07 32.4	-0.2
JYS	**Shirataka**	**1.47**	**269**	P	P	05 07 14.6	0.0
JYS				*e*S	S	05 07 33.2	+0.3
MAT	**Matsushiro**	**3.42**	**241**	P	P	05 07 43.5	+1.2
MAT				S	S	05 08 25.1	+3.1

JMA 16 05:17:58.2±0.1, 29.60N×130.11E, h27km±2km, M3.5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.32**	**320**	P	Pb	05 18 05.4	-0.2
JNN				*e*S	Sb	05 18 10.5	-0.2
JKC	**Kuchinoerabu**	**0.86**	**5**	P	Pb	05 18 14.4	-0.1
JAM	**Amami Oshima**	**1.26**	**201**	P	Pn	05 18 19.5	-0.9
JAM				*e*S	Sn	05 18 35.3	-1.3
JTN	**Tanegashima 3**	**1.29**	**35**	P	Pn	05 18 20.8	0.0
JTSR	**Tashiro 2**	**1.71**	**24**	P	Pn	05 18 26.7	-0.1
JTSR				*e*S	Sn	05 18 47.9	0.0

*MOS **16** 05:24:42.9±0.9, 51.22N×179.52E, h39km, mb5.1/63, MS4.8/6, Error ellipse: s-maj=8.5km s-min=5.1km az=95.2*
*IDC **16** 05:24:43.0±3.2, 51.25N×179.47E, h27km±21km, mb4.4/27, mb1 4.5/27, mb1mx4.5/31, mbtmp4.5/27, Error ellipse: s-maj=19.3km s-min=11.7km az=159.0*
*NEIC **16** 05:24:46.3±0.4, 51.21N×179.46E, h56km±3km, mb4.8/78, ML5.0(AEIC), ML4.9(PMR), Error ellipse: s-maj=5.9km s-min=2.6km az=183.0*
*BJI **16** 05:24:48.7, 51.69N×178.56E, h55km, mB5.3, mb4.8, Ms5.0, Msz5.0*

ISC 16 05:24:44.8±0.6, 51.21N±0.06×179.47E±0.04, h55km±4km, h41km±2.8km: pP-P, n299, σ0.96/310, mb4.8/120, MS5.1/9, 14C-2D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIMD	**Kanaga Island**	**2.14**	**74**	P	**P**	**05 25 18.9**	**0.0**
KIMD				S	**S**	**05 25 47.4**	**+3.3**
KIKV	**Kanaga Island**	**2.21**	**71**	P	**P**	**05 25 20.5**	**+0.7**
KIWB	**Kanaga Island**	**2.21**	**72**	*e*P	**P**	**05 25 20.7**	**+0.9**
KINC	**Kanaga Island**	**2.25**	**70**	P	**P**	**05 25 21.0**	**+0.6**
ADAG	**Mount Adagdak**	**2.57**	**71**	P	**P**	**05 25 25.5**	**+0.5**
GSTD	**Great Sitkin T**	**2.87**	**71**	P	**P**	**05 25 29.0**	**-0.2**
GSMY	**Great Sitkin M**	**2.91**	**72**	P	**P**	**05 25 29.9**	**0.0**
GSMY				S	**S**	**05 26 06.0**	**+2.1**
GSTR	**Great Sitkin T**	**2.93**	**71**	P	**P**	**05 25 30.0**	**0.0**
SMY	**Shemya**	**3.65**	**297**	P	**P**	**05 25 40.2**	**-0.1**
ATKA	**Atka Island**	**4.07**	**73**	P	**P**	**05 25 45.4**	**-0.7**
FX1	**Attu Island--F**	**4.24**	**296**	Pn	**P**	**05 25 46.9**	**-1.5**
	61nm,0.3s,baz=219,slow=4.7,SNR=149						
FX1				Sn	**S**	**05 26 41.2**	**+4.1**
	30nm,0.3s,baz=294,slow=20,SNR=2.8						
FX1	**Attu Island--F**	**4.24**	**296**	P	**P**	**05 25 47.7**	**-0.8**
FX1	**Attu Island--F**	**4.24**	**296**	P	**P**	**05 25 46.9**	**-1.6**
FX1						05 26 41.2	
FX1				pmax	pmax		
	comp=Z,61nm,0.3s						
NIKO	**Nikolski**	**7.41**	**72**	P	**P**	**05 26 31.5**	**-1.3**
SPIA	**Saint Paul Isl**	**8.49**	**41**	P	**P**	**05 26 48.7**	**+1.1**
UNV	**Unalaska Valle**	**8.96**	**67**	P	**P**	**05 26 53.3**	**-0.7**
CHGN	**Chignik**	**14.02**	**60**	*e*P	**P**	**05 28 00.5**	**-1.2**
SVW2	**Sparrevohn**	**16.95**	**45**	*e*P	**P**	**05 28 41.1**	**+1.9**
KDAK	**Kodiak Island**	**17.43**	**57**	*e*P	**P**	**05 28 42.3**	**-3.0**
	comp=Z,29nm,0.8s						
TTA	**Tatalina**	**17.62**	**39**	*e*P	**P**	**05 28 49.3**	**+1.7**
RSO	**Redoubt South**	**18.01**	**48**	*e*P	**P**	**05 28 53.5**	**+1.0**
BILL	**Bilibino**	**18.08**	**344**	*e*P	**P**	**05 28 53.9**	**+0.7**
	comp=Z,46nm,1.0s						
BILL	**Bilibino**	**18.08**	**344**	⇑*i*P	**P**	**05 28 54.5**	**+1.3**
BILL				pmax	pmax		
	comp=Z,44nm,1.5s						
BILL				MLR	MLR		
	comp=Z,4μm,24.0s						
MA2	**Magadan**	**18.20**	**309**	*i* P	**P**	**05 28 59.6**	**+4.8**
MA2				pmax	pmax		
	comp=Z,12nm,1.3s						
SPU	**Mount Spurr**	**18.57**	**47**	*e*P	**P**	**05 28 58.6**	**-0.6**
SEY	**Seymchan**	**18.66**	**319**	⇓*i*P	**P**	**05 29 04.8**	**+4.6**
SLKM	**Skilak Lake**	**19.23**	**49**	*e*P	**P**	**05 29 05.1**	**-1.6**
IMA	**Indian Mountai**	**20.17**	**32**	*e*P	**P**	**05 29 16.5**	**-0.3**
SML	**Sawmill**	**20.46**	**46**	P	**P**	**05 29 17.2**	**-2.7**
MCK	**McKinley**	**20.84**	**41**	*e*P	**P**	**05 29 22.3**	**-1.5**
	comp=Z,16nm,1.1s						
MCK	**McKinley**	**20.84**	**41**	*e*P	**P**	**05 29 22.3**	**-1.5**
MCK				pmax	pmax		
	comp=Z,16nm,1.1s						
EYAK	**Cordova Ski Ar**	**21.39**	**51**	*e*P	**P**	**05 29 30.8**	**+1.5**
DIV	**Divide**	**21.49**	**49**	*e*P	**P**	**05 29 28.9**	**-1.4**
	comp=Z,59nm,0.7s,mb5.0						
ILAR	**Eielson Array**	**22.06**	**39**	P	**P**	**05 29 34.0**	**-2.0**
	comp=Z,3.1nm,0.8s,mb3.8,baz=240,slow=9.1,SNR=28						
ILAR				PcP	PcP	05 33 32.2	-1.0
	comp=Z,0.6nm,0.6s,baz=278,slow=3.6,SNR=4.1						
ILAR				ScP		05 37 06.3	
	comp=Z,0.6nm,0.6s,baz=290,slow=4.2,SNR=5.4						
YSS	**Yuzh-Sakhalins**	**24.25**	**274**	*e*P	**P**	**05 29 58.3**	**+1.1**
	comp=Z,60nm,1.1s,mb4.9						
YSS	**Yuzh-Sakhalins**	**24.25**	**274**	⇑*i*P	**P**	**05 29 58.7**	**+1.4**
YSS				*e*		05 30 11.0	
DAWY	**Dawson**	**24.98**	**43**	*e*P	**P**	**05 30 03.4**	**-0.7**
ASAJ	**Asahikawa**	**25.61**	**268**	P	**P**	**05 30 11.1**	**+0.8**
	comp=Z,42nm,0.9s,mb5.0,baz=73,slow=6.4,SNR=18						
ASAJ	**Asahikawa**	**25.61**	**268**	P	**P**	**05 30 11.1**	**+0.8**
ASAJ				pmax	pmax		
	comp=Z,42nm,0.9s						
INK	**Inuvik**	**28.23**	**35**	P	**P**	**05 30 33.7**	**-0.3**
	comp=Z,2.8nm,0.5s,mb4.1,baz=260,slow=12,SNR=17						
INK				PcP	PcP	05 33 46.0	-0.6
	comp=Z,1.6nm,0.6s,baz=238,slow=3.6,SNR=4.1						
INK	**Inuvik**	**28.23**	**35**	*e*P	**P**	**05 30 33.2**	**-0.9**
	comp=Z,22nm,1.2s,mb4.7						
INK	**Inuvik**	**28.23**	**35**	P	**P**	**05 30 33.7**	**-0.3**
INK						05 33 46.0	
INK				pmax	pmax		
	comp=Z,3.0nm,0.5s						
INK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
YAK	**Yakutsk**	**28.71**	**311**	*c i*P	**P**	**05 30 37.7**	**-0.7**
YAK				pmax	pmax		
	comp=Z,21nm,0.5s,mb5.1						
YAK				MLR	MLR		
	comp=Z,3μm,23.0s,MS4.8						
KLR	**Kul'dur**	**30.18**	**285**	*e*P	**P**	**05 30 48.2**	**-3.4**
KLR				pmax	pmax		
	comp=N,20nm,1.0s						
KLR				pmax	pmax		
	comp=Z,28nm,1.0s,mb5.0						
MJAR	**Matsushiro Arr**	**32.68**	**260**	P	**P**	**05 31 12.6**	**-1.1**
	comp=Z,2.3nm,0.8s,mb4.2,baz=46,slow=9.6,SNR=6.9						
MJAR				PcP	PcP	05 33 58.7	+0.2
	comp=Z,1.8nm,1.0s,baz=72,slow=4.0,SNR=4.1						
MAT	**Matsushiro**	**32.68**	**260**	P	**P**	**05 31 13.3**	**-0.4**
MAT				*e*S	**S**	**05 36 35.6**	**+11**
MAT	**Matsushiro**	**32.68**	**260**	*e*P	**P**	**05 31 13.0**	**-0.7**
	comp=Z,14nm,1.1s,mb4.8						
MAT	**Matsushiro**	**32.68**	**260**	*e*P	**P**	**05 31 13.0**	**-0.7**
MAT				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.8						
WAKE	**Wake Island**	**33.43**	**202**	P	**P**	**05 31 15.7**	**-4.6**
	comp=Z,58nm,0.5s,mb5.8						
MDJ	**Mudanjiang**	**33.52**	**279**	P	**P**	**05 31 19.3**	**-1.6**
MDJ				AP	pP	05 31 30.3	-4.7
MDJ				XP	sP	05 31 35.5	-6.5
MDJ				PCP	PcP	05 34 00.5	-0.3
MDJ				S	**S**	**05 36 29.3**	**-8.6**
MDJ				SCP		05 37 41.0	
MDJ				PCS		05 37 45.6	
MDJ				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,692nm,13.0s						
MDJ				LR	LR		
	comp=N,1μm,26.7s,MS4.8						
MDJ				LR	LR		
	comp=E,2μm,27.7s,MS4.8						
MDJ				LR	LR		
	comp=Z,2μm,26.7s,MS4.8						
YKW3	**Yellowknife Ar**	**36.12**	**46**	*e*P	**P**	**05 31 42.1**	**-0.7**
YKA	**Yellowknife Ar**	**36.14**	**46**	P	**P**	**05 31 42.1**	**-0.9**
	comp=Z,4.6nm,0.7s,mb4.5,baz=283,slow=8.5,SNR=27						
YKA				PcP	PcP	05 34 07.7	-0.4
	comp=Z,1.7nm,0.8s,baz=289,slow=3.2,SNR=7.1						
YKA				ScP		05 37 52.0	
	comp=Z,0.4nm,0.4s,baz=291,slow=3.9,SNR=3.9						
YKA	**Yellowknife Ar**	**36.14**	**46**	P	**P**	**05 31 42.1**	**-0.9**
YKA				PcP	PcP	05 34 07.7	-0.4
YKA				ScP		05 37 52.0	
CN2	**Changchun**	**36.51**	**280**	*e*P	**P**	**05 31 46.9**	**+0.6**
BOD	**Bodaibo**	**37.20**	**306**	*e*P	**P**	**05 31 49.6**	**-2.4**
BOD				pmax	pmax		
	comp=Z,24nm,1.3s,mb4.9						
HTW	**Haystack Looko**	**37.43**	**72**	P	**P**	**05 31 55.2**	**+1.2**
TDL	**Tradedollar La**	**37.86**	**74**	P	**P**	**05 31 59.3**	**+1.7**
TWW	**Teanaway**	**38.29**	**72**	P	**P**	**05 32 02.9**	**+1.7**
TBM	**Table Mountain**	**38.44**	**72**	P	**P**	**05 32 03.5**	**+1.1**
EBG	**Ellensburg**	**38.58**	**72**	P	**P**	**05 32 05.1**	**+1.5**
KS15	**Wonju Array Si**	**38.58**	**270**	*e*P	**P**	**05 32 03.5**	**-0.1**
SNY	**Shenyang**	**38.73**	**278**	⇑P	**P**	**05 32 05.3**	**+0.4**
SNY				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.8						
MDW	**Midway**	**39.21**	**72**	P	**P**	**05 32 10.1**	**+1.3**
RSW	**Rattlesnake Hi**	**39.42**	**72**	P	**P**	**05 32 11.9**	**+1.4**
OD2	**Odessa Site #2**	**39.45**	**70**	P	**P**	**05 32 11.3**	**+0.5**
JNU	**Nakatsue**	**39.47**	**262**	P	**P**	**05 32 11.0**	**-0.1**
	comp=Z,11nm,0.9s,mb4.6,baz=41,slow=13,SNR=5.2						
CIT	**Chita**	**39.66**	**298**	*e*P	**P**	**05 32 13.0**	**+0.5**
CIT				*e*		05 32 32.6	
CIT				pmax	pmax		
	comp=Z,50nm,1.5s,mb5.0						
EDM	**Edmonton**	**39.84**	**60**	*e*P	**P**	**05 32 13.1**	**-0.9**
NEW	**Newport**	**39.96**	**68**	*e*P	**P**	**05 32 14.7**	**-0.4**
	comp=Z,8.8nm,0.6s,mb4.7						
NEW	**Newport**	**39.96**	**68**	*e*P	**P**	**05 32 14.7**	**-0.3**
NEW				pmax	pmax		
	comp=Z,9.0nm,0.6s						
MOD	**Modoc**	**41.38**	**79**	*e*P	**P**	**05 32 27.1**	**+0.3**
	comp=Z,5.5nm,0.7s,mb4.3						
WALA	**Waterton Lakes**	**41.44**	**66**	*e*P	**P**	**05 32 26.9**	**-0.3**
	comp=Z,15nm,1.2s,mb4.5						
WVOR	**Wild Horse Val**	**42.10**	**77**	*e*P	**P**	**05 32 32.3**	**-0.3**
	comp=Z,8.1nm,0.8s,mb4.4						
WVOR	**Wild Horse Val**	**42.10**	**77**	*e*P	**P**	**05 32 32.3**	**-0.3**
WVOR				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.4						
MSO	**Missoula**	**42.55**	**69**	*e*P	**P**	**05 32 35.8**	**-0.5**
	comp=Z,11nm,1.0s,mb4.5						
CHMT	**Chamberlain Mo**	**42.91**	**68**	*e*P	**P**	**05 32 38.0**	**-1.2**
HRY	**Holter Researc**	**43.84**	**68**	*e*P	**P**	**05 32 45.4**	**-1.3**
HLID	**Hailey**	**44.03**	**73**	*e*P	**P**	**05 32 48.9**	**+0.5**
	comp=Z,19nm,1.2s,mb4.7						
MCMT	**McKenzie Canyo**	**44.27**	**71**	*e*P	**P**	**05 32 49.9**	**-0.3**
BOZ	**Bozeman (W)**	**44.53**	**69**	*e*P	**P**	**05 32 52.0**	**-0.3**
	comp=Z,14nm,0.7s,mb4.9						
BOZ	**Bozeman (W)**	**44.53**	**69**	*e*P	**P**	**05 32 52.0**	**-0.3**
BOZ				pmax	pmax		
	comp=Z,14nm,0.7s,mb4.9						
QLMT	**Earthquake Lak**	**45.10**	**70**	*e*P	**P**	**05 32 56.5**	**-0.4**
MTUM	**Tungsten Hills**	**45.15**	**83**	P	**P**	**05 32 58.6**	**+1.2**
ELK	**Elko**	**45.16**	**77**	*e*P	**P**	**05 32 57.9**	**+0.5**
	comp=Z,8.9nm,0.9s,mb4.6						
ELK	**Elko**	**45.16**	**77**	*e*P	**P**	**05 32 57.9**	**+0.5**
ELK				pmax	pmax		
	comp=Z,9.0nm,0.9s						
PTRM	**Twissleman Ran**	**45.19**	**86**	*e*P	**P**	**05 32 58.5**	**+0.8**
YMR	**Madison River**	**45.47**	**70**	*e*P	**P**	**05 33 00.1**	**+0.3**
YFT	**Old Faithful**	**45.67**	**70**	*e*P	**P**	**05 33 02.3**	**+0.9**
SONM	**Songino Array**	**45.75**	**296**	P	**P**	**05 33 02.8**	**+0.9**
	comp=Z,3.5nm,0.6s,mb4.5,baz=60,slow=7.5,SNR=38						
LKWY	**Lake**	**45.86**	**70**	*e*P	**P**	**05 33 04.0**	**+1.1**
	comp=Z,14nm,0.8s,mb4.9						
LKWY	**Lake**	**45.86**	**70**	*e*P	**P**	**05 33 04.0**	**+1.1**
LKWY				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.9						
IMW	**Indian Meadow**	**45.92**	**71**	*e*P	**P**	**05 33 03.7**	**+0.3**
	comp=Z,16nm,1.1s,mb4.9						
RRI2	**Red Ridge**	**46.01**	**71**	*e*P	**P**	**05 33 04.2**	**+0.1**
	comp=Z,45nm,1.4s,mb5.2						
HVU	**Hansel Valley**	**46.05**	**74**	*e*P	**P**	**05 33 03.8**	**-0.7**
ZAK	**Zakamensk**	**46.11**	**300**	⇓*e*P	**P**	**05 33 05.1**	**+0.3**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.4						
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.8						
SNOW	**Snow King Moun**	**46.28**	**71**	*e*P	**P**	**05 33 07.0**	**+0.8**
	comp=Z,8.3nm,0.9s,mb4.7						
HHC	**Hu-ho-hao-te**	**46.69**	**285**	*e*P	**P**	**05 33 10.8**	**+1.3**
HHC				AP	pP	05 33 21.9	-2.1
HHC				PP	PP	05 35 01.3	+1.8
HHC				*e*S	**S**	**05 39 56.3**	**+2.3**
HHC				SCS	ScS	05 42 59.0	+2.6
HHC				AMB	AMB		
	comp=Z,123nm,1.3s,mb5.7						
HHC				LR	LR		
	comp=N,3μm,25.0s,MS5.7						
HHC				LR	LR		
	comp=E,9μm,24.4s,MS5.7						
HHC				LR	LR		
	comp=Z,12μm,22.6s,MS5.8						
HWUT	**Hardware Ranch**	**46.88**	**74**	*e*P	**P**	**05 33 11.3**	**+0.3**
	comp=Z,3.9nm,0.5s,mb4.6						
SSE	**Sheshan**	**46.90**	**268**	P	**P**	**05 33 11.9**	**+0.6**
SSE				AMB	AMB		
	comp=Z,28nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,550nm,12.7s						
SSE	**Sheshan**	**46.90**	**268**	P	**P**	**05 33 11.9**	**+0.6**
	comp=Z,28nm,0.7s,mb5.3						
DUG	**Dugway**	**46.97**	**76**	*e*P	**P**	**05 33 12.2**	**+0.5**
	comp=Z,18nm,1.1s,mb4.9						
DUG	**Dugway**	**46.97**	**76**	*e*P	**P**	**05 33 12.2**	**+0.5**
DUG				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.9						
TCUT	**Toone Canyon**	**47.27**	**74**	*e*P	**P**	**05 33 13.7**	**-0.3**
BW06	**Boulder Array**	**47.40**	**71**	*e*P	**P**	**05 33 15.0**	**-0.1**
	comp=Z,34nm,1.1s,mb5.2						
PDAR	**Pinedale Array**	**47.40**	**71**	P	**P**	**05 33 15.2**	**+0.1**
	comp=Z,18nm,0.7s,mb5.1,baz=301,slow=3.8,SNR=162						
MWC	**Mount Wilson**	**47.46**	**86**	*e*P	**P**	**05 33 15.7**	**0.0**
NJ2	**Nanjing**	**47.73**	**271**	*e*P	**P**	**05 33 17.4**	**-0.4**
NJ2				AP	pP	05 33 27.5	-4.9
NJ2				PP	PP	05 35 08.0	-1.2
NJ2				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,980nm,7.2s						
NJ2				LR	LR		
	comp=N,4μm,19.6s,MS5.4						
NJ2				LR	LR		
	comp=E,2μm,19.4s,MS5.4						
NJ2				LR	LR		
	comp=Z,7μm,16.0s,MS5.7						
BTO	**Baotou**	**47.77**	**286**	*e*P	**P**	**05 33 18.5**	**+0.5**
DAU	**Daniels Canyon**	**47.78**	**75**	*e*P	**P**	**05 33 18.1**	**0.0**
ARUT	**Antelope Range**	**48.06**	**79**	*e*P	**P**	**05 33 20.2**	**-0.1**
MSU	**Marysvale**	**48.39**	**77**	*e*P	**P**	**05 33 23.3**	**+0.4**
TMUT	**Trail Mountain**	**48.50**	**76**	*e*P	**P**	**05 33 24.1**	**+0.4**
PFO	**Pinyon Flat Ob**	**48.87**	**85**	*e*P	**P**	**05 33 25.9**	**-0.8**
SRU	**San Rafael**	**49.03**	**76**	*e*P	**P**	**05 33 27.7**	**-0.1**
RWWY	**Rawlins**	**49.44**	**71**	*e*P	**P**	**05 33 30.3**	**-0.5**
	comp=Z,26nm,1.3s,mb5.1						
KBS	**Kingsbay**	**49.91**	**357**	*e*P	**P**	**05 33 32.9**	**-1.2**
	comp=Z,8.3nm,0.4s,mb5.1						
KBS	**Kingsbay**	**49.91**	**357**	*e*P	**P**	**05 33 32.9**	**-1.2**
KBS				pmax	pmax		
	comp=Z,8.0nm,0.4s,mb5.1						
PV10	**Paradox Valley**	**50.39**	**75**	*e*P	**P**	**05 33 38.5**	**+0.2**
ULM	**Lac du Bonnet**	**50.68**	**56**	P	**P**	**05 33 40.2**	**-0.1**
	comp=Z,2.0nm,0.6s,mb4.2,baz=292,slow=9.9,SNR=3.2						
ULM				PcP	PcP	05 34 56.6	-0.5
	comp=Z,4.0nm,1.0s,baz=298,slow=5.7,SNR=2.5						
PV01	**Paradox Valley**	**50.83**	**75**	P	**P**	**05 33 40.9**	**-0.7**
WHN	**Wuhan**	**51.58**	**273**	P	**P**	**05 33 46.8**	**-0.5**
DAG	**Danmarks Havn**	**51.77**	**5**	⇑*i*P	**P**	**05 33 46.5**	**-1.7**
	comp=Z,2.7nm,0.7s,mb4.3						
DAG	**Danmarks Havn**	**51.77**	**5**	⇑*e*P	**P**	**05 33 46.5**	**-1.7**
	comp=Z,2.7nm,0.7s,mb4.3						
DAG	**Danmarks Havn**	**51.77**	**5**	⇑*e*P	**P**	**05 33 46.5**	**-1.7**
DAG				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
XAN	**Xi'an**	**52.62**	**280**	P	**P**	**05 33 54.3**	**-0.8**
XAN				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.6						
ZAL	**Zalesovo**	**53.37**	**313**	P	**P**	**05 33 59.4**	**-1.0**
	comp=Z,3.1nm,0.4s,mb4.5,baz=32,slow=4.9,SNR=6.7						
NVS	**Novosibirsk**	**53.52**	**314**	*i* P	**P**	**05 34 00.3**	**-1.1**
NVS				pmax	pmax		
	comp=N,12nm,1.0s						
NVS				pmax	pmax		
	comp=E,15nm,1.0s						
NVS				pmax	pmax		
	comp=Z,28nm,1.0s,mb5.2						
SUMG	**Summit**	**53.72**	**13**	*e*P	**P**	**05 34 02.2**	**-0.5**
	comp=Z,26nm,1.1s,mb5.1						
LAZ	**Ladron**	**54.14**	**78**	*e*P	**P**	**05 34 06.1**	**-0.2**
ANMO	**Albuquerque**	**54.19**	**77**	*e*P	**P**	**05 34 06.4**	**-0.3**
	comp=Z,1.8nm,0.9s,mb4.0						
ANMO	**Albuquerque**	**54.19**	**77**	*e*P	**P**	**05 34 06.4**	**-0.3**
ANMO				pmax	pmax		
	comp=Z,2.0nm,0.9s						
LZH	**Lanzhou**	**54.38**	**285**	⇑P	**P**	**05 34 08.5**	**+0.5**
LZH				AP	pP	05 34 21.5	-1.4
LZH				PP	PP	05 36 12.0	+0.1
LZH				*e*S	**S**	**05 41 40.5**	**0.0**
LZH				AMB	AMB		
	comp=Z,32nm,1.3s,mb5.1						
LZH				AMB	AMB		
	comp=Z,91nm,6.2s						
LZH				LR	LR		
	comp=N,702nm,15.0s						
LZH				LR	LR		
	comp=Z,937nm,17.9s,MS4.9						
LZH	**Lanzhou**	**54.38**	**285**	⇑P	**

WMQ LR LR
comp=E,2μm,20.0s,MS5.2
WMQ LR LR
comp=Z,2μm,22.0s,MS5.2
WMOK Wichita Mounta 58.99 72 *e*P **P 05 34 40.1 -0.7**
comp=Z,15nm,1.1s,mb4.9
WMOK Wichita Mounta 58.99 72 *e*P **P 05 34 40.1 -0.7**
WMOK pmax pmax
comp=Z,15nm,1.1s,mb4.9
MKAR Makanchi Array 59.28 308 P **P 05 34 41.6 -1.0**
comp=Z,5.0nm,0.5s,mb4.8,baz=51,slow=6.5,SNR=44
MKAR Makanchi Array 59.28 308 *i* P **P 05 34 41.8 -0.8**
MKAR pmax pmax
comp=Z,3.0nm,0.4s
TXAR Lajitas Array 59.76 80 P **P 05 34 45.4 -0.8**
comp=Z,1.3nm,0.5s,mb4.2,baz=302,slow=4.6,SNR=23
TXAR Lajitas Array 59.76 80 P **P 05 34 45.4 -0.8**
VOSK Vostochnaya 60.28 318 P **P 05 34 48.8 -0.7**
VOSK pmax pmax
comp=Z,23nm,1.0s,mb5.2
BVA0 Borovoye Array 60.31 319 *i* P **P 05 34 49.6 0.0**
BVA0 pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
BVAR Borovoye Array 60.31 319 P **P 05 34 49.5 -0.1**
comp=Z,22nm,0.6s,mb5.4,baz=50,slow=7.2,SNR=117
BRVK Borovoye 60.33 319 *e*P **P 05 34 49.3 -0.5**
comp=Z,23nm,1.1s,mb5.1
BRVK Borovoye 60.33 319 *e*P **P 05 34 49.3 -0.5**
BRVK pmax pmax
comp=Z,23nm,1.1s,mb5.1
SCHQ Schefferville 60.81 37 P **P 05 34 51.7 -1.3**
comp=Z,5.9nm,0.9s,mb4.7,baz=344,slow=7.3,SNR=6.2
SCHQ Schefferville 60.81 37 P **P 05 34 51.7 -1.3**
SVE Sverdlovsk 61.15 327 *e*P **P 05 34 56.2 +0.9**
SVE *e* 05 35 03.8
SVE pmax pmax
comp=Z,32nm,1.3s,mb5.3
ARU Arti 62.17 327 *e*P **P 05 35 01.3 -0.8**
comp=Z,24nm,1.0s,mb5.3
ARU Arti 62.17 327 ⇑ *i*P **P 05 35 02.6 +0.5**
ARU *e* 05 35 38.8
ARU *e* 05 37 22.4
ARU *e*S **S 05 43 36.8 +15**
ARU pmax pmax
comp=Z,22nm,1.2s,mb5.2
KMI Kunming 62.67 277 P **P 05 35 05.6 -0.3**
KMI AMB AMB
comp=Z,7.0nm,1.2s,mb4.7
KMI Kunming 62.67 277 P **P 05 35 05.6 -0.3**
comp=Z,7.0nm,1.2s,mb4.7
WVT Waverly 64.39 64 *e*P **P 05 35 14.8 -2.2**
comp=Z,9.0nm,0.9s,mb4.8
WVT Waverly 64.39 64 *e*P **P 05 35 14.8 -2.1**
WVT pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
OXF Oxford 64.65 66 *e*P **P 05 35 17.5 -1.2**
comp=Z,75nm,1.1s,mb5.6
OXF Oxford 64.65 66 *e*P **P 05 35 17.5 -1.1**
OXF pmax pmax
comp=Z,75nm,1.1s,mb5.6
KAF Kangasniemi 65.03 346 *e*p **P 05 35 18.8 -1.9**
comp=Z,1.5nm,0.5s,mb4.3,baz=16,slow=5.8
KAF Kangasniemi 65.03 346 *e*P **P 05 35 18.8 -1.9**
KAF pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
PLAL Pickwick Lake 65.07 65 *e*P **P 05 35 19.1 -2.3**
comp=Z,10.0nm,0.6s,mb5.0
TKM2 Tokmak 2 65.38 308 P **P 05 35 23.8 +0.6**
SNR=8.4
ULHL Ulahol 65.55 307 P **P 05 35 25.0 +0.6**
SNR=6.7
USP Ospenovka 65.66 309 P **P 05 35 25.7 +0.7**
SNR=22
FINES FINESS Array B 65.70 346 P **P 05 35 23.2 -1.8**
comp=Z,1.8nm,0.7s,mb4.2,baz=19,slow=8.2,SNR=9.2
FINES FINESS Array B 65.70 346 *e*P **P 05 35 25.1 +0.1**
FRU Bishkek 65.92 309 ⇑ *i*P **P 05 35 27.0 +0.3**
AAK Ala-Archa 66.13 309 *e*P **P 05 35 28.9 +0.8**
SNR=6.0
AAK Ala-Archa 66.13 309 *e*P **P 05 35 27.2 -0.8**
comp=Z,11nm,0.9s,mb4.9
AAK Ala-Archa 66.13 309 *e*P **P 05 35 27.2 -0.8**
AAK pmax pmax
comp=Z,11nm,0.9s,mb4.9
EKS2 Erkin-Say 66.46 309 P **P 05 35 31.5 +1.4**
SNR=11
LSA Lhasa 66.47 288 P **P 05 35 32.3 +1.9**
LSA Lhasa 66.47 288 *e*P **P 05 35 31.6 +1.2**
comp=Z,4.0nm,0.4s,mb4.8
LSA Lhasa 66.47 288 *e*P **P 05 35 31.6 +1.2**
LSA pmax pmax
comp=Z,4.0nm,0.4s,mb4.8
AML Almayashu 66.90 309 P **P 05 35 34.6 +1.7**
SNR=6.0
AKTO Aktyubinsk 67.19 324 P **P 05 35 34.2 -0.3**
AKTO pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
MYNC Murphy 67.23 62 *e*P **P 05 35 34.1 -1.0**
comp=Z,5.5nm,0.4s,mb4.9
MYNC Murphy 67.23 62 *e*P **P 05 35 34.1 -1.0**
MYNC pmax pmax
comp=Z,6.0nm,0.4s,mb5.0
AB31 Akbulak array 67.41 322 P **P 05 35 36.1 +0.2**
AB31 pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
KKAR Karatay Array 67.69 312 *i* P **P 05 35 38.1 +0.3**
KKAR pmax pmax
comp=Z,5.0nm,0.5s,mb4.8
NB2 NORSAR Subarra 67.71 354 P **P 05 35 37.0 -0.6**
comp=Z,27nm,1.0s,mb5.2,baz=7.0,slow=6.2
NB2 NORSAR Subarra 67.71 354 P **P 05 35 37.0 -0.6**
baz=7.2,slow=6.5
NB2 NORSAR Subarra 67.71 354 P **P 05 35 37.0 -0.6**
NB2 pmax pmax
comp=Z,27nm,1.0s,mb5.2
NOA NORSAR Array B 67.71 354 P **P 05 35 36.9 -0.7**
comp=Z,18nm,1.0s,mb5.1,baz=8.1,slow=6.3,SNR=24
HFS Hagfors 68.42 352 P **P 05 35 40.9 -1.2**
comp=Z,4.4nm,0.4s,mb4.8,slow=4.4,SNR=21
KONO Kongsberg 69.20 355 *e*P **P 05 35 46.0 -0.8**
OBN Obninsk 69.64 338 *ce*P **P 05 35 47.2 -2.4**
OBN *e*S 05 45 23.0
OBN pmax pmax
comp=Z,11nm,0.5s,mb5.0
OBN MLR MLR
comp=Z,1μm,21.0s,MS5.0
KKN Kakani 71.35 291 *e*P **P 05 36 01.3 +0.8**
comp=Z,42nm,0.8s,mb5.4
KKN Kakani 71.35 291 *e*P **P 05 36 01.3 +0.8**
KKN pmax pmax
comp=Z,21nm,0.8s,mb5.1
PKI Pulchoki 71.44 291 *e*P **P 05 36 01.7 +0.7**
comp=Z,80nm,1.2s,mb5.5
PKI Pulchoki 71.44 291 *e*P **P 05 36 01.7 +0.7**
PKI pmax pmax
comp=Z,40nm,1.2s,mb5.2
GKN Gorkha 71.56 292 *e*P **P 05 36 02.2 +0.5**
DMN Daman 71.58 291 *e*P **P 05 36 02.8 +0.9**
comp=Z,63nm,1.1s,mb5.5
KOLN Koldanda 72.34 292 *e*P **P 05 36 06.2 -0.2**
comp=Z,37nm,1.2s,mb5.2
EKA Eskdalemuir Ar 73.81 2 P **P 05 36 14.6 +0.3**
comp=Z,5.9nm,0.8s,mb4.5,slow=5.0,SNR=16
BSEG Bad Segeberg 74.84 353 *e*P **P 05 36 21.3 +1.0**
AKASG Malin Array Be 75.37 341 P **P 05 36 22.6 -0.9**
comp=Z,1.0nm,0.3s,mb4.3,baz=21,slow=5.7,SNR=16
DCN Croghan 75.67 4 *e*P **P 05 36 25.5 +0.4**
DLF Lyons Farm 75.75 4 *e*P **P 05 36 25.8 +0.3**
DSB Dublin 75.81 4 *e*P **P 05 36 26.0 +0.1**
comp=Z,20nm,1.3s,mb4.9
CLZ Clausthal 76.91 353 *e*P **P 05 36 32.5 +0.3**
comp=Z,34nm,1.5s,mb5.1
CLZ Clausthal 76.91 353 *e*P **P 05 36 32.5 +0.3**
CLZ pmax pmax
comp=Z,34nm,1.5s,mb5.1
GOF Gofitskoye 76.98 330 *e*P **P 05 36 28.5 -4.2**
GOF pmax pmax
comp=Z,22nm,0.7s,mb5.2
CLL Collm 77.22 351 P **P 05 36 33.0 -0.9**
CLL Collm 77.22 351 *e*P **P 05 36 33.0 -0.9**
OJC Ojcow 77.48 347 *e*P **P 05 36 35.9 +0.6**
BRG Berggiesshubel 77.56 351 *e*P **P 05 36 36.3 +0.6**
comp=Z,4.3nm,1.0s,mb4.3
BRG Berggiesshubel 77.56 351 *e*P **P 05 36 36.3 +0.5**
BRG pmax pmax
comp=Z,4.0nm,1.0s,mb4.3

UPC Upice 77.69 349 *e*P **P 05 36 36.1 -0.4**
DPC Dobruska-Polom 77.81 349 *e*P **P 05 36 37.3 +0.2**
MOX Moxa 78.00 352 *i* P **P 05 36 38.0 -0.2**
MOX Moxa 78.00 352 *e*P **P 05 36 38.0 -0.2**
STHS Stebnicka Huta 78.04 346 *e*P **P 05 36 39.9 +1.4**
STHS *e* 05 39 22.7
KIV Kislovodsk 78.08 330 ⇑ *i*P **P 05 36 35.2 -3.6**
KIV *e*S 05 46 47.1
KIV pmax pmax
comp=Z,5.0nm,0.5s,mb4.7
KOLS Kolonicke sedl 78.35 345 *e*P **P 05 36 40.9 +0.8**
PRU Pruhonice 78.37 350 *e*P **P 05 36 40.5 +0.3**
TNS Taunus Mts 78.66 354 *e*P **P 05 36 42.5 +0.7**
comp=Z,11nm,1.3s,mb4.6
TNS Taunus Mts 78.66 354 *e*P **P 05 36 42.5 +0.7**
TNS pmax pmax
comp=Z,11nm,1.3s,mb4.6
VRAC Vranov 78.80 349 P **P 05 36 42.9 +0.3**
comp=Z,1.7nm,0.3s,mb4.4,baz=27,slow=9.0,SNR=5.6
GIVF Givet 78.97 356 *e*P **P 05 36 42.6 -0.9**
GRA1 Grafenberg Arr 78.98 352 *e*P **P 05 36 44.2 +0.6**
comp=Z,10.0nm,0.9s,mb4.8
GRF Grafenberg Arr 78.98 352 *e*P **P 05 36 44.2 +0.6**
comp=Z,10.0nm,0.9s,mb4.8
GRF Grafenberg Arr 78.98 352 *e*P **P 05 36 44.2 +0.6**
GRF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
GRF Grafenberg Arr 78.98 352 *e*P **P 05 36 44.2 +0.6**
GRF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
BAIF Baives 79.03 357 *e*P **P 05 36 44.3 +0.4**
comp=Z,47nm,1.3s,mb5.0
BAIF Baives 79.03 357 *e*P **P 05 36 44.3 +0.4**
BAIF pmax pmax
comp=Z,24nm,1.3s,mb5.0
VYHS Vyhne 79.30 347 *e*P **P 05 36 46.3 +0.9**
KHC Kasperske Hory 79.32 351 *e*P **P 05 36 46.1 +0.7**
KHC Kasperske Hory 79.32 351 *e*P **P 05 36 45.8 +0.4**
SOC Sochi 79.33 331 *e*P **P 05 36 42.6 -3.1**
SOC pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
SOC pmax pmax
comp=N,11nm,1.2s
SOC pmax pmax
comp=E,9.0nm,0.9s
WET Wettzell 79.37 351 *e*P **P 05 36 46.1 +0.3**
comp=E,4.0nm,1.0s,mb4.3
WET Wettzell 79.37 351 *e*P **P 05 36 46.1 +0.3**
WET pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
GEC2 GERESS Array S 79.59 350 *e*P **P 05 36 47.0 +0.1**
comp=Z,9.0nm,1.6s,mb4.5
GEC2 GERESS Array S 79.59 350 *e*P **P 05 36 47.0 +0.1**
GEC2 pmax pmax
comp=Z,9.0nm,1.6s,mb4.5
GERES GERESS Array B 79.59 350 P **P 05 36 46.6 -0.3**
comp=Z,1.4nm,0.6s,mb4.0,slow=5.3,SNR=4.1
FLN La Foliniere 80.41 360 *e*P **P 05 36 51.3 0.0**
comp=Z,47nm,1.2s,mb5.0
FLN La Foliniere 80.41 360 *e*P **P 05 36 51.3 0.0**
FLN pmax pmax
comp=Z,23nm,1.2s,mb5.0
FUR Furstenfeldbru 80.49 352 *e*P **P 05 36 49.9 -1.9**
comp=Z,18nm,0.4s,mb5.3
FUR Furstenfeldbru 80.49 352 *e*P **P 05 36 49.9 -1.9**
FUR pmax pmax
comp=Z,18nm,0.4s,mb5.3
BFO Black Forest 80.55 354 *e*P **P 05 36 51.4 -0.7**
comp=Z,6.0nm,1.0s,mb4.5
BFO Black Forest 80.55 354 *e*P **P 05 36 51.4 -0.7**
BFO pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
LDF La Druitiere 80.58 360 *e*P **P 05 36 52.0 -0.2**
comp=Z,13nm,0.8s,mb4.6
LDF La Druitiere 80.58 360 *e*P **P 05 36 52.0 -0.2**
LDF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
GRR Gorron 80.78 0 *e*P **P 05 36 53.6 +0.3**
comp=Z,16nm,0.8s,mb4.7
GRR Gorron 80.78 0 *e*P **P 05 36 53.6 +0.3**
GRR pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
GNI Garni 80.80 327 *i* P **P 05 36 52.6 -1.0**
GNI pmax pmax
comp=Z,9.0nm,1.2s
GNI MLR MLR
comp=Z,500nm,20.0s
ROSF Rostrenen 80.81 2 *e*P **P 05 36 53.8 +0.4**
SGMF Saint Gilles 80.91 1 *e*P **P 05 36 54.2 +0.3**
comp=Z,41nm,1.2s,mb4.9
SGMF Saint Gilles 80.91 1 *e*P **P 05 36 54.2 +0.3**
SGMF pmax pmax
comp=Z,20nm,1.2s,mb4.9
HAU Haudompre 80.99 355 *e*P **P 05 36 54.6 +0.2**
MLR Muntele Rosu 81.00 341 P **P 05 36 55.8 +1.3**
comp=Z,2.3nm,0.5s,mb4.3,baz=97,slow=8.9,SNR=6.2
WRAB Tennant Creek 81.13 222 *e*P **P 05 36 54.1 -1.5**
comp=Z,6.7nm,1.1s,mb4.5
WRAB Tennant Creek 81.13 222 *e*P **P 05 36 54.2 -1.5**
WRAB pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
WRA Warramunga Arr 81.14 222 P **P 05 36 54.8 -0.9**
comp=Z,2.6nm,0.9s,mb4.2,baz=37,slow=6.0,SNR=15
HINF Hinteralfeld 81.15 355 *e*P **P 05 36 55.2 -0.1**
LOR Lormes 81.83 357 *e*P **P 05 36 59.1 +0.3**
comp=Z,13nm,1.2s,mb4.5
LOR Lormes 81.83 357 *e*P **P 05 36 59.1 +0.3**
LOR pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
DAVOX Davos 81.98 353 P **P 05 37 00.2 +0.6**
comp=Z,2.7nm,0.7s,mb4.3,baz=315,slow=4.3,SNR=5.1
SSF Saint Saulge 82.05 357 *e*P **P 05 37 00.3 +0.4**
comp=Z,15nm,1.4s,mb4.7
SSF Saint Saulge 82.05 357 *e*P **P 05 37 00.3 +0.4**
SSF pmax pmax
comp=Z,15nm,1.4s,mb4.7
AVF Avril sur Loir 82.33 357 *e*P **P 05 37 01.6 +0.2**
CABF La Chapelle 82.40 355 *e*P **P 05 37 02.3 +0.6**
comp=Z,32nm,1.2s,mb4.8
CABF La Chapelle 82.40 355 *e*P **P 05 37 02.3 +0.6**
CABF pmax pmax
comp=Z,16nm,1.2s,mb4.8
SMF Signal de Mont 82.46 357 *e*P **P 05 37 02.4 +0.4**
comp=Z,40nm,1.2s,mb4.9
SMF Signal de Mont 82.46 357 *e*P **P 05 37 02.4 +0.4**
SMF pmax pmax
comp=Z,20nm,1.2s,mb4.9
MFF Saint Martin d 82.57 360 *e*P **P 05 37 03.1 +0.5**
BGF Bois d'Agland 82.57 358 *e*P **P 05 37 02.9 +0.3**
LPL La Plagne 83.45 355 *e*P **P 05 37 08.6 +1.5**
LPG La Plagne 83.47 355 *e*P **P 05 37 09.0 +1.8**
comp=Z,18nm,1.2s,mb4.7
LPG La Plagne 83.47 355 *e*P **P 05 37 09.0 +1.8**
LPG pmax pmax
comp=Z,9.0nm,1.2s,mb4.7
FITZ Fitzroy Crossi 83.51 231 *e*P **P 05 37 07.5 -0.4**
comp=Z,11nm,0.9s,mb5.0
FITZ Fitzroy Crossi 83.51 231 P **P 05 37 07.6 -0.3**
comp=Z,5.3nm,0.6s,mb4.8,baz=96,slow=3.4,SNR=10.0
BNI Bardonecchia 83.92 355 *e*P **P 05 37 10.6 +1.2**
comp=Z,11nm,1.1s,mb4.9
BNI Bardonecchia 83.92 355 *e*P **P 05 37 10.6 +1.2**
BNI pmax pmax
comp=Z,11nm,1.1s,mb4.9
ORIF Oris-en-Rattie 84.10 355 *e*P **P 05 37 11.7 +1.4**
comp=Z,9.8nm,0.9s,mb4.7
ORIF Oris-en-Rattie 84.10 355 *e*P **P 05 37 11.7 +1.4**
ORIF pmax pmax
comp=Z,5.0nm,0.9s,mb4.6
VIVF Saint-Julien-l 84.21 356 *e*P **P 05 37 11.9 +1.0**
CAF Calviac 84.22 358 *e*P **P 05 37 11.9 +1.0**
comp=Z,45nm,1.4s,mb5.1
CAF Calviac 84.22 358 *e*P **P 05 37 11.9 +1.0**
CAF pmax pmax
comp=Z,22nm,1.4s,mb5.1
LFF La Frestale 84.23 359 *e*P **P 05 37 11.8 +0.9**
MBDF Montbardon 84.24 355 *e*P **P 05 37 11.5 +0.5**
comp=Z,8.4nm,0.8s,mb4.6
MBDF Montbardon 84.24 355 *e*P **P 05 37 11.5 +0.5**
MBDF pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
MALT Malatya 84.54 330 *e*P **P 05 37 13.1 +0.4**
comp=Z,9.9nm,1.3s,mb4.8
MALT Malatya 84.54 330 *e*P **P 05 37 13.1 +0.4**
MALT pmax pmax
comp=Z,10.0nm,1.3s,mb4.8

BR131 Keskin Array S 84.64 334 *e*P **P 05 37 13.6 +0.5**
comp=Z,2.7nm,0.8s,mb4.4
BRTR Keskin Array B 84.64 334 P **P 05 37 13.8 +0.7**
comp=Z,3.8nm,0.8s,mb4.5,baz=71,slow=2.4,SNR=13
SMRF Simiane la Rot 85.05 356 *e*P **P 05 37 16.6 +1.5**
comp=Z,22nm,1.1s,mb4.9
QSPA South Pole Qui 140.96 180 *e*PKP PKPdf 05 44 04.5 -2.4

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*IDC **16** 05:27:39.8±4.3, 34.59N×21.89E, mb4.0/2, mb1 3.6/5, mb1mx3.5/23, mbtmp3.6/5, ML4.1/1, MS4.1/2, Ms1 4.1/2, ms1mx3.8/36, Error ellipse: s-maj=79.5km s-min=45.9km az=7.0*
*ATH **16** 05:27:46.6, 34.58N×22.38E, h33km, MD4.2/13*
*NEIC **16** 05:27:46.7, 34.57N×22.38E, h34km, MD4.1(ATH), After ATH.*
*CSEM **16** 05:27:46.9±0.8, 34.49N×22.30E, h60km±3km, MD4.1, Error ellipse: s-maj=22.8km s-min=4.3km az=40.0*
ISC 16 05:27:39.8±3.4,**34.3N**±0.1×**22.1E**±0.1,**h8**km±22km,**n25,** σ**1**§**14/25,mb4.1/2,MS4.5**/1,**Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAM	**Vamos**	**2.10**	**57**	*e*PN	**Pn**	**05 28 16.5**	**+0.8**
KYTH	**Kithira**	**2.16**	**22**	*e*PB	**Pb**	**05 28 18.0**	**-0.9**
IDI	**Anoyia**	**2.55**	**66**	Pn	**Pn**	**05 28 22.8**	**+0.7**
	3.0nm,0.3s,baz=218,slow=16,SNR=21						
IDI				Sn	**Sn**	**05 28 54.5**	**+0.8**
	3.8nm,0.3s,baz=299,slow=19,SNR=6.0						
IDI				LR	LR	05 29 20.5	
	comp=Z,1μm,19.6s,baz=47,slow=39						
VLI	**Veliai**	**2.55**	**16**	*e*PB	**Pb**	**05 28 23.5**	**-2.0**
ITM	**Ithomi**	**2.91**	**358**	*e*PN	**Pn**	**05 28 28.5**	**+1.2**
XRY	**Khrisi**	**3.06**	**78**	*e*PN	**Pn**	**05 28 30.5**	**+1.0**
NPS	**Neapolis**	**3.09**	**70**	*e*PN	**Pn**	**05 28 30.5**	**+0.6**
NAIG	**Nisos Aigina**	**3.67**	**18**	*e*PN	**Pn**	**05 28 38.0**	**-0.2**
NSAL	**Nisos Salamina**	**3.81**	**17**	*e*PN	**Pn**	**05 28 40.5**	**+0.4**
MGER	**Gerania Oros**	**3.84**	**14**	*e*PN	**Pn**	**05 28 40.0**	**-0.5**
APE	**Apeiranthos**	**3.98**	**44**	*e*PN	**Pn**	**05 28 42.0**	**-0.5**
VLS	**Valsamata**	**4.08**	**344**	*e*PN	**Pn**	**05 28 47.0**	**+3.1**
VLS	**Valsamata**	**4.08**	**344**	*e*Pn	**Pn**	**05 28 44.0**	**+0.1**
MPAR	**Parnis Oros**	**4.11**	**19**	*e*PN	**Pn**	**05 28 44.0**	**-0.3**
EVR	**Evrytania**	**4.64**	**358**	*e*PN	**Pn**	**05 28 53.5**	**+1.5**
EVR	**Evrytania**	**4.64**	**358**	*e*Pn	**Pn**	**05 28 55.0**	**+3.0**
BRTR	**Keskin Array B**	**10.74**	**56**	Pn	**P**	**05 30 15.6**	**-1.4**
	0.1nm,0.3s,baz=241,slow=18,SNR=2.4						
KHC	**Kasperske Hory**	**16.13**	**340**	*e*P	**P**	**05 31 32.0**	**+3.7**
KHC				x	x	05 31 45.5	
KHC	**Kasperske Hory**	**16.13**	**340**	*e*P	**P**	**05 31 32.0**	**+3.7**
KHC				*e*		05 31 45.5	
AKASG	**Malin Array Be**	**17.24**	**16**	Pn	**P**	**05 31 37.5**	**-4.9**
	0.7nm,0.3s,baz=205,slow=11,SNR=5.5						
AKASG	**Malin Array Be**	**17.24**	**16**	Pn	**P**	**05 31 37.5**	**-4.9**
ATD	**Arta Tunnel**	**29.53**	**135**	LR	LR	05 48 10.4	
	comp=Z,1μm,19.4s,MS4.5,baz=242,slow=41						
MKAR	**Makanchi Array**	**46.39**	**55**	P	**P**	**05 36 07.0**	**-1.4**
	1.6nm,0.5s,mb4.2,baz=286,slow=8.8,SNR=4.8						
MKAR	**Makanchi Array**	**46.39**	**55**	P	**P**	**05 36 06.9**	**-1.4**
SONM	**Songino Array**	**62.02**	**49**	P	**P**	**05 38 01.4**	**-1.4**
	1.0nm,0.8s,mb4.0,baz=280,slow=8.2,SNR=5.3						

IDC 16 05:42:47.6±11.0,**30.66N×67.59E, mb3.8**/3,**mb1 3.9**/4, **mb1mx3.5**/21,**mbtmp3.8**/4,**Error ellipse: s-maj=191.4km s-min=61.6km az=169.0,Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**19.73**	**31**	P	P	05 47 16.9	-4.6
	0.2nm,0.3s,baz=211,slow=11,SNR=13						
BVAR	**Borovoye Array**	**22.45**	**4**	P	P	05 47 48.3	-1.2
	0.7nm,0.5s,baz=174,slow=14,SNR=5.6						
ZAL	**Zalesovo**	**26.38**	**23**	P	P	05 48 27.2	0.0
	1.6nm,0.5s,baz=252,slow=2.3,SNR=3.3						
ARCES	**ARCESS Array B**	**45.58**	**341**	P	P	05 51 08.5	-2.2
	0.6nm,0.5s,baz=131,slow=8.3,SNR=10						

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*IDC **16** 05:46:20.4±8.2, 20.54N×143.89E, h94km±73km, mb3.7/6, mb1 3.9/7, mb1mx3.6/19, mbtmp3.9/7, ML3.7/1, Error ellipse: s-maj=35.7km s-min=24.9km az=95.0*
*NEIC **16** 05:46:22.3±4.0, 20.53N×143.85E, h110km±36km, mb4.0/1, Error ellipse: s-maj=32.6km s-min=14.7km az=93.0*
ISC 16 05:46:22.2±4.6,**20.6N**±0.1×**143.9E**±0.3,**h128**km±42km,**n9,** σ0§**82/8,mb3.8/7,Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**16.70**	**344**	P	**P**	**05 50 09.9**	**+0.1**
	0.2nm,0.3s,baz=175,slow=13,SNR=5.1						
WRAB	**Tennant Creek**	**41.30**	**194**	P	**P**	**05 53 57.2**	**+0.5**
	1.9nm,0.6s,mb3.9						
WRA	**Warramunga Arr**	**41.31**	**194**	P	**P**	**05 53 56.2**	**-0.6**
	1.3nm,0.9s,mb3.5,baz=16,slow=8.5,SNR=4.0						
ZAL	**Zalesovo**	**55.53**	**322**	P	**P**	**05 55 45.6**	**-0.6**
	1.4nm,0.3s,mb4.2,baz=337,slow=2.4,SNR=4.5						
MKAR	**Makanchi Array**	**55.97**	**313**	P	**P**	**05 55 49.7**	**+0.3**
	0.7nm,0.7s,mb3.6,baz=90,slow=11,SNR=6.6						
ILAR	**Eielson Array**	**62.76**	**27**	P	**P**	**05 56 34.9**	**-0.9**
	1.4nm,0.8s,mb3.8,baz=267,slow=5.3,SNR=11						
YKA	**Yellowknife Ar**	**77.16**	**28**	P	**P**	**05 58 03.8**	**+0.9**
	1.0nm,0.7s,mb3.6,baz=288,slow=5.6,SNR=9.5						
FINES	**FINESS Array B**	**84.50**	**335**	P	**P**	**05 58 41.6**	**+0.2**
	1.5nm,0.7s,mb3.8,baz=45,slow=5.4,SNR=5.4						
LPAZ	**La Paz**	**149.34**	**87**	PKPbc	PKPdf	06 06 01.3	+9.3
	0.5nm,0.4s,baz=290,slow=4.1,SNR=5.5						

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*IDC **16** 05:55:15.3±3.8, 38.01N×142.68E, h55km±28km, mb3.3/2, mb1 3.4/5, mb1mx3.3/22, mbtmp3.6/5, ML3.3/3, Error ellipse: s-maj=81.8km s-min=14.0km az=104.0*
*JMA **16** 05:55:16.2±0.1, 38.31N×142.15E, h40km±2km, M3.7*
JMA Felt I J1.
ISC 16 05:55:15.6±1.1,**38.24N**±0.04×**142.20E**±0.09,**h36**km±14km, **n15,** σ0§**93**/24,**mb3.3**/2,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.70**	**288**	P	**P**	**05 55 29.1**	**+0.1**
JIO				S	**S**	**05 55 37.9**	**-0.8**
OFUJ	**Ofunato**	**0.94**	**334**	P	**P**	**05 55 31.9**	**-0.5**
OFUJ				S	**S**	**05 55 43.2**	**-1.6**
JMK	**Ichinoseki**	**1.05**	**313**	P	**P**	**05 55 33.9**	**0.0**
JMM	**Marumori**	**1.17**	**252**	P	**P**	**05 55 35.8**	**+0.2**
JMM				*e*S	**S**	**05 55 50.0**	**-0.6**
JOU	**Okura**	**1.21**	**277**	P	**P**	**05 55 37.0**	**+0.8**
JOU				*e*S	**S**	**05 55 52.6**	**+0.8**
JFK	**Kawauchi**	**1.36**	**231**	P	**P**	**05 55 38.3**	**-0.1**
JFK				*e*S	**S**	**05 55 54.4**	**-1.1**
JOM	**Ohasama**	**1.42**	**331**	P	**P**	**05 55 39.6**	**+0.3**
JOM				S	**S**	**05 55 56.5**	**-0.5**
JYK	**Kaneyama**	**1.59**	**296**	P	**P**	**05 55 41.9**	**+0.2**
JFT	**Otama**	**1.64**	**245**	P	**P**	**05 55 43.2**	**+0.8**
JFT				*e*S	**S**	**05 56 03.2**	**+0.8**
JYS	**Shiratake**	**1.68**	**270**	P	**P**	**05 55 43.6**	**+0.6**
MJAR	**Matsushiro Arr**	**3.60**	**243**	P	**P**	**05 56 12.3**	**+2.0**
	2.0nm,0.3s,baz=60,slow=10,SNR=19						
JHJ	**Hachijo jima 2**	**5.47**	**202**	P	**P**	**05 56 35.0**	**-1.8**
	5.5nm,0.3s,baz=73,slow=19,SNR=7.6						
JHJ				S	**S**	**05 57 33.7**	**-5.7**
	6.5nm,0.3s,baz=229,slow=20,SNR=3.7						
ASAJ	**Asahikawa**	**5.88**	**3**	P	**P**	**05 56 41.7**	**-0.8**
	0.5nm,0.3s,baz=191,slow=10,SNR=5.2						
ASAJ				S	**S**	**05 57 52.0**	**+2.3**
	0.8nm,0.3s,baz=300,slow=20,SNR=3.4						
SONM	**Songino Array**	**27.65**	**302**	P	**P**	**06 01 01.6**	**-0.2**
	0.2nm,0.4s,mb3.1,baz=116,slow=9.0,SNR=2.9						
MKAR	**Makanchi Array**	**44.02**	**301**	P	**P**	**06 03 20.9**	**-0.2**
	0.8nm,0.7s,mb3.6,baz=82,slow=9.8,SNR=8.2						

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*MOS **16** 05:57:02.0±1.0, 6.15S×129.77E, h38km, mb4.5/8, Error ellipse: s-maj=24.6km s-min=12.2km az=120.5*
*IDC **16** 05:57:05.6±4.8, 6.15S×130.20E, h57km±41km, mb4.2/8, mb1 4.3/8, mb1mx4.1/13, mbtmp4.5/8, ML5.5/2, Error ellipse: s-maj=52.2km s-min=15.7km az=72.0*
*BJI **16** 05:57:06.4, 6.20S×130.10E, h64km, mb4.9*
*NEIC **16** 05:57:06.4±1.5, 6.18S×130.08E, h64km±15km, mb4.8/14, Error ellipse: s-maj=12.5km s-min=8.5km az=49.0*
ISC 16 05:57:04.6±2.7,**6.16S**±0.09×**130.1E**±0.1,**h66**km±26km,

n52,σ0°75/53, mb4.5/21, 1C-2D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu** 410nm,0.2s	**6.90**	**161**	⇓*iP*	Px	05 58 58.9	
KAKA				*e*S	Sx	06 00 11.0	
FITZ	**Fitzroy Crossi** 70nm,0.3s	**12.65**	**200**	*e*P	**P**	**06 00 03.0**	**-0.5**
FITZ				*e*S	**S**	**06 02 13.7**	**-10**
FITZ	**Fitzroy Crossi** 31nm,0.3s,baz=20,slow=7.7,SNR=363	**12.65**	**200**	P	**P**	**06 00 03.2**	**-0.3**
FITZ	18nm,0.3s,baz=176,slow=16,SNR=3.5			S	**S**	**06 02 13.8**	**-9.4**
WRAB	**Tennant Creek** 70nm,0.5s	**14.30**	**164**	*e*Pn	**P**	**06 00 24.1**	**-1.1**
WRAB				*e*Sn	**S**	**06 02 54.1**	**-8.5**
WRA	**Warramunga Arr** 16nm,0.3s,baz=345,slow=13,SNR=154	**14.30**	**164**	P	**P**	**06 00 24.0**	**-1.2**
WRA	22nm,0.3s,baz=338,slow=22,SNR=5.5			S	**S**	**06 02 52.5**	**-10**
PMG	**Port Moresby** 6.1nm,0.3s,baz=310,slow=3.7,SNR=11	**17.20**	**102**	P	**P**	**06 01 06.3**	**+4.2**
PMG	2.1nm,0.3s,baz=282,slow=14,SNR=3.6			S	**S**	**06 04 01.9**	**-7.5**
PMG	**Port Moresby** 28nm,0.7s	**17.20**	**102**	*e*P	**P**	**06 01 03.5**	**+1.4**
PMG				S	**S**	**06 04 01.9**	**-7.5**
MBWA	**Marble Bar** 14nm,0.4s	**17.98**	**213**	*e*P	**P**	**06 01 13.4**	**+1.7**
MBWA				*e*Sn	**S**	**06 04 19.0**	**-8.0**
CTA	**Charters Tower** 12nm,0.8s,baz=312,slow=12,SNR=2.9	**20.92**	**133**	P	**P**	**06 01 45.6**	**+1.7**
CTA	**Charters Tower** comp=Z,12nm,0.8s	**20.92**	**133**	P	**P**	**06 01 45.7**	**+1.7**
CTA				pmax	pmax		
CTAO	**Charters Tower** comp=Z,16nm,0.9s	**20.92**	**133**	*e*P	**P**	**06 01 45.0**	**+1.0**
STKA	**Stephens Creek** comp=Z,9.8nm,0.7s,mb4.5	**27.75**	**159**	⇓*iP*	**P**	**06 02 48.9**	**-0.4**
STKA	**Stephens Creek** comp=Z,7.4nm,0.5s,mb4.5,baz=329,slow=8.4,SNR=9.0	**27.75**	**159**	P	**P**	**06 02 48.9**	**-0.4**
NWAO	**Narrogin (SRO)** comp=Z,6.1nm,0.7s,mb4.3,baz=85,slow=11,SNR=5.4	**29.21**	**203**	P	**P**	**06 03 02.6**	**+0.3**
NWAO	**Narrogin (SRO)** comp=Z,6.0nm,0.7s	**29.21**	**203**	P	**P**	**06 03 02.6**	**+0.3**
NWAO				pmax	pmax		
NANT	**Nan** comp=Z,369nm,1.0s	**38.15**	**311**	⇑P	**P**	**06 04 18.5**	**-0.9**
CHG	**Chiang Mai**	**39.49**	**310**	P	**P**	**06 04 31.4**	**+0.9**
LSA	**Lhasa**	**51.67**	**316**	P	**P**	**06 06 08.6**	**+1.4**
LSA	**Lhasa** comp=Z,13nm,0.8s,mb5.0	**51.67**	**316**	*e*P	**P**	**06 06 08.1**	**+0.9**
GTA	**Gaotai** comp=Z,7.0nm,0.8s,mb4.7	**53.29**	**331**	*e*P	**P**	**06 06 20.1**	**+0.9**
GTA				AMB	AMB		
PKI	**Pulchoki** comp=Z,21nm,0.5s,mb5.4	**54.67**	**310**	*e*P	**P**	**06 06 29.4**	**0.0**
KKN	**Kakani** comp=Z,41nm,0.6s,mb5.6	**54.88**	**310**	*e*P	**P**	**06 06 30.9**	**0.0**
DMN	**Daman** comp=Z,24nm,0.5s,mb5.5	**54.92**	**310**	*e*P	**P**	**06 06 31.3**	**+0.1**
GKN	**Gorkha** comp=Z,56nm,0.4s	**55.48**	**310**	*e*P	**P**	**06 06 35.2**	**-0.1**
KOLN	**Koldanda** comp=Z,25nm,0.6s,mb5.4	**56.15**	**309**	*e*P	**P**	**06 06 40.2**	**+0.1**
SONM	**Songino Array** comp=Z,1.1nm,0.5s,mb4.2,baz=162,slow=5.7,SNR=7.3	**57.68**	**341**	P	**P**	**06 06 51.3**	**+0.6**
ZAK	**Zakamensk** comp=Z,1.0nm,1.2s,mb3.7	**60.91**	**341**	*e*P	**P**	**06 07 11.1**	**-1.8**
ZAK				pmax	pmax		
MKAR	**Makanchi Array** comp=Z,13nm,0.6s,mb4.9,baz=126,slow=7.7,SNR=120	**67.59**	**327**	P	**P**	**06 07 56.9**	**+0.5**
MKAR	**Makanchi Array** comp=Z,8.0nm,0.7s	**67.59**	**327**	*e*P	**P**	**06 07 56.5**	**+0.1**
MKAR				pmax	pmax		
ZAL	**Zalesovo** comp=Z,1.9nm,0.4s,mb4.3,baz=336,slow=3.8,SNR=9.2	**70.88**	**334**	P	**P**	**06 08 15.9**	**-0.5**
ZAL	**Zalesovo** comp=Z,2.0nm,0.4s	**70.88**	**334**	P	**P**	**06 08 16.0**	**-0.4**
ZAL				pmax	pmax		
KURK	**Kurchatov** comp=Z,9.9nm,1.0s,mb4.6	**71.86**	**328**	*e*P	**P**	**06 08 22.1**	**-0.2**
NVS	**Novosibirsk**	**72.17**	**334**	*e*P	**P**	**06 08 24.1**	**0.0**
KKAR	**Karatay Array**	**72.78**	**319**	*i* P	**P**	**06 08 28.2**	**+0.2**
VNDA	**Vanda** comp=Z,1.5nm,0.9s,mb3.8,baz=306,slow=7.5,SNR=8.0	**73.26**	**173**	P	**P**	**06 08 30.4**	**+0.2**
VNDA	**Vanda** comp=Z,1.3nm,0.8s,mb3.8	**73.26**	**173**	*e*P	**P**	**06 08 29.6**	**-0.5**
VNDA	**Vanda** comp=Z,2.0nm,0.9s	**73.26**	**173**	P	**P**	**06 08 30.4**	**+0.3**
VNDA				pmax	pmax		
MAW	**Mawson** comp=Z,2.4nm,0.7s,mb4.0,baz=90,slow=10,SNR=3.8	**75.77**	**201**	P	**P**	**06 08 45.1**	**+0.4**
MAW	**Mawson** comp=Z,2.0nm,0.7s	**75.77**	**201**	P	**P**	**06 08 45.1**	**+0.4**
MAW				pmax	pmax		
VOSK	**Vostochnaya** comp=Z,1.0nm,0.4s,mb3.9	**76.95**	**328**	P	**P**	**06 08 51.2**	**-0.5**
VOSK				pmax	pmax		
BVA0	**Borovoye Array**	**77.41**	**328**	*i* P	**P**	**06 08 54.1**	**-0.2**
BVAR	**Borovoye Array** comp=Z,2.1nm,0.6s,mb4.1,baz=153,slow=6.6,SNR=15	**77.41**	**328**	P	**P**	**06 08 54.3**	**0.0**
BRVK	**Borovoye** comp=Z,1.8nm,0.6s,mb4.0	**77.49**	**328**	*e*P	**P**	**06 08 54.2**	**-0.4**
AB31	**Akbulak array** comp=Z,1.0nm,0.5s,mb3.9	**81.92**	**321**	*i* P	**P**	**06 09 18.1**	**-0.5**
AB31				pmax	pmax		
AKTO	**Aktyubinsk** comp=Z,1.0nm,0.9s,mb3.6	**83.48**	**322**	P	**P**	**06 09 26.5**	**+0.1**
AKTO				pmax	pmax		
ARU	**Arti** comp=Z,5.4nm,0.8s,mb4.5	**85.05**	**328**	*e*P	**P**	**06 09 34.0**	**-0.2**
ARU	**Arti**	**85.05**	**328**	*e*P	**P**	**06 09 33.1**	**-1.1**
LVC	**Limon Verde** comp=Z,1.8nm,0.8s,baz=205,slow=12,SNR=3.7	**145.88**	**148**	PKPbc	PKPbc	06 16 40.4	+2.7
CPUP	**Villa Florida** comp=Z,0.7nm,0.8s,baz=219,slow=6.5,SNR=4.0	**146.91**	**168**	PKPbc	PKPbc	06 16 41.5	+1.5
CPUP	**Villa Florida** comp=Z,1.0nm,0.8s	**146.91**	**168**	PKP2	PKPab	06 16 41.5	-2.5
CPUP				pmax	pmax		
LPAZ	**La Paz** comp=Z,0.6nm,0.5s,baz=141,slow=7.8,SNR=5.7	**151.31**	**141**	PKPbc	PKPdf	06 16 53.3	+7.8
LPAZ	**La Paz** comp=Z,1.0nm,0.5s	**151.31**	**141**	PKIKP	PKPab	06 16 53.3	+7.8
LPAZ				pmax	pmax		

*IDC **16** 06:01:06.0±0.7, 16.65S×173.59W, mb4.4/11, mb1 4.5/12, mb1mx4.4/18, mbtmp4.3/12, Error ellipse: s-maj=29.5km s-min=16.8km az=127.0*
*NEIC **16** 06:01:08.2±0.3, 16.66S×173.59W, h15km, mb4.2/3, Error ellipse: s-maj=17.9km s-min=7.7km az=140.0*

ISC 16 06:01:09.4±0.5, 16.6S±0.1×173.6W±0.1, h33km, n82, σ0°96/26, mb4.3/14, MS5.7/1, 1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu** 16nm,0.3s,baz=176,slow=1.9,SNR=24	**3.23**	**33**	Pn	**Pn**	**06 01 56.4**	**-2.8**
AFI				Sn	**Sn**	**06 02 29.3**	**-7.7**
AFI	**Afiamalu** 59nm,0.3s,baz=207,slow=23,SNR=10	**3.23**	**33**	*e*Pn	**Pn**	**06 01 57.4**	**-1.7**
DZM	**Mont Dzumac** 0.3nm,0.3s,baz=54,slow=19,SNR=3.8	**19.59**	**251**	P	**P**	**06 05 40.1**	**+2.5**
URZ	**Urewera** 11nm,0.6s,mb4.5,baz=24,slow=4.2,SNR=11	**23.03**	**199**	P	**P**	**06 06 12.8**	**+0.1**
STKA	**Stephens Creek** 18nm,0.8s,mb4.9,baz=90,slow=10.0,SNR=6.9	**43.27**	**241**	P	**P**	**06 09 08.7**	**-1.1**
STKA	**Stephens Creek**	**43.27**	**241**	*e*P	**P**	**06 09 08.2**	**-1.6**
WRA	**Warramunga Arr** 1.3nm,0.3s,mb4.4,baz=96,slow=7.3,SNR=11	**49.39**	**258**	P	**P**	**06 09 56.4**	**-1.8**
FITZ	**Fitzroy Crossi** 3.9nm,0.7s,mb4.5,baz=176,slow=14,SNR=3.8	**57.78**	**259**	P	**P**	**06 10 58.9**	**-1.2**
VNDA	**Vanda** 0.5nm,0.6s,mb3.8,baz=12,slow=4.4,SNR=4.6	**62.13**	**186**	P	**P**	**06 11 29.0**	**-0.2**
VNDA	**Vanda** 1.1nm,0.8s,mb4.0	**62.13**	**186**	*e*P	**P**	**06 11 28.4**	**-0.7**
ASAJ	**Asahikawa** 7.2nm,0.8s,mb4.7,baz=180,slow=4.0,SNR=5.8	**72.49**	**328**	P	**P**	**06 12 34.8**	**+0.1**
JNU	**Nakatsue** 4.0nm,0.6s,mb4.5,baz=56,slow=3.6	**72.51**	**314**	P	**P**	**06 12 35.5**	**+0.5**
MSU	**Marysvale**	**79.44**	**44**	*e*P	**P**	**06 13 14.7**	**+0.4**
BMO	**Blue Mountains** 3.1nm,1.2s,mb4.1	**79.72**	**37**	*e*P	**P**	**06 13 15.0**	**-0.6**
TXAR	**Lajitas Array** 0.6nm,1.0s,mb3.5,baz=225,slow=3.5,SNR=4.6	**81.45**	**56**	P	**P**	**06 13 25.6**	**+0.4**
IMW	**Indian Meadow** 4.2nm,0.8s,mb4.5	**83.01**	**40**	*e*P	**P**	**06 13 33.6**	**+0.8**
QLMT	**Earthquake Lak**	**83.19**	**39**	*e*P	**P**	**06 13 34.7**	**+1.0**
SMCO	**Snowmass**	**83.30**	**46**	*e*P	**P**	**06 13 34.9**	**+0.5**
PDAR	**Pinedale Array** 3.1nm,0.8s,mb4.4,baz=234,slow=2.6,SNR=28	**83.31**	**42**	P	**P**	**06 13 34.4**	**0.0**
ILAR	**Eielson Array** 0.9nm,0.7s,mb4.0,baz=223,slow=5.9,SNR=12	**83.69**	**11**	P	**P**	**06 13 35.9**	**+0.1**
HRY	**Holter Researc**	**83.94**	**38**	*e*P	**P**	**06 13 37.6**	**+0.1**
EDM	**Edmonton**	**86.64**	**32**	*e*P	**P**	**06 13 50.3**	**-0.3**
YKA	**Yellowknife Ar** 0.7nm,0.7s,mb4.1,baz=238,slow=4.1,SNR=6.5	**91.30**	**23**	P	**P**	**06 14 12.7**	**+0.1**
YKA	**Yellowknife Ar**	**91.30**	**23**	P	**P**	**06 14 12.7**	**+0.1**
SONM	**Songino Array** 0.5nm,0.7s,mb4.0,baz=124,slow=5.2,SNR=3.3	**95.64**	**318**	P	**P**	**06 14 34.0**	**+1.2**
BVAR	**Borovoye Array** 0.5nm,0.6s,baz=90,slow=1.5,SNR=4.3	**118.74**	**322**	PKP	PKPdf	06 19 55.5	+1.3
ARCES	**ARCESS Array B** 1.4nm,0.7s,baz=27,slow=2.7,SNR=7.3	**125.81**	**352**	PKP	PKPdf	06 20 08.8	+1.3
ARCES	**ARCESS Array B**	**125.81**	**352**	PKP	PKPdf	06 20 08.8	+1.3
OJC	**Ojcow**	**144.81**	**345**	*e*PKP	PKPdf	06 20 43.9	+1.0
KMBO	**Kilima Mbogo** 2.9nm,0.7s,baz=63,slow=5.4,SNR=10	**144.82**	**243**	PKP	PKPdf	06 20 45.2	+1.2
KSP	**Ksiaz**	**144.97**	**349**	*e*PKP	PKPdf	06 20 44.9	+1.8
CLL	**Collm** logA/T=1.1	**145.02**	**353**	⇓*i*PKIKP	PKPdf	06 20 44.5	+1.3
STHS	**Stebnicka Huta**	**145.16**	**343**	*e*PKP	PKPdf	06 20 45.6	+2.1
KOLS	**Kolonicke sedl**	**145.29**	**342**	*e*PKP	PKPdf	06 20 45.4	+1.7
BRG	**Berggiesshubel**	**145.32**	**352**	*e*P	PKPdf	06 20 45.6	+1.9
BRG				LR	LR		
UPC	**Upice** comp=Z,1μm,20.6s,MS5.7	**145.34**	**349**	*e*PKP	PKPdf	06 20 46.1	+2.3
NIE	**Niedzica**	**145.41**	**344**	*e*PKP	PKPdf	06 20 46.8	+2.9
DPC	**Dobruska-Polom**	**145.44**	**349**	*e*PKP	PKPdf	06 20 46.6	+2.6
OKC	**Ostrava-Krasne**	**145.55**	**347**	*e*PKP	PKPdf	06 20 46.4	+2.2
PVCC	**Panska Ves**	**145.56**	**351**	*e*PKP	PKPdf	06 20 46.6	+2.4
MOX	**Moxa** comp=Z,logA/T=1.2	**145.82**	**354**	*i* P	PKPdf	06 20 47.2	+2.6
MOX	**Moxa**	**145.82**	**354**	*e*PKP	PKPdf	06 20 47.2	+2.6
PRU	**Pruhonice**	**146.09**	**351**	*e*PKP	PKPdf	06 20 48.2	+3.1
NKC	**Novy Kostel**	**146.14**	**353**	*e*PKP	PKPdf	06 20 48.6	+3.4
KECS	**Kecovo**	**146.22**	**343**	*e*PKP	PKPdf	06 20 49.2	+3.9
VRAC	**Vranov** comp=Z,1.9nm,0.4s,baz=319,slow=11,SNR=4.3	**146.38**	**348**	PKPbc	PKPbc	06 20 47.6	+0.8
GIVF	**Givet**	**146.60**	**2**	*e*PKP1	PKPbc	06 20 49.5	+2.2
BAIF	**Baives** comp=Z,30nm,0.9s	**146.62**	**3**	*e*PKP1	PKPbc	06 20 49.8	+2.5
VYHS	**Vyhne**	**146.64**	**345**	*e*PKP	PKPdf	06 20 49.8	+3.7
GRA1	**Grafenberg Arr**	**146.81**	**354**	*e*PKP	PKPdf	06 20 50.3	+4.0
GRF	**Grafenberg Arr**	**146.81**	**354**	*e*PKP	PKPdf	06 20 50.3	+4.0
MLR	**Muntele Rosu** comp=Z,1.3nm,0.6s,baz=333,slow=4.5,SNR=2.4	**146.91**	**334**	PKPbc	PKPbc	06 20 51.8	+3.6
BR131	**Keskin Array S**	**146.99**	**320**	*e*PKPbc	PKPbc	06 20 50.5	+2.0
BRTR	**Keskin Array B** comp=Z,3.2nm,0.7s,baz=108,slow=2.5,SNR=13	**146.99**	**320**	PKPbc	PKPbc	06 20 51.5	+2.9
KHC	**Kasperske Hory**	**147.07**	**351**	*e*PKP	PKPdf	06 20 51.3	+4.5
GERES	**GERESS Array B** comp=Z,1.9nm,0.6s,baz=45,slow=1.9,SNR=4.9	**147.34**	**351**	PKPbc	PKPdf	06 20 52.1	+4.9
ROSF	**Rostrenen**	**147.41**	**12**	*e*PKP1	PKPdf	06 20 51.2	+3.9
FLN	**La Foliniere** comp=Z,11nm,0.6s	**147.47**	**8**	*e*PKP1	PKPdf	06 20 51.5	+4.1
SGMF	**Saint Gilles** comp=Z,20nm,0.9s	**147.63**	**11**	*e*PKP1	PKPdf	06 20 51.8	+4.1
LDF	**La Druitiere** comp=Z,13nm,0.8s	**147.69**	**8**	*e*PKP1	PKPdf	06 20 52.1	+4.3
GRR	**Gorron** comp=Z,20nm,0.8s	**147.78**	**9**	*e*PKP1	PKPdf	06 20 52.6	+4.7
MEZF	**Maizieres J'vi**	**148.21**	**2**	*e*PKP1	PKPdf	06 20 54.3	+5.7
CDF	**Champ du Feu** comp=Z,17nm,0.9s	**148.31**	**359**	*e*PKP1	PKPdf	06 20 54.5	+5.7
HAU	**Haudompre** comp=Z,9.4nm,0.6s	**148.72**	**0**	*e*PKP1	PKPdf	06 20 55.5	+6.1
LOR	**Lormes** comp=Z,8.1nm,0.8s	**149.39**	**3**	*e*PKP1	PKPdf	06 20 57.2	+6.7
SSF	**Saint Saulge** comp=Z,27nm,1.2s	**149.57**	**4**	*e*PKP1	PKPdf	06 20 57.7	+6.9
MFF	**Saint Martin d** comp=Z,11nm,0.9s	**149.63**	**9**	*e*PKP1	PKPdf	06 20 57.4	+6.4
DAVOX	**Davos** comp=Z,5.7nm,0.8s,baz=310,slow=2.8,SNR=12	**149.81**	**355**	PKPbc	PKPdf	06 20 58.4	+7.2
AVF	**Avril sur Loir** comp=Z,11nm,0.9s	**149.83**	**4**	*e*PKP1	PKPdf	06 20 58.0	+6.7
SMF	**Signal de Mont**	**150.01**	**4**	*e*PKP1	PKPdf	06 20 58.4	+6.9
BGF	**Bois d'Agland** comp=Z,15nm,0.8s	**150.03**	**5**	*e*PKP1	PKPdf	06 20 58.7	+7.1
CABF	**La Chapelle** comp=Z,47nm,1.2s	**150.12**	**0**	*e*PKP1	PKPdf	06 20 59.6	+7.9
TCF	**Toulx Ste Croi**	**150.24**	**6**	*e*PKP1	PKPdf	06 20 58.9	+7.0
LPL	**La Plagne** comp=Z,7.3nm,0.8s	**151.21**	**360**	*e*PKP1	PKPdf	06 21 02.5	+9.1
LPG	**La Plagne** comp=Z,11nm,0.9s	**151.23**	**359**	*e*PKP1	PKPdf	06 21 02.5	+9.1
CAF	**Calviac**	**151.57**	**6**	*e*PKP1	PKPdf	06 21 02.4	+8.5
ORIF	**Oris-en-Rattie** comp=Z,9.5nm,0.8s	**151.81**	**1**	*e*PKP1	PKPdf	06 21 03.4	+9.1
VIVF	**Saint-Julien-l**	**151.84**	**3**	*e*PKP1	PKPdf	06 21 03.3	+9.0
MBDF	**Montbardon** comp=Z,24nm,1.3s	**152.00**	**359**	*e*PKP1	PKPdf	06 21 03.6	+9.0
MTLF	**Montolieu**	**153.15**	**7**	*e*PKP1	PKPdf	06 21 05.9	+10
ETSF	**Etsaut** comp=Z,4.9nm,0.8s	**153.16**	**11**	*e*PKP1	PKPdf	06 21 06.0	+10
EPF	**Esparros**	**153.19**	**10**	*e*PKP1	PKPdf	06 21 06.1	+10

*ATH **16** 06:08:29.6, 34.09N×21.79E, h38km, MD4.0/8*
*HLW **16** 06:08:33.9, 34.50N×22.15E, h33km, Mb3.4*
*NEIC **16** 06:08:35.8±3.5, 34.38N±22.05E, h44km±15km, MD4.0(ATH), Error ellipse: s-maj=44.7km s-min=9.8km az=212.0*
*CSEM **16** 06:08:36.0±0.5, 34.26N×22.37E, h40km, MD4.0, Error ellipse: s-maj=19.8km s-min=4.2km az=82.0*
*IDC **16** 06:08:41.8±11.0, 35.03N×22.36E, h53km±47km, mb3.8/5, mb1 3.7/8, mb1mx3.5/24, mbtmp3.9/8, ML3.7/2, Error ellipse: s-maj=143.8km s-min=34.3km az=36.0*

ISC 16 06:08:33.2±1.2, 34.25N±0.05×22.0E±0.1, h49km±11km, n29, σ0°99/31, mb4.1/5, 2C-2D, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**1.83**	**71**	*e*Pn	**P**	**06 09 03.1**	**+0.3**
VAM	**Vamos**	**2.16**	**57**	*e*PN	**P**	**06 09 08.0**	**+0.5**
VAM	**Vamos**	**2.16**	**57**	*e*Pb	**P**	**06 09 07.8**	**+0.3**
KYTH	**Kithira**	**2.21**	**23**	*e*PN	**P**	**06 09 09.0**	**+0.9**
KYTH	**Kithira**	**2.21**	**23**	*e*Pn	**P**	**06 09 08.5**	**+0.4**
VLI	**Veliai**	**2.59**	**17**	*e*PN	**P**	**06 09 14.0**	**+0.4**
VLI	**Veliai**	**2.59**	**17**	*e*Pn	**P**	**06 09 14.5**	**+0.9**
IDI	**Anoyia** 4.6nm,0.3s,baz=258,slow=13,SNR=38	**2.61**	**66**	P	**P**	**06 09 14.3**	**+0.4**
ITM	**Ithomi**	**2.93**	**359**	*e*PN	**P**	**06 09 18.0**	**-0.4**
ITM	**Ithomi**	**2.93**	**359**	*e*Pn	**P**	**06 09 18.5**	**+0.1**
XRY	**Khrisi**	**3.13**	**77**	*e*PN	**P**	**06 09 21.5**	**+0.2**
XRY	**Khrisi**	**3.13**	**77**	*e*Pb	**P**	**06 09 22.0**	**+0.7**
NPS	**Neapolis**	**3.16**	**70**	*e*PN	**P**	**06 09 21.5**	**-0.2**
NPS	**Neapolis**	**3.16**	**70**	*e*Pn	**P**	**06 09 15.0**	**-6.7**
SLUM		**3.87**	**134**	⇑P	**P**	**06 09 32.4**	**+0.7**
APE	**Apeiranthos**	**4.03**	**45**	*e*PN	**P**	**06 09 34.0**	**0.0**
APE	**Apeiranthos**	**4.03**	**45**	*e*Pn	**P**	**06 09 32.0**	**-2.0**
VLS	**Valsamata**	**4.08**	**344**	*e*PN	**P**	**06 09 33.5**	**-1.2**
HMAT	**Matruh**	**5.34**	**125**	⇑P	**P**	**06 09 52.3**	**0.0**
HMAT				S	**S**	**06 10 48.9**	**-4.4**
SWA2		**5.80**	**148**	⇓P	**P**	**06 09 59.3**	**+0.6**
SWA1		**5.90**	**146**	⇓P	**P**	**06 10 01.2**	**+1.1**
SWA1				S	**S**	**06 11 05.2**	**-2.0**
BRTR	**Keskin Array B** 0.3nm,0.3s,baz=224,slow=12,SNR=3.5	**10.80**	**56**	P	**P**	**06 11 05.3**	**-2.6**
AKASG	**Malin Array Be** 0.7nm,0.3s,baz=207,slow=11,SNR=8.4	**17.27**	**16**	P	**P**	**06 12 27.9**	**-4.3**
AKASG	**Malin Array Be**	**17.27**	**16**	P	**P**	**06 12 27.9**	**-4.3**
HFS	**Hagfors** 2.3nm,0.9s,mb3.7,baz=189,slow=19,SNR=2.6	**26.46**	**351**	P	**P**	**06 14 06.6**	**-0.6**
ARCES	**ARCESS Array B** 0.8nm,0.6s,mb3.8,baz=187,slow=9.8,SNR=6.1	**35.40**	**2**	P	**P**	**06 15 25.8**	**-0.1**
MKAR	**Makanchi Array** 3.6nm,0.6s,mb4.5,baz=280,slow=6.9,SNR=43	**46.45**	**55**	P	**P**	**06 16 57.6**	**+0.7**
ZAL	**Zalesovo** 2.1nm,0.4s,mb4.5,baz=194,slow=6.1,SNR=3.2	**47.51**	**46**	P	**P**	**06 17 04.8**	**-0.2**
SONM	**Songino Array** 1.2nm,0.9s,mb4.0,baz=287,slow=8.7,SNR=6.4	**62.08**	**49**	P	**P**	**06 18 52.3**	**+1.3**

*MOS **16** 06:22:00.0±1.8, 35.85N×69.19E, h33km, mb4.7/4, Error ellipse: s-maj=14.1km s-min=6.5km az=88.8*
*IDC **16** 06:22:05.2±7.6, 35.86N×69.58E, h78km±62km, mb3.7/11, mb1 3.9/13, mb1mx3.7/22, mbtmp4.1/13, ML4.1/2, Error ellipse: s-maj=44.9km s-min=20.9km az=19.0*
*BJI **16** 06:22:07.2, 36.50N×69.22E, h91km, mb4.1*
*NEIC **16** 06:22:07.2±1.6, 36.03N×69.52E, h88km±14km, mb4.1/10, Error ellipse: s-maj=17.5km s-min=6.7km az=54.0*
*NNC **16** 06:22:15.3±3.9, 36.70N×69.36E, h126km±58km, mpv4.4, Error ellipse: s-maj=38.9km s-min=26.5km az=45.0*

ISC 16 06:22:08.7±0.8, 36.22N±0.04×69.64E±0.08, h106km±9km, n68, σ1°19/82, mb3.9/13, 10C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.03**	**141**	⇑P	**P**	**06 22 57.4**	**+1.5**
CEP				S	**S**	**06 23 40.0**	**+8.4**
THW	**Thamme Wali**	**3.83**	**152**	⇑P	**P**	**06 23 06.7**	**-0.1**
SARP	**Sargodha**	**4.97**	**149**	P	**P**	**06 23 21.3**	**-1.0**
KSH	**Kashi**	**5.99**	**55**	P	**P**	**06 23 38.8**	**+2.6**
KSH				S	**S**	**06 24 46.3**	**+2.2**
KSH	comp=N,400nm,1.1s			Smax			
KSH	comp=E,200nm,0.9s			Smax			
AML	**Almayashu** SNR=84	**6.69**	**27**	P	**P**	**06 23 46.2**	**+0.3**
KK31	**Karatay Array** comp=E,13nm,0.5s,baz=190,slow=14,SNR=140	**6.91**	**5**	P	**P**	**06 23 48.4**	**-0.5**
KK31	comp=E,19nm,0.3s,baz=192,slow=25			⇑S	**S**	**06 25 01.7**	**-4.8**
KK31	**Karatay Array** comp=E,13nm,0.5s	**6.91**	**5**	P	**P**	**06 23 48.4**	**-0.5**
KK31				S	**S**	**06 25 01.7**	**-4.8**
KKAR	**Karatay Array**	**6.91**	**5**	*e*P	**P**	**06 23 48.3**	**-0.6**
KKAR				S	**S**	**06 25 01.6**	**-4.9**
KKAR	comp=Z,2.0nm,0.3s			pmax	pmax		
UCH	**Uchtor** SNR=15	**7.09**	**31**	P	**P**	**06 23 51.9**	**+0.5**
EKS2	**Erkin-Say** SNR=46	**7.18**	**25**	P	**P**	**06 23 52.9**	**+0.2**
KZA	**Kyzart** SNR=5.4	**7.29**	**35**	P	**P**	**06 23 54.2**	**+0.1**
AAK	**Ala-Archa** SNR=26	**7.42**	**29**	P	**P**	**06 23 56.3**	**+0.4**
AAK	**Ala-Archa** comp=Z,18nm,0.5s	**7.42**	**29**	⇑P	**P**	**06 23 56.1**	**+0.2**
AAK				⇑S	**S**	**06 25 16.3**	**-2.8**
AAK	**Ala-Archa** comp=Z,42nm,0.8s	**7.42**	**29**	⇑P	**P**	**06 23 56.1**	**+0.2**
AAK				S	**S**	**06 25 16.3**	**-2.8**
AAK	comp=Z,42nm,0.8s			pmax	pmax		
KBK	**Karagaybulak** SNR=10	**7.63**	**31**	P	**P**	**06 23 59.2**	**+0.5**
FRU	**Bishkek**	**7.64**	**29**	*i* P	**P**	**06 23 58.5**	**-0.3**
FRU				*e*S	**S**	**06 25 22.0**	**-2.4**
FRU	comp=N,100nm,1.8s			smax			
CHMS	**Chumysh** SNR=25	**7.83**	**29**	P	**P**	**06 24 01.4**	**-0.1**
ULHL	**Ulahol** SNR=14	**7.90**	**38**	P	**P**	**06 24 02.8**	**+0.5**
USP	**Ospenovka** SNR=71	**7.97**	**26**	P	**P**	**06 24 02.7**	**-0.6**
TKM2	**Tokmak 2** SNR=21	**8.12**	**33**	P	**P**	**06 24 05.2**	**0.0**
MK31	**Makanchi Array** comp=N,8.5nm,0.7s,baz=220,slow=14,SNR=69	**14.17**	**38**	P	**P**	**06 25 25.3**	**-0.1**
MKAR	**Makanchi Array** comp=N,0.2nm,0.3s,baz=220,slow=14,SNR=10	**14.17**	**38**	P	**P**	**06 25 25.5**	**+0.1**
MKAR	**Makanchi Array** comp=Z,12nm,0.9s	**14.17**	**38**	*e*P	**P**	**06 25 25.3**	**-0.1**
MKAR				pmax	pmax		
KOLN	**Koldanda** comp=Z,7.0nm,0.3s	**14.52**	**122**	*e*P	**P**	**06 25 26.9**	**-3.1**
AB31	**Akbulak array** comp=Z,1.0nm,0.4s,baz=159,slow=12,SNR=39	**14.83**	**334**	P	**P**	**06 25 32.2**	**-1.6**
AB31				⇑S	**S**	**06 28 07.2**	**-8.5**
AB31	**Akbulak array** comp=Z,2.9nm,0.7s,baz=156,slow=23,SNR=6.9	**14.83**	**334**	P	**P**	**06 25 32.2**	**-1.6**
AB31	**Akbulak array** comp=Z,1.0nm,0.4s	**14.83**	**334**	P	**P**	**06 25 32.2**	**-1.6**
AB31				S	**S**	**06 28 07.2**	**-8.5**
AB31	comp=Z,1.0nm,0.4s			pmax	pmax		
GKN	**Gorkha** comp=Z,30nm,0.6s	**15.11**	**119**	*e*P	**P**	**06 25 36.2**	**-1.2**
GKN				*e*S	**S**	**06 28 12.6**	**-9.5**
DMN	**Daman** comp=Z,18nm,0.5s	**15.67**	**119**	*e*P	**P**	**06 25 42.9**	**-1.7**
KKN	**Kak

NB2 pmax pmax
comp=Z,1.0nm,0.6s,mb3.7
NOA NORSAR Array B 43.95 323 P **P** **06 30 05.7 -0.6**
comp=Z,1.3nm,0.6s,mb3.9,baz=99,slow=7.9,SNR=5.4
INK Inuvik 74.35 9 P **P** **06 33 35.9 +0.2**
comp=Z,1.1nm,0.5s,mb3.9,baz=338,slow=11,SNR=6.1
INK Inuvik 74.35 9 *eP* **P** **06 33 35.6 -0.1**
comp=Z,1.1nm,0.5s,mb3.8
INK Inuvik 74.35 9 *eP* **P** **06 33 35.6 -0.1**
INK pmax pmax
comp=Z,1.0nm,0.5s
ILAR Eielson Array 75.34 15 P **P** **06 33 40.9 -0.5**
comp=Z,0.5nm,0.8s,mb3.3,baz=344,slow=6.7,SNR=4.8
YKA Yellowknife Ar 81.57 2 P **P** **06 34 16.9 +1.5**
comp=Z,0.2nm,0.3s,mb3.4,baz=350,slow=6.5,SNR=5.2
YKA Yellowknife Ar 81.57 2 P **P** **06 34 16.9 +1.5**
WRA Warramunga Arr 82.78 121 P **P** **06 34 20.2 -2.3**
comp=Z,0.5nm,0.7s,mb3.4,baz=322,slow=4.9,SNR=7.4

*ATH **16** 06:32:36.7, 37.84N×21.46E, h11km±1km, MD3.7/14, ML3.5*
*NEIC **16** 06:32:36.7, 37.84N×21.47E, h10km, ML3.5(ATH), After ATH.*
*CSEM **16** 06:32:37.5±0.1, 37.84N×21.53E, ML3.5, Error ellipse: s-maj=2.6km s-min=1.4km az=55.0*
*IDC **16** 06:32:42.6±3.0, 37.61N×21.37E, h89km±33km, mb3.3/5, mb1 3.3/8, mb1mx3.2/24, mbtmp3.5/8, Error ellipse: s-maj=43.9km s-min=20.8km az=52.0*
*SOF **16** 06:33:07.2, 39.78N×23.03E, h2km, MD2.9*
ISC 16 06:32:36.4±0.5, 37.82N±0.03×21.38E±0.05, h10km, n32, σ1§47/42, mb3.5/5, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.25**	**16**	*e*PG	**Pg**	**06 32 42.1**	**+0.4**
VLS	**Valsamata**	**0.72**	**300**	*e*PG	**Pg**	**06 32 51.1**	**+0.2**
VLS				*e*SB	**Sb**	**06 33 02.7**	**+2.5**
ITM	**Ithomi**	**0.77**	**146**	*e*PG	**Pg**	**06 32 50.9**	**-1.0**
ITM				*e*SB	**Sb**	**06 33 02.3**	**+0.6**
EVR	**Evrytania**	**1.15**	**17**	*e*PG	**Pg**	**06 32 57.3**	**-2.1**
EVR				*e*SB	**Sb**	**06 33 13.5**	**+0.9**
MGER	**Gerania Oros**	**1.50**	**83**	*e*PG	**Pg**	**06 33 02.8**	**-3.5**
LKR	**Lokris**	**1.52**	**56**	*e*PB	**Pb**	**06 33 04.8**	**+0.5**
LKR				*e*SB	**Sb**	**06 33 24.0**	**+0.5**
NSAL	**Nisos Salamina**	**1.65**	**86**	*e*PG	**Pg**	**06 33 05.5**	**-3.9**
VLI	**Veliai**	**1.66**	**131**	*e*PB	**Pb**	**06 33 07.8**	**+1.2**
VLI				*e*SB	**Sb**	**06 33 29.4**	**+2.0**
NAIG	**Nisos Aigina**	**1.67**	**91**	*e*PG	**Pg**	**06 33 06.5**	**-3.3**
ATH	**Athens Observa**	**1.85**	**85**	*e*PN	**Pn**	**06 33 08.8**	**+0.2**
ATH				*e*SN	**Sn**	**06 33 33.7**	**+1.4**
JAN	**Janina**	**1.88**	**347**	*e*PN	**Pn**	**06 33 11.1**	**+2.1**
MPAR	**Parnis Oros**	**1.89**	**79**	*e*PG	**Pg**	**06 33 10.3**	**-3.9**
PTL	**Penteli**	**1.98**	**83**	*e*PN	**Pn**	**06 33 10.5**	**+0.1**
KYTH	**Kithira**	**2.03**	**139**	*e*PN	**Pn**	**06 33 13.0**	**+1.9**
KYTH	**Kithira**	**2.03**	**139**	*e*Pg	**Pg**	**06 33 14.5**	**-2.4**
NEO	**Neokhori**	**2.07**	**44**	*e*PN	**Pn**	**06 33 12.5**	**+0.8**
NEO				*e*SN	**Sn**	**06 33 38.9**	**+1.1**
XOR	**Xorichti**	**2.10**	**42**	*e*P	**Pn**	**06 33 13.2**	**+1.1**
KEK	**Kerkira**	**2.26**	**327**	*e*PN	**Pn**	**06 33 17.5**	**+3.1**
IDI	**Anoyia**	**3.79**	**131**	P	**Pn**	**06 33 37.1**	**+1.0**
	1.1nm,0.3s,baz=300,slow=16,SNR=4.5						
IDI				S	**Sn**	**06 34 19.6**	**-1.7**
	2.7nm,0.3s,baz=277,slow=19,SNR=4.6						
MMB	**Musomiste**	**4.18**	**25**	*e*P	**Pn**	**06 33 41.5**	**-0.2**
MMB				*e*Pg	**Pb**	**06 33 44.5**	**-5.2**
KKB	**Krupnik**	**4.25**	**17**	*e*Pg	**Pb**	**06 33 48.0**	**-3.0**
RZN	**Rozhen**	**4.64**	**33**	*e*P	**Pn**	**06 33 49.0**	**+0.7**
RZN				*i* Pg	**Pb**	**06 33 53.5**	**-4.1**
KDZ	**Kurdzhali**	**4.93**	**38**	*e*P	**Pn**	**06 33 51.0**	**-1.4**
VTS	**Vitosha**	**4.97**	**16**	*e*P	**Pn**	**06 33 53.0**	**+0.1**
PLD	**Plovdiv**	**4.99**	**30**	*e*P	**Pn**	**06 33 50.5**	**-2.6**
MLR	**Muntele Rosu**	**8.39**	**23**	P	**P**	**06 34 45.0**	**+4.1**
	0.2nm,0.3s,baz=144,slow=18,SNR=2.0						
BRTR	**Keskin Array B**	**9.76**	**75**	P	**P**	**06 35 00.6**	**+0.7**
	0.4nm,0.3s,baz=256,slow=12,SNR=3.4						
HFS	**Hagfors**	**22.87**	**350**	P	**P**	**06 37 39.3**	**-1.4**
	2.5nm,0.6s,mb3.8,baz=157,slow=11,SNR=11						
FINES	**FINESS Array B**	**23.83**	**6**	P	**P**	**06 37 48.8**	**-1.3**
	0.8nm,0.7s,mb3.2,baz=180,slow=7.6,SNR=3.9						
NOA	**NORSAR Array B**	**24.11**	**348**	P	**P**	**06 37 51.2**	**-1.5**
	0.9nm,0.7s,mb3.3,baz=161,slow=8.9,SNR=3.3						
EKA	**Eskdalemuir Ar**	**24.11**	**324**	P	**P**	**06 37 52.1**	**-0.7**
	0.9nm,0.6s,mb3.4,baz=128,slow=9.5,SNR=4.5						
MKAR	**Makanchi Array**	**44.91**	**58**	P	**P**	**06 40 49.5**	**-3.3**
	0.4nm,0.5s,mb3.5,baz=270,slow=5.1,SNR=6.9						

*JMA **16** 06:50:46.3±0.1, 34.40N×136.20E, h376km±2km, M2.8*
*IDC **16** 06:50:46.5±1.1, 34.43N×136.41E, h385km±18km, mb3.0/3, mb1 3.1/6, mb1mx2.9/23, mbtmp3.7/6, Error ellipse: s-maj=40.1km s-min=13.9km az=74.0*
ISC 16 06:50:45.1±0.6, 34.35N±0.08×136.32E±0.10, h383km±5km, n22, σ0§65/30, mb3.2/3, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKN2	**Miekihoku**	**0.12**	**200**	P	**P**	**06 51 33.2**	**+0.3**
JKN2				*e*S	**S**	**06 52 09.8**	**-0.5**
JIE	**Ise**	**0.32**	**83**	P	**P**	**06 51 33.7**	**+0.7**
JIE				*e*S	**S**	**06 52 10.7**	**+0.1**
JWY	**Kouya**	**0.62**	**258**	P	**P**	**06 51 33.8**	**+0.3**
JWY				S	**S**	**06 52 10.6**	**-0.9**
JWZ	**Kozaga**	**0.96**	**212**	P	**P**	**06 51 34.4**	**-0.1**
JGM	**Miyama**	**1.38**	**13**	P	**P**	**06 51 36.8**	**+0.4**
JGM				S	**S**	**06 52 16.7**	**+0.2**
JAI	**Aioi**	**1.65**	**251**	P	**P**	**06 51 37.5**	**-0.3**
JKG	**Kaga**	**1.92**	**0**	P	**P**	**06 51 39.4**	**0.0**
JMN	**Monobe**	**2.12**	**254**	P	**P**	**06 51 40.7**	**0.0**
JYN	**Shimob**	**2.15**	**57**	P	**P**	**06 51 41.2**	**+0.3**
JOD2	**Odawara 2**	**2.45**	**67**	P	**P**	**06 51 44.1**	**+1.1**
JIM2	**Oshima 3**	**2.59**	**81**	P	**P**	**06 51 44.7**	**+0.6**
MAT	**Matsushiro**	**2.67**	**35**	P	**P**	**06 51 45.0**	**+0.3**
MAT				S	**S**	**06 52 30.6**	**-0.9**
MJAR	**Matsushiro Arr**	**2.67**	**35**	P	**P**	**06 51 45.1**	**+0.4**
	6.3nm,0.3s,baz=213,slow=9.0,SNR=83						
MJAR				S	**S**	**06 52 31.4**	**-0.1**
	baz=218,slow=20,SNR=4.4						
JRY	**Ryogami san**	**2.69**	**51**	P	**P**	**06 51 45.6**	**+0.8**
JHS	**Saijyo**	**2.72**	**285**	P	**P**	**06 51 44.9**	**-0.2**
JHJ	**Hachijo jima 2**	**3.13**	**112**	P	**P**	**06 51 49.0**	**+0.5**
	5.9nm,0.3s,baz=270,slow=3.0,SNR=3.7						
JHJ				S	**S**	**06 52 43.2**	**+4.8**
	5.1nm,0.3s,baz=38,slow=19,SNR=3.2						
JTO	**Tosashimizu**	**3.29**	**244**	P	**P**	**06 51 49.6**	**-0.4**
BSO1	**Boso 1**	**3.85**	**84**	P	**P**	**06 51 53.8**	**-1.4**
ASAJ	**Asahikawa**	**10.89**	**25**	P	**P**	**06 53 14.2**	**-0.5**
	0.6nm,0.3s,baz=193,slow=19,SNR=5.2						
ASAJ				S	**S**	**06 55 12.3**	**-0.7**
	0.3nm,0.3s,baz=3.2,slow=18,SNR=5.3						
SONM	**Songino Array**	**26.08**	**310**	P	**P**	**06 55 48.5**	**+1.5**
	0.5nm,0.7s,mb3.0,baz=117,slow=6.6,SNR=4.2						
WRA	**Warramunga Arr**	**54.02**	**182**	P	**P**	**06 59 32.5**	**-1.1**
	0.4nm,0.3s,mb3.1,baz=0.2,slow=7.6,SNR=16						
ARCES	**ARCESS Array B**	**65.01**	**339**	P	**P**	**07 00 46.3**	**-0.3**
	0.9nm,0.8s,mb3.4,baz=67,slow=9.2,SNR=4.3						

*BER **16** 06:52:46.3±2.3, 79.62N×5.12E, h15km±342km, MD2.4, ML2.3, ML2.1(NAO)*
*NAO **16** 06:52:47.6±5.9, 79.74N×7.81E, ML2.1*
ISC 16 06:52:45.5±2.4, 79.3N±0.2×5.1E±0.6, h10km, n5, σ0§57/10, 1C, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.34**	**102**	Pn	**Pn**	**06 53 10.4**	**0.0**
KBS				Sn	**Sn**	**06 53 28.0**	**-0.3**
KBS	**Kingsbay**	**1.34**	**102**	*i* P	**Pb**	**06 53 10.3**	**-0.1**
KBS				*e*S	**Sb**	**06 53 28.3**	**+0.9**
KBS				AML	AML	06 53 33.6	
	comp=Z,70nm,0.7s						
SPA0	**Spitsbergen Ar**	**2.47**	**111**	Pn	**Pn**	**06 53 26.0**	**-0.5**
	baz=312,slow=11						
SPA0				Sn	**Sn**	**06 53 56.2**	**-0.8**
HSP	**Hornsund**	**3.13**	**131**	*e*P	**Pn**	**06 53 37.0**	**+1.1**
HSP				*e*S	**Sn**	**06 54 13.7**	**-0.1**
ARA0	**ARCESS Array S**	**11.10**	**140**	Pn	**P**	**06 55 26.9**	**-0.3**
	baz=351,slow=14						
ARA0				Sn	**S**	**06 57 25.3**	**-7.1**
	baz=353,slow=18						

WEL 16 07:04:06.6±0.2, 38.05S×176.44E, h144km±2km, ML3.6/13, 1C, Error ellipse: s-maj=2.7km s-min=2.5km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.57**	**112**	⇑PN	P	07 04 27.6	-0.6
URZ				SN	S	07 04 43.7	-0.9
MWZ	**Matawai**	**0.91**	**109**	PN	P	07 04 30.1	-0.2
MWZ				SN	S	07 04 48.8	+0.4
BKZ	**Black Stump Fm**	**1.12**	**178**	PN	P	07 04 31.7	-0.4
BKZ				SN	S	07 04 50.6	-1.2
CNZ	**Chateau**	**1.34**	**211**	PN	P	07 04 34.3	-0.1
TUVZ	**Tukino**	**1.36**	**206**	PN	P	07 04 34.5	-0.1
TUVZ				SN	S	07 04 55.9	-0.2
KNZ	**Kokohu**	**1.38**	**135**	PN	P	07 04 34.6	-0.1
PUZ	**Puketiti**	**1.44**	**92**	PN	P	07 04 34.8	-0.6
PUZ				SN	S	07 04 56.2	-1.3
WNVZ	**Wahianoa**	**1.44**	**207**	PN	P	07 04 35.1	-0.3
WNVZ				SN	S	07 04 56.6	-0.9
PKVZ	**Pokaka**	**1.51**	**214**	PN	P	07 04 35.7	-0.4
MTVZ	**Mangateitei**	**1.54**	**209**	PN	P	07 04 36.1	-0.3
MXZ	**Matakaoa Point**	**1.56**	**73**	PN	P	07 04 36.4	-0.3
MXZ				SN	S	07 04 59.4	-0.5
TSZ	**Takapari Road**	**2.04**	**190**	PN	P	07 04 40.8	-1.4
WAZ	**Wanganui**	**2.05**	**213**	PN	P	07 04 41.4	-0.9
WAZ				SN	S	07 05 09.5	-0.1
MRZ	**Mangatainoka R**	**2.69**	**194**	PN	P	07 04 47.8	-2.7
KIW	**Kapiti Island**	**3.05**	**202**	PN	P	07 04 51.5	-3.6
MTW	**Mount Morrison**	**3.19**	**193**	PN	P	07 04 53.2	-3.7
CAW	**Cannon Point**	**3.23**	**199**	PN	P	07 04 53.8	-3.7
MSWZ	**Moikau Station**	**3.49**	**195**	PN	P	07 04 56.7	-4.1
TCW	**Tory Channel**	**3.58**	**207**	PN	P	07 04 58.2	-3.7
TUWZ	**Tuamarina**	**3.89**	**209**	PN	P	07 05 01.4	-4.6
NNZ	**Nelson**	**3.95**	**216**	PN	P	07 05 02.5	-4.4
NNZ				SN	S	07 05 48.2	-5.0
QRZ	**Quartz Range**	**4.11**	**226**	PN	P	07 05 04.0	-5.0
THZ	**Tophouse**	**4.60**	**215**	PN	P	07 05 10.9	-4.6
KHZ	**Kahutara**	**4.90**	**206**	PN	P	07 05 14.3	-5.2

*CASC **16** 07:16:26.2±2.9, 16.08N×91.52W, h33km±55km, MD4.2, ML5.2, mb4.7(NEIC)*
*BJI **16** 07:16:27.7, 15.60N×91.20W, h20km, Ms5.0, Msz5.0*
*MEX **16** 07:16:29.9±1.2, 15.48N×91.27W, h26km±67km, MD4.7*
*NEIC **16** 07:16:30.7, 15.57N×91.23W, h20km, mb4.5/47, MD4.7(MEX), After MEX.*
*IDC **16** 07:16:34.5±3.3, 15.93N×91.36W, h53km±33km, mb3.9/15, mb1 4.2/17, mb1mx4.1/24, mbtmp4.2/17, ML3.8/2, MS3.3/1, Ms1 3.3/1, ms1mx3.0/18, Error ellipse: s-maj=46.4km s-min=15.8km az=38.0*
ISC 16 07:16:31.0±0.2, 15.94N±0.03×91.22W±0.03, h33km, (h68km±6.0km:pP-P), n155, σ1§25/167, mb4.5/47, MS5.0/1, 15C-1D, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**0.94**	**291**	⇑*i* P	**P**	**07 16 46.9**	**-0.9**
CCIG				*i* S	**S**	**07 17 02.0**	**+1.7**
CCIG	**Comitan**	**0.94**	**291**	*i* P	**P**	**07 16 46.9**	**-1.0**
CCIG				*i* S	**S**	**07 17 02.0**	**+1.7**
FUG	**Fuego 3**	**1.53**	**166**	⇑*e*P	**P**	**07 16 54.2**	**-2.1**
SCX	**San Cristobal**	**1.57**	**300**	*i* P	**P**	**07 16 58.5**	**+1.6**
SCX				*i* S	**S**	**07 17 19.0**	**+2.8**
SCX	**San Cristobal**	**1.57**	**300**	*i* P	**P**	**07 16 59.1**	**+2.2**
SCX				*i* S	**S**	**07 17 18.5**	**+2.3**
PCG	**Pacaya**	**1.65**	**159**	⇑*e*P	**P**	**07 16 57.0**	**-1.0**
PCG				*e*S	**S**	**07 17 20.1**	**+1.9**
MRL	**Marmol**	**1.71**	**120**	⇑*e*P	**P**	**07 16 59.0**	**+0.1**
MRL				*e*S	**S**	**07 17 22.8**	**+2.9**
MRL				AML	AML	07 17 24.3	
	comp=N,15μm,0.5s						
IXG	**Ixpaco**	**1.91**	**157**	⇓*e*P	**P**	**07 17 01.6**	**-0.1**
IXG				*e*S	**S**	**07 17 26.3**	**+1.5**
IXG				AML	AML	07 17 37.6	
	comp=N,109μm,0.5s						
RBDL	**Robledal**	**2.35**	**141**	⇑*e*P	Px	07 17 09.8	
RBDL				*e*S	Sx	07 17 42.1	
MTO2	**Montecristo 2**	**2.36**	**130**	*e*P	**P**	**07 17 10.0**	**+1.8**
MTO2				*e*S	**S**	**07 17 42.5**	**+6.2**
RTR	**El Retiro**	**2.54**	**143**	⇑*e*P	Px	07 17 13.0	
RTR				*e*S	Sx	07 17 46.5	
SNJE	**San Jose**	**2.59**	**143**	⇑*e*P	Px	07 17 13.5	
SNJE				*e*S	Sx	07 17 47.9	
SBLS	**San Blas**	**2.60**	**143**	⇑*e*P	Px	07 17 15.0	
SBLS				*e*S	Sx	07 17 48.9	
BOQS	**Boqueron**	**2.89**	**139**	*e*P	Px	07 17 21.6	
BOQS				*e*S	Sx	07 18 00.4	
LFU	**La Fuente**	**2.98**	**137**	⇑*e*P	Px	07 17 22.7	
LFU				*e*S	Sx	07 18 02.4	
LBRS	**Las Brisas**	**3.04**	**136**	⇑*e*P	Px	07 17 23.6	
LBRS				*e*S	Sx	07 18 01.7	
LFRS	**El Faro**	**3.11**	**138**	⇑*e*P	Px	07 17 24.2	
LFRS				*e*S	Sx	07 18 05.9	
LCBS	**La Ceiba**	**3.14**	**136**	⇑*e*P	Px	07 17 25.0	
LCBS				*e*S	Sx	07 18 05.2	
SNVI	**San Vicente**	**3.27**	**135**	⇑*e*P	Px	07 17 27.5	
SNVI				*e*S	Sx	07 18 11.8	
CMIG	**Matias Romero**	**3.69**	**289**	⇑*i* P	**P**	**07 17 25.5**	**-1.7**
CMIG				*i* S	**S**	**07 18 08.9**	**-1.3**
CMIG	**Matias Romero**	**3.69**	**289**	*e*P	**P**	**07 17 25.3**	**-1.8**
CMIG				*i* S	**S**	**07 18 09.2**	**-1.0**
TUIG	**Tuzandepetl**	**3.70**	**305**	*e*P	**P**	**07 17 26.7**	**-0.6**
TUIG				*i* S	**S**	**07 18 10.9**	**+0.5**
TUIG	**Tuzandepetl**	**3.70**	**305**	*i* P	**P**	**07 17 27.9**	**+0.6**
TUIG				*i* S	**S**	**07 18 11.3**	**+1.0**
VSM	**San Miguel**	**3.79**	**131**	*e*P	Px	07 17 35.3	
VSM				*e*S	Sx	07 18 22.8	
BLLM	**Bellamira**	**3.81**	**130**	*e*P	Px	07 17 38.9	
BLLM				*e*S	Sx	07 18 26.1	
CNCH	**Conchagua**	**4.22**	**129**	*e*P	Px	07 17 42.0	
CNCH				*e*S	Sx	07 18 33.7	
HUIG	**Huatulco**	**4.71**	**269**	*i* P	**P**	**07 17 37.1**	**-4.5**
HUIG				*i* S	**S**	**07 18 28.7**	**-7.0**
HUIG	**Huatulco**	**4.71**	**269**	*i* P	**P**	**07 17 39.4**	**-2.1**
HUIG				*i* S	**S**	**07 18 32.0**	**-3.8**
OXX	**Oaxaca**	**5.40**	**283**	*i* P	**P**	**07 17 51.0**	**-0.3**
OXX				*i* S	**S**	**07 18 49.0**	**-4.1**
VHO	**Vista Hermosa**	**5.41**	**283**	*i* P	**P**	**07 17 49.7**	**-1.7**
VHO				*i* S	**S**	**07 18 50.0**	**-3.3**
VHO	**Vista Hermosa**	**5.41**	**283**	*i* P	**P**	**07 17 49.7**	**-1.7**
VHO				*i* S	**S**	**07 18 51.4**	**-1.9**
PNIG	**Pinotepa**	**6.65**	**275**	*i* S	**S**	**07 19 19.4**	**-5.0**
YAIG	**Yautepec**	**8.03**	**292**	*i* S	**S**	**07 20 01.5**	**+2.6**
PLIG	**Platanillo**	**8.28**	**288**	*i* S	**S**	**07 20 10.7**	**+5.7**
JTS	**JuntasAbangare**	**8.30**	**132**	P	**P**	**07 18 33.6**	**+1.8**
	comp=N,0.4nm,0.3s,baz=344,slow=7.4,SNR=3.7						
JTS				LR	LR	07 22 37.3	
	comp=N,191nm,18.9s,baz=94,slow=43						
JTS	**JuntasAbangare**	**8.30**	**132**	*e*Pn	**P**	**07 18 34.9**	**+3.1**
	comp=N,23nm,1.0s						
ACX	**Acapulco**	**8.40**	**277**	*e*P	**P**	**07 18 32.0**	**-1.2**
CAIG	**El Cayaco**	**8.75**	**278**	*i* S	**S**	**07 20 12.8**	**-3.8**
MOIG	**Morelia**	**10.19**	**293**	*i* P	**P**	**07 18 56.7**	**-1.5**
MOIG	**Morelia**	**10.19**	**293**	*i* P	**P**	**07 18 55.6**	**-2.5**
SOR	**Soroa**	**10.32**	**47**	*e*P	**P**	**07 18 56.5**	**-3.4**
MGV	**Manicaragua**	**12.27**	**58**	*e*P	**P**	**07 19 24.8**	**-1.5**
	baz=235						
MGV				*e*S	**S**	**07 21 32.6**	**-10**
	comp=N,3.3nm,0.7s						
	comp=E,3.7nm,0.6s						
LMGC	**Las Mercedes**	**14.13**	**71**	*e*P	**P**	**07 19 52.0**	**+1.0**
DWPF	**Disney**	**15.12**	**35**	*e*Pn	**P**	**07 20 04.2**	**+0.3**
	comp=E,24nm,0.8s						
DWPF				*e*S	**S**	**07 22 41.2**	**-10**
NATX	**Nacogdoches**	**16.05**	**349**	*e*P	**P**	**07 20 20.2**	**+4.2**
	comp=E,7.6nm,0.6s						
LRAL	**Lakeview Retre**	**17.44**	**12**	*e*P	**P**	**07 20 34.8**	**+1.4**
	comp=E,7.3nm,0.4s						
LRAL				*e*S	**S**	**07 23 32.6**	**-12**
LTX	**Lajitas**	**17.57**	**321**	*e*P	**P**	**07 20 37.4**	**+2.4**
	comp=E,23nm,1.0s						
TXAR	**Lajitas Array**	**17.57**	**321**	P	**P**	**07 20 36.6**	**+1.5**
	comp=E,0.2nm,0.3s,baz=148,slow=9.1,SNR=100						
OXF	**Oxford**	**18.56**	**5**	*e*P	**P**	**07 20 46.8**	**-0.6**
	comp=E,22nm,0.7s						
OXF				*e*S	**S**	**07 24 03.0**	**-6.9**
UALR	**University of**	**18.78**	**357**	*e*P	**P**	**07 20 49.9**	**-0.2**
	comp=E,12nm,1.0s						
UALR				*e*S	**S**	**07 24 20.6**	**+5.9**
PLAL	**Pickwick Lake**	**19.17**	**8**	*e*P	**P**	**07 20 54.3**	**-0.2**
	comp=E,5.8nm,0.7s						
PLAL				*e*S	**S**	**07 24 14.1**	**-9.5**
SWET	**Sewanee**	**19.77**	**13**	*e*P	**P**	**07 21 00.4**	**-0.7**
SWET				*e*S	**S**	**07 24 27.2**	**-10**
NHSC	**New Hope**	**19.80**	**28**	*e*P	**P**	**07 20 60.0**	**-1.5**
	comp=E,37nm,0.8s						
CLNB	**Carlsbad**	**19.91**	**327**	P	**P**	**07 21 03.2**	**+0.6**
WMOK	**Wichita Mounta**	**19.91**	**341**	*e*P	**P**	**07 21 01.7**	**-1.0**
	comp=E,23nm,1.1s						
WMOK				*e*S	**S**	**07 24 33.2**	**-6.7**
ROSC	**El Rosal**	**19.91**	**122**	P	**P**	**07 21 04.4**	**+1.6**
	comp=E,2.2nm,0.5s,baz=90,slow=20,SNR=2.2						
GDL2	**Guadalupe Moun**	**20.12**	**326**	*e*P	**P**	**07 21 05.1**	**+0.2**
MNTX	**Cornudas Mount**	**20.31**	**323**	*e*P	**P**	**07 21 06.3**	**-0.6**
	comp=E,16nm,1.1s						
CPCT	**Cooper Cave**	**20.33**	**16**	*e*P	**P**	**07 21 07.2**	**+0.1**
CPCT				*e*S	**S**	**07 24 48.2**	**0.0**
WVT	**Waverly**	**20.33**	**8**	*e*P	**P**	**07 21 05.2**	**-1.9**
	comp=E,10nm,0.8s						
WVT				*e*S	**S**	**07 24 41.9**	**-6.3**
CPRX	**Cap Rock**	**20.51**	**328**	*e*P	**P**	**07 21 09.3**	**+0.4**
PARMO	**Parma**	**20.68**	**3**	*e*P	**P**	**07 21 12.5**	**+1.8**
SDV	**Santo Domingo**	**21.28**	**107**	P	**P**	**07 21 17.5**	**+0.5**
	comp=E,12nm,0.6s,mb4.4,baz=317,slow=6.4,SNR=15						
SDV	**Santo Domingo**	**21.28**	**107**	*e*P	**P**	**07 21 15.6**	**-1.4**
	comp=E,33nm,0.8s,mb4.7						
TZTN	**Tazewell**	**21.62**	**17**	*e*P	**P**	**07 21 20.2**	**-0.1**
TZTN				*e*PcP	PcP	07 25 18.7	-3.1
SIUC	**Southern Illin**	**21.76**	**4**	*e*P	**P**	**07 21 22.7**	**+1.1**
	comp=E,89nm,0.7s,mb5.3						
CCM	**Cathedral Cave**	**22.03**	**360**	*e*P	**P**	**07 21 24.1**	**-0.2**
	comp=E,14nm,0.8s,mb4.5						
WCI	**Wyandotte Cave**	**22.62**	**10**	*e*P	**P**	**07 21 30.5**	**+0.3**
	comp=E,16nm,0.6s,mb4.6						
WCI				*e*S	**S**	**07 25 38.2**	**+7.1**
BNM	**Barren Site**	**22.83**	**325**	*e*P	**P**	**07 21 33.7**	**+1.4**
LPM	**Los Pinos Moun**	**22.95**	**326**	*e*P	**P**	**07 21 34.9**	**+1.4**
LPM				*e*S	**S**	**07 25 47.3**	**+10**
LENM	**Lemitar**	**23.03**	**325**	*e*P	**P**	**07 21 36.2**	**+2.0**
LENM				*e*S	**S**	**07 25 44.8**	**+6.3**
ELN	**Prospectdale**	**23.14**	**22**	*e*P	**P**	**07 21 37.9**	**+2.5**
BLA	**Blacksburg**	**23.25**	**22**	*e*P	**P**	**07 21 38.3**	**+2.0**
	comp=E,10nm,0.8s,mb4.3						
LAZ	**Ladron**	**23.30**	**325**	*e*P	**P**	**07 21 39.1**	**+2.3**
ANMO	**Albuquerque**	**23.34**	**327**	P	**P**	**07 21 38.3**	**+1.0**
	comp=E,2.3nm,1.0s,mb3.6,baz=154,slow=9.9,SNR=7.6						
ANMO	**Albuquerque**	**23.34**	**327**	*e*P	**P**	**07 21 39.3**	**+2.0**
	comp=E,3.2nm,0.9s,mb3.8						
FWV	**Forest Hill**	**23.44**	**21**	*e*P	**P**	**07 21 40.0**	**+1.8**
BLO	**Bloomington**	**23.51**	**9**	*e*P	**P**	**07 21 40.8**	**+2.0**
	comp=E,122nm,1.9s,mb5.0						
KSU1	**Kansas State U**	**23.55**	**349**	*e*P	**P**	**07 21 38.7**	**-0.6**
CBKS	**Cedar Bluff**	**23.98**	**343**	*e*P	**P**	**07 21 43.9**	**+0.4**
	comp=E,29nm,1.1s,mb4.6						
TUC	**Tucson**	**24.10**	**316**	*e*P	**P**	**07 21 46.7**	**+2.0**
	comp=E,6.7nm,0.9s,mb4.1						
TUC				*e*pP		07 22 07.8	
TUC				*e*PcP	PcP	07 25 24.5	-2.5
SDCO	**Great Sand Dun**	**25.12**	**333**	*e*P	**P**	**07 21 55.6**	**+1.1**
	comp=E,17nm,1.1s,mb4.5						
SDCO				*e*pP	pP	07 22 09.6	+5.8
ISCO	**Idaho Springs**	**26.89**	**335**	*e*P	**P**	**07 22 10.5**	**-0.4**
	comp=E,7.7nm,1.2s,mb4.1						
SMCO	**Snowmass**	**26.95**	**332**	*e*P	**P**	**07 22 12.2**	**+0.7**
LDFC	**Landfair**	**28.64**	**316**	*e*P	**P**	**07 22 28.9**	**+2.1**
LDFC				*e*pP	pP	07 22 46.7	+10
NEN	**Nelson**	**28.81**	**317**	*e*P	**P**	**07 22 28.7**	**+0.5**
ARUT	**Antelope Range**	**29.29**	**322**	*e*P	**P**	**07 22 33.7**	**+1.2**
ARUT				*e*pP	pP	07 22 53.0	+11
DAU	**Daniels Canyon**	**29.96**	**328**	*e*P	**P**	**07 22 38.5**	**0.0**
RSSD	**Black Hills**	**30.12**	**341**	*e*P	**P**	**07 22 39.6**	**-0.3**
	comp=E,1.9nm,0.7s,mb3

GRA1	Grafenberg Arr	85.82	39	*e*P	P	07 29 08.9	+0.6
	comp=E,7.0nm,0.9s,mb4.9						
GRF	Grafenberg Arr	85.82	39	*e*P	P	07 29 08.9	+0.6
	comp=E,7.0nm,0.9s,mb4.9						
CLL	Collm	86.32	38	P	P	07 29 11.0	+0.2
	comp=E,logA/T=0.8,mb4.8						
KHC	Kasperske Hory	87.45	39	*e*P	P	07 29 16.0	-0.3
GERES	GERESS Array B	87.64	40	P	P	07 29 17.1	-0.1
	comp=E,0.9nm,0.8s,mb4.0,baz=262,slow=14,SNR=2.9						
KAF	Kangasniemi	88.17	25	*e*p	P	07 29 19.5	0.0
FINES	FINESS Array B	88.43	25	P	P	07 29 21.0	+0.3
	comp=E,2.6nm,0.6s,mb4.6,baz=297,slow=4.3,SNR=9.3						
CN2	Changchun	111.74	332	*e*PKP	PKPdf	07 35 00.8	-1.7
SSE	Sheshan	123.81	326	PKP	PKPdf	07 35 23.4	-2.8
NJ2	Nanjing	124.25	329	*e*PKP	PKPdf	07 35 24.8	-2.2
LZH	Lanzhou	126.33	345	*e*PKP	PKPdf	07 35 30.5	-0.5
LZH				LR	LR		
	comp=N,159nm,18.5s						
LZH				LR	LR		
	comp=Z,347nm,20.0s,MS5.0						
LZH	Lanzhou	126.33	345	*e*PKP	PKPdf	07 35 30.5	-0.5
LZH				pPKP		07 35 53.1	
LZH				sPKP		07 36 02.8	
LZH				LR	LR		
	comp=Z,350nm,20.0s,MS5.0						

JMA 16 07:42:01.6±0.1,31.96N×132.21E,h34km±3km,M3.6, 3C-2D,Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNAR	Kushima--Naru	0.91	242	⇑P	P	07 42 18.1	+0.2
JNAR				S	S	07 42 30.7	+0.7
JTZ	Takazaki	0.96	267	⇑P	P	07 42 18.4	-0.2
JTO	Tosashimizu	1.03	29	⇓P	P	07 42 19.9	+0.2
JTO				S	S	07 42 32.9	-0.2
JUS	Usuki	1.17	341	⇓P	P	07 42 22.9	+1.2
JIU2	Izumi 2	1.32	297	⇑P	P	07 42 24.6	+0.7
MAT	Matsushiro	6.75	46	P	P	07 43 41.0	+0.2
MAT				*e*S	S	07 44 53.8	-3.6

*IDC **16** 08:01:03.0±1.8,30.44N×101.24E,mb3.3/2,mb1 3.6/3, mb1mx3.4/18,mbtmp3.4/3,ML2.8/1,Error ellipse: s-maj=84.4km s-min=28.7km az=63.0*
*BJI **16** 08:01:04.7,30.35N×101.56E,h15km,ML3.3,Ms3.1, Msz3.2*

ISC 16 08:01:03.0±4.7,30.46N±0.10×101.49E±0.09,h12km±35km, n6,σ1§04/7,mb3.4/2,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	Chengdu	2.00	76	PG	Pb	08 01 38.6	-0.3
CD2				SG	Sb	08 02 03.5	-0.2
CD2				Smax			
	comp=E,499nm,0.5s						
KMI	Kunming	5.43	168	PG	Pb	08 02 37.5	0.0
LZH	Lanzhou	5.95	19	*e*PG	Pb	08 02 53.5	+7.1
LZH				LR	LR		
	comp=N,257nm,13.1s						
LZH				LR	LR		
	comp=Z,349nm,17.3s						
SONM	Songino Array	17.76	11	P	P	08 05 12.7	+1.3
	comp=Z,0.0nm,0.3s,baz=190,slow=12,SNR=4.7						
MKAR	Makanchi Array	22.07	323	P	P	08 05 58.1	-1.2
	comp=Z,0.3nm,0.6s,mb2.9,baz=126,slow=11,SNR=4.0						
WRA	Warramunga Arr	59.24	144	P	P	08 11 07.2	+0.4
	comp=Z,1.3nm,1.0s,mb3.9,baz=336,slow=7.4,SNR=8.3						

*CSEM **16** 08:20:20.4±0.3,38.71N×28.59W,h11km±9km,ML1.1, Error ellipse: s-maj=5.8km s-min=2.6km az=46.0,After PDA*
*PDA **16** 08:20:20.4±0.3,38.71N×28.59W,h11km±9km,MD2.8, ML1.1,Error ellipse: s-maj=5.8km s-min=2.6km az=46.0*

SVSA 16 08:20:20.4±0.3,38.71N×28.59W,h11km±9km,MD2.8, ML1.1,Error ellipse: s-maj=5.8km s-min=2.6km az=46.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	Cedros	0.12	229	*i*P	Pg	08 20 23.2	-0.3
PCED				*e*S	Sg	08 20 25.2	-0.4
	8.9nm,0.1s						
PCED	Cedros	0.12	229	*e*S	Sg	08 20 25.2	-0.4
CALA	Caldeira	0.15	216	*e*P	Pg	08 20 23.7	-0.4
CALA				*e*S	Sg	08 20 26.2	-0.4
PICO	Pico	0.24	148	*e*P	Pg	08 20 24.9	-0.7
PICO				*e*S	Sg	08 20 28.4	-0.7

*NIED **16** 08:44:00,24.30N×125.30E,h8km,Mw4.5 Best double couple: M0:6.21×10^15 NP1:φs59°,δ85°,λ,93°. NP2:φs206°, δ6°,λ,57°.*
*IDC **16** 08:44:13.8±0.8,24.28N×125.09E,mb4.2/13,mb1 4.3/16, mb1mx4.3/20,mbtmp4.2/16,ML3.7/3,MS3.7/3,Ms1 3.7/3, ms1mx3.3/17,Error ellipse: s-maj=24.5km s-min=18.6km az=71.0*
*JMA **16** 08:44:18.1±0.2,24.27N×125.28E,h42km±5km,M4.5*
JMA Felt I J1.
*BJI **16** 08:44:19.0,24.11N×125.39E,h61km,mB4.5,mb4.3, Ms4.1,Msz3.9*
*NEIC **16** 08:44:19.7±0.4,24.27N×125.18E,mb4.5/20, MW4.5(NIED),Error ellipse: s-maj=10.6km s-min=6.5km az=159.0*
NEIC Recorded [1 JMA] on Miyako-jima.

ISC 16 08:44:17.4±0.7,24.23N±0.05×125.32E±0.04,h36km±5km, h36km±2.6km:pP-P,n70,σ1§21/79,mb4.5/30,MS3.8/3, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	Gusukube	0.54	9	P	P	08 44 28.9	+0.5
JOGS				S	S	08 44 37.3	+0.9
JMJ	Miyako jima 2	0.58	358	P	P	08 44 29.3	+0.2
JMJ				S	S	08 44 37.6	-0.1
JTJ	Tarama	0.70	306	P	P	08 44 30.6	-0.1
JTJ				S	S	08 44 39.9	-0.5
JIJ	Ishigaki jima	1.08	277	P	P	08 44 36.6	+0.4
JIJ				*e*S	S	08 44 50.0	-0.2
JKRS	Kuro-shima	1.20	271	P	P	08 44 38.9	+1.1
HATJ	Hateruma jima	1.39	263	P	P	08 44 41.2	+0.5
HATJ				*e*S	S	08 45 03.1	+5.0
IRIF	Iriomote-Funau	1.45	275	P	P	08 44 42.2	+0.6
IRIF				*e*S	S	08 45 03.3	+3.7
YOJ	Yonaguni jima	2.12	277	P	P	08 44 51.0	-0.1
JKE	Kume jima 2	2.48	32	P	P	08 44 55.7	-0.5
JAGN	Aguni-jima	2.92	36	P	P	08 45 02.1	-0.5
NACB	Ninganchiao	3.40	270	*e*Pn	P	08 45 07.7	-1.6
TATO	Taipei	3.56	283	*e*Pn	P	08 45 14.8	+3.1
YHNB	Yeheng	3.62	278	*e*Pn	P	08 45 12.4	0.0
JOW	Kunigami	3.72	45	Pn	P	08 45 13.8	-0.1
	6.3nm,0.3s,baz=184,slow=14,SNR=16						
JOW				LR	LR	08 47 01.2	
	comp=Z,623nm,20.1s,baz=109,slow=44						
JOW	Kunigami	3.72	45	P	P	08 45 13.4	-0.5
JTK	Tokunoshima	4.82	42	P	P	08 45 27.5	-2.0
JMZ	Minamidaito 2	5.58	72	P	P	08 45 36.4	-3.8
JMZ				*e*S	S	08 46 35.1	-9.0
JAM	Amami Oshima	5.67	42	P	P	08 45 38.9	-2.5
JNU	Nakatsue	10.12	28	Pn	P	08 46 40.5	-2.8
	0.6nm,0.3s,baz=314,slow=25,SNR=4.2						
DL2	Dalian	14.96	349	P	P	08 47 53.1	+5.1
DL2				AMB	AMB		
	comp=Z,30nm,0.6s						
MAJO	Matsushiro	16.54	39	*e*P	P	08 48 11.3	+3.1
	comp=Z,4.0nm,0.6s						
MAT	Matsushiro	16.54	39	P	P	08 48 11.2	+3.0
MAT				*e*S	S	08 51 22.2	+12
MAT	Matsushiro	16.54	39	*e*P	P	08 48 11.0	+2.8
	comp=Z,7.5nm,0.8s						
MJAR	Matsushiro Arr	16.54	39	Pn	P	08 48 10.4	+2.2
	comp=Z,0.7nm,0.3s,baz=225,slow=11,SNR=27						
XAN	Xi'an	17.32	308	P	P	08 48 18.8	+0.8
XAN				AMB	AMB		
	comp=Z,6.0nm,1.0s						
CN2	Changchun	19.52	0	*e*P	P	08 48 44.3	-0.2
CD2	Chengdu	20.22	294	P	P	08 48 55.6	+3.5
KMI	Kunming	20.54	277	P	P	08 48 55.8	+0.4
KMI				AMB	AMB		
	comp=Z,7.0nm,1.2s						
KMI	Kunming	20.54	277	P	P	08 48 55.7	+0.3
	comp=Z,7.0nm,1.2s						
MDJ	Mudanjiang	20.64	9	P	P	08 48 58.4	+2.1
MDJ				AMB	AMB		
	comp=Z,3.0nm,0.6s						
MDJ				AMB	AMB		
	comp=Z,91nm,5.7s						
LZH	Lanzhou	21.96	308	*e*P	P	08 49 10.0	+0.3
LZH				AMB	AMB		
	comp=Z,21nm,1.1s,mb4.5						
LZH	Lanzhou	21.96	308	*e*P	P	08 49 10.0	+0.3
	comp=Z,21nm,1.1s,mb4.5						
LZH				pP		08 49 16.5	
LZH				sP		08 49 20.1	
SONM	Songino Array	27.94	332	P	P	08 50 04.1	-2.4
	comp=Z,1.1nm,0.3s,mb3.9,baz=149,slow=9.4,SNR=16						
SONM				PcP	PcP	08 53 21.3	-0.2
	comp=Z,0.2nm,0.4s,baz=153,slow=3.2,SNR=2.7						
SONM				LR	LR	09 02 40.4	
	comp=Z,254nm,21.4s,MS3.8,baz=53,slow=40						
PKI	Pulchoki	35.95	284	*e*P	P	08 51 16.1	-0.6
	comp=Z,15nm,0.8s,mb5.0						
KKN	Kakani	36.05	284	*e*P	P	08 51 17.3	-0.2
	comp=Z,30nm,0.7s,mb5.3						
DMN	Daman	36.22	284	*e*P	P	08 51 18.6	-0.3
	comp=Z,18nm,0.7s,mb5.1						
WMQ	Urumqi	36.39	312	*e*P	P	08 51 22.0	+1.8
WMQ				AP	pP	08 51 32.0	+1.5
WMQ				PP	PP	08 52 46.0	+1.7
WMQ				S	S	08 57 00.0	+1.4
WMQ				SS	SS	08 59 26.0	+1.2
WMQ				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,18nm,8.0s						
WMQ				LR	LR		
	comp=N,98nm,16.0s,MS4.0						
WMQ				LR	LR		
	comp=E,225nm,18.0s,MS4.0						
WMQ				LR	LR		
	comp=Z,128nm,16.0s,MS3.8						
GKN	Gorkha	36.60	285	*e*P	P	08 51 21.5	-0.7
	comp=Z,6.7nm,0.2s,mb5.1						
KOLN	Koldanda	37.54	285	*e*P	P	08 51 30.0	0.0
	comp=Z,27nm,0.8s,mb5.0						
MKAR	Makanchi Array	40.97	314	P	P	08 51 57.5	-0.8
	comp=Z,7.8nm,0.5s,mb4.6,baz=95,slow=10,SNR=66						
ZAL	Zalesovo	42.32	325	P	P	08 52 07.1	-2.1
	comp=Z,3.1nm,0.4s,mb4.3,baz=360,slow=6.7,SNR=5.6						
KURK	Kurchatov	44.52	319	*e*P	P	08 52 25.0	-2.2
	comp=Z,4.7nm,0.4s,mb4.7						
WRAB	Tennant Creek	44.77	168	*e*P	P	08 52 29.2	-0.3
	comp=Z,26nm,1.0s,mb5.0						
WRAB				*ep*P	pP	08 52 36.5	-3.5
WRA	Warramunga Arr	44.77	168	P	P	08 52 29.8	+0.1
	comp=Z,1.4nm,0.5s,mb4.1,baz=348,slow=8.8,SNR=8.4						
AAK	Ala-Archa	45.49	307	*e*P	P	08 52 34.2	-0.9
	comp=Z,3.7nm,0.6s,mb4.4						
FX1	Attu Island--F	45.90	39	*e*P	P	08 52 41.8	+3.6
FX1				*ep*P	pP	08 52 53.4	+4.8
STKA	Stephens Creek	57.92	164	P	P	08 54 08.3	-0.2
	comp=Z,1.5nm,0.8s,mb4.0,baz=349,slow=16,SNR=3.9						
STKA	Stephens Creek	57.92	164	*e*P	P	08 54 08.2	-0.3
IMA	Indian Mountail	64.48	27	*e*P	P	08 54 54.4	+2.1
	comp=Z,13nm,1.2s,mb4.8						
IMA				*ep*P	pP	08 55 04.3	+1.1
ILAR	Eielson Array	67.44	28	P	P	08 55 11.8	+0.7
	comp=Z,0.7nm,0.7s,mb3.8,baz=240,slow=3.4,SNR=14						
KEV	Kevo	70.33	339	*ep*	P	08 55 27.1	-1.8
	comp=Z,4.6nm,1.0s,mb4.4						
DAWY	Dawson	70.76	28	*e*P	P	08 55 31.7	+0.1
DAWY				*ep*P	pP	08 55 44.0	+1.5
ARCES	ARCESS Array B	70.90	338	P	P	08 55 31.2	-1.2
	comp=Z,1.8nm,0.9s,mb4.0,baz=82,slow=8.6,SNR=5.2						
ARCES				LR	LR	09 31 18.1	
	comp=Z,51nm,20.9s,MS3.8,baz=334,slow=40						
ARCES	ARCESS Array B	70.90	338	P	P	08 55 31.2	-1.2
ARCES				LR	LR	09 31 18.1	
INK	Inuvik	71.75	23	P	P	08 55 37.3	-0.2
	comp=Z,4.5nm,0.9s,mb4.4						
KAF	Kangasniemi	72.97	331	*ep*	P	08 55 43.4	-1.3
	comp=Z,3.5nm,0.7s,mb4.4,baz=70,slow=5.6						
MALT	Malatya	73.09	305	*e*P	P	08 55 45.6	-0.3
	comp=Z,4.7nm,0.8s,mb4.5						
MALT				*ep*P	pP	08 55 58.1	+1.2
FINES	FINESS Array B	73.30	330	P	P	08 55 46.2	-0.4
	comp=Z,4.7nm,0.7s,mb4.5,baz=72,slow=6.0,SNR=20						
FINES	FINESS Array B	73.30	330	P	P	08 55 46.2	-0.4
AKASG	Malin Array Be	75.33	319	P	P	08 55 57.4	-1.2
	comp=Z,2.0nm,0.5s,mb4.3,baz=56,slow=6.6,SNR=5.2						
BRTR	Keskin Array B	76.17	307	P	P	08 56 03.6	0.0
	comp=Z,1.0nm,0.5s,mb4.0,baz=79,slow=6.3,SNR=5.5						
DLBC	Dease Lake	76.96	31	*e*P	P	08 56 09.2	+1.4
NB2	NORSAR Subarra	79.92	333	P	P	08 56 23.4	-0.5
	comp=Z,1.5nm,0.7s,mb4.0,baz=56,slow=5.3						
NOA	NORSAR Array B	79.92	333	P	P	08 56 24.0	+0.1
	comp=Z,1.7nm,0.6s,mb4.2,baz=55,slow=5.5,SNR=7.5						
NOA	NORSAR Array B	79.92	333	P	P	08 56 24.0	+0.1
YKA	Yellowknife Ar	81.43	24	P	P	08 56 32.5	+0.7
	comp=Z,0.7nm,0.6s,mb3.8,baz=310,slow=4.8,SNR=7.8						
YKA	Yellowknife Ar	81.43	24	P	P	08 56 32.5	+0.7
GERES	GERESS Array B	85.17	322	P	P	08 56 51.6	+0.5
	comp=Z,0.4nm,0.4s,mb3.9,baz=113,slow=7.5,SNR=2.5						
NEW	Newport	88.78	36	*e*P	P	08 57 10.0	+1.4
	comp=Z,1.5nm,0.7s,mb4.4						
NEW				*ep*P	pP	08 57 21.7	+1.9
HLID	Hailey	93.11	39	*e*P	P	08 57 30.6	+1.7
	comp=Z,1.3nm,0.7s,mb4.5						

*FUNV **16** 09:21:06.9,8.52N×70.75W,MW2.9*
*IDC **16** 09:21:08.4±2.4,8.69N×70.64W,h17km±9km,mb3.0/2, mb1 3.8/4,mb1mx3.5/22,mbtmp3.7/4,ML2.5/1,Error ellipse: s-maj=48.2km s-min=18.1km az=115.0*
*NEIC **16** 09:21:08.3±1.1,8.69N×70.68W,h15km±7km,mb3.6/2, Error ellipse: s-maj=19.7km s-min=10.3km az=107.0*

ISC 16 09:21:06.3±0.8,8.56N±0.03×70.75W±0.03,h6km±5km,n22, σ1§21/33,mb3.3/4,Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOCV	Socops	0.29	202	*e*P	Pg	09 21 11.9	-0.3
SOCV				*e*S	Sg	09 21 15.7	-0.5
SDV	Santo Domingo	0.35	19	Pg	Pg	09 21 13.1	-0.2
	319nm,0.3s,baz=38,slow=19,SNR=4.7						
SDV				Lg		09 21 18.2	
	2μm,0.3s,baz=324,slow=17,SNR=14						
SANV	Sanarito	1.52	52	*e*P	Pn	09 21 34.9	+0.7
SANV				*e*S	Sb	09 21 56.1	+2.1
CURV	Curarigua	1.64	28	*e*P	Pn	09 21 36.8	+0.9
CURV				*e*S	Sb	09 21 59.9	+2.4
QARV	Quebrada Arrib	1.66	8	*e*P	Pn	09 21 37.8	+1.7
QARV				*e*S	Sn	09 21 59.5	+1.6
CAPV	Capacho	1.69	246	*e*P	Pn	09 21 37.9	+1.2
CAPV				*e*S	Sn	09 22 00.1	+1.2
ELOV	Elorza	1.99	141	*e*P	Pn	09 21 40.3	-0.6
ELOV				*e*S	Sn	09 22 06.3	-0.1
TEPV	Terepaima	2.08	48	*e*P	Pn	09 21 42.8	+0.7
TEPV				*e*S	Sn	09 22 09.4	+0.8
DABV	Dabajuro	2.35	3	*e*S	Sn	09 22 16.1	+0.5
VIRV	Villa del Rosa	2.53	320	*e*P	Pn	09 21 48.2	-0.5
VIRV				*e*S	Sn	09 22 19.1	-1.1
BAUV	El Baul	2.70	82	*e*P	Pn	09 21 50.2	-0.9
TURV	Turiamo	3.43	57	*e*P	Pn	09 22 01.1	-0.3
TURV				*e*S	Sn	09 22 40.9	-2.0
MONV	Montecano	3.46	13	*i*P	Pn	09 22 02.0	+0.1
MONV				*e*S	Sn	09 22 41.9	-1.8
IMOV	Isla Los Monje	3.78	358	*e*P	Pn	09 22 06.1	-0.3
IMOV				*e*S	Sn	09 22 49.5	-2.3
CAOV	Caicara del Or	4.55	105	*e*P	Pn	09 22 15.3	-2.1
ROSC	El Rosal	5.12	224	Pn	Pn	09 22 26.9	+1.6
	3.4nm,0.3s,baz=278,slow=21,SNR=11						
ROSC				Sn	Sn	09 23 26.0	+0.5
	5.8nm,0.3s,baz=99,slow=17,SNR=3.3						
ROSC				Lg		09 23 58.0	
	2.8nm,0.3s,baz=73,slow=19,SNR=2.6						
SJG	San Juan	10.50	25	Pn	P	09 23 36.6	-3.9
	3.2nm,0.3s,baz=155,slow=14,SNR=4.4						
LPAZ	La Paz	24.82	174	*e*P	P	09 26 31.8	+1.0
	1.2nm,1.0s,mb3.4						
TXAR	Lajitas Array	37.16	308	P	P	09 28 18.8	-1.2
	0.1nm,0.5s,mb2.9,baz=132,slow=8.4,SNR=3.5						
SDCO	Great Sand Dun	42.76	318	*e*P	P	09 29 05.6	-0.7
	0.8nm,0.7s,mb3.6						
PDAR	Pinedale Array	48.12	322	P	P	09 29 47.0	-2.0
	0.2nm,0.6s,mb3.3,baz=117,slow=8.1,SNR=3.5						
WRA	Warramunga Arr	153.22	242	PKPbc	PKPdf	09 41 07.0	+6.1
	0.2nm,0.5s,baz=107,slow=2.6,SNR=6.9						

*HLW **16** 09:37:47.3,34.99N×23.79E,h33km,Mb3.7*
*CSEM **16** 09:37:50.8±0.1,34.54N×24.09E,h2km,MD3.5,Error ellipse: s-maj=6.8km s-min=2.5km az=78.0*
*ATH **16** 09:37:53.0,34.77N×23.95E,h44km±2km,MD3.7/6*
*NEIC **16** 09:37:55.2,34.81N×24.20E,h28km,MD3.5(ATH),After ATH.*

ISC 16 09:37:51.6±0.8,34.64N±0.05×23.92E±0.09,h52km±19km, n20,σ0§99/26,2C-3D,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	Gavdhos	0.24	34	*e*P	P	09 38 00.5	0.0
GVD	Gavdhos	0.24	34	*e*Pb	P	09 38 00.3	-0.2
VAM	Vamos	0.80	16	*e*P	P	09 38 06.7	-0.2
VAM				*e*S	S	09 38 17.7	-0.4
VAM	Vamos	0.80	16	*e*Pn	P	09 38 06.7	-0.2
VAM				*e*Sn	S	09 38 17.3	-0.8
XRY	Khrisi	1.48	80	*e*P	P	09 38 18.5	+2.1
XRY	Khrisi	1.48	80	*e*Pn	P	09 38 19.0	+2.6
NPS	Neapolis	1.52	65	*e*P	P	09 38 18.0	+1.0
NPS				*e*S	S	09 38 34.9	-0.9
NPS	Neapolis	1.52	65	*e*Pn	P	09 38 18.0	+1.0
NPS				*e*Sn	S	09 38 34.5	-1.3
KYTH	Kithira	1.79	336	*e*Pn	P	09 38 26.5	+5.7
VLI	Veliai	2.23	339	*e*P	P	09 38 26.8	-0.1
VLI	Veliai	2.23	339	*e*Pn	P	09 38 30.8	+3.9
APE	Apeiranthos	2.75	28	*e*Pn	P	09 38 33.0	-1.4
KARP	Karpathos	2.81	70	*e*P	P	09 38 35.7	+0.5
KARP	Karpathos	2.81	70	*e*Pn	P	09 38 36.8	+1.6
ITM	Ithomi	3.01	328	*e*P	P	09 38 38.8	+0.7
SLUM		3.32	161	⇑P	P	09 38 41.9	-0.5
SLUM				S	S	09 39 21.9	+0.9
HMAT	Matruh	4.43	142	⇓P	P	09 38 58.6	+0.5
SWA2		5.53	166	⇑P	P	09 39 12.9	-0.6
SWA1		5.57	164	⇓P	P	09 39 14.6	+0.6
SWA1				S	S	09 40 16.0	-1.5
HDK1	Dakhla	10.23	151	⇓P	P	09 40 17.8	-0.6

*JMA **16** 09:42:54.1±0.2,38.17N×142.19E,h42km±2km,M4.1*
JMA Felt I J1.
*IDC **16** 09:42:54.7±5.3,38.10N×142.25E,h33km±44km,mb3.3/6, mb1 3.6/9,mb1mx3.5/22,mbtmp3.6/9,ML3.7/3,Error ellipse: s-maj=32.4km s-min=26.3km az=150.0*
*NEIC **16** 09:42:57.2±3.7,38.10N×142.20E,h59km±60km,mb4.4/1, Error ellipse: s-maj=87.6km s-min=20.9km az=181.0*
NEIC Recorded [1 JMA] in Iwate Prefecture.

ISC 16 09:42:54.2±1.2,38.18N±0.06×142.2E±0.1,h41km±10km, n24,σ0§93/33,mb3.6/7,8D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	Ouri	0.71	293	⇓P	P	09 43 08.0	+0.1
JIO				S	S	09 43 17.7	-0.2
OFUJ	Ofunato	0.99	336	⇓P	P	09 43 11.6	-0.1
JMK	Ichinoseki	1.08	316	⇓P	P	09 43 13.4	+0.3
JMM	Marumori	1.15	255	⇓P	P	09 43 13.7	-0.3
JMM				S	S	09 43 27.8	-0.9
JOU	Okura	1.21	279	⇓P	P	09 43 15.5	+0.6
JFK	Kawauchi	1.32	232	⇓P	P	09 43 15.8	-0.8
JFK				S	S	09 43 31.1	-2.1
JOM	Ohasama	1.47	332	⇓P	P	09 43 19.1	+0.4
JFT	Otama	1.61	246	P	P	09 43 20.9	+0.3
JFT				S	S	09 43 40.8	+0.4
JYK	Kaneyama	1.61	298	⇓P	P	09 43 21.1	+0.4
JYS	Shirataka	1.67	272	P	P	09 43 22.1	+0.5
MJAR	Matsushiro Arr	3.57	244	Pn	P	09 43 49.0	+0.5
	3.1nm,0.3s,baz=67,slow=11,SNR=40						
MJAR				Sn	S	09 44 36.0	+6.1
	2.1nm,0.3s,slow=5.0,SNR=4.8						
MAJO	Matsushiro	3.57	244	*e*Pn	P	09 43 50.2	+1.7
MAT	Matsushiro	3.57	244	P	P	09 43 49.2	+0.7
MAT				S	S	09 44 28.7	-1.3
MAT	Matsushiro	3.57	244	*e*P	P	09 43 50.0	+1.5
MAT				*e*S	S	09 44 32.0	+2.0
JHJ	Hachijo jima 2	5.42	202	Pn	P	09 44 10.8	-3.8
	9.8nm,0.3s,baz=359,slow=21,SNR=13						
JHJ				Sn	S	09 45 09.0	-7.5
	11nm,0.3s,baz=95,slow=22,SNR=5.7						
ASAJ	Asahikawa	5.94	3	Pn	P	09 44 21.1	-0.8
	1.9nm,0.3s,baz=189,slow=11,SNR=17						
ASAJ				Sn	S	09 45 26.3	-3.3
	0.8nm,0.3s,baz=73,slow=29,SNR=2.6						
SONM	Songino Array	27.68	302	P	P	09 48 41.0	+0.8
	0.3nm,0.5s,mb3.2,baz=115,slow=10,SNR=3.8						
MKAR	Makanchi Array	44.04	301	P	P	09 50 59.2	-0.3
	0.7nm,0.7s,mb3.5,baz=90,slow=7.3,SNR=5.8						
MKAR	Makanchi Array	44.04	301	P	P	09 50 59.2	-0.3
KURK	Kurchatov	45.72	307	*e*P	P	09 51 11.8	-1.0
	1.8nm,0.3s,mb4.5						
ILAR	Eielson Array	48.20	33	P	P	09 51 31.6	-0.5
	0.4nm,0.8s,mb3.5,baz=269,slow=6.7,SNR=5.6						
FINES	FINESS Array B	68.09	332	P	P	09 53 50.8	-0.5
	0.7nm,0.6s,mb3.9,baz=27,slow=13,SNR=5.3						
PDAR	Pinedale Array	76.43	46	P	P	09 54 41.2	+0.2
	0.2nm,0.5s,mb3.3,baz=333,slow=2.0,SNR=3.6						
TXAR	Lajitas Array	88.94	53	P	P	09 55 46.9	+1.2
	0.1nm,0.6s,mb3.3,baz=304,slow=3.3,SNR=2.8						

*LDG **16** 09:42:32.6±0.3,16.81S×169.34E,h10km,Mb5.2/3,Error ellipse: s-maj=33.2km s-min=7.6km az=108.0*
*MOS **16** 09:42:33.3±2.3,18.46S×169.36E,h33km,mb5.3/26,Error ellipse: s-maj=10.9km s-min=8.9km az=81.4*
*BJI **16** 09:42:55.0,18.25S×169.27E,h225km,mB4.8,mb4.9*
*NEIC **16** 09:42:55.6±1.0,18.81S×169.15E,h235km±9km,mb4.8/35, Error ellipse: s-maj=6.8km s-min=5

comp=Z,4.6nm,0.4s,mb4.4,baz=89,slow=8.4,SNR=196
WRA PcP PcP 09 51 46.8 -0.6
comp=Z,3.3nm,0.8s,baz=91,slow=2.9,SNR=8.0
WRA S **S** **09 54 05.8 -0.8**
comp=Z,5.2nm,1.0s,baz=89,slow=18,SNR=14
FITZ Fitzroy Crossi 41.17 264 *e*P **P** **09 50 18.3 +0.4**
comp=Z,10nm,1.0s,mb4.2
FITZ Fitzroy Crossi 41.17 264 *e*P pP 09 51 05.2 -1.8
comp=Z,8.3nm,0.6s
MBWA Marble Bar 46.32 258 *e*P **P** **09 50 59.2 +0.1**
comp=Z,5.3nm,0.4s,mb4.2
JHJ Hachijo jima 2 58.72 331 P **P** **09 52 28.8 -1.2**
comp=Z,14nm,0.3s,mb5.0,baz=67,slow=7.7,SNR=4.0
VNDA Vanda 58.88 182 P **P** **09 52 29.6 -0.9**
comp=Z,1.4nm,0.8s,mb3.7,baz=5.0,slow=8.0,SNR=5.8
SBA Scott Base 59.12 181 *e*P **P** **09 52 31.5 -0.6**
comp=Z,11nm,0.8s,mb4.5
SBA *e*PcP PcP 09 53 22.3 +4.2
SBA Scott Base 59.12 181 *e*P **P** **09 52 31.5 -0.6**
SBA *e* pP 09 53 22.3 -2.8
SBA pmax pmax
comp=Z,11nm,0.8s,mb4.5
JOW Kunigami 60.21 318 P **P** **09 52 40.4 +0.2**
comp=Z,21nm,0.7s,mb4.9,baz=162,slow=12,SNR=4.7
MJAR Matsushiro Arr 62.29 332 P **P** **09 52 53.2 -0.8**
comp=Z,11nm,0.9s,mb4.5,baz=170,slow=8.0,SNR=29
MJAR Matsushiro Arr 62.29 332 P **P** **09 52 53.2 -0.8**
MAJO Matsushiro 62.29 332 *e*P **P** **09 52 52.9 -1.1**
comp=Z,9.5nm,0.5s,mb4.7
MAJO Matsushiro 62.29 332 *e*P **P** **09 52 52.9 -1.1**
MAJO pmax pmax
comp=Z,10.0nm,0.5s,mb4.7
MAT Matsushiro 62.29 332 P **P** **09 52 53.2 -0.8**
MAT Matsushiro 62.29 332 *e*P **P** **09 52 53.0 -1.0**
comp=Z,15nm,1.0s,mb4.6
MAT Matsushiro 62.29 332 *e*P **P** **09 52 53.0 -1.0**
MAT pmax pmax
comp=Z,15nm,1.0s,mb4.6
JNU Nakatsue 63.22 324 P **P** **09 52 59.9 -0.3**
comp=Z,18nm,0.7s,mb4.8,baz=85,slow=4.4,SNR=12
YHNB Yeheng 63.45 311 *e*P **P** **09 53 01.5 -0.2**
SSE Sheshan 67.66 316 P **P** **09 53 27.5 -0.9**
SSE AMB AMB
comp=Z,25nm,0.7s,mb5.0
SSE AMB AMB
comp=Z,60nm,4.5s
SSE Sheshan 67.66 316 P **P** **09 53 27.5 -0.9**
comp=Z,25nm,0.7s,mb5.0
YSS Yuzh-Sakhalins 69.61 341 *e*P **P** **09 53 40.4 +0.3**
comp=Z,34nm,0.9s,mb5.0
YSS Yuzh-Sakhalins 69.61 341 *i*P **P** **09 53 40.5 +0.4**
YSS pmax pmax
comp=Z,30nm,0.8s,mb5.0
NJ2 Nanjing 69.80 316 *e*P **P** **09 53 42.4 +0.9**
NJ2 PP PP 09 56 19.0 -1.3
NJ2 AMB AMB
comp=Z,20nm,0.8s,mb4.8
NJ2 AMB AMB
comp=Z,604nm,6.8s
NJ2 LR LR
comp=N,1µm,21.2s
NJ2 LR LR
comp=E,2µm,17.4s
NJ2 LR LR
comp=Z,8µm,18.0s
QSPA South Pole Qui 71.27 180⇑ *i*P **P** **09 53 48.9 -0.7**
comp=Z,11nm,0.8s,mb4.5
SMY Shemya 71.34 3 *e*P **P** **09 53 50.1 -0.3**
FX1 Attu Island--F 71.45 3 P **P** **09 53 51.0 0.0**
comp=Z,50nm,0.6s,mb5.3,baz=210,slow=2.1,SNR=61
FX1 Attu Island--F 71.45 3⇑ *e*P **P** **09 53 50.7 -0.3**
WHN Wuhan 71.95 312 P **P** **09 53 54.5 0.0**
PET Petropavlovsk 72.08 353 *i*P **P** **09 53 54.6 -0.2**
PET pmax pmax
comp=Z,38nm,0.5s,mb5.3
MDJ Mudanjiang 72.66 332 P **P** **09 53 59.3 +0.8**
MDJ AMB AMB
comp=Z,16nm,0.9s,mb4.7
MDJ AMB AMB
comp=Z,40nm,6.2s
MDJ Mudanjiang 72.66 332 *e*P **P** **09 53 58.7 +0.3**
comp=Z,9.1nm,0.5s,mb4.7
NIKO Nikolski 73.96 14 *e*P **P** **09 54 04.0 -1.9**
CN2 Changchun 74.00 329 *e*P **P** **09 54 08.5 +2.2**
KLR Kul'dur 75.40 336 *e*P **P** **09 54 12.0 -2.1**
GYA Guiyang 75.46 305⇑ *i*P **P** **09 54 15.3 +0.4**
GYA AP pP 09 55 04.4 -5.8
GYA PP PP 09 57 09.6 +0.9
GYA S S 10 03 38.8 +4.6
GYA SKS SKS 10 04 01.3 +4.2
GYA AMB AMB
comp=Z,20nm,0.8s,mb4.8
GYA LR LR
comp=N,310nm,18.4s
GYA LR LR
comp=E,270nm,19.4s
GYA LR LR
comp=Z,240nm,18.6s
XAN Xi'an 77.71 312 P **P** **09 54 28.0 +0.8**
XAN AMB AMB
comp=Z,20nm,1.0s,mb4.7
KMI Kunming 77.93 302 P **P** **09 54 30.3 +1.8**
KMI AMB AMB
comp=Z,34nm,0.9s,mb5.0
KMI AMB AMB
comp=Z,92nm,3.4s
KMI Kunming 77.93 302 P **P** **09 54 30.3 +1.8**
comp=Z,34nm,0.9s,mb5.0
KMI pP pP 09 55 16.7 -7.6
KMI sP sP 09 55 38.3 -10
MAW Mawson 78.81 202 P **P** **09 54 32.7 +0.3**
comp=Z,4.8nm,0.7s,mb4.2,baz=115,slow=5.8,SNR=9.6
MAW Mawson 78.81 202 *e*P **P** **09 54 32.6 +0.2**
comp=Z,5.9nm,0.7s,mb4.3
MAW Mawson 78.81 202 *e*P **P** **09 54 32.6 +0.2**
MAW pmax pmax
comp=Z,6.0nm,0.7s
HHC Hu-ho-hao-te 79.79 319 *e*P **P** **09 54 39.5 +1.3**
HHC PP PP 09 57 45.1 +1.1
HHC S S 10 04 25.3 +5.3
HHC AMB AMB
comp=Z,67nm,1.3s,mb5.1
HHC AMB AMB
comp=Z,232nm,3.0s
CD2 Chengdu 79.86 307 P **P** **09 54 40.0 +1.2**
LZH Lanzhou 82.33 312 ⇓P **P** **09 54 52.5 +1.0**
LZH AP pP 09 55 42.1 -5.8
LZH *e*PP PP 09 58 06.8 +1.6
LZH SKS SKS 10 04 50.5 +4.9
LZH *e*S S 10 04 51.6 +5.6
LZH AMB AMB
comp=Z,29nm,1.3s,mb4.8
LZH AMB AMB
comp=Z,109nm,6.4s
LZH Lanzhou 82.33 312 ⇓P **P** **09 54 52.5 +1.0**
comp=Z,29nm,1.3s,mb4.8
LZH pP pP 09 55 42.1 -5.8
LZH sP sP 09 56 03.5 -8.5
LZH *e*PP PP 09 58 06.7 +1.5
LZH SKS SKS 10 04 50.5 +4.9
LZH *e*S S 10 04 51.6 +5.6
LZH sS 10 06 11.5
LZH *e*SS SS 10 10 20.6 +4.9
LZH Lanzhou 82.33 312 ⇓P **P** **09 54 52.5 +1.0**
LZH *e* 09 58 06.7
LZH *SS 10 06 11.5
LZH pmax pmax
comp=Z,29nm,1.3s,mb4.8
SEY Seymchan 82.50 352 *i*P **P** **09 54 52.2 +0.4**
KDAK Kodiak Island 82.64 20 *e*P **P** **09 54 52.4 -0.2**
comp=Z,26nm,0.8s,mb5.0
KDAK *e*PP PP 09 58 01.2 -5.9
CLNS Chul'man 83.92 337 *e*P **P** **09 54 49.5 -10**
CLNS pmax pmax
comp=Z,34nm,0.7s,mb5.2
CLNS pmax pmax
comp=N,8.0nm,0.6s
SVW2 Sparrevohn 84.50 16 *e*P **P** **09 55 02.1 +0.2**
RSO Redoubt South 84.76 18 *e*P **P** **09 55 02.4 -0.8**
SYO Syowa Base 85.34 196 ⇑P **P** **09 55 04.3 -1.6**
SLKM Skilak Lake 85.56 19 *e*P **P** **09 55 06.3 -0.9**
SAO San Andreas Ge 85.62 49 *e*P **P** **09 55 08.1 0.0**
comp=N,12nm,0.9s,mb4.6
SAO San Andreas Ge 85.62 49 *e*P **P** **09 55 08.1 0.0**
SAO pmax pmax
comp=Z,12nm,0.9s,mb4.6
TTA Tatalina 85.93 15 *e*P **P** **09 55 09.5 +0.6**
KHMM Horse Mountain 85.97 44 *e*P **P** **09 55 10.6 +1.0**
KHMM *e*pP pP 09 55 58.5 -7.9
KHMM *e*sP sP 09 56 13.9 -17
PTRM Twissleman Ran 86.01 50 *e*P **P** **09 55 10.6 +0.6**
YAK Yakutsk 86.40 343 *c i*P **P** **09 55 11.2 0.0**
YAK pmax pmax
comp=Z,40nm,1.3s,mb5.0
BILL Bilibino 86.59 359 *e*P **P** **09 55 12.1 +0.1**
comp=Z,33nm,0.8s,mb5.1
BILL Bilibino 86.59 359 *c i*P **P** **09 55 12.0 0.0**
BILL pmax pmax
comp=Z,54nm,1.2s,mb5.2
WDC Whiskeytown Da 86.62 45 *e*P **P** **09 55 13.0 +0.1**
comp=Z,10.0nm,0.8s,mb4.6
WDC Whiskeytown Da 86.62 45 *e*P **P** **09 55 13.0 +0.2**
WDC pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
GTA Gaotai 86.72 313 *e*P **P** **09 55 14.5 +1.2**
GTA AP pP 09 56 05.3 -4.8
GTA PP PP 09 58 39.5 -1.1
GTA SKS SKS 10 05 17.6 +2.6
GTA S S 10 05 30.6 +1.9
GTA AMB AMB
comp=Z,15nm,0.9s,mb4.7
GTA AMB AMB
comp=Z,50nm,4.4s
GTA LR LR
comp=N,60nm,16.0s
GTA LR LR
comp=E,41nm,12.9s
GTA LR LR
comp=Z,74nm,11.4s
PMR Palmer 86.74 19 *e*P **P** **09 55 12.2 -0.6**
SONM Songino Array 86.78 323 P **P** **09 55 14.2 +0.8**
comp=Z,13nm,0.7s,mb4.8,baz=152,slow=6.0,SNR=101
CMB Columbia Colle 86.94 48 *e*P **P** **09 55 14.4 -0.1**
comp=Z,15nm,0.8s,mb4.8
CMB Columbia Colle 86.94 48 *e*P **P** **09 55 14.4 0.0**
CMB pmax pmax
comp=Z,15nm,0.8s,mb4.8
MWC Mount Wilson 86.99 52 *e*P **P** **09 55 14.7 -0.1**
YBH Yreka Blue Hor 87.06 44 P **P** **09 55 15.7 +0.9**
comp=Z,11nm,0.8s,mb4.6,baz=180,slow=1.0,SNR=20
YBH Yreka Blue Hor 87.06 44 *e*P **P** **09 55 14.3 -0.6**
comp=Z,7.3nm,0.6s,mb4.6
YBH Yreka Blue Hor 87.06 44 *e*P **P** **09 55 14.3 -0.6**
YBH pmax pmax
comp=Z,7.0nm,0.6s
HUMO Hull Mountain 87.31 43 *e*P **P** **09 55 16.3 +0.3**
comp=Z,14nm,0.9s,mb4.7
BAR Barrett 87.40 54 *e*P **P** **09 55 15.8 -1.0**
LBCM Butte Creek Ri 87.55 45 P **P** **09 55 17.8 +0.6**
BUOR Burton Butte 87.62 44 P **P** **09 55 18.4 +0.9**
OMM Old Mammoth Mi 87.75 49 *e*P **P** **09 55 18.3 0.0**
BEKR Beckwourth 87.78 47 *e*P **P** **09 55 18.6 +0.2**
comp=Z,7.0nm,0.5s,mb4.8
MTUM Tungsten Hills 87.94 49 *e*P **P** **09 55 20.0 +0.9**
PFO Pinyon Flat Ob 87.94 54 *e*P **P** **09 55 18.9 -0.4**
comp=Z,5.1nm,0.7s,mb4.5
PFO Pinyon Flat Ob 87.94 54 *e*P **P** **09 55 18.9 -0.3**
PFO pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
GSC Goldstone 88.37 52 *e*P **P** **09 55 21.2 0.0**
MOD Modoc 88.73 45 *e*P **P** **09 55 23.3 +0.5**
comp=Z,12nm,0.7s,mb4.8
BOD Bodaibo 88.87 334 *e*P **P** **09 55 21.9 -1.1**
BOD pmax pmax
comp=Z,13nm,0.9s,mb4.8
IMA Indian Mountai 89.11 14 *e*P **P** **09 55 24.1 +0.2**
BBB Bella Bella 89.16 33 P **P** **09 55 25.1 +0.7**
comp=Z,6.3nm,0.7s,mb4.5,baz=245,slow=7.8,SNR=5.2
MENT Mentasta 89.43 20 *e*P **P** **09 55 24.4 -1.1**
LDFC Landfair 89.55 53 *e*P **P** **09 55 27.4 +0.6**
LDFC *e* 09 56 03.9
SNAA Sanae 89.61 183⇑ *i*P **P** **09 55 25.4 -0.8**
SNAA Sanae 89.61 183 *e* **P** **09 55 26.5 +0.3**
SNAA Sanae 89.61 183 *i*P **P** **09 55 24.5 -1.7**
VIPM Ingram Point 89.70 42 P **P** **09 55 27.9 +0.7**
GNW Green Mountain 89.76 39 P **P** **09 55 28.0 +0.6**
ILAR Eielson Array 89.83 17 P **P** **09 55 25.8 -1.6**
comp=Z,6.0nm,0.7s,mb4.5,baz=237,slow=5.0,SNR=75
ZAK Zakamensk 89.86 324 *e*P **P** **09 55 27.7 -0.1**
ZAK pmax pmax
comp=Z,5.0nm,0.9s,mb4.3
WVOR Wild Horse Val 90.08 45 *e*P **P** **09 55 29.4 +0.4**
comp=Z,19nm,1.0s,mb4.9
WVOR Wild Horse Val 90.08 45 *e*P **P** **09 55 29.4 +0.4**
WVOR pmax pmax
comp=Z,19nm,1.0s,mb4.9
BMN Battle Mountai 90.19 47 *e*P **P** **09 55 29.3 -0.4**
comp=Z,11nm,0.7s,mb4.8
BMN Battle Mountai 90.19 47 *e*P **P** **09 55 29.3 -0.3**
BMN pmax pmax
comp=Z,11nm,0.7s,mb4.8
VNA3 Neumayer Olymp 90.21 180⇑ *i*P **P** **09 55 28.2 -0.8**
VNA3 Neumayer Olymp 90.21 180 *e* **P** **09 55 29.6 +0.6**
RMW Rattlesnake Mo 90.32 39 P **P** **09 55 30.7 +0.7**
VNA2 Neumayer--Watz 90.50 181⇑ *i*P **P** **09 55 29.8 -0.5**
VNA2 Neumayer--Watz 90.50 181 *e* **P** **09 55 31.5 +1.2**
VNA1 Neumayer--Stat 90.79 181⇑ *i*P **P** **09 55 31.3 -0.4**
VNA1 Neumayer--Stat 90.79 181 *e* **P** **09 55 32.5 +0.8**
TBM Table Mountain 90.92 40 P **P** **09 55 33.6 +0.8**
DAWY Dawson 91.61 20 *e*P **P** **09 55 34.4 -1.2**
DLBC Dease Lake 91.69 27 P **P** **09 55 36.7 +0.6**
comp=Z,13nm,1.0s,mb4.8,baz=231,slow=7.1,SNR=35
DLBC Dease Lake 91.69 27 *e*P **P** **09 55 36.1 0.0**
TUC Tucson 91.86 57 *e*P **P** **09 55 37.5 -0.1**
comp=Z,11nm,1.0s,mb4.7
TUC Tucson 91.86 57 *e*P **P** **09 55 37.5 0.0**
TUC pmax pmax
comp=Z,11nm,1.0s,mb4.7
PKI Pulchoki 93.16 298 *e*P **P** **09 55 44.0 +0.4**
KKN Kakani 93.34 298 *e*P **P** **09 55 44.8 +0.3**
DMN Daman 93.42 298 *e*P **P** **09 55 45.5 +0.6**
comp=Z,21nm,0.9s,mb5.2
NEW Newport 93.50 40 P **P** **09 55 44.9 +0.2**
comp=Z,2.0nm,0.8s,mb4.2,baz=240,slow=5.1,SNR=6.3
NEW Newport 93.50 40 *e*P **P** **09 55 44.5 -0.2**
comp=Z,3.9nm,0.9s,mb4.4
NEW Newport 93.50 40 *e*P **P** **09 55 44.5 -0.2**
NEW pmax pmax
comp=Z,4.0nm,0.9s
GKN Gorkha 93.94 298 *e*P **P** **09 55 47.0 -0.2**
comp=Z,6.2nm,0.3s,mb5.1
KOLN Koldanda 94.74 298 *e*P **P** **09 55 49.0 -1.8**
comp=Z,11nm,0.8s,mb5.0
MNTX Cornudas Mount 95.97 59 *e*P **P** **09 55 56.1 -0.2**
comp=Z,5.5nm,1.2s,mb4.7
ANMO Albuquerque 96.14 55 P **P** **09 55 57.0 0.0**
comp=Z,1.6nm,0.7s,mb4.3,baz=240,slow=3.4,SNR=9.9
ANMO Albuquerque 96.14 55 P **P** **09 55 57.0 0.0**
ANMO Albuquerque 96.14 55 *i*P **P** **09 55 57.2 +0.2**
INK Inuvik 96.15 18 *e*P **P** **09 55 54.8 -1.4**
comp=Z,9.7nm,1.0s,mb5.0
INK Inuvik 96.15 18 *e*P **P** **09 55 54.8 -1.4**
INK pmax pmax
comp=Z,10.0nm,1.0s
TXAR Lajitas Array 96.66 61 P **P** **09 56 00.2 +0.7**
comp=Z,1.7nm,0.7s,mb4.4,baz=223,slow=5.8,SNR=29
WMQ Urumqi 96.80 314 *e*P **P** **09 56 00.0 +0.2**
GDL2 Guadalupe Moun 96.95 58 *e*P **P** **09 56 00.9 +0.1**
CPRX Cap Rock 97.60 58 *e*P **P** **09 56 03.2 -0.5**
YKA Yellowknife Ar 100.32 27 P **P** **09 56 15.9 +0.6**
comp=Z,3.8nm,0.7s,baz=255,slow=4.6,SNR=36
MKAR Makanchi Array 101.33 316 P **P** **09 56 21.8 +1.6**
comp=Z,3.0nm,0.7s,baz=87,slow=7.6,SNR=18
MKAR PP PP 10 00 33.9 -0.7
comp=Z,0.5nm,0.8s,baz=90,slow=10,SNR=3.4
MKAR PKKPbc 10 12 26.5
comp=Z,0.1nm,0.4s,baz=276,slow=2.7,SNR=3.5
ARU Arti 116.80 324 *e*PKIKP PKPdf 10 01 07.4 -3.4
BOSA Boshof 121.34 217 PKP PKPdf 10 01 21.7 +1.4
comp=Z,4.6nm,0.8s,baz=279,slow=6.6,SNR=5.8
ARCES ARCESS Array B 124.60 345 PKP PKPdf 10 01 25.6 +0.1
comp=Z,5.4nm,0.4s,baz=77,slow=1.8,SNR=82
ARE0 ARCESS Array S 124.60 345 *e*PKPdf PKPdf 10 01 25.6 0.0
ARE0 *e*SKPdf 10 04 51.3
SCHQ Schefferville 124.61 36 PKP PKPdf 10 01 25.2 -0.7
comp=Z,1.4nm,0.9s,baz=350,slow=2.0,SNR=4.1
KIV Kislovodsk 128.87 312 ⇓*i*PKIKP PKPdf 10 01 35.7 +1.2
KIV pmax pmax
comp=Z,9.0nm,1.4s
OBN Obninsk 129.05 327 *d i*PKIKP PKPdf 10 01 35.4 +0.9
OBN pmax pmax
comp=Z,11nm,0.5s
FINES FINESS Array B 130.12 338 PKP PKPdf 10 01 36.9 +0.6
comp=Z,0.8nm,0.5s,baz=63,slow=4.3,SNR=6.1
MALT Malatya 133.11 305 *e*PKPdf PKPdf 10 01 44.5 +1.8
NB2 NORSAR Subarra 134.97 345 PKPdf PKPdf 10 01 46.5 +1.1
comp=Z,0.8nm,0.6s,baz=29,slow=1.7
NOA NORSAR Array B 134.97 345 PKP PKPdf 10 01 46.8 +1.4
comp=Z,1.2nm,0.6s,baz=30,slow=2.0,SNR=4.9
AKASG Malin Array Be 135.05 325 PKP PKPdf 10 01 47.0 +1.2
comp=Z,1.2nm,0.6s,baz=57,slow=2.7,SNR=5.0
AKASG SKPbc 10 04 56.6
comp=Z,0.2nm,0.4s,baz=46,slow=4.0,SNR=4.1
HFS Hagfors 135.09 343 PKP PKPdf 10 01 46.4 +0.8
comp=Z,1.0nm,0.4s,baz=90,slow=7.4,SNR=5.6
BRTR Keskin Array B 136.44 308 PKP PKPdf 10 01 51.1 +2.4
comp=Z,1.2nm,0.5s,baz=152,slow=2.3,SNR=5.3
MLR Muntele Rosu 139.54 319 PKhKP 10 01 51.2
comp=Z,1.6nm,0.5s,baz=149,slow=4.6,SNR=3.9
DPC Dobruska-Polom 141.77 332 *e*PKPDF PKPdf 10 01 55.6 -2.3
VYHS Vyhne 141.83 328 *e*PKP PKPdf 10 01 57.3 -0.8
BRG Berggiesshubel 142.41 334 P PKPdf 10 01 56.6 -2.3
CLL Collm 142.45 335 ⇓*i*PKIKP PKPdf 10 01 56.1 -2.9
CLL *e*PP PP 10 05 09.0 -3.1
PRU Pruhonice 142.82 333 *e*PKPDF PKPdf 10 01 57.7 -2.0
TREC Trest 142.90 331 *e*PKPDF PKPdf 10 02 02.4 +2.5
CLZ Clausthal 143.01 338 *e*PKPbc PKPbc 10 01 58.6 +0.4
EKA Eskdalemuir Ar 143.04 353 PKhKP 10 01 57.6
comp=Z,2.0nm,0.6s,baz=354,slow=2.4,SNR=11
EKA PKP PKPdf 10 02 00.9 +1.0
comp=Z,2.0nm,0.6s,baz=342,slow=2.2,SNR=11
NKC Novy Kostel 143.51 335 *e*PKPDF PKPdf 10 02 00.4 -0.5
MOX Moxa 143.52 336 *i* P PKPbc 10 02 00.2 +0.5
comp=Z,logA/T=1.1
MOX Moxa 143.52 336 *e*PKP PKPdf 10 02 00.2 -0.7
KHC Kasperske Hory 143.87 333 *e*PKPDF PKPdf 10 02 01.5 -0.1
DIVS Divcibare 143.88 321⇑ *i*PKP PKPdf 10 02 01.8 0.0
GEC2 GERESS Array S 144.03 332 *e*PKPbc PKPbc 10 02 01.6 +0.3
GERES GERESS Array B 144.03 332 PKP PKPdf 10 02 01.9 0.0
comp=Z,9.9nm,0.8s,baz=27,slow=3.0,SNR=39
SKO Skopje 144.11 317⇑ *i*P PKPbc 10 02 03.0 +1.2
WET Wettzell 144.17 333 *e*PKPbc PKPbc 10 02 02.5 +0.8
ARSA Arzberg 144.32 329⇑ *i*P PKPbc 10 02 03.1 +0.9
GRA1 Grafenberg Arr 144.43 335 *e*PKPbc PKPbc 10 02 03.4 +1.0
GRF Grafenberg Arr 144.43 335 *e*PKP PKPdf 10 02 03.4 +0.9
MOA Molln 144.50 330⇑ *i*P PKPbc 10 02 03.9 +1.2
IVA Berane 144.61 319⇑ *i*PKP PKPdf 10 02 04.3 +1.2
PLE Pljevlja 144.67 320⇑ *i*PKP PKPdf 10 02 04.8 +1.7
PVY Plav 144.72 319⇑ *i*PKP PKPdf 10 02 04.3 +1.0
UPM Unac-Piva 145.03 321⇑ *i*PKP PKPdf 10 02 04.8 +1.0
TNS Taunus Mts 145.03 338 *e*PKPbc PKPbc 10 02 05.2 +1.1
WME Myndd Eilian 145.07 353 *e*P PKPdf 10 02 04.5 +1.0
WCB1 Church Bay 145.12 353⇑ *e*P PKPdf 10 02 04.2 +0.6
WCB1 AMb AMB 10 02 05.1
comp=Z,42nm,0.7s
WPM1 Penmaenmawr 145.16 353⇑ *e*P PKPdf 10 02 04.9 +1.2
WPM1 AMb AMB 10 02 06.0
comp=Z,84nm,1.2s
WLF1 Llynfaes 145.19 353⇑ *e*P PKPdf 10 02 04.8 +1.1
WLF1 AMb AMB 10 02 05.5
comp=Z,53nm,0.7s
NKY Niksic 145.20 320⇑ *i*PKP PKPdf 10 02 05.8 +1.7
YRC Rhoscolyn 145.25 353⇑ *e*P PKPdf 10 02 04.9 +1.0
YRC AMb AMB 10 02 05.6
comp=Z,52nm,0.8s
TTG Podgorica 145.25 319⇑ *i*PKP PKPdf 10 02 05.6 +1.4
YLL Llanberis 145.31 353⇑ *e*P PKPdf 10 02 05.2 +1.2
YLL AMb AMB 10 02 06.4
comp=Z,62nm,1.2s
OBKA Obir 145.32 329⇑ *i*P PKPdf 10 02 07.0 +2.8
DLF Lyons Farm 145.39 355⇑ *i*P PKPdf 10 02 05.4 +1.4
DCN Croghan 145.39 356⇑ *i*P PKPdf 10 02 05.6 +1.5
HGN Heimansgroeve 145.40 341 *e*PKP PKPdf 10 02 05.6 +1.5
TOD Tromm 145.42 337 PKP PKPdf 10 02 06.2 +2.0
BRY Bratogost 145.42 320 *e*PKP PKPdf 10 02 05.3 +0.9
KBA Koelnbreinsper 145.49 330⇑ *i*P PKPdf 10 02 04.3 -0.1
YRE Yr Eifl 145.50 353⇑ *e*P PKPdf 10 02 05.5 +1.2
YRE AMb AMB 10 02 07.0
comp=Z,35nm,1.0s
ULC Ulcinj 145.51 319⇑ *i*PKP PKPdf 10 02 06.4 +1.7
BUM Brajici-Budva 145.54 319⇑ *i*PKP PKPdf 10 02 06.1 +1.4
FUR Furstenfeldbru 145.60 333 *e*PKPbc PKPbc 10 02 07.2 +1.6
ABH Alteburg 145.63 339 PKP PKPdf 10 02 06.9 +2.3
BOJS Bojanci 145.65 327 *i*PKPdf PKPdf 10 02 07.3 +2.5
LJU Ljubljana 145.65 328 *i*PKPdf PKPdf 10 02 06.9 +2.2
HCY Herceg Novi 145.71 320⇑ *i*PKP PKPdf 10 02 06.0 +1.0
RUP Ruppelstein 145.95 339 PKP PKPdf 10 02 07.9 +2.8
STU Stuttgart 145.96 336 *e*PKPdf PKPdf 10 02 07.3 +2.1
WTTA Wattenberg 146.13 332⇑ *i*P PKPdf 10 02 08.5 +3.0
WLF Walferdange 146.29 340 *e*PKPdf PKPdf 10 02 08.3 +2.5
LANF Langenberg 146.30 338 PKP PKPdf 10 02 08.5 +2.7
MOTA Moosalm 146.31 333⇑ *i*P PKPdf 10 02 08.7 +2.8
GIVF Givet 146.32 342⇑ *i*PKP1 PKPbc 10 02 08.7 +1.5
comp=Z,29nm,0.8s
SQTA Sankt Quirin 146.36 332 ⇓*i*P PKPdf 10 02 09.1 +3.1
BAIF Baives 146.54 342⇑ *i*PKP1 PKPbc 10 02 09.6 +1.8
comp=Z,28nm,0.6s
BFO Black Forest 146.65 336 *e*PKPbc PKPbc 10 02 09.6 +1.5
DAVA Damuels 146.87 334⇑ *i*P PKPdf 10 02 10.6 +3.7
WLS Welschbruch 146.94 338 PKP PKPdf 10 02 10.4 +3.5
CDF Champ du Feu 146.97 338⇑ *i*PKP1 PKPbc 10 02 10.8 +2.0
comp=Z,31nm,0.6s
FELD Feldberg 147.15 336 PKP PKPdf 10 02 10.7 +3.4
ECH Echery 147.18 338 PKP PKPdf 10 02 10.7 +3.4
DAVOX Davos 147.27 333 PKPbc PKPdf 10 02 12.1 +4.6
comp=Z,31nm,0.5s,baz=243,slow=2.4,SNR=76
DAVOX Davos 147.27 333 PKPbc PKPdf 10 02 12.1 +4.6
HINF Hinteralfeld 147.63 337⇑ *i*PKP1 PKPdf 10 02 12.2 +4.2
HAU Haudompre 147.65 338⇑ *i*PKP1 PKPdf 10 02 12.4 +4.4
comp=Z,25nm,0.6s
MEZF Maizieres J'vi 147.66 340⇑ *i*PKP1 PKPdf 10 02 12.9 +4.9
comp=Z,42nm,0.6s
BBS Basel-Blauen 147.68 336 PKP PKPdf 10 02 08.1 0.0
LOMF Lomont 148.03 337 PKP PKPdf 10 02 12.8 +4.2
TIP Timpagrande 148.61 316 *e*PKPbc PKPdf 10 02 15.8 +5.9
AQU L'Aquila 148.75 324 *e*PKPbc PKPdf 10 02 15.9 +6.0
CABF La Chapelle 148.92 337⇑ *i*PKP1 PKPdf 10 02 16.3 +6.2
comp=Z,38nm,0.6s
FLN La Foliniere 148.93 347⇑ *i*PKP1 PKPdf 10 02 15.4 +5.4
comp=Z,36nm,0.5s
GRAM 148.95 330 P PKPdf 10 02 16.1 +5.9
ORX Oropa 148.99 334 P PKPdf 10 02 15.3 +5.0
LDF La Druitiere 149.01 346⇑ *i*PKP1 PKPdf 10 02 15.5 +5.3
comp=Z,20nm,0.6s
SARO Sassorosso 149.02 330 P PKPdf 10 02 15.3 +5.0
LOR Lormes 149.12 340⇑ *i*PKP1 PKPdf 10 02 16.3 +5.9
comp=Z,36nm,0.6s
CODM 149.13 330 P PKPdf 10 02 15.7 +5.2
VINC Vinca 149.17 330 P PKPdf 10 02 15.3 +4.8
MAIM 149.18 329 P PKPdf 10 02 15.2 +4.6
TRAV 149.18 334 P PKPdf 10 02 16.4 +5.8
GRR Gorron 149.36 347⇑ *i*PKP1 PKPdf 10 02 16.6 +5.9
comp=Z,23nm,0.6s
SSF Saint Saulge 149.42 340⇑ *i*PKP1 PKPdf 10 02 17.0 +6.1
comp=Z,43nm,0.8s
LSD Ceresole Reale 149.47 335 P PKPdf 10 02 17.6 +6.5
LPL La Plagne 149.59 335⇑ *i*PKP1 PKPdf 10 02 18.1 +6.9
comp=Z,26nm,0.8s
LPG La Plagne 149.60 335⇑ *i*PKP1 PKPdf 10 02 18.2 +7.0
comp=Z,27nm,0.7s
PCP Pian Castagno 149.61 332 P PKPdf 10 02 16.6 +5.3
RSP Reno Superiore 149.68 334 P PKPdf 10 02 17.0 +5.7
SMF Signal de Mont 149.68 340⇑ *i*PKP1 PKPdf 10 02 17.2 +5.9
AVF Avril sur Loir 149.71 340⇑ *i*PKP1 PKPdf 10 02 17.2 +5.9
SGMF Saint Gilles 149.83 349⇑ *i*PKP1 PKPdf 10 02 17.5 +6.0
comp=Z,26nm,0.6s
FENE Fenestrelle 149.85 334 P PKPdf 10 02 17.8 +6.2
ROSF Rostrenen 149.88 350⇑ *i*PKP1 PKPdf 10 02 17.6 +6.1
comp=Z,15nm,0.7s
BHB Bricherasio 149.92 334 P PKPdf 10 02 16.7 +4.9
BNI Bardonecchia 149.99 335 *e*PKPbc PKPdf 10 02 18.5 +6.7
FIN Finale Ligure 150.02 332 P PKPdf 10 02 17.2 +5.3
RRL Cesana Torines 150.06 334 P PKPdf 10 02 18.7 +6.8
BGF Bois d'Agland 150.07 341⇑ *i*PKP1 PKPdf 10 02 18.5 +6.6
comp=Z,34nm,0.7s
ROB Roburent 150.10 332 P PKPdf 10 02 17.6 +5.6
MBDF Montbardon 150.22 334⇑ *i*PKP1 PKPdf 10 02 18.9 +6.7
comp=Z,12nm,0.6s
MONE Monesi 150.32 332 P PKPdf 10 02 18.7 +6.4
PLDF La Plantade 150.35 339 PKP PKPdf 10 02 20.0 +7.7
ENR Entracque 150.35 333 P PKPdf 10 02 17.7 +5.3
STV2 Anna di Valdie 150.38 333 P PKPdf 10 02 17.6 +5.1
STV Sta Anna Valdi 150.38 333 P PKPdf 10 02 17.6 +5.1

IMI	**Imperia**	**150.40 332**	P	PKPdf	10 02 18.7	+6.2
ORIF	**Oris-en-Rattie**	**150.42 335**	⇑*i*PKP1	PKPdf	10 02 19.6	+7.1
	comp=Z,32nm,0.6s					
AGO	**Saint Agoulin**	**150.43 340**	PKP	PKPdf	10 02 20.2	+7.7
SAOF	**Saorge**	**150.48 332**	PKP	PKPdf	10 02 19.3	+6.7
TCF	**Toulx Ste Croi**	**150.51 341**	⇑*i*PKP1	PKPdf	10 02 19.5	+6.9
	comp=Z,25nm,0.7s					
NEGI	**Negi**	**150.53 332**	P	PKPdf	10 02 18.3	+5.6
AUTN	**L'Aution**	**150.53 333**	PKP	PKPdf	10 02 19.2	+6.5
TOUF	**Mont Tournerai**	**150.60 333**	PKP	PKPdf	10 02 19.5	+6.7
SBF	**Sospel**	**150.63 332**	⇑*i*PKP1	PKPdf	10 02 19.5	+6.7
	comp=Z,22nm,0.6s					
MVIF	**Mont Vial**	**150.73 333**	PKP	PKPdf	10 02 19.9	+6.9
PYM	**Petit Puy Mans**	**150.74 340**	PKP	PKPdf	10 02 21.0	+8.1
REVF	**Revere**	**150.76 332**	PKP	PKPdf	10 02 19.3	+6.3
MFF	**Saint Martin d**	**150.88 345**	⇑*i*PKP1	PKPdf	10 02 20.1	+7.0
	comp=Z,15nm,0.6s					
PGF	**Pioggiola**	**150.92 329**	⇑*i*PKP1	PKPdf	10 02 20.7	+7.4
	comp=Z,56nm,0.6s					
VIVF	**Saint-Julien-l**	**150.94 337**	⇑*i*PKP1	PKPdf	10 02 20.7	+7.4
	comp=Z,11nm,0.6s					
CALN	**Calern**	**150.96 333**	PKP	PKPdf	10 02 18.9	+5.6
LBL	**Lubilhac**	**151.12 339**	PKP	PKPdf	10 02 22.4	+8.9
FRF	**La Foret Royal**	**151.22 333**	⇑*i*PKP1	PKPdf	10 02 21.0	+7.3
	comp=Z,12nm,0.5s					
SMRF	**Simiane la Rot**	**151.33 335**	⇑*i*PKP1	PKPdf	10 02 21.9	+8.0
	comp=Z,14nm,0.5s					
LMR	**La Mourre**	**151.46 333**	⇑*i*PKP1	PKPdf	10 02 21.6	+7.5
	comp=Z,24nm,0.7s					
LASF	**Ste Croix**	**151.91 337**	*e*PKP1	PKPdf	10 02 23.0	+8.3
	comp=Z,18nm,0.8s					
LFF	**La Frestale**	**152.17 342**	*e*PKP1	PKPdf	10 02 23.3	+8.2
	comp=Z,14nm,0.6s					
MTLF	**Montolieu**	**153.13 339**	⇑*i*PKP1	PKPdf	10 02 25.4	+8.9
	comp=Z,3.9nm,0.6s					
DBIC	**Dimbokro**	**166.60 207**	PKP	PKPdf	10 02 33.0	+0.7
	comp=Z,5.2nm,1.0s,baz=171,slow=7.7,SNR=3.1					

NEIC ***16*** *09:54:18.3, 30.75S×71.79W, h18km, ML3.7(GUC), After GUC.*

GUC 16 09:54:18.3±0.6, 30.75S×71.79W, h18km±3km, MD4.1, ML3.7, 1C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OVCH	**Ovalle**	**0.52**	**75**	⇓*i*P	Pb	09 54 28.6	0.0
OVCH				*i* S	Sb	09 54 35.8	+0.2
OVCH				AMP		09 54 36.7	
	comp=N,4μm,0.2s						
CMCH	**Combarbala**	**0.80**	**122**	⇑*i*P	Pb	09 54 32.8	-0.5
CMCH				*i* S	Sb	09 54 44.0	+0.4
CMCH				AMP		09 54 48.5	
	comp=N,7μm,0.7s						
LSCH	**La Serena**	**0.96**	**29**	⇓*i*P		09 59 07.0	
LSCH				*i* S		09 59 19.8	
LSCH				AMP		09 59 21.7	
	comp=N,2μm,0.6s						
TLL	**Tololo Astrono**	**1.03**	**56**	⇓*i*P	Pb	09 54 36.9	-0.3
TLL				*i* S	Sb	09 54 51.2	+1.0
TLL				AMP		09 54 54.9	
	comp=N,4μm,0.4s						
ILCH	**Illapel**	**1.03**	**149**	*e*P	Pb	09 54 36.3	-1.0
ILCH				*i* S	Sb	09 54 50.2	-0.2
ILCH				AMP		09 54 52.0	
	comp=E,3μm,0.4s						
CHNG	**Los Chungos**	**1.16**	**168**	⇓*i*P	Pb	09 54 38.3	-1.1
CHNG				*i* S	Sb	09 54 53.9	-0.1
CHNG				AMP		09 54 57.5	
	comp=E,767nm,0.6s						
JACH	**Jahuel**	**2.18**	**153**	*e*P	Pn	09 54 54.8	+0.5
JACH				*e*S	Sn	09 55 23.2	+2.1
ROCH	**El Roble**	**2.31**	**164**	*i* P	Pn	09 54 57.2	+1.0
ROCH				*i* S	Sn	09 55 26.7	+2.2
VACH	**Vallenar**	**2.34**	**23**	⇓*i*P	Pn	09 54 54.9	-1.8
VACH				*i* S	Sn	09 55 24.8	-0.5
VACH				AMP		09 55 39.7	
	comp=N,2μm,0.5s						
CLCH	**Cerro Calan**	**2.84**	**158**	*e*P	Pn	09 55 03.7	-0.1
CLCH				*e*S	Sn	09 55 38.7	+0.7
CLCH				AMP		09 55 49.6	
	comp=N,449nm,0.6s						
MDZ	**Mendoza**	**3.28**	**131**	*e*P	Pn	09 55 12.6	+2.5
LMEL	**Las Melosas**	**3.37**	**157**	*e*P	Pn	09 55 11.3	+0.1
LMEL				*i* S	Sn	09 55 51.8	+0.5
LMEL				AMP		09 56 03.0	
	comp=N,248nm,0.3s						

WEL 16 10:22:27.8±0.6, 35.91S×178.37E, h205km±10km, ML3.6/8, Error ellipse: s-maj=11.4km s-min=9.8km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.65**	**182**	PN	P	10 23 03.1	-0.6
PUZ	**Puketiti**	**2.16**	**182**	PN	P	10 23 08.7	0.0
PUZ				SN	S	10 23 38.6	-1.7
MWZ	**Matawai**	**2.51**	**195**	PN	P	10 23 12.6	0.0
MWZ				SN	S	10 23 47.0	-0.2
URZ	**Urewera**	**2.55**	**203**	PN	P	10 23 12.4	-0.6
URZ				SN	S	10 23 47.7	-0.3
KNZ	**Kokohu**	**3.16**	**190**	PN	P	10 23 19.3	-0.7
BKZ	**Black Stump Fm**	**3.58**	**204**	PN	P	10 23 24.9	-0.2
TSZ	**Takapari Road**	**4.56**	**204**	PN	P	10 23 35.5	-1.9
KIW	**Kapiti Island**	**5.64**	**208**	*e*PN	P	10 23 48.8	-2.5
NNZ	**Nelson**	**6.59**	**215**	*e*PN	P	10 24 00.7	-2.7
THZ	**Tophouse**	**7.24**	**214**	*e*PN	P	10 24 08.6	-3.2
KHZ	**Kahutara**	**7.50**	**209**	*e*PN	P	10 24 12.0	-3.4
MQZ	**McQueen's Vall**	**8.94**	**208**	*e*SN	S	10 26 05.5	-7.3

MOS ***16*** *10:39:16.9±1.2, 2.74N×126.49E, h33km, mb5.5/42, MS4.5/19, Error ellipse: s-maj=11.4km s-min=5.8km az=110.4*

CSEM ***16*** *10:39:17.2, 2.82N×126.40E, h33km, mb5.6*

BJI ***16*** *10:39:18.9, 2.77N×126.59E, h54km, mB5.1, mb5.2, Ms4.5, Msz4.4*

IDC ***16*** *10:39:18.7±3.0, 2.63N×126.56E, h37km±24km, mb4.9/28, mb1 4.9/28, mb1mx4.9/29, mbtmp5.1/28, MS4.1/7, Ms1 4.0/7, ms1mx3.9/21, Error ellipse: s-maj=17.0km s-min=8.0km az=78.0*

HRVD ***16*** *10:39:21.2±0.6, 2.82N×126.69E, h31km±2km, MW5.3/43, Centroid moment Tensor Solution. LP body waves: s13,c16; Mantle waves: s43,c55; Half duration: 1s1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.59±.11; $M_{\theta\theta}$0.31±.07; $M_{\phi\phi}$-0.90±.07; $M_{r\theta}$0.24±.10; $M_{\theta\phi}$-0.29±.05; $M_{\phi r}$-0.36±.10; Best double couple: M_0.943×10^{17} NP1:ϕ_s44°, δ44°, λ140°. NP2:ϕ_s165°, δ63°, λ53°. Principal axes: T.856, Plg56°, Azm27°; N.173, Plg32°, Azm183°; P-1.03, Plg11°, Azm280°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***16*** *10:39:21.2±0.2, 2.67N×126.59E, mb5.4/43 Error ellipse: s-maj=6.5km s-min=4.7km az=68.0*

ISC 16 10:39:19.5±0.2, 2.70N±0.03×126.58E±0.04, h59km, h59km±2.6km: pP-P, n347, σ1§21/270, mb5.3/106, MS4.7/98, 13C-10D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**4.23**	**356**	*e*P	**P**	**10 40 24.3**	**+1.3**
MATI				*e*S	**S**	**10 41 08.0**	**-3.6**
DAV	**Davao City (W)**	**4.45**	**347**	*e*P	**P**	**10 40 28.0**	**+1.9**
KCP	**Kidapawan**	**4.53**	**341**	⇓*e*P	**P**	**10 40 23.4**	**-3.8**
CTBH	**Cotabato--PC H**	**5.05**	**333**	⇓*i*P	**P**	**10 40 35.5**	**+0.9**
CTBH				*i* S	**S**	**10 41 33.5**	**+1.3**
BUKP	**Musuan**	**5.36**	**344**	*e*P	**P**	**10 40 39.4**	**+0.6**
BUKP				*e*S	**S**	**10 41 36.3**	**-3.6**
PAGZ	**Pagadian**	**6.02**	**328**	*e*P	**P**	**10 40 47.4**	**-0.5**
PAGZ				*e*S	**S**	**10 41 53.5**	**-2.8**
BUTP	**Butuan**	**6.29**	**351**	*e*P	**P**	**10 40 52.1**	**+0.3**
BUTP				*e*S	**S**	**10 42 04.2**	**+1.0**
IPIL	**Ipil**	**6.43**	**322**	*e*P	**P**	**10 40 53.0**	**-0.9**
IPIL				*e*S	**S**	**10 42 05.5**	**-1.1**
MSLP	**Maasin**	**7.58**	**347**	*e*P	**P**	**10 41 10.9**	**+1.2**
GUIM	**Jordan**	**8.81**	**333**	*e*P	**P**	**10 41 25.1**	**-1.5**
TSM	**Tawau**	**8.83**	**281**	P	**P**	**10 41 28.1**	**+1.2**
CUYO	**Cuyo Island**	**9.79**	**326**	*e*P	**P**	**10 41 36.8**	**-3.4**
CNP	**Cataman**	**9.93**	**349**	*e*P	**P**	**10 41 42.6**	**+0.6**
OTRP	**Odiongan**	**10.60**	**335**	*e*P	**P**	**10 41 48.6**	**-2.7**
BATP	**Bataraza**	**10.62**	**305**	*e*P	**P**	**10 41 47.7**	**-3.8**
KKM	**Kota Kinabalu**	**10.85**	**288**	P	**P**	**10 41 58.0**	**+3.4**
KKM	**Kota Kinabalu**	**10.85**	**288**	*e*P	**P**	**10 41 56.6**	**+2.0**
ENPP	**El Nido**	**11.03**	**320**	*e*P	**P**	**10 41 57.3**	**+0.3**
PVCP	**Virac**	**11.08**	**348**	*e*P	**P**	**10 41 58.9**	**+1.1**
SJMP	**San Jose**	**11.10**	**331**	*e*P	**P**	**10 41 59.7**	**+1.8**
BUSP	**Coron**	**11.19**	**326**	*e*P	**P**	**10 42 04.3**	**+5.1**
AUQP	**San Andres**	**11.23**	**340**	*e*P	**P**	**10 42 05.1**	**+5.3**
LUBP	**Lubang**	**12.62**	**331**	*e*P	**P**	**10 42 21.3**	**+2.9**
BALP	**Baler**	**13.86**	**339**	*e*P	**P**	**10 42 33.6**	**-1.1**
CAUP	**Cauayan**	**14.90**	**342**	*e*P	**P**	**10 42 46.9**	**-1.4**
ABRA	**Dolores**	**15.93**	**339**	*e*P	**P**	**10 42 54.6**	**-6.8**
APYP	**Conner**	**15.95**	**341**	*e*P	**P**	**10 43 01.4**	**-0.3**
SGCP	**Mt. Cagua**	**16.07**	**344**	*e*P	**P**	**10 43 01.1**	**-2.1**
KSM	**Kuching**	**16.30**	**266**	*e*P	**P**	**10 43 09.7**	**+3.5**
KAKA	**Kakadu**	**16.39**	**159**	⇑*i*P	**P**	**10 43 13.9**	**+6.7**
	161nm,0.6s						
KAKA				*e*S	S	10 46 27.5	+21
FITZ	**Fitzroy Crossi**	**20.70**	**183**	⇑*i*P	**P**	**10 43 54.5**	**-2.7**
	78nm,0.4s						
FITZ				*e*S	**S**	**10 47 41.4**	**+1.3**
FITZ	**Fitzroy Crossi**	**20.70**	**183**	P	**P**	**10 43 54.9**	**-2.3**
	105nm,0.4s,baz=8.2,slow=8.6,SNR=303						
FITZ				S	**S**	**10 47 41.7**	**+1.6**
	23nm,0.9s,baz=190,slow=15,SNR=3.3						
YHNB	**Yeheng**	**22.41**	**348**	*e*P	**P**	**10 44 11.9**	**-2.4**
QIZ	**Qiongzhong**	**23.05**	**316**	P	**P**	**10 44 23.0**	**+2.3**
QIZ				AP		10 44 35.3	
QIZ				PP	PP	10 44 51.3	-1.0
QIZ				PPP	PPP	10 45 02.0	-0.9
QIZ				S	**S**	**10 48 25.1**	**+1.9**
QIZ				SS	SS	10 49 11.9	+0.3
QIZ				LR	LR		
	comp=Z,937nm,22.1s,MS4.2						
KGM	**Kluang**	**23.25**	**269**	P	**P**	**10 44 30.2**	**+7.6**
QZH	**Quanzhou**	**23.41**	**341**	P	**P**	**10 44 23.8**	**-0.3**
QZH				S	**S**	**10 48 33.0**	**+3.5**
QZH				LR	LR		
	comp=N,2μm,20.4s						
QZH				LR	LR		
	comp=E,830nm,15.2s						
QZH				LR	LR		
	comp=Z,4μm,29.3s						
WRAB	**Tennant Creek**	**23.76**	**162**	*e*P	**P**	**10 44 26.0**	**-1.5**
	comp=Z,240nm,0.9s,mb5.6						
WRAB	**Tennant Creek**	**23.76**	**162**	*e*P	**P**	**10 44 26.0**	**-1.5**
WRAB				pmax	pmax		
	comp=Z,241nm,0.9s,mb5.6						
WRA	**Warramunga Arr**	**23.76**	**162**	P	**P**	**10 44 25.8**	**-1.8**
	comp=Z,37nm,0.4s,mb5.2,baz=338,slow=10,SNR=498						
WRA				S	**S**	**10 48 40.3**	**+4.7**
	comp=Z,11nm,0.8s,baz=334,slow=19,SNR=9.0						
PMG	**Port Moresby**	**23.78**	**121**	P	**P**	**10 44 27.7**	**-0.1**
	comp=Z,18nm,0.8s,mb4.5,baz=304,slow=3.6,SNR=2.9						
JOW	**Kunigami**	**24.05**	**4**	P	**P**	**10 44 32.1**	**+1.9**
	comp=Z,139nm,1.0s,mb5.3,baz=172,slow=9.9,SNR=15						
MBWA	**Marble Bar**	**24.64**	**195**	*e*P	**P**	**10 44 34.1**	**-2.1**
	comp=Z,103nm,1.1s,mb5.3						
IPM	**Ipoh**	**25.57**	**275**	P	**P**	**10 44 49.3**	**+4.3**
KULM	**Kulim**	**25.99**	**276**	*e*P	**P**	**10 44 49.7**	**+0.8**
CBIJ	**Chichi jima**	**28.49**	**30**	P	**P**	**10 45 09.6**	**-2.0**
	comp=Z,78nm,0.7s,mb5.5,baz=294,slow=12,SNR=4.8						
CBIJ				LR	LR	10 54 52.4	
	comp=Z,609nm,21.2s,MS4.2,baz=266,slow=33						
SSE	**Sheshan**	**28.69**	**350**	P	**P**	**10 45 13.3**	**0.0**
SSE				AP	pP	10 45 28.1	+0.3
SSE				XP	sP	10 45 35.4	+0.5
SSE				PCP	PcP	10 48 21.1	-1.7
SSE				S	**S**	**10 49 59.5**	**+2.8**
SSE				PCS		10 52 04.1	
SSE				AMB	AMB		
	comp=Z,22nm,0.7s,mb5.0						
SSE				AMB	AMB		
	comp=Z,69nm,5.6s						
SSE				LR	LR		
	comp=N,283nm,29.7s,MS3.8						
SSE				LR	LR		
	comp=E,189nm,29.7s,MS3.8						
SSE				LR	LR		
	comp=Z,309nm,25.2s,MS3.8						
SSE	**Sheshan**	**28.69**	**350**	P	**P**	**10 45 13.3**	**0.0**
	comp=Z,22nm,0.7s,mb5.0						
SSE				pP	pP	10 45 28.1	+0.3
SSE				sP	sP	10 45 35.4	+0.5
SSE				PP	PP	10 46 19.2	+12
SSE				PcP	PcP	10 48 21.1	-1.7
SSE				S	**S**	**10 49 59.5**	**+2.8**
SSE				sS		10 50 25.2	
SSE				PcS		10 52 04.1	
SSE				LR	LR		
	comp=Z,310nm,25.2s,MS3.8						
CTA	**Charters Tower**	**29.77**	**140**	*e*P	**P**	**10 45 21.9**	**-1.1**
	comp=Z,9.4nm,0.6s,mb4.7						
CTA	**Charters Tower**	**29.77**	**140**	P	**P**	**10 45 21.7**	**-1.3**
	comp=Z,9.5nm,0.5s,mb4.8,baz=323,slow=11,SNR=22						
CTA	**Charters Tower**	**29.77**	**140**	*e*P	**P**	**10 45 21.9**	**-1.1**
CTA				pmax	pmax		
	comp=Z,9.0nm,0.6s						
CTAO	**Charters Tower**	**29.77**	**140**	*e*P	**P**	**10 45 21.1**	**-1.9**
	comp=Z,22nm,0.9s,mb4.9						
CTAO	**Charters Tower**	**29.77**	**140**	*e*P	**P**	**10 45 21.1**	**-1.9**
CTAO				pmax	pmax		
	comp=Z,22nm,0.9s,mb4.9						
NANT	**Nan**	**29.96**	**304**	⇓P	**P**	**10 45 22.0**	**-2.7**
	comp=Z,188nm,0.8s,mb5.9						
WHN	**Wuhan**	**30.01**	**339**	P	**P**	**10 45 24.5**	**-0.6**
WHN				LR	LR		
	comp=Z,2μm,29.4s,MS4.6						
NJ2	**Nanjing**	**30.08**	**347**	*e*P	**P**	**10 45 21.5**	**-4.2**
NJ2				S	**S**	**10 50 16.0**	**-2.7**
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,402nm,3.8s						
NJ2				LR	LR		
	comp=N,2μm,20.4s,MS4.7						
NJ2				LR	LR		
	comp=E,880nm,20.6s,MS4.7						
NJ2				LR	LR		
	comp=Z,7μm,19.2s,MS5.3						
GYA	**Guiyang**	**30.38**	**323**	⇓*i*P	**P**	**10 45 27.9**	**-0.5**
GYA				AP	pP	10 45 42.4	-0.6
GYA				XP	sP	10 45 50.0	-0.1
GYA				PP	PP	10 46 27.8	-1.6
GYA				PCP	PcP	10 48 28.5	+1.4
GYA				S	**S**	**10 50 21.6**	**-1.8**
GYA				SCS	ScS	10 55 57.8	0.0
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
GYA				AMB	AMB		
	comp=Z,120nm,3.4s						
GYA				LR	LR		
	comp=N,370nm,16.8s,MS4.3						
GYA				LR	LR		
	comp=E,490nm,17.2s,MS4.3						
GYA				LR	LR		
	comp=Z,570nm,17.6s,MS4.3						
JNU	**Nakatsue**	**30.53**	**7**	P	**P**	**10 45 28.6**	**-1.1**
	comp=Z,36nm,0.9s,mb5.2,baz=184,slow=15,SNR=13						
CHG	**Chiang Mai**	**31.43**	**303**	⇓P	**P**	**10 45 37.5**	**-0.2**
	comp=Z,22nm,0.8s,mb5.0						
ENH	**Enshi**	**31.84**	**331**	*e*P	**P**	**10 45 39.9**	**-1.3**
	comp=Z,84nm,1.1s,mb5.5						
ENH				LR	LR		
	comp=Z,645nm,21.0s,MS4.3						
KMI	**Kunming**	**32.00**	**316**	P	**P**	**10 45 42.3**	**-0.3**
KMI				PCP	PcP	10 48 33.3	+1.8
KMI				S	**S**	**10 50 49.9**	**+1.0**
KMI				SS	SS	10 52 43.8	-0.6
KMI				SSS	SSS	10 53 07.5	-1.3
KMI				AMB	AMB		
	comp=Z,15nm,1.4s,mb4.6						
KMI				AMB	AMB		
	comp=Z,80nm,3.4s						
KMI				LR	LR		
	comp=N,311nm,26.7s,MS4.1						
KMI				LR	LR		
	comp=E,426nm,21.7s,MS4.1						
KMI				LR	LR		
	comp=Z,658nm,26.1s,MS4.2						
KMI	**Kunming**	**32.00**	**316**	P	**P**	**10 45 42.2**	**-0.4**
	comp=Z,15nm,1.4s,mb4.6						
KMI				pP	pP	10 45 52.3	-5.1
KMI				sP	sP	10 45 58.8	-5.8
KMI				PP	PP	10 46 54.5	+4.3
KMI				PPP	PPP	10 47 06.3	+0.8
KMI				PcP	PcP	10 48 33.2	+1.7
KMI				S	**S**	**10 50 49.9**	**+1.0**
KMI				sS		10 51 06.4	
KMI				SS	SS	10 52 43.8	-0.6
KMI				SSS	SSS	10 53 07.5	-1.3
KMI				LR	LR		
	comp=Z,660nm,26.1s,MS4.2						
KMI	**Kunming**	**32.00**	**316**	P	**P**	**10 45 42.2**	**-0.4**
KMI				*PP	pP	10 45 52.3	-5.1
KMI				*SP	sP	10 45 58.8	-5.8
KMI						10 46 54.5	
KMI				PPP	PPP	10 47 06.3	+0.8
KMI						10 48 33.2	
KMI				S	**S**	**10 50 49.9**	**+1.0**
KMI				*SS		10 51 06.4	
KMI				SS	SS	10 52 43.8	-0.6
KMI				SSS	SSS	10 53 07.5	-1.3
KMI				pmax	pmax		
	comp=Z,15nm,1.4s,mb4.6						
KMI				MLR	MLR		
	comp=Z,660nm,26.1s,MS4.2						
KS15	**Wonju Array Si**	**34.59**	**2**	*e*P	**P**	**10 46 05.1**	**+0.2**
INCN	**Inchon**	**34.61**	**0**	*e*P	**P**	**10 46 04.4**	**-0.6**
	comp=Z,25nm,0.7s,mb5.2						
XAN	**Xi'an**	**35.26**	**334**	P	**P**	**10 46 09.3**	**-1.3**
XAN				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.5						
XAN				LR	LR		
	comp=N,185nm,23.1s						
XAN				LR	LR		
	comp=E,389nm,29.7s						
XAN				LR	LR		
	comp=Z,659nm,25.4s,MS4.3						
MJAR	**Matsushiro Arr**	**35.34**	**16**	P	**P**	**10 46 09.8**	**-1.5**
	comp=Z,15nm,0.7s,mb5.0,baz=198,slow=9.6,SNR=22						
MJAR				PcP	PcP	10 48 41.8	+1.1
	comp=Z,8.4nm,0.9s,baz=176,slow=3.1,SNR=8.5						
MAJO	**Matsushiro**	**35.34**	**16**	*e*P	**P**	**10 46 09.1**	**-2.2**
MAT	**Matsushiro**	**35.34**	**16**	P	**P**	**10 46 09.3**	**-2.0**
MAT				*e*S	**S**	**10 51 46.6**	**+6.0**
MAT	**Matsushiro**	**35.34**	**16**	*e*P	**P**	**10 46 09.0**	**-2.3**
	comp=Z,26nm,1.0s,mb5.1						
MAT	**Matsushiro**	**35.34**	**16**	*e*P	**P**	**10 46 09.0**	**-2.3**
MAT				pmax	pmax		
	comp=Z,26nm,1.0s,mb5.1						
HNR	**Honiara**	**35.37**	**110**	P	**P**	**10 46 11.3**	**-0.4**
	comp=Z,115nm,0.9s,mb5.8,baz=270,slow=1.0,SNR=3.7						
HNR	**Honiara**	**35.37**	**110**	P	**P**	**10 46 11.3**	**-0.4**
HNR				LR	LR		
	comp=Z,668nm,22.0s,MS4.3						
CD2	**Chengdu**	**35.38**	**325**	⇓*i*P	**P**	**10 46 10.9**	**-0.8**
CD2				S	**S**	**10 51 38.9**	**-2.3**
CD2				XS		10 52 06.0	
CD2				AMB	AMB		
	comp=Z,30nm,1.1s,mb5.1						
CD2				AMB	AMB		
	comp=Z,80nm,7.2s						
CD2				LR	LR		
	comp=N,320nm,21.6s						
CD2				LR	LR		
	comp=Z,370nm,17.4s,MS4.2						
DL2	**Dalian**	**36.31**	**353**	P	**P**	**10 46 20.4**	**+0.9**
DL2				AP	pP	10 46 37.3	+2.8
DL2				S	**S**	**10 52 00.4**	**+5.0**
DL2				AMB	AMB		
	comp=Z,60nm,0.9s,mb5.5						
DL2				LR	LR		
	comp=N,130nm,14.6s,MS4.1						
DL2				LR	LR		
	comp=E,220nm,14.9s,MS4.1						
DL2				LR	LR		
	comp=Z,420nm,19.7s,MS4.2						
NWAO	**Narrogin (SRO)**	**36.52**	**193**	P	**P**	**10 46 20.8**	**-0.6**
	comp=Z,25nm,0.4s,mb5.4,baz=16,slow=8.4,SNR=59						
NWAO	**Narrogin (SRO)**	**36.52**	**193**	*e*P	**P**	**10 46 20.3**	**-1.1**
	comp=Z,81nm,1.1s,mb5.5						
NWAO	**Narrogin (SRO)**	**36.52**	**193**	*e*P	**P**	**10 46 20.3**	**-1.0**
NWAO				pmax	pmax		
	comp=Z,81nm,1.1s						
STKA	**Stephens Creek**	**37.23**	**159**	⇑*i*P	**P**	**10 46 25.6**	**-1.7**
	comp=Z,85nm,0.9s,mb5.6						
STKA				*e*S	**S**	**10 52 09.3**	**-0.3**
STKA	**Stephens Creek**	**37.23**	**159**	P	**P**	**10 46 25.8**	**-1.5**
	comp=Z,92nm,0.8s,mb5.7,baz=336,slow=8.1,SNR=88						
SNY	**Shenyang**	**39.04**	**356**	⇑P	**P**	**10 46 42.8**	**+0.6**
SNY				S	**S**	**10 52 39.4**	**+2.5**
SNY				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.1						
SNY				LR	LR		
	comp=N,230nm,27.0s						
SNY				LR	LR		
	comp=E,290nm,19.2s						
SNY				LR	LR		
	comp=Z,360nm,26.4s,MS4.1						
ADE	**Adelaide**	**39.16**	**164**	*e*P	**P**	**10 46 43.1**	**-0.2**
LZH	**Lanzhou**	**39.31**	**330**	⇑P	**P**	**10 46 44.5**	**0.0**
LZH				AP	pP	10 46 59.5	-0.1
LZH				XP	sP	10 47 06.5	-0.1
LZH				PP	PP	10 48 20.6	+1.3
LZH				*e*S	**S**	**10 52 42.1**	**+1.1**
LZH				XS		10 53 07.8	
LZH				SS	SS	10 55 31.5	+2.1
LZH				AMB	AMB		
	comp=Z,109nm,1.4s,mb5.4						
LZH				AMB	AMB		
	comp=Z,473nm,5.1s						
LZH				LR	LR		
	comp=N,2μm,12.8s						
LZH				LR	LR		
	comp=Z,3μm,16.9s,MS5.2						
LZH	**Lanzhou**	**39.31**	**330**	⇑P	**P**	**10 46 44.5**	**0.0**
	comp=Z,109nm,1.4s,mb5.4						
LZH				pP	pP	10 46 59.5	-0.1
LZH				sP	sP	10 47 06.5	-0.1
LZH				PP	PP	10 48 20.6	+1.3
LZH				*e*S	**S**	**10 52 42.1**	**+1.1**
LZH				sS		10 53 07.8	
LZH				SS	SS	10 55 31.5	+2.1
LZH				LR	LR		
	comp=Z,3μm,16.9s,MS5.2						
LZH	**Lanzhou**	**39.31**	**330**	⇑P	**P**	**10 46 44.5**	**0.0**
LZH				*PP	pP	10 46 59.5	-0.1
LZH						10 48 20.6	
LZH				*e*S	**S**	**10 52 42.1**	**+1.1**
LZH				SS	SS	10 55 31.5	+2.1

MDJ XP sP 10 47 25.1 -2.2
MDJ PP PP 10 48 47.9 +2.2
MDJ PCP PcP 10 48 55.8 -5.2
MDJ SCP 10 52 42.5
MDJ PCS 10 52 49.0
MDJ S **S** **10 53 24.9 +6.6**
MDJ AMB AMB
comp=Z,79nm,1.2s,mb5.2
MDJ AMB AMB
comp=Z,85nm,5.9s
MDJ LR LR
comp=N,268nm,25.9s
MDJ LR LR
comp=E,332nm,32.1s
MDJ LR LR
comp=Z,356nm,25.9s,MS4.1
MDJ Mudanjiang 41.82 3 *e*P **P** **10 47 06.0 +0.8**
comp=Z,142nm,1.4s,mb5.4
LSA Lhasa 43.00 312 P **P** **10 47 16.4 +1.3**
LSA Lhasa 43.00 312 *e*P **P** **10 47 15.9 +0.8**
comp=Z,23nm,0.8s,mb5.0
LSA Lhasa 43.00 312 *e*P **P** **10 47 15.9 +0.8**
LSA pmax pmax
comp=Z,23nm,0.8s,mb5.0
ASAJ Asahikawa 43.61 17 P **P** **10 47 19.5 -0.3**
comp=Z,34nm,0.9s,mb5.1,baz=234,slow=14,SNR=19
GTA Gaotai 43.90 330 *e*P **P** **10 47 21.8 -0.4**
GTA AP pP 10 47 37.8 +0.4
GTA XP sP 10 47 45.8 +1.5
GTA PCP PcP 10 49 08.0 0.0
GTA PP PP 10 49 09.0 +2.3
GTA PPP PPP 10 49 46.3 +1.6
GTA S **S** **10 53 50.4 +1.7**
GTA XS 10 54 14.8
GTA SS SS 10 56 59.8 +1.6
GTA AMB AMB
comp=Z,21nm,0.9s,mb4.9
GTA AMB AMB
comp=Z,118nm,3.8s
GTA LR LR
comp=N,624nm,24.7s,MS4.6
GTA LR LR
comp=E,482nm,21.7s,MS4.6
GTA LR LR
comp=Z,1μm,23.6s,MS4.7
VIS Vishakhapatnam 44.95 292 *e*P **P** **10 47 29.8 -1.1**
VIS *i*P 10 47 31.9
VIS AMb AMB 10 47 35.9
comp=Z,52nm,1.3s,mb5.2
DZM Mont Dzumac 46.08 124 P **P** **10 47 38.7 -1.2**
comp=Z,14nm,0.9s,mb4.9,baz=310,slow=15,SNR=15
YSS Yuzh-Sakhalins 46.27 15 *e*P **P** **10 47 40.6 -0.4**
comp=Z,31nm,0.8s,mb5.3
YSS Yuzh-Sakhalins 46.27 15 *e*P **P** **10 47 39.8 -1.1**
YSS *e* 10 49 15.3
YSS pmax pmax
comp=Z,50nm,1.0s,mb5.4
PKI Pulchoki 46.44 306 *e*P **P** **10 47 42.0 -0.6**
comp=Z,113nm,1.4s,mb5.6
PKI Pulchoki 46.44 306 *e*P **P** **10 47 42.0 -0.6**
PKI pmax pmax
comp=Z,56nm,1.4s,mb5.3
KLR Kul'dur 46.56 5 *e*P **P** **10 47 40.0 -3.3**
KLR pmax pmax
comp=E,20nm,1.2s
KLR pmax pmax
comp=Z,38nm,1.2s,mb5.2
KKN Kakani 46.64 306 *e*P **P** **10 47 43.2 -0.9**
comp=Z,86nm,1.2s,mb5.6
KKN Kakani 46.64 306 *e*P **P** **10 47 43.2 -0.9**
KKN pmax pmax
comp=Z,43nm,1.2s,mb5.2
DMN Daman 46.70 306 *e*P **P** **10 47 44.1 -0.5**
comp=Z,130nm,1.3s,mb5.7
HIA Hailar 46.76 354 *e*P **P** **10 47 45.0 +0.3**
comp=Z,42nm,1.0s,mb5.3
HIA LR LR
comp=Z,411nm,21.0s,MS4.4
HIA Hailar 46.76 354 *e*P **P** **10 47 45.0 +0.2**
HIA pmax pmax
comp=Z,42nm,1.0s
HIA MLR MLR
comp=Z,411nm,21.0s
MDRS Chennai 46.95 285 *e*x x 10 49 02.9
MDRS AMb AMB 10 49 06.7
comp=Z,59nm,0.2s,mb6.2
GKN Gorkha 47.24 306 *e*P **P** **10 47 48.2 -0.7**
comp=Z,99nm,1.2s,mb5.6
BLSP Bilaspur 47.25 298 *e*P **P** **10 47 48.7 -0.4**
BLSP AMb AMB 10 47 50.9
comp=Z,78nm,1.3s,mb5.5
KOLN Koldanda 47.98 306 *e*P **P** **10 47 54.1 -0.6**
comp=Z,64nm,0.6s,mb5.8
SONM Songino Array 48.22 342 P **P** **10 47 56.3 +0.1**
comp=Z,12nm,0.7s,mb5.0,baz=155,slow=8.0,SNR=46
SONM PcP PcP 10 49 23.5 +0.5
comp=Z,7.1nm,0.8s,baz=160,slow=4.3,SNR=5.3
SONM LR LR 11 11 26.3
comp=Z,215nm,21.3s,MS4.1,baz=150,slow=40
HYB Hyderabad 49.32 291 *i*P **P** **10 48 05.0 -0.2**
comp=Z,60nm,1.0s,mb5.6
HYB Hyderabad 49.32 291 *e*P **P** **10 48 05.0 -0.2**
comp=Z,60nm,1.0s,mb5.6
HYB Hyderabad 49.32 291 *e*P **P** **10 48 05.0 -0.2**
HYB pmax pmax
comp=Z,60nm,1.0s,mb5.6
NGP Nagpur 49.73 296 *e*P **P** **10 48 07.0 -1.2**
NGP AMb AMB 10 48 09.8
comp=Z,48nm,1.2s,mb5.4
CIT Chita 50.34 350 *e*P **P** **10 48 12.6 +0.1**
CIT *e* pP 10 48 27.1 -0.8
CIT pmax pmax
comp=Z,129nm,1.4s,mb5.8
ZAK Zakamensk 51.44 341 *e*P **P** **10 48 20.2 -0.6**
ZAK pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
BHPL Bhopal 51.73 298 *e*P **P** **10 48 21.9 -1.5**
BHPL *i*P 10 48 22.6
BHPL AMb AMB 10 48 24.6
comp=Z,64nm,0.8s,mb5.6
AGRA Agra 52.47 303 *e*P **P** **10 48 26.3 -2.6**
AGRA AMb AMB 10 48 36.3
comp=Z,56nm,0.5s,mb5.8
IRK Irkutsk 52.76 343 *e*P **P** **10 48 30.2 -0.5**
IRK pmax pmax
comp=Z,554nm,1.9s,mb6.2
MOY Mondy 53.29 340 *e*P **P** **10 48 35.6 +0.9**
MOY pmax pmax
comp=Z,91nm,2.4s,mb5.3
WMQ Urumqi 53.47 326 P **P** **10 48 37.0 +0.9**
WMQ AP pP 10 48 53.0 +1.3
WMQ PP PP 10 50 40.0 +1.5
WMQ SCP 10 53 34.0
WMQ S **S** **10 56 04.0 +1.4**
WMQ SCS ScS 10 58 17.0 +0.3
WMQ SS SS 10 59 43.0 +0.2
WMQ AMB AMB
comp=Z,34nm,1.0s,mb5.2
WMQ AMB AMB
comp=Z,41nm,8.0s
WMQ LR LR
comp=N,585nm,20.0s,MS4.8
WMQ LR LR
comp=E,527nm,20.0s,MS4.8
WMQ LR LR
comp=Z,345nm,20.0s,MS4.4
SONA Sohna 53.52 303 *e*P **P** **10 48 35.7 -1.0**
SONA AMb AMB 10 48 37.8
comp=Z,49nm,0.5s,mb5.7
NDI New Delhi 53.56 304 *i*P **P** **10 48 34.5 -2.5**
NDI AMb AMB 10 48 37.3
comp=Z,46nm,0.5s,mb5.7
CLNS Chul'man 53.99 359 *c i*P **P** **10 48 39.8 +0.1**
CLNS *e**PP pP 10 48 58.6 +3.3
CLNS *e* 10 49 43.6
CLNS *e* 10 50 48.1
CLNS *e*PPP PPP 10 51 50.8 -2.9
CLNS *e*S **S** **10 56 05.0 -4.4**
CLNS *e*SSS SSS 11 01 50.6 +2.8
CLNS pmax pmax
comp=N,23nm,1.0s
CLNS pmax pmax
comp=Z,49nm,1.0s,mb5.4
CLNS pmax pmax
comp=E,14nm,1.3s
CLNS pmax pmax
comp=Z,11nm,1.0s,mb4.7
CLNS pmax pmax
comp=N,4.0nm,0.7s
CLNS pmax pmax
comp=E,10.0nm,0.7s
CLNS smax
comp=N,72nm,12.9s
CLNS smax
comp=Z,76nm,13.2s
CLNS smax
comp=E,101nm,12.6s
KKR Kurukshetra 54.31 305 *i*P **P** **10 48 41.9 -0.6**
KKR AMb AMB 10 48 43.0
comp=Z,145nm,0.3s,mb6.3
KHET Khetri 54.54 303 *i*P **P** **10 48 43.3 -0.8**
KHET AMb AMB 10 48 44.3
comp=Z,51nm,1.0s,mb5.5
BOD Bodaibo 55.85 352 *e*P **P** **10 48 52.8 -0.4**
BOD pmax pmax
comp=Z,20nm,0.9s,mb5.2
PET Petropavlovsk 56.73 23 *e*P **P** **10 49 00.0 +0.4**
PET *e**SP PcP 10 49 57.5 +2.7
PET pmax pmax
comp=Z,35nm,0.9s,mb5.4
PET pmax pmax
comp=Z,33nm,2.1s,mb5.0
MKAR Makanchi Array 58.31 326 P **P** **10 49 10.0 -0.8**
comp=Z,11nm,0.5s,mb5.2,baz=123,slow=7.8,SNR=58
MKAR LR LR 11 15 28.5
comp=Z,470nm,21.8s,MS4.6,baz=110,slow=37
MKAR Makanchi Array 58.31 326 *i*P **P** **10 49 09.7 -1.0**
MKAR pmax pmax
comp=Z,11nm,0.6s
KSH Kashi 58.66 316 *e*P **P** **10 49 13.0 -0.3**
KSH *e*AP pP 10 49 29.1 0.0
KSH *e*XP sP 10 49 36.1 +0.2
KSH *e*PCP PcP 10 50 02.1 -0.4
KSH *e*PP PP 10 51 24.0 -1.2
KSH *e*PPP PPP 10 52 49.1 -0.2
KSH *e*SCP 10 53 56.1
KSH *e*PCS 10 54 02.0
KSH *e*S **S** **10 57 08.8 -2.7**
KSH *e*PS PS 10 57 33.4 -0.9
KSH *e*XS 10 57 38.1
KSH *e*SS SS 11 01 05.1 -1.7
KSH AMB AMB
comp=Z,100nm,1.5s,mb5.6
KSH LR LR
comp=N,190nm,4.4s
KSH LR LR
comp=E,180nm,5.2s
YAK Yakutsk 59.23 2 *e*P **P** **10 49 16.4 -0.5**
comp=E,85nm,0.7s,mb5.9
YAK Yakutsk 59.23 2 *c i*P **P** **10 49 16.6 -0.3**
YAK *e*S **S** **10 57 24.0 +5.4**
YAK pmax pmax
comp=Z,45nm,0.9s,mb5.5
YAK pmax pmax
comp=N,14nm,1.1s
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK smax
comp=E,38nm,10.3s
YAK smax
comp=N,32nm,12.4s
MA2 Magadan 59.73 14 *e*P **P** **10 49 20.1 -0.3**
comp=N,42nm,1.0s,mb5.4
MA2 Magadan 59.73 14 *e*P **P** **10 49 20.1 -0.3**
MA2 pmax pmax
comp=Z,42nm,1.0s,mb5.4
KZA Kyzart 60.27 318 P **P** **10 49 25.1 +0.8**
SNR=13
TKM2 Tokmak 2 60.41 319 P **P** **10 49 25.8 +0.5**
SNR=6.2
AAK Ala-Archa 61.01 318 *e*P **P** **10 49 27.7 -1.7**
comp=Z,32nm,1.5s,mb5.2
AAK Ala-Archa 61.01 318 *e*P **P** **10 49 27.7 -1.7**
AAK pmax pmax
comp=Z,33nm,1.5s,mb5.2
USP Ospenovka 61.28 319 P **P** **10 49 30.9 -0.3**
SNR=8.8
AML Almayashu 61.33 317 P **P** **10 49 32.7 +1.2**
SNR=8.3
ZAL Zalesovo 61.43 333 LR LR 11 20 17.7
comp=Z,160nm,20.7s,MS4.2,baz=236,slow=40
EKS2 Erkin-Say 61.50 318 P **P** **10 49 33.5 +0.8**
SNR=7.1
SNZO South Karori 61.87 140 PFAKE 10 49 50.0 +15
SNZO LR LR
comp=Z,686nm,22.0s,MS4.8
URZ Urewera 61.91 136 P **P** **10 49 35.8 +0.4**
comp=Z,4.5nm,0.5s,mb4.9,baz=355,slow=6.2,SNR=7.8
KURK Kurchatov 62.52 328 *e*P **P** **10 49 38.0 -1.3**
comp=Z,32nm,0.7s,mb5.5
KURK Kurchatov 62.52 328 *i*P **P** **10 49 38.0 -1.4**
KURK pmax pmax
comp=Z,17nm,0.7s,mb5.3
NVS Novosibirsk 62.71 333 *e*P **P** **10 49 38.2 -2.4**
NVS *e* 10 52 02.2
NVS *e*S **S** **10 58 03.4 +0.4**
NVS pmax pmax
comp=Z,31nm,1.5s,mb5.2
NVS pmax pmax
comp=N,15nm,0.9s
NVS smax
comp=N,23nm,2.1s
FX1 Attu Island--F 63.04 30 P **P** **10 49 43.7 +0.9**
comp=N,68nm,0.8s,mb5.8,baz=295,slow=1.1,SNR=36
FX1 LR LR 11 18 38.5
comp=N,13nm,18.1s,baz=154,slow=37
FX1 Attu Island--F 63.04 30 *e*P **P** **10 49 42.8 -0.1**
SEY Seymchan 63.06 13 *e*P **P** **10 49 43.5 +0.7**
SEY *e* 10 52 07.1
SEY *e*PPP PPP 10 53 34.9 +0.1
SEY *e*S **S** **10 58 13.7 +6.4**
SEY *SS 10 58 40.8
SEY SS SS 11 02 24.9 +9.1
SEY pmax pmax
comp=Z,30nm,1.3s,mb5.3
SEY pmax pmax
comp=N,200nm,1.1s
SEY MLR MLR
comp=Z,310nm,22.0s,MS4.4
SEY MLR MLR
comp=N,170nm,30.0s
SEY MLR MLR
comp=E,130nm,19.0s
SMY Shemya 63.42 30 PFAKE 10 50 00.0 +15
SMY LR LR
comp=Z,551nm,20.0s,MS4.7
KKAR Karatay Array 63.87 317 *i*P **P** **10 49 47.6 -0.9**
KKAR pmax pmax
comp=Z,13nm,0.9s,mb5.0
VOSK Vostochnaya 67.64 327 P **P** **10 50 11.0 -1.3**
VOSK pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
BVA0 Borovoye Array 68.09 327 P **P** **10 50 14.3 -0.8**
BVA0 pmax pmax
comp=Z,8.0nm,1.6s,mb4.5
BVAR Borovoye Array 68.09 327 P **P** **10 50 14.7 -0.4**
comp=Z,4.2nm,0.4s,mb4.8,baz=80,slow=4.5,SNR=36
BVAR PKPPKP 11 18 35.9
comp=Z,0.2nm,0.4s,baz=225,slow=2.1,SNR=3.8
BRVK Borovoye 68.16 327 *e*P **P** **10 50 14.0 -1.5**
comp=Z,6.2nm,0.4s,mb5.0
BRVK Borovoye 68.16 327 *e*P **P** **10 50 14.0 -1.5**
BRVK pmax pmax
comp=Z,6.0nm,0.4s,mb5.0
TIXI Tiksi 68.86 1 PFAKE 10 50 30.0 +10
TIXI LR LR
comp=Z,375nm,22.0s,MS4.6
TIXI Tiksi 68.86 1 *i*P **P** **10 50 19.1 -0.5**
TIXI pmax pmax
comp=Z,27nm,1.0s,mb5.1
TIXI MLR MLR
comp=Z,400nm,24.0s,MS4.6
CASY Casey 69.79 187 *e*P **P** **10 50 25.4 +0.1**
BILL Bilibino 70.58 15 *e*P **P** **10 50 29.5 -0.6**
comp=Z,35nm,0.4s,mb5.6
BILL LR LR
comp=Z,336nm,22.0s,MS4.5
BILL Bilibino 70.58 15 *e*P **P** **10 50 29.5 -0.6**
BILL pmax pmax
comp=Z,35nm,0.4s,mb5.6
BILL MLR MLR
comp=Z,336nm,22.0s,MS4.5
AB31 Akbulak array 72.84 321 P **P** **10 50 43.5 -0.4**
AB31 pmax pmax
comp=Z,1.0nm,0.3s,mb4.2
UNV Unalaska Valle 74.35 34 *e*P **P** **10 50 51.6 -1.0**
comp=Z,86nm,0.7s,mb5.8
UNV LR LR
comp=Z,1μm,19.0s,MS5.2
SVE Sverdlovsk 74.75 329⇑ *e*P **P** **10 50 54.8 0.0**
SVE *e* pP 10 51 10.0 -1.2
SVE *e*S S 11 00 25.0 -0.3
SVE pmax pmax
comp=Z,120nm,1.5s,mb5.6
SVE MLR MLR
comp=N,100nm,16.0s,MS4.4
SVE MLR MLR
comp=E,100nm,16.0s,MS4.4
SVE MLR MLR
comp=Z,100nm,16.0s,MS4.2
AKUT Akutan 74.85 34 *e*P **P** **10 50 55.8 +0.3**
AKUT LR LR
comp=Z,300nm,19.0s,MS4.6
ARU Arti 75.72 328 *e*P **P** **10 50 59.7 -0.7**
comp=Z,49nm,1.0s,mb5.4
ARU Arti 75.72 328⇓ *i*P **P** **10 51 00.4 0.0**
ARU *e* 10 51 11.0
ARU *e*PPP PPP 10 55 37.0 -2.2
ARU pmax pmax
comp=Z,24nm,0.8s,mb5.2
SOKR Solikamsk 77.52 331⇑ *i*P **P** **10 51 11.1 +0.6**
SOKR pmax pmax
comp=Z,30nm,1.4s,mb5.0
SOKR MLR MLR
comp=Z,300nm,24.0s,MS4.5
TNA Tin City 77.59 23 PFAKE 10 51 20.0 +9.3
TNA LR LR
comp=Z,184nm,19.0s,MS4.4
SDPT Sand Point 78.12 34 *e*P **P** **10 51 14.6 +0.7**
SDPT LR LR
comp=Z,500nm,22.0s,MS4.8
MZLS Mizel 81.02 294 P **P** **10 51 30.5 +0.4**
KAMS Al Khamasin 81.56 290 P **P** **10 51 32.8 -0.2**
SVW2 Sparrevohn 81.77 29 *e*P **P** **10 51 35.5 +2.2**
TTA Tatalina 81.88 27 *e*P **P** **10 51 35.9 +2.1**
GNI Garni 82.02 310 PFAKE 10 51 50.0 +15
GNI LR LR
comp=Z,231nm,22.0s,MS4.5
GNI Garni 82.02 310 *i*P **P** **10 51 34.7 -0.3**
GNI pmax pmax
comp=Z,38nm,1.7s
VNDA Vanda 82.44 173 P **P** **10 51 36.8 +0.3**
comp=Z,17nm,0.9s,mb5.0,baz=317,slow=5.9,SNR=44
VNDA Vanda 82.44 173 *e*P **P** **10 51 36.4 0.0**
comp=Z,20nm,1.0s,mb5.0
VNDA Vanda 82.44 173 *e*P **P** **10 51 36.4 0.0**
VNDA pmax pmax
comp=Z,20nm,1.0s
DJNS Zahran al Janu 82.55 287 P **P** **10 51 39.9 +1.8**
TATS Tathlith 82.60 289 P **P** **10 51 39.8 +1.4**
MAW Mawson 82.75 200 P **P** **10 51 39.5 +1.4**
comp=Z,6.3nm,0.6s,mb4.8,baz=56,slow=6.3,SNR=9.8
MAW LR LR 11 25 03.6
comp=Z,92nm,20.1s,MS4.1,baz=61,slow=33
MAW Mawson 82.75 200 *e*P **P** **10 51 39.0 +0.8**
comp=Z,37nm,1.4s,mb5.2
MAW Mawson 82.75 200 *e*P **P** **10 51 39.0 +0.8**
MAW pmax pmax
comp=Z,37nm,1.4s
ZEI Tsey 82.79 313 *e*P **P** **10 51 38.2 -0.7**
ZEI pmax pmax
comp=Z,18nm,1.1s,mb5.0
KDAK Kodiak Island 82.83 32 *e*P **P** **10 51 39.5 +0.7**
comp=Z,44nm,0.8s,mb5.5
KDAK LR LR
comp=Z,176nm,22.0s,MS4.4
RSO Redoubt South 83.05 30 P **P** **10 51 40.2 +0.4**
SBA Scott Base 83.35 172 *e*P **P** **10 51 41.9 +0.8**
comp=Z,31nm,1.4s,mb5.1
SBA Scott Base 83.35 172 *e*P **P** **10 51 41.9 +0.8**
SBA pmax pmax
comp=Z,31nm,1.4s,mb5.2
IMA Indian Mountai 83.38 24 *e*P **P** **10 51 43.0 +1.6**
SPU Mount Spurr 83.48 29 *e*P **P** **10 51 42.1 +0.1**
GOF Gofitskoye 83.53 315 *e*P **P** **10 51 50.5 +7.9**
KIV Kislovodsk 83.73 314⇓ *e*P **P** **10 51 44.3 +0.6**
KIV pmax pmax
comp=Z,20nm,1.4s,mb5.0
KIV MLR MLR
comp=Z,200nm,25.0s,MS4.4
HILS Ha'il 84.13 297 P **P** **10 51 47.7 +1.6**
SLKM Skilak Lake 84.31 30 *e*P **P** **10 51 46.9 +0.7**
BLJS Baljurashi 84.37 290 P **P** **10 51 49.3 +1.9**
FIB Fire Island 84.38 29 PFAKE 10 52 00.0 +14
FIB LR LR
comp=Z,1μm,21.0s,MS5.2
PMR Palmer 84.91 29 *e*P **P** **10 51 49.6 +0.5**
PMR LR LR
comp=Z,400nm,17.0s,MS4.9
PPT Papeete 84.95 108 *e*LR LR 11 19 52.2
comp=Z,332nm,26.0s
PPT Papeete 84.95 108 LR LR 11 24 05.1
comp=Z,154nm,21.2s,MS4.4,baz=108,slow=32
MCK McKinley 85.14 26 *e*P **P** **10 51 50.7 +0.5**
comp=Z,20nm,1.1s,mb5.2
MCK LR LR
comp=Z,144nm,20.0s,MS4.4
MCK McKinley 85.14 26 *e*P **P** **10 51 50.7 +0.5**
MCK pmax pmax
comp=Z,21nm,1.1s,mb5.2
MCK MLR MLR
comp=Z,144nm,20.0s,MS4.4
SML Sawmill 85.31 28 *e*P **P** **10 51 52.1 +1.0**
TBI Tubuai 85.52 114 *e*LR LR 11 20 09.3
comp=Z,342nm,30.8s
SOC Sochi 85.87 313 *e*P **P** **10 51 53.7 -0.6**
SOC *e*S 11 02 08.9
SOC *e*SS SS 11 07 56.1 -6.9
SOC pmax pmax
comp=Z,60nm,1.2s,mb5.7
SOC pmax pmax
comp=N,24nm,1.3s
SOC pmax pmax
comp=E,5.0nm,0.4s
ILAR Eielson Array 86.09 25 P **P** **10 51 54.9 0.0**
comp=E,2.7nm,0.6s,mb4.7,baz=245,slow=4.6,SNR=48
VORD Divnogorie 86.20 321 *e*P **P** **10 51 55.8 +0.1**
VORD pmax pmax
comp=Z,90nm,1.1s,mb5.9
VORD pmax pmax
comp=N,10.0nm,0.5s
VORD pmax pmax
comp=E,70nm,0.9s
VRSR Storozhevoye 86.27 321 *e*P **P** **10 51 56.1 +0.1**
KBRS Khaybar 86.42 296 P **P** **10 51 59.5 +2.1**
DIV Divide 86.51 29 *e*P **P** **10 51 58.1 +1.1**
comp=E,148nm,0.9s,mb6.2
DIV LR LR
comp=Z,684nm,19.0s,MS5.1
EYAK Cordova Ski Ar 86.52 30 *e*P **P** **10 51 57.0 0.0**
MALT Malatya 86.89 308 *e*P **P** **10 52 00.9 +1.5**
comp=Z,35nm,1.1s,mb5.5
MALT Malatya 86.89 308 *e*P **P** **10 52 00.9 +1.5**
MALT pmax pmax
comp=Z,35nm,1.1s,mb5.5
MENT Mentasta 87.48 27 *e*P **P** **10 52 03.3 +1.6**
ANN Anapa 87.50 315 *e*P **P** **10 52 01.0 -1.2**
ANN pmax pmax
comp=Z,88nm,1.2s,mb5.9
OBN Obninsk 87.81 325 *e*P **P** **10 52 02.2 -1.2**
comp=Z,31nm,0.7s,mb5.6
OBN Obninsk 87.81 325 *de*P **P** **10 52 02.7 -0.7**
OBN *e*S 11 02 23.6
OBN *e*SS SS 11 08 37.2 +6.5
OBN pmax pmax
comp=Z,68nm,1.2s,mb5.8
OBN MLR MLR
comp=Z,100nm,20.0s,MS4.2
QURS Qurayyt al Mil 87.97 301 P **P** **10 52 07.1 +2.3**
UMJS Umm Lajj 88.19 295 P **P** **10 52 08.4 +2.4**
APA Apatity 88.73 337 *e*P **P** **10 52 10.0 +2.4**
TBKS Tabuk 88.76 298 P **P** **10 52 10.4 +1.8**
DAWY Dawson 89.36 26 *e*P **P** **10 52 11.2 +0.7**
KMBO Kilima Mbogo 89.38 269 P **P** **10 52 13.6 +1.7**
comp=Z,7.6nm,1.1s,mb4.9,baz=65,slow=6.1,SNR=11
KMBO Kilima Mbogo 89.38 269 P **P** **10 52 13.6 +1.7**

JMOS	**Jabal al Moall**	**89.98**	**299**	P	**P**		**10 52 15.9 +1.5**
ALWS	**Ilw as Safayha**	**90.01**	**299**	P	**P**		**10 52 16.3 +1.9**
BDAS	**Al Bad'**	**90.03**	**298**	P	**P**		**10 52 16.0 +1.4**
HAQS	**Haql**	**90.14**	**299**	P	**P**		**10 52 16.6 +1.5**
TAYS	**Tayyib Ism**	**90.22**	**298**	P	**P**		**10 52 16.9 +1.4**
BR131	**Keskin Array S**	**90.55**	**310**	*e*P	**P**		**10 52 17.2 +0.4**
	comp=Z,6.6nm,0.9s,mb5.0						
BRTR	**Keskin Array B**	**90.55**	**310**	P	**P**		**10 52 17.1 +0.4**
	comp=Z,7.6nm,0.9s,mb5.0,baz=124,slow=4.5,SNR=24						
INK	**Inuvik**	**91.17**	**21**	*e*P	**P**		**10 52 18.8 -0.1**
	comp=Z,32nm,1.5s,mb5.4						
INK	**Inuvik**	**91.17**	**21**	*e*P	**P**		**10 52 18.8 -0.2**
INK				pmax	pmax		
	comp=Z,32nm,1.5s						
ARCES	**ARCESS Array B**	**91.35**	**340**	P	**P**		**10 52 19.7 -0.1**
	comp=Z,6.2nm,0.7s,mb5.0,baz=86,slow=5.7,SNR=16						
ARE0	**ARCESS Array S**	**91.35**	**340**	*e*P	**P**		**10 52 18.8 -1.0**
SYO	**Syowa Base**	**91.42**	**201**	⇑P	**P**		**10 52 21.8 +1.7**
SYO	**Syowa Base**	**91.42**	**201**	⇑PcP	PcP		10 52 23.2 +2.0
KBS	**Kingsbay**	**91.98**	**350**	PFAKE			10 52 30.0 +7.5
KBS				LR	LR		
	comp=Z,354nm,21.0s,MS4.8						
SIT	**Sitka**	**92.16**	**33**	PFAKE			10 52 40.0 +16
SIT				LR	LR		
	comp=Z,480nm,22.0s,MS4.9						
AKASG	**Malin Array Be**	**92.58**	**321**	P	**P**		**10 52 25.5 -0.4**
	comp=Z,1.7nm,0.6s,mb4.6,baz=68,slow=4.4,SNR=12						
QSPA	**South Pole Qui**	**92.62**	**180**	⇓*i*P	**P**		**10 52 27.2 +1.8**
	comp=Z,20nm,1.2s,mb5.4						
FINES	**FINESS Array B**	**92.66**	**332**	P	**P**		**10 52 25.6 -0.4**
	comp=Z,1.8nm,0.7s,mb4.6,baz=71,slow=5.1,SNR=6.8						
DLBC	**Dease Lake**	**94.70**	**31**	P	**P**		**10 52 35.9 +0.6**
	comp=Z,8.4nm,0.9s,mb5.2,baz=284,slow=5.5,SNR=27						
DLBC	**Dease Lake**	**94.70**	**31**	*e*P	**P**		**10 52 36.3 +1.0**
RKT	**Rikitea**	**98.83**	**113**	*e*LR	LR		11 26 19.0
	comp=Z,293nm,32.2s						
NOA	**NORSAR Array B**	**99.63**	**334**	P	**P**		**10 52 56.9 -0.8**
	comp=Z,0.8nm,0.7s,mb4.3,baz=64,slow=4.8,SNR=3.3						
YKA	**Yellowknife Ar**	**100.49**	**24**	P	P		10 53 02.6 +1.1
	comp=Z,2.7nm,0.9s,baz=303,slow=4.7,SNR=16						
YKA	**Yellowknife Ar**	**100.49**	**24**	P	P		10 53 02.6 +1.1
OCWA	**Octopus Mounta**	**100.81**	**40**	PFAKE			10 53 20.0 +17
OCWA				LR	LR		
	comp=Z,467nm,19.0s,MS5.0						
KONO	**Kongsberg**	**100.94**	**333**	PFAKE			10 53 20.0 +16
KONO				LR	LR		
	comp=Z,257nm,20.0s,MS4.7						
COR	**Corvallis**	**102.28**	**43**	PFAKE			10 53 20.0 +10
COR				LR	LR		
	comp=Z,538nm,22.0s,MS5.0						
HUMO	**Hull Mountain**	**103.08**	**45**	PFAKE			10 53 30.0 +16
HUMO				LR	LR		
	comp=Z,273nm,22.0s,MS4.7						
WDC	**Whiskeytown Da**	**103.94**	**47**	PFAKE			10 53 30.0 +13
WDC				LR	LR		
	comp=Z,340nm,22.0s,MS4.8						
HOPS	**Hopland**	**103.97**	**49**	PFAKE			10 53 30.0 +12
HOPS				LR	LR		
	comp=Z,387nm,20.0s,MS4.9						
NEW	**Newport**	**105.12**	**38**	PFAKE			10 57 50.0
NEW				LR	LR		
	comp=Z,228nm,20.0s,MS4.7						
MOD	**Modoc**	**105.17**	**45**	PFAKE			10 57 50.0
MOD				LR	LR		
	comp=Z,294nm,22.0s,MS4.8						
SAO	**San Andreas Ge**	**105.80**	**51**	PFAKE			10 57 50.0
SAO				LR	LR		
	comp=Z,224nm,20.0s,MS4.7						
WVOR	**Wild Horse Val**	**106.17**	**44**	PFAKE			10 57 50.0
WVOR				LR	LR		
	comp=Z,272nm,22.0s,MS4.8						
BMO	**Blue Mountains**	**106.25**	**42**	PFAKE			10 57 50.0
BMO				LR	LR		
	comp=Z,339nm,22.0s,MS4.8						
CMB	**Columbia Colle**	**106.26**	**49**	PFAKE			10 57 50.0
CMB				LR	LR		
	comp=Z,238nm,20.0s,MS4.7						
MSO	**Missoula**	**107.67**	**39**	*e*PKP			10 57 42.2
MSO				LR	LR		
	comp=Z,140nm,19.0s,MS4.5						
BMN	**Battle Mountai**	**107.84**	**46**	PFAKE			10 57 50.0
BMN				LR	LR		
	comp=Z,238nm,22.0s,MS4.7						
ISA	**Isabella**	**108.42**	**51**	PFAKE			10 58 00.0
ISA				LR	LR		
	comp=Z,64nm,20.0s,MS4.2						
TPH	**Tonopah**	**108.62**	**48**	PFAKE			10 58 00.0
TPH				LR	LR		
	comp=Z,256nm,21.0s,MS4.8						
HLID	**Hailey**	**108.66**	**42**	*e*PKP			10 57 45.4
HLID				LR	LR		
	comp=Z,213nm,20.0s,MS4.7						
DAC	**Darwin (Calif)**	**108.91**	**50**	PFAKE			10 58 00.0
DAC				LR	LR		
	comp=Z,233nm,19.0s,MS4.8						
ESK	**Eskdalemuir**	**109.08**	**332**	PFAKE			10 58 00.0
ESK				LR	LR		
	comp=Z,44nm,19.0s,MS4.0						
ELK	**Elko**	**109.15**	**45**	*e*PKP			10 57 45.8
ELK				LR	LR		
	comp=Z,307nm,21.0s,MS4.8						
BOZ	**Bozeman (W)**	**109.62**	**39**	*e*PKP			10 57 46.8
BOZ				LR	LR		
	comp=Z,241nm,19.0s,MS4.8						
FFC	**Flin Flon**	**110.20**	**28**	PFAKE			10 58 00.0 +16
FFC				LR	LR		
	comp=Z,83nm,21.0s,MS4.3						
PFO	**Pinyon Flat Ob**	**110.62**	**53**	PFAKE			10 58 00.0 +14
PFO				LR	LR		
	comp=Z,77nm,22.0s,MS4.2						
LKWY	**Lake**	**110.88**	**40**	PFAKE			10 58 00.0 +14
LKWY				LR	LR		
	comp=Z,331nm,20.0s,MS4.9						
DUG	**Dugway**	**111.07**	**45**	*e*PKP	PKPdf		10 57 49.8 +3.2
DUG				LR	LR		
	comp=Z,143nm,21.0s,MS4.5						
AHID	**Auburn Hatcher**	**111.20**	**42**	PFAKE			10 58 00.0 +13
AHID				LR	LR		
	comp=Z,268nm,19.0s,MS4.8						
NEN	**Nelson**	**111.22**	**50**	PKP	PKPdf		10 57 50.1 +3.1
HWUT	**Hardware Ranch**	**111.37**	**43**	PFAKE			10 58 00.0 +13
HWUT				LR	LR		
	comp=Z,464nm,22.0s,MS5.0						
MSU	**Marysvale**	**112.18**	**46**	*e*PKP	PKPdf		10 57 51.7 +3.0
BW06	**Boulder Array**	**112.22**	**41**	*e*PKP	PKPdf		10 57 51.5 +2.7
BW06				LR	LR		
	comp=Z,224nm,21.0s,MS4.7						
PDAR	**Pinedale Array**	**112.22**	**41**	PKiKP			10 57 51.9
	comp=Z,0.4nm,0.5s,baz=90,slow=1.7,SNR=5.5						
PDAR				PKKPbc			11 08 47.1
	comp=Z,0.8nm,0.9s,baz=90,slow=4.4,SNR=6.8						
LAO	**LASA Array**	**112.44**	**36**	*e*PKP	PKPdf		10 57 52.1 +3.0
LAO				LR	LR		
	comp=Z,281nm,20.0s,MS4.8						
DGMT	**Dagmar**	**112.67**	**34**	PFAKE			10 58 00.0 +11
DGMT				LR	LR		
	comp=Z,219nm,20.0s,MS4.8						
SRU	**San Rafael**	**113.12**	**45**	*e*PKP	PKPdf		10 57 53.5 +2.9
RWWY	**Rawlins**	**114.27**	**42**	*e*PKP	PKPdf		10 57 54.8 +2.0
RSSD	**Black Hills**	**115.09**	**38**	*e*PKP	PKPdf		10 57 56.1 +1.7
TUC	**Tucson**	**115.55**	**52**	*e*PKPdf	PKPdf		10 57 58.6 +3.1
TUC				LR	LR		
	comp=Z,206nm,19.0s,MS4.8						
ULM	**Lac du Bonnet**	**115.93**	**29**	PKP	PKPdf		10 57 56.6 +0.8
	comp=Z,2.6nm,0.9s,baz=309,slow=1.7,SNR=3.7						
ULM	**Lac du Bonnet**	**115.93**	**29**	PKP	PKPdf		10 57 56.6 +0.8
ULM				LR	LR		
	comp=Z,817nm,19.0s,MS5.4						
ISCO	**Idaho Springs**	**116.23**	**43**	*e*PKPdf	PKPdf		10 57 59.8 +3.1
ISCO				LR	LR		
	comp=Z,330nm,22.0s,MS4.9						
SDCO	**Great Sand Dun**	**117.27**	**45**	*e*PKPdf	PKPdf		10 58 01.9 +3.2
ANMO	**Albuquerque**	**117.82**	**48**	PKP	PKPdf		10 58 02.6 +2.8
	comp=Z,4.2nm,0.9s,baz=223,slow=3.2,SNR=18						
ANMO	**Albuquerque**	**117.82**	**48**	*e*PKPdf	PKPdf		10 58 02.9 +3.1
ANMO	**Albuquerque**	**117.82**	**48**	*i* PKIKP	PKPdf		10 58 02.7 +2.9
LPM	**Los Pinos Moun**	**117.96**	**49**	*e*PKPdf	PKPdf		10 58 03.0 +2.9
BNM	**Barren Site**	**118.03**	**49**	*e*PKPdf	PKPdf		10 58 02.6 +2.4
ESLA	**Sonseca Array**	**118.12**	**318**	PFAKE			10 58 10.0 +10
ESLA				LR	LR		
	comp=Z,820nm,22.0s,MS5.3						
MNTX	**Cornudas Mount**	**120.01**	**51**	*e*PKPdf	PKPdf		10 58 06.4 +2.2
GDL2	**Guadalupe Moun**	**120.58**	**50**	*e*PKPdf	PKPdf		10 58 07.9 +2.6
CPRX	**Cap Rock**	**120.60**	**49**	*e*PKPdf	PKPdf		10 58 07.0 +1.7
CBKS	**Cedar Bluff**	**120.65**	**41**	PFAKE			10 58 20.0 +15
CBKS				LR	LR		
	comp=Z,326nm,22.0s,MS4.9						
SCHQ	**Schefferville**	**121.60**	**9**	PKP	PKPdf		10 58 08.1 +1.4
	comp=Z,4.0nm,0.9s,baz=220,slow=5.0,SNR=4.2						
SCHQ	**Schefferville**	**121.60**	**9**	PKP	PKPdf		10 58 08.1 +1.4
SCHQ				LR	LR		
	comp=Z,662nm,20.0s,MS5.3						
LTX	**Lajitas**	**122.34**	**53**	*e*PKPdf	PKPdf		10 58 10.5 +1.8
LTX				LR	LR		
	comp=Z,285nm,20.0s,MS4.9						
TXAR	**Lajitas Array**	**122.34**	**53**	PKP	PKPdf		10 58 11.4 +2.6
	comp=Z,3.2nm,0.9s,baz=253,slow=1.1,SNR=35						
KSU1	**Kansas State U**	**122.50**	**39**	*e*PKPdf	PKPdf		10 58 10.3 +1.5
WMOK	**Wichita Mounta**	**123.47**	**45**	*e*PKP	PKPdf		10 58 12.2 +1.4
CCM	**Cathedral Cave**	**126.45**	**37**	*e*PKP	PKPdf		10 58 18.2 +1.7
CCM				LR	LR		
	comp=Z,201nm,21.0s,MS4.8						
NATX	**Nacogdoches**	**127.98**	**45**	PFAKE			10 58 30.0 +10
NATX				LR	LR		
	comp=Z,212nm,19.0s,MS4.8						
BLO	**Bloomington**	**128.39**	**33**	*e*PKP	PKPdf		10 58 22.6 +2.3
PQI	**Presque Isle**	**129.18**	**13**	PFAKE			10 58 30.0 +8.5
PQI				LR	LR		
	comp=Z,2μm,19.0s						
WCI	**Wyandotte Cave**	**129.19**	**33**	*e*PKP	PKPdf		10 58 24.2 +2.4
WCI				LR	LR		
	comp=Z,311nm,20.0s,MS5.0						
WVT	**Waverly**	**129.77**	**37**	*e*PKP	PKPdf		10 58 25.2 +2.3
OXF	**Oxford**	**129.87**	**39**	PFAKE			10 58 40.0 +17
OXF				LR	LR		
	comp=Z,260nm,21.0s,MS4.9						
PLAL	**Pickwick Lake**	**130.39**	**38**	*e*PKP	PKPdf		10 58 24.9 +0.7
PLAL				LR	LR		
	comp=Z,216nm,21.0s,MS4.8						
DBIC	**Dimbokro**	**130.63**	**281**	PKP	PKPdf		10 58 26.6 +1.5
	comp=Z,11nm,1.1s,baz=10,slow=5.2,SNR=3.2						
WVL	**Waterville**	**130.75**	**15**	PFAKE			10 58 40.0 +15
WVL				LR	LR		
	comp=Z,6μm,22.0s						
BINY	**Binghamton**	**130.85**	**22**	PFAKE			10 58 40.0 +15
BINY				LR	LR		
	comp=Z,341nm,20.0s,MS5.0						
EMMW	**East Machias**	**131.16**	**13**	PFAKE			10 58 40.0 +15
EMMW				LR	LR		
	comp=Z,2μm,19.0s						
MCWV	**Mont Chateau**	**131.36**	**27**	PFAKE			10 58 40.0 +14
MCWV				LR	LR		
	comp=Z,447nm,21.0s,MS5.1						
SWET	**Sewanee**	**131.52**	**36**	*e*PKP	PKPdf		10 58 27.3 +1.0
TZTN	**Tazewell**	**131.91**	**33**	*e*PKP	PKPdf		10 58 29.4 +2.4
HRV	**Harvard--Oak R**	**132.10**	**18**	PFAKE			10 58 40.0 +13
HRV				LR	LR		
	comp=Z,216nm,19.0s,MS4.9						
CMLA	**Cha da Macela**	**132.15**	**330**	PFAKE			10 58 40.0 +13
CMLA				LR	LR		
	comp=Z,3μm,22.0s						
CPCT	**Cooper Cave**	**132.17**	**35**	*e*PKP	PKPdf		10 58 29.4 +1.9
WES	**Weston**	**132.28**	**18**	PFAKE			10 58 40.0 +12
WES				LR	LR		
	comp=Z,1μm,21.0s,MS5.6						
LRAL	**Lakeview Retre**	**132.35**	**39**	*e*PKP	PKPdf		10 58 30.0 +2.1
LRAL				LR	LR		
	comp=Z,289nm,20.0s,MS5.0						
FWV	**Forest Hill**	**132.55**	**30**	PKP	PKPdf		10 58 29.8 +1.6
MYNC	**Murphy**	**132.66**	**35**	*e*PKP	PKPdf		10 58 30.1 +1.6
MYNC				LR	LR		
	comp=Z,412nm,19.0s,MS5.2						
ELN	**Prospectdale**	**132.85**	**30**	PKP	PKPdf		10 58 29.5 +0.7
BLA	**Blacksburg**	**133.03**	**30**	*e*PKP	PKPdf		10 58 30.8 +1.7
CBN	**Corbin**	**133.66**	**26**	PFAKE			10 58 40.0 +10
CBN				LR	LR		
	comp=Z,330nm,19.0s,MS5.1						
NHSC	**New Hope**	**136.32**	**33**	PFAKE			10 58 50.0 +15
NHSC				LR	LR		
	comp=Z,219nm,20.0s,MS4.9						
PLCA	**Paso Flores**	**139.10**	**160**	PKP	PKPdf		10 58 42.7 +2.6
	comp=Z,2.4nm,0.8s,baz=249,slow=3.6,SNR=3.8						
DWPF	**Disney**	**139.21**	**39**	PFAKE			10 58 50.0 +9.3
DWPF				LR	LR		
	comp=Z,192nm,19.0s,MS4.9						
TRQA	**Tornquist**	**143.95**	**168**	*e*PKP	PKPdf		10 58 48.2 -0.5
LVC	**Limon Verde**	**155.15**	**144**	*e*PKPdf	PKPdf		10 59 09.9 +3.4
CPUP	**Villa Florida**	**156.21**	**171**	PKP	PKPdf		10 59 10.8 +3.0
	comp=Z,3.1nm,1.1s,baz=180,slow=1.0,SNR=3.4						
CPUP				PKPab	PKPab		10 59 38.2 -0.2
	comp=Z,6.2nm,0.9s,baz=276,slow=3.8,SNR=6.3						
CPUP	**Villa Florida**	**156.21**	**171**	PKP	PKPdf		10 59 10.8 +3.0
CPUP				PKPab	PKPab		10 59 38.2 -0.2
ROSC	**El Rosal**	**157.80**	**70**	PKP	PKPdf		10 59 13.9 +3.6
	comp=Z,4.7nm,0.4s,baz=100,slow=19,SNR=3.7						
ROSC				PKPab	PKPab		10 59 47.8 +2.2
	comp=Z,10nm,0.7s,baz=88,slow=20,SNR=6.6						
SDV	**Santo Domingo**	**159.34**	**56**	*e*PKPdf	PKPdf		10 59 14.1 +2.0
SDV				*e*PKPab	PKPab		10 59 52.7 +0.4
SDV				LR	LR		
	comp=Z,196nm,19.0s,MS5.0						
LPAZ	**La Paz**	**160.21**	**134**	PKP	PKPdf		10 59 16.9 +4.0
	comp=Z,4.3nm,1.0s,baz=30,slow=2.9,SNR=9.7						
LPAZ				PKPab	PKPab		10 59 53.9 -1.9
	comp=Z,4.0nm,0.8s,baz=53,slow=5.3,SNR=5.6						
LPAZ	**La Paz**	**160.21**	**134**	*e*PKPdf	PKPdf		10 59 16.4 +3.5
LPAZ				*e*PKPab	PKPab		10 59 56.9 +1.1
LPAZ				LR	LR		
	comp=Z,215nm,19.0s						
RCBR	**Riachuelo**	**162.25**	**259**	PFAKE			10 59 30.0 +15
RCBR				LR	LR		
	comp=Z,161nm,19.0s						
BDFB	**Brasilia**	**166.08**	**202**	PKPab	PKPab		11 00 21.1 -0.3
	comp=Z,3.3nm,0.6s,baz=230,slow=2.3,SNR=4.1						
SAML	**Samuel**	**168.48**	**123**	*e*PKPdf	PKPdf		10 59 22.6 +2.3
SAML				*e*PKPab	PKPab		11 00 31.4 -0.6
SAML				LR	LR		
	comp=Z,107nm,22.0s						

JMA 16 10:42:00.4±0.1, 38.19N×141.69E, h51km±1km, M3.7, 5D
Broadband fault plane solution: P waves. NP1:ϕ_s64°, δ89°, λ70°. **NP2:**ϕ_s333°, δ20°, λ178°. **Principal axes:** T Plg42°, Azm315°; N Plg20°, Azm64°; P Plg41°, Azm173°;
Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.38**	**315**	⇓P	P	10 42 10.4	0.0
JIO				S	S	10 42 17.1	-0.5
JMM	**Marumori**	**0.78**	**246**	⇓P	P	10 42 14.8	-0.5
JMM				S	S	10 42 25.3	-1.0
JOU	**Okura**	**0.83**	**283**	P	P	10 42 16.1	+0.2
JOU				*e*S	S	10 42 27.3	-0.1
JMK	**Ichinoseki**	**0.84**	**334**	⇓P	P	10 42 16.2	0.0
JMK				*e*S	S	10 42 27.6	-0.3
OFUJ	**Ofunato**	**0.89**	**359**	⇓P	P	10 42 16.4	-0.4
JFK	**Kawauchi**	**1.05**	**218**	*e*S	S	10 42 31.9	-0.9
JFT	**Otama**	**1.26**	**238**	⇓P	P	10 42 22.1	0.0
JFT				*e*S	S	10 42 37.6	-0.6
JYK	**Kaneyama**	**1.27**	**305**	P	P	10 42 22.2	0.0
JYK				*e*S	S	10 42 38.4	0.0
MAT	**Matsushiro**	**3.23**	**240**	P	P	10 42 50.6	+0.7
MAT				*e*S	S	10 43 30.5	+3.2

ISC 16 11:07:05.2±0.8, 36.91N±0.05×35.89E±0.04, h5km±6km, n8, σ1°31/16, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEYT	**Ceyhan**	**0.15**	**311**	*i* PG	**Pg**	**11 07 09.6**	**+1.2**
CEYT				*i* SG	**Sg**	**11 07 11.2**	**+0.7**
COBT	**Iskenderun**	**0.49**	**143**	*i* P	**Pg**	**11 07 16.0**	**+1.0**
COBT				*i* S	**Sg**	**11 07 27.3**	**+5.8**
KAHT	**Ahir Dag**	**1.06**	**47**	*i* P	**Pb**	**11 07 25.9**	**+0.3**
KAHT				*i* S	**Sb**	**11 07 39.5**	**-0.2**
GAZ	**Gaziantep**	**1.09**	**76**	PG	**Pg**	**11 07 25.5**	**-1.4**
GAZ				SG	**Sg**	**11 07 39.1**	**-2.3**
GZT	**Gaziantep**	**1.41**	**71**	*i* P	**Pn**	**11 07 30.0**	**-1.5**
GZT				*i* S	**Sb**	**11 07 50.7**	**+1.0**
MEST	**Erdemli**	**1.44**	**258**	*i* P	**Pn**	**11 07 30.2**	**-1.8**
MEST				*i* S	**Sb**	**11 07 50.7**	**+0.1**
ATAB	**Bozova**	**2.00**	**73**	*i* P	**Pn**	**11 07 43.2**	**+3.3**
ATAB				*i* S	**Sn**	**11 08 08.1**	**+2.4**
AVNT	**Avonos**	**2.04**	**337**	*i* P	**Pn**	**11 07 40.0**	**-0.5**
AVNT				*i* S	**Sn**	**11 08 06.1**	**-0.5**

NIED ***16*** *11:07:00, 38.20N×142.20E, h41km, Mw4.0 Best double couple: M*$_0$*1.05×10*^{15} *NP1:*ϕ_s*12°, δ74°, λ99°. NP2:*ϕ_s*161°, δ18°, λ60°.*
MOS ***16*** *11:07:05.5±0.9, 38.17N×142.43E, h33km, mb4.8/4, Error ellipse: s-maj=13.4km s-min=11.6km az=86.6*
IDC ***16*** *11:07:07.7±2.3, 38.08N×142.64E, h42km±19km, mb3.7/8, mb1 3.9/12, mb1mx3.7/24, mbtmp4.0/12, ML3.7/4, MS3.9/3, Ms1 3.9/3, ms1mx3.1/41, Error ellipse: s-maj=24.2km s-min=11.6km az=104.0*
JMA ***16*** *11:07:08.3±0.2, 38.18N×142.17E, h42km±2km, M4.1*
JMA Felt I J1.
NEIC ***16*** *11:07:09.6±2.0, 38.20N×142.27E, h47km±12km, mb4.8/5, MW4.0(NIED), Error ellipse: s-maj=21.7km s-min=10.2km az=91.0*
ISC 16 11:07:07.1±1.0, 38.18N±0.04×142.25E±0.09, h41km±7km, n40, σ0°74/47, mb4.3/15, MS4.0/3, 6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.76**	**292**	⇓P	**P**	**11 07 22.0**	**+0.5**
JIO				S	**S**	**11 07 31.4**	**-0.6**
OFUJ	**Ofunato**	**1.01**	**333**	⇓P	**P**	**11 07 25.6**	**+0.6**
OFUJ				*e*S	**S**	**11 07 37.7**	**-0.6**
JMK	**Ichinoseki**	**1.12**	**314**	⇓P	**P**	**11 07 27.4**	**+0.8**
JMM	**Marumori**	**1.19**	**255**	⇓P	**P**	**11 07 27.7**	**+0.1**
JOU	**Okura**	**1.26**	**279**	⇓P	**P**	**11 07 29.5**	**+0.9**
JFK	**Kawauchi**	**1.36**	**234**	⇓P	**P**	**11 07 29.8**	**-0.3**
JFK				*e*S	**S**	**11 07 45.1**	**-2.0**
MJAR	**Matsushiro Arr**	**3.61**	**244**	P	**P**	**11 08 03.3**	**+1.2**
	6.8nm,0.3s,baz=59,slow=8.9,SNR=58						
MJAR				S	**S**	**11 08 51.1**	**+7.2**
	3.5nm,0.3s,baz=81,slow=16,SNR=4.6						
MAJO	**Matsushiro**	**3.61**	**244**	*e*Pn	**P**	**11 08 02.9**	**+0.9**
MAT	**Matsushiro**	**3.61**	**244**	P	**P**	**11 08 02.7**	**+0.6**
MAT				S	**S**	**11 08 43.4**	**-0.6**
MAT	**Matsushiro**	**3.61**	**244**	*e*P	**P**	**11 08 03.0**	**+0.9**
MAT				*e*S	**S**	**11 08 43.0**	**-1.0**
JHJ	**Hachijo jima 2**	**5.43**	**202**	P	**P**	**11 08 27.6**	**-0.1**
	16nm,0.3s,baz=74,slow=14,SNR=20						
JHJ				S	**S**	**11 09 24.3**	**-5.5**
	33nm,0.3s,baz=245,slow=23,SNR=9.7						
ASAJ	**Asahikawa**	**5.94**	**2**	P	**P**	**11 08 35.3**	**+0.5**
	2.1nm,0.3s,baz=220,slow=12,SNR=16						
ASAJ				S	**S**	**11 09 42.5**	**-0.1**
	2.2nm,0.3s,baz=181,slow=29,SNR=2.6						
ASAJ	**Asahikawa**	**5.94**	**2**	P	**P**	**11 08 35.3**	**+0.5**
ASAJ				S	**S**	**11 09 42.5**	**-0.1**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**6.46**	**24**	P	**P**	**11 08 40.5**	**-1.6**
YUK				*e*S	**S**	**11 09 48.2**	**-7.2**
YUK				smax			
	comp=N,270nm,0.5s						
YUK				smax			
	comp=E,230nm,0.5s						
JNU	**Nakatsue**	**10.54**	**245**	P	**P**	**11 09 39.2**	**+0.7**
	comp=E,0.2nm,0.3s,baz=180,slow=1.0,SNR=3.3						
KS15	**Wonju Array Si**	**11.39**	**271**	Pn	**P**	**11 09 49.8**	**-0.4**
MDJ	**Mudanjiang**	**11.47**	**308**	*e*P	**P**	**11 09 50.3**	**-0.9**
	comp=E,3.5nm,0.4s						
CIT	**Chita**	**24.34**	**314**	*e*P	**P**	**11 12 22.7**	**+0.7**
CIT				pmax	pmax		
	comp=Z,23nm,1.2s,mb4.5						
SONM	**Songino Array**	**27.72**	**302**	P	**P**	**11 12 53.7**	**+0.2**
	comp=Z,0.5nm,0.4s,mb3.5,baz=108,slow=8.9,SNR=7.6						
ENH	**Enshi**	**28.11**	**264**	*e*P	**P**	**11 12 56.5**	**-0.7**
	comp=Z,8.1nm,0.5s,mb4.6						
ENH				PcP	PcP	11 16 07.5	-3.5
ZAK	**Zakamensk**	**30.10**	**307**	*e*P	**P**	**11 13 14.5**	**-0.3**
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.6						
ZAL	**Zalesovo**	**41.66**	**311**	P	**P**	**11 14 52.1**	**-0.8**
	comp=Z,1.7nm,0.4s,mb4.0,baz=25,slow=11,SNR=5.5						
MKAR	**Makanchi Array**	**44.09**	**301**	P	**P**	**11 15 13.1**	**+0.4**
	comp=Z,1.5nm,0.7s,mb3.8,baz=85,slow=8.5,SNR=12						
KURK	**Kurchatov**	**45.76**	**307**	*e*P	**P**	**11 15 25.1**	**-1.0**
	comp=Z,7.2nm,0.5s,mb4.9						
KURK	**Kurchatov**	**45.76**	**307**	*e*P	**P**	**11 15 25.1**	**-1.0**
KURK				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.8						
KKN	**Kakani**	**48.24**	**275**	*e*P	**P**	**11 15 46.2**	**+0.3**
	comp=Z,13nm,0.7s,mb5.1						
KKN	**Kakani**	**48.24**	**275**	*e*P	**P**	**11 15 46.2**	**+0.3**
KKN				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.8						
PKI	**Pulchoki**	**48.24**	**275**	*e*P	**P**	**11 15 45.9**	**0.0**
	comp=Z,9.5nm,0.6s,mb5.0						
PKI	**Pulchoki**	**48.24**	**275**	*e*P	**P**	**11 15 45.9**	**0.0**
PKI				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7				

0.1nm,0.3s,baz=233,slow=10,SNR=9.1
DLBC Dease Lake 21.35 60 P **P 11 15 42.4 -0.2**
1.0nm,0.7s,mb3.3,baz=286,slow=11,SNR=2.4
INK Inuvik 22.17 33 P **P 11 15 50.4 -0.3**
5.6nm,0.7s,mb4.1,baz=228,slow=12,SNR=11
INK PcP PcP 11 19 46.5 -1.1
1.9nm,0.7s,baz=258,slow=3.2,SNR=3.5
YKA Yellowknife Ar 28.81 50 P **P 11 16 52.1 -0.9**
0.8nm,0.8s,mb3.5,baz=277,slow=10.0,SNR=3.1
YKA PcP PcP 11 20 01.4 -1.0
1.3nm,0.7s,baz=285,slow=2.2,SNR=7.1
YKA Yellowknife Ar 28.81 50 P **P 11 16 52.1 -0.9**
YKA PcP PcP 11 20 01.4 -1.0
NEW Newport 31.42 78 P **P 11 17 16.2 -0.1**
0.6nm,0.3s,mb3.8,baz=288,slow=3.2,SNR=3.0
YBH Yreka Blue Hor 31.45 93 P **P 11 17 18.1 +1.4**
1.6nm,0.9s,mb3.9,baz=195,slow=5.9,SNR=2.7
EDM Edmonton 31.57 67 *eP* **P 11 17 16.4 -1.2**
WALA Waterton Lakes 32.95 75 P **P 11 17 33.2 +3.5**
HLID Hailey 35.44 84 P **P 11 17 51.6 +0.5**
MCMT McKenzie Canyo 35.69 81 *eP* **P 11 17 52.9 -0.4**
OMM Old Mammoth Mi 36.24 95 *eP* **P 11 18 01.4 +3.4**
BW06 Boulder Array 38.81 81 *eP* **P 11 18 19.4 -0.1**
PDAR Pinedale Array 38.81 81 P **P 11 18 19.6 +0.2**
1.3nm,0.8s,mb3.7,baz=302,slow=4.7,SNR=11
MAJO Matsushiro 41.25 269 *eP* **P 11 18 39.4 -0.3**
17nm,0.8s,mb4.7
MAT Matsushiro 41.25 269 P **P 11 18 39.7 0.0**
MAT Matsushiro 41.25 269 *eP* **P 11 18 40.0 +0.3**
24nm,1.1s,mb4.7
MJAR Matsushiro Arr 41.25 269 P **P 11 18 39.5 -0.2**
5.7nm,1.0s,mb4.2,baz=50,slow=6.7,SNR=18
MJAR LR LR 11 32 51.6
comp=Z,80nm,20.2s,MS3.6,baz=55,slow=32
MDJ Mudanjiang 41.49 285 P **P 11 18 39.9 -1.6**
MDJ AMB AMB
comp=Z,5.0nm,0.5s,mb4.4
MDJ AMB AMB
comp=Z,84nm,6.8s
SDCO Great Sand Dun 44.34 84 *eP* **P 11 19 04.8 0.0**
comp=Z,8.4nm,1.7s,mb4.2
CBIJ Chichi jima 45.50 256 P **P 11 19 14.3 +0.1**
comp=Z,42nm,0.6s,baz=260,slow=19,SNR=3.5
JNU Nakatsue 48.00 272 P **P 11 19 33.5 -0.4**
comp=Z,6.3nm,0.8s,mb4.7,baz=96,slow=5.4,SNR=4.1
MNTX Cornudas Mount 48.49 90 *eP* **P 11 19 36.6 -1.0**
comp=Z,1.1nm,0.7s,mb4.0
TXAR Lajitas Array 51.21 91 P **P 11 19 58.0 -0.5**
comp=Z,0.9nm,0.8s,mb3.8,baz=307,slow=5.8,SNR=12
TXAR LR LR 11 39 34.8
comp=Z,147nm,18.7s,MS4.0,baz=240,slow=34
SONM Songino Array 52.41 302 P **P 11 20 06.7 -0.5**
comp=Z,1.1nm,0.5s,mb4.0,baz=34,slow=5.8,SNR=9.6
SCHQ Schefferville 54.07 45 P **P 11 20 18.2 -1.3**
comp=Z,1.8nm,0.8s,mb4.1,baz=326,slow=15,SNR=2.0
SCHQ Schefferville 54.07 45 P **P 11 20 18.2 -1.3**
KEV Kevo 57.37 354 *ep* **P 11 20 40.0 -3.0**
comp=Z,4.2nm,0.7s,mb4.6
ARCES ARCESS Array B 57.67 355 P **P 11 20 43.2 -1.9**
comp=Z,1.0nm,0.5s,mb4.1,baz=2.4,slow=7.3,SNR=9.3
ARCES PcP PcP 11 21 36.9 -0.8
comp=Z,0.9nm,0.7s,baz=27,slow=5.4,SNR=3.6
XAN Xi'an 60.45 288 P **P 11 21 03.8 -1.0**
XAN AMB AMB
comp=Z,6.0nm,1.3s,mb4.5
BVAR Borovoye Array 64.26 326 P **P 11 21 28.9 -0.9**
comp=Z,2.9nm,0.7s,mb4.4,baz=53,slow=7.4,SNR=14
BVAR PcP PcP 11 22 03.9 -0.3
comp=Z,2.3nm,0.6s,baz=53,slow=2.5,SNR=6.4
MKAR Makanchi Array 64.63 315 P **P 11 21 30.6 -1.8**
comp=Z,1.6nm,0.7s,mb4.1,baz=59,slow=7.1,SNR=12
KAF Kangasniemi 64.99 353 *ep* **P 11 21 32.8 -1.5**
comp=Z,4.5nm,0.6s,mb4.7,baz=4.3,slow=6.2
FINES FINESS Array B 65.67 353 P **P 11 21 37.2 -1.5**
comp=Z,2.3nm,0.5s,mb4.5,baz=26,slow=7.1,SNR=13
CD2 Chengdu 65.70 289 P **P 11 21 40.0 +0.5**
NB2 NORSAR Subarra 66.53 1 P **P 11 21 43.1 -1.1**
comp=Z,1.8nm,0.6s,mb4.3,baz=360,slow=6.2
NOA NORSAR Array B 66.53 1 P **P 11 21 43.1 -1.0**
comp=Z,0.8nm,0.4s,mb4.1,baz=360,slow=6.2,SNR=3.9
LSA Lhasa 73.65 298 P **P 11 22 29.3 +1.3**
AKASG Malin Array Be 76.01 350 P **P 11 22 40.0 -1.2**
comp=Z,5.8nm,0.5s,mb4.8,baz=13,slow=5.7,SNR=24
CLL Collm 76.29 0 P **P 11 22 44.6 +1.9**
comp=Z,logA/T=1.0,mb4.7
BAIF Baives 77.26 6 *eP* **P 11 22 48.2 0.0**
comp=Z,3.1nm,0.5s,mb4.2
STHS Stebnicka Huta 77.96 355 *iP* **P 11 22 53.4 +1.4**
FLN La Foliniere 78.18 9 *eP* **P 11 22 53.6 +0.3**
KKN Kakani 78.28 301 *eP* **P 11 22 54.3 0.0**
ROSF Rostrenen 78.30 11 *eP* **P 11 22 54.4 +0.4**
LDF La Druitiere 78.38 9 *eP* **P 11 22 54.0 -0.4**
comp=Z,6.6nm,0.7s,mb4.4
PKI Pulchoki 78.39 300 *eP* **P 11 22 55.1 +0.2**
comp=Z,13nm,0.6s,mb5.0
GKN Gorkha 78.44 301 *eP* **P 11 22 55.2 0.0**
comp=Z,21nm,0.6s,mb5.2
SGMF Saint Gilles 78.46 11 *eP* **P 11 22 54.9 0.0**
GRR Gorron 78.51 9 *eP* **P 11 22 55.0 -0.1**
DMN Daman 78.52 301 *eP* **P 11 22 55.7 +0.1**
comp=Z,7.5nm,0.4s,mb4.9
QUIF Quistinic 78.73 11 *eP* **P 11 22 57.2 +0.9**
comp=Z,23nm,1.1s,mb4.7
GERES GERESS Array B 78.76 360 P **P 11 22 56.8 +0.3**
comp=Z,1.2nm,0.6s,mb4.0,baz=342,slow=4.2,SNR=5.4
KOLN Koldanda 79.17 302 *eP* **P 11 22 58.9 -0.3**
comp=Z,20nm,0.9s,mb5.0
HINF Hinteralfeld 79.64 4 *eP* **P 11 23 01.3 0.0**
LOR Lormes 80.02 6 *eP* **P 11 23 03.6 +0.3**
comp=Z,9.8nm,0.9s,mb4.5
SSF Saint Saulge 80.20 7 *eP* **P 11 23 04.5 +0.2**
comp=Z,6.0nm,0.6s,mb4.4
MFF Saint Martin d 80.35 9 *eP* **P 11 23 05.4 +0.3**
comp=Z,34nm,1.2s,mb4.9
AVF Avril sur Loir 80.46 7 *eP* **P 11 23 05.7 0.0**
comp=Z,8.1nm,0.7s,mb4.5
SMF Signal de Mont 80.64 6 *eP* **P 11 23 06.7 0.0**
comp=Z,8.3nm,0.7s,mb4.5
BGF Bois d'Agland 80.66 7 *eP* **P 11 23 07.8 +1.1**
CABF La Chapelle 80.81 5 *eP* **P 11 23 07.7 +0.2**
comp=Z,11nm,1.1s,mb4.4
TCF Toulx Ste Croi 80.87 8 *eP* **P 11 23 08.0 +0.1**
comp=Z,5.4nm,0.8s,mb4.2
LFF La Frestale 82.08 9 *eP* **P 11 23 14.7 +0.5**
comp=Z,18nm,0.8s,mb4.7
VIVF Saint-Julien-l 82.48 6 *eP* **P 11 23 17.0 +0.8**
ORIF Oris-en-Rattie 82.49 5 *eP* **P 11 23 17.4 +1.1**
MBDF Montbardon 82.72 5 *eP* **P 11 23 19.3 +1.8**
comp=Z,8.2nm,0.6s,mb4.6
SMRF Simiane la Rot 83.41 6 *eP* **P 11 23 22.8 +1.8**
BR131 Keskin Array S 86.18 344 *eP* **P 11 23 36.4 +1.6**
BRTR Keskin Array B 86.18 344 P **P 11 23 36.5 +1.7**
comp=Z,3.2nm,0.8s,mb4.6,baz=18,slow=3.7,SNR=14
ESDC Sonseca Array 86.74 13 P **P 11 23 38.2 +0.7**
comp=Z,0.2nm,0.3s,mb3.8,baz=351,slow=3.0,SNR=4.6
WRA Warramunga Arr 88.47 234 P **P 11 23 46.0 -0.3**
comp=Z,0.5nm,0.9s,mb3.8,baz=36,slow=6.4,SNR=4.2
MAW Mawson 152.15 219 PKPbc PKPdf 11 30 47.3 +7.4
comp=Z,4.2nm,0.7s,baz=105,slow=2.0,SNR=6.0
BOSA Boshof 154.25 335 PKPbc PKPdf 11 30 54.1 +10
comp=Z,3.3nm,1.1s,baz=59,slow=5.9,SNR=3.6
BOSA PKPab PKPab 11 31 08.4 -0.2
comp=Z,5.0nm,1.0s,baz=28,slow=9.3,SNR=4.3

*IDC **16** 11:39:36.0±1.5,2.24N×96.22E,mb4.2/9,mb1 4.4/9, mb1mx4.0/20,mbtmp4.2/9,MS3.4/2,Ms1 3.4/2, ms1mx3.1/24,Error ellipse: s-maj=67.7km s-min=19.5km az=53.0*
*BJI **16** 11:39:37.3,2.10N×96.30E,h30km,mb4.7*
*NEIC **16** 11:39:40.3±0.8,2.13N×96.31E,h30km,mb4.6/6,Error ellipse: s-maj=22.9km s-min=11.0km az=46.0*
ISC 16 11:39:38.7±0.8,2.2N±0.1×96.4E±0.1,h30km,n21, σ1§09/20,mb4.4/16,MS3.5/2,1C,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.27**	**54**	⇑*iP*	**Pn**	**11 40 58.5**	**+1.0**
PKI	**Pulchoki**	**27.33**	**338**	*eP*	**P**	**11 45 24.8**	**+1.7**
12nm,0.6s,mb4.6							
DMN	**Daman**	**27.47**	**338**	*eP*	**P**	**11 45 26.5**	**+2.0**
KKN	**Kakani**	**27.57**	**338**	*eP*	**P**	**11 45 25.4**	**0.0**
27nm,0.7s,mb5.0							
LSA	**Lhasa**	**27.80**	**350**	P	**P**	**11 45 27.8**	**+0.4**
GKN	**Gorkha**	**28.01**	**337**	*eP*	**P**	**11 45 29.2**	**-0.1**
24nm,0.8s,mb4.9							
KOLN	**Koldanda**	**28.21**	**336**	*eP*	**P**	**11 45 31.9**	**+0.8**
18nm,0.8s,mb4.8							
XAN	**Xi'an**	**33.79**	**19**	P	**P**	**11 46 18.6**	**-1.7**
XAN				AMB	AMB		
comp=Z,14nm,0.8s,mb4.9							
FITZ	**Fitzroy Crossi**	**35.18**	**126**	P	**P**	**11 46 32.8**	**+0.4**
comp=Z,3.5nm,0.7s,mb4.4,baz=222,slow=5.3,SNR=4.3							
WRA	**Warramunga Arr**	**43.27**	**122**	P	**P**	**11 47 41.2**	**+1.5**
comp=Z,0.6nm,0.6s,mb3.5,baz=300,slow=9.2,SNR=6.1							
WRAB	**Tennant Creek**	**43.27**	**122**	*eP*	**P**	**11 47 37.8**	**-1.9**
comp=Z,29nm,1.7s,mb4.7							
WRAB				*e*		11 47 49.2	
MKAR	**Makanchi Array**	**46.09**	**347**	P	**P**	**11 48 01.2**	**-0.6**
comp=Z,7.9nm,0.8s,mb4.7,baz=162,slow=7.7,SNR=47							
SONM	**Songino Array**	**46.29**	**9**	P	**P**	**11 48 03.3**	**-0.2**
comp=Z,1.7nm,0.6s,mb4.2,baz=190,slow=8.7,SNR=13							
KURK	**Kurchatov**	**50.63**	**345**	*eP*	**P**	**11 48 35.7**	**-1.4**
comp=Z,2.2nm,0.6s,mb4.3							
MJAR	**Matsushiro Arr**	**51.53**	**43**	LR	LR	12 13 02.5	
comp=Z,29nm,18.3s,MS3.3,baz=155,slow=39							
ZAL	**Zalesovo**	**52.45**	**351**	P	**P**	**11 48 50.0**	**-0.8**
comp=Z,4.1nm,0.5s,mb4.6,baz=317,slow=3.7,SNR=9.9							
BVAR	**Borovoye Array**	**55.05**	**341**	P	**P**	**11 49 08.1**	**-1.9**
comp=Z,2.4nm,0.7s,mb4.3,baz=135,slow=8.4,SNR=13							
FINES	**FINESS Array B**	**78.74**	**333**	P	**P**	**11 51 39.9**	**+0.2**
comp=Z,1.4nm,0.9s,mb3.9,baz=18,slow=4.4,SNR=5.6							
FINES				LR	LR	12 33 25.7	
comp=Z,25nm,18.8s,MS3.6,baz=165,slow=41							
ARCES	**ARCESS Array B**	**81.33**	**340**	P	**P**	**11 51 53.4**	**0.0**
comp=Z,1.4nm,0.6s,mb4.1,baz=76,slow=5.0,SNR=12							
ARCES	**ARCESS Array B**	**81.33**	**340**	P	**P**	**11 51 53.4**	**0.0**
GERES	**GERESS Array B**	**83.52**	**319**	P	**P**	**11 52 05.7**	**+0.5**
comp=Z,0.2nm,0.3s,mb3.7,baz=153,slow=3.0,SNR=4.0							

*IDC **16** 12:03:56.4±1.3,8.47N×92.22E,mb4.1/9,mb1 4.2/9, mb1mx4.0/21,mbtmp4.1/9,Error ellipse: s-maj=61.9km s-min=18.5km az=57.0*
*NEIC **16** 12:04:00.7±0.8,8.35N×92.10E,h30km,mb4.3/4,Error ellipse: s-maj=29.8km s-min=11.1km az=60.0*
ISC 16 12:03:58.9±0.9,8.3N±0.1×92.1E±0.2,h30km,n14, σ0§79/14,mb4.1/13,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**8.98**	**109**	*eP*	**P**	**12 06 19.9**	**+10**
LSA	**Lhasa**	**21.27**	**358**	*eP*	**P**	**12 08 46.2**	**+1.0**
4.5nm,0.5s,mb4.0							
ENH	**Enshi**	**27.20**	**34**	P	**P**	**12 09 42.8**	**+0.5**
5.2nm,0.5s,mb4.3							
MKAR	**Makanchi Array**	**39.23**	**349**	P	**P**	**12 11 24.0**	**-2.4**
1.6nm,0.8s,mb3.8,baz=167,slow=7.8,SNR=9.9							
SONM	**Songino Array**	**41.18**	**15**	P	**P**	**12 11 42.1**	**-0.3**
2.2nm,0.7s,mb3.9,baz=195,slow=8.4,SNR=16							
FITZ	**Fitzroy Crossi**	**42.24**	**129**	P	**P**	**12 11 51.7**	**+0.1**
8.1nm,1.0s,mb4.3,baz=161,slow=2.1,SNR=4.1							
KURK	**Kurchatov**	**43.70**	**348**	*eP*	**P**	**12 12 02.2**	**-0.8**
3.0nm,0.7s,mb4.1							
WRA	**Warramunga Arr**	**50.15**	**125**	P	**P**	**12 12 53.7**	**-0.5**
0.7nm,0.6s,mb3.9,baz=302,slow=8.7,SNR=11							
WRAB	**Tennant Creek**	**50.16**	**125**	*eP*	**P**	**12 12 54.1**	**0.0**
1.2nm,0.3s,mb4.4							
STKA	**Stephens Creek**	**61.87**	**133**	P	**P**	**12 14 18.2**	**+0.1**
1.2nm,0.6s,mb4.2,baz=314,slow=14,SNR=4.7							
FINES	**FINESS Array B**	**71.38**	**332**	P	**P**	**12 15 17.6**	**-0.3**
1.5nm,0.7s,mb4.0,baz=159,slow=12,SNR=3.3							
ARCES	**ARCESS Array B**	**74.16**	**340**	P	**P**	**12 15 34.8**	**+0.6**
1.5nm,0.9s,mb3.9,baz=146,slow=6.5,SNR=3.1							
NOA	**NORSAR Array B**	**78.35**	**331**	P	**P**	**12 15 58.8**	**+0.9**
1.0nm,0.6s,mb4.0,baz=98,slow=5.2,SNR=3.6							
EKA	**Eskdalemuir Ar**	**86.21**	**325**	P	**P**	**12 16 39.1**	**+0.4**
0.6nm,0.7s,mb3.9,baz=100,slow=4.3,SNR=2.4							

*NEIC **16** 12:24:30.5±3.5,5.58S×151.94E,h65km±27km,mb4.1/2, Error ellipse: s-maj=68.4km s-min=22.5km az=123.0*
IDC 16 12:24:29.8±6.4,5.68S×152.05E,h64km±57km,mb3.6/4, mb1 3.9/5,mb1mx3.6/14,mbtmp3.9/5,ML2.9/1,Error ellipse: s-maj=73.3km s-min=34.5km az=130.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.10**	**232**	P	P	12 25 57.9	-1.6
1.9nm,0.3s,baz=80,slow=3.8,SNR=6.7							
PMG				S	S	12 27 06.6	-2.1
1.3nm,0.3s,baz=278,slow=8.3,SNR=4.0							
WRAB	**Tennant Creek**	**22.30**	**229**	*eP*	P	12 29 22.4	-0.7
3.2nm,0.7s							
WRA	**Warramunga Arr**	**22.31**	**229**	P	P	12 29 22.2	-1.0
0.9nm,0.5s,baz=56,slow=10,SNR=13							
FITZ	**Fitzroy Crossi**	**28.59**	**242**	*eP*	P	12 30 20.8	-1.6
4.2nm,0.4s							
FITZ	**Fitzroy Crossi**	**28.59**	**242**	P	P	12 30 20.5	-1.9
6.2nm,0.5s,baz=62,slow=8.1,SNR=5.7							
SONM	**Songino Array**	**66.67**	**328**	P	P	12 35 13.5	-2.6
0.5nm,0.8s,baz=135,slow=8.2,SNR=4.3							
ILAR	**Eielson Array**	**83.25**	**22**	P	P	12 36 49.5	-0.9
0.7nm,0.8s,baz=252,slow=5.2,SNR=8.2							

MAN 16 12:39:13.2,8.39N×124.33E,h12km,mb4.2,ML3.0,MS2.7, 1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGP	**Cagayan de Oro**	**0.36**	**79**	⇑*iP*	Pg	12 39 21.4	+0.7
CGP				*i* S	Sg	12 39 26.8	+1.0
BUKP	**Musuan**	**0.88**	**125**	*eP*	Pb	12 39 30.2	+0.4
BUKP				*e*S	Sb	12 39 43.2	+1.9
PAGZ	**Pagadian**	**1.08**	**241**	*eP*	Pb	12 39 32.8	-0.6
PAGZ				*e*S	Sb	12 39 47.3	0.0
BUTP	**Butuan**	**1.40**	**65**	*eP*	Pn	12 39 37.0	-1.6
BUTP				*e*S	Sb	12 40 01.1	+4.7
MSLP	**Maasin**	**1.81**	**17**	*eP*	Pn	12 39 43.3	-1.3
MSLP				*e*S	Sn	12 40 10.3	+2.7
IPIL	**Ipil**	**1.84**	**251**	*eP*	Pn	12 39 44.7	-0.3
IPIL				*e*S	Sn	12 40 07.8	-0.6

*BJI **16** 13:07:56.4,2.98N×126.54E,h15km,mB4.8,mb4.8,Ms4.1, Msz3.8*
*MOS **16** 13:07:56.6±1.1,2.75N×126.53E,h33km,mb5.2/28,Error ellipse: s-maj=12.8km s-min=6.2km az=107.4*
*HRVD **16** 13:07:58.4±1.0,2.94N×126.43E,h32km±3km,MW5.0/30, Centroid moment Tensor Solution. LP body waves: s12,c14;Mantle waves: s30,c38; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr4.13±.67; Mθθ-0.32±.37; Mφφ-3.81±.40; Mrθ0.49±.66; Mrφ1.50±.22; Mθφ-1.37±.51; Best double couple: M0=4.491×10^16 NP1:φs339°,δ36°,λ90°. NP2:φs160°,δ54°,λ90°. Principal axes: T 4.373, Plg81°, Azm71°; N .237, Plg0°, Azm340°; P -4.609, Plg9°, Azm250°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **16** 13:07:58.4±0.2,2.71N×126.59E,mb5.1/36 Error ellipse: s-maj=7.4km s-min=5.1km az=81.0*
*IDC **16** 13:07:58.7±3.3,2.64N×126.61E,h38km±27km,mb4.5/23, mb1 4.5/23,mb1mx4.5/25,mbtmp4.7/23,MS4.0/6, Ms1 4.0/6,ms1mx3.7/21,Error ellipse: s-maj=22.0km s-min=9.0km az=81.0*
*MAN **16** 13:08:18.8,4.25N×125.78E,h1km,mb5.1,ML4.1,MS4.2*
ISC 16 13:07:56.5±0.2,2.72N±0.03×126.59E±0.04,h33km, h33km±2.3km:pP-P,n180,σ1§12/182,mb4.9/81,MS4.0/15, 2C-20D,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**4.21**	**355**	*eP*	**P**	**13 09 04.3**	**+4.2**
MATI				*e*S	**S**	**13 09 59.2**	**+10**
MATI	**Mati**	**4.21**	**355**	*eP*	**P**	**13 09 04.3**	**+4.2**
MATI				*e*S	**S**	**13 09 59.2**	**+10**
BUKP	**Musuan**	**5.35**	**344**	*eP*	**P**	**13 09 17.9**	**+1.9**
BUKP				*e*S	**S**	**13 10 22.4**	**+5.0**
BUKP	**Musuan**	**5.35**	**344**	*eP*	**P**	**13 09 17.9**	**+1.9**
BUKP				*e*S	**S**	**13 10 22.4**	**+5.0**
BIPH	**Bislig**	**5.43**	**358**	⇓*iP*	**P**	**13 09 21.6**	**+4.3**
BIPH				*i* S	**S**	**13 10 35.2**	**+16**
PAGZ	**Pagadian**	**6.01**	**328**	*eP*	**P**	**13 09 27.4**	**+1.9**
PAGZ				*e*S	**S**	**13 10 34.3**	**+0.2**
PAGZ	**Pagadian**	**6.01**	**328**	*eP*	**P**	**13 09 27.4**	**+1.9**
PAGZ				*e*S	**S**	**13 10 34.3**	**+0.2**
BUTP	**Butuan**	**6.28**	**351**	*eP*	**P**	**13 09 33.1**	**+3.9**
BUTP				*e*S	**S**	**13 10 47.8**	**+7.0**
BUTP	**Butuan**	**6.28**	**351**	*eP*	**P**	**13 09 33.1**	**+3.9**
BUTP				*e*S	**S**	**13 10 47.8**	**+7.0**
IPIL	**Ipil**	**6.43**	**322**	*eP*	**P**	**13 09 32.7**	**+1.4**
IPIL				*e*S	**S**	**13 10 43.7**	**-0.8**
IPIL	**Ipil**	**6.43**	**322**	*eP*	**P**	**13 09 32.7**	**+1.4**
IPIL				*e*S	**S**	**13 10 43.7**	**-0.8**
MSLP	**Maasin**	**7.56**	**347**	*eP*	**P**	**13 09 51.4**	**+4.2**
MSLP	**Maasin**	**7.56**	**347**	*eP*	**P**	**13 09 51.4**	**+4.2**
TSM	**Tawau**	**8.84**	**280**	P	**P**	**13 10 07.1**	**+2.2**
BATP	**Bataraza**	**10.63**	**305**	*eP*	**P**	**13 10 40.4**	**+11**
BATP	**Bataraza**	**10.63**	**305**	*eP*	**P**	**13 10 40.4**	**+11**
KKM	**Kota Kinabalu**	**10.86**	**288**	P	**P**	**13 10 37.8**	**+5.0**
KKM	**Kota Kinabalu**	**10.86**	**288**	*ePn*	**P**	**13 10 33.4**	**+0.5**
KKM				*ep*Pn		13 10 40.5	
KKM				*e*Sn	**S**	**13 12 34.1**	**-0.1**
CAUP	**Cauayan**	**14.89**	**342**	*eP*	**P**	**13 11 27.3**	**+0.7**
APYP	**Conner**	**15.94**	**341**	*eP*	**P**	**13 11 42.2**	**+2.1**
KSM	**Kuching**	**16.32**	**266**	*ePn*	**P**	**13 11 45.8**	**+0.9**
KSM				*e*Sn	**S**	**13 14 45.8**	**+1.3**
KSM				PcP	PcP	13 16 36.8	-1.4
KAKA	**Kakadu**	**16.39**	**159**	*eP*	**P**	**13 11 56.7**	**+11**
163nm,1.1s							
FITZ	**Fitzroy Crossi**	**20.71**	**183**	⇓*iP*	**P**	**13 12 35.2**	**-1.5**
42nm,0.6s							
FITZ				*e*S	**S**	**13 16 22.6**	**+1.4**
FITZ	**Fitzroy Crossi**	**20.71**	**183**	P	**P**	**13 12 35.0**	**-1.7**
45nm,0.5s,baz=10.0,slow=7.6,SNR=131							
FITZ				S	**S**	**13 16 23.8**	**+2.6**
16nm,1.1s,baz=177,slow=17,SNR=3.3							
YHNB	**Yeheng**	**22.40**	**347**	*eP*	**P**	**13 12 53.1**	**-0.4**
WRAB	**Tennant Creek**	**23.76**	**162**	*eP*	**P**	**13 13 05.9**	**-1.2**
208nm,1.1s,mb5.5							
WRAB				*ep*P		13 13 15.3	
WRAB	**Tennant Creek**	**23.76**	**162**	*eP*	**P**	**13 13 05.9**	**-1.2**
WRAB				*e**PP		13 13 15.3	
WRAB				pmax	pmax		
comp=Z,208nm,1.1s,mb5.5							
WRA	**Warramunga Arr**	**23.77**	**162**	P	**P**	**13 13 06.1**	**-1.0**
comp=Z,33nm,0.5s,mb5.0,baz=340,slow=11,SNR=239							
WRA				S	**S**	**13 17 19.1**	**+2.0**
comp=Z,3.6nm,0.8s,baz=325,slow=16,SNR=6.4							
JOW	**Kunigami**	**24.03**	**4**	P	**P**	**13 13 11.1**	**+1.4**
comp=Z,32nm,0.8s,mb4.8,baz=229,slow=5.5,SNR=4.5							
MBWA	**Marble Bar**	**24.66**	**196**	⇓*iP*	**P**	**13 13 16.2**	**+0.4**
comp=Z,128nm,1.5s,mb5.2							
MBWA				pP		13 13 24.8	
MBWA				*es*P		13 13 29.8	
IPM	**Ipoh**	**25.58**	**275**	P	**P**	**13 13 28.5**	**+3.9**
KULM	**Kulim**	**26.00**	**276**	*eP*	**P**	**13 13 28.4**	**-0.2**
CBIJ	**Chichi jima**	**28.47**	**30**	LR	LR	13 24 46.6	
comp=Z,83nm,19.1s,MS3.4,baz=282,slow=35							
SSE	**Sheshan**	**28.68**	**350**	P	**P**	**13 13 49.4**	**-3.3**
SSE				PCP	PcP	13 17 03.4	+0.4
SSE				AMB	AMB		
comp=Z,23nm,0.7s,mb5.0							
SSE				AMB	AMB		
comp=Z,33nm,3.3s							
SSE				LR	LR		
comp=N,122nm,27.0s,MS3.4							
SSE				LR	LR		
comp=E,72nm,27.3s,MS3.4							
SSE				LR	LR		
comp=Z,181nm,28.1s,MS3.5							
SSE	**Sheshan**	**28.68**	**350**	P	**P**	**13 13 49.4**	**-3.3**
comp=Z,23nm,0.7s,mb5.0							
SSE				pP	pP	13 14 07.8	+5.4
SSE				sP	sP	13 14 17.5	+11
SSE				PcP	PcP	13 17 03.4	+0.4
SSE				S	**S**	**13 18 27.3**	**-11**
SSE				sS		13 18 59.6	
SSE				ScP		13 20 37.0	
SSE				LR	LR		
comp=Z,180nm,28.1s,MS3.5							
CTA	**Charters Tower**	**29.77**	**140**	P	**P**	**13 14 01.6**	**-0.9**
comp=Z,9.4nm,0.7s,mb4.6,baz=309,slow=14,SNR=3.6							
CTAO	**Charters Tower**	**29.77**	**140**	*eP*	**P**	**13 14 01.7**	**-0.8**
comp=Z,63nm,1.4s,mb5.2							
CTAO				*ep*P	pP	13 14 12.1	-0.1
CTAO	**Charters Tower**	**29.77**	**140**	*eP*	**P**	**13 14 01.7**	**-0.8**
CTAO				*e**PP	pP	13 14 12.1	-0.1
CTAO				pmax	pmax		
comp=Z,63nm,1.4s,mb5.2							
NANT	**Nan**	**29.96**	**304**	P	**P**	**13 14 03.0**	**-1.2**
WHN	**Wuhan**	**30.00**	**339**	*eP*	**P**	**13 14 05.3**	**+0.8**
NJ2	**Nanjing**	**30.07**	**347**	*eP*	**P**	**13 14 02.5**	**-2.6**
NJ2				PP	PP	13 14 58.3	-5.4
NJ2				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.6							
NJ2				AMB	AMB		
comp=Z,220nm,4.2s							
NJ2				LR	LR		
comp=N,530nm,13.0s							
NJ2				LR	LR		
comp=E,430nm,19.3s							
JNU	**Nakatsue**	**30.51**	**7**	P	**P**	**13 14 09.0**	**0.0**
comp=E,12nm,0.8s,mb4.8,baz=202,slow=13,SNR=7.4							
CHG	**Chiang Mai**	**31.43**	**303**	P	**P**	**13 14 17.3**	**0.0**
ENH	**Enshi**	**31.84**	**331**	*eP*	**P**	**13 14 19.9**	**-0.8**
comp=E,15nm,0.9s,mb4.8							
KMI	**Kunming**	**32.00**	**316**	P	**P**	**13 14 23.1**	**+0.9**
KMI				AP	pP	13 14 30.5	-1.4
KMI				XP	sP	13 14 34.6	-1.7
KMI				AMB	AMB		
comp=Z,7.0nm,1.0s,mb4.5							
KMI				AMB	AMB		
comp=Z,47nm,3.1s							
KMI				LR	LR		
comp=N,150nm,19.1s,MS3.9							
KMI				LR	LR		
comp=E,180nm,16.7s,MS3.9							
KMI				LR	LR		
comp=Z,272nm,27.4s							
KMI	**Kunming**	**32.00**	**316**	P	**P**	**13 14 23.1**	**+0.9**
comp=Z,7.0nm,1.0s,mb4.5

STKA **Stephens Creek 37.24 159** ⇓*i*P P **13 15 06.2 -0.8**
comp=Z,28nm,0.6s,mb5.3
STKA **Stephens Creek 37.24 159** P P **13 15 05.5 -1.4**
comp=Z,34nm,0.6s,mb5.3,baz=332,slow=8.8,SNR=42
LZH **Lanzhou 39.30 330** ⇓P P **13 15 24.5 +0.4**
LZH AP pP 13 15 27.8 -6.2
LZH AMB AMB
comp=Z,35nm,1.3s,mb4.9
LZH AMB AMB
comp=Z,95nm,5.8s
LZH LR LR
comp=N,383nm,13.3s
LZH LR LR
comp=Z,495nm,17.2s,MS4.4
LZH **Lanzhou 39.30 330** ⇓P P **13 15 24.5 +0.4**
comp=Z,35nm,1.3s,mb4.9
LZH pP pP 13 15 27.8 -6.2
LZH sP sP 13 15 29.3 -8.9
LZH PP PP 13 16 27.5 -31
LZH LR LR
comp=Z,500nm,17.2s,MS4.4
LZH **Lanzhou 39.30 330** ⇓P P **13 15 24.5 +0.4**
LZH pmax pmax
comp=Z,35nm,1.3s,mb4.9
LZH MLR MLR
comp=Z,500nm,17.2s,MS4.4
CN2 **Changchun 40.92 359** *e*P P **13 15 38.1 +0.6**
MDJ **Mudanjiang 41.81 3** P P **13 15 45.8 +1.0**
MDJ SCS ScS 13 25 44.0 +1.2
MDJ AMB AMB
comp=Z,29nm,1.0s,mb4.9
MDJ LR LR
comp=N,110nm,27.2s,MS3.7
MDJ LR LR
comp=E,113nm,31.9s,MS3.7
MDJ LR LR
comp=Z,185nm,27.2s,MS3.8
MDJ **Mudanjiang 41.81 3** *e*P P **13 15 45.3 +0.5**
comp=Z,29nm,1.0s,mb4.9
MDJ *es*P sP 13 15 59.2 +0.3
LSA **Lhasa 43.01 312** P P **13 15 56.0 +1.2**
ASAJ **Asahikawa 43.59 17** P P **13 16 00.7 +1.3**
comp=Z,10nm,0.7s,mb4.7,baz=174,slow=3.8,SNR=13
GTA **Gaotai 43.89 330** *e*P P **13 16 02.0 +0.1**
GTA AP pP 13 16 07.9 -3.9
GTA XP sP 13 16 11.3 -4.7
GTA AMB AMB
comp=Z,6.0nm,1.0s,mb4.3
GTA AMB AMB
comp=Z,83nm,6.1s
GTA LR LR
comp=N,229nm,23.9s,MS4.2
GTA LR LR
comp=E,204nm,20.5s,MS4.2
GTA LR LR
comp=Z,423nm,24.0s,MS4.3
PALK **Pallekele 45.92 277** P P **13 16 19.7 +1.3**
YSS **Yuzh-Sakhalins 46.25 15** *e*P P **13 16 20.9 +0.4**
comp=Z,12nm,1.0s,mb4.8
YSS LR LR
comp=Z,206nm,22.0s,MS4.0
YSS **Yuzh-Sakhalins 46.25 15** *e*P P **13 16 20.0 -0.5**
YSS *e* pP 13 16 32.0 +1.5
YSS *e* 13 17 56.0
PKI **Pulchoki 46.45 306** *e*P P **13 16 21.0 -1.4**
comp=Z,40nm,1.2s,mb5.2
PKI **Pulchoki 46.45 306** *e*P P **13 16 21.0 -1.4**
PKI pmax pmax
comp=Z,20nm,1.2s,mb4.9
KLR **Kul'dur 46.55 5** *e*P P **13 16 20.0 -2.8**
KKN **Kakani 46.64 306** *e*P P **13 16 22.6 -1.3**
comp=Z,37nm,0.9s,mb5.3
KKN **Kakani 46.64 306** *e*P P **13 16 22.6 -1.3**
KKN pmax pmax
comp=Z,18nm,0.9s,mb5.0
DMN **Daman 46.71 306** *e*P P **13 16 23.3 -1.1**
comp=Z,31nm,0.9s,mb5.3
HIA **Hailar 46.74 354** *es*P sP 13 16 40.1 +1.6
HIA *e*PcP PcP 13 17 58.7 +0.8
HIA *e*PP PP 13 18 16.2 +2.2
HIA LR LR
comp=Z,206nm,21.0s,MS4.1
GKN **Gorkha 47.25 306** *e*P P **13 16 27.4 -1.3**
comp=Z,51nm,1.1s,mb5.3
KOLN **Koldanda 47.99 306** *e*P P **13 16 33.0 -1.5**
comp=Z,42nm,0.8s,mb5.5
SONM **Songino Array 48.21 342** P P **13 16 35.6 -0.3**
comp=Z,4.4nm,0.8s,mb4.6,baz=154,slow=8.1,SNR=25
SONM PcP PcP 13 18 02.9 -0.3
comp=Z,2.8nm,0.9s,baz=165,slow=4.5,SNR=4.2
HYB **Hyderabad 49.33 291** *i* P P **13 16 44.0 -1.0**
HYB **Hyderabad 49.33 291** *e*P P **13 16 44.0 -1.0**
NGP **Nagpur 49.74 296** *e*P P **13 16 48.1 +0.1**
NGP AMb AMB 13 16 51.0
comp=Z,28nm,1.0s,mb5.2
CIT **Chita 50.33 350** *e*P P **13 16 51.3 -0.8**
CIT pmax pmax
comp=Z,33nm,1.3s,mb5.2
ZAK **Zakamensk 51.43 341** *e*P P **13 16 59.5 -1.0**
ZAK pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
AGRA **Agra 52.48 303** *e*P P **13 17 04.7 -4.0**
AGRA AMb AMB 13 17 05.3
comp=Z,54nm,0.3s,mb5.9
IRK **Irkutsk 52.75 343** *e*P P **13 17 08.6 -1.7**
BISR **Bishrakh 53.34 304** *e*P P **13 17 12.0 -3.1**
BISR AMb AMB 13 17 13.1
comp=Z,108nm,0.3s
WMQ **Urumqi 53.47 326** *e*P P **13 17 15.0 -0.9**
WMQ AP pP 13 17 25.0 -1.0
WMQ AMB AMB
comp=Z,11nm,1.0s,mb4.7
SONA **Sohna 53.53 303** *e*P P **13 17 15.1 -1.4**
SONA AMb AMB 13 17 17.2
comp=Z,34nm,1.1s,mb5.2
NDI **New Delhi 53.56 304** *e*x x 13 18 29.4
CLNS **Chul'man 53.98 359** *e*P P **13 17 18.2 -1.2**
CLNS pmax pmax
comp=Z,14nm,0.9s,mb4.9
CLNS pmax pmax
comp=N,14nm,1.2s
CLNS pmax pmax
comp=E,8.0nm,0.8s
RTK **Rohtak 54.34 304** *e*x x 13 17 15.6
KHET **Khetri 54.54 303** *i* P P **13 17 23.1 -0.9**
BOD **Bodaibo 55.84 352** *e*P P **13 17 32.7 -0.2**
BOD pmax pmax
comp=Z,8.0nm,1.6s,mb4.5
MK02 **Makanchi Array 58.28 326** P P **13 17 50.0 -0.4**
MK02 pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
MKAR **Makanchi Array 58.30 326** P P **13 17 50.0 -0.5**
comp=Z,2.7nm,0.5s,mb4.5,baz=118,slow=8.0,SNR=20
JASL **Jaisalmer 58.40 300** *e*P P **13 17 48.5 -3.1**
YAK **Yakutsk 59.22 2** ⇓*i*P P **13 17 56.7 0.0**
comp=Z,43nm,0.9s,mb5.5
YAK *e*pP pP 13 18 08.5 +1.6
YAK *es*P sP 13 18 12.3 +1.5
YAK *e*PcP PcP 13 18 44.7 +0.2
YAK *es*ScP 13 22 43.0
YAK **Yakutsk 59.22 2** ⇓*i*P P **13 17 56.7 0.0**
YAK *e**PP pP 13 18 08.5 +1.6
YAK *e**SP sP 13 18 12.3 +1.5
YAK *e* 13 18 44.7
YAK pmax pmax
comp=Z,43nm,0.9s,mb5.5
MA2 **Magadan 59.71 14** ⇓*i*P P **13 18 00.7 +0.6**
comp=Z,19nm,1.0s,mb5.1
MA2 *e*pP pP 13 18 10.8 +0.5
MA2 **Magadan 59.71 14** ⇓*i*P P **13 18 00.7 +0.6**
MA2 *e**PP pP 13 18 10.9 +0.6
MA2 pmax pmax
comp=Z,19nm,1.0s,mb5.1
AAK **Ala-Archa 61.01 318** *e*P P **13 18 09.8 +0.6**
comp=Z,5.9nm,0.9s,mb4.7
AAK *e*pP pP 13 18 19.8 +0.4
AAK *es*P sP 13 18 24.5 +1.1
AAK LR LR
comp=Z,24nm,19.0s,MS3.4
AAK **Ala-Archa 61.01 318** *e*P P **13 18 09.9 +0.6**
AAK *e**PP pP 13 18 19.8 +0.3
AAK *e**SP sP 13 18 24.5 +1.1
AAK pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
AAK MLR MLR
comp=Z,24nm,19.0s,MS3.4
ZAL **Zalesovo 61.42 333** P P **13 18 10.4 -1.5**
comp=Z,3.2nm,0.5s,mb4.7,baz=278,slow=4.0,SNR=5.7
KURK **Kurchatov 62.52 328** ⇓*i*P P **13 18 18.3 -0.9**
comp=Z,21nm,0.8s,mb5.3
KURK *es*P sP 13 18 33.1 -0.2
KURK PP PP 13 20 36.9 -1.8
KURK **Kurchatov 62.52 328** ⇓*i*P P **13 18 18.3 -0.9**
KURK *e**SP sP 13 18 33.1 -0.2
KURK 13 20 36.9
KURK pmax pmax
comp=Z,21nm,0.8s,mb5.3
NVS **Novosibirsk 62.71 333** *e*P P **13 18 18.4 -2.0**
NVS *e* 13 26 43.5
NVS pmax pmax
comp=Z,11nm,0.9s,mb5.0
NVS pmax pmax
comp=N,7.0nm,1.2s
NVS pmax pmax
comp=E,6.0nm,0.8s
FX1 **Attu Island--F 63.02 30** *e*P P **13 18 21.3 -1.3**
FX1 *ep*P pP 13 18 32.8 0.0
SEY **Seymchan 63.04 13** *e*P P **13 18 23.6 +1.0**
SEY 13 20 44.8
SEY *es* S **13 26 43.8 -5.3**
SEY *e**SS 13 27 15.2
SEY 13 28 06.3
SEY SS SS 13 30 59.3 +2.3
SEY *e*SSS SSS 13 33 37.7 -4.5
SEY pmax pmax
comp=N,10.0nm,0.9s
SEY pmax pmax
comp=Z,20nm,0.9s,mb5.2
SEY pmax pmax
comp=E,4.0nm,0.8s
SEY MLR MLR
comp=N,110nm,25.0s
SEY MLR MLR
comp=Z,210nm,25.0s,MS4.2
SEY MLR MLR
comp=E,40nm,19.0s
KKAR **Karatay Array 63.88 317** *i* P P **13 18 27.8 -0.5**
KKAR pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
VOSK **Vostochnaya 67.63 327** P P **13 18 50.8 -1.3**
VOSK pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
BVA0 **Borovoye Array 68.09 327** P P **13 18 53.5 -1.5**
BVA0 pmax pmax
comp=Z,3.0nm,1.6s,mb4.1
BVAR **Borovoye Array 68.09 327** P P **13 18 54.3 -0.6**
comp=Z,5.7nm,0.9s,mb4.6,baz=129,slow=9.5,SNR=11
BRVK **Borovoye 68.16 327** ⇓*i*P P **13 18 55.2 -0.3**
comp=Z,4.9nm,0.8s,mb4.6
BRVK sP sP 13 19 10.2 +0.7
BRVK **Borovoye 68.16 327** ⇓*i*P P **13 18 55.2 -0.2**
BRVK *SP sP 13 19 10.2 +0.6
BRVK pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
TIXI **Tiksi 68.85 1** *i* P P **13 18 59.4 0.0**
TIXI pmax pmax
comp=Z,22nm,1.7s,mb4.8
BILL **Bilibino 70.56 15** ⇓*i*P P **13 19 10.1 +0.2**
BILL pmax pmax
comp=Z,11nm,1.7s,mb4.5
AB31 **Akbulak array 72.84 321** P P **13 19 24.2 +0.3**
AB31 pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
MIR **Mirnyy 73.15 193** *e*P P **13 19 26.0 +0.7**
MIR pmax pmax
comp=Z,34nm,1.6s,mb5.0
AKTO **Aktyubinsk 74.36 322** P P **13 19 32.7 0.0**
AKTO pmax pmax
comp=Z,3.0nm,1.2s,mb4.1
SVE **Sverdlovsk 74.75 329** *e*P P **13 19 35.0 +0.2**
SVE *e* pP 13 19 44.0 -1.2
SVE pmax pmax
comp=Z,40nm,1.3s,mb5.2
ARU **Arti 75.71 328** *e*P P **13 19 39.9 -0.5**
comp=Z,7.6nm,0.5s,mb4.9
ARU **Arti 75.71 328** ⇑*i*P P **13 19 39.8 -0.5**
ARU *e*S S 13 29 09.0 -9.3
ARU pmax pmax
comp=Z,23nm,1.1s,mb5.0
OPO **Ambohidratompo 80.83 251** P P **13 20 10.3 +1.1**
comp=Z,3.8nm,0.9s,mb4.3,baz=92,slow=7.9,SNR=6.2
TTA **Tatalina 81.86 27** *e*P P **13 20 15.3 +1.6**
comp=Z,36nm,1.4s,mb5.1
TTA **Tatalina 81.86 27** *e*P P **13 20 15.3 +1.6**
TTA pmax pmax
comp=Z,36nm,1.4s,mb5.1
GNI **Garni 82.02 310** *e*P P **13 20 14.6 -0.4**
comp=Z,29nm,1.5s,mb5.0
GNI **Garni 82.02 310** *i* P P **13 20 14.3 -0.7**
GNI pmax pmax
comp=Z,17nm,1.7s
VNDA **Vanda 82.45 173** P P **13 20 16.9 +0.4**
comp=Z,6.5nm,0.9s,mb4.5,baz=319,slow=5.7,SNR=33
VNDA **Vanda 82.45 173** P P **13 20 16.9 +0.4**
MAW **Mawson 82.76 200** P P **13 20 19.3 +1.0**
comp=Z,2.1nm,0.6s,mb4.3,baz=12,slow=14,SNR=3.4
ZEI **Tsey 82.80 313** *e*P P **13 20 18.0 -0.9**
ZEI pmax pmax
comp=Z,5.0nm,0.5s,mb4.8
IMA **Indian Mountai 83.36 24** *e*P P **13 20 23.6 +2.3**
comp=Z,70nm,0.8s,mb5.7
IMA **Indian Mountai 83.36 24** *e*P P **13 20 23.6 +2.3**
IMA pmax pmax
comp=Z,70nm,0.8s,mb5.7
SBA **Scott Base 83.36 172** *e*P P **13 20 22.8 +1.6**
comp=Z,12nm,1.2s,mb4.8
SBA *es*P sP 13 20 36.8 +1.5
SBA **Scott Base 83.36 172** *e*P P **13 20 22.8 +1.7**
SBA *e**SP sP 13 20 36.8 +1.5
SBA pmax pmax
comp=Z,12nm,1.2s,mb4.8
SPU **Mount Spurr 83.45 29** *e*P P **13 20 22.8 +0.9**
KIV **Kislovodsk 83.73 314** *ce*P P **13 20 27.8 +4.1**
KIV pmax pmax
comp=Z,6.0nm,0.7s,mb4.8
SLKM **Skilak Lake 84.28 30** *e*P P **13 20 27.1 +1.0**
SLKM *ep*P pP 13 20 37.4 +0.7
PMR **Palmer 84.89 29** *e*P P **13 20 30.1 +1.0**
comp=Z,27nm,1.0s,mb5.3
PMR **Palmer 84.89 29** *e*P P **13 20 30.1 +1.0**
PMR pmax pmax
comp=Z,27nm,1.0s,mb5.3
MCK **McKinley 85.12 26** *e*P P **13 20 30.5 +0.3**
comp=Z,10nm,1.1s,mb4.9
MCK *es*P sP 13 20 46.2 +1.9
MCK **McKinley 85.12 26** *e*P P **13 20 30.5 +0.3**
MCK *e**SP sP 13 20 46.2 +1.9
MCK pmax pmax
comp=Z,10.0nm,1.1s,mb4.9
SML **Sawmill 85.28 28** ⇓*i*P P **13 20 32.6 +1.5**
ILAR **Eielson Array 86.07 25** P P **13 20 35.0 +0.2**
comp=Z,0.9nm,0.7s,mb4.1,baz=242,slow=5.6,SNR=13
ILAR PP PP 13 23 54.5 -2.4
comp=Z,0.8nm,1.1s,baz=252,slow=5.8,SNR=5.7
VRSR **Storozhevoye 86.27 321** *e*P P **13 20 36.4 +0.3**
DIV **Divide 86.49 29** *e*P P **13 20 38.0 +1.1**
comp=Z,58nm,1.0s,mb5.8
DIV PP PP 13 23 59.4 -1.4
MALT **Malatya 86.89 308** *e*P P **13 20 40.8 +1.3**
comp=Z,11nm,0.9s,mb5.1
MALT PcP PcP 13 20 43.1 +1.0
MALT **Malatya 86.89 308** *e*P P **13 20 40.8 +1.3**
MALT pmax pmax
comp=Z,11nm,0.9s,mb5.1
ANN **Anapa 87.51 315** *e*P P **13 20 41.4 -0.9**
ANN pmax pmax
comp=Z,64nm,1.3s,mb5.7
OBN **Obninsk 87.80 325** *i* P P **13 20 43.9 +0.4**
OBN pmax pmax
comp=Z,45nm,1.3s,mb5.5
DAWY **Dawson 89.34 26** ⇓*i*P P **13 20 51.9 +1.3**
DAWY *ep*P pP 13 21 01.7 +0.4
DAWY PP PP 13 24 21.6 -2.4
KMBO **Kilima Mbogo 89.39 269** P P **13 20 54.1 +2.0**
comp=Z,4.5nm,1.1s,mb4.7,baz=52,slow=6.5,SNR=8.6
KMBO LR LR 13 55 16.1
comp=Z,78nm,20.7s,MS4.1,baz=100,slow=32
BRTR **Keskin Array B 90.56 310** P P **13 20 57.1 +0.3**
comp=Z,2.7nm,0.9s,mb4.6,baz=117,slow=5.5,SNR=8.6
INK **Inuvik 91.15 21** *e*P P **13 20 59.1 +0.1**
comp=Z,13nm,1.3s,mb5.1
INK *e*pP pP 13 21 11.1 +1.4
INK **Inuvik 91.15 21** *e*P P **13 20 59.1 +0.1**
INK *e**PP pP 13 21 11.1 +1.4
INK pmax pmax
comp=Z,13nm,1.3s
ARCES **ARCESS Array B 91.34 340** P P **13 20 59.2 -0.7**
comp=Z,1.7nm,0.7s,mb4.5,baz=63,slow=5.4,SNR=6.1
AKASG **Malin Array Be 92.58 321** P P **13 21 05.1 -0.9**
comp=Z,1.2nm,0.6s,mb4.5,baz=66,slow=4.2,SNR=5.3
FINES **FINESS Array B 92.65 332** P P **13 21 08.1 +2.0**
comp=Z,1.7nm,0.9s,mb4.5,baz=309,slow=39,SNR=3.5
DLBC **Dease Lake 94.68 31** LR LR 13 57 42.6
comp=Z,114nm,20.9s,MS4.3,baz=305,slow=32
DLBC **Dease Lake 94.68 31** *e*P P **13 21 16.5 +1.2**
MLR **Muntele Rosu 95.53 316** P P **13 21 20.7 +1.2**
comp=Z,1.1nm,0.6s,mb4.5,baz=322,slow=3.1,SNR=4.4
BBB **Bella Bella 97.19 37** LR LR 14 01 09.9
comp=Z,52nm,20.2s,MS4.0,baz=45,slow=33
YKA **Yellowknife Ar 100.47 24** P P 13 21 42.5 +1.0
comp=Z,0.5nm,0.5s,baz=300,slow=5.0,SNR=5.6
YKA **Yellowknife Ar 100.47 24** P P 13 21 42.5 +1.0
DGMT **Dagmar 112.65 34** *e*PKPdf PKPdf 13 26 32.0 +2.3
MNTX **Cornudas Mount 119.99 51** *e*PKPdf PKPdf 13 26 47.4 +2.9
TXAR **Lajitas Array 122.32 53** PKP PKPdf 13 26 51.6 +2.6
comp=Z,0.9nm,0.8s,baz=205,slow=0.9,SNR=9.6
WMOK **Wichita Mounta 123.45 45** *e*PKPdf PKPdf 13 26 53.0 +1.9
QUA2 **Belchertown 132.03 19** *e*Pdif Pdif 13 24 04.2 +3.1
SDV **Santo Domingo 159.32 56** *e*PKPdf PKPdf 13 27 53.3 +0.9
LPAZ **La Paz 160.21 134** PKP PKPdf 13 27 57.0 +3.8
comp=Z,1.2nm,0.9s,baz=302,slow=2.3,SNR=4.3
LPAZ PKPab PKPab 13 28 37.1 +1.2
comp=Z,1.5nm,0.9s,baz=209,slow=2.7,SNR=6.7

MAN 16 13:12:38.2, 12.89N×120.94E, h19km, mb4.7, ML3.6, MS3.5, 3C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJMP	**San Jose**	**0.46**	**158**	*e*P	Pb	13 12 47.7	+0.2
SJMP				*e*S	Sb	13 12 56.1	+2.4
PGP	**Puerto Galera**	**0.61**	**1**	⇑*i*P	Pb	13 12 47.1	-3.0
PGP				*i* S	Sb	13 12 55.3	-2.8
BOAC	**Boac**	**1.04**	**57**	*e*P	Pb	13 12 55.2	-2.3
BOAC				*e*S	Sb	13 13 09.0	-1.7
LUBP	**Lubang**	**1.08**	**321**	*e*P	Pb	13 12 57.3	-0.7
LUBP				*e*S	Sb	13 13 12.4	+0.6
BUSP	**Coron**	**1.14**	**220**	*e*P	Pb	13 12 59.1	0.0
BUSP	**Coron**	**1.14**	**220**	*e*P	Pb	13 12 59.1	0.0
BUSP	**Coron**	**1.14**	**220**	*e*P	Pb	13 12 59.1	0.0
BUSP				*e*S	Sb	13 13 14.8	+1.3
OTRP	**Odiongan**	**1.18**	**116**	*e*P	Pb	13 12 59.0	-0.7
OTRP				*e*S	Sb	13 13 15.3	+0.8
TGY	**Tagaytay City**	**1.21**	**360**	⇑*i*P	Pb	13 12 59.5	-0.7
TGY				*i* S	Sb	13 13 15.2	-0.2
AUQP	**San Andres**	**1.74**	**75**	*e*P	Pn	13 13 07.2	-0.7
GQP	**Guinayangan**	**1.78**	**55**	⇑*e*P	Pn	13 13 08.7	+0.3
GQP				*e*S	Sn	13 13 36.7	+6.0
CUYO	**Cuyo Island**	**2.03**	**178**	*e*P	Pn	13 13 10.8	-1.2
CUYO				*e*S	Sn	13 13 37.1	+0.2
POLP	**Polilio Island**	**2.07**	**28**	*e*P	Pn	13 13 12.6	0.0
POLP				*e*S	Sn	13 13 39.8	+1.7
ENPP	**El Nido**	**2.24**	**222**	*e*P	Pn	13 13 14.4	-0.6
ENPP				*e*S	Sn	13 13 41.4	-0.9
PCPH	**Palayan**	**2.66**	**3**	*e*P	Pn	13 13 20.0	-1.1
PCPH				*e*S	Sn	13 13 50.6	-2.5
GUIM	**Jordan**	**2.77**	**144**	*e*P	Pn	13 13 22.4	-0.1
GUIM				*e*S	Sn	13 13 56.4	+0.7
BALP	**Baler**	**2.90**	**12**	*e*P	Pn	13 13 25.4	+0.9
BALP				*e*S	Sn	13 14 08.2	+9.0
SCZP	**Santa Cruz**	**3.04**	**341**	*e*P	Pn	13 13 24.2	-2.2
SCZP				*e*S	Sn	13 14 04.2	+1.6
PVCP	**Virac**	**3.21**	**77**	*e*P	Pn	13 13 26.7	-2.1
PVCP				*e*S	Sn	13 14 13.2	+6.4
BOLP	**Bolinao**	**3.61**	**344**	*e*P	Pn	13 13 34.8	+0.2
CAUP	**Cauayan**	**4.12**	**12**	*e*P	Pn	13 13 47.7	+5.9
CAUP				*e*S	Sn	13 14 07.6	-22
ABRA	**Dolores**	**4.74**	**357**	*e*P	Pn	13 13 43.0	-7.5
ABRA				*e*S	Sn	13 14 53.9	+8.2
APYP	**Conner**	**4.95**	**3**	*e*P	Pn	13 13 57.9	+4.3
APYP				*e*S	Sn	13 14 53.3	+2.2
IPIL	**Ipil**	**5.32**	**162**	*e*P	Pn	13 13 56.0	-2.7
IPIL				*e*S	Sn	13 14 58.0	-2.2
PAGZ	**Pagadian**	**5.55**	**154**	*e*P	Pn	13 14 02.8	+0.8

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*IDC **16** 13:22:34.4±1.3, 2.61N×126.58E, mb3.8/5, mb1 4.0/5, mb1mx3.8/17, mbtmp3.9/5, Error ellipse: s-maj=98.9km s-min=19.9km az=71.0*
*NEIC **16** 13:22:35.5±0.7, 2.72N×126.90E, h10km, mb4.4/2, Error ellipse: s-maj=58.1km s-min=10.5km az=71.0*
ISC 16 13:22:37.3±1.0, 2.6N±0.2×126.5E±0.5, h33km, n7, σ0≈36/7, mb4.0/6, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.61**	**182**	P	**P**	**13 27 16.6**	**+0.1**
	5.3nm,0.6s,baz=5.9,slow=8.3,SNR=9.0						
WRAB	**Tennant Creek**	**23.69**	**161**	*e*P	**P**	**13 27 47.5**	**+0.4**
	6.4nm,0.7s,mb4.2						
WRA	**Warramunga Arr**	**23.69**	**161**	P	**P**	**13 27 47.4**	**+0.2**
	1.4nm,0.4s,mb3.7,baz=338,slow=10,SNR=36						
STKA	**Stephens Creek**	**37.17**	**159**	P	**P**	**13 29 46.5**	**-0.7**
	1.3nm,0.4s,mb4.1,baz=329,slow=11,SNR=4.1						
SONM	**Songino Array**	**48.28**	**342**	P	**P**	**13 31 17.7**	**+0.4**
	0.4nm,0.7s,mb3.6,baz=153,slow=8.8,SNR=4.3						
MKAR	**Makanchi Array**	**58.35**	**326**	P	**P**	**13 32 31.5**	**-0.2**
	0.7nm,0.6s,mb3.9,baz=119,slow=8.5,SNR=7.2						
KURK	**Kurchatov**	**62.57**	**328**	*e*P	**P**	**13 33 00.2**	**-0.2**
	2.2nm,0.6s,mb4.5						

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*PRU **16** 13:29:15.6, 50.35N×18.86E*
*NEIC **16** 13:29:15.9±1.6, 50.36N×18.82E, h5km, MG2.5(WAR), Error ellipse: s-maj=23.8km s-min=9.1km az=174.0*
WAR 16 13:29:15.5, 50.36N×18.91E, h0km, ML2.4, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.59**	**104**	*e*PG	Pg	13 29 27.0	-0.2
OJC				*e*SG	Sg	13 29 36.0	+0.9
OKC	**Ostrava-Krasne**	**0.72**	**223**	*e*PG	Pg	13 29 29.2	-0.7
OKC				*e*SG	Sg	13 29 39.3	-0.1
	6.7nm,0.2s						
MORC	**Moravsky Berou**	**1.06**	**237**	*e*P	Pb	13 29 34.3	-2.0
DPC	**Dobruska-Polom**	**1.66**	**271**	*e*PG	Pg	13 29 45.2	-3.4
DPC				*e*SG	Sg	13 30 06.8	-3.9
	4.1nm,0.3s						
KSP	**Ksiaz**	**1.73**	**287**	*e*PG	Pg	13 29 48.0	-2.1
KSP				*e*SN	Sn	13 30 08.0	-2.2
KSP				*e*SG	Sg	13 30 12.0	-1.3
STHS	**Stebnicka Huta**	**1.78**	**121**	*e*PG	Pg	13 29 49.7	-1.4
STHS				*e*SG	Sg	13 30 14.7	-0.1
VYHS	**Vyhne**	**1.87**	**181**	*e*PG	Pg	13 29 48.5	-4.4
VYHS				*e*SG	Sg	13 30 13.9	-3.9
KECS	**Kecovo**	**2.15**	**151**	*e*PG	Pg	13 29 55.7	-2.6
KECS				*e*SG	Sg	13 30 26.6	-0.3
KHC	**Kasperske Hory**	**3.67**	**252**	*e*SG	Sg	13 31 11.6	-6.1
	2.7nm,0.4s						

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*IDC **16** 13:35:11.5±4.7, 29.29N×142.18E, mb3.4/3, mb1 3.6/5, mb1mx3.5/20, mbtmp3.5/5, ML3.2/2, Error ellipse: s-maj=176.5km s-min=25.1km az=74.0*
*JMA **16** 13:35:12.7±0.3, 29.46N×142.41E, h47km, M3.7*
ISC 16 13:35:14.0±1.5, 29.45N±0.10×142.1E±0.4, h33km, n11, σ1≈19/15, mb3.5/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.35**	**178**	*e*S	**S**	**13 36 17.8**	**-1.1**
JHJ2	**Mitsune**	**4.13**	**333**	P	**P**	**13 36 17.2**	**+0.8**
JHJ2				*e*S	**S**	**13 37 05.0**	**+0.8**
JHJ	**Hachijo jima 2**	**4.15**	**332**	Pn	**Pn**	**13 36 16.8**	**0.0**
	2.0nm,0.3s,baz=70,slow=22,SNR=7.5						
JHJ				Sn	**Sn**	**13 37 03.5**	**-1.4**
	3.2nm,0.3s,baz=261,slow=23,SNR=2.7						
JHU	**Hanno**	**6.80**	**340**	P	**P**	**13 36 53.9**	**-0.1**
JHU				*e*S	**S**	**13 38 10.1**	**-1.1**
JRY	**Ryogami san**	**7.07**	**339**	P	**P**	**13 36 58.4**	**+0.6**
JHO	**Hitachi**	**7.25**	**350**	*e*S	**S**	**13 38 15.4**	**-7.0**

MJAR Matsushiro Arr 7.78 336 Pn **Pn 13 37 08.1 +0.2**
0.7nm,0.3s,baz=161,slow=11,SNR=15
MAT Matsushiro 7.78 336 P **P 13 37 08.2 +0.5**
MAT S **S 13 38 33.4 -2.2**
SONM Songino Array 32.99 314 P **P 13 41 50.4 +2.5**
0.4nm,0.6s,mb3.5,baz=113,slow=9.1,SNR=5.0
MKAR Makanchi Array 48.93 308 P **P 13 44 00.8 +2.0**
0.2nm,0.5s,mb3.4,baz=104,slow=5.9,SNR=2.6
WRA Warramunga Arr 49.67 190 P **P 13 44 03.8 -1.0**
0.2nm,0.4s,mb3.5,baz=7.3,slow=7.7,SNR=7.2

MAN 16 13:43:30.6, 7.41N×126.87E, h15km, mb4.7, ML3.6, MS3.6, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.76**	**233**	*e*P	Pb	13 43 45.0	+0.1
MATI				*e*S	Sb	13 43 53.9	-0.9
BIPH	**Bislig**	**0.92**	**327**	↑*i*P	Pb	13 43 48.2	+0.4
BIPH				*i* S	Sb	13 43 59.1	-0.5
BUKP	**Musuan**	**1.85**	**285**	*e*P	Pn	13 44 01.8	-0.3
BUKP				*e*S	Sn	13 44 26.0	+0.6
BUTP	**Butuan**	**1.98**	**322**	*e*P	Pn	13 44 03.8	-0.2
BUTP				*e*S	Sn	13 44 31.2	+2.5
PAGZ	**Pagadian**	**3.48**	**277**	*e*P	Pn	13 44 23.6	-1.8
CNP	**Cataram**	**5.52**	**337**	*e*P	Pn	13 44 54.6	+0.3
CNP				*e*S	Sn	13 45 57.4	-0.8

*ISK **16** 13:52:37.4, 39.45N×33.18E, h4km, MD3.6, ML3.6*
*CSEM **16** 13:52:37.4, 39.45N×33.18E, h4km, MD3.6, After ISK*
ISC 16 13:52:38.0±0.4, 39.44N±0.03×33.16E±0.03, h4km, n27, σ0§70/33, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAMT	**Kaman**	**0.43**	**100**	*i* PG	**Pg**	**13 52 46.3**	**-0.4**
ANTO	**Ankara**	**0.51**	**326**	PG	**Pg**	**13 52 47.3**	**-0.9**
ANTO				SG	**Sg**	**13 52 56.0**	**+1.0**
LOD	**Lodumlu**	**0.54**	**325**	PG	**Pg**	**13 52 48.6**	**-0.2**
KIZT	**Kizilcal**	**1.15**	**241**	PN	**Pn**	**13 52 59.1**	**-1.6**
KIZT				SN	**Sn**	**13 53 17.2**	**+0.2**
CANT	**Cankiri**	**1.21**	**17**	PN	**Pn**	**13 53 00.8**	**-0.9**
CORM	**Corum**	**1.35**	**57**	PN	**Pn**	**13 53 03.7**	**+0.1**
SGKT	**Sivrigoynuk**	**1.41**	**323**	*i* P	**Pn**	**13 53 03.8**	**-0.8**
SGKT				*i* S	**Sb**	**13 53 27.6**	**+4.8**
AVNT	**Avonos**	**1.48**	**116**	*i* P	**Pn**	**13 53 06.0**	**+0.6**
AVNT				*i* S	**Sb**	**13 53 25.2**	**+0.6**
KONT	**Konya--Tatoy**	**1.62**	**203**	PN	**Pn**	**13 53 07.8**	**+0.3**
YOZ	**Yozgat**	**1.68**	**83**	PN	**Pn**	**13 53 08.0**	**-0.3**
CTKT	**Corum**	**1.72**	**46**	*i* P	**Pn**	**13 53 09.0**	**+0.1**
CTKT				*i* S	**Sn**	**13 53 33.2**	**+1.7**
TOS	**Tosya**	**1.72**	**22**	PN	**Pn**	**13 53 08.6**	**-0.3**
NIG	**Nigde**	**1.75**	**139**	PN	**Pn**	**13 53 09.2**	**-0.1**
ESKT	**Eskisehir**	**1.79**	**273**	PN	**Pn**	**13 53 09.7**	**-0.2**
ESKT	**Eskisehir**	**1.79**	**273**	*i* P	**Pn**	**13 53 09.6**	**-0.4**
ESKT				*i* S	**Sn**	**13 53 36.1**	**+2.7**
MDU	**Mudurnu**	**1.81**	**305**	PN	**Pn**	**13 53 10.3**	**+0.1**
SAFT	**Safranbolu**	**1.83**	**349**	PN	**Pn**	**13 53 10.9**	**+0.4**
BNN	**Bunyan**	**2.17**	**105**	PN	**Pn**	**13 53 15.5**	**+0.1**
ALT	**Altintas**	**2.40**	**262**	*e*PN	**Pn**	**13 53 19.0**	**+0.3**
HDMB	**Hadim**	**2.53**	**192**	*e*PN	**Pn**	**13 53 20.7**	**+0.1**
BZK	**Bozkurt**	**2.59**	**14**	*e*PN	**Pn**	**13 53 20.7**	**-0.7**
TOKT	**Tokat**	**2.75**	**70**	*e*PN	**Pn**	**13 53 23.5**	**-0.1**
SVSK	**Karacayir**	**3.00**	**80**	*e*PN	**Pn**	**13 53 27.0**	**-0.2**
KHL	**Karahalli**	**3.05**	**250**	*e*PN	**Pn**	**13 53 27.6**	**-0.4**
IKL	**Isikli**	**3.23**	**172**	*e*PN	**Pn**	**13 53 30.8**	**+0.4**
MALT	**Malatya**	**4.26**	**104**	*e*PN	**Pn**	**13 53 44.9**	**-0.2**
PTK	**Pertek**	**4.87**	**95**	*e*PN	**Pn**	**13 53 53.6**	**-0.2**

*CSEM **16** 13:53:32.4±0.1, 48.03N×27.64W, h10km, mb4.6/24, Ms3.6, Error ellipse: s-maj=4.5km s-min=1.4km az=8.0*
*IDC **16** 13:53:33.2±0.6, 47.95N×27.73W, mb4.2/20, mb1 4.3/22, mb1mx4.2/32, mbtmp4.2/22, ML4.3/2, MS3.8/22, Ms1 3.8/22, ms1mx3.6/35, Error ellipse: s-maj=17.8km s-min=12.2km az=176.0*
*NEIC **16** 13:53:34.7±0.2, 47.93N×27.64W, h10km, mb4.5/32, Error ellipse: s-maj=8.2km s-min=2.8km az=187.0*
ISC 16 13:53:32.7±0.3, 47.93N±0.09×27.65W±0.04, h10km, n130, σ0§77/114, mb4.4/45, MS3.7/24, 2D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGMF	**Saint Gilles**	**16.75**	**80**	*e*P	**P**	**13 57 25.0**	**-3.8**
	48nm,1.3s						
EKA	**Eskdalemuir Ar**	**16.85**	**55**	Pn	**P**	**13 57 30.8**	**+0.8**
	0.1nm,0.3s,baz=252,slow=10,SNR=10.0						
GRR	**Gorron**	**17.85**	**79**	*e*P	**P**	**13 57 39.7**	**-2.8**
FLN	**La Foliniere**	**18.05**	**77**	*e*P	**P**	**13 57 42.0**	**-3.0**
FLN				*e*R			
	756nm,20.2s						
LDF	**La Druitiere**	**18.31**	**78**	*e*P	**P**	**13 57 45.0**	**-3.2**
	35nm,1.4s						
ESDC	**Sonseca Array**	**18.93**	**107**	P	**P**	**13 57 56.2**	**+0.3**
	1.3nm,0.3s,baz=295,slow=13,SNR=13						
SJPF	**Ste Jean**	**19.09**	**95**	*e*P	**P**	**13 57 57.4**	**-0.3**
ETSF	**Etsaut**	**19.62**	**95**	*e*P	**P**	**13 58 04.2**	**+0.3**
LFF	**La Frestale**	**19.75**	**88**	*e*P	**P**	**13 58 04.8**	**-0.5**
RJF	**Les Rejaudoux**	**20.15**	**87**	*e*P	**P**	**13 58 08.9**	**-0.8**
RJF				*e*R			
	453nm,21.5s						
TCF	**Toulx Ste Croi**	**20.33**	**83**	*e*P	**P**	**13 58 11.4**	**-0.2**
	28nm,1.0s						
CAF	**Calviac**	**20.64**	**87**	*e*P	**P**	**13 58 14.0**	**-0.8**
	38nm,1.1s						
BGF	**Bois d'Agland**	**20.69**	**82**	*e*P	**P**	**13 58 14.8**	**-0.4**
	59nm,1.1s						
BAIF	**Baives**	**20.93**	**72**	*e*P	**P**	**13 58 17.0**	**-0.7**
	32nm,1.1s						
AVF	**Avril sur Loir**	**20.96**	**82**	*e*P	**P**	**13 58 17.8**	**-0.3**
	66nm,1.2s						
SSF	**Saint Saulge**	**21.00**	**81**	*e*P	**P**	**13 58 18.2**	**-0.3**
	17nm,1.0s,mb4.3						
LOR	**Lormes**	**21.19**	**80**	*e*P	**P**	**13 58 20.1**	**-0.2**
	51nm,1.3s,mb4.4						
LOR				*e*R			
	341nm,21.2s						
MTLF	**Montolieu**	**21.31**	**91**	*e*P	**P**	**13 58 21.6**	**0.0**
	54nm,1.5s,mb4.3						
GIVF	**Givet**	**21.32**	**72**	*e*P	**P**	**13 58 21.2**	**-0.5**
SMF	**Signal de Mont**	**21.33**	**82**	*e*P	**P**	**13 58 21.7**	**-0.1**
	135nm,1.6s,mb4.7						
MEZF	**Maizieres J'vi**	**21.71**	**76**	*e*P	**P**	**13 58 25.6**	**0.0**
LASF	**Ste Croix**	**22.14**	**88**	*e*P	**P**	**13 58 30.4**	**+0.5**
	25nm,1.2s,mb4.2						
VIVF	**Saint-Julien-l**	**22.41**	**86**	*e*P	**P**	**13 58 33.6**	**+0.9**
HAU	**Haudompre**	**22.66**	**77**	*e*P	**P**	**13 58 35.3**	**+0.3**
HAU				*e*R			
	525nm,20.0s						
CABF	**La Chapelle**	**22.83**	**81**	*e*P	**P**	**13 58 36.4**	**-0.3**
	35nm,1.0s,mb4.4						
HINF	**Hinteralfeld**	**23.03**	**77**	*e*P	**P**	**13 58 38.5**	**-0.1**
CDF	**Champ du Feu**	**23.18**	**76**	*e*P	**P**	**13 58 41.2**	**+1.1**
SMRF	**Simiane la Rot**	**23.33**	**87**	*e*P	**P**	**13 58 42.0**	**+0.5**
LPL	**La Plagne**	**23.58**	**83**	*e*P	**P**	**13 58 44.5**	**+0.5**
LPG	**La Plagne**	**23.60**	**83**	*e*P	**P**	**13 58 44.8**	**+0.7**
FRF	**La Foret Royal**	**24.20**	**88**	*e*P	**P**	**13 58 50.0**	**-0.1**
	17nm,0.9s,mb4.2						
JMIC	**Jan Mayen**	**24.85**	**15**	LR	LR	14 06 27.7	
	comp=Z,134nm,21.9s,MS3.4,baz=286,slow=31						
SCHQ	**Schefferville**	**25.15**	**301**	P	**P**	**13 58 58.6**	**-0.4**
	5.0nm,1.0s,mb4.0,baz=70,slow=12,SNR=5.7						
SCHQ				LR	LR	14 07 03.6	
	comp=Z,140nm,19.9s,MS3.5,baz=224,slow=32						
DAVOX	**Davos**	**25.29**	**78**	P	**P**	**13 59 02.7**	**+2.2**
	1.5nm,0.4s,mb3.9,baz=289,slow=13,SNR=5.4						
DAVOX				LR	LR	14 07 55.2	
	comp=Z,290nm,19.6s,MS3.8,baz=251,slow=34						
GRA1	**Grafenberg Arr**	**25.47**	**71**	*e*P	**P**	**13 59 03.0**	**+0.9**
	6.0nm,1.0s,mb4.1						
GRF	**Grafenberg Arr**	**25.47**	**71**	*e*P	**P**	**13 59 03.0**	**+0.9**
	6.0nm,1.0s,mb4.1						
GRF				LR	LR		
	comp=Z,300nm,20.6s,MS3.8						
MOX	**Moxa**	**25.55**	**69**	*i* P	**P**	**13 59 08.4**	**+5.5**
MOX				L		14 08 08.0	
MOX	**Moxa**	**25.55**	**69**	*e*P	**P**	**13 59 08.4**	**+5.5**
MOX				LR	LR		
	comp=Z,100nm,22.0s,MS3.3						
NOA	**NORSAR Array B**	**25.66**	**45**	P	**P**	**13 59 06.3**	**+2.5**
	comp=Z,2.1nm,0.9s,mb3.7,baz=259,slow=10.0,SNR=3.7						
CLL	**Collm**	**26.31**	**67**	*e**SP	sP	13 59 19.0	+4.8
BRG	**Berggiesshubel**	**26.97**	**68**	*e*P	**P**	**13 59 20.2**	**+4.2**
	comp=Z,4.8nm,1.0s,mb4.0						
KHC	**Kasperske Hory**	**27.09**	**72**	*e*P	**P**	**13 59 17.5**	**+0.4**
GERES	**GERESS Array B**	**27.24**	**72**	P	**P**	**13 59 18.9**	**+0.5**
	comp=Z,0.3nm,0.3s,mb3.3,baz=288,slow=13,SNR=6.0						
GERES				LR	LR	14 09 47.7	
	comp=Z,376nm,19.4s,MS4.0,baz=330,slow=36						
VRAC	**Vranov**	**28.97**	**71**	LR	LR	14 10 33.9	
	comp=Z,299nm,20.9s,MS3.9,baz=94,slow=35						
FINES	**FINESS Array B**	**32.84**	**46**	P	**P**	**14 00 07.8**	**-0.3**
	comp=Z,3.9nm,1.1s,mb4.3,baz=256,slow=7.9,SNR=3.6						
FINES				LR	LR	14 12 29.2	
	comp=Z,138nm,20.7s,MS3.6,baz=172,slow=35						
FINES	**FINESS Array B**	**32.84**	**46**	P	**P**	**14 00 07.8**	**-0.3**
ARCES	**ARCESS Array B**	**33.42**	**31**	P	**P**	**14 00 12.7**	**-0.5**
	comp=Z,3.3nm,0.7s,mb4.4,baz=254,slow=8.8,SNR=14						
ARCES				LR	LR	14 10 49.2	
	comp=Z,72nm,18.5s,MS3.4,baz=220,slow=31						
SADO	**Sadowa**	**35.15**	**284**	LR	LR	14 13 40.3	
	comp=Z,231nm,19.4s,MS3.9,baz=207,slow=34						
AKASG	**Malin Array Be**	**36.40**	**64**	P	**P**	**14 00 38.6**	**-0.2**
	comp=Z,2.3nm,0.5s,mb4.3,baz=283,slow=8.9,SNR=12						
SJG	**San Juan**	**43.18**	**240**	LR	LR	14 16 15.5	
	comp=Z,85nm,20.6s,MS3.6,baz=83,slow=32						
ULM	**Lac du Bonnet**	**43.32**	**300**	P	**P**	**14 01 35.0**	**-1.0**
	comp=Z,2.9nm,0.7s,mb4.1,baz=75,slow=10,SNR=5.8						
ULM				LR	LR	14 18 17.4	
	comp=Z,91nm,18.1s,MS3.7,baz=86,slow=34						
ULM	**Lac du Bonnet**	**43.32**	**300**	P	**P**	**14 01 35.0**	**-1.0**
ULM				LR	LR	14 18 17.4	
DBIC	**Dimbokro**	**45.47**	**147**	P	**P**	**14 01 54.0**	**+0.2**
	comp=Z,4.7nm,0.8s,mb4.4,baz=11,slow=4.2,SNR=5.2						
DBIC				LR	LR	14 19 12.1	
	comp=Z,71nm,19.9s,MS3.6,baz=28,slow=34						
DBIC	**Dimbokro**	**45.47**	**147**	P	**P**	**14 01 54.0**	**+0.2**
DBIC				LR	LR	14 19 12.1	
YKA	**Yellowknife Ar**	**47.78**	**321**	P	**P**	**14 02 10.9**	**-0.5**
	comp=Z,1.2nm,0.9s,mb3.9,baz=66,slow=7.5,SNR=7.7						
YKA				LR	LR	14 21 29.7	
	comp=Z,41nm,19.1s,MS3.4,baz=75,slow=35						
GNI	**Garni**	**50.86**	**70**	LR	LR	14 27 29.5	
	comp=Z,77nm,18.1s,MS3.8,baz=71,slow=40						
LAO	**LASA Array**	**51.06**	**300**	*e*P	**P**	**14 02 37.5**	**+0.7**
	comp=Z,11nm,0.5s,mb5.0						
LAO	**LASA Array**	**51.06**	**300**	*e*P	**P**	**14 02 37.5**	**+0.7**
	comp=Z,11nm,0.5s,mb5.0						
INK	**Inuvik**	**51.79**	**333**	P	**P**	**14 02 41.6**	**-0.4**
	comp=Z,4.1nm,0.9s,mb4.4,baz=51,slow=9.0,SNR=6.8						
INK				LR	LR	14 23 23.8	
	comp=Z,98nm,18.1s,MS3.9,baz=312,slow=35						
INK	**Inuvik**	**51.79**	**333**	*e*P	**P**	**14 02 41.4**	**-0.6**
	comp=Z,7.7nm,1.0s,mb4.6						
INK	**Inuvik**	**51.79**	**333**	*e*P	**P**	**14 02 41.4**	**-0.6**
	comp=Z,7.7nm,1.0s,mb4.6						
INK				LR	LR	14 23 23.8	
SDV	**Santo Domingo**	**53.15**	**237**	P	**P**	**14 02 53.4**	**+0.5**
	comp=Z,2.7nm,0.6s,mb4.4,baz=59,slow=6.3,SNR=3.6						
SDV	**Santo Domingo**	**53.15**	**237**	P	**P**	**14 02 53.5**	**+0.5**
WALA	**Waterton Lakes**	**54.11**	**306**	*e*P	**P**	**14 02 59.0**	**-0.5**
	comp=Z,13nm,0.9s,mb4.9						
WALA	**Waterton Lakes**	**54.11**	**306**	*e*P	**P**	**14 02 59.0**	**-0.5**
	comp=Z,13nm,0.9s,mb4.9						
BOZ	**Bozeman (W)**	**54.77**	**301**	*e*P	**P**	**14 03 04.6**	**+0.2**
	comp=Z,7.3nm,0.8s,mb4.8						
BOZ	**Bozeman (W)**	**54.77**	**301**	*e*P	**P**	**14 03 04.6**	**+0.2**
	comp=Z,7.3nm,0.8s,mb4.8						
CHMT	**Chamberlain Mo**	**54.96**	**303**	*e*P	**P**	**14 03 05.6**	**-0.3**
CHMT	**Chamberlain Mo**	**54.96**	**303**	*e*P	**P**	**14 03 05.6**	**-0.2**
PDAR	**Pinedale Array**	**55.23**	**297**	P	**P**	**14 03 06.9**	**-0.9**
	comp=Z,4.1nm,0.8s,mb4.5,baz=59,slow=8.6,SNR=19						
PDAR				LR	LR	14 25 31.7	
	comp=Z,70nm,18.3s,MS3.8,baz=183,slow=35						
LOHW	**Long Hollow**	**55.35**	**299**	*e*P	**P**	**14 03 08.5**	**-0.2**
	comp=Z,4.8nm,0.7s,mb4.6						
LOHW	**Long Hollow**	**55.35**	**299**	PP	PP	14 05 11.3	-2.7
LOHW	**Long Hollow**	**55.35**	**299**	*e*P	**P**	**14 03 08.5**	**-0.2**
	comp=Z,4.8nm,0.7s,mb4.6						
LOHW				PP	PP	14 05 11.3	-2.7
IMW	**Indian Meadow**	**55.38**	**299**	*e*P	**P**	**14 03 09.0**	**+0.1**
	comp=Z,5.5nm,0.8s,mb4.6						
IMW	**Indian Meadow**	**55.38**	**299**	*e*PcP	PcP	14 04 08.8	-0.4
IMW	**Indian Meadow**	**55.38**	**299**	*e*P	**P**	**14 03 09.0**	**0.0**
	comp=Z,5.5nm,0.8s,mb4.6						
IMW				*e*PcP	PcP	14 04 08.8	-0.4
TPAW	**Teton Pass**	**55.63**	**299**	*e*P	**P**	**14 03 10.9**	**+0.2**
	comp=Z,7.6nm,0.7s,mb4.8						
TPAW	**Teton Pass**	**55.63**	**299**	*e*P	**P**	**14 03 10.9**	**+0.2**
	comp=Z,7.6nm,0.7s,mb4.8						
SDCO	**Great Sand Dun**	**55.72**	**290**	*e*P	**P**	**14 03 11.5**	**+0.1**
	comp=Z,3.8nm,0.9s,mb4.4						
SDCO	**Great Sand Dun**	**55.72**	**290**	*e*P	**P**	**14 03 11.5**	**0.0**
	comp=Z,3.8nm,0.9s,mb4.4						
SDCO				PcP	PcP	14 04 11.8	+1.2
MCMT	**McKenzie Canyo**	**55.95**	**301**	*e*P	**P**	**14 03 13.0**	**0.0**
MCMT	**McKenzie Canyo**	**55.95**	**301**	*e*P	**P**	**14 03 13.0**	**0.0**
MCMT				*e*PcP	PcP	14 04 13.3	+1.8
MCMT				PP	PP	14 05 16.2	-3.1
DAWT	**Dawson**	**56.28**	**331**	*e*P	**P**	**14 03 15.5**	**+0.4**
DAWY	**Dawson**	**56.28**	**331**	*e*P	**P**	**14 03 15.5**	**+0.3**
DLBC	**Dease Lake**	**56.39**	**322**	P	**P**	**14 03 16.4**	**+0.5**
	comp=Z,1.8nm,0.7s,mb4.2,baz=22,slow=10,SNR=3.8						
DLBC	**Dease Lake**	**56.39**	**322**	P	**P**	**14 03 16.4**	**+0.5**
HWUT	**Hardware Ranch**	**57.11**	**297**	*e*P	**P**	**14 03 20.9**	**-0.5**
	comp=Z,8.8nm,0.9s,mb4.8						
HWUT	**Hardware Ranch**	**57.11**	**297**	*e*P	**P**	**14 03 20.9**	**-0.5**
	comp=Z,8.8nm,0.9s,mb4.8						
PV10	**Paradox Valley**	**57.54**	**293**	*e*P	**P**	**14 03 24.8**	**+0.3**
PV10	**Paradox Valley**	**57.54**	**293**	*e*P	**P**	**14 03 24.8**	**+0.3**
ANMO	**Albuquerque**	**58.05**	**288**	P	**P**	**14 03 28.5**	**+0.4**
	comp=Z,1.8nm,0.6s,mb4.3,baz=28,slow=4.4,SNR=5.6						
ILAR	**Eielson Array**	**58.14**	**334**	P	**P**	**14 03 28.2**	**-0.1**
	comp=Z,2.8nm,0.9s,mb4.3,baz=40,slow=5.4,SNR=25						
ILAR				LR	LR	14 26 43.6	
	comp=Z,40nm,20.0s,MS3.5,baz=0.9,slow=34						
TMUT	**Trail Mountain**	**58.31**	**295**	*e*P	**P**	**14 03 26.5**	**-3.3**
BMO	**Blue Mountains**	**58.47**	**303**	*e*P	**P**	**14 03 28.8**	**-2.0**
	comp=Z,2.3nm,0.8s,mb4.3						
ROSC	**El Rosal**	**58.53**	**238**	LR	LR	14 24 33.8	
	comp=Z,172nm,18.8s,MS4.2,baz=205,slow=32						
BNM	**Barren Site**	**58.66**	**288**	*e*P	**P**	**14 03 33.1**	**+0.8**
BNM	**Barren Site**	**58.66**	**288**	*e*P	**P**	**14 03 33.1**	**+0.8**
DUG	**Dugway**	**58.73**	**297**	*e*P	**P**	**14 03 32.7**	**0.0**
	comp=Z,6.1nm,1.0s,mb4.6						
DUG	**Dugway**	**58.73**	**297**	*e*PcP	PcP	14 04 22.3	0.0
DUG	**Dugway**	**58.73**	**297**	*e*P	**P**	**14 03 32.6**	**0.0**
	comp=Z,6.1nm,1.0s,mb4.6						
DUG				*e*PcP	PcP	14 04 22.3	0.0
LAZ	**Ladron**	**58.83**	**288**	*e*P	**P**	**14 03 34.1**	**+0.6**
LAZ	**Ladron**	**58.83**	**288**	*e*P	**P**	**14 03 34.1**	**+0.6**
IMA	**Indian Mountai**	**59.05**	**337**	*e*P	**P**	**14 03 35.3**	**+0.7**
	comp=Z,38nm,0.8s,mb5.5						
IMA	**Indian Mountai**	**59.05**	**337**	*e*P	**P**	**14 03 35.3**	**+0.7**
	comp=Z,38nm,0.8s,mb5.5						
MSU	**Marysvale**	**59.39**	**295**	*e*P	**P**	**14 03 38.1**	**+0.8**
MSU	**Marysvale**	**59.39**	**295**	PP	PP	14 05 48.0	-2.4
MSU	**Marysvale**	**59.39**	**295**	*e*P	**P**	**14 03 38.1**	**+0.7**
MSU				PP	PP	14 05 48.0	-2.4
MCK	**McKinley**	**59.52**	**334**	*e*P	**P**	**14 03 37.9**	**0.0**
	comp=Z,5.1nm,1.1s,mb4.5						
MCK	**McKinley**	**59.52**	**334**	*e*P	**P**	**14 03 37.9**	**+0.1**
	comp=Z,5.1nm,1.1s,mb4.5						
ELK	**Elko**	**59.83**	**299**	*e*P	**P**	**14 03 40.7**	**+0.4**
	comp=Z,4.4nm,0.9s,mb4.5						
ELK	**Elko**	**59.83**	**299**	*e*P	**P**	**14 03 40.6**	**+0.3**
	comp=Z,4.4nm,0.9s,mb4.5						
ELK				PP	PP	14 05 53.1	-1.2
TXAR	**Lajitas Array**	**59.83**	**281**	P	**P**	**14 03 40.1**	**-0.4**
	comp=Z,2.2nm,0.7s,mb4.3,baz=69,slow=6.8,SNR=22						
TXAR				LR	LR	14 29 28.0	
	comp=Z,113nm,19.4s,MS4.0,baz=75,slow=36						
TXAR	**Lajitas Array**	**59.83**	**281**	P	**P**	**14 03 40.1**	**-0.4**
TXAR				LR	LR	14 29 28.0	
WVOR	**Wild Horse Val**	**60.73**	**302**	↓*i*P	**P**	**14 03 46.7**	**+0.2**
	comp=Z,10nm,0.9s,mb5.0						
WVOR	**Wild Horse Val**	**60.73**	**302**	↓*i*P	**P**	**14 03 46.7**	**+0.2**
	comp=Z,10nm,0.9s,mb5.0						
SML	**Sawmill**	**60.77**	**332**	*e*P	**P**	**14 03 47.3**	**+0.8**
SML	**Sawmill**	**60.77**	**332**	*e*P	**P**	**14 03 47.3**	**+0.8**
MOD	**Modoc**	**62.02**	**302**	*e*P	**P**	**14 03 55.0**	**-0.2**
	comp=Z,5.6nm,1.0s,mb4.7						
MOD	**Modoc**	**62.02**	**302**	*e*P	**P**	**14 03 55.0**	**-0.2**
	comp=Z,5.6nm,1.0s,mb4.7						
NEN	**Nelson**	**62.86**	**294**	*e*P	**P**	**14 04 00.9**	**0.0**
NEN	**Nelson**	**62.86**	**294**	*e*P	**P**	**14 04 00.9**	**0.0**
KURK	**Kurchatov**	**63.16**	**43**	*e*P	**P**	**14 04 01.9**	**-0.7**
	comp=Z,3.3nm,0.9s,mb4.5						
BDFB	**Brasilia**	**65.85**	**202**	LR	LR	14 27 54.5	
	comp=Z,188nm,21.9s,MS4.2,baz=199,slow=31						
MKAR	**Makanchi Array**	**67.66**	**44**	P	**P**	**14 04 31.4**	**-0.2**
	comp=Z,1.2nm,0.9s,mb3.9,baz=323,slow=6.1,SNR=8.7						
MKAR				LR	LR	14 34 01.7	
	comp=Z,76nm,19.3s,MS3.9,baz=4.2,slow=36						
SIV	**San Ignacio**	**70.29**	**214**	P	**P**	**14 04 48.0**	**-0.3**
	comp=Z,8.7nm,0.4s,mb5.1,baz=29,slow=6.1,SNR=7.9						
LPAZ	**La Paz**	**73.44**	**221**	LR	LR	14 33 48.3	
	comp=Z,31nm,21.0s,MS3.6,baz=217,slow=33						
KMBO	**Kilima Mbogo**	**74.29**	**110**	LR	LR	14 39 04.4	
	comp=Z,58nm,18.6s,MS3.9,baz=254,slow=37						
SONM	**Songino Array**	**76.59**	**30**	P	**P**	**14 05 25.4**	**+0.8**
	comp=Z,1.6nm,0.8s,mb4.0,baz=316,slow=6.0,SNR=16						
WRA	**Warramunga Arr**	**148.50**	**34**	PKPbc	PKPdf	14 13 20.5	+1.5
	comp=Z,0.9nm,0.6s,baz=329,slow=2.6,SNR=9.3						
VNDA	**Vanda**	**150.07**	**184**	PKPbc	PKPdf	14 13 24.3	+4.4
	comp=Z,2.5nm,0.8s,baz=90,slow=24,SNR=13						

*IDC **16** 13:56:22.9±1.6, 3.72S×101.50E, mb4.3/8, mb1 4.4/8, mb1mx4.1/16, mbtmp4.3/8, MS3.4/1, Ms1 3.4/1, ms1mx2.8/22, Error ellipse: s-maj=63.0km s-min=19.8km az=53.0*
*NEIC **16** 13:56:24.2±0.9, 3.76S×101.47E, h10km, mb4.6/3, Error ellipse: s-maj=33.4km s-min=11.6km az=56.0*
ISC 16 13:56:24.8±1.3, 3.8S±0.2×101.3E±0.3, h33km, n18, σ0§68/14, mb4.5/12, MS3.3/1, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENH	**Enshi**	**34.78**	**12**	P	**P**	**14 03 14.8**	**+0.4**
	4.5nm,0.4s,mb4.8						
WRA	**Warramunga Arr**	**35.94**	**119**	P	**P**	**14 03 24.3**	**-0.1**
	2.6nm,0.4s,mb4.5,baz=301,slow=8.9,SNR=48						
WRAB	**Tennant Creek**	**35.95**	**119**	*e*P	**P**	**14 03 24.4**	**-0.1**
	27nm,0.2s,mb5.8						
WRAB				*e*pP	pP	14 03 41.6	+7.5
WRAB				*e*PcP	PcP	14 05 51.2	+0.1
JOW	**Kunigami**	**40.08**	**39**	LR	LR	14 19 26.4	
	comp=Z,51nm,22.0s,MS3.3,baz=12,slow=35						
STKA	**Stephens Creek**	**46.96**	**131**	P	**P**	**14 04 54.9**	**+0.4**
	2.3nm,0.7s,mb4.2,baz=320,slow=9.1,SNR=4.7						
STKA	**Stephens Creek**	**46.96**	**131**	P	**P**	**14 04 54.9**	**+0.4**
SONM	**Songino Array**	**51.63**	**4**	P	**P**	**14 05 31.5**	**+1.3**
	2.8nm,0.8s,mb4.2,baz=188,slow=7.7,SNR=16						
SONM				PcP	PcP	14 06 44.3	+0.5
	1.2nm,0.6s,baz=203,slow=4.9,SNR=4.1						
SONM	**Songino Array**	**51.63**	**4**	P	**P**	**14 05 31.5**	**+1.3**
SONM				PcP	PcP	14 06 44.3	+0.5
MJAR	**Matsushiro Arr**	**52.87**	**37**	P	**P**	**14 05 39.1**	**-0.7**
	2.1nm,0.7s,mb4.2,baz=222,slow=8.0,SNR=7.1						
MKAR	**Makanchi Array**	**53.13**	**344**	P	**P**	**14 05 41.9**	**+0.3**
	2.7nm,0.6s,mb4.4,ba

0.6nm,0.3s,baz=118,slow=8.6,SNR=14
LPAZ Sn **Sn** **14 06 17.1 -12**
2.1nm,0.3s,baz=229,slow=16,SNR=5.1
CFAA Coronel Fontan 8.90 203 Pn **P** **14 05 05.5 -4.5**
0.1nm,0.3s,slow=11,SNR=3.3
CFAA Lg 14 07 41.8
0.4nm,0.3s,baz=67,slow=16,SNR=4.3
TRQA Tornquist 14.70 173 *eP* **P** **14 06 34.2 +5.9**
61nm,1.7s
NNA Nana 16.57 311 *eP* **P** **14 06 52.8 +0.2**
9.0nm,0.6s
PLCA Paso Flores 18.06 196 P **P** **14 07 13.1 +1.9**
0.1nm,0.3s,baz=53,slow=9.6,SNR=4.1
SDV Santo Domingo 32.73 348 P **P** **14 09 38.6 +4.9**
7.7nm,0.9s,mb4.6
JTS JuntasAbangare 39.20 326 P **P** **14 10 29.1 +0.4**
12nm,0.9s,mb4.6
VNA3 Neumayer Olymp 56.86 162 pP 14 12 52.2 +3.8
VNA2 Neumayer--Watz 57.39 161 pP 14 12 55.4 +3.2
VNA2 Neumayer--Watz 57.39 161 P pP 14 12 55.4 +3.2
SNAA Sanae 59.04 161 **P** **14 12 58.0 -2.6**
SNAA Sanae 59.04 161 pP 14 13 04.3 +0.6
SNAA Sanae 59.04 161 P **P** **14 12 58.4 -2.2**
0.3nm,0.8s,mb3.4,baz=310,slow=9.3,SNR=3.5
SNAA Sanae 59.04 161 P **P** **14 12 58.0 -2.6**
WVT Waverly 63.32 339 *eP* **P** **14 13 27.4 -2.6**
8.7nm,0.7s,mb5.0
TXAR Lajitas Array 64.77 322 P **P** **14 13 38.1 -1.5**
0.2nm,0.3s,mb3.7,baz=148,slow=8.5,SNR=5.7
CCM Cathedral Cave 66.24 337 *eP* **P** **14 13 47.0 -1.9**
4.9nm,0.8s,mb4.6
CPRX Cap Rock 67.71 325 *eP* **P** **14 13 58.3 0.0**
SDCO Great Sand Dun 72.19 327 *eP* **P** **14 14 26.2 +0.6**
7.9nm,1.4s,mb4.5
SUR Sutherland 73.83 119 P **P** **14 14 35.8 +0.4**
4.9nm,1.0s,mb4.4,baz=239,slow=5.9,SNR=2.0
MSU Marysvale 76.29 323 *eP* **P** **14 14 50.3 +1.0**
RSSD Black Hills 76.50 332 *eP* **P** **14 14 51.4 +1.1**
5.6nm,0.8s,mb4.5
PDAR Pinedale Array 78.02 328 P **P** **14 14 58.9 +0.1**
0.6nm,0.6s,mb3.7,baz=124,slow=5.3,SNR=7.0
BW06 Boulder Array 78.02 328 *eP* **P** **14 14 58.9 +0.1**
2.5nm,1.1s,mb4.1
BW06 *e* 14 15 06.4
ULM Lac du Bonnet 78.55 340 P **P** **14 15 01.2 -0.3**
3.7nm,0.6s,mb4.5,baz=164,slow=7.2,SNR=7.5
IMW Indian Meadow 79.53 328 *eP* **P** **14 15 08.1 +1.1**
12nm,1.4s,mb4.6
IMW *e* 14 15 14.0
HLID Hailey 81.05 326 *eP* **P** **14 15 15.7 +0.6**
5.0nm,0.7s,mb4.5
MCMT McKenzie Canyo 81.15 327 *eP* **P** **14 15 17.2 +1.6**
ESDC Sonseca Array 84.23 42 P **P** **14 15 32.0 +0.4**
1.3nm,0.8s,mb4.1,baz=240,slow=4.4,SNR=5.7
MATP Matopo 84.44 110 P **P** **14 15 32.1 -1.0**
1.5nm,0.6s,mb4.3,baz=249,slow=10.0,SNR=4.7
YKA Yellowknife Ar 94.50 339 P **P** **14 16 19.4 -0.3**
0.5nm,0.5s,mb4.2,baz=127,slow=4.0,SNR=5.9
YKA Yellowknife Ar 94.50 339 P **P** **14 16 19.4 -0.4**
WRA Warramunga Arr 133.25 204 PKP PKPdf 14 22 13.8 -4.7
0.5nm,0.9s,baz=166,slow=1.7,SNR=6.8
MKAR Makanchi Array 144.43 41 PKP PKPdf 14 22 36.8 -1.1
1.0nm,0.9s,baz=270,slow=2.4,SNR=5.4

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*IDC **16** 14:04:05.7±2.0,3.84S×101.34E,mb3.8/6,mb1 4.0/6, mb1mx3.8/16,mbtmp3.8/6,Error ellipse: s-maj=75.6km s-min=22.1km az=55.0*
*NEIC **16** 14:04:09.1±0.8,3.99S×101.13E,h30km,mb4.5/1,Error ellipse: s-maj=28.8km s-min=16.3km az=52.0*
ISC 16 14:04:07.9±1.8,3.8S±0.3×101.4E±0.4,h30km,n9,σ0.96/7, mb4.0/7,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**35.93 119**		P	**P**	**14 11 07.4**	**-0.5**
	1.2nm,0.5s,mb4.1,baz=302,slow=9.0,SNR=15						
WRAB	**Tennant Creek**	**35.94 119**		*eP*	**P**	**14 11 07.9**	**-0.1**
	3.8nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**46.95 131**		P	**P**	**14 12 39.0**	**+0.8**
	1.0nm,0.7s,mb3.8,baz=321,slow=13,SNR=1.8						
SONM	**Songino Array**	**51.61**	**4**	P	**P**	**14 13 15.4**	**+1.7**
	1.5nm,0.9s,mb3.9,baz=185,slow=8.8,SNR=8.9						
SONM				PcP	PcP	14 14 27.4	0.0
	0.2nm,0.5s,baz=179,slow=2.9,SNR=3.8						
MJAR	**Matsushiro Arr**	**52.85**	**37**	P	**P**	**14 13 22.5**	**-0.7**
	0.8nm,0.7s,mb3.8,baz=224,slow=6.9,SNR=4.1						
MKAR	**Makanchi Array**	**53.12 344**		P	**P**	**14 13 25.6**	**+0.5**
	0.7nm,0.6s,mb3.8,baz=149,slow=8.0,SNR=9.2						
BVAR	**Borovoye Array**	**62.33 339**		P	**P**	**14 14 28.4**	**-1.5**
	0.7nm,0.5s,mb4.0,baz=211,slow=38,SNR=4.4						
TXAR	**Lajitas Array**	**145.25**	**40**	PKPbc	PKPbc	14 23 46.4	+2.6
	1.4nm,0.6s,baz=324,slow=1.3,SNR=18						
TXAR	**Lajitas Array**	**145.25**	**40**	PKPbc	PKPbc	14 23 46.4	+2.6

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*IDC **16** 14:11:29.3±1.2,24.69N×121.86E,mb3.8/5,mb1 3.9/6, mb1mx3.7/20,mbtmp3.8/6,Error ellipse: s-maj=43.3km s-min=22.7km az=58.0*
*NEIC **16** 14:11:31.9±1.0,24.73N×121.87E,h16km±7km,mb4.1/1, Error ellipse: s-maj=12.1km s-min=7.8km az=68.0*
ISC 16 14:11:30.9±1.4,24.81N±0.06×121.9E±0.1,h22km±11km, n11,σ0.74/13,mb3.8/6,2C,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TATO	**Taipei**	**0.41 293**		⇑*iP*	**Pb**	**14 11 40.0**	**+0.5**
TATO				*eS*	**Sb**	**14 11 44.0**	**-1.3**
YHNB	**Yeheng**	**0.50 254**		⇑*iP*	**Pb**	**14 11 41.4**	**+0.4**
NACB	**Ninganchiao**	**0.69 204**		*eP*	**Pb**	**14 11 44.0**	**-0.3**
NACB				*eS*	**Sb**	**14 11 54.2**	**+0.8**
JOW	**Kunigami**	**6.08**	**69**	Pn	**Pn**	**14 13 02.2**	**+0.2**
	baz=217,slow=10						
SONM	**Songino Array**	**26.06 336**		P	**P**	**14 17 05.2**	**+0.7**
	4.4nm,1.1s,mb3.9,baz=142,slow=9.7,SNR=18						
MKAR	**Makanchi Array**	**38.35 315**		P	**P**	**14 18 52.9**	**+0.9**
	0.3nm,0.7s,mb3.1,baz=108,slow=14,SNR=4.1						
ZAL	**Zalesovo**	**40.09 326**		P	**P**	**14 19 06.3**	**-0.1**
	0.8nm,0.4s,mb3.8,baz=120,slow=9.4,SNR=4.4						
ZAL	**Zalesovo**	**40.09 326**		P	**P**	**14 19 06.3**	**-0.1**
WRAB	**Tennant Creek**	**46.09 164**		P	**P**	**14 19 54.5**	**-1.1**
	2.0nm,0.8s,mb4.1						
WRA	**Warramunga Arr**	**46.10 164**		P	**P**	**14 19 54.4**	**-1.2**
	2.8nm,1.1s,mb4.1,baz=347,slow=8.6,SNR=10						
BVAR	**Borovoye Array**	**47.61 320**		P	**P**	**14 20 07.3**	**+0.3**
	0.3nm,0.5s,mb3.6,baz=90,slow=5.8,SNR=3.0						

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*IDC **16** 14:14:09.9±1.9,24.83N×122.13E,mb3.8/4,mb1 4.0/4, mb1mx3.7/18,mbtmp3.8/4,Error ellipse: s-maj=157.2km s-min=24.2km az=66.0*
*NEIC **16** 14:14:12.6±1.4,24.74N×121.86E,h16km±9km,mb4.3/2, Error ellipse: s-maj=18.4km s-min=8.8km az=77.0*
ISC 16 14:14:12.2±1.6,24.81N±0.06×121.9E±0.2,h24km±13km, n8,σ0.82/10,mb3.9/5,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TATO	**Taipei**	**0.39 295**		*eP*	**Pb**	**14 14 20.5**	**0.0**
TATO				*eS*	**Sb**	**14 14 25.4**	**-0.7**
NACB	**Ninganchiao**	**0.68 202**		*eP*	**Pb**	**14 14 25.0**	**-0.4**
NACB				S	**Sb**	**14 14 35.6**	**+1.2**
MAJO	**Matsushiro**	**18.25**	**46**	P	**P**	**14 18 26.2**	**+0.6**
	3.6nm,0.3s						
SONM	**Songino Array**	**26.05 336**		P	**P**	**14 19 46.1**	**+0.7**
	4.7nm,1.1s,mb3.9,baz=155,slow=7.8,SNR=20						
MKAR	**Makanchi Array**	**38.33 315**		P	**P**	**14 21 34.0**	**+1.1**
	0.2nm,0.4s,mb3.2,baz=108,slow=9.1,SNR=2.6						
ZAL	**Zalesovo**	**40.07 326**		P	**P**	**14 21 46.9**	**-0.3**
	0.8nm,0.4s,mb3.9,baz=24,slow=10.0,SNR=3.0						
WRAB	**Tennant Creek**	**46.10 164**		*eP*	**P**	**14 22 35.2**	**-1.2**
	10nm,1.2s,mb4.6						
WRA	**Warramunga Arr**	**46.11 164**		P	**P**	**14 22 35.6**	**-1.0**
	1.0nm,0.7s,mb3.9,baz=346,slow=8.6,SNR=9.4						

IDC 16 14:18:19.2±1.9,24.82N×122.37E,mb3.9/3,mb1 4.1/3, mb1mx3.7/18,mbtmp3.9/3,Error ellipse: s-maj=153.2km s-min=24.4km az=65.0,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**26.23 335**		P	P	14 23 55.8	-1.7
	4.6nm,1.0s,baz=154,slow=9.1,SNR=19						
MKAR	**Makanchi Array**	**38.65 315**		P	P	14 25 44.5	-1.6
	1.0nm,1.0s,baz=135,slow=5.1,SNR=4.2						
WRA	**Warramunga Arr**	**45.99 164**		P	P	14 26 44.3	-1.9
	1.7nm,0.6s,baz=346,slow=8.7,SNR=18						

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*NIED **16** 14:34:00,38.10N×142.50E,h11km,Mw3.4 Best double couple: $M_0$1.31×10^14 NP1:φs9°,δ74°,λ.97°. NP2:φs165°, δ17°,λ.67°.*
*IDC **16** 14:34:51.5±3.5,37.97N×143.26E,h45km±25km,mb3.2/2, mb1 3.3/5,mb1mx3.2/22,mbtmp3.5/5,ML3.2/3,Error ellipse: s-maj=42.2km s-min=15.4km az=120.0*
*JMA **16** 14:34:52.7±0.2,38.13N×142.51E,h36km±3km,M3.7*
ISC 16 14:34:52.7±1.2,38.12N±0.05×142.6E±0.1,h36km,n16, σ0.88/22,mb3.2/2,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.00 290**		P	**P**	**14 35 10.2**	**-0.2**
JIO				*eS*	**S**	**14 35 22.7**	**-0.8**
OFUJ	**Ofunato**	**1.18 324**		P	**P**	**14 35 12.8**	**-0.1**
OFUJ				S	**S**	**14 35 27.2**	**-0.9**
JMK	**Ichinoseki**	**1.33 309**		P	**P**	**14 35 15.3**	**+0.1**
JMM	**Marumori**	**1.41 260**		P	**P**	**14 35 15.8**	**-0.5**
JOU	**Okura**	**1.50 280**		P	**P**	**14 35 18.0**	**+0.3**
JFK	**Kawauchi**	**1.53 241**		P	**P**	**14 35 17.1**	**-0.9**
JOM	**Ohasama**	**1.67 324**		P	**P**	**14 35 20.3**	**+0.3**
JFT	**Otama**	**1.85 252**		P	**P**	**14 35 23.0**	**+0.4**
JYK	**Kaneyama**	**1.89 295**		P	**P**	**14 35 24.2**	**+1.0**
JYS	**Shirataka**	**1.96 274**		P	**P**	**14 35 24.8**	**+0.7**
MJAR	**Matsushiro Arr**	**3.80 247**		P	**P**	**14 35 53.2**	**+2.8**
	0.6nm,0.3s,baz=56,slow=12,SNR=5.7						
MJAR				S	**S**	**14 36 42.9**	**+8.4**
	0.8nm,0.3s,baz=323,slow=29,SNR=4.4						
MAT	**Matsushiro**	**3.80 247**		P	**P**	**14 35 51.2**	**+0.8**
MAT				S	**S**	**14 36 34.1**	**-0.5**
JHJ	**Hachijo jima 2**	**5.48 205**		P	**P**	**14 36 11.7**	**-2.4**
	2.6nm,0.3s,baz=221,slow=21,SNR=6.9						
JHJ				S	**S**	**14 37 09.6**	**-7.1**
	4.3nm,0.3s,baz=238,slow=21,SNR=3.0						
ASAJ	**Asahikawa**	**5.99**	**0**	P	**P**	**14 36 20.4**	**-0.7**
	0.6nm,0.3s,baz=162,slow=9.5,SNR=7.2						
ASAJ				S	**S**	**14 37 29.5**	**0.0**
	baz=18,slow=24,SNR=2.0						
SONM	**Songino Array**	**27.95 302**		P	**P**	**14 40 42.3**	**+0.6**
	0.2nm,0.3s,mb3.2,baz=102,slow=8.5,SNR=4.2						
MKAR	**Makanchi Array**	**44.31 301**		P	**P**	**14 43 01.4**	**+0.7**
	0.4nm,0.6s,mb3.3,baz=82,slow=10,SNR=4.0						

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*NEIC **16** 14:34:56.6,17.45N×94.26W,h200km,MD4.1(MEX),After MEX.*
MEX 16 14:34:57.1±0.9,17.48N×94.29W,h197km±10km,MD4.1, 1C-1D,Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.69 236**		⇑*iP*	P	14 35 23.2	-1.7
CMIG				*iS*	S	14 35 43.5	-3.0
CMIG	**Matias Romero**	**0.69 236**		*iP*	P	14 35 23.0	-1.9
CMIG				*iS*	S	14 35 43.5	-3.0
EVV	**El Vigia**	**1.40 314**		*iP*	P	14 35 27.5	-2.5
OXX	**Oaxaca**	**2.36 261**		*iP*	P	14 35 38.5	-1.2
VHO	**Vista Hermosa**	**2.37 261**		*iP*	P	14 35 38.0	-1.8
VHO				*iS*	S	14 36 11.7	-1.0
VHO	**Vista Hermosa**	**2.37 261**		*iP*	P	14 35 37.8	-2.0
VHO				*iS*	S	14 36 11.6	-1.1
CCIG	**Comitan**	**2.38 120**		⇓*iP*	P	14 35 39.2	-0.7
CCIG				*iS*	S	14 36 10.9	-2.1
CCIG	**Comitan**	**2.38 120**		*iP*	P	14 35 39.1	-0.9
CCIG				*iS*	S	14 36 15.7	+2.7
HUIG	**Huatulco**	**2.44 226**		*iP*	P	14 35 37.5	-3.1
HUIG				*iS*	S	14 36 12.6	-1.5
HUIG	**Huatulco**	**2.44 226**		*iP*	P	14 35 36.8	-3.8
HUIG				*iS*	S	14 36 12.5	-1.5
YAIG	**Yautepec**	**4.74 288**		*iP*	P	14 36 07.9	-1.0
YAIG				*iS*	S	14 37 02.7	-1.8
PLIG	**Platanillo**	**5.04 281**		*iP*	P	14 36 11.5	-1.2
PLIG				*iS*	S	14 37 10.5	-0.8

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*NEIC **16** 14:40:47.7,37.02S×177.54E,h23km,ML3.8(WEL),After WEL.*
WEL 16 14:40:47.1±0.3,37.00S×177.55E,h12km,ML3.9/8,1C, Error ellipse: s-maj=2.5km s-min=2.3km az=0.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.59 208**		P*	Pb	14 40 57.7	-1.3
WIZ				S*	Sb	14 41 05.5	-1.5
WIZ	**White Island**	**0.59 208**		P	Pb	14 40 57.7	-1.3
MXZ	**Matakaoa Point**	**0.82 133**		⇑P*	Pb	14 41 01.9	-1.0
MXZ				S*	Sb	14 41 12.8	-1.0
MXZ				S*	Sb	14 41 12.8	-0.9
MXZ	**Matakaoa Point**	**0.82 133**		P	Pb	14 41 01.9	-1.0
MXZ				S	Sb	14 41 12.8	-0.9
MYRZ	**Mayor Island**	**1.08 255**		P*	Pb	14 41 06.2	-1.0
MARZ	**Manawahe**	**1.20 215**		P*	Pb	14 41 07.3	-2.0
MARZ	**Manawahe**	**1.20 215**		P	Pb	14 41 07.3	-2.0
PUZ	**Puketiti**	**1.21 152**		P*	Pb	14 41 08.8	-0.7
PUZ				S*	Sb	14 41 24.1	-0.7
PUZ	**Puketiti**	**1.21 152**		P	Pb	14 41 08.8	-0.7
EDRZ	**Edgecumbe**	**1.27 210**		P*	Pb	14 41 08.7	-1.9
EDRZ	**Edgecumbe**	**1.27 210**		P	Pb	14 41 08.7	-1.9
URZ	**Urewera**	**1.30 195**		P*	Pb	14 41 08.9	-2.2
URZ				S*	Sb	14 41 24.3	-3.2
URZ	**Urewera**	**1.30 195**		P	Pb	14 41 08.9	-2.1
MWZ	**Matawai**	**1.33 181**		P*	Pb	14 41 09.3	-2.3
MWZ				S*	Sb	14 41 25.2	-3.2
MWZ	**Matawai**	**1.33 181**		P	Pb	14 41 09.3	-2.2
LIRZ	**Lichensteins R**	**1.36 222**		P*	Pb	14 41 10.4	-1.7
LIRZ	**Lichensteins R**	**1.36 222**		P	Pn	14 41 10.4	-1.6
TAZ	**Tarawera**	**1.48 214**		P	Pn	14 41 14.2	+0.5
KUZ	**Kuaotunu**	**1.48 279**		PN	Pn	14 41 12.4	-1.4
KUZ				SN	Sn	14 41 29.5	-3.7
KUZ	**Kuaotunu**	**1.48 279**		P	Pn	14 41 12.4	-1.4
KUZ				S	Sb	14 41 29.5	-3.4
UTU	**Utuhina**	**1.59 222**		P*	Pb	14 41 14.2	-1.8
UTU	**Utuhina**	**1.59 222**		P	Pn	14 41 14.2	-1.1
TOZ	**Tahuroa Road**	**1.78 245**		P*	Pb	14 41 16.4	-2.9
TOZ	**Tahuroa Road**	**1.78 245**		P	Pn	14 41 16.4	-1.6
MKAZ	**Moumakai**	**1.91 266**		PN	Pn	14 41 18.7	-1.1
MKAZ	**Moumakai**	**1.91 266**		P	Pn	14 41 18.7	-1.1
KNZ	**Kokohu**	**2.02 177**		PN	Pn	14 41 20.5	-0.9
KNZ	**Kokohu**	**2.02 177**		*eP*	Pn	14 41 20.5	-0.9
MTAZ	**Motutapu**	**2.12 275**		PN	Pn	14 41 22.3	-0.7
MTAZ	**Motutapu**	**2.12 275**		P	Pn	14 41 22.3	-0.6
KAAZ	**Kauri Point**	**2.28 274**		PN	Pn	14 41 24.8	-0.4
KAAZ	**Kauri Point**	**2.28 274**		P	Pn	14 41 25.2	0.0
BKZ	**Black Stump Fm**	**2.31 201**		P*	Pb	14 41 23.5	-4.9
WTAZ	**Waiatarua**	**2.38 271**		PN	Pn	14 41 26.1	-0.5
WTAZ	**Waiatarua**	**2.38 271**		P	Pn	14 41 26.1	-0.5
HIZ	**Hauiti**	**2.61 234**		PN	Pn	14 41 28.3	-1.7
HIZ	**Hauiti**	**2.61 234**		P	Pn	14 41 28.3	-1.6
CNZ	**Chateau**	**2.70 215**		P	Pn	14 41 31.6	+0.4
FWVZ	**Far West T-bar**	**2.74 214**		P	Pn	14 41 33.5	+1.7
MOVZ	**Moawhango**	**2.78 210**		P	Pn	14 41 30.8	-1.6
WCZ	**Waipu Caves**	**2.79 291**		P	Pn	14 41 32.0	-0.5
TSZ	**Takapari Road**	**3.29 202**		*eP*	Pn	14 41 37.8	-1.8
WAZ	**Wanganui**	**3.41 215**		*eP*	Pn	14 41 39.0	-2.2
OUZ	**Omahuta**	**3.66 298**		*eP*	Pn	14 41 44.5	-0.3
WEL	**Wellington**	**4.79 206**		P	Pn	14 42 05.6	+4.7

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*IDC **16** 14:53:28.3±1.7,1.24N×96.96E,mb4.1/7,mb1 4.3/7, mb1mx4.0/17,mbtmp4.1/7,MS3.6/1,Ms1 3.6/1, ms1mx2.9/26,Error ellipse: s-maj=75.7km s-min=21.0km az=56.0*
*BJI **16** 14:53:31.2,1.06N×97.16E,h57km,mB4.9,mb4.5,Ms4.3, Msz4.1*
*NEIC **16** 14:53:34.2±0.5,1.37N×97.13E,mb4.6/10,Error ellipse: s-maj=12.3km s-min=7.3km az=50.0*
ISC 16 14:53:32.1±0.7,1.39N±0.10×97.2E±0.1,h33km,n27, σ0.59/27,mb4.5/20,MS3.8/2,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.21**	**42**	*e*Pn	**Pn**	**14 54 49.8**	**-0.1**
KMI	**Kunming**	**24.20**	**12**	P	**P**	**14 58 48.8**	**+1.8**
KMI				AP		14 58 57.9	
KMI				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb3.8						
KMI				AMB	AMB		
	comp=Z,77nm,4.1s						
KMI				LR	LR		
	comp=N,333nm,13.0s,MS4.1						
KMI				LR	LR		
	comp=E,270nm,13.0s,MS4.1						
KMI				LR	LR		
	comp=Z,371nm,13.9s,MS4.0						
KMI	**Kunming**	**24.20**	**12**	P	**P**	**14 58 48.7**	**+1.7**
	comp=Z,5.0nm,1.2s,mb3.8						
KMI				pP		14 58 57.9	
KMI				S	**S**	**15 03 18.9**	**+19**
KMI				sS		15 03 35.6	
KMI				LR	LR		
	comp=Z,370nm,13.9s,MS4.0						
PKI	**Pulchoki**	**28.37 338**		*eP*	**P**	**14 59 24.5**	**-1.1**
DMN	**Daman**	**28.52 337**		*eP*	**P**	**14 59 26.6**	**-0.3**
KKN	**Kakani**	**28.61 338**		*eP*	**P**	**14 59 26.9**	**-0.9**
	comp=Z,20nm,0.9s,mb4.8						
LSA	**Lhasa**	**28.73 349**		*eP*	**P**	**14 59 29.1**	**+0.3**
	comp=Z,3.6nm,0.6s,mb4.3						
GKN	**Gorkha**	**29.05 337**		*eP*	**P**	**14 59 31.7**	**0.0**
	comp=Z,16nm,0.7s,mb4.9						
KOLN	**Koldanda**	**29.27 335**		*eP*	**P**	**14 59 34.1**	**+0.5**
	comp=Z,16nm,0.7s,mb4.8						
ENH	**Enshi**	**31.02**	**21**	*i*P	**P**	**14 59 48.2**	**-0.9**
	comp=Z,12nm,0.8s,mb4.8						
XAN	**Xi'an**	**34.30**	**17**	P	**P**	**15 00 17.3**	**-0.3**
XAN				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.7						
GTA	**Gaotai**	**37.92**	**3**	*eP*	**P**	**15 00 48.8**	**+0.6**
GTA				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.2						
WRA	**Warramunga Arr**	**42.17 122**		P	**P**	**15 01 23.3**	**-0.3**
	comp=Z,1.4nm,0.6s,mb3.8,baz=301,slow=9.1,SNR=19						
WRAB	**Tennant Creek**	**42.17 122**		*eP*	**P**	**15 01 23.9**	**+0.2**
	comp=Z,71nm,2.0s,mb5.0						
JNU	**Nakatsue**	**44.69**	**41**	LR	LR	15 24 47.2	
	comp=Z,58nm,18.1s,MS3.5,baz=317,slow=42						
KS15	**Wonju Array Si**	**45.69**	**35**	*eP*	**P**	**15 01 52.0**	**+0.1**
SONM	**Songino Array**	**46.95**	**9**	P	**P**	**15 02 02.1**	**+0.5**
	comp=Z,4.3nm,0.8s,mb4.4,baz=188,slow=9.1,SNR=38						
MKAR	**Makanchi Array**	**47.05 346**		P	**P**	**15 02 02.6**	**+0.1**
	comp=Z,1.9nm,0.5s,mb4.3,baz=160,slow=8.7,SNR=51						
KURK	**Kurchatov**	**51.60 345**		*eP*	**P**	**15 02 37.3**	**-0.1**
	comp=Z,5.2nm,1.0s,mb4.4						
ZAL	**Zalesovo**	**53.36 351**		P	**P**	**15 02 50.4**	**-0.2**
	comp=Z,4.6nm,0.7s,mb4.5,baz=304,slow=5.4,SNR=19						
STKA	**Stephens Creek**	**53.51 132**		P	**P**	**15 02 52.0**	**0.0**
	comp=Z,1.4nm,0.8s,mb4.0,baz=323,slow=18,SNR=3.0						
YSS	**Yuzh-Sakhalins**	**60.22**	**34**	*eP*	**P**	**15 03 39.4**	**0.0**
	comp=Z,10nm,1.0s,mb4.8						
YSS				*e*pP	pP	15 03 50.9	+1.3
YAK	**Yakutsk**	**65.25**	**16**	*i*P	**P**	**15 04 11.7**	**-0.9**
	comp=Z,17nm,0.8s,mb5.1						
ARCES	**ARCESS Array B**	**82.35 340**		P	**P**	**15 05 52.1**	**+0.3**
	comp=Z,0.8nm,0.6s,mb3.8,baz=108,slow=3.8,SNR=7.3						
GERES	**GERESS Array B**	**84.65 319**		P	**P**	**15 06 03.6**	**-0.2**
	comp=Z,0.4nm,0.6s,mb3.7,baz=191,slow=6.8,SNR=3.0						
CLL	**Collm**	**85.26 321**		P	**P**	**15 06 07.0**	**+0.2**
ESK	**Eskdalemuir**	**94.77 326**		*eP*	**P**	**15 06 52.4**	**+1.0**
	comp=Z,28nm,0.9s,mb5.7						

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*IDC **16** 14:56:53.0±4.0,55.12N×153.60W,mb3.4/2,mb1 3.6/3, mb1mx3.4/20,mbtmp3.4/3,ML3.5/1,MS3.1/1,Ms1 3.0/1, ms1mx2.1/25,Error ellipse: s-maj=76.0km s-min=36.6km az=157.0*
*NEIC **16** 14:57:00.6,55.70N×153.65W,h12km,ML3.5(AEIC),After AEIC.*
ISC 16 14:56:57.7±1.2,55.77N±0.08×153.8W±0.1,h33km±17km, n33,σ0.78/34,mb3.7/1,MS3.0/1,South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.12**	**18**	P	**P**	**14 57 31.9**	**+0.4**
KDAK				S	**S**	**14 57 55.7**	**-1.2**
CAHL	**Cahill**	**2.43 341**		P	**P**	**14 57 36.5**	**+0.6**
KABR	**Katmai Barrier**	**2.45 345**		P	**P**	**14 57 36.8**	**+0.6**
KJL	**Kejulik**	**2.49 338**		P	**P**	**14 57 37.5**	**+0.8**
ACHA	**Angle Creek He**	**2.59 342**		P	**P**	**14 57 38.8**	**+0.7**
MGLS	**Mageik LS**	**2.59 342**		P	**P**	**14 57 37.3**	**-0.8**
MGLS				S	**S**	**14 58 07.0**	**-1.6**
ANCK	**Angle Creek**	**2.61 340**		P	**P**	**14 57 39.1**	**+0.8**
ANPK	**Aniakchak Peak**	**2.65 296**		P	**P**	**14 57 39.5**	**+0.5**
CHGN	**Chignik**	**2.65 283**		P	**P**	**14 57 39.7**	**+0.7**
KAWH	**Katmai**	**2.68 348**		P	**P**	**14 57 39.9**	**+0.5**
ANPB	**Aniakchak Plen**	**2.71 294**		P	**P**	**14 57 39.6**	**-0.3**
KARR	**Katmai Rainbow**	**2.78 350**		P	**P**	**14 57 42.0**	**+1.2**
KAPH	**Katmai Pasha**	**2.85 354**		P	**P**	**14 57 42.8**	**+0.9**
SDPT	**Sand Point**	**3.83 266**		P	**P**	**14 57 56.0**	**+0.3**
ILW	**Iliamna West**	**4.31**	**4**	P	**P**	**14 58 02.9**	**+0.3**
HAG	**Hague Volcano**	**4.63 268**		P	**P**	**14 58 06.7**	**-0.5**
DOL	**Dolgoi Island**	**4.64 266**		P	**P**	**14 58 07.7**	**+0.4**
PN7A	**Pavlof North-7**	**4.67 269**		P	**P**	**14 58 07.4**	**-0.3**
RSO	**Redoubt South**	**4.74**	**6**	P	**P**	**14 58 08.8**	**+0.2**
DT1	**Dutton Round H**	**4.88 266**		P	**P**	**14 58 10.2**	**-0.6**
SEW	**Seward**	**4.92**	**26**	P	**P**	**14 58 11.2**	**-0.1**
BALA	**

SFJM				*i* S	Sn	16 28 16.5	-4.5
MOIG	**Morelia**	**2.06**	**53**	*i* P	Pn	16 27 53.3	-2.9
MOIG				*i* S	Sn	16 28 15.4	-6.3
MOIG	**Morelia**	**2.06**	**53**	*i* P	Pn	16 27 53.1	-3.1
MOIG				*i* S	Sn	16 28 15.4	-6.3
CJM	**Chamela**	**2.25**	**298**	*i* P	Pn	16 27 54.8	-4.2
CJM				*i* S	Sn	16 28 21.3	-5.3
CAIG	**El Cayaco**	**2.90**	**118**	*e*P	Pn	16 28 04.5	-3.7
CAIG				*i* S	Sn	16 28 37.9	-5.2
CAIG	**El Cayaco**	**2.90**	**118**	*i* P	Pn	16 28 09.5	+1.3
CAIG				*i* S	Sn	16 28 43.9	+0.8
PLIG	**Platanillo**	**3.26**	**90**	*e*P	Pn	16 28 09.9	-3.5
PLIG				*i* S	Sn	16 28 47.0	-5.3
PLIG	**Platanillo**	**3.26**	**90**	*i* P	Pn	16 28 18.5	+5.1
PLIG				*i* S	Sn	16 28 54.2	+2.0
ACX	**Acapulco**	**3.28**	**118**	*e*P	Pn	16 28 19.5	+5.8
YAIG	**Yautepec**	**3.69**	**83**	*e*P	Pn	16 28 25.1	+5.6
YAIG				*i* S	Sn	16 28 59.4	-3.7
PPM	**Popocatepetl**	**4.13**	**81**	*e*P	Pn	16 28 32.0	+6.3
ZAIG	**Zacatecas**	**4.31**	**5**	*e*P	Pn	16 28 25.0	-3.4
ZAIG				*i* S	Sn	16 29 13.5	-5.4

MOS ***16*** *16:51:39.6±0.9,36.39N×70.88E,h161km,mb4.9/86, MS4.1/14,Error ellipse: s-maj=6.0km s-min=3.1km az=130.2*

BJI ***16*** *16:51:44.8,36.74N×70.83E,h199km,mB4.7,mb5.0*

HRVD ***16*** *16:51:45.5±0.2,36.49N×70.67E,h193km±1km,MW5.3/65, Centroid moment Tensor Solution. LP body waves: s44,c60;Mantle waves: s65,c137; Half duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.56±.02; $M_{\theta\theta}$-0.57±.03; $M_{\phi\phi}$0.00±.03; $M_{r\theta}$0.57±.02; $M_{\theta\phi}$-0.09±.02; $M_{r\phi}$0.52±.02; Best double couple: M_o.958×10^{17} NP1: ϕ_s279°,δ23°,λ131° NP2:ϕ_s56°,δ73°,λ75°. Principal axes: T 1.01, Plg59°, Azm304°; N -.102, Plg15°, Azm61°; P -.907, Plg26°, Azm158°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***16*** *16:51:45.5±0.1,36.47N×70.90E,mb4.7/133 Error ellipse: s-maj=4.3km s-min=2.6km az=195.0*

NEIC Felt at Chitral, Islamabad and Peshawar, Pakistan.

IDC ***16*** *16:51:46.3±0.7,36.53N×70.93E,h207km±5km,mb4.5/19, mb1 4.7/22,mb1mx4.7/22,mbtmp5.1/22,Error ellipse: s-maj=10.8km s-min=8.1km az=151.0*

NNC ***16*** *16:51:49.4±2.2,36.93N×70.62E,h199km±19km,mpv5.8, Error ellipse: s-maj=22.7km s-min=17.7km az=148.0*

ISC 16 16:51:44.0±0.1,36.47N±0.02×70.90E±0.02,h202km, h202km±1.9km;pP-P,n587,σ0s99/634,mb4.7/172, 189C-42D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.76**	**162**	⇑P	**P**	**16 52 31.8**	**+0.3**
CHCP	**Chirah Chowk**	**3.41**	**145**	⇑P	**P**	**16 52 39.9**	**+0.8**
THW	**Thamme Wali**	**3.73**	**169**	⇑P	**P**	**16 52 43.2**	**+0.1**
SBDP	**Sheikh Budin**	**4.16**	**181**	⇑P	**P**	**16 52 47.7**	**-0.7**
DRP	**Derazinda**	**4.74**	**187**	P	**P**	**16 52 55.6**	**-0.3**
SARP	**Sargodha**	**4.76**	**162**	⇓P	**P**	**16 52 55.5**	**-0.6**
JMU	**Jammu**	**4.99**	**137**	*e*P	**P**	**16 52 57.0**	**-1.9**
JMU				*e*S	**S**	**16 53 55.0**	**-2.1**
KSH	**Kashi**	**5.03**	**51**	*i* P	**P**	**16 53 00.9**	**+1.3**
KSH				S	**S**	**16 53 58.8**	**+0.6**
KSH				Smax			
	comp=N,7μm,0.6s						
KSH				Smax			
	comp=E,5μm,0.3s						
AML	**Almayashu**	**6.06**	**20**	P	**P**	**16 53 12.3**	**-0.5**
	SNR=3604						
UCH	**Uchtor**	**6.40**	**25**	P	**P**	**16 53 16.8**	**-0.4**
	SNR=409						
KZA	**Kyzart**	**6.54**	**30**	P	**P**	**16 53 18.1**	**-0.9**
	SNR=146						
EKS2	**Erkin-Say**	**6.58**	**19**	P	**P**	**16 53 19.0**	**-0.5**
	SNR=1079						
KK31	**Karatay Array**	**6.64**	**358**	⇓P	**P**	**16 53 19.2**	**-1.1**
	comp=E,386nm,0.5s,baz=191,slow=14,SNR=7441						
KK31				⇓S	**S**	**16 54 29.8**	**-5.5**
	comp=E,4μm,0.6s						
KK31	**Karatay Array**	**6.64**	**358**	⇓P	**P**	**16 53 19.2**	**-1.1**
	comp=E,386nm,0.4s						
KK31				S	**S**	**16 54 29.8**	**-5.5**
KKAR	**Karatay Array**	**6.64**	**358**	*i* PN	**P**	**16 53 19.2**	**-1.1**
KKAR				pmax	pmax		
	comp=Z,692nm,0.4s						
AAK	**Ala-Archa**	**6.76**	**23**	P	**P**	**16 53 21.6**	**-0.3**
	SNR=227						
AAK	**Ala-Archa**	**6.76**	**23**	⇓P	**P**	**16 53 21.6**	**-0.3**
	comp=Z,452nm,0.7s						
AAK				⇑S	**S**	**16 54 34.4**	**-3.8**
	comp=Z,740nm,0.4s						
AAK	**Ala-Archa**	**6.76**	**23**	⇓*i*P	**P**	**16 53 20.6**	**-1.3**
AAK				*e*S	**S**	**16 54 33.8**	**-4.3**
KBK	**Karagaybulak**	**6.93**	**26**	P	**P**	**16 53 23.9**	**-0.2**
	SNR=519						
FRU	**Bishkek**	**6.98**	**23**	⇓*i*PN	**P**	**16 53 24.0**	**-0.7**
FRU				*i* S	**S**	**16 54 40.0**	**-3.3**
FRU				pmax	pmax		
	comp=Z,1μm,2.0s						
FRU				pmax	pmax		
	comp=Z,2μm,2.8s						
FRU				smax			
	comp=N,10μm,4.0s						
ULHL	**Ulaho!**	**7.10**	**34**	P	**P**	**16 53 25.2**	**-1.1**
	SNR=93						
CHMS	**Chumysh**	**7.17**	**23**	P	**P**	**16 53 26.1**	**-1.1**
	SNR=464						
USP	**Ospenovka**	**7.33**	**21**	P	**P**	**16 53 27.9**	**-1.5**
	SNR=596						
TKM2	**Tokmak 2**	**7.39**	**28**	P	**P**	**16 53 29.7**	**-0.4**
	SNR=1690						
KKR	**Kurukshetra**	**8.16**	**141**	*e*P	**P**	**16 53 39.8**	**-0.4**
KKR				*e*S	**S**	**16 55 06.7**	**-4.3**
AAA	**Alma-Ata**	**8.23**	**32**	*i* PN	**P**	**16 53 40.4**	**-0.7**
AAA				*i* S	**S**	**16 55 12.4**	**-0.2**
AAA				pmax	pmax		
	comp=Z,2μm,1.8s						
AAA				smax			
	comp=N,4μm,3.4s						
AAA				MLR	MLR		
	comp=Z,6μm,4.4s						
BHGR	**Bahadurgarh**	**9.28**	**145**	*e*P	**P**	**16 53 53.0**	**-1.7**
KHET	**Khetri**	**9.34**	**152**	*e*P	**P**	**16 53 52.8**	**-2.7**
KHET				*e*S	**S**	**16 55 31.9**	**-6.3**
JASL	**Jaisalmer**	**9.51**	**180**	*e*P	**P**	**16 53 55.9**	**-1.8**
KUDL	**Kundal**	**9.55**	**149**	*e*P	**P**	**16 53 56.8**	**-1.4**
KUDL				*e*S	**S**	**16 55 36.5**	**-6.6**
KALG	**Kalgarh**	**9.57**	**134**	*ex*	x	16 55 13.5	
BISR	**Bishrakh**	**9.61**	**143**	*e*P	**P**	**16 53 57.7**	**-1.2**
BISR				*e*S	**S**	**16 55 40.0**	**-4.6**
SONA	**Sohna**	**9.71**	**146**	*e*P	**P**	**16 53 59.0**	**-1.3**
SONA				*e*S	**S**	**16 55 39.1**	**-7.9**
SONA				AML	AML	16 55 48.2	
	comp=N,714nm,0.5s						
SONA				AML	AML	16 55 48.4	
	comp=E,959nm,0.4s						
VAN	**Vannovskaya**	**10.31**	**282**	⇑*i*P	**P**	**16 54 04.7**	**-3.3**
VAN				*e*S	**S**	**16 55 56.6**	**-4.3**
AJM	**Ajmer**	**10.45**	**161**	*e*P	**P**	**16 54 08.8**	**-1.1**
AJM				*e*S	**S**	**16 55 58.5**	**-5.7**
AJM				AML	AML	16 56 06.7	
	comp=N,564nm,0.4s						
AJM				AML	AML	16 56 07.6	
	comp=E,600nm,0.6s						
AGRA	**Agra**	**10.98**	**145**	*e*P	**P**	**16 54 14.7**	**-1.9**
AGRA				*e*S	**S**	**16 56 08.5**	**-7.9**
AGRA				AML	AML	16 56 13.7	
	comp=E,869nm,0.6s						
AGRA				AML	AML	16 56 13.7	
	comp=N,956nm,0.7s						
JHNI	**Jhansi**	**12.77**	**147**	*i* P	**P**	**16 54 37.0**	**-2.3**
BHJ	**Bhuj**	**13.21**	**185**	*e*P	**P**	**16 54 43.7**	**-1.2**
BHJ				*e*S	**S**	**16 57 01.8**	**-5.8**
BHJ				AML	AML	16 57 46.8	
	comp=E,170nm,0.5s						
BHJ				AML	AML	16 57 47.1	
	comp=N,152nm,0.6s						
MK31	**Makanchi Array**	**13.37**	**36**	⇓P	**P**	**16 54 45.4**	**-1.3**
	comp=N,104nm,0.8s,baz=215,slow=8.1,SNR=407						
MK31				⇑S	**S**	**16 57 16.5**	**+5.4**
	comp=N,135nm,1.0s						
MK31	**Makanchi Array**	**13.37**	**36**	⇓P	**P**	**16 54 45.4**	**-1.3**
	comp=N,104nm,0.8s						
MK31				S	**S**	**16 57 16.5**	**+5.4**
MKAR	**Makanchi Array**	**13.37**	**36**	P	**P**	**16 54 45.5**	**-1.3**
	comp=N,5.3nm,0.3s,baz=220,slow=8.6,SNR=173						
MKAR				S	**S**	**16 57 21.5**	**+10**
	comp=N,0.5nm,0.3s,baz=228,slow=18,SNR=3.7						
KOLN	**Koldanda**	**13.81**	**125**	*e*P	**P**	**16 54 51.1**	**-1.3**
BHPL	**Bhopal**	**14.34**	**155**	*e*P	**P**	**16 54 59.3**	**+0.3**
BHPL				*ex*	x	16 57 31.2	
GKN	**Gorkha**	**14.35**	**122**	*e*P	**P**	**16 54 57.9**	**-1.2**
WMQ	**Urumqi**	**14.78**	**55**	⇑*i*P	**P**	**16 55 05.0**	**+0.6**
WMQ				XP		16 55 57.0	
WMQ				S	**S**	**16 57 43.0**	**0.0**
WMQ				PCP	PcP	17 00 03.0	+0.9
WMQ				SCP		17 03 16.0	
WMQ				AMB	AMB		
	comp=Z,52nm,1.0s						
WMQ				AMB	AMB		
	comp=Z,28nm,6.0s						
WMQ				LR	LR		
	comp=N,145nm,10.0s						
WMQ				LR	LR		
	comp=E,124nm,8.0s						
WMQ				LR	LR		
	comp=Z,152nm,10.0s						
DMN	**Daman**	**14.92**	**122**	*e*P	**P**	**16 55 04.9**	**-1.3**
KKN	**Kakani**	**14.93**	**121**	*e*P	**P**	**16 55 04.8**	**-1.5**
AB31	**Akbulak array**	**15.08**	**331**	⇑P	**P**	**16 55 06.1**	**-1.8**
	comp=Z,59nm,0.5s,baz=144,slow=11,SNR=1575						
AB31				⇑S	**S**	**16 57 45.4**	**-4.1**
	comp=Z,80nm,0.7s						
AB31	**Akbulak array**	**15.08**	**331**	⇑P	**P**	**16 55 06.1**	**-1.8**
	comp=Z,59nm,0.4s						
AB31				S	**S**	**16 57 45.4**	**-4.1**
AB31	**Akbulak array**	**15.08**	**331**	⇑P	**P**	**16 55 06.1**	**-1.8**
AB31				S	**S**	**16 57 45.4**	**-4.1**
AB31				pmax	pmax		
	comp=Z,59nm,0.4s						
PKI	**Pulchoki**	**15.15**	**122**	*e*P	**P**	**16 55 07.8**	**-1.3**
KURK	**Kurchatov**	**15.29**	**19**	⇓P	**P**	**16 55 08.2**	**-2.4**
	comp=Z,95nm,1.8s						
KURK				⇓S	**S**	**16 58 00.3**	**+6.0**
	comp=Z,132nm,1.2s						
KURK	**Kurchatov**	**15.29**	**19**	⇓*e*P	**P**	**16 55 07.8**	**-2.8**
	comp=Z,36nm,0.8s						
KURK				*e*S	**S**	**16 57 52.4**	**-1.9**
KURK	**Kurchatov**	**15.29**	**19**	*i* P	**P**	**16 55 07.1**	**-3.5**
KURK				pmax	pmax		
	comp=Z,95nm,1.8s						
JBP	**Jabalpur**	**15.41**	**147**	*i* P	**P**	**16 55 13.7**	**+1.5**
VOSK	**Vostochnaya**	**16.26**	**0**	⇓P	**P**	**16 55 20.9**	**-1.5**
	comp=Z,55nm,0.5s						
VOSK				⇑S	**S**	**16 58 14.3**	**-1.6**
	comp=Z,450nm,2.0s						
VOSK	**Vostochnaya**	**16.26**	**0**	⇓P	**P**	**16 55 20.9**	**-1.5**
	comp=Z,55nm,0.5s						
VOSK				S	**S**	**16 58 14.3**	**-1.6**
VOSK	**Vostochnaya**	**16.26**	**0**	⇓P	**P**	**16 55 20.9**	**-1.5**
VOSK				S	**S**	**16 58 14.3**	**-1.6**
VOSK				pmax	pmax		
	comp=Z,55nm,0.5s						
BVA0	**Borovoye Array**	**16.56**	**359**	⇑P	**P**	**16 55 24.6**	**-1.4**
	comp=Z,13nm,0.6s,baz=168,slow=12,SNR=619						
BVA0				⇑S	**S**	**16 58 24.2**	**+1.5**
	comp=Z,67nm,1.7s,baz=167,slow=24,SNR=16						
BVA0	**Borovoye Array**	**16.56**	**359**	⇑P	**P**	**16 55 24.6**	**-1.4**
BVA0				S	**S**	**16 58 24.2**	**+1.5**
BVA0				pmax	pmax		
	comp=Z,13nm,0.6s						
BVAR	**Borovoye Array**	**16.56**	**359**	P	**P**	**16 55 24.8**	**-1.2**
	comp=Z,14nm,0.3s,baz=150,slow=16,SNR=310						
BVAR				S	**S**	**16 58 26.4**	**+3.7**
	comp=Z,11nm,0.3s,baz=164,slow=26,SNR=11						
BRVK	**Borovoye**	**16.60**	**359**	⇓*e*P	**P**	**16 55 25.3**	**-1.2**
	comp=Z,59nm,0.6s						
BRVK				*e*S	**S**	**16 58 25.2**	**+1.7**
BRVK	**Borovoye**	**16.60**	**359**	⇓*e*P	**P**	**16 55 25.3**	**-1.1**
BRVK				*e*S	**S**	**16 58 25.2**	**+1.7**
BRVK				pmax	pmax		
	comp=Z,59nm,0.6s						
AKTO	**Aktyubinsk**	**16.77**	**330**	P	**P**	**16 55 27.6**	**-0.9**
AKTO				S	**S**	**16 58 25.3**	**-2.0**
AKTO				pmax	pmax		
	comp=Z,42nm,0.6s						
BLSP	**Bilaspur**	**17.30**	**143**	*e*P	**P**	**16 55 33.5**	**-1.1**
BLSP				AMb	AMB	16 55 37.4	
	comp=Z,296nm,1.2s						
BLSP				*ex*	x	16 58 39.1	
BOM	**Bombay**	**17.58**	**174**	*e*P	**P**	**16 55 39.6**	**+1.9**
BOM				*e*S	**S**	**16 58 52.6**	**+7.9**
POO	**Poona**	**18.05**	**171**	*e*P	**P**	**16 55 43.6**	**+0.9**
POO				AMb	AMB	16 55 49.2	
	comp=Z,264nm,1.2s						
POO				*ex*	x	16 59 04.3	
BOK	**Bokaro**	**18.07**	**130**	*i* P	**P**	**16 55 42.2**	**-0.5**
BOK				*i* x	x	16 58 52.2	
SHBG	**Sahibganj**	**18.22**	**123**	*e*P	**P**	**16 55 46.0**	**+1.7**
SHBG				*ex*	x	16 59 01.5	
LSA	**Lhasa**	**18.25**	**106**	P	**P**	**16 55 47.4**	**+2.9**
LSA				S	**S**	**16 58 57.6**	**-0.3**
LSA				AMB	AMB		
	comp=Z,290nm,1.0s						
LSA	**Lhasa**	**18.25**	**106**	⇓*i*P	**P**	**16 55 47.2**	**+2.6**
	comp=Z,237nm,0.8s						
LSA				*e*S	**S**	**16 59 03.2**	**+5.3**
LSA	**Lhasa**	**18.25**	**106**	⇓*i*P	**P**	**16 55 47.2**	**+2.7**
LSA				*e*S	**S**	**16 59 03.2**	**+5.3**
LSA				pmax	pmax		
	comp=Z,237nm,0.8s						
LATR	**Latur**	**18.66**	**163**	*i* P	**P**	**16 55 50.4**	**+1.6**
LATR				*ex*	x	16 59 11.1	
MAK	**Makhachkala**	**19.10**	**297**	*e*P	**P**	**16 55 54.5**	**+1.3**
MAK				*i* S	**S**	**16 59 22.0**	**+7.7**
MAK				pmax	pmax		
	comp=Z,165nm,1.0s						
MAK				pmax	pmax		
	comp=Z,500nm,2.0s						
MAK				smax			
	comp=N,1μm,8.0s						
MAK				smax			
	comp=E,2μm,8.0s						
MAK				MLR	MLR		
	comp=E,1μm,12.0s						
MAK				MLR	MLR		
	comp=Z,2μm,12.0s						
KAD	**Karad**	**19.30**	**170**	*e*P	**P**	**16 55 56.5**	**+1.0**
KAD				AMb	AMB	16 56 00.5	
	comp=Z,142nm,1.3s						
KAD				*ex*	x	16 59 28.7	
ZAL	**Zalesovo**	**19.96**	**25**	P	**P**	**16 56 01.9**	**0.0**
	comp=Z,32nm,0.3s,baz=253,slow=7.7,SNR=192						
ZAL				S	**S**	**16 59 32.4**	**+2.2**
	comp=Z,3.2nm,0.3s,baz=174,slow=23,SNR=8.4						
HYB	**Hyderabad**	**20.15**	**158**	⇓*i*P	**P**	**16 56 05.0**	**+0.9**
	comp=Z,200nm,1.0s						
HYB				*e*S	**S**	**16 59 32.0**	**-1.8**
HYB	**Hyderabad**	**20.15**	**158**	*e*P	**P**	**16 56 05.0**	**+0.9**
	comp=Z,200nm,1.0s						
HYB				*e*S	**S**	**16 59 32.0**	**-1.8**
HYB	**Hyderabad**	**20.15**	**158**	*e*P	**P**	**16 56 05.0**	**+0.9**
HYB				*e*S	**S**	**16 59 32.0**	**-1.8**
HYB				pmax	pmax		
	comp=Z,200nm,1.0s						
NVS	**Novosibirsk**	**20.24**	**21**	⇑*i*P	**P**	**16 56 04.3**	**-0.5**
NVS				*i* S	**S**	**16 59 38.6**	**+3.2**
NVS				pmax	pmax		
	comp=Z,266nm,1.3s						
NVS				pmax	pmax		
	comp=N,296nm,1.5s						
NVS				smax			
	comp=N,566nm,1.3s						
DGRG	**David-gareji**	**20.43**	**292**	P	**P**	**16 56 06.6**	**-0.2**
UMR	**Umm Al-Rimmam**	**20.60**	**257**	*e*P	**P**	**16 56 09.4**	**+0.9**
UMR				AMb	AMB	16 56 12.8	
	comp=Z,272nm,0.8s						
BWNR	**Bhubaneshwar**	**20.73**	**137**	*ex*	x	16 56 21.1	
BWNR				AMb	AMB	16 56 28.2	
	comp=Z,197nm,0.8s						
BWNR				*ex*	x	17 00 08.4	
KBD	**Kabd**	**20.78**	**256**	*e*P	**P**	**16 56 10.6**	**+0.3**
KBD				AMb	AMB	16 56 13.8	
	comp=Z,782nm,0.9s						
MIB	**Mutribah**	**20.79**	**258**	*e*P	**P**	**16 56 11.6**	**+1.2**
MIB				AMb	AMB	16 56 14.9	
	comp=Z,259nm,0.9s						
QRN	**Al-Qurain**	**20.80**	**255**	*e*P	**P**	**16 56 11.3**	**+0.8**
QRN				AMb	AMB	16 56 14.3	
	comp=Z,205nm,0.4s						
GNI	**Garni**	**20.83**	**288**	P	**P**	**16 56 12.9**	**+2.3**
	comp=Z,93nm,0.8s,baz=348,slow=3.1,SNR=32						
GNI				ScP		17 03 29.7	
	comp=Z,2.2nm,0.3s,baz=310,slow=19,SNR=3.3						
GNI	**Garni**	**20.83**	**288**	⇑*i*P	**P**	**16 56 13.1**	**+2.4**
	comp=Z,141nm,0.8s						
MTA	**Mtatsminda**	**20.89**	**292**	P	**P**	**16 56 12.3**	**+0.9**
TBLG	**Delisi**	**20.94**	**293**	P	**P**	**16 56 14.3**	**+2.6**
SHL	**Shillong**	**20.97**	**115**	*e*P	**P**	**16 56 14.0**	**+1.8**
SHL				*ex*	x	16 59 55.0	
RDF	**Al-Radifah**	**21.01**	**256**	*e*P	**P**	**16 56 13.6**	**+1.1**
RDF				AMb	AMB	16 56 18.9	
	comp=Z,182nm,0.6s,mb5.8						
HASS	**Wahat al Ahsa'**	**21.35**	**244**	P	**P**	**16 56 15.8**	**-0.1**
SVE	**Sverdlovsk**	**21.51**	**345**	⇑*e*P	**P**	**16 56 18.0**	**+0.8**
SVE				*e*		16 56 52.2	
SVE				*e*S	**S**	**17 00 04.0**	**+6.0**
SVE				*e*SS	SS	17 00 20.0	-34
SVE				pmax	pmax		
	comp=Z,304nm,2.0s,mb5.5						
SVE				MLR	MLR		
	comp=N,400nm,9.0s						
SVE				MLR	MLR		
	comp=E,300nm,9.0s						
SVE				MLR	MLR		
	comp=Z,500nm,9.0s						
ARU	**Arti**	**21.64**	**341**	⇑*e*P	**P**	**16 56 19.4**	**+0.9**
	comp=Z,121nm,0.7s,mb5.5						
ARU				*e*pP		16 56 52.4	
ARU				*e*sP		16 57 19.4	
ARU				*e*S	**S**	**17 00 06.6**	**+6.2**
ARU	**Arti**	**21.64**	**341**	⇑*i*P	**P**	**16 56 19.6**	**+1.1**
ARU				*i* S	**S**	**17 00 07.3**	**+6.9**
ARU				*e*SSS	SSS	17 00 58.8	-24
ARU				pmax	pmax		
	comp=Z,215nm,0.9s,mb5.7						
VIS	**Vishakhapatnam**	**21.66**	**146**	*e*P	**P**	**16 56 20.7**	**+1.7**
VIS				AML	AML	16 56 24.5	
	comp=Z,91nm,1.0s						
VIS				*ex*	x	17 00 17.2	
ZEI	**Tsey**	**21.68**	**295**	*e*P	**P**	**16 56 18.7**	**-0.3**
ZEI				*i* *PP		16 56 59.1	
ZEI				pmax	pmax		
	comp=Z,13nm,0.6s,mb4.6						
HAKT	**HAKKARI**	**21.72**	**281**	*i* P	**P**	**16 56 19.6**	**+0.1**
DIGO	**Kars**	**21.88**	**289**	*i* P	**P**	**16 56 26.5**	**+5.5**
TVAN	**Van**	**21.88**	**284**	*i* P	**P**	**16 56 24.3**	**+3.3**
ONI	**Oni**	**21.98**	**295**	P	**P**	**16 56 23.3**	**+1.4**
GOF	**Gofitskoye**	**22.70**	**301**	⇓*i*P	**P**	**16 56 31.3**	**+2.4**
GOF				*e*S	**S**	**17 00 30.5**	**+12**
GOF				pmax	pmax		
	comp=Z,200nm,1.0s,mb5.6						
KIV	**Kislovodsk**	**22.73**	**298**	⇑*i*P	**P**	**16 56 30.1**	**+0.9**
	comp=Z,78nm,0.8s,mb5.3						
KIV	**Kislovodsk**	**22.73**	**298**	*c i*P	**P**	**16 56 29.9**	**+0.7**
KIV				*i* S	**S**	**17 00 29.4**	**+10**
KIV				pmax	pmax		
	comp=Z,164nm,2.5s,mb5.1						
KIV				MLR	MLR		
	comp=Z,700nm,20.0s						
GTA	**Gaotai**	**22.95**	**74**	*e*P	**P**	**16 56 34.4**	**+3.0**
GTA				SCS	ScS	17 07 18.3	0.0
GTA				AMB	AMB		
	comp=Z,48nm,1.1s,mb4.9						
GTA				AMB	AMB		
	comp=Z,104nm,4.6s						
GTA				LR	LR		
	comp=N,494nm,9.1s						
GTA				LR	LR		
	comp=E,1μm,11.0s						
GTA				LR	LR		
	comp=Z,787nm,11.8s						
ARTV	**Artvin**	**23.00**	**291**	*i* P	**P**	**16 56 30.1**	**-1.7**
ERZM	**Erzurum**	**23.42**	**287**	*i* P	**P**	**16 56 38.3**	**+2.5**
BEST	**Besiri**	**23.61**	**282**	*i* P	**P**	**16 56 40.2**	**+2.5**
BNGL	**BINGOL**	**23.62**	**285**	*i* P	**P**	**16 56 41.0**	**+3.3**
MNGI	**Mangalore**	**23.69**	**170**	*e*P	**P**	**16 56 40.6**	**+2.0**
MNGI				*ex*	x	17 02 37.2	
MARD	**Mardin**	**24.06**	**281**	*i* P	**P**	**16 56 34.9**	**-7.0**
MDRS	**Chennai**	**24.76**	**158**	*ex*	**P**	**16 56 49.0**	**+0.3**
MDRS				*ex*	x	16 57 53.0	
MDRS				*ex*	x	17 00 05.0	
MDRS				*ex*	x	17 02 05.0	
SOC	**Sochi**	**24.81**	**296**	*e*P	**P**	**16 56 48.5**	**-0.4**
SOC				*e**PP		16 57 25.0	
SOC				*e*S	**S**	**17 00 55.4**	**+1.3**
SOC				*e*		17 01 48.8	
SOC				*e**SS		17 02 12.4	
SOC				pmax	pmax		
	comp=Z,37nm,1.2s,mb4.9						
SOC				pmax	pmax		
	comp=N,20nm,0.9s						
SOC				pmax	pmax		
	comp=E,46nm,1.6s						
SOC				MLR	MLR		
	comp=Z,381nm,20.0s						
SOC				MLR	MLR		
	comp=N,190nm,18.0s						
SOC				MLR	MLR		
	comp=E,315nm,21.0s						
SOKR	**Solikamsk**	**24.86**	**343**	*c i*P	**P**	**16 56 50.4**	**+1.3**
SOKR				*PP		16 57 29.5	
SOKR				pmax	pmax		
	comp=Z,60nm,0.8s,mb5.3						
KELT	**Kelkit**	**25.03**	**288**	*i* P	**P**	**16 56 52.3**	**+1.4**
MZLS	**Mizel**	**25.34**	**248**	P	**P**	**16 56 54.0**	**+0.1**
ELZG	**Elazig**	**25.34**	**284**	*i* P	**P**	**16 56 45.1**	**-8.7**
MALT	**Malatya**	**25.80**	**284**	⇑*e*P	**P**	**16 56 58.5**	**+0.5**
	comp=Z,13nm,0.9s,mb4.6						
MALT	**Malatya**	**25.80**	**284**	⇑*e*P	**P**	**16 56 58.5**	**+0.5**
MALT				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.6						
HILS	**Ha'il**	**26.23**	**258**	P	**P**	**16 57 02.1**	**0.0**
LZH	**Lanzhou**	**26.49**	**81**	⇑P	**P**	**16 57 06.5**	**+2.1**
LZH				AP	pP	16 57 48.0	+3.4
LZH				PP	PP	16 58 03.5	+7.4
LZH				XP	sP	16 58 12.5	+3.9
LZH				PCP	PcP	17 00 23.0	-1.1
LZH				S	**S**	**17 01 27.1**	**+5.5**
LZH				XS		17 02 39.5	
LZH				SCP		17 03 42.5	
LZH				PCS		17 04 02.5	
LZH				SCS	ScS	17 07 32.4	-0.3
LZH				AMB	AMB		
	comp=Z,49nm,1.3s,mb5.0						
LZH				AMB	AMB		
	comp=Z,312nm,5.7s						
LZH	**Lanzhou**	**26.49**	**81**	⇑P	**P**	**16 57 06.5**	**+2.1**
	comp=Z,49nm,1.3s,mb5.0						
LZH	

AFFS 'Afif 27.05 250 P **P** **16 57 09.4 -0.2**
ZAK Zakamensk 27.07 49 *e*P **P** **16 57 08.2 -1.3**
ZAK pmax pmax
comp=Z,11nm,1.0s,mb4.4
VOR Voronezh 27.14 314 *e*P **P** **16 57 09.5 -0.5**
VOR pmax pmax
comp=N,90nm,1.7s
VOR pmax pmax
comp=E,110nm,1.7s
VOR pmax pmax
comp=Z,160nm,1.7s,mb5.4
CD2 Chengdu 27.81 92 P **P** **16 57 18.8 +2.4**
CD2 S **S** **17 01 46.8 +3.9**
CD2 AMB AMB
comp=Z,20nm,0.7s,mb4.9
CD2 AMB AMB
comp=Z,100nm,4.5s
CD2 LR LR
comp=N,260nm,9.2s
CD2 LR LR
comp=Z,270nm,9.0s
QURS Qurayyt al Mil 28.23 270 P **P** **16 57 21.3 +1.2**
IRK Irkutsk 28.29 46 *e*P **P** **16 57 21.0 +0.6**
IRK pmax pmax
comp=Z,40nm,2.5s,mb4.6
ASF Jabal al Asfar 28.32 271 P **P** **16 57 20.8 -0.1**
comp=Z,1.1nm,0.4s,mb3.9,baz=345,slow=9.0,SNR=6.6
ASF ScP 17 03 49.5
comp=Z,1.7nm,0.8s,baz=78,slow=3.0,SNR=4.7
TRD Trivandrum 28.37 167 *ex* x 16 58 42.8
TRD *i x* x 17 01 46.8
SONM Songino Array 28.42 55 P **P** **16 57 22.8 +1.1**
comp=Z,12nm,0.8s,mb4.6,baz=258,slow=9.5,SNR=104
SONM pP pP 16 58 04.6 +2.1
comp=Z,8.4nm,0.8s,baz=261,slow=11,SNR=3.7
SONM ScP 17 03 48.9
comp=Z,2.6nm,1.0s,baz=243,slow=6.6,SNR=4.3
TATS Tathlith 29.36 242 P **P** **16 57 29.8 -0.4**
BR131 Keskin Array S 29.37 288 *e*P **P** **16 57 30.4 +0.2**
comp=Z,6.2nm,0.8s,mb4.3
BRTR Keskin Array B 29.37 288 P **P** **16 57 30.1 0.0**
comp=Z,5.8nm,0.6s,mb4.4,baz=98,slow=8.3,SNR=19
BRTR ScP 17 03 52.1
comp=Z,2.0nm,0.9s,baz=135,slow=4.1,SNR=4.8
MEST Erdemli 29.42 281 *i* P **P** **16 57 31.0 +0.4**
ELDT Eldivan 29.46 289 *i* P **P** **16 57 30.0 -1.0**
KMI Kunming 29.47 104 P **P** **16 57 32.3 +1.1**
KMI AP pP 16 58 17.4 +5.1
KMI XP sP 16 58 37.8 +1.9
KMI PP PP 16 58 43.3 +8.1
KMI PPP PPP 16 58 49.8 -2.2
KMI S **S** **17 02 08.9 -0.3**
KMI XS 17 03 24.3
KMI SCP 17 03 52.8
KMI SS SS 17 04 03.9 +3.2
KMI SSS SSS 17 04 36.0 +1.0
KMI AMB AMB
comp=Z,17nm,1.4s,mb4.5
KMI AMB AMB
comp=Z,177nm,3.2s
KMI LR LR
comp=N,180nm,17.6s
KMI LR LR
comp=E,254nm,14.4s
KMI LR LR
comp=Z,210nm,12.2s
MOS Moscow 29.64 321 *e*P **P** **16 57 29.9 -2.4**
MOS *e* 16 58 28.9
MOS pmax pmax
comp=Z,160nm,0.9s,mb5.7
MOS pmax pmax
comp=Z,600nm,1.9s
OBN Obninsk 29.91 319⇑ *i*P **P** **16 57 34.6 -0.2**
comp=Z,131nm,0.6s,mb5.7
OBN *es*P sP 16 58 35.6 -4.0
OBN Obninsk 29.91 319*c* *i*P **P** **16 57 34.5 -0.3**
OBN *i* 16 58 37.1
OBN *e*S **S** **17 02 20.0 +4.2**
OBN pmax pmax
comp=Z,302nm,1.7s,mb5.7
TBKS Tabuk 30.04 264 P **P** **16 57 37.3 +1.2**
CHRT Chiangrai 30.20 115 ⇓P **P** **16 57 39.0 +1.4**
comp=Z,153nm,1.3s,mb5.5
CHG Chiang Mai 30.27 118 P **P** **16 57 39.1 +0.8**
BLJS Baljurashi 30.50 245 P **P** **16 57 40.5 +0.3**
DJNS Zahran al Janu 30.53 240 P **P** **16 57 41.2 +0.7**
BTO Baotou 30.71 70 *e*P **P** **16 57 41.9 0.0**
DBAS Duba 30.93 263 P **P** **16 57 44.6 +0.7**
HAQS Haql 31.01 267 P **P** **16 57 44.5 -0.1**
XAN Xi'an 31.01 83 P **P** **16 57 45.4 +0.8**
XAN AMB AMB
comp=Z,55nm,1.0s,mb5.1
XAN AMB AMB
comp=Z,55nm,8.9s
TAYS Tayyib Ism 31.25 266 P **P** **16 57 46.7 -0.1**
NANT Nan 31.55 116 ⇓P **P** **16 57 48.0 -1.4**
comp=Z,131nm,0.8s,mb5.5
HHC Hu-ho-hao-te 31.85 70 *e*P **P** **16 57 53.5 +1.7**
HHC AP pP 16 58 34.3 +0.7
HHC XP sP 16 58 59.3 +2.2
HHC PP PP 16 59 07.6 +2.5
HHC PCP PcP 17 00 40.4 +2.8
HHC S **S** **17 02 45.8 -0.5**
HHC XS 17 04 02.8
HHC SS SS 17 04 58.3 +3.5
HHC AMB AMB
comp=Z,80nm,1.4s,mb5.1
HHC AMB AMB
comp=Z,621nm,4.0s
GYA Guiyang 31.94 98⇑ *i*P **P** **16 57 53.8 +1.1**
GYA AMB AMB
comp=Z,30nm,0.7s,mb4.9
GYA AMB AMB
comp=Z,130nm,2.8s,mb5.0
GYA LR LR
comp=N,350nm,15.4s
GYA LR LR
comp=E,200nm,16.8s
GYA LR LR
comp=Z,510nm,14.4s
ISP Isparta 32.05 285 *i* P **P** **16 57 53.0 -0.6**
TKTP Tekketepe 32.16 285 *i* P **P** **16 57 54.2 -0.3**
ENH Enshi 32.66 90⇓ *i*P **P** **16 58 00.5 +1.6**
comp=Z,67nm,1.1s,mb5.1
ENH *e*S **S** **17 03 00.7 +1.8**
ULDT Uludag 32.76 289 *i* P **P** **16 57 59.0 -0.7**
AKASG Malin Array Be 32.91 309 P **P** **16 58 00.2 -0.6**
comp=Z,47nm,0.6s,mb5.2,baz=80,slow=7.0,SNR=190
AKASG PP PP 16 59 14.8 -3.7
comp=Z,24nm,0.8s,baz=86,slow=10.0,SNR=8.1
AKASG ScP 17 04 02.0
comp=Z,0.7nm,0.4s,baz=89,slow=2.4,SNR=7.7
AKASG Malin Array Be 32.91 309 P **P** **16 58 00.2 -0.6**
AKASG PP PP 16 59 14.8 -3.7
AKASG ScP 17 04 02.0
CFR Carcaliu 33.19 299 ⇑P **P** **16 58 02.7 -0.6**
NST Nakhon Sawan 33.23 121 ⇑P **P** **16 58 05.6 +1.7**
comp=Z,67nm,0.7s,mb5.3
CIT Chita 33.74 49 *e*P **P** **16 58 08.3 +0.4**
CIT *e* 17 03 19.1
CIT pmax pmax
comp=Z,103nm,1.4s,mb5.2
VRI Vrincioaia 34.17 300 P **P** **16 58 12.6 +0.9**
MNK Minsk 34.50 315⇓ *e*P **P** **16 58 12.0 -2.3**
KKTK Khon Kaen 34.68 117 P **P** **16 58 16.5 +0.3**
comp=Z,556nm,0.5s
MLR Muntele Rosu 34.73 299 ⇑P **P** **16 58 17.8 +1.4**
MLR Muntele Rosu 34.73 299 P **P** **16 58 17.2 +0.9**
VOIR 35.36 299 ⇑P **P** **16 58 22.5 +0.8**
VOIR 35.36 299 P **P** **16 58 22.6 +0.9**
BOD Bodaibo 35.43 39 *e*P **P** **16 58 21.2 -0.9**
RZN Rozhen 35.89 293 *e*P **P** **16 58 26.5 +0.3**
APE Apeiranthos 36.09 285 P **P** **16 58 28.1 +0.2**
APE Apeiranthos 36.09 285*c* *i*P **P** **16 58 27.1 -0.8**
LVV L'vov 36.12 307⇑ *i*P **P** **16 58 28.3 +0.3**
LVV *i* 16 59 55.7
LVV *i* 17 00 51.3
LVV *e*S **S** **17 04 02.1 +10**
LVV MLR MLR
comp=Z,200nm,15.0s
LVV MLR MLR
comp=E,200nm,16.0s
VSU Vasula 36.16 322*c* *i*P **P** **16 58 28.2 -0.1**
WHN Wuhan 36.48 86 ⇓P **P** **16 58 33.0 +1.7**

VTS Vitosha 36.90 295 *e*P **P** **16 58 45.5 +11**
VTS Vitosha 36.90 295 P **P** **16 58 35.6 +1.0**
DRGR 36.95 302 P **P** **16 58 35.4 +0.4**
TIA Tai'an 36.96 76 ⇓P **P** **16 58 37.4 +2.2**
TIA AMB AMB
comp=Z,23nm,1.1s,mb4.6
KWP Kalwaria 36.97 306 *e*P **P** **16 58 36.1 +0.9**
KWP *e*PP PP 17 00 05.7 +0.1
KWP *e*S **S** **17 04 00.9 -3.9**
KWP Kalwaria 36.97 306 *e*P **P** **16 58 36.1 +0.9**
KWP *e*PP PP 17 00 05.7 +0.1
KWP *e*S **S** **17 04 00.9 -3.9**
KKB Krupnik 37.08 293 *e*P **P** **16 58 46.0 +10**
SUW Suwalki 37.08 314 *e*P **P** **16 58 35.9 -0.2**
SUW *e*S **S** **17 04 00.0 -6.5**
SUW Suwalki 37.08 314 *e*P **P** **16 58 35.9 -0.2**
SUW *e*S **S** **17 04 00.0 -6.5**
KOLS Kolonicke sedl 37.23 305 *i* P **P** **16 58 37.9 +0.5**
KOLS *e*PP PP 17 00 04.4 -4.0
HIA Hailar 37.38 54⇑ *i*P **P** **16 58 39.8 +1.2**
comp=Z,11nm,0.9s,mb4.4
HIA Hailar 37.38 54⇑ *i*P **P** **16 58 39.8 +1.2**
HIA pmax pmax
comp=Z,11nm,0.9s
LVZ Lovozero 37.46 338*c* *i*P **P** **16 58 38.9 -0.2**
LVZ *i* S **S** **17 04 07.2 -4.9**
LVZ pmax pmax
comp=Z,97nm,0.9s,mb5.3
LVZ pmax pmax
comp=N,47nm,1.0s
LVZ pmax pmax
comp=E,45nm,1.5s
LVZ pmax pmax
comp=N,54nm,0.9s
LVZ pmax pmax
comp=E,109nm,2.0s
LVZ smax
comp=Z,37nm,11.4s
LVZ smax
comp=N,42nm,10.5s
LVZ smax
comp=E,132nm,12.2s
FINES FINESS Array B 37.47 326 P **P** **16 58 39.5 +0.3**
comp=E,52nm,0.7s,mb5.2,baz=112,slow=10,SNR=158
FINES PP PP 17 00 03.4 -7.4
comp=E,8.9nm,0.7s,baz=102,slow=13,SNR=3.7
KAF Kangasniemi 37.61 327 *ep* **P** **16 58 39.2 -1.2**
comp=E,25nm,0.6s,mb4.9,baz=112,slow=8.4
KAF Kangasniemi 37.61 327 *e*P **P** **16 58 39.2 -1.2**
KAF pmax pmax
comp=Z,25nm,0.6s,mb4.9
APA Apatity 37.64 338⇓ *i*P **P** **16 58 40.5 -0.1**
APA pmax pmax
comp=Z,36nm,0.5s,mb5.2
CRVS Cervenica-Dubn 37.77 305 *i* P **P** **16 58 43.1 +1.3**
CRVS *i* PP PP 17 00 15.6 +1.6
STHS Stebnicka Huta 37.91 306 *i* P **P** **16 58 43.6 +0.6**
WAR Warsaw 38.18 310 *e*P **P** **16 58 46.2 +1.0**
WAR Warsaw 38.18 310 *e*P **P** **16 58 46.2 +1.0**
KECS Kecovo 38.41 304 *i* P **P** **16 58 47.9 +0.7**
KECS *e*PP PP 17 00 19.8 -1.4
KECS Kecovo 38.41 304 *i* P **P** **16 58 47.9 +0.7**
KECS *e* 17 00 19.0
KECS *e*PP PP 17 00 19.8 -1.4
PSZ Piszkesteto 38.83 303⇑ *e*P **P** **16 58 51.7 +1.1**
PSZ Piszkesteto 38.83 303⇑ *i*P **P** **16 58 51.4 +0.7**
comp=Z,14nm,0.8s,mb4.5
PSZ *es*P sP 16 59 54.4 -2.9
PSZ Piszkesteto 38.83 303⇑ *i*P **P** **16 58 51.4 +0.8**
PSZ pmax pmax
comp=Z,14nm,0.8s,mb4.5
OJC Ojcow 38.86 307 *e*P **P** **16 58 51.2 +0.3**
OJC *e*PP PP 17 00 27.4 +1.0
OJC *e*S **S** **17 04 39.5 +6.2**
OJC MLR MLR 17 07 51.6
comp=Z,600nm,23.3s
DIVS Divcibare 39.05 297 *i* P **P** **16 58 53.2 +0.6**
VYHS Vyhne 39.51 304 *i* P **P** **16 58 57.0 +0.7**
VYHS *e*PP PP 17 00 28.5 -4.8
VYHS *e*SS SS 17 07 41.3 +1.3
VYHS *e* 17 08 28.0
VYHS *e* 17 09 47.5
PKSM Moragy 39.78 301 P **P** **16 58 59.4 +0.9**
OKC Ostrava-Krasne 39.93 307 *e*P **P** **16 59 00.5 +0.8**
OKC *es*P sP 17 00 03.0 -3.5
OKC *e*PP PP 17 00 31.8 -5.9
OKC *e*SCP 17 04 30.7
OKC *e*SS SS 17 07 51.4 +3.4
OKC Ostrava-Krasne 39.93 307 *e*P **P** **16 59 00.5 +0.8**
OKC *e* 17 00 31.8
OKC *e*SS SS 17 07 51.4 +3.4
MORC Moravsky Berou 40.32 306⇑ *e*P **P** **16 59 03.4 +0.5**
comp=Z,11nm,0.6s,mb4.5
MORC *e*PP PP 17 00 35.5 -6.2
MORC *e*ScP 17 04 31.8
MORC Moravsky Berou 40.32 306⇑ *e*P **P** **16 59 03.4 +0.5**
MORC *e* 17 00 35.5
MORC pmax pmax
comp=Z,11nm,0.6s,mb4.5
SMOL Smolenice 40.45 305 *e*P **P** **16 59 05.0 +1.1**
GKP Gorka Klasztor 40.53 312 *e*P **P** **16 59 04.9 +0.2**
GKP *e*S **S** **17 05 00.4 +2.3**
GKP Gorka Klasztor 40.53 312 *e*P **P** **16 59 04.9 +0.3**
GKP *e*S **S** **17 05 00.4 +2.3**
SNY Shenyang 40.67 66 ⇑P **P** **16 59 06.3 +0.4**
SNY AMB AMB
comp=Z,10.0nm,0.6s,mb4.4
ZST Bratislava 40.68 304 *e*P **P** **16 59 07.5 +1.6**
ZST *e* 17 09 44.4
ZST Bratislava 40.68 304 *e*P **P** **16 59 07.5 +1.6**
ZST *e* 17 00 45.7
ZST *e* 17 09 44.4
KEV Kevo 40.80 338 *ep* **P** **16 59 06.3 -0.4**
comp=Z,46nm,0.6s,mb5.1
KEV Kevo 40.80 338 *e*P **P** **16 59 06.3 -0.4**
KEV pmax pmax
comp=Z,46nm,0.6s,mb5.1
VRAC Vranov 40.95 306 P **P** **16 59 09.1 +1.0**
DPC Dobruska-Polom 41.09 307 *e*P **P** **16 59 10.0 +0.8**
DPC *es*P sP 17 00 13.6 -2.5
DPC *e*PP PP 17 00 51.3 +2.0
DPC *e*SCP 17 04 35.1
DPC *e*SS SS 17 08 13.3 +1.5
DPC Dobruska-Polom 41.09 307 *e*P **P** **16 59 10.0 +0.8**
DPC *e* 17 00 51.3
DPC *e*SS SS 17 08 13.3 +1.5
KSP Ksiaz 41.09 308 *e*P **P** **16 59 09.8 +0.5**
KSP *e*PP PP 17 00 49.0 -0.4
KSP Ksiaz 41.09 308 *e*P **P** **16 59 09.5 +0.3**
KSP *e*S 17 06 26.6
KSP *e*SS SS 17 08 23.6 +12
ARCES ARCESS Array B 41.15 338 P **P** **16 59 10.2 +0.8**
comp=Z,65nm,0.6s,mb5.2,baz=114,slow=7.7,SNR=603
ARCES pP pP 16 59 52.1 -0.8
comp=Z,20nm,0.7s,baz=124,slow=8.7,SNR=2.9
ARE0 ARCESS Array S 41.15 338⇑ *i*P **P** **16 59 10.1 +0.6**
ARE0 *e*pP pP 16 59 52.1 -0.7
UPC Upice 41.28 308 *e*P **P** **16 59 11.6 +0.8**
UPC *e*P 17 04 37.3
KULM Kulim 41.31 132⇓ *i*P **P** **16 59 12.4 +1.0**
KTK1 Kautokeino 41.62 336⇑ *i*P **P** **16 59 13.6 +0.4**
KTK1 AMb AMB 16 59 14.3
comp=Z,104nm,0.6s,mb5.4
KTK1 Kautokeino 41.62 336⇑ *i*P **P** **16 59 13.6 +0.4**
comp=Z,104nm,0.6s,mb5.4
TREC Trest 41.68 306 *e*P **P** **16 59 14.8 +0.9**
TREC *es*P sP 17 00 17.8 -3.1
TREC *e*PP PP 17 00 54.7 -1.0
TREC *e*SCP 17 04 37.6
TREC *e*SS SS 17 08 38.8 +17
TREC Trest 41.68 306 *e*P **P** **16 59 14.8 +0.9**
TREC *e* 17 00 54.7
SSE Sheshan 41.76 82 P **P** **16 59 17.3 +2.4**
SSE AP pP 16 59 59.8 +1.5
SSE XP sP 17 00 22.6 +0.8
SSE PP PP 17 00 57.8 +1.0
SSE S **S** **17 05 19.1 +2.8**
SSE XS 17 06 34.3
SSE SCS ScS 17 08 55.5 +2.1
SSE AMB AMB
comp=Z,53nm,0.8s,mb5.0
SSE AMB AMB
comp=Z,49nm,4.9s
SSE LR LR
comp=N,149nm,25.1s
SSE LR LR
comp=E,122nm,25.2s
SSE LR LR
comp=Z,128nm,19.8s
SSE Sheshan 41.76 82 P **P** **16 59 17.2 +2.3**
comp=Z,53nm,0.8s,mb5.0
SSE pP pP 16 59 59.8 +1.5
SSE sP sP 17 00 22.6 +0.8
SSE PP PP 17 00 57.8 +1.0
SSE S **S** **17 05 19.1 +2.8**
SSE sS 17 06 34.3
SSE ScS ScS 17 08 55.5 +2.1
SSE LR LR
comp=Z,130nm,19.8s
ARSA Arzberg 41.82 303⇑ *i*P **P** **16 59 15.6 +0.5**
comp=Z,118nm,2.5s,mb4.9
PVCC Panska Ves 42.20 308 *e*P **P** **16 59 18.8 +0.6**
PVCC *es*P sP 17 00 22.0 -3.2
PVCC *e*PP PP 17 01 02.1 +1.0
PVCC *e*SCP 17 04 39.5
PVCC *e*SS SS 17 08 47.3 +16
PVCC Panska Ves 42.20 308 *e*P **P** **16 59 18.8 +0.6**
PVCC *e* 17 01 02.1
BOJS Bojanci 42.22 300 *e*P **P** **16 59 18.7 +0.3**
BOJS *e*PP PP 17 01 01.3 -0.1
PRU Pruhonice 42.25 307 *e*P **P** **16 59 19.5 +0.9**
PRU *es*P sP 17 00 22.0 -3.6
PRU *e*PP PP 17 00 59.9 -1.7
PRU *e*SCP 17 04 39.3
PRU *e*SS SS 17 08 41.0 +8.6
PRU Pruhonice 42.25 307 *e*P **P** **16 59 19.5 +0.9**
PRU *e* 17 00 59.9
PRU *e*SS SS 17 08 41.0 +8.6
OBKA Obir 42.57 302⇑ *i*P **P** **16 59 22.1 +0.9**
comp=Z,236nm,2.5s,mb5.2
BRG Berggiesshubel 42.58 308 *i* P **P** **16 59 22.0 +0.8**
comp=Z,16nm,0.6s,mb4.6
BRG pP pP 17 00 01.0 -3.8
BRG PP tx 17 01 32.0
BRG *e* 17 04 40.6
BRG S 17 06 48.0
BRG ScS ScS 17 08 53.0 -5.1
BRG Berggiesshubel 42.58 308 *i* P **P** **16 59 22.0 +0.7**
BRG *PP pP 17 00 01.0 -3.8
BRG pmax pmax
comp=Z,16nm,0.6s,mb4.6
MOA Molln 42.61 304⇑ *i*P **P** **16 59 21.8 +0.3**
comp=Z,52nm,1.3s,mb4.8
LJU Ljubljana 42.65 301 *e*P **P** **16 59 22.4 +0.5**
LJU *e*PP PP 17 01 07.3 +1.7
GEC2 GERESS Array S 42.88 305 *e*P **P** **16 59 24.3 +0.6**
comp=Z,9.0nm,1.1s,mb4.1
GEC2 *e*PP PP 17 01 08.0 +0.1
GEC2 GERESS Array S 42.88 305 *e*P **P** **16 59 24.3 +0.6**
GEC2 *e* 17 01 08.0
GEC2 pmax pmax
comp=Z,9.0nm,1.1s,mb4.1
GERES GERESS Array B 42.88 305 P **P** **16 59 24.2 +0.5**
comp=Z,3.7nm,0.5s,mb4.0,baz=90,slow=6.7,SNR=24
GERES PP PP 17 01 05.4 -2.4
comp=Z,6.7nm,0.9s,baz=72,slow=9.3,SNR=6.3
GERES ScP 17 04 42.0
comp=Z,1.7nm,0.8s,baz=90,slow=2.7,SNR=7.0
KHC Kasperske Hory 42.94 306 *e*P **P** **16 59 24.5 +0.3**
KHC pP pP 17 00 09.0 +1.2
KHC *es*P sP 17 00 26.2 -5.0
KHC *e*PP PP 17 01 06.3 -2.1
KHC *e*SCP 17 04 38.3
KHC *e*SS SS 17 08 54.5 +9.4
KHC Kasperske Hory 42.94 306 *e*P **P** **16 59 24.5 +0.3**
KHC *e* pP 17 00 09.0 +1.2
KHC *e* 17 00 26.2
KHC *e*PP PP 17 01 06.3 -2.1
KHC *e*P 17 04 38.3
KHC *e*SS SS 17 08 54.5 +9.4
KHC Kasperske Hory 42.94 306 *e*P **P** **16 59 24.5 +0.3**
KHC *e* 17 01 06.3
CLL Collm 43.15 309 ⇑P **P** **16 59 26.0 +0.2**
comp=Z,logA/T=1.7,mb4.9
CLL *e**PP pP 17 00 07.0 -2.5
CLL *e**SP sP 17 00 29.0 -3.9
CLL *e*PP PP 17 01 08.0 -2.5
CLL *e* 17 01 18.0
CLL *e**PPP 17 01 42.0
CLL *e*PPP PPP 17 01 54.0 +1.8
CLL *i* *SPP 17 02 07.4
CLL *i* SCP 17 04 42.6
CLL *e*SS SS 17 09 00.0 +11
CLL *e**SSS 17 10 00.0
CLL *e* 17 12 05.0
CLL Collm 43.15 309⇑ *i*P **P** **16 59 26.0 +0.2**
comp=Z,95nm,1.9s,mb4.9
CLL *e*pP pP 17 00 07.0 -2.5
CLL *e*PP PP 17 01 08.0 -2.5
CLL *i* ScP 17 04 42.6
CLL Collm 43.15 309⇑ *i*P **P** **16 59 26.0 +0.2**
CLL *e* 17 01 08.0
CLL pmax pmax
comp=Z,95nm,1.9s,mb4.9
TRO Tromso 43.27 336⇑ *i*P **P** **16 59 27.0 +0.5**
KBA Koelnbreinsper 43.32 303⇑ *i*P **P** **16 59 27.7 +0.5**
comp=Z,104nm,2.3s,mb4.9
KBA Koelnbreinsper 43.32 303⇑ *i*P **P** **16 59 27.7 +0.5**
KBA pmax pmax
comp=Z,104nm,2.3s,mb4.9
ROBS Robic 43.32 302 *e*P **P** **16 59 27.3 0.0**
ROBS *e*PP PP 17 01 16.3 +4.1
WET Wettzell 43.40 306 *e*P **P** **16 59 28.4 +0.6**
CII Carovilli 43.57 295 P **P** **16 59 31.0 +1.7**
comp=Z,12nm,0.8s,mb4.3
NKC Novy Kostel 43.58 307 *e*P **P** **16 59 29.8 +0.5**
NKC *es*P sP 17 00 33.6 -2.8
NKC *e*PP PP 17 01 15.8 +1.1
NKC *e*SS SS 17 09 09.3 +13
NKC Novy Kostel 43.58 307 *e*P **P** **16 59 29.8 +0.5**
NKC *e* 17 01 15.8
NKC *e*SS SS 17 09 09.3 +13
MOR8 Moi Rana 43.81 331⇑ *i*P **P** **16 59 30.6 -0.3**
MOR8 AMb AMB 16 59 31.4
comp=Z,223nm,0.7s,mb5.6
MOR8 Moi Rana 43.81 331⇑ *i*P **P** **16 59 30.6 -0.3**
comp=Z,223nm,0.7s,mb5.6
YAK Yakutsk 44.04 35⇑ *i*P **P** **16 59 32.8 0.0**
comp=Z,72nm,0.9s,mb5.0
YAK *e*pP pP 17 00 16.4 -0.1
YAK *e*PcP PcP 17 01 17.3 +2.3
YAK *e*ScP 17 04 46.3
YAK *e*S **S** **17 05 49.7 +0.8**
YAK Yakutsk 44.04 35 *e*P **P** **16 59 32.3 -0.5**
YAK *e* 17 01 13.7
YAK *e* 17 01 21.5
YAK *e*S **S** **17 05 48.7 -0.2**
YAK *e*SS SS 17 09 06.1 +1.5
YAK pmax pmax
comp=Z,23nm,0.8s,mb4.6
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK pmax pmax
comp=E,7.0nm,0.9s
YAK pmax pmax
comp=Z,7.0nm,0.9s,mb4.0
YAK pmax pmax
comp=N,3.0nm,0.8s
YAK pmax pmax
comp=E,7.0nm,1.1s
YAK smax
comp=N,18nm,1.0s
YAK smax
comp=E,24nm,0.8s
MOX Moxa 44.07 308⇑ *i*P **P** **16 59 33.8 +0.6**
comp=E,logA/T=1.6,mb4.7
MOX pP pP 17 00 10.0 -7.0
MOX PP PP 17 01 20.0 +0.4
MOX L 17 10 21.0
MOX Moxa 44.07 308⇑ *e*P **P** **16 59 33.8 +0.6**
comp=E,89nm,2.2s,mb4.7
MOX *e*pP pP 17 00 10.0 -7.0
MOX *e*PP PP 17 01 20.0 +0.4
MOX LR LR
comp=Z,100nm,19.0s

MOX Moxa 44.07 308⇑ eP P 16 59 33.8 +0.6
MOX e*PP pP 17 00 10.0 -7.0
MOX e 17 01 20.0
MOX pmax pmax
comp=Z,89nm,2.2s,mb4.7
MOX MLR MLR
comp=Z,100nm,19.0s
NB2 NORSAR Subarra 44.36 323 P **P 16 59 35.1 -0.2**
comp=Z,106nm,0.8s,mb5.2,baz=95,slow=7.4
NB2 NORSAR Subarra 44.36 323 P **P 16 59 35.1 -0.2**
baz=95,slow=7.9
NB2 NORSAR Subarra 44.36 323 P **P 16 59 35.1 -0.2**
NB2 pmax pmax
comp=Z,106nm,0.8s,mb5.2
NOA NORSAR Array B 44.36 323 P **P 16 59 35.0 -0.3**
comp=Z,78nm,0.7s,mb5.2,baz=97,slow=7.8,SNR=324
STOK Stokkvaagen 44.41 331 eP **P 16 59 36.1 +0.4**
STOK AMb AMB 16 59 39.1
comp=Z,119nm,1.7s,mb5.0
STOK Stokkvaagen 44.41 331 eP **P 16 59 36.1 +0.4**
comp=Z,119nm,1.7s,mb4.9
GRA1 Grafenberg Arr 44.42 307 eP **P 16 59 37.2 +1.3**
comp=Z,30nm,0.8s,mb4.7
GRA1 epP pP 17 00 21.6 +1.8
GRA1 esP sP 17 00 43.9 +0.8
GRA1 ePP PP 17 01 23.5 +0.5
GRA1 LR LR
comp=Z,300nm,18.1s
GRF Grafenberg Arr 44.42 307 eP **P 16 59 37.2 +1.3**
comp=Z,30nm,0.8s,mb4.7
GRF epP pP 17 00 21.6 +1.8
GRF esP sP 17 00 43.9 +0.8
GRF ePP PP 17 01 23.5 +0.5
GRF LR LR
comp=Z,300nm,18.1s
GRF Grafenberg Arr 44.42 307 eP **P 16 59 37.2 +1.3**
GRF e 17 01 23.5
GRF pmax pmax
comp=Z,30nm,0.8s,mb4.7
GRF MLR MLR
comp=Z,300nm,18.1s
GRF Grafenberg Arr 44.42 307 eP **P 16 59 37.2 +1.3**
GRF e 17 01 23.5
GRF pmax pmax
comp=Z,30nm,0.8s,mb4.7
GRF MLR MLR
comp=Z,300nm,18.1s
WTTA Wattenberg 44.45 303⇑ iP **P 16 59 35.8 -0.4**
comp=Z,77nm,2.5s,mb4.6
WTTA Wattenberg 44.45 303⇑ iP **P 16 59 35.8 -0.4**
WTTA pmax pmax
comp=Z,77nm,2.5s,mb4.6
WATA Walderalm 44.48 303⇓ iP **P 16 59 36.1 -0.4**
comp=Z,8.0nm,0.9s,mb4.0
WATA Walderalm 44.48 303⇓ iP **P 16 59 36.1 -0.4**
WATA pmax pmax
comp=Z,8.0nm,0.9s,mb4.0
NSS Namsos 44.48 328 eP **P 16 59 35.1 -1.1**
NAO01 NORSAR Array S 44.50 323⇑ eP **P 16 59 35.9 -0.6**
comp=Z,44nm,0.8s,mb4.8
NAO01 epP pP 17 00 19.8 -0.6
FUR Furstenfeldbru 44.56 305 eP **P 16 59 37.7 +0.6**
comp=Z,27nm,0.8s,mb4.6
FUR Furstenfeldbru 44.56 305 eP **P 16 59 37.7 +0.6**
FUR pmax pmax
comp=Z,27nm,0.8s,mb4.6
LOF Lofoten 44.64 333⇑ iP **P 16 59 39.3 +1.8**
LOF AMb AMB 16 59 47.8
comp=Z,114nm,1.7s,mb4.9
LOF Lofoten 44.64 333⇑ iP **P 16 59 39.3 +1.8**
comp=Z,114nm,1.7s,mb4.9
BSEG Bad Segeberg 44.66 313 eP **P 16 59 38.4 +0.6**
SQTA Sankt Quirin 44.74 303⇓ iP **P 16 59 38.0 -0.6**
comp=Z,33nm,1.6s,mb4.4
SQTA Sankt Quirin 44.74 303⇓ iP **P 16 59 38.0 -0.6**
SQTA pmax pmax
comp=Z,33nm,1.6s,mb4.4
CLZ Clausthal 44.75 310 eP **P 16 59 39.1 +0.5**
comp=Z,17nm,0.9s,mb4.4
CLZ ePP PP 17 01 25.8 -0.5
CLZ Clausthal 44.75 310 eP **P 16 59 39.1 +0.5**
CLZ e 17 01 25.8
CLZ pmax pmax
comp=Z,17nm,0.9s,mb4.4
MOTA Moosalm 44.80 303⇓ iP **P 16 59 38.4 -0.6**
comp=Z,13nm,0.9s,mb4.3
MOTA Moosalm 44.80 303⇓ iP **P 16 59 38.4 -0.6**
MOTA pmax pmax
comp=Z,13nm,0.9s,mb4.3
KS15 Wonju Array Si 44.94 71 eP **P 16 59 40.5 +0.2**
NACB Ninganchiao 44.98 91 eP **P 16 59 44.3 +3.6**
KONO Kongsberg 45.06 321 eP **P 16 59 38.6 -2.3**
KONO epP pP 17 00 24.6 -0.3
KONO eSS SS 17 09 30.7 +7.0
KONO Kongsberg 45.06 321 *d* iP **P 16 59 41.0 +0.1**
KLR Kul'dur 45.23 54 eP **P 16 59 40.2 -2.2**
KLR eS **S 17 06 06.0 -0.1**
KLR pmax pmax
comp=E,24nm,1.0s
KLR pmax pmax
comp=Z,20nm,1.0s,mb4.4
DAVA Damuels 45.63 304⇑ iP **P 16 59 45.2 -0.4**
comp=Z,60nm,1.0s,mb4.9
DAVOX Davos 45.71 303⇑ iP **P 16 59 45.8 -0.5**
TIXI Tiksi 45.84 22 eP **P 16 59 44.6 -2.3**
TIXI pmax pmax
comp=Z,64nm,0.9s,mb5.0
MAIM 45.84 299 P **P 16 59 46.6 -0.7**
SARO Sassorosso 45.84 299 P **P 16 59 48.0 +0.7**
STU Stuttgart 45.85 306⇑ eP **P 16 59 47.2 -0.1**
comp=Z,20nm,0.7s,mb4.5
STU Stuttgart 45.85 306⇑ eP **P 16 59 47.2 -0.1**
STU pmax pmax
comp=Z,20nm,0.7s,mb4.6
LIENZ Alp Oberkamor 45.88 304⇑ iP **P 16 59 47.3 -0.3**
VALM 45.92 299 P **P 16 59 48.6 +0.6**
TOD Tromm 45.99 307 eP **P 16 59 48.7 +0.3**
PLONS Plons 46.00 303⇑ iP **P 16 59 48.0 -0.5**
GRAM 46.02 300 P **P 16 59 49.4 +0.7**
VINC Vinca 46.03 299 P **P 16 59 49.0 +0.2**
VDL Val di Lei 46.04 303⇑ iP **P 16 59 48.4 -0.4**
BACM 46.06 299 P **P 16 59 49.9 +0.9**
TNS Taunus Mts 46.13 308 eP **P 16 59 49.9 +0.4**
comp=Z,10.0nm,0.9s,mb4.2
TNS ePP PP 17 01 39.2 -0.6
TNS Taunus Mts 46.13 308 eP **P 16 59 49.9 +0.4**
TNS e 17 01 39.2
TNS pmax pmax
comp=Z,10.0nm,0.9s,mb4.2
CODM 46.19 300 P **P 16 59 50.5 +0.5**
WILA Wila 46.26 304⇑ iP **P 16 59 49.9 -0.6**
LLS Linth-Limmern 46.29 303⇑ iP **P 16 59 50.2 -0.5**
LLS Linth-Limmern 46.29 303⇑ iP **P 16 59 50.1 -0.6**
MUGIO Muggio 46.44 302⇑ iP **P 16 59 50.6 -1.3**
SLE Schleitheim 46.47 304⇑ iP **P 16 59 51.5 -0.6**
SLE Schleitheim 46.47 304⇑ iP **P 16 59 51.6 -0.5**
BFO Black Forest 46.49 305 eP **P 16 59 52.0 -0.2**
comp=Z,7.0nm,0.9s,mb4.0
BFO ePP PP 17 01 43.7 +0.4
BFO Black Forest 46.49 305 eP **P 16 59 52.0 -0.2**
BFO e 17 01 43.7
BFO pmax pmax
comp=Z,7.0nm,0.9s,mb4.0
MUO Muotathal 46.52 303⇑ iP **P 16 59 52.2 -0.3**
BLS5 Blasjo 46.66 321 eP **P 16 59 54.2 +0.8**
BLS5 AMb AMB 16 59 56.6
comp=Z,48nm,1.7s,mb4.5
BLS5 Blasjo 46.66 321 eP **P 16 59 54.2 +0.8**
comp=Z,48nm,1.7s,mb4.5
BNALP Bannalp 46.68 303⇑ iP **P 16 59 53.3 -0.4**
LANF Langenberg 46.73 306 eP **P 16 59 54.2 +0.1**
ABH Alteburg 46.75 307 eP **P 16 59 54.5 +0.2**
FELD Feldberg 46.78 305 eP **P 16 59 53.5 -1.0**
HASLI Hasliberg 46.88 303⇑ iP **P 16 59 54.7 -0.6**
PCP Pian Castagno 47.07 300 P **P 16 56.3 -0.5**
RUP Ruppelstein 47.09 307 eP **P 16 59 57.1 +0.2**
WLS Welschbruch 47.12 306 eP **P 16 59 57.2 +0.1**
CDF Champ du Feu 47.17 306⇑ iP **P 16 59 57.6 +0.1**
comp=Z,20nm,0.8s,mb4.2
CDF Champ du Feu 47.17 306⇑ iP **P 16 59 57.6 +0.1**
CDF pmax pmax
comp=Z,10.0nm,0.8s,mb4.2
BBS Basel-Blauen 47.18 304 eP **P 16 59 57.1 -0.6**
PGF Pioggiola 47.21 297⇑ iP **P 16 59 57.2 -0.8**
comp=Z,49nm,0.7s,mb4.6
PGF Pioggiola 47.21 297⇑ iP **P 16 59 57.2 -0.8**
PGF pmax pmax
comp=Z,24nm,0.7s,mb4.6
BER Bergen 47.22 322 eP **P 16 59 57.2 -0.5**
BER eSS SS 17 10 07.0 +7.1
BER AMS AMS 17 23 42.6
comp=Z,205nm,18.3s
ORX Oropa 47.22 302 P **P 16 59 56.0 -2.1**
WIMIS Wimmis 47.26 303⇑ iP **P 16 59 57.6 -0.7**
ECH Echery 47.28 305 eP **P 16 59 58.4 0.0**
MOF Molkenrain 47.36 305 eP **P 16 59 58.6 -0.5**
FIN Finale Ligure 47.38 300 P **P 16 59 57.4 -1.8**
TRAV 47.41 302 P **P 16 59 58.3 -1.2**
DIX Grande Dixence 47.52 302⇑ iP **P 17 00 00.3 0.0**
SENIN Lac Senin 47.54 303⇑ iP **P 17 00 00.2 -0.3**
HINF Hinteralfeld 47.55 305⇑ iP **P 17 00 00.0 -0.6**
comp=Z,35nm,0.8s,mb4.5
HINF Hinteralfeld 47.55 305⇑ iP **P 17 00 00.0 -0.6**
HINF pmax pmax
comp=Z,18nm,0.8s,mb4.5
ROB Roburent 47.60 300 P **P 17 00 02.1 +1.2**
IMI Imperia 47.67 299 P **P 17 00 01.2 -0.3**
WLF Walferdange 47.68 307⇑ eP **P 17 00 02.1 +0.5**
comp=Z,19nm,0.8s,mb4.5
WLF epP pP 17 00 46.7 +0.7
WLF esP sP 17 01 09.8 +0.9
WLF ePP PP 17 01 56.6 +2.2
WLF Walferdange 47.68 307⇑ eP **P 17 00 02.1 +0.6**
WLF e 17 01 56.6
WLF pmax pmax
comp=Z,19nm,0.8s,mb4.5
GRYON Gryon 47.69 303⇑ iP **P 17 00 01.3 -0.3**
AIGLE Aigle 47.78 303⇑ iP **P 17 00 01.9 -0.4**
SALAN Lac Salanfe 47.80 303⇑ iP **P 17 00 02.4 -0.2**
NEGI Negi 47.82 299 P **P 17 00 02.2 -0.4**
RSP Reno Superiore 47.83 301 P **P 17 00 00.9 -1.8**
LSD Ceresole Reale 47.83 302 P **P 17 00 03.3 +0.5**
HAU Haudompre 47.85 305⇑ iP **P 17 00 02.4 -0.5**
comp=Z,29nm,0.6s,mb4.5
HAU eR
comp=Z,166nm,19.2s
HAU Haudompre 47.85 305⇑ iP **P 17 00 02.4 -0.5**
HAU pmax pmax
comp=Z,15nm,0.6s,mb4.5
HAU MLR MLR
comp=Z,170nm,19.3s
SAOF Saorge 47.89 300 eP **P 17 00 03.1 -0.1**
BHB Bricherasio 47.89 301 P **P 17 00 01.2 -2.0**
ENR Entracque 47.93 300 P **P 17 00 02.5 -1.0**
AUTN L'Aution 47.98 300 eP **P 17 00 04.1 +0.2**
STV2 Anna di Valdie 47.99 300 P **P 17 00 03.3 -0.7**
FENE Fenestrelle 47.99 301 P **P 17 00 03.0 -1.0**
STV Sta Anna Valdi 47.99 300 P **P 17 00 03.4 -0.7**
SBF Sospel 48.00 299⇑ iP **P 17 00 03.9 -0.2**
comp=Z,71nm,0.8s,mb4.7
SBF Sospel 48.00 299⇑ iP **P 17 00 03.9 -0.2**
SBF pmax pmax
comp=Z,35nm,0.8s,mb4.7
LPG La Plagne 48.10 302⇑ iP **P 17 00 05.1 +0.3**
comp=Z,79nm,0.7s,mb4.8
LPG La Plagne 48.10 302⇑ iP **P 17 00 05.1 +0.3**
LPG pmax pmax
comp=Z,40nm,0.7s,mb4.9
TOUF Mont Tournerai 48.10 300 eP **P 17 00 04.9 +0.1**
LPL La Plagne 48.11 302⇑ iP **P 17 00 05.0 +0.1**
comp=Z,29nm,0.6s,mb4.5
LPL La Plagne 48.11 302⇑ iP **P 17 00 05.0 +0.1**
LPL pmax pmax
comp=Z,15nm,0.6s,mb4.5
MVIF Mont Vial 48.19 300 eP **P 17 00 04.5 -1.1**
GIMEL Gimel 48.20 303⇑ iP **P 17 00 05.6 0.0**
RRL Cesana Torines 48.21 301 P **P 17 00 05.9 +0.3**
BNI Bardonecchia 48.25 301⇑ eP **P 17 00 05.4 -0.6**
comp=Z,11nm,0.8s,mb4.2
BNI Bardonecchia 48.25 301⇑ eP **P 17 00 05.4 -0.6**
BNI pmax pmax
comp=Z,11nm,0.8s,mb4.2
MBDF Montbardon 48.26 301⇑ iP **P 17 00 05.4 -0.7**
comp=Z,39nm,0.7s,mb4.5
MBDF Montbardon 48.26 301⇑ iP **P 17 00 05.4 -0.7**
MBDF pmax pmax
comp=Z,20nm,0.7s,mb4.6
SURF Saint Ours 48.29 300 eP **P 17 00 06.2 -0.1**
CABF La Chapelle 48.30 303 eP **P 17 00 06.6 +0.2**
comp=Z,57nm,0.8s,mb4.6
CABF La Chapelle 48.30 303 eP **P 17 00 06.6 +0.2**
CABF pmax pmax
comp=Z,28nm,0.8s,mb4.6
CALN Calern 48.41 299 eP **P 17 00 06.9 -0.3**
GIVF Givet 48.45 308 eP **P 17 00 07.8 +0.3**
MEZF Maizieres J'vi 48.60 306⇑ iP **P 17 00 08.7 +0.1**
comp=Z,26nm,0.6s,mb4.5
KBS Kingsbay 48.63 347⇑ iP **P 17 00 09.3 +0.8**
KBS AMb AMB 17 00 11.6
comp=Z,144nm,1.6s,mb5.1
KBS esP sP 17 01 15.2 -0.7
KBS eSS SS 17 10 31.4 +8.0
KBS AMS AMS 17 12 28.2
comp=Z,132nm,17.5s
KBS Kingsbay 48.63 347⇑ iP **P 17 00 09.3 +0.8**
comp=Z,144nm,1.6s,mb5.1
KBS LR LR
comp=Z,132µm,17.5s
KBS Kingsbay 48.63 347⇑ iP **P 17 00 09.3 +0.8**
KBS pmax pmax
comp=Z,145nm,1.6s,mb5.1
KBS MLR MLR
comp=Z,132µm,17.5s
FRF La Foret Royal 48.63 299⇑ iP **P 17 00 08.2 -0.7**
comp=Z,54nm,1.1s,mb4.5
FRF La Foret Royal 48.63 299⇑ iP **P 17 00 08.2 -0.7**
FRF pmax pmax
comp=Z,27nm,1.1s,mb4.5
KMBO Kilima Mbogo 48.75 227 P **P 17 00 11.7 +1.5**
comp=Z,14nm,0.7s,mb4.4,baz=34,slow=11,SNR=61
LMR La Mourre 48.79 299 eP **P 17 00 09.3 -0.8**
comp=Z,23nm,0.9s,mb4.2
LMR La Mourre 48.79 299 eP **P 17 00 09.3 -0.8**
LMR pmax pmax
comp=Z,12nm,0.9s,mb4.2
ORIF Oris-en-Rattie 48.83 301 eP **P 17 00 09.2 -1.2**
comp=Z,16nm,0.7s,mb4.2
ORIF eR
comp=Z,149nm,22.2s
GRN Grenoble 48.85 302 eP **P 17 00 10.2 -0.3**
BAIF Baives 48.85 308⇑ iP **P 17 00 11.0 +0.5**
comp=Z,76nm,1.1s,mb4.6
BAIF Baives 48.85 308⇑ iP **P 17 00 11.0 +0.5**
BAIF pmax pmax
comp=Z,38nm,1.1s,mb4.6
SMRF Simiane la Rot 49.28 300 eP **P 17 00 13.5 -0.3**
comp=Z,38nm,1.1s,mb4.3
OG26 St.-Nazaire-De 49.31 301 eP **P 17 00 14.1 0.0**
OCF Saint Nazaire 49.31 301 eP **P 17 00 14.1 0.0**
LOR Lormes 49.65 305⇑ iP **P 17 00 15.5 -1.1**
comp=Z,9.1nm,0.7s,mb3.9
LOR eR
comp=Z,124nm,19.5s
LOR Lormes 49.65 305⇑ iP **P 17 00 15.5 -1.1**
LOR pmax pmax
comp=Z,5.0nm,0.7s,mb4.0
LOR MLR MLR
comp=Z,120nm,19.5s
VIVF Saint-Julien-I 49.68 301⇑ iP **P 17 00 16.5 -0.4**
comp=Z,51nm,0.8s,mb4.6
VIVF Saint-Julien-I 49.68 301⇑ iP **P 17 00 16.5 -0.4**
VIVF pmax pmax
comp=Z,26nm,0.8s,mb4.6
SMF Signal de Mont 49.81 304⇑ iP **P 17 00 17.3 -0.5**
comp=Z,72nm,0.8s,mb4.8
SMF Signal de Mont 49.81 304⇑ iP **P 17 00 17.3 -0.5**
SMF pmax pmax
comp=Z,36nm,0.8s,mb4.8
SSF Saint Saulge 49.93 304⇑ iP **P 17 00 18.0 -0.8**
AVF Avril sur Loir 50.10 304⇑ iP **P 17 00 19.4 -0.6**
comp=Z,65nm,0.7s,mb4.7
AVF Avril sur Loir 50.10 304⇑ iP **P 17 00 19.4 -0.6**
AVF pmax pmax
comp=Z,32nm,0.7s,mb4.8
COLF Collangettes 50.18 302 eP **P 17 00 20.5 -0.2**
LASF Ste Croix 50.45 301⇑ iP **P 17 00 22.7 0.0**
comp=Z,55nm,0.9s,mb4.6
HYF Humbligny 50.46 305 eP **P 17 00 22.5 -0.2**
BGF Bois d'Agland 50.49 304⇑ iP **P 17 00 22.2 -0.8**
comp=Z,25nm,0.8s,mb4.3
BGF Bois d'Agland 50.49 304⇑ iP **P 17 00 22.2 -0.8**
BGF pmax pmax
comp=Z,13nm,0.8s,mb4.3
TCF Toulx Ste Croi 50.99 304⇑ iP **P 17 00 26.5 -0.2**
comp=Z,63nm,1.0s,mb4.7
TCF Toulx Ste Croi 50.99 304⇑ iP **P 17 00 26.5 -0.2**
TCF pmax pmax
comp=Z,31nm,1.0s,mb4.7
CAF Calviac 51.45 302⇑ iP **P 17 00 30.1 -0.1**
comp=Z,25nm,0.8s,mb4.4
CAF Calviac 51.45 302⇑ iP **P 17 00 30.1 -0.1**
CAF pmax pmax
comp=Z,12nm,0.8s,mb4.4
RJF Les Rejaudoux 51.72 303⇑ iP **P 17 00 32.0 -0.2**
comp=Z,36nm,1.0s,mb4.5
RJF eR
comp=Z,90nm,18.0s
RJF Les Rejaudoux 51.72 303⇑ iP **P 17 00 32.0 -0.2**
RJF pmax pmax
comp=Z,18nm,1.0s,mb4.5
RJF MLR MLR
comp=Z,90nm,18.0s
MTLF Montolieu 51.79 300⇑ iP **P 17 00 32.4 -0.4**
comp=Z,14nm,0.8s,mb4.2
MTLF Montolieu 51.79 300⇑ iP **P 17 00 32.4 -0.4**
MTLF pmax pmax
comp=Z,7.0nm,0.8s,mb4.1
LDF La Druitiere 51.94 307⇑ iP **P 17 00 32.8 -0.9**
comp=Z,15nm,0.5s,mb4.4
LDF La Druitiere 51.94 307⇑ iP **P 17 00 32.8 -0.9**
LDF pmax pmax
comp=Z,8.0nm,0.5s,mb4.4
FLN La Foliniere 52.12 307⇑ iP **P 17 00 34.1 -1.0**
comp=Z,40nm,0.8s,mb4.6
FLN eR
comp=Z,160nm,20.8s
FLN La Foliniere 52.12 307⇑ iP **P 17 00 34.1 -1.0**
FLN pmax pmax
comp=Z,20nm,0.8s,mb4.6
FLN MLR MLR
comp=Z,160nm,20.8s
ESK Eskdalemuir 52.28 316 eP **P 17 00 35.3 -0.9**
comp=Z,22nm,1.2s,mb4.5
ESK Eskdalemuir 52.28 316 eP **P 17 00 35.3 -0.9**
ESK pmax pmax
comp=Z,22nm,1.2s,mb4.5
LFF La Frestale 52.35 302⇑ iP **P 17 00 36.6 -0.2**
comp=Z,38nm,0.7s,mb4.6
LFF La Frestale 52.35 302⇑ iP **P 17 00 36.6 -0.2**
LFF pmax pmax
comp=Z,19nm,0.7s,mb4.6
MBAR Mbarara 52.42 234⇑ iP **P 17 00 37.0 -0.8**
comp=Z,14nm,0.8s,mb4.4
MBAR Mbarara 52.42 234⇑ iP **P 17 00 37.0 -0.8**
MBAR pmax pmax
comp=Z,14nm,0.8s,mb4.4
GRR Gorron 52.46 307⇑ iP **P 17 00 36.7 -0.9**
comp=Z,40nm,0.8s,mb4.6
GRR Gorron 52.46 307⇑ iP **P 17 00 36.7 -0.9**
GRR pmax pmax
comp=Z,20nm,0.8s,mb4.6
MFF Saint Martin d 52.47 305⇑ iP **P 17 00 36.7 -1.0**
comp=Z,14nm,0.7s,mb4.2
MFF Saint Martin d 52.47 305⇑ iP **P 17 00 36.7 -1.0**
MFF pmax pmax
comp=Z,7.0nm,0.7s,mb4.2
JMIC Jan Mayen 52.59 336 AMS AMS 17 14 13.9
comp=Z,112nm,21.0s
YSS Yuzh-Sakhalins 52.91 55⇑ eP **P 17 00 40.8 -0.2**
comp=Z,14nm,0.8s,mb4.4
YSS Yuzh-Sakhalins 52.91 55*c* iP **P 17 00 40.9 -0.1**
YSS pmax pmax
comp=Z,28nm,1.0s,mb4.7
MAJO Matsushiro 53.04 68 eP **P 17 00 41.3 -0.8**
comp=Z,6.9nm,0.6s,mb4.3
MAJO e 17 00 52.3
MAJO epP pP 17 01 27.8 +0.3
MAJO Matsushiro 53.04 68 eP **P 17 00 41.3 -0.8**
MAJO pmax pmax
comp=Z,7.0nm,0.6s,mb4.3
MAT Matsushiro 53.04 68 P **P 17 00 41.1 -1.0**
MAT S **S 17 07 53.0 -1.6**
MAT Matsushiro 53.04 68 eP **P 17 00 41.0 -1.1**
MJAR Matsushiro Arr 53.04 68 P **P 17 00 42.3 +0.2**
comp=Z,3.8nm,0.9s,mb3.8,baz=292,slow=9.1,SNR=12
MJAR pP pP 17 01 29.5 +2.0
comp=Z,6.0nm,0.8s,baz=286,slow=10,SNR=4.2
MJAR ScP 17 05 23.7
comp=Z,5.8nm,1.0s,baz=284,slow=6.1,SNR=8.5
MJAR Matsushiro Arr 53.04 68 P **P 17 00 42.3 +0.2**
MJAR pP pP 17 01 29.5 +2.0
MJAR ScP 17 05 23.7
EPF Esparros 53.20 300⇑ iP **P 17 00 41.7 -1.4**
comp=Z,8.7nm,0.7s,mb4.0
EPF Esparros 53.20 300⇑ iP **P 17 00 41.7 -1.4**
EPF pmax pmax
comp=Z,4.0nm,0.7s,mb4.0
EPOB Poblet 53.21 298 P **P 17 00 42.6 -0.7**
comp=Z,7.1nm,0.7s,mb4.2
EBIE Bielsa 53.44 300 P **P 17 00 44.4 -0.6**
comp=Z,3.9nm,0.5s,mb4.1
SGMF Saint Gilles 53.59 307⇑ iP **P 17 00 45.1 -0.8**
comp=Z,38nm,0.8s,mb4.7
SGMF Saint Gilles 53.59 307⇑ iP **P 17 00 45.1 -0.8**
SGMF pmax pmax
comp=Z,19nm,0.8s,mb4.7
ETSF Etsaut 53.86 300⇑ iP **P 17 00 47.7 -0.3**
comp=Z,21nm,0.6s,mb4.5
ETSF Etsaut 53.86 300⇑ iP **P 17 00 47.7 -0.3**
ETSF pmax pmax
comp=Z,11nm,0.6s,mb4.6
ROSF Rostrenen 54.02 308⇑ iP **P 17 00 48.2 -0.9**
comp=Z,36nm,0.8s,mb4.7
ROSF Rostrenen 54.02 308⇑ iP **P 17 00 48.2 -0.9**
ROSF pmax pmax
comp=Z,18nm,0.8s,mb4.7
QUIF Quistinic 54.08 307 eP **P 17 00 48.4 -1.1**
comp=Z,22nm,0.7s,mb4.5
QUIF Quistinic 54.08 307 eP **P 17 00 48.4 -1.1**
QUIF pmax pmax
comp=Z,11nm,0.7s,mb4.5
SJPF Ste Jean 54.26 301 eP **P 17 00 50.5 -0.4**
MA2 Magadan 54.44 38 eP **P 17 00 51.8 -0.2**
comp=Z,10nm,0.9s,mb4.4
MA2 Magadan 54.44 38*c* iP **P 17 00 51.5 -0.5**
MA2 pmax pmax
comp=Z,49nm,1.7s,mb4.8
SEY Seymchan 54.49 34 eP **P 17 00 52.9 +0.6**
SEY e*SP sP 17 01 58.2 -2.0
SEY 17 02 59.3
SEY PPP PPP 17 04 12.5 -2.3
SEY eS **S 17 08 17.1 +3.5**
SEY pmax pmax
comp=N,90nm,1.0s
SEY pmax pmax
comp=Z,20nm,1.0s,mb4.6
SEY pmax pmax
comp=E,2.0nm,0.5s
SEY smax
comp=N,220nm,23.4s
SEY smax
comp=E,180nm,24.0s
EMOS Mosqueruela 54.66 297 P **P 17 00 53.2 -0.6**
comp=E,7.8nm,0.8s,mb4.3
DAG Danmarks Havn 54.74 344⇓ iP **P 17 00 54.3 +0.3**
comp=E,29nm,0.8s,mb4.9
DAG Danmarks Havn 54.74 344⇓ iP **P 17 00 54.3 +0.3**
DAG pmax pmax
comp=Z,29nm,0.8s,mb4.9
ECHE Chera 55.29 297 P **P 17 00 57.9 -0.4**
comp=Z,4.1nm,0.6s,mb4.1
ECHE Chera 55.29 297 P **P 17 00 57.9 -0.4**
ECHE pmax pmax
comp=Z,4.0nm,0.6s,mb4.1
ELAN Lanestosa 55.74 302 P **P 17 01 01.6 +0.1**
comp=Z,12nm,0.6s,mb4.6
ETOB Tobarra 56.06 296 P **P 17 01 05.4 +1.6**
comp=Z,11nm,0.7s,mb4.5
EMUR La Murta 56.14 295 P **P 17 01 04.1 -0.3**
comp=Z,5.5nm,0.5s,mb4.3
EVIA Vianos 56.75 296 P **P 17 01 08.7 -0.1**
comp=Z,12nm,0.8s,mb4.6
EVIA Vianos 56.75 296 P **P 17 01 08.7 0.0**
EVIA pmax pmax
comp=Z,12nm,0.8s,mb4.6

EARI Arriondas 56.93 302 P **P** **17 01 08.7 -1.3**
comp=Z,8.9nm,0.9s,mb4.4
EHUE Huescar 57.13 295 P **P** **17 01 11.2 -0.3**
comp=Z,7.4nm,0.7s,mb4.4
EHUE Huescar 57.13 295 P **P** **17 01 11.2 -0.3**
EHUE pmax pmax
comp=Z,7.0nm,0.7s,mb4.4
ESDC Sonseca Array 57.40 298 P **P** **17 01 12.7 -0.6**
comp=Z,7.3nm,0.7s,mb4.4,baz=57,slow=7.4,SNR=51
ESDC Sonseca Array 57.40 298 P **P** **17 01 12.5 -0.8**
comp=Z,9.6nm,0.8s,mb4.5
ESLA Sonseca Array 57.40 298⇑ *eP* **P** **17 01 12.4 -0.9**
comp=Z,4.4nm,1.1s,mb4.0
EQES Quesada 57.49 295 P **P** **17 01 13.2 -0.8**
comp=Z,21nm,0.9s,mb4.8
EBER Berja 57.71 294 P **P** **17 01 15.7 +0.1**
comp=Z,24nm,0.9s,mb4.8
EBAN Banos Encina 57.86 296 P **P** **17 01 15.7 -0.8**
comp=Z,11nm,0.7s,mb4.6
EBAN Banos Encina 57.86 296 P **P** **17 01 15.7 -0.9**
EBAN pmax pmax
comp=Z,11nm,0.7s,mb4.6
EPON Pontenova 58.24 303 P **P** **17 01 20.4 +1.3**
comp=Z,6.4nm,1.5s,mb4.0
ERON Agron 58.34 295 P **P** **17 01 19.3 -0.6**
comp=Z,8.8nm,0.6s,mb4.6
EADA Adamuz 58.43 296 P **P** **17 01 20.1 -0.5**
comp=Z,1.5nm,1.6s
ELUQ Luque 58.45 296 P **P** **17 01 19.5 -1.2**
comp=Z,20nm,0.8s,mb4.8
ELUQ Luque 58.45 296 P **P** **17 01 19.5 -1.2**
ELUQ pmax pmax
comp=Z,20nm,0.8s,mb4.8
BILL Bilibino 58.67 26⇓ *eP* **P** **17 01 21.6 -0.2**
comp=Z,59nm,1.0s,mb5.2
BILL Bilibino 58.67 26 *c iP* **P** **17 01 22.3 +0.5**
BILL *e**PP pP 17 02 07.5 -0.6
BILL *e* 17 03 32.9
BILL *i S* **S** **17 09 10.7 +2.2**
BILL pmax pmax
comp=Z,67nm,1.2s,mb5.2
BILL MLR MLR
comp=Z,100nm,20.0s
ECAB El Cabril 59.08 297 P **P** **17 01 23.8 -1.2**
comp=Z,6.8nm,0.8s,mb4.3
EMIJ Mijas 59.23 295 P **P** **17 01 24.6 -1.4**
comp=Z,6.1nm,0.5s,mb4.5
MTE Manteigas 59.65 300 *eP* **P** **17 01 29.9 +1.1**
comp=Z,10.0nm,0.8s,mb4.5
ESPR Espera 59.89 296 P **P** **17 01 30.5 0.0**
comp=Z,11nm,0.9s,mb4.5
EBAD Badajoz 59.94 298 P **P** **17 01 30.1 -0.7**
comp=Z,15nm,0.8s,mb4.7
EMIN Mina Concepcio 60.11 297 P **P** **17 01 32.5 +0.5**
comp=Z,8.0nm,0.8s,mb4.4
PTOM Tomar 60.57 299 *eP* **P** **17 01 34.9 -0.2**
comp=Z,37nm,0.7s,mb5.1
EGRO El Granado 60.79 297 P **P** **17 01 34.7 -1.9**
comp=Z,7.4nm,0.6s,mb4.5
PBEJ Beja 60.85 298 *eP* **P** **17 01 37.0 0.0**
comp=Z,36nm,1.9s,mb4.7
SUMG Summit 61.07 341 *eP* **P** **17 01 37.7 -0.3**
comp=Z,43nm,1.1s,mb5.0
PLOU Loures 61.40 299 *eP* **P** **17 01 41.8 +1.1**
comp=Z,84nm,1.5s,mb5.2
LSZ Lusaka 65.37 226⇑ *eP* **P** **17 02 07.0 +0.1**
comp=Z,8.3nm,0.6s,mb4.5
LSZ Lusaka 65.37 226⇑ *eP* **P** **17 02 07.0 +0.1**
LSZ pmax pmax
comp=Z,8.0nm,0.6s,mb4.5
FX1 Attu Island--F 68.47 40 *eP* **P** **17 02 25.5 -0.3**
FX1 *ep*P pP 17 03 13.0 -0.5
TNA Tin City 68.62 22 *eP* **P** **17 02 27.4 +1.0**
EFAM Famara 69.20 291 P **P** **17 02 28.0 -2.6**
comp=Z,23nm,0.7s,mb4.9
IMA Indian Mountai 72.18 18 *eP* **P** **17 02 47.9 0.0**
MBWA Marble Bar 73.56 133 *eP* **P** **17 02 56.5 -0.3**
comp=Z,25nm,1.3s,mb4.7
INK Inuvik 73.95 9⇑ *iP* **P** **17 02 58.9 +0.8**
comp=Z,84nm,1.1s,mb5.3
INK Inuvik 73.95 9⇑ *iP* **P** **17 02 58.9 +0.8**
INK pmax pmax
comp=Z,84nm,1.1s
TTA Tatalina 74.08 20 *eP* **P** **17 02 59.9 +1.0**
DBIC Dimbokro 74.61 267 P **P** **17 03 02.2 -0.8**
comp=Z,11nm,0.8s,mb4.5,baz=34,slow=5.9,SNR=13
TSUM Tsumeb 74.83 232⇑ *iP* **P** **17 03 04.2 +0.2**
comp=Z,26nm,1.0s,mb4.8
ILAR Eielson Array 74.84 16 P **P** **17 03 03.0 -0.2**
comp=Z,21nm,1.1s,mb4.7,baz=321,slow=4.2,SNR=78
ILAR pP pP 17 03 51.1 -0.5
comp=Z,4.3nm,0.8s,baz=329,slow=5.3,SNR=3.3
ILAR PP PP 17 05 52.8 -2.1
comp=Z,1.6nm,0.9s,baz=316,slow=8.1,SNR=4.1
ILAR Eielson Array 74.84 16 P **P** **17 03 03.0 -0.2**
ILAR 17 05 52.8
MCK McKinley 75.26 17 *eP* **P** **17 03 06.0 +0.4**
comp=Z,6.9nm,0.4s,mb4.6
MCK McKinley 75.26 17 *eP* **P** **17 03 06.0 +0.4**
MCK pmax pmax
comp=Z,7.0nm,0.4s,mb4.6
SVW2 Sparrevohn 75.67 21 *eP* **P** **17 03 08.6 +0.7**
SPU Mount Spurr 76.60 20 *eP* **P** **17 03 12.9 -0.2**
RSO Redoubt South 77.00 21 *eP* **P** **17 03 16.0 +0.7**
SML Sawmill 77.04 18 *eP* **P** **17 03 15.9 +0.4**
SLKM Skilak Lake 77.66 19 *eP* **P** **17 03 18.6 -0.3**
BOSA Boshof 77.67 220 P **P** **17 03 20.0 +0.3**
comp=Z,15nm,0.7s,mb4.7,baz=31,slow=4.8,SNR=29
BOSA Boshof 77.67 220⇓ *eP* **P** **17 03 19.1 -0.6**
comp=Z,15nm,0.8s,mb4.7
BOSA *ep*P pP 17 04 07.0 -1.5
BOSA Boshof 77.67 220⇓ *eP* **P** **17 03 19.1 -0.6**
BOSA pmax pmax
comp=Z,15nm,0.8s,mb4.7
DIV Divide 78.25 17⇑ *iP* **P** **17 03 22.8 +0.6**
comp=Z,59nm,0.9s,mb5.2
EYAK Cordova Ski Ar 78.77 18⇑ *eP* **P** **17 03 25.8 +0.8**
KDAK Kodiak Island 79.26 22⇑ *eP* **P** **17 03 28.5 +0.8**
comp=Z,71nm,1.3s,mb5.1
YKW3 Yellowknife Ar 81.22 3⇑ *iP* **P** **17 03 38.5 +0.5**
YKW3 *ep*P pP 17 04 26.6 -0.7
YKA Yellowknife Ar 81.28 3 P **P** **17 03 38.9 +0.7**
comp=Z,15nm,0.6s,mb4.8,baz=347,slow=5.1,SNR=85
YKA pP pP 17 04 27.0 -0.6
comp=Z,6.3nm,0.7s,baz=351,slow=5.5,SNR=3.1
YKA sP sP 17 04 50.5 +1.7
comp=Z,6.5nm,0.8s,baz=350,slow=5.5,SNR=2.3
YKA PP PP 17 06 45.5 -3.0
comp=Z,1.6nm,0.8s,baz=354,slow=7.6,SNR=4.6
YKA Yellowknife Ar 81.28 3 P **P** **17 03 38.9 +0.7**
YKA pP pP 17 04 27.0 -0.6
YKA sP sP 17 04 50.5 +1.7
YKA PP PP 17 06 45.5 -3.0
YKA Yellowknife Ar 81.28 3 P **P** **17 03 38.9 +0.6**
YKA 17 06 45.5
WRA Warramunga Arr 82.04 122 P **P** **17 03 42.5 -0.5**
comp=Z,19nm,0.6s,mb4.9,baz=323,slow=4.9,SNR=530
WRAB Tennant Creek 82.04 122⇑ *iP* **P** **17 03 42.7 -0.3**
comp=Z,44nm,0.8s,mb5.1
WRAB Tennant Creek 82.04 122⇑ *iP* **P** **17 03 42.7 -0.3**
WRAB pmax pmax
comp=Z,43nm,0.8s,mb5.1
SCHQ Schefferville 82.10 337 P **P** **17 03 43.2 +0.6**
comp=Z,8.3nm,0.7s,mb4.5,baz=36,slow=6.1,SNR=24
SCHQ PP PP 17 06 50.6 -4.5
comp=Z,3.4nm,0.7s,baz=29,slow=12,SNR=4.6
SCHQ Schefferville 82.10 337 *eP* **P** **17 03 43.2 +0.7**
comp=Z,9.7nm,0.7s,mb4.5
DLBC Dease Lake 83.85 11⇑ *iP* **P** **17 03 52.9 +1.5**
SIT Sitka 84.23 14⇑ *iP* **P** **17 03 54.9 +1.6**
comp=Z,7.9nm,0.6s,mb4.6
SIT Sitka 84.23 14⇑ *iP* **P** **17 03 54.9 +1.6**
SIT pmax pmax
comp=Z,8.0nm,0.6s,mb4.6
FFC Flin Flon 88.97 356⇑ *eP* **P** **17 04 17.1 +0.9**
comp=Z,60nm,1.5s,mb5.2
FFC *ep*P pP 17 05 12.7 +6.5
FFC Flin Flon 88.97 356⇑ *eP* **P** **17 04 17.1 +0.9**
FFC *e**PP pP 17 05 12.7 +6.5
FFC pmax pmax
comp=Z,60nm,1.5s,mb5.2
EDM Edmonton 90.61 3⇑ *eP* **P** **17 04 25.2 +1.3**
EDM *ep*P pP 17 05 15.3 +1.2
ULM Lac du Bonnet 92.87 352 P **P** **17 04 35.0 +0.5**
comp=Z,3.7nm,0.6s,mb4.6,baz=32,slow=4.6,SNR=8.6
ULM Lac du Bonnet 92.87 352 P **P** **17 04 35.0 +0.5**

WALA Waterton Lakes 94.75 3⇑ *eP* **P** **17 04 43.6 +0.6**
comp=Z,5.4nm,0.9s,mb4.7
WALA *ep*P pP 17 05 35.1 +1.9
WALA *es*P sP 17 05 54.5 +0.1
STKA Stephens Creek 94.83 126 P **P** **17 04 42.7 -1.1**
comp=Z,1.8nm,0.4s,mb4.5,baz=320,slow=7.9,SNR=8.9
STKA Stephens Creek 94.83 126 P **P** **17 04 42.7 -1.1**
CHMT Chamberlain Mo 96.92 3 *eP* **P** **17 04 54.0 +1.1**
CHMT *ep*P pP 17 05 44.8 +1.6
HRY Holter Researc 97.17 2 *eP* **P** **17 04 55.5 +1.4**
IMW Indian Meadow 100.00 1 *e*Pdif P 17 05 09.1 +2.1
comp=Z,8.5nm,1.4s,mb5.0
TXAR Lajitas Array 114.35 355 PP PP 17 10 53.6 -9.2
comp=Z,0.3nm,0.6s,slow=2.5,SNR=3.4
SNAA Sanae 119.33 200 PKPdf 17 10 12.5 +4.3
SNAA Sanae 119.33 200 PKPdf 17 10 24.4 +16
SNAA Sanae 119.33 200 PKPdf PKPdf 17 10 08.8 +0.6
SNAA P 17 10 24.4
VNA2 Neumayer--Watz 120.33 202⇑ *i* PKPdf 17 10 14.6 +4.4
VNA2 Neumayer--Watz 120.33 202 PKPdf 17 10 19.8 +10
VNA2 Neumayer--Watz 120.33 202 PKPdf 17 10 29.4 +19
VNA2 Neumayer--Watz 120.33 202 PKPdf 17 11 02.0 +52
VNA2 Neumayer--Watz 120.33 202 PKPdf 17 11 10.5 +60
VNA2 Neumayer--Watz 120.33 202⇑ *i* PKPdf PKPdf 17 10 12.2 +2.0
VNA2 P 17 10 19.8
VNA2 P 17 10 29.4
VNA1 Neumayer--Stat 120.49 202 P PKPdf 17 10 13.0 +2.5
VNA3 Neumayer Olymp 121.14 202⇑ *i* PKPdf 17 10 15.6 +3.8
VNA3 Neumayer Olymp 121.14 202 PKPdf 17 10 20.2 +8.4
VNA3 Neumayer Olymp 121.14 202 PKPdf 17 10 30.7 +19
VNA3 Neumayer Olymp 121.14 202 PKPdf 17 11 03.8 +52
VNA3 Neumayer Olymp 121.14 202 PKPdf 17 11 07.2 +55
VNA3 Neumayer Olymp 121.14 202 PKPdf 17 11 11.3 +60
VNA3 Neumayer Olymp 121.14 202⇑ *i* PKPdf PKPdf 17 10 13.7 +1.9
VNA3 P 17 10 20.2
VNA3 P 17 10 30.7
ROSC El Rosal 127.60 314 PKP PKPdf 17 10 28.0 +2.4
comp=Z,3.6nm,0.3s,baz=89,slow=22,SNR=6.1
SAML Samuel 130.21 292 *e*PKPdf PKPdf 17 10 31.6 +1.1
SAML *es*KPbc 17 13 34.4
CPUP Villa Florida 135.13 268 PKP PKPdf 17 10 40.1 +0.6
comp=Z,5.3nm,0.6s,baz=82,slow=2.9,SNR=18
LPAZ La Paz 138.55 288 PKP PKPdf 17 10 47.7 +1.7
comp=Z,2.6nm,0.8s,baz=28,slow=3.4,SNR=9.4
LPAZ SKPbc 17 14 02.8
comp=Z,2.7nm,1.1s,baz=62,slow=5.5,SNR=7.0
LPAZ La Paz 138.55 288 PKP PKPdf 17 10 47.7 +1.7
LPAZ SKPbc 17 14 02.8
TRQA Tornquist 142.78 253 *e*PKPpre 17 10 49.9
TRQA *e*PKPdf PKPdf 17 10 55.5 +2.7
PLCA Paso Flores 149.74 250 PKP PKPdf 17 11 06.9 +2.5
comp=Z,2.5nm,0.7s,baz=243,slow=1.4,SNR=6.7
PLCA PKPbc PKPdf 17 11 11.5 +7.1
comp=Z,18nm,0.8s,baz=149,slow=1.2,SNR=7.8
PLCA Paso Flores 149.74 250 *e*PKPdf PKPdf 17 11 06.1 +1.7
PLCA *e*PKPbc PKPdf 17 11 12.7 +8.3

BJI ***16*** *17:04:05.1, 9.60S×124.64E, h15km, mB5.0, mb4.9, Ms4.6, Msz4.3*
NEIC ***16*** *17:04:12.9±0.2, 8.86S×124.18E, h15km, mb5.1/26, Error ellipse: s-maj=9.2km s-min=5.3km az=69.0*
MOS ***16*** *17:04:13.4±1.0, 8.81S×124.26E, h33km, mb5.2/10, Error ellipse: s-maj=15.7km s-min=7.9km az=112.9*
IDC ***16*** *17:04:20.0±2.6, 8.80S×124.22E, h71km±21km, mb4.4/14, mb1 4.4/14, mb1mx4.4/17, mbtmp4.7/14, MS3.8/3, Ms1 3.8/3, ms1mx3.3/15, Error ellipse: s-maj=21.8km s-min=14.0km az=76.0*
ISC 16 17:04:11.8±2.1, 8.84S±0.04×124.28E±0.07, h20km±14km, n112, σ0°98/114, mb4.9/58, MS4.0/8, 8C-8D, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBWA	**Marble Bar**	**13.01**	**199**	*e*Pn	**P**	**17 07 17.0**	**-1.4**
	2.2nm,0.2s						
MBWA				*e*Sn	**S**	**17 09 28.3**	**-15**
TSM	**Tawau**	**14.53**	**334**	P	**P**	**17 07 47.3**	**+8.8**
WRA	**Warramunga Arr**	**14.71**	**140**	P	**P**	**17 07 39.7**	**-1.2**
	8.6nm,0.3s,baz=322,slow=13,SNR=111						
WRA				S	**S**	**17 10 08.6**	**-16**
	15nm,0.3s,baz=311,slow=23,SNR=15						
WRAB	**Tennant Creek**	**14.71**	**140**	*e*Pn	**P**	**17 07 39.8**	**-1.1**
WRAB				*e*Sn	**S**	**17 10 05.2**	**-19**
KKM	**Kota Kinabalu**	**16.83**	**331**	P	**P**	**17 08 16.0**	**+7.9**
FORT	**Forrest**	**22.11**	**171**	*e*P	**P**	**17 09 07.2**	**-0.5**
	94nm,0.6s,mb5.4						
FORT				*e*S	**S**	**17 13 04.8**	**-0.6**
PMG	**Port Moresby**	**22.60**	**93**	P	**P**	**17 09 23.9**	**+11**
	44nm,0.7s,mb5.0,baz=270,slow=7.2,SNR=12						
PMG	**Port Moresby**	**22.60**	**93**	P	**P**	**17 09 14.1**	**+1.3**
	40nm,0.8s,mb4.9						
PMG				*e*		17 09 23.7	
KLBR	**Kellerberrin**	**23.43**	**194**	*i*P	**P**	**17 09 20.1**	**-0.7**
	26nm,0.6s,mb4.8						
KGM	**Kluang**	**23.51**	**296**	P	**P**	**17 09 24.2**	**+2.5**
CTAO	**Charters Tower**	**24.00**	**120**	*e*P	**P**	**17 09 29.6**	**+3.2**
	38nm,0.9s,mb4.8						
MUN	**Mundaring**	**24.21**	**197**	*e*P	**P**	**17 09 28.3**	**0.0**
MUN				*e*S	**S**	**17 13 53.1**	**+11**
IPM	**Ipoh**	**26.74**	**299**	P	**P**	**17 09 52.5**	**+0.1**
STKA	**Stephens Creek**	**28.00**	**147**	*i*P	**P**	**17 10 04.1**	**+0.5**
	12nm,0.9s,mb4.5						
STKA				*e*S	tx	17 15 23.4	
STKA	**Stephens Creek**	**28.00**	**147**	P	**P**	**17 10 04.2**	**+0.6**
	12nm,0.6s,mb4.7,baz=316,slow=8.9,SNR=30						
STKA				LR	LR	17 22 11.5	
	comp=Z,210nm,20.8s,MS3.7,baz=28,slow=38						
SNG	**Songkhla**	**28.45**	**303**	P	**P**	**17 10 08.5**	**+0.7**
QIZ	**Qiongzhong**	**31.14**	**333**	P	**P**	**17 10 32.8**	**+1.1**
NNT	**Nongplab**	**32.37**	**311**	P	**P**	**17 10 43.7**	**+1.1**
TOO	**Toolangi**	**34.44**	**149**	*i*P	**P**	**17 11 02.3**	**+2.0**
	9.5nm,0.9s,mb4.7						
CNB	**Canberra Magne**	**34.93**	**143**	*i*P	**P**	**17 11 06.2**	**+1.7**
	14nm,0.5s,mb5.1						
NANT	**Nan**	**35.99**	**320**	P	**P**	**17 11 14.0**	**+0.3**
CHG	**Chiang Mai**	**37.14**	**318**	⇑P	**P**	**17 11 25.2**	**+1.9**
	24nm,0.9s,mb5.0						
CHRT	**Chiangrai**	**37.36**	**320**	⇓P	**P**	**17 11 26.5**	**+1.3**
	153nm,0.9s,mb5.8						
KMI	**Kunming**	**39.75**	**329**	P	**P**	**17 11 47.8**	**+2.7**
KMI				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.6						
KMI				AMB	AMB		
	comp=Z,101nm,5.8s						
KMI				LR	LR		
	comp=N,93nm,22.6s,MS3.8						
KMI				LR	LR		
	comp=E,112nm,21.2s,MS3.8						
KMI				LR	LR		
	comp=Z,153nm,27.9s						
KMI	**Kunming**	**39.75**	**329**	P	**P**	**17 11 47.7**	**+2.6**
	comp=Z,12nm,0.9s,mb4.6						
KMI				pP	pP	17 12 05.7	+15
KMI				LR	LR		
	comp=Z,150nm,27.9s,MS3.7						
SSE	**Sheshan**	**39.82**	**356**	P	**P**	**17 11 44.8**	**-0.8**
SSE				AMB	AMB		
	comp=Z,22nm,0.7s,mb5.0						
SSE				AMB	AMB		
	comp=Z,29nm,3.8s						
SSE	**Sheshan**	**39.82**	**356**	P	**P**	**17 11 44.7**	**-0.9**
	comp=Z,22nm,0.7s,mb5.0						
NJ2	**Nanjing**	**40.99**	**353**	*e*P	**P**	**17 11 56.9**	**+1.7**
NJ2				PP	PP	17 13 36.1	+3.2
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,1μm,4.5s						
NJ2				LR	LR		
	comp=N,470nm,25.4s,MS4.3						
NJ2				LR	LR		
	comp=E,90nm,21.0s,MS4.3						
NJ2				LR	LR		
	comp=Z,500nm,22.8s,MS4.3						
JNU	**Nakatsue**	**42.20**	**8**	P	**P**	**17 12 05.5**	**+0.3**
	comp=Z,4.8nm,0.9s,mb4.1,baz=205,slow=23,SNR=3.6						
DZM	**Mont Dzumac**	**42.57**	**113**	P	**P**	**17 12 10.0**	**+1.7**
	comp=Z,7.8nm,0.8s,mb4.5,baz=228,slow=17,SNR=3.5						
CD2	**Chengdu**	**44.15**	**334**	P	**P**	**17 12 21.0**	**-0.2**
XAN	**Xi'an**	**45.07**	**342**	P	**P**	**17 12 28.0**	**-0.5**
XAN				AMB	AMB		
	comp=Z,13nm,0.8s,mb4.8						
MAJO	**Matsushiro**	**47.00**	**15**	*e*P	**P**	**17 12 42.3**	**-1.5**
	comp=Z,14nm,0.9s,mb4.9						
MAT	**Matsushiro**	**47.00**	**15**	P	**P**	**17 12 44.0**	**+0.2**
MAT	**Matsushiro**	**47.00**	**15**	*e*P	**P**	**17 12 44.0**	**+0.2**
	comp=Z,9.7nm,0.8s,mb4.8						
MJAR	**Matsushiro Arr**	**47.00**	**15**	P	**P**	**17 12 44.6**	**+0.8**
	comp=Z,7.2nm,0.8s,mb4.7,baz=194,slow=8.8,SNR=23						
LSA	**Lhasa**	**49.85**	**322**	P	**P**	**17 13 07.0**	**+1.1**
LSA	**Lhasa**	**49.85**	**322**	*e*P	**P**	**17 13 07.1**	**+1.2**
	comp=Z,34nm,0.6s,mb5.5						
HHC	**Hu-ho-hao-te**	**50.81**	**348**	*e*P	**P**	**17 13 12.5**	**-0.6**
HHC				AP	pP	17 13 16.5	-2.8
HHC				XP	sP	17 13 19.8	-1.9
HHC				PP	PP	17 15 05.9	-4.4
HHC				S	**S**	**17 20 26.4**	**-0.1**
HHC				SCS	ScS	17 22 57.4	-2.4
HHC				AMB	AMB		
	comp=Z,57nm,0.5s,mb5.8						
HHC				AMB	AMB		
	comp=Z,454nm,6.2s						
HHC				LR	LR		
	comp=N,241nm,17.3s,MS4.8						
HHC				LR	LR		
	comp=E,772nm,19.0s,MS4.8						
HHC				LR	LR		
	comp=Z,506nm,14.3s,MS4.7						
PKI	**Pulchoki**	**52.21**	**315**	*e*P	**P**	**17 13 23.7**	**-0.2**
	comp=Z,122nm,0.6s,mb6.0						
CN2	**Changchun**	**52.40**	**1**	*e*P	**P**	**17 13 26.1**	**+1.0**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
KKN	**Kakani**	**52.44**	**315**	*e*P	**P**	**17 13 25.4**	**-0.2**
	comp=Z,96nm,0.8s,mb5.8						
DMN	**Daman**	**52.45**	**315**	*e*P	**P**	**17 13 25.4**	**-0.2**
	comp=Z,169nm,1.0s,mb5.9						
GKN	**Gorkha**	**53.01**	**315**	*e*P	**P**	**17 13 29.3**	**-0.6**
	comp=Z,129nm,0.6s,mb6.0						
MDJ	**Mudanjiang**	**53.42**	**5**	P	**P**	**17 13 33.6**	**+0.9**
MDJ				LR	LR		
	comp=N,108nm,26.9s,MS3.8						
MDJ				LR	LR		
	comp=E,25nm,30.0s,MS3.8						
MDJ				LR	LR		
	comp=Z,67nm,22.5s						
MDJ	**Mudanjiang**	**53.42**	**5**	*e*P	**P**	**17 13 33.3**	**+0.6**
	comp=Z,74nm,0.9s,mb5.6						
KOLN	**Koldanda**	**53.60**	**314**	*e*P	**P**	**17 13 33.8**	**-0.4**
	comp=Z,139nm,0.8s,mb5.9						
YSS	**Yuzh-Sakhalins**	**57.94**	**15**	*i* P	**P**	**17 14 05.2**	**+0.1**
YSS				pmax	pmax		
	comp=Z,16nm,1.7s,mb4.8						
HIA	**Hailar**	**58.00**	**356⇑**	*e*P	**P**	**17 14 05.0**	**-0.5**
	comp=Z,11nm,0.9s,mb4.9						
SONM	**Songino Array**	**58.61**	**346**	P	**P**	**17 14 09.6**	**-0.2**
	comp=Z,11nm,0.6s,mb5.0,baz=164,slow=8.5,SNR=109						
ZAK	**Zakamensk**	**61.74**	**345**	*e*P	**P**	**17 14 31.2**	**-0.1**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.6						
WMQ	**Urumqi**	**62.03**	**331**	P	**P**	**17 14 34.0**	**+0.7**
WMQ				XP	sP	17 14 41.0	-0.8
WMQ				PP	PP	17 16 53.0	+0.9
WMQ				SCP		17 19 14.0	
WMQ				S	**S**	**17 22 56.0**	**+1.0**
WMQ				SCS	ScS	17 24 22.0	+1.6
WMQ				AMB	AMB		
	comp=Z,15nm,1.0s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,42nm,9.0s						
WMQ				LR	LR		
	comp=N,45nm,20.0s,MS3.8						
WMQ				LR	LR		
	comp=E,48nm,20.0s,MS3.8						
WMQ				LR	LR		
	comp=Z,43nm,20.0s,MS3.6						
MKAR	**Makanchi Array**	**66.81**	**330**	P	**P**	**17 15 03.9**	**-0.5**
	comp=Z,25nm,0.9s,mb5.2,baz=135,slow=7.8,SNR=160						
MKAR				LR	LR	17 45 32.7	
	comp=Z,31nm,19.6s,MS3.5,baz=180,slow=37						
MKAR	**Makanchi Array**	**66.81**	**330**	*i* P	**P**	**17 15 03.7**	**-0.7**
MKAR				pmax	pmax		
	comp=Z,31nm,0.9s						
BOD	**Bodaibo**	**66.96**	**354**	*e*P	**P**	**17 15 04.1**	**-1.0**
BOD				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.1						
KZA	**Kyzart**	**67.64**	**323**	P	**P**	**17 15 10.1**	**+0.4**
SNR=11							
TKM2	**Tokmak 2**	**67.93**	**323**	P	**P**	**17 15 11.0**	**-0.5**
SNR=7.5							
KBK	**Karagaybulak**	**68.16**	**323**	P	**P**	**17 15 13.3**	**+0.4**
SNR=8.2							
AAK	**Ala-Archa**	**68.42**	**323**	P	**P**	**17 15 14.7**	**+0.1**
SNR=8.5							
AAK	**Ala-Archa**	**68.42**	**323**	*e*P	**P**	**17 15 13.5**	**-1.0**
	comp=Z,18nm,0.8s,mb5.2						
AAK	**Ala-Archa**	**68.42**	**323**	*i* P	**P**	**17 15 14.5**	**0.0**
AAK				pmax	pmax		
	comp=Z,15nm,0.7s,mb5.1						
AML	**Almayashu**	**68.61**	**322**	P	**P**	**17 15 15.8**	**+0.1**
SNR=24							
USP	**Ospenovka**	**68.78**	**323**	P	**P**	**17 15 16.3**	**-0.5**
SNR=16							
EKS2	**Erkin-Say**	**68.86**	**322**	P	**P**	**17 15 17.7**	**+0.4**
SNR=13							
YAK	**Yakutsk**	**70.78**	**3⇑**	*e*P	**P**	**17 15 28.5**	**-0.2**
	comp=Z,16nm,0.5s,mb5.2						
YAK	**Yakutsk**	**70.78**	**3**	*c iP*	**P**	**17 15 28.4**	**-0.2**
YAK				pmax	pmax		
	comp=Z,47nm,1.3s,mb5.3						
ZAL	**Zalesovo**	**70.86**	**337**	P	**P**	**17 15 27.4**	**-1.8**
	comp=Z,7.8nm,0.9s,mb4.6,baz=336,slow=5.2,SNR=39						
KKAR	**Karatay Array**	**71.10**	**321**	*i* P	**P**	**17 15 29.9**	**-1.0**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
KURK	**Kurchatov**	**71.26**	**331⇑**	*i*P	**P**	**17 15 31.0**	**-0.8**
	comp=Z,26nm,0.9s,mb5.2						
KURK	**Kurchatov**	**71.26**	**331**	*i* P	**P**	**17 15 30.8**	**-0.9**
KURK				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.9						
VNDA	**Vanda**	**71.37**	**172**	P	**P**	**17 15 31.2**	**-0.8**
	comp=Z,1.8nm,0.5s,mb4.2,baz=322,slow=6.3,SNR=11						
VNDA				LR	LR	17 46 15.8	
	comp=Z,110nm,20.1s,MS4.1,baz=0.7,slow=35						
NVS	**Novosibirsk**	**72.14**	**336⇑**	*i*P	**P**	**17 15 34.8**	**-2.2**
NVS				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.8						
NVS				pmax	pmax		
	comp=N,8.0nm,1.3s						
NVS				pmax	pmax		
	comp=E,11nm,1.3s						
SEY	**Seymchan**	**74.75**	**13**	*c iP*	**P**	**17 15 52.4**	**+0.4**
OPO	**Ambohidratompo**	**75.06**	**253**	P	**P**	**17 15 55.4**	**+0.8**
	comp=E,12nm,0.7s,mb4.9,baz=75,slow=3.9,SNR=28						
VOSK	**Vostochnaya**	**76.23**	**330**	P	**P**	**17 15 59.5**	**-1.1**
VOSK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
BVA0	**Borovoye Array**	**76.69**	**330**	*i* P	**P**	**17 16 02.3**	**-0.9**
BVA0				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.1						
BRVK	**Borovoye**	**76.77**	**330⇓**	*e*P	**P**	**17 16 03.3**	**-0.3**
	comp=Z,8.7nm,1.2s,mb4.6						
HASS	**Wahat al Ahsa'**	**80.01**	**298**	P	**P**	**17 16 21.3**	**-0.7**
TIXI	**Tiksi**	**80.38**	**1**	*i* P	**P**	**17 16 22.2**	**-0.8**
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.5						
AB31	**Akbulak array**	**80.50**	**323**	P	**P**	**17 16 23.3**	**-0.7**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
QSPA	**South Pole Qui**	**81.15**	**180**	P	**P**	**17 16 28.0**	**+1.1**
	comp=Z,4.6nm,0.6s,mb4.6						
AKTO	**Aktyubinsk**	**82.12**

KIV	**Kislovodsk**	**90.07 314**	⇓*e*P	**P**	**17 17 09.8**	**-2.0**
KIV			*e*		17 20 43.7	
KIV			*e*PS	PS	17 29 33.2	+20
KIV			pmax	pmax		
comp=Z,4.0nm,1.0s,mb4.7						
MATP	**Matopo**	**92.31 249**	P	**P**	**17 17 23.5**	**+0.8**
comp=Z,3.5nm,0.5s,mb5.0,baz=119,slow=4.9,SNR=12						
SNAA	**Sanae**	**92.51 195**	P	**P**	**17 17 23.3**	**+0.9**
SNAA	**Sanae**	**92.51 195**		**P**	**17 17 27.5**	**+5.1**
SNAA	**Sanae**	**92.51 195**	P	**P**	**17 17 23.2**	**+0.8**
comp=Z,2.1nm,0.8s,mb4.6,baz=169,slow=4.1						
SNAA	**Sanae**	**92.51 195**	*i* P	**P**	**17 17 23.8**	**+1.4**
LSZ	**Lusaka**	**93.51 254**	⇑*e*P	**P**	**17 17 28.5**	**+0.2**
comp=Z,3.8nm,0.7s,mb4.9						
LSZ			*e*	pP	17 17 34.5	-0.2
BOSA	**Boshof**	**93.64 240**	P	**P**	**17 17 28.8**	**+0.2**
comp=Z,1.4nm,0.5s,mb4.6,baz=195,slow=9.1,SNR=6.8						
VNA2	**Neumayer--Watz**	**94.12 194**		**P**	**17 17 31.2**	**+1.4**
VNA2	**Neumayer--Watz**	**94.12 194**		**P**	**17 17 35.5**	**+5.7**
VNA3	**Neumayer Olymp**	**94.44 194**		**P**	**17 17 27.8**	**-3.5**
VNA3	**Neumayer Olymp**	**94.44 194**		**P**	**17 17 32.5**	**+1.2**
VNA3	**Neumayer Olymp**	**94.44 194**	P	**P**	**17 17 32.5**	**+1.2**
OBN	**Obninsk**	**95.87 325**	⇓*e*P	**P**	**17 17 37.0**	**-1.2**
OBN			*e*PS	PS	17 30 12.9	-5.9
OBN			pmax	pmax		
comp=Z,9.0nm,1.2s,mb5.1						
BRTR	**Keskin Array B**	**96.07 309**	P	**P**	**17 17 38.1**	**-1.4**
comp=Z,0.4nm,0.6s,mb4.1,baz=146,slow=5.2,SNR=3.5						
AKASG	**Malin Array Be**	**99.97 320**	PP	PP	17 22 05.0	+0.4
comp=Z,0.3nm,0.3s,baz=80,slow=6.9,SNR=7.4						
DBIC	**Dimbokro**	**129.58 271**	PKP	PKPdf	17 23 22.1	-2.7
comp=Z,2.9nm,0.5s,baz=28,slow=1.9,SNR=5.7						
DBIC			SKPbc		17 26 35.9	
comp=Z,4.5nm,0.8s,baz=94,slow=4.5,SNR=3.2						
TXAR	**Lajitas Array**	**130.73 59**	PKP	PKPdf	17 23 25.1	-1.6
comp=Z,0.3nm,0.6s,baz=178,slow=2.1,SNR=5.2						
TXAR			SKPbc		17 26 40.5	
comp=Z,4.7nm,0.9s,baz=269,slow=2.9,SNR=31						
CPUP	**Villa Florida**	**145.00 177**	PKPbc	PKPbc	17 23 49.5	+0.7
comp=Z,7.8nm,0.9s,baz=200,slow=4.8,SNR=12						
SIV	**San Ignacio**	**154.76 168**	PKPbc	PKPdf	17 24 15.0	+7.1
comp=Z,0.8nm,0.6s,baz=160,slow=6.4,SNR=1.9						
SIV			PKPab	PKPab	17 24 29.2	-0.6
comp=Z,1.9nm,0.6s,baz=215,slow=4.5,SNR=5.1						

*IDC **16** 17:14:56.2±1.1,30.65S×13.39W,mb4.3/13,mb1 4.4/13, mb1mx4.2/23,mbtmp4.3/13,MS4.0/8,Ms1 4.0/8, ms1mx3.8/15,Error ellipse: s-maj=45.8km s-min=16.3km az=176.0*

*NEIC **16** 17:14:57.1±0.3,30.85S×13.45W,h10km,mb4.4/8,Error ellipse: s-maj=12.3km s-min=8.1km az=168.0*

ISC 16 17:14:55.6±0.5,30.9S±0.1×13.43W±0.09,h10km,n31, σ0§81/27,mb4.3/18,MS4.0/8,1C,Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**29.13**	**102**	LR	LR	17 30 08.9	
comp=Z,306nm,19.2s,MS3.9,baz=249,slow=31							
TSUM	**Tsumeb**	**30.31**	**75**	P	**P**	**17 21 08.8**	**-0.7**
3.2nm,0.8s,mb4.1,baz=236,slow=5.2,SNR=5.1							
TSUM				LR	LR	17 30 55.3	
comp=Z,414nm,21.9s,MS4.0,baz=227,slow=32							
BOSA	**Boshof**	**33.56**	**96**	P	**P**	**17 21 37.2**	**-0.6**
7.0nm,1.1s,mb4.5,baz=232,slow=5.4,SNR=4.8							
BOSA				LR	LR	17 32 23.5	
comp=Z,192nm,19.2s,MS3.8,baz=350,slow=31							
BDFB	**Brasilia**	**35.03**	**288**	P	**P**	**17 21 49.3**	**-1.4**
2.4nm,0.5s,mb4.4,baz=131,slow=3.9,SNR=3.6							
BDFB				LR	LR	17 33 10.5	
comp=Z,292nm,19.7s,MS4.0,baz=326,slow=31							
CPUP	**Villa Florida**	**38.62**	**265**	LR	LR	17 35 19.9	
comp=Z,238nm,20.5s,MS4.0,baz=314,slow=32							
MATP	**Matopo**	**39.01**	**85**	P	**P**	**17 22 24.1**	**0.0**
4.9nm,0.6s,mb4.4,baz=240,slow=8.8,SNR=16							
VNA2	**Neumayer--Watz**	**40.25**	**177**		**P**	**17 22 45.3**	**+11**
VNA2	**Neumayer--Watz**	**40.25**	**177**	P	**P**	**17 22 34.7**	**+0.8**
VNA2				P		17 22 45.3	
TRQA	**Tornquist**	**40.29**	**246**	P	**P**	**17 22 33.9**	**-0.7**
3.4nm,0.9s,mb4.1							
VNA3	**Neumayer Olymp**	**40.48**	**178**		**P**	**17 22 42.4**	**+6.6**
VNA3	**Neumayer Olymp**	**40.48**	**178**		**P**	**17 22 47.2**	**+11**
VNA3	**Neumayer Olymp**	**40.48**	**178**	P	**P**	**17 22 35.1**	**-0.7**
VNA3				P		17 22 42.4	
VNA3				P		17 22 47.2	
LSZ	**Lusaka**	**41.06**	**77**	*e*P	**P**	**17 22 41.1**	**0.0**
9.1nm,1.4s,mb4.2							
SIV	**San Ignacio**	**45.81**	**278**	P	**P**	**17 23 20.1**	**+0.4**
2.2nm,0.8s,mb4.2,baz=109,slow=8.3,SNR=12							
LVC	**Limon Verde**	**49.80**	**265**	P	**P**	**17 23 52.3**	**+1.6**
4.1nm,0.8s,mb4.5,baz=270,slow=5.9,SNR=1.9							
LVC	**Limon Verde**	**49.80**	**265**	*e*P	**P**	**17 23 51.7**	**+0.9**
4.9nm,0.8s,mb4.6							
MBAR	**Mbarara**	**51.53**	**63**	*e*P	**P**	**17 24 04.8**	**+0.7**
1.9nm,0.6s,mb4.2							
LPAZ	**La Paz**	**51.72**	**273**	P	**P**	**17 24 06.9**	**+1.5**
2.4nm,0.8s,mb4.2,baz=90,slow=3.0,SNR=6.2							
LPAZ				LR	LR	17 46 29.2	
comp=Z,151nm,18.1s,MS4.1,baz=256,slow=37							
LPAZ	**La Paz**	**51.72**	**273**	*e*P	**P**	**17 24 05.1**	**-0.3**
2.5nm,0.7s,mb4.2							
KMBO	**Kilima Mbogo**	**56.31**	**68**	LR	LR	17 47 41.1	
comp=Z,157nm,19.1s,MS4.1,baz=97,slow=35							
SDV	**Santo Domingo**	**67.55**	**296**	P	**P**	**17 25 54.1**	**-0.6**
3.8nm,0.8s,mb4.5							
ROSC	**El Rosal**	**68.05**	**290**	LR	LR	17 56 12.5	
comp=Z,90nm,18.6s,MS4.0,baz=173,slow=36							
DAVOX	**Davos**	**80.10**	**16**	P	**P**	**17 27 05.4**	**-1.7**
1.9nm,0.8s,mb4.0,baz=146,slow=4.1,SNR=3.6							
BRTR	**Keskin Array B**	**82.72**	**35**	P	**P**	**17 27 22.1**	**+1.2**
2.3nm,0.9s,mb4.2,baz=180,slow=4.9,SNR=10							
GERES	**GERESS Array B**	**82.98**	**18**	P	**P**	**17 27 21.4**	**-0.7**
0.6nm,0.7s,mb3.7,baz=166,slow=5.5,SNR=4.2							
GRA1	**Grafenberg Arr**	**83.15**	**16**	*e*P	**P**	**17 27 23.5**	**+0.6**
4.0nm,0.9s,mb4.5							
GRF	**Grafenberg Arr**	**83.15**	**16**	*e*P	**P**	**17 27 23.5**	**+0.6**
4.0nm,0.9s,mb4.5							
MLR	**Muntele Rosu**	**83.99**	**27**	P	**P**	**17 27 27.7**	**+0.5**
5.6nm,0.8s,mb4.7,baz=152,slow=4.4,SNR=9.8							
CLL	**Collm**	**85.07**	**16**	⇑P	**P**	**17 27 33.2**	**+0.7**
EKA	**Eskdalemuir Ar**	**86.30**	**6**	P	**P**	**17 27 38.8**	**+0.2**
2.3nm,0.9s,mb4.4,baz=169,slow=4.3,SNR=6.2							
AKASG	**Malin Array Be**	**89.53**	**26**	P	**P**	**17 27 54.2**	**0.0**
0.7nm,0.6s,mb4.1,baz=218,slow=4.4,SNR=5.5							

*MOS **16** 17:21:01.3±2.4,43.28N×77.42E,h20km,mb4.4/1,Error ellipse: s-maj=16.9km s-min=14.3km az=72.1*

MOS Felt (III) at Issik; (II) at Almati.

*NNC **16** 17:21:04.6±1.3,43.64N×77.31E,mpv3.5,Error ellipse: s-maj=13.8km s-min=7.1km az=135.0*

*NEIC **16** 17:21:04.6,43.64N×77.31E,MG3.5(NNC),After NNC.*

NEIC Felt [III] at Esik and [II] at Almaty.

ISC 16 17:21:04.5±0.8,43.80N±0.04×77.21E±0.09,h10km,n23, σ1§32/30,10C-6D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAA	**Alma-Ata**	**0.56**	**200**	*e*P	**Pg**	**17 21 11.4**	**-4.4**
TKM2	**Tokmak 2**	**1.47**	**234**	P	**Pn**	**17 21 28.7**	**-2.4**
SNR=47							
ULHL	**Ulahol**	**1.71**	**205**	P	**Pn**	**17 21 28.4**	**-6.1**
SNR=43							
CHMS	**Chumysh**	**1.96**	**247**	P	**Pn**	**17 21 37.7**	**-0.4**
SNR=25							
KBK	**Karagaybulak**	**2.01**	**236**	P	**Pn**	**17 21 38.2**	**-0.6**
SNR=72							
USP	**Ospenovka**	**2.04**	**256**	P	**Pn**	**17 21 39.5**	**+0.2**
SNR=98							
KZA	**Kyzart**	**2.24**	**221**	P	**Pn**	**17 21 40.2**	**-2.0**
SNR=176							
AAK	**Ala-Archa**	**2.30**	**240**	P	**Pn**	**17 21 43.1**	**+0.1**
SNR=30							
AAK	**Ala-Archa**	**2.30**	**240**	⇑P	**Pn**	**17 21 43.1**	**+0.1**
34nm,0.4s							
AAK				⇑S	**Sn**	**17 22 13.5**	**+1.9**
435nm,0.8s							
AAK	**Ala-Archa**	**2.30**	**240**	*e*Pn	**Pn**	**17 21 42.0**	**-1.0**
AAK				*e*S	**Sn**	**17 22 12.1**	**+0.5**
AAK	**Ala-Archa**	**2.30**	**240**	*i* PN	**Pn**	**17 21 43.0**	**0.0**
AAK				*i* S	**Sn**	**17 22 12.4**	**+0.8**
AAK				pmax	pmax		
comp=Z,34nm,0.4s							
AAK				smax			
comp=Z,435nm,0.8s							
UCH	**Uchtor**	**2.52**	**232**	P	**Pn**	**17 21 47.0**	**+0.8**
SNR=12							
EKS2	**Erkin-Say**	**2.75**	**247**	P	**Pn**	**17 21 51.3**	**+1.8**
SNR=23							
AML	**Almayashu**	**3.07**	**238**	P	**Pn**	**17 21 57.2**	**+3.2**
SNR=38							
MK31	**Makanchi Array**	**4.67**	**48**	Pn	**Pn**	**17 22 16.9**	**+0.1**
comp=Z,2.6nm,0.3s,baz=214,slow=15,SNR=53							
MK31				⇑Lg		17 23 30.6	
comp=Z,5.6nm,0.4s,baz=220,slow=27,SNR=6.2							
MKAR	**Makanchi Array**	**4.67**	**48**	*i* PN	**Pn**	**17 22 16.8**	**0.0**
MKAR				pmax	pmax		
comp=Z,3.0nm,0.2s							
KK31	**Karatay Array**	**4.92**	**264**	⇑Pn	**Pn**	**17 22 24.9**	**+4.6**
comp=Z,1.6nm,0.2s,baz=76,slow=13,SNR=49							
KK31				⇑Pg	**Pg**	**17 22 35.3**	**-7.5**
KK31				⇑Lg		17 23 38.6	
comp=Z,33nm,0.5s							
KKAR	**Karatay Array**	**4.92**	**264**	*i* PN	**Pn**	**17 22 28.7**	**+8.4**
KKAR				pmax	pmax		
comp=Z,4.0nm,0.2s							
KURK	**Kurchatov**	**6.99**	**7**	⇓Pn	**Pn**	**17 22 51.2**	**+1.7**
comp=Z,2.6nm,1.9s							
KURK				⇑Lg		17 24 53.7	
comp=Z,22nm,0.9s							
KURK	**Kurchatov**	**6.99**	**7**	*e*Pn	**Pn**	**17 22 50.9**	**+1.5**
KURK				*e*Sg	**Sg**	**17 24 54.4**	**-2.7**
VOSK	**Vostochnaya**	**9.84**	**337**	⇓Pn	**P**	**17 23 30.0**	**+1.0**
comp=Z,6.5nm,2.2s							
VOSK				⇓Sn	**Sn**	**17 25 19.6**	**-1.2**
comp=Z,1.2nm,0.6s							
VOSK				⇓Lg		17 26 24.0	
comp=Z,18nm,1.2s							
BVA0	**Borovoye Array**	**10.28**	**336**	⇑Pn	**P**	**17 23 36.5**	**+1.5**
comp=Z,0.6nm,1.2s							
BVA0				⇑Sn	**S**	**17 25 31.8**	**+0.4**
comp=Z,0.2nm,0.5s							
BVA0				⇑Lg		17 26 38.3	
comp=Z,2.8nm,0.8s							
AB31	**Akbulak array**	**13.07**	**301**	⇓Pn	**P**	**17 24 11.1**	**-1.7**
comp=Z,0.9nm,0.7s,baz=114,slow=11,SNR=8.4							
AB31				⇓Lg		17 28 07.4	
comp=Z,1.5nm,0.7s							

MAN 16 17:24:11.9,13.37N×120.61E,h50km,mb3.6,ML2.3, MS1.8,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.36**	**69**	*e*P	P	17 24 24.0	+2.3
LUBP	**Lubang**	**0.50**	**316**	*e*P	P	17 24 24.4	+1.2
LUBP				*e*S	S	17 24 37.5	+6.1
SJMP	**San Jose**	**1.03**	**151**	*e*P	P	17 24 32.5	+2.1
SJMP				*e*S	S	17 24 50.7	+6.7
BOAC	**Boac**	**1.21**	**86**	*e*P	P	17 24 30.6	-2.1
BUSP	**Coron**	**1.42**	**196**	*e*P	P	17 24 37.0	+1.1
BUSP				*e*S	S	17 24 57.3	+3.7
OTRP	**Odiongan**	**1.71**	**126**	*e*P	P	17 24 39.2	-0.7
ENPP	**El Nido**	**2.44**	**208**	*e*P	P	17 24 50.4	+0.1
BALP	**Baler**	**2.54**	**22**	*e*P	P	17 24 43.7	-7.9
CUYO	**Cuyo Island**	**2.54**	**171**	*e*P	P	17 24 51.3	-0.4
APYP	**Conner**	**4.51**	**8**	*e*P	P	17 25 19.8	+0.3

*TIR **16** 17:36:38.9,41.94N×19.46E,h16km*

*PDG **16** 17:36:39.5±0.1,41.90N×19.48E,h9km*

*NEIC **16** 17:36:39.5,41.90N×19.48E,h9km,ML2.7(PDG),After PDG.*

ISC 16 17:36:39.6±0.6,41.88N±0.03×19.44E±0.04,h9km,n15, σ1§15/28,5C-3D,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULC	**Ulcinj**	**0.16**	**301**	⇓*i*Pg	**Pg**	**17 36 43.1**	**-0.1**
ULC				*e*Sg	**Sg**	**17 36 46.3**	**+0.7**
QSH	**Qafa e Shtames**	**0.50**	**135**	*i* Pg	**Pg**	**17 36 49.5**	**-0.2**
QSH				*i* Sg	**Sg**	**17 36 57.5**	**+1.0**
TTG	**Podgorica**	**0.56**	**347**	⇓*i*Pg	**Pg**	**17 36 49.9**	**-1.1**
TTG				*e*Sg	**Sg**	**17 36 58.8**	**+0.2**
BUM	**Brajici-Budva**	**0.58**	**317**	⇑*i*Pg	**Pg**	**17 36 50.7**	**-0.6**
BUM				*e*Sg	**Sg**	**17 36 59.8**	**+0.7**
TIR	**Tirane**	**0.62**	**149**	*i* Pg	**Pg**	**17 36 53.0**	**+0.9**
PVY	**Plav**	**0.82**	**29**	⇑*i*Pg	**Pg**	**17 36 54.0**	**-2.0**
PVY				*e*Sg	**Sg**	**17 37 06.5**	**-0.5**
HCY	**Herceg Novi**	**0.90**	**309**	⇑*i*Pg	**Pg**	**17 36 56.3**	**-1.4**
HCY				*e*Sg	**Sg**	**17 37 10.7**	**+1.0**
NKY	**Niksic**	**0.99**	**341**	⇑*i*Pg	**Pg**	**17 36 57.7**	**-1.7**
NKY				*e*Sg	**Sg**	**17 37 12.9**	**+0.3**
IVA	**Berane**	**1.05**	**19**	⇑*i*Pg	**Pg**	**17 36 58.5**	**-2.1**
IVA				*e*Sg	**Sg**	**17 37 14.6**	**0.0**
UPM	**Unac-Piva**	**1.38**	**344**	*e*Pg	**Pg**	**17 37 04.8**	**-2.4**
UPM				*e*Sg	**Sg**	**17 37 26.3**	**+0.7**
PLE	**Pljevlja**	**1.45**	**359**	*e*Pg	**Pg**	**17 37 06.0**	**-2.7**
PLE				*e*Sg	**Sg**	**17 37 28.5**	**+0.6**
SKO	**Skopje**	**1.50**	**86**	*e*Pn	**Pn**	**17 37 07.1**	**+0.3**
SKO				*e*		17 37 26.9	
NVSS	**Nova Varos 2**	**1.64**	**7**	⇓*i*Pn	**Pn**	**17 37 10.0**	**+1.1**
NVSS				Sn	**Sn**	**17 37 31.7**	**+1.5**
BBLS	**Bajina Basta -**	**1.99**	**359**	*e*Pn	**Pn**	**17 37 14.2**	**+0.4**
BBLS				Sn	**Sn**	**17 37 41.1**	**+2.0**
GRUS	**Gruza**	**2.22**	**25**	*e*Pn	**Pn**	**17 37 17.4**	**+0.3**
GRUS				Sn	**Sn**	**17 37 46.2**	**+1.3**

*ATH **16** 17:44:55.1,40.01N×28.05E,h45km,MD3.1/3*

*ISK **16** 17:44:55.4,40.12N×27.67E,h13km,MD3.1*

*CSEM **16** 17:44:55.3±0.1,40.14N×27.71E,h7km±1km,MD3.1,Error ellipse: s-maj=2.2km s-min=1.6km az=71.0*

ISC 16 17:44:56.6±0.3,40.15N±0.02×27.72E±0.03,h10km,n26, σ1§16/38,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNT	**Bandirma**	**0.26**	**36**	*i* PG	**Pg**	**17 45 02.4**	**+0.4**
BTOK	**Tokmak**	**0.46**	**148**	*i* P	**Pg**	**17 45 05.1**	**-0.7**
BTOK				*i* S	**Sg**	**17 45 11.5**	**-0.6**
MRMT	**Marmara Adasi**	**0.46**	**348**	*i* PG	**Pg**	**17 45 05.2**	**-0.8**
MRMT				*i* SG	**Sg**	**17 45 12.5**	**+0.3**
CANB	**Canakkale**	**0.52**	**255**	*i* PG	**Pg**	**17 45 05.6**	**-1.6**
BALB	**Balikesir**	**0.53**	**167**	*i* PG	**Pg**	**17 45 05.9**	**-1.3**
BALB				*i* SG	**Sg**	**17 45 12.7**	**-1.6**
MFT	**Murefte**	**0.72**	**332**	*i* PG	**Pg**	**17 45 09.5**	**-1.5**
LPK	**Lapseki**	**0.77**	**287**	*i* PG	**Pg**	**17 45 10.7**	**-1.3**
DST	**Dursunbey**	**0.89**	**128**	*i* PG	**Pg**	**17 45 13.1**	**-1.2**
ULDT	**Uludag**	**1.08**	**90**	*i* P	**Pb**	**17 45 16.7**	**-0.3**
ULDT				*i* S	**Sb**	**17 45 32.7**	**+1.7**
CTT	**Catalca**	**1.13**	**28**	*i* PN	**Pn**	**17 45 18.1**	**-0.3**
AYVA	**Ayvalik**	**1.16**	**224**	*i* P	**Pb**	**17 45 19.9**	**+1.7**
AYVA				*i* S	**Sb**	**17 45 33.5**	**+0.4**
AKS	**Akhisar**	**1.27**	**177**	*i* PN	**Pn**	**17 45 18.5**	**-1.9**
BADT	**Buyukada**	**1.27**	**56**	PN	**Pn**	**17 45 20.3**	**-0.2**
YLV	**Yalova**	**1.33**	**71**	PN	**Pn**	**17 45 21.7**	**+0.5**
ISK	**Istanbul-Kandi**	**1.37**	**48**	PN	**Pn**	**17 45 21.6**	**-0.2**
PRK	**Paraskevi**	**1.44**	**232**	*e*P	**Pn**	**17 45 22.0**	**-0.8**
PRK				*e*S	**Sb**	**17 45 40.9**	**-0.4**
HRT	**Hereke**	**1.63**	**65**	PN	**Pn**	**17 45 25.7**	**+0.2**
GDZ	**Gediz**	**1.72**	**127**	*i* P	**Pn**	**17 45 26.9**	**0.0**
GDZ				*i* S	**Sn**	**17 45 51.0**	**+1.9**
MANT	**Manisa**	**1.78**	**158**	*i* P	**Pn**	**17 45 29.6**	**+1.9**
MANT				*i* S	**Sn**	**17 45 52.6**	**+2.1**
EDRB	**Edirne**	**1.85**	**337**	PN	**Pn**	**17 45 27.5**	**-1.2**
RDO	**Rodhopi**	**1.94**	**302**	*e*P	**Pn**	**17 45 30.7**	**+0.8**
RDO				*e*S	**Sn**	**17 45 57.1**	**+2.6**
LIA	**Limnos Island**	**1.97**	**263**	*e*P	**Pn**	**17 45 31.3**	**+0.9**
LIA				*e*S	**Sn**	**17 45 56.9**	**+1.6**
URLA	**Izmir**	**1.99**	**206**	*i* P	**Pn**	**17 45 31.5**	**+0.8**
URLA				*i* S	**Sn**	**17 45 60.0**	**+4.1**
ALT	**Altintas**	**2.15**	**120**	PN	**Pn**	**17 45 32.7**	**-0.2**
ESKT	**Eskisehir**	**2.49**	**104**	PN	**Pn**	**17 45 37.2**	**-0.7**
ESKT	**Eskisehir**	**2.49**	**104**	*i* P	**Pn**	**17 45 42.2**	**+4.3**
ESKT				*i* S	**Sn**	**17 46 16.0**	**+7.4**

*BJI **16** 17:59:24.6,23.26N×104.10E,h17km,mb4.3,ML3.9*

*PLV **16** 17:59:29.3±0.9,23.29N×104.11E,MD3.4*

ISC 16 17:59:25.5±0.6,23.39N±0.03×104.16E±0.04,h10km,n14, σ1§19/38,1C,Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**2.16**	**323**	P	**Pn**	**18 00 01.8**	**-0.2**
KMI				PG	**Pg**	**18 00 03.8**	**-4.8**
KMI				S	**Sn**	**18 00 28.6**	**-0.4**
KMI				SG	**Sg**	**18 00 31.0**	**-6.4**
KMI				Smax			
comp=N,251nm,1.1s							
KMI				Smax			
comp=E,343nm,0.9s							
KMI				LR	LR		
comp=N,577nm,3.8s							
KMI				LR	LR		
comp=E,698nm,3.8s							
KMI				LR	LR		
comp=Z,401nm,5.9s							
DBV	**Dienbien**	**2.25**	**208**	*e*PN	**Pn**	**18 00 06.3**	**+3.0**
DBV				*e*PG	**Pg**	**18 00 10.8**	**+0.4**
DBV				*e*SG	**Sg**	**18 00 38.6**	**-1.9**
BVV	**Ba Vi**	**2.54**	**154**	*e*Pn	**Pn**	**18 00 11.7**	**+4.2**
BVV				*e*Pg	**Pg**	**18 00 17.1**	**+0.9**
BVV				*e*Sg	**Sg**	**18 00 49.9**	**-0.1**
TLV	**Tu Ly**	**2.70**	**158**	*e*PN	**Pn**	**18 00 12.9**	**+3.2**
TLV				*e*PG	**Pg**	**18 00 19.3**	**-0.1**
TLV				*e*SG	**Sg**	**18 00 54.0**	**-1.4**
MTZV	**Met**	**2.73**	**132**	*e*PN	**Pn**	**18 00 13.7**	**+3.6**
MTZV				*e*Pg	**Pg**	**18 00 21.4**	**+1.4**
MTZV				*e*SG	**Sg**	**18 00 56.8**	**+0.5**
HNV	**Hanoi**	**2.78**	**147**	*e*Pn	**Pn**	**18 00 15.0**	**+4.1**
HNV				*e*Pg	**Pg**	**18 00 21.6**	**+0.6**
HNV				*e*Sg	**Sg**	**18 00 58.6**	**+0.4**
BGV	**Bac-Giang**	**2.83**	**137**	*e*Pn	**Pn**	**18 00 15.1**	**+3.5**
BGV				*e*Pg	**Pg**	**18 00 22.5**	**+0.5**
BGV				*e*SG	**Sg**	**18 00 59.4**	**-0.4**
YTV	**Yen Tu**	**3.25**	**133**	*e*Pn	**Pn**	**18 00 21.4**	**+3.8**
YTV				*e*Pg	**Pg**	**18 00 31.3**	**+0.9**
YTV				*e*SG	**Sg**	**18 01 13.1**	**-0.5**
DSV	**Doi Son**	**3.26**	**149**	*e*Pn	**Pn**	**18 00 20.5**	**+2.8**
DSV				*e*Pg	**Pg**	**18 00 29.9**	**-0.7**
DSV				*e*Sg	**Sg**	**18 01 12.6**	**-1.4**
PLV	**Phu-Lien**	**3.44**	**138**	*e*Pn	**Pn**	**18 00 23.9**	**+3.6**
PLV				*e*Pg	**Pg**	**18 00 34.1**	**-0.1**
PLV				*e*Sg	**Sg**	**18 01 19.4**	**-0.8**
GYA	**Guiyang**	**3.81**	**36**	P	**Pn**	**18 00 25.0**	**-0.5**
GYA				S	**Sn**	**18 01 09.3**	**-1.6**
GYA				SG	**Sg**	**18 01 26.0**	**-6.3**
GYA				Smax			
comp=N,260nm,0.6s							
GYA				Smax			
comp=E,210nm,0.8s							
CHRT	**Chiangrai**	**5.37**	**230**	PG	**Pg**	**18 01 07.0**	**-5.7**
CHRT				SG	**Sg**	**18 02 17.0**	**-7.3**
NANT	**Nan**	**5.59**	**216**	⇑P	**Pg**	**18 01 10.0**	**-7.2**
comp=E,138nm,1.0s							
QIZ	**Qiongzhong**	**6.85**	**128**	P	**Pn**	**18 01 07.5**	**-1.0**

*BJI **16** 18:29:24.5,23.52N×104.13E,h16km,ML3.8*

*PLV **16** 18:29:26.1±0.8,23.37N×104.16E,MD4.1*

ISC 16 18:29:24.6±0.6,23.39N±0.03×104.21E±0.04,h10km,n12, σ1§39/32,1C,Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**2.19**	**323**	P	**Pn**	**18 29 59.8**	**-1.8**
KMI				PG	**Pg**	**18 30 02.5**	**-5.8**
KMI				SG	**Sg**	**18 30 29.3**	**-8.2**
KMI				Smax			
comp=N,306nm,0.9s							
KMI				Smax			
comp=E,287nm,0.9s							
KMI				LR	LR		
comp=N,692nm,6.6s							
KMI				LR	LR		
comp=E,428nm,6.3s							
KMI				LR	LR		
comp=Z,487nm,9.1s							
DBV	**Dienbien**	**2.27**	**209**	*e*PN	**Pn**	**18 30 04.7**	**+1.9**
DBV				*e*PG	**Pg**	**18 30 08.9**	**-1.0**
DBV				*e*SG	**Sg**	**18 30 38.5**	**-1.6**
BVV	**Ba Vi**	**2.51**	**154**	*e*Pn	**Pn**	**18 30 08.5**	**+2.3**
BVV				*e*Pg	**Pg**	**18 30 14.5**	**-0.3**
BVV				*e*Sg	**Sg**	**18 30 48.4**	**0.0**
TLV	**Tu Ly**	**2.68**	**158**	*e*PN	**Pn**	**18 30 10.6**	**+2.0**
TLV				*e*PG	**Pg**	**18 30 17.4**	**-0.7**
TLV				*e*SG	**Sg**	**18 30 52.9**	**-0.9**
MTZV	**Met**	**2.69**	**132**	*e*Pn	**Pn**	**18 30 11.4**	**+2.6**
MTZV				*e*Pg	**Pg**	**18 30 18.3**	**0.0**
MTZV				*e*SG	**Sg**	**18 30 54.2**	**-0.1**
HNV	**Hanoi**	**2.75**	**147**	*e*Pn	**Pn**	**18 30 12.4**	**+2.8**
HNV				*e*Pg	**Pg**	**18 30 19.6**	**0.0**
HNV				*e*Sg	**Sg**	**18 30 56.8**

az=179.0

NEIC Recorded [1 JMA] on Aoga-shima and Hachijo-jima.

ISC 16 19:15:32.6±0.2,31.91N±0.02×140.76E±0.02,h61km, h61km±.8km:pP-P,n432,σ0:99/448,mb5.0/130,20C-14D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.44**	**327**	P	**P**	**19 15 56.9**	**-0.1**
JHJ2				*e*S	**S**	**19 16 14.5**	**-0.6**
JHJ	**Hachijo jima 2**	**1.46**	**326**	P	**P**	**19 15 57.1**	**-0.2**
	699nm,0.3s,baz=151,slow=12,SNR=288						
JHJ				S	**S**	**19 16 15.4**	**-0.2**
	2μm,0.3s,baz=49,slow=19,SNR=15						
JMY	**Miyakejima3**	**2.40**	**335**	P	**P**	**19 16 10.3**	**-0.1**
JMY				*e*S	**S**	**19 16 38.4**	**-0.2**
JKO	**Kozu shima**	**2.65**	**330**	P	**P**	**19 16 14.9**	**+0.9**
JKO				*e*S	**S**	**19 16 45.6**	**+0.6**
BSO1	**Boso 1**	**2.75**	**4**	P	**P**	**19 16 12.1**	**-3.2**
NJJJ	**Nii jima 2**	**2.78**	**334**	P	**P**	**19 16 16.6**	**+0.8**
BSO3	**Boso 3**	**2.90**	**356**	P	**P**	**19 16 15.7**	**-1.7**
BSO3				*e*S	**S**	**19 16 47.0**	**-4.2**
JIM2	**Oshima 3**	**3.02**	**339**	P	**P**	**19 16 18.2**	**-0.9**
JIM2				*e*S	**S**	**19 16 53.1**	**-1.1**
BSO4	**Boso 4**	**3.10**	**354**	P	**P**	**19 16 18.3**	**-1.9**
BSO4				*e*S	**S**	**19 16 54.1**	**-2.1**
JIZS	**Izushimoda**	**3.21**	**331**	⇑P	**P**	**19 16 22.5**	**+0.6**
TK03	**Tokai 3**	**3.25**	**315**	P	**P**	**19 16 25.0**	**+2.6**
TK04	**Tokai 4**	**3.46**	**316**	P	**P**	**19 16 27.7**	**+2.4**
JRY	**Ryogami san**	**4.38**	**340**	P	**P**	**19 16 38.5**	**+0.2**
CBIJ	**Chichi jima**	**4.95**	**165**	P	**P**	**19 16 43.7**	**-2.6**
	85nm,0.3s,baz=11,slow=5.8,SNR=53						
CBIJ				S	**S**	**19 17 37.1**	**-5.8**
	231nm,0.3s,baz=288,slow=19,SNR=9.5						
JHE	**Heguri**	**5.05**	**304**	P	**P**	**19 16 50.2**	**+2.5**
MJAR	**Matsushiro Arr**	**5.08**	**336**	P	**P**	**19 16 48.9**	**+0.8**
	51nm,0.3s,baz=164,slow=14,SNR=591						
MJAR				S	**S**	**19 17 47.3**	**+1.2**
	9.3nm,0.3s,baz=142,slow=25,SNR=3.7						
MJAR				LR	LR	19 18 36.3	
	comp=Z,1μm,21.6s,baz=160,slow=36						
MAJO	**Matsushiro**	**5.08**	**336**	*e*Pn	**P**	**19 16 49.5**	**+1.4**
	331nm,0.8s						
MAJO	**Matsushiro**	**5.08**	**336**	*e*P	**P**	**19 16 49.5**	**+1.4**
MAJO				pmax	pmax		
	comp=Z,331nm,0.8s						
MAT	**Matsushiro**	**5.08**	**336**	P	**P**	**19 16 48.4**	**+0.3**
MAT				S	**S**	**19 17 47.2**	**+1.1**
MAT	**Matsushiro**	**5.08**	**336**	*e*P	**P**	**19 16 48.0**	**-0.1**
MAT				*e*S	**S**	**19 17 47.0**	**+0.9**
JKY	**Yasaka**	**5.99**	**310**	P	**P**	**19 17 03.2**	**+2.5**
JHG	**Hegura jima**	**6.71**	**333**	P	**P**	**19 17 12.6**	**+1.8**
JNU	**Nakatsue**	**8.43**	**281**	P	**P**	**19 17 36.0**	**+1.6**
	comp=Z,3.5nm,0.3s,baz=90,slow=14,SNR=28						
JNU				S	**S**	**19 19 15.6**	**+6.5**
	baz=77,slow=19,SNR=1.3						
JNU				LR	LR	19 20 43.0	
	comp=Z,4μm,21.9s,baz=110,slow=36						
KS15	**Wonju Array Si**	**11.94**	**301**	P	**P**	**19 18 23.5**	**+1.3**
JOW	**Kunigami**	**12.00**	**248**	P	**P**	**19 18 26.6**	**+3.7**
	comp=Z,2.9nm,0.3s,baz=82,slow=22,SNR=10.0						
JOW				LR	LR	19 22 36.2	
	comp=Z,3μm,20.8s,baz=126,slow=35						
ASAJ	**Asahikawa**	**12.28**	**6**	P	**P**	**19 18 21.1**	**-5.5**
	comp=Z,6.1nm,0.3s,baz=223,slow=11,SNR=43						
ASAJ				S	**S**	**19 20 27.0**	**-16**
	comp=Z,0.9nm,0.3s,baz=223,slow=18,SNR=2.2						
YUK	**Yuzh-Kuril'sk**	**12.76**	**17**	*e*P	**P**	**19 18 27.2**	**-5.9**
YUK				pmax	pmax		
	comp=Z,120nm,0.3s						
INCN	**Inchon**	**12.88**	**299**	Pn	**P**	**19 18 33.6**	**-1.1**
	comp=Z,41nm,0.9s						
YSS	**Yuzh-Sakhalins**	**15.11**	**5**	*e*Pn	**P**	**19 18 58.9**	**-4.8**
	comp=Z,54nm,0.8s						
YSS	**Yuzh-Sakhalins**	**15.11**	**5**	*e*P	**P**	**19 18 59.5**	**-4.1**
YSS				*e*S	**S**	**19 21 40.0**	**-10**
YSS				pmax	pmax		
	comp=Z,60nm,0.8s						
YSS				MLR	MLR		
	comp=N,600nm,18.0s						
YSS				MLR	MLR		
	comp=Z,700nm,18.0s						
YSS				MLR	MLR		
	comp=E,400nm,16.0s						
MDJ	**Mudanjiang**	**15.40**	**329**	P	**P**	**19 19 06.3**	**-1.2**
MDJ				S	**S**	**19 21 57.1**	**+0.6**
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,113nm,7.7s						
MDJ				LR	LR		
	comp=N,1μm,20.7s						
MDJ				LR	LR		
	comp=E,821nm,19.7s						
MDJ				LR	LR		
	comp=Z,1μm,26.1s						
MDJ	**Mudanjiang**	**15.40**	**329**	*e*P	**P**	**19 19 06.4**	**-1.0**
	comp=Z,11nm,0.6s						
SSE	**Sheshan**	**16.71**	**272**	P	**P**	**19 19 21.5**	**-2.6**
SSE				S	**S**	**19 22 25.5**	**-1.3**
SSE				PCP	PcP	19 24 10.8	-0.4
SSE				AMB	AMB		
	comp=Z,18nm,0.8s						
SSE				AMB	AMB		
	comp=Z,359nm,5.6s						
SSE				LR	LR		
	comp=N,918nm,22.0s						
SSE				LR	LR		
	comp=E,222nm,22.0s						
SSE				LR	LR		
	comp=Z,1μm,20.5s						
SSE	**Sheshan**	**16.71**	**272**	P	**P**	**19 19 21.5**	**-2.6**
	comp=Z,18nm,0.8s						
SSE				pP		19 19 27.0	
SSE				S	**S**	**19 22 25.5**	**-1.3**
SSE				sS		19 22 42.2	
SSE				PcP	PcP	19 24 10.7	-0.5
CN2	**Changchun**	**16.91**	**319**	*e*P	**P**	**19 19 27.4**	**+0.9**
CN2				*e*S	**S**	**19 22 34.9**	**+3.7**
CN2				AMB	AMB		
	comp=Z,20nm,1.0s						
CN2				AMB	AMB		
	comp=Z,220nm,8.0s						
CN2				LR	LR		
	comp=N,840nm,18.0s						
CN2				LR	LR		
	comp=E,1μm,18.0s						
CN2				LR	LR		
	comp=Z,980nm,19.0s						
SNY	**Shenyang**	**16.91**	**311**	⇑P	**P**	**19 19 28.4**	**+1.9**
SNY				S	**S**	**19 22 35.5**	**+4.3**
SNY				AMB	AMB		
	comp=Z,40nm,1.0s						
SNY				AMB	AMB		
	comp=Z,330nm,6.9s						
SNY				LR	LR		
	comp=N,550nm,14.4s						
SNY				LR	LR		
	comp=E,610nm,17.9s						
SNY				LR	LR		
	comp=Z,940nm,22.2s						
DL2	**Dalian**	**17.07**	**299**	P	**P**	**19 19 28.8**	**+0.3**
DL2				S	**S**	**19 22 42.1**	**+7.3**
DL2				AMB	AMB		
	comp=Z,30nm,1.8s						
DL2				AMB	AMB		
	comp=Z,240nm,3.5s						
DL2				LR	LR		
	comp=N,390nm,15.5s						
DL2				LR	LR		
	comp=E,600nm,15.9s						
DL2				LR	LR		
	comp=Z,840nm,18.6s						
TATO	**Taipei**	**18.28**	**253**	*e*P	**P**	**19 19 45.7**	**+2.0**
	comp=Z,533nm,1.5s						
NJ2	**Nanjing**	**18.58**	**276**	*e*P	**P**	**19 19 48.0**	**+0.9**
NJ2				PP	PP	19 20 03.5	-0.1
NJ2				S	**S**	**19 23 08.0**	**-0.9**
NJ2				AMB	AMB		
	comp=Z,40nm,1.1s						
NJ2				AMB	AMB		
	comp=Z,400nm,4.0s						
NJ2				LR	LR		
	comp=N,1μm,16.6s						
NJ2				LR	LR		
	comp=E,1μm,15.8s						
NJ2				LR	LR		
	comp=Z,7μm,13.6s						
KLR	**Kul'dur**	**18.58**	**341**	*e*P	**P**	**19 19 40.1**	**-6.9**
TIA	**Tai'an**	**20.03**	**289**	*e*P	**P**	**19 20 03.3**	**+0.2**
TIA				AMB	AMB		
	comp=Z,23nm,1.2s						
TIA				LR	LR		
	comp=N,1μm,16.0s						
QZH	**Quanzhou**	**20.67**	**256**	P	**P**	**19 20 08.1**	**-1.7**
QZH				S	**S**	**19 23 48.4**	**-3.9**
QZH				LR	LR		
	comp=N,4μm,23.8s						
QZH				LR	LR		
	comp=E,770nm,12.3s						
QZH				LR	LR		
	comp=Z,3μm,19.1s						
SKR	**Severo-Kuril's**	**21.95**	**27**	*e*P	**P**	**19 20 22.0**	**-0.4**
SKR				pmax	pmax		
	comp=Z,90nm,0.8s,mb5.2						
SKR				pmax	pmax		
	comp=Z,1μm,4.0s						
WHN	**Wuhan**	**22.61**	**274**	⇑P	**P**	**19 20 30.1**	**+1.1**
WHN				S	**S**	**19 24 27.6**	**-0.3**
WHN				LR	LR		
	comp=Z,2μm,19.5s						
HIA	**Hailar**	**23.44**	**324**	*e*P	**P**	**19 20 35.8**	**-1.1**
	comp=Z,34nm,0.8s,mb4.8						
HIA	**Hailar**	**23.44**	**324**	*e*P	**P**	**19 20 35.8**	**-1.1**
HIA				pmax	pmax		
	comp=Z,34nm,0.8s						
PET	**Petropavlovsk**	**24.76**	**26**	*e*P	**P**	**19 20 48.5**	**-1.2**
PET				*e*S	**S**	**19 25 06.9**	**+2.0**
PET				pmax	pmax		
	comp=Z,39nm,1.2s,mb4.8						
PET				pmax	pmax		
	comp=Z,100nm,3.1s						
PET				pmax	pmax		
	comp=Z,100nm,12.0s						
PET				smax			
	comp=E,100nm,3.7s						
PET				MLR	MLR		
	comp=Z,300nm,19.0s						
HHC	**Hu-ho-hao-te**	**25.05**	**299**	*e*P	**P**	**19 20 51.8**	**-0.8**
HHC				AP	pP	19 21 05.3	-1.8
HHC				PP	PP	19 21 30.1	-1.8
HHC				PCP	PcP	19 24 27.9	+1.0
HHC				S	**S**	**19 25 05.3**	**-4.5**
HHC				AMB	AMB		
	comp=Z,87nm,1.3s,mb5.1						
HHC				AMB	AMB		
	comp=Z,1μm,3.6s						
HHC				LR	LR		
	comp=N,886nm,16.6s						
HHC				LR	LR		
	comp=E,4μm,20.2s						
HHC				LR	LR		
	comp=Z,5μm,22.6s						
BTO	**Baotou**	**26.16**	**298**	*e*P	**P**	**19 21 01.8**	**-1.1**
BTO				AMB	AMB		
	comp=Z,21nm,0.7s,mb4.8						
BTO				LR	LR		
	comp=N,715nm,12.6s						
BTO				LR	LR		
	comp=E,1μm,17.8s						
XAN	**Xi'an**	**26.74**	**283**	P	**P**	**19 21 07.8**	**-0.6**
XAN				S	**S**	**19 25 34.8**	**-2.9**
XAN				AMB	AMB		
	comp=Z,53nm,1.3s,mb4.9						
XAN				LR	LR		
	comp=Z,471nm,15.8s						
ENH	**Enshi**	**26.78**	**275**	*e*P	**P**	**19 21 07.8**	**-1.0**
	comp=Z,54nm,1.1s,mb5.0						
CLNS	**Chul'man**	**27.25**	**341**	*e*P	**P**	**19 21 12.1**	**-0.7**
CLNS				*e**PP	pP	19 21 18.7	-8.8
CLNS				*e*PPP	PPP	19 22 04.8	-8.7
CLNS				*e*S	**S**	**19 25 40.5**	**-5.3**
CLNS				*e*SSS	SSS	19 26 58.1	-27
CLNS				pmax	pmax		
	comp=Z,26nm,1.1s,mb4.7						
CLNS				pmax	pmax		
	comp=N,24nm,1.2s						
CLNS				pmax	pmax		
	comp=E,5.0nm,0.8s						
CLNS				pmax	pmax		
	comp=N,32nm,1.1s						
CLNS				pmax	pmax		
	comp=Z,32nm,1.1s,mb4.8						
CLNS				pmax	pmax		
	comp=E,8.0nm,0.7s						
CLNS				smax			
	comp=E,307nm,12.4s						
CLNS				smax			
	comp=Z,305nm,12.0s						
CLNS				smax			
	comp=N,56nm,11.0s						
CLNS				MLR	MLR		
	comp=Z,200nm,15.0s						
CLNS				MLR	MLR		
	comp=N,100nm,13.0s						
CLNS				MLR	MLR		
	comp=E,200nm,14.0s						
CIT	**Chita**	**28.24**	**323**	*e*P	**P**	**19 21 21.4**	**-0.4**
CIT				*e*	pP	19 21 34.5	-2.1
CIT				*e*		19 22 26.3	
CIT				pmax	pmax		
	comp=Z,163nm,2.0s,mb5.3						
MA2	**Magadan**	**28.48**	**11**	*e*P	**P**	**19 21 21.8**	**-2.1**
	comp=Z,21nm,1.1s,mb4.7						
MA2				*e*pP	pP	19 21 41.9	+3.2
MA2	**Magadan**	**28.48**	**11**	*e*P	**P**	**19 21 21.8**	**-2.0**
MA2				pmax	pmax		
	comp=Z,21nm,1.1s,mb4.7						
GYA	**Guiyang**	**30.18**	**268**	⇑*i*P	**P**	**19 21 37.8**	**-1.5**
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8						
SONM	**Songino Array**	**30.49**	**311**	P	**P**	**19 21 42.5**	**+0.6**
	comp=Z,5.8nm,0.6s,mb4.5,baz=125,slow=9.4,SNR=51						
SONM				PcP	PcP	19 24 39.9	0.0
	comp=Z,1.5nm,0.6s,baz=127,slow=2.2,SNR=5.8						
SONM				pPcP		19 24 57.9	
	comp=Z,1.9nm,0.5s,baz=138,slow=3.2,SNR=8.7						
SONM				ScP		19 28 16.6	
	comp=Z,2.7nm,1.1s,baz=127,slow=3.9,SNR=7.7						
SONM				LR	LR	19 34 27.6	
	comp=Z,753nm,18.3s,baz=109,slow=37						
SONM				PKPPKP		19 55 35.9	
	comp=Z,0.6nm,0.7s,baz=351,slow=2.3,SNR=7.9						
SONM	**Songino Array**	**30.49**	**311**	P	**P**	**19 21 42.5**	**+0.6**
SONM						19 24 39.9	
SONM						19 28 16.6	
QIZ	**Qiongzhong**	**30.60**	**253**	P	**P**	**19 21 43.0**	**-0.1**
QIZ				S	**S**	**19 26 40.5**	**+1.0**
QIZ				LR	LR		
	comp=E,714nm,18.8s						
QIZ				LR	LR		
	comp=Z,748nm,19.3s						
LZH	**Lanzhou**	**30.77**	**288**	⇓P	**P**	**19 21 42.1**	**-2.3**
LZH				AMB	AMB		
	comp=Z,35nm,1.3s,mb5.0						
LZH				AMB	AMB		
	comp=Z,174nm,6.6s						
LZH				LR	LR		
	comp=N,768nm,12.5s						
LZH				LR	LR		
	comp=Z,1μm,14.9s						
YAK	**Yakutsk**	**30.98**	**350**	*e*P	**P**	**19 21 43.6**	**-2.4**
YAK				*e**PP	pP	19 21 53.3	-7.8
YAK				*e*PPP	PPP	19 22 50.2	-15
YAK				*e*		19 24 44.6	
YAK				*e*S	**S**	**19 26 40.9**	**-4.2**
YAK				*e*SSS	SS	19 28 31.3	-1.2
YAK				*e*		19 32 09.4	
YAK				pmax	pmax		
	comp=N,3.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.7						
YAK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.4						
YAK				pmax	pmax		
	comp=N,3.0nm,0.8s						
YAK				pmax	pmax		
	comp=E,3.0nm,0.9s						
YAK				smax			
	comp=E,7.0nm,1.2s						
YAK				smax			
	comp=N,2.0nm,1.0s						
YAK				MLR	MLR		
	comp=Z,116nm,15.0s						
YAK				MLR	MLR		
	comp=N,142nm,16.0s						
YAK				MLR	MLR		
	comp=E,163nm,20.0s						
FX1	**Attu Island--F**	**31.40**	**39**	*e*P	**P**	**19 21 49.5**	**-0.3**
CD2	**Chengdu**	**31.50**	**278**	⇑*i*P	**P**	**19 21 49.6**	**-1.3**
CD2				PP	PP	19 22 53.9	-2.6
CD2				S	**S**	**19 26 52.4**	**-1.1**
CD2				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.8						
CD2				LR	LR		
	comp=N,520nm,20.4s						
CD2				LR	LR		
	comp=Z,550nm,16.8s						
BOD	**Bodaibo**	**31.71**	**333**	*e*P	**P**	**19 21 50.5**	**-1.9**
BOD				*e*	pP	19 22 05.1	-2.4
BOD				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.8						
SEY	**Seymchan**	**31.92**	**10**	*e*P	**P**	**19 21 53.6**	**-0.6**
SEY						19 23 04.1	
SEY				*e*		19 24 43.1	
SEY				*e*S	**S**	**19 27 03.5**	**+3.7**
SEY				*e*SS	SS	19 29 17.6	+23
SEY				pmax	pmax		
	comp=N,10.0nm,1.1s						
SEY				pmax	pmax		
	comp=Z,20nm,1.1s,mb4.9						
SEY				pmax	pmax		
	comp=E,5.0nm,1.0s						
SEY				smax			
	comp=N,110nm,17.9s						
SEY				smax			
	comp=E,170nm,27.4s						
SEY				MLR	MLR		
	comp=N,260nm,18.0s						
SEY				MLR	MLR		
	comp=Z,450nm,18.0s						
SEY				MLR	MLR		
	comp=E,260nm,22.0s						
ZAK	**Zakamensk**	**33.26**	**315**	*e*P	**P**	**19 22 04.6**	**-1.5**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
IRK	**Irkutsk**	**33.36**	**318**	*e*P	**P**	**19 22 05.2**	**-1.7**
IRK				pmax	pmax		
	comp=Z,46nm,2.0s,mb5.1						
GTA	**Gaotai**	**33.87**	**294**	*e*P	**P**	**19 22 10.5**	**-0.9**
GTA				AP	pP	19 22 24.9	-1.7
GTA				S	**S**	**19 27 22.0**	**-8.4**
GTA				SCS	ScS	19 32 27.6	-0.2
GTA				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb4.6						
GTA				AMB	AMB		
	comp=Z,159nm,7.6s						
GTA				LR	LR		
	comp=N,471nm,17.5s						
GTA				LR	LR		
	comp=E,898nm,15.6s						
GTA				LR	LR		
	comp=Z,782nm,16.0s						
KMI	**Kunming**	**33.95**	**268**	P	**P**	**19 22 13.3**	**+1.0**
KMI				AP	pP	19 22 31.3	+3.8
KMI				XP	sP	19 22 37.8	+2.8
KMI				PP	PP	19 23 29.8	+2.4
KMI				PPP	PPP	19 23 45.6	0.0
KMI				S	**S**	**19 27 33.5**	**+1.7**
KMI				XS		19 27 59.8	
KMI				SS	SS	19 29 42.6	+0.5
KMI				SSS	SSS	19 30 09.4	0.0
KMI				AMB	AMB		
	comp=Z,6.0nm,2.0s,mb4.2						
KMI				AMB	AMB		
	comp=Z,58nm,5.5s						
KMI				LR	LR		
	comp=N,329nm,18.8s						
KMI				LR	LR		
	comp=E,424nm,23.5s						
KMI				LR	LR		
	comp=Z,606nm,28.2s						
KMI	**Kunming**	**33.95**	**268**	P	**P**	**19 22 13.3**	**+1.0**
	comp=Z,6.0nm,2.0s,mb4.2						
KMI				pP	pP	19 22 31.3	+3.8
KMI				sP	sP	19 22 37.8	+2.8
KMI				PP	PP	19 23 29.8	+2.4
KMI				PPP	PPP	19 23 45.6	0.0
KMI				S	**S**	**19 27 33.5**	**+1.7**
KMI				sS		19 27 59.7	
KMI				SS	SS	19 29 42.6	+0.5
KMI				SSS	SSS	19 30 09.4	0.0
KMI				LR	LR		
	comp=Z,610nm,28.2s						
KMI	**Kunming**	**33.95**	**268**	P	**P**	**19 22 13.3**	**+1.0**
KMI				*PP	pP	19 22 31.3	+3.8
KMI						19 23 29.8	
KMI				PPP	PPP	19 23 45.6	0.0
KMI				S	**S**	**19 27 33.5**	**+1.7**
KMI				SS	SS	19 29 42.6	+0.5
KMI				SSS	SSS	19 30 09.4	0.0
KMI				pmax	pmax		
	comp=Z,6.0nm,2.0s,mb4.2						
KMI				MLR	MLR		
	comp=Z,610nm,28.2s						
NANT	**Nan**	**38.26**	**260**	⇑P	**P**	**19 22 46.5**	**-2.2**
	comp=Z,294nm,1.0s,mb6.0						
CHRT	**Chiangrai**	**38.55**	**262**	⇑P	**P**	**19 22 51.5**	**+0.5**
	comp=Z,132nm,1.1s,mb5.6						
BILL	**Bilibino**	**39.10**	**15**	*d i*P	**P**	**19 22 54.7**	**-0.5**
BILL				*i*	pP	19 23 08.3	-2.3
BILL				*i* S	**S**	**19 28 45.5**	**-4.6**
BILL				pmax	pmax		
	comp=Z,32nm,1.7s,mb4.8						
BILL				MLR	MLR		
	comp=Z,200nm,19.0s						
CHG	**Chiang Mai**	**39.73**	**261**	⇓P	**P**	**19 23 00.3**	**-0.6**
	comp=Z,28nm,0.9s,mb5.0						
NST	**Nakhon Sawan**	**40.27**	**256**	P	**P**	**19 23 05.0**	**-0.3**
TIXI	**Tiksi**	**40.31**	**354**	*i* P	**P**	**19 23 03.9**	**-1.3**
TIXI				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.4						
PMG	**Port Moresby**	**41.53**	**170**	*e*P	**P**	**19 23 15.6**	**-0.3**
	comp=Z,34nm,1.0s,mb4.9						
PMG	**Port Moresby**	**41.53**	**170**	*e*P	**P**	**19 23 15.6**	**-0.3**
PMG				pmax	pmax		
	comp=Z,34nm,1.0s						
NIKO	**Nikolski**	**41.69**	**44**	*e*P	**P**	**19 23 14.8**	**-1.8**
NIKO				*e*pP	pP	19 23 25.9	-6.2
NIKO				*e*sP	sP	19 23 32.2	-7.1
LSA	**Lhasa**	**42.37**	**280**	P	**P**	**19 23 24.0**	**+1.4**
LSA	**Lhasa**	**42.37**	**280**	*e*P	**P**	**19 23 23.3**	**+0.8**
	comp=Z,6.8nm,0.6s,mb4.5						
LSA	**Lhasa**	**42.37**	**280**	*e*P	**P**	**19 23 23.3**	**+0.8**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.5						
WMQ	**Urumqi**	**42.87**	**302**	P	**P**	**19 23 27.0**	**+0.5**
WMQ				AP	pP	19 23 43.0	+1.0
WMQ				XP	sP	19 23 50.0	+0.8
WMQ				PP	PP	19 25 10.0	+0.9
WMQ				S	**S**	**19 29 46.0**	**-0.2**
WMQ				SS	SS	19 32 52.0	-0.6
WMQ				SCS	ScS	19 33 20.0	+0.8
WMQ				AMB	AMB		
	comp=Z,19nm,1.0s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,18nm,7.0s						
WMQ				LR	LR		
	comp=N,371nm,18.0s						
WMQ				LR	LR		
	comp=E,415nm,20.0s						
WMQ				LR	LR		
	comp=Z,482nm,20.0s						
KAKA	**Kakadu**	**45.07**	**191**	*e*P	**P**	**19 23 54.0**	**+9.4**
	comp=Z,7.5nm,0.5s,mb4.8						
ZAL	**Zalesovo**	**45.11**	**316**	P	**P**	**19 23 43.9**	**-0.5**
	comp=Z,8.2nm,0.8s,mb4.6,baz=11,slow=8.5,SNR=51						
ZAL				PcP	PcP	19 25 22.8	-1.8
	comp=Z,2.9nm,0.7s,baz=9.9,slow=5.7,SNR=4.3						
ZAL				pPcP		19 25 41.5	
	comp=Z,8.1nm,0.9s,baz=339,slow=3.6,SNR=6.6						
ZAL				ScP		19 29 10.1	
	comp=Z,0.9nm,0.3s,baz=0.6,slow=8.0,SNR=3.2						
ZAL				S	**S**	**19 30 18.4**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=183,slow=19,SNR=3.8						
ZAL				LR	LR	19 43 57.8	
	comp=Z,647nm,19.4s,baz=18,slow=38						

ZAL PKPPKP 19 55 16.5
comp=Z,0.6nm,0.4s,baz=125,slow=3.0,SNR=3.7
ZAL Zalesovo 45.11 316 P **P 19 23 43.9 -0.5**
ZAL PcP PcP 19 25 22.8 -1.8
ZAL pPcP 19 25 41.5
ZAL ScP 19 29 10.1
ZAL S **S 19 30 18.4 -0.1**
ZAL LR LR 19 43 57.8
ZAL P'P' 19 55 16.5
ZAL Zalesovo 45.11 316 P **P 19 23 43.9 -0.5**
ZAL 19 25 22.8
ZAL S **S 19 30 18.5 0.0**
NVS Novosibirsk 46.11 317 *eP* **P 19 23 51.1 -1.2**
NVS *e* pP 19 24 02.9 -5.0
NVS *i* S **S 19 30 31.5 -1.3**
NVS pmax pmax
comp=E,46nm,1.3s
NVS pmax pmax
comp=Z,53nm,1.3s,mb5.3
NVS smax
comp=E,96nm,2.3s
MKAR Makanchi Array 46.54 306 P **P 19 23 55.5 -0.4**
comp=E,12nm,0.5s,mb5.1,baz=86,slow=9.8,SNR=308
MKAR ScP 19 29 16.2
comp=E,2.2nm,0.8s,baz=82,slow=5.0,SNR=7.6
MKAR S **S 19 30 39.0 -0.1**
comp=E,0.5nm,0.9s,baz=96,slow=14,SNR=2.7
MKAR LR LR 19 44 29.5
comp=E,333nm,19.4s,baz=89,slow=37
MKAR Makanchi Array 46.54 306 P **P 19 23 55.5 -0.3**
MKAR S **S 19 30 39.0 -0.1**
PKI Pulchoki 47.82 280 *eP* **P 19 24 05.0 -1.1**
comp=E,24nm,0.7s,mb5.3
PKI Pulchoki 47.82 280 *eP* **P 19 24 05.0 -1.1**
PKI pmax pmax
comp=Z,12nm,0.7s,mb5.0
KKN Kakani 47.86 280 *eP* **P 19 24 05.3 -1.1**
comp=Z,90nm,1.1s,mb5.7
KKN Kakani 47.86 280 *eP* **P 19 24 05.3 -1.1**
KKN pmax pmax
comp=Z,45nm,1.1s,mb5.4
DMN Daman 48.06 280 *eP* **P 19 24 06.5 -1.5**
comp=Z,49nm,0.9s,mb5.5
GKN Gorkha 48.33 281 *eP* **P 19 24 09.1 -0.9**
comp=Z,217nm,1.4s,mb6.0
KURK Kurchatov 48.80 312 *eP* **P 19 24 13.2 -0.1**
comp=Z,171nm,1.3s,mb5.9
KURK Kurchatov 48.80 312 *i* P **P 19 24 12.3 -1.0**
KURK pmax pmax
comp=Z,68nm,1.3s,mb5.5
KOLN Koldanda 49.27 281 *eP* **P 19 24 16.3 -1.0**
comp=Z,134nm,1.3s,mb5.8
SVW2 Sparrevohn 49.98 35 *eP* **P 19 24 22.8 +0.5**
TTA Tatalina 49.99 32 *eP* **P 19 24 22.6 +0.3**
RSO Redoubt South 51.32 36 *eP* **P 19 24 32.0 -0.4**
RSO *e* pP 19 24 48.9 +0.5
KDAK Kodiak Island 51.34 39 *eP* **P 19 24 31.8 -0.9**
comp=Z,86nm,1.3s,mb5.5
IMA Indian Mountai 51.41 28 *eP* **P 19 24 33.1 0.0**
SPU Mount Spurr 51.69 35 *eP* **P 19 24 35.0 -0.3**
TKM2 Tokmak 2 51.73 302 P **P 19 24 35.8 0.0**
SNR=19
WRAB Tennant Creek 51.91 188 *eP* **P 19 24 36.3 -1.2**
comp=Z,20nm,0.8s,mb5.1
WRAB Tennant Creek 51.91 188 *eP* **P 19 24 36.3 -1.1**
WRAB pmax pmax
comp=Z,19nm,0.8s,mb5.1
WRA Warramunga Arr 51.92 188 P **P 19 24 35.8 -1.7**
comp=Z,6.8nm,0.3s,mb5.0,baz=5.3,slow=7.6,SNR=233
WRA Warramunga Arr 51.92 188 P **P 19 24 35.8 -1.7**
KZA Kyzart 52.14 301 P **P 19 24 39.6 +0.7**
SNR=16
KSH Kashi 52.15 298 *eP* **P 19 24 39.3 +0.3**
KSH *eAP* pP 19 24 54.0 -0.8
KSH *ePCP* PcP 19 25 50.0 -0.1
KSH *ePP* PP 19 26 38.3 -0.2
KSH *ePPP* PPP 19 27 43.3 -0.3
KSH *eSCP* 19 29 40.3
KSH *ePCS* 19 29 47.0
KSH *eS* **S 19 31 56.0 -1.2**
KSH *eSCS* ScS 19 34 20.0 0.0
KSH *eSS* SS 19 35 32.0 -1.3
KSH AMB AMB
comp=Z,100nm,2.3s,mb5.3
KSH LR LR
comp=N,210nm,4.8s
KSH LR LR
comp=E,180nm,6.3s
KBK Karagaybulak 52.25 302 P **P 19 24 40.1 +0.4**
SNR=10
CHMS Chumysh 52.33 302 P **P 19 24 40.2 0.0**
SNR=7.9
FRU Bishkek 52.45 302 *eP* **P 19 24 40.0 -1.2**
FRU pmax pmax
comp=Z,70nm,1.8s,mb5.3
USP Ospenovka 52.46 303 P **P 19 24 40.8 -0.5**
SNR=12
SLKM Skilak Lake 52.58 36 *eP* **P 19 24 40.9 -1.0**
AAK Ala-Archa 52.58 302 *eP* **P 19 24 40.8 -1.4**
comp=Z,10nm,0.9s,mb4.8
AAK Ala-Archa 52.58 302 *eP* **P 19 24 40.8 -1.4**
AAK pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
PMR Palmer 53.11 34 *eP* **P 19 24 44.9 -1.0**
MCK McKinley 53.23 32 *eP* **P 19 24 46.0 -0.8**
comp=Z,31nm,1.3s,mb5.1
MCK McKinley 53.23 32 *eP* **P 19 24 46.0 -0.8**
MCK pmax pmax
comp=Z,31nm,1.3s,mb5.1
AML Almayashu 53.27 301 P **P 19 24 47.6 +0.3**
SNR=47
VOSK Vostochnaya 53.39 315 P **P 19 24 46.5 -1.6**
VOSK pmax pmax
comp=Z,89nm,1.4s,mb5.5
SML Sawmill 53.49 34 *eP* **P 19 24 47.4 -1.2**
SML *e* pP 19 25 06.5 +1.9
BVA0 Borovoye Array 53.72 315 *i P* **P 19 24 49.6 -0.9**
BVA0 pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
BVAR Borovoye Array 53.72 315 P **P 19 24 49.3 -1.1**
comp=Z,12nm,0.5s,mb5.1,baz=90,slow=7.4,SNR=114
BVAR pP pP 19 25 07.1 +0.7
comp=Z,18nm,0.6s,baz=101,slow=7.6,SNR=10.0
BVAR pPcP 19 26 13.0
comp=Z,8.1nm,0.6s,baz=92,slow=2.2,SNR=5.5
BVAR ScP 19 29 47.0
comp=Z,2.1nm,0.9s,baz=117,slow=3.3,SNR=4.5
BRVK Borovoye 53.78 315 *eP* **P 19 24 50.2 -0.7**
comp=Z,42nm,1.3s,mb5.2
BRVK *e* pP 19 25 07.2 +0.3
BRVK Borovoye 53.78 315 *eP* **P 19 24 50.2 -0.7**
BRVK *e* pP 19 25 07.2 +0.3
BRVK pmax pmax
comp=Z,42nm,1.3s,mb5.2
ILAR Eielson Array 54.15 30 P **P 19 24 51.4 -2.0**
comp=Z,21nm,1.0s,mb5.0,baz=270,slow=6.2,SNR=97
DIV Divide 54.74 35 *eP* **P 19 24 56.9 -0.9**
comp=Z,118nm,1.1s,mb5.8
KKAR Karatay Array 55.34 303 *i P* **P 19 25 01.5 -0.9**
KKAR pmax pmax
comp=Z,8.0nm,0.4s,mb5.1
MENT Mentasta 55.60 32 *eP* **P 19 25 03.7 -0.3**
MBWA Marble Bar 56.48 204 *eP* **P 19 25 10.0 -0.8**
comp=Z,31nm,1.4s,mb5.2
DAWY Dawson 57.43 31 *eP* **P 19 25 16.6 -0.5**
HYB Hyderabad 57.65 271 *i P* **P 19 25 18.0 -1.2**
HYB Hyderabad 57.65 271 *eP* **P 19 25 18.0 -1.2**
SVE Sverdlovsk 58.70 321 *eP* **P 19 25 25.3 -0.7**
SVE *e* pP 19 25 41.3 -0.8
SVE *e* 19 27 35.0
SVE *eS* **S 19 33 30.0 +5.8**
SVE *ePS* PS 19 33 51.0 +3.7
SVE *eSS* SS 19 37 21.0 +1.3
SVE pmax pmax
comp=Z,75nm,2.2s,mb5.3
SVE MLR MLR
comp=N,200nm,16.0s
SVE MLR MLR
comp=E,200nm,16.0s
SVE MLR MLR
comp=Z,300nm,16.0s
INK Inuvik 59.21 26 LR LR 19 51 32.9
comp=Z,166nm,21.4s,baz=187,slow=36
INK Inuvik 59.21 26 *eP* **P 19 25 28.6 -0.8**
comp=Z,21nm,1.1s,mb5.1
INK Inuvik 59.21 26 *eP* **P 19 25 28.6 -0.8**
INK pmax pmax
comp=Z,21nm,1.1s
ARU Arti 59.90 320 *eP* **P 19 25 33.0 -1.3**
comp=Z,25nm,0.5s,mb5.5
ARU Arti 59.90 320⇑ *iP* **P 19 25 32.9 -1.4**
ARU *e* 19 26 20.4
ARU *e* 19 27 42.0
ARU *i S* **S 19 33 40.9 +1.1**
ARU *e* 19 35 16.4
ARU *eSS* SS 19 37 39.1 +1.0
ARU pmax pmax
comp=Z,25nm,0.8s,mb5.3
AB31 Akbulak array 60.90 312 P **P 19 25 40.3 -0.9**
AB31 pmax pmax
comp=Z,8.0nm,0.4s,mb5.2
AKTO Aktyubinsk 61.76 314 P **P 19 25 45.7 -1.3**
AKTO pmax pmax
comp=Z,4.0nm,0.7s,mb4.7
DLBC Dease Lake 63.04 36 *eP* **P 19 25 55.3 -0.1**
comp=Z,3.2nm,0.8s,mb4.5,baz=279,slow=5.9,SNR=11
DLBC Dease Lake 63.04 36 *eP* **P 19 25 55.7 +0.3**
DLBC *e* pP 19 26 10.6 -1.1
STKA Stephens Creek 63.44 179⇓ *iP* **P 19 25 57.5 -0.9**
comp=Z,14nm,1.0s,mb5.0
STKA Stephens Creek 63.44 179 P **P 19 25 57.9 -0.6**
comp=Z,18nm,1.0s,mb5.1,baz=344,slow=8.9,SNR=14
STKA LR LR 19 54 32.1
comp=Z,262nm,18.4s,baz=20,slow=37
FORT Forrest 63.49 192 *eP* **P 19 25 58.5 -0.3**
comp=Z,27nm,0.4s,mb5.7
KEV Kevo 68.05 340 *ep* **P 19 26 25.6 -1.6**
comp=Z,261nm,3.2s
KEV Kevo 68.05 340 *eP* **P 19 26 25.6 -1.6**
KEV pmax pmax
comp=Z,261nm,3.2s
YKW3 Yellowknife Ar 68.49 29 *eP* **P 19 26 27.8 -2.3**
YKA Yellowknife Ar 68.53 29 P **P 19 26 28.7 -1.6**
comp=Z,4.5nm,0.9s,mb4.4,baz=296,slow=6.1,SNR=20
YKA LR LR 19 54 48.1
comp=Z,113nm,21.6s,baz=270,slow=34
YKA Yellowknife Ar 68.53 29 P **P 19 26 28.7 -1.6**
YKA LR LR 19 54 48.1
ARCES ARCESS Array B 68.61 340 P **P 19 26 30.0 -0.7**
comp=Z,4.6nm,0.7s,mb4.5,baz=53,slow=7.3,SNR=16
ARCES LR LR 20 00 56.0
comp=Z,294nm,20.2s,baz=68,slow=40
ARE0 ARCESS Array S 68.61 340 *eP* **P 19 26 27.5 -3.2**
DAG Danmarks Havn 70.82 355⇑ *iP* **P 19 26 43.8 -0.3**
comp=Z,3.7nm,0.8s,mb4.4
DAG Danmarks Havn 70.82 355⇑ *eP* **P 19 26 43.8 -0.3**
comp=Z,3.7nm,0.8s,mb4.4
DAG Danmarks Havn 70.82 355⇑ *eP* **P 19 26 43.8 -0.3**
DAG pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
MOS Moscow 71.06 324 *eP* **P 19 26 44.0 -1.8**
OBN Obninsk 71.90 324 *eP* **P 19 26 50.7 -0.1**
comp=Z,42nm,1.3s,mb5.2
OBN Obninsk 71.90 324 *d iP* **P 19 26 50.1 -0.7**
OBN *eS* S 19 36 05.9 +0.2
OBN *eSS* SS 19 40 44.2 -0.7
OBN pmax pmax
comp=Z,46nm,1.7s,mb5.1
OBN MLR MLR
comp=Z,400nm,19.0s
VRSR Storozhevoye 72.44 320 *eP* **P 19 26 53.8 -0.3**
KAF Kangasniemi 72.62 333 *ep* **P 19 26 53.5 -1.4**
comp=Z,4.8nm,0.5s,mb4.7,baz=51,slow=5.6
KAF Kangasniemi 72.62 333 *eP* **P 19 26 53.5 -1.4**
KAF pmax pmax
comp=Z,5.0nm,0.5s,mb4.7
TBM Table Mountain 72.71 45 P **P 19 26 56.2 +0.5**
BROR Big Rock Looko 72.93 48 P **P 19 26 57.6 +0.6**
VFP Flag Point 73.05 47 P **P 19 26 58.5 +0.7**
FINES FINESS Array B 73.10 333 P **P 19 26 57.2 -0.5**
comp=Z,3.2nm,0.4s,mb4.6,baz=50,slow=7.1,SNR=53
FINES pP pP 19 27 14.3 -0.1
comp=Z,7.2nm,0.4s,baz=46,slow=7.8,SNR=11
FINES LR LR 20 02 30.2
comp=Z,116nm,19.8s,baz=170,slow=38
FINES FINESS Array B 73.10 333 P **P 19 26 57.2 -0.5**
FINES pP pP 19 27 14.3 -0.1
FINES LR LR 20 02 30.2
GOF Gofitskoye 73.14 313 *eP* **P 19 26 58.0 -0.3**
GOF *i* pP 19 27 15.2 +0.2
HBO Huckleberry Mo 73.21 49 P **P 19 26 59.5 +0.8**
BBOR Butler Butte 73.43 50 P **P 19 27 00.8 +0.7**
CROR Criterion Ridg 73.51 47 P **P 19 27 01.0 +0.5**
KHMM Horse Mountain 73.69 52 *eP* **P 19 27 03.1 +1.6**
EDM Edmonton 73.73 37 *eP* **P 19 27 01.2 -0.3**
EDM *e* pP 19 27 19.0 +0.7
KIV Kislovodsk 73.89 312 *eP* **P 19 27 03.7 +1.0**
comp=Z,41nm,0.8s,mb5.4
KIV *ep*P pP 19 27 20.3 +0.8
KIV Kislovodsk 73.89 312 *c iP* **P 19 27 02.5 -0.2**
KIV *i* pP 19 27 20.9 +1.4
KIV *i S* S 19 36 28.4 +0.1
KIV pmax pmax
comp=Z,12nm,1.0s,mb4.8
KIV MLR MLR
comp=Z,200nm,22.0s
YBH Yreka Blue Hor 73.96 51 P **P 19 27 03.0 -0.1**
comp=Z,8.9nm,0.8s,mb4.8,baz=336,slow=2.3,SNR=18
YBH Yreka Blue Hor 73.96 51 *eP* **P 19 27 03.3 +0.1**
comp=Z,20nm,1.2s,mb4.9
YBH Yreka Blue Hor 73.96 51 *eP* **P 19 27 03.3 +0.2**
YBH pmax pmax
comp=Z,20nm,1.2s
VIPM Ingram Point 73.97 47 P **P 19 27 03.9 +0.8**
NEW Newport 74.22 43 P **P 19 27 04.2 -0.4**
comp=Z,8.5nm,0.9s,mb4.7,baz=263,slow=5.0,SNR=14
NEW Newport 74.22 43 *eP* **P 19 27 04.8 +0.3**
comp=Z,24nm,1.3s,mb5.0
NEW Newport 74.22 43 *eP* **P 19 27 04.8 +0.3**
NEW pmax pmax
comp=Z,24nm,1.3s
GNI Garni 74.36 308 P **P 19 27 06.6 +1.1**
comp=Z,3.2nm,0.5s,mb4.5,baz=224,slow=13,SNR=3.9
GNI LR LR 20 02 58.2
comp=Z,249nm,19.7s,baz=60,slow=38
GNI Garni 74.36 308 *eP* **P 19 27 06.2 +0.7**
comp=Z,48nm,1.1s,mb5.3
GNI Garni 74.36 308 *i P* **P 19 27 05.9 +0.4**
GNI pmax pmax
comp=Z,24nm,1.7s
VSU Vasula 74.61 330 *c iP* **P 19 27 06.7 +0.2**
WDC Whiskeytown Da 74.62 52 *eP* **P 19 27 07.0 0.0**
comp=Z,18nm,1.3s,mb4.8
WDC Whiskeytown Da 74.62 52 *eP* **P 19 27 07.0 0.0**
WDC pmax pmax
comp=Z,18nm,1.3s,mb4.8
LASM Arnica Sink 74.77 50 P **P 19 27 08.6 +0.8**
MOD Modoc 75.45 50 *eP* **P 19 27 11.9 +0.2**
comp=Z,16nm,1.1s,mb4.8
WALA Waterton Lakes 75.63 41 *eP* **P 19 27 12.0 -0.6**
comp=Z,12nm,1.0s,mb4.8
BMO Blue Mountains 75.84 46 *eP* **P 19 27 14.1 +0.2**
comp=Z,23nm,1.3s,mb5.0
BMO Blue Mountains 75.84 46 *eP* **P 19 27 14.1 +0.2**
BMO pmax pmax
comp=Z,23nm,1.3s,mb5.0
SOC Sochi 75.94 313 *c iP* **P 19 27 15.5 +1.0**
SOC *e*PPP PPP 19 31 54.4 +0.1
SOC *eS* S 19 36 46.9 -4.2
SOC *e* 19 37 10.8
SOC pmax pmax
comp=Z,20nm,1.0s,mb5.0
SOC pmax pmax
comp=N,5.0nm,0.5s
SOC pmax pmax
comp=E,7.0nm,1.1s
SOC MLR MLR
comp=Z,185nm,17.0s
SOC MLR MLR
comp=N,184nm,21.0s
SOC MLR MLR
comp=E,115nm,19.0s
WVOR Wild Horse Val 76.25 49 *eP* **P 19 27 16.2 0.0**
comp=E,41nm,1.5s,mb5.1
WVOR *ep*P pP 19 27 30.8 -2.3
WVOR Wild Horse Val 76.25 49 *eP* **P 19 27 16.3 0.0**
WVOR *e**PP pP 19 27 30.8 -2.3
WVOR pmax pmax
comp=Z,41nm,1.5s,mb5.1
HAKT HAKKARI 76.33 306 *i P* **P 19 27 16.0 -0.8**
BEKR Beckwourth 76.43 51 *eP* **P 19 27 16.9 -0.4**
comp=Z,21nm,1.0s,mb5.0
MNK Minsk 76.47 326 *eP* **P 19 27 16.0 -1.2**
ANN Anapa 76.71 315 *d iP* **P 19 27 17.8 -1.0**
ANN *i* pP 19 27 33.6 -2.1
ANN pmax pmax
comp=Z,40μm,1.4s
ERZM Erzurum 76.74 309 *i P* **P 19 27 13.3 -5.8**
CHMT Chamberlain Mo 77.16 43 *eP* **P 19 27 20.7 -0.5**
CMB Columbia Colle 77.33 53 *eP* **P 19 27 22.0 -0.4**
comp=Z,33nm,1.1s,mb5.2
CMB Columbia Colle 77.33 53 *eP* **P 19 27 22.0 -0.4**
CMB pmax pmax
comp=Z,33nm,1.1s,mb5.2
UMR Umm Al-Rimmam 77.36 297 *eP* **P 19 27 23.4 +0.7**
UMR AMb AMB 19 27 25.0
comp=Z,61nm,0.7s,mb5.7
MSL Mosul 77.39 305 *eP* **P 19 27 35.0 +12**
MSL *e*PcP PcP 19 27 52.0 +19
MSL *eS* S 19 37 17.0 +10
MIB Mutribah 77.52 297 *eP* **P 19 27 24.7 +1.0**
MIB AMb AMB 19 27 29.5
comp=Z,81nm,0.6s,mb5.8
KBD Kabd 77.56 297 *eP* **P 19 27 24.9 +1.0**
KBD AMb AMB 19 27 26.6
comp=Z,276nm,0.7s
QRN Al-Qurain 77.61 296 *eP* **P 19 27 24.9 +0.8**
RDF Al-Radifah 77.80 296 *eP* **P 19 27 25.9 +0.8**
HASS Wahat al Ahsa' 77.97 292 P **P 19 27 25.9 -0.3**
KELT Kelkit 78.00 310 *i P* **P 19 27 28.0 +1.9**
AKASG Malin Array Be 78.03 323 P **P 19 27 25.4 -0.5**
comp=Z,7.7nm,0.6s,mb4.8,baz=48,slow=5.8,SNR=38
AKASG pP pP 19 27 42.6 -0.3
comp=Z,9.9nm,0.5s,baz=51,slow=5.4,SNR=11
AKASG Malin Array Be 78.03 323 P **P 19 27 25.4 -0.6**
AKASG *PP pP 19 27 42.6 -0.2
AKASG pmax pmax
comp=Z,8.0nm,0.6s
AKASG pmax pmax
comp=Z,10.0nm,0.5s
HRY Holter Researc 78.08 42 *eP* **P 19 27 26.9 +0.5**
BMN Battle Mountai 78.20 50 *eP* **P 19 27 27.2 +0.1**
comp=Z,13nm,1.2s,mb4.7
BMN Battle Mountai 78.20 50 *eP* **P 19 27 27.2 +0.1**
BMN pmax pmax
comp=Z,13nm,1.2s,mb4.7
HLID Hailey 78.29 46 *eP* **P 19 27 28.2 +0.7**
comp=Z,14nm,1.3s,mb4.7
MARD Mardin 78.46 307 *i P* **P 19 27 28.3 -0.4**
OMM Old Mammoth Mi 78.49 53 *eP* **P 19 27 29.6 +0.8**
OMM *e* pP 19 27 47.3 +1.6
HFS Hagfors 78.53 336 LR LR 20 06 10.3
comp=Z,183nm,20.0s,baz=223,slow=39
MCMT McKenzie Canyo 78.54 44 *eP* **P 19 27 29.8 +0.9**
SIM Simferopol' 78.62 316 P **P 19 27 29.0 -0.3**
SIM *eS* S 19 37 14.0 -6.0
SIM pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
SIM MLR MLR
comp=Z,192nm,20.8s
NB2 NORSAR Subarra 78.70 337 P **P 19 27 28.9 -0.5**
comp=Z,9.1nm,0.8s,mb4.8,baz=41,slow=5.3
NB2 NORSAR Subarra 78.70 337 P **P 19 27 28.9 -0.5**
NB2 pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
NOA NORSAR Array B 78.70 337 P **P 19 27 29.1 -0.3**
comp=Z,4.1nm,0.6s,mb4.6,baz=42,slow=5.3,SNR=17
NOA pP pP 19 27 45.6 -0.8
comp=Z,12nm,0.8s,baz=42,slow=5.4,SNR=7.5
NOA LR LR 20 06 56.6
comp=Z,124nm,20.7s,baz=45,slow=39
BOZ Bozeman (W) 78.80 43 *eP* **P 19 27 30.8 +0.5**
comp=Z,14nm,1.3s,mb4.7
BOZ *e* pP 19 27 47.7 +0.5
BOZ Bozeman (W) 78.80 43 *eP* **P 19 27 30.8 +0.5**
BOZ *e* pP 19 27 47.7 +0.5
BOZ pmax pmax
comp=Z,14nm,1.3s,mb4.7
SUW Suwalki 78.92 328 *eP* **P 19 27 30.7 -0.1**
SUW *e* pP 19 27 48.5 +0.8
SUW Suwalki 78.92 328 *eP* **P 19 27 30.7 -0.1**
SUW *e* pP 19 27 48.5 +0.8
MTUM Tungsten Hills 78.92 53 *eP* **P 19 27 31.7 +0.5**
NAO01 NORSAR Array S 78.95 337 *eP* **P 19 27 29.3 -1.5**
ELK Elko 79.31 49 *eP* **P 19 27 33.2 0.0**
comp=Z,91nm,2.0s,mb5.4
ELK Elko 79.31 49 *eP* **P 19 27 33.2 0.0**
ELK pmax pmax
comp=Z,91nm,2.0s
QLMT Earthquake Lak 79.37 44 *eP* **P 19 27 34.9 +1.4**
QLMT *e* pP 19 27 51.8 +1.4
TPH Tonopah 79.44 52 *eP* **P 19 27 33.0 -1.0**
comp=Z,20nm,1.1s,mb5.0
TPH Tonopah 79.44 52 *eP* **P 19 27 33.0 -1.0**
TPH pmax pmax
comp=Z,20nm,1.1s,mb5.0
BOYT Boyabat 80.10 313 *i P* **P 19 27 36.2 -1.3**
DAC Darwin (Calif) 80.15 53 *eP* **P 19 27 37.4 -0.5**
comp=Z,17nm,1.1s,mb4.9
DAC Darwin (Calif) 80.15 53 *eP* **P 19 27 37.4 -0.4**
DAC pmax pmax
comp=Z,17nm,1.1s,mb4.9
IMW Indian Meadow 80.19 44 *eP* **P 19 27 38.9 +1.0**
comp=Z,15nm,1.1s,mb4.8
RRI2 Red Ridge 80.28 45 *eP* **P 19 27 38.6 +0.2**
comp=Z,11nm,1.0s,mb4.7
HVU Hansel Valley 80.28 47 *eP* **P 19 27 39.5 +1.1**
TPAW Teton Pass 80.42 44 *eP* **P 19 27 39.9 +0.8**
comp=Z,27nm,1.4s,mb5.0
GZT Gaziantep 80.61 308 *i P* **P 19 27 40.9 +0.6**
MWC Mount Wilson 80.92 55 *eP* **P 19 27 40.5 -1.4**
BALT Daday 80.98 313 *i P* **P 19 27 42.1 0.0**
IAS Iasi 81.01 321 P **P 19 27 42.9 +0.7**
HWUT Hardware Ranch 81.13 46 *eP* **P 19 27 43.0 +0.2**
comp=Z,42nm,1.4s,mb5.2
DUG Dugway 81.15 48 *eP* **P 19 27 44.0 +1.0**
comp=Z,37nm,1.3s,mb5.2
DUG Dugway 81.15 48 *eP* **P 19 27 44.0 +1.0**
DUG pmax pmax
comp=Z,37nm,1.3s,mb5.2
LVV L'vov 81.20 324 *eP* **P 19 27 43.3 +0.2**
CDAG Cicekdag 81.44 311 *i P* **P 19 27 43.2 -1.4**
TCUT Toone Canyon 81.50 47 *eP* **P 19 27 46.0 +1.2**
CTU Camp Tracy 81.54 47 *eP* **P 19 27 45.2 +0.2**
AVNT Avonos 81.61 311 *i P* **P 19 27 45.8 +0.4**
PDAR Pinedale Array 81.67 44 P **P 19 27 45.7 0.0**
comp=Z,2.7nm,0.8s,mb4.2,baz=297,slow=3.3,SNR=17
PDAR LR LR 20 03 54.2
comp=Z,86nm,19.6s,baz=294,slow=36
NLU North Lily Min 81.75 48 *eP* **P 19 27 45.9 -0.2**
JLU Jordanelle 81.78 47 *eP* **P 19 27 45.3 -1.0**
BR131 Keskin Array S 81.85 312 *eP* **P 19 27 47.8 +1.1**
comp=Z,5.2nm,0.7s,mb4.6
BR131 *e* pP 19 28 05.3 +1.6
BRTR Keskin Array B 81.85 312 P **P 19 27 47.2 +0.5**
comp=Z,6.7nm,0.8s,mb4.7,baz=98,slow=4.1,SNR=37
BRTR Keskin Array B 81.85 312 P **P 19 27 47.2 +0.5**
COBT Iskenderun 81.95 308 *i P* **P 19 27 41.5 -5.8**
KWP Kalwaria 81.98 325 *eP* **P 19 27 48.0 +0.9**
KWP *e* pP 19 28 05.1 +1.0
KWP Kalwaria 81.98 325 *eP* **P 19 27 48.0 +0.9**
KWP *e* pP 19 28 05.1 +1.0
MPU Maple Canyon 82.00 48 *eP* **P 19 27 48.0 +0.6**
DAU Daniels Canyon 82.00 47 *eP* **P 19 27 48.6 +1.1**
MZLS Mizel 82.08 293 P **P 19 27 49.3 +1.1**
ARUT Antelope Range 82.10 50 *eP* **P 19 27 47.9 -0.1**
VRI Vrincioaia 82.28 320 ⇑P **P 19 27 50.9 +2.1**
VRI Vrincioaia 82.28 320 P **P 19 27 50.8 +2.0**
SGKT Sivrigoynuk 82.35 313 *i P* **P 19 27 48.8 -0.5**
PFO Pinyon Flat Ob 82.38 55 *eP* **P 19 27 49.2 -0.3**
comp=Z,25nm,1.0s,mb5.1
PFO Pinyon Flat Ob 82.38 55 *eP* **P 19 27 49.2 -0.3**
PFO pmax pmax
comp=Z,25nm,1.0s,mb5.1
MSU Marysvale 82.51 49 *eP* **P 19 27 49.8 -0.3**
KOLS Kolonicke sedl 82.65 324 *eP* **P 19 27 51.8 +1.2**
KOLS *i* pP pP 19 28 08.5 +0.9
KOLS *i* 19 30 34.8
BAR Barrett 82.73 56 *eP* **P 19 27 51.3 0.0**
STHS Stebnicka Huta 82.84 325 *i P* **P 19 27 52.8 +1.3**
STHS *i* pP pP 19 28 09.8 +1.3
PPT Papeete 82.87 116 LR LR 19 55 42.5
comp=Z,203nm,21.3s,baz=301,slow=29
MLR Muntele Rosu 82.95 320 P **P 19 27 54.3 +2.2**

comp=Z,1.5nm,0.4s,mb4.3,baz=330,slow=2.9,SNR=7.6
MLR Muntele Rosu 82.95 320 ⇓P **P 19 27 53.7 +1.5**
MLR Muntele Rosu 82.95 320 P **P 19 27 53.6 +1.5**
MLR Muntele Rosu 82.95 320 P **P 19 27 54.3 +2.1**
MLR pmax pmax
comp=Z,2.0nm,0.4s
HILS Ha'il 82.95 298 P **P 19 27 53.5 +1.0**
OJC Ojcow 82.99 326 ⇓*i*P **P 19 27 52.9 +0.6**
OJC *e* pP 19 28 09.2 -0.1
OJC *e*S S 19 38 05.2 +0.1
OJC MLR MLR 20 09 15.0
comp=Z,200nm,17.9s
OJC Ojcow 82.99 326 ⇓*i*P **P 19 27 52.9 +0.6**
OJC *i* pP 19 28 09.2 -0.1
OJC *e*S S 19 38 05.2 +0.1
OJC LR LR
comp=Z,200nm,17.9s
CRVS Cervenica-Dubn 83.07 325 *i* P **P 19 27 53.9 +1.2**
CRVS *i* pP pP 19 28 10.9 +1.1
SRU San Rafael 83.22 48 *e*P **P 19 27 54.5 +0.8**
MEST Erdemli 83.31 309 *i* P **P 19 27 54.7 +0.5**
RWWY Rawlins 83.71 44 *e*P **P 19 27 56.7 +0.6**
comp=Z,22nm,1.1s,mb5.2
ESKT Eskisehir 83.72 313 *i* P **P 19 27 55.5 -0.6**
KECS Kecovo 83.83 325 *e*P **P 19 27 55.7 -0.8**
DRGR 83.83 322 ⇓P **P 19 27 57.7 +1.1**
DRGR 83.83 322 P **P 19 27 57.1 +0.6**
AFFS 'Afif 83.85 294 P **P 19 27 58.6 +1.4**
ASF Jabal al Asfar 83.92 304 P **P 19 27 58.6 +1.2**
comp=Z,7.4nm,0.9s,mb4.8,baz=354,slow=2.6,SNR=12
ASF pP pP 19 28 14.3 -0.1
comp=Z,14nm,0.9s,baz=22,slow=1.0,SNR=7.4
OKC Ostrava-Krasne 84.03 327 *e*P **P 19 27 57.5 0.0**
OKC *e*pP pP 19 28 15.6 +1.0
OKC *e*SKS SKS 19 38 10.6 -0.9
OKC AMS AMS 20 11 00.0
comp=Z,100nm,20.0s
RSSD Black Hills 84.03 41 *e*P **P 19 27 57.9 +0.3**
comp=Z,14nm,1.4s,mb4.9
RSSD Black Hills 84.03 41 *e*P **P 19 27 57.9 +0.3**
RSSD pmax pmax
comp=Z,13nm,1.4s,mb4.9
QURS Qurayyt al Mil 84.05 303 P **P 19 28 00.0 +2.0**
ULM Lac du Bonnet 84.09 33 LR LR 20 02 04.8
comp=Z,136nm,20.7s,baz=319,slow=33
KSP Ksiaz 84.17 328 *e*P **P 19 27 59.2 +1.0**
KSP *e* pP 19 28 16.2 +1.0
KSP Ksiaz 84.17 328 ⇓*e*P **P 19 27 58.9 +0.8**
KSP *e*pP pP 19 28 16.2 +1.0
KSP *e*S S 19 38 19.2 +2.4
KSP *e*SS SS 19 43 52.6 +3.0
MORC Moravsky Berou 84.35 327 P **P 19 28 00.0 +0.9**
ULDT Uludag 84.40 314 *i* P **P 19 27 58.8 -0.8**
DPC Dobruska-Polom 84.50 328 *e*P **P 19 28 01.0 +1.2**
DPC *e*pP pP 19 28 18.4 +1.4
DPC *e*S S 19 38 20.1 0.0
DPC *e*SS SS 19 44 19.3 +25
DPC AMS AMS 20 09 40.0
comp=Z,200nm,16.5s
DPC Dobruska-Polom 84.50 328 *e*P **P 19 28 01.0 +1.2**
DPC *e* pP 19 28 18.4 +1.4
DPC *e*S S 19 38 20.1 0.0
DPC MLR MLR
comp=Z,200nm,16.5s
PSZ Piszkesteto 84.51 325 ⇑*e*sP sP 19 28 18.1 -5.5
PSZ Piszkesteto 84.51 325 P **P 19 28 01.7 +1.8**
KAMS Al Khamasin 84.51 290 P **P 19 28 01.3 +0.7**
UPC Upice 84.53 328 *e*P **P 19 28 01.2 +1.2**
UPC *e*pP pP 19 28 18.1 +1.0
PV10 Paradox Valley 84.59 48 *e*P **P 19 28 02.4 +1.8**
VYHS Vyhne 84.63 325 *i* P **P 19 28 01.4 +0.9**
VYHS *i* pP pP 19 28 19.1 +1.5
CSS Prodhromos 84.79 308 *e*P **P 19 28 01.9 +0.2**
comp=Z,29nm,0.8s,mb5.5
PHWY Pilot Hill 84.99 44 *e*P **P 19 28 03.3 +0.8**
PV01 Paradox Valley 85.03 48 *e*P **P 19 28 02.8 0.0**
VRAC Vranov 85.12 327 P **P 19 28 03.9 +1.0**
comp=Z,6.2nm,0.8s,mb4.8,baz=52,slow=5.3,SNR=9.1
VRAC pP pP 19 28 21.5 +1.4
comp=Z,15nm,0.6s,baz=53,slow=4.2,SNR=12
VRAC Vranov 85.12 327 P **P 19 28 04.1 +1.1**
VRAC Vranov 85.12 327 P **P 19 28 03.9 +1.0**
VRAC *PP pP 19 28 21.5 +1.4
VRAC pmax pmax
comp=Z,6.0nm,0.8s
VRAC pmax pmax
comp=Z,15nm,0.6s
PVCC Panska Ves 85.16 329 *e*P **P 19 28 04.0 +0.9**
PVCC *e*pP pP 19 28 21.2 +1.0
PVCC *e*SKS SKS 19 38 24.8 +5.7
PVCC AMS AMS 20 07 50.0
comp=Z,100nm,15.7s
BRG Berggiesshubel 85.18 329 *e*P **P 19 28 03.8 +0.6**
comp=Z,5.4nm,0.8s,mb4.7
BRG *i* P pP 19 28 21.0 +0.7
BRG PP PP 19 31 16.0 -6.7
BRG S S 19 38 25.0 -1.7
BRG SS SS 19 43 59.0 -5.8
BRG LR LR
comp=Z,180nm,13.0s
BRG Berggiesshubel 85.18 329 *e*P **P 19 28 03.8 +0.6**
BRG *i* pP 19 28 21.0 +0.7
BRG 19 31 16.0
BRG S S 19 38 25.0 -1.7
BRG SS SS 19 43 59.0 -5.8
BRG pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
BRG MLR MLR
comp=Z,180nm,13.0s
CLL Collm 85.26 330 ⇓P **P 19 28 03.8 +0.2**
comp=Z,logA/T=1.2,mb5.1
CLL *i *PP pP 19 28 21.1 +0.4
CLL *e*SP sP 19 28 29.0 +1.8
CLL Collm 85.26 330 ⇓*i*P **P 19 28 03.8 +0.2**
comp=Z,14nm,0.8s,mb5.1
CLL ⇑*i*P pP 19 28 21.1 +0.4
CLL *e* 19 28 29.0
CLL LR LR
comp=Z,200nm,18.5s
CLL Collm 85.26 330 ⇓*i*P **P 19 28 03.8 +0.2**
CLL *i* pP 19 28 21.1 +0.4
CLL pmax pmax
comp=Z,14nm,0.8s,mb5.1
CLL MLR MLR
comp=Z,200nm,18.5s
SMOL Smolenice 85.29 326 *i* pP 19 28 23.0 +2.1
BTOK Tokmak 85.31 314 *i* P **P 19 28 05.2 +1.1**
PRU Pruhonice 85.56 329 *e*P **P 19 28 06.0 +0.9**
PRU *e*pP pP 19 28 22.9 +0.7
PRU *e*S S 19 38 32.2 +1.7
PRU *e*SS SS 19 44 12.5 +2.0
PRU AMS AMS 20 08 30.0
comp=Z,200nm,21.0s
TREC Trest 85.64 328 *e*P **P 19 28 06.0 +0.5**
TREC *e*x x 19 28 23.5
TREC *e*SKS SKS 19 38 29.1 +6.8
TREC AMS AMS 20 10 30.0
comp=Z,300nm,15.4s
KBRS Khaybar 85.71 298 P **P 19 28 08.1 +1.7**
TATS Tathlith 85.80 290 P **P 19 28 08.6 +1.7**
ISCO Idaho Springs 85.83 45 *e*P **P 19 28 07.1 +0.4**
comp=Z,13nm,1.4s,mb5.0
ISCO Idaho Springs 85.83 45 *e*P **P 19 28 07.1 +0.4**
ISCO pmax pmax
comp=Z,13nm,1.4s,mb5.0
ZAPS Zavoj/Pirot 86.18 320 ⇑*i*P **P 19 28 08.8 +0.5**
NKC Novy Kostel 86.30 330 *e*P **P 19 28 09.7 +1.0**
NKC *e*pP pP 19 28 27.0 +1.1
NKC *e*S S 19 38 38.1 +0.5
NKC AMS AMS 20 13 30.0
comp=Z,100nm,15.6s
MOX Moxa 86.34 330 *i* P **P 19 28 09.9 +1.0**
MOX pP pP 19 28 27.0 +0.9
MOX L 20 13 27.0
MOX Moxa 86.34 330 *e*P **P 19 28 09.9 +1.0**
MOX *e*pP pP 19 28 27.2 +1.1
MOX LR LR
comp=Z,100nm,17.0s
TBKS Tabuk 86.37 301 P **P 19 28 11.0 +1.4**
KHC Kasperske Hory 86.62 328 *e*P **P 19 28 10.7 +0.4**
KHC *e*pP pP 19 28 28.0 +0.5
KHC PP PP 19 31 33.0 -1.8
KHC *e*S S 19 38 41.5 +0.9
KHC *e*SS SS 19 44 27.3 +1.5
KHC AMS AMS 20 11 10.0
comp=Z,300nm,17.9s
DJNS Zahran al Janu 86.72 289 P **P 19 28 13.6 +2.1**
GERES GERESS Array B 86.77 328 P **P 19 28 11.2 +0.1**
comp=Z,0.7nm,0.5s,mb4.2,baz=18,slow=4.2,SNR=6.8
GERES pP pP 19 28 28.3 +0.1
comp=Z,3.7nm,0.7s,baz=45,slow=3.8,SNR=15
GERES PP PP 19 31 35.3 -1.0
comp=Z,0.4nm,0.6s,baz=51,slow=8.5,SNR=3.7
GERES LR LR 20 08 57.8
comp=Z,175nm,21.6s,baz=241,slow=37
ARSA Arzberg 87.09 326 ⇑*i*P **P 19 28 13.8 +1.2**
comp=Z,4.6nm,1.3s,mb4.5
BLJS Baljurashi 87.11 292 P **P 19 28 15.1 +1.7**
GRA1 Grafenberg Arr 87.23 330 *e*P **P 19 28 14.1 +0.9**
comp=Z,7.0nm,0.9s,mb4.9
GRA1 *e*pP pP 19 28 31.1 +0.6
GRA1 *e*PP PP 19 31 38.3 -1.8
GRA1 LR LR
comp=Z,100nm,21.5s
GRF Grafenberg Arr 87.23 330 *e*P **P 19 28 14.1 +0.9**
comp=Z,7.0nm,0.9s,mb4.9
GRF *e*pP pP 19 28 31.1 +0.6
GRF *e*PP PP 19 31 38.3 -1.8
GRF LR LR
comp=Z,100nm,21.5s
GRF Grafenberg Arr 87.23 330 *e*P **P 19 28 14.1 +0.9**
GRF *e*PP pP 19 28 31.1 +0.6
GRF *e* 19 31 38.3
GRF pmax pmax
comp=Z,7.0nm,0.9s,mb4.9
GRF MLR MLR
comp=Z,100nm,21.5s
GRF Grafenberg Arr 87.23 330 *e*P **P 19 28 14.1 +0.9**
GRF *e*PP pP 19 28 31.1 +0.6
GRF *e* 19 31 38.3
GRF pmax pmax
comp=Z,7.0nm,0.9s,mb4.9
GRF MLR MLR
comp=Z,100nm,21.5s
BDAS Al Bad' 87.31 302 P **P 19 28 14.7 +0.5**
UMJS Umm Lajj 87.48 298 P **P 19 28 16.3 +1.2**
PERS Pernice 87.73 326 *e*P pP 19 28 33.3 +0.3
EKA Eskdalemuir Ar 87.77 340 P **P 19 28 16.6 +0.8**
comp=Z,1.4nm,0.5s,mb4.4,baz=33,slow=5.1,SNR=6.7
EKA pP pP 19 28 33.8 +0.9
comp=Z,2.3nm,0.5s,baz=38,slow=5.0,SNR=7.7
ANMO Albuquerque 88.32 49 P **P 19 28 19.4 +0.5**
comp=Z,2.6nm,0.8s,mb4.5,baz=235,slow=5.0,SNR=6.8
ANMO LR LR 20 06 27.9
comp=Z,273nm,18.9s,slow=35
ANMO Albuquerque 88.32 49 *i* P **P 19 28 20.2 +1.4**
VISS Visnje 88.46 325 *e*P pP 19 28 36.4 -0.1
BOJS Bojanci 88.48 325 *e*P pP 19 28 38.3 +1.7
DAVA Damuels 89.64 329 ⇑*i*P **P 19 28 25.6 +0.8**
comp=Z,7.1nm,1.2s,mb4.9
CDF Champ du Feu 89.87 331 *e*P **P 19 28 25.6 -0.2**
DAVOX Davos 90.03 329 P **P 19 28 26.3 -0.3**
comp=Z,3.0nm,0.7s,mb4.7,baz=354,slow=4.8,SNR=7.9
DAVOX pP pP 19 28 44.5 +0.6
comp=Z,12nm,0.6s,baz=81,slow=3.1,SNR=12
SCHQ Schefferville 90.41 16 P **P 19 28 28.2 0.0**
comp=Z,2.2nm,0.7s,mb4.6,baz=252,slow=2.9,SNR=3.7
SCHQ LR LR 20 14 46.1
comp=Z,79nm,18.1s,baz=220,slow=39
SCHQ Schefferville 90.41 16 P **P 19 28 28.2 0.0**
SCHQ LR LR 20 14 46.1
HINF Hinteralfeld 90.51 331 *e*P **P 19 28 28.2 -0.6**
CPRX Cap Rock 91.20 49 P **P 19 28 32.0 -0.4**
GDL2 Guadalupe Moun 91.40 50 *e*P **P 19 28 33.9 +0.5**
CABF La Chapelle 91.79 331 *e*P **P 19 28 34.7 -0.1**
comp=Z,18nm,1.2s,mb5.0
CABF La Chapelle 91.79 331 *e*P **P 19 28 34.7 -0.1**
CABF pmax pmax
comp=Z,9.0nm,1.2s,mb5.0
LOR Lormes 92.16 332 *e*P **P 19 28 36.3 -0.2**
LOR *e*R
comp=Z,124nm,21.0s
LPL La Plagne 92.38 330 *e*P **P 19 28 37.7 +0.1**
comp=Z,7.2nm,0.6s,mb4.9
LPL La Plagne 92.38 330 *e*P **P 19 28 37.7 +0.1**
LPL pmax pmax
comp=Z,4.0nm,0.6s,mb4.9
LPG La Plagne 92.39 330 *e*P **P 19 28 37.9 +0.3**
comp=Z,9.7nm,0.7s,mb4.9
LPG *e*pP pP 19 28 55.7 +0.7
LPG La Plagne 92.39 330 *e*P **P 19 28 37.9 +0.3**
LPG *e*PP pP 19 28 55.7 +0.7
LPG pmax pmax
comp=Z,5.0nm,0.7s,mb5.0
SSF Saint Saulge 92.47 332 *e*P **P 19 28 37.9 0.0**
comp=Z,2.3nm,0.7s,mb4.6
SSF *e*pP pP 19 28 55.6 +0.3
SSF Saint Saulge 92.47 332 *e*P **P 19 28 37.9 0.0**
SSF *e*PP pP 19 28 55.6 +0.3
SSF pmax pmax
comp=Z,2.0nm,0.7s,mb4.6
FLN La Foliniere 92.55 336 *e*P **P 19 28 37.9 -0.3**
comp=Z,10nm,0.9s,mb5.0
FLN *e*R
comp=Z,189nm,19.8s
FLN La Foliniere 92.55 336 *e*P **P 19 28 37.9 -0.3**
FLN pmax pmax
comp=Z,5.0nm,0.9s,mb4.9
FLN MLR MLR
comp=Z,190nm,19.8s
LDF La Druitiere 92.56 335 *e*P **P 19 28 37.9 -0.4**
LDF *e*pP pP 19 28 55.7 0.0
SMF Signal de Mont 92.68 332 *e*P **P 19 28 38.7 -0.2**
SMF *e*pP pP 19 28 56.6 +0.3
AVF Avril sur Loir 92.75 332 *e*P **P 19 28 39.2 0.0**
comp=Z,12nm,0.6s,mb5.2
AVF *e*pP pP 19 28 57.0 +0.4
AVF Avril sur Loir 92.75 332 *e*P **P 19 28 39.2 0.0**
AVF *e*PP pP 19 28 57.0 +0.4
AVF pmax pmax
comp=Z,6.0nm,0.6s,mb5.2
MBDF Montbardon 92.99 329 *e*P **P 19 28 39.7 -0.7**
MBDF *e*pP pP 19 28 57.5 -0.2
GRR Gorron 93.00 336 *e*P **P 19 28 40.2 -0.1**
comp=Z,14nm,0.8s,mb5.2
GRR Gorron 93.00 336 *e*P **P 19 28 40.2 -0.1**
GRR pmax pmax
comp=Z,7.0nm,0.8s,mb5.1
BGF Bois d'Agland 93.14 332 *e*P **P 19 28 40.9 -0.1**
BGF *e*pP pP 19 28 58.6 +0.2
ORIF Oris-en-Rattie 93.22 330 *e*P **P 19 28 41.3 -0.1**
comp=Z,4.5nm,0.8s,mb4.7
ORIF *e*R
comp=Z,175nm,18.0s
WMOK Wichita Mounta 93.25 45 *e*P **P 19 28 41.8 -0.1**
comp=Z,5.0nm,0.9s,mb4.9
WMOK *e*pP pP 19 28 56.0 -3.2
WMOK Wichita Mounta 93.25 45 *e*P **P 19 28 41.8 0.0**
WMOK *e*PP pP 19 28 56.0 -3.2
WMOK pmax pmax
comp=Z,5.0nm,0.9s,mb4.9
SBF Sospel 93.38 328 *e*P **P 19 28 41.2 -0.9**
TCF Toulx Ste Croi 93.62 333 *e*P **P 19 28 43.2 0.0**
TCF *e*pP pP 19 29 00.4 -0.1
LTX Lajitas 93.69 52 *e*P **P 19 28 44.2 +0.3**
comp=Z,26nm,1.1s,mb5.6
LTX Lajitas 93.69 52 *e*P **P 19 28 44.2 +0.3**
LTX pmax pmax
comp=Z,26nm,1.1s,mb5.6
TXAR Lajitas Array 93.69 52 P **P 19 28 44.7 +0.8**
comp=Z,18nm,0.9s,mb5.5,baz=297,slow=2.8,SNR=96
TXAR LR LR 20 03 35.0
comp=Z,218nm,20.9s,baz=350,slow=31
TXAR Lajitas Array 93.69 52 P **P 19 28 44.7 +0.8**
TXAR LR LR 20 03 35.0
SGMF Saint Gilles 93.70 336 *e*P **P 19 28 43.6 +0.1**
VIVF Saint-Julien-l 93.79 330 *e*P **P 19 28 43.9 -0.1**
comp=Z,16nm,1.0s,mb5.1
VIVF *e*pP pP 19 29 01.6 +0.3
VIVF Saint-Julien-l 93.79 330 *e*P **P 19 28 43.9 -0.1**
VIVF *e*PP pP 19 29 01.6 +0.3
VIVF pmax pmax
comp=Z,8.0nm,1.0s,mb5.1
ROSF Rostrenen 93.87 337 *e*P **P 19 28 44.4 +0.1**
FRF La Foret Royal 93.97 328 *e*P **P 19 28 43.9 -0.9**
comp=Z,12nm,1.0s,mb5.0
FRF *e*pP pP 19 29 01.7 -0.5
FRF La Foret Royal 93.97 328 *e*P **P 19 28 43.9 -0.9**
FRF *e*PP pP 19 29 01.7 -0.5
FRF pmax pmax
comp=Z,6.0nm,1.0s,mb5.0
SMRF Simiane la Rot 94.11 329 *e*P **P 19 28 45.5 +0.1**
LMR La Mourre 94.21 328 *e*P **P 19 28 45.3 -0.6**
MFF Saint Martin d 94.25 334 *e*P **P 19 28 46.3 +0.3**
comp=Z,16nm,1.1s,mb5.1
MFF Saint Martin d 94.25 334 *e*P **P 19 28 46.3 +0.3**
MFF pmax pmax
comp=Z,8.0nm,1.1s,mb5.1
RJF Les Rejaudoux 94.70 332 *e*P **P 19 28 48.5 +0.4**
RJF *e*pP pP 19 29 06.2 +0.7
RJF *e*R
comp=Z,206nm,20.5s
LASF Ste Croix 94.76 330 *e*P **P 19 28 48.6 +0.2**
CAF Calviac 94.80 332 *e*P **P 19 28 49.2 +0.6**
MTLF Montolieu 96.05 331 *e*P **P 19 28 54.6 +0.3**
ETSF Etsaut 97.53 332 *e*P **P 19 29 01.6 +0.5**
ETSF *e*pP pP 19 29 19.2 +0.7
DBIC Dimbokro 129.53 313 PKP PKPdf 19 34 36.7 +1.2
comp=Z,2.2nm,0.5s,baz=352,slow=11,SNR=5.9
SDV Santo Domingo 129.55 42 PKP PKPdf 19 34 37.1 +1.7
comp=Z,11nm,0.8s,baz=338,slow=3.0,SNR=9.5
SDV Santo Domingo 129.55 42 *e*PKPdf PKPdf 19 34 37.4 +1.9
SNAA Sanae 135.69 196 PKPdf 19 35 07.3 +22
SNAA Sanae 135.69 196 P PKPdf 19 34 52.2 +6.7
SNAA P 19 35 07.3
VNA2 Neumayer--Watz 137.24 195 PKPdf 19 35 08.6 +20
VNA2 Neumayer--Watz 137.24 195 P PKPdf 19 35 00.8 +12
VNA2 P 19 35 08.6
VNA3 Neumayer Olymp 137.47 194 PKPdf 19 35 17.4 +29
VNA3 Neumayer Olymp 137.47 194 PKPdf 19 35 21.5 +33
VNA3 Neumayer Olymp 137.47 194 PKPdf 19 35 33.8 +45
VNA1 Neumayer--Stat 137.64 195 PKPdf 19 35 08.8 +20
SAML Samuel 148.13 49 *e*PKPdf PKPdf 19 35 09.8 +0.9
SAML *e*PKPbc PKPdf 19 35 13.7 +4.8
USHA Ushuaia 149.16 147 PKPbc PKPdf 19 35 17.0 +7.8
comp=Z,19nm,1.0s,baz=225,slow=4.3,SNR=3.3
LPAZ La Paz 149.52 66 PKPbc PKPdf 19 35 18.3 +7.4
comp=Z,9.4nm,0.8s,baz=347,slow=3.5,SNR=37
LPAZ La Paz 149.52 66 *e*PKPdf PKPdf 19 35 14.3 +3.4
LPAZ PKPbc PKPdf 19 35 18.3 +7.4
LPAZ *e*PKPbc PKPdf 19 35 18.6 +7.7
LPAZ La Paz 149.52 66 *e*PKHKP 19 35 14.3
LPAZ *e* 19 35 18.6
LVC Limon Verde 152.12 78 PKPbc PKPdf 19 35 24.9 +10
comp=Z,2.8nm,0.6s,baz=302,slow=10,SNR=5.5
LVC Limon Verde 152.12 78 *e*PKPbc PKPdf 19 35 24.9 +10
LVC *e*PKPab PKPab 19 35 34.3 +0.7
PLCA Paso Flores 153.39 118 PKPbc PKPdf 19 35 26.7 +11
comp=Z,4.0nm,1.1s,baz=199,slow=2.8,SNR=2.9
SIV San Ignacio 154.60 56 PKP PKPdf 19 35 20.9 +2.6
comp=Z,4.2nm,1.1s,baz=302,slow=2.3,SNR=6.7
SIV PKPbc PKPdf 19 35 29.2 +11
comp=Z,4.1nm,0.9s,baz=328,slow=1.4,SNR=11
SIV PKPab PKPab 19 35 42.4 -1.8
comp=Z,12nm,1.0s,baz=278,slow=15,SNR=15
CFAA Coronel Fontan 155.37 97 PKPab PKPab 19 35 46.5 -0.5
comp=Z,0.4nm,0.6s,baz=315,slow=5.0,SNR=4.3

JMA 16 19:20:04.9±0.3, 32.38N×141.02E, M3.8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.25**	**306**	P	Pb	19 20 28.9	-0.1
JHJ2				eS	Sb	19 20 45.7	+0.1
JKO	**Kozu shima**	**2.40**	**319**	P	Pn	19 20 46.8	+0.8
JIM2	**Oshima 3**	**2.68**	**331**	P	Pn	19 20 50.2	+0.1
JOD2	**Odawara 2**	**3.29**	**331**	P	Pn	19 20 59.5	+0.7

*MOS **16** 19:24:22.1±1.7, 31.70N×140.96E, h33km, mb4.6/1, Error ellipse: s-maj=43.7km s-min=13.4km az=106.7*
*IDC **16** 19:24:26.0±1.7, 31.82N×140.89E, h51km±17km, mb3.6/6, mb1 3.8/8, mb1mx3.6/20, mbtmp3.8/8, ML3.5/2, Error ellipse: s-maj=36.0km s-min=10.8km az=72.0*
*NEIC **16** 19:24:28.2±1.9, 31.86N×140.83E, h70km±16km, mb4.4/1, Error ellipse: s-maj=27.6km s-min=15.2km az=91.0*

ISC 16 19:24:24.4±1.0, 31.79N±0.08×140.8E±0.2, h51km±11km, n14, σ0=96/19, mb3.8/7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**1.57**	**328**	P	**P**	**19 24 50.9**	**+0.4**
	34nm,0.3s,baz=78,slow=23,SNR=52						
JHJ				S	**S**	**19 25 06.8**	**-2.8**
	178nm,0.3s,baz=71,slow=21,SNR=24						
CBIJ	**Chichi jima**	**4.84**	**165**	P	**P**	**19 25 36.5**	**0.0**
	4.3nm,0.3s,baz=282,slow=20,SNR=6.1						
CBIJ				S	**S**	**19 26 31.3**	**-0.7**
	12nm,0.3s,baz=288,slow=20,SNR=4.5						
MJAR	**Matsushiro Arr**	**5.19**	**337**	P	**P**	**19 25 42.4**	**+0.9**
	2.0nm,0.3s,baz=163,slow=14,SNR=24						
MJAR				S	**S**	**19 26 40.1**	**-0.8**
	0.3nm,0.3s,baz=167,slow=21,SNR=3.1						
MAJO	**Matsushiro**	**5.20**	**337**	*e*Pn	**P**	**19 25 41.9**	**+0.3**
MAT	**Matsushiro**	**5.20**	**337**	P	**P**	**19 25 43.8**	**+2.2**
MAT				S	**S**	**19 26 40.9**	**-0.1**
MAT	**Matsushiro**	**5.20**	**337**	P	**P**	**19 25 44.0**	**+2.4**
MAT				*e*S	**S**	**19 26 41.0**	**0.0**
MKAR	**Makanchi Array**	**46.62**	**306**	P	**P**	**19 32 49.6**	**+0.3**
	0.3nm,0.4s,mb3.6,baz=88,slow=10,SNR=8.4						
WRAB	**Tennant Creek**	**51.79**	**188**	P	**P**	**19 33 29.5**	**+0.1**
	4.2nm,1.0s,mb4.3						
WRAB	**Tennant Creek**	**51.79**	**188**	P	**P**	**19 33 29.5**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
WRA	**Warramunga Arr**	**51.80**	**188**	P	**P**	**19 33 29.6**	**+0.2**
	comp=Z,0.5nm,0.3s,mb3.9,baz=5.0,slow=7.6,SNR=31						
ILAR	**Eielson Array**	**54.24**	**30**	P	**P**	**19 33 45.4**	**-1.6**
	comp=Z,0.3nm,0.7s,mb3.3,baz=267,slow=6.2,SNR=6.1						
FINES	**FINESS Array B**	**73.21**	**333**	P	**P**	**19 35 51.0**	**-0.3**
	comp=Z,0.7nm,0.5s,mb3.9,baz=45,slow=8.1,SNR=7.5						
NOA	**NORSAR Array B**	**78.81**	**338**	P	**P**	**19 36 22.8**	**-0.2**
	comp=Z,0.5nm,0.6s,mb3.6,baz=45,slow=4.4,SNR=2.9						
TXAR	**Lajitas Array**	**93.75**	**52**	P	**P**	**19 37 38.1**	**+1.0**
	comp=Z,0.3nm,0.3s,mb4.2,baz=270,slow=2.5,SNR=4.3						

*NEIC **16** 19:29:32.8, 17.62N×68.68W, h112km, MD3.7(RSPR), After RSPR.*

RSPR 16 19:29:32.8, 17.62N×68.68W, h112km±5km, MD3.7/9, MD3.7/9, 6C-3D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRPR	**Cabo Rojo, PR**	**1.55**	**75**	⇑*e*P	P	19 30 00.1	-0.6
CRPR				*e*S	S	19 30 20.7	-1.0
MGP	**Maguayo**	**1.57**	**76**	⇓*e*P	P	19 30 00.4	-0.6
AGPR	**Aguadilla, PR**	**1.72**	**60**	⇓*e*P	P	19 30 02.3	-0.5
AGPR				*e*S	S	19 30 24.8	-0.5
LRS	**Lares**	**1.87**	**69**	⇑*e*P	P	19 30 03.4	-1.3
LRS				*e*S	S	19 30 28.3	-0.4
AOPR	**Arecibo Observ**	**1.98**	**68**	⇑*e*P	P	19 30 05.2	-0.8
AOPR				*e*S	S	19 30 30.8	-0.1
PORP	**Portuguez**	**2.00**	**77**	⇓*e*P	P	19 30 05.7	-0.5
PORP				*e*S	S	19 30 31.6	+0.2
CPD	**Cerro la Pandu**	**2.67**	**81**	⇑*e*P	P	19 30 14.2	-1.1
CPD				*e*S	S	19 30 47.4	0.0
CBYP	**Canovanas**	**2.77**	**76**	⇑*e*P	P	19 30 15.5	-1.2
CBYP				*e*S	S	19 30 49.3	-0.5
MTP	**Monte Pirata**	**3.01**	**81**	⇑*e*P	P	19 30 19.4	-0.6
MTP				*e*S	S	19 30 54.6	-1.1

IGQ 16 19:31:11.3, 1.47S×77.61W, h218km±4km, mb4.0, 9C-7D, Error ellipse: s-maj=4.7km s-min=2.2km az=20.3, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULBA	**Ulba**	**0.80**	**271**	⇓P	P	19 31 42.5	+0.5
ULBA				S	S	19 32 03.4	-2.4
RUN5	**Runtun**	**0.82**	**273**	⇑P	P	19 31 42.6	+0.6
ARRY	**Arrayan**	**0.85**	**267**	⇑P	P	19 31 42.6	+0.4
JUIV	**Juive**	**0.86**	**273**	⇑P	P	19 31 42.7	+0.5
CUSU	**Cusua**	**0.87**	**271**	P	P	19 31 43.3	+0.9
PISA	**Pisayambo**	**0.88**	**297**	⇑P	P	19 31 43.2	+0.9
TAMB	**Tambo**	**1.08**	**315**	⇓P	P	19 31 44.3	+0.7
VC1	**Cotopaxi 1**	**1.14**	**316**	P	P	19 31 44.8	+0.7
ANTI	**Antisana**	**1.15**	**331**	⇓P	P	19 31 45.0	+0.8

ANTI			S	S	19 32 09.4	-0.2
CAMI	**Rancho Maria**	**1.19 311**	⇑P	P	19 31 45.8	+1.3
NAS1	**Nasa**	**1.20 313**	⇓P	P	19 31 45.8	+1.2
ECOPE	**Copete-Rev Vol**	**1.35 359**	P	P	19 31 46.1	+0.4
CONE	**Cono NE Rev Vo**	**1.39 359**	⇓P	P	19 31 46.6	+0.6
QIL1	**Quilotoa**	**1.46 295**	⇑P	P	19 31 47.1	+0.5
CAYR	**Refugio Cayamb**	**1.52 345**	⇓P	P	19 31 48.1	+1.0
CAYA	**Cayambe**	**1.57 346**	⇓P	P	19 31 48.7	+1.1
JUA2	**San Juan 2**	**1.59 321**	P	P	19 31 48.9	+1.1
GGP	**Refugio Guagua**	**1.62 322**	⇑P	P	19 31 48.9	+0.9
TERV	**Terraza Guagua**	**1.62 322**	P	P	19 31 49.7	+1.6
PINO	**Pino**	**1.64 322**	⇑P	P	19 31 48.6	+0.5
YANA	**Yana**	**1.65 324**	⇑P	P	19 31 49.6	+1.3
JOR1	**San Jorge 1**	**1.78 325**	P	P	19 31 48.4	-1.1
COTA	**Cotacachi**	**1.93 338**	P	P	19 31 54.6	+3.7
ECEN	**Cerro Negro**	**2.30 351**	P	P	19 31 56.3	+1.6

NEIC 16 19:35:51.2, 14.67S×72.72W, h13km, ML3.5(LIM), After LIM., Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**2.14**	**147**	*e*P	Pn	19 36 26.0	-1.1
ARE				*e*S	Sn	19 36 53.0	-0.7
LPAZ	**La Paz**	**4.71**	**111**	*e*P	Pn	19 37 04.8	+1.2
NNA	**Nana**	**4.82**	**303**	Pn	Pn	19 37 02.8	-2.4
NNA				*e*Pg	Pg	19 37 12.5	-15
LVC	**Limon Verde**	**8.69**	**156**	P	P	19 37 56.9	-2.6
SAML	**Samuel**	**10.93**	**60**	*e*Pn	P	19 38 25.0	-5.5
SAML				*e*Sg	S	19 41 24.9	+51

*IDC **16** 19:57:02.8±2.2, 51.43N×170.71W, mb3.9/7, mb1 4.1/7, mb1mx3.8/23, mbtmp3.9/7, MS2.8/1, Ms1 2.9/1, ms1mx2.6/30, Error ellipse: s-maj=64.9km s-min=23.7km az=15.0*
*NEIC **16** 19:57:07.9, 51.36N×170.70W, h50km, ML3.3(AEIC), After AEIC.*

ISC 16 19:57:06.3±1.2, 51.5N±0.1×170.80W±0.06, h35km±10km, n22, σ0§73/29, mb3.8/7, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**1.94**	**37**	P	**P**	**19 57 36.9**	**-0.5**
NIKO				S	**S**	**19 58 00.9**	**+0.1**
ATKA	**Atka Island**	**2.24**	**291**	P	**P**	**19 57 42.3**	**+0.6**
ATKA				S	**S**	**19 58 08.6**	**+0.2**
OKER	**East Rim**	**2.62**	**39**	P	**P**	**19 57 47.9**	**+0.8**
OKER				S	**S**	**19 58 19.6**	**+1.6**
GSMY	**Great Sitkin M**	**3.32**	**282**	P	**P**	**19 57 57.1**	**-0.1**
GSMY				S	**S**	**19 58 34.6**	**-1.3**
GSTR	**Great Sitkin T**	**3.33**	**283**	P	**P**	**19 57 58.4**	**+1.1**
GSTD	**Great Sitkin T**	**3.38**	**282**	P	**P**	**19 57 58.5**	**+0.6**
GSTD				S	**S**	**19 58 36.6**	**-0.7**
GSSP	**Great Sitkin S**	**3.40**	**283**	P	**P**	**19 57 58.5**	**+0.2**
MCIR	**Makushin Cirqu**	**3.45**	**42**	P	**P**	**19 57 59.6**	**+0.6**
MSW	**Makushin Switc**	**3.47**	**43**	P	**P**	**19 57 59.1**	**-0.1**
MSW				S	**S**	**19 58 38.6**	**-1.1**
UNV	**Unalaska Valle**	**3.55**	**46**	P	**P**	**19 57 59.6**	**-0.7**
UNV				S	**S**	**19 58 40.7**	**-1.1**
MTBL	**Makushin Table**	**3.56**	**43**	P	**P**	**19 58 00.7**	**+0.2**
ADAG	**Mount Adagdak**	**3.65**	**281**	P	**P**	**19 58 01.5**	**-0.3**
ADAG				S	**S**	**19 58 44.2**	**0.0**
KIMD	**Kanaga Island**	**4.03**	**277**	P	**P**	**19 58 06.8**	**-0.3**
ILAR	**Eielson Array**	**18.21**	**34**	LR	LR	20 07 44.8	
	comp=Z,27nm,19.8s,baz=183,slow=35						
INK	**Inuvik**	**24.60**	**33**	P	**P**	**20 02 23.8**	**-0.2**
	1.8nm,0.5s,mb3.9,baz=240,slow=8.0,SNR=6.0						
INK	**Inuvik**	**24.60**	**33**	P	**P**	**20 02 23.8**	**-0.2**
PDAR	**Pinedale Array**	**41.46**	**77**	P	**P**	**20 04 51.4**	**+0.3**
	1.1nm,0.6s,mb3.7,baz=310,slow=4.8,SNR=11						
SONM	**Songino Array**	**51.01**	**301**	P	**P**	**20 06 06.3**	**-0.1**
	0.3nm,0.6s,mb3.4,baz=48,slow=5.9,SNR=4.6						
TXAR	**Lajitas Array**	**53.66**	**87**	P	**P**	**20 06 25.2**	**-1.3**
	0.7nm,0.4s,mb4.0,baz=310,slow=7.0,SNR=3.7						
BVAR	**Borovoye Array**	**63.93**	**324**	P	**P**	**20 07 37.7**	**+0.3**
	0.7nm,0.5s,mb3.9,baz=58,slow=6.5,SNR=8.5						
HFS	**Hagfors**	**68.71**	**358**	P	**P**	**20 08 07.5**	**-0.1**
	2.4nm,0.8s,mb4.2,slow=1.4,SNR=4.7						
GERES	**GERESS Array B**	**80.01**	**357**	P	**P**	**20 09 14.6**	**+1.5**
	0.6nm,0.7s,mb3.6,slow=2.7,SNR=4.0						

*CRAAG **16** 20:03:42.5, 36.88N×2.72E, Ml3.2*
*CSEM **16** 20:03:43.8±0.3, 36.88N×2.73E, h20km, ML3.2, Error ellipse: s-maj=12.6km s-min=5.6km az=42.0*
*MDD **16** 20:03:45.0±1.1, 36.87N×2.79E, h8km±10km, mbLg1.8/7, Error ellipse: s-maj=13.9km s-min=7.6km az=58.0, PRXIMO*
*NEIC **16** 20:03:47.6, 37.07N×2.63E, h1km, MG3.7(MDD), After MDD.*

ISC 16 20:03:43.1±0.5, 36.93N±0.05×2.70E±0.06, h10km, n27, σ1§19/48, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABA	**Alger-Bouzarea**	**0.30**	**116**	P	**Pg**	**20 03 48.8**	**-0.5**
ABMS	**Boumerdes**	**0.65**	**106**	P	**Pb**	**20 03 55.8**	**-0.2**
EMHD	**Djebel Mahouad**	**0.76**	**164**	P	**Pb**	**20 03 51.0**	**-6.9**
ADJB	**Djebel Djouab**	**0.97**	**142**	P	**Pb**	**20 04 01.0**	**-0.6**
AKET	**Djebel Ketaf**	**1.30**	**133**	P	**Pb**	**20 04 06.3**	**-0.8**
ATAF	**Djebel Tarf**	**1.65**	**129**	P	**Pn**	**20 04 12.3**	**-0.1**
EIBI	**Ibiza**	**2.35**	**333**	P	**Pn**	**20 04 24.1**	**+1.8**
	3.9nm,0.1s,SNR=15						
EIBI				S	**Sn**	**20 04 52.0**	**+0.4**
	2.6nm,0.1s,SNR=7.9						
EIBI	**Ibiza**	**2.35**	**333**	P	**Pn**	**20 04 24.1**	**+1.7**
	3.9nm,0.1s,SNR=15						
EIBI				S	**Sn**	**20 04 51.6**	**0.0**
	2.6nm,0.1s,SNR=7.9						
EIBI	**Ibiza**	**2.35**	**333**	P	**Pn**	**20 04 24.1**	**+1.8**
EIBI				S	**Sn**	**20 04 51.6**	**0.0**
ETOS	**Mallorca**	**2.83**	**2**	P	**Pn**	**20 04 30.4**	**+1.1**
	9.4nm,0.8s,SNR=7.9						
ETOS				S	**Sn**	**20 05 02.7**	**-1.1**
	0.7nm,0.1s,SNR=7.9						
ETOS	**Mallorca**	**2.83**	**2**	P	**Pn**	**20 04 30.4**	**+1.1**
	9.4nm,0.8s,SNR=7.9						
ETOS				S	**Sn**	**20 05 02.7**	**-1.1**
	0.7nm,0.1s,SNR=7.9						
ETOS	**Mallorca**	**2.83**	**2**	P	**Pn**	**20 04 30.6**	**+1.3**
ETOS				S	**Sn**	**20 05 02.4**	**-1.4**
EBEN	**Beniarda**	**2.92**	**308**	P	**Pn**	**20 04 31.6**	**+1.1**
	0.5nm,0.1s,SNR=4.0						
EBEN				S	**Sn**	**20 05 05.3**	**-0.6**
	0.3nm,0.1s,SNR=7.9						
EBEN	**Beniarda**	**2.92**	**308**	P	**Pn**	**20 04 31.6**	**+1.2**
	SNR=4.0						
EBEN				S	**Sn**	**20 05 04.2**	**-1.7**
	0.3nm,0.1s,SNR=7.9						
EBEN	**Beniarda**	**2.92**	**308**	P	**Pn**	**20 04 31.1**	**+0.7**
EBEN				S	**Sn**	**20 05 03.6**	**-2.3**
ETOB	**Tobarra**	**3.78**	**298**	P	**Pn**	**20 04 43.9**	**+1.2**
	0.9nm,0.1s,SNR=13						
ETOB				S	**Sn**	**20 05 27.2**	**-0.5**
	0.3nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**3.78**	**298**	P	**Pn**	**20 04 43.9**	**+1.2**
	0.9nm,0.1s,SNR=13						
ETOB				S	**Sn**	**20 05 27.2**	**-0.5**
	0.3nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**3.78**	**298**	P	**Pn**	**20 04 44.1**	**+1.5**
ETOB				S	**Sn**	**20 05 26.7**	**-1.0**
EMOS	**Mosqueruela**	**4.23**	**325**	P	**Pn**	**20 04 50.2**	**+1.1**
	0.5nm,0.1s,SNR=8.0						
EMOS				S	**Sn**	**20 05 37.7**	**-1.5**
	0.2nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**4.23**	**325**	P	**Pn**	**20 04 50.2**	**+1.0**
	0.5nm,0.1s,SNR=8.0						
EMOS				S	**Sn**	**20 05 37.7**	**-1.5**
	0.2nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**4.23**	**325**	P	**Pn**	**20 04 50.2**	**+1.1**
EMOS				S	**Sn**	**20 05 38.0**	**-1.3**
EQES	**Quesada**	**4.68**	**282**	P	**Pn**	**20 04 56.7**	**+1.2**
	1.0nm,0.4s,SNR=6.5						
EQES				S	**Sn**	**20 05 49.3**	**-1.3**
	0.2nm,0.1s,SNR=7.9						
EQES	**Quesada**	**4.68**	**282**	P	**Pn**	**20 04 56.7**	**+1.2**
	1.0nm,0.4s,SNR=6.5						
EQES				S	**Sn**	**20 05 49.3**	**-1.3**
	0.2nm,0.1s,SNR=7.9						
EQES	**Quesada**	**4.68**	**282**	P	**Pn**	**20 04 57.7**	**+2.2**
EQES				S	**Sn**	**20 05 48.4**	**-2.2**
EMIR	**Miracle**	**5.06**	**350**	P	**Pn**	**20 05 02.5**	**+1.6**
	1.8nm,0.3s,SNR=4.9						
EMIR				S	**Sn**	**20 05 57.3**	**-2.8**
	0.4nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**5.06**	**350**	P	**Pn**	**20 05 02.5**	**+1.6**
	1.8nm,0.3s,SNR=4.9						
EMIR				S	**Sn**	**20 05 57.3**	**-2.8**
	0.4nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**5.06**	**350**	P	**Pn**	**20 05 02.5**	**+1.6**
EMIR				S	**Sn**	**20 05 55.3**	**-4.8**

*NEIC **16** 20:18:01.8, 37.93S×176.34E, h158km, MG3.8(WEL), After WEL.*

WEL 16 20:18:01.8±0.2, 37.94S×176.40E, h162km±2km, ML3.7/11, 3C, Error ellipse: s-maj=2.7km s-min=2.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.65**	**120**	⇑PN	P	20 18 25.3	-0.4
URZ				SN	S	20 18 43.2	-0.8
URZ	**Urewera**	**0.65**	**120**	P	P	20 18 25.3	-0.3
MWZ	**Matawai**	**0.98**	**114**	PN	P	20 18 27.8	+0.2
MWZ				SN	S	20 18 47.3	-0.2
MWZ	**Matawai**	**0.98**	**114**	P	P	20 18 27.9	+0.3
MWZ				S	S	20 18 46.6	-1.0
BKZ	**Black Stump Fm**	**1.23**	**176**	⇑PN	P	20 18 29.6	-0.3
BKZ				SN	S	20 18 51.0	-0.7
BKZ	**Black Stump Fm**	**1.23**	**176**	P	P	20 18 29.6	-0.3
NGZ	**Ngauruhoe**	**1.39**	**206**	PN	P	20 18 31.5	+0.1
TUVZ	**Tukino**	**1.45**	**203**	PN	P	20 18 32.0	-0.1
TUVZ	**Tukino**	**1.45**	**203**	P	P	20 18 32.0	-0.1
KNZ	**Kokohu**	**1.48**	**138**	PN	P	20 18 32.2	-0.2
KNZ	**Kokohu**	**1.48**	**138**	*e*P	P	20 18 32.2	-0.2
PUZ	**Puketiti**	**1.48**	**96**	PN	P	20 18 31.9	-0.5
PUZ				SN	S	20 18 54.5	-1.5
PUZ	**Puketiti**	**1.48**	**96**	*e*P	P	20 18 31.9	-0.5
MXZ	**Matakaoa Point**	**1.56**	**77**	⇑PN	P	20 18 33.0	-0.2
WAZ	**Wanganui**	**2.12**	**211**	PN	P	20 18 38.4	-1.0
WAZ				SN	S	20 19 08.4	0.0
WAZ	**Wanganui**	**2.12**	**211**	*e*P	P	20 18 35.3	-4.2
TSZ	**Takapari Road**	**2.15**	**189**	PN	P	20 18 38.4	-1.3
TSZ				SN	S	20 19 06.4	-2.5
MRZ	**Mangatainoka R**	**2.79**	**193**	PN	P	20 18 45.1	-2.6
MRZ				SN	S	20 19 18.2	-4.7
MRZ	**Mangatainoka R**	**2.79**	**193**	P	P	20 18 45.1	-2.6
KIW	**Kapiti Island**	**3.14**	**201**	PN	P	20 18 48.8	-3.3
KIW	**Kapiti Island**	**3.14**	**201**	P	P	20 18 48.8	-3.3
MTW	**Mount Morrison**	**3.29**	**192**	PN	P	20 18 50.4	-3.6
CAW	**Cannon Point**	**3.33**	**198**	PN	P	20 18 51.1	-3.4
TRWZ	**Traveller**	**3.50**	**189**	PN	P	20 18 53.1	-3.6
MSWZ	**Moikau Station**	**3.58**	**194**	PN	P	20 18 53.9	-3.9
MSWZ				SN	S	20 19 34.0	-6.8
THZ	**Tophouse**	**4.67**	**214**	*e*P	P	20 19 08.0	-3.9
KHZ	**Kahutara**	**4.98**	**205**	*e*P	P	20 19 11.4	-4.6

IDC 16 20:32:13.6±1.2, 2.24N×125.68E, mb3.8/5, mb1 3.9/5, mb1mx3.7/16, mbtmp3.8/5, Error ellipse: s-maj=136.9km s-min=20.1km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.62**	**159**	P	P	20 37 26.8	-0.6
	1.1nm,0.4s,baz=338,slow=11,SNR=28						
STKA	**Stephens Creek**	**37.14**	**157**	P	P	20 39 26.4	-1.7
	1.3nm,0.5s,baz=342,slow=9.7,SNR=4.7						
SONM	**Songino Array**	**48.39**	**343**	P	P	20 40 56.8	-2.5
	0.4nm,0.5s,baz=157,slow=8.6,SNR=6.9						
MKAR	**Makanchi Array**	**58.19**	**326**	P	P	20 42 09.8	-2.1
	0.4nm,0.4s,baz=118,slow=8.2,SNR=8.8						
BVAR	**Borovoye Array**	**68.00**	**328**	P	P	20 43 14.6	-2.2
	0.3nm,0.4s,baz=108,slow=4.6,SNR=5.3						

*BJI **16** 20:40:13.3, 5.08S×152.72E, h20km, mb4.3*
*NEIC **16** 20:40:15.5±0.5, 5.47S×152.76E, mb4.5/10, Error ellipse: s-maj=15.0km s-min=9.0km az=116.0*
*IDC **16** 20:40:18.6±4.9, 5.67S×152.73E, h68km±48km, mb4.0/8, mb1 4.1/9, mb1mx4.0/14, mbtmp4.3/9, ML3.2/1, MS3.4/6, Ms1 3.5/6, ms1mx3.3/13, Error ellipse: s-maj=27.5km s-min=26.2km az=41.0*

ISC 16 20:40:13.7±0.6, 5.51S±0.08×152.74E±0.09, h33km, h33km±.7km: pP-P, n24, σ0§93/25, mb4.4/16, MS3.5/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.75**	**235**	P	**Pn**	**20 41 53.1**	**-0.1**
	2.9nm,0.3s,baz=59,slow=12,SNR=6.5						
PMG				S	**Sn**	**20 43 08.9**	**-0.8**
	14nm,0.3s,baz=0.5,slow=22,SNR=13						
PMG				LR	LR	20 44 20.4	
	comp=Z,138nm,21.4s,baz=157,slow=36						
PMG	**Port Moresby**	**6.75**	**235**	*e*Pn	**Pn**	**20 41 53.3**	**+0.2**
PMG				*e*Sn	**Sn**	**20 43 08.4**	**-1.2**
CTAO	**Charters Tower**	**15.80**	**203**	*e*P	**P**	**20 43 57.0**	**+1.3**
	9.8nm,0.9s						
DZM	**Mont Dzumac**	**21.14**	**142**	P	**P**	**20 44 58.8**	**+0.4**
	24nm,1.3s,mb4.4,baz=326,slow=18,SNR=3.4						
DZM				LR	LR	20 51 54.5	
	comp=Z,84nm,19.5s,MS3.1,baz=10,slow=33						
KAKA	**Kakadu**	**21.27**	**249**	*e*P	**P**	**20 45 09.8**	**+10**
	13nm,0.4s,mb4.6						
KAKA				*e*		20 45 21.8	
WRAB	**Tennant Creek**	**22.92**	**230**	*e*P	**P**	**20 45 15.8**	**-0.5**
	15nm,1.0s,mb4.4						
WRA	**Warramunga Arr**	**22.93**	**230**	P	**P**	**20 45 16.7**	**+0.4**
	4.0nm,0.9s,mb3.9,baz=54,slow=10,SNR=17						
STKA	**Stephens Creek**	**28.23**	**200**	*e*P	**P**	**20 46 02.1**	**-3.8**
	3.6nm,0.9s,mb4.0						
STKA	**Stephens Creek**	**28.23**	**200**	P	**P**	**20 46 03.1**	**-2.8**
	2.8nm,0.9s,mb3.9,baz=24,slow=12,SNR=3.9						
STKA				LR	LR	20 55 28.2	
	comp=Z,127nm,19.9s,MS3.5,baz=26,slow=32						
KMI	**Kunming**	**57.33**	**304**	P	**P**	**20 50 01.5**	**+0.2**
KMI				AP	pP	20 50 11.8	+0.4
KMI				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.4						
KMI	**Kunming**	**57.33**	**304**	P	**P**	**20 50 01.5**	**+0.2**
	comp=Z,5.0nm,1.2s,mb4.4						
KMI				pP	pP	20 50 11.8	+0.4
FX1	**Attu Island--F**	**60.69**	**14**	P	**P**	**20 50 24.0**	**-0.2**
	comp=Z,12nm,0.6s,mb5.2,baz=98,slow=4.8,SNR=13						
FX1	**Attu Island--F**	**60.69**	**14**	*e*P	**P**	**20 50 23.5**	**-0.7**
NIKO	**Nikolski**	**66.69**	**24**	*e*P	**P**	**20 51 01.7**	**-1.8**
SONM	**Songino Array**	**66.89**	**328**	P	**P**	**20 51 05.5**	**+0.5**
	comp=Z,1.4nm,0.5s,mb4.2,baz=144,slow=5.5,SNR=19						
SONM				LR	LR	21 16 05.6	
	comp=Z,32nm,20.5s,MS3.5,baz=186,slow=32						
LSA	**Lhasa**	**68.58**	**305**	*e*P	**P**	**20 51 17.4**	**+1.5**
	comp=Z,1.5nm,0.5s,mb4.2						
LSA				*e*pP	pP	20 51 27.1	+1.0
TTA	**Tatalina**	**78.45**	**21**	*e*P	**P**	**20 52 13.2**	**+0.5**
	comp=Z,3.3nm,0.8s,mb4.3						
MKAR	**Makanchi Array**	**80.81**	**319**	P	**P**	**20 52 26.3**	**+0.5**
	comp=Z,2.1nm,0.9s,mb4.1,baz=107,slow=6.0,SNR=15						
IMA	**Indian Mountai**	**81.14**	**19**	*e*P	**P**	**20 52 27.6**	**+0.4**
	comp=Z,11nm,0.9s,mb4.8						
IMA				*e*pP	pP	20 52 38.2	+0.7
ZAL	**Zalesovo**	**81.71**	**326**	P	**P**	**20 52 29.7**	**-0.6**
	comp=Z,1.0nm,0.4s,mb4.1,baz=355,slow=6.0,SNR=5.2						
ILAR	**Eielson Array**	**82.84**	**22**	P	**P**	**20 52 34.4**	**-1.6**
	comp=Z,2.5nm,0.9s,mb4.2,baz=255,slow=5.1,SNR=17						
ILAR				LR	LR	21 30 21.8	
	comp=Z,20nm,18.8s,MS3.5,baz=180,slow=36						
KURK	**Kurchatov**	**84.28**	**322**	*e*P	**P**	**20 52 43.7**	**+0.1**
	comp=Z,6.3nm,1.4s,mb4.5						
AAK	**Ala-Archa**	**85.10**	**314**	*e*P	**P**	**20 52 48.7**	**+0.7**
	comp=Z,5.7nm,0.9s,mb4.7						
PDAR	**Pinedale Array**	**99.37**	**48**	LR	LR	21 34 31.7	
	comp=Z,38nm,18.1s,MS3.9,baz=73,slow=33						

*NIED **16** 20:44:00, 38.20N×142.10E, h53km, Mw3.6 Best double couple: M0:2.55×10^14 NP1:φs45°, δ76°, λ102°. NP2:φs184°, δ18°, λ50°.*

JMA 16 20:44:54.4±0.2, 38.19N×142.14E, h42km±2km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.68**	**293**	P	P	20 45 07.7	+0.1
JIO				S	S	20 45 16.7	-0.5
OFUJ	**Ofunato**	**0.96**	**338**	P	P	20 45 11.4	-0.2
JMK	**Ichinoseki**	**1.05**	**317**	P	P	20 45 13.1	+0.3
JMM	**Marumori**	**1.11**	**254**	P	P	20 45 13.4	-0.3
JMM				S	S	20 45 27.2	-0.9
JOU	**Okura**	**1.18**	**279**	P	P	20 45 15.1	+0.5
JFK	**Kawauchi**	**1.30**	**231**	P	P	20 45 15.6	-0.8
JOM	**Ohasama**	**1.44**	**333**	P	P	20 45 18.8	+0.3
JYK	**Kaneyama**	**1.57**	**298**	P	P	20 45 20.9	+0.5
JFT	**Otama**	**1.58**	**245**	P	P	20 45 21.0	+0.6
MAT	**Matsushiro**	**3.54**	**244**	P	P	20 45 48.3	0.0
MAT				*e*S	S	20 46 30.1	+0.7

*THR **16** 22:06:07.7±0.6, 40.12N×55.17E, h15km, ML3.8*
*CSEM **16** 22:06:13.5±0.6, 39.87N×54.66E, h10km, ML3.8, Error ellipse: s-maj=14.0km s-min=4.2km az=34.0*
*IDC **16** 22:06:15.5±2.9, 39.55N×54.52E, mb3.6/8, mb1 3.8/11, mb1mx3.7/24, mbtmp3.6/11, ML3.1/1, Error ellipse: s-maj=57.7km s-min=20.2km az=162.0*
*MOS **16** 22:06:19.9±1.4, 39.80N×54.49E, h38km, mb4.0/2, Error ellipse: s-maj=13.1km s-min=11.1km az=89.0*
*NEIC **16** 22:06:20.6±0.3, 39.65N×54.62E, mb3.8/1, MN3.8(TEH), Error ellipse: s-maj=6.7km s-min=4.0km az=111.0*
*NNC **16** 22:06:29.3±1.7, 40.26N×55.94E, Error ellipse: s-maj=14.9km s-min=10.5km az=30.0*
*TEH **16** 22:06:33.9, 38.59N×54.12E, h10km, Mn3.8*

ISC 16 22:06:18.1±0.3, 39.68N±0.03×54.63E±0.06, h33km, n44, σ1§13/53, mb3.5/8, 9C, Turkmenistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGLO	**Galoogah**	**3.48**	**195**	Pn	**Pn**	**22 07 07.8**	**-3.6**
IKIA	**Kiasar**	**3.54**	**192**	Pn	**Pn**	**22 07 12.6**	**+0.3**
IPRN	**Paran-Amol**	**3.91**	**210**	Pn	**Pn**	**22 07 16.1**	**-1.4**
ISHM	**Shahmirzad**	**4.00**	**196**	Pn	**Pn**	**22 07 19.2**	**+0.4**
IANJ	**Anjiloo**	**4.24**	**188**	Pn	**Pn**	**22 07 23.2**	**+1.0**
IFIR	**Firoozkooh**	**4.29**	**201**	Pn	**Pn**	**22 07 23.5**	**+0.6**
IFIR				Lg		22 08 12.1	
IAFJ	**Afjeh**	**4.46**	**212**	Pn	**Pn**	**22 07 25.6**	**+0.3**
ILAS	**Lasjerd**	**4.49**	**198**	Pn	**Pn**	**22 07 27.2**	**+1.5**
DAMV	**Damavand**	**4.56**	**208**	*e*Pn	**Pn**	**22 07 27.2**	**+0.5**
DAMV				AML	AML	22 08 20.6	
	comp=Z,42nm,0.5s						
IDMV	**Damavand**	**4.58**	**208**	Pn	**Pn**	**22 07 27.7**	**+0.7**
THKV	**Tehran--Karaj**	**4.79**	**219**	*e*Pn	**Pn**	**22 07 29.6**	**-0.3**
IMHD	**Mahdasht**	**5.07**	**219**	Pn	**Pn**	**22 07 34.5**	**+0.6**
IMHD				Sn	**Sn**	**22 08 19.5**	**-13**
IVRN	**Varamin**	**5.21**	**207**	Pn	**Pn**	**22 07 36.1**	**+0.2**
IVRN				Lg		22 08 40.4	
GRMI	**Germi**	**5.30**	**263**	*e*Pn	**Pn**	**22 07 35.3**	**-1.8**
GRMI				AML	AML	22 08 35.2	
	comp=N,43nm,0.2s						
IRAZ	**Razeghan**	**5.67**	**223**	Pn	**Pn**	**22 07 41.7**	**-0.6**
ASAO	**Ashtian**	**6.30**	**217**	*e*Pn	**Pn**	**22 07 51.0**	**-0.3**
NASN	**Na'in**	**7.02**	**193**	*e*Pn	**Pn**	**22 07 59.6**	**-1.7**
ICHK	**Chekchek**	**7.42**	**181**	Pn	**Pn**	**22 08 06.4**	**-0.5**
GNI	**Garni**	**7.61**	**277**	Pn	**Pn**	**22 08 10.2**	**+0.6**
	comp=N,0.4nm,0.3s,baz=355,slow=12,SNR=3.6						
IBAF	**Bafgh**	**8.11**	**174**	Pn	**P**	**22 08 16.0**	**-0.3**
IMEH	**Mehriz**	**8.27**	**180**	Pn	**P**	**22 08 17.8**	**-0.7**
KIV	**Kislovodsk**	**9.88**	**299**	*e*P	**P**	**22 08 41.0**	**+0.1**
KIV				*e*S	**S**	**22 10 27.4**	**-4.4**
KIV	**Kislovodsk**	**9.88**	**299**	*e*P	**P**	**22 08 41.0**	**+0.1**
KIV				*e*S	**S**	**22 10 27.4**	**-4.4**
AB31	**Akbulak array**	**10.30**	**20**	⇑Pn	**P**	**22 08 46.0**	**-0.6**
	comp=N,0.6nm,0.2s,baz=192,slow=11,SNR=55						
AB31				⇑Sn	**S**	**22 10 34.3**	**-7.6**
	comp=N,4.0nm,0.3s,baz=187,slow=14,SNR=20						
KK31	**Karatay Array**	**12.41**	**69**	⇑Pn	**P**	**22 09 12.7**	**-2.5**
	comp=N,1.0nm,0.6s,baz=255,slow=16,SNR=8.4						
KK31				⇑Sn	**S**	**22 11 23.6**	**-10**
	comp=N,1.2nm,0.4s,baz=255,slow=26,SNR=6.2						
BRTR	**Keskin Array B**	**16.16**	**277**	Pn	**P**	**22 10 01.5**	**-2.6**
	comp=N,0.1nm,0.3s,baz=56,slow=10,SNR=2.7						
ARU	**Arti**	**16.96**	**8**	*e*P	**P**	**22 10 22.9**	**+8.7**
ARU				*e*S	**S**	**22 13 13.6**	**-6.8**
BVA0	**Borovoye Array**	**17.17**	**34**	⇑Pn	**P**	**22 10 17.6**	**+0.8**
	comp=N,0.3nm,0.8s,slow=0.1,SNR=10.0						
BVA0				⇑Sn	**S**	**22 13 19.0**	**-6.1**
	comp=N,0.3nm,0.6s,baz=223,slow=27,SNR=5.4						
BVAR	**Borovoye Array**	**17.17**	**34**	P	**P**	**22 10 18.0**	**+1.2**
	comp=N,0.4nm,0.3s,baz=230,slow=13,SNR=13						
BVAR				S	**S**	**22 13 22.8**	**-2.3**
	comp=N,0.5nm,0.3s,baz=240,slow=24,S

az=162.0
*NEIC **16** 22:32:59.1±3.7,2.49N×95.76E,mb4.0/2,Error ellipse: s-maj=74.0km s-min=16.8km az=181.0*
ISC 16 22:32:57.3±4.8,2.5N±0.7×95.8E±0.2,h24km, h24km±.6km:pP-P,n10,σ0§49/10,mb4.0/7,MS3.2/1,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.59**	**60**	*e*Pn	**Pn**	**22 34 21.1**	**-0.1**
LSA	**Lhasa**	**27.39**	**351**	*e*P	**P**	**22 38 43.8**	**+0.7**
	2.4nm,0.8s,mb3.8						
MKAR	**Makanchi Array**	**45.64**	**347**	P	**P**	**22 41 17.9**	**+0.1**
	1.5nm,0.5s,mb4.2,baz=160,slow=8.5,SNR=26						
MKAR				pP	pP	22 41 25.1	+0.1
	1.6nm,0.7s,baz=172,slow=8.6,SNR=11						
MKAR	**Makanchi Array**	**45.64**	**347**	P	**P**	**22 41 17.9**	**+0.1**
MKAR				pP	pP	22 41 25.1	+0.1
SONM	**Songino Array**	**46.07**	**10**	P	**P**	**22 41 21.2**	**+0.1**
	1.5nm,0.7s,mb4.1,baz=191,slow=8.9,SNR=15						
SONM				pP	pP	22 41 28.0	-0.4
	3.0nm,0.9s,baz=191,slow=8.2,SNR=12						
KURK	**Kurchatov**	**50.17**	**346**	*e*P	**P**	**22 41 52.4**	**-0.7**
	1.6nm,0.8s,mb4.1						
KURK				*e*pP	pP	22 42 00.5	+0.1
ZAL	**Zalesovo**	**52.04**	**352**	P	**P**	**22 42 07.2**	**0.0**
	1.0nm,0.4s,mb4.1,baz=295,slow=7.5,SNR=3.3						
ZAL				pP	pP	22 42 14.5	-0.1
	1.4nm,0.5s,baz=347,slow=8.4,SNR=2.6						
ZAL				LR	LR	23 08 41.4	
	comp=Z,20nm,18.9s,MS3.2,baz=107,slow=41						
ZAL	**Zalesovo**	**52.04**	**352**	P	**P**	**22 42 07.2**	**0.0**
ZAL				pP	pP	22 42 14.5	-0.1
ZAL				LR	LR	23 08 41.4	
BVAR	**Borovoye Array**	**54.55**	**341**	P	**P**	**22 42 25.0**	**-0.7**
	1.5nm,0.6s,mb4.2,baz=141,slow=9.5,SNR=8.2						
BVAR				pP	pP	22 42 32.2	-0.9
	1.4nm,0.8s,baz=146,slow=11,SNR=4.5						
ARCES	**ARCESS Array B**	**80.83**	**340**	P	**P**	**22 45 10.9**	**+0.6**
	1.4nm,0.9s,mb3.9,baz=90,slow=5.4,SNR=4.9						

NNC 16 22:36:19.1±6.8,37.10N×70.53E,h43km±30km,mpv3.4, 6C,Error ellipse: s-maj=70.7km s-min=37.7km az=154.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.00**	**360**	⇑Pn	P	22 37 47.3	-0.3
	0.8nm,0.3s,baz=197,slow=16,SNR=40						
KK31				⇑Sn	S	22 38 56.9	+0.9
	3.7nm,0.4s						
AAK	**Ala-Archa**	**6.32**	**28**	⇑Pn	P	22 37 47.2	-4.9
	3.6nm,0.8s						
AAK				⇑Sn	S	22 39 00.1	-3.6
	4.5nm,0.5s						
AB31	**Akbulak array**	**14.38**	**331**	⇑Pn	P	22 39 39.4	-2.1
	0.2nm,0.3s,baz=138,slow=12,SNR=12						
AB31				⇑Sn	S	22 42 14.9	-5.5
	1.9nm,0.9s,baz=155,slow=24,SNR=3.3						

*NIED **16** 22:49:00,38.20N×142.10E,h44km,Mw3.9 Best double couple: M0:6.76×10^14 NP1:φs30°,δ80°,λ101°. NP2:φs161°, δ15°,λ42°.*
JMA 16 22:49:35.7±0.2,38.21N×142.15E,h41km±2km,M2.3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.68**	**291**	P	P	22 49 48.9	+0.1
JIO				*e*S	S	22 49 58.1	-0.3
OFUJ	**Ofunato**	**0.95**	**337**	P	P	22 49 52.4	-0.3
OFUJ				*e*S	S	22 50 04.7	-0.5
JMK	**Ichinoseki**	**1.04**	**316**	P	P	22 49 54.3	+0.3
JMM	**Marumori**	**1.12**	**253**	P	P	22 49 54.8	-0.4
JMM				*e*S	S	22 50 08.8	-0.9
JOU	**Okura**	**1.18**	**278**	P	P	22 49 56.5	+0.6
JOM	**Ohasama**	**1.43**	**332**	P	P	22 50 00.1	+0.5

*IDC **16** 22:49:56.5±2.4,38.01N×142.65E,h46km±19km,mb3.6/7, mb1 3.6/10,mb1mx3.5/24,mbtmp3.8/10,ML3.6/3,MS3.0/2, Ms1 3.0/2,ms1mx2.3/29,Error ellipse: s-maj=30.1km s-min=13.3km az=114.0*
*JMA **16** 22:49:57.8±0.1,38.21N×142.14E,h42km±1km,M4.0*
JMA Felt I J1.
*NEIC **16** 22:49:57.9,38.21N×142.15E,h42km,mb4.5/1, MW3.8(NIED),After JMA.*
*MOS **16** 22:50:01.2±1.3,38.70N×141.58E,h33km,mb4.4/2,Error ellipse: s-maj=17.5km s-min=13.5km az=77.2*
ISC 16 22:49:57.2±1.2,38.22N±0.04×142.2E±0.1,h45km±9km, n26,σ1§04/36,mb3.8/9,4D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.73**	**289**	⇓P	**P**	**22 50 11.1**	**-0.1**
JIO				*e*S	**S**	**22 50 20.2**	**-1.2**
OFUJ	**Ofunato**	**0.96**	**333**	P	**P**	**22 50 14.6**	**+0.1**
OFUJ				*e*S	**S**	**22 50 26.6**	**-0.6**
JMK	**Ichinoseki**	**1.07**	**313**	⇓P	**P**	**22 50 16.5**	**+0.5**
JMK				*e*S	**S**	**22 50 30.1**	**+0.1**
JMM	**Marumori**	**1.18**	**253**	⇓P	**P**	**22 50 16.9**	**-0.7**
JMM				*e*S	**S**	**22 50 30.9**	**-1.9**
JOU	**Okura**	**1.23**	**277**	P	**P**	**22 50 18.6**	**+0.3**
JFK	**Kawauchi**	**1.37**	**232**	⇓P	**P**	**22 50 19.2**	**-1.1**
JOM	**Ohasama**	**1.45**	**330**	*e*S	**S**	**22 50 39.8**	**+0.4**
MJAR	**Matsushiro Arr**	**3.61**	**244**	P	**P**	**22 50 53.8**	**+1.7**
	2.5nm,0.3s,baz=63,slow=11,SNR=24						
MJAR				S	**S**	**22 51 37.7**	**+3.7**
	2.1nm,0.3s,baz=69,slow=11,SNR=5.6						
MJAR				LR	LR	22 52 28.1	
	comp=Z,192nm,18.9s,baz=50,slow=40						
MJAR	**Matsushiro Arr**	**3.61**	**244**	P	**P**	**22 50 53.8**	**+1.7**
MJAR				S	**S**	**22 51 37.7**	**+3.7**
MJAR				LR	LR	22 52 28.1	
MAJO	**Matsushiro**	**3.61**	**244**	*e*Pn	**P**	**22 50 54.8**	**+2.7**
MAT	**Matsushiro**	**3.61**	**244**	P	**P**	**22 50 52.8**	**+0.7**
MAT				S	**S**	**22 51 35.5**	**+1.5**
MAT	**Matsushiro**	**3.61**	**244**	P	**P**	**22 50 54.0**	**+1.9**
MAT				*e*S	**S**	**22 51 36.0**	**+2.0**
JHJ	**Hachijo jima 2**	**5.46**	**202**	P	**P**	**22 51 15.6**	**-2.6**
	9.3nm,0.3s,baz=94,slow=21,SNR=4.9						
JHJ				S	**S**	**22 52 13.7**	**-6.9**
	baz=233,slow=20,SNR=3.2						
ASAJ	**Asahikawa**	**5.90**	**3**	P	**P**	**22 51 25.1**	**+1.0**
	1.2nm,0.3s,baz=203,slow=13,SNR=4.4						
ASAJ				S	**S**	**22 52 31.5**	**+0.1**
	1.0nm,0.3s,baz=122,slow=15,SNR=2.6						
ASAJ	**Asahikawa**	**5.90**	**3**	P	**P**	**22 51 25.2**	**+1.0**
ASAJ				S	**S**	**22 52 31.5**	**+0.1**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
JNU	**Nakatsue**	**10.54**	**245**	LR	LR	22 56 46.6	
	comp=Z,81nm,20.2s,baz=16,slow=38						
SONM	**Songino Array**	**27.68**	**302**	P	**P**	**22 55 42.7**	**-0.2**
	comp=Z,0.3nm,0.5s,mb3.2,baz=116,slow=8.1,SNR=5.1						
ZAK	**Zakamensk**	**30.06**	**307**	*e*P	**P**	**22 56 03.3**	**-0.7**
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.6						
ZAL	**Zalesovo**	**41.62**	**311**	P	**P**	**22 57 42.0**	**-0.1**
	comp=Z,1.0nm,0.6s,mb3.6,baz=0.7,slow=9.6,SNR=5.8						
MKAR	**Makanchi Array**	**44.05**	**301**	P	**P**	**22 58 01.9**	**-0.1**
	comp=Z,0.7nm,0.7s,mb3.5,baz=79,slow=9.2,SNR=9.8						
KURK	**Kurchatov**	**45.72**	**307**	*e*P	**P**	**22 58 14.6**	**-0.7**
	comp=Z,5.8nm,0.9s,mb4.5						
KURK				*e*pP	pP	22 58 26.4	-1.4
KURK	**Kurchatov**	**45.72**	**307**	*e*P	**P**	**22 58 14.6**	**-0.8**
KURK				*e**PP	pP	22 58 26.4	-1.4
KURK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
BVAR	**Borovoye Array**	**50.26**	**312**	P	**P**	**22 58 50.8**	**+0.2**
	comp=Z,0.5nm,0.5s,mb3.8,baz=90,slow=7.2,SNR=3.0						
ARCES	**ARCESS Array B**	**63.12**	**339**	P	**P**	**23 00 21.3**	**-0.6**
	comp=Z,1.3nm,0.9s,mb4.1,baz=41,slow=8.3,SNR=4.5						
FINES	**FINESS Array B**	**68.07**	**332**	P	**P**	**23 00 53.5**	**-0.1**
	comp=Z,2.0nm,0.9s,mb4.2,baz=45,slow=7.9,SNR=4.9						
HFS	**Hagfors**	**73.27**	**336**	P	**P**	**23 01 25.7**	**+0.8**
	comp=Z,1.0nm,0.7s,mb3.9,baz=68,slow=8.0,SNR=4.3						

*GUC **16** 23:09:51.9±0.6,31.33S×69.16W,h163km±18km,MD3.7, ML3.8*
*NEIC **16** 23:09:51.3±0.6,31.26S×68.59W,h84km±34km, MD3.7(GUC),Error ellipse: s-maj=14.6km s-min=7.8km az=72.0*
ISC 16 23:09:50.4±0.7,31.33S±0.04×68.64W±0.09, h111km±16km,n14,σ0§83/24,3C-2D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDZ	**Mendoza**	**1.56**	**186**	*e*P	**P**	**23 10 18.9**	**+0.5**
MDZ				*i* S	**S**	**23 10 39.7**	**+0.2**
CMCH	**Combarbala**	**2.03**	**274**	⇓*i*P	**P**	**23 10 24.0**	**-0.2**
CMCH				*i* S	**S**	**23 10 48.4**	**-1.2**
CMCH				AMP		23 10 53.0	
	comp=E,2μm,0.5s						
JACH	**Jahuel**	**2.14**	**230**	*e*P	**P**	**23 10 26.4**	**+0.6**
JACH				*i* S	**S**	**23 10 53.0**	**+0.8**
TLL	**Tololo Astrono**	**2.19**	**301**	⇑*i*P	**P**	**23 10 27.0**	**+0.6**
TLL				*i* S	**S**	**23 10 53.4**	**-0.1**
TLL				AMP		23 10 57.7	
	comp=N,780nm,0.6s						
ROCH	**El Roble**	**2.59**	**230**	⇑*i*P	**P**	**23 10 31.7**	**-0.2**
CLCH	**Cerro Calan**	**2.61**	**217**	*e*P	**P**	**23 10 33.3**	**+1.2**
CLCH				*i* S	**S**	**23 11 03.7**	**+0.1**
CLCH				AMP		23 11 05.8	
	comp=E,241nm,0.7s						
PCH	**Pirque**	**2.78**	**214**	*e*P	**P**	**23 10 35.4**	**+1.0**
PCH				*e*S	**S**	**23 11 07.8**	**+0.2**
ANTU	**Antumapu**	**2.80**	**216**	*i* S	**S**	**23 11 07.6**	**-0.4**
ANTU				AMP		23 11 09.9	
	comp=N,172nm,0.5s						
RCDM	**Rinconada Maip**	**2.83**	**220**	⇓*i*P	**P**	**23 10 35.1**	**+0.1**
RCDM				*i* S	**S**	**23 11 08.1**	**-0.6**
RCDM				AMP		23 11 09.0	
	comp=N,244nm,0.3s						
TACH	**Talagante**	**3.02**	**219**	⇑*i*P	**P**	**23 10 37.5**	**-0.2**
TACH				*i* S	**S**	**23 11 12.4**	**-1.1**
CHCH	**Chadas Angostu**	**3.10**	**213**	*e*P	**P**	**23 10 39.2**	**+0.4**
CHCH				*i* S	**S**	**23 11 15.3**	**-0.1**
TRQA	**Tornquist**	**8.67**	**143**	*e*P	**P**	**23 11 54.3**	**0.0**
TRQA				*e*Sn	**S**	**23 13 27.9**	**-3.1**
LVC	**Limon Verde**	**8.68**	**358**	*e*P	**P**	**23 11 52.5**	**-2.0**
LPAZ	**La Paz**	**14.98**	**2**	*e*P	**P**	**23 13 18.8**	**+1.4**
	comp=N,2.5nm,0.8s						

*NEIC **16** 23:23:01.4±0.6,19.00N×62.82W,h10km,mb4.1/6, MD4.4(RSPR),Error ellipse: s-maj=9.4km s-min=8.4km az=128.0*
*RSPR **16** 23:23:02.6,19.34N×62.78W,h25km±68km,MD4.4/12, MD4.4/12*
*TRN **16** 23:23:03.0,18.77N×63.06W,h11km,MD3.9*
*IDC **16** 23:23:08.9±1.6,18.72N×63.10W,h61km±16km,mb3.6/17, mb1 3.8/18,mb1mx3.7/26,mbtmp3.9/18,MS3.3/2, Ms1 3.4/2,ms1mx2.6/27,Error ellipse: s-maj=15.0km s-min=8.5km az=33.0*
ISC 16 23:23:04.9±0.8,18.92N±0.05×62.94W±0.04,h46km±7km, n52,σ1§20/65,mb3.9/19,MS3.3/2,9C-3D,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STMA	**St. Maarten, A**	**0.89**	**191**	*e*P	**P**	**23 23 20.5**	**-0.6**
STMA				*e*S	**S**	**23 23 31.8**	**-1.3**
SABT	**Saba**	**1.32**	**193**	*e*P	**P**	**23 23 26.8**	**-0.6**
SABT				*e*S	**S**	**23 23 45.0**	**+0.9**
STAT	**Sint Eustatius**	**1.42**	**182**	*e*S	**S**	**23 23 47.2**	**+0.8**
CDVI	**St. Croix**	**2.09**	**237**	⇑*e*P	**P**	**23 23 38.2**	**0.0**
CDVI				*e*S	**S**	**23 24 09.5**	**+6.4**
MTP	**Monte Pirata**	**2.62**	**252**	⇑*e*P	**P**	**23 23 44.9**	**-0.9**
MTP				*e*S	**S**	**23 24 19.0**	**+2.5**
CBYP	**Canovanas**	**2.84**	**257**	⇑*e*P	**P**	**23 23 47.7**	**-1.3**
CBYP				*e*S	**S**	**23 24 25.1**	**+2.9**
SEG	**Port Louis**	**2.85**	**151**	*e*P	**P**	**23 23 50.6**	**+1.5**
HUMP	**Col San Antoni**	**2.87**	**255**	⇓*e*P	**P**	**23 23 48.2**	**-1.2**
HUMP				*e*S	**S**	**23 24 23.7**	**+0.7**
CPD	**Cerro la Pandu**	**2.96**	**253**	⇑*e*P	**P**	**23 23 50.9**	**+0.2**
CPD				*e*S	**S**	**23 24 27.4**	**+2.2**
LZG	**Guadaloupe-1**	**2.98**	**158**	*e*P	**P**	**23 23 51.9**	**+1.0**
DEG	**La Desirade**	**3.15**	**145**	*e*P	**P**	**23 23 53.1**	**-0.2**
SJG	**San Juan**	**3.15**	**256**	P	**P**	**23 23 53.5**	**+0.1**
	16nm,0.3s,baz=89,slow=14,SNR=17						
SJG				S	**S**	**23 24 28.9**	**-1.2**
	14nm,0.3s,baz=77,slow=22,SNR=4.6						
SJG	**San Juan**	**3.15**	**256**	⇑*e*P	**P**	**23 23 54.0**	**+0.7**
MGG	**Marie-Galante**	**3.36**	**152**	*e*P	**P**	**23 23 56.6**	**+0.4**
PORP	**Portuguez**	**3.62**	**257**	⇑*e*P	**P**	**23 23 58.8**	**-1.1**
AOPR	**Arecibo Observ**	**3.66**	**262**	⇓*e*P	**P**	**23 23 59.6**	**-1.0**
AOPR				*e*S	**S**	**23 24 44.0**	**+1.0**
LRS	**Lares**	**3.76**	**261**	⇑*e*P	**P**	**23 24 01.2**	**-0.8**
AGPR	**Aguadilla, PR**	**3.98**	**264**	*e*P	**P**	**23 24 05.6**	**+0.5**
AGPR				*e*S	**S**	**23 24 48.5**	**-2.6**
AGPR	**Aguadilla, PR**	**3.98**	**264**	⇓*e*P	**P**	**23 24 05.6**	**+0.5**
AGPR				*e*S	**S**	**23 24 48.5**	**-2.6**
MGP	**Maguayo**	**4.04**	**258**	⇑*e*P	**P**	**23 24 05.3**	**-0.7**
CRPR	**Cabo Rojo, PR**	**4.06**	**258**	⇑*e*P	**P**	**23 24 05.4**	**-0.9**
CRPR				*e*S	**S**	**23 24 54.4**	**+1.3**
SDV	**Santo Domingo**	**12.46**	**218**	P	**P**	**23 26 02.4**	**+0.3**
	1.0nm,0.3s,baz=34,slow=7.1,SNR=8.9						
SDV	**Santo Domingo**	**12.46**	**218**	Pn	**P**	**23 26 02.7**	**+0.5**
SDV				*e*S	**S**	**23 28 19.7**	**-0.7**
BBSR	**BB Station**	**13.49**	**354**	Pn	**P**	**23 26 08.7**	**-7.0**
BBSR				*e*Sn	**S**	**23 28 28.1**	**-17**
ROSC	**El Rosal**	**17.86**	**220**	P	**P**	**23 27 13.9**	**+2.1**
	0.7nm,0.3s,baz=292,slow=17,SNR=5.0						
NHSC	**New Hope**	**20.93**	**316**	P	**P**	**23 27 44.5**	**-1.6**
	31nm,0.5s						
NHSC				*e*		23 27 58.0	
MYNC	**Murphy**	**24.73**	**315**	P	**P**	**23 28 22.4**	**-1.0**
	7.3nm,0.4s,mb4.6						
MYNC				*e*		23 28 47.5	
MYNC				*e*S		23 33 07.4	
SIV	**San Ignacio**	**34.74**	**177**	P	**P**	**23 29 51.7**	**-1.2**
	2.6nm,0.7s,mb4.3,baz=16,slow=10.0,SNR=11						
LPAZ	**La Paz**	**35.35**	**189**	P	**P**	**23 29 57.5**	**-0.7**
	1.9nm,1.1s,mb3.9,baz=311,slow=11,SNR=3.4						
LPAZ				LR	LR	23 44 49.1	
	comp=Z,25nm,21.8s,MS2.9,baz=118,slow=37						
LPAZ	**La Paz**	**35.35**	**189**	*e*P	**P**	**23 29 57.6**	**-0.6**
	2.4nm,0.7s,mb4.2						
WMOK	**Wichita Mounta**	**35.44**	**304**	P	**P**	**23 29 57.0**	**-1.8**
	1.0nm,0.8s,mb3.8						
SCHQ	**Schefferville**	**35.97**	**356**	P	**P**	**23 30 06.2**	**+3.1**
	1.7nm,0.6s,mb4.1,baz=119,slow=8.3,SNR=5.3						
SCHQ	**Schefferville**	**35.97**	**356**	P	**P**	**23 30 06.2**	**+3.1**
BDFB	**Brasilia**	**37.35**	**156**	P	**P**	**23 30 15.9**	**+0.9**
	2.1nm,0.7s,mb4.1,baz=309,slow=6.9,SNR=3.3						
TXAR	**Lajitas Array**	**38.42**	**294**	P	**P**	**23 30 24.3**	**+0.4**
	0.4nm,0.3s,mb3.7,baz=112,slow=14,SNR=6.2						
ULM	**Lac du Bonnet**	**40.79**	**328**	P	**P**	**23 30 43.1**	**-0.2**
	1.1nm,0.4s,mb3.9,baz=141,slow=13,SNR=3.1						
ANMO	**Albuquerque**	**41.62**	**302**	P	**P**	**23 30 51.8**	**+1.5**
	1.2nm,0.7s,mb3.6,baz=83,slow=3.8,SNR=4.5						
ANMO	**Albuquerque**	**41.62**	**302**	*e*P	**P**	**23 30 51.5**	**+1.2**
	1.1nm,0.7s,mb3.6						
LVC	**Limon Verde**	**41.69**	**188**	P	**P**	**23 30 49.4**	**-1.6**
	1.6nm,0.5s,mb3.9,baz=3.7,slow=8.1,SNR=4.8						
LVC	**Limon Verde**	**41.69**	**188**	*e*P	**P**	**23 30 49.5**	**-1.6**
	2.0nm,0.6s,mb3.9						
CPUP	**Villa Florida**	**45.30**	**173**	P	**P**	**23 31 18.8**	**-1.6**
	1.4nm,0.7s,mb3.9,baz=4.6,slow=10,SNR=5.0						
PDAR	**Pinedale Array**	**45.83**	**312**	P	**P**	**23 31 24.6**	**+0.3**
	0.6nm,0.8s,mb3.6,baz=101,slow=7.6,SNR=6.3						
CFAA	**Coronel Fontan**	**50.49**	**186**	P	**P**	**23 31 59.5**	**-1.1**
	0.2nm,0.5s,mb3.4,baz=93,slow=18,SNR=2.4						
YKA	**Yellowknife Ar**	**56.08**	**334**	P	**P**	**23 32 41.7**	**+0.2**
	1.2nm,0.7s,mb4.0,baz=106,slow=7.4,SNR=8.0						
YKA	**Yellowknife Ar**	**56.08**	**334**	P	**P**	**23 32 41.7**	**+0.2**
EKA	**Eskdalemuir Ar**	**57.54**	**36**	P	**P**	**23 32 53.4**	**+1.4**
	1.0nm,0.7s,mb3.9,baz=270,slow=4.3,SNR=4.6						
DBIC	**Dimbokro**	**57.70**	**94**	P	**P**	**23 32 54.4**	**+0.7**
	1.4nm,0.6s,mb4.2,baz=264,slow=9.2,SNR=4.5						
DBIC	**Dimbokro**	**57.70**	**94**	*e*P	**P**	**23 32 52.3**	**-1.3**
DLBC	**Dease Lake**	**62.10**	**327**	LR	LR	00 03 09.7	
	comp=Z,55nm,18.5s,MS3.8,baz=179,slow=39						
ILAR	**Eielson Array**	**70.49**	**333**	P	**P**	**23 34 17.0**	**+0.6**
	0.8nm,0.5s,mb3.9,baz=106,slow=4.7,SNR=8.0						
ARCES	**ARCESS Array B**	**71.90**	**22**	P	**P**	**23 34 28.1**	**+3.4**
	1.5nm,0.8s,mb4.0,baz=288,slow=3.8,SNR=6.6						
FINES	**FINESS Array B**	**73.11**	**30**	P	**P**	**23 34 34.0**	**+2.0**
	0.3nm,0.6s,mb3.4,baz=270,slow=1.4,SNR=4.3						

IDC 16 23:25:55.9±2.0,6.76N×128.24E,mb3.6/4,mb1 3.8/4, mb1mx3.6/17,mbtmp3.6/4,Error ellipse: s-maj=167.2km s-min=25.7km az=70.0,East of Philippine Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.20**	**167**	P	P	23 31 41.5	-1.9
	0.7nm,0.6s,baz=348,slow=10,SNR=13						
SONM	**Songino Array**	**44.97**	**339**	P	P	23 34 12.8	-1.8
	0.2nm,0.4s,baz=148,slow=7.3,SNR=4.1						
MKAR	**Makanchi Array**	**55.99**	**323**	P	P	23 35 35.7	-2.8
	0.4nm,0.5s,baz=119,slow=8.6,SNR=10.0						
BVAR	**Borovoye Array**	**65.64**	**326**	P	P	23 36 42.6	-1.4
	0.8nm,0.9s,baz=106,slow=10,SNR=2.5						

*NIED **16** 23:40:00,38.20N×142.20E,h41km,Mw3.6 Best double couple: M0:2.68×10^14 NP1:φs10°,δ63°,λ83°. NP2:φs206°, δ28°,λ104°.*
JMA 16 23:40:48.3±0.2,38.18N×142.23E,h41km±2km,M3.8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.74**	**292**	P	P	23 41 02.6	+0.2
JIO				*e*S	S	23 41 12.3	-0.5
OFUJ	**Ofunato**	**1.00**	**334**	P	P	23 41 06.0	0.0
JMK	**Ichinoseki**	**1.10**	**315**	P	P	23 41 07.9	+0.4
JMM	**Marumori**	**1.18**	**255**	P	P	23 41 08.4	-0.1
JOU	**Okura**	**1.25**	**279**	P	P	23 41 10.2	+0.7
JFK	**Kawauchi**	**1.35**	**233**	P	P	23 41 10.4	-0.7
JFK				*e*S	S	23 41 26.1	-1.9
JOM	**Ohasama**	**1.48**	**331**	P	P	23 41 13.5	+0.5
JFT	**Otama**	**1.64**	**247**	P	P	23 41 15.9	+0.7
JFT				*e*S	S	23 41 36.0	+0.8
JYK	**Kaneyama**	**1.64**	**297**	P	P	23 41 15.7	+0.5
JYS	**Shiratake**	**1.71**	**272**	P	P	23 41 16.7	+0.6
MAT	**Matsushiro**	**3.60**	**244**	P	P	23 41 44.6	+1.6
MAT				*e*S	S	23 42 25.1	+0.3

*ATH **16** 23:41:28.8,38.47N×25.55E,h24km±2km,MD3.3/7,ML3.2*
*CSEM **16** 23:41:28.5±0.1,38.45N×25.61E,h5km,ML3.2,Error ellipse: s-maj=2.6km s-min=2.0km az=133.0*
*NEIC **16** 23:41:29.0,38.48N×25.56E,h25km,MD3.4(ISK), MD3.3(ATH),After ATH.*
*ISK **16** 23:41:30.0,38.37N×25.50E,h29km,MD3.4*
ISC 16 23:41:28.6±1.4,38.46N±0.03×25.56E±0.04,h6km±10km, n27,σ0§89/37,2C,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.82**	**97**	*i* P	**Pb**	**23 41 45.5**	**+0.7**
URLA				*i* S	**Sb**	**23 41 56.0**	**+0.1**
PRK	**Paraskevi**	**0.96**	**35**	⇑*i*PN	**Pn**	**23 41 47.5**	**-0.9**
PRK				*e*SN	**Sn**	**23 42 01.0**	**-1.4**
BLCB	**Balcova**	**1.17**	**93**	*i* PN	**Pn**	**23 41 51.2**	**-0.1**
AYVA	**Ayvalik**	**1.22**	**46**	*i* P	**Pb**	**23 41 51.7**	**+0.1**
AYVA				*i* S	**Sb**	**23 42 07.1**	**-0.4**
SMG	**Samos**	**1.26**	**126**	*e*PN	**Pn**	**23 41 52.6**	**-0.1**
SMG				*e*SN	**Sn**	**23 42 10.5**	**+0.5**
IZM	**Izmir**	**1.34**	**92**	*i* PN	**Pn**	**23 41 53.9**	**+0.1**
IZM				*i* SN	**Sn**	**23 42 11.3**	**-0.8**
KDAG	**Bornova**	**1.34**	**92**	*i* P	**Pb**	**23 41 52.9**	**-0.8**
KDAG				*i* S	**Sb**	**23 42 10.7**	**-0.3**
APE	**Apeiranthos**	**1.39**	**181**	*i* PN	**Pn**	**23 41 52.7**	**-1.9**
APE	**Apeiranthos**	**1.39**	**181**	⇑*i*PN	**Pn**	**23 41 54.5**	**-0.1**
PTL	**Penteli**	**1.40**	**253**	*e*PN	**Pn**	**23 41 55.0**	**+0.3**
PTL	**Penteli**	**1.40**	**253**	*e*Pn	**Pn**	**23 41 55.4**	**+0.7**
LIA	**Limnos Island**	**1.46**	**349**	*e*PB	**Pb**	**23 41 54.7**	**-1.1**
LIA				*e*SN	**Sn**	**23 42 15.6**	**+0.4**
EZN	**Ezine**	**1.48**	**23**	*i* PN	**Pn**	**23 41 56.7**	**+0.8**
ATH	**Athens Observa**	**1.53**	**252**	*e*Pn	**Pn**	**23 41 56.7**	**+0.1**
ATH				*e*Sn	**Sn**	**23 42 18.3**	**+1.3**
AKS	**Akhisar**	**1.81**	**76**	PN	**Pn**	**23 42 01.4**	**+0.8**
CANB	**Canakkale**	**1.94**	**36**	PN	**Pn**	**23 42 03.6**	**+1.2**
BODT	**Bodrum**	**1.97**	**135**	PN	**Pn**	**23 42 01.8**	**-1.0**
LKR	**Lokris**	**2.02**	**276**	*e*PB	**Pb**	**23 42 02.9**	**-2.4**
LPK	**Lapseki**	**2.12**	**26**	PN	**Pn**	**23 42 05.3**	**+0.3**
BALB	**Balikesir**	**2.15**	**56**	*e*PN	**Pn**	**23 42 06.4**	**+0.9**
MANT	**Manisa**	**2.35**	**88**	*i* P	**Pn**	**23 42 15.2**	**+6.8**
MANT				*i* S	**Sn**	**23 42 45.6**	**+7.7**
BNT	**Bandirma**	**2.63**	**43**	*e*PN	**Pn**	**23 42 12.0**	**-0.3**
MRMT	**Marmara Adasi**	**2.65**	**36**	*e*PN	**Pn**	**23 42 14.1**	**+1.5**
RDO	**Rodhopi**	**2.68**	**360**	*e*PN	**Pn**	**23 42 12.5**	**-0.5**

IGT	**Igoumenitsa**	**2.40 281**	*e*Pn	**Pn**	**23 49 00.4**	**+1.9**
VLI	**Veliai**	**2.43 189**	*e*PN	**Pn**	**23 48 59.0**	**+0.1**
MMB	**Musomiste**	**2.48 6**	*i* Pg	**Pg**	**23 49 05.0**	**-2.5**
MMB			*i* P		23 48 59.0	
MMB	**Musomiste**	**2.48 6**	*i* P	**Pn**	**23 48 59.0**	**-0.6**
MMB	**Musomiste**	**2.48 6**	*i* Pg	**Pg**	**23 49 05.0**	**-2.5**
RDO	**Rodhopi**	**2.61 39**	*e*PN	**Pn**	**23 49 00.8**	**-0.6**
APE	**Apeiranthos**	**2.66 140**	*e*PN	**Pn**	**23 49 02.3**	**+0.1**
ALN	**Alexandroupoli**	**2.70 48**	*e*Pn	**Pn**	**23 49 02.8**	**0.0**
SRN	**Sarande**	**2.73 287**	*i* Pn	**Pn**	**23 49 01.4**	**-1.7**
SRN			*i* Sn	**Sn**	**23 49 38.9**	**+2.1**
KKB	**Krupnik**	**2.75 355**	*i* P	**Pn**	**23 49 03.5**	**0.0**
RZN	**Rozhen**	**2.75 21**	*i* P	**Pn**	**23 49 03.8**	**+0.3**
KYTH	**Kithira**	**2.85 186**	*e*PN	**Pn**	**23 49 06.0**	**+1.1**
KDZ	**Kurdzhali**	**2.96 31**	*i* P	**Pn**	**23 49 05.5**	**+1.0**
SMG	**Samos**	**3.06 116**	*e*PN	**Pn**	**23 49 09.0**	**+1.2**
DIM	**Dimitrovgrad**	**3.35 29**	*e*P	**Pn**	**23 49 12.0**	**0.0**
VTS	**Vitosha**	**3.47 358**	*i* P	**Pn**	**23 49 14.5**	**+0.8**
QSH	**Qafa e Shtames**	**3.58 313**	*i* Pn	**Pn**	**23 49 21.4**	**+6.1**
QSH			*i* Sn	**Sn**	**23 50 06.4**	**+8.0**
VAM	**Vamos**	**3.77 170**	*e*PN	**Pn**	**23 49 18.5**	**+0.6**
VAM	**Vamos**	**3.77 170**	*e*Pb	**Pb**	**23 49 20.5**	**-4.2**
PVL	**Pavlikeni**	**4.34 19**	*e*P	**Pn**	**23 49 24.0**	**-2.1**
VOIR		**6.43 11**	⇓P	**Pn**	**23 49 55.3**	**-0.3**
VOIR		**6.43 11**	P	**Pn**	**23 49 55.4**	**-0.2**
VOIR		**6.43 11**	P	**Pn**	**23 49 55.4**	**-0.2**
ISR	**Istrita**	**6.43 20**	⇑P	**Pn**	**23 49 55.9**	**+0.3**
TIRR	**Tirgusor**	**6.52 34**	⇑P	**Pn**	**23 49 55.5**	**-1.4**
MLR	**Muntele Rosu**	**6.64 16**	⇑P	**Pn**	**23 49 59.3**	**+0.8**
MLR	**Muntele Rosu**	**6.64 16**	P	**Pn**	**23 49 59.7**	**+1.2**
MLR	**Muntele Rosu**	**6.64 16**	P	**Pn**	**23 49 59.6**	**+1.1**
CFR	**Carcaliu**	**7.00 29**	⇓P	**Pn**	**23 50 02.8**	**-0.9**
VRI	**Vrincioaia**	**7.18 19**	⇓P	**Pn**	**23 50 07.0**	**+0.9**
VRI	**Vrincioaia**	**7.18 19**	P	**Pn**	**23 50 07.3**	**+1.2**
VRI	**Vrincioaia**	**7.18 19**	P	**Pn**	**23 50 07.3**	**+1.2**
PKSM	**Moragy**	**7.90 335**	P	**Pn**	**23 50 16.3**	**+0.1**
PKSM	**Moragy**	**7.90 335**	P	**Pn**	**23 50 16.3**	**+0.1**

*BJI **16** 23:57:43.9, 6.70N×126.30E, h35km, mB5.3, mb4.9*
*NEIC **16** 23:57:44.0±0.3, 6.69N×126.25E, h35km, mb4.7/10, Error ellipse: s-maj=19.9km s-min=6.5km az=74.0*
NEIC Felt [II PIVS] at Davao.
*MAN **16** 23:57:45.8, 6.50N×126.32E, h57km, mb4.9, ML3.9, MS3.9*
MAN DAVAO CITY - INTENSITY II KIDAPAWAN CITY - INTENSITY I.
*IDC **16** 23:57:47.8±3.5, 6.72N×126.30E, h66km±31km, mb4.2/14, mb1 4.3/14, mb1mx4.1/20, mbtmp4.5/14, MS3.4/9, Ms1 3.4/9, ms1mx3.2/24, Error ellipse: s-maj=32.9km s-min=13.0km az=70.0*

ISC 16 23:57:44.9±0.4, 6.49N±0.04×126.40E±0.05, h57km, n64, σ1§43/64, mb4.7/27, MS3.4/9, 2C-6D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.47**	**343**	*e*P	**P**	**23 57 57.2**	**+0.8**
MATI				*e*S	**S**	**23 58 05.0**	**+0.2**
DAV	**Davao City (W)**	**1.00**	**305**	⇓*i*P	**P**	**23 58 04.5**	**+1.5**
DMPH	**Davao City--Mi**	**1.06**	**304**	*e*P	**P**	**23 58 05.3**	**+1.4**
DMPH				*e*S	**S**	**23 58 20.0**	**+2.0**
KCP	**Kidapawan**	**1.40**	**292**	⇓*e*P	**P**	**23 58 09.1**	**+0.4**
KCP				*e*S	**S**	**23 58 26.4**	**+0.1**
BIPH	**Bislig**	**1.68**	**359**	⇓*i*P	**P**	**23 58 14.2**	**+1.6**
BIPH				*i* S	**S**	**23 58 35.1**	**+2.0**
BUKP	**Musuan**	**1.92**	**316**	*e*P	**P**	**23 58 16.4**	**+0.6**
BUKP				*e*S	**S**	**23 58 34.1**	**-4.6**
BUTP	**Butuan**	**2.58**	**343**	*e*P	**P**	**23 58 28.3**	**+3.0**
BUTP				*e*S	**S**	**23 59 00.7**	**+5.2**
PAGZ	**Pagadian**	**3.28**	**294**	*e*P	**P**	**23 58 35.3**	**+0.1**
MSLP	**Maasin**	**3.93**	**337**	*e*P	**P**	**23 58 43.8**	**-0.4**
MSLP				*e*S	**S**	**23 59 30.9**	**+1.4**
IPIL	**Ipil**	**4.01**	**289**	*e*P	**P**	**23 58 45.2**	**-0.3**
BESP	**Borongan**	**5.17**	**349**	*e*P	**P**	**23 59 03.1**	**+1.5**
BESP				*e*S	**S**	**00 00 04.6**	**+4.0**
CNP	**Cataman**	**6.22**	**344**	*e*P	**P**	**23 59 17.5**	**+1.2**
CNP				*e*S	**S**	**00 00 25.5**	**-1.4**
CUYO	**Cuyo Island**	**6.86**	**310**	*e*P	**P**	**23 59 24.2**	**-1.0**
OTRP	**Odiongan**	**7.26**	**324**	*e*P	**P**	**23 59 32.9**	**+2.2**
PVIR	**Virac**	**7.40**	**343**	*e*P	**P**	**23 59 34.4**	**+1.7**
SJMP	**San Jose**	**7.89**	**319**	*e*P	**P**	**23 59 40.1**	**+0.6**
BUSP	**Coron**	**8.21**	**312**	*e*P	**P**	**23 59 37.0**	**-6.9**
ENPP	**El Nido**	**8.33**	**305**	*e*P	**P**	**23 59 44.7**	**-0.9**
KAKA	**Kakadu**	**20.00**	**163**	⇓*i*P	**P**	**00 02 28.9**	**+13**
	36nm,0.5s						
JOW	**Kunigami**	**20.31**	**5**	P	**P**	**00 02 15.4**	**-3.4**
	11nm,0.8s,baz=331,slow=19,SNR=3.0						
JOW				LR	LR	00 09 10.7	
	comp=Z,59nm,20.5s,MS2.9,baz=287,slow=34						
CBIJ	**Chichi jima**	**25.40**	**34**	P	**P**	**00 03 06.8**	**-2.1**
	46nm,0.6s,mb5.2,baz=272,slow=12,SNR=5.7						
PMG	**Port Moresby**	**26.02**	**127**	LR	LR	00 13 08.7	
	comp=Z,77nm,20.6s,MS3.2,baz=122,slow=35						
JNU	**Nakatsue**	**26.82**	**8**	LR	LR	00 12 17.7	
	comp=Z,61nm,20.1s,MS3.2,baz=97,slow=33						
WRAB	**Tennant Creek**	**27.40**	**164**	*e*P	**P**	**00 03 27.9**	**+0.6**
	14nm,0.6s,mb4.7						
WRA	**Warramunga Arr**	**27.40**	**164**	P	**P**	**00 03 28.2**	**+0.8**
	3.9nm,0.6s,mb4.1,baz=341,slow=10,SNR=25						
ENH	**Enshi**	**28.50**	**328**	P	**P**	**00 03 35.2**	**-2.0**
JHJ	**Hachijo jima 2**	**29.27**	**23**	LR	LR	00 13 00.9	
	comp=Z,74nm,21.5s,MS3.3,baz=220,slow=31						
MJAR	**Matsushiro Arr**	**31.80**	**18**	LR	LR	00 14 31.2	
	comp=Z,84nm,21.2s,MS3.4,baz=215,slow=32						
XAN	**Xi'an**	**31.83**	**332**	P	**P**	**00 04 06.4**	**-0.2**
XAN				AMB	AMB		
	comp=Z,25nm,0.8s,mb5.1						
HHC	**Hu-ho-hao-te**	**36.69**	**341**	*e*P	**P**	**00 04 50.3**	**+2.1**
HHC				AMB	AMB		
	comp=Z,52nm,0.8s,mb5.4						
HHC				AMB	AMB		
	comp=Z,306nm,4.2s						
FORT	**Forrest**	**37.09**	**178**	⇓*i*P	**P**	**00 04 53.7**	**+2.0**
	comp=Z,47nm,0.5s,mb5.6						
KLBR	**Kellerberrin**	**38.76**	**192**	*e*P	**P**	**00 05 06.8**	**+1.3**
	comp=Z,44nm,1.3s,mb5.0						
MUN	**Mundaring**	**39.47**	**194**	*e*P	**P**	**00 05 12.9**	**+1.5**
STKA	**Stephens Creek**	**40.81**	**160**	⇑*i*P	**P**	**00 05 24.9**	**+2.3**
	comp=Z,12nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**40.81**	**160**	P	**P**	**00 05 25.0**	**+2.4**
	comp=Z,12nm,0.5s,mb4.8,baz=337,slow=8.3,SNR=44						
PKI	**Pulchoki**	**44.15**	**303**	*e*P	**P**	**00 05 48.7**	**-1.3**
	comp=Z,13nm,0.8s,mb4.7						
KKN	**Kakani**	**44.33**	**304**	*e*P	**P**	**00 05 50.3**	**-1.1**
	comp=Z,14nm,0.7s,mb4.8						
DMN	**Daman**	**44.41**	**303**	*e*P	**P**	**00 05 50.9**	**-1.2**
SONM	**Songino Array**	**44.60**	**341**	P	**P**	**00 05 52.8**	**-0.4**
	comp=Z,1.1nm,0.5s,mb3.9,baz=164,slow=7.4,SNR=13						
SONM				PcP	PcP	00 07 35.3	-0.5
	comp=Z,2.7nm,0.7s,baz=163,slow=3.6,SNR=10						
SONM				LR	LR	00 25 06.4	
	comp=Z,37nm,20.5s,MS3.3,baz=262,slow=37						
GKN	**Gorkha**	**44.94**	**304**	*e*P	**P**	**00 05 54.3**	**-2.0**
	comp=Z,15nm,0.7s,mb4.9						
KOLN	**Koldanda**	**45.73**	**303**	*e*P	**P**	**00 06 01.2**	**-1.3**
	comp=Z,21nm,0.7s,mb5.2						
DZM	**Mont Dzumac**	**48.42**	**127**	P	**P**	**00 06 25.5**	**+1.8**
	comp=Z,2.7nm,0.6s,mb4.5,baz=350,slow=9.1,SNR=5.0						
DZM				LR	LR	00 27 53.9	
	comp=Z,101nm,18.2s,MS3.8,baz=29,slow=37						
MKAR	**Makanchi Array**	**55.12**	**324**	P	**P**	**00 07 11.7**	**-2.0**
	comp=Z,3.8nm,0.4s,mb4.7,baz=116,slow=6.9,SNR=96						
MKAR				ScP		00 12 04.3	
	comp=Z,0.5nm,0.9s,baz=124,slow=5.2,SNR=2.6						
MKAR				LR	LR	00 32 26.7	
	comp=Z,36nm,18.3s,MS3.5,baz=58,slow=38						
ZAL	**Zalesovo**	**58.00**	**332**	P	**P**	**00 07 31.9**	**-2.2**
	comp=Z,1.6nm,0.4s,mb4.5,baz=4.8,slow=5.5,SNR=5.2						
KURK	**Kurchatov**	**59.26**	**327**	⇑*e*P	**P**	**00 07 40.2**	**-2.6**
	comp=Z,5.1nm,0.6s,mb4.7						
AFI	**Afiamalu**	**64.61**	**109**	LR	LR	00 31 39.4	
	comp=Z,42nm,19.7s,MS3.6,baz=9.8,slow=31						
BRVK	**Borovoye**	**64.92**	**326**	*e*P	**P**	**00 08 18.4**	**-2.2**
	comp=Z,5.5nm,0.9s,mb4.6						
ARU	**Arti**	**72.45**	**327**	*e*P	**P**	**00 09 04.7**	**-2.3**
	comp=Z,6.1nm,0.6s,mb4.7						
ILAR	**Eielson Array**	**82.77**	**26**	P	**P**	**00 10 03.0**	**-0.9**
	comp=Z,0.4nm,0.5s,mb3.7,baz=253,slow=4.9,SNR=4.3						
VNDA	**Vanda**	**86.19**	**173**	P	**P**	**00 10 22.1**	**+1.4**
	comp=Z,1.2nm,0.5s,mb4.3,baz=318,slow=5.9,SNR=20						
KEV	**Kevo**	**87.20**	**340**	*e*p	**P**	**00 10 25.1**	**-0.7**
	comp=Z,2.3nm,0.8s,mb4.5						
ARCES	**ARCESS Array B**	**87.76**	**340**	P	**P**	**00 10 28.0**	**-0.5**
	comp=Z,3.6nm,0.7s,mb4.7,baz=84,slow=5.0,SNR=39						
ARE0	**ARCESS Array S**	**87.76**	**340**	P	**P**	**00 10 27.5**	**-1.0**
BRTR	**Keskin Array B**	**88.02**	**310**	P	**P**	**00 10 28.6**	**-1.8**
	comp=Z,0.7nm,0.8s,mb4.0,baz=119,slow=5.9,SNR=4.8						
KAF	**Kangasniemi**	**89.01**	**332**	*e*p	**P**	**00 10 33.5**	**-1.1**
	comp=Z,1.8nm,0.7s,mb4.5,baz=76,slow=4.3						
FINES	**FINESS Array B**	**89.26**	**332**	P	**P**	**00 10 34.6**	**-1.1**
	comp=Z,1.9nm,0.8s,mb4.5,baz=72,slow=6.0,SNR=12						
SYO	**Syowa Base**	**94.86**	**201**	⇓P	**P**	**00 11 01.5**	**+0.1**
NB2	**NORSAR Subarra**	**96.18**	**334**	P	**P**	**00 11 06.0**	**-1.6**
	comp=Z,0.8nm,0.7s,mb4.3,baz=69,slow=5.3						
NB2	**NORSAR Subarra**	**96.18**	**334**	P	**P**	**00 11 06.0**	**-1.6**
	comp=Z,0.8nm,0.7s,mb4.3						
NOA	**NORSAR Array B**	**96.18**	**334**	P	**P**	**00 11 06.3**	**-1.3**
	comp=Z,1.0nm,0.7s,mb4.3,baz=64,slow=4.7,SNR=5.3						
DBIC	**Dimbokro**	**129.64**	**284**	PKP	PKPdf	00 16 49.2	+0.3
	comp=Z,2.7nm,0.7s,baz=284,slow=1.8,SNR=3.9						
PLCA	**Paso Flores**	**142.68**	**159**	PKP	PKPdf	00 17 13.2	+1.2
	comp=Z,2.9nm,1.0s,baz=258,slow=5.8,SNR=3.4						
CPUP	**Villa Florida**	**159.95**	**170**	PKPab	PKPab	00 18 20.9	+0.8
	comp=Z,1.7nm,0.8s,baz=240,slow=8.6,SNR=3.9						
LPAZ	**La Paz**	**162.76**	**126**	PKP	PKPdf	00 17 46.1	+5.1
	comp=Z,0.9nm,0.9s,baz=207,slow=2.9,SNR=4.3						
LPAZ				PKPab	PKPab	00 18 36.0	+3.5
	comp=Z,0.5nm,0.5s,baz=211,slow=2.8,SNR=3.7						

*NEIC **17** 00:17:17.7±2.1, 23.38S×179.99W, h542km±21km, mb4.3/2, Error ellipse: s-maj=22.4km s-min=14.7km az=59.0*
*IDC **17** 00:17:19.8±4.3, 23.26S×179.89E, h558km±48km, mb3.3/5, mb1 3.5/6, mb1mx3.4/12, mbtmp4.2/6, Error ellipse: s-maj=32.9km s-min=23.4km az=80.0*

ISC 17 00:17:18.7±2.4, 23.5S±0.1×179.9E±0.2, h560km±28km, n31, σ0§74/18, mb4.0/7, 5C-1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.50**	**274**	P	**P**	**00 20 02.1**	**-0.5**
	0.2nm,0.3s,baz=279,slow=17,SNR=2.7						
URZ	**Urewera**	**14.95**	**189**	P	**P**	**00 20 25.9**	**-1.1**
	4.4nm,0.3s,baz=22,slow=2.6,SNR=18						
URZ				S	**S**	**00 22 58.8**	**+0.1**
	1.0nm,0.3s,baz=165,slow=21,SNR=8.6						
RPZ	**Rata Peaks**	**21.48**	**198**	P	**P**	**00 21 30.2**	**+1.4**
	7.5nm,0.4s,mb4.6,baz=16,slow=4.2,SNR=9.6						
CTAO	**Charters Tower**	**31.39**	**270**	*e*P	**P**	**00 22 56.6**	**+0.8**
STKA	**Stephens Creek**	**34.81**	**248**	P	**P**	**00 23 25.7**	**+1.3**
	3.0nm,0.6s,mb4.0,baz=93,slow=12,SNR=6.8						
STKA	**Stephens Creek**	**34.81**	**248**	*e*P	**P**	**00 23 25.1**	**+0.7**
WRAB	**Tennant Creek**	**42.35**	**266**	*e*P	**P**	**00 24 25.0**	**-0.6**
	3.2nm,0.5s,mb4.1						
VNDA	**Vanda**	**54.81**	**185**	P	**P**	**00 25 58.0**	**+0.4**
	1.4nm,0.7s,mb3.3,baz=1.3,slow=7.7,SNR=14						
MBWA	**Marble Bar**	**55.37**	**260**	*e*P	**P**	**00 26 01.8**	**-0.5**
QSPA	**South Pole Qui**	**66.62**	**180**	*e*P	**P**	**00 27 15.7**	**+0.8**
	11nm,0.6s,mb4.6						
SYO	**Syowa Base**	**83.42**	**193**	⇓P	**P**	**00 28 46.8**	**-1.1**
SNAA	**Sanae**	**85.11**	**179**	⇑*i*	**P**	**00 28 55.5**	**-0.6**
VNA3	**Neumayer Olymp**	**85.32**	**177**	⇑*i*P	**P**	**00 28 56.6**	**-0.5**
VNA3				*e*		00 29 18.8	
VNA2	**Neumayer--Watz**	**85.73**	**178**	⇑*i*P	**P**	**00 28 59.0**	**-0.1**
VNA2				*e*		00 29 22.5	
VNA1	**Neumayer--Stat**	**85.97**	**177**	⇑*i*	**P**	**00 28 59.8**	**-0.4**
TXAR	**Lajitas Array**	**90.27**	**58**	P	**P**	**00 29 22.2**	**+0.9**
	0.8nm,0.7s,mb3.7,baz=198,slow=4.0,SNR=6.5						
PDAR	**Pinedale Array**	**92.43**	**44**	P	**P**	**00 29 30.8**	**-0.1**
	0.6nm,0.7s,mb3.8,baz=242,slow=2.2,SNR=5.6						
ARCES	**ARCESS Array B**	**131.44**	**348**	PKP	PKPdf	00 35 27.4	+0.4
	1.5nm,0.8s,slow=1.2,SNR=11						
FINES	**FINESS Array B**	**138.00**	**342**	PKP	PKPdf	00 35 40.5	+1.1
	1.5nm,0.9s,baz=18,slow=6.0,SNR=4.6						
FINES	**FINESS Array B**	**138.00**	**342**	PKP	PKPdf	00 35 40.5	+1.1
NB2	**NORSAR Subarra**	**141.64**	**351**	PKPabc	PKPdf	00 35 42.6	-3.0
	0.9nm,0.7s,baz=24,slow=3.8						
NB2	**NORSAR Subarra**	**141.64**	**351**	PKPab	PKPdf	00 35 42.6	-3.0
NOA	**NORSAR Array B**	**141.64**	**351**	PKhKP		00 35 42.4	
	1.3nm,0.7s,baz=17,slow=5.0,SNR=5.1						
AKASG	**Malin Array Be**	**144.56**	**328**	PKP	PKPdf	00 35 52.2	+1.1
	3.3nm,0.5s,baz=44,slow=4.1,SNR=22						
BRTR	**Keskin Array B**	**147.25**	**308**	PKPbc	PKPdf	00 35 59.7	+3.8
	1.1nm,0.7s,baz=164,slow=4.7,SNR=6.3						
KWP	**Kalwaria**	**148.34**	**331**	*e*P	PKPdf	00 36 03.3	+6.0
CLL	**Collm**	**150.41**	**343**	⇑*i*PKP1	PKPdf	00 36 07.9	+7.4
CLL				*e*PKP2	PKPab	00 36 17.0	-0.9
CLL	**Collm**	**150.41**	**343**	*e*P	PKPdf	00 36 04.0	+3.5
CLL				*i*		00 36 07.9	
BRG	**Berggiesshubel**	**150.54**	**342**	*i* PKP	PKPdf	00 36 08.7	+7.9
GERES	**GERESS Array B**	**152.42**	**340**	PKPbc	PKPdf	00 36 11.7	+8.3
	0.7nm,0.8s,baz=56,slow=4.8,SNR=5.7						
ESDC	**Sonseca Array**	**163.50**	**11**	PKPab	PKPab	00 37 12.6	-1.7
	0.1nm,0.4s,slow=5.9,SNR=4.1						

*NIED **17** 00:30:00, 36.50N×139.80E, h101km, Mw4.3 Best double couple: M0=2.98×10^15 NP1:φs17°, δ72°, λ-114°. NP2: φs252°, δ30°, λ-39°.*
*BJI **17** 00:30:39.9, 36.34N×139.82E, h119km, mB4.7, mb4.6*
*JMA **17** 00:30:40.6±0.1, 36.42N×139.80E, h90km±1km, M4.1 Broadband fault plane solution: P waves. NP1:φs195°, δ44°, λ-104°. NP2:φs34°, δ48°, λ-77°. Principal axes: T Plg2°, Azm115°; N Plg10°, Azm205°; P Plg80°, Azm14°;*
JMA Felt II J1.
*NEIC **17** 00:30:40.9±0.4, 36.48N×139.72E, mb4.6/17, MW4.3(NIED) Error ellipse: s-maj=11.8km s-min=5.8km az=162.0*
NEIC Recorded [2 JMA] in Iwate, Saitama and Tochigi; [1 JMA] in Fukushima, Gumma and Tokyo Prefectures.
*MOS **17** 00:30:40.2±0.9, 36.82N×139.57E, h87km, mb4.5/15, Error ellipse: s-maj=9.9km s-min=8.3km az=108.8*
*IDC **17** 00:30:41.2±0.5, 36.52N×139.78E, h96km±4km, mb4.0/17, mb1 4.1/20, mb1mx4.1/24, mbtmp4.3/20, MS3.0/2, Ms1 3.0/2, ms1mx2.4/24, Error ellipse: s-maj=9.1km s-min=8.3km az=169.0*

ISC 17 00:30:39.5±0.3, 36.45N±0.02×139.77E±0.04, h98km, h98km±3.0km: pP-P, n108, σ1§04/134, mb4.4/43, 4C-9D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAG	**Ashikaga**	**0.25**	**265**	⇓P	**P**	**00 30 53.9**	**+0.2**
JAG				S	**S**	**00 31 04.2**	**-0.2**
JKT	**Katashina**	**0.52**	**308**	P	**P**	**00 30 55.9**	**+0.5**
JKT				S	**S**	**00 31 07.9**	**+0.7**
JRY	**Ryogami san**	**0.82**	**239**	⇓P	**P**	**00 30 58.8**	**+0.7**
JRY				S	**S**	**00 31 12.3**	**+0.4**
JFY	**Yanaizu**	**0.96**	**357**	P	**P**	**00 31 00.2**	**+0.7**
JFY				S	**S**	**00 31 14.8**	**+0.3**
JHK	**Hiroka**	**1.00**	**323**	⇑P	**P**	**00 31 00.7**	**+0.7**
JHK				S	**S**	**00 31 15.6**	**+0.2**
JFT	**Otama**	**1.16**	**23**	⇓P	**P**	**00 31 02.7**	**+0.7**
JFT				S	**S**	**00 31 19.3**	**+0.5**
MJAR	**Matsushiro Arr**	**1.26**	**275**	P	**P**	**00 31 03.4**	**+0.3**
	231nm,0.3s,baz=91,slow=12,SNR=1825						
MJAR				S	**S**	**00 31 21.7**	**+0.9**
	103nm,0.3s,baz=336,slow=37,SNR=12						
MJAR	**Matsushiro Arr**	**1.26**	**275**	P	**P**	**00 31 03.4**	**+0.3**
MJAR				S	**S**	**00 31 21.7**	**+0.9**
MAJO	**Matsushiro**	**1.26**	**275**	⇑*i*P	**P**	**00 31 03.6**	**+0.4**
MAT	**Matsushiro**	**1.26**	**275**	P	**P**	**00 31 03.7**	**+0.5**
MAT				S	**S**	**00 31 22.3**	**+1.5**
MAT	**Matsushiro**	**1.26**	**275**	P	**P**	**00 31 03.7**	**+0.5**
MAT				S	**S**	**00 31 22.2**	**+1.4**
MAT	**Matsushiro**	**1.26**	**275**	*e*P	**P**	**00 31 04.0**	**+0.8**
MAT				*e*S	**S**	**00 31 22.0**	**+1.2**
JFK	**Kawauchi**	**1.28**	**44**	⇓P	**P**	**00 31 03.7**	**+0.3**
JFK				S	**S**	**00 31 21.0**	**-0.2**
JOD2	**Odawara 2**	**1.30**	**205**	P	**P**	**00 31 03.7**	**+0.1**
JOD2				S	**S**	**00 31 20.7**	**-0.9**
JYN	**Shimob**	**1.37**	**227**	P	**P**	**00 31 05.4**	**+0.9**
JYN				S	**S**	**00 31 24.3**	**+1.3**
JNS	**Sasagawa**	**1.41**	**345**	⇑P	**P**	**00 31 05.7**	**+0.7**
JNS				S	**S**	**00 31 24.8**	**+0.9**
JMM	**Marumori**	**1.64**	**30**	⇓P	**P**	**00 31 08.3**	**+0.5**
JMM				S	**S**	**00 31 28.8**	**+0.1**
JIM2	**Oshima 3**	**1.75**	**189**	P	**P**	**00 31 09.0**	**-0.2**
JIM2				S	**S**	**00 31 32.3**	**+1.2**
JHJ	**Hachijo jima 2**	**3.32**	**180**	P	**P**	**00 31 30.4**	**-0.2**
	143nm,0.3s,baz=322,slow=3.0,SNR=125						
JHJ				S	**S**	**00 32 11.3**	**+2.1**
	166nm,0.3s,baz=226,slow=23,SNR=9.4						
ASAJ	**Asahikawa**	**7.96**	**15**	P	**P**	**00 32 32.0**	**-2.1**
	5.5nm,0.3s,baz=183,slow=8.3,SNR=12						
ASAJ				S	**S**	**00 33 56.6**	**-6.6**
	1.4nm,0.3s,baz=216,slow=30,SNR=2.6						
ASAJ	**Asahikawa**	**7.96**	**15**	P	**P**	**00 32 32.0**	**-2.1**
ASAJ				S	**S**	**00 33 56.6**	**-6.6**
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.3s						
JNU	**Nakatsue**	**8.03**	**248**	P	**P**	**00 32 37.4**	**+2.3**
	comp=Z,1.0nm,0.3s,baz=71,slow=13,SNR=7.2						
JNU				LR	LR	00 35 55.3	
	comp=Z,60nm,20.0s,baz=56,slow=39						
CBIJ	**Chichi jima**	**9.55**	**167**	P	**P**	**00 32 52.1**	**-3.5**
	comp=Z,11nm,0.3s,baz=298,slow=20,SNR=8.5						
CBIJ				S	**S**	**00 34 31.9**	**-10**
	comp=Z,9.8nm,0.3s,baz=108,slow=22,SNR=4.0						
KS15	**Wonju Array Si**	**9.56**	**279**	*e*P	**P**	**00 32 56.0**	**+0.2**
YSS	**Yuzh-Sakhalins**	**10.73**	**11**	*e*P	**P**	**00 33 09.3**	**-2.2**
	comp=Z,19nm,0.5s						
YSS	**Yuzh-Sakhalins**	**10.73**	**11**	*e*P	**P**	**00 33 09.3**	**-2.1**
YSS				pmax	pmax		
	comp=Z,19nm,0.5s						
MDJ	**Mudanjiang**	**11.24**	**320**	P	**P**	**00 33 19.8**	**+1.6**
MDJ				PP	PP	00 33 31.0	+3.2
MDJ				S	**S**	**00 35 24.9**	**+2.6**
MDJ				PCP	PcP	00 39 07.1	+0.9
MDJ				SCP		00 42 28.5	
MDJ				PCS		00 42 38.6	
MDJ				AMB	AMB		
	comp=Z,12nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,53nm,5.1s						
MDJ				LR	LR		
	comp=N,78nm,15.1s						
MDJ				LR	LR		
	comp=E,35nm,12.9s						
MDJ				LR	LR		
	comp=Z,111nm,13.7s						
MDJ	**Mudanjiang**	**11.24**	**320**	*e*P	**P**	**00 33 20.4**	**+2.1**
	comp=Z,9.7nm,0.5s						
CN2	**Changchun**	**13.18**	**308**	*e*P	**P**	**00 33 44.3**	**+0.5**
CN2				*e*S	**S**	**00 36 08.8**	**+0.4**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
CN2				AMB	AMB		
	comp=Z,300nm,3.0s						
KLR	**Kul'dur**	**14.05**	**338**	*e*P	**P**	**00 33 58.8**	**+3.8**
SSE	**Sheshan**	**16.34**	**256**	P	**P**	**00 34 23.4**	**-0.8**
SSE				AMB	AMB		
	comp=Z,17nm,0.7s						
SSE				AMB	AMB		
	comp=Z,29nm,4.4s						
SSE	**Sheshan**	**16.34**	**256**	P	**P**	**00 34 23.4**	**-0.8**
	comp=Z,17nm,0.7s						
QZH	**Quanzhou**	**21.47**	**244**	P	**P**	**00 35 18.5**	**-2.9**
QZH				AMB	AMB		
	comp=Z,50nm,0.8s,mb4.9						
XAN	**Xi'an**	**25.25**	**274**	P	**P**	**00 35 56.3**	**-1.7**
XAN				AMB	AMB		
	comp=Z,9.0nm,0.5s,mb4.5						
ENH	**Enshi**	**25.96**	**265**	*e*P	**P**	**00 36 02.9**	**-1.7**
	comp=Z,18nm,0.7s,mb4.6						
SONM	**Songino Array**	**27.03**	**305**	P	**P**	**00 36 12.7**	**-1.5**
	comp=Z,3.1nm,0.5s,mb4.1,baz=108,slow=9.2,SNR=29	

KKN pmax pmax
comp=Z,17nm,0.9s,mb4.8
DMN Daman 46.64 275 *e*P **P 00 38 59.2 -0.7**
GKN Gorkha 46.85 276 *e*P **P 00 39 01.3 -0.2**
comp=Z,49nm,0.7s,mb5.3
KOLN Koldanda 47.78 276 *e*P **P 00 39 08.6 -0.2**
VOSK Vostochnaya 49.69 312 P **P 00 39 21.8 -1.3**
VOSK pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
PMR Palmer 49.88 36 P **P 00 39 24.5 0.0**
comp=Z,17nm,0.3s,mb5.4
PMR Palmer 49.88 36 P **P 00 39 24.5 0.0**
PMR pmax pmax
comp=Z,17nm,0.3s,mb5.5
BVA0 Borovoye Array 49.99 312 *i* P **P 00 39 24.7 -0.7**
BRVK Borovoye 50.05 312 *e*P **P 00 39 24.8 -1.1**
comp=Z,2.8nm,0.5s,mb4.5
BRVK Borovoye 50.05 312 *e*P **P 00 39 24.8 -1.1**
BRVK pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
ILAR Eielson Array 50.70 32 P **P 00 39 30.6 0.0**
comp=Z,2.7nm,0.8s,mb4.3,baz=273,slow=6.6,SNR=24
ILAR pP pP 00 39 51.6 -2.6
comp=Z,0.9nm,0.7s,baz=268,slow=5.9,SNR=2.6
KKAR Karatay Array 52.27 300 *i* P **P 00 39 42.1 -0.7**
KKAR pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
INK Inuvik 55.51 27 P **P 00 40 06.1 -0.1**
comp=Z,2.2nm,0.6s,mb4.4,baz=284,slow=7.3,SNR=5.1
INK Inuvik 55.51 27 *e*P **P 00 40 05.8 -0.4**
ARU Arti 55.92 318 *e*P **P 00 40 07.5 -1.7**
comp=Z,4.4nm,0.4s,mb4.8
ARU Arti 55.92 318 *e*P **P 00 40 07.9 -1.4**
AB31 Akbulak array 57.30 310 *e*P **P 00 40 17.8 -1.4**
AB31 pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
KEV Kevo 63.52 339 *e*p **P 00 40 59.6 -1.5**
comp=Z,1.7nm,0.5s,mb4.1
KEV Kevo 63.52 339 *e*P **P 00 40 59.6 -1.5**
KEV pmax pmax
comp=Z,2.0nm,0.5s,mb4.2
ARCES ARCESS Array B 64.08 339 P **P 00 41 04.1 -0.6**
comp=Z,1.0nm,0.4s,mb4.0,baz=57,slow=7.2,SNR=27
ARCES ARCESS Array B 64.08 339 P **P 00 41 04.1 -0.6**
YKA Yellowknife Ar 64.97 30 P **P 00 41 10.3 -0.3**
comp=Z,1.0nm,0.7s,mb3.8,baz=306,slow=6.8,SNR=9.0
OBN Obninsk 67.77 323 *e*P **P 00 41 27.2 -1.2**
OBN Obninsk 67.77 323 P **P 00 41 27.0 -1.4**
OBN pmax pmax
comp=Z,4.0nm,1.1s,mb4.2
STKA Stephens Creek 67.99 178 P **P 00 41 29.5 -0.7**
comp=Z,1.4nm,0.5s,mb4.1,baz=5.5,slow=24,SNR=5.2
KAF Kangasniemi 68.22 332 *e*p **P 00 41 29.9 -1.1**
comp=Z,2.7nm,0.6s,mb4.2,baz=51,slow=6.0
KAF Kangasniemi 68.22 332 *e*P **P 00 41 29.9 -1.1**
KAF pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
FINES FINESS Array B 68.71 332 P **P 00 41 33.3 -0.8**
comp=Z,2.5nm,0.8s,mb4.1,baz=90,slow=7.6,SNR=16
KIV Kislovodsk 70.28 310 *e*P **P 00 41 44.2 +0.2**
comp=Z,14nm,0.9s,mb4.8
KIV Kislovodsk 70.28 310 *c e*P **P 00 41 44.6 +0.6**
KIV pmax pmax
comp=Z,13nm,0.8s,mb4.8
AKASG Malin Array Be 73.94 322 P **P 00 42 04.7 -0.8**
comp=Z,3.1nm,0.5s,mb4.3,baz=46,slow=5.9,SNR=16
AKASG pP pP 00 42 30.0 -0.7
comp=Z,2.4nm,0.7s,baz=48,slow=6.0,SNR=3.0
AKASG Malin Array Be 73.94 322 P **P 00 42 04.7 -0.8**
AKASG *PP pP 00 42 30.1 -0.7
NB2 NORSAR Subarra 74.21 337 P **P 00 42 05.8 -1.0**
comp=Z,1.5nm,0.6s,mb3.9,baz=42,slow=5.8
NB2 NORSAR Subarra 74.21 337 P **P 00 42 05.8 -1.0**
NB2 pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
NOA NORSAR Array B 74.21 337 P **P 00 42 06.6 -0.2**
comp=Z,2.2nm,0.6s,mb4.1,baz=40,slow=5.9,SNR=9.9
NOA pP pP 00 42 29.9 -2.2
comp=Z,1.6nm,0.7s,baz=40,slow=5.9,SNR=3.4
NOA NORSAR Array B 74.21 337 P **P 00 42 06.6 -0.2**
NOA pP pP 00 42 29.9 -2.2
BOZ Bozeman (W) 76.05 43 *e*P **P 00 42 18.9 +1.3**
comp=Z,1.2nm,0.5s,mb3.9
BOZ Bozeman (W) 76.05 43 *e*P **P 00 42 18.9 +1.3**
BOZ pmax pmax
comp=Z,1.0nm,0.5s,mb3.8
ELK Elko 76.94 49 *e*P **P 00 42 24.2 +1.5**
BRTR Keskin Array B 78.24 311 P **P 00 42 30.2 +0.3**
comp=Z,0.9nm,0.6s,mb3.7,baz=108,slow=3.9,SNR=8.6
BRTR pP pP 00 42 54.5 -0.8
comp=Z,1.1nm,0.9s,baz=90,slow=6.2,SNR=3.0
DUG Dugway 78.74 48 *e*P **P 00 42 34.1 +1.5**
PDAR Pinedale Array 79.02 45 P **P 00 42 35.1 +1.0**
comp=Z,0.9nm,0.5s,mb3.9,baz=88,slow=0.7,SNR=16
PDAR pP pP 00 42 59.7 +0.1
comp=Z,0.4nm,0.6s,baz=270,slow=4.4,SNR=2.2
CLL Collm 80.94 329 ⇓P **P 00 42 43.6 -0.6**
comp=Z,logA/T=0.8,mb4.4
CLL Collm 80.94 329 ⇓*i*P **P 00 42 43.6 -0.6**
comp=Z,7.0nm,1.0s,mb4.5
CLL Collm 80.94 329 ⇓*i*P **P 00 42 43.6 -0.6**
CLL pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
GERES GERESS Array B 82.50 327 P **P 00 42 52.6 +0.2**
comp=Z,0.8nm,0.6s,mb3.7,baz=34,slow=4.8,SNR=6.9
GERES pP pP 00 43 19.0 +1.0
comp=Z,0.3nm,0.4s,baz=45,slow=5.7,SNR=2.0
TUC Tucson 84.99 53 *e*P **P 00 43 05.7 +0.5**
SCHQ Schefferville 86.25 15 P **P 00 43 12.1 +1.3**
comp=Z,3.0nm,0.8s,mb4.3,baz=309,slow=6.5,SNR=3.6
TXAR Lajitas Array 91.52 51 P **P 00 43 38.0 +1.6**
comp=Z,0.6nm,0.6s,mb4.0,baz=315,slow=1.8,SNR=5.0
LPAZ La Paz 148.13 58 PKPbc PKPdf 00 50 17.4 +6.6
comp=Z,1.0nm,0.4s,baz=257,slow=1.1,SNR=11

*MAN **17** 01:02:25.4,8.16N×122.39E,h35km,mb5.1,ML4.0,MS4.1*
MAN IPIL ZAMBOANGA DEL SUR - INTENSITY III DIPOLOG CITY - INTENSITY II.
*BJI **17** 01:02:25.1,8.19N×122.77E,h51km,mB4.8,mb4.8,Ms4.1,Msz3.9*
*MOS **17** 01:02:25.0±1.0,8.56N×122.70E,h33km,mb5.1/15,Error ellipse: s-maj=21.3km s-min=9.0km az=115.7*
*NEIC **17** 01:02:27.0±1.3,8.13N×122.60E,h54km±11km,mb4.7/15, Error ellipse: s-maj=9.5km s-min=7.4km az=89.0*
NEIC Felt [III PIVS] at Ipil and [II PIVS] at Dipolog.
*IDC **17** 01:02:29.2±6.3,8.20N×122.67E,h69km±55km,mb4.2/12, mb1 4.4/13,mb1mx4.2/18,mbtmp4.5/13,ML4.2/1,MS3.9/12, Ms1 3.9/12,ms1mx3.8/17,Error ellipse: s-maj=34.4km s-min=16.5km az=67.0*
ISC 17 01:02:25.7±0.2,**8.16N**±0.02×**122.46E**±0.02,**h53**km, **h53**km±4.3km:**pP-P,n108,**σ1§**13**/115,**mb4.7**/39,**MS3.9**/17, **6C-11D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPIL	**Ipil**	**0.38**	**163**	*e*P	**P**	**01 02 35.6**	**-0.4**
IPIL				*e*S	**S**	**01 02 42.5**	**-0.9**
PAGZ	**Pagadian**	**0.96**	**109**	*e*P	**P**	**01 02 43.5**	**+0.3**
DCPH	**Dipolog City**	**0.98**	**64**	⇑*i*P	**P**	**01 02 43.2**	**-0.2**
DCPH				*i* S	**S**	**01 02 57.7**	**+1.2**
ZMPH	**Zamboanga City**	**1.26**	**198**	⇓*i*P	**P**	**01 02 47.9**	**+0.5**
ZMPH				*i* S	**S**	**01 03 03.6**	**+0.1**
SNPH	**Sibulan**	**1.40**	**33**	⇑*i*P	**P**	**01 02 50.0**	**+0.5**
SNPH				*i* S	**S**	**01 03 07.6**	**+0.5**
CTBH	**Cotabato--PC H**	**2.00**	**118**	⇓*i*P	**P**	**01 02 57.3**	**-0.5**
CTBH				*i* S	**S**	**01 03 20.5**	**-1.1**
TBP	**Tagbilaran**	**2.06**	**42**	*e*P	**P**	**01 02 58.2**	**-0.3**
TBP				*i* S	**S**	**01 03 22.0**	**-1.1**
CGP	**Cagayan de Oro**	**2.23**	**82**	⇑*e*P	**P**	**01 03 02.0**	**+0.9**
CGP				*i* S	**S**	**01 03 29.0**	**+1.6**
GUIM	**Jordan**	**2.46**	**3**	*e*P	**P**	**01 03 04.2**	**-0.1**
GUIM				*e*S	**S**	**01 03 32.5**	**-0.7**
BUKP	**Musuan**	**2.59**	**96**	*e*P	**P**	**01 03 06.8**	**+0.6**
LLP	**Lapu-Lapu**	**2.61**	**35**	⇑*i*P	**P**	**01 03 05.7**	**-0.8**
LLP				*i* S	**S**	**01 03 34.7**	**-2.3**
KCP	**Kidapawan**	**2.85**	**113**	⇓*e*P	**P**	**01 03 01.4**	**-8.4**
CUYO	**Cuyo Island**	**3.03**	**332**	*e*P	**P**	**01 03 12.3**	**-0.1**
CUYO				*e*S	**S**	**01 03 44.8**	**-2.8**
MSLP	**Maasin**	**3.08**	**50**	*e*P	**P**	**01 03 14.2**	**+1.2**
DAV	**Davao City (W)**	**3.27**	**109**	*e*P	**P**	**01 03 17.5**	**+1.6**
RCP	**Roxas**	**3.39**	**5**	⇓*e*P	**P**	**01 03 18.3**	**+0.7**
RCP				*e*S	**S**	**01 03 57.1**	**+0.3**
SCPH	**Surigao**	**3.40**	**61**	*e*P	**P**	**01 03 16.0**	**-1.6**
SCPH				*e*S	**S**	**01 03 49.3**	**-7.8**
KALP	**Kalibo**	**3.50**	**358**	*i* S	**S**	**01 04 02.5**	**+3.0**
PPR	**Puerto Princes**	**4.02**	**294**	⇓*e*P	**P**	**01 03 24.2**	**-2.1**
PPR				*e*S	**S**	**01 04 11.3**	**-1.4**
ENPP	**El Nido**	**4.26**	**316**	*e*P	**P**	**01 03 28.8**	**-0.9**
BUSP	**Coron**	**4.42**	**330**	*e*P	**P**	**01 03 30.9**	**-1.1**
SJMP	**San Jose**	**4.47**	**343**	*e*P	**P**	**01 03 32.2**	**-0.5**
BATP	**Bataraza**	**4.65**	**278**	*e*P	**P**	**01 03 32.8**	**-2.4**
BOAC	**Boac**	**5.30**	**353**	*e*P	**P**	**01 03 44.5**	**+0.2**
KKM	**Kota Kinabalu**	**6.54**	**252**	*e*P	**P**	**01 04 02.1**	**+0.4**
QIZ	**Qiongzhong**	**16.33**	**313**	*e*P	**P**	**01 06 15.0**	**+2.0**
QIZ				S	**S**	**01 09 14.5**	**+2.5**
QIZ				LR	LR		
	comp=E,168nm,16.3s						
QIZ				LR	LR		
	comp=Z,160nm,16.3s						
YHNB	**Yeheng**	**16.45**	**357**	*e*P	**P**	**01 06 14.4**	**-0.1**
JOW	**Kunigami**	**19.37**	**16**	P	**P**	**01 06 49.0**	**-0.9**
	comp=Z,1.1nm,0.3s,baz=191,slow=7.8,SNR=11						
JOW				LR	LR	01 13 42.6	
	comp=Z,430nm,20.5s,baz=63,slow=35						
KULM	**Kulim**	**21.85**	**264**	*e*P	**P**	**01 07 16.9**	**+1.4**
SSE	**Sheshan**	**22.85**	**357**	P	**P**	**01 07 26.3**	**+0.9**
SSE				S	**S**	**01 11 28.4**	**+1.6**
SSE				AMB	AMB		
	comp=Z,38nm,0.8s,mb4.9						
SSE				AMB	AMB		
	comp=Z,51nm,3.4s						
SSE				LR	LR		
	comp=N,79nm,26.7s,MS3.2						
SSE				LR	LR		
	comp=E,79nm,26.7s,MS3.2						
SSE				LR	LR		
	comp=Z,106nm,22.7s,MS3.2						
SSE	**Sheshan**	**22.85**	**357**	P	**P**	**01 07 26.3**	**+0.9**
	comp=Z,38nm,0.8s,mb4.9						
SSE				pP		01 07 39.8	
SSE				S	**S**	**01 11 28.4**	**+1.6**
SSE				sS		01 11 51.1	
SSE				LR	LR		
	comp=Z,110nm,22.7s,MS3.2						
KAKA	**Kakadu**	**22.98**	**154**	⇓*i*P	**P**	**01 07 37.7**	**+11**
	comp=Z,37nm,0.7s,mb4.9						
ENH	**Enshi**	**25.13**	**333**	*e*P	**P**	**01 07 47.7**	**+0.2**
	comp=Z,16nm,1.0s,mb4.5						
KMI	**Kunming**	**25.27**	**314**	P	**P**	**01 07 51.0**	**+2.2**
KMI				S	**S**	**01 12 13.0**	**+4.8**
KMI				AMB	AMB		
	comp=Z,6.0nm,0.6s,mb4.3						
KMI				LR	LR		
	comp=N,126nm,21.8s,MS3.6						
KMI				LR	LR		
	comp=E,169nm,20.6s,MS3.6						
KMI				LR	LR		
	comp=Z,201nm,24.2s,MS3.5						
KMI	**Kunming**	**25.27**	**314**	P	**P**	**01 07 51.0**	**+2.2**
	comp=Z,6.0nm,0.6s,mb4.3						
KMI				S	**S**	**01 12 13.0**	**+4.8**
KMI				LR	LR		
	comp=Z,200nm,24.2s,MS3.5						
JNU	**Nakatsue**	**26.03**	**16**	LR	LR	01 17 53.9	
	comp=Z,191nm,21.3s,MS3.6,baz=355,slow=36						
CBIJ	**Chichi jima**	**26.53**	**42**	LR	LR	01 17 08.2	
	comp=Z,162nm,19.8s,MS3.6,baz=252,slow=33						
CD2	**Chengdu**	**28.59**	**325**	*e*P	**P**	**01 08 20.4**	**+1.2**
JHJ	**Hachijo jima 2**	**29.56**	**30**	LR	LR	01 18 39.6	
	comp=Z,191nm,20.4s,MS3.7,baz=15,slow=33						
WRAB	**Tennant Creek**	**30.27**	**157**	*e*P	**P**	**01 08 32.1**	**-2.1**
WRAB				*e*	pP	01 08 44.0	-3.7
WRAB	**Tennant Creek**	**30.27**	**157**	*e*P	**P**	**01 08 43.5**	**+9.3**
MJAR	**Matsushiro Arr**	**31.68**	**25**	PcP	PcP	01 11 36.9	-0.6
	comp=Z,1.2nm,0.5s,baz=194,slow=3.3,SNR=6.7						
MJAR				LR	LR	01 20 41.4	
	comp=Z,227nm,19.4s,MS3.9,baz=220,slow=35						
LZH	**Lanzhou**	**32.58**	**331**	*e*P	**P**	**01 08 53.0**	**-1.4**
LZH				AP	pP	01 09 06.9	-1.1
LZH				XP	sP	01 09 13.5	-1.1
LZH				PP	PP	01 10 03.6	-0.6
LZH				*e*S	**S**	**01 14 05.3**	**+0.3**
LZH				XS		01 14 28.5	
LZH				*e*SS	SS	01 16 06.3	+1.9
LZH				AMB	AMB		
	comp=Z,23nm,1.5s,mb4.9						
LZH				AMB	AMB		
	comp=Z,99nm,6.1s						
LZH				LR	LR		
	comp=N,957nm,13.5s						
LZH				LR	LR		
	comp=Z,1μm,15.7s,MS4.7						
LZH	**Lanzhou**	**32.58**	**331**	*e*P	**P**	**01 08 53.0**	**-1.4**
	comp=Z,23nm,1.5s,mb4.9						
LZH				pP	pP	01 09 06.9	-1.1
LZH				sP	sP	01 09 13.5	-1.1
LZH				PP	PP	01 10 03.6	-0.6
LZH				*e*S	**S**	**01 14 05.3**	**+0.3**
LZH				sS		01 14 28.5	
LZH				*e*SS	SS	01 16 06.2	+1.8
LZH				LR	LR		
	comp=Z,1μm,15.7s,MS4.7						
LZH	**Lanzhou**	**32.58**	**331**	*e*P	**P**	**01 08 53.0**	**-1.4**
LZH				*PP	pP	01 09 06.9	-1.1
LZH						01 10 03.6	
LZH				*e*S	**S**	**01 14 05.3**	**+0.3**
LZH				*e*SS	SS	01 16 06.2	+1.8
LZH				pmax	pmax		
	comp=Z,23nm,1.5s,mb4.9						
LZH				MLR	MLR		
	comp=Z,1μm,15.7s,MS4.7						
HHC	**Hu-ho-hao-te**	**33.97**	**345**	*e*P	**P**	**01 09 06.6**	**+0.3**
HHC				PP	PP	01 10 22.3	+1.1
HHC				S	**S**	**01 14 27.3**	**+0.8**
HHC				SS	SS	01 16 37.0	+0.8
HHC				AMB	AMB		
	comp=Z,15nm,0.5s,mb5.2						
HHC				AMB	AMB		
	comp=Z,96nm,4.9s						
HHC				LR	LR		
	comp=N,159nm,16.7s						
HHC				LR	LR		
	comp=E,265nm,22.6s						
HHC				LR	LR		
	comp=Z,139nm,19.6s,MS3.7						
CN2	**Changchun**	**35.60**	**4**	*e*P	**P**	**01 09 22.4**	**+2.2**
LSA	**Lhasa**	**36.35**	**310**	*e*P	**P**	**01 09 28.8**	**+2.1**
MDJ	**Mudanjiang**	**36.84**	**9**	P	**P**	**01 09 29.1**	**-1.6**
MDJ				AP	pP	01 09 41.6	-2.9
MDJ				XP	sP	01 09 48.5	-2.5
MDJ				PP	PP	01 10 52.8	-4.5
MDJ				PCP	PcP	01 11 49.8	-2.3
MDJ				S	**S**	**01 15 10.8**	**0.0**
MDJ				XS		01 15 31.6	
MDJ				PCS		01 15 37.9	
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,40nm,5.4s						
MDJ				LR	LR		
	comp=N,140nm,24.6s						
MDJ				LR	LR		
	comp=E,92nm,31.4s						
MDJ				LR	LR		
	comp=Z,213nm,24.0s,MS3.9						
MDJ	**Mudanjiang**	**36.84**	**9**	*e*P	**P**	**01 09 30.0**	**-0.7**
GTA	**Gaotai**	**37.16**	**330**	*e*P	**P**	**01 09 34.4**	**+1.0**
GTA				AP	pP	01 09 45.3	-1.9
GTA				XP	sP	01 09 49.3	-4.4
GTA				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.4						
PKI	**Pulchoki**	**39.98**	**304**	*e*P	**P**	**01 09 58.0**	**+1.1**
	comp=Z,11nm,0.8s,mb4.6						
PKI	**Pulchoki**	**39.98**	**304**	*e*P	**P**	**01 09 58.0**	**+1.1**
PKI				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.4						
KKN	**Kakani**	**40.16**	**304**	*e*P	**P**	**01 09 59.6**	**+1.1**
DMN	**Daman**	**40.24**	**304**	*e*P	**P**	**01 10 00.4**	**+1.3**
	comp=Z,27nm,1.0s,mb4.9						
GKN	**Gorkha**	**40.77**	**304**	*e*P	**P**	**01 10 03.0**	**-0.5**
	comp=Z,8.9nm,0.6s,mb4.6						
HIA	**Hailar**	**41.03**	**357**	*e*P	**P**	**01 10 05.3**	**-0.2**
KOLN	**Koldanda**	**41.54**	**303**	*e*P	**P**	**01 10 09.8**	**-0.1**
	comp=Z,22nm,1.0s,mb4.7						
SONM	**Songino Array**	**41.83**	**344**	P	**P**	**01 10 12.3**	**+0.4**
	comp=Z,1.7nm,0.7s,mb3.8,baz=157,slow=8.3,SNR=12						
SONM				PcP	PcP	01 12 08.8	+1.0
	comp=Z,0.9nm,0.7s,baz=162,slow=4.6,SNR=3.3						
SONM				LR	LR	01 31 22.2	
	comp=Z,84nm,19.1s,MS3.6,baz=135,slow=41						
STKA	**Stephens Creek 43.81 156**			⇓*i*P	**P**	**01 10 27.9**	**-0.5**
	comp=Z,13nm,0.8s,mb4.7						
STKA	**Stephens Creek 43.81 156**			P	**P**	**01 10 28.0**	**-0.4**
	comp=Z,16nm,0.8s,mb4.8,baz=329,slow=8.0,SNR=18						
ZAK	**Zakamensk 45.01 343**			*e*P	**P**	**01 10 37.7**	**-0.1**
ZAK				*e*		01 12 16.7	
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.6						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.6						
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.7						
WMQ	**Urumqi 46.69 325**			*e*P	**P**	**01 10 52.0**	**+0.9**
WMQ				AP	pP	01 11 08.0	+2.8
WMQ				PP	PP	01 12 43.0	+1.9
WMQ				S	**S**	**01 17 37.0**	**+1.1**
WMQ				SS	SS	01 20 57.0	+1.7
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,14nm,7.0s						
WMQ				LR	LR		
	comp=N,96nm,16.0s,MS3.9						
WMQ				LR	LR		
	comp=E,65nm,16.0s,MS3.9						
WMQ				LR	LR		
	comp=Z,86nm,16.0s,MS3.8						
BOD	**Bodaibo 49.97 354**			*e*P	**P**	**01 11 15.9**	**-0.5**
BOD				pmax	pmax		
	comp=Z,27nm,0.9s,mb5.3						
MKAR	**Makanchi Array 51.52 326**			P	**P**	**01 11 29.0**	**+0.7**
	comp=Z,2.4nm,0.7s,mb4.2,baz=124,slow=8.7,SNR=19						
MKAR				LR	LR	01 33 52.5	
	comp=Z,110nm,20.6s,MS3.9,baz=190,slow=36						
YAK	**Yakutsk 54.03**		**4**	*d i*P	**P**	**01 11 44.9**	**-1.9**
YAK				pmax	pmax		
	comp=Z,48nm,1.0s,mb5.4						
ZAL	**Zalesovo 54.75 334**			P	**P**	**01 11 51.5**	**-0.7**
	comp=Z,2.5nm,0.3s,mb4.8,baz=333,slow=4.1,SNR=9.6						
ZAL	**Zalesovo 54.75 334**			P	**P**	**01 11 51.5**	**-0.7**
KURK	**Kurchatov 55.75 328**			*e*P	**P**	**01 11 59.2**	**-0.2**
	comp=Z,29nm,1.2s,mb5.2						
KURK				*e*	pP	01 12 12.6	-1.3
KURK	**Kurchatov 55.75 328**			*e*P	**P**	**01 11 59.2**	**-0.2**
KURK				*e*	pP	01 12 12.6	-1.3
KURK				pmax	pmax		
	comp=Z,29nm,1.2s,mb5.2						
NVS	**Novosibirsk 56.04 334**			*e*P	**P**	**01 11 59.8**	**-1.6**
NVS				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.9						
NVS				pmax	pmax		
	comp=N,6.0nm,0.9s						
BVAR	**Borovoye Array 61.32 327**			P	**P**	**01 12 37.8**	**-0.4**
	comp=N,4.9nm,1.0s,mb4.6,baz=127,slow=7.4,SNR=21						
BRVK	**Borovoye 61.39 327**			*e*P	**P**	**01 12 37.4**	**-1.3**
	comp=N,8.2nm,1.1s,mb4.8						
BRVK				*e*	pP	01 12 55.0	+1.8
BRVK	**Borovoye 61.39 327**			*e*P	**P**	**01 12 37.4**	**-1.2**
BRVK				*e*	pP	01 12 55.0	+1.8
BRVK				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.8						
TIXI	**Tiksi 63.55**		**2**	*d i*P	**P**	**01 12 50.3**	**-2.5**
TIXI				pmax	pmax		
	comp=Z,36nm,1.7s,mb5.1						
BILL	**Biiibino 66.46**		**17**	⇓*e*P	**P**	**01 13 09.8**	**-1.7**
BILL				*e*		01 13 19.3	
BILL						01 13 40.0	
BILL				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.9						
SVE	**Sverdlovsk 67.99 328**			*e*P	**P**	**01 13 21.0**	**-0.3**
SVE				*e*	pP	01 13 38.3	+2.2
SVE				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.1						
ARU	**Arti 68.95 328**			*e*P	**P**	**01 13 25.6**	**-1.6**
	comp=Z,8.4nm,1.0s,mb4.6						
ARU				*e*	pP	01 13 43.3	+1.2
ARU	**Arti 68.95 328**			*e*P	**P**	**01 13 26.2**	**-1.0**
ARU				*e*	pP	01 13 42.6	+0.5
GNI	**Garni 75.41 309**			*d i*P	pP	01 14 22.9	+2.0
GNI				pmax	pmax		
	comp=Z,12nm,1.3s						
KIV	**Kislovodsk 77.03 313**			*c i*P	pP	01 14 33.5	+3.5
KIV				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
MIR	**Mirnyy 77.54 192**			*e*P	**P**	**01 14 23.0**	**+5.7**
MIR				pmax	pmax		
	comp=Z,28nm,1.8s,mb4.9						
IMA	**Indian Mountai 80.10**		**24**	*e*P	**P**	**01 14 31.7**	**+0.4**
	comp=Z,56nm,1.3s,mb5.3						
IMA	**Indian Mountai 80.10**		**24**	*e*P	**P**	**01 14 31.7**	**+0.4**
IMA				pmax	pmax		
	comp=Z,56nm,1.3s,mb5.3						
OBN	**Obninsk 81.02 325**			⇑*e*P	**P**	**01 14 36.8**	**+0.5**
OBN				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
BRTR	**Keskin Array B 83.95 309**			P	**P**	**01 14 52.4**	**+0.6**
	comp=Z,1.4nm,0.9s,mb4.1,baz=127,slow=6.2,SNR=6.6						
ARCES	**ARCESS Array B 84.85 339**			P	**P**	**01 14 54.7**	**-0.8**
	comp=Z,3.9nm,0.8s,mb4.6,baz=87,slow=6.6,SNR=12						
KMBO	**Kilima Mbogo 85.42 268**			P	**P**	**01 15 03.0**	**+3.3**
	comp=Z,1.5nm,0.9s,mb4.1,baz=47,slow=4.4,SNR=4.5						
KMBO				LR	LR	01 50 59.5	
	comp=Z,60nm,21.0s,MS4.0,baz=213,slow=34						
DAWY	**Dawson 86.28**		**26**	*e*P	**P**	**01 15 03.0**	**+0.4**
INK	**Inuvik 87.61**		**21**	P	**P**	**01 15 09.1**	**+0.1**
	comp=Z,8.9nm,0.8s,mb5.1,baz=274,slow=6.4,SNR=13						
INK	**Inuvik 87.61**		**21**	*e*P	**P**	**01 15 08.8**	**-0.2**
	comp=Z,8.0nm,0.8s,mb5.0						
INK	**Inuvik 87.61**		**21**	*e*P	**P**	**01 15 08.9**	**-0.2**
INK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
VNDA	**Vanda 88.35 172**			P	**P**	**01 15 11.9**	**-0.5**
	comp=Z,1.7nm,0.9s,mb4.3,baz=333,slow=6.1,SNR=12						
VNDA				LR	LR	01 57 13.7	
	comp=Z,53nm,18.9s,MS4.0,baz=215,slow=37						
VNDA	**Vanda 88.35 172**			*e*P	**P**	**01 15 11.3**	**-1.1**
	comp=Z,3.5nm,0.9s,mb4.6						
VNDA				*e*pP	pP	01 15 23.4	-4.5
VNDA	**Vanda 88.35 172**			*e*P	**P**	**01 15 11.4**	**-1.0**
VNDA				*e**PP	pP	01 15 23.4	-4.5
VNDA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MLR	**Muntele Rosu 88.79 316**			P	**P**	**01 15 16.2**	**+0.9**
	comp=Z,0.9nm,0.6s,mb4.3,baz=40,slow=4.9,SNR=4.4						
PPT	**Papeete 90.50 108**			LR	LR	01 51 44.3	
	comp=Z,181nm,18.6s,MS4.5,baz=358,slow=33						
GERES	**GERESS Array B 96.00 321**			LR	LR	02 04 35.3	
	comp=Z,39nm,18.6s,MS3.9,baz=0.8,slow=39						
YKA	**Yellowknife Ar 97.18**		**23**	P	**P**	**01 15 53.3**	**-0.1**
	comp=Z,3.8nm,0.9s,mb4.8,baz=300,slow=4.5,SNR=18						
Y

HOR			*e*S	Sg	01 12 38.7	-0.3
PICO	**Pico**	**0.30 117**	*e*P	Pg	01 12 39.8	0.0
PICO			*e*S	Sg	01 12 43.9	0.0

CRAAG ***17*** *01:19:32.4, 36.83N×3.45E, Ml3.2*
CSEM ***17*** *01:19:32.8±0.1, 36.90N×3.40E, h20km, ML3.2, Error ellipse: s-maj=2.9km s-min=1.9km az=76.0*
MDD ***17*** *01:19:34.8±0.9, 36.87N×3.43E, h9km±8km, mbLg2.3/9, Error ellipse: s-maj=8.5km s-min=5.4km az=39.0, PRXIMO*
NEIC ***17*** *01:19:36.4±3.5, 37.10N×3.40E, h10km, MG3.6(MDD), Error ellipse: s-maj=40.7km s-min=8.1km az=135.0*
ISC 17 01:19:33.3±0.5, 37.01N±0.04×3.34E±0.05, h9km, n50, σ1§41/78, Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABMS	**Boumerdes**	**0.29 156**		P	**Pg**	**01 19 34.9**	**-4.4**
ABA	**Alger-Bouzarea**	**0.32 229**		P	**Pg**	**01 19 40.9**	**+1.0**
ADJB	**Djebel Djouab**	**0.86 174**		P	**Pb**	**01 19 47.9**	**-2.0**
EMHD	**Djebel Mahouad**	**0.87 201**		P	**Pb**	**01 19 49.0**	**-1.1**
AKF	**Akfadou**	**1.06 111**		P	**Pb**	**01 19 52.6**	**-0.7**
AKET	**Djebel Ketaf**	**1.06 155**		P	**Pb**	**01 19 50.7**	**-2.7**
SET	**Setif**	**1.85 115**		P	**Pn**	**01 20 08.0**	**+2.5**
EIBI	**Ibiza**	**2.55 323**		P	**Pn**	**01 20 17.3**	**+1.7**
	7.1nm,0.6s,SNR=7.8						
EIBI				S	**Sn**	**01 20 47.3**	**+0.3**
	13nm,1.1s,SNR=7.9						
EIBI	**Ibiza**	**2.55 323**		P	**Pn**	**01 20 17.3**	**+1.7**
	7.1nm,0.6s,SNR=7.8						
EIBI				S	**Sn**	**01 20 46.6**	**-0.5**
	13nm,1.1s,SNR=7.9						
EIBI	**Ibiza**	**2.55 323**		P	**Pn**	**01 20 17.9**	**+2.3**
EIBI				S	**Sn**	**01 20 45.7**	**-1.4**
ETOS	**Mallorca**	**2.78 352**		P	**Pn**	**01 20 19.5**	**+0.7**
	6.2nm,0.6s,SNR=5.9						
ETOS				S	**Sn**	**01 20 51.3**	**-1.6**
	2.5nm,0.4s,SNR=7.9						
ETOS	**Mallorca**	**2.78 352**		P	**Pn**	**01 20 19.4**	**+0.6**
	6.2nm,0.6s,SNR=5.9						
ETOS				S	**Sn**	**01 20 50.3**	**-2.6**
	2.5nm,0.4s,SNR=7.9						
ETOS	**Mallorca**	**2.78 352**		P	**Pn**	**01 20 19.6**	**+0.7**
ETOS				S	**Sn**	**01 20 50.3**	**-2.5**
EBEN	**Beniarda**	**3.28 302**		P	**Pn**	**01 20 27.9**	**+1.9**
	1.6nm,0.2s,SNR=4.0						
EBEN				S	**Sn**	**01 21 05.8**	**+0.2**
	19nm,1.3s,SNR=7.9						
EBEN	**Beniarda**	**3.28 302**		P	**Pn**	**01 20 27.9**	**+1.9**
	1.6nm,0.2s,SNR=4.0						
EBEN				S	**Sn**	**01 21 05.8**	**+0.2**
	19nm,1.3s,SNR=7.9						
EBEN	**Beniarda**	**3.28 302**		P	**Pn**	**01 20 27.9**	**+1.9**
EBEN				S	**Sn**	**01 21 04.5**	**-1.1**
EMUR	**La Murta**	**3.73 284**		P	**Pn**	**01 20 34.5**	**+2.1**
	1.8nm,0.3s,SNR=4.0						
EMUR				S	**Sn**	**01 21 17.3**	**+0.3**
	17nm,1.3s,SNR=7.9						
EMUR	**La Murta**	**3.73 284**		P	**Pn**	**01 20 34.5**	**+2.1**
EMUR				S	**Sn**	**01 21 17.0**	**0.0**
ETOB	**Tobarra**	**4.20 294**		P	**Pn**	**01 20 39.9**	**+1.0**
	0.9nm,0.1s,SNR=7.9						
ETOB				S	**Sn**	**01 21 27.6**	**-1.1**
	15nm,0.9s,SNR=7.9						
ETOB	**Tobarra**	**4.20 294**		P	**Pn**	**01 20 40.1**	**+1.2**
	0.9nm,0.1s,SNR=7.9						
ETOB				S	**Sn**	**01 21 27.6**	**-1.1**
	15nm,0.9s,SNR=7.9						
ETOB	**Tobarra**	**4.20 294**		P	**Pn**	**01 20 40.1**	**+1.2**
ETOB				S	**Sn**	**01 21 26.6**	**-2.1**
ECHE	**Chera**	**4.25 309**		P	**Pn**	**01 20 41.2**	**+1.5**
	1.8nm,0.3s,SNR=8.2						
ECHE				S	**Sn**	**01 21 28.0**	**-2.1**
	1.0nm,1.2s,SNR=7.9						
ECHE	**Chera**	**4.25 309**		P	**Pn**	**01 20 41.2**	**+1.5**
	1.8nm,0.3s,SNR=8.2						
ECHE				S	**Sn**	**01 21 27.6**	**-2.5**
ECHE	**Chera**	**4.25 309**		P	**Pn**	**01 20 41.7**	**+1.9**
ECHE				S	**Sn**	**01 21 27.6**	**-2.5**
EMOS	**Mosqueruela**	**4.48 319**		P	**Pn**	**01 20 44.2**	**+1.2**
	0.3nm,0.1s,SNR=7.9						
EMOS				S	**Sn**	**01 21 34.0**	**-1.9**
	11nm,1.1s,SNR=7.9						
EMOS	**Mosqueruela**	**4.48 319**		P	**Pn**	**01 20 43.7**	**+0.7**
EMOS				S	**Sn**	**01 21 32.8**	**-3.1**
EMOS	**Mosqueruela**	**4.48 319**		P	**Pn**	**01 20 43.7**	**+0.7**
EMOS				S	**Sn**	**01 21 32.8**	**-3.1**
EPOB	**Poblet**	**4.67 339**		P	**Pn**	**01 20 46.6**	**+0.8**
	0.5nm,0.2s,SNR=7.9						
EPOB				S	**Sn**	**01 21 37.9**	**-2.8**
	16nm,1.2s,SNR=7.9						
EPOB	**Poblet**	**4.67 339**		P	**Pn**	**01 20 46.2**	**+0.4**
	0.5nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**4.67 339**		P	**Pn**	**01 20 45.8**	**+0.1**
EPOB				S	**Sn**	**01 21 36.6**	**-4.2**
EBER	**Berja**	**4.99 271**		S	**Sn**	**01 21 48.2**	**-0.5**
	21nm,1.3s,SNR=4.0						
EMIR	**Miracle**	**5.09 345**		P	**Pn**	**01 20 52.9**	**+1.2**
	2.6nm,0.3s,SNR=9.2						
EMIR				S	**Sn**	**01 21 48.3**	**-3.0**
	22nm,1.8s,SNR=12						
EMIR	**Miracle**	**5.09 345**		P	**Pn**	**01 20 52.2**	**+0.6**
EMIR				S	**Sn**	**01 21 48.3**	**-5.0**
	22nm,1.8s,SNR=12						
EMIR	**Miracle**	**5.09 345**		P	**Pn**	**01 20 52.2**	**+0.6**
EMIR				S	**Sn**	**01 21 46.3**	**-5.0**
EQES	**Quesada**	**5.16 281**		P	**Pn**	**01 20 53.1**	**+0.5**
	0.2nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**01 21 51.1**	**-2.0**
	11nm,1.2s,SNR=7.9						
EQES	**Quesada**	**5.16 281**		P	**Pn**	**01 20 53.7**	**+1.1**
	0.2nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**01 21 53.1**	**+0.1**
	11nm,1.2s,SNR=7.9						
EQES	**Quesada**	**5.16 281**		P	**Pn**	**01 20 54.1**	**+1.5**
EQES				S	**Sn**	**01 21 51.1**	**-1.9**
EJON	**La Jonquera**	**5.44 357**		P	**Pn**	**01 20 56.7**	**+0.2**
	1.1nm,0.5s,SNR=7.9						
EJON	**La Jonquera**	**5.44 357**		P	**Pn**	**01 20 56.6**	**0.0**
	1.1nm,0.5s,SNR=7.9						
EJON	**La Jonquera**	**5.44 357**		P	**Pn**	**01 20 56.6**	**0.0**
ESDC	**Sonseca Array**	**6.32 297**		P	**Pn**	**01 21 08.7**	**-0.3**
	0.2nm,0.1s,baz=110,slow=14,SNR=4.7						
ESDC	**Sonseca Array**	**6.32 297**		P	**Pn**	**01 21 09.8**	**+0.8**
ESDC	**Sonseca Array**	**6.32 297**		P	**Pn**	**01 21 09.8**	**+0.8**
EALK	**Alkurruntz**	**7.22 331**		P	**Pn**	**01 21 22.3**	**+0.6**
	2.5nm,0.4s,SNR=7.9						
EALK	**Alkurruntz**	**7.22 331**		P	**Pn**	**01 21 21.5**	**-0.2**
EALK	**Alkurruntz**	**7.22 331**		P	**Pn**	**01 21 21.5**	**-0.2**
EGRO	**El Granado**	**8.64 277**		P	**P**	**01 21 42.5**	**+1.1**
EGRO	**El Granado**	**8.64 277**		P	**P**	**01 21 42.5**	**+1.1**
EARI	**Arriondas**	**9.06 316**		P	**P**	**01 21 46.9**	**-0.4**
EARI	**Arriondas**	**9.06 316**		P	**P**	**01 21 46.9**	**-0.4**

BJI ***17*** *02:26:05.8, 13.80N×90.50W, h65km, mB4.4, Ms4.8, Msz4.7*
NEIC ***17*** *02:26:05.8±0.6, 13.77N×90.53W, mb4.3/14, MD4.6(MEX), Error ellipse: s-maj=12.7km s-min=7.1km az=211.0*
NEIC Felt [II] at San Salvador, El Salvador.
CASC ***17*** *02:26:05.2±1.7, 13.63N×90.88W, h41km±72km, MD4.4, ML5.0, mb4.3(NEIC)*
IDC ***17*** *02:26:06.6±1.0, 13.90N×90.56W, h69km±7km, mb3.8/10, mb1 3.9/11, mb1mx3.7/22, mbtmp4.1/11, MS3.3/11, Ms1 3.3/11, ms1mx3.2/20, Error ellipse: s-maj=32.4km s-min=12.3km az=57.0*
ISC 17 02:26:05.4±0.5, 13.72N±0.06×90.76W±0.05, h74km±4km, h66km±1.7km: pP-P, n104, σ1§11/87, mb4.1/19, 19C-16D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.54**	**33**	*e*P	**P**	**02 26 18.4**	**-0.7**
IXG				*e*S	**S**	**02 26 29.7**	**+0.5**
IXG				AML	AML	02 26 33.7	
	comp=N,250μm,0.4s						
PCG	**Pacaya**	**0.69**	**12**	⇓*e*P	**P**	**02 26 20.5**	**-0.1**
FUG	**Fuego 3**	**0.73**	**354**	⇓*e*P	**P**	**02 26 20.4**	**-0.7**
TP2	**Tecpan 2**	**1.09**	**347**	⇑*e*P	**P**	**02 26 25.8**	**+0.4**
TP2				*e*S	**S**	**02 26 41.6**	**+1.2**
TP2				AML	AML	02 26 42.4	
	comp=E,50μm,0.3s						
RTR	**El Retiro**	**1.10**	**80**	⇓*i*P	Px	02 26 36.1	
RTR				*e*S	Sx	02 26 52.5	
SBLS	**San Blas**	**1.11**	**84**	⇓*i*P	Px	02 26 36.0	
SBLS				*e*S	Sx	02 26 52.2	
RBDL	**Robledal**	**1.11**	**69**	⇑*e*P	Px	02 26 36.5	
RBDL				*e*S	Sx	02 26 53.2	
SNJE	**San Jose**	**1.13**	**82**	⇓*i*P	Px	02 26 36.4	
SNJE				*e*S	Sx	02 26 53.5	
BOQS	**Boqueron**	**1.44**	**89**	⇓*e*P	Px	02 26 40.5	
BOQS				*e*S	Sx	02 27 00.4	
SNET	**Serv Nac Est T**	**1.49**	**91**	⇓*e*P	Px	02 26 41.0	
SNET				*e*S	Sx	02 27 01.5	
SNET				*i*		02 27 02.9	
	comp=Z,14μm,0.2s						
MTO2	**Montecristo 2**	**1.52**	**63**	⇑*e*P	Px	02 26 41.4	
MTO2				*e*S	Sx	02 27 02.6	
LFU	**La Fuente**	**1.60**	**89**	⇑*e*P	Px	02 26 43.2	
LFU				*e*S	Sx	02 27 04.8	
LFRS	**El Faro**	**1.65**	**93**	⇓*e*P	Px	02 26 43.3	
LFRS				*e*S	Sx	02 27 04.7	
LBRS	**Las Brisas**	**1.67**	**89**	⇓*e*P	Px	02 26 43.6	
LBRS				*e*S	Sx	02 27 06.4	
MRL	**Marmol**	**1.69**	**38**	⇑*e*P	**P**	**02 26 34.9**	**+1.4**
LCBS	**La Ceiba**	**1.73**	**92**	⇓*e*P	Px	02 26 44.4	
LCBS				*e*S	Sx	02 27 06.9	
SNVI	**San Vicente**	**1.87**	**93**	⇑*e*P	Px	02 26 46.6	
SNVI				*e*S	Sx	02 27 12.2	
VSM	**San Miguel**	**2.44**	**96**	⇑*e*P	Px	02 26 54.3	
VSM				*e*S	Sx	02 27 24.7	
BLLM	**Bellamira**	**2.47**	**96**	⇑*e*P	Px	02 26 54.6	
BLLM				*e*S	Sx	02 27 25.1	
CCIG	**Comitan**	**2.88**	**333**	*i* P	Px	02 26 50.7	
CCIG				*i* S	Sx	02 27 34.1	
CNCH	**Conchagua**	**2.88**	**98**	*e*P	Px	02 27 00.3	
CNCH				*e*S	Sx	02 27 35.8	
SCX	**San Cristobal**	**3.50**	**329**	*e*P	**P**	**02 26 59.5**	**+0.7**
SCX				*i* S	**S**	**02 27 46.0**	**+6.7**
CRIN	**San Cristobal**	**3.75**	**105**	⇑*e*P	**P**	**02 27 03.5**	**+1.3**
TEL3	**Telica 3**	**3.98**	**106**	⇓*e*P	**P**	**02 27 05.1**	**-0.3**
TELN	**Telica**	**3.98**	**106**	⇑*e*P	**P**	**02 27 05.4**	**-0.1**
LEON	**Leon**	**3.98**	**109**	⇑*e*P	**P**	**02 27 04.1**	**-1.4**
CNGN	**Cerro Negro**	**4.14**	**107**	⇓*e*P	**P**	**02 27 07.0**	**-0.7**
MIRN	**Miramar**	**4.14**	**107**	⇑*e*P	**P**	**02 27 06.9**	**-0.8**
MOMJ	**Momotombo**	**4.31**	**107**	⇓*e*P	**P**	**02 27 10.0**	**-0.1**
COPN	**Copaltepe**	**4.34**	**110**	⇓*e*P	**P**	**02 27 09.9**	**-0.5**
APYN	**Apoyeque**	**4.54**	**108**	⇑*e*P	**P**	**02 27 12.6**	**-0.7**
XAVN	**Gruta Xavier**	**4.59**	**109**	*e*P	**P**	**02 27 13.4**	**-0.6**
MGAN	**Managua**	**4.67**	**109**	⇑*e*P	**P**	**02 27 15.2**	**+0.2**
MGAN				*e*S	**S**	**02 28 08.5**	**+0.1**
MGAN				*i*		02 28 19.8	
	comp=E,3μm,0.7s						
CRUN	**El Crucero**	**4.68**	**111**	⇓*e*P	**P**	**02 27 15.7**	**+0.5**
WILN	**Americas 2**	**4.72**	**109**	*e*P	**P**	**02 27 16.1**	**+0.4**
TICN	**Ticuantepe**	**4.72**	**110**	⇑*e*P	**P**	**02 27 16.6**	**+0.9**
PYTN	**Playitas**	**4.73**	**104**	⇑*e*P	**P**	**02 27 15.2**	**-0.7**
APON	**Apoyo**	**4.92**	**111**	⇓*e*P	**P**	**02 27 18.4**	**0.0**
CMIG	**Matias Romero**	**5.20**	**311**	*i* P	**P**	**02 27 20.0**	**-2.3**
CMIG				*i* S	**S**	**02 28 19.9**	**-1.8**
SSNN	**San Juan del S**	**5.37**	**116**	⇑*e*P	**P**	**02 27 24.3**	**-0.3**
CONN	**Concepcion**	**5.45**	**113**	*e*P	**P**	**02 27 25.3**	**-0.4**
MADN	**Villa Maderas**	**5.59**	**114**	*e*P	**P**	**02 27 27.2**	**-0.5**
EVV	**El Vigia**	**6.45**	**317**	*e*P	**P**	**02 27 38.5**	**-1.2**
OXX	**Oaxaca**	**6.65**	**301**	*e*P	**P**	**02 27 38.5**	**-4.0**
VHO	**Vista Hermosa**	**6.66**	**301**	*e*P	**P**	**02 27 37.8**	**-4.7**
VHO				*i* S	**S**	**02 28 52.3**	**-5.3**
PRS1	**Puriscal**	**7.32**	**120**	⇑*e*P	**P**	**02 27 53.4**	**+1.7**
BUS	**Buena Vista**	**8.01**	**120**	*e*P	**P**	**02 28 03.1**	**+1.9**
BUS				*e*S	**S**	**02 29 34.4**	**+3.4**
PPM	**Popocatepetl**	**9.23**	**306**	*i* P	**P**	**02 28 20.0**	**+2.2**
ACX	**Acapulco**	**9.37**	**291**	*i* P	**P**	**02 28 18.0**	**-1.7**
YAIG	**Yautepec**	**9.47**	**304**	*i* P	**P**	**02 28 20.8**	**-0.3**
PLIG	**Platanillo**	**9.60**	**300**	*i* P	**P**	**02 28 23.4**	**+0.4**
PLIG				*i* S	**S**	**02 30 00.7**	**-9.4**
MOIG	**Morelia**	**11.61**	**302**	⇓*i*P	**P**	**02 28 53.3**	**+3.2**
ROSC	**El Rosal**	**18.44**	**117**	P	**P**	**02 30 20.8**	**+3.3**
	comp=E,0.8nm,0.3s,baz=284,slow=22,SNR=8.1						
ROSC				LR	LR	02 37 18.5	
	comp=E,58nm,21.9s,baz=353,slow=37						
LRAL	**Lakeview Retre**	**19.53**	**9**	*e*P	**P**	**02 30 29.3**	**-0.3**
	comp=E,4.7nm,0.6s						
TXAR	**Lajitas Array**	**19.61**	**324**	P	**P**	**02 30 30.8**	**+0.4**
	comp=E,1.1nm,0.3s,baz=149,slow=13,SNR=20						
LTX	**Lajitas**	**19.61**	**324**	*e*P	**P**	**02 30 30.8**	**+0.4**
	comp=E,7.2nm,0.8s						
SDV	**Santo Domingo**	**20.31**	**102**	P	**P**	**02 30 35.8**	**-2.0**
	comp=E,6.9nm,0.5s,baz=327,slow=10.0,SNR=5.2						
SDV				pP		02 30 50.4	
	comp=E,12nm,0.7s,baz=334,slow=4.8,SNR=5.1						
SDV				LR	LR	02 39 02.3	
	comp=E,78nm,20.1s,baz=226,slow=38						
SDV	**Santo Domingo**	**20.31**	**102**	*e*P	**P**	**02 30 33.0**	**-4.8**
	comp=E,9.0nm,0.6s						
SWET	**Sewanee**	**21.84**	**11**	*e*P	**P**	**02 30 52.1**	**-1.0**
CLNB	**Carlsbad**	**22.02**	**329**	*e*P	**P**	**02 30 55.1**	**+0.2**
WMOK	**Wichita Mounta**	**22.15**	**342**	*e*P	**P**	**02 30 55.4**	**-0.8**
	comp=E,2.5nm,0.6s,mb3.7						
GDL2	**Guadalupe Moun**	**22.21**	**328**	*e*P	**P**	**02 30 58.1**	**+1.3**
CPCT	**Cooper Cave**	**22.36**	**13**	*e*P	**P**	**02 30 58.4**	**+0.2**
MNTX	**Cornudas Mount**	**22.36**	**326**	*e*P	**P**	**02 30 58.2**	**-0.1**
	comp=E,25nm,0.8s,mb4.6						
WVT	**Waverly**	**22.47**	**6**	*e*P	**P**	**02 30 58.0**	**-1.3**
	comp=E,2.7nm,0.7s,mb3.7						
CPRX	**Cap Rock**	**22.64**	**330**	*e*P	**P**	**02 31 01.2**	**+0.2**
TZTN	**Tazewell**	**23.63**	**15**	*e*P	**P**	**02 31 10.7**	**+0.2**
SJG	**San Juan**	**24.06**	**76**	LR	LR	02 41 09.3	
	comp=E,45nm,18.2s,baz=272,slow=38						
WCI	**Wyandotte Cave**	**24.73**	**8**	*e*P	**P**	**02 31 20.1**	**-1.1**
	comp=E,18nm,0.6s,mb4.7						
BNM	**Barren Site**	**24.92**	**327**	*e*P	**P**	**02 31 24.7**	**+1.6**
LPM	**Los Pinos Moun**	**25.04**	**328**	*e*P	**P**	**02 31 25.0**	**+0.8**
LENM	**Lemitar**	**25.11**	**327**	*e*P	**P**	**02 31 26.1**	**+1.2**
LAZ	**Ladron**	**25.38**	**327**	*e*P	**P**	**02 31 28.9**	**+1.5**
ANMO	**Albuquerque**	**25.46**	**329**	P	**P**	**02 31 29.1**	**+1.0**
	comp=E,1.5nm,0.5s,mb3.7,baz=154,slow=14,SNR=6.6						
ANMO				LR	LR	02 42 50.5	
	comp=E,37nm,18.4s,baz=163,slow=40						
ANMO	**Albuquerque**	**25.46**	**329**	*e*P	**P**	**02 31 28.8**	**+0.6**
	comp=E,2.0nm,0.8s,mb3.6						
TUC	**Tucson**	**26.03**	**319**	*e*P	**P**	**02 31 33.6**	**+0.1**
	comp=E,4.8nm,0.9s,mb3.9						
LDFC	**Landfair**	**30.57**	**318**	*e*P	**P**	**02 32 16.1**	**+1.8**
LDFC				*e*pP	pP	02 32 32.6	+0.6
NEN	**Nelson**	**30.76**	**319**	*e*P	**P**	**02 32 15.8**	**-0.2**
NEN				*e*pP	pP	02 32 31.4	-2.1
MSU	**Marysvale**	**31.14**	**326**	*e*P	**P**	**02 32 20.2**	**+0.9**
SADO	**Sadowa**	**32.49**	**15**	P	**P**	**02 32 28.6**	**-2.5**
	comp=E,3.5nm,0.4s,mb4.4,baz=217,slow=9.2,SNR=7.7						
SADO				LR	LR	02 45 50.8	
	comp=E,70nm,18.7s,baz=111,slow=37						
PDAR	**Pinedale Array**	**33.19**	**334**	P	**P**	**02 32 36.2**	**-0.9**
	comp=E,0.4nm,0.5s,mb3.5,baz=137,slow=9.1,SNR=5.7						
PDAR				LR	LR	02 47 19.0	
	comp=E,30nm,20.7s,baz=170,slow=38						
BGU	**Big Grassy Mou**	**33.36**	**329**	*e*P	**P**	**02 32 46.6**	**+8.0**
REDW	**Red Top Meadow**	**34.22**	**334**	P	**P**	**02 32 48.5**	**+2.5**
	comp=E,4.1nm,0.6s,mb4.4						
ELK	**Elko**	**34.39**	**326**	*e*P	**P**	**02 32 47.8**	**+0.4**
	comp=E,3.6nm,0.9s,mb4.2						
SAML	**Samuel**	**35.45**	**128**	*e*P	**P**	**02 32 54.5**	**-2.2**
	comp=E,3.9nm,0.6s,mb4.4						
SAML				*e*pP	pP	02 33 09.5	-5.1
MCMT	**McKenzie Canyo**	**36.26**	**333**	*e*P	**P**	**02 33 04.0**	**+0.8**
ULM	**Lac du Bonnet**	**36.67**	**355**	P	**P**	**02 33 03.8**	**-2.9**
	comp=E,1.9nm,0.6s,mb4.2,baz=160,slow=10.0,SNR=4.3						
BEKR	**Beckwourth**	**36.79**	**321**	*e*P	**P**	**02 33 08.6**	**+0.8**
	comp=E,7.0nm,0.9s,mb4.6						
LPAZ	**La Paz**	**37.27**	**142**	P	**P**	**02 33 12.7**	**+0.7**
	comp=E,0.8nm,0.7s,mb3.7,baz=332,slow=11,SNR=4.9						
LPAZ				pP	pP	02 33 30.2	+0.1
	comp=E,1.0nm,0.6s,baz=287,slow=8.5,SNR=4.2						
LPAZ				LR	LR	02 49 14.0	
	comp=E,41nm,20.4s,baz=79,slow=37						
LPAZ	**La Paz**	**37.27**	**142**	*e*P	**P**	**02 33 12.6**	**+0.6**
WVOR	**Wild Horse Val**	**37.40**	**325**	P	**P**	**02 33 12.9**	**+0.1**
	comp=E,7.2nm,1.0s,mb4.6						
YBH	**Yreka Blue Hor**	**39.33**	**321**	P	**P**	**02 33 27.3**	**-1.6**
	comp=E,1.8nm,0.6s,mb4.1,baz=123,slow=4.2,SNR=4.9						
SIV	**San Ignacio**	**41.62**	**134**	P	**P**	**02 33 48.1**	**-0.1**
	comp=E,2.1nm,0.5s,mb4.1,baz=311,slow=9.5,SNR=19						
SIV				pP	pP	02 34 04.7	-1.6
	comp=E,2.1nm,0.6s,baz=322,slow=8.4,SNR=5.8						
SCHQ	**Schefferville**	**45.08**	**19**	P	**P**	**02 34 13.7**	**-1.9**
	comp=E,2.7nm,0.4s,mb4.3,baz=231,slow=7.6,SNR=13						
SCHQ				pP	pP	02 34 31.2	-2.7
	comp=E,6.4nm,0.5s,baz=227,slow=7.8,SNR=7.2						
SCHQ				LR	LR	02 53 41.2	
	comp=E,35nm,18.6s,baz=14,slow=37						
BDFB	**Brasilia**	**51.36**	**123**	LR	LR	02 57 58.2	
	comp=E,60nm,20.0s,baz=293,slow=37						
CPUP	**Villa Florida**	**51.40**	**141**	LR	LR	02 58 39.3	
	comp=E,88nm,20.7s,baz=326,slow=38						
YKA	**Yellowknife Ar**	**51.58**	**346**	P	**P**	**02 35 05.1**	**-0.9**
	comp=E,0.4nm,0.4s,mb3.8,baz=148,slow=7.4,SNR=5.0						
YKA				pP	pP	02 35 21.3	-3.3
	comp=E,0.6nm,0.6s,baz=143,slow=8.5,SNR=1.9						
YKA				LR	LR	03 01 00.0	
	comp=E,24nm,21.6s,baz=95,slow=41						
YKA	**Yellowknife Ar**	**51.58**	**346**	P	**P**	**02 35 05.1**	**-0.9**
YKA				pP	pP	02 35 21.3	-3.3
YKA				LR	LR	03 01 00.1	
CN2	**Changchun**	**113.91**	**332**	*e*PKP	PKPdf	02 44 41.0	+5.1
WMQ	**Urumqi**	**122.73**	**1**	*e*PKP	PKPdf	02 44 57.0	+4.0
WMQ				PP	PP	02 46 40.0	+3.9
SSE	**Sheshan**	**125.90**	**326**	PKP	PKPdf	02 45 03.3	+3.8
NJ2	**Nanjing**	**126.37**	**329**	*e*PKP	PKPdf	02 45 04.9	+4.5
LZH	**Lanzhou**	**128.58**	**345**	*e*PKP	PKPdf	02 45 05.5	+1.0
LZH				XPKP		02 45 31.3	
LZH				LR	LR		
	comp=N,149nm,18.5s						
LZH				LR	LR		
	comp=Z,298nm,20.0s						
KAKA	**Kakadu**	**137.97**	**266**	*e*P	Pdif	02 42 25.2	-6.5
	comp=Z,6.9nm,0.4s						

NEIC ***17*** *02:26:13.0, 38.51S×175.79E, h165km, MG3.9(WEL), After WEL.*
WEL 17 02:26:13.0±0.3, 38.52S×175.78E, h166km±2km, ML3.8/10, 7C-1D, Error ellipse: s-maj=2.2km s-min=1.8km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWVZ	**Taurewa**	**0.61**	**206**	⇑PN	P	02 26 36.9	-0.3
TWVZ				*e*SN	S	02 26 55.1	-0.6
TWVZ	**Taurewa**	**0.61**	**206**	P	P	02 26 36.9	-0.2
WTVZ	**West Tongariro**	**0.61**	**194**	⇑PN	P	02 26 37.0	-0.2
WTVZ	**West Tongariro**	**0.61**	**194**	P	P	02 26 37.0	-0.1
NGZ	**Ngauruhoe**	**0.67**	**192**	PN	P	02 26 37.3	-0.1
NGZ	**Ngauruhoe**	**0.67**	**192**	P	P	02 26 37.3	-0.1
CNZ	**Chateau**	**0.70**	**195**	⇓PN	P	02 26 37.5	-0.1
CNZ	**Chateau**	**0.70**	**195**	P	P	02 26 37.5	-0.1
HIZ	**Hauiti**	**0.73**	**270**	⇑PN	P	02 26 37.3	-0.4
HIZ	**Hauiti**	**0.73**	**270**	P	P	02 26 37.3	-0.4
TUVZ	**Tukino**	**0.75**	**188**	⇑PN	P	02 26 37.9	+0.1
TUVZ				*e*SN	S	02 26 56.8	-0.2
TUVZ	**Tukino**	**0.75**	**188**	P	P	02 26 37.9	0.0
FWVZ	**Far West T-bar**	**0.76**	**194**	PN	P	02 26 37.7	-0.2
FWVZ	**Far West T-bar**	**0.76**	**194**	P	P	02 26 37.9	0.0
WNVZ	**Wahianoa**	**0.82**	**190**	PN	P	02 26 38.3	0.0
WNVZ	**Wahianoa**	**0.82**	**190**	P	P	02 26 38.3	0.0
PKVZ	**Pokaka**	**0.84**	**204**	PN	P	02 26 38.1	-0.3
BKZ	**Black Stump Fm**	**0.85**	**140**	⇑PN	P	02 26 38.5	+0.1
BKZ				SN	S	02 26 57.5	-0.6
BKZ	**Black Stump Fm**	**0.85**	**140**	P	P	02 26 38.5	+0.1
BKZ				S	S	02 26 57.6	-0.5
MOVZ	**Moawhango**	**0.89**	**182**	⇑PN	P	02 26 38.3	-0.4
MOVZ				*e*SN	S	02 26 57.0	-1.5
MOVZ	**Moawhango**	**0.89**	**182**	P	P	02 26 38.3	-0.4
URZ	**Urewera**	**1.07**	**76**	PN	P	02 26 39.8

FIAM	Fiamignano	1.15	170	Pn	P	02 54 31.1 +0.1
	100nm,0.5s					
FAGN	Fagnano	1.26	154	Pn	P	02 54 33.8 +1.3
	254nm,0.4s					
MTCE	Montecelio	1.38	183	Pn	P	02 54 34.1 -0.1
	60nm,0.8s					
GRFL	Gerfalco	1.39	260	Pn	P	02 54 34.5 +0.2
	11nm,0.4s					
PTQR	Pietraquaria	1.44	163	Pn	P	02 54 35.7 +0.8
	12nm,0.2s					
CERT	Cerreto	1.46	176	Pn	P	02 54 35.2 0.0
	61nm,0.6s					
TOLF	Tolfa	1.48	205	Pn	P	02 54 35.2 -0.2
	130nm,1.0s					
VVLD	Villa Vallelon	1.64	159	Pn	P	02 54 38.5 +1.0
	109nm,1.0s					
BDI	Bagni Di Lucca	1.76	293	Pn	P	02 54 40.0 +0.9
	67nm,0.2s					
NVLJ	Novalja	1.86	51	*i* Pn	P	02 54 41.1 +0.6
NVLJ				*i* Sn	S	02 55 02.6 -0.4
VLC	Villacollemand	1.93	294	Pn	P	02 54 42.5 +1.0
	27nm,0.7s					
VLC	Villacollemand	1.93	294	*e*P	P	02 54 42.1 +0.6
VLC	Villacollemand	1.93	294	Pn	P	02 54 42.5 +1.0
	27nm,0.7s					
VLC	Villacollemand	1.93	294	*e*P	P	02 54 42.1 +0.6
CIGN	Sant'Elia a Pi	2.32	138	Pn	P	02 54 47.2 +0.4
	183nm,2.4s					
KNDS	Knezji Dol	2.39	27	*i* Pn	P	02 54 48.1 +0.3
KNDS				*i* Sn	S	02 55 16.6 +0.6
	comp=Z,59nm,0.2s					
KNDS	Knezji Dol	2.39	27	*i* Pn	P	02 54 48.1 +0.3
KNDS				*i* Sn	S	02 55 16.6 +0.6
	comp=Z,59nm,0.2s					
TRI	Trieste	2.40	16	⇓*e*Pn	P	02 54 47.7 -0.2
BOJS	Bojanci	2.71	39	*i* Pn	P	02 54 53.2 +0.8
BOJS				*i* Sn	S	02 55 24.0 -0.2
	comp=Z,21nm,0.2s					
BOJS	Bojanci	2.71	39	*i* Pn	P	02 54 53.2 +0.8
BOJS				*i* Sn	S	02 55 24.0 -0.2
	comp=Z,21nm,0.2s					
VOY	Vojsko	2.73	16	*e*Pn	P	02 54 52.5 -0.1
SAL	Salo	2.76	324	⇓*i*Pn	P	02 54 53.9 +0.9
	comp=Z,159nm,0.2s					
CTI	Castel Tesino	2.78	343	⇓*i*Pn	P	02 54 53.8 +0.5
ROBS	Robic	2.88	9	*i* Pn	P	02 54 54.7 0.0
LJU	Ljubljana	2.90	24	*i* Pn	P	02 54 55.5 +0.5
LJU				*e*Sn	S	02 55 28.6 -0.2
	comp=Z,37nm,0.2s					
LJU	Ljubljana	2.90	24	*i* Pn	P	02 54 55.5 +0.5
LJU				*e*Sn	S	02 55 28.6 -0.2
LJU				*i*		02 55 30.3
PGF	Pioggiola	2.95	254	*e*Pn	P	02 54 56.2 +0.5
PGF				*e*Sn	S	02 55 29.4 -0.6
	comp=Z,3.0nm,0.5s					
PTCC	Patocco-Chiusa	3.02	7	⇓*i*Pn	P	02 54 56.6 -0.1
OBKA	Obir	3.33	21	⇓*i*PN	P	02 55 00.9 -0.1
OBKA				*i* SN	S	02 55 39.1 -0.4
GROS	Grobnik	3.59	31	*i* Pn	P	02 55 04.3 -0.3
PERS	Pernice	3.61	26	*i* Pn	P	02 55 04.7 -0.1
KBA	Koelnbreinsper	3.69	5	⇓*i*PN	P	02 55 07.1 +1.1
KBA				*i* SN	S	02 55 49.0 +0.5
SCE	Schlegeis	3.72	348	⇓*i*Pn	P	02 55 07.8 +1.4
KOGS	Kog	3.89	37	*e*Pn	P	02 55 08.0 -0.7
KOGS				*e*Sn	S	02 55 50.5 -2.9
KOGS	Kog	3.89	37	*e*Pn	P	02 55 08.0 -0.7
KOGS				*e*Sn	S	02 55 50.5 -2.9
KOGS				*i*		02 55 55.5
WTTA	Wattenberg	3.95	348	⇑*i*PN	P	02 55 11.3 +1.7
WTTA				*i* SN	S	02 55 57.7 +2.7
SBF	Sospel	3.95	279	*e*Pn	P	02 55 10.8 +1.2
SBF				*e*Sn	S	02 55 55.1 0.0
	comp=Z,5.4nm,0.3s					
AUTN	L'Aution	3.97	280	Pg	P	02 55 12.2 +2.3
AUTN				Sg	S	02 55 55.7 +0.2
SQTA	Sankt Quirin	3.99	344	⇑*i*PN	P	02 55 11.8 +1.7
SQTA				*i* SN	S	02 55 59.3 +3.4
WATA	Walderalm	4.03	348	⇑*i*PN	P	02 55 12.5 +1.8
WATA				*i* SN	S	02 56 00.5 +3.5
TOUF	Mont Tournerai	4.10	280	Pg	P	02 55 14.5 +2.8
TOUF				Sg	S	02 55 58.5 -0.3
MOTA	Moosalm	4.13	343	⇑*i*PN	P	02 55 13.7 +1.7
MOTA				*i* SN	S	02 56 02.4 +3.0
ARSA	Arzberg	4.28	25	⇓*i*PN	P	02 55 13.8 -0.4
ARSA				*i* SN	S	02 56 00.6 -2.7
CALN	Calern	4.34	277	Pg	P	02 55 18.2 +3.2
DAVA	Damuels	4.41	333	⇑*i*PN	P	02 55 17.7 +1.8
DAVA				*i* SN	S	02 56 07.9 +1.5
FRF	La Foret Royal	4.51	274	*e*Pn	P	02 55 18.1 +0.7
FRF				*e*Sn	S	02 56 07.7 -1.3
	comp=Z,4.8nm,0.3s					
MOA	Molln	4.55	12	⇑*i*PN	P	02 55 18.6 +0.6
MOA				*i* SN	S	02 56 10.0 -0.1
MBDF	Montbardon	4.57	289	*e*Pn	P	02 55 18.2 0.0
MBDF				*e*Sn	S	02 56 08.3 -2.2
	comp=Z,3.6nm,0.2s					
LMR	La Mourre	4.62	271	*e*Pn	P	02 55 19.1 +0.2
LMR				*e*Sn	S	02 56 09.6 -2.1
	comp=Z,2.3nm,0.2s					
LPG	La Plagne	4.84	298	*e*Pn	P	02 55 21.3 -0.6
LPL	La Plagne	4.86	298	*e*Pn	P	02 55 22.0 -0.1
ORIF	Oris-en-Rattie	5.24	289	*e*Pn	P	02 55 28.5 +1.2
ORIF				*e*Sn	S	02 56 25.3 -1.6
	comp=Z,2.7nm,0.3s					
SMRF	Simiane la Rot	5.30	279	*e*Pn	P	02 55 30.2 +2.0
GEC2	GERESS Array S	5.47	6	*e*Pn	P	02 55 30.0 -0.6
GEC2				*e*Sn	S	02 56 28.4 -4.5
BBS	Basel-Blauen	5.53	319	Pg	P	02 55 30.0 -1.3
BBS				Sg	S	02 56 27.5 -6.7
ZST	Bratislava	5.64	30	*i* PN	P	02 55 26.6 -6.2
ZST				*e*SN	S	02 56 31.9 -5.1
WET	Wettzell	5.74	0	*e*Pn	P	02 55 33.3 -0.9
WET				*e*Sn	S	02 56 32.2 -7.3
KHC	Kasperske Hory	5.75	5	*e*PN	P	02 55 33.6 -0.8
KHC				*ex*	x	02 55 41.1
KHC				*e*SN	S	02 56 34.7 -5.0
KHC				*ex*	x	02 56 50.0
KHC	Kasperske Hory	5.75	5	*e*Pn	P	02 55 33.6 -0.8
KHC				*e*Sn	S	02 56 34.7 -5.0
CABF	La Chapelle	5.76	306	*e*Pn	P	02 55 34.5 -0.1
CABF				*e*Sn	S	02 56 35.4 -4.7
	comp=Z,4.7nm,0.3s					
LOMF	Lomont	5.79	315	Pg	P	02 55 35.0 +0.1
LOMF				Sg	S	02 56 34.4 -6.3
BFO	Black Forest	5.85	329	*e*Pn	P	02 55 35.0 -0.7
BFO				*e*Sn	S	02 56 35.7 -6.4
MOF	Molkenrain	5.98	320	Pg	P	02 55 37.4 -0.2
MOF				Sg	S	02 56 38.3 -7.2
VIVF	Saint-Julien-l	6.06	287	*e*Sn	S	02 56 43.6 -3.7
	comp=Z,2.0nm,0.5s					
HINF	Hinteralfeld	6.09	318	*e*Pn	P	02 55 38.4 -0.7
HINF				*e*Sn	S	02 56 39.1 -9.1
	comp=Z,24nm,0.4s					
ECH	Echery	6.24	322	Pg	P	02 55 40.9 -0.3
WLS	Welschbruch	6.30	325	Pg	P	02 55 41.7 -0.4
CDF	Champ du Feu	6.34	324	*e*Pn	P	02 55 42.0 -0.6
CDF				*e*Sn	S	02 56 41.5 -13
HAU	Haudompre	6.47	318	*e*Pn	P	02 55 43.5 -0.9
HAU				*e*Pg	P	02 56 16.2 +32
HAU				*e*Sn	S	02 56 46.9 -11
	comp=Z,45nm,0.4s					
LASF	Ste Croix	6.55	279	*e*Pn	P	02 55 45.8 +0.3
LANF	Langenberg	6.58	330	Pg	P	02 55 46.1 +0.1
VYHS	Vyhne	6.58	37	*e*SN	S	02 56 54.9 -5.3
PRU	Pruhonice	6.69	9	*e*SN	S	02 56 57.5 -5.3
THEF	They Montfort	6.80	318	Pg	P	02 55 47.1 -1.9
THEF				Sg	S	02 56 58.2 -7.3
NKC	Novy Kostel	6.84	358	*e*SN	S	02 57 01.4 -5.1
SMF	Signal de Mont	7.16	300	*e*Pn	P	02 55 52.5 -1.4
SMF				*e*Pg	P	02 56 26.8 +33
SMF				*e*Sn	S	02 57 06.3 -8.0
	comp=Z,12nm,0.5s					
MOX	Moxa	7.29	354	*i* P	P	02 55 53.7 -2.1
MOX				Sg	S	02 57 10.0 -7.7
MOX	Moxa	7.29	354	*e*Pn	P	02 55 53.7 -2.1
MOX				*e*Sg	S	02 57 10.4 -7.3
LOR	Lormes	7.42	304	*e*Pn	P	02 55 56.1 -1.4
LOR				*e*Pg	P	02 56 30.8 +33
LOR				*e*Sn	S	02 57 11.6 -9.2
	comp=Z,9.0nm,0.3s					
MEZF	Maizieres J'vi	7.45	316	*e*Pn	P	02 55 57.7 -0.2
MEZF				*e*Sn	S	02 57 12.1 -9.4
	comp=Z,7.6nm,0.3s					
TNS	Taunus Mts	7.46	338	*e*Pn	P	02 55 56.1 -1.9
AVF	Avril sur Loir	7.52	300	*e*Pn	P	02 55 57.4 -1.5
AVF				*e*Pg	P	02 56 31.1 +32
AVF				*e*Sn	S	02 57 14.4 -9.0
	comp=Z,1.4nm,0.3s					
SSF	Saint Saulge	7.54	302	*e*Pn	P	02 55 57.5 -1.7
SSF				*e*Pg	P	02 56 31.7 +33
SSF				*e*Sn	S	02 57 13.7 -10
	comp=Z,3.4nm,0.3s					
MTLF	Montolieu	7.75	273	*e*Pn	P	02 56 02.4 +0.4
BGF	Bois d'Agland	7.76	297	*e*Pn	P	02 56 00.4 -1.8
BGF				*e*Pg	P	02 56 34.4 +32
BGF				*e*Sn	S	02 57 21.1 -8.1
BGF	Bois d'Agland	7.76	297	*e*Pn	P	02 56 00.4 -1.8
BGF				*e*Sn	S	02 57 21.1 -8.1
GIVF	Givet	8.67	323	*e*Pn	P	02 56 13.7 -0.9

MOS ***17*** *03:43:17.8±1.1,51.59N×16.17E,h10km,mb4.0/1,Error ellipse: s-maj=10.3km s-min=4.8km az=72.3*
NEIC ***17*** *03:43:19.7±0.4,51.48N×16.18E,h5km,ML3.3(VIE), ML3.1(SZGRF),Error ellipse: s-maj=4.5km s-min=3.7km az=206.0*
IPEC ***17*** *03:43:19.8±0.3,51.46N×16.22E,h3km±1km,ML2.4/3, Error ellipse: s-maj=1.7km s-min=0.7km az=27.0*
BGR ***17*** *03:43:20.2±0.6,51.38N×16.20E,h1km,ML3.1,Error ellipse: s-maj=6.7km s-min=4.4km az=164.0*
WAR ***17*** *03:43:20.9,51.45N×16.17E,h1km,ML3.1,Mining Induced*
IDC ***17*** *03:43:21.1±0.7,51.45N×15.94E,mb1 3.3/8, mb1mx3.2/24,mbtmp3.2/8,ML3.2/8,Error ellipse: s-maj=12.3km s-min=7.0km az=103.0*
PRU ***17*** *03:43:21.3,51.40N×16.14E*
CSEM ***17*** *03:43:21.7±0.1,51.37N×16.11E,ML3.3/8,Error ellipse: s-maj=1.9km s-min=1.2km az=6.0*
LDG ***17*** *03:43:23.8±0.6,51.31N×16.06E,h1km,Ml3.5/3,Error ellipse: s-maj=13.0km s-min=5.0km az=27.0,Suspected Mining induced.*

ISC 17 03:43:19.0±0.4,51.34N±0.02×16.13E±0.02,n83, σ1§27/149,3C-4D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.51	168	⇓*i*PG	Pg	03 43 32.1	+3.0
KSP				⇓*e*SG	Sg	03 43 40.1	+4.1
KSP	Ksiaz	0.51	168	*e*Pg	Pg	03 43 31.9	+2.8
KSP				*e*Sg	Sg	03 43 39.0	+3.0
KSP	Ksiaz	0.51	168	*e*Pg	Pg	03 43 32.1	+3.0
KSP				*e*Sg	Sg	03 43 40.3	+4.3
KSP	Ksiaz	0.51	168	⇓*i*Pg	Pg	03 43 32.1	+3.0
KSP				*e*Sg	Sg	03 43 40.3	+4.3
UPC	Upice	0.84	185	*e*PG	Pg	03 43 38.2	+2.5
DPC	Dobruska-Polom	1.00	173	*e*PG	Pn	03 43 40.9	+0.8
DPC				*e*SG	Sn	03 43 54.3	-0.8
	62nm,0.3s						
DPC	Dobruska-Polom	1.00	173	*e*Pg	Pn	03 43 40.9	+0.8
DPC				*e*Sg	Sn	03 43 55.2	+0.1
PVCC	Panska Ves	1.28	231	*e*PG	Pn	03 43 45.9	+1.9
PVCC	Panska Ves	1.28	231	*e*Pn	Pn	03 43 46.2	+2.2
BRG	Berggiesshubel	1.45	252	*e*Pg	Pg	03 43 47.2	-0.8
BRG				*e*Sg	Sg	03 44 08.4	+1.0
BRG	Berggiesshubel	1.45	252	Pg	Pg	03 43 48.8	+0.8
BRG				*e*Sg	Sg	03 44 08.0	+0.7
BRG				S	Sb	03 44 09.2	+3.7
BRG	Berggiesshubel	1.45	252	Pn	Pn	03 43 47.2	+0.6
BRG				Pg	Pg	03 43 48.8	+0.8
BRG				Sg	Sg	03 44 09.2	+1.9
BRG	Berggiesshubel	1.45	252	P	Pn	03 43 47.2	+0.7
BRG						03 44 09.2	
PRU	Pruhonice	1.69	217	*e*PN	Pn	03 43 51.4	+1.5
PRU				*e*PG	Pg	03 43 53.3	+0.6
PRU				*e*SG	Sg	03 44 16.7	+1.5
PRU	Pruhonice	1.69	217	*e*Pg	Pg	03 43 53.3	+0.6
PRU				*e*Sg	Sg	03 44 16.7	+1.5
FBE	Freiberg	1.80	258	Sg	Sg	03 44 18.9	+0.2
MORC	Moravsky Berou	1.81	149	*e*Pn	Pn	03 43 52.8	+1.2
MORC				*e*Sg	Sg	03 44 17.8	-1.4
	20nm,0.5s						
MORC	Moravsky Berou	1.81	149	*e*P	Pn	03 43 52.4	+0.8
RAC	Raciborz	1.82	133	*e*P	Pn	03 43 57.0	+5.2
RAC				*e*S	Sn	03 44 22.0	+6.1
RUE	Ruedersdorf	1.85	309	*e*Pn	Pn	03 43 51.1	-1.1
RUE	Ruedersdorf	1.85	309	*e*P	Pn	03 43 50.9	-1.3
CLL	Collm	1.96	270	*e*Pn	Pn	03 43 54.3	+0.6
CLL				*e*Pg	Pg	03 43 57.0	-1.1
CLL				*e*Sg	Sg	03 44 24.6	+0.4
CLL	Collm	1.96	270	*i* PN	Pn	03 43 53.9	+0.1
CLL				*e*PG	Pg	03 43 57.0	-1.1
CLL				*e*		03 44 00.0	
CLL				*e*		03 44 11.0	
CLL				*i* SG	Sg	03 44 24.6	+0.4
CLL	Collm	1.96	270	Pg	Pg	03 43 57.0	-1.1
CLL				Sg	Sg	03 44 24.6	+0.4
CLL	Collm	1.96	270	*i* Pn	Pn	03 43 53.9	+0.1
CLL				*e*Pg	Pg	03 43 57.0	-1.1
CLL				*i* Sg	Sg	03 44 24.6	+0.4
CLL	Collm	1.96	270	*i* P	Pn	03 43 53.9	+0.1
CLL				*i*		03 44 24.6	
OKC	Ostrava-Krasne	1.98	139	*e*PG	Pg	03 43 58.3	-0.2
OKC				*e*SG	Sg	03 44 23.0	-1.9
OKC	Ostrava-Krasne	1.98	139	*e*Pg	Pg	03 43 58.3	-0.2
OKC				*e*Sg	Sg	03 44 23.5	-1.4
VRAC	Vranov	2.06	171	Pn	Pn	03 43 57.7	+2.6
	4.8nm,0.3s,baz=344,slow=12,SNR=16						
VRAC				Lg		03 44 29.0	
	8.9nm,0.3s,baz=80,slow=22,SNR=13						
VRAC	Vranov	2.06	171	*e*Pn	Pn	03 43 57.4	+2.2
VRAC				*e*Sg	Sg	03 44 27.9	+0.4
	34nm,0.5s						
TREC	Trest	2.09	192	*e*PN	Pn	03 43 57.8	+2.2
TREC				*e*PG	Pg	03 44 00.9	+0.2
KRUC	Moravsky	2.29	176	*e*Pn	Pn	03 44 01.0	+2.5
KRUC				*e*Sg	Sg	03 44 35.1	-0.1
	12nm,0.3s						
TANN	Tannenbergstha	2.50	250	*e*Pn	Pn	03 44 02.5	+1.0
TANN				*e*Sg	Sg	03 44 41.5	-0.7
WERD	Werda	2.58	251	*e*Pn	Pn	03 44 03.4	+0.8
WERD				*e*Sg	Sg	03 44 43.6	-1.2
NKC	Novy Kostel	2.58	246	*e*PN	Pn	03 44 03.9	+1.2
NKC				*e*SG	Sg	03 44 46.4	+1.4
	51nm,0.3s						
NKC	Novy Kostel	2.58	246	*e*Pn	Pn	03 44 03.8	+1.1
NKC				*e*Sg	Sg	03 44 46.4	+1.4
	51nm,0.3s						
OJC	Ojcow	2.59	114	*e*PG	Pg	03 44 10.0	-0.6
OJC				*e*SG	Sg	03 44 43.0	-2.1
OJC	Ojcow	2.59	114	*e*Pg	Pg	03 44 09.9	-0.7
OJC				*e*Sg	Sg	03 44 44.9	-0.2
GUNZ	Gunzen	2.60	249	*e*Pn	Pn	03 44 03.9	+1.0
GUNZ				*e*Sg	Sg	03 44 44.8	-0.6
KHC	Kasperske Hory	2.75	217	*e*PN	Pn	03 44 06.4	+1.3
KHC				*e*PG	Pg	03 44 12.5	-1.4
KHC				*e*SN	Sn	03 44 39.5	-0.1
KHC				*e*SG	Sg	03 44 49.2	-1.4
KHC	Kasperske Hory	2.75	217	*e*P	Pn	03 44 06.4	+1.3
KHC				*e*		03 44 39.5	
MOX	Moxa	2.93	258	*e*Pn	Pn	03 44 08.7	+1.0
MOX				*e*Pg	Pg	03 44 16.7	-0.8
MOX				*e*Sg	Sg	03 44 55.7	-1.0
MOX	Moxa	2.93	258	*i* P	Pn	03 44 08.9	+1.2
MOX				Pg	Pg	03 44 17.0	-0.5
MOX				Sg	Sg	03 44 57.0	+0.4
MOX	Moxa	2.93	258	Pg	Pg	03 44 16.7	-0.8
MOX				*e*Sg	Sg	03 44 54.8	-1.8
MOX	Moxa	2.93	258	*e*Pn	Pn	03 44 08.9	+1.2
MOX				*e*Pg	Pg	03 44 16.7	-0.8
MOX				*e*Sg	Sg	03 44 56.9	+0.3
GEC2	GERESS Array S	2.95	213	*e*Pn	Pn	03 44 10.1	+2.2
GEC2				*e*Sg	Sg	03 44 55.0	-2.1
GEC2	GERESS Array S	2.95	213	*e*Pn	Pn	03 44 10.1	+2.2
GEC2				*e*Sg	Sg	03 44 55.0	-2.0
GERES	GERESS Array B	2.95	213	Pn	Pn	03 44 10.0	+2.1
	1.1nm,0.3s,baz=28,slow=13,SNR=29						
GERES				Pg	Pg	03 44 16.2	-1.6
	5.2nm,0.3s,baz=33,slow=17,SNR=54						
GERES				Lg		03 44 54.3	
	2.8nm,0.3s,baz=27,slow=27,SNR=5.3						
GERES	GERESS Array B	2.95	213	Pg	Pg	03 44 16.2	-1.6
GERES	GERESS Array B	2.95	213	P	Pn	03 44 10.0	+2.1
GERES						03 44 54.3	
NOTT	Nottersdorf	2.98	241	*e*Pn	Pn	03 44 09.2	+0.9
NOTT				*e*Sg	Sg	03 44 56.2	-1.8
WET	Wettzell	3.03	225	*e*Pn	Pn	03 44 10.3	+1.2
WET				*e*Sg	Sg	03 44 59.4	-0.4
WET	Wettzell	3.03	225	*e*Pn	Pn	03 44 10.2	+1.1
WET				Sg	Sg	03 44 59.4	-0.4
WET	Wettzell	3.03	225	*e*Pn	Pn	03 44 10.3	+1.2
WET				*e*Sg	Sg	03 44 59.4	-0.4
VKA	Vienna	3.08	178	⇑*i*PG	Pg	03 44 20.0	-0.5
VKA				*i* SG	Sg	03 45 02.7	+1.1
ZST	Bratislava	3.21	168	*e*PG	Pg	03 44 24.0	+0.9
ZST				*e*SG	Sg	03 45 05.6	-0.3
VYHS	Vyhne	3.35	147	*e*PG	Pg	03 44 26.9	+1.1
VYHS				*e*SG	Sg	03 45 11.6	+1.3
GRA1	Grafenberg Arr	3.54	244	*e*Pn	Pn	03 44 17.3	+1.0
GRA1				*e*Sg	Sg	03 45 13.9	-2.9
GRF	Grafenberg Arr	3.54	244	*e*Pn	Pn	03 44 17.3	+1.0
GRF				*e*Sg	Sg	03 45 13.9	-2.9
CLZ	Clausthal	3.62	280	*e*Pn	Pn	03 44 17.8	+0.3
MOA	Molln	3.70	200	⇑*i*PN	Pn	03 44 18.3	-0.3
MOA				*i* SG	Sg	03 45 21.6	-0.5
	20nm,0.6s						
STHS	Stebnicka Huta	3.80	118	*e*PN	Pn	03 44 20.0	0.0
STHS				*e*PG	Pg	03 44 32.9	-1.9
STHS				*e*SG	Sg	03 45 24.4	-1.1
KECS	Kecovo	4.02	134	*e*PG	Pg	03 44 38.7	-0.4
ARSA	Arzberg	4.11	186	⇑*i*PN	Pn	03 44 24.3	-0.2
ARSA				*i* SG	Sg	03 45 34.0	-1.9
	24nm,0.8s						
KWP	Kalwaria	4.54	110	*e*PG	Pg	03 44 45.0	-4.6
KWP				*e*S	Sg	03 45 49.0	-1.0
KOLS	Kolonicke sedl	4.63	119	*e*SG	Sg	03 45 55.1	+2.0
KBA	Koelnbreinsper	4.64	204	⇓*i*PN	Pn	03 44 33.0	+1.0
KBA				*i* SG	Sg	03 45 52.7	-0.7
	11nm,0.5s						
DAVOX	Davos	6.14	224	Pn	Pn	03 44 52.7	-0.4
	0.3nm,0.3s,baz=351,slow=20,SNR=4.5						
DAVOX				Lg		03 46 37.6	
	0.4nm,0.3s,baz=243,slow=24,SNR=4.9						
CDF	Champ du Feu	6.43	246	*e*Pn	Pn	03 44 56.2	-1.0
CDF				*e*Pg	Pg	03 45 25.4	-1.9
CDF				*e*Sg	Sg	03 46 45.2	-7.7
	29nm,1.1s						
CDF	Champ du Feu	6.43	246	*e*Pn	Pn	03 44 56.2	-1.0
CDF				*e*Sg	Sg	03 46 45.2	-7.7
	14nm,1.1s						
HINF	Hinteralfeld	6.98	243	*e*Sg	Sg	03 47 01.7	-10
	10nm,0.9s						
HAU	Haudompre	7.17	246	*e*Pn	Pn	03 45 04.8	-2.8
AKASG	Malin Array Be	8.29	89	Pn	P	03 45 21.2	-2.1
	0.6nm,0.3s,baz=279,slow=12,SNR=3.4						
LPL	La Plagne	8.54	231	*e*Pn	P	03 45 26.7	-0.1
LPG	La Plagne	8.54	230	*e*Pn	P	03 45 26.0	-0.8
HFS	Hagfors	8.92	352	Pn	P	03 45 26.5	-5.5
	0.1nm,0.3s,baz=163,slow=16,SNR=5.1						
LOR	Lormes	8.99	248	*e*Pn	P	03 45 30.6	-2.4
LOR				*e*Pg	P	03 46 08.3	+35
MBDF	Montbardon	9.11	227	*e*Pn	P	03 45 33.5	-1.2
FRF	La Foret Royal	10.08	223	*e*Pn	P	03 45 47.2	-0.8
NOA	NORSAR Array B	10.10	346	Pn	P	03 45 43.1	-5.0
	0.2nm,0.3s,baz=168,slow=12,SNR=2.7						
FINES	FINESS Array B	11.51	25	Pn	P	03 46 01.1	-6.4
	0.2nm,0.3s,baz=208,slow=10,SNR=7.2						
EKA	Eskdalemuir Ar	12.19	297	Pn	P	03 46 10.8	-5.9
	0.2nm,0.3s,baz=98,slow=13,SNR=4.4						
ARCES	ARCESS Array B	18.79	10	Pn	P	03 47 35.3	-6.3
	0.4nm,0.3s,baz=197,slow=12,SNR=13						

NIED ***17*** *03:58:00,40.30N×142.60E,h29km,Mw3.8 Best double couple: M0:5.93×10^14 NP1:φs50°,δ77°,λ92°. NP2:φs222°, δ13°,λ82°.*
NEIC ***17*** *03:58:11.7±1.1,40.57N×142.49E,h10km,mb4.4/1,Error ellipse: s-maj=28.8km s-min=10.6km az=115.0*
JMA ***17*** *03:58:12.6±0.1,40.31N×142.59E,h30km±2km,M3.9*
IDC ***17*** *03:58:15.8±2.6,40.34N×142.57E,h51km±28km,mb3.6/5, mb1 3.8/8,mb1mx3.6/21,mbtmp3.9/8,ML3.7/3,MS3.1/2, Ms1 3.1/2,ms1mx2.6/20,Error ellipse: s-maj=38.3km s-min=24.0km az=125.0*

ISC 17 03:58:13.1±1.0,40.33N±0.04×142.59E±0.09,h43km±10km, n21,σ0§83/30,mb3.9/6,MS3.1/1,4D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	Tanohata	0.68	235	P	P	03 58 25.6	-0.8
JTH				S	S	03 58 34.6	-1.4
JANG	Nango	0.82	273	⇓P	P	03 58 27.6	-0.7
JANG				S	S	03 58 38.7	-0.8
MIYJ	Miyakonagasawa	0.96	218	P	P	03 58 29.5	-0.8
JKZ	Kuzumaki	1.03	251	P	P	03 58 30.9	-0.3
JKZ				S	S	03 58 44.4	-0.3
JTM	Tenmabayashi	1.25	292	⇓P	P	03 58 34.5	+0.2
JTM				S	S	03 58 50.1	-0.1
JOM	Ohasama	1.31	230	P	P	03 58 35.4	0.0
JOM				S	S	03 58 51.9	-0.1
JAH	Hinai	1.50	265	⇓P	P	03 58 38.6	+0.5
JAH				*e*S	S	03 58 57.9	+1.3
JOT	Ohata	1.57

STL	**Santa Lucia**	**1.28 137**	*i* P	Pb	04 39 34.7	-1.8
STL			*i* S	Sb	04 39 51.6	-1.1
STL			AMP		04 39 56.7	
	comp=E,132nm,0.5s					
SAN	**Santiago**	**1.28 138**	*i* S	Sb	04 39 52.2	-0.5
SAN			AMP		04 39 56.7	
	comp=E,248nm,0.3s					
SAN			AMP		04 39 57.9	
	comp=N,348nm,0.2s					
DSCH	**Colegio Aleman**	**1.30 134** ⇓	*i* P	Pb	04 39 35.8	-0.9
DSCH			*i* S	Sb	04 39 52.7	-0.5
DSCH			AMP		04 39 53.9	
	comp=E,405nm,0.7s					
TACH	**Talagante**	**1.31 151** ⇑	*i* P	Pb	04 39 36.1	-0.9
TACH			*i* S	Sb	04 39 52.4	-1.1
CLCH	**Cerro Calan**	**1.32 133** ⇓	*i* P	Pb	04 39 35.9	-1.2
CLCH			*i* S	Sb	04 39 54.1	+0.4
CLCH			AMP		04 39 58.4	
	comp=N,382nm,0.7s					
CLCH			AMP		04 40 00.1	
	comp=E,250nm,0.8s					
ANTU	**Antumapu**	**1.39 140**	*i* S	Sb	04 39 55.4	-0.3
ANTU			AMP		04 40 00.9	
	comp=E,331nm,0.9s					
FCH	**Farellones**	**1.44 125** ⇓	*i* P	Pn	04 39 38.0	-0.9
FCH			*i* S	Sb	04 39 56.5	-0.8
CMCH	**Combarbala**	**1.45 24** ⇑	*i* P	Pn	04 39 37.8	-1.3
CMCH			*i* S	Sb	04 39 57.6	-0.1
CMCH			AMP		04 40 03.6	
	comp=N,988nm,0.5s					
LNV	**Longovilo**	**1.47 171** ⇑	*i* P	Pn	04 39 38.1	-1.2
LNV			*i* S	Sb	04 39 57.3	-0.7
PCH	**Pirque**	**1.49 139** ⇑	*i* P	Pn	04 39 39.0	-0.6
PCH			*i* S	Sb	04 39 58.8	+0.1
CHCH	**Chadas Angostu**	**1.67 149**	*e*P	Pn	04 39 41.9	-0.3
CHCH			*i* S	Sn	04 40 03.3	-0.3
LMEL	**Las Melosas**	**1.83 137** ⇑	*i* P	Pn	04 39 44.2	-0.3
LMEL			*i* S	Sn	04 40 08.4	+0.6
LMEL			AMP		04 40 12.2	
	comp=N,204nm,0.3s					

NEIC ***17*** *04:43:41.2, 32.50S×71.70W, h29km, ML3.5(GUC), After GUC.*

GUC 17 04:43:41.2±0.8, 32.50S×71.70W, h29km±4km, MD4.1, ML3.5, 8C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.53**	**175**	*e*P	Pb	04 43 51.3	-0.6
IHA				*e*S	Sb	04 43 59.5	+0.2
CHNG	**Los Chungos**	**0.64**	**15** ⇓	*i*P	Pb	04 43 53.6	-0.2
CHNG				*i* S	Sb	04 44 02.7	+0.2
CHNG				AMP		04 44 05.0	
	comp=N,2μm,0.6s						
ROCH	**El Roble**	**0.74**	**129** ⇑	*i*P	Pb	04 43 55.3	-0.2
ROCH				*i* S	Sb	04 44 05.8	+0.4
JACH	**Jahuel**	**0.95**	**101** ⇑	*i*P	Pn	04 43 58.5	-0.2
JACH				*i* S	Sb	04 44 11.7	+0.5
ILCH	**Illapel**	**0.97**	**28** ⇑	*i*P	Pn	04 43 59.3	+0.3
ILCH				*i* S	Sb	04 44 12.1	+0.2
ILCH				AMP		04 44 17.1	
	comp=N,1μm,0.2s						
LCCH	**Las Cruces**	**0.98**	**174**	*e*P	Pn	04 43 58.4	-0.7
LCCH				*i* S	Sb	04 44 12.1	+0.2
PEL	**Peldehue**	**1.07**	**127** ⇑	*i*P	Pn	04 44 00.5	+0.1
PEL				*i* S	Sn	04 44 14.9	+0.6
RCDM	**Rinconada Maip**	**1.24**	**143**	*e*P	Pn	04 44 03.0	+0.2
RCDM				*i* S	Sn	04 44 19.4	+0.7
RCDM				AMP		04 44 22.2	
	comp=E,1μm,0.5s						
STL	**Santa Lucia**	**1.29**	**137**	*i* P	Pn	04 44 02.5	-1.0
STL				*i* S	Sn	04 44 20.0	0.0
STL				AMP		04 44 25.1	
	comp=E,559nm,0.6s						
SAN	**Santiago**	**1.29**	**138** ⇑	*i*P	Pn	04 44 03.8	+0.2
SAN				*i* S	Sn	04 44 20.9	+1.0
SAN				AMP		04 44 26.2	
	comp=N,1μm,0.3s						
DSCH	**Colegio Aleman**	**1.30**	**134** ⇑	*i*P	Pn	04 44 04.0	+0.2
DSCH				*i* S	Sn	04 44 21.0	+0.6
DSCH				AMP		04 44 27.0	
	comp=E,2μm,0.7s						
TACH	**Talagante**	**1.31**	**151** ⇓	*i*P	Pn	04 44 04.2	+0.2
TACH				*e*S	Sn	04 44 20.7	+0.1
CLCH	**Cerro Calan**	**1.32**	**133** ⇓	*i*P	Pn	04 44 04.2	+0.2
CLCH				*e*S	Sn	04 44 21.4	+0.6
CLCH				AMP		04 44 28.4	
	comp=E,1μm,0.5s						
CLCH				AMP		04 44 28.9	
	comp=E,2μm,0.8s						
ANTU	**Antumapu**	**1.39**	**140**	*i* S	Sn	04 44 23.7	+1.1
ANTU				AMP		04 44 29.3	
	comp=E,1μm,0.7s						
FCH	**Farellones**	**1.44**	**125** ⇓	*i*P	Pn	04 44 06.2	+0.4
FCH				*i* S	Sn	04 44 24.8	+0.9
CMCH	**Combarbala**	**1.45**	**24** ⇑	*i*P	Pn	04 44 06.0	+0.1
CMCH				*i* S	Sn	04 44 25.3	+1.2
CMCH				AMP		04 44 31.9	
	comp=N,5μm,0.5s						
LNV	**Longovilo**	**1.47**	**171**	*e*P	Pn	04 44 06.3	+0.2
PCH	**Pirque**	**1.49**	**139** ⇓	*i*P	Pn	04 44 07.0	+0.5
PCH				*i* S	Sn	04 44 26.8	+1.6
SJCH	**San Jose de Ma**	**1.60**	**136** ⇑	*i*P	Pn	04 44 08.3	+0.3
SJCH				AMP		04 44 30.1	
	comp=N,462nm,0.2s						
CHCH	**Chadas Angostu**	**1.68**	**149**	*e*P	Pn	04 44 10.0	+0.9
CHCH				*i* S	Sn	04 44 31.6	+1.8
LMEL	**Las Melosas**	**1.84**	**137**	*e*P	Pn	04 44 12.3	+1.0
LMEL				*i* S	Sn	04 44 36.6	+2.7
LMEL				AMP		04 44 40.4	
	comp=N,888nm,0.1s						
TLL	**Tololo Astrono**	**2.45**	**18**	*e*P	Pn	04 44 20.7	+0.5
TLL				AMP		04 45 05.2	
	comp=N,882nm,0.6s						

LDG ***17*** *05:00:43.9±0.4, 44.53N×10.60E, h10km, Ml3.7/11, Error ellipse: s-maj=9.7km s-min=4.3km az=97.0*
ROM ***17*** *05:00:43.0±0.1, 44.49N×10.43E, h28km±1km, Md3.5/4, Ml3.1/12, Error ellipse: s-maj=1.9km s-min=1.8km az=44.0*
NEIC ***17*** *05:00:43.2, 44.58N×10.56E, h7km, ML3.7(LDG), ML3.6(STR), ML3.4(SZGRF), ML3.1(GEN), After GEN.*
PRU ***17*** *05:00:43.2, 44.51N×10.53E*
CSEM ***17*** *05:00:43.3±0.1, 44.42N×10.37E, h30km, ML3.6/1, Error ellipse: s-maj=2.7km s-min=1.8km az=140.0*
GEN ***17*** *05:00:43.2, 44.58N×10.56E, h7km, ML3.0*
ZUR ***17*** *05:00:44.7, 44.73N×10.14E, h10km, ML3.1/7*
MDD ***17*** *05:00:44.3±1.8, 44.55N×10.69E, h29km±30km, mb4.3/6, Error ellipse: s-maj=25.9km s-min=8.1km az=94.0*
STR ***17*** *05:00:45.7±0.4, 44.67N×10.23E, h10km±1km, Ml3.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 17 05:00:43.7±0.2, 44.52N±0.02×10.45E±0.02, h27km±2km, n183, σ1$18/271, 18C-6D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERBM	**Eremo**	**0.11**	**196** ⇓	*i*Pg	**Pb**	**05 00 48.5**	**-0.1**
ERBM				Sg	**Sb**	**05 00 52.4**	**+0.4**
GSCL	**Gusciola**	**0.20**	**151** ⇑	*i*Pg	**Pb**	**05 00 48.9**	**-0.6**
VALM		**0.23**	**221**	P	**Pb**	**05 00 49.4**	**-0.5**
VALM				S	**Sb**	**05 00 54.5**	**+0.4**
VALM		**0.23**	**221**	P	**Pb**	**05 00 49.4**	**-0.4**
VALM				S	**Sb**	**05 00 54.5**	**+0.4**
GRAM		**0.28**	**264**	P	**Pb**	**05 00 50.7**	**+0.1**
GRAM				S	**Sb**	**05 00 55.7**	**+0.5**
GRAM		**0.28**	**264**	P	**Pb**	**05 00 50.7**	**+0.1**
GRAM				S	**Sb**	**05 00 55.7**	**+0.5**
SARO	**Sassorosso**	**0.34**	**186**	P	**Pb**	**05 00 50.8**	**-0.6**
SARO	**Sassorosso**	**0.34**	**186**	P	**Pb**	**05 00 50.8**	**-0.6**
SARO				S	**Sb**	**05 00 56.6**	**-0.1**
SARO	**Sassorosso**	**0.34**	**186**	P	**Pb**	**05 00 50.8**	**-0.7**
SARO				S	**Sb**	**05 00 56.6**	**-0.1**
VLC	**Villacollemand**	**0.37**	**188**	Pg	**Pb**	**05 00 51.3**	**-0.5**
VLC				Sg	**Sb**	**05 00 57.5**	**+0.1**
	1μm,0.7s						
VLC	**Villacollemand**	**0.37**	**188**	*e*P	**Pb**	**05 00 50.9**	**-1.0**
BACM		**0.37**	**228**	P	**Pb**	**05 00 51.5**	**-0.3**
BACM				S	**Sb**	**05 00 58.0**	**+0.6**
BACM		**0.37**	**228**	P	**Pb**	**05 00 51.5**	**-0.4**
BACM				S	**Sb**	**05 00 58.0**	**+0.6**
ZCCA	**Zocca**	**0.41**	**114** ⇑	*e*Pg	**Pb**	**05 00 52.7**	**+0.2**
VINC	**Vinca**	**0.44**	**210**	P	**Pb**	**05 00 52.5**	**-0.5**
VINC	**Vinca**	**0.44**	**210**	P	**Pb**	**05 00 52.5**	**-0.5**
VINC				S	**Sb**	**05 00 59.4**	**+0.1**
VINC	**Vinca**	**0.44**	**210**	P	**Pb**	**05 00 52.5**	**-0.5**
VINC				S	**Sb**	**05 00 59.4**	**+0.1**
CODM		**0.45**	**253**	P	**Pb**	**05 00 53.2**	**0.0**
CODM				S	**Sb**	**05 00 59.6**	**0.0**
CODM		**0.45**	**253**	P	**Pb**	**05 00 53.2**	**+0.1**
CODM				S	**Sb**	**05 00 59.6**	**-0.1**
BDI	**Bagni Di Lucca**	**0.47**	**167**	Pg	**Pb**	**05 00 52.8**	**-0.6**
BDI				Sg	**Sb**	**05 01 00.0**	**-0.1**
	970nm,0.4s						
RAVA	**Ravarino**	**0.53**	**64**	Pg	**Pb**	**05 00 55.5**	**+1.1**
RAVA				Sg	**Sb**	**05 01 05.1**	**+3.4**
	2μm,0.5s						
FNVD	**Fontana Vidola**	**0.60**	**126**	Pg	**Pb**	**05 00 54.7**	**-0.8**
	656nm,0.7s						
MAIM		**0.61**	**178**	P	**Pb**	**05 00 55.1**	**-0.6**
MAIM		**0.61**	**178**	P	**Pb**	**05 00 55.1**	**-0.6**
MAIM				S	**Sb**	**05 01 03.8**	**-0.2**
BOB	**Bobbio (Coli)**	**0.76**	**289** ⇑	*e*Pg	**Pb**	**05 00 58.9**	**+0.7**
	677nm,0.8s						
SEI	**Scarperia**	**0.80**	**126**	Pn	**Pn**	**05 00 59.1**	**-0.1**
	1μm,0.4s						
PII	**Pisa**	**0.80**	**176**	Pg	**Pb**	**05 00 58.8**	**-0.1**
VMG	**Vicchio**	**0.96**	**125**	Pn	**Pn**	**05 01 02.3**	**+0.8**
	211nm,0.4s						
GENL	**Genova Univers**	**1.07**	**264**	P	**Pn**	**05 01 04.7**	**+1.6**
GENL				S	**Sb**	**05 01 17.8**	**+0.8**
GENL	**Genova Univers**	**1.07**	**264**	P	**Pn**	**05 01 04.7**	**+1.6**
GENL				S	**Sb**	**05 01 17.8**	**+0.8**
SAL	**Salo**	**1.09**	**3**	Pn	**Pn**	**05 01 04.4**	**+1.1**
	669nm,0.3s						
PGD	**Poggio Sodo**	**1.12**	**125**	Pn	**Pn**	**05 01 04.9**	**+1.1**
	96nm,0.4s						
GROG	**Isola di Gorgo**	**1.17**	**201** ⇓	*i*Pn	**Pn**	**05 01 04.7**	**+0.2**
	284nm,0.3s						
SFI	**Santa Sofia**	**1.18**	**121**	Pn	**Pn**	**05 01 06.4**	**+1.8**
SFI				Sn	**Sn**	**05 01 23.7**	**+3.9**
	241nm,0.6s						
CSNT	**Castellina Chi**	**1.21**	**150**	Pn	**Pn**	**05 01 05.6**	**+0.5**
	186nm,0.4s						
MDI	**Monti di Nese**	**1.36**	**338** ⇑	*i*Pn	**Pn**	**05 01 07.8**	**+0.6**
	554nm,0.3s						
PCP	**Pian Castagno**	**1.37**	**271**	P	**Pn**	**05 01 08.9**	**+1.6**
PCP				S	**Sn**	**05 01 25.5**	**+0.9**
PCP	**Pian Castagno**	**1.37**	**271**	P	**Pn**	**05 01 08.9**	**+1.6**
PCP				S	**Sn**	**05 01 25.6**	**+0.9**
CRE	**Caprese Michel**	**1.41**	**129**	Pn	**Pn**	**05 01 09.0**	**+1.1**
	91nm,0.3s						
GRFL	**Gerfalco**	**1.43**	**164**	Pn	**Pn**	**05 01 08.5**	**+0.3**
	40nm,0.5s						
QLNO	**Quiliano**	**1.52**	**263**	Pn	**Pn**	**05 01 10.6**	**+1.0**
	248nm,0.8s						
FIN	**Finale Ligure**	**1.64**	**260**	Pn	**Pn**	**05 01 12.1**	**+0.9**
	55nm,0.1s						
FIN				S	**Sn**	**05 01 30.5**	**-1.1**
FIN	**Finale Ligure**	**1.64**	**260**	P	**Pn**	**05 01 11.9**	**+0.7**
FIN				S	**Sn**	**05 01 30.5**	**-1.2**
MUGIO	**Muggio**	**1.72**	**325** ⇑	*e*Pn	**Pn**	**05 01 12.6**	**+0.2**
MUGIO	**Muggio**	**1.72**	**325** ⇑	*i*Pn	**Pn**	**05 01 12.6**	**+0.2**
CTI	**Castel Tesino**	**1.74**	**29**	Pn	**Pn**	**05 01 12.6**	**-0.1**
	145nm,0.3s						
VAI	**Varese**	**1.80**	**319**	Pn	**Pn**	**05 01 13.9**	**+0.4**
	63nm,0.2s						
ARCI	**Arcidosso**	**1.83**	**156**	Pn	**Pn**	**05 01 14.1**	**+0.2**
	60nm,1.0s						
ROB	**Roburent**	**1.87**	**264**	P	**Pn**	**05 01 15.2**	**+0.7**
ROB				S	**Sn**	**05 01 36.4**	**-0.9**
ROB	**Roburent**	**1.87**	**264**	P	**Pn**	**05 01 15.2**	**+0.7**
ROB				S	**Sn**	**05 01 36.4**	**-0.9**
BERNI	**Berninapass**	**1.92**	**351**	*e*P*	**Pb**	**05 01 16.2**	**-1.6**
BERNI				*e*S*	**Sb**	**05 01 39.4**	**-2.0**
IMI	**Imperia**	**1.94**	**253** ⇓	*i*Pn	**Pn**	**05 01 16.2**	**+0.6**
	193nm,0.5s						
IMI	**Imperia**	**1.94**	**253**	P	**Pn**	**05 01 16.1**	**+0.5**
IMI				S	**Sn**	**05 01 37.7**	**-1.6**
IMI	**Imperia**	**1.94**	**253**	P	**Pn**	**05 01 16.1**	**+0.5**
IMI				S	**Sn**	**05 01 37.7**	**-1.6**
BRMO	**Bormio**	**1.95**	**358**	Pn	**Pn**	**05 01 16.6**	**+0.9**
	29nm,0.3s						
MONE	**Monesi**	**1.99**	**258**	P	**Pn**	**05 01 17.0**	**+0.8**
MONE				S	**Sn**	**05 01 38.6**	**-1.9**
MONE	**Monesi**	**1.99**	**258**	P	**Pn**	**05 01 17.0**	**+0.8**
MONE				S	**Sn**	**05 01 38.6**	**-1.8**
APPI	**Appiano**	**2.03**	**15**	Pn	**Pn**	**05 01 17.3**	**+0.5**
	364nm,0.4s						
ORO	**Oropa**	**2.07**	**303**	Pn	**Pn**	**05 01 17.2**	**-0.2**
	58nm,0.2s						
ORX	**Oropa**	**2.07**	**303**	P	**Pn**	**05 01 17.3**	**-0.1**
ORX				S	**Sn**	**05 01 40.5**	**-2.1**
ORX	**Oropa**	**2.07**	**303**	P	**Pn**	**05 01 17.3**	**-0.2**
ORX				S	**Sn**	**05 01 40.5**	**-2.2**
VDL	**Val di Lei**	**2.08**	**341** ⇑	*i*Pn	**Pn**	**05 01 18.5**	**+0.9**
VDL				*e*Sn	**Sn**	**05 01 43.3**	**+0.4**
NEGI	**Negi**	**2.09**	**252**	P	**Pn**	**05 01 18.0**	**+0.3**
NEGI				S	**Sn**	**05 01 41.4**	**-1.7**
NEGI	**Negi**	**2.09**	**252**	P	**Pn**	**05 01 18.0**	**+0.3**
NEGI				S	**Sn**	**05 01 41.4**	**-1.7**
TUE	**Stuetta**	**2.10**	**339** ⇑	*i*Pn	**Pn**	**05 01 18.8**	**+1.0**
	122nm,0.3s						
FUORN	**Ofenpass**	**2.10**	**356**	Pn	**Pn**	**05 01 19.3**	**+1.5**
FUORN	**Ofenpass**	**2.10**	**356** ⇓	*i*Pn	**Pn**	**05 01 19.2**	**+1.4**
SAOF	**Saorge**	**2.15**	**257**	Pg	**Pn**	**05 01 19.8**	**+1.2**
SAOF				Sg	**Sn**	**05 01 46.7**	**+2.1**
TRAV		**2.16**	**298**	P	**Pn**	**05 01 17.9**	**-0.8**
TRAV		**2.16**	**298**	P	**Pn**	**05 01 17.9**	**-0.8**
ENR	**Entracque**	**2.20**	**263**	P	**Pn**	**05 01 20.1**	**+0.9**
ENR				S	**Sn**	**05 01 44.5**	**-1.2**
ENR	**Entracque**	**2.20**	**263**	P	**Pn**	**05 01 20.1**	**+0.9**
ENR				S	**Sn**	**05 01 44.5**	**-1.2**
AUTN	**L'Aution**	**2.24**	**257**	Pg	**Pn**	**05 01 21.4**	**+1.6**
AUTN				Sg	**Sn**	**05 01 49.8**	**+3.0**
PGF	**Pioggiola**	**2.24**	**209**	*e*Pn	**Pn**	**05 01 19.7**	**-0.1**
PGF				*e*Sn	**Sn**	**05 01 45.7**	**-1.2**
	40nm,0.3s						
STV2	**Anna di Valdie**	**2.26**	**264**	P	**Pn**	**05 01 21.0**	**+0.9**
STV2				S	**Sn**	**05 01 44.9**	**-2.5**
STV2	**Anna di Valdie**	**2.26**	**264**	P	**Pn**	**05 01 20.9**	**+0.8**
STV2				S	**Sn**	**05 01 44.9**	**-2.5**
STV	**Sta Anna Valdi**	**2.26**	**264**	P	**Pn**	**05 01 21.2**	**+1.1**
STV	**Sta Anna Valdi**	**2.26**	**264**	P	**Pn**	**05 01 21.2**	**+1.0**
SBF	**Sospel**	**2.27**	**254**	*e*Pn	**Pn**	**05 01 21.0**	**+0.8**
SBF				*e*Sn	**Sn**	**05 01 48.9**	**+1.3**
	141nm,0.3s						
DAVOX	**Davos**	**2.29**	**350** ⇑	*i*Pn	**Pn**	**05 01 22.3**	**+1.7**
BHB	**Bricherasio**	**2.30**	**279**	P	**Pn**	**05 01 20.5**	**-0.2**
BHB				S	**Sn**	**05 01 45.0**	**-3.3**
FUSIO	**Fusio**	**2.31**	**328** ⇑	*i*Pn	**Pn**	**05 01 20.9**	**+0.1**
MMK	**Mattmark**	**2.33**	**312** ⇓	*i*Pn	**Pn**	**05 01 20.6**	**-0.5**
REVF	**Revere**	**2.36**	**252**	Pg	**Pn**	**05 01 22.3**	**+0.8**
REVF				Sg	**Sn**	**05 01 53.0**	**+3.2**
TOUF	**Mont Tournerai**	**2.36**	**259**	Pg	**Pn**	**05 01 23.1**	**+1.6**
TOUF				Sg	**Sn**	**05 01 52.5**	**+2.6**
RSP	**Reno Superiore**	**2.36**	**287**	P	**Pn**	**05 01 20.0**	**-1.5**
RSP	**Reno Superiore**	**2.36**	**287**	P	**Pn**	**05 01 20.0**	**-1.5**
MVIF	**Mont Vial**	**2.46**	**256**	Pg	**Pn**	**05 01 24.5**	**+1.6**
MVIF				Sg	**Sn**	**05 01 55.8**	**+3.5**
FENE	**Fenestrelle**	**2.47**	**283**	P	**Pn**	**05 01 22.7**	**-0.4**
FENE	**Fenestrelle**	**2.47**	**283**	P	**Pn**	**05 01 22.7**	**-0.4**
LSD	**Ceresole Reale**	**2.52**	**293**	P	**Pn**	**05 01 22.9**	**-0.9**
LSD	**Ceresole Reale**	**2.52**	**293**	P	**Pn**	**05 01 22.9**	**-0.9**
LLS	**Linth-Limmern**	**2.54**	**337** ⇑	*i*Pn	**Pn**	**05 01 24.7**	**+0.6**
SURF	**Saint Ours**	**2.61**	**270**	Pg	**Pn**	**05 01 26.6**	**+1.6**
PLONS	**Plons**	**2.64**	**344**	*e*Pn	**Pn**	**05 01 27.2**	**+1.7**
MBDF	**Montbardon**	**2.64**	**276**	*e*Pn	**Pn**	**05 01 25.7**	**+0.2**
RRL	**Cesana Torines**	**2.65**	**280**	P	**Pn**	**05 01 25.1**	**-0.5**
RRL	**Cesana Torines**	**2.65**	**280**	P	**Pn**	**05 01 25.1**	**-0.5**
DIX	**Grande Dixence**	**2.65**	**307**	*e*Pn	**Pn**	**05 01 25.9**	**+0.2**
CALN	**Calern**	**2.68**	**255**	Pg	**Pn**	**05 01 27.5**	**+1.4**
LKBD	**Leukerbad**	**2.73**	**314**	*e*Pn	**Pn**	**05 01 27.2**	**+0.4**
BNI	**Bardonecchia**	**2.74**	**282**	*e*P	**Pn**	**05 01 27.0**	**0.0**
BNI	**Bardonecchia**	**2.74**	**282**	*e*P	**Pn**	**05 01 27.0**	**0.0**
SQTA	**Sankt Quirin**	**2.75**	**11** ⇓	*i*PN	**Pn**	**05 01 28.0**	**+0.9**
SQTA				*i* SN	**Sn**	**05 02 02.4**	**+2.6**
MUO	**Muotathal**	**2.76**	**333**	*e*Pn	**Pn**	**05 01 28.4**	**+1.2**
DAVA	**Damuels**	**2.79**	**352** ⇑	*i*PN	**Pn**	**05 01 29.4**	**+1.7**
DAVA				*i* SN	**Sn**	**05 02 02.6**	**+1.7**
LPG	**La Plagne**	**2.80**	**292**	*e*Pn	**Pn**	**05 01 27.1**	**-0.7**
LPL	**La Plagne**	**2.82**	**292**	*e*Pn	**Pn**	**05 01 28.1**	**0.0**
LIENZ	**Alp Oberkamor**	**2.85**	**347** ⇑	*i*Pn	**Pn**	**05 01 29.7**	**+1.1**
MOTA	**Moosalm**	**2.86**	**9** ⇑	*i*PN	**Pn**	**05 01 29.5**	**+0.9**
MOTA				*i* SN	**Sn**	**05 02 05.0**	**+2.4**
VOY	**Vojsko**	**2.86**	**57**	*e*Pn	**Pn**	**05 01 27.2**	**-1.4**
VOY				*e*Sn	**Sn**	**05 02 00.1**	**-2.5**
WTTA	**Wattenberg**	**2.86**	**16** ⇑	*i*PN	**Pn**	**05 01 29.8**	**+1.1**
WTTA				*i* SN	**Sn**	**05 02 04.8**	**+2.1**
SENIN	**Lac Senin**	**2.88**	**311**	*e*Pn	**Pn**	**05 01 29.8**	**+0.8**
FRF	**La Foret Royal**	**2.91**	**252**	*e*Pn	**Pn**	**05 01 29.7**	**+0.3**
FRF				*e*Sn	**Sn**	**05 02 03.7**	**-0.1**
	88nm,0.2s						
WATA	**Walderalm**	**2.92**	**15** ⇑	*i*PN	**Pn**	**05 01 30.9**	**+1.4**
WATA				*i* SN	**Sn**	**05 02 06.7**	**+2.6**
WIMIS	**Wimmis**	**2.92**	**318**	*e*Pn	**Pn**	**05 01 30.7**	**+1.2**
KNDS	**Knezji Dol**	**2.96**	**69**	*i* Pn	**Pn**	**05 01 28.1**	**-2.0**
KNDS				*e*Sn	**Sn**	**05 02 02.0**	**-3.1**
CEY	**Cerknica**	**3.06**	**65**	*i* Pn	**Pn**	**05 01 30.1**	**-1.4**
WILA	**Wila**	**3.09**	**340**	*e*Pn	**Pn**	**05 01 32.3**	**+0.4**
LMR	**La Mourre**	**3.09**	**249**	*e*Pn	**Pn**	**05 01 31.8**	**-0.1**
LMR				*e*Sn	**Sn**	**05 02 06.8**	**-1.5**
	74nm,0.3s						
NVLJ	**Novalja**	**3.16**	**88**	*i* Pn	**Pn**	**05 01 31.5**	**-1.4**
NVLJ				*i* Sn	**Sn**	**05 02 05.9**	**-4.2**
NVLJ	**Novalja**	**3.16**	**88**	*i* Pn	**Pn**	**05 01 31.4**	**-1.5**
NVLJ				*i* Sn	**Sn**	**05 02 05.9**	**-4.2**
KBA	**Koelnbreinsper**	**3.26**	**37** ⇑	*i*PN	**Pn**	**05 01 34.5**	**+0.2**
KBA				*i* SN	**Sn**	**05 02 14.7**	**+2.0**
ORIF	**Oris-en-Rattie**	**3.29**	**279**	*e*Pn	**Pn**	**05 01 36.1**	**+1.4**
VISS	**Visnje**	**3.36**	**66**	*i* Pn	**Pn**	**05 01 34.2**	**-1.5**
OBKA	**Obir**	**3.50**	**54** ⇑	*i*PN	**Pn**	**05 01 37.5**	**-0.2**
OBKA				*i* SN	**Sn**	**05 02 19.0**	**+0.3**
BOJS	**Bojanci**	**3.54**	**72**	*i* Pn	**Pn**	**05 01 38.2**	**-0.1**
BOJS				*e*Sn	**Sn**	**05 02 16.8**	**-3.0**
SMRF	**Simiane la Rot**	**3.55**	**263**	*e*Pn	**Pn**	**05 01 40.0**	**+1.6**
BBS	**Basel-Blauen**	**3.59**	**326**	Pg	**Pn**	**05 01 38.6**	**-0.4**
CABF	**La Chapelle**	**3.71**	**306**	*e*Pn	**Pn**	**05 01 41.2**	**+0.5**
FELD	**Feldberg**	**3.76**	**334**	Pg	**Pn**	**05 01 40.5**	**-0.9**
LOMF	**Lomont**	**3.79**	**319**	Pg	**Pn**	**05 01 41.7**	**-0.2**
PERS	**Pernice**	**3.90**	**56**	*i* Pn	**Pn**	**05 01 42.5**	**-0.9**
MOF	**Molkenrain**	**4.05**	**326**	Pg	**Pn**	**05 01 45.0**	**-0.6**
BFO	**Black Forest**	**4.08**	**340**	*e*Pn	**Pn**	**05 01 44.5**	**-1.5**
BFO				*e*Sn	**Sn**	**05 02 28.8**	**-4.7**
HINF	**Hinteralfeld**	**4.14**	**324**	*e*Pn	**Pn**	**05 01 45.8**	**-1.0**
HINF				*e*Sn	**Sn**	**05 02 31.0**	**-3.9**
	26nm,0.2s						
VIVF	**Saint-Julien-l**	**4.14**	**277**	*e*Pn	**Pn**	**05 01 46.9**	**+0.1**
ECH	**Echery**	**4.34**	**329**	Pg	**Pn**	**05 01 48.5**	**-1.2**
WLS	**Welschbruch**	**4.44**	**332**	Pg	**Pn**	**05 01 49.9**	**-1.2**
CDF	**Champ du Feu**	**4.47**	**332**	*e*Pn	**Pn**	**05 01 50.1**	**-1.4**
CDF				*e*Sn	**Sn**	**05 02 37.7**	**-5.6**
	26nm,0.3s						
HAU	**Haudompre**	**4.50**	**322**	*e*Pn	**Pn**	**05 01 51.0**	**-0.9**
HAU				*e*Sn	**Sn**	**05 02 39.1**	**-5.0**
	33nm,0.2s						
LASF	**Ste Croix**	**4.76**	**267**	*e*Pn	**Pn**	**05 01 55.2**	**-0.4**
LANF	**Langenberg**	**4.82**	**339**	Pg	**Pn**	**05 01 54.6**	**-1.8**
THEF	**They Montfort**	**4.83**	**322**	Pg	**Pn**	**05 01 55.6**	**-1.0**
GEC2	**GERESS Array S**	**4.87**	**26**	*e*Pn	**Pn**	**05 01 55.4**	**-1.7**
GEC2				*e*Sn	**Sn**	**05 02 48.1**	**-5.2**
WET	**Wettzell**	**4.91**	**19**	*e*Pn	**Pn**	**05 01 56.0**	**-1.8**
WET				*e*Sn	**Sn**	**05 02 49.8**	**-4.7**
PLDF	**La Plantade**	**5.04**	**289**	Pg	**Pn**	**05 01 59.1**	**-0.4**
KHC	**Kasperske Hory**	**5.08**	**24**

2C-2D,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.90**	**309**	P		**P**	**05 29 32.5**	**-0.8**
ATKA				S		**S**	**05 29 43.5**	**-1.8**
GSTR	**Great Sitkin T**	**1.91**	**285**	P		**P**	**05 29 47.7**	**0.0**
GSTD	**Great Sitkin T**	**1.96**	**283**	P		**P**	**05 29 48.3**	**0.0**
GSTD				S		**S**	**05 30 09.7**	**-2.0**
ADAG	**Mount Adagdak**	**2.22**	**280**	P		**P**	**05 29 52.6**	**+0.5**
KIKV	**Kanaga Island**	**2.56**	**277**	P		**P**	**05 29 57.4**	**+0.4**
KIMD	**Kanaga Island**	**2.60**	**274**	P		**P**	**05 29 58.0**	**+0.5**
NIKO	**Nikolski**	**2.91**	**61**	P		**P**	**05 30 01.1**	**-0.8**
MTBL	**Makushin Table**	**4.52**	**56**	P		**P**	**05 30 25.9**	**+1.1**
UNV	**Unalaska Valle**	**4.56**	**58**	P		**P**	**05 30 24.9**	**-0.3**
FX1	**Attu Island--F**	**8.54**	**284**	P		**P**	**05 31 20.1**	**-0.7**
	1.3nm,0.3s,baz=106,slow=14,SNR=23							
FX1	**Attu Island--F**	**8.54**	**284**	*e*P		**P**	**05 31 19.4**	**-1.4**
FX1	**Attu Island--F**	**8.54**	**284**	P		**P**	**05 31 20.1**	**-0.7**
FX1				pmax		pmax		
	comp=Z,1.0nm,0.3s							
KDAK	**Kodiak Island**	**13.31**	**55**	*e*P		**P**	**05 32 18.5**	**-6.8**
	comp=Z,17nm,0.8s							
SVW2	**Sparrevohn**	**13.50**	**39**	*e*P		**P**	**05 32 30.6**	**+3.0**
RSO	**Redoubt South**	**14.32**	**44**	P		**P**	**05 32 36.9**	**-1.5**
TTA	**Tatalina**	**14.53**	**32**	*e*P		**P**	**05 32 43.5**	**+2.4**
SLKM	**Skilak Lake**	**15.46**	**46**	*e*P		**P**	**05 32 53.8**	**+0.6**
PMR	**Palmer**	**16.41**	**43**	*e*P		**P**	**05 33 09.6**	**+4.4**
	comp=Z,2.7nm,0.8s							
PMR	**Palmer**	**16.41**	**43**	*e*P		**P**	**05 33 09.6**	**+4.4**
PMR				pmax		pmax		
	comp=Z,3.0nm,0.8s							
IMA	**Indian Mountai**	**17.47**	**27**	*e*P		**P**	**05 33 20.8**	**+2.3**
	comp=Z,58nm,1.1s							
IMA	**Indian Mountai**	**17.47**	**27**	*e*P		**P**	**05 33 20.8**	**+2.3**
IMA				pmax		pmax		
	comp=Z,58nm,1.1s							
ILAR	**Eielson Array**	**18.86**	**36**	P		**P**	**05 33 32.9**	**-2.7**
	comp=Z,1.0nm,0.3s,baz=231,slow=9.0,SNR=39							
ILAR				LR		LR	05 41 34.0	
	comp=Z,238nm,18.5s,baz=70,slow=39							
BILL	**Bilibino**	**19.27**	**336**	*e*P		**P**	**05 33 41.2**	**+1.0**
	comp=Z,42nm,1.2s							
BILL	**Bilibino**	**19.27**	**336**	*i* P		**P**	**05 33 40.9**	**+0.7**
BILL				pmax		pmax		
	comp=Z,46nm,1.7s							
BILL				MLR		MLR		
	comp=Z,200nm,17.0s							
DAWY	**Dawson**	**21.49**	**42**	*e*P		**P**	**05 34 01.5**	**-1.9**
SEY	**Seymchan**	**21.52**	**315**	*e*P		**P**	**05 34 05.0**	**+1.2**
SEY				*e*			05 37 57.4	
SEY				*e*			05 45 24.9	
SEY				pmax		pmax		
	comp=N,10.0nm,1.0s							
SEY				pmax		pmax		
	comp=E,20nm,1.0s							
SEY				pmax		pmax		
	comp=Z,10.0nm,1.0s,mb4.2							
MA2	**Magadan**	**21.68**	**306**	P		**P**	**05 34 06.9**	**+1.5**
	comp=Z,16nm,1.1s,mb4.3							
MA2	**Magadan**	**21.68**	**306**	*i* P		**P**	**05 34 07.4**	**+2.1**
MA2				pmax		pmax		
	comp=Z,10.0nm,1.3s,mb4.1							
MA2				MLR		MLR		
	comp=Z,200nm,18.0s,MS3.6							
DLBC	**Dease Lake**	**25.21**	**57**	P		**P**	**05 34 41.6**	**+2.0**
	comp=Z,13nm,0.8s,mb4.5,baz=288,slow=11,SNR=15							
DLBC	**Dease Lake**	**25.21**	**57**	*e*P		**P**	**05 34 41.6**	**+2.0**
INK	**Inuvik**	**25.22**	**34**	P		**P**	**05 34 39.2**	**-0.4**
	comp=Z,8.4nm,0.6s,mb4.5,baz=240,slow=10,SNR=22							
INK				LR		LR	05 45 43.8	
	comp=Z,231nm,19.3s,MS3.7,baz=77,slow=39							
INK	**Inuvik**	**25.22**	**34**	*e*P		**P**	**05 34 39.1**	**-0.5**
	comp=Z,12nm,0.8s,mb4.5							
INK	**Inuvik**	**25.22**	**34**	*e*P		**P**	**05 34 39.1**	**-0.5**
INK				pmax		pmax		
	comp=Z,12nm,0.8s							
BBB	**Bella Bella**	**27.40**	**71**	LR		LR	05 44 22.3	
	comp=Z,90nm,19.4s,MS3.4,baz=253,slow=33							
YSS	**Yuzh-Sakhalins**	**28.85**	**278**	*d* *i* P		**P**	**05 35 13.3**	**+0.3**
YSS				pmax		pmax		
	comp=Z,20nm,1.3s,mb4.7							
YSS				MLR		MLR		
	comp=Z,200nm,20.0s,MS3.7							
ASAJ	**Asahikawa**	**30.28**	**273**	P		**P**	**05 35 25.6**	**-0.2**
	comp=Z,10nm,0.7s,mb4.7,baz=50,slow=21,SNR=4.0							
ASAJ	**Asahikawa**	**30.28**	**273**	P		**P**	**05 35 25.6**	**-0.2**
ASAJ				pmax		pmax		
	comp=Z,10.0nm,0.7s							
YAK	**Yakutsk**	**31.93**	**311**	*i* P		**P**	**05 35 43.4**	**+3.2**
YAK				pmax		pmax		
	comp=Z,20nm,0.6s,mb5.1							
YKA	**Yellowknife Ar**	**32.43**	**48**	P		**P**	**05 35 43.7**	**-0.7**
	comp=Z,0.7nm,0.6s,mb3.6,baz=271,slow=8.7,SNR=6.2							
YKA				PcP		PcP	05 38 30.7	-0.4
	comp=Z,0.5nm,0.5s,baz=282,slow=2.7,SNR=4.1							
YKA				LR		LR	05 50 53.1	
	comp=Z,236nm,18.0s,MS3.9,baz=275,slow=40							
YKA	**Yellowknife Ar**	**32.43**	**48**	P		**P**	**05 35 43.7**	**-0.7**
YKA				PcP		PcP	05 38 30.8	-0.4
YKA				LR		LR	05 50 53.1	
YBH	**Yreka Blue Hor**	**35.29**	**86**	P		**P**	**05 36 10.0**	**+0.7**
	comp=Z,3.9nm,0.8s,mb4.4,baz=309,slow=4.9,SNR=5.4							
NEW	**Newport**	**35.41**	**73**	P		**P**	**05 36 10.2**	**-0.1**
	comp=Z,4.8nm,0.7s,mb4.6,baz=298,slow=6.5,SNR=11							
NEW	**Newport**	**35.41**	**73**	*e*P		**P**	**05 36 10.4**	**+0.1**
	comp=Z,11nm,0.9s,mb4.8							
NEW				*ep*P		pP	05 36 22.9	+0.7
NEW	**Newport**	**35.41**	**73**	*e*P		**P**	**05 36 10.4**	**+0.2**
NEW				*e**PP		pP	05 36 22.9	+0.6
NEW				pmax		pmax		
	comp=Z,11nm,0.9s							
EDM	**Edmonton**	**35.52**	**63**	*e*P		**P**	**05 36 10.2**	**-1.0**
MOD	**Modoc**	**36.69**	**84**	*e*P		**P**	**05 36 21.6**	**+0.5**
	comp=Z,19nm,1.3s,mb4.8							
MOD				*ep*P		pP	05 36 34.8	+1.6
WALA	**Waterton Lakes**	**36.94**	**70**	*e*P		**P**	**05 36 23.3**	**+0.2**
	comp=Z,8.7nm,1.0s,mb4.5							
BMO	**Blue Mountains**	**36.95**	**78**	*e*P		**P**	**05 36 23.4**	**+0.1**
	comp=Z,2.9nm,1.3s,mb4.0							
BMO				*ep*P		pP	05 36 35.0	-0.3
MJAR	**Matsushiro Arr**	**37.38**	**266**	P		**P**	**05 36 27.6**	**+0.6**
	comp=Z,0.8nm,0.4s,mb3.9,baz=72,slow=4.0,SNR=4.9							
MSO	**Missoula**	**37.98**	**73**	*e*P		**P**	**05 36 31.5**	**-0.4**
	comp=Z,8.4nm,1.3s,mb4.3							
MDJ	**Mudanjiang**	**38.04**	**283**	P		**P**	**05 36 29.8**	**-2.6**
MDJ				AP		pP	05 36 40.9	-3.6
MDJ				XP		sP	05 36 46.1	-3.9
MDJ				PCP		PcP	05 38 45.0	-2.7
MDJ				S		**S**	**05 42 19.0**	**-2.4**
MDJ				SCP			05 42 30.8	
MDJ				PCS			05 42 34.8	
MDJ				AMB		AMB		
	comp=Z,4.0nm,0.7s,mb4.3							
MDJ				AMB		AMB		
	comp=Z,41nm,6.0s							
MDJ				LR		LR		
	comp=N,57nm,24.1s,MS3.6							
MDJ				LR		LR		
	comp=E,102nm,21.6s,MS3.6							
MDJ				LR		LR		
	comp=Z,172nm,20.9s,MS3.8							
CHMT	**Chamberlain Mo**	**38.35**	**73**	*e*P		**P**	**05 36 35.1**	**+0.2**
HRY	**Holter Researc**	**39.30**	**72**	*e*P		**P**	**05 36 43.1**	**+0.3**
HLID	**Hailey**	**39.40**	**78**	*e*P		**P**	**05 36 44.4**	**+0.7**
	comp=Z,10nm,1.2s,mb4.4							
HLID				*ep*P		pP	05 36 56.5	+0.7
MCMT	**McKenzie Canyo**	**39.67**	**75**	*e*P		**P**	**05 36 45.8**	**-0.1**
OMM	**Old Mammoth Mi**	**40.03**	**89**	*e*P		**P**	**05 36 49.7**	**+0.7**
MTUM	**Tungsten Hills**	**40.46**	**89**	*e*P		**P**	**05 36 53.4**	**+0.8**
ELK	**Elko**	**40.48**	**82**	*e*P		**P**	**05 36 53.4**	**+0.7**
	comp=Z,5.3nm,0.9s,mb4.3							
ELK				*ep*P		pP	05 37 06.1	+1.2
ELK	**Elko**	**40.48**	**82**	*e*P		**P**	**05 36 53.4**	**+0.7**
ELK				*e**PP		pP	05 37 06.1	+1.2
ELK				pmax		pmax		
	comp=Z,5.0nm,0.9s							
CN2	**Changchun**	**40.99**	**284**	*e*P		**P**	**05 36 59.9**	**+3.0**
CN2				*e*S		**S**	**05 43 07.5**	**+1.8**
CN2				AMB		AMB		
	comp=Z,10.0nm,0.6s,mb4.6							
CN2				AMB		AMB		
	comp=Z,100nm,5.0s							
CN2				LR		LR		
	comp=N,210nm,19.0s,MS4.1							
CN2				LR		LR		
	comp=E,160nm,19.0s,MS4.1							
CN2				LR		LR		
	comp=Z,160nm,18.0s,MS3.9							
IMW	**Indian Meadow**	**41.32**	**75**	*e*P		**P**	**05 36 59.9**	**+0.3**
	comp=Z,6.0nm,1.0s,mb4.2							
IMW				*ep*P		pP	05 37 13.0	+1.2
RRI2	**Red Ridge**	**41.40**	**76**	*e*P		**P**	**05 37 01.3**	**+1.0**
	comp=Z,18nm,1.2s,mb4.6							
TPAW	**Teton Pass**	**41.54**	**76**	*e*P		**P**	**05 37 01.9**	**+0.6**
	comp=Z,13nm,1.3s,mb4.4							
SNOW	**Snow King Moun**	**41.67**	**76**	*e*P		**P**	**05 37 00.1**	**-2.3**
	comp=Z,5.3nm,1.3s,mb4.0							
HWUT	**Hardware Ranch**	**42.24**	**79**	*e*P		**P**	**05 37 07.8**	**+0.7**
	comp=Z,1.1nm,0.8s,mb3.5							
HWUT				*ep*P		pP	05 37 20.3	+1.1
DUG	**Dugway**	**42.30**	**81**	*e*P		**P**	**05 37 08.2**	**+0.6**
	comp=Z,13nm,1.1s,mb4.5							
DUG				*ep*P		pP	05 37 20.8	+1.0
DUG	**Dugway**	**42.30**	**81**	*e*P		**P**	**05 37 08.2**	**+0.6**
DUG				*e**PP		pP	05 37 20.8	+1.0
DUG				pmax		pmax		
	comp=Z,13nm,1.1s,mb4.5							
PDAR	**Pinedale Array**	**42.79**	**76**	P		**P**	**05 37 12.1**	**+0.5**
	comp=Z,5.8nm,0.9s,mb4.3,baz=313,slow=4.6,SNR=44							
DAU	**Daniels Canyon**	**43.13**	**80**	*e*P		**P**	**05 37 15.8**	**+1.4**
DAU				*ep*P		pP	05 37 28.3	+1.7
KS15	**Wonju Array Si**	**43.24**	**275**	P		**P**	**05 37 11.8**	**-3.5**
ARUT	**Antelope Range**	**43.38**	**84**	*e*P		**P**	**05 37 16.6**	**+0.2**
ARUT				*ep*P		pP	05 37 30.1	+1.4
MSU	**Marysvale**	**43.71**	**83**	*e*P		**P**	**05 37 19.9**	**+0.8**
MSU				*ep*P		pP	05 37 33.0	+1.6
TMUT	**Trail Mountain**	**43.83**	**81**	*e*P		**P**	**05 37 20.9**	**+0.8**
TMUT				*ep*P		pP	05 37 33.6	+1.3
NEN	**Nelson**	**43.85**	**88**	*e*P		**P**	**05 37 20.7**	**+0.3**
LDFC	**Landfair**	**44.06**	**89**	*e*P		**P**	**05 37 22.3**	**+0.3**
JNU	**Nakatsue**	**44.17**	**268**	P		**P**	**05 37 23.0**	**+0.1**
	comp=Z,7.2nm,0.9s,mb4.4,baz=129,slow=1.0,SNR=3.9							
PFO	**Pinyon Flat Ob**	**44.19**	**91**	P		**P**	**05 37 23.2**	**+0.2**
	comp=Z,2.7nm,0.8s,mb4.0							
PFO	**Pinyon Flat Ob**	**44.19**	**91**	P		**P**	**05 37 23.2**	**+0.2**
PFO				pmax		pmax		
	comp=Z,3.0nm,0.8s,mb4.1							
SRU	**San Rafael**	**44.36**	**81**	*e*P		**P**	**05 37 24.8**	**+0.4**
SRU				*ep*P		pP	05 37 38.6	+2.0
BAR	**Barrett**	**44.67**	**92**	*e*P		**P**	**05 37 25.2**	**-1.7**
BAR				*ep*P		pP	05 37 39.7	+0.5
RSSD	**Black Hills**	**45.31**	**71**	*e*P		**P**	**05 37 31.4**	**-0.5**
	comp=Z,15nm,1.3s,mb4.7							
RSSD	**Black Hills**	**45.31**	**71**	*e*P		**P**	**05 37 31.4**	**-0.5**
RSSD				pmax		pmax		
	comp=Z,15nm,1.3s,mb4.7							
SMCO	**Snowmass**	**46.50**	**78**	*e*P		**P**	**05 37 41.1**	**-0.3**
ULM	**Lac du Bonnet**	**46.50**	**60**	P		**P**	**05 37 40.9**	**-0.3**
	comp=Z,1.4nm,0.5s,mb4.1,baz=302,slow=11,SNR=3.2							
ULM				LR		LR	05 57 55.2	
	comp=Z,66nm,18.2s,MS3.6,baz=0.0,slow=37							
ULM	**Lac du Bonnet**	**46.50**	**60**	P		**P**	**05 37 40.9**	**-0.3**
ULM				LR		LR	05 57 55.2	
ISCO	**Idaho Springs**	**46.94**	**77**	*e*P		**P**	**05 37 44.9**	**+0.1**
	comp=Z,1.3nm,0.8s,mb3.9							
ISCO				*ep*P		pP	05 37 58.0	+1.0
ISCO	**Idaho Springs**	**46.94**	**77**	*e*P		**P**	**05 37 44.9**	**+0.1**
ISCO				*e**PP		pP	05 37 58.0	+0.9
ISCO				pmax		pmax		
	comp=Z,1.0nm,0.8s,mb3.8							
TUC	**Tucson**	**48.59**	**88**	*e*P		**P**	**05 37 57.6**	**-0.2**
	comp=Z,7.4nm,1.6s,mb4.5							
TUC				*ep*P		pP	05 38 09.8	-0.2
TUC	**Tucson**	**48.59**	**88**	*e*P		**P**	**05 37 57.6**	**-0.2**
TUC				*e**PP		pP	05 38 09.8	-0.3
TUC				pmax		pmax		
	comp=Z,7.0nm,1.6s,mb4.4							
LAZ	**Ladron**	**49.45**	**83**	*e*P		**P**	**05 38 04.9**	**+0.4**
LAZ				*ep*P		pP	05 38 18.5	+1.7
ANMO	**Albuquerque**	**49.51**	**82**	P		**P**	**05 38 04.6**	**-0.3**
	comp=Z,1.8nm,1.0s,mb4.0,baz=328,slow=8.9,SNR=6.0							
ANMO	**Albuquerque**	**49.51**	**82**	P		**P**	**05 38 04.6**	**-0.3**
ANMO	**Albuquerque**	**49.51**	**82**	*i* P		**P**	**05 38 05.3**	**+0.4**
SONM	**Songino Array**	**49.69**	**299**	P		**P**	**05 38 05.7**	**-0.3**
	comp=Z,1.0nm,0.4s,mb4.2,baz=53,slow=8.8,SNR=15							
SONM				LR		LR	06 00 01.7	
	comp=Z,133nm,19.2s,MS4.0,baz=66,slow=37							
ZAK	**Zakamensk**	**49.84**	**304**	*e*P		**P**	**05 38 07.4**	**+0.2**
ZAK				*e*			05 39 32.0	
ZAK				pmax		pmax		
	comp=Z,2.0nm,1.1s,mb4.1							
ZAK				pmax		pmax		
	comp=Z,4.0nm,1.1s,mb4.4							
HHC	**Hu-ho-hao-te**	**51.03**	**289**	*e*P		**P**	**05 38 18.8**	**+2.5**
HHC				AP		pP	05 38 30.8	+2.1
HHC				PP		PP	05 40 16.3	+2.5
HHC				PCS			05 43 29.8	
HHC				S		**S**	**05 45 31.4**	**+2.5**
HHC				AMB		AMB		
	comp=Z,10.0nm,0.5s,mb5.0							
HHC				AMB		AMB		
	comp=Z,54nm,5.1s							
HHC				LR		LR		
	comp=N,98nm,16.1s							
HHC				LR		LR		
	comp=Z,103nm,14.3s,MS4.0							
CBKS	**Cedar Bluff**	**51.10**	**74**	P		**P**	**05 38 15.5**	**-1.5**
SSE	**Sheshan**	**51.58**	**273**	P		**P**	**05 38 20.3**	**-0.3**
SSE				AMB		AMB		
	comp=Z,28nm,0.7s,mb5.3							
SSE				AMB		AMB		
	comp=Z,29nm,8.7s							
SSE	**Sheshan**	**51.58**	**273**	P		**P**	**05 38 20.3**	**-0.3**
	comp=Z,28nm,0.7s,mb5.3							
MNTX	**Cornudas Mount**	**52.36**	**85**	*e*P		**P**	**05 38 25.2**	**-1.3**
	comp=Z,2.9nm,0.8s,mb4.3							
NJ2	**Nanjing**	**52.37**	**276**	*e*P		**P**	**05 38 23.3**	**-3.2**
NJ2				PP		PP	05 40 21.9	-4.5
NJ2				S		**S**	**05 45 43.0**	**-4.5**
NJ2				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.8							
NJ2				AMB		AMB		
	comp=Z,120nm,8.0s							
NJ2				LR		LR		
	comp=N,640nm,32.0s							
NJ2				LR		LR		
	comp=E,430nm,25.2s							
NJ2				LR		LR		
	comp=Z,380nm,21.2s							
GDL2	**Guadalupe Moun**	**52.65**	**84**	*e*P		**P**	**05 38 28.2**	**-0.4**
WMOK	**Wichita Mounta**	**54.36**	**77**	*e*P		**P**	**05 38 40.5**	**-0.8**
	comp=Z,7.1nm,0.8s,mb4.7							
WMOK				*ep*P		pP	05 38 53.2	-0.5
WMOK	**Wichita Mounta**	**54.36**	**77**	*e*P		**P**	**05 38 40.5**	**-0.8**
WMOK				*e**PP		pP	05 38 53.2	-0.6
WMOK				pmax		pmax		
	comp=Z,7.0nm,0.8s,mb4.6							
TXAR	**Lajitas Array**	**55.06**	**86**	P		**P**	**05 38 45.5**	**-0.9**
	comp=Z,3.0nm,0.8s,mb4.4,baz=295,slow=5.2,SNR=35							
ZAL	**Zalesovo**	**56.41**	**316**	LR		LR	06 06 34.5	
	comp=Z,81nm,18.5s,MS3.9,baz=349,slow=40							
XAN	**Xi'an**	**57.10**	**285**	P		**P**	**05 39 00.0**	**-1.0**
XAN				AP		pP	05 39 09.0	-4.6
XAN				AMB		AMB		
	comp=Z,12nm,1.2s,mb4.8							
SCHQ	**Schefferville**	**57.51**	**41**	P		**P**	**05 39 02.2**	**-1.4**
	comp=Z,2.1nm,0.6s,mb4.3,baz=331,slow=9.0,SNR=6.7							
SCHQ				LR		LR	06 05 00.3	
	comp=Z,84nm,19.2s,MS3.9,baz=62,slow=37							
ARCES	**ARCESS Array B**	**58.37**	**352**	P		**P**	**05 39 07.5**	**-1.9**
	comp=Z,2.3nm,0.9s,mb4.2,baz=12,slow=7.2,SNR=7.0							
ARCES				LR		LR	06 08 02.8	
	comp=Z,52nm,18.2s,MS3.7,baz=329,slow=40							
LZH	**Lanzhou**	**58.71**	**290**	*e*P		**P**	**05 39 12.0**	**-0.2**
LZH				AP		pP	05 39 24.9	0.0
LZH				XP		sP	05 39 30.5	+0.5
LZH				*ep*P		PP	05 41 23.3	-0.7
LZH				AMB		AMB		
	comp=Z,25nm,1.2s,mb5.1							
LZH				AMB		AMB		
	comp=Z,75nm,6.8s							
LZH				LR		LR		
	comp=N,351nm,15.3s							
LZH				LR		LR		
	comp=Z,397nm,17.8s,MS4.6							
LZH	**Lanzhou**	**58.71**	**290**	*e*P		**P**	**05 39 12.0**	**-0.2**
	comp=Z,25nm,1.2s,mb5.1							
LZH				pP		pP	05 39 24.9	0.0
LZH				sP		sP	05 39 30.5	+0.5
LZH				*ep*P		PP	05 41 23.2	-0.8
LZH				LR		LR		
	comp=Z,400nm,17.8s,MS4.6							
LZH	**Lanzhou**	**58.71**	**290**	*e*P		**P**	**05 39 12.0**	**-0.2**
LZH				*PP		pP	05 39 24.9	0.0
LZH				*e*			05 41 23.2	
LZH				pmax		pmax		
	comp=Z,25nm,1.2s,mb5.1							
LZH				MLR		MLR		
	comp=Z,400nm,17.8s,MS4.6							
GTA	**Gaotai**	**58.75**	**295**	*e*P		**P**	**05 39 11.8**	**-0.6**
GTA				AP		pP	05 39 19.9	-5.2
GTA				XP		sP	05 39 24.9	-5.3
GTA				PP		PP	05 41 23.3	-1.0
GTA				PPP		PPP	05 42 47.3	-1.2
GTA				S		**S**	**05 47 13.1**	**+0.7**
GTA				SS		SS	05 51 01.3	-6.4
GTA				AMB		AMB		
	comp=Z,7.0nm,1.1s,mb4.6							
GTA				AMB		AMB		
	comp=Z,112nm,8.0s							
GTA				LR		LR		
	comp=N,50nm,13.3s,MS3.9							
GTA				LR		LR		
	comp=E,50nm,14.4s,MS3.9							
GTA				LR		LR		
	comp=Z,74nm,8.4s							
ENH	**Enshi**	**59.37**	**281**	P		**P**	**05 39 15.7**	**-1.3**
	comp=Z,12nm,0.6s,mb5.1							
WVT	**Waverly**	**59.93**	**69**	*e*P		**P**	**05 39 19.1**	**-1.5**
	comp=Z,13nm,1.1s,mb4.9							
WVT				*ep*P		pP	05 39 32.2	-1.1
WVT	**Waverly**	**59.93**	**69**	*e*P		**P**	**05 39 19.1**	**-1.6**
WVT				*e**PP		pP	05 39 32.2	-1.1
WVT				pmax		pmax		
	comp=Z,13nm,1.1s,mb4.9							
OXF	**Oxford**	**60.13**	**71**	*e*P		**P**	**05 39 20.6**	**-1.5**
	comp=Z,41nm,0.9s,mb5.5							
OXF				*ep*P		pP	05 39 32.6	-2.1
OXF	**Oxford**	**60.13**	**71**	*e*P		**P**	**05 39 20.6**	**-1.5**
OXF				*e**PP		pP	05 39 32.6	-2.1
OXF				pmax		pmax		
	comp=Z,41nm,0.9s,mb5.5							
MSNY	**Massena**	**60.78**	**54**	*e*P		**P**	**05 39 25.8**	**-0.5**
KURK	**Kurchatov**	**61.36**	**317**	*e*P		**P**	**05 39 28.3**	**-1.9**
	comp=Z,4.7nm,0.6s,mb4.8							
KURK	**Kurchatov**	**61.36**	**317**	*e*P		**P**	**05 39 28.3**	**-1.9**
KURK				pmax		pmax		
	comp=Z,5.0nm,0.6s,mb4.8							
MCWV	**Mont Chateau**	**61.96**	**61**	*e*P		**P**	**05 39 33.5**	**-0.8**
	comp=Z,8.1nm,1.0s,mb4.8							
MCWV				*ep*P		pP	05 39 45.7	-1.3
WMQ	**Urumqi**	**62.15**	**306**	*e*P		**P**	**05 39 37.0**	**+1.5**
WMQ				AP		pP	05 39 50.0	+1.8
WMQ				XP		sP	05 39 55.0	+1.7
WMQ				PP		PP	05 41 56.0	+1.3
WMQ				S		**S**	**05 47 58.0**	**+2.1**
WMQ				SCS		ScS	05 49 21.0	+1.1
WMQ				AMB		AMB		
	comp=Z,11nm,1.0s,mb4.9							
WMQ				LR		LR		
	comp=N,118nm,20.0s,MS4.2							
WMQ				LR		LR		
	comp=E,106nm,20.0s,MS4.2							
WMQ				LR		LR		
	comp=Z,69nm,18.0s,MS3.9							
LRAL	**Lakeview Retre**	**62.60**	**71**	*e*P		**P**	**05 39 36.4**	**-2.3**
	comp=Z,6.8nm,1.2s,mb4.7							
LRAL				*ep*P		pP	05 39 48.9	-2.5
MKAR	**Makanchi Array**	**62.61**	**312**	P		**P**	**05 39 37.3**	**-1.3**
	comp=Z,0.8nm,0.6s,mb4.0,baz=63,slow=5.4,SNR=7.7							
MKAR				LR		LR	06 09 51.0	
	comp=Z,50nm,19.1s,MS3.7,baz=6.0,slow=39							
FWV	**Forest Hill**	**62.90**	**63**	*e*P		**P**	**05 39 40.2**	**-0.5**
FWV				*ep*P		pP	05 39 52.8	-0.6
BVAR	**Borovoye Array**	**62.93**	**323**	P		**P**	**05 39 39.8**	**-0.8**
	comp=Z,3.5nm,0.5s,mb4.8,baz=55,slow=6.2,SNR=25							
BVAR				PcP		PcP	05 40 17.2	-0.9
	comp=Z,2.1nm,0.7s,baz=34,slow=5.3,SNR=4.1							
ELN	**Prospectdale**	**63.19**	**63**	*e*P		**P**	**05 39 41.9**	**-0.6**
BLA	**Blacksburg**	**63.38**	**63**	*e*P		**P**	**05 39 43.2**	**-0.6**
	comp=Z,12nm,1.0s,mb5.0							
BLA				*ep*P		pP	05 39 55.4	-1.2
BLA	**Blacksburg**	**63.38**	**63**	*e*P		**P**	**05 39 43.2**	**-0.6**
BLA				*e**PP		pP	05 39 55.4	-1.2
BLA				pmax		pmax		
	comp=Z,12nm,1.0s,mb5.0							
GYA	**Guiyang**	**63.83**	**280** ⇑	*i* P		**P**	**05 39 46.6**	**-0.3**
GYA				AP		pP	05 39 59.5	-0.2
GYA				XP		sP	05 40 04.8	+0.1
GYA				PP		PP	05 42 09.9	+0.7
GYA				S		**S**	**05 48 23.0**	**+5.8**
GYA				AMB		AMB		
	comp=Z,10.0nm,0.9s,mb4.8							
GYA

GRA1	**Grafenberg Arr**	**78.98 357**	*e*P		**P**	**05 41 17.9 +0.9**
	comp=Z,4.0nm,0.8s,mb4.4					
GRA1			*e*pP		pP	05 41 30.6 +0.5
GRF	**Grafenberg Arr**	**78.98 357**	*e*P		**P**	**05 41 17.9 +0.9**
	comp=Z,4.0nm,0.8s,mb4.4					
GRF			*e*pP		pP	05 41 30.6 +0.5
GRF	**Grafenberg Arr**	**78.98 357**	*e*P		**P**	**05 41 17.9 +0.9**
GRF			*e**PP		pP	05 41 30.6 +0.5
GRF			pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4					
GRF	**Grafenberg Arr**	**78.98 357**	*e*P		**P**	**05 41 17.9 +0.9**
GRF			*e**PP		pP	05 41 30.6 +0.5
GRF			pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4					
VRAC	**Vranov**	**79.09 354**	P		**P**	**05 41 17.9 +0.3**
	comp=Z,3.4nm,0.4s,mb4.7,baz=19,slow=20,SNR=3.5					
KHC	**Kasperske Hory**	**79.44 356**	*e*P		**P**	**05 41 18.8 -0.8**
KHC			*e*pP		pP	05 41 32.6 -0.1
GERES	**GERESS Array B**	**79.72 355**	P		**P**	**05 41 21.8 +0.7**
	comp=Z,0.3nm,0.3s,mb3.6,baz=90,slow=2.7,SNR=4.9					
KIV	**Kislovodsk**	**79.88 335**‖	*e*P		**P**	**05 41 23.4 +1.4**
KIV			*e*		pP	05 41 35.9 +0.8
KIV			pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6					
MLR	**Muntele Rosu**	**81.86 347**	P		**P**	**05 41 32.2 -0.2**
	comp=Z,1.9nm,0.8s,mb4.1,baz=328,slow=7.3,SNR=3.8					
BRTR	**Keskin Array B**	**86.07 340**	P		**P**	**05 41 55.3 +1.7**
	comp=Z,1.4nm,0.8s,mb4.2,baz=45,slow=1.7,SNR=7.2					
BOSA	**Boshof**	**153.22 322**	PKPbc	PKPdf		05 49 10.8 +9.0
	comp=Z,1.9nm,0.8s,baz=51,slow=6.5,SNR=2.7					

*NEIC **17** 05:30:51.5±2.4, 35.38N×0.31E, h10km, MG4.3(MDD), Error ellipse: s-maj=28.5km s-min=6.9km az=152.0*
*CRAAG **17** 05:30:55.4, 35.52N×0.29E, Ml4.4*
*CSEM **17** 05:30:55.1±0.1, 35.73N×0.24E, h40km, ML4.4, Error ellipse: s-maj=3.7km s-min=2.4km az=5.0*
*MDD **17** 05:30:56.2±0.8, 35.55N×0.28E, h53km±21km, mb4.3/21, Error ellipse: s-maj=9.2km s-min=5.3km az=169.0, PRXIMO*

ISC 17 05:30:54.2±0.5, 35.81N±0.03×0.15E±0.03, h10km, n89, σ1$29/142, 3C-2D, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USTO	**Oran**	**0.57**	**262**	P	**Pg**	**05 31 09.0**	**+3.2**
EANR	**'Ain N'Sour**	**0.79**	**80**	P	**Pb**	**05 31 10.0**	**+0.6**
OTSS	**Djebel Tessala**	**0.93**	**236**	P	**Pb**	**05 31 13.3**	**+1.3**
ECHF	**Ech Chlef**	**1.03**	**70**	P	**Pb**	**05 31 13.0**	**-0.6**
ETRT	**Tiaret**	**1.03**	**114**	P	**Pb**	**05 31 12.0**	**-1.6**
ECHA	**Ech Chlef**	**1.04**	**71**	P	**Pb**	**05 31 13.0**	**-0.9**
EBNR	**Beni Rached**	**1.22**	**66**	P	**Pb**	**05 31 16.0**	**-0.8**
ENIJ	**Nijar**	**2.23**	**302**	⇑P	**Pn**	**05 31 32.5**	**+0.8**
	1.4nm,0.2s,SNR=18						
ENIJ				S	**Sn**	**05 31 59.5**	**0.0**
	2.1nm,0.2s						
ENIJ	**Nijar**	**2.23**	**302**	P	**Pn**	**05 31 32.5**	**+0.8**
	1.4nm,0.2s,SNR=18						
ENIJ				S	**Sn**	**05 31 59.1**	**-0.4**
	2.1nm,0.2s						
ENIJ	**Nijar**	**2.23**	**302**	⇑P	**Pn**	**05 31 32.5**	**+0.8**
ENIJ				S	**Sn**	**05 31 59.1**	**-0.4**
EMHD	**Djebel Mahouad**	**2.31**	**79**	P	**Pn**	**05 31 51.0**	**+18**
EMUR	**La Murta**	**2.31**	**332**	P	**Pn**	**05 31 34.2**	**+1.2**
	14nm,0.3s,SNR=8.7						
EMUR				S	**Sn**	**05 32 02.3**	**+0.6**
	29nm,0.5s						
EMUR	**La Murta**	**2.31**	**332**	P	**Pn**	**05 31 34.2**	**+1.3**
	14nm,0.3s,SNR=8.7						
EMUR				S	**Sn**	**05 32 02.0**	**+0.3**
	29nm,0.5s						
EMUR	**La Murta**	**2.31**	**332**	P	**Pn**	**05 31 34.2**	**+1.2**
EMUR				S	**Sn**	**05 32 02.0**	**+0.3**
ABA	**Alger-Bouzarea**	**2.53**	**66**	P	**Pn**	**05 31 42.8**	**+6.7**
EALB	**Alboran**	**2.59**	**274**	P	**Pn**	**05 31 36.2**	**-0.7**
	5.4nm,0.2s,SNR=7.9						
EALB				S	**Sn**	**05 32 06.5**	**-2.2**
	24nm,0.3s,SNR=7.9						
EALB	**Alboran**	**2.59**	**274**	P	**Pn**	**05 31 36.0**	**-0.9**
	5.4nm,0.2s,SNR=7.9						
EALB				S	**Sn**	**05 32 07.7**	**-1.0**
	24nm,0.3s,SNR=7.9						
EALB	**Alboran**	**2.59**	**274**	P	**Pn**	**05 31 36.0**	**-0.9**
EALB				S	**Sn**	**05 32 07.7**	**-1.0**
EBER	**Berja**	**2.68**	**295**	P	**Pn**	**05 31 38.4**	**+0.2**
	22nm,0.2s,SNR=28						
EBER				S	**Sn**	**05 32 10.9**	**-0.1**
	34nm,0.3s						
EBER	**Berja**	**2.68**	**295**	P	**Pn**	**05 31 38.6**	**+0.4**
	22nm,0.2s,SNR=28						
EBER				S	**Sn**	**05 32 10.9**	**-0.2**
	34nm,0.3s						
EBER	**Berja**	**2.68**	**295**	P	**Pn**	**05 31 38.6**	**+0.4**
EBER				S	**Sn**	**05 32 10.9**	**-0.1**
ADJB	**Djebel Djouab**	**2.69**	**82**	P	**Pn**	**05 31 47.1**	**+8.8**
EBEN	**Beniarda**	**2.90**	**354**	P	**Pn**	**05 31 43.8**	**+2.4**
	6.7nm,0.3s,SNR=7.3						
EBEN				S	**Sn**	**05 32 17.5**	**+0.9**
	7.8nm,0.4s						
EBEN	**Beniarda**	**2.90**	**354**	P	**Pn**	**05 31 43.8**	**+2.4**
	6.7nm,0.3s,SNR=7.3						
EBEN				S	**Sn**	**05 32 17.0**	**+0.3**
	7.8nm,0.4s						
EBEN	**Beniarda**	**2.90**	**354**	P	**Pn**	**05 31 43.8**	**+2.4**
EBEN				S	**Sn**	**05 32 17.0**	**+0.3**
EHUE	**Huescar**	**2.97**	**313**	P	**Pn**	**05 31 44.1**	**+1.7**
	4.1nm,0.3s,SNR=10.0						
EHUE				S	**Sn**	**05 32 19.3**	**+0.9**
	1.8nm,0.2s						
EHUE	**Huescar**	**2.97**	**313**	P	**Pn**	**05 31 44.1**	**+1.7**
	4.1nm,0.3s,SNR=10.0						
EHUE				S	**Sn**	**05 32 18.3**	**-0.1**
	1.8nm,0.2s						
EHUE	**Huescar**	**2.97**	**313**	P	**Pn**	**05 31 44.1**	**+1.8**
EHUE				S	**Sn**	**05 32 18.3**	**-0.1**
AKET	**Djebel Ketaf**	**3.04**	**84**	P	**Pn**	**05 31 42.7**	**-0.6**
ETOB	**Tobarra**	**3.14**	**335**	P	**Pn**	**05 31 46.9**	**+2.2**
	16nm,0.2s,SNR=84						
ETOB				S	**Sn**	**05 32 23.9**	**+1.4**
	14nm,0.2s						
ETOB	**Tobarra**	**3.14**	**335**	P	**Pn**	**05 31 46.9**	**+2.2**
	16nm,0.2s,SNR=84						
ETOB				S	**Sn**	**05 32 23.9**	**+1.3**
	14nm,0.2s						
EGUA	**Guajares**	**3.17**	**290**	P	**Pn**	**05 31 45.2**	**+0.1**
	3.0nm,0.2s,SNR=7.9						
EGUA				S	**Sn**	**05 32 23.2**	**-0.2**
	2.6nm,0.3s,SNR=7.9						
EQUE	**Quentar**	**3.21**	**297**	⇓P	**Pn**	**05 31 47.2**	**+1.6**
	61nm,0.4s,SNR=18						
EQES	**Quesada**	**3.26**	**309**	P	**Pn**	**05 31 49.3**	**+2.8**
	24nm,0.4s,SNR=28						
EQES				S	**Sn**	**05 32 25.9**	**+0.2**
	37nm,0.3s						
EQES	**Quesada**	**3.26**	**309**	S	**Sn**	**05 32 24.9**	**-0.8**
	37nm,0.3s						
EQES	**Quesada**	**3.26**	**309**	P	**Pn**	**05 31 49.4**	**+3.0**
EQES				S	**Sn**	**05 32 24.9**	**-0.8**
ECOG	**Cogollos-Vega**	**3.33**	**297**	P	**Pn**	**05 31 48.3**	**+0.8**
	10nm,0.1s,SNR=4.0						
EIBI	**Ibiza**	**3.35**	**16**	P	**Pn**	**05 31 48.2**	**+0.5**
	5.1nm,0.1s,SNR=32						
EIBI				S	**Sn**	**05 32 28.1**	**+0.2**
	6.0nm,0.2s						
EIBI	**Ibiza**	**3.35**	**16**	P	**Pn**	**05 31 48.9**	**+1.2**
	5.1nm,0.1s,SNR=32						
EIBI				S	**Sn**	**05 32 28.1**	**+0.2**
	6.0nm,0.2s						
EIBI	**Ibiza**	**3.35**	**16**	P	**Pn**	**05 31 48.9**	**+1.2**
EIBI				S	**Sn**	**05 32 28.1**	**+0.2**
ERON	**Agron**	**3.41**	**292**	P	**Pn**	**05 31 49.4**	**+0.8**
	21nm,0.3s,SNR=19						
ERON				S	**Sn**	**05 32 28.6**	**-0.9**
	11nm,0.4s						
EVIA	**Vianos**	**3.53**	**324**	P	**Pn**	**05 31 52.3**	**+2.1**
	8.8nm,0.3s,SNR=7.4						
EVIA				S	**Sn**	**05 32 33.7**	**+1.3**
	37nm,0.4s,SNR=6.8						
ELOJ	**Sierra Loja**	**3.71**	**292**	P	**Pn**	**05 31 53.4**	**+0.5**
	15nm,0.4s,SNR=22						
ELOJ	**Sierra Loja**	**3.71**	**292**	P	**Pn**	**05 31 54.7**	**+1.8**
	15nm,0.4s,SNR=22						
ELOJ				S	**Sn**	**05 32 37.5**	**+0.3**
	4.4nm,0.4s						
ELOJ	**Sierra Loja**	**3.71**	**292**	P	**Pn**	**05 31 54.7**	**+1.8**
ELOJ				S	**Sn**	**05 32 37.5**	**+0.3**
ECHE	**Chera**	**3.88**	**347**	P	**Pn**	**05 31 53.3**	**-1.9**
	3.8nm,0.4s,SNR=4.5						
ECHE				S	**Sn**	**05 32 40.2**	**-1.1**
	8.4nm,0.5s,SNR=4.6						
EBAN	**Banos Encina**	**3.93**	**308**	P	**Pn**	**05 31 57.2**	**+1.2**
	6.9nm,0.2s,SNR=11						
EBAN				S	**Sn**	**05 32 41.4**	**-1.2**
	4.6nm,0.3s,SNR=4.0						
EMIJ	**Mijas**	**4.05**	**282**	P	**Pn**	**05 31 55.9**	**-1.8**
	8.0nm,0.3s,SNR=8.4						
EMIJ				S	**Sn**	**05 32 42.3**	**-3.4**
	19nm,0.4s						
SET	**Setif**	**4.28**	**83**	P	**Pn**	**05 32 08.0**	**+7.2**
EADA	**Adamuz**	**4.46**	**303**	P	**Pn**	**05 32 03.7**	**+0.3**
	6.1nm,0.4s,SNR=8.2						
EADA				S	**Sn**	**05 32 52.7**	**-3.2**
	3.2nm,0.3s,SNR=4.0						
EADA	**Adamuz**	**4.46**	**303**	P	**Pn**	**05 32 03.7**	**+0.3**
	6.1nm,0.4s,SNR=8.2						
EADA				S	**Sn**	**05 32 53.4**	**-2.5**
	3.2nm,0.3s,SNR=4.0						
EADA	**Adamuz**	**4.46**	**303**	P	**Pn**	**05 32 03.7**	**+0.3**
EADA				S	**Sn**	**05 32 53.4**	**-2.5**
ETOS	**Mallorca**	**4.48**	**27**	P	**Pn**	**05 32 03.9**	**+0.1**
	1.3nm,0.2s,SNR=7.9						
ETOS				S	**Sn**	**05 32 54.4**	**-2.1**
	1.3nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**4.48**	**27**	P	**Pn**	**05 32 03.9**	**+0.2**
	1.3nm,0.2s,SNR=7.9						
ETOS				S	**Sn**	**05 32 54.4**	**-2.2**
	1.3nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**4.57**	**354**	P	**Pn**	**05 32 06.9**	**+1.8**
	2.7nm,0.2s,SNR=17						
EMOS				S	**Sn**	**05 32 57.6**	**-1.3**
	1.8nm,0.2s						
EMOS	**Mosqueruela**	**4.57**	**354**	P	**Pn**	**05 32 07.1**	**+2.0**
	2.7nm,0.2s,SNR=17						
EMOS				S	**Sn**	**05 32 57.3**	**-1.6**
	1.8nm,0.2s						
EMOS	**Mosqueruela**	**4.57**	**354**	P	**Pn**	**05 32 07.1**	**+2.1**
EMOS				S	**Sn**	**05 32 57.3**	**-1.6**
CMER	**Merouana**	**4.68**	**91**	P	**Sn**	**05 32 57.0**	**-4.7**
ECAB	**El Cabril**	**5.00**	**299**	⇓P	**Pn**	**05 32 10.7**	**-0.4**
	6.4nm,0.3s,SNR=18						
ECAB				S	**Sn**	**05 33 06.2**	**-3.5**
	2.5nm,0.4s						
ECAB	**El Cabril**	**5.00**	**299**	P	**Pn**	**05 32 10.7**	**-0.4**
	6.4nm,0.3s,SNR=18						
ECAB				S	**Sn**	**05 33 06.2**	**-3.5**
	2.5nm,0.4s						
ESDC	**Sonseca Array**	**5.05**	**321**	P	**Pn**	**05 32 12.9**	**+1.1**
	2.6nm,0.2s,baz=147,slow=13,SNR=4.0						
ESDC				S	**Sn**	**05 33 08.1**	**-2.8**
	3.4nm,0.2s,baz=138,slow=24,SNR=4.0						
ESDC	**Sonseca Array**	**5.05**	**321**	P	**Pn**	**05 32 12.3**	**+0.5**
	2.6nm,0.2s,SNR=4.0						
ESDC	**Sonseca Array**	**5.05**	**321**	P	**Pn**	**05 32 12.3**	**+0.5**
ESDC				S	**Sn**	**05 33 08.1**	**-2.8**
ERTA	**Horta de San J**	**5.14**	**2**	P	**Pn**	**05 32 12.8**	**-0.3**
	2.4nm,0.3s,SNR=7.9						
ERTA				S	**Sn**	**05 33 10.2**	**-3.0**
	1.7nm,0.3s,SNR=7.9						
ERTA	**Horta de San J**	**5.14**	**2**	P	**Pn**	**05 32 12.6**	**-0.5**
ERTA				S	**Sn**	**05 33 10.2**	**-3.0**
	1.7nm,0.3s,SNR=7.9						
ERTA	**Horta de San J**	**5.14**	**2**	P	**Pn**	**05 32 12.6**	**-0.5**
ERTA				S	**Sn**	**05 33 10.2**	**-3.0**
EPOB	**Poblet**	**5.58**	**7**	P	**Pn**	**05 32 19.9**	**+0.6**
	1.8nm,0.3s,SNR=7.9						
EPOB				S	**Sn**	**05 33 20.5**	**-3.8**
	0.6nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**5.58**	**7**	P	**Pn**	**05 32 19.9**	**+0.6**
	1.8nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.81**	**292**	P	**Pn**	**05 32 20.7**	**-1.8**
	2.7nm,0.2s,SNR=18						
EMIN				S	**Sn**	**05 33 24.4**	**-5.7**
	1.0nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.81**	**292**	P	**Pn**	**05 32 20.7**	**-1.9**
	2.7nm,0.2s,SNR=18						
EGRO	**El Granado**	**6.37**	**288**	P	**Pn**	**05 32 28.1**	**-2.4**
	1.0nm,0.2s,SNR=7.5						
EGRO	**El Granado**	**6.37**	**288**	P	**Pn**	**05 32 28.1**	**-2.4**
	1.0nm,0.2s,SNR=7.5						
EGRO	**El Granado**	**6.37**	**288**	P	**Pn**	**05 32 28.1**	**-2.4**
EGRO				S	**Sn**	**05 33 38.4**	**-5.7**
EBAD	**Badajoz**	**6.42**	**299**	⇑P	**Pn**	**05 32 30.3**	**-0.9**
	10nm,0.4s,SNR=18						
EBAD				S	**Sn**	**05 33 39.9**	**-5.4**
	2.9nm,0.3s,SNR=4.8						
EBAD	**Badajoz**	**6.42**	**299**	P	**Pn**	**05 32 30.3**	**-0.9**
	10nm,0.4s,SNR=18						
PCBR	**Castelo Branco**	**7.25**	**306**	*e*Pn	**Pn**	**05 32 42.9**	**0.0**
PCBR				*e*Sn	**Sn**	**05 34 02.0**	**-4.1**
PTEO	**Sao Teotonio**	**7.34**	**286**	*e*Pn	**Pn**	**05 32 42.7**	**-1.3**
EALK	**Alkurruntz**	**7.51**	**351**	P	**Pn**	**05 32 48.0**	**+1.6**
	1.7nm,0.4s,SNR=7.9						
EALK	**Alkurruntz**	**7.51**	**351**	P	**Pn**	**05 32 49.0**	**+2.6**
PTOM	**Tomar**	**7.78**	**302**	*e*Pn	**Pn**	**05 32 50.0**	**-0.2**
ELAN	**Lanestosa**	**7.91**	**341**	P	**Pn**	**05 32 51.6**	**-0.4**
	0.9nm,0.2s,SNR=4.0						
ELAN	**Lanestosa**	**7.91**	**341**	P	**Pn**	**05 32 51.6**	**-0.5**
	0.9nm,0.2s,SNR=4.0						
PBRG	**Braganca**	**8.04**	**320**	*e*Pn	**P**	**05 32 54.7**	**+0.8**
ECAL	**Calabor**	**8.14**	**321**	P	**P**	**05 32 55.6**	**+0.3**
	3.0nm,0.3s,SNR=9.4						
EARI	**Arriondas**	**8.55**	**333**	P	**P**	**05 33 01.6**	**+0.7**
	0.7nm,0.4s,SNR=5.8						
ELOB	**Lobios**	**8.81**	**316**	P	**P**	**05 33 04.0**	**-0.5**
	1.7nm,0.5s,SNR=4.0						
ELOB	**Lobios**	**8.81**	**316**	P	**P**	**05 33 04.6**	**+0.1**
EPON	**Pontenova**	**9.38**	**325**	P	**P**	**05 33 11.9**	**-0.5**
	4.1nm,0.5s,SNR=6.8						
EPON	**Pontenova**	**9.38**	**325**	P	**P**	**05 33 13.2**	**+0.7**

*BJI **17** 05:38:55.9, 32.80S×178.40E, h144km, mB5.0, mb4.8*

NEIC 17 05:38:55.9, 32.83S×178.35E, h144km, MG4.6(WEL), After WEL., South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.72**	**180**	PN	P	05 40 05.8	-0.7
MXZ				SN	S	05 40 59.9	-0.9
MXZ	**Matakaoa Point**	**4.72**	**180**	P	P	05 40 05.8	-0.7
MXZ				S	S	05 40 59.9	-0.9
PUZ	**Puketiti**	**5.23**	**181**	PN	P	05 40 15.1	+1.9
PUZ	**Puketiti**	**5.23**	**181**	P	P	05 40 15.1	+1.9
URZ	**Urewera**	**5.51**	**190**	PN	P	05 40 16.5	-0.4
URZ				SN	S	05 41 20.4	+0.7
URZ	**Urewera**	**5.51**	**190**	*e*P	P	05 40 18.6	+1.7
MWZ	**Matawai**	**5.53**	**187**	PN	P	05 40 16.6	-0.6
MWZ				SN	S	05 41 19.0	-1.2
MWZ	**Matawai**	**5.53**	**187**	P	P	05 40 16.6	-0.6
KNZ	**Kokohu**	**6.20**	**185**	PN	P	05 40 25.3	-0.9
KNZ	**Kokohu**	**6.20**	**185**	P	P	05 40 25.3	-0.9
BKZ	**Black Stump Fm**	**6.50**	**193**	PN	P	05 40 28.8	-1.5
BKZ				SN	S	05 41 44.2	+0.6
BKZ	**Black Stump Fm**	**6.50**	**193**	*e*P	P	05 40 31.0	+0.8
BKZ				S	S	05 41 44.2	+0.7
NGZ	**Ngauruhoe**	**6.71**	**199**	PN	P	05 40 35.6	+2.5
NGZ	**Ngauruhoe**	**6.71**	**199**	P	P	05 40 35.6	+2.5
FWVZ	**Far West T-bar**	**6.80**	**199**	PN	P	05 40 36.3	+2.0
FWVZ	**Far West T-bar**	**6.80**	**199**	P	P	05 40 36.3	+2.0
WNVZ	**Wahianoa**	**6.86**	**198**	PN	P	05 40 36.3	+1.2
WNVZ	**Wahianoa**	**6.86**	**198**	P	P	05 40 36.3	+1.2
PKVZ	**Pokaka**	**6.89**	**200**	PN	P	05 40 37.8	+2.3
MOVZ	**Moawhango**	**6.89**	**197**	PN	P	05 40 35.6	+0.1
MOVZ	**Moawhango**	**6.89**	**197**	P	P	05 40 35.6	+0.1
TSZ	**Takapari Road**	**7.47**	**194**	PN	P	05 40 38.9	-4.3
TSZ	**Takapari Road**	**7.47**	**194**	P	P	05 40 41.5	-1.8
BFZ	**Birch Farm**	**8.02**	**192**	PN	P	05 40 47.7	-2.9
BFZ	**Birch Farm**	**8.02**	**192**	*e*P	P	05 40 47.7	-2.9
MRZ	**Mangatainoka R**	**8.13**	**195**	PN	P	05 40 49.1	-3.0
MRZ				SN	S	05 42 14.0	-8.7
MRZ	**Mangatainoka R**	**8.13**	**195**	*e*P	P	05 40 49.1	-3.0
KIW	**Kapiti Island**	**8.48**	**198**	PN	P	05 40 53.8	-2.9
KIW	**Kapiti Island**	**8.48**	**198**	P	P	05 40 53.8	-2.9
MTW	**Mount Morrison**	**8.62**	**194**	PN	P	05 40 54.8	-3.8
MTW	**Mount Morrison**	**8.62**	**194**	P	P	05 40 54.8	-3.8
CAW	**Cannon Point**	**8.67**	**197**	PN	P	05 40 55.0	-4.3
CAW	**Cannon Point**	**8.67**	**197**	P	P	05 40 55.0	-4.3
TRWZ	**Traveller**	**8.81**	**193**	PN	P	05 40 57.3	-3.9
PAWZ	**Paruwai Farm**	**8.85**	**194**	PN	P	05 40 58.2	-3.5
MRW	**Makara Radio**	**8.88**	**198**	PN	P	05 40 58.5	-3.5
MRW	**Makara Radio**	**8.88**	**198**	P	P	05 40 58.5	-3.5
MSWZ	**Moikau Station**	**8.92**	**195**	PN	P	05 40 58.3	-4.2
MSWZ	**Moikau Station**	**8.92**	**195**	P	P	05 40 58.3	-4.3
SNZO	**South Karori**	**8.95**	**198**	PN	P	05 40 58.9	-4.0
SNZO	**South Karori**	**8.95**	**198**	P	P	05 40 58.9	-4.1
BHW	**Baring Head**	**9.00**	**197**	PN	P	05 40 58.8	-4.8
BHW	**Baring Head**	**9.00**	**197**	P	P	05 40 57.5	-6.2
QRZ	**Quartz Range**	**9.24**	**209**	PN	P	05 41 05.8	-1.0
QRZ	**Quartz Range**	**9.24**	**209**	*e*P	P	05 41 05.8	-1.0
NNZ	**Nelson**	**9.27**	**204**	PN	P	05 41 04.2	-3.0
NNZ	**Nelson**	**9.27**	**204**	*e*P	P	05 41 04.2	-3.0
TUWZ	**Tuamarina**	**9.28**	**201**	PN	P	05 41 03.7	-3.6
BSWZ	**Blackbirch Sta**	**9.56**	**201**	P	P	05 41 08.1	-2.9
THZ	**Tophouse**	**9.91**	**204**	PN	P	05 41 12.9	-2.8
THZ	**Tophouse**	**9.91**	**204**	*e*P	P	05 41 13.7	-2.0
KHZ	**Kahutara**	**10.30**	**200**	PN	P	05 41 15.7	-5.1
KHZ	**Kahutara**	**10.30**	**200**	*e*P	P	05 41 16.2	-4.6
MDJ	**Mudanjiang**	**88.93**	**328**	P	P	05 51 34.8	-0.1
MDJ				AMB	AMB		
	comp=Z,4.0nm,1.6s						
MDJ				AMB	AMB		
	comp=Z,54nm,5.8s						
KMI	**Kunming**	**92.19**	**299**	P	P	05 51 53.0	+2.4
KMI				AP	pP	05 52 27.4	-0.1
KMI				AMB	AMB		
	comp=Z,3.0nm,1.0s						
HHC	**Hu-ho-hao-te**	**95.73**	**316**	*e*P	P	05 52 06.4	+0.1
HHC				AP	pP	05 52 42.3	-1.0
HHC				XP	sP	05 52 58.3	-0.7
HHC				PP	PP	05 56 02.6	+0.9
HHC				AMB	AMB		
	comp=Z,8.0nm,0.6s						
HHC				AMB	AMB		
	comp=Z,78nm,4.3s						
LZH	**Lanzhou**	**97.71**	**308**	*e*P	P	05 52 16.5	+1.0
LZH				AP	pP	05 52 53.5	+1.0
LZH				XP	sP	05 53 08.5	+0.3
LZH				PP	PP	05 56 20.3	+2.7
LZH				AMB	AMB		
	comp=Z,23nm,1.5s						
LZH				AMB	AMB		
	comp=Z,67nm,8.2s						

*LDG **17** 05:51:14.7±0.5, 50.15N×6.89E, h22km, Ml2.6/4, Error ellipse: s-maj=8.0km s-min=4.2km az=19.0*

BGR 17 05:51:18.8±1.0, 48.54N×9.44E, ML1.3/2, 1C, Error ellipse: s-maj=10.0km s-min=4.4km az=76.0, Mining explosion., Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STU	**Stuttgart**	**0.29**	**325**	*e*Sg	Sg	05 51 27.9	-0.4
	SNR=2.8						
BFO	**Black Forest**	**0.77**	**255**	*e*Pg	Pg	05 51 32.9	-1.2
	SNR=6.7						
BFO				*e*Sg	Sg	05 51 43.7	-0.7
	SNR=10						
SLE	**Schleitheim**	**1.00**	**220**	*e*Sg	Sg	05 51 50.2	-1.8
	SNR=2.2						
WILA	**Wila**	**1.18**	**198**	*e*Sg	Sg	05 51 56.5	-1.5
	SNR=2.6						
LIENZ	**Alp Oberkamor**	**1.24**	**178**	*e*Sg	Sg	05 51 58.3	-1.8
	SNR=2.1						
DAVA	**Damuels**	**1.28**	**167**⇑	*i*PG	Pg	05 51 41.6	-2.8
DAVA				*i* SG	Sg	05 52 00.4	-1.1
	4.1nm,0.3s						
SULZ	**Sulz-Cheisache**	**1.34**	**222**	*e*Sg	Sg	05 52 01.1	-2.4
	SNR=2.4						
CDF	**Champ du Feu**	**1.45**	**266**	*e*Pn	Pn	05 51 43.9	-2.4
CDF				*e*Pg	Pg	05 51 47.5	-0.1
CDF				*e*Sn	Sn	05 52 03.1	-3.1
	9.7nm,0.4s						
HINF	**Hinteralfeld**	**1.88**	**248**	*e*Sn	Sn	05 52 15.2	-1.9
	4.4nm,0.3s						
HAU	**Haudompre**	**2.13**	**257**	*e*Pn	Pn	05 51 48.1	-8.0
HAU				*e*Sg	Sg	05 52 23.7	-6.1
	5.5nm,0.4s						

*IDC **17** 06:14:18.3±0.6, 15.21S×173.49W, mb4.3/12, mb1 4.5/13, mb1mx4.4/18, mbtmp4.3/13, MS4.0/15, Ms1 4.0/15, ms1mx4.0/20, Error ellipse: s-maj=27.0km s-min=14.1km az=128.0*
*BJI **17** 06:14:22.0, 15.19S×172.91W, h62km, mB5.0, mb5.1, Ms5.0, Msz4.7*
*NEIC **17** 06:14:24.8±0.4, 15.18S×173.64W, mb4.6/6, Error ellipse: s-maj=19.4km s-min=10.4km az=133.0*

ISC 17 06:14:21.7±0.3, 15.18S±0.09×173.58W±0.09, h33km, (h44km±1.8km:pP-P), n108, σ1$04/44, mb4.5/20, MS4.1/14, 7C-2D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.16**	**54**	Pn

comp=Z,1.3nm,0.6s,mb4.0,baz=224,slow=5.5,SNR=15
ILAR LR LR 06 56 01.5
comp=Z,118nm,21.6s,MS4.2,baz=46,slow=30
DAWY Dawson 83.25 14 *e*P **P 06 26 44.9 -1.0**
DAWY *ep*P pP 06 26 59.3 +2.9
YKA Yellowknife Ar 89.97 23 P **P 06 27 18.9 +0.2**
comp=Z,0.9nm,0.8s,mb4.1,baz=238,slow=3.8,SNR=5.4
YKA LR LR 07 02 33.8
comp=Z,157nm,18.7s,MS4.5,baz=245,slow=32
BDT Bhumibol Dam 92.01 287 P **P 06 27 29.0 -0.2**
SYO Syowa Base 92.78 191 ⇑P **P 06 27 30.0 -1.6**
LZH Lanzhou 92.96 306 *e*P **P 06 27 33.5 +0.3**
LZH AP pP 06 27 47.1 +3.3
LZH XP sP 06 27 52.0 +4.8
LZH AMB AMB
comp=Z,19nm,1.5s,mb5.3
LZH AMB AMB
comp=Z,75nm,6.8s
LZH LR LR
comp=N,263nm,15.0s
LZH LR LR
comp=Z,317nm,18.5s,MS4.8
VNA3 Neumayer Olymp 93.09 175 ⇑*i* **P 06 27 33.6 +0.6**
VNA3 Neumayer Olymp 93.09 175 *e* **P 06 27 48.2 +15**
VNA3 Neumayer Olymp 93.09 175 *e* **P 06 27 51.9 +19**
SNAA Sanae 93.13 177 ⇑*i* **P 06 27 33.4 +0.2**
SNAA Sanae 93.13 177 *e* **P 06 27 46.7 +14**
SNAA Sanae 93.13 177 *e* **P 06 27 50.2 +17**
VNA2 Neumayer--Watz 93.58 175 ⇑*i* **P 06 27 36.4 +1.2**
VNA2 Neumayer--Watz 93.58 175 *e* **P 06 27 51.0 +16**
VNA2 Neumayer--Watz 93.58 175 *e* **P 06 27 54.6 +19**
VNA1 Neumayer--Stat 93.78 175 ⇑*i* **P 06 27 37.6 +1.5**
VNA1 Neumayer--Stat 93.78 175 *e* **P 06 27 52.0 +16**
VNA1 Neumayer--Stat 93.78 175 *e* **P 06 27 55.6 +20**
ULM Lac du Bonnet 93.87 39 LR LR 07 04 54.3
comp=Z,195nm,19.1s,MS4.6,baz=259,slow=32
SONM Songino Array 94.57 318 P **P 06 27 40.8 +0.6**
comp=Z,0.5nm,0.7s,mb4.0,baz=118,slow=5.2,SNR=3.7
SONM LR LR 07 04 25.5
comp=Z,78nm,21.3s,MS4.2,baz=303,slow=32
ARCES ARCESS Array B 124.37 352 PKP PKPdf 06 33 18.4 +1.3
comp=Z,3.9nm,0.7s,slow=2.4,SNR=12
FINES FINESS Array B 131.70 347 PKP PKPdf 06 33 33.0 +1.8
comp=Z,1.5nm,0.8s,slow=8.3,SNR=3.4
NOA NORSAR Array B 134.08 357 PKP PKPdf 06 33 36.9 +1.2
comp=Z,2.2nm,1.0s,baz=305,slow=3.9,SNR=2.7
CLL Collm 143.58 353 *e*PKIKP PKPdf 06 33 57.0 +4.0
DPC Dobruska-Polom 144.02 349 *e*PKP PKPdf 06 33 54.2 +0.4
DPC *ep*PKP 06 34 07.8
PRU Pruhonice 144.66 351 *e*PKP PKPdf 06 33 57.1 +2.2
KECS Kecovo 144.83 344 *e*PKP PKPdf 06 33 56.4 +1.1
KECS *e* 06 34 10.5
BALT Daday 144.89 324 *i*P PKPdf 06 33 56.5 +0.9
GIVF Givet 145.15 2 *e*PKP1 PKPbc 06 33 57.0 +0.9
BAIF Baives 145.17 2 *e*PKP1 PKPbc 06 33 57.1 +0.9
VYHS Vyhne 145.25 345 *e* PKPdf 06 33 58.2 +2.2
VYHS *i* 06 34 12.1
VYHS Vyhne 145.25 345 *e*PKP PKPdf 06 33 58.0 +2.0
VYHS *e* 06 34 11.6
KMBO Kilima Mbogo 145.47 245 PKPbc PKPbc 06 33 59.2 +1.2
comp=Z,0.8nm,0.5s,baz=87,slow=3.9,SNR=5.0
PSZ Piszkesteto 145.51 344 *e*PKPdf PKPdf 06 33 58.9 +2.4
PSZ *ep*PKPdf 06 34 12.5
ELDT Eldivan 145.53 322 *i*P PKPdf 06 33 58.3 +1.5
MLR Muntele Rosu 145.60 335 PKPbc PKPbc 06 33 59.4 +2.0
comp=Z,10nm,0.8s,baz=189,slow=4.4,SNR=24
MLR Muntele Rosu 145.60 335 ⇓P PKPdf 06 33 59.7 +3.0
KHC Kasperske Hory 145.64 352 *e*PKP PKPdf 06 33 59.0 +2.3
KHC *ep*PKP 06 34 13.3
DRGR 145.68 340 ⇓P PKPdf 06 33 58.2 +1.4
BRTR Keskin Array B 145.88 321 PKPbc PKPbc 06 34 00.3 +2.0
comp=Z,8.7nm,0.7s,baz=103,slow=2.6,SNR=37
SNX Sinaia 145.88 336 ⇑P PKPdf 06 33 59.9 +2.7
GERES GERESS Array B 145.90 351 PKPbc PKPbc 06 33 59.2 +1.2
comp=Z,1.6nm,0.7s,baz=27,slow=3.0,SNR=9.7
ZST Bratislava 145.92 347 *e* PKPdf 06 34 14.5 +17
ZST Bratislava 145.92 347 *e*PKP PKPdf 06 34 14.2 +17
ROSF Rostrenen 145.99 12 *e*PKP1 PKPbc 06 34 00.3 +2.0
comp=Z,37nm,1.3s
SRO Srobarova 146.01 346 *e*PKP PKPdf 06 34 15.1 +18
FLN La Foliniere 146.04 8 *e*PKP1 PKPbc 06 33 59.3 +0.9
FLN *e*R
comp=Z,211nm,21.8s
LDF La Druitiere 146.25 8 *e*PKP1 PKPbc 06 33 59.7 +0.8
SGKT Sivrigoynuk 146.28 324 *i*P PKPdf 06 33 58.5 +0.4
GRR Gorron 146.35 9 *e*PKP1 PKPbc 06 34 00.3 +1.2
comp=Z,35nm,1.2s
MEZF Maizieres J'vi 146.76 2 *e*PKP1 PKPbc 06 34 02.4 +2.4
CDF Champ du Feu 146.86 359 *e*PKP1 PKPbc 06 34 02.4 +2.1
HAU Haudompre 147.27 0 *e*PKP1 PKPdf 06 34 03.7 +4.3
HAU *e*R
comp=Z,81nm,21.2s
MEST Erdemli 147.39 316 *i*P PKPdf 06 34 03.6 +3.6
LOR Lormes 147.94 3 *e*PKP1 PKPdf 06 34 05.4 +4.9
comp=Z,61nm,1.6s
LOR *e*R
comp=Z,184nm,22.0s
SSF Saint Saulge 148.12 4 *e*PKP1 PKPdf 06 34 06.0 +5.2
comp=Z,44nm,1.3s
MFF Saint Martin d 148.20 9 *e*PKP1 PKPdf 06 34 05.9 +4.9
AVF Avril sur Loir 148.38 4 *e*PKP1 PKPdf 06 34 06.3 +5.0
SMF Signal de Mont 148.56 3 *e*PKP1 PKPdf 06 34 07.0 +5.5
comp=Z,34nm,1.3s
BGF Bois d'Agland 148.58 5 *e*PKP1 PKPdf 06 34 06.9 +5.3
CABF La Chapelle 148.67 0 *e*PKP1 PKPdf 06 34 08.0 +6.3
comp=Z,71nm,1.4s
TCF Toulx Ste Croi 148.79 6 *e*PKP1 PKPdf 06 34 07.4 +5.5
RJF Les Rejaudoux 149.69 7 *e*PKP1 PKPdf 06 34 09.9 +6.5
RJF *e*R
comp=Z,195nm,22.0s
LPL La Plagne 149.76 360 *e*PKP1 PKPdf 06 34 11.3 +7.8
LPG La Plagne 149.78 360 *e*PKP1 PKPdf 06 34 11.4 +7.9
comp=Z,54nm,1.5s
LFF La Frestale 149.95 8 *e*PKP1 PKPdf 06 34 10.6 +6.8
CAF Calviac 150.12 6 *e*PKP1 PKPdf 06 34 11.3 +7.2
BNI Bardonecchia 150.23 360 *e*PKPbc PKPdf 06 34 11.4 +7.1
BNI *ep*PKPdf 06 34 26.4
ORIF Oris-en-Rattie 150.36 1 *e*PKP1 PKPdf 06 34 12.3 +7.8
comp=Z,45nm,1.5s
ORIF *e*R
comp=Z,105nm,20.8s
VIVF Saint-Julien-l 150.39 3 *e*PKP1 PKPdf 06 34 12.2 +7.7
comp=Z,64nm,1.5s
MBDF Montbardon 150.55 359 *e*PKP1 PKPdf 06 34 12.9 +8.1
comp=Z,34nm,1.3s
LASF Ste Croix 151.12 4 *e*PKP1 PKPdf 06 34 14.2 +8.6
comp=Z,44nm,1.3s
SMRF Simiane la Rot 151.29 1 *e*PKP1 PKPdf 06 34 14.1 +8.2
comp=Z,54nm,1.3s
SBF Sospel 151.40 358 *e*PKP1 PKPdf 06 34 14.1 +8.0
MTLF Montolieu 151.71 6 *e*PKP1 PKPdf 06 34 15.2 +8.7
comp=Z,46nm,1.5s
FRF La Foret Royal 151.72 360 *e*PKP1 PKPdf 06 34 14.9 +8.4
comp=Z,38nm,1.3s
ETSF Etsaut 151.74 11 *e*PKP1 PKPdf 06 34 15.5 +8.9
comp=Z,29nm,1.2s
EPF Esparros 151.76 9 *e*PKP1 PKPdf 06 34 15.2 +8.6
LMR La Mourre 151.94 360 *e*PKP1 PKPdf 06 34 15.2 +8.3
comp=Z,15nm,0.9s
PGF Pioggiola 152.64 356 *e*PKP1 PKPdf 06 34 17.0 +9.1
comp=Z,37nm,1.2s

BJI ***17*** *06:25:16.1,22.78N×93.91E,h42km,mB4.4,mb4.3,ML4.2, Ms4.1,Msz3.6*
IDC ***17*** *06:25:18.7±10.0,22.85N×94.19E,h56km±90km,mb3.9/12, mb1 4.1/12,mb1mx3.9/18,mbtmp4.2/12,MS3.2/1, Ms1 3.2/1,ms1mx2.8/14,Error ellipse: s-maj=40.0km s-min=24.8km az=175.0*
NEIC ***17*** *06:25:18.3±0.9,22.78N×93.81E,h47km±7km,mb4.3/7, Error ellipse: s-maj=10.0km s-min=7.2km az=203.0*
ISC 17 06:25:14.4±0.4,22.66N±0.05×93.82E±0.05,h33km,n56, σ1§16/71,mb4.3/20,MS3.3/3,1C,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**3.39**	**329**	*e*P	**P**	**06 26 08.0**	**+1.7**
SHL				*e*S	**S**	**06 26 46.0**	**0.0**
LSA	**Lhasa**	**7.41**	**342**	P	**P**	**06 27 03.3**	**+0.3**
LSA	**Lhasa** 25nm,0.4s	**7.41**	**342**	*e*P	**P**	**06 27 03.4**	**+0.4**
NANT	**Nan**	**7.50**	**120**	P	**P**	**06 27 02.0**	**-2.2**
KMI	**Kunming**	**8.53**	**71**	P	**P**	**06 27 22.0**	**+3.5**
KMI				AMB	AMB		
comp=Z,10.0nm,0.9s							
PKI	**Pulchoki**	**9.05**	**304**	*e*Pn	**P**	**06 27 25.5**	**-0.3**
PKI				*e*Sn	**Sn**	**06 29 02.3**	**-5.5**
comp=Z,83nm,0.6s							
PKI	**Pulchoki**	**9.05**	**304**	*e*Pn	**P**	**06 27 25.5**	**-0.3**
comp=Z,42nm,0.6s							
PKI				*e*Sn	**Sn**	**06 29 02.3**	**-5.5**
KKN	**Kakani**	**9.26**	**305**	*e*Pn	**P**	**06 27 27.6**	**-1.1**
KKN				*e*Sn	**Sn**	**06 29 06.8**	**-6.2**
comp=Z,84nm,0.6s							
KKN	**Kakani**	**9.26**	**305**	*e*Pn	**P**	**06 27 27.6**	**-1.1**
comp=Z,42nm,0.6s							
KKN				*e*Sn	**Sn**	**06 29 06.8**	**-6.2**
DMN	**Daman**	**9.30**	**304**	*e*Pn	**P**	**06 29 29.3**	**0.0**
DMN				*e*Sn	**Sn**	**06 29 07.0**	**-7.0**
comp=Z,152nm,0.8s							
DMN	**Daman**	**9.30**	**304**	*e*Pn	**P**	**06 27 29.3**	**0.0**
comp=Z,76nm,0.8s							
DMN				*e*Sn	**Sn**	**06 29 07.0**	**-7.0**
GKN	**Gorkha**	**9.86**	**305**	*e*Pn	**P**	**06 27 36.0**	**-1.0**
GKN				*e*Sn	**Sn**	**06 29 20.5**	**-7.3**
comp=Z,89nm,0.4s							
GKN	**Gorkha**	**9.86**	**305**	*e*Pn	**P**	**06 27 36.0**	**-1.0**
comp=Z,44nm,0.4s							
GKN				*e*Sn	**Sn**	**06 29 20.5**	**-7.3**
KOLN	**Koldanda**	**10.56**	**301**	*e*Pn	**P**	**06 27 45.2**	**-1.4**
KOLN				*e*Sn	**S**	**06 29 37.1**	**-7.6**
comp=Z,99nm,0.5s							
KOLN	**Koldanda**	**10.56**	**301**	*e*Pn	**P**	**06 27 45.2**	**-1.4**
comp=Z,49nm,0.5s							
KOLN				*e*Sn	**S**	**06 29 37.1**	**-7.6**
BLSP	**Bilaspur**	**10.82**	**269**	*e*P	**P**	**06 27 50.8**	**+0.6**
BLSP				AMb	AMB	06 27 58.4	
comp=Z,20nm,2.2s							
BLSP				*i* S	**S**	**06 29 42.8**	**-8.4**
VIS	**Vishakhapatnam**	**11.00**	**245**	*ex*	x	06 31 06.4	
BHPL	**Bhopal**	**15.11**	**275**	*i* P	**P**	**06 28 46.5**	**-0.8**
BHPL				AMb	AMB	06 28 59.5	
comp=Z,12nm,0.5s							
BHPL				*i* S	**S**	**06 31 37.9**	**+3.8**
ENH	**Enshi**	**15.94**	**58**	*e*P	**P**	**06 28 55.9**	**-2.0**
comp=Z,8.2nm,0.6s							
LZH	**Lanzhou**	**15.97**	**31**	*e*P	**P**	**06 28 59.0**	**+0.8**
LZH				*e*PP	PP	06 29 12.1	+1.0
LZH				AMB	AMB		
comp=Z,21nm,1.3s							
LZH				AMB	AMB		
comp=Z,91nm,4.8s							
LZH				LR	LR		
comp=N,473nm,10.3s							
LZH				LR	LR		
comp=Z,897nm,12.5s							
LZH	**Lanzhou**	**15.97**	**31**	*e*P	**P**	**06 28 59.0**	**+0.8**
comp=Z,21nm,1.3s							
LZH				pP		06 29 02.5	
LZH				sP		06 29 03.7	
LZH				*e*PP	PP	06 29 12.1	+1.0
NDI	**New Delhi**	**16.12**	**295**	*e*P	**P**	**06 29 00.0**	**-0.2**
NDI				AMb	AMB	06 29 07.6	
comp=Z,18nm,1.8s							
NDI				*ex*	x	06 31 47.8	
XAN	**Xi'an**	**17.45**	**46**	P	**P**	**06 29 14.3**	**-2.6**
XAN				AP		06 29 25.5	
WMQ	**Urumqi**	**21.71**	**348**	*e*P	**P**	**06 30 06.0**	**+1.5**
WMQ				PP	PP	06 30 31.0	+1.3
WMQ				S	**S**	**06 34 00.0**	**+2.2**
WMQ				SS	SS	06 34 36.0	+0.8
WMQ				AMB	AMB		
comp=Z,13nm,0.8s,mb4.4							
WMQ				AMB	AMB		
comp=Z,10.0nm,6.0s							
WMQ				LR	LR		
comp=N,114nm,10.0s,MS3.9							
WMQ				LR	LR		
comp=E,209nm,10.0s,MS3.9							
WMQ				LR	LR		
comp=Z,108nm,10.0s,MS3.5							
SSE	**Sheshan**	**25.77**	**65**	P	**P**	**06 30 44.3**	**+0.2**
SSE				S	**S**	**06 35 12.3**	**+3.7**
SSE				AMB	AMB		
comp=Z,26nm,0.7s,mb4.9							
SSE				AMB	AMB		
comp=Z,28nm,4.6s							
SSE				LR	LR		
comp=N,42nm,19.6s,MS3.2							
SSE				LR	LR		
comp=E,54nm,19.6s,MS3.2							
SSE				LR	LR		
comp=Z,69nm,20.0s,MS3.2							
SSE	**Sheshan**	**25.77**	**65**	P	**P**	**06 30 44.3**	**+0.2**
comp=Z,26nm,0.7s,mb4.9							
SSE				sP	sP	06 30 48.3	-9.0
SSE				S	**S**	**06 35 12.3**	**+3.7**
SSE				sS		06 35 17.1	
SSE				LR	LR		
comp=Z,70nm,20.0s,MS3.2							
MKAR	**Makanchi Array**	**25.82**	**342**	P	**P**	**06 30 44.5**	**+0.1**
comp=Z,8.0nm,0.7s,mb4.3,baz=151,slow=9.7,SNR=53							
SONM	**Songino Array**	**27.07**	**19**	P	**P**	**06 30 54.0**	**-1.9**
comp=Z,1.3nm,0.7s,mb3.6,baz=200,slow=11,SNR=8.5							
SONM				PcP	PcP	06 34 16.5	-0.3
comp=Z,0.5nm,0.7s,baz=207,slow=3.2,SNR=3.2							
SONM				LR	LR	06 43 37.3	
comp=Z,48nm,18.7s,MS3.1,baz=29,slow=41							
KURK	**Kurchatov**	**30.42**	**341**	*e*P	**P**	**06 31 24.4**	**-1.4**
comp=Z,3.3nm,0.7s,mb4.2							
ZAL	**Zalesovo**	**31.97**	**350**	P	**P**	**06 31 40.0**	**+0.4**
comp=Z,1.7nm,0.5s,mb4.2,baz=311,slow=17,SNR=5.1							
CN2	**Changchun**	**33.52**	**43**	*e*P	**P**	**06 31 54.1**	**+1.0**
BVAR	**Borovoye Array**	**35.19**	**335**	P	**P**	**06 32 06.6**	**-0.7**
comp=Z,1.3nm,0.5s,mb4.1,baz=140,slow=12,SNR=7.6							
MDJ	**Mudanjiang**	**36.55**	**45**	P	**P**	**06 32 18.8**	**-0.1**
MDJ				PP	PP	06 33 41.8	-1.8
MDJ				PCP	PcP	06 34 42.6	+0.3
MDJ				S	**S**	**06 38 01.3**	**+2.7**
MDJ				PCS		06 38 30.4	
MDJ				AMB	AMB		
comp=Z,5.0nm,0.8s,mb4.4							
MDJ				AMB	AMB		
comp=Z,24nm,3.6s							
MDJ				LR	LR		
comp=N,90nm,35.3s							
MDJ				LR	LR		
comp=E,118nm,29.0s							
MDJ				LR	LR		
comp=Z,209nm,29.4s							
MJAR	**Matsushiro Arr**	**40.66**	**60**	P	**P**	**06 32 49.4**	**-3.8**
comp=Z,1.9nm,0.7s,mb3.9,baz=270,slow=11,SNR=4.4							
ARU	**Arti**	**42.48**	**332**	P	**P**	**06 33 08.2**	**+0.3**
MBWA	**Marble Bar**	**50.35**	**148**	*e*P	**P**	**06 34 11.0**	**+0.5**
AKASG	**Malin Array Be**	**56.80**	**317**	P	**P**	**06 34 56.9**	**-0.8**
comp=Z,2.4nm,0.4s,mb4.6,baz=80,slow=6.6,SNR=18							
MUN	**Mundaring**	**58.40**	**158**	⇑*i*P	**P**	**06 35 10.0**	**+0.8**
KLBR	**Kellerberrin**	**58.61**	**156**	*e*P	**P**	**06 35 11.0**	**+0.3**
comp=Z,156nm,1.9s,mb5.7							
NWAO	**Narrogin (SRO)**	**59.62**	**157**	P	**P**	**06 35 17.8**	**0.0**
ARCES	**ARCESS Array B**	**61.41**	**338**	P	**P**	**06 35 28.6**	**-0.8**
comp=Z,1.3nm,0.5s,mb4.3,baz=112,slow=7.9,SNR=22							
NB2	**NORSAR Subarra**	**66.89**	**328**	P	**P**	**06 36 04.0**	**-1.1**
comp=Z,1.0nm,0.8s,mb3.9,baz=84,slow=6.5							
NOA	**NORSAR Array B**	**66.89**	**328**	P	**P**	**06 36 04.3**	**-0.8**
comp=Z,1.7nm,0.8s,mb4.1,baz=85,slow=6.7,SNR=4.5							
GERES	**GERESS Array B**	**66.90**	**315**	P	**P**	**06 36 05.6**	**+0.2**
comp=Z,2.0nm,0.5s,mb4.4,baz=79,slow=4.4,SNR=13							
CLL	**Collm**	**67.00**	**318**	P	**P**	**06 36 07.0**	**+1.0**
LPG	**La Plagne**	**72.21**	**312**	*e*P	**P**	**06 36 38.8**	**+0.9**
LPL	**La Plagne**	**72.22**	**312**	*e*P	**P**	**06 36 38.9**	**+0.9**
comp=Z,3.7nm,0.6s,mb4.2							
SSF	**Saint Saulge**	**73.97**	**315**	*e*P	**P**	**06 36 48.5**	**+0.2**
comp=Z,14nm,1.0s,mb4.5							
AVF	**Avril sur Loir**	**74.15**	**314**	*e*P	**P**	**06 36 49.4**	**+0.1**
comp=Z,6.7nm,0.8s,mb4.3							
LFF	**La Frestale**	**76.44**	**313**	*e*P	**P**	**06 37 03.3**	**+0.8**
ETSF	**Etsaut**	**78.00**	**311**	*e*P	**P**	**06 37 12.3**	**+1.1**
ILAR	**Eielson Array**	**81.24**	**22**	P	**P**	**06 37 26.1**	**-2.2**
comp=Z,0.8nm,0.7s,mb3.8,baz=303,slow=5.2,SNR=8.8							
BOSA	**Boshof**	**83.43**	**235**	P	**P**	**06 37 43.0**	**+2.7**
comp=Z,7.2nm,1.1s,mb4.6,baz=44,slow=7.1,SNR=11							
BOSA	**Boshof**	**83.43**	**235**	*e*P	**P**	**06 37 43.2**	**+3.0**
YKA	**Yellowknife Ar**	**92.18**	**13**	P	**P**	**06 38 20.1**	**-1.4**
comp=Z,0.3nm,0.4s,mb4.0,baz=330,slow=4.8,SNR=4.8							
TXAR	**Lajitas Array**	**125.64**	**19**	PKP	PKPdf	06 44 14.3	+1.2
comp=Z,0.6nm,0.8s,baz=243,slow=2.0,SNR=8.4							

NEIC ***17*** *06:42:31.1±1.5,9.40N×62.07W,mb4.6/24,MD4.0(CAR), Error ellipse: s-maj=34.7km s-min=16.6km az=97.0*
IDC ***17*** *06:43:01.4±1.5,11.47N×65.96W,mb4.1/6,mb1 4.4/8, mb1mx4.0/24,mbtmp4.2/8,ML3.6/2,MS3.6/3,Ms1 3.6/3, ms1mx3.1/23,Error ellipse: s-maj=40.6km s-min=22.8km az=85.0*
FUNV ***17*** *06:43:01.1,11.66N×66.12W,MW3.3*
ISC 17 06:43:02.2±0.2,11.60N±0.02×66.12W±0.03,h17km, (h17km±1.4km:pP-P),n84,σ1§46/99,mb4.4/30,MS3.8/1,2D, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIRV	**Birongo**	**1.12**	**187**	*e*P	**Pb**	**06 43 22.9**	**+0.1**
BIRV				*e*S	**Sb**	**06 43 39.2**	**+2.3**
FUNV	**FUNVISIS**	**1.31**	**211**	*e*P	**Pn**	**06 43 25.4**	**-0.5**
FUNV				*e*S	**Sb**	**06 43 43.8**	**+1.5**
IBAV	**Isla La Blanqu**	**1.53**	**81**	*e*P	**Pn**	**06 43 29.0**	**-0.1**
IBAV				*e*S	**Sn**	**06 43 48.2**	**-0.5**
CUPV	**Cœpira**	**1.56**	**168**	*e*P	**Pn**	**06 43 30.3**	**+0.8**
CUPV				*e*S	**Sn**	**06 43 53.6**	**+4.2**
PCRV	**Puerto La Cruz**	**2.03**	**134**	‖*e*P	**Pn**	**06 43 36.7**	**+0.5**
TURV	**Turiamo**	**2.03**	**236**	*e*S	**Sn**	**06 44 03.8**	**+2.4**
MERV	**Las Mercedes**	**2.33**	**184**	*e*P	**Pn**	**06 43 40.5**	**-0.1**
MERV				*e*S	**Sn**	**06 44 11.2**	**+2.0**
ITEV	**Isla Los Testi**	**2.94**	**94**	*e*P	**Pn**	**06 43 48.8**	**-0.4**
CRUV	**Carupano**	**2.98**	**108**	*e*P	**Pn**	**06 43 50.8**	**+1.0**
TEPV	**Terepaima**	**3.42**	**242**	*e*P	**Pn**	**06 43 54.8**	**-1.3**
TEPV				*e*S	**Sn**	**06 44 35.0**	**-1.7**
ORIV	**Oritupano**	**3.66**	**133**	*e*P	**Pn**	**06 43 59.8**	**+0.3**
SIQV	**Siquisique**	**3.74**	**256**	*e*P	**Pn**	**06 43 58.7**	**-1.8**
SIQV				*e*S	**Sn**	**06 44 41.6**	**-3.0**
MONV	**Montecano**	**3.79**	**276**	*e*P	**Pn**	**06 44 00.0**	**-1.2**
MONV				*e*S	**Sn**	**06 44 41.2**	**-4.6**
GUIV	**Guiria**	**3.94**	**103**	*e*P	**Pn**	**06 44 02.6**	**-0.9**
SANV	**Sanarito**	**3.95**	**239**	*e*P	**Pn**	**06 44 03.1**	**-0.4**
SANV				*e*S	**Sn**	**06 44 49.4**	**-0.5**
CURV	**Curarigua**	**4.08**	**248**	*e*P	**Pn**	**06 44 04.1**	**-1.4**
CAOV	**Caicara del Or**	**4.25**	**183**	*e*P	**Pn**	**06 44 06.1**	**-1.6**
DABV	**Dabajuro**	**4.48**	**262**	*e*P	**Pn**	**06 44 09.3**	**-1.8**
DABV				*e*S	**Sn**	**06 44 59.7**	**-3.7**
QARV	**Quebrada Arrib**	**4.54**	**253**	*e*P	**Pn**	**06 44 10.5**	**-1.4**
GURV	**El Guri**	**4.85**	**142**	*e*P	**Pn**	**06 44 14.5**	**-1.8**
SVB	**Belmont**	**5.04**	**70**	*e*P	**Pn**	**06 44 18.6**	**-0.4**
SVB				*e*S	**Sn**	**06 45 12.7**	**-4.9**
SDV	**Santo Domingo**	**5.19**	**239**	Pn	**Pn**	**06 44 20.7**	**-0.4**
6.0nm,0.3s,baz=80,slow=7.1,SNR=16							
SDV				Sn	**Sn**	**06 45 16.5**	**-4.8**
4.6nm,0.3s,baz=43,slow=21,SNR=3.7							
SDV				LR	LR	06 46 44.8	
comp=Z,464nm,19.6s,baz=134,slow=42							
SDV	**Santo Domingo**	**5.19**	**239**	*e*P	**Pn**	**06 44 19.4**	**-1.8**
SOCV	**Socops**	**5.71**	**235**	*e*P	**Pn**	**06 44 26.5**	**-1.9**
FDF	**Fort de France**	**5.76**	**57**	‖*e*P	**Pn**	**06 44 26.2**	**-3.0**
BBL	**Barber's Block**	**5.98**	**49**	*e*P	**Pn**	**06 44 32.8**	**+0.5**
VIRV	**Villa del Rosa**	**6.26**	**261**	*e*P	**Pn**	**06 44 32.7**	**-3.6**
VIRV				*e*S	**Sn**	**06 45 40.7**	**-7.5**
MTP	**Monte Pirata**	**6.48**	**5**	*e*P	**Pn**	**06 44 32.7**	**-6.7**
SABS	**Saba**	**6.61**	**25**	*e*P	**Pn**	**06 44 37.5**	**-3.6**
SABS				*e*S	**Sn**	**06 45 51.2**	**-5.6**
SABT	**Saba**	**6.61**	**25**	*e*P	**Pn**	**06 44 37.5**	**-3.6**
SABT				*e*S	**Sn**	**06 45 51.2**	**-5.6**
DEG	**La Desirade**	**6.79**	**46**	*e*P	**Pn**	**06 44 36.4**	**-7.4**
DEG				*e*S	**Sn**	**06 45 56.8**	**-4.6**
ROSC	**El Rosal**	**10.52**	**231**	Pn	**P**	**06 45 36.0**	**+0.4**
4.0nm,0.3s,baz=99,slow=8.6,SNR=15							
ROSC				LR	LR	06 50 23.5	
comp=Z,202nm,18.4s,baz=158,slow=42							
SIV	**San Ignacio**	**27.86**	**170**	P	**P**	**06 48 51.4**	**-2.0**
1.5nm,1.0s,mb3.6,baz=350,slow=8.3,SNR=5.4							
LRAL	**Lakeview Retre**	**28.67**	**321**	*e*P	**P**	**06 49 04.1**	**+3.7**
4.0nm,0.6s,mb4.3							
SWET	**Sewanee**	**29.60**	**326**	*e*P	**P**	**06 49 11.1**	**+2.2**
PLAL	**Pickwick Lake**	**30.66**	**323**	*e*P	**P**	**06 49 19.0**	**+0.8**
7.3nm,0.6s,mb4.7							
OXF	**Oxford**	**31.14**	**321**	*e*P	**P**	**06 49 24.9**	**+2.4**
19nm,0.8s,mb5.0							
WVT	**Waverly**	**31.32**	**325**	*e*P	**P**	**06 49 24.4**	**+0.4**
4.7nm,0.6s,mb4.5							
BDFB	**Brasilia**	**32.46**	**146**	LR	LR	07 03 26.2	
comp=Z,203nm,20.9s,MS3.8,baz=83,slow=38							
SIUC	**Southern Illin**	**33.23**	**325**	*e*P	**P**	**06 49 43.2**	**+2.5**
FVM	**French Village**	**34.10**	**325**	*e*P	**P**	**06 49 51.3**	**+3.1**
7.4nm,0.7s,mb4.7							
CCM	**Cathedral Cave**	**34.62**	**324**	*e*P	**P**	**06 49 51.5**	**-1.2**
5.6nm,0.6s,mb4.7							
WMOK	**Wichita Mounta**	**37.56**	**313**	*e*P	**P**	**06 50 20.3**	**+2.7**
1.3nm,0.6s,mb3.8							
KSU1	**Kansas State U**	**38.51**	**321**	*e*P	**P**	**06 50 25.5**	**-0.1**
TXAR	**Lajitas Array**	**39.13**	**303**	P	**P**	**06 50 33.7**	**+2.9**
0.6nm,0.7s,mb3.4,baz=134,slow=9.5,SNR=9.2							
TXAR				PcP	PcP	06 52 41.4	+0.5
0.3nm,0.6s,baz=127,slow=4.5,SNR=3.3							
TXAR	**Lajitas Array**	**39.13**	**303**	P	**P**	**06 50 33.7**	**+2.9**
TXAR				PcP	PcP	06 52 41.4	+0.5
CBKS	**Cedar Bluff**	**40.34**	**318**	*e*P	**P**	**06 50 40.7**	**0.0**
27nm,0.8s,mb5.0							
MNTX	**Cornudas Mount**	**41.31**	**305**	P	**P**	**06 50 49.3**	**+0.6**
2.2nm,0.9s,mb3.8							
BNM	**Barren Site**	**43.16**	**308**	P	**P**	**06 51 06.8**	**+2.9**
ANMO	**Albuquerque**	**43.33**	**309**	*e*P	**P**	**06 51 08.3**	**+3.0**
2.5nm,0.7s,mb4.0							
LAZ	**Ladron**	**43.65**	**308**	*e*P	**P**	**06 51 10.0**	**+2.1**
SDCO	**Great Sand Dun**	**43.77**	**313**	*e*P	**P**	**06 51 11.1**	**+2.3**

GUC 17 07:00:07.7±0.7, 36.71S×72.60W, h77km±5km, ML5.6
BJI 17 07:00:09.5, 36.60S×72.60W, h54km, mB5.1, Ms4.8, Msz4.8
NEIC 17 07:00:09.6±0.2, 36.63S×72.57W, mb4.6/29, Error ellipse: s-maj=7.3km s-min=4.5km az=82.0
NEIC Felt [IV] at Cauquenes, Chillan, Concepcion, Linares, Los Angeles and Talca; [III] at Arauco.
IDC 17 07:00:10.1±0.6, 36.60S×72.40W, h57km±5km, mb4.2/11, mb1 4.4/15, mb1mx4.3/18, mbtmp4.5/15, MS3.7/11, Ms1 3.7/11, ms1mx3.6/16, Error ellipse: s-maj=19.2km s-min=11.7km az=100.0

ISC 17 07:00:07.7±0.2, 36.70S±0.03×72.45W±0.07, h55km, h55km±.9km: pP-P, n103, σ1°13/101, mb4.6/35, MS3.7/6, 4C-13D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CCHI	**Chillan**	**0.32**	**72**	⇓*iP*			**P**	**07 00 21.1**	**+3.6**
CCHI						AMP		07 00 30.5	
	comp=N,499μm,0.5s								
CCHI				*i* S			**S**	**07 00 30.6**	**+5.9**
CCHI	**Chillan**	**0.32**	**72**	⇓*iP*			**P**	**07 00 21.1**	**+3.6**
CCHI				*i* S			**S**	**07 00 30.6**	**+5.9**
CNCO	**Chanco**	**0.97**	**356**	⇓*iP*			**P**	**07 00 26.5**	**+1.1**
CNCO						AMP		07 00 39.8	
	comp=E,134μm,0.4s								
CNCO				*i* S			**S**	**07 00 40.4**	**+1.9**
CNCO	**Chanco**	**0.97**	**356**	⇓*iP*			**P**	**07 00 26.5**	**+1.1**
CNCO				*i* S			**S**	**07 00 40.4**	**+1.9**
CTCH	**Constitucion**	**1.37**	**1**	⇓*iP*			**P**	**07 00 31.9**	**+0.8**
CTCH				*i* S			**S**	**07 00 50.0**	**+1.7**
CTCH						AMP		07 00 58.4	
	comp=E,239μm,0.6s								
VLCH	**Valdivia**	**3.16**	**191**	⇑*iP*			**P**	**07 00 55.3**	**-1.0**
VLCH				*i* S			**S**	**07 01 31.2**	**-1.8**
VLCH						AMP		07 02 03.2	
	comp=E,10μm,0.7s								
CLCH	**Cerro Calan**	**3.65**	**26**	⇓*iP*			**P**	**07 01 03.3**	**+0.1**
CLCH				*i* S			**S**	**07 01 45.7**	**+0.3**
PLCA	**Paso Flores**	**4.29**	**160**	P			**P**	**07 01 14.2**	**+2.1**
	comp=E,7.6nm,0.3s,baz=327,slow=12,SNR=116								
PLCA						LR	LR	07 02 53.9	
	comp=E,694nm,21.4s,baz=342,slow=38								
PLCA	**Paso Flores**	**4.29**	**160**	⇓*iP*			**P**	**07 01 14.0**	**+1.8**
MDZ	**Mendoza**	**4.83**	**39**	*eP*			**P**	**07 01 22.1**	**+2.4**
MDZ				*i* S			S	07 01 42.1	-33
ZON	**Zonda**	**6.02**	**32**	⇑*iP*			**P**	**07 01 37.3**	**+1.1**
ZON				*eS*			**S**	**07 02 52.3**	**+7.6**
CFAA	**Coronel Fontan**	**6.17**	**36**	P			**P**	**07 01 37.3**	**-1.0**
	comp=E,11nm,0.3s,baz=212,slow=13,SNR=441								
CFAA				S			**S**	**07 02 46.6**	**-1.8**
	comp=E,9.1nm,0.3s,baz=339,slow=21,SNR=8.8								
CFAA						LR	LR	07 04 06.5	
	comp=E,101nm,21.1s,baz=231,slow=39								
TRQA	**Tornquist**	**8.45**	**102**	*eP*			**P**	**07 02 10.3**	**+0.3**
	comp=E,78nm,0.8s								
LVC	**Limon Verde**	**14.37**	**13**	P			**P**	**07 03 23.7**	**-5.9**
	comp=E,1.1nm,0.3s,baz=203,slow=8.8,SNR=11								
LVC				S			**S**	**07 05 56.4**	**-12**
	comp=E,0.8nm,0.3s,baz=142,slow=11,SNR=2.1								
LVC						LR	LR	07 08 49.0	
	comp=E,522nm,21.6s,baz=203,slow=36								
LVC	**Limon Verde**	**14.37**	**13**	*eP*			**P**	**07 03 21.8**	**-7.9**
	comp=E,51nm,0.8s								
CPUP	**Villa Florida**	**16.51**	**55**	P			**P**	**07 03 56.0**	**-1.0**
	comp=E,0.4nm,0.3s,baz=237,slow=13,SNR=10								
CPUP						LR	LR	07 11 09.8	
	comp=E,246nm,21.5s,baz=252,slow=40								
CPUP	**Villa Florida**	**16.51**	**55**	*eP*			**P**	**07 03 53.9**	**-3.0**
	comp=E,7.5nm,0.6s								
USHA	**Ushuaia**	**18.34**	**173**	P			**P**	**07 04 21.3**	**+1.7**
	comp=E,1.8nm,0.3s,baz=322,slow=9.4,SNR=22								
USHA						LR	LR	07 12 04.1	
	comp=E,492nm,18.4s,baz=330,slow=39								
ARE	**Arequipa**	**20.18**	**3**	⇑*iP*			**P**	**07 04 41.1**	**+0.8**
ARE				*e*				07 05 22.0	
LPAZ	**La Paz**	**20.69**	**12**	P			**P**	**07 04 46.3**	**+0.7**
	comp=E,29nm,0.9s,baz=180,slow=8.5,SNR=35								
LPAZ						LR	LR	07 13 21.9	
	comp=E,178nm,18.8s,MS3.5,baz=72,slow=38								
LPAZ	**La Paz**	**20.69**	**12**	*eP*			**P**	**07 04 45.7**	**+0.1**
	comp=E,45nm,0.8s								
SIV	**San Ignacio**	**22.97**	**29**	P			**P**	**07 05 08.1**	**-0.2**
	comp=E,39nm,0.8s,mb4.9,baz=205,slow=9.4,SNR=128								
SIV						pP		07 05 21.6	
	comp=E,34nm,0.8s,baz=211,slow=8.6,SNR=12								
NNA	**Nana**	**24.92**	**350**	*eP*			**P**	**07 05 26.6**	**-0.6**
	comp=E,13nm,0.7s,mb4.6								
PMSA	**Palmer Station**	**28.55**	**172**	*eP*			**P**	**07 06 00.8**	**+0.7**
SAML	**Samuel**	**28.88**	**19**	*eP*			**P**	**07 06 02.2**	**-1.3**
	comp=E,36nm,1.1s,mb5.0								
SAML					*e*pP		pP	07 06 22.7	+5.4
BDFB	**Brasilia**	**30.19**	**52**	P			**P**	**07 06 13.7**	**-1.4**
	comp=E,2.5nm,0.6s,mb4.2,baz=186,slow=10,SNR=3.1								
BDFB						LR	LR	07 20 15.1	
	comp=E,243nm,18.6s,MS3.9,baz=26,slow=40								
BAO	**Brasilia Array**	**30.21**	**52**	P			**P**	**07 06 11.0**	**-4.3**
ROSC	**El Rosal**	**41.38**	**357**	P			**P**	**07 07 50.4**	**+0.2**
	comp=E,5.7nm,0.7s,mb4.3,baz=169,slow=9.7,SNR=6.7								
ROSC						pP	pP	07 08 06.5	+1.9
	comp=E,22nm,0.6s,baz=116,slow=5.2,SNR=19								
ROSC						LR	LR	07 24 51.5	
	comp=E,55nm,21.3s,MS3.4,baz=143,slow=36								
SDV	**Santo Domingo**	**45.38**	**3**	*eP*			**P**	**07 08 21.3**	**-1.4**
	comp=E,7.3nm,0.8s,mb4.6								
SDV					*e*pP		pP	07 08 34.9	-2.2
VNA3	**Neumayer Olymp**	**47.00**	**157**	*e*			**P**	**07 08 40.9**	**+6.2**
VNA3	**Neumayer Olymp**	**47.00**	**157**	*e*			**P**	**07 08 53.5**	**+19**
VNA3	**Neumayer Olymp**	**47.00**	**157**	⇓*iP*			**P**	**07 08 35.5**	**+0.8**
VNA3				*e*				07 08 40.9	
VNA3				*e*			pP	07 08 53.5	+4.2
VNA3				*e*				07 08 59.1	
VNA3				*e*				07 09 14.2	
VNA1	**Neumayer--Stat**	**47.34**	**156**	*e*			**P**	**07 08 45.1**	**+7.7**
VNA1	**Neumayer--Stat**	**47.34**	**156**	*e*			**P**	**07 08 55.8**	**+18**
VNA1	**Neumayer--Stat**	**47.34**	**156**	⇓*iP*			**P**	**07 08 38.4**	**+1.0**
VNA1				*e*				07 08 45.1	
VNA1				*e*			pP	07 08 55.8	+3.9
VNA1				*e*				07 09 02.4	
VNA1				*e*				07 09 16.4	
VNA2	**Neumayer--Watz**	**47.67**	**156**	*e*			**P**	**07 08 46.8**	**+6.8**
VNA2	**Neumayer--Watz**	**47.67**	**156**	*e*			**P**	**07 08 56.2**	**+16**
VNA2	**Neumayer--Watz**	**47.67**	**156**	⇓*iP*			**P**	**07 08 40.6**	**+0.6**
VNA2				*e*				07 08 46.8	
VNA2				*e*			pP	07 08 56.2	+1.7
VNA2				*e*				07 09 04.2	
VNA2				*e*				07 09 19.2	
SNAA	**Sanae**	**49.23**	**157**	*e*			**P**	**07 08 58.0**	**+6.0**
SNAA	**Sanae**	**49.23**	**157**	*e*			**P**	**07 09 10.2**	**+18**
SNAA	**Sanae**	**49.23**	**157**	P			**P**	**07 08 52.7**	**+0.7**
	comp=E,4.0nm,0.9s,mb4.5,baz=282,slow=7.1,SNR=40								
SNAA	**Sanae**	**49.23**	**157**	⇓*iP*			**P**	**07 08 52.3**	**+0.3**
SNAA				*e*				07 08 58.0	
SNAA				*e*			pP	07 09 10.2	+3.6
SNAA				*e*				07 09 15.9	
SNAA				*e*				07 09 27.6	
QSPA	**South Pole Qui**	**53.54**	**180**	⇓*iP*			**P**	**07 09 25.3**	**+0.8**
	comp=E,33nm,0.8s,mb5.3								
MAIT	**Maitri**	**53.95**	**156**	*eP*			**P**	**07 09 27.8**	**+0.2**
SBA	**Scott Base**	**60.37**	**192**	*eP*			**P**	**07 10 12.5**	**-0.4**
	comp=E,4.6nm,0.8s,mb4.6								
VNDA	**Vanda**	**61.39**	**192**	P			**P**	**07 10 20.9**	**+1.0**
	comp=E,4.5nm,0.8s,mb4.7,baz=140,slow=5.5,SNR=31								
VNDA						LR	LR	07 32 52.8	
	comp=E,48nm,21.1s,MS3.6,baz=148,slow=32								
SYO	**Syowa Base**	**63.49**	**158**	⇑P			**P**	**07 10 31.5**	**-2.4**
SYO	**Syowa Base**	**63.49**	**158**	⇓pP			pP	07 10 44.5	-4.6
LRAL	**Lakeview Retre**	**70.69**	**347**	*eP*			**P**	**07 11 18.4**	**-1.3**
	comp=E,5.4nm,1.1s,mb4.4								
LRAL				*eP*			pP	07 11 33.3	-1.8
TXAR	**Lajitas Array**	**71.93**	**332**	P			**P**	**07 11 27.1**	**0.0**
	comp=E,1.9nm,0.6s,mb4.2,baz=157,slow=9.1,SNR=37								
TXAR						pP	pP	07 11 42.8	+0.1
	comp=E,2.9nm,0.5s,baz=153,slow=8.8,SNR=15								
TXAR						LR	LR	07 37 12.0	
	comp=E,70nm,21.8s,MS3.9,baz=165,slow=31								
OXF	**Oxford**	**72.59**	**345**	*eP*			**P**	**07 11 29.4**	**-1.5**
	comp=E,11nm,0.9s,mb4.8								
OXF				*eP*			pP	07 11 44.6	-1.8
SWET	**Sewanee**	**72.64**	**348**	*eP*			**P**	**07 11 29.4**	**-1.9**
SWET				*eP*			pP	07 11 44.3	-2.5
CPCT	**Cooper Cave**	**72.66**	**350**	*eP*			**P**	**07 11 30.1**	**-1.2**
CPCT				*eP*			pP	07 11 45.2	-1.6
PLAL	**Pickwick Lake**	**72.79**	**347**	*eP*			**P**	**07 11 30.7**	**-1.4**
	comp=E,4.1nm,0.8s,mb4.4								
PLAL				*eP*			pP	07 11 45.4	-2.2
WVT	**Waverly**	**73.86**	**347**	*eP*			**P**	**07 11 37.1**	**-1.2**
	comp=E,26nm,1.0s,mb5.1								
WVT				*eP*			pP	07 11 51.9	-2.0
ELN	**Prospectdale**	**73.96**	**353**	*eP*			**P**	**07 11 37.8**	**-1.1**
ELN				*eP*			pP	07 11 53.5	-1.0
UTMT	**University of**	**74.25**	**346**	*eP*			**P**	**07 11 39.0**	**-1.7**
UTMT				*eP*			pP	07 11 55.1	-1.0
MNTX	**Cornudas Mount**	**74.70**	**331**	*eP*			**P**	**07 11 41.9**	**-1.4**
	comp=E,3.4nm,1.0s,mb4.2								
MNTX				*eP*			pP	07 11 56.5	-2.4
GDL2	**Guadalupe Moun**	**74.76**	**332**	*eP*			**P**	**07 11 42.9**	**-0.7**
GDL2				*eP*			pP	07 11 58.9	-0.3
WMOK	**Wichita Mounta**	**75.19**	**338**	*eP*			**P**	**07 11 44.0**	**-2.0**
	comp=E,2.6nm,0.9s,mb4.2								
WMOK				*eP*			pP	07 11 59.5	-2.1
CPRX	**Cap Rock**	**75.32**	**333**	*eP*			**P**	**07 11 46.7**	**-0.1**
CPRX				*eP*			pP	07 11 59.8	-2.6
FVM	**French Village**	**76.15**	**345**	*eP*			**P**	**07 11 49.8**	**-1.6**
	comp=E,19nm,1.1s,mb4.9								
FVM				*eP*			pP	07 12 04.9	-2.1
DBIC	**Dimbokro**	**76.37**	**71**	P			**P**	**07 11 53.3**	**+0.2**
	comp=E,3.6nm,0.6s,mb4.5,baz=208,slow=8.6,SNR=14								
DBIC	**Dimbokro**	**76.37**	**71**	*eP*			**P**	**07 11 52.5**	**-0.7**
	comp=E,13nm,0.7s,mb5.0								
CCM	**Cathedral Cave**	**76.39**	**345**	*eP*			**P**	**07 11 52.0**	**-0.7**
	comp=E,25nm,1.0s,mb5.1								
CCM				*eP*			pP	07 12 07.6	-0.7
SLM	**Saint Louis**	**76.74**	**346**	P			**P**	**07 11 53.8**	**-1.0**
SLM						pP	pP	07 12 08.1	-2.2
CASY	**Casey**	**77.32**	**181**	*eP*			**P**	**07 11 57.9**	**+0.5**
	comp=E,21nm,0.9s,mb5.1								
CASY				*eP*			pP	07 12 13.2	+0.2
TUC	**Tucson**	**77.45**	**327**	*eP*			**P**	**07 11 59.5**	**+0.7**
	comp=E,2.1nm,0.9s,mb4.1								
TUC				*eP*			pP	07 12 15.6	+1.1
LPM	**Los Pinos Moun**	**77.50**	**332**	*eP*			**P**	**07 11 59.2**	**+0.1**
ANMO	**Albuquerque**	**78.00**	**332**	*eP*			**P**	**07 12 02.3**	**+0.5**
	comp=E,4.8nm,1.3s,mb4.3								
ANMO						pP	pP	07 12 16.8	-0.6
BOSA	**Boshof**	**79.12**	**117**	P			**P**	**07 12 09.2**	**+1.1**
	comp=E,3.6nm,0.9s,mb4.3,baz=266,slow=14,SNR=4.1								
BOSA	**Boshof**	**79.12**	**117**	*eP*			**P**	**07 12 09.2**	**+1.1**
	comp=E,13nm,1.0s,mb4.8								
SDCO	**Great Sand Dun**	**80.14**	**334**	*eP*			**P**	**07 12 13.3**	**-0.1**
	comp=E,3.4nm,1.1s,mb4.2								
SDCO				*eP*			pP	07 12 29.5	+0.4
PFO	**Pinyon Flat Ob**	**81.11**	**324**	*eP*			**P**	**07 12 20.1**	**+1.6**
	comp=E,4.0nm,1.0s,mb4.3								
SMCO	**Snowmass**	**81.94**	**334**	*eP*			**P**	**07 12 24.5**	**+1.7**
SMCO				*eP*			pP	07 12 40.5	+1.9
NEN	**Nelson**	**82.06**	**326**	*eP*			**P**	**07 12 22.9**	**-0.5**
NEN				*eP*			pP	07 12 38.9	-0.4
SRU	**San Rafael**	**83.20**	**331**	*eP*			**P**	**07 12 29.5**	**+0.3**
SRU				*eP*			pP	07 12 42.8	-2.2
ARUT	**Antelope Range**	**83.25**	**328**	*eP*			**P**	**07 12 30.7**	**+1.2**
MSU	**Marysvale**	**83.34**	**330**	*eP*			**P**	**07 12 31.1**	**+1.2**
MSU				*eP*			pP	07 12 46.1	+0.3
JLU	**Jordanelle**	**84.85**	**331**	*eP*			**P**	**07 12 38.3**	**+0.8**
DUG	**Dugway**	**85.03**	**330**	*eP*			**P**	**07 12 38.7**	**+0.3**
	comp=E,6.1nm,1.1s,mb4.6								
RSSD	**Black Hills**	**85.39**	**338**	*eP*			**P**	**07 12 39.2**	**-0.9**
	comp=E,3.2nm,0.7s,mb4.6								
RSSD				*eP*			pP	07 12 56.3	+0.3
OMM	**Old Mammoth Mi**	**85.57**	**325**	*eP*			**P**	**07 12 42.5**	**+1.4**
OMM				*eP*			pP	07 12 58.3	+1.3
HWUT	**Hardware Ranch**	**85.75**	**332**	*eP*			**P**	**07 12 42.3**	**+0.4**
	comp=E,8.7nm,1.0s,mb4.9								
HWUT				*eP*			pP	07 12 57.8	0.0
PDAR	**Pinedale Array**	**86.02**	**334**	P			**P**	**07 12 43.6**	**+0.5**
	comp=E,1.1nm,0.7s,mb4.2,baz=142,slow=5.4,SNR=12								
PDAR						pP	pP	07 13 00.3	+1.3
	comp=E,1.4nm,0.9s,baz=124,slow=5.3,SNR=5.9								
PDAR						LR	LR	07 46 31.1	
	comp=E,54nm,21.0s,MS3.9,baz=250,slow=32								
ELK	**Elko**	**86.49**	**329**	*eP*			**P**	**07 12 46.5**	**+1.0**
	comp=E,1.8nm,0.8s,mb4.3								
ELK				*eP*			pP	07 13 02.2	+0.8
SNOW	**Snow King Moun**	**87.06**	**333**	*eP*			**P**	**07 12 48.4**	**+0.2**
	comp=E,6.4nm,1.2s,mb4.7								
LOHW	**Long Hollow**	**87.13**	**333**	*eP*			**P**	**07 12 49.1**	**+0.5**
	comp=E,2.1nm,1.1s,mb4.3								
TPAW	**Teton Pass**	**87.15**	**333**	*eP*			**P**	**07 12 49.2**	**+0.5**
	comp=E,5.1nm,1.1s,mb4.7								
TPAW				*eP*			pP	07 13 05.0	+0.3
IMW	**Indian Meadow**	**87.50**	**333**	*eP*			**P**	**07 12 50.5**	**+0.2**
IMW				*eP*			pP	07 13 06.5	+0.2
MCMT	**McKenzie Canyo**	**89.00**	**333**	*eP*			**P**	**07 12 58.8**	**+1.4**
MCMT				*eP*			pP	07 13 14.5	+1.0
ULM	**Lac du Bonnet**	**89.01**	**345**	P			**P**	**07 12 56.2**	**-1.1**
	comp=E,2.5nm,0.6s,mb4.7,baz=258,slow=4.4,SNR=5.4								
ULM						pP	pP	07 13 12.9	-0.5
	comp=E,4.1nm,1.0s,baz=209,slow=3.2,SNR=3.7								
ARCES	**ARCESS Array B**	**126.59**	**26**	pPKP				07 19 21.3	
	comp=E,1.0nm,0.6s,baz=18,slow=3.8,SNR=1.7								
KSM	**Kuching**	**144.85**	**185**	*eP*			PKPdf	07 19 40.1	+1.1
BVAR	**Borovoye Array**	**149.44**	**46**	PKPbc			PKPdf	07 19 52.6	+7.2
	comp=E,0.5nm,0.5s,baz=230,slow=43,SNR=3.6								
AAK	**Ala-Archa**	**153.98**	**67**	*e*PKPab			PKPab	07 20 18.2	+1.8
ZAL	**Zalesovo**	**156.65**	**35**	PKPbc			PKPdf	07 20 07.5	+12
	comp=E,4.7nm,0.4s,baz=133,slow=8.9,SNR=10								
MKAR	**Makanchi Array**	**158.71**	**54**	PKP			PKPdf	07 19 59.7	+1.4
	comp=E,0.5nm,0.9s,baz=90,slow=1.4,SNR=2.8								
MKAR						pPKP		07 20 16.4	
	comp=E,1.0nm,0.8s,baz=315,slow=1.7,SNR=5.9								
MKAR						PKPab	PKPab	07 20 34.9	-1.6
	comp=E,0.7nm,0.8s,baz=305,slow=2.6,SNR=2.4								
MKAR						pPKPab		07 20 52.6	
	comp=E,1.6nm,0.7s,baz=281,slow=3.6,SNR=6.6								
MKAR	**Makanchi Array**	**158.71**	**54**	PKP			PKPdf	07 19 59.7	+1.4
MKAR						pPKP		07 20 16.4	
MKAR						PKPab	PKPab	07 20 34.9	-1.6
MKAR						pPKPab		07 20 52.6	
CN2	**Changchun**	**164.62**	**303**	*e*PKP			PKPdf	07 20 10.0	+5.5
SONM	**Songino Array**	**168.84**	**4**	PKPab			PKPab	07 21 21.2	+0.7
	comp=E,1.0nm,0.9s,baz=310,slow=3.6,SNR=4.9								
SONM						pPKPab		07 21 35.8	
	comp=E,0.9nm,0.7s,baz=331,slow=4.7,SNR=5.7								
NJ2	**Nanjing**	**169.57**	**247**	*e*PKP			PKPdf	07 20 14.0	+5.5
NJ2						APKP		07 20 25.0	
NJ2						XPKP		07 20 30.4	
NJ2						PKS	PKS	07 23 44.0	+3.9
NJ2						PP	PP	07 25 21.0	+6.2
NJ2						PP	PP		
	comp=Z,190nm,10.0s								
NJ2						LR	LR		
	comp=N,1μm,34.4s								
NJ2						LR	LR		
	comp=E,860nm,34.7s								
NJ2						LR	LR		
	comp=Z,750nm,34.0s								
LZH	**Lanzhou**	**176.95**	**100**	*e*PKP			PKPdf	07 20 13.6	+2.2
LZH						APKP		07 20 29.8	
LZH						XPKP		07 20 35.8	
LZH						LR	LR		
	comp=N,173nm,18.5s								
LZH						LR	LR		
	comp=Z,249nm,20.0s								

CSEM 17 07:09:24.6±0.1, 46.50N×10.11E, h12km, ML2.5/2, Error ellipse: s-maj=2.5km s-min=2.0km az=154.0
ROM 17 07:09:25.1±0.2, 46.52N×10.12E, h10km±1km, Md2.2/6, Ml1.7/3, Error ellipse: s-maj=3.1km s-min=2.1km az=93.0
ZUR 17 07:09:25.9, 46.54N×10.12E, h9km, ML2.3/5

ISC 17 07:09:25.6±0.4, 46.54N±0.02×10.13E±0.04, h10km, n14, σ0°45/25, 5C-1D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FUORN	**Ofenpass**	**0.12**	**48**	⇑*iP*			**Pg**	**07 09 29.1**	**+0.5**
FUORN				*i* Sg			**Sg**	**07 09 31.2**	**+0.5**
FUORN	**Ofenpass**	**0.12**	**48**	Pg			**Pg**	**07 09 29.1**	**+0.5**
FUORN				Sg			**Sg**	**07 09 31.3**	**+0.6**
BERNI	**Berninapass**	**0.14**	**211**	⇓*iP*			**Pg**	**07 09 29.7**	**+0.7**
BERNI				*i* Sg			**Sg**	**07 09 31.9**	**+0.6**
BRMO	**Bormio**	**0.18**	**110**	Pg			**Pg**	**07 09 29.8**	**+0.2**
BRMO				Sg			**Sg**	**07 09 32.2**	**0.0**
	207nm,0.3s								
DAVOX	**Davos**	**0.30**	**325**	Pg			**Pg**	**07 09 32.2**	**+0.4**
DAVOX				Sg			**Sg**	**07 09 36.4**	**+0.4**
DAVOX	**Davos**	**0.30**	**325**	⇑*iP*g			**Pg**	**07 09 32.2**	**+0.4**
DAVOX				*i* Sg			**Sg**	**07 09 36.3**	**+0.3**
VDL	**Val di Lei**	**0.46**	**264**	⇑*iP*g			**Pg**	**07 09 34.8**	**-0.1**
TUE	**Stuetta**	**0.55**	**263**	Pg			**Pg**	**07 09 36.2**	**-0.4**
TUE				Sg			**Sg**	**07 09 44.3**	**+0.3**
	20nm,0.3s								
PLONS	**Plons**	**0.73**	**315**	*e*Pg			**Pg**	**07 09 40.1**	**-0.1**
PLONS				*e*Sg			**Sg**	**07 09 49.7**	**-0.2**
APPI	**Appiano**	**0.76**	**94**	Pg			**Pg**	**07 09 40.1**	**-0.7**
	30nm,0.4s								
DAVA	**Damuels**	**0.77**	**347**	⇑*i*PG			**Pg**	**07 09 40.1**	**-0.9**
DAVA				*i* SG			**Sg**	**07 09 51.3**	**0.0**
	12nm,0.3s								
MDI	**Monti di Nese**	**0.81**	**201**	Pg			**Pg**	**07 09 41.8**	**-0.1**
MDI				Sg			**Sg**	**07 09 52.6**	**-0.3**
MUGIO	**Muggio**	**0.97**	**231**	Pg			**Pg**	**07 09 44.3**	**-0.8**
SQTA	**Sankt Quirin**	**1.01**	**47**	⇑*i*PG			**Pg**	**07 09 45.9**	**+0.2**
SQTA				*i* SG			**Sg**	**07 09 59.0**	**-0.2**
	9.8nm,0.4s								

IDC 17 07:26:14.9±1.3, 32.12S×71.65W, mb3.8/3, mb1 3.8/9, mb1mx3.7/18, mbtmp3.6/9, ML3.9/4, MS3.5/2, Ms1 3.5/2, ms1mx2.9/19, Error ellipse: s-maj=30.0km s-min=22.5km az=92.0
GUC 17 07:26:15.4±0.8, 32.60S×71.50W, h15km±3km, MD4.2, ML3.9
NEIC 17 07:26:15.4, 32.60S×71.50W, h15km, ML3.9(GUC), After GUC.

ISC 17 07:26:14.9±0.6, 32.61S±0.02×71.55W±0.05, h24km±4km, n34, σ0°77/52, mb3.6/3, MS4.0/1, 9C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.42**	**191**	⇓*iP*			**Pb**	**07 26 24.1**	**+0.3**
IHA				*i* S			**Sb**	**07 26 30.6**	**+0.7**
ROCH	**El Roble**	**0.58**	**129**	⇑*iP*			**Pb**	**07 26 26.6**	**+0.3**
ROCH				*i* S			**Sb**	**07 26 35.1**	**+1.0**
CHNG	**Los Chungos**	**0.72**	**3**	⇑*iP*			**Pb**	**07 26 28.6**	**-0.1**
CHNG				*i* S			**Sb**	**07 26 38.4**	**+0.1**
CHNG						AMP		07 26 42.8	
	comp=N,3μm,0.4s								
JACH	**Jahuel**	**0.81**	**96**	⇑*iP*			**Pb**	**07 26 29.9**	**-0.2**
LCCH	**Las Cruces**	**0.86**	**181**	⇓*iP*			**Pb**	**07 26 30.9**	**-0.3**
PEL	**Peldehue**	**0.90**	**127**	⇑*iP*			**Pb**	**07 26 31.7**	**0.0**
PEL				*i* S			**Sb**	**07 26 42.8**	**-0.5**
ILCH	**Illapel**	**1.02**	**18**	⇓*iP*			**Pb**	**07 26 33.6**	**-0.1**
ILCH				*i* S			**Sb**	**07 26 46.7**	**0.0**
ILCH						AMP		07 26 48.5	
	comp=E,4μm,0.2s								
RCDM	**Rinconada Maip**	**1.08**	**145**	*eP*			**Pb**	**07 26 33.9**	**-0.8**
RCDM				*i* S			**Sb**	**07 26 48.3**	**-0.1**
RCDM						AMP		07 26 48.7	
	comp=E,8μm,0.2s								
STL	**Santa Lucia**	**1.12**	**138**	⇑*iP*			**Pn**	**07 26 33.9**	**-1.4**
STL				*i* S			**Sb**	**07 26 49.1**	**-0.6**
STL						AMP		07 26 50.5	
	comp=N,1μm,0.2s								
SAN	**Santiago**	**1.12**	**139**	⇑*iP*			**Pn**	**07 26 35.1**	**-0.1**
SAN				*i* S			**Sb**	**07 26 49.5**	**-0.2**
SAN						AMP		07 26 54.9	
	comp=E,3μm,0.4s								
DSCH	**Colegio A

62nm,0.9s
KKM Kota Kinabalu 18.80 77 P P 07 48 07.0 +0.7
KKM Kota Kinabalu 18.80 77 eP P 07 48 05.8 -0.5
TSM Tawau 20.16 83 P P 07 48 21.0 -0.6
QIZ Qiongzhong 20.64 34 P P 07 48 26.0 -0.5
QIZ eS S 07 52 14.8 +4.2
QIZ LR LR
comp=Z,281nm,27.7s,MS3.5
KMI Kunming 23.49 11 P P 07 48 55.8 +0.9
KMI AP 07 49 06.1
KMI XP 07 49 10.8
KMI PP PP 07 49 32.3 +5.2
KMI S S 07 53 06.5 +3.5
KMI XS 07 53 19.8
KMI SS SS 07 53 56.0 +4.7
KMI AMB AMB
comp=Z,26nm,1.0s,mb4.6
KMI AMB AMB
comp=Z,64nm,3.1s
KMI LR LR
comp=N,496nm,16.5s,MS4.1
KMI LR LR
comp=E,194nm,14.9s,MS4.1
KMI LR LR
comp=Z,587nm,16.5s,MS4.1
KMI Kunming 23.49 11 P P 07 48 55.8 +0.9
comp=Z,26nm,1.0s,mb4.6
KMI pP 07 49 06.1
KMI sP 07 49 10.7
KMI PP PP 07 49 32.2 +5.1
KMI S S 07 53 06.5 +3.5
KMI sS 07 53 19.7
KMI SS SS 07 53 56.0 +4.7
KMI LR LR
comp=Z,590nm,16.5s,MS4.1
KMI Kunming 23.49 11 P P 07 48 55.8 +0.9
KMI *PP 07 49 06.1
KMI *SP 07 49 10.7
KMI 07 49 32.2
KMI S S 07 53 06.5 +3.5
KMI *SS 07 53 19.7
KMI SS SS 07 53 56.0 +4.7
KMI pmax pmax
comp=Z,26nm,1.0s,mb4.6
KMI MLR MLR
comp=Z,590nm,16.5s,MS4.1
HYB Hyderabad 24.35 310 i P P 07 49 07.5 +4.1
comp=Z,86nm,0.8s,mb5.2
HYB Hyderabad 24.35 310 eP P 07 49 07.5 +4.1
comp=Z,86nm,0.8s,mb5.2
HYB Hyderabad 24.35 310 eP P 07 49 07.5 +4.1
HYB pmax pmax
comp=Z,86nm,0.8s,mb5.2
GYA Guiyang 25.78 19⇑ iP P 07 49 15.8 -1.1
GYA AP pP 07 49 24.6 -0.8
GYA XP sP 07 49 28.8 -0.4
GYA PP PP 07 49 55.3 -2.1
GYA XS 07 53 54.6
GYA AMB AMB
comp=Z,30nm,0.7s,mb4.9
GYA AMB AMB
comp=Z,130nm,2.8s,mb5.0
GYA LR LR
comp=N,580nm,16.4s,MS4.3
GYA LR LR
comp=E,490nm,16.0s,MS4.3
GYA LR LR
comp=Z,470nm,15.8s,MS4.1
PKI Pulchoki 28.07 336 eP P 07 49 37.9 +0.1
comp=Z,40nm,0.6s,mb5.2
PKI Pulchoki 28.07 336 eP P 07 49 37.9 +0.1
PKI pmax pmax
comp=Z,20nm,0.6s,mb4.9
GUN Gumba 28.19 337 eP P 07 49 37.1 -1.8
comp=Z,84nm,0.7s,mb5.5
DMN Daman 28.23 336 eP P 07 49 39.2 0.0
comp=Z,47nm,0.9s,mb5.1
LSA Lhasa 28.28 348 P P 07 49 36.4 -3.2
comp=Z,9.5nm,0.6s,mb4.6
LSA Lhasa 28.28 348 P P 07 49 36.4 -3.3
LSA pmax pmax
comp=Z,10.0nm,0.6s,mb4.6
KKN Kakani 28.32 336 eP P 07 49 39.5 -0.5
comp=Z,57nm,0.8s,mb5.2
KKN Kakani 28.32 336 eP P 07 49 39.5 -0.5
KKN pmax pmax
comp=Z,28nm,0.8s,mb4.9
GKN Gorkha 28.77 335 eP P 07 49 43.4 -0.7
comp=Z,19nm,0.3s,mb5.3
KOLN Koldanda 29.02 333 eP P 07 49 46.9 +0.5
comp=Z,74nm,0.6s,mb5.6
CD2 Chengdu 29.31 10 eP P 07 49 50.3 +1.3
ENH Enshi 30.23 20 eP P 07 49 54.4 -2.8
comp=Z,20nm,0.5s,mb5.1
MBWA Marble Bar 31.46 138 eP P 07 50 06.3 -1.7
comp=Z,5.5nm,0.9s,mb4.4
LGTI Lohaghat 32.02 330 eP P 07 50 13.5 +0.6
XAN Xi'an 33.54 17 P P 07 50 23.6 -2.4
XAN AMB AMB
comp=Z,23nm,1.1s,mb5.0
LZH Lanzhou 34.39 9 eP P 07 50 32.5 -0.9
LZH AP pP 07 50 41.5 -0.5
LZH XP sP 07 50 45.6 -0.2
LZH ePP PP 07 51 49.5 +0.3
LZH AMB AMB
comp=Z,25nm,1.5s,mb4.9
LZH AMB AMB
comp=Z,76nm,5.3s
LZH LR LR
comp=N,573nm,13.3s
LZH LR LR
comp=Z,789nm,17.5s,MS4.5
LZH Lanzhou 34.39 9 eP P 07 50 32.5 -0.9
comp=Z,25nm,1.5s,mb4.9
LZH pP pP 07 50 41.5 -0.5
LZH sP sP 07 50 45.6 -0.2
LZH ePP PP 07 51 49.5 +0.3
LZH LR LR
comp=Z,790nm,17.5s,MS4.5
KLP Kalpa 34.71 330 eS P 07 50 37.5 +1.4
KLP AML AML 07 51 15.7
comp=N,41nm,0.5s
KLP AML AML 07 51 18.1
comp=E,41nm,0.6s
SSE Sheshan 36.42 35 P P 07 50 51.9 +1.2
SSE AP pP 07 51 00.5 +1.1
SSE XP sP 07 51 04.6 +1.5
SSE S S 07 56 31.8 +2.0
SSE XS 07 56 47.0
SSE AMB AMB
comp=Z,21nm,0.8s,mb5.1
SSE AMB AMB
comp=Z,47nm,8.6s
SSE LR LR
comp=N,96nm,23.5s,MS3.6
SSE LR LR
comp=E,63nm,23.5s,MS3.6
SSE LR LR
comp=Z,125nm,27.5s,MS3.5
SSE Sheshan 36.42 35 P P 07 50 51.9 +1.2
comp=Z,21nm,0.8s,mb5.1
SSE pP pP 07 51 00.5 +1.1
SSE sP sP 07 51 04.6 +1.5
SSE S S 07 56 31.8 +2.0
SSE sS 07 56 47.0
SSE SS SS 07 59 14.1 +18
SSE ScS ScS 08 00 54.8 -8.1
SSE LR LR
comp=Z,130nm,27.5s,MS3.6
DLH Dalhousie 36.68 328 eP P 07 50 50.0 -2.9
DLH ex x 07 51 08.0
THN Thein Dam 36.73 328 eP P 07 50 52.8 -0.5
GTA Gaotai 37.29 3 eP P 07 50 56.9 -1.0
GTA PCP PcP 07 53 17.3 -0.1
GTA AMB AMB
comp=Z,23nm,0.7s,mb5.1
JOW Kunigami 38.26 47 P P 07 51 05.7 -0.6
comp=Z,6.1nm,0.4s,mb4.7,baz=220,slow=23,SNR=4.1
JOW LR LR 08 06 13.2
comp=Z,74nm,20.7s,MS3.5,baz=151,slow=35
NWAO Narrogin (SRO) 39.28 154 eP P 07 51 15.4 +0.7
comp=Z,14nm,1.0s,mb4.6
NWAO Narrogin (SRO) 39.28 154 eP P 07 51 15.4 +0.8
NWAO pmax pmax
comp=Z,13nm,1.0s
BTO Baotou 40.00 15 eP P 07 51 18.8 -1.7
HHC Hu-ho-hao-te 40.64 16 eP P 07 51 27.1 +1.4
HHC AP pP 07 51 35.9 +1.4
HHC XP sP 07 51 40.6 +2.5
HHC PP PP 07 53 04.8 +2.2
HHC S S 07 57 36.0 +2.6
HHC XS 07 57 50.8
HHC SS SS 08 00 31.0 +1.8
HHC AMB AMB
comp=Z,15nm,0.5s,mb4.9
HHC AMB AMB
comp=Z,71nm,3.7s
HHC LR LR
comp=N,210nm,17.8s,MS4.1
HHC LR LR
comp=E,145nm,19.6s,MS4.1
HHC LR LR
comp=Z,189nm,17.8s,MS4.0
WRAB Tennant Creek 41.95 123 eP P 07 51 35.0 -1.8
comp=Z,32nm,0.8s,mb5.0
WRAB ePcP PcP 07 53 31.9 -0.6
WRAB Tennant Creek 41.95 123 eP P 07 51 35.0 -1.8
WRAB e 07 53 31.9
WRAB pmax pmax
comp=Z,32nm,0.8s,mb5.0
KSH Kashi 42.32 335 eP P 07 51 39.3 -0.3
KSH eAP pP 07 51 48.0 -0.4
KSH eXP sP 07 51 52.0 0.0
KSH ePP PP 07 53 20.1 -0.4
KSH ePCP PcP 07 53 32.1 -1.4
KSH ePPP PPP 07 53 53.0 -0.3
KSH eSCP 07 57 19.0
KSH ePCS 07 57 23.4
KSH eS S 07 57 57.0 -1.4
KSH eXS 07 58 14.1
KSH eSS SS 08 01 01.1 -0.5
KSH eSCS ScS 08 01 35.0 -2.1
KSH AMB AMB
comp=Z,60nm,3.2s
KSH LR LR
comp=N,180nm,4.1s
KSH LR LR
comp=E,160nm,4.2s
WMQ Urumqi 42.62 349 eP P 07 51 43.0 +1.0
WMQ AP pP 07 51 53.0 +2.3
WMQ XP sP 07 51 57.0 +2.6
WMQ PP PP 07 53 27.0 +3.6
WMQ PCS 07 57 22.0
WMQ S S 07 58 10.0 +7.3
WMQ AMB AMB
comp=Z,54nm,1.0s,mb5.2
WMQ AMB AMB
comp=Z,18nm,7.0s
WMQ LR LR
comp=N,114nm,16.0s,MS4.2
WMQ LR LR
comp=E,251nm,16.0s,MS4.2
WMQ LR LR
comp=Z,85nm,16.0s,MS3.7
FORT Forrest 43.49 141 eP P 07 51 50.0 +0.7
comp=Z,24nm,0.5s,mb5.2
JNU Nakatsue 43.82 41 P P 07 51 50.8 -1.1
comp=Z,11nm,0.9s,mb4.6,baz=242,slow=2.4,SNR=8.6
JNU LR LR 08 10 13.5
comp=Z,92nm,20.1s,MS3.7,baz=318,slow=36
ULHL Ulahol 44.51 337 P P 07 51 58.5 +1.2
SNR=18
KZA Kyzart 44.76 336 P P 07 52 01.1 +1.7
SNR=10.0
KS15 Wonju Array Si 44.83 34 eP P 07 51 58.6 -1.4
TKM2 Tokmak 2 45.33 337 P P 07 52 05.3 +1.4
SNR=14
KBK Karagaybulak 45.37 336 P P 07 52 05.8 +1.6
SNR=7.9
AML Almayashu 45.45 335 P P 07 52 06.6 +1.8
SNR=11
AAK Ala-Archa 45.53 336 eP P 07 52 05.5 +0.1
comp=Z,14nm,1.0s,mb4.8
AAK ePcP PcP 07 53 43.8 -0.6
AAK Ala-Archa 45.53 336 eP P 07 52 05.6 +0.1
AAK e 07 53 43.8
AAK pmax pmax
comp=Z,14nm,1.0s,mb4.8
FRU Bishkek 45.65 336 eP P 07 52 07.0 +0.6
FRU pmax pmax
comp=Z,30nm,1.6s,mb5.0
CHMS Chumysh 45.73 336 P P 07 52 08.0 +1.0
SNR=5.2
EKS2 Erkin-Say 45.85 335 P P 07 52 09.3 +1.3
SNR=10
USP Ospenovka 46.05 336 P P 07 52 10.4 +0.7
SNR=39
SONM Songino Array 46.27 8 P P 07 52 11.1 -0.1
comp=Z,9.0nm,0.4s,mb5.1,baz=188,slow=8.8,SNR=107
SONM PcP PcP 07 53 46.1 -0.7
comp=Z,4.3nm,0.6s,baz=193,slow=3.8,SNR=6.7
SONM LR LR 08 13 44.1
comp=Z,166nm,19.4s,MS4.0,baz=322,slow=39
MKAR Makanchi Array 46.63 345 P P 07 52 14.2 0.0
comp=Z,71nm,0.8s,mb5.6,baz=153,slow=8.1,SNR=326
KKAR Karatay Array 47.63 333 eP P 07 52 22.0 -0.1
KKAR pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
CN2 Changchun 48.33 27 eP P 07 52 29.5 +2.0
ZAK Zakamensk 48.44 5⇑ iP P 07 52 27.8 -0.5
ZAK e 07 53 53.8
ZAK pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
ZAK pmax pmax
comp=Z,1.0nm,0.9s
CBIJ Chichi jima 49.28 55 P P 07 52 32.9 -2.2
comp=Z,76nm,0.8s,mb5.8,baz=273,slow=18,SNR=4.6
MOY Mondy 49.58 3 eP P 07 52 36.6 -0.4
JHJ Hachijo jima 2 50.04 47 LR LR 08 10 57.1
comp=Z,48nm,20.8s,MS3.5,baz=295,slow=33
MJAR Matsushiro Arr 50.70 42 P P 07 52 43.9 -1.9
comp=Z,1.4nm,0.3s,mb4.3,baz=218,slow=7.1,SNR=6.8
MJAR LR LR 08 13 51.4
comp=Z,50nm,19.1s,MS3.5,baz=220,slow=36
MDJ Mudanjiang 50.89 29 P P 07 52 47.1 0.0
MDJ AP pP 07 52 55.4 -0.6
MDJ XP sP 07 52 59.9 +0.4
MDJ PCP PcP 07 54 02.3 -1.3
MDJ PP PP 07 54 42.9 -1.3
MDJ SCP 07 57 56.0
MDJ S S 08 00 01.4 +1.3
MDJ SCS ScS 08 02 35.4 +2.9
MDJ AMB AMB
comp=Z,4.0nm,0.8s,mb4.4
MDJ AMB AMB
comp=Z,75nm,4.5s
MDJ LR LR
comp=N,92nm,21.6s
MDJ LR LR
comp=Z,144nm,18.3s,MS4.0
KURK Kurchatov 51.20 344 eP P 07 52 49.0 -0.4
comp=Z,30nm,0.7s,mb5.3
KURK Kurchatov 51.20 344 eP P 07 52 49.0 -0.3
KURK pmax pmax
comp=Z,30nm,0.7s,mb5.3
ZAL Zalesovo 52.88 350 P P 07 53 01.3 -0.7
comp=Z,54nm,0.4s,mb5.8,baz=312,slow=5.4,SNR=104
ZAL Zalesovo 52.88 350 P P 07 53 01.3 -0.7
STKA Stephens Creek 53.43 133⇑ iP P 07 53 05.2 -1.2
comp=Z,3.9nm,0.6s,mb4.5
STKA Stephens Creek 53.43 133 P P 07 53 05.8 -0.6
comp=Z,4.1nm,0.6s,mb4.5,baz=312,slow=8.0,SNR=17
NVS Novosibirsk 54.01 350⇑ iP P 07 53 08.5 -1.8
NVS e 07 53 23.9
NVS pmax pmax
comp=Z,12nm,0.6s,mb5.0
NVS pmax pmax
comp=N,7.0nm,0.5s
NVS pmax pmax
comp=E,6.0nm,0.5s
VOSK Vostochnaya 55.27 340 P P 07 53 18.2 -1.3
VOSK pmax pmax
comp=Z,17nm,0.6s,mb5.2
KLR Kul'dur 55.28 26 eP P 07 53 15.8 -3.9
BVA0 Borovoye Array 55.72 340 i P P 07 53 21.6 -1.1
BVA0 pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
BRVK Borovoye 55.78 340 eP P 07 53 21.9 -1.2
comp=Z,18nm,0.6s,mb5.3
BRVK Borovoye 55.78 340 eP P 07 53 21.9 -1.3
BRVK pmax pmax
comp=Z,18nm,0.6s,mb5.3
AB31 Akbulak array 57.12 331 i P P 07 53 31.8 -1.0
AB31 pmax pmax
comp=Z,12nm,0.8s,mb5.0
BOD Bodaibo 57.13 10 eP P 07 53 31.6 -1.2
BOD pmax pmax
comp=Z,21nm,0.8s,mb5.2
YSS Yuzh-Sakhalins 59.36 34 eP P 07 53 47.9 -0.6
comp=Z,38nm,0.9s,mb5.4
YSS Yuzh-Sakhalins 59.36 34⇑ eP P 07 53 47.0 -1.5
YSS pmax pmax
comp=Z,50nm,1.0s,mb5.5
TI2 Plekhanov 61.81 317 i P P 07 53 56.8 -8.5
SVE Sverdlovsk 62.19 338⇑ eP P 07 54 07.5 -0.1
SVE e 07 54 22.0
SVE e 07 54 43.0
SVE eS S 08 02 24.0 -5.4
SVE pmax pmax
comp=Z,40nm,1.5s,mb5.3
SVE MLR MLR
comp=N,100nm,17.0s,MS4.2
SVE MLR MLR
comp=E,100nm,17.0s,MS4.2
SVE MLR MLR
comp=Z,100nm,17.0s,MS4.0
ARU Arti 62.70 337 eP P 07 54 09.1 -1.9
comp=Z,5.3nm,0.4s,mb5.0
ARU LR LR
comp=Z,27nm,19.0s,MS3.4
ARU Arti 62.70 337⇓ iP P 07 54 09.3 -1.7
ARU e 07 56 24.1
ARU eS S 08 02 35.2 -0.7
ARU eSS SS 08 06 40.1 -2.6
ARU pmax pmax
comp=Z,14nm,1.0s,mb5.0
ZEI Tsey 62.82 318 eP P 07 54 10.4 -1.6
ZEI i *PP pP 07 54 18.5 -2.6
ZEI pmax pmax
comp=Z,18nm,0.8s,mb5.2
KIV Kislovodsk 64.12 319 eP P 07 54 20.0 -0.5
comp=Z,29nm,0.9s,mb5.3
KIV e 07 54 34.0
KIV Kislovodsk 64.12 319 ceP P 07 54 20.1 -0.4
KIV e 07 54 34.1
KIV pmax pmax
comp=Z,28nm,0.8s,mb5.3
YAK Yakutsk 64.50 16 eP P 07 54 20.8 -1.9
YAK pmax pmax
comp=Z,28nm,0.9s,mb5.3
YAK pmax pmax
comp=N,11nm,1.1s
YAK pmax pmax
comp=E,6.0nm,1.1s
ASF Jabal al Asfar 64.51 305 P P 07 54 22.0 -1.3
comp=E,1.2nm,0.3s,mb4.4,baz=331,slow=6.9,SNR=5.2
SOKR Solikamsk 65.58 338 c i P P 07 54 28.8 -0.9
SOKR pmax pmax
comp=Z,20nm,0.9s,mb5.2
SOC Sochi 65.95 318 c i P P 07 54 30.8 -1.5
SOC e 07 54 45.0
SOC e 07 56 56.4
SOC ePPP PPP 07 58 40.9 +6.1
SOC eS S 08 03 12.7 -3.6
SOC pmax pmax
comp=Z,37nm,0.9s,mb5.4
SOC pmax pmax
comp=N,19nm,1.1s
SOC pmax pmax
comp=E,3.0nm,0.5s
VRHR Novokhopersk 67.83 326 eP P 07 54 42.4 -1.7
VRHR pmax pmax
comp=Z,30nm,0.7s,mb5.4
VRHR pmax pmax
comp=N,20nm,1.4s
VRHR pmax pmax
comp=E,10.0nm,0.6s
ANN Anapa 67.92 318 eP P 07 54 35.1 -10
ANN pmax pmax
comp=Z,19nm,1.0s,mb5.1
BR131 Keskin Array S 69.04 312 eP P 07 54 50.7 -1.1
comp=Z,2.3nm,0.5s,mb4.4
BRTR Keskin Array B 69.04 312 P P 07 54 51.0 -0.8
comp=Z,4.3nm,0.7s,mb4.5,baz=127,slow=7.0,SNR=16
VRSR Storozhevoye 69.26 325 eP P 07 54 51.2 -1.8
MA2 Magadan 70.36 26 eP P 07 54 58.6 -0.9
comp=Z,37nm,1.4s,mb5.1
MA2 Magadan 70.36 26 ceP P 07 54 58.6 -1.0
MA2 e 07 55 16.9
MA2 eS S 08 04 07.6 -1.1
MA2 pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
PET Petropavlovsk 71.24 34 eP P 07 55 03.9 -1.1
PET pmax pmax
comp=Z,46nm,0.5s,mb5.7
PET MLR MLR
comp=Z,100nm,17.0s,MS4.2
MOS Moscow 71.97 329 eP P 07 55 23.8 +14
MOS pmax pmax
comp=Z,56nm,1.4s,mb5.3
OBN Obninsk 72.28 328⇓ eP P 07 55 10.6 -0.5
OBN 07 55 27.0
OBN pmax pmax
comp=Z,68nm,2.5s,mb5.1
SEY Seymchan 72.81 23 eP P 07 55 13.9 -0.2
SEY pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
SEY pmax pmax
comp=E,2.0nm,0.5s
IDI Anoyia 74.93 306 P P 07 55 27.2 +0.2
comp=E,1.9nm,0.4s,mb4.4,baz=102,slow=7.6,SNR=3.6
AKASG Malin Array Be 75.01 322 P P 07 55 26.1 -1.1
comp=E,11nm,0.7s,mb4.9,baz=88,slow=4.7,SNR=39
BOSA Boshof 75.70 240 P P 07 55 34.4 +2.8
comp=E,4.2nm,0.9s,mb4.4,baz=127,slow=5.1,SNR=4.5
MLR Muntele Rosu 75.92 316 P P 07 55 33.2 +0.8
comp=E,7.2nm,0.7s,mb4.7,baz=142,slow=4.7,SNR=13
KOLS Kolonicke sedl 79.02 319 eP P 07 55 50.2 +0.7
KOLS esP sP 07 56 05.4 +3.5
SUW Suwalki 79.39 325 eP P 07 55 51.1 -0.3
SUW Suwalki 79.39 325 eP P 07 55 51.1 -0.3
FINES FINESS Array B 79.59 332 P P 07 55 52.2 -0.1
comp=E,5.5nm,0.5s,mb4.8,baz=91,slow=6.1,SNR=35
FINES FINESS Array B 79.59 332 P P 07 55 52.2 -0.1
FX1 Attu Island--F 79.60 37 eP P 07 55 52.1 -0.4
KAF Kangasniemi 79.66 333 ep P 07 55 52.1 -0.6
comp=E,9.0nm,0.6s,mb4.9,baz=102,slow=5.0
KAF Kangasniemi 79.66 333 eP P 07 55 52.1 -0.6
KAF pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
STHS Stebnicka Huta 79.76 320 eP P 07 55 54.6 +1.1
STHS e 07 56 10.4
KECS Kecovo 80.12 319 eP P 07 55 54.9 -0.5
SMY Shemya 80.13 37 eP P 07 55 54.8 -0.6
comp=Z,28nm,0.9s,mb5.2
SMY Shemya 80.13 37 eP P 07 55 54.8 -0.6
SMY pmax pmax
comp=Z,28nm,0.9s,mb5.2
BILL Bilibino 80.22 21⇑ eP P 07 55 48.0 -7.6
BILL pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
BILL MLR MLR
comp=Z,100nm,16.0s,MS4.3
VYHS Vyhne 81.21 319 eP P 07 56 01.0 -0.2
KEV Kevo 81.57 341 ep P 07 56 02.4 -0.2
comp=Z,10nm,1.0s,mb4.7
KEV Kevo 81.57 341 eP P 07 56 02.4 -0.2
KEV pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
ARCES ARCESS Array B 82.01 340 P P 07 56 05.1 +0.2
comp=Z,4.4nm,0.4s,mb4.7,baz=101,slow=4.7,SNR=66
ARE0 ARCESS Array S 82.01 340 eP P 07 56 05.0 +0.1
BOJS Bojanci 83.37 315 eP P 07 56 12.7 +0.3
PERS Pernice 83.54 317 eP P 07 56 13.8 +0.6
VISS Visnje 83.67 316 eP P 07 56 14.4 +0.4
ROBS Robic 84.62 316 eP P 07 56 18.7 -0.1
GERES GERESS Array B 84.63 319 P P 07 56 20.2 +1.4
comp=Z,2.7nm,0.7s,mb4.5,baz=90,slow=8.0,SNR=10.0
HFS Hagfors 85.35 330 P P 07 56 23.1 +1.0
comp=Z,8.3nm,0.7s,mb5.0,baz=124,slow=5.3,SNR=24
GRA1 Grafenberg Arr 86.28 319 eP P 07 56 27.8 +0.9
comp=Z,6.0nm,0.8s,mb4.9
GRF Grafenberg Arr 86.28 319 eP P 07 56 27.8 +0.9
comp=Z,6.0nm,0.8s,mb4.9
GRF Grafenberg Arr 86.28 319 eP P 07 56 27.8 +0.9

GRF pmax pmax
comp=Z,6.0nm,0.8s,mb4.9
GRF Grafenberg Arr 86.28 319 *eP* **P 07 56 27.8 +0.9**
GRF pmax pmax
comp=Z,6.0nm,0.8s,mb4.9
VNDA Vanda 86.47 169 P **P 07 56 27.9 +0.6**
comp=Z,0.4nm,0.6s,baz=300,slow=6.7,SNR=3.0
NB2 NORSAR Subarra 86.62 331 P **P 07 56 28.3 0.0**
comp=Z,8.2nm,0.7s,mb5.1,baz=94,slow=4.6
NB2 NORSAR Subarra 86.62 331 P **P 07 56 28.3 0.0**
baz=94,slow=4.6
NB2 NORSAR Subarra 86.62 331 P **P 07 56 28.3 0.0**
NB2 pmax pmax
comp=Z,8.0nm,0.7s,mb5.1
NOA NORSAR Array B 86.62 331 P **P 07 56 28.3 0.0**
comp=Z,7.9nm,0.8s,mb5.0,baz=94,slow=4.9,SNR=31
SBA Scott Base 87.57 169 *eP* **P 07 56 34.2 +1.6**
comp=Z,2.1nm,1.0s,mb4.3
SBA Scott Base 87.57 169 *eP* **P 07 56 34.2 +1.6**
SBA pmax pmax
comp=Z,2.0nm,1.0s,mb4.3
PGF Pioggiola 87.79 312 *eP* **P 07 56 34.6 +0.2**
comp=Z,8.8nm,1.0s,mb4.7
PGF Pioggiola 87.79 312 *eP* **P 07 56 34.6 +0.2**
PGF pmax pmax
comp=Z,4.0nm,1.0s,mb4.6
CDF Champ du Feu 88.88 318 *eP* **P 07 56 39.4 -0.1**
SBF Sospel 88.91 314 *eP* **P 07 56 39.8 +0.1**
HINF Hinteralfeld 89.19 318 *eP* **P 07 56 41.3 +0.3**
LPG La Plagne 89.34 315 *eP* **P 07 56 42.3 +0.5**
LPL La Plagne 89.35 315 *eP* **P 07 56 42.3 +0.5**
comp=Z,17nm,0.8s,mb5.1
LPL La Plagne 89.35 315 *eP* **P 07 56 42.3 +0.5**
LPL pmax pmax
comp=Z,9.0nm,0.8s,mb5.2
MBDF Montbardon 89.36 315 *eP* **P 07 56 42.2 +0.4**
BNI Bardonecchia 89.41 315 P **P 07 56 41.8 -0.2**
comp=Z,3.2nm,0.8s,mb4.7
BNI Bardonecchia 89.41 315 P **P 07 56 41.8 -0.3**
BNI pmax pmax
comp=Z,3.0nm,0.8s,mb4.7
FRF La Foret Royal 89.49 313 *eP* **P 07 56 42.8 +0.3**
comp=Z,10nm,0.8s,mb4.9
FRF La Foret Royal 89.49 313 *eP* **P 07 56 42.8 +0.3**
FRF pmax pmax
comp=Z,5.0nm,0.8s,mb4.9
HAU Haudompre 89.52 318 *eP* **P 07 56 42.4 -0.1**
CABF La Chapelle 89.76 316 *eP* **P 07 56 44.1 +0.4**
comp=Z,12nm,0.8s,mb5.0
CABF La Chapelle 89.76 316 *eP* **P 07 56 44.1 +0.4**
CABF pmax pmax
comp=Z,6.0nm,0.8s,mb5.0
ORIF Oris-en-Rattie 89.98 315 *eP* **P 07 56 45.3 +0.5**
comp=Z,7.3nm,0.8s,mb4.8
ORIF Oris-en-Rattie 89.98 315 *eP* **P 07 56 45.3 +0.5**
ORIF pmax pmax
comp=Z,4.0nm,0.8s,mb4.8
SMRF Simiane la Rot 90.25 314 *eP* **P 07 56 46.9 +0.9**
comp=Z,10nm,0.8s,mb4.9
GIVF Givet 90.41 320 *eP* **P 07 56 46.3 -0.3**
BAIF Baives 90.81 320 *eP* **P 07 56 49.2 +0.8**
comp=Z,25nm,0.9s,mb5.2
BAIF Baives 90.81 320 *eP* **P 07 56 49.2 +0.8**
BAIF pmax pmax
comp=Z,13nm,0.9s,mb5.3
VIVF Saint-Julien-l 90.84 315 *eP* **P 07 56 49.0 +0.3**
comp=Z,14nm,1.0s,mb5.0
VIVF Saint-Julien-l 90.84 315 *eP* **P 07 56 49.0 +0.3**
VIVF pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
LOR Lormes 91.24 317 *eP* **P 07 56 50.8 +0.3**
comp=Z,24nm,0.8s,mb5.3
LOR Lormes 91.24 317 *eP* **P 07 56 50.8 +0.3**
LOR pmax pmax
comp=Z,12nm,0.8s,mb5.3
SMF Signal de Mont 91.30 317 *eP* **P 07 56 51.0 +0.2**
comp=Z,26nm,0.9s,mb5.3
SMF Signal de Mont 91.30 317 *eP* **P 07 56 51.0 +0.2**
SMF pmax pmax
comp=Z,13nm,0.9s,mb5.3
LASF Ste Croix 91.48 314 *eP* **P 07 56 52.4 +0.7**
comp=Z,11nm,0.9s,mb4.9
SSF Saint Saulge 91.50 317 *eP* **P 07 56 52.0 +0.3**
comp=Z,2.3nm,0.7s,mb4.6
SSF Saint Saulge 91.50 317 *eP* **P 07 56 52.0 +0.3**
SSF pmax pmax
comp=Z,2.0nm,0.7s,mb4.6
AVF Avril sur Loir 91.62 317 *eP* **P 07 56 52.6 +0.3**
comp=Z,20nm,1.0s,mb5.1
AVF Avril sur Loir 91.62 317 *eP* **P 07 56 52.6 +0.3**
AVF pmax pmax
comp=Z,10.0nm,1.0s,mb5.1
BGF Bois d'Agland 91.99 317 *eP* **P 07 56 54.7 +0.7**
TCF Toulx Ste Croi 92.45 316 *eP* **P 07 56 56.6 +0.5**
CAF Calviac 92.68 315 *eP* **P 07 56 58.0 +0.8**
comp=Z,12nm,1.0s,mb5.0
CAF Calviac 92.68 315 *eP* **P 07 56 58.0 +0.8**
CAF pmax pmax
comp=Z,6.0nm,1.0s,mb5.0
MTLF Montolieu 92.72 313 *eP* **P 07 56 57.3 -0.1**
comp=Z,3.3nm,0.6s,mb4.7
MTLF Montolieu 92.72 313 *eP* **P 07 56 57.3 -0.1**
MTLF pmax pmax
comp=Z,2.0nm,0.6s,mb4.7
RJF Les Rejaudoux 93.03 315 *eP* **P 07 56 59.6 +0.8**
comp=Z,8.0nm,0.8s,mb4.9
RJF Les Rejaudoux 93.03 315 *eP* **P 07 56 59.6 +0.8**
RJF pmax pmax
comp=Z,4.0nm,0.8s,mb4.9
LDF La Druitiere 93.77 319 *eP* **P 07 57 02.0 -0.1**
FLN La Foliniere 93.99 319 *eP* **P 07 57 03.0 -0.1**
MFF Saint Martin d 94.04 317 *eP* **P 07 57 03.6 +0.2**
ETSF Etsaut 94.79 313 *eP* **P 07 57 07.7 +0.8**
comp=Z,6.9nm,0.9s,mb4.8
ETSF Etsaut 94.79 313 *eP* **P 07 57 07.7 +0.8**
ETSF pmax pmax
comp=Z,3.0nm,0.9s,mb4.7
IMA Indian Mountai 95.62 23 *eP* **P 07 57 10.7 +0.5**
comp=Z,10nm,0.6s,mb5.4
IMA Indian Mountai 95.62 23 *eP* **P 07 57 10.7 +0.5**
IMA pmax pmax
comp=Z,10.0nm,0.6s,mb5.4
VNA2 Neumayer--Watz 96.81 199 **P 07 57 23.1 +7.6**
VNA1 Neumayer--Stat 97.16 199 **P 07 57 27.5 +10**
VNA3 Neumayer Olymp 97.45 198 **P 07 57 21.6 +3.2**
MSO Missoula 123.95 26 *e*PKPdf PKPdf 08 02 41.9 -5.4
MOD Modoc 124.34 34 *e*PKPdf PKPdf 08 02 44.5 -3.8
ULM Lac du Bonnet 126.66 11 PKP PKPdf 08 02 48.2 -4.2
comp=Z,3.2nm,0.7s,baz=328,slow=2.7,SNR=5.8
LAO LASA Array 127.11 21 *e*PKPdf PKPdf 08 02 50.2 -3.2
RRI2 Red Ridge 127.83 27 *e*PKPdf PKPdf 08 02 50.1 -4.9
ELK Elko 127.89 32 *e*PKPdf PKPdf 08 02 52.8 -2.3
LOHW Long Hollow 127.94 26 *e*PKPdf PKPdf 08 02 51.0 -4.1
PDAR Pinedale Array 129.07 26 PKP PKPdf 08 02 53.6 -3.7
comp=Z,0.7nm,0.6s,baz=180,slow=1.5,SNR=7.4
DUG Dugway 129.54 30 *e*PKPdf PKPdf 08 02 55.7 -2.6
SRU San Rafael 131.51 30 *e*PKPdf PKPdf 08 02 59.4 -2.7
TUC Tucson 136.45 36 *e*PKPdf PKPdf 08 03 09.0 -2.4
PLCA Paso Flores 140.02 194 PKhKP 08 03 10.8
comp=Z,2.4nm,1.1s,baz=264,slow=14,SNR=1.8
WVT Waverly 141.72 7 *e*PKPpre 08 03 10.3
TXAR Lajitas Array 142.68 32 PKhKP 08 03 15.6
comp=Z,0.6nm,0.6s,baz=262,slow=1.5,SNR=11
TXAR PKP PKPdf 08 03 19.1 -3.7
comp=Z,1.8nm,0.8s,baz=262,slow=1.5,SNR=12
TXAR Lajitas Array 142.68 32 PKP PKPdf 08 03 15.6 -7.2
TXAR PKP PKPdf 08 03 19.1 -3.7
BDFB Brasilia 143.69 246 PKP PKPdf 08 03 19.2 -5.6
comp=Z,0.6nm,0.3s,baz=195,slow=12,SNR=1.7
LRAL Lakeview Retre 144.87 7 *e*PKPdf PKPdf 08 03 21.1 -5.3
CPUP Villa Florida 145.99 222 PKPbc PKPbc 08 03 26.2 +1.7
comp=Z,4.0nm,0.7s,baz=156,slow=1.9,SNR=13
CPUP Villa Florida 145.99 222 *e*PKPdf PKPdf 08 03 25.8 -2.8
CFAA Coronel Fontan 147.73 203 PKPbc PKPdf 08 03 30.9 -0.3
comp=Z,0.9nm,0.8s,baz=136,slow=2.5,SNR=16
LPAZ La Paz 160.16 223 PKP PKPdf 08 03 45.1 -3.8
comp=Z,0.5nm,0.9s,baz=42,slow=12,SNR=3.6

*IDC **17** 07:56:00.9±2.0,2.70N×66.31E,mb4.0/7,mb1 4.2/7, mb1mx4.0/16,mbtmp4.0/7,MS3.9/4,Ms1 3.8/4, ms1mx3.5/12,Error ellipse: s-maj=52.2km s-min=36.8km az=150.0*
*NEIC **17** 07:56:01.9±0.8,2.61N×66.34E,h10km,mb4.2/3,Error ellipse: s-maj=22.9km s-min=18.6km az=48.0*

ISC 17 07:56:00.1±1.4,2.6N±0.2×66.4E±0.2,h10km,n15, σ0§65/12,mb4.1/9,MS3.9/4,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**46.11**	**15**	P	**P**	**08 04 25.9**	**-0.4**
	0.6nm,0.7s,mb3.6,baz=190,slow=7.4,SNR=4.0						
MKAR				LR	LR	08 24 28.6	
	comp=Z,77nm,20.6s,MS3.6,slow=37						
MKAR	**Makanchi Array**	**46.11**	**15**	P	**P**	**08 04 25.9**	**-0.4**
MKAR				LR	LR	08 24 28.6	
BRTR	**Keskin Array B**	**47.38**	**325**	P	**P**	**08 04 37.4**	**+0.9**
	1.0nm,0.7s,mb3.9,baz=149,slow=8.4,SNR=3.5						
KURK	**Kurchatov**	**49.01**	**10**	*e*P	**P**	**08 04 49.5**	**+0.5**
	1.6nm,0.6s,mb4.2						
ZAL	**Zalesovo**	**53.33**	**13**	P	**P**	**08 05 21.1**	**-0.5**
	2.7nm,0.7s,mb4.3,baz=264,slow=7.0,SNR=12						
ZAL				LR	LR	08 28 55.8	
	comp=Z,108nm,18.0s,MS4.0,baz=277,slow=37						
SONM	**Songino Array**	**56.69**	**31**	P	**P**	**08 05 47.0**	**+0.8**
	1.8nm,1.1s,mb4.0,baz=234,slow=6.3,SNR=8.1						
SONM				LR	LR	08 30 01.7	
	comp=Z,167nm,21.8s,MS4.1,baz=3.2,slow=36						
FINES	**FINESS Array B**	**66.04**	**340**	P	**P**	**08 06 47.9**	**-1.1**
	5.5nm,1.1s,mb4.5,baz=143,slow=6.9,SNR=3.9						
WRAB	**Tennant Creek**	**70.30**	**112**	*e*P	**P**	**08 07 16.3**	**0.0**
	5.8nm,0.8s,mb4.6						
DBIC	**Dimbokro**	**71.07**	**276**	LR	LR	08 40 44.2	
	comp=Z,64nm,20.2s,MS3.9,baz=60,slow=38						
NB2	**NORSAR Subarra**	**71.48**	**335**	P	**P**	**08 07 22.0**	**-0.7**
	0.3nm,0.8s,mb3.3,baz=109,slow=7.4						
NOA	**NORSAR Array B**	**71.48**	**335**	P	**P**	**08 07 22.2**	**-0.6**
	2.7nm,0.8s,mb4.2,baz=113,slow=6.6,SNR=5.1						
NOA	**NORSAR Array B**	**71.48**	**335**	P	**P**	**08 07 22.2**	**-0.6**
ESDC	**Sonseca Array**	**73.24**	**311**	P	**P**	**08 07 33.9**	**+0.3**
	0.7nm,0.4s,mb3.9,baz=80,slow=5.3,SNR=8.1						
PLCA	**Paso Flores**	**125.75**	**220**	PKP	PKPdf	08 15 04.4	-1.3
	3.0nm,1.0s,baz=60,slow=7.3,SNR=3.0						
TXAR	**Lajitas Array**	**146.81**	**344**	PKPbc	PKPbc	08 15 45.6	+2.6
	7.7nm,0.9s,baz=59,slow=2.8,SNR=65						

CASC 17 08:11:55.1±2.6,6.11N×82.58W,h18km±80km,MD4.4, MW4.6,6C-2D,South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRU2	**Volcan**	**2.67**	**358**	⇑*iP*	Pn	08 12 37.4	-0.6
BRU2				*e*S	Sn	08 13 11.3	+1.1
AZU2	**Pedas**	**2.91**	**61**	⇑*iP*	Pn	08 12 40.6	-0.9
AZU2				*e*S	Sn	08 13 09.8	-6.4
BUS	**Buena Vista**	**3.61**	**341**	⇑*iP*	Pn	08 12 50.6	-0.9
BUS				⇑*e*P		08 12 50.6	
BUS				*e*S	Sn	08 13 34.5	+0.4
LCR2	**La Lucha 2**	**3.87**	**339**	⇑*iP*	Pn	08 12 53.6	-1.5
LCR2				⇑*e*P		08 12 53.7	
LCR2				*e*S	Sn	08 13 39.9	-0.8
SJS	**Escuela Geolog**	**4.07**	**339**	⇓*e*P	Pn	08 12 57.0	-1.0
SJS				*e*P		08 12 57.4	
SJS				*e*S	Sn	08 13 45.7	-0.1
PRS1	**Puriscal**	**4.21**	**336**	*e*P	Pn	08 12 57.1	-2.8
PRS1				*e*P		08 12 57.1	
PRS1				*e*S	Sn	08 13 46.2	-3.0
VPS2	**Volcan Poas 2**	**4.37**	**338**	⇓*e*P	Pn	08 13 01.9	-0.4

NNC 17 08:32:44.7±7.6,37.18N×71.07E,h226km±112km,mpv3.4, 3C-1D,Error ellipse: s-maj=85.4km s-min=53.2km az=36.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**5.93**	**356**	P	P	08 34 10.8	-1.4
	1.5nm,0.3s,baz=175,slow=12,SNR=45						
KK31				⇑S	S	08 35 21.2	+1.0
	0.8nm,0.4s,baz=159,slow=57,SNR=3.7						
AAK	**Ala-Archa**	**6.05**	**25**	⇓P	P	08 34 12.6	-1.0
	1.4nm,0.5s						
AAK				⇑S	S	08 35 24.1	+1.1
	2.5nm,0.5s						
AB31	**Akbulak array**	**14.52**	**330**	P	P	08 36 02.6	+1.7
	0.4nm,0.4s,baz=146,slow=14,SNR=17						
AB31				⇑S	S	08 38 38.6	+2.3
	0.3nm,0.6s						

*IDC **17** 09:01:46.3±1.1,24.30S×66.93W,h172km±11km,mb3.3/3, mb1 3.6/8,mb1mx3.5/16,mbtmp3.9/8,Error ellipse: s-maj=19.6km s-min=11.8km az=77.0*
*GUC **17** 09:01:47.6±0.8,24.28S×67.35W,h200km,ML4.7*
*NEIC **17** 09:01:47.3±0.7,24.30S×67.01W,h177km±9km,mb4.5/2, Error ellipse: s-maj=14.6km s-min=7.3km az=92.0*

ISC 17 09:01:45.6±0.7,24.33S±0.04×66.98W±0.09, h177km±10km,n31,σ1§14/41,mb3.3/3,7C-2D,Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.46**	**313**	P	**P**	**09 02 30.3**	**+2.1**
	192nm,0.3s,baz=134,slow=5.7,SNR=1473						
LVC				S	**S**	**09 03 01.7**	**+0.7**
	183nm,0.3s,baz=264,slow=21,SNR=23						
LVC	**Limon Verde**	**2.46**	**313**	⇑*iP*	**P**	**09 02 30.3**	**+2.1**
LVC				*i* S	**S**	**09 03 01.6**	**+0.6**
LVC				AMP		09 03 05.2	
	comp=E,1μm,0.5s						
CPN1	**Cerro Paranal**	**3.14**	**264**	*e*P	**P**	**09 02 37.5**	**+1.1**
CPN1				*i* S	**S**	**09 03 15.1**	**-0.5**
CPN1				AMP		09 03 17.0	
	comp=E,2μm,0.5s						
ANCH	**Antofagasta**	**3.21**	**281**	*e*P	**P**	**09 02 38.1**	**+0.9**
ANCH				*i* S	**S**	**09 03 15.8**	**-1.2**
ANCH				AMP		09 03 19.2	
	comp=N,2μm,0.1s						
ANCH	**Antofagasta**	**3.21**	**281**	*e*P	**P**	**09 02 38.4**	**+1.1**
ANCH				*i* S	**S**	**09 03 16.1**	**-0.9**
CRCH	**Chaqaral**	**3.86**	**238**	⇑*iP*	**P**	**09 02 46.1**	**+0.6**
CRCH				*i* S	**S**	**09 03 31.2**	**-0.7**
CPCH	**Copiapo**	**4.29**	**225**	⇓*iP*	**P**	**09 02 50.6**	**-0.4**
CPCH				*i* S	**S**	**09 03 40.3**	**-1.2**
CPCH	**Copiapo**	**4.29**	**225**	⇑*iP*	**P**	**09 02 50.8**	**-0.2**
CPCH				*i* S	**S**	**09 03 40.8**	**-0.8**
VACH	**Vallenar**	**5.42**	**218**	⇓*iP*	**P**	**09 03 05.9**	**+0.1**
VACH				*i* S	**S**	**09 04 07.8**	**-0.2**
CFAA	**Coronel Fontan**	**7.34**	**188**	P	**P**	**09 03 32.2**	**+1.2**
	comp=N,0.2nm,0.3s,baz=360,slow=13,SNR=43						
CFAA				S	**S**	**09 04 50.3**	**-2.9**
	comp=N,1.3nm,0.3s,baz=149,slow=17,SNR=20						
CFAA	**Coronel Fontan**	**7.34**	**188**	P	**P**	**09 03 32.2**	**+1.2**
CFAA				S	**S**	**09 04 50.3**	**-2.9**
LPAZ	**La Paz**	**8.07**	**352**	P	**P**	**09 03 42.0**	**+1.4**
	comp=N,1.7nm,0.3s,baz=149,slow=6.3,SNR=53						
LPAZ				S	**S**	**09 05 06.8**	**-3.8**
	comp=N,0.8nm,0.3s,baz=27,slow=24,SNR=3.1						
SIV	**San Ignacio**	**9.97**	**35**	P	**P**	**09 04 04.2**	**-1.4**
	comp=N,4.0nm,0.3s,baz=246,slow=11,SNR=211						
TRQA	**Tornquist**	**14.34**	**164**	*e*P	**P**	**09 05 00.6**	**-0.9**
	comp=N,31nm,0.7s						
SAML	**Samuel**	**15.71**	**14**	*e*P	**P**	**09 05 16.4**	**-2.5**
	comp=N,9.4nm,0.8s						
PLCA	**Paso Flores**	**16.63**	**190**	P	**P**	**09 05 30.5**	**+0.6**
	comp=N,0.2nm,0.3s,baz=352,slow=15,SNR=3.9						
PLCA	**Paso Flores**	**16.63**	**190**	P	**P**	**09 05 30.5**	**+0.6**
BDFB	**Brasilia**	**19.79**	**68**	P	**P**	**09 06 03.5**	**-0.6**
	comp=N,1.5nm,0.3s,baz=246,slow=8.2,SNR=8.4						
VNA3	**Neumayer Olymp**	**56.84**	**161**	⇑*i*	**P**	**09 11 13.7**	**+0.4**
VNA1	**Neumayer--Stat**	**57.04**	**160**	⇑*i*	**P**	**09 11 15.6**	**+0.9**
VNA1	**Neumayer--Stat**	**57.04**	**160**	*e*	**P**	**09 11 17.9**	**+3.2**
VNA2	**Neumayer--Watz**	**57.40**	**160**	⇑*i*	**P**	**09 11 17.7**	**+0.4**
VNA2	**Neumayer--Watz**	**57.40**	**160**	*e*	**P**	**09 11 20.1**	**+2.8**
SNAA	**Sanae**	**59.04**	**161**	⇑*i*	**P**	**09 11 28.5**	**-0.2**
SNAA	**Sanae**	**59.04**	**161**	*e*	**P**	**09 11 30.7**	**+2.0**
TXAR	**Lajitas Array**	**63.95**	**324**	P	**P**	**09 12 01.5**	**-0.6**
	comp=N,0.2nm,0.6s,mb3.1,baz=150,slow=10,SNR=4.8						
TXAR	**Lajitas Array**	**63.95**	**324**	P	**P**	**09 12 01.5**	**-0.6**
PDAR	**Pinedale Array**	**77.44**	**329**	P	**P**	**09 13 21.8**	**-0.9**
	comp=N,0.2nm,0.7s,mb2.9,baz=96,slow=9.1,SNR=3.4						
BOSA	**Boshof**	**80.56**	**117**	P	**P**	**09 13 40.1**	**+0.2**
	comp=N,3.1nm,0.8s,mb4.0,baz=283,slow=3.9,SNR=7.3						
STKA	**Stephens Creek**	**117.80**	**207**	*e*P	Pdif	09 16 30.1	-0.3
MKAR	**Makanchi Array**	**146.76**	**40**	PKPbc	PKPbc	09 21 08.0	+2.0
	comp=N,1.0nm,0.5s,baz=290,slow=3.8,SNR=13						

*BER **17** 09:37:48.6±2.5,59.32N×27.17E,ML2.3(NAO), Suspected explosion*
*NAO **17** 09:37:49.0±2.8,59.34N×26.85E,ML2.3*
*IDC **17** 09:37:52.4±2.2,59.53N×26.89E,mb1 3.2/3, mb1mx3.0/19,mbtmp3.1/3,ML3.0/3,Error ellipse: s-maj=19.0km s-min=10.5km az=125.0*

HEL 17 09:37:48.9±0.1,59.30N×27.06E,ML1.9,ML2.3(NAO), Explosion,Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VSU	**Vasula**	**0.86**	**191**	*e*P	Pg	09 38 04.5	-1.6
VSU				*e*S	Sg	09 38 15.1	-2.4
VJF	**Virojoki**	**1.27**	**11**	*e*P	Pb	09 38 11.3	-2.0
VJF				*e*S	Sb	09 38 27.7	-2.4
PVF	**Pernaja**	**1.39**	**335**	*e*P	Pb	09 38 13.9	-1.4
PVF				*e*S	Sb	09 38 31.2	-2.3
FIA0	**FINESS Array S**	**2.20**	**348**	*e*P	Pn	09 38 26.3	-1.0
FIA0				*e*S	Sn	09 38 53.5	-2.1
FIA0	**FINESS Array S**	**2.20**	**348**	Pn	Pn	09 38 26.4	-0.8
	baz=165,slow=18						
FIA0				Lg		09 38 57.0	
	baz=172,slow=37						
FIA0				Rg		09 39 10.6	
	baz=172,slow=37						
FINES	**FINESS Array B**	**2.20**	**348**	Pg	Pn	09 38 26.2	-1.0
	3.4nm,0.3s,baz=168,slow=16,SNR=65						
FINES				Lg		09 38 54.6	
	5.0nm,0.3s,baz=170,slow=25,SNR=26						
FINES				Rg		09 39 08.7	
	2.7nm,0.3s,baz=180,slow=19,SNR=4.3						
KAF	**Kangasniemi**	**2.85**	**353**	*e*P	Pn	09 38 35.5	-0.9
KAF				*e*S	Sn	09 39 10.3	-1.6
KAF				*e*SG	Sg	09 39 16.6	-7.1
KAF				MSG		09 39 17.9	
	comp=Z,4.5nm,0.3s						
KEF	**Keuruu**	**3.07**	**340**	*e*P	Pn	09 38 39.1	-0.5
KEF				*e*S	Sn	09 39 16.0	-1.5
SUF	**Sumiainen**	**3.46**	**353**	*e*P	Pn	09 38 44.0	-1.1
SUF				*e*S	Sn	09 39 24.5	-2.9
SUF				*e*SG	Sg	09 39 35.6	-8.4
SUF				MSG		09 39 36.5	
	comp=Z,2.4nm,0.2s						
HFS	**Hagfors**	**6.81**	**283**	Pn	Pn	09 39 29.1	-3.4
	baz=93,slow=18						
HFS				Sn	Sn	09 40 44.3	-7.5
	baz=86,slow=37						
HFS				Lg		09 41 19.9	
	baz=96,slow=37						
HFS	**Hagfors**	**6.81**	**283**	*e*P	Pn	09 39 29.1	-3.4
HFS				*e*S	Sn	09 40 44.3	-7.5
HFS				*e*SG	Sg	09 41 19.9	-16
HFS	**Hagfors**	**6.81**	**283**	Pn	Pn	09 39 28.6	-4.0
	comp=Z,0.0nm,0.3s,baz=96,slow=14,SNR=3.0						
HFS				Sn	Sn	09 40 44.4	-7.3
	comp=Z,0.1nm,0.3s,baz=93,slow=26,SNR=4.1						
HFS				Lg		09 41 20.0	
	comp=Z,0.2nm,0.3s,baz=93,slow=29,SNR=6.0						
NB2	**NORSAR Subarra**	**8.09**	**289**	Pn	P	09 39 44.6	-5.8
	baz=90,slow=14						
NB2	**NORSAR Subarra**	**8.09**	**289**	*e*P	P	09 39 44.6	-5.8
NOA	**NORSAR Array B**	**8.09**	**289**	Pn	P	09 39 45.9	-4.5
	comp=Z,0.2nm,0.3s,baz=102,slow=11,SNR=2.5						
NOA				Lg		09 42 01.0	
	comp=Z,0.4nm,0.3s,baz=131,slow=20,SNR=3.9						
ARA0	**ARCESS Array S**	**10.30**	**357**	Pn	P	09 40 14.6	-6.2
	baz=173,slow=16						
ARA0				Sn	S	09 42 05.9	-12
	baz=171,slow=28						
ARA0				Lg		09 43 04.2	
	baz=172,slow=28						
ARA0	**ARCESS Array S**	**10.30**	**357**	*e*P	P	09 40 14.6	-6.2
ARA0				*e*S	S	09 42 05.9	-12
ARA0				*e*SG		09 43 04.2	
ARCES	**ARCESS Array B**	**10.30**	**357**	Pn	P	09 40 15.1	-5.7
	comp=Z,0.2nm,0.3s,baz=176,slow=13,SNR=12						

*BJI **17** 09:40:20.8,29.54S×177.28W,h12km,mB5.4,mb5.2, Ms4.7,Msz4.5*
*IDC **17** 09:40:20.4±0.4,30.22S×178.07W,mb4.7/10,mb1 4.8/13, mb1mx4.8/13,mbtmp4.7/13,ML4.6/2,MS4.4/12,Ms1 4.4/12, ms1mx4.3/15,Error ellipse: s-maj=23.4km s-min=15.5km az=108.0*
*HRVD **17** 09:40:22.1±0.2,30.09S×177.59W,h56km±1km,MW5.2/65, Centroid moment Tensor Solution. LP body waves: s58,c97;Mantle waves: s65,c115; Half duration: 1§0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.76±.03; $M_{\theta\theta}$0.11±.02; $M_{\phi\phi}$-0.87±.02; $M_{r\theta}$0.11±.02; $M_{\theta\phi}$-0.17±.02; $M_{r\phi}$0.29±.02; Best double couple: M_0.89×10^{17} NP1:ϕ_s184°,δ35°,λ82°. NP2:ϕ_s14°,δ55°,λ96°. Principal axes: T.823, Plg79°, Azm305°; N.134, Plg5°, Azm191°; P-.957, Plg10°, Azm100°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **17** 09:40:22.1±0.2,30.20S×177.86W,h10km,mb5.1/37, MS4.9/7 Error ellipse: s-maj=9.8km s-min=5.3km az=120.0*
*CSEM **17** 09:40:23.6,30.14S×177.88W,h33km,mb5.6*
*MOS **17** 09:40:24.6±1.4,30.09S×177.80W,h33km,mb5.5/14, MS4.6/6,Error ellipse: s-maj=14.3km s-min=10.7km az=77.5*

ISC 17 09:40:24.2±0.2,30.29S±0.03×177.96W±0.06,h33km, (h38km±2.9km:pP-P),n357,σ1§26/160,mb5.0/52,MS4.5/30, 20C-12D,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.03**	**2**	Pn	**Pn**	**09 40 42.8**	**+0.3**
	5μm,0.3s,baz=117,slow=4.9,SNR=387						
RAO	**Raoul Island**	**1.03**	**2**	*e*P*	**Pb**	**09 40 42.8**	**-0.7**
MXZ	**Matakaoa Point**	**7.89**	**202**	PN	**Pn**	**09 42 17.9**	**-1.8**
MXZ				SN	**Sn**	**09 43 49.7**	**+1.0**
MXZ	**Matakaoa Point**	**7.89**	**202**	P	**P**	**09 42 17.9**	**-1.5**
MXZ				S	**S**	**09 43 49.7**	**+1.2**
PUZ	**Puketiti**	**8.37**	**201**	PN	**P**	**09 42 24.1**	**-2.0**
PUZ				SN	**Sn**	**09 44 00.2**	**-0.5**
PUZ	**Puketiti**	**8.37**	**201**	*e*P	**P**	**09 42 24.1**	**-2.0**
WCZ	**Waipu Caves**	**8.57**	**227**	PN	**P**	**09 42 36.0**	**+7.2**
WCZ	**Waipu Caves**	**8.57**	**227**	*e*P	**P**	**09 42 36.0**	**+7.2**
OUZ	**Omahuta**	**8.64**	**233**	PN	**P**	**09 42 38.0**	**+8.1**
OUZ	**Omahuta**	**8.64**	**233**	*e*P	**P**	**09 42 38.8**	**+8.9**
MWZ	**Matawai**	**8.85**	**204**	PN	**P**	**09 42 30.4**	**-2.3**
MWZ				SN	**Sn**	**09 44 12.5**	**0.0**
MWZ	**Matawai**	**8.85**	**204**	*e*P	**P**	**09 42 30.4**	**-2.3**
URZ	**Urewera**	**8.94**	**206**	Pn	**P**	**09 42 31.7**	**-2.2**
	2.4nm,0.3s,baz=173,slow=18,SNR=15						
URZ				Sn	**Sn**	**09 44 14.3**

5.2nm,0.3s,baz=69,slow=11,SNR=7.0
RAR Rarotonga 18.69 65 *e*P P **09 44 38.3 -3.9**
212nm,1.1s
TBI Tubuai 26.31 82 *e*LR LR 09 52 27.0
3µm,27.0s,baz=245
RIV Riverview 26.36 254 *e*P P **09 46 03.4 +4.2**
CNB Canberra Magne 27.84 251 ⇓*i*P P **09 46 16.3 +3.5**
28nm,0.8s,mb5.0
PAE Paea 28.73 71 *e*P P **09 46 20.0 -0.8**
72nm,1.2s,mb5.3
PPT Papeete 28.78 70 *e*P P **09 46 20.6 -0.6**
PPT Papeete 28.78 70 *e*LR LR 09 53 30.0
3µm,26.2s,baz=237
PPT Papeete 28.78 70 P P **09 46 19.6 -1.6**
6.1nm,0.3s,mb4.8,baz=195,slow=8.9,SNR=3.3
PPT LR LR 09 54 09.5
comp=Z,1µm,21.8s,MS4.5,baz=244,slow=29
TVO Taravao 28.93 71 *e*P P **09 46 21.9 -0.7**
HNR Honiara 29.25 311 LR LR 09 56 03.1
comp=Z,868nm,21.4s,MS4.3,baz=149,slow=32
TOO Toolangi 31.04 247 ⇓*i*P P **09 46 43.5 +2.3**
28nm,0.7s,mb5.2
CTAO Charters Tower 33.81 279 *e*P P **09 47 07.8 +2.3**
136nm,0.7s,mb6.0
STKA Stephens Creek 34.54 257 ⇓*i*P P **09 47 14.0 +2.4**
99nm,0.8s,mb5.8
STKA Stephens Creek 34.54 257 P P **09 47 13.9 +2.3**
114nm,0.7s,mb5.9,baz=91,slow=9.0,SNR=133
STKA LR LR 10 00 21.2
comp=Z,2µm,18.3s,MS4.8,baz=63,slow=35
RKT Rikitea 38.88 90 *e*LQ 09 56 43.7
RKT *e*LR LR 09 58 17.7
2µm,26.8s,baz=256
TAOE Nuku Hiva Isla 41.23 67 *e*LR LR 09 59 10.8
5µm,26.6s
WRAB Tennant Creek 44.12 272 *e*P P **09 48 30.8 -0.6**
DRV Dumont d'Urvil 44.26 202 P P **09 48 45.0 +13**
FORT Forrest 46.11 255 ⇓*i*P P **09 48 46.6 -0.6**
96nm,0.7s,mb5.8
SBA Scott Base 48.15 184 *e*P P **09 49 07.0 +4.4**
29nm,0.8s,mb5.4
VNDA Vanda 48.21 186 P P **09 49 06.3 +3.2**
5.9nm,0.6s,mb4.8,baz=12,slow=6.4,SNR=23
VNDA PcP PcP 09 50 30.8 +0.5
4.8nm,0.7s,baz=358,slow=4.4,SNR=2.5
VNDA LR LR 10 05 57.1
comp=Z,231nm,18.4s,MS4.2,baz=40,slow=32
VNDA Vanda 48.21 186 *e*P P **09 49 06.0 +3.0**
6.5nm,0.7s,mb4.8
KAKA Kakadu 48.95 280 *e*P P **09 49 20.4 +11**
27nm,0.6s,mb5.5
WAKE Wake Island 51.46 341 *e*P P **09 49 27.1 -1.5**
111nm,0.8s,mb5.8
KLBR Kellerberrin 54.42 251 ⇓*i*P P **09 49 50.1 -0.4**
34nm,0.9s,mb5.3
CASY Casey 55.26 208 ⇓*i*P P **09 49 56.2 +0.1**
MBWA Marble Bar 56.27 264 *e*P P **09 50 02.1 -1.8**
35nm,0.8s,mb5.4
QSPA South Pole Qui 59.82 180 *e*P P **09 50 30.7 +2.5**
68nm,0.7s,mb5.8
MIR Mirnyy 62.24 207 *d i*P P **09 50 45.4 +0.8**
MIR pmax pmax
comp=Z,57nm,1.0s,mb5.7
SYO Syowa Base 77.23 193 ⇑pP pP 09 52 21.6 -4.8
SYO Syowa Base 77.23 193 ⇓PcP PcP 09 52 29.5 +2.5
MJAR Matsushiro Arr 78.17 325 P P **09 52 20.4 -1.5**
comp=Z,6.9nm,0.8s,mb4.6,baz=168,slow=6.0,SNR=18
MAJO Matsushiro 78.17 325 *e*P P **09 52 20.6 -1.3**
comp=Z,10nm,0.9s,mb4.8
MAJO *e* 09 52 38.9
MAT Matsushiro 78.17 325 P P **09 52 20.3 -1.6**
MAT S S 10 02 23.6 +11
SNAA Sanae 78.27 178 *e* P **09 52 31.5 +10**
SNAA Sanae 78.27 178 *e* P **09 52 34.2 +12**
SNAA Sanae 78.27 178 *e* P **09 52 36.2 +14**
SNAA Sanae 78.27 178 ⇑*i*P P **09 52 22.9 +1.2**
SNAA *e* pP 09 52 31.5 -0.6
SNAA *e* pP 09 52 34.2 +2.1
SNAA *e* 09 52 36.2
SNAA *e* 09 55 19.9
SNAA Sanae 78.27 178 *c i*P P **09 52 22.9 +1.2**
VNA3 Neumayer Olymp 78.42 176 *e* P **09 52 31.1 +8.5**
VNA3 Neumayer Olymp 78.42 176 *e* P **09 52 34.6 +12**
VNA3 Neumayer Olymp 78.42 176 *e* P **09 52 36.5 +14**
VNA3 Neumayer Olymp 78.42 176 ⇑*i*P P **09 52 23.8 +1.2**
VNA3 *e* 09 52 31.1
VNA3 *e* pP 09 52 34.6 +1.7
VNA3 *e* 09 52 36.5
VNA3 *e* 09 55 21.2
VNA2 Neumayer--Watz 78.85 177 *e* P **09 52 33.2 +8.2**
VNA2 Neumayer--Watz 78.85 177 *e* P **09 52 36.5 +12**
VNA2 Neumayer--Watz 78.85 177 *e* P **09 52 38.4 +13**
VNA2 Neumayer--Watz 78.85 177 ⇑*i*P P **09 52 26.4 +1.4**
VNA2 *e* 09 52 33.2
VNA2 *e* pP 09 52 36.5 +1.2
VNA2 *e* pP 09 52 38.4 +3.1
VNA2 *e* 09 55 24.7
MAIT Maitri 78.99 183 *e*P P **09 52 27.3 +1.6**
NVL N'lazarevskaya 78.99 183 ⇑*i*P P **09 52 25.0 -0.7**
NVL *i* *SP sP 09 52 32.7 -7.0
NVL *i* 09 52 39.7
NVL *i* 10 02 36.3
NVL pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
NVL MLR MLR
comp=Z,21nm,17.6s,MS3.5
VNA1 Neumayer--Stat 79.08 177 *e* P **09 52 37.2 +11**
VNA1 Neumayer--Stat 79.08 177 *e* P **09 52 40.7 +14**
VNA1 Neumayer--Stat 79.08 177 *e* P **09 52 42.9 +17**
VNA1 Neumayer--Stat 79.08 177 ⇑*i*P P **09 52 28.0 +1.8**
VNA1 *e* pP 09 52 37.2 +0.6
VNA1 *e* 09 52 40.7
VNA1 *e* 09 52 42.9
VNA1 *e* 09 55 24.6
ASAJ Asahikawa 82.36 333 LR LR 10 25 00.7
comp=Z,462nm,21.2s,MS4.8,baz=182,slow=33
PLCA Paso Flores 82.56 133 P P **09 52 47.1 +2.0**
comp=Z,8.8nm,1.0s,mb4.8,baz=220,slow=8.6,SNR=12
PLCA LR LR 10 20 41.5
comp=Z,336nm,21.6s,MS4.7,baz=248,slow=29
SMY Shemya 82.95 355 *e*P P **09 52 46.6 -0.2**
comp=Z,35nm,0.8s,mb5.5
FX1 Attu Island--F 83.18 355 P P **09 52 48.1 +0.1**
comp=Z,26nm,0.8s,mb5.3,baz=119,slow=6.3,SNR=24
FX1 LR LR 10 22 27.2
comp=Z,14nm,21.9s,MS3.3,baz=164,slow=30
FX1 Attu Island--F 83.18 355 *e*P P **09 52 47.6 -0.4**
SSE Sheshan 84.06 311 P P **09 52 53.8 +0.8**
SSE PP PP 09 56 08.0 -0.9
SSE S S 10 03 15.0 +1.4
SSE SS SS 10 08 41.0 -4.3
SSE AMB AMB
comp=Z,19nm,0.8s,mb5.3
SSE AMB AMB
comp=Z,92nm,4.5s
SSE LR LR
comp=N,108nm,25.4s,MS4.3
SSE LR LR
comp=E,109nm,25.5s,MS4.3
SSE LR LR
comp=Z,197nm,23.4s,MS4.4
SSE Sheshan 84.06 311 P P **09 52 53.8 +0.8**
comp=Z,19nm,0.8s,mb5.3
SSE pP pP 09 53 08.3 +4.8
SSE sP sP 09 53 13.7 +6.7
SSE PP PP 09 56 08.0 -0.9
SSE S S 10 03 15.0 +1.4
SSE ScS ScS 10 03 25.2 +1.0
SSE sS 10 03 39.0
SSE SS SS 10 08 41.0 -4.3
SSE LR LR
comp=Z,200nm,23.4s,MS4.4
KS15 Wonju Array Si 84.30 320 *e*P P **09 52 54.1 +0.1**
YSS Yuzh-Sakhalins 84.66 334 *e*P P **09 52 56.2 +0.6**
comp=Z,55nm,1.0s,mb5.6
YSS LR LR
comp=Z,411nm,22.0s,MS4.8
YSS Yuzh-Sakhalins 84.66 334 ⇑*e*P P **09 52 55.2 -0.4**
YSS pmax pmax
comp=Z,20nm,0.8s,mb5.3
YSS MLR MLR
comp=Z,400nm,19.0s,MS4.8
PTRM Twissleman Ran 85.14 44 *e*P P **09 52 59.3 +1.0**
LRV Little Rabbit 85.19 43 *e*P P **09 52 57.4 -1.1**
KULM Kulim 85.24 279 *e*P P **09 52 58.5 -0.8**

PET Petropavlovsk 85.43 346 *e*P P **09 52 58.5 -0.8**
PET *e*S S 10 03 26.3 -0.3
PET *e*PS PS 10 04 25.9 -2.6
PET *e*PPS PPS 10 04 47.8 -4.7
PET *e*SS SS 10 09 04.9 -0.4
PET pmax pmax
comp=Z,100nm,10.1s
PET pmax pmax
comp=Z,19nm,0.7s,mb5.3
MWC Mount Wilson 85.50 46 *e*P P **09 53 00.6 +0.5**
PFO Pinyon Flat Ob 86.11 47 *e*P P **09 53 03.9 +0.8**
comp=Z,3.6nm,0.7s,mb4.7
NJ2 Nanjing 86.20 311 *e*P P **09 53 02.5 -1.1**
NJ2 AP pP 09 53 12.6 -1.5
NJ2 XP sP 09 53 16.1 -1.5
NJ2 PP PP 09 56 24.0 -2.2
NJ2 S S 10 03 34.5 0.0
NJ2 XS 10 03 52.9
NJ2 AMB AMB
comp=Z,280nm,4.4s
NJ2 LR LR
comp=N,300nm,30.0s,MS4.5
NJ2 LR LR
comp=E,110nm,28.2s,MS4.5
NJ2 LR LR
comp=Z,290nm,20.7s
CMB Columbia Colle 86.65 42 *e*P P **09 53 06.0 +0.3**
comp=Z,5.2nm,0.7s,mb4.9
CMB *e* pP 09 53 16.4 +0.2
CMB LR LR
comp=Z,386nm,19.0s,MS4.8
OMM Old Mammoth Mi 87.19 43 *e*P P **09 53 08.8 +0.5**
OMM *e* pP 09 53 20.4 +1.6
WDC Whiskeytown Da 87.20 39 *e*P P **09 53 06.5 -1.8**
comp=Z,4.1nm,0.7s,mb4.8
MTUM Tungsten Hills 87.26 43 *e*P P **09 53 06.0 -2.7**
MTUM *e* 09 53 20.0
LDFC Landfair 87.90 47 *e*P P **09 53 12.8 +1.1**
BEKR Beckwourth 87.92 41 *e*P P **09 53 11.8 +0.1**
comp=Z,4.3nm,0.9s,mb4.7
YBH Yreka Blue Hor 87.92 38 P P **09 53 12.4 +0.7**
comp=Z,3.6nm,0.7s,mb4.7,baz=264,slow=1.9,SNR=8.4
YBH Yreka Blue Hor 87.92 38 *e*P P **09 53 12.1 +0.4**
comp=Z,4.1nm,0.8s,mb4.7
YBH LR LR
comp=Z,280nm,22.0s,MS4.6
NEN Nelson 88.43 47 *e*P P **09 53 14.9 +0.7**
TPH Tonopah 88.54 44 *e*P P **09 53 14.6 -0.2**
comp=Z,8.9nm,0.7s,mb5.2
MDJ Mudanjiang 88.55 326 P P **09 53 14.3 -0.3**
MDJ PP PP 09 56 42.1 -3.4
MDJ S S 10 03 55.8 -0.6
MDJ SS SS 10 09 47.3 -3.5
MDJ AMB AMB
comp=Z,6.0nm,1.2s,mb4.8
MDJ AMB AMB
comp=Z,109nm,5.0s
MDJ LR LR
comp=N,132nm,25.5s,MS4.4
MDJ LR LR
comp=E,142nm,23.3s,MS4.4
MDJ LR LR
comp=Z,217nm,28.3s,MS4.4
TUC Tucson 89.01 51 *e*P P **09 53 18.5 +1.3**
comp=Z,3.9nm,0.8s,mb4.8
MOD Modoc 89.34 39 *e*P P **09 53 18.6 +0.2**
comp=Z,5.4nm,0.8s,mb4.9
MOD *e* 09 53 35.2
TIA Tai'an 89.92 313 ⇓P P **09 53 21.5 +0.2**
CN2 Changchun 90.07 323 *e*P P **09 53 22.0 +0.2**
CN2 *e*S S 10 04 09.6 -0.9
CN2 AMB AMB
comp=Z,30nm,0.8s,mb5.7
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,180nm,19.0s,MS4.6
CN2 LR LR
comp=E,130nm,19.0s,MS4.6
CN2 LR LR
comp=Z,230nm,25.0s
ARUT Antelope Range 90.65 46 *e*P P **09 53 25.6 +0.9**
KLR Kul'dur 90.95 330 *e*P P **09 53 23.3 -2.5**
ELK Elko 91.44 42 P P **09 53 28.9 +0.7**
comp=Z,2.2nm,0.9s,mb4.5,baz=242,slow=7.0,SNR=13
ELK Elko 91.44 42 *e*P P **09 53 28.3 0.0**
comp=Z,1.8nm,0.7s,mb4.5
GYA Guiyang 91.52 300 ⇑*i*P P **09 53 31.0 +1.9**
GYA PP PP 09 57 12.3 +2.6
GYA SKS SKS 10 03 58.4 +1.3
GYA S S 10 04 25.8 +2.0
GYA PS PS 10 05 46.3 +4.5
GYA AMB AMB
comp=Z,10.0nm,0.7s,mb5.2
GYA AMB AMB
comp=Z,110nm,3.7s
GYA LR LR
comp=N,210nm,19.4s,MS4.8
GYA LR LR
comp=E,280nm,20.0s,MS4.8
GYA LR LR
comp=Z,260nm,21.0s,MS4.7
ENH Enshi 91.57 304 *e*P P **09 53 29.5 +0.4**
comp=Z,12nm,0.6s,mb5.4
MSU Marysvale 91.88 46 *e*P P **09 53 27.1 -3.3**
TXAR Lajitas Array 92.30 57 P P **09 53 33.0 +0.5**
comp=Z,0.8nm,0.7s,mb4.2,baz=206,slow=6.4,SNR=11
TXAR LR LR 10 32 20.0
comp=Z,156nm,18.1s,MS4.5,baz=250,slow=34
BNM Barren Site 92.91 52 *e*P P **09 53 35.8 +0.5**
BNM *e* 09 53 49.4
BMO Blue Mountains 92.93 38 *e*P P **09 53 34.7 -0.4**
comp=Z,3.0nm,0.7s,mb4.8
LPM Los Pinos Moun 93.00 52 *e*P P **09 53 29.0 -6.6**
LPM *e* 09 53 54.2
MA2 Magadan 93.19 345 *e*P P **09 53 40.4 +4.5**
SLKM Skilak Lake 93.28 13 *e*P P **09 53 34.7 -1.5**
GDL2 Guadalupe Moun 93.38 55 *e*P P **09 53 37.6 +0.2**
ANMO Albuquerque 93.48 51 *e*P P **09 53 38.2 +0.4**
comp=Z,2.4nm,0.8s,mb4.7
ANMO Albuquerque 93.48 51 ⇓*i*P P **09 53 38.0 +0.2**
HVU Hansel Valley 93.53 43 *e*P P **09 53 38.2 +0.3**
SPU Mount Spurr 93.55 12 *e*P P **09 53 35.5 -2.0**
HLID Hailey 93.70 41 *e*P P **09 53 38.5 -0.1**
comp=Z,3.4nm,0.8s,mb4.8
KMI Kunming 93.80 297 P P **09 53 41.3 +1.8**
KMI SKS SKS 10 04 12.9 +2.9
KMI S S 10 04 47.0 +3.3
KMI AMB AMB
comp=Z,48nm,3.7s
KMI LR LR
comp=N,154nm,17.4s,MS4.6
KMI LR LR
comp=E,108nm,17.4s,MS4.6
KMI LR LR
comp=Z,184nm,35.1s
KMI Kunming 93.80 297 P P **09 53 41.3 +1.8**
comp=Z,0.1nm,3.7s
KMI pP pP 09 53 56.7 +6.6
KMI PP PP 09 57 31.2 +3.2
KMI SKS SKS 10 04 12.9 +2.9
KMI S S 10 04 47.0 +3.3
KMI LR LR
comp=Z,180nm,35.1s,MS4.3
TCUT Toone Canyon 93.94 44 P P **09 53 38.6 -1.1**
HWUT Hardware Ranch 94.14 44 *e*P P **09 53 40.4 -0.2**
comp=Z,3.6nm,0.9s,mb4.8
HWUT LR LR
comp=Z,391nm,20.0s,MS4.9
CPRX Cap Rock 94.19 54 P P **09 53 41.4 +0.3**
MCMT McKenzie Canyo 95.36 40 *e*P P **09 53 45.8 -0.3**
TPAW Teton Pass 95.64 42 *e*P P **09 53 46.9 -0.5**
comp=Z,2.2nm,0.7s,mb4.7
SNOW Snow King Moun 95.74 42 *e*P P **09 53 47.8 0.0**
comp=Z,6.1nm,0.7s,mb5.1
SEY Seymchan 95.87 347 *e*P P **09 53 47.9 -0.1**
SEY 09 57 37.4
SEY *e* 10 04 22.5
SEY *e*S S 10 05 02.1 +1.7
SEY *e*PS PS 10 06 27.5 -1.6
SEY *e*SS SS 10 11 30.4 -4.5
SEY *e*SSS SSS 10 15 23.8 +5.2
SEY pmax pmax
comp=Z,6.0nm,0.7s,mb5.1
SEY smax
comp=N,230nm,25.3s
SEY smax
comp=E,130nm,28.5s
SEY MLR MLR
comp=Z,200nm,20.0s,MS4.6
SEY MLR MLR
comp=N,140nm,17.0s
IMW Indian Meadow 95.89 42 *e*P P **09 53 48.0 -0.5**
comp=N,1.5nm,0.6s,mb4.6
LOHW Long Hollow 95.91 42 *e*P P **09 53 48.2 -0.4**
comp=N,1.8nm,0.7s,mb4.6
PDAR Pinedale Array 96.03 44 P P **09 53 49.2 0.0**
comp=N,1.0nm,0.7s,mb4.3,baz=214,slow=2.2,SNR=12
PDAR LR LR 10 29 34.0
comp=N,217nm,22.0s,MS4.6,baz=180,slow=31
QLMT Earthquake Lak 96.17 41 *e*P P **09 53 51.5 +1.8**
HHC Hu-ho-hao-te 96.18 314 *e*P P **09 53 52.9 +3.0**
HHC SKS SKS 10 04 22.1 -0.4
HHC S S 10 05 05.4 +1.9
HHC AMB AMB
comp=Z,16nm,0.5s,mb5.7
HHC AMB AMB
comp=Z,90nm,4.5s
HHC LR LR
comp=N,124nm,32.1s,MS4.3
HHC LR LR
comp=E,99nm,28.5s,MS4.3
HHC LR LR
comp=Z,78nm,26.8s,MS4.1
DLBC Dease Lake 97.00 23 P P **09 53 54.4 +1.1**
comp=Z,1.0nm,0.6s,mb4.4,baz=215,slow=14,SNR=4.2
ILAR Eielson Array 97.81 13 PKiKP 09 58 29.8
comp=Z,0.5nm,0.7s,baz=314,slow=2.4,SNR=4.2
ILAR LR LR 10 40 19.6
comp=Z,83nm,18.0s,MS4.3,baz=183,slow=37
LPAZ La Paz 98.16 114 P P **09 54 02.0 +2.5**
comp=Z,0.6nm,0.6s,mb4.3,baz=84,slow=2.7,SNR=5.3
LPAZ LR LR 10 27 50.4
comp=Z,106nm,20.8s,MS4.3,baz=42,slow=29
LZH Lanzhou 98.68 307 *e*P P **09 54 03.5 +2.1**
LZH PP PP 09 58 07.8 +2.7
LZH AMB AMB
comp=Z,26nm,1.5s,mb5.5
LZH AMB AMB
comp=Z,93nm,7.3s
LZH LR LR
comp=N,357nm,15.4s
LZH LR LR
comp=Z,493nm,18.3s,MS5.0
LZH Lanzhou 98.68 307 *e*P P **09 54 03.5 +2.1**
comp=Z,26nm,1.5s,mb5.5
LZH pP pP 09 54 17.5 +5.5
LZH sP sP 09 54 22.6 +7.2
LZH PP PP 09 58 07.7 +2.6
LZH LR LR
comp=Z,490nm,18.3s,MS5.0
RSSD Black Hills 100.11 45 *e*Pdif P 09 54 06.1 -1.6
comp=Z,3.6nm,0.8s
RSSD LR LR
comp=Z,540nm,19.0s,MS5.1
SONM Songino Array 103.08 318 Pdiff Pdif 09 54 22.7 +1.9
comp=Z,0.3nm,0.5s,baz=89,slow=4.0,SNR=3.5
YKA Yellowknife Ar 105.33 25 PKiKP 09 58 43.4
comp=Z,1.0nm,0.6s,baz=265,slow=1.8,SNR=6.3
OPO Ambohidratompo114.82 228 PKiKP 09 59 04.0
comp=Z,1.9nm,0.6s,baz=255,slow=1.4,SNR=8.1
BOSA Boshof 117.38 203 PKP PKPdf 09 59 07.5 +0.9
comp=Z,3.4nm,0.8s,baz=193,slow=5.5,SNR=4.1
MKAR Makanchi Array 117.73 310 PKiKP 09 59 06.8
comp=Z,3.3nm,0.6s,baz=173,slow=0.5,SNR=45
MKAR Makanchi Array 117.73 310 *i* PKIKP PKPdf 09 59 06.7 -0.2
MKAR pmax pmax
comp=Z,6.0nm,0.7s
NVS Novosibirsk 119.07 319 *i* PKIKP PKPdf 09 59 08.6 -0.8
NVS pmax pmax
comp=Z,11nm,1.0s
KURK Kurchatov 121.00 314 *e*PKPdf PKPdf 09 59 12.5 -0.7
KURK Kurchatov 121.00 314 *i* PKIKP PKPdf 09 59 12.7 -0.5
KURK pmax pmax
comp=Z,7.0nm,0.7s
TKM2 Tokmak 2 121.36 304 P PKPdf 09 59 14.5 +0.4
SNR=8.2
KZA Kyzart 121.40 303 P PKPdf 09 59 15.9 +1.7
SNR=9.7
CHMS Chumysh 121.98 304 P PKPdf 09 59 15.8 +0.5
SNR=8.4
AAK Ala-Archa 122.08 304 *e*PKPdf PKPdf 09 59 14.1 -1.4
AAK Ala-Archa 122.08 304 *i* PKIKP PKPdf 09 59 16.1 +0.6
AAK pmax pmax
comp=Z,5.0nm,0.7s
USP Ospenovka 122.22 305 P PKPdf 09 59 14.9 -0.8
SNR=5.9
AML Almayashu 122.54 303 P PKPdf 09 59 17.3 +0.8
SNR=24
EKS2 Erkin-Say 122.60 304 P PKPdf 09 59 17.6 +1.0
SNR=9.2
MATP Matopo 123.52 210 PKP PKPdf 09 59 20.5 +1.7
comp=Z,12nm,0.7s,baz=152,slow=1.2,SNR=30
MATP Matopo 123.52 210 PKP PKPdf 09 59 20.5 +1.7
KKAR Karatay Array 125.04 304 *i* PKIKP PKPdf 09 59 21.5 +0.3
KKAR pmax pmax
comp=Z,15nm,0.7s
VOSK Vostochnaya 125.97 315 PKIKP PKPdf 09 59 22.2 -0.5
VOSK pmax pmax
comp=Z,12nm,0.7s
SCHQ Schefferville 126.13 42 PKP PKPdf 09 59 22.9 -0.1
comp=Z,4.7nm,0.7s,baz=241,slow=4.0,SNR=7.2
BVA0 Borovoye Array 126.35 316 *i* PKIKP PKPdf 09 59 23.5 +0.1
BVA0 pmax pmax
comp=Z,2.0nm,0.7s
BVAR Borovoye Array 126.35 316 PKP PKPdf 09 59 23.7 +0.3
comp=Z,16nm,0.7s,baz=97,slow=1.4,SNR=90
BRVK Borovoye 126.41 316 *e*PKPdf PKPdf 09 59 23.7 +0.2
LSZ Lusaka 128.17 213 *e*PKPdf PKPdf 09 59 30.2 +2.3
TSUM Tsumeb 128.57 199 PKP PKPdf 09 59 28.4 -0.2
comp=Z,2.6nm,0.7s,baz=186,slow=3.0,SNR=6.3
TSUM Tsumeb 128.57 199 PKP PKPdf 09 59 28.4 -0.2
SVE Sverdlovsk 131.83 321 *i* PKIKP PKPdf 09 59 34.0 +0.2
SVE MLR MLR
comp=N,100nm,16.0s,MS4.8
SVE MLR MLR
comp=E,100nm,16.0s,MS4.8
SVE MLR MLR
comp=Z,200nm,16.0s,MS4.9
ARU Arti 133.02 321 *i* PKIKP PKPdf 09 59 36.3 +0.2
ARU *e* 10 01 59.4
ARU *e*SS SS 10 19 38.2 -5.5
ARU MLR MLR
comp=Z,200nm,21.0s,MS4.8
ARU MLR MLR
comp=N,40nm,20.0s,MS4.8
ARU MLR MLR
comp=E,200nm,20.0s,MS4.8
SOKR Solikamsk 133.32 325 ⇑*i* PKIKP PKPdf 09 59 37.9 +1.3
SOKR pmax pmax
comp=Z,20nm,0.9s
KMBO Kilima Mbogo 134.17 233 PKP PKPdf 09 59 42.3 +2.9
comp=Z,2.8nm,0.8s,baz=221,slow=0.7,SNR=5.5
ARCES ARCESS Array B 138.49 348 PKhKP 09 59 37.5
comp=Z,4.1nm,0.7s,baz=65,slow=2.8,SNR=9.6
ARCES PKP PKPdf 09 59 48.0 +2.2
comp=Z,6.0nm,0.7s,baz=70,slow=1.5,SNR=8.4
ARCES ARCESS Array B 138.49 348 PKP PKPdf 09 59 48.0 +2.2
BLJS Baljurashi 142.87 263 P PKPdf 10 00 00.6 +5.7
TI2 Plekhanov 143.95 300 *e*PKHKP 09 59 47.0
GNI Garni 144.05 298 *e*P PKPbc 09 59 52.8 -2.7
GNI Garni 144.05 298 PKP PKPdf 09 59 56.2 0.0
comp=Z,5.5nm,0.5s,baz=22,slow=16,SNR=3.3
GNI Garni 144.05 298 *e*PKPdf PKPdf 09 59 56.3 0.0
GNI LR LR
comp=Z,184nm,19.0s,MS4.9
GNI Garni 144.05 298 *d i*PKIKP PKPdf 09 59 56.7 +0.4
GNI MLR MLR
comp=Z,100nm,22.0s
BHD Baghdad 144.06 286 *e*PKP PKPdf 09 59 54.5 -2.0
VRHR Novokhopersk 144.08 317 *i* PKIKP PKPdf 09 59 54.4 -1.6
VRHR pmax pmax
comp=N,7.0nm,0.6s
VRHR pmax pmax
comp=E,9.0nm,0.6s
VRHR pmax pmax
comp=Z,10.0nm,0.6s
MOS Moscow 144.26 326 *e*PKIKP PKPdf 09 59 54.2 -2.0
MOS pmax pmax
comp=Z,45nm,0.8s
KAF Kangasniemi 144.45 341 *e*pkp PKPdf 09 59 53.9 -2.4

baz=39,slow=3.3
ZEI Tsey 144.48 302 *e*PKIKP PKPdf 09 59 56.9 -0.1
CLDR Caldiran 144.72 296 P PKPbc 09 59 57.0 -0.4
GOF Gofitskoye 144.76 306 *e*PKIKP PKPdf 09 59 57.8 +0.4
GOF pmax pmax
comp=Z,40nm,1.3s
HKR Hakkari 144.87 293 P PKPdf 09 59 58.8 +0.9
FINES FINESS Array B 145.05 340 PKP PKPdf 09 59 57.1 -0.3
comp=Z,79nm,0.7s,baz=45,slow=2.7,SNR=193
VANB Van 145.14 295 *e*P PKPdf 09 59 59.5 +1.2
NSS Namsos 145.17 352 *e*P PKPdf 09 59 56.5 -1.0
NSS AMb AMB 09 59 57.3
comp=Z,141nm,0.7s
NSS Namsos 145.17 352 *e*P PKPdf 09 59 56.0 -1.6
HILS Ha'il 145.18 275 P PKPdf 10 00 00.3 +1.6
KIV Kislovodsk 145.19 304 *e*PKPdf PKPdf 09 59 58.8 +0.6
KIV Kislovodsk 145.19 304*c i*PKP2 PKPab 09 59 58.4 -1.5
KIV pmax pmax
comp=Z,17nm,0.9s
KIV MLR MLR
comp=Z,100nm,23.0s,MS4.5
MSL Mosul 145.36 291 *e*PKP PKPdf 10 00 11.5 +13
VRSR Storozhevoye 145.46 318*c i*PKP2 PKPab 09 59 58.5 -2.2
SIRT Sirnak 145.90 293 *e*P PKPdf 10 00 04.9 +5.2
BCA Borcka 146.31 300 *e*P PKPdf 10 00 03.5 +3.2
ERZM Erzurum 146.65 298 *i*P PKPdf 10 00 03.3 +2.5
EZM Erzurum 146.65 298 P PKPdf 10 00 02.9 +2.1
BEST Besiri 146.82 294 *i*P PKPdf 10 00 04.3 +3.1
KBRS Khaybar 146.94 271 P PKPdf 10 00 05.5 +3.7
VSU Vasula 147.14 336*c i*PKP2 PKPab 10 00 02.8 -4.1
SOC Sochi 147.38 305 *i*PKP2 PKPab 10 00 05.3 -3.1
SOC *e* 10 03 31.3
SOC pmax pmax
comp=Z,30nm,0.8s
SOC pmax pmax
comp=N,19nm,0.7s
SOC pmax pmax
comp=E,10.0nm,0.7s
MOL Molde 147.51 355 *e*P PKPdf 10 00 09.3 +7.8
MOL AMb AMB 10 00 14.1
comp=Z,74nm,1.8s
PTK Pertek 148.25 296 P PKPdf 10 00 08.2 +4.8
ELZG Elazig 148.60 295 *i*P PKPdf 10 00 09.2 +5.1
NB2 NORSAR Subarra148.65 351 PKPabc PKPdf 10 00 07.6 +4.2
comp=Z,23nm,0.7s,baz=13,slow=2.8
NB2 NORSAR Subarra148.65 351 PKPa 10 00 07.6
baz=13,slow=2.9
NOA NORSAR Array B148.65 351 PKPbc PKPdf 10 00 07.5 +4.1
comp=Z,15nm,0.8s,baz=15,slow=3.3,SNR=60
ANN Anapa 148.69 307 *i*PKP2 PKPab 10 00 08.1 -5.5
ANN pmax pmax
comp=Z,97nm,1.0s
URFA Urfa 148.78 293 *e*P PKPdf 10 00 08.9 +4.5
NAO01 NORSAR Array S 148.88 352 *e*PKPbc PKPdf 10 00 08.2 +4.5
GRSN GIRESUNGRSN 148.89 300 *i*P PKPdf 10 00 07.8 +3.4
MALT Malatya 149.05 295 *e*PKPdf PKPdf 10 00 06.3 +1.6
MALT *e*PKPbc PKPdf 10 00 10.6 +5.8
MNK Minsk 149.53 330 *e*PKHKP 10 00 06.0
GZT Gaziantep 149.78 293 *i*P PKPdf 10 00 11.7 +5.7
TBKS Tabuk 149.89 275 P PKPdf 10 00 14.7 +8.3
SVSK Karacayir 149.99 298 *e*P PKPdf 10 00 12.7 +6.5
KONO Kongsberg 150.20 352 *e*P PKPdf 10 00 11.0 +5.2
KONO AMb AMB 10 00 26.4
comp=Z,55nm,1.3s
KONO Kongsberg 150.20 352*c i*PKIKP PKPdf 10 00 11.2 +5.3
ASF Jabal al Asfar 150.21 283 PKPbc PKPdf 10 00 13.6 +6.8
comp=Z,14nm,0.8s,baz=327,slow=2.2,SNR=16
KAHT Ahir Dag 150.32 294 *i*P PKPdf 10 00 14.1 +7.3
JMQS Jabal Moqyreh 150.60 276 P PKPdf 10 00 16.1 +8.7
COBT Iskenderun 150.87 291 *i*P PKPdf 10 00 14.0 +6.4
KMY Karmoy 151.00 357 *e*P PKPdf 10 00 13.7 +6.6
KMY AMb AMB 10 00 37.2
comp=Z,83nm,1.4s
BDAS Al Bad' **151.18 275** P PKPdf 10 00 15.8 +7.5
KSHT Keshet 151.19 284 P PKPdf 10 00 16.2 +8.0
MKRJ Makawir 151.21 281 P PKPdf 10 00 15.3 +7.0
AKASG Malin Array Be 151.23 323 PKPbc PKPdf 10 00 14.3 +6.6
comp=Z,56nm,0.7s,baz=48,slow=2.3,SNR=60
BOYT Boyabat 151.30 302 *i*P PKPdf 10 00 14.3 +6.2
JMOS Jabal al Moall 151.31 276 P PKPdf 10 00 16.3 +7.8
KSDI Kefar Szold 151.33 285 P PKPdf 10 00 17.7 +9.3
ALWS Ilw as Safayha 151.38 276 P PKPdf 10 00 16.5 +7.9
TAYS Tayyib Ism 151.40 275 P PKPdf 10 00 16.4 +7.7
HAQS Haql 151.45 276 P PKPdf 10 00 16.3 +7.6
MMLI Mount Malkishu 151.48 283 P PKPdf 10 00 16.2 +7.5
ZFRI Zfri 151.48 279 P PKPdf 10 00 15.8 +7.1
EIL Elat 151.54 277 P PKPdf 10 00 15.9 +7.1
CTKT Corum 151.54 300 *i*P PKPdf 10 00 15.5 +7.0
PRNI Paran 151.60 279 P PKPdf 10 00 15.1 +6.2
HNTI Hanita 151.73 284 P PKPdf 10 00 16.1 +7.1
SLTI Sal'it 151.78 283 P PKPdf 10 00 16.7 +7.6
AVNT Avonos 151.79 296 *i*P PKPdf 10 00 16.1 +7.2
SUW Suwalki 151.79 333 *e*PKP PKPdf 10 00 15.7 +7.3
SUW Suwalki 151.79 333 *e*PKP PKPdf 10 00 15.7 +7.3
KMTI Karmit 151.80 278 P PKPdf 10 00 16.3 +7.1
OFRI 'Ofer 151.86 283 P PKPdf 10 00 20.7 +11
KZIT Kziot 152.19 280 P PKPdf 10 00 19.3 +10
BALT Daday 152.39 303 *i*P PKPdf 10 00 16.9 +7.2
MEST Erdemli 152.56 292 *i*P PKPdf 10 00 18.1 +7.9
BR131 Keskin Array S 152.57 299 *e*PKPbc PKPdf 10 00 16.9 +6.9
BRTR Keskin Array B 152.57 299 PKP PKPdf 10 00 11.5 +1.5
comp=Z,1.4nm,0.8s,baz=90,slow=1.2,SNR=5.9
BRTR PKPbc PKPdf 10 00 16.8 +6.8
comp=Z,9.3nm,0.8s,baz=139,slow=3.0,SNR=19
ELDT Eldivan 152.59 300 *i*P PKPdf 10 00 17.2 +7.1
MUD Monsted U'grnd 153.36 351 *i*P PKPab 10 00 32.1 -0.6
comp=Z,11nm,0.5s
MUD Monsted U'grnd 153.36 351 *e*PKP2 PKPab 10 00 32.1 -0.6
MUD pmax pmax
comp=Z,11nm,0.5s
BSD Bornholm Skovb 153.53 343 *i*P PKPdf 10 00 19.2 +8.3
comp=Z,23nm,0.7s
BSD *i* 10 00 31.3
BSD Bornholm Skovb 153.53 343 *i*PKIKP PKPdf 10 00 19.2 +8.3
BSD *i* 10 00 31.3
BSD pmax pmax
comp=Z,23nm,0.7s
SGKT Sivrigoynuk 153.59 301 *i*P PKPdf 10 00 17.4 +6.0
HENT Hendek 154.38 302 *i*P PKPdf 10 00 17.4 +4.9
LVV L'vov 154.40 326 *e*PKIKP PKPdf 10 00 23.2 +11
CFR Carcaliu 154.71 313 ⇑P PKPdf 10 00 21.9 +9.1
VRI Vrincioaia 155.25 316 ⇑P PKPdf 10 00 24.5 +11
BSEG Bad Segeberg 155.62 348 *e*PKP2 PKPab 10 00 41.0 -1.3
DBIC Dimbokro 155.63 163 PKP PKPdf 10 00 15.4 +0.5
comp=Z,2.6nm,0.6s,baz=152,slow=4.8,SNR=5.6
KOLS Kolonicke sedl 155.84 326 *e* PKPdf 10 00 21.3 +7.2
MLR Muntele Rosu 155.91 316 ⇑P PKPdf 10 00 18.5 +4.2
STHS Stebnicka Huta 155.99 328 *e*PKP PKPdf 10 00 19.7 +5.4
STHS *e* 10 00 47.4
OJC Ojcow 156.03 331 *e*PKP PKPdf 10 00 25.1 +11
KECS Kecovo 157.01 327 *e*PKP PKPab 10 00 49.2 +0.7
UPC Upice 157.24 337 *e*PKPab PKPab 10 00 48.2 -1.2
DPC Dobruska-Polom 157.27 336 *e*PKPab PKPab 10 00 48.5 -1.0
CLL Collm 157.47 342 *e* PKPdf 10 00 29.0 +13
CLL *i*PKP2 PKPab 10 00 48.4 -1.9
CLL *i* *PPKP2 10 00 52.8
CLL *i* 10 01 13.1
BRG Berggiesshubel 157.59 340 *e*PKP PKPdf 10 00 18.7 +2.3
BRG *i* 10 00 49.8
BRG Berggiesshubel 157.59 340 *e*PKIKP PKPdf 10 00 18.7 +2.3
BRG pmax pmax
comp=Z,5.0nm,1.1s
BRG pmax pmax
comp=Z,5.0nm,0.6s
CLZ Clausthal 157.60 346 *e*PKP2 PKPab 10 00 49.7 -1.2
VYHS Vyhne 157.75 329 *e*PKP2 PKPab 10 00 49.4 -2.2
VYHS *e* 10 04 28.5
PRU Pruhonice 158.18 338 *e*PKPab PKPab 10 00 52.3 -1.1
MOX Moxa 158.43 343 PKP2 PKPab 10 00 53.0 -1.5
MOX Moxa 158.43 343 *e*PKP2 PKPab 10 00 52.8 -1.7
MOX pmax pmax
comp=Z,20nm,1.1s
TREC Trest 158.45 336 *e*PKPab PKPab 10 00 51.4 -3.2
NKC Novy Kostel 158.59 341 *e*PKPab PKPab 10 00 53.4 -1.8
KHC Kasperske Hory 159.24 338 *e*PKPab PKPab 10 00 57.0 -1.0
HGN Heimansgroeve 159.34 353 *e*P PKPab 10 00 56.6 -1.8
comp=Z,29nm,1.0s
GRF Grafenberg Arr 159.41 343 *e*PKP2 PKPab 10 00 58.1 -0.7
WET Wettzell 159.44 339 *e*PKP2 PKPab 10 00 58.2 -0.7
GEC2 GERESS Array S 159.44 338 *e*PKP2 PKPab 10 00 57.9 -1.0
GERES GERESS Array B 159.44 338 PKP PKPdf 10 00 19.6 +0.8
comp=Z,1.2nm,0.9s,SNR=5.1
GERES PKPab PKPab 10 00 57.7 -1.2
comp=Z,1.7nm,0.7s,baz=27,slow=3.0,SNR=3.7
TNS Taunus Mts 159.51 348 *e*PKP2 PKPab 10 00 57.8 -1.4
GIVF Givet 160.10 355 *e*PKP2 PKPab 10 00 59.4 -2.3
IDI Anoyia 160.17 291 PKP PKPdf 10 00 22.6 +2.6
comp=Z,10nm,1.0s,baz=17,slow=3.5,SNR=3.8
IDI PKPab PKPab 10 01 03.4 +0.9
comp=Z,18nm,0.9s,baz=318,slow=3.9,SNR=6.9
BAIF Baives 160.18 356 *e*PKP2 PKPab 10 01 00.2 -1.9
comp=Z,21nm,0.9s
FUR Furstenfeldbru 160.79 341 *e*PKP2 PKPab 10 01 04.0 -0.7
FLN La Foliniere 161.45 5 *e*PKP2 PKPab 10 01 05.5 -2.1
comp=Z,55nm,0.8s
FLN *e*R
comp=Z,138nm,21.8s
CDF Champ du Feu 161.46 349 *e*PKP2 PKPab 10 01 05.5 -2.2
WTTA Wattenberg 161.50 339⇑*i*P PKPab 10 01 06.2 -1.6
comp=Z,12nm,1.0s
ROSF Rostrenen 161.52 11 *e*PKP2 PKPab 10 01 05.7 -2.2
comp=Z,22nm,1.0s
MOTA Moosalm 161.59 340⇓*i*P PKPab 10 01 07.2 -1.0
comp=Z,22nm,1.1s
LDF La Druitiere 161.64 5 *e*PKP2 PKPab 10 01 05.9 -2.5
comp=Z,23nm,0.7s
MEZF Maizieres J'vi 161.66 354 *e*PKP2 PKPab 10 01 06.6 -1.9
comp=Z,37nm,0.9s
SQTA Sankt Quirin 161.66 340⇑*i*P PKPab 10 01 07.5 -1.1
comp=Z,10nm,0.8s
SGMF Saint Gilles 161.71 10 *e*PKP2 PKPab 10 01 07.1 -1.7
comp=Z,23nm,0.8s
GRR Gorron 161.79 6 *e*PKP2 PKPab 10 01 06.3 -2.8
comp=Z,26nm,0.8s
QUIF Quistinic 161.95 11 *e*PKP2 PKPab 10 01 07.9 -1.9
comp=Z,18nm,0.7s
DAVA Damuels 161.98 343⇑*i*P PKPab 10 01 09.1 -0.9
comp=Z,24nm,0.8s
HAU Haudompre 162.00 351 *e*PKP2 PKPab 10 01 08.6 -1.4
comp=Z,15nm,0.6s
HAU *e*R
comp=Z,189nm,20.5s
HINF Hinteralfeld 162.11 349 *e*PKP2 PKPab 10 01 08.9 -1.6
comp=Z,11nm,0.8s
DAVOX Davos 162.44 342 PKP PKPdf 10 00 22.7 +0.9
comp=Z,2.6nm,0.7s,baz=322,slow=9.3,SNR=4.0
DAVOX PKPab PKPab 10 01 11.5 -0.5
comp=Z,26nm,0.8s,baz=3.9,slow=4.3,SNR=16
LOR Lormes 162.99 356 *e*PKP2 PKPab 10 01 12.3 -2.0
comp=Z,23nm,1.1s
LOR *e*R
comp=Z,333nm,23.0s
SSF Saint Saulge 163.21 357 *e*PKP2 PKPab 10 01 13.4 -1.9
comp=Z,36nm,0.9s
CABF La Chapelle 163.40 350 *e*PKP2 PKPab 10 01 14.3 -1.8
comp=Z,27nm,1.0s
AVF Avril sur Loir 163.49 357 *e*PKP2 PKPab 10 01 14.5 -2.0
comp=Z,25nm,1.0s
SMF Signal de Mont 163.61 356 *e*PKP2 PKPab 10 01 15.2 -1.9
comp=Z,63nm,1.1s
MFF Saint Martin d 163.62 5 *e*PKP2 PKPab 10 01 15.3 -1.8
BGF Bois d'Agland 163.74 358 *e*PKP2 PKPab 10 01 15.7 -2.0
TCF Toulx Ste Croi 164.02 360 *e*PKP2 PKPab 10 01 16.7 -2.2
comp=Z,17nm,1.1s
LPL La Plagne 164.36 348 *e*PKP2 PKPab 10 01 19.4 -1.0
comp=Z,22nm,1.0s
LPG La Plagne 164.37 348 *e*PKP2 PKPab 10 01 19.6 -0.8
comp=Z,30nm,1.0s
BNI Bardonecchia 164.81 347 *e*PKPdf PKPdf 10 00 25.5 +1.2
RJF Les Rejaudoux 165.00 1 *e*PKP2 PKPab 10 01 21.1 -2.0
comp=Z,24nm,1.0s
RJF *e*R
comp=Z,188nm,21.5s
ORIF Oris-en-Rattie 165.08 349 *e*PKP2 PKPab 10 01 22.3 -1.2
comp=Z,18nm,0.7s
ORIF *e*R
comp=Z,192nm,22.0s
MBDF Montbardon 165.11 347 *e*PKP2 PKPab 10 01 22.1 -1.5
comp=Z,17nm,0.7s
VIVF Saint-Julien-l 165.31 353 *e*PKP2 PKPab 10 01 23.1 -1.4
comp=Z,24nm,1.0s
LFF La Frestale 165.34 4 *e*PKP2 PKPab 10 01 22.8 -1.8
comp=Z,31nm,0.8s
CAF Calviac 165.39 360 *e*PKP2 PKPab 10 01 23.3 -1.5
comp=Z,11nm,0.9s
SBF Sospel 165.79 344 *e*PKP2 PKPab 10 01 25.5 -1.1
comp=Z,66nm,0.8s
SMRF Simiane la Rot 166.05 349 *e*PKP2 PKPab 10 01 26.5 -1.3
comp=Z,10nm,0.8s
LASF Ste Croix 166.16 355 *e*PKP2 PKPab 10 01 26.6 -1.7
comp=Z,13nm,1.0s
FRF La Foret Royal 166.25 346 *e*PKP2 PKPab 10 01 27.5 -1.2
comp=Z,25nm,1.0s
LMR La Mourre 166.50 346 *e*PKP2 PKPab 10 01 27.9 -1.8
comp=Z,37nm,1.0s
PGF Pioggiola 166.55 337 *e*PKP2 PKPab 10 01 28.8 -1.2
comp=Z,14nm,0.9s
MTLF Montolieu 166.97 359 *e*PKP2 PKPab 10 01 30.2 -1.6
comp=Z,10nm,0.7s
EPF Esparros 167.21 6 *e*PKP2 PKPab 10 01 30.9 -1.9
comp=Z,6.7nm,0.8s
ETSF Etsaut 167.24 9 *e*PKP2 PKPab 10 01 31.9 -1.1
comp=Z,19nm,1.0s
ESDC Sonseca Array 169.42 26 PKP PKPdf 10 00 29.9 +2.2
comp=Z,0.6nm,0.5s,baz=317,slow=2.4,SNR=5.5

BJI ***17*** *10:35:21.7,5.20S×152.13E,h134km,mB5.0,mb5.0*
HRVD ***17*** *10:35:23.8±0.3,5.44S×151.55E,h123km±3km,MW5.1/70, Centroid moment Tensor Solution. LP body waves: s34,c45;Mantle waves: s70,c120; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.65±.22; $M_{\theta\theta}$-0.80±.23; $M_{\phi\phi}$-2.85±.23; $M_{r\theta}$3.18±.15; $M_{\theta\phi}$-2.65±.22; $M_{r\phi}$2.54±.17; Best double couple: $M_0$5.847×10^{16} NP1: ϕ_s197°,δ25°,λ62°. NP2:ϕ_s48°,δ68°,λ103°. Principal axes: T 5.464, Plg65°, Azm339°; N .77, Plg12°, Azm223°; P -6.229, Plg22°, Azm128°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***17*** *10:35:23.8±0.1,5.25S×151.42E,mb5.0/40 Error ellipse: s-maj=5.9km s-min=4.9km az=90.0*
IDC ***17*** *10:35:24.9±2.7,5.27S×151.44E,h119km±24km,mb4.5/14, mb1 4.5/15,mb1mx4.5/16,mbtmp4.9/15,MS3.8/11, Ms1 3.8/11,ms1mx3.6/21,Error ellipse: s-maj=21.2km s-min=10.6km az=69.0*

ISC 17 10:35:24.7±0.2,**5.32S**±0.04×**151.34E**±0.05,**h131**km, **h131**km±3.1km:**pP-P,n168,**$_c$0**:90**/107,**mb4.9**/61,**11C-7D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.80**	**225**	P	**P**	**10 36 51.0**	**+1.4**
	47nm,0.3s,baz=31,slow=7.9,SNR=64						
PMG				S	**S**	**10 37 55.2**	**-0.2**
	112nm,0.3s,baz=342,slow=21,SNR=11						
PMG				LR	LR	10 39 08.7	
	comp=Z,603nm,21.9s,baz=44,slow=38						
PMG	**Port Moresby**	**5.80**	**225**	*e*P	**P**	**10 36 50.4**	**+0.8**
	306nm,0.8s						
CTAO	**Charters Tower**	**15.49**	**198**	*e*P	**P**	**10 38 58.9**	**+1.7**
	158nm,1.4s						
KAKA	**Kakadu**	**20.05**	**247**⇑*i*P		**P**	**10 40 00.9**	**+11**
	1μm,1.3s						
KAKA				*e*S	**S**	**10 43 37.3**	**+15**
NOUC	**Port Laguerre**	**22.09**	**140**	*e*P	**P**	**10 40 08.5**	**-1.4**
DZM	**Mont Dzumac**	**22.16**	**140**	*e*P	**P**	**10 40 10.2**	**-0.4**
DZM	**Mont Dzumac**	**22.16**	**140**	P	**P**	**10 40 10.8**	**+0.3**
	51nm,0.8s,mb5.0,baz=306,slow=8,0,SNR=48						
STKA	**Stephens Creek**	**27.95**	**198**⇑*i*P		**P**	**10 41 04.4**	**-0.6**
	7.5nm,0.9s,mb4.4						
STKA	**Stephens Creek**	**27.95**	**198**	P	**P**	**10 41 04.5**	**-0.5**
	8.3nm,0.8s,mb4.5,baz=354,slow=8.6,SNR=8.6						
FORT	**Forrest**	**33.48**	**218**⇓*i*P		**P**	**10 41 53.1**	**-0.4**
	17nm,0.7s,mb4.9						
MBWA	**Marble Bar**	**34.45**	**240**	*e*P	**P**	**10 42 01.3**	**-0.6**
	30nm,0.6s,mb5.2						
SJMP	**San Jose**	**34.85**	**301**	*e*P	**P**	**10 42 07.6**	**+2.3**
JOW	**Kunigami**	**38.99**	**326**	P	**P**	**10 42 41.1**	**+1.2**
	71nm,0.8s,mb5.3,baz=144,slow=8.7,SNR=13						
JOW				LR	LR	10 56 49.0	
	comp=Z,128nm,19.0s,baz=103,slow=33						
URZ	**Urewera**	**40.30**	**148**	P	**P**	**10 42 50.7**	**+0.2**
	6.3nm,0.5s,mb4.5,baz=183,slow=2.1,SNR=14						
KLBR	**Kellerberrin**	**40.90**	**226**	*e*P	**P**	**10 42 54.9**	**-0.6**
	34nm,1.0s,mb4.9						
NACB	**Ninganchiao**	**41.23**	**317**	P	**P**	**10 42 58.0**	**-0.3**
YHNB	**Yeheng**	**41.70**	**317**	*e*P	**P**	**10 43 03.4**	**+1.1**
TATO	**Taipei**	**41.83**	**317**	*e*P	**P**	**10 43 03.2**	**-0.1**
	48nm,0.8s,mb5.2						
NWAO	**Narrogin (SRO)**	**41.99**	**225**	*e*P	**P**	**10 43 03.0**	**-1.6**
	21nm,1.2s,mb4.7						
RPZ	**Rata Peaks**	**42.00**	**159**	P	**P**	**10 43 05.0**	**+0.4**
	32nm,0.8s,mb5.0,baz=273,slow=1.4,SNR=14						
MUN	**Mundaring**	**42.22**	**227**	*e*P	**P**	**10 43 06.2**	**-0.2**
JNU	**Nakatsue**	**42.88**	**334**	P	**P**	**10 43 11.9**	**+0.1**
	28nm,0.8s,mb4.9,baz=89,slow=12,SNR=15						
JNU				LR	LR	10 58 19.3	
	comp=Z,71nm,21.5s,baz=251,slow=32						
MJAR	**Matsushiro Arr**	**43.42**	**345**	P	**P**	**10 43 16.7**	**+0.6**
	0.8nm,0.3s,mb3.8,baz=166,slow=7.7,SNR=6.5						
MJAR				PcP	PcP	10 45 01.7	-1.0
	2.7nm,0.6s,baz=178,slow=2.7,SNR=6.5						
MAJO	**Matsushiro**	**43.42**	**345**	*e*P	**P**	**10 43 13.3**	**-2.9**
	6.1nm,0.7s,mb4.3						
QZH	**Quanzhou**	**43.81**	**315**⇑*i*P		**P**	**10 43 20.5**	**+1.1**
QZH				AMB	AMB		
	comp=Z,150nm,0.7s,mb5.7						
SSE	**Sheshan**	**46.27**	**323**	P	**P**	**10 43 39.3**	**+0.4**
SSE				AP	pP	10 44 10.3	+1.3
SSE				PP	PP	10 45 28.1	-1.0
SSE				S	**S**	**10 50 14.6**	**-0.1**
SSE				XS		10 51 07.0	
SSE				SS	SS	10 53 43.5	+7.8
SSE				AMB	AMB		
	comp=Z,21nm,0.9s,mb4.8						
SSE				AMB	AMB		
	comp=Z,65nm,4.6s						
SSE				LR	LR		
	comp=N,102nm,26.9s						
SSE				LR	LR		
	comp=E,82nm,27.0s						
SSE				LR	LR		
	comp=Z,123nm,26.5s						
SSE	**Sheshan**	**46.27**	**323**	P	**P**	**10 43 39.3**	**+0.4**
	comp=Z,21nm,0.9s,mb4.8						
SSE				pP	pP	10 44 10.3	+1.3
SSE				PP	PP	10 45 28.1	-1.0
SSE				S	**S**	**10 50 14.6**	**-0.1**
SSE				sS		10 51 07.0	
SSE				SS	SS	10 53 43.5	+7.8
SSE				LR	LR		
	comp=Z,120nm,26.5s						
QIZ	**Qiongzhong**	**47.49**	**302**	P	**P**	**10 43 50.3**	**+1.7**
NJ2	**Nanjing**	**48.35**	**322**	*e*P	**P**	**10 43 54.4**	**-0.7**
NJ2				AP	pP	10 44 26.5	+1.1
NJ2				XP	sP	10 44 42.6	+2.5
NJ2				PCP	PcP	10 45 19.5	-0.5
NJ2				S	**S**	**10 50 41.0**	**-2.9**
NJ2				XS		10 51 37.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,190nm,6.0s						
NJ2				LR	LR		
	comp=N,2μm,18.0s						
NJ2				LR	LR		
	comp=E,510nm,22.0s						
NJ2				LR	LR		
	comp=Z,150nm,14.6s						
ASAJ	**Asahikawa**	**49.84**	**352**	P	**P**	**10 44 05.3**	**-1.0**
	comp=Z,9.6nm,0.8s,mb4.5,baz=216,slow=10,SNR=9.1						
WHN	**Wuhan**	**50.24**	**318**⇑P		**P**	**10 44 10.6**	**+1.0**
MDJ	**Mudanjiang**	**53.41**	**341**	P	**P**	**10 44 31.6**	**-1.5**
MDJ				AP	pP	10 45 01.6	-2.4
MDJ				XP	sP	10 45 16.3	-2.2
MDJ				PCP	PcP	10 45 37.0	-1.5
MDJ				PP	PP	10 46 33.0	-3.2
MDJ				SCP		10 49 21.9	
MDJ				PCS		10 49 35.9	
MDJ				S	**S**	**10 51 55.3**	**+2.0**
MDJ				XS		10 52 46.0	
MDJ				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,26nm,3.4s						
MDJ				LR	LR		
	comp=N,130nm,38.2s						
MDJ				LR	LR		
	comp=E,95nm,24.7s						
MDJ				LR	LR		
	comp=Z,193nm,28.7s						
MDJ	**Mudanjiang**	**53.41**	**341**	*e*P	**P**	**10 44 30.4**	**-2.8**
	comp=Z,5.7nm,0.6s,mb4.5						
ENH	**Enshi**	**53.45**	**314**	*e*P	**P**	**10 44 32.8**	**-0.9**
	comp=Z,33nm,0.9s,mb5.1						
GYA	**Guiyang**	**53.56**	**308**⇑*i*P		**P**	**10 44 34.8**	**+0.3**
GYA				AP	pP	10 45 07.4	+2.0
GYA				XP	sP	10 45 23.3	+3.5
GYA				PCP	PcP	10 45 38.3	-1.0
GYA				PP	PP	10 46 38.8	+1.0
GYA				S	**S**	**10 51 55.4**	**-0.2**
GYA				XS		10 52 52.3	
GYA				SS	SS	10 55 36.9	-0.5
GYA				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.0						
GYA				AMB	AMB		
	comp=Z,120nm,3.4s						
GYA				LR	LR		
	comp=N,370nm,18.4s						
GYA				LR	LR		
	comp=E,360nm,18.6s						
GYA				LR	LR		
	comp=Z,340nm,19.0s						
CN2	**Changchun**	**54.19**	**337**	*e*P	**P**	**10 44 38.8**	**0.0**
CN2				*e*AP	pP	10 45 11.9	+2.1
CN2				*e*XP	sP	10 45 27.8	+3.6
CN2				PCP	PcP	10 45 39.9	-1.6
CN2				*e*S	**S**	**10 52 05.5**	**+1.8**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.4						
CN2				AMB	AMB		
	comp=Z,70nm,4.0s						
CN2				LR	LR		
	comp=N,90nm,15.0s						
CN2				LR	LR		
	comp=E,120nm,15.0s						
CN2				LR	LR		
	comp=Z,120nm,15.0s						
NST	**Nakhon Sawan**	**54.81**	**293**	P	**P**	**10 44 44.0**	**+0.3**
NANT	**Nan**	**55.34**	**297**⇓P		**P**	**10 44 47.5**	**0.0**
XAN	**Xi'an**	**56.01**	**318**	P	**P**	**10 44 51.3**	**-0.8**
XAN				AMB	AMB		
	comp=Z,22nm,1.2s,mb4.9						
KMI	**Kunming**	**56.08**	**305**	P	**P**	**10 44 53.8**	**+1.0**
KMI				AP	pP	10 45 22.3	-1.6
KMI				XP	sP	10 45 35.3	-3.1
KMI				PP	PP	10 47 02.8	+2.3
KMI				S	**S**	**10 52 32.8**	**+3.6**
KMI				AMB	AMB		
	comp=Z,18nm,1.1s,mb4.8						
KMI				AMB	AMB		
	comp=Z,32nm,4.2s						
KMI				LR	LR		
	comp=N,114nm,20.8s						
KMI				LR	LR		
	comp=E,131nm,22.3s						
KMI				LR	LR		
	comp=Z,208nm,35.6s						
KMI	**Kunming**	**56.08**	**305**	P	**P**	**10 44 53.8**	**+1.0**
	comp=Z,18nm,1.1s,mb4.8						
KMI				pP	pP	10 45 22.2	-1.7
KMI				sP	sP	10 45 35.2	-3.2
KMI				PP	PP	10 47 02.8	+2.3
KMI				S	**S**	**10 52 32.7**	**+3.5**
KMI				LR	LR		
	comp=Z,210nm,35.6s						
CHRT	**Chiangrai**	**56.53**	**298**⇓P		**P**	**10 44 57.0**	**+1.0**
	comp=Z,121nm,1.0s,mb5.7						
CHG	**Chiang Mai**	**56.91**	**296**⇑P		**P**	**10 44 58.8**	**+0.2**
	comp=Z,21nm,1.3s,mb4.8						
CD2	**Chengdu**	**57.98**	**312**	P	**P**	**10 45 06.3**	**+0.3**
CD2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.9						
PET	**Petropavlovsk**	**58.45**	**5**	*e*P	**P**	**10 45 05.5**	**-3.5**
	comp=Z,6.1nm,0.7s,mb4.5						
HHC	**Hu-ho-hao-te**	**58.63**	**325**	*e*P	**P**	**10 45 10.3**	**-0.1**
HHC				AP	pP	10 45 43.1	+1.3
HHC				XP	sP	10 45 58.6	+2.3
HHC				PP	PP	10 47 24.8	+1.5
HHC				S	**S**	**10 53 01.4**	**-1.0**
HHC				XS		10 53 58.0	
HHC				SCS	ScS	10 54 41.4	-1.9
HHC				SS	SS	10 56 55.6	-3.4

HHC AMB AMB
comp=Z,23nm,1.1s,mb4.9
HHC AMB AMB
comp=Z,77nm,5.2s
HHC LR LR
comp=N,103nm,22.6s
HHC LR LR
comp=E,37nm,20.6s
HHC LR LR
comp=Z,167nm,25.6s
PPT Papeete 58.96 107 LR LR 11 07 00.0
comp=Z,195nm,19.4s,baz=303,slow=32
BTO Baotou 59.36 324 *e*P **P** **10 45 14.4 -1.1**
LZH Lanzhou 60.60 317 ⇑P **P** **10 45 24.0 0.0**
LZH AP pP 10 45 56.5 +0.9
LZH XP sP 10 46 12.8 +2.7
LZH *e*S **S** **10 53 27.5 -0.2**
LZH XS 10 54 25.8
LZH SS SS 10 57 29.3 -0.1
LZH AMB AMB
comp=Z,53nm,1.3s,mb5.2
LZH AMB AMB
comp=Z,156nm,6.8s
LZH LR LR
comp=E,197nm,15.2s
LZH LR LR
comp=Z,423nm,18.3s
FX1 Attu Island--F 60.86 15 LR LR 11 11 27.6
comp=Z,3.6nm,18.6s,baz=180,slow=36
HIA Hailar 60.92 337 *e*P **P** **10 45 25.1 -0.9**
comp=Z,22nm,0.8s,mb5.0
GTA Gaotai 65.06 318 *e*P **P** **10 45 53.6 +0.2**
GTA AMB AMB
comp=Z,15nm,0.8s,mb4.9
GTA AMB AMB
comp=Z,121nm,4.8s
GTA LR LR
comp=N,103nm,17.2s
GTA LR LR
comp=E,253nm,19.5s
GTA LR LR
comp=Z,108nm,10.7s
SONM Songino Array 66.00 329 P **P** **10 45 59.3 0.0**
comp=Z,16nm,0.6s,mb5.0,baz=148,slow=4.6,SNR=95
SONM pP pP 10 46 28.5 -2.8
comp=Z,5.1nm,0.6s,baz=147,slow=3.2,SNR=6.7
SONM LR LR 11 13 22.4
comp=Z,74nm,19.0s,baz=119,slow=34
CASY Casey 67.10 197 *e*P **P** **10 46 05.5 -0.5**
comp=Z,9.6nm,0.8s,mb4.7
CASY *e*pP pP 10 46 32.0 -6.1
LSA Lhasa 67.34 305 *e*P **P** **10 46 08.9 +0.8**
comp=Z,8.1nm,0.4s,mb4.9
PKI Pulchoki 71.45 301 *e*P **P** **10 46 32.9 -0.2**
comp=Z,27nm,0.8s,mb5.0
KKN Kakani 71.62 301 *e*P **P** **10 46 34.1 0.0**
comp=Z,35nm,0.7s,mb5.2
DMN Daman 71.72 301 *e*P **P** **10 46 34.8 +0.1**
comp=Z,54nm,0.7s,mb5.4
GKN Gorkha 72.23 301 *e*P **P** **10 46 37.0 -0.7**
comp=Z,42nm,0.6s,mb5.3
VNDA Vanda 72.37 178 P **P** **10 46 38.5 +0.8**
comp=Z,2.2nm,1.0s,mb3.9,baz=340,slow=7.4,SNR=7.0
KOLN Koldanda 73.05 301 *e*P **P** **10 46 41.7 -0.9**
comp=Z,46nm,0.7s,mb5.3
WMQ Urumqi 75.14 318 P **P** **10 46 54.0 -0.3**
WMQ AP pP 10 47 29.0 +1.8
WMQ XP sP 10 47 44.0 +2.5
WMQ PP PP 10 49 46.0 0.0
WMQ S S 10 56 19.0 -1.4
WMQ AMB AMB
comp=Z,16nm,1.0s,mb4.6
WMQ LR LR
comp=N,125nm,20.0s
WMQ LR LR
comp=E,154nm,20.0s
WMQ LR LR
comp=Z,87nm,18.0s
HYB Hyderabad 75.29 289 ⇓*i*P **P** **10 46 55.5 -0.1**
comp=Z,80nm,1.0s,mb5.3
HYB Hyderabad 75.29 289 ⇓*e*P **P** **10 46 55.5 -0.1**
comp=Z,80nm,1.0s,mb5.3
SLKM Skilak Lake 79.76 25 *e*P **P** **10 47 18.0 -1.4**
MKAR Makanchi Array 79.76 319 P **P** **10 47 19.6 -0.1**
comp=Z,9.2nm,0.7s,mb4.5,baz=101,slow=6.2,SNR=58
ZAL Zalesovo 80.79 327 LR LR 11 22 07.5
comp=Z,85nm,20.0s,baz=266,slow=35
IMA Indian Mountai 81.43 20 *e*P **P** **10 47 27.6 -0.6**
comp=Z,91nm,0.8s,mb5.5
KSH Kashi 82.17 311 *e*P **P** **10 47 33.6 +1.0**
KSH *e*AP pP 10 48 08.0 +2.1
KSH *e*PP PP 10 50 45.1 +1.0
KSH *e*PPP PPP 10 52 38.0 +0.8
KSH *e*S S 10 57 35.0 +0.1
KSH *e*XS 10 58 37.5
KSH *e*PS PS 10 58 46.0 +2.4
KSH *e*SS SS 11 03 02.0 +1.5
KSH AMB AMB
comp=Z,250nm,6.7s
KSH LR LR
comp=N,170nm,6.2s
KSH LR LR
comp=E,190nm,6.0s
ILAR Eielson Array 83.19 22 P **P** **10 47 35.5 -1.7**
comp=E,8.2nm,0.6s,mb4.7,baz=253,slow=4.5,SNR=88
ILAR pP pP 10 48 08.2 -2.4
comp=E,2.0nm,0.8s,baz=262,slow=6.6,SNR=4.3
KURK Kurchatov 83.28 322 *e*P **P** **10 47 37.2 -0.8**
comp=E,37nm,1.1s,mb5.0
AAK Ala-Archa 83.97 314 *e*P **P** **10 47 41.4 -0.2**
comp=E,19nm,0.9s,mb4.8
DAWY Dawson 85.86 24 *e*P **P** **10 47 50.4 0.0**
DAWY *e*pP pP 10 48 15.7 -8.4
DLBC Dease Lake 88.57 31 LR LR 11 23 08.5
comp=E,75nm,18.8s,baz=273,slow=32
DLBC Dease Lake 88.57 31 *e*P **P** **10 48 04.3 +0.7**
DLBC *e*pP pP 10 48 33.2 -4.3
BRVK Borovoye 88.86 323 *e*P **P** **10 48 03.5 -1.5**
comp=E,6.7nm,0.8s,mb4.6
INK Inuvik 89.46 21 P **P** **10 48 06.8 -0.8**
comp=E,1.8nm,0.5s,mb4.2,baz=179,slow=3.5,SNR=5.6
INK Inuvik 89.46 21 *e*P **P** **10 48 06.8 -0.7**
comp=E,3.7nm,0.8s,mb4.4
HUMO Hull Mountain 90.40 47 *e*P **P** **10 48 12.8 +0.3**
comp=E,20nm,0.9s,mb5.0
YBH Yreka Blue Hor 90.48 48 LR LR 11 25 35.6
comp=E,72nm,19.2s,baz=265,slow=33
YBH Yreka Blue Hor 90.48 48 *e*P **P** **10 48 13.8 +0.8**
comp=E,15nm,1.0s,mb4.9
CMB Columbia Colle 91.88 52 *e*P **P** **10 48 20.0 +0.4**
comp=E,9.3nm,1.2s,mb4.7
MOD Modoc 92.29 48 *e*P **P** **10 48 21.7 +0.4**
comp=E,18nm,1.0s,mb5.1
SYO Syowa Base 92.69 200 ⇑P **P** **10 48 16.9 -5.6**
SYO Syowa Base 92.69 200 ⇑P **P** **10 48 21.0 -1.5**
OMM Old Mammoth Mi 92.95 53 *e*P **P** **10 48 25.2 +0.8**
MTUM Tungsten Hills 93.27 53 *e*P **P** **10 48 26.5 +0.6**
MWC Mount Wilson 93.45 56 *e*P **P** **10 48 27.9 +1.0**
TPH Tonopah 94.38 52 *e*P **P** **10 48 31.5 +0.6**
comp=E,13nm,1.0s,mb5.0
BMO Blue Mountains 94.67 46 *e*P **P** **10 48 31.9 -0.2**
comp=E,7.9nm,1.2s,mb4.8
BMO pP pP 10 49 01.4 -4.8
BMO sP sP 10 49 15.1 -5.5
PFO Pinyon Flat Ob 94.75 57 *e*P **P** **10 48 33.7 +1.0**
comp=E,6.2nm,0.9s,mb4.8
NEW Newport 94.96 42 LR LR 11 22 57.5
comp=E,43nm,20.3s,baz=146,slow=30
ARU Arti 95.94 326 *e*P **P** **10 48 35.5 -2.1**
comp=E,5.3nm,0.6s,mb5.0
ELK Elko 96.03 50 LR LR 11 29 52.6
comp=E,69nm,18.1s,baz=328,slow=34
ELK Elko 96.03 50 *e*P **P** **10 48 39.2 +0.9**
comp=E,3.0nm,1.0s,mb4.6
NEN Nelson 96.17 55 *e*P **P** **10 48 39.7 +0.6**
YKA Yellowknife Ar 96.56 28 P **P** **10 48 39.8 -0.4**
comp=E,1.9nm,0.8s,mb4.5,baz=266,slow=4.1,SNR=10
HLID Hailey 96.71 47 *e*P **P** **10 48 41.3 -0.1**
comp=E,2.1nm,0.8s,mb4.5
EDM Edmonton 97.41 37 *e*P **P** **10 48 45.0 +0.6**
TMUT Trail Mountain 99.11 51 *e*Pdif **P** **10 48 53.5 +1.0**
IMW Indian Meadow 99.23 47 *e*Pdif **P** **10 48 52.0 -0.8**
comp=E,3.0nm,1.1s,mb4.6
SRU San Rafael 99.64 51 *e*Pdif **P** **10 48 55.0 +0.1**
PDAR Pinedale Array 100.27 48 P P 10 48 57.2 -0.3
comp=E,3.1nm,1.0s,baz=258,slow=1.8,SNR=16
PDAR Pinedale Array 100.27 48 P P 10 48 57.2 -0.3
SMCO Snowmass 102.40 51 *e*Pdif Pdif 10 49 06.4 -0.7
TXAR Lajitas Array 105.65 61 PKiKP 10 53 35.1
comp=E,0.5nm,1.0s,baz=89,slow=2.4,SNR=4.4
ARCES ARCESS Array B 106.93 343 PKiKP 10 53 35.4
comp=E,2.1nm,0.5s,baz=96,slow=1.5,SNR=22
FINES FINESS Array B 110.92 335 Pdiff Pdif 10 49 43.5 -0.5
comp=E,2.3nm,1.0s,baz=63,slow=4.3,SNR=5.8
FINES PKiKP 10 53 42.8
comp=E,0.6nm,0.5s,baz=90,slow=7.6,SNR=3.3
BRTR Keskin Array B 114.56 311 PKiKP 10 53 50.6
comp=E,1.1nm,0.8s,baz=153,slow=2.8,SNR=5.6
HFS Hagfors 116.62 338 PKP PKPdf 10 53 53.4 +0.4
comp=E,1.1nm,0.5s,baz=117,slow=3.3,SNR=7.4
NB2 NORSAR Subarra116.90 340 PKPdf PKPdf 10 53 52.2 -1.3
comp=E,1.8nm,0.7s,baz=46,slow=1.6
NOA NORSAR Array B116.90 340 PKP PKPdf 10 53 54.4 +0.8
comp=E,1.5nm,0.6s,baz=46,slow=1.7,SNR=5.3
BOSA Boshof 118.15 234 PKP PKPdf 10 53 59.1 +2.4
comp=E,1.9nm,0.7s,baz=305,slow=7.1,SNR=4.6
KOLS Kolonicke sedl 118.89 324 *e*PKP PKPdf 10 53 59.7 +2.0
STHS Stebnicka Huta 119.25 325 *e*PKP PKPdf 10 54 00.1 +1.8
LRAL Lakeview Retre 119.28 55 *e*PKPdf PKPdf 10 53 59.5 +0.7
LSZ Lusaka 120.09 249 *e*PKPdf PKPdf 10 54 02.8 +2.1
PLCA Paso Flores 120.23 144 PKP PKPdf 10 54 02.5 +2.0
comp=E,2.4nm,1.0s,baz=35,slow=12,SNR=3.1
BRG Berggiesshubel 122.39 329 *e*P PKPdf 10 54 05.6 +1.3
IDI Anoyia 122.48 309 PKP PKPdf 10 54 06.5 +1.6
comp=E,3.7nm,0.5s,baz=353,slow=16,SNR=5.3
CLL Collm 122.59 330 *i* PKIKP PKPdf 10 54 06.0 +1.3
comp=E,logA/T=1.1
KHC Kasperske Hory 123.62 328 *e*PKPdf PKPdf 10 54 08.0 +1.2
GERES GERESS Array B 123.72 328 PKP PKPdf 10 54 08.5 +1.4
comp=E,4.1nm,0.5s,baz=77,slow=1.6,SNR=23
GRA1 Grafenberg Arr 124.49 330 *e*PKP PKPdf 10 54 09.7 +1.2
GRF Grafenberg Arr 124.49 330 *e*PKP PKPdf 10 54 09.7 +1.2
WTTA Wattenberg 125.78 327 ⇓*i*P PKPdf 10 54 12.6 +1.6
comp=E,8.2nm,0.9s
MOTA Moosalm 126.02 327 ⇑*i*P PKPdf 10 54 12.5 +1.0
comp=E,5.7nm,1.0s
SQTA Sankt Quirin 126.04 327 ⇑*i*P PKPdf 10 54 12.7 +1.2
comp=E,5.7nm,1.0s
EKA Eskdalemuir Ar 126.10 342 PKP PKPdf 10 54 12.8 +1.4
comp=E,2.8nm,0.5s,baz=3.5,slow=2.2,SNR=21
DAVA Damuels 126.71 328 ⇓*i*P PKPdf 10 54 14.4 +1.6
comp=E,6.2nm,0.8s
DAVOX Davos 127.03 328 PKP PKPdf 10 54 15.5 +2.0
comp=E,4.0nm,0.4s,baz=229,slow=1.0,SNR=9.2
GIVF Givet 127.25 333 *e*PKIKP PKPdf 10 54 14.9 +1.1
CDF Champ du Feu 127.29 331 *e*PKIKP PKPdf 10 54 14.4 +0.5
comp=E,4.1nm,0.6s
BAIF Baives 127.55 334 *e*PKIKP PKPdf 10 54 15.5 +1.1
HINF Hinteralfeld 127.90 330 *e*PKIKP PKPdf 10 54 16.0 +0.8
comp=E,8.4nm,0.6s
HAU Haudompre 128.02 331 *e*PKIKP PKPdf 10 54 16.1 +0.7
HAU *e*R
comp=E,40nm,20.5s
MEZF Maizieres J'vi 128.29 332 *e*PKIKP PKPdf 10 54 17.0 +1.1
comp=E,12nm,0.4s
CABF La Chapelle 129.11 330 *e*PKIKP PKPdf 10 54 19.0 +1.5
LPL La Plagne 129.51 328 *e*PKIKP PKPdf 10 54 19.7 +1.4
comp=E,7.6nm,0.6s
LPG La Plagne 129.51 328 *e*PKIKP PKPdf 10 54 19.8 +1.5
comp=E,12nm,0.8s
LOR Lormes 129.74 332 *e*PKIKP PKPdf 10 54 19.8 +1.1
comp=E,5.8nm,0.5s
LOR *e*R
comp=E,61nm,20.0s
MBDF Montbardon 130.01 327 *e*PKIKP PKPdf 10 54 20.5 +1.2
comp=E,3.7nm,0.7s
SSF Saint Saulge 130.05 332 *e*PKIKP PKPdf 10 54 20.3 +1.0
comp=E,11nm,0.9s
PGF Pioggiola 130.13 324 *e*PKIKP PKPdf 10 54 20.4 +0.8
comp=E,7.3nm,0.5s
SMF Signal de Mont 130.19 331 *e*PKIKP PKPdf 10 54 20.7 +1.2
comp=E,4.2nm,0.4s
SBF Sospel 130.21 326 *e*PKIKP PKPdf 10 54 20.5 +0.8
comp=E,12nm,0.8s
AVF Avril sur Loir 130.32 331 *e*PKIKP PKPdf 10 54 20.7 +0.9
comp=E,3.0nm,0.5s
ORIF Oris-en-Rattie 130.36 328 *e*PKIKP PKPdf 10 54 21.0 +1.1
comp=E,9.9nm,0.8s
ORIF *e*R
comp=E,75nm,22.0s
LDF La Druitiere 130.51 335 *e*PKIKP PKPdf 10 54 21.4 +1.3
comp=E,7.9nm,0.6s
FLN La Foliniere 130.53 336 *e*PKIKP PKPdf 10 54 21.1 +1.0
comp=E,12nm,0.7s
FLN *e*R
comp=E,46nm,18.0s
BGF Bois d'Agland 130.73 332 *e*PKIKP PKPdf 10 54 21.7 +1.1
comp=E,7.2nm,0.5s
FRF La Foret Royal 130.84 326 *e*PKIKP PKPdf 10 54 21.6 +0.7
GRR Gorron 130.98 336 *e*PKIKP PKPdf 10 54 22.1 +1.1
VIVF Saint-Julien-l 131.03 329 *e*PKIKP PKPdf 10 54 21.8 +0.6
LMR La Mourre 131.07 326 *e*PKIKP PKPdf 10 54 22.3 +1.0
SMRF Simiane la Rot 131.15 327 *e*PKIKP PKPdf 10 54 22.5 +1.0
comp=E,23nm,1.2s
TCF Toulx Ste Croi 131.23 332 *e*PKIKP PKPdf 10 54 22.6 +1.1
comp=E,11nm,0.7s
SGMF Saint Gilles 131.77 337 *e*PKIKP PKPdf 10 54 22.9 +0.4
comp=E,7.2nm,0.5s
ROSF Rostrenen 131.98 337 *e*PKIKP PKPdf 10 54 23.6 +0.7
comp=E,9.1nm,0.8s
LASF Ste Croix 131.99 329 *e*PKIKP PKPdf 10 54 24.0 +1.0
comp=E,4.4nm,0.6s
MFF Saint Martin d 132.07 334 *e*PKIKP PKPdf 10 54 24.3 +1.2
comp=E,7.2nm,0.6s
RJF Les Rejaudoux 132.28 331 *e*PKIKP PKPdf 10 54 24.5 +0.9
RJF *e*R
comp=E,31nm,19.6s
LFF La Frestale 132.92 332 *e*PKIKP PKPdf 10 54 25.8 +1.0
LPAZ La Paz 135.44 120 PKP PKPdf 10 54 33.4 +3.3
comp=E,2.3nm,0.8s,baz=8.4,slow=6.4,SNR=9.9
LPAZ La Paz 135.44 120 *e*PKPdf PKPdf 10 54 31.6 +1.4
SIV San Ignacio 141.56 124 PKP PKPdf 10 54 44.4 +3.0
comp=E,3.7nm,0.9s,baz=240,slow=2.5,SNR=14
BDFB Brasilia 151.70 138 PKP PKPdf 10 55 01.7 +3.7
comp=E,5.1nm,0.4s,baz=203,slow=6.2,SNR=3.3
BDFB PKPbc PKPdf 10 55 06.3 +8.3
comp=E,5.1nm,0.4s,baz=191,slow=2.0,SNR=9.7
DBIC Dimbokro 156.29 274 PKP PKPdf 10 55 07.2 +2.9
comp=E,4.2nm,0.9s,baz=148,slow=7.4,SNR=3.2
DBIC PKPab PKPab 10 55 35.6 0.0
comp=E,9.2nm,0.9s,baz=86,slow=4.8,SNR=6.0

NIED ***17*** *10:36:00, 33.20N×140.80E, h56km, Mw4.0 Best double couple: M0 1.05×10^15 NP1:φ=343°, δ61°, λ75°. NP2:φ=191°, δ32°, λ114°.*
MOS ***17*** *10:36:31.4±1.5, 32.58N×140.60E, h33km, mb4.4/2, Error ellipse: s-maj=32.8km s-min=11.6km az=112.7*
JMA ***17*** *10:36:38.1±0.1, 33.23N×140.80E, h49km±4km, M4.1*
JMA Felt I J1.
IDC ***17*** *10:36:39.1±1.2, 33.05N×140.53E, h68km±12km, mb3.7/9, mb1 3.9/11, mb1mx3.8/18, mbtmp4.0/11, Error ellipse: s-maj=27.8km s-min=15.2km az=66.0*
NEIC ***17*** *10:36:41.9±2.4, 33.28N×140.59E, h81km±15km, mb4.1/2, Error ellipse: s-maj=28.9km s-min=16.0km az=160.0*
NEIC Recorded [1 JMA] on Hachijo-jima.

ISC 17 10:36:37.8±0.6, 33.19N±0.04×140.76E±0.05, h63km±5km, n42, σ0°83/62, mb3.9/12, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.79**	**265**	P	**P**	**10 36 53.7**	**+0.3**
JHJ2				S	**S**	**10 37 05.0**	**-0.1**
JHJ	**Hachijo jima 2**	**0.82**	**266**	P	**P**	**10 36 53.8**	**0.0**
	859nm,0.3s,baz=215,slow=9.2,SNR=1435						
JHJ				S	**S**	**10 37 04.6**	**-1.1**
	2μm,0.3s,baz=276,slow=24,SNR=34						
JMY	**Miyakejima3**	**1.36**	**311**	P	**P**	**10 37 01.2**	**0.0**
JMY				S	**S**	**10 37 18.4**	**-0.2**
BSO1	**Boso 1**	**1.48**	**7**	P	**P**	**10 37 01.9**	**-0.8**
BSO1				S	**S**	**10 37 20.2**	**-1.0**
BSO2	**Boso 2**	**1.56**	**360**	S	**S**	**10 37 23.5**	**+0.3**
BSO3	**Boso 3**	**1.62**	**353**	P	**P**	**10 37 04.4**	**-0.3**
BSO3				S	**S**	**10 37 25.7**	**+1.0**
JKO	**Kozu shima**	**1.68**	**307**	P	**P**	**10 37 05.9**	**+0.4**
JKO				S	**S**	**10 37 26.3**	**+0.3**
NJJJ	**Nii jima 2**	**1.73**	**315**	P	**P**	**10 37 06.3**	**+0.2**
NJJJ				S	**S**	**10 37 26.7**	**-0.4**
BSO4	**Boso 4**	**1.83**	**349**	P	**P**	**10 37 07.9**	**+0.3**
JIM2	**Oshima 3**	**1.88**	**325**	P	**P**	**10 37 08.2**	**-0.1**
JIM2				S	**S**	**10 37 30.2**	**-0.7**
JIZS	**Izushimoda**	**2.19**	**315**	P	**P**	**10 37 13.0**	**+0.5**
JIZS				S	**S**	**10 37 38.1**	**-0.3**
JOD2	**Odawara 2**	**2.49**	**327**	P	**P**	**10 37 16.7**	**-0.2**
JOD2				S	**S**	**10 37 44.6**	**-1.5**
TK04	**Tokai 4**	**2.68**	**297**	P	**P**	**10 37 20.6**	**+1.0**
TK04				S	**S**	**10 37 51.9**	**+0.9**
TK01	**Tokai 1**	**2.71**	**283**	P	**P**	**10 37 19.7**	**-0.3**
TK01				S	**S**	**10 37 52.5**	**+0.8**
SHZ3	**Shizuoka 3**	**2.83**	**312**	P	**P**	**10 37 22.9**	**+1.3**
SHZ3				S	**S**	**10 37 55.0**	**+0.4**
JYN	**Shimob**	**2.94**	**322**	P	**P**	**10 37 24.3**	**+1.0**
JRY	**Ryogami san**	**3.21**	**332**	P	**P**	**10 37 27.3**	**+0.2**
JRY				*e*S	**S**	**10 38 03.4**	**-0.9**
JAG	**Ashikaga**	**3.41**	**342**	P	**P**	**10 37 29.5**	**-0.3**
JIE	**Ise**	**3.58**	**291**	P	**P**	**10 37 32.4**	**+0.2**
JIE				S	**S**	**10 38 13.2**	**-0.4**
MJAR	**Matsushiro Arr**	**3.95**	**329**	P	**P**	**10 37 38.7**	**+1.3**
	6.4nm,0.3s,baz=161,slow=13,SNR=70						
MJAR				S	**S**	**10 38 23.2**	**+0.4**
	4.4nm,0.3s,baz=134,slow=24,SNR=8.1						
MJAR	**Matsushiro Arr**	**3.95**	**329**	P	**P**	**10 37 38.7**	**+1.3**
MJAR				S	**S**	**10 38 23.2**	**+0.3**
MAJO	**Matsushiro**	**3.95**	**329**	*e*P	**P**	**10 37 37.8**	**+0.4**
MAT	**Matsushiro**	**3.95**	**329**	P	**P**	**10 37 38.0**	**+0.6**
MAT				S	**S**	**10 38 21.9**	**-1.0**
MAT	**Matsushiro**	**3.95**	**329**	*e*P	**P**	**10 37 38.0**	**+0.6**
MAT				*e*S	**S**	**10 38 22.0**	**-0.9**
CBIJ	**Chichi jima**	**6.20**	**168**	P	**P**	**10 38 07.5**	**-1.2**
	6.7nm,0.3s,baz=295,slow=21,SNR=7.8						
CBIJ				S	**S**	**10 39 09.7**	**-9.2**
	12nm,0.3s,baz=255,slow=23,SNR=4.4						
JNU	**Nakatsue**	**8.29**	**272**	P	**P**	**10 38 36.9**	**-0.7**
	0.9nm,0.3s,baz=145,slow=15,SNR=5.8						
SONM	**Songino Array**	**29.66**	**310**	P	**P**	**10 42 40.6**	**+1.2**
	0.2nm,0.4s,mb3.2,baz=96,slow=7.4,SNR=3.3						
MKAR	**Makanchi Array**	**45.80**	**305**	P	**P**	**10 44 54.4**	**-0.5**
	0.4nm,0.5s,mb3.6,baz=88,slow=10,SNR=4.3						
KURK	**Kurchatov**	**47.96**	**311**	*e*P	**P**	**10 45 10.9**	**-0.8**
	1.6nm,0.7s,mb4.2						
KURK	**Kurchatov**	**47.96**	**311**	*e*P	**P**	**10 45 10.9**	**-0.9**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
ILAR	**Eielson Array**	**53.05**	**31**	P	**P**	**10 45 49.3**	**-1.0**
	comp=Z,0.9nm,0.8s,mb3.8,baz=266,slow=6.4,SNR=14						
YKA	**Yellowknife Ar**	**67.41**	**29**	P	**P**	**10 47 27.8**	**-0.4**
	comp=Z,0.2nm,0.3s,mb3.7,baz=296,slow=6.9,SNR=3.9						
FINES	**FINESS Array B**	**71.97**	**333**	P	**P**	**10 47 54.7**	**-1.3**
	comp=Z,1.3nm,0.7s,mb4.0,baz=72,slow=4.4,SNR=4.4						
AKASG	**Malin Array Be**	**77.02**	**323**	P	**P**	**10 48 24.1**	**-1.2**
	comp=Z,1.6nm,0.5s,mb4.2,baz=47,slow=6.0,SNR=9.4						
HFS	**Hagfors**	**77.37**	**336**	P	**P**	**10 48 26.2**	**-0.8**
	comp=Z,1.4nm,0.6s,mb4.1,baz=56,slow=5.2,SNR=5.7						
NOA	**NORSAR Array B**	**77.52**	**337**	P	**P**	**10 48 27.4**	**-0.4**
	comp=Z,1.5nm,0.9s,mb3.9,baz=40,slow=5.5,SNR=3.7						
DUG	**Dugway**	**80.30**	**48**	P	**P**	**10 48 46.0**	**+2.6**
	comp=Z,2.0nm,0.8s,mb4.1						
DUG	**Dugway**	**80.30**	**48**	P	**P**	**10 48 46.0**	**+2.6**
DUG				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
PDAR	**Pinedale Array**	**80.76**	**45**	P	**P**	**10 48 48.0**	**+2.2**
	comp=Z,0.3nm,0.7s,mb3.3,baz=270,slow=1.5,SNR=3.5						
PDAR	**Pinedale Array**	**80.76**	**45**	P	**P**	**10 48 48.0**	**+2.2**
TXAR	**Lajitas Array**	**92.90**	**52**	P	**P**	**10 49 46.5**	**+1.3**
	comp=Z,1.2nm,0.7s,mb4.5,baz=302,slow=3.0,SNR=18						
TXAR	**Lajitas Array**	**92.90**	**52**	P	**P**	**10 49 46.5**	**+1.3**

NEIC ***17*** *10:45:55.7, 32.60S×71.51W, h15km, ML2.6(GUC), After GUC.*

GUC 17 10:45:55.7±0.7, 32.60S×71.51W, h15km±3km, MD3.6, ML2.6, 3C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.43**	**195**	⇓*i*P	Pb	10 46 04.4	-0.1
IHA				*i* S	Sb	10 46 10.6	+0.1
ROCH	**El Roble**	**0.56**	**131**	⇑*i*P	Pb	10 46 07.0	+0.3
ROCH				*i* S	Sb	10 46 15.1	+1.0
CHNG	**Los Chungos**	**0.72**	**1**	⇓*i*P	Pb	10 46 09.0	-0.4
CHNG				*i* S	Sb	10 46 18.6	-0.1
CHNG				AMP		10 46 23.0	
	comp=N,179nm,0.2s						
JACH	**Jahuel**	**0.78**	**96**	⇑*i*P	Pb	10 46 10.3	-0.1
JACH				*i* S	Sb	10 46 21.2	+0.8
LCCH	**Las Cruces**	**0.87**	**183**	*e*P	Pb	10 46 11.2	-0.7
LCCH				*i* S	Sb	10 46 22.9	-0.2
RCDM	**Rinconada Maip**	**1.06**	**146**	⇓*i*P	Pb	10 46 14.4	-0.8
RCDM				*i* S	Sb	10 46 28.5	-0.2
RCDM				AMP		10 46 28.8	
	comp=E,352nm,0.2s						
CLCH	**Cerro Calan**	**1.14**	**134**	*e*P	Pb	10 46 16.1	-0.4
CLCH				*i* S	Sb	10 46 31.1	+0.2
CLCH				AMP		10 46 39.0	
	comp=N,153nm,0.4s						
TACH	**Talagante**	**1.15**	**155**	*e*P	Pb	10 46 16.3	-0.5
ANTU	**Antumapu**	**1.21**	**143**	*i* S	Sb	10 46 33.3	+0.3
ANTU				AMP		10 46 40.7	
	comp=E,141nm,0.2s						
FCH	**Farellones**	**1.25**	**125**	⇑*i*P	Pb	10 46 17.9	-0.6
FCH				*i* S	Sb	10 46 34.3	+0.1
PCH	**Pirque**	**1.31**	**141**	*e*P	Pb	10 46 18.7	-0.9
PCH				*i* S	Sb	10 46 35.3	-0.7
CMCH	**Combarbala**	**1.49**	**17**	⇓*i*P	Pn	10 46 21.1	-1.0
CMCH				*i* S	Sb	10 46 40.8	-0.3
CMCH				AMP		10 46 44.3	
	comp=N,493nm,0.4s						
CHCH	**Chadas Angostu**	**1.51**	**152**	*e*P	Pn	10 46 21.5	-0.8
CHCH				*i* S	Sb	10 46 41.4	-0.2
LMEL	**Las Melosas**	**1.66**	**139**	⇓*i*P	Pn	10 46 23.8	-0.6
LMEL				*i* S	Sn	10 46 46.0	+0.5
LMEL				AMP		10 46 49.5	
	comp=N,225nm,0.2s						

CASC 17 10:47:28.4±3.2, 13.93N×91.00W, h76km±25km, MD3.6, 2C-7D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**0.54**	**17**	⇓*i*P	P	10 47 43.2	+0.9
IXG	**Ixpaco**	**0.58**	**65**	⇓*e*P	P	10 47 42.8	0.0
IXG				*e*S	S	10 47 54.1	+0.8
PCG	**Pacaya**	**0.60**	**39**	⇓*e*P	P	10 47 43.6	+0.7
PCG				*e*S	S	10 47 54.6	+1.0
RBDL	**Robledal**	**1.29**	**82**	⇑*e*P	P	10 48 05.1	+14
RBDL				*e*S	S	10 48 23.3	+15
RTR	**El Retiro**	**1.31**	**91**	⇓*e*P	P	10 48 05.6	+14
RTR				*e*S	S	10 48 24.8	+16
SBLS	**San Blas**	**1.34**	**94**	⇓*e*P	P	10 48 05.5	+14
SBLS				*e*S	S	10 48 24.2	+15
SNJE	**San Jose**	**1.35**	**92**	⇓*e*P	P	10 48 05.9	+14
SNJE				*e*S	S	10 48 27.2	+17
BOQS	**Boqueron**	**1.68**	**96**	⇑*e*P	P	10 48 10.3	+14
BOQS				*e*S	S	10 48 34.2	+17
MRL	**Marmol**	**1.70**	**48**	*e*P	P	10 47 58.0	+1.3
MRL				*e*S	S	10 47 18.8	+0.2
LFRS	**El Faro**	**1.91**	**99**	⇓*e*P	P	10 48 13.3	+14
LFRS				*e*S	S	10 48 36.6	+14
LCBS	**La Ceiba**	**1.98**	**98**	*e*P	P	10 48 14.2	+14
LCBS				*e*S	S	10 48 39.4	+15

NEIC ***17*** *10:53:38.8±4.9, 13.75N×143.65E, h239km±47km, mb4.1/2, Error ellipse: s-maj=24.1km s-min=16.8km az=65.0*
IDC ***17*** *10:53:39.1±4.3, 13.73N×143.66E, h240km±41km, mb3.7/13, mb1 3.8/15, mb1mx3.7/24, mbtmp4.4/15, MS3.1/1, Ms1 3.1/1, ms1mx2.5/27, Error ellipse: s-maj=20.6km s-min=18.1km az=80.0*

ISC 17 10:53:37.5±3.2, 13.7N±0.1×143.6E±0.2, h239km±28km, n21, σ0°71/20, mb3.9/15, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**13.38**	**355**	P	**P**	**10 56 39.2**	**-0.2**
	4.6nm,0.3s,baz=283,slow=18,SNR=3.2						
JOW	**Kunigami**	**19.37**	**315**	P	**P**	**10 57 46.9**	**-0.1**
	1.0nm,0.3s,baz=184,slow=3.1,SNR=5.3						
JHJ	**

FX1	Attu Island--F	45.61	25	P	P	11 01 36.0	+0.5
	3.8nm,0.7s,mb3.8,baz=159,slow=14						
SONM	Songino Array	45.91	325	P	P	11 01 39.2	+1.3
	1.6nm,0.5s,mb3.6,baz=150,slow=7.3,SNR=17						
MKAR	Makanchi Array	60.53	316	P	P	11 03 24.4	-0.1
	0.8nm,0.4s,mb3.7,baz=88,slow=8.7,SNR=8.5						
ILAR	Eielson Array	69.00	25	P	P	11 04 17.1	-1.4
	1.3nm,0.5s,mb3.8,baz=251,slow=5.9,SNR=30						
BVAR	Borovoye Array	69.05	322	P	P	11 04 19.2	+0.2
	4.0nm,0.3s,mb4.5,baz=105,slow=8.1,SNR=25						
BRVK	Borovoye	69.12	322	*e*P	P	11 04 18.4	-0.9
	2.8nm,0.7s,mb4.0						
INK	Inuvik	74.73	22	P	P	11 04 52.1	-0.3
	4.9nm,0.8s,mb4.2,baz=291,slow=4.2,SNR=5.7						
YKA	Yellowknife Ar	83.33	27	P	P	11 05 39.1	+0.6
	1.1nm,0.5s,mb3.9,baz=286,slow=5.1,SNR=8.3						
YBH	Yreka Blue Hor	83.74	49	P	P	11 05 40.6	-0.4
	1.3nm,0.6s,mb3.8,baz=236,slow=3.6,SNR=6.3						
NEW	Newport	85.97	41	P	P	11 05 52.4	+0.5
	4.5nm,0.8s,mb4.3,baz=273,slow=4.0,SNR=8.2						
NEW	Newport	85.97	41	P	P	11 05 52.4	+0.5
ARCES	ARCESS Array B	86.58	342	P	P	11 05 54.8	+0.4
	1.6nm,0.7s,mb3.8,baz=72,slow=7.7,SNR=6.1						
BMO	Blue Mountains	86.79	45	*e*P	P	11 05 55.0	-1.0
	2.5nm,0.9s,mb3.9						
ELK	Elko	89.43	48	P	P	11 06 09.8	+1.3
	1.0nm,0.6s,mb3.8,baz=294,slow=1.9,SNR=6.3						
FINES	FINESS Array B	90.52	335	P	P	11 06 12.5	-0.5
	1.6nm,0.6s,mb4.1,baz=45,slow=2.7,SNR=4.6						
FINES	FINESS Array B	90.52	335	P	P	11 06 12.5	-0.5

*LDG **17** 11:09:19.4±0.2,41.96N×2.60E,h4km,Ml2.9/6, Error ellipse: s-maj=2.9km s-min=1.9km az=113.0*
*STR **17** 11:09:19.9±0.4,42.01N×2.56E,h10km±1km, Ml2.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **17** 11:09:19.6±0.3,41.97N×2.59E,h7km±5km,mbLg2.1/12, Error ellipse: s-maj=2.9km s-min=1.9km az=117.0, PRXIMO*
*NEIC **17** 11:09:19.9,42.01N×2.56E,h10km,ML2.9(LDG), ML2.7(STR),After STR.*
*CSEM **17** 11:09:20.3±0.3,42.00N×2.56E,h5km,ML2.9/6, Error ellipse: s-maj=5.8km s-min=2.8km az=161.0*
ISC 17 11:09:18.1±0.5,42.00N±0.03×2.53E±0.04,h13km±5km, n36,σ1§18/48,Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFON	Fontmartina	0.24	197	Pg	Pg	11 09 23.9	+0.4
CFON				Lg		11 09 27.7	
	118nm,0.2s						
CBRU	Bruguera	0.39	318	Pg	Pg	11 09 27.3	+1.1
CBRU				Lg		11 09 33.7	
	23nm,0.2s						
EJON	La Jonquera	0.53	30	Pg	Pg	11 09 29.0	+0.2
	10nm,0.3s,SNR=21						
EJON				Lg		11 09 36.9	
	11nm,0.3s,SNR=11						
SJAF	Saint Jean de	0.55	28	Pg	Pg	11 09 29.9	+0.5
VALF	Valcebollere	0.56	317	Pg	Pg	11 09 30.1	+0.6
VALF				Lg		11 09 39.2	
FILF	Fillols	0.56	2	Pg	Pg	11 09 30.3	+0.7
CLLI	Llivia	0.64	320	Pg	Pg	11 09 31.8	+0.8
CLLI				Lg		11 09 41.5	
	8.2nm,0.3s						
EMIR	Miracle	0.75	264	Pg	Pg	11 09 35.3	+2.0
	14nm,0.3s,SNR=9.3						
EMIR				Lg		11 09 47.8	
	24nm,0.3s,SNR=7.1						
CARF	Carcanieres	0.79	337	Pg	Pg	11 09 34.6	+0.6
CARF				Sg	Sg	11 09 46.4	+1.9
CORG	Organya	0.93	285	Sn	Sn	11 09 51.5	+1.6
	3.7nm,0.1s						
LRDF	Laroque-de-Fa	0.94	0	Pg	Pg	11 09 37.9	+0.9
LRDF				Sg	Sg	11 09 50.6	+0.9
LPEF	Le Peyrat	1.06	334	Pg	Pg	11 09 40.0	+0.7
CSOR	Sort	1.10	291	Pn	Pn	11 09 40.4	+1.2
GRBF	Gourbit	1.12	319	Pg	Pg	11 09 42.3	+1.7
SALF	Salau	1.25	308	Pg	Pg	11 09 44.5	+1.3
CGAR	Garraf	1.26	237	Pn	Pn	11 09 36.5	-4.9
EPOB	Poblet	1.26	240	Pg	Pg	11 09 43.5	+0.1
	12nm,0.3s,SNR=34						
EPOB				Lg		11 10 00.4	
	39nm,0.4s,SNR=5.0						
CAVN	Les Avellanes	1.33	266	Pg	Pg	11 09 45.3	+0.5
MTLF	Montolieu	1.36	350	*e*Pg	Pg	11 09 45.1	-0.3
MTLF				*e*Sg	Sg	11 10 03.4	-0.3
	16nm,0.3s						
MLS	Moulis	1.43	313	Pg	Pg	11 09 47.6	+0.8
MLS				Sg	Sg	11 10 06.8	+0.8
MELF	Melles	1.58	304	Pg	Pg	11 09 49.5	-0.2
EGRA	Graus	1.66	278	Pg	Pg	11 09 51.2	-0.1
	5.1nm,0.3s,SNR=7.4						
EGRA				Lg		11 10 14.4	
	16nm,0.4s,SNR=12						
RESF	Ens	1.81	297	Pg	Pg	11 09 54.2	-0.1
RESF				Lg		11 10 19.6	
EBIE	Bielsa	1.90	292	Pg	Pg	11 09 55.4	-0.7
	5.1nm,0.3s,SNR=28						
EBIE				Lg		11 10 21.6	
	20nm,0.3s,SNR=5.0						
EPF	Esparros	1.92	303	*e*Pg	Pg	11 09 55.7	-0.8
EPF				*e*Sg	Sg	11 10 21.2	-1.0
	25nm,0.3s						
ERTA	Horta de San J	1.95	239	Pg	Pg	11 09 55.7	-1.4
	4.5nm,0.3s,SNR=9.3						
ERTA				Lg		11 10 22.6	
	9.2nm,0.4s,SNR=7.5						
VIEF	Viey	2.06	296	Pg	Pg	11 09 59.2	0.0
VIEF				Sg	Sg	11 10 27.5	+0.8
ETOS	Mallorca	2.24	174	Pn	Pn	11 09 55.0	-0.4
	0.3nm,0.1s,SNR=7.9						
ETOS				Sn	Sn	11 10 21.9	-1.1
	0.7nm,0.3s,SNR=7.9						
LASF	Ste Croix	2.30	25	*e*Pn	Pn	11 09 57.4	+1.2
LASF				*e*Pg	Pg	11 10 02.9	-1.1
LASF				*e*Sg	Sg	11 10 31.2	-3.4
REYF	Montagne du Re	2.41	297	Lg		11 10 37.1	
ETSF	Etsaut	2.46	293	*e*Pg	Pg	11 10 06.5	-0.7
ETSF				*e*Sg	Sg	11 10 38.6	-1.4
	16nm,0.3s						
CAF	Calviac	2.95	354	*e*Pg	Pg	11 10 15.1	-1.9
CAF				*e*Sg	Sg	11 10 52.9	-3.4
	6.9nm,0.4s						
SJPF	Ste Jean	2.99	293	*e*Pg	Pg	11 10 16.0	-1.8
SJPF				*e*Sg	Sg	11 10 55.8	-1.9
	8.7nm,0.4s						
LFF	La Frestale	3.22	337	*e*Sg	Sg	11 11 02.7	-2.6
	13nm,0.3s						
RJF	Les Rejaudoux	3.39	348	*e*Pg	Pg	11 10 23.6	-2.2
RJF				*e*Sg	Sg	11 11 07.7	-3.3
MFF	Saint Martin d	4.99	338	*e*Pg	Pg	11 10 52.6	-5.1

*NEIC **17** 11:17:23.7,32.61S×71.51W,h15km,ML2.7(GUC),After GUC.*
GUC 17 11:17:23.7±0.8,32.61S×71.51W,h15km±5km,MD3.5, ML2.7,4C-4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.43	194	⇑*i*P	Pb	11 17 32.5	0.0
IHA				*i* S	Sb	11 17 38.7	+0.3
ROCH	El Roble	0.56	131	⇑*i*P	Pb	11 17 34.9	+0.3
ROCH				*i* S	Sb	11 17 43.1	+0.9
JACH	Jahuel	0.78	96	⇑*i*P	Pb	11 17 38.3	-0.1
JACH				*i* S	Sb	11 17 49.2	+0.6
LCCH	Las Cruces	0.87	183	⇓*i*P	Pb	11 17 39.2	-0.8
LCCH				*i* S	Sb	11 17 50.1	-1.0
RCDM	Rinconada Maip	1.06	146	⇑*i*P	Pb	11 17 42.5	-0.8
RCDM				*i* S	Sb	11 17 56.5	-0.3
RCDM				AMP		11 17 56.8	
	comp=N,650nm,0.1s						
CLCH	Cerro Calan	1.14	134	⇓*i*P	Pb	11 17 44.3	-0.3
CLCH				*i* S	Sb	11 17 59.3	+0.4
CLCH				AMP		11 18 07.0	
	comp=N,111nm,0.4s						
TACH	Talagante	1.15	155	*e*P	Pb	11 17 44.3	-0.5
TACH				*i* S	Sb	11 17 58.9	-0.4
ANTU	Antumapu	1.21	143	*e*P	Pb	11 17 45.2	-0.6
ANTU				*i* S	Sb	11 18 01.0	0.0
ANTU				AMP		11 18 04.9	
	comp=E,123nm,0.1s						
FCH	Farellones	1.25	125	⇓*i*P	Pb	11 17 45.8	-0.8
FCH				*i* S	Sb	11 18 02.4	+0.1
LNV	Longovilo	1.35	176	*i* S	Sb	11 18 03.9	-1.2
CMCH	Combarbala	1.49	17	⇓*i*P	Pn	11 17 49.4	-0.7
CMCH				*i* S	Sb	11 18 08.6	-0.6
CMCH				AMP		11 18 12.1	
	comp=N,400nm,0.5s						
CHCH	Chadas Angostu	1.51	152	*e*P	Pn	11 17 49.5	-0.9
CHCH				*i* S	Sb	11 18 09.5	-0.2
LMEL	Las Melosas	1.66	139	*e*P	Pn	11 17 52.2	-0.3
LMEL				*i* S	Sn	11 18 13.6	+0.1
LMEL				AMP		11 18 19.0	
	comp=N,208nm,0.1s						

*NIED **17** 12:39:00,33.30N×142.50E,h5km,Mw4.1 Best double couple: M0:1.79×10^15 NP1:φ=285°,δ=83°,λ=81°. NP2:φ=160°,δ=11°,λ=145°.*
*IDC **17** 12:39:12.4±1.1,33.19N×142.50E,mb3.9/6,mb1 4.0/10, mb1mx3.8/22,mbtmp3.9/10,ML3.6/3,Error ellipse: s-maj=23.6km s-min=18.9km az=70.0*
*MOS **17** 12:39:14.8±1.4,33.39N×142.67E,h33km,mb4.6/2,Error ellipse: s-maj=24.8km s-min=10.9km az=114.6*
*JMA **17** 12:39:15.1±0.6,33.29N×142.50E,h72km,M3.7*
*BJI **17** 12:39:16.8,33.31N×142.31E,h33km,mB4.4,mb3.9*
*NEIC **17** 12:39:18.6±0.8,33.23N×142.30E,h40km,mb4.4/2,Error ellipse: s-maj=18.7km s-min=12.0km az=58.0*
ISC 17 12:39:15.3±0.7,33.32N±0.06×142.49E±0.07,h33km,n34, σ1§06/43,mb4.1/9,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	1.83	317	P	P	12 39 45.3	+0.3
BSO1				S	S	12 40 09.4	+2.2
BSO3	Boso 3	2.21	313	P	P	12 39 50.8	+0.4
JHJ2	Mitsune	2.25	266	P	P	12 39 51.4	+0.4
JHJ	Hachijo jima 2	2.28	266	Pn	Pn	12 39 51.1	-0.4
	86nm,0.3s,baz=146,slow=8.6,SNR=70						
JHJ				Sn	Sn	12 40 19.3	+0.5
	96nm,0.3s,baz=56,slow=23,SNR=10						
BSO4	Boso 4	2.45	314	P	P	12 39 54.7	+1.0
TATJ	Tateyama 2	2.75	309	P	P	12 39 58.6	+0.5
JIM2	Oshima 3	2.90	300	P	P	12 39 59.7	-0.5
JIM2				*e*S	S	12 40 31.7	-2.6
JOD2	Odawara 2	3.42	305	P	P	12 40 06.7	-0.9
JYN	Shimob	3.92	305	P	P	12 40 14.8	+0.1
JYN				S	S	12 41 01.0	+0.7
JAG	Ashikaga	3.98	322	P	P	12 40 15.3	-0.3
JRY	Ryogami san	4.00	313	P	P	12 40 15.8	-0.1
JRY				S	S	12 41 01.5	-0.8
JMM	Marumori	4.75	344	P	P	12 40 24.3	-2.1
MJAR	Matsushiro Arr	4.77	314	Pn	Pn	12 40 26.8	-0.1
	3.1nm,0.3s,baz=163,slow=13,SNR=25						
MJAR				Sn	Sn	12 41 21.3	-0.4
	2.3nm,0.3s,baz=155,slow=18,SNR=4.7						
MAJO	Matsushiro	4.77	314	*e*P	P	12 40 26.6	-0.2
MAT	Matsushiro	4.77	314	P	P	12 40 27.0	+0.2
MAT				S	S	12 41 20.6	-1.0
MAT	Matsushiro	4.77	314	*e*P	P	12 40 27.0	+0.2
MAT				*e*S	S	12 41 21.0	-0.6
CBIJ	Chichi jima	6.21	183	Pn	Pn	12 40 43.0	-4.1
	8.3nm,0.3s,baz=267,slow=20,SNR=6.4						
CBIJ				Sn	Sn	12 41 52.1	-5.5
	9.9nm,0.3s,baz=290,slow=23,SNR=3.1						
JNU	Nakatsue	9.73	272	Pn	P	12 41 32.6	-3.4
	0.2nm,0.3s,baz=298,slow=15,SNR=1.8						
ASAJ	Asahikawa	10.78	0	Pn	P	12 41 46.1	-4.4
	0.4nm,0.3s,baz=217,slow=8.3,SNR=5.1						
YSS	Yuzh-Sakhalins	13.62	1	P	P	12 42 27.1	-1.3
HHC	Hu-ho-hao-te	25.70	296	*e*P	P	12 44 48.8	+4.7
HHC				AMB	AMB		
	comp=Z,17nm,0.5s,mb4.8						
SONM	Songino Array	30.70	309	P	P	12 45 30.7	+1.5
	comp=Z,1.5nm,0.7s,mb4.0,baz=108,slow=7.6,SNR=7.9						
BOD	Bodaibo	31.17	330	*e*P	P	12 45 36.9	+3.7
MKAR	Makanchi Array	46.91	305	P	P	12 47 45.0	+0.7
	comp=Z,1.0nm,0.6s,mb3.9,baz=90,slow=9.7,SNR=5.6						
KURK	Kurchatov	48.97	311	*e*P	P	12 48 00.6	+0.2
	comp=Z,2.5nm,0.8s,mb4.3						
KURK	Kurchatov	48.97	311	*e*P	P	12 48 00.6	+0.3
KURK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
ILAR	Eielson Array	52.19	31	P	P	12 48 24.6	0.0
	comp=Z,0.5nm,0.8s,mb3.5,baz=267,slow=5.9,SNR=6.1						
WRAB	Tennant Creek	53.52	190	*e*P	P	12 48 34.3	-0.7
	comp=Z,4.2nm,0.8s,mb4.4						
WRAB	Tennant Creek	53.52	190	*e*P	P	12 48 34.3	-0.8
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
WRA	Warramunga Arr	53.53	190	P	P	12 48 34.4	-0.7
	comp=Z,1.1nm,0.6s,mb4.0,baz=8.1,slow=7.7,SNR=14						
NB2	NORSAR Subarra	77.95	338	P	P	12 51 12.3	+1.0
	comp=Z,0.6nm,0.6s,mb3.7,baz=39,slow=5.6						
NOA	NORSAR Array B	77.95	338	P	P	12 51 12.8	+1.6
	comp=Z,1.3nm,0.8s,mb3.9,baz=39,slow=5.7,SNR=3.5						
NOA	NORSAR Array B	77.95	338	P	P	12 51 12.8	+1.6
BRTR	Keskin Array B	81.99	313	P	P	12 51 35.4	+2.0
	comp=Z,0.6nm,0.5s,mb3.8,baz=119,slow=4.3,SNR=4.2						

*MAN **17** 13:14:43.0,5.07N×127.05E,mb5.0,ML3.9,MS3.9*
*IDC **17** 13:14:52.5±9.1,4.80N×127.62E,h223km±93km,mb3.8/9, mb1 3.8/9,mb1mx3.7/18,mbtmp4.3/9,Error ellipse: s-maj=34.3km s-min=14.8km az=63.0*
ISC 17 13:14:38.7±0.6,4.93N±0.10×127.7E±0.1,h100km,n15, σ1§24/18,mb4.2/9,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	2.44	325	*e*P	P	13 15 18.8	+1.0
MATI				*e*S	S	13 15 45.1	-1.9
BUKP	Musuan	3.91	319	*e*P	P	13 15 39.1	+1.3
BUKP				*e*S	S	13 16 22.5	-0.3
BUTP	Butuan	4.50	333	*e*P	P	13 15 48.4	+2.5
PAGZ	Pagadian	5.14	305	*e*P	P	13 15 55.1	+0.4
SCPH	Surigao	5.28	336	*e*P	P	13 15 58.8	+2.2
SCPH				*e*S	S	13 16 54.0	-2.7
IPIL	Ipil	5.80	300	*e*P	P	13 16 04.1	+0.5
WRA	Warramunga Arr	25.57	165	P	P	13 19 59.5	-0.8
	1.2nm,0.4s,mb3.7,baz=348,slow=9.8,SNR=31						
STKA	Stephens Creek	38.93	161	P	P	13 21 56.5	+0.1
	5.6nm,0.5s,mb4.6,baz=338,slow=7.8,SNR=18						
ASAJ	Asahikawa	41.19	16	P	P	13 22 16.7	+1.8
	3.8nm,0.7s,mb4.3,baz=204,slow=9.2,SNR=3.8						
SONM	Songino Array	46.48	340	P	P	13 22 57.4	-0.1
	0.7nm,0.6s,mb3.6,baz=156,slow=8.7,SNR=6.8						
DZM	Mont Dzumac	46.49	127	P	P	13 22 57.6	-0.3
	4.4nm,0.5s,mb4.5,baz=61,slow=11,SNR=9.0						
MKAR	Makanchi Array	57.12	324	P	P	13 24 16.7	-0.4
	3.0nm,0.4s,mb4.6,baz=118,slow=8.2,SNR=27						
BVAR	Borovoye Array	66.83	326	P	P	13 25 21.1	-0.8
	3.1nm,0.6s,mb4.3,baz=126,slow=7.4,SNR=11						
ILAR	Eielson Array	83.64	25	P	P	13 26 55.9	-1.1
	0.9nm,0.6s,mb3.8,baz=252,slow=5.2,SNR=14						
ARCES	ARCESS Array B	89.65	340	P	P	13 27 24.8	-1.3
	2.2nm,0.6s,mb4.4,baz=81,slow=5.9,SNR=14						

WEL 17 13:15:36.9±0.2,37.40S×176.20E,h262km±3km,ML3.8/14, 1C,Error ellipse: s-maj=5.2km s-min=4.1km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	1.12	140	PN	P	13 16 13.8	-0.2
URZ				SN	S	13 16 43.0	-0.1
MWZ	Matawai	1.40	132	PN	P	13 16 15.8	-0.1
MWZ				SN	S	13 16 45.9	-0.5
MXZ	Matakaoa Point	1.68	96	PN	P	13 16 17.7	-0.2
MXZ				SN	S	13 16 49.8	-0.1
BKZ	Black Stump Fm	1.78	173	⇑PN	P	13 16 18.5	-0.2
BKZ				SN	S	13 16 50.9	-0.3
WPVZ	Whakapapa	1.87	196	PN	P	13 16 19.9	+0.4
KNZ	Kokohu	1.99	145	PN	P	13 16 20.5	0.0
KNZ				SN	S	13 16 53.8	-0.6
WAZ	Wanganui	2.53	202	PN	P	13 16 25.0	-0.7
WAZ				SN	S	13 17 04.3	+0.7
TSZ	Takapari Road	2.66	184	PN	P	13 16 25.5	-1.5
TSZ				SN	S	13 17 04.4	-1.4
MRZ	Mangatainoka R	3.29	188	PN	P	13 16 31.3	-2.3
MRZ				SN	S	13 17 14.7	-3.1
KIW	Kapiti Island	3.60	196	PN	P	13 16 34.7	-2.4
CAW	Cannon Point	3.80	193	PN	P	13 16 36.9	-2.6

*CSEM **17** 13:35:23.9±0.1,45.61N×26.39E,h153km±1km,MD4.3/5, Error ellipse: s-maj=3.1km s-min=2.3km az=25.0*
*MOS **17** 13:35:24.4±0.7,45.62N×26.39E,h150km,mb4.4/1,Error ellipse: s-maj=13.6km s-min=7.0km az=115.2*
*IDC **17** 13:35:24.7±0.9,45.69N×26.37E,h147km±5km,mb4.1/1, mb1 3.3/6,mb1mx3.1/20,mbtmp3.6/6,Error ellipse: s-maj=18.4km s-min=12.3km az=90.0*
*BUC **17** 13:35:24.2±1.7,45.56N×26.36E,h159km±17km,MD4.3/5, Error ellipse: s-maj=32.9km s-min=9.8km az=31.0*
*NEIC **17** 13:35:24.9,45.58N×26.43E,h152km,MG4.0(BUC),After BUC.*
ISC 17 13:35:24.1±0.5,45.65N±0.03×26.47E±0.06,h156km±5km, n45,σ0§80/65,mb4.3/1,7C-8D,Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRI	Vrincioaia	0.28	40	⇑*i*P	P	13 35 46.6	+0.9
VRI				*i* S	S	13 36 02.5	+0.3
MLR	Muntele Rosu	0.40	247	P	P	13 35 46.7	+0.6
	58nm,0.3s,baz=52,slow=2.2,SNR=442						
MLR				S	S	13 36 01.9	-1.1
	200nm,0.3s,baz=92,slow=21,SNR=71						
MLR	Muntele Rosu	0.40	247	⇑*i*P	P	13 35 46.7	+0.6
MLR				*i* S	S	13 36 02.2	-0.7
MLR	Muntele Rosu	0.40	247	P	P	13 35 46.5	+0.4
MLR				*i* S	S	13 36 02.2	-0.7
MLR	Muntele Rosu	0.40	247	P	P	13 35 46.5	+0.4
MLR	Muntele Rosu	0.40	247	P	P	13 35 46.7	+0.6
MLR				S	S	13 36 01.9	-1.0
MLR				pmax	pmax		
	comp=Z,58nm,0.3s						
ISR	Istrita	0.53	174	⇑*i*P	P	13 35 46.6	-0.1
SNX	Sinaia	0.73	247	⇓*i*P	P	13 35 48.0	+0.3
SNX				S	S	13 36 05.9	0.0
CFR	Carcaliu	1.27	111	⇓*i*P	P	13 35 52.1	+0.1
CFR				*i* S	S	13 36 12.9	-0.7
CFR	Carcaliu	1.27	111	⇓*i*P	P	13 35 52.1	+0.1
CFR				S	S	13 36 13.0	-0.6
CFR	Carcaliu	1.27	111	⇑P	P	13 35 52.1	+0.1
CFR				S	S	13 36 12.9	-0.7
HARR	Harsova	1.41	132	⇓*i*P	P	13 35 53.6	+0.1
HARR				*i* S	S	13 36 14.6	-1.6
HARR	Harsova	1.41	132	⇓P	P	13 35 53.6	+0.1
HARR				S	S	13 36 14.6	-1.6
IAS	Iasi	1.72	26	P	P	13 35 58.3	+1.6
TIRR	Tirgusor	1.82	130	⇓*i*P	P	13 35 59.0	+1.2
TIRR				S	S	13 36 23.5	-0.4
TIRR	Tirgusor	1.82	130	P	P	13 35 58.9	+1.1
TIRR				*i* S	S	13 36 23.5	-0.4
TIRR	Tirgusor	1.82	130	P	P	13 35 58.9	+1.1
KIS	Kishinev	2.11	50	⇑*i*P	P	13 36 02.0	+0.8
	comp=Z,600nm,0.5s						
KIS				*i* S	S	13 36 29.0	-0.8
	comp=Z,1μm,0.5s						
KIS	Kishinev	2.11	50α	*i*P	P	13 36 02.0	+0.8
KIS				*i* S	S	13 36 29.0	-0.8
KIS				pmax	pmax		
	comp=Z,600nm,0.5s						
KIS				pmax	pmax		
	comp=Z,800nm,0.5s						
KIS				smax			
	comp=N,1μm,0.5s						
KIS				smax			
	comp=E,1μm,0.5s						
KIS				smax			
	comp=N,2μm,0.5s						
KIS				smax			
	comp=E,2μm,0.5s						
SZH	Strazhica	2.41	189	*i* P	P	13 36 04.0	-1.0
PRD	Provadia	2.54	164	*i* P	P	13 36 07.0	+0.5
PVL	Pavlikeni	2.57	199	*i* P	P	13 36 07.0	+0.2
KSV	Kosov	2.83	341	*e*P	P	13 36 11.0	+0.8
KSV				*i* S	S	13 36 45.9	+0.4
DRGR		2.85	295	P	P	13 36 09.2	-1.2
DRGR		2.85	295	P	P	13 36 08.9	-1.5
DRGR		2.85	295	⇓P	P	13 36 09.2	-1.2
ZAPS	Zavoj/Pirot	3.62	231	*e*	P	13 36 21.8	+1.4
ZAPS				Sn	S	13 36 58.1	-5.5
VTS	Vitosha	3.85	219	*i* P	P	13 36 23.0	-0.4
VTS	Vitosha	3.85	219	P	P	13 36 23.7	+0.3
UZH	Uzhgorod	4.12	318	*i* P	P	13 36 27.0	+0.1
UZH				*e*S	S	13 37 14.0	-1.3
UZH	Uzhgorod	4.12	318	*d* *i*P	P	13 36 27.0	+0.1
UZH				*e*S	S	13 37 14.0	-1.3
KOLS	Kolonicke sedl	4.35	321	*e*PN	P	13 36 30.1	+0.2
LVV	L'vov	4.48	339	*e*P	P	13 36 31.9	+0.3
LVV				*e*S	S	13 37 23.8	+0.1
CRVS	Cervenica-Dubn	4.71	315	*e*PN	P	13 36 35.0	+0.4
KECS	Kecovo	4.97	307	*e*PN	P	13 36 37.8	-0.3
PSZ	Piszkesteto	5.05	299	P	P	13 36 39.8	+0.7
STHS	Stebnicka Huta	5.17	319	*e*PN	P	13 36 41.2	+0.6
AKASG	Malin Array Be	5.38	19	P	P	13 36 43.8	+0.3
	comp=E,5.1nm,0.3s,baz=205,slow=13,SNR=15						
AKASG				S	S	13 37 42.2	-2.7
	comp=E,2.6nm,0.3s,baz=202,slow=20,SNR=5.5						
VRAC	Vranov	7.62	302	P	P	13 37 12.8	-0.7
	comp=E,0.4nm,0.3s,baz=109,slow=8.3,SNR=4.1						
BRTR	Keskin Array B	7.93	136	P	P	13 37 18.2	+0.7
	comp=E,0.1nm,0.3s,baz=311,slow=13,SNR=3.8						
GERES	GERESS Array B	9.25	295	P	P	13 37 34.5	-0.5
	comp=E,0.1nm,0.3s,baz=107,slow=14,SNR=4.2						
NOA	NORSAR Array B	17.83	335	P	P	13 39 23.2	-0.1
	comp=E,0.2nm,0.3s,baz=152,slow=10,SNR=3.2						
ARCES	ARCESS Array B	23.96	359	pP		13 40 53.6	
	comp=E,0.7nm,0.7s,baz=176,slow=12,SNR=1.1						
DBIC	Dimbokro	47.36	225	P	P	13 43 42.7	-1.5
	comp=E,2.5nm,0

JCH	**Churui**	**1.68 5**	⇑P	**Pn**	**13 36 37.6**	**+0.4**
JCH			*e*S	**Sn**	**13 36 59.4**	**+1.5**
JKB	**Kayabe**	**1.87 301**	⇑P	**Pn**	**13 36 41.6**	**+1.7**
JKB			*e*S	**Sn**	**13 37 07.7**	**+4.9**
JOM	**Ohasama**	**2.06 225**	⇑P	**Pn**	**13 36 43.1**	**+0.5**
JOM			*e*S	**Sn**	**13 37 09.0**	**+1.6**
JEW	**Eniwo**	**2.30 326**	⇑P	**Pn**	**13 36 47.4**	**+1.4**
JEW			*e*S	**Sn**	**13 37 17.8**	**+4.2**
JAK	**Akkeshi**	**2.35 28**	⇑P	**Pn**	**13 36 45.7**	**-1.0**
JAK			*e*S	**Sn**	**13 37 14.0**	**-0.8**
JAR	**Ashorobuto**	**2.40 10**	⇑P	**Pn**	**13 36 47.0**	**-0.5**
JAR			*e*S	**Sn**	**13 37 15.3**	**-0.8**
JMK	**Ichinoseki**	**2.49 218**	⇑P	**Pn**	**13 36 48.8**	**0.0**
JMK			*e*S	**Sn**	**13 37 19.2**	**+0.8**
ASAJ	**Asahikawa**	**3.21 352**	Pn	**Pn**	**13 36 59.7**	**+0.8**
4.0nm,0.3s,baz=195,slow=15,SNR=48						
ASAJ			Sn	**Sn**	**13 37 40.5**	**+3.9**
41nm,0.3s,baz=110,slow=3.1,SNR=7.5						
ASAJ			LR	LR	13 38 25.2	
comp=Z,1μm,19.8s,baz=180,slow=40						
ASAJ	**Asahikawa**	**3.21 352**	P	**Pn**	**13 36 59.7**	**+0.8**
ASAJ					13 37 40.5	
ASAJ			pmax	pmax		
comp=Z,4.0nm,0.3s						
ASAJ			MLR	MLR		
comp=Z,1μm,19.8s						
YUK	**Yuzh-Kuril'sk**	**3.68 32**	*e*P	**Pn**	**13 37 02.8**	**-2.8**
YUK			*e*S	**Sn**	**13 37 43.0**	**-5.4**
YUK			pmax	pmax		
comp=N,2μm,1.0s						
YUK			smax			
comp=N,4μm,0.5s						
YUK			smax			
comp=E,2μm,0.5s						
YUK			smax			
comp=N,5μm,1.0s						
YUK			smax			
comp=E,8μm,1.0s						
YUK			MLR	MLR		
comp=Z,5μm,13.0s						
KUR	**Kuril'sk**	**5.50 37**	⇑*i*P	**Pn**	**13 37 27.2**	**-4.2**
KUR			*i* S	**Sn**	**13 38 28.0**	**-6.3**
KUR			pmax	pmax		
comp=Z,2μm,1.0s						
KUR			pmax	pmax		
comp=N,110nm,0.7s						
KUR			pmax	pmax		
comp=E,100nm,0.7s						
KUR			pmax	pmax		
comp=Z,330nm,0.7s						
KUR			smax			
comp=N,5μm,1.0s						
KUR			smax			
comp=E,6μm,1.0s						
KUR			smax			
comp=N,1μm,0.9s						
KUR			smax			
comp=E,1μm,0.9s						
MAJO	**Matsushiro**	**5.86 223**	*e*P	**Pn**	**13 37 36.1**	**-0.4**
comp=E,58nm,0.7s						
MAJO	**Matsushiro**	**5.86 223**	*e*P	**Pn**	**13 37 36.1**	**-0.4**
MAJO			pmax	pmax		
comp=Z,58nm,0.7s						
MAT	**Matsushiro**	**5.86 223**	P	**Pn**	**13 37 35.9**	**-0.6**
MAT			S	**Sn**	**13 39 03.5**	**+20**
MAT	**Matsushiro**	**5.86 223**	*e*P	**Pn**	**13 37 36.0**	**-0.5**
comp=Z,58nm,1.2s						
MAT			*e*S	Sn	13 39 04.0	+21
MAT	**Matsushiro**	**5.86 223**	*e*P	**Pn**	**13 37 36.0**	**-0.5**
MAT			pmax	pmax		
comp=Z,58nm,1.2s						
MJAR	**Matsushiro Arr**	**5.86 223**	Pn	**Pn**	**13 37 36.2**	**-0.3**
comp=Z,2.0nm,0.3s,baz=27,slow=11,SNR=37						
YSS	**Yuzh-Sakhalins**	**6.02 357**	*e*P	**Pn**	**13 37 37.5**	**-1.3**
comp=Z,45nm,0.7s						
YSS	**Yuzh-Sakhalins**	**6.02 357**	*e*P	**Pn**	**13 37 37.6**	**-1.2**
YSS			*e*S	**Sn**	**13 38 42.0**	**-5.5**
YSS			pmax	pmax		
comp=N,30nm,1.1s						
YSS			pmax	pmax		
comp=Z,30nm,1.1s						
YSS			MLR	MLR		
comp=N,2μm,15.0s						
YSS			MLR	MLR		
comp=E,2μm,15.0s						
YSS			MLR	MLR		
comp=Z,2μm,15.0s						
UGL	**Uglegorsk**	**8.18 355**	P	**P**	**13 38 08.0**	**-1.0**
UGL			pmax	pmax		
comp=Z,78nm,1.0s						
UGL			MLR	MLR		
comp=N,2μm,16.0s						
UGL			MLR	MLR		
comp=E,2μm,16.0s						
UGL			MLR	MLR		
comp=Z,2μm,16.0s						
JHJ	**Hachijo jima 2**	**8.26 200**	Pn	**P**	**13 38 04.8**	**-5.3**
comp=Z,21nm,0.3s,baz=254,slow=18,SNR=15						
JHJ			LR	LR	13 41 28.3	
comp=Z,527nm,20.7s,baz=104,slow=39						
MDJ	**Mudanjiang**	**10.64 295**	P	**P**	**13 38 43.3**	**+0.4**
MDJ			AP		13 38 50.6	
MDJ			XP		13 38 54.6	
MDJ			S	**S**	**13 40 42.9**	**+0.9**
MDJ			PCP	PcP	13 44 43.5	-0.5
MDJ			SCP		13 48 11.6	
MDJ			PCS		13 48 16.3	
MDJ			AMB	AMB		
comp=Z,47nm,1.0s						
MDJ			AMB	AMB		
comp=Z,169nm,5.9s						
MDJ			LR	LR		
comp=N,870nm,15.3s						
MDJ			LR	LR		
comp=E,2μm,17.9s						
MDJ			LR	LR		
comp=Z,2μm,17.9s						
MDJ	**Mudanjiang**	**10.64 295**	*e*P	**P**	**13 38 43.5**	**+0.6**
comp=Z,47nm,0.9s						
KLR	**Kul'dur**	**11.57 320**	*e*P	**P**	**13 38 52.0**	**-3.4**
KLR			MLR	MLR		
comp=N,600nm,13.0s						
KLR			MLR	MLR		
comp=E,900nm,13.0s						
KLR			MLR	MLR		
comp=Z,1μm,13.0s						
KS15	**Wonju Array Si**	**12.37 259**	*e*P	**P**	**13 39 06.2**	**-0.1**
JNU	**Nakatsue**	**12.54 235**	Pn	**P**	**13 39 06.5**	**-2.1**
comp=Z,0.3nm,0.3s,baz=74,slow=16,SNR=4.4						
SKR	**Severo-Kuril's**	**13.26 38**	*e*P	**P**	**13 39 16.5**	**-1.6**
SKR			MLR	MLR		
comp=N,1μm,20.0s						
SKR			MLR	MLR		
comp=E,1μm,20.0s						
SKR			MLR	MLR		
comp=Z,1μm,20.0s						
CN2	**Changchun**	**13.42 288**	⇑P	**P**	**13 39 21.1**	**+0.9**
CN2			*e*XP		13 39 36.1	
CN2			*e*S	**S**	**13 41 50.3**	**+1.1**
CN2			AMB	AMB		
comp=Z,20nm,1.0s						
CN2			AMB	AMB		
comp=Z,250nm,4.0s						
CN2			LR	LR		
comp=N,680nm,17.0s						
CN2			LR	LR		
comp=E,1μm,17.0s						
CN2			LR	LR		
comp=Z,1μm,18.0s						
CBIJ	**Chichi jima**	**13.83 184**	Pn	**P**	**13 39 21.6**	**-4.1**
comp=Z,4.5nm,0.3s,baz=268,slow=21,SNR=5.0						
SNY	**Shenyang**	**14.75 280**	⇓P	**P**	**13 39 38.3**	**+0.8**
SNY			LR	LR		
comp=E,1μm,16.8s						
SNY			LR	LR		
comp=Z,1μm,16.5s						
PET	**Petropavlovsk**	**16.01 36**	*i* P	**P**	**13 39 52.6**	**-1.2**
DL2	**Dalian**	**16.66 270**	*e*P	**P**	**13 40 02.5**	**+0.4**
DL2			AMB	AMB		
comp=Z,75nm,1.0s						
HIA	**Hailar**	**18.47 305**	*e*P	**P**	**13 40 22.2**	**-2.4**
comp=Z,36nm,0.9s						
HIA	**Hailar**	**18.47 305**	*e*P	**P**	**13 40 22.2**	**-2.4**
HIA			pmax	pmax		
comp=Z,36nm,0.9s						
MA2	**Magadan**	**19.26 12**	*cc*P	**P**	**13 40 31.4**	**-2.5**
MA2			pmax	pmax		
comp=Z,20nm,1.6s						
MA2			MLR	MLR		
comp=Z,800nm,20.0s						
CLNS	**Chul'man**	**19.84 329**	*e*P	**P**	**13 40 37.6**	**-2.9**
CLNS			pmax	pmax		
comp=Z,35nm,0.9s						
CLNS			pmax	pmax		
comp=N,29nm,1.2s						
CLNS			pmax	pmax		
comp=E,14nm,1.0s						
CLNS			MLR	MLR		
comp=N,300nm,15.0s						
CLNS			MLR	MLR		
comp=Z,1μm,15.0s						
CLNS			MLR	MLR		
comp=E,1μm,17.0s						
SSE	**Sheshan**	**20.27 248**	P	**P**	**13 40 45.6**	**+0.4**
SSE			XP		13 41 01.6	
SSE			S	**S**	**13 44 24.6**	**-1.2**
SSE			XS		13 44 42.0	
SSE			AMB	AMB		
comp=Z,25nm,0.8s						
SSE			AMB	AMB		
comp=Z,27nm,3.2s						
SSE			LR	LR		
comp=N,217nm,22.3s,MS3.7						
SSE			LR	LR		
comp=E,270nm,22.3s,MS3.7						
SSE			LR	LR		
comp=Z,301nm,23.2s,MS3.6						
SSE	**Sheshan**	**20.27 248**	P	**P**	**13 40 45.6**	**+0.4**
comp=Z,25nm,0.8s						
SSE			sP		13 41 01.6	
SSE			S	**S**	**13 44 24.6**	**-1.2**
SSE			sS		13 44 42.0	
SSE			LR	LR		
comp=Z,300nm,23.2s,MS3.6						
TIA	**Tai'an**	**20.88 265**	⇓P	**P**	**13 40 48.4**	**-3.0**
TIA			AMB	AMB		
comp=Z,57nm,1.0s						
NJ2	**Nanjing**	**21.42 253**	*e*P	**P**	**13 40 54.3**	**-2.6**
NJ2			PP	PP	13 41 22.6	+1.5
NJ2			S	**S**	**13 44 43.0**	**-4.9**
NJ2			AMB	AMB		
comp=Z,50nm,1.0s,mb4.8						
NJ2			AMB	AMB		
comp=Z,180nm,5.8s						
NJ2			LR	LR		
comp=N,2μm,15.9s,MS4.8						
NJ2			LR	LR		
comp=E,3μm,13.2s,MS4.8						
NJ2			LR	LR		
comp=Z,1μm,15.8s,MS4.4						
YAK	**Yakutsk**	**22.64 343**	*e*P	**P**	**13 41 05.0**	**-3.8**
comp=Z,64nm,0.8s,mb5.1						
YAK	**Yakutsk**	**22.64 343**	*e*P	**P**	**13 41 05.5**	**-3.2**
YAK			*e**PP		13 41 12.6	
YAK			*e*PPP	PPP	13 41 37.2	-10
YAK			*e*		13 45 01.2	
YAK			*e*S	**S**	**13 45 10.8**	**+0.8**
YAK			*e*SSS	SSS	13 45 55.2	-13
YAK			pmax	pmax		
comp=N,13nm,0.9s						
YAK			pmax	pmax		
comp=Z,33nm,0.9s,mb4.8						
YAK			pmax	pmax		
comp=E,5.0nm,1.0s						
YAK			pmax	pmax		
comp=Z,29nm,0.8s,mb4.8						
YAK			pmax	pmax		
comp=N,7.0nm,1.0s						
YAK			pmax	pmax		
comp=E,7.0nm,0.9s						
YAK			smax			
comp=N,22nm,0.8s						
YAK			smax			
comp=E,12nm,1.0s						
YAK			smax			
comp=Z,13nm,1.0s						
YAK			MLR	MLR		
comp=Z,428nm,22.0s,MS3.8						
YAK			MLR	MLR		
comp=N,319nm,17.0s,MS3.9						
YAK			MLR	MLR		
comp=E,296nm,19.0s,MS3.9						
SEY	**Seymchan**	**22.70 11**	*e*P	**P**	**13 41 05.6**	**-3.7**
SEY					13 41 43.5	
SEY			*e*S	**S**	**13 45 01.9**	**-9.2**
SEY			*e*SSS	SSS	13 45 53.9	-16
SEY			pmax	pmax		
comp=Z,10.0nm,0.8s,mb4.3						
SEY			pmax	pmax		
comp=N,6.0nm,0.9s						
SEY			pmax	pmax		
comp=E,4.0nm,0.9s						
SEY			smax			
comp=N,20nm,3.5s						
SEY			smax			
comp=E,20nm,4.0s						
CIT	**Chita**	**23.06 309**	*e*P	**P**	**13 41 11.1**	**-1.8**
CIT			pmax	pmax		
comp=Z,72nm,1.6s,mb4.8						
FX1	**Attu Island--F**	**23.53 49**	P	**P**	**13 41 19.5**	**+2.1**
comp=Z,19nm,1.0s,mb4.5,baz=239,slow=5.3,SNR=9.0						
FX1			LR	LR	13 49 38.0	
comp=Z,9.9nm,19.1s,baz=357,slow=34						
FX1	**Attu Island--F**	**23.53 49**	*e*P	**P**	**13 41 19.2**	**+1.8**
FX1	**Attu Island--F**	**23.53 49**	P	**P**	**13 41 19.5**	**+2.1**
FX1			pmax	pmax		
comp=Z,19nm,1.0s						
FX1			MLR	MLR		
comp=Z,10.0nm,19.1s						
HHC	**Hu-ho-hao-te**	**23.84 280**	*e*P	**P**	**13 41 19.5**	**-1.1**
HHC			AP		13 41 29.1	
HHC			XP		13 41 35.8	
HHC			PP	PP	13 41 54.3	0.0
HHC			S	**S**	**13 45 28.3**	**-2.9**
HHC			XS		13 45 46.3	
HHC			SS	SS	13 46 19.5	-2.3
HHC			PCS		13 48 41.6	
HHC			AMB	AMB		
comp=Z,22nm,0.6s,mb4.8						
HHC			AMB	AMB		
comp=Z,87nm,4.2s						
HHC			LR	LR		
comp=N,325nm,15.5s,MS4.3						
HHC			LR	LR		
comp=E,762nm,17.3s,MS4.3						
HHC			LR	LR		
comp=Z,1μm,16.7s,MS4.4						
BTO	**Baotou**	**25.04 280**	*e*P	**P**	**13 41 30.8**	**-1.3**
BOD	**Bodaibo**	**25.12 322**	*e*P	**P**	**13 41 31.8**	**-1.0**
BOD			pmax	pmax		
comp=Z,25nm,0.8s,mb4.8						
SONM	**Songino Array**	**26.98 297**	P	**P**	**13 41 50.1**	**-0.1**
comp=Z,8.1nm,0.7s,mb4.4,baz=90,slow=9.0,SNR=58						
SONM			LR	LR	13 53 19.9	
comp=Z,1μm,18.9s,MS4.5,baz=90,slow=38						
XAN	**Xi'an**	**27.91 267**	*e*P	**P**	**13 41 57.0**	**-1.7**
XAN			PP	PP	13 42 43.4	-5.1
XAN			AMB	AMB		
comp=Z,9.0nm,1.2s,mb4.3						
XAN			LR	LR		
comp=N,103nm,16.8s,MS4.0						
XAN			LR	LR		
comp=E,351nm,18.8s,MS4.0						
XAN			LR	LR		
comp=Z,479nm,19.4s,MS4.1						
IRK	**Irkutsk**	**28.69 306**	*e*P	**P**	**13 42 05.1**	**-0.4**
IRK			pmax	pmax		
comp=Z,49nm,1.5s,mb5.0						
ZAK	**Zakamensk**	**29.13 302**	⇑*e*P	**P**	**13 42 08.8**	**-0.7**
ZAK			pmax	pmax		
comp=Z,12nm,1.0s,mb4.6						
ENH	**Enshi**	**29.23 259**	*e*P	**P**	**13 42 06.5**	**-4.1**
comp=Z,26nm,1.1s,mb4.9						
BILL	**Bilibino**	**29.90 17**	*e*P	**P**	**13 42 14.7**	**-1.5**
BILL	**Bilibino**	**29.90 17**	*ce*P	**P**	**13 42 15.1**	**-1.1**
BILL			pmax	pmax		
comp=Z,28nm,1.1s,mb4.9						
BILL			MLR	MLR		
comp=Z,300nm,15.0s,MS4.0						
MOY	**Mondy**	**30.65 305**	*e*P	**P**	**13 42 22.8**	**-0.2**
MOY			pmax	pmax		
comp=Z,51nm,2.0s,mb5.0						
LZH	**Lanzhou**	**30.97 274**	⇑P	**P**	**13 42 25.0**	**-1.0**
LZH			AP	pP	13 42 35.6	+0.7
LZH			XP	sP	13 42 40.5	+1.6
LZH			PP	PP	13 43 27.5	-0.8
LZH			*e*S	**S**	**13 47 25.0**	**-2.5**
LZH			XS		13 47 44.3	
LZH			SS	SS	13 49 11.3	-0.9
LZH			AMB	AMB		
comp=Z,29nm,1.4s,mb4.9						
LZH			AMB	AMB		
comp=Z,103nm,5.3s						
LZH			LR	LR		
comp=E,987nm,13.2s						
LZH			LR	LR		
comp=Z,2μm,16.9s,MS4.7						
LZH	**Lanzhou**	**30.97 274**	⇑P	**P**	**13 42 25.0**	**-1.0**
comp=Z,29nm,1.4s,mb4.9						
LZH			pP	pP	13 42 35.6	+0.7
LZH			sP	sP	13 42 40.5	+1.6
LZH			PP	PP	13 43 27.5	-0.8
LZH			*e*S	**S**	**13 47 25.0**	**-2.5**
LZH			sS		13 47 44.2	
LZH			SS	SS	13 49 11.3	-0.9
LZH			LR	LR		
comp=Z,2μm,16.9s,MS4.7						
LZH	**Lanzhou**	**30.97 274**	⇑P	**P**	**13 42 25.0**	**-1.0**
LZH			*PP	pP	13 42 35.6	+0.7
LZH			*SP	sP	13 42 40.5	+1.6
LZH					13 43 27.5	
LZH			*e*S	**S**	**13 47 25.0**	**-2.5**
LZH			*SS		13 47 44.2	
LZH			SS	SS	13 49 11.3	-0.9
LZH			pmax	pmax		
comp=Z,29nm,1.4s,mb4.9						
LZH			MLR	MLR		
comp=Z,2μm,16.9s,MS4.7						
GTA	**Gaotai**	**32.92 282**	*e*P	**P**	**13 42 42.3**	**-0.7**
GTA			AP	pP	13 42 52.0	0.0
GTA			XP	sP	13 42 56.8	+0.9
GTA			PP	PP	13 43 52.5	-1.0
GTA			PPP	PPP	13 44 10.0	+0.5
GTA			PCP	PcP	13 45 27.4	+0.4
GTA			S	**S**	**13 47 58.9**	**+1.1**
GTA			XS		13 48 13.4	
GTA			AMB	AMB		
comp=Z,15nm,1.0s,mb4.9						
GTA			AMB	AMB		
comp=Z,89nm,7.6s						
GTA			LR	LR		
comp=N,334nm,14.8s,MS4.6						
GTA			LR	LR		
comp=E,841nm,16.0s,MS4.6						
GTA			LR	LR		
comp=Z,1μm,18.6s,MS4.6						
CD2	**Chengdu**	**33.21 265**	P	**P**	**13 42 44.3**	**-1.3**
CD2			AMB	AMB		
comp=Z,20nm,1.0s,mb5.0						
GYA	**Guiyang**	**33.38 256**	⇑*i*P	**P**	**13 42 46.0**	**-1.1**
GYA			AP	pP	13 42 55.3	-0.8
GYA			XP	sP	13 42 59.6	-0.4
GYA			AMB	AMB		
comp=Z,50nm,0.8s,mb5.5						
GYA			AMB	AMB		
comp=Z,350nm,3.1s						
GYA			LR	LR		
comp=N,690nm,14.7s,MS4.6						
GYA			LR	LR		
comp=E,720nm,17.4s,MS4.6						
GYA			LR	LR		
comp=Z,1μm,15.8s,MS4.6						
QIZ	**Qiongzhong**	**35.87 243**	P	**P**	**13 43 08.9**	**+0.3**
QIZ			S	**S**	**13 48 40.9**	**-2.9**
QIZ			LR	LR		
comp=N,303nm,17.4s,MS4.3						
QIZ			LR	LR		
comp=E,294nm,16.2s,MS4.3						
QIZ			LR	LR		
comp=Z,411nm,17.4s,MS4.2						
KMI	**Kunming**	**37.03 257**	⇑P	**P**	**13 43 18.0**	**-0.3**
KMI			AP	pP	13 43 28.6	+1.3
KMI			XP	sP	13 43 35.8	+4.7
KMI			PP	PP	13 44 46.1	+1.0
KMI			S	**S**	**13 48 59.4**	**-2.1**
KMI			XS		13 49 19.9	
KMI			SS	SS	13 51 29.4	-2.2
KMI			AMB	AMB		
comp=Z,37nm,1.1s,mb5.1						
KMI			AMB	AMB		
comp=Z,123nm,3.5s						
KMI			LR	LR		
comp=N,541nm,17.9s,MS4.5						
KMI			LR	LR		
comp=E,540nm,17.9s,MS4.5						
KMI			LR	LR		
comp=Z,741nm,18.2s,MS4.5						
KMI	**Kunming**	**37.03 257**	⇑P	**P**	**13 43 18.0**	**-0.3**
comp=Z,37nm,1.1s,mb5.1						
KMI			pP	pP	13 43 28.6	+1.3
KMI			sP	sP	13 43 35.8	+4.7
KMI			PP	PP	13 44 46.1	+1.0
KMI			S	**S**	**13 48 59.4**	**-2.1**
KMI			sS		13 49 19.9	
KMI			SS	SS	13 51 29.4	-2.2
KMI			LR	LR		
comp=Z,740nm,18.2s,MS4.5						
ZAL	**Zalesovo**	**40.43 309**	P	**P**	**13 43 46.4**	**+0.2**
comp=Z,9.7nm,0.7s,mb4.7						
ZAL			LR	LR	14 02 24.4	
comp=Z,573nm,18.9s,MS4.5,baz=30,slow=39						
ZAL	**Zalesovo**	**40.43 309**	P	**P**	**13 43 46.4**	**+0.2**
ZAL			LR	LR	14 02 24.4	
WMQ	**Urumqi**	**40.44 293**	P	**P**	**13 43 47.0**	**+0.5**
WMQ			AP	pP	13 43 59.0	+3.4
WMQ			XP	sP	13 44 05.0	+5.7
WMQ			PP	PP	13 45 25.0	+2.0
WMQ			SCP		13 49 34.0	
WMQ			S	**S**	**13 49 52.0**	**-0.8**
WMQ			XS		13 50 13.0	
WMQ			SS	SS	13 52 47.0	-0.2
WMQ			AMB	AMB		
comp=Z,24nm,1.0s,mb4.9						
WMQ			AMB	AMB		
comp=Z,23nm,7.0s						
WMQ			LR	LR		
comp=N,165nm,16.0s,MS4.4						
WMQ			LR	LR		
comp=E,425nm,18.0s,MS4.4						
WMQ			LR	LR		
comp=Z,524nm,18.0s,MS4.4						
NVS	**Novosibirsk**	**41.24 311**	*e*P	**P**	**13 43 52.1**	**-0.9**
NVS			*i*		13 45 33.7	
NVS			pmax	pmax		
comp=N,6.0nm,1.0s						
NVS			pmax	pmax		
comp=E,20nm,1.0s						
NVS			pmax	pmax		
comp=Z,31nm,1.0s,mb4.9						
TTA	**Tatalina**	**41.46 37**	P	**P**	**13 43 57.1**	**+2.5**
comp=Z,2.1nm,0.6s,mb3.9						
TTA	**Tatalina**	**41.46 37**	P	**P**	**13 43 57.1**	**+2.5**
TTA			pmax	pmax		
comp=Z,2.0nm,0.6s,mb3.9						
CHRT	**Chiangrai**	**42.38 254**	⇑P	**P**	**13 44 06.0**	**+3.3**
KKTK	**Khon Kaen**	**42.54 247**	P	**P**	**13 44 03.0**	**-1.0**
IMA	**Indian Mountai**	**42.65 32**	*e*P	**P**	**13 44 04.9**	**+0.7**
comp=Z,59nm,0.8s,mb5.4						
IMA	**Indian Mountai**	**42.65 32**	*e*P	**P**	**13 44 04.9**	**+0.7**
IMA			pmax	pmax		
comp=Z,59nm,0.8s,mb5.4						
MKAR	**Makanchi Array**	**43.32 299**	P	**P**	**13 44 09.7**	**-0.3**
comp=Z,9.3nm,0.8s,mb4.5,baz=82,slow=8.6,SNR=63						
MKAR			LR	LR	14 03 35.2	
comp=Z,557nm,18.3s,MS4.5,baz=84,slow=38						
SPU	**Mount Spurr**	**43.33 40**	*e*P	**P**	**13 44 10.9**	**+1.1**
LSA	**Lhasa**	**43.34 272**	P	**P**	**13 44 11.8**	**+1.4**
LSA	**Lhasa**	**43.34 272**	*e*P	**P**	**13 44 11.4**	**+1.1**
comp=Z,40nm,1.4s,mb5.0						
LSA	**Lhasa**	**43.34 272**	*e*P	**P**	**13 44 11.4**	**+1.0**
LSA			pmax	pmax		
comp=Z,40nm,1.4s,mb5.0						
CHG	**Chiang Mai**	**43.66 253**	⇑P	**P**	**13 44 12.9**	**-0.2**
comp=Z,14nm,0.9s,mb4.7						
PMR	**Palmer**	**44.70 39**	*e*P	**P**	**13 44 25.7**	**+4.7**
comp=Z,15nm,0.9s,mb4.8						
KURK	**Kurchatov**	**44.71 305**	*e*P	**P**	**13 44 20.5**	**-0.6**

comp=Z,35nm,0.8s,mb5.2
KURK Kurchatov 44.71 305 *i* P **P 13 44 20.6 -0.5**
KURK pmax pmax
comp=Z,16nm,0.8s,mb4.9
ILAR Eielson Array 45.48 34 P **P 13 44 26.9 -0.2**
comp=Z,4.9nm,0.8s,mb4.4,baz=266,slow=6.0,SNR=54
ILAR LR LR 14 03 34.1
comp=Z,124nm,21.3s,MS3.8,baz=8.4,slow=36
KKN Kakani 48.75 273 *e*P **P 13 44 53.1 -0.1**
comp=Z,40nm,0.8s,mb5.5
KKN Kakani 48.75 273 *e*P **P 13 44 53.1 -0.1**
KKN pmax pmax
comp=Z,20nm,0.8s,mb5.2
PKI Pulchoki 48.76 273 *e*P **P 13 44 52.9 -0.5**
comp=Z,54nm,1.0s,mb5.5
PKI Pulchoki 48.76 273 *e*P **P 13 44 52.9 -0.5**
PKI pmax pmax
comp=Z,27nm,1.0s,mb5.2
VOSK Vostochnaya 48.78 310 P **P 13 44 52.7 -0.4**
VOSK pmax pmax
comp=Z,22nm,1.2s,mb5.1
DAWY Dawson 48.80 35 *e*P **P 13 44 52.8 -0.3**
DMN Daman 48.97 273 *e*P **P 13 44 54.7 -0.3**
comp=Z,23nm,0.7s,mb5.3
BVA0 Borovoye Array 49.04 310 *i* P **P 13 44 55.0 -0.1**
BVA0 pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
BVAR Borovoye Array 49.04 310 P **P 13 44 55.0 -0.1**
comp=Z,9.7nm,0.8s,mb4.9,baz=80,slow=9.0,SNR=52
BRVK Borovoye 49.09 310 *e*P **P 13 44 55.2 -0.3**
comp=Z,6.4nm,0.7s,mb4.8
BRVK Borovoye 49.09 310 *e*P **P 13 44 55.2 -0.3**
BRVK pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
GKN Gorkha 49.12 274 *e*P **P 13 44 55.6 -0.5**
KOLN Koldanda 50.03 274 *e*P **P 13 45 02.8 -0.3**
comp=Z,36nm,1.0s,mb5.4
INK Inuvik 50.30 29 P **P 13 45 03.8 -0.8**
comp=Z,12nm,0.9s,mb4.9,baz=267,slow=5.2,SNR=14
INK Inuvik 50.30 29 *e*P **P 13 45 02.8 -1.9**
comp=Z,10nm,0.7s,mb5.0
INK Inuvik 50.30 29 *e*P **P 13 45 02.8 -1.8**
INK pmax pmax
comp=Z,10.0nm,0.7s
KKAR Karatay Array 52.43 298 *i* P **P 13 45 20.1 -1.0**
KKAR pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
HNR Honiara 52.45 159 LR LR 14 05 18.1
comp=Z,137nm,18.0s,MS4.0,baz=13,slow=33
SVE Sverdlovsk 53.18 317⇑*i*P **P 13 45 26.6 +0.1**
SVE *e* pP 13 45 34.0 -1.7
SVE *e* 13 47 26.0
SVE *e* 13 56 36.0
SVE pmax pmax
comp=Z,60nm,1.8s,mb5.2
SVE MLR MLR
comp=N,300nm,18.0s,MS4.7
SVE MLR MLR
comp=E,500nm,18.0s,MS4.7
SVE MLR MLR
comp=Z,600nm,18.0s,MS4.7
SOKR Solikamsk 54.12 321*c i*P **P 13 45 32.7 -0.6**
SOKR pmax pmax
comp=Z,20nm,0.9s,mb5.0
SOKR MLR MLR
comp=Z,340nm,17.0s,MS4.5
ARU Arti 54.40 317 *e*P **P 13 45 34.7 -0.6**
comp=Z,40nm,0.9s,mb5.3
ARU Arti 54.40 317⇑*i*P **P 13 45 34.6 -0.7**
ARU *e* 13 47 34.9
ARU *e*PPP PPP 13 48 42.7 -7.3
ARU *e*S **S 13 53 02.8 -7.2**
ARU *e*SS SS 13 56 44.4 -7.5
ARU pmax pmax
comp=Z,47nm,1.0s,mb5.4
ARU MLR MLR
comp=Z,500nm,18.0s,MS4.6
ARU MLR MLR
comp=N,200nm,16.5s,MS4.7
ARU MLR MLR
comp=E,500nm,18.0s,MS4.7
DLBC Dease Lake 54.73 40 P **P 13 45 39.1 +1.3**
comp=E,2.1nm,0.6s,mb4.3,baz=232,slow=27,SNR=4.5
DLBC Dease Lake 54.73 40 *e*P **P 13 45 37.0 -0.8**
AB31 Akbulak array 56.53 309 P **P 13 45 50.2 -0.7**
AB31 pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
RES Resolute Bay 58.48 15 *e*P **P 13 46 03.3 -1.1**
comp=Z,18nm,0.8s,mb5.2
RES Resolute Bay 58.48 15 *e*P **P 13 46 03.3 -1.1**
RES pmax pmax
comp=Z,18nm,0.8s,mb5.2
YKA Yellowknife Ar 59.76 32 P **P 13 46 12.2 -1.1**
comp=Z,1.7nm,0.8s,mb4.1,baz=300,slow=6.9,SNR=10
YKA LR LR 14 16 29.0
comp=Z,106nm,18.4s,MS4.0,baz=305,slow=40
YKA Yellowknife Ar 59.76 32 P **P 13 46 12.2 -1.1**
YKA LR LR 14 16 29.0
ARCES ARCESS Array B 60.84 339 P **P 13 46 18.5 -2.1**
comp=Z,3.1nm,0.9s,mb4.4,baz=20,slow=14,SNR=4.2
ARCES LR LR 14 17 46.6
comp=Z,410nm,19.2s,MS4.6,baz=208,slow=41
WRA Warramunga Arr 61.12 190 P **P 13 46 20.2 -3.0**
comp=Z,1.6nm,0.6s,mb4.3,baz=6.6,slow=6.9,SNR=20
MOS Moscow 64.95 323 *e*P **P 13 46 45.9 -2.0**
EDM Edmonton 65.45 40 P **P 13 46 50.5 -0.7**
KAF Kangasniemi 65.48 333 *e*p **P 13 46 48.8 -2.4**
OBN Obninsk 65.81 323 P **P 13 46 52.3 -1.1**
OBN *e* 13 47 27.5
OBN pmax pmax
comp=Z,18nm,0.5s,mb5.4
OBN MLR MLR
comp=Z,400nm,16.0s,MS4.7
FINES FINESS Array B 66.01 332 P **P 13 46 53.5 -1.1**
comp=Z,6.4nm,0.7s,mb4.8,baz=76,slow=7.9,SNR=18
FINES LR LR 14 18 21.8
comp=Z,488nm,19.2s,MS4.7,baz=168,slow=38
DZM Mont Dzumac 66.31 156 LR LR 14 14 52.4
comp=Z,193nm,18.4s,MS4.3,baz=29,slow=35
SUMG Summit 66.78 1 *e*P **P 13 46 59.5 +0.1**
comp=Z,38nm,0.5s,mb5.7
VRSR Storozhevoye 66.91 318 *e*P **P 13 46 59.9 -0.6**
MOD Modoc 68.28 53 *e*P **P 13 47 15.6 +6.2**
comp=Z,3.8nm,1.0s,mb4.4
GOF Gofitskoye 68.54 311⇓*i*P **P 13 47 09.0 -1.9**
GOF pmax pmax
comp=Z,50nm,1.3s,mb5.3
AFI Afiamalu 68.66 132 LR LR 14 12 31.6
comp=Z,145nm,19.0s,MS4.2,baz=314,slow=32
KIV Kislovodsk 69.40 311 *e*P **P 13 47 16.6 +0.4**
comp=Z,40nm,0.9s,mb5.3
KIV Kislovodsk 69.40 311 *e*P **P 13 47 16.6 +0.4**
KIV pmax pmax
comp=Z,40nm,0.9s,mb5.3
BEKR Beckwourth 69.45 55 *e*P **P 13 47 15.3 -1.2**
comp=Z,8.9nm,1.2s,mb4.6
HRY Holter Researc 70.20 45 *e*P **P 13 47 18.4 -2.6**
GNI Garni 70.49 306 P **P 13 47 23.7 +0.8**
comp=Z,6.4nm,0.4s,mb4.9,baz=48,slow=17,SNR=3.8
HFS Hagfors 71.10 336 P **P 13 47 24.9 -1.3**
comp=Z,8.2nm,0.9s,mb4.7,baz=63,slow=6.6,SNR=9.9
NB2 NORSAR Subarra 71.12 338 P **P 13 47 25.5 -0.8**
comp=Z,8.4nm,0.8s,mb4.7,baz=37,slow=6.2
NB2 NORSAR Subarra 71.12 338 P **P 13 47 25.5 -0.8**
NB2 pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
NOA NORSAR Array B 71.12 338 P **P 13 47 25.5 -0.8**
comp=Z,6.8nm,0.8s,mb4.6,baz=36,slow=6.0,SNR=19
NOA LR LR 14 24 42.8
comp=Z,225nm,18.2s,MS4.5,baz=15,slow=41
NOA NORSAR Array B 71.12 338 P **P 13 47 25.5 -0.8**
NOA LR LR 14 24 42.8
SOC Sochi 71.32 312 *e*P **P 13 47 25.0 -2.9**
SOC *e*S S 13 56 40.3 -1.9
ANN Anapa 71.82 314 *e*P **P 13 47 34.4 +3.6**
ANN *e*S S 13 56 50.2 +2.3
ANN pmax pmax
comp=Z,31nm,0.8s,mb5.3
ANN MLR MLR
comp=N,239nm,18.0s,MS4.6
ANN MLR MLR
comp=E,221nm,18.0s,MS4.6
ANN MLR MLR
comp=Z,301nm,18.0s,MS4.6
GCMT Greycliff 71.94 45 *e*P **P 13 47 31.7 +0.1**
ELK Elko 72.01 51 *e*P **P 13 47 32.7 +0.6**
comp=Z,4.3nm,1.0s,mb4.3
ELK Elko 72.01 51 *e*P **P 13 47 32.7 +0.7**
ELK pmax pmax
comp=Z,4.0nm,1.0s
AKASG Malin Array Be 72.05 322 P **P 13 47 31.4 -0.8**
comp=Z,7.7nm,0.6s,mb4.8,baz=42,slow=5.8,SNR=30
STKA Stephens Creek 72.47 181 LR LR 14 23 17.3
comp=Z,131nm,18.3s,MS4.2,baz=24,slow=39
TPH Tonopah 72.47 55 *e*P **P 13 47 42.5 +7.7**
IMW Indian Meadow 72.48 47 *e*P **P 13 47 35.2 +0.4**
comp=Z,11nm,1.0s,mb4.8
RRI2 Red Ridge 72.62 47 *e*P **P 13 47 36.6 +1.1**
comp=Z,9.5nm,1.0s,mb4.7
TPAW Teton Pass 72.73 47 *e*P **P 13 47 35.1 -1.1**
comp=Z,5.9nm,1.0s,mb4.5
DUG Dugway 73.79 51 *e*P **P 13 47 43.3 +0.9**
comp=Z,9.5nm,1.1s,mb4.6
DUG Dugway 73.79 51 *e*P **P 13 47 43.3 +0.9**
DUG pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
PDAR Pinedale Array 73.98 47 P **P 13 47 43.5 +0.1**
comp=Z,1.5nm,0.7s,mb4.1,baz=315,slow=2.1,SNR=5.8
DAU Daniels Canyon 74.56 50 P **P 13 47 46.1 -0.7**
MSU Marysvale 75.26 52 P **P 13 47 52.2 +1.3**
MALT Malatya 75.45 308 *e*P **P 13 47 53.4 +1.3**
comp=Z,26nm,1.5s,mb4.9
MALT Malatya 75.45 308 *e*P **P 13 47 53.4 +1.4**
MALT pmax pmax
comp=Z,26nm,1.5s,mb4.9
NEN Nelson 75.48 55 *e*P **P 13 47 52.7 +0.4**
KWP Kalwaria 75.75 325 *e*P **P 13 47 54.0 +0.5**
KWP Kalwaria 75.75 325 *e*P **P 13 47 54.1 +0.6**
SRU San Rafael 75.84 50 *e*P **P 13 47 54.1 -0.1**
HASS Wahat al Ahsa' 76.44 292 P **P 13 47 56.1 -1.8**
KOLS Kolonicke sedl 76.46 324 *e*P **P 13 47 57.3 -0.2**
KOLS *e* 13 48 13.4
KOLS *e*PP PP 13 50 46.2 -4.8
STHS Stebnicka Huta 76.55 325 *e*P **P 13 47 58.9 +0.9**
STHS *e*PP PP 13 50 48.4 -3.3
OJC Ojcow 76.56 327 *e*P **P 13 47 58.0 0.0**
PV10 Paradox Valley 77.19 50 *e*P **P 13 48 02.6 +0.8**
BSEG Bad Segeberg 77.19 334 *e*P **P 13 48 02.0 +0.5**
BRTR Keskin Array B 77.29 312 P **P 13 48 02.6 +0.3**
comp=Z,1.1nm,0.7s,mb3.9,baz=73,slow=2.9,SNR=6.0
KSP Ksiaz 77.50 329 *e*P **P 13 48 03.7 +0.4**
OKC Ostrava-Krasne 77.54 327 *e*P **P 13 48 03.7 +0.3**
OKC AMS AMS 14 25 30.0
comp=Z,500nm,20.0s
PV01 Paradox Valley 77.63 50 *e*P **P 13 48 06.9 +2.7**
MORC Moravsky Berou 77.83 327 *e*P **P 13 48 04.7 -0.4**
comp=Z,6.9nm,0.9s,mb4.6
MORC Moravsky Berou 77.83 327 *e*P **P 13 48 04.7 -0.4**
MORC pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
UPC Upice 77.87 329 *e*P **P 13 48 05.8 +0.5**
DPC Dobruska-Polom 77.88 328 *e*P **P 13 48 05.9 +0.6**
DPC AMS AMS 14 25 50.0
comp=Z,400nm,16.2s
PSZ Piszkesteto 78.27 325 *e*P **P 13 48 08.3 +0.8**
comp=Z,6.9nm,1.0s,mb4.5
PSZ Piszkesteto 78.27 325 *e*P **P 13 48 08.3 +0.8**
PSZ pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
VYHS Vyhne 78.28 326 *e*P **P 13 48 08.0 +0.4**
CLL Collm 78.39 331 P **P 13 48 07.9 -0.2**
comp=Z,logA/T=1.2,mb4.9
CLL *e**PP pP 13 48 15.0 -2.7
CLL *i* *SP sP 13 48 19.6 -1.3
CLL Collm 78.39 331 *i* P **P 13 48 07.9 -0.2**
comp=Z,13nm,0.8s,mb4.9
CLL *e*pP pP 13 48 15.0 -2.7
CLL *i* sP sP 13 48 19.6 -1.3
CLL LR LR
comp=Z,400nm,21.7s,MS4.7
CLL Collm 78.39 331 *i* P **P 13 48 07.9 -0.2**
CLL *e**PP pP 13 48 15.0 -2.7
CLL *i* *SP sP 13 48 19.6 -1.3
CLL pmax pmax
comp=Z,13nm,0.8s,mb4.9
CLL MLR MLR
comp=Z,400nm,21.7s,MS4.7
PVCC Panska Ves 78.42 329 AMS AMS 14 28 00.0
comp=Z,300nm,15.8s
RAO Raoul Island 78.58 146 LR LR 14 14 53.8
comp=Z,145nm,21.6s,MS4.3,baz=79,slow=30
PRU Pruhonice 78.86 329 *e*P **P 13 48 11.3 +0.6**
PRU AMS AMS 14 26 30.0
comp=Z,300nm,15.7s
CLZ Clausthal 78.90 332 *e*P **P 13 48 11.3 +0.4**
comp=Z,12nm,1.0s,mb4.8
CLZ Clausthal 78.90 332 *e*P **P 13 48 11.3 +0.4**
CLZ pmax pmax
comp=Z,12nm,1.0s,mb4.8
TREC Trest 79.04 328 *e*P **P 13 48 12.5 +0.8**
TREC AMS AMS 14 26 30.0
comp=Z,400nm,16.4s
MOX Moxa 79.44 331 *i* P **P 13 48 13.9 +0.1**
MOX Moxa 79.44 331 *e*P **P 13 48 13.9 +0.1**
NKC Novy Kostel 79.47 330 AMS AMS 14 26 30.0
comp=Z,300nm,18.4s
EKA Eskdalemuir Ar 79.90 341 P **P 13 48 14.6 -1.7**
comp=Z,2.9nm,0.8s,mb4.3,baz=37,slow=4.2,SNR=6.0
KHC Kasperske Hory 79.92 329 *e*P **P 13 48 17.0 +0.5**
KHC pP pP 13 48 24.0 -2.1
KHC AMS AMS 14 29 40.0
comp=Z,300nm,15.1s
KHC Kasperske Hory 79.92 329 *e*P **P 13 48 17.0 +0.5**
KHC *e* 13 48 24.0
KHC LR LR
comp=Z,300nm,15.1s,MS4.8
GEC2 GERESS Array S 80.11 329 *e*P **P 13 48 17.6 +0.1**
comp=Z,5.0nm,1.1s,mb4.4
GEC2 GERESS Array S 80.11 329 *e*P **P 13 48 17.6 +0.1**
GEC2 pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
GERES GERESS Array B 80.11 329 P **P 13 48 17.4 -0.1**
comp=Z,1.8nm,0.7s,mb4.1,baz=34,slow=4.8,SNR=10
GERES LR LR 14 27 32.6
comp=Z,273nm,18.4s,MS4.6,baz=158,slow=38
WET Wettzell 80.19 329 *e*P **P 13 48 18.4 +0.5**
comp=Z,8.0nm,1.0s,mb4.6
WET Wettzell 80.19 329 *e*P **P 13 48 18.4 +0.5**
WET pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
MZLS Mizel 80.32 293 P **P 13 48 19.1 0.0**
GRA1 Grafenberg Arr 80.36 331 *e*P **P 13 48 19.8 +1.0**
comp=Z,17nm,0.8s,mb5.0
GRA1 LR LR
comp=Z,300nm,19.0s,MS4.7
GRF Grafenberg Arr 80.36 331 *e*P **P 13 48 19.8 +1.0**
comp=Z,17nm,0.8s,mb5.0
GRF LR LR
comp=Z,300nm,19.0s,MS4.7
GRF Grafenberg Arr 80.36 331 *e*P **P 13 48 19.8 +1.0**
GRF pmax pmax
comp=Z,17nm,0.8s,mb5.0
GRF MLR MLR
comp=Z,300nm,19.0s,MS4.7
GRF Grafenberg Arr 80.36 331 *e*P **P 13 48 19.8 +1.0**
GRF pmax pmax
comp=Z,17nm,0.8s,mb5.0
GRF MLR MLR
comp=Z,300nm,19.0s,MS4.7
ASF Jabal al Asfar 80.46 304 P **P 13 48 19.6 -0.1**
comp=Z,1.5nm,0.5s,mb4.2,baz=277,slow=5.7,SNR=3.7
VTS Vitosha 80.76 320 *e*P **P 13 48 21.5 +0.5**
LAZ Ladron 81.02 52 *e*P **P 13 48 26.2 +3.6**
ANMO Albuquerque 81.04 51 *e*P **P 13 48 24.5 +1.8**
SCHQ Schefferville 81.21 17 P **P 13 48 23.2 0.0**
comp=Z,2.9nm,0.8s,mb4.3,baz=120,slow=5.7,SNR=3.0
MMB Musomiste 81.25 319 *e*P **P 13 48 24.0 +0.4**
KKB Krupnik 81.36 319 *e*P **P 13 48 24.0 -0.2**
BNM Barren Site 81.50 52 P **P 13 48 26.6 +1.5**
FUR Furstenfeldbru 81.60 330 *e*P **P 13 48 26.5 +1.2**
AFFS 'Afif 81.91 295 P **P 13 48 27.7 +0.3**
GIVF Givet 82.25 334 *e*P **P 13 48 28.5 -0.2**
BAIF Baives 82.49 335 *e*P **P 13 48 29.9 0.0**
CDF Champ du Feu 82.86 332⇑*i*P **P 13 48 32.1 +0.2**
comp=Z,14nm,1.0s,mb4.7
CDF Champ du Feu 82.86 332⇑*i*P **P 13 48 32.1 +0.2**
CDF pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
DAVOX Davos 83.28 330 P **P 13 48 34.2 +0.2**
comp=Z,2.1nm,0.6s,mb4.4,baz=339,slow=8.6,SNR=4.4
JMQS Jabal Moqyreh 83.33 303 P **P 13 48 36.0 +1.3**
HAU Haudompre 83.54 332 *e*P **P 13 48 35.2 -0.1**
HAU *e*R
comp=Z,244nm,21.0s
BDAS Al Bad' 84.14 303 P **P 13 48 39.7 +0.9**
GDL2 Guadalupe Moun 84.22 52 *e*P **P 13 48 40.0 +0.9**
TATS Tathlith 84.46 291 P **P 13 48 41.7 +1.1**
CABF La Chapelle 84.82 332 *e*P **P 13 48 42.5 +0.7**
comp=Z,11nm,1.1s,mb4.6
CABF La Chapelle 84.82 332 *e*P **P 13 48 42.5 +0.7**
CABF pmax pmax
comp=Z,5.0nm,1.1s,mb4.6
LOR Lormes 85.03 334⇑*i*P **P 13 48 43.0 +0.2**
comp=Z,19nm,0.9s,mb4.9
LOR *e*R
comp=Z,339nm,21.0s
LOR Lormes 85.03 334⇑*i*P **P 13 48 43.0 +0.2**
LOR pmax pmax
comp=Z,9.0nm,0.9s,mb4.9
LOR MLR MLR
comp=Z,340nm,21.0s,MS4.7
LDF La Druitiere 85.13 337 *e*P **P 13 48 43.7 +0.4**
comp=Z,9.0nm,0.8s,mb4.6
LDF La Druitiere 85.13 337 *e*P **P 13 48 43.7 +0.4**
LDF pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
PPT Papeete 85.20 118 *e*LR LR 14 15 32.1
comp=Z,336nm,21.0s,baz=312
PPT Papeete 85.20 118 LR LR 14 21 05.8
comp=Z,310nm,18.7s,MS4.7,baz=315,slow=32
SSF Saint Saulge 85.33 334⇑*i*P **P 13 48 44.6 +0.3**
comp=Z,3.4nm,0.8s,mb4.5
SSF Saint Saulge 85.33 334⇑*i*P **P 13 48 44.6 +0.3**
SSF pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
LPL La Plagne 85.52 331⇑*i*P **P 13 48 46.2 +0.9**
comp=Z,14nm,0.9s,mb4.9
LPL La Plagne 85.52 331⇑*i*P **P 13 48 46.2 +0.9**
LPL pmax pmax
comp=Z,7.0nm,0.9s,mb4.9
LPG La Plagne 85.53 331⇑*i*P **P 13 48 46.3 +1.0**
comp=Z,26nm,1.0s,mb5.1
LPG La Plagne 85.53 331⇑*i*P **P 13 48 46.3 +1.0**
LPG pmax pmax
comp=Z,13nm,1.0s,mb5.1
GRR Gorron 85.54 337⇑*i*P **P 13 48 45.8 +0.5**
comp=Z,32nm,1.0s,mb5.2
GRR Gorron 85.54 337⇑*i*P **P 13 48 45.8 +0.5**
GRR pmax pmax
comp=Z,16nm,1.0s,mb5.2
SMF Signal de Mont 85.58 333⇑*i*P **P 13 48 45.9 +0.4**
comp=Z,22nm,0.9s,mb5.1
SMF Signal de Mont 85.58 333⇑*i*P **P 13 48 45.9 +0.4**
SMF pmax pmax
comp=Z,11nm,0.9s,mb5.1
AVF Avril sur Loir 85.61 334⇑*i*P **P 13 48 46.2 +0.5**
comp=Z,34nm,0.9s,mb5.3
AVF Avril sur Loir 85.61 334⇑*i*P **P 13 48 46.2 +0.5**
AVF pmax pmax
comp=Z,17nm,0.9s,mb5.3
DJNS Zahran al Janu 85.62 290 P **P 13 48 47.5 +1.2**
TAOE Nuku Hiva Isla 85.83 105 *e*LR LR 14 15 50.2
comp=Z,750nm,23.4s
BNI Bardonecchia 85.94 331 *e*P **P 13 48 47.7 +0.3**
comp=Z,4.5nm,0.8s,mb4.8
BNI Bardonecchia 85.94 331 *e*P **P 13 48 47.7 +0.3**
BNI pmax pmax
comp=Z,4.0nm,0.8s,mb4.7
SGMF Saint Gilles 86.15 338 *e*P **P 13 48 49.0 +0.6**
comp=Z,27nm,1.0s,mb5.1
SGMF Saint Gilles 86.15 338 *e*P **P 13 48 49.0 +0.6**
SGMF pmax pmax
comp=Z,14nm,1.0s,mb5.2
MBDF Montbardon 86.18 330⇑*i*P **P 13 48 48.6 0.0**
comp=Z,7.2nm,0.8s,mb4.7
MBDF Montbardon 86.18 330⇑*i*P **P 13 48 48.6 0.0**
MBDF pmax pmax
comp=Z,4.0nm,0.8s,mb4.7
ROSF Rostrenen 86.28 338 *e*P **P 13 48 49.7 +0.7**
comp=Z,40nm,1.0s,mb5.3
ROSF Rostrenen 86.28 338 *e*P **P 13 48 49.7 +0.7**
ROSF pmax pmax
comp=Z,20nm,1.0s,mb5.3
ORIF Oris-en-Rattie 86.35 331⇑*i*P **P 13 48 50.0 +0.6**
comp=Z,11nm,0.8s,mb4.8
ORIF *e*R
comp=Z,217nm,22.0s
TCF Toulx Ste Croi 86.44 334⇑*i*P **P 13 48 50.5 +0.7**
comp=Z,18nm,1.1s,mb4.9
TCF Toulx Ste Croi 86.44 334⇑*i*P **P 13 48 50.5 +0.7**
TCF pmax pmax
comp=Z,9.0nm,1.1s,mb4.9
TXAR Lajitas Array 86.67 54 P **P 13 48 51.8 +0.4**
comp=Z,0.5nm,0.6s,mb4.0,baz=288,slow=4.0,SNR=5.3
VIVF Saint-Julien-l 86.84 332⇑*i*P **P 13 48 52.4 +0.6**
comp=Z,15nm,1.0s,mb4.9
VIVF Saint-Julien-l 86.84 332⇑*i*P **P 13 48 52.4 +0.6**
VIVF pmax pmax
comp=Z,8.0nm,1.0s,mb4.9
MFF Saint Martin d 86.92 336⇑*i*P **P 13 48 52.9 +0.8**
comp=Z,23nm,0.8s,mb5.1
MFF Saint Martin d 86.92 336⇑*i*P **P 13 48 52.9 +0.8**
MFF pmax pmax
comp=Z,11nm,0.8s,mb5.1
SMRF Simiane la Rot 87.27 331 *e*P **P 13 48 54.5 +0.6**
LMR La Mourre 87.47 330 *e*P **P 13 48 54.9 0.0**
comp=Z,11nm,0.8s,mb4.9
LMR La Mourre 87.47 330 *e*P **P 13 48 54.9 0.0**
LMR pmax pmax
comp=Z,6.0nm,0.8s,mb4.9
RJF Les Rejaudoux 87.53 334 *e*P **P 13 48 55.9 +0.8**
RJF *e*R
comp=Z,369nm,21.2s
CAF Calviac 87.68 333⇑*i*P **P 13 48 57.1 +1.2**
comp=Z,23nm,0.9s,mb5.1
CAF Calviac 87.68 333⇑*i*P **P 13 48 57.1 +1.2**
CAF pmax pmax
comp=Z,12nm,0.9s,mb5.1
LASF Ste Croix 87.80 332 *e*P **P 13 48 57.3 +0.8**
LFF La Frestale 88.11 334 *e*P **P 13 48 59.0 +1.1**
MTLF Montolieu 89.02 333 *e*P **P 13 49 02.9 +0.6**
TBI Tubuai 89.38 122 *e*LR LR 14 17 28.3
EPF Esparros 89.94 334 *e*P **P 13 49 07.6 +1.0**
ATD Arta Tunnel 90.20 285 LR LR 14 32 31.4
comp=Z,76nm,21.0s,MS4.1,baz=9.4,slow=38
ETSF Etsaut 90.36 334 *e*P **P 13 49 09.7 +1.1**
SJPF Ste Jean 90.38 335 *e*P **P 13 49 09.6 +0.9**
comp=Z,26nm,1.3s,mb5.1
SJPF Ste Jean 90.38 335 *e*P **P 13 49 09.6 +0.9**
SJPF pmax pmax
comp=Z,13nm,1.3s,mb5.1
RKT Rikitea 98.97 113 *e*LR LR 14 21 54.9
comp=Z,113nm,25.0s,baz=290
LPAZ La Paz 143.47 57 PKP PKPdf 13 55 43.6 -2.7
comp=Z,0.7nm,0.7s,baz=180,slow=5.1,SNR=3.2
SNAA Sanae 144.88 198 PKPbc 13 55 42.0 -0.1
SNAA Sanae 144.88 198 PKPbc 13 55 49.2 +7.1
SNAA Sanae 144.88 198 PKPbc 13 56 01.8 +20
SNAA Sanae 144.88 198 PKPbc 13 56 23.7 +42
SNAA Sanae 144.88 198*d i*PKIKP PKPdf 13 55 41.9 -5.3
VNA2 Neumayer--Watz 146.45 197⇑*i* PKPbc 13 55 47.6 +1.6
VNA2 Neumayer--Watz 146.45 197 PKPbc 13 55 49.5 +3.5
VNA2 Neumayer--Watz 146.45 197 PKPbc 13 55 51.6 +5.6
VNA2 Neumayer--Watz 146.45 197 PKPbc 13 55 56.3 +10
VNA2 Neumayer--Watz 146.45 197 PKPbc 13 56 20.6 +35
VNA2 Neumayer--Watz 146.45 197 PKPbc 13 56 28.0 +42
VNA3 Neumayer Olymp 146.69 196⇑*i* PKPbc 13 55 48.7 +2.1
VNA3 Neumayer Olymp 146.69 196 PKPbc 13 55 56.8 +10
VNA3 Neumayer Olymp 146.69 196 PKPbc 13 55 59.0 +12
VNA3 Neumayer Olymp 146.69 196 PKPbc 13 56 17.2 +31
VNA3 Neumayer Olymp 146.69 196 PKPbc 13 56 29.2 +43
VNA1 Neumayer--Stat 146.84 197⇑*i* PKPbc 13 55 47.7 +0.8
VNA1 Neumayer--Stat 146.84 197 PKPbc 13 55 49.7 +2.8
VNA1 Neumayer--Stat 146.84 197 PKPbc 13 55 57.7 +11
VNA1 Neumayer--Stat 146.84 197 PKPbc 13 56 14.0 +27
VNA1 Neumayer--Stat 146.84 197 PKPbc 13 56 17.6 +31
VNA1 Neumayer--Stat 146.84 197 PKPbc 13 56 30.6 +44

*IDC **17** 13:58:11.7±4.4, 5.07S×151.78E, h112^{km}±40^{km}, mb3.7/5, mb1 3.8/6, mb1mx3.7/13, mbtmp4.1/6, Error ellipse: s-maj=30.2km s-min=25.4km az=28.0*
*NEIC **17** 13:58:13.9±2.5, 5.16S×151.77E, h137^{km}±23^{km}, mb4.4/1, Error ellipse: s-maj=21.8km s-min=18.0km az=209.0*
ISC 17 13:58:11.8±4.1, 5.1S±0.2×151.7E±0.2, h125^{km}±38^{km}, n8,

σ0°98/8, mb3.9/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.25**	**226**	P	**P**	**13 59 43.5**	**+0.8**
	4.9nm,0.3s,baz=45,slow=8.6,SNR=17						
PMG				S	**S**	**14 00 52.1**	**-1.2**
	11nm,0.3s,baz=161,slow=22,SNR=13						
DZM	**Mont Dzumac**	**22.13**	**141**	P	**P**	**14 02 57.7**	**-0.2**
	5.8nm,0.8s,mb3.9,baz=240,slow=4.2,SNR=3.8						
WRAB	**Tennant Creek**	**22.45**	**227**	*eP*	**P**	**14 03 01.5**	**+0.5**
	10nm,0.6s,mb4.3						
WRA	**Warramunga Arr**	**22.46**	**227**	P	**P**	**14 03 02.0**	**+0.8**
	5.8nm,0.5s,mb4.2,baz=52,slow=9.9,SNR=78						
WRA				PcP	PcP	14 06 53.2	+0.4
	1.4nm,0.7s,baz=56,slow=2.2,SNR=9.8						
SONM	**Songino Array**	**65.97**	**328**	P	**P**	**14 08 47.1**	**+0.3**
	0.8nm,0.6s,mb3.7,baz=148,slow=5.3,SNR=6.7						
MKAR	**Makanchi Array**	**79.81**	**319**	P	**P**	**14 10 07.4**	**-0.3**
	0.6nm,0.8s,mb3.5,baz=117,slow=5.4,SNR=4.9						
ILAR	**Eielson Array**	**82.81**	**22**	P	**P**	**14 10 22.2**	**-0.8**
	0.8nm,0.6s,mb3.7,baz=246,slow=5.6,SNR=7.5						
GERES	**GERESS Array B**	**123.70**	**328**	PKP	PKPdf	14 16 56.4	+1.5
	0.4nm,0.5s,baz=90,slow=2.0,SNR=3.0						

IDC 17 14:13:24.5±3.0, 2.53N×96.09E, mb3.9/5, mb1 4.0/5, mb1mx3.8/17, mbtmp3.9/5, Error ellipse: s-maj=118.0km s-min=26.4km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.68**	**123**	P	P	14 21 31.4	-1.7
	0.7nm,0.8s,baz=301,slow=9.2,SNR=7.6						
MKAR	**Makanchi Array**	**45.69**	**347**	P	P	14 21 47.6	-1.3
	1.8nm,0.4s,baz=156,slow=8.9,SNR=38						
SONM	**Songino Array**	**46.00**	**10**	P	P	14 21 49.7	-1.7
	1.4nm,0.6s,baz=186,slow=9.0,SNR=10						
ZAL	**Zalesovo**	**52.07**	**352**	P	P	14 22 35.5	-2.7
	1.8nm,0.5s,baz=307,slow=4.0,SNR=6.4						
BVAR	**Borovoye Array**	**54.64**	**341**	P	P	14 22 54.4	-2.8
	0.4nm,0.6s,baz=135,slow=6.1,SNR=3.6						

*MOS **17** 15:02:34.4±0.8, 9.58S×160.53E, h120km, mb5.1/18, Error ellipse: s-maj=14.6km s-min=11.3km az=94.3*
*BJI **17** 15:02:35.7, 9.51S×161.16E, h149km, mB5.0, mb4.7*
*IDC **17** 15:02:37.4±0.5, 9.67S×160.78E, h139km±3km, mb4.3/12, mb1 4.5/13, mb1mx4.5/15, mbtmp4.7/13, MS3.5/2, Ms1 3.5/2, ms1mx3.1/16, Error ellipse: s-maj=13.3km s-min=10.7km az=70.0*
*NEIC **17** 15:02:37.3±0.2, 9.68S×160.61E, mb4.8/29, Error ellipse: s-maj=7.9km s-min=6.9km az=121.0*

ISC 17 15:02:36.4±0.2, 9.66S±0.05×160.54E±0.06, h136km, h136km±1.4km; pP-P, n108, σ0°88/95, mb4.6/49, 2C-8D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.62**	**291**	P	**P**	**15 03 00.2**	**+2.8**
	3μm,0.3s,baz=165,slow=3.2,SNR=1991						
HNR				S	**S**	**15 03 17.5**	**+4.0**
	2μm,0.3s,baz=345,slow=23,SNR=18						
HNR	**Honiara**	**0.62**	**291**	*eP*	**P**	**15 02 59.9**	**+2.6**
DZM	**Mont Dzumac**	**13.58**	**156**	P	**P**	**15 05 44.6**	**+0.1**
	0.5nm,0.3s,baz=5.0,slow=20,SNR=3.6						
DZM				S	**S**	**15 08 12.9**	**+0.4**
	1.5nm,0.3s,baz=101,slow=23,SNR=7.4						
CTAO	**Charters Tower**	**17.25**	**231**	*eP*	**P**	**15 06 33.8**	**+3.3**
	23nm,0.9s						
CTAO	**Charters Tower**	**17.25**	**231**	*eP*	**P**	**15 06 33.8**	**+3.3**
CTAO				pmax	pmax		
	comp=Z,23nm,0.9s						
WRAB	**Tennant Creek**	**27.26**	**245**	*eP*	**P**	**15 08 10.3**	**+0.3**
	comp=Z,32nm,0.5s,mb5.2						
WRAB	**Tennant Creek**	**27.26**	**245**	*eP*	**P**	**15 08 10.4**	**+0.3**
WRAB				pmax	pmax		
	comp=Z,32nm,0.5s,mb5.2						
WRA	**Warramunga Arr**	**27.27**	**245**	P	**P**	**15 08 10.7**	**+0.5**
	comp=Z,23nm,0.4s,mb5.1,baz=77,slow=8.8,SNR=649						
KAKA	**Kakadu**	**27.72**	**261**	*eP*	**P**	**15 08 26.1**	**+12**
	comp=Z,5.8nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**28.23**	**216**	⇓*iP*	**P**	**15 08 18.7**	**-0.1**
	comp=Z,9.0nm,0.9s,mb4.5						
STKA	**Stephens Creek**	**28.23**	**216**	P	**P**	**15 08 18.8**	**+0.1**
	comp=Z,4.7nm,0.4s,mb4.6,baz=5.9,slow=8.9,SNR=35						
STKA				pP	pP	15 08 48.3	+0.7
	comp=Z,4.3nm,0.6s,baz=41,slow=11,SNR=2.4						
URZ	**Urewera**	**32.14**	**155**	P	**P**	**15 08 50.4**	**-2.8**
	comp=Z,1.9nm,0.3s,mb4.3,baz=226,slow=17,SNR=7.8						
RPZ	**Rata Peaks**	**35.14**	**167**	P	**P**	**15 09 16.8**	**-2.0**
	comp=Z,4.9nm,0.3s,mb4.6,baz=350,slow=13,SNR=13						
FORT	**Forrest**	**36.80**	**230**	*eP*	**P**	**15 09 33.1**	**+0.3**
	comp=Z,8.4nm,0.5s,mb4.6						
MBWA	**Marble Bar**	**40.85**	**249**	*eP*	**P**	**15 10 06.7**	**+0.3**
	comp=Z,8.3nm,0.5s,mb4.6						
KLBR	**Kellerberrin**	**45.22**	**235**	*eP*	**P**	**15 10 41.3**	**-0.5**
	comp=Z,146nm,2.0s,mb5.3						
NWAO	**Narrogin (SRO)**	**46.08**	**233**	P	**P**	**15 10 40.2**	**-8.3**
NWAO				*e*		15 10 48.7	
MJAR	**Matsushiro Arr**	**50.52**	**337**	P	**P**	**15 11 21.6**	**-1.2**
	comp=Z,1.2nm,0.4s,mb3.9,baz=162,slow=8.8,SNR=10						
MJAR				pP	pP	15 11 54.4	0.0
	comp=Z,2.2nm,0.8s,baz=178,slow=11,SNR=3.1						
MJAR	**Matsushiro Arr**	**50.52**	**337**	P	**P**	**15 11 21.6**	**-1.2**
MJAR				pP	pP	15 11 54.4	0.0
MAT	**Matsushiro**	**50.53**	**337**	PKP	**P**	**15 11 21.9**	**-1.0**
MAT	**Matsushiro**	**50.53**	**337**	*ePKP*	**P**	**15 11 22.0**	**-0.9**
ASAJ	**Asahikawa**	**55.94**	**344**	LR	LR	15 33 32.5	
	comp=Z,28nm,18.5s,baz=254,slow=33						
YSS	**Yuzh-Sakhalins**	**58.55**	**346**	*eP*	**P**	**15 12 19.9**	**-1.1**
	comp=Z,10nm,0.9s,mb4.7						
YSS	**Yuzh-Sakhalins**	**58.55**	**346**	*d iP*	**P**	**15 12 18.2**	**-2.7**
YSS				pmax	pmax		
	comp=Z,20nm,1.7s,mb4.7						
MDJ	**Mudanjiang**	**60.84**	**335**	P	**P**	**15 12 36.4**	**-0.2**
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.7s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,72nm,5.7s						
ENH	**Enshi**	**63.09**	**311**	*eP*	**P**	**15 12 49.2**	**-2.6**
	comp=Z,4.1nm,0.4s,mb4.6						
FX1	**Attu Island--F**	**63.22**	**9**	*eP*	**P**	**15 12 51.5**	**-0.9**
KMI	**Kunming**	**66.05**	**303**	P	**P**	**15 13 12.5**	**+1.3**
KMI				AP	pP	15 13 45.8	+1.6
KMI				XP	sP	15 14 01.5	+2.4
KMI				S	S	15 21 51.0	+4.5
KMI				AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.5						
KMI				AMB	AMB		
	comp=Z,91nm,4.1s						
KMI				LR	LR		
	comp=N,97nm,8.2s						
KMI				LR	LR		
	comp=E,105nm,11.9s						
KMI				LR	LR		
	comp=Z,109nm,15.0s						
KMI	**Kunming**	**66.05**	**303**	P	**P**	**15 13 12.5**	**+1.3**
	comp=Z,10.0nm,1.4s,mb4.5						
KMI				pP	pP	15 13 45.8	+1.6
KMI				sP	sP	15 14 01.5	+2.4
KMI				S	S	15 21 51.0	+4.5
KMI				LR	LR		
	comp=Z,110nm,15.0s						
KMI	**Kunming**	**66.05**	**303**	P	**P**	**15 13 12.5**	**+1.3**
KMI				*PP	pP	15 13 45.8	+1.6
KMI				S	S	15 21 51.0	+4.5
KMI				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.5						
KMI				MLR	MLR		
	comp=Z,110nm,15.0s						
HHC	**Hu-ho-hao-te**	**67.52**	**322**	*eP*	**P**	**15 13 21.4**	**+1.3**
HHC				S	S	15 21 54.5	-9.3
HHC				AMB	AMB		
	comp=Z,14nm,0.7s,mb4.8						
HHC				AMB	AMB		
	comp=Z,82nm,4.5s						
HHC				LR	LR		
	comp=N,104nm,23.2s						
HHC				LR	LR		
	comp=E,113nm,24.4s						
HHC				LR	LR		
	comp=Z,92nm,19.6s						
CD2	**Chengdu**	**67.72**	**309**	P	**P**	**15 13 21.6**	**+0.1**
CD2				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.7						
VNDA	**Vanda**	**67.85**	**180**	P	**P**	**15 13 20.3**	**-1.3**
	comp=Z,2.6nm,0.8s,mb4.0,baz=354,slow=6.1,SNR=12						
VNDA				pP	pP	15 13 53.1	-1.7
	comp=Z,2.2nm,0.9s,baz=324,slow=6.5,SNR=3.9						
HIA	**Hailar**	**68.71**	**333**	*eP*	**P**	**15 13 27.0**	**-0.3**
	comp=Z,14nm,1.1s,mb4.6						
HIA				*e*PcP	PcP	15 14 01.5	+10
HIA	**Hailar**	**68.71**	**333**	*eP*	**P**	**15 13 27.0**	**-0.3**
HIA				*e*	pP	15 14 01.5	+0.9
HIA				pmax	pmax		
	comp=Z,14nm,1.1s						
LZH	**Lanzhou**	**70.07**	**314**	⇓P	**P**	**15 13 36.5**	**+0.7**
LZH				AMB	AMB		
	comp=Z,37nm,1.3s,mb5.0						
LZH	**Lanzhou**	**70.07**	**314**	⇓P	**P**	**15 13 36.5**	**+0.7**
	comp=Z,37nm,1.3s,mb5.0						
LZH				pP	pP	15 14 07.1	-2.2
LZH				sP	sP	15 14 21.5	-2.6
LZH	**Lanzhou**	**70.07**	**314**	⇓P	**P**	**15 13 36.5**	**+0.7**
LZH				*PP	pP	15 14 07.1	-2.2
LZH				*SP	sP	15 14 21.5	-2.6
LZH				pmax	pmax		
	comp=Z,37nm,1.3s,mb5.0						
MIR	**Mirnyy**	**72.33**	**203**	*c iP*	**P**	**15 13 48.6**	**-0.1**
MIR				pmax	pmax		
	comp=Z,34nm,1.4s,mb4.9						
SEY	**Seymchan**	**72.64**	**356**	⇓*iP*	**P**	**15 13 49.4**	**-1.2**
GTA	**Gaotai**	**74.44**	**315**	*eP*	**P**	**15 14 02.3**	**+0.7**
GTA				AMB	AMB		
	comp=Z,14nm,1.1s,mb4.6						
SONM	**Songino Array**	**74.57**	**325**	P	**P**	**15 14 03.0**	**+0.9**
	comp=Z,7.1nm,0.8s,mb4.3,baz=134,slow=5.2,SNR=38						
SONM				pP	pP	15 14 36.4	+0.4
	comp=Z,8.4nm,0.8s,baz=139,slow=5.5,SNR=13						
SONM				sP	sP	15 14 52.0	+1.2
	comp=Z,4.6nm,0.8s,baz=139,slow=5.3,SNR=4.6						
YAK	**Yakutsk**	**75.40**	**346**	*eP*	**P**	**15 14 06.5**	**0.0**
	comp=Z,24nm,0.9s,mb4.8						
YAK	**Yakutsk**	**75.40**	**346**	*d iP*	**P**	**15 14 06.1**	**-0.4**
YAK				pmax	pmax		
	comp=Z,28nm,0.8s,mb4.9						
BOD	**Bodaibo**	**77.16**	**337**	*eP*	**P**	**15 14 15.8**	**-0.6**
BOD				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.3						
LSA	**Lhasa**	**77.30**	**303**	*eP*	**P**	**15 14 16.9**	**-0.9**
	comp=Z,3.3nm,0.5s,mb4.2						
LSA	**Lhasa**	**77.30**	**303**	*eP*	**P**	**15 14 16.9**	**-0.9**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.2						
BILL	**Bilibino**	**77.61**	**2**	*d iP*	**P**	**15 14 18.4**	**-0.3**
BILL				*e*		15 14 27.3	
BILL				*e*	pP	15 14 53.3	+0.5
BILL				*e*		15 24 34.2	
BILL				pmax	pmax		
	comp=Z,29nm,0.9s,mb4.9						
ZAK	**Zakamensk**	**77.68**	**327**	*eP*	**P**	**15 14 19.6**	**+0.2**
ZAK				*e*	pP	15 14 53.8	+0.2
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.2						
ZAK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.0						
PMR	**Palmer**	**81.10**	**22**	*eP*	**P**	**15 14 40.1**	**+2.4**
	comp=Z,26nm,1.5s,mb4.7						
PMR	**Palmer**	**81.10**	**22**	*eP*	**P**	**15 14 40.1**	**+2.4**
PMR				pmax	pmax		
	comp=Z,26nm,1.5s,mb4.6						
IMA	**Indian Mountai**	**82.63**	**17**	*eP*	**P**	**15 14 45.6**	**+0.2**
	comp=Z,30nm,0.9s,mb5.0						
IMA	**Indian Mountai**	**82.63**	**17**	*eP*	**P**	**15 14 45.6**	**+0.2**
IMA				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.0						
ILAR	**Eielson Array**	**83.90**	**20**	P	**P**	**15 14 50.6**	**-1.2**
	comp=Z,1.9nm,0.5s,mb4.1,baz=258,slow=5.3,SNR=22						
ILAR				pP	pP	15 15 25.3	-1.1
	comp=Z,1.3nm,0.5s,baz=253,slow=4.3,SNR=3.9						
WMQ	**Urumqi**	**84.52**	**316**	*eP*	**P**	**15 14 55.0**	**-0.4**
WMQ				AP	pP	15 15 31.0	+0.9
WMQ				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.6						
DAWY	**Dawson**	**86.18**	**22**	*eP*	**P**	**15 15 03.8**	**+0.7**
YBH	**Yreka Blue Hor**	**86.64**	**47**	*eP*	**P**	**15 15 06.2**	**+0.4**
	comp=Z,23nm,1.4s,mb4.8						
YBH	**Yreka Blue Hor**	**86.64**	**47**	*eP*	**P**	**15 15 06.3**	**+0.4**
YBH				pmax	pmax		
	comp=Z,23nm,1.4s						
BEKR	**Beckwourth**	**87.88**	**49**	*eP*	**P**	**15 15 12.4**	**+0.6**
	comp=Z,16nm,1.5s,mb4.6						
MWC	**Mount Wilson**	**88.35**	**55**	*eP*	**P**	**15 15 14.2**	**-0.1**
OMM	**Old Mammoth Mi**	**88.38**	**52**	*eP*	**P**	**15 15 14.6**	**+0.3**
MOD	**Modoc**	**88.42**	**47**	*eP*	**P**	**15 15 14.9**	**+0.5**
	comp=Z,11nm,1.1s,mb4.6						
MTUM	**Tungsten Hills**	**88.65**	**52**	*eP*	**P**	**15 15 15.9**	**+0.3**
MKAR	**Makanchi Array**	**89.03**	**318**	P	**P**	**15 15 17.2**	**+0.1**
	comp=Z,2.5nm,0.4s,mb4.5,baz=91,slow=7.0,SNR=44						
MKAR				pP	pP	15 15 52.5	+0.4
	comp=Z,1.5nm,0.7s,baz=104,slow=5.3,SNR=4.1						
ZAL	**Zalesovo**	**89.47**	**325**	P	**P**	**15 15 18.7**	**-0.3**
	comp=Z,2.1nm,0.4s,mb4.4,baz=6.3,slow=6.6,SNR=8.1						
ZAL	**Zalesovo**	**89.47**	**325**	P	**P**	**15 15 18.7**	**-0.3**
WVOR	**Wild Horse Val**	**89.75**	**47**	*eP*	**P**	**15 15 20.8**	**+0.2**
	comp=Z,33nm,1.4s,mb5.1						
WVOR	**Wild Horse Val**	**89.75**	**47**	*eP*	**P**	**15 15 20.8**	**+0.2**
WVOR				pmax	pmax		
	comp=Z,33nm,1.4s,mb5.1						
INK	**Inuvik**	**90.30**	**20**	*eP*	**P**	**15 15 22.4**	**-0.2**
	comp=Z,6.1nm,1.1s,mb4.4						
INK	**Inuvik**	**90.30**	**20**	*eP*	**P**	**15 15 22.4**	**-0.2**
INK				pmax	pmax		
	comp=Z,6.0nm,1.1s						
BMN	**Battle Mountai**	**90.35**	**49**	*eP*	**P**	**15 15 24.3**	**+0.8**
	comp=Z,5.3nm,0.9s,mb4.5						
BMN	**Battle Mountai**	**90.35**	**49**	*eP*	**P**	**15 15 24.3**	**+0.8**
BMN				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
LDFC	**Landfair**	**90.90**	**55**	*eP*	**P**	**15 15 26.7**	**+0.5**
NEN	**Nelson**	**91.23**	**54**	*eP*	**P**	**15 15 27.8**	**0.0**
NEN				*e*	pP	15 16 01.9	-0.9
NEN				*e*		15 16 22.4	
BMO	**Blue Mountains**	**91.23**	**45**	*eP*	**P**	**15 15 27.3**	**-0.2**
	comp=Z,21nm,1.4s,mb5.0						
BMO	**Blue Mountains**	**91.23**	**45**	*eP*	**P**	**15 15 27.3**	**-0.2**
BMO				pmax	pmax		
	comp=Z,21nm,1.4s,mb5.0						
ELK	**Elko**	**91.89**	**49**	*eP*	**P**	**15 15 30.8**	**+0.2**
	comp=Z,13nm,1.1s,mb4.9						
ELK				*e*	pP	15 16 06.2	+0.5
ELK	**Elko**	**91.89**	**49**	*eP*	**P**	**15 15 30.8**	**+0.2**
ELK				*e*	pP	15 16 06.3	+0.5
ELK				pmax	pmax		
	comp=Z,13nm,1.1s						
KURK	**Kurchatov**	**92.32**	**321**	*eP*	**P**	**15 15 31.9**	**-0.4**
	comp=Z,12nm,1.1s,mb4.8						
KURK	**Kurchatov**	**92.32**	**321**	*eP*	**P**	**15 15 31.9**	**-0.5**
KURK				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.8						
ARUT	**Antelope Range**	**92.72**	**52**	*eP*	**P**	**15 15 35.3**	**+0.8**
ARUT				*e*	pP	15 16 09.5	-0.2
HLID	**Hailey**	**93.01**	**46**	*eP*	**P**	**15 15 36.4**	**+0.7**
	comp=Z,16nm,1.1s,mb5.0						
MSU	**Marysvale**	**93.83**	**52**	*eP*	**P**	**15 15 39.6**	**+0.1**
TUC	**Tucson**	**93.98**	**58**	*eP*	**P**	**15 15 40.7**	**+0.4**
	comp=Z,1.2nm,0.7s,mb4.1						
TUC	**Tucson**	**93.98**	**58**	*eP*	**P**	**15 15 40.7**	**+0.3**
TUC				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
RRI2	**Red Ridge**	**95.20**	**47**	*eP*	**P**	**15 15 45.7**	**0.0**
	comp=Z,13nm,1.2s,mb5.0						
IMW	**Indian Meadow**	**95.55**	**47**	*eP*	**P**	**15 15 47.4**	**+0.1**
	comp=Z,9.6nm,1.3s,mb5.0						
YKA	**Yellowknife Ar**	**96.12**	**28**	P	**P**	**15 15 48.4**	**-0.9**
	comp=Z,2.9nm,0.7s,mb4.7,baz=258,slow=4.5,SNR=24						
YKA				pP	pP	15 16 23.7	-0.8
	comp=Z,1.1nm,0.7s,baz=261,slow=4.6,SNR=3.4						
YKA				LR	LR	15 59 24.6	
	comp=Z,34nm,18.9s,baz=125,slow=36						
YKA	**Yellowknife Ar**	**96.12**	**28**	P	**P**	**15 15 48.4**	**-0.9**
YKA				pP	pP	15 16 23.8	-0.8
YKA				LR	LR	15 59 24.6	
PDAR	**Pinedale Array**	**96.40**	**48**	P	**P**	**15 15 51.2**	**+0.1**
	comp=Z,3.3nm,0.9s,mb4.7,baz=315,slow=2.1,SNR=21						
PDAR				pP	pP	15 16 25.6	-0.7
	comp=Z,1.2nm,0.9s,baz=225,slow=2.1,SNR=4.6						
BRVK	**Borovoye**	**97.79**	**322**	*eP*	**P**	**15 15 56.4**	**-0.8**
	comp=Z,2.0nm,1.0s,mb4.5						
BRVK	**Borovoye**	**97.79**	**322**	*eP*	**P**	**15 15 56.4**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.5						
ANMO	**Albuquerque**	**97.90**	**56**	⇑*iP*	**P**	**15 15 58.9**	**+0.8**
SNAA	**Sanae**	**98.10**	**185**	*i P*	**P**	**15 16 07.8**	**+10**
ARCES	**ARCESS Array B**	**113.66**	**344**	PKiKP		15 20 58.3	
	comp=Z,0.9nm,0.3s,baz=89,slow=2.0,SNR=26						
KIV	**Kislovodsk**	**116.61**	**314**	*i* PKIKP	PKPdf	15 21 09.4	+4.9
KAF	**Kangasniemi**	**118.07**	**338**	*ep*	PKPdf	15 21 06.0	-0.8
FINES	**FINESS Array B**	**118.56**	**337**	PKP	PKPdf	15 21 07.7	-0.1
	comp=Z,1.8nm,0.7s,baz=90,slow=5.7,SNR=8.9						
FINES	**FINESS Array B**	**118.56**	**337**	PKP	PKPdf	15 21 07.7	-0.1
AKASG	**Malin Array Be**	**122.86**	**325**	PKP	PKPdf	15 21 16.3	-0.1
	comp=Z,0.6nm,0.4s,baz=51,slow=2.3,SNR=6.3						
AKASG	**Malin Array Be**	**122.86**	**325**	PKP	PKPdf	15 21 16.3	-0.1
NB2	**NORSAR Subarra**	**123.94**	**343**	PKPdf	PKPdf	15 21 18.2	-0.1
	comp=Z,3.3nm,1.0s,baz=42,slow=1.7						
NOA	**NORSAR Array B**	**123.94**	**343**	PKP	PKPdf	15 21 17.7	-0.5
	comp=Z,1.6nm,0.8s,baz=45,slow=1.7,SNR=4.7						
LPAZ	**La Paz**	**125.38**	**118**	PKP	PKPdf	15 21 23.3	+1.2
	comp=Z,0.5nm,0.3s,baz=136,slow=4.4,SNR=4.7						
KOLS	**Kolonicke sedl**	**127.62**	**326**	*e*PKP	PKPdf	15 21 24.7	-1.0
SDV	**Santo Domingo**	**129.53**	**86**	*e*PKPdf	PKPdf	15 21 29.7	-0.5
GERES	**GERESS Array B**	**132.10**	**331**	PKP	PKPdf	15 21 34.7	+0.5
	comp=Z,0.8nm,0.7s,SNR=5.4						
ESDC	**Sonseca Array**	**147.07**	**338**	PKPbc	PKPdf	15 22 04.6	+3.4
	comp=Z,0.6nm,0.4s,baz=36,slow=2.3,SNR=11						
ESDC				pPKPbc		15 22 41.4	
	comp=Z,1.9nm,0.8s,baz=40,slow=3.2,SNR=2.9						

*IDC **17** 15:29:40.8±6.3, 30.40S×177.69W, h30km±42km, mb4.3/2, mb1 4.3/3, mb1mx3.9/12, mbtmp4.2/3, ML3.4/1, MS3.3/1, Ms1 3.3/1, ms1mx2.6/20, Error ellipse: s-maj=52.5km s-min=20.7km az=106.0*

ISC 17 15:29:38.4±2.3, 30.55S±0.08×177.8W±0.4, h33km, n12, σ1°21/12, mb4.4/2, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.30**	**354**	Pn	**Pn**	**15 30 01.5**	**+1.0**
	176nm,0.3s,baz=50,slow=18,SNR=14						
RAO				Sn	**Sn**	**15 30 14.4**	**-2.5**
	696nm,0.3s,baz=71,slow=21,SNR=16						
MXZ	**Matakaoa Point**	**7.72**	**204**	PN	**Pn**	**15 31 31.4**	**-0.1**
MXZ				T		15 35 38.8	
MWZ	**Matawai**	**8.69**	**205**	PN	**P**	**15 31 43.8**	**-0.8**
MWZ				SN	**Sn**	**15 33 23.2**	**+0.5**
URZ	**Urewera**	**8.78**	**207**	Pn	**P**	**15 31 46.2**	**+0.2**
	0.4nm,0.3s,baz=274,slow=10,SNR=6.3						
URZ				Sn	**Sn**	**15 33 23.8**	**-1.3**
	2.5nm,0.3s,baz=204,slow=19,SNR=13						
MRZ	**Mangatainoka R**	**11.45**	**206**	SN	**S**	**15 34 23.0**	**-7.4**
NNZ	**Nelson**	**12.84**	**212**	SN	**S**	**15 34 56.9**	**-7.0**
MQZ	**McQueen's Vall**	**15.19**	**207**	SN	**S**	**15 35 47.4**	**-12**
DZM	**Mont Dzumac**	**16.48**	**297**	LR	LR	15 38 12.4	
	comp=Z,90nm,19.0s,baz=24,slow=31						
STKA	**Stephens Creek**	**34.65**	**257**	P	**P**	**15 36 29.6**	**+2.9**
	6.7nm,0.8s,mb4.6,baz=89,slow=7.5,SNR=10						
WRA	**Warramunga Arr**	**44.31**	**272**	P	**P**	**15 37 47.6**	**+0.4**
	2.2nm,0.4s,mb4.2,baz=110,slow=8.0,SNR=70						
FINES	**FINESS Array B**	**145.36**	**340**	PKPbc	PKPbc	15 49 13.9	+1.3
	1.0nm,0.4s,baz=56,slow=5.0,SNR=7.8						
AKASG	**Malin Array Be**	**151.54**	**323**	PKPbc	PKPdf	15 49 30.8	+8.4
	1.0nm,0.6s,baz=48,slow=2.2,SNR=6.6						

*IDC **17** 15:55:45.4±0.7, 48.61S×125.86E, mb4.3/8, mb1 4.5/8, mb1mx4.5/10, mbtmp4.3/8, MS4.2/9, Ms1 4.2/9, ms1mx4.2/10, Error ellipse: s-maj=29.1km s-min=19.9km az=106.0*
*BJI **17** 15:55:46.8, 48.35S×126.84E, h10km, mB5.1, mb4.8, Ms4.7, Msz4.5*
*NEIC **17** 15:55:47.1±0.4, 48.71S×126.41E, h10km, mb4.8/9, MS4.5/3, Error ellipse: s-maj=21.3km s-min=10.1km az=95.0*

ISC 17 15:55:46.8±0.4, 48.68S±0.08×125.9E±0.2, h10km, (h21km±2.3km; pP-P), n71, σ1°22/46, mb4.7/21, MS4.3/14, 4C-3D, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**17.02**	**334**	*eP*	**P**	**15 59 46.1**	**-0.3**
CASY	**Casey**	**19.37**	**199**	*eP*	**P**	**16 00 13.0**	**-2.0**
	20nm,0.9s						
STKA	**Stephens Creek**	**20.56**	**41**	P	**P**	**16 00 24.6**	**-3.6**
	6.6nm,0.9s,baz=188,slow=7.2,SNR=7.8						
STKA				LR	LR	16 06 42.9	
	comp=Z,1μm,21.6s,MS4.3,baz=206,slow=32						
STKA	**Stephens Creek**	**20.56**	**41**	*eP*	**P**	**16 00 24.7**	**-3.5**
WRA	**Warramunga Arr**	**29.47**	**16**	P	**P**	**16 01 48.7**	**-4.3

GYA				AMB	AMB	
	comp=Z,10.0nm,0.8s,mb4.8					
GYA				AMB	AMB	
	comp=Z,70nm,3.6s					
LBTB	**Lobatse**	**78.02**	**246**	LR	LR	16 37 11.6
	comp=Z,118nm,18.4s,MS4.2,baz=141,slow=32					
RKT	**Rikitea**	**78.74**	**112**	*e*LR	LR	16 31 44.3
	comp=Z,114nm,26.0s					
SSE	**Sheshan**	**79.52**	**356**	P	**P**	**16 07 55.8 +0.7**
SSE				AMB	AMB	
	comp=Z,25nm,0.7s,mb5.2					
SSE				AMB	AMB	
	comp=Z,36nm,4.4s					
SSE	**Sheshan**	**79.52**	**356**	P	**P**	**16 07 55.8 +0.7**
	comp=Z,25nm,0.7s,mb5.2					
WHN	**Wuhan**	**79.53**	**350**	*e*P	**P**	**16 07 55.5 +0.3**
ENH	**Enshi**	**79.95**	**346**	*e*P	**P**	**16 07 58.0 +0.6**
	comp=Z,19nm,1.2s,mb4.9					
ENH				*e*pP	pP	16 08 05.2 +4.6
NJ2	**Nanjing**	**80.61**	**354**	*e*P	**P**	**16 08 00.1 -0.8**
NJ2				AP	pP	16 08 05.1 +1.0
NJ2				XP	sP	16 08 07.6 +2.5
NJ2				S	S	16 18 07.0 +0.4
NJ2				XS		16 18 14.0
NJ2				SKS	SKS	16 18 16.0 -3.3
NJ2				AMB	AMB	
	comp=Z,10.0nm,1.2s,mb4.6					
NJ2				AMB	AMB	
	comp=Z,190nm,10.0s					
NJ2				LR	LR	
	comp=N,440nm,25.6s					
NJ2				LR	LR	
	comp=E,310nm,16.6s					
NJ2				LR	LR	
	comp=Z,350nm,19.1s					
CD2	**Chengdu**	**81.66**	**341**	*e*P	**P**	**16 08 07.0 +0.6**
XAN	**Xi'an**	**83.73**	**346**	P	**P**	**16 08 17.3 +0.3**
XAN				AMB	AMB	
	comp=Z,12nm,1.7s,mb4.8					
LSA	**Lhasa**	**83.98**	**330**	*e*P	**P**	**16 08 19.3 +1.0**
	comp=Z,2.2nm,0.6s,mb4.5					
MJAR	**Matsushiro Arr**	**85.55**	**10**	P	**P**	**16 08 24.2 -1.8**
	comp=Z,3.1nm,0.8s,mb4.6,baz=185,slow=6.6,SNR=9.9					
MJAR				LR	LR	16 48 25.2
	comp=Z,106nm,18.4s,MS4.3,baz=175,slow=37					
MAJO	**Matsushiro**	**85.55**	**10**	*e*P	**P**	**16 08 23.1 -3.0**
	comp=Z,8.7nm,1.1s,mb4.9					
MAT	**Matsushiro**	**85.55**	**10**	PKP	**P**	**16 08 24.7 -1.4**
LZH	**Lanzhou**	**86.64**	**342**	⇑P	**P**	**16 08 32.5 +1.0**
LZH				AP	pP	16 08 41.0 +6.3
LZH				XP	sP	16 08 45.1 +9.4
LZH				*e*PP	PP	16 11 58.5 +2.8
LZH				SKS	SKS	16 18 55.6 -4.7
LZH				*e*S	S	16 19 08.6 +1.8
LZH				XS		16 19 22.5
LZH				*e*SS	SS	16 24 54.8 +3.8
LZH				AMB	AMB	
	comp=Z,27nm,1.5s,mb5.3					
LZH				AMB	AMB	
	comp=Z,99nm,6.3s					
LZH				LR	LR	
	comp=N,439nm,15.2s					
LZH				LR	LR	
	comp=Z,591nm,18.1s,MS5.0					
LZH	**Lanzhou**	**86.64**	**342**	⇑P	**P**	**16 08 32.5 +1.0**
	comp=Z,27nm,1.5s,mb5.3					
LZH				pP	pP	16 08 41.0 +6.3
LZH				sP	sP	16 08 45.1 +9.4
LZH				*e*PP	PP	16 11 58.5 +2.8
LZH				SKS	SKS	16 18 55.6 -4.7
LZH				*e*S	S	16 19 08.6 +1.8
LZH				sS		16 19 22.5
LZH				*e*SS	SS	16 24 54.7 +3.7
LZH				LR	LR	
	comp=Z,590nm,18.1s,MS5.0					
TSUM	**Tsumeb**	**87.23**	**244**	LR	LR	16 39 27.6
	comp=Z,88nm,21.8s,MS4.1,baz=325,slow=30					
KMBO	**Kilima Mbogo**	**88.25**	**270**	P	**P**	**16 08 39.1 -0.6**
	comp=Z,1.4nm,0.3s,mb4.7,baz=179,slow=3.1,SNR=5.7					
PLCA	**Paso Flores**	**89.79**	**168**	LR	LR	16 44 37.0
	comp=Z,182nm,21.4s,MS4.5,baz=183,slow=33					
HHC	**Hu-ho-hao-te**	**90.04**	**349**	*e*P	**P**	**16 08 48.4 +0.8**
HHC				XP	sP	16 08 55.8 +4.0
HHC				PP	PP	16 12 24.1 +1.0
HHC				S	S	16 19 40.3 +2.0
HHC				XS		16 19 47.5
HHC				PS	PS	16 20 52.3 +3.7
HHC				SS	SS	16 25 37.3 -3.2
HHC				AMB	AMB	
	comp=Z,11nm,1.0s,mb5.1					
HHC				AMB	AMB	
	comp=Z,99nm,5.2s					
HHC				LR	LR	
	comp=N,104nm,22.0s,MS4.4					
HHC				LR	LR	
	comp=E,101nm,21.4s,MS4.4					
HHC				LR	LR	
	comp=Z,78nm,17.2s,MS4.2					
GTA	**Gaotai**	**90.70**	**340**	*e*P	**P**	**16 08 51.4 +0.8**
GTA				AP	pP	16 08 58.8 +4.9
GTA				XP	sP	16 09 03.4 +8.5
GTA				AMB	AMB	
	comp=Z,8.0nm,1.8s,mb4.8					
GTA				AMB	AMB	
	comp=Z,94nm,7.2s					
GTA				LR	LR	
	comp=N,89nm,11.4s,MS4.5					
GTA				LR	LR	
	comp=E,90nm,14.8s,MS4.5					
GTA				LR	LR	
	comp=Z,84nm,10.3s,MS4.5					
CN2	**Changchun**	**92.10**	**360**	*e*P	**P**	**16 08 58.8 +1.9**
MDJ	**Mudanjiang**	**92.97**	**3**	P	**P**	**16 09 00.0 -0.9**
MDJ				AMB	AMB	
	comp=Z,6.0nm,2.0s,mb4.7					
MDJ				AMB	AMB	
	comp=Z,41nm,5.5s					
SONM	**Songino Array**	**97.60**	**347**	P	**P**	**16 09 22.1 +0.1**
	comp=Z,0.2nm,0.3s,mb4.1,baz=166,slow=6.9,SNR=6.5					
SONM				LR	LR	16 56 00.5
	comp=Z,62nm,19.1s,MS4.1,baz=212,slow=37					
BRTR	**Keskin Array B**	**119.77**	**297**	PKP	PKPdf	16 14 37.3 -2.6
	comp=Z,0.3nm,0.4s,baz=153,slow=3.2,SNR=2.7					
AKASG	**Malin Array Be**	**128.81**	**306**	PKP	PKPdf	16 14 52.2 -4.8
	comp=Z,0.2nm,0.3s,baz=135,slow=1.3,SNR=5.4					
GERES	**GERESS Array B**	**136.67**	**297**	PKP	PKPdf	16 15 09.5 -2.1
	comp=Z,0.8nm,0.9s,baz=198,slow=4.2,SNR=4.4					
ELK	**Elko**	**136.90**	**77**	*e*PKPdf	PKPdf	16 15 10.5 -1.8
ELK				*e*		16 15 18.6
TXAR	**Lajitas Array**	**137.78**	**99**	PKP	PKPdf	16 15 11.5 -2.9
	comp=Z,0.3nm,0.3s,baz=180,slow=3.6,SNR=3.5					
DUG	**Dugway**	**138.18**	**79**	*e*PKPdf	PKPdf	16 15 12.2 -2.7
DUG				*e*		16 15 21.6
BAIF	**Baives**	**142.82**	**295**	*e*PKIKP	PKPdf	16 15 07.3 -15
	comp=Z,27nm,1.4s					
ESDC	**Sonseca Array**	**143.50**	**275**	PKP	PKPdf	16 15 20.6 -3.5
	comp=Z,0.3nm,0.4s,baz=135,slow=2.1,SNR=4.7					
MFF	**Saint Martin d**	**144.20**	**288**	*e*PKIKP	PKPdf	16 15 10.2 -15
	comp=Z,76nm,1.7s					
YKA	**Yellowknife Ar**	**144.57**	**44**	PKP	PKPdf	16 15 20.0 -5.3
	comp=Z,2.7nm,1.0s,baz=266,slow=2.9,SNR=11					
YKW3	**Yellowknife Ar**	**144.57**	**44**	*e*PKPpre		16 15 19.6
LDF	**La Druitiere**	**144.94**	**291**	*e*PKIKP	PKPdf	16 15 12.6 -14
	comp=Z,107nm,1.6s					
FLN	**La Foliniere**	**145.22**	**291**	*e*PKIKP	PKPdf	16 15 13.7 -13
	comp=Z,177nm,1.8s					
GRR	**Gorron**	**145.33**	**290**	*e*PKIKP	PKPdf	16 15 14.0 -13
LAO	**LASA Array**	**145.43**	**73**	*e*PKPdf	PKPdf	16 15 23.2 -4.0
RSSD	**Black Hills**	**145.78**	**78**	*e*PKPdf	PKPdf	16 15 24.9 -3.0
RSSD				*e*		16 15 32.2
EKA	**Eskdalemuir Ar**	**148.54**	**302**	PKPbc	PKPdf	16 15 33.9 +1.7
	comp=Z,5.6nm,0.8s,baz=103,slow=1.9,SNR=16					
PLAL	**Pickwick Lake**	**151.50**	**106**	*e*PKPbc	PKPdf	16 15 38.9 +1.6
PLAL				*e*		16 15 45.9

CSEM ***17*** *16:15:36.1±0.1,34.96N×31.49E,h30km,Mw3.2,Error ellipse: s-maj=4.8km s-min=1.6km az=149.0*
NIC ***17*** *16:15:38.1±0.2,35.04N×31.54E,h25km,ML3.3,MW3.2*
NEIC ***17*** *16:15:38.1,35.04N×31.54E,h25km,ML3.3(NIC),After NIC.*
HLW ***17*** *16:15:40.2,34.79N×31.50E,h33km,Mb3.2*
ISC 17 16:15:36.5±1.3,35.0N±0.1×31.50E±0.09,h33km,n13,σ0§40/17,1C-6D,Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPCY	**Paphos**	**0.70**	**95**	⇓*e*P	**P**	**16 15 50.3**	**+0.4**
ALFC	**Alevga**	**0.93**	**77**	⇓*i*P	**P**	**16 15 53.2**	**+0.1**
	56nm,0.2s						
ALFC				S	**S**	**16 16 04.7**	**-0.7**
SZAC	**Souni-Zanaja**	**1.16**	**99**	P	**P**	**16 15 56.7**	**+0.3**
	15nm,0.2s						
SZAC				S	**S**	**16 16 11.8**	**+0.5**
MAMC	**Mammari**	**1.43**	**81**	P	**P**	**16 16 00.7**	**+0.4**
CSS	**Prodhromos**	**1.50**	**89**	P	**P**	**16 16 01.4**	**0.0**
	4.0nm,0.5s						
CSS				S	**S**	**16 16 19.7**	**-0.4**
HRSH	**Kfar Ka'horesh**	**4.40**	**154**	⇓P	**P**	**16 16 42.8**	**+0.1**
RSH		**4.40**	**154**	P	**P**	**16 16 42.8**	**+0.1**
AMAG	**Maghara**	**4.53**	**161**	P	**P**	**16 16 43.6**	**-1.0**
KOT	**Kottamia**	**5.02**	**177**	⇑P	**P**	**16 16 51.9**	**+0.4**
HSAF	**As Saff**	**5.32**	**179**	⇓P	**P**	**16 16 55.7**	**+0.1**
GLL	**Jalalah**	**5.36**	**178**	⇓P	**P**	**16 16 56.3**	**0.0**
SWA1		**7.50**	**222**	⇓P	**P**	**16 17 26.2**	**-0.1**
SWA1				S	**S**	**16 18 43.6**	**-7.5**
SWA2		**7.66**	**224**	P	**P**	**16 17 28.3**	**-0.1**

NEIC ***17*** *17:22:26.6±0.8, 17.28S×69.32W,h178km±15km,mb4.2/2, Error ellipse: s-maj=18.3km s-min=10.9km az=125.0*
IDC ***17*** *17:22:27.7±1.4,17.34S×69.21W,h164km±10km,mb3.7/5, mb1 3.8/7,mb1mx3.6/16,mbtmp4.2/7,Error ellipse: s-maj=25.9km s-min=15.7km az=92.0*
ISC 17 17:22:26.7±0.7,17.34S±0.08×69.21W±0.09,h173km±7km, n12,σ1§02/15,mb4.0/5,Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.47**	**45**	P	**P**	**17 22 59.6**	**+1.6**
	24nm,0.3s,baz=232,slow=6.7,SNR=569						
LPAZ				S	**S**	**17 23 22.6**	**+0.2**
	12nm,0.3s,baz=325,slow=18,SNR=16						
ARE	**Arequipa**	**2.35**	**291**	*e*P	**P**	**17 23 07.0**	**-0.7**
LVC	**Limon Verde**	**5.25**	**177**	P	**P**	**17 23 44.0**	**-0.6**
	4.8nm,0.3s,baz=346,slow=12,SNR=140						
LVC				S	**S**	**17 24 39.0**	**-6.0**
	12nm,0.3s,baz=116,slow=21,SNR=30						
SIV	**San Ignacio**	**7.91**	**81**	P	**P**	**17 24 20.4**	**+0.8**
	11nm,0.3s,baz=274,slow=12,SNR=140						
SIV				S	**S**	**17 25 44.5**	**-3.4**
	0.2nm,0.3s,slow=20,SNR=4.8						
SAML	**Samuel**	**10.19**	**36**	*e*P	**P**	**17 24 47.6**	**-2.1**
	4.1nm,0.9s						
CFAA	**Coronel Fontan**	**14.23**	**177**	P	**P**	**17 25 41.5**	**0.0**
	0.1nm,0.3s,baz=346,slow=13,SNR=5.1						
BDFB	**Brasilia**	**20.39**	**88**	P	**P**	**17 26 52.0**	**+0.4**
	2.9nm,0.5s,baz=274,slow=8.3,SNR=4.1						
TRQA	**Tornquist**	**21.59**	**164**	*e*P	**P**	**17 27 03.2**	**-0.1**
	26nm,1.5s,mb4.4						
SNAA	**Sanae**	**66.29**	**162**	P	**P**	**17 32 58.5**	**+0.4**
	0.3nm,0.6s,mb3.3,baz=270,slow=8.2,SNR=11						
DBIC	**Dimbokro**	**67.88**	**75**	P	**P**	**17 33 08.5**	**-0.4**
	2.3nm,0.5s,mb4.2,baz=240,slow=6.6,SNR=5.7						
ULM	**Lac du Bonnet**	**71.28**	**342**	P	**P**	**17 33 28.4**	**-0.5**
	4.9nm,0.5s,mb4.5,baz=155,slow=6.4,SNR=7.5						
YKA	**Yellowknife Ar**	**87.19**	**341**	P	**P**	**17 34 55.7**	**+1.7**
	0.8nm,0.6s,mb3.7,baz=138,slow=5.0,SNR=6.9						

MOS ***17*** *17:23:52.6±1.1,34.46N×26.49E,h25km,mb4.4/31,Error ellipse: s-maj=7.2km s-min=3.2km az=119.2*
ATH ***17*** *17:23:53.8,34.46N×26.51E,h21km±2km,MD4.0/14*
BJI ***17*** *17:23:54.2,34.50N×26.50E,h24km,mB4.6,mb4.6,Ms4.5, Msz4.1*
NEIC ***17*** *17:23:54.2,34.46N×26.54E,h24km,mb4.2/63, MD4.0(ATH),After ATH.*
CSEM ***17*** *17:23:54.0±0.1,34.31N×26.68E,h30km,mb4.7/2,Ms2.8, Error ellipse: s-maj=1.7km s-min=1.1km az=62.0*
HLW ***17*** *17:23:57.8,34.18N×26.72E,h33km,Mb3.9*
IDC ***17*** *17:23:57.4±2.6,34.48N×26.52E,h54km±19km,mb3.9/14, mb1 4.1/20,mb1mx4.0/27,mbtmp4.1/20,ML4.2/6,MS3.2/4, Ms1 3.2/4,ms1mx2.8/31,Error ellipse: s-maj=23.8km s-min=11.7km az=171.0*
ISC 17 17:23:53.9±0.3,34.34N±0.02×26.55E±0.02,h49km±3km, n279,σ1§19/292,mb4.2/51,MS3.5/9,15C-8D,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.89**	**307**	*e*PB	**P**	**17 24 08.5**	**-1.8**
XRY	**Khrisi**	**0.89**	**307**	*e*Pn	**P**	**17 24 09.0**	**-1.3**
NPS	**Neapolis**	**1.21**	**320**	*e*PN	**P**	**17 24 14.5**	**-0.2**
NPS				*e*SN	**S**	**17 24 29.5**	**-0.7**
NPS	**Neapolis**	**1.21**	**320**	*e*Pn	**P**	**17 24 15.8**	**+1.1**
NPS				*e*Sn	**S**	**17 24 30.7**	**+0.5**
KARP	**Karpathos**	**1.31**	**22**	*e*PN	**P**	**17 24 17.2**	**+0.9**
KARP				*e*SN	**S**	**17 24 33.4**	**+0.5**
IDI	**Anoyia**	**1.67**	**305**	P	**P**	**17 24 23.2**	**+1.9**
	28nm,0.3s,baz=131,slow=12,SNR=44						
IDI				S	**S**	**17 24 42.3**	**+0.7**
	59nm,0.3s,baz=87,slow=22,SNR=11						
GVD	**Gavdhos**	**2.10**	**285**	*e*P	**P**	**17 24 25.5**	**-1.8**
VAM	**Vamos**	**2.21**	**300**	*e*PN	**P**	**17 24 31.0**	**+2.0**
VAM				*e*SN	**S**	**17 24 57.3**	**+2.1**
VAM	**Vamos**	**2.21**	**300**	*e*Pn	**P**	**17 24 31.5**	**+2.5**
VAM				*e*Sn	**S**	**17 24 57.3**	**+2.1**
THR1	**Thera Island**	**2.22**	**337**	*e*P	**P**	**17 24 29.6**	**+0.5**
ARG	**Arkhangelos**	**2.27**	**34**	*e*PN	**P**	**17 24 32.2**	**+2.3**
THR5	**Thira Island,**	**2.30**	**335**	*e*P	**P**	**17 24 31.0**	**+0.7**
BODT	**Bodrum**	**2.79**	**13**	*e*PN	**P**	**17 24 36.6**	**-0.6**
BDRM	**Kayabasi**	**2.82**	**15**	*i* P	**P**	**17 24 36.8**	**-0.9**
BDRM				*i* S	**S**	**17 25 11.4**	**+0.8**
APE	**Apeiranthos**	**2.85**	**343**	*e*PN	**P**	**17 24 37.5**	**-0.6**
APE	**Apeiranthos**	**2.85**	**343**	*e*Pn	**P**	**17 24 38.4**	**+0.3**
APE	**Apeiranthos**	**2.85**	**343**	*c i*P	**P**	**17 24 38.2**	**+0.1**
DALT	**Dalyan (Mudla)**	**2.96**	**34**	*e*PN	**P**	**17 24 39.9**	**+0.2**
SLUM		**3.05**	**202**	⇓P	**P**	**17 24 42.5**	**+1.5**
SLUM				S	**S**	**17 25 14.6**	**-1.9**
KSL	**Kastellorizon**	**3.07**	**53**	*e*PN	**P**	**17 24 42.5**	**+1.3**
MLSB	**Milas**	**3.12**	**18**	*e*PN	**P**	**17 24 40.9**	**-1.0**
YER	**Yerkesik**	**3.13**	**26**	*e*PN	**P**	**17 24 42.9**	**+0.9**
AKAS	**Kas**	**3.13**	**52**	*i* P	**P**	**17 24 40.5**	**-1.6**
AKAS				*i* S	**S**	**17 25 14.9**	**-3.7**
HMAT	**Matruh**	**3.26**	**172**	⇑P	**P**	**17 24 45.1**	**+1.2**
SMG	**Samos**	**3.37**	**4**	*e*PN	**P**	**17 24 46.4**	**+0.9**
KYTH	**Kithira**	**3.47**	**305**	*e*PN	**P**	**17 24 48.0**	**+1.2**
ELL	**Elmali**	**3.64**	**48**	*e*PN	**P**	**17 24 50.6**	**+1.3**
GOLH	**Golhisar**	**3.79**	**39**	*i* P	**P**	**17 24 51.9**	**+0.6**
GOLH				*i* S	**S**	**17 25 30.7**	**-4.5**
VLI	**Veliai**	**3.79**	**310**	*e*PN	**P**	**17 24 51.5**	**+0.2**
DENT	**Denizli**	**3.96**	**30**	*e*PN	**P**	**17 24 54.0**	**+0.3**
BLCB	**Balcova**	**4.06**	**5**	*e*PN	**P**	**17 24 54.8**	**-0.4**
PTL	**Penteli**	**4.30**	**330**	*e*PN	**P**	**17 24 58.8**	**+0.3**
MPAR	**Parnis Oros**	**4.44**	**330**	*e*PN	**P**	**17 25 01.0**	**+0.5**
BCK	**Bucak**	**4.52**	**45**	*e*PN	**P**	**17 25 03.0**	**+1.3**
ITM	**Ithomi**	**4.71**	**308**	*e*PN	**P**	**17 25 05.5**	**+1.1**
ISP	**Isparta**	**4.74**	**41**	*e*P	**P**	**17 25 07.6**	**+2.8**
ISP	**Isparta**	**4.74**	**41**	P	**P**	**17 25 07.4**	**+2.6**
SWA1		**5.11**	**188**	⇓P	**P**	**17 25 10.3**	**+0.4**
SWA1				S	**S**	**17 26 03.8**	**-4.6**
SWA2		**5.16**	**191**	⇓P	**P**	**17 25 11.1**	**+0.4**
AOS	**Alonnisos**	**5.28**	**337**	*e*P	**P**	**17 25 12.5**	**+0.2**
HDMB	**Hadim**	**5.50**	**60**	*e*PN	**P**	**17 25 17.6**	**+2.3**
CSS	**Prodhromos**	**5.62**	**82**	*e*P	**P**	**17 25 13.8**	**-3.2**
	18nm,0.4s						
XOR	**Xorichti**	**5.70**	**333**	*e*P	**P**	**17 25 17.9**	**-0.2**
AGG	**Agios Georgios**	**5.78**	**325**	*e*P	**P**	**17 25 19.3**	**+0.1**
EVR	**Evrytania**	**5.96**	**322**	*e*PN	**P**	**17 25 22.0**	**+0.3**
FYM	**Al Fayyum**	**6.00**	**139**	⇓P	**P**	**17 25 21.8**	**-0.5**
PAIG	**Paliouri**	**6.04**	**338**	*e*P	**P**	**17 25 22.7**	**-0.1**
KOT	**Kottamia**	**6.27**	**133**	⇓P	**P**	**17 25 25.6**	**-0.6**
KOT	**Kottamia**	**6.27**	**133**	P	**P**	**17 25 25.5**	**-0.6**
OUR	**Ouranopolis**	**6.33**	**342**	*e*P	**P**	**17 25 27.1**	**+0.2**
HSAF	**As Saff**	**6.34**	**137**	⇓P	**P**	**17 25 26.4**	**-0.7**
GLL	**Jalalah**	**6.46**	**136**	⇑P	**P**	**17 25 28.2**	**-0.5**
ALN	**Alexandroupoli**	**6.56**	**357**	*e*P	**P**	**17 25 30.0**	**-0.2**
THE	**Thessaloniki**	**6.90**	**337**	*e*P	**P**	**17 25 35.5**	**+0.5**
SRS	**Serrai**	**7.17**	**342**	*e*P	**P**	**17 25 38.7**	**0.0**
IGT	**Igoumenitsa**	**7.19**	**318**	*e*P	**P**	**17 25 37.3**	**-1.8**
GRG	**Griva**	**7.38**	**335**	*e*P	**P**	**17 25 41.3**	**-0.4**
KNT	**Kendrikon**	**7.40**	**338**	*e*P	**P**	**17 25 42.0**	**0.0**
MMC6	**Mount Meron ar**	**7.48**	**98**	S	**S**	**17 27 05.2**	**-2.3**
MMA0	**Mount Meron ar**	**7.49**	**98**	S	**S**	**17 27 05.6**	**-2.1**
FNA	**Florina**	**7.64**	**329**	*e*P	**P**	**17 25 45.0**	**-0.2**
HNKL	**Nakhl**	**7.68**	**123**	P	**P**	**17 25 45.3**	**-0.4**
BRTR	**Keskin Array B**	**7.81**	**44**	P	**P**	**17 25 46.8**	**-0.8**
	0.3nm,0.3s,baz=223,slow=13,SNR=7.6						
BRTR				S	**S**	**17 27 12.7**	**-2.9**
	0.3nm,0.3s,baz=216,slow=24,SNR=3.7						
MZDA	**Masada**	**8.00**	**110**	S	**S**	**17 27 17.3**	**-3.0**
KMTI	**Karmit**	**8.11**	**119**	S	**S**	**17 27 17.2**	**-5.7**
MKRJ	**Makawir**	**8.12**	**107**	S	**S**	**17 27 19.1**	**-4.3**
PRNI	**Paran**	**8.18**	**117**	S	**S**	**17 27 19.4**	**-5.3**
EIL	**Elat**	**8.51**	**121**	S	**S**	**17 27 26.9**	**-6.1**
ALWS	**Ilw as Safayha**	**8.80**	**122**	P	**P**	**17 26 01.2**	**-0.1**
HAQS	**Haql**	**8.87**	**124**	P	**P**	**17 26 01.1**	**-1.1**
JMOS	**Jabal al Moall**	**8.92**	**123**	P	**P**	**17 26 03.4**	**+0.5**
JMOS				S	**S**	**17 27 39.3**	**-3.8**
TAYS	**Tayyib Ism**	**9.15**	**127**	P	**P**	**17 26 07.6**	**+1.6**
TIP	**Timpagrande**	**9.23**	**304**	*e*P	**P**	**17 26 04.5**	**-2.5**
BDAS	**Al Bad'**	**9.38**	**127**	P	**P**	**17 26 08.9**	**-0.3**
ZAPS	**Zavoj/Pirot**	**9.46**	**342**	⇓*i*Pn	**P**	**17 26 10.8**	**+0.5**
JMQS	**Jabal Moqyreh**	**9.62**	**122**	P	**P**	**17 26 13.6**	**+1.0**
VAE	**Valguarnera**	**10.34**	**291**	P	**P**	**17 26 22.6**	**+0.3**
	2.2nm,0.3s,baz=94,slow=15,SNR=5.5						
MALT	**Malatya**	**10.37**	**64**	*e*P	**P**	**17 26 22.5**	**-0.2**
MALT	**Malatya**	**10.37**	**64**	*e*P	**P**	**17 26 22.5**	**-0.2**
MLR	**Muntele Rosu**	**11.15**	**358**	P	**P**	**17 26 28.2**	**-5.2**
	0.5nm,0.3s,baz=170,slow=12,SNR=4.1						
MLR				LR	LR	17 31 16.8	
	comp=Z,123nm,20.4s,baz=177,slow=40						
ANN	**Anapa**	**13.39**	**35**	*e*P	**P**	**17 27 07.5**	**+4.3**
ANN				pmax	pmax		
	comp=Z,28nm,1.0s						
PSZ	**Piszkesteto**	**14.46**	**342**	*e*P	**P**	**17 27 16.3**	**-0.8**
KOLS	**Kolonicke sedl**	**14.93**	**349**	*e*	**P**	**17 27 17.3**	**-6.0**
STHS	**Stebnicka Huta**	**15.57**	**347**	*e*P	**P**	**17 27 34.7**	**+3.1**
GNI	**Garni**	**15.60**	**63**	*i* P	**P**	**17 27 32.5**	**+0.6**
KIV	**Kislovodsk**	**15.75**	**48**	P	**P**	**17 27 35.5**	**+1.6**
	comp=Z,10.0nm,1.3s						
KIV	**Kislovodsk**	**15.75**	**48**	*e*P	**P**	**17 27 36.1**	**+2.2**
	comp=Z,19nm,1.1s						
KIV	**Kislovodsk**	**15.75**	**48**	⇑P	**P**	**17 27 35.5**	**+1.6**
KIV				pmax	pmax		
	comp=Z,10.0nm,1.3s						
ZEI	**Tsey**	**15.95**	**53**	*e*P	**P**	**17 27 36.3**	**-0.1**
PGF	**Pioggiola**	**15.99**	**306**	*e*P	**P**	**17 27 36.1**	**-0.9**
	comp=Z,26nm,1.0s						
PGF	**Pioggiola**	**15.99**	**306**	*e*P	**P**	**17 27 36.1**	**-0.9**
PGF				pmax	pmax		
	comp=Z,13nm,1.0s						
KBA	**Koelnbreinsper**	**16.17**	**326**	⇑*i*P	**P**	**17 27 40.1**	**+1.0**
	comp=Z,3.6nm,0.5s						
KBA	**Koelnbreinsper**	**16.17**	**326**	⇑*i*P	**P**	**17 27 40.1**	**+1.0**
KBA				pmax	pmax		
	comp=Z,4.0nm,0.5s						
AKASG	**Malin Array Be**	**16.47**	**6**	P	**P**	**17 27 43.3**	**+0.4**
	comp=Z,3.1nm,0.3s,baz=193,slow=10,SNR=13						
GOF	**Gofitskoye**	**16.57**	**45**	⇑*i*P	**P**	**17 27 49.3**	**+5.2**
GOF				pmax	pmax		
	comp=Z,10.0nm,1.3s						
VRAC	**Vranov**	**16.68**	**337**	P	**P**	**17 27 44.0**	**-1.5**
	comp=Z,0.5nm,0.3s,baz=117,slow=12,SNR=3.4						
VRAC				LR	LR	17 34 54.1	
	comp=Z,52nm,20.7s,baz=107,slow=40						
VRAC	**Vranov**	**16.68**	**337**	*e*P	**P**	**17 27 45.3**	**-0.2**
OKC	**Ostrava-Krasne**	**16.68**	**341**	*e*P	**P**	**17 27 49.3**	**+3.7**
OKC				AMS	AMS	17 35 30.0	
	comp=Z,100nm,10.7s						
MORC	**Moravsky Berou**	**16.80**	**339**	*e*P	**P**	**17 27 46.0**	**-1.0**
MORC	**Moravsky Berou**	**16.80**	**339**	*e*P	**P**	**17 27 44.7**	**-2.3**
	comp=Z,4.1nm,0.8s						
MORC	**Moravsky Berou**	**16.80**	**339**	*e*P	**P**	**17 27 44.7**	**-2.3**
MORC				pmax	pmax		
	comp=Z,4.0nm,0.8s						
TREC	**Trest**	**17.04**	**335**	AMS	AMS	17 35 30.0	
	comp=Z,100nm,14.2s						
WTTA	**Wattenberg**	**17.12**	**323**	⇑*i*P	**P**	**17 27 52.3**	**+1.2**
	comp=Z,6.2nm,0.6s						
WTTA	**Wattenberg**	**17.12**	**323**	⇑*i*P	**P**	**17 27 52.3**	**+1.2**
WTTA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
GEC2	**GERESS Array S**	**17.36**	**330**	*e*P	**P**	**17 27 55.0**	**+0.9**
	comp=Z,7.0nm,0.8s						
GEC2	**GERESS Array S**	**17.36**	**330**	*e*P	**P**	**17 27 55.0**	**+0.9**
GEC2				pmax	pmax		
	comp=Z,7.0nm,0.8s						
GERES	**GERESS Array B**	**17.36**	**330**	P	**P**	**17 27 52.5**	**-1.6**
	comp=Z,0.4nm,0.3s,baz=144,slow=12,SNR=34						
MOTA	**Moos

comp=Z,6.0nm,0.7s
NKC Novy Kostel 18.95 331 *e*P **P 17 28 13.6 0.0**
NKC AMS AMS 17 36 50.0
comp=Z,100nm,15.7s
GRA1 Grafenberg Arr 19.05 328 *e*P **P 17 28 14.0 -0.7**
comp=Z,13nm,1.1s
GRF Grafenberg Arr 19.05 328 *e*P **P 17 28 14.0 -0.7**
comp=Z,13nm,1.1s
GRF Grafenberg Arr 19.05 328 *e*P **P 17 28 14.0 -0.7**
GRF pmax pmax
comp=Z,13nm,1.1s
GRF Grafenberg Arr 19.05 328 *e*P **P 17 28 14.0 -0.7**
GRF pmax pmax
comp=Z,13nm,1.1s
ORIF Oris-en-Rattie 19.06 310 *e*P **P 17 28 14.5 -0.3**
comp=Z,11nm,0.8s
ORIF *e*R
comp=Z,72nm,22.0s
VRSR Storozhevoye 19.20 25 *e*P **P 17 28 18.5 +2.2**
FELD Feldberg 19.39 320 *e*P **P 17 28 23.8 +5.5**
BBS Basel-Blauen 19.41 318 *e*P **P 17 28 17.7 -0.9**
BFO Black Forest 19.50 321 *e*P **P 17 28 17.9 -1.6**
comp=Z,10.0nm,1.1s
BFO Black Forest 19.50 321 *e*P **P 17 28 17.9 -1.6**
BFO pmax pmax
comp=Z,10.0nm,1.1s
CLL Collm 19.61 334 ⇑P **P 17 28 19.4 -1.3**
comp=Z,logA/T=1.2
CLL *i* *PP 17 28 22.3
CLL *i* *SP 17 28 26.3
CLL Collm 19.61 334⇑*i*P **P 17 28 19.4 -1.3**
comp=Z,10.0nm,0.6s
CLL *i* pP 17 28 22.3
CLL Collm 19.61 334⇑*i*P **P 17 28 19.4 -1.3**
CLL pmax pmax
comp=Z,10.0nm,0.6s
MOX Moxa 19.61 331 *i* P **P 17 28 20.0 -0.8**
MOX Moxa 19.61 331 *e*P **P 17 28 20.0 -0.8**
LOMF Lomont 19.72 317 *e*P **P 17 28 21.0 -1.0**
CABF La Chapelle 19.75 314 *e*P **P 17 28 20.4 -1.9**
comp=Z,24nm,0.9s
CABF La Chapelle 19.75 314 *e*P **P 17 28 20.4 -1.9**
CABF pmax pmax
comp=Z,12nm,0.9s
VIVF Saint-Julien-l 19.81 309 *e*P **P 17 28 21.7 -1.3**
MOF Molkenrain 19.84 319 *e*P **P 17 28 22.7 -0.6**
HINF Hinteralfeld 19.97 318 *e*P **P 17 28 22.8 -1.9**
comp=Z,20nm,0.7s
HINF Hinteralfeld 19.97 318 *e*P **P 17 28 22.8 -1.9**
HINF pmax pmax
comp=Z,10.0nm,0.7s
VRHR Novokhopersk 20.01 29 *e*P **P 17 28 26.7 +1.6**
VRHR pmax pmax
comp=Z,20nm,0.7s
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,8.0nm,0.5s
ECH Echery 20.04 320 *e*P **P 17 28 24.8 -0.6**
LASF Ste Croix 20.04 306 *e*P **P 17 28 23.2 -2.3**
comp=E,22nm,1.1s
WLS Welschbruch 20.06 320 *e*P **P 17 28 25.7 +0.1**
CDF Champ du Feu 20.10 320 *e*P **P 17 28 25.6 -0.4**
comp=E,32nm,0.8s
CDF Champ du Feu 20.10 320 *e*P **P 17 28 25.6 -0.4**
CDF pmax pmax
comp=Z,16nm,0.8s
LANF Langenberg 20.18 322 *e*P **P 17 28 26.4 -0.4**
HAU Haudompre 20.36 318 *e*P **P 17 28 28.0 -0.8**
comp=Z,24nm,0.7s
HAU *e*R
comp=Z,60nm,21.2s
HAU Haudompre 20.36 318 *e*P **P 17 28 28.0 -0.8**
HAU pmax pmax
comp=Z,12nm,0.7s
HAU MLR MLR
comp=Z,60nm,21.3s,MS2.9
THEF They Montfort 20.69 318 *e*P **P 17 28 31.4 -0.7**
TNS Taunus Mts 20.69 326 *e*P **P 17 28 32.0 -0.1**
comp=Z,10.0nm,0.7s
TNS Taunus Mts 20.69 326 *e*P **P 17 28 32.0 -0.1**
TNS pmax pmax
comp=Z,10.0nm,0.7s
LBL Lubilhac 20.89 308 *e*P **P 17 28 35.5 +1.3**
MTLF Montolieu 20.92 303 *e*P **P 17 28 33.3 -1.3**
comp=Z,16nm,0.9s
MTLF Montolieu 20.92 303 *e*P **P 17 28 33.3 -1.3**
MTLF pmax pmax
comp=Z,8.0nm,0.9s
PLDF La Plantade 20.95 311 *e*P **P 17 28 34.8 -0.1**
RUP Ruppelstein 21.01 323 *e*P **P 17 28 35.0 -0.4**
CLZ Clausthal 21.03 331 *e*P **P 17 28 34.5 -1.1**
comp=Z,4.0nm,0.8s,mb3.8
CLZ Clausthal 21.03 331 *e*P **P 17 28 34.5 -1.1**
CLZ pmax pmax
comp=Z,4.0nm,0.8s,mb3.8
EMIR Miracle 21.05 298 P **P 17 28 36.8 +0.9**
comp=Z,22nm,0.9s,mb4.5
SMF Signal de Mont 21.12 312 *e*P **P 17 28 35.3 -1.2**
comp=Z,12nm,0.6s,mb4.1
SMF Signal de Mont 21.12 312 *e*P **P 17 28 35.3 -1.2**
SMF pmax pmax
comp=Z,6.0nm,0.6s,mb4.1
PYM Petit Puy Mans 21.25 309 *e*P **P 17 28 38.3 +0.5**
EPOB Poblet 21.26 297 P **P 17 28 38.1 +0.1**
comp=Z,7.9nm,0.7s,mb4.2
AGO Saint Agoulin 21.30 310 *e*P **P 17 28 39.0 +0.7**
MEZF Maizieres J'vi 21.36 318 *e*P **P 17 28 38.9 0.0**
comp=Z,50nm,0.8s,mb4.6
LOR Lormes 21.40 314 *e*P **P 17 28 38.2 -1.2**
comp=Z,12nm,0.7s,mb4.0
LOR *e*R
comp=Z,86nm,21.5s
LOR Lormes 21.40 314 *e*P **P 17 28 38.2 -1.2**
LOR pmax pmax
comp=Z,6.0nm,0.7s,mb4.0
LOR MLR MLR
comp=Z,90nm,21.5s,MS3.1
WLF Walferdange 21.45 322 *e*P **P 17 28 39.7 -0.1**
comp=Z,15nm,0.8s,mb4.4
WLF Walferdange 21.45 322 *e*P **P 17 28 39.7 -0.1**
comp=Z,15nm,0.8s,mb4.4
WLF Walferdange 21.45 322 *e*P **P 17 28 39.7 -0.1**
WLF pmax pmax
comp=Z,15nm,0.8s,mb4.4
SSF Saint Saulge 21.52 313 *e*P **P 17 28 39.8 -0.7**
comp=Z,11nm,0.6s,mb4.4
SSF Saint Saulge 21.52 313 *e*P **P 17 28 39.8 -0.7**
SSF pmax pmax
comp=Z,11nm,0.6s,mb4.5
CAF Calviac 21.55 307 *e*P **P 17 28 41.2 +0.4**
comp=Z,13nm,0.8s,mb4.1
CAF Calviac 21.55 307 *e*P **P 17 28 41.2 +0.4**
CAF pmax pmax
comp=Z,6.0nm,0.8s,mb4.1
OBN Obninsk 21.92 16 P **P 17 28 41.5 -2.9**
comp=Z,12nm,1.0s,mb4.3
OBN Obninsk 21.92 16 P **P 17 28 41.5 -2.9**
OBN *e* 17 28 56.1
OBN *e* 17 32 45.6
OBN pmax pmax
comp=Z,12nm,1.0s,mb4.3
OBN MLR MLR
comp=Z,100nm,18.0s,MS3.3
TCF Toulx Ste Croi 21.98 310 *e*P **P 17 28 44.9 -0.2**
comp=Z,13nm,1.0s,mb4.0
TCF Toulx Ste Croi 21.98 310 *e*P **P 17 28 44.9 -0.2**
TCF pmax pmax
comp=Z,7.0nm,1.0s,mb4.0
RJF Les Rejaudoux 22.04 307 *e*P **P 17 28 45.7 -0.1**
comp=Z,19nm,0.9s,mb4.2
RJF *e*R
comp=Z,69nm,17.0s
RJF Les Rejaudoux 22.04 307 *e*P **P 17 28 45.7 -0.1**
RJF pmax pmax
comp=Z,10.0nm,0.9s,mb4.2
RJF MLR MLR
comp=Z,70nm,17.0s,MS3.1
EBIE Bielsa 22.22 300 P **P 17 28 50.1 +2.6**
comp=Z,4.2nm,0.7s,mb4.0
GIVF Givet 22.40 321 *e*P **P 17 28 49.7 +0.5**
comp=Z,30nm,0.9s,mb4.4
GIVF Givet 22.40 321 *e*P **P 17 28 49.7 +0.5**
GIVF pmax pmax
comp=Z,15nm,0.9s,mb4.4
LFF La Frestale 22.43 306 *e*P **P 17 28 49.7 +0.1**
comp=Z,21nm,0.8s,mb4.3
LFF La Frestale 22.43 306 *e*P **P 17 28 49.7 +0.1**
LFF pmax pmax
comp=Z,11nm,0.8s,mb4.3
BAIF Baives 22.70 321 *e*P **P 17 28 52.8 +0.7**
comp=Z,41nm,0.6s,mb4.8
BAIF Baives 22.70 321 *e*P **P 17 28 52.8 +0.7**
BAIF pmax pmax
comp=Z,20nm,0.6s,mb4.7
MOS Moscow 22.73 16 *e*P **P 17 28 52.8 +0.4**
ETSF Etsaut 22.77 300 *e*P **P 17 28 52.3 -0.6**
MFF Saint Martin d 23.60 309 *e*P **P 17 29 01.7 +0.8**
comp=Z,14nm,0.7s,mb4.2
MFF Saint Martin d 23.60 309 *e*P **P 17 29 01.7 +0.8**
MFF pmax pmax
comp=Z,7.0nm,0.7s,mb4.2
EVIA Vianos 23.70 289 P **P 17 29 04.7 +2.7**
comp=Z,8.8nm,0.8s,mb4.2
EVIA Vianos 23.70 289 P **P 17 29 04.7 +2.7**
EVIA pmax pmax
comp=Z,9.0nm,0.8s,mb4.2
EHUE Huescar 23.77 287 P **P 17 29 05.0 +2.4**
LDF La Druitiere 24.39 314 *e*P **P 17 29 09.1 +0.5**
FLN La Foliniere 24.68 314 *e*P **P 17 29 10.6 -0.8**
FLN *e*R
comp=Z,107nm,22.0s
GRR Gorron 24.74 313 *e*P **P 17 29 12.7 +0.7**
comp=Z,14nm,0.6s,mb4.3
GRR Gorron 24.74 313 *e*P **P 17 29 12.7 +0.7**
GRR pmax pmax
comp=Z,7.0nm,0.6s,mb4.4
ESDC Sonseca Array 24.88 291 P **P 17 29 14.3 +0.9**
comp=Z,2.6nm,0.7s,mb3.9,baz=83,slow=9.3,SNR=12
ESDC Sonseca Array 24.88 291 P **P 17 29 13.5 +0.1**
comp=Z,1.3nm,0.5s,mb3.7,SNR=11
ESDC Sonseca Array 24.88 291 P **P 17 29 13.5 +0.1**
comp=Z,1.3nm,0.5s,mb3.7
ELOJ Sierra Loja 25.03 285 P **P 17 29 17.0 +2.1**
ELUQ Luque 25.10 286 P **P 17 29 17.3 +1.7**
comp=Z,5.1nm,0.7s,mb4.2
ELUQ Luque 25.10 286 P **P 17 29 17.3 +1.7**
ELUQ pmax pmax
comp=Z,5.0nm,0.7s,mb4.2
EMIJ Mijas 25.56 284 P **P 17 29 21.1 +1.2**
comp=Z,12nm,0.7s,mb4.5
SGMF Saint Gilles 25.73 312 *e*P **P 17 29 22.1 +0.7**
comp=Z,12nm,0.7s,mb4.2
SGMF Saint Gilles 25.73 312 *e*P **P 17 29 22.1 +0.7**
SGMF pmax pmax
comp=Z,6.0nm,0.7s,mb4.2
QUIF Quistinic 25.99 310 *e*P **P 17 29 23.9 +0.1**
comp=Z,34nm,1.0s,mb4.5
QUIF Quistinic 25.99 310 *e*P **P 17 29 23.9 +0.1**
QUIF pmax pmax
comp=Z,17nm,1.0s,mb4.5
ECAB El Cabril 26.00 288 P **P 17 29 26.9 +2.9**
comp=Z,6.6nm,0.9s,mb4.2
EJIF Jimena Fronter 26.13 284 P **P 17 29 29.2 +4.0**
ROSF Rostrenen 26.21 311 *e*P **P 17 29 25.6 -0.2**
comp=Z,17nm,0.7s,mb4.4
ROSF Rostrenen 26.21 311 *e*P **P 17 29 25.6 -0.2**
ROSF pmax pmax
comp=Z,9.0nm,0.7s,mb4.4
EMIN Mina Concepcio 27.00 287 P **P 17 29 33.1 -0.1**
SNR=7.9
EMIN Mina Concepcio 27.00 287 P **P 17 29 33.1 -0.1**
FINES FINESS Array B 27.13 359 P **P 17 29 33.1 -1.0**
comp=Z,2.0nm,0.4s,mb4.0,baz=153,slow=9.9,SNR=18
EBAD Badajoz 27.23 289 P **P 17 29 35.0 -0.3**
EGRO El Granado 27.66 287 P **P 17 29 39.2 0.0**
comp=Z,5.6nm,0.5s,mb4.5
KAF Kangasniemi 27.80 360 *e*p **P 17 29 38.8 -1.4**
comp=Z,2.0nm,0.4s,mb4.1,baz=177,slow=9.1
KAF Kangasniemi 27.80 360 *e*P **P 17 29 38.8 -1.4**
KAF pmax pmax
comp=Z,2.0nm,0.4s,mb4.1
NB2 NORSAR Subarra 28.49 344 P **P 17 29 45.5 -0.9**
comp=Z,1.0nm,0.6s,mb3.6,baz=159,slow=10
NB2 NORSAR Subarra 28.49 344 P **P 17 29 45.5 -0.9**
NB2 pmax pmax
comp=Z,1.0nm,0.6s,mb3.6
NOA NORSAR Array B 28.49 344 P **P 17 29 45.0 -1.4**
comp=Z,1.2nm,0.8s,mb3.6,baz=152,slow=8.6,SNR=4.0
EKA Eskdalemuir Ar 29.38 325 P **P 17 29 53.5 -0.8**
comp=Z,4.2nm,0.9s,mb4.2,baz=128,slow=9.5,SNR=8.0
ARU Arti 31.06 35 *e*P **P 17 30 09.7 +0.5**
comp=Z,0.9nm,0.5s,mb3.9
ARU Arti 31.06 35⇓*i*P **P 17 30 08.5 -0.7**
ARU *e* 17 31 11.7
ARU *e* 17 33 00.7
ARU *e*SS **S 17 35 10.3 +0.6**
ARU *e*SS SS 17 37 01.6 +4.9
ARU pmax pmax
comp=Z,5.0nm,1.8s,mb4.0
ARCES ARCESS Array B 35.26 359 P **P 17 30 44.6 -0.9**
comp=Z,3.4nm,0.6s,mb4.4,baz=181,slow=7.5,SNR=20
KEV Kevo 35.48 0 *e*p **P 17 30 45.4 -1.9**
comp=Z,6.3nm,1.0s,mb4.5
KEV Kevo 35.48 0 *e*P **P 17 30 45.4 -1.9**
KEV pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
BVAR Borovoye Array 36.10 45 P **P 17 30 53.7 +1.0**
comp=Z,0.3nm,0.5s,mb3.5,baz=225,slow=6.1,SNR=4.6
KMBO Kilima Mbogo 36.68 162 LR LR 17 48 47.7
comp=Z,41nm,18.9s,MS3.2,baz=88,slow=40
DBIC Dimbokro 39.98 234 P **P 17 31 25.9 +0.4**
comp=Z,1.1nm,0.3s,mb4.0,baz=32,slow=6.6,SNR=7.4
KURK Kurchatov 40.82 50 *e*P **P 17 31 34.1 +2.0**
comp=Z,4.6nm,1.0s,mb4.1
KURK Kurchatov 40.82 50 *e*P **P 17 31 34.1 +2.0**
KURK pmax pmax
comp=Z,5.0nm,1.0s,mb4.1
MKAR Makanchi Array 43.28 56 P **P 17 31 52.4 +0.1**
comp=Z,1.9nm,0.6s,mb4.0,baz=272,slow=6.9,SNR=13
WMQ Urumqi 47.43 59 *e*P **P 17 32 30.0 +4.6**
WMQ XP sP 17 32 44.0 -0.4
WMQ PP PP 17 34 21.0 +4.7
WMQ S **S 17 39 22.0 +6.9**
WMQ SS SS 17 42 44.0 +7.1
WMQ AMB AMB
comp=Z,11nm,0.8s,mb4.8
WMQ LR LR
comp=N,28nm,18.0s,MS3.4
WMQ LR LR
comp=E,21nm,18.0s,MS3.4
WMQ LR LR
comp=Z,42nm,20.0s,MS3.4
ZAK Zakamensk 56.43 48 *e*P **P 17 33 34.0 +1.3**
ZAK pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
ZAK pmax pmax
comp=Z,2.0nm,1.0s,mb4.1
SONM Songino Array 59.12 51 P **P 17 33 53.8 +2.1**
comp=Z,1.2nm,0.4s,mb4.3,baz=284,slow=7.4,SNR=14
LZH Lanzhou 61.53 64 *e*P **P 17 34 10.3 +2.1**
LZH AP pP 17 34 22.1 +0.2
LZH XP sP 17 34 25.0 -2.6
LZH *e*PP PP 17 36 27.5 +1.3
LZH AMB AMB
comp=Z,24nm,1.4s,mb5.1
LZH AMB AMB
comp=Z,53nm,7.3s
LZH LR LR
comp=N,263nm,15.4s
LZH LR LR
comp=Z,298nm,18.5s,MS4.5
SCHQ Schefferville 64.56 320 P **P 17 34 28.4 +0.6**
comp=Z,5.7nm,0.5s,mb4.9,baz=54,slow=6.0,SNR=13
SCHQ Schefferville 64.56 320 *e*P **P 17 34 28.4 +0.5**
comp=Z,5.8nm,0.5s,mb4.9
HHC Hu-ho-hao-te 65.14 56 *e*P **P 17 34 34.3 +2.4**
HHC XP sP 17 34 48.6 -2.6
HHC PP PP 17 37 00.0 +2.4
HHC S S 17 43 13.8 +4.4
HHC SCS ScS 17 44 23.0 +4.1
HHC AMB AMB
comp=Z,11nm,0.5s,mb5.1
HHC AMB AMB
comp=Z,50nm,5.4s
HHC LR LR
comp=N,139nm,19.6s,MS4.3
HHC LR LR
comp=E,135nm,16.6s,MS4.3
HHC LR LR
comp=Z,101nm,16.1s,MS4.1
CN2 Changchun 72.87 48 *e*P **P 17 35 22.4 +3.1**
FRNY Flat Rock 73.09 313 *e*P **P 17 35 20.2 -0.4**
BILL Bilibino 73.58 15 P **P 17 35 34.0 +11**
BILL pmax pmax
comp=Z,7.0nm,1.4s,mb4.4
BILL MLR MLR
comp=Z,100nm,19.0s,MS4.1
NJ2 Nanjing 74.44 62 *e*P **P 17 35 29.1 +0.4**
MDJ Mudanjiang 74.95 46 P **P 17 35 32.8 +1.4**
MDJ AMB AMB
comp=Z,4.0nm,1.9s,mb4.0
MDJ AMB AMB
comp=Z,33nm,3.3s
YKA Yellowknife Ar 78.58 343 P **P 17 35 51.0 -0.4**
comp=Z,0.4nm,0.4s,mb3.7,baz=28,slow=5.3,SNR=5.1
ILAR Eielson Array 81.09 357 P **P 17 36 05.2 +0.3**
comp=Z,0.4nm,0.6s,mb3.5,baz=353,slow=3.6,SNR=5.5
MJAR Matsushiro Arr 85.01 49 P **P 17 36 27.6 +2.2**
comp=Z,2.1nm,0.9s,mb4.3,baz=301,slow=4.8,SNR=6.4
MJAR Matsushiro Arr 85.01 49 P **P 17 36 27.6 +2.2**
MJAR pmax pmax
comp=Z,2.0nm,0.9s
RSSD Black Hills 89.90 327 *e*P **P 17 36 51.9 +3.1**
comp=Z,1.7nm,0.7s,mb4.5
RSSD Black Hills 89.90 327 *e*P **P 17 36 51.9 +3.1**
RSSD pmax pmax
comp=Z,2.0nm,0.7s,mb4.6
NEW Newport 91.59 337 P **P 17 36 59.4 +2.9**
comp=Z,1.6nm,0.4s,mb4.7,baz=326,slow=3.6,SNR=3.3
NEW Newport 91.59 337 P **P 17 36 59.4 +2.9**
NEW pmax pmax
comp=Z,2.0nm,0.4s

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*IDC **17** 17:46:05.2±5.3, 7.32S×129.09E, h65km±47km, mb4.1/7, mb1 4.3/8, mb1mx4.2/11, mbtmp4.4/8, ML4.9/1, Error ellipse: s-maj=80.6km s-min=16.5km az=68.0*
*BJI **17** 17:46:15.4, 6.99S×129.25E, h167km, mB5.0, mb4.8*
*NEIC **17** 17:46:19.5±1.5, 7.56S×128.36E, h188km±15km, mb4.5/13, Error ellipse: s-maj=17.5km s-min=8.9km az=68.0*
ISC 17 17:46:05.3±3.0, 7.38S±0.10×129.0E±0.1, h85km±29km, n34, σ0=79/30, mb4.6/22, 2C-1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.32**	**147**	⇓*i*P	Px	17 47 53.6	
	519nm,0.7s						
KAKA				*e*S	Sx	17 49 01.7	
WRAB	**Tennant Creek**	**13.53**	**158**	*e*P	**P**	**17 49 14.5**	**-0.5**
WRA	**Warramunga Arr**	**13.54**	**158**	P	**P**	**17 49 14.8**	**-0.3**
	6.4nm,0.3s,baz=343,slow=13,SNR=235						
WRA				S	**S**	**17 51 36.2**	**-7.6**
	5.7nm,0.3s,baz=327,slow=23,SNR=10.0						
MBWA	**Marble Bar**	**16.34**	**212**	*e*P	**P**	**17 49 51.0**	**+0.1**
KSM	**Kuching**	**20.57**	**295**	*e*P	**P**	**17 50 40.3**	**+0.7**
FORT	**Forrest**	**23.29**	**182**	*e*P	**P**	**17 51 09.4**	**+3.1**
	14nm,0.6s,mb4.5						
KLBR	**Kellerberrin**	**26.26**	**202**	*e*P	**P**	**17 51 35.0**	**+0.5**
	91nm,1.6s,mb5.0						
STKA	**Stephens Creek**	**27.07**	**156**	*e*P	**P**	**17 51 43.2**	**+1.2**
	3.3nm,1.0s,mb3.8						
STKA				*i*	pP	17 52 07.4	+6.1
STKA	**Stephens Creek**	**27.07**	**156**	P	**P**	**17 51 41.3**	**-0.7**
	1.7nm,0.5s,mb3.9,baz=200,slow=18,SNR=9.9						
STKA				PcP	PcP	17 55 01.1	-0.2
	1.0nm,0.4s,baz=356,slow=5.3,SNR=4.1						
NWAO	**Narrogin (SRO)**	**27.65**	**202**	*e*P	**P**	**17 51 46.7**	**-0.6**
	5.1nm,0.6s,mb4.2						
XAN	**Xi'an**	**45.35**	**336**	P	**P**	**17 54 16.8**	**-0.2**
XAN				AMB	AMB		
	comp=Z,13nm,0.8s,mb4.7						
LZH	**Lanzhou**	**49.26**	**333**	⇑P	**P**	**17 54 48.5**	**+1.1**
LZH				AMB	AMB		
	comp=Z,29nm,1.3s,mb5.0						
LZH	**Lanzhou**	**49.26**	**333**	⇑P	**P**	**17 54 48.5**	**+1.1**
	comp=Z,29nm,1.3s,mb5.0						
LZH				pP	pP	17 55 03.5	-4.8
LZH				sP	sP	17 55 11.4	-6.4
LSA	**Lhasa**	**51.76**	**317**	*e*P	**P**	**17 55 07.5**	**+1.0**
	comp=Z,4.8nm,0.7s,mb4.6						
GTA	**Gaotai**	**53.81**	**332**	*e*P	**P**	**17 55 22.6**	**+0.9**
GTA				AMB	AMB		
	comp=Z,15nm,0.8s,mb5.1						
PKI	**Pulchoki**	**54.59**	**311**	*e*P	**P**	**17 55 26.5**	**-1.0**
	comp=Z,11nm,0.5s,mb5.2						
KKN	**Kakani**	**54.80**	**312**	*e*P	**P**	**17 55 28.3**	**-0.7**
	comp=Z,7.3nm,0.5s,mb5.0						
DMN	**Daman**	**54.83**	**311**	*e*P	**P**	**17 55 28.4**	**-0.9**
	comp=Z,8.6nm,0.6s,mb5.0						
GKN	**Gorkha**	**55.39**	**311**	*e*P	**P**	**17 55 32.3**	**-1.0**
	comp=Z,27nm,0.3s,mb5.7						
KOLN	**Koldanda**	**56.05**	**311**	*e*P	**P**	**17 55 37.2**	**-0.8**
	comp=Z,19nm,0.8s,mb5.2						
SONM	**Songino Array**	**58.48**	**342**	P	**P**	**17 55 55.8**	**+1.0**
	comp=Z,1.5nm,0.5s,mb4.3,baz=165,slow=7.1,SNR=18						
MKAR	**Makanchi Array**	**67.97**	**327**	P	**P**	**17 56 57.6**	**+0.3**
	comp=Z,5.1nm,0.5s,mb4.6,baz=122,slow=7.9,SNR=69						
YAK	**Yakutsk**	**69.20**	**0**	*e*P	**P**	**17 57 05.3**	**+0.7**
	comp=Z,16nm,0.7s,mb5.0						
ZAL	**Zalesovo**	**71.47**	**334**	P	**P**	**17 57 17.7**	**-0.8**
	comp=Z,3.0nm,0.4s,mb4.5,baz=346,slow=5.4,SNR=12						
VNDA	**Vanda**	**72.20**	**173**	P	**P**	**17 57 22.7**	**+0.1**
	comp=Z,1.0nm,0.4s,mb4.0,baz=318,slow=7.8,SNR=4.5						
VNDA	**Vanda**	**72.20**	**173**	P	**P**	**17 57 22.7**	**+0.1**
KURK	**Kurchatov**	**72.30**	**329**	*e*P	**P**	**17 57 22.9**	**-0.6**
	comp=Z,4.1nm,0.4s,mb4.6						
BVAR	**Borovoye Array**	**77.83**	**328**	P	**P**	**17 57 55.3**	**+0.3**
	comp=Z,2.0nm,0.5s,mb4.1,baz=127,slow=7.4,SNR=8.1						
ARU	**Arti**	**85.48**	**328**	*e*P	**P**	**17 58 34.9**	**+0.2**
	comp=Z,3.3nm,0.8s,mb4.3						
ILAR	**Eielson Array**	**94.13**	**25**	P	**P**	**17 59 14.4**	**-0.8**
	comp=Z,0.4nm,0.7s,mb3.8,baz=303,slow=4.5,SNR=4.3						
GERES	**GERESS Array B**	**112.04**	**320**	PKiKP		18 04 32.4	
	comp=Z,0.5nm,0.5s,baz=45,slow=3.8,SNR=4.3						
LVC	**Limon Verde**	**145.44**	**150**	*e*P	PKPdf	18 05 38.4	+4.1
CPUP	**Villa Florida**	**145.94**	**170**	PKPbc	PKPbc	18 05 38.0	+2.0
	comp=Z,3.1nm,0.6s,baz=165,slow=5.1,SNR=6.7						
LPAZ	**La Paz**	**151.04**	**144**	PKPbc	PKPdf	18 05 53.2	+10
	comp=Z,3.9nm,0.4s,baz=29,slow=3.2,SNR=30						

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*NEIC **17** 17:48:36.9, 16.14N×98.18W, h20km, MD4.0(MEX), After MEX.*
MEX 17 17:48:35.1±1.1, 16.06N×98.27W, h16km±23km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.36**	**22**	*i*P	Pb	17 48 41.5	-1.1
PNIG				*i*S	Sb	17 48 46.5	-1.2
ACX	**Acapulco**	**1.77**	**297**	*e*P	Pn	17 49 00.0	-5.5
ACX				*i*S	Sn	17 49 23.0	-4.9
VHO	**Vista Hermosa**	**1.79**	**55**	*i*P	Pn	17 49 03.0	-2.7
VHO				*i*S	Sn	17 49 21.3	-6.8
OXX	**Oaxaca**	**1.80**	**55**	*e*P	Pn	17 49 02.5	-3.4
CAIG	**El Cayaco**	**2.15**	**297**	*i*P	Pn	17 49 07.7	-3.2
CAIG				*i*S	Sn	17 49 31.8	-5.7
CAIG	**El Cayaco**	**2.15**	**297**	*i*P	Pn	17 49 08.7	-2.2
CAIG				*i*S	Sn	17 49 38.7	+1.1
PLIG	**Platanillo**	**2.60**	**333**	*i*P	Pn	17 49 14.6	-2.8
PLIG				*i*S	Sn	17 49 44.7	-4.2
PLIG	**Platanillo**	**2.60**	**333**	*i*P	Pn	17 49 16.6	-0.8
PLIG				*i*S	Sn	17 49 44.7	-4.2
YAIG	**Yautepec**	**2.89**	**345**	*i*P	Pn	17 49 18.9	-2.6
YAIG				*i*S	Sn	17 49 52.3	-3.9
PPM	**Popocatepetl**	**3.01**	**354**	*e*P	Pn	17 49 25.5	+2.3
CMIG	**Matias Romero**	**3.40**	**72**	*i*P	Pn	17 49 24.8	-4.0
CMIG				*i*S	Sn	17 50 06.2	-3.0
CMIG	**Matias Romero**	**3.40**	**72**	*i*P	Pn	17 49 22.7	-6.0
CMIG				*i*S	Sn	17 50 07.7	-1.5
LVIG	**Laguna Verde**	**4.05**	**26**	*i*S	Sn	17 50 21.9	-3.6

IDC 17 18:20:25.8±6.5, 11.61N×85.93W, mb3.5/2, mb1 4.0/2, mb1mx3.6/18, mbtmp3.5/2, Error ellipse: s-maj=269.2km s-min=103.0km az=64.0, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**24.17**	**319**	P	P	18 25 43.7	-1.0
	1.2nm,0.6s,baz=136,slow=9.8,SNR=9.1						
PDAR	**Pinedale Array**	**37.22**	**331**	P	P	18 27 39.4	-1.3
	0.4nm,0.6s,baz=121,slow=9.4,SNR=4.6						
WRA	**Warramunga Arr**	**140.45**	**253**	PKP	PKPdf	18 39 57.7	-2.1
	0.4nm,1.0s,baz=93,slow=2.4,SNR=5.1						

NSSP 17 18:26:37.6, 39.27N×44.63E, h9km, ML4.0
TIF 17 18:26:41.4, 39.28N×44.60E, h10km±2km
CSEM 17 18:26:42.4±0.1, 39.42N×44.52E, h2km, MD3.9, Error ellipse: s-maj=1.8km s-min=1.6km az=150.0
MOS 17 18:26:43.8±1.2, 39.34N×44.54E, h10km, mb4.4/2, Error ellipse: s-maj=11.9km s-min=7.6km az=93.2
ISK 17 18:26:43.7, 39.38N×44.46E, h4km, MD3.9, ML4.3
IDC 17 18:26:43.8±1.2, 39.41N×44.52E, mb3.7/6, mb1 3.7/10, mb1mx3.6/21, mbtmp3.6/10, ML3.9/3, MS3.3/7, Ms1 3.3/7, ms1mx3.0/23, Error ellipse: s-maj=17.3km s-min=10.0km az=127.0
NEIC 17 18:26:44.5±1.8, 39.39N×44.59E, h3km±13km, mb4.0/4, Error ellipse: s-maj=9.8km s-min=6.0km az=222.0
TEH 17 18:26:47.6, 39.05N×44.36E, h10km, Mn3.6

ISC 17 18:26:43.1±0.3, 39.34N±0.02×44.56E±0.03, h3km, n74, σ1§17/85, mb3.6/8, MS3.3/6, 2C-2D,
Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLDR	**Caldiran**	**0.54**	**249**	*i* PG	**Pg**	**18 26 53.0**	**-0.9**
CLDR				*i* SG	**Sg**	**18 27 01.1**	**0.0**
VRNZ	**Vardanashen**	**0.77**	**338**	⇓P	**Pg**	**18 26 53.2**	**-5.2**
VRNZ				S	**Sg**	**18 27 06.4**	**-2.3**
GNI	**Garni**	**0.82**	**10**	*i* PG	**Pg**	**18 26 59.1**	**-0.4**
GNI				*i* SG	**Sg**	**18 27 11.4**	**+0.9**
GNI	**Garni**	**0.82**	**10**	Pg	**Pg**	**18 26 59.2**	**-0.3**
	579nm,0.3s,baz=248,slow=2.1,SNR=1087						
GNI				Lg		18 27 10.3	
	3μm,0.3s,baz=336,slow=19,SNR=67						
GNI	**Garni**	**0.82**	**10**	*i* Pg	**Pg**	**18 26 59.1**	**-0.4**
GNI				*e*Sg	**Sg**	**18 27 11.2**	**+0.7**
GNI	**Garni**	**0.82**	**10**	*e*P	**Pg**	**18 26 58.7**	**-0.8**
GNI				*e*S	**Sg**	**18 27 11.2**	**+0.7**
IMRD	**Marand**	**1.08**	**125**	Pg	**Pg**	**18 27 04.3**	**-0.4**
VANB	**Van**	**1.18**	**231**	*i* PN	**Pn**	**18 27 07.1**	**+0.7**
VANT	**Van**	**1.28**	**226**	*i* PN	**Pn**	**18 27 10.2**	**+2.3**
ISHB	**Shabestar**	**1.33**	**142**	Pg	**Pg**	**18 27 07.8**	**-2.0**
GRS	**Goris**	**1.39**	**82**	P	**Pb**	**18 27 05.0**	**-4.4**
DIGO	**Kars**	**1.41**	**320**	*i* P	**Pn**	**18 27 06.9**	**-2.9**
DIGO				*i* S	**Sb**	**18 27 27.1**	**-1.1**
ITBZ	**Tabriz**	**1.66**	**131**	Pg	**Pg**	**18 27 14.2**	**-2.0**
KARS	**Kars**	**1.70**	**319**	*i* PN	**Pn**	**18 27 14.2**	**+0.3**
HKR	**Hakkari**	**1.87**	**200**	PN	**Pn**	**18 27 17.7**	**+1.4**
HAKT	**HAKKARI**	**1.90**	**201**	*i* P	**Pn**	**18 27 17.4**	**+0.7**
HAKT				*i* S	**Sn**	**18 27 45.1**	**+3.6**
IAZR	**Azarshahr**	**1.99**	**146**	Pn	**Pn**	**18 27 19.5**	**+1.4**
DGRG	**David-gareji**	**2.20**	**16**	P	**Pn**	**18 27 21.9**	**+0.9**
DGRG				S	**Sn**	**18 27 53.2**	**+4.1**
MTA	**Mtatsminda**	**2.36**	**4**	P	**Pn**	**18 27 24.0**	**+0.7**
MTA				S	**Sn**	**18 27 55.9**	**+2.7**
TBLG	**Delisi**	**2.40**	**3**	P	**Pn**	**18 27 25.2**	**+1.4**
TBLG				S	**Sn**	**18 27 57.6**	**+3.5**
SIRT	**Sirnak**	**2.48**	**223**	PN	**Pn**	**18 27 25.3**	**+0.3**
EZM	**Erzurum**	**2.54**	**284**	PN	**Pn**	**18 27 25.7**	**-0.2**
BTMT	**Batman**	**2.66**	**246**	PN	**Pn**	**18 27 28.4**	**+0.7**
GOR	**Gori**	**2.67**	**353**	P	**Pn**	**18 27 29.1**	**+1.4**
GOR				S	**Sn**	**18 28 10.6**	**+10**
BNGL	**BINGOL**	**2.68**	**263**	*i* P	**Pn**	**18 27 31.6**	**+3.6**
BNGL				*i* S	**Sn**	**18 28 10.6**	**+9.2**
BEST	**Besiri**	**2.96**	**242**	*i* P	**Pn**	**18 27 37.1**	**+5.3**
BEST				*i* S	**Sn**	**18 28 16.1**	**+7.7**
BCA	**Borcka**	**3.08**	**314**	PN	**Pn**	**18 27 33.4**	**-0.2**
ONI	**Oni**	**3.35**	**346**	P	**Pn**	**18 27 38.3**	**+0.9**
ONI				S	**Sn**	**18 28 26.7**	**+8.5**
ZEI	**Tsey**	**3.47**	**352**	*e*Pn	**Pn**	**18 27 38.7**	**-0.4**
	50nm,0.1s						
ZEI	**Tsey**	**3.47**	**352**	*e*PN	**Pn**	**18 27 38.7**	**-0.4**
ZEI				*e*		18 27 48.7	
ZEI				*e*		18 28 20.5	
ZEI				*e*		18 28 39.4	
ZEI				pmax	pmax		
	comp=Z,50nm,0.1s						
ZEI				pmax	pmax		
	comp=Z,34nm,0.1s						
ZEI				smax			
	comp=N,68nm,0.2s						
DIY	**Diyarbakir**	**3.69**	**248**	*e*PN	**Pn**	**18 27 42.5**	**+0.2**
PTK	**Pertek**	**4.05**	**265**	*e*PN	**Pn**	**18 27 47.7**	**+0.3**
GUMT	**Gumushane**	**4.07**	**288**	*e*PN	**Pn**	**18 27 47.3**	**-0.4**
MAK	**Makhachkala**	**4.25**	**31**	*e*PG	**Pg**	**18 28 16.0**	**+8.1**
MAK				pmax	pmax		
	comp=Z,165nm,1.0s						
MAK				MLR	MLR		
	comp=N,700nm,7.0s						
MAK				MLR	MLR		
	comp=E,900nm,7.0s						
MAK				MLR	MLR		
	comp=Z,2μm,7.0s						
KIV	**Kislovodsk**	**4.82**	**344**	*e*P	**Pn**	**18 27 59.8**	**+1.4**
KIV	**Kislovodsk**	**4.82**	**344**	*c i*PN	**Pn**	**18 27 59.2**	**+0.8**
KIV				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MALT	**Malatya**	**4.90**	**260**	*e*P	**Pn**	**18 27 55.4**	**-4.1**
GOF	**Gofitskoye**	**5.83**	**349**	*e*P	**Pn**	**18 28 14.6**	**+2.0**
GOF				*i* S	**Sn**	**18 29 13.1**	**-7.8**
GOF				pmax	pmax		
	comp=Z,20nm,1.3s						
GOF				smax			
	comp=N,90nm,1.3s						
IMHD	**Mahdasht**	**6.07**	**125**	Pn	**Pn**	**18 28 15.7**	**-0.2**
IAFJ	**Afjeh**	**6.65**	**119**	Pn	**Pn**	**18 28 24.4**	**+0.2**
IDMV	**Damavand**	**7.03**	**120**	Pn	**Pn**	**18 28 29.7**	**+0.3**
IVRN	**Varamin**	**7.17**	**125**	Pn	**Pn**	**18 28 31.1**	**-0.4**
IVRN				Lg		18 30 30.2	
IFIR	**Firoozkooh**	**7.48**	**117**	Pn	**Pn**	**18 28 35.8**	**0.0**
BRTR	**Keskin Array B**	**8.45**	**276**	Pn	**P**	**18 28 49.2**	**-0.2**
	baz=101,slow=13,SNR=8.5						
BRTR				Lg		18 31 11.1	
	comp=N,0.1nm,0.3s,baz=145,slow=35,SNR=2.3						
BRTR	**Keskin Array B**	**8.45**	**276**	Pn	**P**	**18 28 49.2**	**-0.2**
BRTR				Lg		18 31 11.1	
ASF	**Jabal al Asfar**	**9.48**	**223**	Pn	**P**	**18 29 02.9**	**-0.7**
	comp=N,0.4nm,0.3s,baz=80,slow=15,SNR=3.0						
ASF				Lg		18 31 48.1	
	comp=N,0.2nm,0.3s,baz=287,slow=20,SNR=1.9						
ASF				LR	LR	18 33 21.1	
	comp=N,150nm,18.6s,baz=124,slow=42						
ISP	**Isparta**	**11.10**	**267**	*i* P	**P**	**18 29 19.2**	**-6.7**
MLR	**Muntele Rosu**	**15.05**	**300**	Pn	**P**	**18 30 18.3**	**0.0**
	comp=N,0.1nm,0.3s,baz=219,slow=13,SNR=2.1						
MLR				LR	LR	18 36 49.9	
	comp=N,39nm,21.6s,baz=8.4,slow=40						
APE	**Apeiranthos**	**15.14**	**267**	*e*P	**P**	**18 30 19.0**	**-0.5**
AKASG	**Malin Array Be**	**15.67**	**321**	Pn	**P**	**18 30 24.9**	**-1.5**
	comp=N,0.3nm,0.3s,baz=130,slow=11,SNR=6.3						
OBN	**Obninsk**	**16.67**	**344**	*e*P	**P**	**18 30 37.4**	**-1.7**
	comp=N,200nm,15.0s						
OBN	**Obninsk**	**16.67**	**344**	⇓*e*P	**P**	**18 30 37.4**	**-1.7**
OBN				pmax	pmax		
	comp=Z,33nm,1.7s						
OBN				MLR	MLR		
	comp=Z,200nm,15.0s						
KWP	**Kalwaria**	**18.62**	**311**	*e*P	**P**	**18 31 03.3**	**-0.2**
	comp=Z,6.5nm,0.8s						
KWP	**Kalwaria**	**18.62**	**311**	*e*P	**P**	**18 31 03.3**	**-0.2**
KWP				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ARU	**Arti**	**19.44**	**24**	*i* P	**P**	**18 31 11.0**	**-2.3**
	comp=Z,100nm,16.0s						
ARU	**Arti**	**19.44**	**24**	*e*P	**P**	**18 31 09.2**	**-4.0**
	comp=Z,22nm,1.0s						
ARU	**Arti**	**19.44**	**24**	*c i*P	**P**	**18 31 11.0**	**-2.3**
ARU				pmax	pmax		
	comp=Z,28nm,1.3s						
ARU				MLR	MLR		
	comp=Z,100nm,16.0s						
SVE	**Sverdlovsk**	**20.44**	**26**	*e*P	**P**	**18 31 25.3**	**+1.2**
	comp=Z,52nm,1.5s						
SVE	**Sverdlovsk**	**20.44**	**26**	*e*P	**P**	**18 31 25.3**	**+1.2**
SVE				*e*		18 31 53.7	
SVE				pmax	pmax		
	comp=Z,52nm,1.5s						
SVE				MLR	MLR		
	comp=N,100nm,16.0s,MS3.4						
SVE				MLR	MLR		
	comp=E,100nm,16.0s,MS3.4						
SVE				MLR	MLR		
	comp=Z,200nm,16.0s,MS3.6						
SVE				MLR	MLR		
	comp=E,9μm,16.0s						
BRVK	**Borovoye**	**22.32**	**44**	*e*P	**P**	**18 31 42.7**	**-0.5**
	comp=E,3.7nm,0.9s,mb3.8						
BRVK	**Borovoye**	**22.32**	**44**	*e*P	**P**	**18 31 42.7**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb3.9						
BVAR	**Borovoye Array**	**22.36**	**44**	P	**P**	**18 31 43.3**	**-0.3**
	comp=Z,2.4nm,0.6s,mb3.8,baz=243,slow=9.0,SNR=18						
GERES	**GERESS Array B**	**23.98**	**303**	P	**P**	**18 31 57.9**	**-1.5**
	comp=Z,0.5nm,0.6s,mb3.1,baz=106,slow=9.7,SNR=4.2						
KHC	**Kasperske Hory**	**24.11**	**304**	*e*P	**P**	**18 32 03.0**	**+2.3**
FINES	**FINESS Array B**	**24.90**	**339**	P	**P**	**18 32 06.8**	**-1.4**
	comp=Z,2.2nm,0.8s,mb3.7,baz=138,slow=11,SNR=12						
DAVOX	**Davos**	**26.25**	**298**	P	**P**	**18 32 19.5**	**-1.5**
	comp=Z,2.0nm,0.7s,mb3.8,baz=111,slow=18,SNR=3.9						
KURK	**Kurchatov**	**26.39**	**53**	*e*P	**P**	**18 32 22.0**	**-0.3**
KURK	**Kurchatov**	**26.39**	**53**	*e*P	**P**	**18 32 22.7**	**+0.4**
	comp=Z,3.0nm,0.8s,mb3.9						
ATD	**Arta Tunnel**	**27.73**	**184**	LR	LR	18 42 49.3	
	comp=Z,44nm,21.4s,MS3.0,baz=13,slow=35						
MKAR	**Makanchi Array**	**28.34**	**62**	P	**P**	**18 32 39.0**	**-1.1**
	comp=Z,1.2nm,0.8s,mb3.5,baz=268,slow=6.8,SNR=5.0						
HFS	**Hagfors**	**28.39**	**327**	LR	LR	18 44 45.1	
	comp=Z,70nm,18.2s,MS3.3,baz=186,slow=38						
NOA	**NORSAR Array B**	**29.91**	**328**	LR	LR	18 45 51.1	
	comp=Z,60nm,19.5s,MS3.2,baz=125,slow=38						
ARCES	**ARCESS Array B**	**31.92**	**347**	LR	LR	18 47 14.6	
	comp=Z,64nm,18.3s,MS3.3,baz=102,slow=39						
SONM	**Songino Array**	**44.51**	**58**	P	**P**	**18 34 57.4**	**+0.1**
	comp=Z,0.3nm,0.6s,mb3.3,baz=278,slow=10,SNR=2.8						
SONM				LR	LR	18 54 50.9	
	comp=Z,66nm,21.5s,MS3.5,baz=234,slow=38						

BJI 17 18:37:01.7, 20.91N×99.64E, h20km, mB4.6, mb4.1, ML4.6, Ms4.4, Msz3.9
IDC 17 18:37:04.5±1.1, 21.15N×99.82E, mb3.9/8, mb1 4.1/8, mb1mx3.9/17, mbtmp3.9/8, MS3.5/6, Ms1 3.5/6, ms1mx3.3/14, Error ellipse: s-maj=54.6km s-min=22.5km az=58.0
PLV 17 18:37:07.8±1.2, 23.67N×101.29E, h4km±7km, MD4.7
NEIC 17 18:37:07.0±1.0, 21.11N×99.74E, h20km, mb4.3/4, Error ellipse: s-maj=21.9km s-min=11.8km az=193.0

ISC 17 18:37:02.1±0.6, 21.05N±0.05×100.31E±0.04, h10km, n42, σ1§54/53, mb3.9/10, MS3.5/6, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHRT	**Chiangrai**	**1.27**	**203**	P	**Pb**	**18 37 31.0**	**+5.3**
	4μm,0.5s						
CHG	**Chiang Mai**	**2.57**	**210**	PG	**Pg**	**18 37 47.5**	**-5.9**
CHG				SG	**Sg**	**18 38 15.2**	**-12**
KMI	**Kunming**	**4.63**	**28**	PG	**Pg**	**18 38 34.3**	**-0.2**
KMI				SG	**Sg**	**18 39 35.8**	**-0.5**
KMI				Smax			
	comp=N,226nm,1.0s						
KMI				Smax			
	comp=E,338nm,1.2s						
KMI				LR	LR		
	comp=N,3μm,8.7s						
KMI				LR	LR		
	comp=E,2μm,7.5s						
BVV	**Ba Vi**	**4.73**	**88**	*e*PN	**Pn**	**18 38 18.4**	**+3.2**
BVV				*e*PG	**Pg**	**18 38 36.1**	**-0.4**
BVV				*e*Sg	**Sg**	**18 39 35.8**	**-3.7**
HNV	**Hanoi**	**5.13**	**89**	*e*PN	**Pn**	**18 38 22.6**	**+1.8**
HNV				*e*Pg	**Pg**	**18 38 41.7**	**-2.8**
HNV				*e*Sg	**Sg**	**18 39 45.4**	**-7.5**
KKTK	**Khon Kaen**	**5.26**	**153**	PN	**Pn**	**18 38 40.0**	**+17**
KKTK				PG	**Pg**	**18 39 08.0**	**+21**
KKTK				SG	**Sg**	**18 39 52.0**	**-5.2**
DSV	**Doi Son**	**5.32**	**94**	*e*PN	**Pn**	**18 38 28.6**	**+5.0**
DSV				*e*PG	**Pg**	**18 38 49.7**	**+1.4**
DSV				*e*Sg	**Sg**	**18 39 58.3**	**-1.0**
NST	**Nakhon Sawan**	**5.35**	**182**	P	**Pn**	**18 38 28.0**	**+4.0**
	comp=E,154nm,0.6s						
MTZV	**Met**	**5.65**	**84**	*e*PN	**Pn**	**18 38 25.2**	**-3.0**
MTZV				*e*PG	**Pg**	**18 38 45.4**	**-9.5**
MTZV				*e*SG	**Sg**	**18 39 53.0**	**-17**
PLV	**Phu-Lien**	**5.92**	**91**	*e*PN	**Pn**	**18 38 33.8**	**+1.8**
PLV				*e*PG	**Pg**	**18 38 56.9**	**-3.3**
PLV				*e*Sg	**Sg**	**18 40 12.6**	**-6.5**
YTV	**Yen Tu**	**5.99**	**88**	*e*PN	**Pn**	**18 38 32.0**	**-0.9**
YTV				*e*PG	**Pg**	**18 38 56.3**	**-5.3**
YTV				*e*SG	**Sg**	**18 40 08.8**	**-13**
GYA	**Guiyang**	**7.93**	**46**	P	**Pn**	**18 39 06.8**	**+6.6**
GYA				LR	LR		
	comp=N,3μm,10.2s						
GYA				LR	LR		
	comp=E,2μm,10.2s						
GYA				LR	LR		
	comp=Z,930nm,6.0s						
QIZ	**Qiongzhong**	**9.19**	**101**	P	**P**	**18 39 24.9**	**+7.2**
QIZ				AMB	AMB		
	comp=Z,16nm,1.9s						
QIZ				LR	LR		
	comp=Z,343nm,15.0s						
CD2	**Chengdu**	**10.30**	**17**	P	**P**	**18 39 34.8**	**+1.8**
CD2				S	**S**	**18 41 30.3**	**+0.7**
CD2				LR	LR		
	comp=N,500nm,7.2s						
CD2				LR	LR		
	comp=Z,360nm,7.8s						
LSA	**Lhasa**	**11.94**	**318**	P	**P**	**18 39 53.3**	**-2.1**
LSA	**Lhasa**	**11.94**	**318**	*e*P	**P**	**18 39 53.0**	**-2.4**
	comp=Z,14nm,1.0s						
PKI	**Pulchoki**	**15.05**	**298**	*e*P	**P**	**18 40 31.7**	**-4.9**
	comp=Z,20nm,0.9s						
KKN	**Kakani**	**15.23**	**299**	*e*P	**P**	**18 40 34.2**	**-4.8**
	comp=Z,26nm,1.0s						
DMN	**Daman**	**15.31**	**298**	*e*P	**P**	**18 40 35.2**	**-4.8**
	comp=Z,23nm,0.8s						
GKN	**Gorkha**	**15.84**	**299**	*e*P	**P**	**18 40 41.8**	**-5.1**
	comp=Z,55nm,1.1s						
KOLN	**Koldanda**	**16.61**	**297**	*e*P	**P**	**18 40 51.9**	**-4.8**
	comp=Z,57nm,1.1s						
GTA	**Gaotai**	**18.30**	**359**	*e*P	**P**	**18 41 18.5**	**+0.6**
GTA				AP		18 41 29.0	
GTA				XP		18 41 33.5	
GTA				AMB	AMB		
	comp=Z,5.0nm,1.3s						
JOW	**Kunigami**	**26.17**	**72**	LR	LR	18 53 05.3	
	comp=Z,84nm,18.4s,MS3.3,baz=275,slow=36						
SONM	**Songino Array**	**27.17**	**9**	P	**P**	**18 42 50.0**	**+2.5**
	comp=Z,1.4nm,0.9s,mb3.5,baz=197,slow=9.5,SNR=8.5						
MKAR	**Makanchi Array**	**29.57**	**334**	P	**P**	**18 43 08.3**	**-1.0**
	comp=Z,1.0nm,0.8s,mb3.6,baz=146,slow=8.7,SNR=6.3						
JNU	**Nakatsue**	**29.65**	**60**	LR	LR	18 55 00.6	
	comp=Z,75nm,18.2s,MS3.4,baz=228,slow=36						
AAK	**Ala-Archa**	**30.51**	**321**	P	**P**	**18 43 17.7**	**+0.1**
	comp=Z,2.9nm,0.6s,mb4.3						
HIA	**Hailar**	**32.13**	**24**	*e*P	**P**	**18 43 34.1**	**+2.3**
KURK	**Kurchatov**	**34.16**	**335**	*e*P	**P**	**18 43 47.0**	**-2.4**
	comp=Z,0.9nm,0.6s,mb3.9						
ZAL	**Zalesovo**	**34.90**	**344**	P	**P**	**18 43 54.9**	**-0.8**
	comp=Z,1.6nm,0.8s,mb4.0,baz=320,slow=6.9,SNR=7.4						
BVAR	**Borovoye Array**	**39.32**	**332**	P	**P**	**18 44 31.6**	**-1.3**
	comp=Z,0.7nm,0.5s,mb3.6,baz=135,slow=13,SNR=5.5						
YAK	**Yakutsk**	**45.68**	**19**	*e*P	**P**	**18 45 25.9**	**+1.4**
ARU	**Arti**	**46.84**	**330**	*e*P	**P**	**18 45 32.7**	**-1.1**
KIV	**Kislovodsk**	**52.54**	**310**	P	**P**	**18 46 18.1**	**+0.3**
WRA	**Warramunga Arr**	**52.62**	**138**	P	**P**	**18 46 22.9**	**+4.2**
	comp=Z,1.8nm,0.8s,mb4.0,baz=325,slow=7.8,SNR=15						
FINES	**FINESS Array B**	**64.20**	**329**	LR	LR	19 16 47.8	
	comp=Z,41nm,19.7s,MS3.6,baz=129,slow=37						
KMBO	**Kilima Mbogo**	**65.40**	**259**	LR	LR	19 13 44.6	
	comp=Z,45nm,20.3s,MS3.7,baz=94,slow=34						
HNR	**Honiara**	**65.94**	**111**	LR	LR	19 15 54.8	
	comp=Z,38nm,20.4s,MS3.6,baz=313,slow=35						
NOA	**NORSAR Array B**	**71.39**	**329**	P	**P**	**18 48 25.4**	**+1.4**
	comp=Z,1.1nm,0.8s,mb3.9,baz=81,slow=6.1,SNR=4.9						
GERES	**GERESS Array B**	**72.26**	**316**	P	**P**	**18 48 28.7**	**-0.8**
	comp=Z,0.3nm,0.5s,mb3.5,baz=104,slow=4.0,SNR=5.0						
DAVOX	**Davos**	**75.25**	**315**	P	**P**	**18 48 48.4**	**+1.6**
	comp=Z,3.0nm,0.7s,mb4.3,baz=110,slow=10,SNR=5.5						
ILAR	**Eielson Array**	**80.36**	**24**	LR	LR	19 26 17.1	
	comp=Z,25nm,18.6s,MS3.6,baz=20,slow=37						

HLW 17 18:48:05.6, 34.52N×26.65E, h16km, Mb3.1
CSEM 17 18:48:06.0±0.2, 34.24N×26.36E, h5km, ML3.1, Error ellipse: s-maj=7.3km s-min=3.2km az=88.0
ATH 17 18:48:07.7, 34.40N×26.38E, h10km, MD3.5/3

ISC 17 18:48:05.0±0.8, 34.26N±0.04×26.5E±0.1, h5km, n8, σ1§06/11, 2C-1D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.88**	**314**	*e*PB	**Pb**	**18 48 21.8**	**-0.6**
NPS	**Neapolis**	**1.22**	**325**	*e*PB	**Pb**	**18 48 27.5**	**-0.7**
KARP	**Karpathos**	**1.41**	**24**	*e*PB	**Pb**	**18 48 32.3**	**+0.9**
SLUM		**2.95**	**201**	⇓P	**Pn**	**18 48 55.3**	**+1.8**
SLUM				S	**Sn**	**18 49 30.6**	**+0.8**
SLUM		**2.95**	**201**	P	**Pn**	**18 48 55.3**	**+1.8**
SLUM				S	**Sn**	**18 49 30.6**	**+0.8**
SWA1		**5.02**	**187**	⇑P	**Pn**	**18 49 23.3**	**+0.4**
SWA1				S	**Sn**	**18 50 20.5**	**-1.7**
SWA2		**5.08**	**190**	⇑P	**Pn**	**18 49 24.0**	**+0.4**
GTR	**Jabal at Tayr**	**9.42**	**157**	P	**P**	**18 50 23.0**	**-1.4**

NEIC 17 19:05:23.4±4.0, 35.18N×0.00W, h10km, MG3.5(MDD), Error ellipse: s-maj=47.1km s-min=8.7km az=154.0
CRAAG 17 19:05:29.0, 35.50N×0.16E, Ml3.2
MDD 17 19:05:29.2±0.5, 35.44N×0.14W, h23km±6km, mb3.4/15, mbLg1.8/10, Error ellipse: s-maj=9.9km s-min=5.8km az=18.0, PRXIMO
CSEM 17 19:05:30.3±0.2, 35.67N×0.17W, h40km, ML3.2, Error ellipse: s-maj=4.1km s-min=2.3km az=179.0

ISC 17 19:05:28.0±0.6, 35.69N±0.04×0.20W±0.03, h10km, n48, σ1§29/83, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USTO	**Oran**	**0.29**	**279**	P	**Pg**	**19 05 37.0**	**+2.9**
ODJA	**Bouhanifia**	**0.36**	**174**	P	**Pg**	**19 05 34.0**	**-1.4**
OTSS	**Djebel Tessala**	**0.63**	**231**	P	**Pb**	**19 05 46.8**	**+6.1**
OKGL	**Djebel Kef Gue**	**0.77**	**63**	P	**Pb**	**19 05 45.7**	**+2.8**
EANR	**'Ain N'Sour**	**1.08**	**76**	P	**Pb**	**19 05 48.0**	**-0.4**
ETRT	**Tiaret**	**1.25**	**103**	P	**Pb**	**19 05 49.0**	**-2.3**
ECHA	**Ech Chlef**	**1.35**	**70**	P	**Sb**	**19 06 10.0**	**-0.1**
EBNR	**Beni Rached**	**1.52**	**66**	P	**Sb**	**19 06 11.0**	**-4.2**
ENIJ	**Nijar**	**2.07**	**309**	P	**Pn**	**19 06 05.1**	**+1.8**
	0.2nm,0.1s,SNR=4.0						
ENIJ				S	**Sn**	**19 06 27.9**	**-1.4**
	0.7nm,0.3s,SNR=7.9						
ENIJ	**Nijar**	**2.07**	**309**	P	**Pn**	**19 06 05.1**	**+1.8**
ENIJ				S	**Sn**	**19 06 27.9**	**-1.4**
EMUR	**La Murta**	**2.31**	**339**	P	**Pn**	**19 06 07.4**	**+0.7**
	0.1nm,0.2s,SNR=7.9						
EMUR				S	**Sn**	**19 06 34.8**	**-0.6**
	1.7nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**2.31**	**339**	P	**Pn**	**19 06 08.0**	**+1.3**
	0.1nm,0.2s,SNR=7.9						
EMUR				S	**Sn**	**19 06 34.8**	**-0.6**
	1.7nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**2.31**	**339**	P	**Pn**	**19 06 08.0**	**+1.3**
EMUR				S	**Sn**	**19 06 34.8**	**-0.6**
EBER	**Berja**	**2.49**	**300**	P	**Pn**	**19 06 09.3**	**0.0**
	0.7nm,0.2s,SNR=7.2						
EBER				S	**Sn**	**19 06 40.4**	**+0.4**
	3.2nm,0.2s,SNR=7.0						
EBER	**Berja**	**2.49**	**300**	P	**Pn**	**19 06 09.3**	**0.0**
	0.7nm,0.2s,SNR=7.2						
EBER				S	**Sn**	**19 06 40.4**	**+0.4**
	3.2nm,0.2s,SNR=7.0						
EMHD	**Djebel Mahouad**	**2.61**	**78**	P	**Pn**	**19 06 15.0**	**+4.1**
EBEN	**Beniarda**	**3.01**	**360**	P	**Pn**	**19 06 18.3**	**+1.5**
	0.1nm,0.1s,SNR=7.9						
EBEN				S	**Sn**	**19 06 53.2**	**-0.1**
	0.1nm,0.1s,SNR=7.9						
EBEN	**Beniarda**	**3.01**	**360**	P	**Pn**	**19 06 18.6**	**+1.9**
	0.1nm,0.1s,SNR=7.9						
EBEN				S	**Sn**	**19 06 52.9**	**-0.3**
	0.1nm,0.1s,SNR=7.9						
EBEN	**Beniarda**	**3.01**	**360**	P	**Pn**	**19 06 18.6**	**+1.9**
EBEN				S	**Sn**	**19 06 52.9**	**-0.3**
EQUE	**Quentar**	**3.02**	**301**	P	**Pn**	**19 06 17.6**	**+0.7**
	1.3nm,0.1s,SNR=7.9						
EQUE				S	**Sn**	**19 06 52.3**	**-1.2**
	0.7nm,0.2s,SNR=7.9						
EQES	**Quesada**	**3.13**	**313**	P	**Pn**	**19 06 19.9**	**+1.5**
	1.0nm,0.2s,SNR=27						
EQES				S	**Sn**	**19 06 56.1**	**-0.2**
	1.0nm,0.1s,SNR=7.9						
EQES	**Quesada**	**3.13**	**313**	P	**Pn**	**19 06 20.6**	**+2.2**
	1.0nm,0.2s,SNR=27						
EQES				S	**Sn**	**19 06 57.8**	**+1.6**
	1.0nm,0.1s,SNR=7.9						
EQES	**Quesada**	**3.13**	**313**	P	**Pn**	**19 06 20.6**	**+2.2**
EQES				S	**Sn**	**19 06 57.8**	**+1.5**
ETOB	**Tobarra**	**3.14**	**340**	P	**Pn**	**19 06 20.0**	**+1.4**
	1.1nm,0.1s,SNR=13						
ETOB				S	**Sn**	**19 06 56.3**	**-0.3**
	1.1nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**3.14**	**340**	P	**Pn**	**19 06 20.0**	**+1.4**
	1.1nm,0.1s,SNR=13						
ETOB				S	**Sn**	**19 06 56.3**	**-0.3**
	1.1nm,0.1s,SNR=7.9						
ERON	**Agron**	**3.20**	**296**	P	**Pn**

EPOB	Poblet	5.75	10	P	Pn	19 06 55.5	+0.1
ESAC	San Caprasio	6.03	358	P	Pn	19 07 00.2	+0.8
	3.1nm,0.2s,SNR=7.9						

IDC 17 19:46:58.1±4.2, 0.95N×97.59E, mb3.8/4, mb1 3.9/4, mb1mx3.6/15, mbtmp3.8/4, Error ellipse: s-maj=164.7km s-min=29.1km az=56.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	41.57	122	P	P	19 54 47.8	-1.8
	0.5nm,0.9s,baz=302,slow=8.9,SNR=5.1						
SONM	Songino Array	47.32	8	P	P	19 55 34.4	-1.0
	0.3nm,0.3s,baz=191,slow=7.3,SNR=5.0						
MKAR	Makanchi Array	47.58	346	P	P	19 55 36.2	-1.3
	1.1nm,0.5s,baz=159,slow=9.0,SNR=30						
ZAL	Zalesovo	53.85	351	P	P	19 56 20.9	-4.2
	1.1nm,0.3s,baz=290,slow=8.5,SNR=3.6						

IDC 17 20:06:49.1±2.2, 5.22S×152.14E, mb3.6/3, mb1 3.9/4, mb1mx3.7/11, mbtmp3.7/4, ML2.7/1, Error ellipse: s-maj=87.8km s-min=24.4km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.46	230	Pn	Pn	20 08 27.6	-0.2
	1.0nm,0.3s,baz=36,slow=14,SNR=3.9						
PMG				Sn	Sn	20 09 41.0	-2.2
	2.1nm,0.3s,baz=328,slow=19,SNR=4.6						
WRA	Warramunga Arr	22.68	228	P	P	20 11 51.3	-2.4
	0.7nm,0.6s,baz=52,slow=9.8,SNR=9.3						
MKAR	Makanchi Array	80.21	319	P	P	20 19 02.0	-1.0
	0.5nm,1.0s,baz=90,slow=7.2,SNR=3.1						
ILAR	Eielson Array	82.79	22	P	P	20 19 14.7	-1.5
	1.2nm,0.7s,baz=248,slow=5.2,SNR=11						

LDG 17 20:54:26.1±0.4, 20.57S×169.33E, h10km, Mb4.5/1, 1C, Error ellipse: s-maj=40.8km s-min=5.6km az=141.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.08	240	eP	Pn	20 55 13.2	-2.6
DZM				eS	Sn	20 55 45.8	-7.3
SNAA	Sanae	87.84	182		P	21 07 07.2	-9.2
SNAA	Sanae	87.84	182		P	21 07 15.0	-1.4
VNA3	Neumayer Olymp	88.43	180		P	21 07 11.7	-7.5
VNA2	Neumayer--Watz	88.72	181		P	21 07 13.4	-7.2
VNA2	Neumayer--Watz	88.72	181		P	21 07 18.1	-2.5
VNA1	Neumayer--Stat	89.01	181		P	21 07 15.2	-6.8
CLL	Collm	144.16	335	⇑P	PKPbc	21 14 01.3	0.0
	logA/T=1.1						
MOX	Moxa	145.22	335	i P	PKPbc	21 14 04.7	+0.4
KHC	Kasperske Hory	145.54	332	eP	PKPbc	21 14 06.0	+0.9
GIVF	Givet	148.07	341	ePKP1	PKPdf	21 14 12.2	+0.5
BAIF	Baives	148.30	342	ePKP1	PKPdf	21 14 13.0	+1.0
	13nm,1.0s						
CDF	Champ du Feu	148.70	337	ePKP1	PKPdf	21 14 13.7	+1.0
	14nm,1.1s						
HINF	Hinteralfeld	149.35	337	ePKP1	PKPdf	21 14 15.1	+1.3
	6.2nm,0.7s						
HAU	Haudompre	149.38	337	ePKP1	PKPdf	21 14 15.3	+1.5
	16nm,0.9s						
MEZF	Maizieres J'vi	149.40	339	ePKP1	PKPdf	21 14 15.9	+2.1
	31nm,1.0s						
CABF	La Chapelle	150.64	336	ePKP1	PKPdf	21 14 18.7	+2.9
	7.4nm,0.8s						
FLN	La Foliniere	150.71	346	ePKP1	PKPdf	21 14 18.1	+2.2
	16nm,0.7s						
LDF	La Druitiere	150.78	346	ePKP1	PKPdf	21 14 18.1	+2.1
	11nm,0.8s						
LOR	Lormes	150.87	339	ePKP1	PKPdf	21 14 18.7	+2.6
	8.9nm,0.9s						
GRR	Gorron	151.15	346	ePKP1	PKPdf	21 14 19.1	+2.6
	22nm,1.0s						
SSF	Saint Saulge	151.17	340	ePKP1	PKPdf	21 14 19.4	+2.8
	5.0nm,0.8s						
LPL	La Plagne	151.29	334	ePKP1	PKPdf	21 14 20.3	+3.5
	4.8nm,0.8s						
LPG	La Plagne	151.30	334	ePKP1	PKPdf	21 14 20.4	+3.6
	5.6nm,0.8s						
SMF	Signal de Mont	151.42	339	ePKP1	PKPdf	21 14 19.9	+2.9
	8.1nm,1.0s						
SGMF	Saint Gilles	151.62	349	ePKP1	PKPdf	21 14 19.9	+2.7
	14nm,0.9s						
ROSF	Rostrenen	151.67	350	ePKP1	PKPdf	21 14 19.8	+2.5
	7.4nm,0.8s						
BGF	Bois d'Agland	151.82	340	ePKP1	PKPdf	21 14 20.0	+2.4
	10nm,1.0s						
MBDF	Montbardon	151.91	333	ePKP1	PKPdf	21 14 21.1	+3.3
	2.6nm,0.7s						
QUIF	Quistinic	152.05	349	ePKP1	PKPdf	21 14 20.3	+2.4
ORIF	Oris-en-Rattie	152.13	334	ePKP1	PKPdf	21 14 21.7	+3.6
	5.3nm,0.7s						

BJI 17 20:55:24.1, 38.10N×57.50E, h10km, mB4.8, mb4.3, Ms4.5
MOS 17 20:55:25.7±1.9, 38.32N×57.65E, h10km, mb4.7/4, Error ellipse: s-maj=8.4km s-min=6.8km az=111.8
IDC 17 20:55:26.4±1.7, 38.19N×57.47E, mb3.8/9, mb1 4.1/12, mb1mx3.9/22, mbtmp3.9/12, ML3.0/3, MS3.5/8, Ms1 3.5/8, ms1mx3.2/24, Error ellipse: s-maj=37.5km s-min=12.1km az=169.0
NEIC 17 20:55:27.1±0.3, 38.15N×57.54E, h10km, mb4.4/11, ML4.1(TEH), Error ellipse: s-maj=6.1km s-min=4.7km az=191.0
TEH 17 20:55:32.0, 37.90N×57.52E, h25km, Mn4.1
NNC 17 20:55:33.0±2.0, 38.81N×58.04E, Error ellipse: s-maj=17.1km s-min=12.8km az=19.0
CSEM 17 20:55:32.0, 37.90N×57.52E, h25km, ML4.1, After TEH
ISC 17 20:55:24.0±1.1, 38.33N±0.04×57.61E±0.03, h3km±8km, n84, σ1§45/96, mb4.2/15, MS3.5/9, 9C-6D, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAN	Vannovskaya	0.55	134	eP	Pg	20 55 35.3	+0.4
IKRD	Kardeh	1.71	155	Pn	Pg	20 56 02.3	+4.1
IPAY	Payeh	2.18	149	Pn	Pn	20 56 01.8	+0.3
MHI	Mashhad	2.50	143	Pn	Pn	20 56 07.4	+1.2
IMOG	Moghan	2.61	148	Pn	Pn	20 56 08.3	+0.5
IMYA	Miamay	2.81	134	Pn	Pn	20 56 10.7	+0.1
IKIA	Kiasar	3.78	237	Pn	Pn	20 56 24.3	-0.1
IGLO	Galoogah	3.85	240	Pn	Pn	20 56 20.7	-4.7
IFIR	Firoozkooh	4.72	237	Pn	Pn	20 56 37.4	-0.4
IPRN	Paran-Amol	4.76	246	Pn	Pn	20 56 35.5	-2.8
IDMV	Damavand	5.24	240	Pn	Pn	20 56 44.4	-0.7
IAFJ	Afjeh	5.32	244	Pn	Pn	20 56 46.2	0.0
IVRN	Varamin	5.78	237	Pn	Pn	20 56 51.5	-1.2
IMHD	Mahdasht	6.15	247	Pn	Pn	20 56 57.4	-0.5
IMHD				Lg		20 58 36.7	
ICHK	Chekchek	6.61	204	Pn	Pn	20 57 00.7	-3.7
IRAZ	Razeghan	6.81	247	Pn	Pn	20 57 05.8	-1.5
IBAF	Bafgh	6.93	195	Pn	Pn	20 57 06.0	-2.9
ISAD	Sadrabad	7.16	208	Pn	Pn	20 57 08.5	-3.7
IMEH	Mehriz	7.35	200	Pn	Pn	20 57 10.1	-4.7
DGRG	David-gareji	9.91	292	P	P	20 57 46.9	-3.4
GNI	Garni	10.15	284	Pn	P	20 57 52.6	-1.0
	1.2nm,0.3s,baz=182,slow=2.7,SNR=7.2						
GNI				Sn	S	20 59 47.7	-1.4
	0.7nm,0.3s,baz=128,slow=19,SNR=2.1						
KK31	Karatay Array	10.89	60	⇑P	P	20 58 01.9	-1.8
	5.8nm,0.6s,baz=243,slow=16,SNR=108						
KK31				⇑S	S	21 00 04.3	-3.0
	26nm,0.8s,baz=238,slow=26,SNR=5.2						
KKAR	Karatay Array	10.89	60	P	P	20 58 01.9	-1.9
KKAR				S	S	21 00 04.3	-3.0
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
AB31	Akbulak array	11.05	8	P	P	20 58 05.4	-0.6
	comp=Z,8.8nm,0.6s,baz=191,slow=13,SNR=74						
AB31				⇓S	S	21 00 05.6	-5.6
	comp=Z,18nm,0.7s,baz=330,slow=4.1,SNR=11						
AB31	Akbulak array	11.05	8	i P	P	20 58 05.3	-0.6
AB31				S	S	21 00 05.6	-5.6
AB31				pmax	pmax		
	comp=Z,5.0nm,0.6s						
ZEI	Tsey	11.33	297	eP	P	20 58 11.4	+1.6
AKTO	Aktyubinsk	12.11	1	P	P	20 58 20.3	0.0
AKTO				S	S	21 00 32.7	-4.2
KIV	Kislovodsk	12.57	301	P	P	20 58 28.5	+2.0
	comp=Z,7.5nm,0.4s						
KIV	Kislovodsk	12.57	301	d iP	P	20 58 28.0	+1.5
KIV				pmax	pmax		
	comp=Z,8.0nm,0.7s						
GOF	Gofitskoye	12.79	306	eP	P	20 58 33.6	+4.2
AAK	Ala-Archa	13.55	66	⇓P	P	20 58 38.7	-0.8
	comp=Z,12nm,0.8s						
AAK				⇓S	S	21 01 09.1	-2.7
	comp=Z,18nm,1.1s						
AAK	Ala-Archa	13.55	66	eP	P	20 58 37.7	-1.8
	comp=Z,15nm,0.8s						
AAK	Ala-Archa	13.55	66	eP	P	20 58 37.7	-1.8
AAK				pmax	pmax		
	comp=Z,15nm,0.8s						
FRU	Bishkek	13.69	65	eP	P	20 58 40.0	-1.2
KSH	Kashi	14.35	80	eP	P	20 58 47.1	-2.9
KSH				eAP		20 58 54.4	
KSH				eXP		20 58 59.3	
KSH				ePPP	PPP	20 59 06.1	-2.3
KSH				eS	S	21 01 31.0	+0.3
KSH				eXS		21 01 44.3	
KSH				eSS	SS	21 01 50.3	+3.2
KSH				AMB	AMB		
	comp=Z,90nm,5.8s						
KSH				LR	LR		
	comp=N,680nm,10.8s						
KSH				LR	LR		
	comp=E,370nm,8.6s						
SOC	Sochi	14.50	297	eP	PPP	20 59 06.2	-4.2
SOC				e	S	21 01 40.7	+6.5
VOSK	Vostochnaya	17.13	29	⇑P	P	20 59 25.3	-0.4
	comp=E,11nm,1.6s						
VOSK				⇓S	S	21 02 29.6	-6.0
	comp=E,10nm,0.8s						
BRVK	Borovoye	17.14	27	eP	P	20 59 25.3	-0.6
	comp=E,11nm,0.8s						
BRVK				eS	S	21 02 28.6	-7.3
BRVK	Borovoye	17.14	27	eP	P	20 59 25.3	-0.6
BRVK				eS	S	21 02 28.6	-7.3
BRVK				pmax	pmax		
	comp=Z,11nm,0.8s						
BVA0	Borovoye Array	17.16	27	⇑P	P	20 59 26.3	+0.3
	comp=Z,3.5nm,0.7s,baz=211,slow=38,SNR=108						
BVA0				⇑S	S	21 02 31.7	-4.5
	comp=Z,2.1nm,0.9s,baz=203,slow=20,SNR=14						
BVA0	Borovoye Array	17.16	27	eP	P	20 59 26.3	+0.2
BVA0				i S	S	21 02 27.5	-8.7
BVA0				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BVAR	Borovoye Array	17.16	27	Pn	P	20 59 25.7	-0.3
	comp=Z,0.4nm,0.3s,baz=207,slow=20,SNR=16						
BVAR				Sn	S	21 02 28.2	-8.0
	comp=Z,0.3nm,0.3s,baz=228,slow=19,SNR=3.1						
ARU	Arti	18.12	2	eP	P	20 59 38.3	+0.2
	comp=Z,14nm,0.6s						
ARU	Arti	18.12	2	⇑iP	P	20 59 39.3	+1.2
ARU				pmax	pmax		
	comp=Z,13nm,0.8s						
SVE	Sverdlovsk	18.62	5	eP	P	20 59 47.7	+3.4
SVE				eS	S	21 03 12.0	+2.6
SVE				MLR	MLR		
	comp=N,100nm,10.0s						
SVE				MLR	MLR		
	comp=E,200nm,10.0s						
SVE				MLR	MLR		
	comp=Z,200nm,10.0s						
BRTR	Keskin Array B	18.67	282	P	P	20 59 45.9	+0.9
	comp=Z,0.2nm,0.3s,baz=104,slow=10,SNR=7.1						
KURK	Kurchatov	19.36	43	⇑P	P	20 59 53.9	+0.8
	comp=Z,4.2nm,1.1s						
KURK				⇓S	S	21 03 26.1	0.0
	comp=Z,11nm,0.9s						
KURK	Kurchatov	19.36	43	eP	P	20 59 54.0	+0.9
	comp=Z,5.7nm,0.9s						
KURK	Kurchatov	19.36	43	eP	P	20 59 54.0	+0.9
KURK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MK31	Makanchi Array	19.99	57	⇑P	P	21 00 01.6	+1.3
	comp=Z,3.4nm,0.7s,baz=247,slow=9.7,SNR=31						
MK31				⇑S	S	21 03 40.8	+0.8
	comp=Z,3.6nm,0.7s						
MKAR	Makanchi Array	19.99	57	P	P	21 00 01.5	+1.2
	comp=Z,4.1nm,0.7s,baz=245,slow=11,SNR=35						
MKAR	Makanchi Array	19.99	57	P	P	21 00 01.5	+1.2
OBN	Obninsk	21.99	327	eP	P	21 00 22.0	+1.2
	comp=Z,21nm,0.8s,mb4.6						
OBN	Obninsk	21.99	327	P	P	21 00 19.6	-1.1
OBN				e		21 00 22.5	
OBN				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.5						
OBN				MLR	MLR		
	comp=Z,100nm,18.0s,MS3.3						
AKASG	Malin Array Be	23.56	311	P	P	21 00 39.9	+3.8
	comp=Z,3.4nm,0.8s,mb3.9,baz=112,slow=8.2,SNR=10						
NVS	Novosibirsk	23.94	38	eP	P	21 00 44.9	+5.2
KOLN	Koldanda	24.12	108	eP	P	21 00 41.9	+0.1
	comp=Z,30nm,1.2s,mb4.6						
ZAL	Zalesovo	24.26	41	P	P	21 00 46.5	+3.7
	comp=Z,1.7nm,0.4s,mb3.8,baz=205,slow=3.4,SNR=8.7						
MLR	Muntele Rosu	24.51	297	P	P	21 00 46.7	+1.2
	comp=Z,5.9nm,0.9s,mb4.1,baz=156,slow=2.9,SNR=8.1						
MLR				LR	LR	21 12 47.8	
	comp=Z,62nm,18.3s,MS3.1,baz=49,slow=42						
GKN	Gorkha	24.78	107	eP	P	21 00 49.3	+1.1
	comp=Z,24nm,0.8s,mb4.8						
DMN	Daman	25.34	107	eP	P	21 00 55.8	+2.3
	comp=Z,37nm,1.0s,mb4.9						
KKN	Kakani	25.38	106	eP	P	21 00 56.6	+2.7
	comp=Z,19nm,0.8s,mb4.7						
KKN	Kakani	25.38	106	eP	P	21 00 56.6	+2.7
KKN				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.4						
PKI	Pulchoki	25.59	107	eP	P	21 00 58.0	+2.1
	comp=Z,43nm,0.9s,mb5.0						
PKI	Pulchoki	25.59	107	eP	P	21 00 58.0	+2.1
PKI				pmax	pmax		
	comp=Z,22nm,0.9s,mb4.7						
IDI	Anoyia	26.30	274	P	P	21 01 02.2	-0.2
	comp=Z,3.5nm,0.5s,mb4.2,baz=47,slow=19,SNR=3.4						
ATD	Arta Tunnel	29.77	210	LR	LR	21 13 16.8	
	comp=Z,60nm,18.3s,MS3.3,baz=54,slow=36						
GERES	GERESS Array B	33.07	303	P	P	21 02 04.8	+2.1
	comp=Z,0.3nm,0.6s,mb3.4,baz=100,slow=8.1,SNR=4.4						
ARCES	ARCESS Array B	35.66	341	LR	LR	21 19 04.8	
	comp=Z,122nm,19.4s,MS3.7,baz=118,slow=40						
SONM	Songino Array	36.34	59	P	P	21 02 33.2	+2.4
	comp=Z,0.7nm,0.9s,mb3.6,baz=278,slow=10,SNR=3.3						
SONM				LR	LR	21 18 56.1	
	comp=Z,60nm,19.3s,MS3.4,baz=242,slow=39						
NB2	NORSAR Subarra	36.53	324	P	P	21 02 34.5	+2.3
	comp=Z,0.6nm,0.6s,mb3.6,baz=108,slow=8.6						
NB2	NORSAR Subarra	36.53	324	P	P	21 02 34.5	+2.3
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.8						
NOA	NORSAR Array B	36.53	324	P	P	21 02 32.8	+0.5
	comp=Z,0.8nm,0.7s,mb3.6,baz=109,slow=8.3,SNR=4.8						
NOA				LR	LR	21 19 25.0	
	comp=Z,56nm,18.7s,MS3.4,baz=90,slow=39						
LPG	La Plagne	37.98	298	eP	P	21 02 44.7	+0.1
LPL	La Plagne	37.99	298	eP	P	21 02 45.4	+0.7
MBDF	Montbardon	38.08	296	eP	P	21 02 42.0	-3.4
	comp=Z,4.7nm,0.6s,mb4.1						
MBDF	Montbardon	38.08	296	eP	P	21 02 42.0	-3.4
MBDF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
CABF	La Chapelle	38.30	299	eP	P	21 02 45.7	-1.6
SMF	Signal de Mont	39.83	300	eP	P	21 03 01.6	+1.6
INK	Inuvik	73.36	4	LR	LR	21 43 41.9	
	comp=Z,34nm,19.0s,MS3.6,baz=193,slow=39						
ILAR	Eielson Array	75.45	11	P	P	21 07 14.2	+3.9
	comp=Z,1.1nm,1.1s,mb3.7,baz=315,slow=5.1,SNR=4.5						
ILAR	Eielson Array	75.45	11	P	P	21 07 14.3	+4.0
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.1s						
YKA	Yellowknife Ar	79.33	356	LR	LR	21 46 29.5	
	comp=Z,34nm,18.2s,MS3.7,baz=260,slow=39						
SADO	Sadowa	88.54	331	LR	LR	21 50 35.1	
	comp=Z,40nm,21.6s,MS3.8,baz=206,slow=37						

NNC 17 21:46:04.1±12.0, 37.98N×71.37E, h252km±131km, mpv3.2, 3C-1D, Error ellipse: s-maj=123.1km s-min=77.0km az=14.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	5.16	353	⇑P	P	21 47 21.0	-1.4
	0.8nm,0.2s,baz=179,slow=12,SNR=105						
KK31				⇑S	S	21 48 24.9	+1.3
	1.0nm,0.3s,baz=189,slow=25,SNR=4.8						
AAK	Ala-Archa	5.22	26	⇓S	S	21 48 25.8	+0.7
	2.8nm,0.8s						
AB31	Akbulak array	13.96	327	P	P	21 49 14.3	+1.6
	0.1nm,0.3s,baz=144,slow=12,SNR=8.9						
AB31				⇑S	S	21 51 43.5	+1.5
	0.4nm,0.5s						

BJI 17 21:58:51.4, 24.57N×104.29E, h22km, mb4.0, ML3.5
PLV 17 21:58:53.1±1.1, 24.12N×104.53E, MD3.9
ISC 17 21:58:47.3±0.6, 24.26N±0.03×104.57E±0.04, h10km, n11, σ1§36/34, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	Kunming	1.87	298	P	Pn	21 59 20.5	+0.8
KMI				PG	Pg	21 59 22.6	-2.1
KMI				SG	Sg	21 59 41.9	-7.8
KMI				Smax			
	comp=N,164nm,0.9s						
KMI				Smax			
	comp=E,117nm,1.0s						
KMI				LR	LR		
	comp=N,612nm,3.8s						
KMI				LR	LR		
	comp=E,592nm,3.8s						
TGV	Tuan Giao	2.86	202	ePN	Pn	21 59 38.2	+4.4
TGV				ePG	Pg	21 59 45.3	+0.9
TGV				eSG	Sg	22 00 21.1	-1.3
GYA	Guiyang	2.90	40	P	Pn	21 59 34.4	0.0
GYA				PG	Pg	21 59 41.3	-3.9
GYA				S	Sn	22 00 08.0	-1.7
GYA				SG	Sg	22 00 16.9	-7.0
GYA				Smax			
	comp=N,230nm,0.6s						
GYA				Smax			
	comp=E,280nm,0.8s						
MTZV	Met	3.15	148	ePn	Pn	21 59 42.7	+4.7
MTZV				ePg	Pg	21 59 51.5	+1.3
MTZV				eSG	Sg	22 00 31.9	-0.4
DBV	Dienbien	3.19	207	ePN	Pn	21 59 41.9	+3.4
DBV				ePG	Pg	21 59 51.2	+0.3
DBV				eSG	Sg	22 00 32.0	-1.4
BVV	Ba Vi	3.23	167	ePn	Pn	21 59 44.4	+5.4
BVV				ePG	Pg	21 59 53.3	+1.6
BVV				eSg	Sg	22 00 34.6	-0.1
HNV	Hanoi	3.39	160	ePN	Pn	21 59 46.4	+5.1
HNV				ePg	Pg	21 59 57.2	+2.2
HNV				eSg	Sg	22 00 40.6	+0.4
TLV	Tu Ly	3.42	169	ePN	Pn	21 59 45.8	+4.0
TLV				ePG	Pg	21 59 56.2	+0.6
TLV				eSG	Sg	22 00 39.4	-1.8
YTV	Yen Tu	3.67	147	ePn	Pn	21 59 50.9	+5.6
YTV				ePg	Pg	22 00 02.0	+1.4
YTV				eSg	Sg	22 00 48.7	-0.7
DSV	Doi Son	3.88	160	ePn	Pn	21 59 52.6	+4.3
DSV				ePg	Pg	22 00 05.1	+0.4
DSV				eSg	Sg	22 00 53.5	-2.9
PLV	Phu-Lien	3.93	151	ePn	Pn	21 59 53.2	+4.2
PLV				ePG	Pg	22 00 06.1	+0.4
PLV				eSg	Sg	22 00 56.9	-1.2

IDC 17 22:03:41.3±0.8, 30.78S×71.74W, mb4.3/4, mb1 4.2/9, mb1mx4.1/17, mbtmp4.0/9, ML4.1/4, MS3.5/3, Ms1 3.5/3, ms1mx3.1/18, Error ellipse: s-maj=19.2km s-min=16.8km az=31.0
GUC 17 22:03:45.5±0.6, 30.75S×71.79W, h26km±2km, ML4.5
NEIC 17 22:03:45.5, 30.75S×71.79W, h26km, ML4.5(GUC), After GUC.
NEIC Felt [II] at Iquique.
ISC 17 22:03:44.2±1.3, 30.72S±0.03×71.88W±0.08, h24km±8km, n28, σ1§18/36, mb4.1/4, MS3.6/2, 4C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	Ovalle	0.60	79	⇓iP	Pb	22 03 56.1	+0.2
OVCH				i S	Sb	22 04 03.6	-0.3
OVCH				AMP		22 04 04.8	
	comp=N,22μm,0.6s						
CMCH	Combarbala	0.88	121	⇑iP	Pb	22 04 00.4	-0.3
CMCH				i S	Sb	22 04 11.7	-0.4
CMCH				AMP		22 04 13.0	
	comp=N,58μm,0.5s						
TLL	Tololo Astrono	1.08	60	⇓iP	Pb	22 04 04.4	+0.3
TLL				i S	Sb	22 04 18.4	+0.7
TLL				AMP		22 04 22.2	
	comp=N,31μm,0.6s						
ILCH	Illapel	1.10	146	⇓iP	Pb	22 04 03.9	-0.4
ILCH				i S	Sb	22 04 18.2	0.0
ILCH				AMP		22 04 19.4	
	comp=E,12μm,0.3s						
CHNG	Los Chungos	1.20	164	⇑iP	Pn	22 04 05.6	-0.2
CHNG				i S	Sb	22 04 20.9	-0.5
IHA	Instituto Hidr	2.31	175	⇑iP	Pn	22 04 22.5	+1.0
IHA				i S	Sn	22 04 50.9	+1.4
VACH	Vallenar	2.35	25	⇑iP	Pn	22 04 22.5	+0.4
VACH				i S	Sn	22 04 51.4	+0.9
VACH				AMP		22 05 03.2	
	comp=E,8μm,0.3s						
DSCH	Colegio Aleman	2.89	158	i P	Pn	22 04 30.7	+0.9
DSCH				i S	Sn	22 05 04.9	+0.6
DSCH				AMP		22 05 20.9	
	comp=E,4μm,0.6s						
RCDM	Rinconada Maip	2.91	162	eP	Pn	22 04 31.2	+1.1
RCDM				i S	Sn	22 05 05.2	+0.5
RCDM				AMP		22 05 16.3	
	comp=E,2μm,0.5s						
CFAA	Coronel Fontan	3.24	107	Pg	Pn	22 04 37.3	+2.4
	comp=E,8.7nm,0.3s,baz=294,slow=12,SNR=482						
CFAA				Lg		22 05 20.7	
	comp=E,22nm,0.3s,baz=119,slow=15,SNR=14						
CFAA	Coronel Fontan	3.24	107	Pg	Pn	22 04 37.3	+2.4
CFAA				Lg		22 05 20.7	
MDZ	Mendoza	3.36	131	eP	Pn	22 04 40.1	+3.6
MDZ				i		22 04 43.9	
MDZ				i S	Sn	22 05 05.9	-10
LVC	Limon Verde	8.50	19	Pn	P	22 05 45.3	-3.6
	comp=E,0.6nm,0.3s,baz=194,slow=17,SNR=1.8						
LVC				Sn	Sn	22 07 27.0	+1.9
	baz=299,slow=19,SNR=2.4						
PLCA	Paso Flores	10.05	174	Pn	P	22 06 07.8	-2.4
	comp=E,0.4nm,0.3s,baz=342,slow=10,SNR=9.8						
PLCA	Paso Flores	10.05	174	Pn	P	22 06 07.8	-2.4
TRQA	Tornquist	10.97	134	eP	P	22 06 20.9	-2.0
	comp=E,9.8nm,0.6s						
CPUP	Villa Florida	13.52	75	Pn	P	22 06 53.2	-3.9
	comp=E,0.1nm,0.3s,baz=257,slow

comp=E,2.7nm,0.6s,baz=145,slow=2.1,SNR=11
MKAR Makanchi Array 154.41 44 PKPbc PKPdf 22 23 43.2 +5.0
comp=E,0.6nm,1.0s,baz=252,slow=4.6,SNR=3.0
MKAR PKPab PKPab 22 23 57.9 -0.9
comp=E,0.9nm,0.9s,baz=288,slow=3.8,SNR=5.3

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*IDC **17** 22:04:26.6±25.0, 27.11N×51.64E, mb3.8/4, mb1 3.7/5, mb1mx3.4/18, mbtmp3.7/5, ML3.1/1, Error ellipse: s-maj=476.7km s-min=96.5km az=176.0*
*THR **17** 22:04:37.8±1.0, 29.01N×52.15E, h14km±11km, ML3.2*
*CSEM **17** 22:04:37.0±0.3, 28.47N×51.78E, h20km, ML3.2, Error ellipse: s-maj=6.3km s-min=2.3km az=41.0*
*TEH **17** 22:04:42.9, 28.74N×51.97E, h12km, Mn3.2*
ISC 17 22:04:35.8±1.3, 28.5N±0.1×51.78E±0.07, h10km, n22, σ1§18/23, mb3.7/4, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMOK	**Mook**	**1.00**	**55**	Pg	**Pg**	**22 04 55.9**	**0.0**
GHIR	**Ghir-Karzin**	**1.08**	**100**	*e*PG	**Pg**	**22 04 56.9**	**-0.6**
GHIR				AML	AML	22 05 20.0	
	comp=N,786nm,0.4s						
SHI	**Shiraz**	**1.33**	**29**	Pg	**Pg**	**22 05 01.5**	**-0.9**
ISRV	**Sarvestan**	**1.48**	**52**	Pg	**Pg**	**22 05 02.8**	**-2.6**
ISAD	**Sadrabad**	**3.80**	**25**	Pn	**Pn**	**22 05 37.7**	**+1.9**
IMEH	**Mehriz**	**3.81**	**40**	Pn	**Pn**	**22 05 38.0**	**+2.2**
ICHK	**Chekchek**	**4.39**	**31**	Pn	**Pn**	**22 05 44.8**	**+0.7**
NASN	**Na'in**	**4.40**	**11**	*e*PN	**Pn**	**22 05 37.9**	**-6.4**
NASN				*e*SG	Sg	22 06 36.6	-26
IBAF	**Bafgh**	**4.52**	**46**	Pn	**Pn**	**22 05 46.6**	**+0.6**
KRBR	**Kerman**	**4.61**	**70**	*e*PN	**Pn**	**22 05 43.4**	**-3.9**
KRBR	**Kerman**	**4.61**	**70**	*e*Pn	**Pn**	**22 05 43.3**	**-3.9**
	SNR=52						
ASAO	**Ashtian**	**6.24**	**347**	*e*Pn	**Pn**	**22 06 06.4**	**-3.8**
ASAO				AML	AML	22 07 36.4	
	comp=N,6.7nm,0.5s						
IVRN	**Varamin**	**6.50**	**360**	Pn	**Pn**	**22 06 13.8**	**-0.1**
IDMV	**Damavand**	**7.08**	**2**	Pn	**Pn**	**22 06 21.6**	**-0.5**
IRAZ	**Razeghan**	**7.08**	**348**	Pn	**Pn**	**22 06 22.6**	**+0.5**
IRAZ				Sn	**Sn**	**22 07 36.3**	**-7.2**
IFIR	**Firoozkooh**	**7.19**	**6**	Pn	**Pn**	**22 06 23.4**	**-0.3**
SNGE	**Sanandaj**	**7.60**	**331**	*e*Pn	**Pn**	**22 06 26.8**	**-2.5**
BRTR	**Keskin Array B**	**18.71**	**312**	P	**P**	**22 08 56.7**	**+0.2**
	comp=N,0.1nm,0.3s,baz=126,slow=12,SNR=2.6						
FINES	**FINESS Array B**	**37.14**	**340**	P	**P**	**22 11 48.7**	**+0.4**
	comp=N,2.3nm,1.0s,mb4.0,baz=158,slow=7.5,SNR=3.6						
HFS	**Hagfors**	**40.76**	**332**	P	**P**	**22 12 18.1**	**-0.3**
	comp=N,1.2nm,0.5s,mb3.8,baz=135,slow=8.4,SNR=12						
NOA	**NORSAR Array B**	**42.28**	**332**	P	**P**	**22 12 30.3**	**-0.5**
	comp=N,0.6nm,0.7s,mb3.4,baz=122,slow=8.4,SNR=3.3						
ARCES	**ARCESS Array B**	**43.81**	**347**	P	**P**	**22 12 44.9**	**+1.7**
	comp=N,1.3nm,0.8s,mb3.7,baz=146,slow=9.8,SNR=3.6						

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*NEIC **17** 22:06:04.7±1.2, 31.63S×69.11W, h105km±12km, Error ellipse: s-maj=24.5km s-min=12.9km az=96.0*
*IDC **17** 22:06:05.9±1.1, 31.78S×68.83W, h115km±11km, mb3.7/1, mb1 3.8/4, mb1mx3.5/13, mbtmp3.9/4, Error ellipse: s-maj=46.5km s-min=26.8km az=111.0*
ISC 17 22:06:05.9±0.9, 31.77S±0.10×68.8W±0.2, h133km±6km, n13, σ1§08/12, mb3.8/1, 1D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZON	**Zonda**	**0.24**	**19**	*i*P	**P**	**22 06 25.2**	**+0.9**
ZON				*e*S	**S**	**22 06 39.8**	**+1.4**
CFAA	**Coronel Fontan**	**0.48**	**70**	P	**P**	**22 06 24.6**	**-0.8**
	99nm,0.3s,baz=274,slow=5.9,SNR=61						
CFAA				S	**S**	**22 06 38.4**	**-1.8**
	72nm,0.3s,baz=160,slow=21,SNR=24						
TRQA	**Tornquist**	**8.39**	**140**	*e*P	**P**	**22 08 07.3**	**+1.6**
	37nm,0.8s						
PLCA	**Paso Flores**	**9.06**	**189**	P	**P**	**22 08 13.4**	**-1.1**
	0.4nm,0.3s,baz=346,slow=14,SNR=3.4						
PLCA	**Paso Flores**	**9.06**	**189**	P	**P**	**22 08 13.2**	**-1.3**
PLCA				P		22 08 13.4	
LVC	**Limon Verde**	**9.12**	**359**	P	**P**	**22 08 10.1**	**-5.4**
	8.4nm,0.3s,baz=308,slow=15,SNR=4.5						
CPUP	**Villa Florida**	**11.38**	**64**	P	**P**	**22 08 45.4**	**0.0**
	0.2nm,0.3s,baz=236,slow=18,SNR=1.7						
CPUP	**Villa Florida**	**11.38**	**64**	P	**P**	**22 08 45.4**	**0.0**
SIV	**San Ignacio**	**17.20**	**26**	P	**P**	**22 09 59.5**	**0.0**
	0.4nm,0.3s,baz=264,slow=12,SNR=3.2						
TXAR	**Lajitas Array**	**69.23**	**328**	P	**P**	**22 17 00.2**	**-0.2**
	1.0nm,0.6s,mb3.8,baz=155,slow=8.1,SNR=6.9						
WRA	**Warramunga Arr**	**124.01**	**206**	PKP	PKPdf	22 24 50.7	+1.8
	0.2nm,0.3s,baz=153,slow=2.0,SNR=13						
ZAL	**Zalesovo**	**150.87**	**33**	PKPbc	PKPdf	22 25 44.5	+8.4
	2.3nm,0.5s,baz=184,slow=4.6,SNR=5.8						
ZAL	**Zalesovo**	**150.87**	**33**	PKPbc	PKPdf	22 25 44.5	+8.4

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*IDC **17** 22:23:40.8±1.3, 12.67N×123.56E, mb3.8/6, mb1 3.9/6, mb1mx3.7/17, mbtmp3.8/6, MS3.1/2, Ms1 3.1/2, ms1mx2.9/17, Error ellipse: s-maj=145.8km s-min=19.8km az=66.0*
*MAN **17** 22:23:41.9, 12.77N×123.38E, h1km, mb4.4, ML3.3, MS3.1*
ISC 17 22:23:41.7±0.5, 12.84N±0.05×123.40E±0.04, h1km, n22, σ1§09/26, mb3.9/6, MS2.9/1, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUQP	**San Andres**	**0.86**	**304**	*e*P	**Pg**	**22 23 59.2**	**+0.3**
AUQP				*e*S	**Sg**	**22 24 17.1**	**+6.8**
CNP	**Catarman**	**1.27**	**105**	*e*P	**Pb**	**22 24 06.0**	**-0.1**
CNP				*e*S	**Sb**	**22 24 25.1**	**+2.3**
GQP	**Guinayangan**	**1.41**	**319**	⇑*e*P	**Pb**	**22 24 08.3**	**-0.2**
GQP				*e*S	**Sb**	**22 24 27.5**	**+0.6**
OTRP	**Odiongan**	**1.43**	**251**	*e*P	**Pn**	**22 24 07.9**	**-0.9**
OTRP				*e*S	**Sb**	**22 24 27.7**	**+0.3**
BOAC	**Boac**	**1.64**	**292**	*e*P	**Pn**	**22 24 11.2**	**-0.6**
BOAC				*e*S	**Sb**	**22 24 35.6**	**+2.1**
SJMP	**San Jose**	**2.26**	**261**	*e*P	**Pn**	**22 24 21.2**	**+0.5**
GUIM	**Jordan**	**2.34**	**200**	*e*P	**Pn**	**22 24 23.3**	**+1.5**
POLP	**Polilio Island**	**2.36**	**323**	*e*P	**Pn**	**22 24 23.0**	**+0.9**
LLP	**Lapu-Lapu**	**2.56**	**168**	⇓*e*P	**Pn**	**22 24 24.1**	**-0.9**
LLP				*e*S	**Sn**	**22 24 52.2**	**-5.1**
TGY	**Tagaytay City**	**2.71**	**298**	*e*P	**Sn**	**22 24 53.8**	**-7.2**
MSLP	**Maasin**	**3.04**	**152**	*e*P	**Pn**	**22 24 32.5**	**+0.7**
CUYO	**Cuyo Island**	**3.06**	**230**	*e*P	**Pn**	**22 24 31.4**	**-0.7**
BUSP	**Coron**	**3.24**	**256**	*e*P	**Pn**	**22 24 34.0**	**-0.6**
SNPH	**Sibulan**	**3.48**	**183**	*i*P	**Pn**	**22 24 43.0**	**+5.0**
JOW	**Kunigami**	**14.65**	**17**	LR	LR	22 32 25.1	
	comp=Z,69nm,18.4s,baz=114,slow=36						
JHJ	**Hachijo jima 2**	**25.13**	**34**	LR	LR	22 37 58.9	
	comp=Z,38nm,19.9s,MS2.9,baz=163,slow=34						
WRA	**Warramunga Arr**	**34.30**	**162**	P	**P**	**22 30 27.7**	**-4.3**
	0.8nm,0.7s,mb3.8,baz=340,slow=9.6,SNR=6.0						
SONM	**Songino Array**	**37.67**	**341**	P	**P**	**22 30 59.1**	**-1.2**
	0.7nm,0.9s,mb3.4,baz=158,slow=7.8,SNR=3.1						
STKA	**Stephens Creek**	**47.75**	**159**	P	**P**	**22 32 17.6**	**-4.9**
	1.2nm,0.7s,mb4.1,baz=325,slow=12,SNR=3.8						
MKAR	**Makanchi Array**	**48.30**	**323**	P	**P**	**22 32 25.2**	**-1.3**
	2.1nm,0.9s,mb4.3,baz=122,slow=8.3,SNR=12						
ZAL	**Zalesovo**	**51.05**	**332**	P	**P**	**22 32 44.7**	**-2.7**
	0.7nm,0.3s,mb4.0,baz=25,slow=7.2,SNR=3.5						
BVAR	**Borovoye Array**	**57.97**	**325**	P	**P**	**22 33 38.4**	**+0.3**
	0.3nm,0.4s,mb3.7,baz=112,slow=7.8,SNR=3.8						

IDC 17 22:25:56.0±3.2, 21.72S×179.85W, mb4.4/2, mb1 4.6/2, mb1mx4.1/10, mbtmp4.4/2, Error ellipse: s-maj=162.5km s-min=49.1km az=150.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.71**	**245**	P	P	22 32 55.4	-2.9
	2.8nm,0.5s,baz=89,slow=11,SNR=12						
WRA	**Warramunga Arr**	**42.74**	**264**	P	P	22 33 56.0	-0.9
	1.6nm,0.3s,baz=95,slow=8.3,SNR=264						
ARCES	**ARCESS Array B**	**129.79**	**349**	PKP	PKPdf	22 45 06.9	-1.9
	2.4nm,1.0s,slow=1.2,SNR=3.8						
AKASG	**Malin Array Be**	**143.20**	**329**	PKP	PKPdf	22 45 29.3	-4.3
	0.5nm,0.5s,baz=40,slow=4.1,SNR=7.3						

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*IDC **17** 23:20:57.4±2.0, 20.91S×177.91W, h472km±27km, mb3.6/5, mb1 3.8/9, mb1mx3.6/15, mbtmp4.6/9, Error ellipse: s-maj=26.8km s-min=17.5km az=155.0*
*NEIC **17** 23:20:57.0±1.0, 20.89S×177.95W, h465km±16km, mb4.5/3, Error ellipse: s-maj=19.6km s-min=12.3km az=142.0*
ISC 17 23:20:54.6±0.9, 20.87S±0.09×177.9W±0.1, h444km±16km, n16, σ1§25/18, mb4.2/8, 1C-3D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**8.35**	**180**	P	**P**	**23 22 56.1**	**+1.1**
	26nm,0.3s,baz=271,slow=23,SNR=6.3						
RAO				S	**S**	**23 24 28.9**	**-1.4**
	7.1nm,0.3s,baz=114,slow=19,SNR=2.2						
AFI	**Afiamalu**	**9.08**	**41**	P	**P**	**23 23 04.1**	**+1.0**
	2.6nm,0.3s,baz=316,slow=22,SNR=3.6						
AFI				S	**S**	**23 24 43.8**	**-1.2**
	5.7nm,0.3s,baz=27,slow=19,SNR=5.5						
DZM	**Mont Dzumac**	**14.59**	**262**	P	**P**	**23 24 04.5**	**+1.5**
	0.8nm,0.3s,baz=80,slow=18,SNR=7.0						
URZ	**Urewera**	**17.86**	**193**	P	**P**	**23 24 37.5**	**+1.6**
	1.7nm,0.3s,baz=293,slow=3.3,SNR=10						
URZ				S	**S**	**23 27 29.0**	**-5.8**
	0.4nm,0.3s,baz=38,slow=18,SNR=2.6						
CNB	**Canberra Magne**	**32.07**	**236**	⇓*i*P	**P**	**23 26 44.7**	**+0.2**
	11nm,0.6s,mb4.4						
PMG	**Port Moresby**	**35.48**	**283**	P	**P**	**23 27 14.8**	**+1.4**
	15nm,0.7s,mb4.5,baz=285,slow=20,SNR=3.9						
STKA	**Stephens Creek**	**37.68**	**245**	⇓*i*P	**P**	**23 27 31.4**	**-0.1**
	4.0nm,0.4s,mb4.1						
STKA	**Stephens Creek**	**37.68**	**245**	P	**P**	**23 27 31.4**	**-0.1**
	4.3nm,0.4s,mb4.1,baz=93,slow=9.9,SNR=16						
WB2	**Warramunga Arr**	**44.60**	**262**	⇓*i*P	**P**	**23 28 25.8**	**-1.5**
WRAB	**Tennant Creek**	**44.60**	**262**	*e*P	**P**	**23 28 25.3**	**-2.1**
	11nm,0.4s,mb4.5						
WRA	**Warramunga Arr**	**44.61**	**262**	P	**P**	**23 28 25.9**	**-1.5**
	6.4nm,0.3s,mb4.5,baz=97,slow=7.3,SNR=587						
KAKA	**Kakadu**	**48.04**	**271**	⇑*i*P	**P**	**23 29 04.3**	**+10**
	7.0nm,0.3s,mb4.5						
TXAR	**Lajitas Array**	**87.20**	**57**	P	**P**	**23 32 53.4**	**-0.3**
	0.4nm,0.4s,mb3.5,baz=225,slow=7.1,SNR=4.1						
TXAR	**Lajitas Array**	**87.20**	**57**	P	**P**	**23 32 53.4**	**-0.3**
PDAR	**Pinedale Array**	**89.19**	**43**	P	**P**	**23 33 03.7**	**+1.0**
	0.7nm,0.8s,mb3.5,baz=180,slow=1.5,SNR=3.9						
AKASG	**Malin Array Be**	**143.36**	**331**	PKP	PKPdf	23 39 34.8	-2.0
	1.5nm,0.5s,baz=42,slow=4.1,SNR=12						

IDC 17 23:37:29.9±1.1, 3.39S×145.36E, mb4.0/3, mb1 4.4/4, mb1mx4.1/9, mbtmp4.1/4, ML4.4/1, MS3.6/7, Ms1 3.6/7, ms1mx3.6/10, Error ellipse: s-maj=50.3km s-min=26.2km az=98.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.24**	**163**	LR	LR	23 40 48.2	
	comp=Z,137nm,18.5s,baz=159,slow=32						
HNR	**Honiara**	**15.68**	**113**	LR	LR	23 46 00.9	
	comp=Z,183nm,21.9s,baz=289,slow=33						
WB2	**Warramunga Arr**	**19.64**	**212**	*e*P	P	23 42 00.2	-3.0
WRA	**Warramunga Arr**	**19.65**	**212**	P	P	23 41 59.8	-3.5
	1.2nm,0.3s,baz=32,slow=11,SNR=85						
DZM	**Mont Dzumac**	**27.63**	**134**	LR	LR	23 52 55.9	
	comp=Z,177nm,18.8s,baz=14,slow=34						
STKA	**Stephens Creek**	**28.55**	**187**	P	P	23 43 27.4	-2.2
	1.7nm,0.9s,baz=15,slow=16,SNR=1.8						
STKA				LR	LR	23 56 40.1	
	comp=Z,150nm,19.3s,baz=20,slow=40						
SONM	**Songino Array**	**61.35**	**331**	LR	LR	00 12 06.2	
	comp=Z,86nm,19.8s,baz=88,slow=34						
MKAR	**Makanchi Array**	**74.46**	**321**	P	P	23 49 11.3	-0.6
	1.1nm,1.0s,baz=117,slow=6.4,SNR=5.7						
ZAL	**Zalesovo**	**75.95**	**328**	LR	LR	00 22 37.1	
	comp=Z,81nm,19.0s,baz=339,slow=36						
ILAR	**Eielson Array**	**83.75**	**24**	P	P	23 49 59.5	-2.4
	1.3nm,0.7s,baz=253,slow=4.9,SNR=9.8						
ILAR				LR	LR	00 21 32.8	
	comp=Z,28nm,21.7s,baz=180,slow=32						
SIV	**San Ignacio**	**147.53**	**127**	PKPbc	PKPdf	23 57 17.1	+0.9
	1.3nm,0.8s,baz=272,slow=2.0,SNR=7.4						

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*NNC **17** 23:59:31.0±7.6, 39.21N×75.72E, mpv3.4, Error ellipse: s-maj=248.8km s-min=60.9km az=46.0*
*BJI **17** 23:59:38.7, 38.52N×76.28E, h40km, ML3.4*
ISC 17 23:59:29.3±3.4, 38.4N±0.3×74.6E±0.1, h10km, n8, σ0§79/9, 2C-1D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.50**	**44**	⇓*i*P	**Pn**	**23 59 56.8**	**+0.4**
KSH				Smax			
	comp=N,1μm,0.3s						
KSH				Smax			
	comp=E,530nm,0.3s						
KZA	**Kyzart**	**3.66**	**7**	P	**Pn**	**00 00 26.9**	**-0.4**
	SNR=12						
AML	**Almayashu**	**3.76**	**349**	P	**Pn**	**00 00 29.7**	**+1.1**
	SNR=23						
ULHL	**Ulahol**	**4.00**	**17**	P	**Pn**	**00 00 30.3**	**-1.7**
	SNR=6.1						
KBK	**Karagaybulak**	**4.22**	**3**	P	**Pn**	**00 00 35.6**	**+0.4**
	SNR=7.9						
EKS2	**Erkin-Say**	**4.27**	**351**	P	**Pn**	**00 00 36.7**	**+0.8**
	SNR=6.7						
KK31	**Karatay Array**	**5.61**	**327**	⇑P	**Pn**	**00 00 55.0**	**+0.2**
	comp=E,1.3nm,0.2s,baz=130,slow=12,SNR=114						
KK31				⇑S	**Sn**	**00 01 59.9**	**-0.2**
	comp=E,17nm,0.7s,baz=134,slow=23,SNR=16						
AB31	**Akbulak array**	**15.11**	**320**	P	**P**	**00 03 03.7**	**-0.7**
	comp=E,0.8nm,1.0s,baz=127,slow=13,SNR=3.8						

MEX 18 00:52:07.7±1.0, 14.70N×93.04W, h20km±118km, MD4.3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**1.80**	**29**	*i*P	Pn	00 52 34.6	-3.5
CCIG				*i*S	Sn	00 52 56.1	-4.5
SCX	**San Cristobal**	**2.06**	**11**	*e*P	Pn	00 52 40.0	-1.9
SCX				*i*S	Sn	00 53 03.0	-4.3
CMIG	**Matias Romero**	**2.97**	**324**	*i*P	Pn	00 52 50.7	-4.1
CMIG				*i*S	Sn	00 53 25.4	-4.8
OXX	**Oaxaca**	**4.26**	**304**	*e*P	Pn	00 53 11.0	-2.2

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*MDD **18** 01:02:52.3±1.0, 35.24N×16.39W, mb4.7/34, Error ellipse: s-maj=15.4km s-min=5.5km az=118.0, PRXIMO*
*SFS **18** 01:02:52.0, 35.39N×16.70W*
*IDC **18** 01:02:53.3±1.8, 35.20N×16.21W, mb3.6/9, mb1 3.8/10, mb1mx3.7/25, mbtmp3.7/10, ML5.3/1, MS3.1/4, Ms1 3.1/4, ms1mx2.8/28, Error ellipse: s-maj=50.3km s-min=25.9km az=163.0*
*NEIC **18** 01:02:53.5±0.6, 35.24N×16.28W, h10km, mb4.3/5, Error ellipse: s-maj=10.0km s-min=5.3km az=115.0*
*LDG **18** 01:02:54.2±0.3, 35.31N×16.50W, h10km, Ml3.8/4, Error ellipse: s-maj=10.9km s-min=4.1km az=115.0*
*CSEM **18** 01:02:57.6, 34.90N×16.11W, h133km, ML4.8*
*IGIL **18** 01:02:57.0±1.1, 35.30N×16.20W, h10km, ML4.4*
*INMG **18** 01:03:00.2±0.9, 35.24N×16.25W, h10km, ML3.8, Error ellipse: s-maj=10.4km s-min=2.9km az=115.0*
*CNRM **18** 01:03:06.8, 35.51N×15.00W, h30km, MD4.4*
ISC 18 01:02:54.7±0.4, 35.05N±0.03×15.64W±0.04, h10km, n204, σ1§65/353, mb3.8/13, MS3.0/4, 2D, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**6.11**	**64**	*e*P	**Pn**	**01 04 29.6**	**+2.3**
PTEO				*e*S	**Sn**	**01 05 36.4**	**-1.7**
	58nm,0.6s						
PTEO	**Sao Teotonio**	**6.11**	**64**	P	**Pn**	**01 04 29.5**	**+2.2**
PTEO				S	**Sn**	**01 05 36.3**	**-1.8**
EFAM	**Famara**	**6.17**	**163**	P	**Pn**	**01 04 30.0**	**+1.8**
	17nm,0.2s,SNR=18						
EFAM				S	**Sn**	**01 05 39.1**	**-0.5**
	20nm,0.2s,SNR=7.9						
EFAM	**Famara**	**6.17**	**163**	P	**Pn**	**01 04 30.0**	**+1.9**
	17nm,0.2s,SNR=18						
EFAM				S	**Sn**	**01 05 39.1**	**-0.4**
	20nm,0.2s,SNR=7.9						
EFAM	**Famara**	**6.17**	**163**	P	**Pn**	**01 04 30.0**	**+1.8**
EFAM				S	**Sn**	**01 05 41.2**	**+1.6**
LIS	**Lisbon**	**6.36**	**53**	*e*P	**Pn**	**01 04 31.4**	**+0.7**
LIS				*e*S	**Sn**	**01 05 40.4**	**-3.8**
LIS				*e*S	**Sn**	**01 05 40.5**	**-3.6**
LIS				AML	AML	01 05 43.9	
	comp=N,322nm,0.5s						
INMG	**Instituto de M**	**6.40**	**53**	*e*P	**Pn**	**01 04 32.5**	**+1.1**
INMG				*e*S	**Sn**	**01 05 41.4**	**-4.0**
PLOU	**Loures**	**6.45**	**52**	*e*P	**Pn**	**01 04 33.0**	**+1.0**
PLOU				*e*S	**Sn**	**01 05 42.3**	**-4.2**
	comp=N,70nm,0.2s						
PLOU	**Loures**	**6.45**	**52**	P	**Pn**	**01 04 33.0**	**+1.0**
PLOU				S	**Sn**	**01 05 42.3**	**-4.2**
	comp=N,35nm,0.2s						
PLOU	**Loures**	**6.45**	**52**	P	**Pn**	**01 04 33.0**	**+1.0**
PLOU				S	**Sn**	**01 05 42.2**	**-4.3**
CIA	**Chichaoua**	**6.72**	**119**	*i*P	**Pn**	**01 04 40.0**	**+4.1**
CIA				*i*S	**Sn**	**01 05 50.0**	**-3.4**
EHIG	**Higuera**	**6.73**	**197**	S	**Sn**	**01 05 42.8**	**-11**
	comp=N,63nm,0.2s,SNR=7.9						
CICO	**Icod de los Vi**	**6.75**	**188**	P	**Pn**	**01 04 33.8**	**-2.4**
	comp=N,1.3nm,0.6s,SNR=4.0						
CICO				S	**Sn**	**01 05 46.2**	**-7.7**
	comp=N,0.8nm,0.2s,SNR=4.0						
CFTV	**Fuerteventura**	**6.75**	**168**	P	**Pn**	**01 04 37.3**	**+1.0**
	comp=N,6.7nm,0.1s,SNR=16						
CFTV				S	**Sn**	**01 05 51.0**	**-3.0**
	comp=N,12nm,0.2s,SNR=7.6						
CFTV	**Fuerteventura**	**6.75**	**168**	P	**Pn**	**01 04 37.5**	**+1.2**
CFTV				S	**Sn**	**01 05 53.3**	**-0.6**
CCAN	**Las Canadas**	**6.86**	**187**	P	**Pn**	**01 04 35.3**	**-2.5**
	comp=N,1.9nm,0.2s,SNR=9.2						
CCAN				S	**Sn**	**01 05 48.5**	**-8.2**
	comp=N,3.1nm,0.2s,SNR=6.5						
CCAN	**Las Canadas**	**6.86**	**187**	P	**Pn**	**01 04 35.5**	**-2.4**
CCAN				S	**Sn**	**01 05 49.3**	**-7.4**
CHIO	**Chio**	**6.87**	**189**	P	**Pn**	**01 04 34.7**	**-3.2**
	comp=N,8.6nm,0.2s,SNR=4.0						
CHIO				S	**Sn**	**01 05 48.9**	**-8.0**
	comp=N,20nm,0.1s,SNR=5.9						
PBEJ	**Beja**	**6.92**	**62**	*e*P	**Pn**	**01 04 40.5**	**+1.8**
PBEJ				*e*S	**Sn**	**01 05 55.4**	**-2.9**
	comp=N,26nm,0.1s						
PBEJ	**Beja**	**6.92**	**62**	*e*P	**Pn**	**01 04 40.5**	**+1.8**
PBEJ				*e*S	**Sn**	**01 05 55.4**	**-2.9**
	comp=N,26nm,0.1s						
PBEJ	**Beja**	**6.92**	**62**	P	**Pn**	**01 04 40.4**	**+1.7**
PBEJ				S	**Sn**	**01 05 55.3**	**-3.0**
EOSO	**Osorio**	**6.96**	**179**	P	**Pn**	**01 04 37.7**	**-1.5**
	comp=N,3.4nm,0.2s,SNR=8.1						
EOSO				S	**Sn**	**01 05 52.3**	**-6.9**
	comp=N,19nm,0.2s,SNR=7.9						
EOSO	**Osorio**	**6.96**	**179**	P	**Pn**	**01 04 37.7**	**-1.5**
EOSO				S	**Sn**	**01 05 54.2**	**-5.1**
ALMR	**Almeirim**	**6.97**	**52**	*e*P	**Pn**	**01 04 39.7**	**+0.3**
ALMR				*e*		01 04 40.2	
	baz=245,slow=2.0						
ALMR				*e*S	**Sn**	**01 05 53.6**	**-5.9**
ALMR				*e*S	**Sn**	**01 05 53.6**	**-5.9**
ALMR				AML	AML	01 06 00.3	
	comp=E,322nm,0.8s						
ALMR	**Almeirim**	**6.97**	**52**	*e*P	**Pn**	**01 04 39.7**	**+0.3**
ALMR				*e*S	**Sn**	**01 05 53.6**	**-5.9**
EGOM	**La Gomera**	**7.00**	**191**	P	**Pn**	**01 04 34.8**	**-5.0**
	comp=E,2.1nm,0.2s,SNR=5.7						
EGOM				S	**Sn**	**01 05 48.9**	**-11**
	comp=E,46nm,0.2s,SNR=7.9						
EGOM	**La Gomera**	**7.00**	**191**	P	**Pn**	**01 04 35.7**	**-4.1**
EGOM				S	**Sn**	**01 05 51.1**	**-9.1**
EGRO	**El Granado**	**7.03**	**67**	P	**Pn**	**01 04 42.5**	**+2.2**
	comp=E,17nm,0.2s,SNR=38						
EGRO				S	**Sn**	**01 06 02.6**	**+1.4**
	comp=E,39nm,0.2s,SNR=12						
EGRO	**El Granado**	**7.03**	**67**	P	**Pn**	**01 04 42.5**	**+2.2**
	comp=E,17nm,0.2s,SNR=38						
EGRO	**El Granado**	**7.03**	**67**	P	**Pn**	**01 04 42.3**	**+2.1**
EGRO				S	**Sn**	**01 06 03.2**	**+2.0**
PTOM	**Tomar**	**7.34**	**49**	*e*P	**Pn**	**01 04 45.3**	**+0.7**
PTOM				*e*S	**Sn**	**01 06 03.4**	**-5.4**
	comp=E,60nm,0.2s						
PTOM	**Tomar**	**7.34**	**49**	P	**Pn**	**01 04 45.3**	**+0.7**
PTOM				S	**Sn**	**01 06 03.4**	**-5.4**
	comp=E,30nm,0.2s						
PTOM	**Tomar**	**7.34**	**49**	P	**Pn**	**01 04 45.3**	**+0.7**
PTOM				S	**Sn**	**01 06 03.3**	**-5.5**
CHIE	**El Hierro**	**7.57**	**196**	P	**Pn**	**01 04 42.5**	**-5.2**
	comp=E,6.4nm,0.6s,SNR=7.9						
CHIE				S	**Sn**	**01 06 02.4**	**-12**
	comp=E,5.4nm,0.2s,SNR=7.5						
CHIE	**El Hierro**	**7.57**	**196**	P	**Pn**	**01 04 42.5**	**-5.2**
CHIE				S	**Sn**	**01 06 02.6**	**-12**
EMIN	**Mina Concepcio**	**7.72**	**67**	P	**Pn**	**01 04 52.0**	**+2.2**
	comp=E,9.6nm,0.1s,SNR=121						
EMIN				S	**Sn**	**01 06 15.8**	**-2.4**
	comp=E,18nm,0.3s,SNR=8.7						
EMIN	**Mina Concepcio**	**7.72**	**67**	P	**Pn**	**01 04 52.0**	**+2.1**
	comp=E,

EMIJ	**Mijas**	**8.95**	**77**	P		**P**	**01 05 10.6 +3.5**
EMIJ				S		**Sn**	**01 06 51.5 +2.5**
CZD	**Col de Zad**	**9.02**	**100**	*i* P		**P**	**01 05 10.0 +2.1**
CZD				*i* S		**Sn**	**01 06 40.0 -11**
ELOB	**Lobios**	**9.03**	**39**	P		**P**	**01 05 05.9 -2.2**
	comp=E,2.3nm,0.2s,SNR=12						
ELOB				S		**Sn**	**01 06 39.8 -11**
	comp=E,22nm,0.2s,SNR=4.8						
ELOB	**Lobios**	**9.03**	**39**	P		**P**	**01 05 05.9 -2.2**
	comp=E,2.3nm,0.2s,SNR=12						
ELOB	**Lobios**	**9.03**	**39**	P		**P**	**01 05 05.0 -3.2**
ELOB				S		**Sn**	**01 06 42.3 -8.6**
EADA	**Adamuz**	**9.42**	**68**	P		**P**	**01 05 14.9 +1.5**
	comp=E,17nm,0.2s,SNR=75						
EADA				S		**Sn**	**01 06 58.9 -1.6**
	comp=E,16nm,0.2s,SNR=5.9						
EADA	**Adamuz**	**9.42**	**68**	P		**P**	**01 05 14.9 +1.4**
	comp=E,17nm,0.2s,SNR=75						
EADA				S		**Sn**	**01 06 58.9 -1.6**
	comp=E,16nm,0.2s,SNR=5.9						
EADA	**Adamuz**	**9.42**	**68**	P		**P**	**01 05 14.9 +1.5**
	comp=E,17nm,0.2s						
EADA				S		**Sn**	**01 07 00.6 +0.1**
EMAZ	**Mazaricos**	**9.43**	**31**	P		**P**	**01 05 09.8 -3.9**
	comp=E,3.6nm,0.2s,SNR=7.5						
EMAZ				S		**Sn**	**01 06 45.3 -16**
	comp=E,22nm,0.3s,SNR=5.0						
EMAZ	**Mazaricos**	**9.43**	**31**	P		**P**	**01 05 09.8 -3.9**
	comp=E,3.6nm,0.2s,SNR=7.5						
EMAZ	**Mazaricos**	**9.43**	**31**	P		**P**	**01 05 08.8 -4.9**
EMAZ				S		**Sn**	**01 06 47.8 -13**
TZK	**Tazeka**	**9.49**	**93**	*i* P		**P**	**01 05 14.0 -0.5**
TZK				*i* S		**Sn**	**01 06 50.0 -12**
ELOJ	**Sierra Loja**	**9.53**	**74**	P		**P**	**01 05 18.9 +3.9**
	comp=E,3.7nm,0.3s,SNR=10						
ELOJ				S		**Sn**	**01 07 03.3 +0.1**
	comp=E,2.6nm,0.2s,SNR=8.3						
ELOJ	**Sierra Loja**	**9.53**	**74**	P		**P**	**01 05 18.5 +3.6**
	comp=E,3.7nm,0.3s						
ELOJ				S		**Sn**	**01 07 03.3 +0.1**
	comp=E,2.6nm,0.2s,SNR=8.3						
ELOJ	**Sierra Loja**	**9.53**	**74**	P		**P**	**01 05 18.5 +3.6**
	comp=E,3.7nm,0.3s						
ELOJ				S		**Sn**	**01 07 05.4 +2.3**
STS	**Santiago**	**9.57**	**33**	P		**P**	**01 05 12.1 -3.4**
	comp=E,3.4nm,0.2s,SNR=8.3						
STS				S		**Sn**	**01 06 50.3 -14**
	comp=E,10nm,0.2s,SNR=5.7						
STS	**Santiago**	**9.57**	**33**	P		**P**	**01 05 10.9 -4.6**
STS				S		**Sn**	**01 06 52.3 -12**
PBRG	**Braganca**	**9.70**	**43**	*e*Pn		**P**	**01 05 16.4 -0.9**
PBRG				*e*Sn		**Sn**	**01 06 57.6 -10**
	comp=E,11nm,0.1s						
PBRG	**Braganca**	**9.70**	**43**	P		**P**	**01 05 16.4 -0.9**
PBRG				S		**Sn**	**01 06 57.6 -10**
	comp=E,5.3nm,0.1s						
PBRG	**Braganca**	**9.70**	**43**	P		**P**	**01 05 16.1 -1.2**
PBRG				S		**Sn**	**01 06 57.2 -10**
ERON	**Agron**	**9.78**	**75**	P		**P**	**01 05 19.9 +1.5**
	comp=E,5.1nm,0.4s,SNR=4.0						
ERON				S		**Sn**	**01 07 09.4 0.0**
	comp=E,5.5nm,0.4s,SNR=7.2						
ERON	**Agron**	**9.78**	**75**	P		**P**	**01 05 22.4 +3.9**
	comp=E,5.1nm,0.4s						
ERON				S		**Sn**	**01 07 11.5 +2.1**
	comp=E,5.5nm,0.4s,SNR=7.2						
ERON	**Agron**	**9.78**	**75**	P		**P**	**01 05 22.4 +3.9**
	comp=E,5.1nm,0.4s						
ERON				S		**Sn**	**01 07 11.5 +2.0**
ECAL	**Calabor**	**9.79**	**43**	P		**P**	**01 05 17.4 -1.2**
	comp=E,8.1nm,0.2s,SNR=26						
ECAL				S		**Sn**	**01 07 00.2 -10**
	comp=E,35nm,0.5s,SNR=4.8						
ECAL	**Calabor**	**9.79**	**43**	P		**P**	**01 05 17.4 -1.2**
	comp=E,8.1nm,0.2s,SNR=26						
ECAL	**Calabor**	**9.79**	**43**	P		**P**	**01 05 16.7 -1.9**
	comp=E,8.1nm,0.2s						
ECAL				S		**Sn**	**01 07 01.7 -8.0**
ERUA	**La Rua**	**9.88**	**40**	P		**P**	**01 05 18.2 -1.7**
	comp=E,7.7nm,0.5s,SNR=7.9						
ERUA				S		**Sn**	**01 07 01.3 -11**
	comp=E,8.1nm,0.2s,SNR=7.9						
ERUA	**La Rua**	**9.88**	**40**	P		**P**	**01 05 17.5 -2.4**
	comp=E,7.7nm,0.5s						
ERUA				S		**Sn**	**01 07 03.7 -8.3**
ZFT	**Errachidia**	**9.89**	**105**	*i* P		**P**	**01 05 23.0 +3.1**
ZFT				*i* S		**Sn**	**01 07 02.0 -10**
EGUA	**Guajares**	**9.95**	**76**	P		**P**	**01 05 24.4 +3.6**
	comp=E,0.6nm,0.2s,SNR=7.9						
EGUA				S		**Sn**	**01 07 14.2 +0.6**
	comp=E,0.7nm,0.2s,SNR=7.9						
EGUA	**Guajares**	**9.95**	**76**	P		**P**	**01 05 24.0 +3.2**
	comp=E,0.6nm,0.2s						
EGUA				S		**Sn**	**01 07 14.2 +0.6**
ECOG	**Cogollos-Vega**	**10.01**	**74**	P		**P**	**01 05 25.7 +4.1**
	comp=E,3.1nm,0.2s,SNR=7.4						
ECOG				S		**S**	**01 07 14.8 -0.2**
	comp=E,3.0nm,0.2s,SNR=6.6						
ECOG	**Cogollos-Vega**	**10.01**	**74**	P		**P**	**01 05 25.4 +3.8**
	comp=E,3.1nm,0.2s						
ECOG				S		**S**	**01 07 15.2 +0.2**
	comp=E,3.0nm,0.2s,SNR=6.6						
ECOG	**Cogollos-Vega**	**10.01**	**74**	P		**P**	**01 05 25.4 +3.8**
	comp=E,3.1nm,0.2s						
ECOG				S		**S**	**01 07 15.2 +0.2**
EBAN	**Banos Encina**	**10.02**	**68**	P		**P**	**01 05 23.7 +1.9**
	comp=E,13nm,0.3s,SNR=26						
EBAN				S		**S**	**01 07 14.1 -1.3**
	comp=E,3.0nm,0.2s,SNR=6.0						
EBAN	**Banos Encina**	**10.02**	**68**	P		**P**	**01 05 23.3 +1.6**
	comp=E,13nm,0.3s						
EBAN				S		**S**	**01 07 14.1 -1.3**
EQUE	**Quentar**	**10.10**	**74**	P		**P**	**01 05 26.0 +3.2**
	comp=E,4.8nm,0.4s,SNR=7.9						
EQUE				S		**S**	**01 07 14.9 -2.3**
	comp=E,0.5nm,0.4s,SNR=7.9						
EALB	**Alboran**	**10.31**	**81**	S		**S**	**01 07 21.0 -1.5**
	comp=E,8.6nm,0.3s,SNR=7.9						
ESDC	**Sonseca Array**	**10.37**	**60**	Pn		**P**	**01 05 26.4 -0.1**
	comp=E,5.9nm,0.3s,baz=251,slow=13,SNR=54						
ESDC				Sn		**S**	**01 07 17.5 -6.4**
	comp=E,3.2nm,0.3s,baz=252,slow=23,SNR=5.2						
ESDC	**Sonseca Array**	**10.37**	**60**	P		**P**	**01 05 26.3 -0.3**
	comp=E,12nm,0.2s,baz=249,slow=13,SNR=76						
ESDC				S		**S**	**01 07 18.6 -5.3**
	comp=E,5.6nm,0.2s,baz=252,slow=23,SNR=4.0						
ESDC	**Sonseca Array**	**10.37**	**60**	P		**P**	**01 05 27.2 +0.6**
	comp=E,12nm,0.3s						
ESDC				S		**S**	**01 07 20.8 -3.1**
ESDC	**Sonseca Array**	**10.37**	**60**	P		**P**	**01 05 27.2 +0.6**
	comp=E,12nm,0.3s						
ESDC				S		**S**	**01 07 20.8 -3.1**
ESLA	**Sonseca Array**	**10.37**	**60**	*e*P		**P**	**01 05 26.4 -0.2**
	comp=E,0.9nm,0.5s						
ESLA	**Sonseca Array**	**10.37**	**60**	*e*P		**P**	**01 05 26.4 -0.2**
	comp=E,0.9nm,0.5s						
ESLA				*e*S		**S**	**01 07 17.2 -6.7**
EMEL	**Melilla**	**10.38**	**85**	S		**S**	**01 07 24.6 +0.3**
	comp=E,46nm,0.2s,SNR=4.0						
EQES	**Quesada**	**10.49**	**71**	P		**P**	**01 05 30.0 +1.8**
	comp=E,2.6nm,0.2s,SNR=17						
EQES				S		**S**	**01 07 23.5 -3.3**
	comp=E,8.5nm,0.3s,SNR=7.9						
EQES	**Quesada**	**10.49**	**71**	P		**P**	**01 05 30.8 +2.6**
	comp=E,2.6nm,0.2s						
EQES				S		**S**	**01 07 27.2 +0.4**
EQES	**Quesada**	**10.49**	**71**	P		**P**	**01 05 30.8 +2.6**
	comp=E,2.6nm,0.2s						
EQES				S		**S**	**01 07 27.2 +0.4**
EBER	**Berja**	**10.49**	**76**	P		**P**	**01 05 32.0 +3.8**
	comp=E,2.1nm,0.2s,SNR=5.5						
EBER				S		**S**	**01 07 25.5 -1.5**
	comp=E,6.2nm,0.3s,SNR=7.9						
EBER	**Berja**	**10.49**	**76**	P		**P**	**01 05 32.0 +3.8**
	comp=E,2.1nm,0.2s,SNR=5.5						
EBER				S		**S**	**01 07 28.0 +1.1**
EBER	**Berja**	**10.49**	**76**	P		**P**	**01 05 32.0 +3.8**
	comp=E,2.1nm,0.2s						
EBER				S		**S**	**01 07 28.0 +1.0**
EPON	**Pontenova**	**10.56**	**36**	P		**P**	**01 05 26.2 -3.0**
	comp=E,1.4nm,0.2s,SNR=7.1						
EPON				S		**S**	**01 07 14.9 -14**
	comp=E,4.0nm,0.2s,SNR=8.8						
EPON	**Pontenova**	**10.56**	**36**	P		**P**	**01 05 26.2 -2.9**
	comp=E,1.4nm,0.2s,SNR=7.1						
EPON	**Pontenova**	**10.56**	**36**	P		**P**	**01 05 25.5 -3.6**
	comp=E,1.4nm,0.2s						
EPON				S		**S**	**01 07 16.6 -12**
EHUE	**Huescar**	**10.86**	**72**	P		**P**	**01 05 36.0 +2.7**
	comp=E,1.7nm,0.2s,SNR=13						
EHUE				S		**S**	**01 07 33.3 -2.7**
	comp=E,1.3nm,0.2s,SNR=6.0						
EHUE	**Huescar**	**10.86**	**72**	P		**P**	**01 05 36.0 +2.7**
	comp=E,1.7nm,0.2s,SNR=13						
EHUE				S		**S**	**01 07 35.0 -1.0**
EHUE	**Huescar**	**10.86**	**72**	P		**P**	**01 05 36.0 +2.7**
	comp=E,1.7nm,0.2s						
EHUE				S		**S**	**01 07 35.0 -1.0**
EVIA	**Vianos**	**11.12**	**67**	P		**P**	**01 05 37.8 +1.1**
	comp=E,6.0nm,0.3s,SNR=7.3						
EVIA				S		**S**	**01 07 38.0 -4.1**
	comp=E,5.5nm,0.3s,SNR=4.9						
EVIA	**Vianos**	**11.12**	**67**	P		**P**	**01 05 39.0 +2.3**
	comp=E,6.0nm,0.3s						
EVIA				S		**S**	**01 07 40.8 -1.3**
EVIA	**Vianos**	**11.12**	**67**	P		**P**	**01 05 39.0 +2.2**
	comp=E,6.0nm,0.3s						
EVIA				S		**S**	**01 07 40.8 -1.3**
EARI	**Arriondas**	**11.54**	**41**	P		**P**	**01 05 41.2 -1.3**
	comp=E,0.6nm,0.3s,SNR=7.9						
EARI				S		**S**	**01 07 42.0 -10**
	comp=E,1.9nm,0.3s,SNR=7.9						
EARI	**Arriondas**	**11.54**	**41**	P		**P**	**01 05 41.2 -1.3**
	comp=E,0.6nm,0.3s,SNR=7.9						
EARI	**Arriondas**	**11.54**	**41**	P		**P**	**01 05 40.1 -2.4**
	comp=E,0.6nm,0.3s						
EARI				S		**S**	**01 07 42.1 -10**
ETOB	**Tobarra**	**11.84**	**68**	P		**P**	**01 05 47.8 +1.2**
	comp=E,2.7nm,0.2s,SNR=7.9						
ETOB				S		**S**	**01 07 56.8 -3.1**
	comp=E,2.0nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**11.84**	**68**	P		**P**	**01 05 47.8 +1.2**
	comp=E,2.7nm,0.2s,SNR=7.9						
ETOB				S		**S**	**01 07 57.2 -2.7**
ETOB	**Tobarra**	**11.84**	**68**	P		**P**	**01 05 47.8 +1.2**
	comp=E,2.7nm,0.2s						
ETOB				S		**S**	**01 07 57.2 -2.6**
EMUR	**La Murta**	**11.92**	**72**	P		**P**	**01 05 50.8 +3.1**
	comp=E,1.0nm,0.2s,SNR=7.9						
EMUR				S		**S**	**01 07 59.6 -2.2**
	comp=E,3.4nm,0.3s,SNR=7.9						
EMUR	**La Murta**	**11.92**	**72**	P		**P**	**01 05 50.8 +3.1**
	comp=E,1.0nm,0.2s,SNR=7.9						
EMUR				S		**S**	**01 08 00.8 -1.0**
EMUR	**La Murta**	**11.92**	**72**	P		**P**	**01 05 50.2 +2.4**
	comp=E,1.0nm,0.2s						
EMUR				S		**S**	**01 08 00.8 -1.0**
CART	**Cartagena**	**12.07**	**74**	P		**P**	**01 05 51.8 +2.1**
	comp=E,12nm,0.8s						
CART	**Cartagena**	**12.07**	**74**	P		**P**	**01 05 51.8 +2.1**
	comp=E,12nm,0.8s						
ELAN	**Lanestosa**	**12.50**	**46**	P		**P**	**01 05 55.7 +0.3**
	comp=E,0.4nm,0.2s,SNR=7.9						
ELAN				S		**S**	**01 08 05.5 -10**
	comp=E,3.5nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**12.50**	**46**	P		**P**	**01 05 53.9 -1.5**
	comp=E,0.4nm,0.2s						
ELAN	**Lanestosa**	**12.50**	**46**	P		**P**	**01 05 53.9 -1.5**
	comp=E,0.4nm,0.2s						
ELAN				S		**S**	**01 08 06.2 -10**
ECHE	**Chera**	**12.52**	**64**	P		**P**	**01 05 57.9 +2.1**
	comp=E,1.0nm,0.2s,SNR=5.0						
ECHE	**Chera**	**12.52**	**64**	P		**P**	**01 05 57.5 +1.7**
	comp=E,1.0nm,0.2s						
ECHE	**Chera**	**12.52**	**64**	P		**P**	**01 05 57.5 +1.8**
	comp=E,1.0nm,0.2s						
EBEN	**Beniarda**	**12.87**	**69**	P		**P**	**01 06 03.7 +3.4**
	comp=E,1.1nm,0.4s,SNR=7.9						
EBEN				S		**S**	**01 08 22.0 -2.6**
	comp=E,1.4nm,0.8s,SNR=7.9						
EBEN	**Beniarda**	**12.87**	**69**	P		**P**	**01 06 03.3 +3.0**
	comp=E,1.1nm,0.4s						
EBEN				S		**S**	**01 08 23.2 -1.4**
	comp=E,1.4nm,0.8s,SNR=7.9						
EBEN	**Beniarda**	**12.87**	**69**	P		**P**	**01 06 03.3 +2.9**
	comp=E,1.1nm,0.4s						
EBEN				S		**S**	**01 08 22.8 -1.9**
EMOS	**Mosqueruela**	**13.12**	**62**	P		**P**	**01 06 05.6 +1.8**
	comp=E,2.1nm,0.5s,SNR=7.9						
EMOS				S		**S**	**01 08 25.6 -5.2**
	comp=E,1.6nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**13.12**	**62**	P		**P**	**01 06 05.1 +1.4**
	comp=E,2.1nm,0.5s						
EMOS				S		**S**	**01 08 25.9 -4.9**
EMOS	**Mosqueruela**	**13.12**	**62**	P		**P**	**01 06 05.1 +1.4**
	comp=E,2.1nm,0.5s						
EMOS				S		**S**	**01 08 25.9 -4.9**
EARA	**Aranguren**	**13.38**	**51**	P		**P**	**01 06 07.3 +0.2**
	comp=E,2.0nm,0.2s,SNR=7.9						
EARA				S		**S**	**01 08 27.7 -9.2**
	comp=E,1.5nm,0.3s,SNR=4.0						
ESAC	**San Caprasio**	**13.62**	**56**	P		**P**	**01 06 11.7 +1.4**
	comp=E,3.2nm,0.2s,SNR=5.0						
ESAC				S		**S**	**01 08 35.9 -6.9**
	comp=E,4.7nm,0.3s,SNR=7.9						
ESAC	**San Caprasio**	**13.62**	**56**	P		**P**	**01 06 11.7 +1.4**
	comp=E,3.2nm,0.2s,SNR=5.0						
ESAC				S		**S**	**01 08 37.7 -5.1**
ESAC	**San Caprasio**	**13.62**	**56**	P		**P**	**01 06 10.5 +0.2**
	comp=E,3.2nm,0.2s						
ESAC				S		**S**	**01 08 37.7 -5.0**
EALK	**Alkurruntz**	**13.65**	**49**	P		**P**	**01 06 11.5 +0.8**
	comp=E,3.6nm,0.4s,SNR=7.9						
EALK				S		**S**	**01 08 35.6 -7.9**
	comp=E,0.7nm,0.3s,SNR=7.9						
EALK	**Alkurruntz**	**13.65**	**49**	P		**P**	**01 06 10.4 -0.3**
	comp=E,3.6nm,0.4s						
EALK	**Alkurruntz**	**13.65**	**49**	P		**P**	**01 06 10.4 -0.3**
	comp=E,3.6nm,0.4s						
EALK				S		**S**	**01 08 35.6 -7.9**
SJPF	**Ste Jean**	**13.77**	**50**	*e*Pn		**P**	**01 06 10.6 -1.7**
SJPF				*e*Sn		**S**	**01 08 37.2 -9.1**
	comp=E,1.8nm,0.2s						
ERTA	**Horta de San J**	**13.90**	**60**	P		**P**	**01 06 15.3 +1.4**
	comp=E,1.5nm,0.3s,SNR=7.9						
ERTA				S		**S**	**01 08 43.2 -6.0**
	comp=E,1.3nm,0.5s,SNR=7.9						
ERTA	**Horta de San J**	**13.90**	**60**	P		**P**	**01 06 15.3 +1.4**
	comp=E,1.5nm,0.3s,SNR=7.9						
ERTA				S		**S**	**01 08 44.7 -4.6**
ERTA	**Horta de San J**	**13.90**	**60**	P		**P**	**01 06 15.3 +1.4**
	comp=E,1.5nm,0.3s						
ERTA				S		**S**	**01 08 44.7 -4.5**
ETSF	**Etsaut**	**14.09**	**52**	*e*Pn		**P**	**01 06 15.0 -1.5**
ETSF				*e*Sn		**S**	**01 08 44.5 -9.4**
	comp=E,1.1nm,0.2s						
EGRA	**Graus**	**14.35**	**55**	P		**P**	**01 06 21.1 +1.2**
	comp=E,1.2nm,0.3s,SNR=6.5						
EGRA	**Graus**	**14.35**	**55**	P		**P**	**01 06 20.6 +0.7**
	comp=E,1.2nm,0.3s						
EGRA				S		**S**	**01 08 54.5 -5.6**
EGRA	**Graus**	**14.35**	**55**	P		**P**	**01 06 20.6 +0.7**
	comp=E,1.2nm,0.3s						
EGRA				S		**S**	**01 08 54.5 -5.6**
EBIE	**Bielsa**	**14.45**	**53**	P		**P**	**01 06 22.7 +1.5**
	comp=E,4.7nm,0.3s,SNR=7.9						
EBIE				S		**S**	**01 08 55.1 -7.3**
	comp=E,1.6nm,0.5s,SNR=7.9						
EBIE	**Bielsa**	**14.45**	**53**	P		**P**	**01 06 22.4 +1.2**
	comp=E,4.7nm,0.3s						
EBIE	**Bielsa**	**14.45**	**53**	P		**P**	**01 06 22.4 +1.2**
	comp=E,4.7nm,0.3s						
EBIE				S		**S**	**01 08 56.4 -6.0**
EPOB	**Poblet**	**14.56**	**59**	P		**P**	**01 06 23.0 +0.4**
	comp=E,1.3nm,0.3s,SNR=7.9						
EPOB				S		**S**	**01 08 59.3 -5.8**
	comp=E,2.8nm,0.5s,SNR=7.9						
EPOB	**Poblet**	**14.56**	**59**	P		**P**	**01 06 23.6 +1.0**
	comp=E,1.3nm,0.3s						
EPOB				S		**S**	**01 09 00.7 -4.3**
EPOB	**Poblet**	**14.56**	**59**	P		**P**	**01 06 23.6 +1.0**
	comp=E,1.3nm,0.3s						
EPOB				S		**S**	**01 09 00.7 -4.3**
LABF	**Labassere**	**14.57**	**52**	P		**P**	**01 06 24.3 +1.5**
RESF	**Ens**	**14.63**	**53**	P		**P**	**01 06 25.3 +1.7**
EPF	**Esparros**	**14.74**	**53**	*e*Pn		**P**	**01 06 23.4 -1.5**
EPF				*e*Sn		**S**	**01 09 00.3 -8.9**
	comp=E,2.6nm,0.3s						
EPF	**Esparros**	**14.74**	**53**	S		**S**	**01 09 00.3 -8.9**
	comp=E,1.3nm,0.3s						
EMIR	**Miracle**	**15.07**	**58**	P		**P**	**01 06 30.5 +1.2**
	comp=E,1.9nm,0.3s,SNR=5.9						
EMIR				S		**S**	**01 09 11.8 -5.3**
	comp=E,4.5nm,0.4s,SNR=7.9						
QUIF	**Quistinic**	**15.86**	**32**	*e*Pn		**P**	**01 06 39.8 +0.2**
LFF	**La Frestale**	**15.94**	**47**	*e*Pn		**P**	**01 06 40.9 +0.3**
MTLF	**Montolieu**	**16.11**	**54**	*e*Pn		**P**	**01 06 42.4 -0.3**
ROSF	**Rostrenen**	**16.14**	**31**	*e*Pn		**P**	**01 06 43.2 +0.1**
SGMF	**Saint Gilles**	**16.39**	**32**	*e*Pn		**P**	**01 06 46.6 +0.4**
MFF	**Saint Martin d**	**16.41**	**41**	*e*Pn		**P**	**01 06 46.4 -0.2**
RJF	**Les Rejaudoux**	**16.60**	**47**	*e*Pn		**P**	**01 06 49.1 +0.1**
RJF				*e*Sn		**S**	**01 09 45.1 -7.7**
	comp=E,1.0nm,0.2s						
CAF	**Calviac**	**16.74**	**49**	*e*Pn		**P**	**01 06 51.3 +0.6**
TCF	**Toulx Ste Croi**	**17.54**	**45**	*e*Pn		**P**	**01 07 03.0 +2.2**
FLN	**La Foliniere**	**17.70**	**35**	*e*Pn		**P**	**01 07 04.3 +1.6**
BGF	**Bois d'Agland**	**18.06**	**45**	*e*Pn		**P**	**01 07 09.8 +2.6**
EKA	**Eskdalemuir Ar**	**22.04**	**19**	P		**P**	**01 07 49.8 -1.2**
	comp=E,1.5nm,0.9s,mb3.4,baz=227,slow=14,SNR=3.2						
DAVOX	**Davos**	**22.46**	**51**	P		**P**	**01 07 57.9 +2.7**
	comp=E,1.8nm,0.7s,mb3.6,baz=243,slow=9.0,SNR=2.9						
DAVOX				LR		LR	01 15 48.3
	comp=E,52nm,18.6s,MS3.0,baz=264,slow=34						
DAVOX	**Davos**	**22.46**	**51**	P		**P**	**01 07 57.9 +2.7**
DAVOX				LR		LR	01 15 48.3
GRA1	**Grafenberg Arr**	**24.48**	**45**	*e*P		**P**	**01 08 16.5 +1.7**
	comp=E,6.0nm,1.2s,mb3.9						
GRF	**Grafenberg Arr**	**24.48**	**45**	*e*P		**P**	**01 08 16.5 +1.7**
	comp=E,6.0nm,1.2s,mb3.9						
GERES	**GERESS Array B**	**25.62**	**48**	P		**P**	**01 08 25.8 +0.1**
	comp=E,1.6nm,1.0s,mb3.5,baz=243,slow=9.0,SNR=7.7						
VRAC	**Vranov**	**27.56**	**49**	LR		LR	01 19 02.7
	comp=E,42nm,18.2s,MS3.1,baz=92,slow=35						
SUW	**Suwalki**	**32.98**	**43**	*e*P		**P**	**01 09 33.3 +1.7**
	comp=E,15nm,1.1s,mb4.8						
SUW	**Suwalki**	**32.98**	**43**	*e*P		**P**	**01 09 33.3 +1.7**
	comp=E,15nm,1.1s,mb4.8						
AKASG	**Malin Array Be**	**35.80**	**50**	P		**P**	**01 09 56.3 +0.4**
	comp=E,0.2nm,0.4s,mb3.4,baz=278,slow=7.7,SNR=5.8						
FINES	**FINESS Array B**	**37.28**	**32**	P		**P**	**01 10 08.3 +0.1**
	comp=E,1.0nm,0.9s,mb3.6,baz=270,slow=8.3,SNR=3.0						
FINES				LR		LR	01 25 15.9
	comp=E,28nm,18.2s,MS3.1,baz=166,slow=36						
BRTR	**Keskin Array B**	**39.03**	**68**	P		**P**	**01 10 26.1 +2.9**
	comp=E,0.9nm,0.9s,mb3.5,baz=256,slow=5.1,SNR=4.9						
ARCES	**ARCESS Array B**	**41.19**	**21**	P		**P**	**01 10 38.8 -1.8**
	comp=E,1.2nm,0.8s,mb3.6,baz=233,slow=9.0,SNR=3.9						
MALT	**Malatya**	**42.97**	**69**	*e*P		**P**	**01 10 59.2 +3.7**
	comp=E,6.0nm,1.0s,mb4.3						
MALT	**Malatya**	**42.97**	**69**	*e*P		**P**	**01 10 59.2 +3.7**
	comp=E,6.0nm,1.0s,mb4.3						
ARU	**Arti**	**53.17**	**42**	P		**P**	**01 12 12.5 -2.2**
	comp=E,12nm,1.9s,mb4.5						
MKAR	**Makanchi Array**	**70.27**	**46**	P		**P**	**01 14 09.4 -0.4**
	comp=E,0.5nm,0.6s,mb3.6,baz=270,slow=7.3,SNR=5.0						
TXAR	**Lajitas Array**	**72.35**	**294**	P		**P**	**01 14 18.5 -4.2**
	comp=E,0.2nm,0.6s,mb3.2,baz=63,slow=5.6,SNR=5.3						
TXAR	**Lajitas Array**	**72.35**	**294**	P		**P**	**01 14 18.5 -4.2**
CFAA	**Coronel Fontan**	**82.70**	**223**	LR		LR	01 52 07.7
	comp=E,5.2nm,19.3s,MS2.9,baz=354,slow=36						
WRA	**Warramunga Arr**	**149.56**	**68**	PKPbc		PKPdf	01 22 45.2 +2.1
	comp=E,0.4nm,0.9s,baz=320,slow=2.5,SNR=4.6						

*NDI **18** 01:17:38.3±5.7, 32.81N×79.66E, h15km±77km, ML3.6*
*IDC **18** 01:17:51.8±1.7, 32.97N×78.12E, mb3.6/6, mb1 3.8/7, mb1mx3.6/20, mbtmp3.6/7, ML3.3/1, Error ellipse: s-maj=48.6km s-min=26.8km az=54.0*
*NEIC **18** 01:17:53.9±1.3, 33.08N×78.20E, h10km, mb3.4/1, Error ellipse: s-maj=29.3km s-min=16.9km az=62.0*
*NNC **18** 01:17:59.5±145.0, 32.74N×75.51E, Error ellipse: s-maj=1846.4km s-min=1365.3km az=70.0*

ISC 18 01:17:51.0±1.6, 33.11N±0.04×78.26E±0.08, h3km±12km, n17, σ1§27/22, mb3.5/5, 2C, Kashmir-Xizang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLP	**Kalpa**	**1.57**	**180**	*e*P		**Pn**	**01 18 19.9 0.0**
KLP				*e*S		**Sb**	**01 18 39.1 -1.5**
KLP				AML	AML	01 18 52.3	
	comp=E,1μm,0.7s						
KLP				AML	AML	01 18 53.4	
	comp=N,947nm,0.8s						
SDNR	**Sundarnagar**	**1.94**	**215**	*ex*		**Pn**	**01 18 25.6 +0.4**
SDNR				*e*S		**Sn**	**01 18 51.8 +1.4**
SMLA	**Simla**	**2.18**	**205**	*e*PB		**Pb**	**01 18 26.5 -4.3**
SMLA				*e*S		**Sn**	**01 18 54.1 -2.5**
THN	**Thein Dam**	**2.25**	**253**	*e*P		**Pn**	**01 18 28.6 -1.

JKK2	**Kamakawa 2**	**5.30 260**	P	P	02 53 03.2	-0.3
ASAJ	**Asahikawa**	**5.35 262**	P	P	02 53 03.8	-0.3
JCH	**Churui**	**5.37 245**	P	P	02 53 04.1	-0.3
JCH			*e*S	S	02 54 04.7	-1.1
JEM	**Erimo**	**5.82 241**	P	P	02 53 11.8	+1.5
JEM			*e*S	S	02 54 17.1	+0.7
JNBK	**Urakawa-nobuka**	**5.93 244**	P	P	02 53 10.2	-1.6
JNBK			*e*S	S	02 54 16.8	-2.3
JNB	**Noboribetsu**	**6.97 251**	P	P	02 53 25.6	-0.2
JNB			*e*S	S	02 54 42.3	-1.8
JKB	**Kayabe**	**7.24 247**	P	P	02 53 27.9	-1.5
JKB			*e*S	S	02 54 46.8	-3.7
JYM2	**Yakumo 2**	**7.57 250**	P	P	02 53 33.0	-0.8
JANG	**Nango**	**7.79 236**	P	P	02 53 35.0	-1.9
JANG			*e*S	S	02 54 59.1	-4.8
JTM	**Tenmabayashi**	**7.81 240**	*e*S	S	02 54 59.7	-4.5
JSR	**Shiriuchi**	**7.81 246**	P	P	02 53 36.3	-0.8
JSR			*e*S	S	02 55 02.1	-2.3
JTH	**Tanohata**	**7.88 232**	*e*S	S	02 55 03.3	-2.7
OFUJ	**Ofunato**	**8.60 229**	*e*S	S	02 55 22.0	-1.0
JRG	**Rokugo**	**8.95 234**	*e*S	S	02 55 30.6	-0.8
JIO	**Ouri**	**9.22 227**	*e*S	S	02 55 36.6	-1.4
JYA	**Atsumi**	**10.02 233**	*e*S	S	02 55 55.9	-0.8

BJI ***18*** *03:00:59.2, 44.49N×142.41E, h230km, mB4.3, mb4.1*
MOS ***18*** *03:00:59.2±0.9, 44.47N×142.29E, h237km, mb4.2/7, Error ellipse: s-maj=16.3km s-min=9.8km az=93.6*
NIED ***18*** *03:01:00, 44.50N×142.30E, h250km, Mw3.9 Best double couple: M0 8.13×10^14 NP1:φs 326°, δ69°, λ-86°. NP2: φs 136°, δ21°, λ-99°.*
NEIC ***18*** *03:01:00.0±0.7, 44.46N×142.36E, h228km±6km, mb4.2/11, Error ellipse: s-maj=8.6km s-min=6.7km az=124.0*
IDC ***18*** *03:01:00.3±0.3, 44.51N×142.26E, h226km±3km, mb3.5/18, mb1 3.6/19, mb1mx3.5/25, mbtmp4.0/19, Error ellipse: s-maj=13.6km s-min=11.4km az=153.0*
JMA ***18*** *03:01:00.6±0.1, 44.47N×142.34E, h235km±1km, M3.8*
ISC 18 03:00:59.6±0.2, 44.47N±0.04×142.39E±0.05, h238km±2km, h224km±3.7km; pP-P, n78, σ0§95/95, mb3.9/27, 3C-14D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**0.38**	**156**	P	**P**	**03 01 31.8**	**+0.8**
	116nm,0.3s,baz=275,slow=3.3,SNR=304						
ASAJ				S	**S**	**03 01 54.5**	**-1.0**
	11nm,0.3s,baz=1.1,slow=32,SNR=18						
ASAJ	**Asahikawa**	**0.38**	**156**	⇓P	**P**	**03 01 31.7**	**+0.7**
ASAJ				*e*S	**S**	**03 01 55.4**	**0.0**
ASAJ	**Asahikawa**	**0.38**	**156**	PN	**P**	**03 01 31.8**	**+0.8**
ASAJ				S	**S**	**03 01 54.5**	**-0.9**
ASAJ				pmax	pmax		
	comp=Z,116nm,0.3s						
JSS	**Shosan**	**0.39**	**260**	⇓P	**P**	**03 01 31.5**	**+0.5**
JSS				*e*S	**S**	**03 01 55.2**	**-0.2**
JSE	**Soyaes**	**0.51**	**16**	⇓P	**P**	**03 01 31.9**	**+0.5**
JSE				*e*S	**S**	**03 01 55.4**	**-0.7**
JKK2	**Kamakawa 2**	**0.65**	**156**	⇓P	**P**	**03 01 32.8**	**+1.0**
JKK2				S	**S**	**03 01 57.3**	**+0.4**
JYG	**Yagishiri**	**0.69**	**267**	⇓P	**P**	**03 01 32.2**	**+0.2**
JYG				*e*S	**S**	**03 01 56.5**	**-0.7**
JMP	**Maruseppu**	**0.84**	**123**	⇓P	**P**	**03 01 33.5**	**+0.9**
JMP				*e*S	**S**	**03 01 58.7**	**+0.3**
JHR	**Hokuryu**	**0.86**	**214**	P	**P**	**03 01 33.7**	**+0.9**
JHR				*e*S	**S**	**03 01 59.3**	**+0.7**
JWK2	**Keihoku**	**0.92**	**338**	⇓P	**P**	**03 01 33.5**	**+0.5**
JWK2				*e*S	**S**	**03 01 58.9**	**-0.2**
JRR	**Rishiri**	**1.02**	**312**	⇓P	**P**	**03 01 34.1**	**+0.5**
JTKR	**Abashiri--Toko**	**1.20**	**114**	⇓P	**P**	**03 01 36.0**	**+1.2**
JTKR				*e*S	**S**	**03 02 03.0**	**+0.8**
JFR	**Furan**	**1.31**	**173**	P	**P**	**03 01 36.1**	**+0.5**
JFR				*e*S	**S**	**03 02 03.8**	**+0.2**
JAR	**Ashorobuto**	**1.54**	**139**	⇓P	**P**	**03 01 38.5**	**+1.1**
JAR				*e*S	**S**	**03 02 07.3**	**+0.6**
JEW	**Eniwo**	**1.76**	**203**	⇑P	**P**	**03 01 39.8**	**+0.6**
JEW				*e*S	**S**	**03 02 09.6**	**-0.3**
JSK	**Shakotan**	**1.77**	**232**	⇑P	**P**	**03 01 39.7**	**+0.4**
JSK				*e*S	**S**	**03 02 09.7**	**-0.4**
JCH	**Churui**	**1.98**	**159**	P	**P**	**03 01 40.6**	**-0.6**
JCH				S	**S**	**03 02 11.5**	**-1.8**
JRA	**Rausu**	**2.04**	**104**	P	**P**	**03 01 43.0**	**+1.3**
JNBK	**Urakawa-nobuka**	**2.20**	**173**	P	**P**	**03 01 44.2**	**+0.9**
JNBK				*e*S	**S**	**03 02 17.9**	**+0.7**
JAK	**Akkeshi**	**2.23**	**130**	P	**P**	**03 01 43.1**	**-0.5**
JAK				*e*S	**S**	**03 02 16.3**	**-1.4**
YSS	**Yuzh-Sakhalins**	**2.50**	**6**	*e*P	**P**	**03 01 46.0**	**-0.4**
YSS	**Yuzh-Sakhalins**	**2.50**	**6**	⇓*i*PN	**P**	**03 01 45.8**	**-0.6**
YSS				*e*S	**S**	**03 02 20.5**	**-2.2**
YSS				pmax	pmax		
	comp=Z,50nm,0.8s						
YSS				smax			
	comp=E,160nm,1.0s						
YSS				smax			
	comp=E,500nm,3.0s						
NEM2	**Nemuro 2**	**2.66**	**113**	P	**P**	**03 01 47.5**	**-0.6**
NEM2				*e*S	**S**	**03 02 23.6**	**-2.1**
JKB	**Kayabe**	**2.76**	**201**	⇑P	**P**	**03 01 48.8**	**-0.3**
JKB				*e*S	**S**	**03 02 24.8**	**-2.8**
MAJO	**Matsushiro**	**8.53**	**203**	*e*P	**P**	**03 02 58.8**	**-1.5**
	comp=E,5.0nm,0.4s						
MAJO	**Matsushiro**	**8.53**	**203**	*e*PN	**P**	**03 02 58.8**	**-1.6**
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.4s						
MJAR	**Matsushiro Arr**	**8.53**	**203**	P	**P**	**03 02 59.6**	**-0.8**
	comp=Z,1.1nm,0.3s,baz=14,slow=13,SNR=9.7						
MDJ	**Mudanjiang**	**9.14**	**275**	P	**P**	**03 03 08.5**	**+0.3**
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,42nm,3.6s						
MDJ	**Mudanjiang**	**9.14**	**275**	*e*P	**P**	**03 03 08.7**	**+0.5**
	comp=Z,21nm,1.2s						
CN2	**Changchun**	**12.19**	**273**	*e*P	**P**	**03 03 47.6**	**+0.9**
KS15	**Wonju Array Si**	**13.00**	**242**	P	**P**	**03 04 01.4**	**+4.6**
HIA	**Hailar**	**16.19**	**295**	*e*P	**P**	**03 04 34.2**	**-1.2**
	comp=Z,8.5nm,0.6s						
HIA	**Hailar**	**16.19**	**295**	*e*P	**P**	**03 04 34.2**	**-1.2**
HIA				pmax	pmax		
	comp=Z,9.0nm,0.6s						
FX1	**Attu Island--F**	**21.86**	**56**	P	**P**	**03 05 37.0**	**+3.6**
	comp=Z,7.9nm,0.5s,mb4.5,baz=310,slow=1.3,SNR=15						
FX1	**Attu Island--F**	**21.86**	**56**	*e*P	**P**	**03 05 33.9**	**+0.4**
FX1	**Attu Island--F**	**21.86**	**56**	P	**P**	**03 05 37.0**	**+3.6**
FX1				pmax	pmax		
	comp=Z,8.0nm,0.5s						
SONM	**Songino Array**	**25.02**	**291**	P	**P**	**03 06 03.6**	**+0.4**
	comp=Z,9.7nm,0.7s,mb4.5,baz=84,slow=8.7,SNR=77						
ZAK	**Zakamensk**	**26.88**	**297**	*e*P	**P**	**03 06 20.4**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.8						
LZH	**Lanzhou**	**30.34**	**267**	*e*P	**P**	**03 06 49.5**	**-1.6**
LZH				AP	pP	03 07 35.6	-3.2
LZH				PP	PP	03 07 58.5	-2.1
LZH				XP	sP	03 08 01.8	-4.6
LZH				AMB	AMB		
	comp=Z,21nm,1.3s,mb4.6						
LZH	**Lanzhou**	**30.34**	**267**	*e*P	**P**	**03 06 49.5**	**-1.6**
	comp=Z,21nm,1.3s,mb4.6						
LZH				pP	pP	03 07 35.6	-3.2
LZH				PP	PP	03 07 58.5	-2.1
LZH				sP	sP	03 08 01.7	-4.7
LZH	**Lanzhou**	**30.34**	**267**	*e*P	**P**	**03 06 49.5**	**-1.6**
LZH				*PP	pP	03 07 35.6	-3.2
LZH				*SP	sP	03 08 01.7	-4.7
LZH				pmax	pmax		
	comp=Z,21nm,1.3s,mb4.6						
GTA	**Gaotai**	**31.80**	**276**	P	**P**	**03 07 06.8**	**+3.1**
GTA				AP	pP	03 07 51.4	-0.3
GTA				XP	sP	03 08 18.8	-0.4
GTA				PP	PP	03 08 23.4	+4.7
GTA				AMB	AMB		
	comp=Z,4.0nm,0.6s,mb4.1						
KMI	**Kunming**	**37.39**	**252**	P	**P**	**03 07 51.6**	**+0.4**
KMI				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.1						
KMI	**Kunming**	**37.39**	**252**	P	**P**	**03 07 51.6**	**+0.4**
	comp=Z,6.0nm,0.9s,mb4.1						
WMQ	**Urumqi**	**38.63**	**289**	*e*P	**P**	**03 08 03.0**	**+1.7**
WMQ				AP	pP	03 08 50.0	-0.8
WMQ				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						

MKAR	**Makanchi Array**	**41.20**	**295**	P	**P**	**03 08 22.9**	**+0.5**
	comp=Z,1.8nm,0.5s,mb3.8,baz=82,slow=8.7,SNR=16						
KURK	**Kurchatov**	**42.26**	**302**	*e*P	**P**	**03 08 31.0**	**+0.2**
	comp=Z,5.9nm,0.4s,mb4.4						
KURK	**Kurchatov**	**42.26**	**302**	*e*P	**P**	**03 08 31.0**	**+0.2**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.4s,mb4.4						
ILAR	**Eielson Array**	**42.95**	**36**	P	**P**	**03 08 36.4**	**+0.2**
	comp=Z,1.0nm,0.7s,mb3.3,baz=278,slow=8.1,SNR=9.7						
BVAR	**Borovoye Array**	**46.37**	**307**	P	**P**	**03 09 03.0**	**-0.4**
	comp=Z,1.3nm,0.3s,mb3.7,baz=78,slow=8.5,SNR=7.7						
INK	**Inuvik**	**47.51**	**30**	P	**P**	**03 09 11.5**	**-0.6**
	comp=Z,1.8nm,0.4s,mb3.8,baz=295,slow=6.4,SNR=9.4						
INK	**Inuvik**	**47.51**	**30**	*e*P	**P**	**03 09 11.6**	**-0.5**
	comp=Z,2.3nm,0.4s,mb3.9						
INK	**Inuvik**	**47.51**	**30**	*e*P	**P**	**03 09 11.6**	**-0.5**
INK				pmax	pmax		
	comp=Z,2.0nm,0.4s						
DLBC	**Dease Lake**	**52.44**	**42**	P	**P**	**03 09 48.8**	**-0.4**
	comp=Z,0.8nm,0.4s,mb3.5,baz=341,slow=20,SNR=2.3						
PMG	**Port Moresby**	**53.79**	**174**	*e*P	**P**	**03 10 04.0**	**+4.3**
	comp=Z,42nm,1.1s,mb4.9						
RES	**Resolute Bay**	**55.24**	**16**	P	**P**	**03 10 09.0**	**-0.4**
	comp=Z,3.5nm,0.8s,mb3.9						
RES	**Resolute Bay**	**55.24**	**16**	P	**P**	**03 10 09.0**	**-0.4**
RES				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.0						
YKA	**Yellowknife Ar**	**57.08**	**33**	P	**P**	**03 10 22.8**	**+0.3**
	comp=Z,0.9nm,0.6s,mb3.6,baz=298,slow=6.7,SNR=4.2						
ARCES	**ARCESS Array B**	**57.34**	**338**	P	**P**	**03 10 23.5**	**-0.8**
	comp=Z,1.5nm,0.9s,mb3.6,baz=45,slow=10,SNR=3.6						
KAF	**Kangasniemi**	**62.09**	**331**	*e*p	**P**	**03 10 53.8**	**-2.8**
FINES	**FINESS Array B**	**62.63**	**331**	P	**P**	**03 10 59.1**	**-1.1**
	comp=Z,1.8nm,0.7s,mb3.8,baz=45,slow=8.1,SNR=11						
WRAB	**Tennant Creek**	**64.50**	**188**	P	**P**	**03 11 12.0**	**-0.9**
	comp=Z,9.0nm,1.0s,mb4.3						
WRAB	**Tennant Creek**	**64.50**	**188**	P	**P**	**03 11 12.0**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.3						
WRA	**Warramunga Arr**	**64.51**	**188**	P	**P**	**03 11 12.8**	**-0.2**
	comp=Z,0.4nm,0.5s,mb3.3,baz=6.3,slow=7.0,SNR=119						
NB2	**NORSAR Subarra**	**67.64**	**337**	P	**P**	**03 11 31.8**	**-0.3**
	comp=Z,0.7nm,0.6s,mb3.5,baz=44,slow=6.2						
NB2	**NORSAR Subarra**	**67.64**	**337**	P	**P**	**03 11 31.8**	**-0.3**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.6						
NOA	**NORSAR Array B**	**67.64**	**337**	P	**P**	**03 11 31.9**	**-0.2**
	comp=Z,0.8nm,0.6s,mb3.5,baz=38,slow=6.1,SNR=4.1						
HFS	**Hagfors**	**67.65**	**335**	P	**P**	**03 11 31.4**	**-0.7**
	comp=Z,1.4nm,0.4s,mb4.0,baz=45,slow=6.3,SNR=13						
AKASG	**Malin Array Be**	**68.92**	**321**	P	**P**	**03 11 39.9**	**-0.2**
	comp=Z,0.9nm,0.5s,mb3.6,baz=40,slow=6.0,SNR=9.1						
PDAR	**Pinedale Array**	**72.01**	**47**	P	**P**	**03 12 00.1**	**+1.3**
	comp=Z,0.4nm,0.5s,mb3.3,baz=253,slow=1.3,SNR=6.2						
STKA	**Stephens Creek**	**75.98**	**181**	P	**P**	**03 12 22.9**	**+1.0**
	comp=Z,4.7nm,1.1s,mb4.0,baz=359,slow=4.5,SNR=4.0						
GERES	**GERESS Array B**	**76.80**	**328**	P	**P**	**03 12 26.1**	**+0.1**
	comp=Z,0.1nm,0.3s,mb2.9,baz=14,slow=4.0,SNR=3.0						
TXAR	**Lajitas Array**	**85.04**	**53**	P	**P**	**03 13 11.6**	**+2.1**
	comp=Z,0.2nm,0.7s,mb3.0,baz=310,slow=4.5,SNR=3.5						
TXAR	**Lajitas Array**	**85.04**	**53**	P	**P**	**03 13 11.6**	**+2.1**
SNAA	**Sanae**	**148.03**	**200**		PKPdf	03 20 17.4	+5.5
VNA2	**Neumayer--Watz**	**149.62**	**199**	⇓*i*	PKPdf	03 20 22.0	+7.6
VNA3	**Neumayer Olymp**	**149.90**	**198**	⇓*i*	PKPdf	03 20 22.3	+7.5
VNA1	**Neumayer--Stat**	**150.02**	**199**	⇓*i*	PKPdf	03 20 23.2	+8.2

NEIC ***18*** *03:01:27.0, 39.33N×10.62W, MN2.6(MDD), After MDD.*
MDD ***18*** *03:01:28.4±1.2, 39.30N×10.84W, h60km, mb3.6/19, Error ellipse: s-maj=12.6km s-min=6.1km az=76.0, PRXIMO*
INMG ***18*** *03:01:29.6±1.1, 39.28N×10.97W, h4km±16km, ML2.1, Error ellipse: s-maj=12.8km s-min=3.8km az=84.0*
ISC 18 03:01:27.0±0.8, 39.42N±0.03×10.50W±0.07, h10km, n42, σ1§41/83, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOU	**Loures**	**1.18**	**117**	*e*P	**Pb**	**03 01 50.9**	**+1.9**
PLOU				*e*S	**Sb**	**03 02 07.2**	**+3.1**
	37nm,0.3s						
PLOU	**Loures**	**1.18**	**117**	P	**Pb**	**03 01 50.9**	**+1.9**
PLOU				S	**Sb**	**03 02 07.2**	**+3.1**
	18nm,0.3s						
LIS	**Lisbon**	**1.27**	**124**	*e*P	**Pb**	**03 01 51.9**	**+1.4**
LIS				*e*S	**Sb**	**03 02 09.3**	**+2.7**
LIS				*e*S	**Sb**	**03 02 09.4**	**+2.7**
LIS	**Lisbon**	**1.27**	**124**	*e*P	**Pb**	**03 01 51.9**	**+1.4**
LIS				*e*S	**Sb**	**03 02 09.3**	**+2.7**
ALMR	**Almeirim**	**1.51**	**100**	*e*P	**Pn**	**03 01 58.5**	**+4.2**
ALMR				*e*S	**Sb**	**03 02 15.6**	**+1.8**
ALMR				*e*S	**Sb**	**03 02 15.6**	**+1.8**
PTOM	**Tomar**	**1.62**	**82**	*e*Pn	**Pn**	**03 01 58.2**	**+2.3**
PTOM				*e*Sn	**Sn**	**03 02 19.9**	**+2.9**
	12nm,0.1s						
PTOM	**Tomar**	**1.62**	**82**	P	**Pn**	**03 01 58.2**	**+2.3**
PTOM				S	**Sn**	**03 02 19.9**	**+2.9**
	5.9nm,0.1s						
PTEO	**Sao Teotonio**	**2.33**	**143**	*e*Pn	**Pn**	**03 02 04.2**	**-1.9**
PTEO				*e*Sn	**Sn**	**03 02 30.2**	**-4.9**
	5.0nm,0.2s						
PTEO	**Sao Teotonio**	**2.33**	**143**	P	**Pn**	**03 02 04.2**	**-1.9**
PTEO				S	**Sn**	**03 02 30.2**	**-4.9**
	2.5nm,0.2s						
PCBR	**Castelo Branco**	**2.37**	**79**	*e*Pn	**Pn**	**03 02 08.0**	**+1.5**
PCBR				*e*Sn	**Sn**	**03 02 37.4**	**+1.5**
	3.8nm,0.1s						
PCBR	**Castelo Branco**	**2.37**	**79**	P	**Pn**	**03 02 08.0**	**+1.5**
PCBR				S	**Sn**	**03 02 37.4**	**+1.5**
	1.9nm,0.1s						
MTE	**Manteigas**	**2.47**	**66**	*e*Pn	**Pn**	**03 02 09.6**	**+1.6**
MTE				*e*Sn	**Sn**	**03 02 39.9**	**+1.4**
	4.0nm,0.4s						
MTE	**Manteigas**	**2.47**	**66**	P	**Pn**	**03 02 09.6**	**+1.6**
MTE				S	**Sn**	**03 02 39.9**	**+1.4**
	2.0nm,0.4s						
PBEJ	**Beja**	**2.49**	**123**	*e*Pn	**Pn**	**03 02 07.9**	**-0.3**
PBEJ				*e*Sn	**Sn**	**03 02 37.4**	**-1.5**
	3.8nm,0.1s						
PBEJ	**Beja**	**2.49**	**123**	P	**Pn**	**03 02 07.9**	**-0.3**
PBEJ				S	**Sn**	**03 02 37.4**	**-1.5**
	1.9nm,0.1s						
EBAD	**Badajoz**	**2.79**	**103**	P	**Pn**	**03 02 12.6**	**0.0**
	0.9nm,0.0s,SNR=23						
EBAD				S	**Sn**	**03 02 45.8**	**-0.8**
	6.7nm,0.1s,SNR=13						
PVRL	**Vila Real**	**2.82**	**48**	*e*Pn	**Pn**	**03 02 14.3**	**+1.4**
PVRL				*e*Sn	**Sn**	**03 02 47.0**	**-0.3**
EGRO	**El Granado**	**3.03**	**128**	P	**Pn**	**03 02 15.0**	**-0.9**
	2.3nm,0.3s,SNR=16						
EGRO				S	**Sn**	**03 02 49.1**	**-3.5**
	2.6nm,0.1s,SNR=6.2						
EZAM	**Zamans**	**3.05**	**26**	P	**Pn**	**03 02 16.5**	**+0.3**
	2.6nm,0.2s,SNR=7.2						
EZAM				S	**Sn**	**03 02 50.7**	**-2.4**
	1.5nm,0.1s,SNR=5.2						
EZAM	**Zamans**	**3.05**	**26**	P	**Pn**	**03 02 16.5**	**+0.3**
EZAM				S	**Sn**	**03 02 50.6**	**-2.5**
ELOB	**Lobios**	**3.06**	**36**	P	**Pn**	**03 02 17.4**	**+0.9**
	3.8nm,0.8s,SNR=18						
ELOB				S	**Sn**	**03 02 52.9**	**-0.6**
	7.0nm,0.1s,SNR=6.7						
EMIN	**Mina Concepcio**	**3.42**	**118**	P	**Pn**	**03 02 21.2**	**-0.4**
	2.3nm,0.8s,SNR=18						
EMIN				S	**Sn**	**03 02 59.4**	**-3.2**
	2.1nm,0.1s,SNR=8.1						
EMAZ	**Mazaricos**	**3.70**	**18**	P	**Pn**	**03 02 24.9**	**-0.6**
	2.0nm,0.1s,SNR=7.9						
EMAZ				S	**Sn**	**03 03 05.0**	**-4.7**
	3.1nm,0.1s,SNR=4.8						
EMAZ	**Mazaricos**	**3.70**	**18**	P	**Pn**	**03 02 24.9**	**-0.6**
EMAZ				S	**Sn**	**03 03 04.7**	**-5.0**
PBRG	**Braganca**	**3.72**	**49**	*e*Pn	**Pn**	**03 02 26.7**	**+1.0**
PBRG				*e*Sn	**Sn**	**03 03 09.5**	**-0.6**
	1.9nm,0.2s						
PBRG	**Braganca**	**3.72**	**49**	P	**Pn**	**03 02 26.7**	**+1.0**
PBRG				S	**Sn**	**03 03 09.5**	**-0.6**
	0.9nm,0.2s						
STS	**Santiago**	**3.76**	**22**	P	**Pn**	**03 02 25.6**	**-0.7**
	0.4nm,0.2s,SNR=7.9						
STS				S	**Sn**	**03 03 07.7**	**-3.4**
	1.8nm,0.1s,SNR=7.9						
STS	**Santiago**	**3.76**	**22**	P	**Pn**	**03 02 25.6**	**-0.7**
STS				S	**Sn**	**03 03 07.2**	**-3.9**
ECAL	**Calabor**	**3.81**	**47**	P	**Pn**	**03 02 28.1**	**+1.1**
	1.5nm,0.1s,SNR=25						
ECAL				S	**Sn**	**03 03 11.8**	**-0.5**
	0.8nm,0.1s,SNR=6.4						
ERUA	**La Rua**	**3.91**	**40**	P	**Pn**	**03 02 29.7**	**+1.3**
	3.4nm,0.1s,SNR=7.9						
ESPR	**Espera**	**4.46**	**123**	P	**Pn**	**03 02 35.8**	**-0.5**
	0.8nm,0.1s,SNR=7.9						
ESPR				S	**Sn**	**03 03 24.2**	**-4.7**
	2.8nm,0.2s,SNR=7.9						
ESPR	**Espera**	**4.46**	**123**	P	**Pn**	**03 02 35.8**	**-0.5**
ESPR				S	**Sn**	**03 03 25.8**	**-3.1**
EPON	**Pontenova**	**4.64**	**32**	P	**Pn**	**03 02 38.7**	**-0.2**
	0.4nm,0.1s,SNR=5.8						
EPON				S	**Sn**	**03 03 29.4**	**-4.0**
	0.6nm,0.1s,SNR=7.9						
EPON	**Pontenova**	**4.64**	**32**	P	**Pn**	**03 02 38.7**	**-0.2**
EPON				S	**Sn**	**03 03 28.8**	**-4.7**
EADA	**Adamuz**	**4.79**	**103**	P	**Pn**	**03 02 40.8**	**-0.2**
	1.4nm,0.4s,SNR=15						
EADA				S	**Sn**	**03 03 33.7**	**-3.6**
	0.8nm,0.2s,SNR=7.1						
ESDC	**Sonseca Array**	**5.06**	**85**	P	**Pn**	**03 02 44.7**	**0.0**
	1.8nm,0.3s,baz=265,slow=13,SNR=33						
ESDC				S	**Sn**	**03 03 41.2**	**-2.8**
	0.9nm,0.1s,baz=266,slow=23,SNR=7.8						
EARI	**Arriondas**	**5.55**	**44**	P	**Pn**	**03 02 52.5**	**+0.8**
	6.5nm,1.0s,SNR=14						
EARI				S	**Sn**	**03 03 53.9**	**-2.5**
	5.0nm,0.8s,SNR=7.9						
EQUE	**Quentar**	**5.97**	**110**	P	**Pn**	**03 02 56.9**	**-0.7**
	1.3nm,0.4s,SNR=7.9						
EQUE				S	**Sn**	**03 04 03.1**	**-3.9**
	0.7nm,0.6s,SNR=7.9						
EQES	**Quesada**	**6.04**	**103**	P	**Pn**	**03 02 57.6**	**-1.0**
	0.1nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**03 04 04.3**	**-4.2**
	2.5nm,0.5s,SNR=7.9						
ELAN	**Lanestosa**	**6.54**	**52**	P	**Pn**	**03 03 06.0**	**+0.4**
	0.6nm,0.1s,SNR=7.6						
ELAN				S	**Sn**	**03 04 18.1**	**-2.9**
	7.5nm,0.8s,SNR=7.9						
EALK	**Alkurruntz**	**7.75**	**58**	P	**Pn**	**03 03 23.2**	**+0.5**
	0.5nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**7.76**	**80**	P	**Pn**	**03 03 22.8**	**0.0**
	2.7nm,0.5s,SNR=7.9						

WEL 18 03:16:39.0±0.3, 38.42S×176.10E, h156km±2km, ML3.5/12, Error ellipse: s-maj=3.4km s-min=2.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKZ	**Black Stump Fm**	**0.81**	**158**	PN	P	03 17 03.3	+0.2
BKZ				SN	S	03 17 21.2	-0.5
BKZ				SN	S	03 17 21.3	-0.3
URZ	**Urewera**	**0.81**	**79**	PN	P	03 17 02.8	-0.3
URZ				SN	S	03 17 20.9	-0.8
TWVZ	**Taurewa**	**0.83**	**218**	PN	P	03 17 03.1	-0.2
TUVZ	**Tukino**	**0.92**	**202**	PN	P	03 17 04.0	+0.1
WNVZ	**Wahianoa**	**0.99**	**203**	PN	P	03 17 04.4	+0.1
MOVZ	**Moawhango**	**1.02**	**195**	PN	P	03 17 04.3	-0.3
MWZ	**Matawai**	**1.12**	**86**	PN	P	03 17 05.6	0.0
MWZ				SN	S	03 17 25.3	-0.9
KNZ	**Kokohu**	**1.37**	**116**	SN	S	03 17 30.4	0.0
WAZ	**Wanganui**	**1.59**	**213**	PN	P	03 17 09.4	-0.8
TSZ	**Takapari Road**	**1.64**	**184**	PN	P	03 17 10.1	-0.7
MXZ	**Matakaoa Point**	**1.94**	**65**	PN	P	03 17 13.7	-0.4
BFZ	**Birch Farm**	**2.26**	**177**	PN	P	03 17 16.4	-1.6
MRZ	**Mangatainoka R**	**2.27**	**190**	PN	P	03 17 16.1	-2.0
MRZ				SN	S	03 17 44.3	-3.9
KIW	**Kapiti Island**	**2.61**	**200**	PN	P	03 17 19.3	-2.9
MTW	**Mount Morrison**	**2.77**	**189**	PN	P	03 17 21.1	-3.2
CAW	**Cannon Point**	**2.80**	**196**	PN	P	03 17 21.8	-2.9
MSWZ	**Moikau Station**	**3.06**	**192**	PN	P	03 17 24.4	-3.6
MSWZ				SN	S	03 17 59.9	-5.8
TCW	**Tory Channel**	**3.12**	**206**	*e*PN	P	03 17 25.2	-3.6
TCW				SN	S	03 18 01.8	-5.3
QRZ	**Quartz Range**	**3.66**	**228**	PN	P	03 17 30.8	-5.0
THZ	**Tophouse**	**4.14**	**215**	*e*PN	P	03 17 37.2	-4.9
THZ				SN	S	03 18 24.6	-6.0
**KHZ

OKC	**Ostrava-Krasne**	**2.17 141**	*e*SG	Sg	03 31 38.8	-5.5
VRAC	**Vranov**	**2.27 171**	*e*Pn	Pn	03 31 10.6	-0.6
VRAC			*e*Sg	Sg	03 31 40.7	-6.9
NKC	**Novy Kostel**	**2.63 241**	*e*Pn	Pn	03 31 14.7	-1.8
NKC			*e*Sg	Sg	03 31 55.3	-4.5
KHC	**Kasperske Hory**	**2.89 214**	*e*Pg	Pg	03 31 24.8	-5.0
KHC			*e*Sn	Sn	03 31 53.0	-3.0
KHC			*e*Sg	Sg	03 32 01.8	-6.5
KHC	**Kasperske Hory**	**2.89 214**	*e*Pn	Pn	03 31 17.9	-2.2
KHC			*e*Pg	Pg	03 31 24.8	-5.0
KHC			*e*Sn	Sn	03 31 53.0	-3.0
KHC			*e*Sg	Sg	03 32 01.8	-6.5
MOX	**Moxa**	**2.94 254**	*e*Pg	Pg	03 31 26.8	-4.0
MOX			*e*Sg	Sg	03 32 06.7	-3.2
MOA	**Molln**	**3.88 198**	⇑*i*PN	Pn	03 31 32.3	-1.8
MOA			*i* SG	Sg	03 32 35.8	-5.4
	1.8nm,0.4s					

BJI ***18*** *03:55:10.5, 39.30N×72.40E, h10km, mb4.5, ML4.6*
MOS ***18*** *03:55:12.6±2.3, 39.54N×72.36E, h10km, mb4.4/7, Error ellipse: s-maj=10.6km s-min=5.5km az=103.3*
IDC ***18*** *03:55:12.4±1.3, 39.24N×72.11E, mb3.9/11, mb1 4.1/13, mb1mx4.0/23, mbtmp4.0/13, ML3.7/2, MS3.3/6, Ms1 3.3/6, ms1mx3.0/29, Error ellipse: s-maj=29.6km s-min=16.4km az=171.0*
NEIC ***18*** *03:55:13.6±0.5, 39.34N×72.37E, h10km, mb4.3/7, Error ellipse: s-maj=11.7km s-min=7.4km az=224.0*
NNC ***18*** *03:55:16.3±11.0, 39.77N×72.48E, h3km±46km, mpv4.4, Error ellipse: s-maj=82.1km s-min=37.4km az=178.0*

ISC 18 03:55:16.7±0.8, 39.24N±0.03×72.24E±0.07, h48km±9km, n91, σ1º31/98, mb3.9/17, MS3.3/5, 12C-4D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.10**	**20**	P	**P**	**03 56 04.3**	**-0.1**
	SNR=149						
UCH	**Uchtor**	**3.45**	**29**	P	**P**	**03 56 11.0**	**+1.6**
	SNR=23						
EKS2	**Erkin-Say**	**3.61**	**18**	P	**P**	**03 56 11.4**	**-0.3**
	SNR=161						
KZA	**Kyzart**	**3.65**	**38**	P	**P**	**03 56 13.3**	**+1.2**
	SNR=130						
AAK	**Ala-Archa**	**3.80**	**26**	P	**P**	**03 56 16.2**	**+2.0**
	SNR=66						
AAK	**Ala-Archa**	**3.80**	**26**	⇑Pg	**P**	**03 56 14.9**	**+0.6**
	155nm,0.8s						
AAK				⇓Lg		03 57 00.5	
	502nm,0.6s						
AAK	**Ala-Archa**	**3.80**	**26**	*e*Pn	**P**	**03 56 12.5**	**-1.7**
AAK				*e*Sn	**S**	**03 56 58.3**	**+0.1**
AAK				Lg		03 57 00.5	
KBK	**Karagaybulak**	**3.98**	**30**	P	**P**	**03 56 18.0**	**+1.2**
	SNR=26						
KK31	**Karatay Array**	**4.08**	**342**	⇓Pn	**P**	**03 56 15.5**	**-2.7**
	15nm,0.4s,baz=146,slow=11,SNR=302						
KK31				⇑Pg	**P**	**03 56 23.0**	**+4.7**
	170nm,0.8s,baz=159,slow=15						
KK31				⇑Lg		03 57 12.2	
	267nm,0.8s,baz=136,slow=28						
KK31	**Karatay Array**	**4.08**	**342**	⇓Pn	**P**	**03 56 15.5**	**-2.7**
KK31				⇑Pg	**P**	**03 56 23.0**	**+4.7**
KK31				Lg		03 57 12.2	
KKAR	**Karatay Array**	**4.08**	**342**	*e*PN	**P**	**03 56 15.7**	**-2.5**
KKAR				pmax	pmax		
	comp=Z,9.0nm,0.3s						
CHMS	**Chumysh**	**4.21**	**26**	P	**P**	**03 56 20.6**	**+0.5**
	SNR=33						
ULHL	**Ulahol**	**4.27**	**44**	P	**P**	**03 56 21.8**	**+0.8**
	SNR=46						
USP	**Ospenovka**	**4.37**	**22**	P	**P**	**03 56 21.8**	**-0.5**
	SNR=72						
TKM2	**Tokmak 2**	**4.47**	**33**	P	**P**	**03 56 24.2**	**+0.5**
	SNR=20						
AAA	**Alma-Ata**	**5.37**	**40**	*e*PG	**P**	**03 56 51.6**	**+15**
AAA				*e*S	S	03 57 58.0	+20
AAA				pmax	pmax		
	comp=Z,348nm,2.3s						
AAA				smax			
	comp=E,2μm,4.0s						
CEP	**Cherat**	**5.41**	**183**	P	**P**	**03 56 45.3**	**+8.5**
CEP				S	**S**	**03 57 51.0**	**+12**
CHCP	**Chirah Chowk**	**5.63**	**171**	P	**P**	**03 56 47.1**	**+7.2**
THW	**Thamme Wali**	**6.44**	**184**	P	**P**	**03 56 59.1**	**+7.8**
KLP	**Kalpa**	**9.11**	**146**	*i* P	**P**	**03 57 29.9**	**+1.5**
KLP				*e*S	**S**	**03 59 10.9**	**+0.3**
KLP				AML	AML	03 59 21.1	
	comp=E,144nm,0.6s						
KLP				AML	AML	03 59 22.5	
	comp=N,168nm,0.6s						
JOSI	**Joshimath**	**10.53**	**143**	*ex*	x	03 59 07.6	
JOSI				AML	AML	03 59 22.7	
	comp=N,288nm,0.7s						
JOSI				AML	AML	03 59 22.9	
	comp=E,402nm,0.5s						
MK31	**Makanchi Array**	**10.54**	**41**	⇑P	**P**	**03 57 42.8**	**-5.0**
	comp=E,3.1nm,0.6s,baz=227,slow=13,SNR=7.2						
MK31	**Makanchi Array**	**10.54**	**41**	⇑P	**P**	**03 57 42.8**	**-5.1**
	comp=E,3.1nm,0.6s						
MKAR	**Makanchi Array**	**10.54**	**41**	Pn	**P**	**03 57 47.2**	**-0.6**
	comp=E,0.2nm,0.3s,baz=228,slow=13,SNR=9.4						
MKAR				Lg		04 00 36.2	
	comp=E,0.5nm,0.3s,baz=212,slow=27,SNR=3.3						
MKAR	**Makanchi Array**	**10.54**	**41**	Pn	**P**	**03 57 47.2**	**-0.6**
MKAR				Lg		04 00 36.2	
MKAR	**Makanchi Array**	**10.54**	**41**	*e*P	**P**	**03 57 48.2**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
NDI	**New Delhi**	**11.30**	**157**	*ex*	x	03 58 04.0	
NDI				*i* S	**S**	**04 00 04.5**	**+0.4**
KHET	**Khetri**	**11.52**	**164**	*e*P	**P**	**03 58 02.6**	**+1.4**
KHET				*e*S	**S**	**04 00 08.0**	**-1.3**
KHET				AML	AML	04 01 08.3	
	comp=E,65nm,0.5s						
KHET				AML	AML	04 01 08.3	
	comp=N,19nm,0.5s						
SONA	**Sohna**	**11.67**	**158**	*e*P	**P**	**03 58 06.7**	**+3.5**
SONA				*e*S	**S**	**04 00 10.7**	**-2.2**
SONA				AML	AML	04 00 22.2	
	comp=E,21nm,0.4s						
SONA				AML	AML	04 00 22.4	
	comp=N,16nm,0.6s						
KURK	**Kurchatov**	**12.33**	**19**	*e*Pn	**P**	**03 58 03.4**	**-8.6**
	comp=N,4.3nm,0.9s						
KURK				*e*Sn	**S**	**04 00 28.1**	**-0.6**
KURK				*e*Lg		04 01 33.8	
KURK	**Kurchatov**	**12.33**	**19**	P	**P**	**03 58 05.5**	**-6.5**
KURK				pmax	pmax		
	comp=Z,4.0nm,1.3s						
WMQ	**Urumqi**	**12.45**	**63**	*e*P	**P**	**03 58 07.6**	**-6.0**
WMQ				AMB	AMB		
	comp=Z,11nm,1.0s						
AGRA	**Agra**	**12.88**	**157**	*ex*	x	04 00 35.4	
AGRA				*ex*	x	04 00 41.8	
AB31	**Akbulak array**	**13.33**	**323**	⇓P	**P**	**03 58 18.0**	**-7.2**
	comp=Z,13nm,0.6s,baz=135,slow=12,SNR=166						
AB31	**Akbulak array**	**13.33**	**323**	*i* P	**P**	**03 58 18.0**	**-7.2**
AB31				*i*		04 00 39.5	
AB31				pmax	pmax		
	comp=Z,11nm,0.6s						
VOSK	**Vostochnaya**	**13.52**	**357**	⇑P	**P**	**03 58 20.8**	**-6.8**
	comp=Z,2.0nm,0.6s						
VOSK	**Vostochnaya**	**13.52**	**357**	⇑P	**P**	**03 58 20.8**	**-6.8**
	comp=Z,2.0nm,0.6s						
VOSK	**Vostochnaya**	**13.52**	**357**	P	**P**	**03 58 20.7**	**-6.9**
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BVA0	**Borovoye Array**	**13.85**	**355**	⇑P	**P**	**03 58 24.2**	**-7.8**
	comp=Z,1.3nm,0.9s						
BVA0	**Borovoye Array**	**13.85**	**355**	⇑P	**P**	**03 58 24.2**	**-7.8**
	comp=Z,1.3nm,0.9s						
BVA0	**Borovoye Array**	**13.85**	**355**	P	**P**	**03 58 24.1**	**-7.8**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BVAR	**Borovoye Array**	**13.85**	**355**	Pn	**P**	**03 58 23.6**	**-8.4**
	comp=Z,0.3nm,0.3s,baz=174,slow=13,SNR=23						
BVAR				Lg		04 02 22.7	
	comp=Z,0.2nm,0.3s,baz=159,slow=25,SNR=3.7						
BRVK	**Borovoye**	**13.89**	**355**	*e*P	**P**	**03 58 26.5**	**-6.0**
	comp=Z,5.1nm,0.9s						
KOLN	**Koldanda**	**14.83**	**137**	*e*P	**P**	**03 58 45.1**	**+0.1**
	comp=Z,10nm,0.5s						
AKTK	**Aktyubinsk**	**15.04**	**323**	⇑P	**P**	**03 58 41.6**	**-5.9**
AKTO	**Aktyubinsk**	**15.04**	**323**	⇑P	**P**	**03 58 41.6**	**-5.9**
	comp=Z,4.2nm,1.3s						
AKTO	**Aktyubinsk**	**15.04**	**323**	P	**P**	**03 58 41.3**	**-6.2**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.9s						
GKN	**Gorkha**	**15.22**	**134**	*e*P	**P**	**03 58 49.6**	**-0.3**
	comp=Z,25nm,0.4s						
KKN	**Kakani**	**15.74**	**133**	*e*P	**P**	**03 58 55.8**	**-0.9**
	comp=Z,20nm,0.5s						
KKN	**Kakani**	**15.74**	**133**	*e*P	**P**	**03 58 55.8**	**-0.9**
KKN				pmax	pmax		
	comp=Z,10.0nm,0.5s						
DMN	**Daman**	**15.78**	**133**	*e*P	**P**	**03 58 55.3**	**-1.9**
PKI	**Pulchoki**	**15.98**	**133**	*e*P	**P**	**03 58 57.9**	**-1.8**
BHPL	**Bhopal**	**16.54**	**163**	*e*P	**P**	**03 59 08.1**	**+1.3**
BHPL				*i* x	x	04 01 57.4	
BHPL				AML	AML	04 02 22.9	
	comp=E,5.5nm,0.3s						
BHPL				AML	AML	04 02 23.9	
	comp=N,5.4nm,0.3s						
ZAL	**Zalesovo**	**17.01**	**26**	Pn	**P**	**03 59 09.5**	**-2.9**
	comp=N,1.3nm,0.3s,baz=256,slow=7.2,SNR=7.1						
ZAL				Sn	**S**	**04 02 07.5**	**-11**
	comp=N,1.5nm,0.3s,baz=206,slow=1.8,SNR=4.0						
ZAL				Lg		04 04 02.8	
	comp=N,0.5nm,0.3s,baz=151,slow=18,SNR=2.2						
ZAL				LR	LR	04 06 50.2	
	comp=N,77nm,20.6s,baz=252,slow=41						
ZAL	**Zalesovo**	**17.01**	**26**	Pn	**P**	**03 59 09.5**	**-2.9**
ZAL				Sn	**S**	**04 02 07.5**	**-11**
ZAL				Lg		04 04 02.8	
ZAL				LR	LR	04 06 50.2	
NVS	**Novosibirsk**	**17.28**	**22**	*e*P	**P**	**03 59 14.3**	**-1.5**
NVS				pmax	pmax		
	comp=N,8.0nm,0.8s						
NVS				pmax	pmax		
	comp=E,5.0nm,0.8s						
NVS				pmax	pmax		
	comp=Z,8.0nm,0.8s						
BLSP	**Bilaspur**	**19.03**	**151**	*ex*	**P**	**03 59 30.9**	**-6.5**
SVE	**Sverdlovsk**	**19.19**	**340**	*e*P	**P**	**03 59 35.2**	**-3.7**
SVE				pmax	pmax		
	comp=Z,20nm,0.7s						
SVE				MLR	MLR		
	comp=N,100nm,9.0s						
SVE				MLR	MLR		
	comp=E,100nm,9.0s						
SVE				MLR	MLR		
	comp=Z,200nm,9.0s						
ARU	**Arti**	**19.44**	**337**	*e*P	**P**	**03 59 37.8**	**-3.8**
	comp=Z,16nm,1.0s						
ARU	**Arti**	**19.44**	**337**	*e*P	**P**	**03 59 38.8**	**-2.9**
ARU				*e*SS	**S**	**04 03 13.7**	**+0.6**
GNI	**Garni**	**21.16**	**281**	P	**P**	**04 00 01.3**	**+1.6**
	comp=Z,4.1nm,0.4s,mb4.1,baz=62,slow=6.7,SNR=6.1						
GNI	**Garni**	**21.16**	**281**	P	**P**	**04 00 00.8**	**+1.1**
	comp=Z,25nm,1.0s,mb4.5						
GNI	**Garni**	**21.16**	**281**	P	**P**	**04 00 00.8**	**+1.1**
GNI				pmax	pmax		
	comp=Z,25nm,1.0s						
ZEI	**Tsey**	**21.64**	**289**	*e*P	**P**	**04 00 09.1**	**+4.5**
ZEI				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.0						
GOF	**Gofitskoye**	**22.36**	**295**	*e*P	**P**	**04 00 11.2**	**-0.4**
KIV	**Kislovodsk**	**22.54**	**292**	P	**P**	**04 00 14.6**	**+1.2**
	comp=Z,7.9nm,0.7s,mb4.2						
KIV	**Kislovodsk**	**22.54**	**292**	*e*P	**P**	**04 00 16.3**	**+2.9**
KIV				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.1						
ZAK	**Zakamensk**	**24.50**	**53**	*e*P	**P**	**04 00 33.7**	**+1.3**
ZAK				*e*		04 00 39.6	
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.6						
SONM	**Songino Array**	**26.03**	**60**	P	**P**	**04 00 48.1**	**+1.1**
	comp=Z,0.7nm,0.5s,mb3.4,baz=268,slow=9.4,SNR=7.0						
SONM				LR	LR	04 12 09.6	
	comp=Z,84nm,19.3s,MS3.3,baz=101,slow=39						
MALT	**Malatya**	**26.30**	**279**	P	**P**	**04 00 53.3**	**+3.8**
	comp=Z,1.9nm,0.8s,mb3.7						
MALT	**Malatya**	**26.30**	**279**	P	**P**	**04 00 53.3**	**+3.8**
MALT				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.7						
BRTR	**Keskin Array B**	**29.65**	**283**	P	**P**	**04 01 19.9**	**+0.2**
	comp=Z,0.9nm,0.7s,mb3.6,baz=96,slow=6.9,SNR=4.3						
MLR	**Muntele Rosu**	**34.39**	**296**	P	**P**	**04 02 03.2**	**+2.1**
	comp=Z,1.7nm,0.9s,mb4.0,baz=319,slow=1.5,SNR=4.5						
FINES	**FINESS Array B**	**35.81**	**324**	P	**P**	**04 02 11.7**	**-1.3**
	comp=Z,1.6nm,0.7s,mb4.1,baz=103,slow=7.1,SNR=6.1						
FINES				LR	LR	04 17 44.0	
	comp=Z,30nm,19.2s,MS3.1,baz=155,slow=38						
FINES	**FINESS Array B**	**35.81**	**324**	P	**P**	**04 02 11.7**	**-1.3**
FINES				LR	LR	04 17 44.0	
KAF	**Kangasniemi**	**35.91**	**325**	*ep*	**P**	**04 02 12.7**	**-1.2**
ARCES	**ARCESS Array B**	**39.02**	**336**	P	**P**	**04 02 38.8**	**-1.0**
	comp=Z,1.5nm,0.5s,mb4.0,baz=111,slow=8.7,SNR=14						
ARCES				LR	LR	04 19 15.9	
	comp=Z,30nm,18.0s,MS3.2,baz=247,slow=37						
VRAC	**Vranov**	**40.26**	**303**	LR	LR	04 19 56.5	
	comp=Z,26nm,20.0s,MS3.1,baz=248,slow=37						
HFS	**Hagfors**	**41.57**	**320**	P	**P**	**04 03 00.2**	**-0.6**
	comp=Z,4.8nm,0.7s,mb4.3,baz=106,slow=11,SNR=14						
GERES	**GERESS Array B**	**42.21**	**303**	P	**P**	**04 03 07.9**	**+1.6**
	comp=Z,0.2nm,0.5s,mb3.0,baz=74,slow=9.7,SNR=5.5						
NB2	**NORSAR Subarra**	**42.83**	**321**	P	**P**	**04 03 10.2**	**-1.0**
	comp=Z,1.1nm,0.6s,mb3.8,baz=92,slow=7.9						
NB2	**NORSAR Subarra**	**42.83**	**321**	P	**P**	**04 03 10.2**	**-1.0**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.7						
NOA	**NORSAR Array B**	**42.83**	**321**	P	**P**	**04 03 10.3**	**-0.8**
	comp=Z,1.5nm,0.7s,mb3.9,baz=91,slow=8.1,SNR=6.6						
DAVOX	**Davos**	**45.16**	**301**	P	**P**	**04 03 30.3**	**+0.2**
	comp=Z,1.2nm,0.5s,mb4.0,baz=104,slow=12,SNR=2.9						
DAVOS	**Davos**	**45.20**	**301**	P	**P**	**04 03 30.3**	**-0.2**
INK	**Inuvik**	**71.05**	**10**	P	**P**	**04 06 31.1**	**+0.2**
	comp=Z,1.7nm,0.5s,mb4.2,baz=191,slow=5.5,SNR=4.6						
INK	**Inuvik**	**71.05**	**10**	*e*P	**P**	**04 06 28.5**	**-2.4**
	comp=Z,2.3nm,0.4s,mb4.5						
INK				*e*	pP	04 06 37.7	-7.1
INK	**Inuvik**	**71.05**	**10**	*e*P	**P**	**04 06 28.5**	**-2.4**
INK				*e*	pP	04 06 37.7	-7.1
INK				pmax	pmax		
	comp=Z,2.0nm,0.4s						
YKA	**Yellowknife Ar**	**78.47**	**3**	P	**P**	**04 07 16.0**	**+2.5**
	comp=Z,0.3nm,0.3s,mb3.6,baz=17,slow=6.4,SNR=2.6						
WRA	**Warramunga Arr**	**82.62**	**123**	P	**P**	**04 07 37.5**	**+1.1**
	comp=Z,0.4nm,0.7s,mb3.5,baz=326,slow=4.9,SNR=5.2						
PDAR	**Pinedale Array**	**98.36**	**1**	LR	LR	04 55 07.5	
	comp=Z,50nm,19.1s,MS4.0,baz=259,slow=36						

FUNV ***18*** *03:59:18.7, 10.65N×61.66W, h28km, MW2.6*
NEIC ***18*** *03:59:20.6, 10.57N×61.81W, h29km, MD2.9(TRN), After TRN.*

TRN 18 03:59:20.6, 10.57N×61.81W, h29km, MD2.9, 3D, Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.40**	**79**	⇓*i*P	Pb	03 59 29.6	+0.2
TRN				*e*S	Sb	03 59 36.0	+0.5
GUIV	**Guiria**	**0.42**	**280**	⇓*i*P	Pb	03 59 30.1	+0.5
GUIV				*e*S	Sb	03 59 37.4	+1.5
TPP	**Pointe-a-Pierr**	**0.43**	**126**	*e*P	Pb	03 59 30.4	+0.5
TPP				*e*S	Sb	03 59 37.1	+0.9
TBH	**Brigand Hill**	**0.73**	**97**	*e*P	Pb	03 59 34.3	-0.4
TBH				*e*S	Sb	03 59 46.6	+2.2
TPR	**Prospect**	**1.18**	**59**	⇓*i*P	Pn	03 59 40.6	-0.7
TPR				*e*S	Sn	03 59 56.5	+0.1
GUNV	**Guanoco**	**1.19**	**250**	*e*P	Pn	03 59 41.4	-0.1
GUNV				*e*S	Sn	03 59 58.9	+2.1
BOT	**Bacolet**	**1.22**	**61**	*e*P	Pn	03 59 41.0	-0.9
BOT				*e*S	Sn	03 59 57.1	-0.4
ITEV	**Isla Los Testi**	**1.52**	**301**	*e*P	Pn	03 59 45.1	-1.0
ITEV				*e*S	Sn	04 00 03.6	-1.5
GRW	**Mount Saint Ca**	**1.58**	**5**	*e*P	Pn	04 00 00.6	+13
GRW				*e*S	Sn	04 00 07.2	+0.4
CUPV	**Cœpira**	**3.95**	**263**	*e*P	Pn	04 00 18.3	-2.5
CUPV				*e*S	Sn	04 01 02.4	-4.4
BIRV	**Birongo**	**4.39**	**269**	*e*P	Pn	04 00 24.6	-2.5
BIRV				*e*S	Sn	04 01 13.1	-4.8
MERV	**Las Mercedes**	**4.62**	**254**	*e*P	Pn	04 00 26.8	-3.5
MERV				*e*S	Sn	04 01 17.8	-5.8
CAOV	**Caicara del Or**	**5.50**	**234**	*e*P	Pn	04 00 38.7	-4.1

MOS ***18*** *04:31:02.4±1.1, 33.14N×142.01E, h32km, mb4.7/3, Error ellipse: s-maj=44.7km s-min=12.4km az=124.0*
JMA ***18*** *04:31:03.5±0.5, 33.18N×141.85E, h75km, M3.4*
IDC ***18*** *04:31:03.5±2.7, 32.75N×141.04E, mb3.9/4, mb1 4.0/6, mb1mx3.7/20, mbtmp3.9/6, ML3.8/2, Error ellipse: s-maj=96.8km s-min=18.0km az=69.0*
NEIC ***18*** *04:31:04.9±2.1, 33.17N×142.03E, h35km, mb4.7/5, Error ellipse: s-maj=80.4km s-min=9.4km az=65.0*

ISC 18 04:31:01.3±2.0, 33.13N±0.08×142.0E±0.2, h25km±15km, n30, σ0º75/38, mb4.3/9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.73**	**332**	P	**Pn**	**04 31 30.9**	**+0.6**
BSO1				*e*S	**Sn**	**04 31 51.7**	**-0.1**
BSO3	**Boso 3**	**2.06**	**324**	P	**Pn**	**04 31 35.4**	**+0.3**
BSO4	**Boso 4**	**2.30**	**324**	P	**Pn**	**04 31 39.8**	**+1.3**
JIM2	**Oshima 3**	**2.64**	**307**	P	**Pn**	**04 31 42.6**	**-0.8**
JIZS	**Izushimoda**	**3.02**	**302**	P	**Pn**	**04 31 48.6**	**-0.2**
JOD2	**Odawara 2**	**3.20**	**312**	P	**Pn**	**04 31 50.8**	**-0.5**
JYN	**Shimob**	**3.69**	**311**	P	**Pn**	**04 31 58.4**	**+0.1**
JRY	**Ryogami san**	**3.84**	**319**	P	**Pn**	**04 32 00.2**	**-0.1**
JAG	**Ashikaga**	**3.89**	**328**	P	**Pn**	**04 32 01.1**	**+0.1**
JAG				*e*S	**Sn**	**04 32 44.6**	**-1.8**
MJAR	**Matsushiro Arr**	**4.60**	**319**	Pn	**Pn**	**04 32 11.4**	**+0.2**
	5.2nm,0.3s,baz=146,slow=11,SNR=34						
MJAR				Sn	**Sn**	**04 33 05.1**	**+0.5**
	2.0nm,0.3s,baz=149,slow=26,SNR=6.2						
MJAR	**Matsushiro Arr**	**4.60**	**319**	Pn	**Pn**	**04 32 11.4**	**+0.2**
MJAR				Sn	**Sn**	**04 33 05.1**	**+0.5**
MAJO	**Matsushiro**	**4.60**	**319**	*e*Pn	**Pn**	**04 32 11.7**	**+0.5**
MAT	**Matsushiro**	**4.60**	**319**	P	**Pn**	**04 32 11.6**	**+0.4**
MAT				S	**Sn**	**04 33 04.9**	**+0.3**
MAT	**Matsushiro**	**4.60**	**319**	P	**Pn**	**04 32 11.7**	**+0.5**
MAT				*e*S	**Sn**	**04 33 03.0**	**-1.6**
MAT	**Matsushiro**	**4.60**	**319**	*e*P	**Pn**	**04 32 12.0**	**+0.8**
MAT				*e*S	**Sn**	**04 33 05.0**	**+0.4**
JMM	**Marumori**	**4.82**	**349**	P	**Pn**	**04 32 13.4**	**-0.9**
CBIJ	**Chichi jima**	**6.02**	**178**	Pn	**Pn**	**04 32 30.3**	**-0.9**
	5.6nm,0.3s,baz=278,slow=18,SNR=9.1						
CBIJ				Sn	**Sn**	**04 33 34.3**	**-5.8**
	6.6nm,0.3s,baz=282,slow=20,SNR=4.3						
SONM	**Songino Array**	**30.48**	**309**	P	**P**	**04 37 17.0**	**+2.6**
	0.9nm,0.6s,mb3.7,baz=114,slow=8.9,SNR=8.0						
MKAR	**Makanchi Array**	**46.67**	**305**	P	**P**	**04 39 29.9**	**+0.3**
	0.9nm,0.5s,mb4.0,baz=84,slow=9.7,SNR=11						
KURK	**Kurchatov**	**48.77**	**311**	*e*P	**P**	**04 39 45.2**	**-0.7**
	4.4nm,0.8s,mb4.5						
KURK	**Kurchatov**	**48.77**	**311**	*e*P	**P**	**04 39 45.2**	**-0.7**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
WRAB	**Tennant Creek**	**53.27**	**189**	P	**P**	**04 40 20.4**	**-0.1**
	comp=Z,5.8nm,0.8s,mb4.6						
WRAB	**Tennant Creek**	**53.27**	**189**	P	**P**	**04 40 20.4**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
WRA	**Warramunga Arr**	**53.28**	**189**	P	**P**	**04 40 20.5**	**0.0**
	comp=Z,1.6nm,0.5s,mb4.2,baz=5.2,slow=7.5,SNR=37						
BVAR	**Borovoye Array**	**53.59**	**315**	P	**P**	**04 40 22.5**	**+0.2**
	comp=Z,0.5nm,0.5s,mb3.7,baz=82,slow=10,SNR=4.0						
BRVK	**Borovoye**	**53.64**	**315**	P	**P**	**04 40 22.5**	**-0.3**
	comp=Z,3.8nm,1.5s,mb4.1						
BRVK	**Borovoye**	**53.64**	**315**	P	**P**	**04 40 22.5**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.5s,mb4.1						
MBWA	**Marble Bar**	**58.02**	**205**	P	**P**	**04 40 54.5**	**-0.1**
PALK	**Pallekele**	**62.06**	**260**	P	**P**	**04 41 16.1**	**-6.4**
	comp=Z,20nm,1.2s,mb5.1						
TAU	**Tasmania Unive**	**75.83**	**176**	P	**P**	**04 42 47.5**	**+0.4**
	comp=Z,49nm,1.3s,mb5.3						

NEIC ***18*** *04:31:44.9±0.5, 14.12N×92.77W, mb4.1/16, MD4.7(MEX), Error ellipse: s-maj=13.4km s-min=7.2km az=46.0*
IDC ***18*** *04:31:45.6±0.8, 14.20N×92.78W, h35km±5km, mb3.8/13, mb1 4.0/14, mb1mx3.9/26, mbtmp4.0/14, ML4.2/1, MS3.4/4, Ms1 3.4/4, ms1mx3.1/25, Error ellipse: s-maj=45.8km s-min=10.6km az=54.0*
MEX ***18*** *04:31:45.0±1.2, 14.09N×93.10W, h19km±162km, MD4.7*
CASC ***18*** *04:32:07.0±0.9, 14.02N×92.50W, h159km±79km, MD4.4, mb4.1(NEIC)*

ISC 18 04:31:43.4±0.4, 14.11N±0.05×92.88W±0.05, h35km, h35km±2.9km: pP-P, n66, σ1º33/66, mb4.1/24, MS3.3/4, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**2.28**	**18**	*i* P	**P**	**04 32 19.9**	**+0.5**
CCIG				*i* S	**S**	**04 32 47.7**	**+1.3**
SCX	**San Cristobal**	**2.62**	**5**	*i* P	**P**	**04 32 26.5**	**+2.2**
SCX				*i* S	**S**	**04 32 56.0**	**+0.8**
RBDL	**Robledal**	**3.10**	**90**	*e*P	Px	04 32 51.9	
RBDL				*e*S	Sx	04 33 28.0	
RTR	**El Retiro**	**3.15**	**93**	*e*P	Px	04 32 52.8	
RTR				*e*S	Sx	04 33 29.1	
SBLS	**San Blas**	**3.17**	**94**	*e

1.2nm,0.9s,mb3.8,baz=162,slow=14,SNR=4.6
ELK LR LR 04 53 23.4
comp=Z,86nm,18.7s,MS3.5,baz=175,slow=39
CMB Columbia Colle 34.09 319 P **P 04 38 27.5 +0.7**
5.9nm,1.3s,mb4.4
HLID Hailey 34.67 332 *e*P **P 04 38 32.3 +0.6**
2.5nm,0.8s,mb4.2
MCMT McKenzie Canyo 35.01 335 *e*P **P 04 38 36.1 +1.5**
MCMT *e*pP pP 04 38 45.4 +0.6
SAML Samuel 37.32 126 *e*P **P 04 38 52.7 -1.8**
6.0nm,1.4s,mb4.2
LPAZ La Paz 38.86 140 P **P 04 39 06.5 -0.8**
0.4nm,0.7s,mb3.3,baz=291,slow=8.6,SNR=2.4
LPAZ pP pP 04 39 19.2 +1.8
0.9nm,0.7s,baz=35,slow=8.2,SNR=3.9
LPAZ La Paz 38.86 140 P **P 04 39 05.6 -1.7**
1.6nm,0.8s,mb3.8
LPAZ *e*pP pP 04 39 18.7 +1.2
WALA Waterton Lakes 38.91 338 P **P 04 39 06.7 -0.6**
3.0nm,1.0s,mb4.0
NEW Newport 39.52 334 P **P 04 39 13.9 +1.4**
0.9nm,0.4s,mb3.8,baz=169,slow=10,SNR=2.6
NEW LR LR 04 57 59.6
comp=Z,62nm,19.1s,MS3.5,baz=134,slow=40
NEW Newport 39.52 334 P **P 04 39 08.6 -3.9**
7.5nm,1.6s,mb4.2
NEW LR LR 04 57 59.6
SIV San Ignacio 43.39 132 P **P 04 39 45.0 +0.2**
1.9nm,0.9s,mb3.8,baz=289,slow=9.6,SNR=9.7
SIV pP pP 04 39 55.0 0.0
2.4nm,0.7s,baz=308,slow=9.9,SNR=8.0
SCHQ Schefferville 45.42 21 P **P 04 39 56.8 -3.7**
8.0nm,1.2s,mb4.4
YKA Yellowknife Ar 50.73 347 P **P 04 40 40.5 -1.2**
5.3nm,0.8s,mb4.5,baz=149,slow=7.4,SNR=24
YKA Yellowknife Ar 50.73 347 P **P 04 40 40.5 -1.2**
CFAA Coronel Fontan 51.24 153 P **P 04 40 47.0 +1.0**
0.2nm,0.8s,mb3.1,baz=304,slow=3.6,SNR=3.3
CFAA pP pP 04 40 57.1 +0.8
0.2nm,0.6s,baz=338,slow=5.1,SNR=3.1
CFAA Coronel Fontan 51.24 153 P **P 04 40 47.0 +1.0**
CFAA pP pP 04 40 57.1 +0.8
DLBC Dease Lake 52.21 336 P **P 04 40 54.1 +1.2**
2.9nm,0.6s,mb4.4,baz=149,slow=6.3,SNR=8.9
DLBC pP pP 04 41 03.9 +0.7
2.5nm,0.6s,baz=171,slow=4.7,SNR=5.6
DLBC Dease Lake 52.21 336 *e*P **P 04 40 52.7 -0.1**
DLBC *e*pP pP 04 41 04.2 +0.9
RCBR Riachuelo 59.90 105 P **P 04 41 46.0 -2.6**
26nm,1.2s,mb5.1
INK Inuvik 60.09 344 P **P 04 41 48.6 -0.7**
3.5nm,0.7s,mb4.5,baz=122,slow=4.9,SNR=11
INK pP pP 04 41 58.2 -1.6
3.0nm,0.7s,baz=149,slow=13,SNR=3.0
ILAR Eielson Array 62.40 337 P **P 04 42 04.0 -0.9**
2.1nm,1.0s,mb4.2,baz=132,slow=4.4,SNR=11
ILAR pP pP 04 42 14.4 -1.1
1.5nm,0.9s,baz=109,slow=3.6,SNR=7.6
ARCES ARCESS Array B 86.30 18 P **P 04 44 21.8 -0.7**
1.7nm,0.9s,mb4.3,baz=280,slow=5.5,SNR=3.7
WRA Warramunga Arr 134.59 256 PKP PKPdf 04 51 00.8 +1.6
0.4nm,0.7s,baz=89,slow=2.4,SNR=5.3

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*ISK **18** 04:42:36.0,36.42N×44.17E,h30km,MD4.1,ML4.2*
*CSEM **18** 04:42:36.0,36.42N×44.17E,h30km,MD4.1,After ISK*
ISC 18 04:42:36.6±3.0,36.5N±0.1×44.3E±0.2,h28km±23km,n11,
σ0s83/13,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSL	**Mosul**	**0.98**	**257**	*e*Pg	x	04 43 01.5	
MSL				*i* Sg	x	04 43 09.0	
HAKT	**HAKKARI**	**1.13**	**336**	*i* P	**Pn**	**04 42 56.5**	**-0.3**
HAKT				*i* S	**Sb**	**04 43 11.8**	**0.0**
HKR	**Hakkari**	**1.14**	**338**	PN	**Pn**	**04 42 57.1**	**+0.2**
SIRT	**Sirnak**	**1.77**	**304**	PN	**Pn**	**04 43 04.7**	**-1.2**
SIRT				SN	**Sn**	**04 43 26.2**	**-1.4**
VANB	**Van**	**2.19**	**341**	PN	**Pn**	**04 43 12.3**	**+0.4**
BEST	**Besiri**	**2.76**	**301**	*i* P	**Pn**	**04 43 21.3**	**+1.2**
BEST				*i* S	**Sn**	**04 43 54.4**	**+1.5**
BTMT	**Batman**	**2.78**	**308**	*e*PN	**Pn**	**04 43 20.6**	**+0.2**
MARD	**Mardin**	**2.91**	**287**	*i* P	**Pn**	**04 43 22.6**	**+0.3**
MARD				*i* S	**Sn**	**04 43 51.4**	**-5.3**
BHD	**Baghdad**	**3.24**	**178**	*e*Pn	x	04 43 42.0	
BHD				*e*Pg	x	04 43 52.0	
BHD				*e*Sn	x	04 44 18.0	
BHD				*e*Sg	x	04 44 32.0	
PTK	**Pertek**	**4.54**	**303**	*e*PN	**Pn**	**04 43 45.4**	**0.0**
MYA	**Malataya**	**4.99**	**293**	*e*PN	**Pn**	**04 43 50.9**	**-0.9**

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*NIED **18** 04:45:00,33.20N×141.90E,h5km,Mw4.0 Best double couple: M0 1.09×10^15 NP1:φs 8°,δ53°,λ117°. NP2:φs 148°,δ45°,λ60°.*
*JMA **18** 04:45:55.7±0.7,33.19N×141.92E,M3.6*
*IDC **18** 04:45:57.8±1.5,32.97N×141.66E,mb3.7/3,mb1 3.8/5,mb1mx3.6/20,mbtmp3.8/5,ML3.8/2,MS3.2/2,Ms1 3.2/2,ms1mx2.8/29,Error ellipse: s-maj=56.2km s-min=20.7km az=64.0*
*MOS **18** 04:46:00.0±1.3,32.99N×141.56E,h33km,mb4.5/2,Error ellipse: s-maj=48.5km s-min=15.1km az=121.5*
*NEIC **18** 04:46:02.3±0.8,33.02N×141.51E,h35km,mb4.3/2,Error ellipse: s-maj=24.8km s-min=12.5km az=55.0*
ISC 18 04:45:56.8±1.9,33.04N±0.07×141.7E±0.1,h11km±14km,
n26,σ0s95/30,mb3.9/5,MS3.7/1,Off east coast of
Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.73**	**339**	P	**Pn**	**04 46 26.0**	**-1.1**
BSO1				*e*S	**Sn**	**04 46 50.1**	**+0.8**
BSO3	**Boso 3**	**2.03**	**330**	P	**Pn**	**04 46 31.5**	**0.0**
BSO4	**Boso 4**	**2.27**	**330**	P	**Pn**	**04 46 36.1**	**+1.3**
JIM2	**Oshima 3**	**2.55**	**312**	P	**Pn**	**04 46 39.0**	**+0.2**
JOD2	**Odawara 2**	**3.12**	**316**	P	**Pn**	**04 46 46.7**	**-0.3**
JYN	**Shimob**	**3.61**	**314**	P	**Pn**	**04 46 54.5**	**+0.6**
JRY	**Ryogami san**	**3.78**	**323**	P	**Pn**	**04 46 56.8**	**+0.4**
JRY				*e*S	**Sn**	**04 47 41.9**	**+0.5**
JAG	**Ashikaga**	**3.87**	**332**	P	**Pn**	**04 46 57.4**	**-0.2**
MJAR	**Matsushiro Arr**	**4.54**	**321**	Pn	**Pn**	**04 47 07.4**	**+0.2**
	2.3nm,0.3s,baz=163,slow=12,SNR=13						
MJAR				Sn	**Sn**	**04 47 59.9**	**-0.7**
	1.0nm,0.3s,baz=153,slow=17,SNR=4.8						
MAJO	**Matsushiro**	**4.55**	**321**	*e*P	**Pn**	**04 47 06.3**	**-0.9**
MAT	**Matsushiro**	**4.55**	**321**	P	**Pn**	**04 47 07.6**	**+0.4**
MAT				S	**Sn**	**04 47 59.9**	**-0.8**
MAT	**Matsushiro**	**4.55**	**321**	P	**Pn**	**04 47 08.2**	**+1.0**
MAT				*e*S	**Sn**	**04 48 00.0**	**-0.7**
MAT	**Matsushiro**	**4.55**	**321**	*e*P	**Pn**	**04 47 08.0**	**+0.8**
MAT				*e*S	**Sn**	**04 48 00.0**	**-0.7**
JMM	**Marumori**	**4.88**	**351**	P	**Pn**	**04 47 09.2**	**-2.7**
JMM				*e*S	**Sn**	**04 48 01.1**	**-8.0**
CBIJ	**Chichi jima**	**5.93**	**176**	Pn	**Pn**	**04 47 26.9**	**+0.1**
	7.5nm,0.3s,baz=293,slow=22,SNR=14						
CBIJ				Sn	**Sn**	**04 48 29.7**	**-5.9**
	7.1nm,0.3s,baz=253,slow=19,SNR=3.4						
JNU	**Nakatsue**	**9.11**	**273**	LR	LR	04 51 31.3	
	comp=Z,50nm,18.5s,baz=203,slow=37						
SONM	**Songino Array**	**30.39**	**310**	P	**P**	**04 52 13.2**	**+2.2**
	0.8nm,0.8s,mb3.5,baz=120,slow=7.5,SNR=7.5						
MKAR	**Makanchi Array**	**46.56**	**305**	P	**P**	**04 54 26.1**	**0.0**
	0.6nm,0.8s,mb3.6,baz=100,slow=7.4,SNR=5.1						
KURK	**Kurchatov**	**48.68**	**311**	P	**P**	**04 54 41.0**	**-1.7**
	2.7nm,0.8s,mb4.3						
KURK	**Kurchatov**	**48.68**	**311**	P	**P**	**04 54 41.0**	**-1.7**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
PMR	**Palmer**	**51.71**	**35**	P	**P**	**04 55 06.7**	**+0.9**
	comp=Z,3.3nm,0.9s,mb4.3						
PMR	**Palmer**	**51.71**	**35**	P	**P**	**04 55 06.7**	**+1.0**
PMR				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
WRA	**Warramunga Arr**	**53.15**	**189**	P	**P**	**04 55 16.5**	**-0.6**
	comp=Z,0.5nm,0.3s,mb3.9,baz=5.2,slow=7.6,SNR=9.0						
YBH	**Yreka Blue Hor**	**72.60**	**51**	LR	LR	05 24 08.8	
	comp=Z,37nm,19.6s,MS3.7,baz=88,slow=32						
LPAZ	**La Paz**	**148.30**	**66**	PKPbc	PKPdf	05 05 46.7	+3.4
	comp=Z,0.8nm,0.6s,baz=8.1,slow=6.8,SNR=3.6						
LPAZ	**La Paz**	**148.30**	**66**	PKPbc	PKPdf	05 05 46.7	+3.4

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*BJI **18** 04:55:53.4,2.50N×66.40E,h10km,mB5.2,mb4.4*
*IDC **18** 04:55:55.4±1.2,2.57N×66.33E,mb4.0/7,mb1 4.2/7,mb1mx3.9/17,mbtmp4.0/7,MS3.9/4,Ms1 3.9/4,ms1mx3.9/4,Error ellipse: s-maj=42.3km s-min=25.5km az=50.0*
*NEIC **18** 04:55:56.4±0.8,2.46N×66.39E,h10km,mb4.8/10,Error ellipse: s-maj=17.4km s-min=14.5km az=59.0*
ISC 18 04:55:54.5±0.9,2.5N±0.1×66.4E±0.1,h10km,n29,
σ1s00/25,mb4.5/19,MS3.8/4,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**15.05**	**71**	*e*P	**P**	**04 59 27.5**	**-1.8**
	18nm,1.0s						
ATD	**Arta Tunnel**	**24.99**	**292**	LR	LR	05 09 26.1	
	comp=Z,132nm,20.0s,MS3.4,baz=139,slow=32						
KMBO	**Kilima Mbogo**	**29.32**	**263**	LR	LR	05 14 04.9	
	comp=Z,244nm,18.5s,MS3.9,baz=277,slow=37						
KOLN	**Koldanda**	**30.07**	**32**	*e*P	**P**	**05 02 07.5**	**+1.1**
	51nm,1.5s,mb5.0						
DMN	**Daman**	**30.75**	**34**	*e*P	**P**	**05 02 13.3**	**+0.9**
	20nm,0.9s,mb4.9						
GKN	**Gorkha**	**30.80**	**33**	*e*P	**P**	**05 02 13.8**	**+0.9**
	24nm,1.0s,mb5.0						
PKI	**Pulchoki**	**30.89**	**34**	*e*P	**P**	**05 02 14.3**	**+0.6**
KKN	**Kakani**	**30.99**	**34**	*e*P	**P**	**05 02 14.9**	**+0.4**
	18nm,0.9s,mb4.9						
LSA	**Lhasa**	**35.87**	**39**	*e*P	**P**	**05 02 57.9**	**+1.1**
	24nm,1.4s,mb4.9						
AAK	**Ala-Archa**	**40.63**	**9**	P	**P**	**05 03 36.6**	**+0.2**
MKAR	**Makanchi Array**	**46.27**	**15**	P	**P**	**05 04 21.5**	**-0.5**
	0.3nm,0.4s,mb3.5,baz=198,slow=7.7,SNR=4.8						
MKAR				LR	LR	05 24 34.5	
	comp=Z,184nm,20.1s,MS4.0,baz=360,slow=37						
MKAR	**Makanchi Array**	**46.27**	**15**	P	**P**	**05 04 21.5**	**-0.5**
MKAR				LR	LR	05 24 34.5	
GTA	**Gaotai**	**47.70**	**35**	P	**P**	**05 04 34.4**	**+0.9**
GTA				AP	pP	05 04 40.1	+3.6
GTA				XP	sP	05 04 43.0	+5.3
GTA				AMB	AMB		
	comp=Z,3.0nm,1.3s,mb4.2						
KURK	**Kurchatov**	**49.17**	**10**	*e*P	**P**	**05 04 43.8**	**-0.9**
KURK				*e*		05 04 49.9	
XAN	**Xi'an**	**50.58**	**47**	P	**P**	**05 04 54.3**	**-1.4**
XAN				AMB	AMB		
	comp=Z,7.0nm,1.6s,mb4.3						
ZAL	**Zalesovo**	**53.48**	**13**	P	**P**	**05 05 16.5**	**-0.7**
	comp=Z,1.8nm,0.6s,mb4.2,baz=227,slow=5.0,SNR=6.5						
HHC	**Hu-ho-hao-te**	**55.80**	**41**	*e*P	**P**	**05 05 30.9**	**-3.5**
HHC				AMB	AMB		
	comp=Z,11nm,0.5s,mb5.1						
SONM	**Songino Array**	**56.83**	**31**	P	**P**	**05 05 41.9**	**+0.3**
	comp=Z,1.2nm,0.9s,mb3.9,baz=233,slow=7.6,SNR=9.5						
HIA	**Hailar**	**64.98**	**35**	P	**P**	**05 06 36.0**	**-0.9**
	comp=Z,5.8nm,1.0s,mb4.6						
WRA	**Warramunga Arr**	**70.25**	**112**	P	**P**	**05 07 11.1**	**+0.7**
	comp=Z,2.3nm,0.8s,mb4.2,baz=291,slow=5.5,SNR=11						
WRAB	**Tennant Creek**	**70.26**	**112**	*e*P	**P**	**05 07 11.1**	**+0.6**
	comp=Z,8.7nm,0.9s,mb4.7						
DBIC	**Dimbokro**	**71.07**	**276**	LR	LR	05 40 37.7	
	comp=Z,68nm,18.3s,MS4.0,baz=85,slow=38						
NOA	**NORSAR Array B**	**71.61**	**335**	P	**P**	**05 07 17.0**	**-1.0**
	comp=Z,1.6nm,0.8s,mb4.0,baz=113,slow=6.7,SNR=3.5						
ESDC	**Sonseca Array**	**73.33**	**311**	P	**P**	**05 07 28.8**	**+0.2**
	comp=Z,0.4nm,0.3s,mb3.8,baz=82,slow=5.3,SNR=7.8						
STKA	**Stephens Creek**	**78.81**	**123**	P	**P**	**05 08 01.0**	**+1.3**
	comp=Z,1.2nm,0.6s,mb4.0,baz=295,slow=9.6,SNR=4.1						
STKA	**Stephens Creek**	**78.81**	**123**	*e*P	**P**	**05 08 00.6**	**+0.9**
PMG	**Port Moresby**	**81.33**	**100**	*e*P	**P**	**05 08 18.1**	**+4.6**
	comp=Z,29nm,1.0s,mb5.2						
CTAO	**Charters Tower**	**81.36**	**111**	P	**P**	**05 08 11.8**	**-1.7**
	comp=Z,17nm,1.2s,mb4.9						
TXAR	**Lajitas Array**	**146.96**	**344**	PKPbc	PKPbc	05 15 41.0	+3.2
	comp=Z,4.1nm,0.8s,baz=58,slow=2.8,SNR=56						

IDC 18 04:58:04.0±2.5,2.46N×66.55E,mb3.6/2,mb1 3.9/2,
mb1mx3.4/17,mbtmp3.6/2,MS3.8/1,Ms1 3.9/1,
ms1mx3.5/5,Error ellipse: s-maj=84.2km s-min=48.3km
az=62.0,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**56.75**	**31**	P	P	05 07 49.8	-2.2
	0.4nm,0.7s,baz=239,slow=8.4,SNR=3.8						
WRA	**Warramunga Arr**	**70.07**	**112**	P	P	05 09 18.6	-1.8
	0.8nm,0.8s,baz=291,slow=5.4,SNR=6.0						
NOA	**NORSAR Array B**	**71.71**	**335**	LR	LR	05 44 29.2	
	comp=Z,55nm,18.0s,baz=90,slow=39						
TXAR	**Lajitas Array**	**147.03**	**344**	PKPbc	PKPdf	05 17 48.8	-0.4
	1.7nm,0.8s,baz=56,slow=2.7,SNR=8.8						

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*NIED **18** 05:07:00,33.10N×142.00E,h26km,Mw3.9 Best double couple: M0 9.18×10^14 NP1:φs 121°,δ79°,λ-65°. NP2:φs 234°,δ27°,λ-154°.*
*IDC **18** 05:07:05.1±1.9,33.14N×142.09E,mb4.0/7,mb1 4.1/9,mb1mx3.9/21,mbtmp4.0/9,ML4.0/2,MS3.0/1,Ms1 3.0/1,ms1mx2.7/19,Error ellipse: s-maj=77.5km s-min=20.4km az=72.0*
*JMA **18** 05:07:07.0±0.3,33.07N×141.99E,h79km,M3.6*
*MOS **18** 05:07:08.7±1.0,33.02N×141.69E,h33km,mb4.7/2,Error ellipse: s-maj=46.1km s-min=11.6km az=121.9*
*BJI **18** 05:07:10.5,32.80N×141.10E,h35km,mB4.5,mb4.5,Ms4.2,Msz4.1*
*NEIC **18** 05:07:12.6±1.2,32.83N×141.07E,h35km,mb4.5/2,MW3.9(NIED),Error ellipse: s-maj=31.8km s-min=13.1km az=78.0*
ISC 18 05:07:05.7±1.6,33.03N±0.06×141.8E±0.1,h14km±11km,
n33,σ0s88/43,mb4.0/9,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.77**	**337**	P	**Pn**	**05 07 36.6**	**+0.4**
BSO1				*e*S	**Sn**	**05 07 58.9**	**+0.2**
BSO2	**Boso 2**	**1.94**	**333**	*e*S	**Sn**	**05 08 04.4**	**+1.5**
BSO3	**Boso 3**	**2.08**	**328**	P	**Pn**	**05 07 40.8**	**+0.1**
BSO3				S	**Sn**	**05 08 07.8**	**+1.2**
BSO4	**Boso 4**	**2.32**	**328**	P	**Pn**	**05 07 44.6**	**+0.5**
BSO4				*e*S	**Sn**	**05 08 13.0**	**+0.4**
KTR	**Katsuura**	**2.46**	**330**	*e*S	**Sn**	**05 08 15.4**	**-0.8**
JIM2	**Oshima 3**	**2.61**	**311**	P	**Pn**	**05 07 48.3**	**0.0**
JIM2				S	**Sn**	**05 08 21.5**	**+1.4**
JIZS	**Izushimoda**	**2.98**	**305**	P	**Pn**	**05 07 54.2**	**+0.7**
JOD2	**Odawara 2**	**3.19**	**315**	P	**Pn**	**05 07 56.4**	**-0.1**
JYN	**Shimob**	**3.67**	**313**	P	**Pn**	**05 08 03.9**	**+0.5**
JRY	**Ryogami san**	**3.84**	**322**	P	**Pn**	**05 08 05.6**	**-0.1**
JRY				*e*S	**Sn**	**05 08 50.9**	**-0.2**
JAG	**Ashikaga**	**3.91**	**331**	P	**Pn**	**05 08 06.3**	**-0.5**
JAG				*e*S	**Sn**	**05 08 51.3**	**-1.7**
MJAR	**Matsushiro Arr**	**4.60**	**321**	Pn	**Pn**	**05 08 16.4**	**-0.2**
	4.9nm,0.3s,baz=147,slow=11,SNR=34						
MJAR				Sn	**Sn**	**05 09 06.6**	**-3.8**
	2.0nm,0.3s,baz=175,slow=18,SNR=5.3						
MAJO	**Matsushiro**	**4.60**	**321**	*e*Pn	**Pn**	**05 08 16.1**	**-0.5**
MAT	**Matsushiro**	**4.60**	**321**	P	**Pn**	**05 08 16.9**	**+0.3**
MAT				S	**Sn**	**05 09 08.4**	**-2.1**
MAT	**Matsushiro**	**4.60**	**321**	P	**Pn**	**05 08 17.3**	**+0.7**
MAT				*e*S	**Sn**	**05 09 08.3**	**-2.2**
MAT	**Matsushiro**	**4.60**	**321**	*e*P	**Pn**	**05 08 17.0**	**+0.4**
MAT				*e*S	**Sn**	**05 09 08.0**	**-2.5**
JMM	**Marumori**	**4.90**	**350**	P	**Pn**	**05 08 19.6**	**-1.2**
CBIJ	**Chichi jima**	**5.92**	**177**	Pn	**Pn**	**05 08 35.3**	**+0.1**
	11nm,0.3s,baz=126,slow=22,SNR=12						
CBIJ				Sn	**Sn**	**05 09 37.0**	**-6.6**
	4.5nm,0.3s,baz=288,slow=19,SNR=2.3						
JOW	**Kunigami**	**13.28**	**246**	LR	LR	05 15 24.4	
	comp=Z,58nm,18.3s,baz=174,slow=37						
TATO	**Taipei**	**19.50**	**251**	P	**P**	**05 11 27.3**	**-8.0**
	74nm,1.1s						
ENH	**Enshi**	**27.61**	**273**	P	**P**	**05 12 51.9**	**-2.8**
SONM	**Songino Array**	**30.46**	**310**	P	**P**	**05 13 20.8**	**+0.8**
	1.3nm,0.7s,mb3.8,baz=112,slow=8.9,SNR=11						
GTA	**Gaotai**	**34.26**	**293**	P	**P**	**05 13 53.0**	**-0.3**
GTA				AP	pP	05 14 05.4	+8.0
GTA				XP	sP	05 14 10.4	+11
MKAR	**Makanchi Array**	**46.63**	**305**	P	**P**	**05 15 35.2**	**+0.1**
	1.0nm,0.5s,mb4.0,baz=88,slow=9.4,SNR=11						
KURK	**Kurchatov**	**48.74**	**311**	*e*P	**P**	**05 15 50.9**	**-0.8**
	2.8nm,0.9s,mb4.3						
KURK	**Kurchatov**	**48.74**	**311**	*e*P	**P**	**05 15 50.9**	**-0.8**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
WRAB	**Tennant Creek**	**53.15**	**189**	*e*Pn	**P**	**05 16 24.8**	**-0.7**
WRA	**Warramunga Arr**	**53.16**	**189**	P	**P**	**05 16 25.9**	**+0.3**
	comp=Z,1.5nm,0.4s,mb4.3,baz=5.5,slow=7.6,SNR=22						
BVAR	**Borovoye Array**	**53.57**	**315**	P	**P**	**05 16 28.2**	**0.0**
	comp=Z,0.8nm,0.6s,mb3.8,baz=63,slow=6.6,SNR=6.0						
OBN	**Obninsk**	**71.52**	**324**	*e*P	**P**	**05 18 28.2**	**+0.4**
OBN				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
FINES	**FINESS Array B**	**72.52**	**333**	P	**P**	**05 18 33.8**	**+0.3**
	comp=Z,1.2nm,0.8s,mb3.9,baz=4.8,slow=34,SNR=3.9						
NOA	**NORSAR Array B**	**71.80**	**338**	P	**P**	**05 19 04.6**	**-0.2**
	comp=Z,1.3nm,0.8s,mb3.9,baz=39,slow=5.6,SNR=3.4						
BRTR	**Keskin Array B**	**81.78**	**312**	P	**P**	**05 19 27.1**	**+1.6**
	comp=Z,1.1nm,0.7s,mb3.9,baz=76,slow=5.1,SNR=4.6						

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*BJI **18** 05:13:24.9,19.95S×68.30W,h116km,mB4.8*
*GUC **18** 05:13:24.6±0.8,20.95S×69.09W,h130km,MD4.0,ML4.2*
*IDC **18** 05:13:24.3±1.1,20.81S×68.31W,h112km±12km,mb3.7/9,mb1 3.9/12,mb1mx3.9/15,mbtmp4.2/12,MS3.4/1,Ms1 3.3/1,ms1mx2.7/16,Error ellipse: s-maj=17.7km s-min=12.0km az=129.0*
*NEIC **18** 05:13:24.5±0.5,20.80S×68.28W,h113km±5km,mb4.3/12,Error ellipse: s-maj=7.0km s-min=5.3km az=74.0*
ISC 18 05:13:22.7±0.5,20.83S±0.04×68.31W±0.05,h112km±6km,
h97km±4.4km:pP-P,n60,σ1s29/64,mb4.1/18,6C-1D,
Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.86**	**197**	P	**P**	**05 13 57.5**	**+3.0**
	360nm,0.3s,baz=17,slow=9.5,SNR=1694						
LVC				S	**S**	**05 14 20.4**	**+2.1**
	153nm,0.3s,baz=132,slow=20,SNR=44						
LVC	**Limon Verde**	**1.86**	**197**	*e*Pn	**P**	**05 13 57.0**	**+2.5**
LVC				*e*Sn	**S**	**05 14 20.7**	**+2.3**
SPCH	**San Pedro de A**	**2.07**	**177**	⇑*i*P	**P**	**05 14 01.7**	**+4.5**
SPCH				*i* S	**S**	**05 14 29.4**	**+6.3**
SPCH				AMP		05 14 43.9	
	comp=N,2μm,0.8s						
ANCH	**Antofagasta**	**3.44**	**214**	*e*P	**P**	**05 14 16.5**	**+0.8**
ANCH				*e*S	**S**	**05 14 53.3**	**-2.6**
ANCH	**Antofagasta**	**3.44**	**214**	⇑*i*P	**P**	**05 14 16.6**	**+0.9**
ANCH				*i* S	**S**	**05 14 54.4**	**-1.5**
CPN1	**Cerro Paranal**	**4.24**	**207**	*e*P	**P**	**05 14 24.9**	**-1.6**
CPN1				*i* S	**S**	**05 15 10.4**	**-5.0**
LPAZ	**La Paz**	**4.52**	**2**	P	**P**	**05 14 36.5**	**+6.1**
	comp=N,6.9nm,0.3s,baz=176,slow=7.9,SNR=281						
LPAZ				S	**S**	**05 15 31.5**	**+9.3**
	comp=N,2.8nm,0.3s,baz=299,slow=24,SNR=3.7						
LPAZ	**La Paz**	**4.52**	**2**	*e*Pn	**P**	**05 14 36.1**	**+5.8**
ARE	**Arequipa**	**5.29**	**325**	*e*P	**P**	**05 14 42.0**	**+1.3**
ARE				*e*S	**S**	**05 15 40.0**	**-0.9**
CRCH	**Chaqaral**	**5.88**	**201**	*e*P	**P**	**05 14 46.0**	**-2.7**
CRCH	**Chaqaral**	**5.88**	**201**	⇑*i*P	**P**	**05 14 46.2**	**-2.5**
CPCH	**Copiapo**	**6.76**	**196**	*e*P	**P**	**05 14 56.8**	**-4.0**
SIV	**San Ignacio**	**8.39**	**56**	P	**P**	**05 15 23.7**	**+0.9**
	comp=N,59nm,0.3s,baz=253,slow=11,SNR=1485						
SIV				S	**S**	**05 16 55.6**	**-0.9**
	baz=164,slow=22,SNR=5.5						
CFAA	**Coronel Fontan**	**10.73**	**180**	P	**P**	**05 15 51.3**	**-2.9**
	comp=N,0.1nm,0.3s,baz=338,slow=11,SNR=11						
CFAA				S	**S**	**05 17 41.7**	**-11**
	comp=N,0.2nm,0.3s,baz=273,slow=23,SNR=6.2						
CFAA	**Coronel Fontan**	**10.73**	**180**	P	**P**	**05 15 51.3**	**-2.9**
CFAA				S	**S**	**05 17 41.7**	**-11**
CPUP	**Villa Florida**	**11.46**	**121**	P	**P**	**05 16 05.5**	**+1.6**
	comp=N,0.2nm,0.3s,baz=322,slow=14,SNR=7.7						
CPUP	**Villa Florida**	**11.46**	**121**	*e*P	**P**	**05 16 04.4**	**+0.5**
NNA	**Nana**	**12.01**	**316**	*e*P	**P**	**05 16 12.5**	**+1.3**
SAML	**Samuel**	**12.81**	**23**	*e*P	**P**	**05 16 20.5**	**-1.2**
	comp=N,9.4nm,0.9s						
TRQA	**Tornquist**	**18.02**	**164**	*e*P	**P**	**05 17 25.9**	**-1.3**
	comp=N,10.0nm,0.7s						
PLCA	**Paso Flores**	**19.93**	**185**	P	**P**	**05 17 47.3**	**-0.5**
	comp=N,0.8nm,0.3s,baz=0.5,slow=13,SNR=10						
PLCA	**Paso Flores**	**19.93**	**185**	*e*P	**P**	**05 17 46.7**	**-1.1**
	comp=N,25nm,0.8s						
BDFB	**Brasilia**	**19.95**	**78**	P	**P**	**05 17 48.5**	**+0.3**
	comp=N,3.3nm,0.3s,baz=258,slow=11,SNR=51						
BDFB				LR	LR	05 27 19.1	
	comp=N,101nm,18.3s,baz=282,slow=42						
BAO	**Brasilia Array**	**19.97**	**78**	P	**P**	**05 17 48.5**	**+0.1**
ROSC	**El Rosal**	**26.20**	**346**	P	**P**	**05 18 49.5**	**+0.6**
	comp=N,3.0nm,0.4s,mb4.0,baz=294,slow=10.0,SNR=5.5						
SDV	**Santo Domingo**	**29.62**	**355**	P	**P**	**05 19 17.8**	**-1.9**
	comp=N,2.2nm,0.3s,mb4.2,baz=113,slow=6.2,SNR=3.8						
SDV	**Santo Domingo**	**29.62**	**355**	P	**P**	**05 19 17.3**	**-2.5**
	comp=N,2.6nm,0.5s,mb4.1						
RCBR	**Riachuelo**	**34.78**	**69**	*e*P	**P**	**05 20 04.0**	**-0.5**
	comp=N,28nm,0.9s,mb5.1						
**SWET

MOS 18 05:13:42.7±1.3, 33.33N×142.38E, h33km, mb4.9/2, Error ellipse: s-maj=40.8km s-min=13.6km az=126.4
IDC 18 05:13:43.6±3.9, 32.94N×141.52E, mb3.9/4, mb1 4.0/6, mb1mx3.8/20, mbtmp4.0/6, ML3.9/2, MS3.4/1, Ms1 3.4/1, ms1mx2.8/19, Error ellipse: s-maj=146.9km s-min=20.1km az=67.0
NEIC 18 05:13:45.1±1.0, 33.41N×142.45E, h40km, mb4.7/2, Error ellipse: s-maj=32.6km s-min=12.8km az=59.0

ISC 18 05:13:42.7±0.8, 33.18N±0.08×142.3E±0.1, h33km, n24, σ1§18/33, mb4.2/6, MS3.5/1, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.82**	**324**	P	**P**	**05 14 12.8**	**+0.6**
BSO1				*e*S	**S**	**05 14 37.0**	**+2.7**
BSO2	**Boso 2**	**2.01**	**322**	*e*S	**S**	**05 14 41.7**	**+2.6**
BSO3	**Boso 3**	**2.18**	**319**	P	**P**	**05 14 17.4**	**+0.1**
BSO3				*e*S	**S**	**05 14 43.0**	**-0.4**
BSO4	**Boso 4**	**2.41**	**319**	P	**P**	**05 14 21.2**	**+0.5**
BSO4				*e*S	**S**	**05 14 49.7**	**+0.4**
JIM2	**Oshima 3**	**2.81**	**304**	P	**P**	**05 14 24.7**	**-1.6**
JOD2	**Odawara 2**	**3.35**	**309**	P	**P**	**05 14 32.6**	**-1.5**
JRY	**Ryogami san**	**3.96**	**317**	P	**P**	**05 14 42.8**	**+0.1**
JRY				*e*S	**S**	**05 15 27.2**	**-1.5**
JAG	**Ashikaga**	**3.98**	**325**	P	**P**	**05 14 43.3**	**+0.3**
JAG				*e*S	**S**	**05 15 28.1**	**-1.0**
MJAR	**Matsushiro Arr**	**4.73**	**316**	Pn	**Pn**	**05 14 52.8**	**-1.0**
	3.6nm,0.3s,baz=144,slow=11,SNR=18						
MJAR				Sn	**Sn**	**05 15 49.2**	**+1.0**
	1.2nm,0.3s,baz=72,slow=19,SNR=4.9						
MAJO	**Matsushiro**	**4.73**	**316**	*e*Pn	**Pn**	**05 14 51.8**	**-1.9**
MAT	**Matsushiro**	**4.73**	**316**	P	**P**	**05 14 53.7**	**+0.1**
MAT				S	**S**	**05 15 48.0**	**-0.1**
MAT	**Matsushiro**	**4.73**	**316**	*e*P	**P**	**05 14 53.0**	**-0.6**
MAT				*e*S	**S**	**05 15 48.0**	**-0.1**
JMM	**Marumori**	**4.83**	**346**	P	**P**	**05 14 55.3**	**+0.3**
JMM				*e*S	**S**	**05 15 46.7**	**-3.8**
CBIJ	**Chichi jima**	**6.06**	**181**	Pn	**Pn**	**05 15 11.9**	**-0.6**
	12nm,0.3s,baz=272,slow=23,SNR=14						
CBIJ				Sn	**Sn**	**05 16 15.3**	**-6.2**
	14nm,0.3s,baz=281,slow=23,SNR=5.7						
SONM	**Songino Array**	**30.64**	**309**	P	**P**	**05 19 57.3**	**+1.3**
	1.6nm,1.0s,mb3.8,baz=115,slow=8.3,SNR=7.2						
MKAR	**Makanchi Array**	**46.84**	**305**	P	**P**	**05 22 11.8**	**+0.6**
	0.5nm,0.4s,mb3.6,baz=85,slow=10,SNR=5.7						
KURK	**Kurchatov**	**48.92**	**311**	*e*P	**P**	**05 22 27.1**	**-0.2**
	3.8nm,0.9s,mb4.4						
KURK	**Kurchatov**	**48.92**	**311**	*e*P	**P**	**05 22 27.1**	**-0.2**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
WRAB	**Tennant Creek**	**53.35**	**189**	P	**P**	**05 23 01.7**	**+0.5**
WRA	**Warramunga Arr**	**53.36**	**189**	P	**P**	**05 23 02.4**	**+1.1**
	comp=Z,1.1nm,0.4s,mb4.1,baz=5.5,slow=7.5,SNR=49						
DZM	**Mont Dzumac**	**59.59**	**154**	LR	LR	05 43 12.8	
	comp=Z,38nm,21.7s,MS3.5,baz=178,slow=30						
FCC	**Fort Churchill**	**77.14**	**26**	P	**P**	**05 25 32.2**	**-2.0**
	comp=Z,15nm,1.0s,mb4.9						
FCC	**Fort Churchill**	**77.14**	**26**	P	**P**	**05 25 32.3**	**-1.9**
FCC				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.9						
BRTR	**Keskin Array B**	**81.94**	**312**	P	**P**	**05 26 03.3**	**+2.8**
	comp=Z,0.9nm,0.7s,mb3.8,baz=108,slow=4.6,SNR=4.1						

NEIC 18 05:15:52.0±0.5, 23.98S×175.95W, h10km, mb4.8/5, Error ellipse: s-maj=15.2km s-min=10.8km az=114.0
BJI 18 05:15:52.8, 23.87S×175.29W, h17km, mB5.1, mb4.9, Ms4.6, Msz4.4
IDC 18 05:15:59.5±9.2, 24.25S×175.98W, h60km±82km, mb3.8/7, mb1 4.1/8, mb1mx4.0/16, mbtmp4.2/8, ML4.2/1, MS3.7/3, Ms1 3.7/3, ms1mx3.4/16, Error ellipse: s-maj=33.8km s-min=26.3km az=15.0

ISC 18 05:15:59.6±4.8, 24.3S±0.1×176.2W±0.1, h72km±42km, h80km±3.2km: pP-P, n45, σ1§18/31, mb4.4/16, 4C-1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**11.12**	**23**	P	**P**	**05 18 24.5**	**-13**
URZ	**Urewera**	**15.06**	**201**	P	**P**	**05 19 30.4**	**+0.8**
	1.0nm,0.3s,baz=7.3,slow=7.2,SNR=5.8						
URZ				S	**S**	**05 21 59.4**	**-15**
	0.3nm,0.3s,baz=128,slow=18,SNR=3.3						
DZM	**Mont Dzumac**	**16.16**	**274**	P	**P**	**05 19 50.0**	**+6.5**
	0.2nm,0.3s,baz=93,slow=18,SNR=6.6						
DZM				LR	LR	05 23 43.7	
	comp=Z,142nm,19.5s,baz=208,slow=28						
TBI	**Tubuai**	**24.43**	**93**	*e*LQ		05 25 18.4	
TBI				*e*LR	LR	05 26 17.7	
	476nm,28.2s						
PPT	**Papeete**	**25.68**	**80**	LR	LR	05 29 01.5	
	comp=Z,390nm,18.7s,baz=274,slow=31						
HNR	**Honiara**	**27.16**	**299**	LR	LR	05 30 38.3	
	comp=Z,120nm,18.5s,baz=166,slow=32						
CTAO	**Charters Tower**	**34.99**	**269**	*e*P	**P**	**05 22 45.8**	**-1.3**
	15nm,0.9s,mb4.8						
TAOE	**Nuku Hiva Isla**	**37.62**	**72**	*e*LR	LR	05 32 21.1	
	336nm,20.8s						
RKT	**Rikitea**	**37.63**	**97**	*e*LR	LR	05 32 21.4	
	239nm,28.2s						
STKA	**Stephens Creek**	**37.85**	**249**	P	**P**	**05 23 10.8**	**-0.2**
PMG	**Port Moresby**	**37.96**	**287**	P	**P**	**05 23 13.0**	**+0.9**
	49nm,0.8s,mb5.4,baz=108,slow=9.9,SNR=7.8						
PMG	**Port Moresby**	**37.96**	**287**	*e*P	**P**	**05 23 12.8**	**+0.7**
	67nm,0.9s,mb5.5						
WB2	**Warramunga Arr**	**45.87**	**265**	*e*P	**P**	**05 24 16.0**	**-0.8**
WRAB	**Tennant Creek**	**45.88**	**265**	*e*P	**P**	**05 24 15.8**	**-1.0**
	14nm,1.0s,mb4.7						
WRA	**Warramunga Arr**	**45.88**	**265**	P	**P**	**05 24 16.4**	**-0.5**
	4.2nm,0.9s,mb4.2,baz=100,slow=8.0,SNR=17						
SBA	**Scott Base**	**54.23**	**184**	P	**P**	**05 25 19.7**	**-0.1**
	6.2nm,1.1s,mb4.5						
VNDA	**Vanda**	**54.32**	**186**	P	**P**	**05 25 19.9**	**-0.5**
	2.2nm,1.0s,mb4.1,baz=24,slow=7.7,SNR=6.1						
VNDA	**Vanda**	**54.32**	**186**	P	**P**	**05 25 19.9**	**-0.5**
CASY	**Casey**	**61.31**	**206**	*e*P	**P**	**05 26 08.6**	**-1.0**
MJAR	**Matsushiro Arr**	**74.26**	**323**	P	**P**	**05 27 30.9**	**+0.1**
	2.5nm,0.8s,mb4.0,baz=153,slow=3.9,SNR=4.5						
MJAR	**Matsushiro Arr**	**74.26**	**323**	P	**P**	**05 27 30.9**	**+0.1**
MAJO	**Matsushiro**	**74.26**	**323**	P	**P**	**05 27 26.7**	**-4.1**
	6.2nm,0.8s,mb4.4						
ASAJ	**Asahikawa**	**77.86**	**331**	P	**P**	**05 27 53.6**	**+2.6**
	7.6nm,0.7s,mb4.5,baz=201,slow=14,SNR=6.6						
YBH	**Yreka Blue Hor**	**82.21**	**37**	P	**P**	**05 28 14.7**	**+0.4**
	1.1nm,0.7s,mb3.8,baz=147,slow=12,SNR=4.3						
SNAA	**Sanae**	**84.19**	**178**	*e*	tx	05 28 37.6	
SNAA	**Sanae**	**84.19**	**178**	*e*	tx	05 28 54.8	
SNAA	**Sanae**	**84.19**	**178**	⇑*i*P	**P**	**05 28 31.1**	**+7.5**
SNAA				*e*		05 28 37.6	
SNAA				*e*	pP	05 28 54.8	+11
VNA3	**Neumayer Olymp**	**84.26**	**176**	*e*	PcP	05 28 31.5	+3.5
VNA3	**Neumayer Olymp**	**84.26**	**176**	*e*	pP	05 28 44.5	+0.8
VNA3	**Neumayer Olymp**	**84.26**	**176**	⇑*i*P	**P**	**05 28 24.9**	**+0.9**
VNA3				*e*		05 28 31.5	
VNA3				*e*	pP	05 28 44.5	+0.8
MDJ	**Mudanjiang**	**84.58**	**324**	P	**P**	**05 28 28.6**	**+2.4**
MDJ				AMB	AMB		
	comp=Z,13nm,1.1s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,54nm,4.4s						
MDJ				LR	LR		
	comp=N,70nm,25.2s						
MDJ				LR	LR		
	comp=E,31nm,25.2s						
MDJ				LR	LR		
	comp=Z,67nm,21.6s						
VNA2	**Neumayer--Watz**	**84.72**	**176**	*e*	PcP	05 28 32.7	+2.7
VNA2	**Neumayer--Watz**	**84.72**	**176**	*e*	pP	05 28 48.4	+2.4
VNA2	**Neumayer--Watz**	**84.72**	**176**	⇑*i*P	**P**	**05 28 26.4**	**+0.1**
VNA2				*e*		05 28 32.7	
VNA2				*e*	pP	05 28 48.4	+2.4
VNA1	**Neumayer--Stat**	**84.94**	**176**	*e*	PcP	05 28 35.4	+4.4
VNA1	**Neumayer--Stat**	**84.94**	**176**	*e*	pP	05 28 50.9	+3.8
VNA1	**Neumayer--Stat**	**84.94**	**176**	⇑*i*P	**P**	**05 28 29.0**	**+1.6**
VNA1				*e*		05 28 35.4	
VNA1				*e*	pP	05 28 50.9	+3.8
TXAR	**Lajitas Array**	**87.68**	**56**	P	**P**	**05 28 40.8**	**-0.9**
	comp=Z,0.9nm,0.9s,mb3.8,baz=217,slow=6.3,SNR=8.2						
ANMO	**Albuquerque**	**88.46**	**50**	P	**P**	**05 28 43.3**	**-2.0**
	comp=Z,2.0nm,1.0s,mb4.1,baz=221,slow=9.2,SNR=3.8						
PDAR	**Pinedale Array**	**90.56**	**43**	P	**P**	**05 28 54.0**	**-0.9**
	comp=Z,0.8nm,0.9s,mb3.8,baz=180,slow=1.5,SNR=6.3						
NANT	**Nan**	**91.60**	**290**	P	**P**	**05 29 05.0**	**+4.6**
XAN	**Xi'an**	**91.77**	**307**	P	**P**	**05 29 04.4**	**+3.6**
XAN				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.9						
CHG	**Chiang Mai**	**93.12**	**289**	⇓P	**P**	**05 29 11.3**	**+4.0**
	comp=Z,11nm,0.8s,mb5.2						
AKASG	**Malin Array Be**	**147.14**	**330**	PKPbc	PKPdf	05 35 35.0	+3.1
	comp=Z,2.9nm,0.7s,baz=38,slow=3.6,SNR=12						
BRTR	**Keskin Array B**	**150.59**	**309**	PKPbc	PKPdf	05 35 45.2	+7.5
	comp=Z,2.0nm,0.8s,baz=117,slow=2.8,SNR=10						

IDC 18 05:38:51.7±11.0, 21.90S×176.94W, h259km±99km, mb3.7/3, mb1 3.9/4, mb1mx3.5/13, mbtmp4.3/4, 1C, Error ellipse: s-maj=95.6km s-min=40.8km az=154.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**15.41**	**266**	P	P	05 42 17.7	-0.2
	0.6nm,0.3s,baz=79,slow=18,SNR=7.8						
STKA	**Stephens Creek**	**38.10**	**246**	⇑*i*P	P	05 45 45.6	-1.8
	3.8nm,0.4s						
STKA	**Stephens Creek**	**38.10**	**246**	P	P	05 45 45.7	-1.7
	4.0nm,0.4s,baz=87,slow=8.1,SNR=14						
WB2	**Warramunga Arr**	**45.39**	**263**	*e*P	P	05 46 44.4	-2.2
WRA	**Warramunga Arr**	**45.40**	**263**	P	P	05 46 44.5	-2.2
	3.6nm,0.5s,baz=95,slow=7.5,SNR=72						
KAKA	**Kakadu**	**49.00**	**272**	*e*P	P	05 47 24.2	+10
	11nm,1.1s						
TXAR	**Lajitas Array**	**86.98**	**57**	P	P	05 51 07.2	-2.0
	0.5nm,0.9s,baz=207,slow=6.0,SNR=5.2						
AKASG	**Malin Array Be**	**144.71**	**331**	PKP	PKPdf	05 57 56.3	-0.9
	0.9nm,0.6s,baz=41,slow=4.3,SNR=4.9						
GERES	**GERESS Array B**	**151.80**	**345**	PKPbc	PKPdf	05 58 17.2	+8.6
	0.3nm,0.2s,baz=74,slow=3.4,SNR=5.0						

BEO 18 06:29:40.6±0.3, 43.74N×18.55E, h8km±1km
PDG 18 06:29:40.3±0.3, 43.76N×18.51E, h11km±1km
NEIC 18 06:29:40.3, 43.76N×18.51E, h11km, MD2.5(PDG), ML2.7(VIE), After PDG.
NEIC Felt at Sarajevo.
CSEM 18 06:29:41.1±0.1, 43.93N×18.40E, h30km, ML2.7, Error ellipse: s-maj=3.7km s-min=1.9km az=59.0

ISC 18 06:29:37.4±0.3, 43.84N±0.02×18.37E±0.03, h8km, n26, σ1§14/45, 7C-7D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPM	**Unac-Piva**	**0.75**	**148**	⇓*i*Pg	**Pg**	**06 29 52.0**	**-0.5**
UPM				*e*Sg	**Sg**	**06 30 01.5**	**-0.9**
BBLS	**Bajina Basta -**	**0.76**	**87**	*i* Pg	**Pg**	**06 29 52.8**	**+0.2**
BBLS				Sg	**Sg**	**06 30 03.3**	**+0.6**
PLE	**Pljevlja**	**0.90**	**124**	*e*Pg	**Pg**	**06 29 54.9**	**-0.6**
PLE				*e*Sg	**Sg**	**06 30 06.7**	**-1.0**
NVSS	**Nova Varos 2**	**1.02**	**108**	⇑*i*Pg	**Pg**	**06 29 58.4**	**+0.5**
NVSS				Sg	**Sg**	**06 30 12.9**	**+1.4**
STON	**Ston**	**1.08**	**207**	*i* Pg	**Pg**	**06 29 57.8**	**-1.3**
STON				*i* Sg	**Sg**	**06 30 14.6**	**+1.1**
NKY	**Niksic**	**1.12**	**156**	⇓*i*Pg	**Pg**	**06 29 58.5**	**-1.4**
NKY				*e*Sg	**Sg**	**06 30 14.9**	**0.0**
DIVS	**Divcibare**	**1.20**	**77**	⇑*i*Pg	**Pg**	**06 30 00.2**	**-1.3**
DIVS				Sg	**Sg**	**06 30 18.5**	**+1.0**
HCY	**Herceg Novi**	**1.39**	**176**	⇓*i*Pg	**Pg**	**06 30 04.4**	**-0.9**
HCY				*e*Sg	**Sg**	**06 30 25.2**	**+1.3**
IVA	**Berane**	**1.48**	**130**	⇓*i*Pg	**Pg**	**06 30 04.7**	**-2.3**
IVA				*e*Sg	**Sg**	**06 30 26.5**	**-0.2**
TTG	**Podgorica**	**1.55**	**155**	⇓*i*Pg	**Pg**	**06 30 07.0**	**-1.5**
TTG				*e*Sg	**Sg**	**06 30 29.3**	**+0.1**
BUM	**Brajici-Budva**	**1.59**	**166**	⇓*i*Pg	**Pg**	**06 30 08.1**	**-1.0**
BUM				*e*Sg	**Sg**	**06 30 31.2**	**+0.9**
PVY	**Plav**	**1.71**	**136**	*e*Pn	**Pn**	**06 30 09.2**	**+1.3**
PVY				*e*Sn	**Sn**	**06 30 33.9**	**+3.8**
BEO	**Belgrade**	**1.79**	**56**	*e*Pn	**Pn**	**06 30 11.9**	**+2.8**
BEO				Sg	**Sg**	**06 30 36.2**	**-0.9**
ULC	**Ulcinj**	**1.98**	**161**	*e*Pn	**Pn**	**06 30 13.5**	**+1.8**
ULC				*e*Sn	**Sn**	**06 30 42.0**	**+4.9**
RHK1	**Bakonya**	**2.27**	**355**	⇑*i*P	**Pn**	**06 30 16.2**	**+0.4**
PKSM	**Moragy**	**2.38**	**5**	⇓*e*P	**Pn**	**06 30 17.5**	**0.0**
QSH	**Qafa e Shtames**	**2.58**	**153**	*e*Pn	**Pn**	**06 30 19.0**	**-1.3**
LEGS	**Legarje**	**3.02**	**315**	*i* Pn	**Pn**	**06 30 28.1**	**+1.4**
DOBS	**Dobrina**	**3.09**	**319**	*i* Pn	**Pn**	**06 30 28.6**	**+1.0**
PDKS	**Podkum**	**3.27**	**314**	*i* Pn	**Pn**	**06 30 31.2**	**+1.1**
GROS	**Grobnik**	**3.31**	**323**	*i* Pn	**Pn**	**06 30 31.5**	**+0.7**
OBKA	**Obir**	**3.80**	**316**	⇑*i*PN	**Pn**	**06 30 38.6**	**+1.0**
OBKA				*i* SN	**Sn**	**06 31 22.6**	**-0.5**
OBKA				*i* SG	**Sg**	**06 31 43.0**	**-0.9**
	4.1nm,0.5s						
VOJS	**Vojsko**	**3.87**	**306**	*i* Pn	**Pn**	**06 30 39.9**	**+1.3**
ARSA	**Arzberg**	**3.95**	**331**	⇑*i*PN	**Pn**	**06 30 40.2**	**+0.4**
ARSA				*i* SN	**Sn**	**06 31 24.5**	**-2.5**
KBA	**Koelnbreinsper**	**4.79**	**314**	⇑*i*PN	**Pn**	**06 30 52.6**	**+0.8**
KBA				*i* SN	**Sn**	**06 31 47.2**	**-1.1**
MOA	**Molln**	**4.93**	**326**	⇑*i*Pn	**Pn**	**06 30 54.0**	**+0.3**
	3.7nm,0.5s						
MOA				*i* Sn	**Sn**	**06 31 49.1**	**-2.6**

CASC 18 06:34:45.4±1.4, 8.38N×82.77W, h31km±6km, MD3.8, MW4.0, 1C, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRU2	**Volcan**	**0.42**	**10**	⇑*i*P	Pb	06 34 54.7	0.0
BRU2				*e*S	Sb	06 35 02.8	+1.8
BUS	**Buena Vista**	**1.52**	**320**	*e*P	Pn	06 35 10.8	-0.2
BUS				*e*S	Sn	06 35 31.2	+1.3
LCR2	**La Lucha 2**	**1.82**	**318**	*e*P	Pn	06 35 15.8	+0.6
LCR2				*e*S	Sn	06 35 38.5	+1.1
PRS1	**Puriscal**	**2.21**	**316**	*e*P	Pn	06 35 20.2	-0.5
PRS1				*e*S	Sn	06 35 46.0	-1.2
CGA2	**Cerro Gallo 2**	**2.34**	**314**	*e*P	Pn	06 35 23.1	+0.5
CGA2				*e*S	Sn	06 35 50.3	-0.2

MAN 18 06:54:04.1, 8.74N×122.87E, h12km, mb4.4, ML3.2, MS3.0, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCPH	**Dipolog City**	**0.51**	**108**	*i* P	Pb	06 54 14.3	-0.1
SNPH	**Sibulan**	**0.70**	**31**	⇑*e*P	Pb	06 54 17.9	+0.1
SNPH				*i* S	Sb	06 54 28.3	+1.1
IPIL	**Ipil**	**0.99**	**197**	*e*P	Pb	06 54 22.4	-0.3
IPIL				*e*S	Sb	06 54 35.9	+0.4
PAGZ	**Pagadian**	**1.02**	**150**	*e*P	Pb	06 54 23.6	+0.3
PAGZ				*e*S	Sb	06 54 38.8	+2.3
GUIM	**Jordan**	**1.90**	**352**	*e*P	Pn	06 54 36.1	-0.5

NNC 18 07:05:12.1±23.0, 37.92N×75.38E, mpv3.4, Error ellipse: s-maj=211.3km s-min=182.3km az=93.0

BJI 18 07:05:12.0, 37.89N×76.51E, h14km, ML3.4, 2C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.68**	**346**	⇑P	Pn	07 05 41.5	+0.3
KSH				S	Sn	07 06 09.6	+7.0
KSH				Smax			
	comp=N,250nm,0.8s						
KSH				Smax			
	comp=E,150nm,0.3s						
AAK	**Ala-Archa**	**4.98**	**343**	⇓P	Pn	07 06 25.6	-2.6
	comp=E,3.4nm,0.6s						
AAK				⇓S	Sn	07 07 22.9	-3.4
	comp=E,10nm,0.6s						
KK31	**Karatay Array**	**6.93**	**321**	P	Pn	07 06 46.1	-10
	comp=E,1.2nm,0.3s,baz=133,slow=14,SNR=20						
KK31				⇑S	Sn	07 08 01.0	-14
	comp=E,1.7nm,0.3s,baz=140,slow=22,SNR=8.5						

IDC 18 05:49.3±4.8, 24.35S×179.83E, h508km±58km, mb3.2/3, mb1 3.4/5, mb1mx3.2/13, mbtmp4.1/5, Error ellipse: s-maj=44.8km s-min=29.1km az=4.0

ISC 18 07:05:49.8±3.3, 24.4S±0.1×179.9E±0.3, h532km±37km, n8, σ1§09/9, mb3.8/3, 2D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.54**	**278**	P	**P**	**07 08 35.2**	**+0.7**
	0.4nm,0.3s,baz=95,slow=18,SNR=3.6						
URZ	**Urewera**	**14.06**	**189**	P	**P**	**07 08 48.2**	**-1.6**
	0.4nm,0.3s,baz=90,slow=2.0,SNR=4.5						
URZ				S	**S**	**07 11 16.4**	**+1.5**
	0.3nm,0.3s,baz=78,slow=20,SNR=6.4						
STKA	**Stephens Creek**	**34.44**	**249**	P	**P**	**07 11 54.3**	**+0.3**
	1.6nm,0.6s,mb3.7,baz=92,slow=12,SNR=5.5						
WRA	**Warramunga Arr**	**42.25**	**267**	P	**P**	**07 12 57.0**	**-0.7**
	2.4nm,0.4s,mb4.1,baz=98,slow=8.4,SNR=61						
VNA3	**Neumayer Olymp**	**84.43**	**177**	⇓*i*	**P**	**07 17 26.4**	**+0.1**
VNA2	**Neumayer--Watz**	**84.85**	**178**	⇓*i*	**P**	**07 17 28.7**	**+0.3**
VNA1	**Neumayer--Stat**	**85.08**	**177**		**P**	**07 17 27.7**	**-1.9**
TXAR	**Lajitas Array**	**90.78**	**58**	P	**P**	**07 17 58.5**	**+1.3**
	0.5nm,0.7s,mb3.5,baz=213,slow=6.8,SNR=8.0						

NEIC 18 07:25:01.8±2.6, 5.30S×143.48E, h123km±23km, mb4.5/1, Error ellipse: s-maj=27.5km s-min=17.5km az=127.0
IDC 18 07:25:03.1±2.8, 5.37S×143.57E, h132km±24km, mb3.5/4, mb1 3.8/6, mb1mx3.6/11, mbtmp4.1/6, Error ellipse: s-maj=35.9km s-min=16.2km az=80.0

ISC 18 07:25:00.5±2.1, 5.3S±0.1×143.5E±0.1, h124km±19km, n9, σ0§54/11, mb3.5/4, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.44**	**139**	P	**P**	**07 26 21.3**	**+0.9**
	15nm,0.3s,baz=329,slow=7.8,SNR=35						
PMG				S	**S**	**07 27 21.9**	**-0.5**
	0.3nm,0.3s,baz=205,slow=19,SNR=2.9						
WRAB	**Tennant Creek**	**17.04**	**211**	*e*P	**P**	**07 28 52.4**	**-0.2**
	36nm,1.1s						
WRA	**Warramunga Arr**	**17.06**	**211**	P	**P**	**07 28 52.5**	**-0.3**
	1.1nm,0.3s,baz=32,slow=13,SNR=33						
STKA	**Stephens Creek**	**26.48**	**184**	P	**P**	**07 30 28.1**	**+0.1**
	2.0nm,0.7s,mb3.6,baz=359,slow=13,SNR=4.7						
STKA				S	**S**	**07 34 51.4**	**+0.6**
	2.5nm,0.8s,baz=321,slow=15,SNR=3.6						
STKA	**Stephens Creek**	**26.48**	**184**	*e*P	**P**	**07 30 27.8**	**-0.2**
STKA				S	**S**	**07 34 51.4**	**+0.6**
VNDA	**Vanda**	**72.81**	**176**	P	**P**	**07 36 16.9**	**+0.1**
	0.5nm,0.6s,mb3.5,baz=337,slow=6.7,SNR=5.3						
MKAR	**Makanchi Array**	**74.78**	**321**	P	**P**	**07 36 29.4**	**+0.6**
	0.6nm,0.6s,mb3.5,baz=98,slow=7.8,SNR=6.2						
ILAR	**Eielson Array**	**86.24**	**24**	P	**P**	**07 37 28.1**	**-0.8**
	0.5nm,0.7s,mb3.5,baz=253,slow=5.0,SNR=4.9						
SIV	**San Ignacio**	**147.75**	**131**	PKPbc	PKPdf	07 44 33.9	+5.3
	2.3nm,0.7s,baz=270,slow=2.7,SNR=15						

NEIC 18 07:30:11.7, 30.69S×71.60W, h38km, MD3.7(GUC), After GUC.

GUC 18 07:30:11.7±0.6, 30.69S×71.60W, h38km±3km, MD3.7, ML3.1, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.70**	**133**	*e*P	P	07 30 25.6	+0.5
CMCH				*i* S	S	07 30 35.8	+0.8
CMCH				AMP		07 30 36.1	
	comp=N,3μm,0.3s						
TLL	**Tololo Astrono**	**0.86**	**53**	⇑*i*P	P	07 30 28.2	+0.8
TLL				*i* S	S	07 30 40.6	+1.7
TLL				AMP		07 30 43.2	
	comp=N,679nm,0.3s						
CHNG	**Los Chungos**	**1.19**	**176**	*e*P	P	07 30 32.8	+0.7
CHNG				*i* S	S	07 30 48.3	+0.9
CHNG				AMP		07 30 52.0	
	comp=E,264nm,0.3s						
PACH	**Papudo**	**1.85**	**176**	*e*P	P	07 30 41.9	+0.4
VACH	**Vallenar**	**2.23**	**19**	⇑*i*P	P	07 30 47.1	+0.1
VACH				*i* S	S	07 31 14.6	+1.1
RCDM	**Rinconada Maip**	**2.87**	**167**	*e*P	P	07 30 56.5	+0.4
RCDM				AMP		07 31 45.0	
	comp=E,131nm,0.1s						
ANTU	**Antumapu**	**2.98**	**164**	*i* S	S	07 31 32.8	+0.1
ANTU				AMP		07 31 48.3	
	comp=E,98nm,0.4s						

ATH 18 07:52:17.0, 39.94N×24.02E, h24km, MD3.2/3
NEIC 18 07:52:17.0, 39.94N×24.02E, h24km, MD3.1(ATH), After ATH.
CSEM 18 07:52:17.5±0.1, 39.92N×24.04E, h15km, ML2.7, Error ellipse: s-maj=2.7km s-min=2.4km az=100.0

THE 18 07:52:17.7, 39.91N×24.03E, h4km, ML2.7, 3D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAIG	**Paliouri**	**0.27**	**273**	*e*Pg	Pg	07 52 23.0	-0.2
PAIG				*e*Sg	Sg	07 52 26.9	0.0
OUR	**Ouranopolis**	**0.42**	**355**	*e*Pg	Pg	07 52 25.6	-0.5
OUR				*e*Sg	Sg	07 52 32.0	+0.2
PLG	**Polygyros**	**0.64**	**316**	⇓*i*PN	Pn	07 52 28.9	-4.4
PLG				*e*SN	Sn	07 52 37.7	-6.3
AOS	**Alonnisos**

SDV	**Santo Domingo**	3.06	49	*e*Pn	P	08 00 41.9	+1.2
SDV				*e*Sn	S	08 01 19.2	+0.4
ELOV	**Elorza**	3.48	88	*e*P	P	08 00 46.9	+0.9
ELOV				*i* S	S	08 01 28.6	+0.4
VIRV	**Villa del Rosa**	3.63	9	*e*P	P	08 00 47.7	-0.4
VIRV				*e*S	S	08 01 29.9	-2.0
QARV	**Quebrada Arrib**	4.09	36⇑	*i*P	P	08 00 55.2	+1.2
QARV				*e*S	S	08 01 42.4	0.0
SANV	**Sanarito**	4.29	53	*e*P	P	08 00 57.3	+0.9
SANV				*e*S	S	08 01 46.0	-0.7
CURV	**Curarigua**	4.31	44	*e*P	P	08 00 57.5	+0.9
TEPV	**Terepaima**	4.84	51	*e*P	P	08 01 04.6	+1.0
TEPV				*e*S	S	08 01 58.9	-0.7
SIQV	**Siquisique**	4.88	40	*e*P	P	08 01 04.6	+0.5
SIQV				*e*S	S	08 01 59.5	-1.0
IMOV	**Isla Los Monje**	5.81	21	*e*P	P	08 01 16.4	+0.1
IMOV				*e*S	S	08 02 19.4	-3.0
MONV	**Montecano**	5.84	30	*e*P	P	08 01 16.7	0.0
MONV				*e*S	S	08 02 20.5	-2.8
TURV	**Turiamo**	6.19	55	*e*P	P	08 01 22.2	+0.9
TURV				*e*S	S	08 02 29.3	-2.2
CAOV	**Caicara del Or**	6.62	86	*e*P	P	08 01 26.8	-0.3
CAOV				*e*S	S	08 02 38.2	-3.6
SAML	**Samuel**	18.52	148	*e*P	P	08 03 54.7	-2.3
	2.5nm,0.4s						
SAML				*e*pP		08 04 22.6	
SAML				*e*S	S	08 07 20.5	+6.2
LPAZ	**La Paz**	23.52	168	P	P	08 04 46.5	-0.5
	0.5nm,0.3s,mb3.5,baz=334,slow=13,SNR=5.5						
LPAZ	**La Paz**	23.52	168	*e*P	P	08 04 45.6	-1.3
	1.6nm,0.8s,mb3.6						
BDFB	**Brasilia**	33.36	132	P	P	08 06 15.2	0.0
	1.6nm,0.5s,mb4.0,baz=270,slow=4.0,SNR=3.8						
TXAR	**Lajitas Array**	36.52	312	P	P	08 06 42.3	+0.5
	0.8nm,0.6s,mb3.5,baz=128,slow=9.1,SNR=16						
TXAR				PcP	PcP	08 09 02.4	+0.2
	0.2nm,0.7s,baz=129,slow=5.8,SNR=3.4						
KSU1	**Kansas State U**	38.50	330	*e*P	P	08 06 58.0	-0.4
ULM	**Lac du Bonnet**	47.27	340	P	P	08 08 08.6	-0.2
	2.0nm,0.4s,mb4.1,baz=106,slow=6.3,SNR=4.8						
ULM	**Lac du Bonnet**	47.27	340	P	P	08 08 08.6	-0.2
MSU	**Marysvale**	47.35	318	*e*P	P	08 08 10.8	+1.2
SCHQ	**Schefferville**	48.06	5	P	P	08 08 16.4	+1.4
	1.9nm,0.8s,mb3.8,baz=157,slow=7.3,SNR=3.8						
PDAR	**Pinedale Array**	48.10	324	P	P	08 08 16.0	+0.6
	0.6nm,0.6s,mb3.4,baz=126,slow=8.9,SNR=6.3						
YKA	**Yellowknife Ar**	63.25	340	P	P	08 10 03.0	-0.3
	1.7nm,0.6s,mb4.1,baz=134,slow=6.7,SNR=8.2						
WRA	**Warramunga Arr**	150.49	241	PKPbc	PKPdf	08 19 24.3	+6.7
	0.3nm,0.5s,baz=105,slow=2.8,SNR=12						

NIED ***18*** *08:05:00,36.40N×139.40E,h140km,Mw3.9 Best double couple: M0 9.04×10^14 NP1:φs296°,δ60°,λ111°. NP2:φs78°, δ36°,λ58°.*

MOS ***18*** *08:05:25.6±1.2,36.54N×139.38E,h139km,mb4.3/3,Error ellipse: s-maj=20.9km s-min=14.2km az=99.7*

JMA ***18*** *08:05:27.2±0.1,36.42N×139.42E,h132km±1km,M3.8 Broadband fault plane solution: P waves. NP1:φs67°,δ44°, λ35°. NP2:φs311°,δ67°,λ129°. Principal axes: T Plg52°, Azm267°; N Plg35°, Azm113°; P Plg13°, Azm14°;*

IDC ***18*** *08:05:27.1±1.0,36.50N×139.44E,h133km±7km,mb3.3/7, mb1 3.5/9,mb1mx3.4/22,mbtmp3.8/9 Error ellipse: s-maj=20.3km s-min=15.0km az=108.0*

NEIC ***18*** *08:05:27.0±1.0,36.53N×139.35E,h134km±7km,mb4.3/5, Error ellipse: s-maj=18.9km s-min=12.8km az=137.0*

ISC 18 08:05:25.6±0.4,36.43N±0.03×139.41E±0.07,h140km±3km, n38,σ0°89/55,mb3.7/11,3C-6D,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAG	**Ashikaga**	0.04	104	⇑P	P	08 05 45.2	+0.5
JKT	**Katashina**	0.36	339	⇑P	P	08 05 46.1	+0.4
JKT				S	S	08 06 00.5	-0.6
JRY	**Ryogami san**	0.58	225	⇓P	P	08 05 47.5	+0.7
JRY				S	S	08 06 02.5	-0.6
JHK	**Hiroka**	0.87	339	⇑P	P	08 05 49.3	+0.6
JHK				S	S	08 06 06.0	-0.3
MJAR	**Matsushiro Arr**	0.97	277	P	P	08 05 49.8	+0.4
	21nm,0.3s,baz=162,slow=9.4,SNR=96						
MJAR				S	S	08 06 07.8	+0.1
	14nm,0.3s,baz=328,slow=45,SNR=25						
MAJO	**Matsushiro**	0.98	277	*e*Pg	P	08 05 58.8	+9.3
MAJO				*e*Sn	S	08 06 14.8	+7.1
MAT	**Matsushiro**	0.98	277	P	P	08 05 50.1	+0.7
MAT				S	S	08 06 07.5	-0.2
MAT	**Matsushiro**	0.98	277	P	P	08 05 50.1	+0.7
MAT				S	S	08 06 07.6	-0.1
MAT	**Matsushiro**	0.98	277	*e*P	P	08 05 50.0	+0.6
MAT				*e*S	S	08 06 08.0	+0.3
JYN	**Shimob**	1.17	217	⇓P	P	08 05 51.9	+0.6
JYN				S	S	08 06 11.1	0.0
JOD2	**Odawara 2**	1.20	193	⇓P	P	08 05 51.7	+0.1
JOD2				S	S	08 06 10.4	-1.2
JNS	**Sasagawa**	1.38	357	P	P	08 05 54.2	+0.6
JNS				S	S	08 06 14.8	-0.2
JIM2	**Oshima 3**	1.71	179	P	P	08 05 57.5	+0.3
JIM2				S	S	08 06 21.0	-0.4
JMM	**Marumori**	1.81	37	⇓P	P	08 05 59.1	+0.8
JMM				S	S	08 06 22.8	-0.4
JSD	**Sado**	1.84	331	⇓P	P	08 05 59.0	+0.3
JSD				S	S	08 06 23.3	-0.7
JSZ	**Suzu**	1.93	302	P	P	08 06 00.2	+0.5
JSZ				S	S	08 06 25.2	-0.5
JAW	**Awa shima**	2.02	356	⇓P	P	08 06 01.6	+0.8
JNU	**Nakatsue**	7.76	247	P	P	08 07 17.9	+1.0
	0.2nm,0.3s,baz=194,slow=27,SNR=3.9						
ASAJ	**Asahikawa**	8.05	17	P	P	08 07 18.6	-2.3
	2.7nm,0.3s,baz=232,slow=9.6,SNR=9.2						
ASAJ				S	S	08 08 45.0	-5.7
	0.4nm,0.3s,baz=111,slow=22,SNR=2.5						
ASAJ	**Asahikawa**	8.05	17	P	P	08 07 18.6	-2.2
ASAJ				S	S	08 08 45.0	-5.6
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
CBIJ	**Chichi jima**	9.60	165	P	P	08 07 37.2	-4.2
	comp=Z,7.5nm,0.3s,baz=247,slow=16,SNR=6.8						
CBIJ				S	S	08 09 18.6	-9.1
	comp=Z,6.3nm,0.3s,baz=284,slow=18,SNR=3.8						
YSS	**Yuzh-Sakhalins**	10.80	12	*e*P	P	08 07 54.5	-2.7
MDJ	**Mudanjiang**	11.07	321	P	P	08 08 03.6	+2.9
	comp=Z,5.7nm,0.8s						
ENH	**Enshi**	25.68	265	*e*P	P	08 10 42.2	-1.9
	comp=Z,8.3nm,0.8s,mb4.4						
SONM	**Songino Array**	26.80	306	P	P	08 10 54.4	+0.1
	comp=Z,0.3nm,0.5s,mb3.2,baz=112,slow=7.8,SNR=3.1						
LSA	**Lhasa**	40.66	275	P	P	08 12 53.4	-0.1
	comp=Z,7.8nm,0.8s,mb4.4						
LSA	**Lhasa**	40.66	275	P	P	08 12 53.4	-0.1
LSA				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.4						
ZAL	**Zalesovo**	41.15	313	P	P	08 12 57.2	0.0
	comp=Z,1.7nm,0.4s,mb4.0,baz=61,slow=2.8,SNR=4.5						
MKAR	**Makanchi Array**	43.08	302	P	P	08 13 12.9	-0.1
	comp=Z,1.5nm,0.8s,mb3.7,baz=90,slow=9.7,SNR=10						
KURK	**Kurchatov**	45.04	308	*e*P	P	08 13 28.3	-0.4
	comp=Z,6.2nm,0.8s,mb4.3						
KURK	**Kurchatov**	45.04	308	*e*P	P	08 13 28.3	-0.4
KURK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.3						
AAK	**Ala-Archa**	49.36	298	P	P	08 14 01.6	-0.9
	comp=Z,2.7nm,0.8s,mb3.9						
AAK	**Ala-Archa**	49.36	298	P	P	08 14 01.6	-0.9
AAK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.0						
BVAR	**Borovoye Array**	49.79	312	P	P	08 14 05.9	+0.3
	comp=Z,0.4nm,0.5s,mb3.3,baz=72,slow=4.7,SNR=3.7						
ILAR	**Eielson Array**	50.86	32	P	P	08 14 14.4	+0.9
	comp=Z,0.4nm,0.7s,mb3.2,baz=288,slow=9.0,SNR=5.2						
ILAR				pP	pP	08 14 44.4	-1.6
	comp=Z,0.6nm,0.9s,baz=272,slow=5.4,SNR=4.2						
WRA	**Warramunga Arr**	56.27	186	P	P	08 14 52.8	-1.1
	comp=Z,0.6nm,0.6s,mb3.6,baz=1.5,slow=7.5,SNR=17						
WRA				PcP	PcP	08 15 50.1	+0.6
	comp=Z,0.6nm,0.6s,baz=0.7,slow=4.5,SNR=5.1						
TXAR	**Lajitas Array**	91.76	51	P	P	08 18 20.6	+2.0
	comp=Z,0.1nm,0.4s,mb3.2,baz=283,slow=2.2,SNR=5.0						
LPAZ	**La Paz**	148.38	58	PKPbc	PKPdf	08 24 59.4	+7.3
	comp=Z,1.2nm,0.9s,baz=323,slow=5.8,SNR=5.4						

MAN 18 08:43:04.5,12.87N×123.54E,h40km,mb4.3,ML3.2,
MS2.9,1C,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	**Virac**	0.93	40	*e*P	P	08 43 22.2	+0.9
PVCP				*e*S	S	08 43 37.1	+3.4
AUQP	**San Andres**	0.96	298	*e*P	P	08 43 21.5	-0.2
GQP	**Guinayangan**	1.48	314	*e*P	P	08 43 29.1	-0.1
GQP				*i* S	S	08 43 41.0	-6.5
RCP	**Roxas**	1.52	211⇑	*e*P	P	08 43 29.1	-0.7
RCP				*e*S	S	08 43 49.5	+1.0
OTRP	**Odiongan**	1.57	251	*e*P	P	08 43 28.3	-2.2
BOAC	**Boac**	1.75	290	*e*P	P	08 43 34.3	+1.3
SJMP	**San Jose**	2.40	260	*e*P	P	08 43 42.0	-0.3
GUIM	**Jordan**	2.42	203	*e*P	P	08 43 45.9	+3.4
LBPH	**Los Banos**	2.63	299	*e*P	P	08 43 45.9	+0.3

NEIC 18 08:50:32.4,34.17S×179.11W,h200km,MG4.3(WEL), After WEL.,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	3.98	211	PN	P	08 51 33.9	-0.7
MXZ				SN	S	08 52 05.6	-17
MXZ	**Matakaoa Point**	3.98	211	P	P	08 51 34.2	-0.4
PUZ	**Puketiti**	4.44	208	PN	P	08 51 40.1	-0.3
PUZ				SN	S	08 52 16.5	-16
PUZ	**Puketiti**	4.44	208	P	P	08 51 40.7	+0.3
MWZ	**Matawai**	4.97	212	*e*PN	P	08 51 46.4	-0.6
MWZ				SN	S	08 52 28.5	-16
MWZ	**Matawai**	4.97	212	P	P	08 51 47.2	+0.2
URZ	**Urewera**	5.10	216	*e*PN	P	08 51 48.1	-0.7
URZ				SN	S	08 52 33.4	-15
URZ	**Urewera**	5.10	216	*e*P	P	08 51 49.0	+0.3
KNZ	**Kokohu**	5.49	207	*e*PN	P	08 51 53.4	-0.4
BKZ	**Black Stump Fm**	6.11	214	*e*PN	P	08 52 01.1	-0.7
BKZ	**Black Stump Fm**	6.11	214	*e*P	P	08 52 01.9	+0.1
MRZ	**Mangatainoka R**	7.74	212	*e*PN	P	08 52 21.0	-2.0
MRZ				SN	S	08 53 31.9	-18
MRZ	**Mangatainoka R**	7.74	212	P	P	08 52 22.3	-0.7
TCW	**Tory Channel**	8.77	215	SN	S	08 53 56.1	-17

IDC ***18*** *08:54:47.0±2.5,7.83N×92.73E,mb3.6/3,mb1 3.9/3, mb1mx3.6/17,mbtmp3.6/3,MS3.4/2,Ms1 3.4/2, ms1mx3.0/16,Error ellipse: s-maj=95.9km s-min=31.5km az=60.0*

ISC 18 08:54:50.1±2.0,7.8N±0.3×92.8E±0.5,h33km,n10,σ0°45/8, mb4.0/5,MS3.4/2,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKI	**Pulchoki**	20.83	341	*e*P	P	08 59 32.1	+0.6
	14nm,0.7s						
DMN	**Daman**	20.96	341	*e*P	P	08 59 33.0	+0.2
	25nm,1.0s						
KKN	**Kakani**	21.08	341	*e*P	P	08 59 33.3	-0.7
GKN	**Gorkha**	21.48	340	*e*P	P	08 59 37.3	-0.7
	25nm,0.7s,mb4.7						
KOLN	**Koldanda**	21.64	338	*e*P	P	08 59 39.9	+0.3
	17nm,0.7s,mb4.6						
MKAR	**Makanchi Array**	39.85	349	LR	LR	09 22 10.7	
	comp=Z,40nm,18.2s,MS3.3,baz=178,slow=41						
SONM	**Songino Array**	41.52	14	P	P	09 02 36.1	+0.1
	0.3nm,0.5s,mb3.2,baz=193,slow=10,SNR=3.5						
ZAL	**Zalesovo**	46.42	354	LR	LR	09 24 52.2	
	comp=Z,44nm,18.2s,MS3.5,baz=121,slow=39						
WRA	**Warramunga Arr**	49.36	125	P	P	09 03 38.7	-0.1
	0.4nm,0.5s,mb3.7,baz=303,slow=8.9,SNR=8.9						
ARCES	**ARCESS Array B**	74.84	340	P	P	09 06 29.1	+0.3
	1.1nm,0.7s,mb3.9,baz=100,slow=7.4,SNR=6.2						

IDC ***18*** *09:00:38.0±1.8,1.24N×97.66E,mb4.2/7,mb1 4.3/7, mb1mx4.0/18,mbtmp4.2/7,Error ellipse: s-maj=60.0km s-min=24.8km az=51.0*

NEIC ***18*** *09:00:41.3±0.6,0.99N×97.24E,h30km,mb4.6/3,Error ellipse: s-maj=19.6km s-min=11.7km az=70.0*

ISC 18 09:00:39.7±0.8,1.0N±0.1×97.3E±0.2,h30km,n17, σ0°91/15,mb4.4/10,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	5.43	38	*e*Pn	Pn	09 02 00.5	-0.3
KULM				*e*pP		09 02 08.4	
KSM	**Kuching**	13.05	88	P	P	09 03 37.8	-8.0
BDT	**Bhumibol Dam**	16.22	6	P	P	09 04 18.0	-9.3
KMI	**Kunming**	24.55	12	P	P	09 06 00.2	+1.9
	19nm,1.5s,mb4.4						
JOW	**Kunigami**	39.32	47	P	P	09 08 04.4	-3.7
	4.3nm,0.5s,mb4.5,baz=274,slow=17,SNR=4.2						
WRA	**Warramunga Arr**	41.88	122	P	P	09 08 28.9	-0.4
	0.9nm,0.5s,mb3.6,baz=299,slow=9.3,SNR=9.4						
WRAB	**Tennant Creek**	41.88	122	P	P	09 08 29.2	-0.1
	6.6nm,0.9s,mb4.3						
SONM	**Songino Array**	47.30	8	P	P	09 09 11.9	-0.6
	3.5nm,0.6s,mb4.5,baz=190,slow=9.5,SNR=21						
SONM				PcP	PcP	09 10 43.9	+0.3
	1.5nm,0.7s,baz=197,slow=3.8,SNR=5.9						
MKAR	**Makanchi Array**	47.44	346	P	P	09 09 13.9	+0.3
	2.6nm,0.6s,mb4.3,baz=162,slow=7.7,SNR=20						
PMG	**Port Moresby**	50.75	103	*e*P	P	09 09 40.4	+0.9
	54nm,1.2s,mb5.3						
ZAL	**Zalesovo**	53.74	351	P	P	09 10 00.9	-0.5
	3.2nm,0.6s,mb4.5,baz=298,slow=6.5,SNR=7.6						
BVAR	**Borovoye Array**	56.45	341	P	P	09 10 20.1	-1.0
	1.8nm,0.6s,mb4.3,baz=127,slow=7.2,SNR=6.0						
CASY	**Casey**	67.81	174	P	P	09 11 36.8	0.0
ARCES	**ARCESS Array B**	82.73	340	P	P	09 13 02.5	+0.7
	1.7nm,0.9s,mb4.1,baz=90,slow=4.9,SNR=6.1						
ARCES	**ARCESS Array B**	82.73	340	P	P	09 13 02.5	+0.7
TXAR	**Lajitas Array**	143.79	32	PKP	PKPdf	09 20 12.7	-5.1
	0.2nm,0.6s,baz=6.7,slow=1.8,SNR=4.0						
LRAL	**Lakeview Retre**	145.90	6	*e*PKPdf	PKPdf	09 20 17.5	-3.8

IDC ***18*** *09:19:13.1±0.8,16.76S×70.63W,mb4.0/6,mb1 4.3/9, mb1mx4.1/18,mbtmp4.0/9,ML4.4/2,MS3.8/5,Ms1 3.8/5, ms1mx3.3/26,Error ellipse: s-maj=25.4km s-min=18.8km az=50.0*

NEIC ***18*** *09:19:15.6±0.4,16.76S×70.48W,h20km,mb4.4/14,Error ellipse: s-maj=11.6km s-min=7.9km az=58.0*

ISC 18 09:19:16.6±0.9,16.84S±0.07×70.61W±0.08,h42km±9km, n50,σ1°19/44,mb4.4/19,MS3.8/3,1C,Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	0.92	294⇑	*i*P	P	09 19 31.6	-1.6
ARE				*e*S	S	09 19 46.0	+0.5
LPAZ	**La Paz**	2.44	77	Pn	P	09 19 56.1	+1.2
	45nm,0.3s,baz=254,slow=15,SNR=1265						
LPAZ				Sn	S	09 20 27.8	+4.0
	10nm,0.3s,baz=129,slow=21,SNR=2.6						
LPAZ				LR	LR	09 21 04.2	
	comp=Z,2μm,19.6s,baz=33,slow=46						
LPAZ	**La Paz**	2.44	77	*e*Pn	P	09 19 55.7	+0.8
LPAZ				Sn	S	09 20 27.8	+4.0
LPAZ				LR	LR	09 21 04.2	
LVC	**Limon Verde**	5.96	165	Pn	P	09 20 44.3	-0.2
	2.7nm,0.3s,baz=322,slow=8.9,SNR=26						
LVC				Sn	S	09 22 04.5	+12
	1.5nm,0.3s,baz=241,slow=24,SNR=3.0						
LVC	**Limon Verde**	5.96	165	*e*Pn	P	09 20 44.1	-0.5
LVC				Sn	S	09 22 04.5	+12
SIV	**San Ignacio**	9.20	86	Pn	P	09 21 25.3	-4.3
	0.7nm,0.3s,baz=274,slow=12,SNR=28						
SIV				Lg		09 23 57.6	
	0.6nm,0.3s,baz=354,slow=23,SNR=4.7						
SAML	**Samuel**	10.67	44	*e*P	P	09 21 44.4	-5.6
	3.2nm,0.9s						
CFAA	**Coronel Fontan**	14.86	172	Pn	P	09 22 46.2	+0.6
	0.0nm,0.3s,baz=335,slow=13,SNR=3.7						
CFAA	**Coronel Fontan**	14.86	172	Pn	P	09 22 46.2	+0.6
CPUP	**Villa Florida**	15.54	130	LR	LR	09 29 53.7	
	comp=Z,289nm,18.1s,baz=128,slow=41						
BDFB	**Brasilia**	21.73	90	LR	LR	09 32 58.3	
	comp=Z,116nm,19.4s,MS3.3,baz=76,slow=38						
TRQA	**Tornquist**	22.46	162	*e*P	P	09 24 13.2	-0.2
	10nm,1.1s,mb4.2						
PLCA	**Paso Flores**	23.81	180	P	P	09 24 28.0	+1.5
	2.4nm,0.8s,mb3.7,baz=326,slow=14,SNR=4.8						
PLCA	**Paso Flores**	23.81	180	*e*P	P	09 24 23.6	-3.0
	26nm,1.5s,mb4.4						

DWPF	**Disney**	45.89	347	P	P	09 27 31.6	-5.6
	40nm,1.3s,mb5.2						
SWET	**Sewanee**	53.77	344	P	P	09 28 34.8	-2.6
WVT	**Waverly**	55.14	343	P	P	09 28 42.8	-4.5
	2.6nm,0.7s,mb4.4						
TXAR	**Lajitas Array**	55.91	325	P	P	09 28 52.8	-0.1
	1.1nm,0.9s,mb3.9,baz=146,slow=8.7,SNR=11						
SIUC	**Southern Illin**	57.02	342	*e*P	P	09 28 58.5	-2.2
	36nm,0.8s,mb5.5						
FVM	**French Village**	57.62	342	*e*P	P	09 29 03.8	-1.2
	28nm,1.1s,mb5.2						
CCM	**Cathedral Cave**	57.94	341	*e*P	P	09 29 05.5	-1.7
	7.5nm,0.9s,mb4.7						
GDL2	**Guadalupe Moun**	58.51	326	*e*P	P	09 29 11.9	+0.7
ANMO	**Albuquerque**	61.74	327	P	P	09 29 33.9	+0.6
	1.0nm,0.8s,mb4.0,baz=165,slow=7.6,SNR=5.4						
ANMO	**Albuquerque**	61.74	327	*e*P	P	09 29 33.9	+0.5
	1.7nm,1.0s,mb4.1						
SDCO	**Great Sand Dun**	63.43	330	*e*P	P	09 29 45.2	+0.6
	6.4nm,1.2s,mb4.6						
PV01	**Paradox Valley**	65.27	328	*e*P	P	09 29 57.1	+0.6
SNAA	**Sanae**	67.19	161	P	P	09 30 07.3	-0.8
	1.9nm,0.9s,mb4.1						
MSU	**Marysvale**	67.44	326	*e*P	P	09 30 11.7	+1.4
RSSD	**Black Hills**	67.92	335	*e*P	P	09 30 14.2	+1.1
	1.4nm,0.8s,mb4.0						
DBIC	**Dimbokro**	69.06	76	LR	LR	09 58 03.5	
	comp=Z,94nm,20.3s,MS4.0,baz=210,slow=34						
PDAR	**Pinedale Array**	69.28	330	P	P	09 30 22.1	+0.5
	1.0nm,1.0s,mb3.7,baz=135,slow=6.3,SNR=6.9						
HWUT	**Hardware Ranch**	69.39	328	P	P	09 30 24.0	+1.7
	2.2nm,0.9s,mb4.1						
ULM	**Lac du Bonnet**	70.41	343	P	P	09 30 26.9	-1.4
	5.5nm,0.7s,mb4.6,baz=148,slow=4.3,SNR=8.7						
HLID	**Hailey**	72.26	328	*e*P	P	09 30 40.5	+1.0
	2.2nm,1.0s,mb4.0						
MCMT	**McKenzie Canyo**	72.41	330	*e*P	P	09 30 42.1	+1.8
BOZ	**Bozeman (W)**	72.44	331	*e*P	P	09 30 40.9	+0.4
	3.1nm,1.0s,mb4.2						
WALA	**Waterton Lakes**	76.02	332	*e*P	P	09 31 02.0	+0.8
	4.9nm,1.1s,mb4.3						
EDM	**Edmonton**	78.88	335	*e*P	P	09 31 16.5	-0.5
TSUM	**Tsumeb**	82.96	108	LR	LR	10 09 04.4	
	comp=Z,86nm,18.7s,MS4.2,baz=318,slow=36						
ESLA	**Sonseca Array**	83.69	45	P	P	09 31 41.3	-1.3
YKA	**Yellowknife Ar**	86.28	341	P	P	09 31 55.5	+0.7
	0.8nm,0.5s,mb4.2,baz=130,slow=4.8,SNR=6.7						
YKA	**Yellowknife Ar**	86.28	341	P	P	09 31 55.5	+0.7
DLBC	**Dease Lake**	89.34	333	P	P	09 32 07.8	-1.8
ZAL	**Zalesovo**	138.34	22	PKP	PKPdf	09 38 37.8	+0.3
	1.4nm,0.7s,baz=182,slow=3.2,SNR=7.1						
MKAR	**Makanchi Array**	142.65	31	PKP	PKPdf	09 38 46.8	+1.4
	0.6nm,0.9s,baz=297,slow=2.7,SNR=4.6						
MJAR	**Matsushiro Arr**	147.82	313	PKPbc	PKPdf	09 39 00.7	+6.2
	5.0nm,1.0s,baz=265,slow=0.1,SNR=12						
MAJO	**Matsushiro**	147.82	313	*e*PKPbc	PKPab	09 39 08.4	+6.4
MAT	**Matsushiro**	147.82	313	P	PKPdf	09 39 00.3	+5.8
MAT	**Matsushiro**	147.82	313	*e*P	PKPdf	09 39 00.0	+5.5
SONM	**Songino Array**	148.99	4	PKPbc	PKPdf	09 39 02.7	+6.7
	3.1nm,0.8s,baz=320,slow=2.2,SNR=16						

CASC 18 09:53:54.9±1.0,11.50N×87.93W,h35km±999km,MD4.2, 2C-1D,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	1.48	62	*e*P	P	09 54 18.9	-0.5
JCR	**Jicaral**	3.22	120⇑	*i*P	P	09 54 42.4	-1.9
JCR				*e*S	S	09 55 21.3	-0.6
CGA2	**Cerro Gallo 2**	3.71	113	*e*P	P	09 54 50.5	-0.7
CGA2				*e*S	S	09 55 33.9	-0.5
PRS1	**Puriscal**	3.86	113⇑	*e*P	P	09 54 52.8	-0.7
PRS1				*e*S	S	09 55 37.1	-1.1
LCR2	**La Lucha 2**	4.24	114	*e*P	P	09 54 58.4	-0.3
LCR2				*e*S	S	09 55 46.4	-1.3
BUS	**Buena Vista**	4.53	115⇓	*e*P	P	09 55 02.3	-0.7

CSEM ***18*** *09:53:55.5±0.8,38.69N×28.56W,h5km,ML2.1,Error ellipse: s-maj=5.5km s-min=3.1km az=19.0,After PDA*

PDA ***18*** *09:53:55.5±0.8,38.69N×28.56W,h5km,MD2.9,ML2.1, Error ellipse: s-maj=5.5km s-min=3.1km az=19.0*

SVSA 18 09:53:55.5±0.8,38.69N×28.56W,h5km,MD2.9,ML2.1, Error ellipse: s-maj=5.5km s-min=3.1km az=19.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	0.13	241	*e*P	Pg	09 53 57.8

HNKL Nakhl 7.61 124 ⇓P **P 10 00 31.9 +0.2**
BRTR Keskin Array B 7.71 44 P **P 10 00 37.9 +4.9**
0.3nm,0.3s,baz=215,slow=14,SNR=3.5
BRTR S **S 10 02 00.6 +0.9**
0.2nm,0.3s,baz=212,slow=27,SNR=3.8
BRTR Keskin Array B 7.71 44 S **S 10 02 00.6 +0.9**
MZDA Masada 7.92 110 S **S 10 02 03.0 -1.9**
KMTI Karmit 8.03 120 S **S 10 02 03.9 -3.9**
MKRJ Makawir 8.04 108 S **S 10 02 07.1 -0.8**
PRNI Paran 8.10 117 S **S 10 02 07.2 -2.3**
ASUT 8.12 148 P **P 10 00 39.5 +0.8**
EIL Elat 8.44 122 S **S 10 02 14.8 -3.2**
HKAT Jabal Katrina 8.54 131 P **P 10 00 43.8 -0.7**
ASF Jabal al Asfar 8.83 102 P **P 10 00 58.5 +10**
0.7nm,0.3s,baz=167,slow=8.1,SNR=4.0
HHRG Al Ghardaqah 9.27 138 P **P 10 00 53.5 -0.9**
TIP Timpagrande 9.29 304 *e*Pn **P 10 00 50.5 -4.3**
TIP Timpagrande 9.29 304 *e*Pn **P 10 00 50.5 -4.3**
TIP *e*Sn **S 10 02 22.0 -17**
VAE Valguarnera 10.42 291 P **P 10 01 10.4 +0.1**
5.2nm,0.3s,baz=7.1,slow=3.8,SNR=3.1
MLR Muntele Rosu 11.12 357 P **P 10 01 20.1 +0.5**
0.2nm,0.3s,baz=171,slow=13,SNR=1.9
MLR LR LR 10 06 04.4
comp=Z,108nm,20.0s,baz=185,slow=40
KIV Kislovodsk 15.64 48 *e*P **P 10 02 22.2 +3.0**
KIV *e*S **S 10 05 18.6 +7.6**
KIV pmax pmax
comp=Z,5.0nm,0.9s
ZEI Tsey 15.84 53 *e*P **P 10 02 19.2 -2.5**
KBA Koelnbreinsper 16.19 326 ⇑*i*P **P 10 02 27.0 +0.9**
comp=Z,7.8nm,1.1s
KBA Koelnbreinsper 16.19 326 ⇑*i*P **P 10 02 27.0 +0.9**
KBA pmax pmax
comp=Z,8.0nm,1.1s
AKASG Malin Array Be 16.42 6 P **P 10 02 31.4 +2.5**
comp=Z,2.3nm,0.3s,baz=194,slow=10,SNR=9.0
MORC Moravsky Berou 16.80 339 *e*P **P 10 02 32.1 -1.6**
comp=Z,5.3nm,0.7s
MORC Moravsky Berou 16.80 339 *e*P **P 10 02 32.1 -1.5**
comp=Z,5.3nm,0.7s
MORC Moravsky Berou 16.80 339 *e*P **P 10 02 32.1 -1.6**
MORC pmax pmax
comp=Z,5.0nm,0.7s
TREC Trest 17.05 334 *e*P **P 10 02 39.1 +2.2**
TREC AMS AMS 10 10 10.0
comp=Z,200nm,10.4s
WTTA Wattenberg 17.15 323 ⇑*i*P **P 10 02 39.4 +1.3**
comp=Z,8.7nm,0.7s
WTTA Wattenberg 17.15 323 ⇑*i*P **P 10 02 39.4 +1.3**
WTTA pmax pmax
comp=Z,9.0nm,0.7s
GEC2 GERESS Array S 17.38 330 *e*P **P 10 02 42.5 +1.5**
comp=Z,6.0nm,0.7s
GEC2 GERESS Array S 17.38 330 *e*P **P 10 02 42.5 +1.5**
GEC2 pmax pmax
comp=Z,6.0nm,0.7s
GERES GERESS Array B 17.38 330 P **P 10 02 42.5 +1.5**
comp=Z,0.3nm,0.3s,baz=148,slow=13,SNR=22
MOTA Moosalm 17.47 323 ⇑*i*P **P 10 02 42.4 +0.2**
comp=Z,7.0nm,0.9s
MOTA Moosalm 17.47 323 ⇑*i*P **P 10 02 42.4 +0.2**
MOTA pmax pmax
comp=Z,7.0nm,0.9s
KHC Kasperske Hory 17.65 331 *e*P **P 10 02 44.2 -0.2**
KHC AMS AMS 10 10 50.0
comp=Z,100nm,12.7s
KHC Kasperske Hory 17.65 331 *e*P **P 10 02 45.7 +1.3**
DPC Dobruska-Polom 17.68 338 *e*P **P 10 02 44.7 0.0**
DPC AMS AMS 10 11 00.0
comp=Z,200nm,10.1s
DAVOX Davos 17.74 319 P **P 10 02 46.4 +0.8**
comp=Z,0.3nm,0.3s,baz=319,slow=20,SNR=4.1
UPC Upice 17.91 337 *e*P **P 10 02 47.4 -0.2**
PRU Pruhonice 17.97 334 *e*P **P 10 02 46.8 -1.6**
PRU AMS AMS 10 10 30.0
comp=Z,100nm,8.9s
DAVA Damuels 18.06 321 ⇑*i*P **P 10 02 49.3 -0.2**
comp=Z,6.5nm,0.7s
PVCC Panska Ves 18.41 335 *e*P **P 10 02 51.1 -2.6**
PVCC AMS AMS 10 13 40.0
comp=Z,100nm,7.5s
MBDF Montbardon 18.46 310 *e*P **P 10 02 51.8 -2.6**
comp=Z,30nm,0.8s
MBDF Montbardon 18.46 310 *e*P **P 10 02 51.8 -2.6**
MBDF pmax pmax
comp=Z,15nm,0.8s
BNI Bardonecchia 18.67 311 *e*P **P 10 02 56.7 -0.2**
comp=Z,5.6nm,0.8s
BNI Bardonecchia 18.67 311 *e*P **P 10 02 56.7 -0.2**
comp=Z,5.6nm,0.8s
BNI Bardonecchia 18.67 311 *e*P **P 10 02 56.7 -0.2**
BNI pmax pmax
comp=Z,6.0nm,0.8s
LPG La Plagne 18.84 312 *e*P **P 10 02 56.9 -2.0**
comp=Z,8.1nm,0.6s
LPG La Plagne 18.84 312 *e*P **P 10 02 56.9 -2.0**
LPG pmax pmax
comp=Z,4.0nm,0.6s
LPL La Plagne 18.86 312 *e*P **P 10 02 56.6 -2.5**
comp=Z,5.2nm,0.6s
LPL La Plagne 18.86 312 *e*P **P 10 02 56.6 -2.5**
LPL pmax pmax
comp=Z,3.0nm,0.6s
NKC Novy Kostel 18.97 331 *e*P **P 10 02 56.5 -3.8**
NKC AMS AMS 10 12 10.0
comp=Z,100nm,19.0s
ORIF Oris-en-Rattie 19.12 310 *e*P **P 10 02 59.3 -2.7**
comp=Z,5.8nm,0.6s
ORIF *e*R
comp=Z,119nm,21.5s
VRSR Storozhevoye 19.12 25 *e*P **P 10 03 03.8 +1.8**
STU Stuttgart 19.38 323 P **P 10 03 04.6 -0.2**
comp=Z,13nm,0.8s
STU Stuttgart 19.38 323 P **P 10 03 04.6 -0.2**
comp=Z,13nm,0.8s
STU Stuttgart 19.38 323 P **P 10 03 04.6 -0.2**
STU pmax pmax
comp=Z,13nm,0.8s
BFO Black Forest 19.53 321 *e*P **P 10 03 05.6 -0.9**
comp=Z,6.0nm,0.8s
BFO Black Forest 19.53 321 *e*P **P 10 03 05.6 -0.9**
BFO pmax pmax
comp=Z,6.0nm,0.8s
CLL Collm 19.62 334 ⇓P **P 10 03 05.6 -1.8**
CLL *i* 10 03 07.1
CLL *e*SP 10 03 14.0
MOX Moxa 19.63 330 *e*P **P 10 03 08.0 +0.5**
SUW Suwalki 19.79 354 P **P 10 03 03.0 -6.2**
comp=Z,25nm,0.7s
SUW Suwalki 19.79 354 P **P 10 03 03.0 -6.2**
SUW pmax pmax
comp=Z,25nm,0.7s
CABF La Chapelle 19.80 314 *e*P **P 10 03 08.5 -0.9**
comp=Z,19nm,1.0s
CABF La Chapelle 19.80 314 *e*P **P 10 03 08.5 -0.9**
CABF pmax pmax
comp=Z,9.0nm,1.0s
VRHR Novokhopersk 19.93 28 *e*P **P 10 03 14.7 +4.0**
VRHR pmax pmax
comp=Z,20nm,0.9s
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.6s
HINF Hinteralfeld 20.02 318 *e*P **P 10 03 10.4 -1.3**
comp=E,19nm,0.8s
HINF Hinteralfeld 20.02 318 *e*P **P 10 03 10.4 -1.3**
HINF pmax pmax
comp=Z,10.0nm,0.8s
CDF Champ du Feu 20.14 320 *e*P **P 10 03 12.9 -0.1**
comp=Z,30nm,0.8s
CDF Champ du Feu 20.14 320 *e*P **P 10 03 12.9 -0.1**
CDF pmax pmax
comp=Z,15nm,0.8s
HAU Haudompre 20.40 318 *e*P **P 10 03 14.3 -1.4**
comp=Z,15nm,0.5s
HAU *e*R
comp=Z,75nm,17.5s
HAU Haudompre 20.40 318 *e*P **P 10 03 14.3 -1.4**
HAU pmax pmax
comp=Z,8.0nm,0.5s
HAU MLR MLR
comp=Z,80nm,17.5s,MS3.1
TNS Taunus Mts 20.71 325 *e*P **P 10 03 19.9 +1.0**
comp=Z,10.0nm,0.7s
TNS pmax pmax
comp=Z,10.0nm,0.7s
MTLF Montolieu 20.99 302 *e*P **P 10 03 20.4 -1.4**
comp=Z,14nm,0.9s
MTLF Montolieu 20.99 302 *e*P **P 10 03 20.4 -1.4**
MTLF pmax pmax
comp=Z,7.0nm,0.9s
SMF Signal de Mont 21.17 312 *e*P **P 10 03 22.2 -1.4**
comp=Z,10nm,0.7s,mb4.0
SMF Signal de Mont 21.17 312 *e*P **P 10 03 22.2 -1.4**
SMF pmax pmax
comp=Z,5.0nm,0.7s,mb4.0
MEZF Maizieres J'vi 21.40 318 *e*P **P 10 03 26.4 +0.6**
comp=Z,51nm,0.8s,mb4.6
LOR Lormes 21.45 314 *e*P **P 10 03 25.7 -0.7**
comp=Z,10nm,0.7s,mb4.0
LOR *e*R
comp=Z,53nm,21.8s
LOR Lormes 21.45 314 *e*P **P 10 03 25.7 -0.7**
LOR pmax pmax
comp=Z,5.0nm,0.7s,mb4.0
LOR MLR MLR
comp=Z,50nm,21.8s,MS2.9
WLF Walferdange 21.48 322 *e*P **P 10 03 27.3 +0.6**
comp=Z,18nm,0.9s,mb4.4
WLF Walferdange 21.48 322 *e*P **P 10 03 27.3 +0.6**
comp=Z,18nm,0.9s,mb4.4
WLF Walferdange 21.48 322 *e*P **P 10 03 27.3 +0.6**
WLF pmax pmax
comp=Z,18nm,0.9s,mb4.4
AVF Avril sur Loir 21.54 312 *e*P **P 10 03 26.7 -0.5**
comp=Z,4.6nm,0.5s,mb3.9
AVF Avril sur Loir 21.54 312 *e*P **P 10 03 26.7 -0.5**
AVF pmax pmax
comp=Z,2.0nm,0.5s,mb3.8
SSF Saint Saulge 21.57 313 *e*P **P 10 03 26.6 -0.9**
comp=Z,14nm,0.8s,mb4.4
SSF Saint Saulge 21.57 313 *e*P **P 10 03 26.6 -0.9**
SSF pmax pmax
comp=Z,14nm,0.8s,mb4.4
BGF Bois d'Agland 21.75 311 *e*P **P 10 03 28.6 -0.7**
comp=Z,15nm,0.8s,mb4.2
BGF Bois d'Agland 21.75 311 *e*P **P 10 03 28.6 -0.7**
BGF pmax pmax
comp=Z,8.0nm,0.8s,mb4.2
OBN Obninsk 21.85 15 *i*P **P 10 03 31.5 +1.2**
comp=Z,12nm,0.8s,mb4.4
OBN Obninsk 21.85 15 *e*PcP PcP 10 07 28.3 -1.0
OBN Obninsk 21.85 15 *i*P **P 10 03 31.5 +1.2**
OBN *e* 10 03 56.6
OBN *e* 10 07 28.3
OBN *i*S **S 10 07 34.4 +11**
OBN pmax pmax
comp=Z,12nm,0.8s,mb4.4
OBN MLR MLR
comp=Z,100nm,22.0s,MS3.2
TCF Toulx Ste Croi 22.03 310 *e*P **P 10 03 32.2 0.0**
comp=Z,13nm,1.0s,mb4.0
TCF Toulx Ste Croi 22.03 310 *e*P **P 10 03 32.2 0.0**
TCF pmax pmax
comp=Z,6.0nm,1.0s,mb4.0
RJF Les Rejaudoux 22.11 307 *e*P **P 10 03 33.4 +0.5**
comp=Z,20nm,0.9s,mb4.2
RJF *e*R
comp=Z,54nm,22.8s
RJF Les Rejaudoux 22.11 307 *e*P **P 10 03 33.4 +0.5**
RJF pmax pmax
comp=Z,10.0nm,0.9s,mb4.2
RJF MLR MLR
comp=Z,50nm,22.8s,MS2.9
EPF Esparros 22.23 301 *e*P **P 10 03 33.1 -1.1**
GIVF Givet 22.43 321 *e*P **P 10 03 37.1 +1.0**
comp=Z,17nm,0.6s,mb4.3
GIVF Givet 22.43 321 *e*P **P 10 03 37.1 +1.0**
GIVF pmax pmax
comp=Z,8.0nm,0.6s,mb4.3
LFF La Frestale 22.50 306 *e*P **P 10 03 36.2 -0.6**
comp=Z,21nm,0.8s,mb4.3
LFF La Frestale 22.50 306 *e*P **P 10 03 36.2 -0.6**
LFF pmax pmax
comp=Z,10.0nm,0.8s,mb4.3
DOU Dourbes 22.55 321 P **P 10 03 35.2 -2.0**
comp=Z,6.2nm,1.4s,mb3.9
BAIF Baives 22.73 320 *e*P **P 10 03 39.4 +0.4**
comp=Z,50nm,0.8s,mb4.7
BAIF Baives 22.73 320 *e*P **P 10 03 39.4 +0.4**
BAIF pmax pmax
comp=Z,25nm,0.8s,mb4.7
MFF Saint Martin d 23.66 309 *e*P **P 10 03 48.7 +0.8**
comp=Z,12nm,0.7s,mb4.1
MFF Saint Martin d 23.66 309 *e*P **P 10 03 48.7 +0.8**
MFF pmax pmax
comp=Z,6.0nm,0.7s,mb4.1
LDF La Druitiere 24.44 314 *e*P **P 10 03 55.4 -0.2**
comp=Z,6.6nm,0.6s,mb3.9
LDF La Druitiere 24.44 314 *e*P **P 10 03 55.4 -0.2**
LDF pmax pmax
comp=Z,3.0nm,0.6s,mb3.9
FLN La Foliniere 24.73 314 *e*P **P 10 03 59.0 +0.6**
comp=Z,16nm,0.7s,mb4.4
FLN *e*R
comp=Z,43nm,18.0s
FLN La Foliniere 24.73 314 *e*P **P 10 03 59.0 +0.6**
FLN pmax pmax
comp=Z,8.0nm,0.7s,mb4.4
FLN MLR MLR
comp=Z,40nm,18.0s,MS3.0
GRR Gorron 24.80 313 *e*P **P 10 03 59.7 +0.7**
comp=Z,16nm,0.8s,mb4.3
GRR Gorron 24.80 313 *e*P **P 10 03 59.7 +0.7**
GRR pmax pmax
comp=Z,8.0nm,0.8s,mb4.3
ESDC Sonseca Array 24.96 291 P **P 10 04 02.1 +1.3**
comp=Z,2.7nm,0.7s,mb3.9,baz=82,slow=9.4,SNR=12
ESLA Sonseca Array 24.96 291 *e*P **P 10 04 01.7 +1.0**
comp=Z,0.5nm,0.6s,mb3.2
ESLA Sonseca Array 24.96 291 *e*P **P 10 04 01.7 +0.9**
comp=Z,0.5nm,0.6s,mb3.2
SGMF Saint Gilles 25.79 311 *e*P **P 10 04 08.7 +0.3**
QUIF Quistinic 26.05 310 *e*P **P 10 04 10.9 +0.1**
comp=Z,20nm,0.9s,mb4.4
QUIF Quistinic 26.05 310 *e*P **P 10 04 10.9 +0.1**
QUIF pmax pmax
comp=Z,10.0nm,0.9s,mb4.3
ROSF Rostrenen 26.26 311 *e*P **P 10 04 12.8 0.0**
comp=Z,8.9nm,0.6s,mb4.2
ROSF Rostrenen 26.26 311 *e*P **P 10 04 12.8 0.0**
ROSF pmax pmax
comp=Z,4.0nm,0.6s,mb4.1
FINES FINESS Array B 27.09 359 P **P 10 04 20.4 +0.2**
comp=Z,1.6nm,0.5s,mb3.8,baz=153,slow=10,SNR=16
FINES FINESS Array B 27.09 359 *e*P **P 10 04 21.0 +0.8**
HFS Hagfors 27.13 346 P **P 10 04 20.1 -0.6**
comp=Z,1.4nm,0.4s,mb3.8,baz=135,slow=8.4,SNR=10
HFS LR LR 10 14 53.0
comp=Z,41nm,20.2s,MS3.0,baz=1.8,slow=36
KAF Kangasniemi 27.76 360 *e*p **P 10 04 26.1 -0.2**
comp=Z,1.9nm,0.4s,mb4.1,baz=177,slow=9.0
KAF Kangasniemi 27.76 360 *e*P **P 10 04 26.1 -0.2**
KAF pmax pmax
comp=Z,2.0nm,0.4s,mb4.1
NOA NORSAR Array B 28.48 344 P **P 10 04 32.7 -0.2**
comp=Z,1.5nm,0.8s,mb3.7,baz=164,slow=6.3,SNR=3.8
NOA NORSAR Array B 28.48 344 P **P 10 04 32.7 -0.2**
EKA Eskdalemuir Ar 29.40 325 P **P 10 04 41.8 +0.7**
comp=Z,4.3nm,0.9s,mb4.2,baz=135,slow=8.3,SNR=8.0
ESK Eskdalemuir 29.42 325 *e*P **P 10 04 37.9 -3.3**
comp=Z,22nm,1.4s,mb4.7
ESK Eskdalemuir 29.42 325 *e*P **P 10 04 37.9 -3.3**
ESK pmax pmax
comp=Z,22nm,1.4s,mb4.7
ARCES ARCESS Array B 35.22 359 P **P 10 05 31.5 -0.1**
comp=Z,3.0nm,0.6s,mb4.4,baz=176,slow=9.2,SNR=23
ARCES PcP PcP 10 08 04.2 +2.3
comp=Z,2.3nm,1.0s,baz=149,slow=5.3,SNR=3.5
ARCES ARCESS Array B 35.22 359 P **P 10 05 31.5 -0.1**
ARCES PcP PcP 10 08 04.2 +2.3
ARE0 ARCESS Array S 35.22 359 *e*P **P 10 05 31.3 -0.3**
ARE0 ARCESS Array S 35.22 359 *e*P **P 10 05 31.3 -0.3**
KEV Kevo 35.43 0 *e*p **P 10 05 31.7 -1.7**
BRVK Borovoye 35.94 45 *e*P **P 10 05 35.8 -2.1**
comp=Z,6.9nm,0.7s,mb4.7
BRVK Borovoye 35.94 45 *e*P **P 10 05 35.8 -2.1**
BRVK pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
DBIC Dimbokro 40.09 234 P **P 10 06 15.3 +2.4**
comp=Z,3.2nm,0.8s,mb4.1,baz=11,slow=9.1,SNR=6.4
DBIC Dimbokro 40.09 234 P **P 10 06 15.3 +2.4**
MKAR Makanchi Array 43.16 56 P **P 10 06 42.1 +4.3**
comp=Z,1.6nm,0.6s,mb4.0,baz=275,slow=6.3,SNR=12
NVS Novosibirsk 43.77 44 *e*P **P 10 06 46.1 +3.5**
ZAL Zalesovo 44.63 46 P **P 10 06 54.1 +4.6**
comp=Z,1.5nm,0.4s,mb4.2,baz=13,slow=1.4,SNR=2.7
WMQ Urumqi 47.32 59 *e*P **P 10 07 11.0 +0.1**
WMQ AP pP 10 07 23.0 -2.1
WMQ PP PP 10 09 02.0 +0.1
WMQ S **S 10 14 00.0 +0.4**
WMQ SS SS 10 17 21.0 -0.1
WMQ AMB AMB
comp=Z,12nm,1.0s,mb4.8
WMQ LR LR
comp=N,35nm,18.0s,MS3.7
WMQ LR LR
comp=E,64nm,18.0s,MS3.7
WMQ LR LR
comp=Z,23nm,18.0s,MS3.2
SUMG Summit 50.16 339 *e*P **P 10 07 33.9 +1.4**
comp=Z,5.8nm,0.7s,mb4.7
SUMG Summit 50.16 339 *e*P **P 10 07 33.9 +1.4**
comp=Z,5.8nm,0.7s,mb4.7
ZAK Zakamensk 56.32 48 *e*P **P 10 08 22.5 +4.1**
ZAK pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
SONM Songino Array 59.01 51 P **P 10 08 41.5 +4.2**
comp=Z,1.5nm,0.4s,mb4.3,baz=284,slow=7.3,SNR=14
LZH Lanzhou 61.41 64 *e*P **P 10 08 54.5 +0.6**
LZH AP pP 10 09 07.5 -1.1
LZH *e*PP PP 10 11 11.8 +0.1
LZH AMB AMB
comp=Z,22nm,1.3s,mb5.1
LZH AMB AMB
comp=Z,71nm,6.5s
LZH LR LR
comp=N,273nm,15.4s
LZH LR LR
comp=Z,307nm,18.5s,MS4.5
LZH Lanzhou 61.41 64 *e*P **P 10 08 54.5 +0.6**
comp=Z,22nm,1.3s,mb5.1
LZH pP pP 10 09 07.5 -1.1
LZH sP sP 10 09 12.6 -2.2
LZH *e*PP PP 10 11 11.7 0.0
LZH LR LR
comp=Z,310nm,18.5s,MS4.5
LZH Lanzhou 61.41 64 *e*P **P 10 08 54.5 +0.6**
LZH *e* 10 11 11.7
LZH pmax pmax
comp=Z,22nm,1.3s,mb5.1
LZH MLR MLR
comp=Z,310nm,18.5s,MS4.5
SCHQ Schefferville 64.59 320 P **P 10 09 16.0 +1.5**
comp=Z,5.0nm,0.5s,mb4.8,baz=70,slow=4.6,SNR=26
HHC Hu-ho-hao-te 65.03 56 *e*P **P 10 09 18.6 +1.0**
HHC AP pP 10 09 28.3 -4.2
HHC XP sP 10 09 32.9 -5.5
HHC PP PP 10 11 41.1 -2.0
HHC *e*S S 10 17 56.0 +1.9
HHC XS 10 18 12.1
HHC SCS ScS 10 19 06.8 +2.8
HHC SS SS 10 22 07.8 -0.9
HHC AMB AMB
comp=Z,14nm,0.5s,mb5.2
HHC AMB AMB
comp=Z,113nm,5.7s
HHC LR LR
comp=N,109nm,20.8s,MS4.2
HHC LR LR
comp=E,116nm,19.0s,MS4.2
HHC LR LR
comp=Z,108nm,18.4s,MS4.1
KMI Kunming 65.29 76 P **P 10 09 20.3 +0.7**
KMI AP pP 10 09 33.0 -1.5
KMI AMB AMB
comp=Z,7.0nm,0.6s,mb4.9
KMI Kunming 65.29 76 P **P 10 09 20.2 +0.6**
comp=Z,7.0nm,0.6s,mb4.9
KMI pP pP 10 09 33.0 -1.5
KMI sP sP 10 09 37.5 -2.9
KMI Kunming 65.29 76 P **P 10 09 20.2 +0.6**
KMI *PP pP 10 09 33.0 -1.5
KMI pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
CN2 Changchun 72.76 49 *e*P **P 10 10 05.3 +0.2**
NJ2 Nanjing 74.32 62 *e*P **P 10 10 16.1 +1.6**
NJ2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
ILAR Eielson Array 81.05 357 P **P 10 10 54.1 +3.0**
comp=Z,0.8nm,0.7s,mb3.7,baz=359,slow=4.6,SNR=9.1
MJAR Matsushiro Arr 84.91 49 P **P 10 11 14.8 +3.6**
comp=Z,2.4nm,0.9s,mb4.3,baz=313,slow=4.9,SNR=5.1
WRA Warramunga Arr 115.25 98 PKP PKPdf 10 17 21.8 +5.0
comp=Z,0.3nm,0.7s,baz=315,slow=1.6,SNR=5.5

IDC 18 10:06:40.7±3.9, 1.94S×98.45E, mb4.0/4, mb1 4.1/4, mb1mx3.7/16, mbtmp4.0/4, Error ellipse: s-maj=201.5km s-min=26.2km az=49.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**39.36**	**120**	P	P	10 14 12.2	-1.7
	0.3nm,0.4s,baz=293,slow=8.1,SNR=12						
MKAR	**Makanchi Array**	**50.57**	**346**	P	P	10 15 40.4	-2.8
	1.0nm,0.3s,baz=160,slow=8.7,SNR=9.8						
BVAR	**Borovoye Array**	**59.60**	**341**	P	P	10 16 46.2	-2.5
	1.2nm,0.5s,baz=148,slow=8.9,SNR=7.6						
ARCES	**ARCESS Array B**	**85.89**	**340**	P	P	10 19 23.4	+0.1
	0.8nm,0.5s,baz=108,slow=3.8,SNR=13						
TXAR	**Lajitas Array**	**145.57**	**36**	PKPbc	PKPbc	10 26 20.1	-2.1
	0.2nm,0.4s,baz=307,slow=0.5,SNR=6.4						

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*CNRM **18** 10:09:04.2, 35.36N×4.11W, h6km, MD3.1*
*CSEM **18** 10:09:06.2±0.2, 35.12N×3.95W, h8km, MD3.1, Error ellipse: s-maj=5.8km s-min=3.9km az=81.0*
*MDD **18** 10:09:07.5±1.0, 35.11N×4.03W, h5km±10km, mbLg2.0/7, Error ellipse: s-maj=8.1km s-min=5.9km az=116.0, PRXIMO*

ISC 18 10:09:06.4±0.8, 35.18N±0.03×4.15W±0.04, h9km±6km, n24, σ1§40/42, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAL	**Palemas**	**0.18**	**74**	*i* P	**Pg**	**10 09 08.5**	**-1.9**
TOU	**Touzarine**	**0.39**	**123**	*i* P	**Pg**	**10 09 12.5**	**-1.9**
TOU				*i* S	**Sg**	**10 09 20.5**	**+0.8**
EMLI	**Melilla**	**0.99**	**83**	P	**Pb**	**10 09 26.4**	**+1.1**
	44nm,0.1s,SNR=4.6						
EMLI				S	**Sb**	**10 09 40.3**	**+2.1**
	83nm,0.2s,SNR=4.3						
TZK	**Tazeka**	**1.08**	**181**	*i* P	**Pb**	**10 09 27.5**	**+0.6**
TZK				*i* S	**Sb**	**10 09 43.5**	**+2.5**
ZAI	**Zaio**	**1.17**	**100**	*e*P	**Pb**	**10 09 26.0**	**-2.4**
ZAI				*i* S	**Sb**	**10 09 41.0**	**-2.5**
EALB	**Alboran**	**1.19**	**50**	P	**Pb**	**10 09 28.7**	**0.0**
	8.1nm,0.2s,SNR=7.7						
EALB				S	**Sb**	**10 09 43.6**	**-0.3**
	11nm,0.2s,SNR=7.9						
EALB	**Alboran**	**1.19**	**50**	P	**Pb**	**10 09 28.7**	**0.0**
	8.1nm,0.2s,SNR=7.7						
EALB				S	**Sb**	**10 09 42.7**	**-1.2**
	11nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**1.47**	**340**	P	**Pn**	**10 09 34.5**	**+1.2**
	1.1nm,0.1s,SNR=5.6						
EMIJ				S	**Sb**	**10 09 48.0**	**-4.3**
	10.0nm,0.3s,SNR=7.5						
EMIJ	**Mijas**	**1.47**	**340**	P	**Pn**	**10 09 35.4**	**+2.1**
	1.1nm,0.1s,SNR=5.6						
EJIF	**Jimena Fronter**	**1.66**	**320**	P	**Pn**	**10 09 37.7**	**+1.7**
	1.0nm,0.2s,SNR=7.9						
EJIF				S	**Sn**	**10 09 57.5**	**-0.1**
	2.8nm,0.3s,SNR=7.9						
EGUA	**Guajares**	**1.72**	**16**	S	**Sn**	**10 09 58.9**	**-0.1**
	1.1nm,0.2s,SNR=7.9						
ERON	**Agron**	**1.86**	**9**	P	**Pn**	**10 09 41.7**	**+2.9**
	3.0nm,0.4s,SNR=4.0						
EBER	**Berja**	**2.00**	**30**	P	**Pn**	**10 09 42.5**	**+1.7**
	1.2nm,0.3s,SNR=7.9						
EBER				S	**Sn**	**10 10 06.3**	**+0.2**
	5.7nm,0.3s,SNR=7.9						

EBER	**Berja**	2.00	30	P		**Pn**	10 09 42.9	+2.1
	1.2nm,0.3s,SNR=7.9							
EBER				S		**Sn**	10 10 06.3	+0.2
	5.7nm,0.3s,SNR=7.9							
CZD	**Col de Zad**	2.26	199	*i* P		**Pn**	10 09 43.0	-1.5
CZD				*i* S		**Sn**	10 10 12.0	-0.8
EQES	**Quesada**	2.76	18	P		**Pn**	10 09 52.5	+0.8
	2.5nm,0.2s,SNR=4.0							
EQES				S		**Sn**	10 10 25.2	-0.3
	4.6nm,0.4s,SNR=7.9							
EQES	**Quesada**	2.76	18	P		**Pn**	10 09 52.5	+0.8
	2.5nm,0.2s,SNR=4.0							
EQES				S		**Sn**	10 10 25.2	-0.3
	4.6nm,0.4s,SNR=7.9							
EADA	**Adamuz**	3.00	354	P		**Pn**	10 09 56.5	+1.4
	0.4nm,0.1s,SNR=7.9							
EADA				S		**Sn**	10 10 31.0	-0.6
	2.3nm,0.4s,SNR=4.0							
EADA	**Adamuz**	3.00	354	P		**Pn**	10 09 56.7	+1.6
	0.4nm,0.1s,SNR=7.9							
EADA				S		**Sn**	10 10 30.8	-0.8
	2.3nm,0.4s,SNR=4.0							
ECAB	**El Cabril**	3.07	341	P		**Pn**	10 09 57.1	+1.1
	0.3nm,0.2s,SNR=4.0							
ECAB				S		**Sn**	10 10 31.2	-2.0
	2.3nm,0.3s							
ECAB	**El Cabril**	3.07	341	P		**Pn**	10 09 57.1	+1.1
	0.3nm,0.2s,SNR=4.0							
EMIN	**Mina Concepcio**	3.29	323	P		**Pn**	10 09 59.0	-0.2
	0.4nm,0.2s,SNR=14							
EMIN				S		**Sn**	10 10 38.6	-0.3
	1.0nm,0.1s							
EMIN	**Mina Concepcio**	3.29	323	P		**Pn**	10 09 59.0	-0.2
	0.4nm,0.2s,SNR=14							
EGRO	**El Granado**	3.57	312	P		**Pn**	10 10 02.9	-0.3
	1.3nm,0.3s,SNR=7.9							
EGRO				S		**Sn**	10 10 43.6	-2.4
	1.7nm,0.3s,SNR=7.9							

MEX 18 10:14:29.2±0.6, 16.09N×97.65W, h8km±71km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	0.55	303	*i* P		Pg	10 14 39.4 -0.9
PNIG				*i* S		Sg	10 14 47.2 -0.4
VHO	**Vista Hermosa**	1.31	42	*i* P		Pb	10 14 49.9 -3.7
VHO				*i* S		Sb	10 15 07.0 -3.5
OXX	**Oaxaca**	1.32	42	*e*P		Pb	10 14 51.0 -2.9
OXX				*i* S		Sb	10 15 08.0 -2.9

*TIR **18** 11:24:38.7, 42.44N×19.74E*
*PDG **18** 11:24:39.8±0.2, 42.43N×19.75E, h10km±1km*
*BEO **18** 11:24:39.8±0.4, 42.43N×19.76E, h8km±1km*
*NEIC **18** 11:24:39.8, 42.43N×19.75E, h10km, MD2.5(PDG), After PDG.*

ISC 18 11:24:38.8±0.5, 42.43N±0.02×19.79E±0.03, h10km, n16, σ0§97/32, 5C-2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVY	**Plav**	0.21	39⇑	*i*Pg	**Pg**	11 24 43.5	+0.2
PVY				*e*Sg	**Sg**	11 24 47.7	+1.3
BCI	**Bajram Curri**	0.21	108	*i* Pg	**Pg**	11 24 43.1	-0.3
BCI				*i* Sg	**Sg**	11 24 47.0	+0.5
TTG	**Podgorica**	0.40	270	⇑*i*Pg	**Pg**	11 24 46.0	-0.9
TTG				*e*Sg	**Sg**	11 24 52.1	-0.2
SDA	**Shkodra**	0.44	210	*i* Pg	**Pg**	11 24 46.4	-1.3
SDA				*i* Sg	**Sg**	11 24 54.1	+0.4
IVA	**Berane**	0.45	10	⇓*i*Pg	**Pg**	11 24 48.1	+0.3
IVA				*e*Sg	**Sg**	11 24 55.2	+1.4
ULC	**Ulcinj**	0.62	221	*e*Pg	**Pg**	11 24 50.9	-0.4
ULC				*e*Sg	**Sg**	11 25 00.6	+0.9
BUM	**Brajici-Budva**	0.68	259	*e*Pg	**Pg**	11 24 51.4	-1.0
BUM				*e*Sg	**Sg**	11 25 02.0	+0.5
NKY	**Niksic**	0.70	303	⇓*i*Pg	**Pg**	11 24 51.8	-1.1
NKY				*e*Sg	**Sg**	11 25 02.8	+0.6
QSH	**Qafa e Shtames**	0.92	175	*i* Pg	**Pg**	11 24 58.0	+0.9
QSH				*i* Sg	**Sg**	11 25 14.0	+4.6
PLE	**Pljevlja**	0.94	342	*e*Pg	**Pg**	11 24 57.3	-0.4
PLE				*e*Sg	**Sg**	11 25 11.7	+1.4
HCY	**Herceg Novi**	0.96	271	⇑*i*Pg	**Pg**	11 24 57.0	-1.0
HCY				*e*Sg	**Sg**	11 25 11.4	+0.6
UPM	**Unac-Piva**	1.01	320	*e*Pg	**Pg**	11 24 58.5	-0.4
UPM				*e*Sg	**Sg**	11 25 13.2	+0.8
NVSS	**Nova Varos 2**	1.08	356	⇑*i*Pg	**Pg**	11 24 59.4	-1.0
NVSS				Sg	**Sg**	11 25 12.0	-2.7
BBLS	**Bajina Basta -**	1.46	349	*e*Pg	**Pg**	11 25 06.8	-1.2
BBLS				Sg	**Sg**	11 25 26.6	-0.9
STON	**Ston**	1.61	287	*i* Pn	**Pn**	11 25 07.2	-0.1
STON				*i* Sn	**Sg**	11 25 34.0	+1.7
DIVS	**Divcibare**	1.67	5	⇑*i*Pn	**Pn**	11 25 12.3	+3.9
DIVS				Sn	**Sn**	11 25 35.3	+5.4

*IDC **18** 11:28:06.6±0.9, 12.89N×88.44W, mb4.0/8, mb1 4.3/9, mb1mx4.1/20, mbtmp4.0/9, ML3.9/1, MS3.5/10, Ms1 3.5/10, ms1mx3.3/29, Error ellipse: s-maj=54.9km s-min=15.5km az=58.0*
*NEIC **18** 11:28:07.9±0.6, 12.83N×88.51W, h10km, mb4.2/13, MD4.1(SNET), Error ellipse: s-maj=22.1km s-min=8.6km az=53.0*
NEIC Felt [II] at Zacatecoluca.
*CASC **18** 11:28:18.3±2.8, 13.06N×87.95W, h119km±16km, MD4.4, ML3.7, mb4.2(NEIC)*

ISC 18 11:28:14.9±1.0, 12.87N±0.09×88.4W±0.1, h87km±10km, n69, σ0§90/54, mb4.0/19, 6C-14D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLLM	**Bellamira**	0.59	15	⇓*e*P	Px	11 28 51.5	
BLLM				*e*S	Sx	11 29 04.6	
CNCH	**Conchagua**	0.68	54	*e*P	Px	11 28 54.0	
CNCH				*e*S	Sx	11 29 04.9	
CAHU	**Cacacuatique**	0.91	12	*e*P	Px	11 28 56.9	
CAHU				*e*S	Sx	11 29 14.3	
LCBS	**La Ceiba**	0.96	324	⇓*i*P	Px	11 28 51.0	
LCBS				*e*S	Sx	11 29 09.8	
LFRS	**El Faro**	0.99	319	⇓*i*P	Px	11 28 50.9	
LFRS				*e*S	Sx	11 29 09.8	
LBRS	**Las Brisas**	1.07	324	⇑*e*P	Px	11 28 52.9	
LBRS				*e*S	Sx	11 29 13.3	
SNET	**Serv Nac Est T**	1.15	315	⇓*e*P	Px	11 28 52.6	
SNET				*e*S	Sx	11 29 13.5	
BOQS	**Boqueron**	1.21	315	⇓*e*P	Px	11 28 53.5	
BOQS				*e*S	Sx	11 29 15.6	
SBLS	**San Blas**	1.53	309	⇓*e*P	Px	11 28 57.0	
SBLS				*e*S	Sx	11 29 21.6	
SNJE	**San Jose**	1.54	310	⇓*e*P	Px	11 28 57.2	
SNJE				*e*S	Sx	11 29 22.2	
LEON	**Leon**	1.54	107	⇑*e*P	**P**	11 28 41.2	-0.3
TEL3	**Telica 3**	1.54	101	⇑*e*P	**P**	11 28 42.1	+0.5
TELN	**Telica**	1.55	100	*e*P	**P**	11 28 42.0	+0.3
RTR	**El Retiro**	1.58	310	⇓*e*P	Px	11 28 58.0	
RTR				*e*S	Sx	11 29 23.8	
CNGN	**Cerro Negro**	1.70	102	*e*P	**P**	11 28 42.7	-0.9
MIRN	**Miramar**	1.70	104	⇓*e*P	**P**	11 28 43.4	-0.2
RBDL	**Robledal**	1.76	315	*e*P	Px	11 29 01.5	
RBDL				*e*S	Sx	11 29 29.3	
MOMJ	**Momotombo**	1.87	104	⇓*e*P	**P**	11 28 46.3	+0.5
COPN	**Copaltepe**	1.89	111	⇑*e*P	**P**	11 28 46.1	-0.1
APYN	**Apoyeque**	2.10	107	⇑*e*P	**P**	11 28 49.3	+0.4
XAVN	**Gruta Xavier**	2.15	109	*e*P	**P**	11 28 50.1	+0.5
MGAN	**Managua**	2.22	109	⇑*e*P	**P**	11 28 50.3	-0.3
MGAN				*e*S	**S**	11 29 16.9	-0.2
APON	**Apoyo**	2.47	112	⇓*e*P	**P**	11 28 55.2	+1.1
SSNN	**San Juan del S**	2.95	122	*e*P	**P**	11 29 00.4	-0.4
CONN	**Concepcion**	3.01	115	⇓*e*P	**P**	11 29 01.6	0.0
CONN				*e*S	**S**	11 29 36.4	-0.2
CONN				*i*		11 29 46.2	
	comp=Z,407nm,0.5s						
MADN	**Villa Maderas**	3.16	117	⇓*e*P	**P**	11 29 03.2	-0.4
JCR	**Jicaral**	4.41	133	*e*P	**P**	11 29 19.3	-1.6
CGA2	**Cerro Gallo 2**	4.79	126	*e*P	**P**	11 29 26.8	+0.6
CGA2				*e*S	**S**	11 30 20.8	0.0
PRS1	**Puriscal**	4.93	125	*e*P	**P**	11 29 29.1	+1.1
PRS1				*e*S	**S**	11 30 23.9	-0.4
LCR2	**La Lucha 2**	5.32	125	*e*P	**P**	11 29 33.2	-0.2
LCR2				*e*S	**S**	11 30 33.5	-0.4
BUS	**Buena Vista**	5.62	125	⇓*e*P	**P**	11 29 38.6	+1.1
BUS				*e*S	**S**	11 30 41.1	-0.3
SDV	**Santo Domingo**	17.89	101	P	**P**	11 32 18.0	-1.6
	comp=Z,0.4nm,0.3s,baz=66,slow=16,SNR=2.5						
LRAL	**Lakeview Retre**	20.11	3	*e*P	**P**	11 32 47.6	+3.5
	comp=Z,2.3nm,0.3s						
OXF	**Oxford**	21.56	358	*e*P	**P**	11 32 59.8	+1.0
	comp=Z,26nm,1.0s,mb4.5						
LTX	**Lajitas**	21.67	321	*e*P	**P**	11 32 59.0	-0.8
	comp=Z,4.3nm,0.6s,mb4.0						
TXAR	**Lajitas Array**	21.67	321	P	**P**	11 32 59.7	-0.2
	comp=Z,2.7nm,0.5s,mb3.8,baz=144,slow=10,SNR=70						
TXAR	**Lajitas Array**	21.67	321	P	**P**	11 32 59.7	-0.2
WVT	**Waverly**	23.16	1	P	**P**	11 33 16.2	+1.8
	comp=Z,1.6nm,0.6s,mb3.5						
MNTX	**Cornudas Mount**	24.39	323	*e*P	**P**	11 33 24.9	-1.4
	comp=Z,1.8nm,0.9s,mb3.4						
CCM	**Cathedral Cave**	25.21	355	*e*P	**P**	11 33 34.0	-0.1
	comp=Z,9.0nm,0.9s,mb4.2						
BNM	**Barren Site**	26.89	325	*e*P	**P**	11 33 49.3	-0.5
KSU1	**Kansas State U**	27.12	346	*e*P	**P**	11 33 51.4	-0.3
ANMO	**Albuquerque**	27.40	326	LR	LR	11 46 50.7	
	comp=Z,38nm,18.3s,baz=78,slow=41						
ANMO	**Albuquerque**	27.40	326	P	**P**	11 33 56.9	+2.5
	comp=Z,0.7nm,0.6s,mb3.4						
PV10	**Paradox Valley**	31.34	328	*e*P	**P**	11 34 28.2	-1.0
RSSD	**Black Hills**	33.91	340	*e*P	**P**	11 34 51.4	-0.2
	comp=Z,3.2nm,0.7s,mb4.3						
PDAR	**Pinedale Array**	34.97	332	P	**P**	11 35 01.9	+1.3
	comp=Z,0.4nm,0.7s,mb3.3,baz=135,slow=10,SNR=5.9						
PDAR				PcP	PcP	11 37 32.6	+1.2
	comp=Z,0.3nm,0.5s,baz=129,slow=7.2,SNR=5.5						
HWUT	**Hardware Ranch**	35.04	329	*e*P	**P**	11 35 01.2	0.0
	comp=Z,3.5nm,1.0s,mb4.1						
LPAZ	**La Paz**	35.23	145	P	**P**	11 35 04.4	+1.4
	comp=Z,0.9nm,0.8s,mb3.6,baz=338,slow=8.7,SNR=4.8						
SNOW	**Snow King Moun**	36.06	332	*e*P	**P**	11 35 09.9	+0.1
	comp=Z,5.8nm,0.7s,mb4.6						
TPAW	**Teton Pass**	36.17	332	*e*P	**P**	11 35 10.0	-0.8
	comp=Z,6.0nm,1.2s,mb4.4						
ELK	**Elko**	36.39	325	LR	LR	11 54 00.2	
	comp=Z,85nm,19.7s,baz=110,slow=43						
ULM	**Lac du Bonnet**	37.77	352	P	**P**	11 35 23.6	-0.4
	comp=Z,4.3nm,0.7s,mb4.4,baz=172,slow=9.0,SNR=6.9						
ULM				LR	LR	11 52 02.7	
	comp=Z,58nm,20.4s,baz=56,slow=38						
ULM	**Lac du Bonnet**	37.77	352	*e*P	**P**	11 35 22.0	-2.1
	comp=Z,12nm,1.1s,mb4.6						
HLID	**Hailey**	37.90	329	P	**P**	11 35 26.9	+1.6
	comp=Z,0.9nm,0.9s,mb3.6						
MCMT	**McKenzie Canyo**	38.07	331	*e*P	**P**	11 35 20.9	-5.7
SIV	**San Ignacio**	39.41	136	P	**P**	11 35 39.3	+1.3
	comp=Z,6.0nm,0.8s,mb4.5,baz=312,slow=9.0,SNR=35						
YBH	**Yreka Blue Hor**	41.44	320	LR	LR	11 54 47.8	
	comp=Z,92nm,21.0s,baz=34,slow=39						
NEW	**Newport**	42.60	332	LR	LR	11 57 54.2	
	comp=Z,60nm,18.3s,baz=295,slow=42						
EDM	**Edmonton**	44.89	339	*e*P	**P**	11 36 20.7	-1.6
BBB	**Bella Bella**	50.48	329	LR	LR	12 02 39.8	
	comp=Z,39nm,18.1s,baz=50,slow=41						
YKA	**Yellowknife Ar**	52.97	345	P	**P**	11 37 23.9	-0.6
	comp=Z,3.1nm,0.8s,mb4.4,baz=142,slow=7.5,SNR=11						
YKA				LR	LR	12 01 41.8	
	comp=Z,30nm,19.5s,baz=90,slow=38						
PLCA	**Paso Flores**	55.84	164	P	**P**	11 37 45.2	-0.5
	comp=Z,1.3nm,0.8s,mb4.0,baz=0.9,slow=16,SNR=3.0						
PLCA	**Paso Flores**	55.84	164	P	**P**	11 37 45.2	-0.5
ILAR	**Eielson Array**	65.26	336	P	**P**	11 38 49.3	0.0
	comp=Z,1.1nm,1.0s,mb3.6,baz=106,slow=3.9,SNR=8.1						
PPT	**Papeete**	67.54	245	LR	LR	12 02 48.6	
	comp=Z,119nm,19.4s,baz=93,slow=31						
NOA	**NORSAR Array B**	83.45	29	LR	LR	12 13 40.0	
	comp=Z,15nm,21.4s,baz=325,slow=33						
VRAC	**Vranov**	89.87	39	LR	LR	12 17 17.5	
	comp=Z,27nm,18.4s,baz=260,slow=33						
WRA	**Warramunga Arr**	138.49	254	PKP	PKPdf	11 47 33.8	+2.5
	comp=Z,0.4nm,0.9s,baz=91,slow=2.2,SNR=4.5						

*CSEM **18** 11:30:45.8±0.1, 29.73N×51.34E, h50km, ML2.8, Error ellipse: s-maj=4.0km s-min=2.5km az=171.0*
*KISR **18** 11:30:46.3±0.4, 29.66N×51.21E, h44km±647km, ML2.9*
*THR **18** 11:30:48.7±0.4, 29.92N×52.69E, h14km±4km, ML2.8*

ISC 18 11:30:37.7±1.3, 29.91N±0.04×51.78E±0.09, h7km±17km, n7, σ0§94/10, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	1.93	146	*e*PG	**Pg**	11 31 18.9	+2.6
GHIR				*e*SG	**Sg**	11 31 41.1	-1.0
GHIR				AML	AML	11 31 56.0	
	comp=N,200nm,0.4s						
NASN	**Na'in**	3.02	17	*e*PN	**Pg**	11 31 36.5	-1.4
NASN				*e*SG	**Sg**	11 32 18.8	+0.7
NASN				AML	AML	11 32 21.7	
	comp=E,18nm,0.4s						
UMR	**Umm Al-Rimmam**	3.55	265	*e*P	**Pn**	11 31 34.6	+0.2
UMR				*e*S	**Sn**	11 32 10.9	-6.1
UMR				AML	AML	11 32 12.5	
	comp=Z,34nm,0.4s						
QRN	**Al-Qurain**	3.56	252	*e*P	**Pn**	11 31 34.2	-0.3
QRN				AML	AML	11 32 12.3	
	comp=Z,33nm,0.3s						
KBD	**Kabd**	3.63	259	*e*P	**Pn**	11 31 35.6	+0.1
KBD				AML	AML	11 32 14.9	
	comp=Z,50nm,0.2s						
RDF	**Al-Radifah**	3.81	256	*e*P	**Pn**	11 31 38.1	-0.1
RDF				AML	AML	11 32 16.6	
	comp=Z,29nm,0.4s						
KRBR	**Kerman**	4.33	88	*e*PN	**Pn**	11 31 45.5	+0.1
KRBR				AML	AML	11 33 22.1	
	comp=N,22nm,0.5s						

WEL 18 11:36:20.7±0.2, 39.13S×177.42E, h50km±2km, ML3.5/15, 2C-2D, Error ellipse: s-maj=1.6km s-min=1.2km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNZ	**Kokohu**	0.23	60	⇑PN	P	11 36 29.4	+0.2
KNZ				SN	S	11 36 35.6	+0.4
BKZ	**Black Stump Fm**	0.72	267	⇑PN	P	11 36 34.5	-0.2
BKZ				SN	S	11 36 43.6	-1.6
MWZ	**Matawai**	0.80	6	⇓PN	P	11 36 35.4	-0.5
MWZ				SN	S	11 36 46.6	-0.4
URZ	**Urewera**	0.91	344	⇓PN	P	11 36 36.8	-0.5
URZ				SN	S	11 36 48.4	-1.1
HATZ	**Hinemaiaia**	1.06	283	PN	P	11 36 39.1	-0.4
TAZ	**Tarawera**	1.15	321	PN	P	11 36 40.2	-0.4
PATZ	**Paeroa**	1.18	309	PN	P	11 36 40.4	-0.6
PUZ	**Puketiti**	1.25	32	PN	P	11 36 41.0	-1.0
PUZ				SN	S	11 36 57.6	-0.4
MOVZ	**Moawhango**	1.32	258	PN	P	11 36 42.8	-0.5
MOVZ				SN	S	11 36 58.1	-1.9
KATZ	**Kakaramea**	1.35	276	PN	P	11 36 43.2	-0.5
OTVZ	**Oturere**	1.36	268	PN	P	11 36 43.4	-0.4
TUVZ	**Tukino**	1.38	264	PN	P	11 36 43.7	-0.3
TUVZ				SN	S	11 36 59.4	-2.0
KRVZ	**Karewarewa**	1.38	271	PN	P	11 36 43.5	-0.6
NGZ	**Ngauruhoe**	1.42	268	PN	P	11 36 44.0	-0.6
WTVZ	**West Tongariro**	1.42	270	PN	P	11 36 44.1	-0.5
WNVZ	**Wahianoa**	1.43	262	PN	P	11 36 44.3	-0.5
WNVZ				SN	S	11 37 01.2	-1.3
CNZ	**Chateau**	1.46	267	PN	P	11 36 44.5	-0.6
FWVZ	**Far West T-bar**	1.46	265	PN	P	11 36 44.6	-0.5
FWVZ				SN	S	11 37 01.0	-2.2
TSZ	**Takapari Road**	1.46	230	PN	P	11 36 43.5	-1.7
WPVZ	**Whakapapa**	1.46	267	PN	P	11 36 44.7	-0.5
TRVZ	**Turoa**	1.46	263	PN	P	11 36 44.6	-0.6
TRVZ				SN	S	11 37 01.2	-2.2
MTVZ	**Mangateitei**	1.53	260	PN	P	11 36 45.5	-0.7
PKVZ	**Pokaka**	1.62	264	PN	P	11 36 46.5	-0.9
PKVZ				SN	S	11 37 05.7	-1.4
MXZ	**Matakaoa Point**	1.71	24	PN	P	11 36 47.7	-1.0
BFZ	**Birch Farm**	1.79	210	PN	P	11 36 47.5	-2.3
BFZ				SN	S	11 37 09.0	-2.3
VRZ	**Vera Road**	2.07	269	PN	P	11 36 53.0	-0.7
MRZ	**Mangatainoka R**	2.08	222	PN	P	11 36 51.1	-2.8
MRZ				SN	S	11 37 15.2	-3.4
HIZ	**Hauiti**	2.10	286	PN	P	11 36 53.1	-1.0
MTW	**Mount Morrison**	2.50	215	PN	P	11 36 56.0	-3.8
MTW				SN	S	11 37 25.3	-3.9
KIW	**Kapiti Island**	2.59	227	PN	P	11 36 57.9	-3.2
CAW	**Cannon Point**	2.67	222	PN	P	11 36 58.3	-4.0
PAWZ	**Paruwai Farm**	2.71	214	PN	P	11 36 58.8	-4.1
PAWZ				SN	S	11 37 30.0	-4.7
MRW	**Makara Radio**	2.95	224	SN	S	11 37 36.0	-4.8
SNZO	**South Karori**	3.01	223	PN	P	11 37 02.6	-4.5
TCW	**Tory Channel**	3.18	228	SN	S	11 37 40.4	-6.1
TUWZ	**Tuamarina**	3.51	228	*e*PN	P	11 37 09.1	-5.1
TUWZ				SN	S	11 37 48.8	-6.1
NNZ	**Nelson**	3.73	235	SN	S	11 37 55.2	-5.2
QRZ	**Quartz Range**	4.12	244	PN	P	11 37 18.2	-4.6
THZ	**Tophouse**	4.33	231	PN	P	11 37 20.6	-5.1
KHZ	**Kahutara**	4.41	221	*e*PN	P	11 37 21.1	-5.7
DSZ	**Denniston Nort**	5.02	237	SN	S	11 38 24.5	-8.3
LTZ	**Lake Taylor**	5.34	225	SN	S	11 38 30.6	-10
MQZ	**McQueen's Vall**	5.81	217	SN	S	11 38 39.6	-13
WVZ	**Waitaha Valley**	6.40	230	SN	S	11 38 55.4	-12
RPZ	**Rata Peaks**	6.62	224	SN	S	11 38 59.3	-13
ODZ	**Otahua Downs**	7.76	218	*e*PN	P	11 38 06.2	-7.5

*IDC **18** 12:09:48.6±1.2, 0.04S×123.71E, mb3.9/5, mb1 4.1/5, mb1mx3.9/15, mbtmp3.9/5, MS3.4/4, Ms1 3.4/4, ms1mx3.1/23, Error ellipse: s-maj=64.8km s-min=22.1km az=73.0*
*NEIC **18** 12:09:51.6±0.8, 0.17S×123.40E, h30km, mb4.8/5, Error ellipse: s-maj=35.6km s-min=12.2km az=56.0*

ISC 18 12:09:50.6±0.5, 0.2S±0.1×123.4E±0.2, h33km, n20, σ1§34/17, mb4.4/10, MS3.5/4, 1C-1D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	9.51	311	*e*P	**P**	12 12 03.3	-5.0
KAKA	**Kakadu**	15.31	145	*e*P	**P**	12 13 25.0	-1.1
	7.9nm,0.1s						
WRAB	**Tennant Creek**	22.34	152	*e*P	**P**	12 14 48.0	+0.8
	20nm,0.9s,mb4.5						
WRA	**Warramunga Arr**	22.34	152	P	**P**	12 14 48.6	+1.5
	9.2nm,1.1s,mb4.1,baz=344,slow=14,SNR=50						
WB2	**Warramunga Arr**	22.35	152	*e*P	**P**	12 14 51.4	+4.2
KKTK	**Khon Kaen**	26.14	310	P	**P**	12 15 22.0	-1.9
NANT	**Nan**	29.24	311	⇑P	**P**	12 15 52.0	+0.1
	112nm,0.5s						
CHG	**Chiang Mai**	30.58	309	⇓P	**P**	12 16 02.5	-1.4
	11nm,1.1s,mb4.6						
ENH	**Enshi**	33.08	338	*e*P	**P**	12 16 27.9	+2.2
	15nm,0.9s,mb4.9						
STKA	**Stephens Creek**	35.89	153	P	**P**	12 16 48.3	-1.4
HNR	**Honiara**	37.48	105	*e*P	**P**	12 17 01.1	-2.2
	85nm,0.9s,mb5.6						
MJAR	**Matsushiro Arr**	39.04	19	P	**P**	12 17 16.4	+0.3
	1.5nm,0.8s,mb3.8,baz=205,slow=10,SNR=4.5						
MJAR				LR	LR	12 30 35.5	
	comp=Z,54nm,21.0s,MS3.4,baz=220,slow=32						
LSA	**Lhasa**	42.79	317	*e*P	**P**	12 17 47.6	+0.5
	8.4nm,0.6s,mb4.7						
ASAJ	**Asahikawa**	47.31	19	LR	LR	12 35 35.5	
	comp=Z,33nm,19.6s,MS3.3,baz=164,slow=33						
SONM	**Songino Array**	50.08	345	P	**P**	12 18 45.2	+0.7
	1.1nm,0.8s,mb4.0,baz=167,slow=8.0,SNR=8.6						
MKAR	**Makanchi Array**	59.01	328	P	**P**	12 19 49.2	-0.4
	0.8nm,0.6s,mb4.0,baz=116,slow=9.0,SNR=6.8						
MKAR	**Makanchi Array**	59.01	328	P	**P**	12 19 49.2	-0.4
VNDA	**Vanda**	80.00	172	P	**P**	12 21 59.8	+2.0
	7.7nm,0.8s,mb3.6,baz=305,slow=7.4,SNR=3.5						
MLR	**Muntele Rosu**	95.40	316	LR	LR	13 15 06.6	
	comp=Z,26nm,19.2s,MS3.7,baz=331,slow=41						
HFS	**Hagfors**	99.90	331	LR	LR	13 08 17.9	
	comp=Z,20nm,19.6s,MS3.6,baz=9.9,slow=35						

CASC 18 13:31:24.3±9.9, 14.08N×91.84W, h20km±56km, MD3.8, ML3.9, 2C-3D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	1.03	69	⇑*e*P	Pb	13 31 43.4	0.0
TP2	**Tecpan 2**	1.06	48	⇑*e*P	Pb	13 31 44.3	+0.5
TP2				*e*S	Sb	13 31 59.3	+2.1
PCG	**

comp=Z,22nm,0.7s
AKL Akola 17.17 298 *ex* x 14 03 27.2
BHPL Bhopal 17.99 306 *eP* **P** **14 01 41.5 +1.8**
BHPL AMb AMB 14 01 54.8
comp=Z,20nm,0.7s
BHPL *eS* **S** **14 05 01.4 +5.0**
CD2 Chengdu 20.21 27 *eP* **P** **14 02 04.8 -0.5**
CD2 AMB AMB
comp=Z,10.0nm,0.5s
KSM Kuching 20.56 123 P **P** **14 02 13.4 +4.3**
SONA Sohna 21.22 318 *eP* **P** **14 02 16.2 +0.5**
SONA AMb AMB 14 02 20.1
comp=Z,8.6nm,0.3s,mb4.5
NDI New Delhi 21.43 319 *eP* **P** **14 02 18.0 +0.2**
KUDL Kundal 21.55 316 *eP* **P** **14 02 19.9 +0.8**
KUDL AMb AMB 14 02 21.1
comp=Z,19nm,0.8s,mb4.5
BHGR Bahadurgarh 21.61 318 *ex* x 14 02 35.4
KHET Khetri 21.97 315 *eP* **P** **14 02 24.3 +1.1**
KHET AMb AMB 14 02 25.9
comp=Z,12nm,0.9s,mb4.3
ENH Enshi 22.77 39 *eP* **P** **14 02 29.3 -2.0**
comp=Z,76nm,0.8s,mb5.2
LZH Lanzhou 24.79 21 ⇑P **P** **14 02 51.4 +0.5**
LZH AMB AMB
comp=Z,28nm,1.3s,mb4.6
LZH LR LR
comp=E,297nm,14.2s
LZH LR LR
comp=Z,353nm,18.3s,MS3.9
LZH Lanzhou 24.79 21 ⇑P **P** **14 02 51.4 +0.5**
comp=Z,28nm,1.3s,mb4.6
LZH pP 14 03 02.5
LZH sP 14 03 07.6
LZH PP PP 14 03 44.7 +17
LZH LR LR
comp=Z,350nm,18.3s,MS3.9
XAN Xi'an 25.26 32 P **P** **14 02 53.4 -2.0**
XAN AMB AMB
comp=Z,16nm,0.8s,mb4.6
GTA Gaotai 26.82 11 P **P** **14 03 10.8 +1.0**
GTA AP pP 14 03 18.0 -1.2
GTA XP sP 14 03 21.9 -1.4
GTA AMB AMB
comp=Z,7.0nm,1.0s,mb4.2
MKAR Makanchi Array 34.77 347 P **P** **14 04 19.7 -0.2**
comp=Z,1.0nm,0.6s,mb3.9,baz=174,slow=6.4,SNR=8.6
SONM Songino Array 36.31 15 P **P** **14 04 32.6 -0.3**
comp=Z,1.6nm,0.8s,mb4.0,baz=191,slow=7.6,SNR=5.2
KURK Kurchatov 39.30 345 *eP* **P** **14 04 57.3 -0.6**
comp=Z,9.7nm,1.4s,mb4.3
ZAL Zalesovo 41.23 353 P **P** **14 05 13.3 -0.5**
comp=Z,2.3nm,0.5s,mb4.0,baz=297,slow=8.9,SNR=7.9
BVAR Borovoye Array 43.73 340 P **P** **14 05 33.9 -0.4**
comp=Z,0.6nm,0.5s,mb3.6,baz=143,slow=8.5,SNR=4.7
MJAR Matsushiro Arr 46.52 52 P **P** **14 05 55.9 -0.8**
comp=Z,0.6nm,0.4s,mb3.9,baz=262,slow=8.8,SNR=6.3
MJAR PcP PcP 14 07 28.9 -2.3
comp=Z,1.4nm,0.5s,baz=183,slow=2.1,SNR=5.0
MJAR LR LR 14 25 56.6
comp=Z,61nm,18.5s,MS3.6,baz=190,slow=37
WRA Warramunga Arr 52.18 128 P **P** **14 06 35.8 -4.7**
comp=Z,1.5nm,0.7s,mb4.1,baz=306,slow=9.6,SNR=61
WRA PcP PcP 14 07 47.9 -4.1
comp=Z,1.0nm,0.6s,baz=318,slow=3.5,SNR=11
WRAB Tennant Creek 52.19 128 *eP* **P** **14 06 35.7 -4.8**
comp=Z,19nm,1.3s,mb4.9
BRTR Keskin Array B 58.34 309 P **P** **14 07 23.5 -1.3**
comp=Z,1.0nm,0.8s,mb3.9,baz=112,slow=6.7,SNR=4.6
STKA Stephens Creek 64.46 135 P **P** **14 08 02.3 -4.0**
comp=Z,1.4nm,0.7s,mb4.1,slow=9.1,SNR=3.6
FINES FINESS Array B 67.64 331 P **P** **14 08 24.9 -1.1**
comp=Z,0.9nm,0.5s,mb4.1,baz=90,slow=7.6,SNR=5.9
KAF Kangasniemi 67.70 332 *ep* **P** **14 08 20.1 -6.2**
ARCES ARCESS Array B 70.02 340 P **P** **14 08 39.9 -0.6**
comp=Z,0.7nm,0.4s,mb4.0,baz=101,slow=7.0,SNR=16
ARCES LR LR 14 41 56.8
comp=Z,27nm,21.2s,MS3.5,baz=113,slow=38
GERES GERESS Array B 73.30 317 P **P** **14 09 00.2 -0.3**
comp=Z,0.8nm,0.6s,mb3.8,baz=79,slow=5.0,SNR=5.2
NOA NORSAR Array B 74.70 330 P **P** **14 09 07.4 -1.0**
comp=Z,1.0nm,0.7s,mb3.9,baz=93,slow=5.4,SNR=2.8
ILAR Eielson Array 90.25 22 LR LR 14 52 29.9
comp=Z,23nm,20.3s,MS3.6,baz=184,slow=36
INK Inuvik 92.22 16 *eP* **P** **14 10 36.7 -1.1**
comp=Z,2.3nm,0.5s,mb4.8
PDAR Pinedale Array 120.59 19 PKP PKPdf 14 16 18.9 -0.3
comp=Z,0.6nm,0.6s,baz=60,slow=1.5,SNR=6.9
TXAR Lajitas Array 134.76 21 PKP PKPdf 14 16 47.3 +0.6
comp=Z,0.7nm,0.5s,baz=104,slow=2.7,SNR=5.1
PLCA Paso Flores 149.02 204 PKPbc PKPdf 14 17 15.7 +4.4
comp=Z,1.2nm,0.7s,baz=180,slow=3.0,SNR=3.9

*LDG **18** 14:10:35.2±0.5, 42.57N×1.81W, h2km, Md2.6/3, Ml2.6/2, Error ellipse: s-maj=7.1km s-min=5.0km az=41.0*
*NEIC **18** 14:10:35.2, 42.57N×1.81W, h2km, ML2.6(STR), ML2.6(LDG), MN2.2(MDD), After LDG.*
*STR **18** 14:10:36.4±0.5, 42.62N×1.74W, h5km±1km, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **18** 14:10:36.7±0.4, 42.66N×1.75W, mbLg2.1/16, Error ellipse: s-maj=3.0km s-min=2.5km az=158.0, PRXIMO ARTIFICIAL POSIBLE*
*CSEM **18** 14:10:37.3±0.1, 42.66N×1.71W, h2km, ML2.5/2, Error ellipse: s-maj=1.7km s-min=1.6km az=172.0*
ISC 18 14:10:34.8±0.6,**42.58N**±0.03×**1.75W**±0.04,**h4**km±6km,**n36**, σ0§**93**/52,**1C, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EARA	**Aranguren**	**0.23**	**34**	⇑Pg		**Pg**	**14 10 39.2**	**-0.3**
	41nm,0.1s,SNR=18							
EARA				Lg			14 10 41.3	
	5μm,0.2s,SNR=7.9							
IPRE	**Itoiz**	**0.37**	**53**	Pg		**Pg**	**14 10 42.8**	**+0.6**
	73nm,0.4s,SNR=7.2							
IPRE				Lg			14 10 47.3	
	87nm,0.4s,SNR=19							
IPRE	**Itoiz**	**0.37**	**53**	Pg		**Pg**	**14 10 42.8**	**+0.6**
	73nm,0.4s,SNR=7.2							
IPRE				Lg			14 10 47.3	
	87nm,0.4s,SNR=19							
SJPF	**Ste Jean**	**0.66**	**36**	*e*Pg		**Pg**	**14 10 48.3**	**+0.3**
SJPF				*e*Sg		**Sg**	**14 10 56.3**	**-0.4**
	41nm,0.2s							
EALK	**Alkurruntz**	**0.66**	**16**	Pg		**Pg**	**14 10 48.5**	**+0.5**
	12nm,0.4s,SNR=13							
EALK				Lg			14 10 56.0	
	188nm,0.5s,SNR=15							
LARF	**Larrau**	**0.72**	**51**	Pg		**Pg**	**14 10 49.5**	**+0.2**
OSSF	**Osses**	**0.76**	**28**	Pg		**Pg**	**14 10 50.4**	**+0.3**
OSSF				Sg		**Sg**	**14 11 00.8**	**+0.5**
ORDF	**Ordiarp**	**0.87**	**43**	Pg		**Pg**	**14 10 52.0**	**-0.2**
ORDF				Sg		**Sg**	**14 11 03.5**	**-0.3**
ETSF	**Etsaut**	**0.93**	**70**	*e*Pg		**Pg**	**14 10 53.5**	**0.0**
ETSF				*e*Sg		**Sg**	**14 11 06.3**	**+0.3**
	10nm,0.3s							
ESAC	**San Caprasio**	**1.28**	**132**	Pg		**Pg**	**14 11 01.9**	**+1.4**
	23nm,0.3s,SNR=20							
ESAC				Lg			14 11 20.0	
	75nm,0.2s,SNR=18							
ESAC	**San Caprasio**	**1.28**	**132**	Pg		**Pg**	**14 11 01.9**	**+1.4**
	23nm,0.3s,SNR=20							
ELAN	**Lanestosa**	**1.40**	**298**	Pg		**Pg**	**14 11 04.0**	**+1.4**
	5.1nm,0.3s,SNR=15							
ELAN				Lg			14 11 22.5	
	17nm,0.5s,SNR=5.0							
ELAN	**Lanestosa**	**1.40**	**298**	Pg		**Pg**	**14 11 04.2**	**+1.5**
	5.1nm,0.3s,SNR=15							
ELAN	**Lanestosa**	**1.40**	**298**	Pg		**Pg**	**14 11 04.2**	**+1.5**
ELAN				Lg			14 11 22.5	
EBIE	**Bielsa**	**1.40**	**85**	Pg		**Pg**	**14 11 02.9**	**+0.1**
	6.1nm,0.5s,SNR=18							
EBIE				Lg			14 11 21.9	
	20nm,0.4s,SNR=5.0							
EBIE	**Bielsa**	**1.40**	**85**	Pg		**Pg**	**14 11 02.9**	**+0.1**
	6.1nm,0.5s,SNR=18							
LABF	**Labassere**	**1.42**	**70**	Pg		**Pg**	**14 11 02.9**	**-0.3**
LABF				Sg		**Sg**	**14 11 22.5**	**+0.3**
EGRA	**Graus**	**1.58**	**103**	Pg		**Pg**	**14 11 06.8**	**+0.4**
	3.7nm,0.3s,SNR=7.1							
EGRA				Lg			14 11 28.1	
	17nm,0.5s,SNR=5.0							
EPF	**Esparros**	**1.60**	**73**	*e*Pg⇑		**Pg**	**14 11 05.7**	**-1.2**
EPF				*e*Sg		**Sg**	**14 11 26.7**	**-1.5**
	14nm,0.2s							
ERTA	**Horta de San J**	**2.25**	**135**	Pg		**Pg**	**14 11 19.5**	**-0.3**
	0.6nm,0.1s,SNR=7.9							
ERTA				Lg			14 11 49.7	
	16nm,0.6s,SNR=6.0							
ERTA	**Horta de San J**	**2.25**	**135**	Pg		**Pg**	**14 11 19.5**	**-0.3**
	SNR=7.9							
ERTA	**Horta de San J**	**2.25**	**135**	Pg		**Pg**	**14 11 19.5**	**-0.3**
ERTA				Lg			14 11 49.1	
EMOS	**Mosqueruela**	**2.42**	**156**	Pg		**Pg**	**14 11 22.8**	**-0.3**
	0.9nm,0.2s,SNR=7.9							
EMOS				Lg			14 11 56.1	
	8.7nm,0.4s,SNR=7.9							
EMOS	**Mosqueruela**	**2.42**	**156**	Pg		**Pg**	**14 11 22.8**	**-0.3**
	SNR=7.9							
EPOB	**Poblet**	**2.44**	**119**	Pn		**Pn**	**14 11 17.5**	**+1.4**
	0.0nm,0.2s,SNR=7.9							
EPOB				Pg		**Pg**	**14 11 21.9**	**-1.7**
	1.0nm,0.2s,SNR=7.9							
EPOB				Sn		**Sn**	**14 11 46.9**	**+0.1**
	0.9nm,0.2s,SNR=7.9							
EPOB				Lg			14 11 55.3	
	8.0nm,0.4s,SNR=7.9							
EPOB	**Poblet**	**2.44**	**119**	Pn		**Pn**	**14 11 17.5**	**+1.4**
	SNR=7.9							
EPOB	**Poblet**	**2.44**	**119**	Pg		**Pg**	**14 11 21.9**	**-1.7**
	SNR=7.9							
EPOB				Sn		**Sn**	**14 11 46.9**	**+0.1**
	SNR=7.9							
EPOB	**Poblet**	**2.44**	**119**	Pn		**Pn**	**14 11 17.5**	**+1.4**
EPOB				Pg		**Pg**	**14 11 21.9**	**-1.7**
EPOB				Sn		**Sn**	**14 11 46.9**	**+0.1**
EPOB				Lg			14 11 53.7	
EARI	**Arriondas**	**2.64**	**287**	Pn		**Pn**	**14 11 19.9**	**+1.0**
	0.1nm,0.2s,SNR=7.9							
EARI				Pg		**Pg**	**14 11 25.4**	**-2.1**
	0.1nm,0.1s,SNR=7.9							
EARI				Sn		**Sn**	**14 11 50.1**	**-1.7**
	0.2nm,0.2s,SNR=7.9							
EARI				Lg			14 11 59.9	
	1.8nm,0.4s,SNR=7.9							
EARI	**Arriondas**	**2.64**	**287**	Pn		**Pn**	**14 11 19.9**	**+1.0**
	SNR=7.9							
EARI	**Arriondas**	**2.64**	**287**	Pg		**Pg**	**14 11 25.4**	**-2.1**
	SNR=7.9							
EARI				Sn		**Sn**	**14 11 51.4**	**-0.4**
	SNR=7.9							
EARI	**Arriondas**	**2.64**	**287**	Pn		**Pn**	**14 11 19.9**	**+1.0**
EARI				Pg		**Pg**	**14 11 25.4**	**-2.1**
EARI				Sn		**Sn**	**14 11 51.4**	**-0.4**
EARI				Lg			14 12 01.8	
ESDC	**Sonseca Array**	**3.35**	**211**	Lg			14 12 27.2	
	1.9nm,0.4s,baz=30,slow=22,SNR=5.3							
ECAL	**Calabor**	**3.75**	**262**	Pn		**Pn**	**14 11 36.6**	**+1.8**
	0.5nm,0.1s,SNR=7.9							
ECAL				Sn		**Sn**	**14 12 18.3**	**-1.7**
	0.9nm,0.2s,SNR=7.9							
ECAL				Lg			14 12 38.6	
	0.9nm,0.2s,SNR=4.5							
ECAL	**Calabor**	**3.75**	**262**	Pn		**Pn**	**14 11 36.6**	**+1.8**
ECAL	**Calabor**	**3.75**	**262**	Pn		**Pn**	**14 11 36.6**	**+1.9**
ECAL				Lg			14 12 39.1	

ISC 18 14:12:18.8±0.8,**37.57N**±0.04×**29.11E**±0.06,**n6**,σ1§**12**/11, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.20**	**341**	*i*PG		**Pg**	**14 12 22.3**	**-0.4**
DENT				*i*SG		**Sg**	**14 12 26.1**	**+0.8**
GOLH	**Golhisar**	**0.49**	**133**	*i*P		**Pg**	**14 12 25.1**	**-3.5**
GOLH				*i*S		**Sg**	**14 12 36.7**	**+1.7**
YER	**Yerkesik**	**0.79**	**237**	*e*PG		**Pg**	**14 12 33.8**	**-0.8**
MANT	**Manisa**	**1.02**	**335**	*i*P		**Pb**	**14 12 38.7**	**-0.3**
MANT				*i*S		**Sg**	**14 12 53.8**	**+1.0**
TKTP	**Tekketepe**	**1.07**	**63**	*i*P		**Pb**	**14 12 37.8**	**-2.0**
TKTP				*i*S		**Sb**	**14 12 54.1**	**-0.1**
AKAS	**Kas**	**1.39**	**163**	*i*P		**Pb**	**14 12 45.8**	**+0.5**
AKAS				*i*S		**Sb**	**14 13 10.1**	**+6.6**

ISC 18 15:57:48.4±1.1,**39.48N**±0.07×**33.20E**±0.08,**h10**km,**n7**, σ1§**39**/12,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KAMT	**Kaman**	**0.41**	**106**	PG		**Pg**	**15 57 56.7**	**-0.1**
ANTO	**Ankara**	**0.50**	**321**	*e*PG		**Pg**	**15 57 56.3**	**-2.2**
ANTO				*e*SG		**Sg**	**15 58 05.2**	**-0.1**
CDAG	**Cicekdag**	**0.92**	**81**	*i*P		**Pb**	**15 58 04.3**	**-1.6**
CDAG				*i*S		**Sb**	**15 58 18.0**	**+0.1**
ELDT	**Eldivan**	**1.02**	**10**	*i*P		**Pb**	**15 58 08.4**	**+0.6**
ELDT				*i*S		**Sb**	**15 58 22.0**	**+1.0**
CORM	**Corum**	**1.30**	**57**	*e*PN		**Pn**	**15 58 10.5**	**-2.2**
SGKT	**Sivrigoynuk**	**1.40**	**321**	*i*P		**Pn**	**15 58 16.3**	**+2.2**
SGKT				*i*S		**Sb**	**15 58 39.1**	**+7.1**
AVNT	**Avonos**	**1.46**	**118**	*i*P		**Pn**	**15 58 14.9**	**-0.1**
AVNT				*i*S		**Sb**	**15 58 36.3**	**+2.5**

*CSEM **18** 16:59:55.2, 36.48N×10.10E, h34km, MD3.6, After SBS*
TUN 18 16:59:55.2, 36.48N×10.10E, h34km, MD3.6, Tunisia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ZGN	**Zaghouan**	**0.11**	**181**	*i*P		P	17 00 03.0	+1.9
KRIT	**Krib**	**0.84**	**261**	*i*P		P	17 00 12.0	+1.4
TROT	**Trozza**	**1.00**	**204**	*i*P		P	17 00 14.0	+1.1
BERT	**Berda**	**2.41**	**202**	*i*P		P	17 00 33.0	0.0

*IDC **18** 17:06:30.0±2.3, 38.33N×143.73E, mb3.5/3, mb1 3.6/5, mb1mx3.4/21, mbtmp3.4/5, ML3.2/2, Error ellipse: s-maj=53.8km s-min=28.4km az=78.0*
*JMA **18** 17:06:32.6±0.2, 38.35N×143.51E, h33km, M3.2*
ISC 18 17:06:33.3±2.6,**38.31N**±0.08×**143.50E**±0.10,**h32**km±22km, **n15**,σ0§**90**/21,**mb3.5**/3,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.62**	**299**	P		**Pn**	**17 06 59.8**	**-0.4**
JIO	**Ouri**	**1.70**	**276**	P		**Pn**	**17 07 01.0**	**-0.2**
JIO				*e*S		**Sn**	**17 07 21.7**	**-0.3**
JMK	**Ichinoseki**	**1.90**	**290**	P		**Pn**	**17 07 03.8**	**-0.3**
JOM	**Ohasama**	**2.08**	**305**	P		**Pn**	**17 07 06.3**	**-0.4**
JMM	**Marumori**	**2.18**	**259**	P		**Pn**	**17 07 07.8**	**-0.4**
JMM				*e*S		**Sn**	**17 07 33.6**	**-0.8**
JYK	**Kaneyama**	**2.53**	**285**	P		**Pn**	**17 07 13.5**	**+0.3**
JANG	**Nango**	**2.57**	**324**	P		**Pn**	**17 07 14.3**	**+0.6**
JOT	**Ohata**	**3.60**	**329**	P		**Pn**	**17 07 29.9**	**+1.5**
JAG	**Ashikaga**	**3.73**	**241**	P		**Pn**	**17 07 30.5**	**+0.3**
JAG				*e*S		**Sn**	**17 08 12.9**	**-0.7**
MJAR	**Matsushiro Arr**	**4.57**	**249**	Pn		**Pn**	**17 07 42.4**	**+0.3**
	1.2nm,0.3s,baz=109,slow=8.0,SNR=12							
MJAR				Sn		**Sn**	**17 08 34.1**	**-0.6**
	baz=70,slow=23,SNR=3.1							
MAT	**Matsushiro**	**4.57**	**249**	P		**Pn**	**17 07 42.8**	**+0.7**
MAT				S		**Sn**	**17 08 37.5**	**+2.7**
ASAJ	**Asahikawa**	**5.84**	**354**	Pn		**Pn**	**17 07 57.8**	**-2.2**
	0.5nm,0.3s,baz=202,slow=11,SNR=5.0							
ASAJ				Sn		**Sn**	**17 09 01.7**	**-5.0**
	0.3nm,0.3s,baz=58,slow=19,SNR=3.0							
SONM	**Songino Array**	**28.49**	**302**	P		**P**	**17 12 28.3**	**+0.8**
	0.3nm,0.4s,mb3.2,baz=112,slow=7.8,SNR=2.9							
MKAR	**Makanchi Array**	**44.86**	**301**	P		**P**	**17 14 47.0**	**+0.8**
	0.3nm,0.5s,mb3.4,baz=80,slow=8.8,SNR=3.6							
WRA	**Warramunga Arr**	**58.58**	**190**	P		**P**	**17 16 28.8**	**-0.7**
	0.8nm,0.8s,mb3.8,baz=7.8,slow=6.9,SNR=7.4							

*IDC **18** 17:08:10.5±0.8, 17.26S×73.90W, mb4.0/6, mb1 4.1/9, mb1mx4.0/18, mbtmp4.0/9, ML3.7/1, MS3.0/1, Ms1 3.0/1, ms1mx2.5/15, Error ellipse: s-maj=23.7km s-min=19.6km az=65.0*
*NEIC **18** 17:08:12.9±1.1, 17.15S×73.87W, h35km, mb4.3/3, Error ellipse: s-maj=19.7km s-min=14.3km az=82.0*
ISC 18 17:08:13.6±0.7,**17.22S**±0.08×**73.88W**±0.07,**h33**km,**n28**, σ1§**17**/25,**mb4.0**/7,**MS2.9**/1,**1C**,**Off coast of Peru**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**2.41**	**72**	⇑*i*P		**P**	**17 08 51.5**	**0.0**
ARE				*i*S		**S**	**17 09 19.2**	**-0.9**
LPAZ	**La Paz**	**5.59**	**81**	Pn		**Pn**	**17 09 37.4**	**+0.7**
	1.1nm,0.3s,baz=276,slow=11,SNR=17							
LPAZ				Sn		**Sn**	**17 10 41.8**	**+1.3**
	baz=90,slow=20,SNR=2.5							
LPAZ	**La Paz**	**5.59**	**81**	*e*Pn		**Pn**	**17 09 37.2**	**+0.5**
	11nm,0.6s							
NNA	**Nana**	**5.94**	**331**	Pn		**Pn**	**17 09 36.2**	**-5.5**
LVC	**Limon Verde**	**7.11**	**140**	Pn		**Pn**	**17 09 57.0**	**-1.1**
	3.3nm,0.3s,baz=318,slow=10,SNR=38							
LVC				Sn		**Sn**	**17 11 11.9**	**-6.7**
	6.2nm,0.3s,baz=51,slow=21,SNR=12							
LVC	**Limon Verde**	**7.11**	**140**	*e*Pn		**Pn**	**17 09 54.0**	**-4.1**
	19nm,0.4s							
SIV	**San Ignacio**	**12.34**	**86**	Pn		**P**	**17 11 06.5**	**-3.4**
	0.9nm,0.3s,baz=269,slow=13,SNR=19							
SAML	**Samuel**	**13.27**	**53**	P		**P**	**17 11 15.8**	**-6.4**
	5.4nm,0.6s							
SAML				*e*			17 11 29.6	
CFAA	**Coronel Fontan**	**15.21**	**161**	Pn		**P**	**17 11 44.9**	**-2.7**
	0.0nm,0.3s,baz=331,slow=10,SNR=3.1							
CFAA	**Coronel Fontan**	**15.21**	**161**	Pn		**P**	**17 11 44.9**	**-2.7**
PLCA	**Paso Flores**	**23.60**	**174**	P		**P**	**17 13 20.9**	**-1.4**
	4.0nm,1.1s,mb3.8,baz=358,slow=12,SNR=5.5							
PLCA	**Paso Flores**	**23.60**	**174**	P		**P**	**17 13 22.0**	**-0.3**
	12nm,1.3s,mb4.2							
BDFB	**Brasilia**	**24.86**	**90**	P		**P**	**17 13 35.1**	**+0.3**
	3.0nm,0.6s,mb4.0,baz=270,slow=4.0,SNR=2.3							
SDV	**Santo Domingo**	**26.14**	**7**	P		**P**	**17 13 46.2**	**-0.6**
	3.0nm,0.5s,mb4.1,baz=302,slow=3.1,SNR=4.4							
SDV				LR		LR	17 25 40.6	
	comp=Z,38nm,21.0s,MS2.9,baz=100,slow=40							
SDV	**Santo Domingo**	**26.14**	**7**	*e*P		**P**	**17 13 45.6**	**-1.2**
	3.3nm,0.7s,mb4.0							
PMSA	**Palmer Station**	**47.98**	**174**	P		**P**	**17 16 50.2**	**-0.7**
	17nm,1.2s,mb4.9							
TXAR	**Lajitas Array**	**54.49**	**328**	P		**P**	**17 17 40.0**	**-0.6**
	0.1nm,0.4s,mb3.1,baz=141,slow=13,SNR=3.4							
VNA3	**Neumayer Olymp**	**65.61**	**161**			**P**	**17 18 57.3**	**+1.3**
VNA2	**Neumayer--Watz**	**66.22**	**161**			**P**	**17 19 01.0**	**+1.1**
VNA2	**Neumayer--Watz**	**66.22**	**161**			pP	17 19 13.4	+3.2
SNAA	**Sanae**	**67.83**	**161**			**P**	**17 19 10.5**	**+0.5**
SNAA	**Sanae**	**67.83**	**161**			pP	17 19 23.7	+3.3
VNDA	**Vanda**	**80.20**	**191**	P		**P**	**17 20 23.4**	**+1.6**
	0.3nm,0.7s,mb3.4,baz=100,slow=5.0,SNR=4.0							
MAW	**Mawson**	**89.71**	**165**	P		**P**	**17 21 10.1**	**+0.9**
	1.7nm,0.6s,mb4.6,baz=198,slow=6.4,SNR=4.8							
WRA	**Warramunga Arr**	**133.82**	**218**	PKP		PKPdf	17 27 30.1	+1.9
	0.7nm,0.6s,baz=138,slow=1.7,SNR=14							
ZAL	**Zalesovo**	**139.80**	**19**	PKP		PKPdf	17 27 40.8	+2.6
	1.0nm,0.4s,baz=96,slow=5.9,SNR=4.2							
MKAR	**Makanchi Array**	**144.54**	**29**	PKP		PKPdf	17 27 47.6	+0.9
	0.5nm,0.7s,slow=4.9,SNR=5.3							
SONM	**Songino Array**	**149.47**	**360**	PKPbc		PKPdf	17 28 02.4	+7.6
	2.3nm,0.7s,baz=339,slow=1.9,SNR=17							

GUC 18 17:27:59.6±0.7,**31.73S**×**71.52W, h34**km±2km,**MD3.5, ML2.4, 1C-1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.15**	**175**	⇑*i*P		P	17 28 05.9	+0.1
CHNG				*i*S		S	17 28 10.4	+0.2
CHNG				AMP			17 28 10.7	
	comp=N,527nm,0.3s							
CMCH	**Combarbala**	**0.71**	**38**	⇓*i*P		P	17 28 13.1	-0.1
CMCH				*i*S		S	17 28 23.4	+0.5
CMCH				AMP			17 28 24.5	
	comp=N,513nm,0.5s							
PACH	**Papudo**	**0.81**	**175**	*e*P		P	17 28 14.3	-0.2
PACH				*i*S		S	17 28 25.8	+0.3
JACH	**Jahuel**	**1.23**	**141**	*e*P		P	17 28 21.4	+0.8
JACH				*i*S		S	17 28 38.0	+1.7
ROCH	**El Roble**	**1.31**	**161**	*i*S		S	17 28 40.4	+2.1
TLL	**Tololo Astrono**	**1.67**	**22**	*e*P		P	17 28 28.6	+1.6
TLL				*e*S		S	17 28 50.4	+3.0
TLL				AMP			17 28 55.7	
	comp=E,72nm,0.5s							
RCDM	**Rinconada Maip**	**1.85**	**161**	*e*P		P	17 28 30.1	+0.6
RCDM				AMP			17 29 02.4	
	comp=E,92nm,0.2s							
FCH	**Farellones**	**1.90**	**147**	*e*P		P	17 28 32.5	+2.3
FCH				*i*S		S	17 28 56.5	+3.3
FCH				AMP			17 29 02.3	
	comp=E,41nm,0.1s							

*IDC **18** 17:28:47.9±2.6, 42.19N×79.50E, mb3.7/1, mb1 3.6/5, mb1mx3.4/21, mbtmp3.5/5, ML3.4/4, Error ellipse: s-maj=30.7km s-min=22.0km az=138.0*
*BJI **18** 17:28:49.4, 41.50N×79.83E, h15km, ML3.3*
*MOS **18** 17:28:49.0±1.9, 42.15N×79.25E, h33km, mb3.9/1, Error ellipse: s-maj=56.0km s-min=24.6km az=84.2*
*NNC **18** 17:28:50.5±3.6, 42.36N×79.02E, h6km±18km, mpv3.5, Error ellipse: s-maj=28.2km s-min=9.1km az=144.0*
ISC 18 17:28:49.2±1.1,**42.33N**±0.09×**79.1E**±0.1,**h10**km,**n24**, σ1§**26**/27,**mb3.5**/1,**4C-3D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**2.13**	**269**	P		**Pn**	**17 29 23.9**	**-1.4**
	SNR=317							
TKM2	**Tokmak 2**	**2.66**	**284**	P		**Pn**	**17 29 33.5**	**+0.6**
	SNR=129							
KZA	**Kyzart**	**2.88**	**266**	P		**Pn**	**17 29 35.2**	**-0.8**
	SNR=68							
KBK	**Karagaybulak**	**3.10**	**278**	P		**Pn**	**17 29 39.0**	**-0.1**
	SNR=50							
CHMS	**Chumysh**	**3.29**	**283**	P		**Pn**	**17 29 41.9**	**+0.1**
	SNR=7.1							
UCH	**Uchtor**	**3.41**	**270**	P		**Sn**	**17 30 33.6**	**+9.0**
	SNR=6.0							
AAK	**Ala-Archa**	**3.43**	**277**	P		**Pn**	**17 29 43.8**	**0.0**
	SNR=15							
AAK	**Ala-Archa**	**3.43**	**277**	⇑Pn		**Pn**	**17 29 43.6**	**-0.3**
	9.3nm,0.3s							
AAK				⇓Lg		

ZAL			pmax	pmax		
	comp=Z,1.0nm,0.3s					
SONM	**Songino Array**	**19.98 65**	P	**P**	**17 33 19.9**	**-4.5**
	comp=Z,0.1nm,0.3s,baz=263,slow=12,SNR=2.9					
NOA	**NORSAR Array B**	**43.79 319**	P	**P**	**17 36 57.9**	**+1.6**
	comp=Z,0.8nm,0.8s,mb3.5,baz=84,slow=7.9,SNR=3.5					
NOA	**NORSAR Array B**	**43.79 319**	P	**P**	**17 36 57.9**	**+1.6**
NOA			pmax	pmax		
	comp=Z,1.0nm,0.8s					

MAN 18 17:33:17.2, 10.94N×123.27E, h1km, mb3.6, ML2.4, MS1.8, 2D, Cebu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUIM	**Jordan**	**0.74**	**245**	*e*P	Pg	17 33 31.8	-0.2
GUIM				*e*S	Sg	17 33 41.9	+0.1
RCP	**Roxas**	**0.81**	**320**	⇓*e*P	Pg	17 33 33.2	-0.1
RCP				*e*S	Sg	17 33 45.6	+1.6
LLP	**Lapu-Lapu**	**0.92**	**132**	⇓*e*P	Pg	17 33 34.9	-0.7
LLP				*e*S	Sg	17 33 45.1	-2.8
KALP	**Kalibo**	**1.18**	**309**	*e*P	Pb	17 33 42.3	+2.3
KALP				*e*S	Sb	17 33 56.6	+1.1
MSLP	**Maasin**	**1.75**	**117**	*e*P	Pn	17 33 50.3	+1.4
OTRP	**Odiongan**	**1.87**	**319**	*e*P	Pn	17 33 51.0	+0.4
CNP	**Catarman**	**2.07**	**41**	*e*P	Pn	17 33 53.7	+0.2
CUYO	**Cuyo Island**	**2.22**	**268**	*e*P	Pn	17 33 55.2	-0.3
BESP	**Borongan**	**2.23**	**73**	*e*P	Pn	17 33 55.7	0.0
SJMP	**San Jose**	**2.60**	**306**	*e*P	Pn	17 34 03.0	+2.0
PAGZ	**Pagadian**	**3.07**	**178**	*e*P	Pn	17 34 08.6	+0.7
BUSP	**Coron**	**3.19**	**290**	*e*P	Pn	17 34 09.3	-0.2
IPIL	**Ipil**	**3.21**	**193**	*e*P	Pn	17 34 10.2	+0.5
ENPP	**El Nido**	**3.79**	**274**	*e*P	Pn	17 34 17.5	-0.4

NEIC ***18*** *17:41:44.7, 32.69S×71.68W, h30km, ML2.9(GUC), After GUC.*

GUC 18 17:41:44.7±0.8, 32.69S×71.68W, h30km±5km, MD3.7, ML2.9, 7C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PACH	**Papudo**	**0.26**	**53**	⇓*i*P	Pb	17 41 51.8	+0.3
PACH				*i* S	Sb	17 41 57.0	+0.9
ROCH	**El Roble**	**0.63**	**117**	⇑*i*P	Pb	17 41 57.2	0.0
ROCH				*i* S	Sb	17 42 06.6	+0.8
LCCH	**Las Cruces**	**0.79**	**173**	*e*P	Pb	17 41 58.8	-1.0
CHNG	**Los Chungos**	**0.82**	**11**	⇑*i*P	Pn	17 41 59.5	-0.8
CHNG				*i* S	Sb	17 42 10.7	-0.4
CHNG				AMP		17 42 12.9	
	comp=E,159nm,0.3s						
JACH	**Jahuel**	**0.92**	**90**	⇑*i*P	Pn	17 42 01.5	-0.2
JACH				*i* S	Sb	17 42 14.1	+0.2
PEL	**Peldehue**	**0.95**	**119**	*e*P	Pn	17 42 02.3	+0.2
RCDM	**Rinconada Maip**	**1.08**	**138**	*e*P	Pn	17 42 04.0	-0.1
RCDM				*i* S	Sn	17 42 17.9	-0.2
RCDM				AMP		17 42 20.5	
	comp=E,403nm,0.1s						
TACH	**Talagante**	**1.14**	**147**	⇑*i*P	Pn	17 42 04.9	0.0
TACH				*i* S	Sn	17 42 19.6	-0.1
CLCH	**Cerro Calan**	**1.19**	**127**	⇑*i*P	Pn	17 42 05.8	+0.2
CLCH				*i* S	Sn	17 42 21.6	+0.7
CLCH				AMP		17 42 26.1	
	comp=N,308nm,0.4s						
CLCH				AMP		17 42 29.7	
	comp=N,482nm,0.6s						
ANTU	**Antumapu**	**1.24**	**135**	*e*P	Pn	17 42 06.9	+0.6
ANTU				*i* S	Sn	17 42 23.2	+1.0
ANTU				AMP		17 42 28.0	
	comp=E,404nm,0.4s						
LNV	**Longovilo**	**1.28**	**170**	⇑*i*P	Pn	17 42 06.9	0.0
LNV				*i* S	Sn	17 42 23.1	-0.1
FCH	**Farellones**	**1.33**	**119**	⇓*i*P	Pn	17 42 08.2	+0.6
FCH				*i* S	Sn	17 42 26.1	+1.7
FCH				AMP		17 42 26.9	
	comp=E,369nm,0.1s						
PCH	**Pirque**	**1.35**	**134**	⇑*i*P	Pn	17 42 08.6	+0.7
CHCH	**Chadas Angostu**	**1.51**	**145**	*e*P	Pn	17 42 10.8	+0.7
CHCH				*i* S	Sn	17 42 30.2	+1.2
CMCH	**Combarbala**	**1.62**	**21**	*e*P	Pn	17 42 12.2	+0.5
CMCH				*i* S	Sn	17 42 33.4	+1.6
CMCH				AMP		17 42 37.4	
	comp=E,784nm,0.7s						
CACH	**El Canelo**	**1.69**	**148**	*e*P	Pn	17 42 14.7	+2.0
LMEL	**Las Melosas**	**1.69**	**133**	*e*P	Pn	17 42 13.9	+1.1
LMEL				*i* S	Sn	17 42 35.9	+2.3
LMEL				AMP		17 42 39.7	
	comp=N,458nm,0.2s						
CICH	**Cipreses**	**1.94**	**147**	*e*P	Pn	17 42 17.2	+1.0

ATH ***18*** *17:42:32.8, 41.64N×24.00E, h12km±4km, MD3.2/4*
SOF ***18*** *17:42:32.6, 41.62N×24.01E, h14km, MD2.8*
NEIC ***18*** *17:42:32.8, 41.64N×24.00E, h12km, MD3.2(ATH), After ATH.*
CSEM ***18*** *17:42:32.9±0.1, 41.67N×24.01E, h1km±1km, MD2.8, Error ellipse: s-maj=2.4km s-min=1.7km az=138.0*
THE ***18*** *17:42:34.8, 41.57N×23.96E, h9km, ML3.0*

ISC 18 17:42:32.7±0.5, 41.61N±0.03×23.98E±0.04, h2km±8km, n19, σ0§89/29, 1C, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMB	**Musomiste**	**0.19**	**265**	*i* Pg	**Pg**	**17 42 37.7**	**+1.2**
NVR	**Nevrokopi**	**0.27**	**199**	⇑*i*PB	**Pb**	**17 42 39.0**	**-0.9**
NVR				*e*SB	**Sb**	**17 42 43.2**	**-1.4**
RZN	**Rozhen**	**0.56**	**81**	Pg	**Pg**	**17 42 44.0**	**+0.2**
SRS	**Serrai**	**0.57**	**211**	*e*Pg	**Pg**	**17 42 44.8**	**+0.8**
SRS				*e*Sg	**Sg**	**17 42 53.1**	**+1.5**
KKB	**Krupnik**	**0.72**	**292**	*i* Pg	**Pg**	**17 42 46.7**	**-0.3**
PLD	**Plovdiv**	**0.73**	**47**	Pg	**Pg**	**17 42 48.0**	**+0.6**
KNT	**Kendrikon**	**0.93**	**242**	*e*Pg	**Pg**	**17 42 51.5**	**+0.3**
KNT				*e*Sg	**Sg**	**17 43 04.5**	**+1.0**
PGB	**Panagyurishte**	**0.95**	**8**	*i* Pg	**Pg**	**17 42 50.7**	**-1.0**
KDZ	**Kurdzhali**	**1.08**	**87**	P	**Pb**	**17 42 52.3**	**-1.4**
VTS	**Vitosha**	**1.14**	**330**	*i* Pg	**Pg**	**17 42 55.3**	**-0.1**
THE	**Thessaloniki**	**1.24**	**219**	*e*Pg	**Pg**	**17 42 56.7**	**-0.7**
THE				*e*Sg	**Sg**	**17 43 13.8**	**-0.2**
DIM	**Dimitrovgrad**	**1.24**	**69**	P	**Pb**	**17 42 58.5**	**+2.0**
RDO	**Rodhopi**	**1.26**	**111**	*e*PB	**Pb**	**17 42 56.7**	**-0.1**
RDO				*e*SB	**Sb**	**17 43 13.7**	**+0.4**
OUR	**Ouranopolis**	**1.27**	**180**	*e*Pg	**Pg**	**17 42 57.4**	**-0.6**
OUR				*e*Sg	**Sg**	**17 43 14.6**	**-0.3**
PLG	**Polygyros**	**1.30**	**198**	*e*PG	**Pg**	**17 42 57.8**	**-0.7**
PLG				*e*SB	**Sb**	**17 43 16.2**	**+1.9**
GRG	**Griva**	**1.35**	**242**	*e*Pg	**Pg**	**17 42 59.3**	**-0.4**
GRG				*e*Sg	**Sg**	**17 43 17.0**	**-0.8**
PAIG	**Paliouri**	**1.69**	**188**	*e*Pb	**Pb**	**17 43 03.3**	**-0.9**
PAIG				*e*Sb	**Sb**	**17 43 25.6**	**-0.3**
ALN	**Alexandroupoli**	**1.71**	**114**	*e*Pb	**Pb**	**17 43 04.0**	**-0.5**
ALN				*e*Sb	**Sb**	**17 43 26.7**	**+0.3**
LIA	**Limnos Island**	**1.94**	**151**	*e*PN	**Pn**	**17 43 07.8**	**+0.9**

IDC 18 18:23:15.2±1.6, 32.69N×70.16E, mb3.4/3, mb1 3.6/4, mb1mx3.3/20, mbtmp3.4/4, ML3.1/1, Error ellipse: s-maj=52.4km s-min=28.8km az=53.0, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**16.86**	**30**	Pn	P	18 27 11.4	-2.7
	0.1nm,0.3s,baz=198,slow=4.6,SNR=3.3						
BVAR	**Borovoye Array**	**20.32**	**0**	P	P	18 27 53.6	-1.9
	0.3nm,0.5s,baz=172,slow=10,SNR=3.8						
AKASG	**Malin Array Be**	**34.92**	**313**	P	P	18 30 08.2	-2.3
	0.1nm,0.2s,baz=98,slow=7.5,SNR=3.5						
WRA	**Warramunga Arr**	**80.60**	**121**	P	P	18 35 30.0	-1.4
	1.0nm,0.6s,baz=324,slow=5.0,SNR=32						

IDC ***18*** *18:38:08.8±1.0, 0.77N×126.27E, mb4.0/6, mb1 4.1/7, mb1mx3.9/18, mbtmp4.0/7, MS3.1/1, Ms1 3.1/1, ms1mx2.7/15, Error ellipse: s-maj=64.6km s-min=17.4km az=74.0*
NEIC ***18*** *18:38:09.6±0.6, 0.71N×126.02E, h10km, Error ellipse: s-maj=21.3km s-min=11.3km az=70.0*

ISC 18 18:38:08.0±0.7, 0.70N±0.09×126.0E±0.1, h10km, n13, σ1§27/12, mb4.0/6, MS3.1/1, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSM	**Kuching**	**15.73**	**273**	*e*P	**P**	**18 41 50.2**	**-1.3**
FITZ	**Fitzroy Crossi**	**18.68**	**181**	P	**P**	**18 42 29.0**	**+0.3**
	baz=29,slow=10						
WRA	**Warramunga Arr**	**22.07**	**159**	P	**P**	**18 43 04.5**	**-0.5**
	2.4nm,0.5s,mb3.9,baz=338,slow=11,SNR=51						
WB2	**Warramunga Arr**	**22.08**	**159**	*e*P	**P**	**18 43 04.4**	**-0.7**
JOW	**Kunigami**	**26.08**	**5**	P	**P**	**18 43 43.0**	**-0.7**
	10nm,0.7s,mb4.5,baz=168,slow=9.3,SNR=4.3						
JNU	**Nakatsue**	**32.58**	**8**	LR	LR	18 58 28.7	
	comp=Z,33nm,18.6s,MS3.1,baz=120,slow=38						
STKA	**Stephens Creek**	**35.60**	**157**	P	**P**	**18 45 08.9**	**+0.9**
	2.6nm,0.8s,mb4.2,baz=345,slow=12,SNR=4.4						
STKA	**Stephens Creek**	**35.60**	**157**	*e*P	**P**	**18 45 08.6**	**+0.7**
SONM	**Songino Array**	**49.95**	**343**	P	**P**	**18 47 04.9**	**+0.8**
	0.2nm,0.4s,mb3.5,baz=169,slow=7.3,SNR=2.9						
MKAR	**Makanchi Array**	**59.65**	**327**	P	**P**	**18 48 14.2**	**-0.7**
	0.9nm,0.5s,mb4.0,baz=119,slow=7.2,SNR=12						
MA2	**Magadan**	**61.80**	**14**	P	**P**	**18 48 26.7**	**-2.6**
BVAR	**Borovoye Array**	**69.48**	**328**	P	**P**	**18 49 20.9**	**+2.3**
	0.9nm,0.6s,mb3.9,baz=141,slow=9.5,SNR=6.5						
KIV	**Kislovodsk**	**84.71**	**314**	P	**P**	**18 50 45.8**	**+2.1**

ATH ***18*** *18:41:53.2, 37.71N×27.66E, h34km±6km, MD3.0/3*
ISK ***18*** *18:41:54.1, 37.39N×27.51E, h27km, MD3.1*
CSEM ***18*** *18:41:54.1±0.2, 37.45N×27.58E, h12km, MD3.1, Error ellipse: s-maj=5.4km s-min=4.2km az=59.0*

ISC 18 18:41:54.1±0.5, 37.48N±0.02×27.48E±0.04, h8km±4km, n20, σ1§17/31, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLSB	**Milas**	**0.29**	**128**	*i* PG	**Pg**	**18 41 59.8**	**-0.4**
AYDN	**Tasoluk**	**0.36**	**60**	*i* P	**Pg**	**18 42 01.9**	**+0.3**
AYDN				*i* S	**Sg**	**18 42 06.0**	**-0.5**
BDRM	**Kayabasi**	**0.41**	**184**	*i* P	**Pg**	**18 42 02.8**	**+0.3**
BDRM				*i* S	**Sg**	**18 42 08.2**	**+0.1**
BODT	**Bodrum**	**0.44**	**199**	*i* PG	**Pg**	**18 42 02.6**	**-0.4**
BODT				*i* SG	**Sg**	**18 42 09.2**	**+0.3**
SMG	**Samos**	**0.56**	**294**	*e*PN	**Pn**	**18 42 06.8**	**-1.3**
SMG				*e*SN	**Sn**	**18 42 16.2**	**-1.4**
YER	**Yerkesik**	**0.72**	**118**	*i* PG	**Pg**	**18 42 08.2**	**-0.4**
YER				*i* SG	**Sg**	**18 42 18.2**	**-0.1**
IZM	**Izmir**	**0.94**	**349**	*i* PG	**Pg**	**18 42 13.5**	**+0.7**
KDAG	**Bornova**	**0.94**	**350**	*i* P	**Pb**	**18 42 12.7**	**+0.4**
KDAG				*i* S	**Sb**	**18 42 27.6**	**+3.0**
BLCB	**Balcova**	**0.97**	**339**	*i* PG	**Pg**	**18 42 14.1**	**+0.5**
BLCB				*i* SG	**Sg**	**18 42 27.1**	**+0.5**
DALT	**Dalyan (Mudla)**	**1.16**	**127**	PN	**Pn**	**18 42 14.1**	**-2.5**
DENT	**Denizli**	**1.26**	**77**	PN	**Pn**	**18 42 17.0**	**-1.1**
MANT	**Manisa**	**1.32**	**40**	*i* P	**Pb**	**18 42 19.4**	**+0.6**
MANT				*i* S	**Sb**	**18 42 35.6**	**-0.1**
ARG	**Arkhangelos**	**1.36**	**158**	*e*PB	**Pb**	**18 42 20.1**	**+0.7**
ARG				*e*SN	**Sn**	**18 42 40.0**	**+2.2**
AKS	**Akhisar**	**1.42**	**10**	PN	**Pn**	**18 42 20.5**	**+0.1**
APE	**Apeiranthos**	**1.61**	**256**	*e*PN	**Pn**	**18 42 21.4**	**-1.6**
APE	**Apeiranthos**	**1.61**	**256**	*e*Pn	**Pn**	**18 42 24.0**	**+0.9**
GOLH	**Golhisar**	**1.67**	**98**	*i* P	**Pn**	**18 42 24.2**	**+0.3**
GOLH				*i* S	**Sn**	**18 42 49.4**	**+3.6**
ELL	**Elmali**	**2.07**	**110**	*e*PN	**Pn**	**18 42 27.1**	**-2.5**
AKAS	**Kas**	**2.10**	**125**	*i* P	**Pn**	**18 42 33.1**	**+3.0**
AKAS				*i* S	**Sn**	**18 43 02.0**	**+5.3**
ALT	**Altintas**	**2.60**	**52**	*e*PN	**Pn**	**18 42 35.5**	**-1.7**

HLW ***18*** *19:01:52.7, 34.95N×24.55E, h33km, Mb3.1*
ATH ***18*** *19:01:54.9, 34.52N×24.60E, h16km±3km, MD3.6/6*
NEIC ***18*** *19:01:54.9, 34.52N×24.60E, h16km, MD3.6(ATH), After ATH.*
CSEM ***18*** *19:01:54.1±0.1, 34.48N×24.59E, h2km, MD3.6, Error ellipse: s-maj=4.1km s-min=1.9km az=69.0*

ISC 18 19:01:54.8±1.4, 34.53N±0.05×24.64E±0.09, h12km±11km, n16, σ0§89/19, 2C-4D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GVD	**Gavdhos**	**0.55**	**304**	*e*PN	**Pg**	**19 02 05.5**	**-0.5**
XRY	**Khrisi**	**0.94**	**68**	*e*PN	**Pn**	**19 02 13.4**	**-0.3**
VAM	**Vamos**	**0.95**	**338**	⇑*i*PB	**Pb**	**19 02 12.3**	**-0.4**
VAM				*e*SN	**Sn**	**19 02 26.6**	**-0.7**
NPS	**Neapolis**	**1.08**	**47**	*e*PN	**Pn**	**19 02 15.6**	**-0.2**
KYTH	**Kithira**	**2.19**	**324**	*e*PN	**Pn**	**19 02 33.0**	**+1.4**
KARP	**Karpathos**	**2.31**	**63**	⇓*i*PN	**Pn**	**19 02 35.2**	**+1.9**
VLI	**Veliai**	**2.59**	**328**	*e*PN	**Pn**	**19 02 37.5**	**+0.2**
VLI	**Veliai**	**2.59**	**328**	*e*Pn	**Pn**	**19 02 37.3**	**0.0**
SLUM		**3.07**	**171**	⇑P	**Pn**	**19 02 45.1**	**+0.9**
HMAT	**Matruh**	**4.00**	**148**	⇓P	**Pn**	**19 02 57.4**	**-0.1**
HMAT				S	**Sn**	**19 03 44.5**	**-0.3**
HMAT	**Matruh**	**4.00**	**148**	P	**Pn**	**19 02 57.3**	**-0.1**
HMAT				S	**Sn**	**19 03 44.5**	**-0.3**
DABA	**Dabaa**	**4.66**	**138**	⇓P	**Pn**	**19 03 06.4**	**-0.4**
SWA2		**5.32**	**172**	P	**Pn**	**19 03 16.2**	**+0.2**
SWA2		**5.32**	**172**	P	**Pn**	**19 03 16.2**	**+0.2**
SWA1		**5.33**	**170**	⇓P	**Pn**	**19 03 16.0**	**-0.2**
AMAG	**Maghara**	**8.20**	**116**	P	**P**	**19 03 53.5**	**-3.1**

ISC 18 19:25:30.9±0.9, 5.6N±0.2×125.8E±0.3, h210km±19km, n9, σ0§85/11, mb4.1/2, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**1.41**	**21**	*e*P	**P**	**19 26 03.6**	**-1.5**
MATI				*e*S	**S**	**19 26 32.0**	**+0.5**
DMPH	**Davao City--Mi**	**1.47**	**351**	*e*P	**P**	**19 26 05.0**	**-0.6**
DMPH				*e*S	**S**	**19 26 33.4**	**+1.0**
BUKP	**Musuan**	**2.34**	**343**	*e*P	**P**	**19 26 13.7**	**-0.4**
BUTP	**Butuan**	**3.32**	**358**	*e*P	**P**	**19 26 26.3**	**+0.9**
MSLP	**Maasin**	**4.56**	**349**	*e*P	**P**	**19 26 40.0**	**-0.7**
KAKA	**Kakadu**	**19.39**	**160**	⇑*i*P	**P**	**19 29 54.8**	**+12**
	19nm,0.6s						
FITZ	**Fitzroy Crossi**	**23.58**	**180**	⇓*i*P	**P**	**19 30 24.3**	**+0.3**
	4.2nm,0.3s,mb4.5						
WB2	**Warramunga Arr**	**26.78**	**162**	⇑*i*P	**P**	**19 30 52.8**	**-0.8**
STKA	**Stephens Creek**	**40.24**	**159**	*e*P	**P**	**19 32 49.9**	**+1.1**
	1.9nm,0.6s,mb3.7						

JMA ***18*** *19:52:34.3±0.4, 33.37N×142.54E, h65km, M3.1*
IDC ***18*** *19:52:36.5±7.6, 32.82N×141.38E, mb3.4/3, mb1 3.5/4, mb1mx3.4/19, mbtmp3.3/4, ML3.3/1, Error ellipse: s-maj=278.0km s-min=24.9km az=67.0*

ISC 18 19:52:34.8±1.1, 33.5N±0.1×142.6E±0.1, h33km, n14, σ1§08/24, mb3.3/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.79**	**312**	P	**P**	**19 53 03.9**	**0.0**
BSO1				S	**S**	**19 53 26.6**	**+0.9**
BSO2	**Boso 2**	**2.00**	**310**	*e*S	**S**	**19 53 32.1**	**+1.2**
BSO3	**Boso 3**	**2.19**	**308**	P	**P**	**19 53 09.7**	**+0.2**
BSO3				*e*S	**S**	**19 53 37.2**	**+1.5**
BSO4	**Boso 4**	**2.41**	**310**	P	**P**	**19 53 13.4**	**+0.7**
BSO4				*e*S	**S**	**19 53 42.8**	**+1.4**
CHOJ	**Chosi**	**2.65**	**328**	P	**P**	**19 53 16.3**	**+0.1**
CHOJ				*e*S	**S**	**19 53 47.3**	**-0.2**
JOD2	**Odawara 2**	**3.41**	**303**	P	**P**	**19 53 26.1**	**-0.9**
JOD2				*e*S	**S**	**19 54 07.3**	**+0.4**
JYN	**Shimob**	**3.92**	**302**	P	**P**	**19 53 34.5**	**+0.4**
JYN				*e*S	**S**	**19 54 18.6**	**-1.0**
JAG	**Ashikaga**	**3.92**	**320**	P	**P**	**19 53 33.9**	**-0.3**
JAG				*e*S	**S**	**19 54 17.1**	**-2.7**
JRY	**Ryogami san**	**3.97**	**311**	P	**P**	**19 53 35.0**	**+0.1**
JRY				*e*S	**S**	**19 54 19.1**	**-1.8**
MJAR	**Matsushiro Arr**	**4.73**	**312**	Pn	**Pn**	**19 53 45.8**	**-0.1**
	1.4nm,0.3s,baz=185,slow=29,SNR=14						
MJAR				Sn	**Sn**	**19 54 39.8**	**-0.5**
	1.4nm,0.3s,baz=121,slow=32,SNR=6.0						
MAT	**Matsushiro**	**4.74**	**312**	P	**P**	**19 53 46.0**	**+0.2**
MAT				S	**S**	**19 54 38.0**	**-2.3**
SONM	**Songino Array**	**30.68**	**309**	P	**P**	**19 58 50.2**	**+1.8**
	0.3nm,0.7s,mb3.3,baz=90,slow=8.6,SNR=3.1						
MKAR	**Makanchi Array**	**46.90**	**305**	P	**P**	**20 01 04.5**	**+0.9**
	0.3nm,0.7s,mb3.4,baz=90,slow=8.6,SNR=3.1						
WRA	**Warramunga Arr**	**53.69**	**190**	P	**P**	**20 01 54.2**	**-1.7**
	0.4nm,0.8s,mb3.4,baz=6.4,slow=7.6,SNR=6.4						

IDC ***18*** *20:08:45.7±1.6, 1.48N×96.60E, mb3.8/8, mb1 4.0/8, mb1mx3.8/18, mbtmp3.8/8, Error ellipse: s-maj=67.7km s-min=27.8km az=52.0*

NEIC ***18*** *20:08:50.5±0.7, 1.59N×96.82E, h30km, mb4.4/3, Error ellipse: s-maj=20.2km s-min=11.8km az=59.0*

ISC 18 20:08:48.8±0.8, 1.6N±0.1×96.8E±0.1, h30km, n13, σ0§82/13, mb4.0/11, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.27**	**46**	*e*Pn	**Pn**	**20 10 07.8**	**+0.2**
LSA	**Lhasa**	**28.44**	**350**	P	**P**	**20 14 42.0**	**-1.3**
	8.4nm,1.3s,mb4.2						
NWAO	**Narrogin (SRO)**	**39.40**	**152**	P	**P**	**20 16 17.9**	**+0.2**
	26nm,1.2s,mb4.8						
WRA	**Warramunga Arr**	**42.57**	**122**	P	**P**	**20 16 44.8**	**+0.8**
	0.8nm,0.9s,mb3.5,baz=300,slow=9.1,SNR=5.1						
WRAB	**Tennant Creek**	**42.57**	**122**	P	**P**	**20 16 42.9**	**-1.2**
MKAR	**Makanchi Array**	**46.75**	**346**	P	**P**	**20 17 17.9**	**+0.7**
	1.6nm,0.7s,mb4.0,baz=164,slow=8.8,SNR=14						
SONM	**Songino Array**	**46.77**	**9**	P	**P**	**20 17 18.2**	**+0.9**
	0.7nm,0.6s,mb3.8,baz=188,slow=9.9,SNR=7.0						
KURK	**Kurchatov**	**51.30**	**345**	*e*P	**P**	**20 17 52.2**	**0.0**
	3.5nm,1.2s,mb4.2						
ZAL	**Zalesovo**	**53.08**	**351**	P	**P**	**20 18 05.9**	**+0.3**
	2.8nm,0.6s,mb4.4,baz=296,slow=5.6,SNR=17						
BVAR	**Borovoye Array**	**55.74**	**341**	P	**P**	**20 18 24.4**	**-0.6**
	1.1nm,0.8s,mb4.0,baz=135,slow=6.3,SNR=6.5						
FINES	**FINESS Array B**	**79.46**	**333**	P	**P**	**20 20 53.5**	**-0.2**
	0.7nm,0.8s,mb3.6,baz=90,slow=6.9,SNR=2.9						
ARCES	**ARCESS Array B**	**82.02**	**340**	P	**P**	**20 21 06.0**	**-1.1**
	2.2nm,0.8s,mb4.1,baz=39,slow=3.23,SNR=2.7						
GERES	**GERESS Array B**	**84.26**	**319**	P	**P**	**20 21 20.5**	**+1.5**
	0.3nm,0.8s,mb3.5,baz=124,slow=3.5,SNR=4.2						

NEIC ***18*** *20:51:36.6, 16.09N×97.26W, h34km, MD3.9(MEX), After MEX.*

MEX 18 20:51:36.5±0.8, 16.08N×97.26W, h30km±31km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.89**	**291**	*i* P	Pn	20 51 50.1	-2.9
PNIG				*i* S	Sb	20 52 02.3	-2.6
VHO	**Vista Hermosa**	**1.11**	**27**	*i* P	Pn	20 51 53.8	-2.5
VHO				*i* S	Sn	20 52 07.1	-3.5
OXX	**Oaxaca**	**1.13**	**27**	*i* P	Pn	20 51 54.5	-1.9
OXX				*i* S	Sn	20 52 08.0	-3.0
HUIG	**Huatulco**	**1.15**	**105**	*i* P	Pn	20 51 55.0	-1.8
HUIG				*i* S	Sn	20 52 09.3	-2.3
CMIG	**Matias Romero**	**2.49**	**66**	*i* P	Pn	20 52 13.1	-2.9
CMIG				*i* S	Sn	20 52 41.4	-4.3
ACX	**Acapulco**	**2.67**	**288**	*e*P	Pn	20 52 16.0	-2.4
ACX				*e*S	Sn	20 52 47.5	-2.6
PPM	**Popocatepetl**	**3.25**	**337**	*e*P	Pn	20 52 30.0	+3.3

CSEM ***18*** *21:04:58.7±0.8, 38.65N×28.54W, ML1.5, Error ellipse: s-maj=6.5km s-min=2.8km az=29.0, After PDA*
PDA ***18*** *21:04:58.7±0.8, 38.65N×28.54W, MD2.6, ML1.5, Error ellipse: s-maj=6.5km s-min=2.8km az=29.0*

SVSA 18 21:04:58.7±0.8, 38.65N×28.54W, MD2.6, ML1.5, Error ellipse: s-maj=6.5km s-min=2.8km az=29.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCED	**Cedros**	**0.13**	**261**	*i* P	Pg	21 05 01.1	-0.2
PCED				*e*S	Sg	21 05 03.6	+0.5
	33nm,0.2s						
PCED	**Cedros**	**0.13**	**261**	*e*S	Sg	21 05 03.6	+0.5
CALA	**Caldeira**	**0.15**	**243**	*e*P	Pg	21 05 01.6	0.0
CALA				*e*S	Sg	21 05 03.9	+0.3
PICO	**Pico**	**0.17**	**150**	*e*P	Pg	21 05 02.0	-0.1
PICO				*e*S	Sg	21 05 04.9	+0.5
PMAN	**Manadas**	**0.35**	**93**	*e*P	Pg	21 05 05.5	-0.2
PMAN				*e*S	Sg	21 05 10.2	-0.2
	33nm,0.2s						

NEIC ***18*** *21:13:23.7±3.4, 1.60N×127.35E, h91km±34km, mb4.8/6, Error ellipse: s-maj=23.0km s-min=8.4km az=84.0*
IDC ***18*** *21:13:25.7±6.6, 1.59N×127.43E, h112km±64km, mb3.8/6, mb1 4.0/7, mb1mx3.8/15, mbtmp4.3/7, Error ellipse: s-maj=41.6km s-min=13.4km az=82.0*

ISC 18 21:13:25.6±1.3, 1.59N±0.07×127.3E±0.2, h127km±14km, n32, σ0§84/33, mb4.5/14, 2C-2D, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**5.43**	**349**	*e*P	**P**	**21 14 46.0**	**

CIRR			*i* S	Sn	21 22 31.6	+0.9
LGNR	**Loginova**	**1.86 301**	*i* P	Pn	21 22 07.7	+1.2
LGNR			*i* S	Sn	21 22 33.1	+2.1
TUMR	**Tumrok**	**1.95 275**	*eP*	Pn	21 22 09.7	+1.9
TUMR			*eS*	Sn	21 22 36.2	+3.0
KMNR	**Kamenistaya**	**1.97 289**	*i* P	Pn	21 22 09.2	+1.1
KMNR			*i* S	Sn	21 22 35.3	+1.5
KRSR	**Krestovskiy**	**1.99 303**	*i* P	Pn	21 22 08.9	+0.6
KRSR			*eS*	Sn	21 22 35.2	+1.0
KLY	**Klyuchi**	**2.00 306**	P	Pn	21 22 07.7	-0.8
KLY			S	Sn	21 22 32.4	-2.1
KLY	**Klyuchi**	**2.00 306**	*i* P	Pn	21 22 07.7	-0.8
KLY			*i* S	Sn	21 22 32.8	-1.7
KPT	**Kopyto**	**2.05 295**	*eP*	Pn	21 22 10.3	+1.1
KPT			*eS*	Sn	21 22 37.4	+1.6
KOZR	**Kozyr**	**2.26 295**	PN	Pn	21 22 14.0	+1.8
KOZR			S	Sn	21 22 43.3	+2.2
KOZ	**Kozyrevsk**	**2.27 295**	P	Pn	21 22 14.0	+1.7
KOZ			S	Sn	21 22 43.3	+2.0
KOZ	**Kozyrevsk**	**2.27 295**	*eP*	Pn	21 22 14.0	+1.7
KOZ			*eS*	Sn	21 22 43.9	+2.6
SRDR	**Sredinnyy**	**2.45 300**	*eP*	Pn	21 22 16.5	+1.5
SRDR			*eS*	Sn	21 22 48.3	+2.3
ESO	**Esso**	**2.85 288**	*eP*	Pn	21 22 22.0	+1.3
ESO			Smax			
90nm,0.6s						
SPN	**Mys Shipunski**	**2.92 226**	*eS*	Sn	21 22 59.0	+1.0
SDLR	**Sedlovina**	**3.32 237**	*eP*	Pn	21 22 28.6	+1.3
SMAR	**Somma**	**3.37 238**	*i* P	Pn	21 22 29.5	+1.5
UGLR	**Uglovaya**	**3.39 237**	*eP*	Pn	21 22 29.8	+1.5
AVH	**Avacha**	**3.40 238**	*eP*	Pn	21 22 29.3	+0.8
AVH			*eS*	Sn	21 23 10.8	+0.8
KOK	**Koryaka**	**3.43 239**	*i* P	Pn	21 22 30.9	+2.0
GNL	**Ganaly**	**3.58 248**	*eP*	Pn	21 22 32.3	+1.2
PET	**Petropavlovsk**	**3.59 235**	P	Pn	21 22 31.1	0.0
PET			S	Sn	21 23 13.2	-1.5
PET	**Petropavlovsk**	**3.59 235**	*eP*	Pn	21 22 31.0	-0.1
PET			*eS*	Sn	21 23 13.2	-1.5
KRMR	**Karymshinskiy**	**3.96 236**	*i* S	Sn	21 23 23.2	-0.9
RUS	**Russkaya**	**4.04 230**	P	Pn	21 22 37.5	-0.1
RUS			S	Sn	21 23 24.0	-2.3
RUS	**Russkaya**	**4.04 230**	*eP*	Pn	21 22 37.7	+0.1
RUS			*eS*	Sn	21 23 25.0	-1.3
GRL	**Gorelyy**	**4.16 233**	*eP*	Pn	21 22 40.9	+1.6

*KRSC **18** 21:46:20.1±0.9, 49.34N×156.21E, h51km±23km, ML4.4*
*MOS **18** 21:46:20.7±2.4, 49.46N×156.53E, h31km, mb4.1/2, Error ellipse: s-maj=44.1km s-min=10.9km az=81.4*
*IDC **18** 21:47:03.5±11.0, 51.33N×155.70E, h395km±131km, mb3.0/5, mb1 3.4/5, mb1mx2.9/20, mbtmp3.8/5, Error ellipse: s-maj=42.8km s-min=21.5km az=156.0*
ISC 18 21:46:22.0±1.2,**49.45N**±0.08×**156.2E**±0.2,**h57**km±14km, **n33,**σ0§**99**/46,**mb3.9**/4,**Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.24**	**357**	*e*PN	**P**	**21 46 39.5**	**-3.9**
SKR				*e*S	**S**	**21 46 54.5**	**-4.9**
SKR				pmax	pmax		
comp=N,120nm,0.5s							
SKR				pmax	pmax		
comp=E,80nm,0.5s							
SKR				pmax	pmax		
comp=Z,190nm,0.5s							
SKR				smax			
comp=N,2μm,0.2s							
SKR				smax			
comp=E,1μm,0.2s							
SKR				smax			
comp=Z,220nm,0.5s							
SKR				smax			
comp=N,1μm,2.0s							
SKR				smax			
comp=E,1μm,2.0s							
ALID	**Alaid**	**1.48**	**344**	*e*P	**P**	**21 46 46.6**	**-0.4**
ALID				*e*S	**S**	**21 47 05.5**	**+0.1**
PAU	**Pauzhetka**	**2.06**	**11**	*e*P	**P**	**21 46 54.8**	**-0.1**
PAU				*e*S	**S**	**21 47 19.9**	**+0.5**
PAU				Smax			
comp=E,950nm,0.3s							
MIPR	**Malaya Ipel'ka**	**2.85**	**7**	*e*P	**P**	**21 47 05.5**	**-0.7**
MIPR				*e*S	**S**	**21 47 38.7**	**-0.8**
GRL	**Gorelyy**	**3.33**	**20**	*e*P	**P**	**21 47 13.3**	**+0.5**
GRL				*e*S	**S**	**21 47 51.8**	**+0.4**
RUS	**Russkaya**	**3.33**	**25**	P	**P**	**21 47 12.3**	**-0.6**
RUS				S	**S**	**21 47 49.7**	**-1.7**
RUS	**Russkaya**	**3.33**	**25**	*e*P	**P**	**21 47 12.3**	**-0.6**
RUS				*e*S	**S**	**21 47 50.3**	**-1.1**
APC	**Apacha**	**3.53**	**9**	*e*P	**P**	**21 47 17.1**	**+1.3**
APC				*e*S	**S**	**21 47 57.3**	**+0.6**
APC				Smax			
comp=E,40nm,0.9s							
KRMR	**Karymshinskiy**	**3.60**	**19**	*e*S	**S**	**21 47 58.4**	**+0.1**
PET	**Petropavlovsk**	**3.90**	**22**	P	**P**	**21 47 20.3**	**-0.6**
PET				S	**S**	**21 48 05.4**	**-0.4**
PET	**Petropavlovsk**	**3.90**	**22**	*e*P	**P**	**21 47 20.2**	**-0.7**
PET				*e*S	**S**	**21 48 04.1**	**-1.7**
UGLR	**Uglovaya**	**4.11**	**23**	*e*P	**P**	**21 47 24.5**	**+0.6**
AVH	**Avacha**	**4.14**	**22**	*i* P	**P**	**21 47 25.8**	**+1.5**
AVH				*i* S	**S**	**21 48 13.2**	**+1.3**
KOK	**Koryaka**	**4.14**	**21**	*e*P	**P**	**21 47 25.7**	**+1.4**
SMAR	**Somma**	**4.15**	**22**	*e*P	**P**	**21 47 25.5**	**+1.0**
SDLR	**Sedlovina**	**4.19**	**23**	*e*P	**P**	**21 47 25.1**	**+0.1**
NLC	**Nalytchevo**	**4.22**	**27**	P	**P**	**21 47 23.7**	**-1.7**
NLC				S	**S**	**21 48 09.9**	**-3.9**
NLC	**Nalytchevo**	**4.22**	**27**	*e*P	**P**	**21 47 23.9**	**-1.5**
NLC				*e*S	**S**	**21 48 11.9**	**-1.9**
SPN	**Mys Shipunski**	**4.37**	**32**	*e*S	**S**	**21 48 18.7**	**+1.0**
GNL	**Ganaly**	**4.39**	**14**	*e*P	**P**	**21 47 28.4**	**+0.6**
GNL				*e*S	**S**	**21 48 18.1**	**-0.1**
MKZ	**Mys Kozlova**	**6.15**	**32**	P	**P**	**21 47 50.4**	**-1.9**
MKZ	**Mys Kozlova**	**6.15**	**32**	*e*P	**P**	**21 47 50.3**	**-2.0**
KMNR	**Kamenistaya**	**6.78**	**20**	*e*P	**P**	**21 48 00.9**	**-0.2**
SRDR	**Sredinnyy**	**7.20**	**16**	*e*P	**P**	**21 48 07.4**	**+0.4**
KBTR	**Krutoberegovo**	**7.87**	**28**	P	**P**	**21 48 14.8**	**-1.4**
KBTR	**Krutoberegovo**	**7.87**	**28**	*e*P	**P**	**21 48 14.9**	**-1.3**
ILAR	**Eielson Array**	**33.15**	**41**	P	**P**	**21 52 54.0**	**-0.4**
comp=E,1.0nm,0.7s,mb3.9,baz=260,slow=6.6,SNR=9.2							
ILAR	**Eielson Array**	**33.15**	**41**	P	**P**	**21 52 54.0**	**-0.4**
ILAR				pmax	pmax		
comp=Z,1.0nm,0.7s							
BVAR	**Borovoye Array**	**50.76**	**309**	P	**P**	**21 55 14.0**	**-3.8**
comp=Z,0.3nm,0.3s,mb3.6,baz=51,slow=9.2,SNR=4.1							
PDAR	**Pinedale Array**	**61.51**	**57**	P	**P**	**21 56 35.0**	**+0.2**
comp=Z,1.0nm,0.8s,mb4.0,baz=329,slow=4.1,SNR=8.9							
WRA	**Warramunga Arr**	**71.76**	**202**	P	pP	21 57 53.6	-2.4
comp=Z,0.4nm,0.5s,baz=17,slow=6.5,SNR=7.1							
TXAR	**Lajitas Array**	**74.39**	**63**	P	**P**	**21 57 56.2**	**+1.0**
comp=Z,1.0nm,0.7s,mb3.9,baz=301,slow=4.1,SNR=7.7							
TXAR	**Lajitas Array**	**74.39**	**63**	P	**P**	**21 57 56.3**	**+1.0**
TXAR				pmax	pmax		
comp=Z,1.0nm,0.7s							

*NEIC **18** 21:46:54.8±0.8, 45.30N×137.39E, h300km, mb3.6/1, Error ellipse: s-maj=23.9km s-min=15.9km az=73.0*
*IDC **18** 21:46:59.4±1.9, 45.24N×137.17E, h342km±24km, mb3.1/9, mb1 3.2/10, mb1mx3.0/23, mbtmp3.8/10, Error ellipse: s-maj=28.2km s-min=19.7km az=60.0*
*SKHL **18** 21:46:59.0±1.8, 45.41N×137.33E, h330km±10km*
ISC 18 21:46:57.4±1.3,**45.3N**±0.2×**137.4E**±0.3,**h343**km±21km, **n13,**σ0§**74**/**14,mb3.3**/10,**Primorye**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**3.89**	**106**	P	**P**	**21 48 08.2**	**+3.0**
3.6nm,0.3s,baz=276,slow=7.8,SNR=21							
ASAJ				S	**S**	**21 48 57.7**	**-0.9**
1.0nm,0.3s,baz=72,slow=13,SNR=13							
SONM	**Songino Array**	**21.39**	**288**	P	**P**	**21 51 19.0**	**-0.1**
1.2nm,0.7s,mb3.2,baz=82,slow=8.9,SNR=9.8							
ZAL	**Zalesovo**	**34.42**	**304**	P	**P**	**21 53 14.2**	**-0.4**
0.8nm,0.3s,mb3.4,baz=7.9,slow=11,SNR=3.2							
MKAR	**Makanchi Array**	**37.61**	**293**	P	**P**	**21 53 41.1**	**-0.2**
0.6nm,0.8s,mb2.9,baz=90,slow=8.5,SNR=6.3							
BVAR	**Borovoye Array**	**43.01**	**305**	P	**P**	**21 54 25.7**	**+0.6**
0.5nm,0.3s,mb3.1,baz=85,slow=10,SNR=7.4							
ARU	**Arti**	**48.31**	**313**	P	**P**	**21 55 05.9**	**-0.5**
1.8nm,0.6s,mb3.5							
KEV	**Kevo**	**54.63**	**336**	*e*p	**P**	**21 55 51.9**	**-0.9**
ARCES	**ARCESS Array B**	**55.19**	**337**	P	**P**	**21 55 56.8**	**+0.1**
3.7nm,1.1s,mb3.6,baz=72,slow=6.8,SNR=4.4							
KAF	**Kangasniemi**	**59.60**	**329**	*e*p	**P**	**21 56 26.8**	**-0.5**
FINES	**FINESS Array B**	**60.12**	**329**	P	**P**	**21 56 31.1**	**+0.3**
0.8nm,0.4s,mb3.5,baz=56,slow=6.9,SNR=11							
WRA	**Warramunga Arr**	**65.01**	**183**	P	**P**	**21 57 03.1**	**-0.1**
0.2nm,0.3s,mb3.2,baz=359,slow=6.9,SNR=5.9							
HFS	**Hagfors**	**65.32**	**333**	P	**P**	**21 57 04.9**	**+0.4**
0.5nm,0.4s,mb3.5,baz=56,slow=5.2,SNR=6.9							
NOA	**NORSAR Array B**	**65.40**	**334**	P	**P**	**21 57 05.8**	**+0.9**
0.6nm,0.8s,mb3.3,baz=34,slow=3.2,SNR=2.5							

*NEIC **18** 21:48:50.6, 16.09N×97.27W, h21km, MD3.9(MEX), After MEX.*
MEX 18 21:48:49.9±0.5,**16.11N**×**97.27W,h8**km±7km,**MD3.9, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.87**	**289**	*i* P	Pb	21 49 04.3	-2.4
PNIG				*i* S	Sb	21 49 15.8	-2.4
VHO	**Vista Hermosa**	**1.09**	**28**	*i* P	Pb	21 49 07.6	-2.9
VHO				*i* S	Sb	21 49 21.0	-3.7
OXX	**Oaxaca**	**1.10**	**29**	*i* P	Pb	21 49 08.0	-2.7
OXX				*i* S	Sb	21 49 22.0	-3.0
HUIG	**Huatulco**	**1.17**	**107**	*e*P	Pb	21 49 08.9	-3.0
HUIG				*i* S	Sb	21 49 23.6	-3.5
CMIG	**Matias Romero**	**2.49**	**67**	*i* P	Pn	21 49 27.2	-4.1
CMIG				*i* S	Sn	21 49 57.3	-4.9
ACX	**Acapulco**	**2.65**	**287**	*e*P	Pn	21 49 30.0	-3.6
ACX				*e*S	Sn	21 50 03.0	-3.2
PPM	**Popocatepetl**	**3.21**	**336**	*e*P	Pn	21 49 41.0	-0.6

*ROM **18** 22:12:55.5±0.3, 39.26N×17.20E, h19km±3km, Md3.3/8, Ml2.9/10, Error ellipse: s-maj=3.6km s-min=3.5km az=51.0*
*CSEM **18** 22:12:57.0±0.1, 39.29N×17.05E, h30km, MD3.3/8, Error ellipse: s-maj=5.9km s-min=2.1km az=150.0*
*THE **18** 22:13:04.4, 39.33N×17.73E, h22km*
ISC 18 22:12:55.8±1.1,**39.23N**±0.06×**17.35E**±0.05,**h17**km±13km, **n19,**σ1§**53**/**27,1D,Southern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIP	**Timpagrande**	**0.46**	**264**	‖*i* Pg	**Pb**	**22 13 03.9**	**-1.2**
TIP				Sg	**Sb**	**22 13 08.6**	**-2.9**
761nm,0.7s							
GRI	**Girifalco**	**0.83**	**241**	Pg	**Pb**	**22 13 10.6**	**-0.8**
531nm,0.5s							
CUC	**Castrocucco**	**1.41**	**303**	Pg	**Pn**	**22 13 21.0**	**+0.1**
339nm,0.7s							
CEL	**Celeste**	**1.50**	**230**	Pg	**Pn**	**22 13 22.3**	**+0.1**
180nm,0.9s							
SOI	**Samo**	**1.54**	**222**	Pg	**Pn**	**22 13 23.3**	**+0.5**
76nm,0.6s							
NOCI	**Noci**	**1.57**	**352**	Pg	**Pn**	**22 13 23.5**	**+0.3**
253nm,0.4s							
MGR	**Morigerati**	**1.65**	**304**	Pg	**Pn**	**22 13 24.5**	**+0.1**
133nm,0.9s							
MSRU	**Castanea**	**1.73**	**237**	Pg	**Pn**	**22 13 25.6**	**0.0**
296nm,1.1s							
AMUR	**Altamura**	**1.77**	**341**	Pg	**Pn**	**22 13 26.3**	**+0.3**
67nm,0.6s							
KEK	**Kerkira**	**1.96**	**75**	Pg	**Pn**	**22 13 31.1**	**+2.4**
82nm,0.4s							
VPL	**Vulcano Piano**	**2.04**	**246**	Pg	**Pn**	**22 13 29.3**	**-0.6**
220nm,0.8s							
MMME	**Mongiuffi-Meli**	**2.09**	**232**	Pg	**Pn**	**22 13 30.8**	**+0.1**
IGT	**Igoumenitsa**	**2.33**	**82**	*e*Pn	**Pn**	**22 13 36.3**	**+2.2**
IGT				*e*Sn	**Sn**	**22 14 01.0**	**-1.6**
FNA	**Florina**	**3.46**	**62**	*e*Pn	**Pn**	**22 13 52.0**	**+1.8**
FNA				*e*Sn	**Sn**	**22 14 29.4**	**-1.8**
AGG	**Agios Georgios**	**3.88**	**92**	*e*Pn	**Pn**	**22 13 59.0**	**+2.9**
AGG				*e*Sn	**Sn**	**22 14 39.4**	**-2.4**
GRG	**Griva**	**4.24**	**64**	*e*Pn	**Pn**	**22 14 02.9**	**+1.6**
GRG				*e*Sn	**Sn**	**22 14 48.5**	**-2.4**
KNT	**Kendrikon**	**4.67**	**64**	*e*Pn	**Pn**	**22 14 08.6**	**+1.3**
KNT				*e*Sn	**Sn**	**22 14 59.2**	**-2.5**
PAIG	**Paliouri**	**4.94**	**80**	*e*Pn	**Pn**	**22 14 12.5**	**+1.3**
PAIG				*e*Sn	**Sn**	**22 15 06.5**	**-2.1**
AOS	**Alonnisos**	**5.07**	**89**	*e*Pn	**Pn**	**22 14 14.5**	**+1.5**
AOS				*e*Sn	**Sn**	**22 15 09.8**	**-2.1**

*JMA **18** 22:16:39.6±0.2, 31.35N×137.99E, h473km, M3.7*
*MOS **18** 22:16:40.5±1.1, 31.37N×137.80E, h441km, mb3.6/4, Error ellipse: s-maj=34.5km s-min=13.3km az=116.1*
*IDC **18** 22:16:40.9±0.9, 31.38N×137.99E, h423km±11km, mb3.2/7, mb1 3.2/11, mb1mx3.1/23, mbtmp4.0/11, Error ellipse: s-maj=22.0km s-min=10.8km az=67.0*
*NEIC **18** 22:16:42.1±1.1, 31.44N×137.91E, h445km±8km, mb4.0/6, Error ellipse: s-maj=21.6km s-min=13.6km az=114.0*
ISC 18 22:16:40.5±0.5,**31.36N**±0.05×**138.03E**±0.08,**h449**km±5km, **n41,**σ0§**92**/**48,mb3.5**/12,**Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK02	**Tokai 2**	**2.59**	**355**	P	**P**	**22 17 46.5**	**+1.5**
JWZ	**Kozaga**	**2.92**	**318**	P	**P**	**22 17 47.7**	**+0.4**
JIE	**Ise**	**3.23**	**340**	P	**P**	**22 17 50.7**	**+1.1**
JWY	**Kouya**	**3.52**	**325**	P	**P**	**22 17 52.8**	**+0.8**
JIM2	**Oshima 3**	**3.55**	**19**	P	**P**	**22 17 52.7**	**+0.4**
JAI	**Aioi**	**3.88**	**310**	P	**P**	**22 17 55.2**	**+0.2**
JOD2	**Odawara 2**	**3.99**	**12**	P	**P**	**22 17 56.4**	**+0.3**
BSO1	**Boso 1**	**4.11**	**36**	P	**P**	**22 17 56.8**	**-0.4**
BSO1				S	**S**	**22 18 57.2**	**-0.5**
JYN	**Shimob**	**4.15**	**6**	P	**P**	**22 17 58.9**	**+1.4**
JTO	**Tosashimizu**	**4.68**	**290**	P	**P**	**22 18 02.5**	**0.0**
JRY	**Ryogami san**	**4.70**	**9**	P	**P**	**22 18 03.2**	**+0.6**
JRY				*e*S	**S**	**22 19 07.2**	**-0.2**
MJAR	**Matsushiro Arr**	**5.17**	**2**	P	**P**	**22 18 06.8**	**-0.4**
2.3nm,0.3s,baz=178,slow=9.9,SNR=32							
MJAR				S	**S**	**22 19 13.5**	**-2.1**
0.6nm,0.3s,baz=336,slow=18,SNR=6.6							
MAJO	**Matsushiro**	**5.17**	**2**	*e*Pn	**P**	**22 18 15.7**	**+8.5**
14nm,0.5s							
MAT	**Matsushiro**	**5.17**	**2**	P	**P**	**22 18 07.3**	**+0.1**
MAT				S	**S**	**22 19 13.7**	**-1.9**
MAT	**Matsushiro**	**5.17**	**2**	*e*P	**P**	**22 18 07.0**	**-0.2**
15nm,0.7s							
MAT				*e*S	**S**	**22 19 14.0**	**-1.6**
MAT	**Matsushiro**	**5.17**	**2**	*e*P	**P**	**22 18 07.0**	**-0.2**
MAT				*e*S	**S**	**22 19 14.0**	**-1.6**
MAT				pmax	pmax		
comp=Z,15nm,0.7s							
JHS	**Saijyo**	**5.49**	**313**	P	**P**	**22 18 10.5**	**+0.1**
CBIJ	**Chichi jima**	**5.58**	**138**	P	**P**	**22 18 11.5**	**+0.1**
comp=Z,14nm,0.3s,baz=132,slow=23,SNR=40							
CBIJ				S	**S**	**22 19 21.5**	**-1.5**
comp=Z,70nm,0.3s,baz=239,slow=20,SNR=22							
CBIJ	**Chichi jima**	**5.58**	**138**	P	**P**	**22 18 11.6**	**+0.2**
JNU	**Nakatsue**	**6.31**	**288**	P	**P**	**22 18 18.5**	**-0.4**
comp=Z,0.8nm,0.3s,baz=80,slow=10,SNR=7.5							
JMK	**Ichinoseki**	**8.01**	**18**	P	**P**	**22 18 38.0**	**+0.8**
JOW	**Kunigami**	**9.65**	**245**	P	**P**	**22 18 54.9**	**-0.5**
comp=Z,1.3nm,0.3s,baz=113,slow=17,SNR=5.7							
JOT	**Ohata**	**10.29**	**13**	P	**P**	**22 19 03.6**	**+1.2**
SKR	**Severo-Kuril's**	**23.53**	**30**	*e*P	**P**	**22 21 07.4**	**-7.5**
ENH	**Enshi**	**24.52**	**275**	P	**P**	**22 21 22.9**	**-1.1**
comp=Z,11nm,0.8s,mb4.3							
SONM	**Songino Array**	**29.15**	**313**	P	**P**	**22 22 05.3**	**+0.5**
comp=Z,0.8nm,0.4s,mb3.5,baz=120,slow=8.2,SNR=13							
ZAK	**Zakamensk**	**32.03**	**317**	*e*P	**P**	**22 22 30.0**	**+0.5**
ZAK				pmax	pmax		
comp=Z,1.0nm,0.9s,mb3.2							
ZAL	**Zalesovo**	**43.91**	**317**	P	**P**	**22 24 07.0**	**+0.1**
comp=Z,0.6nm,0.4s,mb3.4,baz=17,slow=9.7,SNR=4.4							
MKAR	**Makanchi Array**	**45.00**	**307**	P	**P**	**22 24 15.9**	**+0.4**
comp=Z,2.7nm,0.7s,mb3.8,baz=89,slow=10.0,SNR=21							
KURK	**Kurchatov**	**47.43**	**312**	*e*P	**P**	**22 24 33.7**	**-0.5**
comp=Z,2.7nm,0.6s,mb3.9							
KURK	**Kurchatov**	**47.43**	**312**	*e*P	**P**	**22 24 33.7**	**-0.5**
KURK				pmax	pmax		
comp=Z,3.0nm,0.6s,mb3.9							
AAK	**Ala-Archa**	**50.89**	**302**	P	**P**	**22 24 59.0**	**-1.3**
WRA	**Warramunga Arr**	**51.13**	**184**	P	**P**	**22 25 03.3**	**+0.9**
comp=Z,0.7nm,0.4s,mb3.3,baz=0.8,slow=7.7,SNR=18							
BRVK	**Borovoye**	**52.53**	**315**	P	**P**	**22 25 09.4**	**-2.7**
comp=Z,1.1nm,0.6s,mb3.4							
BRVK	**Borovoye**	**52.53**	**315**	P	**P**	**22 25 09.5**	**-2.6**
BRVK				pmax	pmax		
comp=Z,1.0nm,0.6s,mb3.3							
ARU	**Arti**	**58.84**	**320**	*e*P	**P**	**22 25 56.0**	**0.0**
comp=Z,2.1nm,0.6s,mb3.6							
ARU	**Arti**	**58.84**	**320**	*e*P	**P**	**22 25 56.0**	**0.0**
ARU				pmax	pmax		
comp=Z,2.0nm,0.6s,mb3.6							
KAF	**Kangasniemi**	**72.06**	**333**	*e*p	**P**	**22 27 17.5**	**-1.2**
FINES	**FINESS Array B**	**72.52**	**332**	P	**P**	**22 27 22.8**	**+1.4**
comp=Z,0.6nm,0.4s,mb3.5,baz=61,slow=6.8,SNR=16							
AKASG	**Malin Array Be**	**77.04**	**322**	P	**P**	**22 27 47.5**	**+0.5**
comp=Z,0.1nm,0.3s,mb2.9,baz=66,slow=3.3,SNR=5.1							
PDAR	**Pinedale Array**	**83.67**	**43**	P	**P**	**22 28 26.1**	**+4.6**
comp=Z,0.3nm,0.5s,mb3.1,baz=207,slow=3.3,SNR=3.8							

*NIED **18** 22:19:00, 40.80N×143.10E, h26km, Mw3.4 Best double couple: $M_0$1.34×10^{14} NP1:ϕ_s28°, δ89°, λ119°. NP2:ϕ_s119°, δ29°, λ1°.*
JMA 18 22:19:20.6±0.2,**40.84N**×**143.12E,h7**km,**M3.6,3D,Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.18**	**1**	P	Pb	22 19 42.5	-0.3
JEM				*e*S	Sb	22 19 57.6	-0.5
JANG	**Nango**	**1.31**	**250**	‖P	Pb	22 19 44.9	-0.2
JTH	**Tanohata**	**1.32**	**227**	P	Pb	22 19 45.3	+0.1
JNBK	**Urakawa-nobuka**	**1.47**	**349**	‖P	Pn	22 19 47.4	-0.2
JNBK				*e*S	Sb	22 20 07.4	+0.9
JTM	**Tenmabayashi**	**1.56**	**269**	P	Pn	22 19 48.8	-0.1
JTM				*e*S	Sb	22 20 08.9	-0.3
JOT	**Ohata**	**1.66**	**290**	‖P	Pn	22 19 50.0	-0.3
JOT				*e*S	Sn	22 20 11.0	-1.0
JCH	**Churui**	**1.78**	**6**	P	Pn	22 19 51.0	-1.1
JCH				*e*S	Sn	22 20 11.9	-3.3
JKB	**Kayabe**	**1.89**	**304**	P	Pn	22 19 53.2	-0.4
JOM	**Ohasama**	**1.96**	**226**	P	Pn	22 19 55.3	+0.7
JEW	**Eniwo**	**2.36**	**329**	*e*S	Sn	22 20 29.2	-0.6
JMK	**Ichinoseki**	**2.39**	**218**	P	Pn	22 20 01.4	+0.7
JAK	**Akkeshi**	**2.46**	**28**	P	Pn	22 19 59.5	-2.2
JAK				*e*S	Sn	22 20 26.7	-5.6
JAR	**Ashorobuto**	**2.50**	**11**	P	Pn	22 20 00.5	-1.9
JAR				*e*S	Sn	22 20 28.3	-5.2

*BJI **18** 22:25:38.4, 1.94N×96.01E, h49km, mB4.9, mb4.6, Ms4.6, Msz4.1*
*NEIC **18** 22:25:40.8±0.6, 2.34N×96.13E, h30km, mb4.5/8, Error ellipse: s-maj=15.0km s-min=8.3km az=45.0*
*IDC **18** 22:25:57.4±9.6, 2.86N×96.96E, h153km±90km, mb3.9/10, mb1 4.0/10, mb1mx3.8/17, mbtmp4.3/10, MS3.7/1, Ms1 3.7/1, ms1mx3.0/20, Error ellipse: s-maj=30.5km s-min=14.3km az=59.0*
ISC 18 22:25:39.9±0.7,**2.39N**±0.09×**96.22E**±0.09,**h33**km,**n34,** σ1§**07**/**32,mb4.4**/**21,MS3.7**/**1,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.28**	**57**	*e*Pn	**Pn**	**22 26 59.3**	**+0.7**
SNG	**Songkhla**	**6.47**	**43**	P	**P**	**22 27 14.0**	**-1.2**
56nm,0.7s							
KSM	**Kuching**	**14.11**	**93**	*e*P	**P**	**22 29 09.3**	**+10**
KKTK	**Khon Kaen**	**15.31**	**25**	P	**P**	**22 29 19.0**	**+3.7**
NANT	**Nan**	**16.89**	**15**	P	**P**	**22 29 38.0**	**+2.6**
KKM	**Kota Kinabalu**	**20.27**	**79**	*e*P	**P**	**22 30 15.1**	**-0.4**
GYA	**Guiyang**	**25.95**	**22**	P	**P**	**22 31 11.3**	**0.0**
GYA				AMB	AMB		
comp=Z,10.0nm,1.0s,mb4.3							
LSA	**Lhasa**	**27.58**	**350**	P	**P**	**22 31 27.0**	**+0.7**
LSA	**Lhasa**	**27.58**	**350**	*e*P	**P**	**22 31 26.8**	**+0.6**
comp=Z,5.5nm,0.6s,mb4.4							
ENH	**Enshi**	**30.45**	**23**	*e*P	**P**	**22 31 50.3**	**-1.5**
comp=Z,9.5nm,1.0s,mb4.5							
XAN	**Xi'an**	**33.65**	**19**	P	**P**	**22 32 18.5**	**-1.3**
XAN				AMB	AMB		
comp=Z,13nm,1.0s,mb4.8							
FITZ	**Fitzroy Crossi**	**35.42**	**126**	P	**P**	**22 32 35.0**	**-0.1**
comp=Z,11nm,0.8s,mb4.8,baz=340,slow=6.4,SNR=7.6							
GTA	**Gaotai**	**36.99**	**5**	P	**P**	**22 32 48.6**	**+0.4**
GTA				AP	pP	22 32 57.8	-0.1
GTA				XP	sP	22 33 02.8	+0.6
GTA				AMB	AMB		
comp=Z,13nm,0.8s,mb4.8							
WRA	**Warramunga Arr**	**43.50**	**122**	P	**P**	**22 33 42.9**	**+0.7**
comp=Z,1.5nm,0.4s,mb4.1,baz=300,slow=9.2,SNR=19							
WRAB	**Tennant Creek**	**43.

STAT	Sint Eustatius	1.49 180	eP	P	22 45 28.2	+1.6
STAT			eS	S	22 45 45.1	0.0
SKI	Saint Kitts	1.66 172	eP	P	22 45 29.9	+0.8
SKI			eS	S	22 45 48.9	-0.5
NVRH	Round Hill, Ne	1.83 169	eP	P	22 45 30.4	-1.0
NVRH			eS	S	22 45 53.1	-0.4
CDVI	St. Croix	2.10 235	eS	S	22 46 00.7	+0.4
CDVI	St. Croix	2.10 235⇑	eP	P	22 45 35.5	+0.2
CDVI			eS	S	22 46 10.7	+10
CDVI	St. Croix	2.10 235⇓	eP	P	22 45 35.5	+0.2
CDVI			eS	S	22 46 00.7	+0.4
MTP	Monte Pirata	2.61 250⇑	eP	P	22 45 42.3	-0.3
MTP			eS	S	22 46 13.4	+0.1
CBYP	Canovanas	2.83 256⇑	eP	P	22 45 45.4	-0.3
CBYP			eS	S	22 46 18.8	0.0
HUMP	Col San Antoni	2.86 253	eP	P	22 45 46.0	-0.2
HUMP			eS	S	22 46 19.6	+0.1
HUMP	Col San Antoni	2.86 253⇓	eP	P	22 45 46.0	-0.2
HUMP	Col San Antoni	2.86 253⇓	eP	P	22 45 46.0	-0.2
HUMP			eS	S	22 46 19.6	+0.1
SEG	Port Louis	2.92 151	eP	P	22 45 46.3	-0.7
CPD	Cerro la Pandu	2.95 252⇑	eP	P	22 45 48.5	+1.1
CPD			eS	S	22 46 22.1	+0.2
LZG	Guadaloupe-1	3.05 158	eP	P	22 45 49.0	+0.2
LZG			eS	S	22 46 32.5	+8.1
MGG	Marie-Galante	3.44 152	eP	P	22 45 54.2	0.0
PORP	Portuguez	3.60 256⇑	eP	P	22 45 57.3	+0.7
AOPR	Arecibo Observ	3.64 261⇑	eP	P	22 45 56.8	-0.3
AOPR			eS	S	22 46 37.9	-1.4
MGP	Maguayo	4.03 257⇑	eP	P	22 46 02.7	+0.1
CRPR	Cabo Rojo, PR	4.05 257⇑	eP	P	22 46 03.1	+0.2
CRPR			eS	S	22 46 49.3	-0.3

*PRU **18** 23:03:41.2, 51.51N×16.07E*
*CSEM **18** 23:03:42.1±0.3, 51.49N×16.05E, h2km, ML2.6/4, Error ellipse: s-maj=5.8km s-min=2.8km az=12.0*
*NEIC **18** 23:03:44.9±1.6, 51.29N×15.78E, h5km, ML2.5(VIE), Error ellipse: s-maj=17.9km s-min=7.4km az=204.0*
WAR 18 23:03:41.3, 51.54N×16.01E, h1km, ML2.2, 1C, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.72	166	ePG	Pg	23 03 54.0	-1.7
KSP				eSG	Sg	23 04 04.0	-1.3
UPC	Upice	1.03	180	ePG	Pg	23 04 00.5	-1.4
DPC	Dobruska-Polom	1.21	170	ePG	Pg	23 04 03.3	-2.1
DPC				eSG	Sg	23 04 19.0	-2.5
	9.5nm,0.4s						
PVCC	Panska Ves	1.36	223	ePG	Pg	23 04 06.8	-1.7
BRG	Berggiesshubel	1.46	244	Pg	Pg	23 04 08.2	-2.3
BRG				Sg	Sg	23 04 28.2	-1.8
BRG	Berggiesshubel	1.46	244	Pg	Pg	23 04 08.2	-2.3
BRG				Sg	Sg	23 04 28.2	-1.8
PRU	Pruhonice	1.81	212	ePN	Pn	23 04 12.2	-1.7
PRU				ePG	Pg	23 04 14.8	-2.7
PRU				ex	x	23 04 31.0	
PRU				eSG	Sg	23 04 38.1	-3.5
	2.5nm,0.2s						
CLL	Collm	1.90	264	ePG	Pg	23 04 16.0	-3.2
CLL				eSG	Sg	23 04 42.0	-2.5
MORC	Moravsky Berou	2.02	150	ePn	Pn	23 04 15.1	-1.7
MORC				eSg	Sg	23 04 40.3	-8.1
OKC	Ostrava-Krasne	2.18	141	ePG	Pg	23 04 21.3	-3.5
OKC				eSG	Sg	23 04 49.9	-3.9
VRAC	Vranov	2.26	170	ePn	Pn	23 04 19.9	-0.5
NKC	Novy Kostel	2.61	241	ePn	Pn	23 04 23.9	-1.4
NKC				ePG	Pg	23 04 30.6	-2.8
NKC				eSG	Sg	23 05 05.1	-3.0
	6.6nm,0.3s						
KHC	Kasperske Hory	2.87	214	ePN	Pn	23 04 27.1	-1.9
KHC				ePG	Pg	23 04 33.3	-5.3
KHC				eSN	Sn	23 05 01.8	-2.9
KHC				eSG	Sg	23 05 11.9	-5.0
MOA	Molln	3.86	198	i PN	Pn	23 04 41.8	-1.3
MOA				i SG	Sg	23 05 45.3	-4.6
	1.2nm,0.3s						

IDC 18 23:06:39.6±2.2, 4.93S×102.90E, mb4.0/6, mb1 4.1/6, mb1mx3.8/16, mbtmp4.0/6, Error ellipse: s-maj=103.6km s-min=19.6km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	25.79	122	P	P	23 12 12.7	-1.6
	2.6nm,0.4s,baz=16,slow=5.6,SNR=9.8						
WRA	Warramunga Arr	34.03	119	P	P	23 13 25.2	-2.6
	0.9nm,0.4s,baz=304,slow=8.9,SNR=18						
STKA	Stephens Creek	45.05	131	P	P	23 14 57.9	-1.4
	2.0nm,0.7s,baz=8.8,slow=17,SNR=4.7						
SONM	Songino Array	52.63	3	P	P	23 15 55.8	-1.8
	0.8nm,0.5s,baz=181,slow=9.2,SNR=9.7						
MKAR	Makanchi Array	54.64	343	P	P	23 16 09.8	-2.7
	0.9nm,0.7s,baz=150,slow=8.2,SNR=11						
FINES	FINESS Array B	88.04	332	P	P	23 19 31.6	-1.2
	0.4nm,0.6s,baz=90,slow=5.7,SNR=6.2						
TXAR	Lajitas Array	145.05	43	PKPbc	PKPbc	23 26 18.2	-1.6
	0.4nm,0.4s,baz=225,slow=3.5,SNR=4.4						

*NEIC **18** 23:09:57.0±1.0, 15.69S×71.21W, h121km±16km, mb4.4/2, Error ellipse: s-maj=15.5km s-min=11.0km az=56.0*
*IDC **18** 23:10:03.8±6.2, 16.02S×70.88W, h173km±33km, mb3.3/2, mb1 3.6/5, mb1mx3.3/18, mbtmp3.9/5, Error ellipse: s-maj=79.5km s-min=24.0km az=134.0*
ISC 18 23:09:56.7±1.2, 15.72S±0.10×71.30W±0.09, h135km±16km, n8, σ0°81/11, mb3.8/3, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	3.10	101	P	P	23 10 49.9	+4.3
	17nm,0.3s,baz=291,slow=8.4,SNR=332						
LPAZ				S	S	23 11 23.6	+0.7
	baz=317,slow=14,SNR=0.9						
NNA	Nana	6.54	304	ePn	P	23 11 31.4	-0.1
	25nm,0.6s						
NNA				eSn	S	23 12 40.0	-5.2
LVC	Limon Verde	7.21	162	P	P	23 11 39.8	-0.9
	6.1nm,0.3s,baz=348,slow=11,SNR=70						
LVC				S	S	23 12 55.2	-6.4
	2.5nm,0.3s,baz=44,slow=23,SNR=13						
SIV	San Ignacio	9.85	93	P	P	23 12 14.7	-1.2
	1.2nm,0.3s,baz=282,slow=12,SNR=21						
CFAA	Coronel Fontan	16.05	171	P	P	23 13 37.2	+1.2
	0.0nm,0.3s,baz=345,slow=14,SNR=3.3						
BDFB	Brasilia	22.42	93	P	P	23 14 44.5	-0.3
	1.7nm,0.4s,mb3.8,baz=265,slow=10,SNR=5.7						
SDV	Santo Domingo	24.46	2	P	P	23 15 05.2	+0.6
	7.8nm,1.3s,mb4.1						
PLCA	Paso Flores	24.93	179	P	P	23 15 08.6	-0.1
	1.1nm,0.8s,mb3.4,baz=349,slow=9.3,SNR=3.4						

*CSEM **18** 23:13:25.3±0.5, 39.15N×28.46W, h2km, ML2.0, Error ellipse: s-maj=16.3km s-min=4.9km az=144.0, After PDA*
*PDA **18** 23:13:25.3±1.3, 39.15N×28.46W, h2km±26km, MD2.7, ML2.0, Error ellipse: s-maj=25.4km s-min=4.0km az=157.0*
SVSA 18 23:13:25.3±1.3, 39.15N×28.46W, h2km±26km, MD2.7, ML2.0, Error ellipse: s-maj=25.4km s-min=4.0km az=157.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STGR	Santa Cruz	0.36	100	eP	Pg	23 13 32.5	-0.1
STGR				eS	Sg	23 13 37.8	+0.4
	41nm,0.2s						
PGRA	Graciosa	0.39	107	eP	Pg	23 13 32.6	-0.6
PGRA				eS	Sg	23 13 37.7	-0.7
	39nm,0.2s						
PCED	Cedros	0.55	200	eP	Pg	23 13 34.7	-1.6
PCED				eS	Sg	23 13 41.9	-1.7
	40nm,0.2s						
PMAN	Manadas	0.59	150	eS	Sg	23 13 43.2	-1.8
	27nm,0.1s						
CALA	Caldeira	0.59	198	eP	Pg	23 13 35.6	-1.6
CALA				eS	Sg	23 13 43.9	-1.2
HOR	Horta	0.63	192	eP	Pg	23 13 35.9	-2.0
HOR				eS	Sg	23 13 44.4	-2.0
PICO	Pico	0.65	177	eP	Pg	23 13 36.5	-1.7
PICO				eS	Sg	23 13 44.9	-1.9

*CSEM **18** 23:17:17.1±0.6, 39.13N×28.56W, ML1.9, Error ellipse: s-maj=18.0km s-min=6.1km az=139.0, After PDA*
*PDA **18** 23:17:17.1±1.0, 39.13N×28.56W, MD2.7, ML1.9, Error ellipse: s-maj=21.8km s-min=3.5km az=152.0*
SVSA 18 23:17:17.1±1.0, 39.13N×28.56W, MD2.7, ML1.9, Error ellipse: s-maj=21.8km s-min=3.5km az=152.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STGR	Santa Cruz	0.44	96	eP	Pg	23 17 27.0	+1.2
STGR				eS	Sg	23 17 33.0	+1.4
	24nm,0.3s						
PGRA	Graciosa	0.46	102	eP	Pg	23 17 25.4	-0.9
PGRA				eS	Sg	23 17 32.3	-0.2
	32nm,0.1s						
PCED	Cedros	0.51	192	eP	Pg	23 17 26.4	-0.9
PCED				eS	Sg	23 17 33.1	-1.0
	44nm,0.2s						
CALA	Caldeira	0.56	191	eP	Pg	23 17 27.3	-0.9
CALA				eS	Sg	23 17 35.1	-0.6
HOR	Horta	0.60	185	eS	Sg	23 17 35.6	-1.6
PMAN	Manadas	0.62	143	eP	Pg	23 17 27.9	-1.5
PMAN				eS	Sg	23 17 36.0	-1.7
	38nm,0.2s						
PICO	Pico	0.64	170	eP	Pg	23 17 28.7	-1.1
PICO				eS	Sg	23 17 36.9	-1.4

*IDC **18** 23:23:40.6±0.7, 19.23N×65.03W, mb4.0/11, mb1 4.2/12, mb1mx3.9/23, mbtmp4.1/12, ML3.9/1, MS3.5/12, Ms1 3.5/12, ms1mx3.4/24, Error ellipse: s-maj=16.1km s-min=11.3km az=108.0*
*TRN **18** 23:23:42.3, 19.07N×65.04W, h12km, MD4.4*
*RSPR **18** 23:23:44.7, 19.27N×64.91W, h35km±31km, MD4.0/13, MD4.0/13*
*NEIC **18** 23:23:44.7, 19.27N×64.91W, h36km, MD4.0(RSPR), After RSPR.*
ISC 18 23:23:41.3±1.2, 19.29N±0.03×64.98W±0.02, h14km±8km, n46, σ0°96/55, mb4.0/11, MS3.5/10, 12C-2D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTP	Monte Pirata	1.31	205⇓	eP	Pb	23 24 05.2	0.0
MTP				eS	Sb	23 24 21.2	-0.4
CBYP	Canovanas	1.31	219⇑	eP	Pb	23 24 05.2	0.0
CBYP				eS	Sb	23 24 21.6	-0.1
HUMP	Col San Antoni	1.41	216⇑	eP	Pn	23 24 06.5	-0.2
HUMP				eS	Sb	23 24 25.3	+0.8
CPD	Cerro la Pandu	1.53	216⇑	eP	Pn	23 24 08.3	-0.1
CPD				eS	Sb	23 24 27.8	-0.2
CDVI	St. Croix	1.54	172⇓	iP	Pn	23 24 08.9	+0.3
CDVI				eS	Sb	23 24 26.2	-2.3
SJG	San Juan	1.61	224	Pg	Pg	23 24 09.5	-4.1
	46nm,0.3s,baz=67,slow=8.7,SNR=63						
SJG				Lg		23 24 28.0	
	241nm,0.3s,baz=63,slow=19,SNR=38						
SJG				LR	LR	23 24 47.6	
	comp=Z,656nm,18.8s,baz=261,slow=44						
SJG	San Juan	1.61	224⇑	eP	Pn	23 24 09.6	0.0
SJG				eS	Sn	23 24 30.1	-0.2
AOPR	Arecibo Observ	1.92	241⇑	eP	Pn	23 24 14.3	+0.3
AOPR				eS	Sn	23 24 38.1	0.0
PORP	Portuguez	1.99	232⇑	eP	Pn	23 24 15.3	+0.2
PORP				eS	Sn	23 24 39.8	-0.1
ICM	Isla Caja Muer	2.01	227⇑	eP	Pn	23 24 15.7	+0.3
ICM				eS	Sn	23 24 41.0	+0.4
LRS	Lares	2.02	241⇑	eP	Pn	23 24 15.9	+0.4
STMA	St. Maarten, A	2.16	125	eP	Pn	23 24 19.2	+1.7
STMA				eS	Sn	23 24 46.4	+2.1
AGPR	Aguadilla, PR	2.18	248⇑	eP	Pn	23 24 19.1	+1.4
AGPR				eS	Sn	23 24 45.0	+0.4
LSP	Las Mesas	2.28	241⇑	eP	Pn	23 24 20.4	+1.2
SABT	Saba	2.34	135	eP	Pn	23 24 21.6	+1.6
SABT				eS	Sn	23 24 52.7	+3.9
MGP	Maguayo	2.37	238⇑	eP	Pn	23 24 21.1	+0.6
MGP				eS	Sn	23 24 50.0	+0.4
CRPR	Cabo Rojo, PR	2.39	238⇑	eP	Pn	23 24 21.0	+0.3
CRPR				eS	Sn	23 24 49.5	-0.5
STAT	Sint Eustatius	2.61	133	eS	Sn	23 24 56.1	+0.5
NVRH	Round Hill, Ne	3.08	132	eP	Pn	23 24 32.5	+1.9
NVRH				eS	Sn	23 25 07.3	-0.3
LZG	Guadaloupe-1	4.37	135	eP	Pn	23 24 49.4	+0.4
SEG	Port Louis	4.38	130	eP	Pn	23 24 48.2	-0.9
SEG				eS	Sn	23 25 45.3	+4.8
PHG	Guadaloupe-2	4.55	135	eP	Pn	23 24 51.2	-0.3
DEG	La Desirade	4.76	128	eP	Pn	23 24 52.5	-2.1
MGG	Marie-Galante	4.84	133	eP	Pn	23 24 54.1	-1.5
BBL	Barber's Block	5.02	138	eP	Pn	23 24 58.0	-0.1
SDV	Santo Domingo	11.70	209	Pn	P	23 26 29.7	-1.3
	0.7nm,0.3s,baz=27,slow=7.4,SNR=3.0						
SDV				Sn	S	23 28 38.6	-3.8
	0.7nm,0.3s,baz=56,slow=19,SNR=3.6						
SDV				LR	LR	23 31 15.5	
	comp=Z,148nm,19.3s,baz=44,slow=39						
SDV	Santo Domingo	11.70	209	P	P	23 26 29.8	-1.2
ROSC	El Rosal	17.00	214	LR	LR	23 34 23.8	
	comp=Z,137nm,21.2s,baz=351,slow=38						
SADO	Sadowa	28.02	338	LR	LR	23 39 12.4	
	comp=Z,118nm,20.1s,MS3.5,baz=283,slow=33						
SIV	San Ignacio	35.27	173	P	P	23 30 35.4	-2.5
	1.3nm,0.6s,mb4.0,baz=5.2,slow=7.9,SNR=10						
LPAZ	La Paz	35.49	185	LR	LR	23 46 52.1	
	comp=Z,100nm,20.8s,MS3.5,baz=74,slow=39						
SCHQ	Schefferville	35.51	358	P	P	23 30 39.7	+0.1
	1.3nm,0.5s,mb4.1,baz=205,slow=11,SNR=6.0						
TXAR	Lajitas Array	36.50	293	P	P	23 30 48.7	+0.5
	1.1nm,0.5s,mb3.9,baz=113,slow=12,SNR=8.5						
TXAR				PcP	PcP	23 33 12.4	+0.1
	0.2nm,0.3s,baz=117,slow=5.6,SNR=3.4						
TXAR				LR	LR	23 47 22.8	
	comp=Z,48nm,19.2s,MS3.3,baz=325,slow=39						
BDFB	Brasilia	38.52	153	LR	LR	23 48 01.4	
	comp=Z,80nm,19.5s,MS3.5,baz=189,slow=38						
ULM	Lac du Bonnet	39.46	329	P	P	23 31 11.3	-1.5
	2.7nm,0.6s,mb4.2,baz=114,slow=8.1,SNR=6.5						
LVC	Limon Verde	41.82	185	P	P	23 31 32.6	+0.1
	1.8nm,0.6s,mb3.9,baz=16,slow=2.3,SNR=3.8						
PDAR	Pinedale Array	44.14	312	P	P	23 31 51.8	+0.5
	3.7nm,0.6s,mb4.3,baz=107,slow=8.1,SNR=11						
CPUP	Villa Florida	45.95	170	P	P	23 32 04.7	-1.2
	1.2nm,0.7s,mb3.9,baz=16,slow=11,SNR=3.1						
CPUP				LR	LR	23 53 49.4	
	comp=Z,38nm,19.9s,MS3.3,baz=17,slow=39						
CFAA	Coronel Fontan	50.70	184	P	P	23 32 42.5	-0.2
	0.3nm,0.6s,mb3.4,baz=348,slow=9.5,SNR=4.4						
YKA	Yellowknife Ar	54.91	334	LR	LR	23 56 46.5	
	comp=Z,67nm,18.7s,MS3.7,baz=80,slow=36						
DBIC	Dimbokro	59.65	94	P	P	23 33 48.0	+0.1
	2.3nm,1.0s,mb4.2,baz=315,slow=8.6,SNR=3.5						
PLCA	Paso Flores	59.93	185	LR	LR	23 59 08.1	
	comp=Z,102nm,20.2s,MS4.0,baz=209,slow=36						
JMIC	Jan Mayen	61.23	18	LR	LR	23 54 37.2	
	comp=Z,32nm,21.9s,MS3.4,baz=243,slow=30						
ILAR	Eielson Array	69.29	333	P	P	23 34 49.3	-0.6
	1.3nm,0.6s,mb4.0,baz=104,slow=4.2,SNR=6.9						
ILAR				LR	LR	00 02 34.7	
	comp=Z,39nm,20.1s,MS3.6,baz=19,slow=34						
ARCES	ARCESS Array B	72.27	22	P	P	23 35 06.8	-1.0
	2.0nm,0.9s,mb4.0,baz=342,slow=7.7,SNR=5.3						
FINES	FINESS Array B	73.77	30	LR	LR	00 02 47.0	
	comp=Z,21nm,19.7s,MS3.4,baz=221,slow=32						

RSPR 18 23:31:44.0, 19.18N×64.99W, h38km±26km, MD3.5/7, MD3.5/7, 8C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBYP	Canovanas	1.23	222	eS	S	23 32 18.2	-2.3
CBYP	Canovanas	1.23	222⇑	eP	P	23 32 03.3	-1.5
HUMP	Col San Antoni	1.32	219	eS	S	23 32 20.8	-2.1
HUMP	Col San Antoni	1.32	219⇑	eP	P	23 32 04.1	-2.2
CDVI	St. Croix	1.44	172	eS	S	23 32 24.3	-1.5
CDVI	St. Croix	1.44	172⇑	eP	P	23 32 06.7	-1.3
CPD	Cerro la Pandu	1.44	218	eS	S	23 32 24.4	-1.5
CPD	Cerro la Pandu	1.44	218⇑	eP	P	23 32 06.6	-1.4
AOPR	Arecibo Observ	1.87	244⇓	eP	P	23 32 12.7	-1.3
AOPR	Arecibo Observ	1.87	244	eS	S	23 32 34.8	-1.8
PORP	Portuguez	1.93	235⇑	eP	P	23 32 13.7	-1.2
PORP				eS	S	23 32 36.1	-2.0
LRS	Lares	1.97	244⇑	eP	P	23 32 13.5	-2.1
CRPR	Cabo Rojo, PR	2.33	240⇑	eP	P	23 32 19.5	-1.2
CRPR	Cabo Rojo, PR	2.33	240	eS	S	23 32 47.1	-1.3

*NEIC **18** 23:36:56.5±0.5, 50.17N×18.39E, h5km, ML2.8(SZGRF), ML2.7(VIE), Error ellipse: s-maj=6.1km s-min=4.7km az=186.0*
*CSEM **18** 23:36:57.6±0.2, 50.15N×18.40E, h2km, ML3.2/7, Error ellipse: s-maj=5.1km s-min=3.4km az=15.0*
*IPEC **18** 23:36:57.6±0.1, 50.08N×18.45E, ML2.3/3, Error ellipse: s-maj=1.7km s-min=0.7km az=160.0*
*IDC **18** 23:36:58.7±1.8, 49.99N×18.41E, mb1 3.1/3, mb1mx3.0/17, mbtmp2.9/3, ML2.6/3, Error ellipse: s-maj=33.1km s-min=10.7km az=136.0*
*PRU **18** 23:36:58.0, 50.10N×18.39E*
WAR 18 23:36:57.3, 50.07N×18.46E, h0km, ML2.5, 2C-3D, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	Raciborz	0.17	274	i PG	Pg	23 37 01.7	+1.0
RAC				⇓eSG	Sg	23 37 05.7	+2.7
RAC	Raciborz	0.17	274	i Pg	Pg	23 37 01.7	+1.0
RAC				eSg	Sg	23 37 04.8	+1.8
OKC	Ostrava-Krasne	0.31	221	ePG	Pg	23 37 04.0	+0.5
OKC				eSG	Sg	23 37 08.7	+1.1
	198nm,0.6s						
MORC	Moravsky Berou	0.66	244	ePg	Pg	23 37 09.9	-0.6
MORC				eSg	Sg	23 37 19.0	-0.3
	59nm,0.3s						
MORC	Moravsky Berou	0.66	244	ePg	Pg	23 37 09.7	-0.8
MORC				eSg	Sg	23 37 16.5	-2.8
OJC	Ojcow	0.88	80	ePG	Pg	23 37 14.0	-0.8
OJC				eSG	Sg	23 37 26.0	-0.4
OJC	Ojcow	0.88	80	ePg	Pg	23 37 13.9	-0.9
OJC				eSg	Sg	23 37 26.0	-0.4
DPC	Dobruska-Polom	1.40	282	ePG	Pg	23 37 23.4	-1.9
DPC				eSG	Sg	23 37 41.5	-2.4
	62nm,0.3s						
DPC	Dobruska-Polom	1.40	282	ePg	Pg	23 37 23.3	-2.0
DPC				eSg	Sg	23 37 41.5	-2.4
	62nm,0.3s						
VRAC	Vranov	1.43	238	Pg	Pg	23 37 24.0	-1.8
	3.2nm,0.3s,baz=56,slow=14,SNR=10						
VRAC				Lg		23 37 42.3	
	9.4nm,0.3s,baz=126,slow=18,SNR=21						
VRAC	Vranov	1.43	238	ePg	Pg	23 37 24.0	-1.9
VRAC				eSg	Sg	23 37 42.3	-2.7
	35nm,0.3s						
KOLL	Kolacno	1.49	181	i PN	Pn	23 37 24.8	-0.6
KOLL				eSN	Sn	23 37 44.3	-1.6
KSP	Ksiaz	1.58	300	ePN	Pn	23 37 26.0	-0.7
KSP				e(PG)	Pg	23 37 28.0	-0.9
KSP				eSG	Sg	23 37 48.0	-2.1
VYHS	Vyhne	1.60	171	i PN	Pn	23 37 26.5	-0.4
VYHS				eSN	Sn	23 37 48.4	-0.1
KRUC	Moravsky	1.68	234	ePn	Pn	23 37 27.5	-0.6
KRUC				eSg	Sg	23 37 49.6	-3.6
	25nm,0.3s						
SMOL	Smolenice	1.70	204	i PN	Pn	23 37 27.7	-0.6
SMOL				eSN	Sn	23 37 50.4	-0.6
STHS	Stebnicka Huta	1.92	109	i PN	Pn	23 37 34.3	+2.8
STHS				eSN	Sn	23 38 00.3	+3.6
KECS	Kecovo	2.07	139	i PN	Pn	23 37 32.9	-0.8
ZST	Bratislava	2.08	206	ePN	Pn	23 37 32.7	-1.1
ZST				eSN	Sn	23 37 59.9	-0.8
CRVS	Cervenica-Dubn	2.28	120	i PN	Pn	23 37 40.0	+3.3
PRU	Pruhonice	2.53	270	ePG	Pn	23 37 43.3	+3.1
PRU				eSG	Sn	23 38 15.2	+3.1
	21nm,0.7s						
PVCC	Panska Ves	2.54	282	ePG	Pg	23 37 43.2	-4.7
KOLS	Kolonicke sedl	2.73	113	ePN	Pn	23 37 43.5	+0.3
BRG	Berggiesshubel	2.99	287	Pg	Pn	23 37 52.1	+5.2
BRG				Sg	Sn	23 38 31.0	+7.0
BRG	Berggiesshubel	2.99	287	Pg	Pn	23 37 52.1	+5.3
BRG				Sg	Sn	23 38 31.0	+7.1
KHC	Kasperske Hory	3.31	255	ePG	Pg	23 37 57.8	-5.6
KHC				eSN	Sn	23 38 30.0	-2.0
KHC				eSG	Sg	23 38 42.3	-5.2
	11nm,0.4s						
GERES	GERESS Array B	3.34	250	Pn	Pn	23 37 51.4	-0.3
	0.1nm,0.3s,baz=69,slow=15,SNR=4.1						
GERES				Pg	Pg	23 37 59.5	-4.4
	0.7nm,0.3s,baz=67,slow=17,SNR=13						
GERES				Lg		23 38 41.6	
	3.3nm,0.3s,baz=63,slow=27,SNR=19						
GERES	GERESS Array B	3.34	250	Pg	Pg	23 37 59.5	-4.4
ARSA	Arzberg	3.43	216	i PN	Pn	23 37 51.1	-1.9
ARSA				i SG	Sg	23 38 45.3	-6.1
	1.8nm,0.3s						
MOA	Molln	3.55	233	i PN	Pn	23 37 53.0	-1.7
MOA				i SG	Sg	23 38 48.6	-6.7
	4.0nm,0.4s						
CLL	Collm	3.68	292	ePG	Pg	23 38 07.0	-3.8
CLL				eSG	Sg	23 38 54.0	-5.9
NKC	Novy Kostel	3.87	275	eSG	Sg	23 38 59.7	-6.4
	13nm,0.5s						
KBA	Koelnbreinsper	4.53	231	i SG	Sg	23 39 22.2	-5.8
	4.0nm,0.7s						
KBA	Koelnbreinsper	4.53	231	i P	Pn	23 38 10.3	+1.7
KBA				i Sg	Sg	23 39 22.2	-5.8
FINES	FINESS Array B	12.17	18	Pn	P	23 39 49.3	-5.4
	0.1nm,0.3s,baz=200,slow=11,SNR=6.6						
ARCES	ARCESS Array B	19.82	7	Pn	P	23 41 27.0	-4.9
	0.1nm,0.3s,baz=194,slow=15,SNR=2.6						

RSPR 18 23:52:40.3, 19.20N×64.93W, h25km±35km, MD3.5/11, MD3.5/11, 11C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTP	Monte Pirata	1.25	208⇑	eP	Pn	23 52 59.5	-2.9
MTP	Monte Pirata	1.25	208	eS	Sn	23 53 15.6	-2.8
CBYP	Canovanas	1.27	224⇑	eP	Pn	23 52 59.6	-3.1
CBYP	Canovanas	1.27	224	eS	Sn	23 53 16.1	-3.0
HUMP	Col San Antoni	1.36	220⇑	eP	Pn	23 53 01.6	-2.3
HUMP	Col San Antoni	1.36	220	eS	Sn	23 53 17.

TBI Tubuai 24.23 113 *e*LR LR 00 15 19.2
250nm,29.2s
HNR Honiara 26.31 280 LR LR 00 18 06.8
comp=Z,56nm,18.3s,MS3.1,baz=92,slow=30
RKT Rikitea 37.34 108 *e*LR LR 00 21 24.9
161nm,35.2s
STKA Stephens Creek 43.66 240 P **P 00 12 50.6 -0.3**
3.2nm,0.7s,mb4.1,baz=50,slow=11,SNR=4.5
WRA Warramunga Arr 49.45 257 P **P 00 13 36.0 -0.6**
1.8nm,0.7s,mb4.2,baz=88,slow=6.6,SNR=4.7
MJAR Matsushiro Arr 68.74 320 LR LR 00 46 10.6
comp=Z,43nm,18.5s,MS3.7,baz=60,slow=36
TXAR Lajitas Array 80.98 56 P **P 00 17 01.7 +1.1**
0.5nm,0.9s,mb3.5,baz=225,slow=3.5,SNR=5.4
PDAR Pinedale Array 82.58 42 P **P 00 17 08.7 +0.1**
0.5nm,0.7s,mb3.6,baz=243,slow=3.3,SNR=4.0
PDAR LR LR 00 46 48.7
comp=Z,42nm,18.4s,MS3.8,baz=69,slow=31
ILAR Eielson Array 82.59 11 P **P 00 17 08.7 +0.5**
1.3nm,0.8s,mb4.0,baz=228,slow=6.1,SNR=11
INK Inuvik 88.43 14 P **P 00 17 37.1 +0.2**
2.1nm,0.7s,mb4.5,baz=239,slow=2.4,SNR=3.6
YKA Yellowknife Ar 90.32 24 LR LR 00 51 26.0
comp=Z,28nm,20.7s,MS3.7,baz=10.0,slow=31
ARCES ARCESS Array B 124.63 352 PKP PKPdf 00 23 44.2 +1.1
1.5nm,0.6s,baz=45,slow=1.7,SNR=9.7
ARCES ARCESS Array B 124.63 352 PKP PKPdf 00 23 44.2 +1.1
STHS Stebnicka Huta 143.99 343 *e*PKP PKPdf 00 24 19.4 0.0
DPC Dobruska-Polom 144.26 349 *e*P PKPbc 00 24 20.8 +1.5
CRVS Cervenica-Dubn 144.39 343 *e*PKP PKPdf 00 24 22.4 +2.3
MOX Moxa 144.65 354 *i* P PKPbc 00 24 21.6 +1.2
PRU Pruhonice 144.91 351 *e*PKP PKPdf 00 24 23.2 +2.2
KECS Kecovo 145.04 343 *i* PKP PKPdf 00 24 23.6 +2.3
KMBO Kilima Mbogo 145.15 245 PKPbc PKPbc 00 24 23.6 +0.7
1.1nm,0.6s,baz=74,slow=6.7,SNR=3.7
TNS Taunus Mts 145.29 357 *e*PKP PKPdf 00 24 23.3 +1.6
GIVF Givet 145.44 2 *e*PKP1 PKPbc 00 24 23.7 +1.2
BAIF Baives 145.47 2 *e*PKP1 PKPbc 00 24 24.0 +1.5
9.7nm,0.8s
GRA1 Grafenberg Arr 145.63 354 *e*PKP PKPdf 00 24 25.0 +2.8
GRF Grafenberg Arr 145.63 354 *e*PKP PKPdf 00 24 25.0 +2.8
MLR Muntele Rosu 145.77 335 PKPbc PKPbc 00 24 26.2 +2.8
3.4nm,0.9s,baz=196,slow=4.9,SNR=5.3
KHC Kasperske Hory 145.89 351 *e*PKP PKPdf 00 24 25.8 +3.1
BR131 Keskin Array S 145.97 321 *e*PKPbc PKPbc 00 24 26.4 +2.3
BRTR Keskin Array B 145.97 321 PKPbc PKPbc 00 24 26.4 +2.3
4.9nm,1.0s,baz=119,slow=2.3,SNR=19
ZST Bratislava 146.15 347 *e*PKP PKPdf 00 24 28.1 +4.9
GEC2 GERESS Array S 146.16 351 *e*PKP PKPdf 00 24 26.3 +3.1
GERES GERESS Array B 146.16 351 PKPbc PKPbc 00 24 26.3 +2.1
0.5nm,0.6s,slow=2.7,SNR=7.5
FUR Furstenfeldbru 147.13 354 *e*PKP PKPdf 00 24 30.4 +5.6
CDF Champ du Feu 147.14 359 *e*PKP1 PKPdf 00 24 28.9 +4.1
8.5nm,1.0s
BFO Black Forest 147.19 357 *e*PKP PKPdf 00 24 29.6 +4.7
ASF Jabal al Asfar 147.52 306 PKPbc PKPdf 00 24 31.5 +5.5
0.6nm,0.4s,baz=39,slow=6.1,SNR=3.7
HAU Haudompre 147.56 360 *e*PKP1 PKPdf 00 24 30.1 +4.6
12nm,1.0s
LOR Lormes 148.24 3 *e*PKP1 PKPdf 00 24 31.1 +4.5
2.7nm,0.7s
SSF Saint Saulge 148.43 4 *e*PKP1 PKPdf 00 24 32.5 +5.6
28nm,1.5s
DAVOX Davos 148.63 355 PKPbc PKPdf 00 24 32.9 +5.6
2.7nm,0.8s,baz=319,slow=6.8,SNR=4.0
AVF Avril sur Loir 148.69 4 *e*PKP1 PKPdf 00 24 32.7 +5.3
5.5nm,0.8s
SMF Signal de Mont 148.86 3 *e*PKP1 PKPdf 00 24 32.4 +4.7
9.7nm,1.2s
CABF La Chapelle 148.96 0 *e*PKP1 PKPdf 00 24 34.3 +6.5
22nm,1.1s
TCF Toulx Ste Croi 149.10 5 *e*PKP1 PKPdf 00 24 32.9 +4.8
LPL La Plagne 150.05 359 *e*PKP1 PKPdf 00 24 37.5 +7.9
LPG La Plagne 150.07 359 *e*PKP1 PKPdf 00 24 37.5 +7.9
2.7nm,0.7s
MBDF Montbardon 150.84 359 *e*PKP1 PKPdf 00 24 38.7 +7.9
3.1nm,0.7s

IDC 19 00:41:53.1±4.2, 2.65N×96.59E, mb3.6/3, mb1 3.7/3, mb1mx3.5/16, mbtmp3.6/3, MS3.8/1, Ms1 3.8/1, ms1mx2.9/21, Error ellipse: s-maj=159.1km s-min=28.9km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.33**	**123**	P	P	00 49 57.1	-1.8
0.2nm,0.3s,baz=302,slow=9.1,SNR=3.4							
MKAR	**Makanchi Array**	**45.69**	**346**	P	P	00 50 15.6	-2.1
1.3nm,0.6s,baz=166,slow=8.3,SNR=16							
SONM	**Songino Array**	**45.80**	**9**	P	P	00 50 17.0	-1.5
0.4nm,0.5s,baz=190,slow=8.8,SNR=5.6							
GNI	**Garni**	**59.83**	**316**	LR	LR	01 18 52.9	
comp=Z,68nm,18.6s,baz=331,slow=37							

*ISK **19** 01:08:47.4, 36.72N×27.36E, h5km, ML4.3*
*IDC **19** 01:08:48.3±1.0, 36.79N×27.45E, mb3.8/8, mb1 3.8/11, mb1mx3.7/22, mbtmp3.7/11, ML3.3/3, Error ellipse: s-maj=23.7km s-min=16.9km az=159.0*
*ATH **19** 01:08:49.4, 36.82N×27.43E, h21km±1km, ML4.4*
*NEIC **19** 01:08:49.4, 36.82N×27.44E, h21km, mb4.0/16, ML4.4(ATH), ML4.1(ISK), After ATH.*
*CSEM **19** 01:08:49.4±0.0, 36.70N×27.51E, h15km, mb4.5/1, Ms2.7, Error ellipse: s-maj=1.4km s-min=0.9km az=22.0*
*THE **19** 01:08:50.8, 36.94N×27.61E, h1km*
*HLW **19** 01:08:50.3, 36.88N×27.57E, h33km, Mb3.8*
*MOS **19** 01:08:51.1±0.8, 36.74N×27.47E, h33km, mb4.2/8, Error ellipse: s-maj=10.1km s-min=5.9km az=130.7*

ISC 19 01:08:48.2±0.4, 36.71N±0.02×27.45E±0.02, h10km±3km, n167, σ1§03/189, mb3.8/9, 7C-4D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NISR	**Nisiros**	**0.27**	**250**	*e*PB	**Sg**	**01 08 57.0**	**-0.7**
BDRM	**Kayabasi**	**0.36**	**360**	*i* P	**Pg**	**01 08 55.4**	**-0.2**
BDRM				*i* S	**Sg**	**01 08 59.7**	**-0.9**
BODT	**Bodrum**	**0.37**	**343**	*i* PG	**Pg**	**01 08 54.9**	**-0.9**
BODT				*i* SG	**Sg**	**01 08 59.7**	**-1.2**
MLSB	**Milas**	**0.65**	**24**	*i* PG	**Pg**	**01 09 00.2**	**-1.0**
ARG	**Arkhangelos**	**0.73**	**131**	*e*PN	**Pn**	**01 09 04.9**	**+0.5**
YER	**Yerkesik**	**0.80**	**57**	*i* PG	**Pg**	**01 09 04.6**	**+0.4**
DALT	**Dalyan (Mudla)**	**0.96**	**86**	*i* PG	**Pg**	**01 09 07.3**	**-0.1**
AYDN	**Tasoluk**	**1.01**	**20**	*i* P	**Pb**	**01 09 07.1**	**-0.3**
AYDN				*i* S	**Sb**	**01 09 20.4**	**-0.2**
SMG	**Samos**	**1.11**	**334**	*e*PN	**Pn**	**01 09 09.2**	**-0.6**
KARP	**Karpathos**	**1.18**	**191**	*e*PN	**Pn**	**01 09 13.2**	**+2.5**
APE	**Apeiranthos**	**1.58**	**284**	*i* PN	**Pn**	**01 09 15.8**	**-0.6**
APE	**Apeiranthos**	**1.58**	**284**	*e*Pn	**Pn**	**01 09 17.3**	**+0.9**
THR1	**Thera Island**	**1.63**	**259**	*e*Pb	**Pg**	**01 09 21.2**	**+0.3**
THR1				*e*Sb	**Sg**	**01 09 46.6**	**+3.9**
DENT	**Denizli**	**1.64**	**50**	*i* PN	**Pn**	**01 09 18.2**	**+0.8**
IZM	**Izmir**	**1.70**	**355**	*i* PN	**Pn**	**01 09 18.3**	**+0.2**
BLCB	**Balcova**	**1.71**	**349**	*i* PN	**Pn**	**01 09 17.6**	**-0.7**
AKAS	**Kas**	**1.80**	**104**	*i* P	**Pn**	**01 09 22.9**	**+3.3**
AKAS				*i* S	**Sn**	**01 09 45.8**	**+3.0**
KSL	**Kastellorizon**	**1.81**	**107**	*e*PN	**Pn**	**01 09 22.3**	**+2.5**
ELL	**Elmali**	**1.98**	**88**	*i* PN	**Pn**	**01 09 23.3**	**+1.1**
NPS	**Neapolis**	**2.07**	**226**	*e*PN	**Pn**	**01 09 25.7**	**+2.2**
AKS	**Akhisar**	**2.19**	**8**	*i* PN	**Pn**	**01 09 25.3**	**+0.1**
XRY	**Khrisi**	**2.31**	**218**	*e*PB	**Pb**	**01 09 30.5**	**+0.9**
XRY	**Khrisi**	**2.31**	**218**	*e*Pb	**Pb**	**01 09 31.0**	**+1.4**
IDI	**Anoyia**	**2.51**	**236**	Pn	**Pn**	**01 09 32.1**	**+2.3**
4.4nm,0.3s,baz=56,slow=18,SNR=49							
IDI	**Anoyia**	**2.51**	**236**	Pn	**Pn**	**01 09 32.0**	**+2.3**
ANTB	**Antalya**	**2.58**	**85**	PN	**Pn**	**01 09 31.2**	**+0.4**
BCK	**Bucak**	**2.62**	**72**	*i* PN	**Pn**	**01 09 32.7**	**+1.3**
ISP	**Isparta**	**2.69**	**64**	PN	**Pn**	**01 09 33.8**	**+1.4**
ISP	**Isparta**	**2.69**	**64**	*e*Pn	**Pn**	**01 09 33.2**	**+0.8**
ISP	**Isparta**	**2.69**	**64**	*e*Pn	**Pn**	**01 09 33.2**	**+0.8**
PRK	**Paraskevi**	**2.70**	**340**	*e*PN	**Pn**	**01 09 31.7**	**-0.8**
BALB	**Balikesir**	**2.95**	**7**	PN	**Pn**	**01 09 37.0**	**+1.0**
DST	**Dursunbey**	**3.04**	**17**	PN	**Pn**	**01 09 38.0**	**+0.7**
PTL	**Penteli**	**3.15**	**296**	*e*PN	**Pn**	**01 09 39.5**	**+0.6**
ALT	**Altintas**	**3.15**	**41**	PN	**Pn**	**01 09 38.8**	**-0.1**
ATH	**Athens Observa**	**3.23**	**294**	*e*PN	**Pn**	**01 09 40.7**	**+0.7**
EZN	**Ezine**	**3.24**	**345**	PN	**Pn**	**01 09 39.3**	**-0.8**
MPAR	**Parnis Oros**	**3.29**	**297**	*e*PN	**Pn**	**01 09 41.5**	**+0.7**
CANB	**Canakkale**	**3.32**	**355**	*e*PN	**Pn**	**01 09 41.9**	**+0.6**
ORLT	**Orhaneli**	**3.52**	**18**	PN	**Pn**	**01 09 44.9**	**+0.7**
MGER	**Gerania Oros**	**3.57**	**292**	*e*PN	**Pn**	**01 09 45.4**	**+0.5**
KYTH	**Kithira**	**3.58**	**265**	*e*PN	**Pn**	**01 09 46.5**	**+1.5**
VLI	**Veliai**	**3.62**	**272**	*e*PN	**Pn**	**01 09 47.5**	**+1.9**
LIA	**Limnos Island**	**3.65**	**332**	*e*PN	**Pn**	**01 09 45.4**	**-0.6**
LIA	**Limnos Island**	**3.65**	**332**	⇑*i*PG	**Pn**	**01 09 45.5**	**-0.5**
LIA	**Limnos Island**	**3.65**	**332**	⇑*i*Pb	**Pn**	**01 09 45.5**	**-0.5**
BNT	**Bandirma**	**3.66**	**6**	PN	**Pn**	**01 09 46.2**	**0.0**
LPK	**Lapseki**	**3.70**	**352**	PN	**Pn**	**01 09 46.2**	**-0.5**
LOS	**Limnos**	**3.72**	**331**	*e*Pn	**Pn**	**01 09 47.0**	**0.0**
LOS				*e*Sn	**Sn**	**01 10 30.0**	**-1.4**
AOS	**Alonnisos**	**3.74**	**312**	*e*Pn	**Pn**	**01 09 47.4**	**+0.2**
AOS				*e*Sn	**Sn**	**01 10 32.9**	**+1.0**
ESKT	**Eskisehir**	**3.89**	**43**	PN	**Pn**	**01 09 50.1**	**+0.8**
MRMT	**Marmara Adasi**	**3.89**	**2**	*e*PN	**Pn**	**01 09 49.5**	**+0.1**
LKR	**Lokris**	**4.03**	**300**	*e*PN	**Pn**	**01 09 51.7**	**+0.4**
HDMB	**Hadim**	**4.05**	**85**	*e*PN	**Pn**	**01 09 52.8**	**+1.1**
KONT	**Konya--Tatoy**	**4.11**	**71**	*e*PN	**Pn**	**01 09 53.4**	**+0.9**
KIZT	**Kizilcal**	**4.13**	**57**	PN	**Pn**	**01 09 54.1**	**+1.3**
YLV	**Yalova**	**4.14**	**21**	*e*PN	**Pn**	**01 09 54.1**	**+1.1**
GPA	**Golpazari**	**4.22**	**31**	*e*PN	**Pn**	**01 09 55.4**	**+1.2**
NEO	**Neokhori**	**4.23**	**309**	*e*PN	**Pn**	**01 09 54.3**	**+0.1**
XOR	**Xorichti**	**4.28**	**310**	*e*Pn	**Pn**	**01 09 54.9**	**0.0**
XOR				*e*Sn	**Sn**	**01 10 46.0**	**+0.4**
ALN	**Alexandroupoli**	**4.33**	**346**	*e*Pn	**Pn**	**01 09 54.3**	**-1.3**
ALN				*e*Sn	**Sn**	**01 10 42.2**	**-4.5**
PAIG	**Paliouri**	**4.37**	**319**	*e*Pn	**Pn**	**01 09 55.7**	**-0.6**
PAIG				*e*Sn	**Sn**	**01 10 46.6**	**-1.3**
PPCY	**Paphos**	**4.38**	**113**	P	**Pn**	**01 09 56.9**	**+0.6**
ALFC	**Alevga**	**4.46**	**109**	P	**Pn**	**01 09 57.6**	**+0.1**
5.6nm,0.2s							
HRT	**Hereke**	**4.46**	**22**	*e*PN	**Pn**	**01 09 58.6**	**+1.1**
OUR	**Ouranopolis**	**4.53**	**324**	*e*Pn	**Pn**	**01 09 58.1**	**-0.4**
OUR				*e*Sn	**Sn**	**01 10 51.0**	**-0.8**
ISK	**Istanbul-Kandi**	**4.53**	**16**	*e*PN	**Pn**	**01 09 59.3**	**+0.8**
AGG	**Agios Georgios**	**4.66**	**301**	*e*Pn	**Pn**	**01 10 01.1**	**+0.8**
AGG				*e*Sn	**Sn**	**01 10 55.7**	**+0.5**
AGG	**Agios Georgios**	**4.66**	**301**	*e*Pn	**Pn**	**01 10 01.1**	**+0.7**
RDO	**Rodhopi**	**4.68**	**342**	*e*PN	**Pn**	**01 10 00.0**	**-0.6**
RDO	**Rodhopi**	**4.68**	**342**	⇓*i*PB	**Pn**	**01 09 59.6**	**-1.0**
RDO	**Rodhopi**	**4.68**	**342**	⇓*i*Pn	**Pn**	**01 09 59.6**	**-1.0**
LEF	**Lefka**	**4.69**	**108**	*e*PN	**Pn**	**01 10 01.9**	**+1.1**
MDU	**Mudurnu**	**4.78**	**37**	*e*PN	**Pn**	**01 10 03.2**	**+1.2**
PLG	**Polygyros**	**4.82**	**321**	*e*PN	**Pn**	**01 10 01.9**	**-0.7**
SZAC	**Souni-Zanaja**	**4.83**	**112**	P	**Pn**	**01 10 00.4**	**-2.4**
MAMC	**Mammari**	**4.93**	**106**	P	**Pn**	**01 10 07.7**	**+3.6**
EVR	**Evrytania**	**4.98**	**298**	*e*PN	**Pn**	**01 10 06.1**	**+1.2**
CSS	**Prodhromos**	**5.09**	**108**	P	**Pn**	**01 10 06.5**	**+0.1**
1.8nm,0.5s							
EDRB	**Edirne**	**5.16**	**354**	*e*PN	**Pn**	**01 10 07.8**	**+0.4**
LOD	**Lodumlu**	**5.25**	**51**	*e*PN	**Pn**	**01 10 09.8**	**+1.1**
THE	**Thessaloniki**	**5.26**	**320**	*e*Pn	**Pn**	**01 10 08.6**	**-0.2**
SRS	**Serrai**	**5.33**	**327**	*e*Pn	**Pn**	**01 10 09.2**	**-0.6**
SRS				*e*Sn	**Sn**	**01 11 09.6**	**-2.5**
SLUM		**5.52**	**200**	⇑P	**Pn**	**01 10 13.2**	**+0.7**
HMAT	**Matruh**	**5.60**	**183**	⇓P	**Pn**	**01 10 14.6**	**+0.9**
HMAT				S	**Sn**	**01 11 16.5**	**-2.4**
KNT	**Kendrikon**	**5.69**	**323**	*e*Pn	**Pn**	**01 10 14.7**	**-0.1**
KNT				*e*Sn	**Sn**	**01 11 19.9**	**-1.1**
BR131	**Keskin Array S**	**5.73**	**56**	*e*Pn	**Pn**	**01 10 15.3**	**-0.2**
6.3nm,0.4s							
BR131	**Keskin Array S**	**5.73**	**56**	*e*Pn	**Pn**	**01 10 15.3**	**-0.2**
6.3nm,0.4s							
BRTR	**Keskin Array B**	**5.73**	**56**	Pn	**Pn**	**01 10 15.5**	**0.0**
1.3nm,0.3s,baz=241,slow=15,SNR=27							
GRG	**Griva**	**5.79**	**319**	*e*Pn	**Pn**	**01 10 16.1**	**-0.2**
GRG				*e*Sn	**Sn**	**01 11 22.7**	**-0.8**
SAFT	**Safranbolu**	**6.10**	**40**	*e*PN	**Pn**	**01 10 21.6**	**+1.0**
FNA	**Florina**	**6.25**	**312**	*e*Pn	**Pn**	**01 10 23.1**	**+0.3**
FNA				*e*Sn	**Sn**	**01 11 34.4**	**-0.6**
IGT	**Igoumenitsa**	**6.28**	**299**	*e*Pn	**Pn**	**01 10 24.6**	**+1.5**
IGT				*e*Sn	**Sn**	**01 11 36.9**	**+1.1**
SWA1		**7.56**	**192**	P	**Pn**	**01 10 41.1**	**-0.1**
SWA1				S	**Sn**	**01 12 01.7**	**-6.2**
KSDI	**Kefar Szold**	**7.60**	**115**	Pn	**Pn**	**01 10 42.8**	**+1.1**
HRI	**Mount Hermon**	**7.62**	**114**	Pn	**Pn**	**01 10 41.4**	**-0.6**
SWA2		**7.63**	**193**	P	**Pn**	**01 10 42.0**	**-0.1**
KOT	**Kottamia**	**7.69**	**150**	⇓P	**Pn**	**01 10 41.9**	**-1.1**
AMAG	**Maghara**	**7.72**	**140**	⇑P	**Pn**	**01 10 41.8**	**-1.7**
HRSH	**Kfar Ka'horesh**	**7.75**	**136**	⇑P	**Pn**	**01 10 42.3**	**-1.5**
RSH		**7.75**	**136**	P	**Pn**	**01 10 42.3**	**-1.5**
KSHT	**Keshet**	**7.81**	**116**	Pn	**Pn**	**01 10 44.0**	**-0.7**
HSAF	**As Saff**	**7.86**	**153**	P	**Pn**	**01 10 44.5**	**-0.9**
GLL	**Jalalah**	**7.96**	**152**	P	**Pn**	**01 10 46.3**	**-0.4**
KZIT	**Kziot**	**8.18**	**133**	Pn	**P**	**01 10 48.3**	**-1.5**
KZIT				Sn	**Sn**	**01 12 15.8**	**-7.4**
SUZ		**8.20**	**145**	P	**P**	**01 10 49.4**	**-0.7**
RTMM	**Retamin**	**8.25**	**131**	Pn	**P**	**01 10 49.3**	**-1.5**
MASH	**Mash'abbe Sade**	**8.35**	**131**	Pn	**P**	**01 10 51.8**	**-0.3**
MZDA	**Masada**	**8.49**	**127**	Pn	**P**	**01 10 53.7**	**-0.5**
MKRJ	**Makawir**	**8.52**	**125**	Pn	**P**	**01 10 54.3**	**-0.2**
HNKL	**Nakhl**	**8.69**	**139**	⇑P	**P**	**01 10 54.5**	**-2.5**
TIP	**Timpagrande**	**8.80**	**290**	*e*Pn	**P**	**01 10 58.2**	**-0.2**
TIP	**Timpagrande**	**8.80**	**290**	*e*Pn	**P**	**01 10 58.2**	**-0.2**
MLR	**Muntele Rosu**	**8.85**	**353**	Pn	**P**	**01 11 00.9**	**+1.7**
0.1nm,0.3s,baz=165,slow=16,SNR=2.5							
ZFRI	**Zfri**	**8.90**	**131**	Pn	**P**	**01 10 59.3**	**-0.5**
PRNI	**Paran**	**8.94**	**133**	Pn	**P**	**01 10 58.3**	**-2.1**
PRNI				Sn	**Sn**	**01 12 35.0**	**-7.2**
ASF	**Jabal al Asfar**	**9.02**	**117**	Pn	**P**	**01 11 01.2**	**-0.3**
0.4nm,0.3s,baz=17,slow=19,SNR=3.7							
ASF				Sn	**Sn**	**01 12 44.9**	**+0.8**
0.6nm,0.3s,baz=22,slow=16,SNR=2.0							
EIL	**Elat**	**9.42**	**136**	Pn	**P**	**01 11 06.3**	**-0.7**
HKAT	**Jabal Katrina**	**9.85**	**144**	⇑P	**P**	**01 11 11.5**	**-1.5**
HSFG		**11.51**	**150**	P	**P**	**01 11 34.7**	**-1.0**
GERES	**GERESS Array B**	**15.75**	**325**	Pn	**P**	**01 12 37.3**	**+5.7**
0.1nm,0.3s,baz=135,slow=11,SNR=6.8							
KHC	**Kasperske Hory**	**16.01**	**325**	*e*P	**P**	**01 12 41.5**	**+6.6**
KHC	**Kasperske Hory**	**16.01**	**325**	*e*P	**P**	**01 12 41.5**	**+6.6**
SBF	**Sospel**	**16.84**	**301**	*e*P	**P**	**01 12 46.1**	**+0.6**
45nm,1.2s							
SBF	**Sospel**	**16.84**	**301**	*e*P	**P**	**01 12 46.1**	**+0.6**
SBF				pmax	pmax		
comp=Z,22nm,1.2s							
FRF	**La Foret Royal**	**17.29**	**300**	*e*P	**P**	**01 12 51.8**	**+0.6**
comp=Z,28nm,1.2s							
FRF	**La Foret Royal**	**17.29**	**300**	*e*P	**P**	**01 12 51.8**	**+0.6**
FRF				pmax	pmax		
comp=Z,14nm,1.2s							
LMR	**La Mourre**	**17.33**	**299**	*e*P	**P**	**01 12 52.7**	**+1.0**
comp=Z,43nm,1.5s							
LMR	**La Mourre**	**17.33**	**299**	*e*P	**P**	**01 12 52.7**	**+1.0**
LMR				pmax	pmax		
comp=Z,22nm,1.5s							
MBDF	**Montbardon**	**17.57**	**304**	*e*P	**P**	**01 12 57.5**	**+2.8**
comp=Z,10nm,0.9s							
MBDF	**Montbardon**	**17.57**	**304**	*e*P	**P**	**01 12 57.5**	**+2.8**
MBDF				pmax	pmax		
comp=Z,5.0nm,0.9s							
LPG	**La Plagne**	**17.86**	**306**	*e*P	**P**	**01 12 59.2**	**+0.9**
comp=Z,11nm,0.9s							
LPG	**La Plagne**	**17.86**	**306**	*e*P	**P**	**01 12 59.2**	**+0.9**
LPG				pmax	pmax		
comp=Z,6.0nm,0.9s							
LPL	**La Plagne**	**17.88**	**306**	*e*P	**P**	**01 13 00.0**	**+1.5**
comp=Z,14nm,1.0s							
LPL	**La Plagne**	**17.88**	**306**	*e*P	**P**	**01 13 00.0**	**+1.5**
LPL				pmax	pmax		
comp=Z,7.0nm,1.0s							
SMRF	**Simiane la Rot**	**18.16**	**300**	*e*P	**P**	**01 13 02.8**	**+0.8**
CABF	**La Chapelle**	**18.73**	**309**	*e*P	**P**	**01 13 08.9**	**-0.1**
CDF	**Champ du Feu**	**18.85**	**315**	*e*P	**P**	**01 13 09.6**	**-0.8**
comp=Z,8.0nm,0.9s							
CDF	**Champ du Feu**	**18.85**	**315**	*e*P	**P**	**01 13 09.6**	**-0.8**
CDF				pmax	pmax		
comp=Z,4.0nm,0.9s							
HAU	**Haudompre**	**19.18**	**313**	*e*P	**P**	**01 13 14.1**	**-0.4**
HAU				*e*R			
comp=Z,57nm,18.2s							
SMF	**Signal de Mont**	**20.17**	**307**	*e*P	**P**	**01 13 24.6**	**-0.8**
comp=Z,12nm,0.9s							
SMF	**Signal de Mont**	**20.17**	**307**	*e*P	**P**	**01 13 24.6**	**-0.8**
SMF				pmax	pmax		
comp=Z,6.0nm,0.9s							
MEZF	**Maizieres J'vi**	**20.18**	**313**	*e*P	**P**	**01 13 24.1**	**-1.5**
comp=Z,8.0nm,0.8s							
MTLF	**Montolieu**	**20.38**	**297**	*e*P	**P**	**01 13 28.8**	**+1.1**
comp=Z,7.9nm,0.8s							
MTLF	**Montolieu**	**20.38**	**297**	*e*P	**P**	**01 13 28.8**	**+1.1**
MTLF				pmax	pmax		
comp=Z,4.0nm,0.8s							
LOR	**Lormes**	**20.39**	**309**	*e*P	**P**	**01 13 27.1**	**-0.6**
comp=Z,15nm,1.0s							
LOR				*e*R			
comp=Z,42nm,21.5s							
LOR	**Lormes**	**20.39**	**309**	*e*P	**P**	**01 13 27.1**	**-0.6**
LOR				pmax	pmax		
comp=Z,8.0nm,1.0s							
LOR				MLR	MLR		
comp=Z,40nm,21.5s							
AVF	**Avril sur Loir**	**20.53**	**307**	*e*P	**P**	**01 13 28.7**	**-0.5**
comp=Z,17nm,0.8s							
AVF	**Avril sur Loir**	**20.53**	**307**	*e*P	**P**	**01 13 28.7**	**-0.5**
AVF				pmax	pmax		
comp=Z,8.0nm,0.8s							
SSF	**Saint Saulge**	**20.53**	**308**	*e*P	**P**	**01 13 28.6**	**-0.6**
comp=Z,10nm,0.9s							
SSF	**Saint Saulge**	**20.53**	**308**	*e*P	**P**	**01 13 28.6**	**-0.6**
SSF				pmax	pmax		
comp=Z,10.0nm,0.9s							
BGF	**Bois d'Agland**	**20.78**	**306**	*e*P	**P**	**01 13 29.4**	**-2.4**
comp=Z,26nm,0.9s							
BGF	**Bois d'Agland**	**20.78**	**306**	*e*P	**P**	**01 13 29.4**	**-2.4**
BGF				pmax	pmax		
comp=Z,13nm,0.9s							
FLN	**La Foliniere**	**23.65**	**309**	*e*P	**P**	**01 13 58.8**	**-1.4**
FLN				*e*R			
comp=Z,51nm,18.0s							
GRR	**Gorron**	**23.76**	**308**	*e*P	**P**	**01 14 00.5**	**-0.8**
comp=Z,23nm,0.8s,mb4.3							
GRR	**Gorron**	**23.76**	**308**	*e*P	**P**	**01 14 00.5**	**-0.8**
GRR				pmax	pmax		
comp=Z,12nm,0.8s,mb4.4							
FINES	**FINESS Array B**	**24.78**	**358**	P	**P**	**01 14 09.8**	**-1.3**
comp=Z,1.2nm,0.9s,mb3.4,baz=124,slow=6.9,SNR=4.8							
FINES	**FINESS Array B**	**24.78**	**358**	P	**P**	**01 14 09.8**	**-1.3**
ESDC	**Sonseca Array**	**24.80**	**286**	P	**P**	**01 14 11.7**	**+0.2**
comp=Z,0.7nm,0.5s,mb3.5,baz=83,slow=9.3,SNR=6.3							
HFS	**Hagfors**	**25.05**	**344**	P	**P**	**01 14 13.9**	**+0.1**
comp=Z,1.5nm,0.5s,mb3.8,baz=140,slow=12,SNR=10							
NB2	**NORSAR Subarra**	**26.44**	**342**	P	**P**	**01 14 26.2**	**-0.4**
comp=Z,2.2nm,1.0s,mb3.6,baz=146,slow=9.3							
NB2	**NORSAR Subarra**	**26.44**	**342**	P	**P**	**01 14 26.2**	**-0.4**
NB2				pmax	pmax		
comp=Z,2.0nm,1.0s,mb3.6							
NOA	**NORSAR Array B**	**26.44**	**342**	P	**P**	**01 14 26.4**	**-0.2**
comp=Z,0.8nm,0.7s,mb3.4,baz=143,slow=8.7,SNR=4.5							
MKAR	**Makanchi Array**	**41.38**	**58**	P	**P**	**01 16 35.0**	**-0.9**
comp=Z,1.8nm,0.6s,mb3.9,baz=279,slow=6.8,SNR=20							
MKAR				pP	pP	01 16 39.8	+0.8
comp=Z,1.1nm,0.6s,baz=288,slow=6.4,SNR=9.1							
DBIC	**Dimbokro**	**41.98**	**233**	P	**P**	**01 16 40.9**	**-0.3**
comp=Z,4.0nm,0.9s,mb4.0,baz=298,slow=20,SNR=5.7							
ZAL	**Zalesovo**	**42.59**	**47**	P	**P**	**01 16 45.0**	**-0.7**
comp=Z,1.2nm,0.4s,mb4.0,baz=214,slow=9.5,SNR=3.2							
ZAL				pP	pP	01 16 49.2	+0.5
comp=Z,1.2nm,0.4s,baz=215,slow=4.1,SNR=1.5							
SONM	**Songino Array**	**57.08**	**52**	P	**P**	**01 18 35.9**	**-0.9**
comp=Z,0.4nm,0.6s,mb3.6,baz=299,slow=9.5,SNR=4.0							

*IDC **19** 01:09:02.7±1.4, 36.77N×27.42E, mb4.0/8, mb1 4.0/9, mb1mx3.9/20, mbtmp4.0/9, ML3.7/1, Error ellipse: s-maj=35.0km s-min=20.8km az=162.0*

**ISC 19 01:09:02.7±1.6, 36

STKA				*e*S	S	01 29 18.0	+40	
STKA	**Stephens Creek**	**28.34**	**147**	P	**P**	**01 23 51.9**	**-0.9**	
	comp=Z,2.2nm,0.4s,mb4.1,baz=304,slow=6.6,SNR=6.1							
STKA				LR	LR	01 36 50.8		
	comp=Z,61nm,20.0s,MS3.2,baz=24,slow=40							
MJAR	**Matsushiro Arr**	**46.99**	**16**	P	**P**	**01 26 29.2**	**-0.6**	
	comp=Z,3.0nm,0.6s,mb4.4,baz=188,slow=8.7,SNR=6.6							
PKI	**Pulchoki**	**51.82**	**315**	*e*P	**P**	**01 27 08.0**	**+0.9**	
	comp=Z,37nm,0.5s,mb5.6							
PKI	**Pulchoki**	**51.82**	**315**	*e*P	**P**	**01 27 08.0**	**+0.9**	
PKI				pmax	pmax			
	comp=Z,18nm,0.5s,mb5.3							
KKN	**Kakani**	**52.05**	**316**	*e*P	**P**	**01 27 09.7**	**+0.9**	
	comp=Z,17nm,0.6s,mb5.1							
KKN	**Kakani**	**52.05**	**316**	*e*P	**P**	**01 27 09.7**	**+0.9**	
KKN				pmax	pmax			
	comp=Z,8.0nm,0.6s,mb4.8							
DMN	**Daman**	**52.05**	**315**	*e*P	**P**	**01 27 09.7**	**+0.8**	
	comp=Z,22nm,0.6s,mb5.3							
GKN	**Gorkha**	**52.62**	**315**	*e*P	**P**	**01 27 13.4**	**+0.2**	
	comp=Z,31nm,0.5s,mb5.5							
KOLN	**Koldanda**	**53.21**	**314**	*e*P	**P**	**01 27 18.2**	**+0.7**	
	comp=Z,28nm,0.6s,mb5.3							
SONM	**Songino Array**	**58.38**	**346**	P	**P**	**01 27 54.0**	**-0.5**	
	comp=Z,1.2nm,0.5s,mb4.2,baz=162,slow=9.6,SNR=6.5							
MKAR	**Makanchi Array**	**66.49**	**330**	P	**P**	**01 28 48.0**	**-0.6**	
	comp=Z,2.2nm,0.5s,mb4.5,baz=135,slow=7.6,SNR=28							
MKAR				LR	LR	01 56 54.2		
	comp=Z,21nm,21.4s,MS3.3,baz=32,slow=35							
AAK	**Ala-Archa**	**68.06**	**323**	*e*P	**P**	**01 28 57.9**	**-0.6**	
	comp=Z,3.1nm,0.6s,mb4.5							
AAK	**Ala-Archa**	**68.06**	**323**	*e*P	**P**	**01 28 57.9**	**-0.7**	
AAK				pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.5							
ZAL	**Zalesovo**	**70.57**	**337**	P	**P**	**01 29 12.4**	**-1.4**	
	comp=Z,2.0nm,0.4s,mb4.4,baz=17,slow=2.9,SNR=4.9							
KURK	**Kurchatov**	**70.94**	**331**	*e*P	**P**	**01 29 15.4**	**-0.7**	
	comp=Z,3.8nm,0.9s,mb4.3							
KURK	**Kurchatov**	**70.94**	**331**	*e*P	**P**	**01 29 15.5**	**-0.6**	
KURK				pmax	pmax			
	comp=Z,4.0nm,0.9s,mb4.3							
MAW	**Mawson**	**71.17**	**201**	P	**P**	**01 29 16.2**	**-1.0**	
	comp=Z,3.5nm,0.5s,mb4.5,baz=88,slow=6.8,SNR=21							
MAW	**Mawson**	**71.17**	**201**	*e*P	**P**	**01 29 16.1**	**-1.2**	
	comp=Z,3.1nm,0.5s,mb4.5							
MAW	**Mawson**	**71.17**	**201**	*e*P	**P**	**01 29 16.1**	**-1.1**	
MAW				pmax	pmax			
	comp=Z,3.0nm,0.5s							
SYO	**Syowa Base**	**79.86**	**201**	⇑P	**P**	**01 30 04.5**	**-2.1**	
QSPA	**South Pole Qui**	**81.28**	**180**	⇓*i*P	**P**	**01 30 13.5**	**-0.4**	
	comp=Z,5.4nm,0.7s,mb4.6							
KMBO	**Kilima Mbogo**	**86.47**	**269**	P	**P**	**01 30 41.4**	**-0.3**	
	comp=Z,1.1nm,0.6s,mb4.3,baz=64,slow=8.7,SNR=4.3							
SNAA	**Sanae**	**92.53**	**195**	⇓*i*	**P**	**01 31 08.9**	**+0.1**	
SNAA	**Sanae**	**92.53**	**195**	*e*	**P**	**01 31 10.8**	**+2.0**	
SNAA	**Sanae**	**92.53**	**195**	*e*P	**P**	**01 31 08.7**	**-0.1**	
	comp=Z,4.7nm,0.4s,mb5.3							
SNAA	**Sanae**	**92.53**	**195**	*e*P	**P**	**01 31 08.7**	**-0.1**	
SNAA				pmax	pmax			
	comp=Z,5.0nm,0.4s							
VNA2	**Neumayer--Watz**	**94.14**	**194**	⇓*i*	**P**	**01 31 16.5**	**+0.2**	
VNA2	**Neumayer--Watz**	**94.14**	**194**	*e*	**P**	**01 31 17.9**	**+1.6**	
VNA3	**Neumayer Olymp**	**94.47**	**194**	⇓*i*	**P**	**01 31 17.7**	**-0.1**	
VNA3	**Neumayer Olymp**	**94.47**	**194**	*e*	**P**	**01 31 19.2**	**+1.4**	
VNA1	**Neumayer--Stat**	**94.54**	**194**	⇓*i*	**P**	**01 31 18.5**	**+0.4**	
VNA1	**Neumayer--Stat**	**94.54**	**194**	*e*	**P**	**01 31 20.3**	**+2.2**	
PDAR	**Pinedale Array**	**122.39**	**44**	PKP	PKPdf	01 36 52.7	-2.0	
	comp=Z,0.3nm,0.5s,baz=270,slow=1.5,SNR=3.5							
DBIC	**Dimbokro**	**129.16**	**272**	PKP	PKPdf	01 37 07.1	-1.6	
	comp=Z,3.7nm,0.9s,baz=124,slow=1.7,SNR=3.4							
TXAR	**Lajitas Array**	**131.02**	**59**	PKP	PKPdf	01 37 10.3	-1.5	
	comp=Z,0.2nm,0.5s,baz=270,slow=0.9,SNR=4.4							
CPUP	**Villa Florida**	**145.15**	**178**	PKPbc	PKPbc	01 37 35.5	0.0	
	comp=Z,15nm,0.6s,baz=195,slow=3.4,SNR=48							
CPUP	**Villa Florida**	**145.15**	**178**	*e*PKPdf	PKPdf	01 37 35.4	-2.1	
LPAZ	**La Paz**	**152.48**	**154**	PKPbc	PKPdf	01 37 55.5	+6.2	
	comp=Z,1.7nm,0.6s,baz=172,slow=1.0,SNR=9.8							
LPAZ	**La Paz**	**152.48**	**154**	*e*PKPbc	PKPdf	01 37 55.8	+6.4	
LPAZ				*e*PKPab	PKPab	01 38 06.2	-0.4	
BDFB	**Brasilia**	**154.50**	**198**	PKPab	PKPab	01 38 13.3	-1.8	
	comp=Z,1.4nm,0.5s,baz=170,slow=5.4,SNR=3.6							

ISK 19 01:19:34.8,36.79N×27.25E,h27km,MD2.8,
Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BODT	**Bodrum**	**0.27**	**10**	*i*PG	Pb	01 19 42.1	+0.5
BODT				*i*SG	Sb	01 19 47.3	+1.1
MLSB	**Milas**	**0.65**	**40**	PG	Pb	01 19 48.5	+0.9
YER	**Yerkesik**	**0.89**	**67**	PG	Pb	01 19 51.6	0.0
YER				SG	Sb	01 20 04.5	+1.4

*HLW **19** 01:20:37.1,37.71N×20.87E,h33km,Mb3.3*
*ATH **19** 01:20:40.2,38.14N×22.04E,h56km±3km,MD3.4/18,*
ML3.5
*IDC **19** 01:20:40.9±2.4,38.12N×21.90E,h57km±30km,mb3.3/7,*
mb1 3.5/11,mb1mx3.4/26,mbtmp3.5/11,ML3.2/3,Error
ellipse: s-maj=24.4km s-min=19.1km az=93.0
*CSEM **19** 01:20:40.6±0.1,38.09N×22.04E,h41km±1km,ML3.5,*
Error ellipse: s-maj=2.0km s-min=1.3km az=35.0
*NEIC **19** 01:20:40.3,38.14N×22.04E,h55km,MD3.4(ATH),After*
ATH.
*THE **19** 01:20:41.4,38.14N×22.05E,h21km,ML3.6*
ISC 19 01:20:39.8±0.3,38.11N±0.02×22.01E±0.03,h68km±4km,
n74,σ0s97/105,mb3.5/6,5C-2D,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.43**	**263**	*e*P	**P**	**01 20 51.6**	**-0.3**
RLS				*e*S	**S**	**01 21 00.7**	**-0.1**
EVR	**Evrytania**	**0.82**	**349**	⇑*i*P	**P**	**01 20 57.0**	**+0.8**
EVR	**Evrytania**	**0.82**	**349**	⇑*i*P	**P**	**01 20 57.5**	**+1.3**
ITM	**Ithomi**	**0.93**	**184**	*e*P	**P**	**01 20 59.2**	**+1.7**
AGG	**Agios Georgios**	**0.94**	**15**	*e*Pg	**P**	**01 20 58.2**	**+0.4**
AGG				*e*Sg	**S**	**01 21 09.9**	**-1.1**
AGG	**Agios Georgios**	**0.94**	**15**	*e*Pg	**P**	**01 20 58.2**	**+0.5**
AGG				*e*Sg	**S**	**01 21 09.9**	**-1.1**
LKR	**Lokris**	**0.94**	**55**	*e*P	**P**	**01 20 57.9**	**+0.2**
LKR				*e*S	**S**	**01 21 11.1**	**+0.1**
MGER	**Gerania Oros**	**0.99**	**97**	*e*P	**P**	**01 20 58.1**	**-0.2**
VLS	**Valsamata**	**1.13**	**274**	*e*P	**P**	**01 21 00.6**	**+0.5**
NSAL	**Nisos Salamina**	**1.16**	**100**	*e*P	**P**	**01 21 01.0**	**+0.4**
NSAL				*e*S	**S**	**01 21 16.0**	**-0.1**
NAIG	**Nisos Aigina**	**1.22**	**106**	*e*P	**P**	**01 21 01.2**	**-0.1**
ATH	**Athens Observa**	**1.35**	**95**	*e*P	**P**	**01 21 03.6**	**+0.3**
ATH				*e*S	**S**	**01 21 19.7**	**-0.9**
MPAR	**Parnis Oros**	**1.36**	**88**	*e*P	**P**	**01 21 03.5**	**+0.1**
MPAR				*e*S	**S**	**01 21 20.5**	**-0.3**
PTL	**Penteli**	**1.46**	**92**	*e*P	**P**	**01 21 05.0**	**+0.3**
PTL				*e*S	**S**	**01 21 23.0**	**-0.1**
NEO	**Neokhori**	**1.52**	**38**	*e*P	**P**	**01 21 05.8**	**+0.2**
NEO				*e*S	**S**	**01 21 24.1**	**-0.5**
XOR	**Xorichti**	**1.56**	**36**	*e*Pg	**P**	**01 21 06.2**	**+0.2**
XOR				*e*Sg	**S**	**01 21 24.4**	**-0.9**
VLI	**Veliai**	**1.57**	**152**	*e*P	**P**	**01 21 06.5**	**+0.3**
JAN	**Janina**	**1.79**	**330**	*e*P	**P**	**01 21 10.5**	**+1.3**
JAN	**Janina**	**1.79**	**330**	*e*P	**P**	**01 21 11.0**	**+1.8**
AOS	**Alonnisos**	**1.81**	**53**	*e*Pb	**P**	**01 21 09.3**	**-0.1**
AOS				*e*Sb	**S**	**01 21 30.8**	**-0.4**
IGT	**Igoumenitsa**	**1.94**	**318**	*e*Pb	**P**	**01 21 11.4**	**+0.3**
IGT				*e*Sb	**S**	**01 21 34.7**	**+0.4**
KYTH	**Kithira**	**2.00**	**156**	*e*P	**P**	**01 21 14.0**	**+2.0**
KYTH	**Kithira**	**2.00**	**156**	*e*P	**P**	**01 21 15.0**	**+3.0**
KZN	**Kozani**	**2.20**	**355**	*e*P	**P**	**01 21 16.3**	**+1.4**
PAIG	**Paliouri**	**2.23**	**35**	*e*Pn	**P**	**01 21 14.9**	**-0.4**
PAIG				*e*Sn	**S**	**01 21 41.1**	**-0.6**
LSK	**Leskovik**	**2.32**	**332**	*i*Pn	**P**	**01 21 17.9**	**+1.4**
LSK				*i*Sn	**S**	**01 21 44.1**	**+0.3**
KEK	**Kerkira**	**2.36**	**314**	*e*P	**P**	**01 21 17.1**	**0.0**
SRN	**Sarande**	**2.37**	**319**	*i*Pn	**P**	**01 21 17.4**	**+0.2**
SRN				*i*Sn	**S**	**01 21 43.4**	**-1.6**
PLG	**Polygyros**	**2.52**	**26**	*e*P	**P**	**01 21 19.1**	**-0.3**
THE	**Thessaloniki**	**2.63**	**16**	*e*Pn	**P**	**01 21 20.1**	**-0.8**
THE				*e*Sn	**S**	**01 21 52.9**	**+1.3**
THE	**Thessaloniki**	**2.63**	**16**	*e*Sn	**S**	**01 21 52.9**	**+1.3**
OUR	**Ouranopolis**	**2.70**	**34**	*e*Sn	**S**	**01 21 53.3**	**-0.2**
OUR				*e*Sn	**S**	**01 21 54.2**	**+0.7**
GRG	**Griva**	**2.86**	**6**	*e*Pn	**P**	**01 21 24.7**	**+0.5**
GRG				*e*Sn	**S**	**01 21 58.3**	**+0.8**
APE	**Apeiranthos**	**2.98**	**109**	PN	**P**	**01 21 25.3**	**-0.6**
APE				SN	**S**	**01 21 54.5**	**-6.0**
APE	**Apeiranthos**	**2.98**	**109**	*e*P	**P**	**01 21 26.0**	**+0.1**
APE				*e*Sn	**S**	**01 21 54.5**	**-6.0**
LOS	**Limnos**	**3.00**	**52**	*e*Pn	**P**	**01 21 26.5**	**+0.3**
LIA	**Limnos Island**	**3.05**	**53**	*e*P	**P**	**01 21 26.3**	**-0.5**
KNT	**Kendrikon**	**3.12**	**12**	*e*Pn	**P**	**01 21 28.4**	**+0.5**
KNT				*e*Sn	**S**	**01 22 04.4**	**+0.2**
KNT	**Kendrikon**	**3.12**	**12**	*e*Sn	**S**	**01 22 04.4**	**+0.2**
VAM	**Vamos**	**3.22**	**146**	*e*P	**P**	**01 21 31.0**	**+1.8**
SRS	**Serrai**	**3.24**	**22**	*e*Pn	**P**	**01 21 29.4**	**-0.2**
SRS				*e*Sn	**S**	**01 22 07.4**	**+0.3**
NVR	**Nevrokopi**	**3.54**	**23**	*e*P	**P**	**01 21 33.9**	**+0.2**
IDI	**Anoyia**	**3.64**	**140**	P	**P**	**01 21 34.0**	**-1.1**
	0.5nm,0.3s,baz=356,slow=20,SNR=12						
IDI				S	**S**	**01 22 20.1**	**+2.9**
	4.8nm,0.3s,baz=295,slow=22,SNR=6.9						
QSH	**Qafa e Shtames**	**3.78**	**335**	*i*Pn	**P**	**01 21 36.5**	**-0.5**
QSH				*i*Sn	**S**	**01 22 20.5**	**0.0**
QSH	**Qafa e Shtames**	**3.78**	**335**	*e*Pn	**P**	**01 21 36.5**	**-0.5**
QSH				*i*Sn	**S**	**01 22 20.5**	**0.0**
SKO	**Skopje**	**3.88**	**354**	*e*Pn	**P**	**01 21 45.0**	**+6.5**
SKO				*e*		01 22 21.5	
ALN	**Alexandroupoli**	**4.18**	**47**	*e*Pn	**P**	**01 21 43.6**	**+0.9**
ALN				*e*Sn	**S**	**01 22 30.2**	**-0.4**
MLSB	**Milas**	**4.64**	**98**	*e*PN	**P**	**01 21 48.2**	**-0.9**
YER	**Yerkesik**	**5.07**	**99**	*e*PN	**P**	**01 21 53.2**	**-1.8**
DST	**Dursunbey**	**5.37**	**72**	*e*P	**P**	**01 21 57.6**	**-1.5**
NVSS	**Nova Varos 2**	**5.67**	**343**	⇓*i*Pn	P	01 22 24.9	+22
NVSS				Sn	**S**	**01 23 01.8**	**-6.1**
STON	**Ston**	**5.78**	**327**	*i*Pn	**P**	**01 22 01.8**	**-3.1**
STON				*i*Sn	**S**	**01 23 02.4**	**-8.2**
STON	**Ston**	**5.78**	**327**	*i*Pn	**P**	**01 22 01.7**	**-3.1**
DIVS	**Divcibare**	**6.18**	**346**	⇓*i*Pn	**S**	**01 23 14.8**	**-5.6**
CII	**Carovilli**	**6.94**	**304**	*e*Pn	**P**	**01 22 20.3**	**-0.7**
	7.2nm,0.6s						
CII	**Carovilli**	**6.94**	**304**	*e*Sn	**S**	**01 23 37.1**	**-2.1**
CII	**Carovilli**	**6.94**	**304**	*e*Pn	**P**	**01 22 20.3**	**-0.7**
	7.2nm,0.6s						
CII				*e*Sn	**S**	**01 23 37.1**	**-2.1**
SLUM		**7.11**	**157**	⇑P	**P**	**01 22 21.1**	**-2.2**
SLUM				S	**S**	**01 23 34.8**	**-8.5**
MLR	**Muntele Rosu**	**7.94**	**20**	P	**P**	**01 22 35.4**	**+0.7**
	baz=170,slow=13						
NVLJ	**Novalja**	**8.39**	**322**	*i*Pn	**P**	**01 22 37.7**	**-3.3**
NVLJ				*i*Sn	**S**	**01 24 04.4**	**-11**
NVLJ	**Novalja**	**8.39**	**322**	*i*Pn	**P**	**01 22 37.6**	**-3.4**
BRTR	**Keskin Array B**	**9.20**	**76**	P	**P**	**01 22 53.9**	**+1.8**
	0.1nm,0.3s,baz=259,slow=12,SNR=4.8						
BRTR	**Keskin Array B**	**9.20**	**76**	P	**P**	**01 22 53.8**	**+1.7**
SWA2		**9.29**	**161**	⇑P	**P**	**01 22 50.1**	**-3.1**
SWA1		**9.34**	**160**	⇑P	**P**	**01 22 50.2**	**-3.8**
SWA1				S	**S**	**01 24 28.3**	**-10**
GERES	**GERESS Array B**	**12.30**	**333**	P	**P**	**01 23 32.5**	**-1.3**
	0.1nm,0.3s,baz=148,slow=15,SNR=3.1						
ESDC	**Sonseca Array**	**20.26**	**283**	P	**P**	**01 25 10.9**	**-1.1**
	0.8nm,0.8s,baz=78,slow=11,SNR=4.5						
HFS	**Hagfors**	**22.67**	**349**	P	**P**	**01 25 36.4**	**+0.6**
	0.7nm,0.5s,mb3.3,baz=159,slow=12,SNR=7.9						
FINES	**FINESS Array B**	**23.50**	**5**	P	**P**	**01 25 44.3**	**+0.5**
	0.4nm,0.7s,mb2.9,baz=180,slow=11,SNR=3.1						
NB2	**NORSAR Subarra**	**23.93**	**347**	P	**P**	**01 25 47.4**	**-0.6**
	0.6nm,0.6s,mb3.1,baz=142,slow=10						
NOA	**NORSAR Array B**	**23.93**	**347**	P	**P**	**01 25 48.4**	**+0.4**
	0.3nm,0.4s,mb3.0,baz=145,slow=9.3,SNR=2.7						
EKA	**Eskdalemuir Ar**	**24.17**	**324**	P	**P**	**01 25 51.4**	**+0.9**
	1.5nm,0.5s,mb3.5,baz=128,slow=9.6,SNR=12						
DBIC	**Dimbokro**	**39.66**	**225**	P	**P**	**01 28 07.2**	**+0.5**
	5.5nm,1.1s,mb4.3,baz=33,slow=9.7,SNR=5.1						
ZAL	**Zalesovo**	**44.85**	**48**	P	**P**	**01 28 50.0**	**+1.3**
	1.2nm,0.3s,mb4.1,baz=56,slow=6.1,SNR=3.2						

*NEIC **19** 01:36:24.2±1.0,27.82N×140.66E,h450km,mb3.6/2,Error*
ellipse: s-maj=27.4km s-min=17.8km az=80.0
*IDC **19** 01:36:27.7±0.6,27.75N×140.36E,h484km±11km,mb2.9/5,*
mb1 3.1/6,mb1mx2.9/19,mbtmp3.9/6,Error ellipse:
s-maj=33.8km s-min=18.1km az=75.0
*JMA **19** 01:36:28.2±0.2,27.83N×140.71E,h498km,M3.7*
ISC 19 01:36:27.3±0.6,27.72N±0.05×140.3E±0.2,h491km±9km,
n17,σ0s83/25,mb3.3/7,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.82**	**109**	P	**P**	**01 37 31.1**	**-0.2**
	34nm,0.3s,baz=38,slow=1.7,SNR=141						
CBIJ				S	**S**	**01 38 20.9**	**-1.0**
	43nm,0.3s,baz=286,slow=23,SNR=22						
CBIJ	**Chichi jima**	**1.82**	**109**	P	**P**	**01 37 31.2**	**0.0**
CBIJ				S	**S**	**01 38 21.0**	**-0.8**
JHHJ	**Haha-jima-NKT**	**2.03**	**122**	P	**P**	**01 37 32.6**	**+0.4**
JHHJ				S	**S**	**01 38 23.8**	**+0.2**
BSO1	**Boso 1**	**6.94**	**5**	P	**P**	**01 38 14.2**	**+0.6**
BSO1				S	**S**	**01 39 39.4**	**+1.5**
BSO3	**Boso 3**	**7.06**	**2**	P	**P**	**01 38 15.6**	**+0.7**
BSO3				S	**S**	**01 39 39.6**	**-0.6**
BSO4	**Boso 4**	**7.25**	**1**	P	**P**	**01 38 16.7**	**-0.1**
BSO4				*e*S	**S**	**01 39 43.5**	**-0.2**
JIE	**Ise**	**7.32**	**336**	P	**P**	**01 38 19.9**	**+2.4**
JAG	**Ashikaga**	**8.71**	**356**	P	**P**	**01 38 31.6**	**-0.6**
JAG				*e*S	**S**	**01 40 08.5**	**-2.8**
JHO	**Hitachi**	**8.87**	**2**	P	**P**	**01 38 34.3**	**+0.4**
JHO				*e*S	**S**	**01 40 13.7**	**-0.8**
JOW	**Kunigami**	**10.70**	**268**	P	**P**	**01 38 52.9**	**-0.5**
	1.9nm,0.3s,baz=62,slow=5.3,SNR=9.0						
SONM	**Songino Array**	**33.08**	**317**	P	**P**	**01 42 22.9**	**+0.4**
	0.6nm,0.5s,mb3.3,baz=131,slow=8.2,SNR=4.4						
WRA	**Warramunga Arr**	**47.72**	**188**	P	**P**	**01 44 20.1**	**-0.4**
	0.3nm,0.3s,mb3.1,baz=7.0,slow=7.9,SNR=18						
MKAR	**Makanchi Array**	**48.76**	**309**	P	**P**	**01 44 27.5**	**-0.4**
	0.4nm,0.4s,mb3.1,baz=90,slow=8.5,SNR=5.0						
KURK	**Kurchatov**	**51.33**	**314**	*e*P	**P**	**01 44 46.3**	**-0.6**
	2.4nm,0.6s,mb3.7						
BRVK	**Borovoye**	**56.49**	**317**	*e*P	**P**	**01 45 23.5**	**+0.1**
	1.3nm,0.5s,mb3.5						
FINES	**FINESS Array B**	**76.63**	**333**	P	**P**	**01 47 28.0**	**+0.6**
	0.7nm,0.3s,mb3.6,baz=64,slow=6.0,SNR=14						
NOA	**NORSAR Array B**	**82.39**	**338**	P	**P**	**01 47 57.4**	**-0.1**
	0.3nm,0.5s,mb3.1,baz=44,slow=5.1,SNR=2.3						

*IDC **19** 01:51:34.0±4.8,16.06S×168.41E,h265km±41km,mb3.7/5,*
mb1 3.8/6,mb1mx3.6/15,mbtmp4.3/6,Error ellipse:
s-maj=42.2km s-min=24.4km az=30.0
*NEIC **19** 01:51:34.5±3.6,16.09S×168.33E,h270km±29km,mb4.2/4,*
Error ellipse: s-maj=41.4km s-min=22.5km az=208.0
ISC 19 01:51:34.9±3.8,16.1S±0.2×168.3E±0.2,h291km±32km,
n12,σ1s14/13,mb4.1/8,3D,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.20**	**197**	P	**P**	**01 53 05.8**	**-1.1**
	0.9nm,0.3s,baz=38,slow=18,SNR=7.5						
DZM				S	**S**	**01 54 20.0**	**+0.9**
	0.6nm,0.3s,baz=129,slow=18,SNR=2.4						
CTA	**Charters Tower**	**21.36**	**256**	*e*P	**P**	**01 56 02.6**	**+2.3**
	7.8nm,1.2s,mb3.9						
CTA	**Charters Tower**	**21.36**	**256**	P	**P**	**01 56 02.7**	**+2.4**
	6.2nm,0.6s,mb4.1,baz=78,slow=13,SNR=7.3						
URZ	**Urewera**	**23.38**	**162**	P	**P**	**01 56 19.3**	**-0.2**
	12nm,0.8s,mb4.3,baz=288,slow=4.4,SNR=6.7						
STKA	**Stephens Creek**	**28.93**	**232**	⇓*i*P	**P**	**01 57 10.2**	**+0.4**
	6.9nm,0.7s,mb4.2						
STKA	**Stephens Creek**	**28.93**	**232**	P	**P**	**01 57 10.3**	**+0.5**
	11nm,0.7s,mb4.4,baz=62,slow=8.0,SNR=24						
WB2	**Warramunga Arr**	**32.51**	**258**	⇓*i*P	**P**	**01 57 39.7**	**-1.3**
WRAB	**Tennant Creek**	**32.51**	**258**	*e*P	**P**	**01 57 39.7**	**-1.3**
	2.3nm,0.6s,mb3.9						
WRA	**Warramunga Arr**	**32.52**	**258**	P	**P**	**01 57 40.0**	**-1.1**
	2.1nm,0.3s,mb4.2,baz=81,slow=7.8,SNR=150						
KAKA	**Kakadu**	**34.91**	**271**	⇓*i*P	**P**	**01 58 12.5**	**+11**
	7.2nm,0.4s,mb4.6						
FITZ	**Fitzroy Crossi**	**40.80**	**261**	*e*P	**P**	**01 58 50.4**	**+0.3**
	25nm,0.6s,mb4.6						
SONM	**Songino Array**	**84.21**	**323**	P	**P**	**02 03 36.3**	**+1.3**
	0.2nm,0.7s,mb3.1,baz=117,slow=3.2,SNR=3.0						

*MDD **19** 01:53:28.7±0.5,34.92N×3.75W,h4km±2km,mbLg2.1/16,*
Error ellipse: s-maj=4.6km s-min=3.7km az=89.0,PRXIMO
*CNRM **19** 01:53:29.2,34.92N×3.73W,h5km,MD3.2*
*INMG **19** 01:53:31.1±1.0,35.03N×3.85W,h17km±10km,ML2.2,*
Error ellipse: s-maj=10.9km s-min=3.1km az=166.0
CSEM 19 01:53:26.6±0.2,34.91N×3.71W,h8km,MD3.2,1D,Error
ellipse: s-maj=4.9km s-min=3.4km az=113.0,Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOU	**Touzarine**	**0.07**	**324**	P	Pg	01 53 28.5	-0.1
TOU				S	Sg	01 53 30.5	+0.6
TOU	**Touzarine**	**0.07**	**324**	*i*P	Pg	01 53 28.5	-0.1
MPAL	**Palemas**	**0.37**	**329**	P	Pg	01 53 36.5	+2.4
MPAL				S	Sg	01 53 41.5	+2.3
MPAL	**Palemas**	**0.37**	**329**	*i*P	Pg	01 53 36.5	+2.4
EMEL	**Melilla**	**0.73**	**57**	⇓P	Pb	01 53 44.8	+3.7
	448nm,0.2s,SNR=18						
EMEL				S	Sg	01 53 56.2	+5.2
	531nm,0.2s,SNR=7.9						
EMLI	**Melilla**	**0.73**	**58**	P	Pb	01 53 44.8	+3.6
	448nm,0.2s,SNR=18						
EMLI				S	Sb	01 53 56.2	+5.1
	531nm,0.2s,SNR=7.9						
ZAI	**Zaio**	**0.79**	**85**	*i*P	Pb	01 53 43.0	+0.8
ZAI				*i*S	Sb	01 53 56.5	+3.7
TZK	**Tazeka**	**0.91**	**206**	*i*P	Pb	01 53 45.0	+0.8
TZK				*i*S	Sb	01 53 59.0	+2.8
EALB	**Alboran**	**1.17**	**28**	P	Pb	01 53 49.9	+1.3
	4.0nm,0.1s,SNR=13						
EALB				S	Sb	01 54 05.7	+2.0
	16nm,0.1s,SNR=7.9						
EALB	**Alboran**	**1.17**	**28**	P	Pb	01 53 50.7	+2.1
	4.0nm,0.1s,SNR=13						
EALB				S	Sb	01 54 05.4	+1.7
	16nm,0.1s,SNR=7.9						
EMIJ	**Mijas**	**1.87**	**333**	P	Pn	01 53 57.6	-1.6
	1.6nm,0.1s,SNR=9.7						
EMIJ				S	Sn	01 54 19.2	-3.9
	8.4nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**1.87**	**333**	P	Pn	01 53 57.7	-1.5
	1.6nm,0.1s,SNR=9.7						
EMIJ				S	Sn	01 54 19.2	-4.0
	8.4nm,0.2s,SNR=7.9						
EGUA	**Guajares**	**1.93**	**3**	P	Pn	01 53 59.9	-0.1
	0.4nm,0.1s,SNR=7.9						
EGUA				S	Sn	01 54 24.0	-0.6
	1.3nm,0.2s,SNR=7.9						
EGUA	**Guajares**	**1.93**	**3**	P	Pn	01 53 59.8	-0.2
	0.4nm,0.1s,SNR=7.9						
EGUA				S	Sn	01 54 24.0	-0.6
	1.3nm,0.2s,SNR=7.9						
EBER	**Berja**	**2.09**	**18**	P	Pn	01 54 03.7	+1.3
	1.4nm,0.2s,SNR=7.9						
EBER				S	Sn	01 54 28.9	0.0
	5.0nm,0.2s,SNR=7.9						
EBER	**Berja**	**2.09**	**18**	P	Pn	01 54 03.7	+1.3
	1.4nm,0.2s,SNR=7.9						
EBER				S	Sn	01 54 28.0	-0.9
	5.0nm,0.2s,SNR=7.9						
EJIF	**Jimena Fronter**	**2.10**	**318**	P	Pn	01 54 02.7	+0.1
	1.0nm,0.3s,SNR=7.9						
EJIF				S	Sn	01 54 27.7	-1.6
	1.4nm,0.2s,SNR=7.9						
ERON	**Agron**	**2.11**	**358

ECAL	**Calabor**	**7.41 342**	P	Pn	01 55 16.5	-1.3
	0.6nm,0.4s,SNR=7.9					
ECAL	**Calabor**	**7.41 342**	P	Pn	01 55 16.5	-1.3
	0.6nm,0.4s,SNR=7.9					

IDC 19 02:16:28.1±7.2,4.38S×153.43E,h132km±54km,mb3.7/5, mb1 4.0/6,mb1mx3.8/13,mbtmp4.2/6,Error ellipse: s-maj=65.4km s-min=27.2km az=94.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.98**	**231**	P	P	02 18 21.9	-0.5
	6.1nm,0.3s,baz=47,slow=8.7,SNR=13						
PMG				S	S	02 19 49.7	-1.9
	2.6nm,0.3s,baz=141,slow=20,SNR=5.5						
WB2	**Warramunga Arr**	**24.18**	**229**	*e*P	P	02 21 33.0	-0.6
WRA	**Warramunga Arr**	**24.19**	**229**	P	P	02 21 33.0	-0.7
	5.5nm,0.5s,baz=54,slow=10.0,SNR=92						
STKA	**Stephens Creek**	**29.52**	**201**	P	P	02 22 19.8	-2.7
	2.8nm,0.7s,baz=46,slow=15,SNR=5.8						
FITZ	**Fitzroy Crossi**	**30.41**	**241**	P	P	02 22 28.1	-2.3
	2.6nm,0.5s,baz=37,slow=1.5,SNR=7.2						
SONM	**Songino Array**	**66.31**	**327**	P	P	02 27 03.1	-1.6
	0.2nm,0.4s,baz=128,slow=4.9,SNR=3.1						
MKAR	**Makanchi Array**	**80.43**	**319**	P	P	02 28 24.6	-2.1
	0.6nm,0.8s,baz=104,slow=5.9,SNR=4.3						

*ISK **19** 02:42:44.3,34.44N×32.55E,h78km,MD3.7*
*HLW **19** 02:42:49.1,35.06N×32.82E,h33km,Mb3.5*
*CSEM **19** 02:42:50.2±0.0,34.90N×32.72E,h60km,Mw3.3,Error ellipse: s-maj=1.3km s-min=1.0km az=76.0*
*NIC **19** 02:42:52.1±0.2,34.90N×32.81E,h50km,ML3.5,MW3.3*
*NEIC **19** 02:42:52.1,34.90N×32.81E,h50km,After NIC.*
*GRAL **19** 02:42:53.1±2.4,34.81N×32.78E,h44km±22km,MD3.8*
*IDC **19** 02:42:53.3±1.9,34.79N×32.67E,h75km±32km,mb3.4/2, mb1 3.5/6,mb1mx3.2/20,mbtmp3.7/6,Error ellipse: s-maj=38.5km s-min=15.7km az=37.0*
*GII **19** 02:42:57.2±2.8,34.62N×33.02E,h25km±30km,ML2.9/5*
ISC 19 02:42:50.4±0.3,34.85N±0.02×32.70E±0.03,h61km±4km, n72,σ1°09/92,mb3.7/2,9C-7D,Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SZAC	**Souni-Zanaja**	**0.18**	**120**	⇑P	P	02 43 00.3	+0.5
SZAC				S	S	02 43 06.2	-0.6
SZAC	**Souni-Zanaja**	**0.18**	**120**	*e*P	P	02 43 00.3	+0.5
SZAC	**Souni-Zanaja**	**0.18**	**120**	⇑*i*P	P	02 43 00.3	+0.5
SZAC				S	S	02 43 06.2	-0.6
PPCY	**Paphos**	**0.29**	**278**	*e*P	P	02 43 02.4	+1.7
PPCY	**Paphos**	**0.29**	**278**	⇑*i*P	P	02 43 02.4	+1.7
LEF	**Lefka**	**0.32**	**30**	*i* PG	P	02 43 00.7	-0.1
ALFC	**Alevga**	**0.32**	**345**	⇑*e*P	P	02 43 01.5	+0.6
	54nm,0.3s						
ALFC				S	S	02 43 08.5	-0.1
CSS	**Prodhromos**	**0.53**	**77**	⇓P	P	02 43 02.5	-0.4
	33nm,0.2s						
CSS				S	S	02 43 11.2	-0.9
CSS	**Prodhromos**	**0.53**	**77**	*e*P	P	02 43 02.5	-0.4
CSS	**Prodhromos**	**0.53**	**77**	⇓*i*P	P	02 43 02.5	-0.4
	33nm,0.2s						
CSS	**Prodhromos**	**0.53**	**77**	⇓*i*P	P	02 43 02.5	-0.4
CSS				S	S	02 43 11.2	-0.9
MAMC	**Mammari**	**0.54**	**53**	*e*P	P	02 43 02.9	-0.1
MAMC	**Mammari**	**0.54**	**53**	⇓*i*P	P	02 43 02.9	-0.1
PHNC	**Paralimni**	**1.11**	**81**	P	P	02 43 10.9	+0.7
PHNC				S	S	02 43 24.8	-0.1
PHNC	**Paralimni**	**1.11**	**81**	*e*P	P	02 43 10.9	+0.7
IKL	**Isikli**	**1.61**	**30**	*i* PG	P	02 43 17.9	+0.8
HDMB	**Hadim**	**2.12**	**355**	PG	P	02 43 25.5	+1.2
HDMB				SG	S	02 43 53.2	+3.8
MATL	**Matirih**	**2.57**	**121**	*e*S	S	02 43 57.8	-2.9
BHL	**Bhannes**	**2.62**	**110**	*e*P	P	02 43 30.3	-1.1
BHL				*e*S	S	02 43 57.5	-4.5
HNTI	**Hanita**	**2.71**	**130**	Pn	P	02 43 33.1	+0.5
HNTI				Sn	S	02 44 00.9	-3.4
HWQ	**Hawqa**	**2.74**	**101**	*e*P	P	02 43 32.9	-0.2
HWQ				*e*S	S	02 44 03.0	-2.1
HAF	**Haifa**	**2.83**	**136**	Pn	P	02 43 34.8	+0.5
OFRI	**'Ofer**	**2.93**	**139**	Pn	P	02 43 35.8	+0.2
ELL	**Elmali**	**2.96**	**311**	PG	P	02 43 33.2	-2.9
KSDI	**Kefar Szold**	**2.96**	**123**	Pn	P	02 43 36.4	+0.2
HRI	**Mount Hermon**	**2.97**	**121**	Pn	P	02 43 36.6	+0.3
KONT	**Konya--Tatoy**	**3.10**	**355**	PG	P	02 43 39.2	+1.0
BCK	**Bucak**	**3.12**	**327**	PG	P	02 43 37.1	-1.3
FKH	**Fakeheh**	**3.12**	**100**	*e*P	P	02 43 38.5	+0.2
FKH				*e*S	S	02 44 13.1	-1.5
FKH	**Fakeheh**	**3.12**	**100**	*e*P	P	02 43 38.5	+0.1
FKH				*e*S	S	02 44 13.1	-1.5
KSHT	**Keshet**	**3.19**	**125**	Pn	P	02 43 40.1	+0.8
SLTI	**Sal'it**	**3.25**	**142**	Pn	P	02 43 41.6	+1.3
SLTI				Sn	S	02 44 14.5	-3.5
CEYT	**Ceyhan**	**3.29**	**48**	PG	P	02 43 39.7	-1.0
MMLI	**Mount Malkishu**	**3.31**	**136**	Pn	P	02 43 41.7	+0.7
DALT	**Dalyan (Mudla)**	**3.82**	**301**	PG	P	02 43 44.3	-3.9
HRSH	**Kfar Ka'horesh**	**3.97**	**167**	⇑P	P	02 43 50.8	+0.5
RSH		**3.97**	**167**	P	P	02 43 50.8	+0.5
MKRJ	**Makawir**	**4.11**	**142**	Pn	P	02 43 53.8	+1.5
DENT	**Denizli**	**4.14**	**316**	PG	P	02 43 50.2	-2.6
KZIT	**Kziot**	**4.18**	**160**	Pn	P	02 43 53.6	+0.4
KZIT				Sn	S	02 44 39.7	-1.6
AMAG	**Maghara**	**4.21**	**174**	⇑P	P	02 43 54.3	+0.6
MASH	**Mash'abbe Sade**	**4.22**	**155**	Pn	P	02 43 55.2	+1.3
YER	**Yerkesik**	**4.25**	**304**	PG	P	02 43 49.5	-4.7
GAZ	**Gaziantep**	**4.33**	**56**	PG	P	02 43 53.5	-2.0
ASF	**Jabal al Asfar**	**4.41**	**126**	P	P	02 43 57.4	+1.0
	2.5nm,0.3s,baz=198,slow=4.0,SNR=18						
ASF				S	S	02 44 48.3	+1.3
	5.5nm,0.3s,baz=28,slow=17,SNR=10						
KAMT	**Kaman**	**4.59**	**10**	*e*PG	P	02 43 59.4	+0.4
MLSB	**Milas**	**4.67**	**303**	*e*PG	P	02 43 56.1	-4.1
PRNI	**Paran**	**4.89**	**156**	Pn	P	02 44 03.4	+0.3
ESKT	**Eskisehir**	**4.89**	**343**	*e*PG	P	02 44 02.2	-1.0
BODT	**Bodrum**	**4.90**	**298**	*e*PG	P	02 43 57.4	-5.9
BRTR	**Keskin Array B**	**4.93**	**8**	P	P	02 44 05.2	+1.5
	0.2nm,0.3s,baz=198,slow=16,SNR=5.4						
BRTR				S	S	02 45 00.6	+0.6
	0.1nm,0.3s,baz=126,slow=29,SNR=3.2						
KOT	**Kottamia**	**4.96**	**189**	P	P	02 44 04.9	+0.7
HNKL	**Nakhl**	**5.02**	**167**	P	P	02 44 05.4	+0.4
HNKL				S	S	02 45 00.8	-1.5
HSAF	**As Saff**	**5.30**	**191**	⇓P	P	02 44 09.5	+0.6
GLL	**Jalalah**	**5.32**	**189**	⇑P	P	02 44 09.7	+0.6
IZM	**Izmir**	**5.63**	**311**	*e*PG	P	02 44 08.5	-4.8
HMAT	**Matruh**	**6.01**	**233**	⇓P	P	02 44 19.6	+0.8
HMAT				S	S	02 45 24.2	-2.8
HMAT	**Matruh**	**6.01**	**233**	P	P	02 44 19.5	+0.8
NUB		**6.03**	**164**	P	P	02 44 19.5	+0.5
HKAT	**Jabal Katrina**	**6.40**	**170**	P	P	02 44 23.9	-0.3
IDI	**Anoyia**	**6.42**	**276**	P	P	02 44 24.6	+0.2
	2.3nm,0.3s,baz=89,slow=12,SNR=52						
IDI				S	S	02 45 34.3	-2.8
	2.7nm,0.3s,baz=169,slow=20,SNR=7.9						
TR2		**6.50**	**172**	P	P	02 44 25.3	-0.3
TR1		**6.90**	**171**	P	P	02 44 30.6	-0.6
GVD	**Gavdhos**	**7.08**	**272**	Pn	P	02 44 34.0	+0.4
SLUM		**7.11**	**244**	⇑P	P	02 44 34.0	-0.2
AWBH		**7.26**	**207**	P	P	02 44 36.9	+0.7
SWA1		**8.13**	**229**	⇑P	P	02 44 48.5	+0.3
SWA1				S	S	02 46 15.9	-3.6
SWA2		**8.30**	**230**	⇓P	P	02 44 50.1	-0.4
AKASG	**Malin Array Be**	**16.05**	**352**	P	P	02 46 36.9	+3.6
	0.8nm,0.3s,baz=175,slow=10,SNR=6.0						
GERES	**GERESS Array B**	**19.82**	**321**	P	P	02 47 19.3	+0.9
	0.1nm,0.3s,baz=120,slow=11,SNR=7.2						
FINES	**FINESS Array B**	**26.95**	**353**	P	P	02 48 27.4	-0.3
	0.4nm,0.3s,mb3.4,baz=157,slow=9.9,SNR=8.2						
ARCES	**ARCESS Array B**	**34.97**	**356**	P	P	02 49 38.0	-0.2
	1.9nm,0.9s,mb4.0,baz=159,slow=10,SNR=5.3						

*BJI **19** 03:10:03.3,40.11N×77.06E,h18km,ML3.5*
*NNC **19** 03:10:05.2±3.6,40.23N×77.10E,mpv3.2,Error ellipse: s-maj=30.9km s-min=17.7km az=168.0*
ISC 19 03:10:03.7±2.2,39.9N±0.1×77.3E±0.2,h33km,n13, σ0°53/13,5C-2D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.11**	**250**	⇑*i*PG	P	03 10 22.3	-0.6
KSH				SG	S	03 10 37.8	+0.6
KSH				Smax			
	comp=N,620nm,0.6s						
KSH				Smax			
	comp=E,770nm,0.4s						
ULHL	**Ulahol**	**2.48**	**341**	P	P	03 10 42.9	+0.4
	SNR=151						
KZA	**Kyzart**	**2.68**	**325**	P	P	03 10 45.2	-0.2
	SNR=97						
KBK	**Karagaybulak**	**3.28**	**328**	P	P	03 10 57.5	+3.6
	SNR=6.6						
TKM2	**Tokmak 2**	**3.28**	**337**	P	P	03 10 54.3	+0.4
	SNR=25						
AAK	**Ala-Archa**	**3.46**	**323**	⇑Pn	Pn	03 10 56.5	-0.1
	comp=E,6.8nm,0.3s						
AAK				Lg		03 11 42.6	
	comp=E,87nm,1.0s						
AML	**Almayashu**	**3.53**	**310**	P	P	03 10 57.3	-0.2
	SNR=19						
CHMS	**Chumysh**	**3.65**	**329**	P	P	03 10 59.0	-0.1
	SNR=8.9						
EKS2	**Erkin-Say**	**3.84**	**317**	P	P	03 11 01.9	+0.1
	SNR=9.9						
USP	**Ospenovka**	**3.97**	**329**	P	P	03 11 03.3	-0.5
	SNR=6.3						
KK31	**Karatay Array**	**6.03**	**304**	⇑Pn	Pn	03 11 32.5	-0.5
	comp=E,2.7nm,0.8s,baz=131,slow=14						
KK31				⇑Lg		03 13 03.4	
	comp=E,7.5nm,0.8s,baz=136,slow=24						
MK31	**Makanchi Array**	**7.78**	**26**	⇑Pn	Pn	03 11 57.8	+0.2
	comp=E,0.3nm,0.4s,baz=197,slow=14						
MK31				⇓Lg		03 14 03.5	
	comp=E,2.5nm,0.8s,baz=210,slow=29,SNR=4.0						
KURK	**Kurchatov**	**10.85**	**4**	⇓Lg		03 15 38.3	
	comp=E,1.7nm,0.8s						

*IDC **19** 03:17:22.8±0.7,6.79N×72.96W,h164km±7km,mb3.4/7, mb1 3.6/9,mb1mx3.4/22,mbtmp3.9/9,Error ellipse: s-maj=14.4km s-min=7.5km az=128.0*
*NEIC **19** 03:17:23.4±0.7,6.78N×73.01W,h170km±7km,mb3.9/1, Error ellipse: s-maj=11.6km s-min=8.7km az=74.0*
ISC 19 03:17:22.3±0.7,6.80N±0.07×72.96W±0.09,h175km±7km, n11,σ0°57/12,mb3.6/7,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.36**	**215**	P	P	03 18 03.7	+0.1
	57nm,0.3s,baz=262,slow=24,SNR=108						
ROSC				S	S	03 18 35.0	-0.3
	148nm,0.3s,baz=100,slow=19,SNR=13						
SDV	**Santo Domingo**	**3.10**	**48**	P	P	03 18 13.6	+1.1
	5.9nm,0.3s,baz=276,slow=5.6,SNR=17						
SDV				S	S	03 18 50.6	-0.6
	34nm,0.3s,baz=70,slow=19,SNR=32						
SAML	**Samuel**	**18.43**	**148**	*e*P	P	03 21 26.4	-0.6
	2.3nm,0.4s						
SAML				*e*pP		03 21 54.4	
LPAZ	**La Paz**	**23.43**	**168**	P	P	03 22 17.9	+0.9
	0.6nm,0.5s,mb3.3,baz=349,slow=16,SNR=5.6						
SIV	**San Ignacio**	**25.52**	**153**	P	P	03 22 36.1	-0.4
	0.8nm,0.7s,mb3.5,baz=338,slow=11,SNR=5.9						
BDFB	**Brasilia**	**33.28**	**132**	P	P	03 23 46.0	+0.5
	1.2nm,0.5s,mb3.9,baz=302,slow=16,SNR=3.8						
TXAR	**Lajitas Array**	**36.60**	**312**	P	P	03 24 13.7	+0.3
	0.8nm,0.6s,mb3.5,baz=126,slow=8.7,SNR=14						
ULM	**Lac du Bonnet**	**47.36**	**340**	P	P	03 25 39.9	-0.5
	1.0nm,0.3s,mb3.9,baz=135,slow=7.1,SNR=2.7						
PDAR	**Pinedale Array**	**48.19**	**324**	P	P	03 25 46.9	0.0
	0.7nm,0.6s,mb3.5,baz=126,slow=8.9,SNR=6.8						
DBIC	**Dimbokro**	**67.58**	**86**	P	P	03 28 02.1	-0.5
	2.4nm,0.9s,mb3.9,baz=263,slow=8.7,SNR=3.8						
WRA	**Warramunga Arr**	**150.47**	**241**	PKPbc	PKPdf	03 36 55.2	+6.8
	0.6nm,0.5s,baz=109,slow=2.4,SNR=19						

*CSEM **19** 03:32:05.3±0.9,38.64N×28.59W,h5km,ML1.6,Error ellipse: s-maj=2.9km s-min=2.1km az=154.0,After PDA*
*PDA **19** 03:32:05.3±0.9,38.64N×28.59W,h5km,MD2.8,ML1.6, Error ellipse: s-maj=2.9km s-min=2.1km az=154.0*
SVSA 19 03:32:05.3±0.9,38.64N×28.59W,h5km,MD2.8,ML1.6, Error ellipse: s-maj=2.9km s-min=2.1km az=154.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.09**	**266**	*e*P	Pg	03 32 06.9	-0.4
PCED				*e*S	Sg	03 32 08.8	+0.1
	94nm,0.1s						
CALA	**Caldeira**	**0.10**	**239**	*e*P	Pg	03 32 07.4	-0.2
CALA				*e*S	Sg	03 32 09.5	+0.4
HOR	**Horta**	**0.11**	**197**	*e*P	Pg	03 32 07.0	-0.7
HOR				*e*S	Sg	03 32 09.2	-0.2
HOR	**Horta**	**0.11**	**197**	*e*S	Sg	03 32 09.2	-0.2
PICO	**Pico**	**0.18**	**137**	*e*P	Pg	03 32 08.7	-0.4
PICO				*e*S	Sg	03 32 11.7	+0.1
PMAN	**Manadas**	**0.39**	**90**	*e*P	Pg	03 32 11.9	-1.2
PMAN				*e*S	Sg	03 32 17.6	-0.8
	30nm,0.1s						
PGRA	**Graciosa**	**0.61**	**50**	*e*S	Sg	03 32 23.6	-2.2
	6.2nm,0.2s						

*NEIC **19** 03:34:29.9,19.18N×64.99W,h26km,MD3.5(RSPR), After RSPR.*
RSPR 19 03:34:29.9,19.18N×64.99W,h26km±35km,MD3.5/12, MD3.5/12,11C-1D,Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTP	**Monte Pirata**	**1.21**	**207**	⇑*e*P	Pn	03 34 48.4	-3.0
MTP				*e*S	Sn	03 35 03.9	-3.1
CBYP	**Canovanas**	**1.22**	**223**	⇑*e*P	Pn	03 34 49.0	-2.7
CBYP				*e*S	Sn	03 35 04.4	-3.0
HUMP	**Col San Antoni**	**1.32**	**219**	⇑*e*P	Pn	03 34 49.8	-3.2
HUMP				*e*S	Sn	03 35 06.3	-3.5
CDVI	**St. Croix**	**1.43**	**172**	⇑*e*P	Pn	03 34 52.5	-2.1
CDVI				*e*S	Sn	03 35 10.0	-2.8
CPD	**Cerro la Pandu**	**1.44**	**218**	⇓*e*P	Pn	03 34 51.5	-3.1
CPD				*e*S	Sn	03 35 09.6	-3.3
SJG	**San Juan**	**1.53**	**226**	⇑*e*P	Pn	03 34 53.1	-2.9
AOPR	**Arecibo Observ**	**1.87**	**244**	⇑*e*P	Pn	03 34 58.2	-2.6
AOPR				*e*S	Sn	03 35 20.9	-2.9
PORP	**Portuguez**	**1.93**	**235**	⇑*e*P	Pn	03 34 59.1	-2.6
PORP				*e*S	Sn	03 35 21.8	-3.5
ICM	**Isla Caja Muer**	**1.94**	**229**	⇑*e*P	Pn	03 34 59.9	-2.0
ICM				*e*S	Sn	03 35 22.5	-3.1
LRS	**Lares**	**1.97**	**244**	⇑*e*P	Pn	03 35 01.2	-1.1
MGP	**Maguayo**	**2.31**	**240**	⇑*e*P	Pn	03 35 05.5	-1.7
MGP				*e*S	Sn	03 35 30.9	-4.1
CRPR	**Cabo Rojo, PR**	**2.33**	**240**	⇑*e*P	Pn	03 35 05.0	-2.4
CRPR				*e*S	Sn	03 35 32.4	-3.1

*CSEM **19** 04:07:19.3±0.4,51.54N×16.18E,h2km,ML2.7/2,Error ellipse: s-maj=6.0km s-min=2.7km az=31.0*
*PRU **19** 04:07:20.1,51.50N×16.15E*
*NEIC **19** 04:07:22.7±1.9,51.36N×16.04E,h5km,ML2.6(VIE), ML2.2(BRG),Error ellipse: s-maj=21.6km s-min=7.3km az=213.0*
WAR 19 04:07:21.3,51.48N×16.10E,h1km,ML2.4,2C,Mining Induced,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.65**	**169**	*e*PG	Pg	04 07 33.0	-1.4
KSP				*e*SG	Sg	04 07 42.0	-1.1
UPC	**Upice**	**0.98**	**183**	*e*PG	Pg	04 07 39.1	-1.8
DPC	**Dobruska-Polom**	**1.14**	**173**	*e*PG	Pg	04 07 42.0	-2.1
DPC				*e*SG	Sg	04 07 56.5	-2.9
	8.8nm,0.3s						
PVCC	**Panska Ves**	**1.36**	**226**	*e*PG	Pg	04 07 46.2	-2.2
BRG	**Berggiesshubel**	**1.49**	**247**	Pg	Pg	04 07 48.8	-2.2
BRG				Sg	Sg	04 08 08.9	-1.9
BRG	**Berggiesshubel**	**1.49**	**247**	Pg	Pg	04 07 48.8	-2.2
BRG				Sg	Sg	04 08 08.9	-1.9
PRU	**Pruhonice**	**1.79**	**214**	*e*PG	Pg	04 07 53.5	-3.6
PRU				*e*SG	Sg	04 08 17.3	-3.7
MORC	**Moravsky Berou**	**1.94**	**151**	*e*Pn	Pn	04 07 54.0	-1.8
MORC				*e*Sn	Sn	04 08 16.2	-4.9
MORC				*e*Sg	Sg	04 08 20.0	-5.9
MORC	**Moravsky Berou**	**1.94**	**151**	*e*Pn	Pn	04 07 54.0	-1.8
MORC				*e*Sn	Sn	04 08 16.2	-4.9
CLL	**Collm**	**1.95**	**266**	*e*PG	Pg	04 07 57.0	-3.2
CLL				*i*		04 08 00.9	
CLL				*i* SG	Sg	04 08 22.0	-4.1
CLL	**Collm**	**1.95**	**266**	*e*Pg	Pg	04 07 57.0	-3.2
CLL				*i* Sg	Sg	04 08 22.0	-4.1
OKC	**Ostrava-Krasne**	**2.10**	**141**	*e*SG	Sg	04 08 26.5	-4.8
NKC	**Novy Kostel**	**2.63**	**243**	*e*PN	Pn	04 08 04.4	-1.2
NKC				*e*SG	Sg	04 08 45.1	-3.8
KHC	**Kasperske Hory**	**2.86**	**215**	*e*PN	Pn	04 08 04.4	-4.4
KHC				*e*PG	Pg	04 08 12.8	-5.5
KHC				*e*SG	Sg	04 08 51.0	-5.4
KHC	**Kasperske Hory**	**2.86**	**215**	*e*Pg	Pg	04 08 12.8	-5.5
KHC				*e*Sg	Sg	04 08 51.0	-5.4
MOX	**Moxa**	**2.95**	**255**	*e*Pg	Pg	04 08 16.3	-3.9
MOX				*e*Sg	Sg	04 08 56.1	-3.4
MOA	**Molln**	**3.83**	**199**	⇑*i*PN	Pn	04 08 21.3	-1.3
MOA				*i* SG	Sg	04 09 24.3	-4.4
	4.3nm,0.5s						
KBA	**Koelnbreinsper**	**4.76**	**203**	⇑*i*PN	Pn	04 08 34.1	-1.8
KBA				*i* SG	Sg	04 09 54.8	-5.1
	2.4nm,0.5s						

IDC 19 04:43:15.8±2.2,49.06S×108.78E,mb4.1/2,mb1 4.1/2, mb1mx3.8/9,mbtmp3.9/2,MS3.7/2,Ms1 3.6/2, ms1mx3.3/13,Error ellipse: s-maj=86.2km s-min=56.1km az=122.0,Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAW	**Mawson**	**29.42**	**214**	LR	LR	04 58 29.3	
	comp=Z,87nm,20.4s,baz=48,slow=31						
WRA	**Warramunga Arr**	**35.54**	**44**	P	P	04 50 14.5	-2.0
	0.9nm,0.6s,baz=204,slow=10,SNR=13						
CBIJ	**Chichi jima**	**81.47**	**30**	LR	LR	05 31 30.2	
	comp=Z,67nm,18.3s,baz=319,slow=36						
MKAR	**Makanchi Array**	**98.20**	**342**	P	P	04 56 53.8	-1.6
	0.1nm,0.4s,baz=169,slow=6.2,SNR=3.7						
TXAR	**Lajitas Array**	**148.41**	**117**	PKPbc	PKPdf	05 03 03.5	+1.3
	0.5nm,0.8s,baz=197,slow=6.0,SNR=9.3						

*IDC **19** 04:59:52.4±2.2,33.12N×141.89E,mb3.8/4,mb1 4.0/6, mb1mx3.7/20,mbtmp3.9/6,ML3.5/2,Error ellipse: s-maj=82.5km s-min=20.5km az=69.0*
*NEIC **19** 04:59:52.2±12.0,33.16N×142.13E,h4km±70km, MG3.2(JMA),Error ellipse: s-maj=88.1km s-min=23.6km az=74.0*
*JMA **19** 04:59:54.6±0.4,33.15N×141.94E,h85km,M3.2*
ISC 19 04:59:53.8±1.9,33.08N±0.07×141.8E±0.1,h22km±18km, n19,σ0°81/31,mb3.8/4,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.72**	**336**	P	Pn	05 00 23.0	+0.1
BSO1				*e*S	Sn	05 00 45.1	+0.8
BSO3	**Boso 3**	**2.03**	**328**	P	Pn	05 00 27.6	+0.2
BSO3				*e*S	Sn	05 00 52.9	+0.6
BSO4	**Boso 4**	**2.27**	**327**	P	Pn	05 00 31.8	+1.0
BSO4				*e*S	Sn	05 00 59.4	+1.1
JIM2	**Oshima 3**	**2.57**	**310**	*e*S	Sn	05 01 06.0	0.0
JOD2	**Odawara 2**	**3.14**	**315**	P	Pn	05 00 42.9	-0.3
JYN	**Shimob**	**3.63**	**312**	P	Pn	05 00 50.7	+0.6
JYN				*e*S	Sn	05 01 33.3	+0.5
JRY	**Ryogami san**	**3.79**	**321**	P	Pn	05 00 51.9	-0.5
JRY				*e*S	Sn	05 01 37.0	+0.1
JAG	**Ashikaga**	**3.86**	**330**	P	Pn	05 00 53.3	-0.2
JAG				*e*S	Sn	05 01 36.9	-1.8
MJAR	**Matsushiro Arr**	**4.55**	**320**	Pn	Pn	05 01 02.5	-0.8
	2.6nm,0.3s,baz=144,slow=12,SNR=19						
MJAR				Sn	Sn	05 01 55.0	-1.2
	1.6nm,0.3s,baz=127,slow=25,SNR=6.5						
MAJO	**Matsushiro**	**4.56**	**320**	*e*Pn	Pn	05 01 04.0	+0.7
MAT	**Matsushiro**	**4.56**	**320**	P	Pn	05 01 03.2	-0.1
MAT				S	Sn	05 01 54.3	-2.0
MAT	**Matsushiro**	**4.56**	**320**	P	Pn	05 01 04.9	+1.6
MAT				*e*S	Sn	05 01 55.9	-0.4
MAT	**Matsushiro**	**4.56**	**320**	*e*P	Pn	05 01 04.0	+0.7
MAT				*e*S	Sn	05 01 54.0	-2.3
JMM	**Marumori**	**4.84**	**350**	P	Pn	05 01 06.3	-1.1
JMM				*e*S	Sn	05 01 55.8	-7.7
CBIJ	**Chichi jima**	**5.98**	**177**	Pn	Pn	05 01 22.9	-0.5
	3.3nm,0.3s,baz=17,slow=20,SNR=2.1						
CBIJ				Sn	Sn	05 02 26.2	-5.7
	5.4nm,0.3s,baz=308,slow=19,SNR=2.1						
SONM	**Songino Array**	**30.42**	**310**	P	P	05 06 07.9	+1.3
	0.7nm,0.6s,mb3.6,baz=115,slow=7.8,SNR=4.8						
MKAR	**Makanchi Array**	**46.59**	**305**	P	P	05 08 21.9	0.0
	0.4nm,0.4s,mb3.7,baz=90,slow=9.7,SNR=3.7						
WRA	**Warramunga Arr**	**53.21**	**189**	P	P	05 09 12.6	-0.3
	1.0nm,0.5s,mb4.0,baz=5.8,slow=7.6,SNR=24						
NOA	**NORSAR Array B**	**77.96**	**338**	P	P	05 11 51.5	+0.2
	0.8nm,0.8s,mb3.7,baz=39,slow=5.7,SNR=3.6						

NNC 19 05:45:35.8±5.5,37.90N×71.55E,h191km±80km,mpv3.3, 6C,Error ellipse: s-maj=87.6km s-min=42.4km az=46.0, Afghanistan-Tajikistan border region

| Code | Station Name | Δ

STKA	Stephens Creek	26.36 190	*e*P	P	06 13 44.0	-0.4
	2.3nm,0.4s,mb4.1					
STKA	Stephens Creek	26.36 190	P	P	06 13 44.1	-0.3
	1.7nm,0.4s,mb3.9,baz=3.8,slow=12,SNR=7.5					
STKA			LR	LR	06 25 22.9	
	comp=Z,142nm,19.8s,baz=24,slow=39					
SONM	Songino Array	64.09 331	P	P	06 18 42.4	+0.6
	4.0nm,1.1s,mb4.4,baz=152,slow=8.3,SNR=14					
CASY	Casey	65.35 195	*e*P	P	06 18 49.5	-0.3
	4.3nm,0.7s,mb4.6					
MKAR	Makanchi Array	77.16 321	P	P	06 20 00.8	0.0
	0.8nm,0.7s,mb3.7,baz=101,slow=6.2,SNR=5.3					
MAW	Mawson	82.30 203	P	P	06 20 28.9	+0.9
	2.4nm,0.6s,mb4.3,baz=96,slow=7.8,SNR=10.0					
ILAR	Eielson Array	85.43 23	P	P	06 20 43.2	-0.4
	5.1nm,0.7s,mb4.7,baz=255,slow=5.3,SNR=50					
PDAR	Pinedale Array	104.02 47	Pdiff	Pdif	06 22 10.8	+1.1
	0.4nm,0.8s,baz=270,slow=3.0,SNR=3.9					
PLCA	Paso Flores	122.45 147	PKP	PKPdf	06 27 03.0	+2.3
	1.1nm,0.5s,baz=18,slow=4.3,SNR=4.7					
LPAZ	La Paz	139.15 123	PKhKP		06 27 28.1	
	0.4nm,0.6s,baz=210,slow=8.1,SNR=3.9					
LPAZ			PKP	PKPdf	06 27 33.1	+0.3
	1.6nm,0.9s,baz=228,slow=6.2,SNR=4.6					
CPUP	Villa Florida	140.46 145	PKP	PKPdf	06 27 36.4	+1.4
	2.0nm,0.9s,baz=183,slow=3.8,SNR=3.8					
SAML	Samuel	146.81 116	*e*PKPdf	PKPdf	06 27 49.4	+3.0
BDFB	Brasilia	154.19 146	PKPbc	PKPdf	06 28 07.5	+10
	3.3nm,0.4s,baz=186,slow=4.9,SNR=11					

NEIC 19 06:11:08.5,31.16S×179.03W,h242^{km},mb4.4/1,1D, After WEL.,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	2.13	27	*e*Pn	P	06 11 51.3	-0.6
MXZ	Matakaoa Point	6.76	198	PN	P	06 12 46.6	-0.1
MXZ				SN	S	06 14 01.0	-2.4
MXZ	Matakaoa Point	6.76	198	P	P	06 12 46.6	-0.1
PUZ	Puketiti	7.25	197	PN	P	06 12 51.8	-1.1
PUZ				SN	S	06 14 10.5	-4.2
PUZ	Puketiti	7.25	197	P	P	06 12 52.8	-0.1
MWZ	Matawai	7.70	201	PN	P	06 12 58.9	+0.2
MWZ				SN	S	06 14 24.0	-1.0
MWZ	Matawai	7.70	201	*e*P	P	06 12 58.9	+0.2
URZ	Urewera	7.76	203	PN	P	06 13 00.2	+0.7
URZ				SN	S	06 14 26.2	-0.2
URZ	Urewera	7.76	203	P	P	06 13 00.2	+0.7
KNZ	Kokohu	8.29	198	PN	P	06 13 05.8	-0.4
BKZ	Black Stump Fm	8.79	203	PN	P	06 13 12.7	+0.2
BKZ	Black Stump Fm	8.79	203	*e*P	P	06 13 12.6	0.0
TSZ	Takapari Road	9.77	203	PN	P	06 13 24.4	-0.6
TSZ	Takapari Road	9.77	203	*e*P	P	06 13 24.8	-0.2
MRZ	Mangatainoka R	10.44	203	PN	P	06 13 32.9	-0.6
MRZ	Mangatainoka R	10.44	203	*e*P	P	06 13 32.8	-0.7
KIW	Kapiti Island	10.85	205	P	P	06 13 38.2	-0.5
MTW	Mount Morrison	10.91	202	PN	P	06 13 38.4	-1.1
MTW	Mount Morrison	10.91	202	P	P	06 13 38.1	-1.4
CAW	Cannon Point	11.01	204	P	P	06 13 39.6	-1.2
NNZ	Nelson	11.76	209	PN	P	06 13 46.4	-3.7
THZ	Tophouse	12.41	209	*e*P	P	06 14 01.1	+2.9
KHZ	Kahutara	12.71	206	*e*P	P	06 14 02.5	+0.5
QSPA	South Pole Qui	58.95	180	⇓*i*P	P	06 20 38.4	-5.6
	6.9nm,0.7s						

*NEIC **19** 06:26:25.0,38.56S×176.20E,h109^{km},MG3.7(WEL), After WEL.*

WEL 19 06:26:25.1±0.1,38.57S×176.21E,h108^{km}±1^{km},ML3.7/14, Error ellipse: s-maj=0.9km s-min=0.7km az=90.0,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATZ	Paeroa	0.19	13	PN	P	06 26 40.4	+0.1
PATZ	Paeroa	0.19	13	P	P	06 26 40.4	+0.1
HATZ	Hinemaiaia	0.34	195	PN	P	06 26 40.6	-0.3
HATZ				SN	S	06 26 52.2	-0.5
HATZ	Hinemaiaia	0.34	195	P	P	06 26 40.6	-0.3
HATZ				S	S	06 26 52.4	-0.3
UTU	Utuhina	0.39	358	PN	P	06 26 41.1	-0.1
UTU	Utuhina	0.39	358	P	P	06 26 41.1	-0.1
WATZ	Wairara	0.40	249	PN	P	06 26 41.0	-0.2
WATZ				SN	S	06 26 53.0	-0.3
WATZ	Wairara	0.40	249	P	P	06 26 41.0	-0.2
TAZ	Tarawera	0.41	36	PN	P	06 26 41.1	-0.1
TAZ	Tarawera	0.41	36	P	P	06 26 41.2	-0.1
RATZ	Rangitukua	0.46	228	PN	P	06 26 41.4	-0.2
RATZ	Rangitukua	0.46	228	P	P	06 26 41.4	-0.2
RITZ	Rihia Road	0.49	213	PN	P	06 26 42.0	+0.2
KATZ	Kakaramea	0.57	224	PN	P	06 26 42.2	-0.2
LIRZ	Lichensteins R	0.58	14	PN	P	06 26 42.4	0.0
LIRZ	Lichensteins R	0.58	14	P	P	06 26 42.4	0.0
EDRZ	Edgecumbe	0.62	43	PN	P	06 26 42.4	-0.3
EDRZ	Edgecumbe	0.62	43	P	P	06 26 42.4	-0.3
BKZ	Black Stump Fm	0.64	160	PN	P	06 26 42.9	0.0
BKZ				SN	S	06 26 56.0	-0.3
BKZ	Black Stump Fm	0.64	160	P	P	06 26 42.9	0.0
BKZ				S	S	06 26 56.0	-0.3
MARZ	Manawahe	0.69	33	PN	P	06 26 43.0	-0.2
MARZ	Manawahe	0.69	33	P	P	06 26 43.1	-0.1
KRVZ	Karewarewa	0.69	220	PN	P	06 26 43.1	-0.1
WTVZ	West Tongariro	0.73	221	PN	P	06 26 43.5	-0.2
WTVZ	West Tongariro	0.73	221	P	P	06 26 43.5	-0.2
OTVZ	Oturere	0.73	215	PN	P	06 26 43.9	+0.2
NGZ	Ngauruhoe	0.77	217	PN	P	06 26 44.0	-0.1
NGZ	Ngauruhoe	0.77	217	P	P	06 26 44.0	-0.1
URZ	Urewera	0.77	67	PN	P	06 26 43.6	-0.6
URZ				SN	S	06 26 57.6	-0.7
URZ	Urewera	0.77	67	P	P	06 26 43.6	-0.5
TWVZ	Taurewa	0.79	230	PN	P	06 26 43.9	-0.3
CNZ	Chateau	0.81	219	PN	P	06 26 44.2	-0.4
CNZ	Chateau	0.81	219	P	P	06 26 42.3	-2.2
WPVZ	Whakapapa	0.82	219	PN	P	06 26 44.2	-0.4
TUVZ	Tukino	0.82	211	PN	P	06 26 44.7	+0.1
TUVZ	Tukino	0.82	211	P	P	06 26 44.7	+0.1
FWVZ	Far West T-bar	0.86	216	PN	P	06 26 44.6	-0.3
FWVZ	Far West T-bar	0.86	216	P	P	06 26 44.6	-0.4
DRZ	Dome Shelter	0.87	215	PN	P	06 26 45.2	+0.2
DRZ	Dome Shelter	0.87	215	P	P	06 26 45.2	+0.1
TRVZ	Turoa	0.90	215	PN	P	06 26 45.3	0.0
WNVZ	Wahianoa	0.90	212	PN	P	06 26 45.3	-0.1
WNVZ	Wahianoa	0.90	212	P	P	06 26 45.3	0.0
MOVZ	Moawhango	0.91	203	PN	P	06 26 45.0	-0.5
MOVZ				SN	S	06 27 00.1	-0.7
MOVZ	Moawhango	0.91	203	P	P	06 26 45.0	-0.5
PKVZ	Pokaka	0.99	222	PN	P	06 26 46.0	-0.2
PKVZ				SN	S	06 27 01.6	-0.5
MTVZ	Mangateitei	1.00	215	PN	P	06 26 46.3	-0.1
HIZ	Hauiti	1.06	272	PN	P	06 26 46.5	-0.5
HIZ				SN	S	06 27 02.3	-1.2
HIZ	Hauiti	1.06	272	P	P	06 26 46.5	-0.5
MWZ	Matawai	1.06	78	PN	P	06 26 46.6	-0.5
MWZ	Matawai	1.06	78	P	P	06 26 46.6	-0.5
KNZ	Kokohu	1.23	112	PN	P	06 26 49.0	-0.1
KNZ				SN	S	06 27 06.3	-0.8
KNZ	Kokohu	1.23	112	P	P	06 26 49.2	+0.1
KNZ				S	S	06 27 05.9	-1.2
VRZ	Vera Road	1.26	243	PN	P	06 26 48.8	-0.5
VRZ	Vera Road	1.26	243	*e*P	P	06 26 48.8	-0.6
TSZ	Takapari Road	1.50	187	PN	P	06 26 51.2	-1.1
TSZ	Takapari Road	1.50	187	P	P	06 26 51.2	-1.1
WAZ	Wanganui	1.52	218	PN	P	06 26 52.0	-0.5
WAZ	Wanganui	1.52	218	P	P	06 26 52.0	-0.5
PUZ	Puketiti	1.69	74	PN	P	06 26 54.0	-0.5
PUZ				SN	S	06 27 15.7	-0.8
PUZ	Puketiti	1.69	74	P	P	06 26 54.0	-0.5
PUZ				S	S	06 27 15.7	-0.8
MXZ	Matakaoa Point	1.94	60	PN	P	06 26 57.4	-0.2
MXZ				SN	S	06 27 22.1	+0.2
MXZ	Matakaoa Point	1.94	60	P	P	06 26 57.4	-0.2
BFZ	Birch Farm	2.11	179	PN	P	06 26 58.1	-1.9
BFZ	Birch Farm	2.11	179	P	P	06 26 58.1	-1.9
MRZ	Mangatainoka R	2.15	193	PN	P	06 26 58.1	-2.3
MRZ	Mangatainoka R	2.15	193	P	P	06 26 58.1	-2.4
KIW	Kapiti Island	2.50	203	P	P	06 27 02.2	-3.1
CAW	Cannon Point	2.69	199	P	P	06 27 04.4	-3.4
MRW	Makara Radio	2.90	203	P	P	06 27 06.9	-3.8
MSWZ	Moikau Station	2.94	194	P	P	06 27 07.3	-3.9
SNZO	South Karori	2.97	202	P	P	06 27 07.6	-4.1
NNZ	Nelson	3.43	218	*e*P	P	06 27 13.8	-4.0
THZ	Tophouse	4.07	217	*e*P	P	06 27 22.1	-4.5

*CNRM **19** 06:55:03.0,34.40N×3.43W,h19^{km},MD3.5*
*CSEM **19** 06:55:05.3±0.3,34.50N×4.42W,h10^{km},MD3.5,Error ellipse: s-maj=8.6km s-min=5.8km az=89.0*
*MDD **19** 06:55:07.5±0.8,34.36N×4.40W,h23^{km}±10^{km},mbLg2.1/9, Error ellipse: s-maj=12.2km s-min=10.3km az=85.0, PRXIMO*
*NEIC **19** 06:55:08.7,34.66N×4.37W,MG3.4(MDD),After MDD.*

ISC 19 06:55:06.1±0.5,34.58N±0.03×4.48W±0.04,h10^{km},n38, σ1º02/64,Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TZK	Tazeka	0.54	153	*i*P	Pg	06 55 14.5	-2.6
TZK				*i*S	Sg	06 55 24.5	0.0
TOU	Touzarine	0.71	57	*i*P	Pb	06 55 14.0	-6.1
TOU				*i*S	Sb	06 55 23.0	-6.6
EMEL	Melilla	1.44	60	P	Pn	06 55 32.4	0.0
	85nm,0.3s,SNR=7.9						
EMEL				S	Sb	06 55 51.3	+0.4
	122nm,0.4s,SNR=4.0						
EMLI	Melilla	1.45	60	P	Pn	06 55 32.4	-0.1
	85nm,0.3s,SNR=7.9						
EMLI				S	Sb	06 55 51.3	+0.2
	122nm,0.4s,SNR=4.0						
CZD	Col de Zad	1.61	197	*i*P	Pn	06 55 34.0	-0.8
CZD				*i*S	Sn	06 55 56.0	+0.2
EALB	Alboran	1.80	41	P	Pn	06 55 37.1	-0.4
	3.7nm,0.3s,SNR=7.9						
EALB				S	Sn	06 56 00.2	-0.4
	15nm,0.3s,SNR=7.9						
EALB	Alboran	1.80	41	P	Pn	06 55 37.1	-0.4
	3.7nm,0.3s,SNR=7.9						
EALB	Alboran	1.80	41	P	Pn	06 55 36.8	-0.7
EMIJ	Mijas	2.00	353	P	Pn	06 55 39.3	-1.1
	0.9nm,0.1s,SNR=7.9						
EMIJ				S	Sn	06 56 00.6	-5.0
	5.0nm,0.2s,SNR=7.9						
EMIJ	Mijas	2.00	353	P	Pn	06 55 40.0	-0.3
	0.9nm,0.1s,SNR=7.9						
EMIJ				S	Sn	06 56 01.8	-3.8
	5.0nm,0.2s,SNR=7.9						
EMIJ	Mijas	2.00	353	P	Pn	06 55 39.6	-0.7
EMIJ				S	Sn	06 56 02.0	-3.6
EGUA	Guajares	2.37	18	P	Pn	06 55 46.4	+0.7
	0.8nm,0.2s,SNR=7.9						
EGUA				S	Sn	06 56 14.2	-0.9
	1.4nm,0.3s,SNR=7.9						
EGUA	Guajares	2.37	18	P	Pn	06 55 46.4	+0.7
EGUA				S	Sn	06 56 14.2	-0.9
ZFT	Errachidia	2.54	178	*e*P	Pn	06 55 40.5	-7.6
ZFT				*i*S	Sn	06 56 10.0	-9.3
ESPR	Espera	2.55	334	P	Pn	06 55 49.2	+1.0
	8.3nm,0.4s,SNR=7.9						
ESPR	Espera	2.55	334	P	Pn	06 55 49.2	+1.0
EBER	Berja	2.65	29	P	Pn	06 55 50.0	+0.3
	1.4nm,0.2s,SNR=7.9						
EBER				S	Sn	06 56 21.8	-0.4
	6.0nm,0.3s,SNR=7.9						
EBER	Berja	2.65	29	P	Pn	06 55 50.0	+0.3
	1.4nm,0.2s,SNR=7.9						
EBER				S	Sn	06 56 21.8	-0.4
	6.0nm,0.3s,SNR=7.9						
EQUE	Quentar	2.75	18	P	Pn	06 55 52.7	+1.6
	0.6nm,0.2s,SNR=7.9						
EQUE				S	Sn	06 56 25.4	+0.6
	2.4nm,0.4s,SNR=7.9						
EQES	Quesada	3.41	19	P	Pn	06 56 02.0	+1.4
	2.4nm,0.3s,SNR=7.9						
EQES	Quesada	3.41	19	P	Pn	06 56 02.5	+2.0
	2.4nm,0.3s,SNR=7.9						
EQES				S	Sn	06 56 38.0	-3.5
	4.2nm,0.4s,SNR=7.9						
EQES	Quesada	3.41	19	P	Pn	06 56 02.0	+1.5
EQES				S	Sn	06 56 38.5	-3.0
ECAB	El Cabril	3.57	348	S	Sn	06 56 43.4	-2.2
	1.6nm,0.4s,SNR=7.9						
ECAB	El Cabril	3.57	348	S	Sn	06 56 43.4	-2.2
	1.6nm,0.4s,SNR=7.9						
EADA	Adamuz	3.58	359	P	Pn	06 56 03.1	+0.1
	0.8nm,0.3s,SNR=7.9						
EADA				S	Sn	06 56 44.0	-1.8
	1.4nm,0.2s,SNR=7.9						
EADA	Adamuz	3.58	359	P	Pn	06 56 03.1	+0.1
	0.8nm,0.3s,SNR=7.9						
EADA				S	Sn	06 56 43.0	-2.8
	1.4nm,0.2s,SNR=7.9						
EADA	Adamuz	3.58	359	P	Pn	06 56 03.1	+0.1
EADA				S	Sn	06 56 45.6	-0.3
EMIN	Mina Concepcio	3.65	331	P	Pn	06 56 04.7	+0.9
	0.5nm,0.1s,SNR=7.9						
EMIN				S	Sn	06 56 46.7	-0.7
	0.6nm,0.3s,SNR=7.9						
EMIN	Mina Concepcio	3.65	331	P	Pn	06 56 04.7	+0.9
	0.5nm,0.1s,SNR=7.9						
EMIN				S	Sn	06 56 46.7	-0.7
	0.6nm,0.3s,SNR=7.9						
EMIN	Mina Concepcio	3.65	331	P	Pn	06 56 04.4	+0.6
EMIN				S	Sn	06 56 47.3	-0.1
EGRO	El Granado	3.83	321	P	Pn	06 56 07.6	+1.2
	3.5nm,0.3s,SNR=7.9						
EGRO				S	Sn	06 56 51.4	-0.5
	1.6nm,0.3s,SNR=4.0						
EGRO	El Granado	3.83	321	P	Pn	06 56 07.6	+1.2
	3.5nm,0.3s,SNR=7.9						
EGRO				S	Sn	06 56 51.9	-0.1
	1.6nm,0.3s,SNR=4.0						
EGRO	El Granado	3.83	321	P	Pn	06 56 07.5	+1.2
EGRO				S	Sn	06 56 52.2	+0.3
ETOB	Tobarra	4.69	29	P	Pn	06 56 19.0	+0.3
	1.1nm,0.2s,SNR=7.9						
ETOB	Tobarra	4.69	29	P	Pn	06 56 19.5	+0.8
	1.1nm,0.2s,SNR=7.9						
ETOB	Tobarra	4.69	29	P	Pn	06 56 19.5	+0.8
ESDC	Sonseca Array	5.11	4	P	Pn	06 56 25.2	+0.6
	0.9nm,0.1s,baz=178,slow=12,SNR=3.5						
ESDC	Sonseca Array	5.11	4	P	Pn	06 56 26.0	+1.5

*IDC **19** 06:57:10.1±1.0,54.56N×161.54E,mb3.9/6,mb1 4.1/6, mb1mx3.8/20,mbtmp3.9/6,MS2.7/1,Ms1 2.7/1, ms1mx2.5/21,Error ellipse: s-maj=35.7km s-min=22.2km az=127.0*
*KRSC **19** 06:57:16.1±1.2,54.45N×161.61E,h32^{km}±2^{km},ML4.5*
*NEIC **19** 06:57:16.5±2.1,54.64N×161.46E,h45^{km}±21^{km},mb4.1/2, Error ellipse: s-maj=23.7km s-min=15.5km az=126.0*
*MOS **19** 06:57:16.7±2.6,54.47N×161.52E,h32^{km},mb4.3/2,Error ellipse: s-maj=25.9km s-min=9.1km az=76.1*

ISC 19 06:57:15.8±0.4,54.43N±0.02×161.72E±0.05,h33^{km},n57, σ0º92/94,mb3.8/7,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	Mys Kozlova	0.13	4	P	P	06 57 22.4	+0.6
MKZ				S	S	06 57 26.0	+0.1
MKZ	Mys Kozlova	0.13	4	*i*P	P	06 57 22.3	+0.5
MKZ				*i*S	S	06 57 26.6	+0.7
TUMR	Tumrok	1.25	314	*i*P	P	06 57 37.2	+0.2
TUMR				*e*S	S	06 57 52.5	-0.4
KII	Karymskiy	1.39	254	P	P	06 57 39.5	+0.4
KII				S	S	06 57 56.1	-0.3
KII	Karymskiy	1.39	254	*i*P	P	06 57 39.2	+0.1
KII				*e*S	S	06 57 56.1	-0.3
KMNR	Kamenistaya	1.58	328	*i*P	P	06 57 42.5	+0.7
KMNR				*e*S	S	06 58 01.4	+0.2
SPN	Mys Shipunski	1.67	218	P	P	06 57 42.5	-0.6
SPN				S	S	06 58 00.7	-2.9
SPN	Mys Shipunski	1.67	218	*i*P	P	06 57 42.0	-1.1
SPN				*i*S	S	06 58 03.2	-0.4
ZLN	Zelenaya	1.68	342	*i*P	P	06 57 44.0	+0.8
ZLN				*i*S	S	06 58 04.0	+0.3
LGNR	Loginova	1.76	341	*i*P	P	06 57 45.4	+1.0
LGNR				*i*S	S	06 58 06.3	+0.5
KPT	Kopyto	1.76	332	*i*P	P	06 57 45.2	+0.8
KPT				*i*S	S	06 58 05.9	0.0
CIRR	Tsirk	1.78	342	*i*P	P	06 57 45.4	+0.7
CIRR				*i*S	S	06 58 06.6	+0.3
NLC	Nalytchevo	1.89	229	P	P	06 57 46.3	+0.1
NLC				S	S	06 58 07.8	-1.3
NLC	Nalytchevo	1.89	229	*i*P	P	06 57 45.8	-0.4
NLC				*e*S	S	06 58 07.8	-1.3
KBTR	Krutoberegovo	1.89	19	P	P	06 57 47.1	+0.8
KBTR				S	S	06 58 10.0	+0.8
KBTR	Krutoberegovo	1.89	19	*e*P	P	06 57 47.2	+0.9
KBTR				*e*S	S	06 58 10.0	+0.8
KRSR	Krestovskiy	1.91	340	*i*P	P	06 57 46.5	0.0
KRSR				*e*S	S	06 58 08.0	-1.6
KOZ	Kozyrevsk	1.94	328	P	P	06 57 47.6	+0.6
KOZ				S	S	06 58 10.3	-0.2
KOZ	Kozyrevsk	1.94	328	*i*P	P	06 57 47.7	+0.7
KOZ				*e*S	S	06 58 10.3	-0.2
KOZR	Kozyr	1.94	328	PN	Pn	06 57 47.6	+0.4
KOZR				S	S	06 58 10.3	-0.2
KLY	Klyuchi	1.98	343	P	P	06 57 47.4	-0.2
KLY				S	S	06 58 10.6	-0.9
KLY	Klyuchi	1.98	343	*e*P	P	06 57 47.4	-0.2
KLY				*e*S	S	06 58 10.1	-1.4
SDLR	Sedlovina	2.04	237	*i*P	P	06 57 49.0	+0.7
SMAR	Somma	2.08	237	*i*P	P	06 57 49.7	+0.7
UGLR	Uglovaya	2.11	236	*i*P	P	06 57 50.0	+0.7
AVH	Avacha	2.12	238	*i*P	P	06 57 50.6	+1.1
AVH				*e*S	S	06 58 15.7	+0.9
KOK	Koryaka	2.15	239	*i*P	P	06 57 50.8	+0.8
SRDR	Sredinnyy	2.21	330	*i*P	P	06 57 50.9	+0.1
SRDR				*e*S	S	06 58 16.7	-0.5
ESO	Esso	2.29	312	*i*P	P	06 57 51.8	-0.2
ESO				*i*S	S	06 58 17.3	-2.0
ESO				Smax			
	260nm,1.2s						
PET	Petropavlovsk	2.30	234	*e*P	P	06 57 52.5	+0.4
PET				*e*S	S	06 58 19.1	-0.5
PET	Petropavlovsk	2.30	234	*e*Pn	Pn	06 57 52.1	-0.2
PET				*e*Sn	Sn	06 58 19.5	-0.3
PET	Petropavlovsk	2.30	234	*e*PN	Pn	06 57 52.4	+0.1
PET				*e*S	S	06 58 19.3	-0.3
PET				pmax	pmax		
	comp=Z,60nm,0.6s						
PET				pmax	pmax		
	comp=N,38nm,0.5s						
PET				smax			
	comp=E,781nm,0.6s						
PET				smax			
	comp=N,600nm,1.0s						
PET				smax			
	comp=N,817nm,0.7s						
PET				MLR	MLR		
	comp=Z,100nm,19.0s						
GNL	Ganaly	2.34	253	*i*P	P	06 57 53.3	+0.6
GNL				*e*S	S	06 58 20.4	-0.2
BKI	Bering	2.58	71	*i*P	P	06 57 55.5	-0.7
BKI				*i*S	S	06 58 26.1	-0.6
BKI				Smax			
	comp=Z,100nm,0.3s						
KRMR	Karymshinskiy	2.67	235	*i*P	P	06 57 58.1	+0.7
KRMR				*i*S	S	06 58 28.8	-0.1
RUS	Russkaya	2.77	225	P	P	06 57 58.9	+0.1
RUS				S	S	06 58 29.3	-2.2
RUS	Russkaya	2.77	225	*e*P	P	06 57 59.2	+0.4
RUS				*e*S	S	06 58 30.8	-0.7
GRL	Gorelyy	2.88	231	*e*P	P	06 58 01.6	+1.2
GRL				*e*S	S	06 58 34.5	+0.3
APC	Apacha	3.10	243	*e*P	P	06 58 04.3	+0.7
APC				*e*S	S	06 58 39.6	-0.3
APC				Smax			
	comp=Z,190nm,0.9s						
MIPR	Malaya Ipel'ka	3.67	236	*e*P	P	06 58 11.9	+0.2
MIPR				*e*S	S	06 58 52.5	-1.9
PAU	Pauzhetka	4.20	227	*e*P	P	06 58 20.9	+1.8
PAU				*e*S	S	06 59 07.7	+0.1
PAU				Smax			
	comp=Z,150nm,1.1s						
OSSR	Ossora	4.89	8	*e*P	P	06 58 28.0	-1.0
SKR	Severo-Kuril's	5.07	225	*e*P	P	06 58 34.0	+2.5
SKR				*e*S	S	06 59 25.4	-4.4
ASAJ	Asahikawa	16.14	238	LR	LR	07 06 08.2	
	comp=Z,32nm,21.8s,baz=8.6,slow=33						
MJAR	Matsushiro Arr	24.13	232	P	P	07 02 28.4	-1.1
	comp=Z,1.0nm,0.3s,mb3.7,baz=316,slow=18,SNR=4.6						
ILAR	Eielson Array	27.19	47	P	P	07 02 54.8	-3.1
	comp=Z,0.4nm,0.8s,mb3.0,baz=254,slow=8.4,SNR=5.5						
KAF	Kangasniemi	58.63	337	*e*p	P	07 07 05.3	-6.1
	comp=Z,1.0nm,0.5s,mb4.1,baz=28,slow=6.5						
KAF	Kangasniemi	58.63	337	*e*P	P	07 07 05.3	-6.1
KAF				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
FINES	FINESS Array B	59.27	337	P	P	07 07 11.8	-4.1
	comp=Z,1.6nm,0.5s,mb4.3,baz=38,slow=8.1,SNR=9.9						
FINES	FINESS Array B	59.27	337	P	P	07 07 11.8	-4.1
NB2	NORSAR Subarra	62.52	344	P	P	07 07 33.3	-4.6
	comp=Z,0.8nm,0.5s,mb4.1,baz=20,slow=7.0						
NB2	NORSAR Subarra	62.52	344	P	P	07 07 33.3	-4.6
NB2				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.2						
NOA	NORSAR Array B	62.52	344	P	P	07 07 33.7	-4.1
	comp=Z,1.4nm,0.7s,mb4.2,baz=20,slow=6.6,SNR=5.8						
NOA	NORSAR Array B	62.52	344	P	P	07 07 33.7	-4.2
TXAR	Lajitas Array	69.24	69	P	P	07 08 19.6	-1.6
	comp=Z,0.4nm,0.6s,mb3.5,baz=301,slow=4.7,SNR=7.7						
CLL	Collm	71.44	340	P	P	07 08 30.0	-4.1
WRA	Warramunga Arr	77.70	206	P	P	07 09 08.3	-2.4
	comp=Z,0.8nm,0.7s,mb3.8,baz=19,slow=6.0,SNR=10						

*SOF **19** 07:12:25.8,45.52N×26.49E,h20^{km},MD3.3*
*BUC **19** 07:12:25.5±1.5,45.61N

*LDG **19** 07:13:14.7±0.3,21.67N×93.95E,h10km,Mb4.6/13, Ms3.0/1,Error ellipse: s-maj=13.2km s-min=9.3km az=149.0*
*MOS **19** 07:13:18.9±1.1,21.62N×93.73E,h33km,mb4.8/28,Error ellipse: s-maj=12.2km s-min=5.6km az=123.0*
*BJI **19** 07:13:22.6,21.79N×93.71E,h74km,mB4.4,mb4.5,Ms3.9, Msz3.8*
*IDC **19** 07:13:24.4±0.6,21.86N×93.98E,h64km±4km,mb4.0/19, mb1 4.2/19,mb1mx4.1/24,mbtmp4.3/19,MS3.5/3, Ms1 3.4/3,ms1mx3.1/14,Error ellipse: s-maj=17.2km s-min=11.6km az=62.0*
*NEIC **19** 07:13:24.7±0.2,21.79N×93.81E,mb4.5/22,Error ellipse: s-maj=8.1km s-min=4.9km az=219.0*

ISC 19 07:13:22.6±0.3,21.83N±0.04×93.87E±0.04,h64km, h64km±1.4km:pP-P,n143,σ1§11/165,mb4.4/49,4C-2D, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**2.94**	**1**	*e*P	**P**	**07 14 12.0**	**+3.9**
IMP				*e*x	x	07 14 20.0	
IMP				*e*S	**S**	**07 14 40.0**	**-2.4**
IMP				*i* x	x	07 14 51.0	
IMP				*e*x	x	07 14 57.0	
SHL	**Shillong**	**4.14**	**334**	*e*P	**P**	**07 14 27.0**	**+2.0**
SHL				*e*S	**S**	**07 15 13.0**	**+0.4**
CHG	**Chiang Mai**	**5.63**	**121**	PN	**P**	**07 14 44.9**	**-0.6**
CHRT	**Chiangrai**	**5.86**	**108**	PG	**P**	**07 14 47.0**	**-1.8**
CHRT				SG	x	07 16 30.0	
SHBG	**Sahibganj**	**6.62**	**302**	*e*x	**S**	**07 16 01.0**	**-13**
NANT	**Nan**	**7.08**	**114**	⇑P	**P**	**07 15 04.0**	**-1.9**
	494nm,1.0s						
GTK	**Gangtok**	**7.27**	**320**	*e*S	**S**	**07 16 26.0**	**-4.4**
BOK	**Bokaro**	**7.62**	**286**	*e*P	**P**	**07 15 14.0**	**+0.7**
BOK				*i* S	**S**	**07 16 32.5**	**-6.5**
BOK				*e*S	**S**	**07 16 33.8**	**-5.2**
BOK				AML	AML	07 16 40.9	
	comp=N,149nm,0.6s						
BOK				AML	AML	07 16 41.4	
	comp=E,79nm,0.5s						
LSA	**Lhasa**	**8.21**	**343**	P	**P**	**07 15 21.0**	**-0.4**
LSA				S	**S**	**07 16 52.0**	**-1.6**
LSA	**Lhasa**	**8.21**	**343**	*e*Pn	**P**	**07 15 22.4**	**+0.9**
	comp=E,23nm,0.6s						
LSA	**Lhasa**	**8.21**	**343**	*e*P	**P**	**07 15 22.4**	**+1.0**
LSA				pmax	pmax		
	comp=Z,23nm,0.6s						
NST	**Nakhon Sawan**	**8.52**	**135**	P	**P**	**07 15 23.0**	**-2.7**
	comp=Z,42nm,0.4s						
KMI	**Kunming**	**8.78**	**66**	P	**P**	**07 15 32.3**	**+3.1**
KMI				AMB	AMB		
	comp=Z,31nm,0.9s						
KMI				AMB	AMB		
	comp=Z,166nm,3.5s						
KMI				LR	LR		
	comp=N,594nm,5.8s						
KMI				LR	LR		
	comp=E,275nm,5.8s						
KMI				LR	LR		
	comp=Z,167nm,8.4s						
KMI	**Kunming**	**8.78**	**66**	P	**P**	**07 15 32.2**	**+3.0**
	comp=Z,31nm,0.9s						
KMI	**Kunming**	**8.78**	**66**	P	**P**	**07 15 32.2**	**+3.0**
KMI				pmax	pmax		
	comp=Z,31nm,0.9s						
GUN	**Gumba**	**9.45**	**311**	*e*Pn	**P**	**07 15 37.9**	**-0.4**
GUN				*e*Sn	**S**	**07 17 18.1**	**-5.9**
	comp=Z,290nm,0.7s						
GUN	**Gumba**	**9.45**	**311**	*e*Pn	**P**	**07 15 37.9**	**-0.4**
	comp=Z,145nm,0.7s						
GUN				*e*Sn	**S**	**07 17 18.1**	**-5.9**
PKI	**Pulchoki**	**9.58**	**308**	*e*Pn	**P**	**07 15 39.4**	**-0.8**
PKI				*e*Sn	**S**	**07 17 21.0**	**-6.3**
	comp=Z,159nm,0.6s						
PKI	**Pulchoki**	**9.58**	**308**	*e*Pn	**P**	**07 15 39.4**	**-0.8**
	comp=Z,80nm,0.6s						
PKI				*e*Sn	**S**	**07 17 21.0**	**-6.3**
PKI	**Pulchoki**	**9.58**	**308**	*e*P	**P**	**07 15 39.4**	**-0.8**
PKI				*e*		07 17 21.0	
PKI				pmax	pmax		
	comp=Z,80nm,0.6s						
KKN	**Kakani**	**9.80**	**309**	*e*Pn	**P**	**07 15 42.9**	**-0.3**
KKN				*e*Sn	**S**	**07 17 26.8**	**-5.9**
DMN	**Daman**	**9.83**	**308**	*e*Pn	**P**	**07 15 43.1**	**-0.5**
DMN				*e*Sn	**S**	**07 17 27.0**	**-6.3**
	comp=Z,242nm,0.8s						
DMN	**Daman**	**9.83**	**308**	*e*Pn	**P**	**07 15 43.1**	**-0.5**
	comp=Z,121nm,0.8s						
DMN				*e*Sn	**S**	**07 17 27.0**	**-6.3**
GKN	**Gorkha**	**10.39**	**308**	*e*Pn	**P**	**07 15 49.8**	**-1.4**
GKN				*e*Sn	**S**	**07 17 40.4**	**-6.6**
	comp=Z,74nm,0.3s						
GKN	**Gorkha**	**10.39**	**308**	*e*Pn	**P**	**07 15 49.8**	**-1.4**
	comp=Z,37nm,0.3s						
GKN				*e*Sn	**S**	**07 17 40.4**	**-6.6**
VIS	**Vishakhapatnam**	**10.73**	**249**	*e*P	**P**	**07 15 54.9**	**-1.0**
VIS				*e*S	**S**	**07 17 45.1**	**-10**
BLSP	**Bilaspur**	**10.90**	**274**	*e*P	**P**	**07 15 58.2**	**+0.1**
BLSP				AMb	AMB	07 16 00.3	
	comp=Z,11nm,0.3s						
BLSP				*e*x	**S**	**07 17 45.7**	**-14**
BLSP				AML	AML	07 17 56.7	
	comp=N,57nm,0.3s						
BLSP				AML	AML	07 17 57.0	
	comp=E,38nm,0.3s						
KOLN	**Koldanda**	**11.04**	**304**	*e*Pn	**P**	**07 15 58.5**	**-1.6**
KOLN				*e*Sn	**S**	**07 17 56.2**	**-6.6**
	comp=E,144nm,0.4s						
KOLN	**Koldanda**	**11.04**	**304**	*e*Pn	**P**	**07 15 58.5**	**-1.6**
	comp=E,72nm,0.4s						
KOLN				*e*Sn	**S**	**07 17 56.2**	**-6.6**
GYA	**Guiyang**	**12.56**	**66**	P	**P**	**07 16 23.1**	**+2.7**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s						
JBP	**Jabalpur**	**12.91**	**279**	*i* x	**P**	**07 16 31.3**	**+6.3**
JBP				*i* x	**S**	**07 18 46.4**	**-1.2**
BHPL	**Bhopal**	**15.26**	**278**	*i* P	**P**	**07 16 56.8**	**+1.1**
BHPL				*e*P		07 16 57.0	
BHPL				AMb	AMB	07 16 57.5	
	comp=Z,16nm,0.6s						
BHPL				*e*x	x	07 19 35.1	
AGRA	**Agra**	**15.46**	**294**	*e*S	**S**	**07 19 37.2**	**-10**
ENH	**Enshi**	**16.35**	**56**	*e*P	**P**	**07 16 59.8**	**-10**
SONA	**Sohna**	**16.49**	**296**	*e*P	**P**	**07 17 10.0**	**-1.3**
SONA				AMb	AMB	07 17 12.6	
	comp=Z,6.0nm,0.5s						
SONA				*e*S	**S**	**07 20 00.5**	**-11**
SONA				*i* S	**S**	**07 20 01.7**	**-10**
NDI	**New Delhi**	**16.53**	**298**	*e*x	**P**	**07 17 10.0**	**-1.7**
NDI				*e*S	**S**	**07 20 02.0**	**-10**
LZH	**Lanzhou**	**16.66**	**29**	⇑P	**P**	**07 17 16.9**	**+3.7**
LZH				AP		07 17 26.5	
LZH				AMB	AMB		
	comp=Z,26nm,1.2s						
LZH	**Lanzhou**	**16.66**	**29**	⇑P	**P**	**07 17 16.9**	**+3.7**
	comp=Z,26nm,1.2s						
LZH				pP		07 17 26.5	
LZH				sP		07 17 30.2	
LZH	**Lanzhou**	**16.66**	**29**	⇑P	**P**	**07 17 16.9**	**+3.7**
LZH				pmax	pmax		
	comp=Z,26nm,1.2s						
KUDL	**Kundal**	**16.96**	**295**	*e*P	**P**	**07 17 18.3**	**+1.2**
KUDL				*e*S	**S**	**07 20 11.3**	**-11**
KLP	**Kalpa**	**16.96**	**308**	*e*P	**P**	**07 17 17.0**	**-0.1**
KLP				*e*x	**S**	**07 20 17.9**	**-4.3**
RTK	**Rohtak**	**17.31**	**298**	*e*S	**S**	**07 20 19.7**	**-10**
XAN	**Xi'an**	**18.00**	**44**	P	**P**	**07 17 29.1**	**-0.8**
XAN				AMB	AMB		
	comp=Z,12nm,0.7s						
AJM	**Ajmer**	**18.14**	**289**	*e*P	**P**	**07 17 33.9**	**+2.1**
AJM				AMb	AMB	07 17 36.7	
	comp=Z,15nm,0.7s						
AJM				*e*x	**S**	**07 20 42.0**	**-6.7**
POO	**Poona**	**19.08**	**264**	*e*x	**S**	**07 20 55.0**	**-15**
WMQ	**Urumqi**	**22.52**	**348**	*e*P	**P**	**07 18 14.8**	**-3.1**
WMQ				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.3						
SSE	**Sheshan**	**26.08**	**64**	P	**P**	**07 18 40.3**	**-12**
AAK	**Ala-Archa**	**26.32**	**326**	*e*P	**P**	**07 18 55.3**	**+1.1**
	comp=Z,9.9nm,1.0s,mb4.3						
AAK	**Ala-Archa**	**26.32**	**326**	*e*P	**P**	**07 18 55.3**	**+1.1**
AAK				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.3						
MKAR	**Makanchi Array**	**26.62**	**342**	P	**P**	**07 18 57.8**	**+0.8**
	comp=Z,4.3nm,0.5s,mb4.2,baz=149,slow=9.3,SNR=50						
MKAR				pP	pP	07 19 13.6	+1.4
	comp=Z,4.0nm,0.8s,baz=148,slow=9.7,SNR=7.5						
MKAR				PcP	PcP	07 22 19.2	-0.8
	comp=Z,0.5nm,0.4s,baz=199,slow=2.2,SNR=4.1						
MKAR				ScP		07 25 53.5	
	comp=Z,0.9nm,0.6s,baz=200,slow=3.2,SNR=3.9						
MKAR	**Makanchi Array**	**26.62**	**342**	P	**P**	**07 18 57.8**	**+0.9**
MKAR				pP	pP	07 19 13.6	+1.4
MKAR				PcP	PcP	07 22 19.2	-0.8
MKAR				ScP		07 25 53.5	
SONM	**Songino Array**	**27.84**	**18**	P	**P**	**07 19 08.0**	**0.0**
	comp=Z,0.2nm,0.4s,mb3.1,baz=191,slow=7.3,SNR=2.7						
SONM				ScP		07 25 56.0	
	comp=Z,0.8nm,0.8s,baz=198,slow=2.4,SNR=3.9						
KURK	**Kurchatov**	**31.21**	**341**	*e*P	**P**	**07 19 37.9**	**-0.1**
	comp=Z,5.7nm,0.3s,mb4.9						
KURK	**Kurchatov**	**31.21**	**341**	*e*P	**P**	**07 19 37.9**	**-0.1**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.3s,mb4.9						
ZAL	**Zalesovo**	**32.79**	**350**	P	**P**	**07 19 51.0**	**-0.7**
	comp=Z,2.8nm,0.5s,mb4.5,baz=331,slow=7.1,SNR=9.6						
ZAL				pP	pP	07 20 07.7	+0.1
	comp=Z,2.5nm,0.7s,baz=322,slow=7.1,SNR=6.6						
ZAL				LR	LR	07 36 12.3	
	comp=Z,50nm,20.3s,baz=117,slow=42						
NVS	**Novosibirsk**	**33.92**	**349**	*e*P	**P**	**07 20 00.6**	**-0.9**
VOSK	**Vostochnaya**	**35.50**	**336**	P	**P**	**07 20 15.5**	**+0.5**
VOSK				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
BVAR	**Borovoye Array**	**35.96**	**336**	P	**P**	**07 20 19.2**	**+0.3**
	comp=Z,1.3nm,0.4s,mb4.2,baz=149,slow=9.9,SNR=4.0						
BVAR				PcP	PcP	07 22 44.2	-0.6
	comp=Z,1.1nm,0.6s,baz=143,slow=4.0,SNR=4.6						
BRVK	**Borovoye**	**36.03**	**336**	*e*P	**P**	**07 20 19.7**	**+0.2**
	comp=Z,1.2nm,0.6s,mb4.0						
BRVK	**Borovoye**	**36.03**	**336**	*e*P	**P**	**07 20 19.7**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
AB31	**Akbulak array**	**38.33**	**324**	*i* P	**P**	**07 20 40.3**	**+1.6**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.1						
MJAR	**Matsushiro Arr**	**41.03**	**59**	P	**P**	**07 21 02.5**	**+1.2**
	comp=Z,1.0nm,0.4s,mb3.8,baz=270,slow=11,SNR=3.4						
MJAR				LR	LR	07 39 16.1	
	comp=Z,61nm,20.1s,baz=115,slow=38						
SVE	**Sverdlovsk**	**42.60**	**334**	*e*P	**P**	**07 21 15.5**	**+1.6**
SVE				*e*	pP	07 21 31.0	+0.9
SVE				pmax	pmax		
	comp=Z,20nm,0.9s,mb4.8						
ARU	**Arti**	**43.23**	**332**	⇓*i*P	**P**	**07 21 19.1**	**+0.1**
ARU				*e*		07 22 57.9	
ARU				*e*S	**S**	**07 27 44.7**	**+3.9**
ARU				*e*SS	SS	07 30 59.3	+11
ARU				*e*SSS	SSS	07 31 39.6	-1.9
ARU				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.6						
YAK	**Yakutsk**	**47.06**	**22**	*i* P	**P**	**07 21 44.1**	**-5.3**
YAK				pmax	pmax		
	comp=Z,14nm,0.6s,mb5.1						
KIV	**Kislovodsk**	**47.44**	**310**	*i* P	**P**	**07 21 55.0**	**+2.3**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
FITZ	**Fitzroy Crossi**	**50.42**	**139**	P	**P**	**07 22 15.1**	**-0.9**
	comp=Z,6.6nm,0.7s,mb4.8,baz=3.7,slow=5.6,SNR=14						
ANN	**Anapa**	**51.30**	**311**	*e*P	**P**	**07 22 20.3**	**-2.0**
ANN				*e*		07 23 35.2	
ANN				*e*S	**S**	**07 29 37.9**	**+3.0**
ANN				pmax	pmax		
	comp=Z,24nm,0.8s,mb5.2						
TIXI	**Tiksi**	**53.72**	**13**	*e*P	**P**	**07 22 30.8**	**-9.2**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
BRTR	**Keskin Array B**	**53.77**	**304**	P	**P**	**07 22 41.2**	**+0.4**
	comp=Z,0.7nm,0.5s,mb3.9,baz=100,slow=7.5,SNR=4.7						
BRTR				pP	pP	07 22 59.0	+1.5
	comp=Z,1.0nm,0.8s,baz=82,slow=10,SNR=3.3						
OBN	**Obninsk**	**53.77**	**323**	⇓*e*P	**P**	**07 22 40.4**	**-0.2**
OBN				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.5						
WRA	**Warramunga Arr**	**57.34**	**134**	P	**P**	**07 23 05.5**	**-1.3**
	comp=Z,4.3nm,0.7s,mb4.6,baz=320,slow=7.5,SNR=45						
WRAB	**Tennant Creek**	**57.34**	**133**	*e*P	**P**	**07 23 05.3**	**-1.5**
	comp=Z,3.2nm,0.6s,mb4.5						
WRAB	**Tennant Creek**	**57.34**	**133**	*i* P	**P**	**07 23 05.9**	**-0.9**
AKASG	**Malin Array Be**	**57.43**	**317**	P	**P**	**07 23 06.1**	**-1.0**
	comp=Z,1.9nm,0.3s,mb4.6,baz=79,slow=6.8,SNR=14						
AKASG	**Malin Array Be**	**57.43**	**317**	P	**P**	**07 23 06.1**	**-1.0**
NWAO	**Narrogin (SRO)**	**58.84**	**157**	P	**P**	**07 23 15.5**	**-1.6**
	comp=Z,4.2nm,0.6s,mb4.7,baz=29,slow=20,SNR=5.7						
KMBO	**Kilima Mbogo**	**59.74**	**255**	P	**P**	**07 23 24.5**	**+1.0**
	comp=Z,3.1nm,0.8s,mb4.4,baz=49,slow=13,SNR=9.4						
KMBO				LR	LR	07 47 47.6	
	comp=Z,44nm,18.3s,baz=97,slow=34						
KMBO	**Kilima Mbogo**	**59.74**	**255**	P	**P**	**07 23 24.5**	**+1.0**
KMBO				LR	LR	07 47 47.6	
KAF	**Kangasniemi**	**60.46**	**330**	*e*p	**P**	**07 23 26.5**	**-1.3**
	comp=Z,1.4nm,0.6s,mb4.2,baz=99,slow=7.0						
KAF	**Kangasniemi**	**60.46**	**330**	*e*P	**P**	**07 23 26.5**	**-1.3**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
FINES	**FINESS Array B**	**60.47**	**329**	P	**P**	**07 23 27.1**	**-0.8**
	comp=Z,3.0nm,0.6s,mb4.5,baz=104,slow=7.9,SNR=14						
FINES				pP	pP	07 23 43.4	-1.5
	comp=Z,1.8nm,0.8s,baz=117,slow=8.5,SNR=5.5						
OPO	**Ambohidratompo**	**60.81**	**232**	P	**P**	**07 23 31.7**	**+0.9**
	comp=Z,4.6nm,0.9s,mb4.6,baz=65,slow=7.0,SNR=5.4						
ARCES	**ARCESS Array B**	**62.19**	**338**	P	**P**	**07 23 38.9**	**-0.5**
	comp=Z,2.0nm,0.7s,mb4.4,baz=102,slow=6.6,SNR=9.8						
ARCES				pP	pP	07 23 55.5	-1.0
	comp=Z,1.3nm,0.7s,baz=55,slow=30,SNR=4.0						
BILL	**Bilibino**	**63.37**	**24**	*i* P	**P**	**07 23 41.6**	**-5.7**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.3						
CTA	**Charters Tower**	**65.99**	**125**	P	**P**	**07 24 05.4**	**+0.5**
	comp=Z,4.3nm,0.8s,mb4.5,baz=13,slow=19,SNR=3.1						
BRG	**Berggiesshubel**	**67.11**	**317**	*i* P	**P**	**07 24 11.7**	**+0.3**
	comp=Z,7.5nm,0.6s,mb4.9						
BRG	**Berggiesshubel**	**67.11**	**317**	*i* P	**P**	**07 24 11.7**	**+0.3**
BRG				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.9						
GEC2	**GERESS Array S**	**67.52**	**315**	*e*P	**P**	**07 24 14.5**	**+0.5**
	comp=Z,6.0nm,0.7s,mb4.7						
GEC2	**GERESS Array S**	**67.52**	**315**	*e*P	**P**	**07 24 14.5**	**+0.5**
GEC2				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
GERES	**GERESS Array B**	**67.52**	**315**	P	**P**	**07 24 14.4**	**+0.4**
	comp=Z,4.0nm,0.6s,mb4.6,baz=76,slow=5.5,SNR=33						
NB2	**NORSAR Subarra**	**67.62**	**329**	P	**P**	**07 24 13.4**	**-1.0**
	comp=Z,1.5nm,0.6s,mb4.2,baz=84,slow=6.2						
NB2	**NORSAR Subarra**	**67.62**	**329**	P	**P**	**07 24 13.4**	**-1.0**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
NOA	**NORSAR Array B**	**67.62**	**329**	P	**P**	**07 24 13.5**	**-0.9**
	comp=Z,1.9nm,0.7s,mb4.3,baz=86,slow=6.2,SNR=9.5						
NOA				pP	pP	07 24 30.6	-1.2
	comp=Z,1.8nm,0.6s,baz=86,slow=6.2,SNR=7.3						
NOA	**NORSAR Array B**	**67.62**	**329**	P	**P**	**07 24 13.5**	**-0.9**
NOA				pP	pP	07 24 30.6	-1.2
WET	**Wettzell**	**68.02**	**316**	*e*P	**P**	**07 24 17.7**	**+0.6**
	comp=Z,5.0nm,1.3s,mb4.4						
WET	**Wettzell**	**68.02**	**316**	*e*P	**P**	**07 24 17.7**	**+0.6**
WET				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.4						
MOX	**Moxa**	**68.61**	**317**	*i* P	**P**	**07 24 21.3**	**+0.6**
MOX	**Moxa**	**68.61**	**317**	*e*P	**P**	**07 24 21.3**	**+0.6**
BSEG	**Bad Segeberg**	**68.91**	**321**	*e*P	**P**	**07 24 23.1**	**+0.5**
CLZ	**Clausthal**	**69.19**	**319**	*e*P	**P**	**07 24 24.8**	**+0.5**
	comp=Z,6.0nm,0.9s,mb4.5						
CLZ	**Clausthal**	**69.19**	**319**	*e*P	**P**	**07 24 24.8**	**+0.5**
CLZ				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
CDF	**Champ du Feu**	**71.79**	**316**	*e*P	**P**	**07 24 39.9**	**-0.2**
PGF	**Pioggiola**	**71.91**	**309**	*e*P	**P**	**07 24 41.0**	**+0.1**
	comp=Z,8.7nm,0.6s,mb4.6						
PGF	**Pioggiola**	**71.91**	**309**	*e*P	**P**	**07 24 41.0**	**+0.1**
PGF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
HAU	**Haudompre**	**72.49**	**315**	*e*P	**P**	**07 24 44.1**	**-0.1**
LPG	**La Plagne**	**72.81**	**313**	*e*P	**P**	**07 24 46.7**	**+0.6**
	comp=Z,8.0nm,0.8s,mb4.4						
LPG	**La Plagne**	**72.81**	**313**	*e*P	**P**	**07 24 46.7**	**+0.6**
LPG				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
LPL	**La Plagne**	**72.81**	**313**	*e*P	**P**	**07 24 46.7**	**+0.5**
MBDF	**Montbardon**	**72.98**	**312**	*e*P	**P**	**07 24 47.4**	**+0.3**
CABF	**La Chapelle**	**72.99**	**314**	*e*P	**P**	**07 24 48.2**	**+1.0**
MEZF	**Maizieres J'vi**	**73.21**	**316**	*e*P	**P**	**07 24 48.6**	**+0.2**
FRF	**La Foret Royal**	**73.35**	**311**	*e*P	**P**	**07 24 49.3**	**0.0**
LMR	**La Mourre**	**73.50**	**311**	*e*P	**P**	**07 24 49.8**	**-0.4**
	comp=Z,9.4nm,0.8s,mb4.5						
LMR	**La Mourre**	**73.50**	**311**	*e*P	**P**	**07 24 49.8**	**-0.4**
LMR				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
SMRF	**Simiane la Rot**	**73.99**	**311**	*e*P	**P**	**07 24 53.6**	**+0.5**
VIVF	**Saint-Julien-l**	**74.39**	**312**	*e*P	**P**	**07 24 55.4**	**0.0**
	comp=Z,4.9nm,0.6s,mb4.3						
VIVF	**Saint-Julien-l**	**74.39**	**312**	*e*P	**P**	**07 24 55.4**	**0.0**
VIVF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
SMF	**Signal de Mont**	**74.48**	**314**	*e*P	**P**	**07 24 55.7**	**-0.2**
	comp=Z,11nm,0.5s,mb4.7						
SMF	**Signal de Mont**	**74.48**	**314**	*e*P	**P**	**07 24 55.7**	**-0.2**
SMF				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.7						
SSF	**Saint Saulge**	**74.59**	**315**	*e*P	**P**	**07 24 56.4**	**-0.1**
	comp=Z,6.3nm,0.9s,mb4.5						
SSF	**Saint Saulge**	**74.59**	**315**	*e*P	**P**	**07 24 56.4**	**-0.1**
SSF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
AVF	**Avril sur Loir**	**74.76**	**315**	*e*P	**P**	**07 24 57.3**	**-0.2**
	comp=Z,8.8nm,0.7s,mb4.5						
AVF	**Avril sur Loir**	**74.76**	**315**	*e*P	**P**	**07 24 57.3**	**-0.2**
AVF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
BGF	**Bois d'Agland**	**75.16**	**314**	*e*P	**P**	**07 24 59.8**	**0.0**
LASF	**Ste Croix**	**75.16**	**312**	*e*P	**P**	**07 25 00.2**	**+0.4**
TCF	**Toulx Ste Croi**	**75.66**	**314**	*e*P	**P**	**07 25 03.1**	**+0.5**
	comp=Z,7.3nm,0.6s,mb4.5						
TCF	**Toulx Ste Croi**	**75.66**	**314**	*e*P	**P**	**07 25 03.1**	**+0.5**
TCF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
CAF	**Calviac**	**76.15**	**313**	*e*P	**P**	**07 25 05.9**	**+0.5**
RJF	**Les Rejaudoux**	**76.41**	**313**	*e*P	**P**	**07 25 07.6**	**+0.7**
	comp=Z,4.7nm,0.3s,mb4.5						
RJF	**Les Rejaudoux**	**76.41**	**313**	*e*P	**P**	**07 25 07.6**	**+0.7**
RJF				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.5						
MATP	**Matopo**	**76.41**	**241**	P	**P**	**07 25 08.6**	**+1.2**
	comp=Z,7.9nm,0.6s,mb4.8,baz=61,slow=5.4,SNR=25						
MTLF	**Montolieu**	**76.51**	**311**	*e*P	**P**	**07 25 08.3**	**+0.8**
LFF	**La Frestale**	**77.04**	**313**	*e*P	**P**	**07 25 11.6**	**+1.1**
	comp=Z,16nm,0.8s,mb4.7						
LFF	**La Frestale**	**77.04**	**313**	*e*P	**P**	**07 25 11.6**	**+1.1**
LFF				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
ETSF	**Etsaut**	**78.58**	**312**	*e*P	**P**	**07 25 19.6**	**+0.6**
	comp=Z,4.7nm,0.6s,mb4.3						
ETSF	**Etsaut**	**78.58**	**312**	*e*P	**P**	**07 25 19.6**	**+0.6**
ETSF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
ILAR	**Eielson Array**	**81.98**	**22**	P	**P**	**07 25 35.2**	**-1.4**
	comp=Z,0.9nm,0.7s,mb3.8,baz=298,slow=5.3,SNR=10						
TXAR	**Lajitas Array**	**126.40**	**19**	PKP	PKPdf	07 32 20.5	+1.6
	comp=Z,0.3nm,0.6s,baz=55,slow=0.9,SNR=6.4						
TXAR				pPKP		07 32 37.9	
	comp=Z,0.4nm,0.7s,baz=88,slow=0.8,SNR=3.9						
TXAR	**Lajitas Array**	**126.40**	**19**	PKP	PKPdf	07 32 20.5	+1.6
TXAR				pPKP		07 32 37.9	
ROSC	**El Rosal**	**151.07**	**335**	PKPbc	PKPdf	07 33 12.5	+9.2
	comp=Z,16nm,0.6s,baz=125,slow=6.5,SNR=26						
ROSC				pPKPbc		07 33 30.0	
	comp=Z,14nm,0.8s,baz=79,slow=12,SNR=9.1						
CPUP	**Villa Florida**	**153.35**	**255**	PKPbc	PKPdf	07 33 15.1	+8.8
	comp=Z,0.9nm,0.6s,baz=111,slow=4.3,SNR=5.2						
CPUP	**Villa Florida**	**153.35**	**255**	PKPbc	PKPdf	07 33 15.1	+8.8

*IDC **19** 07:16:21.0±3.0,1.23N×97.95E,mb4.1/5,mb1 4.2/5, mb1mx3.9/17,mbtmp4.1/5,Error ellipse: s-maj=124.3km s-min=25.6km az=55.0*
*NEIC **19** 07:16:24.7±1.1,1.11N×97.80E,h30km,Error ellipse: s-maj=25.3km s-min=18.0km az=60.0*

ISC 19 07:16:22.7±1.6,1.1N±0.2×97.8E±0.2,h30km,n6,σ0§45/6, mb4.1/5,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.04**	**35**	*e*Pn	**Pn**	**07 17 38.2**	**0.0**
WRA	**Warramunga Arr**	**41.52**	**122**	P	**P**	**07 24 09.4**	**0.0**
	2.0nm,0.6s,mb3.9,baz=302,slow=8.9,SNR=10						
**SON

USP	Ospenovka	1.90 342	⇓P		Pn	07 39 37.9	+1.8
	5.1nm,0.2s,SNR=10						
KK31	Karatay Array	3.91 296	⇑Sn		Sn	07 41 04.1	+13
	0.9nm,0.5s,baz=111,slow=27,SNR=6.3						

*NEIC **19** 07:45:35.2,32.20S×71.72W,h10km,ML3.5(GUC),After GUC.*

GUC 19 07:45:35.2±0.9,32.20S×71.72W,h10km±3km,MD4.1, ML3.5,4C-4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	Los Chungos	0.36	31	⇓iP	Pg	07 45 42.6	0.0
CHNG				i S	Sg	07 45 48.4	+0.8
CHNG				AMP		07 45 48.8	
	comp=N,4μm,0.4s						
PACH	Papudo	0.41	145	⇓iP	Pg	07 45 44.3	+0.6
IHA	Instituto Hidr	0.83	176	eP	Pb	07 45 51.0	-0.2
IHA				i S	Sb	07 46 02.5	+0.3
ROCH	El Roble	0.98	143	⇓iP	Pb	07 45 53.3	-0.5
ROCH				i S	Sb	07 46 07.1	+0.6
JACH	Jahuel	1.07	117	⇓iP	Pb	07 45 54.6	-0.7
JACH				i S	Sb	07 46 09.1	0.0
LCCH	Las Cruces	1.28	175	eP	Pb	07 45 57.8	-1.2
LCCH				i S	Sb	07 46 14.4	-1.0
PEL	Peldehue	1.28	138	⇑iP	Pb	07 45 58.5	-0.5
PEL				i S	Sb	07 46 15.4	0.0
RCDM	Rinconada Maip	1.50	150	eP	Pn	07 46 01.2	-1.2
RCDM				i S	Sb	07 46 21.2	-0.5
RCDM				AMP		07 46 27.9	
	comp=N,857nm,0.6s						
STL	Santa Lucia	1.53	144	eP	Pn	07 46 01.1	-1.7
STL				i S	Sb	07 46 21.9	-0.8
STL				AMP		07 46 27.2	
	comp=N,343nm,0.3s						
SAN	Santiago	1.54	145	eP	Pn	07 46 02.0	-0.9
SAN				eS	Sb	07 46 22.7	0.0
SAN				AMP		07 46 29.1	
	comp=E,1μm,0.5s						
DSCH	Colegio Aleman	1.54	141	eP	Pn	07 46 02.2	-0.7
DSCH				i S	Sb	07 46 22.5	-0.4
DSCH				AMP		07 46 36.6	
	comp=N,1μm,0.6s						
CLCH	Cerro Calan	1.56	141	⇑iP	Pn	07 46 02.4	-0.7
CLCH				i S	Sb	07 46 23.2	-0.1
CLCH				AMP		07 46 33.4	
	comp=E,2μm,0.6s						
CLCH				AMP		07 46 34.0	
	comp=E,2μm,0.7s						
TACH	Talagante	1.59	156	⇑iP	Pn	07 46 03.0	-0.6
TACH				i S	Sb	07 46 24.2	-0.3
ANTU	Antumapu	1.65	147	eP	Pn	07 46 03.9	-0.5
ANTU				i S	Sn	07 46 25.7	0.0
ANTU				AMP		07 46 33.4	
	comp=E,744nm,0.7s						
FCH	Farellones	1.65	134	eP	Pn	07 46 03.6	-0.8
FCH				i S	Sn	07 46 26.1	+0.2
FCH				AMP		07 46 27.2	
	comp=E,801nm,0.2s						
PCH	Pirque	1.75	145	eP	Pn	07 46 05.2	-0.7
LNV	Longovilo	1.77	172	eP	Pn	07 46 06.1	-0.2
LNV				i S	Sn	07 46 29.3	+0.2
SJCH	San Jose de Ma	1.84	142	eP	Pn	07 46 06.5	-0.7
SJCH				i S	Sn	07 46 30.6	-0.2
SJCH				AMP		07 46 40.9	
	comp=E,367nm,0.7s						
CHCH	Chadas Angostu	1.95	153	eP	Pn	07 46 08.3	-0.4
CHCH				i S	Sn	07 46 33.7	+0.2
LMEL	Las Melosas	2.08	143	⇑iP	Pn	07 46 10.3	-0.3
LMEL				i S	Sn	07 46 37.7	+0.9
LMEL				AMP		07 46 45.3	
	comp=N,680nm,0.1s						
TLL	Tololo Astrono	2.17	21	eP	Pn	07 46 09.9	-2.0
TLL				i S	Sn	07 46 38.9	-0.2
TLL				AMP		07 46 51.7	
	comp=N,979nm,0.6s						
CICH	Cipreses	2.38	153	eP	Pn	07 46 14.6	-0.3
CICH				i S	Sn	07 46 46.2	+1.8
MDZ	Mendoza	2.52	107	eP	Pn	07 46 20.9	+4.0
MDZ				e		07 46 56.3	

*NEIC **19** 07:45:49.9,63.16N×148.20W,h76km,MG3.7(AEIC), After AEIC.*
*IDC **19** 07:45:51.3±3.9,63.31N×148.23W,h80km±33km,mb3.3/5, mb1 3.6/8,mb1mx3.4/20,mbtmp3.6/8,MS2.8/1,Ms1 2.8/1, ms1mx2.3/19,Error ellipse: s-maj=41.6km s-min=16.2km az=51.0*

ISC 19 07:45:48.9±0.2,63.16N±0.02×148.19W±0.06,h86km±4km, n73,σ0°67/80,mb3.6/5,Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RND	Reindeer	0.39	309	P	P	07 46 02.6	+0.1
MCK	McKinley	0.66	330	P	P	07 46 05.2	+0.3
MCK				S	S	07 46 16.5	-0.3
HUR	Hurricane	0.69	255	P	P	07 46 04.8	-0.3
CUT	Chulitna	1.22	232	P	P	07 46 11.2	-0.1
PAX	Paxson	1.25	98	P	P	07 46 12.3	+0.6
PAX				S	S	07 46 29.4	+0.6
KTH	Kantishna Hill	1.29	289	P	P	07 46 12.9	+0.6
KTH				S	S	07 46 30.2	+0.5
WRH	Wood River Hil	1.31	2	P	P	07 46 12.8	+0.2
WRH				S	S	07 46 30.0	-0.1
SML	Sawmill	1.36	183	P	P	07 46 13.0	-0.1
HDA	Harding Lake	1.36	23	P	P	07 46 13.6	+0.4
SDG	Sourdough	1.37	117	P	P	07 46 14.0	+0.7
SCM	Sheep Creek Mo	1.39	163	P	P	07 46 13.5	-0.1
GHO	Glory Hole Cre	1.44	194	P	P	07 46 14.2	+0.1
GHO				S	S	07 46 33.0	+0.3
CCB	Clear Creek Bu	1.50	6	P	P	07 46 15.1	+0.1
PMR	Palmer	1.64	196	P	P	07 46 16.9	+0.2
PMR				S	S	07 46 37.8	+0.6
TZL	Tazlina	1.70	130	P	P	07 46 18.5	+1.0
IL1	Eielson Array	1.71	19	P	P	07 46 17.9	+0.2
ILAR	Eielson Array	1.71	19	P	P	07 46 17.7	0.0
	38nm,0.3s,baz=200,slow=14,SNR=1709						
ILAR				S	S	07 46 37.7	-1.3
	92nm,0.3s,baz=203,slow=22,SNR=62						
COLA	College	1.73	5	P	P	07 46 18.1	+0.2
KNK	Knik Glacier	1.76	184	P	P	07 46 19.2	+0.9
GLM	Gilmore Dome	1.87	10	P	P	07 46 20.1	+0.4
DOT	Dot Lake	1.92	73	P	P	07 46 20.7	+0.3
KLU	Klutina	1.98	147	P	P	07 46 21.4	+0.2
CFI	College Fiord	2.00	174	P	P	07 46 21.7	+0.2
MENT	Mentasta	2.05	94	P	P	07 46 22.8	+0.7
VLZ	Valdez	2.22	156	P	P	07 46 23.9	-0.6
JPK	Jack Peak	2.24	160	P	P	07 46 24.7	-0.2
PWL	Port Wells	2.31	182	P	P	07 46 26.1	+0.2
DIV	Divide	2.33	150	P	P	07 46 25.6	-0.6
GLI	Glacier Island	2.35	167	P	P	07 46 26.3	-0.1
GLB	Gilahina Butte	2.67	128	P	P	07 46 31.1	+0.2
SPU	Mount Spurr	2.69	224	P	P	07 46 31.9	+0.8
MPA	Moose Pass	2.74	192	P	P	07 46 31.9	+0.1
BGL	Barrier Glacie	2.74	228	P	P	07 46 32.6	+0.8
CKL	Chakachamna La	2.77	226	P	P	07 46 33.2	+1.0
BMRM	Bremner River	2.77	141	P	P	07 46 31.7	-0.6
SLKM	Skilak Lake	2.83	201	P	P	07 46 33.7	+0.6
EYAK	Cordova Ski Ar	2.87	155	P	P	07 46 33.1	-0.5
HIN	Hinchinbrook I	2.89	163	P	P	07 46 33.5	-0.4
SGAM	Sherman Glacie	3.02	151	P	P	07 46 35.0	-0.8
SEW	Seward	3.13	192	P	P	07 46 37.8	+0.6
LTI	Latouche	3.14	177	P	P	07 46 37.7	+0.3
RAGM	Ragged Mountai	3.25	148	P	P	07 46 39.2	+0.3
CRQM	Cirque	3.39	133	P	P	07 46 40.3	-0.6
RSO	Redoubt South	3.47	221	P	P	07 46 41.7	-0.3
BALM	Baldy	3.48	125	P	P	07 46 41.3	-0.7
TTA	Tatalina	3.57	270	eP	P	07 46 42.9	-0.4
TT01	Tatalina	3.58	269	P	P	07 46 42.9	-0.5
IM3	Indian Mountai	3.71	322	P	P	07 46 45.1	-0.2
IMA	Indian Mountai	3.76	323	eP	P	07 46 45.6	-0.3
CTGM	Chitina Glacie	3.91	121	P	P	07 46 47.4	-0.6
CNPM	China Poot	3.93	203	P	P	07 46 48.3	0.0
DAWY	Dawson	4.03	73	P	P	07 46 49.2	-0.5
SVW2	Sparrevohn	4.04	242	P	P	07 46 49.3	-0.5
YAH	Yahtse	4.15	130	P	P	07 46 50.2	-1.2
COLD	Coldfoot	4.17	349	P	P	07 46 51.5	-0.1
BM3	Burnt Mountain	4.53	18	P	P	07 46 56.3	-0.3
AUE	Augustine Isla	4.56	216	P	P	07 46 57.0	0.0
AGU	Augustine-Summ	4.58	216	P	P	07 46 57.0	-0.3
CHX	Chaix Hills	4.59	129	P	P	07 46 57.1	-0.2
PCA	Pinnacle	4.87	126	P	P	07 46 60.0	-1.3
PNL	Peninsula	5.48	126	P	P	07 47 08.0	-1.6
KAHC	Katmai Hardscr	5.62	219	P	P	07 47 10.5	-0.9
KDAK	Kodiak Island	5.82	204	P	P	07 47 12.6	-1.6
KABR	Katmai Barrier	6.05	216	P	P	07 47 16.7	-0.7
INK	Inuvik	7.93	43	P	P	07 47 42.9	-0.5
	0.5nm,0.3s,baz=232,slow=18,SNR=13						
INK				S	S	07 49 05.5	-6.6
	1.2nm,0.3s,baz=307,slow=26,SNR=5.6						
DLBC	Dease Lake	10.04	110	P	P	07 48 12.3	+0.6
	0.1nm,0.3s,baz=302,slow=15,SNR=2.6						
YKA	Yellowknife Ar	15.26	77	P	P	07 49 21.6	+1.4
	0.3nm,0.3s,baz=286,slow=10,SNR=4.3						
BBB	Bella Bella	15.29	127	LR	LR	07 55 03.6	
	comp=Z,31nm,18.4s,baz=357,slow=36						
PDAR	Pinedale Array	30.24	114	P	P	07 51 55.1	+1.9
	1.1nm,0.8s,mb3.5,baz=332,slow=7.4,SNR=10						
TXAR	Lajitas Array	44.20	119	P	P	07 53 52.9	+2.1
	0.4nm,0.6s,mb3.4,baz=330,slow=6.4,SNR=8.1						
SONM	Songino Array	54.75	307	P	P	07 55 12.0	+0.7
	0.5nm,0.5s,mb3.8,baz=15,slow=7.3,SNR=6.1						
FINES	FINESS Array B	55.64	3	P	P	07 55 17.2	-0.3
	0.5nm,0.3s,mb4.0,slow=7.6,SNR=4.8						
MKAR	Makanchi Array	63.32	324	P	P	07 56 09.3	-1.2
	0.2nm,0.4s,mb3.4,baz=45,slow=6.1,SNR=2.2						

*IDC **19** 07:53:10.5±1.3,20.76S×68.88W,h119km±16km,mb3.3/2, mb1 3.4/5,mb1mx3.3/14,mbtmp3.7/5,Error ellipse: s-maj=25.9km s-min=16.0km az=109.0*
*NEIC **19** 07:53:10.1±0.9,20.86S×68.85W,h120km±10km,mb3.8/2, Error ellipse: s-maj=16.0km s-min=11.4km az=95.0*

ISC 19 07:53:09.8±0.8,20.86S±0.08×68.8W±0.1,h140km±11km, n12,σ1°12/11,mb3.5/3,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	1.75	183	P	P	07 53 41.8	+0.1
	11nm,0.3s,baz=17,slow=9.8,SNR=120						
LVC				S	S	07 54 06.8	+0.6
	172nm,0.3s,baz=291,slow=23,SNR=58						
LPAZ	La Paz	4.59	8	P	P	07 54 18.9	+0.4
	0.6nm,0.3s,baz=215,slow=6.5,SNR=24						
SIV	San Ignacio	8.81	58	P	P	07 55 13.6	-1.4
	1.4nm,0.3s,baz=250,slow=12,SNR=59						
CFAA	Coronel Fontan	10.72	177	P	P	07 55 38.9	-1.5
	0.0nm,0.3s,baz=2.0,slow=14,SNR=6.6						
CPUP	Villa Florida	11.86	120	P	P	07 55 55.5	+0.2
	0.1nm,0.3s,baz=310,slow=16,SNR=2.5						
BDFB	Brasilia	20.43	79	P	P	07 57 39.3	+1.5
	2.8nm,0.4s,baz=262,slow=9.4,SNR=6.5						
WVT	Waverly	59.46	342	eP	P	08 02 58.7	-1.6
TXAR	Lajitas Array	60.15	325	P	P	08 03 04.2	-0.9
	0.2nm,0.5s,mb3.2,baz=154,slow=9.6,SNR=7.3						
SDCO	Great Sand Dun	67.73	329	eP	P	08 03 55.1	+0.7
	2.4nm,1.1s,mb3.8						
HLID	Hailey	76.54	328	eP	P	08 04 47.9	+1.8
	0.8nm,0.8s,mb3.4						
MKAR	Makanchi Array	145.07	35	PKPbc	PKPbc	08 12 33.9	+3.2
	0.6nm,0.6s,baz=315,slow=2.0,SNR=4.7						
MKAR				pPKPbc		08 13 04.7	
	0.5nm,0.7s,baz=333,slow=2.7,SNR=3.6						
SONM	Songino Array	152.81	7	PKPbc	PKPdf	08 12 53.6	+11
	0.3nm,0.6s,baz=334,slow=2.7,SNR=3.4						

*MOS **19** 08:14:19.0±1.8,40.26N×28.49E,h10km,mb3.9/1,Error ellipse: s-maj=20.9km s-min=11.1km az=118.8*
*ATH **19** 08:14:21.4,40.40N×28.06E,h5km,MD3.5/4*
*NEIC **19** 08:14:21.4,40.40N×28.06E,h5km,MD3.5(ATH), ML3.5(ISK),After ATH.*
*ISK **19** 08:14:22.4,40.41N×28.11E,h8km,MD3.3,ML3.4*
*CSEM **19** 08:14:22.4±0.0,40.41N×28.12E,h5km,MD3.3,Error ellipse: s-maj=1.0km s-min=0.8km az=4.0*
*SOF **19** 08:14:24.9,40.78N×28.18E,h8km,MD3.0*

ISC 19 08:14:22.4±0.4,40.41N±0.03×28.14E±0.03,h2km±4km, n46,σ0°76/59,mb3.5/1,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNT	Bandirma	0.18	253	iPG	Pg	08 14 26.8	+0.9
BNT				iSG	Sg	08 14 29.6	+1.3
MRMT	Marmara Adasi	0.46	295	PG	Pg	08 14 31.1	-0.5
MRMT				SG	Sg	08 14 38.3	+0.6
ARMT	Armutlu	0.57	74	PG	Pg	08 14 34.1	+0.3
ARMT				SG	Sg	08 14 43.7	+2.3
BTOK	Tokmak	0.65	188	iP	Pg	08 14 35.4	+0.1
BTOK				iS	Sg	08 14 44.4	+0.3
ORLT	Orhaneli	0.68	122	PG	Pg	08 14 36.1	+0.1
MFT	Murefte	0.76	300	PG	Pg	08 14 36.9	-0.6
MFT	Murefte	0.76	300	ePG	Pg	08 14 37.0	-0.5
MFT	Murefte	0.76	300	ePg	Pg	08 14 37.0	-0.5
CTT	Catalca	0.77	16	PG	Pg	08 14 38.0	+0.2
BALB	Balikesir	0.79	195	PG	Pg	08 14 38.2	0.0
ULDT	Uludag	0.81	109	iP	Pg	08 14 37.2	-1.3
ULDT				iS	Sg	08 14 52.9	+3.7
BADT	Buyukada	0.86	59	PG	Pg	08 14 39.7	0.0
DST	Dursunbey	0.88	155	PG	Pg	08 14 40.1	+0.1
CANB	Canakkale	0.91	245	PG	Pg	08 14 40.2	-0.4
YLV	Yalova	0.95	80	PG	Pg	08 14 40.8	-0.6
ISK	Istanbul-Kandi	0.96	46	PG	Pg	08 14 40.7	-0.8
LPK	Lapseki	1.06	269	ePG	Pg	08 14 42.7	-0.8
HRT	Hereke	1.23	70	ePN	Pn	08 14 45.8	-0.8
EZN	Ezine	1.51	248	ePN	Pn	08 14 49.9	-0.7
EYL	Eskiyayla	1.54	83	ePN	Pn	08 14 51.3	+0.2
AKS	Akhisar	1.55	190	ePN	Pn	08 14 51.3	+0.2
AYVA	Ayvalik	1.57	226	iP	Pn	08 14 51.5	+0.1
AYVA				iS	Sb	08 15 23.1	+11
GPA	Golpazari	1.66	93	ePN	Pn	08 14 53.3	+0.6
GDZ	Gediz	1.67	141	iP	Pn	08 14 52.4	-0.6
GDZ				iS	Sb	08 15 28.9	+14
EDRB	Edirne	1.79	324	ePN	Pn	08 14 54.5	0.0
PRK	Paraskevi	1.85	232	ePN	Pn	08 14 55.4	0.0
ALT	Altintas	2.03	131	ePN	Pn	08 14 58.4	+0.4
RDO	Rodhopi	2.11	291	ePN	Pn	08 14 59.4	+0.2
RDO				eSN	Sn	08 15 27.0	+0.6
IZM	Izmir	2.12	199	ePN	Pn	08 14 58.3	-1.0
HENT	Hendek	2.14	78	iP	Pn	08 15 00.0	+0.4
HENT				iS	Sn	08 15 17.2	-10
BLCB	Balcova	2.19	203	ePN	Pn	08 15 00.6	+0.3
ESKT	Eskisehir	2.26	112	ePN	Pn	08 15 01.0	-0.3
LIA	Limnos Island	2.32	258	ePN	Pn	08 15 02.3	+0.1
MDU	Mudurnu	2.35	88	ePN	Pn	08 15 03.0	+0.5
KDZ	Kurdzhali	2.41	302	iP	Pn	08 15 04.5	+1.1
KDZ				iPg	Pg	08 15 12.0	+1.6
DIM	Dimitrovgrad	2.56	311	eP	Pn	08 15 05.5	-0.1
DIM				ePg	Pg	08 15 11.5	-2.0
RZN	Rozhen	2.89	297	iP	Pn	08 15 10.0	-0.3
RZN				iPg	Pg	08 15 19.0	-1.1
ISP	Isparta	3.15	144	iP	Pn	08 15 07.2	-6.9
KIZT	Kizilcal	3.26	117	ePN	Pn	08 15 15.1	-0.5
PSN	Preselentsi	3.27	1	eP	Pn	08 15 16.5	+0.7
PSN				ePg	Pg	08 15 21.0	-6.7
SZH	Strazhica	3.30	331	eP	Pn	08 15 15.5	-0.6
NVR	Nevrokopi	3.38	288	ePN	Pn	08 15 17.0	-0.3
VTS	Vitosha	4.30	302	iP	Pn	08 15 31.0	+0.6
KIV	Kislovodsk	11.36	67	iP	P	08 17 00.8	-7.9
KIV				pmax	pmax		
	comp=Z,4.0nm,0.5s						
VSU	Vasula	18.09	358	iP	P	08 18 30.5	-5.9
ARU	Arti	25.49	41	iP	P	08 19 49.4	-3.8
ARU				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.5						

*IDC **19** 08:54:28.0±1.7,24.05S×179.90E,h523km±19km,mb3.7/8, mb1 3.9/11,mb1mx3.7/17,mbtmp4.7/11,Error ellipse: s-maj=25.9km s-min=16.1km az=175.0*
*NEIC **19** 08:54:28.6±0.7,24.15S×179.86E,h536km±8km,mb4.2/14, Error ellipse: s-maj=9.8km s-min=7.5km az=180.0*

ISC 19 08:54:27.6±0.9,24.2S±0.1×179.84E±0.08,h533km±11km, n37,σ0°86/34,mb4.1/20,3C-2D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	5.43	159	P	P	08 56 01.7	+0.7
	67nm,0.3s,baz=283,slow=23,SNR=5.3						
RAO				S	S	08 57 13.9	-1.1
	69nm,0.3s,baz=259,slow=21,SNR=3.5						
DZM	Mont Dzumac	12.51	277	eP	P	08 57 12.2	+0.2
DZM	Mont Dzumac	12.51	277	P	P	08 57 14.0	+2.1
	2.1nm,0.3s,baz=79,slow=16,SNR=22						
URZ	Urewera	14.23	189	P	P	08 57 30.1	+0.7
	1.1nm,0.3s,baz=77,slow=2.2,SNR=9.0						
CTA	Charters Tower	31.34	271	⇓iP	P	09 00 06.4	+0.5
	24nm,0.4s,mb5.1						
CTA	Charters Tower	31.34	271	P	P	09 00 06.5	+0.6
	29nm,0.4s,mb5.2,baz=94,slow=11,SNR=83						
CTAO	Charters Tower	31.34	271	eP	P	09 00 06.3	+0.4
	30nm,0.4s,mb5.2						
PMG	Port Moresby	34.45	290	P	P	09 00 32.4	+0.3
	12nm,0.6s,mb4.6,baz=344,slow=18,SNR=4.1						
STKA	Stephens Creek	34.48	248	P	P	09 00 33.1	+0.9
	2.7nm,0.5s,mb4.0,baz=96,slow=11,SNR=8.9						
WRAB	Tennant Creek	42.24	267	eP	P	09 01 34.3	-1.1
	14nm,0.8s,mb4.5						
WRA	Warramunga Arr	42.24	266	P	P	09 01 34.9	-0.6
	10nm,0.3s,mb4.8,baz=97,slow=8.3,SNR=581						
WRA				ScP		09 06 20.2	
	1.8nm,0.7s,baz=99,slow=3.7,SNR=12						
KAKA	Kakadu	46.19	276	eP	P	09 02 16.8	+11
	7.2nm,0.3s,mb4.7						
FITZ	Fitzroy Crossi	50.66	266	eP	P	09 02 39.4	-0.4
	15nm,0.8s,mb4.4						
MBWA	Marble Bar	55.18	260	eP	P	09 03 10.4	-1.6
	5.7nm,0.7s,mb3.9						
CASY	Casey	59.80	206	P	P	09 03 41.9	-0.8
	1.1nm,0.6s,mb3.4						
QSPA	South Pole Qui	65.90	180	eP	P	09 04 22.6	+1.0
	7.3nm,0.5s,mb4.5						
MAW	Mawson	77.44	200	P	P	09 05 29.1	+0.7
	1.8nm,0.6s,mb3.7,baz=148,slow=9.5,SNR=6.5						
SYO	Syowa Base	82.70	193	⇓P	P	09 05 54.1	-1.6
SNAA	Sanae	84.39	179	⇑i	P	09 06 03.7	-0.2
SNAA	Sanae	84.39	179	eP	P	09 06 03.6	-0.3
	1.1nm,0.4s,mb3.7						
YBH	Yreka Blue Hor	84.39	39	P	P	09 06 04.8	+0.2
	2.0nm,0.9s,mb3.7,baz=276,slow=9.2,SNR=4.0						
VNA3	Neumayer Olymp	84.60	177	⇑i	P	09 06 04.8	-0.2
VNA3	Neumayer Olymp	84.60	177	e	P	09 06 07.2	+2.2
VNA2	Neumayer--Watz	85.02	178	⇑i	P	09 06 07.0	0.0
VNA2	Neumayer--Watz	85.02	178	e	P	09 06 09.4	+2.4
TUC	Tucson	86.80	53	eP	P	09 06 17.0	+0.6
	3.0nm,0.9s,mb3.9						
WVOR	Wild Horse Val	87.22	41	eP	P	09 06 17.6	-0.4
	2.1nm,0.8s,mb3.8						
ELK	Elko	88.32	44	eP	P	09 06 22.8	-0.5
	0.9nm,0.6s,mb3.7						
HLID	Hailey	90.40	42	eP	P	09 06 32.9	0.0
	1.8nm,1.0s,mb3.9						
MNTX	Cornudas Mount	90.49	55	eP	P	09 06 32.9	-0.7
	71nm,3.0s						
LTX	Lajitas	90.70	58	eP	P	09 06 34.6	0.0
	2.5nm,0.7s,mb4.2						
TXAR	Lajitas Array	90.70	58	P	P	09 06 35.1	+0.5
	1.7nm,0.7s,mb4.1,baz=215,slow=6.5,SNR=30						
ANMO	Albuquerque	91.24	52	P	P	09 06 37.1	+0.1
	0.5nm,0.7s,mb3.6,baz=236,slow=3.6,SNR=2.9						
ARCES	ARCESS Array B	132.13	348	PKP	PKPdf	09 12 40.7	+0.7
	1.3nm,0.8s,baz=34,slow=3.3,SNR=3.9						
HFS	Hagfors	142.79	349	PKhKP		09 12 56.6	
	3.4nm,0.4s,baz=45,slow=2.1,SNR=17						
EKA	Eskdalemuir Ar	148.81	3	PKPbc	PKPdf	09 13 14.4	+4.9
	0.6nm,0.4s,baz=339,slow=3.1,SNR=6.5						
CLL	Collm	151.08	343	i PKP1	PKPdf	09 13 20.8	+7.6

*TEH **19** 09:02:00.8,27.95N×54.31E,h11km,Mn4.2*
*BJI **19** 09:02:00.8,27.90N×54.30E,h11km,mB5.0,mb4.8,Ms4.9, Msz4.4*
*IDC **19** 09:02:00.6±0.6,28.34N×54.26E,mb4.3/23,mb1 4.4/26, mb1mx4.4/31,mbtmp4.3/26,ML4.1/1,MS3.6/11,Ms1 3.6/11, ms1mx3.4/25,Error ellipse: s-maj=16.0km s-min=12.8km az=103.0*
*NEIC **19** 09:02:00.8,27.95N×54.31E,h11km,mb4.6/33, ML4.4(THR),MN4.2(TEH),After TEH.*
*CSEM **19** 09:02:00.2±0.1,28.02N×54.39E,h30km,mb4.6/26, ML5.2/2,Ms3.4,Error ellipse: s-maj=3.1km s-min=1.8km az=123.0*
*MOS **19** 09:02:02.1±0.8,28.10N×54.32E,h33km,mb4.9/18,Error ellipse: s-maj=13.1km s-min=6.5km az=107.9*
*THR **19** 09:02:02.7±1.1,28.36N×54.36E,h14km±9km,ML4.3*

ISC 19 09:02:05.4±0.5,28.32N±0.04×54.23E±0.03,h52km±4km, n200,σ1°00/205,mb4.5/68,MS3.7/13,4D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	Ghir-Karzin	1.10	269	ePG	P	09 02 25.5	+0.7
GHIR				eSG	S	09 02 41.9	+2.8
GHIR				AML	AML	09 02 57.2	
	comp=N,3μm,0.5s						
GHIR	Ghir-Karzin	1.10	269	ePg	P	09 02 25.5	+0.8
	SNR=90						
GHIR				eSg	S	09 02 41.8	+2.7
	comp=N,3μm,0.5s,SNR=90						
ISRV	Sarvestan	1.45	318	Pn	P	09 02 31.5	+1.8
IMOK	Mook	1.52	299	Pg	P	09 02 32.7	+2.0
BNDS	Bandar-Abbas	1.95	118	ePG	P	09 02 36.6	-0.1
BNDS				AML	AML	09 03 16.7	
	comp=N,4μm,0.6s						
SHI	Shiraz	2.00	312	Pn	P	09 02 38.9	+1.4
KRBR	Kerman	2.77	53	ePg	P	09 02 49.9	+1.5
KRBR				eSg	S	09 03 26.1	+5.4
KRBR				AML	AML	09 03 33.5	
	comp=N,2μm,0.3s						
KRBR	Kerman	2.77	53	ePg	P	09 02 49.9	+1.5
	SNR=90						
KRBR				eSg	S	09 03 26.1	+

ZEI Tsey 16.67 333 *eP* **P 09 05 57.4 +0.6**
ZFRI Zfri 16.75 282 P **P 09 05 59.9 +2.0**
BDAS Al Bad' 16.84 275 P **P 09 05 59.4 +0.4**
PRNI Paran 16.89 282 P **P 09 06 01.3 +1.7**
EIL Elat 16.92 279 P **P 09 06 01.1 +1.0**
TAYS Tayyib Ism 17.03 275 P **P 09 06 01.5 0.0**
KMTI Karmit 17.12 281 P **P 09 06 03.5 +0.9**
KIV Kislovodsk 18.15 332 *eP* **P 09 06 16.6 +1.3**
comp=Z,46nm,1.0s
KIV Kislovodsk 18.15 332 *eP* **P 09 06 16.6 +1.3**
comp=Z,46nm,1.0s
KIV Kislovodsk 18.15 332 *deP* **P 09 06 17.2 +1.9**
KIV S **S 09 09 41.0 +8.2**
KIV pmax pmax
comp=Z,47nm,1.0s
KIV MLR MLR
comp=Z,100nm,19.0s
GOF Gofitskoye 18.94 335 *eP* **P 09 06 17.0 -7.7**
CSS Prodhromos 18.97 296 *eP* **P 09 06 24.1 -1.1**
comp=Z,42nm,1.4s
CSS Prodhromos 18.97 296 *eP* **P 09 06 24.1 -1.1**
comp=Z,42nm,1.4s
SOC Sochi 19.19 326 *eP* **P 09 06 25.0 -2.6**
SOC *e* 09 09 57.0
SOC pmax pmax
comp=Z,34nm,1.2s
SOC pmax pmax
comp=N,53nm,1.5s
SOC pmax pmax
comp=E,16nm,1.2s
SOC MLR MLR
comp=Z,160nm,12.0s
SOC MLR MLR
comp=N,217nm,15.0s
SOC MLR MLR
comp=E,130nm,14.0s
KKAR Karatay Array 19.76 37 *i* P **P 09 06 32.9 -0.8**
comp=E,12nm,0.8s
KKAR Karatay Array 19.76 37 *i* P **P 09 06 32.9 -0.8**
KKAR pmax pmax
comp=Z,12nm,0.8s
ATD Arta Tunnel 19.81 215 P **P 09 06 34.1 -0.3**
baz=28,slow=14,SNR=4.8
ATD LR LR 09 14 33.7
comp=Z,198nm,18.4s,baz=20,slow=38
CTKT Corum 20.14 313 *i* P **P 09 06 37.7 0.0**
BRTR Keskin Array B 20.46 309 P **P 09 06 41.1 0.0**
comp=Z,9.4nm,0.8s,baz=135,slow=12,SNR=23
BOYT Boyabat 20.49 315 *i* P **P 09 06 39.8 -1.7**
ELDT Eldivan 20.97 311 *i* P **P 09 06 45.9 -0.4**
ANTO Ankara 21.11 309 *eP* **P 09 06 48.3 +0.6**
comp=Z,35nm,1.1s,mb4.6
ANTO Ankara 21.11 309 *eP* **P 09 06 48.3 +0.6**
comp=Z,35nm,1.1s,mb4.6
AB31 Akbulak array 21.36 10 *eP* **P 09 06 49.7 -0.5**
comp=Z,14nm,0.8s,mb4.3
AB31 Akbulak array 21.36 10 *eP* **P 09 06 49.7 -0.5**
AB31 pmax pmax
comp=Z,14nm,0.8s,mb4.3
AAK Ala-Archa 21.75 44 *i* P **P 09 06 54.7 +0.6**
comp=Z,200nm,18.0s
AAK Ala-Archa 21.75 44 *eP* **P 09 06 53.9 -0.2**
comp=Z,26nm,1.1s,mb4.6
AAK Ala-Archa 21.75 44 *d i* P **P 09 06 54.7 +0.6**
AAK pmax pmax
comp=Z,37nm,1.7s,mb4.5
AAK MLR MLR
comp=Z,200nm,18.0s,MS3.6
SGKT Sivrigoynuk 21.93 310 *i* P **P 09 06 57.0 +1.1**
ISP Isparta 21.98 302 *eP* **P 09 06 58.0 +1.6**
comp=Z,24nm,1.0s,mb4.6
ISP Isparta 21.98 302 *i* P **P 09 06 58.2 +1.8**
TKTP Tekketepe 22.18 302 *i* P **P 09 06 59.3 +0.8**
BORA Eskisehir 22.75 307 *i* P **P 09 07 06.2 +2.3**
SIM Simferopol' 23.05 321 *eP* **P 09 07 06.8 -0.1**
comp=Z,21nm,0.6s,mb4.7
SIM Simferopol' 23.05 321 *eP* **P 09 07 06.8 -0.1**
SIM pmax pmax
comp=Z,21nm,0.6s,mb4.7
ULDT Uludag 23.78 306 *i* P **P 09 07 15.6 +1.6**
VRHR Novokhopersk 24.66 341 *eP* **P 09 07 24.1 +1.6**
VRHR pmax pmax
comp=Z,20nm,0.7s,mb4.8
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VORD Divnogorie 25.28 338 *eP* **P 09 07 28.5 +0.1**
VORD pmax pmax
comp=Z,30nm,1.1s,mb4.7
VORD pmax pmax
comp=N,90nm,1.4s
VORD pmax pmax
comp=E,40nm,0.9s
IDI Anoyia 25.82 293 P **P 09 07 34.8 +1.2**
comp=E,13nm,0.6s,mb4.6,baz=112,slow=8.8,SNR=12
VOR Voronezh 25.96 338 *eP* **P 09 07 35.0 +0.3**
VOR pmax pmax
comp=N,100nm,1.4s
VOR pmax pmax
comp=E,60nm,1.4s
VOR pmax pmax
comp=Z,100nm,1.4s,mb5.2
BRVK Borovoye 27.42 21 *eP* **P 09 07 47.6 -0.5**
comp=Z,3.5nm,0.8s,mb3.9
BRVK Borovoye 27.42 21 *eP* **P 09 07 47.6 -0.5**
comp=Z,3.5nm,0.8s,mb3.9
BVA0 Borovoye Array 27.43 21 *i* P **P 09 07 48.4 +0.2**
comp=Z,2.0nm,1.0s,mb3.6
BVA0 Borovoye Array 27.43 21 *i* P **P 09 07 48.4 +0.2**
BVA0 pmax pmax
comp=Z,2.0nm,1.0s,mb3.6
BVAR Borovoye Array 27.43 21 P **P 09 07 48.1 -0.1**
comp=Z,7.3nm,0.8s,mb4.3,baz=211,slow=8.6,SNR=43
MLR Muntele Rosu 28.17 315 P **P 09 07 55.8 +0.8**
comp=Z,2.7nm,0.7s,mb4.0,baz=126,slow=4.1,SNR=6.8
ARU Arti 28.27 5 *i* P **P 09 07 56.4 +0.7**
comp=Z,100nm,18.0s
ARU Arti 28.27 5 *i* P **P 09 07 56.4 +0.7**
ARU pmax pmax
comp=Z,3.0nm,1.1s,mb3.8
ARU MLR MLR
comp=Z,100nm,18.0s,MS3.5
MKAR Makanchi Array 28.67 42 P **P 09 07 59.3 0.0**
comp=Z,2.9nm,0.6s,mb4.2,baz=225,slow=8.6,SNR=28
MKAR Makanchi Array 28.67 42 *i* P **P 09 07 59.1 -0.3**
MKAR pmax pmax
comp=Z,12nm,0.9s
SVE Sverdlovsk 28.86 7 *eP* **P 09 08 10.0 +9.1**
SVE *e* 09 09 14.0
SVE MLR MLR
comp=N,200nm,12.0s,MS4.1
SVE MLR MLR
comp=E,200nm,12.0s,MS4.1
SVE MLR MLR
comp=Z,300nm,12.0s,MS4.1
KURK Kurchatov 28.99 33 *eP* **P 09 08 00.8 -1.4**
KURK Kurchatov 28.99 33 *eP* **P 09 08 02.1 -0.1**
comp=Z,14nm,1.5s,mb4.5
AKASG Malin Array Be 29.27 327 P **P 09 08 03.4 -1.4**
comp=Z,0.8nm,0.3s,mb3.9,baz=133,slow=8.1,SNR=20
OBN Obninsk 29.67 339 *i* P **P 09 08 09.0 +0.8**
comp=Z,12nm,0.8s,mb4.7
OBN Obninsk 29.67 339 ⇓ *i* P **P 09 08 09.0 +0.8**
OBN 09 09 14.0
OBN pmax pmax
comp=Z,12nm,0.8s,mb4.7
KOLS Kolonicke sedl 32.00 319 *i* P **P 09 08 30.4 +1.5**
CRVS Cervenica-Dubn 32.46 318 *i* P **P 09 08 33.3 +0.4**
TIP Timpagrande 32.78 299 *eP* **P 09 08 36.2 +0.5**
TIP Timpagrande 32.78 299 *eP* **P 09 08 36.2 +0.4**
KECS Kecovo 32.85 317 *i* P **P 09 08 37.1 +0.8**
PKSM Moragy 33.13 312 *eP* **P 09 08 38.9 +0.2**
KMBO Kilima Mbogo 33.50 212 P **P 09 08 42.4 +0.2**
comp=Z,1.7nm,0.9s,mb4.0,baz=57,slow=9.7,SNR=3.8
NVS Novosibirsk 33.80 30 *eP* **P 09 08 43.6 -0.8**
comp=Z,17nm,2.0s,mb4.6
NVS Novosibirsk 33.80 30 *eP* **P 09 08 43.6 -0.8**
NVS pmax pmax
comp=Z,17nm,2.0s,mb4.6
NVS pmax pmax
comp=N,11nm,1.8s
NVS pmax pmax
comp=E,7.0nm,1.8s
VYHS Vyhne 33.86 316 *i* P **P 09 08 45.2 +0.3**
ZAL Zalesovo 33.96 33 P **P 09 08 44.8 -1.0**
comp=E,3.4nm,0.7s,mb4.4,baz=226,slow=6.4,SNR=11
ZAL LR LR 09 22 45.4
comp=E,57nm,20.1s,MS3.3,baz=243,slow=37
OJC Ojcow 34.03 320 *eP* **P 09 08 46.7 +0.3**
CII Carovilli 35.01 303 *eP* **P 09 08 56.2 +1.3**
comp=E,48nm,1.3s,mb5.3
CII Carovilli 35.01 303 *eP* **P 09 08 56.2 +1.3**
comp=E,48nm,1.3s,mb5.3
MORC Moravsky Berou 35.15 318 *eP* **P 09 08 55.4 -0.6**
comp=E,2.5nm,0.7s,mb4.2
MORC Moravsky Berou 35.15 318 *eP* **P 09 08 55.4 -0.6**
comp=E,2.5nm,0.7s,mb4.2
VRAC Vranov 35.54 317 P **P 09 08 59.3 0.0**
comp=E,3.3nm,0.5s,mb4.5,baz=84,slow=8.6,SNR=4.9
VRAC LR LR 09 23 48.3
comp=E,92nm,19.2s,MS3.5,baz=281,slow=37
VSU Vasula 35.66 335 *i* P **P 09 09 00.2 0.0**
MBAR Mbarara 36.52 222 *eP* **P 09 09 09.2 +1.2**
comp=E,2.6nm,0.8s,mb4.1
GEC2 GERESS Array S 37.16 315 *eP* **P 09 09 13.1 +0.1**
comp=E,7.0nm,1.4s,mb4.3
GEC2 GERESS Array S 37.16 315 *eP* **P 09 09 13.1 +0.1**
GEC2 pmax pmax
comp=Z,7.0nm,1.4s,mb4.3
GERES GERESS Array B 37.16 315 P **P 09 09 13.0 0.0**
comp=Z,0.4nm,0.4s,mb3.6,baz=106,slow=9.7,SNR=4.4
GERES LR LR 09 25 46.3
comp=Z,44nm,19.1s,MS3.3,baz=307,slow=38
KHC Kasperske Hory 37.33 315 *eP* **P 09 09 14.0 -0.4**
KHC x x 09 09 21.5
KHC Kasperske Hory 37.33 315 *eP* **P 09 09 14.0 -0.4**
KHC *e* 09 09 21.5
WET Wettzell 37.77 315 *eP* **P 09 09 17.1 -0.9**
comp=Z,3.0nm,0.9s,mb4.0
WET Wettzell 37.77 315 *eP* **P 09 09 17.1 -0.9**
WET pmax pmax
comp=Z,3.0nm,0.9s,mb4.0
FINES FINESS Array B 38.06 338 P **P 09 09 20.7 +0.4**
comp=Z,5.3nm,0.7s,mb4.4,baz=129,slow=12,SNR=20
FINES LR LR 09 28 50.0
comp=Z,44nm,20.2s,MS3.3,baz=155,slow=42
FINES FINESS Array B 38.06 338 *eP* **P 09 09 21.6 +1.2**
CLL Collm 38.41 318 P **P 09 09 23.9 +0.5**
comp=Z,logA/T=1.0,mb4.5
KAF Kangasniemi 38.49 339 *ep* **P 09 09 17.3 -6.6**
GRA1 Grafenberg Arr 38.97 315 *eP* **P 09 09 28.2 +0.2**
comp=Z,12nm,1.0s,mb4.6
GRF Grafenberg Arr 38.97 315 *eP* **P 09 09 28.2 +0.2**
comp=Z,12nm,1.0s,mb4.6
GRF Grafenberg Arr 38.97 315 *eP* **P 09 09 28.2 +0.2**
GRF pmax pmax
comp=Z,12nm,1.0s,mb4.6
MOX Moxa 39.02 317 *i* P **P 09 09 28.1 -0.3**
MOX Moxa 39.02 317 *eP* **P 09 09 28.1 -0.3**
PGF Pioggiola 39.04 304 *eP* **P 09 09 28.5 -0.1**
comp=Z,35nm,1.2s,mb4.7
GTA Gaotai 39.07 61 P **P 09 09 29.8 +0.9**
GTA AP pP 09 09 34.0 -8.6
GTA XP sP 09 09 37.6 -11
GTA AMB AMB
comp=Z,11nm,0.8s,mb4.6
DAVOX Davos 39.10 310 P **P 09 09 29.1 0.0**
comp=Z,1.9nm,0.5s,mb4.1,baz=175,slow=2.2,SNR=3.7
DAVOX LR LR 09 26 31.9
comp=Z,144nm,20.1s,MS3.8,baz=259,slow=38
CLZ Clausthal 40.14 318 *eP* **P 09 09 38.5 +0.8**
comp=Z,35nm,1.2s,mb5.0
CLZ Clausthal 40.14 318 *eP* **P 09 09 38.5 +0.8**
CLZ pmax pmax
comp=Z,35nm,1.2s,mb5.0
TNS Taunus Mts 40.84 315 *eP* **P 09 09 42.6 -0.9**
comp=Z,8.0nm,1.3s,mb4.2
TNS Taunus Mts 40.84 315 *eP* **P 09 09 42.6 -0.9**
TNS pmax pmax
comp=Z,8.0nm,1.3s,mb4.2
BSEG Bad Segeberg 40.88 321 *eP* **P 09 09 44.7 +0.9**
BSEG pmax pmax
comp=Z,13nm,1.1s,mb4.5
MBDF Montbardon 40.90 307 *eP* **P 09 09 43.5 -0.6**
comp=Z,7.9nm,0.6s,mb4.2
BNI Bardonecchia 41.01 307 *eP* **P 09 09 44.7 -0.2**
comp=Z,20nm,1.2s,mb4.6
LPG La Plagne 41.02 308 *eP* **P 09 09 44.6 -0.4**
LPL La Plagne 41.03 308 *eP* **P 09 09 44.9 -0.2**
CDF Champ du Feu 41.16 312 *eP* **P 09 09 46.7 +0.5**
HINF Hinteralfeld 41.32 311 *eP* **P 09 09 46.8 -0.7**
CABF La Chapelle 41.63 309 *eP* **P 09 09 50.2 +0.1**
comp=Z,58nm,1.4s,mb4.7
HAU Haudompre 41.69 312 *eP* **P 09 09 50.5 0.0**
HAU *eR*
comp=Z,55nm,18.2s
CHG Chiang Mai 41.86 93 ⇓ P **P 09 09 53.2 +0.9**
comp=Z,14nm,1.0s,mb4.5
HFS Hagfors 41.94 331 P **P 09 09 52.4 +0.1**
comp=Z,5.0nm,0.7s,mb4.3,baz=132,slow=8.3,SNR=8.2
HFS LR LR 09 30 29.8
comp=Z,66nm,19.6s,MS3.5,baz=296,slow=41
LZH Lanzhou 42.32 66 *eP* **P 09 09 51.0 -4.8**
comp=Z,29nm,1.5s,mb4.7
LZH pP pP 09 10 00.2 -9.3
LZH sP sP 09 10 04.3 -11
VIVF Saint-Julien-l 42.40 307 *eP* **P 09 09 54.9 -1.5**
MEZF Maizieres J'vi 42.63 312 *eP* **P 09 09 58.0 -0.2**
GIVF Givet 43.08 314 *eP* **P 09 10 00.8 -1.0**
SMF Signal de Mont 43.17 309 *eP* **P 09 10 02.0 -0.7**
LOR Lormes 43.24 310 *eP* **P 09 10 02.4 -0.8**
comp=Z,44nm,1.4s,mb4.7
LOR *eR*
comp=Z,95nm,18.0s
NANT Nan 43.41 92 P **P 09 10 04.0 -1.0**
NB2 NORSAR Subarra 43.45 331 P **P 09 10 04.0 -0.7**
comp=Z,8.9nm,1.1s,mb4.4,baz=123,slow=7.4
NOA NORSAR Array B 43.45 331 P **P 09 10 04.5 -0.2**
comp=Z,2.7nm,0.8s,mb4.0,baz=119,slow=8.0,SNR=6.9
NOA LR LR 09 31 15.4
comp=Z,44nm,18.8s,MS3.4,baz=145,slow=40
SSF Saint Saulge 43.45 310 *eP* **P 09 10 04.4 -0.5**
comp=Z,12nm,1.1s,mb4.5
BAIF Baives 43.46 314 *eP* **P 09 10 05.5 +0.6**
comp=Z,40nm,1.2s,mb4.7
AVF Avril sur Loir 43.52 309 *eP* **P 09 10 04.9 -0.6**
comp=Z,32nm,1.4s,mb4.6
BGF Bois d'Agland 43.84 309 *eP* **P 09 10 07.6 -0.5**
CAF Calviac 44.25 306 *eP* **P 09 10 11.1 -0.3**
comp=Z,41nm,1.3s,mb4.7
TCF Toulx Ste Croi 44.26 308 *eP* **P 09 10 11.2 -0.2**
comp=Z,40nm,1.3s,mb4.7
KEV Kevo 44.34 347 *ep* **P 09 10 11.6 -0.2**
ARCES ARCESS Array B 44.47 346 P **P 09 10 13.3 +0.5**
comp=Z,2.8nm,0.9s,mb4.0,baz=148,slow=8.6,SNR=15
SONM Songino Array 44.52 49 P **P 09 10 14.6 +1.2**
comp=Z,7.0nm,1.0s,mb4.5,baz=260,slow=9.0,SNR=26
SONM LR LR 09 29 32.4
comp=Z,137nm,19.8s,MS3.9,baz=262,slow=37
RJF Les Rejaudoux 44.66 307 *eP* **P 09 10 14.9 +0.2**
comp=Z,44nm,1.1s,mb4.9
RJF *eR*
comp=Z,100nm,17.2s
LFF La Frestale 45.19 306 *eP* **P 09 10 18.9 0.0**
comp=Z,64nm,1.3s,mb5.0
SJPF Ste Jean 46.57 304 *eP* **P 09 10 28.8 -1.1**
OPO Ambohidratompo 47.10 189 P **P 09 10 36.3 +2.0**
comp=Z,4.9nm,1.1s,mb4.4,baz=38,slow=9.6,SNR=3.8
EKA Eskdalemuir Ar 48.80 320 P **P 09 10 46.5 -0.5**
comp=Z,1.0nm,0.5s,mb4.2,baz=95,slow=7.0,SNR=5.7
BOD Bodaibo 50.49 37 *eP* **P 09 10 59.6 -0.5**
BOD pmax pmax
comp=Z,14nm,0.9s,mb5.0
WHN Wuhan 51.86 72 *eP* **P 09 11 10.5 -0.3**
MATP Matopo 54.46 210 P **P 09 11 29.6 -0.5**
comp=Z,3.1nm,0.8s,mb4.3,baz=60,slow=14,SNR=5.8
NJ2 Nanjing 55.24 69 *eP* **P 09 11 35.9 +0.2**
NJ2 PP PP 09 13 42.1 +1.1
NJ2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
NJ2 AMB AMB
comp=Z,710nm,4.7s
NJ2 LR LR
comp=N,420nm,20.7s,MS4.8
NJ2 LR LR
comp=E,780nm,20.8s,MS4.8
NJ2 LR LR
comp=Z,550nm,26.5s
SSE Sheshan 57.41 70 P **P 09 11 48.3 -2.9**
SSE AMB AMB
comp=Z,31nm,0.6s,mb5.5
SSE AMB AMB
comp=Z,73nm,3.9s
SSE Sheshan 57.41 70 P **P 09 11 48.2 -3.0**
comp=Z,31nm,0.6s,mb5.5
CN2 Changchun 57.93 54 *eP* **P 09 11 54.3 -0.3**
CN2 AMB AMB
comp=Z,10.0nm,1.4s,mb4.7
TIXI Tiksi 58.56 21 *eP* **P 09 11 55.6 -3.1**
TIXI pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
BORG Borgarnes 58.63 331 LR LR 09 38 35.2
comp=Z,67nm,19.8s,MS3.8,baz=102,slow=37
YAK Yakutsk 58.63 32 *i* P **P 09 11 58.3 -1.0**
YAK pmax pmax
comp=Z,13nm,0.6s,mb5.1
DBIC Dimbokro 59.71 261 P **P 09 12 07.1 -0.3**
comp=Z,4.9nm,0.7s,mb4.6,baz=53,slow=9.9,SNR=4.5
DBIC Dimbokro 59.71 261 P **P 09 12 07.1 -0.3**
LBTB Lobatse 59.76 210 P **P 09 12 08.3 +0.7**
comp=Z,3.7nm,0.6s,mb4.6,baz=45,slow=12,SNR=5.9
LBTB Lobatse 59.76 210 P **P 09 12 08.3 +0.7**
SUMG Summit 64.06 340 *eP* **P 09 12 36.2 +0.6**
comp=Z,8.6nm,0.9s,mb4.8
SEY Seymchan 68.75 29 *i* P **P 09 13 05.7 +0.2**
BILL Bilibino 71.77 22 *i* P **P 09 13 23.8 +0.1**
BILL pmax pmax
comp=Z,14nm,1.7s,mb4.6
DAWY Dawson 87.31 6 *eP* **P 09 14 49.0 +1.8**
YKA Yellowknife Ar 89.07 355 P **P 09 14 56.3 +0.6**
comp=Z,1.6nm,0.7s,mb4.5,baz=5.6,slow=4.7,SNR=4.4
YKA Yellowknife Ar 89.07 355 P **P 09 14 56.3 +0.6**
WRA Warramunga Arr 91.00 112 P **P 09 15 05.6 -0.1**
comp=Z,2.9nm,1.1s,mb4.5,baz=307,slow=3.9,SNR=8.0
CFAA Coronel Fontan 130.54 251 PKP PKPdf 09 21 12.5 +1.5
comp=Z,0.1nm,0.4s,baz=24,slow=2.2,SNR=3.9

NEIC ***19*** *09:04:18.2±0.4,51.57N×16.15E,h5km,ML3.3(VIE), ML3.1(SZGRF),ML2.9(BRG),Error ellipse: s-maj=4.6km s-min=4.1km az=223.0*
BGR ***19*** *09:04:19.8±0.6,51.48N×16.10E,h1km,ML3.1,Error ellipse: s-maj=7.8km s-min=5.6km az=160.0*
IPEC ***19*** *09:04:19.9±0.2,51.49N×16.13E,h8km±1km,ML2.6/4, Error ellipse: s-maj=1.2km s-min=0.6km az=25.0*
IDC ***19*** *09:04:19.8±0.8,51.48N×15.93E,mb1 3.4/7, mb1mx3.3/21,mbtmp3.3/7,ML3.1/6,Error ellipse: s-maj=14.3km s-min=7.5km az=110.0*
WAR ***19*** *09:04:20.3,51.48N×16.10E,h1km,ML3.1,Mining Induced*
PRU ***19*** *09:04:20.7,51.44N×16.08E*
CSEM ***19*** *09:04:20.1±0.2,51.47N×16.11E,ML3.4/8,Error ellipse: s-maj=2.7km s-min=1.8km az=8.0*

ISC 19 09:04:18.3±0.5,51.41N±0.02×16.07E±0.02,n63,
σ1§37/117,3C-3D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.58**	**166**	⇓ *i* PG	**Pg**	**09 04 32.2**	**+2.3**
KSP				⇓ *e* SG	**Sg**	**09 04 41.2**	**+3.5**
KSP	**Ksiaz**	**0.58**	**166**	*e* Pg	**Pg**	**09 04 32.3**	**+2.4**
KSP				*e* Sg	**Sg**	**09 04 40.9**	**+3.3**
KSP	**Ksiaz**	**0.58**	**166**	⇓ *i* Pg	**Pg**	**09 04 32.2**	**+2.3**
KSP				*e* Sg	**Sg**	**09 04 40.9**	**+3.2**
KSP				*e*		09 04 46.5	
UPC	**Upice**	**0.90**	**182**	*e* PG	**Pg**	**09 04 38.0**	**+1.7**
UPC	**Upice**	**0.90**	**182**	*e* Pg	**Pg**	**09 04 38.2**	**+1.9**
DPC	**Dobruska-Polom**	**1.07**	**171**	*e* PG	**Pg**	**09 04 41.0**	**+1.3**
DPC				*e* SG	**Sg**	**09 04 55.5**	**+1.6**
	61nm,0.4s						
PVCC	**Panska Ves**	**1.29**	**228**	*e* PG	**Pg**	**09 04 45.5**	**+1.4**
PVCC	**Panska Ves**	**1.29**	**228**	*e* Pn	**Pn**	**09 04 45.7**	**+2.1**
PVCC				*e* Sg	**Sg**	**09 05 04.0**	**+2.6**
BRG	**Berggiesshubel**	**1.44**	**249**	*e* Pg	**Pg**	**09 04 47.7**	**+0.6**
BRG				*e* Sg	**Sg**	**09 05 08.0**	**+1.7**
BRG	**Berggiesshubel**	**1.44**	**249**	*e* Pn	**Pn**	**09 04 47.6**	**+1.9**
BRG	**Berggiesshubel**	**1.44**	**249**	Pg	**Pg**	**09 04 47.9**	**+0.8**
BRG				*e* Sg	**Sg**	**09 05 07.1**	**+0.8**
BRG	**Berggiesshubel**	**1.44**	**249**	Pn	**Pn**	**09 04 45.8**	**+0.1**
BRG				Pg	**Pg**	**09 04 47.9**	**+0.8**
BRG				Sg	**Sg**	**09 05 08.0**	**+1.6**
PRU	**Pruhonice**	**1.72**	**215**	*e* PN	**Pn**	**09 04 50.7**	**+1.0**
PRU				*e* PG	**Pg**	**09 04 52.6**	**-0.1**
PRU				*e* SG	**Sg**	**09 05 16.4**	**+0.8**
PRU	**Pruhonice**	**1.72**	**215**	Pg	**Pg**	**09 04 52.6**	**-0.1**
PRU				Sg	**Sg**	**09 05 16.4**	**+0.8**
FBE	**Freiberg**	**1.78**	**255**	Sg	**Sg**	**09 05 17.9**	**+0.4**
RUE	**Ruedersdorf**	**1.78**	**308**	*e* Pn	**Pn**	**09 04 49.7**	**-0.9**
RUE				*e* Sg	**Sg**	**09 05 15.4**	**-2.2**
RUE	**Ruedersdorf**	**1.78**	**308**	*e* Pn	**Pn**	**09 04 49.4**	**-1.2**
RUE				*e* Sg	**Sg**	**09 05 15.4**	**-2.1**
MORC	**Moravsky Berou**	**1.88**	**150**	*e* Pn	**Pn**	**09 04 52.4**	**+0.4**
MORC				*e* Sn	**Sn**	**09 05 17.7**	**+0.9**
MORC				*e* Sg	**Sg**	**09 05 19.9**	**-1.1**
	40nm,0.4s						
MORC	**Moravsky Berou**	**1.88**	**150**	*e* Pn	**Pn**	**09 04 52.4**	**+0.4**
MORC				*e* Sn	**Sn**	**09 05 17.7**	**+0.9**
CLL	**Collm**	**1.93**	**268**	*e* Pn	**Pn**	**09 04 52.9**	**+0.2**
CLL				*e* Pg	**Pg**	**09 04 55.0**	**-1.8**
CLL				*e* Sg	**Sg**	**09 05 22.0**	**-0.5**
CLL	**Collm**	**1.93**	**268**	*e* PN	**Pn**	**09 04 53.0**	**+0.3**
CLL				*e* PG	**Pg**	**09 04 55.0**	**-1.8**
CLL				*i*		09 04 59.7	
CLL				*e* SG	**Sg**	**09 05 21.0**	**-1.4**
CLL				*e* L		09 05 31.0	
CLL	**Collm**	**1.93**	**268**	Pg	**Pg**	**09 04 55.0**	**-1.8**
CLL				Sg	**Sg**	**09 05 22.0**	**-0.4**
CLL	**Collm**	**1.93**	**268**	*e* Pn	**Pn**	**09 04 53.0**	**+0.3**
CLL				*e* Pg	**Pg**	**09 04 55.0**	**-1.8**
CLL				*e* Sg	**Sg**	**09 05 21.0**	**-1.4**
OKC	**Ostrava-Krasne**	**2.05**	**139**	*e* PG	**Pg**	**09 04 58.5**	**-0.8**
OKC				*e* SG	**Sg**	**09 05 24.8**	**-1.9**
VRAC	**Vranov**	**2.13**	**171**	Pn	**Pn**	**09 04 56.2**	**+0.7**
	2.0nm,0.3s,baz=322,slow=17,SNR=5.9						
VRAC				Lg		09 05 29.2	
	4.2nm,0.3s,baz=262,slow=23,SNR=4.2						
VRAC	**Vranov**	**2.13**	**171**	Pn	**Pn**	**09 04 56.2**	**+0.7**
VRAC				*e* Sg	**Sg**	**09 05 28.8**	**-0.3**
	21nm,0.3s						
TREC	**Trest**	**2.15**	**190**	*e* Pn	**Pn**	**09 04 58.4**	**+2.6**
TREC				*e* Sg	**Sg**	**09 05 29.6**	**-0.2**
KRUC	**Moravsky**	**2.36**	**175**	*e* Sg	**Sg**	**09 05 36.4**	**-0.4**
	28nm,0.6s						
TANN	**Tannenbergstha**	**2.49**	**248**	*e* Pn	**Pn**	**09 05 01.9**	**+1.2**
TANN				*e* Sg	**Sg**	**09 05 39.3**	**-1.9**
WERD	**Werda**	**2.57**	**250**	*e* Pn	**Pn**	**09 05 02.8**	**+1.0**
WERD				*e* Sg	**Sg**	**09 05 41.8**	**-2.0**
NKC	**Novy Kostel**	**2.58**	**244**	*e* PN	**Pn**	**09 05 03.3**	**+1.3**
NKC				*e* PG	**Pg**	**09 05 09.3**	**-0.5**
NKC				*e* SG	**Sg**	**09 05 44.3**	**+0.1**
	69nm,0.3s						
NKC	**Novy Kostel**	**2.58**	**244**	*e* Pg	**Pg**	**09 05 09.3**	**-0.5**
NKC				*e* Sg	**Sg**	**09 05 43.9**	**-0.3**
GUNZ	**Gunzen**	**2.59**	**248**	*e* Pn	**Pn**	**09 05 03.6**	**+1.5**
OJC	**Ojcow**	**2.65**	**115**	*e* PG	**Pg**	**09 05 10.0**	**-1.2**
OJC				*e* SG	**Sg**	**09 05 45.0**	**-1.4**
JAVC	**Velka Javorina**	**2.75**	**157**	*e* Sg	**Sg**	**09 05 48.7**	**-1.2**
	28nm,0.8s						
KHC	**Kasperske Hory**	**2.78**	**216**	*e* PN	**Pn**	**09 05 05.9**	**+1.0**
KHC				*e* PG	**Pg**	**09 05 12.0**	**-1.9**
KHC				*e* SN	**Sn**	**09 05 40.5**	**+0.8**
KHC				*e* SG	**Sg**	**09 05 50.7**	**-0.3**
MOX	**Moxa**	**2.91**	**257**	*e* Pn	**Pn**	**09 05 08.2**	**+1.4**
MOX				*e* Pg	**Pg**	**09 05 15.3**	**-1.2**
MOX				*e* Sg	**Sg**	**09 05 53.4**	**-1.9**
MOX	**Moxa**	**2.91**	**257**	Pg	**Pg**	**09 05 15.3**	**-1.2**
MOX				Sg	**Sg**	**09 05 53.4**	**-1.9**
MOX	**Moxa**	**2.91**	**257**	*e* Pg	**Pg**	**09 05 15.3**	**-1.2**
MOX				*e* Sg	**Sg**	**09 05 54.6**	**-0.7**
NOTT	**Nottersdorf**	**2.98**	**239**	*e* Pn	**Pn**	**09 05 08.6**	**+0.8**
NOTT				*e* Sg	**Sg**	**09 05 55.6**	**-1.9**
GEC2	**GERESS Array S**	**2.98**	**212**	*e* Pn	**Pn**	**09 05 10.0**	**+2.2**
GEC2				*e* Sg	**Sg**	**09 05 56.8**	**-0.9**
GEC2	**GERESS Array S**	**2.98**	**212**	*e* Pn	**Pn**	**09 05 10.0**	**+2.2**
GEC2				*e* Sg	**Sg**	**09 05 56.8**	**-0.8**
GERES	**GERESS Array B**	**2.98**	**212**	Pn	**Pn**	**09 05 08.8**	**+1.0**
	2.1nm,0.3s,baz=28,slow=12,SNR=33						
GERES				Pg	**Pg**	**09 05 15.0**	**-2.8**
	3.8nm,0.3s,baz=31,slow=17,SNR=24						
GERES				Lg		09 05 55.0	
	3.3nm,0.3s,baz=30,slow=27,SNR=5.7						
GERES	**GERESS Array B**	**2.98**	**212**	Pg	**Pg**	**09 05 15.0**	**-2.9**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WET	**Wettzell**	**3.05**	**223**	*e*Pn	**Pn**	**09 05 09.7**	**+0.9**
WET				*e*Sg	**Sg**	**09 05 59.0**	**-0.9**
WET	**Wettzell**	**3.05**	**223**	*e*Pn	**Pn**	**09 05 09.5**	**+0.7**
WET				*e*Sg	**Sg**	**09 05 59.0**	**-1.0**
WET	**Wettzell**	**3.05**	**223**	*e*Pn	**Pn**	**09 05 09.7**	**+0.9**
WET				*e*Sg	**Sg**	**09 05 59.0**	**-1.0**
ZST	**Bratislava**	**3.28**	**168**	*e*SG	**Sg**	**09 06 04.3**	**-3.3**
VYHS	**Vyhne**	**3.42**	**147**	*e*PG	**Pg**	**09 05 24.7**	**-1.9**
VYHS				*e*SG	**Sg**	**09 06 10.8**	**-1.3**
GRF	**Grafenberg Arr**	**3.54**	**243**	*e*Sg	**Sg**	**09 06 14.4**	**-1.7**
CLZ	**Clausthal**	**3.58**	**279**	*e*Pn	**Pn**	**09 05 16.9**	**+0.7**
MOA	**Molln**	**3.75**	**199**	⇑*i*PN	**Pn**	**09 05 19.8**	**+1.2**
MOA				*i* SG	**Sg**	**09 06 23.3**	**+0.2**
	25nm,0.6s						
STHS	**Stebnicka Huta**	**3.86**	**119**	*e*PG	**Pg**	**09 05 34.1**	**-1.3**
STHS				*e*SG	**Sg**	**09 06 28.4**	**+1.5**
KECS	**Kecovo**	**4.08**	**134**	*e*SG	**Sg**	**09 06 31.0**	**-3.3**
ARSA	**Arzberg**	**4.17**	**185**	⇑*i*PN	**Pn**	**09 05 24.9**	**+0.2**
ARSA				*i* SG	**Sg**	**09 06 34.6**	**-2.7**
	23nm,0.7s						
CRVS	**Cervenica-Dubn**	**4.28**	**124**	*e*PG	**Pg**	**09 05 44.9**	**+1.2**
KBA	**Koelnbreinsper**	**4.69**	**203**	⇑*i*PN	**Pn**	**09 05 33.1**	**+1.1**
KBA				*i* SG	**Sg**	**09 06 53.8**	**-0.5**
	12nm,0.6s						
AKASG	**Malin Array Be**	**8.32**	**90**	Pn	**P**	**09 06 20.1**	**-3.0**
	1.1nm,0.3s,baz=279,slow=12,SNR=4.6						
HFS	**Hagfors**	**8.85**	**352**	Pn	**P**	**09 06 24.4**	**-6.0**
	0.0nm,0.3s,baz=169,slow=7.3,SNR=2.9						
FINES	**FINESS Array B**	**11.47**	**25**	Pn	**P**	**09 06 59.9**	**-6.3**
	0.2nm,0.3s,baz=208,slow=10,SNR=4.4						
FINES				Sn	**S**	**09 09 01.7**	**-15**
	0.2nm,0.3s,baz=217,slow=21,SNR=4.6						
FINES	**FINESS Array B**	**11.47**	**25**	Pn	**P**	**09 06 59.9**	**-6.3**
FINES				Sn	**S**	**09 09 01.7**	**-15**
EKA	**Eskdalemuir Ar**	**12.13**	**296**	Pn	**P**	**09 07 10.0**	**-5.2**
	0.1nm,0.3s,baz=93,slow=14,SNR=2.6						
ARCES	**ARCESS Array B**	**18.73**	**10**	Pn	**P**	**09 08 34.1**	**-6.1**
	0.2nm,0.3s,baz=188,slow=13,SNR=7.0						

*CSEM **19** 09:07:44.6±0.1,38.21N×8.92W,h10km,ML3.3/7,Error ellipse: s-maj=3.2km s-min=1.6km az=60.0*
*IGIL **19** 09:07:45.6±6.2,38.16N×8.88W,h0km±999km,ML3.4*
*INMG **19** 09:07:45.8±1.5,38.17N×8.90W,h8km±6km,ML3.0,Error ellipse: s-maj=6.8km s-min=2.4km az=66.0*
*NEIC **19** 09:07:45.0,38.25N×8.85W,h5km,MN2.9(MDD),After MDD.*
*MDD **19** 09:07:46.0±0.4,38.17N×8.90W,h16km±4km,mbLg2.8/20, Error ellipse: s-maj=5.4km s-min=2.3km az=63.0,PRXIMO*
*LDG **19** 09:07:46.0±0.2,38.18N×8.84W,h3km,Md3.5/1,Error ellipse: s-maj=3.5km s-min=2.3km az=75.0*
ISC 19 09:07:44.4±0.4,38.20N±0.02×8.73W±0.03,h10km,n73,
σ1°23/135,1D,Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIS	**Lisbon**	**0.61**	**327**	*e*P	**Pb**	**09 07 56.1**	**-0.6**
LIS				*e*S	**Sg**	**09 08 03.9**	**-0.9**
LIS				*e*S	**Sg**	**09 08 03.9**	**-0.9**
LIS				AML	AML	09 08 07.5	
	comp=N,1μm,0.2s						
INMG	**Instituto de M**	**0.65**	**331**	*e*Pg	**Pg**	**09 07 58.5**	**+1.0**
INMG				*e*Sg	**Sg**	**09 08 07.2**	**+1.0**
EVO	**Evora**	**0.65**	**60**	*e*Pg	**Pg**	**09 07 58.4**	**+0.9**
EVO				*e*Sg	**Sg**	**09 08 06.8**	**+0.5**
	comp=N,734nm,0.2s						
PTEO	**Sao Teotonio**	**0.66**	**180**	*i* Pg	**Pg**	**09 07 57.9**	**+0.3**
PTEO				*e*Sg	**Sg**	**09 08 06.1**	**-0.3**
	comp=N,426nm,0.1s						
PTEO	**Sao Teotonio**	**0.66**	**180**	⇓Pg	**Pg**	**09 07 57.9**	**+0.3**
PTEO				Lg		09 08 06.1	
	comp=N,213nm,0.1s						
PTEO	**Sao Teotonio**	**0.66**	**180**	*e*Sg	**Sg**	**09 08 06.1**	**-0.3**
	comp=N,426nm,0.1s						
PBEJ	**Beja**	**0.70**	**104**	*e*P	**Pg**	**09 08 00.6**	**+2.1**
PBEJ				*e*S	**Sb**	**09 08 12.1**	**+4.4**
	comp=N,422nm,0.2s						
PBEJ	**Beja**	**0.70**	**104**	Pg	**Pg**	**09 08 00.6**	**+2.1**
PBEJ				Lg		09 08 12.1	
	comp=N,211nm,0.2s						
PLOU	**Loures**	**0.76**	**334**	*e*P	**Pb**	**09 07 59.8**	**+0.6**
PLOU				*e*S	**Sb**	**09 08 09.7**	**+0.4**
	comp=N,731nm,0.2s						
PLOU	**Loures**	**0.76**	**334**	*e*P	**Pb**	**09 07 59.8**	**+0.6**
PLOU				*e*S	**Sb**	**09 08 09.7**	**+0.4**
	comp=N,731nm,0.2s						
ALMR	**Almeirim**	**0.96**	**7**	*e*P	**Pb**	**09 08 04.3**	**+1.7**
ALMR				*e*		09 08 04.4	
	baz=169,slow=4.1						
ALMR				*e*S	**Sb**	**09 08 17.5**	**+2.3**
ALMR				*e*S	**Sb**	**09 08 17.5**	**+2.4**
ALMR				AML	AML	09 08 18.2	
	comp=N,828nm,0.4s						
ALMR	**Almeirim**	**0.96**	**7**	*e*P	**Pb**	**09 08 04.3**	**+1.7**
ALMR				*e*S	**Sb**	**09 08 17.5**	**+2.4**
EGRO	**El Granado**	**1.19**	**124**	Pn	**Pn**	**09 08 07.6**	**+0.6**
	comp=N,1.0nm,0.1s,SNR=312						
EGRO				Pg	**Pg**	**09 08 08.7**	**+0.5**
	comp=N,45nm,0.1s,SNR=7.9						
EGRO				Lg		09 08 26.8	
	comp=N,68nm,0.1s,SNR=16						
EGRO	**El Granado**	**1.19**	**124**	Pn	**Pn**	**09 08 07.6**	**+0.5**
	comp=N,1.0nm,0.1s,SNR=312						
EGRO	**El Granado**	**1.19**	**124**	Pg	**Pg**	**09 08 08.7**	**+0.5**
	comp=N,45nm,0.1s,SNR=7.9						
PTOM	**Tomar**	**1.43**	**10**	*e*Pn	**Pn**	**09 08 12.5**	**+2.0**
PTOM				*e*Pg	**Pg**	**09 08 13.4**	**+0.3**
PTOM				*e*Sn	**Sn**	**09 08 31.0**	**+1.4**
	comp=N,265nm,0.2s						
PTOM	**Tomar**	**1.43**	**10**	Pn	**Pn**	**09 08 12.5**	**+2.0**
PTOM				Pg	**Pg**	**09 08 13.4**	**+0.3**
PTOM				Sn	**Sn**	**09 08 31.0**	**+1.4**
	comp=N,133nm,0.2s						
PTOM	**Tomar**	**1.43**	**10**	*e*Pg	**Pg**	**09 08 13.4**	**+0.3**
EBAD	**Badajoz**	**1.46**	**67**	Pn	**Pn**	**09 08 11.4**	**+0.6**
	comp=N,0.3nm,0.0s,SNR=69						
EBAD				Pg	**Pg**	**09 08 13.7**	**+0.2**
	comp=N,15nm,0.1s,SNR=7.9						
EBAD				Sn	**Sn**	**09 08 32.2**	**+2.1**
	comp=N,160nm,0.1s,SNR=30						
EBAD				Lg		09 08 34.9	
	comp=N,63nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**1.46**	**67**	Pn	**Pn**	**09 08 11.4**	**+0.6**
	comp=N,0.3nm,0.0s,SNR=69						
EBAD	**Badajoz**	**1.46**	**67**	Pg	**Pg**	**09 08 13.7**	**+0.2**
	comp=N,15nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**1.46**	**67**	Pn	**Pn**	**09 08 11.4**	**+0.6**
EBAD				Pg	**Pg**	**09 08 13.7**	**+0.2**
EBAD				Lg		09 08 34.1	
EMIN	**Mina Concepcio**	**1.68**	**104**	Pn	**Pn**	**09 08 14.9**	**+0.8**
	comp=N,0.4nm,0.1s,SNR=72						
EMIN				Pg	**Pg**	**09 08 17.1**	**-0.9**
	comp=N,8.4nm,0.1s,SNR=7.9						
EMIN				Sn	**Sn**	**09 08 38.1**	**+2.2**
	comp=N,28nm,0.1s,SNR=17						
EMIN				Lg		09 08 43.2	
	comp=N,29nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.68**	**104**	Pn	**Pn**	**09 08 14.9**	**+0.8**
	comp=N,0.4nm,0.1s,SNR=72						
EMIN	**Mina Concepcio**	**1.68**	**104**	Pg	**Pg**	**09 08 17.1**	**-0.9**
	comp=N,8.4nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.68**	**104**	Pn	**Pn**	**09 08 14.8**	**+0.8**
EMIN				Pg	**Pg**	**09 08 17.1**	**-0.9**
EMIN				Lg		09 08 40.4	
PCBR	**Castelo Branco**	**1.90**	**30**	*e*Pg	**Pg**	**09 08 22.7**	**+0.3**
PCBR				*e*Sn	**Sn**	**09 08 42.4**	**+0.9**
	comp=N,48nm,0.3s						
PCBR	**Castelo Branco**	**1.90**	**30**	Pg	**Pg**	**09 08 22.7**	**+0.3**
PCBR				Sn	**Sn**	**09 08 42.4**	**+0.9**
	comp=N,24nm,0.3s						
MTE	**Manteigas**	**2.38**	**22**	*e*Pg	**Pg**	**09 08 31.8**	**-0.1**
MTE				*e*Sn	**Sn**	**09 08 53.8**	**+0.3**
MTE				*e*Sg	**Sg**	**09 09 02.8**	**-0.8**
	comp=N,68nm,0.4s						
MTE	**Manteigas**	**2.38**	**22**	*e*Pg	**Pg**	**09 08 31.6**	**-0.3**
MTE				*e*Sg	**Sg**	**09 09 03.1**	**-0.5**
MTE	**Manteigas**	**2.38**	**22**	*e*Pg	**Pg**	**09 08 31.6**	**-0.3**
MTE				*e*Sg	**Sg**	**09 09 03.1**	**-0.5**
ECAB	**El Cabril**	**2.61**	**92**	Pn	**Pn**	**09 08 28.6**	**+1.1**
	comp=N,1.4nm,0.1s,SNR=18						
ECAB				Pg	**Pg**	**09 08 35.1**	**-1.5**
	comp=N,2.9nm,0.1s,SNR=16						
ECAB				Sn	**Sn**	**09 09 00.8**	**+1.3**
	comp=N,9.8nm,0.2s,SNR=7.6						
ECAB				Lg		09 09 09.5	
	comp=N,32nm,0.3s,SNR=5.0						
ECAB	**El Cabril**	**2.61**	**92**	Pn	**Pn**	**09 08 28.5**	**+1.1**
ECAB	**El Cabril**	**2.61**	**92**	Pg	**Pg**	**09 08 35.1**	**-1.5**
	comp=N,2.9nm,0.1s,SNR=16						
ECAB				Sn	**Sn**	**09 09 00.8**	**+1.3**
	comp=N,9.8nm,0.2s,SNR=7.6						
ESPR	**Espera**	**2.64**	**119**	Pn	**Pn**	**09 08 29.3**	**+1.4**
	comp=N,1.6nm,0.1s,SNR=16						
ESPR				Pg	**Pg**	**09 08 35.8**	**-1.4**
	comp=N,12nm,0.3s,SNR=5.6						
ESPR				Sn	**Sn**	**09 08 59.8**	**-0.5**
	comp=N,28nm,0.2s,SNR=5.7						
ESPR				Lg		09 09 10.7	
	comp=N,20nm,0.2s,SNR=4.6						
ESPR	**Espera**	**2.64**	**119**	Pn	**Pn**	**09 08 29.3**	**+1.4**
	comp=N,1.6nm,0.1s,SNR=16						
ESPR	**Espera**	**2.64**	**119**	Pg	**Pg**	**09 08 35.8**	**-1.4**
	comp=N,12nm,0.3s,SNR=5.6						
ESPR				Sn	**Sn**	**09 09 02.1**	**+1.8**
	comp=N,28nm,0.2s,SNR=5.7						
ESPR	**Espera**	**2.64**	**119**	Pn	**Pn**	**09 08 29.3**	**+1.4**
ESPR				Pg	**Pg**	**09 08 35.8**	**-1.4**
ESPR				Sn	**Sn**	**09 09 02.1**	**+1.8**
ESPR				Lg		09 09 11.7	
EADA	**Adamuz**	**3.27**	**89**	Pn	**Pn**	**09 08 36.4**	**-0.3**
	comp=N,0.4nm,0.1s,SNR=5.6						
EADA				Sn	**Sn**	**09 09 15.8**	**-0.4**
	comp=N,5.6nm,0.1s,SNR=14						
EADA				Lg		09 09 28.9	
	comp=N,15nm,0.2s,SNR=7.4						
EADA	**Adamuz**	**3.27**	**89**	Pn	**Pn**	**09 08 36.5**	**-0.3**
EADA				Sn	**Sn**	**09 09 15.8**	**-0.4**
	comp=N,5.6nm,0.1s,SNR=14						
EADA	**Adamuz**	**3.27**	**89**	Pn	**Pn**	**09 08 36.5**	**-0.3**
EADA				Sn	**Sn**	**09 09 15.8**	**-0.4**
EADA				Lg		09 09 30.8	
EMIJ	**Mijas**	**3.55**	**116**	Pn	**Pn**	**09 08 40.6**	**-0.2**
	comp=N,0.7nm,0.1s,SNR=7.9						
EMIJ				Sn	**Sn**	**09 09 22.8**	**-0.4**
	comp=N,0.8nm,0.1s,SNR=7.9						
EMIJ				Lg		09 09 39.6	
	comp=N,12nm,0.4s,SNR=7.9						
EMIJ	**Mijas**	**3.55**	**116**	Pn	**Pn**	**09 08 40.6**	**-0.2**
EMIJ				Sn	**Sn**	**09 09 22.8**	**-0.4**
EMIJ				Lg		09 09 43.8	
ELOB	**Lobios**	**3.70**	**8**	Pn	**Pn**	**09 08 41.4**	**-1.4**
	comp=N,0.7nm,0.1s,SNR=5.5						
ELOB				Sn	**Sn**	**09 09 22.5**	**-4.4**
	comp=N,4.0nm,0.1s,SNR=4.8						
ELOB				Lg		09 09 40.8	
	comp=N,3.9nm,0.1s,SNR=5.0						
ELOB	**Lobios**	**3.70**	**8**	Pn	**Pn**	**09 08 41.4**	**-1.4**
	comp=N,0.7nm,0.1s,SNR=5.5						
ELOB				Sn	**Sn**	**09 09 21.8**	**-5.1**
	comp=N,4.0nm,0.1s,SNR=4.8						
ELOB	**Lobios**	**3.70**	**8**	Pn	**Pn**	**09 08 41.4**	**-1.4**
ELOB				Sn	**Sn**	**09 09 21.8**	**-5.1**
ELOB				Lg		09 09 40.8	
EBAN	**Banos Encina**	**3.90**	**89**	Pn	**Pn**	**09 08 45.9**	**+0.2**
	comp=N,0.7nm,0.1s,SNR=8.0						
EBAN				Sn	**Sn**	**09 09 29.6**	**-2.4**
	comp=N,2.7nm,0.2s,SNR=7.9						
EBAN				Lg		09 09 50.3	
	comp=N,3.0nm,0.4s,SNR=7.9						
EBAN	**Banos Encina**	**3.90**	**89**	Pn	**Pn**	**09 08 45.9**	**+0.2**
EBAN				Sn	**Sn**	**09 09 29.6**	**-2.4**
EBAN				Lg		09 09 50.3	
PBRG	**Braganca**	**3.91**	**22**	*e*Pn	**Pn**	**09 08 44.8**	**-1.0**
PBRG				*e*Sn	**Sn**	**09 09 29.2**	**-3.1**
	comp=N,9.4nm,0.4s						
EZAM	**Zamans**	**3.94**	**0**	Pn	**Pn**	**09 08 44.0**	**-2.3**
	comp=N,0.7nm,0.2s,SNR=7.9						
EZAM				Sn	**Sn**	**09 09 27.4**	**-5.7**
	comp=N,2.4nm,0.2s,SNR=7.9						
EZAM				Lg		09 09 49.0	
	comp=N,1.4nm,0.2s,SNR=7.9						
EZAM	**Zamans**	**3.94**	**0**	Pn	**Pn**	**09 08 44.0**	**-2.3**
	comp=N,0.7nm,0.2s,SNR=7.9						
EZAM				Sn	**Sn**	**09 09 27.5**	**-5.6**
ESDC	**Sonseca Array**	**4.00**	**67**	Pn	**Pn**	**09 08 47.6**	**+0.5**
	comp=N,2.5nm,0.2s,baz=252,slow=13,SNR=15						
ESDC				Sn	**Sn**	**09 09 32.7**	**-1.8**
	comp=N,2.0nm,0.3s,baz=251,slow=23,SNR=44						
ESDC				Lg		09 09 51.9	
	comp=N,7.0nm,0.5s,baz=260,slow=28,SNR=16						
ESDC	**Sonseca Array**	**4.00**	**67**	Pn	**Pn**	**09 08 47.6**	**+0.5**
	comp=N,2.5nm,0.2s,SNR=15						
ESDC				Sn	**Sn**	**09 09 32.7**	**-1.8**
	comp=N,2.0nm,0.3s,SNR=44						
ESDC	**Sonseca Array**	**4.00**	**67**	Pn	**Pn**	**09 08 47.6**	**+0.5**
ESDC				Sn	**Sn**	**09 09 32.7**	**-1.8**
ESDC				Lg		09 09 52.6	
ECAL	**Calabor**	**4.03**	**22**	Pn	**Pn**	**09 08 46.3**	**-1.4**
	comp=N,0.6nm,0.1s,SNR=4.8						
ECAL				Sn	**Sn**	**09 09 31.4**	**-4.1**
	comp=N,3.5nm,0.2s						
ECAL				Lg		09 09 53.2	
	comp=N,18nm,0.4s,SNR=4.5						
ECAL	**Calabor**	**4.03**	**22**	Pn	**Pn**	**09 08 46.2**	**-1.4**
ECAL				Sn	**Sn**	**09 09 30.8**	**-4.7**
ECAL	**Calabor**	**4.03**	**22**	Pn	**Pn**	**09 08 46.2**	**-1.4**
ECAL				Sn	**Sn**	**09 09 30.8**	**-4.7**
ECAL				Lg		09 09 53.2	
EQUE	**Quentar**	**4.31**	**102**	Pn	**Pn**	**09 08 52.0**	**+0.5**
	comp=N,0.9nm,0.1s,SNR=7.9						
EQUE				Sn	**Sn**	**09 09 41.5**	**-1.0**
	comp=N,1.5nm,0.4s,SNR=7.9						
EQUE				Lg		09 10 03.3	
	comp=N,2.2nm,0.3s,SNR=7.9						
EQES	**Quesada**	**4.49**	**93**	Pn	**Pn**	**09 08 54.4**	**+0.4**
	comp=N,0.5nm,0.1s,SNR=4.0						
EQES				Pg	**Pg**	**09 09 07.4**	**-6.5**
	comp=N,1.7nm,0.2s,SNR=7.9						
EQES				Lg		09 10 08.8	
	comp=N,1.0nm,0.1s,SNR=7.9						
EQES	**Quesada**	**4.49**	**93**	Pn	**Pn**	**09 08 54.4**	**+0.3**
	comp=N,0.5nm,0.1s,SNR=4.0						
EQES	**Quesada**	**4.49**	**93**	Pn	**Pn**	**09 08 54.4**	**+0.4**
EQES				Lg		09 10 10.7	
EPON	**Pontenova**	**5.26**	**13**	Pn	**Pn**	**09 09 03.7**	**-1.3**
	comp=N,1.1nm,0.1s,SNR=7.9						
EPON				Lg		09 10 30.6	
	comp=N,8.1nm,0.4s,SNR=7.9						
EPON	**Pontenova**	**5.26**	**13**	Pn	**Pn**	**09 09 02.2**	**-2.7**
	comp=N,1.1nm,0.1s,SNR=7.9						
EPON	**Pontenova**	**5.26**	**13**	Pn	**Pn**	**09 09 02.2**	**-2.8**
EPON				Lg		09 10 32.9	
ETOB	**Tobarra**	**5.66**	**83**	Pn	**Pn**	**09 09 08.9**	**-1.7**
	comp=N,0.2nm,0.2s,SNR=7.9						
ETOB				Sn	**Sn**	**09 10 11.9**	**-4.4**
	comp=N,1.1nm,0.3s,SNR=7.9						
ETOB				Lg		09 10 43.6	
	comp=N,2.7nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**5.66**	**83**	Pn	**Pn**	**09 09 07.7**	**-2.9**
	comp=N,0.2nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**5.66**	**83**	Pn	**Pn**	**09 09 07.7**	**-2.9**
ETOB				Sn	**Sn**	**09 10 10.2**	**-6.2**
ETOB				Lg		09 10 47.6	
EARI	**Arriondas**	**5.75**	**27**	Pn	**Pn**	**09 09 11.5**	**-0.4**
	comp=N,1.0nm,0.2s,SNR=7.9						
EARI				Sn	**Sn**	**09 10 13.4**	**-5.3**
	comp=N,1.0nm,0.3s,SNR=7.9						
EARI				Lg		09 10 44.5	
	comp=N,2.4nm,0.5s,SNR=7.9						
EARI	**Arriondas**	**5.75**	**27**	Pn	**Pn**	**09 09 11.5**	**-0.4**
EARI				Sn	**Sn**	**09 10 14.2**	**-4.5**
EARI	**Arriondas**	**5.75**	**27**	Pn	**Pn**	**09 09 11.5**	**-0.4**
EARI				Sn	**Sn**	**09 10 14.2**	**-4.5**
EARI				Lg		09 10 50.3	
SJPF	**Ste Jean**	**7.52**	**47**	*e*Pn	**Pn**	**09 09 35.3**	**-1.5**
ETSF	**Etsaut**	**7.79**	**50**	*e*Pn	**Pn**	**09 09 39.1**	**-1.4**
EPF	**Esparros**	**8.41**	**52**	*e*Pn	**P**	**09 09 47.1**	**-2.2**

*IDC **19** 09:18:06.7±0.8,26.88S×176.31W,mb4.4/8,mb1 4.6/9, mb1mx4.5/13,mbtmp4.4/9,MS3.7/4,Ms1 3.7/4, ms1mx3.4/15,Error ellipse: s-maj=32.7km s-min=19.4km az=134.0*
*NEIC **19** 09:18:13.6±1.9,26.99S×176.39W,h49km±16km,mb4.8/3, Error ellipse: s-maj=15.9km s-min=12.1km az=87.0*
ISC 19 09:18:12.4±2.7,27.0S±0.1×176.5W±0.2,h49km±23km,n37,
σ0°90/28,mb4.4/11,MS3.8/3,3C-1D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.62**	**209**	Pn	**P**	**09 18 53.1**	**-0.2**
	275nm,0.3s,baz=83,slow=23,SNR=13						
RAO				Sn	**S**	**09 19 28.1**	**+4.1**
	261nm,0.3s,baz=52,slow=23,SNR=6.9						
RAO				LR	LR	09 19 37.1	
	comp=Z,730nm,19.8s,baz=176,slow=33						
RAO	**Raoul Island**	**2.62**	**209**	*e*Pn	**P**	**09 18 53.0**	**-0.3**
RAO				Sn	**S**	**09 19 28.1**	**+4.1**
RAO				LR	LR	09 19 37.1	
URZ	**Urewera**	**12.50**	**204**	Pn	**P**	**09 20 59.3**	**-11**
	0.3nm,0.3s,baz=199,slow=4.0,SNR=3.7						
AFI	**Afiamalu**	**13.70**	**20**	Pn	**P**	**09 21 16.0**	**-10**
	2.1nm,0.3s,baz=105,slow=20,SNR=3.1						
AFI	**Afiamalu**	**13.70**	**20**	Pn	**P**	**09 21 16.0**	**-10**
RPZ	**Rata Peaks**	**19.54**	**208**	P	**P**	**09 22 33.1**	**-5.5**
	1.2nm,0.3s,baz=16,slow=9.7,SNR=6.4						
HNR	**Honiara**	**28.30**	**304**	LR	LR	09 33 37.4	
	comp=Z,126nm,18.6s,MS3.5,baz=330,slow=33						
CTA	**Charters Tower**	**34.77**	**273**	P	**P**	**09 25 01.9**	**+1.5**
	4.8nm,0.5s,mb4.7,baz=104,slow=10,SNR=12						
STKA	**Stephens Creek**	**36.70**	**252**	LR	LR	09 39 20.6	
	comp=Z,279nm,18.3s,MS4.1,baz=24,slow=35						
PMG	**Port Moresby**	**38.53**	**290**	LR	LR	09 37 31.6	
	comp=Z,99nm,19.1s,MS3.6,baz=221,slow=30						
WRA	**Warramunga Arr**	**45.43**	**268**	P	**P**	**09 26 27.7**	**-0.9**
	4.8nm,0.8s,mb4.4,baz=111,slow=6.5,SNR=27						
CASY	**Casey**	**58.80**	**207**	⇓*i*P	**P**	**09 28 06.7**	**-1.1**
QSPA	**South Pole Qui**	**63.14**	**180**	*e*P	**P**	**09 28 36.6**	**-0.4**
	17nm,1.2s,mb5.0						
MAW	**Mawson**	**75.99**	**200**	P	**P**	**09 29 56.1**	**+0.6**
	1.9nm,0.5s,mb4.3,baz=113,slow=4.6,SNR=6.2						
MJAR	**Matsushiro Arr**	**76.23**	**324**	P	**P**	**09 29 57.6**	**0.0**
	3.8nm,0.9s,mb4.3,baz=159,slow=5.8,SNR=9.0						
MAT	**Matsushiro**	**76.23**	**324**	P	**P**	**09 29 56.9**	**-0.7**
MAT	**Matsushiro**	**76.23**	**324**	*e*P	**P**	**09 29 57.0**	**-0.6**
	16nm,1.4s,mb4.8						
SNAA	**Sanae**	**81.54**	**178**		**P**	**09 30 24.0**	**-1.7**
SNAA	**Sanae**	**81.54**	**178**	*e*	**P**	**09 30 28.1**	**+2.4**
VNA3	**Neumayer Olymp**	**81.63**	**176**	⇑*i*	**P**	**09 30 25.4**	**-0.8**
VNA3	**Neumayer Olymp**	**81.63**	**176**	*e*	**P**	**09 30 28.5**	**+2.3**
VNA2	**Neumayer--Watz**	**82.08**	**176**	⇑*i*	**P**	**09 30 28.3**	**-0.2**
VNA2	**Neumayer--Watz**	**82.08**	**176**	*e*	**P**	**09 30 32.7**	**+4.2**
VNA1	**Neumayer--Stat**	**82.30**	**176**	⇑*i*	**P**	**09 30 29.7**	**0.0**
YBH	**Yreka Blue Hor**	**84.49**	**37**	P	**P**	**09 30 41.8**	**+0.4**
	2.1nm,0.8s,mb4.3,baz=215,slow=9.2,SNR=4.8						
TUC	**Tucson**	**85.90**	**51**	*e*P	**P**	**09 30 49.1**	**+0.6**
	2.5nm,1.1s,mb4.4						
TXAR	**Lajitas Array**	**89.38**	**57**	P	**P**	**09 31 05.4**	**0.0**
	1.4nm,1.0s,mb4.2,baz=217,slow=6.3,SNR=11						
PDAR	**Pinedale Array**	**92.71**	**43**	P	**P**	**09 31 19.9**	**-0.5**
	0.5nm,0.8s,mb4.0,baz=243,slow=3.3,SNR=4.0						
ILAR	**Eielson Array**	**94.29**	**12**	P	**P**	**09 31 27.0**	**-0.1**
	1.3nm,1.0s,mb4.3,baz=228,slow=5.4,SNR=6.8						
MKAR	**Makanchi Array**	**116.57**	**311**	PKP	PKPdf	09 36 51.5	+0.5
	0.7nm,0.7s,baz=135,slow=2.0,SNR=4.7						
BVAR	**Borovoye Array**	**124.84**	**317**	PKP	PKPdf	09 37 07.5	+0.7
	1.6nm,0.9s,baz=63,slow=3.3,SNR=5.0						
NB2	**NORSAR Subarra**	**145.53**	**353**	PKPabc	PKPdf	09 37 45.8	+1.3
	20nm,1.2s,baz=12,slow=3.5						
NB2	**NORSAR Subarra**	**145.53**	**353**	PKPab	PKPab	09 37 45.8	-1.3
NOA	**NORSAR Array B**	**145.53**	**353**	PKPbc	PKPbc	09 37 46.3	+1.1
	6.0nm,1.0s,baz=8.9,slow=2.5,SNR=8.6						
AKASG	**Malin Array Be**	**149.26**	**327**	PKPbc	PKPdf	09 37 55.3	+4.3
	1.2nm,0.3s,baz=45,slow=2.7,SNR=12						
BRTR	**Keskin Array B**	**151.96**	**305**	PKPbc	PKPdf	09 38 03.2	+7.8
	0.9nm,0.8s,slow=1.2,SNR=4.3						
MLR	**Muntele Rosu**	**154.29**	**322**	PKPbc	PKPdf	09 38 07.7	+9.2
	0.8nm,0.5s,baz=343,slow=2.9,SNR=4.6						

*MOS **19** 09:18:56.5±1.5,41.70N×142.43E,h33km,mb4.5/5,Error ellipse: s-maj=20.6km s-min=10.9km az=94.0*
*NIED **19** 09:19:00,42.00N×142.60E,h50km,Mw3.9 Best double couple: M0 9.33×10^14 NP1:φ=33°,δ=66°,λ=85°. NP2:φ=226°, δ=24°,λ=102°.*
*JMA **19** 09:19:02.8±0.1,42.03N×142.58E,h62km±2km,M3.7*
JMA Felt I J1.
*IDC **19** 09:19:04.4±2.0,42.05N×142.50E,h74km±15km,mb3.7/12, mb1 3.8/14,mb1mx3.7/24,mbt

WRA	Warramunga Arr	62.12	189	P	P	09 29 16.3	-1.9
	comp=Z,0.4nm,0.5s,mb3.7,baz=6.8,slow=7.0,SNR=5.6						
FINES	FINESS Array B	64.83	332	P	P	09 29 34.4	-1.0
	comp=Z,2.0nm,0.6s,mb4.1,baz=45,slow=8.1,SNR=11						
HFS	Hagfors	69.91	335	P	P	09 30 06.6	-0.6
	comp=Z,1.9nm,0.5s,mb4.2,baz=53,slow=7.4,SNR=11						
HFS	Hagfors	69.91	335	P	P	09 30 06.6	-0.6
NB2	NORSAR Subarra	69.93	337	P	P	09 30 06.5	-0.8
	comp=Z,0.9nm,0.6s,mb3.8,baz=35,slow=6.2						
NB2	NORSAR Subarra	69.93	337	P	P	09 30 06.5	-0.8
	comp=Z,0.9nm,0.6s,mb3.8						
NB2	NORSAR Subarra	69.93	337	P	P	09 30 06.5	-0.8
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.8						
NOA	NORSAR Array B	69.93	337	P	P	09 30 06.8	-0.5
	comp=Z,1.4nm,0.7s,mb3.9,baz=37,slow=6.1,SNR=6.9						
AKASG	Malin Array Be	70.91	322	P	P	09 30 12.7	-0.7
	comp=Z,0.7nm,0.4s,mb3.9,baz=42,slow=6.1,SNR=6.6						
PDAR	Pinedale Array	73.58	47	P	P	09 30 30.3	+1.1
	comp=Z,0.2nm,0.4s,mb3.2,baz=297,slow=3.3,SNR=3.4						
ANMO	Albuquerque	80.72	51	*eP*	P	09 31 10.1	+0.9
	comp=Z,3.3nm,1.4s,mb4.0						
ANMO	Albuquerque	80.72	51	*eP*	P	09 31 10.1	+0.9
ANMO				pmax	pmax		
	comp=Z,3.0nm,1.4s						

*NEIC **19** 09:26:49.0, 40.41S×174.65E, h68km, ML4.3(WEL), After WEL.*
NEIC Felt in the Wellington-Wanganui area.

WEL 19 09:26:48.6±0.1, 40.41S×174.65E, h74km±1km, ML4.4/19, 5C-1D, Error ellipse: s-maj=0.9km s-min=0.4km az=90.0, reported intensity MM 4., Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIW	Kapiti Island	0.49	157	⇑PN	P	09 27 01.5	-0.3
KIW				SN	S	09 27 10.9	-0.8
KIW	Kapiti Island	0.49	157	P	P	09 27 01.5	-0.3
KIW				S	S	09 27 10.5	-1.2
DUWZ	D'Urville Isla	0.68	234	⇑PN	P	09 27 03.0	-0.8
DUWZ				SN	S	09 27 14.5	-0.6
WAZ	Wanganui	0.70	22	⇑PN	P	09 27 03.8	-0.2
WAZ				SN	S	09 27 15.2	-0.3
WAZ	Wanganui	0.70	22	P	P	09 27 03.8	-0.2
MRZ	Mangatainoka R	0.75	110	⇓PN	P	09 27 04.2	-0.4
MRZ				SN	S	09 27 15.6	-0.9
MRZ	Mangatainoka R	0.75	110	P	P	09 27 04.3	-0.3
MRZ				S	S	09 27 15.6	-0.8
CAW	Cannon Point	0.77	156	⇑PN	P	09 27 04.6	-0.2
CAW				SN	S	09 27 16.4	-0.4
CAW	Cannon Point	0.77	156	P	P	09 27 04.6	-0.2
MRW	Makara Radio	0.82	177	PN	P	09 27 05.2	-0.2
MRW				SN	S	09 27 17.1	-0.8
MRW	Makara Radio	0.82	177	P	P	09 27 05.2	-0.2
TCW	Tory Channel	0.85	199	PN	P	09 27 05.5	-0.3
TCW				SN	S	09 27 17.8	-0.7
TCW	Tory Channel	0.85	199	P	P	09 27 05.5	-0.2
WEL	Wellington	0.88	174	PN	P	09 27 06.0	-0.1
WEL				SN	S	09 27 18.5	-0.6
SNZO	South Karori	0.90	177	PN	P	09 27 06.1	-0.3
SNZO				SN	S	09 27 18.3	-1.2
SNZO	South Karori	0.90	177	P	P	09 27 06.1	-0.2
MTW	Mount Morrison	0.99	139	PN	P	09 27 06.7	-0.7
MTW	Mount Morrison	0.99	139	P	P	09 27 06.7	-0.7
BHW	Baring Head	1.01	171	PN	P	09 27 07.6	-0.1
BHW	Baring Head	1.01	171	P	P	09 27 07.6	-0.1
TSZ	Takapari Road	1.06	71	PN	P	09 27 07.7	-0.7
TSZ	Takapari Road	1.06	71	P	P	09 27 07.7	-0.7
MSWZ	Moikau Station	1.10	156	PN	P	09 27 08.9	0.0
MSWZ	Moikau Station	1.10	156	P	P	09 27 08.9	0.0
PAWZ	Paruwai Farm	1.14	149	PN	P	09 27 08.7	-0.6
PAWZ				SN	S	09 27 23.6	-1.1
RAEZ	Rainy Point	1.14	350	PN	P	09 27 09.2	-0.1
RAEZ	Rainy Point	1.14	350	P	P	09 27 09.2	-0.1
TUWZ	Tuamarina	1.15	208	PN	P	09 27 08.9	-0.7
DFE	Dawson Falls	1.16	339	PN	P	09 27 09.2	-0.4
DFE	Dawson Falls	1.16	339	P	P	09 27 09.2	-0.4
MTVZ	Mangateitei	1.20	32	PN	P	09 27 09.7	-0.4
NRZ	Ngariki Road	1.21	332	PN	P	09 27 09.8	-0.5
NRZ	Ngariki Road	1.21	332	P	P	09 27 09.8	-0.4
NEZ	North Egmont	1.21	339	PN	P	09 27 10.1	-0.2
NEZ	North Egmont	1.21	339	P	P	09 27 10.1	-0.3
PKVZ	Pokaka	1.24	26	PN	P	09 27 09.9	-0.8
BFZ	Birch Farm	1.25	103	PN	P	09 27 09.9	-0.9
BFZ	Birch Farm	1.25	103	*e*P	P	09 27 09.9	-0.9
NNZ	Nelson	1.26	230	⇑PN	P	09 27 10.2	-0.7
NNZ	Nelson	1.26	230	P	P	09 27 10.2	-0.8
TRWZ	Traveller	1.26	142	PN	P	09 27 11.3	+0.3
NWEZ	Newall Road	1.28	332	PN	P	09 27 10.7	-0.6
NWEZ	Newall Road	1.28	332	P	P	09 27 10.7	-0.6
VRZ	Vera Road	1.28	4	PN	P	09 27 10.6	-0.7
VRZ	Vera Road	1.28	4	*e*P	P	09 27 10.9	-0.4
WNVZ	Wahianoa	1.30	34	PN	P	09 27 11.1	-0.6
WNVZ	Wahianoa	1.30	34	P	P	09 27 11.1	-0.6
TRVZ	Turoa	1.31	32	PN	P	09 27 11.4	-0.3
MOVZ	Moawhango	1.31	41	PN	P	09 27 11.1	-0.6
MOVZ	Moawhango	1.31	41	P	P	09 27 11.1	-0.7
PKE	Pukeiti	1.32	337	PN	P	09 27 11.0	-0.8
PKE	Pukeiti	1.32	337	P	P	09 27 11.0	-0.9
DRZ	Dome Shelter	1.33	32	PN	P	09 27 11.9	-0.2
DRZ	Dome Shelter	1.33	32	P	P	09 27 12.1	0.0
FWVZ	Far West T-bar	1.34	31	PN	P	09 27 11.5	-0.7
FWVZ	Far West T-bar	1.34	31	P	P	09 27 11.7	-0.5
TUVZ	Tukino	1.38	34	PN	P	09 27 12.5	-0.1
TUVZ	Tukino	1.38	34	P	P	09 27 12.5	-0.1
CMWZ	Cape Campbell	1.38	194	PN	P	09 27 12.9	+0.2
CMWZ	Cape Campbell	1.38	194	P	P	09 27 12.9	+0.2
WPVZ	Whakapapa	1.39	30	PN	P	09 27 11.9	-0.8
WPVZ	Whakapapa	1.39	30	P	P	09 27 11.9	-0.9
CNZ	Chateau	1.39	30	PN	P	09 27 12.0	-0.9
CNZ	Chateau	1.39	30	P	P	09 27 12.0	-0.8
BSWZ	Blackbirch Sta	1.43	204	PN	P	09 27 12.9	-0.5
BSWZ	Blackbirch Sta	1.43	204	P	P	09 27 12.9	-0.4
NGZ	Ngauruhoe	1.43	31	PN	P	09 27 12.7	-0.7
NGZ	Ngauruhoe	1.43	31	P	P	09 27 12.7	-0.7
TWVZ	Taurewa	1.47	25	PN	P	09 27 12.6	-1.3
TWVZ	Taurewa	1.47	25	P	P	09 27 12.8	-1.0
OTVZ	Oturere	1.47	32	PN	P	09 27 13.2	-0.7
WTVZ	West Tongariro	1.48	30	PN	P	09 27 12.9	-1.1
WTVZ	West Tongariro	1.48	30	P	P	09 27 13.0	-1.0
KATZ	Kakaramea	1.64	30	PN	P	09 27 15.6	-0.5
KATZ	Kakaramea	1.64	30	P	P	09 27 15.6	-0.6
QRZ	Quartz Range	1.67	255	PN	P	09 27 15.1	-1.4
QRZ	Quartz Range	1.67	255	P	P	09 27 15.0	-1.5
RATZ	Rangitukua	1.77	30	P	P	09 27 17.7	-0.1
HATZ	Hinemaiaia	1.88	37	P	P	09 27 18.0	-1.3
BKZ	Black Stump Fm	1.88	49	PN	P	09 27 18.2	-1.2
BKZ	Black Stump Fm	1.88	49	P	P	09 27 18.2	-1.2
THZ	Tophouse	1.89	224	PN	P	09 27 18.8	-0.6
THZ	Tophouse	1.89	224	P	P	09 27 18.8	-0.7
WATZ	Wairara	1.89	27	P	P	09 27 19.0	-0.5
HIZ	Hauiti	1.90	5	PN	P	09 27 19.1	-0.5
HIZ	Hauiti	1.90	5	P	P	09 27 19.1	-0.5
KHZ	Kahutara	2.17	202	PN	P	09 27 22.3	-1.1
KHZ	Kahutara	2.17	202	P	P	09 27 22.3	-1.1
PATZ	Paeroa	2.38	32	P	P	09 27 25.6	-0.7
UTU	Utuhina	2.53	29	P	P	09 27 27.3	-1.1
DSZ	Denniston Nort	2.53	237	PN	P	09 27 26.8	-1.7
TAZ	Tarawera	2.61	34	P	P	09 27 28.5	-1.0
KNZ	Kokohu	2.71	60	PN	P	09 27 27.9	-3.1
KNZ	Kokohu	2.71	60	P	P	09 27 27.8	-3.2
TOZ	Tahuroa Road	2.76	14	PN	P	09 27 30.3	-1.4
TOZ	Tahuroa Road	2.76	14	P	P	09 27 30.3	-1.3
URZ	Urewera	2.87	42	PN	P	09 27 29.9	-3.4
URZ	Urewera	2.87	42	P	P	09 27 29.9	-3.3
TGRZ	Tauranga	2.95	26	PN	P	09 27 33.1	-1.3
TGRZ	Tauranga	2.95	26	P	P	09 27 33.1	-1.3
LTZ	Lake Taylor	2.97	216	PN	P	09 27 32.3	-2.3
LTZ	Lake Taylor	2.97	216	P	P	09 27 32.3	-2.3
MWZ	Matawai	3.04	48	PN	P	09 27 32.2	-3.4
MKAZ	Moumakai	3.32	7	P	P	09 27 36.8	-2.7
OTAZ	Otara	3.46	4	P	P	09 27 40.4	-1.1
WTAZ	Waiatarua	3.47	359	P	P	09 27 40.3	-1.3
CRLZ	Canterbury Las	3.51	205	PN	P	09 27 38.2	-3.9
CRLZ	Canterbury Las	3.51	205	P	P	09 27 38.2	-3.9
KAAZ	Kauri Point	3.58	1	P	P	09 27 42.2	-0.9
MQZ	McQueen's Vall	3.62	204	P	P	09 27 39.4	-4.2
MTAZ	Motutapu	3.62	3	P	P	09 27 42.4	-1.3
PUZ	Puketiti	3.64	51	P	P	09 27 39.8	-4.2
KUZ	Kuaotunu	3.75	13	PN	P	09 27 43.5	-2.0
KUZ	Kuaotunu	3.75	13	P	P	09 27 43.5	-2.0
WVZ	Waitaha Valley	3.96	226	PN	P	09 27 45.0	-3.4
WVZ	Waitaha Valley	3.96	226	*e*P	P	09 27 45.0	-3.4
MXZ	Matakaoa Point	4.02	46	*e*P	P	09 27 45.4	-3.9
RPZ	Rata Peaks	4.25	218	*e*P	P	09 27 48.3	-4.2
WCZ	Waipu Caves	4.47	357	PN	P	09 27 53.5	-2.0
FOZ	Fox Glacier	4.86	228	*e*P	P	09 27 55.5	-5.4
LBZ	Lake Benmore	5.17	218	PN	P	09 28 00.0	-5.2
LBZ	Lake Benmore	5.17	218	*e*P	P	09 28 00.0	-5.2
OUZ	Omahuta	5.25	351	*e*P	P	09 28 04.2	-2.0
ODZ	Otahua Downs	5.49	211	*e*P	P	09 28 04.8	-4.8
JCZ	Jackson Bay	5.70	228	PN	P	09 28 08.0	-4.5
JCZ	Jackson Bay	5.70	228	*e*P	P	09 28 08.0	-4.5
WKZ	Wanaka	6.06	221	*e*P	P	09 28 12.9	-4.6
EAZ	Earnscleugh	6.22	217	*e*P	P	09 28 13.6	-6.1
MSZ	Milford Sound	6.54	227	*e*P	P	09 28 19.3	-4.9
TUZ	Tuapeka	6.65	212	PN	P	09 28 20.7	-5.0
TUZ	Tuapeka	6.65	212	*e*P	P	09 28 20.6	-5.1

IDC 19 10:15:56.1±3.0, 9.16S×118.28E, mb3.9/3, mb1 4.0/4, mb1mx3.8/14, mbtmp3.9/4, ML4.0/1, Error ellipse: s-maj=168.2km s-min=32.0km az=48.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.87	126	P	P	10 20 18.2	-2.0
	0.5nm,0.3s,baz=300,slow=13,SNR=26						
SONM	Songino Array	57.71	351	P	P	10 25 48.5	-2.5
	0.5nm,0.5s,baz=158,slow=7.8,SNR=5.0						
MKAR	Makanchi Array	64.27	333	P	P	10 26 33.4	-2.1
	0.5nm,0.3s,baz=146,slow=7.2,SNR=8.1						
BVAR	Borovoye Array	74.10	332	P	P	10 27 34.0	-1.9
	1.1nm,0.7s,baz=127,slow=7.4,SNR=7.7						

JMA 19 10:26:03.8±0.3, 43.98N×147.90E, M4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	1.68	249	P	Pn	10 26 34.7	+0.1
NEM2				*e*S	Sb	10 26 57.5	+0.5
JRA	Rausu	2.01	270	P	Pn	10 26 39.5	+0.2
JRA				*e*S	Sn	10 27 05.9	+0.4
JNK	Nakash	2.34	261	P	Pn	10 26 44.1	+0.1
JNK				*e*S	Sn	10 27 13.5	-0.4
JAK	Akkeshi	2.53	248	P	Pn	10 26 46.9	+0.1
JAK				*e*S	Sn	10 27 18.6	-0.2
JTKR	Abashiri--Toko	2.88	271	P	Pn	10 26 52.7	+0.9
JAR	Ashorobuto	3.08	259	P	Pn	10 26 55.3	+0.7
JAR				*e*S	Sn	10 27 33.6	+1.0
JOB	Onbets	3.15	251	P	Pn	10 26 56.1	+0.5
JOB				*e*S	Sn	10 27 34.8	+0.3
JMP	Maruseppu	3.28	272	P	Pn	10 26 56.9	-0.5
JCH	Churui	3.58	249	P	Pn	10 27 01.9	+0.1
JCH				*e*S	Sn	10 27 45.7	+0.3
JKK2	Kamakawa 2	3.72	270	P	Pn	10 27 04.5	+0.7
JNBK	Urakawa-nobuka	4.13	247	P	Pn	10 27 09.8	+0.2

*IDC **19** 11:33:54.6±0.9, 1.00N×96.94E, mb4.2/13, mb1 4.3/13, mb1mx4.2/18, mbtmp4.2/13, MS3.7/4, Ms1 3.8/4, ms1mx3.5/16, Error ellipse: s-maj=48.6km s-min=16.3km az=52.0*
*BJI **19** 11:33:57.2, 0.79N×97.09E, h47km, mB4.8, mb4.8, Ms4.7, Msz4.5*
*NEIC **19** 11:33:59.3±0.5, 1.11N×97.09E, h30km, mb4.5/7, Error ellipse: s-maj=20.7km s-min=9.4km az=55.0*

ISC 19 11:33:58.6±2.0, 1.11N±0.08×97.1E±0.1, h38km±16km, h32km±4.8km: pP-P, n35, σ0°95/36, mb4.4/25, MS4.0/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	Ipoh	5.22	49	P	P	11 35 15.8	-0.5
KGM	Kluang	6.28	82	P	P	11 35 31.7	+0.5
KMI	Kunming	24.49	12	P	P	11 39 17.4	+1.7
KMI				AP		11 39 24.0	
KMI				PP	PP	11 39 55.9	+3.9
KMI				S	S	11 43 37.4	+6.8
KMI				XS		11 43 49.1	
KMI				SS	SS	11 44 36.1	+9.4
KMI				SSS	SSS	11 44 52.6	+9.1
KMI				AMB	AMB		
	comp=Z,44nm,1.2s,mb4.8						
KMI				AMB	AMB		
	comp=Z,188nm,3.3s						
KMI				LR	LR		
	comp=N,1μm,13.7s,MS4.5						
KMI				LR	LR		
	comp=E,564nm,15.0s,MS4.5						
KMI				LR	LR		
	comp=Z,1μm,15.0s,MS4.5						
KMI	Kunming	24.49	12	P	P	11 39 17.4	+1.7
	comp=Z,44nm,1.2s,mb4.8						
KMI				pP		11 39 24.0	
KMI				sP		11 39 27.9	
KMI				PP	PP	11 39 55.9	+3.9
KMI				PPP	PPP	11 40 07.5	+4.9
KMI				S	S	11 43 37.4	+6.8
KMI				sS		11 43 49.1	
KMI				SS	SS	11 44 36.1	+9.4
KMI				SSS	SSS	11 44 52.6	+9.1
KMI				LR	LR		
	comp=Z,1μm,15.0s,MS4.5						
GYA	Guiyang	26.83	19	P	P	11 39 36.9	-0.7
GYA				S	S	11 44 10.8	+1.4
GYA				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.2						
GYA				AMB	AMB		
	comp=Z,120nm,6.3s						
GYA				LR	LR		
	comp=N,760nm,13.8s,MS4.5						
GYA				LR	LR		
	comp=E,460nm,14.4s,MS4.5						
GYA				LR	LR		
	comp=Z,960nm,14.7s,MS4.5						
CD2	Chengdu	30.30	11	*e*P	P	11 40 08.6	-0.1
ENH	Enshi	31.30	21	*e*P	P	11 40 15.0	-2.6
	comp=Z,6.2nm,0.5s,mb4.7						
ENH				*e*pP	pP	11 40 22.1	-6.1
FITZ	Fitzroy Crossi	33.96	126	P	P	11 40 39.6	-1.2
	comp=Z,6.3nm,0.7s,mb4.7,baz=244,slow=1.5,SNR=6.2						
XAN	Xi'an	34.58	17	P	P	11 40 44.8	-1.2
XAN				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.8						
GTA	Gaotai	38.20	3	P	P	11 41 16.8	+0.3
GTA				AP	pP	11 41 27.9	+0.6
GTA				XP	sP	11 41 35.0	+2.9
GTA				PP	PP	11 42 47.6	0.0
GTA				PPP	PPP	11 43 10.3	+0.3
GTA				PCP	PcP	11 43 32.6	+1.6
GTA				S	S	11 47 05.3	-1.7
GTA				SCP		11 47 14.4	
GTA				PCS		11 47 20.6	
GTA				XS		11 47 26.5	
GTA				SCS	ScS	11 51 25.3	+2.6
GTA				AMB	AMB		
	comp=Z,16nm,0.9s,mb4.8						
GTA				AMB	AMB		
	comp=Z,145nm,6.5s						
GTA				LR	LR		
	comp=N,236nm,19.0s,MS4.2						
GTA				LR	LR		
	comp=E,204nm,15.6s,MS4.2						
GTA				LR	LR		
	comp=Z,282nm,15.2s,MS4.2						
WRA	Warramunga Arr	42.08	122	P	P	11 41 49.1	+0.2
	comp=Z,3.4nm,0.6s,mb4.1,baz=301,slow=9.1,SNR=34						
WRAB	Tennant Creek	42.08	122	*e*P	P	11 41 49.0	+0.1
	comp=Z,6.2nm,0.8s,mb4.3						
WMQ	Urumqi	43.34	350	P	P	11 42 00.6	+1.7
WMQ				AP	pP	11 42 10.6	+0.8
WMQ				AMB	AMB		
	comp=Z,16nm,1.0s,mb4.7						
SONM	Songino Array	47.23	9	P	P	11 42 30.4	+0.6
	comp=Z,2.6nm,0.5s,mb4.4,baz=191,slow=8.5,SNR=25						
MKAR	Makanchi Array	47.30	346	P	P	11 42 31.1	+0.7
	comp=Z,3.9nm,0.6s,mb4.5,baz=160,slow=8.5,SNR=37						
MKAR				LR	LR	12 06 31.7	
	comp=Z,75nm,21.9s,MS3.6,baz=167,slow=41						
CN2	Changchun	49.43	27	*e*P	P	11 42 46.6	-0.3
CN2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.2						
HIA	Hailar	51.76	19	*e*P	P	11 43 04.1	-0.4
	comp=Z,3.3nm,0.3s,mb4.7						
KURK	Kurchatov	51.85	345	*e*P	P	11 43 05.2	+0.1
	comp=Z,3.6nm,0.8s,mb4.3						
MDJ	Mudanjiang	51.99	29	P	P	11 43 08.1	+1.7
MDJ				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,94nm,3.2s						
STKA	Stephens Creek	53.37	132	P	P	11 43 17.4	+0.5
	comp=Z,2.7nm,0.8s,mb4.2,baz=297,slow=9.0,SNR=3.9						
ZAL	Zalesovo	53.62	351	P	P	11 43 18.2	-0.2
	comp=Z,4.4nm,0.8s,mb4.4,baz=294,slow=6.4,SNR=25						
ZAL	Zalesovo	53.62	351	P	P	11 43 18.2	-0.2
BVAR	Borovoye Array	56.30	341	P	P	11 43 37.3	-0.6
	comp=Z,3.4nm,0.7s,mb4.5,baz=143,slow=7.4,SNR=18						
BRVK	Borovoye	56.36	341	*e*P	P	11 43 37.0	-1.3
	comp=Z,2.7nm,0.8s,mb4.3						
KMBO	Kilima Mbogo	59.88	268	LR	LR	12 08 01.5	
	comp=Z,52nm,18.8s,MS3.7,baz=92,slow=34						
BRTR	Keskin Array B	69.09	312	P	P	11 45 03.0	+0.1
	comp=Z,0.7nm,0.5s,mb3.9,baz=162,slow=4.6,SNR=3.8						
AKASG	Malin Array Be	75.27	322	P	P	11 45 38.0	-1.4
	comp=Z,0.2nm,0.2s,mb3.6,baz=88,slow=4.5,SNR=5.7						
FINES	FINESS Array B	80.03	333	P	P	11 46 06.1	+0.5
	comp=Z,0.7nm,0.7s,mb3.7,baz=104,slow=7.9,SNR=4.9						
ARCES	ARCESS Array B	82.58	340	P	P	11 46 19.4	+0.6
	comp=Z,1.4nm,0.7s,mb4.1,baz=108,slow=3.8,SNR=5.3						
ARCES				LR	LR	12 31 21.4	
	comp=Z,68nm,18.9s,MS4.0,baz=262,slow=42						
ARCES	ARCESS Array B	82.58	340	P	P	11 46 19.4	+0.6
ARCES				LR	LR	12 31 21.4	
GERES	GERESS Array B	84.81	319	P	P	11 46 31.1	+0.6
	comp=Z,0.3nm,0.4s,mb3.8,baz=90,slow=6.7,SNR=3.6						
NB2	NORSAR Subarra	87.03	331	P	P	11 46 40.4	-0.7
	comp=Z,1.2nm,0.8s,mb4.2,baz=96,slow=4.8						
NOA	NORSAR Array B	87.03	331	P	P	11 46 41.8	+0.7
	comp=Z,1.2nm,0.8s,mb4.2,baz=95,slow=5.1,SNR=3.8						
NOA				LR	LR	12 30 60.0	
	comp=Z,42nm,18.4s,MS3.9,baz=90,slow=39						
TXAR	Lajitas Array	143.80	32	PKP	PKPdf	11 53 31.3	+0.9
	comp=Z,0.3nm,0.5s,baz=270,slow=1.3,SNR=7.1						
CPUP	Villa Florida	144.87	222	PKP	PKPdf	11 53 35.0	+2.5
	comp=Z,1.7nm,0.8s,baz=114,slow=2.7,SNR=4.4						

*NEIC **19** 11:53:59.8, 32.66S×71.68W, h30km, ML3.0(GUC), After GUC.*

GUC 19 11:53:59.8±0.7, 32.66S×71.68W, h30km±3km, MD3.7, ML3.0, 10C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	Papudo	0.24	59	⇓*i*P	Pb	11 54 06.8	+0.4
PACH				*i* S	Sb	11 54 11.6	+0.7
IHA	Instituto Hidr	0.36	175	⇓*i*P	Pb	11 54 07.9	-0.2
IHA				*i* S	Sb	11 54 13.5	-0.3
ROCH	El Roble	0.64	119	⇑*i*P	Pb	11 54 12.4	-0.1
ROCH				*i* S	Sb	11 54 21.5	+0.3
CHNG	Los Chungos	0.79	11	⇑*i*P	Pb	11 54 14.5	-0.5
CHNG				*i* S	Sb	11 54 25.1	-0.2
CHNG				AMP		11 54 26.6	
	comp=E,261nm,0.2s						
LCCH	Las Cruces	0.82	174	*e*P	Pn	11 54 14.6	-0.7
JACH	Jahuel	0.92	92	⇑*i*P	Pn	11 54 16.3	-0.5
JACH				*i* S	Sb	11 54 28.9	+0.1
PEL	Peldehue	0.96	120	⇑*i*P	Pn	11 54 17.5	+0.1
PEL				*i* S	Sn	11 54 30.5	+0.3
RCDM	Rinconada Maip	1.10	139	*e*P	Pn	11 54 19.1	-0.3
RCDM				*i* S	Sn	11 54 34.0	+0.2
RCDM				AMP		11 54 35.2	
	comp=E,708nm,0.1s						
SAN	Santiago	1.16	133	⇑*i*P	Pn	11 54 20.4	+0.1
SAN				*i* S	Sn	11 54 35.8	+0.5
SAN				AMP		11 54 37.3	
	comp=N,431nm,0.3s						
STL	Santa Lucia	1.17	132	*i* P	Pn	11 54 19.8	-0.6
STL				*i* S	Sn	11 54 35.0	-0.3
STL				AMP		11 54 35.9	
	comp=N,331nm,0.3s						
TACH	Talagante	1.17	148	⇓*i*P	Pn	11 54 20.5	+0.1
TACH				*i* S	Sn	11 54 35.2	-0.2
DSCH	Colegio Aleman	1.19	128	*i* P	Pn	11 54 20.9	+0.2
DSCH				*i* S	Sn	11 54 36.6	+0.7
DSCH				AMP		11 54 37.4	
	comp=N,2μm,0.2s						
CLCH	Cerro Calan	1.21	128	⇓*i*P	Pn	11 54 21.2	+0.2
CLCH				*i* S	Sn	11 54 37.4	+0.9
CLCH				AMP		11 54 38.2	
	comp=N,852nm,0.5s						
CLCH				AMP		11 54 38.8	
	comp=N,971nm,0.5s						
ANTU	Antumapu	1.26	136	⇑*i*P	Pn	11 54 22.1	+0.4
ANTU				*i* S	Sn	11 54 38.7	+0.9
ANTU				AMP		11 54 42.4	
	comp=E,375nm,0.3s						
LNV	Longovilo	1.31	170	*e*P	Pn	11 54 21.8	-0.6
LNV				*i* S	Sn	11 54 39.2	+0.2
PCH	Pirque	1.37	135	⇑*i*P	Pn	11 54 23.5	+0.3
PCH				*i* S	Sn	11 54 42.0	+1.5
CHCH	Chadas Angostu

ASAJ Asahikawa 10.89 0 Pn **P** **12 08 56.6 -2.7**
1.1nm,0.3s,baz=212,slow=15,SNR=11
ASAJ **Asahikawa 10.89 0** P **P** **12 08 56.6 -2.7**
ASAJ pmax pmax
comp=Z,1.0nm,0.3s
JOW Kunigami 13.89 246 LR LR 12 14 09.0
comp=Z,105nm,20.6s,baz=337,slow=34
CN2 Changchun 17.02 313 *e*P **P** **12 10 19.4 -0.5**
CN2 AMB AMB
comp=Z,10.0nm,0.7s
HIA Hailar 23.34 320 *e*P **P** **12 11 29.1 -0.4**
comp=Z,2.0nm,0.4s,mb3.9
HIA Hailar 23.34 320 *e*P **P** **12 11 29.1 -0.4**
HIA pmax pmax
comp=Z,2.0nm,0.4s
HHC Hu-ho-hao-te 25.78 296 *e*P **P** **12 11 53.8 +0.8**
HHC AMB AMB
comp=Z,12nm,0.9s,mb4.4
HHC AMB AMB
comp=Z,134nm,4.9s
CIT Chita 28.14 321 *e*P **P** **12 12 17.8 +3.3**
CIT *e* 12 12 28.3
CIT pmax pmax
comp=Z,54nm,2.6s,mb4.7
ENH Enshi 28.19 273 *e*P **P** **12 12 13.5 -1.7**
comp=Z,5.1nm,0.7s,mb4.3
SONM Songino Array 30.80 309 P **P** **12 12 39.5 +1.2**
comp=Z,4.0nm,1.0s,mb4.2,baz=119,slow=7.8,SNR=15
ZAK Zakamensk 33.45 313 *e*P **P** **12 12 59.8 -1.6**
ZAK pmax pmax
comp=Z,1.0nm,0.9s,mb3.8
GTA Gaotai 34.73 293 P **P** **12 13 12.8 +0.2**
GTA AP pP 12 13 20.8 +5.3
GTA XP sP 12 13 24.0 +7.2
GTA AMB AMB
comp=Z,3.0nm,0.9s,mb4.2
ZAL Zalesovo 45.23 315 P **P** **12 14 40.2 +0.9**
comp=Z,1.0nm,0.3s,mb4.1,baz=333,slow=4.2,SNR=4.1
MKAR Makanchi Array 47.00 305 P **P** **12 14 53.3 -0.1**
comp=Z,2.7nm,0.9s,mb4.2,baz=82,slow=8.6,SNR=17
KURK Kurchatov 49.07 311 *e*P **P** **12 15 08.8 -0.6**
comp=Z,2.1nm,0.6s,mb4.3
KURK *e*pP pP 12 15 17.4 +5.0
KURK Kurchatov 49.07 311 *e*P **P** **12 15 08.8 -0.6**
KURK *e**PP pP 12 15 17.4 +5.0
KURK pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
ILAR Eielson Array 52.26 31 P **P** **12 15 33.9 +0.3**
comp=Z,0.7nm,0.7s,mb3.7,baz=263,slow=6.6,SNR=8.1
WRA Warramunga Arr 53.43 190 P **P** **12 15 42.4 -0.5**
comp=Z,0.7nm,0.5s,mb3.8,baz=6.1,slow=7.6,SNR=5.9
WRA PcP PcP 12 16 50.7 +0.7
comp=Z,0.5nm,0.7s,baz=11,slow=4.9,SNR=4.6
YKA Yellowknife Ar 66.66 30 LR LR 12 48 06.0
comp=Z,46nm,18.3s,MS3.7,baz=235,slow=38
FINES FINESS Array B 72.63 333 P **P** **12 17 49.5 +0.1**
comp=Z,2.6nm,1.1s,mb4.1,baz=143,slow=9.5,SNR=4.8
NB2 NORSAR Subarra 78.06 338 P **P** **12 18 21.2 +0.8**
comp=Z,0.7nm,0.7s,mb3.7,baz=40,slow=5.6
NB2 NORSAR Subarra 78.06 338 P **P** **12 18 21.2 +0.8**
NB2 pmax pmax
comp=Z,1.0nm,0.7s,mb3.9
NOA NORSAR Array B 78.06 338 P **P** **12 18 21.4 +1.0**
comp=Z,0.7nm,0.7s,mb3.7,baz=40,slow=5.7,SNR=3.4
PDAR Pinedale Array 79.69 45 P **P** **12 18 31.1 +1.5**
comp=Z,0.1nm,0.4s,mb3.1,baz=315,slow=2.1,SNR=3.5
ULM Lac du Bonnet 82.18 34 LR LR 12 59 05.4
comp=Z,55nm,18.6s,MS4.0,baz=21,slow=38

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*IDC **19** 12:33:06.9±1.6, 1.94N×96.69E, mb4.2/8, mb1 4.3/8, mb1mx4.1/16, mbtmp4.2/8, Error ellipse: s-maj=51.8km s-min=26.6km az=48.0*
*NEIC **19** 12:33:11.6±0.8, 2.00N×96.72E, h30km, mb4.3/5, Error ellipse: s-maj=27.9km s-min=10.9km az=51.0*
ISC 19 12:33:10.1±1.1, 2.1N±0.2×96.8E±0.2, h30km, n13, σ0°73/13, mb4.2/13, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**27.99**	**349**	*e*P	**P**	**12 39 01.3**	**+0.7**
	5.4nm,0.6s,mb4.3						
WRA	**Warramunga Arr**	**42.84**	**123**	P	**P**	**12 41 07.5**	**-0.1**
	2.5nm,0.7s,mb4.0,baz=300,slow=9.0,SNR=6.3						
WRAB	**Tennant Creek**	**42.84**	**123**	*e*P	**P**	**12 41 07.7**	**+0.1**
	5.1nm,0.9s,mb4.2						
MKAR	**Makanchi Array**	**46.30**	**346**	P	**P**	**12 41 35.5**	**+0.5**
	6.7nm,0.8s,mb4.7,baz=162,slow=7.7,SNR=34						
SONM	**Songino Array**	**46.34**	**9**	P	**P**	**12 41 36.2**	**+1.0**
	3.6nm,0.8s,mb4.3,baz=190,slow=8.3,SNR=23						
KURK	**Kurchatov**	**50.85**	**345**	*e*P	**P**	**12 42 09.2**	**-1.0**
	4.0nm,1.0s,mb4.3						
MJAR	**Matsushiro Arr**	**51.33**	**43**	P	**P**	**12 42 14.0**	**+0.1**
	1.5nm,0.8s,mb4.0,baz=208,slow=6.6,SNR=4.9						
ZAL	**Zalesovo**	**52.63**	**351**	P	**P**	**12 42 23.4**	**-0.2**
	3.1nm,0.7s,mb4.4,baz=289,slow=7.0,SNR=22						
BRVK	**Borovoye**	**55.36**	**341**	*e*P	**P**	**12 42 42.0**	**-1.6**
	1.2nm,0.8s,mb4.0						
YAK	**Yakutsk**	**64.70**	**16**	*e*P	**P**	**12 43 46.5**	**-0.9**
	16nm,0.9s,mb5.1						
FINES	**FINESS Array B**	**79.04**	**332**	P	**P**	**12 45 12.6**	**-0.2**
	0.8nm,0.6s,mb3.8,baz=72,slow=6.0,SNR=5.9						
ARCES	**ARCESS Array B**	**81.58**	**340**	P	**P**	**12 45 27.0**	**+0.8**
	1.5nm,0.9s,mb3.9,baz=72,slow=3.8,SNR=6.3						
GERES	**GERESS Array B**	**83.89**	**319**	P	**P**	**12 45 39.1**	**+0.6**
	0.3nm,0.2s,mb4.0,baz=90,slow=5.3,SNR=4.6						

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*CSEM **19** 12:39:47.5, 26.85N×54.01E, h17km, ML3.5, After THR*
THR 19 12:39:47.5±0.3, 26.85N×54.01E, h17km±4km, ML3.5, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**1.70**	**328**	*e*PG	Pn	12 40 18.6	+1.9
GHIR				*e*SG	Sn	12 40 41.3	+3.3
GHIR				AML	AML	12 40 52.1	
	comp=N,576nm,0.5s						
GHIR	**Ghir-Karzin**	**1.70**	**328**	*e*Pg	Pn	12 40 18.6	+1.9
	SNR=91						
GHIR				*e*Sg	Sn	12 40 41.3	+3.2
	comp=N,576nm,0.5s,SNR=91						
BNDS	**Bandar-Abbas**	**2.00**	**74**	*e*PG	Pn	12 40 24.1	+3.0
BNDS				AML	AML	12 41 02.0	
	comp=N,289nm,0.8s						
KRBR	**Kerman**	**3.95**	**37**	*e*PN	Pn	12 40 49.8	+0.9
KRBR				AML	AML	12 41 51.6	
	comp=E,74nm,0.8s						

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*BJI **19** 13:04:02.2, 31.40S×58.75E, h9km, mB5.5, mb5.2, Ms5.0, Msz4.7*
*MOS **19** 13:04:02.9±0.8, 31.35S×58.48E, h10km, mb5.6/24, MS4.5/4, Error ellipse: s-maj=23.1km s-min=8.1km az=105.9*
*IDC **19** 13:04:02.3±0.5, 31.44S×58.57E, mb4.8/18, mb1 4.9/19, mb1mx4.8/24, mbtmp4.8/19, MS4.4/22, Ms1 4.4/22, ms1mx4.3/28, Error ellipse: s-maj=17.1km s-min=14.5km az=35.0*
*NEIC **19** 13:04:04.0±0.1, 31.45S×58.59E, h10km, mb5.4/84, MS4.5/6, Error ellipse: s-maj=5.8km s-min=4.6km az=49.0*
*HRVD **19** 13:04:04.0±0.3, 31.54S×58.38E, h12km, MW5.2/57, Centroid moment Tensor Solution. LP body waves: s42,c73;Mantle waves: s57,c111; Half duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}-6.15±.15; $M_{\theta\theta}$6.37±.14; $M_{\phi\phi}$-0.22±.15; $M_{r\theta}$-0.18±.41; $M_{\theta\phi}$1.35±.13; $M_{\phi r}$-0.57±.54; Best double couple: $M_0$6.423×10^16^ NP1: ϕ_s264°, δ44°, λ-82°. NP2:ϕ_s74°, δ47°, λ-97°. Principal axes: T 6.642, Plg1°, Azm169°; N -.438, Plg5°, Azm79°; P -6.205, Plg85°, Azm272°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 19 13:04:02.5±0.2, 31.42S±0.05×58.65E±0.05, h10km, (h19km±2.8km; pP-P), n356, σ0°91/284, mb5.4/127, MS4.5/40, 12C-28D, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**16.46**	**318**	Pn	**P**	**13 07 56.5**	**+1.2**
	1.0nm,0.3s,baz=150,slow=13,SNR=9.5						
OPO				Sn	**S**	**13 10 44.9**	**-13**
	5.8nm,0.3s,baz=246,slow=15,SNR=10						
MATP	**Matopo**	**29.16**	**285**	P	**P**	**13 10 03.8**	**-2.3**
	8.1nm,0.8s,mb4.5,baz=124,slow=9.0,SNR=15						
MATP				LR	LR	13 20 01.9	
	comp=Z,1μm,20.0s,MS4.5,baz=115,slow=33						
LBTB	**Lobatse**	**29.74**	**274**	P	**P**	**13 10 08.7**	**-2.7**
	18nm,1.1s,mb4.7,baz=144,slow=9.8,SNR=9.8						
LBTB				LR	LR	13 20 07.0	
	comp=Z,717nm,19.0s,MS4.3,baz=125,slow=32						
LBTB	**Lobatse**	**29.74**	**274**	*e*P	**P**	**13 10 08.3**	**-3.0**
	38nm,1.4s,mb4.9						
LBTB	**Lobatse**	**29.74**	**274**	*e*P	**P**	**13 10 08.3**	**-3.0**
LBTB				pmax	pmax		
	comp=Z,38nm,1.3s,mb5.0						
SUR	**Sutherland**	**32.03**	**258**	P	**P**	**13 10 29.5**	**-2.0**
	comp=Z,11nm,1.0s,mb4.6,baz=108,slow=8.2,SNR=5.0						
SUR	**Sutherland**	**32.03**	**258**	*e*P	**P**	**13 10 29.5**	**-1.9**
	comp=Z,26nm,0.9s,mb5.1						
SUR				LR	LR		
	comp=Z,289nm,19.0s,MS4.0						
LSZ	**Lusaka**	**32.11**	**293**	*e*P	**P**	**13 10 31.0**	**-1.3**
	comp=Z,247nm,0.9s,mb6.0						
LSZ				LR	LR		
	comp=Z,1μm,20.0s,MS4.6						
KMBO	**Kilima Mbogo**	**36.30**	**322**	P	**P**	**13 11 09.2**	**+0.8**
	comp=Z,7.1nm,1.1s,mb4.5,baz=142,slow=8.1,SNR=11						
KMBO				LR	LR	13 25 41.8	
	comp=Z,592nm,18.2s,MS4.4,baz=108,slow=36						
MAW	**Mawson**	**36.31**	**177**	⇑*i*P	**P**	**13 11 07.9**	**+0.1**
	comp=Z,16nm,1.0s,mb4.9						
MAW	**Mawson**	**36.31**	**177**	P	**P**	**13 11 07.9**	**+0.1**
	comp=Z,7.2nm,0.7s,mb4.7,baz=359,slow=9.1,SNR=13						
MAW				PcP	PcP	13 13 32.4	-0.6
	comp=Z,4.8nm,1.1s,baz=340,slow=6.7,SNR=4.3						
MAW				LR	LR	13 22 07.9	
	comp=Z,1μm,20.9s,MS4.6,baz=22,slow=30						
TSUM	**Tsumeb**	**38.86**	**278**	P	**P**	**13 11 29.1**	**-0.7**
	comp=Z,38nm,0.9s,mb5.1,baz=111,slow=8.3,SNR=69						
TSUM	**Tsumeb**	**38.86**	**278**	⇓*i*P	**P**	**13 11 28.8**	**-0.9**
	comp=Z,72nm,1.1s,mb5.3						
TSUM				LR	LR		
	comp=Z,1μm,20.0s,MS4.8						
SYO	**Syowa Base**	**39.19**	**191**	⇓P	**P**	**13 11 30.5**	**-1.5**
SYO	**Syowa Base**	**39.19**	**191**	⇓pP	pP	13 11 34.6	-0.4
MBAR	**Mbarara**	**40.46**	**314**	*e*P	**P**	**13 11 42.8**	**-0.3**
	comp=Z,25nm,1.4s,mb4.8						
MBAR	**Mbarara**	**40.46**	**314**	*i*P	**P**	**13 11 42.2**	**-0.9**
MIR	**Mirnyy**	**40.73**	**160**	*d i*P	**P**	**13 11 45.6**	**+0.9**
MIR				pmax	pmax		
	comp=Z,81nm,2.0s,mb5.0						
ATD	**Arta Tunnel**	**45.31**	**338**	P	**P**	**13 12 23.6**	**+1.0**
	comp=Z,22nm,0.9s,mb5.0,baz=151,slow=5.8,SNR=10						
ATD				LR	LR	13 27 56.7	
	comp=Z,938nm,20.8s,MS4.7,baz=146,slow=32						
CASY	**Casey**	**46.54**	**154**	*e*P	**P**	**13 12 32.0**	**+0.4**
CASY	**Casey**	**46.54**	**154**	*e*P	**P**	**13 12 32.1**	**+0.5**
	comp=Z,41nm,1.3s,mb5.2						
MDRS	**Chennai**	**48.85**	**28**	*ex*	x	13 15 11.0	
NWAO	**Narrogin (SRO)**	**49.05**	**108**	LR	LR	13 28 22.9	
	comp=Z,314nm,18.4s,MS4.3,baz=250,slow=30						
DJNS	**Zahran al Janu**	**50.95**	**341**	P	**P**	**13 13 07.9**	**+1.4**
SNAA	**Sanae**	**51.60**	**201**	P	**P**	**13 13 09.3**	**-1.3**
SNAA	**Sanae**	**51.60**	**201**		**P**	**13 13 12.0**	**+1.4**
SNAA	**Sanae**	**51.60**	**201**		**P**	**13 13 14.5**	**+3.9**
SNAA	**Sanae**	**51.60**	**201**		**P**	**13 13 23.5**	**+13**
SNAA	**Sanae**	**51.60**	**201**	P	**P**	**13 13 09.2**	**-1.4**
	comp=Z,3.4nm,1.1s,mb4.2,baz=83,slow=5.8,SNR=17						
SNAA				LR	LR	13 30 04.9	
	comp=Z,240nm,21.1s,MS4.2,baz=265,slow=30						
SNAA	**Sanae**	**51.60**	**201**	*i*P	**P**	**13 13 09.5**	**-1.1**
POO	**Poona**	**51.76**	**18**	*e*P	**P**	**13 13 13.7**	**+1.1**
HYB	**Hyderabad**	**52.18**	**24**	*i*P	**P**	**13 13 16.0**	**+0.2**
TATS	**Tathilth**	**52.72**	**342**	P	**P**	**13 13 21.4**	**+1.6**
VNA2	**Neumayer--Watz**	**52.84**	**202**	P	**P**	**13 13 20.0**	**0.0**
VNA2	**Neumayer--Watz**	**52.84**	**202**		**P**	**13 13 22.6**	**+2.6**
VNA1	**Neumayer--Stat**	**53.07**	**203**	P	**P**	**13 13 24.1**	**+2.4**
VNA1	**Neumayer--Stat**	**53.07**	**203**		**P**	**13 13 25.8**	**+4.1**
KAMS	**Al Khamasin**	**53.17**	**343**	P	**P**	**13 13 23.4**	**+0.2**
VNA3	**Neumayer Olymp**	**53.63**	**202**	P	**P**	**13 13 25.2**	**-0.6**
VNA3	**Neumayer Olymp**	**53.63**	**202**		**P**	**13 13 28.9**	**+3.1**
MBWA	**Marble Bar**	**55.10**	**95**	*e*P	**P**	**13 13 36.9**	**-0.4**
	comp=Z,9.9nm,0.7s,mb5.0						
BHPL	**Bhopal**	**57.25**	**21**	*e*P	**P**	**13 13 52.2**	**-0.4**
DRV	**Dumont d'Urvil**	**58.20**	**152**	S	**S**	**13 21 50.0**	**-8.6**
QSPA	**South Pole Qui**	**58.75**	**180**	*e*P	**P**	**13 14 02.0**	**-0.4**
	comp=Z,66nm,1.0s,mb5.6						
JASL	**Jaisalmer**	**59.18**	**13**	*e*P	**P**	**13 14 06.8**	**+0.7**
JASL				AMb	AMB	13 14 06.9	
RDF	**Al-Radifah**	**60.93**	**349**	*e*P	**P**	**13 14 18.1**	**0.0**
RDF				AMb	AMB	13 14 20.1	
	comp=Z,89nm,1.3s,mb5.8						
KBD	**Kabd**	**61.16**	**349**	*e*P	**P**	**13 14 19.6**	**0.0**
KBD				AMb	AMB	13 14 21.6	
	comp=Z,245nm,1.0s,mb6.3						
AGRA	**Agra**	**61.16**	**20**	*e*P	**P**	**13 14 18.7**	**-0.9**
AGRA				AMb	AMB	13 14 23.0	
	comp=Z,50nm,0.4s,mb6.0						
FITZ	**Fitzroy Crossi**	**61.44**	**95**	*e*P	**P**	**13 14 21.4**	**-0.2**
	comp=Z,23nm,1.0s,mb5.3						
FITZ	**Fitzroy Crossi**	**61.44**	**95**	LR	LR	13 35 13.5	
	comp=Z,213nm,20.5s,MS4.3,baz=265,slow=30						
NST	**Nakhon Sawan**	**61.46**	**47**	P	**P**	**13 14 22.0**	**+0.2**
UMR	**Umm Al-Rimmam**	**61.52**	**349**	*e*P	**P**	**13 14 21.8**	**-0.2**
UMR				AMb	AMB	13 14 23.6	
	comp=Z,155nm,0.8s,mb6.2						
KUDL	**Kundal**	**61.62**	**18**	*e*P	**P**	**13 14 21.2**	**-1.6**
KUDL				AMb	AMB	13 14 25.9	
	comp=Z,24nm,1.7s,mb5.0						
SONA	**Sohna**	**61.88**	**18**	*e*P	**P**	**13 14 23.0**	**-1.5**
SONA				AMb	AMB	13 14 28.9	
	comp=Z,42nm,1.3s,mb5.4						
BHGR	**Bahadurgarh**	**62.26**	**18**	*e*P	**P**	**13 14 26.1**	**-0.9**
BHGR				AMb	AMB	13 14 29.2	
	comp=Z,72nm,0.3s,mb6.3						
NDI	**New Delhi**	**62.33**	**18**	*e*P	**P**	**13 14 26.2**	**-1.4**
NDI				AMb	AMB	13 14 31.5	
	comp=Z,37nm,1.6s,mb5.3						
RTK	**Rohtak**	**62.45**	**18**	*e*P	**P**	**13 14 27.8**	**-0.5**
RTK				AMb	AMB	13 14 29.3	
	comp=Z,33nm,0.5s,mb5.8						
ASOR	**Ausora**	**62.55**	**19**	*e*P	**P**	**13 14 27.4**	**-1.6**
TBKS	**Tabuk**	**62.94**	**338**	P	**P**	**13 14 32.6**	**+1.1**
CHG	**Chiang Mai**	**63.16**	**43**	⇓P	**P**	**13 14 33.0**	**-0.1**
	comp=Z,18nm,1.2s,mb5.1						
KOLN	**Koldanda**	**63.48**	**25**	*e*P	**P**	**13 14 34.3**	**-0.8**
	comp=Z,117nm,1.3s,mb5.8						
BDAS	**Al Bad'**	**63.60**	**337**	P	**P**	**13 14 36.4**	**+0.4**
JMQS	**Jabal Moqyreh**	**63.77**	**338**	P	**P**	**13 14 37.6**	**+0.5**
TAYS	**Tayyib Ism**	**63.79**	**337**	P	**P**	**13 14 37.5**	**+0.3**
DMN	**Daman**	**63.89**	**26**	*e*P	**P**	**13 14 36.8**	**-1.1**
	comp=Z,12nm,0.3s,mb5.4						
PKI	**Pulchoki**	**63.97**	**26**	*e*P	**P**	**13 14 37.2**	**-1.2**
	comp=Z,57nm,1.3s,mb5.4						
GKN	**Gorkha**	**64.07**	**26**	*e*P	**P**	**13 14 37.9**	**-1.1**
	comp=Z,115nm,1.2s,mb5.8						
KKN	**Kakani**	**64.12**	**26**	*e*P	**P**	**13 14 38.4**	**-1.0**
	comp=Z,113nm,1.4s,mb5.7						
NANT	**Nan**	**64.20**	**45**	⇑P	**P**	**13 14 39.0**	**-1.0**
	comp=Z,131nm,1.0s,mb5.9						
HAQS	**Haql**	**64.24**	**337**	P	**P**	**13 14 40.4**	**+0.3**
JMOS	**Jabal al Moall**	**64.28**	**337**	P	**P**	**13 14 40.8**	**+0.4**
ALWS	**Ilw as Safayha**	**64.43**	**337**	P	**P**	**13 14 42.0**	**+0.6**
SHL	**Shillong**	**64.96**	**33**	*e*P	**P**	**13 14 46.3**	**+1.5**
QURS	**Qurayyt al Mil**	**65.65**	**340**	P	**P**	**13 14 49.7**	**+0.5**
ASF	**Jabal al Asfar**	**66.51**	**340**	LR	LR	13 41 36.9	
	comp=Z,370nm,18.9s,MS4.6,baz=205,slow=34						
WRA	**Warramunga Arr**	**67.99**	**101**	P	**P**	**13 15 04.0**	**-0.2**
	comp=Z,18nm,0.9s,mb5.1,baz=243,slow=5.2,SNR=30						
WRAB	**Tennant Creek**	**68.01**	**101**	*e*P	**P**	**13 15 04.0**	**-0.3**
	comp=Z,124nm,1.4s,mb5.8						
WRAB	**Tennant Creek**	**68.01**	**101**	*i*P	**P**	**13 15 04.5**	**+0.2**
LSA	**Lhasa**	**68.18**	**30**	P	**P**	**13 15 05.8**	**+0.5**
LSA	**Lhasa**	**68.18**	**30**	*e*P	**P**	**13 15 05.0**	**-0.2**
	comp=Z,24nm,1.1s,mb5.2						
STKA	**Stephens Creek**	**68.78**	**115**	*e*P	**P**	**13 15 09.2**	**+0.3**
	comp=Z,11nm,1.4s,mb4.6						
STKA	**Stephens Creek**	**68.78**	**115**	P	**P**	**13 15 09.4**	**+0.5**
	comp=Z,13nm,1.0s,mb4.8,baz=200,slow=7.1,SNR=7.7						
STKA				LR	LR	13 38 41.1	
	comp=Z,268nm,21.0s,MS4.5,baz=209,slow=30						
KAKA	**Kakadu**	**69.73**	**93**	*e*P	**P**	**13 15 26.8**	**+12**
	comp=Z,26nm,1.2s,mb5.0						
CSS	**Prodhromos**	**70.19**	**338**	*e*P	**P**	**13 15 17.3**	**-0.2**
	comp=Z,34nm,0.9s,mb5.3						
KMI	**Kunming**	**70.27**	**42**	P	**P**	**13 15 18.8**	**+0.7**
KMI				AP	pP	13 15 23.9	+2.6
KMI				XP	sP	13 15 26.3	+3.9
KMI				S	S	13 24 35.6	+6.9
KMI				XS		13 24 41.8	
KMI				PS	PS	13 25 04.5	+7.5
KMI				SS	SS	13 29 03.4	+2.8
KMI				SSS	SSS	13 32 14.0	+8.2
KMI				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.8						
KMI				AMB	AMB		
	comp=Z,131nm,4.1s						
KMI				LR	LR		
	comp=N,231nm,20.6s,MS4.6						
KMI				LR	LR		
	comp=E,195nm,17.4s,MS4.6						
KMI				LR	LR		
	comp=Z,178nm,20.6s,MS4.3						
KMI	**Kunming**	**70.27**	**42**	P	**P**	**13 15 18.8**	**+0.7**
	comp=Z,12nm,0.9s,mb4.8						
KMI				pP	pP	13 15 23.9	+2.6
KMI				sP	sP	13 15 26.2	+3.8
KMI				PP	PP	13 18 00.4	+4.8
KMI				S	S	13 24 35.6	+6.9
KMI				sS		13 24 41.7	
KMI				PS	PS	13 25 04.5	+7.5
KMI				SS	SS	13 29 03.4	+2.8
KMI				SSS	SSS	13 32 14.0	+8.2
LIC	**Lamto**	**71.28**	**290**	⇓*i*P	**P**	**13 15 24.1**	**-0.4**
	comp=Z,217nm,1.7s,mb5.5						
DBIC	**Dimbokro**	**71.40**	**290**	P	**P**	**13 15 25.1**	**-0.2**
	comp=Z,15nm,0.9s,mb4.9,baz=107,slow=9.0,SNR=11						
DBIC				LR	LR	13 43 35.5	
	comp=Z,430nm,20.8s,MS4.7,baz=117,slow=33						
GNI	**Garni**	**72.36**	**349**	*e*P	**P**	**13 15 30.3**	**-0.3**
	comp=Z,37nm,1.1s,mb5.2						
GNI	**Garni**	**72.36**	**349**	*d i*P	**P**	**13 15 31.0**	**+0.5**
GNI				pmax	pmax		
	comp=Z,125nm,1.7s						
GNI				MLR	MLR		
	comp=Z,400nm,19.0s						
AVNT	**Avonos**	**73.27**	**341**	*i*P	**P**	**13 15 35.6**	**-0.3**
IDI	**Anoyia**	**73.55**	**332**	LR	LR	13 50 50.7	
	comp=Z,208nm,18.5s,MS4.5,baz=84,slow=38						
GYA	**Guiyang**	**73.57**	**44**	⇑*i*P	**P**	**13 15 37.4**	**-0.4**
GYA				AP	pP	13 15 41.8	+0.8
GYA				XP	sP	13 15 45.3	+3.2
GYA				PP	PP	13 18 23.4	-0.4
GYA				S	S	13 25 05.9	-0.6
GYA				SKS	SKS	13 25 38.6	-6.0
GYA				SS	SS	13 29 51.3	-0.6
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
GYA				AMB	AMB		
	comp=Z,120nm,3.0s						
GYA				LR	LR		
	comp=N,340nm,18.9s,MS4.8						
GYA				LR	LR		
	comp=E,410nm,18.4s,MS4.8						
GYA				LR	LR		
	comp=Z,610nm,17.8s,MS4.9						
TBLG	**Delisi**	**73.91**	**349**	P	**P**	**13 15 39.6**	**+0.1**
CDAG	**Cicekdag**	**74.19**	**341**	*i*P	**P**	**13 15 39.5**	**-1.7**
AML	**Almayashu**	**74.49**	**12**	P	**P**	**13 15 44.0**	**+1.2**
	SNR=17						
BRTR	**Keskin Array B**	**74.50**	**340**	P	**P**	**13 15 42.5**	**-0.5**
	comp=Z,9.7nm,0.9s,mb4.8,baz=169,slow=6.3,SNR=40						
KZA	**Kyzart**	**74.71**	**13**	P	**P**	**13 15 45.8**	**+1.6**
	SNR=12						
ANTO	**Ankara**	**74.88**	**340**	*e*P	**P**	**13 15 44.6**	**-0.5**
	comp=Z,13nm,0.9s,mb4.9						
ANTO				LR	LR		
	comp=Z,227nm,22.0s,MS4.4						
EKS2	**Erkin-Say**	**75.02**	**11**	P	**P**	**13 15 47.0**	**+1.2**
	SNR=21						
ZEI	**Tsey**	**75.06**	**349**	*e*P	**P**	**13 15 44.9**	**-1.2**
ZEI				*i **PP	pP	13 15 53.4	+4.1
ZEI				pmax	pmax		
	comp=Z,18nm,0.8s,mb5.0						
ULHL	**Ulahol**	**75.07**	**13**	P	**P**	**13 15 47.1**	**+1.0**
	SNR=9.4						
AAK	**Ala-Archa**	**75.11**	**12**	P	**P**	**13 15 47.5**	**+1.1**
	SNR=12						
AAK	**Ala-Archa**	**75.11**	**12**	⇓*i*P	**P**	**13 15 46.4**	**0.0**
	comp=Z,41nm,1.3s,mb5.2						
AAK	**Ala-Archa**	**75.11**	**12**	⇓*i*P	**P**	**13 15 46.4**	**0.0**
AAK				pmax	pmax		
	comp=Z,41nm,1.2s,mb5.2						
ESKT	**Eskisehir**	**75.16**	**338**	*i*P	**P**	**13 15 45.2**	**-1.6**
GDZ	**Gediz**	**75.21**	**337**	*i*P	**P**	**13 15 45.6**	**-1.5**
KBK	**Karagaybulak**	**75.22**	**12**	P	**P**	**13 15 48.6**	**+1.6**
	SNR=6.9						
ELDT	**Eldivan**	**75.27**	**340**	*i*P	**P**	**13 15 46.0**	**-1.4**
CD2	**Chengdu**	**75.31**	**39**	P	**P**	**13 15 47.1**	**-0.8**
CD2				S	S	13 25 25.8	-0.1
CD2				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
FRU	**Bishkek**	**75.33**	**12**	*e*P	**P**	**13 15 47.0**	**-0.7**
FRU				pmax	pmax		
	comp=Z,80nm,1.8s,mb5.3						
CHMS	**Chumysh**	**75.51**	**12**	P	**P**	**13 15 49.2**	**+0.5**
	SNR=6.4						
TKM2	**Tokmak 2**	**75.59**	**13**	P	**P**	**13 15 49.8**	**+0.6**
	SNR=15						
BOYT	**Boyabat**	**75.72**	**342**	*i*P	**P**	**13 15 49.0**	**-1.0**
USP	**Ospenovka**	**75.73**	**12**	P	**P**	**13 15 50.6**	**+0.6**
	SNR=20						
SGKT	**Sivrigoynuk**	**75.75**	**339**	*i*P	**P**	**13 15 47.9**	**-2.2**
BALT	**Daday**	**76.24**	**341**	*i*P	**P**	**13 15 52.0**	**-0.9**
ULDT	**Uludag**	**76.28**	**337**	*i*P	**P**	**13 15 51.5**	**-1.6**
**SOC

WMQ XP sP 13 16 18.0 +3.3
WMQ PP PP 13 19 13.0 +0.5
WMQ S S 13 26 06.0 -4.3
WMQ PS PS 13 26 51.0 -4.6
WMQ AMB AMB
comp=Z,16nm,1.2s,mb4.8
WMQ LR LR
comp=N,215nm,20.0s,MS4.6
WMQ LR LR
comp=E,207nm,20.0s,MS4.6
WMQ LR LR
comp=Z,234nm,20.0s,MS4.5
MMB Musomiste 79.47 334 *i* P **P 13 16 09.0 -1.6**
KKB Krupnik 79.95 334 *i* P **P 13 16 08.0 -5.2**
VAE Valguarnera 80.04 326 LR LR 13 51 11.0
comp=Z,351nm,20.4s,MS4.7,baz=304,slow=35
GTA Gaotai 80.17 31 P **P 13 16 15.1 +0.6**
GTA AP pP 13 16 19.6 +1.9
GTA XP sP 13 16 22.4 +3.7
GTA PP PP 13 19 21.3 +2.7
GTA PPP PPP 13 21 11.6 +2.0
GTA S S 13 26 20.8 +2.8
GTA SKS SKS 13 26 27.8 -4.3
GTA SS SS 13 31 35.3 +3.6
GTA AMB AMB
comp=Z,25nm,1.1s,mb5.1
GTA AMB AMB
comp=Z,163nm,9.2s
GTA LR LR
comp=N,191nm,24.1s,MS4.7
GTA LR LR
comp=E,317nm,21.0s,MS4.7
GTA LR LR
comp=Z,274nm,22.9s,MS4.5
TIRR Tirgusor 80.39 339 ⇑P **P 13 16 15.3 -0.2**
TIRR Tirgusor 80.39 339 P **P 13 16 15.6 0.0**
XAN Xi'an 80.52 40 P **P 13 16 15.1 -1.3**
XAN AP pP 13 16 20.3 +0.7
XAN AMB AMB
comp=Z,23nm,1.1s,mb5.0
VTS Vitosha 80.53 334 *i* P **P 13 16 15.0 -1.3**
VTS Vitosha 80.53 334 P **P 13 16 16.2 -0.1**
MKAR Makanchi Array 80.72 16 P **P 13 16 17.2 0.0**
comp=Z,8.3nm,0.8s,mb4.7,baz=207,slow=5.4,SNR=29
MKAR LR LR 13 50 42.1
comp=Z,157nm,19.2s,MS4.4,baz=179,slow=35
WHN Wuhan 81.18 46 ⇑P **P 13 16 20.6 +0.6**
MLR Muntele Rosu 82.11 337 ⇓P **P 13 16 24.5 0.0**
MLR Muntele Rosu 82.11 337 P **P 13 16 24.6 +0.1**
VRI Vrincioaia 82.19 338 P **P 13 16 24.8 0.0**
VOIR 82.36 337 ⇓P **P 13 16 24.8 -1.0**
DIVS Divcibare 83.03 333 ⇑*i*P **P 13 16 29.8 +0.4**
VRHR Novokhopersk 83.52 349 *e*P **P 13 16 32.0 +0.4**
VRHR pmax pmax
comp=Z,70nm,1.5s,mb5.6
VRHR pmax pmax
comp=N,40nm,0.8s
VRHR pmax pmax
comp=E,30nm,1.3s
KURK Kurchatov 83.66 13 ⇓*i*P **P 13 16 32.9 +0.6**
comp=E,75nm,1.3s,mb5.7
KURK Kurchatov 83.66 13 ⇓*i*P **P 13 16 32.9 +0.6**
KURK pmax pmax
comp=Z,75nm,1.2s,mb5.7
PMG Port Moresby 83.90 97 LR LR 13 54 22.3
comp=Z,148nm,18.3s,MS4.4,baz=226,slow=36
VRSR Storozhevoye 84.05 348 *d i*P **P 13 16 34.1 -0.2**
DRGR 84.34 336 P **P 13 16 35.2 -0.6**
VOR Voronezh 84.54 348 P **P 13 16 36.0 -0.7**
VOR pmax pmax
comp=Z,80nm,1.6s,mb5.6
BRVK Borovoye 84.73 7 ⇓*i*P **P 13 16 38.0 +0.4**
comp=Z,42nm,1.4s,mb5.4
BRVK Borovoye 84.73 7 ⇓*i*P **P 13 16 38.0 +0.4**
BRVK pmax pmax
comp=Z,42nm,1.3s,mb5.4
NJ2 Nanjing 85.02 48 *e*P **P 13 16 38.3 -1.3**
NJ2 AP pP 13 16 48.8 +6.0
NJ2 XP sP 13 16 52.6 +8.7
NJ2 PP PP 13 19 57.3 -1.0
NJ2 S S 13 27 01.0 -6.3
NJ2 XS 13 27 16.0
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.4
NJ2 AMB AMB
comp=Z,640nm,5.6s
NJ2 LR LR
comp=N,430nm,22.5s,MS4.9
NJ2 LR LR
comp=E,420nm,24.0s,MS4.9
NJ2 LR LR
comp=Z,180nm,20.9s,MS4.4
PKSM Moragy 85.33 333 P **P 13 16 41.0 +0.2**
AKASG Malin Array Be 85.80 342 P **P 13 16 42.6 -0.5**
comp=Z,8.4nm,1.0s,mb4.9,baz=170,slow=4.3,SNR=25
AKASG PP PP 13 19 59.6 -4.5
comp=Z,0.2nm,0.3s,baz=140,slow=7.5,SNR=4.1
SSE Sheshan 85.89 50 P **P 13 16 44.8 +0.8**
SSE AP pP 13 16 48.3 +1.1
SSE XP sP 13 16 49.4 +1.2
SSE S S 13 27 19.5 +3.7
SSE XS 13 27 25.1
SSE SS SS 13 32 58.5 +1.9
SSE AMB AMB
comp=Z,25nm,0.7s,mb5.5
SSE AMB AMB
comp=Z,86nm,4.3s
SSE LR LR
comp=N,42nm,20.0s,MS4.2
SSE LR LR
comp=E,79nm,20.0s,MS4.2
SSE LR LR
comp=Z,71nm,20.9s,MS4.0
SSE Sheshan 85.89 50 P **P 13 16 44.8 +0.8**
comp=Z,25nm,0.7s,mb5.5
SSE pP pP 13 16 48.2 +1.0
SSE sP sP 13 16 49.4 +1.2
SSE S S 13 27 19.5 +3.7
SSE sS 13 27 25.1
SSE SS SS 13 32 58.5 +1.9
BTO Baotou 85.98 37 *e*P **P 13 16 42.6 -1.6**
KECS Kecovo 86.56 336 *e*P **P 13 16 46.1 -0.8**
CRVS Cervenica-Dubn 86.58 336 *i* P **P 13 16 47.3 +0.3**
PGF Pioggiola 86.59 326 *e*P **P 13 16 46.8 -0.3**
comp=Z,49nm,1.3s,mb5.3
KWP Kalwaria 86.79 338 *e*P **P 13 16 47.6 -0.4**
KWP Kalwaria 86.79 338 *e*P **P 13 16 47.6 -0.4**
HHC Hu-ho-hao-te 86.95 37 *e*P **P 13 16 50.5 +1.5**
HHC XP sP 13 16 57.5 +4.3
HHC PP PP 13 20 15.5 +1.0
HHC S S 13 27 27.4 +1.7
HHC XS 13 27 32.5
HHC PS PS 13 28 29.0 +0.3
HHC SS SS 13 33 14.0 +2.6
HHC AMB AMB
comp=Z,26nm,0.8s,mb5.5
HHC AMB AMB
comp=Z,165nm,5.5s
HHC LR LR
comp=N,151nm,19.0s,MS4.5
HHC LR LR
comp=E,119nm,19.0s,MS4.5
HHC LR LR
comp=Z,91nm,26.8s
STHS Stebnicka Huta 87.10 337 *i* P **P 13 16 49.5 +0.1**
VYHS Vyhne 87.16 335 *i* P **P 13 16 50.0 +0.2**
OBKA Obir 87.20 331 ⇓*i*P **P 13 16 50.2 +0.2**
comp=Z,130nm,2.2s,mb5.8
ARSA Arzberg 87.40 332 ⇓*i*P **P 13 16 51.1 +0.1**
comp=Z,55nm,2.1s,mb5.4
ARU Arti 87.50 360 ⇓*i*P **P 13 16 51.6 +0.4**
comp=Z,71nm,1.4s,mb5.7
ARU Arti 87.50 360 ⇓*i*P **P 13 16 51.8 +0.6**
ARU *e* 13 20 17.9
ARU *e*S S 13 27 16.2 -14
ARU *e*SS SS 13 33 19.0 -0.1
ARU *e*SSS SSS 13 36 55.4 +4.8
ARU pmax pmax
comp=Z,50nm,1.5s,mb5.5
ZST Bratislava 87.56 334 *i* P **P 13 16 51.7 0.0**
SVE Sverdlovsk 87.91 1 *e*P **P 13 16 54.2 +1.0**
SVE *e* 13 27 30.0
SVE pmax pmax
comp=Z,120nm,2.0s,mb5.8

ZAL Zalesovo 87.97 15 P **P 13 16 52.8 -0.7**
comp=Z,11nm,1.0s,mb5.0,baz=268,slow=4.5,SNR=30
ZAL LR LR 13 54 09.4
comp=Z,202nm,20.7s,MS4.5,baz=259,slow=34
EIBI Ibiza 88.03 319 P **P 13 16 55.9 +1.7**
comp=Z,199nm,2.3s,mb5.9
JOW Kunigami 88.10 57 LR LR 13 51 16.0
comp=Z,82nm,20.2s,MS4.1,baz=257,slow=32
KBA Koelnbreinsper 88.15 331 ⇓*i*P **P 13 16 54.7 +0.1**
comp=Z,76nm,1.9s,mb5.6
OBN Obninsk 88.25 348 *e*P **P 13 16 55.3 +0.5**
comp=Z,94nm,1.4s,mb5.8
OBN Obninsk 88.25 348 κ *i*P **P 13 16 55.4 +0.6**
OBN *e* 13 17 03.2
OBN *e* 13 27 44.8
OBN pmax pmax
comp=Z,106nm,1.7s,mb5.8
OBN MLR MLR
comp=Z,100nm,17.0s,MS4.3
OJC Ojcow 88.27 336 ⇓*e*P **P 13 16 54.6 -0.5**
SAOF Saorge 88.36 326 *e*P **P 13 16 57.0 +1.3**
MOA Molln 88.39 332 ⇓*i*P **P 13 16 55.8 +0.1**
comp=Z,104nm,2.1s,mb5.7
AUTN L'Aution 88.43 326 *e*P **P 13 16 57.7 +1.7**
NVS Novosibirsk 88.48 14 *e*P **P 13 16 54.6 -1.3**
NVS *e*S S 13 27 27.2 -12
NVS pmax pmax
comp=Z,13nm,1.2s,mb5.0
NVS pmax pmax
comp=N,7.0nm,1.3s
NVS smax
comp=N,23nm,2.3s
TOUF Mont Tournerai 88.53 326 *e*P **P 13 16 57.9 +1.4**
OKC Ostrava-Krasne 88.53 335 *e*P **P 13 16 56.1 -0.2**
MOS Moscow 88.65 348 *e*P **P 13 16 56.0 -0.7**
MOS *e* 13 17 04.9
MOS pmax pmax
comp=Z,110nm,1.5s,mb6.0
EBEN Beniarda 88.70 318 P **P 13 16 58.7 +1.3**
comp=Z,63nm,1.1s,mb5.9
EMUR La Murta 88.70 317 P **P 13 16 58.0 +0.5**
comp=Z,219nm,2.1s,mb6.1
WTTA Wattenberg 89.02 330 ⇓*i*P **P 13 16 59.1 +0.4**
comp=Z,99nm,1.8s,mb5.8
TREC Trest 89.08 333 *e*P **P 13 16 58.5 -0.4**
SQTA Sankt Quirin 89.17 330 ⇑*i*P **P 13 17 00.1 +0.7**
comp=Z,62nm,1.7s,mb5.7
MBDF Montbardon 89.29 326 *e*P **P 13 17 00.4 +0.3**
comp=Z,88nm,1.4s,mb5.6
MOTA Moosalm 89.31 330 ⇓*i*P **P 13 17 00.3 +0.2**
comp=Z,34nm,1.4s,mb5.5
SMRF Simiane la Rot 89.32 325 *e*P **P 13 17 00.1 -0.1**
GEC2 GERESS Array S 89.41 332 *e*P **P 13 16 59.8 -0.7**
comp=Z,28nm,1.8s,mb5.3
GEC2 GERESS Array S 89.41 332 *e*P **P 13 16 59.8 -0.7**
GEC2 pmax pmax
comp=Z,28nm,1.8s,mb5.3
GERES GERESS Array B 89.41 332 P **P 13 17 00.2 -0.3**
comp=Z,1.7nm,0.8s,mb4.4,baz=146,slow=4.8,SNR=12
GERES LR LR 13 55 48.0
comp=Z,93nm,21.0s,MS4.2,baz=155,slow=35
EHUE Huescar 89.48 316 P **P 13 17 02.2 +1.0**
comp=Z,9.0nm,1.1s,mb5.0
EJON La Jonquera 89.59 322 P **P 13 17 03.2 +1.7**
comp=Z,92nm,1.9s,mb5.8
MNK Minsk 89.60 343 *e*P **P 13 16 55.0 -6.3**
DPC Dobruska-Polom 89.62 334 *e*P **P 13 17 01.7 +0.2**
DPC AMS AMS 13 51 20.0
comp=Z,300nm,33.4s
ERON Agron 89.69 315 P **P 13 17 03.8 +1.7**
comp=Z,1.4nm,0.4s,mb4.6
KHC Kasperske Hory 89.69 332 *e*P **P 13 17 01.0 -0.8**
KHC pP pP 13 17 09.5 +4.5
KHC Kasperske Hory 89.69 332 *e*P **P 13 17 01.0 -0.8**
KHC *e* 13 17 09.5
SONM Songino Array 89.77 30 P **P 13 17 02.1 -0.1**
comp=Z,8.1nm,1.1s,mb5.0,baz=216,slow=4.5,SNR=28
SONM LR LR 13 54 44.3
comp=Z,300nm,18.8s,MS4.8,baz=225,slow=34
EPOB Poblet 89.79 321 P **P 13 17 03.4 +0.9**
comp=Z,229nm,2.4s,mb6.1
DAVA Damuels 89.79 329 ⇓*i*P **P 13 17 02.7 +0.3**
comp=Z,28nm,1.8s,mb5.3
ORIF Oris-en-Rattie 89.86 326 *e*P **P 13 17 01.7 -1.0**
comp=Z,75nm,1.6s,mb5.5
ORIF *e*R
comp=Z,167nm,20.8s
UPC Upice 89.86 334 *e*P **P 13 17 02.5 -0.1**
LPG La Plagne 89.87 326 *e*P **P 13 17 02.2 -0.6**
comp=Z,35nm,1.4s,mb5.2
FUR Furstenfeldbru 89.87 330 *e*P **P 13 17 03.1 +0.4**
comp=Z,232nm,1.8s,mb6.2
FUR Furstenfeldbru 89.87 330 *e*P **P 13 17 03.1 +0.4**
FUR pmax pmax
comp=Z,232nm,1.8s,mb6.2
LPL La Plagne 89.89 326 *e*P **P 13 17 02.4 -0.5**
ERTA Horta de San J 89.92 320 P **P 13 17 04.8 +1.7**
comp=Z,188nm,1.5s,mb6.2
EMOS Mosqueruela 89.97 319 P **P 13 17 05.5 +2.1**
comp=Z,91nm,1.3s,mb5.9
EVIA Vianos 89.97 317 P **P 13 17 04.6 +1.2**
comp=Z,19nm,1.2s,mb5.3
WET Wettzell 89.98 332 *e*P **P 13 17 02.5 -0.7**
comp=Z,45nm,2.1s,mb5.4
WET Wettzell 89.98 332 *e*P **P 13 17 02.5 -0.7**
WET pmax pmax
comp=Z,45nm,2.1s,mb5.4
EMIJ Mijas 89.99 314 P **P 13 17 02.7 -0.9**
comp=Z,94nm,2.5s,mb5.7
PRU Pruhonice 90.00 333 *e*P **P 13 17 03.3 0.0**
KSP Ksiaz 90.04 335 *e*P **P 13 17 03.9 +0.5**
KSP Ksiaz 90.04 335 ⇑*e*P **P 13 17 04.4 +1.0**
LASF Ste Croix 90.25 324 *e*P **P 13 17 03.3 -1.3**
comp=Z,42nm,1.5s,mb5.2
ELUQ Luque 90.32 315 P **P 13 17 05.4 +0.3**
comp=Z,6.6nm,0.8s,mb5.0
EJIF Jimena Fronter 90.34 313 P **P 13 17 05.5 +0.3**
comp=Z,33nm,1.4s,mb5.5
VIVF Saint-Julien-l 90.40 325 *e*P **P 13 17 05.1 -0.2**
comp=Z,62nm,1.7s,mb5.3
PVCC Panska Ves 90.42 334 *e*P **P 13 17 05.9 +0.7**
SUW Suwalki 90.45 340 *e*P **P 13 17 05.3 +0.1**
SUW Suwalki 90.45 340 *e*P **P 13 17 05.3 +0.1**
ZAK Zakamensk 90.51 27 *e*P **P 13 17 04.8 -0.8**
ZAK pmax pmax
comp=Z,2.0nm,1.3s,mb4.3
MTLF Montolieu 90.57 323 *e*P **P 13 17 06.3 +0.2**
comp=Z,36nm,1.2s,mb5.3
EGRA Graus 90.78 321 P **P 13 17 08.8 +1.7**
comp=Z,27nm,1.2s,mb5.5
ESPR Espera 90.85 314 P **P 13 17 07.9 +0.4**
comp=Z,62nm,2.2s,mb5.5
ESAC San Caprasio 90.89 320 P **P 13 17 08.7 +1.1**
comp=Z,96nm,1.3s,mb6.0
EADA Adamuz 90.90 315 P **P 13 17 08.2 +0.5**
comp=Z,61nm,1.5s,mb5.7
BRG Berggiesshubel 90.94 334 *e*P **P 13 17 07.5 -0.1**
comp=Z,38nm,1.6s,mb5.5
BRG Berggiesshubel 90.94 334 *e*P **P 13 17 07.0 -0.5**
BRG pmax pmax
comp=Z,38nm,1.7s,mb5.5
BBS Basel-Blauen 90.98 328 *e*P **P 13 17 08.7 +0.9**
CABF La Chapelle 91.00 327 *e*P **P 13 17 07.8 -0.2**
comp=Z,44nm,1.4s,mb5.3
NKC Novy Kostel 91.01 332 *e*P **P 13 17 08.3 +0.4**
FELD Feldberg 91.07 329 *e*P **P 13 17 08.9 +0.7**
GRA1 Grafenberg Arr 91.08 331 *e*P **P 13 17 08.5 +0.3**
comp=Z,128nm,1.9s,mb5.9
GRF Grafenberg Arr 91.08 331 *e*P **P 13 17 08.5 +0.3**
comp=Z,128nm,1.9s,mb5.9
GRF Grafenberg Arr 91.08 331 *e*P **P 13 17 08.5 +0.3**
GRF pmax pmax
comp=Z,128nm,1.9s,mb5.9
GRFO Grafenberg 91.08 331 *e*P **P 13 17 08.5 +0.3**
LOMF Lomont 91.21 328 *e*P **P 13 17 09.8 +0.9**
BFO Black Forest 91.27 329 *e*P **P 13 17 09.2 +0.1**
comp=Z,30nm,1.5s,mb5.4
BFO Black Forest 91.27 329 *e*P **P 13 17 09.2 +0.1**
BFO pmax pmax
comp=Z,30nm,1.5s,mb5.4
EPF Esparros 91.34 321 *e*P **P 13 17 10.0 +0.4**
MOF Molkenrain 91.44 328 *e*P **P 13 17 10.2 +0.3**
TRQA Tornquist 91.46 223 *e*P **P 13 17 09.4 -0.9**
comp=Z,9.1nm,1.2s,mb5.0
ESDC Sonseca Array 91.51 317 P **P 13 17 11.6 +1.1**
comp=Z,6.6nm,0.9s,mb5.0,baz=124,slow=3.6,SNR=9.0

ESDC Sonseca Array 91.51 317 P **P 13 17 11.4 +0.9**
comp=Z,9.9nm,1.9s,mb4.8
HINF Hinteralfeld 91.54 328 *e*P **P 13 17 09.6 -0.8**
CLL Collm 91.64 333 P **P 13 17 10.0 -0.8**
comp=Z,logA/T=1.1,mb5.2
CLL Collm 91.64 333 *e*P **P 13 17 10.0 -0.8**
comp=Z,17nm,1.5s,mb5.2
CLL Collm 91.64 333 *e*P **P 13 17 10.0 -0.8**
CLL pmax pmax
comp=Z,17nm,1.5s,mb5.2
MOX Moxa 91.66 332 *i* P **P 13 17 12.2 +1.3**
MOX Moxa 91.66 332 *e*P **P 13 17 12.2 +1.3**
ECH Echery 91.70 328 *e*P **P 13 17 11.1 0.0**
ETSF Etsaut 91.73 321 *e*P **P 13 17 12.2 +0.8**
comp=Z,94nm,1.7s,mb5.5
CAF Calviac 91.76 324 *e*P **P 13 17 11.7 +0.2**
comp=Z,34nm,1.2s,mb5.2
WLS Welschbruch 91.76 329 *e*P **P 13 17 11.5 +0.1**
CDF Champ du Feu 91.79 329 *e*P **P 13 17 10.8 -0.7**
PYM Petit Puy Mans 91.86 325 *e*P **P 13 17 14.4 +2.5**
HAU Haudompre 91.91 328 *e*P **P 13 17 11.3 -0.8**
HAU *e*R
comp=Z,137nm,20.2s
EMIN Mina Concepcio 91.92 314 P **P 13 17 14.3 +1.9**
comp=Z,61nm,1.6s,mb5.7
LANF Langenberg 91.98 329 *e*P **P 13 17 13.1 +0.7**
TOD Tromm 92.02 330 *e*P **P 13 17 13.1 +0.5**
SMF Signal de Mont 92.09 326 *e*P **P 13 17 12.3 -0.7**
EGRO El Granado 92.28 313 P **P 13 17 24.1 +10**
RJF Les Rejaudoux 92.30 324 *e*P **P 13 17 12.6 -1.4**
comp=Z,43nm,1.3s,mb5.3
RJF *e*R
comp=Z,254nm,20.8s
AVF Avril sur Loir 92.43 326 *e*P **P 13 17 14.1 -0.4**
LFF La Frestale 92.44 323 *e*P **P 13 17 13.1 -1.5**
LOR Lormes 92.53 326 *e*P **P 13 17 14.5 -0.5**
comp=Z,57nm,1.6s,mb5.4
LOR *e*R
comp=Z,146nm,18.5s
SSF Saint Saulge 92.55 326 *e*P **P 13 17 14.6 -0.5**
TCF Toulx Ste Croi 92.64 325 *e*P **P 13 17 14.7 -0.8**
TNS Taunus Mts 92.64 330 *e*P **P 13 17 15.4 0.0**
comp=Z,23nm,1.7s,mb5.3
TNS Taunus Mts 92.64 330 *e*P **P 13 17 15.4 0.0**
TNS pmax pmax
comp=Z,23nm,1.7s,mb5.3
MEZF Maizieres J'vi 92.86 328 *e*P **P 13 17 16.3 -0.2**
CLZ Clausthal 93.09 332 *e*P **P 13 17 17.3 -0.1**
comp=Z,6.0nm,1.2s,mb4.9
CLZ Clausthal 93.09 332 *e*P **P 13 17 17.3 -0.1**
CLZ pmax pmax
comp=Z,6.0nm,1.2s,mb4.9
VSU Vasula 93.43 344 *i* P **P 13 17 14.8 -4.0**
MFF Saint Martin d 94.03 324 *e*P **P 13 17 20.5 -1.4**
comp=Z,68nm,1.6s,mb5.5
GIVF Givet 94.12 329 *e*P **P 13 17 21.7 -0.5**
PLCA Paso Flores 94.21 216 LR LR 13 50 10.3
comp=Z,215nm,21.4s,MS4.6,baz=131,slow=29
BAIF Baives 94.37 328 *e*P **P 13 17 23.1 -0.3**
EARI Arriondas 94.56 319 P **P 13 17 28.2 +3.8**
comp=Z,134nm,1.9s,mb6.0
CIT Chita 95.97 31 *e*P **P 13 17 30.4 -0.3**
FINES FINESS Array B 96.24 345 LR LR 14 03 22.0
comp=Z,99nm,18.0s,MS4.3,baz=358,slow=37
CN2 Changchun 96.54 42 *e*P **P 13 17 36.4 +2.9**
CN2 *e*XP sP 13 17 43.3 +5.6
CN2 *e*S S 13 28 54.8 +4.0
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.4
CN2 AMB AMB
comp=Z,300nm,3.0s
CN2 LR LR
comp=N,200nm,18.0s,MS4.8
CN2 LR LR
comp=E,200nm,18.0s,MS4.8
CN2 LR LR
comp=Z,300nm,19.0s,MS4.8
MDJ Mudanjiang 99.42 43 P **P 13 17 47.5 +1.1**
MDJ AP pP 13 17 55.0 +5.3
MDJ PP PP 13 21 52.0 -0.2
MDJ SKS SKS 13 28 25.0 -3.6
MDJ S S 13 29 17.6 +2.6
MDJ PS PS 13 30 51.0 +2.9
MDJ AMB AMB
comp=Z,7.0nm,1.2s,mb5.1
MDJ AMB AMB
comp=Z,50nm,3.8s
MDJ LR LR
comp=N,40nm,20.8s,MS4.1
MDJ LR LR
comp=E,58nm,24.7s,MS4.1
MDJ LR LR
comp=Z,78nm,25.7s,MS4.1
NOA NORSAR Array B 99.89 339 LR LR 14 03 14.8
comp=Z,94nm,18.3s,MS4.3,baz=95,slow=36
MJAR Matsushiro Arr 100.53 54 P P 13 17 51.3 -0.4
comp=Z,0.6nm,0.4s,baz=214,slow=4.5,SNR=4.8
TBI Tubuai 119.25 150 *e*LR LR 13 59 26.0
comp=Z,301nm,36.2s
RKT Rikitea 124.22 165 *e*LR LR 14 01 35.9
comp=Z,437nm,31.8s
PPT Papeete 124.26 147 *e*SS SS 13 41 35.1 -4.8
PPT *e*LR LR 14 01 46.5
comp=Z,191nm,25.2s
BILL Bilibino 125.31 26 *i* PKP PKPdf 13 23 03.8 -2.2
BILL Bilibino 125.31 26 ⇑*e*PKIKP PKPdf 13 23 04.3 -1.7
BILL 13 30 18.0
BILL pmax pmax
comp=Z,8.0nm,1.2s
IMA Indian Mountai 140.20 20 *e*P PKPdf 13 23 33.4 -0.5
IMA Indian Mountai 140.20 20 *e*PKIKP PKPdf 13 23 32.6 -1.3
ILAR Eielson Array 143.06 18 PKhKP 13 23 33.2
comp=Z,2.0nm,0.8s,baz=319,slow=4.2,SNR=11
SPU Mount Spurr 144.09 25 *e*PKPdf PKPdf 13 23 36.4 -4.3
RSO Redoubt South 144.31 26 *e*PKPdf PKPdf 13 23 37.6 -3.5
PMR Palmer 144.81 23 *e*P PKPbc 13 23 39.0 +0.1
SOR Soroa 144.95 265 *e*P PKPbc 13 23 40.9 +0.4
SLKM Skilak Lake 145.21 25 *e*PKPdf PKPdf 13 23 40.2 -2.5
NHSC New Hope 145.30 284 *e*PKPdf PKPdf 13 23 41.9 -1.8
MENT Mentasta 145.38 18 *e*P PKPbc 13 23 41.8 +1.4
DAWY Dawson 145.42 14 *e*PKPdf PKPdf 13 23 41.6 -1.4
MCWV Mont Chateau 145.49 295 *e*PKPdf PKPdf 13 23 41.8 -2.1
ALLY Alegheny Colle 145.64 299 *e*PKPdf PKPdf 13 23 42.1 -2.0
BLA Blacksburg 145.90 291 *e*PKPdf PKPdf 13 23 42.9 -1.8
KDAK Kodiak Island 146.06 30 *e*PKPdf PKPdf 13 23 43.9 -0.3
ELN Prospectdale 146.17 291 *e*PKPdf PKPdf 13 23 43.3 -1.8
FWV Forest Hill 146.23 292 *e*PKPdf PKPdf 13 23 43.0 -2.1
FCC Fort Churchill 147.01 334 *e*PKPdf PKPdf 13 23 45.7 -0.1
ACSO Alum Creek Sta 147.88 297 *e*PKPdf PKPdf 13 23 45.7 -2.1
ACSO *e*PKPbc PKPdf 13 23 48.8 +1.0
TZTN Tazewell 148.38 290 *e*PKPdf PKPdf 13 23 46.8 -1.9
TZTN *e*PKPbc PKPdf 13 23 50.0 +1.3
YKW3 Yellowknife Ar 148.54 354 *e*PKPbc PKPdf 13 23 49.9 +1.8
YKA Yellowknife Ar 148.61 354 PKP PKPdf 13 23 45.7 -2.5
comp=Z,23nm,0.9s,slow=1.2,SNR=4.2
YKA PKPbc PKPdf 13 23 50.1 +1.9
comp=Z,22nm,0.8s,baz=359,slow=2.7,SNR=38
YKA Yellowknife Ar 148.61 354 PKP PKPdf 13 23 45.7 -2.6
YKA PKPbc PKPdf 13 23 50.1 +1.9
MYNC Murphy 148.78 287 *e*PKPdf PKPdf 13 23 47.9 -1.5
MYNC *e*PKPbc PKPdf 13 23 51.1 +1.7
MYNC *e*PKPab PKPab 13 23 54.7 -1.5
CPCT Cooper Cave 149.12 288 *e*PKPdf PKPdf 13 23 48.6 -1.3
CPCT *e*PKPbc PKPdf 13 23 51.7 +1.8
CPCT *e*PKPab PKPab 13 23 55.8 -1.8
SWET Sewanee 150.26 287 *e*PKPdf PKPdf 13 23 49.6 -2.2
SWET *e*PKPbc PKPdf 13 23 54.0 +2.2
SWET *e*PKPab PKPab 13 23 59.5 -2.8
WCI Wyandotte Cave 150.56 293 *e*PKPdf PKPdf 13 23 49.8 -2.3
WCI *e*PKPbc PKPdf 13 23 55.0 +2.9
WCI *e*PKPab PKPab 13 24 02.0 -1.4
LRAL Lakeview Retre 150.97 282 *e*PKPbc PKPdf 13 23 56.3 +3.4
LRAL *e*PKPab PKPab 13 24 03.2 -2.1
WVT Waverly 151.83 289 *e*PKPbc PKPdf 13 23 57.5 +3.4
WVT *e*PKPab PKPab 13 24 06.6 -2.3
DLBC Dease Lake 152.34 10 *e*PKPdf PKPdf 13 23 53.8 -0.3
DLBC *e*PKPbc PKPdf 13 23 59.8 +5.8
DLBC *e*PKPab PKPab 13 24 10.2 -0.1
ULM Lac du Bonnet 153.28 322 PKP PKPdf 13 23 53.6 -2.1
comp=Z,6.5nm,1.1s,baz=94,slow=4.1,SNR=4.0
ULM PKPbc PKPdf 13 24 00.8 +5.1
comp=Z,20nm,1.0s,baz=37,slow=2.9,SNR=18
ULM PKPab PKPab 13 24 12.9 -1.6
comp=Z,13nm,0.9s,baz=114,slow=4.5,SNR=4.7

ULM	**Lac du Bonnet**	**153.28 322**	*e*PKPdf	PKPdf	13 23 53.6	-2.0
ULM			*e*PKPbc	PKPdf	13 24 01.1	+5.4
ULM			*e*PKPab	PKPab	13 24 12.7	-1.8
CCM	**Cathedral Cave**	**154.46 293**	*e*PKPdf	PKPdf	13 23 56.6	-1.1
CCM			*e*PKPbc	PKPdf	13 24 04.5	+6.8
CCM			*e*PKPab	PKPab	13 24 18.1	-1.8
LAO	**LASA Array**	**160.81 327**	*e*PKPdf	PKPdf	13 24 03.0	-2.1
WMOK	**Wichita Mounta**	**160.81 286**	*e*PKPdf	PKPdf	13 24 04.2	-1.3
WMOK			*e*PKPab	PKPab	13 24 46.1	-1.1
BOZ	**Bozeman (W)**	**163.91 335**	*e*PKPdf	PKPdf	13 24 07.5	-0.8
BOZ			*e*PKPab	PKPab	13 25 00.4	0.0
TXAR	**Lajitas Array**	**164.60 267**	PKP	PKPdf	13 24 08.0	-1.5
	comp=Z,2.6nm,1.0s,baz=153,slow=2.8,SNR=11					
TXAR			PKPab	PKPab	13 25 03.8	-0.1
	comp=Z,6.0nm,1.0s,baz=127,slow=6.3,SNR=18					
TXAR			PP	PP	13 28 54.2	+2.9
	comp=Z,0.2nm,0.3s,baz=83,slow=7.3,SNR=2.5					
TXAR	**Lajitas Array**	**164.60 267**	PKP	PKPdf	13 24 08.0	-1.5
TXAR			PKPab	PKPab	13 25 03.8	-0.1
TXAR			PP	PP	13 28 54.2	+2.9
ISCO	**Idaho Springs**	**164.73 308**	*e*PKPdf	PKPdf	13 24 08.3	-1.0
LOHW	**Long Hollow**	**165.16 328**	*e*PKPdf	PKPdf	13 24 08.3	-1.3
LOHW			*e*PKPab	PKPab	13 25 04.8	-1.0
BW06	**Boulder Array**	**165.29 324**	*e*PKPdf	PKPdf	13 24 07.9	-1.8
BW06			*e*PKPab	PKPab	13 25 05.3	-1.1
PDAR	**Pinedale Array**	**165.29 324**	PKP	PKPdf	13 24 07.6	-2.2
	comp=Z,3.9nm,1.0s,baz=90,slow=1.5,SNR=25					
PDAR			PKPab	PKPab	13 25 05.7	-0.8
	comp=Z,1.8nm,1.0s,baz=63,slow=3.3,SNR=4.7					
PDAR			PP	PP	13 28 55.4	+1.0
	comp=Z,1.1nm,1.0s,baz=63,slow=6.6,SNR=6.8					
TPAW	**Teton Pass**	**165.41 329**	*e*PKPdf	PKPdf	13 24 09.3	-0.5
SDCO	**Great Sand Dun**	**165.51 300**	*e*PKPdf	PKPdf	13 24 09.5	-0.6
SDCO			*e*PKPab	PKPab	13 25 07.5	0.0
RRI2	**Red Ridge**	**165.69 329**	*e*PKPdf	PKPdf	13 24 09.6	-0.5
RRI2			*e*PKPab	PKPab	13 25 08.6	+0.4
MNTX	**Cornudas Mount**	**166.38 275**	*e*PKPdf	PKPdf	13 24 09.9	-1.1
HLID	**Hailey**	**166.69 338**	*e*PKPdf	PKPdf	13 24 10.0	-0.8
ANMO	**Albuquerque**	**167.04 290**	PKPdf	PKPdf	13 25 14.2	-0.1
	comp=Z,1.4nm,0.7s,baz=81,slow=5.1,SNR=5.9					
ANMO	**Albuquerque**	**167.04 290**	*e*PKPdf	PKPdf	13 24 09.9	-1.4
ANMO			*e*PKPab	PKPab	13 25 13.8	-0.5
PV10	**Paradox Valley**	**167.75 308**	*e*PKPdf	PKPdf	13 24 10.8	-0.8
PV10			*e*PKPab	PKPab	13 25 17.4	0.0
DUG	**Dugway**	**168.84 324**	*e*PKPdf	PKPdf	13 24 11.6	-0.7
DUG			*e*PKPab	PKPab	13 25 21.6	-0.4
ELK	**Elko**	**169.47 334**	*e*PKPdf	PKPdf	13 24 12.3	-0.3
ELK			*e*PKPab	PKPab	13 25 24.0	-0.8
TUC	**Tucson**	**170.97 278**	*e*PKPdf	PKPdf	13 24 13.2	-0.6
NEN	**Nelson**	**173.12 310**	*e*PKPdf	PKPdf	13 24 14.5	-0.3
LDFC	**Landfair**	**173.63 307**	*e*PKPdf	PKPdf	13 24 14.0	-1.0

*IDC **19** 13:18:04.7±2.0,20.16S×68.98W,h94km±18km,mb4.0/7, mb1 4.1/10,mb1mx4.0/16,mbtmp4.3/10,MS3.0/3, Ms1 3.0/3,ms1mx2.5/16,Error ellipse: s-maj=23.1km s-min=15.7km az=112.0*

*NEIC **19** 13:18:04.2±0.6,20.17S×68.99W,h93km±6km,mb4.2/12, Error ellipse: s-maj=9.0km s-min=5.8km az=78.0*

ISC 19 13:18:03.6±0.7,20.18S±0.05×68.95W±0.08,h106km±7km, n38,σ0§99/37,mb4.3/14,1C,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.42 179**		P		**P**	**13 18 43.7 +1.2**
	67nm,0.3s,baz=352,slow=9.2,SNR=394						
LVC				S		**S**	**13 19 13.2 +1.4**
	283nm,0.3s,baz=132,slow=20,SNR=45						
LVC	**Limon Verde**	**2.42 179**		*e*Pn		**P**	**13 18 43.7 +1.2**
LVC				*e*Sn		**S**	**13 19 08.6 -3.2**
LPAZ	**La Paz**	**3.95 12**		P		**P**	**13 19 08.0 +4.6**
	24nm,0.3s,baz=208,slow=6.6,SNR=253						
LPAZ				S		**S**	**13 19 56.4 +7.5**
	3.9nm,0.3s,baz=220,slow=23,SNR=2.5						
LPAZ	**La Paz**	**3.95 12**		⇑*e*Pn		**P**	**13 19 08.0 +4.6**
ARE	**Arequipa**	**4.42 326**		*e*P		**P**	**13 19 09.0 -0.7**
ARE				*e*			13 19 12.0
ARE				*e*S		**S**	**13 20 01.0 +0.6**
SIV	**San Ignacio**	**8.57 62**		P		**P**	**13 20 06.6 +0.3**
	7.2nm,0.3s,baz=251,slow=12,SNR=163						
CFAA	**Coronel Fontan**	**11.39 177**		P		**P**	**13 20 42.5 -1.6**
	0.1nm,0.3s,baz=351,slow=9.4,SNR=2.9						
CFAA	**Coronel Fontan**	**11.39 177**		P		**P**	**13 20 42.5 -1.7**
CPUP	**Villa Florida**	**12.31 122**		P		**P**	**13 20 56.8 +0.5**
	0.4nm,0.3s,baz=322,slow=16,SNR=19						
CPUP				LR	LR		13 27 01.5
	comp=Z,37nm,19.2s,baz=276,slow=44						
SAML	**Samuel**	**12.48 27**		*e*Pn		**P**	**13 20 57.8 -0.8**
	4.7nm,0.6s						
TRQA	**Tornquist**	**18.81 163**		*e*P		**P**	**13 22 16.3 -1.1**
	6.5nm,0.8s						
BDFB	**Brasilia**	**20.42 81**		P		**P**	**13 22 34.8 +0.4**
	5.1nm,0.5s,baz=258,slow=8.5,SNR=7.2						
BDFB				LR	LR		13 30 03.9
	comp=Z,67nm,18.6s,baz=145,slow=35						
PLCA	**Paso Flores**	**20.53 183**		P		**P**	**13 22 35.2 -0.2**
	11nm,0.9s,baz=2.9,slow=11,SNR=18						
PLCA	**Paso Flores**	**20.53 183**		*e*P		**P**	**13 22 34.7 -0.7**
	13nm,0.9s						
SDV	**Santo Domingo**	**28.93 357**		LR	LR		13 37 50.7
	comp=Z,41nm,20.5s,baz=288,slow=41						
SDV	**Santo Domingo**	**28.93 357**		*e*P		**P**	**13 23 54.3 -0.8**
	3.0nm,0.7s,mb4.0						
WVT	**Waverly**	**58.79 342**		*e*P		**P**	**13 27 51.4 -1.7**
	6.5nm,0.6s,mb4.8						
LTX	**Lajitas**	**59.53 325**		*e*P		**P**	**13 27 57.5 -0.8**
	1.6nm,0.5s,mb4.3						
TXAR	**Lajitas Array**	**59.53 325**		P		**P**	**13 27 58.1 -0.2**
	0.5nm,0.5s,mb3.8,baz=145,slow=11,SNR=3.4						
TXAR	**Lajitas Array**	**59.53 325**		P		**P**	**13 27 58.1 -0.2**
WCI	**Wyandotte Cave**	**60.34 344**		*e*P		**P**	**13 28 02.4 -1.3**
	6.4nm,0.3s,mb5.1						
MNTX	**Cornudas Mount**	**62.30 325**		*e*P		**P**	**13 28 15.8 -1.1**
	1.4nm,0.8s,mb4.0						
SNAA	**Sanae**	**63.53 161**		P		**P**	**13 28 25.1 +0.6**
	0.9nm,0.7s,mb3.7,baz=280,slow=7.3,SNR=21						
SDCO	**Great Sand Dun**	**67.10 329**		*e*P		**P**	**13 28 48.6 +0.6**
	1.4nm,0.5s,mb4.0						
DBIC	**Dimbokro**	**68.40 74**		P		**P**	**13 28 56.7 +0.3**
	2.6nm,0.4s,mb4.4,baz=221,slow=7.1,SNR=11						
DBIC	**Dimbokro**	**68.40 74**		P		**P**	**13 28 56.7 +0.3**
ARUT	**Antelope Range**	**71.24 324**		*e*P		**P**	**13 29 15.0 +1.8**
DUG	**Dugway**	**72.64 326**		*e*P		**P**	**13 29 21.8 +0.3**
	2.0nm,0.8s,mb4.0						
ULM	**Lac du Bonnet**	**74.05 342**		P		**P**	**13 29 29.0 -0.5**
	3.5nm,0.6s,mb4.3,baz=173,slow=4.8,SNR=6.4						
ULM	**Lac du Bonnet**	**74.05 342**		*e*P		**P**	**13 29 28.9 -0.6**
	4.4nm,0.6s,mb4.4						
RRI2	**Red Ridge**	**74.23 329**		*e*P		**P**	**13 29 32.0 +1.2**
	3.6nm,0.9s,mb4.1						
OMM	**Old Mammoth Mi**	**74.30 321**		*e*P		**P**	**13 29 32.5 +1.3**
FCC	**Fort Churchill**	**81.34 347**		*e*P		**P**	**13 30 09.9 +0.4**
	3.5nm,0.6s,mb4.4						
YKA	**Yellowknife Ar**	**89.94 341**		P		**P**	**13 30 52.8 +1.3**
	2.5nm,0.6s,mb4.5,baz=131,slow=4.6,SNR=6.4						
WRA	**Warramunga Arr**	**134.06 211**		PKP	PKPdf		13 37 11.5 +2.1
	0.8nm,0.7s,baz=166,slow=1.7,SNR=5.0						
MKAR	**Makanchi Array**	**144.59 35**		PKP	PKPdf		13 37 29.2 +1.7
	1.9nm,0.6s,baz=323,slow=3.0,SNR=12						
MJAR	**Matsushiro Arr**	**151.21 310**		PKPbc	PKPdf		13 37 47.4 +8.8
	1.7nm,0.8s,baz=100,slow=0.9,SNR=5.6						
SONM	**Songino Array**	**152.16 7**		PKPbc	PKPdf		13 37 49.7 +10
	1.8nm,0.4s,baz=291,slow=1.3,SNR=17						
SONM				PKPab	PKPab		13 38 00.4 +1.6
	0.5nm,0.6s,baz=316,slow=2.6,SNR=3.6						

IDC 19 13:45:37.4±20.0,2.46N×126.47E,h141km±206km, mb3.4/5,mb1 3.5/5,mb1mx3.3/16,mbtmp3.8/5,Error ellipse: s-maj=114.3km s-min=25.5km az=62.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.45 182**		P		P	13 50 03.9 -1.7
	8.0nm,0.9s,baz=20,slow=10,SNR=6.9						
WRA	**Warramunga Arr**	**23.57 161**		P		P	13 50 36.0 -0.2
	1.3nm,0.4s,baz=339,slow=10,SNR=10.0						
STKA	**Stephens Creek**	**37.05 158**		P		P	13 52 33.1 -2.3
	3.9nm,1.1s,baz=356,slow=15,SNR=2.7						
SONM	**Songino Array**	**48.41 342**		P		P	13 54 04.6 -2.5
	0.7nm,0.8s,baz=154,slow=7.2,SNR=4.6						
MKAR	**Makanchi Array**	**58.45 326**		P		P	13 55 19.0 -1.7
	0.4nm,0.5s,baz=112,slow=6.5,SNR=4.6						

IDC 19 13:51:16.4±1.9,5.42N×125.91E,mb3.9/4,mb1 4.1/4, mb1mx3.7/17,mbtmp3.9/4,Error ellipse: s-maj=110.9km s-min=26.2km az=67.0,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**23.37 181**		P		P	13 56 25.3 -2.5
	8.5nm,1.1s,baz=358,slow=10,SNR=3.5						
WRA	**Warramunga Arr**	**26.53 162**		P		P	13 56 57.8 0.0
	1.1nm,0.6s,baz=343,slow=10,SNR=7.2						
STKA	**Stephens Creek**	**39.98 159**		P		P	13 58 52.1 -2.5
	2.1nm,0.7s,baz=328,slow=9.5,SNR=3.4						
MKAR	**Makanchi Array**	**55.71 325**		P		P	14 00 54.7 -2.4
	0.5nm,0.5s,baz=120,slow=8.3,SNR=4.6						

MAN 19 14:43:46.8,16.64N×120.20E,h12km,mb3.8,ML2.5, MS2.0,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**1.12**	**26**	*e*P	Pb	14 44 07.3	-0.3
APYP	**Conner**	**1.57**	**39**	*e*P	Pn	14 44 13.7	-1.0
APYP				*e*S	Sb	14 44 31.9	-3.2
CAUP	**Cauayan**	**1.59**	**79**	*e*P	Pn	14 44 14.3	-0.6

*IDC **19** 15:16:06.2±1.5,14.99S×168.20E,mb4.3/6,mb1 4.5/7, mb1mx4.3/14,mbtmp4.4/7,ML4.6/1,MS3.3/5,Ms1 3.3/5, ms1mx3.1/28,Error ellipse: s-maj=51.2km s-min=24.3km az=126.0*

*NEIC **19** 15:16:08.4±0.4,15.04S×168.14E,h10km,Error ellipse: s-maj=18.6km s-min=9.7km az=120.0*

*LDG **19** 15:16:09.4±0.3,14.83S×167.71E,h10km,Mb4.5/2,Error ellipse: s-maj=52.8km s-min=6.3km az=93.0*

ISC 19 15:16:09.9±4.9,15.2S±0.2×168.2E±0.2,h38km±48km,n31, σ0§77/15,mb4.3/6,MS3.3/3,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.03 194**		*e*P		**P**	**15 17 53.0 0.0**
DZM				*e*S		**S**	**15 19 11.9 -0.7**
DZM	**Mont Dzumac**	**7.03 194**		Pn		**P**	**15 17 53.2 +0.2**
	11nm,0.3s,baz=163,slow=21,SNR=22						
DZM				Sn		**S**	**15 19 13.3 +0.8**
	2.1nm,0.3s,baz=334,slow=20,SNR=4.5						
DZM				LR	LR		15 19 46.4
	comp=Z,77nm,18.9s,baz=204,slow=30						
DZM	**Mont Dzumac**	**7.03 194**		*e*P		**P**	**15 17 53.0 0.0**
DZM				*e*S		**S**	**15 19 11.9 -0.7**
HNR	**Honiara**	**9.92 304**		LR	LR		15 21 46.4
	comp=Z,156nm,21.4s,baz=41,slow=35						
CTA	**Charters Tower**	**21.49 254**		P		**P**	**15 20 58.0 +0.5**
	7.9nm,0.9s,mb4.0,baz=98,slow=10,SNR=8.1						
CTA				LR	LR		15 27 17.5
	comp=Z,197nm,20.1s,MS3.5,baz=277,slow=31						
CTA	**Charters Tower**	**21.49 254**		P		**P**	**15 20 58.0 +0.5**
CTA				LR	LR		15 27 17.6
URZ	**Urewera**	**24.26 163**		LR	LR		15 29 05.9
	comp=Z,88nm,21.4s,MS3.2,baz=143,slow=32						
STKA	**Stephens Creek**	**29.40 231**		P		**P**	**15 22 13.0 +1.0**
	4.0nm,0.7s,mb4.2,baz=51,slow=9.6,SNR=7.0						
STKA				LR	LR		15 33 58.5
	comp=Z,75nm,20.2s,MS3.3,baz=215,slow=36						
STKA	**Stephens Creek**	**29.40 231**		P		**P**	**15 22 13.0 +1.0**
STKA				LR	LR		15 33 58.5
WRA	**Warramunga Arr**	**32.61 257**		P		**P**	**15 22 38.8 -1.7**
	5.3nm,0.7s,mb4.6,baz=86,slow=9.0,SNR=23						
PPT	**Papeete**	**40.49 99**		*e*S		**S**	**15 29 42.8 -10**
PPT				*e*LR	LR		15 34 58.7
	93nm,26.8s						
SONM	**Songino Array**	**83.43 323**		P		**P**	**15 28 35.1 +0.3**
	1.9nm,0.9s,mb4.1,baz=132,slow=5.0,SNR=12						
ILAR	**Eielson Array**	**86.70 18**		P		**P**	**15 28 50.2 -0.4**
	1.0nm,0.7s,mb4.2,baz=242,slow=5.1,SNR=8.6						
MKAR	**Makanchi Array**	**98.19 316**		P		**P**	**15 29 44.5 +0.3**
	0.8nm,0.7s,mb4.4,baz=96,slow=5.9,SNR=10						
ARCES	**ARCESS Array B**	**120.95 346**		PKP	PKPdf		15 34 59.2 +1.2
	2.0nm,0.8s,baz=90,slow=3.6,SNR=3.6						
GIVF	**Givet**	**142.68 342**		*e*PKP1	PKPdf		15 35 42.3 +3.2
BAIF	**Baives**	**142.90 343**		*e*PKP1	PKPdf		15 35 42.2 +2.8
	9.7nm,0.7s						
HINF	**Hinteralfeld**	**144.02 339**		*e*PKP1	PKPbc		15 35 44.5 +3.8
HAU	**Haudompre**	**144.03 339**		*e*PKP1	PKPbc		15 35 44.7 +4.0
CABF	**La Chapelle**	**145.32 338**		*e*PKP1	PKPbc		15 35 45.8 +1.6
LOR	**Lormes**	**145.50 341**		*e*PKP1	PKPbc		15 35 45.8 +1.1
SSF	**Saint Saulge**	**145.79 341**		*e*PKP1	PKPbc		15 35 47.0 +1.6
	25nm,1.1s						
LPL	**La Plagne**	**146.01 336**		*e*PKP1	PKPbc		15 35 48.1 +2.1
	12nm,0.9s						
LPG	**La Plagne**	**146.02 336**		*e*PKP1	PKPbc		15 35 48.2 +2.2
	19nm,0.9s						
SMF	**Signal de Mont**	**146.06 341**		*e*PKP1	PKPbc		15 35 47.3 +1.2
	75nm,1.6s						
AVF	**Avril sur Loir**	**146.08 341**		*e*PKP1	PKPbc		15 35 47.6 +1.5
SGMF	**Saint Gilles**	**146.19 349**		*e*PKP1	PKPbc		15 35 47.7 +1.4
	51nm,1.1s						
BNI	**Bardonecchia**	**146.42 336**		*e*PKPbc	PKPbc		15 35 49.4 +2.5
ORIF	**Oris-en-Rattie**	**146.84 337**		*e*PKP1	PKPbc		15 35 50.0 +2.1
	11nm,0.9s						
TCF	**Toulx Ste Croi**	**146.88 342**		*e*PKP1	PKPbc		15 35 50.2 +2.2
	22nm,1.1s						
MFF	**Saint Martin d**	**147.23 345**		*e*PKP1	PKPdf		15 35 49.9 +2.9
	57nm,1.3s						

*NEIC **19** 15:38:14.0,31.85N×115.72W,h3km,MD3.7(ECX), ML3.4(PAS),After ECX.*

ECX 19 15:38:14.0±0.7,31.85N×115.72W,h3km±3km,MD3.6, ML3.7,9C-2D,Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDX	**Rancho Dowling**	**0.21**	**292⇑**	*e*P	Pg	15 38 18.4	+0.1
RDX				*e*S	Sg	15 38 21.4	+0.3
RDX				⇓*e*		15 38 22.1	
	comp=N,9μm,0.4s						
RDX				⇑*e*		15 38 22.3	
	comp=E,13μm,0.2s						
ECNX	**Esteban Cantu**	**0.78**	**256⇑**	*e*P	Pg	15 38 28.0	-1.5
ECNX				⇑*e*P		15 38 28.7	
ECNX				*e*S	Sg	15 38 38.4	-1.5
ECNX				*e*S	Sg	15 38 39.3	-0.6
SGL	**Mount Signal**	**0.79**	**359⇑**	*e*P	Pg	15 38 27.7	-2.1
RMX	**La Rumorosa**	**0.81**	**338**	*e*P	Pg	15 38 28.9	-1.2
RMX				*e*S	Sg	15 38 40.5	-0.4
ENX	**Ensenada**	**0.81**	**272⇑**	*e*P	Pg	15 38 28.7	-1.4
ENX				*e*S	Sg	15 38 39.3	-1.6
ENX				*e*		15 38 40.3	
	comp=N,2μm,0.6s						
ENX				⇓*e*		15 38 45.9	
	comp=E,3μm,0.9s						
YUH	**Yuha Desert**	**0.81**	**348⇑**	*e*P	Pg	15 38 28.2	-2.0
SPX	**San Pedro Mart**	**0.83**	**165**	*e*P	Pg	15 38 29.0	-1.7
SPX				*e*S	Sg	15 38 40.3	-1.4
PBX	**Punta Banda**	**0.87**	**263⇑**	*e*P	Pg	15 38 29.7	-1.6
PBX				*e*S	Sg	15 38 41.2	-1.7
CBX	**Cerro Bola**	**0.93**	**300⇑**	*i*P	Pb	15 38 30.2	-2.1
CBX				*e*S	Sg	15 38 43.0	-1.9
BAR	**Barrett**	**1.16**	**316**	*e*P	Pb	15 38 33.6	-2.7
BAR				*e*S	Sb	15 38 47.4	-4.2
PFO	**Pinyon Flat Ob**	**1.86**	**341**	*e*P	Pn	15 38 44.2	-2.9
MWC	**Mount Wilson**	**3.08**	**321**	*e*Pn	Pn	15 39 02.5	-2.0
GSC	**Goldstone**	**3.56**	**345**	Pn	Pn	15 39 10.6	-0.7
TUC	**Tucson**	**4.21**	**82**	Pn	Pn	15 39 17.1	-3.4

*IDC **19** 15:48:13.5±2.4,2.71N×128.07E,h10km±14km,mb5.1/28, mb1 5.2/28,mb1mx5.2/29,mbtmp5.2/28,MS4.6/19, Ms1 4.6/19,ms1mx4.5/26,Error ellipse: s-maj=19.8km s-min=10.4km az=78.0*

*BJI **19** 15:48:14.9,2.42N×128.57E,h59km,mB5.4,mb5.4,Ms4.8, Msz4.6*

*MOS **19** 15:48:15.7±1.0,2.81N×128.23E,h34km,mb5.7/43, MS4.7/17,Error ellipse: s-maj=12.0km s-min=5.8km az=110.5*

*HRVD **19** 15:48:17.0±0.2,2.75N×128.02E,h25km,MW5.4/68, Centroid moment Tensor Solution. LP body waves: s63,c113;Mantle waves: s68,c141; Half duration: 1§2 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.46±.03; $M_{\theta\theta}$-0.32±.02; $M_{\phi\phi}$0.77±.03; $M_{r\theta}$-0.88±.05; $M_{\theta\phi}$-1.07±.02; $M_{\phi r}$-0.36±.06; Best double couple: $M_0$1.567×10^{17} NP1: ϕ_s7°, δ60°, λ-25°. NP2:ϕ_s109°, δ69°, λ-148°. Principal axes: T 1.445, Plg5°, Azm236°; N .245, Plg52°, Azm140°; P -1.69, Plg37°, Azm331°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **19** 15:48:17.0±1.3,2.65N×128.14E,h36km±11km,mb5.5/47, MW5.4 Error ellipse: s-maj=6.9km s-min=4.3km az=78.0, Moment Tensor Solution. s13 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.25; $M_{\theta\theta}$-0.94; $M_{\phi\phi}$ 1.19; $M_{r\theta}$-0.43; $M_{\theta\phi}$-0.93; $M_{\phi r}$-0.34; Best double couple: $M_0$1.5×10^{17} NP1:ϕ_s116°, δ70°, λ-167°. NP2:ϕ_s22°, δ78°, λ-20°. Principal axes: T 1.56, Plg5°, Azm70°; N -.05, Plg67°, Azm173°; P -1.51, Plg23°, Azm338°;*

ISC 19 15:48:16.2±0.6,2.65N±0.03×128.16E±0.04,h43km±4km, h53km±3.5km:pP-P,n320,σ1§15/300,mb5.4/112,MS4.6/58, 18C-38D,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**4.67**	**336**	*e*P		**P**	**15 49 27.8 +1.7**
DAV	**Davao City (W)**	**5.09**	**330**	*e*P		**P**	**15 49 35.0 +3.0**
KCP	**Kidapawan**	**5.30**	**325⇓**	*e*P		**P**	**15 49 38.2 +3.3**
KCP				*i* S		**S**	**15 50 43.4 +7.8**
BIPH	**Bislig**	**5.79**	**342⇑**	*i*P		**P**	**15 49 43.4 +1.8**
BIPH				*i* S		**S**	**15 51 04.0 +16**
CTBH	**Cotabato--PC H**	**5.99**	**319⇓**	*e*P		**P**	**15 49 43.9 -0.6**
BUKP	**Musuan**	**6.04**	**329**	*e*P		**P**	**15 49 47.1 +1.8**
BUTP	**Butuan**	**6.77**	**338**	*e*P		**P**	**15 49 57.6 +2.1**
PAGZ	**Pagadian**	**7.02**	**318**	*e*P		**P**	**15 49 58.5 -0.6**
IPIL	**Ipil**	**7.55**	**313**	*e*P		**P**	**15 50 05.0 -1.5**
SCPH	**Surigao**	**7.57**	**340**	*e*P		**P**	**15 50 08.1 +1.5**
MSLP	**Maasin**	**8.13**	**336**	*e*P		**P**	**15 50 15.0 +0.6**
TBP	**Tagbilaran**	**8.20**	**329**	*e*P		**P**	**15 50 14.6 -0.8**
SNPH	**Sibulan**	**8.26**	**324**	*i* P		**P**	**15 50 16.6 +0.4**
LLP	**Lapu-Lapu**	**8.68**	**332⇑**	*e*P		**P**	**15 50 33.7 +12**
BESP	**Borongan**	**9.30**	**343**	*e*P		**P**	**15 50 29.0 -1.5**
GUIM	**Jordan**	**9.67**	**325**	*e*P		**P**	**15 50 36.6 +0.8**
TSM	**Tawau**	**10.40**	**279**	P		**P**	**15 50 43.9 -1.9**
CUYO	**Cuyo Island**	**10.80**	**319**	*e*P		**P**	**15 50 49.4 -1.9**
OTRP	**Odiongan**	**11.41**	**328**	*e*P		**P**	**15 50 59.5 0.0**
BATP	**Bataraza**	**11.98**	**301**	*e*P		**P**	**15 51 07.3 +0.1**
SJMP	**San Jose**	**11.99**	**325**	*e*P		**P**	**15 51 06.3 -1.0**
ENPP	**El Nido**	**12.14**	**315**	*e*P		**P**	**15 51 09.7 +0.4**
BUSP	**Coron**	**12.19**	**320**	*e*P		**P**	**15 51 10.3 +0.3**
KKM	**Kota Kinabalu**	**12.38**	**286**	P		**P**	**15 51 15.8 +3.2**
KKM	**Kota Kinabalu**	**12.38**	**286**	*e*Pn		**P**	**15 51 13.4 +0.8**
LUBP	**Lubang**	**13.51**	**325**	*e*P		**P**	**15 51 27.1 -0.6**
BALP	**Baler**	**14.54**	**334**	*e*P		**P**	**15 51 39.5 -1.6**
SCZP	**Santa Cruz**	**15.37**	**329**	*e*P		**P**	**15 51 51.2 -0.7**
CAUP	**Cauayan**	**15.51**	**337**	*e*P		**P**	**15 51 52.9 -0.8**
KAKA	**Kakadu**	**15.84**	**165**	*e*P		**P**	**15 52 08.5 +11**
	121nm,0.9s						
BOLP	**Bolinao**	**15.88**	**330**	*e*P		**P**	**15 51 58.8 +0.4**
APYP	**Conner**	**16.57**	**336**	*e*P		**P**	**15 52 07.4 +0.2**
ABRA	**Dolores**	**16.61**	**334**	*e*P		**P**	**15 52 08.0 +0.5**
KSM	**Kuching**	**17.88**	**267**	*e*P		**P**	**15 52 22.1 -1.5**
KSM				*e*ScP			16 00 32.6
BBP	**Basco**	**18.69**	**342**	*e*P		**P**	**15 52 32.4 -1.1**
GUMO	**Guam**	**19.77**	**56**	LR	LR		15 59 31.7
	comp=Z,2μm,19.3s,baz=143,slow=34						
FITZ	**Fitzroy Crossi**	**20.77**	**187**	*e*P		**P**	**15 52 54.3 -1.8**
	69nm,0.9s						
FITZ				*e*S		**S**	**15 56 50.4 +10**
FITZ	**Fitzroy Crossi**	**20.77**	**187**	P		**P**	**15 52 54.7 -1.3**
	94nm,0.9s,baz=358,slow=8.3,SNR=72						
FITZ				LR	LR		16 01 49.4
	comp=Z,1μm,19.8s,MS4.3,baz=19,slow=39						
NACB	**Ninganchiao**	**22.32**	**344**	*e*P		**P**	**15 53 11.3 -0.2**
PMG	**Port Moresby**	**22.40**	**123**	P		**P**	**15 53 15.0 +2.6**
	32nm,0.9s,mb4.8,baz=339,slow=5.4,SNR=4.1						
PMG	**Port Moresby**	**22.40**	**123**	*e*P		**P**	**15 53 13.0 +0.6**
	132nm,1.3s,mb5.2						
PMG	**Port Moresby**	**22.40**	**123

SSE Sheshan 29.05 348 P **P** **15 54 14.7 0.0**
comp=Z,53nm,0.9s,mb5.3
SSE pP pP 15 54 29.5 +3.3
SSE sP sP 15 54 36.9 +5.3
SSE PP PP 15 55 21.5 +12
SSE S **S** **15 59 03.9 +2.0**
SSE sS 15 59 29.7
SSE LR LR
comp=Z,660nm,21.1s,MS4.2
NNT Nongplab 29.82 291 P **P** **15 54 21.0 -0.7**
JNU Nakatsue 30.42 5 P **P** **15 54 25.9 -1.1**
comp=Z,66nm,0.9s,mb5.4,baz=83,slow=1.0,SNR=26
NST Nakhon Sawan 30.49 297 P **P** **15 54 25.5 -2.2**
comp=Z,50nm,1.0s,mb5.2
NJ2 Nanjing 30.53 344 *e*P **P** **15 54 29.1 +1.2**
NJ2 PP PP 15 55 32.6 +3.8
NJ2 S **S** **15 59 22.5 -2.7**
NJ2 XS 15 59 50.5
NJ2 AMB AMB
comp=Z,40nm,0.9s,mb5.2
NJ2 AMB AMB
comp=Z,910nm,5.9s
NJ2 LR LR
comp=N,2μm,20.5s,MS5.3
NJ2 LR LR
comp=E,7μm,23.1s,MS5.3
NJ2 LR LR
comp=Z,910nm,25.4s,MS4.3
WHN Wuhan 30.67 336 ⇓P **P** **15 54 30.3 +1.1**
NANT Nan 31.31 303 ⇑P **P** **15 54 32.0 -2.9**
comp=Z,294nm,1.0s,mb6.1
GYA Guiyang 31.40 321 ⇓*i*P **P** **15 54 36.4 +0.8**
GYA AP pP 15 54 51.3 +4.1
GYA XP sP 15 54 58.5 +5.9
GYA PP PP 15 55 41.8 +1.7
GYA S **S** **15 59 43.0 +4.0**
GYA XS 16 00 02.6
GYA SCP 16 01 06.5
GYA SCS ScS 16 05 02.4 -0.6
GYA AMB AMB
comp=Z,20nm,0.8s,mb5.0
GYA AMB AMB
comp=Z,400nm,6.5s
GYA LR LR
comp=N,1μm,22.7s,MS4.7
GYA LR LR
comp=E,1μm,20.3s,MS4.7
GYA LR LR
comp=Z,1μm,22.7s,MS4.5
CHRT Chiangrai 32.57 304 ⇑P **P** **15 54 45.0 -0.9**
comp=Z,350nm,0.9s,mb6.3
ENH Enshi 32.68 329 *e*P **P** **15 54 47.1 +0.3**
comp=Z,158nm,0.9s,mb5.9
CHG Chiang Mai 32.80 301 ⇑P **P** **15 54 47.5 -0.4**
comp=Z,40nm,0.8s,mb5.4
KMI Kunming 33.15 315 P **P** **15 54 52.3 +1.4**
KMI PP PP 15 56 03.6 +0.9
KMI PPP PPP 15 56 20.4 +1.3
KMI S **S** **16 00 10.4 +4.1**
KMI SS SS 16 02 15.3 +6.2
KMI SSS SSS 16 02 35.4 +1.5
KMI AMB AMB
comp=Z,110nm,1.2s,mb5.7
KMI AMB AMB
comp=Z,443nm,3.1s
KMI LR LR
comp=N,678nm,22.4s,MS4.5
KMI LR LR
comp=E,726nm,21.2s,MS4.5
KMI LR LR
comp=Z,942nm,18.8s,MS4.5
KMI Kunming 33.15 315 P **P** **15 54 52.2 +1.3**
comp=Z,110nm,1.2s,mb5.7
KMI pP pP 15 54 57.5 -5.0
KMI sP sP 15 54 59.6 -8.4
KMI PP PP 15 56 03.6 +0.9
KMI PPP PPP 15 56 20.4 +1.3
KMI S **S** **16 00 10.4 +4.1**
KMI sS 16 00 19.5
KMI PcS 16 01 24.4
KMI SS SS 16 02 15.2 +6.1
KMI SSS SSS 16 02 35.4 +1.5
KMI LR LR
comp=Z,940nm,18.8s,MS4.5
KMI Kunming 33.15 315 P **P** **15 54 52.2 +1.3**
KMI *SP sP 15 54 59.6 -8.4
KMI 15 56 03.6
KMI PPP PPP 15 56 20.4 +1.3
KMI S **S** **16 00 10.4 +4.1**
KMI SSS SSS 16 02 35.4 +1.5
KMI pmax pmax
comp=Z,110nm,1.2s,mb5.7
KMI MLR MLR
comp=Z,940nm,18.8s,MS4.5
FORT Forrest 33.24 180 *e*P **P** **15 54 50.6 -1.0**
comp=Z,82nm,0.7s,mb5.8
KS15 Wonju Array Si 34.63 360 *e*P **P** **15 55 02.9 -0.6**
TIA Tai'an 34.92 344 *e*P **P** **15 55 05.1 -0.9**
TIA AMB AMB
comp=Z,52nm,1.1s,mb5.4
MJAR Matsushiro Arr 34.98 14 P **P** **15 55 04.2 -2.2**
comp=Z,47nm,0.8s,mb5.5,baz=185,slow=9.4,SNR=91
MJAR ScP 16 01 24.9
comp=Z,4.8nm,1.0s,baz=194,slow=3.0,SNR=8.3
MJAR LR LR 16 09 22.9
comp=Z,1μm,19.1s,MS4.6,baz=190,slow=36
MAJO Matsushiro 34.98 14 *e*P **P** **15 55 04.1 -2.4**
comp=Z,66nm,0.8s,mb5.6
MAJO LR LR
comp=Z,1μm,20.0s,MS4.7
MAJO Matsushiro 34.98 14 *e*P **P** **15 55 04.1 -2.4**
MAJO pmax pmax
comp=Z,66nm,0.8s,mb5.6
MAJO MLR MLR
comp=Z,1μm,20.0s,MS4.7
MAT Matsushiro 34.98 14 P **P** **15 55 03.8 -2.7**
MAT *e*S **S** **16 00 32.0 -2.5**
MAT Matsushiro 34.98 14 *e*P **P** **15 55 04.0 -2.5**
comp=Z,61nm,0.8s,mb5.6
MAT S **S** **16 00 32.0 -2.5**
MAT LR LR
comp=Z,1μm,20.0s,MS4.7
MAT Matsushiro 34.98 14 *e*P **P** **15 55 04.0 -2.5**
MAT S **S** **16 00 32.0 -2.5**
MAT pmax pmax
comp=Z,61nm,0.8s,mb5.6
MAT MLR MLR
comp=Z,1μm,20.0s,MS4.7
KLBR Kellerberrin 35.46 195 *e*P **P** **15 55 09.2 -1.4**
comp=Z,53nm,0.7s,mb5.6
XAN Xi'an 36.03 332 P **P** **15 55 15.6 +0.2**
XAN S **S** **16 00 42.9 -7.7**
XAN AMB AMB
comp=Z,262nm,0.8s,mb6.2
XAN LR LR
comp=N,545nm,23.5s,MS4.3
XAN LR LR
comp=E,412nm,26.9s,MS4.3
XAN LR LR
comp=Z,1μm,26.9s,MS4.5
MUN Mundaring 36.26 197 ⇓*i*P **P** **15 55 16.4 -1.0**
CD2 Chengdu 36.36 323 P **P** **15 55 18.5 +0.3**
CD2 AP pP 15 55 33.9 +3.9
CD2 XP sP 15 55 41.8 +6.5
CD2 PP PP 15 56 47.0 +4.6
CD2 S **S** **16 00 53.4 -2.4**
CD2 XS 16 01 19.9
CD2 AMB AMB
comp=Z,50nm,0.8s,mb5.5
CD2 AMB AMB
comp=Z,250nm,4.7s
CD2 LR LR
comp=N,540nm,16.8s
CD2 LR LR
comp=Z,480nm,20.4s,MS4.3
DL2 Dalian 36.58 351 P **P** **15 55 18.8 -1.2**
DL2 S **S** **16 00 55.8 -3.3**
DL2 AMB AMB
comp=Z,30nm,1.3s,mb5.0
DL2 AMB AMB
comp=Z,340nm,3.1s
DL2 LR LR
comp=N,390nm,22.5s,MS4.5
DL2 LR LR
comp=E,700nm,18.4s,MS4.5
DL2 LR LR
comp=Z,460nm,16.9s,MS4.3
STKA Stephens Creek 36.63 161 ⇓*i*P **P** **15 55 20.4 -0.1**
comp=Z,29nm,0.4s,mb5.5
STKA Stephens Creek 36.63 161 P **P** **15 55 20.5 0.0**
comp=Z,42nm,0.7s,mb5.4,baz=334,slow=8.4,SNR=71
STKA PP PP 15 56 48.1 +2.2
comp=Z,16nm,0.8s,baz=326,slow=11,SNR=3.2
STKA LR LR 16 12 17.5
comp=Z,2μm,18.4s,MS5.0,baz=333,slow=39
NWAO Narrogin (SRO) 36.86 195 *e*P **P** **15 55 21.1 -1.4**
comp=Z,17nm,0.6s,mb5.0
NWAO Narrogin (SRO) 36.86 195 *e*P **P** **15 55 21.1 -1.4**
NWAO pmax pmax
comp=Z,17nm,0.6s
ADE Adelaide 38.70 166 *e*P **P** **15 55 39.1 +1.3**
SNY Shenyang 39.22 355 ⇓P **P** **15 55 41.8 -0.2**
SNY S **S** **16 01 37.1 -2.1**
SNY SCS ScS 16 05 39.8 -5.4
SNY AMB AMB
comp=Z,30nm,1.0s,mb5.0
SNY AMB AMB
comp=Z,160nm,7.6s
SNY LR LR
comp=N,770nm,19.6s
SNY LR LR
comp=Z,990nm,22.6s,MS4.6
IMP Imphal 39.66 307 *e*P **P** **15 55 46.0 +0.2**
LZH Lanzhou 40.16 329 ⇓*i*P **P** **15 55 52.0 +2.1**
LZH AP pP 15 56 07.6 +5.9
LZH PP PP 15 57 30.3 +4.1
LZH PCP PcP 15 57 55.3 +1.0
LZH SCP 16 01 39.1
LZH PCS 16 01 45.6
LZH S **S** **16 01 55.0 +1.7**
LZH XS 16 02 21.3
LZH SS SS 16 04 49.4 +2.9
LZH SCS ScS 16 05 50.1 -0.6
LZH AMB AMB
comp=Z,158nm,1.3s,mb5.6
LZH AMB AMB
comp=Z,873nm,7.2s
LZH LR LR
comp=E,1μm,14.0s
LZH LR LR
comp=Z,3μm,17.5s,MS5.2
LZH Lanzhou 40.16 329 ⇓*i*P **P** **15 55 52.0 +2.1**
comp=Z,158nm,1.3s,mb5.6
LZH pP pP 15 56 07.6 +5.9
LZH sP sP 15 56 15.0 +8.1
LZH PP PP 15 57 30.2 +4.0
LZH PcP PcP 15 57 55.3 +1.0
LZH ScP 16 01 39.1
LZH PcS 16 01 45.6
LZH S **S** **16 01 55.0 +1.7**
LZH sS 16 02 21.3
LZH SS SS 16 04 49.4 +2.9
LZH ScS ScS 16 05 50.1 -0.6
LZH LR LR
comp=Z,3μm,17.5s,MS5.2
LZH Lanzhou 40.16 329 ⇓*i*P **P** **15 55 52.0 +2.1**
LZH *PP pP 15 56 07.6 +5.9
LZH 15 57 30.2
LZH 15 57 55.3
LZH S **S** **16 01 55.0 +1.7**
LZH SS SS 16 04 49.4 +2.9
LZH 16 05 50.1
LZH pmax pmax
comp=Z,158nm,1.3s,mb5.6
LZH MLR MLR
comp=Z,3μm,17.5s,MS5.2
HHC Hu-ho-hao-te 40.88 341 *e*P **P** **15 55 56.5 +0.7**
HHC AP pP 15 56 10.3 +2.7
HHC XP sP 15 56 18.6 +5.8
HHC PP PP 15 57 33.5 +0.2
HHC S **S** **16 02 05.9 +2.0**
HHC XS 16 02 28.5
HHC AMB AMB
comp=Z,58nm,0.9s,mb5.2
HHC AMB AMB
comp=Z,172nm,5.3s
HHC LR LR
comp=N,701nm,21.4s,MS4.6
HHC LR LR
comp=E,627nm,24.4s,MS4.6
HHC LR LR
comp=Z,878nm,25.0s,MS4.5
CN2 Changchun 41.05 357 *e*P **P** **15 56 00.3 +3.1**
CN2 *e*S **S** **16 02 09.3 +2.8**
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.5
CN2 AMB AMB
comp=Z,300nm,3.0s
CN2 LR LR
comp=N,790nm,18.0s,MS4.7
CN2 LR LR
comp=E,350nm,18.0s,MS4.7
CN2 LR LR
comp=Z,880nm,17.0s,MS4.7
BTO Baotou 41.19 339 *e*P **P** **15 55 57.6 -0.8**
BTO S **S** **16 02 00.6 -8.0**
MDJ Mudanjiang 41.81 2 P **P** **15 56 03.3 -0.1**
MDJ AP pP 15 56 20.4 +5.1
MDJ PP PP 15 57 43.4 -0.1
MDJ PCS 16 01 48.5
MDJ S **S** **16 02 17.6 -0.2**
MDJ XS 16 02 43.5
MDJ SS SS 16 05 22.3 +2.7
MDJ AMB AMB
comp=Z,111nm,0.9s,mb5.5
MDJ AMB AMB
comp=Z,121nm,3.1s
MDJ LR LR
comp=E,887nm,22.9s
MDJ LR LR
comp=Z,1μm,21.5s,MS4.7
MDJ Mudanjiang 41.81 2 *e*P **P** **15 56 03.0 -0.4**
comp=Z,109nm,1.0s,mb5.4
TOO Toolangi 43.13 160 *e*P **P** **15 56 17.5 +3.2**
comp=Z,9.7nm,0.6s,mb4.7
TOO Toolangi 43.13 160 *e*P **P** **15 56 17.5 +3.2**
TOO pmax pmax
comp=Z,10.0nm,0.6s,mb4.7
ASAJ Asahikawa 43.23 15 P **P** **15 56 15.7 +0.6**
comp=Z,47nm,0.8s,mb5.3,baz=222,slow=8.7,SNR=42
LSA Lhasa 44.22 311 P **P** **15 56 25.0 +1.7**
LSA PP PP 15 58 05.3 -2.7
LSA S **S** **16 02 45.3 -7.9**
LSA SS SS 16 06 03.8 +0.3
LSA AMB AMB
comp=Z,170nm,1.0s,mb5.7
LSA AMB AMB
comp=Z,350nm,5.1s
LSA Lhasa 44.22 311 *e*P **P** **15 56 24.9 +1.7**
comp=Z,129nm,0.8s,mb5.7
LSA Lhasa 44.22 311 *e*P **P** **15 56 25.0 +1.7**
LSA pmax pmax
comp=Z,129nm,0.8s,mb5.7
DZM Mont Dzumac 44.75 125 LR LR 16 14 41.1
comp=Z,499nm,18.5s,MS4.5,baz=185,slow=35
GTA Gaotai 44.76 329 ⇓*i*P **P** **15 56 28.9 +1.5**
GTA AP pP 15 56 44.6 +5.3
GTA XP sP 15 56 51.4 +6.9
GTA PCP PcP 15 58 11.8 +2.2
GTA PP PP 15 58 16.3 +3.1
GTA PPP PPP 15 58 56.4 +2.8
GTA PCS 16 02 02.3
GTA S **S** **16 03 03.3 +2.5**
GTA SS SS 16 06 17.3 +4.0
GTA AMB AMB
comp=Z,139nm,0.8s,mb5.8
GTA AMB AMB
comp=Z,503nm,11.1s
GTA LR LR
comp=N,714nm,22.9s,MS4.7
GTA LR LR
comp=E,820nm,20.3s,MS4.7
GTA LR LR
comp=Z,1μm,32.5s
YSS Yuzh-Sakhalins 45.92 14 *e*P **P** **15 56 36.1 -0.4**
comp=Z,40nm,0.8s,mb5.4
YSS Yuzh-Sakhalins 45.92 14 ⇑*e*P **P** **15 56 36.0 -0.6**
YSS *e* pP 15 56 46.0 -2.5
YSS *e* 15 58 13.0
YSS S **S** **16 03 24.0 +6.7**
YSS pmax pmax
comp=Z,130nm,1.4s,mb5.7
VIS Vishakhapatnam 46.44 292 *e*P **P** **15 56 41.1 0.0**
HIA Hailar 47.00 352 *e*P **P** **15 56 43.8 -1.2**
comp=Z,38nm,1.1s,mb5.2
HIA Hailar 47.00 352 *e*P **P** **15 56 43.8 -1.2**
HIA pmax pmax
comp=Z,38nm,1.1s
PKI Pulchoki 47.76 306 *e*P **P** **15 56 51.4 +0.1**
comp=Z,128nm,0.0s
KKN Kakani 47.95 306 *e*P **P** **15 56 53.1 +0.3**
comp=Z,209nm,0.9s,mb6.2
KKN Kakani 47.95 306 *e*P **P** **15 56 53.1 +0.3**
KKN pmax pmax
comp=Z,104nm,0.9s,mb5.9
DMN Daman 48.02 305 *e*P **P** **15 56 54.0 +0.6**
comp=Z,158nm,0.9s,mb6.0
MDRS Chennai 48.49 285 *e*x x 15 57 03.0
MDRS *e*x x 16 00 48.0
GKN Gorkha 48.56 306 *e*P **P** **15 56 57.7 +0.2**
comp=Z,195nm,1.1s,mb6.1
SONM Songino Array 48.78 341 P **P** **15 56 58.9 0.0**
comp=Z,28nm,0.9s,mb5.3,baz=154,slow=6.7,SNR=135
SONM PcP PcP 15 58 23.7 +0.1
comp=Z,11nm,0.8s,baz=158,slow=2.9,SNR=4.0
SONM LR LR 16 18 42.6
comp=Z,1μm,20.8s,MS4.8,baz=157,slow=38
KOLN Koldanda 49.31 305 *e*P **P** **15 57 03.5 +0.2**
comp=Z,388nm,0.8s,mb6.5
SALM Salem 50.30 283 *e*P **P** **15 57 11.0 -0.1**
CIT Chita 50.70 348 ⇓*i*P **P** **15 57 13.6 0.0**
CIT *e* pP 15 57 25.4 -0.2
CIT *e* 15 58 31.3
CIT pmax pmax
comp=Z,83nm,1.5s,mb5.4
HYB Hyderabad 50.83 290 ⇑*i*P **P** **15 57 15.0 0.0**
comp=Z,140nm,1.0s,mb5.8
HYB *e*S **S** **16 04 28.0 +1.5**
HYB Hyderabad 50.83 290 ⇑*e*P **P** **15 57 15.0 0.0**
comp=Z,140nm,1.0s,mb5.8
HYB *e*S **S** **16 04 28.0 +1.5**
HYB Hyderabad 50.83 290 ⇑*e*P **P** **15 57 15.0 0.0**
HYB *e*S **S** **16 04 28.0 +1.5**
HYB pmax pmax
comp=Z,140nm,1.0s,mb5.8
ZAK Zakamensk 52.02 340 ⇓*i*P **P** **15 57 23.0 -0.5**
ZAK pmax pmax
comp=Z,14nm,1.0s,mb4.8
ZAK pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
LATR Latur 52.88 291 *e*P **P** **15 57 29.0 -1.4**
AKL Akola 52.93 294 ⇓*i*x x 15 59 26.3
AKL *i* x x 15 59 34.9
comp=Z,285nm,1.1s
BHPL Bhopal 53.17 297 *e*P **P** **15 57 32.4 -0.1**
BHPL AMb AMB 15 57 35.4
comp=Z,126nm,1.2s,mb5.7
IRK Irkutsk 53.29 342 *e*P **P** **15 57 31.2 -1.8**
IRK *e* 15 58 36.7
IRK pmax pmax
comp=Z,50nm,2.0s,mb5.1
AGRA Agra 53.84 302 *e*P **P** **15 57 36.8 -0.6**
MOY Mondy 53.88 339 *e*P **P** **15 57 37.2 -0.2**
MOY pmax pmax
comp=Z,76nm,1.7s,mb5.3
CLNS Chul'man 54.09 358 *e*P **P** **15 57 38.2 -0.7**
CLNS pmax pmax
comp=N,9.0nm,1.0s
CLNS pmax pmax
comp=Z,17nm,1.0s,mb4.9
CLNS pmax pmax
comp=E,14nm,0.9s
CLNS MLR MLR
comp=Z,400nm,18.0s,MS4.5
CLNS MLR MLR
comp=N,100nm,16.0s,MS4.5
CLNS MLR MLR
comp=E,300nm,15.0s,MS4.5
WMQ Urumqi 54.43 325 ⇓P **P** **15 57 42.0 +0.5**
WMQ AP pP 15 57 58.0 +4.3
WMQ XP sP 15 58 05.0 +6.4
WMQ PP PP 15 59 46.0 +0.8
WMQ SCP 16 02 36.0
WMQ S **S** **16 05 14.0 -1.3**
WMQ SCS ScS 16 07 22.0 -1.6
WMQ SS SS 16 08 57.0 -0.5
WMQ AMB AMB
comp=Z,164nm,1.2s,mb5.8
WMQ AMB AMB
comp=Z,98nm,7.0s
WMQ LR LR
comp=N,2μm,18.0s,MS5.3
WMQ LR LR
comp=E,986nm,18.0s,MS5.3
WMQ LR LR
comp=Z,787nm,18.0s,MS4.8
ASOR Ausora 54.47 304 *e*P **P** **15 57 41.6 -0.4**
SONA Sohna 54.88 303 *e*P **P** **15 57 44.6 -0.4**
NDI New Delhi 54.91 303 *e*P **P** **15 57 44.3 -0.9**
NDI AMb AMB 15 57 45.8
comp=Z,306nm,0.6s,mb6.5
KLP Kalpa 55.03 307 *e*P **P** **15 57 46.9 +0.9**
KLP AMb AMB 15 57 49.7
comp=Z,245nm,1.5s,mb6.0
KLP AMb AMB 15 57 49.7
comp=Z,240nm,0.9s,mb6.2
BHGR Bahadurgarh 55.14 303 *e*P **P** **15 57 46.0 -0.9**
KUDL Kundal 55.35 303 *e*P **P** **15 57 47.6 -0.8**
POO Poona 55.43 291 *e*P **P** **15 57 47.8 -1.3**
POO AMb AMB 15 57 51.2
comp=Z,113nm,1.1s,mb5.8
KKR Kurukshetra 55.65 305 *e*P **P** **15 57 49.6 -0.9**
RTK Rohtak 55.68 304 *e*P **P** **15 57 50.2 -0.6**
BOD Bodaibo 56.14 351 *e*P **P** **15 57 51.9 -1.8**
BOD pmax pmax
comp=Z,33nm,1.1s,mb5.3
PET Petropavlovsk 56.18 22 ⇓*i*P **P** **15 57 53.4 -0.7**
comp=Z,67nm,1.0s,mb5.6
PET Petropavlovsk 56.18 22 ⇑*i*P **P** **15 57 54.0 -0.1**
PET *e* 15 58 51.4
PET *e* 16 00 03.7
PET *e*S **S** **16 05 34.6 -4.0**
PET *e* 16 07 33.3
PET pmax pmax
comp=Z,83nm,1.4s,mb5.6
PET pmax pmax
comp=Z,100nm,13.7s
PET pmax pmax
comp=Z,100nm,14.6s
PET pmax pmax
comp=Z,100nm,13.4s
PET smax
comp=E,200nm,14.5s
PET smax
comp=N,100nm,13.1s
AJM Ajmer 56.45 300 *e*P **P** **15 57 55.3 -1.1**
AJM AMb AMB 15 57 58.5
comp=Z,166nm,1.2s,mb5.9
YAK Yakutsk 59.25 1 ⇓*i*P **P** **15 58 14.0 -1.5**
comp=Z,75nm,0.6s,mb5.9
YAK LR LR
comp=Z,720nm,22.0s,MS4.8
YAK Yakutsk 59.25 1 *d*P **P** **15 58 14.2 -1.3**
YAK *i* 15 59 00.2
YAK *i* 16 00 29.8
YAK *e*S **S** **16 06 14.7 -4.0**
YAK *i* 16 07 59.6
YAK *i* SS SS 16 10 10.3 -4.9
YAK pmax pmax
comp=Z,44nm,0.9s,mb5.5
YAK pmax pmax
comp=N,21nm,1.2s
YAK pmax pmax
comp=E,6.0nm,1.1s
YAK pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
YAK smax
comp=E,83nm,13.8s
YAK smax
comp=N,27nm,9.6s
MKAR Makanchi Array 59.26 325 P **P** **15 58 15.9 +0.2**
comp=N,63nm,0.6s,mb5.8,baz=123,slow=7.9,SNR=683
MKAR ScP 16 03 04.4
comp=N,4.1nm,1.0s,baz=124,slow=4.4,SNR=5.7

MKAR LR LR 16 25 27.0
comp=N,688nm,19.4s,MS4.8,baz=170,slow=38
MA2 Magadan 59.41 13 *e*P **P 15 58 15.6 -1.1**
comp=N,44nm,1.1s,mb5.4
MA2 LR LR
comp=Z,383nm,20.0s,MS4.5
MA2 Magadan 59.41 13 *e*P **P 15 58 15.6 -1.1**
MA2 pmax pmax
comp=Z,44nm,1.1s,mb5.4
MA2 MLR MLR
comp=Z,383nm,20.0s,MS4.5
JASL Jaisalmer 59.80 300 *e*P **P 15 58 18.2 -1.5**
KSH Kashi 59.81 315 *i* PR **P 15 58 21.4 +1.7**
KSH *e*AP pP 15 58 36.0 +4.0
KSH *e*XP sP 15 58 43.1 +6.1
KSH *e*PCP PcP 15 59 05.3 -0.5
KSH *e*PP PP 16 00 34.1 +0.3
KSH *e*PPP PPP 16 02 00.1 +0.4
KSH *e*SCP 16 03 00.0
KSH *e*PCS 16 03 06.1
KSH S **S 16 06 25.0 -1.3**
KSH *e*PS PS 16 06 49.0 +1.5
KSH XS 16 06 52.3
KSH *e*SCS ScS 16 08 01.1 -1.6
KSH *e*SS SS 16 10 23.0 -0.9
KSH AMB AMB
comp=Z,530nm,3.7s
KSH LR LR
comp=N,250nm,6.6s
KSH LR LR
comp=E,220nm,5.7s
ULHL Ulahol 60.78 318 P **P 15 58 27.2 +0.9**
SNR=7.6
KZA Kyzart 61.37 317 P **P 15 58 31.9 +1.7**
SNR=43
TKM2 Tokmak 2 61.50 318 P **P 15 58 31.9 +0.8**
SNR=41
KBK Karagaybulak 61.82 318 P **P 15 58 34.4 +1.1**
SNR=13
UCH Uchtor 61.93 317 P **P 15 58 35.8 +1.7**
SNR=8.9
CHMS Chumysh 62.09 318 P **P 15 58 35.3 +0.2**
SNR=15
AAK Ala-Archa 62.11 318 P **P 15 58 36.2 +1.0**
SNR=9.0
AAK Ala-Archa 62.11 318⇓*i*P **P 15 58 34.7 -0.5**
comp=E,34nm,1.1s,mb5.4
AAK LR LR
comp=Z,134nm,20.0s,MS4.1
AAK Ala-Archa 62.11 318*d i*P **P 15 58 34.9 -0.3**
AAK pmax pmax
comp=Z,48nm,1.7s,mb5.3
FRU Bishkek 62.11 318 *e*P **P 15 58 34.0 -1.2**
FRU pmax pmax
comp=Z,60nm,2.0s,mb5.4
ZAL Zalesovo 62.20 333 P **P 15 58 34.2 -1.4**
comp=Z,33nm,1.1s,mb5.4,baz=357,slow=6.4,SNR=53
ZAL LR LR 16 29 50.4
comp=Z,391nm,19.2s,MS4.6,baz=334,slow=40
ZAL Zalesovo 62.20 333 P **P 15 58 34.2 -1.5**
ZAL LR LR 16 29 50.5
USP Ospenovka 62.37 318 P **P 15 58 37.4 +0.4**
SNR=81
AML Almayashu 62.45 317 P **P 15 58 38.8 +1.3**
SNR=66
EKS2 Erkin-Say 62.61 318 P **P 15 58 39.6 +1.0**
SNR=34
SMY Shemya 62.68 29 *e*P **P 15 58 39.3 +0.4**
SMY LR LR
comp=Z,600nm,20.0s,MS4.8
SMY Shemya 62.68 29 *e*P **P 15 58 38.6 -0.3**
SMY pmax pmax
comp=Z,120nm,0.9s,mb6.0
SEY Seymchan 62.77 12 *i* P **P 15 58 39.5 +0.2**
SEY Seymchan 62.77 12 *e*P **P 15 58 37.4 -1.9**
SEY *SP sP 15 59 13.5 +17
SEY *e* 16 00 54.8
SEY *e*PPP PPP 16 02 22.8 -7.1
SEY *e*SP SP 16 07 05.5 -15
SEY *SS 16 07 34.2
SEY SS SS 16 11 03.3 -7.4
SEY *e*SSS SSS 16 13 57.0 +1.9
SEY pmax pmax
comp=Z,60nm,1.1s,mb5.6
SEY pmax pmax
comp=N,20nm,1.0s
SEY pmax pmax
comp=E,20nm,1.0s
SEY MLR MLR
comp=Z,620nm,21.0s,MS4.8
SEY MLR MLR
comp=N,350nm,23.0s,MS4.7
SEY MLR MLR
comp=E,430nm,18.0s,MS4.7
KURK Kurchatov 63.42 327⇓*i*P **P 15 58 43.1 -0.7**
comp=E,78nm,0.7s,mb6.0
KURK Kurchatov 63.42 327⇓*i*P **P 15 58 43.1 -0.7**
KURK pmax pmax
comp=Z,78nm,0.7s,mb6.0
NVS Novosibirsk 63.48 333⇑*i*P **P 15 58 42.5 -1.6**
NVS *i* 16 01 08.9
NVS *i* S **S 16 07 14.6 +2.2**
NVS pmax pmax
comp=Z,73nm,1.2s,mb5.7
NVS pmax pmax
comp=N,50nm,1.4s
NVS pmax pmax
comp=E,38nm,1.3s
NVS pmax pmax
comp=N,7.0nm,1.2s
NVS pmax pmax
comp=Z,13nm,1.2s,mb4.9
NVS smax
comp=N,23nm,2.1s
NVS smax
comp=E,24nm,1.9s
GSTR Great Sitkin T 67.50 34 *e*P **P 15 59 09.4 -0.5**
TIXI Tiksi 68.91 0 *e*P **P 15 59 14.5 -3.8**
TIXI *e*S S 16 08 14.4 -3.7
TIXI *e* 16 08 38.3
TIXI *e*SS 16 08 56.1
TIXI pmax pmax
comp=Z,34nm,0.8s,mb5.3
TIXI MLR MLR
comp=Z,510nm,19.0s,MS4.8
BVAR Borovoye Array 69.00 327 P **P 15 59 18.9 -0.3**
comp=Z,34nm,0.8s,mb5.3,baz=121,slow=8.6,SNR=171
BRVK Borovoye 69.07 327⇓*i*P **P 15 59 19.3 -0.4**
comp=Z,38nm,0.8s,mb5.4
BRVK Borovoye 69.07 327⇓*i*P **P 15 59 19.3 -0.4**
BRVK pmax pmax
comp=Z,38nm,0.8s,mb5.4
DRV Dumont d'Urvil 69.67 175 P **P 15 59 17.0 -6.1**
DRV S S 16 08 31.0 +3.8
CASY Casey 69.93 187 *e*P **P 15 59 24.1 -0.6**
comp=Z,15nm,0.8s,mb5.0
CASY LR LR
comp=Z,405nm,19.0s,MS4.7
BILL Bilibino 70.23 14 *e*P **P 15 59 24.9 -1.6**
comp=Z,7.5nm,0.4s,mb5.0
BILL LR LR
comp=Z,544nm,20.0s,MS4.8
BILL Bilibino 70.23 14 *e*P **P 15 59 24.9 -1.6**
BILL pmax pmax
comp=Z,8.0nm,0.4s,mb5.0
BILL MLR MLR
comp=Z,544nm,20.0s,MS4.8
MIR Mirnyy 73.45 194 *e*P **P 15 59 46.0 +0.4**
MIR pmax pmax
comp=Z,34nm,1.2s,mb5.2
AKUT Akutan 74.00 34 *e*P **P 15 59 49.5 +0.4**
AKUT LR LR
comp=Z,300nm,20.0s,MS4.6
SVE Sverdlovsk 75.62 328⇓*e*P **P 15 59 58.3 -0.1**
SVE *e* 16 00 06.0
SVE *e* 16 02 46.0
SVE *e*S S 16 09 36.0 +1.0
SVE *e*PS PS 16 10 13.0 -4.7
SVE pmax pmax
comp=Z,100nm,2.0s,mb5.4
SVE MLR MLR
comp=N,100nm,18.0s,MS4.5
SVE MLR MLR
comp=E,200nm,18.0s,MS4.5
SVE MLR MLR
comp=Z,400nm,18.0s,MS4.8

ARU Arti 76.61 328⇓*i*P **P 16 00 02.9 -1.1**
comp=Z,31nm,0.8s,mb5.3
ARU LR LR
comp=Z,75nm,19.0s,MS4.0
ARU Arti 76.61 328⇓*i*P **P 16 00 03.0 -1.0**
ARU *e* pP 16 00 13.9 -2.7
ARU *e* 16 02 56.3
ARU *e*PPP PPP 16 04 43.2 -2.5
ARU *e*S S 16 09 41.9 -3.8
ARU *e* 16 10 10.5
ARU pmax pmax
comp=Z,28nm,0.7s,mb5.3
SDPT Sand Point 77.29 34 *e*P **P 16 00 08.4 +0.6**
SDPT LR LR
comp=Z,500nm,22.0s,MS4.8
SVW2 Sparrevohn 81.06 29 *e*P **P 16 00 29.8 +1.7**
TTA Tatalina 81.22 27 *e*P **P 16 00 30.1 +1.2**
KDAK Kodiak Island 82.04 32⇓*i*P **P 16 00 34.1 +0.9**
comp=Z,85nm,0.9s,mb5.7
VNDA Vanda 82.18 173 P **P 16 00 33.9 +0.2**
comp=Z,7.8nm,1.0s,mb4.6,baz=320,slow=7.5,SNR=32
VNDA LR LR 16 38 03.9
comp=Z,442nm,18.2s,MS4.9,baz=330,slow=36
RSO Redoubt South 82.32 29 *e*P **P 16 00 34.8 +0.1**
MZLS Mizel 82.50 294 P **P 16 00 37.0 +0.7**
SPU Mount Spurr 82.76 29 *e*P **P 16 00 37.0 +0.1**
IMA Indian Mountai 82.79 24 *e*P **P 16 00 38.7 +1.8**
IMA Indian Mountai 82.79 24⇓*e*P **P 16 00 38.9 +2.0**
IMA pmax pmax
comp=Z,320nm,0.9s,mb6.3
KAMS Al Khamasin 83.07 290 P **P 16 00 39.4 +0.1**
SBA Scott Base 83.08 172 *e*P **P 16 00 38.4 +0.1**
comp=Z,8.5nm,0.9s,mb4.8
SBA LR LR
comp=Z,630nm,19.0s,MS5.0
SBA Scott Base 83.08 172 *e*P **P 16 00 38.4 +0.2**
SBA pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
SBA MLR MLR
comp=Z,630nm,19.0s,MS5.0
MAW Mawson 83.25 201 P **P 16 00 40.1 +0.8**
comp=Z,12nm,0.9s,mb4.9,baz=61,slow=7.0,SNR=21
MAW LR LR 16 35 02.7
comp=Z,263nm,21.5s,MS4.6,baz=63,slow=34
GNI Garni 83.27 310 P **P 16 00 40.1 +0.2**
comp=Z,3.0nm,0.3s,mb4.7,baz=220,slow=11,SNR=3.1
GNI Garni 83.27 310⇓*i*P **P 16 00 41.3 +1.4**
comp=Z,36nm,0.9s,mb5.4
GNI LR LR
comp=Z,215nm,20.0s,MS4.5
GNI Garni 83.27 310*d i*P **P 16 00 41.1 +1.2**
GNI pmax pmax
comp=Z,37nm,1.7s
PPT Papeete 83.42 108 *e*SS SS 16 16 41.0 +14
PPT *e*LQ 16 23 32.9
PPT *e*LR LR 16 27 10.2
comp=Z,580nm,26.2s
PPT Papeete 83.42 108 LR LR 16 31 54.2
comp=Z,431nm,18.1s,MS4.9,baz=276,slow=31
SLKM Skilak Lake 83.57 30 *e*P **P 16 00 40.9 -0.1**
TBI Tubuai 84.05 114 *e*SS SS 16 16 52.0 +16
TBI *e*LR LR 16 27 27.2
comp=Z,426nm,28.0s
DJNS Zahran al Janu 84.08 287 P **P 16 00 46.1 +1.5**
TATS Tathlith 84.12 289 P **P 16 00 46.1 +1.4**
PMR Palmer 84.21 28 *e*P **P 16 00 44.7 +0.5**
PMR LR LR
comp=Z,200nm,19.0s,MS4.5
AFFS 'Afif 84.52 294 P **P 16 00 48.3 +1.7**
GOF Gofitskoye 84.69 315⇑*i*P **P 16 00 48.5 +1.5**
GOF pmax pmax
comp=Z,51nm,1.3s,mb5.5
KIV Kislovodsk 84.92 314 *i* P **P 16 00 48.6 +0.4**
KIV Kislovodsk 84.92 314κ *i*P **P 16 00 48.7 +0.5**
KIV 16 11 22.0
KIV pmax pmax
comp=Z,41nm,1.7s,mb5.3
KIV MLR MLR
comp=Z,200nm,20.0s,MS4.5
ILAR Eielson Array 85.46 25 P **P 16 00 50.2 -0.1**
comp=Z,5.1nm,0.6s,mb4.8,baz=245,slow=5.6,SNR=35
ILAR LR LR 16 37 08.8
comp=Z,175nm,19.8s,MS4.5,baz=129,slow=34
HILS Ha'il 85.57 297 P **P 16 00 53.2 +1.4**
VRHR Novokhopersk 85.78 321 *e*P **P 16 00 52.0 -0.2**
VRHR pmax pmax
comp=Z,90nm,0.8s,mb6.0
VRHR pmax pmax
comp=N,20nm,0.7s
VRHR pmax pmax
comp=E,50nm,0.9s
BLJS Baljurashi 85.88 290 P **P 16 00 55.3 +1.9**
SOC Sochi 87.06 313 *e*P **P 16 01 06.9 +8.2**
SOC *e* 16 04 17.7
SOC *e*S S 16 11 26.5 -6.3
SOC pmax pmax
comp=Z,16nm,0.7s,mb5.4
SOC pmax pmax
comp=N,4.0nm,0.2s
SOC pmax pmax
comp=E,16nm,0.9s
SOC MLR MLR
comp=Z,273nm,20.0s,MS4.7
SOC MLR MLR
comp=N,415nm,26.0s
SOC MLR MLR
comp=E,178nm,24.0s
VORD Divnogorie 87.25 321 *e*P **P 16 00 59.4 0.0**
VORD pmax pmax
comp=Z,20nm,1.1s,mb5.3
VORD pmax pmax
comp=N,10.0nm,0.7s
VORD pmax pmax
comp=E,20nm,0.8s
VOR Voronezh 87.30 322 P **P 16 01 00.0 +0.4**
VOR pmax pmax
comp=Z,50nm,1.5s,mb5.5
VRSR Storozhevoye 87.31 321 *e*P **P 16 01 01.0 +1.3**
KBRS Khaybar 87.87 296 P **P 16 01 05.1 +2.1**
MOS Moscow 88.14 326 *e*P **P 16 01 02.6 -0.9**
MOS *e* pP 16 01 14.6 -1.9
MOS *e* 16 04 30.4
MOS pmax pmax
comp=Z,74nm,1.0s,mb5.9
MALT Malatya 88.17 308 *e*P **P 16 01 05.4 +1.2**
comp=Z,44nm,1.4s,mb5.5
MALT Malatya 88.17 308 *e*P **P 16 01 05.4 +1.3**
MALT pmax pmax
comp=Z,44nm,1.4s,mb5.5
ANN Anapa 88.67 315 *e*P **P 16 00 59.1 -7.3**
ANN *i* *SS 16 11 50.6
ANN pmax pmax
comp=Z,26nm,0.9s,mb5.6
OBN Obninsk 88.76 325 *e*P **P 16 01 05.1 -1.5**
comp=Z,76nm,1.3s,mb5.9
OBN LR LR
comp=Z,95nm,21.0s,MS4.2
OBN Obninsk 88.76 325*de*P **P 16 01 05.9 -0.6**
OBN *e* 16 01 21.9
OBN 16 04 39.0
OBN 16 11 29.0
OBN *e*PS PS 16 13 04.8 +4.2
OBN pmax pmax
comp=Z,94nm,1.7s,mb5.8
OBN MLR MLR
comp=Z,400nm,19.0s,MS4.9
QURS Qurayyt al Mil 89.35 301 P **P 16 01 11.9 +2.0**
APA Apatity 89.39 338⇑*i*P **P 16 01 09.0 -0.3**
APA *i* 16 01 28.0
APA *e*S S 16 11 40.0 -14
APA *e*PS PS 16 13 10.0 +2.5
APA pmax pmax
comp=Z,26nm,1.0s,mb5.5
APA MLR MLR
comp=Z,500nm,24.0s,MS4.9
INK Inuvik 90.64 22 P **P 16 01 15.1 0.0**
comp=Z,6.7nm,0.8s,mb5.0,baz=279,slow=4.0,SNR=9.9
INK LR LR 16 44 34.0
comp=Z,228nm,18.4s,MS4.6,baz=97,slow=37
INK Inuvik 90.64 22 *e*P **P 16 01 14.7 -0.4**
comp=Z,20nm,1.2s,mb5.3
INK Inuvik 90.64 22 *e*P **P 16 01 14.7 -0.4**
INK pmax pmax
comp=Z,20nm,1.2s
KMBO Kilima Mbogo 90.96 269 P **P 16 01 19.5 +1.6**

comp=Z,9.6nm,1.0s,mb5.1,baz=52,slow=5.5,SNR=17
KMBO LR LR 16 39 57.8
comp=Z,158nm,21.4s,MS4.4,baz=96,slow=34
SIM Simferopol' 91.02 315 *e*P **P 16 01 18.2 +0.8**
SIM *e*S S 16 12 07.4 -1.7
SIM pmax pmax
comp=Z,18nm,0.7s,mb5.5
BRTR Keskin Array B 91.81 310 P **P 16 01 20.9 -0.4**
comp=Z,2.0nm,0.8s,mb4.5,baz=90,slow=4.9,SNR=8.1
BRTR PP PP 16 04 58.4 -4.5
comp=Z,2.7nm,0.8s,baz=117,slow=8.3,SNR=4.5
SYO Syowa Base 91.94 201 ⇑P **P 16 01 20.1 -1.0**
SYO Syowa Base 91.94 201 ⇑pP pP 16 01 37.8 +3.7
ARCES ARCESS Array B 91.95 340 P **P 16 01 20.6 -0.6**
comp=Z,20nm,0.8s,mb5.5,baz=76,slow=5.0,SNR=16
ARCES LR LR 16 51 20.1
comp=Z,284nm,18.1s,MS4.8,baz=70,slow=41
ARE0 ARCESS Array S 91.95 340 *e*P **P 16 01 20.0 -1.2**
QSPA South Pole Qui 92.56 180 *e*P **P 16 01 24.9 +1.1**
comp=Z,17nm,0.8s,mb5.5
KAF Kangasniemi 93.21 333 *e*p **P 16 01 25.2 -1.9**
FINES FINESS Array B 93.45 332 P **P 16 01 28.2 0.0**
comp=Z,3.0nm,0.7s,mb4.9,baz=63,slow=4.3,SNR=17
FINES PP PP 16 05 16.9 +1.4
comp=Z,5.4nm,1.1s,baz=72,slow=6.0,SNR=4.8
FINES LR LR 16 47 47.3
comp=Z,333nm,21.7s,MS4.8,baz=77,slow=38
AKASG Malin Array Be 93.63 321 P **P 16 01 28.5 -0.7**
comp=Z,5.7nm,0.9s,mb5.0,baz=67,slow=4.2,SNR=27
AKASG PP PP 16 05 20.2 +3.0
comp=Z,0.4nm,0.4s,baz=62,slow=7.0,SNR=5.5
AKASG Malin Array Be 93.63 321 P **P 16 01 28.5 -0.7**
AKASG PP PP 16 05 20.2 +3.0
VSU Vasula 93.73 329 *i* P **P 16 01 29.8 +0.3**
DLBC Dease Lake 93.93 31 P **P 16 01 31.9 +1.5**
comp=Z,6.9nm,0.8s,mb5.1,baz=276,slow=5.3,SNR=5.6
DLBC LR LR 16 37 45.0
comp=Z,308nm,21.1s,MS4.7,baz=338,slow=32
DLBC Dease Lake 93.93 31 *e*P **P 16 01 31.8 +1.4**
MLR Muntele Rosu 96.67 316 P **P 16 01 43.9 +0.7**
comp=Z,7.1nm,0.9s,mb5.1,baz=297,slow=1.0,SNR=9.9
MLR PP PP 16 05 40.3 -0.4
comp=Z,8.6nm,1.0s,baz=71,slow=6.2,SNR=3.5
RKT Rikitea 97.34 113 *e*LR LR 16 33 37.0
comp=Z,376nm,25.8s
MBAR Mbarara 97.44 270 *e*P **P 16 01 46.6 -0.9**
comp=Z,4.8nm,1.2s,mb4.8
MBAR Mbarara 97.44 270*c i*P **P 16 01 47.3 -0.2**
DAG Danmarks Havn 98.50 353⇓*i*P **P 16 01 50.2 -0.6**
comp=Z,4.1nm,0.7s,mb5.1
DAG Danmarks Havn 98.50 353⇓*i*P **P 16 01 50.2 -0.6**
DAG pmax pmax
comp=Z,4.0nm,0.7s,mb5.1
HFS Hagfors 99.64 332 P **P 16 01 55.2 -1.1**
comp=Z,6.9nm,0.9s,mb5.1,baz=45,slow=6.3,SNR=9.6
YKA Yellowknife Ar 99.88 25 P **P 16 01 57.5 +0.2**
comp=Z,3.2nm,0.7s,mb4.9,baz=304,slow=5.2,SNR=5.4
YKA Yellowknife Ar 99.88 25 P **P 16 01 57.5 +0.2**
NB2 NORSAR Subarra100.38 334 P P 16 01 57.7 -2.0
comp=Z,4.9nm,0.9s,baz=67,slow=4.5
NB2 NORSAR Subarra100.38 334 P P 16 01 57.7 -2.0
baz=67,slow=4.4
NOA NORSAR Array B100.38 334 P P 16 01 58.5 -1.2
comp=Z,3.6nm,0.9s,baz=66,slow=4.5,SNR=12
NOA PP PP 16 06 00.9 -8.1
comp=Z,1.2nm,0.8s,baz=68,slow=7.4,SNR=3.6
NAO01 NORSAR Array S100.61 334 *e*Pdif P 16 02 00.4 -0.3
comp=Z,15nm,1.3s
VYHS Vyhne 100.70 320 *i* PP PP 16 06 11.3 -0.5
DPC Dobruska-Polom 101.70 323 *e*PP PP 16 06 18.8 -0.3
DPC AMS AMS 16 50 30.0
comp=Z,300nm,20.0s
UPC Upice 101.84 323 *e*PP PP 16 06 20.3 +0.2
PVCC Panska Ves 102.70 323 *e*PP PP 16 06 27.3 +0.5
PVCC AMS AMS 16 51 40.0
comp=Z,400nm,18.9s
PRU Pruhonice 102.90 323 *e*PP PP 16 06 28.9 +0.5
PRU AMS AMS 16 51 30.0
comp=Z,300nm,18.6s
CLL Collm 103.35 324 *e*PDIF Pdif 16 02 14.0 +0.9
CLL *i* 16 06 35.0
KHC Kasperske Hory 103.79 322 *e*PDIF Pdif 16 02 14.7 -0.4
KHC *ex* x 16 03 00.7
KHC *e*PP PP 16 06 35.4 +0.6
KHC AMS AMS 16 51 30.0
comp=Z,200nm,20.1s
KHC Kasperske Hory 103.79 322 *e*P Pdif 16 02 14.7 -0.4
KHC *e* 16 06 35.4
KHC MLR MLR
comp=Z,200nm,20.1s,MS4.6
GERES GERESS Array B 103.82 322 Pdiff Pdif 16 02 15.6 +0.4
comp=Z,0.4nm,0.6s,baz=72,slow=4.2,SNR=4.9
GERES PP PP 16 06 34.9 -0.1
comp=Z,4.1nm,1.2s,baz=63,slow=3.0,SNR=7.1
NKC Novy Kostel 104.08 323 AMS AMS 16 52 20.0
comp=Z,400nm,19.6s
WVOR Wild Horse Val 105.10 45 *e*Pdif Pdif 16 02 21.9 +0.8
comp=Z,1.7nm,0.8s
WVOR Wild Horse Val 105.10 45 *e*P Pdif 16 02 21.9 +0.9
WVOR pmax pmax
comp=Z,2.0nm,0.8s
LPG La Plagne 109.48 320 *e*PP PP 16 07 13.6 -4.1
comp=Z,29nm,1.0s
LPL La Plagne 109.49 320 *e*PP PP 16 07 13.6 -4.2
comp=Z,30nm,1.2s
BNI Bardonecchia 109.72 320 *e*PKP 16 06 44.4
SPUT South Promonto 109.82 44 *e*PKP 16 06 47.9
DAU Daniels Canyon 111.00 45 *e*PKP PKPdf 16 06 47.5 +2.4
PDAR Pinedale Array 111.21 42 PKKPbc 16 17 46.8
comp=Z,0.8nm,0.8s,baz=104,slow=6.1,SNR=4.7
RSSD Black Hills 114.15 39 *e*PKP PKPdf 16 06 52.5 +1.3
ULM Lac du Bonnet 115.20 30 PKP PKPdf 16 06 55.8 +2.7
comp=Z,1.8nm,0.5s,baz=310,slow=1.5,SNR=3.1
SDCO Great Sand Dun 116.18 45 *e*PKP PKPdf 16 06 57.1 +1.8
ANMO Albuquerque 116.67 49 *e*PKPdf PKPdf 16 06 57.5 +1.2
MNTX Cornudas Mount 118.81 51 *e*PKPdf PKPdf 16 07 02.6 +2.1
TXAR Lajitas Array 121.11 53 PKP PKPdf 16 07 07.2 +2.2
comp=Z,2.6nm,0.8s,baz=217,slow=0.7,SNR=11
TXAR PKKPbc 16 17 10.3
comp=Z,0.5nm,0.5s,baz=169,slow=4.6,SNR=2.9
SCHQ Schefferville 121.39 10 PKP PKPdf 16 07 06.8 +1.8
comp=Z,2.0nm,0.5s,baz=336,slow=4.8,SNR=5.7
WMOK Wichita Mounta 122.39 45 *e*PKPdf PKPdf 16 07 08.7 +1.2
EVO Evora 122.47 320 *e*PKIKP PKPdf 16 07 11.1 +3.6
comp=Z,46nm,1.2s
FRNY Flat Rock 128.90 20 PKPdf PKPdf 16 07 19.9 +0.2
NCB Newcomb 129.43 21 *e*PKPdf PKPdf 16 07 21.6 +0.9
LRAL Lakeview Retre 131.39 40 *e*PKPdf PKPdf 16 07 26.6 +1.8
DBIC Dimbokro 132.20 281 PKP PKPdf 16 07 29.5 +2.7
comp=Z,6.8nm,0.8s,baz=120,slow=2.2,SNR=8.4
DBIC PP PP 16 09 49.0 -4.4
comp=Z,7.6nm,1.0s,baz=53,slow=8.1,SNR=3.2
DBIC SKPbc 16 10 53.5
comp=Z,6.7nm,0.7s,baz=42,slow=5.2,SNR=6.2
DBIC Dimbokro 132.20 281 PKP PKPdf 16 07 29.5 +2.7
DBIC PP PP 16 09 49.0 -4.4
DBIC SKPbc 16 10 53.5
LIC Lamto 132.44 281 *e*PKIKP PKPdf 16 07 28.6 +1.3
comp=Z,20nm,0.9s
PLCA Paso Flores 138.49 158 PKhKP 16 07 33.6
comp=Z,1.0nm,0.5s,baz=224,slow=9.7,SNR=4.2
PLCA PKP PKPdf 16 07 41.2 +3.5
comp=Z,4.9nm,0.8s,baz=174,slow=3.2,SNR=7.7
PLCA Paso Flores 138.49 158 PKP PKPdf 16 07 33.6 -4.1
PLCA *e*PKPdf PKPdf 16 07 39.4 +1.7
TRQA Tornquist 143.56 166 *e*PKPdf PKPdf 16 07 46.0 -0.7
CFAA Coronel Fontan 147.31 154 PKPbc PKPdf 16 07 57.1 +3.7
comp=Z,5.5nm,0.7s,baz=232,slow=3.0,SNR=31
CPUP Villa Florida 155.87 168 PKP PKPdf 16 08 09.1 +3.0
comp=Z,3.0nm,0.9s,baz=247,slow=0.9,SNR=5.1
ROSC El Rosal 156.32 72 PKPab PKPab 16 08 39.4 +1.5
comp=Z,24nm,0.6s,baz=114,slow=3.8,SNR=9.2
SDV Santo Domingo 158.04 58 PKP PKPdf 16 08 12.1 +2.8
comp=Z,15nm,0.9s,baz=18,slow=0.4,SNR=15
SDV PKPab PKPab 16 08 46.0 +0.8
comp=Z,15nm,0.7s,baz=320,slow=3.7,SNR=8.2
SDV Santo Domingo 158.04 58 *e*PKPdf PKPdf 16 08 11.3 +2.0
SDV *e*PKPab PKPab 16 08 43.6 -1.6
LPAZ La Paz 159.01 131 PKP PKPdf 16 08 14.1 +3.8
comp=Z,4.2nm,1.0s,baz=76,slow=1.0,SNR=7.4
LPAZ PKPab PKPab 16 08 51.0 +1.8
comp=Z,3.2nm,0.5s,baz=192,slow=4.6,SNR=7.1
LPAZ La Paz 159.01 131 *e*PKPdf PKPdf 16 08 12.8 +2.4
LPAZ *e*PKPab PKPab 16 08 48.9 -0.4
SIV San Ignacio 163.92 146 PKP PKPdf 16 08 17.9 +2.6
comp=Z,3.2nm,0.8s,baz=227,slow=2.0,SNR=15

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIV				PKPab	PKPab	16 09 10.7	+0.1
	comp=Z,3.4nm,0.8s,baz=240,slow=3.9,SNR=5.7						
BDFB	**Brasilia**	**166.55**	**196**	PKP	PKPdf	16 08 19.9	+2.2
	comp=Z,4.6nm,0.8s,baz=170,slow=4.2,SNR=4.4						
SAML	**Samuel**	**167.10**	**119**	*e*PKPdf	PKPdf	16 08 19.9	+1.7
SAML				*e*PKPab	PKPab	16 09 24.4	0.0

IDC 19 16:08:45.0±1.9, 2.91N×66.58E, mb3.9/5, mb1 4.1/5, mb1mx3.7/18, mbtmp3.9/5, Error ellipse: s-maj=59.3km s-min=34.9km az=57.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**45.80**	**15**	P	P	16 17 06.7	-3.6
	0.4nm,0.9s,baz=180,slow=12,SNR=2.3						
ZAL	**Zalesovo**	**53.02**	**13**	P	P	16 18 03.9	-2.0
	1.8nm,0.3s,baz=158,slow=6.0,SNR=5.1						
SONM	**Songino Array**	**56.35**	**31**	P	P	16 18 29.6	-0.6
	0.5nm,0.7s,baz=236,slow=5.3,SNR=4.9						
HFS	**Hagfors**	**69.80**	**335**	P	P	16 19 56.5	-2.6
	2.4nm,0.6s,baz=112,slow=8.0,SNR=6.3						
WRA	**Warramunga Arr**	**70.21**	**112**	P	P	16 19 59.9	-2.4
	2.3nm,1.1s,baz=290,slow=6.0,SNR=5.4						
TXAR	**Lajitas Array**	**146.60**	**344**	PKPbc	PKPbc	16 28 29.6	+0.7
	1.5nm,0.6s,baz=74,slow=2.4,SNR=12						

*IDC **19** 17:06:19.4±2.4, 0.68S×134.29E, mb3.9/2, mb1 4.3/4, mb1mx3.9/15, mbtmp4.2/4, ML4.4/2, Error ellipse: s-maj=97.4km s-min=25.2km az=85.0*
*NEIC **19** 17:06:25.0±1.5, 0.73S×134.13E, h35km, mb4.0/2, Error ellipse: s-maj=64.2km s-min=13.9km az=82.0*
ISC 19 17:06:22.5±1.8, 0.8S±0.1×134.1E±0.5, h33km, n7, σ0°25/9, mb4.0/2, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**11.98**	**188**	*e*P	**P**	**17 09 25.7**	**+12**
	18nm,0.6s						
KAKA				*e*S	**S**	**17 11 33.5**	**+6.1**
WRAB	**Tennant Creek**	**19.05**	**179**	*e*P	**P**	**17 10 44.7**	**0.0**
	2.1nm,0.4s						
WRA	**Warramunga Arr**	**19.06**	**179**	P	**P**	**17 10 44.9**	**0.0**
	0.7nm,0.3s,baz=359,slow=11,SNR=22						
FITZ	**Fitzroy Crossi**	**19.13**	**205**	*e*P	**P**	**17 10 45.6**	**-0.1**
	14nm,0.6s						
FITZ				*e*S	**S**	**17 14 05.2**	**-9.0**
FITZ	**Fitzroy Crossi**	**19.13**	**205**	P	**P**	**17 10 45.6**	**-0.1**
	1.9nm,0.3s,baz=13,slow=5.0,SNR=24						
MKAR	**Makanchi Array**	**65.48**	**324**	P	**P**	**17 17 05.0**	**+0.4**
	1.4nm,0.7s,mb4.1,baz=116,slow=7.7,SNR=18						
ZAL	**Zalesovo**	**68.00**	**331**	P	**P**	**17 17 20.0**	**-0.4**
	0.6nm,0.5s,mb3.9,baz=35,slow=16,SNR=2.6						

*NIED **19** 17:32:00, 38.60N×143.50E, h11km, Mw3.9 Best double couple: M0 7.39×10^14 NP1:φs 50°, δ68°, λ119°. NP2:φs 174°, δ36°, λ40°.*
*IDC **19** 17:32:08.0±2.2, 38.46N×144.02E, mb3.7/4, mb1 3.8/6, mb1mx3.6/21, mbtmp3.7/6, ML3.2/2, MS2.8/1, Ms1 2.8/1, ms1mx2.4/36, Error ellipse: s-maj=54.5km s-min=25.7km az=77.0*
*MOS **19** 17:32:11.1±0.6, 38.51N×143.84E, h33km, mb4.1/2, Error ellipse: s-maj=24.8km s-min=20.6km az=149.5*
*JMA **19** 17:32:12.3±0.2, 38.55N×143.49E, h24km, M3.6*
*NEIC **19** 17:32:13.6±1.2, 38.42N×143.82E, h35km, mb4.1/1, Error ellipse: s-maj=21.5km s-min=14.1km az=115.0*
ISC 19 17:32:12.3±1.9, 38.61N±0.07×143.52E±0.09, h22km±17km, n27, σ0°70/33, mb3.7/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.52**	**289**	P	**Pn**	**17 32 38.7**	**+0.1**
OFUJ				*e*S	**Sn**	**17 32 57.8**	**-0.1**
MIYJ	**Miyakonagasawa**	**1.64**	**307**	P	**Pn**	**17 32 40.2**	**-0.1**
JIO	**Ouri**	**1.71**	**266**	P	**Pn**	**17 32 41.0**	**-0.3**
JIO				*e*S	**Sn**	**17 33 01.4**	**-1.3**
JMK	**Ichinoseki**	**1.83**	**282**	P	**Pn**	**17 32 43.2**	**+0.2**
JMK				*e*S	**Sn**	**17 33 05.6**	**-0.2**
JOM	**Ohasama**	**1.94**	**297**	P	**Pn**	**17 32 44.8**	**+0.2**
JOU	**Okura**	**2.26**	**265**	P	**Pn**	**17 32 49.5**	**+0.4**
JOU				*e*S	**Sn**	**17 33 16.2**	**-0.4**
JMM	**Marumori**	**2.27**	**252**	P	**Pn**	**17 32 49.0**	**-0.4**
JANG	**Nango**	**2.35**	**319**	P	**Pn**	**17 32 51.9**	**+1.4**
JFK	**Kawauchi**	**2.43**	**240**	P	**Pn**	**17 32 50.5**	**-1.1**
JYK	**Kaneyama**	**2.49**	**278**	P	**Pn**	**17 32 52.8**	**+0.3**
JOT	**Ohata**	**3.36**	**326**	P	**Pn**	**17 33 04.8**	**0.0**
MJAR	**Matsushiro Arr**	**4.70**	**246**	Pn	**Pn**	**17 33 24.0**	**+0.2**
	1.2nm,0.3s,baz=64,slow=12,SNR=16						
MAJO	**Matsushiro**	**4.70**	**246**	*e*Pn	**Pn**	**17 33 24.1**	**+0.3**
MAT	**Matsushiro**	**4.70**	**246**	P	**Pn**	**17 33 24.0**	**+0.2**
MAT				S	**Sn**	**17 34 19.7**	**+1.3**
MAT	**Matsushiro**	**4.70**	**246**	*e*P	**Pn**	**17 33 24.0**	**+0.2**
MAT				*e*S	**Sn**	**17 34 20.0**	**+1.6**
ASAJ	**Asahikawa**	**5.55**	**353**	Pn	**Pn**	**17 33 34.5**	**-1.3**
	0.5nm,0.3s,baz=236,slow=7.3,SNR=6.5						
ASAJ				LR	LR	17 36 43.7	
	comp=Z,82nm,18.6s,baz=159,slow=48						
ASAJ	**Asahikawa**	**5.55**	**353**	P	**Pn**	**17 33 34.5**	**-1.3**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,82nm,18.6s						
BOD	**Bodaibo**	**27.15**	**325**	*e*P	**P**	**17 37 55.9**	**+0.2**
SONM	**Songino Array**	**28.35**	**301**	P	**P**	**17 38 07.4**	**+0.8**
	comp=Z,0.5nm,0.7s,mb3.2,baz=94,slow=8.1,SNR=4.2						
ZAK	**Zakamensk**	**30.66**	**306**	*e*P	**P**	**17 38 26.9**	**-0.3**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.6						
ZAL	**Zalesovo**	**42.13**	**311**	P	**P**	**17 40 04.8**	**+0.5**
	comp=Z,0.8nm,0.2s,mb3.9,baz=5.7,slow=10,SNR=2.8						
ZAL	**Zalesovo**	**42.13**	**311**	P	**P**	**17 40 04.8**	**+0.5**
MKAR	**Makanchi Array**	**44.72**	**301**	P	**P**	**17 40 25.8**	**+0.3**
	comp=Z,1.2nm,0.8s,mb3.8,baz=83,slow=9.8,SNR=9.4						
MKAR	**Makanchi Array**	**44.72**	**301**	P	**P**	**17 40 25.8**	**+0.3**
KURK	**Kurchatov**	**46.30**	**307**	*e*P	**P**	**17 40 37.2**	**-0.7**
	comp=Z,2.6nm,1.0s,mb4.1						
KURK	**Kurchatov**	**46.30**	**307**	*e*P	**P**	**17 40 37.2**	**-0.7**
KURK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
WRA	**Warramunga Arr**	**58.87**	**190**	P	**P**	**17 42 08.0**	**-4.0**
	comp=Z,0.4nm,0.5s,mb3.7,baz=8.4,slow=7.2,SNR=5.1						

IDC 19 17:43:00.3±2.0, 12.99N×92.40E, mb3.9/5, mb1 4.1/5, mb1mx3.7/19, mbtmp3.9/5, Error ellipse: s-maj=92.4km s-min=20.9km az=71.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**34.75**	**348**	P	P	17 49 52.1	-2.2
	1.2nm,0.8s,baz=162,slow=7.7,SNR=11						
SONM	**Songino Array**	**36.65**	**16**	P	P	17 50 08.9	-1.5
	0.9nm,0.7s,baz=205,slow=6.9,SNR=9.7						
ZAL	**Zalesovo**	**41.28**	**353**	P	P	17 50 47.0	-1.9
	0.9nm,0.3s,baz=256,slow=1.3,SNR=4.8						
NWAO	**Narrogin (SRO)**	**51.46**	**153**	P	P	17 52 07.7	-1.9
	6.4nm,1.0s,baz=330,slow=8.1,SNR=6.7						
WRA	**Warramunga Arr**	**52.68**	**128**	P	P	17 52 16.4	-2.6
	0.5nm,0.6s,baz=308,slow=8.0,SNR=4.0						

NNC 19 18:09:18.4±2.7, 37.19N×71.43E, h151km±51km, mpv3.5, 2C-1D, Error ellipse: s-maj=66.9km s-min=28.6km az=76.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**5.92**	**22**	⇑S	S	18 11 51.5	-0.7
	2.9nm,0.5s						
KK31	**Karatay Array**	**5.95**	**353**	⇓P	P	18 10 44.4	-0.9
	1.6nm,0.3s,baz=181,slow=13,SNR=19						
KK31				⇑S	S	18 11 52.2	-0.6
	0.4nm,0.2s,baz=174,slow=24,SNR=5.4						
AB31	**Akbulak array**	**14.66**	**329**	P	P	18 12 38.3	-1.0
	0.3nm,0.5s,baz=162,slow=13,SNR=8.3						

*BJI **19** 18:32:22.8, 1.80N×96.85E, h36km, mB4.9, mb4.8, Ms4.4, Msz4.1*
*MOS **19** 18:32:24.1±0.8, 2.06N×96.74E, h34km, mb5.0/27, Error ellipse: s-maj=13.0km s-min=7.1km az=102.5*
*IDC **19** 18:32:24.9±0.5, 2.06N×96.68E, h25km±2km, mb4.4/21, mb1 4.5/21, mb1mx4.4/24, mbtmp4.6/21, MS3.8/5, Ms1 3.8/5, ms1mx3.5/20, Error ellipse: s-maj=16.2km s-min=10.2km az=48.0*
*NEIC **19** 18:32:24.7±0.3, 2.00N×96.64E, mb4.8/29, Error ellipse: s-maj=7.5km s-min=5.3km az=210.0*
ISC 19 18:32:22.7±1.3, 1.97N±0.05×96.68E±0.04, h26km±9km, h27km±.7km: pP-P, n134, σ0°98/146, mb4.8/63, MS4.0/15, 7C-7D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.05**	**59**	P	**Pn**	**18 33 39.6**	**+0.7**
KULM	**Kulim**	**5.15**	**50**	⇑*i*Pn	**Pn**	**18 33 40.4**	**+0.1**
PKT	**Phuket**	**6.25**	**14**	P	**Pn**	**18 33 57.5**	**+1.7**
KGM	**Kluang**	**6.63**	**90**	P	**Pn**	**18 34 02.1**	**+0.8**
KSM	**Kuching**	**13.63**	**92**	*e*Pn	**P**	**18 35 38.3**	**+1.2**
KKTK	**Khon Kaen**	**15.50**	**23**	P	**P**	**18 36 02.0**	**+0.4**
PALK	**Pallekele**	**16.77**	**289**	*e*P	**P**	**18 36 15.7**	**-2.1**
	18nm,1.0s						
CHG	**Chiang Mai**	**16.88**	**7**	⇓P	**P**	**18 36 18.3**	**-0.9**
	17nm,0.8s						
NANT	**Nan**	**17.18**	**13**	P	**P**	**18 36 21.0**	**-1.9**
KKM	**Kota Kinabalu**	**19.90**	**78**	P	**P**	**18 36 55.9**	**+0.3**
KKM	**Kota Kinabalu**	**19.90**	**78**	*e*P	**P**	**18 36 54.8**	**-0.7**
TSM	**Tawau**	**21.28**	**83**	P	**P**	**18 37 09.5**	**-0.4**
HYB	**Hyderabad**	**23.51**	**312**	*e*P	**P**	**18 37 39.0**	**+7.1**
KMI	**Kunming**	**23.75**	**14**	P	**P**	**18 37 35.4**	**+1.3**
KMI				AP		18 37 43.6	
KMI				XP		18 37 47.0	
KMI				PP	PP	18 38 12.6	+5.2
KMI				PPP	PPP	18 38 23.5	+6.1
KMI				S	**S**	**18 41 53.9**	**+9.4**
KMI				AMB	AMB		
	comp=Z,18nm,1.1s,mb4.4						
KMI				AMB	AMB		
	comp=Z,55nm,3.9s						
KMI				LR	LR		
	comp=N,245nm,13.8s,MS4.0						
KMI				LR	LR		
	comp=E,334nm,18.1s,MS4.0						
KMI				LR	LR		
	comp=Z,329nm,14.6s,MS3.9						
KMI	**Kunming**	**23.75**	**14**	P	**P**	**18 37 35.4**	**+1.3**
	comp=Z,18nm,1.1s,mb4.4						
KMI				pP		18 37 43.6	
KMI				sP		18 37 47.0	
KMI				PP	PP	18 38 12.6	+5.2
KMI				PPP	PPP	18 38 23.5	+6.1
KMI				S	**S**	**18 41 53.9**	**+9.4**
KMI				sS		18 42 07.8	
KMI				SS	SS	18 42 53.6	+19
KMI				SSS	SSS	18 43 09.1	+19
KMI				LR	LR		
	comp=Z,330nm,14.6s,MS3.9						
KMI	**Kunming**	**23.75**	**14**	P	**P**	**18 37 35.4**	**+1.3**
KMI				*PP		18 37 43.6	
KMI				*SP		18 37 47.0	
KMI						18 38 12.6	
KMI				SS	SS	18 42 53.6	+19
KMI				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.4						
KMI				MLR	MLR		
	comp=Z,330nm,14.6s,MS3.9						
GYA	**Guiyang**	**26.17**	**21**	⇑*i*P	**P**	**18 37 57.8**	**+0.6**
GYA				AP	pP	18 38 04.8	+0.2
GYA				XP	sP	18 38 08.4	+0.4
GYA				S	**S**	**18 42 32.8**	**+7.5**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.3						
GYA				AMB	AMB		
	comp=Z,150nm,9.8s						
GYA				LR	LR		
	comp=N,230nm,12.6s,MS4.0						
GYA				LR	LR		
	comp=E,150nm,12.5s,MS4.0						
GYA				LR	LR		
	comp=Z,320nm,12.9s,MS4.0						
PKI	**Pulchoki**	**27.65**	**338**	*e*P	**P**	**18 38 11.1**	**+0.4**
	comp=Z,22nm,0.6s,mb5.0						
PKI	**Pulchoki**	**27.65**	**338**	*e*P	**P**	**18 38 11.1**	**+0.4**
PKI				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.7						
DMN	**Daman**	**27.80**	**338**	*e*P	**P**	**18 38 12.5**	**+0.4**
	comp=Z,41nm,0.7s,mb5.2						
KKN	**Kakani**	**27.89**	**338**	*e*P	**P**	**18 38 13.1**	**+0.2**
	comp=Z,51nm,0.8s,mb5.2						
KKN	**Kakani**	**27.89**	**338**	*e*P	**P**	**18 38 13.1**	**+0.2**
KKN				pmax	pmax		
	comp=Z,25nm,0.8s,mb4.9						
LSA	**Lhasa**	**28.07**	**350**	P	**P**	**18 38 15.0**	**+0.5**
LSA	**Lhasa**	**28.07**	**350**	*e*P	**P**	**18 38 15.1**	**+0.6**
	comp=Z,18nm,0.6s,mb4.9						
LSA	**Lhasa**	**28.07**	**350**	*e*P	**P**	**18 38 15.1**	**+0.6**
LSA				pmax	pmax		
	comp=Z,18nm,0.6s,mb4.9						
GKN	**Gorkha**	**28.33**	**337**	*e*P	**P**	**18 38 17.3**	**+0.4**
	comp=Z,44nm,0.7s,mb5.2						
KOLN	**Koldanda**	**28.54**	**335**	*e*P	**P**	**18 38 19.1**	**+0.3**
	comp=Z,61nm,0.7s,mb5.5						
CD2	**Chengdu**	**29.55**	**12**	*e*P	**P**	**18 38 29.0**	**+1.2**
ENH	**Enshi**	**30.66**	**22**	*e*P	**P**	**18 38 35.2**	**-2.3**
	comp=Z,9.1nm,0.7s,mb4.7						
ENH				*e*pP	pP	18 38 43.0	-2.1
WHN	**Wuhan**	**32.98**	**29**	*e*P	**P**	**18 38 57.3**	**-0.7**
XAN	**Xi'an**	**33.89**	**18**	P	**P**	**18 39 03.8**	**-2.0**
XAN				AP	pP	18 39 11.3	-2.1
XAN				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.6						
LZH	**Lanzhou**	**34.59**	**10**	⇑P	**P**	**18 39 11.3**	**-0.5**
LZH				AP	pP	18 39 19.8	+0.4
LZH				XP	sP	18 39 23.3	+0.7
LZH				PP	PP	18 40 29.5	+1.0
LZH				*e*S	**S**	**18 44 39.6**	**+1.2**
LZH				XS		18 44 52.8	
LZH				*e*SS	SS	18 46 53.5	+2.7
LZH				AMB	AMB		
	comp=Z,35nm,1.3s,mb5.1						
LZH				AMB	AMB		
	comp=Z,89nm,5.4s						
LZH				LR	LR		
	comp=N,738nm,12.8s						
LZH				LR	LR		
	comp=Z,1μm,17.9s						
LZH	**Lanzhou**	**34.59**	**10**	⇑P	**P**	**18 39 11.3**	**-0.5**
	comp=Z,35nm,1.3s,mb5.1						
LZH				pP	pP	18 39 19.8	+0.4
LZH				sP	sP	18 39 23.3	+0.7
LZH				PP	PP	18 40 29.5	+1.0
LZH				*e*S	**S**	**18 44 39.6**	**+1.2**
LZH				sS		18 44 52.8	
LZH				*e*SS	SS	18 46 53.5	+2.7
LZH				LR	LR		
	comp=Z,1μm,17.9s,MS4.8						
FITZ	**Fitzroy Crossi**	**34.80**	**126**	P	**P**	**18 39 12.9**	**-0.9**
	comp=Z,9.0nm,0.8s,mb4.8,baz=184,slow=12,SNR=6.3						
NJ2	**Nanjing**	**36.49**	**33**	*e*P	**P**	**18 39 24.9**	**-3.1**
NJ2				AP	pP	18 39 34.6	-1.0
NJ2				XP	sP	18 39 38.6	-0.2
NJ2				PP	PP	18 40 47.1	-5.1
NJ2				S	**S**	**18 45 00.0**	**-7.8**
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,2μm,8.3s						
NJ2				LR	LR		
	comp=N,580nm,26.1s						
NJ2				LR	LR		
	comp=E,480nm,20.7s						
NJ2				LR	LR		
	comp=Z,210nm,20.6s						
SSE	**Sheshan**	**37.09**	**36**	P	**P**	**18 39 34.3**	**+1.3**
SSE				AP	pP	18 39 43.1	+2.5
SSE				XP	sP	18 39 46.9	+3.0
SSE				S	**S**	**18 45 21.4**	**+4.3**
SSE				XS		18 45 36.8	
SSE				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
SSE				AMB	AMB		
	comp=Z,93nm,3.8s						
SSE				LR	LR		
	comp=N,144nm,20.8s,MS3.8						
SSE				LR	LR		
	comp=E,108nm,20.8s,MS3.8						
SSE				LR	LR		
	comp=Z,192nm,16.8s,MS4.0						
SSE	**Sheshan**	**37.09**	**36**	P	**P**	**18 39 34.2**	**+1.2**
	comp=Z,10.0nm,0.8s,mb4.7						
SSE				pP	pP	18 39 43.1	+2.5
SSE				sP	sP	18 39 46.9	+3.0
SSE				S	**S**	**18 45 21.4**	**+4.3**
SSE				sS		18 45 36.7	
SSE				LR	LR		
	comp=Z,190nm,16.8s,MS4.0						
GTA	**Gaotai**	**37.37**	**4**	P	**P**	**18 39 35.3**	**0.0**
GTA				AP	pP	18 39 43.6	+0.7
GTA				XP	sP	18 39 46.4	+0.3
GTA				PP	PP	18 41 04.5	+1.2
GTA				PPP	PPP	18 41 25.8	+1.8
GTA				PCP	PcP	18 41 54.6	+0.1
GTA				S	**S**	**18 45 22.8**	**+1.5**
GTA				XS		18 45 34.5	
GTA				SCP		18 45 37.6	
GTA				SS	SS	18 47 56.9	+3.1
GTA				SCS	ScS	18 49 45.9	+0.5
GTA				AMB	AMB		
	comp=Z,41nm,0.8s,mb5.3						
GTA				AMB	AMB		
	comp=Z,126nm,8.4s						
GTA				LR	LR		
	comp=N,125nm,15.3s,MS4.0						
GTA				LR	LR		
	comp=E,106nm,13.8s,MS4.0						
GTA				LR	LR		
	comp=Z,129nm,17.2s,MS3.8						
KAKA	**Kakadu**	**38.38**	**113**	*e*P	**P**	**18 39 55.1**	**+11**
	comp=Z,8.9nm,0.4s,mb4.8						
JOW	**Kunigami**	**39.10**	**48**	P	**P**	**18 39 50.6**	**+0.7**
	comp=Z,7.8nm,0.6s,mb4.6,baz=266,slow=7.9,SNR=6.9						
HHC	**Hu-ho-hao-te**	**40.97**	**17**	*e*P	**P**	**18 40 06.3**	**+1.1**
HHC				AP	pP	18 40 14.9	+2.0
HHC				XP	sP	18 40 19.3	+3.2
HHC				PP	PP	18 41 44.8	+2.0
HHC				PCP	PcP	18 42 06.8	+1.0
HHC				S	**S**	**18 46 15.9**	**+0.4**
HHC				XS		18 46 35.0	
HHC				SS	SS	18 49 18.6	+5.2
HHC				SCS	ScS	18 50 05.6	-0.6
HHC				AMB	AMB		
	comp=Z,14nm,1.1s,mb4.5						
HHC				AMB	AMB		
	comp=Z,136nm,6.0s						
HHC				LR	LR		
	comp=N,166nm,14.3s,MS4.2						
HHC				LR	LR		
	comp=E,229nm,16.6s,MS4.2						
HHC				LR	LR		
	comp=Z,154nm,17.2s,MS3.9						
KSH	**Kashi**	**41.86**	**336**	*e*P	**P**	**18 40 16.1**	**+3.5**
KSH				*e*AP	pP	18 40 23.3	+3.1
KSH				*e*XP	sP	18 40 26.0	+2.6
KSH				*e*PP	PP	18 41 56.3	+3.8
KSH				*e*PCP	PcP	18 42 11.3	+2.5
KSH				*e*PPP	PPP	18 42 28.4	+4.4
KSH				*e*SCP		18 45 59.3	
KSH				*e*PCS		18 46 01.3	
KSH				*e*S	**S**	**18 46 34.0**	**+5.3**
KSH				*e*XS		18 46 45.0	
KSH				*e*SS	SS	18 49 35.3	+5.2
KSH				*e*SCS	ScS	18 50 14.3	+2.7
KSH				AMB	AMB		
	comp=Z,120nm,4.4s						
KSH				LR	LR		
	comp=N,230nm,8.5s						
KSH				LR	LR		
	comp=E,230nm,5.2s						
WMQ	**Urumqi**	**42.43**	**350**	P	**P**	**18 40 17.0**	**-0.2**
WMQ				AP	pP	18 40 27.0	+2.2
WMQ				XP	sP	18 40 31.0	+3.0
WMQ				PP	PP	18 41 59.0	+0.7
WMQ				SCP		18 45 57.0	
WMQ				S	**S**	**18 46 36.0**	**-1.0**
WMQ				SS	SS	18 49 40.0	-0.7
WMQ				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,23nm,6.0s						
WMQ				LR	LR		
	comp=N,65nm,18.0s,MS3.9						
WMQ				LR	LR		
	comp=E,114nm,18.0s,MS3.9						
WMQ				LR	LR		
	comp=Z,57nm,18.0s,MS3.5						
WRA	**Warramunga Arr**	**42.88**	**122**	P	**P**	**18 40 20.9**	**-0.3**
	comp=Z,9.6nm,0.7s,mb4.7,baz=299,slow=9.3,SNR=28						
WRA				pP	pP	18 40 28.9	0.0
	comp=Z,6.0nm,0.5s,baz=301,slow=9.1,SNR=12						
WRAB	**Tennant Creek**	**42.89**	**122**	*e*P	**P**	**18 40 21.1**	**-0.1**
	comp=Z,31nm,1.1s,mb5.0						
WRAB	**Tennant Creek**	**42.89**	**122**	*d i*P	**P**	**18 40 21.6**	**+0.4**
KZA	**Kyzart**	**44.32**	**337**	P	**P**	**18 40 34.1**	**+1.5**
	SNR=7.5						
JNU	**Nakatsue**	**44.58**	**42**	P	**P**	**18 40 34.0**	**-0.9**
	comp=Z,7.1nm,0.6s,mb4.7,baz=144,slow=8.1,SNR=6.2						
KBK	**Karagaybulak**	**44.93**	**337**	P	**P**	**18 40 39.6**	**+2.1**
	SNR=11						
AML	**Almayashu**	**44.99**	**336**	P	**P**	**18 40 39.6**	**+1.6**
	SNR=16						
AAK	**Ala-Archa**	**45.09**	**337**	*e*P	**P**	**18 40 38.8**	**0.0**
	comp=Z,5.7nm,0.7s,mb4.5						
AAK	**Ala-Archa**	**45.09**	**337**	*i*P	**P**	**18 40 39.4**	**+0.7**
AAK				pmax	pmax		
	comp=Z,13nm,1.7s,mb4.5						
CHMS	**Chumysh**	**45.30**	**337**	P	**P**	**18 40 41.2**	**+0.8**
	SNR=7.2						
EKS2	**Erkin-Say**	**45.40**	**336**	P	**P**	**18 40 42.7**	**+1.5**
	SNR=18						
KS15	**Wonju Array Si**	**45.48**	**35**	*e*P	**P**	**18 40 41.8**	**-0.1**
USP	**Ospenovka**	**45.62**	**337**	P	**P**	**18 40 43.9**	**+1.0**
	SNR=34						
MKAR	**Makanchi Array**	**46.37**	**346**	P	**P**	**18 40 48.9**	**+0.1**
	comp=Z,16nm,0.6s,mb5.2,baz=160,slow=6.8,SNR=197						
MKAR				pP	pP	18 40 56.7	+0.2
	comp=Z,11nm,0.7s,baz=165,slow=9.0,SNR=15						
MKAR				LR	LR	19 04 18.0	
	comp=Z,79nm,20.2s,MS3.7,baz=179,slow=41						
MKAR	**Makanchi Array**	**46.37**	**346**	P	**P**	**18 40 48.9**	**+0.1**
MKAR				pP	pP	18 40 56.7	+0.2
MKAR				LR	LR	19 04 18.0	
SONM	**Songino Array**	**46.45**	**9**	P	**P**	**18 40 49.5**	**+0.1**
	comp=Z,14nm,1.0s,mb4.8,baz=192,slow=8.0,SNR=56						
SONM				pP	pP	18 40 57.6	+0.5
	comp=Z,11nm,0.9s,baz=217,slow=7.4,SNR=17						
SONM				PcP	PcP	18 42 24.3	0.0
	comp=Z,2.3nm,0.6s,baz=190,slow=4.1,SNR=6.9						
SNY	**Shenyang**	**46.46**	**28**	⇓P	**P**	**18 40 49.3**	**-0.3**
SNY				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.2						
ZAK	**Zakamensk**	**48.56**	**6**	⇓*e*P	**P**	**18 41 06.6**	**+0.7**
ZAK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
CN2	**Changchun**	**48.86**	**28**	*e*P	**P**	**18 41 08

MDJ PP PP 18 43 26.3 +0.2
MDJ S **S** **18 48 45.9 +0.9**
MDJ AMB AMB
comp=Z,11nm,0.9s,mb4.8
MDJ AMB AMB
comp=Z,56nm,3.6s
MDJ LR LR
comp=N,79nm,16.6s,MS3.9
MDJ LR LR
comp=E,42nm,15.8s,MS3.9
MDJ LR LR
comp=Z,96nm,15.0s,MS4.0
MAJO Matsushiro 51.48 43 *e*P **P** **18 41 28.3 -0.1**
comp=Z,9.2nm,0.9s,mb4.7
MAJO *e*pP pP 18 41 36.2 0.0
MAJO Matsushiro 51.48 43 *e*P **P** **18 41 28.3 -0.1**
MAJO *e**PP pP 18 41 36.2 0.0
MAJO pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
MAT Matsushiro 51.48 43 P **P** **18 41 27.0 -1.4**
MAT Matsushiro 51.48 43 *e*P **P** **18 41 28.0 -0.4**
comp=Z,16nm,1.2s,mb4.8
MAT Matsushiro 51.48 43 *e*P **P** **18 41 28.0 -0.4**
MAT pmax pmax
comp=Z,16nm,1.2s,mb4.8
MJAR Matsushiro Arr 51.48 43 P **P** **18 41 27.6 -0.8**
comp=Z,5.7nm,0.8s,mb4.5,baz=204,slow=6.6,SNR=15
MJAR pP pP 18 41 36.2 0.0
comp=Z,4.9nm,0.8s,baz=211,slow=6.6,SNR=8.1
MJAR LR LR 19 04 10.9
comp=Z,104nm,18.9s,MS3.9,baz=245,slow=37
MJAR Matsushiro Arr 51.48 43 P **P** **18 41 27.6 -0.8**
MJAR pP pP 18 41 36.2 0.0
MJAR LR LR 19 04 10.8
PMG Port Moresby 51.54 104 P **P** **18 41 29.0 -0.1**
comp=Z,47nm,0.7s,mb5.5,baz=279,slow=2.4,SNR=13
PMG pP pP 18 41 37.9 +0.9
comp=Z,21nm,0.8s,baz=270,slow=11,SNR=2.6
PMG Port Moresby 51.54 104 *e*P **P** **18 41 28.6 -0.6**
comp=Z,48nm,0.8s,mb5.5
PMG Port Moresby 51.54 104 *e*P **P** **18 41 28.6 -0.5**
PMG pmax pmax
comp=Z,48nm,0.8s
CIT Chita 51.84 13 *e*P **P** **18 41 28.1 -2.8**
CIT *e* 18 41 40.2
CIT pmax pmax
comp=Z,35nm,1.6s,mb5.0
ZAL Zalesovo 52.71 351 P **P** **18 41 36.7 -0.7**
comp=Z,18nm,0.6s,mb5.2,baz=299,slow=5.1,SNR=94
ZAL Zalesovo 52.71 351 P **P** **18 41 36.7 -0.8**
OPO Ambohidratompo 52.77 245 P **P** **18 41 39.7 +1.3**
comp=Z,2.3nm,0.9s,mb4.1,baz=23,slow=7.1,SNR=3.1
CTA Charters Tower 53.31 117 *e*P **P** **18 41 42.8 +0.5**
comp=Z,6.0nm,0.8s,mb4.6
CTA Charters Tower 53.31 117 P **P** **18 41 42.7 +0.4**
comp=Z,8.0nm,0.8s,mb4.7,baz=281,slow=11,SNR=8.0
CTA pP pP 18 41 51.3 +1.1
comp=Z,9.9nm,1.0s,baz=324,slow=2.4,SNR=3.7
CTA Charters Tower 53.31 117 *e*P **P** **18 41 42.8 +0.5**
CTA pmax pmax
comp=Z,6.0nm,0.8s
CTAO Charters Tower 53.31 117 *e*P **P** **18 41 42.3 0.0**
comp=Z,8.3nm,0.8s,mb4.7
CTAO Charters Tower 53.31 117 *e*P **P** **18 41 42.3 0.0**
CTAO pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
NVS Novosibirsk 53.83 350⇑*i*P **P** **18 41 44.4 -1.3**
NVS *e*S **S** **18 49 15.1 -2.2**
NVS pmax pmax
comp=Z,22nm,1.0s,mb5.0
NVS pmax pmax
comp=N,10.0nm,0.8s
NVS pmax pmax
comp=E,7.0nm,0.7s
NVS smax
comp=N,9.0nm,1.6s
STKA Stephens Creek 54.25 132 *e*P **P** **18 41 49.2 +0.1**
comp=N,4.2nm,0.8s,mb4.4
STKA Stephens Creek 54.25 132 P **P** **18 41 49.6 +0.5**
comp=N,5.6nm,1.1s,mb4.4,baz=304,slow=7.1,SNR=4.0
STKA pP pP 18 41 58.2 +1.3
comp=N,3.7nm,0.6s,baz=293,slow=9.2,SNR=4.9
BVAR Borovoye Array 55.35 341 P **P** **18 41 55.9 -1.0**
comp=N,7.9nm,0.7s,mb4.9,baz=143,slow=8.8,SNR=56
BRVK Borovoye 55.42 341 *e*P **P** **18 41 56.1 -1.3**
comp=N,5.4nm,0.6s,mb4.8
BRVK Borovoye 55.42 341 *e*P **P** **18 41 56.1 -1.2**
BRVK pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
BOD Bodaibo 57.35 11 *e*P **P** **18 42 10.0 -1.1**
BOD pmax pmax
comp=Z,12nm,0.8s,mb5.0
YSS Yuzh-Sakhalins 60.01 35 *e*P **P** **18 42 29.4 -0.4**
comp=Z,12nm,0.7s,mb5.0
YSS Yuzh-Sakhalins 60.01 35 *e*P **P** **18 42 29.4 -0.3**
YSS pmax pmax
comp=Z,12nm,0.7s,mb5.0
SVE Sverdlovsk 61.78 338 *e*P **P** **18 42 41.3 -0.3**
SVE *e* 18 43 00.0
ARU Arti 62.27 337 *e*P **P** **18 42 41.8 -3.1**
comp=Z,6.2nm,0.8s,mb4.8
ARU Arti 62.27 337 *i*P **P** **18 42 43.7 -1.2**
ARU pmax pmax
comp=Z,4.0nm,1.0s,mb4.5
KIV Kislovodsk 63.39 319*de*P **P** **18 42 52.5 +0.1**
KIV *e* pP 18 42 59.9 -0.5
KIV *e* 18 43 07.0
KIV pmax pmax
comp=Z,6.0nm,1.0s,mb4.7
YAK Yakutsk 64.83 16 *e*P **P** **18 43 00.3 -1.3**
comp=Z,52nm,0.9s,mb5.6
YAK *e*pP pP 18 43 09.5 0.0
YAK Yakutsk 64.83 16 *e*P **P** **18 43 00.3 -1.3**
YAK *e**PP pP 18 43 09.5 -0.1
YAK pmax pmax
comp=Z,52nm,0.9s,mb5.6
SOC Sochi 65.20 318 *e*P **P** **18 43 10.5 +6.2**
SOC *e*S S 18 51 34.9 -9.4
SOC pmax pmax
comp=Z,19nm,0.8s,mb5.2
SOC pmax pmax
comp=N,4.0nm,0.5s
SOC pmax pmax
comp=E,5.0nm,0.8s
BRTR Keskin Array B 68.21 312 P **P** **18 43 22.7 -0.8**
comp=E,1.9nm,0.6s,mb4.3,baz=128,slow=7.3,SNR=10
OBN Obninsk 71.69 328*c i*P **P** **18 43 43.7 -0.7**
OBN *e* 18 43 57.2
OBN pmax pmax
comp=Z,29nm,1.7s,mb4.9
PET Petropavlovsk 71.88 34 *e*P **P** **18 43 45.0 -0.6**
comp=Z,11nm,0.5s,mb5.0
PET Petropavlovsk 71.88 34 *e*P **P** **18 43 45.0 -0.6**
PET pmax pmax
comp=Z,11nm,0.5s,mb5.0
TIXI Tiksi 72.52 10 *e*P **P** **18 43 44.1 -5.0**
TIXI pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
SEY Seymchan 73.26 23 *i*P **P** **18 43 53.0 -0.5**
MAW Mawson 73.34 193 P **P** **18 43 54.7 +0.8**
comp=Z,0.7nm,0.8s,mb3.7,baz=65,slow=5.9,SNR=4.1
IDI Anoyia 74.03 306 P **P** **18 43 58.1 -0.5**
comp=Z,3.1nm,0.7s,mb4.3,baz=150,slow=9.5,SNR=4.8
AKASG Malin Array Be 74.33 322 P **P** **18 43 58.9 -1.1**
comp=Z,2.6nm,0.6s,mb4.4,baz=88,slow=5.1,SNR=16
AKASG pP pP 18 44 07.3 -0.7
comp=Z,1.7nm,0.5s,baz=85,slow=5.1,SNR=5.8
AKASG Malin Array Be 74.33 322 P **P** **18 43 58.9 -1.1**
AKASG pP pP 18 44 07.3 -0.7
VRI Vrincioaia 74.70 317 ⇓P **P** **18 44 03.2 +1.0**
MLR Muntele Rosu 75.15 317 ⇑P **P** **18 44 05.6 +0.8**
BURAR Bucovina Array 76.11 319 ⇓P **P** **18 44 11.6 +1.4**
SUW Suwalki 78.75 325 *e*P **P** **18 44 24.8 +0.1**
SUW Suwalki 78.75 325 *e*P **P** **18 44 24.8 +0.1**
FINES FINESS Array B 79.08 333 P **P** **18 44 26.3 0.0**
comp=Z,3.6nm,0.6s,mb4.5,baz=108,slow=6.0,SNR=28
FINES pP pP 18 44 34.3 -0.1
comp=Z,1.4nm,0.6s,baz=89,slow=5.6,SNR=4.0
FINES LR LR 19 23 08.6
comp=Z,52nm,19.9s,MS3.9,baz=92,slow=38
KAF Kangasniemi 79.16 333 *e*p **P** **18 44 25.9 -0.9**
comp=Z,4.5nm,0.6s,mb4.6,baz=103,slow=5.1
KAF Kangasniemi 79.16 333 *e*P **P** **18 44 25.9 -0.9**
KAF pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
BILL Bilibino 80.63 21 P **P** **18 44 34.0 -0.5**
BILL *e* 18 55 16.2
BILL *e*SS SS 18 59 58.3 +3.5
BILL pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
BILL MLR MLR
comp=Z,100nm,16.0s,MS4.3
KEV Kevo 81.21 341 *e*p **P** **18 44 36.6 -0.9**
ARCES ARCESS Array B 81.64 340 P **P** **18 44 40.6 +0.9**
comp=Z,2.6nm,0.5s,mb4.4,baz=98,slow=4.4,SNR=43
ARCES pP pP 18 44 47.5 -0.5
comp=Z,2.6nm,0.6s,baz=101,slow=7.4,SNR=3.7
ARCES LR LR 19 23 40.5
comp=Z,53nm,18.2s,MS3.9,baz=224,slow=38
GERES GERESS Array B 83.89 319 P **P** **18 44 52.8 +1.0**
comp=Z,2.2nm,0.8s,mb4.3,baz=90,slow=4.0,SNR=19
GERES pP pP 18 45 00.1 +0.1
comp=Z,1.2nm,0.8s,baz=101,slow=6.8,SNR=5.0
KHC Kasperske Hory 84.00 319 *e*P **P** **18 44 53.0 +0.7**
GRA1 Grafenberg Arr 85.56 320 *e*P **P** **18 45 00.2 +0.1**
comp=Z,4.0nm,0.9s,mb4.7
GRF Grafenberg Arr 85.56 320 *e*P **P** **18 45 00.2 +0.1**
comp=Z,4.0nm,0.9s,mb4.7
GRF Grafenberg Arr 85.56 320 *e*P **P** **18 45 00.2 +0.1**
GRF pmax pmax
comp=Z,4.0nm,0.9s,mb4.7
GRF Grafenberg Arr 85.56 320 *e*P **P** **18 45 00.2 +0.1**
GRF pmax pmax
comp=Z,4.0nm,0.9s,mb4.7
NB2 NORSAR Subarra 86.08 331 P **P** **18 45 02.1 -0.4**
comp=Z,0.2nm,0.8s,baz=94,slow=5.8
NOA NORSAR Array B 86.08 331 P **P** **18 45 02.8 +0.3**
comp=Z,1.6nm,0.8s,mb4.3,baz=93,slow=5.0,SNR=7.0
NOA LR LR 19 28 08.9
comp=Z,42nm,20.7s,MS3.8,baz=90,slow=39
ILAR Eielson Array 99.19 23 PP PP 18 50 01.6 -6.5
comp=Z,0.5nm,0.9s,baz=288,slow=5.7,SNR=4.0
TXAR Lajitas Array 143.28 31 PKP PKPdf 18 51 54.8 -5.4
comp=Z,0.6nm,0.6s,baz=357,slow=2.3,SNR=9.2
CPUP Villa Florida 145.21 224 PKPbc PKPbc 18 52 01.6 +2.2
comp=Z,1.7nm,0.7s,baz=95,slow=2.2,SNR=5.3

NIED ***19*** *18:34:00,21.00N×122.30E,h35km,Mw4.0 Best double couple: M0:1.15×10¹⁵ NP1:φ0=187°,δ86°,λ45°. NP2:φ0=92°, δ45°,λ174°.*

MAN 19 18:34:35.9,20.66N×122.32E,h1km,MS4.6,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBP	**Basco**	**0.40**	**237**	*e*P	Pg	18 34 43.6	-0.3
APYP	**Conner**	**2.96**	**200**	*e*P	Pn	18 35 24.3	-0.7
APYP				*e*S	Sn	18 35 59.3	-2.4
CVP	**Callao Caves**	**2.98**	**189**	*e*P	Pn	18 35 26.0	+0.8
CVP				*i*S	Sn	18 36 04.0	+1.9
ABRA	**Dolores**	**3.36**	**207**	*e*P	Pn	18 35 30.8	+0.2
CAUP	**Cauayan**	**3.73**	**187**	*e*P	Pn	18 35 38.5	+2.6
BALP	**Baler**	**4.95**	**188**	*e*P	Pn	18 35 53.0	-0.2
SCZP	**Santa Cruz**	**5.37**	**206**	*e*P	Pn	18 36 00.1	+0.9

SOF ***19*** *18:34:40.7,44.93N×25.11E,h17km,MD2.9*
CSEM ***19*** *18:34:40.8±0.1,44.96N×25.35E,h5km,MD3.7/5,Error ellipse: s-maj=3.3km s-min=2.8km az=31.0*
NEIC ***19*** *18:34:42.0,44.94N×25.27E,h10km,ML3.9(BUC),After BUC.*
BUC ***19*** *18:34:41.4±0.4,44.97N×25.37E,h9km±3km,MD3.7/5, Error ellipse: s-maj=4.3km s-min=2.5km az=53.0*
ATH ***19*** *18:35:26.8,41.26N×24.71E,h10km,MD3.6/3*

ISC 19 18:34:40.3±0.5,44.86N±0.02×25.26E±0.04,h3km±5km, n48,σ1°19/76,17C-8D,Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTUR	**Matau**	**0.39**	**339**	⇓*i*P	**Pg**	**18 34 48.5**	**+0.3**
MTUR				*i*S	**Sg**	**18 34 55.0**	**+1.6**
MTUR	**Matau**	**0.39**	**339**	⇓P	**Pg**	**18 34 48.5**	**+0.4**
MTUR				S	**Sg**	**18 34 55.0**	**+1.6**
SNX	**Sinaia**	**0.53**	**20**	⇑*i*P	**Pg**	**18 34 49.8**	**-1.0**
SNX				*i*S	**Sg**	**18 34 55.7**	**-2.1**
SNX	**Sinaia**	**0.53**	**20**	⇑P	**Pg**	**18 34 49.7**	**-1.1**
SNX				S	**Sg**	**18 34 55.7**	**-2.1**
VOIR		**0.59**	**345**	⇑*i*P	**Pg**	**18 34 52.1**	**-0.1**
VOIR				*i*S	**Sg**	**18 35 00.2**	**+0.1**
VOIR		**0.59**	**345**	⇓P	**Pg**	**18 34 52.0**	**-0.2**
VOIR		**0.59**	**345**	⇓P	**Pg**	**18 34 52.0**	**-0.2**
VOIR				S	**Sg**	**18 35 00.2**	**+0.1**
BUC1	**Bucharest**	**0.75**	**133**	⇑*i*P	**Pg**	**18 34 57.4**	**+2.0**
BUC1				*i*S	**Sg**	**18 35 09.6**	**+4.2**
BUC1	**Bucharest**	**0.75**	**133**	⇑P	**Pg**	**18 34 57.4**	**+2.0**
BUC1				S	**Sg**	**18 35 09.6**	**+4.2**
MLR	**Muntele Rosu**	**0.79**	**37**	⇑*i*P	**Pg**	**18 34 55.3**	**-0.9**
MLR				S	**Sg**	**18 35 07.9**	**+1.1**
MLR	**Muntele Rosu**	**0.79**	**37**	⇑P	**Pg**	**18 34 55.3**	**-0.9**
MLR				S	**Sg**	**18 35 07.9**	**+1.2**
ISR	**Istrita**	**0.94**	**74**	⇑*i*P	**Pb**	**18 34 58.3**	**-0.7**
ISR				*i*S	**Sg**	**18 35 11.7**	**-0.1**
ISR	**Istrita**	**0.94**	**74**	⇑*i*P	**Pb**	**18 34 58.3**	**-0.7**
ISR				S	**Sg**	**18 35 13.6**	**+1.8**
ISR	**Istrita**	**0.94**	**74**	⇑P	**Pb**	**18 34 58.2**	**-0.7**
ISR				S	**Sg**	**18 35 13.6**	**+1.8**
VRI	**Vrincioaia**	**1.44**	**45**	⇓*i*P	**Pn**	**18 35 06.3**	**-1.1**
VRI	**Vrincioaia**	**1.44**	**45**	P	**Pn**	**18 35 06.4**	**-1.0**
PVL	**Pavlikeni**	**1.65**	**178**	*i*P	**Pn**	**18 35 16.5**	**+6.2**
SZH	**Strazhica**	**1.67**	**163**	*e*P	**Pn**	**18 35 14.5**	**+3.9**
HARR	**Harsova**	**1.91**	**94**	⇑*i*P	**Pn**	**18 35 13.1**	**-1.0**
HARR				*i*S	**Sn**	**18 35 39.0**	**+0.1**
HARR	**Harsova**	**1.91**	**94**	⇑P	**Pn**	**18 35 13.1**	**-1.0**
HARR				S	**Sn**	**18 35 39.0**	**+0.1**
DJES	**Djerdap**	**1.96**	**264**	*i*Pn	**Pn**	**18 35 24.2**	**+9.3**
CFR	**Carcaliu**	**2.06**	**80**	⇓P	**Pn**	**18 35 14.8**	**-1.5**
CFR				*i*S	**Sn**	**18 35 42.1**	**-0.7**
CFR	**Carcaliu**	**2.06**	**80**	⇓*i*P	**Pn**	**18 35 14.8**	**-1.5**
CFR				S	**Sn**	**18 35 42.1**	**-0.7**
CFR	**Carcaliu**	**2.06**	**80**	⇓P	**Pn**	**18 35 14.8**	**-1.5**
CFR				S	**Sn**	**18 35 42.0**	**-0.8**
CFR	**Carcaliu**	**2.06**	**80**	⇑P	**Pn**	**18 35 16.4**	**+0.2**
CFR				S	**Sn**	**18 35 42.0**	**-0.8**
TIRR	**Tirgusor**	**2.29**	**99**	⇑*i*P	**Pn**	**18 35 19.8**	**+0.3**
TIRR				S	**Sn**	**18 35 50.0**	**+1.5**
TIRR	**Tirgusor**	**2.29**	**99**	P	**Pn**	**18 35 18.2**	**-1.2**
PSN	**Preselentsi**	**2.41**	**118**	*e*P	**Pn**	**18 35 22.5**	**+1.3**
PGB	**Panagyurishte**	**2.44**	**199**	*e*P	**Pn**	**18 35 22.5**	**+0.8**
PGB				*e*Pg	**Pg**	**18 35 30.0**	**+0.9**
ZAPS	**Zavoj/Pirot**	**2.47**	**232**	⇑*i*Pn	**Pn**	**18 35 20.8**	**-1.2**
ZAPS				Sn	**Sn**	**18 35 49.3**	**-3.8**
JMB	**Yambol**	**2.58**	**158**	*e*P	**Pn**	**18 35 30.0**	**+6.3**
BOLS	**Boljevac**	**2.58**	**248**	*i*Pn	**Pn**	**18 35 30.0**	**+6.2**
BOLS				Sn	**Sn**	**18 36 04.5**	**+8.4**
DRGR		**2.63**	**318**	P	**Pn**	**18 35 24.5**	**+0.1**
DRGR		**2.63**	**318**	P	**Pn**	**18 35 24.5**	**+0.1**
VTS	**Vitosha**	**2.71**	**214**	*i*P	**Pn**	**18 35 25.0**	**-0.6**
VTS				*i*Pg	**Pg**	**18 35 33.0**	**-1.5**
SVIS	**Svilajnac**	**2.94**	**260**	⇑*i*Pn	**Pn**	**18 35 35.7**	**+6.8**
SVIS				Sn	**Sn**	**18 36 14.1**	**+8.9**
RZN	**Rozhen**	**3.20**	**187**	*i*P	**Pn**	**18 35 32.2**	**-0.3**
KKB	**Krupnik**	**3.39**	**209**	*i*Pg	**Pg**	**18 35 47.0**	**-1.0**
KKB				*i*P		18 35 35.0	
GRUS	**Gruza**	**3.40**	**255**	*e*Pn	**Pn**	**18 35 45.4**	**+10**
BEO	**Belgrade**	**3.42**	**271**	*e*Pn	**Pn**	**18 35 44.2**	**+8.6**
MMB	**Musomiste**	**3.46**	**199**	*i*P	**Pn**	**18 35 37.0**	**+0.8**
NVR	**Nevrokopi**	**3.66**	**197**	*e*PB	**Pn**	**18 35 39.2**	**+0.2**
RDO	**Rodhopi**	**3.72**	**177**	*e*PB	**Pn**	**18 35 39.0**	**-0.9**
DIVS	**Divcibare**	**3.85**	**260**	⇑*i*Pn	**Pn**	**18 35 44.6**	**+2.8**
DIVS				Sn	**Sn**	**18 36 37.1**	**+9.0**
KOLS	**Kolonicke sedl**	**4.56**	**334**	*e*	**Sn**	**18 36 46.1**	**0.0**
PLG	**Polygyros**	**4.68**	**197**	*e*PB	**Pn**	**18 35 50.9**	**-2.7**
KECS	**Kecovo**	**4.89**	**319**	*i*PN	**Pn**	**18 35 56.4**	**-0.1**
KECS				*e*SN	**Sn**	**18 36 47.2**	**-7.3**
STHS	**Stebnicka Huta**	**5.32**	**330**	*e*PN	**Pn**	**18 36 04.1**	**+1.6**
STHS				*e*SN	**Sn**	**18 36 59.9**	**-5.3**

IDC ***19*** *18:51:13.9±1.9,24.25S×179.94E,h490km±18km,mb3.6/6, mb1 3.7/7,mb1mx3.4/14,mbtmp4.4/7,Error ellipse: s-maj=31.7km s-min=18.5km az=148.0*
NEIC ***19*** *18:51:17.6±1.6,24.64S×179.95E,h539km±19km, mb4.3/12,Error ellipse: s-maj=18.7km s-min=13.7km az=172.0*

ISC 19 18:51:20.3±2.6,24.3S±0.1×179.7E±0.1,h572km±33km,

n33,σ0°57/26,mb4.1/16,1D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.38**	**278**	*e*P	**P**	**18 54 03.0**	**0.0**
DZM	**Mont Dzumac**	**12.38**	**278**	P	**P**	**18 54 03.0**	**0.0**
0.7nm,0.3s,baz=85,slow=16,SNR=13							
DZM	**Mont Dzumac**	**12.38**	**278**	*e*P	**P**	**18 54 03.0**	**0.0**
URZ	**Urewera**	**14.10**	**188**	P	**P**	**18 54 13.9**	**-6.1**
0.7nm,0.3s,baz=133,slow=13,SNR=5.7							
URZ				S	**S**	**18 56 44.7**	**0.0**
0.5nm,0.3s,baz=93,slow=18,SNR=8.8							
CTA	**Charters Tower**	**31.19**	**271**	*e*P	**P**	**18 56 55.8**	**+0.6**
14nm,0.3s,mb5.0							
CTAO	**Charters Tower**	**31.19**	**271**	*e*P	**P**	**18 56 55.9**	**+0.7**
28nm,0.6s,mb5.0							
STKA	**Stephens Creek**	**34.31**	**249**	*e*P	**P**	**18 57 21.5**	**+0.3**
3.7nm,0.6s,mb4.1							
STKA	**Stephens Creek**	**34.31**	**249**	P	**P**	**18 57 21.6**	**+0.3**
3.4nm,0.5s,mb4.1,baz=102,slow=10,SNR=18							
WRAB	**Tennant Creek**	**42.09**	**267**	*e*P	**P**	**18 58 24.0**	**-0.5**
13nm,0.8s,mb4.5							
WRA	**Warramunga Arr**	**42.09**	**267**	P	**P**	**18 58 24.0**	**-0.6**
6.7nm,0.3s,mb4.6,baz=103,slow=8.3,SNR=46							
WRA				ScP		19 03 12.0	
4.1nm,1.0s,baz=104,slow=4.0,SNR=12							
KAKA	**Kakadu**	**46.06**	**276**	⇓*i*P	**P**	**18 59 06.8**	**+11**
7.5nm,0.8s,mb4.3							
FITZ	**Fitzroy Crossi**	**50.51**	**266**	*e*P	**P**	**18 59 29.2**	**+0.5**
12nm,0.6s,mb4.4							
MBWA	**Marble Bar**	**55.02**	**260**	*e*P	**P**	**18 59 59.6**	**-1.1**
6.8nm,0.6s,mb4.0							
CASY	**Casey**	**59.64**	**206**	*e*P	**P**	**19 00 26.1**	**-5.3**
1.3nm,0.7s,mb3.4							
KSM	**Kuching**	**71.89**	**280**	*e*P	**P**	**19 01 48.4**	**+0.4**
MAW	**Mawson**	**77.29**	**201**	P	**P**	**19 02 17.3**	**+0.3**
1.0nm,0.6s,mb3.5,baz=120,slow=6.8,SNR=5.0							
YBH	**Yreka Blue Hor**	**84.57**	**39**	P	**P**	**19 02 55.4**	**+0.6**
2.1nm,0.8s,mb3.7,baz=243,slow=4.5,SNR=4.8							
TUC	**Tucson**	**86.98**	**53**	*e*P	**P**	**19 03 07.1**	**+0.5**
3.7nm,0.9s,mb4.0							
WVOR	**Wild Horse Val**	**87.39**	**41**	*e*P	**P**	**19 03 08.0**	**-0.2**
3.6nm,1.2s,mb3.9							
ELK	**Elko**	**88.50**	**44**	P	**P**	**19 03 13.0**	**-0.5**
0.9nm,0.6s,mb3.7,baz=219,slow=5.6,SNR=3.4							
ELK	**Elko**	**88.50**	**44**	*e*P	**P**	**19 03 12.9**	**-0.6**
1.0nm,0.4s,mb3.9							
MNTX	**Cornudas Mount**	**90.67**	**55**	*e*P	**P**	**19 03 22.6**	**-1.1**
1.8nm,0.8s,mb4.0							
TXAR	**Lajitas Array**	**90.88**	**58**	P	**P**	**19 03 24.8**	**0.0**
1.9nm,0.8s,mb4.1,baz=209,slow=6.4,SNR=20							
TXAR	**Lajitas Array**	**90.88**	**58**	P	**P**	**19 03 24.8**	**0.0**
REDW	**Red Top Meadow**	**92.66**	**43**	*e*P	**P**	**19 03 33.3**	**+0.8**
13nm,1.0s,mb4.9							
BVAR	**Borovoye Array**	**120.54**	**319**	PKP	PKPdf	19 09 08.1	+1.0
0.3nm,0.3s,baz=123,slow=3.6,SNR=6.1							
ARCES	**ARCESS Array B**	**132.21**	**348**	PKP	PKPdf	19 09 30.6	+1.6
1.7nm,0.8s,baz=87,slow=3.1,SNR=9.2							
FINES	**FINESS Array B**	**138.72**	**341**	PKhKP		19 09 32.9	
0.4nm,0.8s,baz=72,slow=6.0,SNR=4.1							
FINES				PKP	PKPdf	19 09 43.9	+2.8
0.2nm,0.3s,baz=63,slow=4.3,SNR=5.1							
FINES				SKP		19 12 30.2	
0.9nm,0.6s,baz=63,slow=4.3,SNR=7.0							
AKASG	**Malin Array Be**	**145.14**	**327**	PKPbc	PKPbc	19 09 54.6	+1.1
0.7nm,0.4s,baz=44,slow=4.2,SNR=6.2							
BRTR	**Keskin Array B**	**147.58**	**307**	PKPbc	PKPdf	19 10 01.9	+4.9
0.6nm,0.7s,baz=90,slow=1.4,SNR=3.0							
CLL	**Collm**	**151.14**	**343**	*i*PKP1	PKPdf	19 10 10.4	+8.3
BRG	**Berggiesshubel**	**151.26**	**341**	*e*P	PKPdf	19 10 10.9	+8.6
GERES	**GERESS Array B**	**153.12**	**339**	PKPbc	PKPdf	19 10 13.9	+9.0
0.2nm,0.5s,baz=27,slow=3.0,SNR=3.8							

LDG ***19*** *18:58:25.9±0.2,14.49S×167.39E,h10km,Mb5.1/4,Error ellipse: s-maj=27.0km s-min=6.0km az=89.0*
BJI ***19*** *18:58:27.2,14.24S×168.24E,h36km,mB5.0,mb4.8, Ms4.9,Msz4.7*
IDC ***19*** *18:58:29.0±3.2,14.65S×168.01E,h43km±28km,mb4.4/14, mb1 4.5/16,mb1mx4.5/19,mbtmp4.6/16,ML4.6/2,MS3.8/9, Ms1 3.8/9,ms1mx3.7/18,Error ellipse: s-maj=23.3km s-min=14.7km az=71.0*
NEIC ***19*** *18:58:29.4±1.4,14.71S×167.94E,h44km±11km,mb4.8/24, MS4.6/2,Error ellipse: s-maj=9.4km s-min=7.7km az=82.0*

ISC 19 18:58:26.7±0.3,14.78S±0.04×167.86E±0.06,h33km,n106, σ1°03/63,mb4.7/40,MS4.1/13,5C-3D,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.38**	**190**	*e*P	**P**	**19 00 14.2**	**-0.6**
DZM				*e*S	**S**	**19 01 36.8**	**-1.5**
DZM	**Mont Dzumac**	**7.38**	**190**	P	**P**	**19 00 14.2**	**-0.6**
5.8nm,0.3s,baz=103,slow=20,SNR=33							
DZM				S	**S**	**19 01 36.9**	**-1.4**
9.3nm,0.3s,baz=316,slow=19,SNR=3.1							
DZM				LR	LR	19 02 58.8	
comp=Z,614nm,19.2s,baz=1.7,slow=36							
DZM	**Mont Dzumac**	**7.38**	**190**	*e*P	**P**	**19 00 14.2**	**-0.6**
DZM				*e*S	**S**	**19 01 36.8**	**-1.5**
HNR	**Honiara**	**9.38**	**304**	P	**P**	**19 00 43.4**	**+0.8**
10nm,0.3s,baz=135,slow=2.9,SNR=4.1							
HNR				S	**S**	**19 02 27.5**	**-0.6**
5.3nm,0.3s,baz=120,slow=22,SNR=8.6							
AFI	**Afiamalu**	**19.75**	**90**	LR	LR	19 08 12.4	
comp=Z,252nm,21.8s,baz=355,slow=30							
PMG	**Port Moresby**	**20.92**	**282**	P	**P**	**19 03 10.4**	**+1.3**
40nm,1.0s,baz=87,slow=10,SNR=4.6							
PMG				LR	LR	19 10 14.9	
comp=Z,534nm,18.1s,MS4.0,baz=50,slow=34							
PMG	**Port Moresby**	**20.92**	**282**	*e*P	**P**	**19 03 09.6**	**+0.5**
42nm,1.0s							
CTA	**Charters Tower**	**21.27**	**253**	⇓*i*P	**P**	**19 03 15.1**	**+2.5**
12nm,0.6s,mb4.4							
CTA	**Charters Tower**	**21.27**	**253**	P	**P**	**19 03 15.2**	**+2.6**
18nm,0.8s,mb4.5,baz=78,slow=12,SNR=13							
CTA				LR	LR	19 10 32.5	
comp=Z,519nm,19.5s,MS3.9,baz=70,slow=34							
CTAO	**Charters Tower**	**21.27**	**253**	*e*P	**P**	**19 03 14.5**	**+2.0**
17nm,0.8s,mb4.4							
URZ	**Urewera**	**24.78**	**162**	P	**P**	**19 03 47.4**	**+0.4**
18nm,0.7s,mb4.7,baz=24,slow=5.3,SNR=13							
CNB	**Canberra Magne**	**26.35**	**216**	*e*P	**P**	**19 04 03.1**	**+1.4**
13nm,0.8s,mb4.5							
RPZ	**Rata Peaks**	**28.97**	**175**	LR	LR	19 14 24.2	
comp=Z,128nm,19.4s,MS3.5,baz=280,slow=33							
STKA	**Stephens Creek**	**29.40**	**230**	⇑*i*P	**P**	**19 04 30.4**	**+1.1**
27nm,0.9s,mb5.0							
STKA	**Stephens Creek**	**29.40**	**230**	P	**P**	**19 04 30.6**	**+1.3**
28nm,0.7s,mb5.1,baz=53,slow=7.6,SNR=45							
STKA				PcP	PcP	19

SSE			AMB	AMB			
	comp=Z,103nm,4.7s						
SSE	**Sheshan**	**63.95 316**	P	**P**		**19 08 58.1**	**-1.1**
	comp=Z,26nm,0.7s,mb5.4						
NJ2	**Nanjing**	**66.11 315**	*e*P	**P**		**19 09 13.3**	**+0.2**
NJ2			PP	PP		19 11 41.9	+1.0
NJ2			S	S		19 17 52.0	-5.6
NJ2			AMB	AMB			
	comp=Z,20nm,0.8s,mb5.2						
NJ2			AMB	AMB			
	comp=Z,680nm,5.8s						
NJ2			LR	LR			
	comp=N,460nm,32.2s,MS4.5						
NJ2			LR	LR			
	comp=E,200nm,29.4s,MS4.5						
NJ2			LR	LR			
	comp=Z,440nm,17.9s						
MDJ	**Mudanjiang**	**68.59 332**	P	**P**		**19 09 28.3**	**-0.1**
MDJ			S	S		19 18 18.3	-8.9
MDJ			SS	SS		19 22 50.6	-2.7
MDJ			AMB	AMB			
	comp=Z,13nm,1.1s,mb4.8						
MDJ			AMB	AMB			
	comp=Z,93nm,4.6s						
CN2	**Changchun**	**69.98 329**	*e*P	**P**		**19 09 36.3**	**-0.7**
CN2			AMB	AMB			
	comp=Z,10.0nm,0.6s,mb4.9						
ENH	**Enshi**	**71.83 309**	*e*P	**P**		**19 09 47.8**	**-0.5**
	comp=Z,9.7nm,0.9s,mb4.7						
GYA	**Guiyang**	**72.21 304**⇑	*r*P	**P**		**19 09 50.8**	**+0.2**
GYA			PP	PP		19 12 33.8	+0.7
GYA			S	S		19 19 03.1	-6.7
GYA			AMB	AMB			
	comp=Z,10.0nm,1.0s,mb4.7						
GYA			AMB	AMB			
	comp=Z,80nm,3.8s						
GYA			LR	LR			
	comp=N,270nm,18.6s,MS4.7						
GYA			LR	LR			
	comp=E,240nm,18.9s,MS4.7						
GYA			LR	LR			
	comp=Z,210nm,19.0s,MS4.4						
XAN	**Xi'an**	**74.14 312**	P	**P**		**19 10 01.8**	**-0.1**
XAN			AMB	AMB			
	comp=Z,9.0nm,1.2s,mb4.6						
KMI	**Kunming**	**74.81 302**	P	**P**		**19 10 06.8**	**+0.8**
KMI			S	S		19 19 35.0	-4.2
KMI			AMB	AMB			
	comp=Z,12nm,1.2s,mb4.7						
KMI			AMB	AMB			
	comp=Z,87nm,4.3s						
KMI			LR	LR			
	comp=N,152nm,15.6s,MS4.5						
KMI			LR	LR			
	comp=E,142nm,18.2s,MS4.5						
KMI			LR	LR			
	comp=Z,155nm,19.0s,MS4.3						
KMI	**Kunming**	**74.81 302**	P	**P**		**19 10 06.7**	**+0.7**
	comp=Z,12nm,1.2s,mb4.7						
KMI			pP	pP		19 10 33.8	+17
KMI			sP	sP		19 10 42.0	+22
KMI			S	S		19 19 35.0	-4.2
KMI			SS	SS		19 24 23.1	-6.4
KMI			LR	LR			
	comp=Z,160nm,19.0s,MS4.3						
QSPA	**South Pole Qui**	**75.25 180**	*e*P	**P**		**19 10 06.8**	**-0.7**
	comp=Z,14nm,1.2s,mb4.8						
CD2	**Chengdu**	**76.49 307**	*e*P	**P**		**19 10 17.0**	**+1.5**
LZH	**Lanzhou**	**78.77 312**	⇑P	**P**		**19 10 28.0**	**0.0**
LZH			PP	PP		19 13 31.3	+3.1
LZH			AMB	AMB			
	comp=Z,36nm,1.5s,mb5.1						
LZH			AMB	AMB			
	comp=Z,74nm,7.3s						
LZH			LR	LR			
	comp=E,263nm,14.9s						
LZH			LR	LR			
	comp=Z,397nm,18.5s,MS4.8						
LZH	**Lanzhou**	**78.77 312**	⇑P	**P**		**19 10 28.0**	**0.0**
	comp=Z,36nm,1.5s,mb5.1						
LZH			pP	pP		19 10 54.5	+16
LZH			sP	sP		19 11 05.2	+23
LZH			PP	PP		19 13 31.2	+3.0
LZH			LR	LR			
	comp=Z,400nm,18.5s,MS4.8						
MAW	**Mawson**	**82.06 202**	P	**P**		**19 10 44.8**	**0.0**
	comp=Z,2.5nm,0.9s,mb4.1,baz=97,slow=6.7,SNR=1.8						
YAK	**Yakutsk**	**82.24 343**	*e*P	**P**		**19 10 44.2**	**-1.6**
	comp=Z,52nm,1.8s,mb5.2						
SONM	**Songino Array**	**82.87 323**	P	**P**		**19 10 49.1**	**-0.2**
	comp=Z,4.8nm,0.9s,mb4.5,baz=129,slow=5.0,SNR=36						
GTA	**Gaotai**	**83.11 314**	P	**P**		**19 10 51.8**	**+1.0**
GTA			PP	PP		19 14 07.3	+3.4
GTA			SKS	SKS		19 21 02.6	-3.5
GTA			S	S		19 21 04.1	-2.6
GTA			SS	SS		19 26 35.6	+1.1
GTA			AMB	AMB			
	comp=Z,13nm,1.5s,mb4.7						
GTA			AMB	AMB			
	comp=Z,103nm,12.7s						
GTA			LR	LR			
	comp=N,107nm,25.6s,MS4.3						
GTA			LR	LR			
	comp=E,104nm,20.6s,MS4.3						
GTA			LR	LR			
	comp=Z,83nm,19.9s,MS4.1						
PMR	**Palmer**	**83.36 19**	*e*P	**P**		**19 10 52.5**	**+1.0**
	comp=Z,8.4nm,0.5s,mb5.0						
YBH	**Yreka Blue Hor**	**85.05 45**	P	**P**		**19 11 01.1**	**+0.6**
	comp=Z,1.1nm,0.6s,mb4.2,baz=42,slow=2.2,SNR=3.9						
BEKR	**Beckwourth**	**85.93 47**	*e*P	**P**		**19 11 04.8**	**-0.2**
	comp=Z,10nm,1.4s,mb4.9						
LSA	**Lhasa**	**86.07 302**	P	**P**		**19 11 07.1**	**+1.3**
LSA	**Lhasa**	**86.07 302**	*e*P	**P**		**19 11 07.2**	**+1.4**
	comp=Z,4.4nm,0.8s,mb4.7						
ILAR	**Eielson Array**	**86.39 18**	P	**P**		**19 11 04.2**	**-2.4**
	comp=Z,2.4nm,0.8s,mb4.5,baz=236,slow=5.5,SNR=25						
WVOR	**Wild Horse Val**	**88.11 45**	*e*P	**P**		**19 11 15.6**	**+0.2**
	comp=Z,6.3nm,1.4s,mb4.7						
MSU	**Marysvale**	**91.43 51**	*e*P	**P**		**19 11 32.4**	**+1.2**
WMQ	**Urumqi**	**93.17 314**	P	**P**		**19 11 39.0**	**0.0**
WMQ			PP	PP		19 15 25.0	-0.3
WMQ			S	S		19 22 34.0	-6.6
WMQ			AMB	AMB			
	comp=Z,11nm,1.0s,mb5.2						
WMQ			AMB	AMB			
	comp=Z,24nm,9.0s						
WMQ			LR	LR			
	comp=N,48nm,22.0s,MS4.1						
WMQ			LR	LR			
	comp=E,65nm,22.0s,MS4.1						
WMQ			LR	LR			
	comp=Z,49nm,20.0s,MS4.0						
LOHW	**Long Hollow**	**94.06 46**	*e*P	**P**		**19 11 45.4**	**+2.3**
	comp=Z,4.5nm,0.8s,mb5.0						
LOHW			*e*			19 12 08.2	
PDAR	**Pinedale Array**	**94.56 47**	LR	LR		19 50 06.3	
	comp=Z,40nm,18.5s,MS3.9,baz=66,slow=33						
TXAR	**Lajitas Array**	**95.80 61**	P	**P**		**19 11 51.5**	**+0.2**
	comp=Z,0.4nm,0.7s,mb4.0,baz=206,slow=4.9,SNR=5.9						
TXAR			LR	LR		19 50 36.9	
	comp=Z,36nm,19.2s,MS3.9,baz=195,slow=33						
MKAR	**Makanchi Array**	**97.63 316**	P	**P**		**19 11 59.1**	**0.0**
	comp=Z,6.2nm,0.8s,mb5.2,baz=90,slow=6.1,SNR=53						
MKAR			PP	PP		19 15 54.5	-5.4
	comp=Z,0.5nm,0.8s,baz=120,slow=9.8,SNR=4.0						
MKAR			LR	LR		19 51 29.7	
	comp=Z,34nm,21.2s,MS3.8,baz=0.5,slow=33						
ZAL	**Zalesovo**	**97.77 324**	P	**P**		**19 11 58.4**	**-1.2**
	comp=Z,0.8nm,0.5s,mb4.5,baz=4.9,slow=5.9,SNR=6.1						
ZAL	**Zalesovo**	**97.77 324**	P	**P**		**19 11 58.4**	**-1.2**
CPUP	**Villa Florida**	**120.00 133**	PKP	PKPdf		19 17 14.9	+0.1
	comp=Z,1.4nm,0.8s,baz=252,slow=3.2,SNR=4.3						
ARCES	**ARCESS Array B**	**120.44 346**	PKP	PKPdf		19 17 14.6	+0.1
	comp=Z,2.5nm,0.7s,baz=28,slow=1.3,SNR=13						
FINES	**FINESS Array B**	**125.97 338**	PKP	PKPdf		19 17 25.8	+0.4
	comp=Z,1.7nm,0.9s,baz=76,slow=5.7,SNR=5.1						
BRTR	**Keskin Array B**	**132.97 311**	PKP	PKPdf		19 17 40.0	+0.7
	comp=Z,1.0nm,0.7s,baz=90,slow=2.5,SNR=5.1						
CLL	**Collm**	**138.33 336**	*e*PKIKP	PKPdf		19 17 51.0	+2.2
GERES	**GERESS Array B**	**139.94 333**	PKhKP			19 17 46.3	
	comp=Z,0.2nm,0.6s,SNR=2.7						
GERES			PKP	PKPdf		19 17 51.9	+0.1
	comp=Z,0.9nm,0.8s,baz=153,slow=2.2,SNR=6.2						
MEZF	**Maizieres J'vi**	**143.50 341**	*e*PKP1	PKPbc		19 17 57.9	+1.4
CABF	**La Chapelle**	**144.78 338**	*e*PKP1	PKPbc		19 18 01.6	+1.3
	comp=Z,21nm,1.0s						
LOR	**Lormes**	**144.97 341**	*e*PKP1	PKPbc		19 18 00.9	+0.1
	comp=Z,30nm,1.1s						
GRR	**Gorron**	**145.21 347**	*e*PKP1	PKPbc		19 18 01.5	+0.1
	comp=Z,36nm,0.9s						
SSF	**Saint Saulge**	**145.26 341**	*e*PKP1	PKPbc		19 18 02.1	+0.6
	comp=Z,50nm,1.0s						
HYF	**Humbligny**	**145.34 342**	*e*PKP1	PKPbc		19 18 02.6	+0.9
LPL	**La Plagne**	**145.47 336**	*e*PKP1	PKPbc		19 18 03.3	+1.2
	comp=Z,31nm,1.0s						
LPG	**La Plagne**	**145.47 336**	*e*PKP1	PKPbc		19 18 03.5	+1.4
	comp=Z,25nm,0.9s						
SMF	**Signal de Mont**	**145.53 340**	*e*PKP1	PKPbc		19 18 02.8	+0.6
	comp=Z,116nm,1.6s						
AVF	**Avril sur Loir**	**145.55 341**	*e*PKP1	PKPbc		19 18 02.7	+0.4
	comp=Z,52nm,1.5s						
SGMF	**Saint Gilles**	**145.69 349**	*e*PKP1	PKPbc		19 18 03.0	+0.4
	comp=Z,84nm,1.1s						
ROSF	**Rostrenen**	**145.74 349**	*e*PKP1	PKPbc		19 18 03.2	+0.5
	comp=Z,86nm,1.3s						
BGF	**Bois d'Agland**	**145.92 341**	*e*PKP1	PKPbc		19 18 04.1	+0.9
	comp=Z,15nm,0.8s						
MBDF	**Montbardon**	**146.11 336**	*e*PKP1	PKPbc		19 18 04.8	+1.1
	comp=Z,28nm,1.1s						
PLDF	**La Plantade**	**146.19 340**	PKP	PKPdf		19 18 06.2	+3.4
ORIF	**Oris-en-Rattie**	**146.29 337**	*e*PKP1	PKPbc		19 18 05.6	+1.5
	comp=Z,32nm,0.8s						
TCF	**Toux Ste Croi**	**146.35 342**	*e*PKP1	PKPbc		19 18 05.3	+1.1
	comp=Z,80nm,1.6s						
SAOF	**Saorge**	**146.39 334**	PKP	PKPdf		19 18 05.0	+1.8
AUTN	**L'Aution**	**146.43 334**	PKP	PKPdf		19 18 05.8	+2.6
TOUF	**Mont Tournerai**	**146.50 334**	PKP	PKPdf		19 18 05.3	+2.0
SBF	**Sospel**	**146.54 334**	*e*PKP1	PKPbc		19 18 05.8	+1.1
	comp=Z,53nm,0.8s						
MFF	**Saint Martin d**	**146.72 345**	*e*PKP1	PKPbc		19 18 05.5	+0.5
	comp=Z,21nm,0.8s						
VIVF	**Saint-Julien-l**	**146.80 338**	*e*PKP1	PKPbc		19 18 07.0	+1.7
	comp=Z,28nm,1.1s						
PGF	**Pioggiola**	**146.87 331**	*e*PKP1	PKPbc		19 18 07.2	+1.7
	comp=Z,44nm,0.9s						
LBL	**Lubilhac**	**146.97 340**	PKP	PKPdf		19 18 08.8	+4.7
FRF	**La Foret Royal**	**147.12 334**	*e*PKP1	PKPdf		19 18 07.5	+3.1
	comp=Z,50nm,1.1s						
SMRF	**Simiane la Rot**	**147.21 336**	*e*PKP1	PKPdf		19 18 08.3	+3.8
	comp=Z,25nm,0.9s						
LMR	**La Mourre**	**147.36 334**	*e*PKP1	PKPdf		19 18 08.2	+3.4
	comp=Z,57nm,1.2s						
RJF	**Les Rejaudoux**	**147.45 342**	*e*PKP1	PKPdf		19 18 08.6	+3.7
	comp=Z,20nm,0.9s						
CAF	**Calviac**	**147.62 341**	*e*PKP1	PKPdf		19 18 08.3	+3.2
	comp=Z,19nm,1.1s						
LASF	**Ste Croix**	**147.77 338**	*e*PKP1	PKPdf		19 18 09.8	+4.4
	comp=Z,30nm,0.9s						
LFF	**La Frestale**	**148.01 343**	*e*PKP1	PKPdf		19 18 09.5	+3.7
	comp=Z,19nm,0.7s						
MTLF	**Montolieu**	**148.99 339**	*e*PKP1	PKPdf		19 18 12.9	+5.5
	comp=Z,26nm,0.9s						
EPF	**Esparros**	**149.87 342**	*e*PKP1	PKPdf		19 18 15.5	+6.7
	comp=Z,10nm,0.9s						
SJPF	**Ste Jean**	**150.24 344**	*e*PKP1	PKPdf		19 18 15.9	+6.5
	comp=Z,44nm,1.2s						
ETSF	**Etsaut**	**150.26 343**	*e*PKP1	PKPdf		19 18 16.6	+7.2

IDC 19 20:34:00.8±3.7, 3.65S×101.92E, mb3.6/3, mb1 3.8/3, mb1mx3.5/15, mbtmp3.6/3, Error ellipse: s-maj=153.7km s-min=32.5km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**35.51**	**120**	P	P	20 40 59.2	-2.4
	0.6nm,0.4s,baz=301,slow=9.0,SNR=3.4						
SONM	**Songino Array**	**51.42**	**4**	P	P	20 43 08.8	-0.9
	0.6nm,0.8s,baz=184,slow=8.9,SNR=4.4						
MKAR	**Makanchi Array**	**53.14**	**343**	P	P	20 43 19.4	-3.2
	0.5nm,0.7s,baz=149,slow=7.1,SNR=6.7						
TXAR	**Lajitas Array**	**144.76**	**41**	PKP	PKPdf	20 53 40.5	-1.7
	0.5nm,0.5s,baz=257,slow=0.7,SNR=9.4						

IDC 19 20:37:37.5±4.2, 25.59N×141.37E, h38km±39km, mb3.6/6, mb1 3.8/6, mb1mx3.6/19, mbtmp3.8/6, Error ellipse: s-maj=36.5km s-min=22.7km az=91.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.67**	**26**	Pn	P	20 38 03.5	-1.3
	75nm,0.3s,baz=217,slow=5.2,SNR=143						
CBIJ				Sn	S	20 38 25.5	+0.3
	130nm,0.3s,baz=305,slow=22,SNR=42						
SONM	**Songino Array**	**35.32**	**318**	P	P	20 44 29.5	-1.5
	0.5nm,0.6s,baz=127,slow=7.5,SNR=5.7						
WRA	**Warramunga Arr**	**45.77**	**189**	P	P	20 45 55.3	-2.1
	3.8nm,0.8s,baz=8.2,slow=8.5,SNR=16						
MKAR	**Makanchi Array**	**50.88**	**311**	P	P	20 46 34.5	-2.3
	0.4nm,0.6s,baz=82,slow=8.6,SNR=6.3						
BVAR	**Borovoye Array**	**58.67**	**318**	P	P	20 47 32.1	-1.2
	0.9nm,0.7s,baz=103,slow=6.8,SNR=5.4						
ILAR	**Eielson Array**	**59.38**	**28**	P	P	20 47 36.2	-1.8
	0.9nm,0.9s,baz=258,slow=6.7,SNR=7.5						
FINES	**FINESS Array B**	**78.97**	**334**	P	P	20 49 35.4	-3.3
	0.3nm,0.4s,baz=63,slow=4.3,SNR=6.2						

*NEIC **19** 20:43:13.6, 41.67S×172.82E, h76km, ML3.7(WEL), After WEL.*

WEL 19 20:43:13.2±0.2, 41.67S×172.82E, h80km±1km, ML3.8/12, 2D, Error ellipse: s-maj=1.3km s-min=1.1km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THZ	**Tophouse**	**0.12**	**146**	⇓PN	P	20 43 24.4	-0.3
THZ				SN	S	20 43 32.4	-0.8
THZ	**Tophouse**	**0.12**	**146**	P	P	20 43 24.4	-0.3
THZ				S	S	20 43 32.1	-1.1
NNZ	**Nelson**	**0.62**	**44**	PN	P	20 43 28.0	-0.2
NNZ				SN	S	20 43 39.1	-0.1
NNZ	**Nelson**	**0.62**	**44**	P	P	20 43 28.0	-0.2
NNZ				S	S	20 43 39.1	-0.1
DSZ	**Denniston Nort**	**0.76**	**264**	PN	P	20 43 29.4	-0.3
DSZ				SN	S	20 43 40.8	-1.2
DSZ	**Denniston Nort**	**0.76**	**264**	P	P	20 43 29.4	-0.3
DSZ				S	S	20 43 40.6	-1.4
BSWZ	**Blackbirch Sta**	**0.80**	**94**	PN	P	20 43 30.2	0.0
BSWZ				SN	S	20 43 42.5	-0.1
BSWZ	**Blackbirch Sta**	**0.80**	**94**	P	P	20 43 30.5	+0.4
QRZ	**Quartz Range**	**0.86**	**345**	PN	P	20 43 30.8	0.0
QRZ				SN	S	20 43 43.2	-0.9
QRZ	**Quartz Range**	**0.86**	**345**	P	P	20 43 30.8	0.0
QRZ				S	S	20 43 43.2	-0.9
TUWZ	**Tuamarina**	**0.88**	**75**	PN	P	20 43 30.9	0.0
TUWZ				SN	S	20 43 43.5	-0.9
KHZ	**Kahutara**	**0.93**	**145**	⇓PN	P	20 43 31.4	-0.1
KHZ				SN	S	20 43 45.0	-0.3
KHZ	**Kahutara**	**0.93**	**145**	P	P	20 43 31.4	-0.1
LTZ	**Lake Taylor**	**1.19**	**200**	PN	P	20 43 34.9	+0.1
LTZ				SN	S	20 43 50.4	-0.6
LTZ	**Lake Taylor**	**1.19**	**200**	P	P	20 43 34.9	+0.1
TCW	**Tory Channel**	**1.19**	**68**	PN	P	20 43 34.8	0.0
TCW	**Tory Channel**	**1.19**	**68**	P	P	20 43 35.2	+0.4
DUWZ	**D'Urville Isla**	**1.20**	**44**	PN	P	20 43 35.3	+0.3
SNZO	**South Karori**	**1.46**	**77**	PN	P	20 43 37.8	-0.7
SNZO	**South Karori**	**1.46**	**77**	P	P	20 43 37.8	-0.7
MRW	**Makara Radio**	**1.48**	**74**	PN	P	20 43 38.1	-0.6
MRW	**Makara Radio**	**1.48**	**74**	P	P	20 43 38.1	-0.7
WEL	**Wellington**	**1.52**	**76**	PN	P	20 43 38.5	-0.7
WEL	**Wellington**	**1.52**	**76**	P	P	20 43 38.5	-0.7
BHW	**Baring Head**	**1.56**	**81**	PN	P	20 43 38.7	-1.1
BHW	**Baring Head**	**1.56**	**81**	P	P	20 43 38.7	-1.1
KIW	**Kapiti Island**	**1.77**	**64**	PN	P	20 43 42.1	-0.4
KIW	**Kapiti Island**	**1.77**	**64**	P	P	20 43 42.1	-0.5
CAW	**Cannon Point**	**1.78**	**73**	PN	P	20 43 41.7	-1.1
CAW	**Cannon Point**	**1.78**	**73**	P	P	20 43 41.7	-1.0
MSWZ	**Moikau Station**	**1.84**	**83**	PN	P	20 43 41.9	-1.6
MSWZ	**Moikau Station**	**1.84**	**83**	P	P	20 43 41.9	-1.6
CRLZ	**Canterbury Las**	**1.92**	**184**	PN	P	20 43 42.7	-1.8
CRLZ	**Canterbury Las**	**1.92**	**184**	*e*P	P	20 43 42.7	-1.8
PAWZ	**Paruwai Farm**	**1.98**	**83**	PN	P	20 43 43.4	-1.9
MQZ	**McQueen's Vall**	**2.04**	**183**	PN	P	20 43 44.1	-2.1
MQZ	**McQueen's Vall**	**2.04**	**183**	*e*P	P	20 43 44.1	-2.1
MTW	**Mount Morrison**	**2.08**	**77**	PN	P	20 43 44.8	-2.0
MTW	**Mount Morrison**	**2.08**	**77**	P	P	20 43 44.8	-2.0
WVZ	**Waitaha Valley**	**2.09**	**227**	PN	P	20 43 46.2	-0.7
WVZ	**Waitaha Valley**	**2.09**	**227**	P	P	20 43 46.2	-0.7
TRWZ	**Traveller**	**2.17**	**84**	PN	P	20 43 46.0	-2.1
MRZ	**Mangatainoka R**	**2.31**	**65**	PN	P	20 43 48.2	-1.8
MRZ	**Mangatainoka R**	**2.31**	**65**	P	P	20 43 48.2	-1.9
RPZ	**Rata Peaks**	**2.43**	**212**	PN	P	20 43 49.9	-1.7
RPZ	**Rata Peaks**	**2.43**	**212**	*e*P	P	20 43 49.9	-1.7
NRZ	**Ngariki Road**	**2.48**	**20**	PN	P	20 43 53.2	+0.8
NRZ	**Ngariki Road**	**2.48**	**20**	P	P	20 43 53.2	+0.9
NWEZ	**Newall Road**	**2.52**	**19**	PN	P	20 43 53.7	+0.8
NWEZ	**Newall Road**	**2.52**	**19**	P	P	20 43 53.7	+0.8
WAZ	**Wanganui**	**2.52**	**42**	PN	P	20 43 53.5	+0.6
WAZ	**Wanganui**	**2.52**	**42**	P	P	20 43 53.5	+0.5
DFE	**Dawson Falls**	**2.53**	**23**	PN	P	20 43 53.7	+0.6
NEZ	**North Egmont**	**2.58**	**23**	PN	P	20 43 54.2	+0.4
NEZ	**North Egmont**	**2.58**	**23**	P	P	20 43 55.2	+1.4
PKE	**Pukeiti**	**2.62**	**20**	PN	P	20 43 54.9	+0.5
RAEZ	**Rainy Point**	**2.66**	**27**	PN	P	20 43 55.5	+0.5
RAEZ	**Rainy Point**	**2.66**	**27**	P	P	20 43 55.5	+0.6
TSZ	**Takapari Road**	**2.87**	**57**	PN	P	20 43 55.7	-2.2
TSZ	**Takapari Road**	**2.87**	**57**	P	P	20 43 55.6	-2.3
VRZ	**Vera Road**	**2.94**	**31**	PN	P	20 43 59.0	+0.2
VRZ	**Vera Road**	**2.94**	**31**	P	P	20 43 59.0	+0.2
FOZ	**Fox Glacier**	**2.99**	**230**	PN	P	20 43 56.9	-2.6
FOZ	**Fox Glacier**	**2.99**	**230**	P	P	20 43 56.9	-2.6
WNVZ	**Wahianoa**	**3.15**	**43**	PN	P	20 44 00.9	-0.9
WNVZ	**Wahianoa**	**3.15**	**43**	P	P	20 44 00.9	-0.9
MOVZ	**Moawhango**	**3.18**	**46**	PN	P	20 44 00.4	-1.7
MOVZ	**Moawhango**	**3.18**	**46**	P	P	20 44 00.4	-1.7
TUVZ	**Tukino**	**3.23**	**43**	PN	P	20 44 02.0	-0.8
NGZ	**Ngauruhoe**	**3.27**	**41**	PN	P	20 44 03.3	-0.1
NGZ	**Ngauruhoe**	**3.27**	**41**	P	P	20 44 03.3	-0.1
WTVZ	**West Tongariro**	**3.31**	**41**	PN	P	20 44 02.9	-1.1
LBZ	**Lake Benmore**	**3.33**	**214**	PN	P	20 44 01.3	-3.0
LBZ	**Lake Benmore**	**3.33**	**214**	*e*P	P	20 44 01.3	-3.0
KATZ	**Kakaramea**	**3.47**	**40**	PN	P	20 44 05.9	-0.3
KATZ	**Kakaramea**	**3.47**	**40**	P	P	20 44 07.4	+1.2
HIZ	**Hauiti**	**3.52**	**27**	PN	P	20 44 06.0	-0.8
HIZ	**Hauiti**	**3.52**	**27**	P	P	20 44 06.0	-0.8
RATZ	**Rangitukua**	**3.59**	**40**	PN	P	20 44 08.2	+0.3
RATZ	**Rangitukua**	**3.59**	**40**	P	P	20 44 09.7	+1.8
ODZ	**Otahua Downs**	**3.73**	**204**	PN	P	20 44 07.2	-2.6
JCZ	**Jackson Bay**	**3.83**	**230**	PN	P	20 44 09.4	-1.8
JCZ	**Jackson Bay**	**3.83**	**230**	P	P	20 44 09.4	-1.8
EAZ	**Earnscleugh**	**4.38**	**214**	PN	P	20 44 15.1	-3.8
EAZ	**Earnscleugh**	**4.38**	**214**	*e*P	P	20 44 15.1	-3.7
TUZ	**Tuapeka**	**4.87**	**207**	PN	P	20 44 22.3	-3.2
TUZ	**Tuapeka**	**4.87**	**207**	*e*P	P	20 44 22.3	-3.2
PUZ	**Puketiti**	**5.51**	**51**	PN	P	20 44 29.0	-5.4

*NEIC **19** 20:51:14.1, 60.18N×152.81W, h108km, MG3.2(AEIC), After AEIC.*
*IDC **19** 20:51:18.3±5.2, 60.67N×152.73W, h140km±45km, mb3.3/4, mb1 3.5/6, mb1mx3.2/20, mbtmp3.8/6, Error ellipse: s-maj=51.1km s-min=36.8km az=162.0*

ISC 19 20:51:11.8±0.3, 60.18N±0.03×152.76W±0.06, h120km±3km, n67, o0°72/75, mb3.8/4, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INE	**Iliamna NE**	**0.20**	**231**	P	P	**20 51 28.5**	**+0.1**
INE				S	S	**20 51 40.6**	**-0.5**
IVE	**Iliamna Volcan**	**0.21**	**218**	P	P	**20 51 28.4**	**0.0**
ILW	**Iliamna West**	**0.23**	**237**	P	P	**20 51 28.6**	**+0.1**
ILW				S	S	**20 51 40.4**	**-0.8**
RSO	**Redoubt South**	**0.28**	**1**	P	P	**20 51 29.0**	**+0.3**
RDT	**Redoubt**	**0.43**	**24**	P	P	**20 51 29.6**	**+0.2**
NNL	**Ninilchik**	**0.75**	**100**	P	P	**20 51 33.5**	**+1.9**
PDB	**Pedro Bay**	**0.82**	**242**	P	P	**20 51 32.2**	**-0.1**
PDB				S	S	**20 51 46.2**	**-1.6**
AUE	**Augustine Isla**	**0.88**	**201**	P	P	**20 51 33.1**	**+0.2**
AGU	**Augustine-Summ**	**0.89**	**203**	P	P	**20 51 33.4**	**+0.4**
XLV	**Seldovia**	**0.90**	**144**	P	P	**20 51 33.4**	**+0.3**
XLV				S	S	**20 51 49.2**	**+0.2**
CKL	**Chakachamna La**	**1.04**	**11**	P	P	**20 51 35.1**	**+0.6**
SPU	**Mount Spurr**	**1.06**	**19**	P	P	**20 51 35.1**	**+0.4**
SPU				S	S	**20 51 52.3**	**+0.4**
BGL	**Barrier Glacie**	**1.10**	**9**	P	P	**20 51 35.9**	**+0.8**
SLKM	**Skilak Lake**	**1.30**	**74**	P	P	**20 51 37.9**	**+0.6**
VOGL	**Vogel Lake**	**1.41**	**54**	P	P	**20 51 40.5**	**+1.9**
FIB	**Fire Island**	**1.61**	**51**	P	P	**20 51 42.8**	**+1.8**
SEW	**Seward**	**1.66**	**91**	P	P	**20 51 41.6**	**+0.1**
SEW				S	S	**20 52 03.1**	**-0.9**
SVW2	**Sparrevohn**	**1.67**	**305**	P	P	**20 51

RUN5				S	Sn	21 01 11.0	+2.0
ULBA	**Ulba**	**1.91**	**71**	⇑P	Pn	21 00 46.9	+1.9
ULBA				S	Sn	21 01 10.9	+1.9
PISA	**Pisayambo**	**2.09**	**61**	⇓P	Pn	21 00 50.8	+3.3
PISA				S	Sn	21 01 18.0	+4.4
CAMI	**Rancho Maria**	**2.20**	**51**	P	Pn	21 00 52.2	+3.0
CAMI				S	Sn	21 01 20.3	+3.8
NAS1	**Nasa**	**2.25**	**50**	⇓P	Pn	21 00 52.9	+3.0
NAS1				S	Sn	21 01 21.5	+3.8
TAMB	**Tambo**	**2.30**	**53**	⇑P	Pn	21 00 53.5	+2.9
TAMB				S	Sn	21 01 22.7	+3.7
VC1	**Cotopaxi 1**	**2.30**	**52**	⇑P	Pn	21 00 53.7	+3.1
VC1				S	Sn	21 01 22.4	+3.3
JUA2	**San Juan 2**	**2.45**	**41**	P	Pn	21 00 54.6	+1.9
JUA2				S	Sn	21 01 25.7	+2.9
TERV	**Terraza Guagua**	**2.48**	**40**	⇓P	Pn	21 00 55.1	+1.9
TERV				S	Sn	21 01 27.2	+3.6
GGP	**Refugio Guagua**	**2.49**	**41**	⇓P	Pn	21 00 54.9	+1.6
PINO	**Pino**	**2.49**	**40**	⇑P	Pn	21 00 54.8	+1.5
PINO				S	Sn	21 01 26.9	+3.0
YANA	**Yana**	**2.54**	**40**	⇓P	Pn	21 00 55.7	+1.6
JOR1	**San Jorge 1**	**2.59**	**37**	⇓P	Pn	21 00 53.4	-1.5
ANTI	**Antisana**	**2.61**	**52**	P	Pn	21 00 57.4	+2.3
ANTI				S	Sn	21 01 31.2	+4.3
CAYR	**Refugio Cayambe**	**3.03**	**47**	P	Pn	21 01 06.0	+5.0
COTA	**Cotacachi**	**3.04**	**38**	⇑P	Pn	21 01 03.0	+1.9
COTA				S	Sn	21 01 40.8	+2.9
CAYA	**Cayambe**	**3.08**	**46**	P	Pn	21 01 06.4	+4.7
ECEN	**Cerro Negro**	**3.65**	**38**	P	Pn	21 01 12.4	+2.6
ECEN				S	Sn	21 01 56.4	+3.1

NNC 19 21:15:11.6±3.2, 37.57N×70.39E, mpv3.2, 1C-2D, Error ellipse: s-maj=35.1km s-min=17.8km az=143.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.53**	**1**	⇓Pn	Pn	21 16 37.8	+0.6
	1.5nm,0.6s,baz=172,slow=12,SNR=64						
KK31				⇓Sn	Sn	21 17 46.1	+3.6
	4.3nm,0.6s,baz=188,slow=24,SNR=6.9						
AAK	**Ala-Archa**	**5.96**	**31**	⇑Sn	Sn	21 17 51.5	-1.6
	4.5nm,0.8s						
AB31	**Akbulak array**	**13.92**	**330**	Pn	P	21 18 30.2	-2.1
	0.2nm,0.3s,baz=156,slow=12,SNR=14						

*PRU **19** 21:15:32.6, 50.30N×18.76E*
*NEIC **19** 21:15:33.2±0.9, 50.24N×18.84E, h5km, MG2.5(WAR), Error ellipse: s-maj=16.3km s-min=7.9km az=180.0*

WAR 19 21:15:32.5, 50.26N×18.86E, h0km, ML2.5, 1D, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.46**	**248**	*e*PG	Pg	21 15 42.0	+0.2
RAC				*e*SG	Sg	21 15 49.0	+1.1
OJC	**Ojcow**	**0.60**	**93**	*e*PG	Pg	21 15 44.0	-0.5
OJC				*e*SG	Sg	21 15 53.0	+0.4
OKC	**Ostrava-Krasne**	**0.62**	**228**	*e*PG	Pg	21 15 44.5	-0.4
DPC	**Dobruska-Polom**	**1.63**	**274**	*e*PG	Pg	21 16 01.2	-3.9
DPC				*e*SG	Sg	21 16 22.2	-4.6
	17nm,0.4s						
KSP	**Ksiaz**	**1.74**	**291**	*e*PG	Pg	21 16 05.0	-2.2
KSP				*e*SG	Sg	21 16 27.0	-3.4
KSP	**Ksiaz**	**1.74**	**291**	*i*/Pg	Pg	21 16 04.8	-2.4
KSP				*e*Sg	Sg	21 16 27.4	-3.0
STHS	**Stebnicka Huta**	**1.76**	**118**	*e*PN	Pn	21 16 05.8	+1.4
STHS				*e*SN	Sn	21 16 29.2	+1.5
VYHS	**Vyhne**	**1.77**	**181**	*e*PN	Pn	21 16 03.6	-0.9
UPC	**Upice**	**1.84**	**279**	*e*SG	Sg	21 16 29.6	-4.2
CRVS	**Cervenica-Dubn**	**2.17**	**128**	*e*PN	Pn	21 16 13.2	+2.9
KOLS	**Kolonicke sedl**	**2.58**	**120**	*e*PN	Pn	21 16 18.8	+2.6
PRU	**Pruhonice**	**2.79**	**266**	*e*PG	Pg	21 16 21.3	-7.0
PRU				*e*SG	Sg	21 16 57.9	-7.6
KHC	**Kasperske Hory**	**3.61**	**254**	*e*PG	Pg	21 16 34.2	-10
KHC				*ex*	x	21 17 02.0	
KHC				*e*SG	Sg	21 17 24.9	-7.8
CLL	**Collm**	**3.86**	**288**	*e*PG	Pg	21 16 45.0	-4.6
CLL				*e*SG	Sg	21 17 40.0	-1.2
MOA	**Molln**	**3.87**	**233**	*i*	Pn	21 16 41.1	+6.7
MOA	**Molln**	**3.87**	**233**	*i* SG	Sg	21 17 33.6	-7.6
	2.6nm,0.4s						

*IDC **19** 21:23:20.4±1.8, 7.49N×91.83E, mb3.7/4, mb1 3.9/4, mb1mx3.6/18, mbtmp3.7/4, Error ellipse: s-maj=99.9km s-min=28.1km az=51.0*
*NEIC **19** 21:23:24.6±1.3, 7.31N×91.66E, h30km, mb3.9/1, Error ellipse: s-maj=54.7km s-min=21.3km az=59.0*

ISC 19 21:23:22.6±1.5, 7.2N±0.3×91.6E±0.4, h30km, n5, σ1§29/5, mb3.7/5, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**22.35**	**359**	*e*P	**P**	**21 28 20.6**	**+1.0**
	2.4nm,0.6s,mb3.8						
MKAR	**Makanchi Array**	**40.22**	**350**	P	**P**	**21 30 57.1**	**-1.1**
	0.6nm,0.4s,mb3.6,baz=167,slow=8.3,SNR=19						
WRA	**Warramunga Arr**	**49.96**	**124**	P	**P**	**21 32 16.4**	**0.0**
	1.1nm,0.7s,mb4.0,baz=302,slow=8.8,SNR=4.2						
FINES	**FINESS Array B**	**72.11**	**333**	P	**P**	**21 34 45.1**	**-0.9**
	0.6nm,0.7s,mb3.6,baz=108,slow=8.8,SNR=3.5						
GERES	**GERESS Array B**	**76.64**	**318**	P	**P**	**21 35 13.4**	**+1.1**
	0.3nm,0.5s,mb3.5,baz=76,slow=5.5,SNR=5.2						

*IDC **19** 21:50:39.9±0.8, 4.88S×130.36E, mb4.2/6, mb1 4.3/7, mb1mx4.1/13, mbtmp4.2/7, ML3.9/1, Error ellipse: s-maj=78.6km s-min=18.4km az=70.0*
*NEIC **19** 21:50:43.2±5.6, 4.85S×130.54E, h21km±40km, mb4.7/7, Error ellipse: s-maj=28.1km s-min=14.4km az=65.0*

ISC 19 21:50:42.9±0.7, 4.87S±0.09×130.6E±0.2, h33km, n18, σ1§06/19, mb4.4/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**8.02**	**167**	*e*P	**P**	**21 52 54.5**	**+15**
	48nm,0.6s						
KAKA				*e*S	**S**	**21 54 20.1**	**+10**
FITZ	**Fitzroy Crossi**	**14.00**	**200**	*e*P	**P**	**21 54 02.1**	**+0.8**
	8.4nm,0.2s						
WRAB	**Tennant Creek**	**15.43**	**166**	*e*Pn	**P**	**21 54 17.8**	**-2.1**
	34nm,0.8s						
WRAB				*e*Sn	**S**	**21 56 59.5**	**-11**
WRA	**Warramunga Arr**	**15.43**	**166**	Pn	**P**	**21 54 18.4**	**-1.6**
	0.5nm,0.3s,baz=346,slow=13,SNR=10						
WRA				Sn	**S**	**21 57 01.9**	**-8.3**
	3.8nm,0.3s,baz=332,slow=23,SNR=10						
CTA	**Charters Tower**	**21.51**	**136**	*e*P	**P**	**21 55 33.6**	**+2.4**
	5.3nm,0.8s,mb4.0						
FORT	**Forrest**	**25.88**	**185**	*e*P	**P**	**21 56 14.4**	**+0.7**
	20nm,0.5s,mb4.9						
STKA	**Stephens Creek**	**28.80**	**160**	*e*P	**P**	**21 56 40.7**	**+0.5**
	3.4nm,0.3s,mb4.5						
STKA	**Stephens Creek**	**28.80**	**160**	P	**P**	**21 56 41.1**	**+1.0**
	4.3nm,0.4s,mb4.6,baz=342,slow=10.0,SNR=40						
KLBR	**Kellerberrin**	**29.17**	**203**	*e*P	**P**	**21 56 43.5**	**0.0**
	43nm,1.5s,mb5.0						
LSA	**Lhasa**	**51.06**	**315**	*e*P	**P**	**21 59 45.1**	**+0.7**
	2.9nm,0.4s,mb4.6						
SONM	**Songino Array**	**56.61**	**341**	P	**P**	**22 00 24.9**	**-0.1**
	0.7nm,0.5s,mb3.9,baz=153,slow=7.3,SNR=6.0						
MKAR	**Makanchi Array**	**66.76**	**326**	P	**P**	**22 01 33.4**	**+0.2**
	1.2nm,0.3s,mb4.4,baz=105,slow=7.5,SNR=56						
ZAL	**Zalesovo**	**69.93**	**333**	P	**P**	**22 01 51.0**	**-1.7**
	0.8nm,0.4s,mb4.0,baz=358,slow=5.4,SNR=4.7						
KURK	**Kurchatov**	**71.00**	**328**	*e*P	**P**	**22 01 59.2**	**-0.1**
	2.0nm,0.3s,mb4.5						
VNDA	**Vanda**	**74.49**	**173**	P	**P**	**22 02 19.2**	**-0.1**
	1.8nm,0.8s,mb4.0,baz=330,slow=5.4,SNR=5.0						
MAW	**Mawson**	**77.12**	**201**	P	**P**	**22 02 34.8**	**+0.3**
	0.8nm,0.3s,mb4.1,baz=74,slow=10.0,SNR=4.2						
CPUP	**Villa Florida**	**148.06**	**167**	PKPbc	PKPdf	22 10 27.1	+4.3
	1.5nm,0.5s,baz=327,slow=3.8,SNR=6.2						
LPAZ	**La Paz**	**152.02**	**139**	PKPbc	PKPdf	22 10 38.6	+10
	0.9nm,0.3s,baz=29,slow=1.2,SNR=6.1						
LPAZ				PKPab	PKPab	22 10 48.8	+1.3
	1.6nm,0.7s,baz=354,slow=0.9,SNR=6.8						

*CSEM **19** 22:08:55.2±0.7, 39.22N×29.97W, h5km, ML2.6, Error ellipse: s-maj=82.3km s-min=7.2km az=38.0, After PDA*
*PDA **19** 22:08:55.2±0.7, 39.22N×29.97W, h5km, MD3.6, ML2.6, Error ellipse: s-maj=82.3km s-min=7.2km az=38.0*

SVSA 19 22:08:55.2±0.7, 39.22N×29.97W, h5km, MD3.6, ML2.6, Error ellipse: s-maj=82.3km s-min=7.2km az=38.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**1.16**	**121**	*e*P	Pb	22 09 12.9	-4.4
PCED				*e*S	Sb	22 09 26.3	-6.1
	29nm,0.3s						
CALA	**Caldeira**	**1.18**	**122**	*e*P	Pb	22 09 13.6	-4.1
CALA				*e*S	Sb	22 09 27.4	-5.7
HOR	**Horta**	**1.26**	**123**	*e*P	Pb	22 09 14.8	-4.2
HOR				*e*S	Sb	22 09 28.9	-6.5
PICO	**Pico**	**1.41**	**120**	*e*P	Pn	22 09 16.8	-4.7
PICO				*e*S	Sb	22 09 33.3	-6.4

*CSEM **19** 22:21:48.9±0.3, 39.44N×29.72W, h5km, ML2.7, Error ellipse: s-maj=5.3km s-min=4.7km az=101.0, After PDA*
*PDA **19** 22:21:48.9±1.2, 39.44N×29.72W, h5km, MD3.5, ML2.7, Error ellipse: s-maj=9.7km s-min=5.4km az=56.0*

SVSA 19 22:21:48.9±1.2, 39.44N×29.72W, h5km, MD3.5, ML2.7, Error ellipse: s-maj=9.7km s-min=5.4km az=56.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**1.13**	**135**	*e*P	Pb	22 22 06.1	-4.5
PCED				*e*S	Sb	22 22 19.5	-5.9
	165nm,0.4s						
CALA	**Caldeira**	**1.17**	**137**	*e*P	Pb	22 22 06.8	-4.4
CALA				*e*S	Sb	22 22 20.6	-5.8
HOR	**Horta**	**1.24**	**137**	*e*P	Pb	22 22 08.1	-4.4
HOR				*e*S	Sb	22 22 22.4	-6.3
PICO	**Pico**	**1.38**	**133**	*e*P	Pb	22 22 10.0	-4.7
PICO				*e*S	Sb	22 22 26.1	-6.4
STGR	**Santa Cruz**	**1.38**	**105**	*e*P	Pb	22 22 10.9	-3.9
STGR				*e*S	Sb	22 22 25.7	-6.8
	20nm,0.3s						
PMAN	**Manadas**	**1.50**	**122**	*e*P	Pn	22 22 11.3	-5.3
PMAN				*e*S	Sb	22 22 28.7	-7.5
	42nm,0.3s						
ASBA	**Santa Barbara**	**1.99**	**110**	*e*P	Pn	22 22 18.6	-5.1
PPAD	**Pico dos Padre**	**2.03**	**111**	*e*P	Pn	22 22 19.1	-5.1
PBIS	**Biscoitos**	**2.03**	**109**	*e*P	Pn	22 22 19.2	-5.0
PVNV	**Vila Nova**	**2.10**	**108**	*e*P	Pn	22 22 20.1	-5.1
RIB2	**Ribeirinha**	**2.12**	**110**	*e*P	Pn	22 22 20.2	-5.3
RIB2				*e*S	Sn	22 22 43.9	-8.7
	4.2nm,0.1s						
PSCM	**Serra do Cume**	**2.15**	**109**	*e*P	Pn	22 22 20.9	-5.0
PSCM				*e*S	Sn	22 22 44.8	-8.5
	17nm,0.4s						
SET4	**Mosteiros**	**3.44**	**116**	*e*P	Pn	22 22 40.2	-4.1
SET2	**Ginetes**	**3.45**	**116**	*e*P	Pn	22 22 40.6	-3.8
PFET	**Feteiras**	**3.48**	**117**	*e*P	Pn	22 22 40.7	-4.1
PSET	**Sete Cidades**	**3.52**	**116**	*e*P	Pn	22 22 40.1	-5.3
FAC	**Faja de Cima**	**3.59**	**116**	*e*P	Pn	22 22 42.7	-3.8
CML	**Cha da Macela**	**3.67**	**116**	*e*P	Pn	22 22 43.4	-4.1
PVER	**Pico Vermelho**	**3.68**	**115**	*e*P	Pn	22 22 43.7	-3.9
PMAT	**Coroa da Mata**	**3.70**	**115**	*e*P	Pn	22 22 44.5	-3.5
LFA	**Lagoa do Fogo**	**3.71**	**115**	*e*P	Pn	22 22 44.8	-3.3
MESC	**Monte Escuro**	**3.73**	**115**	*e*P	Pn	22 22 44.9	-3.5
PRCH	**Ribeira Ch**	**3.73**	**116**	*e*P	Pn	22 22 45.2	-3.2
VIF	**Vila Franca**	**3.75**	**115**	*e*P	Pn	22 22 45.2	-3.5
PCNG	**Congro**	**3.77**	**115**	*e*P	Pn	22 22 46.3	-2.7
MIRA	**Miradouro**	**3.85**	**114**	*e*P	Pn	22 22 46.5	-3.6

*IDC **19** 22:37:27.5±1.3, 43.28N×85.29E, mb3.8/5, mb1 3.9/7, mb1mx3.7/20, mbtmp3.8/7, ML3.5/2, MS2.8/1, Ms1 2.8/1, ms1mx2.4/21, Error ellipse: s-maj=43.4km s-min=16.2km az=63.0*
*NEIC **19** 22:37:28.6±1.1, 43.09N×85.04E, h10km, mb3.8/2, Error ellipse: s-maj=19.3km s-min=14.3km az=196.0*
*BJI **19** 22:37:29.2, 43.16N×85.01E, h10km, mB4.4, mb4.2, ML4.1, Ms3.7, Msz3.2*
*NNC **19** 22:37:34.1±2.0, 43.43N×84.70E, h27km±11km, mpv3.9, Error ellipse: s-maj=17.9km s-min=14.0km az=71.0*
*MOS **19** 22:37:35.9±2.2, 43.79N×85.06E, h33km, mb4.0/1, Error ellipse: s-maj=22.5km s-min=11.0km az=111.1*

ISC 19 22:37:27.9±0.7, 43.23N±0.09×84.83E±0.08, h10km, n28, σ1§64/35, mb3.7/6, 8C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**2.17**	**73**	P	**Pn**	**22 38 06.3**	**+1.7**
WMQ				S	**Sn**	**22 38 35.5**	**+3.7**
WMQ				Smax			
	comp=N,537nm,0.6s						
WMQ				Smax			
	comp=E,633nm,0.6s						
MK31	**Makanchi Array**	**3.99**	**334**	⇓Pn	**Pn**	**22 38 33.0**	**+2.5**
	comp=E,15nm,0.5s,baz=147,slow=14,SNR=556						
MK31				⇑Pg	**Pg**	**22 38 42.8**	**-4.8**
	comp=E,20nm,0.3s,baz=146,slow=17,SNR=47						
MK31				⇑Lg		22 39 35.6	
	comp=E,60nm,0.5s,baz=123,slow=31,SNR=8.7						
MKAR	**Makanchi Array**	**3.99**	**334**	Pn	**Pn**	**22 38 33.0**	**+2.5**
	comp=E,1.2nm,0.3s,baz=152,slow=14,SNR=52						
MKAR				Pg	**Pg**	**22 38 42.5**	**-5.2**
	comp=E,11nm,0.3s,baz=145,slow=16,SNR=70						
MKAR				Lg		22 39 35.1	
	comp=E,43nm,0.3s,baz=147,slow=28,SNR=12						
MKAR	**Makanchi Array**	**3.99**	**334**	Pn	**Pn**	**22 38 33.0**	**+2.5**
MKAR				Pg	**Pg**	**22 38 42.5**	**-5.2**
MKAR				Lg		22 39 35.1	
AAK	**Ala-Archa**	**7.61**	**269**	⇑Pg	**Pg**	**22 39 51.4**	**-8.4**
	comp=E,4.7nm,0.7s						
AAK				Lg		22 41 32.8	
	comp=E,24nm,1.1s						
AAK	**Ala-Archa**	**7.61**	**269**	Pn	**Pn**	**22 39 20.4**	**-1.2**
	comp=E,6.2nm,0.7s						
AAK	**Ala-Archa**	**7.61**	**269**	P	**Pn**	**22 39 20.4**	**-1.1**
AAK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KURK	**Kurchatov**	**8.61**	**333**	⇑Pn	**P**	**22 39 34.9**	**-0.6**
	comp=Z,1.2nm,0.5s						
KURK				⇑Lg		22 42 01.2	
	comp=Z,31nm,1.1s						
KURK	**Kurchatov**	**8.61**	**333**	*e*Pn	**P**	**22 39 34.6**	**-0.8**
	comp=Z,3.9nm,0.6s						
KURK				*e*Sn	**Sn**	**22 41 10.6**	**-3.0**
KURK	**Kurchatov**	**8.61**	**333**	*e*P	**P**	**22 39 34.7**	**-0.8**
KURK				*e*		22 41 10.6	
KURK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ZAL	**Zalesovo**	**10.72**	**360**	Pn	**P**	**22 40 02.0**	**-2.4**
	comp=Z,1.3nm,0.3s,baz=278,slow=9.8,SNR=12						
ZAL				Sn	**S**	**22 41 58.7**	**-6.9**
	comp=Z,5.7nm,0.3s,baz=43,slow=24,SNR=20						
GTA	**Gaotai**	**11.90**	**104**	*e*P	**P**	**22 40 19.9**	**-0.7**
GTA				AP		22 40 27.3	
GTA				XP		22 40 31.6	
GTA				AMB	AMB		
	comp=Z,1.0nm,0.6s						
GTA				AMB	AMB		
	comp=Z,121nm,6.5s						
GTA				LR	LR		
	comp=N,132nm,5.7s						
GTA				LR	LR		
	comp=E,90nm,6.5s						
GTA				LR	LR		
	comp=Z,77nm,8.4s						
VOSK	**Vostochnaya**	**13.26**	**321**	⇑Pn	**P**	**22 40 39.3**	**+0.6**
	comp=Z,1.7nm,0.8s						
VOSK				⇑Sn	**S**	**22 43 00.2**	**-6.9**
	comp=Z,4.5nm,1.2s						
VOSK				⇑Lg		22 44 28.2	
	comp=Z,7.9nm,1.4s						
BVAR	**Borovoye Array**	**13.72**	**321**	Pn	**P**	**22 40 48.3**	**+3.5**
	comp=Z,0.2nm,0.3s,baz=246,slow=40,SNR=3.5						
ZAK	**Zakamensk**	**14.50**	**54**	*e*P	**P**	**22 40 57.2**	**+2.2**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.1s						
SONM	**Songino Array**	**15.79**	**66**	Pn	**P**	**22 41 10.3**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=263,slow=12,SNR=6.7						
SONM				LR	LR	22 47 33.1	
	comp=Z,38nm,21.0s,baz=72,slow=39						
AB31	**Akbulak array**	**18.19**	**298**	⇓Pn	**P**	**22 41 43.1**	**+1.0**
	comp=Z,0.8nm,0.7s,baz=93,slow=10,SNR=8.3						
HHC	**Hu-ho-hao-te**	**19.97**	**88**	*e*P	**P**	**22 42 01.9**	**-1.2**
HHC				AMB	AMB		
	comp=Z,15nm,0.9s						
HHC				AMB	AMB		
	comp=Z,76nm,5.3s						
ARU	**Arti**	**21.32**	**317**	*e*P	**P**	**22 42 19.2**	**+2.4**
	comp=Z,3.0nm,0.8s,mb3.7						
ARU	**Arti**	**21.32**	**317**	*e*P	**P**	**22 42 16.4**	**-0.4**
FINES	**FINESS Array B**	**38.67**	**319**	P	**P**	**22 44 54.8**	**+1.7**
	comp=Z,1.0nm,0.9s,mb3.5,baz=68,slow=7.5,SNR=3.4						
ARCES	**ARCESS Array B**	**39.65**	**332**	P	**P**	**22 45 01.2**	**+0.1**
	comp=Z,1.1nm,0.7s,mb3.7,baz=97,slow=7.3,SNR=4.7						
ARCES	**ARCESS Array B**	**39.65**	**332**	P	**P**	**22 45 01.2**	**+0.1**
HFS	**Hagfors**	**44.84**	**318**	P	**P**	**22 45 44.9**	**+1.4**
	comp=Z,0.4nm,0.5s,mb3.5,baz=82,slow=7.4,SNR=3.6						
NB2	**NORSAR Subarra**	**45.85**	**319**	P	**P**	**22 45 51.0**	**-0.5**
	comp=Z,0.6nm,0.5s,mb3.8,baz=77,slow=7.9						
NB2	**NORSAR Subarra**	**45.85**	**319**	P	**P**	**22 45 51.0**	**-0.5**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
NOA	**NORSAR Array B**	**45.85**	**319**	P	**P**	**22 45 51.2**	**-0.3**
	comp=Z,1.0nm,0.7s,mb3.9,baz=77,slow=7.8,SNR=6.0						
WRA	**Warramunga Arr**	**77.58**	**133**	P	**P**	**22 49 23.9**	**-1.9**
	comp=Z,1.4nm,0.7s,mb4.0,baz=329,slow=5.7,SNR=6.7						

MEX 19 22:45:11.3±0.7, 17.81N×101.17W, h38km±29km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.34**	**235**	*i* P	P	22 45 18.7	-1.2
ZIIG				*i* S	S	22 45 23.8	-2.1
ACX	**Acapulco**	**1.52**	**128**	*i* P	P	22 45 34.0	-2.4
ACX				*i* S	S	22 45 51.0	-4.2
MOIG	**Morelia**	**1.86**	**359**	*e*P	P	22 45 38.9	-2.5
MOIG				*i* S	S	22 45 59.9	-4.0

*NEIC **19** 22:49:52.5±0.5, 51.09N×5.83E, h10km, ML2.8(LDG), Error ellipse: s-maj=7.8km s-min=4.7km az=153.0*
*LDG **19** 22:49:53.3±0.1, 51.08N×5.91E, h2km, Md2.8/2, Ml2.8/20, Error ellipse: s-maj=1.8km s-min=1.3km az=27.0*
*BGR **19** 22:49:53.6±0.4, 51.13N×6.06E, h10km, ML2.7/4, Error ellipse: s-maj=5.6km s-min=2.2km az=100.0*
*UCC **19** 22:49:53.1±0.5, 51.16N×5.93E, h18km±1km, ML2.2*
*BNS **19** 22:49:54.3±1.1, 51.15N×6.02E, h8km±7km, ML2.4*

CSEM 19 22:49:53.1±0.1, 51.10N×5.97E, h5km, ML2.9/16, 4C-3D, Error ellipse: s-maj=1.8km s-min=1.2km az=125.0, The Netherlands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HGN	**Heimansgroeve**	**0.34**	**184**	⇑*i*Pg	Pg	22 50 01.0	+1.1
	baz=350						
HGN				*e*Sg	Sg	22 50 06.3	+1.9
HGN	**Heimansgroeve**	**0.34**	**184**	⇑*e*Pg	Pg	22 50 01.0	+1.1
HGN				*e*Sg	Sg	22 50 06.3	+1.9
BEBN	**Eben Emael**	**0.35**	**211**	P	Pg	22 50 00.2	0.0
MEM	**Membach**	**0.49**	**177**	P	Pg	22 50 03.8	+0.8
KLL	**Kalltalsperre**	**0.50**	**154**	⇓*e*Pg	Pg	22 50 04.5	+1.4
KLL				*e*Sg	Sg	22 50 11.7	+1.7
	101nm,0.1s						
KLL	**Kalltalsperre**	**0.50**	**154**	Pg	Pg	22 50 04.5	+1.3
KLL				Sg	Sg	22 50 11.6	+1.7
	101nm,0.1s						
STB	**Steinbach**	**0.75**	**132**	⇓*i*Pg	Pg	22 50 09.0	+0.9
STB				*e*Sg	Sg	22 50 19.1	+1.0
	109nm,0.3s						
BNS	**Bensberg**	**0.78**	**100**	⇓*e*Pg	Pg	22 50 08.8	+0.2
BNS				*e*Sg	Sg	22 50 18.2	-0.7
	318nm,0.4s						
BUG	**Bochum--Univer**	**0.89**	**67**	*e*Pg	Pg	22 50 09.7	-1.1
	SNR=23						
BUG				*e*Sg	Sg	22 50 20.8	-1.8
	SNR=24						
WTSB	**Winterswijk**	**1.01**	**31**	⇑*i*Pg	Pn	22 50 11.4	-2.4
WTSB				*e*Sg	Sn	22 50 24.0	-4.5
WTSB	**Winterswijk**	**1.01**	**31**	⇑*i*Pg	Pg	22 50 11.4	-1.9
WTSB				*e*Sg	Sg	22 50 24.0	-2.8
	SNR=7.9						
UCC	**Uccle**	**1.06**	**254**	P	Pb	22 50 12.4	-1.2
UCC				S	Sb	22 50 26.6	-1.0
GIVF	**Givet**	**1.24**	**217**	*e*Pn	Pn	22 50 15.7	-1.3
GIVF				*e*Sg	Sg	22 50 31.7	-2.6
	47nm,0.3s						
BGG	**Burgeitz**	**1.25**	**135**	*e*Pg	Pg	22 50 16.8	-1.3
BGG				*e*Sg	Sg	22 50 33.3	-1.4
	36nm,0.2s						
DOU	**Dourbes**	**1.33**	**222**	P	Pb	22 50 16.8	-1.4
DOU				S	Sb	22 50 34.3	-1.1
WLF	**Walferdange**	**1.44**	**175**	P	Pn	22 50 18.8	-1.2
WLF	**Walferdange**	**1.44**	**175**	*e*Pn	Pn	22 50 20.2	+0.2
WLF				S	Sb	22 50 38.0	-0.6
WLF				*e*Sn	Sn	22 50 40.5	+1.0
WLF	**Walferdange**	**1.44**	**175**	*e*Pn	Pn	22 50 20.2	+0.2
WLF				*e*Sn	Sn	22 50 40.5	+1.1
BAIF	**Baives**	**1.53**	**228**	*e*Pn	Pn	22 50 19.9	-1.3
BAIF				*e*Pg	Pg	22 50 20.7	-3.0
BAIF				*e*Sg	Sg	22 50 40.1	-4.0
	21nm,0.3s						
IBBN	**Ibbenburen**	**1.64**	**42**	*e*Pg	Pg	22 50 22.8	-3.1
	SNR=2.1						
IBBN				*e*Sg	Sg	22 50 44.6	-3.2
	SNR=3.5						
WIT	**Witte

BGF					*e*Pg	Pg	22 51 25.2	-7.5
BGF					*e*Sn	Sn	22 52 01.9	-7.5
BGF					*e*Sg	Sg	22 52 28.7	-11
	6.5nm,0.3s							
BRG	**Berggiesshubel**	**5.04**	**89**		*e*Sg	Sg	22 52 29.8	-11
GRR	**Gorron**	**5.19**	**241**		*e*Pn	Pn	22 51 09.3	-4.0
GRR					*e*Sn	Sn	22 52 05.8	-8.6
	3.6nm,0.1s							
TCF	**Toulx Ste Croi**	**5.42**	**209**		*e*Pn	Pn	22 51 12.4	-4.1
TCF					*e*Sg	Sg	22 52 41.9	-12
	2.5nm,0.3s							
MFF	**Saint Martin d**	**6.04**	**224**		*e*Pn	Pn	22 51 20.9	-4.4
MFF					*e*Sn	Sn	22 52 25.5	-10
MFF					*e*Sg	Sg	22 53 00.7	-14
	1.5nm,0.4s							
SGMF	**Saint Gilles**	**6.22**	**246**		*e*Pn	Pn	22 51 23.1	-4.8
SGMF					*e*Sn	Sn	22 52 30.0	-10
	1.1nm,0.2s							
RJF	**Les Rejaudoux**	**6.52**	**209**		*e*Pn	Pn	22 51 27.6	-4.4
RJF					*e*Sn	Sn	22 52 37.6	-10
	0.9nm,0.3s							
ROSF	**Rostrenen**	**6.60**	**249**		*e*Sn	Sn	22 52 39.2	-10
	0.7nm,0.2s							
QUIF	**Quistinic**	**6.75**	**245**		*e*Pn	Pn	22 51 30.0	-5.3
LFF	**La Frestale**	**7.09**	**212**		*e*Pn	Pn	22 51 34.7	-5.4

NEIC ***19*** *23:15:29.4, 51.80N×179.53E, h174km, MG3.2(AEIC), After AEIC.*
ISC 19 23:15:27.1±2.5, 51.9N±0.6×179.4E±0.1, h172km±24km, n10, σ0 73/12, mb3.5/1, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIMD	**Kanaga Island**	**2.08**	**93**	P	**P**	**23 16 05.1**	**+0.3**
KIMD				S	**S**	**23 16 33.4**	**-0.5**
KIKV	**Kanaga Island**	**2.11**	**89**	P	**P**	**23 16 05.6**	**+0.4**
KIKV				S	**S**	**23 16 34.0**	**-0.5**
GSTR	**Great Sitkin T**	**2.80**	**84**	P	**P**	**23 16 14.0**	**+0.6**
ATKA	**Atka Island**	**3.95**	**83**	P	**P**	**23 16 27.9**	**-0.1**
FX1	**Attu Island--F**	**3.96**	**287**	P	**P**	**23 16 28.1**	**0.0**
RSO	**Redoubt South**	**17.57**	**50**	P	**P**	**23 19 22.0**	**-0.2**
SPU	**Mount Spurr**	**18.12**	**48**	*e*P	**P**	**23 19 28.9**	**+0.7**
SLKM	**Skilak Lake**	**18.80**	**51**	*e*P	**P**	**23 19 34.2**	**-1.0**
DAWY	**Dawson**	**24.49**	**44**	*e*P	**P**	**23 20 32.8**	**+1.6**
NB2	**NORSAR Subarra**	**67.01**	**354**	P	**P**	**23 26 01.6**	**-1.2**
	0.4nm,0.5s,mb3.5,baz=6.0,slow=6.2						

BJI ***19*** *23:32:05.9, 28.50S×70.90W, h59km, mB5.1*
GUC ***19*** *23:32:05.8±0.8, 28.55S×70.99W, h62km±6km, ML5.1*
IDC ***19*** *23:32:05.9±0.5, 28.43S×70.94W, h59km±4km, mb4.6/8, mb1 4.5/13, mb1mx4.4/18, mbtmp4.6/13, MS3.8/8, Ms1 3.7/8, ms1mx3.5/18, Error ellipse: s-maj=19.5km s-min=10.0km az=68.0*
NEIC ***19*** *23:32:05.9±0.2, 28.45S×70.91W, mb4.7/33, Error ellipse: s-maj=7.5km s-min=3.4km az=80.0*
NEIC Felt [IV] at Copiapo, Huasco, Tierra Amarilla and Vallenar.
ISC 19 23:32:04.4±0.2, 28.51S±0.02×71.04W±0.05, h59km, h59km±.5km: pP-P, n137, σ1 9 12/115, mb4.7/40, MS3.8/5, 6C-11D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.26**	**104**	⇑*i*P	**P**	**23 32 15.8**	**+1.8**
VACH				*i* S	**S**	**23 32 23.1**	**+1.9**
CPCH	**Copiapo**	**1.30**	**28**	⇑*i*P	**P**	**23 32 28.6**	**+1.7**
CPCH				*i* S	**S**	**23 32 45.2**	**+1.6**
CPCH				AMP		23 32 47.4	
	comp=E,88μm,0.2s						
TLL	**Tololo Astrono**	**1.66**	**173**	⇑*i*P	**P**	**23 32 33.8**	**+2.0**
TLL				*i* S	**S**	**23 32 53.9**	**+1.8**
TLL				AMP		23 32 57.7	
	comp=N,22μm,0.5s						
OVCH	**Ovalle**	**2.09**	**184**	*e*P	**P**	**23 32 38.6**	**+0.8**
OVCH				*i* S	**S**	**23 33 03.3**	**+0.6**
OVCH				AMP		23 33 20.0	
	comp=E,7μm,0.4s						
CMCH	**Combarbala**	**2.65**	**179**	⇓*i*P	**P**	**23 32 45.9**	**+0.1**
CMCH				*i* S	**S**	**23 33 17.1**	**+0.3**
CMCH				AMP		23 33 31.6	
	comp=N,28μm,0.6s						
ILCH	**Illapel**	**3.12**	**182**	*e*P	**P**	**23 32 52.5**	**+0.2**
ILCH				*i* S	**S**	**23 33 28.0**	**-0.5**
ILCH				AMP		23 33 47.7	
	comp=E,3μm,0.7s						
CHNG	**Los Chungos**	**3.38**	**187**	⇑*i*P	**P**	**23 32 55.2**	**-0.9**
CHNG				*i* S	**S**	**23 33 33.8**	**-1.4**
CHNG				AMP		23 34 00.0	
	comp=E,3μm,0.2s						
ZON	**Zonda**	**3.65**	**146**	*e*P	**P**	**23 33 08.0**	**+8.1**
CFAA	**Coronel Fontan**	**3.93**	**142**	P	**P**	**23 33 05.3**	**+1.7**
	comp=E,18nm,0.3s,baz=321,slow=12,SNR=584						
CFAA				S	**S**	**23 33 50.4**	**+1.4**
	comp=E,29nm,0.3s,baz=154,slow=15,SNR=3.9						
JACH	**Jahuel**	**4.17**	**175**	*e*P	**P**	**23 33 07.8**	**+0.6**
MDZ	**Mendoza**	**4.75**	**157**	⇓*i*P	**P**	**23 33 17.2**	**+2.0**
MDZ				*i*		23 33 22.2	
MDZ				*i*		23 33 52.3	
MDZ				*i* S	**S**	**23 34 09.1**	**-0.5**
FCH	**Farellones**	**4.84**	**173**	*e*P	**P**	**23 33 17.1**	**+0.6**
CLCH	**Cerro Calan**	**4.89**	**175**	*e*P	**P**	**23 33 17.1**	**0.0**
DSCH	**Colegio Aleman**	**4.89**	**175**	*e*P	**P**	**23 33 17.0**	**-0.2**
DSCH				*i* S	**S**	**23 34 11.5**	**-1.6**
RCDM	**Rinconada Maip**	**4.97**	**178**	*e*P	**P**	**23 33 17.6**	**-0.7**
RCDM				*i* S	**S**	**23 34 12.7**	**-2.4**
PCH	**Pirque**	**5.11**	**175**	*e*P	**P**	**23 33 20.2**	**0.0**
LVC	**Limon Verde**	**6.18**	**19**	P	**P**	**23 33 33.1**	**-2.0**
	comp=E,7.7nm,0.3s,baz=188,slow=9.4,SNR=168						
LVC				S	**S**	**23 34 46.1**	**+0.8**
	comp=E,31nm,0.3s,baz=295,slow=10.0,SNR=4.5						
LVC				LR	LR	23 36 04.5	
	comp=E,615nm,20.4s,baz=209,slow=39						
LVC	**Limon Verde**	**6.18**	**19**	*e*Pn	**P**	**23 33 32.8**	**-2.3**
	comp=E,308nm,0.6s						
TRQA	**Tornquist**	**12.16**	**144**	*e*Pn	**P**	**23 34 55.2**	**-1.8**
	comp=E,25nm,0.6s						
PLCA	**Paso Flores**	**12.20**	**178**	P	**P**	**23 34 56.7**	**-0.8**
	comp=E,0.1nm,0.3s,baz=354,slow=12,SNR=2.2						
PLCA				LR	LR	23 40 06.1	
	comp=E,274nm,18.5s,baz=345,slow=39						
PLCA	**Paso Flores**	**12.20**	**178**	Pn	**P**	**23 34 59.4**	**+1.9**
CPUP	**Villa Florida**	**12.38**	**83**	P	**P**	**23 34 57.0**	**-2.9**
	comp=E,0.5nm,0.3s,baz=275,slow=16,SNR=11						
CPUP				LR	LR	23 40 20.5	
	comp=E,394nm,18.4s,baz=303,slow=40						
CPUP	**Villa Florida**	**12.38**	**83**	*e*Pn	**P**	**23 34 57.4**	**-2.5**
	comp=E,16nm,0.6s						
LPAZ	**La Paz**	**12.46**	**13**	P	**P**	**23 34 58.1**	**-2.9**
	comp=E,0.5nm,0.3s,baz=191,slow=8.3,SNR=13						
LPAZ	**La Paz**	**12.46**	**13**	*e*Pn	**P**	**23 34 57.8**	**-3.2**
	comp=E,19nm,0.8s						
SIV	**San Ignacio**	**15.49**	**39**	P	**P**	**23 35 35.2**	**-5.5**
	comp=E,0.5nm,0.3s,baz=225,slow=9.4,SNR=14						
SAML	**Samuel**	**20.82**	**22**	*e*P	**P**	**23 36 42.0**	**-1.3**
	comp=E,28nm,0.8s						
SAML				*e*		23 37 00.5	
BDFB	**Brasilia**	**24.83**	**64**	P	**P**	**23 37 21.4**	**-1.4**
	comp=E,20nm,0.8s,mb4.7,baz=234,slow=8.7,SNR=22						
BDFB				LR	LR	23 48 13.1	
	comp=E,99nm,18.5s,MS3.3,baz=294,slow=39						
BAO	**Brasilia Array**	**24.85**	**64**	P	**P**	**23 37 22.0**	**-0.9**
USHA	**Ushuaia**	**26.37**	**177**	P	**P**	**23 37 36.3**	**-0.5**
	comp=E,9.8nm,0.6s,mb4.5,baz=9.8,slow=8.1,SNR=6.8						
USHA				pP	pP	23 37 51.6	+0.6
	comp=E,27nm,0.9s,baz=264,slow=4.4,SNR=5.2						
USHA				LR	LR	23 48 26.0	
	comp=E,189nm,21.3s,MS3.6,baz=33,slow=37						
SDV	**Santo Domingo**	**37.18**	**1**	LR	LR	23 56 05.1	
	comp=E,57nm,18.6s,MS3.4,baz=200,slow=39						
SDV	**Santo Domingo**	**37.18**	**1**	*e*P	**P**	**23 39 09.9**	**-1.8**
	comp=E,9.6nm,0.8s,mb4.7						
SDV				*e*pP	pP	23 39 24.4	-2.3
VNA3	**Neumayer Olymp**	**54.15**	**159**		**P**	**23 41 27.3**	**+1.9**
VNA3	**Neumayer Olymp**	**54.15**	**159**		**P**	**23 41 28.9**	**+3.5**
VNA3	**Neumayer Olymp**	**54.15**	**159**		**P**	**23 41 41.7**	**+16**
VNA3	**Neumayer Olymp**	**54.15**	**159**		**P**	**23 41 44.9**	**+20**
VNA1	**Neumayer--Stat**	**54.42**	**159**		**P**	**23 41 20.7**	**-6.7**
VNA1	**Neumayer--Stat**	**54.42**	**159**		**P**	**23 41 27.7**	**+0.3**
VNA1	**Neumayer--Stat**	**54.42**	**159**	P	**P**	**23 41 27.7**	**+0.3**
VNA2	**Neumayer--Watz**	**54.77**	**159**		**P**	**23 41 30.1**	**+0.2**
VNA2	**Neumayer--Watz**	**54.77**	**159**		**P**	**23 41 31.7**	**+1.8**
VNA2	**Neumayer--Watz**	**54.77**	**159**		**P**	**23 41 46.1**	**+16**
VNA2	**Neumayer--Watz**	**54.77**	**159**		**P**	**23 41 48.1**	**+18**
MAIT	**Maitri**	**61.01**	**158**	*e*P	**P**	**23 42 12.6**	**-1.1**
QSPA	**South Pole Qui**	**61.71**	**180**	⇓*i*P	**P**	**23 42 18.0**	**-0.3**
	comp=E,19nm,0.5s,mb5.5						
MYNC	**Murphy**	**64.44**	**348**	*e*P	**P**	**23 42 35.2**	**-1.6**
	comp=E,10.0nm,0.8s,mb4.9						
CPCT	**Cooper Cave**	**64.88**	**348**	*e*P	**P**	**23 42 37.4**	**-2.3**
SWET	**Sewanee**	**64.92**	**347**	*e*P	**P**	**23 42 37.0**	**-3.1**
SWET				*e*pP	pP	23 42 53.2	-2.9
TXAR	**Lajitas Array**	**65.43**	**329**	P	**P**	**23 42 43.5**	**+0.2**
	comp=E,5.1nm,0.7s,mb4.6,baz=152,slow=8.4,SNR=66						
TXAR				pP	pP	23 42 59.1	-0.4
	comp=E,1.6nm,0.7s,baz=143,slow=12,SNR=5.1						
TXAR				PKP2bc		00 11 28.5	
	comp=E,0.4nm,0.9s,baz=333,slow=2.8,SNR=3.5						
TXAR	**Lajitas Array**	**65.43**	**329**	P	**P**	**23 42 43.5**	**+0.2**
TXAR				pP	pP	23 42 59.1	-0.4
TXAR				⇑*e*		00 11 28.5	
LTX	**Lajitas**	**65.43**	**329**	*e*P	**P**	**23 42 43.3**	**-0.1**
	comp=E,5.0nm,0.8s,mb4.6						
WVT	**Waverly**	**66.21**	**345**	*e*P	**P**	**23 42 46.2**	**-2.0**
	comp=E,12nm,1.0s,mb4.9						
WVT				*e*pP	pP	23 43 02.4	-2.0
WCI	**Wyandotte Cave**	**67.91**	**347**	*e*P	**P**	**23 42 56.5**	**-2.4**
	comp=E,4.5nm,0.6s,mb4.7						
WMOK	**Wichita Mounta**	**68.15**	**336**	*e*P	**P**	**23 42 58.8**	**-1.7**
	comp=E,2.4nm,0.5s,mb4.5						
MNTX	**Cornudas Mount**	**68.21**	**329**	*e*P	**P**	**23 42 59.8**	**-1.1**
	comp=E,12nm,1.0s,mb4.9						
MNTX				*e*pP	pP	23 43 15.7	-1.4
FVM	**French Village**	**68.59**	**344**	*e*P	**P**	**23 43 02.1**	**-1.0**
	comp=E,19nm,0.6s,mb5.2						
FVM				*e*pP	pP	23 43 18.4	-0.9
CCM	**Cathedral Cave**	**68.87**	**343**	*e*P	**P**	**23 43 03.7**	**-1.2**
	comp=E,48nm,1.4s,mb5.2						
CCM				*e*pP	pP	23 43 19.8	-1.3
SYO	**Syowa Base**	**70.66**	**159**	⇑P	**P**	**23 43 12.8**	**-2.4**
SYO	**Syowa Base**	**70.66**	**159**	⇓sP	sP	23 43 38.2	+0.5
TUC	**Tucson**	**71.31**	**325**	*e*P	**P**	**23 43 20.3**	**+0.6**
	comp=E,0.9nm,0.6s,mb3.9						
ANMO	**Albuquerque**	**71.44**	**330**	*e*P	**P**	**23 43 21.1**	**+0.7**
	comp=E,5.6nm,1.2s,mb4.4						
ANMO				*e*pP	pP	23 43 37.0	+0.2
CBKS	**Cedar Bluff**	**72.14**	**337**	*e*P	**P**	**23 43 24.6**	**0.0**
DBIC	**Dimbokro**	**72.65**	**72**	P	**P**	**23 43 27.0**	**-1.1**
	comp=E,24nm,0.8s,mb5.2,baz=212,slow=6.6,SNR=41						
DBIC	**Dimbokro**	**72.65**	**72**	P	**P**	**23 43 27.0**	**-1.1**
SDCO	**Great Sand Dun**	**73.39**	**332**	*e*P	**P**	**23 43 32.8**	**+0.9**
	comp=E,2.7nm,0.4s,mb4.5						
SDCO				*e*	pP	23 43 48.9	+0.6
PV10	**Paradox Valley**	**75.43**	**330**	*e*P	**P**	**23 43 44.3**	**+0.6**
NEN	**Nelson**	**76.00**	**324**	*e*P	**P**	**23 43 47.5**	**+0.4**
SRU	**San Rafael**	**76.69**	**329**	*e*P	**P**	**23 43 51.9**	**+1.0**
SRU				*e*pP	pP	23 44 07.9	+0.6
SUR	**Sutherland**	**76.77**	**120**	*e*P	**P**	**23 43 51.3**	**-0.1**
	comp=E,18nm,0.8s,mb5.0						
MSU	**Marysvale**	**76.96**	**328**	*e*P	**P**	**23 43 53.3**	**+0.9**
ARUT	**Antelope Range**	**76.98**	**327**	*e*P	**P**	**23 43 53.9**	**+1.3**
ARUT				*e*pP	pP	23 44 10.3	+1.3
TMUT	**Trail Mountain**	**77.15**	**329**	*e*P	**P**	**23 43 53.6**	**+0.2**
MPU	**Maple Canyon**	**77.93**	**329**	*e*P	**P**	**23 43 57.4**	**-0.3**
MPU				*e*pP	pP	23 44 14.8	+0.6
DAU	**Daniels Canyon**	**78.08**	**330**	*e*P	**P**	**23 43 59.9**	**+1.4**
DAU				*e*pP	pP	23 44 16.4	+1.4
MAW	**Mawson**	**78.19**	**164**	P	**P**	**23 43 58.3**	**-0.3**
	comp=E,11nm,0.7s,mb4.9,baz=213,slow=6.6,SNR=35						
MAW				pP	pP	23 44 15.3	+0.3
	comp=E,11nm,0.7s,baz=227,slow=7.0,SNR=9.8						
MAW				LR	LR	00 16 34.3	
	comp=E,282nm,18.9s,MS4.6,baz=42,slow=34						
JLU	**Jordanelle**	**78.32**	**330**	*e*P	**P**	**23 44 00.9**	**+1.0**
JLU				*e*pP	pP	23 44 17.2	+0.9
RSSD	**Black Hills**	**78.33**	**336**	*e*P	**P**	**23 44 00.3**	**+0.5**
	comp=E,9.8nm,1.0s,mb4.7						
RSSD				*e*pP	pP	23 44 17.1	+0.8
DUG	**Dugway**	**78.61**	**329**	⇓*e*P	**P**	**23 44 02.4**	**+0.9**
	comp=E,26nm,1.4s,mb5.0						
DUG				*e*pP	pP	23 44 18.8	+0.9
TCUT	**Toone Canyon**	**78.72**	**330**	*e*P	**P**	**23 44 02.8**	**+0.8**
HWUT	**Hardware Ranch**	**79.19**	**330**	⇓*i*P	**P**	**23 44 05.0**	**+0.4**
	comp=E,19nm,0.8s,mb5.1						
HWUT				*e*pP	pP	23 44 21.6	+0.6
PDAR	**Pinedale Array**	**79.29**	**332**	P	**P**	**23 44 05.4**	**+0.3**
	comp=E,2.7nm,0.6s,mb4.4,baz=128,slow=4.4,SNR=19						
PDAR				pP	pP	23 44 20.4	-1.1
	comp=E,2.0nm,0.6s,baz=135,slow=6.3,SNR=5.7						
PDAR				LR	LR	00 21 05.4	
	comp=E,52nm,19.0s,MS3.9,baz=246,slow=37						
PDAR	**Pinedale Array**	**79.29**	**332**	P	**P**	**23 44 05.4**	**+0.3**
PDAR				pP	pP	23 44 20.4	-1.1
PDAR				LR	LR	00 21 05.4	
BW06	**Boulder Array**	**79.29**	**332**	*e*P	**P**	**23 44 05.3**	**+0.2**
	comp=E,5.3nm,1.1s,mb4.4						
SPUT	**South Promonto**	**79.34**	**330**	⇓*i*P	**P**	**23 44 06.0**	**+0.6**
SPUT				*e*pP	pP	23 44 22.4	+0.6
HVU	**Hansel Valley**	**79.86**	**330**	⇓*i*P	**P**	**23 44 08.6**	**+0.4**
HVU				*e*pP	pP	23 44 25.1	+0.4
TSUM	**Tsumeb**	**79.91**	**106**	*e*P	**P**	**23 44 08.5**	**-0.4**
	comp=E,10nm,0.8s,mb4.8						
AHID	**Auburn Hatcher**	**79.93**	**331**	*e*P	**P**	**23 44 08.9**	**+0.4**
	comp=E,13nm,1.3s,mb4.7						
ELK	**Elko**	**80.17**	**327**	*e*P	**P**	**23 44 10.6**	**+0.7**
	comp=E,9.8nm,0.9s,mb4.7						
ELK				*e*pP	pP	23 44 27.1	+0.7
SNOW	**Snow King Moun**	**80.36**	**332**	*e*P	**P**	**23 44 11.8**	**+1.0**
	comp=E,7.0nm,0.7s,mb4.7						
LOHW	**Long Hollow**	**80.42**	**332**	*e*P	**P**	**23 44 11.3**	**+0.2**
	comp=E,11nm,1.2s,mb4.7						
LOHW				*e*pP	pP	23 44 28.2	+0.6
TPAW	**Teton Pass**	**80.46**	**332**	*e*P	**P**	**23 44 12.3**	**+0.9**
	comp=E,10nm,1.0s,mb4.7						
RRI2	**Red Ridge**	**80.50**	**331**	*e*P	**P**	**23 44 12.4**	**+0.9**
	comp=E,6.0nm,1.0s,mb4.5						
ULM	**Lac du Bonnet**	**81.45**	**344**	P	**P**	**23 44 15.8**	**-0.6**
	comp=E,6.4nm,0.6s,mb4.8,baz=169,slow=4.8,SNR=17						
ULM				pP	pP	23 44 32.2	-0.8
	comp=E,3.9nm,0.9s,baz=158,slow=2.9,SNR=3.2						
ULM	**Lac du Bonnet**	**81.45**	**344**	P	**P**	**23 44 15.8**	**-0.6**
ULM				pP	pP	23 44 32.2	-0.8
HLID	**Hailey**	**82.01**	**330**	⇓*i*P	**P**	**23 44 20.4**	**+1.0**
	comp=E,6.1nm,1.0s,mb4.5						
HLID				*e*pP	pP	23 44 37.0	+1.0
BOZ	**Bozeman (W)**	**82.51**	**333**	*e*P	**P**	**23 44 22.1**	**+0.1**
	comp=E,0.7nm,0.5s,mb4.0						
SCHQ	**Schefferville**	**83.08**	**2**	P	**P**	**23 44 24.2**	**-0.5**
	comp=E,5.5nm,1.0s,mb4.5,baz=198,slow=6.7,SNR=6.1						
SCHQ	**Schefferville**	**83.08**	**2**	P	**P**	**23 44 24.2**	**-0.5**
WVOR	**Wild Horse Val**	**83.10**	**327**	*e*P	**P**	**23 44 25.3**	**+0.3**
	comp=E,3.9nm,1.0s,mb4.4						
MOD	**Modoc**	**83.52**	**325**	⇓*e*P	**P**	**23 44 28.0**	**+0.9**
	comp=E,9.5nm,1.1s,mb4.8						
MOD				*e*pP	pP	23 44 44.6	+0.8
CASY	**Casey**	**85.51**	**181**	*e*P	**P**	**23 44 36.4**	**-0.1**
	comp=E,8.9nm,1.1s,mb4.9						
CASY				*e*pP	pP	23 44 53.9	+0.7
WALA	**Waterton Lakes**	**86.18**	**333**	*e*P	**P**	**23 44 40.3**	**+0.1**
	comp=E,6.6nm,1.0s,mb4.8						
NEW	**Newport**	**86.87**	**331**	*e*P	**P**	**23 44 43.4**	**-0.1**
	comp=E,1.1nm,0.5s,mb4.3						
FCC	**Fort Churchill**	**89.04**	**348**	⇓*e*P	**P**	**23 44 53.8**	**+0.1**
EDM	**Edmonton**	**89.31**	**336**	*e*P	**P**	**23 44 54.1**	**-1.0**
GERES	**GERESS Array B**	**107.65**	**44**	PKiKP		23 50 25.7	
	comp=E,0.5nm,0.6s,baz=180,slow=2.7,SNR=6.5						
AKASG	**Malin Array Be**	**117.79**	**45**	PKP	PKPdf	23 50 43.6	-0.3
	comp=E,1.5nm,0.4s,baz=264,slow=2.7,SNR=16						
FINES	**FINESS Array B**	**117.96**	**33**	PKP	PKPdf	23 50 44.5	+0.6
	comp=E,0.6nm,0.6s,baz=117,slow=4.3,SNR=5.1						
BRTR	**Keskin Array B**	**118.31**	**58**	PKP	PKPdf	23 50 46.1	+1.0
	comp=E,1.8nm,0.7s,baz=188,slow=2.9,SNR=11						
ARCES	**ARCESS Array B**	**118.67**	**23**	PKP	PKPdf	23 50 45.6	+0.4
	comp=E,2.0nm,0.9s,baz=270,slow=3.6,SNR=4.0						
ARCES				PKKPbc		00 01 02.5	
	comp=E,0.6nm,0.5s,baz=45,slow=3.4,SNR=7.4						
MALT	**Malatya**	**121.60**	**61**	*e*PKPdf	PKPdf	23 50 52.9	+1.3
WRA	**Warramunga Arr**	**125.95**	**210**	PKP	PKPdf	23 51 01.2	+0.8
	comp=E,5.3nm,0.5s,baz=160,slow=1.6,SNR=20						
WRA				pPKP		23 51 19.1	
	comp=E,4.3nm,0.7s,baz=152,slow=1.5,SNR=9.1						
WRAB	**Tennant Creek**	**125.95**	**210**	*e*PKPdf	PKPdf	23 51 00.8	+0.4
GNI	**Garni**	**126.76**	**59**	*e*PKPdf	PKPdf	23 51 02.8	+1.3
ARU	**Arti**	**134.95**	**37**	*e*PKPdf	PKPdf	23 51 17.7	+1.1
BRVK	**Borovoye**	**142.50**	**38**	*e*PKPpre		23 51 26.8	
BRVK				*e*PKPdf	PKPdf	23 51 31.9	+1.7
YAK	**Yakutsk**	**143.79**	**344**	*e*PKPdf	PKPdf	23 51 31.1	-1.0
PALK	**Pallekele**	**145.97**	**123**	*e*PKPbc	PKPbc	23 51 39.2	+0.8
KURK	**Kurchatov**	**148.15**	**37**	*e*PKPdf	PKPdf	23 51 41.0	+1.2
KURK				*e*PKPbc	PKPdf	23 51 44.4	+4.6
EKS2	**Erkin-Say**	**148.34**	**54**	P	PKPdf	23 51 43.1	+2.7
	SNR=18						
AML	**Almayashu**	**148.42**	**55**	P	PKPdf	23 51 43.7	+3.1
	SNR=19						
USP	**Ospenovka**	**148.69**	**53**	P	PKPdf	23 51 43.4	+2.4
	SNR=15						
AAK	**Ala-Archa**	**148.86**	**54**	P	PKPdf	23 51 47.6	+6.4
	SNR=13						
AAK	**Ala-Archa**	**148.86**	**54**	*e*PKPdf	PKPdf	23 51 42.6	+1.4
AAK				*e*PKPbc	PKPdf	23 51 46.3	+5.1
AAK				*e*PKPab	PKPab	23 51 50.2	-1.3
CHMS	**Chumysh**	**148.94**	**53**	P	PKPdf	23 51 47.4	+6.1
	SNR=10						
ZAL	**Zalesovo**	**149.06**	**28**	PKP	PKPdf	23 51 42.7	+1.5
	comp=E,37nm,0.6s,baz=192,slow=1.6,SNR=28						
ZAL				PKPbc	PKPdf	23 51 46.7	+5.5
	comp=E,37nm,0.6s,baz=160,slow=2.6,SNR=123						
ZAL				pPKPbc		23 52 04.2	
	comp=E,9.2nm,0.7s,baz=156,slow=2.9,SNR=5.4						
ZAL	**Zalesovo**	**149.06**	**28**	PKP	PKPdf	23 51 42.7	+1.5
ZAL				PKPbc	PKPdf	23 51 46.7	+5.5
ZAL				pPKPbc		23 52 04.2	
KBK	**Karagaybulak**	**149.18**	**54**	P	PKPdf	23 51 48.5	+6.8
	SNR=8.3						
KZA	**Kyzart**	**149.55**	**55**	P	PKPdf	23 51 50.0	+7.6
	SNR=6.6						
TKM2	**Tokmak 2**	**149.56**	**53**	P	PKPdf	23 51 48.9	+6.5
	SNR=9.2						
HYB	**Hyderabad**	**149.99**	**105**	*i* P	PKPdf	23 51 50.5	+6.7
HYB	**Hyderabad**	**149.99**	**105**	*e*P	PKPdf	23 51 50.5	+6.7
ULHL	**Ulahol**	**150.21**	**54**	P	PKPdf	23 51 51.2	+7.8
	SNR=7.4						
MKAR	**Makanchi Array**	**152.30**	**42**	PKP	PKPdf	23 51 47.6	+1.2
	comp=E,1.6nm,0.8s,slow=2.4,SNR=16						
MKAR				PKPbc	PKPdf	23 51 54.4	+8.0
	comp=E,27nm,0.8s,baz=311,slow=1.7,SNR=156						
MKAR				PKPab	PKPab	23 52 04.8	-0.8
	comp=E,5.2nm,0.7s,baz=326,slow=4.4,SNR=8.5						
MKAR				pPKPbc		23 52 12.0	
	comp=E,5.0nm,0.6s,baz=297,slow=2.7,SNR=5.8						
MKAR	**Makanchi Array**	**152.30**	**42**	PKP	PKPdf	23 51 47.6	+1.2
MKAR				PKPbc	PKPdf	23 51 54.4	+8.0
MKAR				PKPab	PKPab	23 52 04.8	-0.8
MKAR				pPKPbc		23 52 12.0	
SONM	**Songino Array**	**160.60**	**5**	PKP	PKPdf	23 51 59.5	+2.7
	comp=E,1.0nm,0.8s,baz=286,slow=1.0,SNR=7.8						
SONM				PKPab	PKPab	23 52 39.7	-1.4
	comp=E,1.4nm,0.8s,baz=331,slow=5.3,SNR=6.8						
SONM				pPKPab		23 52 57.9	
	comp=E,0.9nm,0.8s,baz=351,slow=3.1,SNR=3.7						
SONM				PP	PP	23 56 24.3	-0.2
	comp=E,0.8nm,0.9s,baz=315,slow=4.2,SNR=4.0						
GTA	**Gaotai**	**166.75**	**32**	PKP	PKPdf	23 52 05.8	+2.8

MAN 20 00:03:27.2, 10.24N×125.93E, h34km, mb3.8, ML2.6, MS2.1, Leyte

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

KISR **20** *00:39:23.8±1.1,29.65N×51.29E,h45km±939km,ML2.8*
CSEM **20** *00:39:23.5±0.1,29.47N×51.43E,h50km,ML3.0,Error ellipse: s-maj=3.1km s-min=1.7km az=164.0*
TEH **20** *00:39:24.7,29.51N×51.49E,h21km,Mn3.0*
ISC 20 00:39:22.8±0.6,29.59N±0.07×51.36E±0.04,h21km,n14,σ0§58/16,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHI	**Shiraz**	**1.00**	**87**	Pg	**Pb**	**00 39 41.6**	**+0.2**
IMOK	**Mook**	**1.30**	**114**	Pn	**Pn**	**00 39 45.4**	**-0.5**
ISRV	**Sarvestan**	**1.54**	**97**	Pn	**Pn**	**00 39 48.9**	**-0.5**
ISAD	**Sadrabad**	**3.06**	**40**	Pn	**Pn**	**00 40 12.3**	**+1.2**
QRN	**Al-Qurain**	**3.13**	**255**	*e*P	**Pn**	**00 40 12.1**	**+0.1**
QRN				*e*S	**Sn**	**00 40 49.2**	**+0.1**
QRN				AML	AML	00 40 50.2	
	comp=Z,35nm,0.2s						
IMEH	**Mehriz**	**3.33**	**57**	Pn	**Pn**	**00 40 15.7**	**+0.7**
RDF	**Al-Radifah**	**3.40**	**260**	*e*P	**Pn**	**00 40 16.4**	**+0.5**
RDF				*e*S	**Sn**	**00 40 56.1**	**+0.2**
RDF				AML	AML	00 40 57.9	
	comp=Z,25nm,0.4s						
MIB	**Mutribah**	**3.51**	**275**	*e*P	**Pn**	**00 40 18.1**	**+0.7**
MIB				*e*S	**Sn**	**00 40 57.7**	**-1.0**
MIB				AML	AML	00 41 06.4	
	comp=Z,15nm,0.4s						
ICHK	**Chekchek**	**3.72**	**44**	Pn	**Pn**	**00 40 20.5**	**0.0**
IBAF	**Bafgh**	**4.14**	**60**	Pn	**Pn**	**00 40 25.8**	**-0.6**
IVRN	**Varamin**	**5.40**	**3**	Pn	**Pn**	**00 40 44.4**	**+0.1**
IDMV	**Damavand**	**6.00**	**5**	Pn	**Pn**	**00 40 52.3**	**-0.4**
IFIR	**Firoozkooh**	**6.15**	**11**	Lg		00 42 37.6	
IFIR	**Firoozkooh**	**6.15**	**11**	Pn	**Pn**	**00 40 54.2**	**-0.7**

NNC 20 00:55:51.1±6.3,36.73N×69.64E,h63km±122km,mpv3.4, 2C-1D,Error ellipse: s-maj=61.7km s-min=37.5km az=144.0,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.40**	**6**	P	P	00 57 22.6	-2.3
	0.9nm,0.3s,baz=176,slow=12,SNR=54						
KK31				⇑S	S	00 58 37.1	-0.1
	0.5nm,0.3s,baz=191,slow=21,SNR=4.2						
AAK	**Ala-Archa**	**6.98**	**31**	⇓S	S	00 58 48.9	-2.7
	4.6nm,0.7s						
AB31	**Akbulak array**	**14.37**	**334**	P	P	00 59 11.0	-1.4
	1.3nm,0.5s,baz=152,slow=12,SNR=35						
AB31				⇑S	S	01 01 47.5	-3.2
	0.3nm,0.4s						
AKTO	**Aktyubinsk**	**16.05**	**332**	P	P	00 59 35.6	+1.7

TEH **20** *01:15:02.8,30.76N×56.98E,h10km,Mn3.0*
THR **20** *01:15:02.6±0.8,30.80N×56.88E,h16km±8km,ML2.8*
CSEM **20** *01:15:02.8,30.76N×56.98E,h10km,ML3.0,After TEH*
ISC 20 01:15:02.8±0.9,30.86N±0.07×56.9E±0.1,h16km,n12,σ1§02/12,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	**Kerman**	**0.88**	**188**	*e*PG	**Pb**	**01 15 18.6**	**-0.6**
KRBR				AML	AML	01 15 34.0	
	comp=N,406nm,0.2s						
IBAF	**Bafgh**	**1.36**	**303**	Pg	**Pn**	**01 15 27.3**	**0.0**
IMEH	**Mehriz**	**2.04**	**286**	Pn	**Pn**	**01 15 38.3**	**+1.3**
ICHK	**Chekchek**	**2.54**	**304**	Pn	**Pn**	**01 15 45.2**	**+0.9**
BNDS	**Bandar-Abbas**	**3.50**	**191**	*e*Pn	**Pn**	**01 15 58.1**	**+0.2**
ZHSF	**Zahedan**	**3.57**	**109**	*e*PN	**Pn**	**01 15 59.4**	**+0.6**
ZHSF				AML	AML	01 17 05.6	
	comp=N,13nm,0.6s						
NASN	**Na'in**	**3.99**	**300**	*e*PN	**Pn**	**01 16 06.2**	**+1.3**
NASN				*e*SG	**Sn**	**01 17 06.9**	**+15**
GHIR	**Ghir-Karzin**	**4.27**	**234**	*e*Pn	**Pn**	**01 16 08.1**	**-0.7**
IFIR	**Firoozkooh**	**5.91**	**325**	Lg		01 18 10.4	
IFIR	**Firoozkooh**	**5.91**	**325**	Pn	**Pn**	**01 16 28.9**	**-3.0**
IVRN	**Varamin**	**6.00**	**315**	Pn	**Pn**	**01 16 32.4**	**-0.8**
IDMV	**Damavand**	**6.23**	**320**	Pn	**Pn**	**01 16 35.4**	**-1.1**

LDG **20** *01:45:31.1±0.1,20.65S×170.81E,h10km,Mb5.4/4, Ms4.5/9,Error ellipse: s-maj=20.0km s-min=11.0km az=36.0*
MOS **20** *01:45:35.9±1.1,21.14S×170.06E,h33km,mb5.4/23, MS4.6/10,Error ellipse: s-maj=10.7km s-min=10.1km az=37.7*
CSEM **20** *01:45:36.2,21.45S×170.08E,h33km,mb5.5*
HRVD **20** *01:45:43.3±0.1,21.18S×170.05E,h92km±1km,MW5.5/75, Centroid moment Tensor Solution. LP body waves: s69,c159;Mantle waves: s75,c162; Half duration: 1§3 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.99±.04; $M_{\theta\theta}$0.81±.04; $M_{\phi\phi}$0.18±.04; $M_{r\theta}$0.18±.02; $M_{\theta\phi}$0.43±.03; $M_{\phi r}$1.57±.02; Best double couple: $M_0$1.819×10^{17} NP1: ϕ_s76°,δ24°,λ-37°. NP2:ϕ_s201°,δ76°,λ-110°. Principal axes: T 1.554, Plg28°, Azm306°; N .53, Plg19°, Azm206°; P -2.084, Plg55°, Azm86°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC **20** *01:45:43.3±0.2,21.15S×169.98E,mb5.2/40,MW5.5 Error ellipse: s-maj=8.7km s-min=5.9km az=148.0,Moment Tensor Solution. s20 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.64; $M_{\theta\theta}$0.21; $M_{\phi\phi}$1.44; $M_{r\theta}$0.33; $M_{\theta\phi}$0.49; $M_{\phi r}$1.40; Best double couple: $M_0$2.2×10^{17} NP1:ϕ_s23°,δ24°,λ-83°. NP2:ϕ_s195°,δ66°,λ-93°. Principal axes: T 2.15, Plg21°, Azm288°; N .04, Plg3°, Azm197°; P -2.19, Plg69°, Azm99°;*
IDC **20** *01:45:44.3±0.5,21.10S×169.91E,h92km±3km,mb4.8/19, mb1 4.9/22,mb1mx4.8/23,mbtmp5.1/22,MS4.4/20, Ms1 4.4/20,ms1mx4.4/21 Error ellipse: s-maj=12.5km s-min=8.0km az=158.0*
BJI **20** *01:45:46.5,20.29S×169.76E,h90km,mB5.1,mb4.9, Ms4.8,Msz4.5*
ISC 20 01:45:42.5±0.2,21.15S±0.05×169.94E±0.04,h88km, h88km±1.6km:pP-P,n392,σ1§08/152,mb5.0/65,29C-22D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.38**	**254**	⇓*e*P	**P**	**01 46 34.8**	**+0.5**
DZM				*e*S	**S**	**01 47 11.6**	**-1.9**
DZM	**Mont Dzumac**	**3.38**	**254**	P	**P**	**01 46 35.0**	**+0.7**
	496nm,0.3s,baz=89,slow=5.5,SNR=4879						
DZM				S	**S**	**01 47 14.0**	**+0.5**
	2μm,0.3s,baz=187,slow=23,SNR=24						
DZM				LR	LR	01 47 27.6	
	comp=Z,4μm,20.5s,baz=278,slow=31						
DZM	**Mont Dzumac**	**3.38**	**254**	⇓*e*P	**P**	**01 46 34.8**	**+0.4**
DZM				*e*S	**S**	**01 47 11.6**	**-1.9**
RAO	**Raoul Island**	**13.63**	**129**	LR	LR	01 53 03.9	
	comp=Z,3μm,21.1s,baz=345,slow=32						
HNR	**Honiara**	**15.11**	**319**	P	**P**	**01 49 13.4**	**+1.0**
	10nm,0.3s,baz=169,slow=5.2,SNR=2.7						
HNR				LR	LR	01 54 08.3	
	comp=Z,836nm,19.6s,baz=173,slow=34						
HNR	**Honiara**	**15.11**	**319**	P	**P**	**01 49 13.3**	**+0.9**
	487nm,1.0s						
HNR	**Honiara**	**15.11**	**319**	P	**P**	**01 49 13.3**	**+0.9**
HNR				pmax	pmax		
	comp=Z,487nm,1.0s						
FUNA	**Funafuti**	**15.40**	**37**	*e*P	**P**	**01 49 15.0**	**-1.2**
URZ	**Urewera**	**18.15**	**162**	P	**P**	**01 49 51.2**	**+1.2**
	comp=Z,4.2nm,0.3s,baz=342,slow=5.6,SNR=66						
URZ				LR	LR	01 55 58.3	
	comp=Z,828nm,18.6s,baz=240,slow=34						
AFI	**Afiamalu**	**18.85**	**71**	P	**P**	**01 49 57.9**	**-0.3**
	comp=Z,4.0nm,0.3s,baz=340,slow=3.0,SNR=11						
AFI				LR	LR	01 55 01.0	
	comp=Z,475nm,21.1s,baz=257,slow=30						
AFI	**Afiamalu**	**18.85**	**71**	*e*P	**P**	**01 49 55.8**	**-2.4**
	comp=Z,271nm,1.1s						
AFI	**Afiamalu**	**18.85**	**71**	*e*P	**P**	**01 49 55.8**	**-2.4**
AFI				pmax	pmax		
	comp=Z,271nm,1.1s						
ARMA	**Armidale**	**18.88**	**237**	*i* S	**S**	**01 53 24.6**	**+2.2**
CTA	**Charters Tower**	**22.19**	**268**	⇑*i*P	**P**	**01 50 34.2**	**+1.7**
	comp=Z,60nm,0.8s,mb5.0						
CTA				*i* S	**S**	**01 54 34.4**	**+8.3**
CTA	**Charters Tower**	**22.19**	**268**	P	**P**	**01 50 34.2**	**+1.8**
	comp=Z,75nm,0.8s,mb5.1,baz=95,slow=11,SNR=52						
CTA	**Charters Tower**	**22.19**	**268**	⇑*i*P	**P**	**01 50 34.2**	**+1.7**
CTA				*i* S	**S**	**01 54 34.4**	**+8.3**
CTA				pmax	pmax		
	comp=Z,60nm,0.8s						
CTAO	**Charters Tower**	**22.19**	**268**	⇑*i*P	**P**	**01 50 34.1**	**+1.6**
	comp=Z,60nm,0.8s,mb5.0						
CTAO	**Charters Tower**	**22.19**	**268**	⇑*i*P	**P**	**01 50 34.1**	**+1.6**
CTAO				pmax	pmax		
	comp=Z,61nm,0.8s,mb5.0						
RPZ	**Rata Peaks**	**22.53**	**178**	P	**P**	**01 50 37.4**	**+1.8**
	comp=Z,83nm,1.2s,mb5.0,baz=38,slow=7.2,SNR=14						
RPZ				LR	LR	01 58 31.0	
	comp=Z,1μm,20.4s,baz=124,slow=34						
CNB	**Canberra Magne**	**22.91**	**228**	⇑*i*P	**P**	**01 50 41.7**	**+2.2**
	comp=Z,64nm,1.1s,mb4.9						
PMG	**Port Moresby**	**24.84**	**295**	P	**P**	**01 50 58.8**	**+0.5**
	comp=Z,100nm,0.8s,mb5.3,baz=115,slow=5.3,SNR=21						
PMG				LR	LR	01 59 57.7	
	comp=Z,2μm,18.1s,baz=326,slow=34						
PMG	**Port Moresby**	**24.84**	**295**	*e*P	**P**	**01 50 58.6**	**+0.3**
	comp=Z,74nm,0.9s,mb5.1						
PMG				*e*		01 51 16.4	
PMG	**Port Moresby**	**24.84**	**295**	*e*P	**P**	**01 50 58.6**	**+0.3**
PMG				*e*		01 51 16.4	
PMG				pmax	pmax		
	comp=Z,74nm,0.9s						
TOO	**Toolangi**	**26.75**	**227**	*e*P	**P**	**01 51 16.5**	**+0.7**
	comp=Z,15nm,0.7s,mb4.6						
TOO	**Toolangi**	**26.75**	**227**	*e*P	**P**	**01 51 16.5**	**+0.7**
TOO				pmax	pmax		
	comp=Z,15nm,0.7s,mb4.6						
STKA	**Stephens Creek**	**27.45**	**241**	⇑*i*P	**P**	**01 51 22.6**	**+0.3**
	comp=Z,17nm,0.8s,mb4.6						
STKA				*i*	pP	01 51 41.2	-1.0
STKA				*e*		01 54 38.6	
STKA	**Stephens Creek**	**27.45**	**241**	P	**P**	**01 51 22.6**	**+0.4**
	comp=Z,21nm,0.7s,mb4.7,baz=81,slow=9.7,SNR=37						
STKA				pP	pP	01 51 41.2	-0.9
	comp=Z,16nm,0.7s,baz=78,slow=9.0,SNR=6.6						
STKA				PcP	PcP	01 54 38.5	-0.5
	comp=Z,14nm,0.6s,baz=76,slow=1.4,SNR=14						
STKA				LR	LR	02 01 18.9	
	comp=Z,2μm,21.1s,baz=60,slow=34						
WRAB	**Tennant Creek**	**33.31**	**266**	⇑*e*P	**P**	**01 52 12.7**	**-1.4**
	comp=Z,67nm,0.9s,mb5.5						
WRAB				LR	LR		
	comp=Z,744nm,22.0s						
WRAB	**Tennant Creek**	**33.31**	**266**	⇑*e*P	**P**	**01 52 12.7**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,67nm,0.9s,mb5.5						
WRAB				MLR	MLR		
	comp=Z,744nm,22.0s						
WRA	**Warramunga Arr**	**33.32**	**266**	P	**P**	**01 52 12.1**	**-2.0**
	comp=Z,32nm,0.6s,mb5.3,baz=100,slow=8.0,SNR=54						
WRA				PcP	PcP	01 54 54.1	-0.3
	comp=Z,3.4nm,0.6s,baz=90,slow=2.7,SNR=6.9						
WRA				S	**S**	**01 57 26.5**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=96,slow=20,SNR=7.9						
KAKA	**Kakadu**	**36.77**	**277**	⇑*i*P	**P**	**01 52 55.1**	**+12**
	comp=Z,31nm,0.4s,mb5.6						
TBI	**Tubuai**	**37.56**	**101**	*e*LQ		02 01 22.8	
TBI				*e*LR	LR	02 03 03.8	
	comp=Z,3μm,31.0s,baz=260						
PPT	**Papeete**	**38.29**	**92**	*e*LR	LR	02 03 27.0	
	comp=Z,5μm,31.8s,baz=257						
PPT	**Papeete**	**38.29**	**92**	LR	LR	02 04 52.6	
	comp=Z,668nm,21.5s,baz=267,slow=30						
FORT	**Forrest**	**38.67**	**247**	*e*P	**P**	**01 52 59.0**	**-0.2**
	comp=Z,63nm,0.5s,mb5.7						
FITZ	**Fitzroy Crossi**	**41.74**	**266**	⇑*i*P	**P**	**01 53 25.0**	**+0.3**
	comp=Z,87nm,0.7s,mb5.6						
FITZ				*e*	pP	01 53 43.4	-2.4
FITZ	**Fitzroy Crossi**	**41.74**	**266**	P	**P**	**01 53 25.3**	**+0.6**
	comp=Z,128nm,0.8s,mb5.7,baz=140,slow=5.2,SNR=85						
FITZ				pP	pP	01 53 43.9	-1.8
	comp=Z,45nm,0.5s,baz=107,slow=4.4,SNR=5.7						
MBWA	**Marble Bar**	**46.66**	**260**	⇑*e*P	**P**	**01 54 03.8**	**-0.4**
	comp=Z,20nm,0.8s,mb4.9						
MBWA				*e*	pP	01 54 27.0	+1.4
KLBR	**Kellerberrin**	**47.52**	**246**	⇑*i*P	**P**	**01 54 09.8**	**-1.1**
	comp=Z,32nm,0.5s,mb5.4						
NWAO	**Narrogin (SRO)**	**47.95**	**244**	P	**P**	**01 54 13.8**	**-0.5**
	comp=Z,63nm,0.6s,mb5.6,baz=94,slow=6.6,SNR=62						
NWAO	**Narrogin (SRO)**	**47.95**	**244**	*e*P	**P**	**01 54 13.1**	**-1.1**
	comp=Z,37nm,0.6s,mb5.4						
NWAO	**Narrogin (SRO)**	**47.95**	**244**	*e*P	**P**	**01 54 13.1**	**-1.1**
NWAO				pmax	pmax		
	comp=Z,37nm,0.6s						
MUN	**Mundaring**	**48.83**	**246**	*e*P	**P**	**01 54 19.7**	**-1.3**
TAOE	**Nuku Hiva Isla**	**49.54**	**84**	*e*LR	LR	02 08 39.3	
	comp=Z,7μm,32.5s						
CBIJ	**Chichi jima**	**54.97**	**330**	P	**P**	**01 55 05.0**	**-2.0**
	comp=Z,35nm,0.6s,mb5.6,baz=279,slow=23,SNR=3.4						
CBIJ				LR	LR	02 16 14.0	
	comp=Z,359nm,21.0s,baz=133,slow=33						
VNDA	**Vanda**	**56.56**	**182**	P	**P**	**01 55 16.4**	**-1.5**
	comp=Z,5.7nm,0.7s,mb4.7,baz=352,slow=8.1,SNR=19						
VNDA				LR	LR	02 15 47.6	
	comp=Z,422nm,18.7s,baz=355,slow=32						
SBA	**Scott Base**	**56.78**	**181**	*e*P	**P**	**01 55 18.5**	**-0.9**
	comp=Z,246nm,1.6s,mb6.0						
SBA	**Scott Base**	**56.78**	**181**	*e*P	**P**	**01 55 18.5**	**-0.9**
SBA				pmax	pmax		
	comp=Z,246nm,1.6s,mb6.0						
CASY	**Casey**	**58.66**	**204**	⇓*i*P	**P**	**01 55 30.9**	**-1.7**
KSM	**Kuching**	**62.44**	**283**	*e*P	**P**	**01 55 58.2**	**-0.9**
KSM				*e*	pP	01 56 22.2	+0.7
MJAR	**Matsushiro Arr**	**64.73**	**332**	P	**P**	**01 56 12.2**	**-1.6**
	comp=Z,4.0nm,0.6s,mb4.4,baz=173,slow=8.0,SNR=14						
MJAR				LR	LR	02 24 40.7	
	comp=Z,119nm,18.3s,baz=140,slow=36						
MAJO	**Matsushiro**	**64.74**	**332**	*e*P	**P**	**01 56 12.4**	**-1.4**
	comp=Z,10nm,0.7s,mb4.8						
MAJO				LR	LR		
	comp=Z,317nm,22.0s						
MAJO	**Matsushiro**	**64.74**	**332**	*e*P	**P**	**01 56 12.4**	**-1.4**
MAJO				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
MAJO				MLR	MLR		
	comp=Z,317nm,22.0s						
MAT	**Matsushiro**	**64.74**	**332**	P	**P**	**01 56 12.5**	**-1.3**
MAT				S	**S**	**02 04 41.0**	**-4.6**
MAT	**Matsushiro**	**64.74**	**332**	*e*P	**P**	**01 56 13.0**	**-0.8**
MAT				*e*S	**S**	**02 04 42.0**	**-3.6**
JNU	**Nakatsue**	**65.59**	**324**	LR	LR	02 20 17.8	
	comp=Z,231nm,21.1s,baz=173,slow=32						
MIR	**Mirnyy**	**65.59**	**205**	*c i*P	**P**	**01 56 18.8**	**0.0**
MIR				pmax	pmax		
	comp=Z,160nm,1.6s,mb5.6						
QSPA	**South Pole Qui**	**68.92**	**180**	*e*P	**P**	**01 56 38.7**	**-0.7**
	comp=Z,197nm,1.4s,mb5.8						
SSE	**Sheshan**	**69.90**	**317**	P	**P**	**01 56 43.4**	**-2.8**
SSE				AMB	AMB		
	comp=Z,27nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,226nm,3.8s						
SSE				LR	LR		
	comp=N,169nm,20.0s						
SSE				LR	LR		
	comp=E,124nm,20.0s						
SSE				LR	LR		
	comp=Z,252nm,20.0s						
SSE	**Sheshan**	**69.90**	**317**	P	**P**	**01 56 43.4**	**-2.8**
	comp=Z,27nm,0.7s,mb5.2						
SSE				pP	pP	01 57 42.9	+34
SSE				sP	sP	01 58 11.1	+53
SSE				S	S	02 05 30.1	-18
SSE				SS	SS	02 10 04.3	-15
SSE				LR	LR		
	comp=Z,250nm,20.0s						
QIZ	**Qiongzhong**	**71.09**	**300**	*e*P	**P**	**01 56 56.1**	**+2.5**
QIZ				S	S	02 06 03.0	+1.4
QIZ				AMB	AMB		
	comp=Z,179nm,11.1s						
QIZ				LR	LR		
	comp=Z,241nm,21.5s						
NJ2	**Nanjing**	**72.03**	**316**	*e*P	**P**	**01 56 58.4**	**-0.6**
NJ2				PP	PP	01 59 42.5	+0.8
NJ2				S	S	02 06 11.0	-1.2
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,382nm,4.2s						
NJ2				LR	LR		
	comp=N,440nm,14.1s						
NJ2				LR	LR		
	comp=E,510nm,12.9s						
NJ2				LR	LR		
	comp=Z,90nm,14.1s						
MDJ	**Mudanjiang**	**75.10**	**331**	P	**P**	**01 57 17.3**	**+0.7**
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.5s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,68nm,4.3s						
MDJ				LR	LR		
	comp=N,190nm,34.9s						
MDJ				LR	LR		
	comp=E,192nm,32.6s						
MDJ				LR	LR		
	comp=Z,335nm,37.2s						
CN2	**Changchun**	**76.42**	**329**	*e*P	**P**	**01 57 23.6**	**-0.5**
CN2				*e*S	S	02 07 01.0	+0.2
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
CN2				AMB	AMB		
	comp=Z,300nm,4.0s						
CN2				LR	LR		
	comp=N,300nm,23.0s						
CN2				LR	LR		
	comp=E,200nm,23.0s						
CN2				LR	LR		
	comp=Z,300nm,23.0s						
MAW	**Mawson**	**76.92**	**202**	⇓*i*P	**P**	**01 57 26.6**	**+0.2**
	comp=Z,24nm,1.1s,mb4.8						
MAW				*e*	pP	01 57 51.7	+2.0
MAW	**Mawson**	**76.92**	**202**	P	**P**	**01 57 26.7**	**+0.2**
	comp=Z,22nm,0.9s,mb4.9,baz=112,slow=7.5,SNR=44						
MAW				pP	pP	01 57 51.9	+2.2
	comp=Z,3.3nm,0.6s,baz=112,slow=5.2,SNR=4.1						
MAW				LR	LR	02 25 05.6	
	comp=Z,317nm,21.9s,baz=80,slow=31						
MAW	**Mawson**	**76.92**	**202**	⇓*i*P	**P**	**01 57 26.6**	**+0.2**
MAW				pmax	pmax		
	comp=Z,24nm,1.1s						
ENH	**Enshi**	**77.39**	**310**	*e*P	**P**	**01 57 29.6**	**-0.2**
	comp=Z,15nm,1.0s,mb4.7						
GYA	**Guiyang**	**77.44**	**305**	⇓*i*P	**P**	**01 57 30.4**	**+0.2**
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8						
GYA				AMB	AMB		
	comp=Z,130nm,3.8s						
GYA				LR	LR		
	comp=N,370nm,20.4s						
GYA				LR	LR		
	comp=E,340nm,20.8s						
GYA				LR	LR		
	comp=Z,390nm,21.0s						
KLR	**Kul'dur**	**77.87**	**336**	*e*P	**P**	**01 57 30.5**	**-1.5**
KLR				*e*S	S	02 07 17.0	+0.7
KLR				pmax	pmax		
	comp=Z,42nm,1.8s,mb4.9						
NANT	**Nan**	**78.55**	**295**	P	**P**	**01 57 35.0**	**-1.3**
CHRT	**Chiangrai**	**79.80**	**296**	⇓P	**P**	**01 57 44.5**	**+1.3**
	comp=Z,121nm,0.9s,mb5.7						
KMI	**Kunming**	**79.83**	**302**	P	**P**	**01 57 45.6**	**+2.3**
KMI				PP	PP	02 00 50.4	+3.8
KMI				S	S	02 07 42.1	+4.4
KMI				AMB	AMB		
	comp=Z,27nm,1.2s,mb5.0						
KMI				AMB	AMB		
	comp=Z,144nm,3.9s						
KMI				LR	LR		
	comp=N,162nm,18.8s						
KMI				LR	LR		
	comp=E,173nm,20.6s						
KMI				LR	LR		
	comp=Z,260nm,23.3s						
KMI	**Kunming**	**79.83**	**302**	P	**P**	**01 57 45.6**	**+2.3**
	comp=Z,27nm,1.2s,mb5.0						
KMI				pP	pP	01 58 06.1	-0.5
KMI				sP	sP	01 58 17.3	+0.9
KMI				PP	PP	02 00 50.4	+3.8
KMI				S	S	02 07 42.1	+4.4
KMI				sS		02 08 19.2	
KMI				PS	PS	02 08 33.2	-1.3
KMI				SS	SS	02 12 53.8	+2.7
KMI				SSS	SSS	02 16 10.7	-1.9
KMI				LR	LR		
	comp=Z,260nm,23.3s						
XAN	**Xi'an**	**79.88**	**312**	P	**P**	**01 57 44.3**	**+1.0**
XAN				AMB	AMB		
	comp=Z,16nm,0.9s,mb4.8						
CHG	**Chiang Mai**	**80.04**	**295**	⇓P	**P**	**01 57 45.7**	**+1.3**
	comp=Z,16nm,0.8s,mb4.9						
HHC	**Hu-ho-hao-te**	**82.09**	**319**	*e*P	**P**	**01 57 55.8**	**+1.0**
HHC				PP	PP	02 01 08.4	+3.1
HHC				S	S	02 08 03.0	+2.4
HHC				AMB	AMB		
	comp=Z,16nm,1.7s,mb4.6						
HHC				AMB	AMB		
	comp=Z,110nm,4.6s						
HHC				LR	LR		
	comp=N,173nm,22.6s						
HHC				LR	LR		
	comp=E,147nm,26.2s						
HHC				LR	LR		
	comp=Z,282nm,23.2s						
SYO	**Syowa Base**	**83.29**	**196**	⇑P	**P**	**01 57 58.0**	**-2.3**
SYO	**Syowa Base**	**83.29**	**196**	⇑PcP	pP	01 58 21.5	-2.4
SYO	**Syowa Base**	**83.29**	**196**	⇓sP	sP	01 58 31.0	-2.5
LZH	**Lanzhou**	**84.48**	**312**	⇑P	**P**	**01 58 08.5**	**+1.5**
LZH				PP	PP	02 01 27.5	+2.9
LZH				SKS	SKS	02 08 20.0	+0.9
LZH				S	S	02 08 26.5	+1.8
LZH				AMB	AMB		
	comp=Z,56nm,1.5s,mb5.2						
LZH				AMB	AMB		
	comp=Z,165nm,7.2s						
LZH				LR	LR		
	comp=N,473nm,15.0s						
LZH				LR	LR		
	comp=Z,825nm,18.5s						
LZH	**Lanzhou**	**84.48**	**312**	⇑P	**P**	**01 58 08.5**	**+1.5**
	comp=Z,56nm,1.5s,mb5.2						
LZH				pP	pP	01 58 33.4	+2.8
LZH				sP	sP	01 58 43.5	+3.3
LZH				PP	PP	02 01 27.5	+2.9
LZH				SKS	SKS	02 08 20.0	+0.9
LZH				S	S	02 08 26.5	+1.8
LZH				sS		02 09 10.2	
LZH				*e*SS	SS	02 14 03.6	+3.9
LZH				LR	LR		
	comp=Z,830nm,18.5s						
LZH	**Lanzhou**	**84.48**	**312**	⇑P	**P**	**01 58 08.5**	**+1.5**
LZH						02 01 27.5	
LZH						02 08 20.0	
LZH				S	S	02 08 26.5	+1.8
LZH				*e*SS	SS	02 14 03.6	+3.9
LZH				pmax	pmax		
	comp=Z,56nm,1.5s,mb5.2						
LZH				MLR	MLR		
	comp=Z,830nm,18.5s						
KDAK	**Kodiak Island**	**84.61**	**19**	*e*P	**P**	**01 58 07.4**	**+0.3**
	comp=Z,36nm,1.1s,mb5.2						
PMSA	**Palmer Station**	**84.91**	**160**	*e*P	**P**	**01 58 06.8**	**-1.6**
	comp=Z,179nm,1

VNA3 **Neumayer Olymp 87.86 180⇑** *i*P **P** **01 58 22.0 -0.7**
VNA3 *e* 01 58 24.3
VNA3 *e* 01 58 32.5
VNA3 *e* pP 01 58 43.8 -2.7
VNA3 *e* 01 58 55.9
VNA3 *e* 02 08 46.3
VNA3 *e*S S 02 09 02.1 +5.9
VNA3 *e* 02 22 54.0
VNA3 *e* 02 23 09.0
KTRM Thompson Ridge 87.87 43 P **P** **01 58 24.8 +1.4**
CMB Columbia Colle 87.94 48 *e*P **P** **01 58 23.4 -0.4**
comp=Z,25nm,1.3s,mb5.1
CMB *e*pP pP 01 58 48.2 +0.5
VNA2 Neumayer--Watz 88.16 181 *e* **P** **01 58 25.2 +1.1**
VNA2 Neumayer--Watz 88.16 181 *e* **P** **01 58 34.2 +10**
VNA2 Neumayer--Watz 88.16 181 *e* pP 01 58 45.5 -2.4
VNA2 Neumayer--Watz 88.16 181 *e* sP 01 58 57.6 +0.4
VNA2 Neumayer--Watz 88.16 181 *e* 02 03 47.4
VNA2 Neumayer--Watz 88.16 181 *e* 02 03 58.2
VNA2 Neumayer--Watz 88.16 181 *e*S S 02 09 05.6 +6.6
VNA2 Neumayer--Watz 88.16 181⇑ *i*P **P** **01 58 23.9 -0.2**
VNA2 *e* 01 58 25.2
VNA2 *e* 01 58 34.2
VNA2 *e* pP 01 58 45.5 -2.4
VNA2 *e* 01 58 57.6
VNA2 *e* 02 01 24.1
VNA2 *e* 02 03 47.4
VNA2 *e* 02 03 58.2
VNA2 *e* 02 08 47.0
VNA2 *e*S S 02 09 05.6 +6.6
VNA2 *e* 02 09 21.9
VNA2 *e* 02 22 57.8
VNA2 *e* 02 23 10.2
ISA Isabella 88.17 51 *e*P **P** **01 58 25.4 +0.4**
YBH Yreka Blue Hor 88.21 44 P **P** **01 58 25.5 +0.5**
comp=Z,9.4nm,1.1s,mb4.8,baz=170,slow=3.6,SNR=18
YBH pP pP 01 58 50.1 +1.3
comp=Z,3.2nm,0.6s,baz=225,slow=6.5,SNR=3.9
YBH Yreka Blue Hor 88.21 44 *e*P **P** **01 58 25.0 -0.1**
comp=Z,30nm,1.4s,mb5.1
YBH *e*pP pP 01 58 49.9 +1.0
VNA1 Neumayer--Stat 88.45 181 *e* **P** **01 58 27.0 +1.5**
VNA1 Neumayer--Stat 88.45 181 *e* **P** **01 58 37.4 +12**
VNA1 Neumayer--Stat 88.45 181 *e* pP 01 58 49.3 0.0
VNA1 Neumayer--Stat 88.45 181 *e* sP 01 58 59.4 +0.8
VNA1 Neumayer--Stat 88.45 181 *e* 02 03 49.3
VNA1 Neumayer--Stat 88.45 181 *e* 02 04 01.0
VNA1 Neumayer--Stat 88.45 181⇑ *i*P **P** **01 58 25.4 -0.1**
VNA1 *e* 01 58 27.0
VNA1 *e* 01 58 37.4
VNA1 *e* pP 01 58 49.3 0.0
VNA1 *e* 01 58 59.4
VNA1 *e* 02 01 21.8
VNA1 *e* 02 03 49.3
VNA1 *e* 02 04 01.0
HUMO Hull Mountain 88.50 43 *e*P **P** **01 58 27.2 +0.8**
comp=Z,64nm,1.7s,mb5.4
HUMO *e* pP 01 58 51.9 +1.7
BEKR Beckwourth 88.84 46 *e*P **P** **01 58 28.2 +0.1**
comp=Z,48nm,1.7s,mb5.2
BEKR *e*pP pP 01 58 51.8 -0.1
MTUM Tungsten Hills 88.89 49 *e*P **P** **01 58 28.4 +0.1**
MTUM *e*pP pP 01 58 51.7 -0.5
GTA Gaotai 88.91 313 P **P** **01 58 28.8 +0.4**
GTA AP pP 01 58 50.3 -1.9
GTA AMB AMB
comp=Z,11nm,1.0s,mb4.8
GTA AMB AMB
comp=Z,116nm,12.5s
GTA LR LR
comp=N,180nm,26.6s
GTA LR LR
comp=E,197nm,25.5s
GTA LR LR
comp=Z,258nm,24.7s
BILL Biiibino 88.96 359*c* *i*P **P** **01 58 27.5 -0.4**
BILL pmax pmax
comp=Z,35nm,1.7s,mb5.1
DAC Darwin (Calif) 89.08 50 *e*P **P** **01 58 29.0 -0.3**
comp=Z,26nm,1.4s,mb5.1
DAC Darwin (Calif) 89.08 50 *e*P **P** **01 58 29.0 -0.3**
DAC pmax pmax
comp=Z,26nm,1.4s,mb5.1
SONM Songino Array 89.13 323 P **P** **01 58 30.1 +0.9**
comp=Z,3.9nm,0.8s,mb4.5,baz=149,slow=4.9,SNR=34
SONM LR LR 02 36 30.7
comp=Z,208nm,19.4s,baz=141,slow=34
SONM Songino Array 89.13 323 P **P** **01 58 30.1 +0.9**
SONM LR LR 02 36 30.7
BROR Big Rock Looko 89.66 42 P **P** **01 58 32.6 +0.8**
GLA Glamis 89.71 54 *e*P **P** **01 58 32.0 -0.2**
FRIS Frissel Point 89.85 42 P **P** **01 58 33.2 +0.5**
MOD Modoc 89.86 44 *e*P **P** **01 58 32.9 +0.1**
comp=Z,11nm,1.0s,mb5.0
TPH Tonopah 90.16 49 *e*P **P** **01 58 34.8 +0.5**
comp=Z,22nm,1.2s,mb5.2
LDFC Landfair 90.37 52 *e*P **P** **01 58 35.9 +0.6**
OCWA Octopus Mounta 90.42 38 *e*P **P** **01 58 35.9 +0.6**
comp=Z,51nm,1.1s,mb5.6
OCWA *e* pP 01 59 00.7 +1.5
LVP Lakeview Peak 90.59 40 P **P** **01 58 36.5 +0.3**
VFP Flag Point 90.79 41 P **P** **01 58 38.0 +0.9**
NEN Nelson 90.81 52 *e*P **P** **01 58 37.5 0.0**
CROR Criterion Ridg 90.92 42 P **P** **01 58 38.0 +0.3**
LSA Lhasa 91.08 301 *e*P **P** **01 58 40.1 +1.3**
comp=Z,7.1nm,0.8s,mb4.8
LSA Lhasa 91.08 301 *e*P **P** **01 58 40.1 +1.3**
LSA pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
WVOR Wild Horse Val 91.20 45 *e*P **P** **01 58 38.7 -0.3**
comp=Z,15nm,1.0s,mb5.1
WVOR *e*pP pP 01 59 03.5 +0.5
WVOR Wild Horse Val 91.20 45 *e*P **P** **01 58 38.7 -0.4**
WVOR pmax pmax
comp=Z,15nm,1.0s,mb5.1
BMN Battle Mountai 91.23 47 *e*P **P** **01 58 39.4 +0.1**
comp=Z,15nm,1.1s,mb5.0
BMN LR LR
comp=Z,252nm,21.0s
BOD Bodaibo 91.32 334 *e*P **P** **01 58 37.2 -2.0**
ILAR Eielson Array 91.85 17 P **P** **01 58 39.4 -2.1**
comp=Z,1.5nm,0.6s,mb4.4,baz=239,slow=5.0,SNR=28
ILAR pP pP 01 59 05.0 -0.5
comp=Z,1.5nm,0.7s,baz=232,slow=5.1,SNR=3.7
ILAR LR LR 02 35 01.3
comp=Z,260nm,19.8s,baz=89,slow=32
ZAK Zakamensk 92.22 324|| *e*P **P** **01 58 43.8 +0.3**
ZAK pmax pmax
comp=Z,4.0nm,1.3s,mb4.5
ZAK pmax pmax
comp=Z,3.0nm,1.2s,mb4.4
HAWA Hanford 92.49 41 *e*P **P** **01 58 44.7 -0.2**
comp=Z,1.9nm,1.4s,mb4.1
ELK Elko 92.72 47 P **P** **01 58 47.0 +0.9**
comp=Z,3.5nm,1.0s,mb4.6,baz=226,slow=5.1,SNR=8.2
ELK pP pP 01 59 10.7 +0.6
comp=Z,1.8nm,0.8s,baz=247,slow=8.6,SNR=3.7
ELK Elko 92.72 47 *e*P **P** **01 58 46.1 +0.1**
comp=Z,5.1nm,1.1s,mb4.8
ELK *e* pP 01 59 09.9 -0.2
ELK Elko 92.72 47 *e*P **P** **01 58 46.2 +0.1**
ELK pmax pmax
comp=Z,5.0nm,1.1s
DLBC Dease Lake 93.43 27 P **P** **01 58 50.0 +1.1**
comp=Z,5.6nm,1.0s,mb4.8,baz=266,slow=24,SNR=6.9
DLBC pP pP 01 59 13.2 +0.4
comp=Z,4.8nm,1.0s,baz=249,slow=7.9,SNR=3.7
DLBC LR LR 02 31 34.2
comp=Z,262nm,20.2s,baz=174,slow=29
HLID Hailey 94.48 45 *e*P **P** **01 58 54.1 +0.1**
comp=Z,5.0nm,1.5s,mb4.6
RRI2 Red Ridge 96.45 46 *e*P **P** **01 59 03.3 +0.3**
comp=Z,12nm,1.4s,mb5.1
PLCA Paso Flores 96.68 138 P **P** **01 59 04.1 0.0**
comp=Z,8.6nm,1.2s,mb5.0,baz=262,slow=4.6,SNR=4.8
PLCA LR LR 02 33 06.9
comp=Z,87nm,19.8s,baz=243,slow=29
PLCA Paso Flores 96.68 138 P **P** **01 59 04.1 0.0**
PLCA LR LR 02 33 06.8
TIXI Tiksi 96.73 348 *e*P **P** **01 59 01.9 -1.7**
TIXI pmax pmax
comp=Z,6.0nm,1.0s,mb5.0
TXAR Lajitas Array 97.10 61 PKKPbc 02 15 47.1
comp=Z,0.6nm,0.6s,baz=102,slow=3.8,SNR=10.0
TXAR LR LR 02 33 51.4
comp=Z,271nm,19.9s,baz=215,slow=30
PDAR Pinedale Array 97.42 47 P **P** **01 59 07.6 +0.2**
comp=Z,0.5nm,1.0s,baz=180,slow=3.0,SNR=4.5
PDAR pP pP 01 59 32.9 +1.4
comp=Z,0.3nm,0.6s,baz=270,slow=0.9,SNR=2.6
PDAR PP PP 02 03 04.8 -3.1
comp=Z,0.5nm,0.8s,baz=259,slow=7.6,SNR=5.0
PDAR PKKPbc 02 15 44.9
comp=Z,0.7nm,0.8s,baz=90,slow=4.4,SNR=6.1
PDAR LR LR 02 34 48.6
comp=Z,167nm,20.7s,baz=244,slow=30
INK Inuvik 98.14 18 P **P** **01 59 09.3 -0.7**
comp=Z,5.6nm,0.9s,mb5.1,baz=213,slow=7.5,SNR=7.6
INK Inuvik 98.14 18 P **P** **01 59 09.3 -0.7**
WMQ Urumqi 98.99 313 P **P** **01 59 15.0 +0.5**
WMQ PP PP 02 03 20.0 +0.5
WMQ SKS SKS 02 09 43.0 -0.4
WMQ S S 02 10 34.0 +0.2
WMQ PS PS 02 12 17.0 +0.7
WMQ AMB AMB
comp=Z,13nm,1.0s,mb5.4
WMQ AMB AMB
comp=Z,14nm,10.0s
WMQ LR LR
comp=N,129nm,22.0s
WMQ LR LR
comp=E,245nm,23.0s
WMQ LR LR
comp=Z,253nm,22.0s
ISCO Idaho Springs 99.15 51 PFAKE 01 59 30.0 +15
ISCO LR LR
comp=Z,285nm,19.0s
MKAR Makanchi Array 103.55 315 Pdiff Pdif 01 59 36.0 +1.3
comp=Z,1.4nm,0.6s,baz=98,slow=6.4,SNR=17
MKAR pPdiff 02 00 00.1
comp=Z,0.7nm,0.5s,baz=97,slow=5.2,SNR=5.9
MKAR PKIKP 02 03 51.5
comp=Z,0.7nm,0.6s,baz=188,slow=1.1,SNR=5.1
MKAR PKKPbc 02 15 26.9
comp=Z,1.3nm,1.0s,baz=315,slow=3.4,SNR=6.4
BVAR Borovoye Array 112.29 320 PKiKP 02 04 07.9
comp=Z,2.0nm,0.5s,baz=90,slow=1.6,SNR=15
BVAR PKKPbc 02 14 58.4
comp=Z,0.5nm,0.7s,baz=315,slow=6.3,SNR=4.1
SIV San Ignacio 117.82 122 PKP PKPdf 02 04 19.2 -0.1
comp=Z,0.3nm,0.3s,baz=109,slow=1.4,SNR=4.0
SVE Sverdlovsk 117.98 324 *e*PKIKP PKPdf 02 04 20.0 +1.3
SVE *e* 02 05 34.0
SVE *e*PS PS 02 15 21.0 +0.1
SVE *e* 02 22 09.0
SVE pmax pmax
comp=Z,28nm,1.8s
ARU Arti 119.16 324 *e*PKP PKPdf 02 04 20.4 -0.6
ARU *e* 02 04 45.4
ARU Arti 119.16 324 *i* PKIKP PKPdf 02 04 20.9 -0.1
ARU *e* 02 05 40.8
ARU *e* 02 11 07.4
SDV Santo Domingo 120.55 92 *e*PKP PKPdf 02 04 24.3 -0.5
MATP Matopo 124.07 225 PKP PKPdf 02 04 32.0 +0.6
comp=Z,4.9nm,0.7s,baz=171,slow=4.0,SNR=17
MATP pPKP 02 04 58.0
comp=Z,4.0nm,0.6s,baz=99,slow=1.1,SNR=5.1
ARCES ARCESS Array B 127.07 345 PKP PKPdf 02 04 36.1 +0.1
comp=Z,4.7nm,0.6s,baz=27,slow=1.5,SNR=54
ARCES pPKP 02 05 01.1
comp=Z,2.3nm,0.5s,baz=58,slow=1.6,SNR=2.6
SJG San Juan 127.31 83 PKP PKPdf 02 04 37.3 -0.5
comp=Z,12nm,0.3s,baz=299,slow=4.3,SNR=12
QRN Al-Qurain 127.32 291 *e*P PKPdf 02 04 39.4 +1.8
QRN AMb AMB 02 04 40.4
comp=Z,51nm,0.7s
KBD Kabd 127.55 291 *e*P PKPdf 02 04 39.6 +1.6
RDF Al-Radifah 127.65 291 *e*P PKPdf 02 04 39.9 +1.7
RDF AMb AMB 02 04 41.5
comp=Z,49nm,0.7s
BDFB Brasilia 127.81 131 PKP PKPdf 02 04 38.7 -0.1
comp=Z,5.4nm,0.7s,baz=231,slow=2.6,SNR=6.0
BDFB pPKP 02 05 04.5
comp=Z,4.1nm,0.8s,baz=222,slow=3.9,SNR=3.2
MIB Mutribah 127.91 292 *e*P PKPdf 02 04 40.3 +1.6
MIB AMb AMB 02 04 41.8
comp=Z,23nm,0.8s
RST Umm Al-Ruwaisa 128.19 291 *e*P PKPdf 02 04 40.2 +1.0
RST AMb AMB 02 04 41.8
comp=Z,40nm,0.7s
KMBO Kilima Mbogo 128.74 250 PKP PKPdf 02 04 42.3 +1.6
comp=Z,3.8nm,0.9s,baz=82,slow=3.0,SNR=7.9
KMBO pPKP 02 05 08.4
comp=Z,2.3nm,0.9s,baz=63,slow=6.2,SNR=3.4
KAMS Al Khamasin 129.11 279 P PKPdf 02 04 43.1 +1.9
MZLS Mizel 129.16 284 P PKPdf 02 04 43.6 +2.4
DJNS Zahran al Janu 129.52 276 P PKPdf 02 04 44.4 +2.4
TATS Tathlith 129.97 278 P PKPdf 02 04 45.2 +2.3
MOS Moscow 130.63 327 *e*PKIKP PKPdf 02 04 42.2 -0.9
MOS pmax pmax
comp=Z,200nm,1.8s
KIV Kislovodsk 131.01 310 *i* PKIKP PKPdf 02 04 44.1 -0.1
KIV MLR MLR
comp=Z,100nm,23.0s
AFFS 'Afif 131.14 284 P PKPdf 02 04 46.8 +1.9
VOR Voronezh 131.28 321 PKIKP PKPdf 02 04 45.0 +0.5
VOR pmax pmax
comp=Z,80nm,1.8s
OBN Obninsk 131.44 326 *e*PKPdf PKPdf 02 04 45.3 +0.6
OBN *e*SKPbc 02 08 02.6
OBN Obninsk 131.44 326*d* *i* PKIKP PKPdf 02 04 44.6 -0.1
OBN *e* 02 07 13.3
OBN *e*SSS SSS 02 29 25.7 -0.3
OBN pmax pmax
comp=Z,25nm,1.8s
TSUM Tsumeb 131.62 216 PKP PKPdf 02 04 47.3 +1.3
comp=Z,4.2nm,1.1s,baz=128,slow=4.3,SNR=6.6
TSUM pPKP 02 05 13.4
comp=Z,0.9nm,0.6s,baz=130,slow=9.2,SNR=2.3
BLJS Baljurashi 131.77 278 P PKPdf 02 04 48.7 +2.5
KAF Kangasniemi 132.06 338 *ep* Pdif 02 01 41.8 +2.0
comp=Z,1.9nm,0.7s,baz=220,slow=5.8
FINES FINESS Array B 132.59 337 PKP PKPdf 02 04 46.8 +0.1
comp=Z,1.1nm,0.4s,baz=44,slow=2.5,SNR=24
FINES SKPbc 02 08 05.5
comp=Z,14nm,1.1s,baz=135,slow=2.7,SNR=16
FINES FINESS Array B 132.59 337 PKP PKPdf 02 04 46.8 +0.1
FINES SKPbc 02 08 05.5
HILS Ha'il 132.59 288 P PKPdf 02 04 49.6 +1.9
VSU Vasula 134.27 334 *i* PKIKP PKPdf 02 04 52.4 +2.5
MALT Malatya 135.08 303 *e*PKPdf PKPdf 02 04 53.4 +1.4
MALT *e*SKPbc 02 08 17.4
UMJS Umm Lajj 136.43 285 P PKPdf 02 04 56.8 +2.0
AKASG Malin Array Be 137.41 323 PKP PKPdf 02 04 56.4 +0.5
comp=Z,4.1nm,0.8s,baz=51,slow=1.6,SNR=24
AKASG pPKP 02 05 23.1
comp=Z,0.5nm,0.4s,baz=60,slow=1.8,SNR=2.1
AKASG SKPbc 02 08 21.7
comp=Z,10nm,1.1s,baz=51,slow=3.0,SNR=22
NB2 NORSAR Subarra137.45 345 PKPdf PKPdf 02 04 55.5 -0.1
comp=Z,4.3nm,0.8s,baz=33,slow=1.8
NOA NORSAR Array B137.45 345 PKP PKPdf 02 04 56.2 +0.6
comp=Z,2.1nm,0.7s,baz=32,slow=1.9,SNR=16
NOA SKPbc 02 08 21.8
comp=Z,1.4nm,0.9s,baz=17,slow=4.3,SNR=4.6
BRTR Keskin Array B 138.48 306 SKPbc 02 08 26.4
comp=Z,1.9nm,0.9s,baz=162,slow=3.9,SNR=6.8
SUW Suwalki 138.62 331 *e*PKP PKPdf 02 04 58.4 +0.4
SUW Suwalki 138.62 331 *e*PKP PKPdf 02 04 58.4 +0.4
TAYS Tayyib Ism 138.75 290 P PKPdf 02 05 00.7 +1.7
LVV L'vov 140.71 325 *i* PKIKP PKPdf 02 05 01.7 -0.2
LVV *e* 02 05 11.3
LVV *e* 02 08 01.3
LVV *e*PPP PPP 02 11 07.1 -5.9
LVV *e* 02 12 02.7
LVV MLR MLR
comp=N,70nm,24.0s
LVV MLR MLR
comp=Z,100nm,24.0s
WAR Warsaw 140.75 330 *e*PKP PKPdf 02 05 04.0 +2.2
WAR Warsaw 140.75 330 *e*PKP PKPdf 02 05 04.1 +2.2
PSN Preselentsi 141.14 314 *e*P PKPdf 02 05 01.5 -1.3
GKP Gorka Klasztor 141.72 334 *e*PKP PKPdf 02 05 04.7 +1.2
GKP Gorka Klasztor 141.72 334 *e*PKP PKPdf 02 05 04.7 +1.2
KOLS Kolonicke sedl 142.16 325 *i* PKP PKPdf 02 05 06.0 +1.6
STHS Stebnicka Huta 142.42 326 *i* PKP PKPdf 02 05 06.8 +2.0
CRVS Cervenica-Dubn 142.61 325 *i* PKP PKPdf 02 05 07.2 +2.1
OJC Ojcow 142.65 328 *e*PKP PKPdf 02 05 05.5 +0.3
JMB Yambol 142.70 313 *e*P PKPdf 02 05 05.0 -0.5
KECS Kecovo 143.38 325 *i* PKP PKPdf 02 05 05.6 -0.9
DIM Dimitrovgrad 143.58 313 *e*P PKPbc 02 05 06.0 +0.2
ALN Alexandroupoli 143.67 311 *e*P PKPbc 02 05 05.6 -0.5
OKC Ostrava-Krasne 143.70 329 *e*PKP PKPdf 02 05 07.1 +0.1
BSEG Bad Segeberg 143.77 340 *e*PKPbc PKPbc 02 05 04.3 -1.6
KSP Ksiaz 143.87 331 *e*PKP PKPdf 02 05 07.3 +0.1
KSP Ksiaz 143.87 331 *e*PKPdf PKPdf 02 05 06.5 -0.7
KSP *e*PKPdf PKPdf 02 05 12.3 +5.1
KSP Ksiaz 143.87 331 *i* PKIKP PKPdf 02 05 12.3 +5.1
MORC Moravsky Berou 144.03 329 *e*PKP PKPdf 02 05 06.0 -1.5
MORC Moravsky Berou 144.03 329 PKIKP PKPdf 02 05 08.4 +0.9
PSZ Piszkesteto 144.04 325⇑ *i* PKP/P PKPdf 02 05 07.6 0.0
PSZ Piszkesteto 144.04 325 *e*PKP PKPdf 02 05 07.3 -0.3
PSZ Piszkesteto 144.04 325 PKIKP PKPdf 02 05 08.1 +0.5
DPC Dobruska-Polom 144.20 331 *e*PKP PKPdf 02 05 07.0 -0.8
DPC AMS AMS 03 00 50.0
comp=Z,200nm,20.3s
UPC Upice 144.23 331 *e*PKP PKPdf 02 05 07.2 -0.7
VYHS Vyhne 144.23 327 *i* PKP PKPdf 02 05 09.1 +1.1
VYHS *e*PKP PKPdf 02 05 10.7 +2.7
RZN Rozhen 144.28 313 *e*P PKPbc 02 05 07.5 -0.3
PGB Panagyurishte 144.29 315 *e*P PKPbc 02 05 07.0 -0.8
LOS Limnos 144.71 310 *e*P PKPbc 02 05 09.3 +0.2
VRAC Vranov 144.80 329 P PKPdf 02 05 10.1 +1.2
PVCC Panska Ves 144.85 332 *e*PKP PKPdf 02 05 09.2 +0.2
PVCC AMS AMS 03 04 00.0
comp=Z,300nm,26.9s
BRG Berggiesshubel 144.86 333 *e*P PKPdf 02 05 09.6 +0.6
BRG *e* 02 05 33.8
BRG Berggiesshubel 144.86 333 *e*PKIKP PKPdf 02 05 09.6 +0.6
BRG pmax pmax
comp=Z,142nm,1.8s
BRG pmax pmax
comp=Z,18nm,1.0s
VTS Vitosha 144.90 315 *e*P PKPdf 02 05 10.0 +0.7
VTS Vitosha 144.90 315 P PKPdf 02 05 10.7 +1.3
CLL Collm 144.91 335 *e*PKIKP PKPdf 02 05 10.0 +0.9
comp=Z,logA/T=1.9
CLL *i* *PPKP 02 05 33.5
CLL *i* 02 05 46.3
CLL *e**PPP 02 08 56.0
CLL Collm 144.91 335 *e*P PKPdf 02 05 10.0 +0.9
CLL *i* 02 05 33.5
CLL *i* 02 05 46.3
CLL *e* 02 05 58.0
CLL Collm 144.91 335 *e*PKIKP PKPdf 02 05 10.0 +0.9
CLL pmax pmax
comp=Z,160nm,1.9s
SMOL Smolenice 144.93 328 *i* PKP PKPdf 02 05 11.2 +2.0
SRO Srobarova 144.94 326 *e*PKP PKPdf 02 05 10.7 +1.5
ZAPS Zavoj/Pirot 144.96 317|| *i* PKP PKPdf 02 05 10.0 +0.6
MMB Musomiste 145.00 313 *i* P PKPdf 02 05 09.5 0.0
PRU Pruhonice 145.26 332 *e*PKP PKPdf 02 05 10.2 +0.5
PRU AMS AMS 03 05 30.0
comp=Z,300nm,21.5s
SRS Serrai 145.29 313 *e*P PKPdf 02 05 10.4 +0.3
ZST Bratislava 145.31 328 *i* PKP PKPdf 02 05 11.6 +1.7
KKB Krupnik 145.31 314 *e*P PKPdf 02 05 08.0 -2.1
TREC Trest 145.33 330 AMS AMS 03 01 50.0
comp=Z,500nm,29.5s
OUR Ouranopolis 145.34 311 *e*P PKPdf 02 05 10.9 +0.8
CLZ Clausthal 145.48 338 *e*PKPbc PKPbc 02 05 09.2 -1.5
ESK Eskdalemuir 145.49 353 *e*PKP PKPdf 02 05 10.0 +0.1
BEO Belgrade 145.51 320⇑ *i* PKP PKPdf 02 05 11.2 +0.9
PAIG Paliouri 145.71 311 *e*P PKPdf 02 05 11.3 +0.5
KNT Kendrikon 145.74 313 *e*P PKPdf 02 05 11.7 +0.9
PKSM Moragy 145.75 324 P PKPdf 02 05 11.6 +0.9
GRUS Gruza 145.85 319 *i* PKP PKPdf 02 05 13.7 +2.7
NKC Novy Kostel 145.97 334 *e*PKP PKPdf 02 05 12.3 +1.4
MOX Moxa 145.98 335 *i* P PKPdf 02 05 11.9 +1.0
comp=Z,logA/T=1.7
MOX pPKP 02 05 33.0
MOX Moxa 145.98 335 *e*PKP PKPdf 02 05 11.9 +1.0
MOX *ep*PKP 02 05 33.2
MOX Moxa 145.98 335 *e*PKIKP PKPdf 02 05 11.9 +1.0
MOX pmax pmax
comp=Z,91nm,2.0s
GRG Griva 146.17 313 *e*P PKPdf 02 05 13.7 +2.1
DIVS Divcibare 146.19 320|| *i* PKP PKPdf 02 05 11.6 +0.1
XOR Xorichti 146.27 310 *e*P PKPdf 02 05 09.5 -2.3
KHC Kasperske Hory 146.32 332 *e*PKP PKPdf 02 05 12.8 +1.2
KHC *ep*PKP 02 05 34.5
KHC AMS AMS 03 06 20.0
comp=Z,300nm,22.7s
KHC Kasperske Hory 146.32 332 *e*PKIKP PKPdf 02 05 12.8 +1.2
KHC MLR MLR
comp=Z,300nm,22.7s
SKO Skopje 146.35 315 *i* P PKPdf 02 05 15.1 +3.2
SKO *i* 02 05 37.5
GEC2 GERESS Array S 146.47 331 *e*PKPbc PKPbc 02 05 12.2 -1.0
GERES GERESS Array B 146.47 331 PKPbc PKPbc 02 05 14.8 +1.6
comp=Z,13nm,0.6s,baz=31,slow=2.8,SNR=138
WTSB Winterswijk 146.56 341 *e*PKP PKPdf 02 05 12.9 +1.1
WET Wettzell 146.61 332 *e*PKPbc PKPbc 02 05 12.7 -0.8
NVSS Nova Varos 2 146.68 319⇑ *i* PKP PKPdf 02 05 12.6 +0.2
ARSA Arzberg 146.73 328|| *i* P PKPdf 02 05 12.0 -0.3
GRA1 Grafenberg Arr 146.89 334 *e*PKPbc PKPbc 02 05 13.5 -0.6
GRA1 *ep*PKPbc 02 05 40.2
GRF Grafenberg Arr 146.89 334 *e*PKP PKPdf 02 05 13.5 +1.0
GRF pPKPbc 02 05 40.2
MOA Molln 146.93 329|| *i* P PKPdf 02 05 12.5 -0.1
FNA Florina 146.94 313 *e*P PKPdf 02 05 13.6 +0.7
AGG Agios Georgios 147.02 310 *e*P PKPdf 02 05 13.5 +0.4
DMUB Kingscourt 147.21 357|| *i* P PKPdf 02 05 16.0 +3.1
PERS Pernice 147.35 327 *i* PKPdf PKPdf 02 05 14.0 +0.7
TNS Taunus Mts 147.51 338 *e*PKPbc PKPdf 02 05 15.1 +1.6
DCN Croghan 147.79 357|| *i* P PKPdf 02 05 17.4 +3.6
DLF Lyons Farm 147.79 356|| *i* P PKPdf 02 05 17.4 +3.6
SIND Sindeldorf 147.80 336 *e*P PKPdf 02 05 18.4 +4.4
HGN Heimansgroeve 147.88 341 *e*PKP PKPdf 02 05 17.8 +3.7
comp=Z,63nm,1.3s
TOD Tromm 147.89 337 *e*P PKPdf 02 05 18.2 +4.1
TOD Tromm 147.89 337 PKP PKPdf 02 05 14.6 +0.5
KBA Koelnbreinsper 147.92 329⇑ *i* P PKPdf 02 05 14.3 +0.1
SWS Schriesheim 148.03 337 *e*P PKPdf 02 05 18.8 +4.5
BOJS Bojanci 148.04 325 *e*PKPdf PKPdf 02 05 15.0 +0.5
BOJS *e*PKPbc PKPdf 02 05 19.4 +4.9
BOJS *e* 02 05 44.4
FUR Furstenfeldbru 148.05 333 *e*PKPbc PKPdf 02 05 15.5 +1.1
LJU Ljubljana 148.06 327 *e*PKPdf PKPdf 02 05 15.0 +0.5
LJU *e*PKPbc PKPdf 02 05 18.9 +4.5
LJU *e* 02 05 44.0
ABH Alteburg 148.11 338|| *e*P PKPdf 02 05 19.0 +4.6
ABH Alteburg 148.11 338 PKP PKPdf 02 05 15.7 +1.3
HDH Heidenheim 148.17 334 *e*P PKPdf 02 05 19.2 +4.6
IGT Igoumenitsa 148.22 312 *e*P PKPdf 02 05 19.5 +4.5
VOY Vojsko 148.38 327 *e*PKPdf PKPdf 02 05 15.7 +0.7
VOY *e*PKPbc PKPdf 02 05 19.5 +4.5
VOY *e* 02 05 44.2
STU Stuttgart 148.42 335 *e*PKPdf PKPdf 02 05 15.5 +0.5
STU *e*PKPbc PKPdf 02 05 20.3 +5.3
ROBS Robic 148.43 328 *e*PKPbc PKPdf 02 05 18.3 +3.2
WATA Walderalm 148.55 331⇑ *i* P PKPdf 02 05 15.8 +0.6
WTTA Wattenberg 148.57 331|| *i* P PKPdf 02 05 15.5 +0.2
LBG Lerchenberg 148.66 336 *e*P PKPdf 02 05 20.7 +5.3
MOTA Moosalm 148.75 332⇑ *i* P PKPdf 02 05 16.1 +0.5
WLF Walferdange 148.76 340 *e*PKPbc PKPdf 02 05 21.6 +6.1
LANF Langenberg 148.78 337 PKP PKPdf 02 05 16.9 +1.4
GIVF Givet 148.79 341 *e*PKIKP PKPdf 02 05 14.4 -1.1
SQTA Sankt Quirin 148.80 331⇑ *i* P PKPdf 02 05 16.5 +0.9
UBR Uberruh 148.92 333 *e*P PKPdf 02 05 21.2 +5.4
BAIF Baives 149.01 342 *e*PKIKP PKPdf 02 05 15.3 -0.6
GUT Gutenstein 149.02 335 *e*P PKPdf 02 05 21.1 +5.1
BFO Black Forest 149.12 336 *e*PKPbc PKPdf 02 05 18.8 +2.7
STR Strasbourg 149.12 337 PKP PKPdf 02 05 17.4 +1.3
SPAK Spaichingen 149.13 335 *e*P PKPdf 02 05 20.8 +4.7
DAVA Damuels 149.33 333|| *i* P PKPdf 02 05 17.2 +0.7
WLS Welschbruch 149.41 337 PKP PKPdf 02 05 17.4 +0.8
CDF Champ du Feu 149.44 337 *e*PKIKP PKPdf 02 05 15.2 -1.4
comp=Z,55nm,1.6s
LIBD Limburg 149.54 336 *e*P PKPdf 02 05 22.9 +6.1
KIZ Kirchzarten 149.58 336 *e*P PKPdf 02 05 22.2 +5.3
FELD Feldberg 149.61 336 *e*P PKPdf 02 05 22.3 +5.4
FELD Feldberg 149.61 336 PKP PKPdf 02 05 17.6 +0.7
FELD *e*P 02 05 22.3
ECH Echery 149.65 337 PKP PKPdf 02 05 17.4 +0.4
MOF Molkenrain 149.96 337 PKP PKPdf 02 05 18.2 +0.7
THEF They Montfort 150.06 338 PKP PKPdf 02 05 18.7 +1.1
HINF Hinteralfeld 150.10 337 *e*PKIKP PKPdf 02 05 16.4 -1.3
comp=Z,54nm,1.6s
HAU Haudompre 150.12 338 *e*PKIKP PKPdf 02 05 16.7 -1.0

HAU *eR*
comp=Z,90nm,20.8s
MEZF Maizieres J'vi 150.13 340 *e*PKIKP PKPdf 02 05 17.1 -0.6
BBS Basel-Blauen 150.14 336 *e*P PKPdf 02 05 23.8 +6.0
BBS Basel-Blauen 150.14 336 PKP PKPdf 02 05 18.2 +0.4
LOMF Lomont 150.50 336 PKP PKPdf 02 05 19.3 +1.0
TIP Timpagrande 150.83 314 *e*PKPdf PKPdf 02 05 19.8 +0.8
TIP *e*PKPbc PKPdf 02 05 25.6 +6.5
CII Carovilli 150.97 320 *e*PKPdf PKPdf 02 05 19.8 +0.6
CII *e*PKPbc PKPdf 02 05 26.4 +7.2
AQU L'Aquila 151.10 322 *e*PKPbc PKPdf 02 05 26.5 +7.1
GRAM 151.37 329 P PKPdf 02 05 26.9 +7.1
VALM 151.39 329 P PKPdf 02 05 27.0 +7.2
CABF La Chapelle 151.39 336 *e*PKIKP PKPdf 02 05 19.1 -0.6
comp=Z,138nm,1.7s
FLN La Foliniere 151.40 347 *e*PKIKP PKPdf 02 05 18.0 -1.6
FLN *eR*
comp=Z,218nm,20.2s
SARO Sassorosso 151.44 328 P PKPdf 02 05 26.2 +6.4
LDF La Druitiere 151.48 346 *e*PKIKP PKPdf 02 05 18.5 -1.2
BACM 151.53 329 P PKPdf 02 05 26.7 +6.8
CODM 151.55 329 P PKPdf 02 05 26.6 +6.6
MAIM 151.59 328 P PKPdf 02 05 26.7 +6.6
VINC Vinca 151.59 328 P PKPdf 02 05 26.2 +6.2
LOR Lormes 151.60 340 *e*PKIKP PKPdf 02 05 19.0 -1.0
LOR *eR*
comp=Z,304nm,21.8s
GRR Gorron 151.83 347 *e*PKIKP PKPdf 02 05 19.4 -0.9
SSF Saint Saulge 151.90 340 *e*PKIKP PKPdf 02 05 19.6 -0.8
comp=Z,49nm,1.6s
GENL Genova Univers 151.96 330 P PKPdf 02 05 26.9 +6.3
HYF Humbligny 151.98 341 *e*PKIKP PKPdf 02 05 20.2 -0.3
PCP Pian Castagno 152.05 331 P PKPdf 02 05 28.1 +7.4
LPL La Plagne 152.05 334 *e*PKIKP PKPdf 02 05 20.5 -0.2
LPG La Plagne 152.05 334 *e*PKIKP PKPdf 02 05 20.4 -0.3
RSP Reno Superiore 152.13 333 P PKPdf 02 05 27.7 +6.9
SMF Signal de Mont 152.16 339 *e*PKIKP PKPdf 02 05 19.7 -1.1
comp=Z,51nm,1.6s
AVF Avril sur Loir 152.19 340 *e*PKIKP PKPdf 02 05 19.5 -1.4
comp=Z,38nm,1.6s
SGMF Saint Gilles 152.29 349 *e*PKIKP PKPdf 02 05 19.6 -1.3
FENE Fenestrelle 152.31 333 P PKPdf 02 05 29.0 +7.9
BHB Bricherasio 152.38 333 P PKPdf 02 05 27.8 +6.6
BNI Bardonecchia 152.45 334 *e*PKPdf PKPdf 02 05 22.6 +1.4
BNI *e*PKPbc PKPdf 02 05 29.4 +8.1
FIN Finale Ligure 152.46 331 P PKPdf 02 05 28.3 +7.0
RRL Cesana Torines 152.51 334 P PKPdf 02 05 30.0 +8.7
ROB Roburent 152.54 331 P PKPdf 02 05 28.5 +7.0
BGF Bois d'Agland 152.55 340 *e*PKIKP PKPdf 02 05 20.6 -0.8
comp=Z,74nm,1.5s
MBDF Montbardon 152.68 333 *e*PKIKP PKPdf 02 05 20.8 -0.8
comp=Z,42nm,1.4s
MONE Monesi 152.76 331 P PKPdf 02 05 30.2 +8.5
ENR Entracque 152.80 332 P PKPdf 02 05 28.5 +6.7
PLDF La Plantade 152.82 339 PKP PKPdf 02 05 23.1 +1.3
STV2 Anna di Valdie 152.82 332 P PKPdf 02 05 28.4 +6.6
STV Sta Anna Valdi 152.82 332 P PKPdf 02 05 28.4 +6.6
IMI Imperia 152.83 331 P PKPdf 02 05 29.6 +7.8
ORIF Oris-en-Rattie 152.88 335 *e*PKIKP PKPdf 02 05 21.0 -0.9
ORIF *eR*
comp=Z,163nm,23.0s
AGO Saint Agoulin 152.91 340 PKP PKPdf 02 05 24.5 +2.6
NEGI Negi 152.97 331 P PKPdf 02 05 29.3 +7.3
AUTN L'Aution 152.97 331 PKP PKPdf 02 05 23.5 +1.5
TCF Toulx Ste Croi 152.99 341 *e*PKIKP PKPdf 02 05 21.0 -1.0
comp=Z,73nm,1.6s
TOUF Mont Tournerai 153.04 332 PKP PKPdf 02 05 26.1 +4.0
SBF Sospel 153.08 331 *e*PKIKP PKPdf 02 05 20.8 -1.4
PYM Petit Puy Mans 153.22 339 PKP PKPdf 02 05 24.0 +1.7
PGF Pioggiola 153.33 327 *e*PKIKP PKPdf 02 05 21.2 -1.4
MFF Saint Martin d 153.35 345 *e*PKIKP PKPdf 02 05 20.8 -1.7
comp=Z,83nm,1.4s
VIVF Saint-Julien-l 153.41 336 *e*PKIKP PKPdf 02 05 21.6 -1.0
comp=Z,32nm,1.5s
LBL Lubilhac 153.59 339 PKP PKPdf 02 05 24.9 +2.1
LASF Ste Croix 154.38 336 *e*PKIKP PKPdf 02 05 23.5 -0.4
comp=Z,40nm,1.3s
ESDC Sonseca Array 160.81 346 PKPab PKPab 02 06 15.9 -1.1
comp=Z,1.4nm,0.7s,baz=6.3,slow=3.2,SNR=7.0
LIC Lamto 164.39 199 *e*PKP2 PKPab 02 06 32.6 -0.8
comp=Z,53nm,1.0s
DBIC Dimbokro 164.75 200 PKPab PKPab 02 06 34.3 -0.7
comp=Z,12nm,0.8s,baz=137,slow=5.9,SNR=12

*IDC **20** 01:50:04.3±1.2, 6.40S×11.16W, mb4.0/8, mb1 4.1/8, mb1mx3.9/22, mbtmp4.0/8, MS3.9/5, Ms1 3.9/5, ms1mx3.6/20, Error ellipse: s-maj=33.1km s-min=30.5km az=172.0*
*NEIC **20** 01:50:05.8±0.8, 6.46S×11.17W, h10km, mb4.6/4, Error ellipse: s-maj=21.9km s-min=18.2km az=138.0*
ISC 20 01:50:04.2±0.9,**6.4S**±0.2×**11.2W**±0.2,**h10**km,**n17**, σ0§**81**/12,**mb4.1**/11,**MS4.0**/4,**Ascension Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**14.43**	**26**	LR	LR	01 57 57.2	
comp=Z,261nm,19.4s,baz=187,slow=33							
TSUM	**Tsumeb**	**30.73**	**117**	LR	LR	02 06 06.3	
comp=Z,264nm,19.9s,MS3.9,baz=226,slow=31							
BDFB	**Brasilia**	**37.26**	**253**	LR	LR	02 08 50.3	
comp=Z,219nm,20.8s,MS3.9,baz=112,slow=30							
MATP	**Matopo**	**40.90**	**114**	P	**P**	**01 57 48.6**	**+0.2**
5.8nm,0.8s,mb4.2,baz=281,slow=11,SNR=10							
CPUP	**Villa Florida**	**48.20**	**240**	LR	LR	02 16 51.7	
comp=Z,208nm,20.1s,MS4.1,baz=258,slow=33							
KMBO	**Kilima Mbogo**	**48.58**	**86**	LR	LR	02 18 11.5	
comp=Z,163nm,19.1s,MS4.0,baz=95,slow=35							
SIV	**San Ignacio**	**49.76**	**255**	P	**P**	**01 58 59.0**	**-0.3**
0.2nm,0.4s,mb3.5,baz=126,slow=12,SNR=2.7							
LPG	**La Plagne**	**54.09**	**15**	*e*P	**P**	**01 59 32.7**	**+1.3**
11nm,0.9s,mb4.5							
LPL	**La Plagne**	**54.10**	**15**	*e*P	**P**	**01 59 32.7**	**+1.2**
13nm,1.0s,mb4.5							
SSF	**Saint Saulge**	**54.79**	**12**	*e*P	**P**	**01 59 35.0**	**-1.6**
17nm,1.2s,mb4.7							
GERES	**GERESS Array B**	**59.16**	**19**	P	**P**	**02 00 07.7**	**+0.1**
0.6nm,0.7s,mb3.7,baz=198,slow=8.4,SNR=5.9							
AKASG	**Malin Array Be**	**66.67**	**27**	P	**P**	**02 00 56.2**	**-1.2**
0.3nm,0.4s,mb3.7,baz=224,slow=6.8,SNR=8.1							
NB2	**NORSAR Subarra**	**69.47**	**11**	P	**P**	**02 01 14.4**	**-0.3**
2.5nm,1.1s,mb4.1,baz=202,slow=6.5							
NOA	**NORSAR Array B**	**69.47**	**11**	P	**P**	**02 01 14.9**	**+0.2**
1.5nm,1.0s,mb3.9,baz=206,slow=6.4,SNR=3.3							
FINES	**FINESS Array B**	**73.55**	**18**	P	**P**	**02 01 38.8**	**-0.3**
1.8nm,0.8s,mb4.0,baz=225,slow=2.7,SNR=6.6							
ARCES	**ARCESS Array B**	**79.82**	**12**	P	**P**	**02 02 13.9**	**-0.1**
3.3nm,1.0s,mb4.2,baz=225,slow=5.1,SNR=4.7							
TXAR	**Lajitas Array**	**95.26**	**299**	P	**P**	**02 03 30.6**	**+0.6**
0.4nm,0.8s,mb3.9,baz=118,slow=7.2,SNR=6.0							

*JMA **20** 02:03:13.7±0.4, 33.73N×141.76E, h40km, M3.3*
*IDC **20** 02:03:16.1±1.7, 33.12N×140.27E, mb3.6/3, mb1 3.6/5, mb1mx3.5/20, mbtmp3.6/5, ML3.4/2, Error ellipse: s-maj=43.1km s-min=27.1km az=60.0*
*NEIC **20** 02:03:17.2±1.0, 33.16N×140.24E, h10km, mb4.1/1, Error ellipse: s-maj=28.8km s-min=14.0km az=73.0*
ISC 20 02:03:12.7±2.5,**33.69N**±0.08×**141.8E**±0.2,**h32**km±20km, **n19**, σ0§**50**/23,**mb3.7**/3,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.19**	**324**	P	**Pn**	**02 03 33.5**	**+0.2**
BSO1				*e*S	**Sn**	**02 03 48.3**	**-0.2**
BSO3	**Boso 3**	**1.55**	**316**	P	**Pn**	**02 03 38.9**	**+0.4**
JHJ2	**Mitsune**	**1.77**	**251**	P	**Pn**	**02 03 42.6**	**+0.9**
BSO4	**Boso 4**	**1.78**	**317**	P	**Pn**	**02 03 42.7**	**+0.8**
JIM2	**Oshima 3**	**2.23**	**298**	P	**Pn**	**02 03 47.7**	**-0.6**
JIZS	**Izushimoda**	**2.64**	**294**	P	**Pn**	**02 03 54.3**	**+0.1**
JOD2	**Odawara 2**	**2.75**	**306**	P	**Pn**	**02 03 55.2**	**-0.5**
JRY	**Ryogami san**	**3.34**	**315**	P	**Pn**	**02 04 03.3**	**-0.7**
JAG	**Ashikaga**	**3.35**	**325**	P	**Pn**	**02 04 04.2**	**0.0**
MJAR	**Matsushiro Arr**	**4.10**	**315**	Pn	**Pn**	**02 04 15.0**	**+0.1**
1.6nm,0.3s,baz=146,slow=13,SNR=8.1							
MJAR				Sn	**Sn**	**02 05 02.4**	**-0.1**
2.0nm,0.3s,baz=156,slow=21,SNR=6.5							
MAJO	**Matsushiro**	**4.11**	**315**	*e*P	**Pn**	**02 04 15.1**	**+0.1**
MAT	**Matsushiro**	**4.11**	**315**	P	**Pn**	**02 04 14.9**	**-0.1**
MAT				S	**Sn**	**02 05 01.7**	**-0.8**
MAT	**Matsushiro**	**4.11**	**315**	*e*P	**Pn**	**02 04 15.0**	**0.0**
MAT				*e*S	**Sn**	**02 05 02.0**	**-0.5**
CBIJ	**Chichi jima**	**6.58**	**177**	Pn	**Pn**	**02 04 49.2**	**-0.7**
2.7nm,0.3s,baz=270,slow=20,SNR=4.8							
CBIJ				Sn	**Sn**	**02 05 56.1**	**-8.5**
2.6nm,0.3s,baz=317,slow=16,SNR=2.0							
SONM	**Songino Array**	**30.03**	**309**	P	**P**	**02 09 22.0**	**+1.1**
0.6nm,0.8s,mb3.4,baz=118,slow=9.8,SNR=4.5							
MKAR	**Makanchi Array**	**46.24**	**305**	P	**P**	**02 11 36.8**	**+0.2**
0.5nm,0.5s,mb3.7,baz=85,slow=8.4,SNR=5.5							
KURK	**Kurchatov**	**48.30**	**311**	*e*P	**P**	**02 11 52.9**	**+0.1**
1.0nm,0.6s,mb4.0							
ILAR	**Eielson Array**	**52.16**	**31**	P	sP	02 12 36.5	+1.0
0.5nm,0.8s,baz=276,slow=4.8,SNR=4.2							
WRAB	**Tennant Creek**	**53.80**	**189**	P	**P**	**02 12 34.3**	**-0.4**

*NEIC **20** 02:06:51.5, 19.11N×64.74W, h40km, MD3.5(RSPR), After RSPR.*
RSPR 20 02:06:51.5,19.11N×64.74W,h40km±27km,**MD3.5**/10, **MD3.5**/10,**10C,Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTP	**Monte Pirata**	**1.27**	**218⇑**	*e*P	P	02 07 12.2	-0.9
MTP				*e*S	S	02 07 27.8	-1.5
CBYP	**Canovanas**	**1.34**	**232⇑**	*e*P	P	02 07 12.6	-1.7
CBYP				*e*S	S	02 07 28.9	-2.2
HUMP	**Col San Antoni**	**1.42**	**228⇑**	*e*P	P	02 07 13.5	-1.8
HUMP				*e*S	S	02 07 30.8	-2.2
SJG	**San Juan**	**1.66**	**234⇑**	*e*P	P	02 07 17.6	-1.1
SJG				*e*S	S	02 07 37.2	-1.8
AOPR	**Arecibo Observ**	**2.05**	**249⇑**	*e*P	P	02 07 22.2	-2.0
AOPR				*e*S	S	02 07 47.2	-1.5
PORP	**Portuguez**	**2.08**	**240⇑**	*e*P	P	02 07 22.3	-2.4
PORP				*e*S	S	02 07 47.3	-2.2
LRS	**Lares**	**2.15**	**248⇑**	*e*P	P	02 07 24.2	-1.5
AGPR	**Aguadilla, PR**	**2.33**	**255**	*e*S	S	02 07 54.5	-1.4
LSP	**Las Mesas**	**2.41**	**248⇑**	*e*P	P	02 07 28.0	-1.4
LSP				*e*S	S	02 07 54.9	-2.9
MGP	**Maguayo**	**2.48**	**244⇑**	*e*P	P	02 07 28.2	-2.2
MGP				*e*S	S	02 07 57.4	-2.3
CRPR	**Cabo Rojo, PR**	**2.50**	**244⇑**	*e*P	P	02 07 29.3	-1.4
CRPR				*e*S	S	02 07 58.8	-1.3

NEIC 20 02:16:04.5±3.7,**43.27N×128.97W,h10**km,**mb2.8**/1,**Error ellipse: s-maj=41.5km s-min=11.0km az=70.0,Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUMO	**Hull Mountain**	**4.46**	**96**	*e*P	Pn	02 17 11.1	-2.8
KMOR	**Kings Mountain**	**4.58**	**57**	P	Pn	02 17 12.2	-3.3
BROR	**Big Rock Looko**	**4.82**	**76**	P	Pn	02 17 17.4	-1.6
NLO	**Nicolai Mounta**	**4.84**	**52**	P	Pn	02 17 16.7	-2.5
HBO	**Huckleberry Mo**	**4.87**	**81**	P	Pn	02 17 18.6	-1.0
IRO	**Indian Ridge**	**4.93**	**79**	P	Pn	02 17 18.7	-1.8
SSOR	**Sweet Springs**	**4.95**	**69**	P	Pn	02 17 19.1	-1.6
FRIS	**Frissel Point**	**5.06**	**77**	P	Pn	02 17 20.9	-1.4
GT2	**Goat Mountain**	**5.17**	**66**	P	Pn	02 17 22.0	-1.8
RVW	**Rose Valley**	**5.29**	**55**	P	Pn	02 17 23.0	-2.5
LVP	**Lakeview Peak**	**5.45**	**57**	P	Pn	02 17 25.6	-2.2
TDH	**Tom, Dick, Har**	**5.53**	**66**	P	Pn	02 17 27.1	-1.9
FL2	**Flat Top 2**	**5.55**	**56**	P	Pn	02 17 27.2	-2.0
OCWA	**Octopus Mounta**	**5.60**	**35**	*e*P	Pn	02 17 26.9	-3.1
ERK	**Elk Rock**	**5.61**	**55**	P	Pn	02 17 27.7	-2.3
VLL	**Laurance Lake**	**5.67**	**65**	P	Pn	02 17 29.6	-1.2
SOSW	**Source of Smit**	**5.70**	**56**	P	Pn	02 17 29.5	-1.9
TDL	**Tradedollar La**	**5.71**	**55**	P	Pn	02 17 29.3	-2.1
KOSW	**Kosmos**	**5.78**	**54**	P	Pn	02 17 30.8	-1.6
ASR	**Mount Adams--S**	**5.99**	**59**	P	Pn	02 17 33.6	-1.8
HDW	**Hoodsport**	**6.04**	**41**	P	Pn	02 17 34.1	-2.0
FMW	**Mount Fremont**	**6.33**	**52**	P	Pn	02 17 37.7	-2.6
RMW	**Rattlesnake Mo**	**6.56**	**48**	P	Pn	02 17 41.3	-2.2
TBM	**Table Mountain**	**7.08**	**54**	P	Pn	02 17 49.2	-1.6
MBW	**Mount Baker**	**7.39**	**39**	P	Pn	02 17 54.0	-1.1
SDCO	**Great Sand Dun**	**18.65**	**99**	P	P	02 20 23.1	-1.4
0.4nm,0.6s							

*IDC **20** 02:38:42.7±3.2, 4.74N×122.98E, h637km±51km, mb3.3/9, mb1 3.4/9, mb1mx3.2/19, mbtmp4.3/9, Error ellipse: s-maj=76.8km s-min=15.8km az=68.0*
*NEIC **20** 02:38:43.3±3.1, 4.73N×123.00E, h649km±47km, mb4.2/2, Error ellipse: s-maj=73.9km s-min=15.6km az=66.0*
ISC 20 02:38:40.0±3.8,**4.7N**±0.3×**122.9E**±0.6,**h624**km±58km,**n14**, σ0§**59**/14,**mb4.0**/11,**Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.85**	**173**	P	**P**	**02 43 00.2**	**+0.1**
2.8nm,0.7s,mb4.0,baz=7.7,slow=12,SNR=3.9							
WRAB	**Tennant Creek**	**26.97**	**156**	*e*P	**P**	**02 43 35.6**	**-0.7**
WRA	**Warramunga Arr**	**26.98**	**156**	P	**P**	**02 43 35.8**	**-0.5**
7.3nm,0.4s,mb4.7,baz=336,slow=9.6,SNR=45							
STKA	**Stephens Creek**	**40.53**	**155**	P	**P**	**02 45 30.1**	**+1.3**
3.0nm,0.6s,mb4.0,baz=337,slow=8.2,SNR=6.4							
SONM	**Songino Array**	**45.22**	**344**	P	**P**	**02 46 05.6**	**+0.5**
1.8nm,0.8s,mb3.7,baz=158,slow=8.3,SNR=15							
MKAR	**Makanchi Array**	**54.59**	**327**	P	**P**	**02 47 14.2**	**+0.7**
3.8nm,0.3s,mb4.1,baz=120,slow=7.7,SNR=52							
MKAR				PcP	PcP	02 48 06.6	-0.1
1.1nm,0.6s,baz=134,slow=5.1,SNR=6.3							
MKAR	**Makanchi Array**	**54.59**	**327**	P	**P**	**02 47 14.2**	**+0.7**
MKAR				PcP	PcP	02 48 06.6	-0.1
ZAL	**Zalesovo**	**58.01**	**335**	P	**P**	**02 47 35.9**	**-0.8**
1.4nm,0.3s,mb3.5,baz=358,slow=10,SNR=4.3							
KURK	**Kurchatov**	**58.87**	**329**	*e*P	**P**	**02 47 42.1**	**-0.4**
11nm,0.6s,mb4.2							
BVAR	**Borovoye Array**	**64.42**	**328**	P	**P**	**02 48 18.4**	**+0.2**
1.3nm,0.4s,mb3.6,baz=135,slow=8.4,SNR=8.6							
ARCES	**ARCESS Array B**	**88.19**	**340**	P	**P**	**02 50 26.8**	**-0.1**
2.0nm,0.9s,mb3.9,baz=83,slow=7.3,SNR=5.7							
ARCES	**ARCESS Array B**	**88.19**	**340**	P	**P**	**02 50 26.8**	**-0.1**
KAF	**Kangasniemi**	**88.94**	**332**	*e*p	**P**	**02 50 30.2**	**-0.3**
1.2nm,0.4s,mb4.1,baz=77,slow=4.2							
FINES	**FINESS Array B**	**89.14**	**331**	P	**P**	**02 50 31.5**	**+0.1**
0.8nm,0.5s,mb3.8,baz=45,slow=5.4,SNR=12							

*IPEC **20** 03:28:13.3±0.3, 51.54N×16.23E, ML1.9/3, Error ellipse: s-maj=2.0km s-min=1.5km az=33.0*
*NEIC **20** 03:28:14.3±1.3, 51.49N×16.08E, h5km, ML2.7(VIE), ML2.5(SZGRF), Error ellipse: s-maj=14.6km s-min=5.7km az=202.0*
*PRU **20** 03:28:14.7, 51.46N×16.15E*
*CSEM **20** 03:28:14.7±0.2, 51.48N×16.20E, h2km, ML3.1/5, Error ellipse: s-maj=4.2km s-min=2.2km az=30.0*
*IDC **20** 03:28:15.2±0.9, 51.49N×15.97E, mb1 3.2/5, mb1mx3.1/20, mbtmp3.1/5, ML2.7/5, Error ellipse: s-maj=19.4km s-min=8.0km az=102.0*
*WAR **20** 03:28:15.3, 51.47N×16.11E, h1km, ML2.7, Mining Induced*
ISC 20 03:28:13.2±0.6,**51.43N**±0.03×**16.09E**±0.03,**n34**, σ1§**25**/63, **2C-3D,Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.60**	**168⇓**	*i*PG	**Pg**	**03 28 26.9**	**+1.7**
KSP				*i*eSG	**Sg**	**03 28 35.9**	**+2.7**
KSP	**Ksiaz**	**0.60**	**168**	*e*Pg	**Pg**	**03 28 26.9**	**+1.7**
KSP				*e*Sg	**Sg**	**03 28 35.9**	**+2.7**
KSP	**Ksiaz**	**0.60**	**168**	*e*Pg	**Pg**	**03 28 26.8**	**+1.6**
KSP				*e*Sg	**Sg**	**03 28 35.4**	**+2.2**
KSP	**Ksiaz**	**0.60**	**168⇓**	*i*Pg	**Pg**	**03 28 26.9**	**+1.7**
KSP				*e*Sg	**Sg**	**03 28 35.4**	**+2.2**
UPC	**Upice**	**0.93**	**183**	*e*PG	**Pg**	**03 28 32.8**	**+1.2**
DPC	**Dobruska-Polom**	**1.09**	**172**	*e*PG	**Pg**	**03 28 35.6**	**+0.7**
DPC				*e*SG	**Sg**	**03 28 50.7**	**+1.2**
19nm,0.2s							
PVCC	**Panska Ves**	**1.32**	**227**	*e*Pn	**Pn**	**03 28 40.0**	**+1.2**
PVCC				*e*Sg	**Sg**	**03 28 59.3**	**+2.2**
BRG	**Berggiesshubel**	**1.46**	**248**	Pn	**Pn**	**03 28 42.0**	**+1.1**
BRG	**Berggiesshubel**	**1.46**	**248**	Pg	**Pg**	**03 28 42.8**	**+0.4**
BRG	**Berggiesshubel**	**1.46**	**248**	Pn	**Pn**	**03 28 42.0**	**+1.1**
BRG				Pg	**Pg**	**03 28 42.8**	**+0.4**
BRG				Sg	**Sg**	**03 29 02.8**	**+1.0**
PRU	**Pruhonice**	**1.75**	**215**	*e*PN	**Pn**	**03 28 45.6**	**+0.7**
PRU				*e*PG	**Pg**	**03 28 47.4**	**-0.6**
PRU				*e*SG	**Sg**	**03 29 10.5**	**-0.8**
PRU	**Pruhonice**	**1.75**	**215**	Pg	**Pg**	**03 28 47.4**	**-0.6**
PRU				Sg	**Sg**	**03 29 10.5**	**-0.8**
MORC	**Moravsky Berou**	**1.90**	**150**	*e*Pn	**Pn**	**03 28 47.7**	**+0.6**
MORC				*e*Sg	**Sg**	**03 29 14.2**	**-2.1**
7.5nm,0.2s							
CLL	**Collm**	**1.94**	**268**	*e*PG	**Pg**	**03 28 50.0**	**-1.9**
CLL				*e*		03 28 54.0	
CLL				*i* SG	**Sg**	**03 29 17.0**	**-0.7**
CLL	**Collm**	**1.94**	**268**	*e*Pg	**Pg**	**03 28 50.0**	**-1.9**
CLL				*i* Sg	**Sg**	**03 29 17.0**	**-0.7**
OKC	**Ostrava-Krasne**	**2.06**	**140**	*e*PG	**Pg**	**03 28 53.1**	**-1.3**
OKC				*e*SG	**Sg**	**03 29 19.6**	**-2.3**
VRAC	**Vranov**	**2.15**	**171**	Pn	**Pn**	**03 28 53.0**	**+2.3**
1.1nm,0.3s,baz=343,slow=17,SNR=4.8							
VRAC				Lg		03 29 23.3	
1.5nm,0.3s,baz=72,slow=21,SNR=5.7							
VRAC	**Vranov**	**2.15**	**171**	*e*Pn	**Pn**	**03 28 52.4**	**+1.7**
VRAC				*e*Sg	**Sg**	**03 29 23.3**	**-1.4**
4.8nm,0.2s							
TREC	**Trest**	**2.17**	**190**	*e*PN	**Pn**	**03 28 52.3**	**+1.3**
KRUC	**Moravsky**	**2.38**	**175**	*e*Pn	**Pn**	**03 28 55.3**	**+1.3**
KRUC				*e*Sg	**Sg**	**03 29 31.2**	**-1.2**
5.5nm,0.2s							
NKC	**Novy Kostel**	**2.60**	**244**	*e*PN	**Pn**	**03 28 57.6**	**+0.4**
NKC				*e*PG	**Pg**	**03 29 03.9**	**-1.2**
NKC				*e*SG	**Sg**	**03 29 39.3**	**-0.5**
18nm,0.3s							
OJC	**Ojcow**	**2.65**	**116**	*e*PG	**Pg**	**03 29 05.0**	**-1.0**
OJC				*e*SG	**Sg**	**03 29 41.0**	**-0.2**
KHC	**Kasperske Hory**	**2.81**	**216**	*e*PN	**Pn**	**03 29 01.0**	**+0.9**
KHC				*e*PG	**Pg**	**03 29 06.8**	**-2.5**
KHC				*e*SN	**Sn**	**03 29 35.0**	**-0.2**
KHC				*e*SG	**Sg**	**03 29 45.6**	**-1.1**
MOX	**Moxa**	**2.93**	**256**	*e*Pg	**Pg**	**03 29 10.1**	**-1.6**
MOX				*e*Sg	**Sg**	**03 29 50.5**	**-0.3**
GEC2	**GERESS Array S**	**3.01**	**212**	Pg	**Pg**	**03 29 10.4**	**-2.8**
GERES	**GERESS Array B**	**3.01**	**212**	Pn	**Pn**	**03 29 04.1**	**+1.1**
0.5nm,0.3s,baz=26,slow=12,SNR=20							
GERES				Pg	**Pg**	**03 29 10.7**	**-2.5**
1.9nm,0.3s,baz=29,slow=17,SNR=32							
GERES				Lg		03 29 51.5	
1.9nm,0.3s,baz=30,slow=27,SNR=9.0							
GERES	**GERESS Array B**	**3.01**	**212**	Pg	**Pg**	**03 29 10.7**	**-2.5**
WET	**Wettzell**	**3.08**	**223**	*e*Pn	**Pn**	**03 29 04.5**	**+0.5**
MOA	**Molln**	**3.77**	**199⇑**	*i*PN	**Pn**	**03 29 14.6**	**+0.7**
MOA				*i* SG	**Sg**	**03 30 18.3**	**-0.6**
5.0nm,0.5s							
STHS	**Stebnicka Huta**	**3.86**	**119**	*e*PN	**Pn**	**03 29 15.3**	**+0.2**
STHS				*e*PG	**Pg**	**03 29 29.0**	**-1.3**
STHS				*e*SG	**Sg**	**03 30 22.7**	**+0.9**
ARSA	**Arzberg**	**4.20**	**185⇑**	*i*PN	**Pn**	**03 29 20.3**	**+0.4**
ARSA				*i* SG	**Sg**	**03 30 28.9**	**-4.1**
7.1nm,0.7s							
HFS	**Hagfors**	**8.83**	**352**	Pn	**P**	**03 30 19.8**	**-5.1**
0.0nm,0.3s,baz=169,slow=15,SNR=3.9							
FINES	**FINESS Array B**	**11.44**	**25**	Pn	**P**	**03 30 56.1**	**-4.6**
0.1nm,0.3s,baz=221,slow=13,SNR=4.4							
ARCES	**ARCESS Array B**	**18.70**	**10**	Pn	**P**	**03 32 28.5**	**-6.2**
0.1nm,0.3s,baz=188,slow=14,SNR=4.7							

*CSEM **20** 03:54:13.3±0.9, 39.28N×29.91W, h5km, ML2.5, Error ellipse: s-maj=25.2km s-min=7.8km az=38.0, After PDA*
*PDA **20** 03:54:13.3±0.9, 39.28N×29.91W, h5km, MD3.4, ML2.5, Error ellipse: s-maj=25.2km s-min=7.8km az=38.0*
SVSA 20 03:54:13.3±0.9,**39.28N×29.91W,h5**km,**MD3.4,ML2.5, Error ellipse: s-maj=25.2km s-min=7.8km az=38.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**1.14**	**124**	*e*P	Pb	03 54 30.6	-4.5
PCED				*e*S	Sb	03 54 44.3	-5.8
29nm,0.3s							
CALA	**Caldeira**	**1.17**	**126**	*e*P	Pb	03 54 31.6	-4.0
CALA				*e*S	Sb	03 54 45.0	-5.9
HOR	**Horta**	**1.25**	**127**	*e*P	Pb	03 54 32.5	-4.4
HOR				*e*S	Sb	03 54 46.5	-6.7
PICO	**Pico**	**1.39**	**123**	*e*P	Pb	03 54 34.8	-4.6
PICO				*e*S	Sb	03 54 51.0	-6.4
PMAN	**Manadas**	**1.56**	**114**	*e*S	Sb	03 54 54.3	-7.8
13nm,0.4s							

*WAR **20** 04:13:21.9, 50.21N×19.07E, h0km, ML2.4, Mining Induced*
*PRU **20** 04:13:21.6, 50.26N×18.99E*
*IDC **20** 04:13:23.1±2.1, 50.18N×18.96E, mb1 3.1/3, mb1mx3.0/16, mbtmp3.0/3, ML2.6/3, Error ellipse: s-maj=41.9km s-min=11.5km az=136.0*
ISC 20 04:13:19.9±0.5,**50.19N**±0.04×**18.95E**±0.04,**n14**, σ1§**40**/23, **Poland**

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

Induced
*PRU **20** 04:22:40.0, 51.46N×16.11E*
ISC 20 04:22:38.3±0.7, 51.43N±0.04×16.09E±0.03, n31, σ1§23/58, 1C-4D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.60**	**168**	‖ *i* PG	**Pg**	**04 22 51.8**	**+1.6**
KSP				‖ *e* SG	**Sg**	**04 23 00.8**	**+2.6**
KSP	**Ksiaz**	**0.60**	**168**	*e* Pg	**Pg**	**04 22 51.8**	**+1.5**
KSP				*e* Sg	**Sg**	**04 23 00.7**	**+2.4**
KSP	**Ksiaz**	**0.60**	**168**	‖ *i* Pg	**Pg**	**04 22 51.8**	**+1.6**
KSP				*e* Sg	**Sg**	**04 23 00.2**	**+2.0**
UPC	**Upice**	**0.92**	**183**	*e* PG	**Pg**	**04 22 57.7**	**+1.0**
DPC	**Dobruska-Polom**	**1.09**	**172**	*e* PG	**Pg**	**04 23 00.5**	**+0.5**
DPC				*e* SG	**Sg**	**04 23 15.5**	**+1.0**
17nm,0.2s							
PVCC	**Panska Ves**	**1.32**	**227**	*e* Pg	**Pg**	**04 23 04.8**	**+0.2**
PVCC				*e* Sg	**Sg**	**04 23 24.2**	**+2.0**
BRG	**Berggiesshubel**	**1.46**	**249**	Pn	**Pn**	**04 23 06.8**	**+0.8**
BRG	**Berggiesshubel**	**1.46**	**249**	Pg	**Pg**	**04 23 07.6**	**+0.1**
BRG	**Berggiesshubel**	**1.46**	**249**	Pn	**Pn**	**04 23 06.8**	**+0.8**
BRG				Pg	**Pg**	**04 23 07.6**	**+0.2**
BRG				Sg	**Sg**	**04 23 27.7**	**+0.8**
PRU	**Pruhonice**	**1.75**	**215**	*e* PN	**Pn**	**04 23 10.6**	**+0.6**
PRU				*e* PG	**Pg**	**04 23 12.3**	**-0.8**
PRU				*e* SG	**Sg**	**04 23 35.4**	**-1.0**
PRU	**Pruhonice**	**1.75**	**215**	*e* Pg	**Pg**	**04 23 12.3**	**-0.8**
PRU				*e* Sg	**Sg**	**04 23 35.4**	**-1.0**
MORC	**Moravsky Berou**	**1.89**	**150**	*e* Pn	**Pn**	**04 23 12.6**	**+0.5**
MORC				*e* Sg	**Sg**	**04 23 40.2**	**-1.1**
8.6nm,0.2s							
MORC	**Moravsky Berou**	**1.89**	**150**	*e* P	**Pn**	**04 23 11.8**	**-0.4**
CLL	**Collm**	**1.94**	**268**	*i* PN	**Pn**	**04 23 12.7**	**-0.1**
CLL				*i* PG	**Pg**	**04 23 14.9**	**-2.1**
CLL				*i*		04 23 19.7	
CLL				*i* SG	**Sg**	**04 23 41.6**	**-1.2**
CLL	**Collm**	**1.94**	**268**	*i* Pn	**Pn**	**04 23 12.7**	**-0.1**
CLL				*i* Pg	**Pg**	**04 23 14.9**	**-2.1**
CLL				*i* Sg	**Sg**	**04 23 41.6**	**-1.2**
OKC	**Ostrava-Krasne**	**2.06**	**140**	*e* PG	**Pg**	**04 23 18.6**	**-0.8**
OKC				*e* SG	**Sg**	**04 23 45.5**	**-1.4**
VRAC	**Vranov**	**2.15**	**171**	Pn	**Pn**	**04 23 17.9**	**+2.1**
1.5nm,0.3s,baz=348,slow=16,SNR=11							
VRAC				Lg		04 23 48.7	
2.0nm,0.3s,baz=74,slow=22,SNR=7.6							
VRAC	**Vranov**	**2.15**	**171**	*e* Pn	**Pn**	**04 23 17.4**	**+1.6**
VRAC				*e* Sg	**Sg**	**04 23 48.8**	**-0.9**
7.0nm,0.2s							
TREC	**Trest**	**2.17**	**191**	*e* PN	**Pn**	**04 23 18.3**	**+2.2**
KRUC	**Moravsky**	**2.38**	**175**	*e* Pn	**Pn**	**04 23 20.9**	**+1.8**
KRUC				*e* Sg	**Sg**	**04 23 56.3**	**-1.1**
7.0nm,0.3s							
NKC	**Novy Kostel**	**2.60**	**244**	*e* PN	**Pn**	**04 23 22.7**	**+0.4**
NKC				*e* SG	**Sg**	**04 24 04.3**	**-0.6**
25nm,0.3s							
OJC	**Ojcow**	**2.64**	**116**	*e* PG	**Pg**	**04 23 30.0**	**-1.0**
OJC				*e* SG	**Sg**	**04 24 05.0**	**-1.3**
KHC	**Kasperske Hory**	**2.81**	**216**	*e* PN	**Pn**	**04 23 26.0**	**+0.8**
KHC				*e* PG	**Pg**	**04 23 31.8**	**-2.5**
KHC				*e* SN	**Sn**	**04 24 00.0**	**-0.3**
KHC				*e* SG	**Sg**	**04 24 10.9**	**-0.9**
GERES	**GERESS Array B**	**3.01**	**212**	Pn	**Pn**	**04 23 28.8**	**+0.8**
0.5nm,0.3s,baz=25,slow=12,SNR=20							
GERES				Pg	**Pg**	**04 23 35.4**	**-2.9**
2.1nm,0.3s,baz=29,slow=17,SNR=31							
GERES				Lg		04 24 16.4	
1.7nm,0.3s,baz=43,slow=26,SNR=4.4							
GERES	**GERESS Array B**	**3.01**	**212**	Pg	**Pg**	**04 23 35.4**	**-2.9**
MOA	**Molln**	**3.77**	**199**	‖ *i* PN	**Pn**	**04 23 39.5**	**+0.6**
MOA				*i* SG	**Sg**	**04 24 43.1**	**-0.8**
6.0nm,0.5s							
STHS	**Stebnicka Huta**	**3.86**	**119**	*e* PG	**Pg**	**04 23 54.0**	**-1.3**
STHS				*e* SG	**Sg**	**04 24 49.5**	**+2.7**
ARSA	**Arzberg**	**4.20**	**185**	‖ *i* PN	**Pn**	**04 23 45.4**	**+0.4**
ARSA				*i* SG	**Sg**	**04 24 53.6**	**-4.4**
9.1nm,0.7s							
HFS	**Hagfors**	**8.83**	**352**	Pn	**P**	**04 24 44.9**	**-5.2**
0.0nm,0.3s,baz=169,slow=15,SNR=3.8							
FINES	**FINESS Array B**	**11.44**	**25**	Pn	**P**	**04 25 19.3**	**-6.5**
0.1nm,0.3s,baz=201,slow=12,SNR=4.7							
ARCES	**ARCESS Array B**	**18.70**	**10**	Pn	**P**	**04 26 53.4**	**-6.5**
0.1nm,0.3s,baz=188,slow=13,SNR=6.0							

*IDC **20** 04:28:15.2±1.1, 14.95S×75.85W, mb3.8/6, mb1 4.0/9, mb1mx3.9/19, mbtmp3.9/9, ML5.7/1, MS3.5/4, Ms1 3.5/4, ms1mx3.3/18, Error ellipse: s-maj=36.1km s-min=16.5km az=58.0*
*NEIC **20** 04:28:18.7±4.8, 14.90S×75.76W, h23km±35km, mb4.3/3, Error ellipse: s-maj=18.0km s-min=10.1km az=84.0*
ISC 20 04:28:18.1±3.7, 14.95S±0.08×75.7W±0.2, h36km±37km, n19, σ0§91/17, mb3.9/8, MS3.4/2, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**7.41**	**101**	Pn	**P**	**04 30 11.8**	**+5.2**
2.4nm,0.3s,baz=270,slow=11,SNR=16							
LPAZ				LR	LR	04 33 27.5	
comp=Z,277nm,20.3s,baz=72,slow=41							
LPAZ	**La Paz**	**7.41**	**101**	Pn	**P**	**04 30 11.8**	**+5.2**
LPAZ				LR	LR	04 33 27.5	
LVC	**Limon Verde**	**9.97**	**141**	Pn	**P**	**04 30 42.8**	**+0.7**
6.2nm,0.3s,baz=321,slow=8.9,SNR=17							
LVC				Sn	**S**	**04 32 32.5**	**-1.3**
2.4nm,0.3s,baz=119,slow=21,SNR=6.8							
LVC				Lg		04 33 36.2	
baz=107,slow=12,SNR=5.1							
LVC				LR	LR	04 34 13.9	
comp=Z,206nm,21.8s,baz=292,slow=36							
SAML	**Samuel**	**13.62**	**65**	*e* P	**P**	**04 31 30.7**	**-0.7**
1.8nm,0.4s							
SIV	**San Ignacio**	**14.14**	**96**	Pn	**P**	**04 31 37.4**	**-0.8**
0.5nm,0.3s,baz=262,slow=15,SNR=8.7							
CFAA	**Coronel Fontan**	**17.92**	**159**	P	**P**	**04 32 27.6**	**+1.3**
0.1nm,0.3s,baz=343,slow=9.4,SNR=18							
CPUP	**Villa Florida**	**20.55**	**126**	P	**P**	**04 32 57.1**	**+0.7**
2.1nm,0.8s,baz=297,slow=11,SNR=3.4							
CPUP				LR	LR	04 41 33.9	
comp=Z,74nm,18.8s,MS3.1,baz=120,slow=39							
SDV	**Santo Domingo**	**24.21**	**12**	P	**P**	**04 33 34.1**	**+1.2**
4.8nm,0.6s,mb4.1,baz=205,slow=8.6,SNR=8.0							
PLCA	**Paso Flores**	**26.07**	**171**	P	**P**	**04 33 49.6**	**-0.6**
1.5nm,0.8s,mb3.6,baz=333,slow=17,SNR=4.0							
BDFB	**Brasilia**	**26.71**	**95**	P	**P**	**04 33 57.8**	**+1.5**
0.8nm,0.4s,mb3.6,baz=261,slow=7.5,SNR=2.7							
BDFB				LR	LR	04 45 51.8	
comp=Z,263nm,19.8s,MS3.8,baz=66,slow=39							
TXAR	**Lajitas Array**	**51.65**	**329**	P	**P**	**04 37 23.0**	**-0.8**
0.6nm,0.8s,mb3.6,baz=148,slow=7.7,SNR=5.3							
ANMO	**Albuquerque**	**57.58**	**330**	P	**P**	**04 38 07.5**	**+0.5**
0.9nm,0.7s,mb3.9,baz=140,slow=9.8,SNR=3.1							
ANMO	**Albuquerque**	**57.58**	**330**	P	**P**	**04 38 07.5**	**+0.5**
SDCO	**Great Sand Dun**	**59.43**	**333**	*e* P	**P**	**04 38 19.0**	**-0.8**
3.0nm,1.1s,mb4.2							
DUG	**Dugway**	**64.81**	**329**	*e* P	**P**	**04 38 54.9**	**-0.8**
2.3nm,0.8s,mb4.3							
HWUT	**Hardware Ranch**	**65.30**	**331**	*e* P	**P**	**04 38 59.0**	**+0.1**
2.2nm,0.9s,mb4.2							
MKAR	**Makanchi Array**	**143.32**	**26**	PKP	PKPdf	04 47 51.2	+2.4
0.3nm,0.6s,baz=315,slow=1.7,SNR=3.9							
MKAR	**Makanchi Array**	**143.32**	**26**	PKP	PKPdf	04 47 51.2	+2.4
SONM	**Songino Array**	**147.17**	**357**	PKPbc	PKPdf	04 47 59.9	+4.5
0.9nm,0.6s,slow=3.0,SNR=4.3							

*NEIC **20** 04:30:33.3, 38.58S×175.76E, h160km, MG3.8(WEL), After WEL.*
WEL 20 04:30:34.3±0.3, 38.61S×175.79E, h151km±2km, ML3.8/5, Error ellipse: s-maj=2.5km s-min=2.0km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KATZ	**Kakaramea**	**0.38**	**191**	PN	P	04 30 55.4	-0.3
KATZ				SN	S	04 31 11.9	-0.1
KATZ	**Kakaramea**	**0.38**	**191**	P	P	04 30 55.4	-0.3
RITZ	**Rihia Road**	**0.38**	**172**	PN	P	04 30 55.7	0.0
KRVZ	**Karewarewa**	**0.50**	**193**	PN	P	04 30 56.1	-0.1
WTVZ	**West Tongariro**	**0.53**	**197**	PN	P	04 30 56.1	-0.2
WTVZ				SN	S	04 31 12.5	-0.8
WTVZ	**West Tongariro**	**0.53**	**197**	P	P	04 30 56.1	-0.2
WTVZ				S	S	04 31 13.0	-0.3
TWVZ	**Taurewa**	**0.54**	**210**	PN	P	04 30 56.0	-0.4
TWVZ				SN	S	04 31 12.7	-0.6
TWVZ	**Taurewa**	**0.54**	**210**	P	P	04 30 56.0	-0.4
OTVZ	**Oturere**	**0.57**	**190**	PN	P	04 30 56.4	-0.1
OTVZ				SN	S	04 31 12.0	-1.6
NGZ	**Ngauruhoe**	**0.59**	**194**	PN	P	04 30 56.3	-0.3
NGZ	**Ngauruhoe**	**0.59**	**194**	P	P	04 30 56.3	-0.3
CNZ	**Chateau**	**0.62**	**197**	PN	P	04 30 56.6	-0.1
CNZ	**Chateau**	**0.62**	**197**	P	P	04 30 56.6	-0.2
WPVZ	**Whakapapa**	**0.63**	**197**	PN	P	04 30 56.7	-0.1
WPVZ	**Whakapapa**	**0.63**	**197**	P	P	04 30 56.7	-0.1
TUVZ	**Tukino**	**0.67**	**189**	PN	P	04 30 57.1	0.0
TUVZ				SN	S	04 31 13.9	-0.6
TUVZ	**Tukino**	**0.67**	**189**	P	P	04 30 56.4	-0.7
TUVZ				P		04 30 57.1	
TUVZ				S	S	04 31 14.2	-0.4
FWVZ	**Far West T-bar**	**0.67**	**196**	PN	P	04 30 56.9	-0.2
FWVZ				SN	S	04 31 14.4	-0.3
FWVZ	**Far West T-bar**	**0.67**	**196**	P	P	04 30 56.9	-0.2
FWVZ				S	S	04 31 14.4	-0.2
DRZ	**Dome Shelter**	**0.69**	**195**	PN	P	04 30 57.6	+0.4
TRVZ	**Turoa**	**0.72**	**195**	PN	P	04 30 57.4	+0.1
HIZ	**Hauiti**	**0.74**	**277**	PN	P	04 30 56.9	-0.6
HIZ				SN	S	04 31 15.1	-0.1
HIZ	**Hauiti**	**0.74**	**277**	*e* P	P	04 30 56.9	-0.6
HIZ				S	S	04 31 15.1	-0.2
WNVZ	**Wahianoa**	**0.74**	**192**	PN	P	04 30 57.4	0.0
WNVZ				SN	S	04 31 13.9	-1.4
WNVZ	**Wahianoa**	**0.74**	**192**	P	P	04 30 57.4	-0.1
PKVZ	**Pokaka**	**0.77**	**207**	PN	P	04 30 57.3	-0.4
PKVZ				SN	S	04 31 15.1	-0.5
BKZ	**Black Stump Fm**	**0.79**	**136**	PN	P	04 30 57.7	0.0
BKZ				SN	S	04 31 14.7	-1.1
BKZ	**Black Stump Fm**	**0.79**	**136**	P	P	04 30 57.7	-0.1
MOVZ	**Moawhango**	**0.80**	**182**	PN	P	04 30 57.5	-0.3
MOVZ				SN	S	04 31 14.2	-1.7
MOVZ	**Moawhango**	**0.80**	**182**	P	P	04 30 57.5	-0.4
MTVZ	**Mangateitei**	**0.82**	**198**	PN	P	04 30 57.8	-0.1
VRZ	**Vera Road**	**0.96**	**237**	PN	P	04 30 58.3	-0.6
VRZ	**Vera Road**	**0.96**	**237**	P	P	04 30 58.3	-0.6
URZ	**Urewera**	**1.09**	**72**	PN	P	04 30 59.5	-0.6
URZ				SN	S	04 31 18.2	-1.9
URZ	**Urewera**	**1.09**	**72**	P	P	04 30 59.5	-0.7
RAEZ	**Rainy Point**	**1.28**	**238**	PN	P	04 31 01.5	-0.5
RAEZ	**Rainy Point**	**1.28**	**238**	P	P	04 31 01.5	-0.5
WAZ	**Wanganui**	**1.31**	**208**	PN	P	04 31 01.7	-0.6
WAZ	**Wanganui**	**1.31**	**208**	P	P	04 31 01.7	-0.5
MWZ	**Matawai**	**1.39**	**79**	PN	P	04 31 02.8	-0.3
MWZ	**Matawai**	**1.39**	**79**	P	P	04 31 02.8	-0.3
TSZ	**Takapari Road**	**1.46**	**175**	PN	P	04 31 03.3	-0.5
TSZ	**Takapari Road**	**1.46**	**175**	P	P	04 31 03.3	-0.5
NEZ	**North Egmont**	**1.48**	**243**	PN	P	04 31 03.7	-0.3
NEZ	**North Egmont**	**1.48**	**243**	P	P	04 31 03.7	-0.3
PKE	**Pukeiti**	**1.52**	**247**	PN	P	04 31 03.7	-0.8
PKE	**Pukeiti**	**1.52**	**247**	P	P	04 31 03.7	-0.8
KNZ	**Kokohu**	**1.53**	**106**	PN	P	04 31 04.6	+0.1
KNZ	**Kokohu**	**1.53**	**106**	*e* P	P	04 31 04.6	0.0
NRZ	**Ngariki Road**	**1.62**	**243**	PN	P	04 31 04.8	-0.7
NRZ	**Ngariki Road**	**1.62**	**243**	P	P	04 31 04.8	-0.7
MRZ	**Mangatainoka R**	**2.06**	**184**	PN	P	04 31 08.9	-1.6
MRZ	**Mangatainoka R**	**2.06**	**184**	P	P	04 31 08.9	-1.6
BFZ	**Birch Farm**	**2.10**	**170**	PN	P	04 31 09.7	-1.3
BFZ	**Birch Farm**	**2.10**	**170**	P	P	04 31 09.7	-1.3
MXZ	**Matakaoa Point**	**2.24**	**63**	PN	P	04 31 12.1	-0.7
MXZ	**Matakaoa Point**	**2.24**	**63**	*e* P	P	04 31 12.1	-0.7
KIW	**Kapiti Island**	**2.35**	**196**	PN	P	04 31 11.8	-2.3
KIW	**Kapiti Island**	**2.35**	**196**	P	P	04 31 11.8	-2.3
MTW	**Mount Morrison**	**2.56**	**185**	PN	P	04 31 14.0	-2.7
MTW	**Mount Morrison**	**2.56**	**185**	P	P	04 31 14.0	-2.8
CAW	**Cannon Point**	**2.56**	**192**	PN	P	04 31 14.1	-2.7
CAW	**Cannon Point**	**2.56**	**192**	P	P	04 31 14.1	-2.7
DUWZ	**D'Urville Isla**	**2.62**	**213**	PN	P	04 31 14.6	-3.0
MRW	**Makara Radio**	**2.75**	**197**	PN	P	04 31 16.2	-3.0
MRW	**Makara Radio**	**2.75**	**197**	P	P	04 31 16.2	-3.0
PAWZ	**Paruwai Farm**	**2.79**	**186**	PN	P	04 31 16.6	-3.0
WEL	**Wellington**	**2.79**	**196**	PN	P	04 31 16.6	-3.1
WEL	**Wellington**	**2.79**	**196**	P	P	04 31 16.6	-3.1
TRWZ	**Traveller**	**2.79**	**182**	PN	P	04 31 16.9	-2.8
SNZO	**South Karori**	**2.83**	**197**	PN	P	04 31 16.9	-3.3
SNZO	**South Karori**	**2.83**	**197**	P	P	04 31 16.9	-3.2
MSWZ	**Moikau Station**	**2.84**	**188**	PN	P	04 31 17.1	-3.1
MSWZ	**Moikau Station**	**2.84**	**188**	P	P	04 31 17.1	-3.2
TCW	**Tory Channel**	**2.85**	**204**	PN	P	04 31 17.3	-3.1
TCW	**Tory Channel**	**2.85**	**204**	P	P	04 31 17.3	-3.2
BHW	**Baring Head**	**2.89**	**194**	PN	P	04 31 17.6	-3.3
BHW	**Baring Head**	**2.89**	**194**	P	P	04 31 17.6	-3.3
TUWZ	**Tuamarina**	**3.16**	**206**	PN	P	04 31 20.8	-3.6
NNZ	**Nelson**	**3.20**	**215**	PN	P	04 31 21.1	-3.9
NNZ	**Nelson**	**3.20**	**215**	P	P	04 31 21.1	-3.8
QRZ	**Quartz Range**	**3.35**	**228**	PN	P	04 31 22.6	-4.4
QRZ	**Quartz Range**	**3.35**	**228**	P	P	04 31 22.6	-4.3
BSWZ	**Blackbirch Sta**	**3.43**	**205**	PN	P	04 31 24.3	-3.7
BSWZ	**Blackbirch Sta**	**3.43**	**205**	P	P	04 31 24.3	-3.7
THZ	**Tophouse**	**3.85**	**214**	PN	P	04 31 29.6	-3.8
THZ	**Tophouse**	**3.85**	**214**	*e* P	P	04 31 29.6	-3.8
KHZ	**Kahutara**	**4.17**	**204**	PN	P	04 31 33.4	-4.2
KHZ	**Kahutara**	**4.17**	**204**	P	P	04 31 33.4	-4.3
DSZ	**Denniston Nort**	**4.38**	**223**	PN	P	04 31 35.0	-5.3
DSZ	**Denniston Nort**	**4.38**	**223**	*e* P	P	04 31 35.0	-5.3
LTZ	**Lake Taylor**	**4.96**	**212**	PN	P	04 31 42.5	-5.5
LTZ	**Lake Taylor**	**4.96**	**212**	*e* P	P	04 31 42.5	-5.5
MQZ	**McQueen's Vall**	**5.62**	**204**	PN	P	04 31 50.5	-6.3
MQZ	**McQueen's Vall**	**5.62**	**204**	*e* P	P	04 31 50.5	-6.3
WVZ	**Waitaha Valley**	**5.88**	**219**	PN	P	04 31 54.0	-6.3
FOZ	**Fox Glacier**	**6.76**	**221**	PN	P	04 32 05.2	-6.9
FOZ	**Fox Glacier**	**6.76**	**221**	*e* P	P	04 32 05.2	-6.9
ODZ	**Otahua Downs**	**7.49**	**209**	PN	P	04 32 15.8	-6.1
ODZ	**Otahua Downs**	**7.49**	**209**	*e* P	P	04 32 15.8	-6.1

MAN 20 04:35:48.4, 10.94N×123.28E, h1km, mb4.1, ML2.9, MS2.6, 2D, Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.74**	**246**	*e* P	Pg	04 36 02.5	-0.7
GUIM				*e* S	Sg	04 36 12.8	-0.3
RCP	**Roxas**	**0.81**	**320**	‖ *e* P	Pg	04 36 04.1	-0.5
RCP				*e* S	Sg	04 36 16.4	+1.0
LLP	**Lapu-Lapu**	**0.92**	**132**	‖ *e* P	Pg	04 36 06.1	-0.5
LLP				*e* S	Sg	04 36 19.1	+0.2
TBP	**Tagbilaran**	**1.36**	**155**	*e* P	Pb	04 36 13.9	-0.5
TBP				*e* S	Sb	04 36 32.6	+0.4
MSLP	**Maasin**	**1.75**	**117**	*e* P	Pn	04 36 20.9	+0.9
OTRP	**Odiongan**	**1.88**	**319**	*e* P	Pn	04 36 22.1	+0.2
SJMP	**San Jose**	**2.60**	**306**	*e* P	Pn	04 36 32.8	+0.5

*JMA **20** 05:04:13.2±0.2, 30.02N×139.07E, h456km, M3.7*
*IDC **20** 05:04:13.1±1.1, 29.94N×138.82E, h432km±18km, mb2.6/4, mb1 2.8/6, mb1mx2.8/20, mbtmp3.5/6, Error ellipse: s-maj=32.4km s-min=17.4km az=70.0*
*NEIC **20** 05:04:13.2, 30.02N×139.07E, h456km, MG3.7(JMA), After JMA.*
ISC 20 05:04:12.8±0.6, 30.05N±0.06×139.1E±0.1, h457km±8km, n18, σ0§92/24, mb2.9/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**3.11**	**12**	P	**P**	**05 05 22.6**	**+0.7**
JHJ2				*e* S	**S**	**05 06 17.2**	**+0.8**
CBIJ	**Chichi jima**	**4.02**	**136**	P	**P**	**05 05 29.0**	**-0.3**
4.9nm,0.3s,baz=313,slow=22,SNR=15							
CBIJ				S	**S**	**05 06 28.7**	**-0.9**
36nm,0.3s,baz=279,slow=20,SNR=22							
CBIJ	**Chichi jima**	**4.02**	**136**	P	**P**	**05 05 29.1**	**-0.2**
CBIJ				*e* S	**S**	**05 06 28.4**	**-1.2**
JHHJ	**Haha-jima-NKT**	**4.37**	**141**	*e* S	**S**	**05 06 35.7**	**+0.4**
JWZ	**Kozaga**	**4.50**	**321**	P	**P**	**05 05 33.5**	**-0.1**
JIE	**Ise**	**4.77**	**336**	P	**P**	**05 05 37.1**	**+1.0**
JKN2	**Miekihoku**	**4.80**	**331**	P	**P**	**05 05 36.8**	**+0.3**
BSO1	**Boso 1**	**4.86**	**19**	P	**P**	**05 05 37.7**	**+0.7**
BSO1				*e* S	**S**	**05 06 44.1**	**+0.7**
JNY	**Yasuok**	**5.39**	**349**	P	**P**	**05 05 43.7**	**+1.5**
JRY	**Ryogami san**	**5.95**	**359**	P	**P**	**05 05 48.1**	**+0.3**
JRY				*e* S	**S**	**05 07 01.7**	**-1.1**
JAG	**Ashikaga**	**6.36**	**3**	P	**P**	**05 05 51.3**	**-0.8**
MJAR	**Matsushiro Arr**	**6.51**	**354**	P	**P**	**05 05 53.1**	**-0.5**
1.1nm,0.3s,baz=161,slow=10.0,SNR=5.3							
MAJO	**Matsushiro**	**6.51**	**354**	P	**P**	**05 05 51.7**	**-1.9**
JHO	**Hitachi**	**6.66**	**10**	P	**P**	**05 05 55.2**	**0.0**
JHO				*e* S	**S**	**05 07 14.5**	**-1.6**
SONM	**Songino Array**	**30.70**	**315**	P	**P**	**05 09 50.2**	**+0.2**
0.2nm,0.4s,mb2.9,baz=124,slow=9.5,SNR=3.5							
MKAR	**Makanchi Array**	**46.50**	**308**	P	**P**	**05 11 58.2**	**-0.7**
0.2nm,0.4s,mb2.9,baz=90,slow=8.6,SNR=3.0							
WRA	**Warramunga Arr**	**49.91**	**186**	P	**P**	**05 12 24.5**	**-0.6**
0.3nm,0.3s,mb3.1,baz=2.7,slow=7.2,SNR=4.9							
ILAR	**Eielson Array**	**56.47**	**30**	P	**P**	**05 13 13.4**	**+1.9**
0.2nm,0.5s,mb2.7,baz=272,slow=7.9,SNR=4.2							

*IDC **20** 05:05:21.9±0.7, 1.31N×85.36W, mb4.3/11, mb1 4.5/13, mb1mx4.3/22, mbtmp4.4/13, ML3.1/2, MS4.7/22, Ms1 4.7/22, ms1mx4.7/23, Error ellipse: s-maj=25.8km s-min=14.0km az=57.0*
*BJI **20** 05:05:26.1, 1.30N×85.20W, h25km, mB5.2, Ms5.0, Msz4.7*
*NEIC **20** 05:05:26.1±2.2, 1.33N×85.21W, h25km±16km, mb4.8/42, Error ellipse: s-maj=7.5km s-min=4.7km az=51.0*
*HRVD **20** 05:05:26.1±0.1, 1.18N×85.32W, h18km, MW5.5/71, Centroid moment Tensor Solution. LP body waves: s64,c127;Mantle waves: s71,c140; Half duration: 1s4 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.12±.03; $M_{\theta\theta}$0.47±.03; $M_{\phi\phi}$-0.35±.04; $M_{r\theta}$0.05±.07; $M_{\theta\phi}$1.97±.03; $M_{\phi r}$0.34±.07; Best double couple: $M_0$2.042×10^{17} NP1: ϕ_s96°, δ80°, λ0°. NP2:ϕ_s186°, δ90°, λ-170°. Principal axes: T 2.1, Plg7°, Azm320°; N -.117, Plg80°, Azm188°; P -1.983, Plg7°, Azm51°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 20 05:05:22.8±2.3, 1.28N±0.05×85.32W±0.04, h14km±15km, n133, σ1§06/102, mb4.6/50, MS4.7/22, 4C-1D, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAYG	**Puerto Ayora**	**5.33**	**249**	*e* P	**Pn**	**05 06 44.2**	**+0.2**
46nm,0.8s							
ROSC	**El Rosal**	**11.53**	**72**	Pn	**P**	**05 08 09.3**	**-0.9**
1.2nm,0.3s,baz=100,slow=16,SNR=12							
ROSC				LR	LR	05 12 12.2	
comp=Z,5μm,20.4s,baz=222,slow=36							
NNA	**Nana**	**15.64**	**148**	*e* P	**P**	**05 09 07.0**	**+2.2**
20nm,0.7s							
SDV	**Santo Domingo**	**16.45**	**62**	Pn	**P**	**05 09 15.0**	**-0.1**
0.2nm,0.3s,baz=262,slow=6.6,SNR=12							
SDV				Sn	**S**	**05 12 18.6**	**+1.6**
0.2nm,0.3s,baz=261,slow=19,SNR=1.9							
SDV				LR	LR	05 15 07.1	
comp=Z,4μm,21.1s,baz=256,slow=36							
SDV	**Santo Domingo**	**16.45**	**62**	‖ *e* P	**P**	**05 09 12.3**	**-2.7**
105nm,1.4s							
LMGC	**Las Mercedes**	**20.36**	**23**	*e* PG	**P**	**05 10 04.3**	**+2.5**
LMGC				*e* SG	**S**	**05 13 54.5**	**+10**
comp=N,2μm,12.8s							
comp=E,3μm,7.3s							
RCC	**Rio Carpintero**	**20.84**	**26**	*e* P	**P**	**05 10 08.5**	**+1.7**
RCC				*e* S	**S**	**05 14 05.7**	**+12**
comp=N,179μm,7.3s							
comp=E,269μm,10.9s							
SOR	**Soroa**	**21.50**	**6**	*e* P	**P**	**05 10 14.7**	**+1.2**
MASC	**Masc**	**21.68**	**29**	*e* P	**P**	**05 10 18.0**	**+2.7**
MOAC	**Moa**	**21.75**	**27**	*e* P	**P**	**05 10 19.1**	**+3.1**
comp=E,1μm,6.8s							
SAML	**Samuel**	**24.29**	**115**	‖ *e* P	**P**	**05 10 39.6**	**-1.5**
comp=E,72nm,1.5s,mb4.9							
LPAZ	**La Paz**	**24.35**	**137**	P	**P**	**05 10 42.0**	**+0.3**
comp=E,9.9nm,0.9s,mb4.2,baz=326,slow=10,SNR=18							
LPAZ	**La Paz**	**24.35**

PDAR	**Pinedale Array**	**46.66**	**335**	P	**P**	**05 13 52.1**	**-0.7**
	comp=E,3.8nm,0.9s,mb4.3,baz=134,slow=7.1,SNR=14						
PDAR				LR	LR	05 33 58.5	
	comp=E,2µm,19.6s,MS5.1,baz=149,slow=37						
PDAR	**Pinedale Array**	**46.66**	**335**	P	**P**	**05 13 52.1**	**-0.7**
PDAR				LR	LR	05 33 58.5	
SPUT	**South Promonto**	**46.77**	**332**	*e*P	**P**	**05 13 53.7**	**0.0**
MTUM	**Tungsten Hills**	**47.18**	**323**	*e*P	**P**	**05 13 57.1**	**+0.1**
ELK	**Elko**	**47.71**	**329**	*e*P	**P**	**05 14 01.8**	**+0.6**
	comp=E,15nm,1.3s,mb4.8						
SNOW	**Snow King Moun**	**47.73**	**335**	*e*P	**P**	**05 14 02.0**	**+0.7**
	comp=E,27nm,1.1s,mb5.2						
LOHW	**Long Hollow**	**47.79**	**335**	*e*P	**P**	**05 14 01.5**	**-0.2**
	comp=E,11nm,1.0s,mb4.8						
TPAW	**Teton Pass**	**47.84**	**335**	*e*P	**P**	**05 14 03.0**	**+1.0**
	comp=E,28nm,1.0s,mb5.2						
RRI2	**Red Ridge**	**47.88**	**334**	*e*P	**P**	**05 14 02.1**	**-0.4**
	comp=E,13nm,0.8s,mb5.0						
LRV	**Little Rabbit**	**48.09**	**321**	P	**P**	**05 14 04.7**	**+0.5**
BMN	**Battle Mountai**	**48.53**	**327**	P	**P**	**05 14 07.1**	**-0.4**
	comp=E,11nm,1.1s,mb4.8						
CMB	**Columbia Colle**	**48.72**	**323**	P	**P**	**05 14 09.3**	**+0.3**
	comp=E,12nm,1.5s,mb4.7						
GCMT	**Greycliff**	**49.22**	**338**	*e*Pn	**P**	**05 14 10.4**	**-2.4**
ULM	**Lac du Bonnet**	**49.61**	**351**	P	**P**	**05 14 14.0**	**-1.6**
	comp=E,9.1nm,0.8s,mb4.9,baz=165,slow=7.1,SNR=14						
ULM				LR	LR	05 34 23.0	
	comp=E,294nm,20.5s,MS4.3,baz=350,slow=35						
BEKR	**Beckwourth**	**49.89**	**325**	*e*P	**P**	**05 14 17.7**	**-0.3**
	comp=E,5.1nm,0.8s,mb4.6						
WVOR	**Wild Horse Val**	**50.70**	**328**	*e*P	**P**	**05 14 23.4**	**-0.7**
	comp=E,18nm,1.1s,mb4.9						
MOD	**Modoc**	**51.22**	**327**	*e*P	**P**	**05 14 28.2**	**+0.1**
	comp=E,14nm,1.2s,mb4.8						
KIPM	**Iron Peak**	**51.71**	**323**	*e*P	**P**	**05 14 32.6**	**+0.9**
BMO	**Blue Mountains**	**51.77**	**331**	*e*P	**P**	**05 14 31.6**	**-0.6**
	comp=E,3.9nm,0.6s,mb4.5						
MSO	**Missoula**	**51.78**	**335**	*e*P	**P**	**05 14 32.5**	**+0.3**
	comp=E,12nm,0.9s,mb4.8						
YBH	**Yreka Blue Hor**	**52.46**	**325**	*e*P	**P**	**05 14 35.4**	**-2.1**
	comp=E,11nm,1.1s,mb4.7						
KHMM	**Horse Mountain**	**52.52**	**324**	*e*P	**P**	**05 14 38.3**	**+0.4**
KRMB	**Red Mountain**	**53.02**	**324**	*e*P	**P**	**05 14 41.5**	**-0.1**
WALA	**Waterton Lakes**	**53.55**	**337**	*e*P	**P**	**05 14 44.5**	**-0.9**
	comp=E,15nm,1.1s,mb4.8						
KBO	**Bosley Butte**	**53.64**	**325**	*e*P	**P**	**05 14 45.8**	**-0.4**
SCHQ	**Schefferville**	**55.48**	**13**	LR	LR	05 36 24.6	
	comp=E,853nm,21.9s,MS4.8,baz=31,slow=34						
TAOE	**Nuku Hiva Isla**	**55.55**	**258**	*e*S	**S**	**05 22 43.5**	**-0.2**
TAOE				*e*SS	SS	05 26 28.0	-0.8
TAOE				*e*LR	LR	05 31 13.3	
	comp=E,7µm,26.8s						
EDM	**Edmonton**	**56.74**	**340**	*e*P	**P**	**05 15 07.1**	**-1.4**
YKA	**Yellowknife Ar**	**64.88**	**345**	P	**P**	**05 16 01.2**	**-2.4**
	comp=E,3.8nm,0.7s,mb4.6,baz=142,slow=6.2,SNR=8.4						
YKA				LR	LR	05 45 53.9	
	comp=E,651nm,19.3s,MS4.8,baz=135,slow=38						
PPT	**Papeete**	**65.95**	**250**	*e*S	S	05 24 56.3	-0.4
PPT				*e*SS	SS	05 29 09.4	-3.9
PPT				*e*LQ		05 33 09.9	
PPT				*e*LR	LR	05 36 05.7	
	comp=E,2µm,28.5s,baz=86						
PPT	**Papeete**	**65.95**	**250**	LR	LR	05 38 26.1	
	comp=E,524nm,20.6s,MS4.7,baz=79,slow=30						
DLBC	**Dease Lake**	**66.88**	**336**	*e*P	**P**	**05 16 16.2**	**-0.3**
TBI	**Tubuai**	**66.92**	**244**	*e*S	S	05 25 10.1	+1.7
TBI				*e*LQ		05 33 45.6	
TBI				*e*LR	LR	05 36 39.9	
	comp=E,2µm,27.0s,baz=74						
INK	**Inuvik**	**74.43**	**343**	*e*P	**P**	**05 17 01.9**	**-0.1**
	comp=E,6.6nm,0.9s,mb4.6						
ILAR	**Eielson Array**	**77.05**	**337**	P	**P**	**05 17 15.7**	**-1.2**
	comp=E,2.0nm,0.9s,mb4.1,baz=141,slow=3.7,SNR=12						
ILAR				PP	PP	05 20 11.4	-0.6
	comp=E,0.4nm,1.0s,baz=153,slow=6.0,SNR=3.0						
ILAR				LR	LR	05 52 37.7	
	comp=E,754nm,19.4s,MS5.0,baz=17,slow=37						
BORG	**Borgarnes**	**77.98**	**23**	LR	LR	05 45 49.2	
	comp=E,778nm,21.4s,MS5.0,baz=48,slow=31						
DBIC	**Dimbokro**	**80.38**	**83**	LR	LR	05 53 56.0	
	comp=E,244nm,18.1s,MS4.6,baz=251,slow=36						
ESDC	**Sonseca Array**	**82.52**	**50**	P	**P**	**05 17 46.2**	**-0.6**
	comp=E,1.2nm,0.7s,mb4.0,baz=277,slow=4.6,SNR=5.3						
JMIC	**Jan Mayen**	**84.50**	**19**	LR	LR	05 51 55.6	
	comp=E,268nm,21.8s,MS4.6,baz=93,slow=33						
VNA3	**Neumayer Olymp**	**86.61**	**162**	*e*	**P**	**05 18 16.1**	**+9.4**
VNA3	**Neumayer Olymp**	**86.61**	**162**	⇑*e*P	**P**	**05 18 13.9**	**+7.2**
VNA3				*e*		05 18 16.1	
VNA1	**Neumayer--Stat**	**86.92**	**161**	*e*	**P**	**05 18 17.3**	**+9.1**
VNA1	**Neumayer--Stat**	**86.92**	**161**	⇑*e*P	**P**	**05 18 15.2**	**+7.0**
VNA1				*e*		05 18 17.3	
VNA2	**Neumayer--Watz**	**87.26**	**161**	*e*	**P**	**05 18 19.0**	**+9.2**
VNA2	**Neumayer--Watz**	**87.26**	**161**	⇑*e*P	**P**	**05 18 16.9**	**+7.1**
VNA2				*e*		05 18 19.0	
QSPA	**South Pole Qui**	**91.32**	**180**	P	**P**	**05 18 29.8**	**+1.0**
	comp=E,9.1nm,0.9s,mb5.1						
NOA	**NORSAR Array B**	**92.06**	**29**	LR	LR	05 55 27.1	
	comp=E,264nm,20.8s,MS4.7,baz=270,slow=33						
NKC	**Novy Kostel**	**94.00**	**40**	*ex*	x	05 36 29.3	
NKC				AMS	AMS	05 53 30.0	
	comp=E,900nm,25.1s						
KHC	**Kasperske Hory**	**94.86**	**41**	*e*SP	SP	05 31 13.5	-4.1
KHC				*e*SS	SS	05 36 30.7	+6.1
KHC				AMS	AMS	05 53 50.0	
	comp=E,600nm,24.5s						
GERES	**GERESS Array B**	**94.98**	**41**	LR	LR	05 59 15.2	
	comp=E,189nm,20.6s,MS4.5,baz=283,slow=34						
PVCC	**Panska Ves**	**95.30**	**39**	*e*SP	SP	05 31 17.9	-4.5
PVCC				*e*SS	SS	05 36 28.2	-2.6
PVCC				AMS	AMS	05 54 40.0	
	comp=E,800nm,25.4s						
PRU	**Pruhonice**	**95.36**	**40**	*e*SP	SP	05 31 20.1	-3.0
PRU				*e*SS	SS	05 36 34.0	+2.4
PRU				AMS	AMS	05 54 00.0	
	comp=E,900nm,25.2s						
ARCES	**ARCESS Array B**	**95.98**	**19**	LR	LR	05 56 39.7	
	comp=E,382nm,21.8s,MS4.8,baz=292,slow=32						
TREC	**Trest**	**96.08**	**40**	*e*SP	SP	05 31 30.9	-0.1
TREC				*ex*	x	05 36 51.1	
TREC				AMS	AMS	05 54 20.0	
	comp=E,1µm,22.8s						
DPC	**Dobruska-Polom**	**96.44**	**39**	*e*SP	SP	05 31 34.2	-0.7
DPC				AMS	AMS	05 55 20.0	
	comp=E,700nm,21.5s						
OKC	**Ostrava-Krasne**	**97.69**	**39**	*ex*	x	05 37 19.1	
OKC				AMS	AMS	05 55 20.0	
	comp=E,700nm,24.7s						
FINES	**FINESS Array B**	**98.96**	**27**	LR	LR	05 59 27.1	
	comp=E,240nm,21.8s,MS4.7,baz=86,slow=33						
ZAL	**Zalesovo**	**124.36**	**7**	PKP	PKPdf	05 24 23.9	-1.3
	comp=E,1.5nm,0.5s,baz=68,slow=1.2,SNR=5.5						
MAT	**Matsushiro**	**124.79**	**318**	PKP	PKPdf	05 24 35.0	+8.5
CN2	**Changchun**	**127.35**	**332**	*e*PKP	PKPdf	05 24 25.3	-5.8
SONM	**Songino Array**	**130.03**	**350**	PKP	PKPdf	05 24 35.3	-0.9
	comp=E,0.6nm,0.7s,baz=347,slow=2.5,SNR=6.5						
SONM				PP	PP	05 26 45.3	-3.8
	comp=E,0.2nm,0.4s,baz=18,slow=4.7,SNR=4.0						
MKAR	**Makanchi Array**	**130.90**	**11**	PKP	PKPdf	05 24 35.5	-2.4
	comp=E,1.0nm,0.9s,slow=2.4,SNR=6.3						
WMQ	**Urumqi**	**134.66**	**7**	*e*PKP	PKPdf	05 24 45.0	0.0
HHC	**Hu-ho-hao-te**	**135.34**	**342**	*e*PKP	PKPdf	05 24 40.9	-5.5
HHC				SKS	SKS	05 31 52.4	-4.0
HHC				PP	PP		
	comp=Z,70nm,6.8s						
WRA	**Warramunga Arr**	**137.03**	**242**	PKP	PKPdf	05 24 47.0	-2.9
	comp=Z,0.7nm,0.9s,baz=113,slow=1.4,SNR=2.9						
NJ2	**Nanjing**	**139.71**	**327**	*e*PKP	PKPdf	05 24 48.9	-5.7
NJ2				PP	PP	05 27 49.0	-1.6
NJ2				PKS	PKS	05 28 24.0	-1.9
NJ2				SKS	SKS	05 31 54.0	-10
NJ2				PP	PP		
	comp=Z,1µm,10.2s						
LZH	**Lanzhou**	**141.85**	**348**	*e*PKP	PKPdf	05 24 56.0	-2.3
LZH				*e*PP	PP	05 28 03.3	-0.1
LZH				SKKS		05 34 52.5	
LZH				SS	SS	05 46 32.9	+0.1
LZH				PP	PP		
	comp=Z,79nm,8.2s						
LZH				LR	LR		
	comp=E,174nm,18.5s						
LZH				LR	LR		
	comp=Z,398nm,20.0s,MS5.2						
LZH	**Lanzhou**	**141.85**	**348**	*e*PKP	PKPdf	05 24 56.0	-2.3
LZH				pPKP		05 24 59.2	
LZH				sPKP		05 25 00.5	
LZH				*e*PP	PP	05 28 03.2	-0.2
LZH				SKKS		05 34 52.5	
LZH				SS	SS	05 46 32.9	+0.1
LZH				LR	LR		
	comp=Z,400nm,20.0s,MS5.2						
FITZ	**Fitzroy Crossi**	**145.32**	**239**	*e*P	PKPbc	05 24 59.6	-2.2
	comp=Z,33nm,1.5s						
KMI	**Kunming**	**152.61**	**344**	PKP	PKPdf	05 25 10.9	-5.3
KMI				sPKP		05 25 20.6	
KMI				PP	PP	05 29 04.2	-2.1
KMI				SS	SS	05 48 37.1	+3.4
KMI				SSS	SSS	05 54 15.9	-6.0
KMI				LR	LR		
	comp=Z,240nm,28.2s,MS4.8						

NEIC ***20*** *05:21:48.1, 46.47S×165.86E, h12km, ML3.8(WEL), After WEL.*
WEL 20 05:21:50.6±0.9, 46.34S×166.16E, h5km, ML3.6/4, Error ellipse: s-maj=8.6km s-min=8.5km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHZ	**Wether Hill Ro**	**1.32**	**71**	P*	Pb	05 22 14.3	-1.2
WHZ				S*	Sb	05 22 31.9	-0.6
MLZ	**Mavora Lakes**	**1.72**	**55**	PN	Pn	05 22 19.2	-2.2
MLZ				SN	Sn	05 22 40.7	-3.3
MLZ	**Mavora Lakes**	**1.72**	**55**	*e*P	Pn	05 22 19.3	-2.1
TUZ	**Tuapeka**	**2.44**	**82**	PN	Pn	05 22 31.4	-0.4
TUZ				SN	Sn	05 23 01.7	-0.7
TUZ	**Tuapeka**	**2.44**	**82**	*e*P	Pn	05 22 31.4	-0.4
TUZ				S	Sn	05 23 02.6	+0.2
EAZ	**Earnscleugh**	**2.46**	**64**	PN	Pn	05 22 31.0	-1.0
EAZ				SN	Sn	05 23 00.9	-2.0
EAZ	**Earnscleugh**	**2.46**	**64**	*e*P	Pn	05 22 31.2	-0.9
WKZ	**Wanaka**	**2.51**	**54**	PN	Pn	05 22 31.7	-1.1
WKZ				SN	Sn	05 23 02.8	-1.3
WKZ	**Wanaka**	**2.51**	**54**	*e*P	Pn	05 22 31.7	-1.0
WKZ				S	Sn	05 23 02.8	-1.3
JCZ	**Jackson Bay**	**2.92**	**40**	PN	Pn	05 22 36.9	-1.6
JCZ	**Jackson Bay**	**2.92**	**40**	P	Pn	05 22 36.9	-1.6
ODZ	**Otahua Downs**	**3.40**	**69**	PN	Pn	05 22 42.2	-3.1
ODZ	**Otahua Downs**	**3.40**	**69**	*e*P	Pn	05 22 42.3	-3.0
LBZ	**Lake Benmore**	**3.44**	**57**	PN	Pn	05 22 42.6	-3.4
LBZ				SN	Sn	05 23 21.5	-6.2
LBZ	**Lake Benmore**	**3.44**	**57**	*e*P	Pn	05 22 42.6	-3.4
FOZ	**Fox Glacier**	**3.74**	**43**	PN	Pn	05 22 47.9	-2.3
FOZ	**Fox Glacier**	**3.74**	**43**	P	Pn	05 22 47.9	-2.3
THZ	**Tophouse**	**6.67**	**49**	PN	Pn	05 23 27.9	-3.8
THZ	**Tophouse**	**6.67**	**49**	*e*P	Pn	05 23 27.2	-4.5
QRZ	**Quartz Range**	**7.19**	**42**	PN	Pn	05 23 28.5	-10

BJI ***20*** *05:27:32.7, 23.49N×104.15E, h8km, mb3.9, ML3.9, Ms3.5*
PLV ***20*** *05:27:37.4±1.0, 23.22N×104.18E, MD4.5*
ISC 20 05:27:34.4±0.6, 23.28N±0.03×104.20E±0.03, h10km, n18, σ1§28/47, 1C, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHV	**Doan Hung**	**1.88**	**151**	*e*Pn	**Pn**	**05 28 10.1**	**+3.2**
DHV				*e*Pg	**Pg**	**05 28 12.1**	**+0.2**
DHV				*e*Sg	**Sg**	**05 28 36.3**	**-0.7**
DBV	**Dienbien**	**2.17**	**210**	*e*PN	**Pn**	**05 28 14.0**	**+2.9**
DBV				*e*PG	**Pg**	**05 28 18.2**	**+0.4**
DBV				*e*SG	**Sg**	**05 28 46.0**	**-0.8**
TDV	**Tam Dao**	**2.24**	**143**	*e*Pn	**Pn**	**05 28 15.3**	**+3.1**
TDV				*e*Pg	**Pg**	**05 28 19.4**	**+0.2**
TDV				*e*Sg	**Sg**	**05 28 49.3**	**+0.1**
KMI	**Kunming**	**2.27**	**324**	P	**Pn**	**05 28 10.6**	**-2.0**
KMI				PG	**Pg**	**05 28 13.3**	**-6.5**
KMI				SG	**Sg**	**05 28 41.8**	**-8.3**
KMI				Smax			
	comp=N,177nm,1.1s						
KMI				Smax			
	comp=E,228nm,1.2s						
KMI				LR	LR		
	comp=N,2µm,4.6s						
KMI				LR	LR		
	comp=E,1µm,3.8s						
KMI				LR	LR		
	comp=Z,915nm,6.9s						
BVV	**Ba Vi**	**2.42**	**153**	*e*Pn	**Pn**	**05 28 18.1**	**+3.5**
BVV				*e*Pg	**Pg**	**05 28 23.2**	**+0.5**
BVV				*e*Sg	**Sg**	**05 28 55.5**	**+0.5**
TLV	**Tu Ly**	**2.58**	**157**	*e*PN	**Pn**	**05 28 19.7**	**+2.7**
TLV				*e*PG	**Pg**	**05 28 25.2**	**-0.8**
TLV				*e*SG	**Sg**	**05 28 59.4**	**-0.9**
MTZV	**Met**	**2.62**	**131**	*e*Pn	**Pn**	**05 28 21.3**	**+3.7**
MTZV				*e*Pg	**Pg**	**05 28 27.5**	**+0.7**
MTZV				*e*SG	**Sg**	**05 29 01.6**	**-0.2**
HNV	**Hanoi**	**2.67**	**146**	*e*Pn	**Pn**	**05 28 21.6**	**+3.4**
HNV				*e*Pg	**Pg**	**05 28 28.1**	**+0.4**
HNV				*e*Sg	**Sg**	**05 29 03.4**	**+0.3**
BGV	**Bac-Giang**	**2.72**	**136**	*e*Pn	**Pn**	**05 28 22.1**	**+3.1**
BGV				*e*Pg	**Pg**	**05 28 28.6**	**-0.2**
BGV				*e*Sg	**Sg**	**05 29 04.6**	**-0.5**
DSV	**Doi Son**	**3.14**	**148**	*e*Pn	**Pn**	**05 28 27.8**	**+2.8**
DSV				*e*Pg	**Pg**	**05 28 36.3**	**-0.8**
DSV				*e*Sg	**Sg**	**05 29 17.6**	**-1.4**
YTV	**Yen Tu**	**3.14**	**132**	*e*Pn	**Pn**	**05 28 28.3**	**+3.3**
YTV				*e*Pg	**Pg**	**05 28 37.4**	**+0.2**
YTV				*e*SG	**Sg**	**05 29 18.1**	**-0.9**
PLV	**Phu-Lien**	**3.33**	**137**	*e*Pn	**Pn**	**05 28 30.6**	**+2.9**
PLV				*e*Pg	**Pg**	**05 28 40.8**	**-0.2**
PLV				*e*Sg	**Sg**	**05 29 24.4**	**-1.0**
GYA	**Guiyang**	**3.88**	**35**	P	**Pn**	**05 28 33.8**	**-1.6**
GYA				S	**Sn**	**05 29 16.5**	**-5.0**
GYA				SG	**Sg**	**05 29 31.9**	**-12**
GYA				Smax			
	comp=N,730nm,0.9s						
GYA				Smax			
	comp=E,580nm,0.8s						
CHRT	**Chiangrai**	**5.33**	**231**	PCN	**Pg**	**05 29 19.0**	**-1.8**
CHRT				PG	**Sn**	**05 29 39.0**	**-19**
CHRT				SG	**Sg**	**05 30 32.0**	**+0.1**
NANT	**Nan**	**5.53**	**217**	⇑P	**Pg**	**05 29 20.0**	**-4.8**
CHG	**Chiang Mai**	**6.62**	**229**	PG	**Pg**	**05 29 41.0**	**-5.6**
CHG				SG	**Sg**	**05 31 09.4**	**-5.5**
KKTK	**Khon Kaen**	**7.03**	**191**	P	**Pn**	**05 29 23.0**	**+3.1**
	comp=E,340nm,0.7s						
GTA	**Gaotai**	**16.51**	**348**	P	**P**	**05 31 27.8**	**+0.1**
GTA				AP		05 31 33.0	
GTA				XP		05 31 35.9	
GTA				AMB	AMB		
	comp=Z,5.0nm,0.9s						

NEIC ***20*** *05:39:13.9±1.9, 51.48N×15.96E, h5km, ML3.2(VIE), Error ellipse: s-maj=19.8km s-min=6.8km az=205.0*
CSEM ***20*** *05:39:13.4±0.3, 51.52N×16.04E, h2km, ML3.2/2, Error ellipse: s-maj=5.2km s-min=2.0km az=21.0*
IDC ***20*** *05:39:14.2±0.9, 51.46N×15.99E, mb1 3.2/5, mb1mx3.1/19, mbtmp3.1/5, ML2.7/5, Error ellipse: s-maj=19.7km s-min=8.0km az=106.0*
WAR ***20*** *05:39:14.5, 51.49N×16.01E, h1km, ML2.6, Mining Induced*
PRU ***20*** *05:39:14.3, 51.48N×16.00E*
ISC 20 05:39:11.2±0.7, 51.51N±0.04×16.00E±0.04, n23, σ1§42/39, 1C, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.69**	**164**	*e*PG	**Pg**	**05 39 27.0**	**+1.9**
KSP				*e*SG	**Sg**	**05 39 36.0**	**+1.6**
KSP	**Ksiaz**	**0.69**	**164**	*e*Pg	**Pg**	**05 39 26.8**	**+1.7**
KSP				*e*Sg	**Sg**	**05 39 35.8**	**+1.4**
UPC	**Upice**	**1.01**	**180**	*e*PG	**Pg**	**05 39 32.3**	**+1.0**
DPC	**Dobruska-Polom**	**1.18**	**170**	*e*PG	**Pg**	**05 39 35.5**	**+0.7**
DPC				*e*SG	**Sg**	**05 39 50.9**	**+0.3**
	14nm,0.3s						
PVCC	**Panska Ves**	**1.34**	**223**	*e*PG	**Pg**	**05 39 38.8**	**+0.9**
BRG	**Berggiesshubel**	**1.44**	**244**	Pg	**Pg**	**05 39 41.0**	**+1.0**
BRG				Sg	**Sg**	**05 40 00.7**	**+1.4**
BRG	**Berggiesshubel**	**1.44**	**244**	Pg	**Pg**	**05 39 41.0**	**+1.0**
BRG				Sg	**Sg**	**05 40 00.7**	**+1.4**
PRU	**Pruhonice**	**1.78**	**212**	*e*PG	**Pg**	**05 39 46.5**	**-0.4**
PRU				*e*SG	**Sg**	**05 40 09.6**	**-1.0**
CLL	**Collm**	**1.89**	**265**	*i* PG	**Pg**	**05 39 48.3**	**-0.6**
CLL				*i* SG	**Sg**	**05 40 14.2**	**+0.1**
MORC	**Moravsky Berou**	**2.00**	**150**	*e*Pn	**Pn**	**05 39 47.7**	**+1.1**
MORC				*e*Sg	**Sg**	**05 40 16.3**	**-1.4**
MORC	**Moravsky Berou**	**2.00**	**150**	*e*P	**Pn**	**05 39 47.2**	**+0.7**
OKC	**Ostrava-Krasne**	**2.16**	**140**	*e*SG	**Sg**	**05 40 21.9**	**-1.4**
VRAC	**Vranov**	**2.24**	**170**	Pn	**Pn**	**05 39 51.9**	**+1.9**
	0.7nm,0.3s,baz=334,slow=14,SNR=5.7						
VRAC				Lg		05 40 22.6	
	2.4nm,0.3s,baz=88,slow=14,SNR=7.5						
TREC	**Trest**	**2.24**	**189**	*e*PN	**Pn**	**05 39 52.8**	**+2.7**
NKC	**Novy Kostel**	**2.59**	**242**	*e*PN	**Pn**	**05 39 57.0**	**+1.9**
NKC				*e*SG	**Sg**	**05 40 36.4**	**-1.0**
	27nm,0.4s						
OJC	**Ojcow**	**2.73**	**117**	*e*PG	**Pg**	**05 40 05.0**	**-0.8**
OJC				*e*SG	**Sg**	**05 40 42.0**	**-0.2**
KHC	**Kasperske Hory**	**2.84**	**214**	*e*PN	**Pn**	**05 39 59.7**	**+1.0**
KHC				*e*PG	**Pg**	**05 40 05.7**	**-2.3**
KHC				*e*SN	**Sn**	**05 40 33.5**	**-0.7**
KHC				*e*SG	**Sg**	**05 40 43.0**	**-2.9**
GERES	**GERESS Array B**	**3.05**	**210**	Pn	**Pn**	**05 40 03.2**	**+1.6**
	0.4nm,0.3s,baz=27,slow=12,SNR=9.3						
GERES				Pg	**Pg**	**05 40 09.3**	**-2.9**
	1.0nm,0.3s,baz=30,slow=17,SNR=16						
GERES				Sn	**Sn**	**05 40 38.4**	**-1.0**
	0.9nm,0.3s,baz=33,slow=20,SNR=6.2						
GERES				Lg		05 40 48.9	
	1.8nm,0.3s,baz=32,slow=30,SNR=11						
GERES	**GERESS Array B**	**3.05**	**210**	Pg	**Pg**	**05 40 09.3**	**-2.8**
MOA	**Molln**	**3.83**	**198**	⇑*i*PN	**Pn**	**05 40 13.9**	**+1.1**
MOA				*i* SG	**Sg**	**05 41 17.2**	**-1.7**
	4.5nm,0.3s						
HFS	**Hagfors**	**8.74**	**352**	Pn	**P**	**05 41 18.6**	**-3.2**
	0.0nm,0.3s,baz=182,slow=40,SNR=3.7						
FINES	**FINESS Array B**	**11.39**	**25**	Pn	**P**	**05 41 54.2**	**-3.9**
	0.2nm,0.3s,baz=217,slow=11,SNR=6.3						
ARCES	**ARCESS Array B**	**18.63**	**10**	Pn	**P**	**05 43 29.6**	**-2.3**
	0.1nm,0.3s,baz=189,slow=12,SNR=1.8						

IDC 20 05:54:47.8±2.3, 4.43S×153.72E, mb3.9/4, mb1 4.1/4, mb1mx3.9/12, mbtmp3.9/4, Error ellipse: s-maj=68.0km s-min=37.8km az=88.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.38**	**229**	P	P	06 00 08.2	-0.7
	4.2nm,0.5s,baz=54,slow=10.0,SNR=49						
STKA	**Stephens Creek**	**29.58**	**201**	P	P	06 00 54.7	-2.1
	2.6nm,0.9s,baz=18,slow=12,SNR=5.2						
VNDA	**Vanda**	**73.17**	**178**	P	P	06 06 19.7	-2.1
	0.5nm,0.7s,baz=341,slow=5.5,SNR=2.7						
MKAR	**Makanchi Array**	**80.66**	**319**	P	P	06 07 02.6	-1.5
	0.3nm,0.7s,baz=108,slow=4.6,SNR=3.4						

CSEM ***20*** *06:00:38.5±0.4, 30.84N×56.96E, h16km, ML3.2, Error ellipse: s-maj=12.8km s-min=3.4km az=80.0*
THR ***20*** *06:00:41.1±0.8, 30.76N×56.72E, h14km±9km, ML3.0*
TEH ***20*** *06:00:44.4, 30.99N×56.66E, h10km, Mn3.2*
ISC 20 06:00:37.8±2.2, 30.86N±0.05×57.1E±0.2, h10km, n12, σ1§04/13, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	**Kerman**	**0.91**	**197**	*e*Pg	**Pg**	**06 00 55.7**	**-0.3**
KRBR				*e*Sg	**Sg**	**06 01 06.9**	**-1.4**
KRBR				AML	AML	06 01 08.9	
	comp=E,678nm,0.2s						
IBAF	**Bafgh**	**1.48**	**300**	Pn	**Pn**	**06 01 04.7**	**+0.1**
IMEH	**Mehriz**	**2.17**	**285**	Pn	**Pn**	**06 01 15.2**	**+0.7**
ICHK	**Chekchek**	**2.66**	**302**	Pn	**Pn**	**06 01 22.1**	**+0.6**
BNDS	**Bandar-Abbas**	**3.53**	**193**	*e*Pn	**Pn**	**06 01 36.1**	**+2.2**
BNDS				AML	AML	06 02 47.3	
	comp=N,23nm,0.5s						
ISRV	**Sarvestan**	**3.73**	**248**	Pn	**Pn**	**06 01 36.0**	**-0.7**
NASN	**Na'in**	**4.11**	**299**	*e*PN	**Pn**	**06 01 43.1**	**+1.0**
NASN				*e*Pg	**Pg**	**06 01 51.3**	**-8.6**
NASN				AML	AML	06 02 53.0	
	comp=N,20nm,0.5s						
IMOK	**Mook**	**4.19**	**246**	Pn	**Pn**	**06 01 44.5**	**+1.3**
IFIR	**Firoozkooh**	**5.99**	**324**	Pn	**Pn**	**06 02 07.6**	**-1.1**
IFIR	**Firoozkooh**	**5.99**	**324**	Lg		06 03 50.5	
IVRN	**Varamin**	**6.10**	**314**	Pn	**Pn**	**06 02 09.5**	**-0.8**
IDMV	**Damavand**	**6.32**	**319**	Pn	**Pn**	**06 02 12.2**	**-1.2**

ATH ***20*** *06:09:43.9, 41.12N×27.87E, h45km, MD3.7/6*
SOF ***20*** *06:09:46.0, 40.85N×27.49E, h3km, MD3.3*
ISK ***20*** *06:09:47.8, 40.76N×27.42E, h13km, MD3.5, ML3.8*
CSEM ***20*** *06:09:47.8±0.1, 40.75N×27.41E, h15km, MD3.5, Error ellipse: s-maj=1.9km s-min=1.1km az=14.0*
ISC 20 06:09:47.8±0.5, 40.79N±0.03×27.41E±0.03, h11km±3km, n60, σ0§79/72, 2C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFT	**Murefte**	**0.10**	**266**	*i* PG	**Pg**	**06 09 51.2**	**+0.7**
MFT				*i* SG	**Sg

XOR	**Xorichti**	**3.54 248**	*e*P	**Pn**	**06 10 36.7**	**-7.2**
VTS	**Vitosha**	**3.63 301**	*i* P	**Pn**	**06 10 46.0**	**+0.9**
GRG	**Griva**	**3.80 274**	*e*P	**Pn**	**06 10 47.3**	**-0.4**
KIZT	**Kizilcal**	**3.93 118**	*e*PN	**Pn**	**06 10 49.5**	**0.0**
FNA	**Florina**	**4.58 272**	*e*P	**Pn**	**06 10 58.5**	**-0.3**

*IDC **20** 06:42:11.7±2.1,21.63N×142.96E,h289km±19km,mb3.3/4, mb1 3.4/5,mb1mx3.1/20,mbtmp4.1/5,Error ellipse: s-maj=50.2km s-min=17.5km az=85.0*

ISC 20 06:42:11.2±1.7,21.7N±0.1×143.4E±0.5,h305km±12km, n16,σ0°62/18,mb3.6/4,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**5.08**	**348**	P		**P**	**06 43 30.7**	**+0.5**
JHHJ				*e*S		**S**	**06 44 32.2**	**0.0**
CBIJ	**Chichi jima**	**5.53**	**349**	P		**P**	**06 43 35.8**	**+0.3**
	13nm,0.3s,baz=291,slow=19,SNR=36							
CBIJ				S		**S**	**06 44 40.4**	**-1.4**
	12nm,0.3s,baz=243,slow=23,SNR=8.4							
CBIJ	**Chichi jima**	**5.53**	**349**	P		**P**	**06 43 35.6**	**+0.1**
BSO1	**Boso 1**	**13.12**	**351**	P		**P**	**06 45 08.6**	**+0.2**
BSO3	**Boso 3**	**13.34**	**350**	P		**P**	**06 45 11.1**	**+0.1**
JWZ	**Kozaga**	**13.63**	**332**	P		**P**	**06 45 15.8**	**+1.2**
JOD2	**Odawara 2**	**14.07**	**345**	P		**P**	**06 45 19.8**	**0.0**
JHU	**Hanno**	**14.59**	**347**	P		**P**	**06 45 26.3**	**+0.5**
JRY	**Ryogami san**	**14.84**	**346**	P		**P**	**06 45 28.5**	**-0.1**
JHO	**Hitachi**	**15.11**	**351**	P		**P**	**06 45 32.4**	**+0.8**
JAG	**Ashikaga**	**15.11**	**348**	P		**P**	**06 45 30.7**	**-1.0**
JAG				*e*S		**S**	**06 48 11.6**	**-0.1**
WRA	**Warramunga Arr**	**42.27**	**193**	P		**P**	**06 49 36.4**	**-0.6**
	0.3nm,0.5s,mb2.8,baz=9.3,slow=7.9,SNR=12							
BVAR	**Borovoye Array**	**62.82**	**320**	P		**P**	**06 52 06.0**	**-0.5**
	1.5nm,0.3s,mb4.1,baz=101,slow=7.8,SNR=9.9							
ARCES	**ARCESS Array B**	**79.02**	**342**	P		**P**	**06 53 43.1**	**+0.6**
	0.6nm,0.4s,mb3.7,baz=69,slow=8.1,SNR=13							
FINES	**FINESS Array B**	**83.30**	**335**	P		**P**	**06 54 04.4**	**-0.4**
	0.9nm,0.6s,mb3.8,baz=56,slow=4.8,SNR=8.8							
LPAZ	**La Paz**	**149.77**	**85**	PKPbc		PKPdf	07 01 29.9	+9.2
	0.5nm,0.5s,baz=275,slow=6.4,SNR=5.8							

IDC 20 06:43:16.1±4.4,33.19N×88.00E,mb3.4/5,mb1 3.7/6, mb1mx3.5/20,mbtmp3.5/6,ML2.9/1,MS3.7/1,Ms1 3.7/1, ms1mx3.1/9,Error ellipse: s-maj=77.3km s-min=41.6km az=158.0,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**14.27**	**344**	Pn		P	06 46 36.7	-4.8
	0.1nm,0.3s,baz=156,slow=13,SNR=6.8							
SONM	**Songino Array**	**20.16**	**38**	P		P	06 47 52.4	-2.4
	1.6nm,0.8s,baz=224,slow=11,SNR=11							
ZAL	**Zalesovo**	**20.87**	**355**	P		P	06 47 59.6	-2.5
	0.8nm,0.6s,baz=296,slow=12							
BVAR	**Borovoye Array**	**23.52**	**333**	P		P	06 48 28.3	-0.1
	0.9nm,0.8s,baz=135,slow=8.4,SNR=4.8							
NOA	**NORSAR Array B**	**55.31**	**325**	P		P	06 52 49.9	-3.5
	0.7nm,0.7s,baz=84,slow=7.5,SNR=3.8							
GERES	**GERESS Array B**	**56.02**	**310**	P		P	06 52 57.1	-1.6
	0.2nm,0.2s,baz=63,slow=8.8,SNR=3.1							
GERES				LR		LR	07 21 36.1	
	comp=Z,64nm,19.3s,baz=76,slow=41							

MAN 20 06:48:16.8,17.89N×120.52E,h13km,mb3.7,ML2.4, MS1.9,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.30**	**144**	*e*P		Pg	06 48 25.0	+1.7
ABRA				*e*S		Sg	06 48 34.0	+6.3
APYP	**Conner**	**0.69**	**93**	*e*P		Pb	06 48 29.9	-0.3
APYP				*e*S		Sb	06 48 42.8	+3.5
CVP	**Callao Caves**	**1.25**	**99**	*e*P		Pb	06 48 39.0	-0.8
CVP				*e*S		Sb	06 48 59.0	+3.3
BALP	**Baler**	**2.37**	**155**	*e*P		Pn	06 48 55.1	-0.9

*STR **20** 07:08:54.6±0.7,50.00N×8.14E,h5km±1km,Ml1.9,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **20** 07:08:54.5±0.2,50.00N×8.16E,h1 1km,Md2.5/1,Ml2.5/8, Error ellipse: s-maj=3.1km s-min=2.0km az=22.0*
*BNS **20** 07:08:55.0±0.3,50.09N×8.15E,h5km,ML1.8*

BGR 20 07:08:51.9±0.3,50.05N×8.32E,h5km,ML2.0/7,1D,Error ellipse: s-maj=4.4km s-min=3.3km az=167.0,Germany

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TNS	**Taunus Mts**	**0.19**	**25**	Pg		Pg	07 08 56.3	+0.4
BGG	**Burgeitz**	**0.65**	**284**	⇓*e*Pg		Pg	07 09 05.2	+0.2
BGG				*e*Sg		Sg	07 09 12.6	-1.2
	70nm,0.2s							
STB	**Steinbach**	**1.10**	**300**	*e*Pg		Pg	07 09 13.2	-0.6
STB				*e*Sg		Sg	07 09 27.1	-1.4
	19nm,0.8s							
LANF	**Langenberg**	**1.12**	**198**	Pg		Pg	07 09 13.8	-0.5
LANF				Sg		Sg	07 09 30.2	+0.9
KLL	**Kalltalsperre**	**1.42**	**296**	*e*Sg		Sg	07 09 37.1	-2.2
WLF	**Walferdange**	**1.46**	**256**	*e*Pn		Pn	07 09 18.5	-0.5
	SNR=0.8							
WLF				*e*Pg		Pg	07 09 19.8	-1.2
	SNR=2.7							
WLF				*e*Sg		Sg	07 09 38.7	-1.7
BUG	**Bochum--Univer**	**1.55**	**335**	*e*Sg		Sg	07 09 40.1	-3.4
BFO	**Black Forest**	**1.72**	**180**	*e*Sg		Sg	07 09 45.5	-3.7
WLS	**Welschbruch**	**1.75**	**202**	Pg		Pg	07 09 26.0	-1.0
WLS				Sg		Sg	07 09 48.1	-2.3
CDF	**Champ du Feu**	**1.77**	**203**	*e*Pn		Pn	07 09 22.5	-1.1
CDF				*e*Sg		Sg	07 09 47.8	-3.3
	4.7nm,0.3s							
GRF	**Grafenberg Arr**	**1.91**	**100**	*e*Sg		Sg	07 09 54.6	-0.9
MOX	**Moxa**	**2.19**	**73**	*e*Sg		Sg	07 10 00.6	-4.3
CLZ	**Clausthal**	**2.21**	**35**	*e*Pg		Pg	07 09 32.8	-3.4
	SNR=3.0							
CLZ				*e*Sg		Sg	07 10 03.7	-2.0
GIVF	**Givet**	**2.25**	**273**	*e*Sg		Sg	07 10 02.2	-4.8
	8.7nm,0.3s							
HAU	**Haudompre**	**2.42**	**213**	*e*Pn		Pn	07 09 31.0	-1.8
HAU				*e*Pg		Pg	07 09 37.8	-2.5
HAU				*e*Sg		Sg	07 10 07.7	-4.9
	3.3nm,0.2s							
HINF	**Hinteralfeld**	**2.44**	**204**	*e*Pn		Pn	07 09 32.1	-0.9
HINF				*e*Sg		Sg	07 10 09.1	-3.9
	3.4nm,0.3s							
NOTT	**Nottersdorf**	**2.47**	**94**	*e*Sg		Sg	07 10 10.0	-4.0
WERD	**Werda**	**2.59**	**80**	*e*Sg		Sg	07 10 13.7	-4.5
MEZF	**Maizieres J'vi**	**2.64**	**235**	*e*Sg		Sg	07 10 14.5	-5.4
	5.0nm,0.4s							
BAIF	**Baives**	**2.65**	**272**	*e*Pn		Pn	07 09 34.3	-1.8
BAIF				*e*Sg		Sg	07 10 14.6	-5.7
	5.2nm,0.2s							
TANN	**Tannenbergstha**	**2.68**	**81**	*e*Sg		Sg	07 10 16.4	-4.9
LOR	**Lormes**	**4.06**	**228**	*e*Pn		Pn	07 09 52.7	-3.4
SSF	**Saint Saulge**	**4.38**	**229**	*e*Pn		Pn	07 09 57.2	-3.4

IDC 20 08:00:06.5±2.7,4.50N×94.75E,mb4.0/5,mb1 4.1/5, mb1mx3.7/19,mbtmp4.0/5,Error ellipse: s-maj=158.8km s-min=25.4km az=51.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**43.49**	**348**	P		P	08 08 11.6	-1.7
	0.4nm,0.3s,baz=163,slow=8.3,SNR=7.9							
WRA	**Warramunga Arr**	**45.87**	**123**	P		P	08 08 30.9	-1.8
	1.4nm,0.6s,baz=302,slow=9.2,SNR=14							
BVAR	**Borovoye Array**	**52.36**	**342**	P		P	08 09 20.3	-2.1
	1.5nm,0.6s,baz=149,slow=8.6,SNR=10							
FINES	**FINESS Array B**	**75.96**	**333**	P		P	08 11 54.9	-2.0
	1.4nm,1.0s,baz=90,slow=3.8,SNR=6.2							
ARCES	**ARCESS Array B**	**78.62**	**340**	P		P	08 12 09.9	-1.5
	3.6nm,1.1s,baz=90,slow=4.9,SNR=8.6							

*NEIC **20** 08:06:19.5,21.70N×99.18W,h5km,MD4.1(MEX),After MEX.*

MEX 20 08:06:19.9±0.6,21.71N×99.18W,h8km±17km,MD4.1, Central Mexico

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
UNM	**Universidad Na**	**2.37**	**180**	*e*P		Pn	08 06 56.0	-3.7
UNM				*i* P			08 06 57.1	
UNM				*i* S		Sn	08 07 24.1	-5.2
UNM				*i* S		Sn	08 07 25.0	-4.3
UNM	**Universidad Na**	**2.37**	**180**	*e*P		Pn	08 06 56.0	-3.7
UNM				*i* S		Sn	08 07 26.0	-3.3
PPM	**Popocatepetl**	**2.68**	**169**	*e*P		Pn	08 07 01.0	-3.2
PPM				*i* P			08 07 01.8	
PPM				*i* S		Sn	08 07 32.0	-5.2
PPM				*i* S		Sn	08 07 34.4	-2.8
PPM	**Popocatepetl**	**2.68**	**169**	*e*P		Pn	08 07 01.0	-3.2
PPM				*i* S		Sn	08 07 32.0	-5.2
MOIG	**Morelia**	**2.77**	**223**	*e*P		Pn	08 07 01.3	-4.0
MOIG				*i* S		Sn	08 07 34.2	-5.0
ZAIG	**Zacatecas**	**3.31**	**289**	*e*P		Pn	08 07 09.5	-3.6
ZAIG				*i* S		Sn	08 07 47.9	-5.2
SFJM	**Santa Fe**	**3.81**	**252**	*i* P		Pn	08 07 17.0	-3.1
SFJM				*i* S		Sn	08 08 02.0	-3.6
SFJM	**Santa Fe**	**3.81**	**252**	*i* P		Pn	08 07 17.0	-3.1
SFJM				*i* S		Sn	08 08 02.7	-2.9
CJM	**Chamela**	**5.92**	**249**	*e*P		Pn	08 07 46.5	-3.5
CJM				*i* S		Sn	08 08 53.1	-5.8
CJM	**Chamela**	**5.92**	**249**	*i* P		Pn	08 07 49.8	-0.3
CJM				*i* S		Sn	08 08 53.1	-5.8

MEX 20 08:30:48.5±1.3,17.44N×100.66W,h20km±14km,MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.55**	**136**	*i* P		Pb	08 30 57.0	-2.2
CAIG				*i* S		Sb	08 31 05.2	-1.4
ACX	**Acapulco**	**0.92**	**129**	*i* P		Pb	08 31 04.0	-1.6
ACX				*i* S		Sb	08 31 13.0	-4.3

NNC 20 08:35:59.0±8.1,38.91N×70.34E,h25km±142km,mpv3.2, 4C-1D,Error ellipse: s-maj=110.4km s-min=29.7km az=14.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.20**	**2**	⇑Pn		Pn	08 37 02.8	-0.3
	0.9nm,0.2s,baz=170,slow=12,SNR=22							
KK31				⇓Sn		Sn	08 37 55.7	+3.7
	1.8nm,0.3s,baz=189,slow=25,SNR=4.6							
AAK	**Ala-Archa**	**4.88**	**39**	⇑Pn		Pn	08 37 10.8	-2.0
	1.9nm,0.4s							
AAK				⇑Sn		Sn	08 38 07.3	-2.0
	10.0nm,0.8s							
AB31	**Akbulak array**	**12.75**	**328**	Pn		P	08 39 00.2	-1.3
	0.2nm,0.3s,baz=134,slow=14,SNR=9.2							
AB31				⇑Sn		S	08 41 18.6	-5.0
	2.2nm,0.9s,baz=149,slow=24,SNR=3.9							

*MOS **20** 09:05:40.8±0.9,38.05N×29.00E,h10km,mb4.0/8,Error ellipse: s-maj=10.8km s-min=5.3km az=127.5*
*ISK **20** 09:05:40.6,37.90N×29.01E,h18km,MD3.7,ML3.9*
*CSEM **20** 09:05:40.7±0.0,37.87N×28.99E,h20km,mb3.8/3,Error ellipse: s-maj=1.3km s-min=1.2km az=36.0*
*NEIC **20** 09:05:41.0,37.87N×28.99E,h25km,mb3.9/11, MD3.9(ATH),ML3.9(ISK),After ISK.*
*HLW **20** 09:05:42.4,37.97N×29.02E,h21km,Mb3.5*
*ATH **20** 09:05:44.7,37.89N×28.63E,h32km,MD3.9/8*
*IDC **20** 09:05:44.8±2.8,38.02N×28.92E,h36km±28km,mb3.6/4, mb1 3.8/8,mb1mx3.6/23,mbtmp3.7/8,ML3.6/4,MS3.0/2, Ms1 3.0/2,ms1mx2.6/24,Error ellipse: s-maj=22.5km s-min=20.3km az=26.0*

ISC 20 09:05:40.9±0.4,37.91N±0.02×29.00E±0.02,h15km±5km, n144,σ1°16/170,mb3.8/7,MS2.8/1,9C-9D,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.16**	**170**	*i* PG		**Pb**	**09 05 44.4**	**-0.7**
DNZL	**Cakiroluk**	**0.23**	**170**	*i* P		**Pb**	**09 05 55.9**	**+10**
DNZL				*i* S		**Sb**	**09 06 00.8**	**+11**
MANT	**Manisa**	**0.67**	**329**	*i* P		**Pb**	**09 05 53.0**	**-0.8**
MANT				*i* S		**Sb**	**09 06 03.1**	**+0.6**
GOLH	**Golhisar**	**0.81**	**146**	*i* P		**Pb**	**09 05 55.5**	**-0.6**
GOLH				*i* S		**Sb**	**09 06 08.3**	**+1.8**
AYDN	**Tasoluk**	**0.92**	**254**	*i* P		**Pb**	**09 05 58.5**	**+0.5**
AYDN				*i* S		**Sb**	**09 06 13.8**	**+4.1**
YER	**Yerkesik**	**0.96**	**216**	*i* PG		**Pb**	**09 05 59.3**	**+0.6**
YER				*i* SG		**Sb**	**09 06 13.7**	**+2.7**
TKTP	**Tekketepe**	**1.05**	**83**	*i* P		**Pb**	**09 05 59.8**	**-0.5**
TKTP				*i* S		**Sb**	**09 06 17.1**	**+3.5**
MLSB	**Milas**	**1.15**	**238**	*i* PN		**Pn**	**09 06 02.2**	**-0.2**
DALT	**Dalyan (Mudla)**	**1.18**	**194**	*i* PN		**Pn**	**09 06 02.7**	**-0.1**
ISP	**Isparta**	**1.20**	**93**	*i* PN		**Pn**	**09 06 02.2**	**-0.9**
ISP	**Isparta**	**1.20**	**93**	*e*P		**Pb**	**09 06 02.7**	**0.0**
ISP				*e*S		**Sb**	**09 06 21.4**	**+3.6**
GDZ	**Gediz**	**1.23**	**18**	*i* P		**Pb**	**09 06 01.6**	**-1.7**
GDZ				*i* S		**Sb**	**09 06 06.0**	**-13**
AKS	**Akhisar**	**1.34**	**316**	PN		**Pn**	**09 06 04.8**	**-0.3**
BCK	**Bucak**	**1.34**	**109**	PN		**Pn**	**09 06 05.2**	**0.0**
ELL	**Elmali**	**1.37**	**148**	PN		**Pn**	**09 06 05.1**	**-0.5**
ALT	**Altintas**	**1.44**	**37**	PN		**Pn**	**09 06 05.8**	**-0.7**
KDAG	**Bornova**	**1.45**	**290**	*i* P		**Pn**	**09 06 05.6**	**-1.1**
KDAG				*i* S		**Sb**	**09 06 26.5**	**+1.4**
IZM	**Izmir**	**1.45**	**290**	PN		**Pn**	**09 06 07.0**	**+0.3**
BDRM	**Kayabasi**	**1.50**	**236**	*i* P		**Pn**	**09 06 08.4**	**+1.0**
BDRM				*i* S		**Sb**	**09 06 31.2**	**+4.7**
BODT	**Bodrum**	**1.59**	**238**	PN		**Pn**	**09 06 08.3**	**-0.4**
BLCB	**Balcova**	**1.61**	**288**	PN		**Pn**	**09 06 09.0**	**0.0**
ANTB	**Antalya**	**1.66**	**127**	PN		**Pn**	**09 06 09.3**	**-0.5**
DST	**Dursunbey**	**1.71**	**350**	PN		**Pn**	**09 06 10.8**	**+0.3**
SMG	**Samos**	**1.72**	**264**	⇓*i*PN		**Pn**	**09 06 10.4**	**-0.2**
AKAS	**Kas**	**1.75**	**164**	*i* P		**Pn**	**09 06 13.7**	**+2.8**
AKAS				*i* S		**Sn**	**09 06 39.6**	**+6.6**
ARG	**Arkhangelos**	**1.83**	**203**	⇑*i*PB		**Pb**	**09 06 14.5**	**+0.9**
BALB	**Balikesir**	**1.93**	**333**	PN		**Pn**	**09 06 14.3**	**+0.7**
URLA	**Izmir**	**1.95**	**284**	*i* P		**Pn**	**09 06 12.8**	**-1.0**
URLA				*i* S		**Sn**	**09 06 44.0**	**+5.9**
BTOK	**Tokmak**	**1.99**	**338**	*i* P		**Pn**	**09 06 15.8**	**+1.3**
BTOK				*i* S		**Sn**	**09 06 47.1**	**+7.8**
ORLT	**Orhaneli**	**2.13**	**358**	*e*PN		**Pn**	**09 06 17.1**	**+0.7**
ESKT	**Eskisehir**	**2.16**	**42**	PN		**Pn**	**09 06 17.4**	**+0.5**
ESKT	**Eskisehir**	**2.16**	**42**	*i* P		**Pn**	**09 06 15.1**	**-1.8**
ESKT				*i* S		**Sn**	**09 06 45.9**	**+2.3**
ULDT	**Uludag**	**2.23**	**3**	*i* P		**Pn**	**09 06 20.7**	**+2.8**
ULDT				*i* S		**Sn**	**09 06 55.4**	**+10**
AYVA	**Ayvalik**	**2.28**	**308**	*i* P		**Pn**	**09 06 21.3**	**+2.7**
AYVA				*i* S		**Sn**	**09 06 54.6**	**+8.0**
KIZT	**Kizilcal**	**2.46**	**66**	*e*PN		**Pn**	**09 06 21.5**	**+0.3**
PRK	**Paraskevi**	**2.52**	**303**	*e*PN		**Pn**	**09 06 22.6**	**+0.6**
BNT	**Bandirma**	**2.58**	**341**	*e*PN		**Pn**	**09 06 23.6**	**+0.7**
GPA	**Golpazari**	**2.58**	**23**	*e*PN		**Pn**	**09 06 23.5**	**+0.6**
ARMT	**Armutlu**	**2.65**	**358**	*e*PN		**Pn**	**09 06 24.4**	**+0.5**
KONT	**Konya--Tatoy**	**2.66**	**88**	*e*PN		**Pn**	**09 06 24.2**	**+0.2**
YLV	**Yalova**	**2.67**	**6**	*e*PN		**Pn**	**09 06 23.8**	**-0.3**
KARP	**Karpathos**	**2.79**	**213**	*e*PN		**Pn**	**09 06 27.3**	**+1.5**
EYL	**Eskiyayla**	**2.80**	**18**	*e*PN		**Pn**	**09 06 25.7**	**-0.3**
EZN	**Ezine**	**2.83**	**313**	PN		**Pn**	**09 06 26.1**	**-0.3**
APE	**Apeiranthos**	**2.88**	**254**	*e*PN		**Pn**	**09 06 27.3**	**+0.1**
APE	**Apeiranthos**	**2.88**	**254**	*e*Pn		**Pn**	**09 06 27.0**	**-0.2**
HDMB	**Hadim**	**2.93**	**108**	*e*PN		**Pn**	**09 06 27.3**	**-0.6**
HRT	**Hereke**	**2.95**	**10**	*e*PN		**Pn**	**09 06 29.0**	**+0.8**
LPK	**Lapseki**	**3.01**	**325**	*e*PN		**Pn**	**09 06 28.8**	**-0.2**
MDU	**Mudurnu**	**3.08**	**33**	*e*PN		**Pn**	**09 06 30.5**	**+0.6**
ISK	**Istanbul-Kandi**	**3.15**	**1**	*e*PN		**Pn**	**09 06 31.9**	**+0.9**
MFT	**Murefte**	**3.16**	**336**	*e*PN		**Pn**	**09 06 30.9**	**-0.3**
HENT	**Hendek**	**3.26**	**26**	*i* P		**Pn**	**09 06 39.0**	**+6.5**
HENT				*i* S		**Sn**	**09 07 26.9**	**+16**
THR5	**Thira Island,**	**3.28**	**244**	*e*P		**Pn**	**09 06 44.5**	**+12**
LOD	**Lodumlu**	**3.54**	**55**	*e*PN		**Pn**	**09 06 37.2**	**+0.7**
ANTO	**Ankara**	**3.55**	**55**	*e*PN		**Pn**	**09 06 36.5**	**-0.1**
SGKT	**Sivrigoynuk**	**3.56**	**41**	*i* P		**Pn**	**09 06 35.4**	**-1.5**
SGKT				*i* S		Sn	09 07 40.2	+21
LIA	**Limnos Island**	**3.58**	**305**	*e*PN		**Pn**	**09 06 37.3**	**+0.3**
LOS	**Limnos**	**3.66**	**305**	*e*P		**Pn**	**09 06 38.0**	**-0.2**
ALN	**Alexandroupoli**	**3.75**	**323**	*e*P		**Pn**	**09 06 38.6**	**-1.0**
KAMT	**Kaman**	**3.97**	**67**	*e*PN		**Pn**	**09 06 43.1**	**+0.5**
BRTR	**Keskin Array B**	**4.05**	**62**	Pn		**Pn**	**09 06 42.9**	**-0.9**
	1.0nm,0.3s,baz=241,slow=15,SNR=16							
BRTR				Pg		**Pn**	**09 06 59.0**	**+15**
	1.9nm,0.3s,baz=256,slow=17,SNR=20							
BRTR				Sn		**Sn**	**09 07 30.6**	**-0.8**
	1.7nm,0.3s,baz=240,slow=24,SNR=5.6							
BRTR	**Keskin Array B**	**4.05**	**62**	Pg		**Pn**	**09 06 59.0**	**+15**
BRTR				S		**Sn**	**09 07 30.7**	**-0.7**
BRTR	**Keskin Array B**	**4.05**	**62**	P		**Pn**	**09 06 42.9**	**-0.9**
BRTR							09 07 30.7	
IKL	**Isikli**	**4.11**	**113**	*e*PN		**Pn**	**09 06 44.5**	**-0.1**
RDO	**Rodhopi**	**4.19**	**321**	*e*PN		**Pn**	**09 06 46.6**	**+0.8**
IDI	**Anoyia**	**4.22**	**233**	Pn		**Pn**	**09 06 47.2**	**+1.1**
	5.8nm,0.3s,baz=74,slow=12,SNR=29							
IDI				Sn		**Sn**	**09 07 36.1**	**+0.4**
	2.0nm,0.3s,baz=156,slow=18,SNR=3.4							
IDI				LR		LR	09 08 26.3	
	comp=Z,180nm,18.6s,baz=87,slow=38							
EDRB	**Edirne**	**4.29**	**337**	*e*PN		**Pn**	**09 06 46.6**	**-0.6**
ELDT	**Eldivan**	**4.30**	**52**	*i* P		**Pn**	**09 06 45.6**	**-1.7**
ELDT				*i* S		**Sn**	**09 07 39.4**	**+1.7**
SAFT	**Safranbolu**	**4.38**	**39**	*e*PN		**Pn**	**09 06 49.0**	**+0.6**
CDAG	**Cicekdag**	**4.53**	**66**	*i* P		**Pn**	**09 06 48.8**	**-1.8**
CDAG				*i* S		Sn	09 08 14.4	+31
CSS	**Prodhromos**	**4.57**	**129**	*e*P		**Pn**	**09 06 51.9**	**+0.7**
CSS	**Prodhromos**	**4.57**	**129**	*e*P		**Pn**	**09 06 51.9**	**+0.7**
OUR	**Ouranopolis**	**4.59**	**303**	*e*P		**Pn**	**09 06 50.2**	**-1.2**
PAIG	**Paliouri**	**4.61**	**298**	*e*P		**Pn**	**09 06 51.2**	**-0.5**
XOR	**Xorichti**	**4.77**	**289**	*e*P		**Pn**	**09 06 52.8**	**-1.2**
JMB	**Yambol**	**4.91**	**339**	*e*P		**Pn**	**09 06 56.0**	**0.0**
CORM	**Corum**	**4.93**	**61**	*e*PN		**Pn**	**09 06 56.3**	**0.0**
RZN	**Rozhen**	**5.01**	**320**	*i* P		**Pn**	**09 06 56.0**	**-1.3**
GVD	**Gavdhos**	**5.01**	**234**	P		**Pn**	**09 06 59.7**	**+2.3**
GVD				*e*			09 07 04.6	
NVR	**Nevrokopi**	**5.24**	**312**	*e*PN		**Pn**	**09 07 01.6**	**+0.9**
SRS	**Serrai**	**5.26**	**309**	*e*P		**Pn**	**09 06 59.5**	**-1.4**
PLD	**Plovdiv**	**5.33**	**323**	*e*P		**Pn**	**09 07 00.0**	**-1.9**
AGG	**Agios Georgios**	**5.35**	**284**	*e*P		**Pn**	**09 07 01.6**	**-0.6**
AGG	**Agios Georgios**	**5.35**	**284**	*e*P		**Pn**	**09 07 01.5**	**-0.7**
MMB	**Musomiste**	**5.47**	**314**	*i* P		**Pn**	**09 07 02.2**	**-1.7**
KNT	**Kendrikon**	**5.72**	**306**	*e*P		**Pn**	**09 07 06.9**	**-0.6**
GRG	**Griva**	**5.94**	**303**	*e*P		**Pn**	**09 07 09.5**	**-1.0**
KKB	**Krupnik**	**6.02**	**313**	*i* P		**Pn**	**09 07 10.7**	**-1.0**
VTS	**Vitosha**	**6.44**	**318**	*e*P		**Pn**	**09 07 16.5**	**-1.0**
TIRR	**Tirgusor**	**6.55**	**356**	⇓*i*P		**Pn**	**09 07 17.6**	**-1.6**
TIRR	**Tirgusor**	**6.55**	**356**	*e*P		**Pn**	**09 07 16.6**	**-2.6**
TIRR				*e*S		**Sn**	**09 08 28.0**	**-6.3**
HMAT	**Matruh**	**6.98**	**194**	⇑P		**Pn**	**09 07 24.5**	**-0.7**
HMAT				S		**Sn**	**09 08 38.0**	**-7.1**
SLUM		**7.12**	**207**	⇑P		**Pn**	**09 07 25.9**	**-1.3**
SLUM				S		**Sn**	**09 08 41.8**	**-6.9**
CFR	**Carcaliu**	**7.29**	**355**	⇓*i*P		**Pn**	**09 07 31.7**	**+2.2**
MLR	**Muntele Rosu**	**7.91**	**344**	Pn		**Pn**	**09 07 36.7**	**-1.4**
	0.7nm,0.3s,baz=145,slow=6.2,SNR=6.3							
MLR	**Muntele Rosu**	**7.91**	**344**	⇓P		**Pn**	**09 07 37.8**	**-0.3**
AMAG	**Maghara**	**8.04**	**153**	P		**P**	**09 07 38.8**	**-1.3**
VOIR		**8.07**	**340**	⇓*i*P		**P**	**09 07 41.2**	**+0.7**
VRI	**Vrincioaia**	**8.12**	**349**	⇑*i*P		**P**	**09 07 41.8**	**+0.7**
HNAT	**Natroun**	**8.37**	**170**	⇑P		**P**	**09 07 43.3**	**-1.3**
HSAF	**As Saff**	**8.54**	**165**	⇑P		**P**	**09 07 45.6**	**-1.4**
GLL	**Jalalah**	**8.62**	**164**	⇑P		**P**	**09 07 46.3**	**-1.7**
ASF	**Jabal al Asfar**	**8.64**	**129**	Pn		**P**	**09 07 50.4**	**+2.0**
	0.3nm,0.3s,baz=18,slow=3.2,SNR=2.2							
ASF				Sn		**Sn**	**09 09 28.2**	**+1.7**
	0.4nm,0.3s,baz=49,slow=18,SNR=2.0					

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI				eS	S	09 18 15.0	-4.6
KCP	**Kidapawan**	**1.83**	**285**	⇑iP	P	09 18 07.7	+1.6
KCP				i S	S	09 18 34.6	-0.2
BUKP	**Musuan**	**2.23**	**307**	eP	P	09 18 09.3	-0.9
SCPH	**Surigao**	**3.50**	**337**	eP	P	09 18 37.5	+13
SCPH				eS	S	09 19 09.2	+0.7
IPIL	**Ipil**	**4.45**	**286**	eP	P	09 18 52.2	+15
KKM	**Kota Kinabalu**	**10.61**	**268**	P	P	09 20 02.9	+6.3
KSM	**Kuching**	**17.27**	**254**	eP	P	09 21 18.4	-0.7
NACB	**Ninganchiao**	**18.25**	**344**	eP	P	09 21 30.0	+0.6
GUMO	**Guam**	**19.04**	**67**	P	P	09 21 38.4	+0.8
JOW	**Kunigami**	**20.22**	**4**	P	P	09 21 51.2	+1.6
	5.7nm,0.4s,baz=195,slow=10,SNR=7.6						
FITZ	**Fitzroy Crossi**	**24.52**	**183**	P	P	09 22 31.2	-0.1
	3.8nm,0.6s,mb4.2,baz=340,slow=7.5,SNR=22						
CBIJ	**Chichi jima**	**25.09**	**34**	P	P	09 22 35.3	-1.2
	43nm,0.6s,mb5.3,baz=273,slow=20,SNR=5.8						
JNU	**Nakatsue**	**26.71**	**7**	P	P	09 22 50.5	-0.8
	10.0nm,0.8s,mb4.5,baz=2.3,slow=15,SNR=5.6						
WRA	**Warramunga Arr**	**27.32**	**165**	P	P	09 22 56.1	-0.9
	0.3nm,0.3s,mb3.5,baz=346,slow=12,SNR=15						
WRA				PcP	PcP	09 26 10.9	-0.2
	0.4nm,0.9s,baz=328,slow=3.0,SNR=4.6						
WRA				ScP		09 29 33.2	
	0.8nm,0.6s,baz=343,slow=3.0,SNR=16						
MJAR	**Matsushiro Arr**	**31.61**	**18**	P	P	09 23 33.5	-1.2
	2.6nm,0.7s,mb3.9,baz=190,slow=9.1,SNR=7.5						
MAJO	**Matsushiro**	**31.61**	**18**	eP	P	09 23 33.1	-1.5
	3.5nm,0.7s,mb4.0						
HHC	**Hu-ho-hao-te**	**36.80**	**340**	eP	P	09 24 20.0	+1.2
HHC				AMB	AMB		
	comp=Z,16nm,0.8s,mb4.6						
HHC				AMB	AMB		
	comp=Z,95nm,5.0s						
MDJ	**Mudanjiang**	**38.00**	**3**	P	P	09 24 29.8	+1.1
MDJ				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,72nm,5.8s						
KLBR	**Kellerberrin**	**38.91**	**192**	eP	P	09 24 36.7	+0.3
	comp=Z,33nm,1.3s,mb4.7						
MUN	**Mundaring**	**39.63**	**194**	eP	P	09 24 43.0	+0.6
ASAJ	**Asahikawa**	**39.88**	**18**	P	P	09 24 46.3	+2.0
	comp=Z,6.2nm,0.4s,mb4.4,baz=222,slow=15,SNR=16						
NWAO	**Narrogin (SRO)**	**40.31**	**193**	P	P	09 24 48.5	+0.6
	comp=Z,8.8nm,1.1s,mb4.1,baz=53,slow=11,SNR=4.1						
STKA	**Stephens Creek**	**40.70**	**161**	P	P	09 24 52.6	+1.5
	comp=Z,3.1nm,1.0s,mb3.7,baz=331,slow=22,SNR=2.9						
GTA	**Gaotai**	**40.80**	**327**	P	P	09 24 53.1	+1.3
GTA				AMB	AMB		
	comp=Z,5.0nm,0.7s,mb4.0						
SONM	**Songino Array**	**44.70**	**340**	P	P	09 25 24.1	+0.9
	comp=Z,3.1nm,0.6s,mb3.8,baz=157,slow=7.7,SNR=34						
SONM				PcP	PcP	09 27 02.4	-0.1
	comp=Z,0.7nm,0.7s,baz=154,slow=5.3,SNR=4.2						
MKAR	**Makanchi Array**	**55.36**	**324**	P	P	09 26 43.9	+0.1
	comp=Z,2.9nm,0.4s,mb4.2,baz=119,slow=7.9,SNR=52						
MKAR				PcP	PcP	09 27 41.2	-0.4
	comp=Z,1.4nm,0.7s,baz=123,slow=3.5,SNR=6.8						
MKAR	**Makanchi Array**	**55.36**	**324**	P	P	09 26 43.9	+0.1
MKAR				PcP	PcP	09 27 41.2	-0.4
ZAL	**Zalesovo**	**58.17**	**332**	P	P	09 27 02.0	-1.4
	comp=Z,2.9nm,0.3s,mb4.4,baz=352,slow=7.2						
KURK	**Kurchatov**	**59.47**	**327**	eP	P	09 27 11.7	-0.7
	comp=Z,11nm,0.4s,mb4.8						
BVAR	**Borovoye Array**	**65.06**	**326**	P	P	09 27 49.3	-0.1
	comp=Z,4.5nm,0.4s,mb4.4,baz=124,slow=7.2,SNR=39						
BRVK	**Borovoye**	**65.14**	**326**	eP	P	09 27 49.8	-0.1
	comp=Z,3.4nm,0.5s,mb4.2						
BRVK				e		09 27 55.6	
ARU	**Arti**	**72.66**	**327**	eP	P	09 28 35.5	-0.3
	comp=Z,8.0nm,0.4s,mb4.7						
COLA	**College**	**82.11**	**25**	eP	P	09 29 27.2	-0.4
	comp=Z,1.2nm,0.3s,mb4.0						
COLA				e		09 29 32.0	
ILAR	**Eielson Array**	**82.52**	**26**	P	P	09 29 29.7	0.0
	comp=Z,2.2nm,0.5s,mb4.2,baz=251,slow=5.1,SNR=40						
KEV	**Kevo**	**87.31**	**340**	ep	P	09 29 52.4	-0.9
ARCES	**ARCESS Array B**	**87.88**	**340**	P	P	09 29 55.8	-0.1
	comp=Z,1.6nm,0.4s,mb4.2,baz=85,slow=6.1,SNR=38						
ARE0	**ARCESS Array S**	**87.88**	**340**	eP	P	09 29 55.3	-0.6
KAF	**Kangasniemi**	**89.19**	**332**	ep	P	09 30 01.5	-0.7
	comp=Z,0.5nm,0.4s,mb3.7						
FINES	**FINESS Array B**	**89.44**	**332**	P	P	09 30 03.0	-0.4
	comp=Z,0.8nm,0.4s,mb3.9,baz=59,slow=7.0,SNR=12						
AKASG	**Malin Array Be**	**89.81**	**321**	P	P	09 30 06.3	+0.9
	comp=Z,0.3nm,0.3s,mb3.6,baz=62,slow=5.7,SNR=4.2						
HFS	**Hagfors**	**95.61**	**332**	P	P	09 30 31.1	-0.7
	comp=Z,0.7nm,0.4s,mb4.3,baz=90,slow=4.4,SNR=8.0						

IDC 20 10:00:58.6±2.0, 1.90N×66.70E, mb3.8/3, mb1 3.9/3, mb1mx3.5/18, mbtmp3.8/3, Error ellipse: s-maj=89.9km s-min=36.1km az=49.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**46.73**	**15**	P	P	10 09 29.6	-1.8
	0.2nm,0.5s,baz=202,slow=7.8,SNR=2.8						
MKAR				PcP	PcP	10 11 03.1	-2.2
	0.3nm,0.5s,baz=236,slow=4.4,SNR=3.9						
WRA	**Warramunga Arr**	**69.72**	**112**	P	P	10 12 10.8	-2.2
	1.3nm,0.9s,baz=287,slow=6.2,SNR=6.0						
HFS	**Hagfors**	**70.76**	**335**	P	P	10 12 15.8	-2.8
	1.3nm,0.8s,baz=104,slow=6.1,SNR=5.9						
TXAR	**Lajitas Array**	**147.60**	**344**	PKPbc	PKPdf	10 20 46.0	+1.2
	1.9nm,0.8s,baz=60,slow=2.9,SNR=27						

*MOS **20** 10:08:42.6±1.6, 38.08N×29.20E, h10km, mb4.1/3, Error ellipse: s-maj=11.1km s-min=6.6km az=121.5*
*IDC **20** 10:08:43.0±1.7, 38.09N×29.11E, mb3.9/2, mb1 3.7/7, mb1mx3.5/24, mbtmp3.6/7, ML3.6/5, MS3.0/2, Ms1 3.1/2, ms1mx2.6/27, Error ellipse: s-maj=24.9km s-min=22.0km az=111.0*
*CSEM **20** 10:08:42.3±0.1, 37.88N×28.94E, h2km, MD3.7, Error ellipse: s-maj=1.5km s-min=1.2km az=18.0*
*ISK **20** 10:08:43.8, 37.90N×28.95E, h13km, MD3.7, ML3.8*
*NEIC **20** 10:08:44.9±0.6, 38.01N×29.13E, h15km, mb3.9/5, MD4.0(ATH), ML3.9(ISK), Error ellipse: s-maj=8.9km s-min=8.0km az=193.0*
*ATH **20** 10:08:47.0, 37.97N×28.72E, h35km, MD4.0/6*
ISC 20 10:08:44.4±0.2, 37.93N±0.02×28.94E±0.02, h13km, n101, σ1§14/125, mb3.7/2, MS3.0/1, 1C-3D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.19**	**158**	iPG	Pg	10 08 47.6	-1.1
DNZL	**Cakiroluk**	**0.25**	**161**	i P	Pg	10 08 58.7	+8.8
DNZL				i S	Sg	10 09 03.2	+10
MANT	**Manisa**	**0.64**	**332**	i P	Pb	10 08 56.4	-0.5
MANT				i S	Sb	10 09 05.0	-0.4
GOLH	**Golhisar**	**0.84**	**144**	i P	Pb	10 08 58.4	-2.0
GOLH				i S	Sb	10 09 14.3	+2.9
AYDN	**Tasoluk**	**0.89**	**253**	i P	Pb	10 09 01.3	+0.3
AYDN				i S	Sb	10 09 16.4	+3.9
YER	**Yerkesik**	**0.95**	**214**	i PG	Pg	10 09 02.5	-1.0
TKTP	**Tekketepe**	**1.09**	**84**	i P	Pb	10 09 03.0	-1.6
TKTP				i S	Sb	10 09 20.6	+2.0
MLSB	**Milas**	**1.12**	**236**	PN	Pn	10 09 05.1	-0.6
MLSB				SN	Sn	10 09 21.7	+0.7
DALT	**Dalyan (Mudla)**	**1.18**	**192**	PN	Pn	10 09 05.9	-0.7
GDZ	**Gediz**	**1.23**	**20**	i P	Pb	10 08 59.5	-7.6
GDZ				i S	Sb	10 09 24.8	+2.1
ISP	**Isparta**	**1.24**	**93**	PN	Pn	10 09 07.2	-0.2
ISP	**Isparta**	**1.24**	**93**	ePn	Pn	10 09 07.2	-0.2
ISP				eSn	Sn	10 09 27.6	+3.5
ISP	**Isparta**	**1.24**	**93**	ePn	Pn	10 09 06.3	-1.2
ISP				eSn	Sn	10 09 27.6	+3.5
AKS	**Akhisar**	**1.30**	**317**	PN	Pn	10 09 08.1	-0.2
BCK	**Bucak**	**1.39**	**109**	PN	Pn	10 09 09.8	+0.3
ELL	**Elmali**	**1.41**	**147**	PN	Pn	10 09 09.3	-0.5
KDAG	**Bornova**	**1.41**	**290**	i P	Pn	10 09 10.5	+0.7
KDAG				i S	Sb	10 09 30.1	+2.4
IZM	**Izmir**	**1.41**	**290**	PN	Pn	10 09 10.0	+0.2
ALT	**Altintas**	**1.45**	**39**	PN	Pn	10 09 10.0	-0.5
BDRM	**Kayabasi**	**1.47**	**235**	i P	Pn	10 09 11.9	+1.1
BDRM				i S	Sb	10 09 34.8	+5.3
BODT	**Bodrum**	**1.56**	**237**	PN	Pn	10 09 11.7	-0.3
BLCB	**Balcova**	**1.57**	**288**	PN	Pn	10 09 12.3	+0.2
SMG	**Samos**	**1.68**	**263**	ePN	Pn	10 09 13.5	-0.3
DST	**Dursunbey**	**1.69**	**352**	PN	Pn	10 09 13.9	0.0
ANTB	**Antalya**	**1.70**	**126**	ePN	Pn	10 09 13.8	-0.3
AKAS	**Kas**	**1.77**	**162**	i P	Pn	10 09 17.0	+2.0
AKAS				i S	Sn	10 09 43.9	+6.4
ARG	**Arkhangelos**	**1.83**	**201**	ePN	Pn	10 09 17.9	+2.1
URLA	**Izmir**	**1.90**	**284**	i P	Pn	10 09 15.1	-1.8
URLA				i S	Sn	10 09 46.6	+5.7
URLA	**Izmir**	**1.90**	**284**	i P	Pn	10 09 21.2	+4.3
URLA				i S	Sn	10 09 46.0	+5.2
BALB	**Balikesir**	**1.90**	**334**	ePN	Pn	10 09 17.4	+0.5
BTOK	**Tokmak**	**1.97**	**339**	i P	Pn	10 09 17.3	-0.5
BTOK				i S	Sn	10 09 51.3	+8.8
ORLT	**Orhaneli**	**2.12**	**359**	ePN	Pn	10 09 20.6	+0.6
ESKT	**Eskisehir**	**2.18**	**43**	ePN	Pn	10 09 21.4	+0.5
ULDT	**Uludag**	**2.22**	**4**	i P	Pn	10 09 23.4	+2.0
ULDT				i S	Sn	10 09 56.2	+7.3
AYVA	**Ayvalik**	**2.24**	**309**	i P	Pn	10 09 26.1	+4.3
AYVA				i S	Sn	10 09 56.9	+7.5
BORA	**Eskisehir**	**2.28**	**31**	i P	Pn	10 09 26.1	+3.8
BORA				i S	Sn	10 09 58.0	+7.6
PRK	**Paraskevi**	**2.48**	**303**	ePN	Pn	10 09 24.9	-0.2
KIZT	**Kizilcal**	**2.50**	**67**	ePN	Pn	10 09 25.3	-0.1
CANB	**Canakkale**	**2.55**	**325**	ePN	Pn	10 09 26.2	0.0
BNT	**Bandirma**	**2.55**	**342**	ePN	Pn	10 09 26.5	+0.3
GPA	**Golpazari**	**2.59**	**24**	ePN	Pn	10 09 27.4	+0.7
ARMT	**Armutlu**	**2.64**	**359**	ePN	Pn	10 09 27.8	+0.4
YLV	**Yalova**	**2.66**	**7**	ePN	Pn	10 09 28.6	+0.9
KONT	**Konya--Tatoy**	**2.70**	**89**	ePN	Pn	10 09 28.3	0.0
EZN	**Ezine**	**2.79**	**314**	ePN	Pn	10 09 29.9	+0.3
APE	**Apeiranthos**	**2.85**	**254**	ePN	Pn	10 09 30.2	-0.2
MRMT	**Marmara Adasi**	**2.87**	**339**	ePN	Pn	10 09 31.1	+0.3
HRT	**Hereke**	**2.94**	**11**	ePN	Pn	10 09 32.6	+0.8
HDMB	**Hadim**	**2.98**	**108**	ePN	Pn	10 09 31.8	-0.5
MDU	**Mudurnu**	**3.09**	**34**	ePN	Pn	10 09 34.5	+0.7
ISK	**Istanbul-Kandi**	**3.14**	**2**	ePN	Pn	10 09 35.1	+0.6
CTT	**Catalca**	**3.24**	**353**	ePN	Pn	10 09 35.9	-0.1
HENT	**Hendek**	**3.27**	**27**	i P	Pn	10 09 42.9	+6.6
HENT				i S	Sn	10 10 34.8	+19
LIA	**Limnos Island**	**3.53**	**305**	ePN	Pn	10 09 39.5	-0.7
LOD	**Lodumlu**	**3.57**	**55**	ePN	Pn	10 09 41.1	+0.5
ANTO	**Ankara**	**3.58**	**56**	ePN	Pn	10 09 40.8	+0.1
SGKT	**Sivrigoynuk**	**3.58**	**41**	i P	Pn	10 09 38.7	-2.2
SGKT				i S	Sn	10 10 39.2	+16
KAMT	**Kaman**	**4.00**	**67**	ePN	Pn	10 09 47.3	+0.5
BRTR	**Keskin Array B**	**4.08**	**62**	Pn	Pn	10 09 43.2	-4.7
	0.8nm,0.3s,baz=244,slow=15,SNR=10						
BRTR				Pg	Pg	10 09 57.9	-8.0
	1.0nm,0.3s,baz=241,slow=16,SNR=12						
BRTR				Sn	Sn	10 10 33.2	-2.9
	0.7nm,0.3s,baz=243,slow=19,SNR=3.5						
BRTR	**Keskin Array B**	**4.08**	**62**	Pn	Pn	10 09 43.2	-4.8
BRTR	**Keskin Array B**	**4.08**	**62**	Pg	Pg	10 09 57.8	-8.1
BRTR				S	Sn	10 10 33.2	-2.9
BRTR	**Keskin Array B**	**4.08**	**62**	P	Pn	10 09 43.3	-4.7
BRTR						10 10 33.2	
IKL	**Isikli**	**4.15**	**113**	ePN	Pn	10 09 49.0	+0.1
RDO	**Rodhopi**	**4.16**	**322**	ePN	Pn	10 09 48.0	-1.0
IDI	**Anoyia**	**4.19**	**232**	Pn	Pn	10 09 50.6	+1.1
	2.8nm,0.3s,baz=53,slow=14,SNR=13						
IDI				Sn	Sn	10 10 45.5	+6.6
	1.7nm,0.3s,baz=279,slow=17,SNR=3.7						
IDI				LR	LR	10 11 20.2	
	comp=Z,146nm,20.9s,baz=89,slow=36						
EDRB	**Edirne**	**4.27**	**337**	ePN	Pn	10 09 49.9	-0.7
SAFT	**Safranbolu**	**4.39**	**40**	ePN	Pn	10 09 53.1	+0.7
JMB	**Yambol**	**4.88**	**339**	eP	Pn	10 09 59.0	-0.3
CORM	**Corum**	**4.96**	**61**	ePN	Pn	10 10 01.2	+0.7
PLD	**Plovdiv**	**5.29**	**323**	eP	Pn	10 10 04.5	-0.6
MMB	**Musomiste**	**5.43**	**314**	eP	Pn	10 10 05.0	-2.1
KKB	**Krupnik**	**5.98**	**313**	eP	Pn	10 10 08.0	-6.8
TIRR	**Tirgusor**	**6.54**	**357**	⇓P	Pn	10 10 20.9	-1.8
TIRR	**Tirgusor**	**6.54**	**357**	eP	Pn	10 10 20.1	-2.6
TIRR	**Tirgusor**	**6.54**	**357**	ePn	Pn	10 10 20.1	-2.5
MLR	**Muntele Rosu**	**7.88**	**344**	Pn	Pn	10 10 36.6	-4.9
	0.6nm,0.3s,baz=120,slow=8.1,SNR=4.1						
MLR	**Muntele Rosu**	**7.88**	**344**	⇑iP	Pn	10 10 40.1	-1.4
VOIR		**8.05**	**340**	⇓iP	P	10 10 41.8	-2.0
VRI	**Vrincioaia**	**8.10**	**349**	⇓P	P	10 10 38.1	-6.5
ASF	**Jabal al Asfar**	**8.69**	**129**	Pn	P	10 10 49.9	-2.8
	0.3nm,0.3s,baz=90,slow=19,SNR=1.8						
TIP	**Timpagrande**	**9.63**	**281**	eP	P	10 11 04.5	-1.2
TIP	**Timpagrande**	**9.63**	**281**	eP	P	10 11 04.5	-1.2
GOF	**Gofitskoye**	**12.73**	**52**	eP	P	10 11 40.0	-7.9
AKASG	**Malin Array Be**	**12.77**	**1**	Pn	P	10 11 43.3	-5.1
	0.5nm,0.3s,baz=210,slow=32,SNR=5.1						
GERES	**GERESS Array B**	**15.52**	**320**	Pn	P	10 12 28.2	+3.8
	0.1nm,0.3s,baz=126,slow=12,SNR=11						
MBDF	**Montbardon**	**17.96**	**299**	eP	P	10 12 57.9	+2.6
	10.0nm,1.0s						
MBDF	**Montbardon**	**17.96**	**299**	eP	P	10 12 57.9	+2.6
MBDF				pmax	pmax		
	comp=Z,5.0nm,1.0s						
LPG	**La Plagne**	**18.18**	**302**	eP	P	10 13 00.2	+2.1
LPL	**La Plagne**	**18.20**	**302**	eP	P	10 12 59.9	+1.6
CDF	**Champ du Feu**	**18.90**	**311**	eP	P	10 13 05.3	-1.5
HAU	**Haudompre**	**19.30**	**309**	eP	P	10 13 11.1	-0.4
	comp=Z,12nm,0.8s						
HAU	**Haudompre**	**19.30**	**309**	eP	P	10 13 11.1	-0.4
HAU				pmax	pmax		
	comp=Z,6.0nm,0.8s						
SMF	**Signal de Mont**	**20.45**	**303**	eP	P	10 13 23.9	-0.2
	comp=Z,32nm,1.2s						
SMF	**Signal de Mont**	**20.45**	**303**	eP	P	10 13 23.9	-0.2
SMF				pmax	pmax		
	comp=Z,16nm,1.2s						
SSF	**Saint Saulge**	**20.79**	**304**	eP	P	10 13 27.8	+0.2
	comp=Z,6.1nm,0.8s						
SSF	**Saint Saulge**	**20.79**	**304**	eP	P	10 13 27.8	+0.2
SSF				pmax	pmax		
	comp=Z,6.0nm,0.8s						
AVF	**Avril sur Loir**	**20.81**	**303**	eP	P	10 13 26.4	-1.4
HFS	**Hagfors**	**24.25**	**341**	P	P	10 14 01.4	-0.3
	comp=Z,3.8nm,0.8s,mb3.9,baz=141,slow=9.5,SNR=6.8						
NB2	**NORSAR Subarra**	**25.67**	**340**	P	P	10 14 13.6	-1.7
	comp=Z,0.8nm,0.7s,mb3.4,baz=143,slow=9.3						
NB2	**NORSAR Subarra**	**25.67**	**340**	P	P	10 14 13.6	-1.7
NB2				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.5						
NOA	**NORSAR Array B**	**25.67**	**340**	P	P	10 14 13.9	-1.4
	comp=Z,1.4nm,0.8s,mb3.6,baz=143,slow=8.9,SNR=5.5						
NOA				LR	LR	10 25 35.3	
	comp=Z,44nm,18.3s,MS3.0,baz=110,slow=40						

*ISK **20** 10:13:11.3, 37.86N×29.06E, h19km, MD3.5, ML3.4*
*CSEM **20** 10:13:11.2±0.1, 37.84N×29.06E, h20km, MD3.5, Error ellipse: s-maj=1.6km s-min=1.5km az=160.0*
*ATH **20** 10:13:20.0, 37.57N×28.20E, h14km, MD3.6/4*
ISC 20 10:13:12.1±0.5, 37.89N±0.03×29.04E±0.03, h19km±6km, n40, σ1§02/49, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.14**	**181**	iPG	Pb	10 13 15.2	-1.2
DNZL	**Cakiroluk**	**0.20**	**178**	i P	Pb	10 13 26.3	+9.0
DNZL				i S	Sb	10 13 30.4	+10
MANT	**Manisa**	**0.71**	**328**	i P	Pb	10 13 23.8	-1.8
MANT				i S	Sb	10 13 34.0	-0.8
GOLH	**Golhisar**	**0.78**	**147**	i P	Pb	10 13 26.2	-0.6
GOLH				i S	Sb	10 13 39.3	+2.5
AYDN	**Tasoluk**	**0.95**	**256**	i P	Pb	10 13 29.0	-0.7
AYDN				i S	Sb	10 13 42.9	+1.1
YER	**Yerkesik**	**0.97**	**219**	i PG	Pb	10 13 30.1	+0.1
YER				i SG	Sb	10 13 44.5	+2.1
TKTP	**Tekketepe**	**1.02**	**81**	i P	Pb	10 13 30.6	-0.4
TKTP				i S	Sb	10 13 47.6	+3.5
ISP	**Isparta**	**1.17**	**92**	PN	Pn	10 13 33.2	-0.4
MLSB	**Milas**	**1.17**	**240**	PN	Pn	10 13 32.6	-1.0
MLSB				SN	Sn	10 13 49.9	+0.9
DALT	**Dalyan (Mudla)**	**1.17**	**196**	PN	Pn	10 13 31.9	-1.7
GDZ	**Gediz**	**1.24**	**16**	i P	Pn	10 13 33.9	-0.7
GDZ				i S	Sb	10 13 52.1	+1.8
BCK	**Bucak**	**1.30**	**109**	PN	Pn	10 13 35.2	-0.3
ELL	**Elmali**	**1.34**	**148**	PN	Pn	10 13 34.7	-1.3
AKS	**Akhisar**	**1.38**	**316**	PN	Pn	10 13 36.1	-0.5
ALT	**Altintas**	**1.43**	**36**	PN	Pn	10 13 37.2	-0.2
IZM	**Izmir**	**1.49**	**290**	PN	Pn	10 13 37.9	-0.2
BODT	**Bodrum**	**1.60**	**239**	PN	Pn	10 13 39.2	-0.6
BLCB	**Balcova**	**1.65**	**288**	PN	Pn	10 13 40.4	-0.1
DST	**Dursunbey**	**1.74**	**350**	PN	Pn	10 13 42.2	+0.4
SMG	**Samos**	**1.75**	**265**	ePB	Pb	10 13 40.7	-2.7
ARG	**Arkhangelos**	**1.83**	**204**	ePB	Pb	10 13 45.5	+0.8
BALB	**Balikesir**	**1.96**	**333**	PN	Pn	10 13 45.2	+0.2
ORLT	**Orhaneli**	**2.15**	**357**	ePN	Pn	10 13 48.6	+0.9
ESKT	**Eskisehir**	**2.16**	**41**	ePN	Pn	10 13 47.4	-0.3
ULDT	**Uludag**	**2.25**	**2**	i P	Pn	10 13 51.5	+2.4
ULDT				i S	Sn	10 14 24.7	+8.2
KIZT	**Kizilcal**	**2.44**	**65**	ePN	Pn	10 13 52.1	+0.3
PRK	**Paraskevi**	**2.55**	**303**	ePN	Pn	10 13 59.3	+5.9
GPA	**Golpazari**	**2.59**	**22**	ePN	Pn	10 13 54.2	+0.3
BNT	**Bandirma**	**2.61**	**341**	ePN	Pn	10 13 54.7	+0.5
CANB	**Canakkale**	**2.62**	**325**	ePN	Pn	10 13 54.6	+0.2
KONT	**Konya--Tatoy**	**2.63**	**88**	ePN	Pn	10 13 53.7	-0.8
ARMT	**Armutlu**	**2.67**	**357**	ePN	Pn	10 13 54.6	-0.5
YLV	**Yalova**	**2.68**	**5**	ePN	Pn	10 13 56.2	+1.0
KARP	**Karpathos**	**2.79**	**213**	ePN	Pn	10 13 58.0	+1.3
EZN	**Ezine**	**2.86**	**313**	ePN	Pn	10 13 57.9	+0.1
HDMB	**Hadim**	**2.90**	**108**	ePN	Pn	10 13 57.4	-0.9
MRMT	**Marmara Adasi**	**2.93**	**338**	ePN	Pn	10 13 58.7	-0.1
HRT	**Hereke**	**2.96**	**9**	ePN	Pn	10 13 58.7	-0.6
MDU	**Mudurnu**	**3.08**	**33**	ePN	Pn	10 14 01.5	+0.7
ANTO	**Ankara**	**3.53**	**55**	ePN	Pn	10 14 07.5	+0.2

*MOS **20** 10:13:55.2±1.3, 51.31N×179.68E, h33km, mb4.6/4, Error ellipse: s-maj=23.7km s-min=15.4km az=118.4*
*BJI **20** 10:13:57.9, 51.10N×179.50E, h49km, mB4.6, mb4.3, Ms4.2, Msz3.8*
*NEIC **20** 10:13:58.0±1.3, 51.08N×179.53E, h50km±6km, mb4.6/5, ML4.0(AEIC), Error ellipse: s-maj=28.0km s-min=5.8km az=185.0*
*IDC **20** 10:13:59.0±4.6, 51.20N×179.46E, h59km±37km, mb3.3/7, mb1 3.5/7, mb1mx3.4/23, mbtmp3.6/7, ML3.7/1, Error ellipse: s-maj=56.9km s-min=22.3km az=5.0*
ISC 20 10:13:53.8±1.5, 50.7N±0.2×179.40E±0.07, h43km±9km, n44, σ1§00/50, mb4.2/16, MS3.7/4, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIMD	**Kanaga Island**	**2.36**	**62**	P	P	10 14 30.8	-0.2
KIMD				S	S	10 15 01.4	+2.5
KIKV	**Kanaga Island**	**2.45**	**60**	P	P	10 14 32.0	-0.3
KINC	**Kanaga Island**	**2.50**	**59**	P	P	10 14 32.8	-0.2
KIRH	**Kanaga Island**	**2.50**	**60**	P	P	10 14 33.0	0.0
ADAG	**Mount Adagdak**	**2.81**	**61**	P	P	10 14 37.1	-0.3
GSSP	**Great Sitkin S**	**3.10**	**62**	P	P	10 14 40.8	-0.7
GSTD	**Great Sitkin T**	**3.10**	**62**	P	P	10 14 40.8	-0.7
GSTR	**Great Sitkin T**	**3.16**	**62**	P	P	10 14 42.2	-0.2
GSTR				S	S	10 15 21.4	+2.1
SMY	**Shemya**	**3.87**	**304**	P	P	10 14 53.5	+1.1
ATKA	**Atka Island**	**4.28**	**67**	P	P	10 14 57.4	-0.7
ATKA				S	S	10 15 48.1	+0.7
FX1	**Attu Island--F**	**4.44**	**302**	P	P	10 15 00.6	+0.2
	13nm,0.3s,baz=153,slow=9.2,SNR=33						
FX1				S	S	10 15 58.3	+6.7
	10.0nm,0.3s,baz=81,slow=21,SNR=5.2						
FX1	**Attu Island--F**	**4.44**	**302**	P	P	10 15 01.3	+0.8
FX1	**Attu Island--F**	**4.44**	**302**	P	P	10 15 00.6	+0.1
FX1				S	S	10 15 58.3	+6.7
FX1				pmax	pmax		
	comp=Z,13nm,0.3s						
NIKO	**Nikolski**	**7.62**	**68**	P	P	10 15 44.3	-0.7
ILAR	**Eielson Array**	**22.48**	**38**	P	P	10 18 49.2	-1.0
	comp=Z,0.3nm,0.5s,mb3.0,baz=240,slow=9.2,SNR=7.6						
**DA

δ44°, λ17°.
NEIC **20** 10:22:20.7±4.5, 23.20N×143.31E, $h10^{km}$±28^{km}, mb4.7/7, MW4.3(NIED), Error ellipse: s-maj=21.8km s-min=8.3km az=81.0
MOS **20** 10:22:22.0±1.0, 23.21N×143.20E, $h33^{km}$, mb4.7/7, Error ellipse: s-maj=30.0km s-min=9.0km az=105.6
JMA **20** 10:22:24.5±0.1, 23.49N×144.18E, $h103^{km}$, M4.1
IDC **20** 10:22:24.9±2.9, 23.15N×143.19E, $h38^{km}$±24^{km}, mb4.0/14, mb1 4.1/16, mb1mx4.0/24, mbtmp4.2/16, ML4.2/2, MS3.3/5, Ms1 3.3/5, ms1mx3.1/28, Error ellipse: s-maj=29.1km s-min=13.7km az=89.0
ISC 20 10:22:20.9±1.7, **23.32N**±0.07×**144.0E**±0.2, **h39**^{km}±14^{km}, **n51**, σ1♀**30**/51, **mb4.3**/20, **MS3.4**/2, **2C, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**3.68**	**334**	P	**P**	**10 23 19.7**	**+2.9**
JHHJ				eS	**S**	**10 24 01.6**	**+2.1**
CBIJ	**Chichi jima**	**4.10**	**337**	Pn	**P**	**10 23 24.7**	**+2.0**
	32nm,0.3s,baz=290,slow=23,SNR=31						
CBIJ				Sn	**S**	**10 24 10.3**	**+0.3**
	37nm,0.3s,baz=299,slow=23,SNR=7.8						
CBIJ	**Chichi jima**	**4.10**	**337**	P	**P**	**10 23 25.0**	**+2.3**
CBIJ				eS	**S**	**10 24 11.5**	**+1.5**
BSO3	**Boso 3**	**11.84**	**346**	P	**P**	**10 25 10.5**	**+0.5**
JOD2	**Odawara 2**	**12.64**	**341**	P	**P**	**10 25 20.2**	**-0.7**
JHU	**Hanno**	**13.14**	**343**	P	**P**	**10 25 26.2**	**-1.2**
JRY	**Ryogami san**	**13.40**	**342**	P	**P**	**10 25 29.6**	**-1.2**
JHO	**Hitachi**	**13.57**	**348**	P	**P**	**10 25 31.3**	**-1.8**
JAG	**Ashikaga**	**13.64**	**344**	P	**P**	**10 25 32.1**	**-1.9**
MJAR	**Matsushiro Arr**	**14.09**	**341**	Pn	**P**	**10 25 38.9**	**-1.0**
	0.6nm,0.3s,baz=162,slow=12,SNR=8.3						
MJAR				LR	LR	10 31 08.7	
	comp=Z,119nm,19.0s,baz=165,slow=37						
MAJO	**Matsushiro**	**14.09**	**341**	P	**P**	**10 25 39.0**	**-1.0**
	3.4nm,0.4s						
MAJO	**Matsushiro**	**14.09**	**341**	P	**P**	**10 25 39.0**	**-0.9**
MAJO				pmax	pmax		
	comp=Z,3.0nm,0.4s						
MAT	**Matsushiro**	**14.09**	**341**	P	**P**	**10 25 39.2**	**-0.7**
MAT				S	**S**	**10 28 08.9**	**-7.0**
MAT	**Matsushiro**	**14.09**	**341**	eP	**P**	**10 25 39.0**	**-0.9**
MAT				eS	**S**	**10 28 09.0**	**-6.9**
JOW	**Kunigami**	**14.64**	**287**	LR	LR	10 30 26.2	
	comp=Z,98nm,21.1s,baz=162,slow=34						
JNU	**Nakatsue**	**15.10**	**313**	LR	LR	10 30 40.5	
	comp=Z,46nm,20.8s,baz=64,slow=34						
KS15	**Wonju Array Si**	**19.73**	**319**	P	**P**	**10 26 48.1**	**-1.8**
ASAJ	**Asahikawa**	**20.78**	**357**	P	**P**	**10 27 03.6**	**+2.6**
	comp=Z,16nm,1.0s,baz=225,slow=16,SNR=2.7						
ASAJ				LR	LR	10 34 07.7	
	comp=Z,95nm,20.9s,MS3.1,baz=171,slow=34						
KLR	**Kul'dur**	**27.60**	**343**	eP	**P**	**10 28 06.7**	**+0.1**
PMG	**Port Moresby**	**32.67**	**174**	eP	**P**	**10 28 52.5**	**+0.7**
	comp=Z,6.9nm,0.5s,mb4.8						
PMG	**Port Moresby**	**32.67**	**174**	eP	**P**	**10 28 52.5**	**+0.7**
PMG				pmax	pmax		
	comp=Z,7.0nm,0.5s						
SONM	**Songino Array**	**38.58**	**319**	P	**P**	**10 29 42.0**	**+0.3**
	comp=Z,1.0nm,0.5s,mb3.8,baz=126,slow=7.7,SNR=9.4						
BOD	**Bodaibo**	**40.65**	**336**	eP	**P**	**10 29 56.7**	**-2.1**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.1						
CTA	**Charters Tower**	**43.20**	**177**	eP	**P**	**10 30 21.9**	**+1.8**
	comp=Z,4.1nm,1.2s,mb4.0						
CTA	**Charters Tower**	**43.20**	**177**	LR	LR	10 45 32.6	
	comp=Z,81nm,19.3s,MS3.6,baz=48,slow=32						
CTA	**Charters Tower**	**43.20**	**177**	eP	**P**	**10 30 21.9**	**+1.8**
CTA				pmax	pmax		
	comp=Z,4.0nm,1.2s						
WRAB	**Tennant Creek**	**44.00**	**193**	eP	**P**	**10 30 25.5**	**-1.0**
	comp=Z,6.6nm,0.6s,mb4.5						
WRAB	**Tennant Creek**	**44.00**	**193**	eP	**P**	**10 30 25.5**	**-1.1**
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.6						
WRA	**Warramunga Arr**	**44.01**	**193**	P	**P**	**10 30 25.9**	**-0.8**
	comp=Z,1.9nm,0.4s,mb4.2,baz=16,slow=9.4,SNR=69						
WRA				ScP		10 36 01.4	
	comp=Z,0.9nm,0.8s,baz=8.3,slow=4.2,SNR=6.7						
FITZ	**Fitzroy Crossi**	**44.89**	**205**	eP	**P**	**10 30 34.2**	**+0.5**
	comp=Z,3.0nm,0.4s,mb4.5						
FITZ	**Fitzroy Crossi**	**44.89**	**205**	P	**P**	**10 30 32.1**	**-1.6**
	comp=Z,4.8nm,0.5s,mb4.6,baz=349,slow=16,SNR=17						
TIXI	**Tiksi**	**49.12**	**354**	eP	**P**	**10 31 03.2**	**-3.1**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
ZAL	**Zalesovo**	**53.42**	**321**	P	**P**	**10 31 38.5**	**-0.4**
	comp=Z,1.8nm,0.6s,mb4.2,baz=15,slow=12,SNR=7.5						
MKAR	**Makanchi Array**	**54.15**	**312**	P	**P**	**10 31 44.6**	**+0.1**
	comp=Z,3.1nm,0.5s,mb4.5,baz=93,slow=9.1,SNR=52						
STKA	**Stephens Creek**	**54.92**	**182**	eP	**P**	**10 31 50.4**	**+0.1**
	comp=Z,3.6nm,0.4s,mb4.8						
STKA	**Stephens Creek**	**54.92**	**182**	P	**P**	**10 31 50.4**	**+0.1**
	comp=Z,4.9nm,0.5s,mb4.8,baz=344,slow=7.6,SNR=18						
KURK	**Kurchatov**	**56.80**	**316**	eP	**P**	**10 32 03.2**	**-0.3**
	comp=Z,5.8nm,0.4s,mb5.0						
KURK	**Kurchatov**	**56.80**	**316**	eP	**P**	**10 32 03.2**	**-0.3**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.4s,mb5.0						
ILAR	**Eielson Array**	**60.28**	**27**	P	**P**	**10 32 32.4**	**+4.8**
	comp=Z,1.8nm,0.8s,mb4.1,baz=258,slow=5.7,SNR=15						
BRVK	**Borovoye**	**61.99**	**319**⇑	iP	**P**	**10 32 39.4**	**+0.2**
	comp=Z,9.2nm,0.8s,mb5.0						
BRVK	**Borovoye**	**61.99**	**319**⇑	iP	**P**	**10 32 39.4**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb5.0						
INK	**Inuvik**	**65.81**	**24**	P	**P**	**10 33 09.8**	**+5.9**
	comp=Z,0.8nm,0.5s,mb4.0,baz=277,slow=8.4,SNR=7.0						
INK	**Inuvik**	**65.81**	**24**	P	**P**	**10 33 09.8**	**+5.9**
ARCES	**ARCESS Array B**	**77.62**	**342**	P	**P**	**10 34 15.8**	**+1.4**
	comp=Z,1.6nm,0.7s,mb4.1,baz=53,slow=6.1,SNR=5.7						
FINES	**FINESS Array B**	**82.04**	**335**	P	**P**	**10 34 39.6**	**+1.4**
	comp=Z,1.3nm,0.6s,mb4.0,baz=64,slow=5.2,SNR=8.6						
HFS	**Hagfors**	**87.52**	**338**	P	**P**	**10 35 06.2**	**+0.8**
	comp=Z,0.7nm,0.5s,mb4.1,baz=135,slow=2.1,SNR=6.2						
NOA	**NORSAR Array B**	**87.70**	**339**	P	**P**	**10 35 07.6**	**+1.3**
	comp=Z,0.7nm,0.8s,mb4.0,baz=45,slow=4.4,SNR=3.6						
NOA	**NORSAR Array B**	**87.70**	**339**	P	**P**	**10 35 07.6**	**+1.3**
BRTR	**Keskin Array B**	**89.76**	**314**	P	**P**	**10 35 17.2**	**+0.6**
	comp=Z,0.8nm,0.6s,mb4.2,baz=72,slow=7.8,SNR=4.0						
PLCA	**Paso Flores**	**146.25**	**129**	PKPbc	PKPbc	10 42 03.2	+5.8
	comp=Z,1.6nm,0.5s,baz=227,slow=4.3,SNR=5.4						
PLCA	**Paso Flores**	**146.25**	**129**	PKPbc	PKPbc	10 42 03.2	+5.8

KRSC 20 10:25:14.8±0.6, **55.19N**×**167.02E**, **h14**^{km}±4^{km}, **ML4.0, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.60**	**272**	iP	Pb	10 25 26.2	-0.4
BKI				iS	Sb	10 25 34.3	-0.3
BKI				Smax			
	3μm,0.4s						
KBTR	**Krutoberegovo**	**2.59**	**295**	iP	Pn	10 25 56.0	-1.0
KBTR				iS	Sn	10 26 27.0	-1.5
MKZ	**Mys Kozlova**	**3.12**	**260**	eP	Pn	10 26 04.5	-0.1
MKZ				eS	Sn	10 26 40.8	-1.3
ZLN	**Zelenaya**	**3.62**	**286**	eP	Pn	10 26 12.3	+0.6
ZLN				eS	Sn	10 26 54.7	0.0
LGNR	**Loginova**	**3.70**	**287**	eP	Pn	10 26 13.1	+0.3
LGNR				eS	Sn	10 26 56.0	-0.6
KLY	**Klyuchi**	**3.77**	**290**	eP	Pn	10 26 12.6	-1.2
KLY				eS	Sn	10 26 54.7	-3.8
KRSR	**Krestovskiy**	**3.79**	**288**	eP	Pn	10 26 14.3	+0.1
KRSR				eS	Sn	10 26 57.3	-1.8
KMNR	**Kamenistaya**	**3.90**	**281**	iP	Pn	10 26 17.2	+1.5
KMNR				iS	Sn	10 27 02.6	+0.8
KPT	**Kopyto**	**3.94**	**284**	eP	Pn	10 26 16.5	+0.3
KPT				eS	Sn	10 27 01.8	-0.9
KOZ	**Kozyrevsk**	**4.14**	**285**	eP	Pn	10 26 19.9	+0.7
KOZ				eS	Sn	10 27 07.8	-0.1
SPN	**Mys Shipunski**	**4.62**	**246**	eP	Pn	10 26 24.8	-1.1
SPN				eS	Sn	10 27 15.8	-4.1
ESO	**Esso**	**4.78**	**282**	eP	Pn	10 26 29.1	+0.9
ESO				eS	Sn	10 27 23.0	-1.0
NLC	**Nalytchevo**	**4.94**	**249**	eP	Pn	10 26 29.8	-0.7
NLC				eS	Sn	10 27 23.7	-4.4
SDLR	**Sedlovina**	**5.14**	**251**	eP	Pn	10 26 34.2	+0.9
SMAR	**Somma**	**5.19**	**252**	eP	Pn	10 26 34.7	+0.7
UGLR	**Uglovaya**	**5.21**	**251**	eP	Pn	10 26 35.1	+0.9
AVH	**Avacha**	**5.23**	**252**	eP	Pn	10 26 35.4	+0.9
AVH				eS	Sn	10 27 34.0	-1.3
KOK	**Koryaka**	**5.27**	**252**	eP	Pn	10 26 35.9	+0.8
PET	**Petropavlovsk**	**5.38**	**250**	eP	Pn	10 26 35.8	-0.8
PET				eS	Sn	10 27 34.6	-4.5
GNL	**Ganaly**	**5.51**	**258**	eP	Pn	10 26 39.1	+0.7
GNL				eS	Sn	10 27 40.4	-1.8
RUS	**Russkaya**	**5.75**	**245**	eP	Pn	10 26 42.3	+0.5
RUS				eS	Sn	10 27 45.8	-2.5
KRMR	**Karymshinskiy**	**5.75**	**249**	eS	Sn	10 27 44.6	-3.8
APC	**Apacha**	**6.24**	**253**	eS	Sn	10 27 55.8	-4.7

NIED **20** 10:42:00, 27.70N×130.10E, $h68^{km}$, Mw4.4 Best double couple: $M_0$4×10^{15} NP1:φ271°, δ90°, λ3°. NP2:φ181°, δ87°, λ180°.
IDC **20** 10:42:01.1±0.8, 27.72N×129.92E, mb4.2/11, mb1 4.3/14, mb1mx4.2/24, mbtmp4.2/14, ML4.0/3, MS3.2/2, Ms1 3.2/2, ms1mx2.8/28, Error ellipse: s-maj=19.1km s-min=17.3km az=78.0
BJI **20** 10:42:02.7, 27.70N×129.90E, $h10^{km}$, mb4.4, Ms3.6, Msz3.5
NEIC **20** 10:42:02.8±3.7, 27.72N×129.94E, $h11^{km}$±23^{km}, mb4.7/9, MW4.3(NIED), Error ellipse: s-maj=12.5km s-min=8.9km az=136.0
JMA **20** 10:42:03.8±0.1, 27.71N×130.07E, $h62^{km}$±3^{km}, M4.1
MOS **20** 10:42:04.6±2.2, 27.82N×130.07E, $h33^{km}$, mb5.0/7, Error ellipse: s-maj=17.6km s-min=12.6km az=108.3
ISC 20 10:42:05.2±0.5, **27.80N**±0.03×**129.99E**±0.05, **h62**^{km}, **n59**, σ1♀**25**/77, **mb4.5**/20, **2C, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**0.51**	**358**	P	**P**	**10 42 17.2**	**-0.4**
JZK				S	**S**	**10 42 27.2**	**+0.5**
JAM	**Amami Oshima**	**0.70**	**331**	P	**P**	**10 42 19.7**	**0.0**
JAM				S	**S**	**10 42 30.5**	**0.0**
JTK	**Tokunoshima**	**0.92**	**269**	P	**P**	**10 42 22.3**	**-0.2**
JTK				S	**S**	**10 42 35.1**	**-0.3**
JOW	**Kunigami**	**1.81**	**238**	Pn	**P**	**10 42 33.4**	**-1.4**
	462nm,0.3s,baz=99,slow=19,SNR=1446						
JOW				Sn	**S**	**10 42 54.8**	**-1.7**
	449nm,0.3s,baz=132,slow=27,SNR=15						
JOW	**Kunigami**	**1.81**	**238**	P	**P**	**10 42 33.5**	**-1.2**
JOW				S	**S**	**10 42 55.6**	**-0.9**
JIH	**Iheya**	**1.95**	**248**	P	**P**	**10 42 35.9**	**-0.8**
JIH				S	**S**	**10 42 58.6**	**-1.4**
JNN	**Nakanoshima**	**2.04**	**357**	P	**P**	**10 42 37.8**	**-0.1**
JNN				S	**S**	**10 43 03.0**	**+0.9**
JMZ	**Minamidaito 2**	**2.26**	**151**	P	**P**	**10 42 37.0**	**-4.1**
JMZ				S	**S**	**10 43 00.9**	**-6.8**
JJT2	**Tamagusuku 2**	**2.60**	**231**	P	**P**	**10 42 44.1**	**-1.8**
JJT2				eS	**S**	**10 43 14.2**	**-2.1**
JKC	**Kuchinoerabu**	**2.66**	**4**	P	**P**	**10 42 46.6**	**-0.2**
JKC				S	**S**	**10 43 17.7**	**-0.2**
JTN	**Tanegashima 3**	**2.97**	**17**	P	**P**	**10 42 50.6**	**-0.6**
JTN				S	**S**	**10 43 26.1**	**+0.3**
JKE	**Kume jima 2**	**3.21**	**244**	P	**P**	**10 42 52.2**	**-2.3**
JKE				S	**S**	**10 43 28.2**	**-3.6**
JTSR	**Tashiro 2**	**3.45**	**13**	P	**P**	**10 42 57.8**	**-0.1**
JTSR				S	**S**	**10 43 37.0**	**-0.8**
JNAR	**Kushima--Naru**	**3.88**	**16**	P	**P**	**10 43 03.8**	**-0.1**
JNAR				S	**S**	**10 43 48.4**	**-0.1**
JTZ	**Takazaki**	**4.20**	**13**	P	**P**	**10 43 08.1**	**-0.3**
JTZ				S	**S**	**10 43 55.3**	**-1.3**
JZO	**Okuchi**	**4.36**	**7**	P	**P**	**10 43 11.3**	**+0.7**
JTSN	**Tsuno**	**4.62**	**16**	P	**P**	**10 43 13.3**	**-1.0**
JTSN				eS	**S**	**10 44 06.8**	**-0.4**
JIU2	**Izumi 2**	**4.78**	**8**	P	**P**	**10 43 16.7**	**+0.1**
JIU2				eS	**S**	**10 44 10.4**	**-0.9**
JKIT	**Kitakata**	**4.97**	**14**	P	**P**	**10 43 18.2**	**-1.0**
JKIT				S	**S**	**10 44 15.0**	**-1.0**
JNU	**Nakatsue**	**5.36**	**8**	Pn	**P**	**10 43 25.0**	**+0.5**
	5.0nm,0.3s,baz=135,slow=5.1,SNR=30						
JNU				Sn	**S**	**10 44 22.9**	**-2.8**
	2.1nm,0.3s,baz=227,slow=37,SNR=3.4						
CBIJ	**Chichi jima**	**10.86**	**91**	Pn	**P**	**10 44 37.6**	**-2.6**
	5.5nm,0.3s,baz=272,slow=22,SNR=7.0						
MAJO	**Matsushiro**	**11.15**	**37**	eP	**P**	**10 44 43.3**	**-0.9**
	2.6nm,0.4s						
MAJO	**Matsushiro**	**11.15**	**37**	eP	**P**	**10 44 43.3**	**-0.9**
MAJO				pmax	pmax		
	comp=Z,3.0nm,0.4s						
MJAR	**Matsushiro Arr**	**11.15**	**37**	Pn	**P**	**10 44 43.4**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=203,slow=13,SNR=10						
XAN	**Xi'an**	**19.10**	**294**	P	**P**	**10 46 26.3**	**+0.7**
XAN				AP		10 46 31.8	
XAN				AMB	AMB		
	comp=Z,126nm,0.7s						
ASAJ	**Asahikawa**	**19.18**	**29**	LR	LR	10 54 32.8	
	comp=Z,53nm,20.3s,baz=164,slow=39						
SONM	**Songino Array**	**27.16**	**324**	P	**P**	**10 47 46.9**	**+2.3**
	comp=Z,1.3nm,0.7s,mb3.6,baz=142,slow=10,SNR=9.4						
SONM				LR	LR	10 59 56.1	
	comp=Z,68nm,18.3s,baz=76,slow=40						
GTA	**Gaotai**	**27.55**	**303**	P	**P**	**10 47 48.3**	**0.0**
GTA				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.4						
YAK	**Yakutsk**	**34.23**	**360**	eP	**P**	**10 48 48.1**	**+1.3**
	comp=Z,20nm,0.7s,mb5.2						
YAK	**Yakutsk**	**34.23**	**360**	eP	**P**	**10 48 48.1**	**+1.3**
YAK				pmax	pmax		
	comp=Z,20nm,0.7s,mb5.2						
PKI	**Pulchoki**	**39.31**	**280**	eP	**P**	**10 49 32.3**	**+2.4**
	comp=Z,12nm,0.4s,mb5.0						
PKI	**Pulchoki**	**39.31**	**280**	eP	**P**	**10 49 32.3**	**+2.4**
PKI				pmax	pmax		
	comp=Z,6.0nm,0.4s,mb4.7						
KKN	**Kakani**	**39.38**	**281**	eP	**P**	**10 49 33.7**	**+3.2**
	comp=Z,13nm,0.3s,mb5.1						
KKN	**Kakani**	**39.38**	**281**	eP	**P**	**10 49 33.7**	**+3.2**
KKN				pmax	pmax		
	comp=Z,6.0nm,0.3s,mb4.8						
DMN	**Daman**	**39.57**	**281**	eP	**P**	**10 49 33.6**	**+1.6**
	comp=Z,13nm,0.7s,mb4.8						
GKN	**Gorkha**	**39.90**	**281**	eP	**P**	**10 49 37.4**	**+2.6**
	comp=Z,25nm,0.6s,mb5.1						
KOLN	**Koldanda**	**40.85**	**281**	eP	**P**	**10 49 43.3**	**+0.7**
	comp=Z,7.8nm,0.4s,mb4.7						
MK31	**Makanchi Array**	**41.69**	**310**	⇑Pn	**P**	**10 49 48.2**	**-1.1**
	comp=Z,1.6nm,0.9s,mb3.6,baz=130,slow=14,SNR=13						
MK31				⇑Lg		10 51 07.0	
	comp=Z,1.0nm,0.5s,baz=141,slow=28						
MKAR	**Makanchi Array**	**41.69**	**310**	P	**P**	**10 49 50.2**	**+0.9**
	comp=Z,0.5nm,0.4s,baz=97,slow=10.0,SNR=10						
MKAR	**Makanchi Array**	**41.69**	**310**	P	**P**	**10 49 50.2**	**+0.9**
HNR	**Honiara**	**47.02**	**138**	P	**P**	**10 50 34.0**	**+1.5**
	comp=Z,55nm,0.3s,baz=200,slow=11,SNR=4.5						
WRA	**Warramunga Arr**	**47.65**	**174**	P	**P**	**10 50 38.2**	**+0.8**
	comp=Z,1.3nm,0.7s,mb4.1,baz=354,slow=8.4,SNR=13						
BVAR	**Borovoye Array**	**50.17**	**317**	P	**P**	**10 50 57.3**	**+0.9**
	comp=Z,1.6nm,0.6s,mb4.2,baz=88,slow=9.5,SNR=13						
BVAR				PcP	PcP	10 52 21.0	+5.8
	comp=Z,0.9nm,0.4s,baz=115,slow=3.3,SNR=5.5						
ARU	**Arti**	**57.15**	**321**	eP	**P**	**10 51 49.4**	**+1.7**
	comp=Z,1.9nm,0.3s,mb4.6						
ARU	**Arti**	**57.15**	**321**	eP	**P**	**10 51 49.4**	**+1.7**
ARU				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.6						
FINES	**FINESS Array B**	**72.27**	**331**	P	**P**	**10 53 27.6**	**+2.1**
	comp=Z,4.1nm,0.4s,mb4.7,baz=61,slow=6.5,SNR=46						
AKASG	**Malin Array Be**	**75.36**	**320**	P	**P**	**10 53 46.0**	**+2.4**
	comp=Z,3.1nm,0.4s,mb4.6,baz=56,slow=6.3,SNR=12						
BRTR	**Keskin Array B**	**77.31**	**308**	P	**P**	**10 53 57.9**	**+3.1**
	comp=Z,1.7nm,0.8s,mb4.0,baz=90,slow=4.9,SNR=6.9						
OJC	**Ojcow**	**80.84**	**322**	eP	**P**	**10 54 18.9**	**+5.1**
CLL	**Collm**	**83.75**	**326**	P	**P**	**10 54 33.0**	**+4.4**
GERES	**GERESS Array B**	**84.89**	**324**	P	**P**	**10 54 38.6**	**+4.2**
	comp=Z,1.2nm,0.8s,mb4.1,baz=45,slow=3.8,SNR=10						
GRA1	**Grafenberg Arr**	**85.65**	**325**	eP	**P**	**10 54 44.6**	**+6.5**
	comp=Z,6.0nm,0.9s,mb4.8						
GRF	**Grafenberg Arr**	**85.65**	**325**	eP	**P**	**10 54 44.6**	**+6.5**
	comp=Z,6.0nm,0.9s,mb4.8						
GRF	**Grafenberg Arr**	**85.65**	**325**	eP	**P**	**10 54 44.6**	**+6.5**
GRF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.8						
GRF	**Grafenberg Arr**	**85.65**	**325**	eP	**P**	**10 54 44.6**	**+6.5**
GRF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.8						
EKA	**Eskdalemuir Ar**	**88.02**	**335**	P	**P**	**10 54 55.0**	**+5.5**
	comp=Z,1.2nm,0.5s,mb4.4,baz=41,slow=5.0,SNR=12						
DAVOX	**Davos**	**88.19**	**324**	P	**P**	**10 54 55.7**	**+5.2**
	comp=Z,5.6nm,0.7s,mb4.9,baz=43,slow=17,SNR=9.1						
DAVOS	**Davos**	**88.20**	**324**	P	**P**	**10 54 55.7**	**+5.2**
PDAR	**Pinedale Array**	**90.96**	**39**	P	**P**	**10 55 07.7**	**+4.0**
	comp=Z,0.5nm,0.8s,mb3.9,SNR=5.0						

CSEM **20** 10:51:20.5, 71.00N×8.91E, $h5^{km}$, mb4.8
NAO **20** 10:51:21.4±1.1, 70.93N×9.01E, ML3.6
BJI **20** 10:51:21.4, 70.98N×8.51E, $h19^{km}$, mB5.5, mb4.8, Ms5.7, Msz5.2
MOS **20** 10:51:21.4±1.1, 70.94N×8.95E, $h10^{km}$, mb4.9/57, Error ellipse: s-maj=17.3km s-min=3.0km az=92.7
IDC **20** 10:51:21.6±0.5, 70.91N×8.79E, mb4.2/21, mb1 4.4/24, mb1mx4.3/28, mbtmp4.2/24, ML4.2/3, MS3.8/16, Ms1 3.8/16, ms1mx3.6/25, Error ellipse: s-maj=14.3km s-min=10.1km az=37.0
HEL **20** 10:51:21.8±0.3, 70.90N×8.87E, $h10^{km}$, ML3.8, mb4.8(NEIC), ML3.4(BER)
BER **20** 10:51:23.0±5.2, 70.87N×9.10E, $h6^{km}$±18^{km}, MD3.5, ML3.4, ML3.6(NAO)
NEIC **20** 10:51:23.3±0.1, 70.93N×8.98E, $h10^{km}$, mb4.8/68, Error ellipse: s-maj=3.6km s-min=2.2km az=71.0
ISC 20 10:51:21.3±0.2, **70.89N**±0.02×**9.25E**±0.07, **h10**^{km}, **(h26**^{km}±3.0^{km}:**pP-P), n369**, σ1♀**44**/449, **mb4.6**/97, **MS3.7**/25, **17C-12D, Norwegian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOF	**Lofoten**	**3.15**	**149**	eP	**Pn**	**10 52 13.4**	**+1.2**
LOF				eS	**Sn**	**10 52 48.3**	**-1.9**
LOF				AML	AML	10 52 53.6	
	comp=Z,247nm,0.4s						
LOF	**Lofoten**	**3.15**	**149**	P	**Pn**	**10 52 13.3**	**+1.2**
LOF				eS	**Sn**	**10 52 48.3**	**-1.9**
	comp=Z,247nm,0.4s,SNR=50						
LOF	**Lofoten**	**3.15**	**149**	eP	**Pn**	**10 52 13.5**	**+1.4**
LOF				eS	**Sn**	**10 52 48.7**	**-1.5**
TRO	**Tromso**	**3.52**	**106**	eP	**Pn**	**10 52 16.3**	**-1.0**
TRO				eS	**Sn**	**10 52 55.0**	**-4.4**
TRO				AML	AML	10 52 58.6	
	comp=Z,125nm,0.4s						
TRO	**Tromso**	**3.52**	**106**	P	**Pn**	**10 52 16.2**	**-1.1**
TRO				S	**Sn**	**10 52 55.0**	**-4.4**
	comp=Z,125nm,0.4s						
MELSS	**Ber_school_2**	**4.36**	**156**	eP	**Pn**	**10 52 27.7**	**-1.5**
MELSS				eS	**Sn**	**10 53 12.9**	**-7.7**
KIF	**Kilpisjarvi**	**4.40**	**110**	eP	**Pn**	**10 52 30.4**	**+0.5**
KIF				MPN		10 52 33.6	
	comp=Z,21nm,0.1s						
KIF				eS	**Sn**	**10 53 18.2**	**-3.6**
KIF	**Kilpisjarvi**	**4.40**	**110**	P	**Pn**	**10 52 30.3**	**+0.5**
	comp=Z,21nm,0.1s						
KIF				S	**Sn**	**10 53 18.2**	**-3.6**
NIKU	**Nikkaluokta**	**4.60**	**127**	eP	**Pn**	**10 52 33.1**	**+0.5**
	baz=315						
STOK	**Stokkvaagen**	**4.78**	**161**	eP	**Pn**	**10 52 33.3**	**-1.8**
STOK				eS	**Sn**	**10 53 24.2**	**-7.1**
STOK				AML	AML	10 53 25.9	
	comp=Z,285nm,0.3s						
STOK	**Stokkvaagen**	**4.78**	**161**	P	**Pn**	**10 52 33.3**	**-1.9**
STOK				S	**Sn**	**10 53 24.2**	**-7.1**
	comp=Z,285nm,0.3s						
KUA	**Kurravaara**	**4.89**	**122**	eP	**Pn**	**10 52 37.1**	**+0.3**
	baz=310						
MOR8	**Moi Rana**	**5.11**	**156**	eP	**Pn**	**10 52 38.0**	**-1.8**
MOR8				eS	**Sn**	**10 53 32.5**	**-7.1**
MOR8				AML	AML	10 53 37.3	
	comp=Z,437nm,0.3s						
MOR8	**Moi Rana**	**5.11**	**156**	P	**Pn**	**10 52 38.0**	**-1.8**
MOR8				eS	**Sn**	**10 53 32.5**	**-7.1**
	comp=Z,437nm,0.3s,SNR=49						
KTK1	**Kautokeino**	**5.17**	**105**	eP	**Pn**	**10 52 41.1**	**+0.5**
KTK1				eS	**Sn**	**10 53 34.8**	**-6.3**
KTK1				AML	AML	10 53 42.7	
	comp=Z,42nm,0.7s						
KTK1	**Kautokeino**	**5.17**	**105**	P	**Pn**	**10 52 41.1**	**+0.5**
KTK1				eS	**Sn**	**10 53 34.8**	**-6.3**
	comp=Z,42nm,0.7s,SNR=49						
LANU	**Lannavaara**	**5.31**	**116**	eP	**Pn**	**10 52 42.9**	**+0.3**
	baz=286					

baz=334
KBS Kingsbay 8.11 4 Pn **P 10 53 19.9 -2.1**
KBS Sn **Sn 10 54 47.0 -7.8**
KBS Kingsbay 8.11 4 *e* **P 10 53 19.9 -2.1**
KBS *eP* 10 53 20.0
KBS *e* 10 54 47.0
KBS *eS* **Sn 10 54 47.2 -7.6**
KBS AML AML 10 54 53.4
comp=Z,21nm,0.5s
KBS Kingsbay 8.11 4 Pn **P 10 53 19.9 -2.1**
KBS *eP* 10 53 20.0
KBS *eS* **Sn 10 54 47.2 -7.6**
KBS AML AML 10 54 53.4
comp=Z,21nm,0.5s
KBS Kingsbay 8.11 4 P **P 10 53 19.9 -2.2**
KBS S **Sn 10 54 47.1 -7.7**
comp=Z,21nm,0.5s
KBS Kingsbay 8.11 4 Pn **P 10 53 19.9 -2.1**
KBS *eS* **Sn 10 54 45.6 -9.1**
KBS Sn **Sn 10 54 47.0 -7.8**
SOLU Sollefteaa 8.28 154 *eP* **P 10 53 22.9 -1.4**
baz=342
UMAU Umeaa 8.28 142 *eP* **P 10 53 23.0 -1.4**
baz=329
MOL Molde 8.38 185 *eP* **P 10 53 20.8 -5.0**
MOL AML AML 10 54 55.6
comp=Z,46nm,0.4s
MOL Molde 8.38 185 *eP* **P 10 53 20.8 -5.0**
MOL *eS* **Sn 10 54 47.5 -14**
MOL AML AML 10 54 55.6
comp=Z,46nm,0.4s
MOL Molde 8.38 185 P **P 10 53 20.8 -5.0**
comp=Z,46nm,0.4s
MOL *eS* **Sn 10 54 47.5 -14**
comp=Z,46nm,0.4s,SNR=47
HUSU Husum 8.50 148 *eP* **P 10 53 25.7 -1.8**
baz=346
OUL Oulu 8.52 125 *eP* **P 10 53 25.7 -1.9**
OUL MPN 10 53 30.3
comp=Z,9.2nm,0.2s
OUL *eS* **Sn 10 54 55.1 -10**
OUL Oulu 8.52 125 P **P 10 53 25.7 -2.0**
comp=Z,9.2nm,0.2s
OUL S **Sn 10 54 55.1 -10**
KU4 Liikasenvaara 8.67 112 *eP* **P 10 53 27.9 -1.8**
KU4 *eS* **Sn 10 55 00.8 -7.8**
DOMB Dombas 8.89 181 *eP* **P 10 53 28.2 -4.6**
DOMB AML AML 10 55 22.8
comp=Z,46nm,0.5s
DOMB Dombas 8.89 181 *eP* **P 10 53 28.2 -4.6**
DOMB *eS* **Sn 10 54 58.0 -16**
DOMB AML AML 10 55 22.8
comp=Z,46nm,0.5s
DOMB Dombas 8.89 181 P **P 10 53 28.2 -4.6**
comp=Z,46nm,0.5s
DOMB *eS* **Sn 10 54 58.0 -16**
comp=Z,46nm,0.5s,SNR=47
APA0 Apatity Array 9.01 100 Pn **P 10 53 32.3 -2.2**
baz=302,slow=12
APA0 Sn **Sn 10 55 06.1 -11**
baz=315,slow=28
APA0 Apatity Array 9.01 100 *eP* **P 10 53 32.3 -2.2**
APA0 *e* 10 55 06.1
APA Apatity 9.16 100⇓ *iP* **P 10 53 44.0 +7.3**
APA MLR MLR
comp=Z,1μm,6.0s
HASU Hassela 9.24 158 *eP* **P 10 53 35.6 -2.1**
baz=341
LVZ Lovozero 9.40 96⇑ *eP* **P 10 53 38.4 -1.5**
LVZ Lovozero 9.40 96⇓ *eP* **P 10 53 49.7 +10**
LVZ *eS* **Sn 10 55 31.6 +4.8**
VAF Ylistaro 9.44 140 *eP* **P 10 53 38.5 -2.0**
VAF MPN 10 53 40.5
comp=Z,9.4nm,0.2s
VAF *eS* **Sn 10 55 17.0 -11**
FOO Floro 9.48 192 *eP* **P 10 53 36.1 -4.9**
FOO *eS* **Sn 10 55 13.5 -15**
FOO AML AML 10 55 20.8
comp=Z,75nm,0.4s
FOO Floro 9.48 192 *eP* **P 10 53 36.1 -4.9**
SNR=47
FOO *eS* **Sn 10 55 13.5 -15**
comp=Z,75nm,0.4s,SNR=47
KJN Kajaani 9.79 125 *eP* **P 10 53 42.9 -2.2**
KJN MPN 10 53 46.8
comp=Z,8.0nm,0.2s
KJN *eS* **Sn 10 55 24.6 -11**
HYA Hoyanger 9.84 189 *eP* **P 10 53 41.5 -4.3**
HYA AML AML 10 55 38.9
comp=Z,47nm,0.4s
HYA Hoyanger 9.84 189 *eP* **P 10 53 41.5 -4.3**
HYA *eS* **Sn 10 55 20.3 -17**
HYA AML AML 10 55 38.9
comp=Z,47nm,0.4s
HYA Hoyanger 9.84 189 *eP* **P 10 53 41.5 -4.3**
SNR=47
HYA *eS* **Sn 10 55 20.3 -17**
comp=Z,47nm,0.4s,SNR=47
NB2 NORSAR Subarra 9.92 174 Pn **P 10 53 43.1 -3.8**
baz=352,slow=12
NB2 NORSAR Subarra 9.92 174 *eP* **P 10 53 43.1 -3.8**
NOA NORSAR Array B 9.92 174 Pn **P 10 53 43.1 -3.8**
comp=Z,7.0nm,0.3s,baz=354,slow=13,SNR=49
NOA Sn **Sn 10 55 30.1 -9.3**
comp=Z,4.4nm,0.3s,baz=354,slow=14,SNR=3.1
NOA LR LR 10 57 37.3
comp=Z,365nm,18.4s,baz=355,slow=38
SUE Sulen 10.04 193 *eP* **P 10 53 43.6 -4.8**
SUE *eS* **S 10 55 27.7 -15**
SUE AML AML 10 55 38.0
comp=Z,26nm,0.5s
SUE Sulen 10.04 193 *eP* **P 10 53 43.6 -4.9**
SNR=47
SUE *eS* **S 10 55 27.7 -15**
comp=Z,26nm,0.5s,SNR=47
NAO01 NORSAR Array S 10.11 175 *eP* **P 10 53 45.4 -4.1**
comp=Z,13nm,0.3s
ASK Askoy 10.58 191 *eP* **P 10 53 50.5 -5.4**
ASK *eS* **S 10 55 40.6 -15**
ASK AML AML 10 56 03.3
comp=Z,26nm,0.4s
ASK Askoy 10.58 191 *eP* **P 10 53 50.5 -5.4**
SNR=47
ASK *eS* **S 10 55 40.6 -15**
comp=Z,26nm,0.4s,SNR=47
BER Bergen 10.67 191 *eP* **P 10 53 52.5 -4.7**
BER *eS* **S 10 55 44.3 -13**
BER AML AML 10 55 48.0
comp=Z,24nm,0.6s
BER Bergen 10.67 191 *eP* **P 10 53 52.5 -4.6**
SNR=47
BER *eS* **S 10 55 44.3 -13**
comp=Z,24nm,0.6s,SNR=47
BER Bergen 10.67 191 *eP* **P 10 53 52.3 -4.9**
BER *eS* **S 10 55 43.2 -14**
FALU Falun 10.78 162 *eP* **P 10 53 56.2 -2.4**
baz=339
EGD Espegrend 10.79 191 *eP* **P 10 53 53.9 -4.8**
EGD AML AML 10 55 52.6
comp=Z,21nm,0.6s
EGD Espegrend 10.79 191 *eP* **P 10 53 53.9 -4.8**
EGD *eS* **S 10 55 40.6 -20**
EGD AML AML 10 55 52.6
comp=Z,21nm,0.6s
EGD Espegrend 10.79 191 *eP* **P 10 53 53.9 -4.8**
SNR=47
EGD *eS* **S 10 55 40.6 -20**
comp=Z,21nm,0.6s,SNR=47
HFA0 Hagfors New Ar 10.94 168 Pn **P 10 53 57.4 -3.5**
HFS Hagfors 10.95 168 Pn **P 10 53 57.2 -3.8**
baz=353,slow=12
HFS Hagfors 10.95 168 *eP* **P 10 53 57.2 -3.8**
HFS Hagfors 10.95 168 Pn **P 10 53 57.9 -3.1**
comp=Z,2.6nm,0.3s,baz=353,slow=12,SNR=207
HFS Sn **S 10 55 53.5 -11**
comp=Z,0.9nm,0.3s,baz=354,slow=28,SNR=4.5
HFS LR LR 10 58 10.2
comp=Z,715nm,18.3s,baz=350,slow=37
KAF Kangasniemi 11.08 134 *ep* **P 10 54 00.8 -1.9**
comp=Z,4.9nm,0.2s
KAF Kangasniemi 11.08 134 *eP* **P 10 54 00.8 -1.9**
KAF pmax pmax
comp=Z,5.0nm,0.2s
ODD1 Odda 11.08 187 *eP* **P 10 53 57.1 -5.5**
ODD1 *eS* **S 10 55 52.0 -16**
ODD1 AML AML 10 55 57.8
comp=Z,14nm,0.3s
ODD1 Odda 11.08 187 *eP* **P 10 53 57.1 -5.6**
SNR=47
ODD1 *eS* **S 10 55 52.0 -16**
comp=Z,14nm,0.3s,SNR=47
KONO Kongsberg 11.29 179 *eP* **P 10 54 01.3 -4.3**
comp=Z,28nm,0.9s
KONO Kongsberg 11.29 179 *c iP* **P 10 54 01.6 -4.0**
FLYU Flymyra 11.37 158 *eP* **P 10 54 03.2 -3.4**
baz=340
BLS5 Blasjo 11.57 187 *eP* **P 10 54 06.6 -2.8**
BLS5 *eS* **S 10 56 09.5 -10**
BLS5 AML AML 10 56 34.1
comp=Z,11nm,0.8s
BLS5 Blasjo 11.57 187 *ePn* **P 10 54 06.6 -2.8**
SNR=50
BLS5 *eSn* **S 10 56 09.5 -10**
comp=Z,11nm,0.8s,SNR=50
BLS5 Blasjo 11.57 187 *eP* **P 10 54 06.6 -2.8**
BLS5 *eS* S 10 55 58.0 -22
FIA0 FINESS Array S 11.61 136 Pn **P 10 54 07.4 -2.6**
baz=333,slow=11
FIA0 Sn **S 10 56 07.8 -13**
baz=337,slow=28
FIA0 FINESS Array S 11.61 136 *eP* **P 10 54 07.4 -2.6**
FIA0 *eS* **S 10 56 07.8 -13**
FINES FINESS Array B 11.61 136 Pn **P 10 54 07.4 -2.5**
comp=Z,1.9nm,0.3s,baz=329,slow=13,SNR=52
FINES Sn **S 10 56 11.0 -10**
comp=Z,6.7nm,0.3s,baz=338,slow=26,SNR=16
FINES LR LR 10 58 24.3
comp=Z,406nm,21.4s,baz=321,slow=36
JOF Joensuu 11.70 122 *eP* **P 10 54 07.8 -3.4**
JOF MPN 10 54 12.5
comp=Z,3.3nm,0.2s
JOF Joensuu 11.70 122 *ep* **P 10 54 08.0 -3.2**
comp=Z,4.7nm,0.2s
NRTU Norrtaelje 11.90 156 *eP* **P 10 54 10.3 -3.6**
baz=332
SNART Snartemo 12.63 185 *eP* **P 10 54 19.4 -4.3**
SNART *eS* **S 10 56 35.3 -10**
SNART Snartemo 12.63 185 *eP* **P 10 54 19.3 -4.4**
SNART *eS* **S 10 56 28.7 -17**
VSU Vasula 14.45 141⇓ *eP* **P 10 54 46.9 -0.6**
EKA Eskdalemuir Ar 16.53 206 Pn **P 10 55 12.3 -2.1**
comp=Z,1.0nm,0.3s,baz=4.8,slow=12,SNR=16
EKA Sn **S 10 58 05.9 -11**
comp=Z,1.0nm,0.3s,baz=8.1,slow=23,SNR=9.6
BSEG Bad Segeberg 17.02 178 P **P 10 55 23.4 +2.7**
SUW Suwalki 18.03 153 *eP* **P 10 55 35.4 +2.1**
SUW *epP* 10 55 39.1
SUW Suwalki 18.03 153 *eP* **P 10 55 31.6 -1.7**
comp=Z,77nm,0.7s
SUW *epP* 10 55 39.2
GKP Gorka Klasztor 18.04 164 *eP* **P 10 55 35.1 +1.7**
GKP *epP* 10 55 36.8
GKP Gorka Klasztor 18.04 164 *eP* **P 10 55 35.1 +1.7**
GKP *epP* 10 55 36.8
MNK Minsk 18.37 144 *eP* **P 10 55 36.0 -1.5**
CLZ Clausthal 19.12 178 *eP* **P 10 55 46.7 +0.1**
comp=Z,29nm,1.2s
CLZ Clausthal 19.12 178 *eP* **P 10 55 46.7 +0.1**
CLZ pmax pmax
comp=Z,29nm,1.2s
MOS Moscow 19.51 126 *eP* **P 10 55 50.1 -1.0**
MOS pmax pmax
comp=Z,74nm,1.0s
MOS pmax pmax
comp=Z,100nm,1.6s
MOS MLR MLR
comp=Z,800nm,9.9s
MOS MLR MLR
comp=N,700nm,9.8s
MOS MLR MLR
comp=E,300nm,10.6s
CLL Collm 19.73 173 P **P 10 55 53.7 +0.1**
comp=E,logA/T=1.4
CLL *i* *SP 10 56 01.0
CLL *e*PPP PPP 10 56 17.0 -3.9
CLL *eS* **S 10 59 39.0 +9.1**
CLL Collm 19.73 173 *i P* **P 10 55 53.7 +0.1**
comp=E,28nm,1.1s
CLL *i* 10 56 01.0
CLL *eS* **S 10 59 39.0 +9.1**
CLL Collm 19.73 173 *i P* **P 10 55 53.7 +0.1**
CLL *eS* **S 10 59 39.0 +9.1**
CLL pmax pmax
comp=Z,28nm,1.1s
OBN Obninsk 19.79 129 P **P 10 55 53.9 -0.4**
OBN Obninsk 19.79 129⇓ *eP* **P 10 55 54.2 -0.1**
OBN pmax pmax
comp=Z,56nm,0.9s
OBN MLR MLR
comp=Z,500nm,9.0s
BRG Berggiesshubel 20.20 171 *eP* **P 10 55 58.1 -0.6**
comp=Z,2.2nm,0.8s
BRG *i* 10 56 00.3
BRG LR LR
comp=Z,310nm,20.8s,MS3.6
BRG Berggiesshubel 20.20 171 *eP* **P 10 55 58.1 -0.6**
BRG *i* 10 56 00.3
BRG pmax pmax
comp=Z,2.0nm,0.8s
BRG MLR MLR
comp=Z,310nm,20.8s,MS3.6
MOX Moxa 20.34 176 *i P* **P 10 55 59.8 -0.4**
comp=Z,logA/T=1.5
MOX Moxa 20.34 176 *eP* **P 10 55 59.8 -0.4**
comp=Z,55nm,1.7s
MOX Moxa 20.34 176 *eP* **P 10 55 59.8 -0.4**
MOX pmax pmax
comp=Z,55nm,1.7s
KSP Ksiaz 20.38 167 *eP* **P 10 56 01.7 +1.2**
KSP *eS* **S 10 59 52.4 +8.9**
PVCC Panska Ves 20.58 170 AMS AMS 11 04 00.0
comp=Z,300nm,16.5s
PVCC Panska Ves 20.58 170 P **P 10 56 01.5 -1.1**
UPC Upice 20.69 168 *eP* **P 10 56 04.0 +0.2**
TNS Taunus Mts 20.74 181 *eP* **P 10 56 04.8 +0.5**
comp=Z,35nm,1.2s
TNS Taunus Mts 20.74 181 *eP* **P 10 56 04.8 +0.5**
TNS pmax pmax
comp=Z,35nm,1.2s
NKC Novy Kostel 20.78 174 *eP* **P 10 56 04.6 -0.1**
NKC AMS AMS 11 04 30.0
comp=Z,300nm,16.8s
DPC Dobruska-Polom 20.87 167 *eP* **P 10 56 05.3 -0.3**
DPC AMS AMS 11 03 40.0
comp=Z,300nm,18.6s
GIVF Givet 20.96 188 *eP* **P 10 56 07.0 +0.5**
BAIF Baives 21.03 189 *eP* **P 10 56 06.9 -0.4**
comp=Z,56nm,1.3s,mb4.4
BAIF Baives 21.03 189 *eP* **P 10 56 06.9 -0.4**
BAIF pmax pmax
comp=Z,28nm,1.3s,mb4.4
PRU Pruhonice 21.11 170 *eP* **P 10 56 08.2 +0.1**
PRU AMS AMS 11 04 20.0
comp=Z,300nm,17.2s
GRF Grafenberg Arr 21.29 176 *eP* **P 10 56 10.4 +0.5**
comp=Z,44nm,1.0s,mb4.7
GRF LR LR
comp=Z,200nm,20.7s,MS3.5
GRF Grafenberg Arr 21.29 176 *eP* **P 10 56 10.4 +0.5**
GRF pmax pmax
comp=Z,44nm,1.0s,mb4.7
GRF MLR MLR
comp=Z,200nm,20.7s,MS3.5
GRF Grafenberg Arr 21.29 176 *eP* **P 10 56 10.4 +0.5**
GRF pmax pmax
comp=Z,44nm,1.0s,mb4.7
GRF MLR MLR
comp=Z,200nm,20.7s,MS3.5
OJC Ojcow 21.31 161 *eP* **P 10 56 10.0 -0.1**
WLF Walferdange 21.34 186 P **P 10 56 11.3 +0.9**
OKC Ostrava-Krasne 21.53 164 *eP* **P 10 56 12.1 -0.2**
OKC AMS AMS 11 04 40.0
comp=Z,300nm,20.2s
MORC Moravsky Berou 21.53 165 P **P 10 56 12.9 +0.5**
TREC Trest 21.86 169 *eP* **P 10 56 16.9 +1.2**
WET Wettzell 21.88 174 *eP* **P 10 56 17.2 +1.3**
comp=Z,77nm,1.4s,mb4.9
WET Wettzell 21.88 174 *eP* **P 10 56 17.2 +1.3**
WET pmax pmax
comp=Z,77nm,1.4s,mb4.9
KHC Kasperske Hory 21.92 172 *eP* **P 10 56 17.7 +1.4**
KHC pP 10 56 25.0
KHC AMS AMS 11 04 50.0
comp=Z,300nm,18.4s
KHC Kasperske Hory 21.92 172 *eP* **P 10 56 17.7 +1.4**
KHC *e* 10 56 25.0
KHC LR LR
comp=Z,300nm,18.4s,MS3.7
VRAC Vranov 21.92 167 P **P 10 56 17.4 +1.1**
comp=Z,12nm,0.9s,mb4.3,baz=346,slow=11,SNR=21
VRAC LR LR 11 04 27.5
comp=Z,288nm,21.6s,MS3.6,baz=349,slow=36
KRUC Moravsky 22.16 167 P **P 10 56 19.9 +1.3**
NIE Niedzica 22.16 161 *eP* **P 10 56 22.1 +3.5**
STU Stuttgart 22.19 180 P **P 10 56 21.5 +2.6**
GEC2 GERESS Array S 22.21 172 *eP* **P 10 56 20.9 +1.7**
comp=Z,114nm,1.8s,mb5.0
GEC2 GERESS Array S 22.21 172 *eP* **P 10 56 20.9 +1.7**
GEC2 pmax pmax
comp=Z,114nm,1.8s,mb5.0
GERES GERESS Array B 22.21 172 P **P 10 56 20.6 +1.4**
comp=Z,9.5nm,0.8s,mb4.3,slow=9.3,SNR=57
GERES LR LR 11 05 16.5
comp=Z,186nm,19.9s,MS3.5,baz=350,slow=38
LVV L'vov 22.23 154 *eP* **P 10 56 20.0 +0.6**
LVV L'vov 22.23 154 *i P* **P 10 56 20.3 +0.9**
LVV *e* 10 56 47.9
LVV *e*PPP PPP 10 57 00.7 +4.6
LVV *eS* **S 11 00 22.3 +3.3**
LVV *e*SSS SSS 11 01 04.7 -8.6
LVV MLR MLR
comp=Z,280nm,14.0s,MS3.8
LVV MLR MLR
comp=N,260nm,13.0s,MS3.9
LVV MLR MLR
comp=E,190nm,13.0s,MS3.9
AKASG Malin Array Be 22.25 145 P **P 10 56 19.4 -0.1**
comp=E,14nm,0.8s,mb4.5,baz=338,slow=11,SNR=19
STHS Stebnicka Huta 22.26 159 *i P* **P 10 56 22.1 +2.4**
JAVC Velka Javorina 22.45 165 P **P 10 56 23.3 +1.7**
MEZF Maizieres J'vi 22.55 187 *eP* **P 10 56 22.5 +0.2**
comp=E,76nm,1.4s,mb4.7
CDF Champ du Feu 22.57 183 *eP* **P 10 56 22.4 -0.1**
comp=E,62nm,1.7s,mb4.5
CDF Champ du Feu 22.57 183 *eP* **P 10 56 22.4 -0.1**
CDF pmax pmax
comp=Z,31nm,1.7s,mb4.5
BFO Black Forest 22.63 182 *eP* **P 10 56 25.2 +2.0**
comp=Z,35nm,1.3s,mb4.6
BFO Black Forest 22.63 182 *eP* **P 10 56 25.2 +2.0**
BFO pmax pmax
comp=Z,35nm,1.3s,mb4.6
FLN La Foliniere 22.67 197 *eP* **P 10 56 23.5 0.0**
comp=Z,165nm,1.5s,mb5.0
FLN *eR*
comp=Z,135nm,21.2s
FLN La Foliniere 22.67 197 *eP* **P 10 56 23.5 0.0**
FLN pmax pmax
comp=Z,83nm,1.5s,mb4.9
FLN MLR MLR
comp=Z,130nm,21.3s,MS3.3
CRVS Cervenica-Dubn 22.80 159 *i P* **P 10 56 27.0 +2.2**
LDF La Druitiere 22.80 196 *eP* **P 10 56 25.1 +0.3**
comp=Z,79nm,1.2s,mb4.7
LDF La Druitiere 22.80 196 *eP* **P 10 56 25.1 +0.3**
LDF pmax pmax
comp=Z,39nm,1.2s,mb4.7
FUR Furstenfeldbru 22.82 176 *eP* **P 10 56 27.0 +2.0**
comp=Z,89nm,1.1s,mb5.1
FUR Furstenfeldbru 22.82 176 *eP* **P 10 56 27.0 +2.0**
FUR pmax pmax
comp=Z,89nm,1.1s,mb5.1
KOLS Kolonicke sedl 22.86 158 *i P* **P 10 56 27.3 +1.9**
VYHS Vyhne 22.92 163 *i P* **P 10 56 27.7 +1.7**
HAU Haudompre 23.00 185 *eP* **P 10 56 27.0 +0.3**
comp=Z,53nm,1.3s,mb4.5
HAU *eR*
comp=Z,177nm,21.0s
HAU Haudompre 23.00 185 *eP* **P 10 56 27.0 +0.3**
HAU pmax pmax
comp=Z,26nm,1.3s,mb4.5
HAU MLR MLR
comp=Z,180nm,21.0s,MS3.5
ZST Bratislava 23.07 167 *eP* **P 10 56 30.4 +3.0**
GRR Gorron 23.07 197 *eP* **P 10 56 28.8 +1.3**
comp=Z,109nm,1.4s,mb4.8
GRR Gorron 23.07 197 *eP* **P 10 56 28.8 +1.3**
GRR pmax pmax
comp=Z,55nm,1.4s,mb4.8
KECS Kecovo 23.10 161 *i P* **P 10 56 29.5 +1.8**
UZH Uzhgorod 23.16 158 *eP* **P 10 56 31.0 +2.6**
MOA Molin 23.23 171⇑ *iP* **P 10 56 30.9 +1.8**
comp=Z,67nm,2.6s,mb4.6
SGMF Saint Gilles 23.39 200 *eP* **P 10 56 30.5 0.0**
comp=Z,46nm,0.9s,mb4.6
SGMF Saint Gilles 23.39 200 *eP* **P 10 56 30.5 0.0**
SGMF pmax pmax
comp=Z,23nm,0.9s,mb4.6
ROSF Rostrenen 23.39 201 *eP* **P 10 56 31.6 +1.1**
VOR Voronezh 23.53 129 *eP* **P 10 56 34.0 +2.2**
VOR *e* 10 56 42.5
VOR pmax pmax
comp=N,110nm,1.8s
VOR pmax pmax
comp=E,100nm,1.8s
VOR pmax pmax
comp=Z,160nm,1.8s,mb5.2
SOP Sopron 23.54 168 P **P 10 56 34.2 +2.2**
PSZ Piszkesteto 23.59 162⇑ *iP* **P 10 56 34.8 +2.3**
PSZ Piszkesteto 23.59 162 *eP* **P 10 56 34.7 +2.1**
comp=Z,44nm,1.4s,mb4.7
PSZ Piszkesteto 23.59 162 *eP* **P 10 56 34.7 +2.2**
PSZ pmax pmax
comp=Z,44nm,1.4s,mb4.7
MOTA Moosalm 23.63 177⇑ *iP* **P 10 56 34.8 +1.9**
comp=Z,59nm,1.6s,mb4.8
MOTA Moosalm 23.63 177⇑ *iP* **P 10 56 34.8 +1.9**
MOTA pmax pmax
comp=Z,59nm,1.6s,mb4.8
WATA Walderalm 23.65 176⇓ *iP* **P 10 56 35.3 +2.2**
comp=Z,26nm,1.2s,mb4.5
WATA Walderalm 23.65 176⇓ *iP* **P 10 56 35.3 +2.2**
WATA pmax pmax
comp=Z,26nm,1.2s,mb4.5
DAVA Damuels 23.68 179⇑ *iP* **P 10 56 35.6 +2.3**
comp=Z,87nm,2.4s,mb4.8
WTTA Wattenberg 23.73 176⇑ *iP* **P 10 56 36.4 +2.6**
comp=Z,144nm,1.8s,mb5.1
WTTA Wattenberg 23.73 176⇑ *iP* **P 10 56 36.4 +2.6**
WTTA pmax pmax
comp=Z,144nm,1.8s,mb5.1
SQTA Sankt Quirin 23.76 177⇑ *iP* **P 10 56 36.5 +2.4**
comp=Z,30nm,1.4s,mb4.5
SQTA Sankt Quirin 23.76 177⇑ *iP* **P 10 56 36.5 +2.4**
SQTA pmax pmax
comp=Z,30nm,1.4s,mb4.5
LOR Lormes 23.83 189 *eP* **P 10 56 35.4 +0.5**
comp=Z,35nm,1.2s,mb4.4
LOR *eR*
comp=Z,210nm,23.0s
LOR Lormes 23.83 189 *eP* **P 10 56 35.4 +0.5**
LOR pmax pmax
comp=Z,17nm,1.2s,mb4.3
LOR MLR MLR
comp=Z,210nm,23.0s,MS3.5
ARSA Arzberg 23.90 169⇑ *iP* **P 10 56 39.0 +3.5**
comp=Z,182nm,4.2s
KBA Koelnbreinsper 23.96 173⇑ *iP* **P 10 56 39.6 +3.5**
comp=Z,72nm,2.6s,mb4.7
KBA Koelnbreinsper 23.96 173⇑ *iP* **P 10 56 39.6 +3.5**
KBA pmax pmax
comp=Z,73nm,2.6s,mb4.7
VRSR Storozhevoye 24.00 129 *eP* **P 10 56 38.0 +1.6**
SSF Saint Saulge 24.06 190 *eP* **P 10 56 37.5 +0.4**
comp=Z,27nm,1.2s,mb4.6
SSF Saint Saulge 24.06 190 *eP* **P 10 56 37.5 +0.4**
SSF pmax pmax
comp=Z,27nm,1.2s,mb4.5
DAVOX Davos 24.18 179 LR LR 11 05 58.8
comp=Z,110nm,20.6s,MS3.3,baz=62,slow=36
AVF Avril sur Loir 24.34 190 *eP* **P 10 56 40.2 +0.4**
comp=Z,23nm,0.8s,mb4.3
AVF Avril sur Loir 24.34 190 *eP* **P 10 56 40.2 +0.4**
AVF pmax pmax
comp=Z,11nm,0.8s,mb4.3
CABF La Chapelle 24.40 185 *eP* **P 10 56 41.5 +1.1**

comp=Z,72nm,1.2s,mb4.7
CABF La Chapelle 24.40 185 *e*P **P 10 56 41.5 +1.1**
CABF pmax pmax
comp=Z,36nm,1.2s,mb4.7
SMF Signal de Mont 24.46 189 *e*P **P 10 56 41.6 +0.7**
comp=Z,52nm,1.2s,mb4.5
SMF Signal de Mont 24.46 189 *e*P **P 10 56 41.6 +0.7**
SMF pmax pmax
comp=Z,26nm,1.2s,mb4.5
PERS Pernice 24.49 170 *e*P **P 10 56 44.0 +2.7**
OBKA Obir 24.59 171 ⇓*i*P **P 10 56 44.6 +2.4**
comp=Z,72nm,2.1s,mb4.8
BGF Bois d'Agland 24.60 191 *e*P **P 10 56 42.8 +0.5**
comp=Z,43nm,0.8s,mb4.7
BGF Bois d'Agland 24.60 191 *e*P **P 10 56 42.8 +0.5**
BGF pmax pmax
comp=Z,22nm,0.8s,mb4.7
VRHR Novokhopersk 24.74 126 *e*P **P 10 56 44.5 +0.9**
VRHR pmax pmax
comp=Z,50nm,0.8s,mb5.1
VRHR pmax pmax
comp=N,30nm,0.7s
VRHR pmax pmax
comp=E,20nm,0.6s
VRHR MLR MLR
comp=Z,440nm,9.0s
VRHR MLR MLR
comp=N,890nm,13.0s
VRHR MLR MLR
comp=E,2μm,21.0s
MFF Saint Martin d 24.78 196 *e*P **P 10 56 44.0 -0.1**
comp=E,90nm,1.3s,mb4.8
MFF Saint Martin d 24.78 196 *e*P **P 10 56 44.0 -0.1**
MFF pmax pmax
comp=Z,45nm,1.3s,mb4.8
ROBS Robic 24.80 173 *e*P **P 10 56 47.3 +3.0**
TCF Toulx Ste Croi 24.91 192 *e*P **P 10 56 45.3 0.0**
comp=Z,39nm,0.9s,mb4.6
TCF Toulx Ste Croi 24.91 192 *e*P **P 10 56 45.3 0.0**
TCF pmax pmax
comp=Z,19nm,0.9s,mb4.6
LJU Ljubljana 25.05 171 *e*P **P 10 56 50.0 +3.3**
PKSM Moragy 25.17 165 P **P 10 56 48.1 +0.3**
ARU Arti 25.26 99 *e*P **P 10 56 50.4 +1.9**
comp=Z,49nm,1.0s,mb5.0
ARU *e* 10 57 00.2
ARU Arti 25.26 99 *e*P **P 10 56 50.4 +1.9**
ARU pmax pmax
comp=Z,49nm,1.0s,mb5.0
VISS Visnje 25.31 171 *e*P **P 10 56 50.1 +1.1**
CEY Cerknica 25.35 172 P **P 10 56 51.9 +2.4**
LPL La Plagne 25.48 184 *e*P **P 10 56 50.9 +0.2**
comp=Z,59nm,1.6s,mb4.6
LPL La Plagne 25.48 184 *e*P **P 10 56 50.9 +0.2**
LPL pmax pmax
comp=Z,30nm,1.6s,mb4.6
LPG La Plagne 25.49 184 *e*P **P 10 56 51.1 +0.3**
comp=Z,42nm,1.4s,mb4.5
LPG La Plagne 25.49 184 *e*P **P 10 56 51.1 +0.3**
LPG pmax pmax
comp=Z,21nm,1.4s,mb4.5
SVE Sverdlovsk 25.62 96 *e*P **P 10 56 54.0 +2.1**
SVE *e*PPP PPP 10 57 47.0 +3.8
SVE *e*S **S 11 01 23.0 +5.6**
SVE *e*SS SS 11 02 24.0 +3.3
SVE pmax pmax
comp=Z,40nm,1.9s,mb4.6
SVE MLR MLR
comp=N,200nm,12.0s,MS4.0
SVE MLR MLR
comp=E,200nm,12.0s,MS4.0
SVE MLR MLR
comp=Z,200nm,12.0s,MS3.9
RJF Les Rejaudoux 25.93 193 *e*P **P 10 56 56.1 +1.1**
comp=Z,24nm,0.8s,mb4.5
RJF *e*R
comp=Z,276nm,22.5s
RJF Les Rejaudoux 25.93 193 *e*P **P 10 56 56.1 +1.1**
RJF pmax pmax
comp=Z,12nm,0.8s,mb4.5
RJF MLR MLR
comp=Z,280nm,22.5s,MS3.7
BNI Bardonecchia 25.94 184 P **P 10 56 58.3 +3.3**
ORIF Oris-en-Rattie 26.10 185 *e*P **P 10 56 56.7 +0.2**
comp=Z,28nm,1.2s,mb4.3
ORIF *e*R
comp=Z,180nm,21.5s
VIVF Saint-Julien-l 26.20 187 *e*P **P 10 56 57.6 +0.1**
comp=Z,34nm,1.1s,mb4.5
VIVF Saint-Julien-l 26.20 187 *e*P **P 10 56 57.6 +0.1**
VIVF pmax pmax
comp=Z,17nm,1.1s,mb4.5
MBDF Montbardon 26.26 184 *e*P **P 10 56 58.3 +0.3**
CAF Calviac 26.27 192 *e*P **P 10 56 59.3 +1.2**
comp=Z,17nm,0.9s,mb4.3
CAF Calviac 26.27 192 *e*P **P 10 56 59.3 +1.2**
CAF pmax pmax
comp=Z,9.0nm,0.9s,mb4.3
LFF La Frestale 26.36 194 *e*P **P 10 56 59.8 +0.9**
comp=Z,63nm,1.1s,mb4.8
LFF La Frestale 26.36 194 *e*P **P 10 56 59.8 +0.9**
LFF pmax pmax
comp=Z,32nm,1.1s,mb4.8
VRI Vrincioaia 26.50 152 P **P 10 57 00.2 +0.1**
MLR Muntele Rosu 26.74 153 P **P 10 57 02.3 -0.1**
comp=Z,1.1nm,0.3s,mb3.8,baz=176,slow=13,SNR=3.4
MLR LR LR 11 08 06.7
comp=Z,410nm,18.1s,MS4.0,baz=311,slow=38
LASF Ste Croix 27.02 189 *e*P **P 10 57 05.1 +0.1**
comp=Z,41nm,1.2s,mb4.5
SBF Sospel 27.11 183 *e*P **P 10 57 05.9 +0.1**
comp=Z,66nm,1.0s,mb4.8
SBF Sospel 27.11 183 *e*P **P 10 57 05.9 +0.1**
SBF pmax pmax
comp=Z,33nm,1.0s,mb4.8
MTLF Montolieu 27.84 191 *e*P **P 10 57 13.0 +0.5**
comp=Z,24nm,1.2s,mb4.4
MTLF Montolieu 27.84 191 *e*P **P 10 57 13.0 +0.5**
MTLF pmax pmax
comp=Z,12nm,1.2s,mb4.4
TIRR Tirgusor 28.14 150 *e*P **P 10 57 15.2 +0.2**
EPF Esparros 28.28 194 *e*P **P 10 57 17.2 +0.8**
comp=Z,26nm,1.0s,mb4.5
EPF Esparros 28.28 194 *e*P **P 10 57 17.2 +0.8**
EPF pmax pmax
comp=Z,13nm,1.0s,mb4.5
SJPF Ste Jean 28.34 196 *e*P **P 10 57 16.1 -0.8**
comp=Z,38nm,1.2s,mb4.6
SJPF Ste Jean 28.34 196 *e*P **P 10 57 16.1 -0.8**
SJPF pmax pmax
comp=Z,19nm,1.2s,mb4.6
VTS Vitosha 29.22 159 P **P 10 57 24.6 -0.3**
ANN Anapa 29.57 137 *e*P **P 10 57 26.5 -1.5**
ANN *e*S **S 11 02 18.5 -3.1**
ANN pmax pmax
comp=Z,98nm,1.6s,mb5.3
ANN MLR MLR
comp=N,233nm,11.0s,MS4.3
ANN MLR MLR
comp=E,284nm,11.0s,MS4.3
ANN MLR MLR
comp=Z,546nm,11.0s,MS4.4
GOF Gofitskoye 30.67 129⇑*i*P **P 10 57 39.0 +1.2**
GOF pmax pmax
comp=Z,60nm,0.8s,mb5.5
RDO Rodhopi 30.95 156 P **P 10 57 40.8 +0.6**
KIV Kislovodsk 31.62 131⇓*e*P **P 10 57 47.8 +1.7**
BRVK Borovoye 31.89 91 P **P 10 57 49.6 +1.2**
BVAR Borovoye Array 31.95 91 P **P 10 57 50.5 +1.5**
comp=Z,5.9nm,0.9s,mb4.4,baz=323,slow=7.4,SNR=25
BVAR PcP PcP 11 00 39.2 0.0
comp=Z,3.0nm,0.9s,baz=270,slow=3.0,SNR=6.9
TIP Timpagrande 32.02 169 P **P 10 57 49.4 -0.3**
ESDC Sonseca Array 32.02 199 P **P 10 57 49.4 -0.3**
comp=Z,0.2nm,0.3s,baz=1.4,slow=8.9,SNR=5.5
TIXI Tiksi 32.43 31 *e*P **P 10 57 53.0 0.0**
TIXI pmax pmax
comp=Z,4.0nm,1.0s,mb4.2
ZEI Tsey 33.03 130 *e*P **P 10 57 58.0 -0.5**
ZEI *i* *PP pP 10 58 06.4 +5.0
ZEI *i* 10 59 08.4
ZEI pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
BRTR Keskin Array B 33.66 145 P **P 10 58 05.8 +1.9**
comp=Z,3.3nm,0.8s,mb4.3,baz=338,slow=6.7,SNR=13
NVS Novosibirsk 34.64 78⇓*i*P **P 10 58 14.8 +2.6**
NVS *e* 10 59 36.8
NVS pmax pmax
comp=Z,24nm,1.5s,mb4.9
NVS pmax pmax
comp=N,21nm,1.7s
GNI Garni 35.71 130 P **P 10 58 24.2 +2.6**
comp=N,3.8nm,0.3s,mb4.8,baz=186,slow=1.8,SNR=8.8
GNI Garni 35.71 130 *e*P **P 10 58 22.6 +1.1**
comp=N,64nm,1.4s,mb5.4
GNI *e* 10 58 34.2
GNI Garni 35.71 130 *e*P **P 10 58 22.6 +1.0**
GNI pmax pmax
comp=Z,64nm,1.4s
ZAL Zalesovo 35.90 78 P **P 10 58 24.4 +1.5**
comp=Z,1.0nm,0.3s,mb4.2,baz=164,slow=16,SNR=4.5
ZAL PcP PcP 11 00 48.6 -1.8
MALT Malatya 35.99 139 *e*P **P 10 58 25.3 +1.4**
comp=Z,11nm,0.8s,mb4.8
MALT Malatya 35.99 139 *e*P **P 10 58 25.3 +1.4**
MALT pmax pmax
comp=Z,11nm,0.8s,mb4.8
KURK Kurchatov 36.62 86 *e*P **P 10 58 28.8 -0.3**
comp=Z,9.5nm,1.2s,mb4.5
KURK Kurchatov 36.62 86 *e*P **P 10 58 28.8 -0.3**
KURK pmax pmax
comp=Z,9.0nm,1.2s,mb4.5
INK Inuvik 38.83 339 P **P 10 58 46.1 -1.3**
comp=Z,2.4nm,1.0s,mb3.9,baz=45,slow=11,SNR=2.5
INK Inuvik 38.83 339 *e*P **P 10 58 46.2 -1.3**
comp=Z,11nm,1.1s,mb4.5
INK Inuvik 38.83 339 *e*P **P 10 58 46.2 -1.3**
INK pmax pmax
comp=Z,11nm,1.1s
BILL Bilibino 40.47 13 *i*P **P 10 59 03.0 +2.0**
BOD Bodaibo 41.17 52 *e*P **P 10 59 05.1 -1.8**
BOD pmax pmax
comp=Z,5.0nm,1.4s,mb4.0
MKAR Makanchi Array 41.23 86 P **P 10 59 08.9 +1.4**
comp=Z,2.9nm,1.1s,mb3.8,baz=338,slow=6.5,SNR=18
MKAR PcP PcP 11 01 06.7 -0.4
comp=Z,2.5nm,0.9s,baz=342,slow=3.8,SNR=7.2
MKAR Makanchi Array 41.23 86 P **P 10 59 08.9 +1.4**
MKAR PcP PcP 11 01 06.7 -0.4
YKA Yellowknife Ar 41.32 324 P **P 10 59 07.3 -0.8**
comp=Z,1.5nm,0.5s,mb3.9,baz=16,slow=8.5,SNR=3.2
YKA LR LR 11 15 03.2
comp=Z,118nm,21.7s,MS3.7,baz=45,slow=34
ASF Jabal al Asfar 41.60 144 P **P 10 59 12.3 +1.7**
comp=Z,8.3nm,0.8s,mb4.4,baz=232,slow=2.7,SNR=9.7
USP Ospenovka 41.79 95 P **P 10 59 14.8 +2.8**
SNR=5.8
EKS2 Erkin-Say 42.10 97 P **P 10 59 17.8 +3.2**
SNR=6.3
AAK Ala-Archa 42.36 96 P **P 10 59 18.5 +1.8**
AAK Ala-Archa 42.36 96⇓*e*P **P 10 59 18.9 +2.2**
AAK pmax pmax
comp=Z,8.0nm,1.0s,mb4.3
AAK MLR MLR
comp=Z,100nm,19.0s,MS3.7
TKM2 Tokmak 2 42.46 95 P **P 10 59 21.1 +3.6**
SNR=7.6
AML Almayashu 42.55 97 P **P 10 59 22.2 +4.0**
SNR=7.7
KZA Kyzart 43.10 96 P **P 10 59 26.7 +3.9**
SNR=7.5
DAWY Dawson 43.59 341 *e*P **P 10 59 26.4 0.0**
ILAR Eielson Array 43.62 345 P **P 10 59 27.4 +0.8**
comp=Z,1.5nm,0.7s,mb3.8,baz=4.4,slow=6.5,SNR=19
SEY Seymchan 44.02 23⇓*e*P **P 10 59 30.0 +0.1**
SEY Seymchan 44.02 23⇓*e*P **P 10 59 30.9 +1.0**
ZAK Zakamensk 44.73 65 *e*P **P 10 59 38.2 +2.4**
ZAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.1
SONM Songino Array 47.92 64 P **P 11 00 03.2 +2.1**
comp=Z,1.5nm,0.6s,mb4.2,baz=325,slow=7.0,SNR=21
SONM PcP PcP 11 01 29.0 -0.9
comp=Z,1.9nm,1.0s,baz=337,slow=2.5,SNR=5.8
SONM LR LR 11 22 34.1
comp=Z,53nm,19.1s,MS3.5,baz=85,slow=39
ULM Lac du Bonnet 48.03 304 P **P 11 00 00.9 -0.9**
comp=Z,7.5nm,0.9s,mb4.7,baz=7.6,slow=6.7,SNR=7.0
RSO Redoubt South 48.33 348 *e*P **P 11 00 04.1 0.0**
EDM Edmonton 49.63 318 *e*P **P 11 00 13.4 -0.8**
EDM *e* 11 00 21.5
GTA Gaotai 53.52 74 P **P 11 00 45.6 +1.8**
GTA AP pP 11 00 52.1 +5.3
GTA XP sP 11 00 55.6 +7.6
GTA AMB AMB
comp=Z,14nm,1.1s,mb4.8
WALA Waterton Lakes 53.66 317 *e*P **P 11 00 43.4 -1.2**
comp=Z,8.7nm,0.9s,mb4.7
WALA *e* 11 00 51.4
PET Petropavlovsk 54.47 22 *i*P **P 11 00 54.3 +3.8**
NEW Newport 55.11 319 *e*P **P 11 00 54.5 -0.8**
comp=Z,9.1nm,1.0s,mb4.8
NEW Newport 55.11 319 *e*P **P 11 00 54.5 -0.8**
NEW pmax pmax
comp=Z,9.0nm,1.0s
ELN Prospectdale 55.33 284 *e*P **P 11 00 59.8 +2.7**
CHMT Chamberlain Mo 55.52 315 *e*P **P 11 00 57.0 -1.3**
CHMT *e*PcP PcP 11 01 58.1 0.0
GCMT Greycliff 55.73 312 *e*P **P 11 00 59.3 -0.5**
OCWA Octopus Mounta 57.05 324 *e*P **P 11 01 09.2 0.0**
comp=Z,10nm,1.1s,mb4.8
OCWA *e* 11 01 17.6
QLMT Earthquake Lak 57.05 313 *e*P **P 11 01 08.6 -0.7**
MCMT McKenzie Canyo 57.40 314 *e*P **P 11 01 11.0 -0.7**
MCMT *e* 11 01 19.4
MCMT *e* 11 01 22.9
HAWA Hanford 57.41 320 *e*P **P 11 01 10.9 -0.8**
comp=Z,0.7nm,0.9s,mb3.7
HAWA *e* 11 01 19.3
IMW Indian Meadow 57.82 312 *e*P **P 11 01 14.7 0.0**
comp=Z,311nm,0.8s
IMW *e* 11 01 23.1
TPAW Teton Pass 58.20 312 *e*P **P 11 01 17.4 +0.1**
comp=Z,6.5nm,0.9s,mb4.7
BMO Blue Mountains 58.39 318 *e*P **P 11 01 17.2 -1.5**
comp=Z,6.0nm,1.0s,mb4.6
PDAR Pinedale Array 58.54 311 P **P 11 01 18.2 -1.5**
comp=Z,2.5nm,1.0s,mb4.2,baz=14,slow=6.1,SNR=16
PDAR LR LR 11 27 19.2
comp=Z,83nm,18.4s,MS3.9,baz=173,slow=37
HLID Hailey 58.96 315 *e*P **P 11 01 21.7 -1.0**
comp=Z,8.9nm,1.1s,mb4.7
HLID *e* 11 01 29.8
CBKS Cedar Bluff 59.62 301 *e*P **P 11 01 25.5 -1.8**
comp=Z,38nm,1.2s,mb5.3
CBKS *e* 11 01 33.8
CBKS Cedar Bluff 59.62 301 *e*P **P 11 01 25.5 -1.8**
CBKS *e* 11 01 33.8
CBKS pmax pmax
comp=Z,38nm,1.2s,mb5.3
DAU Daniels Canyon 61.18 311 *e*P **P 11 01 38.0 0.0**
DAU *e* 11 01 46.5
XAN Xi'an 61.31 69 P **P 11 01 38.8 -0.1**
XAN AP pP 11 01 45.0 +3.0
XAN AMB AMB
comp=Z,11nm,1.3s,mb4.8
HUMO Hull Mountain 61.74 322 P **P 11 01 41.9 +0.2**
comp=Z,2.3nm,0.8s,mb4.4
HUMO *e*PcP PcP 11 02 23.2 +0.5
DUG Dugway 61.77 313 *e*P **P 11 01 41.3 -0.6**
comp=Z,13nm,1.1s,mb5.0
DUG *e* 11 01 50.0
DUG Dugway 61.77 313 *e*P **P 11 01 41.3 -0.6**
DUG *e* 11 01 50.0
DUG pmax pmax
comp=Z,13nm,1.1s,mb5.0
ELK Elko 61.82 315 *e*P **P 11 01 42.0 -0.3**
comp=Z,6.9nm,1.0s,mb4.7
ELK Elko 61.82 315 *e*P **P 11 01 42.0 -0.3**
ELK pmax pmax
comp=Z,7.0nm,1.0s
MOD Modoc 61.86 319 *e*P **P 11 01 42.4 -0.1**
comp=Z,12nm,1.0s,mb5.0
MOD *e* 11 01 50.9
SDCO Great Sand Dun 62.21 306 *e*P **P 11 01 44.2 -0.8**
comp=Z,3.7nm,0.9s,mb4.5
SDCO *e* 11 01 52.1
YBH Yreka Blue Hor 62.53 321 P **P 11 01 45.3 -1.6**
comp=Z,0.7nm,0.8s,mb3.8,baz=39,slow=14,SNR=3.2
PV10 Paradox Valley 62.54 309 *e*P **P 11 01 47.2 0.0**
PV01 Paradox Valley 62.65 308 *e*P **P 11 01 47.5 -0.3**
PV01 *e* 11 01 55.6
ATD Arta Tunnel 62.84 142 LR LR 11 28 54.8
comp=Z,39nm,18.1s,MS3.6,baz=279,slow=36
WMOK Wichita Mounta 63.15 299 *e*P **P 11 01 50.0 -1.2**
comp=Z,8.2nm,0.9s,mb4.9
WMOK *e* 11 01 57.5
WMOK Wichita Mounta 63.15 299 *e*P **P 11 01 50.0 -1.2**
WMOK *e* 11 01 57.5
WMOK pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
MSU Marysvale 63.21 311 *e*P **P 11 01 51.2 -0.3**
MSU *e* 11 01 59.5
WDC Whiskeytown Da 63.60 321 P **P 11 01 57.7 +3.8**
comp=Z,6.0nm,1.1s,mb4.5
WDC Whiskeytown Da 63.60 321 P **P 11 01 57.7 +3.8**
WDC pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
DBIC Dimbokro 64.77 196 P **P 11 02 00.5 -1.5**
comp=Z,4.7nm,0.9s,mb4.5,baz=331,slow=8.1,SNR=3.2
DBIC LR LR 11 29 21.8
comp=Z,81nm,21.7s,MS3.9,baz=335,slow=35
ANMO Albuquerque 65.10 305 *e*P **P 11 02 03.0 -0.7**
comp=Z,8.1nm,1.1s,mb4.7
ANMO *e* 11 02 11.1
ANMO Albuquerque 65.10 305 *e*P **P 11 02 03.0 -0.8**
ANMO *e* 11 02 11.1
ANMO pmax pmax
comp=Z,8.0nm,1.1s
MTUM Tungsten Hills 65.83 316 *e*P **P 11 02 09.0 +0.6**
MTUM *e* 11 02 17.5
NJ2 Nanjing 66.12 61 *e*P **P 11 02 13.5 +3.1**
NJ2 AP pP 11 02 24.0 +11
NJ2 XP sP 11 02 27.5 +13
NJ2 PP PP 11 04 42.0 +3.7
NJ2 S S 11 11 00.0 +2.7
NJ2 XS 11 11 17.0
NJ2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
NJ2 AMB AMB
comp=Z,782nm,5.2s
NJ2 LR LR
comp=N,1μm,14.1s
NJ2 LR LR
comp=E,3μm,12.9s
NJ2 LR LR
comp=Z,4μm,14.1s
NEN Nelson 66.58 313 *e*P **P 11 02 13.0 -0.3**
NEN *e* 11 02 21.3
MJAR Matsushiro Arr 66.86 43 P **P 11 02 15.5 +0.5**
comp=Z,1.9nm,0.9s,mb4.1,baz=341,slow=6.2,SNR=5.7
MJAR LR LR 11 32 52.5
comp=Z,66nm,21.6s,MS3.8,baz=350,slow=37
GYA Guiyang 67.65 74⇑*i*P **P 11 02 21.4 +1.2**
GYA AMB AMB
comp=Z,10.0nm,1.2s,mb4.7
SSE Sheshan 67.69 59 P **P 11 02 19.3 -1.0**
SSE AMB AMB
comp=Z,40nm,0.8s,mb5.5
SSE AMB AMB
comp=Z,227nm,3.8s
SSE Sheshan 67.69 59 P **P 11 02 19.2 -1.1**
comp=Z,40nm,0.8s,mb5.5
SSE LR LR
comp=Z,30nm,21.8s,MS3.5
MNTX Cornudas Mount 67.87 303 *e*P **P 11 02 20.2 -1.3**
comp=Z,4.3nm,0.9s,mb4.5
MNTX *e* 11 02 28.8
JNU Nakatsue 68.38 50 LR LR 11 34 59.5
comp=Z,39nm,18.3s,MS3.7,baz=334,slow=38
TXAR Lajitas Array 69.62 301 P **P 11 02 31.3 -1.0**
comp=Z,1.9nm,0.8s,mb4.1,baz=47,slow=5.3,SNR=21
TXAR LR LR 11 32 41.2
comp=Z,75nm,18.5s,MS4.0,baz=5.0,slow=36
MBAR Mbarara 72.75 157⇑*e*P **P 11 02 52.3 +1.0**
CBIJ Chichi jima 76.84 42 LR LR 11 37 37.6
comp=Z,77nm,19.1s,MS4.0,baz=100,slow=36

UPP 20 10:51:44.5, 69.77N×12.66E, h0km, ML3.3, Suspected Mining explosion., Norwegian Sea

*IDC **20** 11:16:46.0±3.1, 22.32N×95.07E, mb3.5/3, mb1 3.8/3, mb1mx3.4/18, mbtmp3.5/3, Error ellipse: s-maj=158.2km s-min=29.6km az=62.0*

ISC 20 11:16:45.7±2.3, 22.5N±0.2×95.2E±0.3, h5km±13km, n7, σ0°94/10, mb3.5/3, Myanmar

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IMP	**Imphal**	**2.57**	**334**	*e*P		**Pg**		**11 17 42.0**	**+5.1**
IMP				*e*S		**Sg**		**11 18 11.0**	**-0.2**
SHL	**Shillong**	**4.31**	**316**	*e*PN		**Pn**		**11 17 54.0**	**+0.5**
SHL				*e*SN		**Sn**		**11 18 38.0**	**-6.8**
CHG	**Chiang Mai**	**5.07**	**135**	PN		**Pn**		**11 18 12.2**	**+8.0**
CHG				SG		**Sg**		**11 19 35.5**	**+1.1**
NANT	**Nan**	**6.33**	**124**	P		**Pg**		**11 18 51.0**	**-1.1**
MKAR	**Makanchi Array**	**26.41**	**340**	P		**P**		**11 22 25.1**	**+0.2**
	0.5nm,0.6s,mb3.2,baz=153,slow=8.9,SNR=6.2								
WRA	**Warramunga Arr**	**56.92**	**135**	P		**P**		**11 26 32.9**	**-1.6**
	0.6nm,0.6s,mb3.8,baz=322,slow=7.5,SNR=9.1								
ILAR	**Eielson Array**	**80.93**	**23**	P		**P**		**11 29 03.1**	**+0.9**
	0.2nm,0.5s,mb3.3,baz=285,slow=5.4,SNR=4.6								

*NEIC **20** 11:17:49.8, 19.10N×64.87W, h40km, MD3.5(RSPR), After RSPR.*

RSPR 20 11:17:49.8, 19.10N×64.87W, h40km±22km, MD3.5/6, MD3.5/6, 7C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MTP	**Monte Pirata**	**1.19**	**213**	⇑*e*P		P		11 18 09.0	-1.2
MTP				*e*S		S		11 18 23.9	-1.7
CBYP	**Canovanas**	**1.25**	**229**	⇑*e*P		P		11 18 09.1	-2.0
CBYP				*e*S		S		11 18 25.6	-1.3
HUMP	**Col San Antoni**	**1.33**	**225**	⇑*e*P		P		11 18 10.3	-2.0
HUMP				*e*S		S		11 18 27.2	-1.8
CPD	**Cerro la Pandu**	**1.45**	**223**	⇑*e*P		P		11 18 12.7	-1.3
CPD				*e*S		S		11 18 29.8	-2.1
AOPR	**Arecibo Observ**	**1.93**	**248**	⇑*e*P		P		11 18 19.5	-1.4
AOPR				*e*S		S		11 18 41.9	-2.2
PORP	**Portuguez**	**1.97**	**238**	⇑*e*P		P		11 18 19.7	-1.7
CRPR	**Cabo Rojo, PR**	**2.39**	**243**	⇑*e*P		P		11 18 26.2	-1.2
CRPR				*e*S		S		11 18 53.7	-1.9

*IDC **20** 11:19:21.4±1.9, 1.76N×98.58E, mb4.3/7, mb1 4.4/7, mb1mx3.9/19, mbtmp4.3/7, Error ellipse: s-maj=95.4km s-min=18.5km az=55.0*

ISC 20 11:19:23.3±1.2, 1.5N±0.1×98.2E±0.2, h33km, n8, σ1°04/8, mb4.2/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**6.15**	**23**	P		**P**		**11 20 55.0**	**+0.8**
FITZ	**Fitzroy Crossi**	**33.31**	**127**	P		**P**		**11 26 01.3**	**+0.8**
	6.3nm,0.6s,mb4.7,baz=330,slow=6.4,SNR=12								
WRA	**Warramunga Arr**	**41.36**	**123**	P		**P**		**11 27 07.4**	**-0.8**
	6.3nm,0.4s,mb4.6,baz=302,slow=9.1,SNR=64								
WRA				PcP		PcP		11 29 05.6	-1.1
	0.4nm,0.4s,baz=314,slow=2.7,SNR=5.9								
SONM	**Songino Array**	**46.71**	**8**	P		**P**		**11 27 49.2**	**-1.8**
	0.6nm,0.3s,mb3.9,baz=192,slow=9.1,SNR=3.9								
MKAR	**Makanchi Array**	**47.21**	**345**	P		**P**		**11 27 55.5**	**+0.7**
	1.9nm,0.4s,mb4.3,baz=162,slow=7.7,SNR=25								
ZAL	**Zalesovo**	**53.43**	**350**	P		**P**		**11 28 41.2**	**-1.0**
	3.5nm,0.4s,mb4.6,baz=322,slow=6.3,SNR=6.5								
BVAR	**Borovoye Array**	**56.30**	**340**	P		**P**		**11 29 02.9**	**-0.2**
	0.7nm,0.4s,mb4.0,baz=139,slow=9.4,SNR=5.8								
FINES	**FINESS Array B**	**80.20**	**332**	P		**P**		**11 31 33.3**	**+1.5**
	0.2nm,0.4s,mb3.4,baz=90,slow=5.6,SNR=3.7								

CASC 20 11:23:19.5±2.7, 12.75N×89.25W, h36km±7km, MD3.7, ML3.6, 3C-16D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LFRS	**El Faro**	**0.88**	**12**	⇓*i*P		P		11 23 36.2	+0.7
LFRS				*e*S		S		11 23 46.8	-0.5
SNET	**Serv Nac Est T**	**0.93**	**1**	⇓*e*P		P		11 23 37.1	+1.0
SNET				*e*S		S		11 23 47.5	-0.9
SNET				*i*				11 23 48.3	
	comp=Z,3μm,0.3s								

LCBS	**La Ceiba**	**0.94**	**16**	‖ *e*P	P	11 23 36.8	+0.5
SNVI	**San Vicente**	**0.94**	**25**	‖ *e*P	P	11 23 37.2	+0.8
SNVI				*e*S	S	11 23 48.2	-0.6
BOQS	**Boqueron**	**0.98**	**358**	‖ *i*P	P	11 23 38.0	+1.1
BOQS				*e*S	S	11 23 50.6	+0.9
LFU	**La Fuente**	**1.00**	**8**	‖ *e*P	P	11 23 38.1	+0.9
LBRS	**Las Brisas**	**1.00**	**12**	‖ *e*P	P	11 23 38.0	+0.8
LBRS				*e*S	S	11 23 51.5	+1.2
SBLS	**San Blas**	**1.14**	**341**	‖ *e*P	P	11 23 40.4	+1.3
SNJE	**San Jose**	**1.16**	**343**	‖ *e*P	P	11 23 40.6	+1.2
SNJE				*e*S	S	11 23 54.6	+0.2
VSM	**San Miguel**	**1.16**	**55**	‖ *e*P	P	11 23 37.3	-2.2
BLLM	**Bellamira**	**1.20**	**55**	‖ *e*P	P	11 23 42.0	+2.0
BLLM				*e*S	S	11 23 56.2	+0.8
RTR	**El Retiro**	**1.20**	**341**	‖ *e*P	P	11 23 41.4	+1.4
RBDL	**Robledal**	**1.42**	**343**	‖ *e*P	P	11 23 44.6	+1.4
RBDL				*e*S	S	11 24 00.3	-0.6
CAHU	**Cacacuatique**	**1.43**	**45**	‖ *e*P	P	11 23 43.4	0.0
CAHU				*e*S	S	11 24 02.6	+1.5
CNCH	**Conchagua**	**1.47**	**69**	‖ *e*P	P	11 23 46.1	+2.1
CNCH				*e*S	S	11 24 04.0	+1.7
MTO2	**Montecristo 2**	**1.64**	**356**	‖ *e*P	P	11 23 47.3	+0.9
MTO2				*e*S	S	11 24 06.8	+0.3
IXG	**Ixpaco**	**1.84**	**320**	‖ *e*P	P	11 23 46.6	-2.6
IXG				AML	AML	11 24 09.7	
	comp=E,5μm,0.4s						
IXG				*e*S	S	11 24 11.7	+0.3
LEON	**Leon**	**2.33**	**98**	‖ *e*P	P	11 23 54.4	-1.8
MRL	**Marmol**	**2.34**	**349**	‖ *i*P	P	11 23 53.9	-2.5
TEL3	**Telica 3**	**2.35**	**94**	*e*P	P	11 23 55.2	-1.3
TEL3				*e*S	S	11 24 23.9	-0.6
TELN	**Telica**	**2.36**	**93**	*e*P	P	11 23 55.1	-1.6
TELN				*e*S	S	11 24 23.6	-1.2
MIRN	**Miramar**	**2.50**	**97**	*e*P	P	11 23 56.8	-1.8
CNGN	**Cerro Negro**	**2.50**	**95**	*e*S	S	11 24 27.8	-0.5
COPN	**Copaltepe**	**2.66**	**102**	*e*P	P	11 23 59.5	-1.4
COPN				*e*S	S	11 24 32.5	+0.3
MGAN	**Managua**	**2.99**	**101**	*e*	S	11 24 41.2	+0.5
	comp=E,138nm,0.4s						
MGAN				*e*		11 24 43.9	
	comp=N,74nm,0.3s						

*NEIC **20** 11:45:58.4, 17.22N×101.28W, h19km, MD3.6(MEX), After MEX.*

MEX 20 11:45:58.4±1.6, 17.22N×101.28W, h19km±223km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.42**	**336**	*i* P	Pb	11 46 05.1	-2.0
ZIIG				*i* S	Sb	11 46 12.2	-0.7
CAIG	**El Cayaco**	**0.99**	**100**	*i* P	Pb	11 46 13.0	-3.6
CAIG				*i* S	Sb	11 46 25.3	-3.9
ACX	**Acapulco**	**1.35**	**105**	*i* P	Pn	11 46 21.0	-1.5
ACX				*i* S	Sb	11 46 36.0	-3.8
MOIG	**Morelia**	**2.45**	**2**	*e*P	Pn	11 46 35.2	-2.9
MOIG				*i* S	Sn	11 47 03.7	-4.1

*IDC **20** 11:47:40.8±0.9, 40.48S×91.97W, mb3.9/10, mb1 4.1/11, mb1mx4.1/18, mbtmp3.9/11, ML3.6/1, MS4.4/16, Ms1 4.4/16, ms1mx4.3/19, Error ellipse: s-maj=26.0km s-min=21.2km az=133.0*

*NEIC **20** 11:47:44.4±0.5, 40.43S×91.85W, mb4.7/10, Error ellipse: s-maj=13.3km s-min=9.4km az=189.0*

ISC 20 11:47:41.2±0.5, 40.5S±0.1×91.84W±0.09, h10km, n42, σ0§93/33, mb4.4/17, MS4.4/14, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**16.17**	**98**	Pn	**P**	**11 51 31.2**	**+1.2**
	0.1nm,0.3s,baz=247,slow=15,SNR=2.0						
PLCA				LR	LR	11 56 13.3	
	comp=Z,2μm,20.0s,baz=217,slow=32						
RPN	**Rapa Nui**	**19.66**	**307**	LR	LR	11 57 37.4	
	comp=Z,1μm,19.2s,baz=138,slow=30						
CFAA	**Coronel Fontan**	**20.98**	**73**	P	**P**	**11 52 27.5**	**+0.6**
	0.9nm,0.9s,baz=227,slow=8.5,SNR=7.6						
CFAA				LR	LR	11 58 42.4	
	comp=Z,308nm,19.3s,MS3.7,baz=244,slow=31						
CFAA	**Coronel Fontan**	**20.98**	**73**	P	**P**	**11 52 27.5**	**+0.6**
CFAA				LR	LR	11 58 42.5	
USHA	**Ushuaia**	**21.20**	**141**	LR	LR	11 59 03.6	
	comp=Z,2μm,18.9s,MS4.6,baz=284,slow=32						
LVC	**Limon Verde**	**26.30**	**54**	P	**P**	**11 53 19.3**	**+0.6**
	2.2nm,0.6s,mb3.9,baz=264,slow=10,SNR=3.7						
LVC				LR	LR	12 01 12.7	
	comp=Z,1μm,18.2s,MS4.5,baz=185,slow=31						
LVC	**Limon Verde**	**26.30**	**54**	*e*P	**P**	**11 53 19.1**	**+0.3**
	9.5nm,1.0s,mb4.3						
LPAZ	**La Paz**	**31.66**	**47**	P	**P**	**11 54 07.0**	**0.0**
	1.9nm,0.7s,mb4.0,baz=223,slow=4.9,SNR=5.6						
LPAZ				LR	LR	12 04 04.1	
	comp=Z,520nm,20.4s,MS4.2,baz=25,slow=31						
CPUP	**Villa Florida**	**31.85**	**74**	P	**P**	**11 54 07.8**	**-0.7**
	1.3nm,0.9s,mb3.8,baz=278,slow=7.1,SNR=4.0						
CPUP				LR	LR	12 05 18.1	
	comp=Z,933nm,21.1s,MS4.4,baz=255,slow=33						
CPUP	**Villa Florida**	**31.85**	**74**	P	**P**	**11 54 07.8**	**-0.7**
CPUP				LR	LR	12 05 18.1	
PTCN	**Pitcairn Islan**	**35.34**	**284**	*e*P	**P**	**11 54 40.1**	**+1.4**
SIV	**San Ignacio**	**36.14**	**57**	P	**P**	**11 54 45.0**	**-0.5**
	1.6nm,0.5s,mb4.2,baz=227,slow=14,SNR=5.5						
ROSC	**El Rosal**	**47.87**	**24**	LR	LR	12 15 01.9	
	comp=Z,428nm,19.1s,MS4.4,baz=192,slow=34						
TBI	**Tubuai**	**50.93**	**271**	*e*S	**S**	**12 04 02.0**	**+2.0**
TBI				*e*LR	LR	12 11 08.6	
	2μm,28.0s,baz=128						
SDV	**Santo Domingo**	**52.86**	**27**	P	**P**	**11 56 58.8**	**-0.6**
	3.2nm,0.6s,mb4.4,baz=264,slow=8.9,SNR=4.6						
SDV	**Santo Domingo**	**52.86**	**27**	*e*P	**P**	**11 56 57.5**	**-2.0**
	5.1nm,0.9s,mb4.5						
SDV				*e*		11 57 02.7	
SDV				*e*		11 57 09.3	
TAOE	**Nuku Hiva Isla**	**53.10**	**293**	*e*S	**S**	**12 04 27.3**	**-2.6**
TAOE				*e*LR	LR	12 12 25.8	
	2μm,25.3s						
VNDA	**Vanda**	**54.25**	**195**	P	**P**	**11 57 07.1**	**-1.8**
	1.1nm,0.7s,mb3.9,baz=83,slow=8.1,SNR=2.0						
VNDA				LR	LR	12 16 07.3	
	comp=Z,200nm,20.2s,MS4.2,baz=177,slow=32						
PPT	**Papeete**	**54.38**	**277**	*e*S	**S**	**12 04 47.1**	**0.0**
PPT				*e*LR	LR	12 12 39.9	
	1μm,27.0s,baz=126						
PPT	**Papeete**	**54.38**	**277**	LR	LR	12 13 47.3	
	comp=Z,456nm,21.7s,MS4.5,baz=158,slow=29						
TXAR	**Lajitas Array**	**70.30**	**349**	P	**P**	**11 58 56.8**	**0.0**
	1.5nm,1.1s,mb3.9,baz=169,slow=6.4,SNR=11						
TXAR				LR	LR	12 24 16.4	
	comp=Z,186nm,18.4s,MS4.4,baz=195,slow=31						
MAW	**Mawson**	**70.57**	**170**	P	**P**	**11 58 57.8**	**0.0**
	1.4nm,0.6s,mb4.1,baz=211,slow=4.5,SNR=5.4						
MAW				LR	LR	12 26 51.4	
	comp=Z,175nm,18.0s,MS4.4,baz=62,slow=33						
MYNC	**Murphy**	**75.49**	**7**	*e*P	**P**	**11 59 26.9**	**-0.4**
	9.3nm,1.0s,mb4.7						
CCM	**Cathedral Cave**	**78.13**	**0**	*e*P	**P**	**11 59 41.0**	**-0.9**
	14nm,1.0s,mb4.8						
LDFC	**Landfair**	**78.16**	**341**	*e*P	**P**	**11 59 42.5**	**+0.4**
NEN	**Nelson**	**78.64**	**341**	*e*P	**P**	**11 59 44.1**	**-0.6**
NEN				*e*		11 59 51.5	
PV01	**Paradox Valley**	**79.70**	**347**	*e*P	**P**	**11 59 49.2**	**-1.2**
PV01				*e*		12 00 10.8	
PV10	**Paradox Valley**	**80.02**	**346**	*e*P	**P**	**11 59 51.9**	**-0.3**
PV10				*e*		11 59 57.9	
PV10				*e*		12 00 25.5	
DAU	**Daniels Canyon**	**82.41**	**345**	*e*P	**P**	**12 00 03.9**	**-0.7**
DUG	**Dugway**	**82.51**	**344**	*e*P	**P**	**12 00 03.8**	**-1.4**
	7.3nm,1.4s,mb4.5						
DUG				*e*		12 00 12.5	
DUG				*e*		12 00 26.6	
PDAR	**Pinedale Array**	**84.38**	**347**	P	**P**	**12 00 15.3**	**+0.7**
	1.4nm,0.8s,mb4.2,baz=157,slow=4.6,SNR=14						
PDAR				LR	LR	12 31 00.8	
	comp=Z,80nm,20.4s,MS4.1,baz=336,slow=31						
RSSD	**Black Hills**	**84.91**	**351**	*e*P	**P**	**12 00 18.3**	**+1.0**
	6.0nm,0.9s,mb4.7						
RSSD				*e*	pP	12 00 23.2	+2.8
TPAW	**Teton Pass**	**85.32**	**346**	*e*P	**P**	**12 00 19.9**	**+0.5**
	10.0nm,1.1s,mb4.9						
WVOR	**Wild Horse Val**	**86.00**	**340**	*e*P	**P**	**12 00 23.1**	**+0.4**
	4.8nm,1.4s,mb4.5						
WVOR				*e*		12 00 29.9	
WVOR				*e*		12 00 47.0	
HLID	**Hailey**	**86.08**	**344**	*e*P	**P**	**12 00 23.8**	**+0.7**
	6.6nm,1.5s,mb4.6						
QLMT	**Earthquake Lak**	**86.71**	**346**	*e*P	**P**	**12 00 26.9**	**+0.7**
QLMT				*e*		12 00 38.6	
LAO	**LASA Array**	**87.70**	**350**	*e*P	**P**	**12 00 32.4**	**+1.5**
	6.7nm,1.0s,mb4.8						
LAO				*e*		12 00 38.0	
TSUM	**Tsumeb**	**91.63**	**117**	LR	LR	12 36 19.7	
	comp=Z,196nm,19.2s,MS4.6,baz=140,slow=32						
DBIC	**Dimbokro**	**91.98**	**83**	LR	LR	12 36 49.0	
	comp=Z,210nm,21.5s,MS4.5,baz=216,slow=32						
STKA	**Stephens Creek**	**92.70**	**223**	LR	LR	12 36 33.5	
	comp=Z,225nm,21.3s,MS4.6,baz=25,slow=32						
SONM	**Songino Array**	**165.00**	**305**	PKPab	PKPab	12 08 41.1	-2.3
	0.2nm,0.3s,baz=346,slow=6.1,SNR=4.2						
ZAL	**Zalesovo**	**166.32**	**8**	PKP	PKPdf	12 07 44.8	-3.9
	1.2nm,0.2s,baz=150,slow=7.7,SNR=2.5						

*ISK **20** 11:53:15.9, 38.60N×26.02E, h16km, MD3.3*
*ATH **20** 11:53:16.6, 38.62N×26.05E, h27km, MD3.5/5*
*NEIC **20** 11:53:17.0, 38.60N×26.04E, h30km, MD3.5(ATH), ML3.3(ISK), After ISK.*
*CSEM **20** 11:53:17.0±0.1, 38.62N×26.13E, h15km, MD3.3, Error ellipse: s-maj=2.8km s-min=2.4km az=78.0*

ISC 20 11:53:15.6±0.6, 38.59N±0.03×25.98E±0.05, h10km, n32, σ1§04/43, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.53**	**115**	*i* P	**Pg**	**11 53 25.6**	**-0.8**
URLA				*i* S	**Sg**	**11 53 32.1**	**-1.4**
PRK	**Paraskevi**	**0.70**	**19**	*e*PN	**Pn**	**11 53 29.6**	**-1.7**
BLCB	**Balcova**	**0.85**	**103**	PG	**Pg**	**11 53 31.8**	**-1.0**
AYVA	**Ayvalik**	**0.91**	**37**	*i* P	**Pb**	**11 53 32.9**	**-0.1**
AYVA				*i* S	**Sb**	**11 53 46.4**	**+1.5**
IZM	**Izmir**	**1.02**	**100**	PG	**Pg**	**11 53 35.3**	**-0.8**
IZM				SG	**Sg**	**11 53 49.8**	**0.0**
KDAG	**Bornova**	**1.02**	**100**	*i* P	**Pb**	**11 53 34.0**	**-1.0**
KDAG				*i* S	**Sb**	**11 53 48.8**	**+0.5**
SMG	**Samos**	**1.10**	**142**	*e*PN	**Pn**	**11 53 37.7**	**+0.6**
EZN	**Ezine**	**1.27**	**12**	PN	**Pn**	**11 53 39.2**	**-0.2**
LIA	**Limnos Island**	**1.45**	**335**	*e*PN	**Pn**	**11 53 43.0**	**+0.9**
AKS	**Akhisar**	**1.46**	**78**	PN	**Pn**	**11 53 41.8**	**-0.4**
APE	**Apeiranthos**	**1.56**	**193**	PN	**Pn**	**11 53 44.2**	**+0.6**
APE	**Apeiranthos**	**1.56**	**193**	*e*Pn	**Pn**	**11 53 45.3**	**+1.7**
CANB	**Canakkale**	**1.66**	**30**	PN	**Pn**	**11 53 44.9**	**-0.1**
BALB	**Balikesir**	**1.81**	**54**	PN	**Pn**	**11 53 47.0**	**-0.2**
BODT	**Bodrum**	**1.85**	**145**	*e*PN	**Pn**	**11 53 47.5**	**-0.3**
LPK	**Lapseki**	**1.88**	**18**	*e*PN	**Pn**	**11 53 47.6**	**-0.6**
BDRM	**Kayabasi**	**1.91**	**142**	*i* P	**Pg**	**11 53 54.5**	**+0.7**
BDRM				*i* S	**Sg**	**11 54 18.9**	**-0.4**
MLSB	**Milas**	**1.92**	**132**	*e*PN	**Pn**	**11 53 49.2**	**+0.5**
BTOK	**Tokmak**	**1.98**	**53**	*i* P	**Pn**	**11 53 51.6**	**+2.0**
BTOK				*i* S	**Sn**	**11 54 19.9**	**+5.3**
MANT	**Manisa**	**2.02**	**92**	*i* P	**Pn**	**11 53 53.2**	**+3.0**
MANT				*i* S	**Sn**	**11 54 17.8**	**+2.0**
MANT	**Manisa**	**2.02**	**92**	*i* P	**Pn**	**11 53 53.6**	**+3.4**
MANT				*i* S	**Sn**	**11 54 18.1**	**+2.3**
BNT	**Bandirma**	**2.32**	**40**	*e*PN	**Pn**	**11 53 54.5**	**0.0**
YER	**Yerkesik**	**2.33**	**128**	*e*PN	**Pn**	**11 53 54.5**	**-0.1**
MRMT	**Marmara Adasi**	**2.37**	**31**	*e*PN	**Pn**	**11 53 54.7**	**-0.5**
MFT	**Murefte**	**2.42**	**24**	*e*PN	**Pn**	**11 53 55.2**	**-0.7**
RDO	**Rodhopi**	**2.58**	**353**	*e*PN	**Pn**	**11 53 58.5**	**+0.3**
ORLT	**Orhaneli**	**2.69**	**56**	*e*PN	**Pn**	**11 53 59.9**	**+0.1**
GDZ	**Gediz**	**2.78**	**78**	*i* P	**Pg**	**11 54 07.9**	**-3.2**
GDZ				*i* S	**Sg**	**11 54 44.1**	**-4.1**
ULDT	**Uludag**	**2.90**	**57**	*i* P	**Pn**	**11 54 07.0**	**+4.2**
ULDT				*i* S	**Sn**	**11 54 42.8**	**+4.8**
ARMT	**Armutlu**	**2.98**	**47**	*e*PN	**Pn**	**11 54 03.4**	**-0.5**
YLV	**Yalova**	**3.28**	**52**	*e*PN	**Pn**	**11 54 07.9**	**-0.3**
TKTP	**Tekketepe**	**3.46**	**98**	*i* P	**Pg**	**11 54 21.0**	**-3.7**
TKTP				*i* S	**Sb**	**11 55 01.0**	**+2.1**

*IGIL **20** 11:55:11.7±21.0, 37.10N×13.70W, h2km, ML3.5*
*CSEM **20** 11:55:11.1±0.5, 37.12N×13.79W, h15km, ML3.9/6, Error ellipse: s-maj=9.7km s-min=6.9km az=58.0*
*NEIC **20** 11:55:14.1, 37.30N×13.48W, MG4.3(MDD), After MDD.*
*MDD **20** 11:55:14.0±2.3, 37.16N×13.75W, h65km±145km, mb4.0/17, Error ellipse: s-maj=21.8km s-min=14.2km az=68.0, PRXIMO*
*INMG **20** 11:55:15.8±1.1, 36.93N×13.75W, h10km, ML2.9, Error ellipse: s-maj=11.6km s-min=8.5km az=135.0*

ISC 20 11:55:18.0±1.0, 37.53N±0.04×12.96W±0.06, h10km, n72, σ1§23/137, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOU	**Loures**	**3.29**	**65**	*e*Pn	**Pn**	**11 56 13.1**	**+2.4**
PLOU				*e*Sn	**Sn**	**11 56 56.0**	**+5.7**
	24nm,0.1s						
PLOU	**Loures**	**3.29**	**65**	*e*Pn	**Pn**	**11 56 13.1**	**+2.4**
PLOU				*e*Sn	**Sn**	**11 56 56.0**	**+5.7**
	24nm,0.1s						
PLOU	**Loures**	**3.29**	**65**	Pn	**Pn**	**11 56 13.1**	**+2.4**
PLOU				Sn	**Sn**	**11 56 55.4**	**+5.1**
PTEO	**Sao Teotonio**	**3.36**	**88**	*e*Pn	**Pn**	**11 56 12.4**	**+0.6**
PTEO				*e*Sn	**Sn**	**11 56 53.9**	**+1.7**
	17nm,0.2s						
PTEO	**Sao Teotonio**	**3.36**	**88**	P	**Pn**	**11 56 12.4**	**+0.6**
PTEO				S	**Sn**	**11 56 53.9**	**+1.7**
	8.6nm,0.2s						
PTEO	**Sao Teotonio**	**3.36**	**88**	Pn	**Pn**	**11 56 12.4**	**+0.6**
PTEO				Sn	**Sn**	**11 56 53.8**	**+1.6**
ALMR	**Almeirim**	**3.81**	**63**	*e*P	**Pn**	**11 56 19.5**	**+1.4**
ALMR				*e*		11 56 20.0	
	baz=151,slow=4.6						
ALMR				*e*S	**Sn**	**11 57 08.6**	**+5.2**
ALMR				*e*S	**Sn**	**11 57 08.7**	**+5.3**
ALMR				AML	AML	11 57 11.6	
	comp=E,85nm,0.3s						
ALMR	**Almeirim**	**3.81**	**63**	*e*Pn	**Pn**	**11 56 19.5**	**+1.4**
ALMR				*e*Sn	**Sn**	**11 57 08.6**	**+5.2**
PBEJ	**Beja**	**4.06**	**81**	*e*Pn	**Pn**	**11 56 22.4**	**+0.7**
PBEJ				*e*Sn	**Sn**	**11 57 11.5**	**+1.6**
	comp=E,12nm,0.2s						
PBEJ	**Beja**	**4.06**	**81**	*e*Pn	**Pn**	**11 56 22.4**	**+0.7**
PBEJ				*e*Sn	**Sn**	**11 57 11.5**	**+1.6**
	comp=E,12nm,0.2s						
PTOM	**Tomar**	**4.13**	**58**	*e*Pn	**Pn**	**11 56 24.7**	**+2.1**
PTOM				*e*Sn	**Sn**	**11 57 16.7**	**+5.2**
	comp=E,19nm,0.1s						
PTOM	**Tomar**	**4.13**	**58**	*e*Pn	**Pn**	**11 56 24.7**	**+2.1**
PTOM				*e*Sn	**Sn**	**11 57 16.7**	**+5.2**
	comp=E,19nm,0.1s						
EGRO	**El Granado**	**4.35**	**88**	P	**Pn**	**11 56 25.5**	**-0.2**
	comp=E,1.0nm,0.2s,SNR=9.6						
EGRO				S	**Sn**	**11 57 17.5**	**+0.3**
	comp=E,24nm,0.4s,SNR=13						
EGRO	**El Granado**	**4.35**	**88**	Pn	**Pn**	**11 56 25.5**	**-0.3**
EGRO				Sn	**Sn**	**11 57 17.5**	**+0.3**
EGRO	**El Granado**	**4.35**	**88**	P	**Pn**	**11 56 25.5**	**-0.2**
EGRO				S	**Sn**	**11 57 17.5**	**+0.3**
EBAD	**Badajoz**	**4.84**	**74**	P	**Pn**	**11 56 34.4**	**+1.6**
	comp=E,1.8nm,0.2s,SNR=9.1						
EBAD				S	**Sn**	**11 57 31.0**	**+1.4**
	comp=E,17nm,0.2s,SNR=13						
EBAD	**Badajoz**	**4.84**	**74**	Pn	**Pn**	**11 56 34.4**	**+1.6**
EBAD				Sn	**Sn**	**11 57 32.1**	**+2.5**
EBAD	**Badajoz**	**4.84**	**74**	P	**Pn**	**11 56 34.4**	**+1.6**
EBAD				S	**Sn**	**11 57 32.1**	**+2.5**
PCBR	**Castelo Branco**	**4.87**	**60**	*e*Pn	**Pn**	**11 56 34.4**	**+1.3**
PCBR				*e*Sn	**Sn**	**11 57 33.5**	**+3.3**
	comp=E,7.5nm,0.3s						
PCBR	**Castelo Branco**	**4.87**	**60**	*e*Pn	**Pn**	**11 56 34.4**	**+1.3**
PCBR				*e*Sn	**Sn**	**11 57 33.5**	**+3.3**
	comp=E,7.5nm,0.3s						
PCBR	**Castelo Branco**	**4.87**	**60**	Pn	**Pn**	**11 56 34.3**	**+1.2**
PCBR				Sn	**Sn**	**11 57 33.2**	**+3.0**
EMIN	**Mina Concepcio**	**4.99**	**85**	P	**Pn**	**11 56 35.2**	**+0.3**
	comp=E,0.9nm,0.2s,SNR=9.8						
EMIN				S	**Sn**	**11 57 32.1**	**-1.3**
	comp=E,6.3nm,0.2s,SNR=9.1						
EMIN	**Mina Concepcio**	**4.99**	**85**	Pn	**Pn**	**11 56 35.2**	**+0.3**
EMIN				Sn	**Sn**	**11 57 32.9**	**-0.5**
EMIN	**Mina Concepcio**	**4.99**	**85**	P	**Pn**	**11 56 35.2**	**+0.3**
EMIN				S	**Sn**	**11 57 32.9**	**-0.4**
MTE	**Manteigas**	**5.10**	**54**	*e*Pn	**Pn**	**11 56 37.9**	**+1.5**
MTE				*e*Sn	**Sn**	**11 57 40.3**	**+4.2**
	comp=E,15nm,0.4s						
MTE	**Manteigas**	**5.10**	**54**	*e*Pn	**Pn**	**11 56 37.9**	**+1.5**
MTE				*e*Sn	**Sn**	**11 57 40.3**	**+4.2**
	comp=E,15nm,0.4s						
MTE	**Manteigas**	**5.10**	**54**	Pn	**Pn**	**11 56 37.9**	**+1.5**
MTE				Sn	**Sn**	**11 57 39.2**	**+3.1**
PVRL	**Vila Real**	**5.52**	**46**	*e*Sn	**Sn**	**11 57 48.2**	**+1.6**
	comp=E,8.5nm,0.1s						
PVRL	**Vila Real**	**5.52**	**46**	P	**Pn**	**11 56 42.2**	**-0.1**
PVRL				S	**Sn**	**11 57 48.2**	**+1.6**
	comp=E,4.2nm,0.1s						
PCAB	**Cabril**	**5.65**	**41**	*e*Pn	**Pn**	**11 56 43.6**	**-0.5**
PCAB				*e*Sn	**Sn**	**11 57 50.5**	**+0.7**
	comp=E,7.2nm,0.1s						
PCAB	**Cabril**	**5.65**	**41**	P	**Pn**	**11 56 43.6**	**-0.5**
PCAB				S	**Sn**	**11 57 50.5**	**+0.7**
	comp=E,3.6nm,0.1s						
PCAB	**Cabril**	**5.65**	**41**	Pn	**Pn**	**11 56 43.6**	**-0.5**
PCAB				Sn	**Sn**	**11 57 50.4**	**+0.6**
ESPR	**Espera**	**5.71**	**94**	P	**Pn**	**11 56 44.2**	**-0.8**
	comp=E,4.6nm,0.2s,SNR=7.9						
ESPR				S	**Sn**	**11 57 51.1**	**-0.2**
	comp=E,19nm,0.3s,SNR=7.9						
ESPR	**Espera**	**5.71**	**94**	Pn	**Pn**	**11 56 44.2**	**-0.7**
ESPR				Sn	**Sn**	**11 57 51.7**	**+0.4**
ESPR	**Espera**	**5.71**	**94**	P	**Pn**	**11 56 44.2**	**-0.8**
ESPR				S	**Sn**	**11 57 51.7**	**+0.4**
ELOB	**Lobios**	**5.75**	**40**	P	**Pn**	**11 56 45.2**	**-0.3**
	comp=E,2.0nm,0.1s,SNR=13						
ELOB				S	**Sn**	**11 57 52.7**	**+0.5**
	comp=E,2.6nm,0.1s,SNR=6.3						
ELOB	**Lobios**	**5.75**	**40**	Pn	**Pn**	**11 56 45.2**	**-0.3**
ELOB				Sn	**Sn**	**11 57 52.7**	**+0.4**
ECAB	**El Cabril**	**5.99**	**82**	P	**Pn**	**11 56 49.1**	**+0.1**
	comp=E,1.7nm,0.3s,SNR=8.0						
ECAB				S	**Sn**	**11 57 57.9**	**-0.6**
	comp=E,3.3nm,0.2s,SNR=7.8						
ECAB	**El Cabril**	**5.99**	**82**	Pn	**Pn**	**11 56 49.1**	**+0.1**
ECAB				Sn	**Sn**	**11 57 57.9**	**-0.6**
EMAZ	**Mazaricos**	**6.21**	**28**	P	**Pn**	**11 56 51.1**	**-1.0**
	comp=E,3.0nm,0.1s,SNR=4.7						
EMAZ				S	**Sn**	**11 58 01.5**	**-2.4**
	comp=E,3.8nm,0.1s						
EMAZ	**Mazaricos**	**6.21**	**28**	Pn	**Pn**	**11 56 51.1**	**-1.0**
EMAZ				Sn	**Sn**	**11 58 01.5**	**-2.4**
STS	**Santiago**	**6.32**	**31**	P	**Pn**	**11 56 52.2**	**-1.5**
	comp=E,4.3nm,0.2s,SNR=7.9						
STS				S	**Sn**	**11 58 05.2**	**-1.5**
	comp=E,2.2nm,0.1s,SNR=7.9						
STS	**Santiago**	**6.32**	**31**	Pn	**Pn**	**11 56 53.2**	**-0.5**
STS				Sn	**Sn**	**11 58 04.3**	**-2.4**
PBRG	**Braganca**	**6.42**	**46**	*e*Pn	**Pn**	**11 56 55.5**	**+0.5**
PBRG				*e*Sn	**Sn**	**11 58 08.1**	**-1.0**
	comp=E,2.4nm,0.2s						
PBRG	**Braganca**	**6.42**	**46**	P	**Pn**	**11 56 55.5**	**+0.5**
PBRG				S	**Sn**	**11 58 08.1**	**-1.0**
	comp=E,1.2nm,0.2s						
PBRG	**Braganca**	**6.42**	**46**	Pn	**Pn**	**11 56 55.2**	**+0.2**
PBRG				Sn	**Sn**	**11 58 08.1**	**-1.0**
ECAL	**Calabor**	**6.51**	**45**	P	**Pn**	**11 56 56.4**	**+0.1**
	comp=E,2.7nm,0.1s,SNR=17						
ECAL				S	**Sn**	**11 58 11.9**	**+0.5**
	comp=E,7.6nm,0.3s,SNR=7.3						
ECAL	**Calabor**	**6.51**	**45**	Pn	**Pn**	**11 56 56.4**	**+0.1**
ECAL				Sn	**Sn**	**11 58 12.5**	**+1.1**
ECAL	**Calabor**	**6.51**	**45**	P	**Pn**	**11 56 56.4**	**+0.1**
ECAL				S	**Sn**	**11 58 12.5**	**+1.1**
ERUA	**La Rua**	**6.60**	**41**	P	**Pn**	**11 56 56.9**	**-0.6**
	comp=E,2.0nm,0.1s,SNR=7.9						
ERUA				S	**Sn**	**11 58 14.1**	**+0.5**
	comp=E,3.2nm,0.4s,SNR=7.9						
ERUA	**La Rua**	**6.60**	**41**	Pn	**Pn**	**11 56 57.2**	**-0.3**
ERUA				Sn	**Sn**	**11 58 14.1**	**+0.5**
EMIJ	**Mijas**	**6.62**	**96**	S	**Sn**	**11 58 13.2**	**-0.8**
	comp=E,0.6nm,0.2s,SNR=5.0						
EADA	**Adamuz**

0.7nm,0.3s,baz=332,slow=10,SNR=17
STKA Stephens Creek 38.97 154 P P 12 36 00.3 -2.0
2.4nm,1.0s,baz=58,slow=15,SNR=4.2
MKAR Makanchi Array 56.03 327 P P 12 38 13.2 -2.3
0.2nm,0.3s,baz=127,slow=7.8,SNR=4.2

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*DMN **20** 12:50:39.2±0.8,31.63N×88.35E,h10km,Ml4.6/5,Error ellipse: s-maj=40.6km s-min=15.5km az=129.0*
*IDC **20** 12:50:43.9±0.5,31.13N×88.16E,mb4.6/19,mb1 4.8/20, mb1mx4.7/22,mbtmp4.6/20,ML3.4/1,MS3.9/7,Ms1 3.9/7, ms1mx3.7/17,Error ellipse: s-maj=17.8km s-min=13.6km az=39.0*
*NDI **20** 12:50:43.5±6.6,31.65N×88.29E,h10km,mb5.1, mb5.1(NEIC)*
*LDG **20** 12:50:47.8±0.1,31.32N×88.00E,h33km,Mb5.2/35, Ms3.6/6,Error ellipse: s-maj=7.1km s-min=2.6km az=116.0*
*BJI **20** 12:50:48.0,31.19N×88.16E,h50km,mB4.7,mb4.7,Ms4.6, Msz4.3*
*MOS **20** 12:50:48.2±0.9,31.33N×88.12E,h33km,mb5.2/74,Error ellipse: s-maj=7.6km s-min=3.9km az=124.8*
*HRVD **20** 12:50:51.7±0.5,31.08N×88.09E,h96km±6km,MW4.9/49, Centroid moment Tensor Solution. LP body waves: s3,c3; Mantle waves: s49,c82; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.58±.13; $M_{\theta\theta}$-2.76±.12; $M_{\phi\phi}$0.17±.11; $M_{r\theta}$-0.13±.14; $M_{\theta\phi}$0.51±.11; $M_{r\phi}$0.51±.09; Best double couple: $M_0$2.768×10^{16} NP1:$\phi_0$89°,δ44°,λ74°. NP2:$\phi_0$290°, δ48°,λ105°. Principal axes: T 2.682, Plg79°, Azm268°; N .171, Plg11°, Azm100°; P -2.854, Plg2°, Azm10°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **20** 12:50:51.7±0.5,31.22N×88.17E,h54km±5km,mb5.1/78 Error ellipse: s-maj=4.7km s-min=3.5km az=195.0*

ISC 20 12:50:48.7±0.6,31.28N±0.03×88.09E±0.02,h41km±6km, n306,σ1$02/321,mb5.0/110,MS4.0/21,17C-72D,Xizang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**3.08**	**120**	P		**P**		**12 51 38.4**	**+2.3**
LSA	**Lhasa**	**3.08**	**120**	⇑iP		**P**		**12 51 38.2**	**+2.2**
LSA				eS		**S**		**12 52 20.3**	**+8.3**
GTK	**Gangtok**	**3.96**	**173**	eP		**P**		**12 51 51.0**	**+2.4**
KKN	**Kakani**	**4.25**	**216**	ePn		**P**		**12 51 54.1**	**+1.4**
KKN				eSn		**S**		**12 52 50.6**	**+8.9**
287nm,0.6s									
PKI	**Pulchoki**	**4.37**	**213**	ePn		**P**		**12 51 55.8**	**+1.4**
PKI				eSn		**S**		**12 52 52.6**	**+7.9**
251nm,0.5s									
GKN	**Gorkha**	**4.43**	**223**	ePn		**P**		**12 51 56.4**	**+1.1**
GKN				eSn		**S**		**12 52 54.3**	**+7.9**
244nm,0.4s									
DMN	**Daman**	**4.49**	**216**	ePn		**P**		**12 51 57.4**	**+1.4**
DMN				eSn		**S**		**12 52 55.2**	**+7.6**
1μm,1.2s									
KOLN	**Koldanda**	**5.24**	**229**	ePn		**P**		**12 52 07.3**	**+0.6**
KOLN				eSn		**S**		**12 53 13.4**	**+6.7**
140nm,0.5s									
KOLN	**Koldanda**	**5.24**	**229**	ePn		**P**		**12 52 07.3**	**+0.6**
70nm,0.5s									
KOLN				eSn		**S**		**12 53 13.4**	**+6.7**
SHL	**Shillong**	**6.60**	**149**	eP		**P**		**12 52 23.5**	**-2.2**
SHL				ex		**S**		**12 53 42.0**	**+1.5**
PTH	**Pithoragarh**	**7.01**	**258**	ex		x		12 52 34.0	
PTH				ex		x		12 53 57.0	
BOK	**Bokaro**	**7.71**	**195**	i P		**P**		**12 52 38.5**	**-2.6**
BOK				i x		x		12 54 06.5	
IMP	**Imphal**	**8.28**	**140**	eP		**P**		**12 52 47.0**	**-2.1**
IMP				ex		x		12 53 21.0	
CAL	**Calcutta**	**8.71**	**179**	ex		x		12 52 41.6	
CAL				ex		x		12 53 58.2	
CAL				ex		x		12 55 53.9	
AGRA	**Agra**	**9.73**	**248**	eP		**P**		**12 53 05.6**	**-3.6**
AGRA				eS		**S**		**12 54 51.6**	**-6.7**
NDI	**New Delhi**	**9.77**	**257**	eP		**P**		**12 53 07.0**	**-2.8**
NDI				ex		x		12 54 55.0	
SONA	**Sohna**	**10.03**	**255**	eP		**P**		**12 53 10.9**	**-2.3**
SONA				eS		**S**		**12 55 01.0**	**-4.5**
JBP	**Jabalpur**	**10.82**	**224**	i x		**P**		**12 53 26.1**	**+1.9**
JBP				i x		**S**		**12 55 23.0**	**-2.0**
BHPL	**Bhopal**	**12.40**	**232**	eP		**P**		**12 53 40.8**	**-4.7**
BHPL				AMb		AMB		12 53 44.9	
comp=Z,23nm,0.7s									
BHPL				ex		x		12 55 48.4	
BHPL				i x		x		12 57 36.7	
WMQ	**Urumqi**	**12.53**	**359**	P		**P**		**12 53 47.0**	**0.0**
WMQ				AP				12 53 55.0	
WMQ				XP				12 54 02.0	
WMQ				S		**S**		**12 56 05.0**	**-1.1**
WMQ				SS		SS		12 56 20.0	-1.4
WMQ				AMB		AMB			
comp=Z,11nm,1.0s									
WMQ				AMB		AMB			
comp=Z,25nm,6.0s									
WMQ				LR		LR			
comp=N,298nm,7.0s									
WMQ				LR		LR			
comp=E,302nm,8.0s									
WMQ				LR		LR			
comp=Z,287nm,7.0s									
GTA	**Gaotai**	**12.54**	**46**	P		**P**		**12 53 45.5**	**-1.8**
GTA				AP				12 53 51.3	
GTA				XP				12 53 56.3	
GTA				AMB		AMB			
comp=Z,3.0nm,0.9s									
GTA				AMB		AMB			
comp=Z,135nm,9.1s									
GTA				LR		LR			
comp=N,2μm,14.1s									
GTA				LR		LR			
comp=E,1μm,13.7s									
GTA				LR		LR			
comp=Z,711nm,9.9s									
AJM	**Ajmer**	**12.71**	**251**	eP		**P**		**12 53 46.9**	**-2.6**
AJM				eS		**S**		**12 56 01.2**	**-9.4**
CHCP	**Chirah Chowk**	**12.74**	**285**	P		**P**		**12 53 48.1**	**-1.8**
CHCP				S		**S**		**12 56 10.0**	**-1.3**
KSH	**Kashi**	**12.84**	**313**	eP		**P**		**12 53 52.6**	**+1.3**
KSH				eAP				12 54 00.1	
KSH				ePP		PP		12 54 03.3	+1.9
KSH				eXP				12 54 07.1	
KSH				eS		**S**		**12 56 14.0**	**+0.2**
KSH				AMB		AMB			
comp=Z,250nm,3.2s									
KSH				LR		LR			
comp=N,950nm,6.3s									
KSH				LR		LR			
comp=E,2μm,6.3s									
CD2	**Chengdu**	**13.44**	**88**	P		**P**		**12 53 56.4**	**-2.7**
CD2				S		**S**		**12 56 19.4**	**-8.6**
CD2				AMB		AMB			
comp=Z,20nm,0.8s									
CD2				LR		LR			
comp=N,610nm,4.8s									
CD2				LR		LR			
comp=Z,540nm,10.8s									
CEP	**Cherat**	**13.88**	**285**	P		**P**		**12 54 01.7**	**-3.2**
THW	**Thamme Wali**	**13.95**	**281**	P		**P**		**12 54 02.7**	**-3.1**
LZH	**Lanzhou**	**13.97**	**66**	⇑P		**P**		**12 54 11.5**	**+5.5**
comp=Z,61nm,1.3s									
LZH				pP				12 54 19.5	
LZH				PP		PP		12 54 23.5	+6.4
LZH				sP				12 54 26.2	
LZH				eS		**S**		**12 56 44.5**	**+3.9**
LZH				sS				12 56 56.5	
LZH				SS		SS		12 57 00.6	+3.3
LZH	**Lanzhou**	**13.97**	**66**	⇑P		**P**		**12 54 11.5**	**+5.5**
LZH				eS		**S**		**12 56 44.5**	**+3.9**
LZH				pmax		pmax			
comp=Z,61nm,1.3s									
VIS	**Vishakhapatnam**	**14.17**	**199**	i x		x		12 58 10.6	
VIS				i x		x		12 58 13.0	
KMI	**Kunming**	**14.30**	**112**	P		**P**		**12 54 09.0**	**-1.4**
KMI				AP				12 54 17.8	
KMI				PP		PP		12 54 21.5	-0.2
KMI				XP				12 54 24.8	
KMI				PPP		PPP		12 54 29.0	+0.1
KMI				S		**S**		**12 56 50.9**	**+2.4**
KMI				XS				12 57 02.0	
KMI				SS		SS		12 57 05.5	-0.1
KMI				SSS		SSS		12 57 19.6	+0.8
KMI				AMB		AMB			
comp=Z,18nm,0.9s									
KMI				AMB		AMB			
comp=Z,107nm,5.0s									
KMI				LR		LR			
comp=N,562nm,8.1s									
KMI				LR		LR			
comp=E,614nm,12.4s									
KMI				LR		LR			
comp=Z,804nm,13.6s									
KMI	**Kunming**	**14.30**	**112**	P		**P**		**12 54 09.0**	**-1.4**
comp=Z,18nm,0.9s									
KMI				pP				12 54 17.8	
KMI				PP		PP		12 54 21.5	-0.2
KMI				sP				12 54 24.8	
KMI				PPP		PPP		12 54 29.0	+0.1
KMI				S		**S**		**12 56 50.9**	**+2.4**
KMI				sS				12 57 02.0	
KMI				SS		SS		12 57 05.5	-0.1
KMI				SSS		SSS		12 57 19.6	+0.8
KMI	**Kunming**	**14.30**	**112**	P		**P**		**12 54 09.0**	**-1.4**
KMI				S		**S**		**12 56 50.9**	**+2.4**
KMI				pmax		pmax			
comp=Z,18nm,0.9s									
ULHL	**Ulahol**	**14.47**	**322**	P		**P**		**12 54 21.8**	**+9.2**
SNR=6.8									
AKL	**Akola**	**14.48**	**226**	ex		x		12 54 05.7	
AKL				⇓ix		x		12 56 05.7	
AKL				ex		x		12 58 37.7	
SBDP	**Sheikh Budin**	**14.73**	**278**	P		**P**		**12 54 12.9**	**-3.2**
KZA	**Kyzart**	**14.89**	**320**	P		**P**		**12 54 26.1**	**+8.1**
SNR=8.1									
DRP	**Derazinda**	**15.26**	**276**	P		**P**		**12 54 15.2**	**-7.8**
TKM2	**Tokmak 2**	**15.29**	**323**	P		**P**		**12 54 30.3**	**+7.1**
SNR=24									
KBK	**Karagaybulak**	**15.45**	**321**	P		**P**		**12 54 32.3**	**+7.1**
SNR=13									
AAK	**Ala-Archa**	**15.68**	**320**	P		**P**		**12 54 33.2**	**+5.0**
SNR=9.5									
AAK	**Ala-Archa**	**15.68**	**320**	ePn		**P**		**12 54 28.2**	**0.0**
comp=Z,21nm,0.9s									
AAK	**Ala-Archa**	**15.68**	**320**	i P		**P**		**12 54 28.5**	**+0.3**
AAK				pmax		pmax			
comp=Z,29nm,1.0s									
AAK				MLR		MLR			
comp=Z,500nm,21.0s									
FRU	**Bishkek**	**15.74**	**321**	eP		**P**		**12 54 30.0**	**+0.9**
FRU				pmax		pmax			
comp=Z,37nm,1.8s									
CHG	**Chiang Mai**	**15.82**	**139**	⇓P		**P**		**12 54 31.2**	**+1.0**
comp=Z,36nm,0.8s									
USP	**Ospenovka**	**16.10**	**322**	P		**P**		**12 54 38.4**	**+4.8**
SNR=19									
MKAR	**Makanchi Array**	**16.13**	**346**	Pn		**P**		**12 54 32.2**	**-1.7**
comp=Z,0.2nm,0.3s,baz=158,slow=13,SNR=30									
MKAR				LR		LR		13 01 17.0	
comp=Z,112nm,20.2s,baz=168,slow=39									
HYB	**Hyderabad**	**16.29**	**214**	i P		**P**		**12 54 39.0**	**+2.8**
comp=Z,97nm,0.5s									
HYB	**Hyderabad**	**16.29**	**214**	eP		**P**		**12 54 39.0**	**+2.8**
comp=Z,97nm,0.5s									
HYB	**Hyderabad**	**16.29**	**214**	eP		**P**		**12 54 39.0**	**+2.8**
HYB				pmax		pmax			
comp=Z,97nm,0.5s									
NANT	**Nan**	**16.86**	**135**	⇓P		**P**		**12 54 42.0**	**-1.3**
comp=Z,200nm,1.0s									
GYA	**Guiyang**	**16.96**	**102**	⇓iP		**P**		**12 54 39.9**	**-4.7**
GYA				AP				12 54 49.3	
GYA				XP				12 54 55.3	
GYA				S		**S**		**12 57 53.3**	**+2.8**
GYA				XS				12 58 02.6	
GYA				AMB		AMB			
comp=Z,20nm,1.1s									
GYA				AMB		AMB			
comp=Z,230nm,5.0s									
GYA				LR		LR			
comp=N,670nm,9.9s									
GYA				LR		LR			
comp=E,810nm,9.6s									
GYA				LR		LR			
comp=Z,1μm,9.3s									
XAN	**Xi'an**	**17.76**	**76**	P		**P**		**12 54 52.1**	**-2.4**
XAN				AP				12 55 04.1	
XAN				S		**S**		**12 58 09.0**	**+0.5**
XAN				AMB		AMB			
comp=Z,22nm,1.1s									
XAN				LR		LR			
comp=N,520nm,7.5s									
XAN				LR		LR			
comp=E,697nm,10.2s									
XAN				LR		LR			
comp=Z,946nm,9.9s									
POO	**Poona**	**18.08**	**229**	eP		**P**		**12 55 03.0**	**+4.4**
POO				i x		x		12 58 19.0	
ENH	**Enshi**	**18.42**	**88**	P		**P**		**12 55 01.9**	**-0.9**
comp=Z,45nm,1.0s									
NST	**Nakhon Sawan**	**19.04**	**142**	P		**P**		**12 55 10.0**	**-0.2**
BTO	**Baotou**	**20.01**	**56**	eP		**P**		**12 55 17.8**	**-2.8**
KKTK	**Khon Kaen**	**20.04**	**135**	P		**P**		**12 55 21.0**	**-0.1**
comp=Z,247nm,0.5s									
KURK	**Kurchatov**	**20.66**	**343**	⇓iP		**P**		**12 55 26.4**	**-1.0**
comp=Z,72nm,1.0s									
KURK	**Kurchatov**	**20.66**	**343**	⇓iP		**P**		**12 55 26.4**	**-0.9**
KURK				pmax		pmax			
comp=Z,72nm,1.0s									
HHC	**Hu-ho-hao-te**	**21.19**	**57**	eP		**P**		**12 55 32.0**	**-0.9**
HHC				AP				12 55 42.3	
HHC				XP				12 55 48.3	
HHC				PP		PP		12 55 55.5	-1.4
HHC				S		**S**		**12 59 21.8**	**+0.6**
HHC				XS				12 59 37.3	
HHC				SS		SS		12 59 50.4	-5.8
HHC				AMB		AMB			
comp=Z,25nm,1.4s,mb4.3									
HHC				AMB		AMB			
comp=Z,153nm,5.2s									
HHC				LR		LR			
comp=N,828nm,12.5s,MS4.4									
HHC				LR		LR			
comp=E,497nm,10.7s,MS4.4									
HHC				LR		LR			
comp=Z,644nm,15.5s,MS4.1									
NNT	**Nongplab**	**21.48**	**147**	P		**P**		**12 55 35.1**	**-0.8**
SONM	**Songino Array**	**21.65**	**35**	P		**P**		**12 55 37.7**	**+0.3**
comp=Z,9.3nm,0.8s,mb4.3,baz=222,slow=11,SNR=38									
SONM				PcP		PcP		12 59 38.2	-0.2
comp=Z,1.2nm,0.6s,baz=223,slow=2.8,SNR=6.3									
ZAK	**Zakamensk**	**22.20**	**26**	⇓iP		**P**		**12 55 43.5**	**+0.7**
ZAK				pmax		pmax			
comp=Z,22nm,1.1s,mb4.5									
WHN	**Wuhan**	**22.53**	**85**	⇑P		**P**		**12 55 47.0**	**+0.7**
ZAL	**Zalesovo**	**22.77**	**355**	P		**P**		**12 55 49.4**	**+1.1**
comp=Z,13nm,0.9s,mb4.4,baz=280,slow=8.7,SNR=45									
ZAL				LR		LR		13 06 31.4	
comp=Z,360nm,18.1s,MS3.9,baz=290,slow=41									
ZAL	**Zalesovo**	**22.77**	**355**	P		**P**		**12 55 49.4**	**+1.1**
ZAL				LR		LR		13 06 31.4	
NVS	**Novosibirsk**	**23.80**	**353**	⇓iP		**P**		**12 55 59.0**	**+0.6**
NVS				eS		**S**		**13 00 15.7**	**+7.6**
NVS				pmax		pmax			
comp=N,105nm,1.7s									
NVS				pmax		pmax			
comp=Z,79nm,1.7s,mb4.9									
NVS				smax					
comp=N,13nm,1.8s									
GZH	**Guangzhou**	**23.86**	**104**	P		**P**		**12 56 00.4**	**+1.1**
GZH				LR		LR			
comp=N,592nm,8.8s									
GZH				LR		LR			
comp=E,629nm,11.5s									
GZH				LR		LR			
comp=Z,1μm,14.3s,MS4.5									
IRK	**Irkutsk**	**24.07**	**25**	eP		**P**		**12 56 01.1**	**+0.1**
IRK				pmax		pmax			
comp=Z,72nm,2.2s,mb4.7									
TIA	**Tai'an**	**24.59**	**71**	P		**P**		**12 56 07.8**	**+1.5**
BVAR	**Borovoye Array**	**25.25**	**335**	P		**P**		**12 56 13.7**	**+1.3**
comp=Z,12nm,0.8s,mb4.5,baz=129,slow=9.5,SNR=36									
BVAR				PcP		PcP		12 59 45.6	-0.2
comp=Z,1.4nm,0.8s,baz=124,slow=5.3,SNR=3.8									
BRVK	**Borovoye**	**25.32**	**334**	eP		**P**		**12 56 14.1**	**+1.1**
comp=Z,9.8nm,0.9s,mb4.3									
BRVK	**Borovoye**	**25.32**	**334**	eP		**P**		**12 56 14.1**	**+1.1**
BRVK				pmax		pmax			
comp=Z,10.0nm,0.9s,mb4.3									
SSE	**Sheshan**	**28.26**	**82**	P		**P**		**12 56 36.4**	**-3.9**
SSE				S		**S**		**13 01 20.6**	**-1.3**
SSE				XS				13 01 35.8	
SSE				AMB		AMB			
comp=Z,34nm,0.7s,mb5.1									
SSE				AMB		AMB			
comp=Z,216nm,3.8s									
SSE				LR		LR			
comp=N,97nm,17.9s,MS3.9									
SSE				LR		LR			
comp=E,236nm,17.8s,MS3.9									
SSE				LR		LR			
comp=Z,208nm,17.6s,MS3.8									
SSE	**Sheshan**	**28.26**	**82**	P		**P**		**12 56 36.4**	**-3.9**
comp=Z,34nm,0.7s,mb5.1									
SSE				sP		sP		12 56 49.0	-7.4
SSE				PP		PP		12 57 40.3	+8.5
SSE				S		**S**		**13 01 20.6**	**-1.3**
SSE				sS				13 01 35.7	
SSE				LR		LR			
comp=Z,210nm,17.6s,MS3.8									
KULM	**Kulim**	**28.42**	**153**	eP		**P**		**12 56 40.6**	**-1.2**
SNY	**Shenyang**	**30.20**	**60**	⇑P		**P**		**12 56 56.9**	**-0.5**
SNY				S		**S**		**13 01 54.3**	**+1.6**
SNY				AMB		AMB			
comp=Z,20nm,0.6s,mb5.0									
SNY				AMB		AMB			
comp=Z,70nm,3.2s									
SNY				LR		LR			
comp=N,400nm,10.0s,MS4.5									
SNY				LR		LR			
comp=E,470nm,10.2s,MS4.5									
SNY				LR		LR			
comp=Z,380nm,14.4s,MS4.2									
SVE	**Sverdlovsk**	**31.87**	**331**	⇓eP		**P**		**12 57 13.0**	**+1.0**
SVE				e				12 58 11.0	
SVE				pmax		pmax			
comp=Z,60nm,1.2s,mb5.3									
SVE				MLR		MLR			
comp=N,200nm,14.0s,MS4.1									
SVE				MLR		MLR			
comp=E,200nm,14.0s,MS4.1									
SVE				MLR		MLR			
comp=Z,400nm,14.0s,MS4.2									
CN2	**Changchun**	**31.89**	**56**	eP		**P**		**12 57 10.6**	**-1.7**
CN2				AMB		AMB			
comp=Z,10.0nm,1.1s,mb4.6									
BOD	**Bodaibo**	**31.95**	**26**	eP		**P**		**12 57 11.4**	**-1.2**
BOD				pmax		pmax			
comp=Z,11nm,1.0s,mb4.6									
ARU	**Arti**	**32.49**	**329**	eP		**P**		**12 57 17.9**	**+0.5**
comp=Z,14nm,0.8s,mb4.8									
ARU	**Arti**	**32.49**	**329**	c iP		**P**		**12 57 17.5**	**+0.1**
ARU				pmax		pmax			
comp=Z,26nm,1.1s,mb5.0									
ARU				MLR		MLR			
comp=Z,300nm,20.0s,MS4.0									
MDJ	**Mudanjiang**	**34.96**	**56**	P		**P**		**12 57 38.3**	**-0.5**
MDJ				AMB		AMB			
comp=Z,9.0nm,1.3s,mb4.5									
MDJ				AMB		AMB			
comp=Z,62nm,9.1s									
MDJ				LR		LR			
comp=N,496nm,19.2s,MS4.3									
MDJ				LR		LR			
comp=E,94nm,20.5s,MS4.3									
MDJ				LR		LR			
comp=Z,305nm,20.5s,MS4.0									
GNI	**Garni**	**35.99**	**296**	eP		**P**		**12 57 50.2**	**+2.6**
comp=Z,28nm,1.0s,mb5.2									
GNI	**Garni**	**35.99**	**296**	d iP		**P**		**12 57 50.1**	**+2.5**
GNI				pmax		pmax			
comp=Z,28nm,1.0s									
GNI				MLR		MLR			
comp=Z,100nm,15.0s									
ZEI	**Tsey**	**36.71**	**301**	eP		**P**		**12 57 51.4**	**-2.3**
ZEI				i *PP		pP		12 58 00.0	-5.0
ZEI				pmax		pmax			
comp=Z,11nm,0.8s,mb4.7									
GOF	**Gofitskoye**	**37.52**	**305**	⇑iP		**P**		**12 57 59.5**	**-0.9**
GOF				pmax		pmax			
comp=Z,70nm,1.0s,mb5.3									
KIV	**Kislovodsk**	**37.67**	**303**	d iP		**P**		**12 58 03.2**	**+1.5**
KIV				pmax		pmax			
comp=Z,14nm,0.8s,mb4.7									
KIV				MLR		MLR			
comp=Z,200nm,21.0s,MS3.9									
VRHR	**Novokhopersk**	**39.39**	**314**	d iP		**P**		**12 58 16.7**	**+0.8**
VRHR				pmax		pmax			
comp=Z,30nm,0.8s,mb5.1									
VRHR				pmax		pmax			
comp=N,10.0nm,0.5s									
VRHR				pmax		pmax			
comp=E,20nm,0.7s									
YAK	**Yakutsk**	**40.76**	**29**	eP		**P**		**12 58 27.1**	**0.0**
comp=E,21nm,0.8s,mb4.8									
YAK	**Yakutsk**	**40.76**	**29**	⇓eP		**P**		**12 58 27.0**	**-0.1**
YAK				pmax		pmax			
comp=Z,14nm,0.6s,mb4.8									
MALT	**Malatya**	**40.98**	**294**	eP		**P**		**12 58 31.2**	**+2.0**
comp=Z,14nm,1.1s,mb4.5									
MALT	**Malatya**	**40.98**	**294**	eP		**P**		**12 58 31.2**	**+2.0**
MALT				pmax		pmax			
comp=Z,14nm,1.1s,mb4.5									
MAT	**Matsushiro**	**41.55**	**69**	P		**P**		**12 58 33.3**	**-0.6**
MAT	**Matsushiro**	**41.55**	**69**	eP		**P**		**12 58 33.0**	**-0.9**
comp=Z,12nm,1.3s,mb4.3									
MAT	**Matsushiro**	**41.55**	**69**	eP		**P**		**12 58 33.0**	**-0.9**
MAT				pmax		pmax			
comp=Z,12nm,1.3s,mb4.4									
MJAR	**Matsushiro Arr**	**41.55**	**69**	P		**P**		**12 58 33.7**	**-0.3**
comp=Z,4.4nm,1.0s,mb4.0,baz=268,slow=8.8,SNR=9.7									
MJAR				LR		LR		13 17 43.2	
comp=Z,182nm,18.1s,MS4.0,baz=330,slow=39									
MOS	**Moscow**	**42.75**	**320**	eP		**P**		**12 58 43.9**	**+0.4**
MOS				pmax		pmax			
comp=Z,100nm,1.5s,mb5.3									
MOS				pmax		pmax			
comp=Z,93nm,1.4s,mb5.3									
OBN	**Obninsk**	**43.20**	**319**	eP		**P**		**12 58 48.1**	**+0.9**
comp=Z,13nm,0.7s,mb4.8									
OBN	**Obninsk**	**43.20**	**319**	d iP		**P**		**12 58 48.1**	**+0.9**
OBN				eSS		SS		13 08 17.9	+0.3
OBN				pmax		pmax			
comp=Z,52nm,1.2s,mb5.1									
OBN				MLR		MLR			
comp=Z,100nm,16.0s,MS3.8									
SIM	**Simferopol'**	**43.83**	**304**	eP		**P**		**12 58 53.1**	**+0.7**
SIM								13 00 40.0	
SIM				pmax		pmax			
comp=Z,20nm,1.2s,mb4.7									
ASAJ	**Asahikawa**	**44.24**	**57**	P		**P**		**12 58 54.0**	**-1.7**
comp=Z,16nm,1.0s,mb4.7,baz=245,slow=8.4,SNR=4.0									
ASAJ	**Asahikawa**	**44.24**	**57**	P		**P**		**12 58 54.1**	**-1.7**
ASAJ				pmax		pmax			
comp=Z,16nm,1.0s									
YSS	**Yuzh-Sakhalins**	**44.31**	**53**	i P		**P**		**12 58 57.3**	**+1.0**
YSS				pmax		pmax			
comp=Z,37nm,1.8s,mb4.8									
YSS				MLR		MLR			
comp=Z,300nm,23.0s,MS4.2									
BRTR	**Keskin Array B**	**44.53**	**297**	P		**P**		**12 58 59.0**	**+0.8**
comp=Z,3.1nm,0.9s,mb4.2,baz=112,slow=6.7,SNR=15									
TIXI	**Tiksi**	**45.94**	**17**	eP		**P**		**12 59 05.3**	**-3.7**
TIXI				pmax		pmax			
comp=Z,9.0nm,0.8s,mb4.8									
AKASG	**Malin Array Be**	**47.14**	**312**	P		**P**		**12 59 19.0**	**+0.4**
comp=Z,16nm,0.7s,mb5.1,baz=79,slow=7.1,SNR=61								

LVV *e*SS SS 13 10 26.9 +1.4
LVV MLR MLR
comp=Z,120nnm,18.0s,MS4.0
LVV MLR MLR
comp=N,50nm,17.0s,MS3.9
LVV MLR MLR
comp=E,100nm,18.0s,MS3.9
SUW Suwalki 50.85 316 *e*P **P 12 59 47.6 +0.4**
SUW Suwalki 50.85 316 *e*P **P 12 59 47.6 +0.4**
SEY Seymchan 51.00 32 *e*P **P 12 59 48.4 +0.1**
SEY *e* 13 01 04.0
SEY pmax pmax
comp=N,3.0nm,1.0s
SEY pmax pmax
comp=Z,20nm,1.0s,mb5.0
SEY pmax pmax
comp=E,10.0nm,1.4s
KEV Kevo 51.06 337 *e*p **P 12 59 48.9 +0.2**
comp=E,15nm,1.0s,mb4.9
KEV Kevo 51.06 337 *e*P **P 12 59 48.9 +0.2**
KEV pmax pmax
comp=Z,15nm,1.0s,mb4.9
ARCES ARCESS Array B 51.52 336 P **P 12 59 52.9 +0.8**
comp=Z,11nm,0.8s,mb4.8,baz=90,slow=7.3,SNR=22
ARCES PcP PcP 13 01 05.0 -0.9
comp=Z,2.7nm,0.7s,baz=112,slow=4.9,SNR=5.0
ARCES LR LR 13 23 26.7
comp=Z,121nm,21.0s,MS3.9,baz=101,slow=38
KOLS Kolonicke sedl 51.70 310 *i*P **P 12 59 54.4 +0.7**
CRVS Cervenica-Dubn 52.24 310 *i*P **P 12 59 59.1 +1.3**
STHS Stebnicka Huta 52.33 311 *i*P **P 12 59 59.2 +0.8**
XOR Xorichti 52.56 298 *e*P **P 13 00 00.2 -0.1**
GRG Griva 52.82 300 *e*P **P 13 00 02.0 -0.2**
KECS Kecovo 52.93 310 *i*P **P 13 00 04.0 +1.1**
NIE Niedzica 52.93 311 *e*P **P 13 00 04.4 +1.5**
OJC Ojcow 53.17 312 *e*P **P 13 00 05.1 +0.4**
AGG Agios Georgios 53.28 298 *e*P **P 13 00 04.9 -0.8**
PSZ Piszkesteto 53.40 309⇓*e* **P 13 00 07.1 +0.7**
PSZ Piszkesteto 53.40 309 *e*P **P 13 00 07.0 +0.6**
comp=Z,14nm,0.9s,mb4.9
PSZ Piszkesteto 53.40 309 *e*P **P 13 00 07.0 +0.6**
PSZ pmax pmax
comp=Z,14nm,0.9s,mb4.9
DIVS Divcibare 53.95 304⇑*i*P **P 13 00 10.6 0.0**
VYHS Vyhne 54.02 310 *i*P **P 13 00 11.8 +0.8**
OKC Ostrava-Krasne 54.28 311 *e*P **P 13 00 13.4 +0.6**
SRO Srobarova 54.47 309 *e*P **P 13 00 15.9 +1.6**
MORC Moravsky Berou 54.67 311 *e*P **P 13 00 16.4 +0.7**
comp=Z,11nm,0.7s,mb5.0
MORC Moravsky Berou 54.67 311 *e*P **P 13 00 16.5 +0.8**
MORC pmax pmax
comp=Z,11nm,0.7s,mb5.0
ZST Bratislava 55.21 310 *i*P **P 13 00 20.1 +0.5**
KSP Ksiaz 55.31 313 *e*P **P 13 00 21.1 +0.8**
KSP Ksiaz 55.31 313⇓*e*P **P 13 00 20.9 +0.6**
KSP *e*pP pP 13 00 30.8 -1.4
DPC Dobruska-Polom 55.37 312 *e*P **P 13 00 21.7 +0.9**
UPC Upice 55.54 313 *e*P **P 13 00 22.9 +0.9**
TREC Trest 56.07 311 *e*P **P 13 00 26.7 +0.9**
ARSA Arzberg 56.43 309⇑*i*P **P 13 00 28.5 +0.1**
comp=Z,40nm,1.6s,mb5.2
PRU Pruhonice 56.55 312 *e*P **P 13 00 29.8 +0.5**
BRG Berggiesshubel 56.77 313 *i*P **P 13 00 31.5 +0.6**
comp=Z,22nm,0.8s,mb5.2
BRG Berggiesshubel 56.77 313 *i*P **P 13 00 31.4 +0.5**
BRG pmax pmax
comp=Z,22nm,0.8s,mb5.2
PERS Pernice 56.83 308 *i*P **P 13 00 31.4 +0.2**
NB2 NORSAR Subarra 56.91 326 P **P 13 00 31.4 -0.3**
comp=Z,25nm,0.8s,mb5.3,baz=84,slow=7.0
NB2 NORSAR Subarra 56.91 326 P **P 13 00 31.4 -0.3**
baz=84,slow=7.4
NB2 NORSAR Subarra 56.91 326 P **P 13 00 31.4 -0.3**
NB2 pmax pmax
comp=Z,25nm,0.8s,mb5.3
NOA NORSAR Array B 56.91 326 P **P 13 00 31.4 -0.3**
comp=Z,19nm,0.8s,mb5.2,baz=85,slow=7.2,SNR=74
BOJS Bojanci 56.98 307 *i*P **P 13 00 32.5 +0.1**
BILL Bilibino 57.00 26 *e*P **P 13 00 32.4 +0.1**
comp=Z,15nm,0.8s,mb5.1
BILL Bilibino 57.00 26 *d*P **P 13 00 32.2 -0.1**
NAO01 NORSAR Array S 57.09 325 *e*P **P 13 00 32.7 -0.3**
comp=Z,12nm,0.8s,mb5.0
MOA Molln 57.14 310⇑*i*P **P 13 00 33.5 0.0**
comp=Z,29nm,1.2s,mb5.2
VISS Visnje 57.19 307 *e*P **P 13 00 33.9 -0.1**
OBKA Obir 57.23 308⇓*i*P **P 13 00 34.2 0.0**
comp=Z,42nm,1.8s,mb5.2
CLL Collm 57.28 314 ⇓P **P 13 00 34.3 -0.2**
comp=Z,logA/T=1.2,mb5.0
CLL Collm 57.28 314⇓*i*P **P 13 00 34.3 -0.2**
comp=Z,18nm,1.2s,mb5.0
CLL Collm 57.28 314⇓*i*P **P 13 00 34.3 -0.2**
CLL pmax pmax
comp=Z,18nm,1.2s,mb5.0
GEC2 GERESS Array S 57.31 311 *e*P **P 13 00 35.1 +0.4**
comp=Z,42nm,1.2s,mb5.3
GEC2 GERESS Array S 57.31 311 *e*P **P 13 00 35.1 +0.4**
GEC2 pmax pmax
comp=Z,42nm,1.2s,mb5.3
GERES GERESS Array B 57.31 311 P **P 13 00 35.3 +0.6**
comp=Z,20nm,0.8s,mb5.2,baz=76,slow=5.5,SNR=161
GERES LR LR 13 28 45.0
comp=Z,90nm,19.7s,MS3.9,baz=81,slow=40
KHC Kasperske Hory 57.33 311 *e*P **P 13 00 35.2 +0.3**
LJU Ljubljana 57.35 307 *e*P **P 13 00 35.5 +0.5**
WET Wettzell 57.78 311 *e*P **P 13 00 38.4 +0.4**
comp=Z,18nm,0.9s,mb5.1
WET Wettzell 57.78 311 *e*P **P 13 00 38.4 +0.4**
WET pmax pmax
comp=Z,18nm,0.9s,mb5.1
NKC Novy Kostel 57.83 313 *e*P **P 13 00 38.6 +0.3**
KONO Kongsberg 57.87 324⇑*e*P **P 13 00 38.7 +0.2**
KBA Koelnbreinsper 57.92 309⇓*i*P **P 13 00 38.7 -0.3**
comp=Z,32nm,1.9s,mb5.0
KBA Koelnbreinsper 57.92 309⇓*i*P **P 13 00 38.7 -0.3**
KBA pmax pmax
comp=Z,32nm,1.9s,mb5.0
KMBO Kilima Mbogo 57.96 246 P **P 13 00 39.7 0.0**
comp=Z,8.4nm,1.0s,mb4.7,baz=42,slow=9.7,SNR=15
KMBO LR LR 13 25 41.4
comp=Z,93nm,18.6s,MS3.9,baz=89,slow=36
ROBS Robic 57.99 308 *e*P **P 13 00 38.8 -0.8**
MOX Moxa 58.27 313 *i*P **P 13 00 41.6 +0.2**
comp=Z,logA/T=1.3,mb5.1
MOX Moxa 58.27 313 *e*P **P 13 00 41.6 +0.2**
comp=Z,28nm,1.3s,mb5.1
MOX Moxa 58.27 313 *e*P **P 13 00 41.6 +0.2**
MOX pmax pmax
comp=Z,28nm,1.3s,mb5.1
BSEG Bad Segeberg 58.41 317 *e*P **P 13 00 42.9 +0.6**
CII Carovilli 58.56 303 *e*P **P 13 00 43.4 -0.1**
comp=Z,43nm,1.4s,mb5.3
GRA1 Grafenberg Arr 58.72 312 *e*P **P 13 00 45.4 +0.9**
comp=Z,52nm,1.3s,mb5.4
GRF Grafenberg Arr 58.72 312 *e*P **P 13 00 45.4 +0.9**
comp=Z,52nm,1.3s,mb5.4
GRF Grafenberg Arr 58.72 312 *e*P **P 13 00 45.4 +0.9**
GRF pmax pmax
comp=Z,52nm,1.3s,mb5.4
GRF Grafenberg Arr 58.72 312 *e*P **P 13 00 45.4 +0.9**
GRF pmax pmax
comp=Z,52nm,1.3s,mb5.4
CLZ Clausthal 58.79 315 *e*P **P 13 00 45.3 +0.3**
comp=Z,50nm,1.0s,mb5.5
CLZ Clausthal 58.79 315 *e*P **P 13 00 45.3 +0.3**
CLZ pmax pmax
comp=Z,50nm,1.0s,mb5.5
WTTA Wattenberg 59.01 309⇓*i*P **P 13 00 45.9 -0.7**
comp=Z,41nm,1.3s,mb5.3
WTTA Wattenberg 59.01 309⇓*i*P **P 13 00 45.9 -0.7**
WTTA pmax pmax
comp=Z,41nm,1.3s,mb5.3
FUR Furstenfeldbru 59.03 311 *e*P **P 13 00 47.1 +0.4**
comp=Z,62nm,1.0s,mb5.6
FUR Furstenfeldbru 59.03 311 *e*P **P 13 00 47.1 +0.4**
FUR pmax pmax
comp=Z,62nm,1.0s,mb5.6
WATA Walderalm 59.03 310⇑*i*P **P 13 00 46.2 -0.5**
comp=Z,9.2nm,1.0s,mb4.8
WATA Walderalm 59.03 310⇑*i*P **P 13 00 46.2 -0.5**
WATA pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
AQU L'Aquila 59.04 304 *e*P **P 13 00 47.2 +0.3**
comp=Z,23nm,1.0s,mb5.2
AQU L'Aquila 59.04 304 *e*P **P 13 00 47.2 +0.3**
AQU pmax pmax
comp=Z,23nm,1.0s,mb5.2
SQTA Sankt Quirin 59.30 309⇓*i*P **P 13 00 47.9 -0.7**
comp=Z,8.7nm,0.9s,mb4.8
SQTA Sankt Quirin 59.30 309⇓*i*P **P 13 00 47.9 -0.7**
SQTA pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
MOTA Moosalm 59.34 310⇓*i*P **P 13 00 48.1 -0.8**
comp=Z,14nm,1.0s,mb4.9
MOTA Moosalm 59.34 310⇓*i*P **P 13 00 48.1 -0.8**
MOTA pmax pmax
comp=Z,14nm,1.0s,mb5.0
DAVA Damuels 60.16 310⇓*i*P **P 13 00 53.7 -0.8**
comp=Z,41nm,1.3s,mb5.3
STU Stuttgart 60.23 312 *e*P **P 13 00 55.1 +0.2**
comp=Z,20nm,0.7s,mb5.2
STU Stuttgart 60.23 312 *e*P **P 13 00 55.2 +0.2**
STU pmax pmax
comp=Z,20nm,0.7s,mb5.3
TNS Taunus Mts 60.34 313 *e*P **P 13 00 55.9 +0.2**
comp=Z,22nm,0.8s,mb5.2
TNS Taunus Mts 60.34 313 *e*P **P 13 00 55.9 +0.2**
TNS pmax pmax
comp=Z,22nm,0.8s,mb5.2
BFO Black Forest 60.90 311 *e*P **P 13 00 59.2 -0.3**
comp=Z,9.0nm,1.3s,mb4.7
BFO Black Forest 60.90 311 *e*P **P 13 00 59.2 -0.3**
BFO pmax pmax
comp=Z,9.0nm,1.3s,mb4.7
FITZ Fitzroy Crossi 60.92 138 P **P 13 00 58.7 -1.3**
comp=Z,7.2nm,1.0s,mb4.8,baz=3.1,slow=6.4,SNR=5.1
CDF Champ du Feu 61.55 312⇓*i*P **P 13 01 03.5 -0.4**
comp=Z,46nm,1.0s,mb5.3
CDF Champ du Feu 61.55 312⇓*i*P **P 13 01 03.5 -0.4**
CDF pmax pmax
comp=Z,23nm,1.0s,mb5.3
WLF Walferdange 61.92 313 *e*P **P 13 01 06.9 +0.6**
comp=Z,79nm,1.5s,mb5.6
WLF Walferdange 61.92 313 *e*P **P 13 01 06.9 +0.6**
WLF pmax pmax
comp=Z,79nm,1.5s,mb5.6
HINF Hinteralfeld 61.99 311⇓*i*P **P 13 01 06.2 -0.7**
comp=Z,39nm,1.1s,mb5.2
HINF Hinteralfeld 61.99 311⇓*i*P **P 13 01 06.2 -0.7**
HINF pmax pmax
comp=Z,20nm,1.1s,mb5.2
PGF Pioggiola 62.10 305 *e*P **P 13 01 06.8 -0.9**
comp=Z,41nm,1.1s,mb5.2
PGF Pioggiola 62.10 305 *e*P **P 13 01 06.8 -0.9**
PGF pmax pmax
comp=Z,20nm,1.1s,mb5.2
HAU Haudompre 62.26 311 *e*P **P 13 01 08.0 -0.7**
comp=Z,21nm,1.0s,mb4.9
HAU *e*R
comp=Z,136nm,21.2s
HAU Haudompre 62.26 311 *e*P **P 13 01 08.0 -0.7**
HAU pmax pmax
comp=Z,11nm,1.0s,mb4.9
HAU MLR MLR
comp=Z,140nm,21.3s,MS4.1
GIVF Givet 62.62 314 *e*P **P 13 01 11.0 0.0**
LPG La Plagne 62.74 309⇓*i*P **P 13 01 12.0 +0.1**
comp=Z,33nm,0.9s,mb5.2
LPG La Plagne 62.74 309⇓*i*P **P 13 01 12.0 +0.1**
LPG pmax pmax
comp=Z,16nm,0.9s,mb5.2
LPL La Plagne 62.75 309⇓*i*P **P 13 01 11.9 -0.1**
comp=Z,81nm,1.3s,mb5.4
LPL La Plagne 62.75 309⇓*i*P **P 13 01 11.9 -0.1**
LPL pmax pmax
comp=Z,41nm,1.3s,mb5.4
SBF Sospel 62.78 307 *e*P **P 13 01 11.6 -0.6**
MBAR Mbarara 62.84 251⇑*e*P **P 13 01 11.6 -1.4**
CABF La Chapelle 62.84 310 *e*P **P 13 01 12.0 -0.6**
comp=Z,63nm,1.4s,mb5.2
CABF La Chapelle 62.84 310 *e*P **P 13 01 12.0 -0.6**
CABF pmax pmax
comp=Z,32nm,1.4s,mb5.3
MEZF Maizieres J'vi 62.94 312⇓*i*P **P 13 01 13.1 -0.1**
comp=Z,31nm,0.7s,mb5.3
MBDF Montbardon 62.97 308 *e*P **P 13 01 13.0 -0.5**
comp=Z,11nm,0.8s,mb4.7
MBDF Montbardon 62.97 308 *e*P **P 13 01 13.0 -0.5**
MBDF pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
BAIF Baives 63.01 314⇓*i*P **P 13 01 13.6 -0.1**
comp=Z,42nm,1.2s,mb5.2
BAIF Baives 63.01 314⇓*i*P **P 13 01 13.6 -0.1**
BAIF pmax pmax
comp=Z,21nm,1.2s,mb5.1
FRF La Foret Royal 63.42 307 *e*P **P 13 01 16.3 -0.2**
ORIF Oris-en-Rattie 63.51 308 *e*P **P 13 01 16.7 -0.3**
comp=Z,13nm,0.9s,mb4.7
ORIF *e*R
comp=Z,184nm,20.5s
DAG Danmarks Havn 63.52 346⇑*i*P **P 13 01 16.2 -0.3**
comp=Z,3.8nm,1.1s,mb4.3
DAG Danmarks Havn 63.52 346⇑*e*P **P 13 01 16.2 -0.3**
comp=Z,3.8nm,1.1s,mb4.3
DAG Danmarks Havn 63.52 346⇑*e*P **P 13 01 16.2 -0.3**
DAG pmax pmax
comp=Z,4.0nm,1.1s,mb4.4
SMRF Simiane la Rot 64.02 307 *e*P **P 13 01 19.8 -0.5**
LOR Lormes 64.09 311⇓*i*P **P 13 01 19.8 -0.9**
comp=Z,42nm,1.2s,mb5.1
LOR *e*R
comp=Z,127nm,21.2s
LOR Lormes 64.09 311⇓*i*P **P 13 01 19.8 -0.9**
LOR pmax pmax
comp=Z,21nm,1.2s,mb5.0
LOR MLR MLR
comp=Z,130nm,21.3s,MS4.1
SMF Signal de Mont 64.30 310⇓*i*P **P 13 01 21.4 -0.7**
comp=Z,36nm,0.8s,mb5.1
SMF Signal de Mont 64.30 310⇓*i*P **P 13 01 21.4 -0.7**
SMF pmax pmax
comp=Z,18nm,0.8s,mb5.2
VIVF Saint-Julien-l 64.34 308⇓*i*P **P 13 01 21.8 -0.6**
comp=Z,16nm,1.0s,mb4.7
VIVF Saint-Julien-l 64.34 308⇓*i*P **P 13 01 21.8 -0.6**
VIVF pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
SSF Saint Saulge 64.39 311⇓*i*P **P 13 01 22.0 -0.6**
comp=Z,23nm,0.9s,mb5.2
SSF Saint Saulge 64.39 311⇓*i*P **P 13 01 22.0 -0.6**
SSF pmax pmax
comp=Z,23nm,0.9s,mb5.2
AVF Avril sur Loir 64.57 311⇓*i*P **P 13 01 23.1 -0.7**
comp=Z,28nm,1.0s,mb5.0
AVF Avril sur Loir 64.57 311⇓*i*P **P 13 01 23.1 -0.7**
AVF pmax pmax
comp=Z,14nm,1.0s,mb5.0
HYF Humbligny 64.88 311 *e*P **P 13 01 25.7 -0.1**
BGF Bois d'Agland 64.98 311⇓*i*P **P 13 01 25.8 -0.7**
comp=Z,20nm,0.9s,mb4.9
BGF Bois d'Agland 64.98 311⇓*i*P **P 13 01 25.8 -0.7**
BGF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
LASF Ste Croix 65.15 308⇓*i*P **P 13 01 27.3 -0.4**
comp=Z,23nm,0.9s,mb4.9
TCF Toulx Ste Croi 65.48 311⇓*i*P **P 13 01 29.5 -0.2**
comp=Z,79nm,1.2s,mb5.3
TCF Toulx Ste Croi 65.48 311⇓*i*P **P 13 01 29.5 -0.2**
TCF pmax pmax
comp=Z,40nm,1.2s,mb5.3
CAF Calviac 66.06 309⇓*i*P **P 13 01 33.2 -0.2**
comp=Z,31nm,1.0s,mb5.0
CAF Calviac 66.06 309⇓*i*P **P 13 01 33.2 -0.2**
CAF pmax pmax
comp=Z,15nm,1.0s,mb5.0
LDF La Druitiere 66.16 313⇓*i*P **P 13 01 33.5 -0.5**
comp=Z,96nm,0.9s,mb5.5
LDF La Druitiere 66.16 313⇓*i*P **P 13 01 33.5 -0.5**
LDF pmax pmax
comp=Z,48nm,0.9s,mb5.5
RJF Les Rejaudoux 66.29 310 *e*P **P 13 01 35.0 +0.1**
comp=Z,33nm,1.1s,mb5.0
RJF *e*R
comp=Z,96nm,22.2s
RJF Les Rejaudoux 66.29 310 *e*P **P 13 01 35.0 +0.1**
RJF pmax pmax
comp=Z,16nm,1.0s,mb5.0
RJF MLR MLR
comp=Z,100nm,22.2s,MS4.0
FLN La Foliniere 66.33 314⇓*i*P **P 13 01 34.4 -0.6**
comp=Z,82nm,1.3s,mb5.3
FLN *e*R
comp=Z,130nm,21.8s
FLN La Foliniere 66.33 314⇓*i*P **P 13 01 34.4 -0.6**
FLN pmax pmax
comp=Z,41nm,1.3s,mb5.3
FLN MLR MLR
comp=Z,130nm,21.8s,MS4.1
MTLF Montolieu 66.53 308 *e*P **P 13 01 35.9 -0.5**
comp=Z,16nm,1.0s,mb4.7
MTLF Montolieu 66.53 308 *e*P **P 13 01 35.9 -0.5**
MTLF pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
GRR Gorron 66.69 313⇓*i*P **P 13 01 36.8 -0.6**
comp=Z,76nm,0.8s,mb5.5
GRR Gorron 66.69 313⇓*i*P **P 13 01 36.8 -0.6**
GRR pmax pmax
comp=Z,38nm,0.8s,mb5.5
MFF Saint Martin d 66.90 311⇓*i*P **P 13 01 38.1 -0.6**
comp=Z,34nm,1.1s,mb5.0
MFF Saint Martin d 66.90 311⇓*i*P **P 13 01 38.1 -0.6**
MFF pmax pmax
comp=Z,17nm,1.1s,mb5.0
LFF La Frestale 66.93 310 *e*P **P 13 01 38.9 0.0**
comp=Z,55nm,1.2s,mb5.1
LFF La Frestale 66.93 310 *e*P **P 13 01 38.9 0.0**
LFF pmax pmax
comp=Z,27nm,1.2s,mb5.2
WRA Warramunga Arr 67.55 133 P **P 13 01 41.8 -1.4**
comp=Z,12nm,0.8s,mb5.0,baz=324,slow=6.3,SNR=77
WRA PKPPKP 13 30 07.2
comp=Z,2.0nm,1.0s,baz=127,slow=2.9,SNR=6.9
SGMF Saint Gilles 67.80 314⇓*i*P **P 13 01 44.2 -0.1**
comp=Z,97nm,1.1s,mb5.5
SGMF Saint Gilles 67.80 314⇓*i*P **P 13 01 44.2 -0.1**
SGMF pmax pmax
comp=Z,48nm,1.1s,mb5.4
ROSF Rostrenen 68.21 314 *e*P **P 13 01 46.7 -0.2**
comp=Z,142nm,1.1s,mb5.6
ROSF Rostrenen 68.21 314 *e*P **P 13 01 46.7 -0.2**
ROSF pmax pmax
comp=Z,71nm,1.1s,mb5.6
QUIF Quistinic 68.30 314⇓*i*P **P 13 01 47.0 -0.5**
comp=Z,43nm,1.1s,mb5.1
QUIF Quistinic 68.30 314⇓*i*P **P 13 01 47.0 -0.5**
QUIF pmax pmax
comp=Z,21nm,1.1s,mb5.1
ETSF Etsaut 68.58 308 *e*P **P 13 01 49.1 -0.1**
comp=Z,8.5nm,0.8s,mb4.5
ETSF Etsaut 68.58 308 *e*P **P 13 01 49.1 -0.1**
ETSF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
SJPF Ste Jean 68.94 308 *e*P **P 13 01 51.8 +0.3**
NWAO Narrogin (SRO) 69.55 154 LR LR 13 32 16.7
comp=Z,130nm,22.0s,MS4.1,baz=42,slow=36
ESDC Sonseca Array 72.25 306 P **P 13 02 10.5 -1.0**
comp=Z,2.8nm,0.8s,mb4.2,baz=55,slow=6.5,SNR=11
ILAR Eielson Array 75.16 21 P **P 13 02 27.9 -0.1**
comp=Z,6.0nm,0.9s,mb4.5,baz=300,slow=4.9,SNR=69
ILAR PP PP 13 05 15.8 -2.8
comp=Z,1.0nm,0.9s,baz=306,slow=8.7,SNR=5.2
CTA Charters Tower 75.64 124 *e*P **P 13 02 30.8 -0.8**
comp=Z,7.5nm,0.8s,mb4.7
CTA Charters Tower 75.64 124 *e*P **P 13 02 30.8 -0.8**
CTA pmax pmax
comp=Z,8.0nm,0.8s
SPU Mount Spurr 75.80 26 *e*P **P 13 02 32.4 +0.7**
INK Inuvik 76.02 15 *e*P **P 13 02 32.9 +0.1**
comp=Z,14nm,1.0s,mb4.8
INK Inuvik 76.02 15 *e*P **P 13 02 32.9 +0.1**
INK pmax pmax
comp=Z,14nm,1.0s
PMR Palmer 76.58 24 *e*P **P 13 02 38.3 +2.1**
comp=Z,35nm,1.4s,mb5.1
PMR Palmer 76.58 24 *e*P **P 13 02 38.3 +2.1**
PMR pmax pmax
comp=Z,35nm,1.4s,mb5.1
KDAK Kodiak Island 77.79 29 *e*P **P 13 02 42.9 -0.1**
comp=Z,9.6nm,0.7s,mb4.8
KDAK *e*PP PP 13 05 35.1 -5.4
DAWY Dawson 77.91 19 *e*P **P 13 02 43.7 +0.2**
STKA Stephens Creek 80.69 136 P **P 13 02 57.8 -1.5**
comp=Z,4.5nm,0.8s,mb4.4,baz=262,slow=3.2,SNR=5.7
YKA Yellowknife Ar 84.79 10 P **P 13 03 20.1 +0.6**
comp=Z,5.5nm,0.9s,mb4.7,baz=341,slow=4.7,SNR=5.9
YKA Yellowknife Ar 84.79 10 P **P 13 03 20.1 +0.6**
DLBC Dease Lake 85.12 19 *e*P **P 13 03 23.0 +1.8**
DBIC Dimbokro 89.09 277 P **P 13 03 41.0 -0.5**
comp=Z,3.6nm,0.8s,mb4.8,baz=45,slow=7.1,SNR=2.6
TXAR Lajitas Array 118.70 12 PKP PKPdf 13 09 34.8 +2.1
comp=Z,0.5nm,0.8s,baz=311,slow=0.6,SNR=5.7
VNA2 Neumayer--Watz 120.98 202 PKPdf 13 09 48.5 +12
VNA2 Neumayer--Watz 120.98 202 PKPdf 13 09 55.3 +19
VNA3 Neumayer Olymp 121.75 202 PKPdf 13 09 55.5 +18
SAML Samuel 145.25 304⇓*e*PKPbc PKPbc 13 10 23.7 +0.6
CPUP Villa Florida 149.37 270 PKP PKPdf 13 10 30.1 +1.0
comp=Z,2.6nm,0.7s,baz=34,slow=2.6,SNR=9.0
CPUP PKPbc PKPdf 13 10 34.0 +4.9
comp=Z,3.9nm,0.8s,baz=121,slow=3.9,SNR=7.9
CPUP Villa Florida 149.37 270 *e*PKPdf PKPdf 13 10 29.9 +0.8
CPUP *e*PKPbc PKPdf 13 10 34.7 +5.6
LPAZ La Paz 153.69 299 PKP PKPdf 13 10 38.1 +2.4
comp=Z,0.8nm,0.7s,baz=10,slow=11,SNR=3.5
LPAZ PKPbc PKPdf 13 10 45.6 +10
comp=Z,1.5nm,0.8s,baz=277,slow=3.3,SNR=3.7
LPAZ PKPab PKPab 13 10 57.5 -1.3
comp=Z,2.4nm,0.8s,baz=26,slow=5.6,SNR=7.1
PLCA Paso Flores 160.35 235 PKP PKPdf 13 10 43.9 +0.5
comp=Z,1.9nm,0.9s,baz=288,slow=3.2,SNR=3.3

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*NEIC **20** 13:11:41.5, 16.21N×96.02W, h27km, MD3.8(MEX), After MEX.*

MEX 20 13:11:41.5±0.9, 16.21N×96.02W, h28km±21km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.45**	**191**	*i* P	Pb	13 11 49.0	-2.0
HUIG				*i* S	Sb	13 11 55.9	-1.5
VHO	**Vista Hermosa**	**1.10**	**322**	*i* P	Pn	13 11 58.3	-2.9
VHO				*i* S	Sn	13 12 12.2	-3.2
OXX	**Oaxaca**	**1.10**	**322**	*i* P	Pn	13 11 58.5	-2.7
OXX				*i* S	Sn	13 12 12.5	-3.0
CMIG	**Matias Romero**	**1.40**	**51**	*e*P	Pn	13 12 03.3	-2.2
CMIG				*i* S	Sn	13 12 20.5	-2.7
PNIG	**Pinotepa**	**2.03**	**275**	*i* P	Pn	13 12 12.3	-2.2
PNIG				*i* S	Sn	13 12 36.2	-3.0
PNIG	**Pinotepa**	**2.03**	**275**	*i* P	Pn	13 12 12.3	-2.2
PNIG				*i* S	Sn	13 12 36.8	-2.4
EVV	**El Vigia**	**2.33**	**16**	*e*P	Pn	13 12 24.0	+5.2
PPM	**Popocatepetl**	**3.77**	**319**	*e*P	Pn	13 12 40.0	+0.6
ACX	**Acapulco**	**3.79**	**280**	*e*P	Pn	13 12 40.0	+0.4

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*NEIC **20** 13:12:31.4, 31.99S×71.63W, h36km, MD3.5(GUC), After GUC.*

GUC 20 13:12:31.4±0.6, 31.99S×71.63W, h36km±2km, MD3.5, ML2.5, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.15**	**45**	⇓*i*P	P	13 12 37.8	-0.1
CHNG				*i* S	S	13 12 42.4	0.0
CHNG				AMP		13 12 42.9	
	comp=E,461nm,0.4s						
CMCH	**Combarbala**	**0.97**	**33**	*e*P	P	13 12 49.0	+0.3
CMCH				*i* S	S	13 13 02.8	+1.3
CMCH				AMP		13 13 06.5	
	comp=N,298nm,0.5s						
JACH	**Jahuel**	**1.11**	**129**	⇓*i*P	P	13 12 51.5	+0.8
JACH				*i* S	S	13 13 06.9	+1.8
RCDM	**Rinconada Maip**	**1.65**	**155**	*e*P	P	13 12 59.5	+1.1
RCDM				*e*S	S	13 13 20.6	+2.0
RCDM				AMP		13 13 24.0	
	comp=E,91nm,0.2s						
FCH	**Farellones**	**1.75**	**140**	*e*P	P	13 13 01.4	+1.7
FCH				*i* S	S	13 13 23.7	+2.7
FCH				AMP		13 13 25.9	
	comp=E,71nm,0.2s						
TACH	**Talagante**	**1.76**	**161**	*e*P	P	13 13 01.1	+1.2
TACH				*i* S	S	13 13 22.8	+1.4
PCH	**Pirque**	**1.88**	**150**	*e*S	S	13 13 26.4	+2.1
TLL	**Tololo Astrono**	**1.95**	**21**	*i* S	S	13 13 30.1	+4.0
TLL				AMP		13 13 36.1	
	comp=N,76nm,0.5s						

LNV	**Longovilo**	**1.97**	**175**	*i* S		S	13 13 27.8	+1.2

*NEIC **20** 13:25:34.1, 16.86N×100.83W, h17km, MD3.6(MEX), After MEX.*

MEX 20 13:25:34.1±1.3, 16.86N×100.83W, h17km±13km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.57**	**70**	*i* P	Pb	13 25 43.3	-1.9
CAIG				*i* S	Sb	13 25 50.4	-2.4
ACX	**Acapulco**	**0.87**	**89**	*i* P	Pb	13 25 47.0	-3.4
ACX				*i* S	Sb	13 25 59.0	-2.6
ZIIG	**Zihuatanejo**	**0.96**	**321**	*i* P	Pb	13 25 49.8	-2.1
ZIIG				*i* S	Sb	13 25 59.1	-5.1
PLIG	**Platanillo**	**1.98**	**39**	*i* P	Pn	13 26 05.1	-2.3
PLIG				*i* S	Sn	13 26 26.7	-5.4
PPM	**Popocatepetl**	**3.04**	**43**	*e*P	Pn	13 26 28.0	+5.5

MEX 20 13:26:50.4±0.8, 16.45N×98.44W, h20km±114km, MD3.6, 1C, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.31**	**100**	⇑*i*P	Pb	13 26 55.7	-1.5
PNIG				*i* S	Sb	13 27 01.2	-0.7
ACX	**Acapulco**	**1.47**	**287**	*e*P	Pn	13 27 13.0	-3.1
ACX				*i* S	Sn	13 27 31.0	-3.9
PLIG	**Platanillo**	**2.18**	**333**	*i* P	Pn	13 27 24.2	-2.1
PLIG				*i* S	Sn	13 27 49.1	-3.8

*CSEM **20** 13:28:15.2±0.4, 35.01N×3.80W, h3km±3km, MD2.9, Error ellipse: s-maj=13.2km s-min=13.0km az=6.0, After CNRM*
*CNRM **20** 13:28:15.2, 35.01N×3.80W, h3km, MD2.9*

MDD 20 13:28:15.3±0.6, 34.97N×3.86W, mbLg1.8/1, Error ellipse: s-maj=4.8km s-min=3.4km az=42.0, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOU	**Touzarine**	**0.09**	**96**	*i* P	Pg	13 28 16.0	-1.2
TOU				*i* S	Sg	13 28 18.0	-0.4
MPAL	**Palemas**	**0.26**	**346**	*i* P	Pg	13 28 19.0	-1.5
MPAL				*i* S	Sg	13 28 23.5	-0.5
EMEL	**Melilla**	**0.81**	**66**	P	Pg	13 28 31.9	+0.3
	70nm,0.3s,SNR=6.0						
EMEL				S	Sg	13 28 45.1	+2.7
	SNR=7.9						
ZAI	**Zaio**	**0.92**	**90**	*e*P	Pg	13 28 31.5	-2.2
ZAI				*e*S	Sg	13 28 43.0	-2.9
TZK	**Tazeka**	**0.92**	**197**	*i* P	Pg	13 28 33.0	-0.7
TZK				*i* S	Sg	13 28 46.5	+0.5
EALB	**Alboran**	**1.18**	**35**	P	Pb	13 28 38.5	+0.2
	1.0nm,0.1s,SNR=7.9						
EALB				S	Sb	13 28 54.2	+0.2
	6.3nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**1.75**	**335**	P	Pn	13 28 47.2	0.0
	0.6nm,0.1s,SNR=7.9						
EMIJ				S	Sn	13 29 05.9	-4.6
	1.4nm,0.2s,SNR=7.9						

*BJI **20** 13:48:35.5, 36.43N×70.22E, h197km, mB4.5, mb4.1*
*IDC **20** 13:48:36.0±7.5, 36.30N×70.39E, h181km±65km, mb3.5/8, mb1 3.7/10, mb1mx3.4/20, mbtmp4.0/10, Error ellipse: s-maj=39.8km s-min=17.0km az=22.0*
*MOS **20** 13:48:36.6±1.1, 36.44N×70.29E, h196km, mb4.0/5, Error ellipse: s-maj=13.6km s-min=7.3km az=94.0*
*NEIC **20** 13:48:37.0±1.1, 36.41N×70.32E, h184km±10km, mb4.3/16, Error ellipse: s-maj=12.6km s-min=5.2km az=52.0*
*NNC **20** 13:48:43.8±2.5, 36.95N×70.39E, h209km±22km, mpv4.4, Error ellipse: s-maj=22.8km s-min=14.8km az=31.0*

ISC 20 13:48:37.6±0.4, 36.47N±0.03×70.47E±0.06, h206km±5km, n77, σ1§05/95, mb3.7/12, 7C-13D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.89**	**155**	⇓P	P	13 49 28.3	+1.5
CEP				S	S	13 50 05.0	+0.2
CHCP	**Chirah Chowk**	**3.62**	**140**	⇓P	P	13 49 37.2	+1.6
THW	**Thamme Wali**	**3.81**	**164**	⇑P	P	13 49 38.9	+1.0
SBDP	**Sheikh Budin**	**4.17**	**176**	⇑P	P	13 49 42.4	+0.1
DRP	**Derazinda**	**4.72**	**183**	P	P	13 49 49.9	+0.7
SARP	**Sargodha**	**4.89**	**157**	P	P	13 49 51.7	+0.3
SARP				S	S	13 50 47.0	-1.7
KSH	**Kashi**	**5.31**	**53**	P	P	13 49 58.5	+1.7
KSH				S	S	13 50 59.1	+0.8
KSH				Smax			
	comp=N,110nm,0.3s						
KSH				Smax			
	comp=E,120nm,0.3s						
THN	**Thein Dam**	**5.92**	**131**	*e*P	P	13 50 04.9	+0.3
THN				*ex*	S	13 51 11.7	-0.6
DLH	**Dalhousie**	**6.00**	**129**	*e*P	P	13 50 05.0	-0.6
DLH				*ex*	S	13 51 13.0	-1.1
AML	**Almayashu**	**6.18**	**23**	P	P	13 50 08.3	+0.2
	SNR=292						
UCH	**Uchtor**	**6.55**	**27**	P	P	13 50 13.2	+0.4
	SNR=38						
KK31	**Karatay Array**	**6.63**	**0**	⇓P	P	13 50 13.1	-0.7
	comp=E,7.1nm,0.2s,baz=170,slow=8.8,SNR=361						
KK31				⇑S	S	13 51 23.9	-4.9
	comp=E,43nm,0.6s						
KK31	**Karatay Array**	**6.63**	**0**	⇓P	P	13 50 13.1	-0.7
	comp=E,7.1nm,0.3s						
KK31				S	S	13 51 23.9	-4.9
EKS2	**Erkin-Say**	**6.69**	**21**	P	P	13 50 15.0	+0.3
	SNR=36						
KZA	**Kyzart**	**6.72**	**32**	P	P	13 50 15.0	0.0
	SNR=38						
AAK	**Ala-Archa**	**6.90**	**26**	P	P	13 50 17.7	+0.4
	SNR=20						
AAK	**Ala-Archa**	**6.90**	**26**	⇓P	P	13 50 17.6	+0.3
	comp=E,23nm,0.6s						
AAK				⇓S	S	13 51 33.1	-2.0
	comp=E,67nm,0.8s						
BHK	**Bhakra**	**7.06**	**134**	*e*S	S	13 51 35.8	-3.0
KBK	**Karagaybulak**	**7.08**	**28**	P	P	13 50 20.4	+0.7
	SNR=7.9						
ULHL	**Ulahol**	**7.30**	**36**	P	P	13 50 22.4	-0.1
	SNR=13						
CHMS	**Chumysh**	**7.31**	**26**	P	P	13 50 22.2	-0.4
	SNR=17						
SDNR	**Sundarnagar**	**7.33**	**131**	*e*P	P	13 50 23.5	+0.6
USP	**Ospenovka**	**7.46**	**23**	P	P	13 50 24.2	-0.5
	SNR=19						
TKM2	**Tokmak 2**	**7.56**	**30**	P	P	13 50 26.1	+0.2
	SNR=81						
SMLA	**Simla**	**7.71**	**132**	*e*P	P	13 50 25.4	-2.5
DDI	**Dehra Dun**	**8.82**	**132**	*e*P	P	13 50 40.2	-2.1
SONA	**Sohna**	**9.92**	**144**	*e*P	P	13 50 56.5	0.0
SONA				*e*S	S	13 52 40.3	-5.0
SONA				AML	AML	13 52 42.7	
	comp=N,45nm,0.7s						
SONA				AML	AML	13 52 43.0	
	comp=E,64nm,0.3s						
AJM	**Ajmer**	**10.57**	**159**	*ex*	P	13 50 59.2	-5.7
AJM				*e*S	S	13 52 56.8	-3.8
AJM				AML	AML	13 53 04.2	
	comp=E,25nm,0.3s						
AJM				AML	AML	13 53 04.4	
	comp=N,19nm,0.4s						
AGRA	**Agra**	**11.19**	**143**	*e*P	P	13 51 13.8	+1.0
AGRA				*e*S	S	13 53 06.9	-7.8
AGRA				*e*S	S	13 53 08.9	-5.8
MK31	**Makanchi Array**	**13.57**	**37**	⇓P	P	13 51 43.3	+0.5
	comp=N,8.0nm,0.8s,baz=220,slow=12,SNR=53						
MK31	**Makanchi Array**	**13.57**	**37**	⇓P	P	13 51 43.3	+0.5
	comp=N,8.0nm,0.8s						
MKAR	**Makanchi Array**	**13.57**	**37**	P	P	13 51 43.9	+1.1
	comp=N,1.1nm,0.3s,baz=223,slow=14,SNR=26						
KOLN	**Koldanda**	**14.10**	**124**	*e*P	P	13 51 49.3	-0.1
	comp=N,14nm,0.4s						
KOLN				*e*S	S	13 54 17.7	-3.4
BHPL	**Bhopal**	**14.49**	**154**	*e*P	P	13 51 56.1	+1.8
BHPL				*ex*	x	13 54 26.5	
GKN	**Gorkha**	**14.65**	**121**	*e*P	P	13 51 56.3	0.0
	comp=N,67nm,0.5s						
GKN				*e*S	S	13 54 29.6	-3.9
AB31	**Akbulak array**	**14.91**	**332**	⇓P	P	13 51 58.0	-1.4
	comp=N,3.8nm,0.3s,baz=148,slow=12,SNR=251						
AB31				S	S	13 54 42.1	+3.0
	comp=N,2.3nm,0.7s,baz=148,slow=24,SNR=2.6						
AB31	**Akbulak array**	**14.91**	**332**	⇓P	P	13 51 58.0	-1.4
	comp=N,3.8nm,0.3s						
AB31				S	S	13 54 42.1	+3.0
AB31	**Akbulak array**	**14.91**	**332**	⇓P	P	13 51 58.0	-1.3
AB31				S	S	13 54 42.1	+3.0
AB31				pmax	pmax		
	comp=Z,4.0nm,0.3s						
DMN	**Daman**	**15.22**	**121**	*e*P	P	13 52 03.9	+0.5
	comp=Z,16nm,0.3s						
KKN	**Kakani**	**15.23**	**120**	*e*P	P	13 52 03.7	+0.3
	comp=Z,43nm,0.4s						
KKN	**Kakani**	**15.23**	**120**	*e*P	P	13 52 03.7	+0.3
KKN				pmax	pmax		
	comp=Z,22nm,0.4s						
KURK	**Kurchatov**	**15.40**	**20**	P	P	13 52 04.6	-0.9
PKI	**Pulchoki**	**15.46**	**121**	*e*P	P	13 52 06.7	+0.5
	comp=Z,74nm,0.6s						
PKI	**Pulchoki**	**15.46**	**121**	*e*P	P	13 52 06.7	+0.5
PKI				pmax	pmax		
	comp=Z,37nm,0.6s						
VOSK	**Vostochnaya**	**16.26**	**1**	⇓P	P	13 52 14.8	-1.0
	comp=Z,2.1nm,0.8s						
VOSK	**Vostochnaya**	**16.26**	**1**	⇓P	P	13 52 14.8	-1.0
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BVA0	**Borovoye Array**	**16.56**	**360**	⇑P	P	13 52 18.0	-1.3
	comp=Z,0.4nm,0.6s,baz=220,slow=39,SNR=10						
BVAR	**Borovoye Array**	**16.56**	**360**	P	P	13 52 19.2	-0.2
	comp=Z,0.6nm,0.3s,baz=166,slow=12,SNR=10						
AKTK	**Aktyubinsk**	**16.60**	**331**	⇑P	P	13 52 19.6	-0.3
AKTK				S	S	13 55 15.5	-1.3
AKTO	**Aktyubinsk**	**16.60**	**331**	⇑P	P	13 52 19.6	-0.2
	comp=Z,1.1nm,1.0s						
AKTO				⇑S	S	13 55 15.5	-1.3
	comp=Z,0.8nm,1.0s						
LSA	**Lhasa**	**18.58**	**105**	*e*P	P	13 52 44.6	+3.2
	comp=Z,4.3nm,0.5s						
LSA	**Lhasa**	**18.58**	**105**	*e*P	P	13 52 44.6	+3.3
LSA				pmax	pmax		
	comp=Z,4.0nm,0.5s						
ZAL	**Zalesovo**	**20.11**	**25**	P	P	13 52 56.1	-0.7
	comp=Z,7.3nm,0.4s,baz=257,slow=5.8,SNR=14						
NVS	**Novosibirsk**	**20.37**	**22**	*e*P	P	13 53 00.0	+0.7
NVS				pmax	pmax		
	comp=Z,5.0nm,0.6s						
NVS				pmax	pmax		
	comp=N,3.0nm,0.4s						
ARU	**Arti**	**21.53**	**342**	*e*P	P	13 53 11.9	+1.2
	comp=N,3.9nm,0.6s,mb4.1						
ARU				*e*		13 53 45.5	
ARU				*e*		13 54 14.2	
ARU	**Arti**	**21.53**	**342**	*e*P	P	13 53 11.9	+1.2
ARU				*e*		13 53 45.5	
ARU				*e*		13 54 14.2	
ARU				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.1						
SONM	**Songino Array**	**28.71**	**55**	P	P	13 54 18.8	+1.3
	comp=Z,0.7nm,0.6s,mb3.5,baz=255,slow=8.9,SNR=7.7						
AKASG	**Malin Array Be**	**32.63**	**309**	P	P	13 54 49.8	-1.9
	comp=Z,0.4nm,0.3s,mb3.4,baz=80,slow=6.9,SNR=5.4						
BOD	**Bodaibo**	**35.65**	**39**	*e*P	P	13 55 16.6	-0.6
JOF	**Joensuu**	**35.68**	**330**	*e*p	P	13 55 17.6	+0.1
	comp=Z,2.6nm,0.4s,mb4.1						
FINES	**FINESS Array B**	**37.27**	**326**	P	P	13 55 31.2	+0.4
	comp=Z,1.8nm,0.6s,mb3.8,baz=121,slow=11,SNR=12						
FINES	**FINESS Array B**	**37.27**	**326**	P	P	13 55 31.2	+0.4
KAF	**Kangasniemi**	**37.42**	**327**	*e*p	P	13 55 32.1	0.0
	baz=112,slow=8.5						
HIA	**Hailar**	**37.66**	**54**	*e*P	P	13 55 35.8	+1.6
	comp=Z,3.3nm,0.3s,mb4.3						
HIA	**Hailar**	**37.66**	**54**	*e*P	P	13 55 35.8	+1.6
HIA				pmax	pmax		
	comp=Z,3.0nm,0.3s						
KEV	**Kevo**	**40.67**	**338**	*e*p	P	13 55 59.4	+0.6
	comp=Z,2.3nm,0.5s,mb3.9						
KEV	**Kevo**	**40.67**	**338**	*e*P	P	13 55 59.4	+0.6
KEV				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb3.8						
ARCES	**ARCESS Array B**	**41.01**	**338**	P	P	13 56 02.5	+0.9
	comp=Z,4.9nm,0.7s,mb4.1,baz=114,slow=7.8,SNR=32						
ARE0	**ARCESS Array S**	**41.01**	**338**	P	P	13 56 01.7	+0.1
NB2	**NORSAR Subarra**	**44.15**	**323**	P	P	13 56 26.5	-0.4
	comp=Z,1.4nm,0.6s,mb3.5,baz=98,slow=7.9						
NB2	**NORSAR Subarra**	**44.15**	**323**	P	P	13 56 26.5	-0.4
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.3						
NOA	**NORSAR Array B**	**44.15**	**323**	P	P	13 56 26.6	-0.2
	comp=Z,1.7nm,0.7s,mb3.5,baz=97,slow=7.8,SNR=10.0						
INK	**Inuvik**	**74.01**	**9**	*e*P	P	13 59 52.6	+1.0
	comp=Z,0.8nm,0.5s,mb3.6						
INK	**Inuvik**	**74.01**	**9**	*e*P	P	13 59 52.6	+1.0
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ILAR	**Eielson Array**	**74.93**	**16**	P	P	13 59 56.8	-0.1
	comp=Z,0.8nm,1.0s,mb3.3,baz=331,slow=2.2,SNR=7.6						
WRA	**Warramunga Arr**	**82.34**	**122**	P	P	14 00 37.1	-0.6
	comp=Z,0.6nm,0.5s,mb3.5,baz=320,slow=5.0,SNR=20						
PLCA	**Paso Flores**	**149.41**	**250**	PKPbc	PKPdf	14 08 03.8	+6.8
	comp=Z,1.3nm,0.7s,baz=312,slow=2.8,SNR=3.9						

*CSEM **20** 13:57:01.7±0.4, 35.06N×3.64W, h8km, MD2.6, Error ellipse: s-maj=13.1km s-min=9.3km az=169.0, After CNRM*
*CNRM **20** 13:57:01.7, 35.06N×3.64W, h8km, MD2.6*

MDD 20 13:57:01.9±0.5, 35.05N×3.65W, mbLg1.1/1, Error ellipse: s-maj=4.2km s-min=4.1km az=47.0, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOU	**Touzarine**	**0.12**	**223**	*i* P	Pg	13 57 04.5	+0.1
TOU				*i* S	Sg	13 57 06.0	-0.1
MPAL	**Palemas**	**0.29**	**306**	*i* P	Pg	13 57 07.0	-0.8
MPAL				*i* S	Sg	13 57 11.5	-0.2
ZAI	**Zaio**	**0.75**	**96**	*e*P	Pg	13 57 15.5	-1.4
ZAI				*e*S	Sg	13 57 26.0	-0.8
TZK	**Tazeka**	**1.06**	**205**	*i* P	Pb	13 57 21.0	-1.8
TZK				*i* S	Sb	13 57 35.0	-2.0
EMIJ	**Mijas**	**1.76**	**329**	P	Pn	13 57 33.1	-0.8
	0.5nm,0.2s,SNR=7.9						
EMIJ				S	Sn	13 57 54.7	-2.7
	0.8nm,0.2s,SNR=7.9						

CASC 20 14:03:59.3±2.7, 11.80N×88.82W, h37km±999km, MD3.8, ML3.1, 7C-1D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLLM	**Bellamira**	**1.73**	**19**	*e*P	P	14 04 28.7	+1.2
BLLM				*e*S	S	14 04 49.4	+0.9
CNCH	**Conchagua**	**1.76**	**33**	⇑*e*P	P	14 04 29.4	+1.5
LFRS	**El Faro**	**1.83**	**353**	⇑*e*P	P	14 04 29.1	+0.2
LFRS				*e*S	S	14 04 49.6	-1.4
LCBS	**La Ceiba**	**1.85**	**355**	⇑*e*P	P	14 04 29.3	+0.1
LFU	**La Fuente**	**1.96**	**352**	⇑*e*P	P	14 04 31.4	+0.7
BOQS	**Boqueron**	**1.98**	**347**	*e*P	P	14 04 31.7	+0.7
BOQS				*e*S	S	14 04 54.1	-0.6
LEON	**Leon**	**1.99**	**72**	⇑*e*P	P	14 04 29.4	-1.7
TEL3	**Telica 3**	**2.08**	**68**	*e*P	P	14 04 30.4	-2.1
TELN	**Telica**	**2.11**	**67**	*e*P	P	14 04 31.9	-0.9
MIRN	**Miramar**	**2.16**	**73**	⇓*e*P	P	14 04 32.4	-1.2
SBLS	**San Blas**	**2.17**	**339**	*e*P	P	14 04 34.6	+0.8
SBLS				*e*S	S	14 04 59.2	-0.6
CNGN	**Cerro Negro**	**2.19**	**71**	*e*P	P	14 04 32.3	-1.8
COPN	**Copaltepe**	**2.22**	**80**	⇑*e*P	P	14 04 33.1	-1.3
COPN				*e*S	S	14 05 02.1	+1.2
	comp=Z,153nm,0.5s						
RTR	**El Retiro**	**2.24**	**339**	*e*P	P	14 04 35.5	+0.8
RTR				*e*S	S	14 05 00.7	-0.6
MOMJ	**Momotombo**	**2.31**	**75**	*e*P	P	14 04 34.2	-1.6
APYN	**Apoyeque**	**2.46**	**80**	⇑*e*P	P	14 04 36.6	-1.3
CRUN	**El Crucero**	**2.48**	**85**	*e*P	P	14 04 37.3	-0.9
MGAN	**Managua**	**2.54**	**82**	*e*S	S	14 05 09.3	+0.2
	comp=E,144nm,0.3s						
TICN	**Ticuantepe**	**2.55**	**84**	*e*P	P	14 04 38.2	-1.0

*IDC **20** 14:07:07.0±0.9, 31.04N×88.14E, mb3.9/12, mb1 4.1/13, mb1mx4.0/19, mbtmp3.9/13, ML3.3/1, Error ellipse: s-maj=27.8km s-min=16.8km az=41.0*
*NEIC **20** 14:07:09.1±0.5, 31.14N×88.21E, h10km, mb4.4/8, Error ellipse: s-maj=14.9km s-min=7.7km az=213.0*
*MOS **20** 14:07:10.6±1.3, 31.14N×88.20E, h33km, mb4.5/9, Error ellipse: s-maj=16.2km s-min=7.5km az=116.5*
*NDI **20** 14:07:12.8±4.5, 30.98N×88.36E, h15km, ML4.0, mb4.4(NEIC)*
*BJI **20** 14:07:16.0, 31.45N×89.04E, h10km, mB4.6, mb4.1, Ms3.8, Msz3.7*

ISC 20 14:07:06.1±1.2, 31.10N±0.05×88.03E±0.04, h3km±8km, n59, σ1§34/63, mb4.1/20, 1C-3D, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**3.04**	**116**	PG	**Pb**	**14 08 01.4**	**+0.8**
LSA				SG	**Sb**	**14 08 39.0**	**+0.7**
LSA	**Lhasa**	**3.04**	**116**	*e*Pn	**Pn**	**14 07 56.8**	**+0.7**
LSA				*e*Pb	**Pb**	**14 08 01.4**	**+0.8**
LSA				*e*Pg	**Pg**	**14 08 05.9**	**-0.9**
LSA				*e*Sn	**Sn**	**14 08 35.2**	**+1.8**
LSA	**Lhasa**	**3.04**	**116**	*e*P	**Pn**	**14 07 56.8**	**+0.8**
LSA				*e*		14 08 35.2	
GTK	**Gangtok**	**3.79**	**172**	*e*PG	**Pg**	**14 08 22.0**	**+0.3**
SHL	**Shillong**	**6.47**	**147**	*e*P	**Pn**	**14 08 46.0**	**+1.3**
SHL				*ex*	x	14 09 59.5	
AGRA	**Agra**	**9.62**	**249**	*ex*	x	14 11 08.7	
AGRA				AML	AML	14 11 29.7	
	comp=N,99nm,0.3s						
AGRA				AML	AML	14 11 31.4	
	comp=E,98nm,0.1s						
NDI	**New Delhi**	**9.69**	**258**	*e*S	**Sn**	**14 11 18.5**	**-1.5**
SONA	**Sohna**	**9.93**	**256**	*e*P	**P**	**14 09 35.6**	**+2.7**
SONA				*e*S	**Sn**	**14 11 24.5**	**-1.6**
BHPL	**Bhopal**	**12.25**	**233**	*e*P	**P**	**14 10 07.4**	**+2.9**
BHPL				*e*S	**S**	**14 12 14.8**	**-8.0**
BHPL				AML	AML	14 12 25.5	
	comp=N,17nm,0.3s						
BHPL				AML	AML	14 12 32.7	
	comp=E,12nm,0.8s						
CHCP	**Chirah Chowk**	**12.74**	**285**	P	**P**	**14 10 09.8**	**-1.2**
CEP	**Cherat**	**13.88**	**286**	P	**P**	**14 10 24.8**	**-1.3**
THW	**Thamme Wali**	**13.93**	**281**	P	**P**	**14 10 25.6**	**-1.2**
CHG	**Chiang Mai**	**15.72**	**139**	⇑P	**P**	**14 10 54.6**	**+4.3**
	comp=E,11nm,1.0s						
AAK	**Ala-Archa**	**15.78**	**321**	*e*P	**P**	**14 10 54.5**	**+3.6**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
HYB	**Hyderabad**	**16.11**	**214**	*i* P	**P**	**14 11 02.5**	**+7.2**
MKAR	**Makanchi Array**	**16.29**	**346**	Pn	**P**	**14 10 57.0**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=151,slow=12,SNR=7.0						
NANT	**Nan**	**16.77**	**134**	P	**P**	**14 11 03.0**	**-0.7**
GYA	**Guiyang**	**16.98**	**101**	P	**P**	**14 11 04.1**	**-2.2**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s						
XAN	**Xi'an**	**17.86**	**75**	P	**P**	**14 11 14.4**	**-2.8**
XAN				AMB	AMB		
	comp=Z,5.0nm,0.9s						
ENH	**Enshi**	**18.48**	**87**	P	**P**	**14 11 22.4**	**-2.6**
ENH				*e*		14 11 34.8	
KURK	**Kurchatov**	**20.82**	**343**	*e*P	**P**	**14 11 50.2**	**-0.9**
	comp=Z,9.4nm,1.0s						
KURK	**Kurchatov**	**20.82**	**343**	*e*P	**P**	**14 11 50.2**	**-0.9**
KURK				pmax	pmax		
	comp=Z,9.0nm,1.0s						
SONM	**Songino Array**	**21.83**	**35**	P	**P**	**14 12 00.4**	**-1.1**
	comp=Z,2.2nm,0.8s,mb3.7,baz=220,slow=10,SNR=12						
ZAK	**Zakamensk**	**22.38**	**26**	*e*P	**P**	**14 12 06.5**	**-0.4**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.5						
ZAL	**Zalesovo**	**22.94**	**355**	P	**P**	**14 12 14.3**	**+1.9**
ZAL	**Zalesovo**	**22.94**	**355**	P	**P**	**14 12 14.3**	**+1.9**
NVS	**Novosibirsk**	**23.98**	**353**	*e*P	**P**	**14 12 25.0**	**+2.6**
BVAR	**Borovoye Array**	**25.39**	**335**	P	**P**	**14 12 37.5**	**+1.5**
	comp=Z,1.3nm,0.8s,mb3.5,baz=135,slow=8.4,SNR=7.3						
CN2	**Changchun**	**32.03**	**56**	*e*P	**P**	**14 13 34.9**	**-1.1**
ARU	**Arti**	**32.62**	**330**	*e*P	**P**	**14 13 41.1**	**+0.1**
	comp=Z,4.6nm,0.8s,mb4.5						
ARU	**Arti**	**32.62**	**330**	*d i*P	**P**	**14 13 41.8**	**+0.8**
ARU				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
KIV	**Kislovodsk**	**37.73**	**303**	*e*P	**P**	**14 14 24.3**	**-0.5**
	comp=Z,5.1nm,0.5s,mb4.5						
KIV	**Kislovodsk**	**37.73**	**303**	*e*P	**P**	**14 14 24.3**	**-0.4**
KIV				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.5						
MJAR	**Matsushiro Arr**	**41.67**	**69**	P	**P**	**14 14 56.7**	**-0.8**
	comp=Z,0.2nm,0.3s,mb3.2,baz=293,slow=9.5,SNR=4.3						
OBN	**Obninsk**	**43.30**	**319**	⇓*i*P	**P**	**14 15 13.3**	**+2.7**
OBN				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.4						
BRTR	**Keskin Array B**	**44.57**	**297**	P	**P**	**14 15 21.1**	**0.0**
	comp=Z,0.5nm,0.4s,mb3.7,baz=34,slow=13,SNR=3.5						
AKASG	**Malin Array Be**	**47.22**	**312**	P	**P**	**14 15 42.7**	**+0.7**
	comp=Z,3.3nm,0.7s,mb4.4,baz=79,slow=7.0,SNR=11						
JOF	**Joensuu**	**47.74**	**329**	*e*p	**P**	**14 15 46.2**	**+0.3**
VSU	**Vasula**	**49.17**	**322**	*i* P	**P**	**14 15 59.1**	**+2.1**
KAF	**Kangasniemi**	**49.86**	**327**	*e*p	**P**	**14 16 04.3**	**+2.0**
FINES	**FINESS Array B**	**49.87**	**326**	P	**P**	**14 16 02.5**	**+0.2**
	comp=Z,0.5nm,0.7s,mb3.7,baz=104,slow=7.9,SNR=5.9						
MA2	**Magadan**	**50.03**	**36**	⇓*e*P	**P**	**14 16 00.5**	**-3.1**
MA2				pmax	pmax		
	comp=Z,32nm,1.4s,mb5.2						
ARCES	**ARCESS Array B**	**51.66**	**337**	P	**P**	**14 16 15.8**	**-0.1**
	comp=Z,1.5nm,0.8s,mb4.0,baz=106,slow=8.8,SNR=5.7						
PSZ	**Piszkesteto**	**53.47**	**309**	*e*P	**P**	**14 16 30.8**	**+1.1**
	comp=Z,0.7nm,0.5s,mb3.9						
PSZ	**Piszkesteto**	**53.47**	**309**	*e*P	**P**	**14 16 30.8**	**+1.1**
PSZ				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
MORC	**Moravsky

0.2nm,0.6s,baz=196,slow=11,SNR=10.0
BVA0 ⇓Sn S 14 22 58.7 -2.5
0.2nm,0.5s,baz=203,slow=24,SNR=5.5
MK31 Makanchi Array 13.72 59 Pn P 14 20 55.7 +2.5
0.4nm,0.4s,baz=246,slow=15,SNR=6.5

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*MOS **20** 14:33:52.1±1.1, 63.14N×147.32E, h23km, mb4.3/1, Error ellipse: s-maj=61.6km s-min=20.9km az=107.6*
NERS 20 14:33:52.1, 63.14N×147.32E, h23km, 2C-1D, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUUS	**Susuman**	**0.53**	**133**	*i* Pg	Pb	14 34 03.4	+0.7
SUUS				Pgmax		14 34 03.7	
	100nm,0.3s						
SUUS				*e*Sg	Sb	14 34 11.9	+2.0
SUUS				Sgmax		14 34 13.9	
	820nm,0.2s						
SUUS				Sgmax		14 34 13.9	
	2μm,0.2s						
OCHR	**Omchak**	**1.50**	**170**	⇑ *i* Pg	Pn	14 34 19.0	+1.0
OCHR				Pgmax		14 34 19.7	
	590nm,0.3s						
OCHR				*e*Sg	Sn	14 34 39.2	+2.2
OCHR				Sgmax		14 34 41.2	
	1μm,0.3s						
OCHR				Sgmax		14 34 41.2	
	540nm,0.3s						
SEY	**Seymchan**	**2.32**	**93**	*e*P	Pn	14 34 31.9	+2.2
SEY				*e*S	Sn	14 35 03.1	+5.4
SEY				pmax	pmax		
	comp=N,20nm,0.2s						
SEY				pmax	pmax		
	comp=E,70nm,0.2s						
SEY				pmax	pmax		
	comp=Z,90nm,0.2s						
SEY				pmax	pmax		
	comp=N,40nm,0.2s						
SEY				pmax	pmax		
	comp=E,350nm,0.2s						
SEY				pmax	pmax		
	comp=Z,170nm,0.2s						
SEY				smax			
	comp=N,400nm,0.3s						
SEY				smax			
	comp=E,270nm,0.3s						
SEY				smax			
	comp=N,500nm,0.3s						
SEY				smax			
	comp=E,380nm,0.2s						
TLAR	**Talaya**	**3.12**	**128**	*e*Pg	Pn	14 34 52.4	+11
TLAR				*e*S	Sn	14 35 15.7	-2.5
TLAR				*e*Sg	Sn	14 35 32.0	+14
TLAR				Sgmax		14 35 38.6	
	comp=E,280nm,0.7s						
TLAR				Sgmax		14 35 38.6	
	comp=E,110nm,0.5s						
TLAR	**Talaya**	**3.12**	**128**	*i* P	Pn	14 34 52.4	+11
MGD	**Magadan 1**	**3.51**	**151**	*e*P	Pn	14 34 47.4	+0.8
MGD				*e*Pg	Pn	14 34 56.2	+10
MGD				Pgmax		14 34 57.4	
	comp=E,30nm,0.2s						
MGD				*e*S	Sn	14 35 24.0	-3.9
MGD				*e*Sg	Sn	14 35 42.3	+14
MGD				Sgmax		14 35 48.3	
	comp=E,410nm,0.3s						
MGD	**Magadan 1**	**3.51**	**151**	*i* P	Pn	14 34 47.4	+0.8
OMS	**Omsukchan**	**3.93**	**95**	*e*Pg	Pn	14 35 03.0	+10
OMS				Pgmax		14 35 04.0	
	comp=E,30nm,0.5s						
OMS				*e*Sg	Sn	14 35 54.0	+15
OMS				Sgmax		14 36 04.0	
	comp=E,130nm,1.5s						
OMS				Sgmax		14 36 04.0	
	comp=E,130nm,1.5s						
OMS				Sgmax		14 36 04.0	
	comp=E,40nm,1.0s						
OMS	**Omsukchan**	**3.93**	**95**	*i* P	Pn	14 35 03.0	+10
MA2	**Magadan**	**3.94**	**154**	*e*P	Pn	14 34 52.6	-0.2
MA2				*e*		14 35 02.0	
MA2				*e*Pg	Pn	14 35 04.1	+11
MA2				Pgmax		14 35 06.0	
	comp=E,20nm,0.5s						
MA2				*e*S	Sn	14 35 32.8	-6.1
MA2				*e*Sg	Sn	14 35 54.8	+16
MA2				Sgmax		14 35 59.0	
	comp=E,140nm,0.5s						
MA2				Sgmax		14 35 59.0	
	comp=E,70nm,0.5s						
MA2	**Magadan**	**3.94**	**154**	*c i* P	Pn	14 34 52.5	-0.3

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*LDG **20** 14:50:29.2±0.1, 46.28N×1.75E, h2km, Md3.0/2, Ml3.0/28, Error ellipse: s-maj=1.2km s-min=1.1km az=18.0*
*NEIC **20** 14:50:29.2, 46.28N×1.75E, h2km, ML3.0(LDG), ML2.9(STR), After LDG.*
*MDD **20** 14:50:29.7±0.3, 46.26N×1.78E, h9km±2km, mbLg2.2/12, Error ellipse: s-maj=3.5km s-min=2.5km az=151.0*
*CSEM **20** 14:50:29.4±0.1, 46.27N×1.76E, h10km, ML3.0/26, Error ellipse: s-maj=1.5km s-min=1.4km az=14.0*
*STR **20** 14:50:30.6±0.5, 46.20N×1.80E, h5km±1km, Ml3.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 20 14:50:25.8±0.2, 46.30N±0.01×1.70E±0.02, h10km, n50, σ1§73/119, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCF	**Toulx Ste Croi**	**0.36**	**91**	*e*Pg	**Pg**	**14 50 35.3**	**+2.2**
TCF				*e*Sg	**Sg**	**14 50 38.9**	**+0.8**
	291nm,0.2s						
BGF	**Bois d'Agland**	**0.84**	**71**	*e*Pg	**Pg**	**14 50 44.5**	**+1.9**
BGF				*e*Pn	**Pn**	**14 50 46.1**	**+2.6**
BGF				*e*Sg	**Sg**	**14 50 54.4**	**+0.5**
	178nm,0.3s						
RJF	**Les Rejaudoux**	**1.00**	**187**	*e*Pg	**Pg**	**14 50 47.5**	**+1.7**
RJF				*e*Sg	**Sg**	**14 50 59.8**	**+0.6**
	302nm,0.3s						
AGO	**Saint Agoulin**	**1.03**	**103**	Pg	**Pg**	**14 50 48.5**	**+2.1**
AGO				Sg	**Sg**	**14 51 01.5**	**+1.4**
PYM	**Petit Puy Mans**	**1.06**	**120**	Pg	**Pg**	**14 50 49.2**	**+2.1**
PYM				Sg	**Sg**	**14 51 02.4**	**+1.0**
FRNF	**Fournols**	**1.09**	**146**	Pg	**Pg**	**14 50 48.6**	**+0.9**
FRNF				Sg	**Sg**	**14 51 02.5**	**+0.2**
HYF	**Humbligny**	**1.17**	**33**	*e*Pg	**Pg**	**14 50 51.3**	**+2.1**
HYF				*e*Sg	**Sg**	**14 51 06.2**	**+1.3**
AVF	**Avril sur Loir**	**1.25**	**66**	*e*Pg	**Pg**	**14 50 51.7**	**+0.9**
AVF				*e*Sg	**Sg**	**14 51 07.0**	**-0.4**
	71nm,0.3s						
MFF	**Saint Martin d**	**1.31**	**284**	*e*Pn	**Pn**	**14 50 54.2**	**+4.0**
MFF				*e*Pg	**Pg**	**14 50 54.9**	**+2.9**
MFF				*e*Sg	**Sg**	**14 51 12.0**	**+2.5**
	60nm,0.2s						
MFF	**Saint Martin d**	**1.31**	**284**	*e*Pg	**Pg**	**14 50 54.9**	**+2.9**
MFF				*e*Sg	**Sg**	**14 51 12.0**	**+2.5**
	30nm,0.2s						
PLDF	**La Plantade**	**1.38**	**103**	Pg	**Pg**	**14 50 54.9**	**+1.5**
PLDF				Sg	**Sg**	**14 51 12.5**	**+0.7**
CAF	**Calviac**	**1.39**	**169**	*e*Pn	**Pn**	**14 50 53.2**	**+1.8**
CAF				*e*Pg	**Pg**	**14 50 54.6**	**+0.9**
CAF				*e*Sg	**Sg**	**14 51 11.1**	**-1.2**
	60nm,0.2s						
SSF	**Saint Saulge**	**1.46**	**58**	*e*Pn	**Pn**	**14 50 54.8**	**+2.4**
SSF				*e*Pg	**Pg**	**14 50 56.0**	**+0.9**
SSF				*e*Sg	**Sg**	**14 51 13.2**	**-1.4**
	41nm,0.3s						
SSF	**Saint Saulge**	**1.46**	**58**	*e*Pg	**Pg**	**14 50 56.0**	**+0.9**
SSF				*e*Sg	**Sg**	**14 51 13.2**	**-1.4**
	20nm,0.3s						
LFF	**La Frestale**	**1.51**	**207**	*e*Pg	**Pg**	**14 50 57.4**	**+1.4**
LFF				*e*Sg	**Sg**	**14 51 15.9**	**-0.3**
	47nm,0.2s						
LBL	**Lubilhac**	**1.52**	**134**	Pg	**Pg**	**14 50 57.7**	**+1.5**
LBL	**Lubilhac**	**1.52**	**134**	Pg	**Pg**	**14 50 57.7**	**+1.5**
LBL	**Lubilhac**	**1.52**	**134**	Pn	**Pn**	**14 50 55.8**	**+2.6**
LBL				Pg	**Pg**	**14 50 57.7**	**+1.5**
SMF	**Signal de Mont**	**1.52**	**76**	*e*Pn	**Pn**	**14 50 55.4**	**+2.1**
SMF				*e*Pg	**Pg**	**14 50 56.8**	**+0.5**
SMF				*e*Sg	**Sg**	**14 51 14.9**	**-1.7**
	66nm,0.2s						
COLF	**Collangettes**	**1.60**	**118**	Pn	**Pn**	**14 50 55.9**	**+1.6**
LOR	**Lormes**	**1.78**	**56**	*e*Pn	**Pn**	**14 50 59.0**	**+2.1**
	baz=235						
LOR				*e*Pg	**Pg**	**14 51 01.5**	**+0.2**
LOR				*e*Sg	**Sg**	**14 51 23.1**	**-1.9**
	46nm,0.2s,baz=234						
LOR	**Lormes**	**1.78**	**56**	*e*Pg	**Pg**	**14 51 01.5**	**+0.2**
LOR				*e*Sg	**Sg**	**14 51 23.1**	**-1.9**
	23nm,0.2s						
VIVF	**Saint-Julien-l**	**2.54**	**123**	*e*Pg	**Pg**	**14 51 15.3**	**-1.2**
VIVF				*e*Sg	**Sg**	**14 51 45.2**	**-5.2**
	11nm,0.2s						
LDF	**La Druitiere**	**2.61**	**332**	*e*Pn	**Pn**	**14 51 11.5**	**+2.7**
LDF				*e*Pg	**Pg**	**14 51 18.8**	**+0.9**
LDF				*e*Sg	**Sg**	**14 51 50.5**	**-2.2**
	12nm,0.4s						
LASF	**Ste Croix**	**2.69**	**145**	*e*Pn	**Pn**	**14 51 11.6**	**+1.6**
LASF				*e*Pg	**Pg**	**14 51 18.6**	**-1.0**
LASF				*e*Sg	**Sg**	**14 51 52.2**	**-3.3**
	9.5nm,0.3s						
GRR	**Gorron**	**2.72**	**321**	*e*Pn	**Pn**	**14 51 12.8**	**+2.4**
GRR				*e*Pg	**Pg**	**14 51 20.4**	**+0.3**
GRR				*e*Sg	**Sg**	**14 51 54.2**	**-2.2**
	11nm,0.2s						
FLN	**La Foliniere**	**2.88**	**330**	*e*Pg	**Pg**	**14 51 23.4**	**+0.2**
	baz=153						
FLN				*e*Sg	**Sg**	**14 51 59.0**	**-2.6**
	12nm,0.3s,baz=141						
SFTF	**Sexfontaines**	**2.97**	**49**	*e*Pg	**Pg**	**14 51 23.8**	**-1.4**
	baz=223						
MTLF	**Montolieu**	**2.98**	**173**	*e*Pg	**Pg**	**14 51 23.8**	**-1.4**
MTLF				*e*Sn	**Sn**	**14 51 48.6**	**-1.6**
MTLF				*e*Sg	**Sg**	**14 52 01.0**	**-3.9**
	21nm,0.3s						
CABF	**La Chapelle**	**3.05**	**82**	*e*Pn	**Pn**	**14 51 16.3**	**+1.2**
CABF				*e*Pg	**Pg**	**14 51 25.5**	**-1.3**
CABF				*e*Sn	**Sn**	**14 51 49.2**	**-2.9**
CABF				*e*Sg	**Sg**	**14 52 03.7**	**-3.8**
	7.8nm,0.3s						
MEZF	**Maizieres J'vi**	**3.17**	**45**	*e*Pn	**Pn**	**14 51 18.1**	**+1.3**
MEZF				*e*Pg	**Pg**	**14 51 28.3**	**-0.9**
MEZF				*e*Sg	**Sg**	**14 52 08.2**	**-3.3**
	5.8nm,0.3s						
ORIF	**Oris-en-Rattie**	**3.24**	**114**	*e*Pn	**Pn**	**14 51 19.5**	**+1.7**
ORIF				*e*Sg	**Sg**	**14 52 10.7**	**-3.1**
	3.8nm,0.4s						
EPF	**Esparros**	**3.40**	**197**	*e*Pg	**Pg**	**14 51 31.6**	**-2.2**
EPF				*e*Sn	**Sn**	**14 51 57.6**	**-3.4**
EPF				*e*Sg	**Sg**	**14 52 16.6**	**-2.5**
	13nm,0.3s						
EPF	**Esparros**	**3.40**	**197**	*e*Pg	**Pg**	**14 51 31.6**	**-2.2**
EPF				*e*Sg	**Sg**	**14 52 16.6**	**-2.5**
	6.6nm,0.3s						
SGMF	**Saint Gilles**	**3.50**	**306**	*e*Pn	**Pn**	**14 51 23.3**	**+1.9**
SGMF				*e*Pg	**Pg**	**14 51 34.7**	**-0.9**
SGMF				*e*Sg	**Sg**	**14 52 19.2**	**-3.0**
	10nm,0.4s						
SMRF	**Simiane la Rot**	**3.59**	**129**	*e*Pn	**Pn**	**14 51 23.6**	**+0.8**
SMRF				*e*Pg	**Pg**	**14 51 36.3**	**-1.3**
LPL	**La Plagne**	**3.60**	**101**	*e*Sg	**Sg**	**14 52 21.2**	**-4.5**
	2.5nm,0.3s						
HAU	**Haudompre**	**3.61**	**60**	*e*Pn	**Pn**	**14 51 22.9**	**-0.1**
HAU				*e*Pg	**Pg**	**14 51 35.6**	**-2.2**
HAU				*e*Sn	**Sn**	**14 52 03.6**	**-2.5**
HAU				*e*Sg	**Sg**	**14 52 20.5**	**-5.4**
	7.5nm,0.3s						
LPG	**La Plagne**	**3.62**	**101**	*e*Pn	**Pn**	**14 51 24.8**	**+1.6**
LPG				*e*Pg	**Pg**	**14 51 36.4**	**-1.7**
LPG				*e*Sg	**Sg**	**14 52 21.7**	**-4.6**
	2.9nm,0.3s						
QUIF	**Quistinic**	**3.69**	**298**	*e*Pn	**Pn**	**14 51 26.1**	**+1.9**
QUIF				*e*Pg	**Pg**	**14 51 38.6**	**-1.0**
QUIF				*e*Sg	**Sg**	**14 52 25.4**	**-3.4**
	14nm,0.3s						
ETSF	**Etsaut**	**3.76**	**206**	*e*Pn	**Pn**	**14 51 26.2**	**+1.1**
ETSF				*e*Pg	**Pg**	**14 51 38.6**	**-2.2**
ETSF				*e*Sg	**Sg**	**14 52 26.1**	**-4.8**
	4.9nm,0.3s						
EBIE	**Bielsa**	**3.77**	**198**	Pn	**Pn**	**14 51 27.5**	**+2.1**
	0.2nm,0.2s,SNR=7.9						
EBIE				Sn	**Sn**	**14 52 09.8**	**-0.5**
	1.3nm,0.2s,SNR=7.9						
SJPF	**Ste Jean**	**3.80**	**214**	*e*Pn	**Pn**	**14 51 23.8**	**-1.9**
SJPF				*e*Pg	**Pg**	**14 51 39.4**	**-2.3**
EALK	**Alkurruntz**	**3.83**	**218**	Pn	**Pn**	**14 51 26.7**	**+0.6**
	0.4nm,0.2s,SNR=7.9						
EALK				Pg	**Pg**	**14 51 39.8**	**-2.4**
	0.5nm,0.2s,SNR=7.9						
EALK				Sn	**Sn**	**14 52 09.7**	**-2.0**
	1.2nm,0.2s,SNR=7.9						
EALK				Lg		14 52 30.6	
	1.5nm,0.2s,SNR=7.9						
HINF	**Hinteralfeld**	**3.84**	**65**	*e*Pg	**Pg**	**14 51 39.3**	**-3.2**
HINF				*e*Sn	**Sn**	**14 52 08.5**	**-3.5**
HINF				*e*Sg	**Sg**	**14 52 28.3**	**-5.4**
	6.4nm,0.3s						
ROSF	**Rostrenen**	**3.95**	**303**	*e*Pn	**Pn**	**14 51 29.3**	**+1.5**
ROSF				*e*Pg	**Pg**	**14 51 42.8**	**-1.8**
ROSF				*e*Sn	**Sn**	**14 52 14.3**	**-0.4**
ROSF				*e*Sg	**Sg**	**14 52 32.8**	**-4.5**
	4.6nm,0.3s						
BAIF	**Baives**	**4.12**	**23**	*e*Pn	**Pn**	**14 51 31.4**	**+1.1**
BAIF				*e*Pg	**Pg**	**14 51 46.4**	**-1.8**
BAIF				*e*Sg	**Sg**	**14 52 37.8**	**-5.4**
	3.8nm,0.3s						
CDF	**Champ du Feu**	**4.34**	**59**	*e*Pg	**Pg**	**14 51 47.8**	**-4.7**
CDF				*e*Sn	**Sn**	**14 52 22.3**	**-2.5**
CDF				*e*Sg	**Sg**	**14 52 44.2**	**-6.3**
	4.2nm,0.3s						
FRF	**La Foret Royal**	**4.45**	**126**	*e*Pg	**Pg**	**14 51 50.8**	**-3.9**
LMR	**La Mourre**	**4.53**	**129**	*e*Pg	**Pg**	**14 51 52.1**	**-4.1**

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*IDC **20** 15:34:59.8±1.1, 26.12N×102.95E, mb3.8/7, mb1 4.0/7, mb1mx3.8/18, mbtmp3.8/7, Error ellipse: s-maj=58.9km s-min=23.4km az=58.0*
*BJI **20** 15:35:03.5, 26.07N×103.00E, h41km, mb4.4, ML3.5*
*NEIC **20** 15:35:05.2±1.4, 25.98N×102.72E, h38km±16km, mb4.1/3, Error ellipse: s-maj=19.4km s-min=11.5km az=85.0*
ISC 20 15:35:03.7±1.0, 26.10N±0.06×102.92E±0.08, h43km±12km, n15, σ0§82/17, mb3.9/9, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**0.99**	**190**	P	**P**	**15 35 20.5**	**-0.7**
KMI				S	**S**	**15 35 34.9**	**+0.6**
KMI				Smax			
	comp=N,893nm,1.0s						
KMI				Smax			
	comp=E,906nm,1.1s						
KMI				LR	LR		
	comp=N,1μm,3.8s						
KMI				LR	LR		
	comp=E,2μm,3.8s						
KMI				LR	LR		
	comp=Z,492nm,3.0s						
GYA	**Guiyang**	**3.38**	**83**	*i* P	**P**	**15 35 54.3**	**-1.0**
GYA				S	**S**	**15 36 34.8**	**+0.2**
GYA				Smax			
	comp=N,60nm,1.1s						
GYA				Smax			
	comp=E,40nm,1.1s						
CD2	**Chengdu**	**4.85**	**9**	*e*P	**P**	**15 36 15.6**	**-0.5**
CD2				Smax			
	comp=N,136nm,1.4s						
CD2				Smax			
	comp=E,135nm,1.4s						
ENH	**Enshi**	**7.13**	**53**	P	**P**	**15 36 50.9**	**+2.9**
	comp=E,29nm,1.2s						
SONM	**Songino Array**	**21.86**	**6**	P	**P**	**15 39 53.8**	**-0.5**
	comp=E,2.0nm,0.7s,mb3.7,baz=195,slow=10,SNR=16						
MKAR	**Makanchi Array**	**26.35**	**327**	P	**P**	**15 40 39.1**	**+1.7**
	comp=E,0.4nm,0.6s,mb3.1,baz=120,slow=9.8,SNR=4.1						
KURK	**Kurchatov**	**30.82**	**329**	*e*P	**P**	**15 41 17.6**	**-0.1**
	comp=E,1.3nm,0.7s,mb3.9						
WRAB	**Tennant Creek**	**55.00**	**143**	*e*P	**P**	**15 44 33.2**	**-0.1**
	comp=E,6.2nm,0.9s,mb4.6						
WRA	**Warramunga Arr**	**55.00**	**143**	P	**P**	**15 44 33.3**	**-0.1**
	comp=E,1.8nm,0.8s,mb4.2,baz=332,slow=8.2,SNR=10						
JOF	**Joensuu**	**58.74**	**329**	*e*p	**P**	**15 44 58.4**	**-0.9**
AKASG	**Malin Array Be**	**60.12**	**315**	P	**P**	**15 45 08.6**	**-0.4**
	comp=E,1.7nm,0.7s,mb4.2,baz=71,slow=6.2,SNR=6.8						
FINES	**FINESS Array B**	**61.18**	**328**	P	**P**	**15 45 16.1**	**0.0**
	comp=E,1.0nm,0.6s,mb4.1,baz=76,slow=7.9,SNR=5.7						
NB2	**NORSAR Subarra**	**68.33**	**328**	P	**P**	**15 46 01.7**	**-0.5**
	comp=E,0.9nm,0.6s,mb4.0,baz=76,slow=6.2						
NOA	**NORSAR Array B**	**68.33**	**328**	P	**P**	**15 46 02.1**	**-0.1**
	comp=E,1.3nm,0.7s,mb4.1,baz=76,slow=6.3,SNR=9.0						
GERES	**GERESS Array B**	**70.33**	**315**	P	**P**	**15 46 15.3**	**+0.6**
	comp=E,0.2nm,0.5s,mb3.3,baz=27,slow=6.0,SNR=5.6						

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*CSEM **20** 16:03:53.7±0.3, 35.31N×3.85W, h20km, MD2.8, Error ellipse: s-maj=8.6km s-min=5.7km az=89.0*
*CNRM **20** 16:03:53.0, 35.45N×3.80W, h6km, MD2.8*
*MDD **20** 16:03:56.0±0.4, 35.29N×3.82W, h26km±5km, mbLg1.6/6, Error ellipse: s-maj=7.2km s-min=4.6km az=42.0, PRXIMO*
ISC 20 16:03:53.8±0.4, 35.40N±0.02×3.90W±0.04, h10km, n24, σ1§27/45, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAL	**Palemas**	**0.18**	**191**	*i* P	**Pg**	**16 03 57.5**	**-0.3**
MPAL				*i* S	**Sg**	**16 04 04.0**	**+3.6**
TOU	**Touzarine**	**0.45**	**165**	*i* P	**Pg**	**16 04 02.5**	**-0.5**
TOU				*i* S	**Sg**	**16 04 09.5**	**+0.3**
EMEL	**Melilla**	**0.78**	**97**	P	**Pb**	**16 04 09.6**	**+0.7**
	123nm,0.1s,SNR=8.8						
EMEL				S	**Sb**	**16 04 19.8**	**+0.5**
	150nm,0.1s,SNR=9.6						
EMLI	**Melilla**	**0.78**	**97**	P	**Pb**	**16 04 09.6**	**+0.6**
	123nm,0.1s,SNR=8.8						
EMLI				S	**Sb**	**16 04 19.8**	**+0.3**
	150nm,0.1s,SNR=9.6						
EALB	**Alboran**	**0.89**	**52**	P	**Pb**	**16 04 10.5**	**-0.3**
	4.0nm,0.1s,SNR=19						
EALB				S	**Sb**	**16 04 21.0**	**-1.4**
	29nm,0.1s,SNR=10						
EALB	**Alboran**	**0.89**	**52**	P	**Pb**	**16 04 10.5**	**-0.3**
	4.0nm,0.1s,SNR=19						
EALB				S	**Sb**	**16 04 20.9**	**-1.6**
	29nm,0.1s,SNR=10						
ZAI	**Zaio**	**1.04**	**114**	*i* P	**Pb**	**16 04 11.5**	**-1.9**
ZAI				*i* S	**Sb**	**16 04 24.0**	**-2.9**
TZK	**Tazeka**	**1.33**	**190**	*i* P	**Pb**	**16 04 18.0**	**-0.4**
TZK				*i* S	**Sb**	**16 04 35.0**	**-0.3**
EMIJ	**Mijas**	**1.36**	**329**	P	**Pb**	**16 04 19.3**	**+0.4**
	0.7nm,0.1s,SNR=8.3						
EMIJ				S	**Sb**	**16 04 34.6**	**-1.6**
	3.0nm,0.2s,SNR=5.2						
EMIJ	**Mijas**	**1.36**	**329**	P	**Pb**	**16 04 19.1**	**+0.2**
	0.7nm,0.1s,SNR=8.3						
EMIJ				S	**Sb**	**16 04 34.6**	**-1.6**
	3.0nm,0.2s,SNR=5.2						
EGUA	**Guajares**	**1.46**	**11**	P	**Pn**	**16 04 21.3**	**+1.0**
	0.5nm,0.2s,SNR=7.9						
EGUA				S	**Sb**	**16 04 38.7**	**-0.2**
	3.1nm,0.2s,SNR=7.9						
ERON	**Agron**	**1.62**	**3**	P	**Pn**	**16 04 25.5**	**+2.9**
	0.9nm,0.2s,SNR=4.0						
ERON				S	**Sn**	**16 04 44.4**	**+0.8**
	4.1nm,0.3s,SNR=7.9						
EBER	**Berja**	**1.70**	**28**	P	**Pn**	**16 04 25.6**	**+1.8**
	0.5nm,0.1s,SNR=7.9						
EBER				S	**Sn**	**16 04 43.9**	**-1.9**
	3.1nm,0.2s,SNR=7.9						
EBER	**Berja**	**1.70**	**28**	P	**Pn**	**16 04 25.6**	**+1.8**
	0.5nm,0.1s,SNR=7.9						
EBER				S	**Sn**	**16 04 43.9**	**-1.9**
	3.1nm,0.2s,SNR=7.9						
ELOJ	**Sierra Loja**	**1.75**	**353**	P	**Pn**	**16 04 27.5**	**+2.9**
	0.8nm,0.2s,SNR=7.9						
ELOJ				S	**Sn**	**16 04 48.7**	**+1.6**
	2.6nm,0.4s,SNR=7.9						
EQES	**Quesada**	**2.49**	**15**	P	**Pn**	**16 04 36.6**	**+1.5**
	0.9nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**16 05 04.8**	**-1.0**
	1.3nm,0.2s,SNR=5.7						
EQES	**Quesada**	**2.49**	**15**	P	**Pn**	**16 04 36.6**	**+1.6**
	0.9nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**16 05 04.8**	**-1.0**
	1.3nm,0.2s,SNR=5.7						
EADA	**Adamuz**	**2.81**	**349**	P	**Pn**	**16 04 40.7**	**+1.0**
	0.4nm,0.2s,SNR=4.0						
EADA				S	**Sn**	**16 05 13.7**	**-0.3**
	0.5nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**2.81**	**349**	P	**Pn**	**16 04 40.7**	**+1.0**
	0.4nm,0.2s,SNR=4.0						
EADA				S	**Sn**	**16 05 13.7**	**-0.3**
	0.5nm,0.3s,SNR=7.9						
ECAB	**El Cabril**	**2.94**	**336**	S	**Sn**	**16 05 16.3**	**-0.8**
	0.3nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**2.94**	**336**	S	**Sn**	**16 05 16.3**	**-0.8**
	0.3nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.25**	**317**	P	**Pn**	**16 04 47.2**	**+1.3**
	0.1nm,0.2s,SNR=7.9						
EMIN				S	**Sn**	**16 05 22.1**	**-2.9**
	0.4nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.25**	**317**	P	**Pn**	**16 04 47.2**	**+1.3**
	0.1nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**3.59**	**307**	P	**Pn**	**16 04 50.9**	**+0.2**
	0.3nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**16 05 31.7**	**-1.9**
	0.6nm,0.2s,SNR=7.9						

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*IDC **20** 16:37:02.5±0.7, 1.12N×85.39W, mb4.3/14, mb1 4.5/16, mb1mx4.3/25, mbtmp4.3/16, ML3.7/1, MS4.7/20, Ms1 4.7/20, ms1mx4.7/22, Error ellipse: s-maj=27.9km s-min=12.3km az=57.0*
*BJI **20** 16:37:10.0, 1.30N×85.10W, h56km, mB5.0, Ms5.1, Msz4.8*
*NEIC **20** 16:37:10.1±1.6, 1.26N×85.07W, h56km±15km, mb4.9/36, Error ellipse: s-maj=13.6km s-min=5.0km az=59.0*
*HRVD **20** 16:37:10.1±0.2, 1.16N×85.31W, h12km, MW5.3/69, Centroid moment Tensor Solution. LP body waves: s56,c98; Mantle waves: s69,c139; Half duration: 1§1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.07±.02; $M_{\theta\theta}$0.36±.02; $M_{\phi\phi}$-0.28±.02; $M_{r\theta}$-0.04±.04; $M_{\theta\phi}$0.99±.01; $M_{\phi r}$0.21±.05; Best double couple: $M_0$1.065×10^{17} NP1: ϕ_s99°, δ79°, λ-5°. NP2: ϕ_s189°, δ85°, λ-169°. Principal axes: T 1.087, Plg5°, Azm324°; N -.043, Plg78°, Azm212°; P -1.043, Plg11°, Azm54°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 20 16:37:06.0±2.4, 1.23N±0.05×85.18W±0.07, h33km±22km, n106, σ1§08/85, mb4.7/46, MS4.8/23, 1C, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**11.42**	**71**	Pn	**P**	**16 39 51.5**	**+1.6**
	baz=270,slow=20,SNR=3.1						
ROSC				LR	LR	16 43 52.2	
	comp=Z,4μm,20.8s,baz

TXAR	**Lajitas Array**	**33.04 329**	P	**P**	**16 43 40.2**	**-0.5**
	comp=E,2.0nm,1.0s,mb4.0,baz=141,slow=8.0,SNR=12					
TXAR			PcP	PcP	16 46 24.7	+0.8
	comp=E,0.4nm,0.8s,baz=158,slow=4.9,SNR=3.7					
TXAR			LR	LR	16 56 04.4	
	comp=E,2μm,18.4s,MS4.7,baz=150,slow=35					
TXAR	**Lajitas Array**	**33.04 329**	P	**P**	**16 43 40.2**	**-0.5**
TXAR			PcP	PcP	16 46 24.8	+0.8
TXAR			LR	LR	16 56 04.4	
OXF	**Oxford**	**33.35 354**	*e*P	**P**	**16 43 41.6**	**-1.7**
	comp=E,33nm,1.0s,mb5.2					
SWET	**Sewanee**	**33.83 359**	*e*P	**P**	**16 43 45.2**	**-2.2**
WVT	**Waverly**	**34.82 356**	*e*P	**P**	**16 43 54.2**	**-1.7**
	comp=E,11nm,1.2s,mb4.7					
WMOK	**Wichita Mounta**	**35.68 341**	*e*P	**P**	**16 44 02.5**	**-0.8**
	comp=E,25nm,1.6s,mb4.9					
MNTX	**Cornudas Mount**	**35.82 330**	*e*P	**P**	**16 44 04.6**	**+0.1**
	comp=E,70nm,2.1s,mb5.2					
ELN	**Prospectdale**	**36.06 6**	*e*P	**P**	**16 44 05.9**	**-0.6**
CFAA	**Coronel Fontan**	**36.39 155**	P	**P**	**16 44 08.9**	**-0.5**
	comp=E,0.4nm,0.9s,mb3.4,baz=313,slow=8.7,SNR=8.0					
FWV	**Forest Hill**	**36.40 6**	*e*P	**P**	**16 44 08.4**	**-1.0**
SIUC	**Southern Illin**	**36.50 355**	*e*P	**P**	**16 44 08.4**	**-1.8**
	comp=E,44nm,1.2s,mb5.2					
RPN	**Rapa Nui**	**36.54 218**	LR	LR	16 54 34.7	
	comp=E,1μm,21.2s,MS4.6,baz=238,slow=29					
WCI	**Wyandotte Cave**	**36.84 359**	*e*P	**P**	**16 44 11.2**	**-1.8**
	comp=E,20nm,1.0s,mb4.9					
CCM	**Cathedral Cave**	**37.07 352**	*e*P	**P**	**16 44 13.0**	**-2.0**
	comp=E,25nm,1.1s,mb5.0					
CPUP	**Villa Florida**	**38.38 138**	LR	LR	17 02 13.0	
	comp=E,1μm,20.0s,MS4.7,baz=339,slow=39					
ANMO	**Albuquerque**	**38.98 332**	P	**P**	**16 44 31.8**	**+0.9**
	comp=E,4.0nm,0.8s,mb4.2,baz=142,slow=7.9,SNR=7.5					
ANMO	**Albuquerque**	**38.98 332**	*e*P	**P**	**16 44 31.9**	**+1.0**
	comp=E,10nm,1.2s,mb4.4					
KSU1	**Kansas State U**	**39.12 346**	*e*P	**P**	**16 44 31.9**	**-0.1**
TUC	**Tucson**	**39.22 325**	*e*P	**P**	**16 44 33.9**	**+0.9**
	comp=E,4.9nm,1.1s,mb4.2					
BDFB	**Brasilia**	**40.37 116**	P	**P**	**16 44 43.4**	**+0.8**
	comp=E,0.9nm,0.3s,mb3.9,baz=270,slow=2.0,SNR=4.6					
BDFB			LR	LR	17 02 51.0	
	comp=E,3μm,18.7s,MS5.1,baz=184,slow=38					
BAO	**Brasilia Array**	**40.39 116**	P	**P**	**16 44 40.0**	**-2.8**
SDCO	**Great Sand Dun**	**40.87 335**	*e*P	**P**	**16 44 47.7**	**+1.1**
	comp=E,60nm,1.8s,mb4.9					
ISCO	**Idaho Springs**	**42.67 337**	*e*P	**P**	**16 45 02.1**	**+0.8**
	comp=E,19nm,1.3s,mb4.7					
PFO	**Pinyon Flat Ob**	**43.55 321**	*e*P	**P**	**16 45 10.4**	**+1.8**
	comp=E,10.0nm,1.3s,mb4.4					
LDFC	**Landfair**	**43.72 324**	P	**P**	**16 45 10.0**	**0.0**
PLCA	**Paso Flores**	**43.84 164**	P	**P**	**16 45 10.1**	**-0.8**
	comp=E,6.1nm,0.9s,mb4.3,baz=335,slow=9.5,SNR=7.8					
PLCA			LR	LR	17 00 09.3	
	comp=E,835nm,18.1s,MS4.7,baz=346,slow=32					
PHWY	**Pilot Hill**	**43.90 338**	*e*P	**P**	**16 45 11.9**	**+0.5**
NEN	**Nelson**	**43.96 324**	*e*P	**P**	**16 45 12.8**	**+0.9**
SRU	**San Rafael**	**44.25 331**	*e*P	**P**	**16 45 14.8**	**+0.6**
ARUT	**Antelope Range**	**44.71 328**	*e*P	**P**	**16 45 19.6**	**+1.7**
RWWY	**Rawlins**	**44.91 337**	*e*P	**P**	**16 45 20.4**	**+1.0**
	comp=E,20nm,1.2s,mb4.8					
DAU	**Daniels Canyon**	**45.62 332**	*e*P	**P**	**16 45 26.1**	**+0.9**
RSSD	**Black Hills**	**45.88 341**	*e*P	**P**	**16 45 27.4**	**+0.2**
	comp=E,29nm,1.6s,mb5.0					
TCUT	**Toone Canyon**	**46.25 332**	P	**P**	**16 45 30.2**	**+0.1**
HWUT	**Hardware Ranch**	**46.71 333**	*e*P	**P**	**16 45 33.6**	**-0.1**
	comp=E,25nm,1.4s,mb5.0					
PDAR	**Pinedale Array**	**46.77 335**	P	**P**	**16 45 34.5**	**+0.4**
	comp=E,2.1nm,0.9s,mb4.0,baz=127,slow=7.4,SNR=12					
PDAR			LR	LR	17 05 38.3	
	comp=E,2μm,18.9s,MS5.1,baz=147,slow=37					
SPUT	**South Promonto**	**46.89 332**	P	**P**	**16 45 34.1**	**-0.9**
MTUM	**Tungsten Hills**	**47.31 323**	*e*P	**P**	**16 45 39.5**	**+1.0**
HVU	**Hansel Valley**	**47.41 332**	P	**P**	**16 45 39.4**	**+0.2**
ELK	**Elko**	**47.84 329**	*e*P	**P**	**16 45 43.0**	**+0.4**
	comp=E,14nm,1.4s,mb4.8					
SNOW	**Snow King Moun**	**47.84 335**	*e*P	**P**	**16 45 43.0**	**+0.4**
	comp=E,44nm,1.5s,mb5.3					
LOHW	**Long Hollow**	**47.90 335**	*e*P	**P**	**16 45 43.6**	**+0.5**
	comp=E,49nm,2.0s,mb5.2					
TPAW	**Teton Pass**	**47.95 335**	*e*P	**P**	**16 45 43.9**	**+0.5**
	comp=E,26nm,1.3s,mb5.1					
RRI2	**Red Ridge**	**47.99 334**	*e*P	**P**	**16 45 43.7**	**-0.1**
	comp=E,19nm,1.1s,mb5.0					
CMB	**Columbia Colle**	**48.85 323**	*e*P	**P**	**16 45 49.8**	**-0.7**
	comp=E,11nm,1.4s,mb4.7					
LAO	**LASA Array**	**48.87 341**	*e*P	**P**	**16 45 50.2**	**-0.3**
	comp=E,11nm,1.0s,mb4.8					
QLMT	**Earthquake Lak**	**49.23 335**	*e*P	**P**	**16 45 54.5**	**+1.1**
HLID	**Hailey**	**49.55 332**	*e*P	**P**	**16 45 55.9**	**+0.1**
	comp=E,17nm,1.4s,mb4.9					
ULM	**Lac du Bonnet**	**49.69 351**	P	**P**	**16 45 55.1**	**-1.6**
	comp=E,15nm,1.0s,mb5.0,baz=169,slow=7.8,SNR=7.6					
ULM			LR	LR	17 10 33.9	
	comp=E,224nm,19.1s,MS4.2,baz=64,slow=40					
MCMT	**McKenzie Canyo**	**49.84 334**	*e*P	**P**	**16 45 59.0**	**+1.1**
BOZ	**Bozeman (W)**	**49.98 336**	⇑*e*P	**P**	**16 45 58.7**	**-0.4**
	comp=E,28nm,1.5s,mb5.1					
WVOR	**Wild Horse Val**	**50.82 328**	*e*P	**P**	**16 46 04.5**	**-1.0**
	comp=E,19nm,1.3s,mb4.9					
MOD	**Modoc**	**51.35 327**	*e*P	**P**	**16 46 08.8**	**-0.7**
	comp=E,21nm,1.6s,mb4.8					
KIPM	**Iron Peak**	**51.84 323**	P	**P**	**16 46 14.1**	**+1.0**
MSO	**Missoula**	**51.89 335**	*e*P	**P**	**16 46 13.1**	**-0.4**
	comp=E,16nm,1.3s,mb4.8					
BMO	**Blue Mountains**	**51.89 331**	*e*P	**P**	**16 46 12.0**	**-1.5**
	comp=E,21nm,1.7s,mb4.8					
YBH	**Yreka Blue Hor**	**52.59 325**	P	**P**	**16 46 17.6**	**-1.2**
	comp=E,8.3nm,1.1s,mb4.6,baz=214,slow=2.8,SNR=12					
KHMM	**Horse Mountain**	**52.65 324**	*e*P	**P**	**16 46 19.2**	**0.0**
KRMB	**Red Mountain**	**53.15 324**	*e*P	**P**	**16 46 22.6**	**-0.4**
NEW	**Newport**	**54.36 334**	P	**P**	**16 46 31.9**	**+0.1**
	comp=E,14nm,1.4s,mb4.7					
SCHQ	**Schefferville**	**55.50 13**	LR	LR	17 12 03.8	
	comp=E,499nm,19.1s,MS4.6,baz=67,slow=38					
TAOE	**Nuku Hiva Isla**	**55.67 258**	*e*SS	SS	16 58 05.6	-3.7
TAOE			*e*LR	LR	17 02 52.2	
	comp=E,7μm,25.7s					
YKA	**Yellowknife Ar**	**64.97 345**	P	**P**	**16 47 43.7**	**-0.8**
	comp=E,4.0nm,0.9s,mb4.4,baz=151,slow=6.4,SNR=4.4					
YKA			LR	LR	17 17 44.8	
	comp=E,625nm,20.4s,MS4.8,baz=115,slow=38					
YKA	**Yellowknife Ar**	**64.97 345**	P	**P**	**16 47 43.7**	**-0.8**
YKA			LR	LR	17 17 44.8	
PPT	**Papeete**	**66.06 250**	*e*S	S	16 56 38.2	+1.7
PPT			*e*SS	SS	17 00 51.1	-2.4
PPT			*e*LQ		17 05 05.0	
PPT			*e*LR	LR	17 07 47.4	
	comp=E,2μm,27.0s,baz=85					
TBI	**Tubuai**	**67.02 244**	*e*S	S	16 56 50.5	+2.4
TBI			*e*LQ		17 05 28.4	
TBI			*e*LR	LR	17 08 20.4	
	comp=E,2μm,25.8s,baz=72					
INK	**Inuvik**	**74.53 343**	LR	LR	17 21 23.4	
	comp=E,427nm,20.9s,MS4.7,baz=129,slow=36					
PMR	**Palmer**	**76.78 334**	P	**P**	**16 48 58.2**	**+2.4**
	comp=E,7.0nm,0.6s,mb4.8					
ILAR	**Eielson Array**	**77.16 337**	P	**P**	**16 48 58.0**	**+0.1**
	comp=E,1.7nm,1.0s,mb3.9,baz=127,slow=4.4,SNR=8.9					
ILAR			LR	LR	17 24 17.7	
	comp=E,738nm,19.4s,MS5.0,baz=333,slow=37					
ILAR	**Eielson Array**	**77.16 337**	P	**P**	**16 48 58.0**	**+0.1**
ILAR			LR	LR	17 24 17.7	
DBIC	**Dimbokro**	**80.25 83**	LR	LR	17 25 26.9	
	comp=E,314nm,19.8s,MS4.7,baz=249,slow=36					
ESDC	**Sonseca Array**	**82.45 50**	P	**P**	**16 49 27.8**	**+1.1**
	comp=E,1.2nm,0.7s,mb4.0,baz=252,slow=4.7,SNR=5.2					
VNA3	**Neumayer Olymp**	**86.51 162**	P	**P**	**16 49 48.3**	**+2.0**
VNA3	**Neumayer Olymp**	**86.51 162**		**P**	**16 49 52.4**	**+6.1**
VNA1	**Neumayer--Stat**	**86.82 161**	P	**P**	**16 49 49.6**	**+1.7**
VNA2	**Neumayer--Watz**	**87.16 161**	P	**P**	**16 49 47.8**	**-1.7**
NOA	**NORSAR Array B**	**92.04 29**	LR	LR	17 27 08.1	
	comp=E,230nm,21.0s,MS4.6,baz=275,slow=33					
GERES	**GERESS Array B**	**94.94 41**	LR	LR	17 30 44.6	
	comp=E,206nm,19.1s,MS4.6,baz=281,slow=34					
ARCES	**ARCESS Array B**	**95.99 19**	LR	LR	17 28 09.2	
	comp=E,319nm,21.3s,MS4.8,baz=292,slow=32					
FINES	**FINESS Array B**	**98.95 27**	LR	LR	17 30 45.0	
	comp=E,216nm,21.7s,MS4.6,baz=281,slow=32					
CN2	**Changchun**	**127.47 332**	*e*PKP	PKPdf	16 56 06.5	-1.6
SONM	**Songino Array**	**130.11 350**	PKP	PKPdf	16 56 14.4	+1.4
	comp=E,0.6nm,0.8s,baz=225,slow=2.1,SNR=4.2					
MKAR	**Makanchi Array**	**130.93 11**	PKP	PKPdf	16 56 15.4	+0.9
	comp=E,0.8nm,1.1s,baz=270,slow=1.2,SNR=5.1					
WMQ	**Urumqi**	**134.70 7**	*e*PKP	PKPdf	16 56 25.0	+3.2
WMQ			PP	PP	16 59 01.0	+1.5
WMQ			PP	PP		
	comp=Z,42nm,10.0s					
WMQ			LR	LR		
	comp=N,179nm,24.0s,MS4.9					
WMQ			LR	LR		
	comp=E,225nm,25.0s,MS4.9					
WMQ			LR	LR		
	comp=Z,158nm,23.0s,MS4.7					
HHC	**Hu-ho-hao-te**	**135.44 342**	*e*PKP	PKPdf	16 56 21.3	-1.9
HHC			PKS	PKS	16 59 55.0	-3.5
HHC			SKS	SKS	17 03 30.3	+1.6
HHC			PP	PP		
	comp=Z,100nm,10.7s					
HHC			LR	LR		
	comp=N,179nm,23.2s,MS4.9					
HHC			LR	LR		
	comp=E,183nm,23.2s,MS4.9					
HHC			LR	LR		
	comp=Z,231nm,23.8s,MS4.8					
GTA	**Gaotai**	**139.30 354**	*e*PKP	PKPdf	16 56 31.9	+1.6
NJ2	**Nanjing**	**139.83 328**	*e*PKP	PKPdf	16 56 29.3	-2.1
NJ2			PP	PP	16 59 29.0	-2.6
NJ2			PKS	PKS	17 00 05.0	-1.4
NJ2			SKS	SKS	17 03 34.0	-2.2
NJ2			LR	LR		
	comp=N,940nm,24.1s,MS5.8					
NJ2			LR	LR		
	comp=E,2μm,22.1s,MS5.8					
LZH	**Lanzhou**	**141.94 348**	*e*PKP	PKPdf	16 56 35.0	-0.1
LZH			*e*PP	PP	16 59 42.3	-1.9
LZH			SS	SS	17 18 08.1	-3.7
LZH			PP	PP		
	comp=Z,85nm,8.5s					
LZH			LR	LR		
	comp=E,173nm,18.5s					
LZH			LR	LR		
	comp=Z,401nm,20.2s,MS5.2					
LZH	**Lanzhou**	**141.94 348**	*e*PKP	PKPdf	16 56 35.0	-0.1
LZH			pPKP		16 56 38.2	
LZH			sPKP		16 56 39.5	
LZH			*e*PP	PP	16 59 42.3	-1.9
LZH			SKKS		17 06 27.9	
LZH			SS	SS	17 18 08.1	-3.7
LZH			LR	LR		
	comp=Z,400nm,20.2s,MS5.2					
ENH	**Enshi**	**145.70 337**	*e*PKP	PKPdf	16 56 43.2	+1.4
KMI	**Kunming**	**152.71 344**	PKP	PKPdf	16 56 53.9	+1.0
KMI			PKPab	PKPab	16 57 16.1	+2.9
KMI			pP		16 57 29.9	
KMI			PP	PP	17 00 47.5	+0.3
KMI			SKKS		17 07 38.3	
KMI			SS	SS	17 20 18.0	+5.3
KMI			SSS	SSS	17 26 17.7	+16
KMI			LR	LR		
	comp=Z,230nm,20.7s,MS5.0					

NIED ***20*** *16:56:00,29.20N×130.60E,h23km,Mw4.0 Best double couple: M0 9.46×1014 NP1:φs55°,δ62°,λ101°. NP2:φs211°, δ30°,λ70°.*
JMA ***20*** *16:56:01.2±0.1,29.19N×130.56E,h22km,M4.1*
IDC ***20*** *16:56:03.7±1.4,29.25N×130.37E,h48km±12km,mb3.6/10, mb1 3.7/13,mb1mx3.6/23,mbtmp3.8/13,ML3.3/3,MS3.1/2, Ms1 3.1/2,ms1mx2.9/25,Error ellipse: s-maj=24.3km s-min=9.2km az=110.0*
NEIC ***20*** *16:56:03.7±1.1,29.24N×130.42E,h51km±10km,mb4.5/1, MW3.9(NIED),Error ellipse: s-maj=16.9km s-min=10.3km az=113.0*

ISC 20 16:56:02.6±0.7,29.21N±0.04×130.45E±0.09,h57km±5km, n24,σ0§87/29,mb3.8/11,MS3.2/1,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.80**	**322**	P	**P**	**16 56 17.6**	**-0.5**
JNN				*e*S	**S**	**16 56 29.2**	**-0.3**
JAM	**Amami Oshima**	**1.08**	**223**	P	**P**	**16 56 21.8**	**-0.1**
JAM				S	**S**	**16 56 37.5**	**+1.3**
JKC	**Kuchinoerabu**	**1.27**	**350**	P	**P**	**16 56 24.3**	**-0.2**
JKC				S	**S**	**16 56 41.8**	**+1.1**
JTN	**Tanegashima 3**	**1.51**	**18**	P	**P**	**16 56 27.3**	**-0.7**
JTN				*e*S	**S**	**16 56 48.1**	**+1.4**
JTK	**Tokunoshima**	**1.93**	**223**	P	**P**	**16 56 33.6**	**-0.2**
JTSR	**Tashiro 2**	**1.99**	**12**	P	**P**	**16 56 35.5**	**+0.9**
JTSR				*e*S	**S**	**16 56 58.5**	**+0.2**
JOW	**Kunigami**	**3.05**	**220**	P	**P**	**16 56 48.7**	**-0.9**
	2.5nm,0.3s,baz=110,slow=21,SNR=12						
JOW				S	**S**	**16 57 24.2**	**-0.8**
	9.0nm,0.3s,baz=152,slow=28,SNR=3.9						
JOW				LR	LR	16 58 17.2	
	comp=Z,216nm,18.7s,baz=348,slow=44						
JNU	**Nakatsue**	**3.92**	**5**	P	**P**	**16 57 01.6**	**-0.2**
	5.1nm,0.3s,baz=168,slow=4.4,SNR=40						
JNU				S	**S**	**16 57 46.3**	**-0.6**
	4.5nm,0.3s,baz=54,slow=19,SNR=7.1						
MJAR	**Matsushiro Arr**	**9.80**	**40**	P	**P**	**16 58 21.8**	**-1.6**
	0.4nm,0.3s,baz=222,slow=18,SNR=7.5						
SONM	**Songino Array**	**26.28**	**322**	P	**P**	**17 01 33.6**	**-0.8**
	0.5nm,0.6s,mb3.2,baz=139,slow=9.8,SNR=3.5						
MKAR	**Makanchi Array**	**41.11**	**309**	P	**P**	**17 03 42.7**	**+0.3**
	0.8nm,0.6s,mb3.5,baz=93,slow=11,SNR=15						
ZAL	**Zalesovo**	**41.16**	**320**	P	**P**	**17 03 42.4**	**-0.3**
	0.8nm,0.5s,mb3.6,baz=23,slow=3.5,SNR=4.4						
ZAL	**Zalesovo**	**41.16**	**320**	P	**P**	**17 03 42.4**	**-0.3**
PMG	**Port Moresby**	**41.64**	**155**	LR	LR	17 18 18.8	
	comp=Z,35nm,20.3s,MS3.2,baz=249,slow=32						
WRA	**Warramunga Arr**	**49.01**	**175**	P	**P**	**17 04 47.6**	**+1.8**
	0.2nm,0.6s,mb3.3,baz=359,slow=8.2,SNR=3.5						
BVAR	**Borovoye Array**	**49.42**	**316**	P	**P**	**17 04 48.5**	**0.0**
	4.2nm,0.6s,mb4.7,baz=94,slow=9.8,SNR=34						
BRVK	**Borovoye**	**49.49**	**316**	*e*P	**P**	**17 04 48.5**	**-0.6**
	2.9nm,0.6s,mb4.5						
ILAR	**Eielson Array**	**60.89**	**29**	P	**P**	**17 06 10.3**	**-1.1**
	0.4nm,0.7s,mb3.6,baz=298,slow=6.4,SNR=4.6						
FINES	**FINESS Array B**	**71.25**	**331**	P	**P**	**17 07 16.5**	**-0.7**
	0.6nm,0.7s,mb3.7,baz=56,slow=5.0,SNR=7.5						
AKASG	**Malin Array Be**	**74.54**	**320**	P	**P**	**17 07 36.8**	**0.0**
	1.7nm,0.5s,mb4.2,baz=57,slow=6.4,SNR=8.2						
BRTR	**Keskin Array B**	**76.75**	**308**	P	**P**	**17 07 50.7**	**+1.1**
	1.7nm,0.7s,mb4.1,baz=102,slow=4.8,SNR=8.3						
NOA	**NORSAR Array B**	**77.51**	**334**	P	**P**	**17 07 53.1**	**-0.2**
	0.3nm,0.5s,mb3.5,baz=50,slow=5.6,SNR=3.2						
CLL	**Collm**	**82.82**	**326**	P	**P**	**17 08 24.0**	**+2.2**
LPAZ	**La Paz**	**158.62**	**57**	PKP	PKPdf	17 15 55.0	+1.0
	0.5nm,0.7s,baz=346,slow=4.2,SNR=2.6						

NIED ***20*** *16:58:00,37.50N×142.90E,h17km,Mw3.9 Best double couple: M0 9.1×1014 NP1:φs9°,δ68°,λ85°. NP2:φs204°, δ22°,λ104°.*
IDC ***20*** *16:58:53.8±1.4,37.40N×143.02E,mb3.8/8,mb1 3.9/11, mb1mx3.8/23,mbtmp3.9/11,ML3.8/2,MS3.0/1,Ms1 3.0/1, ms1mx2.6/32,Error ellipse: s-maj=34.6km s-min=21.5km az=85.0*
MOS ***20*** *16:58:56.6±0.7,37.48N×143.04E,h33km,mb3.9/4,Error ellipse: s-maj=16.8km s-min=14.7km az=134.9*
JMA ***20*** *16:58:57.3±0.2,37.48N×142.85E,h54km,M3.9*
NEIC ***20*** *16:58:58.9±1.1,37.43N×142.96E,h31km±5km,mb4.4/1, Error ellipse: s-maj=17.6km s-min=10.3km az=134.0*

ISC 20 16:58:56.9±1.8,37.51N±0.06×142.87E±0.07,h28km±14km, n37,σ0§83/46,mb3.8/10,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.53**	**308**	P	**Pn**	**16 59 23.1**	**+0.4**
JIO				*e*S	**Sn**	**16 59 41.3**	**-0.5**
JFK	**Kawauchi**	**1.60**	**265**	P	**Pn**	**16 59 23.4**	**-0.3**
JFK				*e*S	**Sn**	**16 59 42.5**	**-1.1**
JMM	**Marumori**	**1.69**	**283**	P	**Pn**	**16 59 24.7**	**-0.3**
JMM				*e*S	**Sn**	**16 59 45.3**	**-0.6**
ONAJ	**Iwakimizuishiy**	**1.71**	**257**	P	**Pn**	**16 59 24.9**	**-0.3**
JOU	**Okura**	**1.94**	**297**	P	**Pn**	**16 59 29.0**	**+0.3**
JFT	**Otama**	**2.02**	**271**	P	**Pn**	**16 59 30.1**	**+0.4**
JFT				*e*S	**Sn**	**16 59 54.3**	**+0.1**
JOM	**Ohasama**	**2.32**	**328**	P	**Pn**	**16 59 34.3**	**+0.3**
JYK	**Kaneyama**	**2.43**	**306**	P	**Pn**	**16 59 36.1**	**+0.5**
JAG	**Ashikaga**	**2.95**	**249**	P	**Pn**	**16 59 42.7**	**-0.3**
JANG	**Nango**	**3.05**	**340**	P	**Pn**	**16 59 43.5**	**-0.9**
JRY	**Ryogami san**	**3.52**	**246**	P	**Pn**	**16 59 50.8**	**-0.3**
JRY				*e*S	**Sn**	**17 00 30.0**	**-2.3**
MJAR	**Matsushiro Arr**	**3.86**	**257**	Pn	**Pn**	**16 59 56.4**	**+0.5**
	5.2nm,0.3s,baz=80,slow=13,SNR=41						
MJAR				Sn	**Sn**	**17 00 42.3**	**+1.5**
	2.2nm,0.3s,baz=72,slow=12,SNR=5.2						
MJAR	**Matsushiro Arr**	**3.86**	**257**	P	**Pn**	**16 59 56.4**	**+0.5**
MJAR						17 00 42.3	
MJAR				pmax	pmax		
	comp=Z,5.0nm,0.3s						
MAJO	**Matsushiro**	**3.86**	**257**	*e*P	**Pn**	**16 59 57.0**	**+1.1**
MAT	**Matsushiro**	**3.86**	**257**	P	**Pn**	**16 59 56.1**	**+0.2**
MAT				*e*S	**Sn**	**17 00 44.0**	**+3.1**
MAT	**Matsushiro**	**3.86**	**257**	*e*P	**Pn**	**16 59 57.0**	**+1.1**
MAT				*e*S	**Sn**	**17 00 53.0**	**+12**
ASAJ	**Asahikawa**	**6.60**	**358**	Pn	**Pn**	**17 00 33.6**	**-1.1**
	comp=Z,2.0nm,0.3s,baz=233,slow=9.8,SNR=17						
ASAJ				Sn	**Sn**	**17 01 45.2**	**-4.6**
	comp=Z,1.2nm,0.3s,baz=106,slow=30,SNR=6.1						
ASAJ				LR	LR	17 03 57.9	
	comp=Z,120nm,18.7s,baz=179,slow=45						
ASAJ	**Asahikawa**	**6.60**	**358**	P	**Pn**	**17 00 33.6**	**-1.1**
ASAJ						17 01 45.2	
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,120nm,18.7s						
CBIJ	**Chichi jima**	**10.40**	**183**	Pn	**P**	**17 01 21.4**	**-6.0**
	comp=Z,2.6nm,0.3s,baz=298,slow=20,SNR=6.0						
CBIJ				Sn	**S**	**17 03 08.4**	**-16**
	comp=Z,4.8nm,0.3s,baz=131,slow=22,SNR=6.2						
CIT	**Chita**	**25.16**	**315**	*e*P	**P**	**17 04 29.5**	**+8.5**
CIT				pmax	pmax		
	comp=Z,29nm,1.4s,mb4.6						
YAK	**Yakutsk**	**25.88**	**346**	*e*pP	pP	17 04 37.3	+1.4
	comp=Z,9.3nm,0.8s						
BOD	**Bodaibo**	**27.76**	**326**	*e*P	**P**	**17 04 44.4**	**-0.6**
BOD				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.2						
SONM	**Songino Array**	**28.50**	**303**	P	**P**	**17 04 52.4**	**+0.7**
	comp=Z,1.9nm,0.9s,mb3.7,baz=96,slow=7.8,SNR=10						
ZAL	**Zalesovo**	**42.47**	**312**	P	**P**	**17 06 51.5**	**+0.6**
	comp=Z,1.2nm,1.0s,mb3.5,baz=21,slow=11						
ZAL	**Zalesovo**	**42.47**	**312**	P	**P**	**17 06 51.5**	**+0.7**
ZAL				pmax	pmax		
	comp=Z,1.0nm,1.0s						
MKAR	**Makanchi Array**	**44.85**	**302**	P	**P**	**17 07 10.4**	**+0.2**
	comp=Z,0.5nm,0.7s,mb3.5,baz=86,slow=9.6,SNR=7.3						
MKAR	**Makanchi Array**	**44.85**	**302**	P	**P**	**17 07 10.4**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BVAR	**Borovoye Array**	**51.11**	**312**	P	**P**	**17 07 58.7**	**-0.2**
	comp=Z,1.0nm,0.5s,mb4.0,baz=60,slow=8.1,SNR=6.0						
WRA	**Warramunga Arr**	**57.71**	**190**	P	**P**	**17 08 46.0**	**-1.6**
	comp=Z,0.3nm,0.5s,mb3.6,baz=9.4,slow=7.2,SNR=5.9						
FINES	**FINESS Array B**	**68.93**	**333**	P	**P**	**17 10 01.4**	**+0.5**
	comp=Z,0.3nm,0.4s,mb3.6,baz=37,slow=9.5,SNR=5.7						
FINES	**FINESS Array B**	**68.93**	**333**	P	**P**	**17 10 01.4**	**+0.5**
NB2	**NORSAR Subarra**	**74.19**	**338**	P	**P**	**17 10 33.0**	**+0.8**
	comp=Z,1.7nm,0.7s,mb4.1,baz=39,slow=6.2						
NOA	**NORSAR Array B**	**74.19**	**338**	P	**P**	**17 10 33.2**	**+1.0**
	comp=Z,0.5nm,0.8s,mb3.5,baz=41,slow=4.7,SNR=3.0						
NOA	**NORSAR Array B**	**74.19**	**338**	P	**P**	**17 10 33.2**	**+1.0**
NOA	**NORSAR Array B**	**74.19**	**338**	P	**P**	**17 10 33.2**	**+1.0**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	**Malin Array Be**	**74.63**	**323**	P	**P**	**17 10 35.4**	**+0.4**
	comp=Z,0.8nm,0.6s,mb3.8,baz=44,slow=6.0,SNR=4.6						
AKASG	**Malin Array Be**	**74.63**	**323**	P	**P**	**17 10 35.4**	**+0.4**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						

IDC ***20*** *17:23:19.6±5.4,16.00S×74.37W,h81km±55km,mb3.5/1, mb1 3.9/3,mb1mx3.5/16,mbtmp3.8/3,ML4.2/2,Error ellipse: s-maj=74.7km s-min=31.8km az=68.0*
NEIC ***20*** *17:23:19.5±1.2,15.53S×73.93W,h79km±13km,Error ellipse: s-maj=21.6km s-min=12.1km az=223.0*
NEIC Felt [II] at Chala.

ISC 20 17:23:18.1±1.2,15.5S±0.1×74.0W±0.1,h88km±20km,n9, σ0§94/9,mb4.0/1,Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**2.56**	**112**	*e*P	**P

comp=N,241nm,0.5s,SNR=90
IGAR Garneh 2.57 15 Pn **Pn 17 47 03.5 +2.8**
ISAD Sadrabad 2.92 42 Pn **Pn 17 47 08.2 +2.6**
QRN Al-Qurain 3.20 252 *e*P **Pn 17 47 09.7 +0.1**
QRN AML AML 17 47 47.1
comp=Z,63nm,0.2s
QRN *e*S **Sn 17 47 48.3 +0.3**
UMR Umm Al-Rimmam 3.21 267 *e*P **Pn 17 47 10.4 +0.7**
UMR *e*S **Sn 17 47 48.5 +0.3**
UMR AML AML 17 47 50.8
comp=Z,153nm,0.3s
IMEH Mehriz 3.22 59 Pn **Pn 17 47 11.7 +1.8**
IZEF Zefreh 3.23 14 Pn **Pn 17 47 10.7 +0.7**
SHGR Shooshtar-Gavs 3.23 317 *e*PN **Pn 17 47 11.1 +1.0**
SHGR SN **Sn 17 47 48.8 +0.1**
SHGR AML AML 17 48 19.9
comp=N,107nm,0.6s
SHGR Shooshtar-Gavs 3.23 317 *e*Pn **Pn 17 47 11.1 +1.0**
SNR=52
SHGR Sn **Sn 17 47 48.8 0.0**
comp=N,107nm,0.6s,SNR=52
NASN Na'in 3.26 21 *e*PN **Pn 17 47 11.4 +0.9**
KBD Kabd 3.28 261 *e*P **Pn 17 47 11.4 +0.6**
KBD AML AML 17 47 47.4
comp=Z,183nm,0.3s
KBD *e*S **Sn 17 47 50.4 +0.4**
KBD Kabd 3.28 261 *e*P **Pn 17 47 11.4 +0.6**
KBD *e*S **Sn 17 47 50.4 +0.5**
RDF Al-Radifah 3.46 257 *e*P **Pn 17 47 13.8 +0.4**
RDF *e*S **Sn 17 47 55.0 +0.5**
RDF AML AML 17 47 55.5
comp=Z,65nm,0.6s
MIB Mutribah 3.53 272 *e*P **Pn 17 47 14.8 +0.5**
MIB AML AML 17 48 01.6
comp=Z,54nm,0.4s
IKLH Kalahroud 3.55 2 Pn **Pn 17 47 15.6 +0.9**
IBAF Bafgh 4.03 62 Pn **Pn 17 47 22.5 +1.1**
KRBR Kerman 4.67 86 *e*PN **Pn 17 47 31.6 +1.1**
KRBR AML AML 17 48 34.0
comp=N,38nm,0.5s
BNDS Bandar-Abbas 4.81 118 *e*PN **Pn 17 47 34.1 +1.5**
IVRN Varamin 5.23 3 Pn **Pn 17 47 38.3 -0.1**
IKOM Komasi 5.50 324 Pn **Pn 17 47 41.9 -0.4**
IRAZ Razeghan 5.77 348 Lg 17 49 21.5
IRAZ Razeghan 5.77 348 Pn **Pn 17 47 45.8 -0.2**
IDMV Damavand 5.83 5 Pn **Pn 17 47 46.5 -0.4**
IFIR Firoozkooh 5.98 11 Pn **Pn 17 47 48.4 -0.6**
IAFJ Afjeh 6.09 2 Pn **Pn 17 47 49.5 -1.0**
SNGE Sanandaj 6.33 328 *e*PN **Pn 17 47 54.1 +0.2**
SNGE AML AML 17 49 22.5
comp=N,20nm,1.0s
IDHR Dehrash 6.50 321 Pn **Pn 17 47 56.4 0.0**
BRTR Keskin Array B 17.63 309 P **P 17 50 24.7 -0.8**
comp=N,0.1nm,0.3s,baz=127,slow=14,SNR=2.6
MLR Muntele Rosu 25.41 315 P **P 17 51 46.7 -0.4**
comp=N,1.0nm,0.4s,mb3.7,baz=63,slow=4.5,SNR=2.6
AKASG Malin Array Be 26.72 328 P **P 17 51 56.8 -2.6**
comp=N,0.2nm,0.3s,mb3.1,baz=133,slow=9.2,SNR=6.4
BVAR Borovoye Array 27.10 26 P **P 17 52 01.9 -0.8**
comp=N,0.7nm,0.4s,mb3.5,baz=224,slow=7.8,SNR=8.2
MKAR Makanchi Array 29.37 46 P **P 17 52 21.8 -1.6**
comp=N,0.4nm,0.9s,mb3.2,baz=225,slow=6.9,SNR=5.0
ZAL Zalesovo 34.16 35 P **P 17 53 03.4 -1.9**
comp=N,1.2nm,0.7s,mb4.0,baz=240,slow=8.1,SNR=7.0
GERES GERESS Array B 34.38 314 P **P 17 53 05.8 -1.5**
comp=N,0.2nm,0.4s,mb3.4,baz=84,slow=8.9,SNR=3.7
FINES FINESS Array B 35.83 339 P **P 17 53 16.4 -3.1**
comp=N,0.4nm,0.5s,mb3.6,baz=162,slow=6.0,SNR=5.5
NB2 NORSAR Subarra 41.00 331 P **P 17 53 59.6 -3.0**
comp=N,0.3nm,0.5s,mb3.2,baz=122,slow=8.6
NOA NORSAR Array B 41.00 331 P **P 17 53 59.6 -3.0**
comp=N,0.4nm,0.6s,mb3.2,baz=122,slow=8.5,SNR=4.0
ARCES ARCESS Array B 42.49 347 P **P 17 54 13.2 -1.5**
comp=N,1.2nm,0.7s,mb3.6,baz=149,slow=7.1,SNR=7.3

*NEIC **20** 17:46:38.7, 18.32N×69.01W, h143km, MD4.0(RSPR), After RSPR.*
RSPR 20 17:46:38.7, 18.32N×69.01W, h143km±5km, MD4.0/10, MD4.0/10, 10C, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**1.81**	**85⇑**	*e*P	P	17 47 11.2	-0.2
AGPR				*e*S	S	17 47 36.3	-0.3
CRPR	**Cabo Rojo, PR**	**1.83**	**100⇑**	*e*P	P	17 47 10.8	-0.9
CRPR				*e*S	S	17 47 37.3	+0.2
LSP	**Las Mesas**	**1.83**	**94⇑**	*e*P	P	17 47 11.8	+0.1
LSP				*e*S	S	17 47 36.2	-0.9
MGP	**Maguayo**	**1.85**	**100**	*e*S	S	17 47 37.0	-0.5
LRS	**Lares**	**2.05**	**91⇑**	*e*P	P	17 47 14.0	-0.4
LRS				*e*S	S	17 47 42.3	+0.5
AOPR	**Arecibo Observ**	**2.14**	**89⇑**	*e*P	P	17 47 15.5	-0.1
AOPR				*e*S	S	17 47 43.0	-0.8
PORP	**Portuguez**	**2.27**	**96⇑**	*e*P	P	17 47 16.1	-1.1
PORP				*e*S	S	17 47 45.9	-0.7
SJG	**San Juan**	**2.72**	**94**	*e*S	S	17 47 57.2	+0.4
CPD	**Cerro la Pandu**	**2.95**	**95⇑**	*e*P	P	17 47 25.6	-0.3
CPD				*e*S	S	17 48 02.5	+0.6
CBYP	**Canovanas**	**2.99**	**91⇑**	*e*P	P	17 47 26.1	-0.3
CBYP				*e*S	S	17 48 02.2	-0.7
HUMP	**Col San Antoni**	**3.01**	**93⇑**	*e*P	P	17 47 25.6	-1.0
HUMP				*e*S	S	17 48 02.5	-0.7
MTP	**Monte Pirata**	**3.29**	**93⇑**	*e*P	P	17 47 30.0	-0.2
MTP				*e*S	S	17 48 10.0	+0.3

*NEIC **20** 17:52:09.7, 38.80S×175.14E, h216km, MG4.7(WEL), After WEL.*
WEL 20 17:52:10.6±0.2, 38.84S×175.13E, h209km±1km, ML4.7/19, 1C, Error ellipse: s-maj=2.0km s-min=1.9km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWVZ	**Taurewa**	**0.33**	**135**	PN	P	17 52 38.0	-0.5
TWVZ				SN	S	17 52 59.1	-0.9
TWVZ	**Taurewa**	**0.33**	**135**	P	P	17 52 38.0	-0.5
TWVZ				S	S	17 52 59.1	-0.9
HIZ	**Hauiti**	**0.39**	**326**	PN	P	17 52 38.0	-0.7
HIZ				SN	S	17 52 59.5	-0.8
HIZ				SN	S	17 52 59.5	-0.8
HIZ	**Hauiti**	**0.39**	**326**	P	P	17 52 38.0	-0.6
VRZ	**Vera Road**	**0.41**	**225**	PN	P	17 52 37.7	-1.0
VRZ	**Vera Road**	**0.41**	**225**	P	P	17 52 37.7	-1.0
WTVZ	**West Tongariro**	**0.45**	**128**	PN	P	17 52 38.5	-0.4
WTVZ				SN	S	17 52 59.8	-0.9
WTVZ	**West Tongariro**	**0.45**	**128**	P	P	17 52 38.5	-0.3
KATZ	**Kakaramea**	**0.46**	**108**	PN	P	17 52 38.3	-0.5
KATZ				SN	S	17 53 00.4	-0.3
KATZ	**Kakaramea**	**0.46**	**108**	P	P	17 52 38.3	-0.5
KRVZ	**Karewarewa**	**0.47**	**123**	PN	P	17 52 38.4	-0.5
KRVZ				SN	S	17 52 59.9	-0.9
PKVZ	**Pokaka**	**0.48**	**160**	PN	P	17 52 38.5	-0.4
PKVZ				SN	S	17 52 59.6	-1.2
CNZ	**Chateau**	**0.48**	**138**	PN	P	17 52 38.7	-0.2
WATZ	**Wairara**	**0.48**	**75**	PN	P	17 52 38.6	-0.3
WATZ				SN	S	17 53 00.2	-0.7
WATZ	**Wairara**	**0.48**	**75**	P	P	17 52 38.6	-0.3
WATZ				S	S	17 53 00.2	-0.7
WPVZ	**Whakapapa**	**0.49**	**139**	PN	P	17 52 38.7	-0.2
WPVZ				SN	S	17 52 60.0	-0.9
WPVZ	**Whakapapa**	**0.49**	**139**	P	P	17 52 38.7	-0.2
NGZ	**Ngauruhoe**	**0.50**	**133**	PN	P	17 52 38.5	-0.4
NGZ				SN	S	17 52 59.8	-1.1
NGZ	**Ngauruhoe**	**0.50**	**133**	P	P	17 52 38.5	-0.5
RATZ	**Rangitukua**	**0.50**	**94**	PN	P	17 52 38.4	-0.6
RATZ	**Rangitukua**	**0.50**	**94**	P	P	17 52 38.4	-0.6
OTVZ	**Oturere**	**0.53**	**128**	PN	P	17 52 38.6	-0.4
OTVZ				SN	S	17 53 00.4	-0.8
FWVZ	**Far West T-bar**	**0.53**	**142**	PN	P	17 52 38.9	-0.2
FWVZ				SN	S	17 52 59.9	-1.3
FWVZ	**Far West T-bar**	**0.53**	**142**	P	P	17 52 38.9	-0.2
DRZ	**Dome Shelter**	**0.55**	**143**	PN	P	17 52 39.2	0.0
DRZ	**Dome Shelter**	**0.55**	**143**	P	P	17 52 39.2	0.0
TRVZ	**Turoa**	**0.56**	**145**	PN	P	17 52 39.1	-0.1
TRVZ				SN	S	17 53 00.4	-1.0
RITZ	**Rihia Road**	**0.58**	**104**	PN	P	17 52 39.0	-0.3
RITZ	**Rihia Road**	**0.58**	**104**	P	P	17 52 39.0	-0.3
TUVZ	**Tukino**	**0.59**	**137**	PN	P	17 52 39.2	-0.1
TUVZ				SN	S	17 52 59.8	-1.8
TUVZ	**Tukino**	**0.59**	**137**	P	P	17 52 39.2	-0.1
MTVZ	**Mangateitei**	**0.61**	**155**	PN	P	17 52 39.1	-0.3
MTVZ				SN	S	17 53 00.6	-1.1
WNVZ	**Wahianoa**	**0.61**	**144**	PN	P	17 52 39.1	-0.3
WNVZ				SN	S	17 52 59.9	-1.8
WNVZ	**Wahianoa**	**0.61**	**144**	P	P	17 52 39.1	-0.3
WHTZ	**Whakaora**	**0.67**	**75**	PN	P	17 52 39.4	-0.2
WHTZ	**Whakaora**	**0.67**	**75**	P	P	17 52 39.4	-0.2
RAEZ	**Rainy Point**	**0.73**	**232**	PN	P	17 52 39.1	-0.8
RAEZ	**Rainy Point**	**0.73**	**232**	P	P	17 52 39.1	-0.8
MOVZ	**Moawhango**	**0.74**	**140**	PN	P	17 52 39.4	-0.6
MOVZ				SN	S	17 53 00.4	-2.4
MOVZ	**Moawhango**	**0.74**	**140**	P	P	17 52 39.4	-0.6
HATZ	**Hinemaiaia**	**0.75**	**94**	PN	P	17 52 39.3	-0.7
HATZ				SN	S	17 53 00.7	-2.1
HATZ	**Hinemaiaia**	**0.75**	**94**	P	P	17 52 39.3	-0.7
NEZ	**North Egmont**	**0.92**	**242**	PN	P	17 52 40.6	-0.2
NEZ	**North Egmont**	**0.92**	**242**	P	P	17 52 40.6	-0.3
WAZ	**Wanganui**	**0.92**	**187**	PN	P	17 52 40.7	-0.2
WAZ				SN	S	17 53 03.4	-1.1
WAZ	**Wanganui**	**0.92**	**187**	P	P	17 52 40.7	-0.2
DFE	**Dawson Falls**	**0.94**	**238**	PN	P	17 52 40.7	-0.3
DFE	**Dawson Falls**	**0.94**	**238**	P	P	17 52 40.7	-0.3
PKE	**Pukeiti**	**0.96**	**248**	PN	P	17 52 40.6	-0.5
PKE	**Pukeiti**	**0.96**	**248**	P	P	17 52 40.6	-0.5
PATZ	**Paeroa**	**0.99**	**63**	PN	P	17 52 41.0	-0.4
PATZ	**Paeroa**	**0.99**	**63**	P	P	17 52 41.0	-0.3
NRZ	**Ngariki Road**	**1.06**	**242**	PN	P	17 52 41.2	-0.6
NRZ	**Ngariki Road**	**1.06**	**242**	P	P	17 52 41.2	-0.6
UTU	**Utuhina**	**1.06**	**52**	PN	P	17 52 41.4	-0.4
UTU	**Utuhina**	**1.06**	**52**	P	P	17 52 41.4	-0.4
NWEZ	**Newall Road**	**1.08**	**246**	PN	P	17 52 41.6	-0.4
NWEZ	**Newall Road**	**1.08**	**246**	P	P	17 52 41.6	-0.4
BKZ	**Black Stump Fm**	**1.11**	**108**	PN	P	17 52 41.6	-0.6
BKZ	**Black Stump Fm**	**1.11**	**108**	P	P	17 52 41.6	-0.6
TAZ	**Tarawera**	**1.23**	**61**	PN	P	17 52 42.6	-0.6
TAZ	**Tarawera**	**1.23**	**61**	P	P	17 52 42.6	-0.6
MKRZ	**Makatiti**	**1.26**	**57**	PN	P	17 52 43.0	-0.4
MKRZ	**Makatiti**	**1.26**	**57**	P	P	17 52 43.0	-0.4
LIRZ	**Lichensteins R**	**1.29**	**50**	PN	P	17 52 42.8	-0.8
LIRZ	**Lichensteins R**	**1.29**	**50**	P	P	17 52 42.8	-0.8
TSZ	**Takapari Road**	**1.38**	**153**	PN	P	17 52 43.8	-0.6
TSZ	**Takapari Road**	**1.38**	**153**	P	P	17 52 43.8	-0.6
TGRZ	**Tauranga**	**1.42**	**39**	PN	P	17 52 43.8	-1.0
TGRZ	**Tauranga**	**1.42**	**39**	P	P	17 52 43.8	-0.9
EDRZ	**Edgecumbe**	**1.46**	**60**	PN	P	17 52 43.9	-1.2
EDRZ	**Edgecumbe**	**1.46**	**60**	P	P	17 52 43.9	-1.1
MARZ	**Manawahe**	**1.48**	**55**	PN	P	17 52 44.3	-0.9
URZ	**Urewera**	**1.65**	**70**	PN	P	17 52 45.2	-1.6
URZ				SN	S	17 53 10.6	-4.1
URZ	**Urewera**	**1.65**	**70**	P	P	17 52 45.2	-1.6
MRZ	**Mangatainoka R**	**1.85**	**169**	PN	P	17 52 47.3	-1.3
MRZ				SN	S	17 53 14.4	-3.6
OTAZ	**Otara**	**1.89**	**355**	P	P	17 52 48.0	-1.0
MWZ	**Matawai**	**1.94**	**76**	PN	P	17 52 48.1	-1.4
MWZ				SN	S	17 53 15.9	-3.6
MWZ	**Matawai**	**1.94**	**76**	P	P	17 52 48.1	-1.4
WTAZ	**Waiatarua**	**1.95**	**347**	PN	P	17 52 48.9	-0.7
WTAZ	**Waiatarua**	**1.95**	**347**	P	P	17 52 48.9	-0.7
KNZ	**Kokohu**	**1.99**	**96**	PN	P	17 52 49.1	-0.9
KNZ	**Kokohu**	**1.99**	**96**	P	P	17 52 49.1	-0.9
KIW	**Kapiti Island**	**2.03**	**185**	PN	P	17 52 48.7	-1.7
BFZ	**Birch Farm**	**2.03**	**155**	PN	P	17 52 49.0	-1.4
BFZ	**Birch Farm**	**2.03**	**155**	P	P	17 52 49.0	-1.4
KAAZ	**Kauri Point**	**2.04**	**350**	PN	P	17 52 49.8	-0.7
KAAZ	**Kauri Point**	**2.04**	**350**	P	P	17 52 49.8	-0.7
MTAZ	**Motutapu**	**2.06**	**355**	PN	P	17 52 49.7	-0.9
MTAZ	**Motutapu**	**2.06**	**355**	P	P	17 52 49.7	-0.9
DUWZ	**D'Urville Isla**	**2.17**	**205**	PN	P	17 52 49.9	-2.0
CAW	**Cannon Point**	**2.27**	**181**	PN	P	17 52 51.1	-1.8
CAW	**Cannon Point**	**2.27**	**181**	P	P	17 52 51.1	-1.8
MTW	**Mount Morrison**	**2.33**	**173**	PN	P	17 52 51.5	-2.1
MTW	**Mount Morrison**	**2.33**	**173**	P	P	17 52 51.5	-2.2
MRW	**Makara Radio**	**2.41**	**188**	PN	P	17 52 52.4	-2.1
MRW	**Makara Radio**	**2.41**	**188**	P	P	17 52 52.4	-2.1
WEL	**Wellington**	**2.46**	**186**	PN	P	17 52 52.8	-2.2
TCW	**Tory Channel**	**2.46**	**195**	PN	P	17 52 53.1	-1.9
TCW	**Tory Channel**	**2.46**	**195**	P	P	17 52 53.1	-1.9
SNZO	**South Karori**	**2.49**	**187**	PN	P	17 52 53.1	-2.3
SNZO	**South Karori**	**2.49**	**187⇑**	*e*P	P	17 52 53.0	-2.4
SNZO				S	S	17 53 25.6	-4.4
PAWZ	**Paruwai Farm**	**2.55**	**175**	PN	P	17 52 53.8	-2.2
PUZ	**Puketiti**	**2.57**	**74**	PN	P	17 52 54.2	-2.0
PUZ	**Puketiti**	**2.57**	**74**	P	P	17 52 54.2	-2.0
BHW	**Baring Head**	**2.58**	**184**	PN	P	17 52 53.8	-2.5
BHW	**Baring Head**	**2.58**	**184**	P	P	17 52 53.8	-2.5
MSWZ	**Moikau Station**	**2.58**	**178**	PN	P	17 52 54.0	-2.3
MSWZ	**Moikau Station**	**2.58**	**178**	P	P	17 52 54.0	-2.3
TRWZ	**Traveller**	**2.59**	**171**	PN	P	17 52 54.3	-2.2
NNZ	**Nelson**	**2.73**	**209**	PN	P	17 52 55.2	-2.8
NNZ	**Nelson**	**2.73**	**209**	P	P	17 52 55.2	-2.9
TUWZ	**Tuamarina**	**2.75**	**199**	PN	P	17 52 55.8	-2.4
MXZ	**Matakaoa Point**	**2.80**	**64**	PN	P	17 52 57.0	-1.9
MXZ	**Matakaoa Point**	**2.80**	**64**	P	P	17 52 57.0	-1.9
QRZ	**Quartz Range**	**2.82**	**224**	PN	P	17 52 55.7	-3.4
WCZ	**Waipu Caves**	**2.96**	**347**	PN	P	17 52 59.4	-1.3
WCZ	**Waipu Caves**	**2.96**	**347**	P	P	17 52 59.4	-1.3
BSWZ	**Blackbirch Sta**	**3.03**	**198**	PN	P	17 52 59.2	-2.3
BSWZ	**Blackbirch Sta**	**3.03**	**198**	P	P	17 52 59.2	-2.3
THZ	**Tophouse**	**3.38**	**210**	PN	P	17 53 02.2	-3.5
THZ	**Tophouse**	**3.38**	**210**	P	P	17 53 02.2	-3.5
KHZ	**Kahutara**	**3.78**	**198**	PN	P	17 53 07.3	-3.2
KHZ	**Kahutara**	**3.78**	**198**	P	P	17 53 07.3	-3.2
DSZ	**Denniston Nort**	**3.86**	**220**	PN	P	17 53 07.3	-4.2
DSZ	**Denniston Nort**	**3.86**	**220**	P	P	17 53 07.3	-4.2
LTZ	**Lake Taylor**	**4.50**	**208**	PN	P	17 53 15.1	-4.4
LTZ	**Lake Taylor**	**4.50**	**208**	P	P	17 53 15.1	-4.4
CRLZ	**Canterbury Las**	**5.10**	**201**	PN	P	17 53 22.2	-4.9
CRLZ	**Canterbury Las**	**5.10**	**201**	*e*P	P	17 53 22.2	-4.9
MQZ	**McQueen's Vall**	**5.21**	**200**	PN	P	17 53 23.3	-5.2
MQZ	**McQueen's Vall**	**5.21**	**200**	P	P	17 53 23.3	-5.2
WVZ	**Waitaha Valley**	**5.39**	**217**	PN	P	17 53 25.0	-5.8
WVZ	**Waitaha Valley**	**5.39**	**217**	P	P	17 53 25.0	-5.8
RPZ	**Rata Peaks**	**5.76**	**211**	PN	P	17 53 30.4	-5.2
RPZ	**Rata Peaks**	**5.76**	**211**	*e*P	P	17 53 30.4	-5.2
FOZ	**Fox Glacier**	**6.26**	**219**	PN	P	17 53 35.3	-6.7
FOZ	**Fox Glacier**	**6.26**	**219**	*e*P	P	17 53 35.3	-6.7
LBZ	**Lake Benmore**	**6.67**	**212**	PN	P	17 53 41.4	-5.9
LBZ	**Lake Benmore**	**6.67**	**212**	*e*P	P	17 53 41.4	-5.9
ODZ	**Otahua Downs**	**7.05**	**207**	PN	P	17 53 46.9	-5.3
ODZ	**Otahua Downs**	**7.05**	**207**	*e*P	P	17 53 46.9	-5.3
JCZ	**Jackson Bay**	**7.09**	**220**	PN	P	17 53 46.3	-6.4
JCZ	**Jackson Bay**	**7.09**	**220**	*e*P	P	17 53 46.3	-6.5
WKZ	**Wanaka**	**7.53**	**215**	PN	P	17 53 51.5	-7.0
WKZ	**Wanaka**	**7.53**	**215**	*e*P	P	17 53 51.5	-6.9
EAZ	**Earnscleugh**	**7.72**	**212**	PN	P	17 53 54.7	-6.2
EAZ	**Earnscleugh**	**7.72**	**212**	*e*P	P	17 53 54.7	-6.2
TUZ	**Tuapeka**	**8.19**	**208**	PN	P	17 54 02.2	-4.9
TUZ	**Tuapeka**	**8.19**	**208**	*e*P	P	17 54 02.2	-4.9
MLZ	**Mavora Lakes**	**8.31**	**216**	PN	P	17 54 03.3	-5.3

GUC 20 18:02:28.5±0.8, 33.15S×70.22W, h13km±6km, MD3.6, ML2.4, 5C-4D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCH	**Farellones**	**0.19**	**197⇑**	*i*P	Pg	18 02 32.5	-0.4
FCH				*i*S	Sg	18 02 35.7	-0.2
FCH				AMP		18 02 36.0	
comp=E,614nm,0.3s							
CLCH	**Cerro Calan**	**0.36**	**226⇑**	*i*P	Pg	18 02 35.7	-0.4
CLCH				*i*S	Sg	18 02 41.0	-0.2
CLCH				AMP		18 02 43.8	
comp=E,865nm,0.5s							
CLCH				AMP		18 02 45.8	
comp=E,1μm,0.9s							
DSCH	**Colegio Aleman**	**0.38**	**229⇑**	*i*P	Pg	18 02 36.1	-0.4
DSCH				*i*S	Sg	18 02 41.5	-0.3
DSCH				AMP		18 02 46.6	
comp=N,543nm,0.6s							
PCH	**Pirque**	**0.53**	**207⇓**	*i*P	Pb	18 02 38.9	-0.3
PCH				*i*S	Sb	18 02 46.5	+0.1
JACH	**Jahuel**	**0.56**	**326⇓**	*i*P	Pb	18 02 39.1	-0.5
JACH				*i*S	Sb	18 02 46.8	-0.3
LMEL	**Las Melosas**	**0.70**	**179⇑**	*i*P	Pb	18 02 41.9	-0.1
LMEL				*i*S	Sb	18 02 52.2	+0.9
LMEL				AMP		18 02 56.2	
comp=N,92nm,0.1s							
TACH	**Talagante**	**0.78**	**230⇓**	*i*P	Pb	18 02 42.9	-0.5
CHCH	**Chadas Angostu**	**0.86**	**204**	*e*P	Pb	18 02 44.5	-0.3
CACH	**El Canelo**	**1.02**	**198**	*i*P	Pb	18 02 47.9	+0.4
CACH				*i*S	Sb	18 03 02.1	+1.6
LCCH	**Las Cruces**	**1.17**	**253⇑**	*i*P	Pb	18 02 49.7	-0.4
LCCH				*i*S	Sb	18 03 04.9	-0.2
CICH	**Cipreses**	**1.18**	**188⇓**	*i*P	Pb	18 02 50.1	-0.2
SFDO	**San Fernando**	**1.60**	**204**	*e*P	Pn	18 02 57.3	+0.5
SFDO				*i*S	Sn	18 03 18.6	+1.2
CMCH	**Combarbala**	**2.07**	**341**	AMP		18 03 39.2	
comp=N,169nm,0.7s							

IDC 20 18:40:36.6±4.1, 4.79N×93.07E, mb3.6/3, mb1 3.8/3, mb1mx3.5/16, mbtmp3.6/3, Error ellipse: s-maj=151.5km s-min=29.1km az=59.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**42.88**	**349**	P	P	18 48 36.8	-1.6
0.6nm,0.6s,baz=165,slow=7.9,SNR=8.2							
MKAR				pP	pP	18 48 43.3	+4.9
0.6nm,0.6s,baz=164,slow=8.0,SNR=5.4							
SONM	**Songino Array**	**44.39**	**13**	P	P	18 48 49.0	-1.7
0.2nm,0.3s,baz=198,slow=9.1,SNR=2.7							
SONM				pP	pP	18 48 55.8	+5.1
0.8nm,0.7s,baz=201,slow=9.6,SNR=4.2							
WRA	**Warramunga Arr**	**47.42**	**123**	P	P	18 49 13.3	-1.9
0.8nm,0.7s,baz=300,slow=9.1,SNR=5.8							
ZAL	**Zalesovo**	**49.46**	**354**	P	P	18 49 28.2	-2.3
baz=326,slow=3.6							
GERES	**GERESS Array B**	**79.42**	**319**	pP	pP	18 52 53.2	+6.9
0.5nm,0.8s,baz=124,slow=4.8,SNR=3.2							

*IDC **20** 18:45:16.9±3.6, 12.87S×168.82E, h624km±38km, mb3.3/6, mb1 3.4/7, mb1mx3.2/14, mbtmp4.2/7, Error ellipse: s-maj=43.9km s-min=24.5km az=94.0*
*NEIC **20** 18:45:16.9±1.7, 12.89S×168.84E, h626km±20km, mb4.4/2, Error ellipse: s-maj=32.3km s-min=21.5km az=103.0*
ISC 20 18:45:17.6±2.1, 12.9S±0.2×168.5E±0.3, h636km±32km, n11, σ0§72/11, mb4.0/8, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.36**	**192**	P	**P**	**18 47 30.5**	**-0.4**
0.4nm,0.3s,baz=256,slow=19,SNR=3.5							
STKA	**Stephens Creek**	**31.11**	**228**	*e*P	**P**	**18 50 49.1**	**+0.6**
5.0nm,1.5s,mb3.8							
STKA	**Stephens Creek**	**31.11**	**228**	P	**P**	**18 50 49.4**	**+0.9**
2.9nm,0.4s,mb4.1,baz=72,slow=8.7,SNR=15							
WRA	**Warramunga Arr**	**33.46**	**253**	P	**P**	**18 51 08.9**	**+0.6**
6.3nm,0.5s,mb4.4,baz=84,slow=8.6,SNR=19							
WRA				PcP	PcP	18 53 29.9	-0.6
0.4nm,0.5s,baz=79,slow=3.6,SNR=3.9							
WRA				S	**S**	**18 55 47.3**	**-1.6**
0.6nm,0.9s,baz=95,slow=17,SNR=5.2							
KAKA	**Kakadu**	**35.14**	**266**	*e*P	**P**	**18 51 35.4**	**+13**
8.8nm,0.4s,mb4.6							
FORT	**Forrest**	**41.28**	**238**	*e*P	**P**	**18 52 11.9**	**+0.2**
22nm,0.6s,mb4.8							
MJAR	**Matsushiro Arr**	**56.84**	**331**	P	**P**	**18 54 04.9**	**-1.0**
1.5nm,0.9s,mb3.1,baz=150,slow=9.8,SNR=6.6							
SONM	**Songino Array**	**81.73**	**323**	P	**P**	**18 56 33.3**	**+0.6**
0.9nm,0.6s,mb3.5,baz=134,slow=4.5,SNR=6.1							
MAW	**Mawson**	**84.04**	**202**	P	**P**	**18 56 43.3**	**-0.5**
1.2nm,0.6s,mb3.6,baz=53,slow=5.1,SNR=4.6							
MKAR	**Makanchi Array**	**96.69**	**316**	P	**P**	**18 57 43.1**	**+0.4**
0.6nm,0.6s,mb4.0,baz=94,slow=6.6,SNR=8.2							
ARCES	**ARCESS Array B 118.76**	**346**	PKP	PKPdf		19 02 54.3	-0.4
0.9nm,0.6s,baz=47,slow=2.6,SNR=7.2							

WEL 20 18:50:57.0±0.5, 38.43S×175.57E, h282km±4km, ML3.5/15, Error ellipse: s-maj=5.7km s-min=5.5km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWVZ	**Taurewa**	**0.65**	**189**	PN	P	18 51 34.0	-0.3
KRVZ	**Karewarewa**	**0.67**	**175**	PN	P	18 51 34.3	0.0
WTVZ	**West Tongariro**	**0.68**	**178**	PN	P	18 51 34.4	0.0
NGZ	**Ngauruhoe**	**0.74**	**178**	PN	P	18 51 34.7	+0.1
CNZ	**Chateau**	**0.77**	**181**	PN	P	18 51 34.7	0.0
WPVZ	**Whakapapa**	**0.77**	**181**	PN	P	18

BKZ			SN	S	19 10 26.7	-0.3
BKZ			SN	S	19 10 26.7	-0.3
WTVZ	**West Tongariro**	**1.10 211**	PN	P	19 10 08.8	-0.1
TWVZ	**Taurewa**	**1.13 218**	PN	P	19 10 09.1	-0.1
NGZ	**Ngauruhoe**	**1.14 210**	PN	P	19 10 09.6	+0.2
CNZ	**Chateau**	**1.18 211**	PN	P	19 10 09.7	-0.1
TUVZ	**Tukino**	**1.21 206**	PN	P	19 10 10.0	0.0
WNVZ	**Wahianoa**	**1.28 206**	PN	P	19 10 10.5	-0.2
MOVZ	**Moawhango**	**1.30 200**	PN	P	19 10 10.3	-0.7
PKVZ	**Pokaka**	**1.34 214**	PN	P	19 10 11.0	-0.4
KNZ	**Kokohu**	**1.35 129**	PN	P	19 10 11.3	0.0
KNZ			SN	S	19 10 32.0	-1.2
MTVZ	**Mangateitei**	**1.38 209**	PN	P	19 10 11.4	-0.3
VRZ	**Vera Road**	**1.55 232**	PN	P	19 10 13.2	-0.3
VRZ			SN	S	19 10 36.9	0.0
MXZ	**Matakaoa Point**	**1.69 69**	PN	P	19 10 14.3	-0.7
MXZ			SN	S	19 10 39.0	-0.5
RAEZ	**Rainy Point**	**1.87 233**	PN	P	19 10 17.1	+0.1
WAZ	**Wanganui**	**1.89 213**	PN	P	19 10 16.5	-0.7
TSZ	**Takapari Road**	**1.90 188**	PN	P	19 10 16.3	-1.0
TSZ			SN	S	19 10 42.2	-1.4
NEZ	**North Egmont**	**2.06 237**	PN	P	19 10 19.2	+0.1
PKE	**Pukeiti**	**2.09 240**	PN	P	19 10 19.3	-0.3
BFZ	**Birch Farm**	**2.50 181**	PN	P	19 10 22.8	-1.9
MRZ	**Mangatainoka R**	**2.54 193**	PN	P	19 10 23.0	-2.3
KIW	**Kapiti Island**	**2.89 202**	PN	P	19 10 26.6	-3.2
KIW			SN	S	19 11 00.7	-4.7
MTW	**Mount Morrison**	**3.04 192**	PN	P	19 10 28.3	-3.3
MTW			SN	S	19 11 04.0	-4.8
CAW	**Cannon Point**	**3.08 198**	PN	P	19 10 29.0	-3.2
DUWZ	**D'Urville Isla**	**3.21 215**	PN	P	19 10 30.3	-3.6
TRWZ	**Traveller**	**3.25 188**	PN	P	19 10 31.0	-3.3
MRW	**Makara Radio**	**3.29 202**	PN	P	19 10 31.3	-3.6
WEL	**Wellington**	**3.32 201**	PN	P	19 10 31.9	-3.4
MSWZ	**Moikau Station**	**3.33 194**	PN	P	19 10 31.8	-3.7
TCW	**Tory Channel**	**3.41 207**	PN	P	19 10 32.9	-3.6
TUWZ	**Tuamarina**	**3.73 209**	PN	P	19 10 36.5	-4.1
QRZ	**Quartz Range**	**3.95 227**	PN	P	19 10 38.8	-4.7
BSWZ	**Blackbirch Sta**	**4.00 207**	PN	P	19 10 40.1	-4.1
THZ	**Tophouse**	**4.44 215**	PN	P	19 10 45.6	-4.3
KHZ	**Kahutara**	**4.74 206**	PN	P	19 10 49.2	-4.7
LTZ	**Lake Taylor**	**5.54 213**	PN	P	19 10 59.8	-4.7
MQZ	**McQueen's Vall**	**6.18 206**	PN	P	19 11 06.5	-6.6
ODZ	**Otahua Downs**	**8.07 210**	PN	P	19 11 32.2	-6.2

*IDC **20** 19:33:31.0±2.0, 47.12N×145.73E, h368km±30km, mb3.0/8, mb1 3.2/10, mb1mx3.0/20, mbtmp3.7/10, Error ellipse: s-maj=36.2km s-min=19.0km az=177.0*
*JMA **20** 19:33:31.7±0.5, 46.44N×146.08E, h392km, M3.3*
*MOS **20** 19:33:31.3±1.1, 46.96N×145.52E, h396km, mb3.3/1, Error ellipse: s-maj=27.8km s-min=18.8km az=79.7*
*NEIC **20** 19:33:32.0±0.8, 47.02N×145.72E, h385km±9km, mb3.3/1, Error ellipse: s-maj=17.2km s-min=13.3km az=154.0*

ISC 20 19:33:30.2±0.6, 46.53N±0.09×145.9E±0.1, h402km±8km, n29, σ1§23/36, mb3.3/9, 3C, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**2.17 282**	⇑	*iP*	**P**	**19 34 26.8**	**-1.0**
JTKR	**Abashiri--Toko**	**2.90 209**		P	**P**	**19 34 34.3**	**+1.1**
JWK2	**Keihoku**	**3.01 248**		P	**P**	**19 34 35.3**	**+1.2**
NEM2	**Nemuro 2**	**3.17 181**		P	**P**	**19 34 34.3**	**-1.1**
NEM2				*eS*	**S**	**19 35 24.3**	**-2.3**
ASAJ	**Asahikawa**	**3.33 225**		P	**P**	**19 34 38.5**	**+1.7**
	2.0nm,0.3s,baz=8.1,slow=3.4,SNR=17						
ASAJ	**Asahikawa**	**3.33 225**		PN	**P**	**19 34 38.5**	**+1.7**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
JAR	**Ashorobuto**	**3.55 205**		P	**P**	**19 34 40.3**	**+1.5**
JAK	**Akkeshi**	**3.63 193**		P	**P**	**19 34 39.2**	**-0.3**
JAK				*eS*	**S**	**19 35 32.7**	**-1.2**
JFR	**Furan**	**4.08 216**		P	**P**	**19 34 45.5**	**+1.7**
JCH	**Churui**	**4.30 205**		P	**P**	**19 34 45.8**	**-0.1**
JCH				*eS*	**S**	**19 35 44.2**	**-1.0**
JNBK	**Urakawa-nobuka**	**4.79 209**		P	**P**	**19 34 50.8**	**0.0**
JNBK				*eS*	**S**	**19 35 52.6**	**-1.4**
JEW	**Eniwo**	**4.84 222**		P	**P**	**19 34 52.7**	**+1.4**
JKB	**Kayabe**	**5.79 218**		P	**P**	**19 35 01.7**	**+0.5**
JKB				*eS*	**S**	**19 36 12.5**	**-0.2**
JOT	**Ohata**	**6.20 216**		P	**P**	**19 35 06.0**	**+0.2**
JOT				*eS*	**S**	**19 36 20.2**	**-0.7**
JOSM	**Okushiri--Mats**	**6.38 228**		P	**P**	**19 35 09.3**	**+1.6**
JANG	**Nango**	**6.91 209**		P	**P**	**19 35 14.1**	**+0.4**
JANG				*eS*	**S**	**19 36 34.1**	**-1.2**
JOM	**Ohasama**	**7.80 207**		P	**P**	**19 35 25.4**	**+1.5**
JMK	**Ichinoseki**	**8.30 206**		P	**P**	**19 35 30.2**	**+0.6**
MJAR	**Matsushiro Arr**	**11.50 212**		P	**P**	**19 36 10.5**	**+4.0**
	comp=Z,0.5nm,0.3s,baz=24,slow=10,SNR=11						
SONM	**Songino Array**	**26.65 287**		P	**P**	**19 38 35.2**	**-0.4**
	comp=Z,0.4nm,0.3s,mb3.4,baz=79,slow=7.3,SNR=2.1						
ILAR	**Eielson Array**	**39.83 38**		P	**P**	**19 40 26.1**	**-1.3**
	comp=Z,1.1nm,0.8s,mb3.2,baz=278,slow=8.4,SNR=11						
MKAR	**Makanchi Array**	**42.53 294**		P	**P**	**19 40 49.8**	**+0.5**
	comp=Z,0.4nm,0.6s,mb2.9,baz=70,slow=6.5,SNR=4.4						
KURK	**Kurchatov**	**43.26 301**	⇑	*eP*	**P**	**19 40 54.3**	**-0.7**
	comp=Z,0.5nm,0.3s,mb3.3						
KURK	**Kurchatov**	**43.26 301**	⇑	*eP*	**P**	**19 40 54.3**	**-0.6**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb3.6						
ARCES	**ARCESS Array B**	**56.32 339**		P	**P**	**19 42 30.0**	**-2.4**
	comp=Z,2.1nm,0.9s,mb3.5,baz=32,slow=8.5,SNR=3.6						
FINES	**FINESS Array B**	**61.99 332**		P	**P**	**19 43 08.6**	**-1.9**
	comp=Z,0.6nm,0.6s,mb3.3,baz=34,slow=6.9,SNR=6.4						
NOA	**NORSAR Array B**	**66.68 338**		P	**P**	**19 43 39.1**	**-1.2**
	comp=Z,0.3nm,0.4s,mb3.2,baz=26,slow=8.2,SNR=3.1						
PDAR	**Pinedale Array**	**68.82 50**		P	**P**	**19 43 54.9**	**+1.2**
	comp=Z,0.6nm,0.5s,mb3.5,baz=315,slow=6.3,SNR=4.6						
TXAR	**Lajitas Array**	**81.86 56**		P	**P**	**19 45 08.9**	**+2.2**
	comp=Z,0.3nm,0.4s,mb3.3,baz=315,slow=3.8,SNR=7.9						

WEL 20 19:33:57.4±0.6, 38.54S×175.97E, h177km±5km, ML3.5/10, Error ellipse: s-maj=6.2km s-min=6.2km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWVZ	**Taurewa**	**0.68 218**		PN	P	19 34 22.7	-0.3
CNZ	**Chateau**	**0.74 206**		PN	P	19 34 23.3	-0.1
BKZ	**Black Stump Fm**	**0.75 147**		PN	P	19 34 23.7	+0.3
BKZ				SN	S	19 34 43.1	-0.3
TUVZ	**Tukino**	**0.77 198**		PN	P	19 34 23.6	+0.1
TUVZ				SN	S	19 34 43.3	-0.3
TUVZ				SN	S	19 34 43.5	-0.1
WNVZ	**Wahianoa**	**0.84 200**		PN	P	19 34 24.0	+0.1
WNVZ				SN	S	19 34 44.5	+0.1
MOVZ	**Moawhango**	**0.89 191**		PN	P	19 34 24.0	-0.1
MOVZ				SN	S	19 34 42.8	-2.1
MWZ	**Matawai**	**1.24 81**		PN	P	19 34 26.0	-1.0
MWZ				SN	S	19 34 49.9	0.0
WAZ	**Wanganui**	**1.44 212**		PN	P	19 34 28.0	-0.9
TSZ	**Takapari Road**	**1.52 180**		PN	P	19 34 29.3	-0.3
MRZ	**Mangatainoka R**	**2.14 188**		PN	P	19 34 34.7	-1.6
KIW	**Kapiti Island**	**2.46 199**		PN	P	19 34 37.6	-2.3
MTW	**Mount Morrison**	**2.64 188**		PN	P	19 34 39.6	-2.5
CAW	**Cannon Point**	**2.66 195**		PN	P	19 34 39.9	-2.4
DUWZ	**D'Urville Isla**	**2.76 214**		PN	P	19 34 40.4	-3.2
MRW	**Makara Radio**	**2.86 200**		PN	P	19 34 42.1	-2.7
TCW	**Tory Channel**	**2.97 205**		PN	P	19 34 43.1	-3.0
TUWZ	**Tuamarina**	**3.28 208**		PN	P	19 34 46.6	-3.4
NNZ	**Nelson**	**3.34 216**		PN	P	19 34 46.7	-4.0
NNZ				SN	S	19 35 25.9	-5.9
QRZ	**Quartz Range**	**3.50 228**		PN	P	19 34 47.4	-5.3
THZ	**Tophouse**	**3.99 215**		PN	P	19 34 54.5	-4.4
KHZ	**Kahutara**	**4.29 205**		PN	P	19 34 59.0	-3.9

JMA 20 19:51:05.1±0.1, 26.23N×129.65E, h46km, M3.6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**1.37 296**		P	P	19 51 28.4	+0.1
JOW				S	S	19 51 44.3	-1.2
JMZ	**Minamidaito 2**	**1.47 106**		P	P	19 51 29.8	+0.1
JMZ				S	S	19 51 46.7	-1.2
JTK	**Tokunoshima**	**1.67 338**		P	P	19 51 33.0	+0.5
JTK				S	S	19 51 51.8	-1.0
JIH	**Iheya**	**1.71 298**		P	P	19 51 33.2	+0.2
JIH				S	S	19 51 52.7	-1.0
JJT2	**Tamagusuku 2**	**1.71 267**		P	P	19 51 33.4	+0.4
JJT2				S	S	19 51 53.6	-0.2
NAH1	**Naha**	**1.76 270**		P	P	19 51 34.0	+0.3
NAH1				S	S	19 51 53.9	-1.1
JZK	**Kikaishima**	**2.10 8**		S	S	19 52 03.9	+0.5
JAM	**Amami Oshima**	**2.17 359**		P	P	19 51 39.9	+0.3
JAM				S	S	19 52 03.6	-1.8
JAGN	**Aguni-jima**	**2.19 280**		P	P	19 51 40.2	+0.4
JAGN				S	S	19 52 04.7	-1.1
JKE	**Kume jima 2**	**2.57 273**		P	P	19 51 44.4	-0.9
JKE				S	S	19 52 13.0	-2.6

*MOS **20** 19:53:17.1±1.4, 29.63S×178.42W, h156km, mb4.8/15, Error ellipse: s-maj=16.0km s-min=12.0km az=47.0*
*IDC **20** 19:53:17.7±0.4, 29.56S×178.31W, h156km±3km, mb4.4/15, mb1 4.5/15, mb1mx4.5/17, mbtmp4.7/15, MS3.5/3, Ms1 3.5/3, ms1mx3.2/15, Error ellipse: s-maj=14.6km s-min=13.7km az=5.0*
*NEIC **20** 19:53:18.7±0.8, 29.54S×178.40W, h162km±7km, mb4.7/24, Error ellipse: s-maj=11.0km s-min=7.4km az=146.0*

ISC 20 19:53:14.0±0.5, 29.87S±0.05×178.72W±0.09, h141km±5km, n228, σ1§47/207, mb4.6/36, 7C-8D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.93 49**		P	**P**	**19 53 40.2**	**+2.7**
	8μm,0.3s,baz=113,slow=5.8,SNR=177						
RAO				S	**S**	**19 53 57.2**	**+1.6**
	4μm,0.3s,baz=107,slow=20,SNR=31						
MXZ	**Matakaoa Point**	**8.06 197**		PN	**P**	**19 55 08.4**	**-0.9**
MXZ				SN	**S**	**19 56 40.4**	**+1.2**
MXZ	**Matakaoa Point**	**8.06 197**		*eP*	**P**	**19 55 09.3**	**0.0**
MYRZ	**Mayor Island**	**8.50 208**		PN	**P**	**19 55 18.3**	**+3.2**
PUZ	**Puketiti**	**8.56 196**		PN	**P**	**19 55 14.9**	**-1.0**
PUZ				SN	**S**	**19 56 51.6**	**+0.5**
PUZ	**Puketiti**	**8.56 196**		*eP*	**P**	**19 55 15.7**	**-0.2**
MARZ	**Manawahe**	**8.95 204**		PN	**P**	**19 55 24.4**	**+3.2**
MARZ	**Manawahe**	**8.95 204**		P	**P**	**19 55 24.2**	**+3.0**
MWZ	**Matawai**	**9.00 199**		PN	**P**	**19 55 21.5**	**-0.3**
MWZ				SN	**S**	**19 57 04.2**	**+2.6**
MWZ	**Matawai**	**9.00 199**		*eP*	**P**	**19 55 21.5**	**-0.2**
EDRZ	**Edgecumbe**	**9.04 203**		PN	**P**	**19 55 24.5**	**+2.2**
EDRZ	**Edgecumbe**	**9.04 203**		P	**P**	**19 55 26.0**	**+3.7**
URZ	**Urewera**	**9.05 201**		P	**P**	**19 55 21.7**	**-0.8**
	17nm,0.3s,baz=315,slow=3.2,SNR=47						
URZ				S	**S**	**19 57 05.3**	**+2.3**
	42nm,0.3s,baz=129,slow=23,SNR=13						
URZ	**Urewera**	**9.05 201**		PN	**P**	**19 55 22.0**	**-0.5**
URZ				SN	**S**	**19 57 04.5**	**+1.6**
URZ	**Urewera**	**9.05 201**		*eP*	**P**	**19 55 22.6**	**+0.1**
LIRZ	**Lichensteins R**	**9.07 205**		PN	**P**	**19 55 25.7**	**+3.0**
LIRZ	**Lichensteins R**	**9.07 205**		P	**P**	**19 55 27.8**	**+5.0**
TAZ	**Tarawera**	**9.23 204**		PN	**P**	**19 55 27.5**	**+2.6**
TAZ	**Tarawera**	**9.23 204**		P	**P**	**19 55 27.5**	**+2.7**
UTU	**Utuhina**	**9.30 206**		PN	**P**	**19 55 29.9**	**+4.2**
UTU	**Utuhina**	**9.30 206**		P	**P**	**19 55 29.9**	**+4.2**
PATZ	**Paeroa**	**9.45 205**		PN	**P**	**19 55 27.1**	**-0.7**
PATZ	**Paeroa**	**9.45 205**		P	**P**	**19 55 27.2**	**-0.6**
KNZ	**Kokohu**	**9.60 197**		PN	**P**	**19 55 27.7**	**-2.0**
KNZ				SN	**S**	**19 57 15.0**	**-1.0**
KNZ	**Kokohu**	**9.60 197**		*eP*	**P**	**19 55 27.7**	**-2.0**
BKZ	**Black Stump Fm**	**10.08 202**		PN	**P**	**19 55 34.4**	**-1.6**
BKZ				SN	**S**	**19 57 29.5**	**+2.2**
BKZ	**Black Stump Fm**	**10.08 202**		*eP*	**P**	**19 55 34.4**	**-1.6**
HIZ	**Hauiti**	**10.13 210**		PN	**P**	**19 55 40.4**	**+3.7**
HIZ	**Hauiti**	**10.13 210**		P	**P**	**19 55 40.9**	**+4.2**
KRVZ	**Karewarewa**	**10.31 205**		PN	**P**	**19 55 40.4**	**+1.3**
NGZ	**Ngauruhoe**	**10.39 205**		PN	**P**	**19 55 39.8**	**-0.4**
NGZ	**Ngauruhoe**	**10.39 205**		P	**P**	**19 55 39.9**	**-0.3**
CNZ	**Chateau**	**10.43 205**		PN	**P**	**19 55 39.9**	**-0.8**
TUVZ	**Tukino**	**10.46 205**		PN	**P**	**19 55 40.2**	**-0.8**
TUVZ				SN	**S**	**19 57 38.6**	**+2.4**
WNVZ	**Wahianoa**	**10.53 205**		PN	**P**	**19 55 41.2**	**-0.7**
WNVZ	**Wahianoa**	**10.53 205**		P	**P**	**19 55 41.3**	**-0.7**
MOVZ	**Moawhango**	**10.54 204**		PN	**P**	**19 55 40.0**	**-2.2**
MOVZ	**Moawhango**	**10.54 204**		P	**P**	**19 55 40.5**	**-1.7**
RAEZ	**Rainy Point**	**10.97 209**		PN	**P**	**19 55 53.0**	**+5.2**
RAEZ	**Rainy Point**	**10.97 209**		P	**P**	**19 55 55.0**	**+7.2**
TSZ	**Takapari Road**	**11.06 202**		PN	**P**	**19 55 45.7**	**-3.2**
TSZ	**Takapari Road**	**11.06 202**		*eP*	**P**	**19 55 46.4**	**-2.6**
PKE	**Pukeiti**	**11.07 211**		PN	**P**	**19 55 54.3**	**+5.2**
PKE	**Pukeiti**	**11.07 211**		P	**P**	**19 55 54.3**	**+5.2**
NEZ	**North Egmont**	**11.09 210**		PN	**P**	**19 55 54.4**	**+5.1**
NEZ	**North Egmont**	**11.09 210**		P	**P**	**19 55 54.4**	**+5.1**
WAZ	**Wanganui**	**11.13 206**		PN	**P**	**19 55 52.9**	**+3.0**
WAZ	**Wanganui**	**11.13 206**		P	**P**	**19 55 52.9**	**+3.0**
BFZ	**Birch Farm**	**11.54 199**		PN	**P**	**19 55 52.0**	**-3.3**
BFZ	**Birch Farm**	**11.54 199**		*eP*	**P**	**19 55 52.0**	**-3.3**
MRZ	**Mangatainoka R**	**11.73 202**		PN	**P**	**19 55 51.5**	**-6.3**
MRZ	**Mangatainoka R**	**11.73 202**		P	**P**	**19 55 51.5**	**-6.2**
KIW	**Kapiti Island**	**12.13 204**		PN	**P**	**19 55 59.7**	**-3.3**
KIW	**Kapiti Island**	**12.13 204**		P	**P**	**19 55 59.7**	**-3.3**
MTW	**Mount Morrison**	**12.20 201**		PN	**P**	**19 55 59.9**	**-4.0**
MTW	**Mount Morrison**	**12.20 201**		P	**P**	**19 56 00.4**	**-3.5**
CAW	**Cannon Point**	**12.30 203**		PN	**P**	**19 56 01.2**	**-4.0**
CAW	**Cannon Point**	**12.30 203**		P	**P**	**19 56 01.5**	**-3.7**
TRWZ	**Traveller**	**12.37 200**		PN	**P**	**19 56 02.0**	**-4.0**
DUWZ	**D'Urville Isla**	**12.45 207**		PN	**P**	**19 56 04.6**	**-2.5**
MSWZ	**Moikau Station**	**12.51 201**		PN	**P**	**19 56 03.8**	**-4.2**
MSWZ	**Moikau Station**	**12.51 201**		P	**P**	**19 56 03.8**	**-4.2**
MRW	**Makara Radio**	**12.53 203**		PN	**P**	**19 56 05.6**	**-2.6**
MRW	**Makara Radio**	**12.53 203**		P	**P**	**19 56 05.6**	**-2.6**
SNZO	**South Karori**	**12.60 203**		PN	**P**	**19 56 05.4**	**-3.7**
SNZO	**South Karori**	**12.60 203**		*eP*	**P**	**19 56 08.5**	**-0.7**
BHW	**Baring Head**	**12.63 203**		PN	**P**	**19 56 04.9**	**-4.6**
BHW	**Baring Head**	**12.63 203**		P	**P**	**19 56 04.9**	**-4.6**
TUWZ	**Tuamarina**	**12.98 205**		PN	**P**	**19 56 10.5**	**-3.5**
NNZ	**Nelson**	**13.01 207**		PN	**P**	**19 56 11.4**	**-3.1**
NNZ	**Nelson**	**13.01 207**		*eP*	**P**	**19 56 11.4**	**-3.1**
QRZ	**Quartz Range**	**13.05 211**		PN	**P**	**19 56 14.2**	**-0.7**
QRZ	**Quartz Range**	**13.05 211**		*eP*	**P**	**19 56 14.2**	**-0.7**
BSWZ	**Blackbirch Sta**	**13.25 205**		PN	**P**	**19 56 14.5**	**-3.0**
BSWZ	**Blackbirch Sta**	**13.25 205**		P	**P**	**19 56 14.5**	**-3.0**
THZ	**Tophouse**	**13.66 207**		PN	**P**	**19 56 19.8**	**-3.0**
THZ	**Tophouse**	**13.66 207**		*eP*	**P**	**19 56 19.8**	**-3.0**
KHZ	**Kahutara**	**13.98 204**		PN	**P**	**19 56 23.2**	**-3.6**
KHZ	**Kahutara**	**13.98 204**		*eP*	**P**	**19 56 23.2**	**-3.7**
DSZ	**Denniston Nort**	**14.11 210**		PN	**P**	**19 56 27.7**	**-0.8**
DSZ	**Denniston Nort**	**14.11 210**		*eP*	**P**	**19 56 27.7**	**-0.8**
LTZ	**Lake Taylor**	**14.78 207**		PN	**P**	**19 56 33.7**	**-3.2**
LTZ	**Lake Taylor**	**14.78 207**		*eP*	**P**	**19 56 33.7**	**-3.2**
DZM	**Mont Dzumac**	**15.43 297**		*eP*	**P**	**19 56 54.9**	**+10**
DZM	**Mont Dzumac**	**15.43 297**		P	**P**	**19 56 55.1**	**+10**
	2.6nm,0.3s,baz=141,slow=16,SNR=24						
DZM				LR	LR	20 01 34.6	
	comp=Z,256nm,19.6s,baz=211,slow=32						
MQZ	**McQueen's Vall**	**15.43 204**		PN	**P**	**19 56 42.5**	**-2.6**
MQZ	**McQueen's Vall**	**15.43 204**		*eP*	**P**	**19 56 42.5**	**-2.6**
WVZ	**Waitaha Valley**	**15.65 210**		PN	**P**	**19 56 45.8**	**-2.1**
WVZ	**Waitaha Valley**	**15.65 210**		*eP*	**P**	**19 56 45.8**	**-2.1**
RPZ	**Rata Peaks**	**16.04 208**		P	**P**	**19 56 51.3**	**-1.4**
	8.7nm,0.3s,baz=338,slow=2.5,SNR=25						
RPZ				S	**S**	**19 59 42.1**	**-3.8**
	4.5nm,0.3s,baz=331,slow=20,SNR=8.9						
RPZ	**Rata Peaks**	**16.04 208**		PN	**P**	**19 56 50.7**	**-2.1**
RPZ	**Rata Peaks**	**16.04 208**		*eP*	**P**	**19 56 50.7**	**-2.1**
FOZ	**Fox Glacier**	**16.50 211**		PN	**P**	**19 56 56.1**	**-2.3**
FOZ	**Fox Glacier**	**16.50 211**		*eP*	**P**	**19 56 56.1**	**-2.3**
LBZ	**Lake Benmore**	**16.95 208**		PN	**P**	**19 57 03.7**	**-0.2**
LBZ	**Lake Benmore**	**16.95 208**		*eP*	**P**	**19 57 03.7**	**-0.2**
AFI	**Afiamalu**	**17.13 23**		P	**P**	**19 56 57.4**	**-8.9**
	7.3nm,0.3s,baz=166,slow=6.3,SNR=8.2						
AFI				S	**S**	**19 59 52.1**	**-18**
	3.8nm,0.3s,baz=66,slow=22,SNR=6.8						
ODZ	**Otahua Downs**	**17.32 206**		PN	**P**	**19 57 06.7**	**-1.6**
ODZ	**Otahua Downs**	**17.32 206**		*eP*	**P**	**19 57 06.7**	**-1.7**
JCZ	**Jackson Bay**	**17.32 212**		PN	**P**	**19 57 08.1**	**-0.3**
JCZ	**Jackson Bay**	**17.32 212**		*eP*	**P**	**19 57 08.1**	**-0.3**
WKZ	**Wanaka**	**17.80 210**		PN	**P**	**19 57 12.5**	**-1.6**
WKZ	**Wanaka**	**17.80 210**		*eP*	**P**	**19 57 12.5**	**-1.6**
EAZ	**Earnscleugh**	**18.00 208**		PN	**P**	**19 57 17.0**	**+0.7**
EAZ	**Earnscleugh**	**18.00 208**		*eP*	**P**	**19 57 17.0**	**+0.6**
TUZ	**Tuapeka**	**18.47 206**		PN	**P**	**19 57 22.3**	**+0.9**
ARMA	**Armidale**	**25.62 261**		*eP*	**P**	**19 58 21.1**	**-11**
HNR	**Honiara**	**28.48 311**		LR	LR	20 07 59.2	
	comp=Z,40nm,21.2s,baz=148,slow=31						
TAU	**Tasmania Unive**	**30.06 235**		*eP*	**P**	**19 59 18.2**	**+6.2**
	6.7nm,0.6s,mb4.5						
TAU	**Tasmania Unive**	**30.06 235**		*eP*	**P**	**19 59 18.2**	**+6.2**
TAU				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.6						
CTA	**Charters Tower**	**33.10 279**		*eP*	**P**	**19 59 43.3**	**+4.7**
	comp=Z,8.5nm,0.7s,mb4.6						
CTA	**Charters Tower**	**33.10 279**		P	**P**	**19 59 43.4**	**+4.8**
	comp=Z,11nm,0.6s,mb4.8,baz=100,slow=10,SNR=27						
CTA	**Charters Tower**	**33.10 279**		*eP*	**P**	**19 59 43.3**	**+4.7**
CTA				pmax	pmax		
	comp=Z,9.0nm,0.7s						
CTAO	**Charters Tower**	**33.10 279**		*eP*	**P**	**19 59 43.5**	**+4.8**
	comp=Z,11nm,0.7s,mb4.7						
CTAO	**Charters Tower**	**33.10 279**		*eP*	**P**	**19 59 43.5**	**+4.9**
CTAO				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.7						
STKA	**Stephens Creek**	**33.99 256**		*eP*	**P**	**19 59 52.3**	**+6.2**
	comp=Z,15nm,0.8s,mb4.8						
STKA	**Stephens Creek**	**33.99 256**		P	**P**	**19 59 51.3**	**+5.1**
	comp=Z,17nm,0.7s,mb4.9,baz=90,slow=8.7,SNR=18						
STKA	**Stephens Creek**	**33.99 256**		*eP*	**P**	**19 59 52.3**	**+6.2**
STKA	**Stephens Creek**	**33.99 256**		P	sP	20 00 32.3	-1.0
WRAB	**Tennant Creek**	**43.45 272**		*eP*	**P**	**20 01 08.2**	**+3.4**
	comp=Z,16nm,0.4s,mb5.0						
WRAB	**Tennant Creek**	**43.45 272**		*eP*	Px	20 02 04.5	
	comp=Z,7.9nm,0.3s						
WRAB	**Tennant Creek**	**43.45 272**	⇑	*eP*	**P**	**20 01 09.6**	**+4.9**
WRA	**Warramunga Arr**	**43.45 272**		P	**P**	**20 01 08.0**	**+3.2**
	comp=Z,10nm,0.3s,mb4.9,baz=112,slow=6.2,SNR=220						
WRA				ScP		20 06 28.1	
	comp=Z,1.9nm,0.7s,baz=104,slow=3.8,SNR=6.5						
WRA				S	**S**	**20 07 22.1**	**+0.2**
	comp=Z,4.0nm,0.8s,baz=108,slow=14,SNR=8.4						
WRA	**Warramunga Arr**	**43.45 272**		P	**P**	**20 01 08.0**	**+3.2**
WRA				S	**S**	**20 07 22.1**	**+0.1**
VNDA	**Vanda**	**48.56 186**		P	**P**	**20 01 49.0**	**+4.7**
	comp=Z,7.1nm,0.6s,mb4.5,baz=42,slow=14,SNR=6.7						
VNDA				LR	LR	20 19 33.4	
	comp=Z,59nm,19.0s,baz=124,slow=32						
FITZ	**Fitzroy Crossi**	**51.74 270**		*eP*	**P**	**20 02 12.5**	**+3.3**
	comp=Z,13nm,0.9s,mb4.5						
FITZ				*i*		20 02 52.9	
KLBR	**Kellerberrin**	**53.93 251**		*eP*	**P**	**20 02 27.0**	**+1.8**
	comp=Z,37nm,1.5s,mb4.9						
MUN	**Mundaring**	**55.09 250**		*eP*	**P**	**20 02 35.7**	**+2.0**
CASY	**Casey**	**55.31 208**		*eP*	**P**	**20 02 36.5**	**+1.7**
	comp=Z,47nm,0.7s,mb5.3						
QSPA	**South Pole Qui**	**60.24 180**	⇓	*iP*	**P**	**20 03 12.2**	**+3.1**
	comp=Z,76nm,1.1s,mb5.4						
QSPA				PcP	PcP	20 03 53.0	+0.3
MIR	**Mirnyy**	**62.31 207**		*c iP*	**P**	**20 03 25.2**	**+2.0**
MIR				pmax	pmax		
	comp=Z,39nm,1.2s,mb5.1						
**

HWUT Hardware Ranch 94.30 44 P P 20 06 17.8 -0.5
LVC Limon Verde 94.73 119 P P 20 06 22.3 +1.5
comp=Z,3.8nm,0.8s,mb4.7,baz=287,slow=3.5,SNR=5.1
PDAR Pinedale Array 96.18 44 P P 20 06 26.1 -0.7
comp=Z,1.5nm,0.8s,mb4.4,baz=197,slow=2.5,SNR=9.5
LPAZ La Paz 98.93 114 P P 20 06 40.6 +0.7
comp=Z,1.2nm,0.7s,mb4.5,baz=257,slow=3.9,SNR=6.7
SONM Songino Array 102.33 318 PKKPbc 20 22 55.7
comp=Z,0.8nm,0.8s,baz=346,slow=3.3,SNR=5.7
MKAR Makanchi Array 116.96 310 PKP PKPdf 20 11 42.0 +0.2
comp=Z,1.0nm,0.5s,baz=175,slow=0.7,SNR=18
MKAR PKKPbc 20 22 09.4
comp=Z,0.8nm,0.8s,baz=270,slow=2.9,SNR=6.1
NVS Novosibirsk 118.33 319 *e*PKIKP PKPdf 20 11 43.8 -0.4
NVS pmax pmax
comp=Z,5.0nm,1.1s
NVS pmax pmax
comp=N,5.0nm,1.5s
KURK Kurchatov 120.23 314 *i*PKIKP PKPdf 20 11 47.4 -0.6
AAK Ala-Archa 121.30 304⇑*i*PKIKP PKPdf 20 11 54.7 +4.4
ARU Arti 132.29 321 *e*PKPdf PKPdf 20 12 12.4 +1.4
ARU Arti 132.29 321⇓*i*PKIKP PKPdf 20 12 12.0 +1.0
ARCES ARCESS Array B 137.94 348 PKhKP 20 12 13.3
ARCES PKP PKPdf 20 12 20.0 -1.1
comp=N,4.0nm,0.7s,SNR=8.8
ARCES ARCESS Array B 137.94 348 PKP PKPdf 20 12 13.3 -7.8
ARCES PKP PKPdf 20 12 20.0 -1.1
JOF Joensuu 141.70 338 *e*pkp PKPdf 20 12 30.5 +2.6
KAF Kangasniemi 143.84 340 *e*pkp PKPdf 20 12 29.8 -1.8
baz=40,slow=3.3
OBN Obninsk 144.38 325 *e*PKPdf PKPdf 20 12 32.5 -0.2
OBN Obninsk 144.38 325 *d*iPKIKP PKPdf 20 12 32.6 -0.2
OBN *e**PP 20 13 14.2
OBN *e* 20 19 10.6
OBN pmax pmax
comp=Z,16nm,0.9s
KIV Kislovodsk 144.41 305⇑*i*PKIKP PKPdf 20 12 50.8 +18
KIV *e* 20 19 06.1
KIV pmax pmax
comp=Z,11nm,1.0s
FINES FINESS Array B 144.44 340 PKP PKPdf 20 12 32.3 -0.4
comp=Z,9.4nm,0.5s,baz=52,slow=4.5,SNR=152
VSU Vasula 146.49 336 *d*iPKP2 PKPab 20 12 39.0 -2.4
NB2 NORSAR Subarra 148.13 351 PKPabc PKPdf 20 12 43.1 +4.2
comp=Z,15nm,0.9s,baz=13,slow=2.8
NOA NORSAR Array B 148.13 351 PKPbc PKPdf 20 12 42.4 +3.5
comp=Z,12nm,0.8s,baz=15,slow=4.3,SNR=48
NOA NORSAR Array B 148.13 351 PKPbc PKPdf 20 12 42.4 +3.5
HFS Hagfors 148.60 348 PKPbc PKPdf 20 12 43.7 +4.0
comp=Z,16nm,0.7s,SNR=38
KONO Kongsberg 149.69 352 *e*PKPbc PKPdf 20 12 46.9 +5.6
KONO Kongsberg 149.69 352⇓*i*PKHKP 20 12 45.2
AKASG Malin Array Be 150.50 323 PKPbc PKPdf 20 12 49.6 +6.8
comp=Z,16nm,0.7s,baz=46,slow=2.6,SNR=58
SUW Suwalki 151.12 333 *e*PKPbc PKPdf 20 12 50.9 +7.2
BRTR Keskin Array B 151.80 299 PKPbc PKPdf 20 12 53.2 +8.1
comp=Z,2.6nm,0.5s,baz=126,slow=4.1,SNR=12
CSS Prodhromos 152.54 289 *e*PKPbc PKPdf 20 12 55.6 +9.2
EKA Eskdalemuir Ar 154.35 6 PKPab PKPab 20 13 12.2 -1.6
comp=Z,3.8nm,0.9s,baz=322,slow=2.2,SNR=6.4
DBIC Dimbokro 156.21 165 PKP PKPdf 20 12 52.4 +0.5
comp=Z,3.6nm,0.8s,baz=151,slow=3.0,SNR=6.6
DBIC PKPab PKPab 20 13 22.6 -0.4
comp=Z,7.0nm,0.8s,baz=168,slow=5.5,SNR=6.5
KHC Kasperske Hory 158.60 337 *e*P PKPab 20 13 31.5 -0.8
GERES GERESS Array B 158.81 337 PKP PKPdf 20 12 54.8 +0.6
comp=Z,0.6nm,0.8s,baz=45,slow=1.9,SNR=6.6
GERES PKPab PKPab 20 13 31.6 -1.6
comp=Z,0.7nm,0.7s,baz=18,slow=4.2,SNR=5.5
GRF Grafenberg Arr 158.82 342 *e*PKP2 PKPab 20 13 32.7 -0.5

JMA 20 20:00:55.5±0.3, 31.67N×141.17E, M3.5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.84**	**322**	P	Pn	20 01 28.8	+0.2
JHJ2				*e*S	Sn	20 01 53.2	+0.3
BSO1	**Boso 1**	**2.98**	**357**	P	Pn	20 01 46.5	+1.6
JIM2	**Oshima 3**	**3.37**	**335**	P	Pn	20 01 50.6	+0.1
JRY	**Ryogami san**	**4.73**	**337**	P	Pn	20 02 10.6	+0.8

*IDC **20** 21:46:33.2±1.2, 32.85N×71.26E, mb3.8/9, mb1 4.0/10, mb1mx3.8/21, mbtmp3.8/10, ML2.8/1, Error ellipse: s-maj=29.7km s-min=20.5km az=10.0*
*NEIC **20** 21:46:34.3±0.8, 32.83N×71.38E, h10km, mb3.6/1, Error ellipse: s-maj=16.0km s-min=8.5km az=220.0*
*MOS **20** 21:46:35.8±1.6, 32.85N×71.42E, h33km, mb4.5/1, Error ellipse: s-maj=15.7km s-min=12.0km az=88.0*
*NDI **20** 21:46:38.4±6.9, 32.67N×71.52E, h10km, ML3.8, mb3.6(NEIC)*
*NNC **20** 21:46:41.8±5.0, 33.07N×70.73E, h70km±40km, Error ellipse: s-maj=53.8km s-min=37.4km az=98.0*
*BJI **20** 21:46:43.4, 33.70N×71.50E, h10km, mb4.2, ML3.9*
ISC 20 21:46:31.7±1.9, 32.88N±0.04×71.45E±0.07, h2km±14km, n43, σ1°39/49, mb3.7/8, 2C-1D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKR	**Kurukshetra**	**5.43**	**121**	*e*P	Pn	21 47 56.4	+0.7
KKR				*i* x	x	21 49 13.2	
JASL	**Jaisalmer**	**5.96**	**185**	*e*P	Pn	21 48 02.7	-0.3
KUDL	**Kundal**	**6.42**	**136**	*e*P	Pn	21 48 10.4	+0.9
KUDL				*i* x	x	21 49 39.6	
NDI	**New Delhi**	**6.49**	**129**	*e*P	Pn	21 48 07.0	-3.5
NDI				*e*P		21 48 13.5	
NDI				*e*S	Sn	21 49 18.8	-7.3
NDI				*e*S	Sn	21 49 19.5	-6.5
NDI				AML	AML	21 50 17.9	
	comp=E,38nm,0.5s						
NDI				AML	AML	21 50 18.2	
	comp=N,35nm,0.7s						
SONA	**Sohna**	**6.70**	**132**	*e*P	Pn	21 48 15.5	+2.0
SONA				*e*x	x	21 50 03.6	
SONA				AML	AML	21 50 23.0	
	comp=E,158nm,1.3s						
SONA				AML	AML	21 50 24.4	
	comp=N,92nm,1.2s						
KSH	**Kashi**	**7.56**	**28**	*e*PG	Pb	21 48 41.3	-2.3
KSH				Smax			
	comp=N,20nm,0.8s						
KSH				Smax			
	comp=E,40nm,1.0s						
AGRA	**Agra**	**7.96**	**133**	*e*P	Pn	21 48 32.1	+0.9
AGRA				*e*x	x	21 50 33.2	
AGRA				AML	AML	21 51 04.3	
	comp=N,38nm,0.2s						
AGRA				AML	AML	21 51 04.5	
	comp=E,78nm,0.5s						
AAK	**Ala-Archa**	**10.03**	**13**	⇑P	P	21 49 02.0	+2.2
	comp=E,11nm,1.1s						
AAK				⇑S	S	21 50 55.3	+1.2
	comp=E,14nm,1.3s						
AAK	**Ala-Archa**	**10.03**	**13**	*e*Pn	P	21 49 00.6	+0.9
	comp=E,9.9nm,1.1s						
AAK	**Ala-Archa**	**10.03**	**13**	*e*P	P	21 49 00.6	+0.8
AAK				pmax	pmax		
	comp=Z,10.0nm,1.1s						
KK31	**Karatay Array**	**10.23**	**356**	P	P	21 49 03.6	+1.0
	comp=Z,1.5nm,0.8s,baz=198,slow=15,SNR=8.6						
KK31				⇓S	S	21 50 53.3	-5.7
	comp=Z,9.0nm,1.3s						
BHPL	**Bhopal**	**10.95**	**150**	*e*P	P	21 49 12.9	+0.4
BHPL				*e*x	x	21 52 03.8	
KOLN	**Koldanda**	**11.66**	**113**	*e*P	P	21 49 22.0	-0.2
	comp=Z,49nm,1.4s						
KOLN				*e*S	S	21 51 33.3	-0.8
GKN	**Gorkha**	**12.37**	**110**	*e*P	P	21 49 31.3	-0.4
DMN	**Daman**	**12.92**	**110**	*e*P	P	21 49 37.0	-2.0
	comp=Z,42nm,1.2s						
KKN	**Kakani**	**12.97**	**109**	*e*P	P	21 49 39.4	-0.4
	comp=Z,6.8nm,0.2s						
KKN				*e*S	S	21 52 03.3	-2.6
KKN	**Kakani**	**12.97**	**109**	*e*P	P	21 49 39.4	-0.4
KKN				*e*S	S	21 52 03.3	-2.6
KKN				pmax	pmax		
	comp=Z,3.0nm,0.2s						
PKI	**Pulchoki**	**13.17**	**110**	*e*P	P	21 49 41.4	-1.0
	comp=Z,28nm,0.9s						
PKI	**Pulchoki**	**13.17**	**110**	*e*P	P	21 49 41.4	-1.0
PKI				pmax	pmax		
	comp=Z,14nm,0.9s						
POO	**Poona**	**14.45**	**171**	*e*x	x	21 51 20.0	
POO				*e*x	x	21 54 37.0	
MK31	**Makanchi Array**	**16.17**	**28**	P	P	21 50 26.2	+4.7
	comp=Z,2.8nm,0.8s,baz=237,slow=15,SNR=12						
MKAR	**Makanchi Array**	**16.17**	**28**	Pn	P	21 50 21.5	-0.1
	comp=Z,0.0nm,0.3s,baz=219,slow=16,SNR=12						
WMQ	**Urumqi**	**16.75**	**45**	*e*P	P	21 50 36.0	+7.1
WMQ				AMB	AMB		
	comp=Z,11nm,1.0s						
AB31	**Akbulak array**	**18.48**	**336**	P	P	21 50 47.7	-2.8
	comp=Z,1.6nm,1.0s,baz=147,slow=11,SNR=8.2						
KURK	**Kurchatov**	**18.59**	**14**	P	P	21 50 52.3	+0.5
KURK	**Kurchatov**	**18.59**	**14**	*e*Pn	P	21 50 51.0	-0.8
	comp=Z,4.6nm,1.0s						
KURK	**Kurchatov**	**18.59**	**14**	*e*P	P	21 50 51.0	-0.8
KURK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
SHL	**Shillong**	**19.25**	**107**	*e*P	P	21 51 02.5	+2.6
VOSK	**Vostochnaya**	**19.83**	**359**	P	P	21 51 05.0	-1.4
BVAR	**Borovoye Array**	**20.15**	**358**	P	P	21 51 08.1	-1.7
	comp=Z,1.9nm,0.7s,baz=220,slow=37,SNR=7.0						
BVAR	**Borovoye Array**	**20.15**	**358**	P	P	21 51 08.1	-1.7
GNI	**Garni**	**22.61**	**296**	P	P	21 51 35.5	+0.7
	comp=Z,4.6nm,0.8s,mb4.0,baz=238,slow=2.3,SNR=4.5						
ZAL	**Zalesovo**	**23.09**	**20**	P	P	21 51 40.2	+0.7
	comp=Z,4.2nm,0.9s,mb3.9,baz=262,slow=10,SNR=12						
ZAL	**Zalesovo**	**23.09**	**20**	P	P	21 51 40.2	+0.7
NVS	**Novosibirsk**	**23.47**	**17**	*e*P	P	21 51 37.8	-5.4
NVS				*e*		21 55 57.1	
GTA	**Gaotai**	**23.75**	**66**	P	P	21 51 52.4	+6.4
GTA				AP		21 51 59.8	
GTA				XP		21 52 04.3	
SONM	**Songino Array**	**30.23**	**50**	P	P	21 52 48.1	+2.3
	comp=Z,0.7nm,0.7s,mb3.5,baz=239,slow=8.6,SNR=5.7						
BRTR	**Keskin Array B**	**31.06**	**294**	P	P	21 52 51.4	-1.8
	comp=Z,1.6nm,0.9s,mb3.8,baz=108,slow=7.8,SNR=8.2						
GERES	**GERESS Array B**	**45.39**	**308**	P	P	21 54 52.3	-0.9
	comp=Z,0.3nm,0.7s,mb3.2,baz=124,slow=4.8,SNR=4.3						
MJAR	**Matsushiro Arr**	**54.00**	**66**	P	P	21 56 00.9	+1.5
	comp=Z,1.5nm,0.9s,mb3.9,baz=293,slow=9.3,SNR=5.4						
ILAR	**Eielson Array**	**78.15**	**16**	P	P	21 58 35.6	+2.3
	comp=Z,0.5nm,0.8s,mb3.5,baz=303,slow=4.9,SNR=5.1						
WRA	**Warramunga Arr**	**79.77**	**122**	P	P	21 58 43.4	+0.3
	comp=Z,2.1nm,0.8s,mb4.2,baz=320,slow=5.1,SNR=12						
WRA	**Warramunga Arr**	**79.77**	**122**	P	P	21 58 43.4	+0.3
WRA				pmax	pmax		
	comp=Z,2.0nm,0.8s						

IDC 20 21:47:00.3±1.4, 4.62N×147.86E, mb3.8/7, mb1 4.0/7, mb1mx3.9/15, mbtmp3.8/7, Error ellipse: s-maj=55.9km s-min=22.5km az=98.0, Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.80**	**208**	P	P	21 52 51.7	-1.6
	2.2nm,0.9s,baz=34,slow=10.0,SNR=5.6						
FITZ	**Fitzroy Crossi**	**31.47**	**224**	P	P	21 53 23.0	-3.1
	3.3nm,0.8s,baz=12,slow=14,SNR=2.7						
STKA	**Stephens Creek**	**36.78**	**189**	P	P	21 54 10.4	-1.3
	3.1nm,0.9s,baz=8.7,slow=11,SNR=3.6						
SONM	**Songino Array**	**55.77**	**327**	P	P	21 56 39.8	-1.5
	0.2nm,0.4s,baz=124,slow=5.2,SNR=3.6						
MKAR	**Makanchi Array**	**70.03**	**318**	P	P	21 58 14.3	-1.7
	0.1nm,0.5s,baz=90,slow=5.8,SNR=2.8						
ILAR	**Eielson Array**	**75.45**	**24**	P	P	21 58 46.3	-1.4
	0.3nm,0.7s,baz=243,slow=4.0,SNR=4.2						
BVAR	**Borovoye Array**	**78.79**	**323**	P	P	21 59 03.6	-2.9
	0.4nm,0.8s,baz=104,slow=5.9,SNR=3.0						

*ATH **20** 21:56:10.0, 39.01N×23.45E, h21km±2km, MD3.0/9, ML3.0*
*NEIC **20** 21:56:10.0, 39.01N×23.45E, h21km, ML3.0(ATH), After ATH.*
*CSEM **20** 21:56:10.6±0.1, 38.96N×23.36E, h2km, ML3.0, Error ellipse: s-maj=2.1km s-min=1.5km az=74.0*
*THE **20** 21:56:11.1, 39.00N×23.31E, h7km, ML3.0*
ISC 20 21:56:09.5±0.6, 38.97N±0.02×23.33E±0.03, h6km±4km, n24, σ0°85/39, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.35**	**346**	*e*PB	Pb	21 56 17.4	-0.3
LKR	**Lokris**	**0.41**	**220**	*e*Pn	Pn	21 56 20.0	-1.5
XOR	**Xorichti**	**0.41**	**345**	*e*Pg	Pg	21 56 18.6	+0.7
XOR				*e*Sg	Sg	21 56 24.5	+1.1
AOS	**Alonnisos**	**0.47**	**64**	*e*Pg	Pg	21 56 19.4	+0.3
AOS				*e*Sg	Sg	21 56 26.8	+1.5
AGG	**Agios Georgios**	**0.78**	**274**	*e*Pg	Pg	21 56 24.9	-0.4
AGG				*e*Sg	Sg	21 56 36.8	+1.1
MPAR	**Parnis Oros**	**0.87**	**159**	*e*PN	Pn	21 56 27.0	-1.1
MGER	**Gerania Oros**	**0.98**	**183**	*e*PN	Pn	21 56 29.7	0.0
PAIG	**Paliouri**	**1.00**	**15**	*e*Pg	Pg	21 56 29.7	+0.3
PAIG				*e*Sg	Sg	21 56 43.1	+0.4
PTL	**Penteli**	**1.01**	**155**	*e*PN	Pn	21 56 29.0	-1.0
ATH	**Athens Observa**	**1.04**	**163**	*e*PN	Pn	21 56 30.5	0.0
ATH				*e*SN	Sn	21 56 44.9	-0.5
NSAL	**Nisos Salamina**	**1.06**	**174**	*e*PN	Pn	21 56 31.0	+0.2
EVR	**Evrytania**	**1.19**	**268**	*e*PN	Pn	21 56 34.5	+1.9
NAIG	**Nisos Aigina**	**1.21**	**174**	*e*PN	Pn	21 56 33.5	+0.5
LIT	**Litokhoron**	**1.31**	**330**	*e*Pg	Pg	21 56 34.5	-1.1
LIT				*e*Sg	Sg	21 56 52.1	-1.0
OUR	**Ouranopolis**	**1.45**	**20**	*e*Pg	Pg	21 56 36.5	-2.1
OUR				*e*Sg	Sg	21 56 55.8	-2.2
LOS	**Limnos**	**1.66**	**54**	*e*Pb	Pb	21 56 40.1	0.0
LOS				*e*Sb	Sb	21 57 02.3	+1.1
THE	**Thessaloniki**	**1.69**	**350**	*e*Pb	Pb	21 56 39.6	-1.0
THE				*e*Sb	Sb	21 57 01.9	-0.1
RLS	**Riolos of Patr**	**1.72**	**239**	*e*PB	Pb	21 56 42.0	+0.8
GRG	**Griva**	**2.11**	**340**	*e*Pn	Pn	21 56 46.1	+0.2
GRG				*e*Sn	Sn	21 57 12.5	-0.2
SRS	**Serrai**	**2.16**	**5**	*e*Pn	Pn	21 56 46.8	+0.4
SRS				*e*Sn	Sn	21 57 13.8	0.0
KNT	**Kendrikon**	**2.22**	**351**	*e*Pn	Pn	21 56 47.9	+0.6
KNT				*e*Sn	Sn	21 57 15.1	-0.2
FNA	**Florina**	**2.36**	**321**	*e*Pn	Pn	21 56 49.8	+0.4
FNA				*e*Sn	Sn	21 57 18.5	-0.5
IGT	**Igoumenitsa**	**2.40**	**285**	*e*Pn	Pn	21 56 50.6	+0.6
IGT				*e*Sn	Sn	21 57 20.1	+0.2
ALN	**Alexandroupoli**	**2.84**	**46**	*e*Pn	Pn	21 56 56.0	-0.2
ALN				*e*Sn	Sn	21 57 31.8	+0.7

*IDC **20** 21:56:35.9±1.4, 6.30N×93.36E, h43km±6km, mb3.6/10, mb1 3.8/10, mb1mx3.6/19, mbtmp3.8/10, Error ellipse: s-maj=42.0km s-min=24.4km az=51.0*
*NEIC **20** 21:56:35.9±0.7, 6.34N×93.37E, mb4.4/2, Error ellipse: s-maj=32.0km s-min=12.2km az=51.0*
ISC 20 21:56:34.0±1.0, 6.3N±0.2×93.4E±0.2, h43km, h43km±1.4km: pP-P, n17, σ0°60/12, mb3.9/12, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKI	**Pulchoki**	**22.43**	**341**	*e*P		22 01 46.0	
	13nm,0.4s						
DMN	**Daman**	**22.57**	**341**	*e*P		22 01 47.9	
	30nm,0.7s						
KKN	**Kakani**	**22.68**	**341**	*e*P		22 01 48.9	
	17nm,0.7s						
GKN	**Gorkha**	**23.09**	**340**	*e*P		22 01 54.5	
	33nm,0.5s						
KOLN	**Koldanda**	**23.25**	**338**	*e*P		22 01 57.8	
	27nm,0.6s						
MKAR	**Makanchi Array**	**41.42**	**348**	P	P	22 04 18.2	+0.2
	2.8nm,0.8s,mb4.0,baz=168,slow=8.4,SNR=25						
MKAR				pP	pP	22 04 30.5	+0.6
	0.7nm,0.6s,baz=169,slow=8.6,SNR=6.3						
SONM	**Songino Array**	**42.82**	**13**	P	P	22 04 28.7	-0.8
	0.2nm,0.5s,mb3.1,baz=186,slow=14,SNR=2.0						
SONM				pP	pP	22 04 41.2	-0.2
	0.8nm,0.5s,baz=196,slow=8.1,SNR=4.7						
KURK	**Kurchatov**	**45.92**	**347**	*e*P	P	22 04 54.0	-0.3
	2.0nm,0.7s,mb4.2						
ZAL	**Zalesovo**	**47.97**	**353**	P	P	22 05 11.4	+1.0
	1.7nm,0.4s,mb4.4,baz=328,slow=10.0,SNR=9.8						
ZAL				pP	pP	22 05 22.6	+0.1
	2.0nm,0.4s,baz=312,slow=9.1,SNR=5.3						
WRA	**Warramunga Arr**	**48.01**	**124**	P	P	22 05 11.1	-0.1
	1.3nm,0.7s,mb4.1,baz=304,slow=8.9,SNR=7.1						
WRAB	**Tennant Creek**	**48.02**	**124**	P	P	22 05 11.3	+0.1
	3.9nm,0.6s,mb4.6						
BVAR	**Borovoye Array**	**50.20**	**342**	P	P	22 05 27.4	-0.2
	0.9nm,0.8s,mb3.9,baz=146,slow=9.6,SNR=7.5						
BVAR				pP	pP	22 05 40.2	+0.5
	1.2nm,0.9s,baz=143,slow=7.4,SNR=5.2						
BRTR	**Keskin Array B**	**62.86**	**312**	P	P	22 06 56.9	-1.2
	0.6nm,1.0s,mb3.7,baz=117,slow=6.4,SNR=3.4						
FINES	**FINESS Array B**	**73.71**	**332**	P	P	22 08 04.9	-0.2
	1.1nm,0.7s,mb3.9,baz=101,slow=9.7,SNR=5.0						
ARCES	**ARCESS Array B**	**76.45**	**340**	P	P	22 08 21.2	+0.6
	2.3nm,1.0s,mb4.1,baz=90,slow=6.1,SNR=6.4						
GERES	**GERESS Array B**	**78.46**	**318**	P	P	22 08 33.1	+0.9
	0.8nm,0.7s,mb3.7,baz=101,slow=6.8,SNR=9.0						
GERES				pP	pP	22 08 45.2	+0.2
	0.5nm,0.7s,baz=108,slow=4.2,SNR=4.2						
NOA	**NORSAR Array B**	**80.69**	**331**	P	P	22 08 44.0	0.0
	0.2nm,0.6s,mb3.3,baz=106,slow=12,SNR=2.5						

*NEIC **20** 22:06:14.2±1.9, 27.87N×139.97E, h518km±31km, Error ellipse: s-maj=132.0km s-min=19.4km az=82.0*
IDC 20 22:06:14.1±0.9, 27.85N×139.85E, h510km±33km, mb3.2/4, mb1 3.3/6, mb1mx2.8/21, mbtmp4.0/6, Error ellipse: s-maj=95.7km s-min=16.3km az=80.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.21**	**109**	P	P	22 07 23.1	+1.4
	20nm,0.3s,baz=280,slow=18,SNR=17						
CBIJ				S	S	22 08 15.6	+0.4
	51nm,0.3s,baz=258,slow=22,SNR=16						
MJAR	**Matsushiro Arr**	**8.78**	**351**	P	P	22 08 18.8	-1.0
	0.5nm,0.3s,baz=175,slow=11,SNR=7.1						
MJAR	**Matsushiro Arr**	**8.78**	**351**	P	P	22 08 18.8	-1.1
FITZ	**Fitzroy Crossi**	**47.71**	**198**	P	P	22 14 03.8	-1.9
	5.2nm,0.8s,baz=27,slow=4.6,SNR=3.6						
WRA	**Warramunga Arr**	**47.81**	**187**	P	P	22 14 05.1	-1.4
	0.7nm,0.3s,baz=2.5,slow=7.9,SNR=11						
BVAR	**Borovoye Array**	**56.08**	**317**	P	P	22 15 04.3	-1.5
	0.3nm,0.4s,baz=95,slow=7.2,SNR=4.0						
FINES	**FINESS Array B**	**76.35**	**333**	P	P	22 17 09.4	-1.5
	4.4nm,1.2s,baz=72,slow=6.0,SNR=5.3						

WEL 20 23:02:25.1±0.1, 40.33S×176.17E, h54km±1km, ML3.5/5, Error ellipse: s-maj=2.1km s-min=0.5km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSZ	**Takapari Road**	**0.31**	**330**	PN	P	23 02 33.9	-0.9
TSZ				SN	S	23 02 40.4	-1.4
BFZ	**Birch Farm**	**0.35**	**170**	PN	P	23 02 35.6	+0.4
BFZ				SN	S	23 02 43.4	+0.9
MRZ	**Mangatainoka R**	**0.56**	**233**	PN	P	23 02 37.0	-0.3
MRZ				SN	S	23 02 45.7	-0.6
MTW	**Mount Morrison**	**0.97**	**211**	PN	P	23 02 41.8	-0.9
MTW				SN	S	23 02 54.8	-1.0
MOVZ	**Moawhango**	**0.97**	**341**	PN	P	23 02 42.1	-0.7
MOVZ				SN	S	23 02 54.4	-1.5
WAZ	**Wanganui**	**1.07**	**302**	PN	P	23 02 44.2	0.0
WAZ				SN	S	23 02 58.0	-0.3
MTVZ	**Mangateitei**	**1.08**	**330**	PN	P	23 02 44.0	-0.4
MTVZ				SN	S	23 02 58.3	-0.2
WNVZ	**Wahianoa**	**1.09**	**336**	PN	P	23 02 44.1	-0.3
KIW	**Kapiti Island**	**1.09**	**241**	PN	P	23 02 43.6	-0.8
KIW				SN	S	23 02 57.7	-1.1
TRWZ	**Traveller**	**1.13**	**199**	PN	P	23 02 44.2	-0.7
TUVZ	**Tukino**	**1.13**	**339**	PN	P	23 02 44.7	-0.2
TRVZ	**Turoa**	**1.13**	**335**	PN	P	23 02 44.8	-0.1
CAW	**Cannon Point**	**1.14**	**227**	PN	P	23 02 44.0	-1.1
CAW				SN	S	23 02 58.8	-1.1
DRZ	**Dome Shelter**	**1.15**	**336**	PN	P	23 02 45.2	+0.1
FWVZ	**Far West T-bar**	**1.17**	**336**	PN	P	23 02 44.9	-0.6
BKZ	**Black Stump Fm**	**1.19**	**12**	PN	P	23 02 44.5	-1.2
BKZ				SN	S	23 02 59.6	-1.5
PAWZ	**Paruwai Farm**	**1.19**	**208**	PN	P	23 02 44.6	-1.1
PAWZ				SN	S	23 03 00.4	-0.8
PKVZ	**Pokaka**	**1.22**	**328**	PN	P	23 02 45.7	-0.4
WPVZ	**Whakapapa**	**1.22**	**337**	PN	P	23 02 45.9	-0.3
CNZ	**Chateau**	**1.23**	**337**	PN	P	23 02 45.9	-0.3
OTVZ	**Oturere**	**1.23**	**341**	PN	P	23 02 45.8	-0.4
NGZ	**Ngauruhoe**	**1.23**	**339**	PN	P	23 02 45.9	-0.4
MSWZ	**Moikau Station**	**1.29**	**212**	PN	P	23 02 45.6	-1.6
MSWZ				SN	S	23 03 01.9	-1.7
WTVZ	**West Tongariro**	**1.29**	**340**	PN	P	23 02 46.6	-0.6
KRVZ	**Karewarewa**	**1.30**	**342**	PN	P	23 02 46.7	-0.6
RITZ	**Rihia Road**	**1.37**	**350**	PN	P	23 02 47.7	-0.7
TWVZ	**Taurewa**	**1.38**	**336**	PN	P	23 02 47.5	-1.0
KATZ	**Kakaramea**	**1.40**	**345**	PN	P	23 02 48.0	-0.8
WEL	**Wellington**	**1.43**	**228**	PN	P	23 02 47.5	-1.7
MRW	**Makara Radio**	**1.43**	**231**	PN	P	23 02 47.5	-1.7
HATZ	**Hinemaiaia**	**1.44**	**358**	PN	P	23 02 48.0	-1.4
BHW	**Baring Head**	**1.46**	**222**	PN	P	23 02 47.7	-1.9
SNZO	**South Karori**	**1.48**	**228**	PN	P	23 02 48.1	-1.8
RATZ	**Rangitukua**	**1.49**	**348**	PN	P	23 02 49.2	-0.9
VRZ	**Vera Road**	**1.62**	**318**	PN	P	23 02 48.5	-3.4
WATZ	**Wairara**	**1.65**	**348**	PN	P	23 02 50.9	-1.4
TCW	**Tory Channel**	**1.68**	**238**	PN	P	23 02 50.9	-1.8
RAEZ	**Rainy Point**	**1.72**	**307**	PN	P	23 02 53.2	+0.1
KNZ	**Kokohu**	**1.75**	**42**	PN	P	23 02 51.6	-2.0
DUWZ	**D'Urville Isla**	**1.77**	**254**	PN	P	23 02 52.2	-1.8
DFE	**Dawson Falls**	**1.88**	**302**	PN	P	23 02 53.2	-2.2
NEZ	**North Egmont**	**1.91**	**303**	PN	P	23 02 55.5	-0.4

SIV			Lg			23 12 39.5	
	1.4nm,0.3s,baz=45,slow=19,SNR=3.7						
SDV	**Santo Domingo**	**17.40**	**20**	P	**P**	**23 07 32.9**	**+1.1**
	2.9nm,0.3s,baz=211,slow=6.9,SNR=12						
SDV				S	**S**	**23 10 52.3**	**+10**
	0.9nm,0.3s,baz=320,slow=14,SNR=2.3						
SDV				Lg		23 12 54.7	
	0.6nm,0.3s,baz=276,slow=18,SNR=2.5						
SDV	**Santo Domingo**	**17.40**	**20**	*e*P	**P**	**23 07 34.6**	**+2.8**
	12nm,0.6s						
ZON	**Zonda**	**24.92**	**164**	⇓*i*P	**P**	**23 09 01.6**	**+10**
CFAA	**Coronel Fontan**	**25.10**	**163**	P	**P**	**23 08 53.5**	**+0.4**
	4.6nm,0.3s,mb4.5,baz=339,slow=8.6,SNR=13						
CPUP	**Villa Florida**	**26.08**	**138**	P	**P**	**23 09 02.4**	**0.0**
	3.6nm,0.7s,mb4.0,baz=342,slow=13,SNR=12						
CPUP				LR	LR	23 21 53.6	
	comp=Z,497nm,18.1s,MS4.1,baz=329,slow=42						
CPUP	**Villa Florida**	**26.08**	**138**	*e*P	**P**	**23 09 01.9**	**-0.4**
	5.6nm,0.8s,mb4.2						
SJG	**San Juan**	**27.53**	**22**	P	**P**	**23 09 15.8**	**+0.1**
	3.6nm,0.3s,mb4.5,baz=236,slow=3.6,SNR=2.8						
BDFB	**Brasilia**	**29.01**	**109**	P	**P**	**23 09 29.4**	**+0.3**
	8.6nm,0.7s,mb4.6,baz=270,slow=9.8,SNR=17						
BDFB				LR	LR	23 21 60.0	
	comp=Z,2μm,18.1s,MS4.7,baz=284,slow=38						
BAO	**Brasilia Array**	**29.03**	**109**	P	**P**	**23 09 30.0**	**+0.7**
PLCA	**Paso Flores**	**33.41**	**172**	P	**P**	**23 10 06.3**	**-1.3**
	1.3nm,0.8s,mb3.9,baz=358,slow=13,SNR=2.6						
PLCA	**Paso Flores**	**33.41**	**172**	P	**P**	**23 10 06.3**	**-1.3**
LRAL	**Lakeview Retre**	**41.63**	**347**	*e*P	**P**	**23 11 16.4**	**-0.3**
	5.2nm,0.8s,mb4.2						
NATX	**Nacogdoches**	**42.81**	**337**	*e*P	**P**	**23 11 25.5**	**-1.0**
TXAR	**Lajitas Array**	**45.08**	**326**	P	**P**	**23 11 44.9**	**+0.1**
	2.0nm,0.8s,mb4.0,baz=145,slow=9.1,SNR=25						
TXAR				LR	LR	23 29 18.0	
	comp=Z,83nm,20.3s,MS3.7,baz=215,slow=34						
MNTX	**Cornudas Mount**	**47.83**	**326**	*e*P	**P**	**23 12 06.6**	**0.0**
	9.6nm,1.1s,mb4.7						
ANMO	**Albuquerque**	**50.90**	**328**	⇑*e*P	**P**	**23 12 30.9**	**+0.8**
	9.8nm,1.1s,mb4.7						
ANMO				⇑*e*pP	pP	23 12 39.8	+1.0
TUC	**Tucson**	**51.41**	**322**	*e*P	**P**	**23 12 34.5**	**+0.6**
	5.2nm,0.9s,mb4.5						
TUC				*e*pP	pP	23 12 42.6	-0.2
SDCO	**Great Sand Dun**	**52.61**	**331**	*e*P	**P**	**23 12 43.6**	**+0.7**
	18nm,1.2s,mb4.9						
LDFC	**Landfair**	**55.92**	**322**	*e*P	**P**	**23 13 07.1**	**-0.1**
ARUT	**Antelope Range**	**56.79**	**325**	*e*P	**P**	**23 13 14.3**	**+0.8**
DAU	**Daniels Canyon**	**57.51**	**329**	*e*P	**P**	**23 13 18.8**	**+0.4**
DUG	**Dugway**	**58.16**	**328**	*e*P	**P**	**23 13 23.4**	**+0.4**
	11nm,1.1s,mb4.8						
DUG				*e*pP	pP	23 13 32.8	+0.9
PDAR	**Pinedale Array**	**58.47**	**332**	P	**P**	**23 13 24.4**	**-0.7**
	1.1nm,0.6s,mb4.0,baz=135,slow=8.4,SNR=7.0						
PDAR				LR	LR	23 39 42.0	
	comp=Z,104nm,18.3s,MS4.0,baz=354,slow=37						
HWUT	**Hardware Ranch**	**58.56**	**330**	*e*P	**P**	**23 13 25.8**	**0.0**
	8.8nm,0.7s,mb4.9						
BGU	**Big Grassy Mou**	**58.80**	**328**	*e*P	**P**	**23 13 25.1**	**-2.4**
MTUM	**Tungsten Hills**	**59.52**	**322**	*e*P	**P**	**23 13 33.0**	**+0.4**
LOHW	**Long Hollow**	**59.60**	**332**	*e*P	**P**	**23 13 32.8**	**-0.2**
	4.0nm,0.9s,mb4.5						
RRI2	**Red Ridge**	**59.74**	**331**	*e*P	**P**	**23 13 33.6**	**-0.3**
	8.3nm,0.8s,mb4.8						
ELK	**Elko**	**59.86**	**327**	*e*P	**P**	**23 13 34.5**	**-0.2**
	5.4nm,1.0s,mb4.5						
ELK				pP	pP	23 13 43.9	+0.1
ULM	**Lac du Bonnet**	**60.02**	**346**	P	**P**	**23 13 34.6**	**-1.1**
	3.5nm,0.7s,mb4.5,baz=128,slow=8.8,SNR=5.8						
ULM				LR	LR	23 39 50.7	
	comp=Z,64nm,18.2s,MS3.8,baz=338,slow=36						
HLID	**Hailey**	**61.42**	**329**	*e*P	**P**	**23 13 45.8**	**+0.4**
	2.7nm,0.8s,mb4.4						
SCHQ	**Schefferville**	**62.73**	**6**	P	**P**	**23 13 53.5**	**-0.5**
	1.6nm,0.8s,mb4.2,baz=185,slow=12,SNR=2.1						
SCHQ				LR	LR	23 41 03.2	
	comp=Z,45nm,20.1s,MS3.6,baz=12,slow=36						
SCHQ	**Schefferville**	**62.73**	**6**	P	**P**	**23 13 53.5**	**-0.5**
SCHQ				LR	LR	23 41 03.1	
WVOR	**Wild Horse Val**	**62.87**	**326**	*e*P	**P**	**23 13 54.9**	**-0.1**
	6.8nm,1.1s,mb4.7						
MOD	**Modoc**	**63.46**	**325**	*e*P	**P**	**23 13 59.1**	**+0.2**
	11nm,1.0s,mb4.9						
MOD				*e*pP	pP	23 14 07.9	0.0
MSO	**Missoula**	**63.58**	**332**	*e*P	**P**	**23 14 00.2**	**+0.6**
	6.7nm,1.1s,mb4.6						
YBH	**Yreka Blue Hor**	**64.76**	**323**	LR	LR	23 41 31.8	
	comp=Z,60nm,19.1s,MS3.8,baz=167,slow=35						
NEW	**Newport**	**66.10**	**332**	LR	LR	23 43 50.4	
	comp=Z,76nm,18.2s,MS3.9,baz=292,slow=37						
PPT	**Papeete**	**71.64**	**254**	LR	LR	23 38 49.6	
	comp=Z,65nm,20.8s,MS3.9,baz=134,slow=30						
DBIC	**Dimbokro**	**72.86**	**81**	P	**P**	**23 14 57.5**	**-0.7**
	5.1nm,0.9s,mb4.5,baz=191,slow=12,SNR=4.9						
DBIC				LR	LR	23 44 37.6	
	comp=Z,224nm,19.7s,MS4.5,baz=325,slow=34						
ILAR	**Eielson Array**	**88.63**	**336**	P	**P**	**23 16 19.7**	**-0.9**
	1.9nm,1.0s,mb4.4,baz=138,slow=3.4,SNR=12						
ILAR				PP	PP	23 19 50.8	-0.9
	0.4nm,0.8s,baz=128,slow=7.2,SNR=4.1						
MKAR	**Makanchi Array**	**136.94**	**21**	PKP	PKPdf	23 22 51.3	-3.2
	0.7nm,0.8s,baz=27,slow=2.7,SNR=4.8						
WRA	**Warramunga Arr**	**139.11**	**227**	PKP	PKPdf	23 22 55.6	-3.7
	0.6nm,0.4s,baz=122,slow=2.0,SNR=4.7						
WMQ	**Urumqi**	**141.37**	**18**	*e*PKP	PKPdf	23 23 00.0	-2.7
FITZ	**Fitzroy Crossi**	**146.37**	**220**	*e*P	PKPbc	23 23 09.2	+0.9
	7.5nm,0.5s						
GTA	**Gaotai**	**148.16**	**5**	PKP	PKPdf	23 23 12.8	-1.6
LZH	**Lanzhou**	**151.65**	**359**	*e*PKP	PKPdf	23 23 17.0	-2.9
LZH				APKP		23 23 28.3	
LZH				XPKP		23 23 31.9	
LZH				LR	LR		
	comp=N,159nm,18.0s						
LZH				LR	LR		
	comp=Z,237nm,20.0s,MS5.0						
LZH	**Lanzhou**	**151.65**	**359**	*e*PKP	PKPdf	23 23 17.0	-2.9
LZH				pPKP		23 23 28.2	
LZH				sPKP		23 23 31.9	
LZH				PKP	PKPab	23 23 34.5	+2.2
LZH				LR	LR		
	comp=Z,240nm,20.0s,MS5.0						
NJ2	**Nanjing**	**151.78**	**332**	*e*PKP	PKPdf	23 23 16.6	-3.7
NJ2				APKP		23 23 27.0	
NJ2				XPKP		23 23 31.6	
NJ2				PKP2	PKPab	23 23 33.4	+0.4
NJ2				PKS	PKS	23 26 52.0	+3.2
NJ2				PP	PP	23 27 05.0	-0.4
NJ2				PP	PP		
	comp=Z,842nm,8.6s						
NJ2				LR	LR		
	comp=N,540nm,23.9s,MS5.4						
NJ2				LR	LR		
	comp=E,480nm,22.6s,MS5.4						
NJ2				LR	LR		
	comp=Z,130nm,21.3s,MS4.7						

*IDC **20** 23:18:43.7±6.3,30.66N×87.62E,mb3.6/5,mb1 3.7/6, mb1mx3.5/19,mbtmp3.5/6,ML2.9/1,Error ellipse: s-maj=129.1km s-min=41.4km az=159.0*
*NEIC **20** 23:18:45.7±1.3,30.86N×87.59E,h10km,mb3.7/1,Error ellipse: s-maj=31.4km s-min=15.2km az=212.0*
ISC 20 23:18:47.2±1.4,30.8N±0.2×87.6E±0.2,h33km,n10, σ0§83/10,mb3.7/5,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**3.29**	**108**	*e*P	**P**	**23 19 37.2**	**-0.3**
MKAR	**Makanchi Array**	**16.50**	**347**	Pn	**P**	**23 22 37.1**	**-0.4**
	0.0nm,0.3s,baz=162,slow=12,SNR=3.8						
KURK	**Kurchatov**	**21.00**	**344**	*e*P	**P**	**23 23 26.1**	**-3.9**
SONM	**Songino Array**	**22.31**	**35**	P	**P**	**23 23 44.0**	**+0.9**
	0.4nm,0.6s,mb3.0,baz=207,slow=9.7,SNR=4.1						
AKASG	**Malin Array Be**	**47.13**	**312**	P	**P**	**23 27 18.4**	**+0.5**
	0.6nm,0.4s,mb3.9,baz=78,slow=7.3,SNR=5.0						
FINES	**FINESS Array B**	**49.91**	**326**	P	**P**	**23 27 38.9**	**-0.3**
	0.3nm,0.5s,mb3.6,baz=90,slow=5.7,SNR=3.5						
NB2	**NORSAR Subarra**	**57.06**	**326**	P	**P**	**23 28 30.7**	**-1.4**
	0.6nm,0.7s,mb3.7,baz=85,slow=7.4						
NOA	**NORSAR Array B**	**57.06**	**326**	P	**P**	**23 28 31.0**	**-1.1**
	0.9nm,0.7s,mb3.9,baz=85,slow=7.2,SNR=5.3						
NOA	**NORSAR Array B**	**57.06**	**326**	P	**P**	**23 28 31.0**	**-1.1**
GERES	**GERESS Array B**	**57.29**	**311**	P	**P**	**23 28 35.0**	**+1.1**
	0.9nm,0.5s,mb4.1,baz=75,slow=5.8,SNR=14						

*ATH **20** 23:18:55.1,38.99N×23.29E,h23km±1km,MD3.2/10, ML3.1*
*NEIC **20** 23:18:55.1,38.99N×23.29E,h23km,ML3.1(ATH),After ATH.*
*CSEM **20** 23:18:55.2±0.1,38.93N×23.31E,h4km,ML3.1,Error ellipse: s-maj=2.2km s-min=1.6km az=84.0*
*THE **20** 23:18:56.0,38.99N×23.32E,h7km,ML3.1*
ISC 20 23:18:54.6±0.6,38.97N±0.02×23.32E±0.04,h8km±4km, n22,σ0§72/36,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.35**	**347**	*e*PB	**Pb**	**23 19 02.5**	**-0.2**
NEO				*e*SB	**Sb**	**23 19 07.6**	**-0.4**
LKR	**Lokris**	**0.40**	**219**	*e*PB	**Pb**	**23 19 03.7**	**+0.1**
XOR	**Xorichti**	**0.41**	**346**	*e*Pg	**Pg**	**23 19 03.6**	**+0.6**
XOR				*e*Sg	**Sg**	**23 19 09.5**	**+1.0**
AOS	**Alonnisos**	**0.48**	**65**	*e*Pg	**Pg**	**23 19 04.5**	**+0.1**
AOS				*e*Sg	**Sg**	**23 19 12.1**	**+1.3**
AGG	**Agios Georgios**	**0.77**	**274**	*e*Pg	**Pg**	**23 19 09.8**	**-0.3**
AGG				*e*Sg	**Sg**	**23 19 22.0**	**+1.5**
MPAR	**Parnis Oros**	**0.88**	**158**	*e*PN	**Pn**	**23 19 12.5**	**-0.6**
MGER	**Gerania Oros**	**0.98**	**183**	*e*PN	**Pn**	**23 19 14.5**	**-0.1**
PAIG	**Paliouri**	**1.00**	**16**	*e*Pg	**Pg**	**23 19 14.6**	**0.0**
PAIG				*e*Sg	**Sg**	**23 19 28.5**	**+0.6**
PTL	**Penteli**	**1.01**	**155**	*e*PN	**Pn**	**23 19 15.0**	**0.0**
ATH	**Athens Observa**	**1.04**	**163**	*e*PN	**Pn**	**23 19 15.1**	**-0.4**
ATH				*e*SN	**Sn**	**23 19 30.4**	**+0.1**
NSAL	**Nisos Salamina**	**1.06**	**174**	*e*PN	**Pn**	**23 19 15.5**	**-0.3**
EVR	**Evrytania**	**1.18**	**268**	*e*PN	**Pn**	**23 19 17.2**	**-0.3**
NAIG	**Nisos Aigina**	**1.21**	**174**	*e*PN	**Pn**	**23 19 18.5**	**+0.6**
LIT	**Litokhoron**	**1.30**	**331**	*e*Pg	**Pg**	**23 19 19.4**	**-1.3**
LIT				*e*Sg	**Sg**	**23 19 37.5**	**-0.6**
PLG	**Polygyros**	**1.41**	**4**	*e*PN	**Pn**	**23 19 20.6**	**-0.1**
OUR	**Ouranopolis**	**1.46**	**20**	*e*Pg	**Pg**	**23 19 21.5**	**-2.3**
OUR				*e*Sg	**Sg**	**23 19 42.0**	**-1.3**
LOS	**Limnos**	**1.67**	**54**	*e*Pb	**Pb**	**23 19 24.8**	**-0.4**
LOS				*e*Sb	**Sb**	**23 19 47.3**	**+0.9**
THE	**Thessaloniki**	**1.69**	**351**	*e*Pb	**Pb**	**23 19 24.4**	**-1.1**
THE				*e*Sb	**Sb**	**23 19 46.9**	**+0.1**
GRG	**Griva**	**2.11**	**341**	*e*Pn	**Pn**	**23 19 30.8**	**0.0**
GRG				*e*Sn	**Sn**	**23 19 57.3**	**-0.1**
SRS	**Serrai**	**2.16**	**5**	*e*Pn	**Pn**	**23 19 31.5**	**+0.1**
SRS				*e*Sn	**Sn**	**23 19 58.9**	**+0.2**
KNT	**Kendrikon**	**2.22**	**352**	*e*Pn	**Pn**	**23 19 32.8**	**+0.5**
KNT				*e*Sn	**Sn**	**23 20 00.7**	**+0.6**
FNA	**Florina**	**2.35**	**321**	*e*Pn	**Pn**	**23 19 35.3**	**+1.1**
FNA				*e*Sn	**Sn**	**23 20 03.5**	**-0.1**

*NNC **21** 00:05:58.0±1.7,39.29N×71.01E,h19km±37km,mpv3.4, Error ellipse: s-maj=43.4km s-min=8.6km az=12.0*
ISC 21 00:05:57.2±2.7,39.2N±0.2×71.0E±0.1,h33km,n8, σ0§95/11,5C-1D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.58**	**35**	P	**P**	**00 06 52.1**	**+0.4**
	SNR=20						
KK31	**Karatay Array**	**3.89**	**355**	Pn	**Pn**	**00 06 58.7**	**+2.4**
	2.6nm,0.4s,baz=176,slow=13,SNR=97						
KK31				⇓Sn	**Sn**	**00 07 46.5**	**+5.1**
	1.7nm,0.3s,baz=163,slow=26,SNR=6.2						
KK31				⇑Lg		00 08 00.2	
	2.3nm,0.3s						
EKS2	**Erkin-Say**	**4.05**	**31**	P	**P**	**00 06 59.2**	**+0.8**
	SNR=6.0						
AAK	**Ala-Archa**	**4.34**	**37**	P	**P**	**00 07 02.8**	**+0.3**
	SNR=8.4						
AAK	**Ala-Archa**	**4.34**	**37**	⇑Pn	**Pn**	**00 07 02.1**	**-0.6**
	4.5nm,0.4s						
AAK				⇑Sn	**Sn**	**00 07 52.0**	**-0.7**
	4.0nm,0.6s						
KZA	**Kyzart**	**4.34**	**48**	P	**P**	**00 07 02.6**	**+0.1**
	SNR=7.7						
USP	**Ospenovka**	**4.84**	**32**	P	**P**	**00 07 08.9**	**-0.8**
	SNR=8.7						
AB31	**Akbulak array**	**12.75**	**325**	⇑P	**P**	**00 08 57.3**	**-1.5**
	0.4nm,0.5s,baz=140,slow=11,SNR=8.3						
AB31				⇑S	**S**	**00 11 20.5**	**0.0**
	2.7nm,1.1s,baz=147,slow=23,SNR=4.2						

NEIC 21 00:50:56.7,37.83S×176.35E,h166km,MG3.8(WEL), **After WEL.,North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.74**	**126**	P	P	00 51 21.1	-0.4
MWZ	**Matawai**	**1.06**	**119**	*e*P	P	00 51 23.5	-0.1
MWZ				S	S	00 51 44.0	-0.4
BKZ	**Black Stump Fm**	**1.34**	**175**	P	P	00 51 26.0	-0.3
BKZ				S	S	00 51 48.5	-0.6
MXZ	**Matakaoa Point**	**1.57**	**81**	*e*P	P	00 51 28.2	-0.4
MXZ				S	S	00 51 53.8	+0.6
KNZ	**Kokohu**	**1.58**	**139**	P	P	00 51 28.3	-0.4
WNVZ	**Wahianoa**	**1.61**	**201**	P	P	00 51 29.1	+0.2
MRZ	**Mangatainoka R**	**2.89**	**192**	P	P	00 51 41.6	-2.4
MRZ				S	S	00 52 16.2	-4.1
KIW	**Kapiti Island**	**3.23**	**200**	P	P	00 51 45.6	-2.6
MTW	**Mount Morrison**	**3.39**	**191**	P	P	00 51 47.0	-3.3
THZ	**Tophouse**	**4.74**	**213**	*e*P	P	00 52 04.9	-2.9
THZ				S	S	00 52 59.7	-3.0
KHZ	**Kahutara**	**5.06**	**204**	*e*P	P	00 52 07.9	-4.1

*IDC **21** 01:57:26.1±3.1,45.38N×28.16E,mb3.4/1,mb1 3.3/4, mb1mx3.2/19,mbtmp3.3/4,ML3.2/3,Error ellipse: s-maj=33.2km s-min=11.2km az=143.0*
*MOS **21** 01:57:29.7±1.1,45.53N×27.89E,h10km,mb4.0/1,Error ellipse: s-maj=15.6km s-min=8.1km az=110.5*
*BUC **21** 01:57:29.5±0.5,45.48N×27.83E,h5km,MD3.5/5,Error ellipse: s-maj=6.0km s-min=3.2km az=40.0*
*CSEM **21** 01:57:29.2±0.2,45.45N×27.87E,h2km,MD3.5/5,Error ellipse: s-maj=7.9km s-min=5.1km az=42.0*
*NEIC **21** 01:57:30.4,45.49N×27.86E,h6km,ML3.4(BUC),After BUC.*
*SOF **21** 01:57:33.6,45.37N×28.33E,h4km,MD2.7*
ISC 21 01:57:29.2±0.9,45.55N±0.03×27.95E±0.06,h4km±8km, n33,σ1§28/49,mb3.2/1,10C-4D,Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFR	**Carcaliu**	**0.39**	**160**	⇑*i*P	**Pg**	**01 57 36.8**	**-0.3**
CFR				*i* S	**Sg**	**01 57 42.9**	**+0.6**
CFR	**Carcaliu**	**0.39**	**160**	⇑P	**Pg**	**01 57 36.8**	**-0.3**
CFR				S	**Sg**	**01 57 42.9**	**+0.6**
TLCR		**0.71**	**120**	⇑*i*P	**Pg**	**01 57 45.0**	**+1.6**
TLCR				*i* S	**Sg**	**01 57 56.6**	**+3.7**
TLCR		**0.71**	**120**	P	**Pg**	**01 57 44.8**	**+1.4**
HARR	**Harsova**	**0.86**	**181**	⇑*i*P	**Pb**	**01 57 44.8**	**-1.5**
HARR				*i* S	**Sb**	**01 57 56.8**	**-1.1**
HARR	**Harsova**	**0.86**	**181**	⇑P	**Pb**	**01 57 44.8**	**-1.4**
HARR				S	**Sb**	**01 57 56.8**	**-1.1**
VRI	**Vrincioaia**	**0.91**	**291**	⇓*i*P	**Pb**	**01 57 46.3**	**-0.9**
VRI				*i* S	**Sb**	**01 58 00.1**	**+0.6**
VRI	**Vrincioaia**	**0.91**	**291**	P	**Pb**	**01 57 46.4**	**-0.8**
VRI	**Vrincioaia**	**0.91**	**291**	P	**Pb**	**01 57 46.4**	**-0.8**
ISR	**Istrita**	**1.08**	**247**	⇓*i*P	**Pb**	**01 57 49.3**	**-0.8**
ISR				*i* S	**Sb**	**01 58 04.6**	**+0.3**
ISR	**Istrita**	**1.08**	**247**	⇓P	**Pb**	**01 57 49.3**	**-0.7**
ISR				S	**Sb**	**01 58 04.5**	**+0.2**
TIRR	**Tirgusor**	**1.14**	**163**	⇑*i*P	**Pb**	**01 57 51.4**	**+0.3**
TIRR				*i* S	**Sb**	**01 58 06.8**	**+0.8**
TIRR	**Tirgusor**	**1.14**	**163**	P	**Pb**	**01 57 51.4**	**+0.3**
MLR	**Muntele Rosu**	**1.41**	**268**	Pg	**Pg**	**01 57 55.7**	**-1.7**
	3.6nm,0.3s,baz=172,slow=5.8,SNR=44						
MLR				Lg		01 58 16.8	
	4.5nm,0.3s,baz=114,slow=20,SNR=16						
MLR	**Muntele Rosu**	**1.41**	**268**	⇓*i*P	**Pn**	**01 57 55.6**	**-0.1**
MLR				*i* S	**Sb**	**01 58 16.2**	**+2.3**
MLR	**Muntele Rosu**	**1.41**	**268**	P	**Pn**	**01 57 55.7**	**+0.1**
IAS	**Iasi**	**1.67**	**351**	⇑*i*P	**Pn**	**01 58 00.7**	**+1.3**
IAS				*i* S	**Sb**	**01 58 22.7**	**+1.3**
IAS	**Iasi**	**1.67**	**351**	P	**Pn**	**01 58 01.0**	**+1.6**
IAS				S	**Sb**	**01 58 23.2**	**+1.8**
SNX	**Sinaia**	**1.72**	**264**	⇑*i*P	**Pn**	**01 58 00.4**	**+0.2**
PSN	**Preselentsi**	**1.87**	**175**	*i* P	**Pn**	**01 58 06.3**	**+4.0**
BURAR	**Bucovina Array**	**2.80**	**319**	⇑*i*P	**Pn**	**01 58 17.0**	**+1.5**
BURAR	**Bucovina Array**	**2.80**	**319**	⇑P	**Pn**	**01 58 17.0**	**+1.4**
PVL	**Pavlikeni**	**2.99**	**220**	*e*P	**Pn**	**01 58 26.0**	**+7.7**
VTS	**Vitosha**	**4.51**	**231**	*e*P	**Pn**	**01 58 45.0**	**+5.0**
AKASG	**Malin Array Be**	**5.23**	**9**	Pg	**Pb**	**01 59 00.3**	**-0.7**
	0.8nm,0.3s,baz=32,slow=46,SNR=3.6						
AKASG				Sn	**Sn**	**01 59 47.6**	**-4.0**
	3.4nm,0.3s,baz=218,slow=23,SNR=7.5						
AKASG				Lg		02 00 10.1	
	6.1nm,0.3s,baz=188,slow=31,SNR=8.3						
AKASG	**Malin Array Be**	**5.23**	**9**	S	**Sn**	**01 59 47.7**	**-3.9**
	3.0nm,0.3s						
AKASG	**Malin Array Be**	**5.23**	**9**	P	**Pb**	**01 59 00.3**	**-0.7**
AKASG				S	**Sn**	**01 59 47.7**	**-3.9**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG				smax			
	comp=N,3.0nm,0.3s						
FINES	**FINESS Array B**	**15.96**	**357**	Pn	**P**	**02 01 06.9**	**-9.1**
	comp=N,0.1nm,0.3s,baz=175,slow=12,SNR=5.0						
FINES				Sn	**S**	**02 03 59.8**	**-14**
	comp=N,0.2nm,0.3s,baz=174,slow=24,SNR=5.2						
HFS	**Hagfors**	**16.90**	**335**	Pn	**P**	**02 01 21.4**	**-6.5**
	comp=N,0.0nm,0.3s,baz=148,slow=13,SNR=2.8						
HFS				Sn	**S**	**02 04 24.7**	**-10**
	comp=N,0.0nm,0.3s,baz=129,slow=30,SNR=3.5						
NOA	**NORSAR Array B**	**18.37**	**334**	P	**P**	**02 01 43.8**	**-2.4**
	comp=N,0.1nm,0.3s,baz=142,slow=11,SNR=2.8						
NOA	**NORSAR Array B**	**18.37**	**334**	P	**P**	**02 01 43.8**	**-2.5**
ARCES	**ARCESS Array B**	**24.09**	**358**	P	**P**	**02 02 45.7**	**-0.3**
	comp=N,0.8nm,0.7s,mb3.2,baz=175,slow=10.0,SNR=3.3						
ARCES	**ARCESS Array B**	**24.09**	**358**	P	**P**	**02 02 45.7**	**-0.4**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.7s						

*IDC **21** 02:17:21.0±9.6, 10.11N×85.52W,mb3.9/5,mb1 4.1/5, mb1mx3.8/19,mbtmp3.8/5,Error ellipse: s-maj=199.0km s-min=57.1km az=175.0*
*CASC **21** 02:17:21.7±2.6,9.83N×86.16W,MD3.9,ML3.7*
ISC 21 02:17:21.2±0.8,9.73N±0.05×86.27W±0.04,h10km,n33, σ1§12/45,mb3.8/5,5C-4D,Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCR	**Jicaral**	**1.14**	**84**	⇓*e*P	**Pb**	**02 17 42.2**	**-0.4**
JCR				*e*S	**Sb**	**02 17 59.1**	**+1.7**
LIM1	**Limonal**	**1.39**	**46**	⇑*i*P	**Pn**	**02 17 43.3**	**-3.4**
LIM1				*e*S	**Sb**	**02 18 03.5**	**-0.9**
SSNN	**San Juan del S**	**1.60**	**15**	*e*P	**Pn**	**02 17 48.7**	**-1.0**
FORC	**Fortuna**	**1.74**	**65**	⇓*e*P	**Pn**	**02 17 50.1**	**-1.6**
CGA2	**Cerro Gallo 2**	**1.80**	**81**	⇑*e*P	**Pn**	**02 17 51.5**	**-1.1**
MADN	**Villa Maderas**	**1.81**	**23**	*e*P	**Pn**	**02 17 51.8**	**-1.0**
CONN	**Concepcion**	**1.93**	**19**	*e*P	**Pn**	**02 17 52.0**	**-2.4**
CONN				*e*P		02 17 53.1	
CONN				*e*S	**Sn**	**02 18 18.5**	**-0.4**
PRS1	**Puriscal**	**1.94**	**82**	⇓*e*P	**Pn**	**02 17 53.0**	**-1.6**
VPS2	**Volcan Poas 2**	**2.05**	**77**	⇑*e*P	**Pn**	**02 17 55.4**	**-0.8**
APON	**Apoyo**	**2.18**	**5**	*e*P	**Pn**	**02 17 58.2**	**+0.2**
SJS	**Escuela Geolog**	**2.19**	**84**	*e*P	**Pn**	**02 17 58.4**	**+0.2**
SJS				*e*S	**Sn**	**02 18 26.9**	**+1.3**
LCR2	**La Lucha 2**	**2.23**	**90**	⇑*e*P	**Pn**	**02 17 58.5**	**-0.3**
LCR2				*e*S	**Sn**	**02 18 29.1**	**+2.5**
CRUN	**El Crucero**	**2.24**	**359**	*e*P	**Pn**	**02 17 59.9**	**+1.0**
TICN	**Ticuantepe**	**2.29**	**1**	*e*P	**Pn**	**02 17 59.9**	**+0.2**
MGAN	**Managua**	**2.40**	**0**	*e*P	**Pn**	**02 18 00.5**	**-0.7**
MGAN				*e*S	**Sn**	**02 18 31.2**	**+0.3**
	comp=E,645nm,0.6s						
XAVN	**Gruta Xavier**	**2.40**	**359**	*e*P	**Pn**	**02 18 01.6**	**+0.4**
WILN	**Americas 2**	**2.42**	**2**	*e*P	**Pn**	**02 18 01.5**	**+0.1**
WILN				*e*S	**Sn**	**02 18 32.7**	**+1.4**
COPN	**Copaltepe**	**2.45**	**353**	*e*P	**Pn**	**02 18 02.4**	**+0.4**
BUS	**Buena Vista**	**2.48**	**94**	⇓*e*P	**Pn**	**02 18 03.1**	**+0.8**
BUS				*e*S	**Sn**	**02 18 36.0**	**+3.0**
MOMJ	**Momotombo**	**2.67**	**354**	*e*P	**Pn**	**02 18 05.5**	**+0.4**
MIRN	**Miramar**	**2.73**	**351**	*e*P	**Pn**	**02 18 06.

MAT	**Matsushiro**	**0.87 206**	P	**Pb**	**02 29 45.7**	**0.0**
MAT	**Matsushiro**	**0.87 206**	*e*P	**Pb**	**02 29 46.0**	**+0.3**
MAT			*e*S	**Sb**	**02 29 57.0**	**0.0**
MJAR	**Matsushiro Arr**	**0.87 206**	Pg	**Pg**	**02 29 46.0**	**-1.1**
	4μm,0.3s,baz=20,slow=17					
MJAR			Lg		02 29 57.2	
	5μm,0.3s,baz=14,slow=31,SNR=53					
JNG	**Nsakai**	**1.03 207**	⇑P	**Pb**	**02 29 48.6**	**+0.1**
JSZ	**Suzu**	**1.05 277**	⇓P	**Pb**	**02 29 49.2**	**+0.4**
JSZ			S	**Sb**	**02 30 04.2**	**+2.0**
JSB	**Shiboa**	**1.06 110**	⇑P	**Pb**	**02 29 49.7**	**+0.8**
JAG	**Ashikaga**	**1.10 145**	⇑P	**Pb**	**02 29 49.8**	**+0.2**
JAG			S	**Sb**	**02 30 03.9**	**+0.4**
JAW	**Awa shima**	**1.21 22**	⇑P	**Pb**	**02 29 51.8**	**+0.3**
JAW			S	**Sb**	**02 30 08.6**	**+1.8**
JTT	**Ttatey**	**1.30 236**	⇓P	**Pb**	**02 29 53.9**	**+0.9**
JRY	**Ryogami san**	**1.32 172**	⇑P	**Pb**	**02 29 53.0**	**-0.5**
JRY			S	**Sb**	**02 30 11.5**	**+1.4**
JFT	**Otama**	**1.33 81**	⇑P	**Pn**	**02 29 53.9**	**+0.3**
JYS	**Shiratake**	**1.41 51**	⇑P	**Pn**	**02 29 55.3**	**+0.6**
JHG	**Hegura jima**	**1.49 291**	⇓P	**Pn**	**02 29 55.5**	**-0.3**
JYA	**Atsumi**	**1.50 33**	⇑P	**Pn**	**02 29 56.3**	**+0.3**
JNT	**Takato**	**1.52 197**	⇑P	**Pn**	**02 29 56.8**	**+0.6**
JGN	**Niukaw**	**1.56 225**	⇑P	**Pn**	**02 29 57.9**	**+1.1**
JJH	**Hakui**	**1.57 256**	⇓P	**Pn**	**02 29 56.7**	**-0.2**
JHO	**Hitachi**	**1.68 115**	⇑P	**Pn**	**02 29 58.5**	**0.0**
ONAJ	**Iwakimizuishiy**	**1.71 97**	P	**Pn**	**02 29 59.6**	**+0.6**
JFK	**Kawauchi**	**1.75 88**	⇑P	**Pn**	**02 30 00.3**	**+0.7**
JMM	**Marumori**	**1.76 72**	⇑P	**Pn**	**02 30 00.3**	**+0.6**
JYN	**Shimob**	**1.83 183**	⇑P	**Pn**	**02 30 01.7**	**+1.0**
JOU	**Okura**	**1.88 56**	⇑P	**Pn**	**02 30 02.2**	**+0.8**
JGF	**Kuroka**	**2.03 212**	⇑P	**Pn**	**02 30 04.4**	**+0.9**
JYK	**Kaneyama**	**2.07 39**	⇑P	**Pn**	**02 30 04.7**	**+0.6**
JNY	**Yasuok**	**2.08 199**	⇑P	**Pn**	**02 30 04.8**	**+0.6**
JKG	**Kaga**	**2.16 241**	⇓P	**Pn**	**02 30 05.9**	**+0.5**
JGM	**Miyama**	**2.27 225**	P	**Pn**	**02 30 08.1**	**+1.1**
SHZ3	**Shizuoka 3**	**2.29 190**	⇑P	**Pn**	**02 30 08.8**	**+1.5**
JAO	**Obara**	**2.36 209**	⇑P	**Pn**	**02 30 09.1**	**+0.8**
JIO	**Ouri**	**2.39 61**	⇑P	**Pn**	**02 30 09.2**	**+0.5**
JYZW	**Yoshizawa**	**2.45 198**	P	**Pn**	**02 30 10.4**	**+0.8**
JRG	**Rokugo**	**2.57 36**	⇑P	**Pn**	**02 30 12.3**	**+1.0**
JMK	**Ichinoseki**	**2.58 50**	⇑P	**Pn**	**02 30 11.9**	**+0.5**
HMMJ	**Hamamatsu 2**	**2.59 198**	⇑P	**Pn**	**02 30 12.5**	**+0.9**
JIZS	**Izushimoda**	**2.61 176**	⇑P	**Pn**	**02 30 12.9**	**+1.0**
OFUJ	**Ofunato**	**2.93 53**	⇑P	**Pn**	**02 30 17.2**	**+0.7**
JOM	**Ohasama**	**2.96 43**	P	**Pn**	**02 30 17.7**	**+0.8**
NJJJ	**Nii jima 2**	**2.96 170**	P	**Pn**	**02 30 17.8**	**+0.9**
JAH	**Hinai**	**3.24 28**	⇑P	**Pn**	**02 30 21.5**	**+0.7**
BSO1	**Boso 1**	**3.26 144**	P	**Pn**	**02 30 19.4**	**-1.7**
JKY	**Yasaka**	**3.34 241**	P	**Pn**	**02 30 22.8**	**+0.5**
JWT	**Wachi**	**3.34 233**	P	**Pn**	**02 30 23.6**	**+1.3**
JKZ	**Kuzumaki**	**3.37 37**	⇑P	**Pn**	**02 30 23.6**	**+1.0**
JIW	**Iwasaki**	**3.42 17**	P	**Pn**	**02 30 23.4**	**+0.1**
JKSM	**Kasumi**	**3.67 243**	⇓P	**Pn**	**02 30 27.2**	**+0.2**
JANG	**Nango**	**3.76 35**	P	**Pn**	**02 30 29.1**	**+0.9**
JHIK	**Hikimi**	**6.15 245**	P	**Pn**	**02 31 02.8**	**+0.8**
JKD	**Kudamatsu**	**6.43 241**	P	**Pn**	**02 31 07.2**	**+1.3**
ASAJ	**Asahikawa**	**7.40 22**	Pn	**Pn**	**02 31 21.2**	**+1.6**
	2.9nm,0.3s,baz=211,slow=8.0,SNR=24					
ASAJ	**Asahikawa**	**7.40 22**	P	**Pn**	**02 31 21.2**	**+1.6**
ASAJ			pmax	pmax		
	comp=Z,3.0nm,0.3s					
JNU	**Nakatsue**	**7.64 239**	Pn	**Pn**	**02 31 23.4**	**+0.5**
	comp=Z,3.2nm,0.3s,baz=88,slow=17,SNR=24					
JNU			LR	LR	02 34 04.3	
	comp=Z,291nm,18.7s,baz=47,slow=36					
JNU	**Nakatsue**	**7.64 239**	P	**Pn**	**02 31 23.4**	**+0.5**
YUK	**Yuzh-Kuril'sk**	**8.63 37**	*e*P	**P**	**02 31 32.5**	**-4.3**
YUK			*e*S	**Sn**	**02 33 08.0**	**-6.9**
YUK			pmax	pmax		
	comp=Z,170nm,0.5s					
YUK			smax			
	comp=N,260nm,0.6s					
YUK			smax			
	comp=E,240nm,0.6s					
INCN	**Inchon**	**9.59 275**	P	**P**	**02 31 49.0**	**-0.9**
	comp=E,31nm,0.6s					
MDJ	**Mudanjiang**	**10.00 320**	P	**P**	**02 31 57.3**	**+1.7**
MDJ			AP		02 31 59.0	
MDJ			S	**S**	**02 33 49.8**	**+1.2**
MDJ			PCP	PcP	02 38 07.6	+1.7
MDJ			AMB	AMB		
	comp=Z,17nm,1.2s					
MDJ			AMB	AMB		
	comp=Z,189nm,4.2s					
MDJ			LR	LR		
	comp=N,1μm,11.9s					
MDJ			LR	LR		
	comp=E,1μm,11.9s					
MDJ			LR	LR		
	comp=Z,2μm,12.2s					
MDJ	**Mudanjiang**	**10.00 320**	*e*P	**P**	**02 31 57.2**	**+1.6**
	comp=Z,37nm,1.0s					
YSS	**Yuzh-Sakhalins**	**10.08 16**	*e*P	**P**	**02 31 56.6**	**-0.1**
	comp=Z,38nm,0.8s					
YSS	**Yuzh-Sakhalins**	**10.08 16**	⇑*i*P	**P**	**02 31 56.0**	**-0.7**
YSS			*e*S	**S**	**02 33 48.0**	**-2.5**
YSS			pmax	pmax		
	comp=Z,50nm,0.8s					
YSS			MLR	MLR		
	comp=Z,1μm,13.0s					
YSS			MLR	MLR		
	comp=N,2μm,14.0s					
YSS			MLR	MLR		
	comp=E,1μm,15.0s					
CBIJ	**Chichi jima**	**10.63 163**	Pn	**P**	**02 31 59.0**	**-5.3**
	comp=E,15nm,0.3s,baz=262,slow=10,SNR=12					
CBIJ			LR	LR	02 35 59.9	
	comp=E,682nm,19.5s,baz=20,slow=37					
CN2	**Changchun**	**11.95 307**	⇓P	**P**	**02 32 23.3**	**+1.1**
CN2			*e*XP		02 32 32.8	
CN2			*e*S	**S**	**02 34 37.4**	**+1.2**
CN2			AMB	AMB		
	comp=Z,20nm,1.1s					
CN2			AMB	AMB		
	comp=Z,200nm,6.0s					
CN2			LR	LR		
	comp=N,1μm,12.0s					
CN2			LR	LR		
	comp=E,1μm,12.0s					
CN2			LR	LR		
	comp=Z,1μm,14.0s					
SNY	**Shenyang**	**12.48 296**	⇓P	**P**	**02 32 27.5**	**-1.8**
SNY			AMB	AMB		
	comp=Z,20nm,2.4s					
SNY			AMB	AMB		
	comp=Z,270nm,4.5s					
SNY			LR	LR		
	comp=N,2μm,13.2s					
SNY			LR	LR		
	comp=E,1μm,17.4s					
SNY			LR	LR		
	comp=Z,2μm,13.3s					
DL2	**Dalian**	**13.52 282**	P	**P**	**02 32 44.8**	**+1.7**
DL2			*e*S	**S**	**02 35 20.0**	**+6.0**
DL2			AMB	AMB		
	comp=Z,30nm,1.0s					
DL2			AMB	AMB		
	comp=Z,250nm,3.0s					
DL2			LR	LR		
	comp=N,660nm,10.4s					
DL2			LR	LR		
	comp=E,1μm,12.4s					
DL2			LR	LR		
	comp=Z,2μm,11.5s					
JOW	**Kunigami**	**13.68 223**	Pn	**P**	**02 32 50.0**	**+4.7**
	comp=Z,0.4nm,0.3s,baz=24,slow=16,SNR=2.8					
SSE	**Sheshan**	**15.74 252**	*e*P	**P**	**02 33 10.9**	**-1.3**
SSE			AP		02 33 17.3	
SSE			XP		02 33 21.9	
SSE			PP	PP	02 33 23.9	-1.1
SSE			S	**S**	**02 36 05.1**	**-1.5**
SSE			AMB	AMB		
	comp=Z,32nm,0.8s					
SSE			AMB	AMB		
	comp=Z,36nm,3.6s					
SSE			LR	LR		
	comp=N,970nm,11.6s					
SSE			LR	LR		
	comp=E,1μm,11.6s					
SSE			LR	LR		
	comp=Z,2μm,11.4s					
SSE	**Sheshan**	**15.74 252**	*e*P	**P**	**02 33 10.9**	**-1.3**
	comp=Z,32nm,0.8s					
SSE			pP		02 33 17.3	
SSE			sP		02 33 21.9	
SSE			PP	PP	02 33 23.9	-1.1
SSE			S	**S**	**02 36 05.1**	**-1.5**
SSE			sS		02 36 13.5	
SSE			ScS	ScS	02 45 23.0	+0.2
NJ2	**Nanjing**	**17.12 258**	*e*P	**P**	**02 33 31.0**	**+1.2**
NJ2			AP		02 33 37.8	
NJ2			XP		02 33 41.9	
NJ2			AMB	AMB		
	comp=Z,330nm,1.0s					
NJ2			AMB	AMB		
	comp=Z,340nm,4.5s					
NJ2			LR	LR		
	comp=N,2μm,12.0s					
NJ2			LR	LR		
	comp=E,3μm,13.4s					
NJ2			LR	LR		
	comp=Z,1μm,13.6s					
TIA	**Tai'an**	**17.30 273**	P	**P**	**02 33 33.9**	**+1.9**
TIA			LR	LR		
	comp=N,1μm,13.0s					
TIA			LR	LR		
	comp=E,2μm,13.0s					
HIA	**Hailar**	**18.17 317**	*e*P	**P**	**02 33 43.9**	**+1.2**
	comp=E,11nm,0.6s					
HIA	**Hailar**	**18.17 317**	*e*P	**P**	**02 33 43.9**	**+1.2**
HIA			pmax	pmax		
	comp=Z,11nm,0.6s					
SKR	**Severo-Kuril's**	**18.25 37**	*e*P	**P**	**02 33 41.0**	**-2.8**
SKR			*e*S	**S**	**02 37 14.0**	**+10**
SKR			pmax	pmax		
	comp=Z,40nm,0.6s					
SKR			smax			
	comp=E,1μm,8.0s					
SKR			MLR	MLR		
	comp=N,1μm,16.0s					
SKR			MLR	MLR		
	comp=E,1μm,16.0s					
SKR			MLR	MLR		
	comp=Z,1μm,16.0s					
TIY	**Taiyuan**	**20.80 279**	*e*P	**P**	**02 34 16.0**	**+3.4**
TIY			S	**S**	**02 38 00.0**	**+0.7**
TIY			LR	LR		
	comp=E,2μm,13.0s					
TIY			LR	LR		
	comp=Z,504nm,12.0s,MS4.1					
PET	**Petropavlovsk**	**20.97 35**	*e*P	**P**	**02 34 13.4**	**-0.8**
PET			*e*S	**S**	**02 38 08.8**	**+6.3**
PET			pmax	pmax		
	comp=Z,23nm,0.7s					
PET			pmax	pmax		
	comp=Z,100nm,9.6s					
PET			smax			
	comp=N,300nm,12.4s					
PET			MLR	MLR		
	comp=E,500nm,18.0s,MS4.0					
PET			MLR	MLR		
	comp=Z,300nm,15.0s,MS3.8					
PET			MLR	MLR		
	comp=N,300nm,17.0s,MS4.0					
WHN	**Wuhan**	**21.26 259**	P	**P**	**02 34 21.0**	**+3.7**
WHN			LR	LR		
	comp=Z,3μm,11.9s,MS4.9					
HHC	**Hu-ho-hao-te**	**21.30 288**	*e*P	**P**	**02 34 20.8**	**+3.1**
HHC			PP	PP	02 34 43.4	+1.9
HHC			S	**S**	**02 38 14.5**	**+5.7**
HHC			SS	SS	02 38 44.3	+1.1
HHC			AMB	AMB		
	comp=Z,22nm,0.9s,mb4.5					
HHC			AMB	AMB		
	comp=Z,234nm,3.9s					
HHC			LR	LR		
	comp=N,601nm,11.9s,MS4.6					
HHC			LR	LR		
	comp=E,1μm,11.3s,MS4.6					
HHC			LR	LR		
	comp=Z,1μm,11.3s,MS4.6					
CLNS	**Chul'man**	**21.57 339**	*e*P	**P**	**02 34 23.7**	**+3.4**
CLNS			*e*		02 34 37.7	
CLNS			*e*S	**S**	**02 38 08.7**	**-5.1**
CLNS			pmax	pmax		
	comp=Z,30nm,0.8s,mb4.8					
CLNS			pmax	pmax		
	comp=N,20nm,1.0s					
CLNS			pmax	pmax		
	comp=E,14nm,0.8s					
CLNS			pmax	pmax		
	comp=Z,11nm,0.9s,mb4.3					
CLNS			pmax	pmax		
	comp=N,12nm,1.0s					
CLNS			pmax	pmax		
	comp=E,14nm,1.2s					
CLNS			smax			
	comp=N,10.0nm,0.9s					
CLNS			smax			
	comp=Z,7.0nm,0.8s					
CLNS			smax			
	comp=E,10.0nm,1.0s					
CLNS			MLR	MLR		
	comp=Z,400nm,14.0s,MS4.0					
CLNS			MLR	MLR		
	comp=N,300nm,13.0s,MS4.3					
CLNS			MLR	MLR		
	comp=E,800nm,12.0s,MS4.3					
BTO	**Baotou**	**22.48 287**	*e*P	**P**	**02 34 35.0**	**+5.6**
BTO			LR	LR		
	comp=N,1μm,11.8s,MS4.6					
BTO			LR	LR		
	comp=E,716nm,10.4s,MS4.6					
CIT	**Chita**	**22.97 318**	*e*P	**P**	**02 34 31.5**	**-2.6**
CIT			*e*		02 34 49.4	
CIT			*e*		02 38 17.9	
CIT			*e*		02 39 39.2	
CIT			pmax	pmax		
	comp=Z,46nm,1.5s,mb4.7					
MA2	**Magadan**	**23.59 15**	*c*e*P	**P**	**02 34 39.1**	**-0.9**
MA2			*e*S	**S**	**02 38 49.6**	**-0.4**
MA2			pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.1					
MA2			MLR	MLR		
	comp=Z,300nm,20.0s,MS3.8					
XAN	**Xi'an**	**24.34 271**	P	**P**	**02 34 45.5**	**-2.2**
XAN			AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.2					
ENH	**Enshi**	**25.19 262**	*e*P	**P**	**02 34 54.3**	**-1.6**
	comp=Z,62nm,0.9s,mb5.1					
YAK	**Yakutsk**	**25.35 350**	*e*P	**P**	**02 35 00.4**	**+3.4**
YAK			*e**PP	pP	02 35 08.6	+7.3
YAK			*e*		02 35 35.8	
YAK			*e*PPP	PPP	02 35 45.3	-1.9
YAK			*e*		02 38 33.9	
YAK			*e*S	**S**	**02 39 24.3**	**+4.3**
YAK			*e*SSS	SSS	02 40 33.0	-5.4
YAK			*e*		02 45 54.3	
YAK			pmax	pmax		
	comp=Z,15nm,0.9s,mb4.5					
YAK			pmax	pmax		
	comp=N,8.0nm,1.0s					
YAK			pmax	pmax		
	comp=N,9.0nm,1.0s					
YAK			pmax	pmax		
	comp=N,4.0nm,0.9s					
YAK			pmax	pmax		
	comp=E,9.0nm,1.1s					
YAK			smax			
	comp=N,5.0nm,1.3s					
YAK			smax			
	comp=E,5.0nm,2.0s					
YAK			MLR	MLR		
	comp=Z,397nm,15.0s,MS4.0					
YAK			MLR	MLR		
	comp=N,290nm,14.0s,MS4.2					
YAK			MLR	MLR		
	comp=E,363nm,12.0s,MS4.2					
SONM	**Songino Array**	**25.81 304**	P	**P**	**02 35 00.3**	**-1.1**
	comp=E,11nm,0.9s,mb4.4,baz=106,slow=9.3,SNR=46					
SONM			LR	LR	02 45 43.1	
	comp=E,357nm,18.4s,MS3.9,baz=245,slow=38					
GZH	**Guangzhou**	**25.99 244**	P	**P**	**02 34 59.8**	**-3.6**
GZH			S	**S**	**02 39 27.4**	**-3.7**
GZH			LR	LR		
	comp=N,1μm,13.2s,MS4.6					
GZH			LR	LR		
	comp=E,531nm,12.2s,MS4.6					
GZH			LR	LR		
	comp=Z,1μm,11.2s,MS4.8					
BOD	**Bodaibo**	**26.14 330**	*e*P	**P**	**02 35 02.6**	**-1.8**
BOD			pmax	pmax		
	comp=Z,51nm,0.7s,mb5.2					
SEY	**Seymchan**	**26.97 14**	⇑*e*P	**P**	**02 35 12.7**	**+0.7**
LZH	**Lanzhou**	**27.86 278**	*e*P	**P**	**02 35 23.0**	**+2.6**
LZH			AP	pP	02 35 34.8	+10
LZH			XP	sP	02 35 38.9	+12
LZH			S	**S**	**02 40 11.3**	**+10**
LZH			AMB	AMB		
	comp=Z,30nm,1.0s,mb4.9					
LZH			AMB	AMB		
	comp=Z,270nm,5.0s					
LZH			LR	LR		
	comp=E,2μm,14.2s					
LZH			LR	LR		
	comp=Z,2μm,14.6s,MS4.9					
LZH	**Lanzhou**	**27.86 278**	*e*P	**P**	**02 35 23.0**	**+2.6**
	comp=Z,30nm,1.0s,mb4.9					
LZH			pP	pP	02 35 34.8	+10
LZH			sP	sP	02 35 38.9	+12
LZH			PP	PP	02 36 18.0	+8.2
LZH			S	**S**	**02 40 11.3**	**+10**
LZH			sS		02 40 26.0	
LZH			SS	SS	02 41 40.0	+18
LZH			LR	LR		
	comp=Z,2μm,14.6s,MS4.9					
LZH	**Lanzhou**	**27.86 278**	*e*P	**P**	**02 35 23.0**	**+2.6**
LZH			*PP	pP	02 35 34.8	+10
LZH			*SP	sP	02 35 38.9	+12
LZH					02 36 18.0	
LZH			SS	SS	02 41 40.0	+18
LZH			pmax	pmax		
	comp=Z,30nm,1.0s,mb4.9					
LZH			MLR	MLR		
	comp=Z,2μm,14.6s,MS4.9					
ZAK	**Zakamensk**	**28.37 309**	*e*P	**P**	**02 35 21.9**	**-2.9**
ZAK			pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.0					
GYA	**Guiyang**	**29.13 257**	P	**P**	**02 35 30.1**	**-1.8**
GYA			AP	pP	02 35 37.8	+1.5
GYA			AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9					
GYA			AMB	AMB		
	comp=Z,120nm,5.4s					
GYA			LR	LR		
	comp=N,790nm,13.1s,MS4.6					
GYA			LR	LR		
	comp=E,610nm,14.3s,MS4.6					
GYA			LR	LR		
	comp=Z,1μm,14.3s,MS4.6					
CD2	**Chengdu**	**29.49 268**	P	**P**	**02 35 33.6**	**-1.5**
CD2			S	**S**	**02 40 20.9**	**-6.8**
CD2			AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7					
CD2			AMB	AMB		
	comp=Z,50nm,3.8s					
CD2			LR	LR		
	comp=E,530nm,13.6s					
CD2			LR	LR		
	comp=Z,650nm,13.9s,MS4.4					
QIZ	**Qiongzhong**	**31.10 242**	*e*P	**P**	**02 35 51.0**	**+1.6**
QIZ			LR	LR		
	comp=N,478nm,10.9s,MS4.5					
QIZ			LR	LR		
	comp=E,471nm,11.7s,MS4.5					
QIZ			LR	LR		
	comp=Z,673nm,12.1s,MS4.5					
KMI	**Kunming**	**32.86 259**	P	**P**	**02 36 05.0**	**+0.2**
KMI			AP	pP	02 36 12.3	+3.1
KMI			XP	sP	02 36 15.3	+4.2
KMI			PP	PP	02 37 14.3	-0.6
KMI			PCP	PcP	02 38 50.6	+1.0
KMI			S	**S**	**02 41 18.5**	**-2.1**
KMI			SCP		02 42 31.8	
KMI			PCS		02 42 34.8	
KMI			SCS	ScS	02 46 29.9	-0.7
KMI			AMB	AMB		
	comp=Z,15nm,1.1s,mb4.8					
KMI			AMB	AMB		
	comp=Z,136nm,7.0s					
KMI			LR	LR		
	comp=N,745nm,12.7s,MS4.7					
KMI			LR	LR		
	comp=E,702nm,13.3s,MS4.7					
KMI			LR	LR		
	comp=Z,599nm,14.7s,MS4.4					
KMI	**Kunming**	**32.86 259**	P	**P**	**02 36 05.0**	**+0.2**
	comp=Z,15nm,1.1s,mb4.8					
KMI			pP	pP	02 36 12.2	+3.0
KMI			sP	sP	02 36 15.2	+4.1
KMI			PP	PP	02 37 14.2	-0.7
KMI			PPP	PPP	02 37 30.5	-0.2
KMI			PcP	PcP	02 38 50.6	+1.0
KMI			S	**S**	**02 41 18.5**	**-2.1**
KMI			sS		02 41 30.9	
KMI			ScP		02 42 31.8	
KMI			PcS		02 42 34.7	
KMI			SS	SS	02 43 16.2	-3.4
KMI			SSS	SSS	02 43 40.4	-3.0
KMI			ScS	ScS	02 46 29.9	-0.7
KMI			LR	LR		
	comp=Z,600nm,14.7s,MS4.4					
KMI	**Kunming**	**32.86 259**	P	**P**	**02 36 05.0**	**+0.2**
KMI			*SP	sP	02 36 15.2	+4.1
KMI					02 37 14.2	
KMI			PPP	PPP	02 37 30.5	-0.2
KMI					02 38 50.6	
KMI			S	**S**	**02 41 18.5**	**-2.1**
KMI			SS	SS	02 43 16.2	-3.4
KMI			SSS	SSS	02 43 40.4	-3.0
KMI					02 46 29.9	
KMI			pmax	pmax		
	comp=Z,15nm,1.1s,mb4.8					
KMI			MLR	MLR		
	comp=Z,600nm,14.7s,MS4.4					
BILL	**Bilibino**	**34.39 18**	*e*P	**P**	**02 36 17.0**	**-0.6**
BILL			*e*		02 37 33.4	
BILL			*e*		02 38 51.0	
BILL			pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4					
BILL			MLR	MLR		
	comp=Z,200nm,14.0s,MS4.0					
WMQ	**Urumqi**	**38.75 296**	P	**P**	**02 36 55.0**	**+0.3**
WMQ			PP	PP	02 38 28.0	+0.7
WMQ			S	**S**	**02 42 52.0**	**+1.1**
WMQ			SS	SS	02 45 34.0	+0.9
WMQ			AMB	AMB		
	comp=Z,14nm,1.0s,mb4.7					
ZAL	**Zalesovo**	**40.11 312**	P	**P**	**02 37 03.4**	**-2.5**
	comp=Z,1.5nm,0.5s,mb4.0,baz=26,slow=11,SNR=5.7					
ZAL			PcP	PcP	02 39 08.8	-2.2
	comp=Z,3.1nm,0.8s,baz=28,slow=3.3,SNR=7.5					
ZAL			LR	LR	02 54 50.1	
	comp=Z,146nm,18.4s,MS3.9,baz=197,slow=38					
NVS	**Novosibirsk**	**41.05 314**	*e*P	**P**	**02 37 15.2**	**+1.6**
MKAR	**Makanchi Array**	**42.10 301**	P	**P**	**02 37 20.8**	**-1.5**
	comp=Z,2.1nm,0.7s,mb3.9,baz=91,slow=9.8,SNR=16					
MKAR			PcP	PcP	02 39 15.6	-2.0
	comp=Z,4.3nm,0.8s,baz=72,slow=3.8,SNR=8.1					
MKAR			ScP		02 43 08.9	
	comp=Z,0.9nm,0.7s,baz=79,slow=6.2,SNR=5.0					
MKAR			LR	LR	02 55 21.5	
	comp=Z,156nm,21.6s,MS3.9,baz=29,slow=37					
MKAR	**Makanchi Array**	**42.10 301**	P	**P**	**02 37 20.8**	**-1.5**
MKAR			PcP	PcP	02 39 15.6	-2.0
MKAR			ScP		02 43 08.9	
MKAR			LR	LR	02 55 21.5	
KURK	**Kurchatov**	**44.02 308**	*e*P	**P**	**02 37 35.4**	**-2.5**
	comp=Z,19nm,0.8s,mb4.9					
KURK	**Kurchatov**	**44.02 308**	*e*P	**P**	**02 37 35.4**	**-2.4**
KURK			pmax	pmax		
	comp=Z,19nm,0.8s,mb4.9					
GUN	**Gumba**	**44.95 274**	*e*P	**P**	**02 37 45.3**	**-0.4**
	comp=Z,66nm,1.0s,mb5.4					
PKI	**Pulchoki**	**45.48 274**	*e*P	**P**	**02 37 48.6**	**-1.2**
	comp=Z,14nm,0.7s,mb4.9					
PKI	**Pulchoki**	**45.48 274**	*e*P	**P**	**02 37 48.6**	**-1.2**
PKI			pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.6					
KKN	**Kakani**	**45.48 274**	*e*P	**P**	**02 37 48.8**	**-1.1**
	comp=Z,54nm,1.1s,mb5.3					
KKN	**Kakani**	**45.48 274**	*e*P	**P**	**02 37 48.8**	**-1.1**
KKN			pmax	pmax		
	comp=Z,27nm,1.1s,mb5.0					

DMN Daman 45.70 274 *eP* **P 02 37 50.7 -0.9**
GKN Gorkha 45.90 275 *eP* **P 02 37 52.3 -0.9**
comp=Z,44nm,0.9s,mb5.4
SVW2 Sparrevohn 46.62 38 *eP* **P 02 37 58.9 +0.6**
KOLN Koldanda 46.83 275 *eP* **P 02 37 59.5 -1.0**
comp=Z,35nm,1.1s,mb5.2
PMG Port Moresby 47.16 169 LR LR 02 53 28.3
comp=Z,89nm,21.5s,MS3.7,baz=33,slow=30
IMA Indian Mountai 47.55 31 *eP* **P 02 38 06.4 +0.7**
comp=Z,90nm,1.0s,mb5.8
IMA Indian Mountai 47.55 31 *eP* **P 02 38 06.4 +0.7**
IMA pmax pmax
comp=Z,90nm,1.0s,mb5.8
RSO Redoubt South 48.02 38 *eP* **P 02 38 09.6 +0.2**
FRU Bishkek 48.28 298 *eP* **P 02 38 11.0 -0.7**
SPU Mount Spurr 48.32 37 *eP* **P 02 38 12.0 +0.3**
AAK Ala-Archa 48.42 297 *i* P **P 02 38 12.0 -0.8**
AAK pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
AAK MLR MLR
comp=Z,400nm,16.0s,MS4.5
BRVK Borovoye 48.81 312 *eP* **P 02 38 13.8 -1.8**
comp=Z,8.5nm,1.2s,mb4.7
BRVK Borovoye 48.81 312 *eP* **P 02 38 13.8 -1.8**
BRVK pmax pmax
comp=Z,8.0nm,1.2s,mb4.6
KAKA Kakadu 50.12 188 *eP* **P 02 38 36.9 +11**
comp=Z,13nm,0.6s,mb5.1
ILAR Eielson Array 50.41 32 P **P 02 38 26.6 -1.1**
comp=Z,4.2nm,0.8s,mb4.5,baz=274,slow=6.1,SNR=44
MENT Mentasta 52.03 35 *eP* **P 02 38 40.8 +0.7**
ARU Arti 54.68 318 *d i*P **P 02 38 58.1 -1.7**
ARU pmax pmax
comp=Z,22nm,0.9s,mb5.2
ARU MLR MLR
comp=Z,200nm,15.0s,MS4.3
INK Inuvik 55.12 27 P **P 02 39 02.0 -0.8**
comp=Z,13nm,0.9s,mb4.9,baz=291,slow=5.4,SNR=15
HYB Hyderabad 56.03 267 *eP* **P 02 39 13.0 +2.9**
FITZ Fitzroy Crossi 56.49 195 *eP* **P 02 39 10.8 -2.5**
comp=Z,6.7nm,0.5s,mb4.9
WRAB Tennant Creek 57.10 185 *eP* **P 02 39 14.9 -2.8**
comp=Z,71nm,0.6s,mb5.9
WRAB Tennant Creek 57.10 185 *eP* **P 02 39 14.9 -2.8**
WRAB pmax pmax
comp=Z,71nm,0.6s,mb5.9
WRA Warramunga Arr 57.11 185 P **P 02 39 15.1 -2.7**
comp=Z,52nm,0.6s,mb5.8,baz=0.6,slow=7.5,SNR=200
WRA PcP PcP 02 40 11.2 -1.2
comp=Z,8.7nm,0.8s,baz=354,slow=4.2,SNR=2.9
CTA Charters Tower 57.55 172 *eP* **P 02 39 18.7 -2.2**
comp=Z,4.5nm,0.6s,mb4.7
CTA Charters Tower 57.55 172 LR LR 03 00 33.4
comp=Z,57nm,20.5s,MS3.7,baz=226,slow=32
CTA Charters Tower 57.55 172 *eP* **P 02 39 18.7 -2.2**
CTA pmax pmax
comp=Z,5.0nm,0.6s
CTAO Charters Tower 57.55 172 *eP* **P 02 39 17.8 -3.1**
comp=Z,5.9nm,0.6s,mb4.8
CTAO Charters Tower 57.55 172 *eP* **P 02 39 17.8 -3.1**
CTAO pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
DLBC Dease Lake 59.73 38 P **P 02 39 34.6 -0.9**
comp=Z,2.0nm,0.7s,mb4.3,baz=296,slow=9.3,SNR=5.5
APA Apatity 61.51 335 ⇓*i*P **P 02 39 50.0 +2.5**
APA *e*S **S 02 47 54.0 -13**
APA pmax pmax
comp=Z,20nm,0.8s,mb5.3
KEV Kevo 62.38 339 *ep* **P 02 39 52.2 -1.1**
comp=Z,27nm,1.1s,mb5.3
KEV Kevo 62.38 339 *eP* **P 02 39 52.2 -1.1**
KEV pmax pmax
comp=Z,27nm,1.1s,mb5.3
ARCES ARCESS Array B 62.94 339 P **P 02 39 55.6 -1.4**
comp=Z,16nm,0.9s,mb5.2,baz=53,slow=3.4,SNR=9.8
ARCES LR LR 03 10 59.3
comp=Z,128nm,18.1s,MS4.1,baz=79,slow=40
NOUC Port Laguerre 64.59 152 *eP* **P 02 40 07.6 -0.9**
DZM Mont Dzumac 64.62 151 LR LR 03 02 58.6
comp=Z,122nm,19.6s,MS4.1,baz=30,slow=31
YKA Yellowknife Ar 64.64 29 P **P 02 40 06.9 -1.2**
comp=Z,1.5nm,0.7s,mb4.2,baz=308,slow=7.1,SNR=4.7
YKA LR LR 03 08 18.7
comp=Z,62nm,19.8s,MS3.8,baz=60,slow=36
YKA Yellowknife Ar 64.64 29 P **P 02 40 06.9 -1.2**
YKA LR LR 03 08 18.8
JOF Joensuu 64.66 331 *ep* **P 02 40 06.2 -2.1**
comp=Z,13nm,1.0s,mb4.9
DAG Danmarks Havn 65.28 354 ⇓*i*P **P 02 40 10.8 -1.3**
comp=Z,2.1nm,0.7s,mb4.3
DAG Danmarks Havn 65.28 354 ⇓*eP* **P 02 40 10.8 -1.3**
comp=Z,2.0nm,0.7s,mb4.3
DAG Danmarks Havn 65.28 354 ⇓*eP* **P 02 40 10.8 -1.3**
DAG pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
MOS Moscow 65.70 322 *eP* **P 02 40 17.6 +2.5**
MOS *e* 02 40 43.3
MOS pmax pmax
comp=Z,79nm,1.0s,mb5.7
MOS pmax pmax
comp=Z,200nm,2.4s,mb5.7
MOS MLR MLR
comp=Z,900nm,18.9s,MS5.0
OBN Obninsk 66.54 322 *eP* **P 02 40 21.5 +1.1**
comp=Z,45nm,1.2s,mb5.4
OBN Obninsk 66.54 322 *d i*P **P 02 40 20.6 +0.2**
OBN *e**PP pP 02 40 33.0 +7.9
OBN *e*S S 02 49 07.5 -1.7
OBN *e*SS SS 02 53 23.1 -4.9
OBN pmax pmax
comp=Z,36nm,1.0s,mb5.4
OBN MLR MLR
comp=Z,200nm,15.0s,MS4.5
KAF Kangasniemi 67.03 332 *ep* **P 02 40 21.0 -2.5**
baz=50,slow=6.0
FINES FINESS Array B 67.52 331 P **P 02 40 25.3 -1.3**
comp=Z,18nm,0.8s,mb5.2,baz=56,slow=6.9,SNR=34
FINES LR LR 03 11 52.3
comp=Z,99nm,18.3s,MS4.1,baz=271,slow=38
FINES FINESS Array B 67.52 331 P **P 02 40 25.3 -1.3**
FINES LR LR 03 11 52.3
GOF Gofitskoye 68.26 311 ⇓*i*P **P 02 40 33.6 +2.1**
GOF pmax pmax
comp=Z,30nm,1.3s,mb5.2
FORT Forrest 68.48 190 ⇑*i*P **P 02 40 31.2 -1.9**
comp=Z,56nm,0.6s,mb5.8
STKA Stephens Creek 68.90 177 ⇑*i*P **P 02 40 33.8 -1.9**
comp=Z,13nm,0.9s,mb4.8
STKA Stephens Creek 68.90 177 P **P 02 40 33.7 -2.0**
comp=Z,19nm,0.9s,mb5.0,baz=353,slow=7.8,SNR=16
ZEI Tsey 68.92 308 *eP* **P 02 40 31.8 -3.8**
ZEI *i* *PP pP 02 40 43.3 +3.0
ZEI pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
KIV Kislovodsk 69.05 310 *i* P **P 02 40 32.3 -4.1**
VSU Vasula 69.08 329 *eP* **P 02 40 35.1 -1.2**
GNI Garni 69.76 305 *i* P **P 02 40 39.9 -0.9**
COR Corvallis 69.94 49 *eP* **P 02 40 42.4 +0.6**
comp=Z,33nm,1.0s,mb5.2
COR Corvallis 69.94 49 *eP* **P 02 40 42.4 +0.6**
COR pmax pmax
comp=Z,33nm,1.0s,mb5.2
TWW Teanaway 69.97 46 P **P 02 40 42.8 +0.8**
KEBM Edson Butte 70.24 51 *eP* **P 02 40 44.3 +0.6**
EBG Ellensburg 70.27 46 P **P 02 40 44.2 +0.4**
SUMG Summit 70.37 359 *eP* **P 02 40 44.0 0.0**
comp=Z,36nm,0.8s,mb5.3
KBO Bosley Butte 70.67 51 *eP* **P 02 40 47.0 +0.7**
HBO Huckleberry Mo 70.94 49 P **P 02 40 48.4 +0.4**
IDID Didziasalis 71.02 326 *eP* **P 02 40 47.4 -0.8**
IDID AMb AMB 02 40 53.4
comp=Z,8.4nm,0.9s,mb4.7
ISAL Salakas 71.13 326 *eP* **P 02 40 48.3 -0.6**
ISAL AMb AMB 02 40 54.1
comp=Z,18nm,1.1s,mb4.9
HAWA Hanford 71.15 46 *eP* **P 02 40 48.7 -0.5**
comp=Z,1.0nm,1.2s
IIGN Ignalina 71.23 326 *eP* **P 02 40 48.8 -0.6**
KLBR Kellerberrin 71.30 199 *eP* **P 02 40 47.7 -2.6**
comp=Z,20nm,0.9s,mb5.0
KTRM Thompson Ridge 71.36 51 P **P 02 40 51.2 +0.7**
NEW Newport 71.42 43 P **P 02 40 51.0 +0.2**
NEW Newport 71.42 43 *eP* **P 02 40 50.0 -0.7**
comp=Z,12nm,0.8s,mb4.9
VIPM Ingram Point 71.58 48 P **P 02 40 52.2 +0.4**
KHMM Horse Mountain 71.71 52 *eP* **P 02 40 53.1 +0.5**

PINOR Pine Mountain 71.83 49 P **P 02 40 54.1 +0.9**
AKASG Malin Array Be 72.71 321 P **P 02 40 56.9 -1.4**
comp=Z,20nm,0.8s,mb5.1,baz=46,slow=6.1,SNR=33
LTIM Timbered Crate 72.95 51 P **P 02 41 00.2 +0.3**
NB2 NORSAR Subarra 73.05 336 P **P 02 40 59.0 -1.1**
comp=Z,34nm,0.9s,mb5.3,baz=41,slow=5.8
NB2 NORSAR Subarra 73.05 336 P **P 02 40 59.0 -1.1**
baz=41,slow=6.2
NB2 NORSAR Subarra 73.05 336 P **P 02 40 59.0 -1.1**
NB2 pmax pmax
comp=Z,34nm,0.9s,mb5.3
NOA NORSAR Array B 73.05 336 P **P 02 40 59.2 -0.9**
comp=Z,18nm,0.8s,mb5.0,baz=41,slow=5.9,SNR=31
NOA PP PP 02 43 45.1 +0.1
comp=Z,4.2nm,1.0s,baz=43,slow=8.4,SNR=4.8
NOA LR LR 03 16 38.9
comp=Z,96nm,18.3s,MS4.1,baz=25,slow=39
NOA NORSAR Array B 73.05 336 P **P 02 40 59.2 -0.9**
NOA PP PP 02 43 45.1 +0.1
NOA LR LR 03 16 38.9
LBCM Butte Creek Ri 73.23 51 P **P 02 41 01.9 +0.3**
BMO Blue Mountains 73.31 46 *eP* **P 02 41 01.9 0.0**
comp=Z,14nm,0.9s,mb4.9
SUW Suwalki 73.44 326 *eP* **P 02 41 05.8 +3.3**
SUW Suwalki 73.44 326 *eP* **P 02 41 05.8 +3.3**
WVOR Wild Horse Val 73.96 49 *eP* **P 02 41 06.1 +0.4**
comp=Z,7.9nm,0.8s,mb4.7
WVOR Wild Horse Val 73.96 49 *eP* **P 02 41 06.1 +0.4**
WVOR pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
MSO Missoula 74.01 43 *eP* **P 02 41 05.4 -0.5**
comp=Z,12nm,1.2s,mb4.7
KONO Kongsberg 74.63 336 *i* P **P 02 41 08.4 -0.9**
MALT Malatya 74.86 307 P **P 02 41 11.0 0.0**
comp=Z,23nm,1.5s,mb4.9
MALT Malatya 74.86 307 P **P 02 41 16.3 +5.3**
HLID Hailey 75.75 46 *eP* **P 02 41 16.4 +0.3**
comp=Z,11nm,1.0s,mb4.7
LVV L'vov 75.83 323 *i* P **P 02 41 20.1 +3.7**
LVV PS PS 02 51 15.1 -21
LVV MLR MLR
comp=Z,7μm,14.0s
LVV MLR MLR
comp=N,6μm,13.0s
LVV MLR MLR
comp=E,6μm,13.0s
BOZ Bozeman (W) 76.00 43 *eP* **P 02 41 17.2 -0.2**
comp=E,20nm,0.9s,mb5.0
BOZ Bozeman (W) 76.00 43 *eP* **P 02 41 17.2 -0.2**
BOZ pmax pmax
comp=Z,20nm,0.9s,mb5.0
BMN Battle Mountai 76.00 50 *eP* **P 02 41 17.8 +0.3**
comp=Z,34nm,1.4s,mb5.1
BMN Battle Mountai 76.00 50 *eP* **P 02 41 17.8 +0.3**
BMN pmax pmax
comp=Z,34nm,1.4s,mb5.1
BSD Bornholm Skovb 76.13 331 *i* P **P 02 41 21.7 +3.8**
comp=Z,42nm,0.8s,mb5.4
BSD Bornholm Skovb 76.13 331 *eP* **P 02 41 21.7 +3.8**
comp=Z,42nm,0.8s,mb5.4
BSD Bornholm Skovb 76.13 331 *eP* **P 02 41 21.7 +3.8**
BSD pmax pmax
comp=Z,42nm,0.8s,mb5.4
GKP Gorka Klasztor 76.52 328 *eP* **P 02 41 24.2 +4.1**
GKP Gorka Klasztor 76.52 328 *eP* **P 02 41 24.2 +4.0**
COP Copenhagen 76.66 332 ⇓*i*P **P 02 41 24.8 +3.9**
comp=Z,29nm,0.9s,mb5.2
COP Copenhagen 76.66 332 ⇓*i*P **P 02 41 24.8 +3.9**
COP pmax pmax
comp=Z,29nm,0.9s,mb5.2
BURAR Bucovina Array 76.71 320 ⇓P **P 02 41 21.2 -0.1**
CFR Carcaliu 76.76 317 ⇓P **P 02 41 24.1 +2.4**
YMR Madison River 76.99 43 *eP* **P 02 41 23.6 +0.6**
BRTR Keskin Array B 77.00 310 P **P 02 41 23.1 -0.1**
comp=Z,8.9nm,0.9s,mb4.7,baz=95,slow=3.9,SNR=28
ELK Elko 77.01 49 *eP* **P 02 41 23.3 +0.1**
comp=Z,6.2nm,0.8s,mb4.6
ELK Elko 77.01 49 *eP* **P 02 41 23.3 +0.1**
ELK pmax pmax
comp=Z,6.0nm,0.8s
VRI Vrincioaia 77.07 318 ⇓P **P 02 41 27.4 +4.0**
TIRR Tirgusor 77.07 316 ⇓P **P 02 41 27.5 +4.1**
MUD Monsted U'grnd 77.25 334 *i* P **P 02 41 28.2 +4.1**
comp=Z,18nm,0.9s,mb5.0
MUD *e* 02 51 25.9
MUD Monsted U'grnd 77.25 334 *i* P **P 02 41 28.2 +4.1**
MUD *e* 02 51 25.9
MUD pmax pmax
comp=Z,18nm,0.9s,mb5.0
KOLS Kolonicke sedl 77.28 323 *eP* **P 02 41 24.5 0.0**
KOLS *i* pP pP 02 41 28.9 -0.3
LKWY Lake 77.36 43 *eP* **P 02 41 24.7 -0.3**
comp=Z,22nm,1.0s,mb5.0
LKWY Lake 77.36 43 *eP* **P 02 41 24.7 -0.3**
LKWY pmax pmax
comp=Z,22nm,1.0s,mb5.0
ANTO Ankara 77.43 311 P **P 02 41 30.3 +4.8**
TPH Tonopah 77.43 52 *eP* **P 02 41 25.6 +0.1**
comp=Z,19nm,0.9s,mb5.0
STHS Stebnicka Huta 77.44 324 *i* P **P 02 41 25.7 +0.4**
STHS *i* pP pP 02 41 30.6 +0.5
STHS *es*P sP 02 41 30.9 -0.8
STHS Stebnicka Huta 77.44 324 *i* P **P 02 41 25.7 +0.4**
STHS *e* pP 02 41 30.9 +0.8
OJC Ojcow 77.56 325 *eP* **P 02 41 25.7 -0.3**
OJC *e* pP 02 41 30.4 -0.3
OJC Ojcow 77.56 325 *eP* **P 02 41 25.7 -0.3**
OJC *i* pP 02 41 30.4 -0.3
CRVS Cervenica-Dubn 77.69 323 *i* P **P 02 41 26.8 +0.1**
CRVS *ep*P pP 02 41 30.2 -1.3
CRVS *i* pP 02 41 31.3 -0.2
CRVS Cervenica-Dubn 77.69 323 *i* P **P 02 41 26.8 +0.1**
CRVS *i* pP 02 41 31.3 -0.2
MLR Muntele Rosu 77.73 318 P **P 02 41 27.3 +0.3**
comp=Z,8.2nm,1.0s,mb4.6,baz=346,slow=4.3,SNR=3.9
MLR Muntele Rosu 77.73 318 ⇑P **P 02 41 27.8 +0.8**
HVU Hansel Valley 77.81 47 *eP* **P 02 41 26.7 -0.9**
NIE Niedzica 77.88 324 *eP* **P 02 41 28.0 +0.3**
NIE *e* pP 02 41 32.5 0.0
DGMT Dagmar 77.95 37 *eP* **P 02 41 27.9 -0.2**
comp=Z,8.4nm,0.7s,mb4.8
SNX Sinaia 78.05 318 ⇓P **P 02 41 28.9 +0.1**
AHID Auburn Hatcher 78.14 45 *eP* **P 02 41 29.3 0.0**
comp=Z,8.9nm,0.9s,mb4.7
LAO LASA Array 78.16 40 *eP* **P 02 41 29.6 +0.3**
comp=Z,31nm,1.0s,mb5.2
DAC Darwin (Calif) 78.30 53 *eP* **P 02 41 30.1 -0.2**
comp=Z,6.3nm,0.9s,mb4.5
DAC Darwin (Calif) 78.30 53 *eP* **P 02 41 30.1 -0.2**
DAC pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
MZLS Mizel 78.44 291 P **P 02 41 35.5 +4.1**
KECS Kecovo 78.45 323 *i* pP pP 02 41 35.4 -0.2
DRGR 78.53 321 ⇓P **P 02 41 34.5 +3.1**
DRGR 78.53 321 P **P 02 41 35.2 +3.8**
OKC Ostrava-Krasne 78.58 325 *eP* **P 02 41 30.8 -0.8**
OKC *ep*P pP 02 41 36.0 -0.3
HWUT Hardware Ranch 78.62 46 *eP* **P 02 41 32.2 +0.3**
comp=Z,19nm,1.1s,mb4.9
KSP Ksiaz 78.68 327 *eP* **P 02 41 36.7 +4.6**
KSP Ksiaz 78.68 327 *eP* **P 02 41 36.8 +4.7**
KSP *ep*P pP 02 41 39.5 +2.7
BSEG Bad Segeberg 78.79 332 *eP* **P 02 41 32.2 -0.4**
MORC Moravsky Berou 78.90 326 *eP* **P 02 41 33.6 +0.2**
comp=Z,22nm,1.0s,mb5.0
MORC Moravsky Berou 78.90 326 *eP* **P 02 41 33.6 +0.3**
MORC pmax pmax
comp=Z,22nm,1.0s,mb5.0
HILS Ha'il 78.97 296 P **P 02 41 38.7 +4.4**
PDAR Pinedale Array 79.00 44 P **P 02 41 34.2 +0.2**
comp=Z,9.3nm,0.8s,mb4.8,baz=292,slow=2.3,SNR=89
TCUT Toone Canyon 79.02 46 *eP* **P 02 41 34.5 +0.3**
DPC Dobruska-Polom 79.03 327 *eP* **P 02 41 33.5 -0.5**
DPC AMS AMS 03 21 10.0
comp=Z,300nm,10.9s
UPC Upice 79.05 327 *eP* **P 02 41 34.3 +0.2**
UPC *ep*P pP 02 41 38.4 -0.5
PSZ Piszkesteto 79.13 323 *eP* **P 02 41 34.2 -0.4**
comp=Z,32nm,0.9s,mb5.2
PSZ Piszkesteto 79.13 323 *eP* **P 02 41 34.2 -0.4**
PSZ pmax pmax
comp=Z,32nm,0.9s,mb5.2
VYHS Vyhne 79.22 324 *ep*P pP 02 41 39.2 -0.7
NLU North Lily Min 79.38 48 *eP* **P 02 41 36.6 +0.4**

ASF Jabal al Asfar 79.52 302 P **P 02 41 37.6 +0.5**
comp=Z,3.6nm,0.4s,mb4.6,baz=322,slow=4.2,SNR=2.8
DAU Daniels Canyon 79.57 47 *eP* **P 02 41 38.1 +0.9**
MPU Maple Canyon 79.60 47 *eP* **P 02 41 37.7 +0.3**
PVCC Panska Ves 79.66 328 *eP* **P 02 41 37.3 -0.1**
PVCC *ep*P pP 02 41 41.5 -0.7
PVCC AMS AMS 03 22 50.0
comp=Z,300nm,10.0s
VRAC Vranov 79.66 326 P **P 02 41 42.5 +5.0**
BRG Berggiesshubel 79.67 328 *eP* **P 02 41 37.5 +0.1**
comp=Z,3.6nm,0.8s,mb4.3
BRG *i* pP 02 41 41.0 -1.2
BRG LR LR
comp=Z,250nm,21.6s,MS4.5
BRG Berggiesshubel 79.67 328 *eP* **P 02 41 37.5 0.0**
BRG *i* pP 02 41 41.0 -1.2
BRG pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
BRG MLR MLR
comp=Z,250nm,21.6s,MS4.5
QURS Qurayyt al Mil 79.70 302 P **P 02 41 43.3 +5.2**
CLL Collm 79.73 329 P **P 02 41 37.2 -0.6**
comp=Z,logA/T=1.0,mb4.7
CLL *i* *PP pP 02 41 41.4 -1.2
CLL *i* *SP sP 02 41 43.6 -0.5
CLL *e*PP PP 02 44 41.0 +0.4
CLL Collm 79.73 329 *i* P **P 02 41 37.2 -0.6**
comp=Z,15nm,1.5s,mb4.7
CLL *i* pP 02 41 41.4 -1.2
CLL *e* 02 41 54.0
CLL Collm 79.73 329 *i* P **P 02 41 37.2 -0.6**
CLL *i* pP 02 41 41.4 -1.2
CLL *e* 02 41 54.0
CLL pmax pmax
comp=Z,15nm,1.5s,mb4.7
ARUT Antelope Range 79.95 50 *eP* **P 02 41 40.0 +0.7**
PRU Pruhonice 80.07 327 *eP* **P 02 41 39.3 -0.4**
PRU *ep*P pP 02 41 43.8 -0.6
PRU AMS AMS 03 21 10.0
comp=Z,300nm,13.6s
PRU Pruhonice 80.07 327 *eP* **P 02 41 39.3 -0.4**
PRU MLR MLR
comp=Z,300nm,13.6s,MS4.8
AFFS 'Afif 80.13 292 P **P 02 41 44.6 +4.1**
TREC Trest 80.17 326 *eP* **P 02 41 39.7 -0.5**
TREC *ep*P pP 02 41 44.5 -0.4
TREC AMS AMS 03 20 50.0
comp=Z,400nm,15.9s
TREC Trest 80.17 326 *eP* **P 02 41 39.7 -0.5**
TREC MLR MLR
comp=Z,400nm,15.9s,MS4.9
ZST Bratislava 80.24 325 *ep*P pP 02 41 45.9 +0.5
MSU Marysvale 80.25 49 *eP* **P 02 41 41.6 +0.7**
CLZ Clausthal 80.38 330 *eP* **P 02 41 41.1 -0.2**
comp=Z,36nm,1.1s,mb5.2
CLZ Clausthal 80.38 330 *eP* **P 02 41 41.1 -0.2**
CLZ pmax pmax
comp=Z,36nm,1.1s,mb5.2
ULM Lac du Bonnet 80.43 32 P **P 02 41 40.8 -0.8**
comp=Z,9.9nm,1.0s,mb4.7,baz=305,slow=7.6,SNR=7.3
ULM LR LR 03 20 13.6
comp=Z,70nm,19.3s,MS4.0,baz=32,slow=38
ULM Lac du Bonnet 80.43 32 *eP* **P 02 41 40.6 -1.0**
comp=Z,22nm,1.1s,mb5.0
PFO Pinyon Flat Ob 80.68 55 *eP* **P 02 41 43.2 0.0**
comp=Z,5.1nm,0.7s,mb4.6
PFO Pinyon Flat Ob 80.68 55 *eP* **P 02 41 43.3 +0.1**
PFO pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
NKC Novy Kostel 80.78 328 *eP* **P 02 41 43.4 0.0**
NKC *ep*P pP 02 41 47.4 -0.7
NKC AMS AMS 03 22 40.0
comp=Z,300nm,10.6s
MOX Moxa 80.81 329 *i* P **P 02 41 43.9 +0.4**
comp=Z,logA/T=1.2,mb4.9
MOX Moxa 80.81 329 *eP* **P 02 41 43.9 +0.4**
comp=Z,20nm,1.3s,mb4.9
MOX Moxa 80.81 329 *eP* **P 02 41 43.9 +0.4**
MOX pmax pmax
comp=Z,20nm,1.3s,mb4.9
SRU San Rafael 80.84 47 *eP* **P 02 41 42.8 -1.2**
RZN Rozhen 80.93 316 *i* P **P 02 41 50.0 +5.6**
PKSM Moragy 80.94 322 P **P 02 41 48.7 +4.3**
BEO Belgrade 81.03 321 ⇑*i*P **P 02 41 49.1 +4.2**
RSSD Black Hills 81.04 40 *eP* **P 02 41 44.6 -0.3**
comp=Z,5.3nm,0.8s,mb4.5
RSSD Black Hills 81.04 40 *eP* **P 02 41 44.6 -0.3**
RSSD pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
KAMS Al Khamasin 81.09 289 P **P 02 41 49.4 +3.8**
KHC Kasperske Hory 81.13 327 *eP* **P 02 41 45.3 0.0**
KHC *ep*P pP 02 41 49.4 -0.6
KHC AMS AMS 03 22 40.0
comp=Z,300nm,11.1s
KHC Kasperske Hory 81.13 327 *eP* **P 02 41 45.3 0.0**
KHC MLR MLR
comp=Z,300nm,11.1s,MS4.9
VTS Vitosha 81.14 318 *i* P **P 02 41 50.0 +4.5**
VTS Vitosha 81.14 318 P **P 02 41 50.7 +5.2**
GEC2 GERESS Array S 81.29 327 *eP* **P 02 41 45.7 -0.4**
comp=Z,15nm,1.2s,mb4.8
GEC2 GERESS Array S 81.29 327 *eP* **P 02 41 45.7 -0.4**
GEC2 pmax pmax
comp=Z,15nm,1.2s,mb4.8
GERES GERESS Array B 81.29 327 P **P 02 41 45.8 -0.3**
comp=Z,6.4nm,0.9s,mb4.5,baz=39,slow=5.7,SNR=20
GERES LR LR 03 18 54.1
comp=Z,79nm,20.2s,MS4.1,baz=148,slow=36
WET Wettzell 81.42 327 *eP* **P 02 41 46.8 0.0**
comp=Z,23nm,1.3s,mb5.0
WET Wettzell 81.42 327 *eP* **P 02 41 46.8 0.0**
WET pmax pmax
comp=Z,23nm,1.3s,mb5.0
MMB Musomiste 81.54 317 *eP* **P 02 41 47.0 -0.6**
WTSB Winterswijk 81.65 332 *eP* **P 02 41 52.1 +4.2**
ARSA Arzberg 81.66 325 ⇓*i*P **P 02 41 48.6 +0.5**
comp=Z,3.9nm,1.4s,mb4.1
GRA1 Grafenberg Arr 81.70 329 *eP* **P 02 41 48.5 +0.3**
comp=Z,61nm,1.1s,mb5.4
GRA1 *ep*P pP 02 41 52.9 -0.1
GRF Grafenberg Arr 81.70 329 *eP* **P 02 41 48.5 +0.3**
comp=Z,61nm,1.1s,mb5.4
GRF *ep*P pP 02 41 52.9 -0.1
GRF Grafenberg Arr 81.70 329 *eP* **P 02 41 48.5 +0.3**
GRF pmax pmax
comp=Z,61nm,1.1s,mb5.4
GRF Grafenberg Arr 81.70 329 *eP* **P 02 41 48.5 +0.3**
GRF pmax pmax
comp=Z,61nm,1.1s,mb5.4
KKB Krupnik 81.70 317 *eP* **P 02 41 50.0 +1.6**
DIVS Divcibare 81.77 320 ⇓*i*P **P 02 41 53.2 +4.4**
PERS Pernice 82.30 325 *eP* **P 02 41 55.8 +4.4**
TNS Taunus Mts 82.41 330 *eP* **P 02 41 51.6 -0.3**
comp=Z,21nm,1.1s,mb5.0
TNS Taunus Mts 82.41 330 *eP* **P 02 41 51.6 -0.3**
TNS pmax pmax
comp=Z,21nm,1.1s,mb5.0
SKO Skopje 82.51 318 *eP* **P 02 41 57.5 +4.9**
SIND Sindeldorf 82.63 329 *eP* **P 02 41 57.3 +4.2**
TOD Tromm 82.75 330 ⇓*eP* **P 02 41 58.0 +4.3**
TOD Tromm 82.75 330 *eP* **P 02 41 52.9 -0.8**
PDKS Podkum 82.78 324 *i* P **P 02 41 54.8 +0.9**
FUR Furstenfeldbru 82.85 328 *eP* **P 02 41 54.3 0.0**
comp=Z,57nm,1.0s,mb5.6
FUR Furstenfeldbru 82.85 328 *eP* **P 02 41 54.3 0.0**
FUR pmax pmax
comp=Z,57nm,1.0s,mb5.6
SWS Schriesheim 82.89 330 *eP* **P 02 41 58.5 +4.1**
HGN Heimansgroeve 82.94 332 *eP* **P 02 41 58.8 +4.1**
comp=Z,22nm,1.6s,mb5.0
ABH Alteburg 83.03 331 ⇓*eP* **P 02 41 59.2 +4.0**
BDAS Al Bad' 83.04 300 P **P 02 41 59.9 +4.3**
VISS Visnje 83.05 324 *eP* **P 02 41 59.1 +3.8**
BOJS Bojanci 83.08 324 *eP* **P 02 41 59.9 +4.4**
ISCO Idaho Springs 83.19 44 *eP* **P 02 41 56.1 -0.1**
comp=Z,18nm,1.5s,mb4.9
ISCO Idaho Springs 83.19 44 *eP* **P 02 41 56.1 -0.1**
ISCO pmax pmax
comp=Z,18nm,1.5s,mb4.9
STU Stuttgart 83.25 329 *eP* **P 02 41 55.5 -0.8**
comp=Z,46nm,1.0s,mb5.5
STU Stuttgart 83.25 329 *eP* **P 02 41 55.5 -0.8**
STU pmax pmax
comp=Z,46nm,1.0s,mb5.5

ROBS Robic 83.33 325 *i* P **P 02 41 50.0 -6.7**
WATA Walderalm 83.36 327⇓*i*P **P 02 41 56.6 -0.3**
comp=Z,2.6nm,0.8s,mb4.3
WATA Walderalm 83.36 327⇓*i*P **P 02 41 56.6 -0.3**
WATA pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
DJNS Zahran al Janu 83.42 287 P **P 02 41 58.8 +1.0**
KNDS Knezji Dol 83.47 324 *e*P **P 02 42 00.8 +3.3**
UMJS Umm Lajj 83.47 297 P **P 02 42 00.5 +2.6**
LBG Lerchenberg 83.50 329 *e*P **P 02 42 01.9 +4.3**
MOTA Moosalm 83.56 327⇑*i*P **P 02 41 57.6 -0.3**
comp=Z,4.5nm,0.9s,mb4.6
MOTA Moosalm 83.56 327⇑*i*P **P 02 41 57.6 -0.3**
MOTA pmax pmax
comp=Z,5.0nm,0.9s,mb4.6
BLJS Baljurashi 83.59 290 P **P 02 41 59.5 +0.9**
GIVF Givet 83.89 332 *e*P **P 02 41 58.6 -0.9**
BFO Black Forest 83.95 329 *e*P **P 02 41 59.5 -0.3**
comp=Z,46nm,1.1s,mb5.5
BFO Black Forest 83.95 329 *e*P **P 02 41 59.5 -0.3**
BFO pmax pmax
comp=Z,46nm,1.1s,mb5.5
DAVA Damuels 84.13 328⇑*i*P **P 02 42 00.0 -0.7**
comp=Z,14nm,0.9s,mb5.1
BAIF Baives 84.16 332 *e*P **P 02 42 00.0 -0.8**
comp=Z,20nm,1.2s,mb4.8
BAIF Baives 84.16 332 *e*P **P 02 42 00.0 -0.8**
BAIF pmax pmax
comp=Z,10.0nm,1.2s,mb4.8
WLS Welschbruch 84.28 330 *e*P **P 02 42 00.9 -0.6**
CDF Champ du Feu 84.31 330⇑*i*P **P 02 42 01.3 -0.3**
comp=Z,90nm,1.2s,mb5.5
CDF Champ du Feu 84.31 330⇑*i*P **P 02 42 01.3 -0.3**
CDF pmax pmax
comp=Z,45nm,1.2s,mb5.5
LIBD Limburg 84.39 330 *e*P **P 02 42 06.4 +4.4**
LIBD Limburg 84.39 330 *e*P **P 02 42 01.6 -0.4**
KIZ Kirchzarten 84.42 329 *e*P **P 02 42 06.1 +3.9**
FELD Feldberg 84.45 329 *e*P **P 02 42 06.4 +4.1**
FELD Feldberg 84.45 329 *e*P **P 02 42 01.4 -0.9**
ECH Echery 84.52 330 *e*P **P 02 42 01.8 -0.9**
SDCO Great Sand Dun 84.67 46 *e*P **P 02 42 04.4 +0.7**
comp=Z,11nm,1.0s,mb5.0
MOF Molkenrain 84.82 330 *e*P **P 02 42 03.3 -0.9**
DLF Lyons Farm 84.84 340⇑*i*P **P 02 42 03.7 -0.4**
HINF Hinteralfeld 84.96 330 *e*P **P 02 42 03.9 -1.0**
comp=Z,22nm,1.0s,mb5.0
HINF Hinteralfeld 84.96 330 *e*P **P 02 42 03.9 -1.0**
HINF pmax pmax
comp=Z,11nm,1.0s,mb4.9
THEF They Montfort 84.97 330 *e*P **P 02 42 04.2 -0.7**
BBS Basel-Blauen 84.98 329 *e*P **P 02 42 08.8 +3.8**
BBS Basel-Blauen 84.98 329 *e*P **P 02 42 04.0 -1.0**
DCN Croghan 85.00 340⇑*i*P **P 02 42 04.9 0.0**
HAU Haudompre 85.01 330⇑*i*P **P 02 42 04.3 -0.8**
comp=Z,24nm,0.9s,mb5.0
HAU *e*R
comp=Z,114nm,22.2s
HAU Haudompre 85.01 330⇑*i*P **P 02 42 04.3 -0.8**
HAU pmax pmax
comp=Z,12nm,0.9s,mb5.0
HAU MLR MLR
comp=Z,110nm,22.3s,MS4.2
MEZF Maizieres J'vi 85.11 331⇑*i*P **P 02 42 05.3 -0.3**
comp=Z,95nm,1.2s,mb5.5
TUC Tucson 85.16 53 *e*P **P 02 42 06.2 0.0**
comp=Z,3.5nm,0.9s,mb4.5
TUC Tucson 85.16 53 *e*P **P 02 42 06.3 0.0**
TUC pmax pmax
comp=Z,3.0nm,0.9s,mb4.4
SCHQ Schefferville 85.62 14 P **P 02 42 08.1 +0.1**
comp=Z,3.6nm,0.8s,mb4.6,baz=264,slow=9.1,SNR=5.0
SCHQ LR LR 03 20 28.8
comp=Z,36nm,19.5s,MS3.8,baz=43,slow=36
SCHQ Schefferville 85.62 14 P **P 02 42 08.1 +0.1**
SCHQ LR LR 03 20 28.8
ANMO Albuquerque 86.04 48⇑*e*P **P 02 42 11.4 +0.8**
CABF La Chapelle 86.24 329 *e*P **P 02 42 10.6 -0.7**
comp=Z,25nm,1.0s,mb5.1
CABF La Chapelle 86.24 329 *e*P **P 02 42 10.6 -0.7**
CABF pmax pmax
comp=Z,13nm,1.0s,mb5.1
AQU L'Aquila 86.33 323 *e*P **P 02 42 12.2 +0.3**
comp=Z,16nm,0.9s,mb5.3
AQU L'Aquila 86.33 323 *e*P **P 02 42 12.2 +0.4**
AQU pmax pmax
comp=Z,17nm,0.9s,mb5.3
CII Carovilli 86.36 322 P **P 02 42 13.8 +1.8**
comp=Z,19nm,1.1s,mb5.2
LOR Lormes 86.59 331⇑*i*P **P 02 42 12.1 -0.9**
comp=Z,52nm,1.0s,mb5.4
LOR *e*R
comp=Z,114nm,17.5s
LOR Lormes 86.59 331⇑*i*P **P 02 42 12.1 -0.9**
LOR pmax pmax
comp=Z,26nm,1.0s,mb5.4
LOR MLR MLR
comp=Z,110nm,17.5s,MS4.3
PPT Papeete 86.73 115 LR LR 03 13 24.2
comp=Z,16nm,21.3s,MS3.4,baz=304,slow=30
LPL La Plagne 86.86 328 *e*P **P 02 42 13.8 -0.5**
LPG La Plagne 86.87 328 *e*P **P 02 42 14.0 -0.4**
SSF Saint Saulge 86.89 331 *e*P **P 02 42 13.7 -0.8**
comp=Z,22nm,1.0s,mb5.3
SSF Saint Saulge 86.89 331 *e*P **P 02 42 13.7 -0.8**
SSF pmax pmax
comp=Z,22nm,1.0s,mb5.3
FLN La Foliniere 86.92 334 *e*P **P 02 42 13.9 -0.7**
comp=Z,99nm,1.5s,mb5.5
FLN *e*R
comp=Z,149nm,17.5s
FLN La Foliniere 86.92 334 *e*P **P 02 42 13.9 -0.7**
FLN pmax pmax
comp=Z,50nm,1.5s,mb5.5
FLN MLR MLR
comp=Z,150nm,17.5s,MS4.5
LDF La Druitiere 86.94 334 *e*P **P 02 42 13.7 -0.9**
comp=Z,40nm,1.1s,mb5.2
LDF La Druitiere 86.94 334 *e*P **P 02 42 13.7 -0.9**
LDF pmax pmax
comp=Z,20nm,1.1s,mb5.3
HYF Humbligny 87.05 332 *e*P **P 02 42 15.0 -0.2**
SMF Signal de Mont 87.11 331 *e*P **P 02 42 14.5 -1.0**
comp=Z,27nm,1.1s,mb5.1
SMF Signal de Mont 87.11 331 *e*P **P 02 42 14.5 -1.0**
SMF pmax pmax
comp=Z,13nm,1.1s,mb5.1
AVF Avril sur Loir 87.18 331⇑*i*P **P 02 42 15.1 -0.7**
comp=Z,65nm,1.0s,mb5.5
AVF Avril sur Loir 87.18 331⇑*i*P **P 02 42 15.1 -0.7**
AVF pmax pmax
comp=Z,33nm,1.0s,mb5.5
GRR Gorron 87.37 334 *e*P **P 02 42 16.2 -0.5**
comp=Z,57nm,1.1s,mb5.4
GRR Gorron 87.37 334 *e*P **P 02 42 16.2 -0.5**
GRR pmax pmax
comp=Z,29nm,1.1s,mb5.4
MBDF Montbardon 87.48 328 *e*P **P 02 42 17.1 -0.3**
comp=Z,18nm,1.0s,mb5.0
MBDF Montbardon 87.48 328 *e*P **P 02 42 17.1 -0.3**
MBDF pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
BGF Bois d'Agland 87.56 331 *e*P **P 02 42 17.3 -0.4**
comp=Z,81nm,1.7s,mb5.4
BGF Bois d'Agland 87.56 331 *e*P **P 02 42 17.3 -0.4**
BGF pmax pmax
comp=Z,41nm,1.7s,mb5.4
ORIF Oris-en-Rattie 87.70 329 *e*P **P 02 42 17.7 -0.7**
ORIF *e*R
comp=Z,90nm,18.0s
PLDF La Plantade 87.75 330 *e*P **P 02 42 20.6 +2.0**
SBF Sospel 87.89 327 *e*P **P 02 42 18.3 -1.0**
TCF Toulx Ste Croi 88.03 331 *e*P **P 02 42 19.7 -0.3**
comp=Z,18nm,1.1s,mb4.9
TCF Toulx Ste Croi 88.03 331 *e*P **P 02 42 19.7 -0.3**
TCF pmax pmax
comp=Z,9.0nm,1.1s,mb4.9
PGF Pioggiola 88.24 325 *e*P **P 02 42 20.2 -0.8**
VIVF Saint-Julien-l 88.25 329 *e*P **P 02 42 20.2 -0.8**
FRF La Foret Royal 88.47 327 *e*P **P 02 42 21.0 -1.1**
comp=Z,81nm,1.5s,mb5.4
FRF La Foret Royal 88.47 327 *e*P **P 02 42 21.0 -1.1**
FRF pmax pmax
comp=Z,41nm,1.5s,mb5.4
SMRF Simiane la Rot 88.59 328 *e*P **P 02 42 21.9 -0.8**

MFF Saint Martin d 88.64 333 *e*P **P 02 42 22.6 -0.3**
comp=Z,80nm,1.5s,mb5.5
MFF Saint Martin d 88.64 333 *e*P **P 02 42 22.6 -0.3**
MFF pmax pmax
comp=Z,40nm,1.5s,mb5.5
CAF Calviac 89.23 331 *e*P **P 02 42 25.5 -0.2**
MTLF Montolieu 90.49 330 *e*P **P 02 42 31.4 -0.3**
comp=Z,48nm,1.3s,mb5.4
MTLF Montolieu 90.49 330 *e*P **P 02 42 31.4 -0.3**
MTLF pmax pmax
comp=Z,24nm,1.3s,mb5.4
TXAR Lajitas Array 91.65 51 P **P 02 42 37.9 +0.6**
comp=Z,3.2nm,0.6s,mb4.8,baz=299,slow=3.0,SNR=55
ETSF Etsaut 91.95 331 *e*P **P 02 42 38.4 0.0**
comp=Z,26nm,1.2s,mb5.2
ETSF Etsaut 91.95 331 *e*P **P 02 42 38.4 0.0**
ETSF pmax pmax
comp=Z,13nm,1.2s,mb5.1
CCM Cathedral Cave 91.98 37 *e*P **P 02 42 38.4 -0.2**
comp=Z,9.2nm,0.9s,mb5.1
CCM Cathedral Cave 91.98 37 *e*P **P 02 42 38.4 -0.2**
CCM pmax pmax
comp=Z,9.0nm,0.9s,mb5.1
ESDC Sonseca Array 96.03 332 P **P 02 43 01.9 +4.7**
comp=Z,0.1nm,0.3s,baz=24,slow=8.4,SNR=4.0
DBIC Dimbokro 124.55 314 PKP PKPdf 02 48 28.8 -3.7
comp=Z,2.3nm,0.5s,baz=89,slow=0.7,SNR=7.4
SDV Santo Domingo 126.45 37 *e*PKPdf PKPdf 02 48 32.6 -3.4
QSPA South Pole Qui 127.07 180 *e*P PKPdf 02 48 32.0 -3.6
ROSC El Rosal 127.97 44 PKP PKPdf 02 48 37.0 -2.1
comp=Z,2.5nm,0.5s,baz=91,slow=20,SNR=2.6
VNA2 Neumayer--Watz 141.97 197 *e* PKPdf 02 49 00.3 -3.0
VNA2 Neumayer--Watz 141.97 197 *e* PKPdf 02 49 05.5 +2.2
VNA2 Neumayer--Watz 141.97 197⇓*i*PKPdf PKPdf 02 48 54.5 -8.8
VNA2 *e* 02 49 00.3
VNA2 *e* 02 49 05.5
VNA3 Neumayer Olymp 142.27 196 *e* PKPdf 02 49 00.7 -3.1
VNA3 Neumayer Olymp 142.27 196 *e* PKPdf 02 49 06.0 +2.2
VNA3 Neumayer Olymp 142.27 196⇓*i*PKPdf PKPdf 02 48 55.4 -8.4
VNA3 *e* 02 49 00.7
VNA3 *e* 02 49 06.0
VNA1 Neumayer--Stat 142.37 197 PKPdf PKPdf 02 48 56.4 -7.6
VNA1 *e* 02 49 06.7
SAML Samuel 145.51 41 *e*PKP PKPdf 02 49 08.0 -3.1
LPAZ La Paz 148.38 56 PKPbc PKPdf 02 49 17.4 +1.7
comp=Z,7.1nm,0.7s,baz=322,slow=3.1,SNR=38
PLCA Paso Flores 157.09 108 PKPab PKPab 02 49 56.2 -0.8
comp=Z,3.9nm,1.0s,baz=301,slow=6.6,SNR=3.2
BDFB Brasilia 157.60 17 PKPab PKPab 02 50 18.4 -1.9
comp=Z,6.5nm,1.1s,baz=21,slow=2.9,SNR=5.0
CPUP Villa Florida 162.55 56 PKPab PKPab 02 50 19.4 -1.6
comp=Z,1.1nm,0.7s,baz=63,slow=2.3,SNR=4.4

JMA 21 02:39:20.8±0.2,23.82N×123.34E,h15km±3km,M3.8,
Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.49**	**61**	P	Pb	02 39 30.2	-0.3
HATJ				S	Sb	02 39 37.1	0.0
IRIF	**Iriomote-Funau**	**0.62**	**35**	P	Pb	02 39 32.9	0.0
IRIF				S	Sb	02 39 41.2	+0.1
YOJ	**Yonaguni jima**	**0.71**	**335**	P	Pb	02 39 34.4	+0.1
YOJ				S	Sb	02 39 43.1	-0.4
JKRS	**Kuro-shima**	**0.74**	**56**	P	Pb	02 39 34.9	+0.1
JKRS				S	Sb	02 39 45.0	+0.5
JIJ	**Ishigaki jima**	**0.91**	**53**	P	Pb	02 39 37.5	-0.3
JIJ				S	Sb	02 39 49.6	+0.1
JTJ	**Tarama**	**1.49**	**56**	P	Pn	02 39 47.7	+0.5
JOGS	**Gusukube**	**2.10**	**63**	P	Pn	02 39 58.9	+2.9
JOGS				S	Sn	02 40 25.0	+2.9

IGQ 21 02:43:54.1,1.21N×77.32W,h12km±3km,mb4.0,3C-6D,
Error ellipse: s-maj=5.0km s-min=3.1km az=161.9,
Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECEN	**Cerro Negro**	**0.76**	**239**	⇓P	Pb	02 44 08.1	-0.7
CONE	**Cono NE Rev Vo**	**1.31**	**194**	P	Pb	02 44 18.4	+0.2
CAYA	**Cayambe**	**1.31**	**211**	⇑P	Pb	02 44 18.8	+0.5
CAYA				S	Sb	02 44 35.2	+0.3
CHAR	**Charly**	**1.33**	**195**	P	Pb	02 44 19.8	+1.1
LAV3	**Lava3-Reventad**	**1.33**	**194**	⇑P	Pb	02 44 19.1	+0.5
LAV3				S	Sb	02 44 38.0	+2.4
COTA	**Cotacachi**	**1.34**	**229**	P	Pb	02 44 19.9	+1.2
ECOPE	**Copete-Rev Vol**	**1.34**	**193**	⇓P	Pb	02 44 19.6	+0.8
CAYR	**Refugio Cayamb**	**1.37**	**210**	⇑P	Pb	02 44 19.9	+0.7
CAYR				S	Sb	02 44 38.4	+1.8
LORE	**San Lorenzo**	**1.53**	**273**	P	Pn	02 44 21.6	+0.2
JOR1	**San Jorge 1**	**1.78**	**228**	P	Pn	02 44 29.9	+4.9
JOR1				S	Sn	02 44 57.8	+10
YANA	**Yana**	**1.82**	**223**	P	Pn	02 44 27.8	+2.2
ANTI	**Antisana**	**1.85**	**207**	⇓P	Pn	02 44 28.7	+2.6
ANTI				S	Sn	02 44 55.3	+5.8
PINO	**Pino**	**1.87**	**223**	⇓P	Pn	02 44 30.3	+3.9
GGP	**Refugio Guagua**	**1.88**	**223**	⇓P	Pn	02 44 29.1	+2.7
GGP				S	Sn	02 44 56.7	+6.6
TERV	**Terraza Guagua**	**1.88**	**223**	P	Pn	02 44 29.8	+3.3
JUA2	**San Juan 2**	**1.91**	**222**	P	Pn	02 44 29.7	+2.8
VC1	**Cotopaxi 1**	**2.13**	**210**	P	Pn	02 44 35.3	+5.2
TAMB	**Tambo**	**2.16**	**209**	P	Pn	02 44 36.0	+5.5
NAS1	**Nasa**	**2.17**	**212**	P	Pn	02 44 36.2	+5.7
CAMI	**Rancho Maria**	**2.22**	**212**	⇓P	Pn	02 44 36.8	+5.5
PISA	**Pisayambo**	**2.49**	**205**	P	Pn	02 44 41.0	+5.7
QIL1	**Quilotoa**	**2.60**	**218**	P	Pn	02 44 45.1	+8.3
ULBA	**Ulba**	**2.86**	**202**	P	Pn	02 44 45.4	+5.0
ARRY	**Arrayan**	**2.93**	**203**	P	Pn	02 44 46.8	+5.4

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*IDC **21** 02:48:30.5±3.8, 45.14N×28.24E, mb3.6/1, mb1 3.4/5, mb1mx3.3/20, mbtmp3.4/5, ML3.6/4, Error ellipse: s-maj=43.2km s-min=12.0km az=158.0*
*NEIC **21** 02:48:37.0, 45.52N×27.86E, h4km, ML3.6(BUC), After BUC.*
*BUC **21** 02:48:36.1±0.4, 45.49N×27.84E, h3km, MD3.7/6, Error ellipse: s-maj=5.4km s-min=2.9km az=32.0*
*CSEM **21** 02:48:36.8±0.1, 45.45N×27.87E, h5km, MD3.7/6, Error ellipse: s-maj=4.9km s-min=3.5km az=38.0*
*SOF **21** 02:48:47.2, 44.77N×28.08E, h6km, MD2.8*
ISC 21 02:48:35.8±0.5,45.59N±0.03×27.93E±0.04,h3km,n43,
σ1§33/60,mb3.5/1,8C-6D,Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFR	**Carcaliu**	**0.44**	**160**	⇑*i*P	**Pg**	**02 48 43.9**	**-0.7**
CFR	**Carcaliu**	**0.44**	**160**	⇓P	**Pg**	**02 48 43.9**	**-0.7**
TLCR		**0.75**	**123**	⇑*i*P	**Pg**	**02 48 51.7**	**+1.0**
TLCR				*i* S	**Sg**	**02 49 03.3**	**+2.6**
TLCR		**0.75**	**123**	P	**Pg**	**02 48 51.8**	**+1.1**
VRI	**Vrincioaia**	**0.88**	**289**	⇓*i*P	**Pb**	**02 48 53.1**	**-0.3**
VRI				*i* S	**Sg**	**02 49 05.8**	**+0.5**
VRI	**Vrincioaia**	**0.88**	**289**	P	**Pb**	**02 48 53.2**	**-0.2**
VRI	**Vrincioaia**	**0.88**	**289**	P	**Pb**	**02 48 53.2**	**-0.2**
HARR	**Harsova**	**0.90**	**180**	⇓*i*P	**Pb**	**02 48 51.5**	**-2.3**
HARR				*i* S	**Sg**	**02 49 03.6**	**-2.3**
HARR	**Harsova**	**0.90**	**180**	⇓P	**Pb**	**02 48 51.5**	**-2.2**
HARR				S	**Sg**	**02 49 03.6**	**-2.2**
ISR	**Istrita**	**1.08**	**245**	⇑*i*P	**Pb**	**02 48 56.1**	**-0.8**
ISR				*i* S	**Sb**	**02 49 11.1**	**-0.2**
ISR	**Istrita**	**1.08**	**245**	⇑P	**Pb**	**02 48 56.1**	**-0.8**
ISR				S	**Sb**	**02 49 11.1**	**-0.1**
TIRR	**Tirgusor**	**1.19**	**163**	⇑*i*P	**Pb**	**02 48 58.3**	**-0.3**
TIRR				*i* S	**Sb**	**02 49 14.7**	**+0.5**
TIRR	**Tirgusor**	**1.19**	**163**	P	**Pb**	**02 48 58.4**	**-0.2**
TIRR				*i* S	**Sb**	**02 49 14.7**	**+0.5**
TIRR	**Tirgusor**	**1.19**	**163**	P	**Pb**	**02 48 58.4**	**-0.2**
MLR	**Muntele Rosu**	**1.40**	**267**	Pg	**Pg**	**02 49 02.2**	**-1.5**
7.4nm,0.3s,baz=135,slow=2.8,SNR=97							
MLR				Lg		02 49 24.0	
9.2nm,0.3s,baz=254,slow=20,SNR=12							
MLR	**Muntele Rosu**	**1.40**	**267**	⇑*i*P	**Pb**	**02 49 02.2**	**0.0**
MLR				*i* S	**Sb**	**02 49 22.4**	**+2.1**
MLR	**Muntele Rosu**	**1.40**	**267**	P	**Pb**	**02 49 02.1**	**-0.1**
IAS	**Iasi**	**1.62**	**351**	⇓*i*P	**Pn**	**02 49 07.3**	**+1.8**
IAS				S	**Sb**	**02 49 29.3**	**+2.4**
IAS	**Iasi**	**1.62**	**351**	P	**Pn**	**02 49 07.7**	**+2.2**
IAS	**Iasi**	**1.62**	**351**	P	**Pn**	**02 49 07.7**	**+2.2**
SNX	**Sinaia**	**1.71**	**263**	⇑*i*P	**Pn**	**02 49 07.2**	**+0.4**
SNX	**Sinaia**	**1.71**	**263**	⇑P	**Pn**	**02 49 07.2**	**+0.4**

PSN Preselentsi 1.92 174 *e*P **Pn 02 49 10.0 +0.3**
VOIR 2.03 267⇓*i*P **Pn 02 49 12.1 +0.8**
PRD Provadia 2.42 189 *e*P **Pn 02 49 18.0 +1.1**
SZH Strazhica 2.73 212 *e*P **Pn 02 49 26.0 +4.7**
BURAR Bucovina Array 2.75 318 P **Pn 02 49 23.8 +2.1**
BURAR Bucovina Array 2.75 318 P **Pn 02 49 23.8 +2.1**
PVL Pavlikeni 3.02 219 *e*P **Pn 02 49 32.0 +6.6**
JMB Yambol 3.27 198 *e*P **Pn 02 49 37.0 +8.0**
MMB Musomiste 5.03 219 *e*P **Pn 02 50 08.0 +14**
KKB Krupnik 5.12 225 *e*P **Pn 02 50 10.0 +15**
AKASG Malin Array Be 5.19 9 Pn **Pn 02 49 55.3 -0.9**
1.6nm,0.3s,baz=188,slow=14,SNR=4.2
AKASG Pg **Pg 02 50 09.4 -10**
1.7nm,0.3s,baz=191,slow=16,SNR=5.6
AKASG Sn **Sn 02 50 55.7 -1.7**
5.6nm,0.3s,baz=189,slow=22,SNR=8.7
AKASG Lg 02 51 20.6
11nm,0.3s,baz=187,slow=30,SNR=8.2
AKASG Malin Array Be 5.19 9 Pn **Pn 02 49 55.3 -0.9**
AKASG Pg **Pg 02 50 09.4 -10**
AKASG Sn **Sn 02 50 55.7 -1.7**
AKASG Lg 02 51 20.6
GRUS Gruza 5.41 254 *e*Pn **Pn 02 49 54.9 -4.5**
DIVS Divcibare 5.84 258 *e*Pn **Pn 02 50 01.6 -3.7**
FINES FINESS Array B 15.92 357 Pn **P 02 52 14.2 -7.9**
0.2nm,0.3s,baz=164,slow=10,SNR=7.7
FINES Sn **S 02 55 07.5 -12**
0.4nm,0.3s,baz=178,slow=20,SNR=6.7
FINES FINESS Array B 15.92 357 Pn **P 02 52 14.2 -7.9**
FINES Sn **S 02 55 07.5 -12**
HFS Hagfors 16.85 335 Pn **P 02 52 28.5 -5.5**
0.1nm,0.3s,baz=139,slow=15,SNR=5.3
HFS Sn **S 02 55 29.4 -12**
0.0nm,0.3s,baz=133,slow=26,SNR=4.0
NB2 NORSAR Subarra 18.32 334 P **P 02 52 47.3 -5.1**
0.3nm,0.5s,baz=141,slow=12
NOA NORSAR Array B 18.32 334 P **P 02 52 50.9 -1.5**
0.2nm,0.3s,baz=142,slow=11,SNR=6.0
NOA NORSAR Array B 18.32 334 P **P 02 52 50.9 -1.5**
ARCES ARCESS Array B 24.04 358 P **P 02 53 51.5 -1.0**
1.9nm,0.9s,mb3.5,baz=175,slow=11,SNR=5.1

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*IDC **21** 02:52:58.6±6.8, 4.89S×153.50E, h72km±59km, mb3.7/5, mb1 3.8/6, mb1mx3.6/14, mbtmp4.0/6, ML2.7/1, Error ellipse: s-maj=72.4km s-min=40.0km az=117.0*
*NEIC **21** 02:52:58.4±3.7, 4.93S×153.54E, h73km±27km, mb4.3/1, Error ellipse: s-maj=58.2km s-min=21.8km az=116.0*
ISC 21 02:52:55.3±5.8,4.8S±0.3×153.5E±0.5,h54km±44km,n8,
σ0§29/9,mb4.0/6,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.78**	**234**	P	**P**	**02 54 48.4**	**-0.1**
0.7nm,0.3s,baz=356,slow=19,SNR=2.5							
PMG				S	**S**	**02 56 09.3**	**-6.8**
3.7nm,0.3s,baz=360,slow=19,SNR=9.7							
WRAB	**Tennant Creek**	**23.96**	**229**	*e*P	**P**	**02 58 05.8**	**+0.1**
6.3nm,0.6s,mb4.2							
WRA	**Warramunga Arr**	**23.97**	**229**	P	**P**	**02 58 05.9**	**0.0**
3.4nm,0.5s,mb4.1,baz=53,slow=9.8,SNR=27							
SONM	**Songino Array**	**66.70**	**327**	P	**P**	**03 03 43.1**	**+0.2**
0.3nm,0.4s,mb3.7,baz=143,slow=7.2,SNR=3.5							
MKAR	**Makanchi Array**	**80.79**	**319**	P	**P**	**03 05 04.7**	**-0.1**
0.4nm,0.4s,mb3.7,baz=102,slow=7.2,SNR=4.1							
MKAR	**Makanchi Array**	**80.79**	**319**	P	**P**	**03 05 04.7**	**-0.1**
ILAR	**Eielson Array**	**81.90**	**22**	P	**P**	**03 05 10.2**	**0.0**
0.4nm,0.8s,mb3.4,baz=239,slow=4.9,SNR=4.9							
BVAR	**Borovoye Array**	**89.66**	**323**	P	**P**	**03 05 48.5**	**-0.1**
2.9nm,0.6s,mb4.8,baz=102,slow=5.9,SNR=19							

MAN 21 03:07:25.4,11.36N×122.20E,h29km,mb4.4,ML3.3,
MS3.1,1C-2D,Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KALP	**Kalibo**	**0.34**	**23**	⇑*i*P	Pb	03 07 34.9	+1.6
RCP	**Roxas**	**0.57**	**69**	⇓*e*P	Pb	03 07 36.7	-0.1
RCP				*e*S	Sb	03 07 47.3	+2.5
GUIM	**Jordan**	**0.82**	**152**	*e*P	Pb	03 07 41.5	+0.5
GUIM	**Jordan**	**0.82**	**152**	*e*P	Pb	03 07 39.9	-1.1
OTRP	**Odiongan**	**1.01**	**350**	*e*P	Pn	03 07 42.5	-1.2
OTRP				*e*S	Sn	03 07 58.9	+1.8
OTRP	**Odiongan**	**1.01**	**350**	*e*P	Pn	03 07 42.5	-1.2
OTRP				*e*S	Sn	03 07 59.0	+1.9
CUYO	**Cuyo Island**	**1.27**	**247**	*e*P	Pn	03 07 47.1	-0.3
CUYO				*e*S	Sn	03 08 02.5	-1.1
CUYO	**Cuyo Island**	**1.27**	**247**	*e*P	Pn	03 07 46.5	-0.9
CUYO				*e*S	Sn	03 08 02.7	-0.8
SJMP	**San Jose**	**1.52**	**316**	*e*P	Pn	03 07 50.7	-0.4
SJMP	**San Jose**	**1.52**	**316**	*e*P	Pn	03 07 50.0	-1.1
SJMP				*e*S	Sn	03 08 12.7	+2.6
BUSP	**Coron**	**2.06**	**288**	*e*P	Pn	03 07 59.3	+0.4
BUSP	**Coron**	**2.06**	**288**	*e*P	Pn	03 07 58.2	-0.6
BOAC	**Boac**	**2.12**	**351**	*e*P	Pn	03 08 01.0	+1.4
SNPH	**Sibulan**	**2.25**	**153**	⇓*e*P	Pn	03 08 04.1	+2.7
ENPP	**El Nido**	**2.73**	**267**	*e*P	Pn	03 08 06.7	-1.6
ENPP	**El Nido**	**2.73**	**267**	*e*P	Pn	03 08 06.8	-1.6
LUBP	**Lubang**	**3.04**	**321**	*e*P	Pn	03 08 12.6	0.0
PAGZ	**Pagadian**	**3.68**	**161**	*e*P	Pn	03 08 23.6	+1.8
PAGZ	**Pagadian**	**3.68**	**161**	*e*P	Pn	03 08 23.5	+1.7

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*IDC **21** 03:53:46.6±2.7, 23.48S×67.72W, h147km±31km, mb3.7/2, mb1 3.5/5, mb1mx3.3/15, mbtmp3.9/5, Error ellipse: s-maj=23.5km s-min=19.7km az=180.0*
*NEIC **21** 03:53:46.3±0.9, 23.45S×67.68W, h145km±13km, mb3.8/1, Error ellipse: s-maj=14.5km s-min=12.0km az=90.0*
ISC 21 03:53:45.6±0.9,23.50S±0.07×67.7W±0.1,h155km±14km,
n10,σ0§87/12,mb4.6/2,1C,Chile-Argentina border
region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.43**	**308**	⇑*i*P	**P**	**03 54 14.6**	**-0.6**
LVC				*e*S	**S**	**03 54 30.4**	**-7.7**
LPAZ	**La Paz**	**7.18**	**357**	P	**P**	**03 55 30.1**	**+1.0**
1.4nm,0.3s,baz=166,slow=11,SNR=38							
LPAZ				S	**S**	**03 56 50.5**	**+0.9**
baz=177,slow=18,SNR=1.8							
CPUP	**Villa Florida**	**9.81**	**109**	P	**P**	**03 56 04.1**	**+0.2**
0.1nm,0.3s,baz=278,slow=15,SNR=4.1							
SAML	**Samuel**	**15.10**	**17**	P	**P**	**03 57 10.3**	**-1.8**
0.5nm,0.5s							
TRQA	**Tornquist**	**15.31**	**163**	*e*P	**P**	**03 57 14.5**	**-0.2**
3.9nm,0.8s							
PLCA	**Paso Flores**	**17.35**	**187**	P	**P**	**03 57 40.7**	**+1.1**
0.1nm,0.3s,baz=321,slow=6.9,SNR=3.2							
BDFB	**Brasilia**	**20.10**	**71**	P	**P**	**03 58 08.4**	**-0.7**
5.6nm,0.6s,baz=253,slow=12,SNR=12							
RPN	**Rapa Nui**	**37.70**	**256**	P	**P**	**04 00 47.1**	**-0.6**
43nm,0.5s,mb5.3,baz=83,slow=8.1,SNR=3.5							
DBIC	**Dimbokro**	**68.24**	**72**	P	**P**	**04 04 32.7**	**+0.7**
1.5nm,0.6s,mb3.9,baz=198,slow=4.7,SNR=4.4							
DBIC	**Dimbokro**	**68.24**	**72**	P	**P**	**04 04 32.7**	**+0.7**

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*IDC **21** 03:56:14.1±1.3, 15.74S×174.87W, h218km±13km, mb3.7/10, mb1 3.9/11, mb1mx3.9/16, mbtmp4.3/11, Error ellipse: s-maj=22.7km s-min=12.2km az=132.0*
*NEIC **21** 03:56:14.8±1.1, 15.715S×174.87W, h228km±10km, mb4.2/3, Error ellipse: s-maj=17.2km s-min=9.8km az=136.0*
ISC 21 03:56:13.1±1.2,15.7S±0.1×175.0W±0.1,h222km±14km,
**n54,σ0§76/21,mb3.9/12,1D,Tonga Isl

STKA	**Stephens Creek**	**42.59**	**240**	P		**P**	**04 03 49.0**	**-0.1**
	2.0nm,0.3s,mb4.0,baz=242,slow=12,SNR=7.9							
STKA				PcP		PcP	04 05 37.7	+0.2
	2.2nm,0.7s,baz=103,slow=16,SNR=3.3							
STKA	**Stephens Creek**	**42.59**	**240**	P		**P**	**04 03 49.0**	**-0.1**
STKA				PcP		PcP	04 05 37.7	+0.2
WRAB	**Tennant Creek**	**48.31**	**257**	*e*P		**P**	**04 04 33.7**	**-0.5**
	11nm,0.9s,mb4.2							
WRA	**Warramunga Arr**	**48.32**	**257**	P		**P**	**04 04 34.1**	**-0.2**
	4.3nm,0.8s,mb3.8,baz=100,slow=5.8,SNR=55							
WRA				PcP		PcP	04 05 57.2	-0.5
	2.4nm,0.8s,baz=88,slow=3.8,SNR=8.9							
VNDA	**Vanda**	**62.92**	**186**	P		**P**	**04 06 18.0**	**+0.5**
	2.4nm,0.7s,mb3.9,baz=25,slow=4.4,SNR=5.1							
MJAR	**Matsushiro Arr**	**68.23**	**321**	P		**P**	**04 06 51.4**	**-0.4**
	0.4nm,0.4s,mb3.4,baz=136,slow=3.4,SNR=4.2							
QSPA	**South Pole Qui**	**74.33**	**180**	*e*P		**P**	**04 07 27.6**	**+0.2**
	7.6nm,1.0s,mb4.3							
KSM	**Kuching**	**75.73**	**276**	*e*P		**P**	**04 07 37.0**	**+0.4**
TXAR	**Lajitas Array**	**82.03**	**57**	P		**P**	**04 08 10.9**	**+0.9**
	0.6nm,1.0s,mb3.2,baz=207,slow=2.8,SNR=4.4							
ILAR	**Eielson Array**	**83.05**	**12**	P		**P**	**04 08 13.5**	**-1.1**
	0.6nm,0.5s,mb3.6,baz=234,slow=6.2,SNR=14							
PDAR	**Pinedale Array**	**83.50**	**42**	P		**P**	**04 08 17.0**	**-0.3**
	1.5nm,0.7s,mb3.9,baz=225,slow=2.2,SNR=16							
MAW	**Mawson**	**87.02**	**199**	P		**P**	**04 08 34.8**	**+0.8**
	3.1nm,0.6s,mb4.2,baz=136,slow=7.3,SNR=17							
ARCES	**ARCESS Array B**	**124.70**	**351**	PKP		PKPdf	04 14 46.1	+0.3
	1.0nm,0.5s,slow=1.2,SNR=11							
FINES	**FINESS Array B**	**131.91**	**347**	PKP		PKPdf	04 15 01.0	+1.2
	1.7nm,1.1s,baz=27,slow=4.3,SNR=7.5							
STHS	**Stebnicka Huta**	**143.89**	**342**	*e*PKP		PKPdf	04 15 20.9	-0.8
CLL	**Collm**	**143.93**	**352**	*i* P		PKPbc	04 15 20.7	-0.3
CLL				*e*			04 15 40.0	
KMBO	**Kilima Mbogo**	**144.05**	**245**	PKP		PKPdf	04 15 24.2	+1.1
	6.1nm,0.9s,baz=55,slow=7.1,SNR=18							
UPC	**Upice**	**144.18**	**348**	*e*PKP		PKPdf	04 15 22.1	-0.1
DPC	**Dobruska-Polom**	**144.27**	**348**	*e*PKP		PKPdf	04 15 22.2	-0.1
CRVS	**Cervenica-Dubn**	**144.28**	**341**	*e*PKP		PKPdf	04 15 22.3	-0.1
OKC	**Ostrava-Krasne**	**144.34**	**345**	*e*PKP		PKPdf	04 15 23.1	+0.6
MOX	**Moxa**	**144.76**	**353**	*i* P		PKPdf	04 15 23.9	+0.8
KECS	**Kecovo**	**144.95**	**342**	*i* PKP		PKPdf	04 15 24.8	+1.3
PRU	**Pruhonice**	**144.96**	**349**	*e*PKP		PKPdf	04 15 23.9	+0.4
NKC	**Novy Kostel**	**145.05**	**352**	*e*PKP		PKPdf	04 15 24.8	+1.1
VYHS	**Vyhne**	**145.40**	**344**	*e*PKP		PKPdf	04 15 26.5	+2.2
BRTR	**Keskin Array B**	**145.44**	**319**	PKPbc		PKPbc	04 15 26.9	+1.3
	3.8nm,0.8s,baz=102,slow=2.7,SNR=17							
TNS	**Taunus Mts**	**145.47**	**356**	*e*PKPbc		PKPbc	04 15 26.9	+1.7
GIVF	**Givet**	**145.70**	**0**	*e*PKP1		PKPbc	04 15 26.2	+0.4
BAIF	**Baives**	**145.74**	**1**	*e*PKP1		PKPbc	04 15 26.5	+0.6
GRA1	**Grafenberg Arr**	**145.74**	**353**	*e*PKPbc		PKPbc	04 15 27.5	+1.6
GRF	**Grafenberg Arr**	**145.74**	**353**	*e*PKP		PKPdf	04 15 27.5	+2.7
KHC	**Kasperske Hory**	**145.95**	**350**	*e*PKP		PKPdf	04 15 27.8	+2.6
ZST	**Bratislava**	**146.12**	**345**	*e*PKP		PKPdf	04 15 28.5	+3.0
GEC2	**GERESS Array S**	**146.21**	**350**	*e*PKPbc		PKPbc	04 15 28.2	+1.1
GERES	**GERESS Array B**	**146.21**	**350**	PKPbc		PKPbc	04 15 28.2	+1.2
	1.6nm,0.7s,baz=25,slow=3.2,SNR=23							
FLN	**La Foliniere**	**146.73**	**7**	*e*PKP1		PKPbc	04 15 28.6	+0.3
	13nm,0.7s							
LDF	**La Druitiere**	**146.94**	**6**	*e*PKP1		PKPbc	04 15 29.2	+0.4
	9.9nm,0.7s							
SGMF	**Saint Gilles**	**146.95**	**9**	*e*PKP1		PKPbc	04 15 30.1	+1.3
	20nm,0.8s							
GRR	**Gorron**	**147.06**	**7**	*e*PKP1		PKPdf	04 15 29.9	+2.8
	17nm,0.9s							
QUIF	**Quistinic**	**147.18**	**10**	*e*PKP1		PKPdf	04 15 30.1	+2.8
FUR	**Furstenfeldbru**	**147.24**	**352**	*e*PKPbc		PKPdf	04 15 31.6	+4.2
MEZF	**Maizieres J'vi**	**147.30**	**0**	*e*PKP1		PKPdf	04 15 30.4	+2.9
CDF	**Champ du Feu**	**147.34**	**357**	*e*PKP1		PKPdf	04 15 31.0	+3.4
	7.6nm,0.9s							
LOR	**Lormes**	**148.52**	**2**	*e*PKP1		PKPdf	04 15 34.1	+4.6
SSF	**Saint Saulge**	**148.72**	**2**	*e*PKP1		PKPdf	04 15 34.8	+5.0
	11nm,1.0s							
CABF	**La Chapelle**	**149.18**	**359**	*e*PKP1		PKPdf	04 15 36.5	+5.9
	18nm,1.0s							
BGF	**Bois d'Agland**	**149.19**	**3**	*e*PKP1		PKPdf	04 15 35.7	+5.1
	8.5nm,0.9s							

*ATH **21** 04:16:35.4,38.13N×26.67E,h27km,MD3.0/3*
*ISK **21** 04:16:35.9,38.22N×26.80E,h22km,MD3.0*
*CSEM **21** 04:16:35.9±0.2,38.20N×26.85E,h20km,MD3.0,Error ellipse: s-maj=5.5km s-min=2.4km az=109.0*

ISC 21 04:16:35.2±0.6,38.17N±0.03×26.79E±0.04,h10km±4km, n20,σ0°90/32,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.24**	**321**	*i* P	**Pg**	**04 16 39.8**	**-0.5**
URLA				*i* S	**Sg**	**04 16 43.6**	**-0.2**
BLCB	**Balcova**	**0.29**	**43**	*i* PG	**Pg**	**04 16 42.1**	**+0.8**
BLCB				*i* SG	**Sg**	**04 16 46.0**	**+0.6**
IZM	**Izmir**	**0.44**	**59**	*i* PG	**Pg**	**04 16 45.4**	**+1.2**
IZM				*i* SG	**Sg**	**04 16 51.9**	**+1.8**
KDAG	**Bornova**	**0.44**	**59**	*i* P	**Pg**	**04 16 43.6**	**-0.7**
KDAG				*i* S	**Sg**	**04 16 50.0**	**-0.2**
SMG	**Samos**	**0.47**	**175**	*e*PB	**Pb**	**04 16 44.8**	**-0.2**
SMG				*e*SB	**Sb**	**04 16 51.7**	**+0.1**
AYDN	**Tasoluk**	**1.00**	**120**	*i* P	**Pb**	**04 16 52.2**	**-2.0**
AYDN				*i* S	**Sb**	**04 17 06.4**	**-0.9**
AKS	**Akhisar**	**1.07**	**48**	PG	**Pg**	**04 16 55.5**	**-1.2**
AKS				SG	**Sg**	**04 17 10.0**	**-1.0**
PRK	**Paraskevi**	**1.15**	**340**	*e*PN	**Pn**	**04 16 57.6**	**+0.4**
PRK				*e*SN	**Sn**	**04 17 13.5**	**+0.5**
MLSB	**Milas**	**1.18**	**138**	PN	**Pn**	**04 16 57.6**	**-0.1**
MLSB				SN	**Sn**	**04 17 14.4**	**+0.6**
BODT	**Bodrum**	**1.18**	**159**	*e*PN	**Pn**	**04 16 58.1**	**+0.3**
BDRM	**Kayabasi**	**1.22**	**154**	*i* P	**Pb**	**04 16 58.8**	**+0.9**
BDRM				*i* S	**Sb**	**04 17 14.2**	**+0.6**
MANT	**Manisa**	**1.43**	**77**	*i* P	**Pn**	**04 17 02.2**	**+0.9**
MANT				*i* S	**Sb**	**04 17 18.5**	**-1.1**
APE	**Apeiranthos**	**1.48**	**223**	*e*PN	**Pn**	**04 17 03.1**	**+1.0**
APE	**Apeiranthos**	**1.48**	**223**	*e*PN	**Pn**	**04 17 01.1**	**-1.0**
YER	**Yerkesik**	**1.58**	**131**	*e*PN	**Pn**	**04 17 03.5**	**+0.2**
BALB	**Balikesir**	**1.70**	**30**	*e*PN	**Pn**	**04 17 05.0**	**-0.1**
CANB	**Canakkale**	**1.85**	**7**	*e*PN	**Pn**	**04 17 06.5**	**-0.8**
BTOK	**Tokmak**	**1.86**	**31**	*i* P	**Pn**	**04 17 12.0**	**+4.5**
BTOK				*i* S	**Sn**	**04 17 34.1**	**+2.9**
MRMT	**Marmara Adasi**	**2.51**	**14**	*e*PN	**Pn**	**04 17 15.9**	**-0.8**
YLV	**Yalova**	**3.12**	**39**	*e*PN	**Pn**	**04 17 24.8**	**-0.7**

IGQ 21 05:02:57.5,1.20N×77.36W,h12km±2km,mb4.1,7C-5D, Error ellipse: s-maj=4.4km s-min=2.2km az=156.6, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECEN	**Cerro Negro**	**0.72**	**238**	⇓P	Pb	05 03 10.9	-0.6
CAYA	**Cayambe**	**1.29**	**209**	⇑P	Pb	05 03 21.7	+0.5
CAYA				S	Sb	05 03 37.4	-0.2
CONE	**Cono NE Rev Vo**	**1.30**	**193**	P	Pb	05 03 21.8	+0.4
COTA	**Cotacachi**	**1.30**	**229**	⇑P	Pb	05 03 22.9	+1.3
CHAR	**Charly**	**1.32**	**194**	P	Pb	05 03 22.7	+0.9
LAV3	**Lava3-Reventad**	**1.32**	**192**	⇑P	Pb	05 03 22.0	+0.2
LAV3				S	Sb	05 03 40.8	+2.3
ECOPE	**Copete-Rev Vol**	**1.33**	**191**	⇓P	Pb	05 03 22.2	+0.3
ECOPE				S	Sb	05 03 40.5	+1.8
CAYR	**Refugio Cayamb**	**1.35**	**209**	⇑P	Pb	05 03 22.8	+0.6
CAYR				S	Sb	05 03 40.9	+1.6
LORE	**San Lorenzo**	**1.49**	**274**	⇓P	Pn	05 03 24.4	+0.1
JOR1	**San Jorge 1**	**1.75**	**227**	P	Pn	05 03 33.2	+5.1
YANA	**Yana**	**1.79**	**223**	⇓P	Pn	05 03 31.1	+2.6
ANTI	**Antisana**	**1.83**	**206**	⇑P	Pn	05 03 31.5	+2.4
ANTI				S	Sn	05 03 58.1	+5.8
PINO	**Pino**	**1.84**	**223**	⇑P	Pn	05 03 32.7	+3.4
GGP	**Refugio Guagua**	**1.84**	**222**	P	Pn	05 03 32.3	+3.0
TERV	**Terraza Guagua**	**1.85**	**222**	P	Pn	05 03 33.2	+3.8
TERV				S	Sn	05 03 58.9	+6.0
JUA2	**San Juan 2**	**1.88**	**222**	⇓P	Pn	05 03 32.6	+2.7
VC1	**Cotopaxi 1**	**2.11**	**210**	P	Pn	05 03 37.1	+4.0
TAMB	**Tambo**	**2.14**	**208**	P	Pn	05 03 38.6	+5.1
TAMB				S	Sn	05 04 09.1	+8.8
CAMI	**Rancho Maria**	**2.19**	**212**	⇑P	Pn	05 03 39.4	+5.0
PISA	**Pisayambo**	**2.47**	**205**	P	Pn	05 03 43.8	+5.5
QIL1	**Quilotoa**	**2.57**	**218**	P	Pn	05 03 48.7	+9.0
ULBA	**Ulba**	**2.83**	**202**	P	Pn	05 03 48.6	+5.1
ARRY	**Arrayan**	**2.91**	**202**	P	Pn	05 03 49.1	+4.6

*CSEM **21** 05:07:56.9±0.2,34.93N×3.82W,h15km,MD3.1,Error ellipse: s-maj=5.3km s-min=3.7km az=109.0*

*CNRM **21** 05:07:56.9,35.05N×3.83W,h3km,MD3.1*
*MDD **21** 05:07:58.2±0.4,34.95N×3.84W,mbLg2.1/9,Error ellipse: s-maj=4.2km s-min=3.4km az=173.0,PRXIMO*
*SFS **21** 05:07:59.0,35.00N×3.87W*

ISC 21 05:07:57.2±0.7,34.97N±0.02×3.90W±0.03,h9km±4km,n34, σ1°23/65,Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOU	**Touzarine**	**0.12**	**96**	P	**Pg**	**05 07 58.5**	**-1.5**
TOU				S	**Sg**	**05 08 01.0**	**-0.9**
TOU	**Touzarine**	**0.12**	**96**	*i* P	**Pg**	**05 07 58.5**	**-1.5**
EMEL	**Melilla**	**0.83**	**67**	P	**Pb**	**05 08 13.8**	**+0.3**
	14nm,0.3s,SNR=15						
EMEL				S	**Sb**	**05 08 25.2**	**+0.7**
	190nm,0.2s,SNR=8.9						
EMLI	**Melilla**	**0.84**	**67**	P	**Pb**	**05 08 13.8**	**+0.3**
	14nm,0.3s,SNR=15						
EMLI				S	**Sb**	**05 08 25.2**	**+0.5**
	190nm,0.2s,SNR=8.9						
MELI	**Melilla**	**0.85**	**68**	*e*P	**Pb**	**05 08 15.3**	**+1.6**
MELI				*e*S	**Sb**	**05 08 26.7**	**+1.7**
TZK	**Tazeka**	**0.91**	**195**	*i* P	**Pb**	**05 08 15.0**	**+0.2**
TZK				*i* S	**Sb**	**05 08 29.0**	**+2.2**
ZAI	**Zaio**	**0.94**	**90**	*i* P	**Pb**	**05 08 13.0**	**-2.3**
ZAI				*i* S	**Sb**	**05 08 26.0**	**-1.7**
EALB	**Alboran**	**1.19**	**36**	P	**Pb**	**05 08 20.0**	**+0.5**
	7.9nm,0.2s,SNR=12						
EALB				S	**Sb**	**05 08 34.1**	**-0.8**
	12nm,0.1s,SNR=6.5						
EALB	**Alboran**	**1.19**	**36**	P	**Pb**	**05 08 19.0**	**-0.6**
	7.9nm,0.2s,SNR=12						
EALB				S	**Sb**	**05 08 34.1**	**-0.8**
	12nm,0.1s,SNR=6.5						
EMIJ	**Mijas**	**1.74**	**336**	P	**Pn**	**05 08 28.1**	**+0.2**
	1.0nm,0.2s,SNR=6.3						
EMIJ				S	**Sn**	**05 08 48.2**	**-2.2**
	3.4nm,0.2s,SNR=4.7						
EMIJ	**Mijas**	**1.74**	**336**	P	**Pn**	**05 08 27.7**	**-0.2**
	1.0nm,0.2s,SNR=6.3						
EMIJ				S	**Sn**	**05 08 48.2**	**-2.2**
	3.4nm,0.2s,SNR=4.7						
EJIF	**Jimena Fronter**	**1.95**	**319**	P	**Pn**	**05 08 32.8**	**+1.9**
	0.6nm,0.2s,SNR=7.9						
EJIF				S	**Sn**	**05 08 57.3**	**+1.5**
	0.8nm,0.2s,SNR=7.9						
EJIF	**Jimena Fronter**	**1.95**	**319**	P	**Pn**	**05 08 33.5**	**+2.6**
	0.6nm,0.2s,SNR=7.9						
EJIF				S	**Sn**	**05 08 57.3**	**+1.5**
	0.8nm,0.2s,SNR=7.9						
EBER	**Berja**	**2.09**	**23**	P	**Pn**	**05 08 34.4**	**+1.6**
	0.8nm,0.1s,SNR=7.9						
EBER				S	**Sn**	**05 08 59.2**	**0.0**
	4.0nm,0.3s,SNR=7.9						
EBER	**Berja**	**2.09**	**23**	P	**Pn**	**05 08 34.4**	**+1.6**
	0.8nm,0.1s,SNR=7.9						
EBER				S	**Sn**	**05 08 57.0**	**-2.2**
	4.0nm,0.3s,SNR=7.9						
CZD	**Col de Zad**	**2.16**	**207**	*e*P	**Pn**	**05 08 32.5**	**-1.4**
CZD				*i* S	**Sn**	**05 08 58.5**	**-2.5**
ELOJ	**Sierra Loja**	**2.18**	**355**	P	**Pn**	**05 08 34.7**	**+0.5**
	0.4nm,0.2s,SNR=7.9						
ELOJ				S	**Sn**	**05 09 01.8**	**+0.2**
	0.5nm,0.2s,SNR=7.9						
ELOJ	**Sierra Loja**	**2.18**	**355**	P	**Pn**	**05 08 34.7**	**+0.5**
	0.4nm,0.2s,SNR=7.9						
ELOJ				S	**Sn**	**05 08 59.4**	**-2.2**
	0.5nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**2.26**	**9**	P	**Pn**	**05 08 36.1**	**+0.8**
	0.8nm,0.3s,SNR=7.9						
EQUE				S	**Sn**	**05 09 02.9**	**-0.6**
	2.0nm,0.4s,SNR=7.9						
ESPR	**Espera**	**2.47**	**320**	P	**Pn**	**05 08 38.7**	**+0.4**
	0.5nm,0.1s,SNR=4.0						
ESPR				S	**Sn**	**05 09 10.0**	**+1.0**
	2.5nm,0.3s,SNR=7.9						
ESPR	**Espera**	**2.47**	**320**	P	**Pn**	**05 08 38.7**	**+0.3**
	0.5nm,0.1s,SNR=4.0						
ESPR				S	**Sn**	**05 09 10.4**	**+1.4**
	2.5nm,0.3s,SNR=7.9						
EQES	**Quesada**	**2.90**	**13**	P	**Pn**	**05 08 45.8**	**+1.3**
	1.2nm,0.3s,SNR=7.9						
EQES				S	**Sn**	**05 09 19.4**	**-0.5**
	5.0nm,0.7s,SNR=7.9						
EQES	**Quesada**	**2.90**	**13**	P	**Pn**	**05 08 46.5**	**+2.0**
	1.2nm,0.3s,SNR=7.9						
EQES				S	**Sn**	**05 09 19.4**	**-0.5**
	5.0nm,0.7s,SNR=7.9						
ZFT	**Errachidia**	**2.96**	**188**	*e*P	**Pn**	**05 08 46.0**	**+0.7**
ZFT				*i* S	**Sn**	**05 09 21.0**	**-0.3**
EHUE	**Huescar**	**3.02**	**20**	P	**Pn**	**05 08 47.8**	**+1.6**
	0.5nm,0.4s,SNR=7.9						
EHUE				S	**Sn**	**05 09 22.8**	**-0.2**
	0.5nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**3.23**	**350**	P	**Pn**	**05 08 50.0**	**+0.8**
	1.0nm,0.5s,SNR=4.0						
EADA				S	**Sn**	**05 09 26.9**	**-1.4**
	1.0nm,0.4s,SNR=7.9						
EADA	**Adamuz**	**3.23**	**350**	P	**Pn**	**05 08 50.0**	**+0.8**
	1.0nm,0.5s,SNR=4.0						
EADA				S	**Sn**	**05 09 26.9**	**-1.4**
	1.0nm,0.4s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.58**	**322**	P	**Pn**	**05 08 53.9**	**-0.2**
	1.7nm,0.4s,SNR=7.7						
EMIN				S	**Sn**	**05 09 33.0**	**-4.0**
	0.8nm,0.3s						
EMIN	**Mina Concepcio**	**3.58**	**322**	P	**Pn**	**05 08 53.6**	**-0.5**
	1.7nm,0.4s,SNR=7.7						
EMIN				S	**Sn**	**05 09 33.0**	**-4.0**
	0.8nm,0.3s						
EGRO	**El Granado**	**3.87**	**312**	P	**Pn**	**05 08 57.9**	**-0.3**
	2.0nm,0.3s,SNR=6.4						
EGRO				S	**Sn**	**05 09 41.9**	**-2.3**
	2.1nm,0.3s						
EGRO	**El Granado**	**3.87**	**312**	P	**Pn**	**05 08 57.9**	**-0.3**
	2.0nm,0.3s,SNR=6.4						
EGRO				S	**Sn**	**05 09 41.9**	**-2.4**
	2.1nm,0.3s						
ETOB	**Tobarra**	**4.12**	**27**	P	**Pn**	**05 09 01.7**	**-0.1**
	0.6nm,0.4s,SNR=4.0						
ETOB	**Tobarra**	**4.12**	**27**	P	**Pn**	**05 09 01.7**	**-0.1**
	0.6nm,0.4s,SNR=4.0						
EBAD	**Badajoz**	**4.53**	**327**	P	**Pn**	**05 09 07.4**	**-0.2**
	0.6nm,0.2s,SNR=7.9						
EBAD				S	**Sn**	**05 09 56.4**	**-4.6**
	1.3nm,0.3s,SNR=7.9						

NNC 21 05:23:42.1±10.0,37.22N×71.51E,h225km±139km, mpv4.0,2C-3D,Error ellipse: s-maj=170.2km s-min=51.2km az=48.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**5.88**	**22**	⇑P	P	05 25 08.0	-0.8
	2.9nm,0.6s						
KK31	**Karatay Array**	**5.93**	**353**	⇓P	P	05 25 08.4	-1.1
	12nm,0.3s						
KK31				⇑S	S	05 26 18.5	+0.9
	8.2nm,0.5s						
AB31	**Akbulak array**	**14.67**	**329**	⇓P	P	05 27 00.7	+0.5
	0.8nm,0.3s,baz=138,slow=13,SNR=48						
AB31				⇓S	S	05 29 40.4	+3.3
	0.6nm,0.5s,baz=150,slow=23,SNR=3.4						

IDC 21 05:34:12.9±3.2,10.08N×138.69E,mb4.1/3,mb1 4.2/3, mb1mx3.7/17,mbtmp4.1/3,MS2.7/1,Ms1 2.7/1, ms1mx2.5/18,Error ellipse: s-maj=257.3km s-min=34.8km az=88.0,Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**24.03**	**344**	LR	LR	05 48 18.5	
	comp=Z,16nm,19.8s,baz=274,slow=35						
WRA	**Warramunga Arr**	**30.14**	**188**	P	P	05 40 24.8	-2.3
	0.5nm,0.7s,baz=9.1,slow=9.8,SNR=5.4						
ARCES	**ARCESS Array B**	**88.48**	**341**	P	P	05 47 06.6	-1.5
	2.0nm,0.8s,baz=45,slow=8.6,SNR=5.9						
FINES	**FINESS Array B**	**91.69**	**334**	P	P	05 47 22.4	-0.7
	0.6nm,0.7s,baz=53,slow=6.9,SNR=5.3						

NNC 21 06:04:48.6±16.0,35.85N×70.45E,h200km±263km, mpv3.8,3C-3D,Error ellipse: s-maj=194.5km s-min=127.8km az=60.0,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**7.24**	**0**	⇑P	P	06 06 31.6	-1.1
	4.1nm,0.7s						
KK31				⇑S	S	06 07 54.8	+0.8
	3.3nm,0.4s						
AAK	**Ala-Archa**	**7.46**	**24**	⇓P	P	06 06 33.9	-1.8
	3.7nm,0.7s						
AAK				⇓S	S	06 08 00.5	+1.3
	16nm,0.7s						
AB31	**Akbulak array**	**15.45**	**333**	⇓P	P	06 08 19.2	+2.0
	7.5nm,0.7s,baz=148,slow=12,SNR=70						
AB31				⇑S	S	06 11 04.6	+2.0
	1.8nm,0.6s						

WEL 21 06:19:00.2±0.3,38.46S×176.05E,h119km±2km,ML3.6/13, 1C,Error ellipse: s-maj=2.4km s-min=2.1km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVZ	**Karewarewa**	**0.71**	**206**	PN	P	06 19 19.5	-0.1
WTVZ	**West Tongariro**	**0.75**	**208**	PN	P	06 19 19.8	-0.2
OTVZ	**Oturere**	**0.77**	**203**	PN	P	06 19 20.5	+0.4
OTVZ				SN	S	06 19 34.8	-0.4
TWVZ	**Taurewa**	**0.78**	**218**	PN	P	06 19 20.0	-0.2
BKZ	**Black Stump Fm**	**0.79**	**154**	PN	P	06 19 20.1	-0.2
BKZ				SN	S	06 19 35.4	-0.1
NGZ	**Ngauruhoe**	**0.80**	**206**	PN	P	06 19 20.5	+0.1
WPVZ	**Whakapapa**	**0.84**	**208**	PN	P	06 19 20.8	0.0
URZ	**Urewera**	**0.86**	**77**	PN	P	06 19 20.6	-0.4
URZ				SN	S	06 19 36.2	-0.4
URZ				SN	S	06 19 36.4	-0.3
TUVZ	**Tukino**	**0.87**	**201**	PN	P	06 19 21.1	0.0
TUVZ				SN	S	06 19 37.7	+1.0
FWVZ	**Far West T-bar**	**0.89**	**206**	*e*PN	P	06 19 21.1	-0.2
WNVZ	**Wahianoa**	**0.94**	**202**	PN	P	06 19 21.6	-0.2
MOVZ	**Moawhango**	**0.98**	**194**	⇑PN	P	06 19 21.6	-0.6
PKVZ	**Pokaka**	**1.00**	**213**	PN	P	06 19 22.1	-0.4
MTVZ	**Mangateitei**	**1.03**	**206**	PN	P	06 19 22.5	-0.3
MWZ	**Matawai**	**1.17**	**84**	*e*PN	P	06 19 23.9	-0.4
KNZ	**Kokohu**	**1.39**	**114**	*e*PN	P	06 19 26.8	+0.1
WAZ	**Wanganui**	**1.54**	**212**	PN	P	06 19 27.7	-0.7
TSZ	**Takapari Road**	**1.60**	**182**	*e*PN	P	06 19 28.0	-1.1
NEZ	**North Egmont**	**1.73**	**241**	PN	P	06 19 30.4	-0.3
MXZ	**Matakaoa Point**	**2.00**	**64**	*e*PN	P	06 19 33.6	-0.3
BFZ	**Birch Farm**	**2.23**	**176**	*e*PN	P	06 19 34.9	-2.2
MRZ	**Mangatainoka R**	**2.23**	**189**	PN	P	06 19 34.6	-2.5
KIW	**Kapiti Island**	**2.56**	**200**	PN	P	06 19 38.1	-3.4
KIW				SN	S	06 20 08.0	-4.6
MTW	**Mount Morrison**	**2.73**	**189**	PN	P	06 19 40.0	-3.8
CAW	**Cannon Point**	**2.75**	**196**	PN	P	06 19 40.4	-3.6
DUWZ	**D'Urville Isla**	**2.86**	**214**	PN	P	06 19 41.4	-4.1
TRWZ	**Traveller**	**2.95**	**185**	PN	P	06 19 43.1	-3.6
MRW	**Makara Radio**	**2.96**	**200**	PN	P	06 19 42.6	-4.2
MSWZ	**Moikau Station**	**3.02**	**191**	PN	P	06 19 43.4	-4.2
TUWZ	**Tuamarina**	**3.38**	**208**	PN	P	06 19 47.9	-4.6
NNZ	**Nelson**	**3.44**	**216**	PN	P	06 19 48.6	-4.6
QRZ	**Quartz Range**	**3.60**	**228**	*e*PN	P	06 19 51.0	-4.5
THZ	**Tophouse**	**4.09**	**215**	PN	P	06 19 56.6	-5.4
KHZ	**Kahutara**	**4.39**	**205**	*e*PN	P	06 20 00.4	-5.8

*NEIC **21** 06:36:51.5,17.49N×100.94W,h17km,MD4.1(MEX),After MEX.*

MEX 21 06:36:51.5±0.8,17.49N×100.94W,h17km±34km,MD4.1, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.78**	**124**	*i* P	Pb	06 37 04.2	-2.1
CAIG				*i* S	Sb	06 37 13.1	-3.3
ACX	**Acapulco**	**1.16**	**122**	*i* P	Pb	06 37 09.8	-2.9
ACX				*i* S	Sb	06 37 23.0	-4.3
PLIG	**Platanillo**	**1.64**	**57**	*e*P	Pn	06 37 16.8	-3.0
PLIG				*i* S	Sn	06 37 35.6	-5.0
**MO

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EQUE                                  S    Sn    06 41 00.7  -4.5
      6.3nm,0.3s,SNR=7.9
ESPR  Espera          2.52 320  P    Pn    06 40 36.7  -2.8
      3.3nm,0.4s,SNR=5.8
ESPR                                  S    Sn    06 41 07.1  -4.3
      5.5nm,0.3s
ESPR  Espera          2.52 320  P    Pn    06 40 36.4  -3.1
      3.3nm,0.4s,SNR=5.8
ESPR                                  S    Sn    06 41 07.1  -4.3
      5.5nm,0.3s
ELUQ  Luque           2.63 353  P    Pn    06 40 40.9  -0.2
      2.4nm,0.3s,SNR=4.8
ELUQ                                  S    Sn    06 41 11.2  -3.0
      3.8nm,0.3s
EQES  Quesada         2.92  12  P    Pn    06 40 44.3  -1.0
      2.3nm,0.1s,SNR=9.3
EQES                                  S    Sn    06 41 18.5  -3.0
      14nm,0.5s,SNR=6.6
EQES  Quesada         2.92  12  P    Pn    06 40 44.6  -0.6
      2.3nm,0.1s,SNR=9.3
EQES                                  S    Sn    06 41 18.5  -3.0
      14nm,0.5s,SNR=6.6
ZFT   Errachidia      2.94 188  eP   Pn    06 40 43.0  -2.5
EHUE  Huescar         3.04  19  P    Pn    06 40 45.7  -1.2
      0.7nm,0.2s,SNR=7.9
EHUE                                  S    Sn    06 41 21.8  -2.7
      1.8nm,0.3s,SNR=7.9
EHUE  Huescar         3.04  19  P    Pn    06 40 45.7  -1.2
      0.7nm,0.2s,SNR=7.9
EHUE                                  S    Sn    06 41 22.1  -2.4
      1.8nm,0.3s,SNR=7.9
EADA  Adamuz          3.27 350  P    Pn    06 40 47.2  -3.0
      1.1nm,0.3s,SNR=9.1
EADA                                  S    Sn    06 41 24.4  -6.0
      2.6nm,0.3s
EADA  Adamuz          3.27 350  P    Pn    06 40 47.2  -3.0
      1.1nm,0.3s,SNR=9.1
EADA                                  S    Sn    06 41 25.4  -5.0
      2.6nm,0.3s
ECAB  El Cabril       3.37 338  P    Pn    06 40 50.5  -1.2
      2.2nm,0.4s,SNR=7.9
ECAB                                  S    Sn    06 41 26.5  -6.5
      4.6nm,0.4s,SNR=7.9
ECAB  El Cabril       3.37 338  P    Pn    06 40 50.5  -1.2
      2.2nm,0.4s,SNR=7.9
ECAB                                  S    Sn    06 41 26.5  -6.5
      4.6nm,0.4s,SNR=7.9
EMUR  La Murta        3.57  35  P    Pn    06 40 52.4  -2.2
      1.3nm,0.3s,SNR=5.0
EMUR                                  S    Sn    06 41 32.1  -6.0
      7.8nm,0.6s
EMUR  La Murta        3.57  35  P    Pn    06 40 52.4  -2.2
      1.3nm,0.3s,SNR=5.0
EMUR                                  S    Sn    06 41 31.9  -6.2
      7.8nm,0.6s
EMIN  Mina Concepcio  3.62 322  P    Pn    06 40 52.6  -2.7
      1.0nm,0.3s,SNR=14
EMIN                                  S    Sn    06 41 33.4  -6.0
      2.0nm,0.4s
EMIN  Mina Concepcio  3.62 322  P    Pn    06 40 52.6  -2.7
      1.0nm,0.3s,SNR=14
EMIN                                  S    Sn    06 41 33.4  -6.0
      2.0nm,0.4s
EGRO  El Granado      3.91 312  P    Pn    06 40 56.9  -2.5
      5.5nm,0.3s,SNR=16
EGRO                                  S    Sn    06 41 39.8  -6.8
      2.6nm,0.3s,SNR=7.9
EGRO  El Granado      3.91 312  P    Pn    06 40 56.9  -2.5
      5.5nm,0.3s,SNR=16
EGRO                                  S    Sn    06 41 39.8  -6.9
      2.6nm,0.3s,SNR=7.9
ETOB  Tobarra         4.13  26  P    Pn    06 41 01.1  -1.3
      2.3nm,0.3s,SNR=5.7
ETOB                                  S    Sn    06 41 46.3  -5.8
      5.2nm,0.5s
ETOB  Tobarra         4.13  26  P    Pn    06 41 01.1  -1.3
      2.3nm,0.3s,SNR=5.7
ETOB                                  S    Sn    06 41 46.3  -5.8
      5.2nm,0.5s
PBEJ  Beja            4.46 315  ePn  Pn    06 41 05.3  -1.9
EBAD  Badajoz         4.57 327  P    Pn    06 41 06.0  -2.7
      2.6nm,0.3s,SNR=8.6
EBAD                                  S    Sn    06 41 56.2  -7.2
      3.6nm,0.3s,SNR=7.9
EBAD  Badajoz         4.57 327  P    Pn    06 41 06.0  -2.7
      2.6nm,0.3s,SNR=8.6
EBAD                                  S    Sn    06 41 55.5  -7.9
      3.6nm,0.3s,SNR=7.9
ESDC  Sonseca Array   4.72 359  P    Pn    06 41 08.4  -2.5
      0.5nm,0.2s,baz=177,slow=13,SNR=7.4
ESDC                                  S    Sn    06 42 00.3  -6.8
      0.2nm,0.2s,baz=172,slow=24,SNR=7.9
ESDC  Sonseca Array   4.72 359  P    Pn    06 41 08.4  -2.4
      0.5nm,0.2s,SNR=7.4
PCBR  Castelo Branco  5.67 330  ePn  Pn    06 41 20.6  -3.7
PTOM  Tomar           5.91 323  ePn  Pn    06 41 24.2  -3.5
PBRG  Braganca        7.21 343  ePn  Pn    06 41 42.8  -3.2
ECAL  Calabor         7.34 343  P    Pn    06 41 44.4  -3.5
      4.5nm,0.6s,SNR=7.9
ECAL                                  S    Sn    06 43 03.1  -10
      4.3nm,0.7s,SNR=7.9
ECAL  Calabor         7.34 343  P    Pn    06 41 44.4  -3.4
      4.5nm,0.6s,SNR=7.9
ELOB  Lobios          7.66 336  P    Pn    06 41 48.2  -4.1
      7.5nm,0.9s,SNR=7.9
ELOB                                  S    Sn    06 43 09.3  -11
      2.7nm,0.5s,SNR=7.9
ELOB  Lobios          7.66 336  P    Pn    06 41 48.2  -4.1
      7.5nm,0.9s,SNR=7.9
```

*IDC **21** 06:40:12.8±4.7,23.95S×66.97W,h172km±34km,mb2.5/1, mb1 3.2/4,mb1mx3.1/14,mbtmp3.5/4,Error ellipse: s-maj=58.4km s-min=20.6km az=42.0*

*NEIC **21** 06:40:13.3±1.1,23.93S×66.92W,h180km±10km,mb3.3/1, Error ellipse: s-maj=22.1km s-min=11.6km az=212.0*

ISC 21 06:40:12.4±1.4,24.0S±0.1×66.9W±0.2,h192km±16km,n8, σ0§46/8,mb2.9/1,1,C,Jujuy Province

```
Code  Station Name        Δ°   AZ°  Phase ID          Time      Res
                                   Op    ISC       h m s     ISC
LVC   Limon Verde         2.27 307⇑ eP    P      06 40 53.6  0.0
LVC                                eS    S      06 41 18.7  -6.7
LPAZ  La Paz              7.74 352  P     P      06 42 03.3  +0.2
      0.8nm,0.3s,baz=174,slow=9.1,SNR=29
LPAZ                                S     S      06 43 29.7  +0.2
      0.1nm,0.3s,baz=312,slow=22,SNR=4.2
CPUP  Villa Florida       9.02 107  P     P      06 42 19.8  0.0
      0.1nm,0.3s,baz=280,slow=12,SNR=2.7
SAML  Samuel             15.38  14  eP    P      06 43 40.1  -0.7
      1.0nm,0.7s
BDFB  Brasilia           19.63  68  P     P      06 44 28.5  +0.3
      0.5nm,0.3s,baz=239,slow=9.1,SNR=13
TXAR  Lajitas Array      63.70 324  P     P      06 50 25.7  0.0
      0.1nm,0.3s,mb2.9,baz=151,slow=11,SNR=2.7
MKAR  Makanchi Array     146.48  40  PKPbc PKPbc  06 59 33.0  +2.5
      0.5nm,0.6s,baz=288,slow=3.8,SNR=5.6
MKAR  Makanchi Array     146.48  40  PKPbc PKPbc  06 59 33.0  +2.5
```

IDC 21 06:48:12.0±1.8,28.86N×85.46E,mb3.6/4,mb1 3.7/5, mb1mx3.5/19,mbtmp3.6/5,ML3.5/1,Error ellipse: s-maj=115.6km s-min=27.4km az=55.0,Nepal

```
Code  Station Name        Δ°   AZ°  Phase ID          Time      Res
                                   Op    ISC       h m s     ISC
MKAR  Makanchi Array     18.07 353  P     P      06 52 26.1  0.0
      0.2nm,0.3s,baz=163,slow=13,SNR=9.6
FINES FINESS Array B     50.52 328  P     P      06 57 12.8  -0.9
      0.7nm,0.7s,baz=100,slow=8.5,SNR=4.5
ARCES ARCESS Array B     52.84 338  P     P      06 57 28.2  -3.0
      1.5nm,0.8s,baz=105,slow=7.8,SNR=7.7
NB2   NORSAR Subarra     57.63 326  P     P      06 58 03.0  -3.0
      0.1nm,0.6s,baz=87,slow=7.0
NOA   NORSAR Array B     57.63 326  P     P      06 58 02.7  -3.3
      0.4nm,0.6s,baz=90,slow=6.7,SNR=3.8
WRA   Warramunga Arr     67.67 130  P     P      06 59 11.4  -2.0
      0.1nm,0.3s,baz=326,slow=6.6,SNR=4.8
```

*MOS **21** 06:52:18.9±1.1,17.88N×146.88E,h33km,mb5.2/32,Error ellipse: s-maj=12.7km s-min=6.9km az=109.9*

*IDC **21** 06:52:19.2±2.7,17.91N×146.99E,h23km±16km,mb4.5/27, mb1 4.6/28,mb1mx4.6/31,mbtmp4.6/28,ML3.8/1,MS4.2/16, Ms1 4.2/16,ms1mx4.1/23,Error ellipse: s-maj=16.4km s-min=10.9km az=87.0*

*BJI **21** 06:52:21.0,18.32N×146.72E,h17km,mB5.0,mb4.9, Ms4.4,Msz4.4*

*NEIC **21** 06:52:21.1±0.2,17.93N×147.00E,mb4.9/41,MS4.3/2, Error ellipse: s-maj=6.2km s-min=5.8km az=112.0*

*HRVD **21** 06:52:21.1±0.5,17.89N×147.31E,h17km±2km,MW4.9/48, Centroid moment Tensor Solution. LP body waves: s17,c18;Mantle waves: s48,c66; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.53±.20; Mθθ0.60±.14; Mφφ-2.13±.14; Mrθ-0.12±.43; Mθφ0.20±.08; Mφr2.19±.39; Best double couple: M0 2.861×10^16 NP1:φs174°,δ20°,λ88°. NP2:φs357°,δ70°,λ91°. Principal axes: T 2.554, Plg65°, Azm268°; N .611, Plg1°, Azm176°; P -3.169, Plg25°, Azm86°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 21 06:52:20.0±0.2,18.02N±0.04×146.94E±0.04,h35km, h35km±3.2km:pP-P,n179,σ1§17/175,mb4.8/85,MS4.2/29, 10C-8D,Mariana Islands

```
Code  Station Name        Δ°   AZ°  Phase ID          Time      Res
                                   Op    ISC       h m s     ISC
SARN  Sarigan             1.72 221  eP    P      06 52 50.0  +1.9
SARN                                e            06 52 51.1
SAPN  Saipan              3.01 202⇓ eP    P      06 53 07.5  +1.0
SAPN                                eS    S      06 53 42.5  +0.8
CBIJ  Chichi jima        10.05 335  Pn    P      06 54 43.8  -1.3
      3.0nm,0.3s,baz=180,slow=20,SNR=2.7
CBIJ                                Sn    S      06 56 34.0  -3.8
      9.6nm,0.3s,baz=294,slow=20,SNR=3.4
JOW   Kunigami           19.34 300  P     P      06 56 47.2  +1.8
      6.0nm,0.3s,baz=127,slow=13,SNR=32
JOW                                 LR    LR     07 03 35.1
      comp=Z,1μm,18.6s,baz=304,slow=35
MJAR  Matsushiro Arr     20.00 339  P     P      06 56 51.6  -0.9
      13nm,0.8s,baz=165,slow=11,SNR=35
MAJO  Matsushiro         20.00 339  eP    P      06 56 51.9  -0.6
      77nm,0.7s
MAT   Matsushiro         20.00 339  P     P      06 56 52.4  -0.1
MAT                                 S     S      07 00 35.6  +5.1
MAT   Matsushiro         20.00 339  eP    P      06 56 52.0  -0.5
      18nm,0.9s
MAT                                 eS    S      07 00 12.0  -19
MAT                                 LR    LR
      comp=Z,690nm,19.0s,MS4.0
JNU   Nakatsue           20.85 319  P     P      06 57 02.3  +1.0
      comp=Z,32nm,0.8s,baz=84,slow=10,SNR=14
JNU                                 LR    LR     07 03 32.6
      comp=Z,554nm,21.7s,MS3.9,baz=124,slow=32
YHNB  Yeheng             24.70 290  eP    P      06 57 40.7  +1.3
KS15  Wonju Array Si     25.58 323  eP    P      06 57 47.9  +0.2
ASAJ  Asahikawa          26.28 353  P     P      06 57 57.0  +2.9
      comp=Z,13nm,0.8s,mb4.5,baz=190,slow=18,SNR=3.9
ASAJ                                LR    LR     07 08 50.6
      comp=Z,314nm,18.2s,MS3.9,baz=172,slow=38
INCN  Inchon             26.34 322  eP    P      06 57 54.6  -0.1
      comp=Z,12nm,0.3s,mb4.9
SSE   Sheshan            26.73 304  eP    P      06 57 55.6  -2.7
SSE                                 AP    pP     06 58 04.4  -3.7
SSE                                 XP    sP     06 58 08.3  -4.1
SSE                                 S     S      07 02 31.0  +1.4
SSE                                 SCS   ScS    07 08 45.8  -1.0
SSE                                 AMB   AMB
      comp=Z,24nm,0.7s,mb4.8
SSE                                 AMB   AMB
      comp=Z,82nm,3.9s
SSE                                 LR    LR
      comp=N,340nm,20.1s,MS3.9
SSE                                 LR    LR
      comp=E,147nm,20.0s,MS3.9
SSE                                 LR    LR
      comp=Z,447nm,17.1s,MS4.1
SSE   Sheshan            26.73 304  eP    P      06 57 55.6  -2.7
      comp=Z,24nm,0.7s,mb4.8
SSE                                 pP    pP     06 58 04.4  -3.7
SSE                                 sP    sP     06 58 08.3  -4.1
SSE                                 PcP   PcP    07 01 18.2  -3.3
SSE                                 S     S      07 02 31.0  +1.4
SSE                                 sS            07 02 48.0
SSE                                 ScS   ScS    07 08 45.7  -1.1
SSE                                 LR    LR
      comp=Z,450nm,17.1s,MS4.1
PMG   Port Moresby       27.25 180  P     P      06 58 00.1  -3.2
      comp=Z,11nm,0.6s,mb4.5,baz=315,slow=2.9,SNR=3.7
PMG                                 LR    LR     07 07 52.1
      comp=Z,255nm,19.0s,MS3.8,baz=241,slow=34
PMG   Port Moresby       27.25 180  eP    P      06 58 00.5  -2.7
      comp=Z,83nm,1.1s,mb5.2
PMG                                 epP   pP     06 58 11.5  -1.6
PMG   Port Moresby       27.25 180  eP    P      06 58 00.5  -2.8
PMG                                 e*PP  pP     06 58 11.5  -1.6
PMG                                 pmax  pmax
      comp=Z,83nm,1.1s
NJ2   Nanjing            28.93 304  eP    P      06 58 16.5  -1.7
NJ2                                 AP    pP     06 58 27.3  -0.8
NJ2                                 XP    sP     06 58 29.8  -2.9
NJ2                                 PP    PP     06 59 10.4  -1.8
NJ2                                 S     S      07 03 04.0  -1.1
NJ2                                 XS            07 03 20.0
NJ2                                 AMB   AMB
      comp=Z,10.0nm,0.6s,mb4.7
NJ2                                 AMB   AMB
      comp=Z,250nm,3.9s
NJ2                                 LR    LR
      comp=N,210nm,11.6s,MS4.1
NJ2                                 LR    LR
      comp=E,210nm,11.3s,MS4.1
NJ2                                 LR    LR
      comp=Z,130nm,9.6s
YSS   Yuzh-Sakhalins     29.07 354  eP    P      06 58 18.0  -1.3
YSS                                 pmax  pmax
      comp=Z,16nm,1.3s,mb4.6
HNR   Honiara            30.14 154  LR    LR     07 08 47.0
      comp=Z,474nm,19.8s,MS4.1,baz=320,slow=33
MDJ   Mudanjiang         30.25 335  P     P      06 58 26.6  -3.2
MDJ                                 AP    pP     06 58 32.5  -7.3
MDJ                                 XP    sP     06 58 35.3  -9.1
MDJ                                 AMB   AMB
      comp=Z,7.0nm,1.7s,mb4.1
MDJ                                 AMB   AMB
      comp=Z,76nm,5.0s
MDJ                                 LR    LR
      comp=N,267nm,23.3s,MS4.0
MDJ                                 LR    LR
      comp=E,323nm,24.8s,MS4.0
MDJ                                 LR    LR
      comp=Z,178nm,20.0s,MS3.7
SNY   Shenyang           31.01 325  ⇓P    P      06 58 35.9  -0.7
SNY                                 AMB   AMB
      comp=Z,20nm,0.7s,mb5.1
CN2   Changchun          31.45 329  eP    P      06 58 42.8  +2.3
CN2                                 eS    S      07 03 47.3  +2.6
CN2                                 AMB   AMB
      comp=Z,10.0nm,0.6s,mb4.8
CN2                                 AMB   AMB
      comp=Z,300nm,3.0s
CN2                                 LR    LR
      comp=N,400nm,16.0s,MS4.4
CN2                                 LR    LR
      comp=E,500nm,16.0s,MS4.4
CN2                                 LR    LR
      comp=Z,600nm,16.0s,MS4.4
KKM   Kota Kinabalu      32.26 252  eP    P      06 58 47.6  -0.3
KAKA  Kakadu             33.72 206  eP    P      06 59 11.6  +11
      comp=Z,7.7nm,0.6s,mb4.8
QIZ   Qiongzhong         35.15 278  ⇓P    P      06 59 14.3  +1.5
QIZ                                 S     S      07 04 52.9  +10
QIZ                                 AMB   AMB
      comp=Z,25nm,1.5s,mb4.9
QIZ                                 LR    LR
      comp=E,427nm,16.8s
QIZ                                 LR    LR
      comp=Z,633nm,19.2s,MS4.4
ENH   Enshi              36.13 297  eP    P      06 59 21.2  +0.2
      comp=Z,11nm,0.8s,mb4.8
CTA   Charters Tower     37.87 181  eP    P      06 59 38.8  +3.1
      comp=Z,3.9nm,1.2s,mb4.0
CTA   Charters Tower     37.87 181  P     P      06 59 34.6  -1.1
      comp=Z,3.0nm,0.8s,mb4.0,baz=328,slow=9.5,SNR=2.5
GYA   Guiyang            38.09 290⇓ iP    P      06 59 39.0  +1.5
GYA                                 AP    pP     06 59 48.6  +1.0
GYA                                 XP    sP     06 59 52.3  +0.2
GYA                                 PP    PP     07 01 10.1  +1.9
GYA                                 PCP   PcP    07 01 52.8  +0.2
GYA                                 S     S      07 05 30.9  +3.3
GYA                                 SS    SS     07 08 01.4  -4.7
GYA                                 SCS   ScS    07 09 46.3  +2.0
GYA                                 AMB   AMB
      comp=Z,20nm,1.0s,mb4.8
GYA                                 AMB   AMB
      comp=Z,110nm,4.8s
GYA                                 LR    LR
      comp=N,810nm,16.2s,MS4.7
GYA                                 LR    LR
      comp=E,640nm,16.8s,MS4.7
GYA                                 LR    LR
      comp=Z,510nm,16.0s,MS4.4
HIA   Hailar             38.13 331  eP    P      06 59 37.4  -0.1
      comp=Z,35nm,0.8s,mb5.1
HIA   Hailar             38.13 331  eP    P      06 59 37.4  -0.1
HIA                                 pmax  pmax
      comp=Z,35nm,0.8s
BTO   Baotou             38.88 313  eP    P      06 59 44.0  +0.2
KSM   Kuching            39.54 250  eP    P      06 59 48.6  -1.0
WRAB  Tennant Creek      39.69 199  eP    P      06 59 47.7  -3.0
      comp=Z,15nm,0.9s,mb4.7
WRAB                                epP   pP     06 59 58.0  -2.9
WRAB  Tennant Creek      39.69 199  eP    P      06 59 47.7  -3.0
WRAB                                e*PP  pP     06 59 58.0  -2.9
WRAB                                pmax  pmax
      comp=Z,15nm,0.9s,mb4.7
WRA   Warramunga Arr     39.70 199  P     P      06 59 48.5  -2.3
      comp=Z,6.8nm,0.9s,mb4.4,baz=24,slow=8.5,SNR=33
WRA                                 PcP   PcP    07 01 57.1  -0.6
      comp=Z,3.8nm,0.6s,baz=14,slow=3.4,SNR=12
WRA                                 ScP          07 05 43.7
      comp=Z,1.1nm,0.9s,baz=16,slow=4.4,SNR=6.6
FITZ  Fitzroy Crossi     41.56 211  eP    P      07 00 04.4  -1.9
      comp=Z,12nm,0.8s,mb4.6
FITZ  Fitzroy Crossi     41.56 211  P     P      07 00 05.0  -1.3
      comp=Z,9.1nm,0.6s,mb4.6,baz=11,slow=14,SNR=29
KMI   Kunming            41.57 288  P     P      07 00 08.5  +2.2
KMI                                 AP    pP     07 00 19.3  +2.7
KMI                                 PP    PP     07 01 48.0  +2.5
KMI                                 PCP   PcP    07 02 06.1  +2.3
KMI                                 PPP   PPP    07 02 18.6  +1.9
KMI                                 SCP          07 05 51.8
KMI                                 PCS          07 05 56.3
KMI                                 S     S      07 06 21.3  +1.5
KMI                                 SS    SS     07 09 20.3  0.0
KMI                                 SSS   SSS    07 10 03.0  +1.1
KMI                                 SCS   ScS    07 10 06.8  +2.0
KMI                                 AMB   AMB
      comp=Z,7.0nm,0.6s,mb4.5
KMI                                 LR    LR
      comp=N,194nm,16.2s
KMI                                 LR    LR
      comp=E,200nm,23.3s
KMI                                 LR    LR
      comp=Z,226nm,23.0s
KMI   Kunming            41.57 288  P     P      07 00 08.5  +2.2
      comp=Z,7.0nm,0.6s,mb4.5
KMI                                 pP    pP     07 00 19.3  +2.7
KMI                                 sP    sP     07 00 23.7  +2.8
KMI                                 PP    PP     07 01 48.0  +2.5
KMI                                 PcP   PcP    07 02 06.1  +2.3
KMI                                 PPP   PPP    07 02 18.6  +1.9
KMI                                 ScP          07 05 51.8
KMI                                 PcS          07 05 56.2
KMI                                 S     S      07 06 21.2  +1.4
KMI                                 sS           07 06 39.6
KMI                                 SS    SS     07 09 20.2  -0.1
KMI                                 SSS   SSS    07 10 03.0  +1.1
KMI                                 ScS   ScS    07 10 06.7  +1.9
KMI                                 LR    LR
      comp=Z,230nm,23.0s,MS4.0
KMI   Kunming            41.57 288  P     P      07 00 08.5  +2.2
KMI                                 *PP   pP     07 00 19.3  +2.7
KMI                                 *SP   sP     07 00 23.7  +2.8
KMI                                              07 01 48.0
KMI                                              07 02 06.1
KMI                                 PPP   PPP    07 02 18.6  +1.9
KMI                                 S     S      07 06 21.2  +1.4
KMI                                 *SS          07 06 39.6
KMI                                 SS    SS     07 09 20.2  -0.1
KMI                                 SSS   SSS    07 10 03.0  +1.1
KMI                                              07 10 06.7
KMI                                 pmax  pmax
      comp=Z,7.0nm,0.6s,mb4.5
KMI                                 MLR   MLR
      comp=Z,230nm,23.0s,MS4.0
MA2   Magadan            41.60   3  eP    P      07 00 15.3  +9.2
MA2                                 pmax  pmax
      comp=Z,6.0nm,0.7s,mb4.3
LZH   Lanzhou            42.01 304  eP    P      07 00 11.3  +1.5
LZH                                 AP    pP     07 00 19.3  -0.7
LZH                                 XP    sP     07 00 23.6  -0.8
LZH                                 AMB   AMB
      comp=Z,30nm,1.2s,mb4.8
LZH                                 AMB   AMB
      comp=Z,240nm,5.1s
LZH                                 LR    LR
      comp=N,730nm,16.9s
LZH                                 LR    LR
      comp=Z,830nm,20.8s,MS4.6
LZH   Lanzhou            42.01 304  eP    P      07 00 11.2  +1.4
LZH                                 *PP   pP     07 00 19.2  -0.8
LZH                                 *SP   sP     07 00 23.6  -0.8
LZH                                              07 02 15.0
LZH                                 pmax  pmax
      comp=Z,30nm,1.2s,mb4.8
LZH                                 MLR   MLR
      comp=Z,830nm,20.8s,MS4.6
KKTK  Khon Kaen          42.11 275  P     P      07 00 11.0  +0.1
CLNS  Chul'man           42.14 342  eP    P      07 00 11.6  +1.0
CLNS                                e            07 01 46.5
CLNS                                e            07 02 09.0
CLNS                                eS    S      07 06 24.1  -3.6
CLNS                                eSS   SS     07 09 25.6  -4.8
CLNS                                pmax  pmax
      comp=Z,29nm,1.3s,mb4.8
CLNS                                pmax  pmax
      comp=N,18nm,1.2s
CLNS                                pmax  pmax
      comp=E,8.0nm,0.9s
CLNS                                pmax  pmax
      comp=Z,6.0nm,0.7s,mb4.3
CLNS                                pmax  pmax
      comp=N,11nm,0.8s
CLNS                                pmax  pmax
      comp=E,11nm,0.8s
CLNS                                smax
      comp=E,309nm,14.6s
CLNS                                smax
      comp=Z,52nm,16.1s
CLNS                                smax
      comp=N,201nm,13.2s
CLNS                                MLR   MLR
      comp=Z,200nm,16.0s,MS4.1
CLNS                                MLR   MLR
      comp=N,200nm,14.0s,MS4.3
CLNS                                MLR   MLR
      comp=E,200nm,15.0s,MS4.3
CIT   Chita              42.89 330  eP    P      07 00 17.7  +0.9
CIT                                 e            07 02 07.5
CIT                                 pmax  pmax
      comp=Z,77nm,1.2s,mb5.3
NANT  Nan                43.79 279  P     P      07 00 25.0  +0.5
DZM   Mont Dzumac        44.17 154  P     P      07 00 24.9  -2.7
      comp=Z,6.2nm,1.1s,mb4.3,baz=11,slow=18,SNR=2.7
SONM  Songino Array      44.41 321  P     P      07 00 29.7  +0.6
      comp=Z,12nm,0.8s,mb4.7,baz=132,slow=9.4,SNR=41
SONM                                PcP   PcP    07 02 12.7  -0.3
      comp=Z,4.7nm,0.7s,baz=145,slow=5.0,SNR=6.1
SONM                                ScP          07 06 02.5
      comp=Z,2.0nm,1.0s,baz=103,slow=2.9,SNR=4.8
NST   Nakhon Sawan       44.77 274  P     P      07 00 31.0  -1.5
      comp=Z,42nm,1.0s,mb5.2
SEY   Seymchan           45.03   4⇓ iP    P      07 00 34.6  +0.7
YAK   Yakutsk            45.61 349  eP    P      07 00 38.2  -0.3
      comp=Z,27nm,0.6s,mb5.3
YAK   Yakutsk            45.61 349  eP    P      07 00 39.5  +0.9
YAK                                 pmax  pmax
      comp=Z,11nm,0.9s,mb4.8
YAK                                 pmax  pmax
      comp=N,8.0nm,1.3s
YAK                                 pmax  pmax
      comp=E,2.0nm,0.8s
NNT   Nongplab           45.76 270  P     P      07 00 41.3  +0.9
GTA   Gaotai             45.90 308  eP    P      07 00 41.6  +0.4
GTA                                 AP    pP     07 00 52.9  +1.4
```

GTA XP sP 07 00 57.3 +1.5
GTA PCP PcP 07 02 18.9 +0.6
GTA PP PP 07 02 29.3 +0.3
GTA SCP 07 06 09.8
GTA S **S** **07 07 24.0 +1.6**
GTA XS 07 07 32.4
GTA SS SS 07 10 40.4 +1.3
GTA AMB AMB
comp=Z,5.0nm,1.3s,mb4.3
GTA AMB AMB
comp=Z,123nm,5.1s
GTA LR LR
comp=N,167nm,18.9s,MS4.3
GTA LR LR
comp=E,297nm,19.8s,MS4.3
GTA LR LR
comp=Z,401nm,19.2s,MS4.4
SNG Songkhla 46.36 263 P **P** **07 00 46.0 +0.9**
comp=Z,20nm,0.8s,mb5.1
BOD Bodaibo 46.60 336 *e*P **P** **07 00 46.4 0.0**
BOD pmax pmax
comp=Z,6.0nm,1.3s,mb4.4
KULM Kulim 46.93 260 *e*P **P** **07 00 50.3 +0.7**
MBWA Marble Bar 47.19 216 *e*P **P** **07 00 49.1 -2.4**
ZAK Zakamensk 47.40 323⇑*i*P **P** **07 00 53.1 +0.3**
ZAK *e* 07 02 23.4
ZAK pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
ZAK pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
IRK Irkutsk 47.73 326 *e*P **P** **07 00 55.1 -0.3**
IRK pmax pmax
comp=Z,51nm,1.9s,mb5.2
STKA Stephens Creek 49.87 186 *e*P **P** **07 01 09.2 -3.0**
comp=Z,7.0nm,0.8s,mb4.7
STKA Stephens Creek 49.87 186 P **P** **07 01 09.2 -3.0**
comp=Z,5.3nm,0.9s,mb4.6,baz=11,slow=11,SNR=4.1
STKA LR LR 07 23 59.5
comp=Z,351nm,18.1s,MS4.4,baz=20,slow=38
BILL Bilibino 51.49 9*c i*P **P** **07 01 22.7 -1.3**
BILL pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
LSA Lhasa 51.91 294 *e*P **P** **07 01 29.4 +1.8**
comp=Z,12nm,0.7s,mb4.9
LSA Lhasa 51.91 294 *e*P **P** **07 01 29.4 +1.8**
LSA pmax pmax
comp=Z,12nm,0.7s,mb4.9
WMQ Urumqi 55.65 311 P **P** **07 01 55.0 0.0**
WMQ AP pP 07 02 08.0 +2.5
WMQ PP PP 07 04 01.0 +0.2
WMQ S **S** **07 09 37.0 +0.1**
WMQ SS SS 07 13 23.0 +0.8
WMQ AMB AMB
comp=Z,26nm,1.0s,mb5.2
WMQ AMB AMB
comp=Z,24nm,7.0s
WMQ LR LR
comp=N,159nm,20.0s,MS4.2
WMQ LR LR
comp=E,128nm,20.0s,MS4.2
WMQ LR LR
comp=Z,109nm,18.0s,MS4.0
GUN Gumba 56.59 292 *e*P **P** **07 02 02.5 +0.5**
comp=Z,94nm,1.0s,mb5.8
PKI Pulchoki 57.03 292 *e*P **P** **07 02 04.8 -0.4**
comp=Z,48nm,0.9s,mb5.5
PKI Pulchoki 57.03 292 *e*P **P** **07 02 04.8 -0.4**
PKI pmax pmax
comp=Z,24nm,0.9s,mb5.2
KKN Kakani 57.13 292 *e*P **P** **07 02 06.0 +0.1**
comp=Z,54nm,1.0s,mb5.5
KKN Kakani 57.13 292 *e*P **P** **07 02 06.0 +0.1**
KKN pmax pmax
comp=Z,27nm,1.0s,mb5.2
DMN Daman 57.30 292 *e*P **P** **07 02 07.1 0.0**
comp=Z,58nm,1.0s,mb5.6
GKN Gorkha 57.68 292 *e*P **P** **07 02 09.5 -0.2**
comp=Z,117nm,1.1s,mb5.8
KOLN Koldanda 58.62 292 *e*P **P** **07 02 15.9 -0.4**
comp=Z,55nm,0.9s,mb5.6
ZAL Zalesovo 59.28 323 P **P** **07 02 19.6 -0.9**
comp=Z,6.5nm,0.5s,mb4.9,baz=12,slow=6.9,SNR=28
ZAL LR LR 07 29 48.5
comp=Z,194nm,18.0s,MS4.3,baz=179,slow=38
ZAL Zalesovo 59.28 323 P **P** **07 02 19.6 -0.9**
ZAL LR LR 07 29 48.5
MKAR Makanchi Array 59.79 314 P **P** **07 02 23.2 -0.9**
comp=Z,10nm,0.7s,mb5.0,baz=91,slow=6.8,SNR=101
MKAR PcP PcP 07 03 09.2 -1.1
comp=Z,5.8nm,0.9s,baz=90,slow=5.8,SNR=5.5
MKAR ScP 07 07 09.2
comp=Z,2.4nm,1.0s,baz=53,slow=7.2,SNR=7.5
MKAR LR LR 07 29 03.4
comp=Z,188nm,18.8s,MS4.2,baz=249,slow=37
MKAR Makanchi Array 59.79 314 P **P** **07 02 23.2 -0.9**
MKAR PcP PcP 07 03 09.2 -1.1
MKAR ScP 07 07 09.2
MKAR LR LR 07 29 03.4
NVS Novosibirsk 60.36 323⇑*i*P **P** **07 02 26.8 -1.1**
NVS pmax pmax
comp=Z,31nm,1.5s,mb5.1
NVS pmax pmax
comp=E,30nm,1.6s
KURK Kurchatov 62.57 318 *e*P **P** **07 02 41.4 -1.4**
comp=E,12nm,0.8s,mb5.1
KURK Kurchatov 62.57 318 *e*P **P** **07 02 41.4 -1.4**
KURK pmax pmax
comp=Z,12nm,0.8s,mb5.1
ILAR Eielson Array 63.74 26 P **P** **07 02 47.9 -2.4**
comp=Z,4.8nm,0.9s,mb4.5,baz=257,slow=4.9,SNR=31
ILAR LR LR 07 27 31.3
comp=Z,85nm,19.2s,MS3.9,baz=3.0,slow=33
FRU Bishkek 65.12 309 *e*P **P** **07 02 57.0 -2.6**
AAK Ala-Archa 65.22 309 *e*P **P** **07 02 58.7 -1.6**
comp=Z,5.8nm,1.0s,mb4.6
AAK Ala-Archa 65.22 309*d i*P **P** **07 02 58.9 -1.3**
AAK pmax pmax
comp=Z,12nm,1.7s,mb4.7
BVAR Borovoye Array 67.75 321 P **P** **07 03 15.8 -0.3**
comp=Z,28nm,0.6s,mb5.5,baz=95,slow=7.8,SNR=214
BRVK Borovoye 67.82 321 *e*P **P** **07 03 16.1 -0.4**
comp=Z,12nm,0.6s,mb5.1
BRVK Borovoye 67.82 321 *e*P **P** **07 03 16.1 -0.4**
BRVK pmax pmax
comp=Z,12nm,0.6s,mb5.1
INK Inuvik 69.54 23 P **P** **07 03 26.6 -0.3**
comp=Z,4.4nm,0.8s,mb4.4,baz=248,slow=12,SNR=6.1
INK LR LR 07 36 21.1
comp=Z,106nm,18.5s,MS4.1,baz=122,slow=38
DLBC Dease Lake 71.20 33 P **P** **07 03 37.4 +0.2**
comp=Z,4.2nm,0.8s,mb4.4,baz=326,slow=8.6,SNR=8.9
PPT Papeete 71.75 116 *e*S S 07 12 58.6 +1.1
PPT *e*LR LR 07 24 57.6
comp=Z,278nm,21.8s,baz=296
PPT Papeete 71.75 116 LR LR 07 29 04.8
comp=Z,282nm,21.3s,MS4.5,baz=114,slow=31
ARU Arti 74.31 325 *e*P **P** **07 03 55.2 -0.2**
comp=Z,22nm,0.8s,mb5.1
ARU Arti 74.31 325 *e*P **P** **07 03 55.2 -0.2**
ARU pmax pmax
comp=Z,22nm,0.8s,mb5.1
KEBM Edson Butte 77.06 49 *e*P **P** **07 04 11.8 +0.4**
YKA Yellowknife Ar 78.03 28 P **P** **07 04 15.8 -0.6**
comp=Z,4.0nm,0.7s,mb4.4,baz=288,slow=5.4,SNR=15
YKA LR LR 07 38 24.1
comp=Z,125nm,18.4s,MS4.3,baz=270,slow=35
YKA Yellowknife Ar 78.03 28 P **P** **07 04 15.8 -0.6**
YKA LR LR 07 38 24.1
KCPM Cahto Peak 78.33 52 *e*P **P** **07 04 19.2 +0.6**
KIPM Iron Peak 78.38 52 P **P** **07 04 19.8 +0.9**
YBH Yreka Blue Hor 78.49 50 P **P** **07 04 18.9 -0.5**
comp=Z,2.5nm,0.8s,mb4.2,baz=297,slow=3.4,SNR=12
HAWA Hanford 79.55 45 *e*P **P** **07 04 26.9 +1.8**
comp=Z,0.3nm,0.8s
KBS Kingsbay 80.12 352 *e*P **P** **07 04 27.9 +0.3**
comp=Z,27nm,1.1s,mb5.1
KBS Kingsbay 80.12 352 *e*P **P** **07 04 27.9 +0.3**
KBS pmax pmax
comp=Z,27nm,1.1s,mb5.1
NEW Newport 80.62 42 P **P** **07 04 31.0 +0.2**
comp=Z,4.8nm,0.8s,mb4.5,baz=246,slow=3.8,SNR=11
NEW Newport 80.62 42 *e*P **P** **07 04 30.7 -0.1**
comp=Z,11nm,0.9s,mb4.8
NEW Newport 80.62 42 *e*P **P** **07 04 30.7 0.0**
NEW pmax pmax
comp=Z,11nm,0.9s

WVOR Wild Horse Val 81.24 48 *e*P **P** **07 04 34.1 0.0**
comp=Z,11nm,1.0s,mb4.7
WVOR Wild Horse Val 81.24 48 *e*P **P** **07 04 34.1 0.0**
WVOR pmax pmax
comp=Z,11nm,1.0s,mb4.7
BMO Blue Mountains 81.47 46 *e*P **P** **07 04 34.3 -1.0**
comp=Z,9.9nm,1.0s,mb4.7
KEV Kevo 82.94 342 *e*p **P** **07 04 42.4 +0.1**
comp=Z,7.8nm,0.6s,mb4.9
KEV Kevo 82.94 342 *e*P **P** **07 04 42.4 +0.1**
KEV pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
ARCES ARCESS Array B 83.50 342 P **P** **07 04 46.0 +0.9**
comp=Z,7.6nm,0.6s,mb5.0,baz=78,slow=7.3,SNR=39
ARCES LR LR 07 45 47.1
comp=Z,178nm,20.5s,MS4.4,baz=266,slow=38
ARCES ARCESS Array B 83.50 342 P **P** **07 04 46.0 +0.9**
ARCES LR LR 07 45 47.1
HLID Hailey 83.85 46 *e*P **P** **07 04 48.0 +0.6**
comp=Z,5.6nm,1.0s,mb4.7
ELK Elko 84.17 49 P **P** **07 04 49.6 +0.4**
comp=Z,3.5nm,0.9s,mb4.5,baz=287,slow=5.6,SNR=9.3
DAG Danmarks Havn 85.02 357⇑*i*P **P** **07 04 54.0 +1.4**
comp=Z,5.1nm,1.1s,mb4.6
DAG Danmarks Havn 85.02 357⇑*e*P **P** **07 04 54.0 +1.4**
comp=Z,5.1nm,1.1s,mb4.6
DAG Danmarks Havn 85.02 357⇑*e*P **P** **07 04 54.0 +1.4**
DAG pmax pmax
comp=Z,5.0nm,1.1s,mb4.6
BOZ Bozeman (W) 85.02 44 *e*P **P** **07 04 53.7 +0.4**
comp=Z,3.6nm,0.9s,mb4.5
JOF Joensuu 85.13 336 *e*p **P** **07 04 52.5 -0.9**
comp=Z,37nm,0.8s,mb5.6
MOS Moscow 85.67 328 *e*P **P** **07 04 55.6 -0.7**
MOS pmax pmax
comp=Z,57nm,1.2s,mb5.7
YMR Madison River 85.81 44 P **P** **07 04 59.0 +1.8**
SPUT South Promonto 85.98 48 *e*P **P** **07 04 58.8 +0.7**
DUG Dugway 86.10 49 *e*P **P** **07 04 58.1 -0.6**
comp=Z,10nm,1.0s,mb5.0
DUG Dugway 86.10 49 *e*P **P** **07 04 58.2 -0.5**
DUG pmax pmax
comp=Z,10.0nm,1.0s,mb5.0
OBN Obninsk 86.49 327*d i*P **P** **07 05 00.3 0.0**
OBN *e* 07 08 21.8
OBN *i*S S 07 15 23.8 -8.6
OBN *e*SS SS 07 21 17.4 +1.0
OBN pmax pmax
comp=Z,37nm,1.7s,mb5.3
OBN MLR MLR
comp=Z,200nm,16.0s,MS4.6
HWUT Hardware Ranch 86.49 47 *e*P **P** **07 05 01.4 +0.7**
comp=Z,8.9nm,0.9s,mb5.0
CTU Camp Tracy 86.69 48 *e*P **P** **07 05 02.5 +0.9**
VRSR Storozhevoye 86.76 323 *e*P **P** **07 05 01.8 +0.1**
VRSR pmax pmax
comp=Z,10.0nm,0.8s,mb5.1
VRSR pmax pmax
comp=N,7.0nm,0.5s
VRSR pmax pmax
comp=E,10.0nm,0.6s
DAU Daniels Canyon 87.14 48 P **P** **07 05 04.7 +0.9**
MSU Marysvale 87.15 50 *e*P **P** **07 05 04.1 +0.1**
PDAR Pinedale Array 87.45 46 P **P** **07 05 05.7 +0.4**
comp=E,0.8nm,0.8s,mb4.0,SNR=8.6
PDAR LR LR 07 41 29.6
comp=E,39nm,18.3s,MS3.9,baz=160,slow=34
KIV Kislovodsk 87.52 316 *e*P **P** **07 05 07.1 +1.6**
KIV pmax pmax
comp=Z,38nm,1.7s,mb5.3
KIV MLR MLR
comp=Z,100nm,18.0s,MS4.3
KAF Kangasniemi 87.52 336 *e*p **P** **07 05 03.8 -1.3**
comp=Z,3.4nm,0.6s,mb4.8,baz=60,slow=5.5
KAF Kangasniemi 87.52 336 *e*P **P** **07 05 03.8 -1.3**
KAF pmax pmax
comp=Z,3.0nm,0.6s,mb4.7
GNI Garni 87.52 311*d i*P **P** **07 05 03.4 -2.3**
GNI pmax pmax
comp=Z,18nm,1.2s
FINES FINESS Array B 88.00 336 P **P** **07 05 06.9 -0.5**
comp=Z,7.8nm,0.7s,mb5.1,baz=56,slow=5.1,SNR=49
FINES LR LR 07 47 40.5
comp=Z,95nm,21.0s,MS4.2,baz=285,slow=38
LAO LASA Array 88.09 41 *e*P **P** **07 05 09.0 +0.8**
comp=Z,12nm,1.0s,mb5.1
SRU San Rafael 88.14 49 *e*P **P** **07 05 08.8 +0.1**
VSU Vasula 89.44 333*c i*P **P** **07 05 13.6 -0.7**
SOC Sochi 89.64 316 *e*P **P** **07 05 13.9 -1.8**
SOC *e*S 07 15 41.6
SOC pmax pmax
comp=N,5.0nm,0.7s
SOC pmax pmax
comp=Z,12nm,0.7s,mb5.3
SOC pmax pmax
comp=E,21nm,0.9s
TUC Tucson 90.44 56 *e*P **P** **07 05 20.8 +1.0**
comp=E,3.5nm,1.0s,mb4.6
TUC Tucson 90.44 56 *e*P **P** **07 05 20.8 +1.1**
TUC pmax pmax
comp=Z,3.0nm,1.0s,mb4.6
ISCO Idaho Springs 91.36 47 *e*P **P** **07 05 25.6 +1.7**
comp=Z,3.2nm,1.0s,mb4.6
AKASG Malin Array Be 92.54 326 P **P** **07 05 27.6 -1.3**
comp=Z,2.1nm,0.7s,mb4.7,baz=45,slow=4.6,SNR=8.7
ANMO Albuquerque 92.75 52 P **P** **07 05 31.5 +1.2**
comp=Z,0.5nm,0.6s,mb4.1,baz=326,slow=3.6,SNR=3.2
ANMO Albuquerque 92.75 52 *e*P **P** **07 05 31.5 +1.2**
comp=Z,4.3nm,1.1s,mb4.8
ANMO Albuquerque 92.75 52 *e*P **P** **07 05 31.5 +1.2**
ANMO pmax pmax
comp=Z,4.0nm,1.1s
NB2 NORSAR Subarra 93.62 340 P **P** **07 05 32.9 -0.7**
comp=Z,1.0nm,0.7s,mb4.3,baz=45,slow=4.5
NB2 NORSAR Subarra 93.62 340 P **P** **07 05 32.9 -0.7**
NB2 pmax pmax
comp=Z,1.0nm,0.7s,mb4.3
NOA NORSAR Array B 93.62 340 P **P** **07 05 32.1 -1.5**
comp=Z,1.7nm,0.8s,mb4.5,baz=45,slow=4.4,SNR=10
NOA PP PP 07 09 18.4 -3.1
comp=Z,0.9nm,0.7s,baz=38,slow=7.9,SNR=4.2
NOA LR LR 07 51 49.4
comp=Z,103nm,18.1s,MS4.3,baz=225,slow=38
SUW Suwalki 93.67 331 *e*P **P** **07 05 33.5 -0.5**
SUW Suwalki 93.67 331 *e*P **P** **07 05 33.5 -0.5**
BRTR Keskin Array B 95.43 315 P **P** **07 05 41.9 -0.5**
comp=Z,3.5nm,0.9s,mb4.8,baz=90,slow=3.7,SNR=9.8
TXAR Lajitas Array 97.24 56 P **P** **07 05 52.4 +1.5**
comp=Z,0.5nm,0.9s,mb3.9,baz=297,slow=2.8,SNR=4.8
TXAR PKKP PKKP 07 22 31.1 +7.0
comp=Z,0.6nm,0.8s,baz=143,slow=4.5,SNR=7.4
TXAR Lajitas Array 97.24 56 P **P** **07 05 52.4 +1.5**
TXAR PKKP PKKP 07 22 31.1 +7.0
BRG Berggiesshubel 99.98 332 *e*P **P** **07 06 00.7 -2.1**
comp=Z,2.6nm,0.9s,mb4.7
BRG *e* 07 10 08.8
BRG Berggiesshubel 99.98 332 *e*P **P** **07 06 00.7 -2.1**
BRG *e* 07 10 08.8
BRG pmax pmax
comp=Z,3.0nm,0.9s,mb4.7
CLL Collm 100.09 333⇑*i*PDIF P 07 06 02.4 -0.9
CLL *i* 07 06 11.4
CLL *i*PP PP 07 10 08.4 -3.1
GERES GERESS Array B 101.53 331 P 07 06 09.5 -0.3
comp=Z,0.8nm,0.8s,baz=34,slow=4.8,SNR=6.2
SNAA Sanae 123.49 191 PKP PKPdf 07 11 13.8 +0.4
comp=Z,1.0nm,0.6s,baz=194,slow=2.8,SNR=22
VNA2 Neumayer--Watz 124.91 190 *e* PKPdf 07 11 26.4 +10
VNA2 Neumayer--Watz 124.91 190 *e* PKPdf 07 11 33.1 +17
VNA2 Neumayer--Watz 124.91 190 *e* PKPdf 07 11 52.6 +37
VNA2 Neumayer--Watz 124.91 190⇑*i*PKPdf PKPdf 07 11 17.4 +1.3
VNA2 *e* 07 11 26.4
VNA2 *e* 07 11 33.1
VNA2 *e* 07 11 52.6
VNA3 Neumayer Olymp 124.99 189 *e* PKPdf 07 11 26.4 +10
VNA3 Neumayer Olymp 124.99 189 *e* PKPdf 07 11 33.0 +17
VNA3 Neumayer Olymp 124.99 189 *e* PKPdf 07 11 51.9 +36
VNA3 Neumayer Olymp 124.99 189⇑*i*PKPdf PKPdf 07 11 17.5 +1.3
VNA3 *e* 07 11 26.4
VNA3 *e* 07 11 33.0
VNA3 *e* 07 11 51.9
PLCA Paso Flores 140.67 133 PKP PKPdf 07 11 48.1 +1.7
comp=Z,2.3nm,1.1s,baz=268,slow=4.5,SNR=3.6
DBIC Dimbokro 142.90 309 PKhKP 07 11 48.5
comp=Z,3.8nm,0.6s,baz=41,slow=4.4,SNR=11

LVC Limon Verde 146.12 104 *e*PKPdf PKPdf 07 11 58.2 +1.8
LPAZ La Paz 146.47 92 PKPbc PKPbc 07 11 59.0 +0.6
comp=Z,3.3nm,0.6s,baz=245,slow=1.8,SNR=14
LPAZ La Paz 146.47 92 PKPbc PKPbc 07 11 59.0 +0.6
SAML Samuel 149.39 77 *e*PKPbc PKPdf 07 12 06.9 +5.0

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*IDC **21** 06:59:10.7±6.5,33.85N×142.02E,h40km±56km,mb3.5/4,mb1 3.7/5,mb1mx3.4/19,mbtmp3.7/5,ML3.1/1,Error ellipse: s-maj=62.8km s-min=28.6km az=85.0*
*JMA **21** 06:59:14.0±0.3,33.41N×139.47E,h35km±3km,M3.1*
ISC 21 06:59:14.2±2.0,33.5N±0.2×139.5E±0.1,h55km±16km,n14,σ0°79/15,mb3.7/4,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMY	**Miyakejima3**	**0.62**	**359**	S	**S**	**06 59 35.8**	**-1.0**
JKO	**Kozu shima**	**0.80**	**336**	P	**P**	**06 59 29.1**	**-0.5**
NJJJ	**Nii jima 2**	**0.97**	**348**	P	**P**	**06 59 31.9**	**0.0**
JIM2	**Oshima 3**	**1.26**	**356**	P	**P**	**06 59 36.8**	**+0.8**
JIZS	**Izushimoda**	**1.37**	**337**	P	**P**	**06 59 38.1**	**+0.5**
TK01	**Tokai 1**	**1.65**	**281**	P	**P**	**06 59 40.9**	**-0.5**
TK01				S	**S**	**07 00 01.5**	**0.0**
TK04	**Tokai 4**	**1.66**	**304**	P	**P**	**06 59 42.0**	**+0.4**
JOD2	**Odawara 2**	**1.84**	**349**	P	**P**	**06 59 45.9**	**+1.8**
MJAR	**Matsushiro Arr**	**3.27**	**341**	Pn	**P**	**07 00 10.0**	**+5.7**
	1.3nm,0.3s,baz=161,slow=11,SNR=11						
MAT	**Matsushiro**	**3.27**	**341**	P	**P**	**07 00 00.9**	**-3.4**
MAT				*e*S	rx	07 00 14.3	
WRA	**Warramunga Arr**	**53.33**	**186**	P	**P**	**07 08 30.6**	**+0.3**
	0.2nm,0.6s,mb3.2,baz=4.7,slow=7.8,SNR=6.8						
FINES	**FINESS Array B**	**71.26**	**332**	P	**P**	**07 10 28.9**	**-0.3**
	0.7nm,0.5s,mb3.8,baz=45,slow=8.1,SNR=6.2						
HFS	**Hagfors**	**76.70**	**335**	P	**P**	**07 11 00.6**	**-0.1**
	0.7nm,0.5s,mb3.9,baz=74,slow=10,SNR=5.7						
TXAR	**Lajitas Array**	**93.54**	**51**	pP	**P**	**07 12 25.0**	**-0.6**
	0.4nm,0.8s,mb3.9,baz=287,slow=4.0,SNR=4.2						

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*NIED **21** 06:59:00,42.40N×144.60E,h23km,Mw3.7 Best double couple: M0 3.59×10^14 NP1:φ=43°,δ=52°,λ=101°. NP2:φ=206°,δ=40°,λ=76°.*
*JMA **21** 06:59:51.1,42.37N×144.63E,h28km±1km,M3.7*
ISC 21 06:59:51.5±1.1,42.40N±0.09×144.64E±0.09,h47km±16km,n9,σ0°43/15,mb3.5/1,6D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**0.60**	**4**	⇓P	**P**	**07 00 03.5**	**-0.4**
JAK				*e*S	**S**	**07 00 13.0**	**+0.2**
JOB	**Onbets**	**0.78**	**311**	⇓P	**P**	**07 00 06.1**	**-0.2**
JOB				*e*S	**S**	**07 00 18.1**	**+1.0**
JCH	**Churui**	**0.97**	**283**	⇓P	**P**	**07 00 08.6**	**-0.3**
JCH				*e*S	**S**	**07 00 21.9**	**+0.1**
JAR	**Ashorobuto**	**1.10**	**325**	⇓P	**P**	**07 00 10.3**	**-0.5**
JAR				*e*S	**S**	**07 00 25.0**	**-0.2**
JEM	**Erimo**	**1.17**	**251**	P	**P**	**07 00 12.0**	**+0.4**
JNK	**Nakash**	**1.19**	**3**	⇓P	**P**	**07 00 11.5**	**-0.5**
JNK				*e*S	**S**	**07 00 26.9**	**-0.4**
NEM2	**Nemuro 2**	**1.26**	**40**	⇓P	**P**	**07 00 12.9**	**-0.2**
NEM2				*e*S	**S**	**07 00 29.9**	**+0.7**
JNBK	**Urakawa-nobuka**	**1.41**	**266**	P	**P**	**07 00 15.0**	**-0.2**
PDAR	**Pinedale Array**	**72.19**	**48**	P	**P**	**07 11 13.3**	**+0.3**
	0.3nm,0.5s,mb3.5,baz=304,slow=3.3,SNR=3.8						

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*IDC **21** 07:12:10.6±0.4,59.27S×25.71W,mb4.7/12,mb1 4.7/13,mb1mx4.7/15,mbtmp4.7/13,ML5.1/1,MS4.5/11,Ms1 4.5/11,ms1mx4.4/13,Error ellipse: s-maj=20.0km s-min=13.9km az=43.0*
*BJI **21** 07:12:18.5,59.20S×25.70W,h58km,mB5.1,Ms5.1,Msz4.8*
*NEIC **21** 07:12:18.5±1.9,59.24S×25.68W,h59km±16km,mb5.0/10,Error ellipse: s-maj=8.9km s-min=6.3km az=223.0*
*HRVD **21** 07:12:18.5±0.3,59.66S×25.09W,h29km,MW5.1/51,Centroid moment Tensor Solution. LP body waves: s34,c60;Mantle waves: s51,c78; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.56±.23; Mθθ-0.46±.20; Mφφ-3.11±.18; Mrθ1.71±.31; Mrφ-3.19±.14; Mθφ0.95±.27; Best double couple: M0 4.886×10^16 NP1:φ=193°,δ=38°,λ=59°. NP2:φ=51°,δ=58°,λ=112°. Principal axes: T 4.197, Plg68°, Azm6°; N 1.369, Plg19°, Azm219°; P -5.575, Plg11°, Azm125°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 21 07:12:10.6±0.4,59.27S±0.06×25.5W±0.1,h10km,n96,σ1°18/47,mb4.8/19,MS4.6/12,2C-5D,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.47**	**155**	*e*	**P**	**07 15 22.7**	**-1.4**
VNA1	**Neumayer--Stat**	**13.47**	**155**	*e*	**P**	**07 15 25.4**	**+1.3**
VNA1	**Neumayer--Stat**	**13.47**	**155**	*e*	**P**	**07 15 34.8**	**+11**
VNA1	**Neumayer--Stat**	**13.47**	**155**	⇓*i*P	**P**	**07 15 21.3**	**-2.8**
VNA1				*e*		07 15 22.7	
VNA1				*e*		07 15 25.4	
VNA1				*e*		07 15 34.8	
VNA1				*e*		07 17 42.4	
VNA1				*e*		07 20 51.4	
VNA1				*e*		07 21 02.5	
VNA1				*e*		07 28 59.5	
VNA3	**Neumayer Olymp**	**13.65**	**158**	*e*	**P**	**07 15 24.8**	**-1.4**
VNA3	**Neumayer Olymp**	**13.65**	**158**	*e*	**P**	**07 15 27.5**	**+1.3**
VNA3	**Neumayer Olymp**	**13.65**	**158**	*e*	**P**	**07 15 37.5**	**+11**
VNA3	**Neumayer Olymp**	**13.65**	**158**	⇓*i*P	**P**	**07 15 23.4**	**-2.8**
VNA3				*e*		07 15 24.8	
VNA3				*e*		07 15 27.5	
VNA3				*e*		07 15 37.5	
VNA3				*e*		07 17 46.4	
VNA3				*e*		07 20 49.8	
VNA3				*e*		07 21 01.4	
VNA3				*e*		07 28 55.8	
VNA2	**Neumayer--Watz**	**13.87**	**155**	*e*	**P**	**07 15 27.5**	**-1.6**
VNA2	**Neumayer--Watz**	**13.87**	**155**	*e*	**P**	**07 15 29.7**	**+0.6**
VNA2	**Neumayer--Watz**	**13.87**	**155**	*e*	**P**	**07 15 40.1**	**+11**
VNA2	**Neumayer--Watz**	**13.87**	**155**	⇓*i*P	**P**	**07 15 26.3**	**-2.8**
VNA2				*e*		07 15 27.5	
VNA2				*e*		07 15 29.7	
VNA2				*e*		07 15 40.1	
VNA2				*e*		07 17 50.5	
VNA2				*e*		07 20 51.0	
VNA2				*e*		07 21 02.5	
VNA2				*e*		07 29 13.0	
SNAA	**Sanae**	**15.44**	**153**	Pn	**P**	**07 15 48.2**	**-1.5**
	8.4nm,0.3s,baz=319,slow=14,SNR=609						
SNAA				Sn	**S**	**07 18 25.0**	**-16**
	0.2nm,0.3s,baz=0.5,slow=17,SNR=2.2						
SNAA				LR	LR	07 20 41.8	
	comp=Z,992nm,19.9s,baz=339,slow=33						
PMSA	**Palmer Station**	**18.66**	**237**	*e*P	**P**	**07 16 30.5**	**+0.1**
	17nm,0.6s						
MAIT	**Maitri**	**19.08**	**142**	*e*P	**P**	**07 16 34.9**	**-0.4**
MAIT				*e*S	**S**	**07 20 04.9**	**+0.1**
USHA	**Ushuaia**	**23.45**	**262**	P	**P**	**07 17 21.8**	**+1.4**
	47nm,0.9s,mb4.9,baz=105,slow=9.9,SNR=17						
SYO	**Syowa Base**	**28.55**	**137**	⇑P	**P**	**07 18 05.0**	**-3.0**
SYO	**Syowa Base**	**28.55**	**137**	⇓pP	pP	07 18 17.0	+6.1
QSPA	**South Pole Qui**	**30.97**	**180**⇑*i*P	**P**	**07 18 31.6**	**+2.2**
	43nm,1.1s,mb5.2						
TRQA	**Tornquist**	**31.49**	**296**	*e*P	**P**	**07 18 34.4**	**-0.1**
	35nm,1.0s,mb5.1						
PLCA	**Paso Flores**	**33.54**	**283**	P	**P**	**07 18 51.7**	**-0.6**
	7.6nm,0.7s,mb4.8,baz=152,slow=7.5,SNR=21						
PLCA				LR	LR	07 32 56.3	
	comp=Z,545nm,18.3s,MS4.3,baz=133,slow=37						
PLCA	**Paso Flores**	**33.54**	**283**	P	**P**	**07 18 51.7**	**-0.6**
PLCA				LR	LR	07 32 56.3	
MAW	**Mawson**	**37.05**	**141**	⇓*i*P	**P**	**07 19 21.6**	**-0.3**
	10nm,0.7s,mb4.8						
MAW	**Mawson**	**37.05**	**141**	P	**P**	**07 19 22.3**	**+0.5**
	16nm,0.9s,mb4.9,baz=232,slow=8.7,SNR=38						
MAW				PcP	PcP	07 21 42.5	-0.5
	3.3nm,0.7s,baz=270,slow=1.0,SNR=4.7						
MAW				LR	LR	07 33 03.3	
	comp=Z,1μm,19.0s,MS4.7,baz=246,slow=34						
CAM4	**Nova Friburgo**	**38.84**	**334**	(P)	**P**	**07 19 38.9**	**+1.5**
CAM4				*i*		07 19 46.1	
CAM4				*i*		07 19 49.8	
CPUP	**Villa Florida**	**39.64**	**312**	P	**P**	**07 19 42.3**	**-1.7**
	2.4nm,0.8s,mb4.0,baz=185,slow=11,SNR=6.2						

CPUP LR LR 07 34 53.4
comp=Z,269nm,21.8s,MS4.0,baz=175,slow=34
ZON Zonda 39.96 295 *eP* **P 07 19 49.4 +2.8**
SUR Sutherland 40.76 70 P **P 07 19 55.0 +1.8**
5.0nm,0.4s,mb4.5,baz=165,slow=5.9,SNR=14
SUR Sutherland 40.76 70 P **P 07 19 55.0 +1.8**
VNDA Vanda 43.38 182 P **P 07 20 15.5 +1.5**
10nm,0.8s,mb4.6,baz=189,slow=6.4,SNR=26
VNDA PcP PcP 07 22 00.5 -2.7
3.7nm,0.8s,baz=197,slow=6.2,SNR=3.1
VNDA LR LR 07 37 16.8
comp=Z,451nm,18.8s,MS4.4,baz=180,slow=35
VNDA Vanda 43.38 182 P **P 07 20 15.5 +1.5**
VNDA PcP PcP 07 22 00.5 -2.7
VNDA LR LR 07 37 16.8
BAO Brasilia Array 46.61 330 P **P 07 20 40.0 -0.6**
BDFB Brasilia 46.61 330 P **P 07 20 40.5 -0.1**
4.6nm,0.5s,mb4.7,baz=160,slow=3.0,SNR=18
BDFB LR LR 07 37 25.2
comp=Z,623nm,20.5s,MS4.5,baz=355,slow=32
LVC Limon Verde 47.72 301 *eP* **P 07 20 48.8 -0.4**
37nm,0.5s,mb5.7
CASY Casey 50.56 159 P **P 07 21 10.9 +0.4**
23nm,1.4s,mb4.9
TSUM Tsumeb 50.59 57 *eP* **P 07 21 11.7 +0.4**
219nm,0.6s
LPAZ La Paz 52.98 305 P **P 07 21 29.2 -0.3**
3.6nm,0.5s,mb4.5,baz=146,slow=8.0,SNR=11
ARE Arequipa 54.27 302 *eP* **P 07 21 38.0 -0.9**
SAML Samuel 57.72 314 *eP* **P 07 22 00.1 -3.7**
6.8nm,0.8s,mb4.7
DBIC Dimbokro 67.77 22 P **P 07 23 10.9 +0.3**
7.3nm,0.6s,mb4.9,baz=171,slow=8.0,SNR=15
DBIC LR LR 07 47 28.1
comp=Z,135nm,18.5s,MS4.2,baz=186,slow=31
ROSC El Rosal 74.65 309 P **P 07 23 51.5 -0.3**
1.8nm,0.6s,mb4.2,baz=113,slow=21,SNR=5.2
ROSC LR LR 07 59 11.2
comp=Z,274nm,18.0s,MS4.6,baz=182,slow=38
KMBO Kilima Mbogo 75.42 67 LR LR 07 54 10.0
comp=Z,602nm,19.2s,MS4.9,baz=99,slow=33
SDV Santo Domingo 76.92 314 *eP* **P 07 24 03.0 -1.7**
8.3nm,1.0s,mb4.6
FORT Forrest 87.64 157 *eP* **P 07 25 00.7 +0.8**
25nm,0.7s,mb5.5
STKA Stephens Creek 88.56 169 *eP* **P 07 25 05.0 +0.7**
8.0nm,1.0s,mb5.0
STKA Stephens Creek 88.56 169 P **P 07 25 05.3 +0.9**
8.7nm,0.9s,mb5.1,baz=169,slow=5.9,SNR=7.8
STKA LR LR 08 03 07.8
comp=Z,761nm,21.8s,MS5.1,baz=203,slow=34
PPT Papeete 90.97 232 *e*LR LR 07 53 55.0
166nm,20.0s,baz=160
PPT Papeete 90.97 232 LR LR 07 58 29.7
comp=Z,322nm,19.8s,MS4.8,baz=161,slow=31
WRA Warramunga Arr 99.36 161 P **P 07 25 53.3 -0.8**
0.8nm,0.8s,mb4.3,baz=193,slow=4.1,SNR=4.1
MDRS Chennai 109.19 97 *ex* x 07 27 30.0
MDRS *ex* x 07 30 56.0
AKASG Malin Array Be 118.27 36 PKP PKPdf 07 30 57.1 -3.2
1.3nm,0.6s,baz=236,slow=1.5,SNR=7.5
SCHQ Schefferville 118.48 334 PKP PKPdf 07 30 57.6 -3.0
3.6nm,0.9s,baz=254,slow=19,SNR=5.4
SRU San Rafael 120.29 296 *e*PKPdf PKPdf 07 31 01.5 -3.0
MSU Marysvale 120.58 295 *e*PKPdf PKPdf 07 31 03.7 -1.4
DUG Dugway 122.22 295 *e*PKPdf PKPdf 07 31 06.2 -1.9
TCUT Toone Canyon 122.30 297 *e*PKPdf PKPdf 07 31 06.9 -1.4
HWUT Hardware Ranch 122.76 297 *e*PKPdf PKPdf 07 31 06.7 -2.4
PDAR Pinedale Array 122.78 299 PKP PKPdf 07 31 06.1 -3.0
1.4nm,1.0s,baz=153,slow=3.3,SNR=9.4
BGU Big Grassy Mou 122.90 296 *e*PKPdf PKPdf 07 31 07.6 -1.8
KOLN Koldanda 123.14 91 *eP* PKPdf 07 31 07.7 -2.5
30nm,1.0s
ULM Lac du Bonnet 123.17 314 PKP PKPdf 07 31 06.4 -3.4
5.1nm,0.7s,baz=181,slow=0.7,SNR=6.9
ULM Lac du Bonnet 123.17 314 *e*PKPdf PKPdf 07 31 05.7 -4.1
NOA NORSAR Array B 123.32 20 PKP PKPdf 07 31 07.3 -2.5
5.6nm,1.0s,baz=196,slow=1.7,SNR=17
DMN Daman 123.78 92 *eP* PKPdf 07 31 09.4 -2.2
30nm,0.9s
GKN Gorkha 123.86 91 *eP* PKPdf 07 31 08.9 -2.8
36nm,1.0s
PKI Pulchoki 123.90 92 *eP* PKPdf 07 31 09.6 -2.2
34nm,1.0s
KKN Kakani 124.02 92 *eP* PKPdf 07 31 09.8 -2.2
23nm,0.7s
LAO LASA Array 124.43 305 *e*PKPdf PKPdf 07 31 09.1 -3.3
DGMT Dagmar 124.99 307 *e*PKPdf PKPdf 07 31 11.2 -2.1
WVOR Wild Horse Val 126.70 293 *e*PKPdf PKPdf 07 31 15.0 -1.6
FINES FINESS Array B 126.81 28 PKP PKPdf 07 31 13.9 -2.4
2.8nm,0.6s,baz=135,slow=2.7,SNR=11
KAF Kangasniemi 127.45 28 *ep* PKPdf 07 31 14.3 -3.2
15nm,1.0s
MSO Missoula 127.89 300 *e*PKPdf PKPdf 07 31 16.7 -2.2
BMO Blue Mountains 127.92 296 *e*PKPdf PKPdf 07 31 16.4 -2.6
LSA Lhasa 128.57 96 *e*PKPdf PKPdf 07 31 19.7 -0.9
JOF Joensuu 129.37 30 *ep* PKPdf 07 31 18.8 -2.5
8.5nm,0.8s
AAK Ala-Archa 130.16 72 *e*PKPdf PKPdf 07 31 20.6 -2.7
KMI Kunming 130.58 110 PKP PKPdf 07 31 23.8 -0.8
KMI PP PP 07 33 44.5 +3.8
KMI SS SS 07 51 08.4 +2.7
KMI PP PP
comp=Z,66nm,6.2s
KMI LR LR
comp=N,132nm,20.3s,MS4.8
KMI LR LR
comp=E,116nm,16.5s,MS4.8
KMI LR LR
comp=Z,151nm,16.5s,MS4.8
KMI Kunming 130.58 110 PKP PKPdf 07 31 23.7 -0.9
KMI pPKP 07 31 33.7
KMI sPKP 07 31 36.9
KMI PP PP 07 33 44.5 +3.8
KMI SS SS 07 51 08.4 +2.7
KMI LR LR
comp=Z,150nm,16.5s,MS4.8
GYA Guiyang 133.57 113 *e*PKP PKPdf 07 31 24.8 -5.3
GYA PP PP
comp=Z,100nm,7.2s
ARCES ARCESS Array B 133.60 22 PKP PKPdf 07 31 26.6 -2.4
comp=Z,4.0nm,0.7s,baz=180,slow=2.4,SNR=11
MKAR Makanchi Array 137.00 74 PKhKP 07 31 22.3
comp=Z,0.3nm,0.5s,baz=225,slow=1.7,SNR=4.8
MKAR PKP PKPdf 07 31 33.9 -1.9
comp=Z,2.1nm,0.8s,baz=243,slow=2.7,SNR=10
WMQ Urumqi 137.60 81 *e*PKP PKPdf 07 31 37.0 -0.1
YKA Yellowknife Ar 139.13 315 PKP PKPdf 07 31 36.9 -2.5
comp=Z,16nm,0.9s,baz=127,slow=2.3,SNR=43
GTA Gaotai 140.59 95 *e*PKP PKPdf 07 31 42.9 +0.3
GTA PP PP 07 34 42.0 -0.7
GTA PKS PKS 07 35 18.5 +4.3
GTA SKS SKS 07 38 47.3 -4.6
GTA SKKS 07 41 31.8
GTA SS SS 07 53 00.3 -4.7
GTA PP PP
comp=Z,131nm,8.9s
GTA LR LR
comp=N,117nm,17.8s,MS4.9
GTA LR LR
comp=E,140nm,17.8s,MS4.9
GTA LR LR
comp=Z,111nm,16.1s,MS4.7
ZAL Zalesovo 142.88 67 PKhKP 07 31 40.3
comp=Z,1.4nm,0.5s,baz=308,slow=2.5,SNR=4.3
NJ2 Nanjing 143.86 123 *e*PKP PKPdf 07 31 49.3 +0.9
SSE Sheshan 144.01 127 *e*PKP PKPdf 07 31 48.3 -0.4
TIA Tai'an 146.59 117 *e*PKP PKPdf 07 31 53.4 +0.4
HHC Hu-ho-hao-te 147.60 105 *e*PKP PKPdf 07 31 55.3 +0.8
HHC PKP2 PKPab 07 32 02.8 +4.3
HHC APKP 07 32 06.1
HHC PP PP 07 35 22.1 -2.6
HHC PKS PKS 07 35 28.5 +3.1
HHC SKS SKS 07 38 57.3 -5.0
HHC SKKS 07 42 13.5
HHC SS SS 07 54 27.3 +1.8
HHC PP PP
comp=Z,159nm,11.6s
INK Inuvik 148.83 317 PKPbc PKPdf 07 31 57.2 +1.6
comp=Z,18nm,0.9s,baz=117,slow=4.2,SNR=23
JNU Nakatsue 149.48 139 PKPbc PKPdf 07 32 00.0 +2.2
comp=Z,17nm,1.0s,baz=121,slow=5.9,SNR=4.1
SONM Songino Array 149.90 91 PKPbc PKPdf 07 32 01.4 +3.4
comp=Z,7.8nm,0.8s,baz=219,slow=2.5,SNR=20
SONM PKPab PKPab 07 32 09.5 +1.9
comp=Z,26nm,0.9s,baz=212,slow=2.5,SNR=18

ILAR Eielson Array 152.86 307 PKPbc PKPdf 07 32 07.1 +5.3
comp=Z,21nm,1.0s,baz=156,slow=1.1,SNR=68
MJAR Matsushiro Arr 154.91 148 PKPbc PKPdf 07 32 12.9 +7.4
comp=Z,0.7nm,0.4s,baz=180,slow=3.1,SNR=4.6
MJAR PKPab PKPab 07 32 28.1 -1.0
comp=Z,2.0nm,0.8s,baz=175,slow=3.3,SNR=5.3
CN2 Changchun 156.48 118 *e*PKP PKPdf 07 32 08.3 +1.0

IDC 21 07:21:34.3±1.5, 27.36N×140.53E, h330km±28km, mb3.2/4, mb1 3.3/4, mb1mx2.9/19, mbtmp3.9/4, Error ellipse: s-maj=87.0km s-min=17.8km az=87.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.50**	**100**	P	P	07 22 21.5	+0.8
	26nm,0.3s,baz=290,slow=21,SNR=34						
CBIJ				S	S	07 22 57.4	+0.3
	44nm,0.3s,baz=277,slow=22,SNR=17						
WRA	**Warramunga Arr**	**47.41**	**188**	P	P	07 29 36.3	-2.0
	0.6nm,0.4s,baz=5.1,slow=7.6,SNR=18						
BVAR	**Borovoye Array**	**56.85**	**317**	P	P	07 30 45.1	-1.9
	0.6nm,0.5s,baz=80,slow=8.8,SNR=3.5						
ARCES	**ARCESS Array B**	**72.80**	**341**	P	P	07 32 27.4	-1.0
	1.1nm,0.7s,baz=72,slow=8.6,SNR=2.4						
FINES	**FINESS Array B**	**77.06**	**333**	P	P	07 32 50.9	-1.7
	0.5nm,0.4s,baz=79,slow=6.3,SNR=3.9						

MAN 21 07:25:14.4, 17.55N×121.47E, h38km, mb3.8, ML2.6, MS2.2, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**0.37**	**65**	*e*P	P	07 25 24.0	+0.6
APYP	**Conner**	**0.38**	**326**	*e*P	P	07 25 24.9	+1.5
APYP				*e*S	S	07 25 32.8	+3.0
CAUP	**Cauayan**	**0.69**	**150**	*e*P	P	07 25 29.5	+1.9
ABRA	**Dolores**	**0.73**	**278**	*e*P	P	07 25 29.5	+1.4
ABRA				*e*S	S	07 25 40.0	+1.7
BALP	**Baler**	**1.80**	**177**	*e*P	P	07 25 43.3	-0.2

NIED ***21*** *07:43:00, 37.30N×138.70E, h8km, Mw3.5 Best double couple: M₀2.08×10¹⁴ NP1:φs25°, δ51°, λ103°. NP2:φs185°, δ40°, λ75°.*
JMA ***21*** *07:43:02.0±0.1, 37.29N×138.71E, h16km±1km, M3.4 Broadband fault plane solution: P waves. NP1:φs19°, δ31°, λ71°. NP2:φs221°, δ61°, λ101°. Principal axes: T Plg72°, Azm158°; N Plg10°, Azm36°; P Plg15°, Azm303°;*
JMA Felt III J1.
IDC ***21*** *07:43:04.7±3.4, 37.20N×138.13E, h31km±23km, mb3.8/2, mb1 4.0/2, mb1mx3.3/20, mbtmp4.0/2 Error ellipse: s-maj=41.1km s-min=31.9km az=77.0*
ISC 21 07:43:01.4±0.6, 37.29N±0.03×138.71E±0.05, h28km±6km, n12, σ0§47/20, mb3.9/2, 2C-3D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIZZ	**Izumozaki**	**0.24**	**360**	⇑P	**Pb**	**07 43 07.8**	**-0.1**
JIZZ				S	**Sb**	**07 43 12.8**	**+0.5**
JHK	**Hiroka**	**0.25**	**99**	⇓P	**Pb**	**07 43 07.2**	**-0.8**
JHK				S	**Sb**	**07 43 11.2**	**-1.2**
JKT	**Katashina**	**0.68**	**140**	⇓P	**Pb**	**07 43 14.7**	**+0.1**
JKT				S	**Sb**	**07 43 24.1**	**+0.5**
JNS	**Sasagawa**	**0.72**	**42**	P	**Pb**	**07 43 15.5**	**+0.2**
JNS				S	**Sb**	**07 43 25.2**	**+0.5**
JGK	**Kuni**	**0.73**	**184**	P	**Pb**	**07 43 16.0**	**+0.6**
JFY	**Yanaizu**	**0.80**	**81**	⇓P	**Pb**	**07 43 16.8**	**+0.1**
JFY				S	**Sb**	**07 43 27.5**	**+0.4**
JSD	**Sado**	**0.83**	**335**	⇑P	**Pb**	**07 43 16.7**	**-0.4**
JSD				S	**Sb**	**07 43 27.9**	**0.0**
MAT	**Matsushiro**	**0.85**	**209**	P	**Pb**	**07 43 17.3**	**-0.1**
MAT				S	**Sb**	**07 43 28.6**	**+0.2**
MAT	**Matsushiro**	**0.85**	**209**	P	**Pb**	**07 43 17.4**	**0.0**
MAT				S	**Sb**	**07 43 28.7**	**+0.3**
MJAR	**Matsushiro Arr**	**0.85**	**208**	Pg	**Pb**	**07 43 17.5**	**+0.1**
	45nm,0.3s,baz=354,slow=10.0,SNR=664						
MJAR				Lg		07 43 28.8	
	156nm,0.3s,baz=29,slow=30,SNR=89						
WRA	**Warramunga Arr**	**57.07**	**185**	P	**P**	**07 52 47.0**	**-0.7**
	1.1nm,0.6s,mb4.0,baz=0.9,slow=7.5,SNR=16						
FINES	**FINESS Array B**	**67.57**	**331**	P	**P**	**07 53 57.1**	**0.0**
	0.6nm,0.6s,mb3.8,baz=51,slow=8.9,SNR=3.4						

CASC 21 07:52:40.2±2.6, 8.46N×82.64W, h51km±15km, MD3.9, MW4.0, 1D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRU2	**Volcan**	**0.34**	**351**	⇓*i*P	P	07 52 49.3	-0.6
BRU2				*e*S	S	07 52 57.1	+0.4
LCR2	**La Lucha 2**	**1.86**	**313**	*e*P	P	07 53 09.2	-1.1
LCR2				*e*S	S	07 53 34.5	+2.0
PRS1	**Puriscal**	**2.24**	**313**	*e*P	P	07 53 14.0	-1.7
PRS1				*e*S	S	07 53 43.1	+0.9
CGA2	**Cerro Gallo 2**	**2.38**	**311**	*e*P	P	07 53 18.6	+1.0
CGA2				*e*S	S	07 53 46.0	+0.3

BJI ***21*** *08:27:19.4, 12.81N×92.62E, h42km, mb4.5*
IDC ***21*** *08:27:19.9±0.6, 12.90N×92.37E, h33km±3km, mb4.0/15, mb1 4.2/15, mb1mx4.1/21, mbtmp4.2/15, Error ellipse: s-maj=24.9km s-min=12.8km az=55.0*
NEIC ***21*** *08:27:20.0±0.3, 12.98N×92.41E, mb4.5/13, Error ellipse: s-maj=12.5km s-min=6.1km az=58.0*
ISC 21 08:27:19.2±0.4, 13.09N±0.05×92.31E±0.08, h32km, h32km±.4km:pP-P, n50, σ1§04/44, mb4.2/21, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.49**	**163**	*e*P	**Pn**	**08 27 44.7**	**+0.6**
PBA				*e*SG	**Sn**	**08 28 04.1**	**+1.6**
VIS	**Vishakhapatnam**	**9.81**	**299**	*e*P	**P**	**08 29 39.7**	**-1.6**
VIS				*e*S	**Sn**	**08 31 20.4**	**-11**
VIS				AML	AML	08 31 24.7	
	comp=E,224nm,0.3s						
VIS				AML	AML	08 31 24.7	
	comp=N,309nm,0.6s						
NANT	**Nan**	**9.86**	**54**	P	**P**	**08 29 58.0**	**+16**
MDRS	**Chennai**	**11.75**	**271**	*ex*	x	08 33 44.0	
SALM	**Salem**	**13.86**	**266**	*e*P	**P**	**08 30 37.0**	**+1.1**
SALM				*ex*	x	08 32 58.0	
PKI	**Pulchoki**	**15.79**	**337**	*e*P	**P**	**08 31 01.4**	**+0.4**
	comp=N,31nm,0.6s						
PKI				*e*S	**S**	**08 33 43.6**	**-11**
GUN	**Gumba**	**15.92**	**339**	*e*P	**P**	**08 31 03.9**	**+1.2**
	comp=N,34nm,0.5s						
DMN	**Daman**	**15.94**	**336**	*e*P	**P**	**08 31 02.9**	**0.0**
	comp=N,98nm,0.8s						
KKN	**Kakani**	**16.03**	**337**	*e*P	**P**	**08 31 04.9**	**+0.8**
	comp=N,18nm,0.4s						
LATR	**Latur**	**16.05**	**291**	*ex*	x	08 33 48.5	
GKN	**Gorkha**	**16.48**	**335**	*e*P	**P**	**08 31 10.5**	**+0.8**
	comp=N,44nm,0.3s						
LSA	**Lhasa**	**16.56**	**356**	P	**P**	**08 31 13.8**	**+3.0**
LSA	**Lhasa**	**16.56**	**356**	*e*P	**P**	**08 31 15.6**	**+4.8**
	comp=N,27nm,0.6s						
KOLN	**Koldanda**	**16.72**	**332**	*e*P	**P**	**08 31 12.7**	**-0.1**
	comp=N,69nm,0.6s						
KOLN				*e*S	**S**	**08 34 05.4**	**-11**
KAD	**Karad**	**17.99**	**286**	*ex*	x	08 31 49.3	
KAD				*i* x	x	08 34 32.4	
POO	**Poona**	**18.56**	**289**	*ex*	x	08 32 09.0	
CD2	**Chengdu**	**20.64**	**29**	*e*P	**P**	**08 31 59.4**	**+0.7**
ENH	**Enshi**	**23.34**	**40**	*e*P	**P**	**08 32 24.8**	**-0.8**
	comp=N,9.6nm,0.8s,mb4.3						
XAN	**Xi'an**	**25.75**	**33**	P	**P**	**08 32 47.5**	**-1.2**
XAN				AP	pP	08 32 56.5	-1.7
XAN				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.3						
GTA	**Gaotai**	**27.04**	**13**	*e*P	**P**	**08 33 02.0**	**+1.4**
GTA				AP	pP	08 33 10.4	+0.3
GTA				XP	sP	08 33 13.8	-0.5
GTA				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.2						
MKAR	**Makanchi Array**	**34.64**	**348**	P	**P**	**08 34 07.9**	**+0.3**
	comp=Z,2.4nm,0.6s,mb4.3,baz=164,slow=8.8,SNR=18						

MKAR pP pP 08 34 17.6 +0.4
comp=Z,5.4nm,0.8s,baz=164,slow=8.8,SNR=19
SONM Songino Array 36.58 16 P **P 08 34 24.9 +0.8**
comp=Z,2.6nm,0.7s,mb4.2,baz=199,slow=6.9,SNR=9.0
SONM pP pP 08 34 34.0 +0.3
comp=Z,2.1nm,0.8s,baz=199,slow=7.1,SNR=3.2
KURK Kurchatov 39.15 346 *e*P **P 08 34 45.9 +0.4**
comp=Z,6.3nm,0.9s,mb4.3
KURK *e*pP pP 08 34 55.6 +0.4
ZAL Zalesovo 41.18 353 P **P 08 35 02.9 +0.6**
comp=Z,3.1nm,0.3s,mb4.4,baz=98,slow=5.5,SNR=7.3
ZAL pP pP 08 35 12.6 +0.6
comp=Z,2.9nm,0.5s,baz=308,slow=9.1,SNR=2.5
ZAL Zalesovo 41.18 353 P **P 08 35 02.9 +0.6**
ZAL pP pP 08 35 12.6 +0.6
BVAR Borovoye Array 43.50 341 P **P 08 35 21.5 +0.2**
comp=Z,0.5nm,0.5s,mb3.5,baz=149,slow=8.6,SNR=5.6
BVAR pP pP 08 35 31.4 +0.5
comp=Z,0.9nm,0.5s,baz=149,slow=8.6,SNR=7.1
FITZ Fitzroy Crossi 45.19 133 *e*P **P 08 35 31.7 -3.6**
comp=Z,5.1nm,0.5s,mb4.6
FITZ Fitzroy Crossi 45.19 133 P **P 08 35 32.1 -3.1**
comp=Z,6.4nm,0.5s,mb4.7,baz=334,slow=5.4,SNR=16
FITZ pP pP 08 35 41.3 -3.7
comp=Z,7.3nm,0.5s,baz=332,slow=3.3,SNR=4.7
ONI Oni 51.31 315 P **P 08 36 19.7 -2.8**
WRA Warramunga Arr 52.80 128 P **P 08 36 31.2 -2.8**
comp=Z,1.9nm,0.6s,mb4.2,baz=304,slow=8.7,SNR=28
WRA PcP PcP 08 37 41.3 -1.8
comp=Z,2.1nm,0.5s,baz=320,slow=3.1,SNR=17
WRA pPcP 08 37 51.8
comp=Z,0.5nm,0.5s,baz=323,slow=3.2,SNR=5.4
WRAB Tennant Creek 52.80 128 *e*P **P 08 36 31.5 -2.6**
comp=Z,5.1nm,0.6s,mb4.6
BRTR Keskin Array B 57.73 309 P **P 08 37 08.7 -0.8**
comp=Z,1.9nm,0.8s,mb4.2,baz=121,slow=7.2,SNR=5.8
BRTR pP pP 08 37 19.1 -0.4
comp=Z,2.8nm,0.8s,baz=129,slow=7.9,SNR=5.9
AKASG Malin Array Be 62.99 320 P **P 08 37 44.0 -1.2**
comp=Z,0.3nm,0.3s,mb3.9,baz=83,slow=5.5,SNR=5.9
FINES FINESS Array B 67.29 332 P **P 08 38 12.2 -0.6**
comp=Z,1.6nm,0.5s,mb4.3,baz=90,slow=7.6,SNR=14
FINES pP pP 08 38 22.6 -0.3
comp=Z,1.5nm,0.5s,baz=82,slow=6.9,SNR=5.0
ARCES ARCESS Array B 69.78 340 P **P 08 38 28.1 +0.1**
comp=Z,2.1nm,0.6s,mb4.2,baz=80,slow=7.4,SNR=12
ARCES pP pP 08 38 38.4 +0.3
comp=Z,5.4nm,0.9s,baz=98,slow=7.0,SNR=4.3
GERES GERESS Array B 72.78 317 P **P 08 38 46.5 +0.1**
comp=Z,1.4nm,0.7s,mb4.0,baz=76,slow=5.5,SNR=14
GERES pP pP 08 38 57.2 +0.6
comp=Z,1.2nm,0.6s,baz=87,slow=5.4,SNR=8.3
NB2 NORSAR Subarra 74.34 330 P **P 08 38 54.2 -1.0**
comp=Z,1.7nm,0.7s,mb4.1,baz=91,slow=5.8
NOA NORSAR Array B 74.34 330 P **P 08 38 54.5 -0.7**
comp=Z,1.3nm,0.6s,mb4.0,baz=91,slow=5.8,SNR=9.2
NOA pP pP 08 39 04.7 -0.7
comp=Z,1.6nm,0.6s,baz=91,slow=5.7,SNR=8.6
GRA1 Grafenberg Arr 74.39 318 *e*PKP **P 08 38 55.9 +0.2**
GRF Grafenberg Arr 74.39 318 *e*PKP **P 08 38 55.9 +0.2**
LPG La Plagne 77.70 314 *e*P **P 08 39 14.5 0.0**
comp=Z,14nm,0.9s,mb4.6
ESDC Sonseca Array 86.51 310 P **P 08 40 00.7 +0.3**
comp=Z,0.6nm,0.5s,mb4.1,baz=62,slow=4.9,SNR=6.1
ESDC pP pP 08 40 11.6 +0.7
comp=Z,0.7nm,0.5s,baz=72,slow=4.7,SNR=3.1
ILAR Eielson Array 90.60 22 P **P 08 40 18.7 -0.6**
comp=Z,0.8nm,0.7s,mb4.2,baz=301,slow=4.8,SNR=15
INK Inuvik 92.49 15 P **P 08 40 27.9 0.0**
comp=Z,1.9nm,0.9s,mb4.4,baz=335,slow=17,SNR=5.2
INK pP pP 08 40 38.5 +0.2
comp=Z,3.1nm,1.2s,baz=171,slow=9.7,SNR=1.3
PDAR Pinedale Array 120.91 19 PKP PKPdf 08 46 09.4 -4.5
comp=Z,0.3nm,0.6s,slow=1.5,SNR=3.5
TXAR Lajitas Array 135.09 20 PKP PKPdf 08 46 38.5 -3.0
comp=Z,0.4nm,0.5s,baz=10,slow=0.8,SNR=8.3
TXAR Lajitas Array 135.09 20 PKP PKPdf 08 46 38.5 -3.0
PLCA Paso Flores 148.63 205 PKPbc PKPdf 08 47 04.5 -0.3
comp=Z,2.3nm,0.7s,baz=153,slow=9.4,SNR=4.5
PLCA Paso Flores 148.63 205 PKPbc PKPdf 08 47 04.5 -0.3
LPAZ La Paz 160.82 258 PKPab PKPab 08 48 00.6 -0.6
comp=Z,1.3nm,0.9s,baz=52,slow=4.6,SNR=6.2

IDC ***21*** *08:38:55.1±0.7, 11.23S×165.81E, mb4.4/11, mb1 4.6/13, mb1mx4.4/19, mbtmp4.5/13, ML4.9/2, MS3.9/7, Ms1 3.9/7, ms1mx3.7/17, Error ellipse: s-maj=21.0km s-min=18.1km az=125.0*
BJI ***21*** *08:38:59.0, 11.30S×165.80E, h36km, mb4.9*
NEIC ***21*** *08:39:00.5±1.6, 11.31S×165.81E, h36km±13km, mb4.5/6, Error ellipse: s-maj=13.6km s-min=9.4km az=62.0*
ISC 21 08:38:56.4±4.8, 11.36S±0.10×165.8E±0.1, h18km±32km, n37, σ0§83/33, mb4.5/15, MS3.9/6, 1D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.04**	**288**	Pn	**Pn**	**08 40 26.6**	**-0.6**
	34nm,0.3s,baz=162,slow=5.8,SNR=5.8						
HNR				Sn	**Sn**	**08 41 34.0**	**-2.6**
	15nm,0.3s,baz=189,slow=19,SNR=2.7						
HNR	**Honiara**	**6.04**	**288**	*e*P	**Pn**	**08 40 28.0**	**+0.8**
HNR				Sn	**Sn**	**08 41 34.0**	**-2.6**
HNR				*e*S	**Sn**	**08 41 39.6**	**+3.0**
DZM	**Mont Dzumac**	**10.67**	**177**	*e*P	**P**	**08 41 31.2**	**-0.4**
DZM				*e*S	**S**	**08 43 26.4**	**-5.2**
DZM	**Mont Dzumac**	**10.67**	**177**	Pn	**P**	**08 41 31.2**	**-0.4**
	7.4nm,0.3s,baz=40,slow=18,SNR=37						
DZM				Sn	**S**	**08 43 24.4**	**-7.2**
	0.3nm,0.3s,baz=150,slow=20,SNR=2.6						
DZM				LR	LR	08 45 04.1	
	comp=Z,330nm,20.1s,baz=26,slow=34						
DZM	**Mont Dzumac**	**10.67**	**177**	*e*P	**P**	**08 41 31.2**	**-0.4**
DZM				*e*S	**S**	**08 43 26.4**	**-5.2**
CTA	**Charters Tower**	**20.67**	**243**	⇓*i*P	**P**	**08 43 38.8**	**+0.7**
	14nm,0.9s						
CTA	**Charters Tower**	**20.67**	**243**	P	**P**	**08 43 39.1**	**+1.0**
	16nm,0.9s,baz=71,slow=13,SNR=17						
CTA				LR	LR	08 50 33.4	
	comp=Z,437nm,21.3s,MS3.8,baz=57,slow=34						
CTAO	**Charters Tower**	**20.67**	**243**	*e*P	**P**	**08 43 38.7**	**+0.6**
	20nm,0.9s						
AFI	**Afiamalu**	**22.05**	**99**	LR	LR	08 50 41.7	
	comp=Z,439nm,20.2s,MS3.9,baz=282,slow=32						
URZ	**Urewera**	**28.64**	**161**	LR	LR	08 54 48.0	
	comp=Z,142nm,19.8s,MS3.6,baz=310,slow=33						
STKA	**Stephens Creek**	**30.23**	**224**	*e*P	**P**	**08 45 08.9**	**+0.5**
	5.4nm,0.9s,mb4.3						
STKA	**Stephens Creek**	**30.23**	**224**	P	**P**	**08 45 09.2**	**+0.8**
	6.6nm,1.1s,mb4.3,baz=26,slow=17,SNR=9.6						
STKA				LR	LR	08 56 25.9	
	comp=Z,311nm,21.1s,MS3.9,baz=22,slow=35						
WRA	**Warramunga Arr**	**31.40**	**250**	P	**P**	**08 45 18.2**	**-0.7**
	5.0nm,0.8s,mb4.4,baz=80,slow=8.9,SNR=27						
RPZ	**Rata Peaks**	**32.56**	**173**	P	**P**	**08 45 29.4**	**+0.7**
	9.6nm,0.8s,mb4.8,baz=42,slow=7.1,SNR=3.7						
FITZ	**Fitzroy Crossi**	**39.32**	**255**	*e*P	**P**	**08 46 25.9**	**-0.6**
	5.3nm,0.5s,mb4.5						
FITZ				*e*		08 46 29.4	
FITZ				*e*		08 46 36.6	
FITZ	**Fitzroy Crossi**	**39.32**	**255**	P	**P**	**08 46 26.3**	**-0.2**
	11nm,0.7s,mb4.7,baz=116,slow=2.9,SNR=14						
PPT	**Papeete**	**43.60**	**104**	LR	LR	09 00 58.7	
	comp=Z,212nm,19.0s,MS4.1,baz=176,slow=30						
VNDA	**Vanda**	**66.18**	**181**	P	**P**	**08 49 44.2**	**-0.5**
	0.8nm,0.9s,mb3.7,baz=339,slow=8.6,SNR=5.3						
VNDA	**Vanda**	**66.18**	**181**	P	**P**	**08 49 44.2**	**-0.5**
SBA	**Scott Base**	**66.48**	**180**	*e*P	**P**	**08 49 47.0**	**+0.3**
	2.4nm,0.9s,mb4.2						
ENH	**Enshi**	**68.11**	**309**	*e*P	**P**	**08 49 56.9**	**-0.9**
	8.0nm,0.9s,mb4.8						
GYA	**Guiyang**	**68.61**	**304**	P	**P**	**08 50 01.8**	**+0.9**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9	

comp=Z,2.3nm,1.1s,mb4.2,baz=171,slow=2.8,SNR=5.3
MKAR Makanchi Array 93.77 317 P **P 08 52 13.5 -0.1**
comp=Z,2.0nm,0.8s,mb4.6,baz=101,slow=6.2,SNR=16
ZAL Zalesovo 93.83 324 P **P 08 52 13.6 -0.1**
comp=Z,1.3nm,0.3s,mb4.8,baz=101,slow=6.6,SNR=3.8
YKA Yellowknife Ar 95.24 27 LR LR 09 33 25.3
comp=Z,68nm,19.2s,MS4.1,baz=250,slow=34
ARCES ARCESS Array B 116.64 345 PKP PKPdf 08 57 39.8 -3.4
comp=Z,1.8nm,0.8s,slow=8.5,SNR=3.9
LPAZ La Paz 120.02 116 PKP PKPdf 08 57 50.7 -0.1
comp=Z,0.5nm,0.7s,baz=299,slow=7.2,SNR=4.1
LPAZ La Paz 120.02 116 PKP PKPdf 08 57 50.7 -0.1
CPUP Villa Florida 123.80 132 PKP PKPdf 08 57 55.2 -2.8
comp=Z,2.2nm,0.9s,baz=218,slow=4.5,SNR=5.7
GERES GERESS Array B 136.00 334 PKP PKPdf 08 58 17.6 -3.0
comp=Z,0.4nm,0.7s,baz=63,slow=3.0,SNR=4.6
ESDC Sonseca Array 150.37 344 PKPbc PKPdf 08 58 49.1 +3.4
comp=Z,0.8nm,0.8s,baz=40,slow=2.6,SNR=4.4

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*CSEM **21** 09:10:37.0±0.1, 38.32N×26.81W, h0km, ML2.5, Error ellipse: s-maj=8.5km s-min=1.9km az=33.0, After PDA*
*PDA **21** 09:10:37.0±0.9, 38.32N×26.81W, h0km±3km, MD2.7, ML2.5, Error ellipse: s-maj=3.8km s-min=1.3km az=43.0*
SVSA 21 09:10:37.0±0.9, 38.32N×26.81W, h0km±3km, MD2.7, ML2.5, Error ellipse: s-maj=3.8km s-min=1.3km az=43.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFAV	**Pico das Favas**	**0.45**	**332**	*e*P	Pg	09 10 45.9	-0.1
PFAV				*e*S	Sg	09 10 52.1	+0.1
	94nm,0.1s						
PSCM	**Serra do Cume**	**0.45**	**328**	*e*P	Pg	09 10 45.2	-0.9
PSCM				*e*S	Sg	09 10 51.7	-0.4
	375nm,0.2s						
RIB2	**Ribeirinha**	**0.46**	**321**	*e*P	Pg	09 10 45.2	-0.9
RIB2				*e*S	Sg	09 10 51.7	-0.5
	104nm,0.1s						
ADH	**Angra Heroismo**	**0.48**	**316**	*e*P	Pg	09 10 45.9	-0.6
ADH				*i* S	Sg	09 10 52.2	-0.6
PVNV	**Vila Nova**	**0.52**	**329**	*e*P	Pg	09 10 46.2	-1.2
PVNV				*e*S	Sg	09 10 53.4	-1.0
	78nm,0.2s						
PPAD	**Pico dos Padre**	**0.54**	**316**	*e*P	Pg	09 10 46.6	-1.1
PPAD				*e*S	Sg	09 10 54.0	-0.9
	54nm,0.1s						
PBIS	**Biscoitos**	**0.56**	**322**	*e*P	Pg	09 10 47.1	-1.2
PBIS				*e*S	Sg	09 10 54.6	-1.2
	23nm,0.2s						
ASBA	**Santa Barbara**	**0.57**	**315**	*e*P	Pg	09 10 47.3	-1.1
ASBA				*e*S	Sg	09 10 55.3	-0.7
	140nm,0.1s						
PSBA	**Serra de Santa**	**0.61**	**318**	*e*P	Pg	09 10 47.6	-1.5
PSBA				*e*S	Sg	09 10 56.0	-1.2
	104nm,0.1s						
SET4	**Mosteiros**	**0.91**	**119**	*e*P	Pg	09 10 52.5	-2.7
SET4				*e*S	Sg	09 11 03.7	-3.6
PFET	**Feteiras**	**0.95**	**121**	*e*P	Pg	09 10 53.0	-2.9
PFET				*e*S	Sg	09 11 04.8	-3.7
PSAN	**Santo Antonio**	**0.97**	**118**	*e*S	Sg	09 11 04.7	-4.7
PSET	**Sete Cidades**	**0.99**	**119**	*e*P	Pb	09 10 52.7	-4.0
PSET				*e*S	Sg	09 11 05.2	-4.8
	84nm,0.1s						
PMAN	**Manadas**	**1.05**	**288**	*e*S	Sb	09 11 06.9	-5.0
	27nm,0.1s						
FAC	**Faja de Cima**	**1.06**	**120**	*e*P	Pb	09 10 55.2	-2.7
FAC				*e*S	Sb	09 11 07.0	-5.2
CML	**Cha da Macela**	**1.14**	**118**	*e*S	Sb	09 11 08.9	-5.5
PVER	**Pico Vermelho**	**1.15**	**116**	*e*S	Sb	09 11 09.3	-5.3
	76nm,0.3s						
PGRA	**Graciosa**	**1.16**	**308**	*e*S	Sb	09 11 09.9	-5.2
	20nm,0.1s						
PMAT	**Coroa da Mata**	**1.17**	**115**	*e*S	Sb	09 11 10.1	-5.2
	99nm,0.2s						
LFA	**Lagoa do Fogo**	**1.18**	**117**	*e*P	Pb	09 10 56.3	-3.6
LFA				*e*S	Sb	09 11 10.0	-5.6
MESC	**Monte Escuro**	**1.20**	**115**	*e*P	Pb	09 10 57.2	-3.0
MESC				*e*S	Sb	09 11 10.7	-5.4
PRCH	**Ribeira Ch**	**1.20**	**119**	*e*S	Sb	09 11 10.6	-5.7
	78nm,0.2s						
VIF	**Vila Franca**	**1.22**	**117**	*e*S	Sb	09 11 12.1	-4.8
	27nm,0.2s						
PFAD	**Fenais da Ajud**	**1.27**	**112**	*e*S	Sb	09 11 12.1	-6.0
FRA1	**Furnas**	**1.28**	**116**	*e*P	Pb	09 10 58.2	-3.5
PICO	**Pico**	**1.28**	**279**	*e*P	Pb	09 10 57.7	-4.0
PICO				*e*S	Sb	09 11 12.4	-6.2
MIRA	**Miradouro**	**1.32**	**113**	*e*P	Pb	09 10 59.0	-3.3
MIRA				*e*S	Sb	09 11 14.4	-5.3
CALA	**Caldeira**	**1.51**	**281**	*e*P	Pn	09 11 00.8	-4.6
CALA				*e*S	Sb	09 11 18.0	-7.2
PCED	**Cedros**	**1.52**	**282**	*e*S	Sb	09 11 17.8	-7.6
	16nm,0.3s						

NEIC 21 09:30:58.2, 60.52N×152.89W, h5km, ML3.5(AEIC), After AEIC., Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSO	**Redoubt South**	**0.09**	**128**	P	Pg	09 31 00.6	+0.5
RED	**Redoubt Volcan**	**0.11**	**149**	P	Pg	09 31 00.3	-0.3
RDT	**Redoubt**	**0.25**	**76**	P	Pg	09 31 03.9	+0.7
CKL	**Chakachamna La**	**0.73**	**21**	P	Pg	09 31 12.5	-0.5
CKT	**Bend**	**0.77**	**26**	P	Pg	09 31 12.9	-0.6
CKT				S	Sg	09 31 24.3	+0.5
SPU	**Mount Spurr**	**0.78**	**31**	*e*P	Pg	09 31 13.0	-0.9
BGL	**Barrier Glacie**	**0.79**	**18**	P	Pg	09 31 13.4	-0.6
CRP	**Crater Peak**	**0.84**	**25**	P	Pb	09 31 14.5	-0.4
CRP				S	Sg	09 31 26.3	+0.2
AUL	**Augustine Lava**	**1.17**	**194**	P	Pb	09 31 17.1	-3.5
AUE	**Augustine Isla**	**1.19**	**192**	P	Pb	09 31 17.0	-3.8
XLV	**Seldovia**	**1.22**	**151**	P	Pb	09 31 18.3	-3.0
XLV				S	Sb	09 31 34.2	-3.0
VOGL	**Vogel Lake**	**1.30**	**67**	P	Pb	09 31 23.0	+0.1
SLKM	**Skilak Lake**	**1.32**	**89**	*e*P	Pb	09 31 21.6	-1.6
SVW2	**Sparrevohn**	**1.44**	**295**	P	Pn	09 31 22.8	-2.3
SVW2				S	Sb	09 31 40.5	-3.3
FIB	**Fire Island**	**1.48**	**63**	P	Pn	09 31 25.8	+0.1
RC01	**Rabbit Creek A**	**1.65**	**68**	P	Pn	09 31 27.2	-0.9
SEW	**Seward**	**1.76**	**102**	P	Pn	09 31 28.4	-1.3
KAPH	**Katmai Pasha**	**2.06**	**202**	P	Pn	09 31 31.0	-3.0
PMR	**Palmer**	**2.12**	**58**	P	Pn	09 31 34.5	-0.4
GHO	**Glory Hole Cre**	**2.30**	**55**	P	Pn	09 31 37.1	-0.3
SML	**Sawmill**	**2.56**	**58**	P	Pn	09 31 40.5	-0.7
KABR	**Katmai Barrier**	**2.62**	**205**	P	Pn	09 31 40.2	-1.7
MGLS	**Mageik LS**	**2.63**	**209**	P	Pn	09 31 42.0	-0.1
KDAK	**Kodiak Island**	**2.75**	**177**	P	Pn	09 31 41.6	-2.1
TT01	**Tatalina**	**2.83**	**330**	P	Pn	09 31 42.6	-2.3
KJL	**Kejulik**	**2.83**	**210**	P	Pn	09 31 41.5	-3.5
IMA	**Indian Mountai**	**5.59**	**357**	*e*P	Pn	09 32 21.5	-2.6

MEX 21 09:45:33.5±0.3, 16.68N×99.55W, h23km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.40**	**297**	*i* P	Pb	09 45 40.7	-1.2
ACX				*i* S	Sb	09 45 45.7	-1.9
PPM	**Popocatepetl**	**2.53**	**20**	*e*P	Pn	09 46 14.0	-0.1
VHO	**Vista Hermosa**	**2.72**	**81**	*i* P	Pn	09 46 13.6	-3.3
VHO				*i* S	Sn	09 46 45.4	-4.1

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*IDC **21** 09:49:48.7±0.5, 3.92S×104.02W, mb4.8/20, mb1 4.9/20, mb1mx4.9/22, mbtmp4.8/20, MS5.4/26, Ms1 5.4/26, ms1mx5.4/27, Error ellipse: s-maj=20.5km s-min=11.4km az=55.0*
*BJI **21** 09:49:50.0, 4.00S×104.00W, h10km, mB5.6, Ms5.7, Msz5.6*
*NEIC **21** 09:49:50.1±0.3, 4.00S×104.03W, h10km, mb5.0/48, MS5.3/9, Error ellipse: s-maj=7.2km s-min=4.5km az=58.0*
*HRVD **21** 09:49:50.1±0.1, 3.95S×104.02W, h12km, MW5.8/75, Centroid moment Tensor Solution. LP body waves: s65,c145;Mantle waves: s75,c179; Half duration: 1s9 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.41±.06; $M_{\theta\theta}$1.53±.06; $M_{\phi\phi}$-1.11±.07; $M_{r\theta}$0.57±.17; $M_{\theta\phi}$5.25±.05; $M_{\phi r}$0.18±.18; Best double couple: $M_0$5.444×10^{17} NP1:ϕ_s7°, δ85°,λ178°. NP2:ϕ_s97°, δ88°,λ5°. Principal axes: T 5.674, Plg5°, Azm322°; N -.457, Plg84°, Azm116°; P -5.213,*

Plg3°, Azm232°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
ISC 21 09:49:48.7±0.4, 3.95S±0.05×104.00W±0.06, h10km, n180, σ0:89/133, mb4.9/64, MS5.4/46, 3D, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAYG	**Puerto Ayora**	**14.08**	**77**	P	**P**	**09 53 12.3**	**+1.5**
	566nm,1.9s						
VHO	**Vista Hermosa**	**22.09**	**19**	*i* P	**P**	**09 54 44.3**	**-1.6**
OXX	**Oaxaca**	**22.10**	**19**	*e*P	**P**	**09 54 52.0**	**+6.0**
CMIG	**Matias Romero**	**22.77**	**23**	*i* P	**P**	**09 54 54.6**	**+1.9**
CCIG	**Comitan**	**23.28**	**30**	*i* P	**P**	**09 54 57.4**	**-0.3**
PPM	**Popocatepetl**	**23.48**	**13**	*e*P	**P**	**09 55 00.0**	**+0.4**
RPN	**Rapa Nui**	**23.60**	**192**	LR	LR	10 01 42.2	
	comp=Z,5μm,18.7s,MS5.0,baz=9.0,slow=30						
ZAIG	**Zacatecas**	**26.59**	**3**	*e*P	**P**	**09 55 31.6**	**+2.3**
ROSC	**El Rosal**	**30.90**	**74**	P	**P**	**09 56 09.1**	**+1.0**
	3.0nm,0.4s,mb4.5,baz=91,slow=21,SNR=5.7						
ROSC				LR	LR	10 05 14.6	
	comp=Z,4μm,19.9s,MS5.1,baz=101,slow=30						
LTX	**Lajitas**	**33.10**	**1**	*e*P	**P**	**09 56 27.6**	**+0.4**
	12nm,1.1s,mb4.8						
TXAR	**Lajitas Array**	**33.10**	**1**	P	**P**	**09 56 27.5**	**+0.4**
	4.4nm,0.9s,mb4.4,baz=185,slow=11,SNR=16						
TXAR				PcP	PcP	09 59 10.5	-0.1
	0.9nm,0.9s,baz=190,slow=5.5,SNR=4.3						
SOR	**Soroa**	**33.57**	**37**	*e*P	**P**	**09 56 30.6**	**-0.7**
ARE	**Arequipa**	**34.25**	**114**	*e*P	**P**	**09 56 38.0**	**+0.8**
MGV	**Manicaragua**	**34.97**	**41**	*e*P	**P**	**09 56 42.1**	**-1.3**
MNTX	**Cornudas Mount**	**35.48**	**358**	*e*P	**P**	**09 56 47.2**	**-0.4**
	17nm,0.9s,mb5.0						
MNTX				LR	LR		
	comp=Z,4μm,20.0s,MS5.2						
SDV	**Santo Domingo**	**35.62**	**69**	P	**P**	**09 56 49.8**	**+0.8**
	comp=Z,29nm,0.6s,mb5.4,baz=279,slow=7.4,SNR=41						
SDV				LR	LR	10 08 56.1	
	comp=Z,8μm,20.3s,MS5.5,baz=260,slow=32						
SDV	**Santo Domingo**	**35.62**	**69**	*e*P	**P**	**09 56 49.8**	**+0.7**
	comp=Z,28nm,0.8s,mb5.2						
LMGC	**Las Mercedes**	**35.68**	**47**	*e*PG	**P**	**09 56 49.4**	**0.0**
LMGC				*e*SG	**S**	**10 02 21.6**	**-3.5**
	comp=N,2.2nm,6.4s						
	comp=E,2.0nm,8.2s						
TAOE	**Nuku Hiva Isla**	**36.24**	**260**	*e*LQ		10 05 06.0	
TAOE				*e*LR	LR	10 06 16.2	
	comp=E,25μm,24.1s						
RCC	**Rio Carpintero**	**36.60**	**48**	*e*P	**P**	**09 56 57.6**	**+0.4**
NATX	**Nacogdoches**	**36.61**	**13**	*e*P	**P**	**09 56 56.4**	**-0.7**
	comp=E,26nm,0.7s,mb5.2						
TUC	**Tucson**	**36.63**	**350**	*e*P	**P**	**09 56 57.1**	**-0.2**
	comp=E,20nm,1.6s,mb4.7						
LPAZ	**La Paz**	**37.30**	**112**	P	**P**	**09 57 03.8**	**+0.8**
	comp=E,5.8nm,1.0s,mb4.3,baz=288,slow=6.8,SNR=16						
LPAZ				LR	LR	10 09 40.0	
	comp=E,5μm,20.1s,MS5.3,baz=278,slow=32						
MOAC	**Moa**	**37.55**	**48**	*e*P	**P**	**09 57 06.3**	**+1.1**
MOAC				*e*S	**S**	**10 02 56.2**	**+2.4**
	comp=N,3.2nm,7.6s						
	comp=E,3.5nm,10.6s						
LVC	**Limon Verde**	**38.69**	**122**	P	**P**	**09 57 15.3**	**+0.6**
	comp=E,13nm,0.9s,mb4.7,baz=273,slow=7.2,SNR=17						
LVC				LR	LR	10 09 01.6	
	comp=E,7μm,19.6s,MS5.5,baz=290,slow=30						
LVC	**Limon Verde**	**38.69**	**122**	*e*P	**P**	**09 57 15.3**	**+0.5**
	comp=E,88nm,1.5s,mb5.3						
ANMO	**Albuquerque**	**38.76**	**357**	LR	LR	10 11 07.8	
	comp=E,2μm,19.4s,MS4.9,baz=80,slow=33						
ANMO	**Albuquerque**	**38.76**	**357**	*e*P	**P**	**09 57 15.1**	**-0.1**
	comp=E,12nm,1.2s,mb4.5						
PFO	**Pinyon Flat Ob**	**39.17**	**343**	*e*P	**P**	**09 57 19.2**	**+0.6**
	comp=E,19nm,1.0s,mb4.8						
LRAL	**Lakeview Retre**	**40.16**	**22**	*e*P	**P**	**09 57 27.0**	**+0.2**
	comp=E,8.4nm,0.8s,mb4.5						
SAML	**Samuel**	**40.84**	**99**	*e*P	**P**	**09 57 31.5**	**-1.0**
	comp=E,42nm,1.0s,mb5.0						
SAML				LR	LR		
	comp=Z,5μm,19.0s,MS5.4						
SDCO	**Great Sand Dun**	**41.51**	**358**	*e*P	**P**	**09 57 38.6**	**+0.7**
	comp=Z,25nm,1.3s,mb4.7						
SDCO				LR	LR		
	comp=Z,3μm,19.0s,MS5.2						
PLAL	**Pickwick Lake**	**41.52**	**20**	*e*P	**P**	**09 57 37.9**	**-0.2**
	comp=Z,23nm,0.6s,mb5.0						
GOGA	**Godfrey**	**41.93**	**26**	*e*P	**P**	**09 57 40.7**	**-0.8**
	comp=Z,16nm,1.0s,mb4.6						
DAC	**Darwin (Calif)**	**41.99**	**344**	*e*P	**P**	**09 57 42.3**	**+0.4**
	comp=Z,16nm,1.0s,mb4.6						
ARUT	**Antelope Range**	**42.44**	**349**	*e*P	**P**	**09 57 47.0**	**+1.4**
SWET	**Sewanee**	**42.50**	**22**	*e*P	**P**	**09 57 44.9**	**-1.2**
WVT	**Waverly**	**42.65**	**19**	*e*P	**P**	**09 57 46.8**	**-0.5**
	comp=Z,16nm,0.8s,mb4.8						
CBKS	**Cedar Bluff**	**42.73**	**5**	*e*P	**P**	**09 57 48.0**	**+0.1**
	comp=Z,26nm,1.0s,mb4.9						
MSU	**Marysvale**	**42.92**	**351**	*e*P	**P**	**09 57 50.0**	**+0.5**
MYNC	**Murphy**	**43.08**	**24**	*e*P	**P**	**09 57 51.1**	**+0.3**
	comp=Z,37nm,0.8s,mb5.2						
LRV	**Little Rabbit**	**43.20**	**340**	*e*P	**P**	**09 57 52.8**	**+1.0**
NHSC	**New Hope**	**43.21**	**30**	*e*P	**P**	**09 57 52.6**	**+0.7**
	comp=Z,90nm,1.1s,mb5.4						
SRU	**San Rafael**	**43.27**	**353**	*e*P	**P**	**09 57 52.6**	**+0.3**
MTUM	**Tungsten Hills**	**43.27**	**343**	*e*P	**P**	**09 57 53.5**	**+1.1**
SJG	**San Juan**	**43.27**	**58**	LR	LR	10 12 50.3	
	comp=Z,4μm,19.4s,MS5.3,baz=234,slow=32						
CFAA	**Coronel Fontan**	**43.41**	**133**	P	**P**	**09 57 53.7**	**+0.2**
	comp=Z,1.0nm,0.8s,mb3.6,baz=298,slow=6.9,SNR=23						
CFAA				LR	LR	10 11 26.2	
	comp=Z,1μm,20.9s,MS4.8,baz=315,slow=30						
CFAA	**Coronel Fontan**	**43.41**	**133**	P	**P**	**09 57 53.7**	**+0.2**
CFAA				LR	LR	10 11 26.2	
CCM	**Cathedral Cave**	**43.44**	**15**	*e*P	**P**	**09 57 51.0**	**-2.6**
	comp=Z,13nm,0.9s,mb4.7						
CCM				LR	LR		
	comp=Z,1μm,20.0s,MS4.9						
ISCO	**Idaho Springs**	**43.56**	**358**	*e*P	**P**	**09 57 55.4**	**+0.8**
	comp=Z,20nm,1.0s,mb4.8						
ISCO				LR	LR		
	comp=Z,5μm,19.0s,MS5.5						
TPH	**Tonopah**	**43.58**	**345**	*e*P	**P**	**09 57 56.2**	**+1.4**
	comp=Z,22nm,0.9s,mb4.9						
SIUC	**Southern Illin**	**43.67**	**17**	P	**P**	**09 57 54.7**	**-0.9**
	comp=Z,25nm,0.9s,mb5.0						
SLM	**Saint Louis**	**44.25**	**15**	*e*P	**P**	**09 58 00.8**	**+0.6**
MPU	**Maple Canyon**	**44.31**	**352**	*e*P	**P**	**09 58 02.0**	**+1.3**
NLU	**North Lily Min**	**44.32**	**351**	*e*P	**P**	**09 58 00.5**	**-0.3**
DAU	**Daniels Canyon**	**44.65**	**352**	*e*P	**P**	**09 58 04.0**	**+0.6**
DUG	**Dugway**	**44.67**	**350**	*e*P	**P**	**09 58 04.4**	**+0.7**
	comp=Z,25nm,1.1s,mb5.0						
JLU	**Jordanelle**	**44.86**	**352**	*e*P	**P**	**09 58 05.9**	**+0.7**
CTU	**Camp Tracy**	**44.99**	**352**	*e*P	**P**	**09 58 06.7**	**+0.5**
WCI	**Wyandotte Cave**	**45.06**	**20**	*e*P	**P**	**09 58 05.5**	**-1.4**
	comp=Z,7.6nm,0.7s,mb4.6						
TCUT	**Toone Canyon**	**45.36**	**352**	*e*P	**P**	**09 58 10.7**	**+1.5**
BGU	**Big Grassy Mou**	**45.42**	**350**	*e*P	**P**	**09 58 10.3**	**+0.7**
ELK	**Elko**	**45.66**	**348**	*e*P	**P**	**09 58 12.1**	**+0.6**
	comp=Z,90nm,2.0s,mb5.3						
ELK				LR	LR		
	comp=Z,5μm,19.0s,MS5.5						
SPUT	**South Promonto**	**45.70**	**351**	*e*P	**P**	**09 58 12.9**	**+1.1**
BMN	**Battle Mountai**	**45.80**	**346**	P	**P**	**09 58 12.3**	**-0.3**
	comp=Z,20nm,1.0s,mb5.0						
BLO	**Bloomington**	**45.84**	**19**	*e*P	**P**	**09 58 12.4**	**-0.6**
	comp=Z,12nm,0.6s,mb5.0						
HWUT	**Hardware Ranch**	**45.86**	**352**	*e*P	**P**	**09 58 13.4**	**+0.4**
	comp=Z,34nm,0.9s,mb5.3						
HVU	**Hansel Valley**	**46.21**	**351**	*e*P	**P**	**09 58 15.6**	**-0.3**
BLA	**Blacksburg**	**46.47**	**26**	*e*P	**P**	**09 58 17.7**	**-0.2**
	comp=Z,11nm,1.0s,mb4.8						
PPT	**Papeete**	**46.63**	**250**	*e*S	**S**	**10 05 02.1**	**-5.7**
PPT				*e*LQ		10 09 16.2	
PPT				*e*LR	LR	10 11 24.9	
	comp=Z,14μm,27.2s,baz=74						
PPT	**Papeete**	**46.63**	**250**	LR	LR	10 12 47.7	
	comp=Z,5μm,18.3s,MS5.5,baz=79,slow=30						
PDAR	**Pinedale Array**	**46.77**	**354**	P	**P**	**09 58 19.9**	**-0.3**
	comp=Z,10.0nm,0.7s,mb4.9,baz=170,slow=6.5,SNR=103						
PDAR				PcP	PcP	09 59 53.6	-0.4
	comp=Z,2.2nm,0.9s,baz=153,slow=4.0,SNR=2.4						
PDAR				LR	LR	10 15 31.0	
	comp=Z,3μm,19.7s,MS5.2,baz=184,slow=33						
AHID	**Auburn Hatcher**	**46.94**	**353**	*e*P	**P**	**09 58 21.7**	**+0.2**
	comp=Z,11nm,0.8s,mb4.8						
KCPM	**Cahto Peak**	**47.02**	**339**	*e*P	**P**	**09 58 21.9**	**-0.3**
KIPM	**Iron Peak**	**47.09**	**339**	*e*P	**P**	**09 58 23.1**	**+0.3**
PLCA	**Paso Flores**	**47.38**	**145**	P	**P**	**09 58 25.1**	**-0.1**
	comp=Z,13nm,1.0s,mb4.8,baz=317,slow=11,SNR=9.8						
PLCA				LR	LR	10 13 36.5	
	comp=Z,9μm,19.1s,MS5.8,baz=340,slow=30						
RSSD	**Black Hills**	**47.85**	**360**	*e*P	**P**	**09 58 28.9**	**+0.1**
	comp=Z,18nm,1.0s,mb5.1						
TBI	**Tubuai**	**47.93**	**242**	*e*S	**S**	**10 05 21.9**	**-4.1**
TBI				*e*LQ		10 09 55.8	
TBI				*e*LR	LR	10 12 00.4	
	comp=Z,11μm,28.2s,baz=71						
MOD	**Modoc**	**47.99**	**344**	P	**P**	**09 58 30.6**	**+0.7**
ACSO	**Alum Creek Sta**	**48.02**	**22**	*e*P	**P**	**09 58 30.5**	**+0.4**
	comp=Z,7.3nm,1.0s,mb4.7						
WVOR	**Wild Horse Val**	**48.04**	**345**	*e*P	**P**	**09 58 29.6**	**-0.7**
	comp=Z,32nm,1.3s,mb5.2						
KHMM	**Horse Mountain**	**48.13**	**340**	*e*P	**P**	**09 58 30.4**	**-0.5**
HLID	**Hailey**	**48.22**	**350**	*e*P	**P**	**09 58 31.7**	**+0.1**
	comp=Z,24nm,0.9s,mb5.2						
LHEM	**Herd Peak**	**48.31**	**342**	P	**P**	**09 58 33.0**	**+0.7**
YBH	**Yreka Blue Hor**	**48.56**	**341**	P	**P**	**09 58 33.8**	**-0.5**
	comp=Z,13nm,0.8s,mb5.0,baz=148,slow=6.2,SNR=86						
YBH				LR	LR	10 14 38.8	
	comp=Z,6μm,21.5s,MS5.5,baz=168,slow=31						
LKWY	**Lake**	**48.64**	**354**	*e*P	**P**	**09 58 35.2**	**+0.3**
	comp=Z,20nm,0.9s,mb5.2						
HOG	**Hogback Mounta**	**48.71**	**343**	P	**P**	**09 58 36.5**	**+1.1**
MCWV	**Mont Chateau**	**48.76**	**25**	*e*P	**P**	**09 58 35.4**	**-0.4**
	comp=Z,22nm,1.0s,mb5.1						
BUOR	**Burton Butte**	**48.91**	**342**	P	**P**	**09 58 37.6**	**+0.7**
KBO	**Bosley Butte**	**49.49**	**340**	*e*P	**P**	**09 58 40.7**	**-0.7**
BBOR	**Butler Butte**	**49.59**	**342**	P	**P**	**09 58 42.2**	**-0.1**
BOZ	**Bozeman (W)**	**49.85**	**353**	*e*P	**P**	**09 58 43.2**	**-0.9**
	comp=Z,16nm,1.4s,mb4.7						
CPUP	**Villa Florida**	**49.87**	**121**	P	**P**	**09 58 43.9**	**-0.6**
	comp=Z,16nm,1.0s,mb5.0,baz=304,slow=10,SNR=17						
CPUP				LR	LR	10 16 41.1	
	comp=Z,4μm,19.7s,MS5.4,baz=308,slow=32						
CPUP	**Villa Florida**	**49.87**	**121**	P	**P**	**09 58 43.9**	**-0.6**
CPUP				LR	LR	10 16 41.1	
KEBM	**Edson Butte**	**50.11**	**341**	*e*P	**P**	**09 58 46.1**	**-0.1**
HBO	**Huckleberry Mo**	**50.36**	**343**	P	**P**	**09 58 48.6**	**+0.6**
LAO	**LASA Array**	**50.46**	**358**	*e*P	**P**	**09 58 48.0**	**-0.8**
	comp=Z,190nm,1.9s,mb5.8						
EUO	**Eugene**	**50.75**	**342**	P	**P**	**09 58 51.2**	**+0.1**
CROR	**Criteon Ridg**	**51.03**	**345**	P	**P**	**09 58 53.3**	**+0.2**
COR	**Corvallis**	**51.33**	**342**	*e*P	**P**	**09 58 55.2**	**-0.1**
	comp=Z,64nm,1.0s,mb5.5						
HAWA	**Hanford**	**51.98**	**346**	*e*P	**P**	**09 58 59.6**	**-0.8**
	comp=Z,3.7nm,1.4s,mb4.1						
DGMT	**Dagmar**	**52.20**	**360**	*e*P	**P**	**09 59 01.0**	**-1.0**
	comp=Z,48nm,1.0s,mb5.4						
BINY	**Binghamton**	**52.51**	**26**	*e*P	**P**	**09 59 03.3**	**-1.1**
	comp=Z,14nm,0.9s,mb4.9						
LON	**Longmire**	**52.88**	**345**	P	**P**	**09 59 06.2**	**-0.9**
NEW	**Newport**	**53.25**	**349**	P	**P**	**09 59 08.7**	**-1.1**
	comp=Z,14nm,0.7s,mb5.0,baz=157,slow=8.7,SNR=42						
NEW				LR	LR	10 19 11.2	
	comp=Z,7μm,18.5s,MS5.7,baz=172,slow=33						
NEW	**Newport**	**53.25**	**349**	*e*P	**P**	**09 59 08.4**	**-1.4**
	comp=Z,29nm,0.9s,mb5.2						
NEW				LR	LR		
	comp=Z,7μm,19.0s,MS5.7						
ULM	**Lac du Bonnet**	**54.44**	**6**	P	**P**	**09 59 17.0**	**-1.5**
	comp=Z,11nm,0.9s,mb4.8,baz=210,slow=6.8,SNR=9.1						
ULM				LR	LR	10 21 24.0	
	comp=Z,5μm,18.8s,MS5.6,baz=194,slow=35						
ULM	**Lac du Bonnet**	**54.44**	**6**	*e*P	**P**	**09 59 16.9**	**-1.6**
	comp=Z,23nm,1.1s,mb5.0						
OCWA	**Octopus Mounta**	**54.45**	**343**	*e*P	**P**	**09 59 18.6**	**0.0**
NCB	**Newcomb**	**54.70**	**26**	*e*P	**P**	**09 59 18.6**	**-1.9**
	comp=Z,32nm,1.5s,mb5.1						
BDFB	**Brasilia**	**56.22**	**106**	P	**P**	**09 59 31.0**	**-0.8**
	comp=Z,18nm,1.0s,mb5.0,baz=286,slow=8.5,SNR=16						
BDFB

WRA	**Warramunga Arr**	**118.00**	**245**	PKP	PKPdf	10 08 36.6	-3.0
	comp=Z,1.0nm,0.9s,baz=98,slow=2.2,SNR=10						
BRTR	**Keskin Array B**	**127.74**	**41**	PKP	PKPdf	10 08 56.0	-2.2
	comp=Z,1.8nm,0.9s,baz=153,slow=2.8,SNR=6.1						
SONM	**Songino Array**	**129.08**	**334**	PKP	PKPdf	10 08 58.4	-2.1
	comp=Z,2.0nm,0.9s,baz=225,slow=2.1,SNR=7.3						
ZAL	**Zalesovo**	**129.66**	**353**	PKP	PKPdf	10 08 58.5	-2.9
	comp=Z,0.9nm,0.4s,baz=208,slow=4.7,SNR=3.5						
SSE	**Sheshan**	**129.67**	**308**	*e*PKP	PKPdf	10 09 00.5	-1.6
SSE				PP	PP	10 11 14.8	+0.9
SSE				SS	SS	10 28 35.9	+1.9
SSE				LR	LR		
	comp=N,833nm,24.9s,MS5.7						
SSE				LR	LR		
	comp=E,2μm,25.0s,MS5.7						
SSE				LR	LR		
	comp=Z,2μm,22.7s,MS5.8						
SSE	**Sheshan**	**129.67**	**308**	*e*PKP	PKPdf	10 09 00.5	-1.6
SSE				PP	PP	10 11 14.7	+0.8
SSE				SS	SS	10 28 35.9	+1.9
SSE				LR	LR		
	comp=Z,2μm,22.7s,MS5.8						
BRVK	**Borovoye**	**130.83**	**5**	*e*P	PKPdf	10 09 00.5	-3.1
BRVK				LR	LR		
	comp=Z,266nm,22.0s,MS4.9						
NJ2	**Nanjing**	**131.09**	**310**	*e*PKP	PKPdf	10 08 58.5	-6.3
NJ2				PP	PP	10 11 20.3	-3.1
NJ2				PKS	PKS	10 12 33.0	-3.9
NJ2				LR	LR		
	comp=N,530nm,31.4s,MS5.2						
NJ2				LR	LR		
	comp=E,440nm,31.2s,MS5.2						
NJ2				LR	LR		
	comp=Z,350nm,24.5s						
HHC	**Hu-ho-hao-te**	**131.32**	**324**	*e*PKP	PKPdf	10 09 01.6	-3.4
HHC				XPKP		10 09 11.4	
HHC				PP	PP	10 11 23.8	-0.7
HHC				PKS	PKS	10 12 36.4	-0.7
HHC				SKS	SKS	10 16 08.1	-6.4
HHC				SKKS		10 18 10.3	
HHC				SS	SS	10 28 55.8	+2.0
HHC				LR	LR		
	comp=N,393nm,23.2s,MS5.3						
HHC				LR	LR		
	comp=E,601nm,23.8s,MS5.3						
HHC				LR	LR		
	comp=Z,846nm,24.4s,MS5.4						
MKAR	**Makanchi Array**	**136.98**	**354**	PKhKP		10 09 01.1	
	comp=Z,0.6nm,0.9s,baz=37,slow=6.1,SNR=4.3						
MKAR				PKP	PKPdf	10 09 13.9	-1.3
	comp=Z,2.6nm,0.9s,slow=1.2,SNR=11						
GTA	**Gaotai**	**138.62**	**332**	*e*PKP	PKPdf	10 09 14.9	-3.6
GTA				PKS	PKS	10 12 50.0	-0.3
GTA				SKS	SKS	10 16 25.3	-2.9
GTA				PP	PP		
	comp=Z,279nm,6.8s						
GTA				LR	LR		
	comp=N,870nm,22.3s,MS5.7						
GTA				LR	LR		
	comp=E,1μm,20.2s,MS5.7						
GTA				LR	LR		
	comp=Z,2μm,21.1s,MS5.8						
WMQ	**Urumqi**	**138.97**	**347**	*e*PKP	PKPdf	10 09 15.0	-4.0
WMQ				PP	PP	10 12 12.0	-0.4
WMQ				PKS	PKS	10 12 50.0	-0.8
WMQ				SKS	SKS	10 16 20.0	-8.6
WMQ				SKKS		10 18 58.0	
WMQ				SS	SS	10 30 22.0	-3.0
WMQ				PP	PP		
	comp=Z,59nm,9.0s						
WMQ				LR	LR		
	comp=N,1μm,24.0s,MS5.7						
WMQ				LR	LR		
	comp=E,1μm,24.0s,MS5.7						
WMQ				LR	LR		
	comp=Z,2μm,24.0s,MS5.7						
BLJS	**Baljurashi**	**142.92**	**62**	P	PKPdf	10 09 30.9	+4.2
GYA	**Guiyang**	**143.10**	**310**	PKP	PKPdf	10 09 21.6	-5.2
GYA				PKS	PKS	10 12 56.3	-2.0
GYA				SKS	SKS	10 16 30.3	-5.4
GYA				PP	PP		
	comp=Z,110nm,8.0s						
GYA				LR	LR		
	comp=N,210nm,20.7s,MS5.1						
GYA				LR	LR		
	comp=E,300nm,21.4s,MS5.1						
GYA				LR	LR		
	comp=Z,340nm,21.8s,MS5.1						
QIZ	**Qiongzhong**	**143.72**	**297**	*e*PKP	PKPdf	10 09 23.4	-4.6
QIZ				PP	PP	10 12 44.3	+2.7
QIZ				LR	LR		
	comp=N,581nm,20.1s,MS5.5						
QIZ				LR	LR		
	comp=E,575nm,18.4s,MS5.5						
QIZ				LR	LR		
	comp=Z,1μm,19.5s,MS5.7						
MZLS	**Mizel**	**144.23**	**53**	P	PKPbc	10 09 24.9	-0.3
KSH	**Kashi**	**144.60**	**0**	*e*PKP	PKPdf	10 09 25.1	-3.9
KSH				*e*APKP		10 09 35.1	
KSH				*e*PP	PP	10 12 51.0	+4.7
KSH				*e*PKS	PKS	10 12 58.0	-2.4
KSH				*e*PPP	PPP	10 16 10.3	+10
KSH				*e*SKS	SKS	10 16 28.0	-10
KSH				*e*SKKS		10 19 38.4	
KSH				PP	PP		
	comp=Z,230nm,6.0s						
KSH				LR	LR		
	comp=N,420nm,9.4s						
KSH				LR	LR		
	comp=E,430nm,9.6s						
TATS	**Tathlith**	**144.70**	**61**	P	PKPbc	10 09 27.5	+0.9
RYDS	**Riyadh**	**145.28**	**52**	P	PKPbc	10 09 28.9	+0.8
KAMS	**Al Khamasin**	**145.35**	**59**	P	PKPbc	10 09 28.9	+0.6
DJNS	**Zahran al Janu**	**145.40**	**64**	P	PKPbc	10 09 30.4	+1.9
KSM	**Kuching**	**145.65**	**267**	*e*PKP	PKPdf	10 09 28.0	-3.6
KMI	**Kunming**	**146.78**	**312**	PKP	PKPdf	10 09 31.0	-2.2
KMI				APKP		10 09 34.3	
KMI				PKP2	PKPab	10 09 35.8	+0.5
KMI				PP	PP	10 12 59.5	-0.3
KMI				PKS	PKS	10 13 04.9	+0.7
KMI				SKS	SKS	10 16 37.3	-3.8
KMI				SKKS		10 19 47.3	
KMI				SS	SS	10 31 55.3	-1.0
KMI				SSS	SSS	10 37 26.6	-1.6
KMI				LR	LR		
	comp=N,777nm,22.0s,MS5.7						
KMI				LR	LR		
	comp=E,1μm,23.0s,MS5.7						
KMI				LR	LR		
	comp=Z,2μm,23.0s,MS5.8						
KMI	**Kunming**	**146.78**	**312**	PKP	PKPdf	10 09 31.0	-2.2
KMI				pPKP		10 09 34.3	
KMI				sPKP		10 09 35.5	
KMI				PKPab	PKPab	10 09 35.7	+0.4
KMI				PP	PP	10 12 59.5	-0.3
KMI				PKS	PKS	10 13 04.9	+0.7
KMI				PPP	PPP	10 16 17.1	-0.3
KMI				SKS	SKS	10 16 37.2	-3.9
KMI				PcP		10 17 47.6	
KMI				SKKS		10 19 47.3	
KMI				SS	SS	10 31 55.2	-1.1
KMI				SSS	SSS	10 37 26.6	-1.6
KMI				LR	LR		
	comp=Z,2μm,23.0s,MS5.8						
HASS	**Wahat al Ahsa'**	**147.06**	**48**	P	PKPdf	10 09 32.6	-1.0
LSA	**Lhasa**	**150.65**	**332**	PKP	PKPdf	10 09 42.0	+2.8
KKTK	**Khon Kaen**	**150.92**	**297**	P	PKPdf	10 09 43.0	+3.0
NANT	**Nan**	**151.71**	**303**	P	PKPdf	10 09 46.0	+4.9
	comp=Z,112nm,0.6s						

*MOS **21** 09:54:07.7±1.1,50.66N×156.09E,h75km,mb4.6/1,Error ellipse: s-maj=9.8km s-min=0.0km az=130.5*
MOS Felt (II) at Severo-Kuril'sk.

KRSC 21 09:54:07.2±1.3,50.44N×156.83E,h10km±7km,ML4.3,1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.52**	**298**	*i* P		Pg	09 54 17.7	0.0
SKR				*i* S		Sg	09 54 26.6	+2.0
SKR	**Severo-Kuril's**	**0.52**	**298**	⇓*i* PN		Pn	09 54 17.7	-2.5
SKR				*e*S		Sg	09 54 26.6	+2.0
SKR				pmax	pmax			
	comp=Z,2μm,0.4s							
SKR				pmax	pmax			
	comp=N,1μm,0.2s							
SKR				pmax	pmax			
	comp=E,2μm,0.2s							
SKR				smax				
	comp=N,26μm,1.0s							
SKR				smax				
	comp=E,9μm,1.0s							
SKR				smax				
	comp=N,5μm,0.2s							
SKR				smax				
	comp=E,8μm,0.2s							
ALID	**Alaid**	**0.92**	**298**	*i* P		Pb	09 54 26.3	+1.5
ALID				*e*S		Sb	09 54 39.1	+2.2
PAU	**Pauzhetka**	**1.03**	**359**	*i* P		Pb	09 54 28.7	+2.1
PAU				*i* S		Sb	09 54 43.3	+3.3
PAU				Smax				
	comp=E,13μm,0.1s							
MIPR	**Malaya Ipel'ka**	**1.84**	**359**	*e*P		Pn	09 54 39.5	+0.3
MIPR				*e*S		Sn	09 55 03.4	+0.7
GRL	**Gorelyy**	**2.25**	**20**	*e*P		Pn	09 54 45.9	+0.8
GRL				*e*S		Sn	09 55 14.0	+0.8
RUS	**Russkaya**	**2.26**	**27**	P		Pn	09 54 44.7	-0.5
RUS				S		Sn	09 55 12.0	-1.3
RUS	**Russkaya**	**2.26**	**27**	*e*P		Pn	09 54 44.6	-0.6
RUS				*e*S		Sn	09 55 11.6	-1.7
APC	**Apacha**	**2.50**	**5**	*e*P		Pn	09 54 48.9	+0.3
APC				Smax				
	comp=E,60nm,0.6s							
KRMR	**Karymshinskiy**	**2.53**	**18**	*e*P		Pn	09 54 50.1	+1.1
KRMR				*e*S		Sn	09 55 21.6	+1.4
PET	**Petropavlovsk**	**2.83**	**23**	P		Pn	09 54 53.7	+0.4
PET				S		Sn	09 55 27.9	+0.2
PET	**Petropavlovsk**	**2.83**	**23**	*e*P		Pn	09 54 53.6	+0.3
PET				*e*S		Sn	09 55 27.8	+0.1
PET	**Petropavlovsk**	**2.83**	**23**	*e*PN		Pn	09 54 52.8	-0.5
PET				*i* S		Sn	09 55 28.5	+0.8
PET				smax				
	comp=E,274nm,0.6s							
PET				smax				
	comp=N,121nm,0.4s							
UGLR	**Uglovaya**	**3.04**	**23**	*e*P		Pn	09 54 57.2	+0.9
UGLR				*e*S		Sn	09 55 33.5	+0.4
AVH	**Avacha**	**3.07**	**22**	*e*P		Pn	09 54 58.2	+1.5
AVH				*e*S		Sn	09 55 35.7	+1.9
KOK	**Koryaka**	**3.07**	**21**	*e*P		Pn	09 54 58.4	+1.7
KOK				*e*S		Sn	09 55 36.3	+2.4
SMAR	**Somma**	**3.08**	**23**	*e*P		Pn	09 54 57.5	+0.6
SMAR				*e*S		Sn	09 55 34.3	+0.1
SDLR	**Sedlovina**	**3.12**	**23**	*e*P		Pn	09 54 57.7	+0.3
SDLR				*e*S		Sn	09 55 34.4	-0.6
NLC	**Nalytchevo**	**3.15**	**29**	*i* P		Pn	09 54 56.4	-1.5
NLC				*e*S		Sn	09 55 32.5	-3.4
GNL	**Ganaly**	**3.33**	**11**	*e*P		Pn	09 55 01.4	+0.9
GNL				*e*S		Sn	09 55 39.5	-1.0
KII	**Karymskiy**	**3.94**	**23**	*e*P		Pn	09 55 11.1	+1.9
KII				*e*S		Sn	09 55 56.7	+0.6
MKZ	**Mys Kozlova**	**5.09**	**34**	P		Pn	09 55 24.2	-1.3
MKZ	**Mys Kozlova**	**5.09**	**34**	*e*P		Pn	09 55 23.8	-1.7
MKZ				*e*S		Sn	09 56 19.1	-6.0
KMNR	**Kamenistaya**	**5.71**	**20**	P		Pn	09 55 33.2	-0.9
KBTR	**Krutoberegovo**	**6.80**	**30**	P		Pn	09 55 47.7	-1.8
KBTR	**Krutoberegovo**	**6.80**	**30**	*e*P		Pn	09 55 47.6	-1.9
KBTR				*e*S		Sn	09 57 01.9	-5.9
BKI	**Bering**	**7.31**	**46**	P		Pn	09 55 51.5	-5.2
BKI				*e*S		Sn	09 57 08.5	-12
BKI				Smax				
	comp=N,20nm,0.4s							
YSS	**Yuzh-Sakhalins**	**9.94**	**255**	*i* PN		P	09 56 25.5	-7.6
SEY	**Seymchan**	**12.76**	**351**	*e*PN		P	09 57 03.3	-8.0
BILL	**Bilibino**	**18.26**	**11**	*i* P		P	09 58 14.9	-7.1
BILL				pmax	pmax			
	comp=Z,4.0nm,0.4s							
YAK	**Yakutsk**	**18.86**	**318**	*i* P		P	09 58 20.5	-8.9
ARU	**Arti**	**53.97**	**317**	*i* P		P	10 03 21.7	-11
AAK	**Ala-Archa**	**54.42**	**296**	*e*P		P	10 03 23.9	-13
AAK				pmax	pmax			
	comp=Z,8.0nm,2.5s							
AAK				MLR	MLR			
	comp=Z,100nm,18.0s							
KIV	**Kislovodsk**	**69.95**	**315**	*i* P		P	10 05 09.4	-11

*IDC **21** 10:01:50.3±0.7,4.40S×104.37W,mb4.0/20,mb1 4.2/20, mb1mx4.2/24,mbtmp4.0/20,MS4.7/2,Ms1 4.8/2, ms1mx4.2/17,Error ellipse: s-maj=24.3km s-min=12.1km az=59.0*
*NEIC **21** 10:01:52.3±0.6,4.36S×104.22W,h10km,mb4.5/7,Error ellipse: s-maj=20.4km s-min=9.8km az=60.0*

ISC 21 10:01:50.6±0.6,4.335±0.08×104.2W±0.1,h10km,n37, σ1§27/36,mb4.2/28,MS4.8/2,Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**33.47**	**1**	P		**P**	**10 08 31.5**	**-0.7**
	0.2nm,0.8s,mb3.1,baz=174,slow=8.2,SNR=2.8							
MNTX	**Cornudas Mount**	**35.84**	**358**	*e*P		**P**	**10 08 52.5**	**-0.1**
	6.2nm,1.2s,mb4.4							
SDV	**Santo Domingo**	**35.95**	**69**	P		**P**	**10 08 53.2**	**-0.4**
	4.3nm,0.2s,mb5.0,baz=262,slow=7.1,SNR=3.3							
SDV	**Santo Domingo**	**35.95**	**69**	*e*P		**P**	**10 08 53.8**	**+0.2**
LPAZ	**La Paz**	**37.35**	**111**	P		**P**	**10 09 07.9**	**+2.5**
	1.3nm,0.9s,mb3.7,baz=285,slow=11,SNR=5.6							
LVC	**Limon Verde**	**38.67**	**121**	P		**P**	**10 09 18.0**	**+1.5**
	5.5nm,0.9s,mb4.3,baz=290,slow=6.8,SNR=5.9							
LVC	**Limon Verde**	**38.67**	**121**	P		**P**	**10 09 18.5**	**+2.0**
ANMO	**Albuquerque**	**39.12**	**357**	P		**P**	**10 09 21.5**	**+1.4**
	0.9nm,0.9s,mb3.5,baz=147,slow=14,SNR=2.1							
ANMO	**Albuquerque**	**39.12**	**357**	P		**P**	**10 09 22.4**	**+2.3**
SAML	**Samuel**	**40.98**	**99**	*e*P		**P**	**10 09 34.9**	**-0.7**
	28nm,1.6s,mb4.6							
SDCO	**Great Sand Dun**	**41.87**	**358**	*e*P		**P**	**10 09 42.3**	**-0.4**
	20nm,1.8s,mb4.4							
PLAL	**Pickwick Lake**	**41.94**	**20**	*e*P		**P**	**10 09 42.0**	**-1.3**
	10nm,1.0s,mb4.4							
ARUT	**Antelope Range**	**42.77**	**349**	*e*P		**P**	**10 09 51.9**	**+1.8**
WVT	**Waverly**	**43.07**	**20**	*e*P		**P**	**10 09 51.4**	**-1.2**
	12nm,1.2s,mb4.5							
CFAA	**Coronel Fontan**	**43.30**	**133**	P		**P**	**10 09 56.4**	**+1.9**
	0.2nm,0.4s,mb3.2,baz=290,slow=7.6,SNR=6.8							
MYNC	**Murphy**	**43.50**	**24**	*e*P		**P**	**10 09 55.8**	**-0.3**
	45nm,1.6s,mb5.0							
SJG	**San Juan**	**43.64**	**58**	P		**P**	**10 09 55.3**	**-2.2**
	4.2nm,0.5s,mb4.4,baz=328,slow=4.8,SNR=2.9							
SIV	**San Ignacio**	**43.91**	**109**	P		**P**	**10 09 59.0**	**-0.6**
	1.4nm,0.8s,mb3.7,baz=285,slow=12,SNR=9.1							
DAU	**Daniels Canyon**	**44.99**	**352**	*e*P		**P**	**10 10 10.3**	**+2.3**
JLU	**Jordanelle**	**45.20**	**352**	P		**P**	**10 10 12.2**	**+2.4**
PPT	**Papeete**	**46.31**	**250**	LR		LR	10 25 03.5	
	comp=Z,647nm,18.4s,MS4.6,baz=252,slow=30							
PDAR	**Pinedale Array**	**47.12**	**355**	P		**P**	**10 10 25.1**	**+0.2**
	1.7nm,0.9s,mb4.0,baz=166,slow=6.1,SNR=10							
PLCA	**Paso Flores**	**47.20**	**145**	P		**P**	**10 10 25.4**	**-0.1**
	4.1nm,1.1s,mb4.2,baz=253,slow=11,SNR=2.5							
PLCA				LR		LR	10 24 42.9	
	comp=Z,1μm,18.1s,MS4.9,baz=18,slow=29							
PLCA	**Paso Flores**	**47.20**	**145**	P		**P**	**10 10 25.4**	**-0.1**
PLCA				LR		LR	10 24 42.9	
HLID	**Hailey**	**48.55**	**350**	*e*P		**P**	**10 10 38.1**	**+2.1**
	2.3nm,0.9s,mb4.2							
YBH	**Yreka Blue Hor**	**48.84**	**342**	P		**P**	**10 10 37.8**	**-0.5**
	2.6nm,0.9s,mb4.2,baz=177,slow=3.8,SNR=7.8							
CPUP	**Villa Florida**	**49.85**	**121**	P		**P**	**10 10 46.6**	**+0.3**
	2.6nm,0.9s,mb4.3,baz=268,slow=10,SNR=6.5							
NEW	**Newport**	**53.58**	**349**	P		**P**	**10 11 12.4**	**-1.6**
	1.6nm,0.7s,mb4.0,baz=156,slow=13,SNR=3.5							
ULM	**Lac du Bonnet**	**54.83**	**7**	P		**P**	**10 11 22.3**	**-0.9**
	3.5nm,1.0s,mb4.4,baz=119,slow=19,SNR=2.2							
BDFB	**Brasilia**	**56.31**	**106**	P		**P**	**10 11 33.6**	**-0.8**
	2.7nm,1.0s,mb4.2,baz=252,slow=5.1,SNR=3.2							
DLBC	**Dease Lake**	**65.89**	**345**	P		**P**	**10 12 38.9**	**+0.2**
	3.2nm,0.9s,mb4.3,baz=216,slow=6.7,SNR=5.6							
YKA	**Yellowknife Ar**	**67.11**	**355**	P		**P**	**10 12 46.3**	**0.0**
	1.6nm,0.8s,mb4.1,baz=163,slow=6.2,SNR=6.9							
INK	**Inuvik**	**75.30**	**349**	P		**P**	**10 13 34.7**	**-0.7**
	2.1nm,1.0s,mb4.0,baz=128,slow=12,SNR=2.4							
INK	**Inuvik**	**75.30**	**349**	P		**P**	**10 13 34.7**	**-0.7**
ILAR	**Eielson Array**	**75.73**	**343**	P		**P**	**10 13 38.1**	**+0.2**
	1.9nm,0.9s,mb4.0,baz=150,slow=5.3,SNR=14							
URZ	**Urewera**	**78.45**	**232**	P		**P**	**10 13 52.5**	**-1.1**
	3.3nm,0.6s,mb4.4,baz=147,slow=17,SNR=3.4							
VNDA	**Vanda**	**86.66**	**193**	P		**P**	**10 14 33.0**	**-2.2**
	0.2nm,0.3s,mb3.8,baz=279,slow=7.8,SNR=5.7							

*CSEM **21** 10:08:23.5±0.8,38.67N×28.50W,h5km,ML1.4,Error ellipse: s-maj=4.2km s-min=2.2km az=176.0,After PDA*
*PDA **21** 10:08:23.5±0.8,38.67N×28.50W,h5km,MD2.6,ML1.4, Error ellipse: s-maj=4.2km s-min=2.2km az=176.0*

SVSA 21 10:08:23.5±0.8,38.67N×28.50W,h5km,MD2.6,ML1.4, Error ellipse: s-maj=4.2km s-min=2.2km az=176.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.16**	**256**	*e*S		Sg	10 08 28.8	-0.3
	25nm,0.2s							
HOR	**Horta**	**0.17**	**216**	*e*P		Pg	10 08 26.5	-0.6
HOR				*e*S		Sg	10 08 29.0	-0.5
PICO	**Pico**	**0.18**	**161**	*i* P		Pg	10 08 27.1	0.0
PICO				*e*S		Sg	10 08 29.4	-0.2
PICO	**Pico**	**0.18**	**161**	*e*S		Sg	10 08 29.4	-0.2
CALA	**Caldeira**	**0.18**	**242**	*e*P		Pg	10 08 26.3	-0.9
CALA				*e*S		Sg	10 08 30.0	+0.3
PMAN	**Manadas**	**0.32**	**96**	*e*S		Sg	10 08 33.7	-0.7
	19nm,0.1s							

JMA 21 10:26:57.3±0.2,25.50N×122.27E,h227km,M4.1,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**1.23**	**147**	P		P	10 27 31.6	-0.1
YOJ				*e*S		S	10 27 58.2	-0.2
IRIF	**Iriomote-Funau**	**1.76**	**131**	P		P	10 27 35.6	-0.4
IRIF				*e*S		S	10 28 05.7	-0.2
HATJ	**Hateruma jima**	**2.00**	**136**	P		P	10 27 38.4	+0.2
HATJ				*e*S		S	10 28 09.9	+0.1
JKRS	**Kuro-shima**	**2.02**	**128**	P		P	10 27 38.3	-0.1
JKRS				S		S	10 28 10.1	0.0
JIJ	**Ishigaki jima**	**2.04**	**123**	P		P	10 27 38.1	-0.5
JIJ				S		S	10 28 09.5	-1.0
JTJ	**Tarama**	**2.37**	**111**	P		P	10 27 41.8	-0.1
JTJ				*e*S		S	10 28 16.1	-0.4
JMJ	**Miyako jima 2**	**2.82**	**103**	P		P	10 27 46.8	-0.1
JOGS	**Gusukube**	**2.94**	**104**	P		P	10 27 48.1	0.0
JAGN	**Aguni-jima**	**4.60**	**75**	P		P	10 28 04.9	-3.1
JJT2	**Tamagusuku 2**	**4.98**	**81**	P		P	10 28 10.9	-1.8
JOW	**Kunigami**	**5.56**	**75**	P		P	10 28 13.6	-6.4
JOW				*e*S		S	10 29 17.6	-6.9

TRN 21 10:47:53.8,15.82N×61.62W,h3km,M2.7(FDF), Md3.7(FDF),4C-1D,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TBG	**Guadaloupe-3**	**0.04**	**321**	⇓*i* P		Pg	10 47 54.8	+0.1
PHG	**Guadaloupe-2**	**0.19**	**354**	⇑*e* P		Pg	10 47 58.0	+0.3
DOG	**Dongo Capester**	**0.21**	**1**	⇑*e* P		Pg	10 47 58.1	+0.1
MGG	**Marie-Galante**	**0.31**	**72**	⇑*i* P		Pg	10 47 59.9	-0.1
BBL	**Barber's Block**	**0.33**	**154**	*e* P		Pg	10 48 00.2	-0.3
LZG	**Guadaloupe-1**	**0.35**	**335**	*e* P		Pg	10 48 00.5	-0.3
DEG	**La Desirade**	**0.73**	**48**	⇑*e* P		Pg	10 48 06.4	-2.0
FDF	**Fort de France**	**1.18**	**157**	*e* P		Pb	10 48 13.1	-3.4

*IDC **21** 11:03:32.3±1.3,1.35S×69.19E,mb3.8/8,mb1 3.9/8, mb1mx3.7/18,mbtmp3.8/8,Error ellipse: s-maj=42.1km s-min=29.6km az=36.0*
*NEIC **21** 11:03:33.6±0.7,1.47S×69.20E,h10km,mb4.4/1,Error ellipse: s-maj=29.1km s-min=14.1km az=64.0*

ISC 21 11:03:31.3±0.8,1.5S±0.1×69.2E±0.2,h10km,n12, σ1§21/10,mb3.9/9,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DGAR	**Diego Garcia**	**6.72**	**151**	*e*P		**Pn**	**11 05 11.9**	**-0.6**
	322nm,0.8s							
BRTR	**Keskin Array B**	**52.35**	**325**	P		**P**	**11 12 46.8**	**+1.0**
	0.5nm,0.5s,mb3.7,baz=170,slow=7.5,SNR=3.8							
KURK	**Kurchatov**	**52.61**	**8**	*e*P		**P**	**11 12 48.7**	**+1.2**
	5.9nm,1.1s,mb4.4							
BVAR	**Borovoye Array**	**54.31**	**1**	P		**P**	**11 12 58.5**	**-1.5**
	0.2nm,0.5s,mb3.3,baz=180,slow=10,SNR=2.6							
ZAL	**Zalesovo**	**56.72**	**11**	P		**P**	**11 13 15.7**	**-1.8**
	0.9nm,0.4s,mb4.1,baz=195,slow=18,SNR=3.3							
SONM	**Songino Array**	**58.81**	**28**	P		**P**	**11 13 32.8**	**+0.5**
	0.4nm,0.3s,mb3.9,baz=225,slow=4.2,SNR=5.0							
AKASG	**Malin Array Be**	**62.14**	**332**	P		**P**	**11 13 53.2**	**-1.7**
	0.3nm,0.4s,mb3.8,baz=135,slow=5.4,SNR=4.5							
WRA	**Warramunga Arr**	**66.15**	**111**	P		**P**	**11 14 22.6**	**+1.0**
	0.7nm,0.7s,mb3.8,baz=287,slow=6.2,SNR=5.7							
DBIC	**Dimbokro**	**74.36**	**277**	P		**P**	**11 15 11.9**	**+0.1**
	0.9nm,0.6s,mb3.9,baz=125,slow=8.1,SNR=2.5							
ARCES	**ARCESS Array B**	**76.69**	**346**	P		**P**	**11 15 25.6**	**+1.6**
	1.9nm,0.9s,mb4.0,baz=153,slow=6.0,SNR=2.1							
MNTX	**Cornudas Mount**	**149.51**	**351**	*e*PKPbc		PKPdf	11 23 25.1	+5.1
TXAR	**Lajitas Array**	**151.48**	**347**	PKPbc		PKPdf	11 23 29.1	+6.0
	0.5nm,0.8s,SNR=5.4							

IDC 21 11:09:15.4±5.6,1.86N×98.38E,mb3.7/4,mb1 3.9/4, mb1mx3.5/18,mbtmp3.7/4,Error ellipse: s-maj=284.1km s-min=28.7km az=53.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.39**	**123**	P		P	11 17 03.7	-1.6
	0.4nm,0.7s,baz=304,slow=9.0,SNR=4.7							
MKAR	**Makanchi Array**	**46.90**	**345**	P		P	11 17 48.6	-0.8
	0.6nm,0.5s,baz=159,slow=8.2,SNR=8.3							
ZAL	**Zalesovo**

OTVZ	**Oturere**	**2.48**	**16**	*e*PN	Pn	11 35 36.7	-0.2
WTVZ	**West Tongariro**	**2.52**	**15**	*e*PN	Pn	11 35 37.0	-0.3
HIZ	**Hauiti**	**3.04**	**1**	*e*PN	Pn	11 35 45.0	+0.3
RPZ	**Rata Peaks**	**3.49**	**230**	*e*PN	Pn	11 35 47.7	-3.4
ODZ	**Otahua Downs**	**4.61**	**219**	*e*PN	Pn	11 36 02.3	-4.7
TUZ	**Tuapeka**	**5.76**	**218**	*e*PN	Pn	11 36 18.1	-5.2

*GUC **21** 11:45:29.7±0.7,34.96S×70.24W,h15km±2km,MD4.2,ML4.0*
*IDC **21** 11:45:29.8±0.7,34.89S×70.10W,mb4.2/8,mb1 4.3/13,mb1mx4.2/18,mbtmp4.2/13,ML4.0/5,MS3.6/5,Ms1 3.6/5,ms1mx3.4/19,Error ellipse: s-maj=29.8km s-min=14.9km az=97.0*
*NEIC **21** 11:45:31.1±0.3,34.88S×70.30W,h10km,mb4.5/2,ML4.0(GUC),Error ellipse: s-maj=7.3km s-min=4.8km az=85.0*

ISC 21 11:45:29.5±0.3,**34.98S**±0.02×**70.17W**±0.03,**h10**km,**n65**,σ1§11/87,**mb4.2**/9,**MS3.5**/1,**15C-2D**,**Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**0.79**	**297**	⇓*i*P	**Pb**	**11 45 43.1**	**-1.7**
SFDO				*i* S	**Sb**	**11 45 53.4**	**-1.8**
CACH	**El Canelo**	**0.93**	**337**	⇓*i*P	**Pb**	**11 45 45.7**	**-1.5**
CACH				*i* S	**Sb**	**11 45 57.9**	**-1.5**
CHCH	**Chadas Angostu**	**1.11**	**339**	*i* P	**Pb**	**11 45 49.4**	**-1.0**
CHCH				*i* S	**Sb**	**11 46 04.4**	**-0.4**
LMEL	**Las Melosas**	**1.12**	**358**	*i* P	**Pb**	**11 45 49.9**	**-0.7**
LMEL				*i* S	**Sb**	**11 46 05.6**	**+0.5**
LMEL				AMP		11 46 07.0	
	comp=N,2μm,0.5s						
TALC	**Talca**	**1.27**	**250**	⇑*i*P	**Pb**	**11 45 51.7**	**-1.4**
TALC				AMP		11 46 08.2	
	comp=E,14μm,0.4s						
TALC				*i* S	**Sb**	**11 46 08.8**	**-0.7**
TALC	**Talca**	**1.27**	**250**	⇑*i*P	**Pb**	**11 45 51.7**	**-1.4**
TALC				*i* S	**Sb**	**11 46 08.8**	**-0.7**
SJCH	**San Jose de Ma**	**1.34**	**353**	⇑*i*P	**Pb**	**11 45 53.7**	**-0.6**
SJCH				*i* S	**Sb**	**11 46 11.5**	**+0.1**
SJCH				AMP		11 46 13.1	
	comp=E,2μm,0.4s						
PCH	**Pirque**	**1.38**	**348**	*i* P	**Pn**	**11 45 54.4**	**-0.6**
PCH				*i* S	**Sb**	**11 46 13.1**	**+0.5**
LNV	**Longovilo**	**1.45**	**314**	*i* P	**Pn**	**11 45 54.8**	**-1.0**
LNV				*i* S	**Sb**	**11 46 13.7**	**-0.7**
ANTU	**Antumapu**	**1.46**	**344**	⇑*i*P	**Pn**	**11 45 55.5**	**-0.4**
ANTU				*i* S	**Sb**	**11 46 14.6**	**0.0**
ANTU				AMP		11 46 17.5	
	comp=N,3μm,0.5s						
TACH	**Talagante**	**1.47**	**334**	*i* P	**Pn**	**11 45 55.4**	**-0.7**
TACH				*i* S	**Sb**	**11 46 14.9**	**-0.1**
FSR	**Penalolen**	**1.52**	**349**	⇑*i*P	**Pn**	**11 45 56.7**	**-0.3**
FSR				*i* S	**Sb**	**11 46 17.0**	**+0.4**
FSR				AMP		11 46 18.1	
	comp=N,4μm,0.6s						
SAN	**Santiago**	**1.57**	**345**	AMP		11 46 19.1	
	comp=E,2μm,0.2s						
RCDM	**Rinconada Maip**	**1.57**	**340**	⇑*i*P	**Pn**	**11 45 57.3**	**-0.4**
RCDM				*i* S	**Sb**	**11 46 18.0**	**-0.1**
RCDM				AMP		11 46 18.8	
	comp=E,2μm,0.1s						
STL	**Santa Lucia**	**1.58**	**345**	⇑*i*P	**Pn**	**11 45 57.2**	**-0.6**
STL				*i* S	**Sb**	**11 46 18.4**	**0.0**
STL				AMP		11 46 18.9	
	comp=E,873nm,0.3s						
CLCH	**Cerro Calan**	**1.60**	**349**	⇑*i*P	**Pn**	**11 45 58.1**	**0.0**
CLCH				*i* S	**Sn**	**11 46 19.8**	**+0.8**
CLCH				AMP		11 46 21.2	
	comp=N,5μm,0.6s						
CLCH				AMP		11 46 21.7	
	comp=N,5μm,0.6s						
DSCH	**Colegio Aleman**	**1.61**	**348**	*i* P	**Pn**	**11 45 58.3**	**+0.1**
DSCH				*i* S	**Sn**	**11 46 19.4**	**+0.3**
DSCH				AMP		11 46 23.1	
	comp=N,7μm,0.7s						
FCH	**Farellones**	**1.65**	**356**	⇑*i*P	**Pn**	**11 45 59.3**	**+0.5**
FCH				*i* S	**Sn**	**11 46 21.4**	**+1.3**
FCH				AMP		11 46 23.9	
	comp=N,1μm,0.2s						
CTCH	**Constitucion**	**1.87**	**258**	*i* P	**Pn**	**11 46 02.3**	**+0.3**
CTCH				*i* S	**Sn**	**11 46 26.4**	**+0.5**
PEL	**Peldehue**	**1.88**	**347**	*i* P	**Pn**	**11 46 02.8**	**+0.8**
PEL				*i* S	**Sn**	**11 46 28.2**	**+2.3**
LCCH	**Las Cruces**	**1.90**	**322**	*i* P	**Pn**	**11 46 02.6**	**+0.3**
LCCH				*i* S	**Sn**	**11 46 27.2**	**+0.8**
CNCO	**Chanco**	**2.08**	**248**	⇑*i*P	**Pn**	**11 46 05.0**	**+0.1**
CNCO				*i* S	**Sn**	**11 46 32.2**	**+1.2**
CNCO				AMP		11 46 35.6	
	comp=E,5μm,0.4s						
ROCH	**El Roble**	**2.12**	**340**	⇑*i*P	**Pn**	**11 46 06.7**	**+1.2**
ROCH				*i* S	**Sn**	**11 46 34.7**	**+2.6**
CCHI	**Chillan**	**2.25**	**223**	AMP		11 46 50.0	
	comp=E,2μm,0.6s						
CCHI				AMP		11 46 50.2	
	comp=E,4μm,0.6s						
JACH	**Jahuel**	**2.31**	**351**	⇑*i*P	**Pn**	**11 46 10.1**	**+1.8**
JACH				*i* S	**Sn**	**11 46 40.8**	**+3.7**
MDZ	**Mendoza**	**2.36**	**28**	Pn	**Pn**	**11 46 14.2**	**+5.3**
MDZ				P*	**Pb**	**11 46 25.1**	**+13**
MDZ				Pg	**Pg**	**11 46 32.8**	**+16**
MDZ				S*	Sb	11 47 08.3	+27
MDZ				Sg	Sg	11 47 15.5	+28
COCH	**Cobquecura**	**2.43**	**241**	*i* P	**Pn**	**11 46 11.7**	**+1.7**
COCH				*i* S	**Sn**	**11 46 43.2**	**+3.2**
CHNG	**Los Chungos**	**3.28**	**340**	*i* S	**Sn**	**11 47 08.6**	**+7.1**
CHNG				AMP		11 47 19.9	
	comp=E,267nm,0.5s						
ZON	**Zonda**	**3.64**	**20**	*e*P	**Pg**	**11 46 42.2**	**0.0**
CFAA	**Coronel Fontan**	**3.73**	**26**	Pn	**Pn**	**11 46 31.0**	**+2.6**
	comp=E,0.6nm,0.3s,baz=196,slow=14,SNR=56						
CFAA				Pg	**Pg**	**11 46 42.1**	**-1.8**
	comp=E,1.5nm,0.3s,baz=202,slow=17,SNR=34						
CFAA				Lg		11 47 28.5	
	comp=E,1.0nm,0.3s,baz=147,slow=18,SNR=3.1						
CFAA	**Coronel Fontan**	**3.73**	**26**	Pn	**Pn**	**11 46 31.0**	**+2.6**
CFAA				Pg	**Pg**	**11 46 42.1**	**-1.8**
CFAA				Lg		11 47 28.5	
PLCA	**Paso Flores**	**5.76**	**183**	Pn	**Pn**	**11 46 59.8**	**+2.6**
	comp=E,1.2nm,0.3s,baz=342,slow=14,SNR=20						
PLCA				Lg		11 48 28.1	
	comp=E,1.9nm,0.3s,baz=77,slow=14,SNR=2.6						
PLCA				LR	LR	11 49 23.4	
	comp=E,502nm,21.3s,baz=298,slow=40						
PLCA	**Paso Flores**	**5.76**	**183**	*e*P	**Pn**	**11 46 59.3**	**+2.2**
PLCA				Lg		11 48 28.1	
PLCA				*e*S	**Sg**	**11 48 38.5**	**-2.7**
PLCA				LR	LR	11 49 23.4	
TRQA	**Tornquist**	**7.27**	**117**	*e*Pn	**Pn**	**11 47 18.2**	**-0.2**
TRQA				*e*Sn	**Sn**	**11 48 37.2**	**-4.7**
TRQA				*e*Sg	**Sg**	**11 49 18.4**	**-13**
LVC	**Limon Verde**	**12.37**	**5**	Pn	**P**	**11 48 28.2**	**-0.3**
	comp=E,0.1nm,0.3s,baz=207,slow=14,SNR=2.5						
LVC				Lg		11 51 52.6	
	comp=E,0.1nm,0.3s,baz=180,slow=6.7,SNR=3.4						
LVC				LR	LR	11 53 59.1	
	comp=E,299nm,20.6s,baz=313,slow=42						
CPUP	**Villa Florida**	**14.00**	**56**	Pn	**P**	**11 48 49.1**	**-1.1**
	comp=E,0.2nm,0.3s,baz=225,slow=13,SNR=4.7						
CPUP				LR	LR	11 54 39.1	
	comp=E,119nm,21.6s,baz=237,slow=40						
LPAZ	**La Paz**	**18.70**	**6**	P	**P**	**11 49 51.2**	**+1.0**
	comp=E,0.2nm,0.3s,baz=172,slow=7.6,SNR=16						
LPAZ	**La Paz**	**18.70**	**6**	P	**P**	**11 49 51.2**	**+1.0**
USHA	**Ushuaia**	**19.89**	**177**	P	**P**	**11 50 03.9**	**+0.1**
	comp=E,0.4nm,0.3s,baz=342,slow=7.3,SNR=6.2						
USHA				LR	LR	11 58 13.7	
	comp=E,348nm,19.6s,baz=347,slow=38						
SIV	**San Ignacio**	**20.59**	**26**	P	**P**	**11 50 10.0**	**-1.3**
	comp=E,23nm,1.1s,baz=224,slow=12,SNR=26						
SAML	**Samuel**	**26.68**	**16**	*e*P	**P**	**11 51 09.4**	**-1.3**
	comp=E,5.1nm,1.2s,mb3.9						
BDFB	**Brasilia**	**27.66**	**51**	P	**P**	**11 51 17.8**	**-1.9**
	comp=E,19nm,1.2s,mb4.6,baz=231,slow=7.1,SNR=8.8						
BDFB				LR	LR	12 03 57.0	
	comp=E,131nm,19.0s,MS3.5,baz=112,slow=40						
BDFB	**Brasilia**	**27.66**	**51**	P	**P**	**11 51 17.8**	**-1.9**
BDFB				LR	LR	12 03 57.0	
VNA3	**Neumayer Olymp**	**47.87**	**158**	*e*	**P**	**11 54 12.9**	**+3.8**
VNA3	**Neumayer Olymp**	**47.87**	**158**	*e*	**P**	**11 54 23.3**	**+14**
VNA3	**Neumayer Olymp**	**47.87**	**158**	⇑*i*P	**P**	**11 54 10.2**	**+1.1**
VNA3				*e*	pP	11 54 12.9	+0.8
VNA3				*e*		11 54 23.3	
VNA1	**Neumayer--Stat**	**48.17**	**157**	*e*	**P**	**11 54 17.2**	**+5.8**
VNA1	**Neumayer--Stat**	**48.17**	**157**	*e*	**P**	**11 54 26.5**	**+15**
VNA1	**Neumayer--Stat**	**48.17**	**157**	⇑*i*P	**P**	**11 54 14.8**	**+3.4**
VNA1				*e*	pP	11 54 17.2	+2.8
VNA1				*e*		11 54 26.5	
VNA2	**Neumayer--Watz**	**48.52**	**157**	⇑*i*P	**P**	**11 54 15.0**	**+1.0**
VNA2				*e*		11 54 25.9	
SNAA	**Sanae**	**50.10**	**158**	P	**P**	**11 54 26.7**	**+0.4**
	comp=E,2.6nm,0.9s,mb4.3,baz=276,slow=7.5,SNR=22						
QSPA	**South Pole Qui**	**55.27**	**180**	*e*P	**P**	**11 55 05.1**	**+0.4**
	comp=E,12nm,1.1s,mb4.8						
VNDA	**Vanda**	**63.45**	**191**	P	**P**	**11 56 01.9**	**+0.7**
	comp=E,0.7nm,0.7s,mb3.9,baz=132,slow=4.8,SNR=5.1						
TXAR	**Lajitas Array**	**71.35**	**329**	P	**P**	**11 56 50.9**	**-0.7**
	comp=E,1.3nm,1.1s,mb3.8,baz=154,slow=7.9,SNR=9.4						
SWET	**Sewanee**	**71.36**	**346**	*e*P	**P**	**11 56 49.0**	**-2.6**
MAW	**Mawson**	**71.80**	**163**	P	**P**	**11 56 54.2**	**+0.6**
	comp=E,3.8nm,0.9s,mb4.3,baz=261,slow=4.5,SNR=7.6						
DBIC	**Dimbokro**	**74.04**	**70**	P	**P**	**11 57 07.3**	**-0.4**
	comp=E,4.0nm,0.8s,mb4.4,baz=186,slow=5.9,SNR=5.5						
PDAR	**Pinedale Array**	**85.34**	**332**	P	**P**	**11 58 09.0**	**+1.1**
	comp=E,0.3nm,0.7s,mb3.5,baz=162,slow=4.7,SNR=5.0						
MOX	**Moxa**	**111.42**	**43**	PP2		12 00 38.0	
WRA	**Warramunga Arr**	**120.63**	**207**	PKP	PKPdf	12 04 22.3	-2.9
	comp=E,0.5nm,0.6s,baz=164,slow=1.6,SNR=16						
BVAR	**Borovoye Array**	**146.91**	**45**	PKPbc	PKPbc	12 05 12.2	+1.0
	comp=E,1.9nm,0.6s,baz=283,slow=1.2,SNR=12						
AAK	**Ala-Archa**	**151.57**	**64**	PKPbc	PKPdf	12 05 23.2	+2.9
KURK	**Kurchatov**	**152.49**	**46**	*e*PKPbc	PKPdf	12 05 26.4	+4.9
MKAR	**Makanchi Array**	**156.19**	**52**	PKPbc	PKPdf	12 05 38.7	+12
	comp=E,0.3nm,0.6s,baz=270,slow=2.4,SNR=3.8						
MKAR				PKPab	PKPab	12 05 53.0	-0.9
	comp=E,1.5nm,0.9s,baz=270,slow=3.6,SNR=6.0						
MKAR	**Makanchi Array**	**156.19**	**52**	PKPbc	PKPdf	12 05 38.7	+12
MKAR				PKPab	PKPab	12 05 53.0	-0.9

*BJI **21** 12:05:28.1,11.40S×166.40E,h153km,mB4.8,mb4.5*
*IDC **21** 12:05:30.4±3.1,11.42S×166.41E,h156km±28km,mb3.5/6,mb1 3.8/8,mb1mx3.7/14,mbtmp4.2/8,MS3.3/2,Ms1 3.3/2,ms1mx3.1/21,Error ellipse: s-maj=28.8km s-min=18.5km az=72.0*
*NEIC **21** 12:05:30.2±1.4,11.37S×166.40E,h153km±12km,mb4.1/3,Error ellipse: s-maj=15.5km s-min=9.4km az=67.0*

ISC 21 12:05:30.0±2.1,**11.44S**±0.09×**166.4E**±0.2,**h164**km±18km,**n24**,σ0§86/18,**mb4.0**/12,**Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.62**	**287**	P	**P**	**12 07 06.0**	**0.0**
	4.6nm,0.3s,baz=13,slow=18,SNR=3.3						
HNR				LR	LR	12 08 58.8	
	comp=Z,102nm,21.9s,baz=11,slow=31						
HNR	**Honiara**	**6.62**	**287**	*e*P	**P**	**12 07 05.4**	**-0.6**
HNR				LR	LR	12 08 58.8	
DZM	**Mont Dzumac**	**10.57**	**180**	*e*P	**P**	**12 07 58.6**	**+0.4**
DZM				*e*S	**S**	**12 09 45.5**	**-8.8**
DZM	**Mont Dzumac**	**10.57**	**180**	P	**P**	**12 07 59.1**	**+0.9**
	7.2nm,0.3s,baz=350,slow=12,SNR=106						
DZM				S	**S**	**12 09 53.5**	**-0.8**
	2.9nm,0.3s,baz=329,slow=23,SNR=13						
CTAO	**Charters Tower**	**21.16**	**244**	*e*P	**P**	**12 10 04.4**	**+1.0**
	3.7nm,1.0s,mb3.7						
AFI	**Afiamalu**	**21.46**	**99**	LR	LR	12 16 43.2	
	comp=Z,230nm,21.1s,baz=246,slow=31						
WRA	**Warramunga Arr**	**31.92**	**251**	P	**P**	**12 11 41.7**	**-0.8**
	0.8nm,0.7s,mb3.6,baz=86,slow=9.3,SNR=3.7						
MJAR	**Matsushiro Arr**	**54.60**	**332**	P	**P**	**12 14 42.2**	**-1.6**
	0.7nm,0.6s,mb3.5,baz=119,slow=13,SNR=4.3						
VNDA	**Vanda**	**66.11**	**181**	P	**P**	**12 16 00.8**	**-0.5**
	0.6nm,0.7s,mb3.5,baz=2.8,slow=4.6,SNR=5.1						
SBA	**Scott Base**	**66.41**	**180**	*e*P	**P**	**12 16 02.9**	**-0.3**
	2.6nm,0.9s,mb4.1						
ENH	**Enshi**	**68.62**	**309**	*e*P	**P**	**12 16 16.9**	**-0.7**
	13nm,1.2s,mb4.5						
XAN	**Xi'an**	**70.83**	**312**	P	**P**	**12 16 31.1**	**+0.1**
XAN				AMB	AMB		
	comp=Z,12nm,0.8s,mb4.7						
SONM	**Songino Array**	**79.34**	**324**	P	**P**	**12 17 19.4**	**+0.4**
	comp=Z,1.8nm,0.6s,mb3.9,baz=139,slow=5.9,SNR=7.3						
GTA	**Gaotai**	**79.77**	**314**	*e*P	**P**	**12 17 23.5**	**+2.0**
GTA				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.3						
ILAR	**Eielson Array**	**83.69**	**18**	P	**P**	**12 17 40.5**	**-0.7**
	comp=Z,1.3nm,0.8s,mb3.7,baz=251,slow=5.0,SNR=19						
YBH	**Yreka Blue Hor**	**83.73**	**45**	P	**P**	**12 17 42.6**	**+0.6**
	comp=Z,0.9nm,0.7s,mb3.6,baz=93,slow=3.3,SNR=5.0						
MKAR	**Makanchi Array**	**94.22**	**317**	P	**P**	**12 18 32.2**	**+0.7**
	comp=Z,6.9nm,0.6s,mb5.0,baz=90,slow=6.5,SNR=70						
BVAR	**Borovoye Array**	**102.63**	**322**	P	Pdif	12 19 08.4	-0.9
	comp=Z,0.3nm,0.5s,baz=90,slow=4.4,SNR=3.7						
ARCES	**ARCESS Array B**	**116.86**	**346**	PKP	PKPdf	12 23 55.4	+0.8
	comp=Z,0.9nm,0.4s,baz=82,slow=2.2,SNR=18						
FINES	**FINESS Array B**	**122.36**	**339**	PKP	PKPdf	12 24 05.8	+0.5
	comp=Z,0.3nm,0.3s,baz=82,slow=2.6,SNR=7.5						
LFF	**La Frestale**	**144.41**	**342**	*e*PKP1	PKPbc	12 24 47.2	+0.8
MTLF	**Montolieu**	**145.37**	**339**	*e*PKP1	PKPbc	12 24 50.5	+1.5
	comp=Z,22nm,1.0s						
ETSF	**Etsaut**	**146.66**	**342**	*e*PKP1	PKPbc	12 24 53.1	+1.0
	0.6nm,0.7s,mb4.7						
ESDC	**Sonseca Array**	**150.60**	**345**	PKPbc	PKPdf	12 25 04.1	+7.2
	comp=Z,0.8nm,0.7s,baz=12,slow=5.3,SNR=3.9						
ESDC				PKPab	PKPab	12 25 11.9	-0.4
	comp=Z,0.8nm,0.6s,baz=8.9,slow=3.9,SNR=6.3						

*IDC **21** 12:21:31.9±0.9,30.83N×51.43E,mb4.0/15,mb1 4.1/17,mb1mx4.0/24,mbtmp4.0/17,ML4.0/2,MS3.6/3,Ms1 3.6/3,ms1mx3.2/19,Error ellipse: s-maj=21.4km s-min=16.2km az=164.0*
*THR **21** 12:21:33.8±0.4,30.85N×51.47E,h14km±8km,ML4.0*
*MOS **21** 12:21:35.9±0.9,30.93N×51.21E,h33km,mb4.6/29,Error ellipse: s-maj=10.6km s-min=5.8km az=128.3*
*BJI **21** 12:21:36.7,30.99N×51.63E,h24km,mB4.9,mb4.9,Ms4.3,Ms2.4.1*
*TEH **21** 12:21:37.5,30.90N×51.50E,h10km,Mn4.1*
*NEIC **21** 12:21:37.9±0.5,30.92N×51.35E,h41km±6km,mb4.6/36,Error ellipse: s-maj=6.2km s-min=5.3km az=211.0*
*CSEM **21** 12:21:37.1±0.1,30.90N×51.41E,h60km,mb4.5/31,Error ellipse: s-maj=1.9km s-min=1.6km az=15.0*

ISC 21 12:21:37.2±0.4,**30.93N**±0.03×**51.40E**±0.03,**h51**km±4km,**h34**km±.7km:**pP-P**,**n155**,σ1§00/164,**mb4.4**/57,**MS3.6**/5,**7C-6D**,**Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGAR	**Garneh**	**1.48**	**27**	Pn	**P**	**12 22 01.9**	**-0.1**
SHI	**Shiraz**	**1.61**	**143**	Pn	**P**	**12 22 04.8**	**+1.0**
IZEF	**Zefreh**	**2.12**	**22**	Pn	**P**	**12 22 09.1**	**-1.8**
ISRV	**Sarvestan**	**2.14**	**136**	Pn	**P**	**12 22 12.1**	**+0.8**
IMOK	**Mook**	**2.20**	**148**	Pn	**P**	**12 22 12.7**	**+0.6**
NASN	**Na'in**	**2.22**	**32**	*e*PN	**P**	**12 22 13.1**	**+0.7**
NASN				*e*SG	**S**	**12 22 45.0**	**+6.3**
IKLH	**Kalahroud**	**2.39**	**4**	Pn	**P**	**12 22 14.0**	**-0.8**
SHGR	**Shooshtar-Gavs**	**2.51**	**299**	*e*PN	**P**	**12 22 17.3**	**+0.8**
SHGR				AML	AML	12 23 24.7	
	comp=N,793nm,0.6s						
IMEH	**Mehriz**	**2.80**	**80**	Pn	**P**	**12 22 20.5**	**-0.1**
ICHK	**Chekchek**	**2.88**	**62**	Pn	**P**	**12 22 22.0**	**+0.1**
GHIR	**Ghir-Karzin**	**2.98**	**152**	*e*PN	**P**	**12 22 21.3**	**-1.9**
GHIR				AML	AML	12 23 30.9	
	comp=N,736nm,0.8s						
UMR	**Umm Al-Rimmam**	**3.47**	**248**	*e*P	**P**	**12 22 30.0**	**-0.1**
UMR				*e*S	**S**	**12 23 11.1**	**+0.8**
UMR				AML	AML	12 23 16.4	
	comp=Z,187nm,0.3s						
UMR	**Umm Al-Rimmam**	**3.47**	**248**	*e*P	**P**	**12 22 30.0**	**-0.1**
UMR				*e*S	**S**	**12 23 11.7**	**+1.4**
IBAF	**Bafgh**	**3.63**	**78**	Pn	**P**	**12 22 32.2**	**-0.2**
KBD	**Kabd**	**3.66**	**242**	*e*P	**P**	**12 22 32.2**	**-0.6**
KBD				AML	AML	12 23 20.1	
	comp=Z,935nm,0.5s						
KBD	**Kabd**	**3.66**	**242**	*e*P	**P**	**12 22 32.2**	**-0.6**
KBD				*e*S	**S**	**12 23 17.5**	**+2.5**
MIB	**Mutribah**	**3.68**	**253**	*e*P	**P**	**12 22 33.0**	**-0.1**
MIB				*e*		12 23 19.7	
MIB				AML	AML	12 23 25.4	
	comp=Z,230nm,0.5s						
MIB	**Mutribah**	**3.68**	**253**	*e*P	**P**	**12 22 33.0**	**-0.1**
QRN	**Al-Qurain**	**3.73**	**235**	*e*P	**P**	**12 22 33.1**	**-0.7**
QRN				AML	AML	12 23 20.3	
	comp=Z,161nm,0.3s						
ASAO	**Ashtian**	**3.79**	**343**	*e*PN	**P**	**12 22 35.6**	**+1.0**
ASAO				AML	AML	12 23 57.2	
	comp=N,127nm,0.9s						
RDF	**Al-Radifah**	**3.89**	**240**	*e*P	**P**	**12 22 35.9**	**-0.2**
RDF				*e*S	**S**	**12 23 21.3**	**+0.4**
RDF				AML	AML	12 23 24.2	
	comp=Z,141nm,0.5s						
IVRN	**Varamin**	**4.07**	**4**	Pn	**P**	**12 22 38.8**	**+0.3**
IDMV	**Damavand**	**4.67**	**6**	Pn	**P**	**12 22 48.0**	**+1.0**
DAMV	**Damavand**	**4.71**	**6**	*e*PN	**P**	**12 22 47.6**	**0.0**
KRBR	**Kerman**	**4.73**	**100**	*e*PN	**P**	**12 22 46.2**	**-1.6**
KRBR				AML	AML	12 24 18.6	
	comp=N,134nm,0.8s						
IMHD	**Mahdasht**	**4.78**	**353**	Lg		12 24 07.3	
IFIR	**Firoozkooh**	**4.83**	**13**	Pn	**P**	**12 22 49.3**	**-0.1**
IFIR				Sn	**S**	**12 23 43.8**	**-0.9**
SNGE	**Sanandaj**	**5.37**	**322**	*e*PN	**P**	**12 22 57.3**	**+0.6**
SNGE				AML	AML	12 24 59.2	
	comp=N,50nm,0.6s						
BHD	**Baghdad**	**6.39**	**293**	*e*Pn	**P**	**12 23 11.0**	**-0.1**
BHD				*e*Sn	**S**	**12 24 23.5**	**-0.1**
BHD				*e*Sg	S	12 25 00.1	+36
ZHSF	**Zahedan**	**8.22**	**97**	*e*Pn	**P**	**12 23 34.0**	**-2.5**
GNI	**Garni**	**10.67**	**331**	*e*P	**P**	**12 24 10.6**	**+0.5**
ASF	**Jabal al Asfar**	**12.43**	**279**	Pn	**P**	**12 24 29.4**	**-4.4**
	comp=N,1.9nm,0.3s,baz=315,slow=13,SNR=5.4						
ASF				Sn	**S**	**12 26 44.7**	**-7.0**
	comp=N,0.2nm,0.3s,baz=164,slow=22,SNR=2.7						
ASF				Lg		12 28 23.4	
	comp=N,0.5nm,0.3s,baz=132,slow=20,SNR=2.0						
ASF				LR	LR	12 30 32.5	
	comp=N,215nm,20.1s,baz=339,slow=43						
ZEI	**Tsey**	**13.25**	**335**	*e*P	**P**	**12 24 43.0**	**-1.6**
KIV	**Kislovodsk**	**14.71**	**334**	*e*P	**P**	**12 25 07.5**	**+3.7**
	comp=N,40nm,0.9s						
KIV	**Kislovodsk**	**14.71**	**334**	*e*P	**P**	**12 25 07.5**	**+3.7**
KIV				pmax	pmax		
	comp=Z,41nm,0.9s						
BRTR	**Keskin Array B**	**16.92**	**306**	Pn	**P**	**12 25 33.1**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=119,slow=13,SNR=5.5						
ANN	**Anapa**	**17.66**	**326**	*e*P	**P**	**12 25 34.1**	**-7.0**
ANN				pmax	pmax		
	comp=Z,80nm,1.2s						
AAK	**Ala-Archa**	**21.81**	**51**	*e*P	**P**	**12 26 31.5**	**+4.9**
	comp=Z,21nm,1.3s,mb4.4						
AAK	**Ala-Archa**	**21.81**	**51**	*e*P	**P**	**12 26 31.5**	**+4.9**
AAK				pmax	pmax		
	comp=Z,21nm,1.3s,mb4.4						
IDI	**Anoyia**	**22.60**	**288**	P	**P**	**12 26 35.7**	**+1.2**
	comp=Z,11nm,0.7s,mb4.4,baz=94,slow=13,SNR=13						
MLR	**Muntele Rosu**	**24.59**	**313**	P	**P**	**12 26 56.1**	**+2.4**
	comp=Z,8.6nm,0.9s,mb4.3,baz=69,slow=7.7,SNR=9.5						
AKASG	**Malin Array Be**	**25.74**	**326**	P	**P**	**12 27 03.8**	**-0.8**
	comp=Z,2.5nm,0.4s,mb4.1,baz=135,slow=9.4,SNR=24						
ARU	**Arti**	**25.98**	**9**	*e*P	**P**	**12 27 08.2**	**+1.4**
	comp=Z,8.0nm,1.7s,mb4.0						
ARU	**Arti**	**25.98**	**9**	*e*P	**P**	**12 27 08.2**	**+1.4**
ARU				pmax	pmax		
	comp=Z,8.0nm,1.7s,mb4.0						
BRVK	**Borovoye**	**26.04**	**26**	*e*P	**P**	**12 27 07.7**	**+0.4**
BRVK	**Borovoye**	**26.04**	**26**	*e*P	**P**	**12 27 07.7**	**+0.4**
BVAR	**Borovoye Array**	**26.05**	**27**	P	**P**	**12 27 07.8**	**+0.3**
	comp=Z,2.5nm,0.7s,mb3.9,baz=220,slow=6.4,SNR=18						
OBN	**Obninsk**	**26.38**	**341**	*e*P	**P**	**12 27 13.0**	**+2.5**
	comp=Z,12nm,1.0s,mb4.4						
OBN	**Obninsk**	**26.38**	**341**	P	**P**	**12 27 13.2**	**+2.8**
	comp=Z,7.8nm,0.5s,mb4.5						
OBN	**Obninsk**	**26.38**	**341**	*e*P	**P**	**12 27 13.0**	**+2.5**
OBN				*i*	pP	12 27 22.8	-0.4
OBN				*e*		12 30 33.1	
OBN				pmax	pmax		
	comp=Z,12nm

comp=Z,2.0nm,0.6s,mb4.0
CABF La Chapelle 38.08 307 *e*P **P 12 28 52.5 -0.1**
comp=Z,26nm,0.7s,mb4.8
CABF La Chapelle 38.08 307 *e*P **P 12 28 52.5 -0.1**
CABF pmax pmax
comp=Z,13nm,0.7s,mb4.8
HAU Haudompre 38.12 310 *e*P **P 12 28 51.7 -1.2**
comp=Z,5.1nm,0.6s,mb4.1
HAU Haudompre 38.12 310 *e*P **P 12 28 51.7 -1.2**
HAU pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
MEZF Maizieres J'vi 39.06 310 *e*P **P 12 28 59.5 -1.2**
SMF Signal de Mont 39.62 307 *e*P **P 12 29 04.7 -0.7**
comp=Z,13nm,0.7s,mb4.5
SMF Signal de Mont 39.62 307 *e*P **P 12 29 04.7 -0.7**
SMF pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
LOR Lormes 39.68 308 *e*P **P 12 29 05.0 -0.9**
SSF Saint Saulge 39.90 308 *e*P **P 12 29 07.1 -0.6**
AVF Avril sur Loir 39.97 307 *e*P **P 12 29 07.7 -0.6**
comp=Z,5.4nm,0.7s,mb4.1
AVF Avril sur Loir 39.97 307 *e*P **P 12 29 07.7 -0.6**
AVF pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
NB2 NORSAR Subarra 39.98 331 P **P 12 29 07.7 -0.5**
comp=Z,0.5nm,0.5s,mb3.5,baz=120,slow=7.9
NB2 NORSAR Subarra 39.98 331 P **P 12 29 07.7 -0.5**
NB2 pmax pmax
comp=Z,1.0nm,0.5s,mb3.8
NB2 NORSAR Subarra 39.98 331 P **P 12 29 07.7 -0.5**
comp=Z,0.5nm,0.5s,mb3.5
NOA NORSAR Array B 39.98 331 P **P 12 29 07.3 -0.9**
comp=Z,0.7nm,0.6s,mb3.5,baz=121,slow=8.2,SNR=4.7
NOA LR LR 12 47 30.3
comp=Z,54nm,21.6s,MS3.4,baz=130,slow=39
NOA NORSAR Array B 39.98 331 P **P 12 29 07.3 -0.9**
NOA LR LR 12 47 30.3
GTA Gaotai 40.07 64 *e*P **P 12 29 11.0 +1.8**
GTA AMB AMB
comp=Z,4.0nm,1.0s,mb4.1
TCF Toulx Ste Croi 40.71 306 *e*P **P 12 29 14.0 -0.4**
CAF Calviac 40.73 304 *e*P **P 12 29 14.4 -0.2**
RJF Les Rejaudoux 41.14 305 *e*P **P 12 29 17.6 -0.3**
ARCES ARCESS Array B 41.35 347 P **P 12 29 20.2 +0.8**
comp=Z,1.5nm,0.9s,mb3.6,baz=162,slow=7.7,SNR=3.6
MFF Saint Martin d 42.36 307 *e*P **P 12 29 28.2 +0.3**
comp=Z,6.2nm,0.9s,mb4.0
MFF Saint Martin d 42.36 307 *e*P **P 12 29 28.2 +0.3**
MFF pmax pmax
comp=Z,3.0nm,0.9s,mb3.9
LDF La Druitiere 42.48 310 *e*P **P 12 29 27.9 -1.0**
comp=Z,8.6nm,0.5s,mb4.3
LDF La Druitiere 42.48 310 *e*P **P 12 29 27.9 -1.0**
LDF pmax pmax
comp=Z,4.0nm,0.5s,mb4.3
FLN La Foliniere 42.74 310 *e*P **P 12 29 30.0 -1.0**
ZAK Zakamensk 42.91 48 *e*P **P 12 29 34.0 +1.6**
ZAK pmax pmax
comp=Z,2.0nm,0.9s,mb3.9
GRR Gorron 42.95 309 *e*P **P 12 29 31.9 -0.9**
ETOB Tobarra 43.65 295 P **P 12 29 40.2 +1.6**
comp=Z,98nm,1.9s,mb5.2,SNR=7.9
ETOB Tobarra 43.65 295 P **P 12 29 40.2 +1.6**
comp=Z,98nm,1.9s,mb5.2
SGMF Saint Gilles 44.08 309 *e*P **P 12 29 41.2 -0.7**
comp=Z,16nm,0.7s,mb4.6
SGMF Saint Gilles 44.08 309 *e*P **P 12 29 41.2 -0.7**
SGMF pmax pmax
comp=Z,8.0nm,0.7s,mb4.6
EVIA Vianos 44.39 295 P **P 12 29 47.0 +2.4**
comp=Z,6.7nm,0.7s,mb4.5,SNR=4.9
EVIA Vianos 44.39 295 P **P 12 29 47.0 +2.4**
comp=Z,6.7nm,0.7s,mb4.5
EVIA Vianos 44.39 295 P **P 12 29 47.0 +2.4**
EVIA pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
QUIF Quistinic 44.47 309 *e*P **P 12 29 44.5 -0.5**
comp=Z,10nm,0.6s,mb4.4
QUIF Quistinic 44.47 309 *e*P **P 12 29 44.5 -0.5**
QUIF pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
EHUE Huescar 44.57 294 P **P 12 29 47.7 +1.7**
comp=Z,1.0nm,0.5s,mb3.9,SNR=7.9
EHUE Huescar 44.57 294 P **P 12 29 47.7 +1.7**
comp=Z,1.0nm,0.5s,mb3.9
EHUE Huescar 44.57 294 P **P 12 29 47.7 +1.7**
EHUE pmax pmax
comp=Z,1.0nm,0.5s,mb3.9
SONM Songino Array 44.76 52 P **P 12 29 48.0 +0.6**
comp=Z,0.8nm,0.8s,mb3.6,baz=297,slow=6.6,SNR=5.3
EQES Quesada 44.95 294 P **P 12 29 49.2 +0.2**
comp=Z,30nm,1.5s,mb4.9,SNR=7.9
EQES Quesada 44.95 294 P **P 12 29 49.2 +0.2**
comp=Z,30nm,1.5s,mb4.9
ESDC Sonseca Array 45.40 297 P **P 12 29 53.1 +0.6**
comp=Z,0.6nm,0.5s,mb3.7,baz=76,slow=9.2,SNR=6.2
ESDC Sonseca Array 45.40 297 P **P 12 29 53.0 +0.4**
comp=Z,0.8nm,0.7s,mb3.7,SNR=5.2
ESDC Sonseca Array 45.40 297 P **P 12 29 53.0 +0.4**
comp=Z,0.8nm,0.6s,mb3.7
EMIJ Mijas 46.49 293 P **P 12 30 00.2 -1.0**
comp=Z,45nm,2.0s,mb5.0,SNR=7.9
EMIJ Mijas 46.49 293 P **P 12 30 00.2 -1.0**
comp=Z,45nm,2.0s,mb5.0
ECAB El Cabril 46.74 295 P **P 12 30 03.7 +0.5**
comp=Z,79nm,1.8s,mb5.3,SNR=8.6
ECAB El Cabril 46.74 295 P **P 12 30 03.7 +0.5**
comp=Z,79nm,1.8s,mb5.3
EJIF Jimena Fronter 47.06 293 P **P 12 30 05.5 -0.2**
comp=Z,3.9nm,1.0s,mb4.3,SNR=7.9
EJIF Jimena Fronter 47.06 293 P **P 12 30 05.5 -0.2**
comp=Z,3.9nm,1.0s,mb4.3
EJIF Jimena Fronter 47.06 293 P **P 12 30 05.5 -0.2**
EJIF pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
ESPR Espera 47.29 293 P **P 12 30 08.5 +1.0**
comp=Z,19nm,1.4s,mb4.8,SNR=7.9
ESPR Espera 47.29 293 P **P 12 30 08.5 +0.9**
comp=Z,19nm,1.4s,mb4.8
EMIN Mina Concepcio 47.77 295 P **P 12 30 11.4 +0.1**
comp=Z,68nm,2.0s,mb5.3,SNR=7.9
EMIN Mina Concepcio 47.77 295 P **P 12 30 11.4 +0.1**
comp=Z,68nm,2.0s,mb5.3
HHC Hu-ho-hao-te 48.89 61 *e*P **P 12 30 20.5 +0.6**
HHC AP pP 12 30 30.3 -3.2
HHC XP sP 12 30 33.9 -5.5
HHC PP PP 12 32 14.3 +0.8
HHC PCS 12 35 41.1
HHC S **S 12 37 18.8 +0.1**
HHC XS 12 37 37.0
HHC SS SS 12 40 45.1 -0.3
HHC AMB AMB
comp=Z,16nm,0.5s,mb5.3
HHC AMB AMB
comp=Z,92nm,5.5s
HHC LR LR
comp=N,131nm,19.6s,MS4.2
HHC LR LR
comp=E,171nm,17.2s,MS4.2
HHC LR LR
comp=Z,112nm,14.9s,MS4.0
BOD Bodaibo 49.94 38 *e*P **P 12 30 27.4 -0.3**
BOD pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
MATP Matopo 55.60 206 P **P 12 31 09.2 -1.1**
comp=Z,1.5nm,0.8s,mb4.0,baz=60,slow=14,SNR=1.9
NJ2 Nanjing 56.64 70 *e*P **P 12 31 22.1 +4.4**
NJ2 S **S 12 38 58.0 -6.3**
NJ2 AMB AMB
comp=Z,20nm,1.0s,mb5.1
NJ2 AMB AMB
comp=Z,70nm,10.0s
NJ2 LR LR
comp=N,570nm,34.4s
NJ2 LR LR
comp=E,390nm,28.9s
NJ2 LR LR
comp=Z,300nm,28.7s
YAK Yakutsk 57.77 33 *e*P **P 12 31 28.8 +3.6**
YAK pmax pmax
comp=Z,4.0nm,0.4s,mb4.8
DBIC Dimbokro 57.78 258 P **P 12 31 24.7 -1.2**
comp=Z,3.1nm,0.7s,mb4.5,baz=7.9,slow=7.3,SNR=4.6
LIC Lamto 58.16 257 *e*P **P 12 31 27.5 -1.1**
comp=Z,7.8nm,0.8s,mb4.8
SSE Sheshan 58.84 70 *e*P **P 12 31 31.8 -1.3**
SSE AMB AMB
comp=Z,27nm,0.7s,mb5.4
SSE AMB AMB
comp=Z,131nm,3.5s
SSE Sheshan 58.84 70 *e*P **P 12 31 31.7 -1.4**
comp=Z,27nm,0.7s,mb5.4
SEY Seymchan 67.67 29⇓ *i*P **P 12 32 32.9 +2.2**
BILL Bilibino 70.25 21 *e*P **P 12 32 49.2 +2.7**
BILL *e*S S 12 41 58.2 +5.0
BILL pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
WRA Warramunga Arr 94.25 111 P **P 12 34 52.4 -0.1**
comp=Z,0.6nm,0.8s,mb4.0,baz=315,slow=3.8,SNR=4.7

*IDC **21** 12:32:31.8±1.3,23.20S×179.17W,h438km±13km, mb3.5/10,mb1 3.7/12,mb1mx3.6/18,mbtmp4.4/12,Error ellipse: s-maj=18.0km s-min=13.7km az=141.0*
*NEIC **21** 12:32:32.3±1.1,23.21S×179.19W,h437km±13km,mb4.6/3, Error ellipse: s-maj=15.7km s-min=12.5km az=146.0*
ISC 21 12:32:30.5±1.0,23.17S±0.06×179.14W±0.10, h432km±14km,n42,σ1§19/33,mb3.8/11,1D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**6.16**	**170**	P	**P**	**12 34 07.6**	**+1.0**
	248nm,0.3s,baz=61,slow=19,SNR=3.1						
AFI	**Afiamalu**	**11.56**	**38**	P	**P**	**12 35 05.7**	**-1.1**
	5.3nm,0.3s,baz=220,slow=16,SNR=12						
AFI				S	**S**	**12 37 10.2**	**-1.4**
	2.4nm,0.3s,baz=118,slow=22,SNR=8.2						
AFI	**Afiamalu**	**11.56**	**38**	*e*P	**P**	**12 35 07.1**	**+0.3**
	61nm,1.0s						
AFI				S	**S**	**12 37 10.2**	**-1.4**
DZM	**Mont Dzumac**	**13.36**	**272**	P	**P**	**12 35 28.0**	**+1.5**
	1.1nm,0.3s,baz=69,slow=19,SNR=18						
PUZ	**Puketiti**	**15.02**	**188**	*e*PN	**P**	**12 35 42.2**	**-1.5**
URZ	**Urewera**	**15.38**	**191**	P	**P**	**12 35 45.0**	**-2.4**
	4.3nm,0.3s,baz=68,slow=2.9,SNR=17						
URZ				S	**S**	**12 38 24.4**	**-2.0**
	1.4nm,0.3s,baz=174,slow=4.2,SNR=3.5						
URZ	**Urewera**	**15.38**	**191**	*e*PN	**P**	**12 35 46.3**	**-1.1**
MWZ	**Matawai**	**15.38**	**190**	*e*PN	**P**	**12 35 47.1**	**-0.4**
KNZ	**Kokohu**	**16.03**	**189**	*e*PN	**P**	**12 35 54.7**	**+0.7**
BKZ	**Black Stump Fm**	**16.37**	**192**	*e*PN	**P**	**12 35 56.3**	**-1.1**
QRZ	**Quartz Range**	**18.95**	**200**	*e*PN	**P**	**12 36 25.1**	**+2.0**
NNZ	**Nelson**	**19.06**	**197**	*e*PN	**P**	**12 36 23.9**	**-0.2**
THZ	**Tophouse**	**19.70**	**198**	*e*PN	**P**	**12 36 31.1**	**+0.8**
DSZ	**Denniston Nort**	**20.01**	**200**	*e*PN	**P**	**12 36 34.9**	**+1.5**
KHZ	**Kahutara**	**20.14**	**196**	*e*PN	**P**	**12 36 34.9**	**+0.3**
RPZ	**Rata Peaks**	**22.03**	**199**	P	**P**	**12 36 52.2**	**-0.2**
	24nm,0.5s,mb4.9,baz=328,slow=1.5,SNR=22						
CTA	**Charters Tower**	**32.27**	**269**	P	**P**	**12 38 22.5**	**-0.5**
	23nm,0.6s,mb4.7,baz=99,slow=10,SNR=48						
CTA	**Charters Tower**	**32.27**	**269**	P	**P**	**12 38 22.5**	**-0.5**
CTAO	**Charters Tower**	**32.27**	**269**	*e*P	**P**	**12 38 23.1**	**0.0**
	17nm,0.6s,mb4.5						
PMG	**Port Moresby**	**35.01**	**287**	P	**P**	**12 38 46.1**	**-0.2**
	7.6nm,0.6s,mb4.2,baz=196,slow=15,SNR=4.4						
STKA	**Stephens Creek**	**35.73**	**247**	P	**P**	**12 38 51.6**	**-0.5**
	1.3nm,0.5s,mb3.5,baz=164,slow=14,SNR=6.1						
WRA	**Warramunga Arr**	**43.25**	**265**	P	**P**	**12 39 52.1**	**-1.4**
	1.6nm,0.4s,mb3.7,baz=90,slow=5.9,SNR=81						
FITZ	**Fitzroy Crossi**	**51.67**	**265**	P	**P**	**12 40 57.1**	**-0.8**
	2.0nm,0.5s,mb3.6,baz=176,slow=11,SNR=5.8						
QSPA	**South Pole Qui**	**66.91**	**180**	*e*P	**P**	**12 42 42.2**	**+2.9**
	3.0nm,0.7s,mb4.0						
MJAR	**Matsushiro Arr**	**71.75**	**325**	P	**P**	**12 43 08.5**	**-0.5**
	1.5nm,0.9s,mb3.5,baz=187,slow=6.2,SNR=4.6						
MJAR	**Matsushiro Arr**	**71.75**	**325**	P	**P**	**12 43 08.5**	**-0.5**
SLKM	**Skilak Lake**	**86.64**	**14**	P	**P**	**12 44 29.0**	**+1.7**
TXAR	**Lajitas Array**	**89.38**	**58**	P	**P**	**12 44 42.8**	**+1.8**
	0.2nm,0.6s,mb3.0,baz=211,slow=7.3,SNR=4.2						
ILAR	**Eielson Array**	**91.14**	**13**	P	**P**	**12 44 48.8**	**+0.6**
	1.5nm,0.9s,mb3.8,baz=231,slow=6.0,SNR=12						
PDAR	**Pinedale Array**	**91.62**	**44**	P	**P**	**12 44 50.2**	**-0.8**
	0.2nm,0.6s,mb3.3,baz=207,slow=6.0,SNR=2.7						
ARCES	**ARCESS Array B**	**131.33**	**349**	PKP	PKPdf	12 50 53.0	+1.2
	4.0nm,1.0s,baz=2.1,slow=1.6,SNR=13						
FINES	**FINESS Array B**	**138.00**	**342**	PKP	PKPdf	12 51 06.0	+1.7
	1.5nm,0.8s,baz=315,slow=2.7,SNR=4.8						
FINES				SKP		12 53 56.3	
	1.6nm,0.8s,baz=45,slow=2.7,SNR=6.1						
NB2	**NORSAR Subarra**	**141.48**	**352**	PKPabc	PKPdf	12 51 07.3	-3.2
	0.9nm,0.6s,baz=18,slow=3.0						
NB2	**NORSAR Subarra**	**141.48**	**352**	PKPab	PKPdf	12 51 07.3	-3.2
NOA	**NORSAR Array B**	**141.48**	**352**	PKhKP		12 51 07.7	
	1.0nm,0.6s,baz=16,slow=4.6,SNR=8.2						
AKASG	**Malin Array Be**	**144.78**	**328**	PKP	PKPdf	12 51 17.1	+0.7
	1.9nm,0.4s,baz=43,slow=4.1,SNR=16						
AKASG				SKPbc		12 54 13.7	
	0.2nm,0.3s,baz=32,slow=2.8,SNR=4.4						
CLL	**Collm**	**150.38**	**345**	⇓ *i*PKP1	PKPdf	12 51 33.9	+8.4
CLZ	**Clausthal**	**150.45**	**348**	*e*PKPbc	PKPdf	12 51 34.1	+8.5
BRG	**Berggiesshubel**	**150.53**	**343**	*i* P	PKPdf	12 51 34.4	+8.7
KHC	**Kasperske Hory**	**152.21**	**342**	*e*P	PKPdf	12 51 37.5	+9.3
KHC				x	x	12 51 49.5	
KHC	**Kasperske Hory**	**152.21**	**342**	*e*P	PKPdf	12 51 37.5	+9.3
KHC				*e*		12 51 49.5	
GERES	**GERESS Array B**	**152.43**	**341**	PKPbc	PKPdf	12 51 38.4	+10
	0.8nm,0.7s,slow=1.3,SNR=5.4						

*LDG **21** 12:42:46.1±1.5,17.97S×171.69E,h10km,Error ellipse: s-maj=215.6km s-min=10.2km az=130.0*
*IDC **21** 12:42:47.0±1.3,15.59S×166.81E,mb4.1/8,mb1 4.3/10, mb1mx4.2/18,mbtmp4.2/10,ML4.8/2,MS3.3/3,Ms1 3.3/3, ms1mx3.1/19,Error ellipse: s-maj=29.0km s-min=23.9km az=73.0*
ISC 21 12:42:49.7±4.6,15.71S±0.10×166.6E±0.2,h27km±32km, n25,σ1§10/16,mb3.9/6,1C,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.33**	**182**	*e*P	**Pn**	**12 44 23.3**	**-0.6**
DZM				*e*S	**Sn**	**12 45 29.4**	**-6.6**
DZM	**Mont Dzumac**	**6.33**	**182**	Pn	**Pn**	**12 44 23.2**	**-0.6**
	10nm,0.3s,baz=144,slow=21,SNR=132						
DZM				Sn	**Sn**	**12 45 32.7**	**-3.4**
	2.9nm,0.3s,baz=307,slow=23,SNR=7.7						
DZM				LR	LR	12 46 35.9	
	comp=Z,207nm,18.1s,baz=77,slow=36						
HNR	**Honiara**	**9.02**	**313**	Pn	**P**	**12 45 01.5**	**+0.1**
	19nm,0.3s,baz=167,slow=5.4,SNR=9.5						
HNR				Sn	**Sn**	**12 46 41.2**	**-1.9**
	6.1nm,0.3s,baz=60,slow=23,SNR=2.9						
HNR				LR	LR	12 47 57.1	
	comp=Z,102nm,20.8s,baz=14,slow=34						
CTA	**Charters Tower**	**19.86**	**254**	*e*P	**P**	**12 47 24.3**	**+2.4**
	12nm,0.9s						
CTA	**Charters Tower**	**19.86**	**254**	P	**P**	**12 47 23.6**	**+1.7**
	18nm,1.0s,baz=73,slow=12,SNR=14						
CTA				LR	LR	12 53 37.9	
	comp=Z,154nm,21.3s,baz=225,slow=32						
PMG	**Port Moresby**	**20.00**	**286**	P	**P**	**12 47 23.6**	**+0.2**
	22nm,1.1s,baz=207,slow=12,SNR=3.4						
WRA	**Warramunga Arr**	**31.00**	**257**	P	**P**	**12 49 07.0**	**-0.4**
	1.7nm,0.8s,mb3.9,baz=86,slow=8.5,SNR=13						
FITZ	**Fitzroy Crossi**	**39.23**	**261**	*e*P	**P**	**12 50 18.5**	**+0.7**
	5.5nm,0.9s,mb4.3						
FITZ	**Fitzroy Crossi**	**39.23**	**261**	P	**P**	**12 50 18.3**	**+0.5**
	8.6nm,0.9s,mb4.5,baz=130,slow=4.5,SNR=7.3						
VNDA	**Vanda**	**61.87**	**181**	P	**P**	**12 53 08.9**	**+0.1**
	0.4nm,0.9s,mb3.6,baz=13,slow=4.5,SNR=3.5						
SONM	**Songino Array**	**82.91**	**324**	P	**P**	**12 55 14.3**	**+0.8**
	0.3nm,0.5s,mb3.6,baz=100,slow=8.8,SNR=2.1						
ILAR	**Eielson Array**	**87.64**	**18**	P	**P**	**12 55 35.5**	**-1.1**
	0.6nm,0.8s,mb3.9,baz=233,slow=5.5,SNR=5.3						
MKAR	**Makanchi Array**	**97.48**	**316**	P	**P**	**12 56 23.5**	**+1.0**
	0.3nm,0.3s,mb4.2,baz=76,slow=5.9,SNR=4.7						
CDF	**Champ du Feu**	**143.24**	**337**	*e*PKP1	PKPbc	13 02 27.1	+7.4
HINF	**Hinteralfeld**	**143.89**	**337**	*e*PKP1	PKPbc	13 02 29.8	+8.1
HAU	**Haudompre**	**143.92**	**337**	*e*PKP1	PKPbc	13 02 29.8	+8.1
CABF	**La Chapelle**	**145.18**	**336**	*e*PKP1	PKPbc	13 02 34.0	+8.7
	4.7nm,0.5s						
FLN	**La Foliniere**	**145.38**	**345**	*e*PKP1	PKPbc	13 02 33.3	+7.6
	3.6nm,0.4s						
LOR	**Lormes**	**145.44**	**339**	*e*PKP1	PKPbc	13 02 34.3	+8.4
LDF	**La Druitiere**	**145.45**	**344**	*e*PKP1	PKPbc	13 02 33.5	+7.6
	2.5nm,0.5s						
SSF	**Saint Saulge**	**145.74**	**339**⇑ *i*PKP1		PKPbc	13 02 35.4	+8.7
	4.6nm,0.6s						
GRR	**Gorron**	**145.82**	**345**	*e*PKP1	PKPbc	13 02 35.0	+8.2
BGF	**Bois d'Agland**	**146.40**	**340**	*e*PKP1	PKPbc	13 02 37.1	+8.9
	4.1nm,0.5s						
TCF	**Toulx Ste Croi**	**146.84**	**340**	*e*PKP1	PKPbc	13 02 38.3	+9.0
MFF	**Saint Martin d**	**147.28**	**343**	*e*PKP1	PKPdf	13 02 39.4	+6.2

*PLV **21** 12:48:40.7±1.9,23.29N×104.24E,MD3.9*
*BJI **21** 12:48:42.4,23.70N×104.04E,h28km,mb3.9,ML3.8*
ISC 21 12:48:38.4±0.6,23.38N±0.03×104.40E±0.06,h10km,n14, σ1§49/36,Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**2.31**	**319**	P	**Pn**	**12 49 13.9**	**-3.2**
DBV	**Dienbien**	**2.35**	**213**	*e*PN	**Pn**	**12 49 18.6**	**+0.8**
DBV				*e*PG	**Pg**	**12 49 22.4**	**-3.1**
DBV				*e*SG	**Sg**	**12 49 51.8**	**-5.1**
BVV	**Ba Vi**	**2.44**	**158**	*e*Pn	**Pn**	**12 49 21.9**	**+3.0**
BVV				*e*Pg	**Pg**	**12 49 27.6**	**+0.4**
BVV				*e*Sg	**Sg**	**12 49 59.3**	**-0.3**
MTZV	**Met**	**2.56**	**135**	*e*Pn	**Pn**	**12 49 24.2**	**+3.5**
MTZV				*e*Pg	**Pg**	**12 49 30.7**	**+1.2**
MTZV				*e*Sg	**Sg**	**12 50 05.0**	**+1.3**
TLV	**Tu Ly**	**2.61**	**162**	*e*PG	**Pg**	**12 49 29.7**	**-0.9**
TLV				*e*SG	**Sg**	**12 50 03.6**	**-1.9**
KSVV	**Ky Son**	**2.65**	**160**	*e*PN	**Pn**	**12 49 25.2**	**+3.2**
KSVV				*e*PG	**Pg**	**12 49 32.5**	**+1.2**
KSVV				*e*SG	**Sg**	**12 50 07.8**	**+1.2**
HNV	**Hanoi**	**2.66**	**151**	*e*Pn	**Pn**	**12 49 25.3**	**+3.2**
HNV				*e*Pg	**Pg**	**12 49 31.9**	**+0.4**
HNV				*e*Sg	**Sg**	**12 50 07.2**	**+0.3**
HBVN	**Hoa-Binh**	**2.69**	**161**	*e*PN	**Pn**	**12 49 24.2**	**+1.6**
HBVN				*e*PG	**Pg**	**12 49 30.4**	**-1.7**
HBVN				*e*SG	**Sg**	**12 50 05.4**	**-2.7**
YTV	**Yen Tu**	**3.08**	**135**	*e*Pn	**Pn**	**12 49 31.6**	**+3.4**
YTV				*e*Pg	**Pg**	**12 49 40.9**	**+0.9**
YTV				*e*Sg	**Sg**	**12 50 21.7**	**+0.6**
DSV	**Doi Son**	**3.14**	**152**	*e*Pn	**Pn**	**12 49 31.3**	**+2.3**
DSV				*e*Pg	**Pg**	**12 49 40.4**	**-0.8**
DSV				*e*Sg	**Sg**	**12 50 21.7**	**-1.3**
PLV	**Phu-Lien**	**3.29**	**141**	*e*Pg	**Pg**	**12 49 44.3**	**+0.2**
PLV				*e*Sg	**Sg**	**12 50 27.3**	**-0.7**
GYA	**Guiyang**	**3.69**	**33**	P	**Pn**	**12 49 37.3**	**+0.5**
GYA				PG	**Pg**	**12 49 50.8**	**-1.3**
GYA				S	**Sn**	**12 50 20.0**	**-0.8**
GYA				SG	**Sg**	**12 50 35.5**	**-5.8**
GYA				Smax			
	comp=N,420nm,0.9s						
GYA				Smax			
	comp=E,350nm,0.9s						
QIZ	**Qiongzhong**	**6.67**	**129**	PG	**Pg**	**12 50 49.3**	**-2.3**
QIZ				*e*SG	**Sg**	**12 52 17.6**	**-2.9**
QIZ				Smax			
	comp=N,36nm,1.0s						
GTA	**Gaotai**	**16.45**	**347**	*e*P	**P**	**12 52 31.6**	**+0.6**
GTA				AP		12 52 37.0	
GTA				XP		12 52 40.6	
GTA				AMB	AMB		
	comp=Z,5.0nm,0.8s						

*IDC **21** 14:51:23.5±1.2,32.18S×179.90W,h346km±16km,mb3.5/3, mb1 3.7/6,mb1mx3.4/14,mbtmp4.4/6,Error ellipse: s-maj=31.7km s-min=13.2km az=127.0*
*NEIC **21** 14:51:23.8±0.8,32.03S×179.92E,h338km±11km,mb3.6/1, Error ellipse: s-maj=23.1km s-min=11.4km az=115.0*
ISC 21 14:51:23.5±0.8,32.54S±0.07×179.3W±0.2,h411km±10km, n53,σ1§20/60,mb3.8/3,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.50**	**21**	P	**P**	**14 52 26.4**	**-5.8**
	204nm,0.3s,baz=229,slow=19,SNR=3.2						
PUZ	**Puketiti**	**5.86**	**199**	*e*PN	**P**	**14 52 55.3**	**-0.3**
PUZ				SN	**S**	**14 54 07.0**	**-1.1**
MWZ	**Matawai**	**6.32**	**203**	*e*PN	**P**	**14 53 00.0**	**-0.7**
MWZ				SN	**S**	**14 54 17.0**	**-0.2**
MTAZ	**Motutapu**	**6.36**	**227**	PN	**P**	**14 53 02.7**	**+1.6**
URZ	**Urewera**	**6.40**	**206**	P	**P**	**14 53 00.1**	**-1.5**
	14nm,0.3s,baz=295,slow=2.7,SNR=58						
URZ				S	**S**	**14 54 19.7**	**+0.8**
	11nm,0.3s,baz=75,slow=23,SNR=14						
URZ	**Urewera**	**6.40**	**206**	*e*PN	**P**	**14 52 58.3**	**-3.3**
MKAZ	**Moumakai**	**6.42**	**223**	PN	**P**	**14 53 03.6**	**+1.8**
KNZ	**Kokohu**	**6.91**	**200**	*e*PN	**P**	**14 53 06.6**	**-0.7**
BKZ	**Black Stump Fm**	**7.43**	**206**	*e*PN	**P**	**14 53 11.7**	**-1.4**
BKZ				SN	**S**	**14 54 39.4**	**-0.1**
HIZ	**Hauiti**	**7.61**	**217**	*e*PN	**P**	**14 53 17.0**	**+1.8**
WTVZ	**West Tongariro**	**7.75**	**211**	*e*PN	**P**	**14 53 17.9**	**+1.2**
NGZ	**Ngauruhoe**	**7.79**	**210**	*e*PN	**P**	**14 53 18.8**	**+1.6**
CNZ	**Chateau**	**7.83**	**211**	*e*PN	**P**	**14 53 18.7**	**+1.0**
WPVZ	**Whakapapa**	**7.84**	**211**	*e*PN	**P**	**14 53 19.4**	**+1.7**
FWVZ	**Far West T-bar**	**7.88**	**210**	*e*PN	**P**	**14 53 19.0**	**+0.8**
WNVZ	**Wahianoa**	**7.92**	**210**	*e*PN	**P**	**14 53 17.3**	**-1.4**
MOVZ	**Moawhango**	**7.92**	**209**	*e*PN	**P**	**14 53 18.7**	**-0.1**
MTVZ	**Mangateitei**	**8.02**	**210**	*e*PN	**P**	**14 53 20.0**	**+0.2**
MTVZ				SN	**S**	**14 54 53.5**	**+1.8**
TSZ	**Takapari Road**	**8.41**	**205**	*e*PN	**P**	**14 53 22.0**	**-2.3**
TSZ				SN	**S**	**14 54 58.9**	**-0.7**
BFZ	**Birch Farm**	**8.87**	**202**	*e*PN	**P**	**14 53 31.4**	**+1.9**
MRZ	**Mangatainoka R**	**9.08**	**205**	*e*PN	**P**	**14 53 30.2**	**-1.7**
KIW	**Kapiti Island**	**9.50**	**207**	*e*PN	**P**	**14 53 37.1**	**+0.4**
MTW	**Mount Morrison**	**9.54**	**204**	*e*PN	**P**	**14 53 36.4**	**-0.8**
CAW	**Cannon Point**	**9.65**	**206**	*e*PN	**P**	**14 53 37.6**	**-0.9**
MSWZ	**Moikau Station**	**9.86**	**204**	*e*PN	**P**	**14 53 41.1**	**+0.2**
MRW	**Makara Radio**	**9.90**	**207**	*e*PN	**P**	**14 53 41.7**	**+0.3**
SNZO	**South Karori**	**9.96**	**207**	*e*PN	**P**	**14 53 41.8**	**-0.3**
SNZO	**South Karori**	**9.96**	**207**	*e*P	**P**	**14 53 43.4**	**+1.3**
SNZO				*e*S	**S**	**14 55 31.6**	**-0.3**
BHW	**Baring Head**	**9.99**	**206**	*e*PN	**P**	**14 53 42.6**	**+0.2**
TUWZ	**Tuamarina**	**10.37**	**209**	*e*PN	**P**	**14 53 44.9**	**-2.0**
NNZ	**Nelson**	**10.44**	**212**	*e*PN	**P**	**14 53 45.4**	**-2.2**
NNZ				SN	**S**	**14 55 40.9**	**-0.8**
BSWZ	**Blackbirch Sta**	**10.64**	**209**	*e*PN	**P**	**14 53 50.4**	**+0.4**
THZ	**Tophouse**	**11.09**	**212**	*e*PN	**P**	**14 53 53.4**	**-1.7**
KHZ	**Kahutara**	**11.36**	**208**	*e*PN	**P**	**14 53 58.3**	**+0.1**

*IDC **21** 15:16:46.9±0.7, 6.75N×73.01W, h157km±7km, mb3.4/6, mb1 3.7/9, mb1mx3.5/23, mbtmp4.0/9, Error ellipse: s-maj=17.4km s-min=7.3km az=127.0*
*NEIC **21** 15:16:47.6±0.5, 6.80N×72.99W, mb4.0/2, Error ellipse: s-maj=12.8km s-min=8.6km az=92.0*
ISC 21 15:16:46.4±0.7, 6.79N±0.07×73.02W±0.09, h168km±7km, n14, σ0°84/17, mb3.6/6, 1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.32**	**214**	P	**P**	**15 17 27.7**	**+0.9**
	81nm,0.3s,baz=66,slow=3.1,SNR=67						
ROSC				S	**S**	**15 17 56.9**	**-1.0**
	99nm,0.3s,baz=87,slow=16,SNR=24						
SDV	**Santo Domingo**	**3.15**	**48**	P	**P**	**15 17 37.9**	**+0.9**
	49nm,0.3s,baz=245,slow=7.4,SNR=191						
SDV				S	**S**	**15 18 15.9**	**0.0**
	79nm,0.3s,baz=303,slow=16,SNR=17						
SDV	**Santo Domingo**	**3.15**	**48**	⇓iP	**P**	**15 17 37.7**	**+0.7**
SDV				eS	**S**	**15 18 15.4**	**-0.5**
SDV				S	**S**	**15 18 15.9**	**0.0**
SJG	**San Juan**	**13.10**	**30**	P	**P**	**15 19 46.1**	**-0.9**
	2.2nm,0.3s,baz=205,slow=19,SNR=4.5						
SJG	**San Juan**	**13.10**	**30**	eP	**P**	**15 19 46.5**	**-0.5**
SAML	**Samuel**	**18.45**	**148**	eP	**P**	**15 20 51.8**	**0.0**
	3.9nm,0.6s						
LPAZ	**La Paz**	**23.43**	**168**	P	**P**	**15 21 42.6**	**+1.1**
	1.3nm,0.8s,mb3.4,baz=349,slow=7.5,SNR=6.7						
LPAZ				pP		15 22 15.2	
	1.9nm,0.8s,baz=352,slow=14,SNR=5.4						
SIV	**San Ignacio**	**25.54**	**153**	P	**P**	**15 22 00.7**	**-0.7**
	0.7nm,0.7s,mb3.4,baz=319,slow=7.8,SNR=4.4						
SIV				pP	pP	15 22 34.1	-1.3
	1.0nm,0.8s,baz=337,slow=10,SNR=3.8						
TXAR	**Lajitas Array**	**36.56**	**312**	P	**P**	**15 23 38.5**	**+0.8**
	0.6nm,0.5s,mb3.5,baz=127,slow=9.3,SNR=12						
ULM	**Lac du Bonnet**	**47.35**	**340**	P	**P**	**15 25 04.8**	**-0.2**
	2.2nm,0.5s,mb4.1,baz=139,slow=5.1,SNR=6.9						
ULM	**Lac du Bonnet**	**47.35**	**340**	eP	**P**	**15 25 04.9**	**-0.2**
	2.1nm,0.4s,mb4.1						
PDAR	**Pinedale Array**	**48.17**	**324**	P	**P**	**15 25 12.3**	**+0.8**
	0.5nm,0.6s,mb3.4,baz=118,slow=9.0,SNR=5.1						
YKA	**Yellowknife Ar**	**63.33**	**340**	P	**P**	**15 26 57.8**	**-1.6**
	1.2nm,0.5s,mb4.0,baz=134,slow=6.5,SNR=5.0						
WRA	**Warramunga Arr**	**150.41**	**241**	PKPbc	PKPdf	15 36 20.9	+7.7
	1.1nm,0.5s,baz=108,slow=2.8,SNR=23						

*NIED **21** 15:24:00, 39.00N×141.70E, h71km, Mw3.8 Best double couple: M0:6.19×10^14 NP1:φs23°, δ83°, λ-73°. NP2:φs133°, δ19°, λ-158°.*
*IDC **21** 15:24:40.2±0.8, 38.94N×141.58E, h70km±5km, mb3.8/11, mb1 3.9/12, mb1mx3.7/22, mbtmp4.1/12, MS3.2/1, Ms1 3.2/1, ms1mx2.7/29, Error ellipse: s-maj=27.7km s-min=16.0km az=83.0*
*NEIC **21** 15:24:40.9±0.7, 39.10N×141.67E, mb4.1/2, Error ellipse: s-maj=19.4km s-min=7.8km az=117.0*
NEIC Recorded [3 JMA] in Iwate and [1 JMA] in Miyagi Prefectures.
*JMA **21** 15:24:41.1±0.1, 38.97N×141.63E, h73km±1km, M3.7 Broadband fault plane solution: P waves. NP1:φs143°, δ29°, λ-163°. NP2:φs38°, δ82°, λ-62°. Principal axes: T Plg31°, Azm105°; N Plg28°, Azm214°; P Plg46°, Azm337°; JMA Felt III J1.*
ISC 21 15:24:39.5±0.6, 38.96N±0.04×141.73E±0.08, h81km±3km, h70km±.6km: pP-P, n34, σ0°68/45, mb4.0/13, 7C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.13**	**338**	⇓P	**P**	**15 24 51.9**	**+0.7**
OFUJ				S	**S**	**15 24 59.5**	**-0.3**
JMK	**Ichinoseki**	**0.40**	**269**	⇑P	**P**	**15 24 52.7**	**+0.1**
JMK				eS	**S**	**15 25 01.1**	**-1.3**
JIO	**Ouri**	**0.59**	**211**	⇓P	**P**	**15 24 54.7**	**+0.4**
JIO				eS	**S**	**15 25 04.4**	**-0.8**
JOM	**Ohasama**	**0.61**	**326**	⇑P	**P**	**15 24 55.0**	**+0.4**
JOM				S	**S**	**15 25 05.2**	**-0.5**
JOU	**Okura**	**1.03**	**235**	⇑P	**P**	**15 24 59.6**	**+0.4**
JOU				S	**S**	**15 25 13.4**	**-0.5**
JYK	**Kaneyama**	**1.07**	**268**	⇑P	**P**	**15 25 00.0**	**+0.3**
JYK				S	**S**	**15 25 14.4**	**-0.5**
JMM	**Marumori**	**1.32**	**214**	⇓P	**P**	**15 25 03.0**	**-0.1**
JMM				eS	**S**	**15 25 19.5**	**-1.0**
JANG	**Nango**	**1.42**	**353**	⇓P	**P**	**15 25 04.6**	**+0.3**
JAH	**Hinai**	**1.49**	**326**	⇑P	**P**	**15 25 06.0**	**+0.8**
JAH				S	**S**	**15 25 25.2**	**+1.0**
JYS	**Shirataka**	**1.50**	**241**	⇑P	**P**	**15 25 05.9**	**+0.5**
JYS				S	**S**	**15 25 24.7**	**+0.2**
JYA	**Atsumi**	**1.62**	**257**	⇑P	**P**	**15 25 07.2**	**+0.3**
JYA				eS	**S**	**15 25 27.0**	**-0.1**
MAJO	**Matsushiro**	**3.69**	**230**	eP	**P**	**15 25 36.8**	**+1.2**
MAJO				eS	S	15 25 54.0	-24
MAT	**Matsushiro**	**3.69**	**230**	P	**P**	**15 25 36.9**	**+1.3**
MAT				eS	**S**	**15 26 37.2**	**+19**
MAT	**Matsushiro**	**3.69**	**230**	eP	**P**	**15 25 37.0**	**+1.4**
MAT				S	**S**	**15 26 37.0**	**+19**
MJAR	**Matsushiro Arr**	**3.69**	**230**	P	**P**	**15 25 37.0**	**+1.4**
	2.1nm,0.3s,baz=40,slow=12,SNR=27						
ASAJ	**Asahikawa**	**5.19**	**7**	P	**P**	**15 25 55.4**	**-0.9**
	2.9nm,0.3s,baz=216,slow=8.8,SNR=28						
JOW	**Kunigami**	**16.53**	**227**	LR	LR	15 34 09.1	
	comp=Z,76nm,20.0s,baz=198,slow=35						
MA2	**Magadan**	**21.42**	**13**	eP	**P**	**15 29 22.6**	**+0.4**
	3.3nm,0.7s,mb3.8						
YAK	**Yakutsk**	**24.25**	**346**	eP	**P**	**15 29 49.4**	**-0.2**
	7.1nm,0.4s,mb4.3						
SONM	**Songino Array**	**26.97**	**301**	P	**P**	**15 30 14.5**	**-0.8**
	0.3nm,0.3s,mb3.2,baz=100,slow=9.7,SNR=3.1						
ZAL	**Zalesovo**	**40.84**	**311**	P	**P**	**15 32 13.7**	**-0.7**
	3.0nm,0.3s,mb4.5,baz=20,slow=7.8,SNR=11						
MKAR	**Makanchi Array**	**43.33**	**300**	P	**P**	**15 32 34.9**	**-0.1**
	4.3nm,0.5s,mb4.4,baz=78,slow=10,SNR=67						
ILAR	**Eielson Array**	**47.74**	**33**	P	**P**	**15 33 10.8**	**+1.1**
	0.5nm,0.8s,mb3.4,baz=274,slow=6.3,SNR=5.9						
BVAR	**Borovoye Array**	**49.48**	**311**	P	**P**	**15 33 22.8**	**-0.5**
	1.5nm,0.5s,mb4.2,baz=72,slow=8.7,SNR=13						
WRA	**Warramunga Arr**	**59.00**	**188**	P	**P**	**15 34 32.3**	**-0.9**
	1.0nm,0.5s,mb4.1,baz=5.9,slow=7.0,SNR=35						
WRA				pP	pP	15 34 50.2	-3.6
	0.7nm,0.7s,baz=5.0,slow=7.3,SNR=3.9						
WRA				sP	sP	15 34 59.0	-4.0
	0.7nm,0.5s,baz=4.7,slow=7.0,SNR=3.5						
ARCES	**ARCESS Array B**	**62.29**	**339**	P	**P**	**15 34 54.4**	**-0.4**
	1.1nm,0.6s,mb4.1,baz=63,slow=8.1,SNR=4.9						
ARCES	**ARCESS Array B**	**62.29**	**339**	P	**P**	**15 34 54.4**	**-0.4**
FINES	**FINESS Array B**	**67.23**	**332**	P	**P**	**15 35 26.3**	**-0.5**
	1.1nm,0.6s,mb3.9,baz=22,slow=10,SNR=8.3						
FINES				pP	pP	15 35 45.1	-2.7
	0.8nm,0.5s,baz=51,slow=12,SNR=2.6						
FINES	**FINESS Array B**	**67.23**	**332**	P	**P**	**15 35 26.3**	**-0.5**
FINES				pP	pP	15 35 45.1	-2.7
HFS	**Hagfors**	**72.44**	**336**	P	**P**	**15 35 58.3**	**-0.2**
	1.3nm,0.4s,mb4.2,baz=45,slow=6.3,SNR=13						
HFS				pP	pP	15 36 17.7	-2.2
	1.5nm,0.3s,baz=37,slow=7.4,SNR=4.0						
NB2	**NORSAR Subarra**	**72.51**	**337**	P	**P**	**15 35 58.7**	**0.0**
	0.7nm,0.6s,mb3.7,baz=38,slow=6.2						
NOA	**NORSAR Array B**	**72.51**	**337**	P	**P**	**15 35 58.7**	**0.0**
	1.4nm,0.8s,mb3.9,baz=38,slow=6.0,SNR=7.5						
NOA				pP	pP	15 36 17.6	-2.6
	0.9nm,0.6s,baz=38,slow=6.0,SNR=4.4						
AKASG	**Malin Array Be**	**72.93**	**322**	P	**P**	**15 36 01.1**	**-0.3**
	1.6nm,0.5s,mb4.1,baz=43,slow=6.0,SNR=11						
AKASG				pP	pP	15 36 19.9	-2.9
	0.4nm,0.3s,baz=46,slow=6.5,SNR=2.9						
AKASG	**Malin Array Be**	**72.93**	**322**	P	**P**	**15 36 01.1**	**-0.3**
AKASG				pP	pP	15 36 19.9	-2.9

*IDC **21** 15:26:48.3±0.9, 67.26N×21.18E, mb1 2.7/3, mb1mx2.7/19, mbtmp2.7/3, ML2.3/3, Error ellipse: s-maj=16.7km s-min=6.8km az=112.0*
*BER **21** 15:26:50.8±3.5, 67.24N×20.57E, ML1.7, Suspected explosion*
HEL 21 15:26:50.2±0.2, 67.21N×20.75E, ML1.9, ML1.7(BER), **Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIF	**Kilpisjarvi**	**1.81**	**1**	eP	Pn	15 27 22.6	-0.3
KIF				eS	Sn	15 27 47.6	+0.7
KTK1	**Kautokeino**	**2.04**	**26**	eP	Pn	15 27 25.4	-0.8
KTK1				eSG	Sg	15 27 52.9	-5.2
KTK1				AML	AML	15 27 56.7	
	comp=Z,11nm,0.3s						
SGF	**Sodankyl**	**2.25**	**81**	eP	Pn	15 27 29.2	0.0
SGF				eSG	Sg	15 27 59.7	-5.4
SGF				MSG		15 28 00.7	
	comp=Z,5.7nm,0.2s						
TRO	**Tromso**	**2.53**	**345**	eP	Pn	15 27 32.3	-0.9
TRO				eSG	Sg	15 28 07.5	-7.0
TRO				AML	AML	15 28 09.2	
	comp=Z,5.9nm,0.4s						
MOR8	**Moi Rana**	**2.71**	**250**	eSB	Sb	15 28 07.1	-6.3
MOR8				AML	AML	15 28 10.0	
	comp=Z,11nm,0.4s						
LOF	**Lofoten**	**2.91**	**292**	eSG	Sg	15 28 19.8	-7.1
LOF				AML	AML	15 28 31.3	
	comp=Z,5.9nm,0.7s						
ARCES	**ARCESS Array B**	**2.93**	**35**	Pg	Pg	15 27 37.9	-11
	comp=Z,0.5nm,0.3s,baz=215,slow=13,SNR=55						
ARCES				Lg		15 28 14.8	
	comp=Z,1.2nm,0.3s,baz=214,slow=31,SNR=9.2						
STOK	**Stokkvaagen**	**3.19**	**258**	eSG	Sg	15 28 28.4	-7.9
STOK				AML	AML	15 28 35.7	
	comp=Z,4.2nm,0.6s						
KEV	**Kevo**	**3.45**	**39**	eP	Pn	15 27 44.7	-1.6
KEV				eS	Sn	15 28 26.4	-2.0
KEV				MSG		15 28 38.9	
	comp=Z,3.0nm,0.3s						
KU4	**Liikasenvaara**	**3.60**	**99**	eP	Pn	15 27 46.5	-1.9
FINES	**FINESS Array B**	**6.23**	**156**	Pn	Pn	15 28 22.6	-3.0
	comp=Z,0.1nm,0.3s,baz=349,slow=12,SNR=6.4						
FINES				Sn	Sn	15 29 31.8	-6.7
	comp=Z,0.2nm,0.3s,baz=345,slow=22,SNR=4.0						
FINES				Lg		15 30 02.6	
	comp=Z,0.3nm,0.3s,baz=344,slow=26,SNR=4.3						
NOA	**NORSAR Array B**	**7.45**	**218**	Pn	Pn	15 28 38.3	-4.6
	comp=Z,0.1nm,0.3s,baz=41,slow=8.1,SNR=2.7						
NOA				Lg		15 30 40.5	
	comp=Z,0.1nm,0.3s,baz=57,slow=13,SNR=2.8						
HFS	**Hagfors**	**7.75**	**207**	Pn	Pn	15 28 41.8	-5.2
	comp=Z,0.0nm,0.3s,baz=6.3,slow=13,SNR=3.9						

TRN 21 15:29:29.6, 15.85N×61.63W, h5km, Md3.5(FDF), **6C-4D, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBG	**Guadaloupe-3**	**0.02**	**285**	⇓iP	Pg	15 29 30.2	-0.4
PHG	**Guadaloupe-2**	**0.17**	**355**	⇑iP	Pg	15 29 33.4	+0.2
DOG	**Dongo Capester**	**0.18**	**2**	eP	Pg	15 29 33.5	0.0
SCG	**Saint Claude**	**0.19**	**344**	⇑iP	Pg	15 29 33.6	+0.1
MGG	**Marie-Galante**	**0.31**	**77**	⇑iP	Pg	15 29 35.2	-0.6
LZG	**Guadaloupe-1**	**0.33**	**334**	eP	Pg	15 29 35.9	-0.3
BBL	**Barber's Block**	**0.35**	**155**	eP	Pg	15 29 35.4	-1.3
SEG	**Port Louis**	**0.56**	**12**	eP	Pg	15 29 40.0	-0.9
FDF	**Fort de France**	**1.20**	**157**	eP	Pb	15 29 48.9	-3.6
FDF				eS	Sb	15 30 05.0	-3.1
CRM	**Caravelle**	**1.28**	**148**	eP	Pb	15 29 50.6	-3.4
CRM				eS	Sb	15 30 07.3	-3.3
MVM	**Montagne Vaucl**	**1.47**	**151**	eP	Pn	15 29 53.4	-3.4

*NEIC **21** 15:36:45.7±0.5, 4.54S×152.52E, mb4.6/8, Error ellipse: s-maj=11.3km s-min=9.9km az=127.0*
*IDC **21** 15:36:46.6±2.4, 4.65S×152.61E, h71km±20km, mb4.2/10, mb1 4.3/12, mb1mx4.1/17, mbtmp4.4/12, MS3.5/3, Ms1 3.5/3, ms1mx3.2/17, Error ellipse: s-maj=20.7km s-min=13.5km az=126.0*
ISC 21 15:36:46.5±2.2, 4.7S±0.1×152.51E±0.08, h80km±18km, n30, σ0°81/30, mb4.4/16, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.11**	**228**	P	**P**	**15 38 30.3**	**+0.4**
	2.7nm,0.3s,baz=40,slow=10,SNR=11						
PMG				S	**S**	**15 39 49.5**	**-0.3**
	4.0nm,0.3s,baz=103,slow=20,SNR=6.8						
PMG	**Port Moresby**	**7.11**	**228**	eP	**P**	**15 38 30.4**	**+0.5**
PMG				eS	**S**	**15 39 49.0**	**-0.8**
PMG				S	**S**	**15 39 49.5**	**-0.3**
HNR	**Honiara**	**8.78**	**123**	P	**P**	**15 38 52.9**	**+0.3**
	2.0nm,0.3s,baz=33,slow=4.5,SNR=2.5						
CTA	**Charters Tower**	**16.51**	**201**	eP	**P**	**15 40 34.9**	**+0.4**
	4.1nm,1.2s						
CTA	**Charters Tower**	**16.51**	**201**	P	**P**	**15 40 34.6**	**+0.1**
	0.2nm,0.3s,baz=28,slow=18,SNR=3.0						
CTA				LR	LR	15 45 10.7	
	comp=Z,156nm,19.7s,baz=32,slow=30						
CTAO	**Charters Tower**	**16.51**	**201**	eP	**P**	**15 40 34.5**	**0.0**
KAKA	**Kakadu**	**21.38**	**247**	eP	**P**	**15 41 42.5**	**+13**
	14nm,0.5s,mb4.5						
DZM	**Mont Dzumac**	**21.96**	**143**	eP	**P**	**15 41 34.4**	**-0.6**
DZM	**Mont Dzumac**	**21.96**	**143**	P	**P**	**15 41 33.4**	**-1.5**
	12nm,0.6s,mb4.4,baz=337,slow=7.0,SNR=25						
DZM				LR	LR	15 47 43.8	
	comp=Z,157nm,18.2s,baz=13,slow=30						
WRAB	**Tennant Creek**	**23.32**	**228**	eP	**P**	**15 41 49.2**	**+1.0**
	30nm,0.7s,mb4.7						
WRA	**Warramunga Arr**	**23.33**	**228**	P	**P**	**15 41 49.3**	**+0.9**
	22nm,0.8s,mb4.6,baz=53,slow=9.6,SNR=23						
WRA				S	**S**	**15 45 58.0**	**+6.5**
	0.7nm,0.8s,baz=56,slow=16,SNR=3.2						
STKA	**Stephens Creek**	**28.96**	**199**	eP	**P**	**15 42 39.3**	**-1.3**
	3.7nm,0.8s,mb4.1						
STKA	**Stephens Creek**	**28.96**	**199**	P	**P**	**15 42 38.9**	**-1.7**
	4.1nm,0.8s,mb4.1,baz=1.6,slow=9.5,SNR=8.2						
STKA				LR	LR	15 52 41.5	
	comp=Z,82nm,18.9s,baz=27,slow=33						
FITZ	**Fitzroy Crossi**	**29.48**	**241**	eP	**P**	**15 42 44.5**	**-0.9**
	8.4nm,0.4s,mb4.7						
FITZ	**Fitzroy Crossi**	**29.48**	**241**	P	**P**	**15 42 44.6**	**-0.8**
	12nm,0.4s,mb4.9,baz=52,slow=4.0,SNR=48						
FORT	**Forrest**	**34.72**	**219**	eP	**P**	**15 43 30.4**	**-0.5**
	20nm,0.5s,mb5.2						
MBWA	**Marble Bar**	**35.80**	**240**	eP	**P**	**15 43 39.5**	**-0.7**
	5.7nm,0.6s,mb4.7						
VNDA	**Vanda**	**72.99**	**178**	P	**P**	**15 48 09.4**	**+0.6**
	3.0nm,0.7s,mb4.2,baz=330,slow=6.7,SNR=29						
SBA	**Scott Base**	**73.54**	**177**	eP	**P**	**15 48 13.3**	**+1.2**
	3.1nm,0.9s,mb4.0						
MKAR	**Makanchi Array**	**80.02**	**319**	P	**P**	**15 48 49.8**	**+0.9**
	0.6nm,0.4s,mb3.7,baz=100,slow=6.9,SNR=7.0						
ZAL	**Zalesovo**	**80.88**	**326**	P	**P**	**15 48 53.2**	**-0.1**
	1.0nm,0.3s,mb4.1,baz=216,slow=2.3,SNR=3.6						
ILAR	**Eielson Array**	**82.13**	**22**	P	**P**	**15 48 58.1**	**-1.4**
	1.2nm,0.5s,mb4.0,baz=243,slow=5.6,SNR=23						
ILAR				pP	pP	15 49 14.6	-6.6
	1.6nm,0.9s,baz=256,slow=5.1,SNR=6.4						
QSPA	**South Pole Qui**	**85.31**	**180**	eP	**P**	**15 49 16.0**	**+0.8**
	2.3nm,0.4s,mb4.5						
MAW	**Mawson**	**85.60**	**203**	P	**P**	**15 49 16.7**	**-0.2**
	1.0nm,0.5s,mb4.0,baz=139,slow=3.5,SNR=6.2						
MAW	**Mawson**	**85.60**	**203**	eP	**P**	**15 49 17.1**	**+0.2**
	1.1nm,0.5s,mb4.0						
BVAR	**Borovoye Array**	**88.95**	**323**	P	**P**	**15 49 33.5**	**+0.1**
	2.3nm,0.6s,mb4.4,baz=106,slow=6.0,SNR=20						
BVAR				pP	pP	15 49 51.7	-3.6
	1.1nm,0.8s,baz=90,slow=4.4,SNR=3.7						
GERES	**GERESS Array B**	**123.78**	**328**	PKP	PKPdf	15 55 36.8	+1.4
	0.4nm,0.5s,baz=90,slow=2.7,SNR=5.7						
LPAZ	**La Paz**	**134.74**	**118**	PKP	PKPdf	15 55 59.1	+2.1
	0.4nm,0.5s,baz=317,slow=4.3,SNR=3.5						
SAML	**Samuel**	**141.94**	**111**	ePKP	PKPdf	15 56 10.8	+0.6
BDFB	**Brasilia**	**151.38**	**135**	PKPbc	PKPdf	15 56 33.2	+7.4
	3.0nm,0.5s,baz=234,slow=1.4,SNR=6.2						

*HEL **21** 16:22:06.5±0.3, 57.16N×7.44E, h10km, ML3.5, ML2.0(UPP), ML1.7(BER)*
*CSEM **21** 16:22:06.8±1.3, 57.34N×7.22E, h2km, ML3.5, Error ellipse: s-maj=28.0km s-min=14.1km az=20.0, Suspected Mining explosion.*
*UPP **21** 16:22:06.2, 57.17N×7.47E, h0km, ML2.0, Suspected Mining explosion.*
*BER **21** 16:22:07.4±3.0, 57.05N×7.35E, h20km±98km, MD2.4, ML1.7, ML1.8(NAO)*
*NAO **21** 16:22:08.1±3.7, 57.37N×7.51E, ML1.8*
ISC 21 16:22:07.0±1.1, 57.41N±0.07×7.78E±0.10, n31, σ0°98/43, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNART	**Snartemo**	**0.98**	**342**	eP	**Pb**	**16 22 28.0**	**+1.5**
SNART				eS	**Sg**	**16 22 46.3**	**+6.7**
SNART				AML	AML	16 22 51.8	
	comp=Z,20nm,0.4s						
BLS5	**Blasjo**	**2.13**	**342**	eP	**Pn**	**16 22 44.3**	**0.0**
BLS5				eS	**Sn**	**16 23 11.4**	**-0.6**
BLS5				AML	AML	16 23 29.5	
	comp=Z,7.3nm,0.4s						
BLS5	**Blasjo**	**2.13**	**342**	P	**Pn**	**16 22 44.3**	**-0.1**
BLS5				S	**Sn**	**16 23 11.3**	**-0.6**
	comp=Z,7.3nm,0.4s						
ODD1	**Odda**	**2.58**	**347**	eS	**Sn**	**16 23 21.0**	**-2.3**
ODD1				AML	AML	16 23 42.9	
	comp=Z,7.0nm,0.4s						
ODD1	**Odda**	**2.58**	**347**	S	**Sn**	**16 23 20.9**	**-2.4**
	comp=Z,7.0nm,0.4s						
EGD	**Espegrend**	**3.16**	**336**	eP	**Pn**	**16 22 58.5**	**-0.5**
EGD				AML	AML	16 24 01.4	
	comp=Z,4.8nm,0.9s						
EGD	**Espegrend**	**3.16**	**336**	P	**Pn**	**16 22 58.4**	**-0.6**
	comp=Z,4.8nm,0.9s						
FINU	**Finntorp**	**3.18**	**49**	eP	**Pn**	**16 22 59.7**	**+0.5**
ASK	**Askoy**	**3.36**	**338**	eP	**Pn**	**16 23 02.2**	**+0.4**
ASK				AML	AML	16 24 02.8	
	comp=Z,6.5nm,0.7s						
VXJU	**Vaexsjoe**	**3.93**	**94**	eP	**Pn**	**16 23 08.9**	**-1.1**
NB2	**NORSAR Subarra**	**4.05**	**24**	Pn	**Pn**	**16 23 12.3**	**+0.8**
	baz=206,slow=14						
NB2				Sn	**Sn**	**16 24 02.0**	**+1.7**
	baz=210,slow=22						
NB2	**NORSAR Subarra**	**4.05**	**24**	eP	**Pn**	**16 23 12.3**	**+0.8**
NB2				eS	**Sn**	**16 24 02.0**	**+1.7**
NB2	**NORSAR Subarra**	**4.05**	**24**	Pn	**Pn**	**16 23 12.4**	**+0.8**
	SNR=55						
NB2				Sn	**Sn**	**16 24 02.0**	**+1.6**
	SNR=55						
EKSU	**Eksjoe**	**4.07**	**85**	eP	**Pn**	**16 23 12.4**	**+0.6**
HFS	**Hagfors**	**4.12**	**46**	Pn	**Pn**	**16 23 13.5**	**+0.9**
	baz=223,slow=14						
HFS				Sn	**Sn**	**16 24 01.6**	**-0.6**
	baz=236,slow=37						
HFS	**Hagfors**	**4.12**	**46**	Pn	**Pn**	**16 23 13.5**	**+0.9**
	SNR=55						
HFS				Sn	**Sn**	**16 24 01.5**	**-0.7**
	SNR=55						
LNKU	**Linkoeping**	**4.21**	**76**	eS	**Sn**	**16 24 05.1**	**+0.4**
NRAU	**Nora**	**4.38**	**57**	eP	**Pn**	**16 23 17.3**	**+0.9**
OSKU	**Oskarshamn**	**4.52**	**89**	eP	**Pn**	**16 23 17.2**	**-1.1**
ESKU	**Eskilstuna**	**4.90**	**64**	eP	**Pn**	**16 23 24.5**	**+0.8**
FALU	**Falun**	**5.19**	**50**	eP	**Pn**	**16 23 28.4**	**+0.6**
FALU				eS	**Sn**	**16 24 28.4**	**-0.9**
BACU	**Backbrunna**	**5.46**	**59**	eP	**Pn**	**16 23 32.0**	**+0.5**
ROTU	**Roteberg**	**5.74**	**42**	eP	**Pn**	**16 23 35.9**	**+0.3**
FLYU	**Flymyra**	**5.92**	**58**	eP	**Pn**	**16 23 38.1**	**-0.1**
NRTU	**Norrtaelje**	**6.12**	**64**	eP	**Pn**	**16 23 40.9**	**-0.1**
KEF	**Keuruu**	**9.83**	**54**	eP	**P**	**16 24 32.1**	**-0.5**
KEF				eS	**Sn**	**16 26 18.7**	**-6.2**
KEF				MSN		16 26 45.9	
	comp=Z,5.5nm,1.2s						
PVF	**Pernaja**	**9.84**	**64**	eS	**Sn**	**16 26 21.2**	**-4.0**
PVF				MSN		16 26 32.1	
	comp=Z,11nm,1.1s						
FIA0	**FINESS Array S**	**10.15**	**59**	Pn	**P**	**16 24 35.4**	**-1.5**
	baz=256,slow=12						
FIA0				Sn	**S**	**16 26 27.3**	**-5.4**
	baz=250,slow=22						
FIA0	**FINESS Array S**	**10.15**	**59**	eP	**P**	**16 24 35.4**	**-1.5**
KAF	**Kangasniemi**	**10.45**	**55**	eS	**S**	**16 26 33.8**	**-6.2**
SUF	**Sumiainen**	**10.59**	**52**	eP	**P**	**16 24 39.3**	**-3.7**
SUF				eS	**S**	**16 26 35.7**	**-7.8**
SUF				MSN		16 26 54.5	
	comp=Z,3.6nm,1.0s						

*NEIC **21** 16:28:53.3, 16.25N×97.65W, h39km, MD3.8(MEX), After MEX.*
MEX 21 16:28:53.3±0.5, 16.25N×97.65W, h39km±12km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.48**	**287**	iP	P	16 29 02.4	-1.4
PNIG				iS	S	16 29 09.1	-2.1
VHO	**Vista Hermosa**	**1.20**	**47**	iP	P	16 29 11.8	-1.9
VHO				iS	S	16 29 26.5	-2.6
OXX	**Oaxaca**	**1.21**	**47**	iP	P	16 29 12.0	-2.0
OXX				iS	S	16 29 27.0	-2.5
HUIG	**Huatulco**	**1.55**	**108**	eP	P	16 29 16.7	-2.3
HUIG				eS	S	16 29 35.8	-2.3
ACX	**Acapulco**	**2.26**	**286**	iP	P	16 29 27.0	-2.1
ACX				iS	S	16 29 52.0	-4.0
PLIG	**Platanillo**	**2.77**	**320**	eP	P	16 29 34.5	-1.9
PLIG				eS	S	16 30 05.5	-3.4
CMIG	**Matias Romero**	**2.77**	**72**	eP	P	16 29 33.9	-2.5
CMIG				eS	S	16 30 05.6	-3.4
YAIG	**Yautepec**	**2.93**	**333**	eP	P	16 29 34.9	-3.7
YAIG

comp=Z,0.8nm,0.5s,baz=234,slow=0.7,SNR=7.4

JMA 21 17:27:18.5±0.3,37.26N×138.68E,h22km±3km,M0.6, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.27**	**92**	P	Pb	17 27 24.7	-0.1
JHK				S	Sb	17 27 28.6	-0.5
JIZZ	**Izumozaki**	**0.27**	**5**	P	Pb	17 27 25.3	+0.4
JIZZ				S	Sb	17 27 30.2	+1.0

*NIED **21** 17:27:00,37.30N×138.70E,h8km,Mw3.4 Best double couple: M0:1.3×10^14 NP1:φs12°,δ49°,λ87°. NP2:φs196°, δ41°,λ93°.*

JMA 21 17:27:41.8±0.1,37.28N×138.71E,h16km±1km,M3.3, 1C-5D Broadband fault plane solution: P waves. NP1:φs15°,δ39°,λ73°. NP2:φ217°,δ53°,λ104°. Principal axes: T Plg77°, Azm175°; N Plg11°, Azm28°; P Plg7°, Azm297°; **Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.25**	**97**	⇓P	Pb	17 27 47.0	-0.4
JHK				S	Sb	17 27 51.1	-0.1
JIZZ	**Izumozaki**	**0.25**	**360**	⇑P	Pb	17 27 47.6	+0.1
JIZZ				S	Sb	17 27 52.6	+1.3
JKT	**Katashina**	**0.67**	**140**	⇓P	Pb	17 27 54.5	-0.1
JKT				S	Sb	17 28 03.9	+0.5
JNS	**Sasagawa**	**0.72**	**42**	P	Pb	17 27 55.3	-0.2
JNS				S	Sb	17 28 05.0	+0.1
JFY	**Yanaizu**	**0.80**	**81**	⇓P	Pb	17 27 56.6	-0.3
JFY				S	Sb	17 28 07.4	+0.1
JSD	**Sado**	**0.84**	**335**	P	Pb	17 27 56.4	-1.1
JSD				S	Sb	17 28 07.6	-0.6
MAT	**Matsushiro**	**0.84**	**209**	P	Pb	17 27 57.1	-0.4
MAT				S	Sb	17 28 08.3	0.0
MAT	**Matsushiro**	**0.84**	**209**	P	Pb	17 27 57.1	-0.4
MAT				S	Sb	17 28 08.4	+0.1
JAG	**Ashikaga**	**1.04**	**145**	⇓P	Pb	17 28 01.2	+0.2
JAG				S	Sb	17 28 15.1	+0.9
JSZ	**Suzu**	**1.09**	**279**	⇓P	Pb	17 28 00.9	-0.8
JSZ				S	Sb	17 28 15.5	0.0

*NNC **21** 17:28:55.5±6.0,39.35N×72.85E,h196km±89km,mpv3.3 Error ellipse: s-maj=80.4km s-min=31.1km az=14.0*

ISC 21 17:28:52.7±2.9,39.2N±0.2×72.8E±0.2,h188km±32km,n8, σ0:52/11,1C-4D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.03**	**13**	P	**P**	**17 29 41.7**	**-0.9**
	SNR=26						
EKS2	**Erkin-Say**	**3.56**	**12**	P	**P**	**17 29 49.3**	**+0.1**
	SNR=6.4						
AAK	**Ala-Archa**	**3.69**	**20**	P	**P**	**17 29 50.7**	**-0.1**
	SNR=8.3						
AAK	**Ala-Archa**	**3.69**	**20**	⇑P	**P**	**17 29 50.2**	**-0.6**
	7.6nm,0.5s						
AAK				⇓S	**S**	**17 30 35.9**	**+0.3**
	13nm,0.7s						
CHMS	**Chumysh**	**4.10**	**20**	P	**P**	**17 29 56.3**	**+0.3**
	SNR=6.2						
USP	**Ospenovka**	**4.29**	**17**	P	**P**	**17 29 58.5**	**+0.1**
	SNR=6.3						
KK31	**Karatay Array**	**4.29**	**337**	P	**P**	**17 29 59.0**	**+0.6**
	1.1nm,0.3s,baz=133,slow=13,SNR=41						
KK31				⇓S	**S**	**17 30 49.2**	**-0.1**
	4.7nm,0.4s,baz=154,slow=24,SNR=6.3						
AB31	**Akbulak array**	**13.65**	**322**	⇓P	**P**	**17 32 03.5**	**+4.2**
	0.3nm,0.5s,baz=131,slow=15,SNR=6.5						
AB31				⇓S	**S**	**17 34 26.5**	**-0.2**
	1.6nm,1.1s,baz=124,slow=28,SNR=4.2						

*IDC **21** 17:37:29.5±0.9,4.63N×95.01E,mb4.3/13,mb1 4.4/13, mb1mx4.2/22,mbtmp4.3/13,MS3.3/2,Ms1 3.3/2, ms1mx3.0/26,Error ellipse: s-maj=35.6km s-min=17.4km az=44.0*

*BJI **21** 17:37:32.6,4.70N×95.10E,h30km,mb4.8*

*NEIC **21** 17:37:34.6±0.5,4.70N×95.08E,h30km,mb4.4/8,Error ellipse: s-maj=14.6km s-min=8.0km az=208.0*

ISC 21 17:37:35.5±1.9,4.7N±0.1×95.19E±0.07,h56km±17km,n40, σ0:85/38,mb4.4/23,MS3.3/2,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.47**	**83**	*e*P	**P**	**17 38 57.5**	**+1.2**
KULM				*e*S	**S**	**17 39 57.7**	**-1.0**
PALK	**Pallekele**	**14.64**	**281**	*e*P	**P**	**17 41 00.3**	**-0.8**
PALK				*e*S	**S**	**17 43 24.9**	**-18**
MDRS	**Chennai**	**16.95**	**300**	*e*x	x	17 42 39.0	
MDRS				*e*x	x	17 45 51.0	
PKI	**Pulchoki**	**24.60**	**339**	*e*P	**P**	**17 42 52.2**	**+0.2**
	4.0nm,0.4s,mb4.3						
DMN	**Daman**	**24.74**	**338**	*e*P	**P**	**17 42 54.1**	**+0.7**
	5.7nm,0.4s,mb4.4						
KKN	**Kakani**	**24.84**	**339**	*e*P	**P**	**17 42 54.4**	**+0.1**
LSA	**Lhasa**	**25.18**	**352**	*e*P	**P**	**17 42 56.8**	**-0.7**
	5.4nm,0.6s,mb4.2						
GKN	**Gorkha**	**25.27**	**338**	*e*P	**P**	**17 42 58.4**	**0.0**
KOLN	**Koldanda**	**25.48**	**336**	*e*P	**P**	**17 43 00.4**	**+0.1**
	19nm,0.5s,mb4.9						
XAN	**Xi'an**	**31.88**	**22**	P	**P**	**17 43 56.5**	**-1.2**
GTA	**Gaotai**	**34.82**	**6**	*e*P	**P**	**17 44 22.8**	**-0.3**
GTA				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.6						
FITZ	**Fitzroy Crossi**	**37.60**	**128**	P	**P**	**17 44 46.6**	**-0.2**
	comp=Z,2.2nm,0.6s,mb4.1,baz=20,slow=3.6,SNR=6.7						
JOW	**Kunigami**	**38.50**	**52**	P	**P**	**17 44 56.0**	**+1.8**
	comp=Z,5.0nm,0.5s,mb4.5,baz=269,slow=9.2,SNR=7.6						
ULHL	**Ulahol**	**41.04**	**338**	P	**P**	**17 45 15.9**	**+0.8**
	SNR=15						
TKM2	**Tokmak 2**	**41.86**	**338**	P	**P**	**17 45 22.9**	**+1.1**
	SNR=8.3						
AML	**Almayashu**	**41.93**	**336**	P	**P**	**17 45 24.0**	**+1.6**
	SNR=5.0						
AAK	**Ala-Archa**	**42.03**	**337**	*e*P	**P**	**17 45 23.9**	**+0.7**
	comp=Z,5.8nm,0.7s,mb4.3						
EKS2	**Erkin-Say**	**42.34**	**336**	P	**P**	**17 45 27.3**	**+1.5**
	SNR=10						
USP	**Ospenovka**	**42.57**	**338**	P	**P**	**17 45 28.5**	**+0.9**
	SNR=12						
MKAR	**Makanchi Array**	**43.41**	**347**	P	**P**	**17 45 34.0**	**-0.5**
	comp=Z,2.0nm,0.4s,mb4.2,baz=167,slow=6.8,SNR=51						
MKAR	**Makanchi Array**	**43.41**	**347**	P	**P**	**17 45 34.0**	**-0.5**
SONM	**Songino Array**	**44.06**	**11**	P	**P**	**17 45 39.1**	**-0.6**
	comp=Z,0.4nm,0.4s,mb3.5,baz=190,slow=9.0,SNR=5.6						
SONM				PcP	PcP	17 47 24.9	+0.1
	comp=Z,1.5nm,0.7s,baz=190,slow=3.1,SNR=8.7						
SONM				LR	LR	18 05 00.3	
	comp=Z,31nm,19.9s,MS3.2,baz=65,slow=37						
WRA	**Warramunga Arr**	**45.59**	**124**	P	**P**	**17 45 52.9**	**+0.5**
	comp=Z,7.0nm,0.6s,mb4.8,baz=301,slow=9.3,SNR=70						
KURK	**Kurchatov**	**47.94**	**346**	*e*P	**P**	**17 46 10.2**	**-0.2**
	comp=Z,3.8nm,0.8s,mb4.5						
ZAL	**Zalesovo**	**49.83**	**352**	P	**P**	**17 46 23.7**	**-1.2**
	comp=Z,2.2nm,0.6s,mb4.4,baz=298,slow=7.7,SNR=10						
MJAR	**Matsushiro Arr**	**50.58**	**45**	LR	LR	18 10 32.9	
	comp=Z,34nm,18.8s,MS3.4,baz=205,slow=39						
BVAR	**Borovoye Array**	**52.33**	**341**	P	**P**	**17 46 43.2**	**-0.6**
	comp=Z,6.4nm,0.6s,mb4.7,baz=145,slow=9.0,SNR=62						
BRVK	**Borovoye**	**52.39**	**341**	*e*P	**P**	**17 46 43.5**	**-0.7**
	comp=Z,4.5nm,0.6s,mb4.6						
BRTR	**Keskin Array B**	**65.31**	**312**	P	**P**	**17 48 13.2**	**-1.0**
	comp=Z,1.3nm,0.5s,mb4.2,baz=141,slow=8.9,SNR=5.4						
AKASG	**Malin Array Be**	**71.30**	**322**	P	**P**	**17 48 49.7**	**-1.3**
	comp=Z,1.6nm,0.4s,mb4.3,baz=87,slow=5.5,SNR=8.5						
AKASG	**Malin Array Be**	**71.30**	**322**	P	**P**	**17 48 49.7**	**-1.3**
JOF	**Joensuu**	**74.16**	**335**	*e*p	**P**	**17 49 06.9**	**-0.8**
	comp=Z,3.6nm,0.6s,mb4.5						
FINES	**FINESS Array B**	**76.01**	**332**	P	**P**	**17 49 17.9**	**-0.4**
	comp=Z,1.6nm,0.3s,mb4.4,baz=96,slow=5.3,SNR=36						
KAF	**Kangasniemi**	**76.09**	**333**	*e*p	**P**	**17 49 18.0**	**-0.8**
	comp=Z,2.4nm,0.6s,mb4.3						
KEV	**Kevo**	**78.17**	**341**	*e*p	**P**	**17 49 29.8**	**-0.4**
ARCES	**ARCESS Array B**	**78.60**	**340**	P	**P**	**17 49 32.8**	**+0.2**
	comp=Z,2.4nm,0.6s,mb4.3,baz=94,slow=5.8,SNR=26						
GERES	**GERESS Array B**	**80.89**	**319**	P	**P**	**17 49 46.0**	**+0.7**
	comp=Z,0.9nm,0.5s,mb4.0,baz=124,slow=5.5,SNR=11						
DAVOX	**Davos**	**83.41**	**316**	P	**P**	**17 49 59.2**	**+0.9**
	comp=Z,3.6nm,0.6s,mb4.6,baz=141,slow=5.0,SNR=15						
TXAR	**Lajitas Array**	**141.63**	**27**	PKP	PKPdf	17 57 05.0	+3.6
	comp=Z,0.3nm,0.6s,baz=300,slow=0.4,SNR=4.4						
TXAR	**Lajitas Array**	**141.63**	**27**	PKP	PKPdf	17 57 05.0	+3.6

*NEIC **21** 17:44:38.7±1.7,8.31S×158.73E,h134km±17km,mb4.0/3, Error ellipse: s-maj=23.4km s-min=19.1km az=122.0*

*IDC **21** 17:44:39.0±1.4,8.46S×158.79E,h139km±15km,mb3.8/8, mb1 3.9/8,mb1mx3.8/13,mbtmp4.2/8,MS4.6/1,Ms1 4.6/1, ms1mx3.2/16,Error ellipse: s-maj=24.4km s-min=17.8km az=116.0*

ISC 21 17:44:38.3±1.5,8.5S±0.2×158.8E±0.2,h147km±16km,n17, σ0:88/18,mb3.9/8,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.46**	**131**	P	**P**	**17 45 08.1**	**+0.5**
	151nm,0.3s,baz=213,slow=3.6,SNR=141						
HNR				S	**S**	**17 45 29.5**	**-0.7**
	169nm,0.3s,baz=338,slow=20,SNR=20						
HNR	**Honiara**	**1.46**	**131**	*e*Pn	**P**	**17 45 07.9**	**+0.2**
HNR				S	**S**	**17 45 29.5**	**-0.7**
HNR				*e*Sn	**S**	**17 45 30.0**	**-0.2**
DZM	**Mont Dzumac**	**15.39**	**152**	P	**P**	**17 48 12.9**	**+4.0**
	0.2nm,0.3s,baz=24,slow=13,SNR=3.7						
CTAO	**Charters Tower**	**16.79**	**225**	*e*P	**P**	**17 48 27.9**	**+1.8**
	2.5nm,0.6s						
WRA	**Warramunga Arr**	**26.30**	**242**	P	**P**	**17 50 01.6**	**-0.6**
	2.0nm,0.5s,mb4.0,baz=66,slow=9.2,SNR=26						
WRA				PcP	PcP	17 53 24.2	-0.8
	1.6nm,1.0s,baz=64,slow=3.1,SNR=6.9						
STKA	**Stephens Creek**	**28.28**	**212**	*e*P	**P**	**17 50 19.4**	**-0.7**
	1.7nm,0.4s,mb4.1						
STKA	**Stephens Creek**	**28.28**	**212**	P	**P**	**17 50 19.5**	**-0.6**
	2.1nm,0.4s,mb4.2,baz=270,slow=22,SNR=12						
RAO	**Raoul Island**	**30.08**	**137**	LR	LR	18 00 48.3	
	comp=Z,1μm,20.0s,baz=66,slow=32						
FITZ	**Fitzroy Crossi**	**33.65**	**250**	*e*P	**P**	**17 51 05.8**	**-1.3**
	6.0nm,1.3s,mb4.2						
FITZ	**Fitzroy Crossi**	**33.65**	**250**	P	**P**	**17 51 05.7**	**-1.5**
	1.6nm,0.4s,mb4.2,baz=158,slow=12,SNR=14						
VNDA	**Vanda**	**69.05**	**179**	P	**P**	**17 55 29.7**	**0.0**
	1.5nm,0.7s,mb3.8,baz=336,slow=6.8,SNR=13						
VNDA	**Vanda**	**69.05**	**179**	P	**P**	**17 55 29.7**	**0.0**
SONM	**Songino Array**	**72.64**	**326**	P	**P**	**17 55 52.4**	**+0.8**
	3.9nm,0.6s,mb4.3,baz=140,slow=5.5,SNR=42						
SONM				pP	pP	17 56 27.0	-0.8
	0.7nm,0.8s,baz=151,slow=5.4,SNR=2.5						
ILAR	**Eielson Array**	**83.37**	**21**	P	**P**	**17 56 49.8**	**0.0**
	0.6nm,0.6s,mb3.5,baz=252,slow=5.1,SNR=13						
MAW	**Mawson**	**84.52**	**203**	P	**P**	**17 56 55.8**	**+0.3**
	1.5nm,0.7s,mb3.9,baz=64,slow=4.9,SNR=4.9						
MKAR	**Makanchi Array**	**87.02**	**318**	P	**P**	**17 57 08.0**	**-0.2**
	0.4nm,0.5s,mb3.5,baz=70,slow=5.7,SNR=8.1						
MKAR				pP	pP	17 57 48.1	+2.4
	0.9nm,0.5s,baz=79,slow=6.2,SNR=10						
BVAR	**Borovoye Array**	**95.75**	**323**	pP	pP	17 58 27.1	+0.8
	0.7nm,0.7s,baz=117,slow=3.3,SNR=5.1						

*IDC **21** 18:02:58.5±1.3,16.46N×120.07E,mb3.8/4,mb1 4.0/4, mb1mx3.6/18,mbtmp3.8/4,Error ellipse: s-maj=154.2km s-min=22.1km az=65.0*

ISC 21 18:03:07.1±4.4,16.5N±0.5×120E±,h88km±46km,n5, σ0:36/6,mb3.8/4,1C,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCPH	**Baguio City Da**	**0.50**	**101**	⇑*e*P	**P**	**18 03 21.4**	**-0.4**
BCPH				*i*S	**S**	**18 03 33.0**	**+0.3**
SONM	**Songino Array**	**33.24**	**343**	P	**P**	**18 09 37.7**	**-0.1**
	0.4nm,0.6s,mb3.4,baz=160,slow=9.0,SNR=4.4						
WRA	**Warramunga Arr**	**38.81**	**158**	P	**P**	**18 10 25.0**	**0.0**
	2.0nm,0.5s,mb4.2,baz=339,slow=9.2,SNR=13						
MKAR	**Makanchi Array**	**43.47**	**322**	P	**P**	**18 11 03.2**	**+0.2**
	0.2nm,0.4s,mb3.2,baz=109,slow=8.5,SNR=4.6						
STKA	**Stephens Creek**	**52.32**	**157**	P	**P**	**18 12 12.2**	**+0.1**
	1.5nm,0.6s,mb4.2,baz=338,slow=11,SNR=5.2						

*IDC **21** 18:06:53.1±0.7,55.99S×27.93W,h112km±5km,mb4.4/11, mb1 4.4/12,mb1mx4.3/16,mbtmp4.8/12,MS3.4/5, Ms1 3.4/5,ms1mx3.2/15,Error ellipse: s-maj=17.9km s-min=11.8km az=50.0*

*BJI **21** 18:06:56.6,56.00S×27.90W,h144km,mB5.2*

*NEIC **21** 18:06:56.6±1.5,55.98S×27.93W,h144km±13km,mb5.0/12, Error ellipse: s-maj=10.2km s-min=4.6km az=47.0*

*HRVD **21** 18:06:56.6±0.5,55.98S×27.21W,h140km±8km,MW4.9/46, Centroid moment Tensor Solution. LP body waves: s6,c6; Mantle waves: s46,c67; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.63±.21; Mθθ-1.14±.26; Mφφ-0.49±.19; Mrθ-2.07±.17; Mrφ1.58±.25; Mθr-0.09±.14; Best double couple: M0:2.981×10^16 NP1:φs159°,δ34°,λ144°. NP2: φs280°,δ71°,λ61°. Principal axes: T 2.955, Plg55°, Azm153°; N .047, Plg27°, Azm291°; P -3.008, Plg20°, Azm32°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 21 18:06:53.4±3.0,55.95S±0.10×27.9W±0.2,h127km±28km, n93,σ0:92/40,mb4.8/20,4C-1D,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**17.05**	**158**		**P**	**18 10 47.8**	**+2.9**
VNA1	**Neumayer--Stat**	**17.05**	**158**		**P**	**18 10 53.1**	**+8.2**
VNA1	**Neumayer--Stat**	**17.05**	**158**		**P**	**18 11 00.9**	**+16**
VNA1	**Neumayer--Stat**	**17.05**	**158**	P	**P**	**18 10 45.6**	**+0.7**
VNA1				P		18 10 47.8	
VNA1				P		18 10 53.1	
VNA1				P		18 11 00.9	
VNA1				P		18 11 07.7	
VNA3	**Neumayer Olymp**	**17.23**	**160**		**P**	**18 10 48.8**	**+1.7**
VNA3	**Neumayer Olymp**	**17.23**	**160**		**P**	**18 10 54.6**	**+7.5**
VNA3	**Neumayer Olymp**	**17.23**	**160**		**P**	**18 11 02.3**	**+15**
VNA3	**Neumayer Olymp**	**17.23**	**160**	P	**P**	**18 10 47.4**	**+0.3**
VNA3				P		18 10 48.8	
VNA3				P		18 10 54.6	
VNA3				P		18 11 02.3	
VNA2	**Neumayer--Watz**	**17.44**	**157**		**P**	**18 10 51.3**	**+1.6**
VNA2	**Neumayer--Watz**	**17.44**	**157**		**P**	**18 10 57.2**	**+7.5**
VNA2	**Neumayer--Watz**	**17.44**	**157**	P	**P**	**18 10 49.3**	**-0.4**
VNA2				P		18 10 51.3	
VNA2				P		18 10 57.2	
SNAA	**Sanae**	**19.00**	**156**	P	**P**	**18 11 05.3**	**-1.9**
	22nm,0.3s,baz=309,slow=10.0,SNR=2076						
SNAA				PcP	PcP	18 15 26.1	-0.9
	0.3nm,0.3s,baz=274,slow=2.1,SNR=5.0						
SNAA				ScP		18 18 48.5	
	0.1nm,0.3s,baz=54,slow=2.3,SNR=12						
PMSA	**Palmer Station**	**19.66**	**229**	*e*P	**P**	**18 11 14.1**	**0.0**
	76nm,0.8s						
MAIT	**Maitri**	**22.55**	**147**	*e*P	**P**	**18 11 42.9**	**+0.2**
USHA	**Ushuaia**	**22.81**	**256**	P	**P**	**18 11 46.4**	**+1.0**
	14nm,0.7s,mb4.4,baz=72,slow=9.1,SNR=22						
TRQA	**Tornquist**	**28.91**	**294**	*e*P	**P**	**18 12 41.3**	**-0.8**
	10nm,1.0s,mb4.4						
PLCA	**Paso Flores**	**31.58**	**281**	P	**P**	**18 13 04.4**	**-1.4**
	2.6nm,1.1s,mb3.9,baz=140,slow=9.0,SNR=8.2						
PLCA				PcP	PcP	18 15 54.5	-0.6
	1.2nm,0.6s,baz=51,slow=15,SNR=5.4						
PLCA				ScP		18 19 24.0	
	2.5nm,1.0s,baz=206,slow=6.4,SNR=4.3						
PLCA				LR	LR	18 25 42.9	
	comp=Z,78nm,18.7s,baz=125,slow=36						
PLCA	**Paso Flores**	**31.58**	**281**	P	**P**	**18 13 04.4**	**-1.4**
PLCA				PcP	PcP	18 15 54.5	-0.6
PLCA				ScP		18 19 24.0	
PLCA				LR	LR	18 25 42.9	
SYO	**Syowa Base**	**31.92**	**141**	⇓P	**P**	**18 13 05.3**	**-3.1**
SYO	**Syowa Base**	**31.92**	**141**	⇑pP	pP	18 13 30.4	-5.8
QSPA	**South Pole Qui**	**34.30**	**180**	*e*P	**P**	**18 13 29.0**	**+0.2**
	85nm,0.8s,mb5.6						
CPUP	**Villa Florida**	**36.44**	**312**	LR	LR	18 26 00.8	
	comp=Z,49nm,20.3s,baz=187,slow=32						
CFAA	**Coronel Fontan**	**37.14**	**294**	P	**P**	**18 13 52.0**	**-1.2**
	1.4nm,0.7s,mb4.0,baz=143,slow=8.7,SNR=30						
CFAA				PcP	PcP	18 16 10.9	-0.3
	0.4nm,0.4s,baz=180,slow=2.4,SNR=5.2						
CFAA				LR	LR	18 26 15.1	
	comp=Z,10nm,20.3s,baz=295,slow=31						
MAW	**Mawson**	**40.47**	**144**	P	**P**	**18 14 20.2**	**-0.2**
	19nm,0.7s,mb5.1,baz=234,slow=8.1,SNR=82						
MAW				PcP	PcP	18 16 21.3	0.0
	8.8nm,0.8s,baz=243,slow=5.1,SNR=6.4						
MAW				ScP		18 19 57.2	
	6.6nm,0.9s,baz=271,slow=7.4,SNR=11						
MAW	**Mawson**	**40.47**	**144**	*e*P	**P**	**18 14 20.0**	**-0.4**
	27nm,0.8s,mb5.1						
BAO	**Brasilia Array**	**43.07**	**331**	P	**P**	**18 14 32.0**	**-10**
BDFB	**Brasilia**	**43.07**	**331**	P	**P**	**18 14 42.6**	**+0.4**
	4.7nm,0.7s,mb4.3,baz=149,slow=2.0,SNR=8.0						
LVC	**Limon Verde**	**44.89**	**301**	*e*P	**P**	**18 14 57.7**	**+1.0**
	28nm,0.9s,mb5.0						
SBA	**Scott Base**	**46.15**	**184**	*e*P	**P**	**18 15 06.5**	**+0.5**
	52nm,1.0s,mb5.2						
VNDA	**Vanda**	**46.66**	**183**	P	**P**	**18 15 10.2**	**+0.2**
	48nm,0.7s,mb5.3,baz=186,slow=6.9,SNR=322						
VNDA				ScP		18 20 21.8	
	1.0nm,0.7s,baz=295,slow=4.6,SNR=4.0						
LPAZ	**La Paz**	**49.98**	**306**	P	**P**	**18 15 37.6**	**+1.2**
	8.2nm,0.6s,mb4.8,baz=157,slow=6.8,SNR=59						
CASY	**Casey**	**54.14**	**161**	⇑*i*P	**P**	**18 16 06.2**	**-0.5**
	37nm,0.9s,mb5.4						
SAML	**Samuel**	**54.44**	**315**	⇑*e*P	**P**	**18 16 08.4**	**-1.3**
	18nm,1.0s,mb5.1						
DBIC	**Dimbokro**	**65.25**	**25**	P	**P**	**18 17 23.7**	**+0.2**
	3.2nm,0.8s,mb4.2,baz=157,slow=10,SNR=8.6						
DBIC				LR	LR	18 37 17.5	
	comp=Z,48nm,19.0s,baz=136,slow=28						
ROSC	**El Rosal**	**71.52**	**310**	P	**P**	**18 18 03.1**	**+0.9**
	3.2nm,0.5s,mb4.4,baz=74,slow=22,SNR=4.5						
SDV	**Santo Domingo**	**73.65**	**316**	⇑*i*P	**P**	**18 18 14.7**	**0.0**
	15nm,0.9s,mb4.7						
KMBO	**Kilima Mbogo**	**75.39**	**70**	LR	LR	18 51 26.4	
	comp=Z,74nm,18.7s,baz=96,slow=36						
RPZ	**Rata Peaks**	**79.42**	**194**	P	**P**	**18 18 45.2**	**-1.0**
	20nm,1.0s,mb4.9,baz=35,slow=8.0,SNR=4.0						
MUN	**Mundaring**	**87.23**	**150**	*e*P	**P**	**18 19 26.5**	**+0.4**
KLBR	**Kellerberrin**	**88.02**	**151**	*e*P	**P**	**18 19 30.0**	**+0.1**
	29nm,0.7s,mb5.4						
FORT	**Forrest**	**91.22**	**159**	*e*P	**P**	**18 19 45.7**	**+0.8**
	11nm,0.7s,mb5.1						
STKA	**Stephens Creek**	**92.07**	**171**	*e*P	**P**	**18 19 48.8**	**0.0**
	3.8nm,0.6s,mb4.8						
STKA	**Stephens Creek**	**92.07**	**171**	P	**P**	**18 19 49.1**	**+0.4**
	4.1nm,0.6s,mb4.8,baz=161,slow=3.8,SNR=13						
WRA	**Warramunga Arr**	**102.93**	**163**	P	Pdif	18 20 37.5	-0.6
	0.9nm,0.9s,baz=193,slow=4.3,SNR=9.0						
WRA				PP	PP	18 24 48.0	-8.3
	1.0nm,0.7s,baz=190,slow=6.5,SNR=4.6						
WRA				PKKPbc		18 36 34.9	
	0.5nm,0.5s,baz=354,slow=2.8,SNR=13						
TXAR	**Lajitas Array**	**106.38**	**298**	PKKP	PKKP	18 36 38.9	+20
	0.2nm,0.6s,SNR=4.2						
AKASG	**Malin Array Be**	**116.36**	**37**	PKP	PKPdf	18 25 21.4	+0.4
	0.4nm,0.4s,baz=241,slow=2.0,SNR=4.3						
MSU	**Marysvale**	**117.94**	**298**	*e*PKPdf	PKPdf	18 25 28.5	+1.5
ULM	**Lac du Bonnet**	**119.89**	**317**	PKP	PKPdf	18 25 28.0	+0.2
	3.1nm,0.7s,baz=237,slow=3.2,SNR=4.6						
PDAR	**Pinedale Array**	**119.94**	**303**	PKP	PKPdf	18 25 28.4	+0.3
	0.7nm,0.8s,baz=153,slow=3.3,SNR=5.0						
NB2	**NORSAR Subarra**	**120.66**	**21**	PKPdf	PKPdf	18 25 29.7	+0.6
	0.8nm,0.7s,baz=202,slow=1.9						
NOA	**NORSAR Array B**	**120.66**	**21**	PKP	PKPdf	18 25 30.1	+1.1
	1.3nm,0.8s,baz=204,slow=1.9,SNR=8.5						
NOA				PKKPbc		18 35 36.2	
	0.8nm,0.7s,baz=23,slow=3.4,SNR=5.1						
NOA	**NORSAR Array B**	**120.66**	**21**	PKP	PKPdf	18 25 30.1	+1.1
NOA				PKKPbc		18 35 36.2	
ELK	**Elko**	**121.17**	**298**	PKP	PKPdf	18 25 32.3	+1.7
	1.2nm,0.7s,baz=153,slow=2.7,SNR=5.3						
ELK	**Elko**	**121.17**	**298**	*e*PKPdf	PKPdf	18 25 31.8	+1.2
WVOR	**Wild Horse Val**	**124.13**	**297**	*e*PKPdf	PKPdf	18 25 38.0	+1.8
KOLN	**Koldanda**	**124.47**	**91**	*e*P	PKPdf	18 25 38.0	+0.7
	12nm,0.7s						
FINES	**FINESS Array B**	**124.48**	**28**	PKP	PKPdf	18 25 37.2	+0.7
	4.2nm,0.5s,baz=135,slow=2.7,SNR=35						
FINES	**FINESS Array B**	**124.48**	**28**	PKP	PKPdf	18 25 37.2	+0.7
MSO	**Missoula**	**125.05**	**303**	*e*PKPdf	PKPdf	18 25 38.9	+1.1
KAF	**Kangasniemi**	**125.10**	**28**	*e*p	PKPdf	18 25 37.3	-0.1
	5.7nm,0.6s						
DMN	**Daman**	**125.20**	**92**	*e*P	PKPdf	18 25 39.7	+1.1
BMO	**Blue Mountains**	**125.23**	**299**	*e*PKPdf	PKPdf	18 25 39.1	+0.9
GKN	**Gorkha**	**125.24**	**91**	*e*P	PKPdf	18 25 39.4	+0.7
PKI	**Pulchoki**	**125.34**	**92**	*e*P	PKPdf	18 25

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	150.41	297	*e*PKPbc	PKPdf	18 26 30.0	+7.3
SONM	**Songino Array**	151.13	87	PKP	PKPdf	18 26 25.6	+1.5
	comp=N,0.9nm,0.9s,baz=235,slow=3.6,SNR=5.8						
SONM				PKPbc	PKPdf	18 26 32.0	+7.8
	comp=N,22nm,0.6s,baz=223,slow=3.4,SNR=139						
SONM				pPKPbc		18 27 00.7	
	comp=N,4.0nm,0.9s,baz=230,slow=2.2,SNR=2.5						
SONM				SKP		18 29 47.6	
	comp=N,0.8nm,0.8s,baz=184,slow=7.9,SNR=4.6						
SPU	**Mount Spurr**	151.19	304	*e*PKPbc	PKPdf	18 26 30.9	+7.0
MJAR	**Matsushiro Arr**	158.43	148	PKPab	PKPab	18 27 11.3	-0.8
	comp=N,2.7nm,0.7s,baz=181,slow=4.3,SNR=9.7						
CN2	**Changchun**	159.12	114	*e*PKP	PKPdf	18 26 40.3	+5.3

*IDC **21** 18:25:26.2±2.8, 17.20S×179.08W, h502km±61km, mb2.9/3, mb1 3.2/4, mb1mx3.0/14, mbtmp3.9/4, Error ellipse: s-maj=136.4km s-min=23.1km az=143.0*

ISC 21 18:25:25.2±1.2, 17.2S±0.5×179.1W±0.3, h500km, n7, σ0§23/8, mb3.6/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	7.78	66	P	P	18 27 20.4	-0.1
	2.1nm,0.3s,baz=73,slow=22,SNR=4.9						
AFI				S	S	18 28 43.1	-8.9
	7.4nm,0.3s,baz=118,slow=19,SNR=15						
STKA	**Stephens Creek**	38.40	240	*e*P	P	18 32 04.5	+0.3
	2.8nm,0.9s,mb3.7						
STKA	**Stephens Creek**	38.40	240	P	P	18 32 04.2	+0.1
	2.0nm,0.5s,mb3.8,baz=88,slow=11,SNR=7.7						
WRA	**Warramunga Arr**	44.10	259	P	P	18 32 49.6	-0.4
	0.6nm,0.5s,mb3.2,baz=96,slow=7.3,SNR=11						
KAKA	**Kakadu**	46.92	268	*e*P	P	18 33 24.7	+13
	9.8nm,1.0s,mb4.2						
FITZ	**Fitzroy Crossi**	52.48	260	*e*P	P	18 33 53.2	+0.1
	5.4nm,1.1s,mb3.8						
ILAR	**Eielson Array**	85.32	13	P	P	18 37 09.4	+0.2
	0.2nm,0.4s,mb3.1,baz=218,slow=5.3,SNR=6.7						

*ATH **21** 18:32:10.4, 39.13N×23.37E, h12km±4km, MD3.0/9, ML3.1*
*THE **21** 18:32:10.8, 39.10N×23.30E, h10km, ML2.8*
*NEIC **21** 18:32:10.4, 39.13N×23.38E, h11km, ML3.1(ATH), After ATH.*
*CSEM **21** 18:32:10.7±0.1, 39.07N×23.30E, h8km, ML2.8, Error ellipse: s-maj=2.8km s-min=1.8km az=86.0*

ISC 21 18:32:10.2±0.4, 39.11N±0.02×23.31E±0.04, h10km±4km, n24, σ0§87/40, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	0.21	340	*e*PG	Pg	18 32 15.2	+0.5
NEO				*e*SG	Sg	18 32 18.3	+0.6
XOR	**Xorichti**	0.27	340	*e*Pg	Pg	18 32 16.3	+0.4
XOR				*e*Sg	Sg	18 32 20.4	+0.7
AOS	**Alonnisos**	0.44	82	*e*Pg	Pg	18 32 19.3	+0.1
AOS				*e*Sg	Sg	18 32 26.0	+0.7
LKR	**Lokris**	0.52	208	*e*PB	Pb	18 32 20.6	-0.3
AGG	**Agios Georgios**	0.77	264	*e*Pg	Pg	18 32 24.8	-0.9
AGG				*e*Sg	Sg	18 32 36.2	+0.3
AGG	**Agios Georgios**	0.77	264	*e*Pg	Pg	18 32 24.8	-0.8
AGG				*e*Sg	Sg	18 32 36.2	+0.2
PAIG	**Paliouri**	0.86	19	*e*Pg	Pg	18 32 27.9	+0.3
PAIG				*e*Sg	Sg	18 32 40.5	+1.5
PAIG	**Paliouri**	0.86	19	*e*Pg	Pg	18 32 27.9	+0.4
PAIG				*e*Sg	Sg	18 32 40.5	+1.4
MPAR	**Parnis Oros**	1.01	161	*e*PN	Pn	18 32 30.0	-0.4
MPAR				*e*SB	Sb	18 32 43.5	+1.0
MPAR	**Parnis Oros**	1.01	161	*e*Pn	Pn	18 32 30.8	+0.4
MGER	**Gerania Oros**	1.12	182	*e*PG	Pg	18 32 31.5	-1.1
ATH	**Athens Observa**	1.18	164	*e*PG	Pg	18 32 32.5	-1.3
EVR	**Evrytania**	1.19	261	*e*PB	Pb	18 32 34.6	+2.2
NSAL	**Nisos Salamina**	1.21	174	*e*PN	Pn	18 32 33.0	-0.1
PLG	**Polygyros**	1.27	5	*e*PG	Pg	18 32 33.7	-1.8
PLG				*e*SB	Sb	18 32 49.8	-0.1
OUR	**Ouranopolis**	1.33	23	*e*Pg	Pg	18 32 34.9	-1.8
OUR				*e*Sg	Sg	18 32 53.5	-0.9
OUR	**Ouranopolis**	1.33	23	*e*Pg	Pg	18 32 34.9	-1.8
OUR				*e*Sg	Sg	18 32 53.5	-0.9
NAIG	**Nisos Aigina**	1.36	174	*e*PB	Pb	18 32 36.5	+1.3
NAIG	**Nisos Aigina**	1.36	174	*e*Pn	Pn	18 32 35.2	-0.1
GRG	**Griva**	1.97	339	*e*Pn	Pn	18 32 44.0	-0.1
GRG				*e*Sn	Sn	18 33 09.0	-0.2
GRG	**Griva**	1.97	339	*e*Pn	Pn	18 32 44.0	-0.1
GRG				*e*Sn	Sn	18 33 09.0	-0.1
KNT	**Kendrikon**	2.08	351	*e*Pn	Pn	18 32 46.0	+0.4
KNT				*e*Sn	Sn	18 33 11.7	0.0
FNA	**Florina**	2.24	319	*e*Pn	Pn	18 32 47.4	-0.6
FNA				*e*Sn	Sn	18 33 15.4	-0.5
FNA	**Florina**	2.24	319	*e*Pn	Pn	18 32 47.3	-0.6
FNA				*e*Sn	Sn	18 33 15.4	-0.5

*CSEM **21** 18:33:05.5±0.5, 39.16N×28.25W, h10km, ML2.2, Error ellipse: s-maj=23.8km s-min=6.9km az=138.0, After PDA*
*PDA **21** 18:33:05.5±1.4, 39.16N×28.25W, h10km, MD2.7, ML2.2, Error ellipse: s-maj=8.5km s-min=5.2km az=172.0*

SVSA 21 18:33:05.5±1.4, 39.16N×28.25W, h10km, MD2.7, ML2.2, Error ellipse: s-maj=8.5km s-min=5.2km az=172.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STGR	**Santa Cruz**	0.21	112	*e*P	Pg	18 33 10.6	+0.6
STGR				*e*S	Sg	18 33 13.9	+0.9
	141nm,0.2s						
PGRA	**Graciosa**	0.24	121	*e*P	Pg	18 33 10.1	-0.6
PGRA				*e*S	Sg	18 33 13.5	-0.7
	180nm,0.2s						
PMAN	**Manadas**	0.54	167	*i* P	Pg	18 33 14.0	-2.4
PMAN				*e*S	Sg	18 33 20.5	-3.2
	40nm,0.2s						
PCED	**Cedros**	0.64	214	*i* P	Pb	18 33 15.8	-2.4
PCED				*e*S	Sg	18 33 23.5	-3.4
	47nm,0.2s						
PICO	**Pico**	0.67	192	*e*P	Pb	18 33 16.4	-2.4
PICO				*e*S	Sb	18 33 24.8	-3.1
CALA	**Caldeira**	0.68	212	*e*P	Pb	18 33 16.7	-2.2
CALA				*e*S	Sb	18 33 24.8	-3.2

*MOS **21** 18:40:52.0±1.6, 1.09S×120.02E, h33km, mb4.9/9, Error ellipse: s-maj=43.3km s-min=10.9km az=116.8*
*BJI **21** 18:40:56.6, 1.00S×120.20E, h50km, mB4.8, mb4.8, Ms4.2, Msz3.8*
*NEIC **21** 18:40:56.7±1.7, 1.04S×120.18E, h51km±16km, mb4.5/8, Error ellipse: s-maj=35.4km s-min=8.4km az=65.0*
NEIC Felt [III] at Palu.
*IDC **21** 18:41:03.6±10.0, 1.13S×120.22E, h116km±101km, mb3.8/9, mb1 3.9/10, mb1mx3.8/17, mbtmp4.2/10, ML3.9/1, MS3.6/3, Ms1 3.6/3, ms1mx3.3/14, Error ellipse: s-maj=79.1km s-min=15.0km az=70.0*

ISC 21 18:40:55.6±2.0, 1.00S±0.09×120.2E±0.2, h59km±18km, n43, σ1§14/42, mb4.5/24, MS3.6/5, 2D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	8.05	330	*e*P	P	18 42 50.5	-1.7
FITZ	**Fitzroy Crossi**	17.82	163	*e*P	P	18 45 01.8	+0.7
	10.0nm,1.5s						
FITZ	**Fitzroy Crossi**	17.82	163	P	P	18 45 01.1	-0.1
	0.3nm,0.3s,baz=0.1,slow=8.2,SNR=9.0						
FITZ				LR	LR	18 53 51.3	
	comp=Z,122nm,20.3s,baz=310,slow=43						
WRAB	**Tennant Creek**	23.36	145	*e*P	P	18 46 00.6	+0.9
	31nm,1.1s,mb4.7						
WRAB	**Tennant Creek**	23.36	145	*e*P	P	18 45 58.7	-1.0
WRA	**Warramunga Arr**	23.36	145	P	P	18 46 00.2	+0.5
	5.0nm,1.0s,mb3.9,baz=318,slow=10.0,SNR=25						
JOW	**Kunigami**	28.73	15	LR	LR	18 59 05.9	
	comp=Z,91nm,18.6s,MS3.4,baz=171,slow=38						
WHN	**Wuhan**	31.86	350	*e*P	P	18 47 21.0	+3.7
SSE	**Sheshan**	31.93	2	*e*P	P	18 47 16.5	-1.5
SSE				AMB	AMB		
	comp=Z,43nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,54nm,4.3s						
SSE	**Sheshan**	31.93	2	*e*P	P	18 47 16.5	-1.5
	comp=Z,43nm,0.7s,mb5.4						
SSE				LR	LR		
	comp=Z,50nm,23.7s,MS3.1						
ENH	**Enshi**	32.73	343	*e*P	P	18 47 26.2	+1.2
	comp=Z,11nm,1.1s,mb4.7						
NJ2	**Nanjing**	32.89	358	*e*P	P	18 47 25.8	-0.6
NJ2				AP	pP	18 47 43.5	+2.3
NJ2				PP	PP	18 48 39.0	+1.2
NJ2				S	S	18 52 38.0	-0.7
NJ2				XS		18 53 05.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,90nm,6.2s						
NJ2				LR	LR		
	comp=N,480nm,31.0s						
NJ2				LR	LR		
	comp=E,400nm,23.6s						
NJ2				LR	LR		
	comp=Z,340nm,34.0s,MS3.8						
STKA	**Stephens Creek**	36.76	149	*e*P	P	18 47 59.6	+0.2
	comp=Z,3.3nm,0.7s,mb4.3						
STKA	**Stephens Creek**	36.76	149	P	P	18 47 59.1	-0.3
	comp=Z,4.4nm,0.8s,mb4.3,baz=322,slow=11,SNR=6.9						
LSA	**Lhasa**	41.24	320	P	P	18 48 38.3	+1.7
LSA	**Lhasa**	41.24	320	*e*P	P	18 48 38.4	+1.8
	comp=Z,6.7nm,0.8s,mb4.3						
LSA	**Lhasa**	41.24	320	*e*P	P	18 48 38.4	+1.8
LSA				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.3						
GTA	**Gaotai**	44.35	337	*e*P	P	18 49 03.8	+1.9
GTA				PP	PP	18 50 49.4	+2.2
GTA				S	S	18 55 37.6	+6.4
GTA				SS	SS	18 58 47.4	+4.8
GTA				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.6						
GTA				AMB	AMB		
	comp=Z,95nm,5.1s						
GTA				LR	LR		
	comp=N,84nm,15.0s,MS4.0						
GTA				LR	LR		
	comp=E,88nm,14.4s,MS4.0						
GTA				LR	LR		
	comp=Z,84nm,13.8s,MS3.8						
SONM	**Songino Array**	50.10	348	P	P	18 49 48.5	+1.7
	comp=Z,5.3nm,0.9s,mb4.6,baz=166,slow=8.2,SNR=29						
ZAK	**Zakamensk**	53.19	347	*e*P	P	18 50 11.0	+1.0
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.0						
MOY	**Mondy**	54.93	345	*e*P	P	18 50 24.0	+1.3
MKAR	**Makanchi Array**	58.03	330	P	P	18 50 45.8	+0.9
	comp=Z,3.4nm,0.7s,mb4.5,baz=129,slow=7.8,SNR=35						
BOD	**Bodaibo**	58.84	356	*e*P	P	18 50 50.2	-0.1
AAK	**Ala-Archa**	59.77	322	↓*i*P	P	18 50 52.9	-4.0
AAK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
ZAL	**Zalesovo**	62.10	337	P	P	18 51 12.7	+0.1
	comp=Z,2.3nm,0.7s,mb4.4,baz=343,slow=4.3,SNR=13						
KURK	**Kurchatov**	62.48	332	*e*P	P	18 51 15.6	+0.5
	comp=Z,11nm,1.0s,mb5.0						
YAK	**Yakutsk**	63.27	5	*e*P	P	18 51 18.4	-1.9
YAK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.8						
NVS	**Novosibirsk**	63.39	337	*e*P	P	18 51 17.4	-3.7
BVAR	**Borovoye Array**	67.92	330	P	P	18 51 50.0	-0.1
	comp=Z,2.1nm,0.8s,mb4.2,baz=117,slow=6.6,SNR=11						
BRVK	**Borovoye**	67.99	330	*e*P	P	18 51 50.7	+0.2
	comp=Z,2.7nm,1.0s,mb4.2						
BRVK	**Borovoye**	67.99	330	*e*P	P	18 51 50.7	+0.2
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
ARU	**Arti**	75.56	330	↓*i*P	P	18 52 35.1	-0.4
ARU				*e*	pP	18 52 47.2	-4.7
ARU				*e*		18 55 26.3	
ARU				*e*S	S	19 02 13.5	+3.2
ARU				*e*SS	SS	19 07 09.1	+4.4
ARU				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
BILL	**Bilibino**	75.82	16	*e*P	P	18 52 37.0	+0.2
BILL				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.7						
GNI	**Garni**	79.56	311	*e*P	P	18 52 52.4	-5.7
GNI				pmax	pmax		
	comp=Z,36nm,1.7s						
VNDA	**Vanda**	79.67	172	P	P	18 52 57.4	-0.6
	comp=Z,0.5nm,0.7s,mb3.6,baz=332,slow=6.4,SNR=5.4						
KIV	**Kislovodsk**	81.72	315	*i* P	P	18 53 06.6	-2.8
KMBO	**Kilima Mbogo**	82.94	269	LR	LR	19 29 37.9	
	comp=Z,52nm,21.0s,MS3.9,baz=94,slow=35						
VRSR	**Storozhevoye**	85.14	321	*e*P	P	18 53 26.5	-0.1
VRSR				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb5.0						
VRSR				pmax	pmax		
	comp=N,4.0nm,0.8s						
VRSR				pmax	pmax		
	comp=E,10.0nm,1.0s						
OBN	**Obninsk**	87.16	325	*e*P	P	18 53 35.2	-1.2
OBN				pmax	pmax		
	comp=Z,21nm,1.7s,mb5.1						
BRTR	**Keskin Array B**	87.99	310	P	P	18 53 40.3	-0.4
	comp=Z,2.1nm,0.9s,mb4.3,baz=127,slow=6.2,SNR=7.9						
AKASG	**Malin Array Be**	91.39	321	P	P	18 53 55.6	-0.9
	comp=Z,0.1nm,0.2s,mb3.7,baz=60,slow=4.8,SNR=4.3						
AKASG	**Malin Array Be**	91.39	321	P	P	18 53 55.0	-1.5
BDFB	**Brasilia**	159.79	215	PKPab	PKPab	19 01 29.8	-0.3
	comp=Z,3.1nm,0.7s,baz=157,slow=3.7,SNR=5.0						

IDC 21 19:36:12.9±1.4, 24.60N×141.39E, h183km±16km, mb3.3/6, mb1 3.4/7, mb1mx3.3/19, mbtmp3.8/7, Error ellipse: s-maj=32.9km s-min=14.2km az=80.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	2.58	16	P	P	19 36 58.5	+1.2
	26nm,0.3s,baz=279,slow=22,SNR=16						
CBIJ				S	S	19 37 30.9	-0.5
	174nm,0.3s,baz=291,slow=22,SNR=32						
SONM	**Songino Array**	36.06	319	P	P	19 42 57.8	-0.7
	0.1nm,0.3s,baz=143,slow=7.4,SNR=3.5						
WRA	**Warramunga Arr**	44.81	189	P	P	19 44 08.5	-1.9
	21nm,0.3s,baz=7.8,slow=8.6,SNR=377						
MKAR	**Makanchi Array**	51.54	311	P	P	19 45 00.6	-1.3
	0.7nm,0.5s,baz=81,slow=8.6,SNR=11						
STKA	**Stephens Creek**	56.16	180	P	P	19 45 33.4	-2.4
	2.2nm,0.5s,baz=347,slow=6.5,SNR=9.4						
BVAR	**Borovoye Array**	59.41	318	P	P	19 45 55.5	-2.6
	1.9nm,0.8s,baz=95,slow=8.3,SNR=12						
ILAR	**Eielson Array**	60.24	28	P	P	19 46 02.2	-1.4
	0.3nm,0.6s,baz=251,slow=4.8,SNR=5.6						
FINES	**FINESS Array B**	79.86	334	P	P	19 47 59.6	-2.5
	1.7nm,1.0s,baz=63,slow=4.3,SNR=6.0						

*IDC **21** 19:53:28.8±1.5, 29.92N×80.47E, mb3.5/6, mb1 3.7/6, mb1mx3.5/19, mbtmp3.5/6, Error ellipse: s-maj=66.9km s-min=26.3km az=51.0*
*NEIC **21** 19:53:33.9±1.1, 29.97N×80.59E, h35km, mb3.5/1, Error ellipse: s-maj=25.2km s-min=13.8km az=217.0*
*NDI **21** 19:53:33.3±6.4, 30.07N×81.17E, h135km±183km, ML3.1, mb3.5(NEIC)*

ISC 21 19:53:33.5±0.7, 30.07N±0.06×80.83E±0.08, h33km, n22, σ1§52/24, mb3.5/6, Western Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGTI	**Lohaghat**	0.80	219	*ex*	P	19 53 47.3	-1.0
LGTI				*ex*	S	19 54 01.0	+1.8
DDI	**Dehra Dun**	2.41	277	*ex*	x	19 54 00.7	
KLP	**Kalpa**	2.66	304	*e*P	P	19 54 19.2	+4.3
KLP				*e*S	S	19 54 52.1	+5.9
KLP				AML	AML	19 54 59.6	
	comp=N,218nm,1.0s						
BISR	**Bishrakh**	3.31	244	*e*P	P	19 54 28.0	+3.7
SMLA	**Simla**	3.33	289	*ex*	x	19 54 16.3	
NDI	**New Delhi**	3.44	247	*e*P	P	19 54 32.0	+5.9
NDI				*ex*	S	19 55 05.0	-1.2
SDNR	**Sundarnagar**	3.61	294	*e*P	P	19 54 29.0	+0.5
SONA	**Sohna**	3.74	242	*i* P	P	19 54 36.1	+5.7
SONA				*i* x	x	19 55 23.3	
SONA				AML	AML	19 55 36.1	
	comp=N,48nm,0.4s						
SONA				AML	AML	19 55 36.2	
	comp=E,42nm,0.3s						
AGRA	**Agra**	3.80	223	*e*P	P	19 54 31.7	+0.6
AGRA				*e*S	S	19 55 14.3	-1.0
KHET	**Khetri**	4.82	247	*i* P	P	19 54 47.5	+1.8
KHET				*i* x	x	19 55 52.0	
KHET				AML	AML	19 56 05.0	
	comp=N,18nm,0.1s						
AJM	**Ajmer**	6.52	238	*e*S	S	19 56 20.0	-3.7
LSA	**Lhasa**	8.97	90	P	P	19 55 43.6	0.0
	comp=N,2.6nm,0.7s						
MKAR	**Makanchi Array**	16.74	3	Pn	P	19 57 28.1	+1.2
	comp=N,0.2nm,0.3s,baz=187,slow=12,SNR=16						
KURK	**Kurchatov**	20.69	356	*e*P	P	19 58 09.9	-3.2
	comp=N,2.1nm,0.9s						
ZAL	**Zalesovo**	24.02	6	P	P	19 58 47.7	+1.6
	comp=N,0.5nm,0.4s,mb3.3,baz=266,slow=7.5,SNR=3.0						
ZAL	**Zalesovo**	24.02	6	P	P	19 58 47.7	+1.6
BVAR	**Borovoye Array**	24.18	344	P	P	19 58 47.0	-0.6
	comp=N,0.5nm,0.5s,mb3.2,baz=152,slow=11,SNR=4.5						
AKASG	**Malin Array Be**	43.35	313	P	P	20 01 31.9	-2.2
	comp=N,0.9nm,0.7s,mb3.6,baz=76,slow=7.9,SNR=4.3						
FINES	**FINESS Array B**	47.34	328	P	P	20 02 03.2	-2.5
	comp=N,1.2nm,0.8s,mb3.9,baz=108,slow=12,SNR=3.7						
NB2	**NORSAR Subarra**	54.38	326	P	P	20 02 56.3	-2.7
	comp=N,0.2nm,0.4s,mb3.4,baz=108,slow=7.4						
NOA	**NORSAR Array B**	54.38	326	P	P	20 02 56.7	-2.4
	comp=N,0.7nm,0.7s,mb3.7,baz=92,slow=7.2,SNR=3.7						
WRA	**Warramunga Arr**	71.58	127	P	P	20 04 53.1	-0.5

*NEIC **21** 20:19:47.0±1.3, 39.26N×10.20W, h10km, ML3.2(LDG), MN3.0(MDD), Error ellipse: s-maj=15.6km s-min=4.2km az=73.0*
*LDG **21** 20:19:48.5±0.3, 39.22N×10.20W, h10km, Ml3.2/3, Error ellipse: s-maj=7.4km s-min=3.5km az=80.0*
*MDD **21** 20:19:49.4±1.1, 39.21N×10.30W, h44km±34km, mb4.2/34, Error ellipse: s-maj=10.9km s-min=5.1km az=79.0, PRXIMO*
*IGIL **21** 20:19:50.1±40.0, 39.20N×10.20W, h19km, ML3.1*
*CSEM **21** 20:19:51.2±0.2, 39.30N×9.82W, h40km, ML3.2/1, Error ellipse: s-maj=4.4km s-min=1.7km az=78.0*

INMG 21 20:19:50.2±1.1, 39.18N×10.28W, h31km±13km, ML2.4, Error ellipse: s-maj=9.7km s-min=3.6km az=87.0, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOU	**Loures**	0.93	108	*e*P	Pn	20 20 05.9	-1.3
PLOU				*e*S	Sn	20 20 17.7	-1.8
	128nm,0.3s						
PLOU	**Loures**	0.93	108	P	Pn	20 20 05.9	-1.3
PLOU				S	Sn	20 20 17.7	-1.8
	64nm,0.3s						
LIS	**Lisbon**	0.99	117	*e*P	Pn	20 20 06.9	-1.3
LIS				*e*S	Sn	20 20 18.9	-2.3
LIS				*e*S	Sn	20 20 19.0	-2.2
LIS				AML	AML	20 20 21.8	
	comp=E,728nm,0.3s						
ALMR	**Almeirim**	1.32	90	*e*P	Pn	20 20 11.0	-1.9
ALMR				*e*		20 20 11.2	
	baz=106,slow=4.3						
ALMR				*e*S	Sn	20 20 26.8	-2.8
ALMR				*e*S	Sn	20 20 26.8	-2.8
ALMR				AML	AML	20 20 28.3	
	comp=E,176nm,0.7s						
ALMR	**Almeirim**	1.32	90	*e*P	Pn	20 20 11.0	-1.9
ALMR				*e*S	Sn	20 20 26.8	-2.8
PTOM	**Tomar**	1.51	72	*e*P	Pn	20 20 13.7	-1.9
PTOM				S	Sn	20 20 31.8	-2.6
	comp=E,37nm,0.1s						
PTOM	**Tomar**	1.51	72	*e*P	Pn	20 20 13.7	-1.9
PTOM				S	Sn	20 20 31.8	-2.6
	comp=E,37nm,0.1s						
EVO	**Evora**	1.88	109	*e*Pn	Pn	20 20 17.3	-3.6
EVO				*e*Sn	Sn	20 20 37.3	-6.5
	comp=E,38nm,0.3s						
PTEO	**Sao Teotonio**	2.04	143	*e*Pn	Pn	20 20 20.7	-2.4
PTEO				*e*Sn	Sn	20 20 43.3	-4.4
	comp=E,16nm,0.3s						
PTEO	**Sao Teotonio**	2.04	143	*e*Pn	Pn	20 20 20.7	-2.4
PTEO				*e*Sn	Sn	20 20 43.3	-4.4
	comp=E,16nm,0.3s						
PBEJ	**Beja**	2.21	121	*e*Pn	Pn	20 20 23.1	-2.5
PBEJ				*e*Sn	Sn	20 20 47.8	-4.4
	comp=E,6.7nm,0.2s						
PBEJ	**Beja**	2.21	121	*e*Pn	Pn	20 20 23.1	-2.5
PBEJ				*e*Sn	Sn	20 20 47.8	-4.4
	comp=E,6.7nm,0.2s						
PCBR	**Castelo Branco**	2.27	72	*e*Pn	Pn	20 20 23.8	-2.6
PCBR				*e*Sn	Sn	20 20 49.0	-4.5
	comp=E,9.9nm,0.2s						
PCBR	**Castelo Branco**	2.27	72	P	Pn	20 20 23.8	-2.6
PCBR				S	Sn	20 20 49.0	-4.5
	comp=E,4.9nm,0.2s						
MTE	**Manteigas**	2.44	59	*e*Pn	Pn	20 20 26.0	-2.8
MTE				*e*Sn	Sn	20 20 53.3	-4.5
	comp=E,22nm,0.4s						
MTE	**Manteigas**	2.44	59	P	Pn	20 20 26.0	-2.8
MTE				S	Sn	20 20 53.3	-4.5
	comp=E,11nm,0.4s						
EBAD	**Badajoz**	2.58	98	P	Pn	20 20 27.8	-3.0
	comp=E,4.3nm,0.1s,SNR=68						
EBAD				S	Sn	20 20 56.4	-5.1
	comp=E,30nm,0.1s,SNR=12						
EBAD	**Badajoz**	2.58	98	P	Pn	20 20 27.8	-3.1
EBAD				S	Sn	20 20 56.4	-5.1
EGRO	**El Granado**	2.74	126	P	Pn	20 20 30.7	-2.5
	comp=E,3.0nm,0.1s,SNR=32						
EGRO				S	Sn	20 21 00.8	-4.9
	comp=E,12nm,0.1s,SNR=5.0						
EGRO	**El Granado**	2.74	126	P	Pn	20 20 30.7	-2.5
EGRO				S	Sn	20 21 00.8	-4.8
PVRL	**Vila Real**	2.87	42	*e*Pn	Pn	20 20 31.9	-3.1
PVRL				*e*Sn	Sn	20 21 02.3	-6.6
	comp=E,12nm,0.1s						
PVRL	**Vila Real**	2.87	42	P	Pn	20 20 31.9	-3.1
PVRL				S	Sn	20 21 02.3	-6.6
	comp=E,5.9nm,0.1s						
PCAB	**Cabril**	3.06	33	*e*Pn	Pn	20 20 34.3	-3.3
PCAB				*e*Sn	Sn	20 21 07.0	-6.6
	comp=E,15nm,0.1s						
PCAB	**Cabril**	3.06	33	P	Pn	20 20 34.3	-3.3
P

comp=E,3.8nm,0.1s,SNR=7.9
ERUA S Sn 20 21 29.7 -7.7
comp=E,2.7nm,0.1s,SNR=7.9
ESPR Espera 4.18 122 P Pn 20 20 51.0 -2.6
comp=E,1.8nm,0.1s,SNR=7.9
ESPR S Sn 20 21 36.6 -5.6
comp=E,11nm,0.2s,SNR=7.9
ESPR Espera 4.18 122 P Pn 20 20 51.0 -2.6
ESPR S Sn 20 21 36.6 -5.5
comp=E,11nm,0.2s,SNR=7.9
EADA Adamuz 4.58 101 P Pn 20 20 55.9 -3.3
comp=E,6.9nm,0.1s,SNR=7.9
EADA S Sn 20 21 44.4 -7.6
comp=E,6.3nm,0.1s,SNR=7.9
EADA Adamuz 4.58 101 P Pn 20 20 55.9 -3.3
EADA S Sn 20 21 44.4 -7.6
comp=E,6.3nm,0.1s,SNR=7.9
EJIF Jimena Fronter 4.68 124 P Pn 20 20 57.7 -3.0
comp=E,0.3nm,0.1s,SNR=7.9
EJIF S Sn 20 21 45.6 -9.0
comp=E,0.3nm,0.1s,SNR=7.9
EPON Pontenova 4.77 29 P Pn 20 20 58.0 -3.9
comp=E,3.0nm,0.1s,SNR=7.9
EPON S Sn 20 21 49.1 -7.8
comp=E,3.7nm,0.2s,SNR=7.9
EPON Pontenova 4.77 29 P Pn 20 20 58.0 -3.9
EPON S Sn 20 21 49.1 -7.8
ESDC Sonseca Array 4.92 82 P Pn 20 21 00.5 -3.5
comp=E,37nm,0.1s,baz=265,slow=13,SNR=200
ESDC S Sn 20 21 52.2 -8.3
comp=E,6.9nm,0.1s,baz=266,slow=24,SNR=33
ESDC Sonseca Array 4.92 82 P Pn 20 21 00.5 -3.5
ESDC S Sn 20 21 52.2 -8.4
ELUQ Luque 4.99 107 P Pn 20 21 01.3 -3.8
comp=E,0.7nm,0.1s,SNR=7.9
ELUQ S Sn 20 21 55.9 -6.6
comp=E,1.0nm,0.2s,SNR=7.9
EMIJ Mijas 5.08 119 P Pn 20 21 02.4 -3.9
comp=E,0.3nm,0.1s,SNR=7.9
EMIJ S Sn 20 21 56.4 -8.1
comp=E,0.7nm,0.2s,SNR=7.9
EBAN Banos Encina 5.18 99 P Pn 20 21 04.0 -3.7
comp=E,2.0nm,0.1s,SNR=6.4
EBAN S Sn 20 21 57.4 -10
comp=E,4.5nm,0.2s,SNR=5.0
ELOJ Sierra Loja 5.24 111 P Pn 20 21 05.3 -3.2
comp=E,0.8nm,0.2s,SNR=7.9
EQUE Quentar 5.74 108 P Pn 20 21 12.3 -3.2
comp=E,0.3nm,0.1s,SNR=7.9
EQUE S Sn 20 22 11.1 -10
comp=E,0.1nm,0.1s,SNR=7.9
EQES Quesada 5.82 101 P Pn 20 21 12.8 -3.9
comp=E,2.6nm,0.2s,SNR=7.9
EQES S Sn 20 22 14.3 -8.9
comp=E,1.7nm,0.2s,SNR=7.9
EQES Quesada 5.82 101 P Pn 20 21 12.8 -3.9
EQES S Sn 20 22 14.3 -8.9
EVIA Vianos 6.09 93 P Pn 20 21 16.7 -3.9
comp=E,1.4nm,0.2s,SNR=7.9
EVIA S Sn 20 22 21.0 -8.9
comp=E,0.6nm,0.1s,SNR=4.8
EHUE Huescar 6.18 100 P Pn 20 21 17.9 -3.9
comp=E,0.9nm,0.2s,SNR=9.3
EHUE S Sn 20 22 23.6 -8.6
comp=E,0.4nm,0.1s,SNR=5.0
EBER Berja 6.26 109 P Pn 20 21 20.9 -2.0
comp=E,0.7nm,0.1s,SNR=7.9
EBER S Sn 20 22 26.0 -8.2
comp=E,0.2nm,0.1s,SNR=7.9
EBER Berja 6.26 109 P Pn 20 21 20.9 -2.1
EBER S Sn 20 22 26.0 -8.2
ELAN Lanestosa 6.56 50 P Pn 20 21 23.8 -3.4
comp=E,0.1nm,0.1s,SNR=7.9
ELAN S Sn 20 22 30.5 -11
comp=E,0.5nm,0.1s,SNR=7.9
ELAN Lanestosa 6.56 50 P Pn 20 21 23.8 -3.4
ELAN S Sn 20 22 30.5 -11
ETOB Tobarra 6.83 92 P Pn 20 21 25.7 -5.3
comp=E,1.2nm,0.2s,SNR=7.9
ETOB S Sn 20 22 37.9 -11
comp=E,0.1nm,0.1s,SNR=5.0
ETOB Tobarra 6.83 92 P Pn 20 21 25.7 -5.3
ETOB S Sn 20 22 37.9 -11
EMUR La Murta 7.21 98 P Pn 20 21 31.2 -5.1
comp=E,1.1nm,0.2s,SNR=7.9
EMUR S Sn 20 22 48.1 -10
comp=E,0.2nm,0.1s,SNR=4.0
EMUR La Murta 7.21 98 P Pn 20 21 31.2 -5.1
EMUR S Sn 20 22 48.1 -10
ECHE Chera 7.22 84 P Pn 20 21 31.1 -5.4
comp=E,0.4nm,0.2s,SNR=7.9
ECHE S Sn 20 22 48.1 -10
comp=E,0.3nm,0.1s,SNR=7.9
EMOS Mosqueruela 7.65 78 P Pn 20 21 37.6 -4.8
comp=E,0.3nm,0.1s,SNR=6.2
EMOS S Sn 20 22 56.8 -12
comp=E,0.3nm,0.1s,SNR=7.9
EMOS Mosqueruela 7.65 78 P Pn 20 21 37.6 -4.8
EMOS S Sn 20 22 56.8 -12
EALK Alkurruntz 7.75 56 P Pn 20 21 40.2 -3.6
comp=E,0.1nm,0.1s,SNR=7.9
EALK S Sn 20 22 59.6 -12
comp=E,0.2nm,0.1s,SNR=7.9
EBEN Beniarda 7.85 90 S Sn 20 23 01.6 -12
comp=E,0.1nm,0.1s,SNR=7.9
EBEN Beniarda 7.85 90 S Sn 20 23 01.6 -12
comp=E,0.1nm,0.1s,SNR=7.9
SJPF Ste Jean 7.88 57 *e*Pn Pn 20 21 41.0 -4.7
SJPF *e*Sn Sn 20 23 04.3 -10
comp=E,2.3nm,0.3s
ESAC San Caprasio 7.90 68 P Pn 20 21 40.6 -5.4
comp=E,14nm,0.3s,SNR=7.9
ESAC S Sn 20 22 58.6 -17
comp=E,3.8nm,0.2s,SNR=4.0
ESAC San Caprasio 7.90 68 P Pn 20 21 40.6 -5.3
ESAC S Sn 20 22 58.6 -17
ETSF Etsaut 8.23 60 *e*Pn P 20 21 44.1 -6.4
ETSF *e*Sn Sn 20 23 11.9 -12
comp=E,1.2nm,0.3s
ERTA Horta de San J 8.33 74 P P 20 21 46.8 -5.1
comp=E,0.4nm,0.1s,SNR=7.9
ERTA S Sn 20 23 13.4 -13
comp=E,0.3nm,0.1s,SNR=7.9
ERTA Horta de San J 8.33 74 P P 20 21 46.8 -5.1
ERTA S Sn 20 23 14.5 -11
ERTA Horta de San J 8.33 74 P P 20 21 46.8 -5.1
ERTA S Sn 20 23 14.5 -11
EGRA Graus 8.60 66 P P 20 21 50.4 -5.2
comp=E,0.5nm,0.1s,SNR=9.4
EGRA S Sn 20 23 19.7 -13
comp=E,0.2nm,0.1s,SNR=7.9
EBIE Bielsa 8.63 63 P P 20 21 52.0 -4.1
comp=E,1.4nm,0.2s,SNR=18
EBIE S Sn 20 23 21.6 -12
comp=E,0.1nm,0.1s,SNR=7.9
EBIE Bielsa 8.63 63 P P 20 21 52.0 -4.1
EBIE S Sn 20 23 21.6 -12
EPF Esparros 8.89 61 *e*Pn P 20 21 55.4 -4.3
EPOB Poblet 8.95 72 P P 20 21 55.1 -5.4
comp=E,1.4nm,0.2s,SNR=7.9
EPOB S Sn 20 23 28.5 -13
comp=E,0.1nm,0.1s,SNR=7.9
EPOB Poblet 8.95 72 P P 20 21 55.1 -5.4
EPOB S Sn 20 23 28.5 -13
LFF La Frestale 10.01 51 *e*Pn P 20 22 08.3 -6.7
QUIF Quistinic 10.14 28 *e*Pn P 20 22 10.4 -6.4
MTLF Montolieu 10.29 62 *e*Pn P 20 22 13.0 -5.8
ROSF Rostrenen 10.46 27 *e*Pn P 20 22 15.3 -5.9
MFF Saint Martin d 10.50 42 *e*Pn P 20 22 14.8 -6.9
RJF Les Rejaudoux 10.67 51 *e*Pn P 20 22 17.7 -6.4
TCF Toulx Ste Croi 11.60 48 *e*Pn P 20 22 30.7 -6.1
AVF Avril sur Loir 12.54 48 *e*Pn P 20 22 42.7 -6.6
SSF Saint Saulge 12.77 47 *e*Pn P 20 22 46.6 -5.9

*ATH **21** 20:49:19.4, 35.49N×27.02E, h25km±3km, MD3.4/7*
*NEIC **21** 20:49:19.4, 35.49N×27.02E, h25km, MD3.4(ATH), After ATH.*
*CSEM **21** 20:49:20.4±0.2, 35.45N×27.02E, h20km, MD3.4, Error ellipse: s-maj=6.6km s-min=2.2km az=153.0*
*ISK **21** 20:49:22.8, 35.66N×27.02E, h16km, MD3.6*
ISC 21 20:49:19.8±0.7,**35.46N**±0.06×**26.97E**±0.04,**h10km, n20,** σ**1**§**14**/32,**Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.18**	**62**	*e*PB	**Pb**	**20 49 24.1**	**-0.6**
NPS	**Neapolis**	**1.12**	**260**	*e*PN	**Pn**	**20 49 41.8**	**+0.2**
NPS				*e*SN	**Sn**	**20 49 57.6**	**+0.5**
ARG	**Arkhangelos**	**1.21**	**51**	*e*PN	**Pn**	**20 49 41.8**	**-0.9**
ARG				*e*SN	**Sn**	**20 49 57.9**	**-1.3**
BODT	**Bodrum**	**1.62**	**10**	*e*PN	**Pn**	**20 49 49.1**	**+0.4**
BDRM	**Kayabasi**	**1.65**	**13**	*i* P	**Pn**	**20 49 51.3**	**+2.2**
BDRM				*i* S	**Sn**	**20 50 11.1**	**+0.7**
DALT	**Dalyan (Mudla)**	**1.88**	**46**	*e*PN	**Pn**	**20 49 52.6**	**+0.2**
DALT				*e*SN	**Sn**	**20 50 14.9**	**-1.4**
MLSB	**Milas**	**1.94**	**19**	*e*PN	**Pn**	**20 49 53.5**	**+0.3**
MLSB				*e*SN	**Sn**	**20 50 14.9**	**-3.0**
APE	**Apeiranthos**	**1.98**	**325**	PN	**Pn**	**20 49 54.0**	**+0.3**
APE				SN	**Sn**	**20 50 18.4**	**-0.5**
APE	**Apeiranthos**	**1.98**	**325**	*e*Pn	**Pn**	**20 49 53.9**	**+0.1**
APE				*e*Sn	**Sn**	**20 50 18.4**	**-0.5**
YER	**Yerkesik**	**1.98**	**32**	*i* PN	**Pn**	**20 49 53.9**	**+0.1**
YER				*i* SN	**Sn**	**20 50 16.4**	**-2.5**
SMG	**Samos**	**2.24**	**357**	*e*PN	**Pn**	**20 49 56.6**	**-1.0**
VAM	**Vamos**	**2.26**	**269**	*e*PN	**Pn**	**20 49 58.0**	**+0.2**
AKAS	**Kas**	**2.28**	**69**	*i* P	**Pn**	**20 49 57.7**	**-0.4**
AKAS				*i* S	**Sn**	**20 50 28.3**	**+1.9**
AYDN	**Tasoluk**	**2.31**	**18**	*i* P	**Pn**	**20 50 01.3**	**+2.7**
AYDN				*i* S	**Sn**	**20 50 29.9**	**+2.5**
GOLH	**Golhisar**	**2.74**	**49**	*i* P	**Pn**	**20 50 04.7**	**0.0**
GOLH				*i* S	**Sn**	**20 50 45.7**	**+7.5**
DNZL	**Cakiroluk**	**2.78**	**36**	*i* P	**Pg**	**20 50 16.0**	**+0.6**
DNZL				*i* S	**Sg**	**20 50 56.5**	**+4.1**
DENT	**Denizli**	**2.83**	**35**	*e*PN	**Pn**	**20 50 06.0**	**0.0**
BLCB	**Balcova**	**2.92**	**1**	*e*PN	**Pn**	**20 50 06.9**	**-0.3**
KYTH	**Kithira**	**3.29**	**285**	*e*PN	**Pn**	**20 50 11.5**	**-1.1**
VLI	**Veliai**	**3.50**	**292**	*e*PN	**Pn**	**20 50 14.6**	**-0.8**

*NIED **21** 20:50:00, 37.30N×138.70E, h8km, Mw3.5 Best double couple: M0=1.76×10^14 NP1:φ=28°, δ=53°, λ=104°. NP2:φ=186°, δ=39°, λ=72°.*
JMA 21 20:50:23.5±0.1,**37.28N**×**138.71E**,**h16**km±2km,**M3.2,8D, Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.25**	**97**	⇓P	Pb	20 50 28.7	-0.4
JHK				S	Sb	20 50 32.7	-0.2
JIZZ	**Izumozaki**	**0.25**	**360**	⇓P	Pb	20 50 29.3	+0.1
JIZZ				S	Sb	20 50 34.3	+1.3
JJN	**Nakama**	**0.47**	**248**	⇓P	Pb	20 50 32.6	-0.3
JJN				S	Sb	20 50 39.9	+0.5
JKT	**Katashina**	**0.67**	**140**	⇓P	Pb	20 50 36.2	-0.1
JNS	**Sasagawa**	**0.72**	**42**	P	Pb	20 50 37.0	-0.2
JFY	**Yanaizu**	**0.80**	**81**	⇓P	Pb	20 50 38.3	-0.3
JFY				S	Sb	20 50 49.1	+0.1
JSD	**Sado**	**0.84**	**335**	⇓P	Pb	20 50 38.2	-1.0
MAT	**Matsushiro**	**0.84**	**209**	P	Pb	20 50 38.8	-0.4
MAT				S	Sb	20 50 50.1	+0.1
JAG	**Ashikaga**	**1.04**	**145**	⇓P	Pb	20 50 42.9	+0.2
JSZ	**Suzu**	**1.09**	**279**	⇓P	Pb	20 50 42.5	-0.9

*IDC **21** 21:04:45.4±2.1, 19.88S×69.03W, h115km±17km, mb3.7/3, mb1 3.5/8, mb1mx3.4/18, mbtmp3.8/8, Error ellipse: s-maj=39.3km s-min=13.5km az=105.0*
*NEIC **21** 21:04:45.2±0.8, 19.89S×69.06W, h112km±14km, mb4.0/3, Error ellipse: s-maj=16.9km s-min=9.3km az=97.0*
ISC 21 21:04:44.3±0.8,**19.86S**±0.06×**69.1W**±0.1,**h126**km±12km, **n15,** σ0§85/18,**mb4.1**/1,**2D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.74**	**177**	P	**P**	**21 05 28.1**	**-0.2**
	24nm,0.3s,baz=355,slow=12,SNR=364						
LVC				S	**S**	**21 06 01.8**	**+0.3**
	70nm,0.3s,baz=193,slow=22,SNR=22						
LVC	**Limon Verde**	**2.74**	**177**	⇓*e*P	**P**	**21 05 27.9**	**-0.3**
LVC				S	**S**	**21 06 01.8**	**+0.3**
LPAZ	**La Paz**	**3.66**	**14**	P	**P**	**21 05 41.2**	**+0.8**
	1.6nm,0.3s,baz=197,slow=9.7,SNR=42						
ARE	**Arequipa**	**4.09**	**325**	⇓*i*P	**P**	**21 05 45.3**	**-0.9**
ARE				*i* S	**S**	**21 06 23.5**	**-10**
SIV	**San Ignacio**	**8.53**	**64**	P	**P**	**21 06 45.2**	**-0.8**
	1.5nm,0.3s,baz=254,slow=9.9,SNR=32						
CFAA	**Coronel Fontan**	**11.72**	**177**	P	**P**	**21 07 29.5**	**+1.1**
	0.1nm,0.3s,baz=348,slow=13,SNR=4.7						
CFAA	**Coronel Fontan**	**11.72**	**177**	P	**P**	**21 07 29.5**	**+1.1**
SAML	**Samuel**	**12.25**	**29**	*e*P	**P**	**21 07 38.6**	**+3.1**
	2.0nm,0.6s						
CPUP	**Villa Florida**	**12.57**	**123**	P	**P**	**21 07 39.1**	**-0.5**
	0.2nm,0.3s,baz=282,slow=14,SNR=3.4						
TRQA	**Tornquist**	**19.15**	**163**	*e*P	**P**	**21 09 00.1**	**0.0**
	5.8nm,0.8s						
BDFB	**Brasilia**	**20.48**	**82**	P	**P**	**21 09 13.4**	**-0.6**
	4.1nm,0.4s,baz=262,slow=8.5,SNR=9.6						
PLCA	**Paso Flores**	**20.84**	**183**	P	**P**	**21 09 16.8**	**-0.7**
	5.5nm,0.7s,baz=2.3,slow=9.7,SNR=16						
PLCA	**Paso Flores**	**20.84**	**183**	P	**P**	**21 09 16.8**	**-0.7**
DBIC	**Dimbokro**	**68.42**	**74**	P	**P**	**21 15 36.0**	**+1.0**
	2.1nm,0.6s,mb4.1,baz=237,slow=6.0,SNR=7.9						
DBIC	**Dimbokro**	**68.42**	**74**	*e*P	**P**	**21 15 35.6**	**+0.6**
	1.7nm,0.5s,mb4.1						

*GUC **21** 21:15:04.7±1.0, 28.48S×70.95W, h71km±7km, ML4.8*
*IDC **21** 21:15:05.8±2.2, 28.40S×70.74W, h68km±18km, mb3.6/4, mb1 3.7/9, mb1mx3.5/18, mbtmp3.7/9, MS2.8/2, Ms1 2.7/2, ms1mx2.4/17, Error ellipse: s-maj=30.3km s-min=11.2km az=82.0*
*NEIC **21** 21:15:05.7±0.6, 28.43S×70.72W, h69km±6km, mb4.0/2, Error ellipse: s-maj=15.6km s-min=6.1km az=93.0*
NEIC Felt [III] at Huasco.
ISC 21 21:15:03.9±0.5,**28.44S**±0.03×**70.9W**±0.1,**h81**km±5km,**n28,** σ**1**§**08**/38,**mb3.7**/4,**3C-6D, Central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.19**	**134**	⇑*i*P	**P**	**21 15 16.1**	**+0.5**
VACH				*i* S	**S**	**21 15 23.5**	**-1.0**
VACH				AMP		21 15 24.2	
	comp=E,139μm,0.1s						
CPCH	**Copiapo**	**1.19**	**25**	⇓*i*P	**P**	**21 15 26.7**	**+1.1**
CPCH				*i* S	**S**	**21 15 43.2**	**+1.4**
CPCH				AMP		21 15 44.5	
	comp=E,56μm,0.1s						
CPCH	**Copiapo**	**1.19**	**25**	⇓*i*P	**P**	**21 15 26.8**	**+1.2**
CPCH				*i* S	**S**	**21 15 43.3**	**+1.4**
TLL	**Tololo Astrono**	**1.72**	**177**	⇓*i*P	**P**	**21 15 33.6**	**+0.9**
TLL				*i* S	**S**	**21 15 54.8**	**+1.0**
TLL				AMP		21 15 58.5	
	comp=E,6μm,0.4s						
TLL	**Tololo Astrono**	**1.72**	**177**	⇓*i*P	**P**	**21 15 33.6**	**+1.0**
TLL				*i* S	**S**	**21 15 55.0**	**+1.1**
CRCH	**Chaqaral**	**2.10**	**7**	⇓*i*P	**P**	**21 15 39.0**	**+1.2**
CRCH				*i* S	**S**	**21 16 04.1**	**+1.2**
CRCH	**Chaqaral**	**2.10**	**7**	P	**P**	**21 15 39.1**	**+1.3**
CMCH	**Combarbala**	**2.72**	**182**	⇑*i*P	**P**	**21 15 46.0**	**-0.6**
CMCH				*i* S	**S**	**21 16 17.8**	**-0.6**
CMCH				AMP		21 16 35.8	
	comp=E,10μm,0.5s						
CMCH	**Combarbala**	**2.72**	**182**	⇑*i*P	**P**	**21 15 46.0**	**-0.5**
CMCH				*i* S	**S**	**21 16 17.9**	**-0.5**
CHNG	**Los Chungos**	**3.47**	**188**	*i* P	**P**	**21 15 55.0**	**-1.9**
CHNG				AMP		21 16 56.5	
	comp=E,751nm,0.3s						
ZON	**Zonda**	**3.65**	**148**	⇓*i*P	**P**	**21 16 06.7**	**+7.3**
CPN1	**Cerro Paranal**	**3.83**	**7**	*e*P	**P**	**21 16 01.0**	**-0.8**
CPN1				*i* S	**S**	**21 16 43.4**	**-2.5**
CFAA	**Coronel Fontan**	**3.92**	**144**	P	**P**	**21 16 03.7**	**+0.6**
	comp=E,3.4nm,0.3s,baz=322,slow=12,SNR=456						
CFAA				S	**S**	**21 16 48.0**	**-0.1**
	comp=E,5.5nm,0.3s,baz=225,slow=20,SNR=10						
MDZ	**Mendoza**	**4.77**	**159**	*e*P	**P**	**21 16 15.4**	**+0.5**
MDZ				*e*		21 16 27.8	
MDZ				S	rx	21 16 47.8	
FCH	**Farellones**	**4.90**	**174**	*e*P	**P**	**21 16 16.8**	**+0.1**
CLCH	**Cerro Calan**	**4.95**	**176**	*e*P	**P**	**21 16 16.8**	**-0.6**
LVC	**Limon Verde**	**5.08**	**18**	P	**P**	**21 16 32.1**	**-0.8**
	comp=E,1.5nm,0.3s,baz=208,slow=11,SNR=29						
LVC				S	**S**	**21 17 40.9**	**-0.9**
	comp=E,4.9nm,0.3s,baz=164,slow=12,SNR=3.5						
CPUP	**Villa Florida**	**12.26**	**83**	P	**P**	**21 17 53.9**	**-3.0**
	comp=E,0.2nm,0.3s,baz=269,slow=15,SNR=3.6						
CPUP				LR	LR	21 22 55.9	
	comp=E,35nm,19.1s,baz=295,slow=39						
PLCA	**Paso Flores**	**12.27**	**179**	P	**P**	**21 17 57.0**	**+0.1**
	comp=E,0.1nm,0.3s,baz=338,slow=11,SNR=2.3						
PLCA				LR	LR	21 22 33.4	
	comp=E,43nm,19.8s,baz=152,slow=36						
LPAZ	**La Paz**	**12.37**	**13**	P	**P**	**21 17 57.0**	**-1.3**
	comp=E,0.1nm,0.3s,baz=194,slow=8.3,SNR=2.9						
SIV	**San Ignacio**	**15.37**	**38**	P	**P**	**21 18 41.5**	**+4.1**
	comp=E,0.6nm,0.3s,baz=221,slow=11,SNR=4.3						
SAML	**Samuel**	**20.71**	**22**	*e*P	**P**	**21 19 39.3**	**-0.6**
	comp=E,2.7nm,0.8s						
BDFB	**Brasilia**	**24.70**	**64**	P	**P**	**21 20 19.4**	**+0.5**
	comp=E,2.9nm,0.5s,mb3.9,baz=243,slow=6.9,SNR=5.9						
SNAA	**Sanae**	**56.40**	**159**	P	**P**	**21 24 38.8**	**0.0**
	comp=E,0.4nm,0.6s,mb3.6,baz=282,slow=7.0,SNR=9.7						
TXAR	**Lajitas Array**	**65.43**	**329**	P	**P**	**21 25 42.8**	**+2.2**
	comp=E,0.1nm,0.6s,mb2.8,baz=157,slow=9.5,SNR=3.7						
DBIC	**Dimbokro**	**72.53**	**72**	P	**P**	**21 26 25.0**	**+0.6**
	comp=E,2.6nm,0.5s,mb4.3,baz=215,slow=7.3,SNR=12						
DBIC	**Dimbokro**	**72.53**	**72**	*e*P	**P**	**21 26 24.7**	**+0.4**
	comp=E,3.4nm,0.6s,mb4.3						
MKAR	**Makanchi Array**	**152.17**	**42**	PKPbc	PKPdf	21 34 53.0	+10
	comp=E,1.1nm,0.8s,baz=328,slow=2.0,SNR=7.2						

MAN 21 21:54:01.7, 9.93N×122.22E, h23km, mb4.1, ML2.9, MS2.5, 1D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.78**	**27**	*e*P	Pb	21 54 16.6	0.0
GUIM				*e*S	Sb	21 54 29.1	+2.3
SNPH	**Sibulan**	**1.15**	**120**	⇓*i*P	Pn	21 54 21.8	-0.9
SNPH				*i* S	Sb	21 54 35.5	-2.0
CUYO	**Cuyo Island**	**1.50**	**308**	*e*P	Pn	21 54 27.2	-0.4
CUYO				*e*S	Sn	21 54 45.8	-0.8
IPIL	**Ipil**	**2.15**	**171**	*e*P	Pn	21 54 35.3	-1.7
PAGZ	**Pagadian**	**2.36**	**151**	*e*P	Pn	21 54 40.7	+0.8

*MAN **21** 22:09:01.2, 10.07N×126.16E, h7km, mb4.2, ML3.0, MS2.7*
*IDC **21** 22:09:09.2±12.0, 9.98N×125.90E, h109km±117km, mb3.6/10, mb1 3.7/10, mb1mx3.5/20, mbtmp3.9/10, MS2.7/1, Ms1 2.7/1, ms1mx2.5/17, Error ellipse: s-maj=42.0km s-min=21.2km az=58.0*
ISC 21 22:08:58.4±0.6,**10.15N**±0.04×**126.33E**±0.04,**h10**km,**n29,** σ1§**47**/37,**mb3.9**/10,**1C-4D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.90**	**246**	⇓*e*P	**Pb**	**22 09 15.1**	**-0.6**
SCPH				*e*S	**Sb**	**22 09 25.7**	**-1.8**
BUTP	**Butuan**	**1.36**	**211**	*e*P	**Pb**	**22 09 23.8**	**+0.2**
BUTP				*e*S	**Sb**	**22 09 41.9**	**+1.0**
MSLP	**Maasin**	**1.44**	**270**	*e*P	**Pn**	**22 09 25.2**	**+0.5**
MSLP				*e*S	**Sb**	**22 09 42.8**	**-0.4**
PLP	**Palo**	**1.66**	**307**	*e*P	**Pn**	**22 09 28.7**	**+0.8**
PLP				*e*S	**Sn**	**22 09 49.4**	**0.0**
BESP	**Borongan**	**1.69**	**329**	*e*P	**Pn**	**22 09 31.4**	**+3.3**
BIPH	**Bislig**	**1.95**	**179**	⇓*i*P	**Pn**	**22 09 32.5**	**+0.5**
BIPH				*i* S	**Sn**	**22 10 01.3**	**+4.5**
LLP	**Lapu-Lapu**	**2.33**	**274**	*e*P	**Pn**	**22 09 38.2**	**+0.8**
LLP				*e*S	**Sn**	**22 10 04.2**	**-2.1**
CGP	**Cagayan de Oro**	**2.33**	**224**	⇓*e*P	**Pn**	**22 09 37.7**	**+0.3**
TBP	**Tagbilaran**	**2.47**	**260**	*e*P	**Pn**	**22 09 40.2**	**+0.8**
TBP				*e*S	**Sn**	**22 10 08.2**	**-1.7**
BUKP	**Musuan**	**2.58**	**209**	*e*P	**Pn**	**22 09 42.5**	**+1.6**
BUKP				*e*S	**Sn**	**22 10 14.0**	**+1.3**
CNP	**Catarman**	**2.86**	**325**	*e*P	**Pn**	**22 09 47.3**	**+2.4**
SNPH	**Sibulan**	**3.15**	**256**	⇓*e*P	**Pn**	**22 09 50.1**	**+1.0**
DCPH	**Dipolog City**	**3.32**	**242**	*i* P	**Pn**	**22 09 51.3**	**-0.2**
DCPH				*i* S	**Sn**	**22 10 27.8**	**-3.7**
PAGZ	**Pagadian**	**3.70**	**232**	*e*P	**Pn**	**22 09 57.5**	**+0.6**
GUIM	**Jordan**	**3.71**	**278**	*e*P	**Pn**	**22 09 57.3**	**+0.3**
RCP	**Roxas**	**3.79**	**292**	⇑*e*P	**Pn**	**22 09 59.5**	**+1.3**
PVCP	**Virac**	**4.03**	**328**	*e*P	**Pn**	**22 10 04.4**	**+2.8**
IPIL	**Ipil**	**4.39**	**238**	*e*P	**Pn**	**22 10 07.6**	**+0.9**
JOW	**Kunigami**	**16.70**	**6**	LR	LR	22 17 56.2	
	comp=Z,28nm,21.1s,baz=291,slow=31						
FITZ	**Fitzroy Crossi**	**28.08**	**181**	P	**P**	**22 14 49.8**	**-2.7**
	1.2nm,0.3s,mb4.0,baz=8.1,slow=11,SNR=4.5						
WRA	**Warramunga Arr**	**30.93**	**165**	P	**P**	**22 15 13.9**	**-3.9**
	0.7nm,0.8s,mb3.5,baz=343,slow=9.2,SNR=4.0						
STKA	**Stephens Creek**	**44.27**	**161**	P	**P**	**22 17 07.5**	**-2.7**
	0.7nm,0.3s,mb3.8,baz=341,slow=7.1,SNR=3.2						
DZM	**Mont Dzumac**	**50.73**	**129**	P	**P**	**22 18 01.0**	**+0.2**
	3.5nm,0.7s,mb4.4,baz=294,slow=23,SNR=3.7						
MKAR	**Makanchi Array**	**52.16**	**323**	P	**P**	**22 18 08.0**	**-3.3**
	0.9nm,0.7s,mb3.8,baz=108,slow=7.7,SNR=7.9						
ILAR	**Eielson Array**	**79.53**	**26**	P	**P**	**22 21 05.0**	**-1.7**
	0.4nm,0.7s,mb3.5,baz=241,slow=4.5,SNR=6.8						
ARCES	**ARCESS Array B**	**84.33**	**340**	P	**P**	**22 21 29.1**	**-2.4**
	2.6nm,0.9s,mb4.3,baz=79,slow=6.2,SNR=6.1						
BRTR	**Keskin Array B**	**85.65**	**309**	P	**P**	**22 21 35.2**	**-3.7**
	0.6nm,0.7s,mb3.9,baz=67,slow=7.2,SNR=3.2						
FINES	**FINESS Array B**	**86.02**	**332**	P	**P**	**22 21 37.1**	**-3.1**
	0.3nm,0.4s,mb3.9,baz=79,slow=7.1,SNR=7.9						
VNDA	**Vanda**	**89.80**	**173**	P	**P**	**22 21 54.4**	**-3.7**
	0.4nm,0.7s,mb3.8,baz=340,slow=4.9,SNR=3.6						

MAN 21 22:10:47.1, 10.05N×125.90E, h24km, mb4.1, ML2.9, MS2.6, 1C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.48**	**237**	⇑*e*P	Pb	22 10 57.6	+0.7
SCPH				*e*S	Sb	22 11 08.0	+4.3
MSLP	**Maasin**	**1.03**	**275**	*e*P	Pb	22 11 04.7	-1.4
MSLP				*e*S	Sb	22 11 24.3	+5.1
BUTP	**Butuan**	**1.11**	**195**	*e*P	Pn	22 11 05.6	-1.6
PLP	**Palo**	**1.43**	**321**	*e*P	Pn	22 11 11.7	-0.2
PLP				*e*S	Sn	22 11 29.4	-0.8
BESP	**Borongan**	**1.61**	**344**	*e*P	Pn	22 11 14.6	+0.2
TBP	**Tagbilaran**	**2.04**	**260**	*e*P	Pn	22 11 22.2	+1.6
TBP				*e*S	Sn	22 11 49.9	+4.3
BUKP	**Musuan**	**2.31**	**201**	*e*P	Pn	22 11 24.4	-0.1
CNP	**Catarman**	**2.73**	**334**	*e*P	Pn	22 11 30.1	-0.4
PAGZ	**Pagadian**	**3.31**	**229**	*e*P	Pn	22 11 38.6	-0.1

*CSEM **21

NEIC Felt [III] at Uakit.
ISC 21 22:31:27.5±0.2,55.18N±0.02×112.93E±0.04,h20km, h20km±.4km:pP-P,n110,σ1s22/156,mb4.2/25,MS3.6/17, 16C-13D,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UKT	**Uakit**	**0.50**	**52**	⇑*i*Pg	**Pb**	**22 31 38.7**	**+1.1**
	2μm,0.7s						
UKT				⇑*i*Pg	**Pb**	**22 31 38.7**	**+1.1**
	4μm,0.7s						
UKT				⇑*i*Pg	**Pb**	**22 31 38.7**	**+1.1**
	4μm,0.7s						
UKT				Pmax		22 31 38.9	
	3μm,0.3s						
UKT				*e*Sg	**Sb**	**22 31 46.1**	**+1.7**
UKT				Smax		22 31 46.4	
	14μm,0.4s						
UKT	**Uakit**	**0.50**	**52**	*e*PG	**Pb**	**22 31 38.5**	**+0.9**
UKT				*e*		22 31 46.0	
UKT				pmax	pmax		
	comp=Z,1μm,0.2s						
UKT				smax			
	comp=N,8μm,0.2s						
SVKR	**Severomuysk**	**1.00**	**20**	⇓*i*Pg	**Pb**	**22 31 48.0**	**+1.9**
SVKR				*e*Pb	**Pb**	**22 31 49.3**	**+3.2**
SVKR				max		22 31 49.6	
	comp=N,7μm,0.3s						
SVKR				*i* Sg	**Sb**	**22 32 02.3**	**+3.4**
SVKR				Smax		22 32 05.6	
	comp=N,36μm,0.5s						
SVKR	**Severomuysk**	**1.00**	**20**	*e*PG	**Pb**	**22 31 47.9**	**+1.8**
SVKR				*e*		22 32 02.3	
SVKR				pmax	pmax		
	comp=Z,7μm,0.5s						
SVKR				smax			
	comp=N,6μm,0.7s						
YLYR	**Ulyunkhan**	**1.06**	**254**	⇓*i*Pg	**Pb**	**22 31 47.7**	**+0.6**
	comp=N,1μm,0.5s						
YLYR				⇓*i*Pg	**Pb**	**22 31 47.7**	**+0.6**
	comp=N,2μm,0.5s						
YLYR				⇑*i*Pg	**Pb**	**22 31 47.7**	**+0.6**
	comp=N,2μm,0.5s						
YLYR				Pmax		22 31 48.1	
	comp=N,3μm,0.5s						
YLYR				*e*Sg	**Sb**	**22 32 01.4**	**+0.9**
YLYR				Smax		22 32 03.8	
	comp=N,25μm,0.9s						
YLYR	**Ulyunkhan**	**1.06**	**254**	⇑*i*PG	**Pb**	**22 31 47.6**	**+0.5**
YLYR				*e*		22 32 01.2	
YLYR				pmax	pmax		
	comp=Z,3μm,0.4s						
YOA	**Uoyan**	**1.18**	**325**	⇑*i*Pg	**Pb**	**22 31 49.5**	**+0.5**
YOA				Pmax		22 31 51.5	
	comp=Z,7μm,0.2s						
YOA				*i* Sg	**Sb**	**22 32 04.6**	**+0.8**
YOA				Smax		22 32 10.6	
	comp=Z,67μm,1.2s						
YOA	**Uoyan**	**1.18**	**325**	⇑*i*PG	**Pb**	**22 31 49.2**	**+0.2**
YOA				*i*		22 32 05.0	
YOA				pmax	pmax		
	comp=Z,11μm,0.7s						
YOA				smax			
	comp=N,1μm,0.6s						
KMO	**Kumora**	**1.21**	**306**	⇑*i*Pg	**Pn**	**22 31 49.7**	**+0.2**
	comp=N,2μm,0.5s						
KMO				⇓*i*Pg	**Pn**	**22 31 49.7**	**+0.2**
	comp=N,6μm,0.5s						
KMO				⇑*i*Pg	**Pn**	**22 31 49.7**	**+0.2**
	comp=N,12μm,0.5s						
KMO				Pmax		22 31 49.8	
	comp=N,12μm,0.5s						
KMO				*i* Sg	**Sb**	**22 32 05.0**	**+0.1**
KMO				*e*Sb	**Sb**	**22 32 07.5**	**+2.6**
KMO				max		22 32 08.7	
	comp=N,27μm,0.9s						
KMO	**Kumora**	**1.21**	**306**	⇑*i*PG	**Pn**	**22 31 49.7**	**+0.2**
KMO				*e*		22 32 05.4	
KMO				pmax	pmax		
	comp=Z,11μm,0.4s						
NIZ	**Nizh Angarsk**	**2.02**	**289**	⇑*i*Pg	**Pn**	**22 32 02.4**	**+1.3**
NIZ				Pmax		22 32 03.4	
	comp=Z,1μm,0.8s						
NIZ				*e*Sg	**Sn**	**22 32 27.5**	**+1.6**
NIZ				Smax		22 32 37.0	
	comp=Z,4μm,1.1s						
NIZ	**Nizh Angarsk**	**2.02**	**289**	*e*PN	**Pn**	**22 32 02.5**	**+1.4**
NIZ				*e*		22 32 27.6	
NIZ				pmax	pmax		
	comp=Z,1μm,0.7s						
NIZ				smax			
	comp=N,3μm,0.5s						
NLYR	**Nelyaty**	**2.04**	**49**	⇓*i*Pn	**Pn**	**22 32 03.1**	**+1.7**
NLYR				*e*Pg	**Pn**	**22 32 05.7**	**+4.3**
NLYR				*e*		22 32 11.8	
NLYR				max		22 32 12.8	
	comp=N,3μm,1.0s						
NLYR				*e*Sg	**Sn**	**22 32 33.3**	**+6.8**
NLYR				Smax		22 32 39.8	
	comp=N,12μm,1.0s						
NLYR	**Nelyaty**	**2.04**	**49**	⇓*i*PN	**Pn**	**22 32 02.9**	**+1.5**
NLYR				*e*		22 32 05.6	
NLYR				*e*		22 32 32.8	
NLYR				pmax	pmax		
	comp=Z,885nm,0.5s						
NLYR				smax			
	comp=N,2μm,1.0s						
SYVR	**Suvo**	**2.29**	**230**	⇑*i*Pn	**Pn**	**22 32 06.2**	**+1.2**
SYVR				⇑*i*Pg	**Pn**	**22 32 09.2**	**+4.2**
SYVR				Pmax		22 32 17.8	
	comp=N,731nm,1.0s						
SYVR				*e*		22 32 34.5	
SYVR				*e*Sg	**Sn**	**22 32 39.7**	**+6.8**
SYVR				Smax		22 32 44.7	
	comp=N,6μm,1.3s						
BOD	**Bodaibo**	**2.71**	**12**	⇓*i*Pn	**Pn**	**22 32 11.1**	**+0.1**
BOD				*e*Pg	**Pn**	**22 32 15.8**	**+4.8**
BOD				Pmax		22 32 26.2	
	comp=N,356nm,0.9s						
BOD				*e*Sg	**Sn**	**22 32 50.2**	**+6.7**
BOD				Smax		22 32 59.6	
	comp=N,3μm,1.7s						
BOD	**Bodaibo**	**2.71**	**12**	*e*PN	**Pn**	**22 32 10.5**	**-0.5**
BOD				*e*		22 32 15.0	
BOD				*e*S	**Sn**	**22 32 42.2**	**-1.3**
BOD				*e*		22 32 50.0	
BOD				pmax	pmax		
	comp=Z,155nm,0.3s						
BOD				smax			
	comp=E,2μm,0.7s						
MXMB	**Maximikha**	**3.12**	**234**	*e*Pn	**Pn**	**22 32 17.7**	**+1.0**
MXMB				*e*Pg	**Pn**	**22 32 24.2**	**+7.5**
MXMB				Pmax		22 32 27.7	
	comp=E,351nm,1.0s						
MXMB				*e*Sn	**Sn**	**22 32 55.7**	**+1.9**
MXMB				*e*Sg	**Sn**	**22 33 04.4**	**+11**
MXMB				Smax		22 33 10.8	
	comp=E,9μm,0.6s						
CIT	**Chita**	**3.19**	**173**	*e*Pn	**Pn**	**22 32 20.0**	**+2.3**
CIT				*e*Pg	**Pn**	**22 32 27.0**	**+9.3**
CIT				Pmax		22 32 28.3	
	comp=E,656nm,1.0s						
CIT				*e*Sn	**Sn**	**22 32 57.2**	**+1.7**
CIT				*e*Sg	**Sn**	**22 33 09.0**	**+13**
CIT				Smax		22 33 12.5	
	comp=E,4μm,2.1s						
CIT	**Chita**	**3.19**	**173**	*e*PN	**Pn**	**22 32 18.9**	**+1.2**
CIT				*e*		22 32 26.9	
CIT				*e*S	**Sn**	**22 32 57.7**	**+2.2**
CIT				*e*		22 33 08.2	
CIT				pmax	pmax		
	comp=Z,656nm,1.3s						
CIT				smax			
	comp=E,4μm,2.0s						
CRS	**Chara**	**3.46**	**58**	⇓*i*Pn	**Pn**	**22 32 22.9**	**+1.4**
CRS				⇓*i*Pg	**Pn**	**22 32 30.9**	**+9.4**
CRS				*e*		22 32 33.7	
CRS				Pmax		22 32 39.3	
	comp=E,719nm,1.4s						
CRS				*e*Sg	**Sn**	**22 33 16.4**	**+14**
CRS				Smax		22 33 20.2	
	comp=E,5μm,1.3s						
CRS	**Chara**	**3.46**	**58**	*e*PN	**Pn**	**22 32 22.8**	**+1.3**
CRS				*e*		22 32 30.7	
CRS				*e*		22 33 16.5	
CRS				pmax	pmax		
	comp=Z,600nm,1.0s						
CRS				smax			
	comp=N,5μm,1.3s						
OGRR	**Ongureny**	**3.48**	**246**	*e*Pn	**Pn**	**22 32 22.4**	**+0.6**
OGRR				*e*Pg	**Pn**	**22 32 29.7**	**+7.9**
OGRR				Pmax		22 32 32.8	
	comp=N,319nm,1.0s						
OGRR				*e*Sn	**Sn**	**22 33 04.1**	**+1.2**
OGRR				*e*Sg	**Sn**	**22 33 14.3**	**+11**
OGRR				Smax		22 33 25.0	
	comp=N,1μm,0.9s						
OGRR	**Ongureny**	**3.48**	**246**	*e*PN	**Pn**	**22 32 22.4**	**+0.6**
OGRR				*e*		22 32 30.2	
OGRR				*e*		22 33 14.5	
OGRR				pmax	pmax		
	comp=Z,319nm,1.8s						
OGRR				smax			
	comp=N,1μm,1.1s						
TUP	**Tupik**	**4.13**	**98**	⇓*i*Pn	**Pn**	**22 32 32.1**	**+0.9**
TUP				*e*Pg	**Pn**	**22 32 43.8**	**+13**
TUP				Pmax		22 32 50.7	
	comp=N,625nm,0.8s						
TUP				*e*Sn	**Sn**	**22 33 18.8**	**-0.7**
TUP				*e*Sg	Sn	22 33 40.0	+20
TUP				Smax		22 33 42.2	
	comp=N,6μm,1.0s						
TUP	**Tupik**	**4.13**	**98**	*e*PN	**Pn**	**22 32 31.9**	**+0.7**
TUP				*e*		22 32 43.7	
TUP				*e*		22 33 40.8	
TUP				pmax	pmax		
	comp=Z,266nm,0.7s						
TUP				smax			
	comp=N,6μm,1.0s						
ZRHB	**Zarechye**	**4.32**	**235**	*e*Pg	**Pn**	**22 32 46.0**	**+12**
ZRHB				Pmax		22 33 02.3	
	comp=N,22nm,1.3s						
ZRHB				*e*Sg	**Sn**	**22 33 43.0**	**+19**
ZRHB				Smax		22 34 09.1	
	comp=N,6μm,0.8s						
TRTB	**Turuntaevo**	**4.32**	**229**	*e*Pn	**Pn**	**22 32 34.8**	**+1.0**
TRTB				*e*Pg	**Pn**	**22 32 46.4**	**+13**
TRTB				*e*		22 32 52.2	
TRTB				max		22 32 53.1	
	comp=N,205nm,0.7s						
TRTB				*e*Sg	**Sn**	**22 33 42.5**	**+18**
TRTB				Smax		22 33 46.5	
	comp=N,2μm,1.5s						
TRG	**Tyrgan**	**4.58**	**241**	*e*PN	**Pn**	**22 32 37.4**	**-0.1**
TRG				*e*		22 32 49.9	
TRG				*e*S	**Sn**	**22 33 29.5**	**-1.3**
TRG				*e*		22 33 48.1	
TRG				pmax	pmax		
	comp=Z,106nm,0.8s						
TRG				smax			
	comp=N,1μm,1.1s						
FFNB	**Fofonovo**	**4.83**	**232**	*e*Pn	**Pn**	**22 32 41.1**	**+0.1**
FFNB				*e*Pg	**Pn**	**22 32 54.2**	**+13**
FFNB				Pmax		22 32 57.4	
	comp=N,24nm,0.1s						
FFNB				*e*Sg	**Sn**	**22 33 56.7**	**+20**
FFNB				Smax		22 34 10.6	
	comp=N,3μm,1.3s						
KAB	**Kabansk**	**4.88**	**233**	*e*Pg	**Pn**	**22 32 56.0**	**+14**
KAB				Pmax		22 33 13.8	
	comp=N,368nm,0.9s						
KAB				*e*Sg	Sn	22 34 00.4	+22
KAB				Smax		22 34 19.3	
	comp=N,5μm,1.5s						
LSTR	**Listvyanka**	**5.86**	**239**	*e*	**Pn**	**22 32 58.6**	**+3.1**
LSTR				*e*Pg	**Pn**	**22 33 12.7**	**+17**
LSTR				Pmax		22 33 15.7	
	comp=N,52nm,0.8s						
LSTR				*e*		22 34 13.0	
LSTR				*e*Sg	Sn	22 34 27.7	+25
LSTR				Smax		22 34 38.4	
	comp=N,1μm,1.1s						
LSTR	**Listvyanka**	**5.86**	**239**	*e*PG	**Pn**	**22 33 14.8**	**+19**
LSTR				*e*		22 34 30.7	
LSTR				pmax	pmax		
	comp=Z,53nm,1.3s						
LSTR				smax			
	comp=E,1μm,1.4s						
IRK	**Irkutsk**	**5.92**	**244**	*e*Pg	**Pn**	**22 33 15.1**	**+19**
IRK				Pmax		22 33 27.8	
	comp=E,116nm,0.7s						
IRK				*e*Sg	Sn	22 34 31.3	+27
IRK				Smax		22 34 40.0	
	comp=E,2μm,1.3s						
IRK	**Irkutsk**	**5.92**	**244**	*e*PG	**Pn**	**22 33 15.6**	**+19**
IRK				*e*		22 34 31.4	
IRK				pmax	pmax		
	comp=Z,166nm,0.1s						
IRK				smax			
	comp=N,2μm,1.0s						
CLNS	**Chul'man**	**6.91**	**71**	*e*PN	**Pn**	**22 33 10.1**	**-0.3**
CLNS				*e*S	**Sn**	**22 34 24.0**	**-5.2**
CLNS				pmax	pmax		
	comp=N,3.0nm,0.3s						
CLNS				pmax	pmax		
	comp=Z,3.0nm,0.3s						
CLNS				pmax	pmax		
	comp=E,5.0nm,0.4s						
CLNS				smax			
	comp=N,43nm,0.5s						
CLNS				smax			
	comp=E,56nm,0.5s						
CLNS				smax			
	comp=Z,30nm,0.5s						
CLNS				MLR	MLR		
	comp=Z,600nm,12.0s						
ARS	**Arshan**	**7.06**	**247**	*e*Pn	**Pn**	**22 33 12.9**	**+0.5**
ARS				*e*Pg	Pn	22 33 35.7	+23
ARS				Pmax		22 33 37.7	
	comp=Z,159nm,0.7s						
ARS				*e*		22 34 42.4	
ARS				*e*Sg	Sn	22 35 06.3	+33
ARS				Smax		22 35 18.8	
	comp=Z,2μm,1.5s						
ARS	**Arshan**	**7.06**	**247**	*e*PN	**Pn**	**22 33 12.8**	**+0.4**
ARS				*e*		22 33 36.2	
ARS				*e*		22 35 05.5	
ARS				pmax	pmax		
	comp=Z,162nm,0.7s						
ARS				smax			
	comp=E,2μm,1.1s						
HIA	**Hailar**	**7.25**	**142**	*e*Pn	**Pn**	**22 33 12.7**	**-2.4**
	comp=E,19nm,0.4s						
HIA				*e*Sn	**Sn**	**22 34 33.2**	**-4.4**
HIA				*e*Sg	Sn	22 35 16.6	+39
HIA	**Hailar**	**7.25**	**142**	*e*PN	**Pn**	**22 33 12.7**	**-2.4**
HIA				*e*		22 34 33.2	
HIA				*e*		22 35 16.7	
HIA				pmax	pmax		
	comp=Z,19nm,0.4s						
ZAK	**Zakamensk**	**7.57**	**235**	*e*Pn	**Pn**	**22 33 22.1**	**+2.5**
ZAK				*e*Pg	Pn	22 33 46.3	+27
ZAK				Pmax		22 34 03.1	
	comp=Z,18nm,0.6s						
ZAK				*e*Sg	Sn	22 35 24.0	+38
ZAK				Smax		22 35 32.3	
	comp=Z,309nm,1.6s						
ZAK	**Zakamensk**	**7.57**	**235**	*e*PN	**Pn**	**22 33 21.0**	**+1.4**
ZAK				*e*		22 33 46.3	
ZAK				*e*S	Sn	22 35 24.4	+39
ZAK				smax			
	comp=E,307nm,1.4s						
MOY	**Mondy**	**7.95**	**249**	*e*Pn	**Pn**	**22 33 24.0**	**-0.9**
MOY				*e*Pg	Pn	22 33 50.2	+25
MOY				Pmax		22 34 09.1	
	comp=E,66nm,0.8s						
MOY				*e*		22 34 58.6	
MOY				*e*Sg	Sn	22 35 31.8	+37
MOY				Smax		22 35 50.2	
	comp=E,1μm,2.0s						
MOY	**Mondy**	**7.95**	**249**	*e*PN	**Pn**	**22 33 19.5**	**-5.4**
MOY				*e*		22 33 47.4	
MOY				pmax	pmax		
	comp=Z,62nm,0.6s						
ORL	**Orlik**	**8.20**	**257**	⇓*i*Pn	**P**	**22 33 27.4**	**-0.9**
ORL				*e*Pg	P	22 33 54.3	+26
ORL				Pmax		22 33 59.0	
	comp=Z,76nm,0.8s						
ORL				*e*Sn	**Sn**	**22 34 56.0**	**-5.3**
ORL				*e*Sg	Sn	22 35 38.8	+37
ORL				Smax		22 35 53.6	
	comp=Z,696nm,2.0s						
ORL	**Orlik**	**8.20**	**257**	*e*PN	**P**	**22 33 26.8**	**-1.5**
ORL				*e*S	**Sn**	**22 34 57.7**	**-3.6**
SONM	**Songino Array**	**8.41**	**212**	Pn	**P**	**22 33 30.8**	**-0.4**
	comp=Z,1.4nm,0.3s,baz=19,slow=14,SNR=16						
SONM				Sn	**Sn**	**22 35 06.1**	**-0.5**
	comp=Z,3.2nm,0.3s,baz=21,slow=21,SNR=6.3						
SONM				Lg		22 35 54.4	
	comp=Z,16nm,0.3s,baz=23,slow=28,SNR=16						
SONM				LR	LR	22 37 02.2	
	comp=Z,267nm,20.8s,baz=46,slow=40						
YAK	**Yakutsk**	**11.09**	**45**	*e*P	**P**	**22 34 07.0**	**-0.9**
BTO	**Baotou**	**14.71**	**189**	*e*P	**P**	**22 34 53.1**	**-3.1**
BTO				S	**S**	**22 37 40.3**	**+0.9**
BTO				LR	LR		
	comp=N,434nm,5.0s						
BTO				LR	LR		
	comp=E,394nm,2.9s						
ZAL	**Zalesovo**	**16.32**	**277**	Pn	**P**	**22 35 15.2**	**-1.7**
	comp=E,0.3nm,0.3s,baz=28,slow=12,SNR=15						
ZAL				Lg		22 39 59.1	
	comp=E,0.2nm,0.3s,baz=271,slow=23,SNR=3.4						
ZAL				LR	LR	22 42 26.0	
	comp=E,261nm,18.5s,baz=131,slow=40						
NVS	**Novosibirsk**	**16.98**	**281**	*e*P	**P**	**22 35 23.1**	**-2.1**
NVS				*e*S	**S**	**22 38 30.5**	**-1.7**
NVS				pmax	pmax		
	comp=Z,11nm,1.3s						
NVS				pmax	pmax		
	comp=N,7.0nm,1.5s						
NVS				pmax	pmax		
	comp=E,11nm,1.3s						
NVS				smax			
	comp=N,11nm,1.8s						
NVS				smax			
	comp=E,20nm,1.8s						
TIXI	**Tiksi**	**17.89**	**16**	*e*P	**P**	**22 35 29.8**	**-6.6**
TIXI				pmax	pmax		
	comp=Z,8.0nm,0.7s						
TIXI				MLR	MLR		
	comp=Z,181nm,14.0s						
GTA	**Gaotai**	**18.06**	**215**	*e*P	**P**	**22 35 41.3**	**+2.5**
GTA				AP		22 35 45.4	
GTA				XP		22 35 48.3	
GTA				S	**S**	**22 38 54.1**	**-2.8**
GTA				LR	LR		
	comp=N,256nm,10.2s						
GTA				LR	LR		
	comp=E,166nm,10.2s						
YSS	**Yuzh-Sakhalins**	**20.34**	**101**	⇓*i*P	**P**	**22 36 03.3**	**-1.8**
YSS				pmax	pmax		
	comp=Z,31nm,1.7s						
YSS				MLR	MLR		
	comp=Z,300nm,17.0s,MS3.7						
MA2	**Magadan**	**20.66**	**62**	P	**P**	**22 36 05.1**	**-3.2**
	comp=Z,27nm,1.5s						
MA2	**Magadan**	**20.66**	**62**	*c i*P	**P**	**22 36 08.8**	**+0.5**
MA2				pmax	pmax		
	comp=Z,18nm,1.3s						
MKAR	**Makanchi Array**	**20.89**	**259**	P	**P**	**22 36 09.7**	**-1.0**
	comp=Z,2.2nm,0.7s,baz=43,slow=10.0,SNR=18						
MKAR				Lg		22 42 29.1	
	comp=Z,3.2nm,1.1s,baz=56,slow=28,SNR=6.3						
MKAR				LR	LR	22 44 23.8	
	comp=Z,269nm,18.7s,MS3.6,baz=190,slow=37						
MKAR	**Makanchi Array**	**20.89**	**259**	*e*P	**P**	**22 36 10.5**	**-0.3**
KURK	**Kurchatov**	**21.01**	**272**	*e*P	**P**	**22 36 10.5**	**-1.5**
	comp=Z,12nm,0.8s,mb4.3						
KURK	**Kurchatov**	**21.01**	**272**	*e*P	**P**	**22 36 10.5**	**-1.5**
KURK				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.3						
XAN	**Xi'an**	**21.32**	**189**	P	**P**	**22 36 16.9**	**+1.7**
SEY	**Seymchan**	**21.41**	**53**	⇑*i*P	**P**	**22 36 15.1**	**-0.8**
ASAJ	**Asahikawa**	**21.99**	**108**	LR	LR	22 45 32.7	
	comp=Z,187nm,19.7s,MS3.5,baz=351,slow=39						
BVAR	**Borovoye Array**	**24.76**	**283**	P	**P**	**22 36 48.8**	**+0.1**
	comp=Z,4.1nm,0.7s,mb4.1,baz=63,slow=8.0,SNR=30						
SSE	**Sheshan**	**24.78**	**163**	*e*P	**P**	**22 36 46.0**	**-3.1**
SSE				AMB	AMB		
	comp=Z,24nm,0.7s,mb4.8						
SSE				AMB	AMB		
	comp=Z,70nm,3.5s						
SSE	**Sheshan**	**24.78**	**163**	*e*P	**P**	**22 36 46.0**	**-3.1**
	comp=Z,24nm,0.7s,mb4.8						
SSE				LR	LR		
	comp=Z,100nm,16.6s,MS3.4						
BRVK	**Borovoye**	**24.80**	**283**	*e*P	**P**	**22 36 48.7**	**-0.4**
	comp=Z,7.5nm,0.8s,mb4.3						
BRVK	**Borovoye**	**24.80**	**283**	*e*P	**P**	**22 36 48.7**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.2						
MJAR	**Matsushiro Arr**	**25.40**	**127**	LR	LR	22 47 25.7	
	comp=Z,135nm,18.1s,MS3.5,baz=340,slow=38						
PET	**Petropavlovsk**	**26.53**	**76**	⇑*i*P	**P**	**22 37 06.2**	**+1.0**
PET				pmax	pmax		
	comp=Z,18nm,1.0s,mb4.6						
PET				MLR	MLR		
	comp=Z,100nm,17.0s,MS3.4						
BILL	**Bilibino**	**27.40**	**41**	*e*P	**P**	**22 37 12.5**	**-0.6**
BILL				*e*		22 37 57.2	
BILL				*e*		22 40 27.7	
BILL				*e*S	**S**	**22 41 53.9**	**+3.5**
BILL				*e*SS	SS	22 43 03.2	-4.7
BILL				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb3.9						
BILL				MLR	MLR		
	comp=Z,100nm,16.0s,MS3.5						
AAK	**Ala-Archa**	**27.83**	**259**	*e*P	**P**	**22 37 15.6**	**-1.6**
AAK				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.4						
AAK				MLR	MLR		
	comp=Z,200nm,15.0s,MS3.8						
ARU	**Arti**	**29.92**	**295**	*e*P	**P**	**22 37 33.0**	**-2.9**
ARU				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb3.7						
ARU				MLR	MLR		
	comp=Z,300nm,19.0s,MS4.0						
ARCES	**ARCESS Array B**	**39.12**	**326**	P	**P**	**22 38 53.5**	**-1.1**
	comp=Z,1.3nm,0.6s,mb3.9,baz=58,slow=11,SNR=7.7						
ARCES				LR	LR	22 59 41.3	
	comp=Z,76nm,19.6s,MS3.5,baz=355,slow=43						
OBN	**Obninsk**	**41.57**	**303**	*e*P	**P**	**22 39 15.4**	**+0.5**
OBN				*e*		22 41 09.3	
OBN				*e*S	**S**	**22 45 28.0**	**-1.5**
OBN				*e*SS	SS	22 48 33.8	+4.1
OBN				pmax	pmax		
	comp=Z,11nm,2.5s,mb4.0						
OBN				MLR	MLR		
	comp=Z,100nm,20.0s,MS3.7						
FINES	**FINESS Array B**	**42.82**	**315**	P	**P**	**22 39 24.7**	**-0.3**
	comp=Z,3.7nm,0.7s,mb4.2,baz=53,slow=9.5,SNR=13						
FINES				LR	LR	22 58 43.9	
	comp=Z,74nm,20.0s,MS3.6,baz=156,slow=38						
FINES	**FINESS Array B**	**42.82**	**315**	*e*P	**P**	**22 39 25.0**	**0.0**
GOF	**Gofitskoye**	**44.15**	**287**	*e*P	**P**	**22 39 29.7**	**-6.3**
KIV	**Kislovodsk**	**45.04**	**286**	*d i*P	**P**	**22 39 43.0**	**-0.3**
KIV				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.3						
ILAR	**Eielson Array**	**45.84**	**36**	P	**P**	**22 39 49.4**	**+0.1**
	comp=Z,2.9nm,0.9s,mb4.2,baz=300,slow=6.9,SNR=25						
GNI	**Garni**	**46.41**	**281**	LR	LR	22 59 33.2	
	comp=Z,45nm,19.5s,MS3.4,baz=330,slow=36						
GNI	**Garni**	**46.41**	**281**	*e*P	**P**	**22 39 52.7**	**-1.5**
GNI				pmax	pmax		
	comp=Z,12nm,1.7s						
INK	**Inuvik**	**47.53**	**28**	P	**P**	**22 40 01.1**	**-1.5**
	comp=Z,1.3nm,1.0s,mb3.9,slow=7.1,SNR=3.2						
AKASG	**Malin Array Be**	**47.77**	**301**	P	**P**	**22 40 03.7**	**-1.0**
	comp=Z,1.1nm,0.6s,mb4.0,baz=44,slow=8.6,SNR=9.2						
NB2	**NORSAR Subarra**	**48.79**	**321**	P	**P**	**22 40 12.2**	**-0.2**
	comp=Z,4.9nm,0.8s,mb4.6,baz=49,slow=7.4						
NB2	**NORSAR Subarra**	**48.79**	**321**	P	**P**	**22 40 12.2**	**-0.2**
NB2				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
NOA	**NORSAR Array B**	**48.79**	**321**	P	**P**	**22 40 11.9**	**-0.5**
	comp=Z,1.6nm,0.9s,mb4.0,baz=46,slow=7.3,SNR=4.7						
NOA				LR	LR	23 02 27.9	
	comp=Z,83nm,19.6s,MS3.7,baz=95,slow=38						
BRTR	**Keskin Array B**	**52.87**	**288**	P	**P**	**22 40 44.7**	**+0.9**
	comp=Z,0.3nm,0.4s,mb3.5,baz=194,slow=34,SNR=3.1						
BRG	**Berggiesshubel**	**54.76**	**310**	*e*P	**P**	**22 40 57.5**	**-0.1**
	comp=Z,2.8nm,0.8s,mb4.3						
BRG				*e*	pP	22 41 03.8	+0.1
BRG	**Berggiesshubel**	**54.76**	**310**	*e*P	**P**	**22 40 57.4**	**-0.1**

BRG				*e*	pP	22 41 03.8	+0.1
BRG				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
BRG				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.5						
CLL	**Collm**	**54.86**	**311**	*e**PP	pP	22 41 03.0	-1.5
CLL				*e**SP	sP	22 41 07.0	+0.1
CLL	**Collm**	**54.86**	**311**	*e*P	**P**	**22 40 50.0**	**-8.2**
CLL				*e*		22 41 03.0	
MOX	**Moxa**	**55.95**	**311**	*i* P	**P**	**22 41 06.8**	**+0.7**
	comp=Z,logA/T=0.9,mb4.7						
MOX	**Moxa**	**55.95**	**311**	*e*P	**P**	**22 41 06.8**	**+0.7**
	comp=Z,9.0nm,1.2s,mb4.7						
MOX	**Moxa**	**55.95**	**311**	*e*P	**P**	**22 41 06.8**	**+0.7**
MOX				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.7						
KHC	**Kasperske Hory**	**56.19**	**309**	*e*P	**P**	**22 41 08.0**	**+0.1**
KHC				pP	pP	22 41 14.0	-0.1
KHC	**Kasperske Hory**	**56.19**	**309**	*e*P	**P**	**22 41 08.0**	**+0.1**
KHC				*e*	pP	22 41 14.0	-0.1
GERES	**GERESS Array B**	**56.35**	**308**	P	**P**	**22 41 09.4**	**+0.4**
	comp=Z,0.4nm,0.7s,mb3.6,baz=53,slow=6.7,SNR=4.0						
GERES				LR	LR	23 07 26.0	
	comp=Z,92nm,18.4s,MS3.9,baz=351,slow=38						
GRA1	**Grafenberg Arr**	**56.82**	**311**	*e*P	**P**	**22 41 11.9**	**-0.5**
	comp=Z,5.0nm,1.0s,mb4.5						
GRA1				*e*pP	pP	22 41 18.2	-0.4
GRF	**Grafenberg Arr**	**56.82**	**311**	*e*P	**P**	**22 41 11.9**	**-0.5**
	comp=Z,5.0nm,1.0s,mb4.5						
GRF				*e*pP	pP	22 41 18.2	-0.4
GRF	**Grafenberg Arr**	**56.82**	**311**	*e*P	**P**	**22 41 11.9**	**-0.5**
GRF				*e**PP	pP	22 41 18.2	-0.4
GRF				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
GRF	**Grafenberg Arr**	**56.82**	**311**	*e*P	**P**	**22 41 11.9**	**-0.5**
GRF				*e**PP	pP	22 41 18.2	-0.4
GRF				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
ATD	**Arta Tunnel**	**69.26**	**260**	LR	LR	23 16 51.1	
	comp=Z,81nm,18.3s,MS4.0,baz=144,slow=39						
ESDC	**Sonseca Array**	**71.30**	**313**	P	**P**	**22 42 46.9**	**-0.3**
	comp=Z,1.5nm,0.8s,mb4.0,baz=23,slow=6.9,SNR=5.7						
PDAR	**Pinedale Array**	**75.95**	**31**	P	**P**	**22 43 14.3**	**+0.1**
	comp=Z,0.3nm,0.4s,mb3.6,baz=304,slow=3.3,SNR=3.5						
PDAR				LR	LR	23 17 48.4	
	comp=Z,37nm,19.8s,MS3.7,baz=254,slow=37						
WRAB	**Tennant Creek**	**77.01**	**159**	*e*P	**P**	**22 43 19.3**	**-1.2**
WRA	**Warramunga Arr**	**77.02**	**159**	P	**P**	**22 43 19.9**	**-0.6**
	comp=Z,3.6nm,0.8s,mb4.4,baz=347,slow=6.3,SNR=15						
ANMO	**Albuquerque**	**84.09**	**32**	*e*P	**P**	**22 43 58.2**	**+0.5**
TXAR	**Lajitas Array**	**90.17**	**31**	P	**P**	**22 44 28.2**	**+0.9**
	comp=Z,0.5nm,0.8s,mb3.9,slow=2.5,SNR=7.1						
CPUP	**Villa Florida**	**150.31**	**342**	PKPbc	PKPdf	22 51 17.1	+1.3
	comp=Z,1.6nm,0.7s,baz=131,slow=3.2,SNR=5.0						

*NNC **21** 22:34:18.4±5.4, 38.55N×72.39E, h207km±58km, mpv4.0,*
Error ellipse: s-maj=56.3km s-min=32.4km az=21.0
ISC 21 22:34:08.4±0.5, 37.73N±0.03×72.9E±0.1, h200km, n23, σ1§17/29, 5C-4D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.44**	**8**	P	**P**	**22 35 15.4**	**-0.9**
	SNR=11						
UCH	**Uchtor**	**4.66**	**15**	P	**P**	**22 35 19.3**	**+0.2**
	SNR=8.5						
EKS2	**Erkin-Say**	**4.97**	**8**	P	**P**	**22 35 23.1**	**0.0**
	SNR=15						
AAK	**Ala-Archa**	**5.05**	**14**	P	**P**	**22 35 24.6**	**+0.5**
	SNR=9.6						
AAK	**Ala-Archa**	**5.05**	**14**	⇑P	**P**	**22 35 24.3**	**+0.3**
	7.3nm,0.5s						
AAK				⇓S	**S**	**22 36 18.7**	**-4.1**
	92nm,0.9s						
ULHL	**Ulahol**	**5.19**	**29**	P	**P**	**22 35 26.4**	**+0.5**
	SNR=9.7						
CHMS	**Chumysh**	**5.45**	**14**	P	**P**	**22 35 29.6**	**+0.3**
	SNR=6.8						
TKM2	**Tokmak 2**	**5.58**	**21**	P	**P**	**22 35 33.0**	**+2.1**
	SNR=8.1						
USP	**Ospenovka**	**5.66**	**12**	P	**P**	**22 35 31.7**	**-0.3**
	SNR=6.2						
KK31	**Karatay Array**	**5.67**	**342**	⇑P	**P**	**22 35 30.1**	**-1.9**
	18nm,0.3s,baz=155,slow=12,SNR=480						
KK31				⇑S	**S**	**22 36 27.3**	**-10**
	27nm,0.4s,baz=184,slow=29,SNR=23						
SMLA	**Simla**	**7.47**	**151**	⇓*i x*	x	22 36 14.2	
SMLA				*ex*	x	22 37 40.9	
DDI	**Dehra Dun**	**8.54**	**148**	*e*P	**P**	**22 36 14.2**	**+4.7**
DDI				*e*S	**S**	**22 37 40.9**	**-3.2**
KALG	**Kalgarh**	**9.54**	**148**	*i x*	x	22 37 18.9	
KALG				*ex*	x	22 37 43.4	
KALG				AML	AML	22 37 47.0	
	comp=E,162nm,0.2s						
KALG				AML	AML	22 37 47.0	
	comp=N,3.4nm,0.2s						
NDI	**New Delhi**	**9.72**	**157**	*e*S	**S**	**22 38 12.5**	**+1.0**
NDI				*ex*	x	22 39 01.5	
AYAN	**Aya Nagar**	**9.88**	**158**	*i x*	x	22 37 34.8	
KHET	**Khetri**	**9.94**	**165**	*e*P	**P**	**22 36 31.1**	**+3.6**
KHET				*e*S	**S**	**22 38 15.8**	**-0.8**
KHET				AML	AML	22 38 25.9	
	comp=N,14nm,0.4s						
KHET				AML	AML	22 38 26.0	
	comp=E,17nm,0.4s						
KUDL	**Kundal**	**10.02**	**161**	*e*P	**P**	**22 36 33.0**	**+4.3**
KUDL				*e*S	**S**	**22 38 17.4**	**-1.2**
SONA	**Sohna**	**10.09**	**158**	*e*P	**P**	**22 36 33.9**	**+4.4**
SONA				*e*S	**S**	**22 38 17.1**	**-2.9**
SONA				AML	AML	22 38 24.9	
	comp=E,29nm,2.2s						
SONA				AML	AML	22 38 26.2	
	comp=N,15nm,0.7s						
JASL	**Jaisalmer**	**10.91**	**189**	*e*P	**P**	**22 36 44.4**	**+4.3**
JASL				*i* S	**S**	**22 38 40.7**	**+1.5**
AGRA	**Agra**	**11.30**	**156**	*e*S	**S**	**22 38 47.8**	**-0.5**
AJM	**Ajmer**	**11.32**	**172**	*e*S	**S**	**22 38 48.7**	**+0.1**
AB31	**Akbulak array**	**14.84**	**325**	⇑P	**P**	**22 37 29.0**	**-0.5**
	comp=N,12nm,0.8s,baz=136,slow=13,SNR=85						
AB31				⇓S	**S**	**22 39 59.5**	**-9.2**
	comp=N,2.6nm,0.6s,baz=145,slow=23,SNR=5.4						
AKTO	**Aktyubinsk**	**16.56**	**325**	⇓P	**P**	**22 37 50.6**	**+0.1**
	comp=N,1.1nm,0.8s						
AKTO				⇑S	**S**	**22 40 40.0**	**-7.2**
	comp=N,0.5nm,0.9s						

*MAN **21** 22:52:06.5, 4.33N×126.12E, h60km, mb4.6, ML3.4, MS3.3*
*IDC **21** 22:52:08.0±7.6, 4.32N×125.87E, h41km±76km, mb3.7/6,*
mb1 3.8/6, mb1mx3.5/19, mbtmp3.9/6, MS2.7/1, Ms1 2.7/1,
ms1mx2.5/26, Error ellipse: s-maj=67.8km s-min=18.0km
az=77.0
ISC 21 22:52:06.9±1.5, 4.32N±0.07×126.0E±0.1, h46km±17km,
n16, σ0§78/19, mb4.0/7, MS2.5/1, 3D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**2.02**	**331**	⇓*i*P	**P**	**22 52 39.3**	**+0.1**
GSPH				*i* S	**S**	**22 53 03.6**	**+0.2**
MATI	**Mati**	**2.63**	**7**	*e*P	**P**	**22 52 46.7**	**-1.3**
KCP	**Kidapawan**	**2.81**	**342**	⇓*i*P	**P**	**22 52 53.7**	**+3.2**
KCP				*i* S	**S**	**22 53 29.5**	**+6.1**
BUKP	**Musuan**	**3.65**	**346**	*e*P	**P**	**22 53 02.9**	**+0.6**
BUKP				*e*S	**S**	**22 53 44.9**	**+0.2**
BIPH	**Bislig**	**3.86**	**6**	⇓*i*P	**P**	**22 53 04.8**	**-0.6**
BIPH				*i* S	**S**	**22 53 49.9**	**-0.2**
PAGZ	**Pagadian**	**4.34**	**324**	*e*P	**P**	**22 53 12.2**	**+0.1**
BUTP	**Butuan**	**4.63**	**356**	*e*P	**P**	**22 53 17.0**	**+0.7**
IPIL	**Ipil**	**4.81**	**316**	*e*P	**P**	**22 53 18.1**	**-0.8**
GUMO	**Guam**	**20.82**	**63**	LR	LR	23 04 10.3	
	comp=Z,20nm,18.3s,MS2.5,baz=229,slow=35						
FITZ	**Fitzroy Crossi**	**22.28**	**181**	P	**P**	**22 57 01.5**	**-0.2**
	2.5nm,0.5s,mb3.9,baz=5.6,slow=13,SNR=6.5						
JOW	**Kunigami**	**22.50**	**5**	P	**P**	**22 57 04.5**	**+0.7**
	3.7nm,0.6s,mb4.0,baz=149,slow=9.5,SNR=3.5						
PMG	**Port Moresby**	**25.15**	**123**	P	**P**	**22 57 36.7**	**+7.0**
	19nm,0.7s,mb4.7,baz=225,slow=8.6,SNR=3.8						
WRA	**Warramunga Arr**	**25.48**	**161**	P	**P**	**22 57 32.6**	**-0.1**
	2.7nm,0.5s,mb4.0,baz=342,slow=10,SNR=18						
STKA	**Stephens Creek**	**38.95**	**159**	P	**P**	**22 59 30.9**	**+0.5**
	0.9nm,0.5s,mb3.7,baz=333,slow=11,SNR=2.9						
MKAR	**Makanchi Array**	**56.63**	**325**	P	**P**	**23 01 46.4**	**-1.4**
	0.3nm,0.5s,mb3.6,baz=120,slow=7.7,SNR=8.8						
VNDA	**Vanda**	**84.10**	**173**	P	**P**	**23 04 34.3**	**+0.5**
	0.4nm,0.6s,mb3.8,baz=316,slow=5.8,SNR=6.8						

IDC 21 22:56:35.9±8.5, 6.90S×127.25E, h406km±103km, mb3.3/2,
mb1 3.4/4, mb1mx3.1/13, mbtmp4.2/4, Error ellipse:
s-maj=111.8km s-min=30.2km az=51.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.24**	**188**	P	P	22 59 07.5	-1.9
	0.7nm,0.3s,baz=17,slow=11,SNR=12						
WRA	**Warramunga Arr**	**14.67**	**153**	P	P	22 59 43.9	-3.2
	2.2nm,0.3s,baz=329,slow=11,SNR=12						
STKA	**Stephens Creek**	**28.22**	**154**	P	P	23 01 53.7	-1.7
	2.5nm,0.4s,baz=334,slow=9.0,SNR=7.9						
MKAR	**Makanchi Array**	**66.68**	**328**	P	P	23 06 44.7	-1.7
	0.4nm,0.4s,baz=118,slow=7.2,SNR=7.1						

*CASC **21** 23:22:25.4±2.4, 11.46N×87.24W, h19km±7km, MD3.9,*
ML3.7, mb4.3(NEIC)
*IDC **21** 23:22:27.5±4.2, 12.29N×86.41W, h224km±43km, mb3.5/9,*
mb1 3.6/11, mb1mx3.4/22, mbtmp4.1/11, Error ellipse:
s-maj=22.5km s-min=12.1km az=59.0
*NEIC **21** 23:22:29.2±2.8, 12.27N×86.38W, h236km±28km, mb4.3/5,*
Error ellipse: s-maj=22.2km s-min=9.0km az=65.0
ISC 21 23:22:21.8±0.4, 12.20N±0.07×86.50W±0.06, h174km±2km,
n55, σ1§08/54, mb3.9/11, 18C-11D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.09**	**258**	⇓*e*P	**P**	**23 22 44.8**	**-0.3**
COPN				*e*S	**S**	**23 22 57.0**	**-5.9**
APYN	**Apoyeque**	**0.15**	**77**	⇓*e*P	**P**	**23 22 45.2**	**0.0**
APYN				*e*S	**S**	**23 23 01.7**	**-1.4**
XAVN	**Gruta Xavier**	**0.18**	**106**	⇑*i*P	**P**	**23 22 45.5**	**+0.3**
MOMJ	**Momotombo**	**0.21**	**350**	⇑*i*P	**P**	**23 22 45.1**	**-0.2**
MOMJ				*e*S	**S**	**23 23 01.7**	**-1.7**
MGAN	**Managua**	**0.25**	**102**	⇑*e*P	**P**	**23 22 45.7**	**+0.2**
MGAN				*e*S	**S**	**23 23 02.5**	**-1.1**
	comp=N,864nm,0.6s						
CRUN	**El Crucero**	**0.29**	**137**	⇓*e*P	**P**	**23 22 46.1**	**+0.5**
WILN	**Americas 2**	**0.31**	**97**	⇑*e*P	**P**	**23 22 46.0**	**+0.4**
WILN				*e*S	**S**	**23 23 03.5**	**-0.4**
TICN	**Ticuantepe**	**0.31**	**122**	⇑*e*P	**P**	**23 22 46.1**	**+0.5**
MIRN	**Miramar**	**0.32**	**319**	⇓*e*P	**P**	**23 22 45.5**	**-0.2**
MIRN				*e*S	**S**	**23 23 01.0**	**-2.9**
CNGN	**Cerro Negro**	**0.36**	**327**	⇑*e*P	**P**	**23 22 45.5**	**-0.3**
MASN	**Masaya**	**0.40**	**121**	⇓*e*P	**P**	**23 22 46.6**	**+0.7**
LEON	**Leon**	**0.44**	**300**	⇑*i*P	**P**	**23 22 45.4**	**-0.6**
TEL3	**Telica 3**	**0.50**	**318**	⇑*i*P	**P**	**23 22 46.2**	**-0.1**
APON	**Apoyo**	**0.51**	**123**	⇓*e*P	**P**	**23 22 46.9**	**+0.6**
APON				*e*S	**S**	**23 23 04.6**	**-0.7**
TELN	**Telica**	**0.52**	**321**	⇑*e*P	**P**	**23 22 46.1**	**-0.2**
PYTN	**Playitas**	**0.55**	**52**	⇓*e*P	**P**	**23 22 47.1**	**+0.7**
PYTN				*e*S	**S**	**23 23 08.7**	**+3.1**
CRIN	**San Cristobal**	**0.73**	**313**	⇑*i*P	**P**	**23 22 47.3**	**0.0**
CONN	**Concepcion**	**1.06**	**126**	⇓*e*P	**P**	**23 22 50.7**	**+1.1**
SSNN	**San Juan del S**	**1.11**	**145**	⇓*e*P	**P**	**23 22 50.9**	**+0.9**
MADN	**Villa Maderas**	**1.23**	**130**	⇓*e*P	**P**	**23 22 52.1**	**+1.0**
CNCH	**Conchagua**	**1.69**	**310**	⇑*e*P	Px	23 23 13.8	
CNCH				*e*S	Sx	23 23 38.6	
LIM1	**Limonal**	**1.93**	**140**	*i* P	**P**	**23 22 59.2**	**+1.2**
LIM1				*i* S	**S**	**23 23 26.1**	**+0.2**
BLLM	**Bellamira**	**2.10**	**306**	⇑*e*P	Px	23 23 18.4	
BLLM				*e*S	Sx	23 23 46.9	
SNVI	**San Vicente**	**2.68**	**302**	⇑*e*P	Px	23 23 25.3	
SNVI				*e*S	Sx	23 23 57.7	
LCBS	**La Ceiba**	**2.82**	**301**	⇑*e*P	Px	23 23 26.7	
LCBS				*e*S	Sx	23 23 59.8	
LFRS	**El Faro**	**2.87**	**300**	⇑*e*P	Px	23 23 27.3	
LFRS				*e*S	Sx	23 24 00.7	
SNET	**Serv Nac Est T**	**3.04**	**299**	*e*P	Px	23 23 29.5	
SNET				*e*S	Sx	23 24 04.7	
SNET				*i*		23 24 09.0	
	comp=Z,896nm,0.2s						
BOQS	**Boqueron**	**3.11**	**300**	⇑*e*P	Px	23 23 30.6	
BOQS				*e*S	Sx	23 24 07.5	
SNJE	**San Jose**	**3.45**	**299**	*e*P	Px	23 23 34.7	
SNJE				*e*S	Sx	23 24 14.8	
SBLS	**San Blas**	**3.45**	**299**	*e*P	Px	23 23 34.5	
SBLS				*e*S	Sx	23 24 14.6	
RTR	**El Retiro**	**3.50**	**299**	*e*P	Px	23 23 35.7	
RTR				*e*S	Sx	23 24 16.2	
MRL	**Marmol**	**4.21**	**313**	⇑*e*P	**P**	**23 23 27.4**	**+1.2**
IXG	**Ixpaco**	**4.32**	**297**	⇓*e*P	**P**	**23 23 27.3**	**-0.3**
IXG				*e*S	**S**	**23 24 17.2**	**-1.2**
TP2	**Tecpan 2**	**5.09**	**301**	⇑*e*P	**P**	**23 23 38.9**	**+1.3**
TP2				*e*S	**S**	**23 24 38.6**	**+2.3**
ROSC	**El Rosal**	**14.07**	**120**	P	**P**	**23 25 39.4**	**+4.8**
	comp=Z,0.6nm,0.3s,baz=278,slow=14,SNR=3.5						
SDV	**Santo Domingo**	**15.94**	**100**	P	**P**	**23 25 59.5**	**+1.5**
	comp=Z,0.5nm,0.3s,baz=302,slow=6.9,SNR=7.7						
SDV	**Santo Domingo**	**15.94**	**100**	*e*P	**P**	**23 25 59.3**	**+1.3**
	comp=Z,9.9nm,1.0s						
SDV				*e*		23 26 14.4	
SJG	**San Juan**	**20.50**	**71**	P	**P**	**23 26 47.6**	**-0.1**
	comp=Z,3.8nm,0.4s,baz=351,slow=18,SNR=3.1						
LRAL	**Lakeview Retre**	**20.75**	**359**	*e*P	**P**	**23 26 51.4**	**+1.3**
	comp=Z,7.2nm,0.6s						
GOGA	**Godfrey**	**21.30**	**7**	*e*P	**P**	**23 26 58.0**	**+2.5**
	comp=Z,7.1nm,0.8s,mb4.0						
CPCT	**Cooper Cave**	**23.22**	**4**	*e*P	**P**	**23 27 15.4**	**+1.1**
TXAR	**Lajitas Array**	**23.36**	**319**	P	**P**	**23 27 16.2**	**+0.6**
	comp=Z,1.9nm,0.6s,mb3.7,baz=140,slow=9.4,SNR=34						
TZTN	**Tazewell**	**24.39**	**6**	*e*P	**P**	**23 27 25.5**	**+0.2**
ELN	**Prospectdale**	**25.45**	**11**	*e*P	**P**	**23 27 36.2**	**+0.9**
BINY	**Binghamton**	**31.26**	**15**	*e*P	**P**	**23 28 26.3**	**-1.0**
	comp=Z,9.9nm,0.8s,mb4.6						
SAML	**Samuel**	**31.28**	**131**	P	**P**	**23 28 26.0**	**-1.7**
	comp=Z,1.0nm,0.9s,mb3.5						
SADO	**Sadowa**	**33.06**	**10**	P	**P**	**23 28 41.6**	**-1.2**
	comp=Z,4.8nm,0.7s,mb4.4,baz=216,slow=11,SNR=3.3						
PDAR	**Pinedale Array**	**36.44**	**331**	P	**P**	**23 29 10.8**	**-0.5**
	comp=Z,0.4nm,0.6s,mb3.2,baz=127,slow=7.4,SNR=4.6						
SIV	**San Ignacio**	**37.65**	**137**	P	**P**	**23 29 20.4**	**-1.4**
	comp=Z,1.7nm,0.5s,mb3.9,baz=318,slow=8.5,SNR=21						
ULM	**Lac du Bonnet**	**38.72**	**350**	P	**P**	**23 29 27.6**	**-2.7**
	comp=Z,2.6nm,0.6s,mb4.1,baz=178,slow=9.7,SNR=5.2						
SCHQ	**Schefferville**	**45.26**	**16**	P	**P**	**23 30 21.9**	**-1.5**
	comp=Z,2.6nm,0.5s,mb4.2,baz=227,slow=6.6,SNR=16						
PLCA	**Paso Flores**	**54.70**	**165**	P	**P**	**23 31 34.7**	**-0.4**
	comp=Z,1.7nm,0.8s,mb3.8,baz=351,slow=5.5,SNR=4.8						
ESDC	**Sonseca Array**	**76.61**	**52**	P	**P**	**23 33 53.2**	**-1.7**
	comp=Z,1.3nm,0.7s,mb3.6,baz=284,slow=5.3,SNR=7.6						
STKA	**Stephens Creek**	**131.75**	**238**	PKP	PKPdf	23 41 16.4	+1.7
	comp=Z,1.9nm,0.6s,baz=14,slow=1.7,SNR=4.7						
WRA	**Warramunga Arr**	**140.09**	**254**	PKP	PKPdf	23 41 31.9	+1.5
	comp=Z,2.3nm,0.5s,baz=91,slow=2.2,SNR=12						

MAN 21 23:24:18.2, 9.79N×122.20E, h1km, mb4.0, ML2.8, MS2.5,
2C, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.92**	**25**	*e*P	Pg	23 24 35.7	-0.8
GUIM				*e*S	Sg	23 24 48.1	-0.5
SNPH	**Sibulan**	**1.11**	**113**	⇑*e*P	Pb	23 24 40.0	+0.1
SNPH				*i* S	Sb	23 24 57.0	+2.2
CUYO	**Cuyo Island**	**1.57**	**312**	*e*P	Pn	23 24 46.6	-0.7
CUYO				*e*S	Sb	23 25 04.7	-3.3
RCP	**Roxas**	**1.84**	**17**	⇑*e*P	Pn	23 24 52.8	+1.6
RCP				*e*S	Sn	23 25 16.0	+0.6
PAGZ	**Pagadian**	**2.26**	**149**	*e*P	Pn	23 24 58.3	+1.1

IDC 21 23:33:31.6±5.6, 18.33N×144.51E, h440km±63km, mb3.1/4,
mb1 3.2/5, mb1mx2.9/18, mbtmp3.9/5, Error ellipse:
s-maj=54.9km s-min=20.6km az=88.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**17.20**	**302**	P	P	23 37 06.4	-0.2
	0.6nm,0.3s,baz=130,slow=11,SNR=5.0						
WRA	**Warramunga Arr**	**39.32**	**195**	P	P	23 40 21.1	-1.4
	1.0nm,0.4s,baz=10,slow=8.5,SNR=10.0						
ILAR	**Eielson Array**	**64.47**	**26**	P	P	23 43 22.6	-2.1
	0.1nm,0.5s,baz=259,slow=6.4,SNR=4.5						
ARCES	**ARCESS Array B**	**82.49**	**342**	P	P	23 45 06.9	-0.4
	1.7nm,0.9s,baz=80,slow=5.5,SNR=8.8						
FINES	**FINESS Array B**	**86.74**	**335**	P	P	23 45 27.4	-0.8
	1.1nm,0.9s,baz=68,slow=5.3,SNR=6.7						

*NEIC **21** 23:49:32.4, 17.02N×96.81W, h67km, MD3.7(MEX), After*
MEX.
MEX 21 23:49:32.4±0.8, 17.02N×96.81W, h67km±9km, MD3.7, 1D,
Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VHO	**Vista Hermosa**	**0.09**	**54**	⇓*i*P	P	23 49 41.5	-0.8
VHO				*i* S	S	23 49 47.6	-1.9
OXX	**Oaxaca**	**0.10**	**53**	*i* P	P	23 49 41.3	-1.0
OXX				*i* S	S	23 49 47.7	-1.8
PNIG	**Pinotepa**	**1.41**	**244**	*e*P	P	23 49 54.9	-1.7
PNIG				*i* S	S	23 50 12.2	-2.4
CMIG	**Matias Romero**	**1.84**	**88**	*i* P	P	23 50 00.2	-2.3
CMIG				*i* S	S	23 50 21.3	-3.3
PPM	**Popocatepetl**	**2.67**	**320**	*e*P	P	23 50 15.0	+0.9
ACX	**Acapulco**	**2.98**	**267**	*e*P	P	23 50 16.2	-2.3
ACX				*i* S	S	23 50 47.5	-5.7

IGQ 22 00:03:03.9, 2.61S×78.88W, h10km±4km, mb4.3, 7C-10D,
Error ellipse: s-maj=13.1km s-min=2.2km az=24.7,
Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARRY	**Arrayan**	**1.17**	**21**	⇑P	Pb	00 03 26.4	+0.6
ARRY				S	Sb	00 03 41.9	+1.0
CUSU	**Cusua**	**1.22**	**19**	P	Pb	00 03 28.5	+1.8
CUSU				S	Sb	00 03 43.8	+1.5
ULBA	**Ulba**	**1.24**	**22**	⇓P	Pb	00 03 28.4	+1.4
JUIV	**Juive**	**1.25**	**19**	⇑P	Pb	00 03 27.9	+0.9
JUIV				S	Sb	00 03 44.4	+1.4
RUN5	**Runtun**	**1.27**	**21**	P	Pb	00 03 28.6	+1.1
RUN5				S	Sb	00 03 44.5	+0.9
PISA	**Pisayambo**	**1.61**	**18**	⇑P	Pn	00 03 34.3	+1.6
PISA				S	Sn	00 03 56.0	+2.3
QIL1	**Quilotoa**	**1.75**	**358**	⇑P	Pn	00 03 33.0	-1.7
QIL1				S	Sn	00 03 53.7	-3.5
CAMI	**Rancho Maria**	**1.95**	**11**	⇓P	Pn	00 03 39.6	+2.1
CAMI				S	Sn	00 04 05.2	+3.0
TAMB	**Tambo**	**1.97**	**15**	⇑P	Pn	00 03 40.1	+2.4
TAMB				S	Sn	00 04 05.6	+2.9
VC1	**Cotopaxi 1**	**2.01**	**14**	⇓P	Pn	00 03 41.0	+2.6
VC1				S	Sn	00 04 08.1	+4.4
ANTI	**Antisana**	**2.26**	**18**	⇓P	Pn	00 03 45.1	+3.2
JUA2	**San Juan 2**	**2.39**	**6**	⇓P	Pn	00 03 46.1	+2.3
JUA2				S	Sn	00 04 17.9	+4.4
TERV	**Terraza Guagua**	**2.43**	**6**	⇓P	Pn	00 03 46.8	+2.4
TERV				S	Sn	00 04 19.0	+4.5
GGP	**Refugio Guagua**	**2.43**	**7**	⇑P	Pn	00 03 46.6	+2.2
PINO	**Pino**	**2.45**	**6**	P	Pn	00 03 46.9	+2.3
YANA	**Yana**	**2.49**	**7**	⇓P	Pn	00 03 47.6	+2.4
JOR1	**San Jorge 1**	**2.60**	**5**	⇑P	Pn	00 03 45.2	-1.6
JOR1				S	Sn	00 04 14.5	-4.2
CAYR	**Refugio Cayamb**	**2.75**	**18**	P	Pn	00 03 55.1	+6.2
ECOPE	**Copete-Rev Vol**	**2.78**	**27**	⇓P	Pn	00 03 55.9	+6.5
CAYA	**Cayambe**	**2.80**	**18**	⇓P	Pn	00 03 55.6	+5.9
COTA	**Cotacachi**	**2.97**	**10**	⇓P	Pn	00 03 56.8	+4.7
COTA				S	Sn	00 04 35.9	+7.7
ECEN	**Cerro Negro**	**3.53**	**15**	P	Pn	00 04 07.8	+7.8
ECEN				S	Sn	00 04 54.3	+12

*PRU **22** 00:03:11.2, 50.28N×18.73E*
WAR 22 00:03:10.3, 50.26N×18.88E, h0km, ML2.5, 1D, Mining
Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.47**	**249**	*e*PG	Pg	00 03 20.0	+0.3
RAC				*e*SG	Sg	00 03 27.0	+1.0
OJC	**Ojcow**	**0.59**	**93**	*e*PG	Pg	00 03 22.0	-0.2
OJC				*e*SG	Sg	00 03 30.0	-0.1
OKC	**Ostrava-Krasne**	**0.63**	**228**	*e*PG	Pg	00 03 22.2	-0.7
NIE	**Niedzica**	**1.25**	**131**	*e*PG	Pg	00 03 34.0	-1.3
NIE				*e*SG	Sg	00 03 52.0	0.0
DPC	**Dobruska-Polom**	**1.64**	**274**	*e*PG	Pg	00 03 38.9	-4.

MGAN			⇓eP			00 37 41.9	
MGAN			eS	Sb		00 38 00.2	+0.6
MGAN			eS	Sb		00 38 00.3	+0.7
MGAN			i			00 38 07.7	
	comp=E,445nm,0.5s						
MGAN			i			00 38 07.9	
	comp=N,530nm,0.5s						
APYN	**Apoyeque**	**1.40**	**25**⇑eP	Pn		00 37 42.3	-0.4
WILN	**Americas 2**	**1.41**	**32**⇑eP	Pn		00 37 42.2	-0.7
WILN			eS	Sb		00 38 02.8	+1.9
CONN	**Concepcion**	**1.44**	**65**⇑eP	Pn		00 37 41.9	-1.3
LEON	**Leon**	**1.45**	**2**⇑eP	Pn		00 37 43.5	+0.1
MADN	**Villa Maderas**	**1.47**	**72**⇑eP	Pn		00 37 42.6	-1.1
MIRN	**Miramar**	**1.49**	**9**⇑eP	Pn		00 37 44.0	0.0
MIRN			eS	Sb		00 38 02.4	-0.7
MOMJ	**Momotombo**	**1.50**	**16**⇑eP	Pn		00 37 43.8	-0.3
CNGN	**Cerro Negro**	**1.55**	**9**⇑eP	Pn		00 37 44.6	-0.3
TEL3	**Telica 3**	**1.61**	**4**⇑eP	Pn		00 37 45.5	-0.2
LIM1	**Limonal**	**1.69**	**99** iP	Pn		00 37 45.1	-1.8
PYTN	**Playitas**	**1.80**	**29**⇓eP	Pn		00 37 47.5	-0.9
JCR	**Jicaral**	**2.12**	**121** eP	Pn		00 37 51.1	-1.9
JCR			eS	Sn		00 38 20.1	+0.9
FORC	**Fortuna**	**2.30**	**102** eP	Pn		00 37 56.5	+1.0
CGA2	**Cerro Gallo 2**	**2.62**	**111** eP	Pn		00 37 59.5	-0.7
PRS1	**Puriscal**	**2.77**	**110**⇓eP	Pn		00 38 01.5	-0.9
LCR2	**La Lucha 2**	**3.15**	**112** eP	Pn		00 38 07.9	+0.3
LCR2			eS	Sn		00 38 44.9	-0.3
BUS	**Buena Vista**	**3.44**	**114** eP	Pn		00 38 13.1	+1.3

*NEIC **22** 00:55:15.5±0.6,50.38N×18.80E,h5km,MG2.6(WAR), Error ellipse: s-maj=8.9km s-min=4.0km az=17.0*
*IDC **22** 00:55:16.5±1.9,50.34N×18.77E,mb1 3.3/4, mb1mx3.2/19,mbtmp3.2/4,ML2.7/4,Error ellipse: s-maj=30.7km s-min=8.7km az=130.0*
*PRU **22** 00:55:16.0,50.35N×18.81E*
WAR 22 00:55:15.7,50.36N×18.91E,h0km,ML2.5,Mining Induced,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.54**	**239**	ePG	Pg	00 55 27.0	+0.5
RAC				eSG	Sg	00 55 35.0	+1.3
OJC	**Ojcow**	**0.59**	**104**	ePG	Pg	00 55 27.0	-0.4
OJC				eSG	Sg	00 55 35.0	-0.3
OKC	**Ostrava-Krasne**	**0.72**	**223**	ePG	Pg	00 55 29.5	-0.6
MORC	**Moravsky Berou**	**1.06**	**237**	ePN	Pb	00 55 35.2	-1.3
MORC				eS	Sb	00 55 49.5	-1.3
NIE	**Niedzica**	**1.31**	**136**	ePG	Pg	00 55 40.0	-1.9
NIE				eSG	Sg	00 55 58.0	-1.3
DPC	**Dobruska-Polom**	**1.66**	**271**	ePG	Pg	00 55 44.9	-3.9
DPC				eSG	Sg	00 56 07.3	-3.6
	23nm,0.6s						
KSP	**Ksiaz**	**1.74**	**287**	ePN	Pn	00 55 45.0	-2.3
KSP				ePG	Pg	00 55 48.0	-2.3
KSP				eSG	Sg	00 56 12.0	-1.5
KSP	**Ksiaz**	**1.74**	**287**	ePn	Pn	00 55 45.4	-1.9
KSP				ePg	Pg	00 55 47.8	-2.5
KSP				eSg	Sg	00 56 11.5	-2.0
STHS	**Stebnicka Huta**	**1.78**	**121**	ePN	Pn	00 55 49.5	+1.6
STHS				eSN	Sn	00 56 15.8	+4.2
VRAC	**Vranov**	**1.83**	**236**	Pg	Pg	00 55 49.1	-3.3
	3.5nm,0.3s,baz=50,slow=14,SNR=34						
VRAC				Lg		00 56 12.7	
	3.5nm,0.3s,baz=150,slow=20,SNR=12						
VYHS	**Vyhne**	**1.87**	**182**	ePN	Pn	00 55 48.0	-1.2
VYHS				eSN	Sn	00 56 12.2	-1.7
KECS	**Kecovo**	**2.15**	**151**	ePN	Pn	00 55 52.1	-1.0
CRVS	**Cervenica-Dubn**	**2.21**	**130**	ePN	Pn	00 55 56.8	+2.7
PSZ	**Piszkesteto**	**2.53**	**165**	ePg	Pg	00 56 04.2	-2.0
KOLS	**Kolonicke sedl**	**2.61**	**122**	ePG	Pg	00 56 06.9	-1.0
PRU	**Pruhonice**	**2.83**	**264**	ePN	Pn	00 56 00.6	-2.4
PRU				ePG	Pg	00 56 06.1	-6.2
PRU				eSG	Sg	00 56 43.1	-6.9
BRG	**Berggiesshubel**	**3.21**	**281**	Pg	Pg	00 56 14.8	-4.9
BRG				Sg	Sg	00 56 57.3	-5.1
KHC	**Kasperske Hory**	**3.67**	**252**	ePN	Pn	00 56 12.3	-2.6
KHC				ePG	Pg	00 56 19.8	-9.2
KHC				eSG	Sg	00 57 11.7	-6.2
GERES	**GERESS Array B**	**3.71**	**248**	Pn	Pn	00 56 12.9	-2.6
	0.2nm,0.3s,baz=63,slow=15,SNR=5.0						
GERES				Pg	Pg	00 56 23.4	-6.5
	1.0nm,0.3s,baz=62,slow=16,SNR=21						
GERES				Sn	Sn	00 56 56.8	-3.8
	0.5nm,0.3s,baz=62,slow=23,SNR=4.3						
GERES				Lg		00 57 12.0	
	1.2nm,0.3s,baz=62,slow=27,SNR=11						
CLL	**Collm**	**3.86**	**286**	ePG	Pg	00 56 29.0	-3.8
CLL				eSG	Sg	00 57 22.0	-2.3
MOA	**Molln**	**3.96**	**232**	i SG	Sg	00 57 20.4	-7.0
	1.9nm,0.3s						
MOA	**Molln**	**3.96**	**232**	i P	Pn	00 56 24.7	+5.8
MOA				i Sg	Sg	00 57 20.4	-7.0
NOA	**NORSAR Array B**	**11.54**	**341**	Pn	P	00 57 56.9	-7.6
	0.0nm,0.3s,baz=200,slow=20,SNR=2.9						
FINES	**FINESS Array B**	**11.80**	**17**	Pn	P	00 58 01.2	-6.9
	0.1nm,0.3s,baz=198,slow=12,SNR=6.6						
ARCES	**ARCESS Array B**	**19.49**	**7**	Pn	P	00 59 41.4	-5.2
	0.1nm,0.3s,baz=188,slow=13,SNR=3.4						

*CSEM **22** 01:00:49.3±0.1,35.04N×26.28E,h30km,ML3.5,Error ellipse: s-maj=2.9km s-min=1.5km az=25.0*
*ATH **22** 01:00:50.3,35.19N×25.85E,h73km±3km*
*HLW **22** 01:00:51.5,35.06N×26.27E,h33km,Mb3.5*
ISC 22 01:00:48.9±0.6,35.05N±0.05×25.96E±0.06,h94km±11km, n19,σ1§31/25,3C-4D,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.28**	**231**	eP	**P**	**01 01 02.5**	**-0.2**
NPS	**Neapolis**	**0.35**	**307**	eP	**P**	**01 01 02.0**	**-1.1**
NPS				eS	**S**	**01 01 09.4**	**-4.6**
KARP	**Karpathos**	**1.10**	**63**	eP	**P**	**01 01 12.2**	**+1.8**
KARP				eS	**S**	**01 01 26.7**	**+0.2**
VAM	**Vamos**	**1.48**	**284**	eP	**P**	**01 01 15.0**	**0.0**
ARG	**Arkhangelos**	**2.12**	**56**	eP	**P**	**01 01 24.7**	**+1.4**
KYTH	**Kithira**	**2.68**	**298**	eP	**P**	**01 01 30.5**	**-0.6**
VLI	**Veliai**	**2.96**	**305**	eP	**P**	**01 01 34.3**	**-0.7**
SLUM		**3.60**	**190**	⇑P	**P**	**01 01 45.8**	**+2.0**
SLUM				S	**S**	**01 02 26.1**	**+0.6**
SLUM		**3.60**	**190**	P	**P**	**01 01 45.8**	**+2.0**
SLUM				S	**S**	**01 02 26.0**	**+0.5**
ITM	**Ithomi**	**3.89**	**304**	eP	**P**	**01 01 47.7**	**-0.1**
HMAT	**Matruh**	**4.06**	**166**	⇑P	**P**	**01 01 52.1**	**+2.1**
HMAT				S	**S**	**01 02 34.5**	**-2.3**
SWA1		**5.77**	**182**	P	**P**	**01 02 15.3**	**+1.8**
SWA1				S	**S**	**01 03 15.9**	**-3.1**
SWA2		**5.80**	**184**	P	**P**	**01 02 15.7**	**+1.8**
KOT	**Kottamia**	**7.12**	**134**	⇑P	**P**	**01 02 31.4**	**-0.7**
GLL	**Jalalah**	**7.31**	**137**	⇓P	**P**	**01 02 34.3**	**-0.5**
AMAG	**Maghara**	**7.52**	**124**	⇓P	**P**	**01 02 36.5**	**-1.0**
HRSH	**Kfar Ka'horesh**	**7.69**	**120**	⇓P	**P**	**01 02 38.6**	**-1.4**
RSH		**7.69**	**120**	P	**P**	**01 02 38.6**	**-1.3**
HKAT	**Jabal Katrina**	**9.44**	**131**	⇓P	**P**	**01 03 03.7**	**+0.1**

WEL 22 01:07:22.3±0.2,37.23S×177.00E,h208km±2km,ML3.6/7, Error ellipse: s-maj=3.1km s-min=3.0km az=0.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.03**	**175**	ePN	P	01 07 53.1	-0.2
URZ				SN	S	01 08 16.9	-0.4
MWZ	**Matawai**	**1.18**	**160**	ePN	P	01 07 54.2	-0.2
MWZ				SN	S	01 08 19.1	-0.1
PUZ	**Puketiti**	**1.31**	**131**	PN	P	01 07 55.1	-0.4
PUZ				SN	S	01 08 19.5	-1.5
KNZ	**Kokohu**	**1.87**	**164**	ePN	P	01 08 00.3	-0.1
BKZ	**Black Stump Fm**	**1.98**	**192**	ePN	P	01 08 01.3	-0.2
BKZ				SN	S	01 08 31.4	-0.3
WNVZ	**Wahianoa**	**2.37**	**207**	PN	P	01 08 05.4	-0.3
MRZ	**Mangatainoka R**	**3.60**	**197**	SN	S	01 09 03.4	-1.4
KIW	**Kapiti Island**	**3.98**	**204**	SN	S	01 09 11.7	-1.3
MTW	**Mount Morrison**	**4.10**	**196**	ePN	P	01 08 24.3	-1.8
MTW				SN	S	01 09 13.0	-2.6
TCW	**Tory Channel**	**4.51**	**207**	SN	S	01 09 21.5	-3.3
QRZ	**Quartz Range**	**5.00**	**223**	SN	S	01 09 33.5	-2.6
KHZ	**Kahutara**	**5.83**	**206**	ePN	P	01 08 45.4	-2.8
KHZ				SN	S	01 09 50.5	-4.5
KHZ				SN	S	01 09 51.5	-3.5
MQZ	**McQueen's Vall**	**7.27**	**206**	SN	S	01 10 21.7	-6.8

*NEIC **22** 01:14:55.9,16.09N×98.70W,h27km,MD3.9(MEX),After MEX.*
MEX 22 01:14:55.8±0.8,16.06N×98.69W,h26km±17km,MD3.9,1C, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.63**	**58**⇑iP		Pb	01 15 06.1	-2.1
PNIG				i S	Sb	01 15 14.3	-2.4
ACX	**Acapulco**	**1.43**	**305**	eP	Pn	01 15 18.0	-2.4
ACX				i S	Sn	01 15 35.5	-3.0
CAIG	**El Cayaco**	**1.81**	**303**	eP	Pn	01 15 22.4	-3.5
CAIG				i S	Sn	01 15 44.0	-4.2
CAIG	**El Cayaco**	**1.81**	**303**	eP	Pn	01 15 22.4	-3.5
CAIG				i S	Sn	01 15 42.0	-6.1
VHO	**Vista Hermosa**	**2.13**	**61**	i P	Pn	01 15 28.6	-1.9
VHO				i S	Sn	01 15 52.9	-3.5
OXX	**Oaxaca**	**2.14**	**61**	i P	Pn	01 15 29.0	-1.7
OXX				i S	Sn	01 15 53.0	-3.7
PLIG	**Platanillo**	**2.45**	**342**	eP	Pn	01 15 32.2	-2.8
PLIG				i S	Sn	01 15 60.0	-4.5
PLIG	**Platanillo**	**2.45**	**342**	eP	Pn	01 15 32.2	-2.8
PLIG				i S	Sn	01 15 59.4	-5.1
HUIG	**Huatulco**	**2.50**	**96**	eP	Pn	01 15 32.9	-2.8
HUIG				i S	Sn	01 15 59.9	-5.9
HUIG	**Huatulco**	**2.50**	**96**	eP	Pn	01 15 30.9	-4.9
HUIG				i S	Sn	01 15 60.0	-5.8
YAIG	**Yautepec**	**2.81**	**353**	eP	Pn	01 15 36.1	-4.1
YAIG				i S	Sn	01 16 09.2	-4.5
PPM	**Popocatepetl**	**2.99**	**1**	eP	Pn	01 15 47.0	+4.2
PPM				i S	Sn	01 16 19.0	+0.7
UNM	**Universidad Na**	**3.29**	**352**	eP	Pn	01 15 45.0	-2.0
UNM				i S	Sn	01 16 25.0	-0.7
CMIG	**Matias Romero**	**3.79**	**74**	i P	Pn	01 15 50.5	-3.6
CMIG				i S	Sn	01 16 34.1	-4.3

IDC 22 01:18:36.9±3.1,22.22N×144.69E,mb4.1/5,mb1 4.2/5, mb1mx3.8/19,mbtmp4.1/5,Error ellipse: s-maj=123.4km s-min=24.0km az=84.0,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.11**	**194**	P	P	01 26 39.0	-1.9
	0.5nm,0.3s,baz=14,slow=8.4,SNR=7.1						
FITZ	**Fitzroy Crossi**	**44.20**	**206**	P	P	01 26 47.7	-2.0
	5.9nm,1.0s,baz=0.5,slow=4.1,SNR=3.6						
MKAR	**Makanchi Array**	**55.38**	**312**	P	P	01 28 13.1	-2.0
	0.7nm,0.6s,baz=82,slow=8.6,SNR=5.2						
BVAR	**Borovoye Array**	**63.18**	**319**	P	P	01 29 06.8	-2.2
	1.0nm,0.4s,baz=90,slow=7.1,SNR=14						
FINES	**FINESS Array B**	**83.31**	**335**	P	P	01 31 05.2	-1.4
	1.4nm,0.9s,baz=72,slow=6.0,SNR=7.5						

*CSEM **22** 01:31:37.5±0.1,36.12N×25.57E,h112km±1km,Error ellipse: s-maj=5.3km s-min=2.6km az=71.0*
*ATH **22** 01:31:39.9,36.14N×25.38E,h86km±4km*
*THE **22** 01:31:43.7,36.13N×24.87E,h20km*
*HLW **22** 01:31:44.5,35.68N×25.90E,h33km,Mb4.1*
ISC 22 01:31:38.1±0.3,36.08N±0.04×25.46E±0.05,h107km±4km, n39,σ1§16/50,mb3.8/3,4C-4D,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THR1	**Thera Island**	**0.29**	**359**	ePg	**P**	**01 31 54.0**	**+0.4**
THR1				eSg	**S**	**01 32 02.5**	**-2.8**
THR5	**Thira Island,**	**0.35**	**345**	ePg	**P**	**01 31 54.4**	**+0.4**
THR5				eSg	**S**	**01 32 01.5**	**-4.3**
THR4	**Thira Island,**	**0.39**	**352**	ePg	**P**	**01 31 54.5**	**+0.4**
THR4				eSg	**S**	**01 32 03.3**	**-2.8**
NPS	**Neapolis**	**0.82**	**171**	eP	**P**	**01 31 58.8**	**+1.2**
APE	**Apeiranthos**	**0.99**	**3**	eP	**P**	**01 31 59.8**	**+0.5**
APE				eS	**S**	**01 32 13.8**	**-1.4**
XRY	**Khrisi**	**1.21**	**171**	eP	**P**	**01 32 04.0**	**+2.2**
VAM	**Vamos**	**1.23**	**237**	eP	**P**	**01 32 02.7**	**+0.8**
VAM				eS	**S**	**01 32 19.0**	**-0.9**
KARP	**Karpathos**	**1.48**	**110**	eP	**P**	**01 32 07.3**	**+2.4**
KARP				eS	**S**	**01 32 26.5**	**+1.5**
GVD	**Gavdhos**	**1.67**	**223**	eP	**P**	**01 32 09.4**	**+2.1**
KYTH	**Kithira**	**1.97**	**277**	eP	**P**	**01 32 11.5**	**+0.4**
VLI	**Veliai**	**2.14**	**288**	eP	**P**	**01 32 13.5**	**+0.2**
VLI				eS	**S**	**01 32 38.1**	**-1.5**
ARG	**Arkhangelos**	**2.16**	**86**	eP	**P**	**01 32 16.3**	**+2.7**
ITM	**Ithomi**	**3.05**	**292**	eP	**P**	**01 32 26.7**	**+1.0**
AOS	**Alonnisos**	**3.33**	**338**	ePn	**P**	**01 32 30.2**	**+0.7**
XOR	**Xorichti**	**3.75**	**332**	ePn	**P**	**01 32 35.4**	**+0.2**
SLUM		**4.58**	**183**	⇓P	**P**	**01 32 46.6**	**+0.1**
SLUM				S	**S**	**01 33 31.9**	**-7.0**
HMAT	**Matruh**	**5.15**	**164**	⇑P	**P**	**01 32 54.7**	**+0.4**
HMAT				S	**S**	**01 33 43.3**	**-10**
IGT	**Igoumenitsa**	**5.33**	**312**	ePn	**P**	**01 32 55.9**	**-0.7**
IGT				eSn	**S**	**01 33 52.0**	**-5.3**
GRG	**Griva**	**5.43**	**335**	ePn	**P**	**01 32 59.4**	**+1.4**
KNT	**Kendrikon**	**5.46**	**339**	ePn	**P**	**01 33 00.3**	**+2.0**
KNT	**Kendrikon**	**5.46**	**339**	ePn	**P**	**01 33 00.3**	**+1.9**
SWA1		**6.80**	**178**	⇑P	**P**	**01 33 16.9**	**+0.1**
SWA1				S	**S**	**01 34 24.3**	**-8.9**
SWA2		**6.81**	**180**	⇓P	**P**	**01 33 16.9**	**-0.1**
HNAT	**Natroun**	**7.75**	**145**	P	**P**	**01 33 28.5**	**-1.2**
AYT	**Al 'Ayyat**	**7.95**	**141**	⇑P	**P**	**01 33 31.2**	**-1.2**
HSAF	**As Saff**	**8.23**	**140**	P	**P**	**01 33 35.2**	**-1.0**
AWBH		**8.26**	**158**	P	**P**	**01 33 36.2**	**-0.5**
GLL	**Jalalah**	**8.34**	**139**	⇑P	**P**	**01 33 36.7**	**-1.0**
AMAG	**Maghara**	**8.44**	**128**	⇓P	**P**	**01 33 37.9**	**-1.2**
HRSH	**Kfar Ka'horesh**	**8.58**	**124**	P	**P**	**01 33 39.9**	**-0.9**
RSH		**8.58**	**124**	P	**P**	**01 33 39.9**	**-0.9**
HKAT	**Jabal Katrina**	**10.43**	**134**	⇓P	**P**	**01 34 05.2**	**-0.5**
SMF	**Signal de Mont**	**19.30**	**310**	eP	**P**	**01 35 55.6**	**-1.3**
	1.1nm,0.4s						
LOR	**Lormes**	**19.57**	**312**	eP	**P**	**01 35 59.8**	**+0.1**
	3.8nm,0.7s						
AVF	**Avril sur Loir**	**19.67**	**310**	eP	**P**	**01 35 59.8**	**-0.9**
	1.8nm,0.5s						
SSF	**Saint Saulge**	**19.69**	**311**	eP	**P**	**01 36 00.2**	**-0.8**
	5.1nm,0.5s						
LDF	**La Druitiere**	**22.55**	**312**	eP	**P**	**01 36 30.3**	**+0.8**
	4.5nm,0.6s,mb3.7						
FLN	**La Foliniere**	**22.84**	**312**	eP	**P**	**01 36 33.1**	**+0.8**
	4.4nm,0.4s,mb3.9						
GRR	**Gorron**	**22.92**	**311**	eP	**P**	**01 36 32.9**	**-0.2**
	3.6nm,0.3s,mb3.8						

*CNRM **22** 01:56:11.2,35.01N×2.80W,h5km,MD2.6*
*CSEM **22** 01:56:13.6±0.4,34.91N×3.15W,h2km,MD2.6,Error ellipse: s-maj=14.3km s-min=5.8km az=126.0*
MDD 22 01:56:14.1±1.3,34.88N×2.97W,mbLg1.7/3,Error ellipse: s-maj=12.3km s-min=4.7km az=129.0,PRXIMO SIN SOLUCIN,Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMEL	**Melilla**	**0.42**	**2**	P	Pg	01 56 22.1	-0.4
	29nm,0.1s,SNR=8.9						
EMEL				S	Sg	01 56 26.7	-1.5
	174nm,0.2s,SNR=7.9						
EMLI	**Melilla**	**0.42**	**3**	P	Pg	01 56 22.1	-0.4
	29nm,0.1s,SNR=8.9						
TOU	**Touzarine**	**0.65**	**278**	eP	Pg	01 56 25.0	-2.0
TOU				i S	Sg	01 56 36.0	+0.3
TZK	**Tazeka**	**1.27**	**232**	i P	Pb	01 56 37.0	-1.6
TZK				i S	Sb	01 56 55.0	-0.4
EMIJ	**Mijas**	**2.23**	**320**	P	Pn	01 56 50.5	-2.3
	0.2nm,0.1s,SNR=4.0						
EQES	**Quesada**	**2.92**	**358**	P	Pn	01 57 02.2	-0.5
	0.3nm,0.1s,SNR=7.9						
EQES				S	Sn	01 57 35.7	-3.3
	0.3nm,0.2s,SNR=7.9						
EQES	**Quesada**	**2.92**	**358**	P	Pn	01 57 02.2	-0.5
	0.3nm,0.1s,SNR=7.9						
EQES				S	Sn	01 57 36.4	-2.6
	0.3nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**2.95**	**6**	P	Pn	01 57 02.0	-1.0
	0.2nm,0.1s,SNR=5.4						
EHUE				S	Sn	01 57 35.7	-4.0
	0.1nm,0.1s,SNR=4.0						
EHUE	**Huescar**	**2.95**	**6**	P	Pn	01 57 02.7	-0.4
	0.2nm,0.1s,SNR=5.4						

*CNRM **22** 02:08:26.8,35.02N×2.86W,h5km,MD3.1*
*CSEM **22** 02:08:29.5±0.4,34.88N×3.14W,h5km,MD3.1,Error ellipse: s-maj=10.5km s-min=5.4km az=127.0*
*NEIC **22** 02:08:32.4,34.97N×3.02W,MG3.2(MDD),After MDD.*
MDD 22 02:08:30.7±1.0,34.89N×3.06W,mbLg2.0/8,Error ellipse: s-maj=10.5km s-min=4.1km az=136.0,PRXIMO, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMEL	**Melilla**	**0.42**	**12**	P	Pg	02 08 38.4	-0.7
	28nm,0.1s,SNR=14						
EMEL				S	Sg	02 08 42.9	-1.7
	364nm,0.2s						
EMLI	**Melilla**	**0.42**	**13**	P	Pg	02 08 38.4	-0.7
	28nm,0.1s,SNR=14						
TOU	**Touzarine**	**0.57**	**278**	P	Pg	02 08 40.0	-2.1
TOU				S	Sg	02 08 50.0	+0.2
TOU	**Touzarine**	**0.57**	**278**	eP	Pg	02 08 40.0	-2.1
EALB	**Alboran**	**1.05**	**1**	P	Pb	02 08 50.9	-0.5
	1.6nm,0.1s,SNR=7.9						
EALB				S	Sb	02 09 04.7	-0.9
	12nm,0.1s,SNR=7.9						
EALB	**Alboran**	**1.05**	**1**	P	Pb	02 08 50.9	-0.6
EALB				S	Sb	02 09 04.7	-0.9
TZK	**Tazeka**	**1.22**	**230**	i P	Pb	02 08 52.0	-2.4
TZK				i S	Sb	02 09 10.0	-0.6
EBER	**Berja**	**2.01**	**4**	P	Pn	02 09 05.0	-1.2
	SNR=4.0						
EBER				S	Sn	02 09 28.2	-4.2
	4.4nm,0.3s,SNR=5.8						
EBER	**Berja**	**2.01**	**4**	P	Pn	02 09 05.0	-1.2
	SNR=4.0						
EBER	**Berja**	**2.01**	**4**	P	Pn	02 09 05.0	-1.2
EBER				S	Sn	02 09 25.3	-7.1
EMIJ	**Mijas**	**2.18**	**321**	P	Pn	02 09 07.3	-1.3
	0.7nm,0.2s,SNR=7.9						
EMIJ				S	Sn	02 09 32.9	-3.7
	1.4nm,0.3s,SNR=7.9						
EQUE	**Quentar**	**2.33**	**353**	P	Pn	02 09 09.5	-1.3
	0.9nm,0.3s,SNR=7.9						
ECOG	**Cogollos-Vega**	**2.42**	**350**	P	Pn	02 09 12.0	-0.1
	1.2nm,0.3s,SNR=4.0						
ECOG	**Cogollos-Vega**	**2.42**	**350**	P	Pn	02 09 12.0	-0.1
ELOJ	**Sierra Loja**	**2.42**	**339**	P	Pn	02 09 13.0	+0.8
EQES	**Quesada**	**2.91**	**360**	P	Pn	02 09 18.4	-0.7
	0.9nm,0.2s,SNR=13						
EQES				S	Sn	02 09 52.0	-3.2
	5.7nm,0.3s,SNR=10						
EQES	**Quesada**	**2.91**	**360**	P	Pn	02 09 18.4	-0.7
	0.9nm,0.2s,SNR=13						
EQES				S	Sn	02 09 52.3	-3.0
	5.7nm,0.3s,SNR=10						
EQES	**Quesada**	**2.91**	**360**	P	Pn	02 09 18.4	-0.7
EQES				S	Sn	02 09 52.3	-3.0
EHUE	**Huescar**	**2.95**	**7**	P	Pn	02 09 19.0	-0.6
	0.7nm,0.2s,SNR=11						
EHUE				S	Sn	02 09 52.4	-3.8
	0.8nm,0.2s						
EHUE	**Huescar**	**2.95**	**7**	P	Pn	02 09 19.0	-0.6
	0.7nm,0.2s,SNR=11						
EHUE				S	Sn	02 09 52.5	-3.7
EMUR	**La Murta**	**3.29**	**26**	P	Pn	02 09 21.8	-2.7
	2.5nm,0.3s,SNR=8.8						
EMUR				S	Sn	02 09 55.1	-10
	1.9nm,0.3s,SNR=7.9						
EMUR	**La Murta**	**3.29**	**26**	P	Pn	02 09 21.7	-2.9
	2.5nm,0.3s,SNR=8.8						
EMUR	**La Murta**	**3.29**	**26**	P	Pn	02 09 21.7	-2.9
EMUR				S	Sn	02 09 55.1	-10
EADA	**Adamuz**	**3.49**	**340**	P	Pn	02 09 25.9	-1.5
	0.3nm,0.1s,SNR=5.1						
EADA				S	Sn	02 10 05.1	-5.0
	7.7nm,1.0s,SNR=4.0						
EADA	**Adamuz**	**3.49**	**340**	P	Pn	02 09 25.9	-1.5
	0.3nm,0.1s,SNR=5.1						
EADA				S	Sn	02 10 05.1	-5.0
	7.7nm,1.0s,SNR=4.0						
ETOB	**Tobarra**	**3.94**	**18**	P	Pn	02 09 32.7	-1.0
	0.8nm,0.2s,SNR=4.0						
ETOB				S	Sn	02 10 13.2	-8.2
	0.7nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**3.94**	**18**	P	Pn	02 09 32.7	-1.1
	0.8nm,0.2s,SNR=4.0						
EMIN	**Mina Concepcio**	**4.09**	**316**	P	Pn	02 09 34.1	-1.8
	0.2nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.09**	**316**	P	Pn	02 09 34.1	-1.8
	0.2nm,0.2s,SNR=7.9						
EMIN				S	Sn	02 10 20.6	-4.6
EMIN	**Mina Concepcio**	**4.09**	**316**	P	Pn	02 09 34.1	-1.8
EMIN				S	Sn	02 10 20.6	-4.6
EGRO	**El Granado**	**4.44**	**308**	P	Pn	02 09 39.5	-1.4
	0.8nm,0.1s,SNR=4.0						
EGRO	**El Granado**	**4.44**	**308**	P	Pn	02 09 39.5	-1.4
ESDC	**Sonseca Array**	**4.83**	**352**	P	Pn	02 09 44.7	-1.7
	1.4nm,0.2s,baz=170,slow=11,SNR=5.5						
ESDC	**Sonseca Array**	**4.83**	**352**	P	Pn	02 09 44.7	-1.7

*IDC **22** 02:13:48.6±1.3,28.22S×68.79W,h88km±12km,mb3.5/5, mb1 3.7/10,mb1mx3.6/19,mbtmp3.9/10,

comp=E,1.8nm,0.6s
BDFB Brasilia 22.95 61 P **P 02 18 44.3 -0.3**
comp=E,1.8nm,0.8s,mb3.5,baz=252,slow=8.4,SNR=3.1
SNAA Sanae 55.91 160 P **P 02 23 17.1 -0.7**
comp=E,0.4nm,0.5s,mb3.7,baz=260,slow=9.2,SNR=13
TXAR Lajitas Array 66.27 327 P **P 02 24 27.6 -0.6**
comp=E,0.2nm,0.5s,mb3.2,baz=155,slow=9.0,SNR=5.9
SYO Syowa Base 70.18 159 ⇑P **P 02 24 49.8 -2.0**
SYO Syowa Base 70.18 159 ⇑PcP PcP 02 25 11.3 -1.9
DBIC Dimbokro 70.69 71 P **P 02 24 56.1 +0.4**
comp=E,3.7nm,0.7s,mb4.3,baz=223,slow=6.1,SNR=6.4
SRU San Rafael 77.50 328 *e*P **P 02 25 37.0 +2.3**
PDAR Pinedale Array 80.01 331 P **P 02 25 48.2 0.0**
comp=E,1.1nm,0.8s,mb3.7,baz=111,slow=6.4,SNR=8.8
MCMT McKenzie Canyo 83.09 330 *e*P **P 02 26 05.9 +1.7**
WRA Warramunga Arr 127.13 208 PKP PKPdf 02 32 42.3 +0.6
comp=E,0.6nm,0.4s,baz=161,slow=1.8,SNR=15
ZAL Zalesovo 147.88 30 PKPbc PKPdf 02 33 22.9 +4.6
comp=E,2.0nm,0.5s,baz=210,slow=1.5,SNR=8.5
MKAR Makanchi Array 150.77 43 PKPbc PKPdf 02 33 30.4 +7.3
comp=E,2.8nm,0.7s,baz=331,slow=1.9,SNR=20
MKAR PKPab PKPab 02 33 38.2 -0.2
comp=E,1.0nm,0.7s,baz=270,slow=3.6,SNR=4.6

*CNRM **22** 02:41:22.0, 35.08N×2.85W, h6km, MD2.7*
*CSEM **22** 02:41:28.6±0.5, 35.05N×3.08W, h12km, mb3.2/5, Error ellipse: s-maj=8.9km s-min=7.3km az=174.0*
*NEIC **22** 02:41:29.1, 34.98N×3.03W, h4km, MG3.2(MDD), After MDD.*
MDD 22 02:41:26.9±1.0, 34.88N×3.04W, mbLg1.6/13, Error ellipse: s-maj=10.2km s-min=4.5km az=131.0, PRXIMO, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMEL	**Melilla**	**0.42**	**9**	P	Pg	02 41 35.1	-0.3
	38nm,0.1s,SNR=6.7						
EMEL				S	Sg	02 41 39.6	-1.4
	152nm,0.2s						
EMLI	**Melilla**	**0.42**	**10**	P	Pg	02 41 35.1	-0.3
	38nm,0.1s,SNR=6.7						
EMLI				S	Sg	02 41 39.6	-1.4
	152nm,0.2s						
TOU	**Touzarine**	**0.59**	**278**	*e*P	Pg	02 41 35.0	-3.7
TOU				*i* S	Sg	02 41 46.0	-0.7
EALB	**Alboran**	**1.06**	**0**	P	Pb	02 41 46.1	-1.6
	7.4nm,0.2s,SNR=4.0						
EALB				S	Sb	02 41 59.2	-2.7
	4.4nm,0.2s,SNR=7.9						
EALB	**Alboran**	**1.06**	**0**	P	Pb	02 41 46.1	-1.6
	7.4nm,0.2s,SNR=4.0						
EALB				S	Sb	02 41 59.2	-2.8
	4.4nm,0.2s,SNR=7.9						
TZK	**Tazeka**	**1.23**	**231**	*e*P	Pb	02 41 48.0	-2.8
TZK				*i* S	Sb	02 42 06.0	-1.1
EBER	**Berja**	**2.02**	**3**	P	Pn	02 42 03.8	+1.3
	0.3nm,0.2s,SNR=4.0						
EBER				S	Sn	02 42 22.7	-6.1
	4.1nm,0.4s,SNR=7.9						
EBER	**Berja**	**2.02**	**3**	P	Pn	02 42 03.8	+1.3
	0.3nm,0.2s,SNR=4.0						
EBER				S	Sn	02 42 22.7	-6.1
	4.1nm,0.4s,SNR=7.9						
ENIJ	**Nijar**	**2.19**	**18**	S	Sn	02 42 29.7	-3.6
	0.2nm,0.2s,SNR=4.0						
EMIJ	**Mijas**	**2.19**	**320**	P	Pn	02 42 03.3	-1.8
	0.4nm,0.2s,SNR=4.0						
EMIJ				S	Sn	02 42 30.7	-2.6
	0.8nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**2.34**	**352**	P	Pn	02 42 05.3	-1.9
	0.2nm,0.1s,SNR=7.9						
EQUE				S	Sn	02 42 33.5	-3.6
	0.8nm,0.3s,SNR=7.9						
ELOJ	**Sierra Loja**	**2.44**	**339**	P	Pn	02 42 06.2	-2.3
	0.8nm,0.3s,SNR=7.9						
ELOJ				S	Sn	02 42 34.5	-5.0
	0.6nm,0.3s,SNR=7.9						
ELOJ	**Sierra Loja**	**2.44**	**339**	P	Pn	02 42 06.2	-2.3
ELOJ				S	Sn	02 42 34.5	-5.0
EJIF	**Jimena Fronter**	**2.52**	**309**	P	Pn	02 42 11.5	+1.7
	0.4nm,0.2s,SNR=7.9						
EJIF	**Jimena Fronter**	**2.52**	**309**	P	Pn	02 42 11.5	+1.7
EQES	**Quesada**	**2.92**	**359**	P	Pn	02 42 14.5	-0.8
	0.3nm,0.2s,SNR=7.2						
EQES				S	Sn	02 42 47.8	-3.8
	5.0nm,0.5s,SNR=6.9						
EQES	**Quesada**	**2.92**	**359**	P	Pn	02 42 14.5	-0.9
	0.3nm,0.2s,SNR=7.2						
EQES				S	Sn	02 42 47.8	-3.9
	5.0nm,0.5s,SNR=6.9						
EHUE	**Huescar**	**2.95**	**7**	P	Pn	02 42 14.5	-1.4
	0.6nm,0.2s,SNR=8.6						
EHUE				S	Sn	02 42 47.3	-5.2
	0.6nm,0.5s						
EMUR	**La Murta**	**3.29**	**26**	P	Pn	02 42 17.9	-2.9
	2.4nm,0.3s,SNR=5.5						
EMUR				S	Sn	02 42 51.6	-10
	1.5nm,0.3s,SNR=7.9						
EMUR	**La Murta**	**3.29**	**26**	P	Pn	02 42 17.9	-2.8
	2.4nm,0.3s,SNR=5.5						
EMUR				S	Sn	02 42 51.6	-10
	1.5nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**3.51**	**340**	P	Pn	02 42 22.3	-1.5
	1.1nm,0.3s,SNR=7.9						
EADA				S	Sn	02 43 01.5	-5.1
	0.8nm,0.4s,SNR=7.9						
EADA	**Adamuz**	**3.51**	**340**	P	Pn	02 42 22.3	-1.5
	1.1nm,0.3s,SNR=7.9						
EADA				S	Sn	02 43 01.5	-5.1
	0.8nm,0.4s,SNR=7.9						
ETOB	**Tobarra**	**3.94**	**17**	P	Pn	02 42 28.9	-1.0
	0.3nm,0.2s,SNR=7.9						
ETOB				S	Sn	02 43 10.6	-7.1
	1.4nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**3.94**	**17**	P	Pn	02 42 29.0	-1.0
	0.3nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.11**	**316**	P	Pn	02 42 30.2	-2.2
	0.2nm,0.2s,SNR=7.9						
EMIN				S	Sn	02 43 17.2	-4.7
	0.1nm,0.1s,SNR=4.0						
EMIN	**Mina Concepcio**	**4.11**	**316**	P	Pn	02 42 30.9	-1.5
EMIN				S	Sn	02 43 17.2	-4.7
EGRO	**El Granado**	**4.46**	**308**	P	Pn	02 42 36.5	-0.9
	0.2nm,0.1s,SNR=4.7						
ESDC	**Sonseca Array**	**4.84**	**352**	P	Pn	02 42 41.1	-1.6
	1.7nm,0.2s,baz=172,slow=12,SNR=4.3						
EBAD	**Badajoz**	**5.01**	**322**	P	Pn	02 42 43.5	-1.6
	0.1nm,0.1s,SNR=7.9						
EBAD				S	Sn	02 43 37.2	-7.5
	0.5nm,0.3s,SNR=4.0						

*CNRM **22** 02:55:19.2, 35.09N×2.71W, h16km, MD2.8*
*CSEM **22** 02:55:22.7±0.5, 34.82N×3.08W, h5km, MD2.8, Error ellipse: s-maj=13.4km s-min=7.1km az=130.0*
*NEIC **22** 02:55:26.9, 34.99N×3.08W, MG3.2(MDD), After MDD.*
MDD 22 02:55:27.0±1.9, 34.98N×3.04W, h1km±7km, mbLg1.5/10, Error ellipse: s-maj=16.1km s-min=5.4km az=143.0, PRXIMO, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMEL	**Melilla**	**0.32**	**13**	P	Pg	02 55 32.7	-0.7
	68nm,0.2s,SNR=4.0						
EMEL				S	Sg	02 55 37.4	-0.4
	125nm,0.1s,SNR=9.9						
EMLI	**Melilla**	**0.32**	**14**	P	Pg	02 55 32.7	-0.8
	68nm,0.2s,SNR=4.0						
TOU	**Touzarine**	**0.58**	**268**	*e*P	Pg	02 55 34.0	-4.6
TOU				*i* S	Sg	02 55 46.0	-0.4
TZK	**Tazeka**	**1.30**	**227**	*e*P	Pb	02 55 45.0	-6.8
TZK				*i* S	Sb	02 56 04.0	-4.9
EBER	**Berja**	**1.91**	**4**	P	Pn	02 55 59.2	-1.8
	SNR=7.9						
EBER				S	Sn	02 56 19.8	-6.3
	1.3nm,0.2s,SNR=7.9						
EBER	**Berja**	**1.91**	**4**	P	Pn	02 55 59.2	-1.8
	SNR=7.9						
EMIJ	**Mijas**	**2.11**	**319**	P	Pn	02 56 01.2	-2.6
	0.4nm,0.1s,SNR=7.9						
EMIJ				S	Sn	02 56 26.6	-4.5
	1.1nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**2.24**	**352**	P	Pn	02 56 03.8	-1.9
	0.3nm,0.2s,SNR=7.9						
EQUE				S	Sn	02 56 31.7	-2.6
	0.3nm,0.2s,SNR=7.9						
ELOJ	**Sierra Loja**	**2.34**	**338**	P	Pn	02 56 07.5	+0.4
	0.8nm,0.3s,SNR=4.0						
ELOJ				S	Sn	02 56 36.8	-0.1
	0.4nm,0.2s,SNR=4.0						
EQES	**Quesada**	**2.81**	**360**	P	Pn	02 56 12.7	-1.2
	1.1nm,0.2s,SNR=8.1						
EQES				S	Sn	02 56 46.9	-2.0
	3.3nm,0.4s,SNR=7.6						
EQES	**Quesada**	**2.81**	**360**	P	Pn	02 56 12.7	-1.2
	1.1nm,0.2s,SNR=8.1						
EQES				S	Sn	02 56 46.9	-2.0
	3.3nm,0.4s,SNR=7.6						
EHUE	**Huescar**	**2.85**	**7**	P	Pn	02 56 13.3	-1.1
	0.5nm,0.2s,SNR=7.0						
EHUE				S	Sn	02 56 46.9	-2.9
	0.3nm,0.3s,SNR=4.0						
EMUR	**La Murta**	**3.20**	**26**	P	Pn	02 56 16.0	-3.4
	0.7nm,0.2s,SNR=5.5						
EMUR				S	Sn	02 56 49.7	-9.0
	1.5nm,0.3s,SNR=7.9						
EMUR	**La Murta**	**3.20**	**26**	P	Pn	02 56 16.0	-3.4
	0.7nm,0.2s,SNR=5.5						
EADA	**Adamuz**	**3.41**	**339**	P	Pn	02 56 20.3	-2.1
	0.4nm,0.2s,SNR=7.9						
EADA				S	Sn	02 56 59.2	-4.8
	0.2nm,0.1s,SNR=4.0						
EADA	**Adamuz**	**3.41**	**339**	P	Pn	02 56 20.3	-2.0
	0.4nm,0.2s,SNR=7.9						
EADA				S	Sn	02 56 59.2	-4.8
	0.2nm,0.1s,SNR=4.0						
ETOB	**Tobarra**	**3.85**	**18**	P	Pn	02 56 26.2	-2.4
	0.3nm,0.2s,SNR=4.0						
ETOB				S	Sn	02 57 08.0	-7.1
	0.6nm,0.3s,SNR=4.0						
ETOB	**Tobarra**	**3.85**	**18**	P	Pn	02 56 26.2	-2.4
EMIN	**Mina Concepcio**	**4.04**	**315**	P	Pn	02 56 28.8	-2.4
	SNR=7.9						
EMIN	**Mina Concepcio**	**4.04**	**315**	P	Pn	02 56 28.8	-2.5
EGRO	**El Granado**	**4.40**	**307**	P	Pn	02 56 33.8	-2.6
	0.3nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**4.40**	**307**	P	Pn	02 56 33.8	-2.6
ESDC	**Sonseca Array**	**4.74**	**351**	P	Pn	02 56 39.0	-2.3
	0.9nm,0.2s,baz=172,slow=12,SNR=5.5						
ESDC	**Sonseca Array**	**4.74**	**351**	P	Pn	02 56 39.0	-2.2

*ATH **22** 03:06:29.0, 40.89N×20.69E, h18km±6km, MD3.3/5*
*NEIC **22** 03:06:29.2, 40.89N×20.69E, h20km, MD3.3(ATH), After ATH.*
*THE **22** 03:06:30.7, 40.78N×20.60E, h1km, ML2.9*
*CSEM **22** 03:06:31.1±0.2, 40.75N×20.65E, h1km±1km, ML2.9, Error ellipse: s-maj=3.9km s-min=2.2km az=124.0*
ISC 22 03:06:32.4±0.4, 40.66N±0.02×20.75E±0.03, h10km, n18, σ1§50/32, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.45**	**5**	*e*Pg	**Pg**	**03 06 40.2**	**-1.4**
OHR				*i* Sg	**Sg**	**03 06 47.4**	**-0.4**
FNA	**Florina**	**0.49**	**75**	*e*Pg	**Pg**	**03 06 41.7**	**-0.7**
FNA				*e*Sg	**Sg**	**03 06 50.6**	**+1.5**
KZN	**Kozani**	**0.86**	**114**	*e*PN	**Pn**	**03 06 48.3**	**-2.0**
KZN				*e*SN	**Sn**	**03 07 02.7**	**-0.2**
TIR	**Tirane**	**0.96**	**316**	*e*Pg	**Pg**	**03 06 49.0**	**-2.6**
TIR				*i* Sg	**Sg**	**03 07 07.5**	**+3.1**
SRN	**Sarande**	**0.97**	**216**	*i* Pg	**Pg**	**03 06 48.8**	**-3.0**
SRN				*i* Sg	**Sg**	**03 07 05.2**	**+0.5**
JAN	**Janina**	**1.00**	**175**	*e*PB	**Pb**	**03 06 51.5**	**0.0**
JAN	**Janina**	**1.00**	**175**	*e*Pn	**Pn**	**03 06 53.6**	**+1.1**
QSH	**Qafa e Shtames**	**1.07**	**324**	*i* Pg	**Pn**	**03 06 51.0**	**-2.4**
QSH				*i* Sg	**Sn**	**03 07 12.0**	**+3.6**
QSH	**Qafa e Shtames**	**1.07**	**324**	*e*Pn	**Pn**	**03 06 51.0**	**-2.4**
QSH				*i* Sn	**Sn**	**03 07 12.0**	**+3.6**
IGT	**Igoumenitsa**	**1.17**	**196**	*e*Pg	**Pg**	**03 06 54.4**	**-1.4**
IGT				*e*Sg	**Sg**	**03 07 12.6**	**+1.1**
KEK	**Kerkira**	**1.19**	**218**	*e*PN	**Pn**	**03 06 55.0**	**-0.1**
KEK				*e*SN	**Sn**	**03 07 13.4**	**+1.9**
GRG	**Griva**	**1.29**	**76**	*e*Pg	**Pg**	**03 06 55.8**	**-2.4**
GRG				*e*Sg	**Sg**	**03 07 16.2**	**+0.7**
SKO	**Skopje**	**1.41**	**21**	*i* Pn	**Pn**	**03 07 00.0**	**+1.7**
SKO				*i*		03 07 03.0	
SKO				*i* Sn	**Sn**	**03 07 18.2**	**+1.2**
PUK	**Puka**	**1.52**	**335**	*i* Pn	**Pn**	**03 06 58.4**	**-1.5**
PUK				*i* Sn	**Sn**	**03 07 22.5**	**+2.6**
KNT	**Kendrikon**	**1.71**	**72**	*e*Pb	**Pb**	**03 07 01.9**	**-1.5**
KNT				*e*Sb	**Sb**	**03 07 26.0**	**+1.1**
EVR	**Evrytania**	**1.92**	**154**	*e*PN	**Pn**	**03 07 06.9**	**+1.3**
SRS	**Serrai**	**2.21**	**77**	*e*Pn	**Pn**	**03 07 09.0**	**-0.6**
SRS				*e*Sn	**Sn**	**03 07 38.6**	**+1.4**
NEO	**Neokhori**	**2.33**	**125**	*e*PN	**Pn**	**03 07 10.4**	**-1.1**

*NEIC **22** 03:43:17.4, 16.04N×98.66W, h16km, mb4.0/1, MD4.1(MEX), After MEX.*
MEX 22 03:43:17.2±0.8, 16.03N×98.66W, h17km±38km, MD4.1, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.63**	**55**	*i* P	Pb	03 43 27.5	-1.9
PNIG				*i* S	Sb	03 43 35.1	-2.5
ACX	**Acapulco**	**1.46**	**305**	*i* P	Pn	03 43 39.0	-4.0
ACX				*i* S	Sb	03 43 57.0	-4.7
CAIG	**El Cayaco**	**1.84**	**304**	*e*P	Pn	03 43 45.1	-3.3
CAIG				*i* S	Sn	03 44 05.8	-5.6
CAIG	**El Cayaco**	**1.84**	**304**	*e*P	Pn	03 43 46.1	-2.3
CAIG				*i* S	Sn	03 44 05.8	-5.6
VHO	**Vista Hermosa**	**2.12**	**61**	*i* P	Pn	03 43 50.0	-2.5
VHO				*i* S	Sn	03 44 13.4	-5.3
OXX	**Oaxaca**	**2.13**	**60**	*i* P	Pn	03 43 50.0	-2.7
OXX				*i* S	Sn	03 44 15.5	-3.5
HUIG	**Huatulco**	**2.47**	**96**	*e*P	Pn	03 43 54.6	-2.9
HUIG				*e*S	Sn	03 44 20.6	-6.9
HUIG	**Huatulco**	**2.47**	**96**	*e*P	Pn	03 43 54.6	-2.9
HUIG				*e*S	Sn	03 44 20.6	-7.0
PLIG	**Platanillo**	**2.48**	**341**	*e*P	Pn	03 43 53.6	-4.1
PLIG				*i* S	Sn	03 44 22.8	-5.0
PPM	**Popocatepetl**	**3.02**	**1**	*e*P	Pn	03 44 03.5	-1.8
PPM				*i* S	Sn	03 44 40.0	-1.4
ZIIG	**Zihuatanejo**	**3.11**	**301**	*e*P	Pn	03 44 07.1	+0.5
ZIIG				*i* S	Sn	03 44 38.2	-5.4
UNM	**Universidad Na**	**3.31**	**352**	*e*P	Pn	03 44 07.0	-2.5
UNM				*e*P		03 44 08.5	
UNM				*e*S	Sn	03 44 44.2	-4.7
UNM				*i* S	Sn	03 44 45.0	-3.9
UNM	**Universidad Na**	**3.31**	**352**	*e*P	Pn	03 44 08.5	-1.0
UNM				*i* S	Sn	03 44 45.0	-3.9
CMIG	**Matias Romero**	**3.77**	**73**	*e*P	Pn	03 44 12.3	-3.7
CMIG				*e*S	Sn	03 44 55.4	-5.2
EVV	**El Vigia**	**3.98**	**52**	*e*P	Pn	03 44 18.0	-1.0
EVV				*i* S	Sn	03 45 05.0	-0.7
LVIG	**Laguna Verde**	**4.25**	**30**	*e*P	Pn	03 44 32.2	+9.4
LVIG				*i* S	Sn	03 45 09.8	-2.7
MOIG	**Morelia**	**4.35**	**327**	*e*P	Pn	03 44 21.9	-2.3
MOIG				*i* S	Sn	03 45 06.7	-8.4
SFJM	**Santa Fe**	**6.08**	**317**	*e*P	Pn	03 44 55.0	+6.4
WVT	**Waverly**	**22.22**	**24**	*e*P	P	03 48 13.5	-1.1
	5.7nm,0.9s						

*BJI **22** 04:01:47.3, 0.73N×97.34E, h40km, mB4.5, mb4.5*
*IDC **22** 04:01:47.4±2.5, 1.34N×97.08E, mb4.1/6, mb1 4.2/6, mb1mx3.8/18, mbtmp4.1/6, Error ellipse: s-maj=116.1km s-min=22.2km az=58.0*
*NEIC **22** 04:01:52.0±0.6, 1.34N×97.12E, h30km, mb4.4/5, Error ellipse: s-maj=17.6km s-min=9.6km az=59.0*
ISC 22 04:01:48.4±3.7, 1.3N±0.1×97.0E±0.1, h20km±25km, n15, σ0§86/16, mb4.2/12, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.37**	**42**	*e*Pn	**Pn**	**04 03 09.6**	**+0.1**
KMI	**Kunming**	**24.33**	**13**	P	**P**	**04 07 06.8**	**+0.6**
KMI				AMB	AMB		
	comp=Z,9.0nm,0.6s,mb4.4						
KMI	**Kunming**	**24.33**	**13**	P	**P**	**04 07 06.7**	**+0.5**
	comp=Z,9.0nm,0.6s,mb4.4						
ENH	**Enshi**	**31.16**	**21**	*e*P	**P**	**04 08 07.1**	**-1.3**
	comp=Z,5.1nm,0.6s,mb4.5						
HHC	**Hu-ho-hao-te**	**41.53**	**17**	*e*P	**P**	**04 09 37.8**	**+1.6**
HHC				AP	pP	04 09 45.8	+3.6
HHC				XP	sP	04 09 50.3	+5.6
HHC				PP	PP	04 11 16.8	+1.5
HHC				*e*S	**S**	**04 15 50.8**	**+0.2**
HHC				XS		04 16 07.5	
HHC				SS	SS	04 18 51.4	+0.9
HHC				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.1						
HHC				AMB	AMB		
	comp=Z,100nm,5.3s						
WRA	**Warramunga Arr**	**42.21**	**122**	P	**P**	**04 09 41.8**	**-0.3**
	comp=Z,0.8nm,0.6s,mb3.5,baz=299,slow=9.4,SNR=4.6						
WRAB	**Tennant Creek**	**42.22**	**122**	*e*P	**P**	**04 09 42.9**	**+0.8**
	comp=Z,4.8nm,0.8s,mb4.2						
SONM	**Songino Array**	**47.08**	**9**	P	**P**	**04 10 21.0**	**+0.3**
	comp=Z,3.4nm,0.8s,mb4.3,baz=195,slow=8.7,SNR=7.1						
MKAR	**Makanchi Array**	**47.12**	**346**	P	**P**	**04 10 21.2**	**+0.1**
	comp=Z,2.2nm,0.9s,mb4.1,baz=146,slow=8.7,SNR=8.5						
KURK	**Kurchatov**	**51.67**	**345**	P	**P**	**04 10 55.5**	**-0.5**
	comp=Z,2.0nm,0.7s,mb4.2						
CTAO	**Charters Tower**	**52.68**	**117**	P	**P**	**04 11 03.0**	**-1.1**
ZAL	**Zalesovo**	**53.45**	**351**	P	**P**	**04 11 08.0**	**-1.2**
	comp=Z,2.4nm,0.7s,mb4.2,baz=268,slow=6.2,SNR=9.8						
STKA	**Stephens Creek**	**53.53**	**132**	P	**P**	**04 11 10.6**	**+0.4**
	comp=Z,1.9nm,0.8s,mb4.1,baz=297,slow=9.0,SNR=3.2						
BVAR	**Borovoye Array**	**56.12**	**341**	P	**P**	**04 11 28.0**	**-0.8**
	comp=Z,1.8nm,0.8s,mb4.2,baz=149,slow=8.6,SNR=12						
GNI	**Garni**	**61.12**	**316**	*e*P	**P**	**04 12 05.0**	**+1.2**
	comp=Z,2.7nm,0.4s,mb4.7						

*NEIC **22** 04:46:22.7, 31.84S×69.76W, h132km, MD3.4(GUC), After GUC.*
GUC 22 04:46:22.7±0.8, 31.84S×69.76W, h132km±7km, MD3.4, ML3.5, 6C-8D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZON	**Zonda**	**0.97**	**73**	⇓*i*P	P	04 46 44.9	-0.8
ZON				*e*S	S	04 47 02.8	-0.4
JACH	**Jahuel**	**1.10**	**220**	⇑*i*P	P	04 46 47.1	+0.1
JACH				*i* S	S	04 47 05.6	+0.1
ILCH	**Illapel**	**1.22**	**279**	⇑*i*P	P	04 46 48.4	+0.2
ILCH				*i* S	S	04 47 07.5	-0.1
ILCH				AMP		04 47 08.3	
	comp=E,2μm,0.2s						
CMCH	**Combarbala**	**1.25**	**302**	⇓*i*P	P	04 46 48.6	0.0
CMCH				*i* S	S	04 47 08.8	+0.6
CMCH				AMP		04 47 11.9	
	comp=E,4μm,0.7s						
MDZ	**Mendoza**	**1.30**	**144**	⇓*i*P	P	04 46 46.9	-2.2
MDZ				*e*		04 47 04.7	
MDZ				*i* S	S	04 47 05.9	-3.3
CHNG	**Los Chungos**	**1.48**	**268**	⇓*i*P	P	04 46 51.2	+0.1
CHNG				*i* S	S	04 47 12.2	-0.7
CHNG				AMP		04 47 17.1	
	comp=E,333nm,0.6s						
ROCH	**El Roble**	**1.55**	**223**	⇑*i*P	P	04 46 52.0	+0.1
ROCH				*i* S	S	04 47 14.4	+0.2
FCH	**Farellones**	**1.55**	**197**	⇓*i*P	P	04 46 52.4	+0.5
FCH				*i* S	S	04 47 15.0	+0.7
FCH				AMP		04 47 15.8	
	comp=E,374nm,0.2s						
CLCH	**Cerro Calan**	**1.69**	**203**	⇓*i*P	P	04 46 53.5	0.0
CLCH				*i* S	S	04 47 17.0	0.0
CLCH				AMP		04 47 18.2	
	comp=N,286nm,0.3s						
DSCH	**Colegio Aleman**	**1.70**	**203**	*i* P	P	04 46 53.7	+0.1
DSCH				*e*S	S	04 47 17.0	-0.3
DSCH				AMP		04 47 21.9	
	comp=E,358nm,0.5s						
FSR	**Penalolen**	**1.76**	**201**	*i* P	P	04 46 54.5	+0.2
FSR				*i* S	S	04 47 18.9	+0.4
FSR				AMP		04 47 21.9	
	comp=N,267nm,0.3s						
RCDM	**Rinconada Maip**	**1.87**	**208**	⇑*i*P	P	04 46 55.5	-0.1
RCDM				*i* S	S	04 47 20.6	-0.1
RCDM				AMP		04 47 24.9	
	comp=N,554nm,0.1s						
ANTU	**Antumapu**	**1.88**	**203**	*e*P	P	04 46 55.6	-0.1
ANTU				*e*S	S	04 47 20.9	0.0
ANTU				AMP		04 47 25.8	
	comp=E,332nm,0.3s						
PCH	**Pirque**	**1.89**	**199**	⇑*i*P	P	04 46 56.3	+0.5
PCH				*i* S	S	04 47 21.9	+0.8
TLL	**Tololo Astrono**	**1.89**	**331**	*e*P	P	04 46 56.8	+1.0
TLL				*i* S	S	04 47 21.7	+0.5
TLL				AMP		04 47 24.2	
	comp=N,628nm,0.5s						
LMEL	**Las Melosas**	**2.04**	**190**	⇓*i*P	P	04 46 57.9	+0.2
LMEL				AMP		04 47 38.2	
	comp=N,191nm,0.1s						
TACH	**Talagante**	**2.06**	**208**	⇑*i*P	P	04 46 57.6	-0.4
TACH				*i* S	S	04 47 25.4	+0.4
CHCH	**Chadas Angostu**	**2.22**	**199**	⇓*i*P	P	04 46 59.9	-0.1
CHCH				*i* S	S	04 47 28.5	+0.1
LCCH	**Las Cruces**	**2.23**	**223**	*i* P	P	04 46 59.8	-0.4
LCCH				*i* S	S	04 47 28.2	-0.6
CICH	**Cipreses**	**2.54**	**192**	*e*P	P	04 47 04.5	+0.3
VACH	**Vallenar**	**3.36**	**345**	*i* S	S	04 47 54.0	-1.0
TRQA	**Tornquist**	**8.90**	**136**	*e*Pn	P	04 48 25.9	-3.4
	comp=N,6.0nm,0.5s						

*IDC **22** 04:51:14.0±4.4, 16.37S×177.74W, mb4.0/2, mb1 4.2/2, mb1mx3.7/13, mbtmp4.0/2, Error ellipse: s-maj=188.6km s-min=50.1km az=138.0*
*NEIC **22** 04:51:46.4±2.7, 16.09S×177.74W, h335km, mb4.1/3, Error ellipse: s-maj=63.1km s-min=20.3km az=223.0*
ISC 22 04:51:46.6±3.2, 16.1S±0.4×177.8W±0.4, h350km, n12, σ0§78/11, mb3.9/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNZO	**South Karori**	**25.91**	**193**	P	**P**	**04 56 48.9**	**-0.8**
PMG	**Port Moresby**	**34.81**	**277**

WRAB Tennant Creek 30.80 165 P **P** **05 22 48.6 0.0**
5.2nm,0.9s,mb4.4
WRA Warramunga Arr 30.81 165 P **P** **05 22 47.4 -1.3**
0.5nm,0.5s,mb3.6,baz=343,slow=9.4,SNR=6.9
MBWA Marble Bar 31.69 192 *eP* **P** **05 22 55.2 -1.2**
0.8nm,0.4s,mb3.7,baz=166,slow=5.9,SNR=2.4
SONM Songino Array 41.27 340 P **P** **05 24 17.0 -0.1**
0.8nm,0.4s,mb3.7,baz=22,slow=3.3,SNR=3.2
NWAO Narrogin (SRO) 43.61 191 P **P** **05 24 36.9 +0.3**
5.6nm,0.9s,mb4.3,baz=22,slow=3.3,SNR=3.2
STKA Stephens Creek 44.15 161 P **P** **05 24 41.4 +0.5**
0.9nm,0.3s,mb3.9,baz=349,slow=10,SNR=2.9
STKA Stephens Creek 44.15 161 P **P** **05 24 40.9 0.0**
DZM Mont Dzumac 50.62 129 P **P** **05 25 34.7 +3.1**
6.0nm,0.7s,mb4.6,baz=225,slow=19,SNR=6.8
MKAR Makanchi Array 52.27 323 P **P** **05 25 42.1 -1.6**
1.6nm,0.7s,mb4.1,baz=124,slow=8.7,SNR=10
KURK Kurchatov 56.31 326 *eP* **P** **05 26 09.1 -4.2**
1.6nm,0.6s,mb4.2
BRVK Borovoye 61.98 325 P **P** **05 26 49.2 -3.2**
1.3nm,0.6s,mb4.2
ILAR Eielson Array 79.60 26 P **P** **05 28 39.1 +0.6**
0.8nm,0.7s,mb3.8,baz=238,slow=5.1,SNR=11
ARCES ARCESS Array B 84.44 340 P **P** **05 29 03.3 -0.2**
0.8nm,0.5s,mb4.1,baz=76,slow=5.0,SNR=7.7
FINES FINESS Array B 86.14 332 P **P** **05 29 11.1 -1.0**
1.3nm,0.9s,mb4.2,baz=90,slow=5.7,SNR=5.0
MAW Mawson 89.52 200 P **P** **05 29 28.2 -0.1**
0.6nm,0.6s,mb4.1,baz=76,slow=15,SNR=3.8
VNDA Vanda 89.69 173 P **P** **05 29 28.4 -0.4**
0.6nm,0.8s,mb4.0,baz=339,slow=5.5,SNR=4.3

*IDC **22** 05:25:58.5±1.9, 17.96N×147.32E, mb4.0/6, mb1 4.2/7, mb1mx3.9/22, mbtmp4.1/7, ML4.4/1, MS3.6/1, Ms1 3.6/11, ms1mx3.5/21, Error ellipse: s-maj=81.0km s-min=18.9km az=95.0*
*NEIC **22** 05:26:05.3±2.3, 17.91N×147.26E, h46km±15km, mb4.4/1, Error ellipse: s-maj=39.0km s-min=9.7km az=89.0*
ISC 22 05:26:03.9±2.7, 17.94N±0.08×147.2E±0.3, h50km±18km, n23, σ0§74/14, mb4.3/8, MS3.6/9, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARN	**Sarigan**	**1.85**	**229**	*eP*	**P**	**05 26 34.8**	**+0.9**
SAPN	**Saipan**	**3.05**	**208**	*eP*	**P**	**05 26 51.7**	**+0.8**
GUMO	**Guam**	**4.88**	**208**	Pn	**P**	**05 27 15.2**	**-1.5**
	13nm,0.3s,slow=20,SNR=3.2						
GUMO				Sn	**S**	**05 28 12.2**	**-0.4**
	10nm,0.3s,baz=206,slow=21,SNR=2.1						
GUMO				LR	LR	05 29 11.2	
	comp=Z,648nm,19.0s,baz=31,slow=39						
JOW	**Kunigami**	**19.61**	**300**	LR	LR	05 36 41.3	
	comp=Z,141nm,20.3s,baz=142,slow=33						
MJAR	**Matsushiro Arr**	**20.17**	**339**	P	**P**	**05 30 35.9**	**-0.9**
	1.0nm,0.4s,baz=160,slow=11,SNR=3.3						
MAJO	**Matsushiro**	**20.17**	**339**	P	**P**	**05 30 36.8**	**0.0**
ASAJ	**Asahikawa**	**26.39**	**352**	LR	LR	05 41 06.2	
	comp=Z,65nm,20.7s,MS3.1,baz=20,slow=34						
PMG	**Port Moresby**	**27.17**	**180**	LR	LR	05 41 43.8	
	comp=Z,65nm,21.6s,MS3.2,baz=154,slow=35						
HNR	**Honiara**	**29.96**	**154**	LR	LR	05 40 56.9	
	comp=Z,34nm,19.9s,MS3.0,baz=317,slow=30						
QIZ	**Qiongzhong**	**35.42**	**278**	P	**P**	**05 32 57.7**	**+0.4**
	27nm,1.2s,mb5.0						
WRAB	**Tennant Creek**	**39.70**	**199**	P	**P**	**05 33 34.2**	**+1.1**
	4.6nm,0.8s,mb4.3						
WRA	**Warramunga Arr**	**39.71**	**199**	P	**P**	**05 33 32.8**	**-0.4**
	0.6nm,0.5s,mb3.6,baz=33,slow=8.5,SNR=6.8						
WRA				PcP	PcP	05 35 40.4	+0.7
	0.7nm,0.5s,baz=16,slow=3.4,SNR=8.8						
FITZ	**Fitzroy Crossi**	**41.63**	**212**	P	**P**	**05 33 48.7**	**-0.4**
	0.7nm,0.3s,mb3.8,baz=49,slow=9.3,SNR=5.8						
SONM	**Songino Array**	**44.64**	**321**	LR	LR	05 54 23.7	
	comp=Z,116nm,18.6s,MS3.8,baz=260,slow=38						
MBWA	**Marble Bar**	**47.28**	**216**	*eP*	**P**	**05 34 34.5**	**0.0**
	18nm,1.3s,mb4.8						
STKA	**Stephens Creek**	**49.82**	**186**	LR	LR	05 54 05.1	
	comp=Z,96nm,21.3s,MS3.8,baz=24,slow=34						
MKAR	**Makanchi Array**	**60.03**	**314**	LR	LR	06 04 09.0	
	comp=Z,37nm,19.5s,MS3.5,slow=38						
BVAR	**Borovoye Array**	**67.98**	**321**	P	**P**	**05 36 59.3**	**-0.4**
	1.7nm,0.5s,mb4.3,baz=87,slow=8.1,SNR=10						
YKA	**Yellowknife Ar**	**77.98**	**28**	LR	LR	06 12 23.8	
	comp=Z,62nm,18.1s,MS4.0,baz=265,slow=36						
ARCES	**ARCESS Array B**	**83.65**	**342**	P	**P**	**05 38 29.1**	**+1.2**
	1.9nm,0.8s,mb4.3,baz=45,slow=5.1,SNR=5.1						
PDAR	**Pinedale Array**	**87.32**	**46**	LR	LR	06 15 31.3	
	comp=Z,38nm,18.1s,MS3.8,baz=262,slow=34						
FINES	**FINESS Array B**	**88.17**	**336**	P	**P**	**05 38 49.9**	**-0.4**
	0.5nm,0.4s,mb4.1,baz=72,slow=6.0,SNR=5.4						
NOA	**NORSAR Array B**	**93.78**	**340**	LR	LR	06 22 42.3	
	comp=Z,41nm,16.3s,MS3.9,baz=25,slow=36						

CASC 22 05:54:20.7±0.9, 10.97N×87.06W, h22km±26km, MD3.9, ML3.4, mb4.4(NEIC), 10C-4D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSNN	**San Juan del S**	**1.23**	**75**	↑*iP*	Pn	05 54 42.4	-0.4
SSNN				*eS*	Sb	05 54 59.8	+1.2
CRUN	**El Crucero**	**1.25**	**36**	↓*eP*	Pn	05 54 42.8	-0.3
COPN	**Copaltepe**	**1.29**	**21**	↓*iP*	Pn	05 54 43.4	-0.2
TICN	**Ticuantepe**	**1.33**	**37**	↑*eP*	Pn	05 54 44.1	-0.2
MASN	**Masaya**	**1.35**	**41**	*eP*	Pn	05 54 44.2	-0.3
APON	**Apoyo**	**1.35**	**46**	↑*eP*	Pn	05 54 43.8	-0.8
XAVN	**Gruta Xavier**	**1.38**	**31**	*eP*	Pn	05 54 44.3	-0.6
MGAN	**Managua**	**1.42**	**34**	↑*eP*	Pn	05 54 44.9	-0.6
MGAN				*i*		05 55 05.7	
	comp=N,522nm,0.4s						
MGAN				*i*		05 55 08.4	
	comp=E,870nm,0.7s						
APYN	**Apoyeque**	**1.44**	**29**	↑*eP*	Pn	05 54 45.3	-0.5
LEON	**Leon**	**1.45**	**6**	↑*eP*	Pn	05 54 45.8	-0.1
WILN	**Americas 2**	**1.46**	**36**	*eP*	Pn	05 54 45.4	-0.8
WILN				*eP*		05 54 45.8	
WILN				*eP*		05 54 46.1	
MIRN	**Miramar**	**1.50**	**13**	↓*iP*	Pn	05 54 46.3	-0.3
MOMJ	**Momotombo**	**1.52**	**20**	↑*eP*	Pn	05 54 46.4	-0.5
CONN	**Concepcion**	**1.53**	**67**	↑*eP*	Pn	05 54 46.1	-1.0
MADN	**Villa Maderas**	**1.56**	**74**	↑*eP*	Pn	05 54 46.8	-0.7
CNGN	**Cerro Negro**	**1.56**	**13**	↓*eP*	Pn	05 54 47.0	-0.6
TEL3	**Telica 3**	**1.61**	**8**	↑*eP*	Pn	05 54 48.0	-0.2
PYTN	**Playitas**	**1.84**	**32**	*eP*	Pn	05 54 50.6	-1.0
LCR2	**La Lucha 2**	**3.25**	**112**	*eP*	Pn	05 55 11.5	-0.1
BUS	**Buena Vista**	**3.54**	**113**	*eP*	Pn	05 55 14.9	-0.9

*IDC **22** 05:55:22.3±0.8, 16.85S×70.47W, mb3.8/6, mb1 3.9/8, mb1mx3.8/20, mbtmp3.8/8, ML4.7/1, MS3.6/5, Ms1 3.5/5, ms1mx3.1/19, Error ellipse: s-maj=29.0km s-min=16.3km az=74.0*
*NEIC **22** 05:55:27.9±0.6, 16.83S×70.37W, h35km, mb4.4/3, Error ellipse: s-maj=14.3km s-min=10.4km az=67.0*
ISC 22 05:55:25.6±0.6, 16.86S±0.05×70.41W±0.08, h33km, n24, σ1§18/19, mb3.9/8, MS3.6/4, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**5.90**	**166**	Pn	**Pn**	**05 56 53.4**	**+0.4**
	1.9nm,0.3s,baz=325,slow=10,SNR=18						
LVC				Sn	**Sn**	**05 58 00.3**	**+0.1**
	baz=53,slow=15,SNR=1.9						
LVC	**Limon Verde**	**5.90**	**166**	*ePn*	**Pn**	**05 56 53.7**	**+0.7**
	24nm,0.8s						
LVC				*eSn*	**Sn**	**05 58 07.2**	**+6.9**
NNA	**Nana**	**7.89**	**307**	*ePn*	**Pn**	**05 57 21.7**	**+0.7**
SIV	**San Ignacio**	**9.00**	**86**	Pn	**P**	**05 57 35.8**	**-0.4**
	0.5nm,0.3s,baz=274,slow=11,SNR=34						
SIV				Lg		06 00 07.6	
	0.6nm,0.3s,baz=183,slow=22,SNR=2.8						
SAML	**Samuel**	**10.55**	**43**	*ePn*	**P**	**05 57 56.0**	**-1.7**
	2.4nm,0.8s						
SAML				*eSn*	**S**	**05 59 57.6**	**+1.8**
CPUP	**Villa Florida**	**15.38**	**130**	LR	LR	06 06 04.2	
	comp=Z,208nm,18.4s,baz=178,slow=42						
BDFB	**Brasilia**	**21.53**	**90**	LR	LR	06 09 09.4	
	comp=Z,88nm,19.8s,MS3.2,baz=260,slow=38						
ROSC	**El Rosal**	**21.92**	**349**	P	**P**	**06 00 17.6**	**-0.3**
	1.6nm,0.4s,mb3.8,baz=233,slow=18,SNR=2.7						
PLCA	**Paso Flores**	**23.79**	**180**	P	**P**	**06 00 38.1**	**+2.0**
	1.5nm,0.8s,mb3.5,baz=318,slow=12,SNR=5.0						
PLCA	**Paso Flores**	**23.79**	**180**	*eP*	**P**	**06 00 39.0**	**+2.9**
	22nm,1.8s,mb4.3						
USHA	**Ushuaia**	**37.93**	**178**	P	**P**	**06 02 39.6**	**-2.0**
	2.5nm,0.8s,mb4.0,baz=300,slow=12,SNR=15						
TXAR	**Lajitas Array**	**56.03**	**325**	P	**P**	**06 05 03.2**	**-0.6**
	0.3nm,0.7s,mb3.4,baz=153,slow=8.1,SNR=4.3						
TXAR				LR	LR	06 28 16.2	
	comp=Z,31nm,18.8s,MS3.4,baz=150,slow=35						
TXAR	**Lajitas Array**	**56.03**	**325**	P	**P**	**06 05 03.2**	**-0.6**
TXAR				LR	LR	06 28 16.2	
SDCO	**Great Sand Dun**	**63.55**	**329**	*eP*	**P**	**06 05 55.2**	**-0.1**
	2.9nm,1.0s,mb4.3						
DBIC	**Dimbokro**	**68.88**	**76**	LR	LR	06 37 34.7	
	comp=Z,72nm,18.4s,MS3.9,baz=186,slow=37						
PDAR	**Pinedale Array**	**69.40**	**330**	P	**P**	**06 06 32.4**	**+0.1**
	0.3nm,0.8s,mb3.3,baz=151,slow=11,SNR=3.5						
ULM	**Lac du Bonnet**	**70.48**	**343**	P	**P**	**06 06 37.4**	**-1.3**
	2.6nm,0.7s,mb4.3,baz=151,slow=5.2,SNR=7.3						
ULM	**Lac du Bonnet**	**70.48**	**343**	P	**P**	**06 06 37.4**	**-1.3**
RRI2	**Red Ridge**	**70.68**	**330**	*eP*	**P**	**06 06 41.6**	**+1.5**
	6.5nm,1.3s,mb4.4						
BOSA	**Boshof**	**86.89**	**119**	LR	LR	06 45 10.8	
	comp=Z,38nm,18.1s,MS3.8,baz=159,slow=34						
WRA	**Warramunga Arr**	**136.09**	**215**	PKP	PKPdf	06 14 47.5	+3.1
	0.2nm,0.4s,baz=148,slow=2.1,SNR=6.0						
ZAL	**Zalesovo**	**138.28**	**22**	PKP	PKPdf	06 14 48.0	+0.5
	1.1nm,0.3s,baz=236,slow=3.9,SNR=4.8						
MKAR	**Makanchi Array**	**142.56**	**31**	PKP	PKPdf	06 14 57.9	+2.6
	0.7nm,0.9s,baz=304,slow=5.2,SNR=4.2						
SONM	**Songino Array**	**149.00**	**4**	PKPbc	PKPdf	06 15 12.4	+6.4
	1.8nm,0.6s,baz=334,slow=2.8,SNR=7.6						

WEL 22 07:01:58.2±0.9, 45.47S×166.58E, h5km, ML3.8/9, 1D, Error ellipse: s-maj=7.4km s-min=6.0km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.40**	**91**	↓PG	Pg	07 02 06.9	+0.6
DCZ				SG	Sg	07 02 11.6	-0.1
WHZ	**Wether Hill Ro**	**1.04**	**114**	P*	Pb	07 02 17.2	-1.2
MLZ	**Mavora Lakes**	**1.13**	**84**	P*	Pb	07 02 18.4	-1.5
MLZ				S*	Sb	07 02 33.3	-1.3
MSZ	**Milford Sound**	**1.24**	**50**	*eP**	Pb	07 02 19.8	-2.0
WKZ	**Wanaka**	**1.84**	**70**	*ePN*	Pn	07 02 30.2	-0.6
EAZ	**Earnscleugh**	**1.94**	**84**	PN	Pn	07 02 31.8	-0.3
JCZ	**Jackson Bay**	**2.09**	**49**	*ePN*	Pn	07 02 36.4	+2.1
TUZ	**Tuapeka**	**2.19**	**104**	*ePN*	Pn	07 02 35.5	-0.3
LBZ	**Lake Benmore**	**2.78**	**68**	*ePN*	Pn	07 02 42.4	-1.9
ODZ	**Otahua Downs**	**2.90**	**83**	*ePN*	Pn	07 02 43.9	-2.1
FOZ	**Fox Glacier**	**2.93**	**50**	*ePN*	Pn	07 02 46.9	+0.5
RPZ	**Rata Peaks**	**3.65**	**63**	*ePN*	Pn	07 02 54.9	-1.7
WVZ	**Waitaha Valley**	**3.83**	**53**	*ePN*	Pn	07 02 57.9	-1.2
THZ	**Tophouse**	**5.90**	**53**	*ePN*	Pn	07 03 27.3	-1.2

*IDC **22** 07:04:25.6±0.8, 3.81N×95.80E, mb4.2/11, mb1 4.3/11, mb1mx4.1/21, mbtmp4.2/11, MS3.6/5, Ms1 3.6/5, ms1mx3.4/22, Error ellipse: s-maj=32.6km s-min=17.1km az=64.0*
*NEIC **22** 07:04:30.5±0.5, 3.79N×95.62E, h30km, mb4.4/9, Error ellipse: s-maj=14.3km s-min=8.7km az=222.0*
ISC 22 07:04:29.0±0.5, 3.78N±0.08×95.70E±0.06, h33km, n32, σ0§93/27, mb4.4/20, MS3.6/5, 1C, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.15**	**73**	↑*iPn*	**Pn**	**07 05 48.1**	**+2.2**
KULM				*eSn*	**Sn**	**07 06 44.6**	**-0.4**
PALK	**Pallekele**	**15.32**	**284**	*eP*	**P**	**07 08 12.9**	**+8.2**
	9.1nm,0.6s						
KKM	**Kota Kinabalu**	**20.56**	**83**	*eP*	**P**	**07 09 07.7**	**+0.1**
PKI	**Pulchoki**	**25.61**	**338**	*eP*	**P**	**07 09 56.9**	**-0.4**
	5.3nm,0.4s,mb4.4						
GUN	**Gumba**	**25.76**	**340**	*eP*	**P**	**07 09 59.5**	**+0.9**
	24nm,0.5s,mb5.0						
DMN	**Daman**	**25.76**	**338**	*eP*	**P**	**07 09 57.4**	**-1.3**
	6.5nm,0.4s,mb4.5						
KKN	**Kakani**	**25.86**	**338**	*eP*	**P**	**07 09 59.0**	**-0.6**
	12nm,0.7s,mb4.6						
LSA	**Lhasa**	**26.13**	**351**	P	**P**	**07 10 05.5**	**+3.4**
GKN	**Gorkha**	**26.29**	**337**	*eP*	**P**	**07 10 03.4**	**-0.2**
	9.2nm,0.3s,mb4.8						
KOLN	**Kolsanda**	**26.50**	**335**	*eP*	**P**	**07 10 06.6**	**+1.1**
	28nm,0.6s,mb5.0						
FITZ	**Fitzroy Crossi**	**36.66**	**127**	P	**P**	**07 11 32.8**	**-1.9**
	2.1nm,0.6s,mb4.2,baz=225,slow=2.9,SNR=4.6						
JOW	**Kunigami**	**38.66**	**50**	LR	LR	07 26 56.2	
	comp=Z,65nm,21.2s,MS3.4,baz=2.6,slow=35						
JNU	**Nakatsue**	**43.94**	**44**	LR	LR	07 31 41.8	
	comp=Z,74nm,20.2s,MS3.6,baz=255,slow=37						
MKAR	**Makanchi Array**	**44.40**	**347**	P	**P**	**07 12 38.0**	**-0.3**
	2.4nm,0.5s,mb4.2,baz=159,slow=8.2,SNR=44						
MKAR	**Makanchi Array**	**44.40**	**347**	P	**P**	**07 12 38.0**	**-0.3**
WRA	**Warramunga Arr**	**44.68**	**123**	P	**P**	**07 12 40.5**	**-0.4**
	3.8nm,0.8s,mb4.3,baz=301,slow=9.2,SNR=14						
WRAB	**Tennant Creek**	**44.69**	**123**	*eP*	**P**	**07 12 40.6**	**-0.3**
	4.9nm,0.5s,mb4.6						
SONM	**Songino Array**	**44.84**	**10**	P	**P**	**07 12 42.0**	**+0.2**
	1.6nm,0.7s,mb4.0,baz=188,slow=9.5,SNR=4.0						
KURK	**Kurchatov**	**48.93**	**346**	*eP*	**P**	**07 13 18.0**	**+4.1**
ZAL	**Zalesovo**	**50.79**	**352**	P	**P**	**07 13 26.4**	**-1.7**
	4.7nm,0.4s,mb4.8,baz=316,slow=6.4,SNR=9.4						
BVAR	**Borovoye Array**	**53.34**	**341**	P	**P**	**07 13 46.8**	**-0.5**
	2.6nm,0.5s,mb4.4,baz=139,slow=9.4,SNR=18						
BRVK	**Borovoye**	**53.40**	**341**	*eP*	**P**	**07 13 47.2**	**-0.5**
	2.2nm,0.5s,mb4.3						
ASAJ	**Asahikawa**	**57.55**	**39**	LR	LR	07 39 30.3	
	comp=Z,51nm,20.2s,MS3.6,baz=330,slow=37						
KMBO	**Kilima Mbogo**	**58.62**	**266**	LR	LR	07 34 01.3	
	comp=Z,79nm,19.2s,MS3.9,baz=122,slow=30						
HNR	**Honiara**	**65.35**	**102**	P	**P**	**07 15 11.6**	**+0.8**
	75nm,0.8s,mb5.8						
MATP	**Matopo**	**70.13**	**247**	P	**P**	**07 15 41.3**	**+0.7**
	0.5nm,0.3s,mb3.9,baz=106,slow=17,SNR=3.6						
MAW	**Mawson**	**74.89**	**192**	P	**P**	**07 16 08.5**	**+0.6**
	0.6nm,0.6s,mb3.7,baz=356,slow=6.2,SNR=4.7						
FINES	**FINESS Array B**	**77.03**	**332**	P	**P**	**07 16 20.4**	**+0.1**
	0.9nm,0.6s,mb3.9,baz=192,slow=27,SNR=6.5						
ARCES	**ARCESS Array B**	**79.61**	**340**	P	**P**	**07 16 34.8**	**+0.5**
	0.8nm,0.5s,mb4.0,baz=93,slow=6.0,SNR=13						
GERES	**GERESS Array B**	**81.90**	**319**	P	**P**	**07 16 47.1**	**+0.4**
	0.4nm,0.5s,mb3.6,baz=68,slow=7.2,SNR=4.4						
AFI	**Afiamalu**	**93.34**	**104**	LR	LR	08 00 30.9	
	comp=Z,28nm,21.1s,MS3.7,baz=269,slow=36						
TXAR	**Lajitas Array**	**142.19**	**28**	PKP	PKPdf	07 24 00.4	+1.6
	0.1nm,0.5s,baz=243,slow=0.9,SNR=3.6						

IDC 22 07:11:54.7±1.4, 6.97N×76.23W, mb3.2/2, mb1 3.6/4, mb1mx3.4/21, mbtmp3.5/4, ML3.2/2, Error ellipse: s-maj=28.3km s-min=16.0km az=41.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.82**	**138**	Pn	Pn	07 12 43.5	+1.6
	22nm,0.3s,baz=327,slow=5.6,SNR=18						
ROSC				Pg	Pg	07 12 47.0	-4.1
	22nm,0.3s,baz=323,slow=5.1,SNR=52						
ROSC				Sn	Sn	07 13 16.1	-1.0
	8.7nm,0.3s,baz=131,slow=9.4,SNR=4.1						
ROSC				Lg		07 13 25.1	
	20nm,0.3s,baz=52,slow=21,SNR=6.8						
SDV	**Santo Domingo**	**5.87**	**71**	Pn	Pn	07 13 23.2	-1.8
	3.0nm,0.3s,baz=277,slow=10,SNR=10						
SDV				Lg		07 14 59.8	
	5.7nm,0.3s,baz=21,slow=13,SNR=6.3						
SIV	**San Ignacio**	**27.30**	**147**	P	P	07 17 41.8	-1.5
	0.3nm,0.5s,baz=305,slow=15,SNR=4.0						
TXAR	**Lajitas Array**	**34.10**	**314**	P	P	07 18 43.1	-0.2
	0.2nm,0.8s,baz=127,slow=14,SNR=2.8						
WRA	**Warramunga Arr**	**147.67**	**243**	PKPbc	PKPdf	07 31 39.2	-2.0
	0.5nm,0.9s,baz=108,slow=2.8,SNR=5.1						

IDC 22 07:15:34.2±1.8, 7.01N×76.37W, mb3.8/2, mb1 3.8/4, mb1mx3.6/20, mbtmp3.8/4, ML2.7/2, Error ellipse: s-maj=29.4km s-min=21.0km az=35.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.95**	**136**	Pn	Pn	07 16 23.9	+0.8
	6.0nm,0.3s,baz=286,slow=2.1,SNR=15						
ROSC				Pg	Pg	07 16 28.1	-4.9
	24nm,0.3s,baz=276,slow=4.0,SNR=19						
ROSC				Sn	Sn	07 16 59.6	-0.2
	7.4nm,0.3s,baz=163,slow=6.0,SNR=4.4						
ROSC				Lg		07 17 07.8	
	12nm,0.3s,baz=240,slow=19,SNR=6.0						
SDV	**Santo Domingo**	**5.98**	**71**	Pn	Pn	07 17 05.3	-0.8
	1.4nm,0.3s,baz=299,slow=13,SNR=5.3						
SDV				Lg		07 18 43.0	
	6.5nm,0.3s,baz=38,slow=12,SNR=4.7						
SIV	**San Ignacio**	**27.42**	**147**	P	P	07 21 22.6	-1.2
	0.4nm,0.5s,baz=322,slow=9.4,SNR=5.5						
BDFB	**Brasilia**	**35.99**	**129**	P	P	07 22 37.0	-2.1
	1.4nm,0.7s,baz=270,slow=6.1,SNR=2.8						
WRA	**Warramunga Arr**	**147.56**	**244**	PKPbc	PKPdf	07 35 20.1	-0.4
	0.5nm,0.8s,baz=104,slow=3.4,SNR=5.2						

*IDC **22** 07:16:13.8±2.9, 17.49N×143.51E, h239km±31km, mb3.1/3, mb1 3.5/4, mb1mx3.2/17, mbtmp3.9/4, Error ellipse: s-maj=43.6km s-min=21.2km az=102.0*
*NEIC **22** 07:16:22.2±2.3, 16.69N×144.17E, h276km±22km, mb3.9/4, Error ellipse: s-maj=71.1km s-min=40.0km az=106.0*
ISC 22 07:16:13.7±1.9, 17.5N±0.1×143.7E±0.3, h258km±21km, n10, σ0§63/11, mb3.6/7, 1D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARN	**Sarigan**	**2.16**	**110**	*eP*	**P**	**07 17 03.6**	**+5.0**
SAPN	**Saipan**	**3.00**	**138**	↓*eP*	**P**	**07 17 07.3**	**+0.2**
GUMO	**Guam**	**4.02**	**163**	P	**P**	**07 17 18.4**	**-0.2**
	41nm,0.3s,baz=139,slow=9.3,SNR=38						
GUMO				S	**S**	**07 18 03.6**	**-5.5**
	69nm,0.3s,baz=18,slow=23,SNR=8.1						
CTAO	**Charters Tower**	**37.40**	**176**	*eP*	**P**	**07 23 03.0**	**-0.9**
	7.7nm,1.1s,mb4.0						
WRAB	**Tennant Creek**	**38.26**	**194**	*eP*	**P**	**07 23 10.8**	**-0.2**
	3.5nm,0.9s,mb3.8						
WRA	**Warramunga Arr**	**38.27**	**194**	P	**P**	**07 23 11.3**	**+0.2**
	0.7nm,0.5s,mb3.4,baz=13,slow=8.4,SNR=18						
FITZ	**Fitzroy Crossi**	**39.53**	**208**	*eP*	**P**	**07 23 25.2**	**+3.8**
	2.1nm,0.3s,mb4.0						
MBWA	**Marble Bar**	**44.97**	**212**	*eP*	**P**	**07 24 06.2**	**+0.8**
	4.1nm,0.9s,mb3.7						
MKAR	**Makanchi Array**	**57.93**	**315**	P	**P**	**07 25 40.5**	**-0.6**
	0.3nm,0.4s,mb3.0,baz=113,slow=7.7,SNR=5.4						
ILAR	**Eielson Array**	**65.61**	**26**	P	**P**	**07 26 32.0**	**+0.4**
	0.3nm,0.4s,mb3.4,baz=254,slow=5.7,SNR=7.9						

*THR **22** 07:33:40.1±0.8, 31.79N×48.82E, h17km±5km, ML3.2*
*CSEM **22** 07:33:40.1±0.2, 31.82N×48.87E, h10km, ML3.2, Error ellipse: s-maj=7.0km s-min=2.7km az=61.0*
*KISR **22** 07:33:43.9±0.8, 30.60N×50.86E, h17km±851km, ML3.3*
*TEH **22** 07:33:46.0, 32.14N×49.15E, h10km, Mn3.0*
ISC 22 07:33:43.4±0.5, 32.10N±0.04×49.10E±0.06, h10km, n17, σ1§25/19, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.26**	**272**	*ePG*	**Pg**	**07 33 46.9**	**-1.9**
SHGR				AML	AML	07 33 54.1	
	comp=N,4μm,0.4s						
ASAO	**Ashtian**	**2.56**	**17**	*ePN*	**Pn**	**07 34 28.4**	**+2.7**
ASAO				AML	AML	07 35 15.2	
	comp=N,46nm,0.6s						
MIB	**Mutribah**	**2.75**	**214**	*eP*	**Pg**	**07 34 36.2**	**-2.1**
MIB				AML	AML	07 35 16.3	
	comp=Z,64nm,0.5s						
KBD	**Kabd**	**3.16**	**203**	*eP*	**Pn**	**07 34 35.8**	**+1.5**
KBD				*eS*	**Sn**	**07 35 13.9**	**+1.5**
KBD				AML	AML	07 35 14.8	
	comp=Z,147nm,0.2s						
NASN	**Na'in**	**3.21**	**76**	*ePN*	**Pn**	**07 34 36.2**	**+1.3**
SNGE	**Sanandaj**	**3.32**	**334**	*ePN*	Pn	**07 34 35.8**	**-0.8**
SNGE				Sn	**Sn**	**07 35 17.4**	**+0.9**
IRAZ	**Razeghan**	**3.37**	**12**	Pn	**Pn**	**07 34 42.2**	**+5.0**
RDF	**Al-Radifah**	**3.44**	**203**	*eP*	**Pn**	**07 34 38.4**	**+0.2**
RDF				*eS*	**Sn**	**07 35 20.0**	**+0.6**
RDF				AML	AML	07 35 20.4	
	comp=Z,64nm,0.4s						
IVRN	**Varamin**	**3.62**	**36**	Pn	**Pn**	**07 34 40.8**	**0.0**
IDMV	**Damavand**	**4.24**	**34**	Pn

couple: M₀1.27×10¹⁶ NP1:φ₀286°,δ36°,λ79°. NP2:φ₀120°, δ55°,λ98°. Principal axes: T 1.292, Plg79°, Azm59°; N -.042, Plg6°, Azm295°; P -1.248, Plg9°, Azm204°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

NNC **22** *08:31:29.1±4.9,50.23N×87.19E,h19km±23km,mpv5.3*

Error ellipse: s-maj=37.9km s-min=20.0km az=78.0

ISC 22 08:31:20.7±0.1,**50.06N**±0.02×**88.01E**±0.03,**h13**km, **h13**km±1.3km:**pP-P,n300,**σ1♀**03**/337,**mb4.8**/127,**MS3.9**/25, **42C-10D,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAR	**Aktash**	**0.36**	**316**	*e*PG	**Pg**	**08 31 28.8**	**+0.4**
AKAR				*e*S	**Sg**	**08 31 34.2**	**+0.8**
TASR	**Tashtagol**	**2.71**	**358**	*e*PN	**Pn**	**08 32 08.9**	**+4.2**
TASR				*e*		08 32 11.6	
TASR				*e*S	**Sn**	**08 32 46.3**	**+8.7**
CERR	**Cheremushki**	**3.52**	**36**	*i* PN	**Pn**	**08 32 19.1**	**+2.9**
CERR				*i*		08 32 26.4	
CERR				*i* S	**Sn**	**08 33 13.1**	**+15**
ZAL	**Zalesovo**	**4.36**	**334**	Pn	**Pn**	**08 32 29.3**	**+1.1**
	46nm,0.3s,baz=322,slow=11,SNR=81						
ZAL				Sn	**Sn**	**08 33 22.0**	**+2.5**
	125nm,0.3s,baz=47,slow=7.7,SNR=5.6						
ZAL				Lg		08 33 37.9	
	241nm,0.3s,baz=42,slow=13,SNR=6.2						
MK31	**Makanchi Array**	**5.02**	**232**	⇓Pn	**Pn**	**08 32 40.2**	**+2.6**
	435nm,0.6s,baz=59,slow=13,SNR=2621						
MK31				⇑Pg	**Pg**	**08 32 53.7**	**-7.3**
	146nm,0.4s,baz=50,slow=15,SNR=3.6						
MK31				⇑Sn	**Sn**	**08 33 36.5**	**+0.4**
	380nm,0.5s,baz=51,slow=27,SNR=8.1						
MK31				⇑Lg		08 33 58.6	
	1μm,0.6s,baz=56,slow=31,SNR=6.6						
MKAR	**Makanchi Array**	**5.02**	**232**	Pn	**Pn**	**08 32 40.0**	**+2.5**
	120nm,0.3s,baz=61,slow=13,SNR=1343						
MKAR				Sn	**Sn**	**08 33 38.7**	**+2.6**
	228nm,0.3s,baz=55,slow=25,SNR=15						
MKAR				Lg		08 33 59.1	
	275nm,0.3s,baz=52,slow=28,SNR=8.5						
MKAR				LR	LR	08 34 43.5	
	comp=Z,1μm,19.2s,baz=28,slow=40						
MKAR	**Makanchi Array**	**5.02**	**232**	Pn	**Pn**	**08 32 40.0**	**+2.5**
MKAR				Sn	**Sn**	**08 33 38.7**	**+2.6**
MKAR				Lg		08 33 59.1	
NVS	**Novosibirsk**	**5.61**	**330**	*i* PN	**Pn**	**08 32 47.3**	**+1.4**
NVS				*i*		08 33 04.8	
NVS				*i*		08 33 52.6	
KURK	**Kurchatov**	**6.04**	**280**	Pn	**Pn**	**08 32 52.5**	**+0.4**
KURK				Sn	**Sn**	**08 33 59.9**	**-1.9**
KURK				Lg		08 34 28.5	
KURK	**Kurchatov**	**6.04**	**280**	*e*P	**Pn**	**08 32 52.6**	**+0.6**
KURK				*e*S	**Sn**	**08 34 01.3**	**-0.5**
KURK				Lg		08 34 28.5	
WMQ	**Urumqi**	**6.25**	**182**	⇑*i*P	**Pn**	**08 32 55.8**	**+0.9**
WMQ				S	**Sn**	**08 34 05.0**	**-1.8**
WMQ				Smax			
	comp=N,2μm,0.8s						
WMQ				Smax			
	comp=E,1μm,0.8s						
MOY	**Mondy**	**8.37**	**74**	*e*P	**P**	**08 33 30.9**	**+6.3**
AAA	**Alma-Ata**	**10.19**	**232**	*e*P	**P**	**08 33 55.0**	**+5.3**
AAA				pmax	pmax		
	comp=Z,90nm,0.3s						
AAA				MLR	MLR		
	comp=Z,4μm,11.1s						
VOSK	**Vostochnaya**	**10.97**	**291**	⇑Pn	**P**	**08 33 57.1**	**-3.2**
	comp=Z,27nm,0.7s						
VOSK				⇑Sn	**S**	**08 35 55.2**	**-8.8**
	comp=Z,42nm,0.7s						
VOSK				⇓Lg		08 36 58.7	
	comp=Z,69nm,0.8s						
VOSK	**Vostochnaya**	**10.97**	**291**	⇑Pn	**P**	**08 33 57.1**	**-3.2**
	comp=Z,27nm,0.6s						
VOSK				Sn	**S**	**08 35 55.1**	**-8.8**
VOSK				Lg		08 36 58.7	
TKM2	**Tokmak 2**	**11.14**	**235**	P	**P**	**08 34 03.2**	**+0.5**
	SNR=37						
ULHL	**Ulahol**	**11.29**	**231**	P	**P**	**08 34 05.8**	**+1.1**
	SNR=11						
BVA0	**Borovoye Array**	**11.37**	**292**	⇑Pn	**P**	**08 34 03.3**	**-2.5**
	comp=Z,6.8nm,0.7s,baz=107,slow=12,SNR=183						
BVA0				⇑Sn	**S**	**08 36 04.3**	**-9.3**
	comp=Z,12nm,0.7s,baz=101,slow=19,SNR=11						
BVA0				⇓Lg		08 37 11.5	
	comp=Z,56nm,1.1s						
BVAR	**Borovoye Array**	**11.37**	**292**	Pn	**P**	**08 34 03.8**	**-1.9**
	comp=Z,11nm,0.3s,baz=103,slow=14,SNR=119						
BVAR				Sn	**S**	**08 36 05.7**	**-7.9**
	comp=Z,14nm,0.3s,baz=100,slow=18,SNR=12						
BRVK	**Borovoye**	**11.44**	**292**	⇓*i*Pn	**P**	**08 34 04.5**	**-2.2**
	comp=Z,30nm,0.6s						
BRVK				*e*Sn	**S**	**08 36 07.4**	**-7.8**
BRVK	**Borovoye**	**11.44**	**292**	⇓*i*P	**P**	**08 34 04.5**	**-2.2**
BRVK				*e*		08 36 07.4	
BRVK				pmax	pmax		
	comp=Z,30nm,0.6s						
USP	**Ospenovka**	**11.49**	**239**	P	**P**	**08 34 07.0**	**-0.5**
	SNR=13						
CHMS	**Chumysh**	**11.54**	**237**	P	**P**	**08 34 08.6**	**+0.5**
	SNR=5.8						
KBK	**Karagaybulak**	**11.66**	**236**	P	**P**	**08 34 11.0**	**+1.2**
	SNR=18						
FRU	**Bishkek**	**11.72**	**237**	*e*P	**P**	**08 34 09.0**	**-1.6**
AAK	**Ala-Archa**	**11.92**	**237**	P	**P**	**08 34 14.5**	**+1.2**
	SNR=22						
AAK	**Ala-Archa**	**11.92**	**237**	⇑Pn	**P**	**08 34 13.9**	**+0.6**
	comp=Z,45nm,0.7s						
AAK				⇑Sn	**S**	**08 36 21.0**	**-6.1**
	comp=Z,73nm,1.0s						
AAK				⇑Lg		08 37 37.0	
	comp=Z,197nm,1.9s						
AAK	**Ala-Archa**	**11.92**	**237**	*e*Pn	**P**	**08 34 10.2**	**-3.1**
	comp=Z,52nm,0.6s						
AAK				*e*Sn	**S**	**08 36 17.7**	**-9.5**
AAK				Lg		08 37 37.0	
AAK	**Ala-Archa**	**11.92**	**237**	*e*P	**P**	**08 34 10.2**	**-3.1**
AAK				*e*		08 36 17.7	
AAK				pmax	pmax		
	comp=Z,52nm,0.6s						
SONM	**Songino Array**	**12.29**	**93**	Pn	**P**	**08 34 15.1**	**-3.1**
	comp=Z,0.5nm,0.3s,baz=285,slow=14,SNR=17						
SONM				Lg		08 37 45.5	
	comp=Z,1.0nm,0.3s,baz=278,slow=29,SNR=5.3						
SONM				LR	LR	08 38 59.6	
	comp=Z,292nm,18.1s,baz=84,slow=38						
EKS2	**Erkin-Say**	**12.29**	**238**	P	**P**	**08 34 16.9**	**-1.4**
	SNR=45						
GTA	**Gaotai**	**13.54**	**137**	*e*P	**P**	**08 34 40.9**	**+6.2**
GTA				AP		08 34 44.0	
GTA				XP		08 34 46.8	
GTA				PP	PP	08 34 51.1	+5.6
GTA				S	**S**	**08 37 17.3**	**+11**
GTA				XS		08 37 23.0	
GTA				AMB	AMB		
	comp=Z,3.0nm,0.8s						
GTA				AMB	AMB		
	comp=Z,27nm,4.3s						
GTA				LR	LR		
	comp=N,1μm,8.4s						
GTA				LR	LR		
	comp=E,2μm,12.3s						
GTA				LR	LR		
	comp=Z,784nm,9.0s						
KSH	**Kashi**	**13.55**	**224**	*e*P	**P**	**08 34 35.3**	**+0.3**
KSH				*e*AP		08 34 38.0	
KSH				*e*XP		08 34 41.3	
KSH				*e*PP	PP	08 34 45.3	-0.4
KSH				*e*PPP	PPP	08 34 52.4	-0.3
KSH				*e*S	**S**	**08 37 05.0**	**-1.3**
KSH				*e*XS		08 37 10.3	
KSH				*e*SS	SS	08 37 20.3	-1.9
KSH				AMB	AMB		
	comp=Z,70nm,3.6s						
KSH				LR	LR		
	comp=N,1μm,10.0s						
KSH				LR	LR		
	comp=E,950nm,5.9s						
KK31	**Karatay Array**	**13.88**	**247**	Pn	**P**	**08 34 35.7**	**-3.6**
	comp=E,17nm,0.5s,baz=57,slow=13,SNR=191						
KK31				⇑Sn	**S**	**08 37 06.7**	**-7.5**
	comp=E,72nm,0.7s,baz=53,slow=23,SNR=19						
KK31				⇑Lg		08 38 35.4	
	comp=E,61nm,0.7s,baz=52,slow=28						
KK31	**Karatay Array**	**13.88**	**247**	Pn	**P**	**08 34 35.7**	**-3.6**
	comp=E,17nm,0.4s						
KK31				Sn	**S**	**08 37 06.7**	**-7.5**
KK31				Lg		08 38 35.4	
CIT	**Chita**	**16.16**	**73**	*e*P	**P**	**08 35 08.5**	**-0.3**
CIT				pmax	pmax		
	comp=Z,21nm,1.7s						
BOD	**Bodaibo**	**17.07**	**53**	⇑*i*P	**P**	**08 35 18.3**	**-2.1**
BOD				pmax	pmax		
	comp=Z,6.0nm,0.9s						
LZH	**Lanzhou**	**18.08**	**135**	*e*P	**P**	**08 35 33.3**	**+0.2**
LZH				AP		08 35 37.1	
LZH				XP		08 35 40.9	
LZH				S	**S**	**08 38 53.3**	**+1.5**
LZH				XS		08 38 59.0	
LZH				SS	SS	08 39 17.0	+1.8
LZH				LG		08 40 47.0	
LZH				AMB	AMB		
	comp=Z,30nm,1.0s						
LZH				AMB	AMB		
	comp=Z,180nm,4.0s						
LZH				LR	LR		
	comp=N,3μm,11.0s						
LZH				LR	LR		
	comp=Z,1μm,12.4s						
LZH	**Lanzhou**	**18.08**	**135**	*e*P	**P**	**08 35 33.2**	**+0.1**
	comp=Z,30nm,1.0s						
LZH				pP		08 35 37.1	
LZH				sP		08 35 40.9	
LZH				S	**S**	**08 38 53.3**	**+1.5**
LZH				sS		08 38 59.0	
LZH				SS	SS	08 39 17.0	+1.8
LZH				Lg		08 40 47.0	
LZH	**Lanzhou**	**18.08**	**135**	*e*P	**P**	**08 35 33.2**	**+0.1**
LZH				S	**S**	**08 38 53.3**	**+1.5**
LZH				pmax	pmax		
	comp=Z,30nm,1.0s						
AB31	**Akbulak array**	**18.15**	**278**	⇑Pn	**P**	**08 35 32.7**	**-1.2**
	comp=Z,9.7nm,0.6s						
AB31	**Akbulak array**	**18.15**	**278**	⇑Pn	**P**	**08 35 32.7**	**-1.2**
	comp=Z,9.7nm,0.6s						
AB31	**Akbulak array**	**18.15**	**278**	⇑P	**P**	**08 35 32.7**	**-1.2**
AB31				pmax	pmax		
	comp=Z,10.0nm,0.6s						
ARU	**Arti**	**18.64**	**301**	*e*P	**P**	**08 35 41.2**	**+1.3**
	comp=Z,39nm,0.8s						
ARU				*e*S	**S**	**08 39 07.1**	**+2.8**
ARU	**Arti**	**18.64**	**301**	⇓*i*P	**P**	**08 35 38.8**	**-1.1**
ARU				*e*S	**S**	**08 39 07.6**	**+3.2**
ARU				pmax	pmax		
	comp=Z,32nm,0.8s						
HHC	**Hu-ho-hao-te**	**18.85**	**110**	*e*P	**P**	**08 35 42.4**	**-0.1**
HHC				XP		08 35 48.3	
HHC				PP	PP	08 35 58.3	-0.5
HHC				S	**S**	**08 39 08.1**	**-1.0**
HHC				SS	SS	08 39 33.6	-0.8
HHC				PCP	PcP	08 40 08.8	-0.5
HHC				AMB	AMB		
	comp=Z,21nm,0.4s						
HHC				AMB	AMB		
	comp=Z,71nm,6.5s						
HHC				LR	LR		
	comp=N,481nm,5.4s						
HHC				LR	LR		
	comp=E,459nm,6.2s						
HHC				LR	LR		
	comp=Z,382nm,8.9s						
AKTK	**Aktyubinsk**	**19.13**	**283**	⇑Pn	**P**	**08 35 45.3**	**-0.5**
AKTK				Sn	**S**	**08 39 11.3**	**-4.2**
AKTO	**Aktyubinsk**	**19.13**	**283**	⇑Pn	**P**	**08 35 45.3**	**-0.5**
	comp=Z,7.3nm,0.8s						
AKTO				⇑Sn	**S**	**08 39 11.3**	**-4.2**
	comp=Z,4.4nm,1.6s						
SOKR	**Solikamsk**	**20.17**	**310**	*d i*P	**P**	**08 35 57.1**	**-0.2**
SOKR				S	**S**	**08 39 46.4**	**+8.5**
SOKR				MLR	MLR		
	comp=Z,250nm,17.0s,MS3.6						
LSA	**Lhasa**	**20.47**	**172**	P	**P**	**08 36 05.3**	**+4.6**
LSA	**Lhasa**	**20.47**	**172**	*e*P	**P**	**08 36 01.8**	**+1.1**
	comp=Z,20nm,0.8s						
LSA	**Lhasa**	**20.47**	**172**	*e*P	**P**	**08 36 01.8**	**+1.1**
LSA				pmax	pmax		
	comp=Z,20nm,0.8s						
HIA	**Hailar**	**20.48**	**80**	*e*P	**P**	**08 36 00.1**	**-0.5**
	comp=Z,30nm,0.9s						
HIA	**Hailar**	**20.48**	**80**	*e*P	**P**	**08 36 00.1**	**-0.5**
HIA				pmax	pmax		
	comp=Z,30nm,0.9s						
GKN	**Gorkha**	**22.18**	**188**	*e*P	**P**	**08 36 18.3**	**+0.3**
	comp=Z,52nm,0.5s,mb5.2						
GUN	**Gumba**	**22.18**	**185**	*e*P	**P**	**08 36 18.8**	**+0.8**
	comp=Z,94nm,0.5s,mb5.5						
XAN	**Xi'an**	**22.18**	**128**	P	**P**	**08 36 17.3**	**-0.7**
XAN				AP		08 36 20.3	
XAN				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.2						
KKN	**Kakani**	**22.34**	**186**	*e*P	**P**	**08 36 20.3**	**+0.7**
	comp=Z,116nm,0.6s,mb5.5						
KKN	**Kakani**	**22.34**	**186**	*e*P	**P**	**08 36 20.3**	**+0.7**
KKN				pmax	pmax		
	comp=Z,58nm,0.6s,mb5.2						
CD2	**Chengdu**	**22.48**	**142**	*e*P	**P**	**08 36 20.0**	**-1.0**
CD2				PP	PP	08 36 45.0	-3.8
CD2				S	**S**	**08 40 18.3**	**-4.1**
CD2				AMB	AMB		
	comp=Z,30nm,3.3s						
CD2				LR	LR		
	comp=N,410nm,8.6s						
CD2				LR	LR		
	comp=Z,480nm,9.7s						
KOLN	**Koldanda**	**22.51**	**190**	*e*P	**P**	**08 36 21.4**	**+0.1**
	comp=Z,72nm,0.9s,mb5.1						
DMN	**Daman**	**22.53**	**187**	*e*P	**P**	**08 36 22.8**	**+1.3**
	comp=Z,57nm,0.8s,mb5.1						
PKI	**Pulchoki**	**22.55**	**186**	*e*P	**P**	**08 36 21.9**	**+0.3**
	comp=Z,96nm,0.8s,mb5.3						
PKI	**Pulchoki**	**22.55**	**186**	*e*P	**P**	**08 36 21.9**	**+0.3**
PKI				pmax	pmax		
	comp=Z,48nm,0.8s,mb5.0						
CLNS	**Chul'man**	**22.77**	**58**	*e*P	**P**	**08 36 22.8**	**-0.7**
CLNS				*e*PP		08 36 29.9	
CLNS				*e*PPP	PPP	08 36 50.8	-12
CLNS				*e*S	**S**	**08 40 17.5**	**-10**
CLNS				*e*		08 40 25.9	
CLNS				pmax	pmax		
	comp=N,11nm,1.1s						
CLNS				pmax	pmax		
	comp=E,29nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,30nm,1.0s,mb4.7						
CLNS				MLR	MLR		
	comp=Z,400nm,13.0s,MS4.0						
CLNS				MLR	MLR		
	comp=N,100nm,11.0s,MS3.9						
CLNS				MLR	MLR		
	comp=E,200nm,11.0s,MS3.9						
ENH	**Enshi**	**25.53**	**133**	*e*P	**P**	**08 36 49.6**	**-0.8**
	comp=E,7.4nm,0.6s,mb4.4						
YAK	**Yakutsk**	**25.68**	**46**	*e*P	**P**	**08 36 51.6**	**+0.2**
	comp=E,42nm,0.8s,mb5.0						
YAK	**Yakutsk**	**25.68**	**46**	*e*P	**P**	**08 36 51.2**	**-0.3**
YAK				pmax	pmax		
	comp=Z,26nm,0.9s,mb4.8						
YAK				pmax	pmax		
	comp=E,17nm,1.2s						
YAK				MLR	MLR		
	comp=E,325nm,10.0s						
YAK				MLR	MLR		
	comp=Z,391nm,10.0s,MS4.2						
YAK				MLR	MLR		
	comp=N,122nm,9.0s						
SNY	**Shenyang**	**25.86**	**95**	⇑P	**P**	**08 36 53.6**	**+0.2**
SNY				AP	pP	08 37 00.5	+3.2
SNY				XP	sP	08 37 05.5	+6.4
SNY				S	**S**	**08 41 16.8**	**-3.6**
SNY				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.6						
SNY				LR	LR		
	comp=N,510nm,8.8s						
SNY				LR	LR		
	comp=E,220nm,7.8s						
SNY				LR	LR		
	comp=Z,300nm,13.5s,MS4.0						
CN2	**Changchun**	**26.11**	**89**	*e*P	**P**	**08 36 56.1**	**+0.4**
CN2				*e*XP	sP	08 37 03.0	+1.6
CN2				*e*S	**S**	**08 41 24.0**	**-0.5**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.3						
CN2				AMB	AMB		
	comp=Z,300nm,4.0s						
CN2				LR	LR		
	comp=N,300nm,12.0s,MS4.3						
CN2				LR	LR		
	comp=E,400nm,12.0s,MS4.3						
CN2				LR	LR		
	comp=Z,300nm,13.0s,MS4.0						
KMI	**Kunming**	**27.39**	**150**	P	**P**	**08 37 09.3**	**+1.7**
KMI				AP	pP	08 37 12.1	+0.6
KMI				XP	sP	08 37 13.3	0.0
KMI				PP	PP	08 37 56.3	+1.2
KMI				PPP	PPP	08 38 08.4	+1.3
KMI				PCP	PcP	08 40 29.1	+2.1
KMI				S	**S**	**08 41 47.3**	**+1.7**
KMI				SS	SS	08 43 02.9	+0.3
KMI				SSS	SSS	08 43 21.3	+0.6
KMI				SCP		08 44 08.3	
KMI				PCS		08 44 09.3	
KMI				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.4						
KMI				LR	LR		
	comp=N,150nm,9.0s						
KMI				LR	LR		
	comp=E,149nm,10.4s						
KMI				LR	LR		
	comp=Z,202nm,11.0s,MS4.0						
KMI	**Kunming**	**27.39**	**150**	P	**P**	**08 37 09.3**	**+1.7**
	comp=Z,9.0nm,0.7s,mb4.4						
KMI				pP	pP	08 37 12.1	+0.6
KMI				sP	sP	08 37 13.3	0.0
KMI				PP	PP	08 37 56.2	+1.1
KMI				PPP	PPP	08 38 08.4	+1.3
KMI				PcP	PcP	08 40 29.1	+2.1
KMI				S	**S**	**08 41 47.2**	**+1.6**
KMI				sS		08 41 52.2	
KMI				SS	SS	08 43 02.9	+0.3
KMI				SSS	SSS	08 43 21.3	+0.6
KMI				ScP		08 44 08.2	
KMI				PcS		08 44 09.3	
KMI	**Kunming**	**27.39**	**150**	P	**P**	**08 37 09.3**	**+1.7**
KMI				*PP	pP	08 37 12.1	+0.6
KMI				*SP	sP	08 37 13.3	0.0
KMI						08 37 56.2	
KMI				PPP	PPP	08 38 08.4	+1.3
KMI						08 40 29.1	
KMI				S	**S**	**08 41 47.2**	**+1.6**
KMI				*SS		08 41 52.2	
KMI				SS	SS	08 43 02.9	+0.3
KMI				SSS	SSS	08 43 21.3	+0.6
KMI				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.4						
GYA	**Guiyang**	**27.59**	**142**	P	**P**	**08 37 10.3**	**+0.8**
GYA				AP	pP	08 37 14.8	+1.4
GYA				XP	sP	08 37 17.4	+2.3
GYA				PP	PP	08 37 58.5	+0.8
GYA				S	**S**	**08 41 49.8**	**+1.0**
GYA				SCP		08 44 06.9	
GYA				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.9						
GYA				AMB	AMB		
	comp=Z,90nm,3.0s						
GYA				LR	LR		
	comp=N,390nm,15.4s,MS4.3						
GYA				LR	LR		
	comp=E,510nm,15.8s,MS4.3						
GYA				LR	LR		
	comp=Z,400nm,15.6s,MS4.1						
TIXI	**Tiksi**	**28.40**	**26**	*e*P	**P**	**08 37 12.4**	**-3.9**
TIXI				pmax	pmax		
	comp=Z,31nm,1.6s,mb4.7						
TIXI				MLR	MLR		
	comp=Z,450nm,13.0s,MS4.2						
MDJ	**Mudanjiang**	**28.42**	**85**	P	**P**	**08 37 15.4**	**-1.3**
MDJ				AP	pP	08 37 18.0	-2.6
MDJ				PCP	PcP	08 40 23.9	-5.4
MDJ				S	**S**	**08 42 02.8**	**+0.9**
MDJ				SCP		08 44 04.6	
MDJ				PCS		08 44 06.1	
MDJ				SCS	ScS	08 47 59.0	-1.4
MDJ				AMB	AMB		
	comp=Z,11nm,1.1s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,89nm,3.7s						
MDJ				LR	LR		
	comp=N,206nm,9.8s						
MDJ				LR	LR		
	comp=E,281nm,11.1s						
MDJ				LR	LR		
	comp=Z,450nm,11.5s,MS4.3						
NJ2	**Nanjing**	**29.11**	**117**	*e*P	**P**	**08 37 24.3**	**+1.2**
NJ2				AP	pP	08 37 29.3	+2.3
NJ2				XP	sP	08 37 32.0	+3.3
NJ2				PP	PP	08 38 17.0	-0.4
NJ2				S	**S**	**08 42 14.0**	**+0.9**
NJ2				XS		08 42 22.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,190nm,4.0s						
NJ2				LR	LR		
	comp=N,820nm,19.1s,MS4.4						
NJ2				LR	LR		
	comp=E,650nm,21.8s,MS4.4						
NJ2				LR	LR		
	comp=Z,200nm,20.6s,MS3.7						
GOF	**Gofitskoye**	**30.40**	**278**	*i* P	**P**	**08 37 33.3**	**-1.2**
GOF				pmax	pmax		
	comp=Z,40nm,1.3s,mb5.0						
ZEI	**Tsey**	**30.90**	**274**	*e*P	**P**	**08 37 36.5**	**-2.4**
ZEI				*i* *PP	pP	08 37 41.3	-1.5
ZEI				*i*		08 38 37.5	
ZEI				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.6						
OBN	**Obninsk**	**31.06**	**299**	*ce*P	**P**	**08 37 39.2**	**-1.0**
OBN				*e*		08 37 48.6	
OBN				*e*		08 38 45.0	
OBN				pmax	pmax		
	comp=Z,16nm,0.8s,mb4.9						
OBN				MLR	MLR		
	comp=Z,100nm,16.0s,MS3.6						
KIV	**Kislovodsk**	**31.12**	**276**	*de*P	**P**	**08 37 41.7**	**+0.9**
KIV				pmax	pmax		
	comp=Z,57nm,1.7s,mb5.1						
KIV				MLR	MLR		
	comp=Z,100nm,24.0s,MS3.4						
SSE	**Sheshan**	**31.16**	**115**	*e*P	**P**	**08 37 40.4**	**-0.9**
SSE				AP	pP	08 37 42.5	-2.7
SSE				S	**S**	**08 42 48.0**	**+2.4**
SSE				XS		08 42 53.8	
SSE				AMB	AMB		
	comp=Z,31nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,126nm,4.2s						
SSE				LR	LR		
	comp=N,120nm,20.0s,MS3.8						
SSE				LR	LR		
	comp=E,146nm,20.0s,MS3.8						
GNI	**Garni**	**31.70**	**269**	P	**P**	**08 37 47.6**	**+1.6**
	comp=E,3.4nm,0.3s,mb4.6,baz=360,slow=22,SNR=3.4						
GNI				LR	LR	08 52 25.9	
	comp=E,43nm,18.2s,MS3.2,baz=338,slow=40						
JOF	**Joensuu**	**32.67**	**315**	*ep*	**P**	**08 37 52.7**	**-1.5**
	comp=E,6.6nm,0.6s,mb4.7						
KEV	**Kevo**	**34.36**	**327**	*ep*	**P**	**08 38 08.1**	**-0.7**
	comp=E,9.4nm,0.9s,mb4.7						
KEV	**Kevo**	**34.36**	**327**	*e*P	**P**	**08 38 08.1**	**-0.7**
KEV				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
ARCES	**ARCESS Array B**	**34.88**	**327**	P	**P**	**08 38 12.8**	**-0.5**
	comp=Z,2.4nm,0.8s,mb4.2,baz=83,slow=9.8,SNR=9.3						
ARCES				LR	LR	08 54 09.2	
	comp=Z,153nm,18.0s,MS3.8,baz=80,slow=39						
KAF	**Kangasniemi**	**35.07**	**314**	*ep*	**P**	**08 38 13.8**	**-1.2**
	comp=Z,4.7nm,0.7s,mb4.5,baz=80,slow=8.4						
KAF	**Kangasniemi**	**35.07**	**314**	*e*P	**P**	**08 38 13.8**	**-1.2**
KAF				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
FINES	**FINESS Array B**	**35.29**	**313**	P	**P**	**08 38 16.3**	**-0.5**
	comp=Z,4.5nm,0.5s,mb4.7,baz=64,slow=9.8,SNR=60						
FINES				LR	LR	08 52 16.2	
	comp=Z,60nm,18.2s,MS3.4,baz=182,slow=36						

QIZ Qiongzhong 35.53 143 *e*P **P 08 38 18.0 -1.3**
QIZ *e*S **S 08 43 49.1 -4.5**
QIZ LR LR
comp=N,223nm,16.3s,MS4.4
QIZ LR LR
comp=E,501nm,16.7s,MS4.4
QIZ LR LR
comp=Z,332nm,11.9s,MS4.3
VSU Vasula 35.59 308 *i* P **P 08 38 18.6 -0.8**
YSS Yuzh-Sakhalins 35.72 73 *i* P **P 08 38 20.9 +0.3**
YSS pmax pmax
comp=Z,17nm,1.3s,mb4.8
MA2 Magadan 36.07 50 *e*P **P 08 38 23.6 +0.2**
comp=Z,13nm,1.1s,mb4.8
MA2 Magadan 36.07 50 *e*P **P 08 38 23.6 +0.2**
MA2 pmax pmax
comp=Z,13nm,1.1s,mb4.8
SIM Simferopol' 36.10 283 *e*P **P 08 38 25.0 +1.2**
SIM pmax pmax
comp=Z,24nm,0.7s,mb5.2
SEY Seymchan 36.16 44 *i* P **P 08 38 24.1 0.0**
AKASG Malin Array Be 36.63 294 P **P 08 38 27.8 -0.5**
comp=Z,3.8nm,0.4s,mb4.6,baz=56,slow=8.5,SNR=19
AKASG PP PP 08 39 48.6 -4.4
comp=Z,3.9nm,0.7s,baz=65,slow=10,SNR=5.0
MALT Malatya 36.80 271 *e*P **P 08 38 31.3 +1.5**
comp=Z,15nm,0.7s,mb4.9
MALT Malatya 36.80 271 *e*P **P 08 38 31.3 +1.5**
MALT pmax pmax
comp=Z,15nm,0.7s,mb4.9
MJAR Matsushiro Arr 38.23 91 LR LR 08 54 55.2
comp=Z,131nm,18.7s,MS3.8,baz=250,slow=37
BRTR Keskin Array B 39.08 276 P **P 08 38 49.8 +0.8**
comp=Z,17nm,0.6s,mb5.0,baz=81,slow=6.9,SNR=56
CFR Carcaliu 39.71 287 ⇑*i*P **P 08 38 53.7 -0.4**
CFR Carcaliu 39.71 287 ⇑*i*P **P 08 38 53.7 -0.4**
ISR Istrita 40.72 288 ⇑*i*P **P 08 39 04.2 +1.8**
ISR Istrita 40.72 288 ⇑*i*P **P 08 39 04.2 +1.8**
BILL Bilibino 40.73 34 *i* P **P 08 39 01.2 -1.1**
BILL pmax pmax
comp=Z,24nm,2.5s,mb4.4
BILL MLR MLR
comp=Z,300nm,20.0s,MS4.2
MLR Muntele Rosu 40.90 288 ⇑*i*P **P 08 39 05.2 +1.3**
MLR Muntele Rosu 40.90 288 ⇑*i*P **P 08 39 05.2 +1.3**
KOLS Kolonicke sedl 41.46 295 *i* P **P 08 39 08.5 +0.1**
KOLS *e*PP PP 08 40 47.1 -0.4
STHS Stebnicka Huta 41.84 296 *e*P **P 08 39 13.4 +2.0**
CRVS Cervenica-Dubn 41.95 295 *e*P **P 08 39 12.7 +0.4**
CRVS *e* 08 40 44.8
OJC Ojcow 42.30 298 *e*P **P 08 39 15.7 +0.5**
NB2 NORSAR Subarra 42.31 315 P **P 08 39 14.7 -0.4**
comp=Z,13nm,0.7s,mb4.7,baz=65,slow=7.9
NB2 NORSAR Subarra 42.31 315 P **P 08 39 14.7 -0.4**
NB2 pmax pmax
comp=Z,13nm,0.7s,mb4.7
NOA NORSAR Array B 42.31 315 P **P 08 39 14.8 -0.4**
comp=Z,14nm,0.7s,mb4.7,baz=65,slow=7.8,SNR=35
NOA LR LR 08 58 07.7
comp=Z,72nm,19.0s,MS3.6,baz=80,slow=38
NIE Niedzica 42.38 296 ⇑*e*P **P 08 39 17.2 +1.4**
PET Petropavlovsk 42.41 58 *i* P **P 08 39 15.1 -0.9**
PET pmax pmax
comp=Z,9.0nm,1.0s,mb4.3
KECS Kecovo 42.72 295 *i* P **P 08 39 19.5 +0.8**
PSZ Piszkesteto 43.34 295 *e*P **P 08 39 25.1 +1.4**
PSZ *e*PP PP 08 41 03.3 -3.4
VYHS Vyhne 43.67 296 *i* P **P 08 39 27.6 +1.2**
MORC Moravsky Berou 43.80 298 *e*P **P 08 39 27.2 -0.1**
comp=Z,4.3nm,0.8s,mb4.2
MORC Moravsky Berou 43.80 298 *e*P **P 08 39 27.3 -0.1**
MORC pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
KSP Ksiaz 43.99 300 *e*P **P 08 39 29.6 +0.7**
DPC Dobruska-Polom 44.21 299 *e*P **P 08 39 31.8 +1.1**
UPC Upice 44.31 300 *e*P **P 08 39 32.4 +0.9**
PVCC Panska Ves 45.10 300 *e*P **P 08 39 38.8 +0.9**
TREC Trest 45.20 298 *e*P **P 08 39 39.8 +1.1**
PRU Pruhonice 45.39 300 *e*P **P 08 39 40.9 +0.7**
CLL Collm 45.59 302 ⇑P **P 08 39 42.0 +0.3**
comp=Z,logA/T=1.6,mb5.3
CLL *e**PP pP 08 39 45.0 -0.7
CLL *e*PP PP 08 41 28.0 -1.1
CLL Collm 45.59 302 ⇑*i*P **P 08 39 42.0 +0.3**
comp=Z,19nm,0.5s,mb5.3
CLL *e*pP pP 08 39 45.0 -0.7
CLL Collm 45.59 302 ⇑*i*P **P 08 39 42.0 +0.3**
CLL *e**PP pP 08 39 45.0 -0.7
CLL pmax pmax
comp=Z,19nm,0.5s,mb5.3
BSEG Bad Segeberg 45.75 306 *e*P **P 08 39 43.9 +0.9**
KHC Kasperske Hory 46.36 299 *e*P **P 08 39 48.8 +0.9**
KHC x x 08 40 44.0
KHC PP PP 08 41 35.0 -1.9
KHC Kasperske Hory 46.36 299 *e*P **P 08 39 48.8 +0.9**
KHC *e* 08 40 44.0
KHC *e* 08 41 35.0
KHC Kasperske Hory 46.36 299 *e*P **P 08 39 48.8 +0.9**
KHC *e* 08 41 35.0
NKC Novy Kostel 46.43 301 *e*P **P 08 39 49.0 +0.6**
GEC2 GERESS Array S 46.44 299 *e*P **P 08 39 49.0 +0.5**
comp=Z,5.0nm,1.0s,mb4.4
GEC2 GERESS Array S 46.44 299 *e*P **P 08 39 49.0 +0.5**
GEC2 pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
GERES GERESS Array B 46.44 299 P **P 08 39 49.1 +0.6**
comp=Z,1.8nm,0.7s,mb4.1,baz=76,slow=5.5,SNR=7.0
GERES PcP PcP 08 41 23.6 -0.1
comp=Z,0.6nm,0.6s,baz=108,slow=3.1,SNR=3.5
GERES LR LR 09 00 11.3
comp=Z,131nm,18.3s,MS3.9,baz=147,slow=37
MOX Moxa 46.68 302 *i* P **P 08 39 50.9 +0.5**
comp=Z,logA/T=1.1,mb4.8
MOX Moxa 46.68 302 *e*P **P 08 39 50.9 +0.5**
comp=Z,14nm,1.1s,mb4.8
MOX Moxa 46.68 302 *e*P **P 08 39 50.9 +0.5**
MOX pmax pmax
comp=Z,14nm,1.1s,mb4.8
CLZ Clausthal 46.75 304 *e*P **P 08 39 51.4 +0.5**
comp=Z,6.0nm,0.6s,mb4.7
CLZ Clausthal 46.75 304 *e*P **P 08 39 51.4 +0.5**
CLZ pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
WET Wettzell 46.75 299 *e*P **P 08 39 51.6 +0.7**
comp=Z,4.0nm,0.7s,mb4.5
WET Wettzell 46.75 299 *e*P **P 08 39 51.6 +0.7**
WET pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
OBKA Obir 47.19 295 ⇓*i*P **P 08 39 55.0 +0.5**
comp=Z,8.1nm,0.6s,mb4.8
GRA1 Grafenberg Arr 47.39 301 *e*P **P 08 39 56.1 +0.1**
comp=Z,24nm,0.6s,mb5.3
GRF Grafenberg Arr 47.39 301 *e*P **P 08 39 56.1 +0.1**
comp=Z,24nm,0.6s,mb5.3
GRF Grafenberg Arr 47.39 301 *e*P **P 08 39 56.1 +0.1**
GRF pmax pmax
comp=Z,24nm,0.6s,mb5.3
GRF Grafenberg Arr 47.39 301 *e*P **P 08 39 56.1 +0.1**
GRF pmax pmax
comp=Z,24nm,0.6s,mb5.3
KBA Koelnbreinsper 47.58 297 ⇑*i*P **P 08 39 58.7 +1.2**
comp=Z,12nm,1.0s,mb4.9
KBA Koelnbreinsper 47.58 297 ⇑*i*P **P 08 39 58.7 +1.2**
KBA pmax pmax
comp=Z,12nm,1.0s,mb4.9
WATA Walderalm 48.45 298 ⇑*i*P **P 08 40 05.2 +0.9**
comp=Z,5.5nm,0.4s,mb4.9
WTTA Wattenberg 48.45 298 ⇑*i*P **P 08 40 05.2 +0.9**
comp=Z,6.9nm,0.5s,mb4.9
WTTA Wattenberg 48.45 298 ⇑*i*P **P 08 40 05.2 +0.9**
WTTA pmax pmax
comp=Z,7.0nm,0.5s,mb5.0
TNS Taunus Mts 48.63 303 *e*P **P 08 40 06.1 +0.5**
comp=Z,7.0nm,0.8s,mb4.7
TNS Taunus Mts 48.63 303 *e*P **P 08 40 06.1 +0.5**
TNS pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
SQTA Sankt Quirin 48.72 298 ⇑*i*P **P 08 40 07.1 +0.7**
comp=Z,5.6nm,0.5s,mb4.8
SQTA Sankt Quirin 48.72 298 ⇑*i*P **P 08 40 07.1 +0.7**
SQTA pmax pmax
comp=Z,6.0nm,0.5s,mb4.9
DAVA Damuels 49.44 299 ⇑*i*P **P 08 40 12.6 +0.7**
comp=Z,12nm,0.8s,mb5.0
BFO Black Forest 49.73 301 *e*P **P 08 40 14.0 -0.1**
comp=Z,6.0nm,1.2s,mb4.5
BFO Black Forest 49.73 301 *e*P **P 08 40 14.0 -0.1**
BFO pmax pmax
comp=Z,6.0nm,1.2s,mb4.5
CDF Champ du Feu 50.26 301 *e*P **P 08 40 17.1 -1.1**
comp=Z,10nm,0.6s,mb4.7
CDF Champ du Feu 50.26 301 *e*P **P 08 40 17.1 -1.1**
CDF pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
HINF Hinteralfeld 50.83 301 *e*P **P 08 40 21.8 -0.8**
comp=Z,6.6nm,0.5s,mb4.5
HINF Hinteralfeld 50.83 301 *e*P **P 08 40 21.8 -0.8**
HINF pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
BAIF Baives 50.99 304 *e*P **P 08 40 24.0 +0.2**
comp=Z,24nm,0.7s,mb4.9
BAIF Baives 50.99 304 *e*P **P 08 40 24.0 +0.2**
BAIF pmax pmax
comp=Z,12nm,0.7s,mb4.9
HAU Haudompre 51.00 301 *e*P **P 08 40 23.4 -0.5**
comp=Z,16nm,0.5s,mb4.9
HAU *e*R
comp=Z,74nm,17.8s
MEZF Maizieres J'vi 51.43 302 *e*P **P 08 40 27.4 +0.3**
CABF La Chapelle 51.96 300 *e*P **P 08 40 30.3 -0.8**
LPG La Plagne 52.24 298 *e*P **P 08 40 33.6 +0.3**
comp=Z,16nm,0.4s,mb5.0
LPL La Plagne 52.24 298 *e*P **P 08 40 33.3 0.0**
comp=Z,20nm,0.4s,mb5.1
BNI Baeonecchia 52.54 298 *e*P **P 08 40 35.8 +0.3**
comp=Z,26nm,1.2s,mb5.0
BNI Bardonecchia 52.54 298 *e*P **P 08 40 35.8 +0.2**
BNI pmax pmax
comp=Z,26nm,1.2s,mb5.0
MBDF Montbardon 52.69 298 *e*P **P 08 40 35.7 -0.9**
comp=Z,33nm,0.6s,mb5.1
MBDF Montbardon 52.69 298 *e*P **P 08 40 35.7 -0.9**
MBDF pmax pmax
comp=Z,17nm,0.6s,mb5.2
PGF Pioggiola 52.71 294 *e*P **P 08 40 36.5 -0.3**
LOR Lormes 52.80 302 *e*P **P 08 40 36.1 -1.4**
comp=Z,22nm,1.1s,mb4.7
LOR *e*R
comp=Z,62nm,19.0s
SBF Sospel 52.82 296 *e*P **P 08 40 36.9 -0.8**
comp=Z,21nm,0.6s,mb4.9
SBF Sospel 52.82 296 *e*P **P 08 40 36.9 -0.8**
SBF pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
ORIF Oris-en-Rattie 53.08 298 *e*P **P 08 40 38.9 -0.6**
comp=Z,18nm,0.7s,mb4.8
ORIF *e*R
comp=Z,133nm,18.8s
SSF Saint Saulge 53.12 302 *e*P **P 08 40 38.7 -1.1**
comp=Z,6.3nm,0.7s,mb4.7
SSF Saint Saulge 53.12 302 *e*P **P 08 40 38.7 -1.1**
SSF pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
SMF Signal de Mont 53.18 301 *e*P **P 08 40 39.1 -1.2**
comp=Z,5.3nm,0.6s,mb4.4
SMF Signal de Mont 53.18 301 *e*P **P 08 40 39.1 -1.2**
SMF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
AVF Avril sur Loir 53.37 302 *e*P **P 08 40 40.5 -1.1**
comp=Z,24nm,1.0s,mb4.8
AVF Avril sur Loir 53.37 302 *e*P **P 08 40 40.5 -1.1**
AVF pmax pmax
comp=Z,12nm,1.0s,mb4.8
FRF La Foret Royal 53.46 297 *e*P **P 08 40 41.3 -1.1**
LMR La Mourre 53.68 296 *e*P **P 08 40 42.9 -1.1**
comp=Z,8.8nm,0.5s,mb4.7
LMR La Mourre 53.68 296 *e*P **P 08 40 42.9 -1.1**
LMR pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
VIVF Saint-Julien-l 53.80 299 *e*P **P 08 40 44.0 -0.8**
comp=Z,23nm,0.8s,mb4.8
VIVF Saint-Julien-l 53.80 299 *e*P **P 08 40 44.0 -0.8**
VIVF pmax pmax
comp=Z,11nm,0.8s,mb4.8
SMRF Simiane la Rot 53.82 298 *e*P **P 08 40 44.5 -0.5**
LDF La Druitiere 54.15 305 *e*P **P 08 40 46.4 -0.9**
comp=Z,46nm,0.7s,mb5.2
LDF La Druitiere 54.15 305 *e*P **P 08 40 46.4 -0.9**
LDF pmax pmax
comp=Z,23nm,0.7s,mb5.2
FLN La Foliniere 54.23 305 *e*P **P 08 40 47.1 -0.8**
comp=Z,36nm,0.5s,mb5.2
FLN *e*R
comp=Z,122nm,20.8s
TCF Toulx Ste Croi 54.30 302 *e*P **P 08 40 47.7 -0.7**
comp=Z,10nm,0.6s,mb4.6
TCF Toulx Ste Croi 54.30 302 *e*P **P 08 40 47.7 -0.7**
TCF pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
GRR Gorron 54.66 305 *e*P **P 08 40 50.1 -1.0**
comp=Z,32nm,0.7s,mb5.2
GRR Gorron 54.66 305 *e*P **P 08 40 50.1 -1.0**
GRR pmax pmax
comp=Z,16nm,0.6s,mb5.2
LASF Ste Croix 54.74 299 *e*P **P 08 40 51.4 -0.3**
IMA Indian Mountai 55.01 26 *e*P **P 08 40 53.5 0.0**
comp=Z,18nm,0.8s,mb5.1
IMA Indian Mountai 55.01 26 *e*P **P 08 40 53.5 0.0**
IMA pmax pmax
comp=Z,18nm,0.8s,mb5.2
RJF Les Rejaudoux 55.29 301 *e*P **P 08 40 55.1 -0.6**
comp=Z,15nm,0.9s,mb4.7
RJF *e*R
comp=Z,89nm,18.8s
MFF Saint Martin d 55.38 303 *e*P **P 08 40 55.6 -0.8**
comp=Z,15nm,0.5s,mb5.0
MFF Saint Martin d 55.38 303 *e*P **P 08 40 55.6 -0.8**
MFF pmax pmax
comp=Z,7.0nm,0.5s,mb5.0
SGMF Saint Gilles 55.63 306 *e*P **P 08 40 57.4 -0.8**
comp=Z,16nm,0.6s,mb5.0
SGMF Saint Gilles 55.63 306 *e*P **P 08 40 57.4 -0.8**
SGMF pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
LFF La Frestale 55.94 301 *e*P **P 08 41 00.2 -0.2**
comp=Z,34nm,0.8s,mb5.1
LFF La Frestale 55.94 301 *e*P **P 08 41 00.2 -0.2**
LFF pmax pmax
comp=Z,17nm,0.8s,mb5.1
ROSF Rostrenen 55.96 306 *e*P **P 08 40 59.8 -0.7**
comp=Z,6.7nm,0.4s,mb4.7
MTLF Montolieu 56.13 299 *e*P **P 08 41 01.2 -0.6**
comp=Z,5.0nm,0.6s,mb4.5
MTLF Montolieu 56.13 299 *e*P **P 08 41 01.2 -0.6**
MTLF pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
QUIF Quistinic 56.16 306 *e*P **P 08 41 01.3 -0.7**
comp=Z,32nm,0.5s,mb5.3
QUIF Quistinic 56.16 306 *e*P **P 08 41 01.3 -0.7**
QUIF pmax pmax
comp=Z,16nm,0.5s,mb5.3
TTA Tatalina 56.58 30 *e*P **P 08 41 07.6 +2.7**
EPF Esparros 57.38 300 *e*P **P 08 41 09.4 -1.4**
EBIE Bielsa 57.71 299 P **P 08 41 13.2 +0.1**
comp=Z,13nm,0.5s,mb5.2
ILAR Eielson Array 57.86 24 P **P 08 41 12.8 -1.1**
comp=Z,3.5nm,0.6s,mb4.5,baz=315,slow=4.4,SNR=65
EGRA Graus 57.94 299 P **P 08 41 14.2 -0.5**
comp=Z,5.9nm,0.6s,mb4.8
INK Inuvik 57.97 17 *e*P **P 08 41 14.2 -0.4**
comp=Z,16nm,1.0s,mb5.0
INK Inuvik 57.97 17 *e*P **P 08 41 14.2 -0.3**
INK pmax pmax
comp=Z,16nm,1.0s
ETSF Etsaut 57.97 300 *e*P **P 08 41 13.9 -1.0**
SFJD Kangerlussuaq 59.14 342 *i* P **P 08 41 21.7 -1.0**
comp=Z,27nm,1.1s,mb5.2
SFJD Kangerlussuaq 59.14 342 *i* P **P 08 41 21.7 -1.0**
SFJD pmax pmax
comp=Z,27nm,1.1s,mb5.2
ELAN Lanestosa 59.34 302 P **P 08 41 24.6 +0.2**
comp=Z,9.9nm,0.6s,mb5.0
EMOS Mosqueruela 59.59 298 P **P 08 41 25.8 -0.4**
comp=Z,57nm,1.6s,mb5.3
EARI Arriondas 60.26 303 P **P 08 41 30.7 0.0**
comp=Z,9.8nm,0.6s,mb5.0
DAWY Dawson 60.34 22 *e*P **P 08 41 29.9 -1.1**
ETOB Tobarra 61.35 297 P **P 08 41 38.4 +0.2**
comp=Z,19nm,1.2s,mb5.1
EMUR La Murta 61.72 296 P **P 08 41 40.6 -0.1**
comp=Z,20nm,1.7s,mb5.0
EVIA Vianos 61.91 297 P **P 08 41 42.3 +0.3**
comp=Z,12nm,0.8s,mb5.1
EVIA Vianos 61.91 297 P **P 08 41 42.3 +0.3**
EVIA pmax pmax
comp=Z,12nm,0.8s,mb5.1
ERUA La Rua 61.92 303 P **P 08 41 42.4 +0.3**
comp=Z,6.3nm,0.5s,mb5.0
ERUA La Rua 61.92 303 P **P 08 41 42.4 +0.4**
ERUA pmax pmax
comp=Z,6.0nm,0.5s,mb5.0
ESDC Sonseca Array 62.03 299 P **P 08 41 42.4 -0.4**
comp=Z,8.6nm,0.6s,mb5.0,baz=47,slow=6.6,SNR=26
ESDC Sonseca Array 62.03 299 P **P 08 41 42.3 -0.5**
comp=Z,6.2nm,0.6s,mb4.9
ESLA Sonseca Array 62.03 299 *e*P **P 08 41 42.6 -0.2**
comp=Z,4.6nm,1.0s,mb4.6
PBRG Braganca 62.11 303 *e*P **P 08 41 43.4 +0.1**
EQES Quesada 62.80 297 P **P 08 41 47.5 -0.5**
comp=Z,27nm,1.3s,mb5.2
PCAB Cabril 62.87 303 *e*P **P 08 41 48.1 -0.2**
EBAN Banos Encina 62.97 298 P **P 08 41 48.7 -0.3**
comp=Z,3.2nm,0.5s,mb4.7
EBAN Banos Encina 62.97 298 P **P 08 41 48.7 -0.3**
EBAN pmax pmax
comp=Z,3.0nm,0.5s,mb4.7
PVRL Vila Real 63.00 303 *e*P **P 08 41 49.3 +0.1**
EBER Berja 63.33 296 P **P 08 41 50.4 -1.0**
comp=Z,57nm,1.6s,mb5.5
EADA Adamuz 63.41 298 P **P 08 41 52.3 +0.3**
comp=Z,11nm,1.0s,mb5.0
MTE Manteigas 63.52 302 *e*P **P 08 41 52.9 +0.4**
comp=Z,25nm,1.4s,mb5.0
ECAB El Cabril 63.95 299 P **P 08 41 55.8 +0.3**
comp=Z,13nm,1.1s,mb4.9
EBAD Badajoz 64.37 300 P **P 08 41 58.0 -0.1**
comp=Z,9.1nm,0.6s,mb5.0
EMIN Mina Concepcio 64.88 299 P **P 08 42 00.4 -1.0**
comp=Z,2.6nm,2.1s,mb3.9
ESPR Espera 65.05 298 P **P 08 42 02.7 +0.1**
comp=Z,13nm,0.9s,mb5.0
EVO Evora 65.09 301 *e*P **P 08 42 02.4 -0.4**
comp=Z,5.9nm,0.6s,mb4.5
PBEJ Beja 65.36 300 *e*P **P 08 42 05.1 +0.5**
YKA Yellowknife Ar 66.36 11 P **P 08 42 09.6 -0.9**
comp=Z,2.4nm,0.7s,mb4.3,baz=340,slow=6.6,SNR=6.0
YKA LR LR 09 14 01.3
comp=Z,51nm,19.3s,MS3.7,baz=280,slow=39
KMBO Kilima Mbogo 66.88 237 P **P 08 42 13.1 -1.6**
comp=Z,1.5nm,0.8s,mb4.1,baz=34,slow=16,SNR=4.4
KMBO LR LR 09 15 09.7
comp=Z,64nm,18.7s,MS3.9,baz=260,slow=39
SCHQ Schefferville 73.38 345 P **P 08 42 52.5 -0.9**
comp=Z,2.1nm,0.3s,mb4.5,baz=17,slow=7.0,SNR=11
SCHQ LR LR 09 15 32.8
comp=Z,53nm,21.2s,MS3.8,baz=107,slow=36
KAKA Kakadu 73.62 135 *e*P **P 08 43 07.1 +11**
comp=Z,12nm,0.9s,mb4.8
EDM Edmonton 75.52 13 *e*P **P 08 43 05.9 +0.1**
FITZ Fitzroy Crossi 75.56 143 ⇑*i*P **P 08 43 05.4 -1.3**
comp=Z,15nm,0.8s,mb5.0
WALA Waterton Lakes 79.48 14 *e*P **P 08 43 28.0 +0.1**
comp=Z,6.6nm,0.9s,mb4.6
ULM Lac du Bonnet 80.02 3 P **P 08 43 28.4 -2.3**
comp=Z,2.6nm,0.7s,mb4.3,baz=355,slow=2.4,SNR=5.6
WRAB Tennant Creek 80.82 136 *e*P **P 08 43 34.0 -1.5**
comp=Z,13nm,0.9s,mb4.8
WRAB Tennant Creek 80.82 136 *i*P **P 08 43 34.4 -1.1**
WRA Warramunga Arr 80.82 136 P **P 08 43 33.2 -2.3**
comp=Z,5.6nm,0.8s,mb4.5,baz=341,slow=5.9,SNR=47
WRA PKKPbc 09 02 13.3
comp=Z,0.2nm,0.3s,baz=153,slow=2.2,SNR=10
MSO Missoula 81.64 15 *e*P **P 08 43 39.8 +0.5**
comp=Z,10nm,1.4s,mb4.6
CHMT Chamberlain Mo 81.67 15 *e*P **P 08 43 39.9 +0.5**
BMO Blue Mountains 82.94 18 *e*P **P 08 43 46.2 +0.2**
comp=Z,1.4nm,0.6s,mb4.2
BMO *e*pP pP 08 43 50.3 0.0
BOZ Bozeman (W) 83.16 14 *e*P **P 08 43 47.9 +0.7**
comp=Z,3.9nm,0.8s,mb4.5
BOZ *e*pP pP 08 43 51.6 +0.2
BOZ Bozeman (W) 83.16 14 *e*P **P 08 43 47.9 +0.7**
BOZ *e**PP pP 08 43 51.7 +0.2
BOZ pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
MCMT McKenzie Canyo 83.77 15 *e*P **P 08 43 51.0 +0.8**
HLID Hailey 84.72 16 *e*P **P 08 43 55.6 +0.5**
comp=Z,1.1nm,0.8s,mb4.0
IMW Indian Meadow 84.97 14 *e*P **P 08 43 57.1 +0.8**
comp=Z,10nm,1.1s,mb4.9
IMW *e* 08 44 03.7
WVOR Wild Horse Val 84.98 19 *e*P **P 08 43 58.3 +1.9**
comp=Z,11nm,0.9s,mb5.0
WVOR *e* pP 08 44 03.6 +3.0
WVOR Wild Horse Val 84.98 19 *e*P **P 08 43 58.3 +1.9**
WVOR *e* pP 08 44 03.6 +3.0
WVOR pmax pmax
comp=Z,11nm,0.9s,mb5.0
LOHW Long Hollow 85.30 13 *e*P **P 08 43 59.0 +1.1**
comp=Z,5.8nm,1.1s,mb4.6
RSSD Black Hills 85.62 9 *e*P **P 08 44 00.2 +0.7**
comp=Z,11nm,1.2s,mb5.0
RSSD Black Hills 85.62 9 *e*P **P 08 44 00.2 +0.7**
RSSD pmax pmax
comp=Z,11nm,1.2s,mb5.0
PDAR Pinedale Array 86.29 13 P **P 08 44 02.6 -0.3**
comp=Z,1.3nm,0.5s,mb4.4,baz=30,slow=3.0,SNR=21
PDAR LR LR 09 23 54.8
comp=Z,36nm,19.7s,MS3.8,baz=264,slow=37
DBIC Dimbokro 86.78 276 P **P 08 44 06.1 +0.2**
comp=Z,3.6nm,0.5s,mb4.9,baz=25,slow=7.7,SNR=9.5
PHWY Pilot Hill 88.25 10 *e*P **P 08 44 13.9 +1.4**
PHWY *e*pP pP 08 44 17.7 +1.0
DUG Dugway 88.28 16 *e*P **P 08 44 13.9 +1.4**
comp=Z,10nm,1.0s,mb5.0
DUG *e*pP pP 08 44 17.8 +0.9
DUG Dugway 88.28 16 *e*P **P 08 44 13.9 +1.4**
DUG *e**PP pP 08 44 17.8 +1.0
DUG pmax pmax
comp=Z,10.0nm,1.0s,mb5.0
DAU Daniels Canyon 88.33 15 *e*P **P 08 44 14.8 +2.0**
NLU North Lily Min 88.64 15 *e*P **P 08 44 15.5 +1.2**
NLU *e*pP pP 08 44 20.4 +1.8
NVAR Mina Array Bea 88.88 20 P **P 08 44 17.0 +1.5**
comp=Z,1.6nm,0.8s,mb4.4,baz=323,slow=4.5,SNR=11
NVAR Mina Array Bea 88.88 20 P **P 08 44 17.0 +1.5**
ISCO Idaho Springs 89.72 10 *e*P **P 08 44 20.9 +1.5**
comp=Z,8.5nm,1.3s,mb4.9
ISCO Idaho Springs 89.72 10 *e*P **P 08 44 20.9 +1.5**
ISCO pmax pmax
comp=Z,9.0nm,1.3s,mb4.9
MSU Marysvale 90.03 16 P **P 08 44 20.6 -0.3**
STKA Stephens Creek 94.37 137 ⇓⇓*i*P **P 08 44 39.6 -1.4**
comp=Z,5.0nm,0.8s,mb5.0
STKA Stephens Creek 94.37 137 P **P 08 44 39.7 -1.4**
comp=Z,5.6nm,0.8s,mb5.1,baz=330,slow=6.7,SNR=12
ANMO Albuquerque 94.40 12 *i*P **P 08 44 41.8 +0.7**
TXAR Lajitas Array 100.28 10 P P 08 45 08.2 +0.2
comp=Z,0.2nm,0.5s,baz=25,slow=3.5,SNR=6.7
CPUP Villa Florida 144.40 299 PKP PKPdf 08 50 55.6 -4.1
comp=Z,22nm,0.8s,baz=56,slow=5.3,SNR=40
CPUP Villa Florida 144.40 299 PKIKP PKPdf 08 50 55.7 -4.1
CPUP pmax pmax
comp=Z,22nm,0.8s
PLCA Paso Flores 162.34 294 PKPab PKPab 08 52 10.8 0.0
comp=Z,4.0nm,0.8s,baz=45,slow=3.4,SNR=6.5
PLCA Paso Flores 162.34 294 PKP2 PKPab 08 52 10.8 0.0
PLCA pmax pmax
comp=Z,4.0nm,0.8s

IDC 22 09:13:52.1±1.3, 43.57N×103.96E, mb3.8/4, mb1 4.0/5, mb1mx3.7/19, mbtmp3.8/5, ML3.5/1, MS3.8/2, Ms1 3.8/2, ms1mx3.0/18, Error ellipse: s-maj=30.8km s-min=20.9km az=100.0, Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**4.59**	**21**	Pn	Pn	09 15 03.4	-1.0
	2.3nm,0.3s,baz=203,slow=14,SNR=15						
SONM				Pg	Pg	09 15 17.0	-6.8
	8.7nm,0.3s,baz=206,slow=18,SNR=16						
SONM				Lg		09 16 15.7	
	30nm,0.3s,baz=218,slow=30,SNR=25						
BVAR	**Borovoye Array**	**24.05**	**305**	P	P	09 19 07.5	-1.9
	1.7nm,0.5s,baz=104,slow=9.5,SNR=11						
JOW	**Kunigami**	**25.82**	**122**	LR	LR	09 30 00.9	
	comp=Z,311nm,21.0s,baz=143,slow=38						

MJAR Matsushiro Arr 27.00 93 LR LR 09 31 27.2
comp=Z,141nm,20.7s,baz=160,slow=39
ARCES ARCESS Array B 46.04 331 P P 09 22 18.4 -0.3
2.1nm,1.0s,baz=66,slow=8.9,SNR=5.5
ILAR Eielson Array 58.78 28 P P 09 23 51.4 -2.5
0.5nm,0.7s,baz=295,slow=5.8,SNR=8.2
WRA Warramunga Arr 69.08 149 P P 09 24 59.7 -2.3
0.4nm,0.9s,baz=345,slow=7.1,SNR=5.3

*IDC **22** 09:24:29.9±1.3, 11.69N×124.59E, mb4.0/6, mb1 4.1/6, mb1mx3.8/20, mbtmp4.0/6, MS3.5/1, Ms1 3.5/1, ms1mx2.8/22, Error ellipse: s-maj=117.3km s-min=18.8km az=69.0*
*MAN **22** 09:24:33.8, 12.13N×125.49E, h23km, mb4.0, ML2.8, MS2.5*
ISC 22 09:24:33.6±1.6, 12.13N±0.09×125.6E±0.1, h52km±12km, n12, σ0§84/15, mb4.0/6, MS3.5/1, 2C, Samar

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.54**	**194**	*e*P	**P**		**09 24 45.5**	**0.0**
BESP				*e*S	**S**		**09 24 54.8**	**+0.5**
CNP	**Cataman**	**0.96**	**293**	*e*P	**P**		**09 24 50.3**	**-0.7**
CNP				*e*S	**S**		**09 25 03.1**	**-0.8**
PLP	**Palo**	**1.12**	**211**	*e*P	**P**		**09 24 52.8**	**-0.4**
PLP				*i* S	**S**		**09 25 08.3**	**+0.4**
SCPH	**Surigao**	**2.34**	**182⇑**	*e*P	**P**		**09 25 10.8**	**+0.4**
RCP	**Roxas**	**2.82**	**259⇑**	*e*P	**P**		**09 25 18.1**	**+0.8**
OTRP	**Odiongan**	**3.47**	**274**	*e*P	**P**		**09 25 26.7**	**+0.1**
FITZ	**Fitzroy Crossi**	**30.04**	**180**	**P**	**P**		**09 30 38.5**	**-1.6**
2.4nm,0.5s,mb4.2,baz=352,slow=7.1,SNR=7.7
WRA Warramunga Arr 33.02 165 P **P** 09 31 04.4 -1.9
0.2nm,0.5s,mb3.3,baz=332,slow=10,SNR=9.5
STKA Stephens Creek 46.37 161 P **P** 09 32 57.3 +0.6
1.0nm,0.4s,mb4.1,baz=354,slow=9.3,SNR=5.0
MKAR Makanchi Array 50.14 322 P **P** 09 33 26.7 +0.9
1.2nm,0.6s,mb4.1,baz=122,slow=8.3,SNR=8.4
MKAR LR LR 09 55 44.3
comp=Z,42nm,18.7s,MS3.5,baz=7.7,slow=38
BVAR Borovoye Array 59.75 325 P **P** 09 34 35.7 +0.2
1.3nm,0.8s,mb4.0,baz=135,slow=10,SNR=4.8
ARCES ARCESS Array B 82.22 340 P **P** 09 36 51.4 +1.1
1.5nm,0.6s,mb4.1,baz=82,slow=5.4,SNR=13

*IDC **22** 10:07:46.8±1.2, 2.29S×139.32E, mb3.9/5, mb1 4.1/6, mb1mx3.9/13, mbtmp3.9/6, ML3.9/1, Error ellipse: s-maj=49.7km s-min=12.7km az=100.0*
*NEIC **22** 10:07:52.6±0.9, 2.51S×139.45E, h30km, mb3.9/1, Error ellipse: s-maj=26.8km s-min=12.7km az=90.0*
ISC 22 10:07:50.1±0.8, 2.46S±0.09×139.4E±0.2, h30km, n10, σ1§02/11, mb3.9/4, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**18.06**	**196**	*e*Pn		**P**	**10 12 00.8**	**0.0**
8.5nm,0.9s
WRA Warramunga Arr 18.07 196 P **P** 10 12 01.2 +0.3
0.4nm,0.3s,baz=17,slow=13,SNR=36
WRA S **S** 10 15 26.3 +7.7
0.1nm,0.3s,baz=18,slow=22,SNR=3.8
FITZ Fitzroy Crossi 20.60 220 P **P** 10 12 28.7 -0.9
3.1nm,0.7s,baz=29,slow=10,SNR=4.2
STKA Stephens Creek 29.33 176 P **P** 10 13 53.3 +0.7
1.1nm,0.6s,mb3.8,baz=5.7,slow=10,SNR=4.4
YHNB Yeheng 32.17 328 P **P** 10 14 19.3 +1.6
KULM Kulim 39.50 281 P **P** 10 15 21.1 +0.9
MKAR Makanchi Array 70.03 322 P **P** 10 18 58.7 -2.6
0.8nm,0.8s,mb3.7,baz=108,slow=9.1,SNR=4.5
BVAR Borovoye Array 79.52 325 P **P** 10 19 55.0 -0.6
1.0nm,0.6s,mb3.9,baz=117,slow=6.6,SNR=5.5
ILAR Eielson Array 85.31 24 P **P** 10 20 24.6 -0.6
1.2nm,0.8s,mb4.0,baz=262,slow=5.1,SNR=13
DLBC Dease Lake 92.37 32 *e*P **P** 10 20 59.5 +0.6

MAN 22 10:39:36.2, 15.11N×120.94E, h65km, mb3.5, ML2.2, MS1.7, 2D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
QVPH	**Quezon City--P**	**0.47**	**166**	⇓*i*P		P	10 39 50.3	+1.9
PCPH	**Palayan**	**0.48**	**19**	⇓*e*P		P	10 39 51.4	+3.0
PCPH				*e*S		S	10 40 00.5	+3.1
POLP	**Polilio Island**	**1.04**	**111**	*e*P		P	10 39 50.6	-4.7
SCZP	**Santa Cruz**	**1.19**	**304**	*e*P		P	10 39 57.7	+0.4
BOAC	**Boac**	**1.86**	**152**	*e*P		P	10 40 09.5	+3.0
PVCP	**Virac**	**3.46**	**115**	*e*P		P	10 40 29.1	+0.2

*NEIC **22** 11:15:16.2, 35.02S×70.52W, h15km, ML2.6(GUC), After GUC.*
GUC 22 11:15:16.2±0.6, 35.02S×70.52W, h15km±3km, MD3.5, ML2.6, 2C-4D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**0.57**	**315⇑**	*i*P		Pb	11 15 27.0	-0.4
SFDO				*i* S		Sb	11 15 35.4	+0.3
CICH	**Cipreses**	**0.70**	**7**	⇓*i*P		Pb	11 15 29.1	-0.5
CICH				*i* S		Sb	11 15 39.3	+0.5
CACH	**El Canelo**	**0.90**	**356**	*i* P		Pb	11 15 32.9	-0.2
CHCH	**Chadas Angostu**	**1.09**	**354**	⇓*i*P		Pb	11 15 36.4	+0.1
CHCH				*i* S		Sb	11 15 51.1	+1.1
LNV	**Longovilo**	**1.29**	**325**	⇓*i*P		Pb	11 15 39.3	-0.3
LNV				*i* S		Sb	11 15 57.0	+1.1
PCH	**Pirque**	**1.40**	**0**	⇑*i*P		Pn	11 15 41.5	+0.2
TACH	**Talagante**	**1.41**	**346**	⇓*i*P		Pn	11 15 41.6	+0.2
TACH				*i* S		Sb	11 16 00.8	+1.6
RCDM	**Rinconada Maip**	**1.55**	**351**	*e*P		Pn	11 15 44.2	+0.8
RCDM				*i* S		Sb	11 16 05.3	+2.1
RCDM				AMP			11 16 09.9	
comp=E,157nm,0.1s
FCH Farellones 1.70 6 *e*P Pn 11 15 47.0 +1.4
FCH *i* S Sn 11 16 10.6 +3.4
FCH AMP 11 16 20.6
comp=N,80nm,0.2s
LCCH Las Cruces 1.77 330 *i* S Sn 11 16 11.2 +2.2
ROCH El Roble 2.08 349 *e*P Pn 11 15 53.3 +2.2
JACH Jahuel 2.33 358 *e*P Pn 11 15 58.2 +3.5
JACH *i* S Sn 11 16 29.3 +6.1

*IDC **22** 11:55:39.3±11.0, 13.65N×90.43W, mb3.4/2, mb1 3.7/3, mb1mx3.6/18, mbtmp3.3/3, ML3.8/1, Error ellipse: s-maj=368.3km s-min=122.4km az=29.0*
*CASC **22** 11:55:45.8±5.0, 13.53N×91.16W, h7km±79km, MD4.0*
ISC 22 11:55:45.2±3.7, 13.5N±0.4×91.3W±0.1, h33km, n12, σ1§36/6, mb3.5/2, 2C-1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**1.06**	**52**	⇓*e*P		**P**	**11 56 03.7**	**-0.1**
IXG				*e*S		**S**	**11 56 17.0**	**-0.6**
RTR	**El Retiro**	**1.67**	**77**	*e*P		Px	11 56 37.3	
RTR				*e*S		Sx	11 56 57.4	
SBLS	**San Blas**	**1.68**	**79**	*e*P		Px	11 56 37.3	
SBLS				*e*S		Sx	11 56 59.4	
RBDL	**Robledal**	**1.69**	**69⇑**	*e*P		Px	11 56 37.3	
RBDL				*e*S		Sx	11 56 58.8	
SNJE	**San Jose**	**1.70**	**78⇑**	*e*P		Px	11 56 37.7	
SNJE				*e*S		Sx	11 57 03.4	
BOQS	**Boqueron**	**1.99**	**83**	*e*P		Px	11 56 42.9	
BOQS				*e*S		Sx	11 57 06.0	
LFRS	**El Faro**	**2.19**	**87**	*e*P		Px	11 56 45.8	
LFRS				*e*S		Sx	11 57 12.0	
MRL	**Marmol**	**2.21**	**45**	*e*P		**P**	**11 56 21.4**	**+1.3**
LCBS	**La Ceiba**	**2.28**	**86**	*e*P		Px	11 56 46.4	
LCBS				*e*S		Sx	11 57 13.7	
TXAR	**Lajitas Array**	**19.47**	**326**	P		**P**	**12 00 12.0**	**-0.1**
0.1nm,0.3s,baz=146,slow=11,SNR=7.0
NVAR Mina Array Bea 34.47 321 P **P** 12 02 33.0 +1.0
0.5nm,0.8s,mb3.5,baz=122,slow=8.5,SNR=4.4
ILAR Eielson Array 63.55 337 P **P** 12 06 12.8 -1.6
0.4nm,0.9s,mb3.4,baz=112,slow=4.4,SNR=4.3

*BJI **22** 12:02:05.6, 41.50N×12.50E, h10km, mB4.8, mb4.6, Ms4.7, Msz4.3*
*PRU **22** 12:02:06.0, 41.26N×12.57E, M4.8*
*MDD **22** 12:02:07.2±4.1, 42.14N×12.86E, h61km±73km, mb4.7/24, Error ellipse: s-maj=39.2km s-min=31.1km az=53.0*
*ROM **22** 12:02:08.9±0.2, 41.44N×12.50E, h30km, Md4.0/3, Ml4.7/30, Error ellipse: s-maj=3.5km s-min=1.9km az=135.0*
*CRAAG **22** 12:02:08.6, 41.47N×12.53E, Mb4.1*
*HRVD **22** 12:02:08.6±0.7, 41.37N×12.40E, h17km±2km, MW4.8/45, Centroid moment Tensor Solution. LP body waves: s4,c4; Mantle waves: s45,c67; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.31±.13; Mθθ-1.18±.13; Mφφ0.87±.11; Mrθ0.46±.30; Mθφ1.36±.09; Mφr-0.06±.27; Best double couple: Mo1.758×10^16 NP1:ϕs342°, δ77°, λ-177°. NP2: ϕs251°, δ87°, λ-13°. Principal axes: T 1.573, Plg7°, Azm297°; N .374, Plg77°, Azm60°; P -1.943, Plg11°, Azm206°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*CSEM **22** 12:02:08.8, 41.49N×12.52E, h10km, mb4.6*
*MOS **22** 12:02:08.0±0.9, 41.49N×12.32E, h10km, mb4.9/26, Error ellipse: s-maj=3.6km s-min=2.2km az=100.8*
*NEIC **22** 12:02:08.6, 41.47N×12.53E, h10km, mb4.8/35, MS4.3/1, MD4.3(PDG), ML4.5(LDG), ML4.4(STR), After CSEM.*
NEIC Felt [IV] at Rome. Felt at Anzio, Fiumicino, Latina and Nettuno.
*LDG **22** 12:02:09.3±0.1, 41.50N×12.60E, h10km, Ml4.5/14, ms3.5/6, Error ellipse: s-maj=3.0km s-min=2.0km az=26.0*
*PDG **22** 12:02:09.7±1.0, 41.47N×12.54E, h17km±1km*
*IDC **22** 12:02:13.4±4.3, 41.61N×12.36E, h26km±28km, mb4.3/13, mb1 4.5/21, mb1mx4.3/29, mbtmp4.4/21, ML4.2/9, MS4.0/26, Ms1 3.9/26, ms1mx3.9/33, Error ellipse: s-maj=16.9km s-min=13.1km az=58.0*
*THE **22** 12:02:15.1, 41.63N×13.12E, h6km, ML4.5*
*STR **22** 12:02:17.4±1.1, 41.48N×11.70E, h30km±1km, Ml4.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 22 12:02:08.1±0.1, 41.40N±0.01×12.35E±0.01, h16km, h16km±4.5km: pP-P, n586, σ1§26/648, mb4.7/62, MS4.0/29, 36C-33D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
LAV9	**Lanuvio**	**0.38**	**43**	⇓*i*Pg		**Pb**	**12 02 16.5**	**+0.5**
ROM9	**Roma**	**0.45**	**16**	⇑*i*Pg		**Pb**	**12 02 18.0**	**+0.9**
ROM9				Sg		**Sb**	**12 02 25.3**	**+2.0**
176μm,0.5s
MTCE Montecelio 0.69 25 ⇓*e*Pg **Pb** 12 02 21.6 +0.3
MTCE Sg **Sb** 12 02 32.3 +2.0
32μm,0.6s
MTCE Montecelio 0.69 25 P **Pb** 12 02 20.7 -0.6
GIUL Giuliano Di Ro 0.70 76 ⇑*e*Pg **Pb** 12 02 20.6 -0.8
GIUL Sg **Sb** 12 02 30.4 -0.1
59μm,0.7s
TOLF Tolfa 0.72 338 ⇑*e*Pg **Pb** 12 02 23.1 +1.4
TOLF Sg **Sb** 12 02 35.7 +4.6
87μm,0.6s
TOLF Tolfa 0.72 338 P **Pb** 12 02 23.0 +1.3
CERT Cerreto 0.72 40 ⇓*e*Pg **Pb** 12 02 21.6 -0.3
62μm,0.5s
CERT Cerreto 0.72 40 P **Pb** 12 02 21.5 -0.4
PTQR Pietraquaria 1.00 51 ⇓*i*Pg **Pb** 12 02 26.0 -0.6
PTQR Pietraquaria 1.00 51 P **Pb** 12 02 25.9 -0.7
VENT Ventotene 1.01 126 Pg **Pb** 12 02 26.8 +0.1
14μm,0.4s
MNS Montasola 1.02 14 ⇓*i*Pg **Pb** 12 02 27.6 +0.7
MNS Sg **Sb** 12 02 44.0 +4.2
20μm,0.9s
MNS Montasola 1.02 14 P **Pb** 12 02 27.3 +0.4
FIAM Fiamignano 1.04 33 Pg **Pb** 12 02 27.1 -0.2
41μm,0.6s
FIAM Fiamignano 1.04 33 P **Pb** 12 02 27.0 -0.3
VVLD Villa Vallelon 1.06 63 ⇓*e*Pg **Pb** 12 02 26.8 -0.8
VVLD Sg **Sb** 12 02 42.2 +1.1
78μm,0.7s
SDI San Donato 1.14 74 Pg **Pb** 12 02 28.8 -0.1
84nm,0.2s
SDI San Donato 1.14 74 P **Pb** 12 02 28.4 -0.5
RFI Roccamonfina 1.23 94 ⇓*e*Pg **Pb** 12 02 29.8 -0.8
AQU L'Aquila 1.24 39 Pg **Pb** 12 02 31.1 +0.5
AQU L'Aquila 1.24 39 ⇓*e*P **Pb** 12 02 29.9 -0.7
MSC Monte Massico 1.24 99 ⇑*e*Pg **Pb** 12 02 29.5 -1.1
FAGN Fagnano 1.27 46 Pg **Pb** 12 02 30.7 -0.4
36μm,0.6s
LNSS Leonessa 1.31 23 ⇓*e*Pg **Pb** 12 02 31.9 +0.1
29μm,1.0s
INTR Introdacqua 1.31 62 Pg **Pn** 12 02 31.1 -0.8
46μm,0.8s
INTR Introdacqua 1.31 62 P **Pn** 12 02 30.8 -1.1
RNI2 Rionero Sannit 1.39 77 Pg **Pn** 12 02 33.3 +0.3
50μm,1.0s
RNI2 Rionero Sannit 1.39 77 P **Pn** 12 02 32.4 -0.6
RNI2 Rionero Sannit 1.39 77 Pg **Pn** 12 02 33.3 +0.3
50μm,1.0s
VAGA Valle Agricola 1.42 89 ⇓*e*Pg **Pn** 12 02 33.3 -0.1
MIDA Miranda 1.45 80 ⇑*e*Pg **Pn** 12 02 33.4 -0.5
15μm,0.9s
MIDA Miranda 1.45 80 P **Pn** 12 02 33.5 -0.4
IPOZ Pozzuoli 1.46 113 Pg **Pn** 12 02 33.3 -0.7
SACS San Casciano d 1.49 347 Pg **Pn** 12 02 35.3 +0.9
6μm,0.7s
CII Carovilli 1.50 77 *e*P **Pn** 12 02 34.9 +0.3
CII Carovilli 1.50 77 Pg **Pn** 12 02 35.6 +1.0
SGG Gregorio Mates 1.52 90 ⇑*e*Pg **Pn** 12 02 34.9 -0.1
11μm,0.7s
TERO Teramo 1.54 37 ⇓*e*Pg **Pn** 12 02 36.0 +0.8
12μm,0.6s
TERO Teramo 1.54 37 P **Pn** 12 02 35.7 +0.5
TERO Teramo 1.54 37 ⇓*e*Pg **Pn** 12 02 36.0 +0.8
12μm,0.6s
NRCA Norcia 1.54 21 ⇓*i*Pg **Pn** 12 02 35.7 +0.5
NRCA Norcia 1.54 21 P **Pn** 12 02 35.6 +0.4
ARCI Arcidosso 1.59 336 Pg **Pn** 12 02 37.3 +1.4
9μm,1.4s
OVO Vesuviano 1.65 110 Pg **Pn** 12 02 37.0 +0.3
TRIV Trivento 1.69 77 ⇓*e*Pg **Pn** 12 02 38.3 +1.0
BSSO Busso 1.69 84 Pg **Pn** 12 02 37.9 +0.6
34μm,1.5s
ISOR Termini 1.71 118 ⇑*e*Pg **Pn** 12 02 36.3 -1.3
SACR S. Croce Del S 1.77 89 ⇑*e*Pg **Pn** 12 02 38.5 0.0
14μm,1.3s
FRES Fresagrandinar 1.83 71 ⇓*e*Pg **Pn** 12 02 40.1 +0.8
9μm,0.9s
PSB1 Pescosannita 1.86 95 Pg **Pn** 12 02 39.6 -0.1
10μm,1.0s
MURB Monte Urbino 1.87 4 Pg **Pn** 12 02 40.5 +0.6
16μm,0.5s
MURB Monte Urbino 1.87 4 P **Pn** 12 02 40.6 +0.7
IPES Pescosannita 1.88 94 ⇑*e*Pg **Pn** 12 02 39.6 -0.4
GRFL Gerfalco 2.02 330 ⇑*i*Pg **Pn** 12 02 43.1 +1.0
1μm,0.7s
GRFL Gerfalco 2.02 330 P **Pn** 12 02 43.0 +0.9
CING Cingoli 2.07 17 Pg **Pn** 12 02 43.8 +1.0
7μm,1.0s
CSSN Cassano Irpino 2.09 104 Pg **Pn** 12 02 41.7 -1.3
BADI Badiali 2.11 358 Pg **Pn** 12 02 45.4 +2.0
7μm,1.3s
BADI Badiali 2.11 358 P **Pn** 12 02 44.6 +1.2
BADI Badiali 2.11 358 Pg **Pn** 12 02 45.4 +2.0
7μm,1.3s
ARV Arcevia 2.14 12 Pg **Pn** 12 02 45.0 +1.2
FG2 Serracapriola 2.15 78 Pg **Pn** 12 02 44.5 +0.7
CAFE Carife 2.21 99 Pg **Pn** 12 02 44.3 -0.4
7μm,1.4s
SNAL S. Angelo Dei 2.21 101 Pg **Pn** 12 02 44.1 -0.6
12μm,1.4s
MCRV Calabrutti - M 2.21 105 Pg **Pn** 12 02 43.6 -1.2
4μm,1.4s
CSNT Castellina Chi 2.22 340 Pg **Pn** 12 02 46.0 +1.1
2μm,1.9s
CRE Caprese Michel 2.24 353 Pg **Pn** 12 02 46.5 +1.3
CRE Caprese Michel 2.24 353 P **Pn** 12 02 46.3 +1.1
FSSB Fossombrone 2.31 8 P **Pn** 12 02 47.2 +0.9
DGI Dorgali Grotta 2.34 244 Pg **Pn** 12 02 46.5 -0.2
SGO Sicignano 2.39 110 Pg **Pn** 12 02 46.1 -1.2
805nm,1.1s
FG4 Candela 2.40 95 P **Pn** 12 02 47.3 -0.2
MRLC Muro Lucano 2.46 104 Pg **Pn** 12 02 47.4 -0.9
PGD Poggio Sodo 2.52 350 P **Pn** 12 02 50.4 +1.2
SFI Santa Sofia 2.53 352 P **Pn** 12 02 50.1 +0.7
VMG Vicchio 2.63 347 P **Pn** 12 02 52.5 +1.7
SLCN Sala Consilina 2.68 111 P **Pn** 12 02 51.4 -0.1
PII Pisa 2.69 330 P **Pn** 12 02 52.6 +1.0
GROG Isola di Gorgo 2.73 319 Pn **Pn** 12 02 52.7 +0.6
2μm,0.8s
PGF Pioggiola 2.75 296 *e*Pn **Pn** 12 02 53.2 +0.7
PGF *e*Sn **Sn** 12 03 27.4 +1.7
1000nm,0.5s
SEI Scarperia 2.75 345 P **Pn** 12 02 54.1 +1.5
MAIM 2.87 332 P **Pn** 12 02 55.4 +1.3
VSL Villasalto 2.96 231 ⇓ **Pn** 12 02 55.4 -0.1
CDT Castel del Mon 2.97 95 *e*Pn **Pn** 12 02 55.0 -0.7
CUC Castrocucco 2.98 117 P **Pn** 12 02 55.7 -0.1
VLC Villacollemand 3.12 333 ⇑*i*Pn **Pn** 12 02 59.1 +1.4
VLC Villacollemand 3.12 333 ⇑*i*Pn **Pn** 12 02 59.1 +1.4
SARO Sassorosso 3.13 333 P **Pn** 12 02 59.3 +1.4
SARO Sassorosso 3.13 333 P **Pn** 12 02 59.3 +1.4
VINC Vinca 3.19 330 P **Pn** 12 03 00.0 +1.3
VINC Vinca 3.19 330 P **Pn** 12 03 00.0 +1.4
GSCL Gusciola 3.22 337 P **Pn** 12 03 01.0 +1.8
VALM 3.33 333 P **Pn** 12 03 02.3 +1.6
VALM 3.33 333 P **Pn** 12 03 02.3 +1.5
BACM 3.33 331 P **Pn** 12 03 02.0 +1.3
BACM 3.33 331 P **Pn** 12 03 02.0 +1.3
ERC Erice 3.36 177 Pg **Pn** 12 03 03.2 +2.0
2μm,1.2s
ERC Erice 3.36 177 P **Pn** 12 03 03.3 +2.1
LVI Isola Levanzo 3.41 180 Pg **Pn** 12 03 04.0 +2.2
BAI Bari 3.42 93 *e*Pn **Pn** 12 03 01.2 -0.9
LTRZ Laterza 3.47 102 P **Pn** 12 03 01.9 -0.8
CODM 3.51 329 P **Pn** 12 03 04.5 +1.2
CODM 3.51 329 P **Pn** 12 03 04.5 +1.2
GRAM 3.52 332 P **Pn** 12 03 05.2 +1.8
GRAM 3.52 332 P **Pn** 12 03 05.2 +1.8
NVLJ Novalja 3.66 29 *i* Pn **Pn** 12 03 04.9 -0.6
NVLJ *i* Sn **Sn** 12 03 46.8 -2.0
CLTB Caltabellotta 3.87 170 P **Pn** 12 03 10.5 +2.1
PE1 Pezze di Greco 3.88 97 *e*Pn **Pn** 12 03 07.1 -1.4
TIP Timpagrande 4.03 122 *e*Pn **Pn** 12 03 10.8 +0.1
TIP Timpagrande 4.03 122 *e*Pn **Pn** 12 03 10.8 +0.1
GRI Girifalco 4.04 128 P **Pn** 12 03 12.4 +1.6
SCLL Scilla 4.07 139 P **Pn** 12 03 13.2 +2.0
IMI Imperia 4.14 309 P **Pn** 12 03 11.2 -1.0
IMI Imperia 4.14 309 P **Pn** 12 03 11.2 -1.0
FIN Finale Ligure 4.15 314 P **Pn** 12 03 12.0 -0.3
PCP Pian Castagno 4.21 320 P **Pn** 12 03 13.4 +0.2
PCP Pian Castagno 4.21 320 P **Pn** 12 03 13.4 +0.3
NEGI Negi 4.21 307 P **Pn** 12 03 11.9 -1.4
NEGI Negi 4.21 307 P **Pn** 12 03 11.9 -1.4
VAE Valguarnera 4.23 157 Pn **Pn** 12 03 16.5 +3.0
7.0nm,0.3s,baz=275,slow=8.1,SNR=10
MTTG Motta San Giov 4.26 142 P **Pn** 12 03 15.4 +1.5
MONE Monesi 4.32 310 P **Pn** 12 03 14.4 -0.4
MONE Monesi 4.32 310 P **Pn** 12 03 14.4 -0.4
REVF Revere 4.36 304 P **Pn** 12 03 15.1 -0.3
SAOF Saorge 4.38 308 P **Pn** 12 03 15.3 -0.4
KNDS Knezji Dol 4.38 19 *e*Pn **Pn** 12 03 14.8 -0.9
SBF Sospel 4.38 306 *e*Pn **Pn** 12 03 14.9 -0.8
SBF *e*Sn **Sn** 12 04 02.6 -4.5
271nm,0.5s
ROB Roburent 4.39 313 P **Pn** 12 03 15.4 -0.3
ROB Roburent 4.39 313 P **Pn** 12 03 15.4 -0.3
SAL Salo 4.41 343 P **Pn** 12 03 17.5 +1.4
AUTN L'Aution 4.46 307 P **Pn** 12 03 16.6 -0.2
MVIF Mont Vial 4.58 305 P **Pn** 12 03 18.0 -0.4
TOUF Mont Tournerai 4.58 306 P **Pn** 12 03 18.3 -0.2
CEY Cerknica 4.59 18 *i* Pn **Pn** 12 03 17.9 -0.7
ENR Entracque 4.60 310 P **Pn** 12 03 18.4 -0.4
ENR Entracque 4.60 310 P **Pn** 12 03 18.4 -0.4
CAE Caneva 4.61 1 ⇓*e*P **Pn** 12 03 20.0 +1.1
BOJS Bojanci 4.62 26 *e*Pn **Pn** 12 03 18.8 -0.2
TREB Trebinje 4.66 72 Pn **Pn** 12 03 19.0 -0.6
TREB Sn **Sn** 12 04 10.8 -3.1
STV2 Anna di Valdie 4.67 309 P **Pn** 12 03 19.2 -0.5
STV2 Anna di Valdie 4.67 309 P **Pn** 12 03 19.2 -0.5
STV Sta Anna Valdi 4.67 309 P **Pn** 12 03 19.8 +0.1
STV Sta Anna Valdi 4.67 309 P **Pn** 12 03 19.8 +0.1
CALN Calern 4.67 302 P **Pn** 12 03 19.2 -0.6
CTI Castel Tesino 4.68 354 P **Pn** 12 03 20.2 +0.3
AGST Augusta-Monte 4.70 151 P **Pn** 12 03 21.5 +1.4
HCY Herceg Novi 4.70 75 ⇓*i*Pn **Pn** 12 03 19.3 -0.9
HCY *e*Sn **Sn** 12 04 11.4 -3.6
HCY Herceg Novi 4.70 75 ⇓*i*Pn **Pn** 12 03 19.3 -0.9
HCY *e*Sn **Sn** 12 04 11.4 -3.7
SSY Sortino 4.73 153 P **Pn** 12 03 22.8 +2.1
FRF La Foret Royal 4.74 299 *e*Pn **Pn** 12 03 19.4 -1.4
FRF *e*Sn **Sn** 12 04 12.4 -3.6
153nm,0.6s
LMR La Mourre 4.74 296 *e*Pn **Pn** 12 03 19.3 -1.5
LMR *e*Sn **Sn** 12 04 12.8 -3.3
378nm,0.5s
VISS Visnje 4.76 21 *e*Pn **Pn** 12 03 20.4 -0.6
VOY Vojsko 4.76 13 *e*Pn **Pn** 12 03 19.5 -1.6
VOY *e* 12 03 27.5
VOY *e* 12 03 42.4
PZI Palazzolo 4.78 154 P **Pn** 12 03 23.4 +2.1
BRY Bratogost 4.84 70 ⇓*i*Pn **Pn** 12 03 21.0 -1.2
BRY *e*Sn **Sn** 12 04 15.2 -3.3
BRY Bratogost 4.84 70 ⇓*i*Pn **Pn** 12 03 21.0 -1.2
BRY *e*Sn **Sn** 12 04 15.2 -3.4
BLY Banja Luka 4.87 45 Sn **Sn** 12 04 15.0 -4.3
LJU Ljubljana 4.90 18 *e*Pn **Pn** 12 03 23.4 +0.3
ROBS Robic 4.92 9 *i* Pn **Pn** 12 03 21.8 -1.5
BUM Brajici-Budva 4.97 77 ⇓*i*Pn **Pn** 12 03 23.0 -1.1
BUM *e*Sn **Sn** 12 04 18.2 -3.6
BHB Bricherasio 5.07 314 P **Pn** 12 03 25.1 -0.3
BHB Bricherasio 5.07 314 P **Pn** 12 03 25.1 -0.3
SURF Saint Ours 5.10 309 P **Pn** 12 03 26.9 +1.0
NKY Niksic 5.14 72 ⇓*i*Pn **Pn** 12 03 25.0 -1.4
NKY *e*Sn **Sn** 12 04 21.9 -4.2
APPI Appiano 5.14 351 P **Pn** 12 03 27.1 +0.7
UPM Unac-Piva 5.19 67 *e*Pn **Pn** 12 03 26.5 -0.6
UPM *e*Sn **Sn** 12 04 23.6 -3.6
ULC Ulcinj 5.20 81 *e*Pn **Pn** 12 03 25.8 -1.4
ULC *e*Sn **Sn** 12 04 23.6 -3.8
FVI Forni Avoltri 5.21 3 P **Pn** 12 03 26.7 -0.6
TTG Podgorica 5.26 76 ⇓*i*Pn **Pn** 12 03 27.0 -1.1
TTG *e*Sn **Sn** 12 04 25.1 -3.9
MBDF Montbardon 5.27 311 *e*Pn **Pn** 12 03 28.8 +0.6
MBDF *e*Sn **Sn** 12 04 23.5 -5.9
239nm,0.7s
BRMO Bormio 5.27 345 P **Pn** 12 03 29.8 +1.5
RSP Reno Superiore 5.28 317 P **Pn** 12 03 28.3 -0.1
RSP Reno Superiore 5.28 317 P **Pn** 12 03 28.3 -0.1
ORX Oropa 5.29 325 P **Pn** 12 03 29.7 +1.2
ORX Oropa 5.29 325 P **Pn** 12 03 29.7 +1.1
FENE Fenestrelle 5.30 315 P **Pn** 12 03 28.8 +0.1
FENE Fenestrelle 5.30 315 P **Pn** 12 03 28.8 +0.1
TRAV 5.31 322 P **Pn** 12 03 29.4 +0.7
TRAV 5.31 322 P **Pn** 12 03 29.4 +0.6
OBKA Obir 5.35 16 ⇓*i*PN **Pn** 12 03 28.6 -0.8
OBKA *i* SN **Sn** 12 04 30.2 -1.1
SEST Monte Rota 5.35 359 P **Pn** 12 03 29.4 0.0
RRL Cesana Torines 5.38 313 P **Pn** 12 03 30.5 +0.7
RRL Cesana Torines 5.38 313 P **Pn** 12 03 30.5 +0.6
VDL Val di Lei 5.50 339 ⇑P **Pn** 12 03 33.0 +1.6
TUE Stuetta 5.52 338 P **Pn** 12 03 32.9 +1.2
BNI Bardonecchia 5.52 313 *e*Pn **Pn** 12 03 32.8 +1.0
357nm,0.5s
BNI Bardonecchia 5.52 313 *e*Pn **Pn** 12 03 32.8 +1.0
357nm,0.5s
BNI Bardonecchia 5.52 313 *e*P **Pn** 12 03 32.8 +1.0
BNI pmax pmax
comp=Z,357nm,0.5s
LSD Ceresole Reale 5.55 319 P **Pn** 12 03 32.7 +0.6
LSD Ceresole Reale 5.55 319 P **Pn** 12 03 32.7 +0.6
PLE Pljevlja 5.56 67 ⇓*i*Pn **Pn** 12 03 31.2 -1.1
PLE *e*Sn **Sn** 12 04 32.5 -4.2
SMRF Simiane la Rot 5.62 300 *e*Pn **Pn** 12 03 33.0 -0.2
TIR Tirane 5.65 88 *e*Pn **Pn** 12 03 34.6 +1.0
TIR Tirane 5.65 88 P **Pn** 12 03 34.1 +0.5
DAVOX Davos 5.67 343 Pn **Pn** 12 03 35.8 +2.0
comp=Z,8.4nm,0.3s,baz=157,slow=16,SNR=28
QSH Qafa e Shtames 5.68 86 *i* Pn **Pn** 12 03 35.0 +1.0
QSH *i* Sn **Sn** 12 04 40.0 +0.5
QSH Qafa e Shtames 5.68 86 *e*Pn **Pn** 12 03 35.0 +1.0
KBA Koelnbreinsper 5.72 7 ⇑*i*PN **Pn** 12 03 34.0 -0.6
KBA *i* SN **Sn** 12 04 40.1 -0.6
LPG La Plagne 5.78 317 *e*Pn **Pn** 12 03 36.9 +1.5
IVA Berane 5.80 73 ⇑*i*Pn **Pn** 12 03 34.2 -1

NVSS Sn Sn 12 04 43.8 +0.4
SQTA Sankt Quirin 5.88 352⇑ *i*PN Pn 12 03 37.5 +0.7
SQTA *i* SN Sn 12 04 45.9 +1.3
WTTA Wattenberg 5.89 355⇑ *i*PN Pn 12 03 37.5 +0.6
WTTA *i* SN Sn 12 04 45.1 +0.3
DIX Grande Dixence 5.89 324 ⇓P Pn 12 03 38.6 +1.6
ORIF Oris-en-Rattie 5.90 309 *e*Pn Pn 12 03 38.1 +1.0
ORIF *e*R
comp=Z,2μm,24.0s
KEK Kerkira 5.92 104 *e*P Pn 12 03 37.0 -0.3
GDM Grand'Maison 5.93 312 P Pn 12 03 39.6 +2.1
LLS Linth-Limmern 5.96 337 ⇑P Pn 12 03 39.6 +1.7
WATA Walderalm 5.96 355⇑ *i*PN Pn 12 03 38.2 +0.2
WATA *i* SN Sn 12 04 47.7 +1.0
MOTA Moosalm 6.01 352⇑ *i*PN Pn 12 03 39.4 +0.7
MOTA *i* SN Sn 12 04 49.1 +1.1
LKBD Leukerbad 6.04 327 ⇓P Pn 12 03 40.9 +1.8
OCF Saint Nazaire 6.07 304 P Pn 12 03 39.4 -0.1
OG26 St.-Nazaire-De 6.07 304 P Pn 12 03 39.4 -0.1
CMAH Djebel Manchou 6.12 220 P Pn 12 03 41.5 +1.3
DAVA Damuels 6.15 344⇑ *i*PN Pn 12 03 42.7 +2.1
DAVA *i* SN Sn 12 04 53.3 +2.0
GRN Grenoble 6.16 311 P Pn 12 03 42.3 +1.5
MUO Muotathal 6.17 336 ⇑P Pn 12 03 43.0 +2.0
RHK3 Tenkes 6.20 42 *e*P Pn 12 03 40.8 -0.6
DIVS Divcibare 6.24 62 ⇓ *i*Pn Pn 12 03 40.9 -1.0
DIVS Sn Sn 12 04 48.5 -5.1
ARSA Arzberg 6.28 20⇑ *i*PN Pn 12 03 41.2 -1.2
ARSA *i* SN Sn 12 04 51.9 -2.7
CAEH 'Ain El Ouahch 6.29 225 P Pn 12 03 42.0 -0.6
ABSA Djebel Ababsia 6.38 218 P Pn 12 03 45.0 +1.2
WILA Wila 6.50 339 ⇑P Pn 12 03 46.3 +0.7
MOA Molln 6.59 11 ⇓ *i*PN Pn 12 03 45.7 -1.2
MOA *i* SN Sn 12 04 59.7 -2.8
VIVF Saint-Julien-l 6.60 304 *e*Pn Pn 12 03 45.7 -1.2
VIVF *e*Sn Sn 12 04 58.0 -4.5
comp=Z,33nm,0.3s
PKSM Moragy 6.62 41 P Pn 12 03 45.1 -2.2
CKFL Kef-Lekhel 6.65 223 P Pn 12 03 48.5 +0.8
JAN Janina 6.70 102 *e*P Pn 12 03 48.5 0.0
LASF Ste Croix 6.80 296 *e*Pn Pn 12 03 47.4 -2.5
LASF *e*Sn Sn 12 05 02.6 -5.1
comp=Z,79nm,0.6s
SKO Skopje 6.83 82 *i* P Pn 12 03 52.4 +2.2
SKO *i* 12 03 57.8
SKO *i* 12 04 29.5
SULZ Sulz-Cheisache 6.84 335 ⇓P Pn 12 03 50.9 +0.6
BEO Belgrade 6.84 57⇑ *i*Pn Pn 12 03 45.8 -4.6
FNA Florina 6.84 92 *e*Pn Pn 12 03 49.4 -1.0
comp=Z,2.0nm,0.5s
FNA *e*Sn Sn 12 05 02.6 -6.1
CASM Ain Smara 6.87 224 P Pn 12 03 43.0 -7.8
CABF La Chapelle 6.89 321 *e*Pn Pn 12 03 52.4 +1.3
BBS Basel-Blauen 6.99 332 P Pn 12 03 52.6 +0.2
VLS Valsamata 7.11 114 *e*P Pn 12 03 52.1 -2.1
PKS8 Sarbogard 7.12 38⇑ *e*P Pn 12 03 53.7 -0.6
EJON La Jonquera 7.14 282 P Pn 12 03 50.8 -3.8
comp=Z,19nm,0.6s,SNR=15
EJON S Sn 12 05 10.5 -5.5
comp=Z,15nm,0.4s,SNR=5.9
SJAF Saint Jean de 7.14 282 P Pn 12 03 50.8 -3.8
SJAF S Sn 12 05 10.7 -5.6
LOMF Lomont 7.15 328 P Pn 12 03 55.2 +0.5
FELD Feldberg 7.18 336 P Pn 12 03 54.9 -0.2
BARS Barje 7.19 75⇑ *i*Pn Pn 12 03 50.2 -5.0
FILF Fillols 7.39 282 P Pn 12 03 55.8 -2.3
VKA Vienna 7.42 21⇑ *i*PN Pn 12 03 56.9 -1.6
VKA *i* 12 05 15.0
VKA *i* 12 05 17.7
VKA Vienna 7.42 21⇑ *i*P Pn 12 03 56.9 -1.6
VKA *i* 12 05 17.7
ETOS Mallorca 7.44 260 P Pn 12 03 59.0 +0.2
comp=Z,221nm,0.4s,SNR=181
ETOS S Sn 12 05 15.8 -7.8
comp=Z,87nm,0.5s,SNR=5.2
ETOS Mallorca 7.44 260 P Pn 12 03 59.0 +0.2
comp=Z,221nm,0.4s,SNR=181
MOF Molkenrain 7.45 332 P Pn 12 03 58.7 -0.2
LRDF Laroque-de-Fa 7.45 285 P Pn 12 03 55.5 -3.4
BFO Black Forest 7.50 339 *e*P Pn 12 03 59.0 -0.6
GEC2 GERESS Array S 7.51 7 *e*P Pn 12 03 59.1 -0.6
GERES GERESS Array B 7.51 7 Pn Pn 12 03 57.9 -1.8
comp=Z,3.2nm,0.3s,baz=180,slow=13,SNR=19
GERES Sn Sn 12 05 18.5 -6.8
comp=Z,3.5nm,0.3s,baz=180,slow=20,SNR=3.0
GERES LR LR 12 07 30.6
comp=Z,804nm,21.3s,baz=190,slow=44
SET Setif 7.51 229 P Pn 12 04 06.0 +6.3
HINF Hinterlalfeld 7.52 330 *e*Pn Pn 12 03 59.8 -0.1
HINF *e*Sn Sn 12 05 22.4 -3.3
comp=Z,111nm,1.1s
COLF Collangettes 7.52 306 P Pn 12 03 58.7 -1.3
CKHR Kef el Ahmar 7.58 227 P Pn 12 03 55.0 -5.7
ZST Bratislava 7.59 25 *i* PN Pn 12 04 00.0 -0.9
GRG Griva 7.59 90 *e*Pn Pn 12 03 59.4 -1.6
SRO1 Iza 7.62 31 *i* PN Pn 12 04 00.7 -0.6
EVR Evrytania 7.65 106 *e*P Pn 12 04 02.5 +0.2
LBL Lubilhac 7.67 303 P Pn 12 04 02.1 +0.2
STU Stuttgart 7.70 344 *e*Pn Pn 12 03 59.8 -2.7
STU Stuttgart 7.70 344 *e*Pn Pn 12 03 59.8 -2.6
CARF Carcanieres 7.74 283 P Pn 12 04 00.1 -2.9
ECH Echery 7.75 333 P Pn 12 04 03.0 -0.1
MTLF Montolieu 7.75 288 *e*Pn Pn 12 03 59.8 -3.3
MTLF *e*Sn Sn 12 05 26.0 -5.4
comp=Z,52nm,0.5s
WET Wettzell 7.75 3 *e*P Pn 12 04 01.3 -1.9
VALF Valcebollere 7.78 281 P Pn 12 04 00.4 -3.1
KHC Kasperske Hory 7.78 6 *e*PN Pn 12 04 02.0 -1.5
KHC x x 12 04 09.5
KHC *e*PG Pn 12 04 33.0 +29
KHC SN Sn 12 05 22.5 -10
KHC x x 12 05 39.5
KHC AMS AMS 12 07 50.0
comp=Z,2μm,11.1s
KHC Kasperske Hory 7.78 6 *e*P Pn 12 04 02.0 -1.5
KHC Sn Sn 12 05 22.5 -10
KHC Kasperske Hory 7.78 6 *e*Pn Pn 12 04 02.0 -1.5
KHC *e* 12 04 33.0
KHC Sn Sn 12 05 22.5 -10
KHC *e* 12 05 39.5
KHC Kasperske Hory 7.78 6 *e*P Pn 12 04 02.0 -1.5
KHC *e* 12 05 39.5
PLDF La Plantade 7.80 309 P Pn 12 04 04.6 +0.7
ZAPS Zavoj/Pirot 7.84 73⇑ *i*Pn Pn 12 04 02.4 -1.9
ZAPS Sn Sn 12 05 23.6 -10
WLS Welschbruch 7.86 335 P Pn 12 04 03.9 -0.7
HAU Haudompre 7.87 329 *e*Pn Pn 12 04 04.5 -0.3
HAU *e*Sn Sn 12 05 26.3 -8.0
comp=Z,67nm,0.7s
HAU *e*R
comp=Z,968nm,17.2s
CDF Champ du Feu 7.88 335 *e*Pn Pn 12 04 04.3 -0.7
CDF *e*Sn Sn 12 05 22.3 -12
comp=Z,86nm,0.8s
LPEF Le Peyrat 7.91 285 P Pn 12 04 01.9 -3.5
LPEF S Sn 12 05 32.7 -2.7
KNT Kendrikon 7.95 88 *e*Pn Pn 12 04 04.4 -1.4
KNT *e*Sn Sn 12 05 30.0 -6.3
AGG Agios Georgios 8.00 104 *e*Pn Pn 12 04 07.0 +0.4
comp=Z,3.0nm,0.5s
AGG Agios Georgios 8.00 104 *e*Pn Pn 12 04 06.9 +0.4
comp=Z,3.0nm,0.5s
KKB Krupnik 8.05 83 P P 12 04 08.0 +0.7
PYM Petit Puy Mans 8.06 306 P P 12 04 07.9 +0.5
SMF Signal de Mont 8.07 313 *e*Pn P 12 04 07.1 -0.4
EMIR Miracle 8.12 277 P P 12 04 06.1 -2.3
comp=Z,60nm,0.4s,SNR=21
EMIR S Sn 12 05 35.1 -5.7
comp=Z,62nm,0.4s,SNR=5.4
EMIR Miracle 8.12 277 P P 12 04 06.1 -2.2
comp=Z,60nm,0.4s,SNR=21
AGO Saint Agoulin 8.14 308 P P 12 04 09.1 +0.6
FRNF Fournols 8.17 302 P P 12 04 08.1 -0.8
VTS Vitosha 8.17 78 P P 12 04 07.5 -1.5
VTS Vitosha 8.17 78 P P 12 04 09.8 +0.8
VTS Vitosha 8.17 78 P P 12 04 09.8 +0.7
KRUC Moravsky 8.18 19 P P 12 04 08.3 -0.8
THEF They Montfort 8.19 329 P P 12 04 09.1 -0.1
TREC Trest 8.20 15 AMS AMS 12 08 20.0
comp=Z,4μm,8.9s
LANF Langenberg 8.23 339 P P 12 04 09.9 +0.1
CAF Calviac 8.30 299 *e*Pn P 12 04 08.7 -2.1

GRA1 Grafenberg Arr 8.33 355 *e*P P 12 04 08.7 -2.5
GRF Grafenberg Arr 8.33 355 *e*P P 12 04 08.7 -2.5
JAVC Velka Javorina 8.35 25 P P 12 04 10.8 -0.7
KOLL Kolacno 8.36 29 P P 12 04 11.3 -0.3
VERF Verneugheol 8.38 305 P P 12 04 11.1 -0.8
SALF Salau 8.41 283 P P 12 04 10.7 -1.7
AVF Avril sur Loir 8.42 313 *e*Pn P 12 04 11.8 -0.7
PSZ Piszkesteto 8.45 37⇑ *e* P 12 04 11.5 -1.3
PSZ Piszkesteto 8.45 37 *e*Pn P 12 04 11.6 -1.2
PSZ Piszkesteto 8.45 37 *e*Pn P 12 04 11.6 -1.2
VYHS Vyhne 8.45 31 *i* PN P 12 04 12.0 -0.9
VYHS *e* 12 06 40.6
LOR Lormes 8.45 317 *e*Pn P 12 04 12.7 -0.2
LOR *e*Sn Sn 12 05 42.2 -6.7
comp=Z,25nm,0.4s
LOR *e*R
comp=Z,946nm,22.8s
VRAC Vranov 8.45 19 Pn P 12 04 11.3 -1.6
comp=Z,2.1nm,0.3s,baz=194,slow=14,SNR=6.1
SRS Serrai 8.47 88 *e*Pn P 12 04 12.3 -0.9
EPOB Poblet 8.48 273 P P 12 04 11.0 -2.3
comp=Z,38nm,0.4s,SNR=51
EPOB S Sn 12 05 43.9 -5.7
comp=Z,39nm,0.5s,SNR=7.4
EPOB Poblet 8.48 273 P P 12 04 11.0 -2.3
comp=Z,38nm,0.4s,SNR=51
AKET Djebel Ketaf 8.50 234 P P 12 04 17.6 +4.0
MLS Moulis 8.51 284 P P 12 04 10.7 -2.9
MLS S Sn 12 05 43.4 -6.8
SSF Saint Saulge 8.51 315 *e*P P 12 04 13.1 -0.5
XOR Xorichti 8.52 100 *e*Pn P 12 04 13.3 -0.5
MMB Musomiste 8.54 85 P P 12 04 15.0 +0.9
SFTF Sexfontaines 8.56 325 *e*Pn P 12 04 14.3 -0.1
ABA Alger-Bouzarea 8.57 241 P P 12 04 12.7 -1.9
BGF Bois d'Agland 8.58 310 *e*Pn P 12 04 13.8 -0.8
ADJB Djebel Djouab 8.71 236 P P 12 04 16.2 -0.2
RFYF Reffroy 8.71 328 *e*Pn P 12 04 16.6 +0.1
PRU Pruhonice 8.73 9 *e*PN P 12 04 13.8 -2.9
PRU AMS AMS 12 08 30.0
comp=Z,2μm,12.1s
EIBI Ibiza 8.75 258 P P 12 04 17.0 0.0
comp=Z,66nm,0.5s,SNR=15
EIBI S Sn 12 05 50.4 -5.9
comp=Z,102nm,0.5s,SNR=6.1
EIBI Ibiza 8.75 258 P P 12 04 17.0 0.0
comp=Z,66nm,0.5s,SNR=15
MEZF Maizieres J'vi 8.79 326 *e*Pn P 12 04 17.8 +0.3
MEZF *e*P 12 04 18.2
MEZF Maizieres J'vi 8.79 326 *e*P P 12 04 18.2 +0.7
RJF Les Rejaudoux 8.81 300 *e*Pn P 12 04 16.2 -1.6
RJF *e*R
comp=Z,1μm,21.9s
TCF Toulx Ste Croi 8.81 307 *e*Pn P 12 04 17.0 -0.8
NKC Novy Kostel 8.84 0 *e*PN P 12 04 17.3 -0.9
NKC AMS AMS 12 08 20.0
comp=Z,4μm,12.4s
EMHD Djebel Mahouad 8.98 238 P P 12 04 21.0 +0.7
EGRA Graus 9.03 279 P P 12 04 18.6 -2.2
comp=Z,25nm,0.4s,SNR=21
EGRA S Sn 12 06 02.8 -0.4
comp=Z,53nm,0.6s,SNR=4.5
RESF Ens 9.04 283 P P 12 04 20.3 -0.8
EPF Esparros 9.06 284 *e*Sn Sn 12 05 59.6 -4.5
MGER Gerania Oros 9.07 109 *e*P P 12 04 21.5 0.0
ERTA Horta de San J 9.08 271 P P 12 04 18.6 -2.9
comp=Z,23nm,0.5s,SNR=32
ERTA S Sn 12 05 56.4 -8.0
comp=Z,34nm,0.6s,SNR=4.8
AOS Alonnisos 9.09 100 *e*Pn P 12 04 21.1 -0.6
HYF Humbligny 9.10 313 *e*Pn P 12 04 21.6 -0.3
ABH Alteburg 9.12 340 P P 12 04 22.3 +0.1
KECS Kecovo 9.13 36 *i* P 12 04 22.2 -0.1
MORC Moravsky Berou 9.13 22 *e*P P 12 04 21.2 -1.1
MORC Moravsky Berou 9.13 22 *e*P P 12 04 21.2 -1.1
EBIE Bielsa 9.18 282 P P 12 04 21.2 -1.8
comp=Z,22nm,0.6s,SNR=23
EBIE S Sn 12 06 05.3 -1.6
comp=Z,25nm,0.5s,SNR=7.3
EBIE Bielsa 9.18 282 P P 12 04 21.2 -1.7
comp=Z,22nm,0.6s,SNR=23
EBIE S Sn 12 06 05.3 -1.6
comp=Z,25nm,0.5s,SNR=7.3
LFF La Frestale 9.19 297 *e*Pn P 12 04 20.0 -3.2
DRGR 9.20 51 P P 12 04 22.4 -0.8
DRGR 9.20 51 P P 12 04 22.4 -0.8
TNS Taunus Mts 9.24 344 *e*P P 12 04 24.1 +0.4
NSAL Nisos Salamina 9.25 109 *e*P P 12 04 23.5 -0.4
PVCC Panska Ves 9.26 9 AMS AMS 12 08 50.0
comp=Z,2μm,9.5s
MOX Moxa 9.26 357 *i* P P 12 04 22.2 -1.9
MOX L 12 08 30.0
MOX Moxa 9.26 357 *e*P P 12 04 22.2 -1.9
RZN Rozhen 9.28 84 P P 12 04 25.5 +1.2
VIEF Viey 9.28 283 P P 12 04 23.3 -1.1
WLF Walferdange 9.34 334 *e*P P 12 04 24.7 -0.5
WLF Walferdange 9.34 334 *e*P P 12 04 24.7 -0.5
MPAR Parnis Oros 9.34 107 *e*P P 12 04 25.0 -0.2
OKC Ostrava-Krasne 9.36 24 AMS AMS 12 09 00.0
comp=Z,800nm,9.9s
OKC Ostrava-Krasne 9.36 24 P P 12 04 25.3 -0.2
DPC Dobruska-Polom 9.37 16 *e*PN P 12 04 23.9 -1.7
DPC AMS AMS 12 09 00.0
comp=Z,1μm,9.9s
VLI Veliai 9.46 116 *e*P P 12 04 24.5 -2.4
BRG Berggiesshubel 9.54 6 P P 12 04 28.1 +0.2
comp=Z,19nm,1.0s
BRG Berggiesshubel 9.54 6 Pn P 12 04 28.1 +0.2
comp=Z,18nm,1.0s
BRG *i* 12 05 07.3
BRG Sg Sn 12 07 22.4 +67
BRG Berggiesshubel 9.54 6 P P 12 04 28.1 +0.2
BRG pmax pmax
comp=Z,19nm,1.0s
ESAC San Caprasio 9.62 276 P P 12 04 26.9 -2.1
comp=Z,35nm,0.4s,SNR=9.2
ESAC S Sn 12 06 12.1 -5.6
comp=Z,325nm,3.8s,SNR=7.9
ESAC San Caprasio 9.62 276 P P 12 04 26.9 -2.1
comp=Z,35nm,0.4s,SNR=9.2
ETSF Etsaut 9.71 283 *e*Pn P 12 04 29.2 -1.0
ETSF *e*Sn Sn 12 06 15.3 -4.6
comp=Z,50nm,0.6s
FDAF Les Forges d'A 9.71 283 P P 12 04 29.5 -0.7
EMOS Mosqueruela 9.77 268 P P 12 04 29.6 -1.5
comp=Z,56nm,0.5s,SNR=71
EMOS S Sn 12 06 14.6 -6.8
comp=Z,22nm,4.4s,SNR=7.9
EMOS Mosqueruela 9.77 268 P P 12 04 29.6 -1.5
comp=Z,56nm,0.5s,SNR=71
KYTH Kithira 9.77 118 *e*P P 12 04 29.0 -2.1
NIE Niedzica 9.78 32 *e*P P 12 04 31.0 -0.1
EBNR Beni Rached 9.86 242 P P 12 04 43.0 +11
CRVS Cervenica-Dubn 9.88 38 *i* P 12 04 32.4 -0.1
CRVS *e* 12 07 37.9
CLL Collm 9.92 2 *e*PN P 12 04 31.0 -2.1
CLL *i* 12 04 34.7
CLL *e* 12 05 02.0
CLL *e*SN Sn 12 06 11.0 -14
CLL *e* 12 07 12.0
CLL *e*SG Sn 12 07 26.0 +61
CLL *e*L 12 07 44.0
CLL Collm 9.92 2 *e*P P 12 04 31.0 -2.1
CLL *e*Sn Sn 12 06 11.0 -14
CLL Collm 9.92 2 *e*Pn P 12 04 31.0 -2.1
CLL *e*Sn Sn 12 06 11.0 -14
CLL *e*Sg Sn 12 07 26.0 +61
RDO Rodhopi 9.93 87 P P 12 04 33.8 +0.5
EBEN Beniarda 10.01 259 P P 12 04 34.9 +0.5
comp=Z,87nm,0.5s,SNR=79
EBEN S S 12 06 22.5 -5.0
comp=Z,1.7nm,4.8s,SNR=7.9
EBEN Beniarda 10.01 259 P P 12 04 34.9 +0.5
comp=Z,87nm,0.5s,SNR=79
UZH Uzhgorod 10.09 41 *e*P P 12 04 37.0 +1.6
UZH *e*S S 12 06 24.0 -5.2
STHS Stebnicka Huta 10.16 35 *i* PN P 12 04 36.1 -0.3
GIVF Givet 10.17 331 *e*Pn P 12 04 36.4 -0.1
SJPF Ste Jean 10.21 284 *e*Pn P 12 04 35.5 -1.6
SJPF *e*Sn S 12 06 26.9 -5.4
comp=Z,32nm,0.8s
OJC Ojcow 10.23 28 *e*P P 12 04 37.0 -0.4
DOU Dourbes 10.24 331 P P 12 04 37.9 +0.4
KOLS Kolonicke sedl 10.28 40 *i* P 12 04 38.7 +0.7

KOLS *e* 12 08 16.1
ECHE Chera 10.31 264 P P 12 04 38.1 -0.3
comp=Z,19nm,0.5s,SNR=20
ECHE Chera 10.31 264 P P 12 04 38.1 -0.3
ECHE pmax pmax
comp=Z,19nm,0.5s
EANR 'Ain N'Sour 10.34 242 P P 12 04 43.0 +4.1
BAIF Baives 10.36 329 *e*Pn P 12 04 40.1 +1.0
MFF Saint Martin d 10.39 304 *e*Pn P 12 04 39.7 +0.1
EALK Alkurruntz 10.43 285 P P 12 04 36.2 -3.9
comp=Z,15nm,0.5s,SNR=7.1
ETRT Tiaret 10.54 239 P P 12 04 45.0 +3.3
MLR Muntele Rosu 10.70 63 Pn P 12 04 44.5 +0.8
comp=Z,0.3nm,0.3s,baz=140,slow=12,SNR=16
MLR LR LR 12 09 18.0
comp=Z,2μm,18.4s,baz=256,slow=40
MLR Muntele Rosu 10.70 63 P P 12 04 44.4 +0.7
MLR Muntele Rosu 10.70 63 P P 12 04 44.4 +0.6
LCHF La Chataignera 10.80 304 P P 12 04 45.2 +0.1
KWP Kalwaria 10.97 38 *e*P P 12 04 48.8 +1.3
ETOB Tobarra 11.01 260 P P 12 04 48.5 +0.4
comp=Z,49nm,0.6s,SNR=40
ETOB S S 12 06 47.1 -4.8
comp=Z,23nm,0.5s,SNR=4.7
ETOB Tobarra 11.01 260 P P 12 04 48.5 +0.4
comp=Z,49nm,0.6s,SNR=40
EMUR La Murta 11.07 256 P P 12 04 50.9 +2.0
comp=Z,16nm,0.6s,SNR=6.1
EMUR La Murta 11.07 256 P P 12 04 51.5 +2.6
comp=Z,16nm,0.6s
LDF La Druitiere 11.38 313 *e*Pn P 12 04 51.8 -1.3
IDI Anoyia 11.57 118 LR LR 12 10 03.3
comp=Z,286nm,19.1s,baz=177,slow=40
FLN La Foliniere 11.68 313 *e*Pn P 12 04 53.5 -3.6
FLN *e*R
comp=Z,662nm,23.2s
EVIA Vianos 11.72 261 P P 12 04 58.6 +0.9
comp=Z,21nm,0.5s,SNR=12
EVIA Vianos 11.72 261 P P 12 04 58.6 +0.9
EVIA pmax pmax
comp=Z,21nm,0.5s
LVV L'vov 11.73 40 *i* P P 12 04 59.0 +1.2
LVV L'vov 11.73 40⇑ *i*P P 12 04 59.0 +1.2
LVV *e*S S 12 07 11.8 +2.5
LVV MLR MLR
comp=N,500nm,10.0s
LVV MLR MLR
comp=E,1μm,10.0s
LVV MLR MLR
comp=Z,500nm,10.0s
ELAN Lanestosa 11.83 284 P P 12 04 56.3 -3.0
comp=Z,12nm,0.7s,SNR=5.4
EHUE Huescar 12.07 258 P P 12 05 04.3 +1.9
comp=Z,4.5nm,0.3s,SNR=12
EHUE Huescar 12.07 258 P P 12 05 04.3 +1.9
EHUE pmax pmax
comp=Z,5.0nm,0.3s
EQES Quesada 12.43 258 P P 12 05 08.4 +1.2
comp=Z,12nm,0.4s,SNR=20
EQES Quesada 12.43 258 P P 12 05 08.4 +1.2
comp=Z,12nm,0.4s,SNR=20
ESDC Sonseca Array 12.54 267 Pn P 12 05 04.5 -4.2
comp=Z,2.8nm,0.3s,baz=75,slow=13,SNR=48
ESDC Sonseca Array 12.54 267 P P 12 05 07.1 -1.6
comp=Z,8.8nm,0.5s,baz=72,slow=14,SNR=39
ESDC Sonseca Array 12.54 267 P P 12 05 07.1 -1.6
comp=Z,8.8nm,0.5s,SNR=39
ESLA Sonseca Array 12.54 267 *e*P P 12 05 06.9 -1.8
ESLA Sonseca Array 12.54 267 *e*P P 12 05 06.9 -1.8
SGMF Saint Gilles 12.60 308 *e*Pn P 12 05 08.0 -1.5
EBER Berja 12.65 254 P P 12 05 11.6 +1.3
comp=Z,7.8nm,0.5s,SNR=9.7
EBER Berja 12.65 254 P P 12 05 11.6 +1.3
comp=Z,7.8nm,0.5s,SNR=9.7
QUIF Quistinic 12.82 306 *e*Pn P 12 05 10.8 -1.6
EBAN Banos Encina 12.83 261 P P 12 05 11.9 -0.7
comp=Z,194nm,3.2s,SNR=7.9
EBAN Banos Encina 12.83 261 P P 12 05 11.9 -0.7
EBAN pmax pmax
comp=Z,194nm,3.2s
EQUE Quentar 12.93 256 P P 12 05 17.0 +3.1
comp=Z,12nm,2.6s,SNR=7.9
ROSF Rostrenen 13.06 307 *e*Pn P 12 05 13.4 -2.3
KIS Kishinev 13.07 59 *e*P P 12 05 25.0 +9.3
KIS MLR MLR
comp=Z,1μm,13.0s
KIS MLR MLR
comp=N,1μm,10.0s
KIS MLR MLR
comp=E,1μm,13.0s
KIS MLR MLR
comp=Z,600nm,15.0s
EARI Arriondas 13.13 284 P P 12 05 14.2 -2.4
comp=Z,5.9nm,0.6s,SNR=5.9
EARI Arriondas 13.13 284 P P 12 05 14.2 -2.4
comp=Z,5.9nm,0.6s,SNR=5.9
ERON Agron 13.27 256 P P 12 05 19.9 +1.5
comp=Z,4.8nm,0.5s,SNR=6.6
EADA Adamuz 13.41 262 P P 12 05 20.1 -0.2
comp=Z,0.2nm,2.5s,SNR=7.9
EADA Adamuz 13.41 262 P P 12 05 20.1 -0.2
comp=Z,0.2nm,2.5s,SNR=7.9
ELOJ Sierra Loja 13.47 257 P P 12 05 22.9 +1.8
comp=Z,6.4nm,0.7s,SNR=7.1
ELOJ Sierra Loja 13.47 257 P P 12 05 22.9 +1.8
ELOJ pmax pmax
comp=Z,6.0nm,0.7s
ECAB El Cabril 14.07 262 P P 12 05 28.0 -0.9
comp=Z,2.6nm,0.9s,SNR=4.1
ECAB El Cabril 14.07 262 P P 12 05 28.0 -1.0
comp=Z,2.6nm,0.9s
ECAL Calabor 14.28 279 P P 12 05 28.9 -2.8
comp=Z,8.9nm,0.8s,SNR=4.5
PBRG Braganca 14.30 278 *e*P P 12 05 28.3 -3.6
EPON Pontenova 14.55 284 P P 12 05 32.6 -2.6
comp=Z,1.3nm,2.4s,SNR=7.9
SUW Suwalki 14.55 26 *e*P P 12 05 35.1 0.0
SUW Suwalki 14.55 26 *e*Pn P 12 05 35.0 -0.1
AKASG Malin Array Be 14.93 46 Pn P 12 05 40.0 -0.1
comp=Z,1.8nm,0.3s,baz=240,slow=12,SNR=7.9
EBAD Badajoz 15.06 266 P P 12 05 40.7 -1.1
comp=Z,2.8nm,0.5s,SNR=5.4
EBAD Badajoz 15.06 266 P P 12 05 40.8 -1.1
comp=Z,2.8nm,0.5s
MTE Manteigas 15.08 273 *e*LQ 12 09 02.5
MTE *e*LR LR 12 10 52.2
SIM Simferopol' 16.26 70 P P 12 06 08.0 +11
SIM MLR MLR
comp=Z,640nm,22.6s
BRTR Keskin Array B 16.26 89 Pn P 12 06 01.9 +4.5
comp=Z,0.4nm,0.3s,baz=280,slow=8.6,SNR=32
EKA Eskdalemuir Ar 17.28 329 Pn P 12 06 12.1 +2.0
comp=Z,0.3nm,0.3s,baz=149,slow=15,SNR=7.2
CSS Prodhromos 17.68 104 *e*P P 12 06 16.5 +1.2
comp=Z,18nm,0.9s
CSS Prodhromos 17.68 104 *e*P P 12 06 16.5 +1.3
comp=Z,18nm,0.9s
ANN Anapa 18.61 71 *e*P P 12 06 35.4 +8.7
ANN pmax pmax
comp=Z,111nm,1.1s
ANN MLR MLR
comp=N,583nm,24.0s
ANN MLR MLR
comp=E,948nm,24.0s
ANN MLR MLR
comp=Z,966nm,24.0s
HFS Hagfors 18.78 2 P P 12 06 28.9 +0.2
comp=Z,0.1nm,0.3s,baz=209,slow=15,SNR=12
HFS LR LR 12 14 40.5
comp=Z,387nm,21.3s,baz=185,slow=40
VSU Vasula 19.36 23 *i* P P 12 06 34.2 -1.3
NB2 NORSAR Subarra 19.68 358 P P 12 06 38.0 -1.2
comp=Z,6.1nm,0.8s,baz=173,slow=9.3
NB2 NORSAR Subarra 19.68 358 P P 12 06 38.0 -1.2
NB2 pmax pmax
comp=Z,6.0nm,0.8s
NOA NORSAR Array B 19.68 358 P P 12 06 39.2 0.0
comp=Z,1.0nm,0.3s,baz=176,slow=11,SNR=21
NOA LR LR 12 15 15.0
comp=Z,437nm,18.5s,baz=180,slow=40
NOA NORSAR Array B 19.68 358 P P 12 06 39.2 0.0
NOA LR LR 12 15 15.0
KSDI Kefar Szold 20.23 106 P P 12 06 47.1 +1.9
MALT Malatya 20.23 90 *e*P P 12 06 47.1 +1.9
comp=Z,17nm,1.2s
MALT Malatya 20.23 90 *e*P P 12 06 47.1 +1.9

MALT				pmax	pmax		
	comp=Z,17nm,1.2s						
SOC	**Sochi**	**20.27**	**75**	*e*P	**P**	**12 06 49.2**	**+3.6**
SOC				*e*		12 07 02.6	
SOC				*e*SS	SS	12 10 57.1	+0.6
SOC				pmax	pmax		
	comp=Z,83nm,1.3s						
SOC				pmax	pmax		
	comp=N,34nm,1.0s						
SOC				pmax	pmax		
	comp=E,62nm,1.1s						
SOC				MLR	MLR		
	comp=N,439nm,21.0s,MS3.9						
SOC				MLR	MLR		
	comp=Z,353nm,21.0s,MS3.7						
SOC				MLR	MLR		
	comp=E,403nm,22.0s,MS3.9						
VRSR	**Storozhevoye**	**20.87**	**53**	*e*P	**P**	**12 06 50.2**	**-1.6**
	comp=E,30nm,1.1s						
VRSR	**Storozhevoye**	**20.87**	**53**	*e*P	**P**	**12 06 50.2**	**-1.6**
VRSR				pmax	pmax		
	comp=Z,30nm,0.7s						
VRSR				pmax	pmax		
	comp=N,30nm,1.1s						
VRSR				pmax	pmax		
	comp=E,30nm,0.6s						
OBN	**Obninsk**	**21.03**	**41**	*i* P	**P**	**12 06 52.2**	**-1.1**
	comp=E,160nm,2.5s,mb4.9						
OBN	**Obninsk**	**21.03**	**41**	α *i*P	**P**	**12 06 52.2**	**-1.1**
OBN				*e*		12 06 56.8	
OBN				*e*		12 07 16.9	
OBN				*e*		12 10 46.7	
OBN				pmax	pmax		
	comp=Z,160nm,2.5s,mb4.9						
OBN				MLR	MLR		
	comp=Z,300nm,9.0s						
VOR	**Voronezh**	**21.04**	**51**	*e*P	**P**	**12 06 53.5**	**0.0**
VOR				pmax	pmax		
	comp=N,70nm,1.4s						
VOR				pmax	pmax		
	comp=E,360nm,1.4s						
VOR				pmax	pmax		
	comp=Z,180nm,1.4s,mb5.2						
ASF	**Jabal al Asfar**	**21.65**	**107**	P	**P**	**12 07 03.1**	**+3.3**
	comp=Z,3.4nm,0.6s,mb4.0,baz=178,slow=9.4,SNR=4.7						
FINES	**FINESS Array B**	**21.73**	**18**	P	**P**	**12 07 00.3**	**-0.1**
	comp=Z,26nm,0.8s,mb4.7,baz=180,slow=11,SNR=35						
FINES				LR	LR	12 16 38.4	
	comp=Z,414nm,18.5s,MS3.9,baz=204,slow=40						
MOS	**Moscow**	**21.86**	**40**	*e*P	**P**	**12 07 00.2**	**-1.6**
MOS				*e*		12 07 27.6	
MOS				*e*S	**S**	**12 11 00.1**	**+2.4**
MOS				pmax	pmax		
	comp=Z,300nm,1.6s,mb5.5						
MOS				pmax	pmax		
	comp=Z,235nm,1.3s,mb5.5						
ALWS	**Ilw as Safayha**	**22.03**	**116**	P	**P**	**12 07 08.3**	**+4.6**
JMOS	**Jabal al Moall**	**22.15**	**116**	P	**P**	**12 07 09.5**	**+4.7**
VRHR	**Novokhopersk**	**22.31**	**54**	*e*P	**P**	**12 07 08.8**	**+2.5**
VRHR				pmax	pmax		
	comp=Z,90nm,0.8s,mb5.2						
VRHR				pmax	pmax		
	comp=N,30nm,1.4s						
VRHR				pmax	pmax		
	comp=E,30nm,0.6s						
VRHR				MLR	MLR		
	comp=Z,590nm,19.0s,MS4.0						
KAF	**Kangasniemi**	**22.37**	**17**	*e*p	**P**	**12 07 06.1**	**-0.7**
	comp=Z,27nm,0.9s,mb4.7,baz=207,slow=11						
KAF	**Kangasniemi**	**22.37**	**17**	*e*P	**P**	**12 07 06.1**	**-0.7**
KAF				pmax	pmax		
	comp=Z,27nm,0.9s,mb4.7						
QURS	**Qurayyt al Mil**	**22.38**	**109**	P	**P**	**12 07 13.5**	**+6.4**
KIV	**Kislovodsk**	**22.39**	**73**	P	**P**	**12 07 07.3**	**+0.3**
	comp=Z,44nm,1.2s,mb4.8						
KIV	**Kislovodsk**	**22.39**	**73**	P	**P**	**12 07 07.3**	**+0.2**
KIV				pmax	pmax		
	comp=Z,44nm,1.2s,mb4.8						
TAYS	**Tayyib Ism**	**22.39**	**118**	P	**P**	**12 07 11.9**	**+4.7**
GOF	**Gofitskoye**	**22.58**	**70** ‖ *i*P		**P**	**12 07 12.5**	**+3.6**
GOF				pmax	pmax		
	comp=Z,40nm,1.3s,mb4.7						
BDAS	**Al Bad'**	**22.62**	**118**	P	**P**	**12 07 14.2**	**+4.7**
ZEI	**Tsey**	**23.39**	**76**	*e*P	**P**	**12 07 18.4**	**+1.6**
ZEI				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.3						
TBKS	**Tabuk**	**23.73**	**116**	P	**P**	**12 07 27.4**	**+7.1**
JOF	**Joensuu**	**24.30**	**21**	*e*p	**P**	**12 07 26.1**	**+0.6**
	comp=Z,23nm,1.1s,mb4.5						
GNI	**Garni**	**24.49**	**82**	*e*P	**P**	**12 07 28.7**	**+1.2**
	comp=Z,40nm,1.2s,mb4.7						
GNI	**Garni**	**24.49**	**82**	*e*P	**P**	**12 07 28.7**	**+1.1**
GNI				pmax	pmax		
	comp=Z,40nm,1.2s						
ARCES	**ARCESS Array B**	**29.03**	**9**	P	**P**	**12 08 09.1**	**-0.1**
	comp=Z,2.6nm,0.5s,mb4.2,baz=181,slow=7.9,SNR=19						
ARCES				PcP	PcP	12 11 16.8	-0.9
	comp=Z,1.9nm,0.8s,baz=180,slow=2.4,SNR=3.7						
ARCES				LR	LR	12 19 38.0	
	comp=Z,237nm,19.0s,MS3.8,baz=36,slow=36						
ARE0	**ARCESS Array S**	**29.03**	**9**	*e*P	**P**	**12 08 09.5**	**+0.4**
KEV	**Kevo**	**29.43**	**10**	*e*p	**P**	**12 08 15.1**	**+2.4**
	comp=Z,11nm,1.1s,mb4.5						
KEV	**Kevo**	**29.43**	**10**	*e*P	**P**	**12 08 15.1**	**+2.4**
KEV				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.5						
ARU	**Arti**	**33.18**	**47**	*e*P	**P**	**12 08 39.2**	**-6.6**
	comp=Z,50nm,1.0s,mb5.4						
ARU	**Arti**	**33.18**	**47** ‖ *i*P		**P**	**12 08 44.9**	**-0.9**
ARU				*e*		12 09 52.9	
ARU				*e*PPP	PPP	12 10 06.7	-6.7
ARU				*e*		12 11 24.2	
ARU				*e*S	**S**	**12 14 04.3**	**+0.7**
ARU				*e*SS	SS	12 16 04.4	-0.6
ARU				*e*SSS	SSS	12 16 26.6	-2.7
ARU				*e*		12 19 05.2	
ARU				pmax	pmax		
	comp=Z,45nm,0.9s,mb5.4						
DBIC	**Dimbokro**	**37.83**	**209**	LR	LR	12 25 29.7	
	comp=Z,142nm,21.9s,MS3.7,baz=360,slow=37						
BRVK	**Borovoye**	**39.97**	**53**	*e*P	**P**	**12 09 44.1**	**+0.8**
	comp=Z,14nm,1.1s,mb4.6						
BRVK	**Borovoye**	**39.97**	**53**	*e*P	**P**	**12 09 44.1**	**+0.8**
BRVK				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.6						
ATD	**Arta Tunnel**	**39.99**	**129**	LR	LR	12 27 39.5	
	comp=Z,34nm,19.7s,MS3.2,baz=311,slow=38						
BVAR	**Borovoye Array**	**40.04**	**53**	P	**P**	**12 09 44.8**	**+0.9**
	comp=Z,6.0nm,0.9s,mb4.3,baz=256,slow=6.1,SNR=22						
MBAR	**Mbarara**	**45.01**	**154**	*i* P	**P**	**12 10 29.4**	**+4.6**
AAK	**Ala-Archa**	**45.25**	**67**	*e*P	**P**	**12 10 28.9**	**+2.5**
	comp=Z,8.0nm,0.8s,mb4.6						
AAK	**Ala-Archa**	**45.25**	**67**	*i* P	**P**	**12 10 28.3**	**+1.9**
AAK				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.7						
FRU	**Bishkek**	**45.27**	**66**	*e*P	**P**	**12 10 28.0**	**+1.5**
FRU				pmax	pmax		
	comp=Z,50nm,1.0s,mb5.3						
KURK	**Kurchatov**	**45.49**	**55**	*e*P	**P**	**12 10 30.1**	**+2.0**
	comp=Z,16nm,1.0s,mb4.8						
KURK	**Kurchatov**	**45.49**	**55**	*e*P	**P**	**12 10 30.1**	**+2.0**
KURK				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.8						
NVS	**Novosibirsk**	**47.16**	**48**	*e*P	**P**	**12 10 42.4**	**+1.1**
NVS				*e*		12 12 33.1	
NVS				pmax	pmax		
	comp=N,8.0nm,1.4s						
NVS				pmax	pmax		
	comp=E,15nm,1.4s						
NVS				pmax	pmax		
	comp=Z,28nm,1.4s,mb5.0						
KMBO	**Kilima Mbogo**	**47.98**	**145**	LR	LR	12 33 02.2	
	comp=Z,60nm,19.4s,MS3.6,baz=90,slow=38						
ZAL	**Zalesovo**	**48.28**	**49**	P	**P**	**12 10 50.0**	**0.0**
	comp=Z,10nm,0.2s,mb5.4,baz=83,slow=10,SNR=11						
ZAL				LR	LR	12 34 02.7	
	comp=Z,347nm,19.7s,MS4.3,baz=348,slow=40						
MKAR	**Makanchi Array**	**49.01**	**59**	P	**P**	**12 10 55.7**	**0.0**
	comp=Z,11nm,0.7s,mb5.0,baz=286,slow=6.2,SNR=23						
MKAR				LR	LR	12 36 57.6	
	comp=Z,96nm,18.0s,MS3.8,baz=302,slow=43						
MKAR	**Makanchi Array**	**49.01**	**59**	P	**P**	**12 10 55.7**	**0.0**
MKAR				LR	LR	12 36 57.6	
SCHQ	**Schefferville**	**51.76**	**314**	P	**P**	**12 11 16.4**	**-0.2**
	comp=Z,5.5nm,0.6s,mb4.7,baz=88,slow=5.8,SNR=9.5						
SCHQ				LR	LR	12 30 32.5	
	comp=Z,141nm,21.4s,MS4.0,baz=107,slow=33						
WMQ	**Urumqi**	**53.68**	**60**	P	**P**	**12 11 31.0**	**-0.1**
WMQ				XP	sP	12 11 38.0	+0.2
WMQ				PP	PP	12 13 33.0	-0.6
WMQ				S	**S**	**12 19 03.0**	**+0.4**
WMQ				SS	SS	12 22 42.0	-0.9
WMQ				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,21nm,7.0s						
WMQ				LR	LR		
	comp=N,512nm,20.0s,MS4.7						
WMQ				LR	LR		
	comp=E,419nm,20.0s,MS4.7						
WMQ				LR	LR		
	comp=Z,98nm,18.0s,MS3.9						
KOLN	**Koldanda**	**58.69**	**79**	*e*P	**P**	**12 12 06.5**	**-0.8**
	comp=Z,17nm,0.8s,mb5.1						
GKN	**Gorkha**	**59.33**	**78**	*e*P	**P**	**12 12 11.8**	**+0.1**
	comp=Z,22nm,0.9s,mb5.2						
DMN	**Daman**	**59.89**	**78**	*e*P	**P**	**12 12 16.2**	**+0.6**
	comp=Z,17nm,0.8s,mb5.1						
KKN	**Kakani**	**59.92**	**78**	*e*P	**P**	**12 12 17.0**	**+1.2**
	comp=Z,12nm,0.7s,mb5.0						
KKN	**Kakani**	**59.92**	**78**	*e*P	**P**	**12 12 17.0**	**+1.2**
KKN				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
ZAK	**Zakamensk**	**60.12**	**48**	*e*P	**P**	**12 12 16.8**	**0.0**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.3s,mb3.7						
PKI	**Pulchoki**	**60.14**	**78**	*e*P	**P**	**12 12 17.6**	**+0.3**
	comp=Z,24nm,1.0s,mb5.2						
PKI	**Pulchoki**	**60.14**	**78**	*e*P	**P**	**12 12 17.6**	**+0.3**
PKI				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.9						
BOD	**Bodaibo**	**61.63**	**37**	*e*P	**P**	**12 12 27.1**	**+0.1**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.5						
SONM	**Songino Array**	**63.19**	**49**	P	**P**	**12 12 37.3**	**-0.2**
	comp=Z,5.4nm,1.0s,mb4.6,baz=296,slow=8.5,SNR=22						
SONM				LR	LR	12 42 25.1	
	comp=Z,250nm,21.8s,MS4.3,baz=95,slow=38						
SONM	**Songino Array**	**63.19**	**49**	P	**P**	**12 12 37.3**	**-0.2**
SONM				LR	LR	12 42 25.1	
MATP	**Matopo**	**63.30**	**163**	LR	LR	12 39 36.1	
	comp=Z,99nm,20.8s,MS4.0,baz=169,slow=35						
GTA	**Gaotai**	**63.74**	**60**	*e*P	**P**	**12 12 42.3**	**+1.1**
GTA				AP	pP	12 12 46.1	-0.1
GTA				XP	sP	12 12 48.9	+1.0
GTA				S	**S**	**12 21 17.3**	**+3.7**
GTA				XS		12 21 23.8	
GTA				SS	SS	12 25 24.6	+1.3
GTA				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.4						
GTA				AMB	AMB		
	comp=Z,51nm,3.9s						
GTA				LR	LR		
	comp=N,239nm,20.2s,MS4.5						
GTA				LR	LR		
	comp=E,216nm,16.3s,MS4.5						
GTA				LR	LR		
	comp=Z,120nm,16.1s,MS4.2						
YAK	**Yakutsk**	**65.28**	**27**	*i* P	**P**	**12 12 49.3**	**-1.5**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb5.0						
INK	**Inuvik**	**67.67**	**347**	P	**P**	**12 13 06.0**	**+0.1**
	comp=Z,14nm,1.4s,mb4.8						
INK	**Inuvik**	**67.67**	**347**	P	**P**	**12 13 06.1**	**+0.2**
INK				pmax	pmax		
	comp=Z,14nm,1.4s						
YKA	**Yellowknife Ar**	**68.07**	**336**	P	**P**	**12 13 09.9**	**+1.4**
	comp=Z,4.4nm,0.7s,mb4.6,baz=43,slow=6.1,SNR=10						
YKA				LR	LR	12 43 15.2	
	comp=Z,136nm,19.3s,MS4.2,baz=60,slow=36						
YKA	**Yellowknife Ar**	**68.07**	**336**	P	**P**	**12 13 09.9**	**+1.4**
YKA				LR	LR	12 43 15.2	
FWV	**Forest Hill**	**68.46**	**301**	*e*P	**P**	**12 13 12.3**	**+0.9**
BILL	**Billibino**	**69.13**	**10**	*i* P	**P**	**12 13 14.0**	**-1.0**
BILL				pmax	pmax		
	comp=Z,16nm,2.5s,mb4.5						
BILL				MLR	MLR		
	comp=Z,100nm,21.0s,MS4.0						
ULM	**Lac du Bonnet**	**69.27**	**319**	P	**P**	**12 13 16.5**	**+0.4**
	comp=Z,7.7nm,0.9s,mb4.6,baz=44,slow=6.5,SNR=8.8						
ULM				LR	LR	12 41 49.5	
	comp=Z,116nm,20.4s,MS4.1,baz=16,slow=34						
ULM	**Lac du Bonnet**	**69.27**	**319**	*e*P	**P**	**12 13 16.0**	**-0.1**
	comp=Z,14nm,1.1s,mb4.8						
HHC	**Hu-ho-hao-te**	**70.25**	**53**	*e*P	**P**	**12 13 19.8**	**-2.5**
HHC				PP	PP	12 15 56.1	-3.7
HHC				S	S	12 22 28.0	-4.1
HHC				SCS	ScS	12 23 18.3	-2.5
HHC				AMB	AMB		
	comp=Z,16nm,0.6s,mb5.1						
HHC				AMB	AMB		
	comp=Z,61nm,6.3s						
HHC				LR	LR		
	comp=N,221nm,22.6s						
HHC				LR	LR		
	comp=E,175nm,17.2s						
HHC				LR	LR		
	comp=Z,165nm,19.0s,MS4.3						
BOSA	**Boshof**	**70.67**	**168**	LR	LR	12 51 04.9	
	comp=Z,67nm,18.9s,MS3.9,baz=351,slow=41						
SEY	**Seymchan**	**71.22**	**18**	*i* P	**P**	**12 13 26.5**	**-1.3**
IMA	**Indian Mountai**	**72.32**	**354**	*e*P	**P**	**12 13 34.1**	**-0.2**
DAWY	**Dawson**	**72.53**	**347**	*e*P	**P**	**12 13 36.6**	**+1.2**
XAN	**Xi'an**	**72.81**	**60**	P	**P**	**12 13 40.4**	**+2.7**
XAN				AP	pP	12 13 45.8	+3.1
XAN				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb4.6						
ILAR	**Eielson Array**	**72.92**	**351**	P	**P**	**12 13 39.8**	**+2.1**
	comp=Z,1.3nm,0.8s,mb3.9,baz=2.5,slow=5.9,SNR=18						
ILAR				LR	LR	12 46 16.5	
	comp=Z,49nm,18.9s,MS3.8,baz=180,slow=36						
MA2	**Magadan**	**73.70**	**21**	*i* P	**P**	**12 13 41.5**	**-0.9**
MA2				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.2						
KMI	**Kunming**	**74.12**	**70**	P	**P**	**12 13 42.3**	**-3.2**
KMI				PP	PP	12 16 33.3	+0.4
KMI				S	S	12 23 16.4	-0.1
KMI				SS	SS	12 28 00.6	-3.6
KMI				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.4						
KMI				LR	LR		
	comp=N,106nm,18.2s,MS4.2						
KMI				LR	LR		
	comp=E,88nm,21.9s,MS4.2						
KMI				LR	LR		
	comp=Z,142nm,18.2s,MS4.3						
KMI	**Kunming**	**74.12**	**70**	P	**P**	**12 13 42.2**	**-3.3**
	comp=Z,5.0nm,0.9s,mb4.4						
KMI				pP	pP	12 13 46.2	-4.3
KMI				sP	sP	12 13 48.1	-4.2
KMI				PP	PP	12 16 33.3	+0.4
KMI				S	S	12 23 16.4	-0.1
KMI				SS	SS	12 28 00.6	-3.6
KMI				LR	LR		
	comp=Z,140nm,18.2s,MS4.3						
KMI	**Kunming**	**74.12**	**70**	P	**P**	**12 13 42.2**	**-3.3**
KMI				*PP	pP	12 13 46.2	-4.3
KMI				*SP	sP	12 13 48.1	-4.2
KMI						12 16 33.3	
KMI				S	S	12 23 16.4	-0.1
KMI				SS	SS	12 28 00.6	-3.6
KMI				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
KMI				MLR	MLR		
	comp=Z,140nm,18.2s,MS4.3						
CCM	**Cathedral Cave**	**74.65**	**307**	P	**P**	**12 13 45.8**	**-2.5**
	comp=Z,6.4nm,0.7s,mb4.7						
CCM	**Cathedral Cave**	**74.65**	**307**	P	**P**	**12 13 45.8**	**-2.5**
CCM				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
EDM	**Edmonton**	**74.79**	**330**	*e*P	**P**	**12 13 50.5**	**+1.7**
LRAL	**Lakeview Retre**	**75.24**	**301**	*e*P	**P**	**12 13 52.5**	**+0.7**
	comp=Z,5.1nm,0.7s,mb4.6						
CN2	**Changchun**	**76.07**	**43**	*e*P	**P**	**12 13 55.1**	**-1.2**
LAO	**LASA Array**	**76.70**	**322**	*e*P	**P**	**12 14 02.3**	**+2.5**
	comp=Z,7.0nm,0.8s,mb4.6						
KSU1	**Kansas State U**	**77.08**	**311**	*e*P	**P**	**12 14 03.3**	**+1.3**
SDV	**Santo Domingo**	**78.94**	**272**	*e*P	**P**	**12 14 14.7**	**+2.0**
	comp=Z,13nm,1.0s,mb4.8						
BDFB	**Brasilia**	**79.52**	**238**	LR	LR	12 51 03.0	
	comp=Z,69nm,19.0s,MS4.0,baz=289,slow=37						
BOZ	**Bozeman (W)**	**79.95**	**324**	*e*P	**P**	**12 14 20.8**	**+3.2**
	comp=Z,4.0nm,1.0s,mb4.3						
BOZ	**Bozeman (W)**	**79.95**	**324**	*e*P	**P**	**12 14 20.8**	**+3.2**
BOZ				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
PHWY	**Pilot Hill**	**80.29**	**317**	*e*P	**P**	**12 14 22.4**	**+2.9**
NJ2	**Nanjing**	**80.42**	**56**	*e*P	**P**	**12 14 21.1**	**+0.7**
NJ2				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.9						
IMW	**Indian Meadow**	**80.99**	**322**	*e*P	**P**	**12 14 26.6**	**+3.4**
	comp=Z,2.8nm,1.0s,mb4.2						
MCMT	**McKenzie Canyo**	**81.13**	**324**	*e*P	**P**	**12 14 27.2**	**+3.3**
PDAR	**Pinedale Array**	**81.21**	**321**	P	**P**	**12 14 26.0**	**+1.7**
	comp=Z,1.5nm,0.9s,mb3.9,baz=55,slow=6.1,SNR=13						
PDAR				LR	LR	12 48 25.6	
	comp=Z,116nm,19.0s,MS4.3,baz=48,slow=34						
TPAW	**Teton Pass**	**81.31**	**322**	*e*P	**P**	**12 14 28.2**	**+3.4**
	comp=Z,1.6nm,0.7s,mb4.1						
ISCO	**Idaho Springs**	**81.48**	**317**	*e*P	**P**	**12 14 25.9**	**+0.1**
	comp=Z,2.9nm,0.8s,mb4.3						
ISCO	**Idaho Springs**	**81.48**	**317**	*e*P	**P**	**12 14 25.9**	**+0.1**
ISCO				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
RRI2	**Red Ridge**	**81.59**	**322**	*e*P	**P**	**12 14 29.6**	**+3.3**
	comp=Z,15nm,1.6s,mb4.7						
YSS	**Yuzh-Sakhalins**	**81.61**	**32**	*e*P	**P**	**12 14 27.5**	**+1.2**
	comp=Z,18nm,1.0s,mb5.0						
YSS	**Yuzh-Sakhalins**	**81.61**	**32**	*e*P	**P**	**12 14 26.0**	**-0.3**
SSE	**Sheshan**	**82.52**	**55**	*e*P	**P**	**12 14 29.8**	**-1.6**
SSE				AP	pP	12 14 39.9	+3.5
SSE				XP	sP	12 14 43.3	+5.2
SSE				S	S	12 24 44.6	-1.5
SSE				XS		12 25 00.3	
SSE				SS	SS	12 30 11.6	+0.6
SSE				AMB	AMB		
	comp=Z,42nm,3.5s						
SSE				LR	LR		
	comp=N,84nm,20.7s,MS4.3						
SSE				LR	LR		
	comp=E,105nm,20.7s,MS4.3						
SSE	**Sheshan**	**82.52**	**55**	*e*P	**P**	**12 14 29.8**	**-1.6**
	comp=E,48nm,0.7s,mb5.6						
SSE				PcP	PcP	12 14 34.7	-2.4
SSE				pP	pP	12 14 39.9	+3.5
SSE				sP	sP	12 14 43.3	+5.2
SSE				PP	PP	12 17 37.1	-5.7
SSE				S	S	12 24 44.6	-1.5
SSE				sS		12 25 00.3	
SSE				SS	SS	12 30 11.6	+0.6
SSE				LR	LR		
	comp=Z,50nm,25.8s,MS3.8						
SDCO	**Great Sand Dun**	**82.94**	**315**	*e*P	**P**	**12 14 35.9**	**+2.5**
	comp=Z,6.2nm,1.4s,mb4.5						
BMO	**Blue Mountains**	**83.02**	**327**	*e*P	**P**	**12 14 35.5**	**+1.8**
	comp=Z,6.1nm,0.8s,mb4.7						
ASAJ	**Asahikawa**	**83.86**	**34**	LR	LR	12 56 36.3	
	comp=Z,216nm,18.7s,MS4.6,baz=151,slow=39						
ROSC	**El Rosal**	**84.33**	**271**	LR	LR	12 45 56.1	
	comp=Z,79nm,19.8s,MS4.1,baz=167,slow=31						
SRU	**San Rafael**	**84.48**	**319**	*e*P	**P**	**12 14 43.6**	**+2.4**
DUG	**Dugway**	**84.75**	**321**	*e*P	**P**	**12 14 44.9**	**+2.4**
	comp=Z,2.1nm,0.9s,mb4.3						
DUG	**Dugway**	**84.75**	**321**	*e*P	**P**	**12 14 44.9**	**+2.4**
DUG				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
SAML	**Samuel**	**85.19**	**254**	*e*P	**P**	**12 14 46.8**	**+1.5**
	comp=Z,11nm,1.2s,mb4.9						
MSU	**Marysvale**	**85.76**	**320**	*e*P	**P**	**12 14 50.9**	**+3.3**
MJAR	**Matsushiro Arr**	**87.96**	**41**	LR	LR	12 55 42.1	
	comp=Z,118nm,20.1s,MS4.3,baz=240,slow=36						
TXAR	**Lajitas Array**	**88.11**	**308**	P	**P**	**12 15 01.7**	**+2.4**
	comp=Z,1.1nm,0.7s,mb4.2,baz=76,slow=5.2,SNR=9.5						
TXAR				LR	LR	12 54 07.3	
	comp=Z,52nm,20.6s,MS3.9,baz=320,slow=35						
TXAR	**Lajitas Array**	**88.11**	**308**	P	**P**	**12 15 01.7**	**+2.4**
TXAR				LR	LR	12 54 07.3	
CPUP	**Villa Florida**	**93.22**	**237**	LR	LR	13 02 24.4	
	comp=Z,50nm,18.3s,MS4.0,baz=70,slow=39						
WRA	**Warramunga Arr**	**126.75**	**85**	PKP	PKPdf	12 21 14.3	-0.7
	comp=Z,0.6nm,0.8s,baz=330,slow=3.4,SNR=4.7						

IDC ***22*** *12:29:53.1±2.3, 4.88S×103.53E, mb4.2/7, mb1 4.3/7, mb1mx4.0/18, mbtmp4.2/7, Error ellipse: s-maj=112.4km s-min=17.2km az=53.0*

NEIC ***22*** *12:29:57.4±1.6, 4.95S×103.48E, h30km, mb4.3/2, Error ellipse: s-maj=75.4km s-min=10.2km az=52.0*

ISC 22 12:29:55.0±2.2, 5.0S±0.4×103.4E±0.6, h30km, n12, σ0§48/11, mb4.2/9, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**22.59**	**137**	*e*P		12 35 09.2	
FITZ	**Fitzroy Crossi**	**25.35**	**123**	P	**P**	**12 35 21.4**	**+0.1**
	1.6nm,0.4s,mb3.9,baz=342,slow=6.4,SNR=2.9						
WRA	**Warramunga Arr**	**33.57**	**119**	P	**P**	**12 36 34.2**	**-0.7**
	1.1nm,0.7s,mb3.9,baz=300,slow=9.1,SNR=12						
WRAB	**Tennant Creek**	**33.58**	**119**	*e*P	**P**	**12 36 34.5**	**-0.4**
	3.3nm,0.7s,mb4.4						
CTAO	**Charters Tower**	**44.27**	**114**	*e*P	**P**	**12 38 04.3**	**+0.1**
	2.5nm,0.6s,mb4.1						
STKA	**Stephens Creek**	**44.65**	**132**	P	**P**	**12 38 07.9**	**+0.8**
	3.0nm,0.5s,mb4.4,baz=311,slow=8.1,SNR=9.6						
STKA	**Stephens Creek**	**44.65**	**132**	*e*P	**P**	**12 38 08.0**	**+1.0**
SONM	**Songino Array**	**52.63**	**3**	P	**P**	**12 39 09.2**	**+0.6**
	1.1nm,0.6s,mb4.0,baz=181,slow=8.7,SNR=11						
SONM				PcP	PcP	12 40 17.7	-0.7
	1.1nm,0.6s,baz=183,slow=3.5,SNR=6.3						
MKAR	**Makanchi Array**	**54.82**	**342**	P	**P**	**12 39 24.9**	**+0.1**
	1.0nm,0.5s,mb4.1,baz=145,slow=8.5,SNR=13						
ZAL	**Zalesovo**	**60.72**	**347**	P	**P**	**12 40 06.0**	**-0.2**
	3.1nm,0.4s,mb4.8,baz=335,slow=5.3,SNR=8.7						
ZAL	**Zalesovo**	**60.72**	**347**	P	**P**	**12 40 06.0**	**-0.2**
BVAR	**Borovoye Array**	**64.14**	**339**	P	**P

KS15	Wonju Array Si	11.21	271	eP	P	12 48 58.8	-2.7
KS15				eSn	S	12 51 12.2	+6.0
SONM	Songino Array	27.63	302	P	P	12 52 06.7	+0.5
0.8nm,0.7s,mb3.5,baz=105,slow=9.9,SNR=6.5							
ENH	Enshi	27.91	264	eP	P	12 52 07.5	-1.3
7.4nm,0.5s,mb4.6							
ZAL	Zalesovo	41.60	312	P	P	12 54 06.0	+0.3
1.2nm,0.4s,mb3.9,baz=100,slow=7.7,SNR=4.4							
ZAL	Zalesovo	41.60	312	P	P	12 54 06.0	+0.3
MKAR	Makanchi Array	43.99	301	P	P	12 54 26.8	+1.5
0.9nm,0.7s,mb3.6,baz=80,slow=11,SNR=4.3							
MKAR	Makanchi Array	43.99	301	P	P	12 54 26.8	+1.5
ILAR	Eielson Array	48.38	33	P	P	12 55 00.9	+1.2
0.6nm,0.9s,mb3.6,baz=267,slow=6.7,SNR=8.0							
BVAR	Borovoye Array	50.25	312	P	P	12 55 14.1	-0.1
0.6nm,0.6s,mb3.8,baz=63,slow=9.9,SNR=3.8							
WRAB	Tennant Creek	58.12	188	eP	P	12 56 09.8	-2.5
WRAB				e	pP	12 56 24.3	-1.8
WRA	Warramunga Arr	58.13	189	P	P	12 56 11.6	-0.8
0.4nm,0.7s,mb3.6,baz=6.9,slow=6.1,SNR=8.9							
WRA				pP	pP	12 56 24.6	-1.6
1.1nm,0.6s,baz=5.9,slow=7.4,SNR=19							
ARCES	ARCESS Array B	63.22	339	P	P	12 56 46.3	0.0
1.5nm,0.8s,mb4.2,baz=45,slow=6.9,SNR=4.9							
FINES	FINESS Array B	68.14	332	P	P	12 57 18.4	+0.7
1.9nm,0.8s,mb4.2,baz=82,slow=9.8,SNR=4.4							

NEIC ***22*** *12:51:14.5, 15.63N×97.11W, h20km, MD3.7(MEX), After MEX.*

MEX 22 12:51:14.5±0.7, 15.63N×97.11W, h20km±80km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.97	82	i P	Pb	12 51 29.9	-2.6
HUIG				i S	Sb	12 51 41.5	-3.5
VHO	Vista Hermosa	1.48	14	eP	Pn	12 51 36.2	-4.1
VHO				i S	Sn	12 51 54.4	-4.8
OXX	Oaxaca	1.49	14	i P	Pn	12 51 38.0	-2.4
OXX				i S	Sn	12 51 55.0	-4.4
CMIG	Matias Romero	2.58	56	i P	Pn	12 51 53.7	-2.5
CMIG				i S	Sn	12 52 22.9	-4.3

BJI ***22*** *12:51:22.6, 18.30N×65.40W, h120km, mB4.7*
TRN ***22*** *12:51:23.2, 18.30N×65.44W, h117km*
TRN Felt in Caguas and Humaco. FMAG=4.1 (PR).
IDC ***22*** *12:51:23.8±0.5, 18.09N×65.43W, h120km±3km, mb3.7/12, mb1 3.9/13, mb1mx3.7/24, mbtmp4.1/13, MS3.2/2, Ms1 3.2/2, ms1mx2.7/26, Error ellipse: s-maj=15.5km s-min=7.7km az=35.0*
RSPR ***22*** *12:51:24.6, 18.29N×65.41W, h120km±1km, MD4.1/13, MD4.1/13*
NEIC ***22*** *12:51:24.6, 18.29N×65.41W, h120km, mb4.2/11, MD4.1(RSPR), After RSPR.*
NEIC Felt [II] at Arecibo, Caguas, Canovanas, Humacao and San Juan.

ISC 22 12:51:23.5±0.2, 18.15N±0.05×65.49W±0.03, h129km±2km, n60, σ0°84/74, mb4.0/23, 8C-5D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTP	Monte Pirata	0.08	231	⇓iP	P	12 51 41.1	+0.1
MTP				eS	S	12 51 53.4	-1.0
HUMP	Col San Antoni	0.34	270	⇑iP	P	12 51 42.1	+0.4
HUMP				eS	S	12 51 55.3	-0.3
CBYP	Canovanas	0.37	290	⇑iP	P	12 51 41.6	-0.3
CBYP				eS	S	12 51 54.4	-1.5
CPD	Cerro la Pandu	0.42	255	⇑eP	P	12 51 42.9	+0.7
CPD				eS	S	12 51 56.3	0.0
SJG	San Juan	0.63	267	⇓eP	P	12 51 43.6	+0.2
SJG				eS	S	12 51 58.6	+0.1
SJG	San Juan	0.63	267	P	P	12 51 44.0	+0.6
444nm,0.3s,baz=77,slow=6.7,SNR=302							
SJG				S	S	12 51 58.8	+0.3
2um,0.3s,baz=275,slow=18,SNR=38							
CDVI	St. Croix	0.79	119	⇓iP	P	12 51 44.4	-0.2
CDVI				eS	S	12 51 59.7	-0.9
CELP	Cerrillos	1.04	266	⇓iP	P	12 51 47.8	+0.9
PORP	Portuguez	1.09	265	⇑iP	P	12 51 48.2	+0.7
AOPR	Arecibo Observ	1.21	280	⇑iP	P	12 51 48.7	0.0
AOPR				eS	S	12 52 07.5	-0.3
LRS	Lares	1.30	277	⇑iP	P	12 51 49.6	-0.1
LSP	Las Mesas	1.52	271	⇑eP	P	12 51 52.6	+0.5
MGP	Maguayo	1.53	265	⇓iP	P	12 51 52.6	+0.4
CRPR	Cabo Rojo, PR	1.55	265	⇑iP	P	12 51 52.8	+0.3
CRPR				eS	S	12 52 14.6	+0.1
MPR	Mayaguez	1.57	273	⇑eP	P	12 51 53.0	+0.2
MPR				eS	S	12 52 14.2	-0.7
AGPR	Aguadilla, PR	1.57	282	⇑iP	P	12 51 53.0	+0.2
AGPR				eS	S	12 52 14.5	-0.6
SABT	Saba	2.20	103	eP	P	12 52 02.5	+2.1
SABT				eS	S	12 52 30.4	+1.9
STMA	St. Maarten, A	2.27	92	eS	S	12 52 27.8	-2.2
LZG	Guadaloupe-1	4.07	119	eP	P	12 52 25.6	+0.4
LZG				eS	S	12 53 20.3	+7.7
SEG	Port Louis	4.18	114	eP	P	12 52 24.9	-1.8
SEG				eS	S	12 53 15.8	+0.7
PHG	Guadaloupe-2	4.25	119	eP	P	12 52 27.9	+0.3
DOG	Dongo Capester	4.26	119	eP	P	12 52 28.5	+0.8
TBG	Guadaloupe-3	4.33	121	eP	P	12 52 28.4	-0.2
MGG	Marie-Galante	4.56	118	eP	P	12 52 32.8	+0.9
BBL	Barber's Block	4.65	123	eP	P	12 52 33.2	+0.3
FDF	Fort de France	5.37	129	eP	P	12 52 43.0	+0.3
FDF				eS	S	12 53 51.9	+8.1
MVM	Montagne Vaucl	5.67	128	eP	P	12 52 47.7	+1.1
MVM				eS	S	12 53 56.1	+4.9
SDV	Santo Domingo	10.47	209	P	P	12 53 51.7	+0.5
0.6nm,0.3s,baz=45,slow=14,SNR=3.9							
SDV				S	S	12 55 47.5	+0.8
0.3nm,0.3s,baz=351,slow=19,SNR=2.8							
BLA	Blacksburg	23.09	328	P	P	12 56 18.8	+0.2
8.8nm,0.8s,mb4.2							
MYNC	Murphy	23.64	319	eP	P	12 56 25.2	+1.3
10.0nm,0.9s,mb4.3							
LRAL	Lakeview Retre	24.34	312	eP	P	12 56 31.7	+1.0
25nm,0.9s,mb4.7							
SAML	Samuel	27.02	175	eP	P	12 56 54.1	-1.6
1.7nm,0.4s,mb4.0							
SADO	Sadowa	28.90	340	LR	LR	13 08 21.6	
comp=Z,41nm,19.4s,baz=150,slow=35							
CCM	Cathedral Cave	29.99	317	eP	P	12 57 21.4	-0.8
4.8nm,0.7s,mb4.3							
SIV	San Ignacio	34.20	172	P	P	12 57 57.8	-1.0
6.2nm,0.7s,mb4.5,baz=5.9,slow=9.4,SNR=40							
TXAR	Lajitas Array	36.53	295	P	P	12 58 18.7	+0.3
1.3nm,0.6s,mb3.8,baz=114,slow=12,SNR=8.2							
TXAR	Lajitas Array	36.53	295	P	P	12 58 18.7	+0.3
BDFB	Brasilia	37.73	152	P	P	12 58 28.1	-0.5
4.0nm,0.8s,mb4.1,baz=332,slow=11,SNR=4.7							
MNTX	Cornudas Mount	38.40	298	eP	P	12 58 33.8	-0.2
4.7nm,0.6s,mb4.3							
ANMO	Albuquerque	39.98	303	P	P	12 58 48.0	+1.0
2.2nm,0.9s,mb3.8,baz=130,slow=6.8,SNR=4.2							
SDCO	Great Sand Dun	40.00	308	eP	P	12 58 47.2	0.0
7.5nm,0.9s,mb4.3							
ULM	Lac du Bonnet	40.19	330	P	P	12 58 47.6	-0.9
2.4nm,0.9s,mb3.8,baz=120,slow=9.8,SNR=2.9							
LVC	Limon Verde	40.65	185	P	P	12 58 51.2	-1.4
3.7nm,0.6s,mb4.2,baz=20,slow=6.0,SNR=6.0							
SRU	San Rafael	44.17	308	eP	P	12 59 21.5	+0.3
PDAR	Pinedale Array	44.56	313	P	P	12 59 24.6	+0.3
1.5nm,0.8s,mb3.6,baz=107,slow=7.5,SNR=10							
PDAR				PcP	PcP	13 01 04.7	-0.9
0.5nm,0.7s,baz=104,slow=5.3,SNR=4.0							
CPUP	Villa Florida	44.91	170	P	P	12 59 25.4	-1.9
5.0nm,0.8s,mb4.2,baz=14,slow=9.9,SNR=12							
LOHW	Long Hollow	45.56	314	eP	P	12 59 32.0	-0.2
2.3nm,0.8s,mb3.9							
HWUT	Hardware Ranch	45.62	311	eP	P	12 59 32.2	-0.5
4.3nm,1.0s,mb4.0							
QLMT	Earthquake Lak	46.53	315	eP	P	12 59 41.2	+1.4
NEN	Nelson	46.84	302	eP	P	12 59 42.9	+0.5
ELK	Elko	48.08	309	eP	P	12 59 52.0	+0.1
3.9nm,1.0s,mb4.0							
HLID	Hailey	48.18	313	eP	P	12 59 52.4	-0.3
3.2nm,1.1s,mb3.9							
NVAR	Mina Array Bea	49.98	305	P	P	13 00 07.2	+0.6
1.3nm,0.7s,mb3.7,baz=95,slow=7.0,SNR=12							
NVAR	Mina Array Bea	49.98	305	P	P	13 00 07.2	+0.6
YKA	Yellowknife Ar	55.73	335	LR	LR	13 21 47.3	
comp=Z,21nm,18.5s,slow=33							

ESDC	Sonseca Array	56.86	54	P	P	13 00 57.2	+0.1
0.1nm,0.3s,mb3.1,baz=254,slow=6.5,SNR=4.2							
DBIC	Dimbokro	60.07	93	P	P	13 01 18.7	-1.0
1.6nm,0.6s,mb4.0,baz=198,slow=16,SNR=4.7							
DAWY	Dawson	66.80	333	eP	P	13 02 02.3	-0.9
ILAR	Eielson Array	70.08	333	P	P	13 02 22.0	-1.3
0.9nm,0.7s,mb3.6,baz=100,slow=4.3,SNR=17							
WMQ	Urumqi	113.62	21	ePKP	PKPdf	13 09 43.0	-3.6

ISC 22 12:58:32.4±0.8, 37.40N±0.04×34.07E±0.07, h10km, n6, σ1°07/12, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEST	Erdemli	0.82	175	i P	Pb	12 58 47.7	-0.5
MEST				i S	Sb	12 59 00.9	+1.9
ERMK	Ermenek	1.20	231	i P	Pb	12 58 56.2	+1.6
ERMK				i S	Sb	12 59 14.3	+4.3
IKL	Isikli	1.20	195	PG	Pg	12 58 54.9	-1.6
IKL				SG	Sg	12 59 11.6	-0.9
HDMB	Hadim	1.33	251	PG	Pg	12 58 59.1	+0.1
HDMB				SG	Sg	12 59 16.8	-0.1
AVNT	Avonos	1.51	24	i P	Pn	12 58 58.9	-0.7
AVNT				i S	Sb	12 59 19.5	+0.4
KDHN	Kadinhani	1.90	307	i P	Pn	12 58 58.8	-6.5
KDHN				i S	Sn	12 59 24.6	-4.9

NIED ***22*** *12:59:00, 24.10N×122.30E, h38km, Mw4.3 Best double couple: M0=3.38×10^15 NP1:φ=63°, δ=82°, λ=79°. NP2:φ=299°, δ=14°, λ=145°.*
IDC ***22*** *12:59:21.6±1.0, 24.04N×122.25E, mb4.1/10, mb1 4.2/11, mb1mx4.1/19, mbtmp4.1/11, ML3.4/1, MS3.5/6, Ms1 3.5/6, ms1mx3.2/24, Error ellipse: s-maj=28.5km s-min=21.5km az=50.0*
JMA ***22*** *12:59:26.8±0.2, 24.07N×122.35E, h31km, M4.4*
NEIC ***22*** *12:59:26.9±1.1, 24.00N×122.31E, h35km±11km, mb4.3/5, Error ellipse: s-maj=13.6km s-min=9.9km az=189.0*
BJI ***22*** *12:59:32.1, 24.58N×121.96E, h35km, mB4.5, mb4.1, ML4.0, Ms3.8, Msz3.8*

ISC 22 12:59:26.2±0.5, 24.00N±0.05×122.29E±0.02, h44km±5km, n41, σ0°98/52, mb4.1/15, MS3.6/4, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	Ninganchiao	0.66	285	ePn	P	12 59 39.0	-0.1
NACB				eSn	S	12 59 49.7	+1.1
YOJ	Yonaguni jima	0.80	55	P	P	12 59 40.4	-0.7
YOJ				S	S	12 59 50.0	-2.1
YHNB	Yeheng	1.06	309	ePn	P	12 59 45.7	+0.9
YHNB				eSn	S	13 00 02.8	+4.1
TATO	Taipei	1.21	323	ePn	P	12 59 48.2	+1.3
TATO				eSn	S	13 00 02.2	-0.2
IRIF	Iriomote-Funau	1.36	76	P	P	12 59 49.2	+0.1
IRIF				eS	S	13 00 05.9	-0.3
JKRS	Kuro-shima	1.59	81	P	P	12 59 52.6	+0.2
JKRS				eS	S	13 00 12.1	+0.2
JIJ	Ishigaki jima	1.73	78	P	P	12 59 54.0	-0.4
JIJ				eS	S	13 00 15.0	-0.4
JTJ	Tarama	2.29	73	P	P	13 00 02.7	+0.4
JTJ				eS	S	13 00 29.2	-0.3
JMJ	Miyako jima 2	2.86	73	P	P	13 00 10.5	+0.1
JMJ				eS	S	13 00 44.1	+0.3
JOGS	Gusukube	2.94	75	P	P	13 00 12.8	+1.2
JOGS				eS	S	13 00 47.7	+1.7
QZH	Quanzhou	3.50	286	⇑iP	P	13 00 18.8	-0.6
QZH				S	S	13 00 58.0	-2.0
QZH				Smax			
comp=N,310nm,0.9s							
QZH				Smax			
comp=E,240nm,0.6s							
JKE	Kume jima 2	4.69	59	P	P	13 00 36.9	+0.6
JAGN	Aguni-jima	5.17	59	P	P	13 00 41.7	-1.3
JAGN				eS	S	13 01 42.0	-0.2
JIH	Iheya	5.95	58	P	P	13 00 53.6	-0.3
JOW	Kunigami	6.10	61	Pn	P	13 00 53.0	-3.0
comp=E,2.3nm,0.3s,baz=213,slow=13,SNR=12							
JOW				Sn	S	13 02 07.2	+1.7
baz=313,slow=30,SNR=3.2							
JOW	Kunigami	6.10	61	P	P	13 00 52.9	-3.2
CVP	Callao Caves	6.28	184	eP	P	13 00 58.0	-0.6
JTK	Tokunoshima	7.08	56	P	P	13 01 06.0	-3.9
JNU	Nakatsue	11.80	38	LR	LR	13 07 36.0	
comp=E,117nm,18.1s,baz=314,slow=42							
KS15	Wonju Array Si	14.23	18	P	P	13 02 47.7	+0.9
MAJO	Matsushiro	18.55	44	P	P	13 03 39.9	-1.6
MJAR	Matsushiro Arr	18.55	44	LR	LR	13 11 11.4	
comp=E,36nm,19.8s,baz=245,slow=38							
HHC	Hu-ho-hao-te	19.05	334	eP	P	13 03 49.0	+1.6
HHC				AP		13 03 57.4	
HHC				PP	PP	13 04 05.5	+1.0
HHC				S	S	13 07 14.3	-0.4
HHC				PCP	PcP	13 08 13.3	+2.6
HHC				AMB	AMB		
comp=Z,15nm,0.6s							
HHC				AMB	AMB		
comp=Z,103nm,5.8s							
HHC				LR	LR		
comp=N,258nm,14.9s							
HHC				LR	LR		
comp=E,174nm,17.2s							
HHC				LR	LR		
comp=Z,269nm,16.1s							
LZH	Lanzhou	19.96	311	eP	P	13 03 57.5	+0.2
LZH				AP		13 04 03.5	
LZH				XP		13 04 06.0	
LZH				AMB	AMB		
comp=Z,15nm,1.0s							
LZH	Lanzhou	19.96	311	eP	P	13 03 57.5	+0.2
comp=Z,15nm,1.0s							
LZH				pP		13 04 03.5	
LZH				sP		13 04 06.0	
GTA	Gaotai	24.43	314	eP	P	13 04 44.4	+2.5
GTA				AMB	AMB		
comp=Z,5.0nm,0.8s,mb4.0							
ASAJ	Asahikawa	26.05	35	LR	LR	13 15 46.1	
comp=Z,68nm,18.3s,MS3.2,baz=341,slow=38							
SONM	Songino Array	26.93	336	P	P	13 05 04.4	-0.8
comp=Z,12nm,0.8s,mb4.5,baz=148,slow=9.7,SNR=81							
SONM				LR	LR	13 16 55.1	
comp=Z,176nm,18.4s,MS3.7,baz=332,slow=39							
MKAR	Makanchi Array	39.17	316	P	P	13 06 51.5	+0.2
comp=Z,2.0nm,0.5s,mb4.1,baz=100,slow=9.7,SNR=18							
ZAL	Zalesovo	40.95	327	P	P	13 07 04.7	-1.3
comp=Z,4.4nm,0.8s,mb4.1,baz=8.0,slow=8.9,SNR=20							
ZAL				LR	LR	13 26 13.3	
comp=Z,92nm,20.0s,MS3.6,baz=100,slow=39							
KURK	Kurchatov	42.88	320	P	P	13 07 21.6	-0.3
comp=Z,2.2nm,0.6s,mb4.1							
WRAB	Tennant Creek	45.22	164	eP	P	13 07 41.5	+0.3
comp=Z,5.9nm,0.9s,mb4.4							
WRA	Warramunga Arr	45.23	164	P	P	13 07 41.1	-0.1
comp=Z,3.3nm,0.8s,mb4.2,baz=346,slow=8.8,SNR=21							
BRVK	Borovoye	48.52	321	eP	P	13 08 05.5	-1.1
comp=Z,2.5nm,0.8s,mb4.3							
ILAR	Eielson Array	68.91	27	P	P	13 10 28.4	+0.2
comp=Z,0.2nm,0.6s,mb3.2,baz=303,slow=4.5,SNR=4.2							
MALT	Malatya	70.93	304	eP	P	13 10 42.1	+1.2
comp=Z,2.2nm,0.3s,mb4.6							
FINES	FINESS Array B	72.11	330	P	P	13 10 47.4	-0.1
comp=Z,0.7nm,0.7s,mb3.7,baz=56,slow=6.9,SNR=5.9							
FINES				LR	LR	13 45 44.5	
comp=Z,78nm,19.6s,MS4.0,baz=1.5,slow=39							
AKASG	Malin Array Be	73.67	319	P	P	13 10 56.2	-0.7
comp=Z,2.3nm,0.8s,mb4.2,baz=57,slow=6.1,SNR=6.2							
BRTR	Keskin Array B	74.09	307	P	P	13 11 00.3	+0.7
comp=Z,3.9nm,0.9s,mb4.3,baz=112,slow=6.7,SNR=12							
NOA	NORSAR Array B	78.85	332	P	P	13 11 25.3	-0.7
comp=Z,0.9nm,0.7s,mb3.8,baz=62,slow=5.5,SNR=3.4							
GERES	GERESS Array B	83.62	321	P	P	13 11 51.9	+0.8
comp=Z,0.2nm,0.3s,mb3.7,baz=76,slow=5.5,SNR=6.3							

ATH ***22*** *13:17:41.0, 40.91N×24.22E, h62km±11km*
SOF ***22*** *13:17:41.0, 40.88N×24.34E, h11km, MD2.5*
NEIC ***22*** *13:17:41.5, 40.91N×24.22E, h53km, MD3.2(ATH), After ATH.*
CSEM ***22*** *13:17:41.9±0.1, 40.89N×24.26E, h25km, ML2.7, Error ellipse: s-maj=2.0km s-min=1.5km az=158.0*
THE ***22*** *13:17:42.2, 40.87N×24.23E, h15km, ML2.7*

ISC 22 13:17:42.4±0.5, 40.87N±0.03×24.26E±0.04, h25km±8km, n14, σ0°73/23, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRS	Serrai	0.56	296	ePg	Pb	13 17 52.7	-0.9
SRS				eSg	Sb	13 18 00.8	-0.4
NVR	Nevrokopi	0.56	328	eP	Pb	13 17 53.3	-0.3
NVR				eS	Sb	13 18 03.7	+2.4
OUR	Ouranopolis	0.58	202	ePg	Pb	13 17 53.5	-0.3
OUR				eSg	Sb	13 18 01.4	-0.2
SOH	Sokhos	0.69	266	ePg	Pb	13 17 55.2	-0.4
SOH				eSg	Sb	13 18 04.8	0.0
PLG	Polygyros	0.79	232	eP	Pb	13 17 57.3	-0.1
PLG				eS	Sb	13 18 08.2	+0.4
MMB	Musomiste	0.82	331	i Pg	Pb	13 17 57.0	-0.9
RZN	Rozhen	0.89	23	i Pg	Pb	13 17 59.0	0.0
RDO	Rodhopi	1.00	74	eP	Pb	13 18 00.4	-0.6
RDO				eS	Sb	13 18 14.2	+0.4
PAIG	Paliouri	1.04	205	ePg	Pn	13 18 01.1	-0.5
PAIG				eSg	Sb	13 18 16.0	+1.2
KNT	Kendrikon	1.07	286	ePg	Pn	13 18 01.9	-0.1
KNT				eSg	Sb	13 18 16.4	+0.7
KDZ	Kurdzhali	1.17	48	i Pg	Pn	13 18 02.5	-0.9
LIA	Limnos Island	1.20	144	eP	Pn	13 18 03.5	-0.3
KKB	Krupnik	1.33	319	i P	Pn	13 18 06.3	+0.6
ALN	Alexandroupoli	1.35	88	ePg	Pn	13 18 06.0	-0.1
ALN				eSg	Sn	13 18 24.7	+1.3

MEX 22 13:51:41.9±1.1, 17.69N×101.39W, h20km±43km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.11	223	i P	Pb	13 51 44.3	-1.6
ZIIG				i S	Sb	13 51 48.3	-0.3
ACX	Acapulco	1.62	120	eP	Pn	13 52 07.0	-2.8
ACX				i S	Sn	13 52 25.0	-5.3

IDC 22 13:56:09.5±1.0, 37.65N×31.92W, mb4.0/10, mb1 4.3/10, mb1mx4.0/25, mbtmp4.1/10, MS3.8/16, Ms1 3.8/16, ms1mx3.6/28, Error ellipse: s-maj=34.3km s-min=18.7km az=165.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	Sonseca Array	21.89	76	P	P	14 01 05.1	-0.7
4.9nm,0.8s,baz=277,slow=9.2,SNR=17							
SCHQ	Schefferville	29.23	317	LR	LR	14 12 17.9	
comp=Z,329nm,22.0s,baz=285,slow=33							
GERES	GERESS Array B	34.58	56	LR	LR	14 14 49.3	
comp=Z,53nm,18.3s,baz=201,slow=32							
DBIC	Dimbokro	39.44	135	LR	LR	14 18 48.1	
comp=Z,160nm,19.4s,baz=220,slow=34							
FINES	FINESS Array B	42.65	37	LR	LR	14 22 01.1	
comp=Z,56nm,18.4s,baz=324,slow=36							
ARCES	ARCESS Array B	43.97	25	LR	LR	14 18 23.8	
comp=Z,72nm,21.6s,baz=257,slow=30							
AKASG	Malin Array Be	44.52	53	P	P	14 04 22.0	-2.2
1.1nm,0.6s,baz=275,slow=7.8,SNR=6.1							
ULM	Lac du Bonnet	46.37	307	LR	LR	14 24 18.2	
comp=Z,110nm,18.1s,baz=63,slow=36							
YKA	Yellowknife Ar	54.16	325	LR	LR	14 26 46.6	
comp=Z,90nm,18.4s,baz=95,slow=34							
BDFB	Brasilia	55.12	199	LR	LR	14 24 36.8	
comp=Z,92nm,21.6s,baz=122,slow=31							
PDAR	Pinedale Array	57.55	302	P	P	14 06 01.0	-2.0
1.6nm,0.8s,baz=68,slow=8.0,SNR=13							
PDAR				LR	LR	14 29 30.3	
comp=Z,186nm,20.4s,baz=90,slow=35							
TXAR	Lajitas Array	59.10	285	P	P	14 06 12.3	-1.7
2.4nm,0.8s,baz=90,slow=7.5,SNR=15							
TXAR				LR	LR	14 29 11.9	
comp=Z,79nm,18.7s,baz=170,slow=34							
LPAZ	La Paz	63.54	219	P	P	14 06 42.5	-1.6
2.5nm,0.8s,baz=22,slow=11,SNR=10							
LPAZ				LR	LR	14 31 03.3	
comp=Z,35nm,19.3s,baz=100,slow=33							
NVAR	Mina Array Bea	65.43	300	P	P	14 06 53.1	-3.1
0.5nm,0.7s,baz=75,slow=7.0,SNR=4.4							
ILAR	Eielson Array	66.05	335	P	P	14 06 58.6	-1.0
1.3nm,0.9s,baz=33,slow=5.6,SNR=9.8							
ILAR				LR	LR	14 33 17.4	
comp=Z,126nm,18.5s,baz=358,slow=34							
CPUP	Villa Florida	67.97	205	LR	LR	14 34 37.2	
comp=Z,30nm,18.9s,baz=358,slow=34							
ZAL	Zalesovo	73.77	33	P	P	14 07 43.5	-3.4
1.6nm,0.3s,baz=156,slow=8.2,SNR=3.1							
KMBO	Kilima Mbogo	74.31	104	LR	LR	14 41 31.4	
comp=Z,54nm,18.2s,baz=92,slow=37							
MKAR	Makanchi Array	77.39	40	P	P	14 08 05.8	-1.9
1.5nm,0.9s,baz=284,slow=5.0,SNR=3.7							
BOSA	Boshof	84.92	132	LR	LR	14 40 40.7	
comp=Z,86nm,21.6s,baz=137,slow=32							
SONM	Songino Array	87.13	27	P	P	14 08 58.1	0.0
1.5nm,1.0s,baz=324,slow=5.3,SNR=8.2							
SONM				LR	LR	14 48 17.9	
comp=Z,46nm,18.1s,baz=251,slow=36							
VNDA	Vanda	139.58	185	PKP	PKPdf	14 15 36.7	-3.2
0.5nm,0.6s,baz=96,slow=19,SNR=4.4							
WRA	Warramunga Arr	158.69	38	PKPab	PKPab	14 16 44.7	-2.1
1.2nm,0.8s,baz=337,slow=4.3,SNR=9.3							

IDC 22 14:58:53.8±1.0, 5.64S×11.45W, mb4.0/6, mb1 4.1/7, mb1mx3.8/25, mbtmp4.1/7, ML3.3/1, MS4.0/21, Ms1 3.9/21, ms1mx3.9/26, Error ellipse: s-maj=46.3km s-min=20.5km az=121.0, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	Dimbokro	13.89	28	Pn	P	15 02 11.7	-2.9
0.1nm,0.3s,baz=189,slow=16,SNR=6.4

comp=Z,63nm,19.8s,baz=271,slow=37
PDAR Pinedale Array 99.75 312 LR LR 15 53 08.6
comp=Z,66nm,21.3s,baz=69,slow=33

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*MOS **22** 14:59:23.0±1.3,47.28N×151.02E,h179km,mb4.4/4,Error ellipse: s-maj=22.6km s-min=12.6km az=74.0*
*IDC **22** 14:59:26.7±2.7,47.21N×150.89E,h195km±29km, mb3.5/12,mb1 3.6/14,mb1mx3.5/24,mbtmp4.0/14,Error ellipse: s-maj=31.6km s-min=14.8km az=167.0*
*NEIC **22** 14:59:26.8±0.6,47.16N×150.87E,h200km,mb4.3/4,Error ellipse: s-maj=16.1km s-min=9.5km az=148.0*
ISC 22 14:59:23.3±1.1,**47.4N**±0.1×**150.9E**±0.2,**h170**km±10km, **n27**,σ0§**88**/27,**mb4.0**/17,**1C**,**Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.74**	**44**	*e*PN	**P**	**15 00 32.5**	**-2.0**
SKR				*e*S	**S**	**15 01 30.0**	**+0.6**
SKR				pmax	pmax		
	comp=Z,60nm,0.8s						
SKR				smax			
	comp=N,40nm,0.5s						
SKR				smax			
	comp=E,80nm,0.5s						
SKR				smax			
	comp=Z,40nm,0.3s						
ASAJ	**Asahikawa**	**6.68**	**243**	P	**P**	**15 01 01.6**	**+1.6**
	comp=Z,0.5nm,0.3s,baz=55,slow=18,SNR=4.1						
ASAJ	**Asahikawa**	**6.68**	**243**	PN	**P**	**15 01 01.6**	**+1.6**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**14.37**	**225**	P	**P**	**15 02 38.8**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=23,slow=10,SNR=4.7						
BILL	**Bilibino**	**22.12**	**15**	⇑P	**P**	**15 04 09.0**	**+4.0**
BILL				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.1						
ILAR	**Eielson Array**	**36.98**	**39**	P	**P**	**15 06 18.1**	**+0.7**
	comp=Z,0.7nm,0.4s,mb3.6,baz=270,slow=5.8,SNR=4.4						
INK	**Inuvik**	**41.91**	**33**	P	**P**	**15 06 59.0**	**+1.1**
	comp=Z,2.7nm,0.4s,mb4.3,baz=305,slow=6.4,SNR=12						
INK	**Inuvik**	**41.91**	**33**	*e*P	**P**	**15 06 58.9**	**+1.1**
	comp=Z,3.0nm,0.3s,mb4.4						
INK	**Inuvik**	**41.91**	**33**	*e*P	**P**	**15 06 58.9**	**+1.1**
INK				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MKAR	**Makanchi Array**	**45.29**	**296**	P	**P**	**15 07 25.5**	**+0.2**
	comp=Z,0.7nm,0.5s,mb3.5,baz=61,slow=7.1,SNR=12						
MKAR				PcP	PcP	15 09 01.6	-0.9
	comp=Z,0.3nm,0.5s,baz=66,slow=3.8,SNR=4.5						
BVAR	**Borovoye Array**	**49.27**	**308**	P	**P**	**15 07 56.1**	**0.0**
	comp=Z,0.6nm,0.4s,mb3.5,baz=48,slow=8.6,SNR=9.0						
BVAR				PcP	PcP	15 09 15.7	-0.9
	comp=Z,0.4nm,0.3s,baz=117,slow=3.3,SNR=3.7						
YKA	**Yellowknife Ar**	**51.29**	**36**	P	**P**	**15 08 11.6**	**+0.3**
	comp=Z,1.4nm,0.5s,mb3.9,baz=300,slow=6.8,SNR=4.6						
KEV	**Kevo**	**56.20**	**340**	*e*p	**P**	**15 08 46.4**	**-0.7**
	comp=Z,5.2nm,0.9s,mb4.4						
KEV	**Kevo**	**56.20**	**340**	*e*P	**P**	**15 08 46.4**	**-0.7**
KEV				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.3						
ARCES	**ARCESS Array B**	**56.72**	**340**	P	**P**	**15 08 50.6**	**-0.1**
	comp=Z,1.4nm,0.8s,mb3.8,baz=31,slow=7.1,SNR=3.8						
JOF	**Joensuu**	**60.06**	**333**	*e*p	**P**	**15 09 13.7**	**-0.3**
	comp=Z,1.1nm,0.6s,mb3.9						
SUMG	**Summit**	**60.13**	**3**	*e*P	**P**	**15 09 15.6**	**+1.2**
	comp=Z,1.1nm,1.0s,mb4.6						
KAF	**Kangasniemi**	**62.20**	**334**	*e*p	**P**	**15 09 27.1**	**-1.2**
	comp=Z,2.5nm,0.6s,mb4.2,baz=38,slow=6.4						
KAF	**Kangasniemi**	**62.20**	**334**	*e*P	**P**	**15 09 27.1**	**-1.2**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.3						
FINES	**FINESS Array B**	**62.79**	**334**	P	**P**	**15 09 31.3**	**-0.9**
	comp=Z,1.5nm,0.6s,mb4.0,baz=35,slow=8.2,SNR=16						
PDAR	**Pinedale Array**	**65.56**	**53**	P	**P**	**15 09 50.5**	**+0.1**
	comp=Z,0.9nm,0.7s,mb3.7,baz=354,slow=0.5,SNR=6.4						
NOA	**NORSAR Array B**	**67.10**	**340**	P	**P**	**15 09 59.5**	**-0.4**
	comp=Z,1.7nm,0.8s,mb3.9,baz=28,slow=6.6,SNR=3.3						
NOA	**NORSAR Array B**	**67.10**	**340**	P	**P**	**15 09 59.5**	**-0.4**
AKASG	**Malin Array Be**	**70.15**	**325**	P	**P**	**15 10 19.7**	**+1.0**
	comp=Z,0.3nm,0.3s,mb3.5,baz=33,slow=6.3,SNR=4.9						
TXAR	**Lajitas Array**	**78.47**	**59**	P	**P**	**15 11 06.2**	**-0.4**
	comp=Z,0.8nm,0.5s,mb3.6,baz=303,slow=7.0,SNR=6.0						
IDI	**Anoyia**	**84.53**	**318**	P	**P**	**15 11 37.9**	**-0.1**
	comp=Z,4.6nm,0.6s,mb4.4,baz=42,slow=18						
BOSA	**Boshof**	**134.24**	**274**	PKP	PKPdf	15 18 20.7	0.0
	comp=Z,3.0nm,0.7s,baz=49,slow=5.0,SNR=5.4						

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*BJI **22** 15:05:54.9,7.20S×128.20E,h30km,mB5.0,mb5.1,Ms4.5, Msz4.3*
*NEIC **22** 15:05:55.0±0.2,7.19S×128.21E,h30km,mb5.1/21,Error ellipse: s-maj=13.0km s-min=6.9km az=70.0*
*HRVD **22** 15:05:55.0±0.8,7.49S×128.43E,h38km±3km,MW4.8/34, Centroid moment Tensor Solution. LP body waves: s1,c1; Mantle waves: s34,c49; Half duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=0.04±.55; Mθθ 1.28±.30; Mφφ-1.23±.29; Mrθ-0.85±.18; Mrφ0.89±.11; Mθφ0.32±.25; Best double couple: Mo1.787×10^16^ NP1:φs207°,δ60°,λ179°. NP2: φs297°,δ89°,λ30°. Principal axes: T 1.849, Plg22°, Azm166°; N -.118, Plg60°, Azm299°; P -1.726, Plg20°, Azm68°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **22** 15:06:00.8±1.1,7.27S×128.36E,h92km,mb5.0/17 Error ellipse: s-maj=13.7km s-min=7.0km az=110.1*
*IDC **22** 15:06:09.5±1.8,7.28S×128.44E,h156km±15km,mb4.5/17, mb1 4.4/18,mb1mx4.4/22,mbtmp4.9/18,MS3.7/8, Ms1 3.7/8,ms1mx3.4/24,Error ellipse: s-maj=16.5km s-min=8.9km az=77.0*
ISC 22 15:06:02.9±1.4,**7.31S**±0.04×**128.45E**±0.05,**h111**km±14km, **h31**km±4.2km:**pP-P**,**n166**,σ1§**08**/122,**mb5.0**/52,**21C-5D**, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.65**	**144**	⇑*i*P	**P**	**15 07 56.3**	**+17**
	261nm,0.1s						
KAKA				*e*S	**S**	**15 09 05.6**	**+11**
FITZ	**Fitzroy Crossi**	**11.08**	**194**	⇑*i*P	**P**	**15 08 38.6**	**-0.5**
	130nm,0.4s						
FITZ				*e*S	**S**	**15 10 34.4**	**-6.9**
FITZ	**Fitzroy Crossi**	**11.08**	**194**	P	**P**	**15 08 38.8**	**-0.3**
	33nm,0.3s,baz=15,slow=9.1,SNR=292						
FITZ				S	**S**	**15 10 33.9**	**-7.4**
	45nm,0.3s,baz=335,slow=23,SNR=22						
FITZ				LR	LR	15 13 47.4	
	comp=Z,226nm,21.0s,baz=37,slow=41						
WRAB	**Tennant Creek**	**13.79**	**156**	⇑*i*Pn	**P**	**15 09 13.6**	**-1.2**
	233nm,0.6s						
WRAB				*e*		15 09 21.9	
WRAB				*i* Sn	**S**	**15 11 36.4**	**-9.2**
WRAB	**Tennant Creek**	**13.79**	**156**	⇑*i*P	**P**	**15 09 13.6**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,233nm,0.6s						
WRA	**Warramunga Arr**	**13.80**	**156**	P	**P**	**15 09 13.4**	**-1.5**
	comp=Z,5.6nm,0.3s,baz=343,slow=13,SNR=116						
WRA				S	**S**	**15 11 37.7**	**-8.0**
	comp=Z,17nm,0.3s,baz=325,slow=24,SNR=8.9						
MBWA	**Marble Bar**	**16.15**	**211**	*e*Pn	**P**	**15 09 45.6**	**+0.9**
PMG	**Port Moresby**	**18.62**	**98**	P	**P**	**15 10 13.9**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=319,slow=9.3,SNR=3.6						
PMG				S	**S**	**15 13 35.8**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=197,slow=19,SNR=5.1						
PMG	**Port Moresby**	**18.62**	**98**	P	**P**	**15 10 13.9**	**-0.5**
PMG				*e*Pn	**P**	**15 10 20.3**	**+5.9**
PMG				S	**S**	**15 13 35.8**	**+0.7**
KSM	**Kuching**	**20.10**	**295**	*e*P	**P**	**15 10 31.8**	**+1.7**
CTA	**Charters Tower**	**21.43**	**128**	⇑*i*P	**P**	**15 10 45.8**	**+2.4**
	comp=Z,17nm,0.8s,mb4.4						
CTA				*i* PCS		15 14 33.9	
CTA				*e*S	S	15 14 57.0	+28
CTA	**Charters Tower**	**21.43**	**128**	P	**P**	**15 10 45.9**	**+2.4**
	comp=Z,19nm,0.7s,mb4.5,baz=304,slow=12,SNR=26						
CTA				LR	LR	15 20 10.5	
	comp=Z,249nm,19.4s,baz=125,slow=39						
CTA	**Charters Tower**	**21.43**	**128**	⇑*i*P	**P**	**15 10 45.8**	**+2.4**
CTA				*i*		15 14 33.9	
CTA				pmax	pmax		
	comp=Z,17nm,0.8s						
CTAO	**Charters Tower**	**21.43**	**128**	*e*P	**P**	**15 10 45.7**	**+2.3**
	comp=Z,21nm,0.9s,mb4.5						
CTAO	**Charters Tower**	**21.43**	**128**	*e*P	**P**	**15 10 45.7**	**+2.3**
CTAO				pmax	pmax		
	comp=Z,21nm,0.9s,mb4.5						
FORT	**Forrest**	**23.36**	**181**	⇑*i*P	**P**	**15 11 03.1**	**+0.9**
	comp=Z,150nm,0.7s,mb5.4						
FORT				*e*S	**S**	**15 15 20.1**	**+17**
KLBR	**Kellerberrin**	**26.15**	**201**	*e*P	**P**	**15 11 28.3**	**-0.4**
	comp=Z,41nm,0.9s,mb4.9						
KLBR				*e*S	S	15 16 28.1	+38
GUMO	**Guam**	**26.39**	**38**	P	**P**	**15 11 31.5**	**+0.4**
	comp=Z,16nm,0.4s,mb4.8,baz=20,slow=16,SNR=4.9						
GUMO				LR	LR	15 20 24.5	
	comp=Z,45nm,19.8s,baz=111,slow=32						
MUN	**Mundaring**	**27.07**	**203**	*e*P	**P**	**15 11 36.2**	**-0.9**
MUN				*e*S	S	15 16 45.3	+40
STKA	**Stephens Creek**	**27.35**	**155**	⇑*i*P	**P**	**15 11 39.5**	**-0.2**
	comp=Z,38nm,0.6s,mb5.1						
STKA				*e*S	S	15 16 57.0	+47
STKA	**Stephens Creek**	**27.35**	**155**	P	**P**	**15 11 39.5**	**-0.1**
	comp=Z,62nm,0.8s,mb5.2,baz=326,slow=8.9,SNR=126						
STKA				LR	LR	15 23 55.9	
	comp=Z,175nm,20.9s,baz=209,slow=39						
STKA	**Stephens Creek**	**27.35**	**155**	*e*P	**P**	**15 11 39.5**	**-0.1**
STKA				*e*S	S	15 16 57.0	+47
NWAO	**Narrogin (SRO)**	**27.54**	**201**	P	**P**	**15 11 40.8**	**-0.6**
	comp=Z,9.6nm,0.4s,mb4.6,baz=26,slow=6.2,SNR=19						
NWAO				LR	LR	15 24 25.3	
	comp=Z,126nm,19.3s,baz=162,slow=40						
NWAO	**Narrogin (SRO)**	**27.54**	**201**	*e*P	**P**	**15 11 40.8**	**-0.7**
NWAO				*e*		15 11 52.8	
ADE	**Adelaide**	**29.10**	**163**	⇑*i*P	**P**	**15 11 55.9**	**+0.5**
HNR	**Honiara**	**31.22**	**96**	LR	LR	15 23 45.9	
	comp=Z,120nm,21.1s,baz=25,slow=34						
HNR	**Honiara**	**31.22**	**96**	*e*P	**P**	**15 12 16.3**	**+2.0**
YHNB	**Yeheng**	**32.52**	**348**	*e*P	**P**	**15 12 23.0**	**-2.5**
TOO	**Toolangi**	**33.87**	**155**	⇑*i*P	**P**	**15 12 38.4**	**+1.4**
	comp=Z,16nm,0.6s,mb5.0						
TOO	**Toolangi**	**33.87**	**155**	⇑*i*P	**P**	**15 12 38.4**	**+1.4**
TOO				pmax	pmax		
	comp=Z,17nm,0.6s,mb5.0						
JOW	**Kunigami**	**33.94**	**360**	P	**P**	**15 12 38.0**	**+0.4**
	comp=Z,15nm,0.8s,mb4.9,baz=174,slow=8.7,SNR=11						
CBIJ	**Chichi jima**	**36.69**	**21**	P	**P**	**15 13 00.8**	**-0.2**
	comp=Z,32nm,0.4s,mb5.7,baz=270,slow=19,SNR=4.3						
NANT	**Nan**	**37.71**	**314**	⇓P	**P**	**15 13 12.0**	**+2.5**
	comp=Z,212nm,0.5s,mb6.2						
SSE	**Sheshan**	**38.81**	**350**	*e*P	**P**	**15 13 17.4**	**-1.2**
SSE				AMB	AMB		
	comp=Z,26nm,0.8s,mb5.1						
SSE				AMB	AMB		
	comp=Z,112nm,3.8s						
SSE	**Sheshan**	**38.81**	**350**	*e*P	**P**	**15 13 17.4**	**-1.2**
	comp=Z,26nm,0.8s,mb5.1						
CHG	**Chiang Mai**	**38.99**	**312**	⇑P	**P**	**15 13 21.6**	**+1.4**
	comp=Z,12nm,1.1s,mb4.6						
DZM	**Mont Dzumac**	**39.43**	**116**	P	**P**	**15 13 25.1**	**+1.3**
	comp=Z,6.5nm,0.7s,mb4.6,baz=108,slow=19,SNR=12						
DZM				LR	LR	15 28 08.3	
	comp=Z,122nm,18.3s,baz=355,slow=33						
GYA	**Guiyang**	**39.67**	**329**	⇑*i*P	**P**	**15 13 27.1**	**+1.4**
GYA				PCP	PcP	15 15 31.1	0.0
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
WHN	**Wuhan**	**39.99**	**341**	⇓P	**P**	**15 13 30.5**	**+2.1**
NJ2	**Nanjing**	**40.20**	**347**	*e*P	**P**	**15 13 31.3**	**+1.3**
NJ2				PP	PP	15 15 09.9	+2.2
NJ2				S	**S**	**15 19 24.0**	**-4.3**
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,190nm,3.9s						
NJ2				LR	LR		
	comp=N,500nm,24.7s						
NJ2				LR	LR		
	comp=E,340nm,23.6s						
NJ2				LR	LR		
	comp=Z,270nm,23.0s						
KMI	**Kunming**	**40.81**	**323**	P	**P**	**15 13 36.6**	**+1.4**
KMI				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.7						
KMI	**Kunming**	**40.81**	**323**	P	**P**	**15 13 36.6**	**+1.4**
	comp=Z,9.0nm,0.8s,mb4.7						
ENH	**Enshi**	**41.56**	**335**	*e*P	**P**	**15 13 42.4**	**+1.0**
	comp=Z,12nm,0.8s,mb4.7						
KS15	**Wonju Array Si**	**44.52**	**359**	*e*P	**P**	**15 14 02.2**	**-3.0**
MAJO	**Matsushiro**	**44.57**	**11**	*e*P	**P**	**15 14 03.6**	**-2.0**
MAT	**Matsushiro**	**44.57**	**11**	P	**P**	**15 14 04.0**	**-1.6**
MAT	**Matsushiro**	**44.57**	**11**	*e*P	**P**	**15 14 04.0**	**-1.6**
MJAR	**Matsushiro Arr**	**44.57**	**11**	P	**P**	**15 14 04.8**	**-0.8**
	comp=Z,4.3nm,0.9s,mb4.2,baz=182,slow=9.6,SNR=8.2						
CD2	**Chengdu**	**44.76**	**329**	*e*P	**P**	**15 14 07.3**	**0.0**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
XAN	**Xi'an**	**45.09**	**337**	P	**P**	**15 14 09.9**	**0.0**
XAN				AMB	AMB		
	comp=Z,33nm,0.9s,mb5.1						
LZH	**Lanzhou**	**48.97**	**333**	⇑P	**P**	**15 14 41.3**	**+1.1**
LZH				AMB	AMB		
	comp=Z,65nm,1.2s,mb5.4						
LZH	**Lanzhou**	**48.97**	**333**	⇑P	**P**	**15 14 41.2**	**+1.0**
	comp=Z,65nm,1.2s,mb5.4						
LZH				pP	pP	15 14 58.0	-8.3
LZH				sP	sP	15 15 02.5	-16
LZH	**Lanzhou**	**48.97**	**333**	⇑P	**P**	**15 14 41.2**	**+1.0**
LZH				*SP	sP	15 15 02.5	-16
LZH				pmax	pmax		
	comp=Z,65nm,1.2s,mb5.4						
HHC	**Hu-ho-hao-te**	**50.38**	**343**	*e*P	**P**	**15 14 50.4**	**-0.4**
HHC				AP	pP	15 14 58.3	-19
HHC				XP	sP	15 15 03.9	-25
HHC				PP	PP	15 16 46.4	-1.7
HHC				PCS		15 20 05.6	
HHC				*e*S	**S**	**15 21 59.8**	**+5.9**
HHC				PS	PS	15 22 10.6	-11
HHC				SCS	ScS	15 24 33.9	+6.5
HHC				SS	SS	15 25 30.4	+4.2
HHC				AMB	AMB		
	comp=Z,17nm,1.2s,mb4.8						
HHC				AMB	AMB		
	comp=Z,102nm,5.1s						
LSA	**Lhasa**	**51.37**	**318**	P	**P**	**15 14 59.1**	**+0.5**
LSA	**Lhasa**	**51.37**	**318**	*e*P	**P**	**15 15 00.1**	**+1.6**
	comp=Z,8.9nm,0.7s,mb4.9						
LSA	**Lhasa**	**51.37**	**318**	*e*P	**P**	**15 15 00.1**	**+1.5**
LSA				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.9						
RPZ	**Rata Peaks**	**51.94**	**141**	P	**P**	**15 15 03.0**	**+0.4**
	comp=Z,52nm,0.9s,mb5.5,baz=351,slow=2.5,SNR=31						
GTA	**Gaotai**	**53.52**	**332**	⇑*i*P	**P**	**15 15 15.1**	**+0.7**
GTA				AP	pP	15 15 27.4	-14
GTA				XP	sP	15 15 32.8	-20
GTA				AMB	AMB		
	comp=Z,22nm,0.9s,mb5.2						
PKI	**Pulchoki**	**54.17**	**312**	*e*P	**P**	**15 15 18.8**	**-0.5**
	comp=Z,19nm,0.6s,mb5.3						
PKI	**Pulchoki**	**54.17**	**312**	*e*P	**P**	**15 15 18.8**	**-0.5**
PKI				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb5.0						
KKN	**Kakani**	**54.38**	**312**	*e*P	**P**	**15 15 20.5**	**-0.4**
	comp=Z,24nm,0.7s,mb5.3						
KKN	**Kakani**	**54.38**	**312**	*e*P	**P**	**15 15 20.5**	**-0.4**
KKN				pmax	pmax		
	comp=Z,12nm,0.7s,mb5.0						
DMN	**Daman**	**54.41**	**311**	*e*P	**P**	**15 15 20.9**	**-0.2**
	comp=Z,32nm,0.7s,mb5.5						
RAO	**Raoul Island**	**54.87**	**121**	LR	LR	15 34 59.3	
	comp=Z,391nm,19.6s,baz=152,slow=32						
GKN	**Gorkha**	**54.98**	**312**	*e*P	**P**	**15 15 24.7**	**-0.5**
	comp=Z,39nm,0.5s,mb5.7						
YSS	**Yuzh-Sakhalins**	**55.50**	**12**	*e*P	**P**	**15 15 28.4**	**-0.3**
KOLN	**Koldanda**	**55.63**	**311**	*e*P	**P**	**15 15 29.5**	**-0.4**
	comp=Z,52nm,0.8s,mb5.6						
SONM	**Songino Array**	**58.26**	**343**	P	**P**	**15 15 48.4**	**+0.3**
	comp=Z,8.8nm,0.8s,mb4.9,baz=163,slow=7.2,SNR=68						
CASY	**Casey**	**60.17**	**188**	⇑*i*P	**P**	**15 16 00.1**	**-1.0**
CASY	**Casey**	**60.17**	**188**	*e*P	**P**	**15 15 60.0**	**-1.1**
	comp=Z,17nm,0.8s,mb5.1						
ZAK	**Zakamensk**	**61.46**	**342**	*e*P	**P**	**15 16 10.2**	**+0.2**
ZAK				*e*		15 16 48.1	
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.1						
WMQ	**Urumqi**	**62.82**	**328**	P	**P**	**15 16 16.0**	**-3.2**
WMQ				AP	pP	15 16 26.0	-21
WMQ				XP	sP	15 16 30.0	-29
WMQ				PP	PP	15 18 36.0	-4.2
WMQ				S	**S**	**15 24 39.0**	**+1.2**
WMQ				SS	SS	15 28 46.0	-0.7
WMQ				AMB	AMB		
	comp=Z,28nm,1.0s,mb5.2						
WMQ				AMB	AMB		
	comp=Z,54nm,8.0s						
WMQ				LR	LR		
	comp=N,65nm,16.0s						
WMQ				LR	LR		
	comp=E,79nm,16.0s						
WMQ				LR	LR		
	comp=Z,89nm,15.0s						
MIR	**Mirnyy**	**63.95**	**195**	*e*P	**P**	**15 16 26.2**	**0.0**
MIR				pmax	pmax		
	comp=Z,29nm,1.6s,mb4.9						
PET	**Petropavlovsk**	**65.34**	**20**	⇑*i*P	**P**	**15 16 35.3**	**-0.1**
PET	**Petropavlovsk**	**65.34**	**20**	*i* P	**P**	**15 16 35.6**	**+0.2**
PET				pmax	pmax		
	comp=Z,19nm,0.6s,mb5.1						
BOD	**Bodaibo**	**65.96**	**352**	*e*P	**P**	**15 16 39.0**	**-0.3**
BOD				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.7						
KSH	**Kashi**	**67.22**	**318**	*e*P	**P**	**15 16 47.1**	**-0.5**
KSH				*e*AP	pP	15 16 57.1	-18
KSH				*e*XP	sP	15 17 01.3	-26
KSH				*e*PCP	PcP	15 17 16.3	+1.8
KSH				*e*PP	PP	15 19 15.3	-3.3
KSH				*e*PPP	PPP	15 20 51.0	-5.0
KSH				*e*SCP		15 21 15.3	
KSH				*e*PCS		15 21 19.3	
KSH				*e*S	S	15 25 38.3	+6.6
KSH				*e*XS		15 25 50.3	
KSH				*e*PS	PS	15 25 59.8	-12
KSH				*e*SCS	ScS	15 26 37.1	+6.2
KSH				AMB	AMB		
	comp=Z,100nm,4.9s						
MKAR	**Makanchi Array**	**67.65**	**328**	P	**P**	**15 16 50.1**	**0.0**
	comp=Z,8.9nm,0.5s,mb4.9,baz=121,slow=7.5,SNR=72						
MA2	**Magadan**	**69.00**	**12**	*e*P	**P**	**15 16 58.3**	**+0.1**
YAK	**Yakutsk**	**69.14**	**1**	*e*P	**P**	**15 16 58.5**	**-0.5**
	comp=Z,45nm,0.6s,mb5.5						
YAK	**Yakutsk**	**69.14**	**1**	*e*P	**P**	**15 16 58.5**	**-0.5**
YAK				pmax	pmax		
	comp=Z,45nm,0.6s,mb5.5						
AAK	**Ala-Archa**	**69.79**	**321**	*e*P	**P**	**15 17 02.9**	**-0.4**
	comp=Z,8.8nm,0.7s,mb4.7						
AAK	**Ala-Archa**	**69.79**	**321**	*e*P	**P**	**15 17 02.9**	**-0.4**
AAK				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.7						
ZAL	**Zalesovo**	**71.19**	**334**	P	**P**	**15 17 10.1**	**-1.5**
	comp=Z,7.0nm,0.5s,mb4.7,baz=340,slow=5.8,SNR=29						
ZAL	**Zalesovo**	**71.19**	**334**	P	**P**	**15 17 10.1**	**-1.5**
KURK	**Kurchatov**	**71.99**	**329**	*e*P	**P**	**15 17 16.1**	**-0.2**
	comp=Z,39nm,0.8s,mb5.3						
KURK	**Kurchatov**	**71.99**	**329**	*e*P	**P**	**15 17 16.2**	**-0.1**
KURK				pmax	pmax		
	comp=Z,39nm,0.8s,mb5.3						
VNDA	**Vanda**	**72.33**	**173**	P	**P**	**15 17 17.1**	**-0.9**
	comp=Z,8.2nm,0.7s,mb4.7,baz=321,slow=6.4,SNR=61						
SEY	**Seymchan**	**72.39**	**11**	⇑*i*P	**P**	**15 17 18.7**	**+0.2**
NVS	**Novosibirsk**	**72.47**	**334**	*e*P	**P**	**15 17 16.8**	**-2.3**
NVS				pmax	pmax		
	comp=N,11nm,1.1s						
NVS				pmax	pmax		
	comp=E,16nm,1.1s						
NVS				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.8						
SBA	**Scott Base**	**73.24**	**172**	*e*P	**P**	**15 17 23.7**	**+0.5**
	comp=Z,4.8nm,0.7s,mb4.4						
SBA	**Scott Base**	**73.24**	**172**	*e*P	**P**	**15 17 23.7**	**+0.5**
SBA				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
MAW	**Mawson**	**74.11**	**201**	⇑*i*P	**P**	**15 17 28.3**	**-0.1**
	comp=Z,5.7nm,0.7s,mb4.4						
MAW	**Mawson**	**74.11**	**201**	P	**P**	**15 17 28.4**	**0.0**
	comp=Z,7.1nm,0.7s,mb4.5,baz=72,slow=6.5,SNR=36						
MAW	**Mawson**	**74.11**	**201**	*e*P	**P**	**15 17 28.2**	**-0.3**
BVAR	**Borovoye Array**	**77.51**	**328**	P	**P**	**15 17 47.6**	**-0.3**
	comp=Z,9.0nm,0.8s,mb4.6,baz=146,slow=5.3,SNR=60						
BRVK	**Borovoye**	**77.58**	**328**	*e*P	**P**	**15 17 47.7**	**-0.6**
QSPA	**South Pole Qui**	**82.67**	**180**	*e*P	**P**	**15 18 14.4**	**-0.5**
	comp=Z,21nm,0.8s,mb5.0						
SYO	**Syowa Base**	**82.82**	**201**	⇓P	**P**	**15 18 14.3**	**-1.6**
ARU	**Arti**	**85.16**	**328**	*e*P	**P**	**15 18 27.5**	**-0.2**
ARU	**Arti**	**85.16**	**328**	⇓*i*P	**P**	**15 18 27.4**	**-0.3**
ARU				*e*		15 21 44.1	
ARU				*e*S	S	15 28 48.4	+1.8
ARU				*e*SS	SS	15 34 28.1	+2.4
ARU				pmax	pmax		
	comp=Z,23nm,1.2s,mb5.0						
KIV	**Kislovodsk**	**91.98**	**314**	*i* P	**P**	**15 19 03.6**	**+3.1**
KIV	**Kislovodsk**	**91.98**	**314**	*i* P	**P**	**15 19 03.5**	**+3.0**
KIV				pmax	pmax		
	comp=Z,16nm,1.3s,mb5.1						
ILAR	**Eielson Array**	**94.28**	**25**	P	**P**	**15 19 08.9**	**-1.5**
	comp=Z,1.3nm,0.9s,mb4.3,baz=258,slow=5.4,SNR=10						
SNAA	**Sanae**	**95.01**	**194**	P

SDCO	Great Sand Dun	122.67	50	*e*PKPdf	PKPdf	15 24 48.0	+2.1
ETSF	Etsaut	123.00	317	*e*PKIKP	PKPdf	15 24 48.1	+1.6
	comp=Z,8.3nm,0.7s						
SJPF	Ste Jean	123.36	318	*e*PKIKP	PKPdf	15 24 48.5	+1.3
	comp=Z,11nm,0.7s						
ULM	Lac du Bonnet	123.53	33	PKP	PKPdf	15 24 47.2	-0.2
	comp=Z,1.2nm,0.4s,baz=282,slow=3.1,SNR=7.0						
ULM	Lac du Bonnet	123.53	33	PKP	PKPdf	15 24 47.2	-0.2
TXAR	Lajitas Array	126.40	59	PKP	PKPdf	15 24 54.7	+1.3
	comp=Z,0.7nm,0.4s,baz=315,slow=1.8,SNR=5.5						
TXAR	Lajitas Array	126.40	59	PKP	PKPdf	15 24 54.7	+1.3
ESDC	Sonseca Array	126.64	315	PKP	PKPdf	15 24 54.3	+0.7
	comp=Z,0.3nm,0.3s,baz=134,slow=4.3,SNR=4.1						
PLCA	Paso Flores	129.10	161	PKP	PKPdf	15 25 00.1	+1.7
	comp=Z,2.9nm,0.7s,baz=189,slow=3.2,SNR=5.9						
SCHQ	Schefferville	131.05	12	PKP	PKPdf	15 25 03.0	+1.4
	comp=Z,3.9nm,0.7s,baz=224,slow=16,SNR=5.2						
SCHQ				SKPbc		15 28 11.2	
	comp=Z,7.0nm,0.8s,baz=12,slow=5.4,SNR=9.2						
CCM	Cathedral Cave	132.85	43	*e*PKPdf	PKPdf	15 25 05.9	+0.3
DBIC	Dimbokro	133.67	272	PKP	PKPdf	15 25 09.3	+1.6
	comp=Z,3.9nm,0.6s,baz=122,slow=2.1,SNR=8.1						
DBIC				SKPbc		15 28 21.2	
	comp=Z,5.3nm,0.7s,baz=162,slow=4.3,SNR=9.8						
DBIC	Dimbokro	133.67	272	PKP	PKPdf	15 25 09.3	+1.6
DBIC				SKPbc		15 28 21.2	
CFAA	Coronel Fontan	138.15	158	PKP	PKPdf	15 25 17.7	+2.1
	comp=Z,0.8nm,0.5s,baz=224,slow=3.5,SNR=11						
CFAA	Coronel Fontan	138.15	158	PKP	PKPdf	15 25 17.7	+2.1
LVC	Limon Verde	145.75	151	*e*PKPdf	PKPdf	15 25 32.0	+2.8
CPUP	Villa Florida	146.10	171	PKPbc	PKPbc	15 25 31.6	+0.8
	comp=Z,16nm,0.9s,baz=197,slow=2.9,SNR=35						
CPUP	Villa Florida	146.10	171	*e*PKPdf	PKPdf	15 25 31.0	+1.3
LPAZ	La Paz	151.38	145	PKPbc	PKPdf	15 25 46.9	+8.7
	comp=Z,7.8nm,0.4s,baz=38,slow=1.2,SNR=42						
LPAZ				PKPab	PKPab	15 25 56.6	+1.2
	comp=Z,16nm,0.7s,baz=166,slow=1.8,SNR=18						
LPAZ	La Paz	151.38	145	*e*P	PKPdf	15 25 46.9	+8.7
SAML	Samuel	160.12	144	*e*PKPdf	PKPdf	15 25 51.2	+1.4

NEIC ***22*** *15:13:37.7, 46.90N×8.40E, h2km, ML3.0(LDG), ML2.7(VIE), ML2.5(STR), ML2.4(ZUR), After ZUR.*
STR ***22*** *15:13:38.2±1.0, 46.94N×8.44E, h5km±1km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ZUR ***22*** *15:13:38.1, 46.93N×8.36E, h2km, ML2.4/11*
LDG ***22*** *15:13:39.4±0.1, 46.94N×8.41E, h3km, Md2.7/2, Ml3.0/20, Error ellipse: s-maj=1.5km s-min=1.3km az=129.0*
CSEM ***22*** *15:13:39.4±0.1, 46.93N×8.41E, h10km, ML3.0/19, Error ellipse: s-maj=1.1km s-min=0.8km az=170.0*

ISC 22 15:13:37.6±0.3, 46.92N±0.02×8.29E±0.02, h7km±4km, n45, σ1§33/77, 6C-8D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HASLI	Hasliberg	0.19	211	⇑*i*Pg	Pg	15 13 43.0	+1.4
HASLI				*i* Sg	Sg	15 13 46.7	+2.4
MUO	Muotathal	0.24	78	⇓*i*Pg	Pg	15 13 42.7	+0.1
ZUR	Zurich	0.49	23	*i* Sg	Sg	15 13 55.9	+1.8
ZUR	Zurich	0.49	23	*e*Pg	Pg	15 13 48.3	+0.8
ZUR	Zurich	0.49	23	*e*Pg	Pg	15 13 48.3	+0.8
ZUR				*i* Sg	Sg	15 13 55.9	+1.8
LLS	Linth-Limmern	0.50	98	*i* Sg	Sg	15 13 54.0	-0.3
FUSIO	Fusio	0.53	151	⇑*i*Pg	Pg	15 13 48.9	+0.6
FUSIO				*e*Sg	Sg	15 13 56.5	+1.1
BALST	Balsthal	0.58	316	*e*Sg	Sg	15 14 00.2	+3.0
SULZ	Sulz-Cheisache	0.62	349	⇓*i*Pg	Pg	15 13 51.2	+1.1
SULZ	Sulz-Cheisache	0.62	349	⇓*i*P	Pg	15 13 51.1	+1.0
WILA	Wila	0.65	40	⇓*i*Pg	Pg	15 13 51.1	+0.5
BBS	Basel-Blauen	0.76	316	Pg	Pg	15 13 54.8	+1.9
BBS				Sg	Sg	15 14 06.0	+2.9
TRULL	Truellikon	0.78	20	⇑*i*P	Pb	15 13 52.6	-0.4
STEIN	Stein am Rhein	0.85	27	*e*P*P		15 13 55.0	
SLE	Schleitheim	0.86	9	⇓*i*P*P		15 13 55.0	
FELD	Feldberg	0.98	348	Pg	Pg	15 13 57.0	-0.2
FELD				Sg	Sg	15 14 11.6	+1.4
LOMF	Lomont	1.09	294	Pg	Pg	15 14 01.0	+1.6
LOMF				Sg	Sg	15 14 16.4	+2.4
DAVOX	Davos	1.10	97	⇑*i*P*P		15 13 58.8	
DAVA	Damuels	1.15	71	⇑*i*PG	Pg	15 14 00.7	+0.2
DAVA				*i* SG	Sg	15 14 15.9	+0.1
	22nm,0.3s						
MOF	Molkenrain	1.22	320	Pg	Pg	15 14 02.8	+0.8
MOF				Sg	Sg	15 14 19.6	+1.3
HINF	Hinteralfeld	1.33	313	*e*Pn	Pn	15 14 03.6	+1.0
HINF				*e*Sg	Sg	15 14 22.7	+0.8
	50nm,0.3s						
ECH	Echery	1.51	330	Pg	Pg	15 14 06.1	-1.7
ECH				Sg	Sg	15 14 27.9	0.0
CABF	La Chapelle	1.55	259	*e*Pg	Pg	15 14 09.7	+1.2
CABF				*e*Sg	Sg	15 14 31.2	+2.0
	110nm,0.6s						
WLS	Welschbruch	1.62	337	Pg	Pg	15 14 07.8	-2.3
CDF	Champ du Feu	1.65	336	*e*Pn	Pn	15 14 07.8	+0.7
CDF				*e*Sg	Sg	15 14 31.7	-0.7
	13nm,0.5s						
HAU	Haudompre	1.71	310	*e*Pn	Pn	15 14 09.1	+1.0
HAU				*e*Sn	Sn	15 14 29.8	-0.5
HAU				*e*Sg	Sg	15 14 34.6	0.0
	58nm,0.4s						
LPL	La Plagne	1.77	218	*e*Pg	Pg	15 14 13.8	+0.8
LPL				*e*Sg	Sg	15 14 38.8	+2.1
	13nm,0.4s						
LPG	La Plagne	1.78	218	*e*Pg	Pg	15 14 13.9	+0.7
LPG				*e*Sg	Sg	15 14 38.3	+1.4
	26nm,0.5s						
MOTA	Moosalm	1.96	76	⇓*i*PN	Pn	15 14 12.3	+0.6
MOTA				*i* PG	Pg	15 14 15.1	-1.8
MOTA				*i* SG	Sg	15 14 42.2	-0.9
	11nm,0.5s						
SQTA	Sankt Quirin	2.02	80	⇓*i*PN	Pn	15 14 13.3	+0.9
SQTA				*i* PG	Pg	15 14 16.8	-1.1
SQTA				*i* SG	Sg	15 14 44.3	-0.4
	8.4nm,0.2s						
THEF	They Montfort	2.04	311	Pg	Pg	15 14 17.6	-0.7
WTTA	Wattenberg	2.31	80	⇑*i*PN	Pn	15 14 18.0	+1.4
WTTA				*i* PG	Pg	15 14 21.4	-2.3
WTTA				*i* SG	Sg	15 14 53.6	-0.9
	12nm,0.6s						
MBDF	Montbardon	2.44	206	*e*Pg	Pg	15 14 25.9	-0.4
MBDF				*e*Sg	Sg	15 14 58.7	-0.1
	23nm,0.6s						
SFTF	Sexfontaines	2.55	301	*e*Sg	Sg	15 15 01.3	-1.3
	14nm,0.3s						
RFYF	Reffroy	2.56	313	*e*Sg	Sg	15 15 01.0	-1.8
	26nm,0.3s						
ORIF	Oris-en-Rattie	2.62	221	*e*Pg	Pg	15 14 28.9	-1.0
ORIF				*e*Sg	Sg	15 15 04.0	-0.7
	16nm,0.6s						
MEZF	Maizieres J'vi	2.70	307	*e*Sg	Sg	15 15 06.8	-0.8
	24nm,0.5s						
LOR	Lormes	3.05	278	*e*Pg	Pg	15 14 37.9	-0.6
LOR				*e*Sg	Sg	15 15 18.8	-0.4
	8.5nm,0.2s						
SMF	Signal de Mont	3.07	267	*e*Pg	Pg	15 14 37.7	-1.3
SMF				*e*Sg	Sg	15 15 18.7	-1.2
	19nm,0.3s						
VIVF	Saint-Julien-l	3.26	232	*e*Pg	Pg	15 14 42.2	-0.6
VIVF				*e*Sg	Sg	15 15 23.7	-2.6
	9.4nm,0.4s						
SSF	Saint Saulge	3.28	274	*e*Pg	Pg	15 14 43.0	-0.1
SSF				*e*Sg	Sg	15 15 23.5	-3.3
	3.7nm,0.4s						
AVF	Avril sur Loir	3.39	270	*e*Pn	Pn	15 14 32.9	+0.8
AVF				*e*Pg	Pg	15 14 43.9	-1.5
AVF				*e*Sg	Sg	15 15 28.6	-2.0
	8.6nm,0.6s						
KBA	Koelnbreinsper	3.46	86	⇓*i*PN	Pn	15 14 35.5	+2.5
KBA				*i* PG	Pg	15 14 43.3	-3.4
KBA				*i* SG	Sg	15 15 30.7	-2.1
	4.6nm,0.6s						
BGF	Bois d'Agland	3.76	266	*e*Pg	Pg	15 14 50.2	-2.6
BGF				*e*Sg	Sg	15 15 40.3	-2.6
	15nm,0.4s						
TCF	Toulx Ste Croi	4.24	264	*e*Pn	Pn	15 14 43.9	-0.2
TCF				*e*Sn	Sn	15 15 32.5	-2.0
TCF				*e*Sg	Sg	15 15 54.7	-4.1
	5.0nm,0.4s						

KRSC ***22*** *15:21:15.7±1.4, 55.80N×166.01E, h65km±6km, ML4.1*
IDC ***22*** *15:21:17.1±2.8, 54.41N×165.31E, mb3.3/4, mb1 3.6/4, mb1mx3.4/22, mbtmp3.3/4, Error ellipse: s-maj=99.3km s-min=24.5km az=178.0*

ISC 22 15:21:19.2±0.8, 55.64N±0.04×165.61E±0.07, h33km, n32, σ1§06/51, mb3.2/4, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	0.48	155	*i* P	P	15 21 29.3	-0.2
BKI				*e*S	S	15 21 37.8	+1.0
BKI				Smax			
	2μm,1.2s						
KBTR	Krutoberegovo	1.67	291	*e*P	P	15 21 44.1	-2.5
KBTR				*e*S	S	15 22 04.6	-2.4
MKZ	Mys Kozlova	2.48	246	*i* P	P	15 21 57.6	-0.5
MKZ				*e*S	S	15 22 28.9	+1.3
ZLN	Zelenaya	2.74	280	*e*P	P	15 22 03.0	+1.2
ZLN				*e*S	S	15 22 37.1	+3.0
CIRR	Tsirk	2.78	282	*e*P	P	15 22 02.4	0.0
CIRR				*e*S	S	15 22 34.7	-0.5
LGNR	Loginova	2.81	281	P	P	15 22 02.9	+0.1
LGNR				*e*S	S	15 22 38.2	+2.3
KLY	Klyuchi	2.87	286	*e*P	P	15 21 03.3	-2.4
KLY				*e*S	S	15 22 35.4	-2.0
KRSR	Krestovskiy	2.90	284	*e*P	P	15 22 03.4	-0.7
KRSR				*e*S	S	15 22 39.3	+1.1
KMNR	Kamenistaya	3.04	274	*e*P	P	15 22 06.0	-0.2
KPT	Kopyto	3.06	278	*e*P	P	15 22 06.3	-0.1
KPT				*e*S	S	15 22 43.1	+0.8
KOZ	Kozyrevsk	3.26	280	*e*P	P	15 22 09.6	+0.3
KOZ				*e*S	S	15 22 48.3	+0.9
SRDR	Sredinnyy	3.38	284	*e*P	P	15 22 10.8	-0.2
SRDR				*e*S	S	15 22 51.5	+1.0
ESO	Esso	3.91	277	*e*P	P	15 22 17.4	-1.1
ESO				*e*S	S	15 23 03.7	-0.3
ESO				Smax			
	30nm,1.1s						
SPN	Mys Shipunski	4.14	234	P	P	15 22 21.0	-0.8
SPN				*e*S	S	15 23 08.2	-1.6
NLC	Nalytchevo	4.42	239	*i* P	P	15 22 25.0	-0.7
NLC				*e*S	S	15 23 16.3	-0.4
SDLR	Sedlovina	4.58	242	*e*P	P	15 22 28.4	+0.3
SDLR				*e*S	S	15 23 20.0	-0.9
SMAR	Somma	4.63	242	*e*P	P	15 22 28.8	0.0
UGLR	Uglovaya	4.65	241	*e*P	P	15 22 29.4	+0.4
UGLR				*e*S	S	15 23 22.6	0.0
AVH	Avacha	4.66	242	*e*P	P	15 22 29.5	+0.3
AVH				*e*S	S	15 23 24.4	+1.5
KOK	Koryaka	4.70	243	*e*P	P	15 22 30.2	+0.5
PET	Petropavlovsk	4.84	240	*e*P	P	15 22 31.6	-0.1
PET				*e*S	S	15 23 27.9	+0.5
GNL	Ganaly	4.86	250	*e*P	P	15 22 32.1	+0.1
KRMR	Karymshinskiy	5.21	240	S	S	15 23 35.9	-0.8
RUS	Russkaya	5.27	235	*e*P	P	15 22 37.0	-0.8
RUS				*e*S	S	15 23 35.5	-2.7
GRL	Gorelyy	5.41	238	*e*P	P	15 22 40.0	+0.4
APC	Apacha	5.65	245	P	P	15 22 44.6	+1.6
MIPR	Malaya Ipel'ka	6.22	241	P	P	15 22 51.5	+0.5
ALID	Alaid	7.70	236	P	P	15 23 11.9	+0.2
ILAR	Eielson Array	24.71	49	P	P	15 26 47.2	+9.1
	0.4nm,0.8s,mb3.0,baz=268,slow=9.2,SNR=4.8						
SONM	Songino Array	36.47	283	P	P	15 28 23.5	+0.9
	0.1nm,0.4s,mb3.1,baz=63,slow=9.7,SNR=3.3						
BVAR	Borovoye Array	51.30	310	P	P	15 30 28.7	+7.1
	0.2nm,0.3s,mb3.5,baz=68,slow=7.8,SNR=2.5						
NVAR	Mina Array Bea	51.91	76	P	P	15 30 31.5	+5.1
	0.3nm,0.6s,mb3.4,baz=308,slow=10,SNR=2.4						

IDC ***22*** *15:31:51.2±1.2, 2.29S×139.20E, mb3.8/5, mb1 4.0/6, mb1mx3.9/12, mbtmp3.8/6, ML4.0/1, Error ellipse: s-maj=51.5km s-min=23.7km az=95.0*
NEIC ***22*** *15:31:56.1±0.9, 2.30S×138.69E, h30km, mb3.7/1, Error ellipse: s-maj=39.8km s-min=15.9km az=89.0*

ISC 22 15:32:02.4±1.0, 2.62S±0.09×138.4E±0.2, h100km, n8, σ1§18/10, mb3.5/4, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	Tennant Creek	17.66	193	*e*Pn	P	15 36 04.3	+0.7
	3.2nm,0.5s						
WRAB				*e*Sn	S	15 39 11.7	-2.5
WRA	Warramunga Arr	17.67	193	P	P	15 36 05.0	+1.3
	0.6nm,0.3s,baz=17,slow=13,SNR=27						
WRA				S	S	15 39 13.9	-0.6
	0.2nm,0.3s,baz=9.6,slow=22,SNR=7.1						
CTA	Charters Tower	18.98	157	P	P	15 36 18.9	+0.3
	0.6nm,0.3s,baz=336,slow=13,SNR=11						
FITZ	Fitzroy Crossi	19.84	218	P	P	15 36 33.0	+5.2
	2.2nm,0.4s,baz=34,slow=7.8,SNR=12						
STKA	Stephens Creek	29.26	174	P	P	15 37 57.0	-0.3
	0.7nm,0.4s,mb3.6,baz=356,slow=8.5,SNR=5.4						
MKAR	Makanchi Array	69.53	322	P	P	15 43 02.7	+0.3
	0.3nm,0.5s,mb3.4,baz=103,slow=8.0,SNR=4.2						
VNDA	Vanda	75.90	175	P	P	15 43 40.6	+1.4
	0.4nm,0.6s,mb3.4,baz=323,slow=7.0,SNR=5.5						
ILAR	Eielson Array	85.88	24	P	P	15 44 29.9	-2.0
	0.5nm,0.8s,mb3.5,baz=272,slow=4.1,SNR=5.6						

MOS ***22*** *15:39:35.6±1.7, 55.76N×166.03E, h50km, mb4.2/1, Error ellipse: s-maj=33.3km s-min=18.0km az=149.4*

KRSC 22 15:39:36.7±1.5, 55.83N×166.05E, h68km±6km, ML4.1, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	0.63	184	*i* P	P	15 39 50.9	+0.1
BKI				*i* S	S	15 39 59.8	-1.4
BKI				Smax			
	2μm,0.9s						
KBTR	Krutoberegovo	1.85	283	P	P	15 40 05.6	-1.3
KBTR				S	S	15 40 27.3	-1.9
KBTR	Krutoberegovo	1.85	283	*e*P	P	15 40 05.4	-1.5
KBTR				*e*S	S	15 40 26.2	-3.0
MKZ	Mys Kozlova	2.79	245	P	P	15 40 18.7	-1.4
MKZ				S	S	15 40 50.1	-2.5
MKZ	Mys Kozlova	2.79	245	*e*P	P	15 40 18.3	-1.8
MKZ				*e*S	S	15 40 49.3	-3.3
ZLN	Zelenaya	2.96	276	*i* P	P	15 40 23.6	+1.1
ZLN				*e*S	S	15 40 57.9	+1.0
CIRR	Tsirk	2.99	278	*e*P	P	15 40 22.9	-0.1
CIRR				*e*S	S	15 40 56.4	-1.4
LGNR	Loginova	3.02	277	*e*P	P	15 40 24.8	+1.4
LGNR				*e*S	S	15 40 59.1	+0.5
KLY	Klyuchi	3.06	281	P	P	15 40 22.7	-1.3
KLY				S	S	15 40 56.2	-3.4
KLY	Klyuchi	3.06	281	*e*P	P	15 40 22.5	-1.5
KLY				*e*S	S	15 40 56.0	-3.6
KRSR	Krestovskiy	3.10	279	*e*P	P	15 40 24.3	-0.2
KRSR				*e*S	S	15 40 59.5	-1.0
KMNR	Kamenistaya	3.28	271	*e*P	P	15 40 27.6	+0.6
KMNR				*e*S	S	15 41 06.5	+1.5
KPT	Kopyto	3.29	275	*e*P	P	15 40 27.6	+0.6
KPT				*e*S	S	15 41 05.4	+0.3
KOZR	Kozyr	3.47	276	PN	P	15 40 31.1	+1.5
KOZR				S	S	15 41 12.7	+3.0
KOZ	Kozyrevsk	3.48	276	P	P	15 40 31.1	+1.3
KOZ				S	S	15 41 12.7	+2.7
KOZ	Kozyrevsk	3.48	276	*e*P	P	15 40 30.9	+1.1
KOZ				*e*S	S	15 41 11.8	+1.8
SRDR	Sredinnyy	3.58	280	*e*P	P	15 40 31.9	+0.7
SRDR				*e*S	S	15 41 12.9	+0.3
ESO	Esso	4.14	274	*e*P	P	15 40 38.7	-0.3
ESO				*e*S	S	15 41 24.1	-2.4
ESO				Smax			
	20nm,1.1s						
KII	Karymskiy	4.21	247	P	P	15 40 39.8	-0.2
KII				S	S	15 41 25.9	-2.4
KII	Karymskiy	4.21	247	*e*P	P	15 40 40.0	0.0
SPN	Mys Shipunski	4.46	235	*e*S	S	15 41 31.0	-3.4
NLC	Nalytchevo	4.73	238	P	P	15 40 46.9	-0.3
NLC				S	S	15 41 39.3	-2.0
NLC	Nalytchevo	4.73	238	*e*P	P	15 40 46.5	-0.7
NLC				*e*S	S	15 41 39.3	-2.0
SDLR	Sedlovina	4.89	241	*e*P	P	15 40 49.3	-0.2
SDLR				*e*S	S	15 41 42.3	-3.0
SMAR	Somma	4.94	242	*e*P	P	15 40 50.2	+0.1
UGLR	Uglovaya	4.96	241	*e*P	P	15 40 50.8	+0.4
UGLR				*e*S	S	15 41 44.8	-2.3
AVH	Avacha	4.97	242	*e*P	P	15 40 50.9	+0.3
AVH				*e*S	S	15 41 45.2	-2.1
KOK	Koryaka	5.01	243	*e*P	P	15 40 51.6	+0.5
PET	Petropavlovsk	5.15	240	P	P	15 40 52.6	-0.4
PET				S	S	15 41 48.0	-3.8
PET	Petropavlovsk	5.15	240	*e*P	P	15 40 52.9	-0.1
PET				*e*S	S	15 41 47.5	-4.3
PET	Petropavlovsk	5.15	240	*e*PN	P	15 40 54.9	+1.9
PET				*e*S	S	15 41 51.9	+0.1
PET				pmax	pmax		
	comp=Z,31nm,0.4s						
PET				smax			
	comp=N,83nm,0.8s						
GNL	Ganaly	5.16	249	*e*P	P	15 40 53.7	+0.6
GNL				*e*S	S	15 41 50.8	-1.2
RUS	Russkaya	5.59	236	P	P	15 40 58.6	-0.4
RUS				S	S	15 41 59.8	-2.8
RUS	Russkaya	5.59	236	*e*P	P	15 40 58.5	-0.5
RUS				*e*S	S	15 41 59.7	-2.9
GRL	Gorelyy	5.72	238	P	P	15 41 01.0	+0.2
APC	Apacha	5.96	244	P	P	15 41 06.0	+1.9
MIPR	Malaya Ipel'ka	6.53	241	P	P	15 41 13.2	+1.0
ALID	Alaid	8.01	236	P	P	15 41 34.8	+2.2

IDC ***22*** *15:47:12.9±4.5, 41.19N×143.98E, mb3.6/3, mb1 3.6/4, mb1mx3.5/20, mbtmp3.6/4, ML3.5/1, Error ellipse: s-maj=90.2km s-min=47.7km az=98.0*
JMA ***22*** *15:47:22.8±0.1, 41.80N×143.65E, h34km±2km, M3.4*

ISC 22 15:47:20.2±1.4, 41.62N±0.09×143.7E±0.1, h34km, n11, σ0§84/16, mb3.5/3, 2C-3D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	Erimo	0.57	314	⇓P	P	15 47 31.8	+0.2
JEM				*e*S	S	15 47 39.0	-0.9
JNBK	Urakawa-nobuka	0.97	313	⇓P	P	15 47 38.7	+1.3
JCH	Churui	1.02	346	P	P	15 47 38.5	+0.3
JOB	Onbets	1.28	4	⇑P	P	15 47 42.4	+0.6
JOB				*e*S	S	15 47 58.5	+0.4
JBT2	Biratori 2	1.52	320	P	P	15 47 45.8	+0.4
JAK	Akkeshi	1.56	28	⇓P	P	15 47 46.4	+0.6
JAK				*e*S	S	15 48 04.2	-0.8
JAR	Ashorobuto	1.67	2	⇑P	P	15 47 47.4	-0.1
JAR				*e*S	S	15 48 07.1	-0.9
ASAJ	Asahikawa	2.62	342	Pn	P	15 48 02.8	+1.7
	4.1nm,0.3s,baz=201,slow=13,SNR=41						
ASAJ				Sn	S	15 48 42.3	+10
	4.2nm,0.3s,baz=346,slow=28,SNR=6.2						
SONM	Songino Array	27.03	296	P	P	15 52 59.6	-1.3
	0.4nm,0.6s,mb3.1,baz=92,slow=8.1,SNR=4.9						
MKAR	Makanchi Array	43.34	298	P	P	15 55 20.1	-0.3
	0.3nm,0.5s,mb3.3,baz=85,slow=8.6,SNR=5.8						
FINES	FINESS Array B	65.59	332	P	P	15 58 01.1	-1.0
	1.0nm,0.6s,mb4.0,baz=45,slow=8.1,SNR=5.0						

BJI ***22*** *16:08:56.0, 66.10N×135.40W, h20km, mB4.7, mb4.4, Ms4.3, Msz4.0*
NEIC ***22*** *16:08:56.1, 66.06N×135.40W, h20km, ML3.9(AEIC), MW4.1(PGC), After AEIC.*
PGC ***22*** *16:09:00.1, 65.99N×135.10W, h20km, ML4.1/2, Mw4.1, Mackenzie Mountains, Yukon Territory*
IDC ***22*** *16:09:00.2±1.6, 66.08N×135.41W, h30km±14km, mb3.6/6, mb1 3.9/10, mb1mx3.7/24, mbtmp3.9/10, ML3.7/4, MS3.0/7, Ms1 3.0/7, ms1mx2.9/32, Error ellipse: s-maj=8.7km s-min=7.7km az=28.0*

ISC 22 16:08:55.6±1.1, 66.02N±0.04×135.28W±0.09, h14km±8km, n41, σ1§02/50, mb4.0/8, MS3.4/4, Northern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INK	Inuvik	2.40	16	Pn	Pn	16 09 37.6	+2.4
	8.5nm,0.3s,baz=195,slow=13,SNR=552						
INK				Pg	Pg	16 09 44.1	+0.5
	73nm,0.3s,baz=189,slow=11,SNR=95						
INK				Sn	Sn	16 10 04.6	0.0
	87nm,0.3s,baz=104,slow=21,SNR=9.0						
INK				Lg		16 10 14.1	
	59nm,0.3s,baz=311,slow=14,SNR=5.2						
INK				LR	LR	16 10 54.9	
	comp=Z,233nm,18.0s,baz=322,slow=49						
INK	Inuvik	2.40	16	Pn	Pn	16 09 37.5	+2.4
INK				Pg	Pg	16 09 44.6	+1.0
INK				Sn	Sn	16 10 05.3	+0.7
INK				Sg	Sg	16 10 15.1	-0.5
INK				Trac		16 10 21.5	
	comp=Z,297nm,0.2s						
INK	Inuvik	2.40	16	*e*P	Pn	16 09 37.2	+2.1
DAWY	Dawson	2.62	224	Pn	Pn	16 09 40.1	+1.7
BM3	Burnt Mountain	3.96	295	P	Pn	16 09 58.8	+1.4
PRP	Porcupine Dome	4.25	268	P	Pn	16 10 01.9	+0.4
MENT	Mentasta	4.78	234	P	Pn	16 10 09.0	-0.1
IL1	Eielson Array	5.01	261	P	Pn	16 10 11.9	-0.3
ILAR	Eielson Array	5.01	261	Pn	Pn	16 10 11.6	-0.7
	1.7nm,0.3s,baz=70,slow=13,SNR=67						
ILAR				Sn	Sn	16 11 04.8	-5.8
	4.0nm,0.3s,baz=53,slow=14,SNR=4.9						
ILAR				Lg		16 11 36.2	
	7.3nm,0.3s,baz=66,slow=31,SNR=5.6						
HYT	Haines Junctio	5.31	192	Pn	Pn	16 10 17.6	+1.1
HYT				Sg	Sg	16 11 45.5	-6.8
HYT				Trac		16 11 53.5	
	comp=Z,113nm,0.5s						
CCB	Clear Creek Bu	5.

comp=Z,0.7nm,0.7s,mb3.8,baz=13,slow=5.0,SNR=6.1
AKASG Malin Array Be 63.01 11 P **P 16 19 22.6 -1.1**
comp=Z,1.0nm,0.4s,mb4.3,baz=353,slow=6.3,SNR=10.0
MKAR Makanchi Array 63.87 332 P **P 16 19 28.9 -0.3**
comp=Z,0.5nm,0.8s,mb3.6,baz=25,slow=4.8,SNR=3.6
WMQ Urumqi 65.59 327 *e*P **P 16 19 45.0 +4.5**
WMQ XP sP 16 19 54.0 +7.7
WMQ PP PP 16 22 12.0 +4.9
WMQ S S 16 28 28.0 +4.2
WMQ AMB AMB
comp=Z,11nm,1.0s,mb4.8
WMQ AMB AMB
comp=Z,21nm,7.0s
WMQ LR LR
comp=N,58nm,15.0s,MS4.1
WMQ LR LR
comp=E,67nm,16.0s,MS4.1
WMQ LR LR
comp=Z,79nm,16.0s,MS4.0
JOW Kunigami 68.36 287 LR LR 16 52 20.0
comp=Z,16nm,21.8s,MS3.2,baz=84,slow=38

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*IDC **22** 16:19:43.4±8.2,25.75N×127.20E,mb3.7/3,mb1 3.8/3, mb1mx3.5/19,mbtmp3.7/3,Error ellipse: s-maj=198.1km s-min=138.8km az=23.0*
*JMA **22** 16:19:56.8±0.1,26.42N×127.03E,h64km±1km,M3.4*
JMA Felt I J1.
ISC 22 16:19:56.0±0.4,26.46N±0.06×127.02E±0.05,h69km±5km, n19,σ0:50/30,mb3.5/3,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGN	**Aguni-jima**	**0.24**	**58**	P	**P**	**16 20 06.9**	**+0.2**
JAGN				S	**S**	**16 20 14.4**	**-0.3**
JKE	**Kume jima 2**	**0.25**	**237**	P	**P**	**16 20 06.9**	**+0.1**
JKE				S	**S**	**16 20 14.3**	**-0.5**
NAH1	**Naha**	**0.66**	**113**	P	**P**	**16 20 10.3**	**-0.2**
NAH1				S	**S**	**16 20 20.0**	**-1.2**
JJT2	**Tamagusuku 2**	**0.73**	**116**	P	**P**	**16 20 11.5**	**+0.2**
JJT2				*e*S	**S**	**16 20 23.1**	**+0.3**
JIH	**Iheya**	**1.02**	**56**	P	**P**	**16 20 15.9**	**+0.9**
JIH				S	**S**	**16 20 29.4**	**+0.3**
JOW	**Kunigami**	**1.18**	**72**	P	**P**	**16 20 17.7**	**+0.6**
JOW				*e*S	**S**	**16 20 32.4**	**-0.4**
JTK	**Tokunoshima**	**2.17**	**52**	P	**P**	**16 20 31.2**	**+0.6**
JTK				S	**S**	**16 20 56.6**	**+0.3**
JOGS	**Gusukube**	**2.23**	**221**	P	**P**	**16 20 32.1**	**+0.6**
JMJ	**Miyako jima 2**	**2.26**	**224**	*e*S	**S**	**16 20 58.9**	**+0.3**
JTJ	**Tarama**	**2.77**	**230**	P	**P**	**16 20 39.4**	**+0.3**
JTJ				*e*S	**S**	**16 21 11.9**	**+0.5**
JAM	**Amami Oshima**	**3.01**	**49**	P	**P**	**16 20 42.6**	**+0.1**
JAM				*e*S	**S**	**16 21 16.6**	**-0.9**
JZK	**Kikaishima**	**3.21**	**54**	P	**P**	**16 20 45.7**	**+0.4**
JZK				*e*S	**S**	**16 21 22.5**	**0.0**
JIJ	**Ishigaki jima**	**3.34**	**232**	P	**P**	**16 20 46.8**	**-0.2**
JIJ				*e*S	**S**	**16 21 25.2**	**-0.4**
JKRS	**Kuro-shima**	**3.51**	**232**	P	**P**	**16 20 49.6**	**+0.1**
IRIF	**Iriomote-Funau**	**3.65**	**235**	P	**P**	**16 20 51.1**	**-0.3**
JMZ	**Minamidaito 2**	**3.83**	**99**	*e*S	**S**	**16 21 30.2**	**-7.9**
SONM	**Songino Array**	**26.78**	**328**	P	**P**	**16 25 31.3**	**+0.1**
	0.6nm,0.6s,mb3.3,baz=140,slow=11,SNR=6.3						
MKAR	**Makanchi Array**	**40.57**	**312**	P	**P**	**16 27 29.4**	**-0.7**
	0.3nm,0.5s,mb3.4,baz=99,slow=8.5,SNR=8.0						
FINES	**FINESS Array B**	**72.12**	**330**	P	**P**	**16 31 13.7**	**-0.9**
	0.8nm,0.5s,mb3.8,baz=72,slow=6.0,SNR=6.3						

IDC 22 16:45:34.0±1.5,26.32N×142.00E,mb3.8/3,mb1 4.0/3, mb1mx3.6/19,mbtmp3.8/3,Error ellipse: s-maj=55.1km s-min=16.9km az=103.0,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**0.79**	**12**	Pn	Pn	16 45 52.7	+0.7
	128nm,0.3s,baz=75,slow=23,SNR=105						
CBIJ				Sn	Sn	16 46 05.9	+1.3
	387nm,0.3s,baz=108,slow=20,SNR=39						
WRA	**Warramunga Arr**	**46.59**	**190**	P	P	16 54 04.0	-1.7
	0.8nm,0.4s,baz=11,slow=8.6,SNR=22						
MKAR	**Makanchi Array**	**50.84**	**310**	P	P	16 54 36.9	-1.3
	0.3nm,0.4s,baz=90,slow=8.6,SNR=2.6						
FINES	**FINESS Array B**	**78.56**	**334**	P	P	16 57 35.9	-2.6
	0.3nm,0.3s,baz=76,slow=5.7,SNR=5.7						

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*IDC **22** 16:48:15.9±0.6, 15.11S×174.96W,mb4.6/21,mb1 4.7/22, mb1mx4.7/25,mbtmp4.6/22,ML3.6/1,MS4.8/23,Ms1 4.8/23, ms1mx4.8/25,Error ellipse: s-maj=24.0km s-min=13.8km az=151.0*
*MOS **22** 16:48:20.7±1.1, 14.86S×175.10W,h33km,mb5.5/26, MS5.1/21,Error ellipse: s-maj=13.8km s-min=10.1km az=71.4*
*HRVD **22** 16:48:22.5±0.2, 14.78S×174.98W,h12km,MW5.3/71, Centroid moment Tensor Solution. LP body waves: s59,c106;Mantle waves: s71,c136; Half duration: 1s1 Moment tensor: Scale 10^17^Nm; Mrr-0.11±.02; Mθθ0.23±.02; Mφφ-0.12±.02; Mrθ0.13±.05; Mθφ1.07±.01; Mφr-0.04±.05; Best double couple: Mo1.094×10^17^ NP1: φs5°,δ83°,λ-177°. NP2:φs275°,δ87°,λ-7°. Principal axes: T 1.145, Plg3°, Azm320°; N -.101, Plg82°, Azm73°; P -1.043, Plg7°, Azm230°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **22** 16:48:22.4±0.2, 14.94S×175.04W,h35km,mb5.3/57, MS5.0/118 Error ellipse: s-maj=10.8km s-min=6.1km az=151.0*
*BJI **22** 16:48:23.6, 14.90S×175.00W,h35km,mB5.4,mb5.1, Ms5.3,Msz5.0*
ISC 22 16:48:18.6±0.2,14.94S±0.06×175.08W±0.05,h20km, h20km±1.5km:pP-P,n410,σ0:96/172,mb5.0/88,MS5.0/140, 22C-10D,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.36**	**73**	Pn	**Pn**	**16 49 03.9**	**-7.3**
	61nm,0.3s,baz=147,slow=1.7,SNR=70						
AFI				Sn	**Sn**	**16 49 39.9**	**-11**
	96nm,0.3s,baz=237,slow=23,SNR=8.5						
AFI				LR	LR	16 50 14.1	
	comp=Z,19μm,18.7s,baz=294,slow=36						
RAO	**Raoul Island**	**14.48**	**190**	LR	LR	16 56 39.4	
	comp=Z,4μm,18.2s,baz=255,slow=35						
RAR	**Rarotonga**	**15.83**	**115**	P	**P**	**16 52 00.3**	**-1.9**
DZM	**Mont Dzumac**	**18.89**	**245**	*e*P	**P**	**16 52 39.9**	**-0.4**
DZM	**Mont Dzumac**	**18.89**	**245**	P	**P**	**16 52 39.4**	**-1.0**
	0.2nm,0.3s,baz=74,slow=21,SNR=4.4						
URZ	**Urewera**	**24.23**	**195**	LR	LR	17 02 08.6	
	comp=Z,4μm,19.8s,MS4.9,baz=206,slow=35						
PPT	**Papeete**	**24.62**	**100**	*e*LQ		16 58 32.0	
PPT				*e*LR	LR	16 59 30.9	
	1μm,23.8s						
PPT	**Papeete**	**24.62**	**100**	LR	LR	17 00 10.3	
	comp=Z,642nm,20.6s,MS4.1,baz=92,slow=29						
HNR	**Honiara**	**25.00**	**280**	P	**P**	**16 53 43.7**	**+0.8**
	60nm,1.1s,mb5.0,baz=208,slow=8.3,SNR=4.8						
HNR				LR	LR	17 02 00.1	
	comp=Z,2μm,20.1s,MS4.7,baz=122,slow=33						
HNR	**Honiara**	**25.00**	**280**	*e*P	**P**	**16 53 42.4**	**-0.5**
	134nm,1.4s,mb5.3						
HNR				LR	LR		
	comp=Z,2μm,22.0s,MS4.6						
TBI	**Tubuai**	**25.57**	**113**	*e*LQ		16 58 58.6	
TBI				*e*LR	LR	16 59 58.7	
	comp=Z,3μm,25.0s,baz=285						
SNZO	**South Karori**	**27.73**	**197**	PFAKE		16 54 20.0	+12
SNZO				LR	LR		
	comp=Z,2μm,19.0s,MS4.6						
KWAJ	**Kwajalein Atol**	**29.17**	**323**	PFAKE		16 54 30.0	+9.0
KWAJ				LR	LR		
	comp=Z,1μm,21.0s,MS4.4						
RPZ	**Rata Peaks**	**31.03**	**200**	LR	LR	17 05 41.7	
	comp=Z,3μm,21.0s,MS4.9,baz=213,slow=34						
TAOE	**Nuku Hiva Isla**	**34.68**	**84**	*e*LR	LR	17 04 09.9	
	comp=Z,8μm,26.3s						
CTA	**Charters Tower**	**37.17**	**256**	*e*P	**P**	**16 55 30.6**	**+0.3**
	comp=Z,20nm,1.1s,mb4.9						
CTA	**Charters Tower**	**37.17**	**256**	P	**P**	**16 55 30.3**	**0.0**
	comp=Z,16nm,1.0s,mb4.8,baz=99,slow=12						
CTAO	**Charters Tower**	**37.17**	**256**	*e*P	**P**	**16 55 30.2**	**0.0**
	comp=Z,48nm,1.3s,mb5.2						
CTAO				*e*PcP	PcP	16 57 52.8	+2.1
CTAO				LR	LR		
	comp=Z,1μm,21.0s,MS4.6						
PMG	**Port Moresby**	**37.28**	**274**	P	**P**	**16 55 30.9**	**-0.4**
	comp=Z,11nm,0.8s,mb4.7,baz=212,slow=20,SNR=4.7						
PMG				LR	LR	17 06 59.5	
	comp=Z,2μm,19.9s,MS4.8,baz=313,slow=30						
PMG	**Port Moresby**	**37.28**	**274**	*e*P	**P**	**16 55 34.9**	**+3.6**
	comp=Z,85nm,1.5s,mb5.3						
PMG				LR	LR	17 06 59.5	
WAKE	**Wake Island**	**38.47**	**332**	PFAKE		16 55 50.0	+8.8
WAKE				LR	LR		
	comp=Z,2μm,22.0s,MS4.9						
POHA	**Pohakuloa**	**39.48**	**30**	PFAKE		16 56 00.0	+10
POHA				LR	LR		
	comp=Z,11μm,20.0s,MS5.7						
KIP	**Kipapa**	**39.83**	**25**	PFAKE		16 56 00.0	+7.5
KIP				LR	LR		
	comp=Z,2μm,19.0s,MS5.0						
TOO	**Toolangi**	**41.51**	**230**	*e*P	**P**	**16 56 06.9**	**+0.7**
	comp=Z,27nm,1.3s,mb4.7						
TOO	**Toolangi**	**41.51**	**230**	*e*P	**P**	**16 56 06.9**	**+0.7**
TOO				pmax	pmax		
	comp=Z,27nm,1.3s,mb4.7						
TAU	**Tasmania Unive**	**42.57**	**222**	PFAKE		16 56 30.0	+15
TAU				LR	LR		
	comp=Z,513nm,20.0s,MS4.4						
STKA	**Stephens Creek**	**42.87**	**239**	*e*P	**P**	**16 56 17.2**	**-0.2**
	comp=Z,19nm,1.2s,mb4.7						
STKA	**Stephens Creek**	**42.87**	**239**	P	**P**	**16 56 15.4**	**-2.0**
	comp=Z,19nm,1.1s,mb4.8,baz=73,slow=6.6,SNR=12						
STKA				LR	LR	17 12 56.0	
	comp=Z,1μm,18.9s,MS4.8,baz=55,slow=34						
STKA	**Stephens Creek**	**42.87**	**239**	*e*P	**P**	**16 56 17.4**	**-0.1**
MIDW	**Midway**	**42.96**	**357**	P	**P**	**16 56 16.5**	**-1.7**
MIDW				LR	LR		
	comp=Z,1μm,20.0s,MS4.7						
WRAB	**Tennant Creek**	**48.36**	**256**	*e*P	**P**	**16 57 02.5**	**+1.2**
	comp=Z,121nm,1.5s,mb5.7						
WRAB				LR	LR		
	comp=Z,223nm,20.0s,MS4.1						
WRAB	**Tennant Creek**	**48.36**	**256**	*e*P	**P**	**16 57 02.5**	**+1.2**
WRAB				pmax	pmax		
	comp=Z,121nm,1.5s,mb5.7						
WRAB				MLR	MLR		
	comp=Z,223nm,20.0s,MS4.1						
WRA	**Warramunga Arr**	**48.37**	**256**	P	**P**	**16 57 00.2**	**-1.1**
	comp=Z,18nm,1.1s,mb5.0,baz=90,slow=8.1,SNR=30						
GUMO	**Guam**	**48.73**	**304**	P	**P**	**16 57 05.0**	**+0.8**
	comp=Z,38nm,1.1s,mb5.3,baz=32,slow=19,SNR=1.6						
GUMO				LR	LR	17 15 28.5	
	comp=Z,963nm,18.8s,MS4.8,baz=93,slow=33						
FORT	**Forrest**	**54.18**	**243**	*e*P	**P**	**16 57 47.2**	**+2.1**
	comp=Z,17nm,0.7s,mb5.1						
FITZ	**Fitzroy Crossi**	**56.72**	**258**	*e*P	**P**	**16 58 05.5**	**+1.9**
	comp=Z,20nm,1.4s,mb5.0						
MBWA	**Marble Bar**	**61.93**	**254**	*e*P	**P**	**16 58 40.4**	**+0.8**
	comp=Z,54nm,1.4s,mb5.5						
MBWA				LR	LR		
	comp=Z,2μm,20.0s,MS5.2						
KLBR	**Kellerberrin**	**63.02**	**242**	*e*P	**P**	**16 58 46.3**	**-0.4**
	comp=Z,65nm,1.3s,mb5.6						
NWAO	**Narrogin (SRO)**	**63.43**	**240**	PFAKE		16 59 00.0	+11
NWAO				LR	LR		
	comp=Z,1μm,20.0s,MS5.0						
SBA	**Scott Base**	**63.58**	**184**	*e*P	**P**	**16 58 49.6**	**-0.1**
	comp=Z,48nm,1.5s,mb5.3						
SBA	**Scott Base**	**63.58**	**184**	*e*P	**P**	**16 58 49.6**	**-0.1**
SBA				pmax	pmax		
	comp=Z,47nm,1.5s,mb5.3						
VNDA	**Vanda**	**63.67**	**185**	P	**P**	**16 58 47.5**	**-2.8**
	comp=Z,3.5nm,1.0s,mb4.4,baz=348,slow=7.6,SNR=3.5						
VNDA				LR	LR	17 23 03.3	
	comp=Z,442nm,19.3s,MS4.7,baz=31,slow=33						
VNDA	**Vanda**	**63.67**	**185**	*e*P	**P**	**16 58 49.5**	**-0.9**
VNDA				LR	LR	17 23 03.3	
MJAR	**Matsushiro Arr**	**67.55**	**321**	P	**P**	**16 59 15.1**	**-0.8**
	comp=Z,6.5nm,1.0s,mb4.6,baz=164,slow=6.4,SNR=8.0						
MJAR				LR	LR	17 22 57.8	
	comp=Z,1μm,21.8s,MS5.1,baz=130,slow=31						
MJAR	**Matsushiro Arr**	**67.55**	**321**	P	**P**	**16 59 15.1**	**-0.8**
MJAR				LR	LR	17 22 57.8	
MAJO	**Matsushiro**	**67.55**	**321**	*e*P	**P**	**16 59 15.4**	**-0.6**
	comp=Z,45nm,1.3s,mb5.3						
MAJO				LR	LR		
	comp=Z,1μm,22.0s,MS5.1						
MAJO	**Matsushiro**	**67.55**	**321**	*e*P	**P**	**16 59 15.4**	**-0.5**
MAJO				pmax	pmax		
	comp=Z,45nm,1.3s,mb5.3						
MAJO				MLR	MLR		
	comp=Z,1μm,22.0s,MS5.1						
MAT	**Matsushiro**	**67.55**	**321**	P	**P**	**16 59 15.2**	**-0.7**
MAT	**Matsushiro**	**67.55**	**321**	*e*P	**P**	**16 59 15.0**	**-0.9**
	comp=Z,64nm,1.5s,mb5.4						
MAT				LR	LR		
	comp=Z,710nm,20.0s,MS4.9						
MAT	**Matsushiro**	**67.55**	**321**	*e*P	**P**	**16 59 15.0**	**-0.9**
MAT				pmax	pmax		
	comp=Z,64nm,1.5s,mb5.4						
MAT				MLR	MLR		
	comp=Z,710nm,20.0s,MS4.9						
SMY	**Shemya**	**68.04**	**353**	PFAKE		16 59 30.0	+11
SMY				LR	LR		
	comp=Z,2μm,20.0s,MS5.2						
JOW	**Kunigami**	**68.91**	**307**	P	**P**	**16 59 23.2**	**-1.3**
	comp=Z,12nm,1.1s,mb4.8,baz=175,slow=12,SNR=3.0						
CASY	**Casey**	**70.15**	**204**	*e*P	**P**	**16 59 28.9**	**-2.5**
	comp=Z,20nm,1.4s,mb4.8						
CASY				LR	LR		
	comp=Z,1μm,21.0s,MS5.2						
ASAJ	**Asahikawa**	**70.31**	**329**	P	**P**	**16 59 33.1**	**+0.3**
	comp=Z,15nm,1.1s,mb4.8,baz=225,slow=13,SNR=3.1						
JNU	**Nakatsue**	**70.31**	**314**	P	**P**	**16 59 33.2**	**+0.3**
	comp=Z,19nm,1.1s,mb4.9,baz=134,slow=15,SNR=3.2						
PET	**Petropavlovsk**	**71.37**	**344**	P	**P**	**16 59 39.1**	**0.0**
	comp=Z,50nm,1.5s,mb5.2						
PET				LR	LR		
	comp=Z,555nm,20.0s,MS4.8						
PET	**Petropavlovsk**	**71.37**	**344**	*e*P	**P**	**16 59 40.6**	**+1.5**
PET				*e*S	S	17 08 59.9	+5.2
PET				*e*PS	PS	17 09 30.7	+4.4
PET				pmax	pmax		
	comp=Z,18nm,1.5s,mb4.8						
PET				smax			
	comp=E,100nm,12.8s						
PET				smax			
	comp=N,200nm,13.5s						
YSS	**Yuzh-Sakhalins**	**72.29**	**331**	*e*P	**P**	**16 59 45.2**	**+0.6**
	comp=N,114nm,1.4s,mb5.6						
YSS				LR	LR		
	comp=Z,475nm,20.0s,MS4.8						
YSS	**Yuzh-Sakhalins**	**72.29**	**331**	*e*P	**P**	**16 59 43.2**	**-1.5**
YSS				*e**SP	sP	16 59 50.0	-3.2
YSS				*e*S	S	17 09 05.0	-0.3
YSS				*e*PPS	PPS	17 09 45.0	-7.3
YSS				pmax	pmax		
	comp=Z,80nm,1.3s,mb5.5						
YSS				pmax	pmax		
	comp=Z,130nm,1.3s,mb5.7						
KIPM	**Iron Peak**	**72.60**	**39**	*e*P	**P**	**16 59 48.1**	**+1.5**
MWC	**Mount Wilson**	**72.99**	**47**	*e*P	**P**	**16 59 49.4**	**+0.4**
KHMM	**Horse Mountain**	**73.10**	**38**	*e*P	**P**	**16 59 49.3**	**-0.2**
KHMM				*e*pP	pP	16 59 55.5	-0.4
TATO	**Taipei**	**73.45**	**302**	PFAKE		17 00 00.0	+8.1
TATO				LR	LR		
	comp=Z,1μm,19.0s,MS5.2						
ISA	**Isabella**	**73.47**	**45**	*e*P	**P**	**16 59 51.7**	**-0.1**
	comp=Z,1.6nm,0.5s,mb4.2						
ISA				LR	LR		
	comp=Z,253nm,20.0s,MS4.5						
ISA	**Isabella**	**73.47**	**45**	*e*P	**P**	**16 59 51.7**	**-0.1**
ISA				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
ISA				MLR	MLR		
	comp=Z,253nm,20.0s,MS4.5						
PFO	**Pinyon Flat Ob**	**73.81**	**48**	*e*P	**P**	**16 59 52.9**	**-1.0**
	comp=Z,21nm,1.4s,mb4.9						
PFO				LR	LR		
	comp=Z,260nm,20.0s,MS4.5						
PFO	**Pinyon Flat Ob**	**73.81**	**48**	*e*P	**P**	**16 59 52.9**	**-0.9**
PFO				pmax	pmax		
	comp=Z,21nm,1.4s,mb4.9						
PFO				MLR	MLR		
	comp=Z,260nm,20.0s,MS4.5						
YBH	**Yreka Blue Hor**	**74.23**	**38**	P	**P**	**16 59 55.6**	**-0.5**
	comp=Z,5.0nm,1.0s,mb4.4,baz=194,slow=5.7,SNR=4.9						
YBH				LR	LR	17 27 19.0	
	comp=Z,652nm,18.6s,MS5.0,baz=174,slow=32						
MTUM	**Tungsten Hills**	**74.33**	**44**	*e*P	**P**	**16 59 56.7**	**-0.1**
DAC	**Darwin (Calif)**	**74.40**	**45**	P	**P**	**16 59 57.3**	**+0.1**
	comp=Z,25nm,1.5s,mb4.9						
DAC				LR	LR		
	comp=Z,1μm,20.0s,MS5.2						
DAC	**Darwin (Calif)**	**74.40**	**45**	P	**P**	**16 59 57.3**	**+0.1**
DAC				pmax	pmax		
	comp=Z,25nm,1.5s,mb4.9						
DAC				MLR	MLR		
	comp=Z,1μm,20.0s,MS5.2						
GSC	**Goldstone**	**74.43**	**46**	*e*P	**P**	**16 59 57.8**	**+0.3**
BEKR	**Beckwourth**	**74.57**	**41**	*e*P	**P**	**16 59 58.3**	**+0.2**
	comp=Z,48nm,1.4s,mb5.2						
GLA	**Glamis**	**74.71**	**49**	*e*P	**P**	**16 59 59.9**	**+0.8**
KDAK	**Kodiak Island**	**74.81**	**12**	*e*P	**P**	**16 59 58.5**	**-0.6**
	comp=Z,17nm,0.9s,mb5.0						
KDAK				LR	LR		
	comp=Z,80nm,20.0s,MS4.0						
NVAR	**Mina Array Bea**	**75.09**	**43**	P	**P**	**16 59 60.0**	**-1.2**
	comp=Z,3.8nm,0.9s,mb4.3,baz=221,slow=9.6,SNR=5.7						
QSPA	**South Pole Qui**	**75.10**	**180**	PFAKE		17 00 10.0	+10
QSPA				LR	LR		
	comp=Z,558nm,22.0s,MS4.8						
LDFC	**Landfair**	**75.51**	**47**	*e*P	**P**	**17 00 04.3**	**+0.6**
INCN	**Inchon**	**75.58**	**316**	PFAKE		17 00 20.0	+16
INCN				LR	LR		
	comp=Z,975nm,20.0s,MS5.1						
TPH	**Tonopah**	**75.61**	**44**	*e*P	**P**	**17 00 04.2**	**+0.1**
	comp=Z,52nm,1.2s,mb5.3						
TPH				LR	LR		
	comp=Z,703nm,21.0s,MS4.9						
TPH	**Tonopah**	**75.61**	**44**	*e*P	**P**	**17 00 04.2**	**+0.1**
TPH				pmax	pmax		
	comp=Z,52nm,1.2s,mb5.3						
TPH				MLR	MLR		
	comp=Z,703nm,21.0s,MS4.9						
COR	**Corvallis**	**75.64**	**35**	PFAKE		17 00 20.0	+16
COR				LR	LR		
	comp=Z,1μm,20.0s,MS5.1						
NEN	**Nelson**	**75.99**	**47**	*e*P	**P**	**17 00 06.1**	**-0.2**
SSE	**Sheshan**	**76.39**	**308**	*e*P	**P**	**17 00 07.4**	**-1.3**
SSE				PP	PP	17 03 00.9	-1.2
SSE				S	S	17 09 54.5	+3.2
SSE				XS		17 10 10.9	
SSE				SCS	ScS	17 10 21.6	+1.9
SSE				AMB	AMB		
	comp=Z,35nm,0.6s,mb5.5						
SSE				AMB	AMB		
	comp=Z,93nm,3.6s						
SSE				LR	LR		
	comp=N,309nm,27.0s,MS4.8						
SSE				LR	LR		
	comp=E,561nm,27.0s,MS4.8						
SSE				LR	LR		
	comp=Z,831nm,32.5s						
SSE	**Sheshan**	**76.39**	**308**	*e*P	**P**	**17 00 06.4**	**-2.3**
	comp=Z,35nm,0.6s,mb5.5						
SSE				pP	pP	17 00 16.0	+0.9
SSE				PcP	PcP	17 00 16.9	-3.9
SSE				sP	sP	17 00 19.6	+2.4
SSE				PP	PP	17 03 00.9	-1.2
SSE				S	S	17 09 54.5	+3.2
SSE				sS		17 10 10.9	
SSE				ScS	ScS	17 10 21.6	+1.9
SSE				LR	LR		
	comp=Z,830nm,32.5s,MS4.8						
BMN	**Battle Mountai**	**76.88**	**42**	*e*P	**P**	**17 00 11.8**	**+0.6**
	comp=Z,80nm,1.8s,mb5.3						
BMN				LR	LR		
	comp=Z,479nm,22.0s,MS4.8						
BMN	**Battle Mountai**	**76.88**	**42**	*e*P	**P**	**17 00 11.8**	**+0.6**
BMN				pmax	pmax		
	comp=Z,80nm,1.8s,mb5.3						
BMN				MLR	MLR		
	comp=Z,479nm,22.0s,MS4.8						
WVOR	**Wild Horse Val**	**77.10**	**39**	*e*P	**P**	**17 00 12.9**	**+0.5**
	comp=Z,50nm,1.5s,mb5.2						
WVOR				LR	LR		
	comp=Z,1μm,22.0s,MS5.1						
WVOR	**Wild Horse Val**	**77.10**	**39**	*e*P	**P**	**17 00 12.9**	**+0.5**
WVOR				pmax	pmax		
	comp=Z,50nm,1.5s,mb5.2						
WVOR				MLR	MLR		
	comp=Z,1μm,22.0s,MS5.1						
OCWA	**Octopus Mounta**	**77.16**	**32**	PFAKE		17 00 20.0	+7.4
OCWA				LR	LR		
	comp=Z,720nm,20.0s,MS5.0						
MIR	**Mirnyy**	**77.17**	**204**	*e*P	**P**	**17 00 15.0**	**+2.7**
MIR				pmax	pmax		
	comp=Z,99nm,2.0s,mb5.4						
RSO	**Redoubt South**	**77.26**	**11**	*e*P	**P**	**17 00 11.7**	**-1.2**
TUC	**Tucson**	**77.37**	**51**	*e*P	**P**	**17 00 14.4**	**+0.3**
	comp=Z,22nm,1.3s,mb4.9						
TUC				LR	LR		
	comp=Z,756nm,21.0s,MS5.0						
TUC	**Tucson**	**77.37**	**51**	*e*P	**P**	**17 00 14.4**	**+0.3**
TUC				pmax	pmax		
	comp=Z,22nm,1.3s,mb4.9						
TUC				MLR	MLR		
	comp=Z,756nm,21.0s,MS5.0						
MDJ	**Mudanjiang**	**77.68**	**323**	P	**P**	**17 00 18.3**	**+2.8**
MDJ				PP	PP	17 03 15.3	+2.5
MDJ				S	S	17 10 09.4	+4.4
MDJ				SS	SS	17 15 12.5	+4.5
MDJ				AMB	AMB		
	comp=Z,14nm,1.7s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,64nm,4.8s						
MDJ				LR	LR		
	comp=N,604nm,26.5s,MS5.0						
MDJ				LR	LR		
	comp=E,765nm,25.5s,MS5.0						
MDJ				LR	LR		
	comp=Z,1μm,26.5s,MS5.1						
MDJ	**Mudanjiang**	**77.68**	**323**	P	**P**	**17 00 15.4**	**-0.1**
	comp=Z,6.0nm,0.9s,mb4.5						
MDJ				LR	LR		
	comp=Z,1μm,21.0s,MS5.2						
SLKM	**Skilak Lake**	**77.80**	**12**	*e*P	**P**	**17 00 15.5**	**-0.3**
ARUT	**Antelope Range**	**78.03**	**45**	*e*P	**P**	**17 00 16.6**	**-1.0**
SPU	**Mount Spurr**	**78.06**	**11**	P	**P**	**17 00 16.8**	**-0.5**
PGC	**Sidney**	**78.11**	**32**	*e*P	**P**	**17 00 16.9**	**-0.8**
	comp=Z,41nm,1.0s,mb5.3						
BBB	**Bella Bella**	**78.22**	**27**	P	**P**	**17 00 18.3**	**0.0**
	comp=Z,6.7nm,0.9s,mb4.5,baz=178,slow=7.8,SNR=3.4						
ELK	**Elko**	**78.32**	**42**	LR	LR	17 27 26.6	
	comp=Z,244nm,21.2s,MS4.5,baz=220,slow=30						
ELK	**Elko**	**78.32**	**42**	*e*P	**P**	**17 00 19.5**	**+0.4**
	comp=Z,16nm,1.3s,mb4.8						
ELK				LR	LR		
	comp=Z,536nm,21

DUG LR LR
comp=Z,717nm,21.0s,MS5.0
CN2 Changchun 79.70 321 ⇓P **P 17 00 27.5 +0.9**
CN2 *e*S S 17 10 28.8 +2.3
CN2 AMB AMB
comp=Z,20nm,1.0s,mb5.0
CN2 AMB AMB
comp=Z,180nm,4.0s
CN2 LR LR
comp=N,420nm,21.0s,MS5.0
CN2 LR LR
comp=E,620nm,21.0s,MS5.0
CN2 LR LR
comp=Z,780nm,23.0s,MS5.0
DL2 Dalian 79.71 315 P **P 17 00 33.8 +7.1**
DL2 AMB AMB
comp=Z,20nm,1.2s,mb4.9
DL2 LR LR
comp=N,190nm,15.5s,MS4.7
DL2 LR LR
comp=E,240nm,16.3s,MS4.7
DL2 LR LR
comp=Z,380nm,19.6s,MS4.7
SNY Shenyang 79.85 318 ⇑P **P 17 00 27.3 -0.1**
SNY AP pP 17 00 37.4 +3.5
SNY XP sP 17 00 41.3 +5.3
SNY S S 17 10 23.4 -4.7
SNY AMB AMB
comp=Z,50nm,1.5s,mb5.2
SNY AMB AMB
comp=Z,230nm,4.2s
SNY LR LR
comp=N,300nm,17.1s
SNY LR LR
comp=Z,360nm,19.1s,MS4.7
TMUT Trail Mountain 80.29 45 *e*P **P 17 00 29.3 -0.5**
HLID Hailey 80.31 40 *e*P **P 17 00 28.9 -1.0**
comp=Z,23nm,1.2s,mb5.0
HLID LR LR
comp=Z,539nm,19.0s,MS4.9
HVU Hansel Valley 80.45 42 P **P 17 00 31.1 +0.4**
SRU San Rafael 80.67 45 *e*P **P 17 00 31.7 -0.1**
DAU Daniels Canyon 80.79 44 *e*P **P 17 00 33.2 +0.8**
TCUT Toone Canyon 81.02 43 *e*P **P 17 00 33.0 -0.7**
HWUT Hardware Ranch 81.16 43 *e*P **P 17 00 35.8 +1.5**
comp=Z,20nm,1.4s,mb4.8
HWUT LR LR
comp=Z,628nm,21.0s,MS5.0
QIZ Qiongzhong 81.23 292 PFAKE 17 00 50.0 +15
QIZ LR LR
comp=Z,611nm,22.0s,MS4.9
NEW Newport 81.25 35 LR LR 17 28 47.3
comp=Z,814nm,21.5s,MS5.0,baz=225,slow=30
NEW Newport 81.25 35 *e*P **P 17 00 36.1 +1.4**
NEW LR LR
comp=Z,862nm,21.0s,MS5.1
MNTX Cornudas Mount 81.26 54 *e*P **P 17 00 35.3 +0.2**
comp=Z,33nm,1.4s,mb5.1
MNTX LR LR
comp=Z,978nm,20.0s,MS5.2
MENT Mentasta 81.39 14 *e*P **P 17 00 35.5 +0.4**
PV01 Paradox Valley 81.59 47 *e*P **P 17 00 36.9 +0.2**
SEY Seymchan 81.67 346 *i* P **P 17 00 36.0 -0.5**
LTX Lajitas 81.71 57 *e*P **P 17 00 37.9 +0.4**
comp=Z,58nm,1.6s,mb5.3
LTX LR LR
comp=Z,1μm,20.0s,MS5.2
LTX Lajitas 81.71 57 *e*P **P 17 00 37.9 +0.4**
LTX pmax pmax
comp=Z,58nm,1.6s,mb5.3
LTX MLR MLR
comp=Z,1μm,20.0s,MS5.2
TXAR Lajitas Array 81.71 57 P **P 17 00 36.6 -0.9**
comp=Z,4.9nm,1.1s,mb4.4,baz=233,slow=6.3,SNR=20
TXAR LR LR 17 29 12.7
comp=Z,951nm,20.5s,MS5.1,baz=225,slow=30
TXAR Lajitas Array 81.71 57 P **P 17 00 36.6 -0.9**
TXAR LR LR 17 29 12.7
ANMO Albuquerque 81.76 51 P **P 17 00 38.9 +1.3**
comp=Z,3.4nm,0.8s,mb4.3,baz=233,slow=5.0,SNR=15
ANMO LR LR 17 31 30.7
comp=Z,941nm,18.2s,MS5.2,baz=294,slow=32
ANMO Albuquerque 81.76 51 *e*P **P 17 00 37.6 -0.1**
comp=Z,65nm,1.7s,mb5.3
ANMO LR LR
comp=Z,894nm,20.0s,MS5.1
ANMO Albuquerque 81.76 51 *e*P **P 17 00 37.6 0.0**
ANMO pmax pmax
comp=Z,65nm,1.7s
ANMO MLR MLR
comp=Z,894nm,20.0s
MCMT McKenzie Canyo 81.93 39 *e*P **P 17 00 38.7 +0.4**
AHID Auburn Hatcher 82.02 42 PFAKE 17 00 50.0 +11
AHID LR LR
comp=Z,280nm,20.0s,MS4.6
RRI2 Red Ridge 82.15 41 *e*P **P 17 00 40.4 +0.9**
comp=Z,80nm,1.5s,mb5.4
COLA College 82.23 11 PFAKE 17 00 50.0 +11
COLA LR LR
comp=Z,29nm,21.0s
MSO Missoula 82.30 37 *e*P **P 17 00 40.1 0.0**
comp=Z,30nm,1.6s,mb5.0
MSO LR LR
comp=Z,599nm,20.0s,MS5.0
ILAR Eielson Array 82.32 12 P **P 17 00 39.0 -1.0**
comp=Z,2.2nm,0.9s,mb4.1,baz=224,slow=6.4,SNR=17
ILAR LR LR 17 38 29.0
comp=Z,102nm,18.6s,MS4.2,baz=32,slow=36
IMA Indian Mountai 82.35 9 *e*P **P 17 00 38.5 -1.5**
comp=Z,58nm,1.0s,mb5.5
IMA Indian Mountai 82.35 9 *e*P **P 17 00 38.5 -1.5**
IMA pmax pmax
comp=Z,59nm,1.0s,mb5.5
TPAW Teton Pass 82.46 41 *e*P **P 17 00 41.4 +0.3**
comp=Z,60nm,1.5s,mb5.3
REDW Red Top Meadow 82.46 41 *e*P **P 17 00 42.5 +1.4**
comp=Z,63nm,1.4s,mb5.4
IMW Indian Meadow 82.66 41 *e*P **P 17 00 42.7 +0.6**
comp=Z,44nm,1.4s,mb5.3
LOHW Long Hollow 82.74 41 *e*P **P 17 00 43.1 +0.6**
comp=Z,26nm,1.4s,mb5.1
CHMT Chamberlain Mo 82.74 38 *e*P **P 17 00 42.5 0.0**
QLMT Earthquake Lak 82.81 40 *e*P **P 17 00 43.1 +0.3**
YFT Old Faithful 82.99 41 *e*P **P 17 00 43.2 -0.6**
BW06 Boulder Array 83.02 42 *e*P **P 17 00 43.2 -0.8**
comp=Z,26nm,1.5s,mb5.0
BW06 *e*pP pP 17 00 50.5 0.0
BW06 LR LR
comp=Z,457nm,22.0s,MS4.8
PDAR Pinedale Array 83.02 42 P **P 17 00 43.6 -0.4**
comp=Z,1.6nm,0.8s,mb4.1,baz=229,slow=2.4,SNR=13
PDAR LR LR 17 30 26.2
comp=Z,341nm,21.3s,MS4.7,baz=247,slow=30
BOZ Bozeman (W) 83.08 39 *e*P **P 17 00 44.3 0.0**
comp=Z,40nm,1.5s,mb5.2
BOZ LR LR
comp=Z,651nm,21.0s,MS5.0
YNR Norris Junctio 83.22 40 *e*P **P 17 00 45.1 +0.1**
LKWY Lake 83.32 41 PFAKE 17 01 00.0 +14
LKWY LR LR
comp=Z,422nm,20.0s,MS4.8
WALA Waterton Lakes 83.47 35 *e*P **P 17 00 46.9 +0.7**
comp=Z,34nm,1.5s,mb5.2
SDCO Great Sand Dun 83.62 48 *e*P **P 17 00 48.0 +0.8**
comp=Z,27nm,1.6s,mb5.1
SDCO LR LR
comp=Z,951nm,19.0s,MS5.2
BILL Bilibino 83.85 353 *e*P **P 17 00 47.6 0.0**
comp=Z,29nm,1.1s,mb5.3
BILL LR LR
comp=Z,821nm,20.0s,MS5.1
BILL Bilibino 83.85 353 P **P 17 00 47.0 -0.7**
BILL *i* pP 17 00 52.1 -2.0
BILL 17 04 02.0
BILL *e* 17 11 12.1
BILL *e*PS PS 17 11 59.6 -5.3
BILL pmax pmax
comp=Z,35nm,2.0s,mb5.1
BILL pmax pmax
comp=Z,7.0nm,0.5s,mb5.0
RWWY Rawlins 84.09 44 *e*P **P 17 00 49.8 +0.3**
comp=Z,59nm,1.5s,mb5.5
ISCO Idaho Springs 84.39 46 *e*P **P 17 00 51.6 +0.6**
comp=Z,32nm,1.7s,mb5.2
ISCO *e*pP pP 17 00 57.9 +0.4
ISCO LR LR
comp=Z,569nm,20.0s,MS5.0
PHWY Pilot Hill 85.12 45 *e*P **P 17 00 55.1 +0.5**
PHWY *e*pP pP 17 01 01.8 +0.7
PMSA Palmer Station 85.25 156 PFAKE 17 01 10.0 +15
PMSA LR LR
comp=Z,843nm,20.0s,MS5.1
ENH Enshi 85.31 303 *e*P **P 17 00 55.9 0.0**
comp=Z,44nm,1.5s,mb5.4
ENH *e*pP pP 17 01 02.9 +0.5
ENH LR LR
comp=Z,206nm,21.0s,MS4.5
HIA Hailar 85.86 323 *e*P **P 17 00 58.1 0.0**
comp=Z,47nm,1.5s,mb5.5
HIA *e*pP pP 17 01 02.8 -1.9
HIA LR LR
comp=Z,2μm,20.0s,MS5.4
HIA Hailar 85.86 323 *e*P **P 17 00 58.2 +0.1**
HIA pmax pmax
comp=Z,47nm,1.5s
HIA MLR MLR
comp=Z,2μm,20.0s
EDM Edmonton 85.95 32 *e*P **P 17 00 57.7 -0.8**
GYA Guiyang 86.40 298 ⇓*i*P **P 17 01 08.9 +7.5**
GYA AP pP 17 01 13.3 +5.4
GYA XP sP 17 01 18.4 +8.5
GYA AMB AMB
comp=Z,20nm,0.8s,mb5.4
GYA AMB AMB
comp=Z,120nm,3.8s
GYA LR LR
comp=N,410nm,17.9s,MS5.0
GYA LR LR
comp=E,380nm,18.0s,MS5.0
GYA LR LR
comp=Z,460nm,18.4s,MS4.9
LAO LASA Array 86.90 40 *e*P **P 17 01 02.7 -0.6**
comp=Z,55nm,1.4s,mb5.6
LAO LR LR
comp=Z,383nm,22.0s,MS4.8
XAN Xi'an 87.05 306 P **P 17 01 08.3 +3.9**
XAN AMB AMB
comp=Z,17nm,0.6s,mb5.5
RSSD Black Hills 87.23 43 PFAKE 17 01 20.0 +15
RSSD LR LR
comp=Z,682nm,20.0s,MS5.0
HHC Hu-ho-hao-te 87.53 313 *e*P **P 17 01 11.6 +5.1**
HHC AP pP 17 01 18.1 +5.1
HHC XP sP 17 01 21.4 +6.3
HHC PP PP 17 04 37.1 +3.1
HHC SKS SKS 17 11 34.5 -3.1
HHC S S 17 11 48.5 +3.7
HHC SS SS 17 17 31.3 -2.6
HHC AMB AMB
comp=Z,32nm,1.2s,mb5.4
HHC AMB AMB
comp=Z,177nm,5.4s
HHC LR LR
comp=N,309nm,19.0s,MS4.8
HHC LR LR
comp=E,294nm,23.8s,MS4.8
HHC LR LR
comp=Z,417nm,27.4s,MS4.7
MAW Mawson 87.70 199 *e*P **P 17 01 06.1 -0.6**
comp=Z,14nm,1.5s,mb5.0
MAW Mawson 87.70 199 P **P 17 01 06.4 -0.3**
comp=Z,11nm,1.1s,mb5.0,baz=124,slow=3.7,SNR=10
MAW LR LR 17 36 26.6
comp=Z,897nm,20.2s,MS5.2,baz=115,slow=33
MAW Mawson 87.70 199 *e*P **P 17 01 06.1 -0.6**
comp=Z,52nm,1.4s,mb5.6
MAW Mawson 87.70 199 *e*P **P 17 01 06.1 -0.6**
MAW pmax pmax
comp=Z,52nm,1.4s
YAK Yakutsk 88.06 337 *e*P **P 17 01 05.8 -2.8**
comp=Z,48nm,1.6s,mb5.5
YAK LR LR
comp=Z,460nm,22.0s,MS4.8
YAK Yakutsk 88.06 337 *i* P **P 17 01 07.0 -1.5**
YAK pmax pmax
comp=Z,15nm,1.7s,mb5.0
YAK MLR MLR
comp=Z,200nm,19.0s,MS4.5
CBKS Cedar Bluff 88.22 49 PFAKE 17 01 20.0 +10
CBKS LR LR
comp=Z,689nm,20.0s,MS5.1
BTO Baotou 88.53 313 *e*P **P 17 01 12.3 +1.0**
BTO AMB AMB
comp=Z,27nm,1.5s,mb5.4
DGMT Dagmar 88.89 39 PFAKE 17 01 20.0 +7.2
DGMT LR LR
comp=Z,877nm,22.0s,MS5.1
KMI Kunming 89.37 296 P **P 17 01 17.1 +1.4**
KMI AP pP 17 01 24.8 +2.6
KMI PP PP 17 04 49.3 +0.2
KMI PPP PPP 17 06 44.8 -3.3
KMI SKS SKS 17 11 45.4 -4.0
KMI S S 17 12 06.5 +4.2
KMI XS 17 12 18.8
KMI PS PS 17 13 16.9 +4.1
KMI SS SS 17 17 59.6 -1.2
KMI SSS SSS 17 21 40.1 +4.9
KMI AMB AMB
comp=Z,138nm,4.4s
KMI LR LR
comp=N,206nm,17.5s,MS4.9
KMI LR LR
comp=E,389nm,19.5s,MS4.9
KMI LR LR
comp=Z,548nm,33.1s
KMI Kunming 89.37 296 P **P 17 01 17.1 +1.4**
comp=Z,0.1nm,4.4s
KMI pP pP 17 01 24.7 +2.5
KMI sP sP 17 01 28.1 +3.9
KMI PP PP 17 04 49.3 +0.2
KMI PPP PPP 17 06 44.7 -3.4
KMI SKS SKS 17 11 45.4 -4.0
KMI S S 17 12 06.5 +4.2
KMI sS 17 12 18.7
KMI PS PS 17 13 16.9 +4.1
KMI SS SS 17 17 59.6 -1.2
KMI SSS SSS 17 21 40.1 +4.9
KMI LR LR
comp=Z,550nm,33.1s,MS4.8
KMI Kunming 89.37 296 P **P 17 01 17.1 +1.4**
KMI *SP sP 17 01 28.1 +3.9
KMI 17 04 49.3
KMI PPP PPP 17 06 44.7 -3.4
KMI 17 11 45.4
KMI S S 17 12 06.5 +4.2
KMI PS PS 17 13 16.9 +4.1
KMI SS SS 17 17 59.6 -1.2
KMI SSS SSS 17 21 40.1 +4.9
KMI MLR MLR
comp=Z,550nm,33.1s,MS4.8
NATX Nacogdoches 89.84 57 PFAKE 17 01 30.0 +12
NATX LR LR
comp=Z,774nm,20.0s,MS5.1
YKA Yellowknife Ar 90.33 24 P **P 17 01 20.5 +1.3**
comp=Z,0.9nm,0.7s,mb4.2,baz=239,slow=3.6,SNR=2.8
YKA LR LR 17 36 13.8
comp=Z,354nm,18.5s,MS4.8,baz=220,slow=32
YKW3 Yellowknife Ar 90.36 24 *e*P **P 17 01 16.7 -2.7**
CIT Chita 90.61 324 *e*P **P 17 01 21.6 +0.8**
CIT *e* 17 04 59.5
CIT pmax pmax
comp=Z,73nm,1.8s,mb5.7
PLCA Paso Flores 91.02 133 LR LR 17 33 21.7
comp=Z,584nm,20.5s,MS5.0,baz=214,slow=30
PLCA Paso Flores 91.02 133 PFAKE 17 01 30.0 +7.1
PLCA LR LR
comp=Z,729nm,20.0s,MS5.1
LZH Lanzhou 91.65 307 *e*P **P 17 01 34.8 +8.8**
LZH AP pP 17 01 39.3 +6.8
LZH XP sP 17 01 41.4 +6.9
LZH S S 17 12 32.0 +10
LZH XS 17 12 46.3
LZH PS PS 17 13 45.3 +6.0
LZH AMB AMB
comp=Z,30nm,1.4s,mb5.4
LZH AMB AMB
comp=Z,110nm,4.0s
LZH LR LR
comp=E,730nm,17.1s
LZH LR LR
comp=Z,630nm,21.2s,MS5.0
BOD Bodaibo 92.71 330 *e*P **P 17 01 28.5 -1.8**
BOD pmax pmax
comp=Z,5.0nm,1.3s,mb4.8
SYO Syowa Base 92.72 192 ⇑P **P 17 01 31.0 +0.9**
SYO Syowa Base 92.72 192 ⇑pP pP 17 01 35.0 -1.6
SONM Songino Array 93.43 319 P **P 17 01 34.4 +0.6**
comp=Z,0.5nm,0.8s,mb4.0,baz=45,slow=2.1,SNR=4.1
SONM PP PP 17 05 21.0 +0.1
comp=Z,0.7nm,1.0s,baz=112,slow=8.0,SNR=4.6
SONM LR LR 17 38 12.5
comp=Z,513nm,21.8s,MS4.9,baz=88,slow=32
SNAA Sanae 93.44 178 P **P 17 01 31.4 -1.9**
comp=Z,30nm,1.7s,mb5.5
VNA3 Neumayer Olymp 93.45 175 P **P 17 01 26.8 -6.6**
VNA3 Neumayer Olymp 93.45 175 **P 17 01 37.6 +4.2**
VNA3 Neumayer Olymp 93.45 175 **P 17 01 44.2 +11**
VNA2 Neumayer--Watz 93.93 176 P **P 17 01 29.7 -5.9**
VNA2 Neumayer--Watz 93.93 176 **P 17 01 36.8 +1.2**
VNA2 Neumayer--Watz 93.93 176 **P 17 01 44.6 +9.0**
TIXI Tiksi 94.13 345 PFAKE 17 01 50.0 +13
TIXI LR LR
comp=Z,308nm,22.0s,MS4.7
CCM Cathedral Cave 94.32 52 PFAKE 17 01 50.0 +12
CCM LR LR
comp=Z,916nm,20.0s,MS5.2
ULM Lac du Bonnet 94.60 39 LR LR 17 38 51.2
comp=Z,646nm,19.5s,MS5.1,baz=89,slow=32
ULM Lac du Bonnet 94.60 39 *e*P **P 17 01 40.1 +1.0**
ULM LR LR
comp=Z,1μm,20.0s,MS5.3
NNA Nana 94.74 104 PFAKE 17 01 50.0 +9.4
NNA LR LR
comp=Z,69nm,20.0s,MS4.1
OXF Oxford 94.83 56 PFAKE 17 01 50.0 +9.4
OXF LR LR
comp=Z,898nm,20.0s,MS5.2
GTA Gaotai 95.63 309 *e*P **P 17 01 52.6 +8.4**
GTA AP pP 17 01 58.6 +7.9
GTA XP sP 17 02 01.8 +9.0
GTA XS 17 13 19.0
GTA AMB AMB
comp=Z,5.0nm,1.7s,mb4.7
GTA AMB AMB
comp=Z,62nm,5.1s
GTA LR LR
comp=N,324nm,20.7s,MS5.1
GTA LR LR
comp=E,659nm,24.9s,MS5.1
GTA LR LR
comp=Z,1μm,22.8s,MS5.2
PLAL Pickwick Lake 96.01 56 *e*P **P 17 01 46.2 +0.2**
comp=Z,21nm,1.4s,mb5.4
PLAL LR LR
comp=Z,773nm,20.0s,MS5.2
ZAK Zakamensk 96.13 320 *e*P **P 17 01 50.1 +3.9**
ZAK *e* 17 05 34.4
ZAK pmax pmax
comp=Z,2.0nm,1.2s,mb4.4
LRAL Lakeview Retre 96.42 58 PFAKE 17 02 00.0 +12
LRAL LR LR
comp=Z,441nm,20.0s,MS4.9
WVT Waverly 96.48 54 PFAKE 17 02 00.0 +12
WVT LR LR
comp=Z,982nm,19.0s,MS5.3
WCI Wyandotte Cave 98.15 53 PFAKE 17 02 10.0 +14
WCI LR LR
comp=Z,572nm,20.0s,MS5.1
TRQA Tornquist 98.17 133 PFAKE 17 02 10.0 +14
TRQA LR LR
comp=Z,572nm,22.0s,MS5.0
LVC Limon Verde 98.67 116 PFAKE 17 02 10.0 +12
LVC LR LR
comp=Z,856nm,22.0s,MS5.2
MYNC Murphy 99.19 56 PFAKE 17 02 10.0 +10
MYNC LR LR
comp=Z,839nm,21.0s,MS5.2
GOGA Godfrey 99.39 58 PFAKE 17 02 10.0 +8.7
GOGA LR LR
comp=Z,740nm,22.0s,MS5.1
LSA Lhasa 100.46 298 PFAKE 17 02 20.0 +14
LSA LR LR
comp=Z,277nm,21.0s,MS4.7
ACSO Alum Creek Sta 101.07 51 PFAKE 17 02 20.0 +11
ACSO LR LR
comp=Z,817nm,19.0s,MS5.3
LPAZ La Paz 101.49 110 PFAKE 17 02 20.0 +8.8
LPAZ LR LR
comp=Z,256nm,20.0s,MS4.7
NHSC New Hope 102.04 59 PFAKE 17 02 20.0 +6.6
NHSC LR LR
comp=Z,745nm,19.0s,MS5.2
BLA Blacksburg 102.53 55 PFAKE 17 02 30.0 +15
BLA LR LR
comp=Z,900nm,20.0s,MS5.3
MCWV Mont Chateau 103.35 52 PFAKE 17 02 30.0 +11
MCWV LR LR
comp=Z,845nm,20.0s,MS5.3
CBN Corbin 105.07 54 PFAKE 17 06 50.0
CBN LR LR
comp=Z,1μm,20.0s,MS5.5
WMQ Urumqi 105.35 312 *e*PDIF Pdif 17 02 26.0 -1.7
WMQ PP PP 17 06 51.0 -1.2
WMQ S 17 14 16.0
WMQ SS SS 17 21 42.0 -2.8
WMQ PP PP
comp=Z,21nm,10.0s
WMQ LR LR
comp=N,218nm,20.0s,MS5.0
WMQ LR LR
comp=E,429nm,20.0s,MS5.0
WMQ LR LR
comp=Z,365nm,20.0s,MS4.9
PALK Pallekele 105.53 274 PFAKE 17 06 50.0
PALK LR LR
comp=Z,81nm,19.0s,MS4.3
SDV Santo Domingo 106.12 85 PFAKE 17 07 00.0
SDV LR LR
comp=Z,268nm,21.0s,MS4.8
BINY Binghamton 106.56 50 PFAKE 17 07 00.0
BINY LR LR
comp=Z,1μm,19.0s,MS5.5
CPUP Villa Florida 106.91 124 PFAKE 17 07 00.0
CPUP LR LR
comp=Z,262nm,20.0s,MS4.8
ZAL Zalesovo 107.88 322 PP PP 17 07 07.3 -3.3
comp=Z,0.7nm,0.3s,baz=52,slow=9.0,SNR=3.4
NCB Newcomb 107.98 48 PFAKE 17 07 00.0
NCB LR LR
comp=Z,278nm,21.0s,MS4.8
SAML Samuel 108.46 105 PFAKE 17 07 00.0
SAML LR LR
comp=Z,357nm,22.0s,MS4.9
LBNH Lisbon 109.65 48 PFAKE 17 07 00.0
LBNH LR LR
comp=Z,549nm,20.0s,MS5.1
WES Weston 110.02 50 PFAKE 17 07 00.0 +7.2
WES LR LR
comp=Z,1μm,21.0s,MS5.5
WVL Waterville 111.28 48 PFAKE 17 07 00.0 +4.8
WVL LR LR
comp=Z,4μm,20.0s,MS6.0
KURK Kurchatov 111.73 319 *e*PKP PKPdf 17 06 52.0 -3.8
KURK LR LR
comp=Z,143nm,21.0s,MS4.5
PQI Presque Isle 112.40 45 PFAKE 17 07 10.0 +13
PQI LR LR
comp=Z,4μm,21.0s,MS6.0
SCHQ Schefferville 112.59 37 PFAKE 17 07 10.0 +13
SCHQ LR LR
comp=Z,640nm,22.0s,MS5.2
EMMW East Machias 112.85 48 PFAKE 17 07 10.0 +12
EMMW LR LR
comp=Z,4μm,20.0s,MS6.0
BBSR BB Station 114.93 61 PFAKE 17 07 10.0 +7.4
BBSR LR LR
comp=Z,353nm,21.0s,MS5.0
AAK Ala-Archa 114.95 310 PFAKE 17 07 10.0 +7.6
AAK LR LR
comp=Z,133nm,21.0s,MS4.5
BVAR Borovoye Array 116.53 322 PKP PKPdf 17 07 01.0 -4.3
comp=Z,0.9nm,0.8s,baz=124,slow=5.2,SNR=4.9
BVAR PP PP 17 08 09.2 -3.9
comp=Z,0.7nm,0.6s,baz=79,slow=7.6,SNR=4.3
BRVK Borovoye 116.58 322 PFAKE 17 07 10.0 +4.6
BRVK LR LR

comp=Z,123nm,22.0s,MS4.5
ARU Arti 122.10 328 *e*PKPdf PKPdf 17 07 11.8 -4.1
ARU LR LR
comp=Z,235nm,21.0s,MS4.8
ARU Arti 122.10 328 *i* PKIKP PKPdf 17 07 10.6 -5.4
ARU *e* 17 08 47.6
ARU *e* 17 14 19.5
ARU *e*SS SS 17 25 24.2 -1.6
ARU MLR MLR
comp=Z,800nm,20.5s,MS5.4
ARU MLR MLR
comp=N,200nm,21.0s,MS5.3
ARU MLR MLR
comp=E,700nm,21.0s,MS5.3
KEV Kevo 123.50 351 PFAKE 17 07 30.0 +12
KEV LR LR
comp=Z,489nm,22.0s,MS5.1
ARCES ARCESS Array B 123.93 351 PKP PKPdf 17 07 14.5 -4.7
comp=Z,1.7nm,0.8s,baz=45,slow=1.7,SNR=6.8
ARCES ARCESS Array B 123.93 351 PKP PKPdf 17 07 14.5 -4.7
MSEY Mahe Island 126.25 253 PFAKE 17 07 30.0 +4.9
MSEY LR LR
comp=Z,133nm,21.0s,MS4.6
FINES FINESS Array B 131.14 347 PKP PKPdf 17 07 27.8 -5.4
comp=Z,1.9nm,0.9s,baz=162,slow=30,SNR=3.0
OBN Obninsk 133.04 336 PFAKE 17 07 50.0 +13
OBN LR LR
comp=Z,73nm,20.0s,MS4.4
OBN Obninsk 133.04 336⇑ *e*PKIKP PKPdf 17 07 38.9 +1.9
OBN pmax pmax
comp=Z,18nm,1.8s
OBN MLR MLR
comp=Z,200nm,21.0s,MS4.8
RCBR Riachuelo 134.58 114 PFAKE 17 07 50.0 +9.1
RCBR LR LR
comp=Z,562nm,22.0s,MS5.2
KONO Kongsberg 135.23 357 PFAKE 17 07 50.0 +9.1
KONO LR LR
comp=Z,199nm,20.0s,MS4.8
GOF Gofitskoye 136.04 321 *e*PKIKP PKPdf 17 07 43.4 +0.6
KIV Kislovodsk 136.81 320 PFAKE 17 07 50.0 +5.9
KIV LR LR
comp=Z,117nm,22.0s,MS4.6
GNI Garni 137.19 314 PFAKE 17 07 50.0 +5.0
GNI LR LR
comp=Z,272nm,20.0s,MS5.0
AKASG Malin Array Be 139.28 336 PKP PKPdf 17 07 45.3 -3.3
comp=Z,0.3nm,0.5s,baz=24,slow=1.9,SNR=5.9
AKASG PP PP 17 10 44.1 +1.9
comp=Z,0.1nm,0.2s,baz=37,slow=5.7,SNR=4.4
LVV L'vov 141.89 340 *e*PKIKP PKPdf 17 07 54.2 +1.0
LVV *e* 17 10 57.6
LVV MLR MLR
comp=N,400nm,23.0s,MS5.2
LVV MLR MLR
comp=E,300nm,23.0s,MS5.2
LVV MLR MLR
comp=Z,600nm,23.0s,MS5.3
OJC Ojcow 142.80 344 *e*PKP PKPdf 17 07 58.2 +3.5
CLZ Clausthal 142.93 354 *e*PKPbc PKPdf 17 07 49.5 -5.4
STHS Stebnicka Huta 143.12 342 *e*PKP PKPdf 17 07 58.0 +2.7
CLL Collm 143.15 352 *i* PKIKP PKPdf 17 07 48.6 -6.7
CLL *e**PPKP 17 07 57.0
CLL *e* 17 08 02.0
CLL Collm 143.15 352 *i* PKP PKPdf 17 07 48.6 -6.7
CLL *ep*PKP 17 07 57.0
CLL LR LR
comp=Z,500nm,19.4s,MS5.3
KOLS Kolonicke sedl 143.23 341 *e*PKP PKPdf 17 07 52.9 -2.6
BRG Berggiesshubel 143.43 350 *e*PKP PKPdf 17 07 52.7 -3.0
BRG *e* 17 08 00.4
BRG Berggiesshubel 143.43 350 *e*PKIKP PKPdf 17 07 52.7 -3.0
BRG pmax pmax
comp=Z,19nm,1.0s
BRG pmax pmax
comp=Z,26nm,1.7s
DPC Dobruska-Polom 143.49 348 *e*PKP PKPdf 17 07 51.3 -4.6
DPC AMS AMS 18 08 50.0
comp=Z,600nm,20.3s
CRVS Cervenica-Dubn 143.51 342 *e*PKP PKPdf 17 07 54.3 -1.7
PVCC Panska Ves 143.66 350 *e*PKP PKPdf 17 07 56.1 0.0
PVCC AMS AMS 18 10 20.0
comp=Z,500nm,20.5s
MORC Moravsky Berou 143.77 346 *e*PKPdf PKPdf 17 07 53.9 -2.5
TSUM Tsumeb 143.85 201 PFAKE 17 08 10.0 +18
TSUM LR LR
comp=Z,412nm,19.0s,MS5.2
MOX Moxa 143.98 353 *i* P PKPbc 17 07 59.0 +7.2
comp=Z,logA/T=1.2
MOX Moxa 143.98 353 *e*PKIKP PKPdf 17 07 59.0 +2.3
MOX pmax pmax
comp=Z,24nm,1.6s
VRI Vrincioaia 144.13 334‖ *i*P PKPbc 17 08 02.7 +10
KECS Kecovo 144.18 342 *e*PKP PKPdf 17 07 52.3 -4.8
PRU Pruhonice 144.18 349 *e*PKP PKPdf 17 07 52.9 -4.2
PRU AMS AMS 18 11 10.0
comp=Z,500nm,22.5s
KMBO Kilima Mbogo 144.25 246 PKP PKPdf 17 07 54.2 -4.2
comp=Z,11nm,1.0s,baz=71,slow=2.7,SNR=15
KMBO Kilima Mbogo 144.25 246 PKP PKPdf 17 07 54.2 -4.2
KMBO LR LR
comp=Z,451µm,21.0s
HGN Heimansgroeve 144.26 359 *e*PKP PKPdf 17 07 59.3 +2.1
comp=Z,30nm,2.0s
VYHS Vyhne 144.63 344 *e*PKP PKPdf 17 07 54.4 -3.6
TREC Trest 144.67 348 *e*PKP PKPdf 17 07 54.4 -3.6
TREC AMS AMS 18 10 00.0
comp=Z,700nm,21.6s
TNS Taunus Mts 144.70 356 *e*PKPbc PKPbc 17 07 54.8 +1.0
CMLA Cha da Macela 144.76 44 PFAKE 17 08 10.0 +16
CMLA LR LR
comp=Z,4µm,21.0s
MLR Muntele Rosu 144.76 334‖ *i*P PKPbc 17 07 56.1 +2.0
MLR Muntele Rosu 144.76 334‖ *i*P PKPbc 17 07 56.1 +2.0
BRTR Keskin Array B 144.77 320 PKP PKPdf 17 07 53.1 -5.4
comp=Z,12nm,0.9s,baz=90,slow=2.1,SNR=33
PSZ Piszkesteto 144.86 342 *e*PKP/F PKPdf 17 07 55.0 -3.4
PSZ Piszkesteto 144.86 342 *e*PKPdf PKPdf 17 07 54.5 -3.9
GIVF Givet 144.94 0 *e*PKP1 PKPbc 17 07 54.6 +0.1
comp=Z,257nm,1.8s
DRGR 144.94 339⇑ *i*P PKPbc 17 07 54.0 -0.6
DRGR 144.94 339⇑ *i*P PKPbc 17 07 54.0 -0.6
GRA1 Grafenberg Arr 144.97 353 *e*PKPbc PKPbc 17 07 55.8 +1.2
GRF Grafenberg Arr 144.97 353 *e*PKP PKPdf 17 07 55.8 -2.7
GRF LR LR
comp=Z,400nm,20.6s,MS5.2
BAIF Baives 144.97 1 *e*PKP1 PKPbc 17 07 54.9 +0.3
comp=Z,238nm,1.8s
ABH Alteburg 145.09 357⇑ *e*P PKPbc 17 07 55.9 +1.0
ABH Alteburg 145.09 357 PKP PKPdf 17 07 56.2 -2.5
KHC Kasperske Hory 145.18 350 *e*PKP PKPdf 17 07 55.6 -3.3
KHC x x 17 07 59.5
KHC pPKP 17 08 02.5
KHC Kasperske Hory 145.18 350 *e*PKP PKPdf 17 07 55.6 -3.3
KHC *e* 17 07 59.5
KHC *e* 17 08 02.5
KHC Kasperske Hory 145.18 350 *e*PKIKP PKPdf 17 07 55.6 -3.3
KHC *e* 17 08 02.5
VOIR 145.18 335‖ *i*P PKPbc 17 07 57.4 +2.2
VOIR 145.18 335‖ *i*P PKPbc 17 07 57.4 +2.2
WET Wettzell 145.27 351 *e*PKPbc PKPbc 17 07 56.5 +1.1
TOD Tromm 145.29 356⇑ *e*P PKPbc 17 07 56.6 +1.2
ZST Bratislava 145.35 346 *e*PKP PKPdf 17 07 57.2 -2.0
WLF Walferdange 145.36 359 *e*PKPbc PKPbc 17 07 57.0 +1.5
SWS Schriesheim 145.41 356⇑ *e*P PKPbc 17 07 56.9 +1.2
GEC2 GERESS Array S 145.43 350 *e*PKPbc PKPbc 17 07 56.5 +0.7
GERES GERESS Array B 145.43 350 PKPbc PKPbc 17 07 54.7 -1.0
comp=Z,6.7nm,0.9s,baz=45,slow=1.9,SNR=29
VKA Vienna 145.47 347⇑ *i*PKP PKPdf 17 07 57.4 -2.0
SIND Sindeldorf 145.47 355⇑ *e*P PKPbc 17 07 57.0 +1.1
KTD Kalmit 145.62 356 *e*P PKPbc 17 07 58.0 +1.8
LTHS Al Lith 145.80 284 P PKPbc 17 07 59.0 +1.5
LANF Langenberg 145.97 357 PKP PKPdf 17 07 59.4 -0.9
FLN La Foliniere 145.98 6 *e*PKP1 PKPbc 17 07 57.7 +0.6
comp=Z,454nm,1.7s
FLN *e*R
comp=Z,459nm,21.5s
ROSF Rostrenen 146.02 10 *e*PKP1 PKPbc 17 07 57.4 +0.2
comp=Z,304nm,1.7s
HDH Heidenheim 146.17 354⇑ *e*P PKPbc 17 07 59.5 +1.9
LDF La Druitiere 146.19 6 *e*PKP1 PKPbc 17 07 58.3 +0.7
comp=Z,446nm,1.9s
SGMF Saint Gilles 146.22 9 *e*PKP1 PKPbc 17 07 58.6 +0.9
comp=Z,252nm,1.5s

LBG Lerchenberg 146.22 355⇑ *e*P PKPbc 17 07 59.6 +1.9
MOA Molln 146.29 349‖ *i*P PKPbc 17 07 59.5 +1.6
GRR Gorron 146.31 7 *e*PKP1 PKPbc 17 07 58.8 +0.9
comp=Z,237nm,1.7s
QUIF Quistinic 146.45 10 *e*PKP1 PKPbc 17 07 58.8 +0.6
comp=Z,419nm,1.9s
FUR Furstenfeldbru 146.46 352 *e*PKPbc PKPbc 17 08 00.5 +2.2
MEZF Maizieres J'vi 146.54 360 *e*PKP1 PKPbc 17 08 00.0 +1.6
comp=Z,399nm,1.7s
WLS Welschbruch 146.56 357 PKP PKPdf 17 08 00.5 -0.8
CDF Champ du Feu 146.57 357 *e*PKP1 PKPbc 17 07 59.8 +1.3
comp=Z,242nm,1.5s
BFO Black Forest 146.59 356 *e*PKPbc PKPbc 17 08 00.2 +1.6
ARSA Arzberg 146.60 347‖ *i*P PKPbc 17 08 00.2 +1.6
ECH Echery 146.77 357 PKP PKPdf 17 08 00.7 -0.9
SPAK Spaichingen 146.78 355 *e*P PKPbc 17 08 01.3 +2.3
GUT Gutenstein 146.79 355⇑ *e*P PKPbc 17 08 01.0 +2.0
THEF They Montfort 146.80 359 PKP PKPdf 17 08 00.7 -1.0
KIZ Kirchzarten 146.99 356⇑ *e*P PKPbc 17 08 01.6 +2.1
HAU Haudompre 147.01 358 *e*PKP1 PKPdf 17 08 01.0 -1.0
comp=Z,91nm,1.0s
HAU *e*R
comp=Z,423nm,20.2s
FELD Feldberg 147.06 356⇑ *e*P PKPdf 17 08 02.1 0.0
UBR Uberruh 147.07 354 *e*P PKPdf 17 08 01.9 -0.3
MOF Molkenrain 147.14 357 PKP PKPdf 17 08 02.0 -0.2
HINF Hinteralfeld 147.18 358 *e*PKP1 PKPdf 17 08 01.3 -1.0
comp=Z,60nm,1.3s
KBA Koelnbreinsper 147.20 349⇑ *i*P PKPdf 17 08 00.9 -1.5
WATA Walderalm 147.23 352⇑ *i*P PKPdf 17 08 02.5 +0.1
PERS Pernice 147.27 347 *e*PKPdf PKPdf 17 08 01.5 -1.0
PERS *e*PKPbc PKPdf 17 08 08.5 +6.0
MOTA Moosalm 147.29 352⇑ *i*P PKPdf 17 08 02.5 0.0
WTTA Wattenberg 147.29 352⇑ *i*P PKPdf 17 08 02.0 -0.5
SQTA Sankt Quirin 147.40 352‖ *i*P PKPdf 17 08 03.0 +0.3
BEO Belgrade 147.44 339 *e*PKP PKPdf 17 08 06.3 +3.4
DAVA Damuels 147.49 354⇑ *i*P PKPdf 17 08 03.6 +0.8
BBS Basel-Blauen 147.50 357 *e*P PKPdf 17 08 03.3 +0.4
BBS Basel-Blauen 147.50 357 PKP PKPdf 17 08 03.1 +0.2
HYF Humbligny 147.72 3 *e*PKP1 PKPdf 17 08 03.3 +0.1
LOR Lormes 147.76 1 *e*PKP1 PKPdf 17 08 03.3 0.0
comp=Z,213nm,1.5s
LOR *e*R
comp=Z,810nm,20.5s
TBKS Tabuk 147.87 300 P PKPdf 17 08 05.2 +1.2
SSF Saint Saulge 147.96 2 *e*PKP1 PKPdf 17 08 03.9 +0.3
comp=Z,356nm,1.5s
LJU Ljubljana 147.96 347 *e*PKPdf PKPdf 17 08 07.3 +3.7
LJU *e*PKPbc PKPdf 17 08 14.2 +11
ROBS Robic 147.97 349 *e*PKPdf PKPdf 17 08 03.0 -0.6
VOY Vojsko 148.10 348 *e*PKPdf PKPdf 17 08 07.3 +3.4
VOY *e*PKPbc PKPdf 17 08 10.7 +6.8
MFF Saint Martin d 148.15 7 *e*PKP1 PKPdf 17 08 04.1 +0.2
comp=Z,268nm,1.8s
AVF Avril sur Loir 148.22 2 *e*PKP1 PKPdf 17 08 04.3 +0.3
comp=Z,153nm,1.6s
DIVS Divcibare 148.23 339⇑ *i*PKP PKPdf 17 08 04.8 +0.7
BOJS Bojanci 148.31 346 *i* PKPdf PKPdf 17 08 05.1 +0.9
BOJS *e*PKPbc PKPdf 17 08 10.9 +6.7
SMF Signal de Mont 148.38 1 *e*PKP1 PKPdf 17 08 04.7 +0.4
comp=Z,264nm,1.6s
CABF La Chapelle 148.41 358 *e*PKP1 PKPdf 17 08 05.5 +1.2
comp=Z,372nm,1.4s
BGF Bois d'Agland 148.43 3 *e*PKP1 PKPdf 17 08 04.9 +0.5
comp=Z,273nm,1.7s
DBAS Duba 148.65 298 P PKPdf 17 08 06.1 +0.8
TCF Toulx Ste Croi 148.67 4 *e*PKP1 PKPdf 17 08 05.5 +0.7
comp=Z,142nm,1.5s
ALWS Ilw as Safayha 148.74 302 P PKPdf 17 08 06.7 +1.2
JMOS Jabal al Moall 148.75 302 P PKPdf 17 08 06.8 +1.4
AGO Saint Agoulin 148.95 2 PKP PKPdf 17 08 07.9 +2.7
BDAS Al Bad' 149.01 301 P PKPdf 17 08 06.7 +0.9
PLDF La Plantade 149.05 2 PKP PKPdf 17 08 08.6 +3.2
PYM Petit Puy Mans 149.25 3 PKP PKPdf 17 08 09.2 +3.5
LPL La Plagne 149.49 357 *e*PKP1 PKPdf 17 08 08.6 +2.5
comp=Z,358nm,1.8s
LPG La Plagne 149.50 357 *e*PKP1 PKPdf 17 08 08.8 +2.7
comp=Z,305nm,1.5s
COLF Collangettes 149.50 2 PKP PKPdf 17 08 08.8 +2.7
SKO Skopje 149.52 335 *e*P PKPdf 17 08 04.5 -1.8
FRNF Fournols 149.59 3 PKP PKPdf 17 08 09.0 +2.7
RJF Les Rejaudoux 149.60 5 *e*PKP1 PKPdf 17 08 08.0 +1.7
comp=Z,296nm,1.7s
RJF *e*R
comp=Z,639nm,20.5s
LBL Lubilhac 149.78 2 PKP PKPdf 17 08 10.0 +3.4
GRN Grenoble 149.79 359 PKP PKPdf 17 08 09.8 +3.2
LFF La Frestade 149.89 6 *e*PKP1 PKPdf 17 08 08.7 +1.9
comp=Z,213nm,1.6s
BNI Bardonecchia 149.95 358 *e*PKPbc PKPdf 17 08 09.8 +2.9
CAF Calviac 150.02 4 *e*PKP1 PKPdf 17 08 09.2 +2.2
comp=Z,148nm,1.7s
ORIF Oris-en-Rattie 150.11 359 *e*PKP1 PKPdf 17 08 09.8 +2.7
comp=Z,70nm,1.2s
ORIF *e*R
comp=Z,556nm,22.5s
MBAR Mbarara 150.16 241 *e*PKPbc PKPdf 17 08 10.3 +2.2
MBAR LR LR
comp=Z,117nm,22.0s,MS4.6
VIVF Saint-Julien-l 150.18 0 *e*PKP1 PKPdf 17 08 09.9 +2.7
comp=Z,147nm,1.4s
MBDF Montbardon 150.27 357 *e*PKP1 PKPdf 17 08 10.0 +2.6
comp=Z,218nm,1.6s
SURF Saint Ours 150.51 357 PKP PKPdf 17 08 10.5 +2.8
LASF Ste Croix 150.95 2 *e*PKP1 PKPdf 17 08 11.8 +3.4
comp=Z,241nm,1.5s
TOUF Mont Tournerai 150.96 357 PKP PKPdf 17 08 16.9 +8.5
SAOF Saorge 150.97 356 PKP PKPdf 17 08 12.2 +3.8
SMRF Simiane la Rot 151.06 359 *e*PKP1 PKPdf 17 08 12.4 +3.8
comp=Z,133nm,1.3s
PCAB Cabril 151.07 20 *e*PKPbc PKPdf 17 08 12.2 +3.6
SBF Sospel 151.10 356 *e*PKP1 PKPdf 17 08 11.2 +2.6
comp=Z,147nm,1.3s
PBRG Braganca 151.40 18 *e*PKPbc PKPdf 17 08 12.8 +3.7
SJPF Ste Jean 151.44 9 *e*PKP1 PKPdf 17 08 12.7 +3.6
comp=Z,36nm,1.2s
FRF La Foret Royal 151.44 357 *e*PKP1 PKPdf 17 08 12.2 +3.1
comp=Z,172nm,1.4s
PVRL Vila Real 151.56 20 *e*PKPbc PKPdf 17 08 13.6 +4.2
MTLF Montolieu 151.60 4 *e*PKP1 PKPdf 17 08 12.8 +3.4
comp=Z,117nm,1.6s
LMR La Mourre 151.67 358 *e*PKP1 PKPdf 17 08 12.7 +3.2
comp=Z,175nm,1.6s
AQU L'Aquila 151.72 347 *e*PKPab PKPab 17 08 20.9 -2.2
EPF Esparros 151.73 7 *e*PKP1 PKPdf 17 08 12.8 +3.2
comp=Z,90nm,1.6s
ETSF Etsaut 151.75 9 *e*PKP1 PKPdf 17 08 13.6 +4.0
comp=Z,86nm,1.4s
PGF Pioggiola 152.27 354 *e*PKP1 PKPdf 17 08 14.1 +3.7
comp=Z,247nm,1.7s
MTE Manteigas 152.40 21 *e*LR LR 17 59 15.1
comp=Z,374nm,18.0s
ESDC Sonseca Array 154.16 16 PKPbc PKPdf 17 08 18.8 +5.7
comp=Z,0.2nm,0.3s,baz=342,slow=4.7,SNR=4.2
ESLA Sonseca Array 154.16 16 PFAKE 17 08 20.0 +6.9
ESLA LR LR
comp=Z,1µm,21.0s,MS5.8
LIC Lamto 166.94 131 *e*PKP2 PKPab 17 09 37.6 +8.3
DBIC Dimbokro 167.37 130 PFAKE 17 08 40.0 +12
DBIC LR LR
comp=Z,422nm,20.0s

IDC ***22*** *16:56:13.3±1.4, 21.50S×169.84E, mb3.9/6, mb1 4.0/7, mb1mx4.0/13, mbtmp3.9/7, ML3.8/1, MS3.6/1, Ms1 3.6/1, ms1mx3.4/18, Error ellipse: s-maj=33.8km s-min=28.0km az=6.0*
NEIC ***22*** *16:56:13.7±0.8, 21.95S×170.11E, h15km, mb4.6/5, Error ellipse: s-maj=25.4km s-min=14.1km az=18.0*
ISC 22 16:56:15.6±1.0, 21.7S±0.2×169.97E±0.07, h33km, n32, σ1§43/28, mb4.2/10, 2C, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.30**	**262**	*e*P	**P**	**16 57 05.2**	**-0.9**
DZM				*e*S	**S**	**16 57 44.6**	**0.0**
DZM	**Mont Dzumac**	**3.30**	**262**	Pn	**Pn**	**16 57 05.2**	**-1.1**
9.9nm,0.3s,baz=91,slow=17,SNR=305							
DZM				LR	LR	16 57 36.4	
comp=Z,932nm,20.7s,baz=154,slow=26							
DZM				Sn	**Sn**	**16 57 45.9**	**+1.2**
12nm,0.3s,baz=102,slow=23,SNR=7.6							
DZM	**Mont Dzumac**	**3.30**	**262**	*e*P	**P**	**16 57 05.2**	**-0.9**
DZM				*e*S	**S**	**16 57 44.6**	**0.0**

CTA Charters Tower 22.21 270 P **P 17 01 12.1 +1.4**
1.8nm,0.6s,mb3.7,baz=93,slow=16,SNR=3.4
CTAO Charters Tower 22.21 270 *e*P **P 17 01 12.0 +1.2**
10nm,1.0s,mb4.2
STKA Stephens Creek 27.22 242 P **P 17 01 57.6 -1.0**
1.3nm,0.6s,mb3.7,baz=85,slow=11,SNR=6.1
STKA Stephens Creek 27.22 242 *e*P **P 17 01 58.0 -0.5**
WRAB Tennant Creek 33.30 266 *e*P **P 17 02 51.0 -1.5**
12nm,1.3s,mb4.7
WRA Warramunga Arr 33.30 266 P **P 17 02 50.8 -1.8**
0.5nm,0.4s,mb3.8,baz=101,slow=8.3,SNR=15
FITZ Fitzroy Crossi 41.73 267 *e*P **P 17 04 04.9 +1.4**
9.6nm,0.8s,mb4.5
VNDA Vanda 56.04 182 P **P 17 05 53.7 +0.6**
0.7nm,0.8s,mb3.8,baz=352,slow=8.7,SNR=4.2
VNDA Vanda 56.04 182 P **P 17 05 53.7 +0.6**
SBA Scott Base 56.26 181 *e*P **P 17 05 51.3 -3.4**
4.2nm,0.8s,mb4.5
MAW Mawson 76.45 202 P **P 17 08 06.5 +3.2**
2.4nm,0.8s,mb4.2,baz=143,slow=5.2,SNR=7.6
SNAA Sanae 86.78 182 P **P 17 08 54.4 -2.7**
13nm,1.7s,mb4.9
VNA3 Neumayer Olymp 87.34 180⇑ *i* **P 17 08 57.8 -2.0**
VNA3 Neumayer Olymp 87.34 180 **P 17 09 04.4 +4.6**
VNA3 Neumayer Olymp 87.34 180 **P 17 09 07.1 +7.3**
VNA3 Neumayer Olymp 87.34 180 **P 17 09 14.2 +14**
VNA2 Neumayer--Watz 87.64 181⇑ *i* **P 17 09 00.6 -0.6**
VNA2 Neumayer--Watz 87.64 181 **P 17 09 04.4 +3.2**
VNA2 Neumayer--Watz 87.64 181 **P 17 09 08.8 +7.6**
VNA2 Neumayer--Watz 87.64 181 **P 17 09 10.6 +9.4**
VNA2 Neumayer--Watz 87.64 181 **P 17 09 15.1 +14**
SONM Songino Array 89.56 323 P **P 17 09 11.7 +0.7**
0.7nm,0.8s,mb4.1,baz=124,slow=4.4,SNR=6.6
DPC Dobruska-Polom 144.67 331 *e*PKP PKPdf 17 15 49.7 +1.0
DPC *ep*PKP 17 15 58.7
PVCC Panska Ves 145.32 332 *e*PKP PKPdf 17 15 51.8 +2.0
BRG Berggiesshubel 145.34 333 *e*P PKPdf 17 15 51.7 +1.9
BRG *e* 17 16 01.4
CLL Collm 145.40 334 *i* PKP1 PKPbc 17 15 51.5 +1.1
CLL *e* 17 16 01.0
CLL *e* 17 16 08.0
PRU Pruhonice 145.73 332 *e*PKP PKPdf 17 15 52.8 +2.3
KHC Kasperske Hory 146.79 331 *e*PKP PKPdf 17 15 55.9 +3.5
KHC *ep*PKP 17 16 05.7
GERES GERESS Array B 146.94 331 PKPbc PKPbc 17 15 56.3 +2.1
1.3nm,0.7s,baz=45,slow=3.8,SNR=14

IDC ***22*** *17:39:25.6±1.7, 6.16N×126.84E, mb3.8/4, mb1 4.0/4, mb1mx3.6/18, mbtmp3.8/4, Error ellipse: s-maj=107.6km s-min=23.9km az=73.0*
NEIC ***22*** *17:39:27.4±0.9, 6.32N×127.25E, h15km, mb4.1/3, Error ellipse: s-maj=57.9km s-min=14.9km az=68.0*
ISC 22 17:39:28.2±1.0, 6.4N±0.2×127.6E±0.1, h33km, n11, σ0§83/12, mb3.9/7, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMPH	**Davao City--Mi**	**2.14**	**289**	*e*P	**P**	**17 40 03.0**	**+0.8**
DMPH				*e*S	**S**	**17 40 27.8**	**-0.2**
SCPH	**Surigao**	**3.95**	**329**⇑	*e*P	**P**	**17 40 36.9**	**+9.0**
FITZ	**Fitzroy Crossi**	**24.40**	**184**	P	**P**	**17 44 43.8**	**-1.2**
1.1nm,0.4s,mb3.6,baz=14,slow=6.6,SNR=7.5							
WRAB	**Tennant Creek**	**26.99**	**166**	*e*P	**P**	**17 45 09.6**	**+0.3**
3.1nm,0.8s,mb3.9							
WRA	**Warramunga Arr**	**26.99**	**166**	P	**P**	**17 45 09.0**	**-0.3**
0.5nm,0.4s,mb3.4,baz=343,slow=10,SNR=8.3							
CTAO	**Charters Tower**	**32.10**	**145**	*e*P	**P**	**17 45 54.4**	**-0.4**
19nm,1.5s,mb4.7							
STKA	**Stephens Creek**	**40.33**	**161**	P	**P**	**17 47 06.0**	**+1.6**
MKAR	**Makanchi Array**	**55.88**	**324**	P	**P**	**17 49 04.0**	**-1.1**
0.3nm,0.5s,mb3.6,baz=115,slow=7.8,SNR=7.9							
BRVK	**Borovoye**	**65.64**	**326**	*e*P	**P**	**17 50 05.2**	**-6.0**
0.8nm,0.7s,mb3.9							
ARCES	**ARCESS Array B**	**88.26**	**340**	P	**P**	**17 52 17.4**	**+0.4**
1.8nm,0.9s,mb4.3,baz=74,slow=8.8,SNR=4.1							
ARCES	**ARCESS Array B**	**88.26**	**340**	P	**P**	**17 52 17.4**	**+0.4**

IDC ***22*** *18:38:00.7±1.3, 21.17N×120.04E, mb3.4/4, mb1 3.7/4, mb1mx3.5/18, mbtmp3.4/4, MS3.1/1, Ms1 3.1/1, ms1mx2.7/11, Error ellipse: s-maj=62.1km s-min=25.2km az=67.0*
NEIC ***22*** *18:38:05.3±0.6, 21.27N×120.27E, h35km, mb4.3/1, Error ellipse: s-maj=13.8km s-min=9.3km az=114.0*
JMA ***22*** *18:38:06.7±0.4, 21.17N×120.59E, h138km*
ISC 22 18:38:03.8±1.0, 21.25N±0.05×120.28E±0.07, h35km±13km, n17, σ1§06/24, mb3.5/5, MS2.9/1, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**3.15**	**22**	*e*Pn	**P**	**18 38 53.1**	**+0.8**
NACB				*e*Sn	**S**	**18 39 29.5**	**+0.3**
YHNB	**Yeheng**	**3.55**	**16**	*e*Pn	**P**	**18 38 57.7**	**-0.2**
YHNB				*e*Sn	**S**	**18 39 40.6**	**+1.3**
CVP	**Callao Caves**	**3.82**	**157**	*e*P	**P**	**18 39 02.0**	**+0.3**
TATO	**Taipei**	**3.87**	**17**	Pn	**P**	**18 39 01.5**	**-1.0**
TATO				*e*Sn	**S**	**18 39 46.2**	**-1.2**
YOJ	**Yonaguni jima**	**4.07**	**38**	P	**P**	**18 39 07.1**	**+1.8**
YOJ				*e*S	**S**	**18 39 53.3**	**+0.9**
IRIF	**Iriomote-Funau**	**4.42**	**45**	P	**P**	**18 39 10.9**	**+0.6**
IRIF				*e*S	**S**	**18 40 00.9**	**-0.5**
JKRS	**Kuro-shima**	**4.55**	**49**	P	**P**	**18 39 12.7**	**+0.6**
JKRS				*e*S	**S**	**18 40 04.1**	**-0.4**
JIJ	**Ishigaki jima**	**4.72**	**48**	P	**P**	**18 39 15.0**	**+0.4**
JIJ				*e*S	**S**	**18 40 07.7**	**-1.2**
JTJ	**Tarama**	**5.29**	**50**	P	**P**	**18 39 22.8**	**+0.2**
JTJ				*e*S	**S**	**18 40 21.1**	**-2.1**
QIZ	**Qiongzhong**	**10.05**	**259**	*e*Pn	**P**	**18 40 26.7**	**-2.2**
MJAR	**Matsushiro Arr**	**21.82**	**42**	LR	LR	18 51 32.3	
comp=Z,48nm,20.2s,MS2.9,baz=90,slow=37							
LSA	**Lhasa**	**27.55**	**294**	P	**P**	**18 43 50.4**	**+0.7**
SONM	**Songino Array**	**28.79**	**340**	P	**P**	**18 43 59.0**	**-1.6**
0.3nm,0.8s,mb3.1,baz=149,slow=8.4,SNR=2.8							
MKAR	**Makanchi Array**	**39.92**	**319**	P	**P**	**18 45 36.5**	**+0.4**
0.4nm,0.7s,mb3.2,baz=120,slow=8.9,SNR=3.3							
WRAB	**Tennant Creek**	**43.19**	**160**	*e*P	**P**	**18 46 03.1**	**-0.3**
5.9nm,1.0s,mb4.3							
WRA	**Warramunga Arr**	**43.19**	**160**	P	**P**	**18 46 03.2**	**-0.2**
0.7nm,0.8s,mb3.5,baz=342,slow=9.1,SNR=8.1							
ILAR	**Eielson Array**	**72.19**	**27**	P	**P**	**18 49 28.9**	**+2.3**
0.4nm,0.8s,mb3.4,baz=298,slow=8.3,SNR=5.1							

IDC ***22*** *18:51:07.9±0.5, 7.47N×36.34W, mb4.3/23, mb1 4.5/23, mb1mx4.4/25, mbtmp4.3/23, MS4.2/20, Ms1 4.2/20, ms1mx4.2/23, Error ellipse: s-maj=15.1km s-min=12.2km az=147.0*
BJI ***22*** *18:51:09.0, 7.50N×36.30W, h10km, mB5.3, Ms4.9, Msz4.4*
NEIC ***22*** *18:51:09.6±0.2, 7.46N×36.35W, h10km, mb4.8/62, MS4.4/3, Error ellipse: s-maj=6.6km s-min=4.2km az=148.0*
ISC 22 18:51:07.7±0.3, 7.44N±0.05×36.32W±0.04, h10km, n147, σ0§97/137, mb4.6/81, MS4.3/22, 7C-2D, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**13.18**	**178**	*e*Pn	**P**	**18 54 17.2**	**-0.5**
36nm,0.8s							
RCBR				*e*Sn	**S**	**18 56 34.2**	**-11**
BAO	**Brasilia Array**	**25.68**	**207**	P	**P**	**18 56 42.8**	**+3.1**
BDFB	**Brasilia**	**25.69**	**207**	P	**P**	**18 56 39.6**	**-0.3**
43nm,1.0s,mb4.9,baz=44,slow=11,SNR=18							
BDFB				LR	LR	19 05 40.1	
comp=Z,689nm,20.1s,MS4.2,baz=35,slow=34							
EOSO	**Osorio**	**28.41**	**41**	P	**P**	**18 57 08.2**	**+3.6**
277nm,1.9s,mb5.6							
SJG	**San Juan**	**30.91**	**293**	P	**P**	**18 57 25.2**	**-1.9**
12nm,0.2s,mb5.3,baz=324,slow=19,SNR=3.1							
SJG				LR	LR	19 07 57.2	
comp=Z,448nm,18.7s,MS4.2,baz=96,slow=33							
LIC	**Lamto**	**31.09**	**90**	*e*P	**P**	**18 57 27.2**	**-1.5**
39nm,1.1s,mb4.8							
DBIC	**Dimbokro**	**31.23**	**89**	P	**P**	**18 57 29.0**	**-0.9**
8.9nm,0.9s,mb4.6,baz=268,slow=10,SNR=7.7							
DBIC	**Dimbokro**	**31.23**	**89**	P	**P**	**18 57 29.0**	**-0.9**
SAML	**Samuel**	**31.33**	**239**	*e*P	**P**	**18 57 30.8**	**0.0**
30nm,1.2s,mb5.0							
SDV	**Santo Domingo**	**33.99**	**275**	P	**P**	**18 57 53.7**	**-0.2

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
ROSC	**El Rosal**	37.87	268	P	P	18 58 28.7	+1.8
	9.1nm,0.5s,mb4.8,baz=101,slow=23,SNR=9.6						
ROSC				LR	LR	19 14 33.2	
	comp=Z,326nm,19.0s,MS4.2,baz=353,slow=37						
CPUP	**Villa Florida**	39.28	211	P	P	18 58 38.6	0.0
	1.9nm,0.9s,mb3.8,baz=56,slow=15,SNR=2.7						
CPUP				LR	LR	19 15 08.5	
	comp=Z,535nm,19.1s,MS4.4,baz=49,slow=37						
LPAZ	**La Paz**	39.33	233	P	P	18 58 40.7	+1.6
	21nm,0.8s,mb4.9,baz=54,slow=6.8,SNR=87						
LPAZ				LR	LR	19 14 17.3	
	comp=Z,290nm,18.6s,MS4.1,baz=127,slow=35						
EMIJ	**Mijas**	40.83	40	P	P	18 58 52.3	+1.1
	46nm,1.9s,mb4.8						
EBAD	**Badajoz**	40.86	36	P	P	18 58 52.4	+0.9
	226nm,4.1s						
ECAB	**El Cabril**	41.36	38	P	P	18 58 55.5	-0.1
	144nm,3.3s						
EADA	**Adamuz**	41.94	38	P	P	18 58 59.3	-1.0
	260nm,4.2s						
EBER	**Berja**	42.24	41	P	P	18 59 06.9	+4.0
	94nm,2.5s,mb5.0						
EQES	**Quesada**	42.66	40	P	P	18 59 07.7	+1.4
	158nm,2.8s,mb5.2						
ENIJ	**Nijar**	42.73	41	P	P	18 59 07.8	+1.0
	2.9nm,0.8s,mb4.1						
ESDC	**Sonseca Array**	43.25	37	P	P	18 59 10.3	-0.8
	0.6nm,0.5s,mb3.5,baz=232,slow=6.7,SNR=5.8						
ESDC	**Sonseca Array**	43.25	37	P	P	18 59 09.7	-1.4
	2.9nm,1.8s,mb3.7						
EVIA	**Vianos**	43.51	39	P	P	18 59 14.6	+1.3
	13nm,0.7s,mb4.8						
LVC	**Limon Verde**	43.70	226	*e*P	P	18 59 14.2	-0.8
	6.0nm,0.9s,mb4.3						
ETOB	**Tobarra**	44.12	40	P	P	18 59 18.2	+0.1
	222nm,3.0s						
EMOS	**Mosqueruela**	45.80	39	P	P	18 59 33.4	+1.8
	188nm,3.1s						
ELAN	**Lanestosa**	45.86	34	P	P	18 59 31.7	-0.2
	148nm,3.0s						
EPOB	**Poblet**	47.33	38	P	P	18 59 44.0	+0.3
	186nm,1.9s,mb5.7						
EBIE	**Bielsa**	47.55	36	P	P	18 59 45.3	-0.1
	219nm,3.4s						
EPF	**Esparros**	47.87	36	*e*P	P	18 59 49.0	+1.1
	36nm,1.2s,mb5.0						
MIV	**Mineville/With**	48.82	325	*e*P	P	18 59 54.2	-1.0
NCB	**Newcomb**	49.16	324	*e*P	P	18 59 58.3	+0.5
	21nm,1.4s,mb5.0						
MTLF	**Montolieu**	49.16	37	*e*P	P	18 59 57.8	0.0
	63nm,1.7s,mb5.1						
BINY	**Binghamton**	49.21	321	*e*P	P	18 59 56.0	-2.2
LFF	**La Frestale**	49.26	34	*e*P	P	18 59 58.8	+0.2
	23nm,0.9s,mb4.9						
BLA	**Blacksburg**	49.76	313	*e*P	P	19 00 03.5	+0.9
	12nm,0.9s,mb4.9						
MFF	**Saint Martin d**	49.83	32	*e*P	P	19 00 02.5	-0.4
	10nm,0.8s,mb4.6						
RJF	**Les Rejaudoux**	49.92	34	*e*P	P	19 00 03.4	-0.2
RJF				*e*R			
	556nm,21.5s						
CAF	**Calviac**	50.00	35	*e*P	P	19 00 04.2	-0.1
LASF	**Ste Croix**	50.56	37	*e*P	P	19 00 08.8	+0.3
	62nm,1.2s,mb5.1						
TCF	**Toulx Ste Croi**	50.90	34	*e*P	P	19 00 11.0	-0.1
TRQA	**Tornquist**	51.19	206	*e*P	P	19 00 13.3	-0.1
	10nm,1.1s,mb4.7						
BGF	**Bois d'Agland**	51.42	34	*e*P	P	19 00 14.9	-0.1
	25nm,1.1s,mb4.8						
VIVF	**Saint-Julien-l**	51.48	37	*e*P	P	19 00 16.2	+0.7
	38nm,1.2s,mb4.9						
AVF	**Avril sur Loir**	51.84	34	*e*P	P	19 00 17.9	-0.3
	13nm,1.0s,mb4.5						
SMF	**Signal de Mont**	52.02	34	*e*P	P	19 00 19.3	-0.3
SSF	**Saint Saulge**	52.08	34	*e*P	P	19 00 19.8	-0.2
LOR	**Lormes**	52.40	34	*e*P	P	19 00 22.1	-0.3
	21nm,1.0s,mb4.7						
LOR				*e*R			
	464nm,22.2s						
SADO	**Sadowa**	52.53	322	LR	LR	19 17 46.8	
	comp=Z,206nm,19.4s,MS4.2,baz=240,slow=30						
BNI	**Bardonecchia**	52.78	37	*e*P	P	19 00 26.0	+0.7
	11nm,1.1s,mb4.7						
SCHQ	**Schefferville**	53.19	338	P	P	19 00 27.8	-0.3
	6.6nm,0.9s,mb4.6,baz=123,slow=8.0,SNR=7.3						
SCHQ				LR	LR	19 18 11.6	
	comp=Z,225nm,20.2s,MS4.2,baz=129,slow=30						
SCHQ	**Schefferville**	53.19	338	*e*P	P	19 00 27.4	-0.8
	8.2nm,0.8s,mb4.7						
CABF	**La Chapelle**	53.28	35	*e*P	P	19 00 28.8	-0.1
LRAL	**Lakeview Retre**	53.30	306	*e*P	P	19 00 29.1	-0.2
	8.0nm,0.9s,mb4.7						
HAU	**Haudompre**	54.20	34	*e*P	P	19 00 35.2	-0.5
	12nm,0.7s,mb4.6						
HAU				*e*R			
	276nm,22.0s						
BAIF	**Baives**	54.26	31	*e*P	P	19 00 35.3	-0.7
	30nm,1.1s,mb4.8						
HINF	**Hinteralfeld**	54.38	35	*e*P	P	19 00 36.5	-0.5
	9.5nm,0.7s,mb4.5						
GIVF	**Givet**	54.60	31	*e*P	P	19 00 37.8	-0.8
WVT	**Waverly**	54.89	309	*e*P	P	19 00 40.1	-0.8
	6.5nm,0.8s,mb4.7						
CDF	**Champ du Feu**	54.94	34	*e*P	P	19 00 42.1	+1.0
	7.9nm,0.7s,mb4.6						
WLF	**Walferdange**	55.04	32	*e*P	P	19 00 41.0	-0.8
	4.3nm,0.6s,mb4.7						
AQU	**L'Aquila**	55.84	43	*e*P	P	19 00 48.0	+0.3
	12nm,0.8s,mb5.0						
SQTA	**Sankt Quirin**	56.60	37⇑	*i*P	P	19 00 52.0	-1.1
	6.2nm,1.4s,mb4.6						
WTTA	**Wattenberg**	56.87	37⇑	*i*P	P	19 00 52.9	-2.2
	8.4nm,0.7s,mb4.9						
PLCA	**Paso Flores**	57.35	211	P	P	19 00 56.5	-2.1
	7.2nm,1.1s,mb4.6,baz=37,slow=7.2,SNR=4.8						
PLCA				LR	LR	19 25 55.7	
	comp=Z,354nm,18.0s,MS4.5,baz=48,slow=36						
GRA1	**Grafenberg Arr**	57.82	34	*e*P	P	19 01 00.8	-0.9
	6.0nm,1.0s,mb4.6						
GRF	**Grafenberg Arr**	57.82	34	*e*P	P	19 01 00.8	-0.9
	6.0nm,1.0s,mb4.6						
CCM	**Cathedral Cave**	58.08	310	*e*P	P	19 01 02.2	-1.5
	12nm,1.0s,mb4.9						
MOX	**Moxa**	58.52	34	*i*P	P	19 01 07.5	+0.9
MOX	**Moxa**	58.52	34	*e*P	P	19 01 07.5	+0.9
MOA	**Molln**	58.72	38⇑	*i*P	P	19 01 06.9	-1.1
	7.7nm,1.2s,mb4.6						
GERES	**GERESS Array B**	58.84	36	P	P	19 01 08.1	-0.7
	2.0nm,0.8s,mb4.2,baz=239,slow=7.8,SNR=12						
GERES				LR	LR	19 22 22.4	
	comp=Z,362nm,21.9s,MS4.5,baz=254,slow=32						
KHC	**Kasperske Hory**	58.90	36	*e*P	P	19 01 10.4	+1.2
TSUM	**Tsumeb**	59.33	117	P	P	19 01 12.7	+0.1
	3.2nm,1.0s,mb4.3,baz=312,slow=15,SNR=3.6						
TSUM	**Tsumeb**	59.33	117	P	P	19 01 12.7	+0.1
PRU	**Pruhonice**	59.85	35	*e*P	P	19 01 15.4	-0.4
BRG	**Berggiesshubel**	59.92	34	*e*P	P	19 01 17.5	+1.2
	3.4nm,1.6s,mb4.1						
BRG				LR	LR		
	comp=Z,230nm,19.6s,MS4.3						
PVCC	**Panska Ves**	60.11	35	*e*P	P	19 01 16.8	-0.8
UPC	**Upice**	60.93	35	*e*P	P	19 01 20.6	-2.5
DPC	**Dobruska-Polom**	61.04	36	*e*P	P	19 01 23.5	-0.4
VYHS	**Vyhne**	61.77	38	*e*P	P	19 01 31.4	+2.5
PSZ	**Piszkesteto**	62.22	39	*e*P	P	19 01 31.3	-0.6
	comp=Z,6.6nm,0.8s,mb4.8						
KECS	**Kecovo**	62.79	39	*e*P	P	19 01 34.8	-0.9
STHS	**Stebnicka Huta**	63.59	38	*e*P	P	19 01 42.6	+1.6
NB2	**NORSAR Subarra**	64.01	24	P	P	19 01 43.0	-0.5
	comp=Z,5.7nm,1.1s,mb4.5,baz=236,slow=7.0						
NOA	**NORSAR Array B**	64.01	24	P	P	19 01 43.3	-0.2
	comp=Z,1.9nm,0.8s,mb4.2,baz=235,slow=6.5,SNR=3.3						
NOA				LR	LR	19 24 08.7	
	comp=Z,242nm,20.1s,MS4.4,baz=235,slow=31						
VOIR		64.79	43⇑	*i*P	P	19 01 52.4	+3.5
VOIR		64.79	43⇑	*i*P	P	19 01 52.4	+3.5
SUMG	**Summit**	65.09	359	*e*P	P	19 01 51.3	+0.9
	comp=Z,10nm,0.8s,mb4.9						
ULM	**Lac du Bonnet**	65.09	322	P	P	19 01 48.6	-2.1
	comp=Z,6.2nm,0.8s,mb4.7,baz=68,slow=1.7,SNR=6.9						
ULM				LR	LR	19 25 00.2	
	comp=Z,125nm,20.2s,MS4.1,baz=79,slow=31						
ULM	**Lac du Bonnet**	65.09	322	*e*P	P	19 01 51.6	+0.9
	comp=Z,12nm,1.1s,mb4.8						
MLR	**Muntele Rosu**	65.41	43⇓	*i*P	P	19 01 54.0	+1.1
MLR	**Muntele Rosu**	65.41	43⇓	*i*P	P	19 01 54.0	+1.1
VRI	**Vrincioaia**	66.04	43⇑	*i*P	P	19 01 56.4	-0.5
VRI	**Vrincioaia**	66.04	43⇑	*i*P	P	19 01 56.4	-0.5
TXAR	**Lajitas Array**	66.66	299	P	P	19 01 59.3	-1.9
	comp=Z,0.8nm,0.7s,mb3.9,baz=135,slow=1.8,SNR=4.3						
TXAR				LR	LR	19 26 28.9	
	comp=Z,102nm,22.0s,MS4.0,baz=350,slow=32						
MNTX	**Cornudas Mount**	68.33	301	*e*P	P	19 02 10.2	-1.4
	comp=Z,2.5nm,0.9s,mb4.2						
AKASG	**Malin Array Be**	68.88	38	P	P	19 02 13.8	-0.9
	comp=Z,2.4nm,0.7s,mb4.2,baz=259,slow=6.1,SNR=11						
AKASG	**Malin Array Be**	68.88	38	P	P	19 02 13.8	-0.9
SDCO	**Great Sand Dun**	69.04	307	*e*P	P	19 02 16.3	+0.4
	comp=Z,6.1nm,1.0s,mb4.5						
BOSA	**Boshof**	69.28	124	P	P	19 02 18.7	+1.1
	comp=Z,5.5nm,0.8s,mb4.5,baz=310,slow=13,SNR=3.8						
BOSA				LR	LR	19 26 36.5	
	comp=Z,148nm,19.9s,MS4.2,baz=339,slow=31						
BOSA	**Boshof**	69.28	124	P	P	19 02 18.7	+1.1
BOSA				LR	LR	19 26 36.5	
BRTR	**Keskin Array B**	69.88	50	P	P	19 02 21.1	+0.1
	comp=Z,4.5nm,1.0s,mb4.4,baz=253,slow=4.6,SNR=8.3						
FINES	**FINESS Array B**	70.51	27	P	P	19 02 24.2	-0.3
	comp=Z,3.5nm,0.8s,mb4.3,baz=236,slow=6.9,SNR=11						
FINES				LR	LR	19 29 00.4	
	comp=Z,208nm,19.4s,MS4.4,baz=248,slow=32						
FINES	**FINESS Array B**	70.51	27	P	P	19 02 24.2	-0.3
FINES				LR	LR	19 29 00.4	
KAF	**Kangasniemi**	70.86	26	*e*p	P	19 02 24.3	-2.3
	comp=Z,5.8nm,0.9s,mb4.5,baz=249,slow=5.9						
ASF	**Jabal al Asfar**	71.88	59	LR	LR	19 36 36.1	
	comp=Z,84nm,19.0s,MS4.0,baz=101,slow=38						
PDAR	**Pinedale Array**	72.69	312	P	P	19 02 37.9	+0.1
	comp=Z,0.9nm,0.9s,mb3.7,baz=135,slow=6.4,SNR=5.2						
PDAR				LR	LR	19 30 09.2	
	comp=Z,195nm,21.1s,MS4.4,baz=304,slow=32						
BW06	**Boulder Array**	72.69	312	*e*P	P	19 02 38.6	+0.8
	comp=Z,6.4nm,1.1s,mb4.5						
TUC	**Tucson**	72.94	301	*e*P	P	19 02 39.8	+0.2
	comp=Z,1.5nm,0.7s,mb4.0						
JOF	**Joensuu**	73.32	26	*e*p	P	19 02 40.4	-0.7
	comp=Z,6.2nm,1.1s,mb4.5						
ARCES	**ARCESS Array B**	73.44	19	P	P	19 02 43.1	+1.4
	comp=Z,1.6nm,0.7s,mb4.1,baz=243,slow=5.4,SNR=10						
ARCES				LR	LR	19 31 00.1	
	comp=Z,123nm,18.9s,MS4.2,baz=108,slow=33						
MALT	**Malatya**	73.46	52	*e*P	P	19 02 43.2	+0.8
	comp=Z,11nm,1.5s,mb4.6						
LOHW	**Long Hollow**	73.53	313	*e*P	P	19 02 42.7	-0.1
	comp=Z,8.3nm,0.9s,mb4.7						
DAU	**Daniels Canyon**	73.75	310	*e*P	P	19 02 43.6	-0.5
TPAW	**Teton Pass**	73.77	313	*e*P	P	19 02 44.8	+0.7
	comp=Z,17nm,1.0s,mb4.9						
IMW	**Indian Meadow**	73.80	313	*e*P	P	19 02 44.6	+0.3
	comp=Z,14nm,0.9s,mb4.9						
KMBO	**Kilima Mbogo**	73.86	93	LR	LR	19 31 54.4	
	comp=Z,120nm,20.9s,MS4.2,baz=95,slow=33						
KEV	**Kevo**	74.01	19	*e*p	P	19 02 44.1	-0.9
	comp=Z,9.6nm,1.0s,mb4.7						
RRI2	**Red Ridge**	74.03	313	*e*P	P	19 02 45.9	+0.3
	comp=Z,11nm,1.0s,mb4.7						
HWUT	**Hardware Ranch**	74.07	311	*e*P	P	19 02 45.7	-0.2
	comp=Z,16nm,0.9s,mb4.9						
MSU	**Marysvale**	74.35	308	*e*P	P	19 02 48.1	+0.5
BOZ	**Bozeman (W)**	74.45	315	*e*P	P	19 02 48.6	+0.6
	comp=Z,3.3nm,1.0s,mb4.2						
HRY	**Holter Researc**	74.69	316	*e*P	P	19 02 49.9	+0.5
ARUT	**Antelope Range**	75.31	307	*e*P	P	19 02 53.3	+0.1
HLID	**Hailey**	76.29	313	*e*P	P	19 02 59.0	+0.4
	comp=Z,4.7nm,0.9s,mb4.4						
ELK	**Elko**	76.80	310	P	P	19 03 02.3	+0.8
	comp=Z,0.6nm,0.4s,mb3.8,baz=160,slow=3.0,SNR=3.7						
ELK	**Elko**	76.80	310	*e*P	P	19 03 01.6	+0.1
	comp=Z,3.3nm,0.9s,mb4.3						
YKA	**Yellowknife Ar**	78.03	332	P	P	19 03 08.8	+1.0
	comp=Z,3.8nm,0.9s,mb4.3,baz=94,slow=5.2,SNR=8.2						
YKA				LR	LR	19 34 53.1	
	comp=Z,164nm,20.2s,MS4.3,baz=95,slow=34						
BMN	**Battle Mountai**	78.30	310	*e*P	P	19 03 10.1	+0.3
	comp=Z,6.0nm,0.9s,mb4.5						
BMO	**Blue Mountains**	78.41	314	P	P	19 03 11.4	+1.1
	comp=Z,1.8nm,0.6s,mb4.2						
NVAR	**Mina Array Bea**	79.15	308	P	P	19 03 15.9	+1.4
	comp=Z,1.2nm,0.9s,mb3.8,baz=97,slow=6.6,SNR=7.9						
VNA3	**Neumayer Olymp**	80.50	172		P	19 03 31.5	+10
VNA3	**Neumayer Olymp**	80.50	172		P	19 03 35.5	+14
VNA3	**Neumayer Olymp**	80.50	172		P	19 03 40.2	+19
VNA2	**Neumayer--Watz**	80.56	171		P	19 03 33.2	+12
VNA2	**Neumayer--Watz**	80.56	171		P	19 03 40.7	+19
ARU	**Arti**	86.56	34	*e*P	P	19 03 53.2	+1.0
	comp=Z,14nm,1.1s,mb5.1						
ILAR	**Eielson Array**	91.90	336	LR	LR	19 44 11.3	
	comp=Z,140nm,18.1s,MS4.4,baz=257,slow=35						
RKT	**Rikitea**	100.81	248	*e*LR	LR	19 38 00.4	
	comp=Z,314nm,32.2s						
TBI	**Tubuai**	114.14	248	*e*LR	LR	19 44 10.7	
	comp=Z,227nm,35.0s						
PPT	**Papeete**	114.34	254	*e*LR	LR	19 44 16.6	
	comp=Z,140nm,28.2s						
CN2	**Changchun**	126.39	16	*e*PKP	PKPdf	19 10 09.3	-5.0
KMI	**Kunming**	128.66	50	PKP	PKPdf	19 10 20.0	+0.7
KMI				PP	PP	19 12 28.5	+1.9
KMI				PP	PP		
	comp=Z,113nm,6.2s						
KMI				LR	LR		
	comp=N,108nm,15.6s,MS4.7						
KMI				LR	LR		
	comp=E,78nm,17.2s,MS4.7						
KMI				LR	LR		
	comp=Z,101nm,27.2s						
NJ2	**Nanjing**	134.14	30	*e*PKP	PKPdf	19 10 24.6	-4.7
WRA	**Warramunga Arr**	164.62	145	PKPab	PKPab	19 12 10.6	+0.7
	comp=Z,0.7nm,0.8s,baz=207,slow=3.7,SNR=2.9						

*IDC **22** 19:04:25.5±2.0,43.44N×105.27W,mb4.0/1,mb1 3.9/3, mb1mx3.4/22,mbtmp3.8/3,ML3.3/2,Error ellipse: s-maj=49.3km s-min=8.3km az=154.0*
*NEIC **22** 19:04:26.8±0.5,43.76N×105.34W,ML3.1,Error ellipse: s-maj=9.7km s-min=6.9km az=140.0,Suspected Mining explosion.*
NEIC 0.0 [ ], 60 km [40 miles] SSE of Gillette.

ISC 22 19:04:25.2±0.6,43.79N±0.06×105.40W±0.08,n20, σ1§37/21,mb4.2/1,Wyoming

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
RSSD	**Black Hills**	1.04	71	*e*P	Pb	19 04 46.6	+0.8
PHWY	**Pilot Hill**	2.48	181	*e*P	Pn	19 05 08.5	+0.9
RWWY	**Rawlins**	2.48	213	*e*P	Pn	19 05 09.2	+1.6
LAO	**LASA Array**	2.96	349	*e*P	Pn	19 05 15.1	+0.7
BW06	**Boulder Array**	3.20	253	*e*P	Pn	19 05 18.2	+0.4
PDAR	**Pinedale Array**	3.20	253	Pn	Pn	19 05 20.9	+3.1
	1.8nm,0.3s,baz=81,slow=16,SNR=36						
PDAR				Pg	Pg	19 05 26.1	-3.1
	6.9nm,0.3s,baz=79,slow=18,SNR=54						
PDAR				Lg		19 06 06.7	
	9.0nm,0.3s,baz=78,slow=31,SNR=20						
LOHW	**Long Hollow**	3.78	269	*e*P	Pn	19 05 26.1	+0.1
YFT	**Old Faithful**	3.97	282	P	Pn	19 05 30.9	+2.2
REDW	**Red Top Meadow**	3.98	266	P	Pn	19 05 34.8	+5.8
ISCO	**Idaho Springs**	3.99	182	*e*P	Pn	19 05 28.1	-0.9
IMW	**Indian Meadow**	4.01	274	P	Pn	19 05 27.7	-1.6
TPAW	**Teton Pass**	4.04	268	P	Pn	19 05 29.2	-0.5
AHID	**Auburn Hatcher**	4.29	258	P	Pn	19 05 34.0	+0.8
RRI2	**Red Ridge**	4.33	266	P	Pn	19 05 29.0	-4.8
BOZ	**Bozeman (W)**	4.81	295	P	Pn	19 05 41.2	+0.5
DAU	**Daniels Canyon**	5.51	234	P	Pn	19 05 48.1	-2.4
HVU	**Hansel Valley**	5.79	252	P	Pn	19 05 47.6	-6.8
SRU	**San Rafael**	6.05	221	P	Pn	19 05 53.2	-5.0
ULM	**Lac du Bonnet**	9.17	42	Pn	P	19 06 39.6	-2.2
	1.1nm,0.3s,baz=238,slow=13,SNR=8.1						
ULM				Lg		19 09 14.6	
	0.2nm,0.3s,baz=236,slow=18,SNR=6.1						
ARCES	**ARCESS Array B**	61.40	18	P	P	19 14 44.7	-0.2
	1.6nm,0.9s,mb4.2,baz=333,slow=5.4,SNR=4.8						

*MOS **22** 19:34:46.5±1.6,37.08N×71.33E,h57km,mb4.1/8,Error ellipse: s-maj=10.6km s-min=6.8km az=95.3*
*BJI **22** 19:34:48.7,37.00N×71.40E,h69km,mB4.6,mb4.7,ML4.5, Ms4.0,Msz3.9*
*NEIC **22** 19:34:48.8±1.2,37.02N×71.45E,h69km±13km,mb4.3/5, Error ellipse: s-maj=14.1km s-min=6.9km az=59.0*
*NNC **22** 19:34:55.0±5.6,37.44N×71.10E,h103km±74km,mpv4.6, Error ellipse: s-maj=44.1km s-min=34.4km az=8.0*
*IDC **22** 19:34:55.4±4.7,37.21N×71.59E,h122km±43km,mb3.4/11, mb1 3.7/13,mb1mx3.6/21,mbtmp3.9/13,Error ellipse: s-maj=21.8km s-min=16.3km az=173.0*

ISC 22 19:34:51.0±0.5,37.10N±0.03×71.50E±0.05,h104km±6km, n84,σ1§64/97,mb3.9/19,9C-8D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
CEP	**Cherat**	3.29	174	⇓P	P	19 35 45.4	+3.6
CHCP	**Chirah Chowk**	3.73	157	⇑P	P	19 35 51.6	+3.8
KSH	**Kashi**	4.27	54	P	P	19 35 58.8	+3.7
KSH				S	S	19 36 47.9	+3.8
KSH				Smax			
	comp=N,500nm,0.6s						
KSH				Smax			
	comp=E,510nm,0.6s						
THW	**Thamme Wali**	4.30	177	⇑P	P	19 35 57.6	+2.0
SBDP	**Sheikh Budin**	4.83	187	P	P	19 36 04.5	+1.8
SARP	**Sargodha**	5.26	169	P	P	19 36 10.1	+1.5
SARP				S	S	19 37 06.0	-2.5
AML	**Almayashu**	5.30	18	P	P	19 36 09.2	0.0
	SNR=62						
DRP	**Derazinda**	5.45	192	⇓P	P	19 36 12.9	+1.7
UCH	**Uchtor**	5.62	24	P	P	19 36 14.0	+0.5
	SNR=12						
EKS2	**Erkin-Say**	5.82	17	P	P	19 36 16.0	-0.2
	SNR=14						
AAK	**Ala-Archa**	5.99	22	P	P	19 36 18.6	+0.1
	SNR=45						
AAK	**Ala-Archa**	5.99	22	⇑P	P	19 36 18.9	+0.4
	comp=E,31nm,0.4s						
AAK				⇓S	S	19 37 24.9	-1.3
	comp=E,50nm,0.6s						
AAK	**Ala-Archa**	5.99	22	*e*Pn	P	19 36 17.9	-0.6
AAK				*e*Sn	S	19 37 23.6	-2.7
KK31	**Karatay Array**	6.04	353	⇑P	P	19 36 17.3	-1.9
	comp=E,32nm,0.6s,baz=180,slow=13,SNR=471						
KK31				⇓S	S	19 37 21.2	-6.5
	comp=E,9.5nm,0.3s,baz=169,slow=29,SNR=6.6						
KK31	**Karatay Array**	6.04	353	⇑P	P	19 36 17.3	-1.9
	comp=E,32nm,0.6s						
KK31				S	S	19 37 21.2	-6.5
KBK	**Karagaybulak**	6.15	24	P	P	19 36 21.4	+0.7
	SNR=25						
ULHL	**Ulahol**	6.31	34	P	P	19 36 25.2	+2.3
	SNR=19						
CHMS	**Chumysh**	6.39	22	P	P	19 36 23.9	-0.3
	SNR=77						
USP	**Ospenovka**	6.57	20	P	P	19 36 25.8	-0.8
	SNR=47						
TKM2	**Tokmak 2**	6.61	27	P	P	19 36 27.6	+0.5
	SNR=17						
NDI	**New Delhi**	9.67	149	*e*S	S	19 38 47.5	-8.5
KHET	**Khetri**	9.71	157	*e*P	P	19 37 09.8	+0.7
KHET				*e*S	S	19 38 51.0	-6.0
KHET				AML	AML	19 38 55.3	
	comp=N,59nm,0.5s						
KHET				AML	AML	19 38 55.3	
	comp=E,80nm,0.5s						
BISR	**Bishrakh**	9.87	148	*ex*	S	19 38 57.8	-2.9
SONA	**Sohna**	10.00	150	*e*P	P	19 37 14.2	+1.1
SONA				*e*S	S	19 38 52.4	-12
SONA				AML	AML	19 39 01.9	
	comp=E,39nm,0.5s						
SONA				AML	AML	19 39 03.0	
	comp=N,31nm,0.5s						
VAN	**Vannovskaya**	10.67	279	⇓*i*P	P	19 37 17.3	-4.6
VAN				S	S	19 39 07.5	-12
AJM	**Ajmer**	10.92	165	*i* S	S	19 39 21.0	-5.0
AGRA	**Agra**	11.25	149	*e*P	P	19 37 29.7	0.0
AGRA				*ex*	x	19 39 16.4	
MK31	**Makanchi Array**	12.57	36	⇓P	P	19 37 46.7	-0.4
	comp=N,4.2nm,0.5s,baz=225,slow=15,SNR=78						
MK31	**Makanchi Array**	12.57	36	⇓P	P	19 37 46.7	-0.4
	comp=N,4.2nm,0.5s						
MKAR	**Makanchi Array**	12.57	36	P	P	19 37 46.6	-0.5
	comp=N,1.5nm,0.3s,baz=226,slow=15,SNR=93						
KOLN	**Koldanda**	13.81	129	*e*P	P	19 38 01.0	-2.3
	comp=N,26nm,0.3s						
KOLN				*e*S	S	19 40 28.2	-6.2
WMQ	**Urumqi**	14.03	56	*e*P	P	19 38 09.0	+3.0
WMQ				S	S	19 40 42.0	+2.6
WMQ				SCP		19 46 45.0	
WMQ				SCS	ScS	19 50 21.0	+2.1
WMQ				AMB	AM

comp=Z,161nm,22.9s
KIV Kislovodsk 22.87 296 *i* P **P 19 39 45.7 -0.2**
KIV pmax pmax
comp=Z,8.0nm,1.3s,mb3.9
MOY Mondy 25.40 46 *e*P **P 19 40 13.9 +3.8**
ZAK Zakamensk 26.30 50 *e*P **P 19 40 20.0 +1.6**
ZAK pmax pmax
comp=Z,1.0nm,0.8s,mb3.3
ZAK pmax pmax
comp=Z,1.0nm,0.9s,mb3.2
SONM Songino Array 27.67 56 P **P 19 40 32.5 +1.5**
comp=Z,0.7nm,0.4s,mb3.5,baz=259,slow=8.5,SNR=11
HHC Hu-ho-hao-te 31.18 71 *e*P **P 19 41 03.3 +1.0**
HHC AP pP 19 41 26.8 +1.2
HHC PP PP 19 42 08.3 -0.1
HHC S **S 19 45 57.9 -1.5**
HHC XS 19 46 40.1
HHC PCS 19 47 39.5
HHC AMB AMB
comp=Z,45nm,4.0s
AKASG Malin Array Be 32.88 308 P **P 19 41 17.3 +0.3**
comp=Z,0.4nm,0.5s,mb3.5,baz=79,slow=7.1,SNR=3.8
BOD Bodaibo 34.63 40 *e*P **P 19 41 31.5 -0.3**
BOD pmax pmax
comp=Z,3.0nm,1.0s,mb4.1
FINES FINESS Array B 37.21 326 P **P 19 41 54.3 +0.8**
comp=Z,1.1nm,0.8s,mb3.8,baz=117,slow=8.5,SNR=4.1
NJ2 Nanjing 39.00 83 *e*P **P 19 42 06.8 -1.9**
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.9
ARCES ARCESS Array B 40.74 337 P **P 19 42 23.8 +1.1**
comp=Z,1.0nm,0.5s,mb3.9,baz=114,slow=8.2,SNR=11
SSE Sheshan 41.20 83 *e*P **P 19 42 23.6 -3.3**
YAK Yakutsk 43.24 36 *e*P **P 19 42 43.6 +0.4**
comp=Z,7.8nm,0.8s,mb4.5
YAK Yakutsk 43.24 36 *e*P **P 19 42 43.6 +0.4**
YAK pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
NB2 NORSAR Subarra 44.14 323 P **P 19 42 50.6 +0.2**
comp=Z,1.1nm,0.5s,mb3.8,baz=99,slow=7.0
NB2 NORSAR Subarra 44.14 323 P **P 19 42 50.6 +0.2**
NB2 pmax pmax
comp=Z,1.0nm,0.5s,mb3.8
NOA NORSAR Array B 44.14 323 P **P 19 42 50.8 +0.4**
comp=Z,1.1nm,0.5s,mb3.9,baz=95,slow=7.7,SNR=8.0
KMBO Kilima Mbogo 49.53 228 P **P 19 43 35.6 +2.3**
comp=Z,0.9nm,0.6s,mb3.9,baz=78,slow=10,SNR=4.1
ESDC Sonseca Array 57.53 298 P **P 19 44 31.8 0.0**
comp=Z,0.3nm,0.4s,mb3.6,baz=54,slow=8.7,SNR=4.1
ILAR Eielson Array 74.09 16 P **P 19 46 16.7 -0.2**
comp=Z,1.0nm,0.8s,mb3.6,baz=317,slow=5.5,SNR=11
YKA Yellowknife Ar 80.63 3 P **P 19 46 53.1 +0.1**
comp=Z,1.0nm,0.6s,mb3.8,baz=352,slow=4.5,SNR=4.4
YKA Yellowknife Ar 80.63 3 P **P 19 46 53.1 0.0**
YKA pmax pmax
comp=Z,1.0nm,0.6s
WRA Warramunga Arr 81.97 122 P **P 19 47 01.0 0.0**
comp=Z,0.2nm,0.3s,mb3.4,baz=327,slow=5.1,SNR=10

IDC 22 19:54:44.5±1.5, 39.31N×16.03E, mb3.3/4, mb1 3.3/5, mb1mx3.2/23, mbtmp3.3/5, ML2.6/1, MS3.4/1, Ms1 3.4/1, ms1mx2.4/19, Error ellipse: s-maj=47.4km s-min=14.9km az=120.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAE	**Valguarnera**	**2.23**	**215**	Pn	Pn	19 55 23.3	+0.1
	1.6nm,0.3s,baz=66,slow=10.0,SNR=6.0						
VAE				Sn	Sn	19 55 49.0	-2.7
	3.4nm,0.3s,baz=272,slow=6.4,SNR=4.3						
VAE				Lg		19 55 56.4	
	4.5nm,0.3s,baz=24,slow=5.0,SNR=3.9						
HFS	**Hagfors**	**20.90**	**357**	P	P	19 59 28.6	-2.0
	0.8nm,0.3s,baz=173,slow=12,SNR=9.7						
NOA	**NORSAR Array B**	**21.96**	**354**	P	P	19 59 38.9	-2.6
	0.4nm,0.6s,baz=170,slow=11,SNR=2.7						
FINES	**FINESS Array B**	**23.02**	**12**	P	P	19 59 51.2	-0.5
	0.4nm,0.3s,baz=188,slow=9.8,SNR=7.7						
MKAR	**Makanchi Array**	**47.70**	**58**	P	P	20 03 22.6	-2.0
	0.2nm,0.4s,baz=277,slow=7.6,SNR=5.9						
SCHQ	**Schefferville**	**55.22**	**316**	LR	LR	20 25 51.6	
	comp=Z,35nm,18.3s,baz=114,slow=34						

IDC 22 20:10:07.0±2.4, 22.04N×144.07E, mb3.6/4, mb1 3.8/4, mb1mx3.5/20, mbtmp3.6/4, Error ellipse: s-maj=115.0km s-min=32.2km az=85.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.79**	**194**	P	P	20 18 06.7	-1.7
	0.3nm,0.8s,baz=14,slow=9.1,SNR=4.7						
MKAR	**Makanchi Array**	**55.08**	**312**	P	P	20 19 41.1	-1.9
	0.1nm,0.3s,baz=96,slow=8.4,SNR=5.5						
ARCES	**ARCESS Array B**	**78.86**	**342**	P	P	20 22 12.6	-0.5
	1.5nm,0.7s,baz=72,slow=7.7,SNR=4.5						
FINES	**FINESS Array B**	**83.23**	**335**	P	P	20 22 34.0	-2.3
	0.5nm,0.5s,baz=63,slow=4.3,SNR=7.8						

NIED ***22*** *20:20:00, 45.30N×150.30E, h47km, Mw4.5 Best double couple: M0:5.4×10^15 NP1:φs338°, δ79°, λ58°. NP2:φs231°, δ33°, λ159°.*
IDC ***22*** *20:20:27.7±0.5, 45.36N×150.02E, mb4.4/19, mb1 4.5/20, mb1mx4.4/24, mbtmp4.3/20, ML3.5/1, MS3.6/9, Ms1 3.6/9, ms1mx3.4/28, Error ellipse: s-maj=16.8km s-min=14.0km az=152.0*
MOS ***22*** *20:20:32.5±0.9, 45.33N×149.92E, h41km, mb5.1/55, Error ellipse: s-maj=9.7km s-min=5.4km az=106.0*
SKHL ***22*** *20:20:32.5±0.6, 45.45N×150.35E, h35km±1km, mb5.1/1, Ms4.0/2, msh4.6/2*
BJI ***22*** *20:20:34.8, 45.31N×150.14E, h73km, mB4.8, mb4.7, Ms3.9, Msz3.8*
NEIC ***22*** *20:20:35.8±0.3, 45.24N×150.03E, mb4.8/67, Error ellipse: s-maj=8.0km s-min=4.4km az=145.0*
ISC 22 20:20:35.0±0.3, 45.45N±0.05×150.00E±0.04, h58km, h58km±3.9km: pP-P, n272, σ0=96/260, mb4.7/94, MS3.9/17, 18C-22D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.52**	**262**	⇓*i*P	**P**	**20 20 58.2**	**-2.3**
KUR				⇓*i*P		20 20 58.2	
KUR				AMB	AMB	20 20 59.0	
	6μm,1.2s						
KUR				AMB	AMB	20 20 59.0	
	850nm,0.5s						
KUR				AMB	AMB	20 20 59.0	
	300nm,0.5s						
KUR				AMB	AMB	20 20 59.0	
	2μm,0.5s						
KUR				*e*S	**S**	**20 21 17.0**	**-2.3**
KUR				A		20 21 19.0	
	17μm,1.5s						
KUR				A		20 21 19.0	
	12μm,1.5s						
KUR				A		20 21 21.5	
	4μm,0.5s						
KUR				A		20 21 21.5	
	5μm,0.5s						
KUR	**Kuril'sk**	**1.52**	**262**	κ *i*PN	**P**	**20 20 58.2**	**-2.3**
KUR				*i* S	**S**	**20 21 17.0**	**-2.3**
KUR				pmax	pmax		
	comp=N,920nm,0.4s						
KUR				pmax	pmax		
	comp=E,350nm,0.4s						
KUR				pmax	pmax		
	comp=Z,2μm,0.4s						
KUR				pmax	pmax		
	comp=Z,6μm,1.2s						
KUR				smax			
	comp=N,17μm,1.5s						
KUR				smax			
	comp=E,12μm,1.5s						
KUR				smax			
	comp=N,4μm,0.5s						
KUR				smax			
	comp=E,5μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**3.27**	**246**	*e*P	**P**	**20 21 24.8**	**-0.3**
YUK				AMB	AMB	20 21 26.2	
	comp=E,380nm,0.2s						
YUK				*i* S	**S**	**20 22 04.5**	**+1.4**
YUK				A		20 22 10.8	
	comp=E,4μm,0.6s						
YUK				A		20 22 10.8	
	comp=E,3μm,0.6s						
YUK				A		20 22 15.0	
	comp=E,10μm,1.0s						
YUK				A		20 22 15.0	
	comp=E,8μm,1.0s						
YUK	**Yuzh-Kuril'sk**	**3.27**	**246**	*e*PN	**P**	**20 21 24.8**	**-0.3**
YUK				*i* S	**S**	**20 22 04.4**	**+1.3**
YUK				pmax	pmax		
	comp=Z,380nm,0.3s						
YUK				smax			
	comp=N,4μm,0.6s						
YUK				smax			
	comp=E,3μm,0.6s						
YUK				smax			
	comp=N,10μm,1.0s						
YUK				smax			
	comp=E,8μm,1.0s						
YSS	**Yuzh-Sakhalins**	**5.25**	**289**	⇓*i*P	**P**	**20 21 53.6**	**+0.8**
YSS				AMB	AMB	20 21 54.2	
	comp=E,70nm,0.8s						
YSS				*e*pP		20 22 05.2	
YSS				*e*sP		20 22 11.2	
YSS				*e*S	**S**	**20 22 52.0**	**-0.7**
YSS				A		20 22 58.2	
	comp=E,80nm,0.9s						
YSS				AMS	AMS	20 24 01.0	
	comp=E,500nm,17.0s						
YSS				AMS	AMS	20 24 01.0	
	comp=E,200nm,18.0s						
YSS	**Yuzh-Sakhalins**	**5.25**	**289**	*e*Pn	**P**	**20 21 53.0**	**+0.3**
	comp=E,54nm,0.5s						
YSS	**Yuzh-Sakhalins**	**5.25**	**289**	⇓*i*PN	**P**	**20 21 53.6**	**+0.8**
YSS				*e*S	**S**	**20 22 52.0**	**-0.7**
YSS				pmax	pmax		
	comp=Z,70nm,0.8s						
YSS				smax			
	comp=N,80nm,0.9s						
YSS				MLR	MLR		
	comp=N,200nm,18.0s						
YSS				MLR	MLR		
	comp=E,500nm,17.0s						
YSS				MLR	MLR		
	comp=Z,600nm,17.0s						
ASAJ	**Asahikawa**	**5.44**	**258**	Pn	**P**	**20 21 56.9**	**+1.5**
	comp=Z,4.6nm,0.3s,baz=94,slow=10,SNR=34						
ASAJ				Sn	**S**	**20 23 11.9**	**+15**
	comp=Z,4.8nm,0.3s,baz=328,slow=31,SNR=4.5						
ASAJ				LR	LR	20 24 09.4	
	comp=Z,674nm,20.2s,baz=159,slow=41						
UGL	**Uglegorsk**	**6.50**	**307**	*e*P	**P**	**20 22 14.0**	**+3.7**
UGL				AMB	AMB	20 22 14.3	
	comp=Z,46nm,0.7s						
UGL				AMS	AMS	20 24 50.0	
	comp=Z,200nm,15.0s						
UGL				AMS	AMS	20 24 50.0	
	comp=Z,400nm,15.0s						
UGL				AMS	AMS	20 24 50.0	
	comp=Z,700nm,15.0s						
SKR	**Severo-Kuril's**	**6.64**	**36**	*e*P	**P**	**20 22 04.4**	**-7.9**
SKR				AMB	AMB	20 22 13.0	
	comp=Z,40nm,0.5s						
SKR				AMB	AMB	20 22 13.0	
	comp=Z,50nm,0.5s						
SKR				A		20 23 36.0	
	comp=Z,80nm,0.5s						
SKR				A		20 23 36.0	
	comp=Z,70nm,0.5s						
SKR				A		20 23 36.0	
	comp=Z,40nm,0.5s						
SKR				A		20 23 42.0	
	comp=Z,1μm,6.0s						
SKR				A		20 23 42.0	
	comp=Z,800nm,6.0s						
SKR				AMS	AMS	20 24 44.0	
	comp=Z,1μm,14.0s						
TYV	**Tymovskoe**	**7.31**	**320**	*e*P	**P**	**20 22 20.0**	**-1.5**
TYV				AMB	AMB	20 22 23.5	
	comp=Z,100nm,2.0s						
TYV				AMB	AMB	20 22 25.0	
	comp=Z,27nm,0.5s						
TYV				*e*S	**S**	**20 23 44.0**	**+0.2**
TYV				A		20 23 47.0	
	comp=Z,18nm,0.6s						
TYV				A		20 23 50.0	
	comp=Z,200nm,5.0s						
TYV				AMS	AMS	20 25 04.0	
	comp=Z,600nm,19.0s						
OKH	**Okha**	**9.31**	**333**	AMS	AMS	20 28 04.0	
	comp=Z,500nm,8.0s						
PET	**Petropavlovsk**	**9.45**	**34**	P	**P**	**20 22 50.2**	**-0.7**
PET	**Petropavlovsk**	**9.45**	**34**	*i* PN	**P**	**20 22 50.2**	**-0.7**
PET				pmax	pmax		
	comp=Z,21nm,1.8s						
TEY	**Ternei**	**9.46**	**272**	*e*P	**P**	**20 22 53.0**	**+1.9**
TEY				AMB	AMB	20 22 55.0	
	comp=Z,100nm,0.9s						
MAJO	**Matsushiro**	**12.58**	**229**	*e*Pn	**P**	**20 23 28.5**	**-4.7**
MAT	**Matsushiro**	**12.58**	**229**	P	**P**	**20 23 28.1**	**-5.1**
MAT	**Matsushiro**	**12.58**	**229**	*e*P	**P**	**20 23 28.0**	**-5.2**
	comp=Z,3.4nm,0.7s						
MAT	**Matsushiro**	**12.58**	**229**	*e*PN	**P**	**20 23 28.0**	**-5.2**
MAT				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MJAR	**Matsushiro Arr**	**12.58**	**229**	Pn	**P**	**20 23 28.6**	**-4.6**
	comp=Z,0.3nm,0.3s,baz=29,slow=13,SNR=7.0						
MJAR				LR	LR	20 29 14.0	
	comp=Z,99nm,18.2s,baz=60,slow=42						
KLR	**Kul'dur**	**12.94**	**294**	*e*P	**P**	**20 23 39.0**	**+1.1**
EKMR	**Ekimchan**	**13.47**	**311**	*e*P	**P**	**20 23 44.1**	**-0.7**
EKMR				AMB	AMB	20 23 54.4	
	comp=Z,12nm,0.8s						
MDJ	**Mudanjiang**	**14.46**	**274**	P	**P**	**20 23 57.4**	**-0.3**
MDJ				S	**S**	**20 26 37.9**	**+1.0**
MDJ				PCP	PcP	20 29 07.4	-3.0
MDJ				SCP		20 32 35.6	
MDJ				PCS		20 32 44.1	
MDJ				SCS	ScS	20 36 13.8	-0.4
MDJ				AMB	AMB		
	comp=Z,22nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,57nm,6.1s						
MDJ				LR	LR		
	comp=N,153nm,17.4s						
MDJ				LR	LR		
	comp=E,141nm,25.2s						
MDJ				LR	LR		
	comp=Z,284nm,20.3s						
MDJ	**Mudanjiang**	**14.46**	**274**	*e*Pn	**P**	**20 23 58.8**	**+1.1**
	comp=Z,19nm,0.9s						
ZEA	**Zeya**	**16.86**	**308**	*e*P	**P**	**20 24 27.3**	**-0.9**
ZEA				AMB	AMB	20 24 29.6	
	comp=Z,24nm,1.1s						
ZEA				AMB	AMB	20 24 29.6	
	comp=Z,18nm,1.1s						
ZEA				AMB	AMB	20 24 29.6	
	comp=Z,36nm,1.1s						
ZEA				AMS	AMS	20 31 24.0	
	comp=Z,100nm,15.0s						
ZEA				AMS	AMS	20 31 24.0	
	comp=Z,200nm,15.0s						
KROS	**Kirovskiy**	**17.27**	**310**	*e*P	**P**	**20 24 32.5**	**-0.8**
KROS				AMB	AMB	20 24 35.0	
	comp=Z,8.0nm,0.5s						
CN2	**Changchun**	**17.54**	**273**	*e*P	**P**	**20 24 36.8**	**0.0**
CN2				*e*XP		20 24 56.5	
CN2				*e*S	**S**	**20 27 47.5**	**-0.4**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s						
CN2				LR	LR		
	comp=N,220nm,17.0s						
CN2				LR	LR		
	comp=E,230nm,17.0s						
CN2				LR	LR		
	comp=Z,260nm,16.0s						
JNU	**Nakatsue**	**19.20**	**237**	P	**P**	**20 24 58.0**	**+1.4**
	comp=Z,0.5nm,0.3s,baz=356,slow=21,SNR=3.1						
JNU				LR	LR	20 32 19.1	
	comp=Z,86nm,21.6s,baz=173,slow=37						
CLNS	**Chul'man**	**19.31**	**315**	*e*P	**P**	**20 24 57.4**	**-0.3**
CLNS				pmax	pmax		
	comp=Z,26nm,0.9s						
CLNS				pmax	pmax		
	comp=N,15nm,1.1s						
CLNS				pmax	pmax		
	comp=E,11nm,0.8s						
SNY	**Shenyang**	**19.43**	**269**	⇑P	**P**	**20 24 57.9**	**-1.2**
SNY				S	**S**	**20 28 23.8**	**-6.2**
SNY				AMB	AMB		
	comp=Z,10.0nm,0.8s						
SNY				AMB	AMB		
	comp=Z,150nm,3.9s						
SNY				LR	LR		
	comp=E,310nm,20.6s						
SNY				LR	LR		
	comp=Z,240nm,20.0s						
YAK	**Yakutsk**	**20.34**	**332**	*e*P	**P**	**20 25 09.1**	**+0.4**
	comp=Z,134nm,0.8s						
YAK	**Yakutsk**	**20.34**	**332**	*e*P	**P**	**20 25 09.6**	**+0.9**
YAK				*i* *PP		20 25 23.2	
YAK				*e*S	**S**	**20 28 49.7**	**+1.2**
YAK				*i* *SS		20 29 16.5	
YAK				*i*		20 36 28.4	
YAK				pmax	pmax		
	comp=Z,64nm,0.9s						
YAK				pmax	pmax		
	comp=N,17nm,1.0s						
YAK				pmax	pmax		
	comp=E,20nm,1.0s						
YAK				smax			
	comp=N,4.0nm,0.9s						
YAK				smax			
	comp=E,3.0nm,0.9s						
HIA	**Hailar**	**20.78**	**291**	*e*P	**P**	**20 25 12.8**	**-0.4**
	comp=E,7.0nm,0.8s						
HIA	**Hailar**	**20.78**	**291**	*e*P	**P**	**20 25 12.8**	**-0.4**
HIA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
DL2	**Dalian**	**21.95**	**263**	P	**P**	**20 25 26.4**	**+1.4**
DL2				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.5						
BILL	**Bilibino**	**24.17**	**15**	*i* P	**P**	**20 25 50.4**	**+4.1**
BOD	**Bodaibo**	**25.20**	**312**	*e*P	**P**	**20 25 53.5**	**-2.9**
JOW	**Kunigami**	**25.42**	**230**	P	**P**	**20 25 57.5**	**-1.3**
	comp=Z,7.2nm,0.7s,mb4.3,baz=61,slow=5.4,SNR=7.4						
JOW				LR	LR	20 37 19.9	
	comp=Z,63nm,18.3s,MS3.2,baz=99,slow=40						
NJ2	**Nanjing**	**27.54**	**252**	*e*P	**P**	**20 26 17.5**	**-0.7**
NJ2				AP	pP	20 26 32.1	-0.4
NJ2				XP	sP	20 26 39.4	-0.1
NJ2				PP	PP	20 27 07.6	-0.2
NJ2				S	**S**	**20 30 53.0**	**-0.5**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
NJ2				AMB	AMB		
	comp=Z,410nm,4.9s						
NJ2				LR	LR		
	comp=N,650nm,14.6s						
NJ2				LR	LR		
	comp=E,290nm,19.8s						
NJ2				LR	LR		
	comp=Z,300nm,18.4s,MS3.9						
HHC	**Hu-ho-hao-te**	**28.23**	**274**	*e*P	**P**	**20 26 24.5**	**+0.2**
HHC				AP	pP	20 26 37.8	-0.8
HHC				PP	PP	20 27 15.9	-0.7
HHC				S	**S**	**20 31 04.3**	**-0.2**
HHC				XS		20 31 29.3	
HHC				SS	SS	20 32 31.6	+0.3
HHC				AMB	AMB		
	comp=Z,25nm,0.8s,mb4.9						
HHC				AMB	AMB		
	comp=Z,39nm,3.5s						
HHC				LR	LR		
	comp=N,139nm,19.0s,MS3.9						
HHC				LR	LR		
	comp=E,224nm,16.1s,MS3.9						
HHC				LR	LR		
	comp=Z,197nm,17.2s,MS3.8						
SONM	**Songino Array**	**29.74**	**290**	P	**P**	**20 26 36.7**	**-1.0**
	comp=Z,1.1nm,0.8s,mb3.7,baz=87,slow=8.4,SNR=9.6						
SONM				PcP	PcP	20 29 39.2	-1.3
	comp=Z,1.3nm,0.6s,baz=116,slow=2.4,SNR=6.0						
SONM				LR	LR	20 39 34.5	
	comp=Z,114nm,19.9s,MS3.5,baz=57,slow=38						
ZAK	**Zakamensk**	**31.28**	**296**	*e*P	**P**	**20 26 46.8**	**-4.5**
WHN	**Wuhan**	**31.50**	**254**	*e*P	**P**	**20 26 52.4**	**-1.0**
XAN	**Xi'an**	**33.24**	**265**	P	**P**	**20 27 07.6**	**-1.0**
XAN				AMB	AMB		
	comp=Z,12nm,0.8s,mb4.9						
ENH	**Enshi**	**34.99**	**259**	*e*P	**P**	**20 27 21.8**	**-1.8**
	comp=Z,13nm,0.7s,mb5.0						
ENH				*e*PcP	PcP	20 29 53.5	-1.5
LZH	**Lanzhou**	**35.76**	**271**	*e*P	**P**	**20 27 30.0**	**-0.1**
LZH				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.3						
LZH	**Lanzhou**	**35.76**	**271**	*e*P	**P**	**20 27 30.0**	**-0.1**
	comp=Z,40nm,1.0s,mb5.3						
LZH				pP	pP	20 27 38.0	-6.9
LZH				sP	sP	20 27 42.5	-10
LZH	**Lanzhou**	**35.76**	**271**	*e*P	**P**	**20 27 30.0**	**-0.1**
LZH				*SP	sP	20 27 42.5	-10
LZH				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.3						
IMA	**Indian Mountai**	**36.12**	**35**	*e*P	**P**	**20 27 32.5**	**-0.3**
	comp=Z,38nm,0.9s,mb5.3						
IMA				*e*PcP	PcP	20 29 57.7	-0.3
IMA	**Indian Mountai**	**36.12**	**35**	*e*P	**P**	**20 27 32.5**	**-0.4**
IMA				*e*		20 29 57.7	
IMA				pmax	pmax		
	comp=Z,38nm,0.9s,mb5.3						
GTA	**Gaotai**	**37.03**	**279**	⇑P	**P**	**20 27 41.0**	**+0.2**
GTA				AP	pP	20 27 54.9	-0.7
GTA				PCP	PcP	20 30 01.3	+0.3
GTA				S	**S**	**20 33 25.3**	**+3.6**
GTA				XS		20 33 48.1	
GTA				SS	SS	20 35 58.3	+4.5
GTA				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.7						
GTA				AMB	AMB		
	comp=Z,42nm,5.0s						
GTA				LR	LR		
	comp=N,63nm,14.0s,MS3.7						
GTA				LR	LR		
	comp=E,72nm,16.9s,MS3.7						
GTA				LR	LR		
	comp=Z,94nm,15.7s,MS3.7						
CD2	**Chengdu**	**38.60**	**264**	P	**P**	**20 27 53.4**	**-0.5**
CD2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.0						
ILAR	**Eielson Array**	**38.91**	**37**	P	**P**	**20 27 56.0**	**-0.1**
	comp=Z,2.9nm,0.8s,mb4.1,baz=266,slow=6.6,SNR=39						
ILAR				PcP	PcP	20 30 03.9	-2.7
	comp=Z,0.4nm,0.6s,baz=283,slow=3.1,SNR=4.8						
GYA	**Guiyang**	**39.31**	**256**	⇑*i*P	**P**	**20 27 58.8**	**-1.1**
GYA				AP	pP	20 28 14.1	-0.7
GYA				XP	sP	20 28 21.3	-0.4
GYA				PP	PP	20 29 34.8	+0.2
GYA				PCP	PcP	20 30 03.4	-4.9
GYA				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.0						
GYA				LR	LR		
	comp=N,380nm,16.8s,MS4.4						
GYA				LR	LR		
	comp=E,310nm,17.0s,MS4.4						
GYA				LR	LR		
	comp=Z,340nm,16.7s,MS4.3						
ZAL	**Zalesovo**	**41.63**	**306**	P	**P**	**20 28 16.6**	**-2.0**
	comp=Z,0.9nm,0.4s,mb3.8,baz=24,slow=2.5,SNR=3.1						
ZAL				PcP	PcP	20 30 14.2	-1.1
	comp=Z,3.3nm,0.6s,baz=45,slow=3.1,SNR=15						
ZAL				LR	LR	20 47 24.7	
	comp=Z,149nm,19.5s,MS3.9,baz=63,slow=39						
KMI	**Kunming**	**42.87**	**258**	P	**P**	**20 28 28.8**	**-0.3**
KMI				AP	pP	20 28 42.8	-1.3
KMI				XP	sP	20 28 50.6	-0.4
KMI				PP	PP	20 30 12.3	+0.6
KMI				S	**S**	**20 34 48.4**	**-0.7**
KMI				XS		20 35 15.5	
KMI				SS	SS	20 37 59.1	+3.8
KMI				AMB	AMB		
	comp=Z,14nm,0.8s,mb4.7						
KMI				AMB	AMB		
	comp=Z,65nm,3.8s						
KMI				LR	LR		
	comp=N,69nm,18.0s,MS3.8						
KMI				LR	LR		
	comp=E,95nm,17.3s,MS3.8						
KMI				LR	LR		
	comp=Z,111nm,17.3s,MS3.8						
KMI	**Kunming**	**42.87**	**258**	P	**P**	**20 28 28.8**	**-0.3**

comp=Z,14nm,0.8s,mb4.7
KMI pP pP 20 28 42.7 -1.4
KMI sP sP 20 28 50.6 -0.4
KMI PP PP 20 30 12.3 +0.6
KMI S **S** **20 34 48.4 -0.7**
KMI sS SS 20 35 15.5
KMI SS SS 20 37 59.1 +3.8
KMI LR LR
comp=Z,110nm,17.3s,MS3.8
KMI Kunming 42.87 258 P **P** **20 28 28.8 -0.3**
KMI *PP pP 20 28 42.7 -1.4
KMI 20 30 12.3
KMI S **S** **20 34 48.4 -0.7**
KMI SS SS 20 37 59.1 +3.8
KMI pmax pmax
comp=Z,14nm,0.8s,mb4.7
KMI MLR MLR
comp=Z,110nm,17.3s,MS3.8
WMQ Urumqi 43.37 291 *e*P **P** **20 28 34.0 +1.0**
WMQ AP pP 20 28 50.0 +2.0
WMQ XP sP 20 28 57.0 +2.1
WMQ PP PP 20 30 18.0 +1.5
WMQ S **S** **20 34 58.0 +1.8**
WMQ SCS ScS 20 38 25.0 0.0
WMQ AMB AMB
comp=Z,11nm,1.0s,mb4.5
WMQ AMB AMB
comp=Z,85nm,6.0s
WMQ LR LR
comp=N,67nm,15.0s,MS3.8
WMQ LR LR
comp=E,72nm,15.0s,MS3.8
WMQ LR LR
comp=Z,84nm,15.0s,MS3.8
INK Inuvik 43.90 31 P **P** **20 28 35.3 -1.7**
comp=Z,6.1nm,0.6s,mb4.5,baz=290,slow=5.4,SNR=11
INK Inuvik 43.90 31 *e*P **P** **20 28 37.3 +0.3**
comp=Z,7.9nm,0.7s,mb4.5
INK Inuvik 43.90 31 *e*P **P** **20 28 37.3 +0.4**
INK pmax pmax
comp=Z,8.0nm,0.7s
MKAR Makanchi Array 45.61 297 P **P** **20 28 49.4 -1.5**
comp=Z,1.6nm,0.5s,mb4.2,baz=74,slow=7.8,SNR=28
MKAR PcP PcP 20 30 28.0 -0.9
comp=Z,3.4nm,0.6s,baz=77,slow=1.6,SNR=15
MKAR LR LR 20 49 15.5
comp=Z,203nm,18.2s,MS4.1,baz=167,slow=38
KURK Kurchatov 46.28 304 *e*P **P** **20 28 53.9 -2.2**
comp=Z,3.9nm,0.6s,mb4.5
KURK *e*PcP PcP 20 30 30.3 -0.9
KURK Kurchatov 46.28 304 *e*P **P** **20 28 53.9 -2.2**
KURK *e* 20 30 30.3
KURK pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
LSA Lhasa 48.17 272 P **P** **20 29 12.3 +1.0**
LSA Lhasa 48.17 272 *e*P **P** **20 29 12.3 +1.0**
comp=Z,6.9nm,0.7s,mb4.8
LSA *e*PcP PcP 20 30 39.2 +0.9
LSA Lhasa 48.17 272 *e*P **P** **20 29 12.3 +1.0**
LSA *e* 20 30 39.2
LSA pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
BVAR Borovoye Array 50.00 309 P **P** **20 29 24.7 -0.4**
comp=Z,1.9nm,0.6s,mb4.3,baz=78,slow=7.5,SNR=13
BVAR PcP PcP 20 30 43.7 -0.9
comp=Z,2.4nm,0.4s,baz=75,slow=3.2,SNR=13
AAK Ala-Archa 52.46 296 P **P** **20 29 42.3 -1.4**
comp=Z,2.7nm,0.5s,mb4.4
AAK Ala-Archa 52.46 296 P **P** **20 29 42.3 -1.4**
AAK pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
YKA Yellowknife Ar 53.25 35 P **P** **20 29 48.9 -0.4**
comp=Z,4.9nm,0.7s,mb4.6,baz=299,slow=7.3,SNR=9.2
YKA Yellowknife Ar 53.25 35 P **P** **20 29 48.9 -0.4**
KKN Kakani 53.44 274 *e*P **P** **20 29 51.2 0.0**
comp=Z,35nm,0.8s,mb5.3
KKN Kakani 53.44 274 *e*P **P** **20 29 51.2 0.0**
KKN pmax pmax
comp=Z,17nm,0.8s,mb5.0
PKI Pulchoki 53.48 274 *e*P **P** **20 29 50.9 -0.6**
comp=Z,34nm,1.1s,mb5.2
PKI Pulchoki 53.48 274 *e*P **P** **20 29 50.9 -0.6**
PKI pmax pmax
comp=Z,17nm,1.1s,mb4.9
DMN Daman 53.67 274 *e*P **P** **20 29 52.4 -0.5**
comp=Z,38nm,0.8s,mb5.3
GKN Gorkha 53.76 275 *e*P **P** **20 29 53.1 -0.5**
comp=Z,53nm,1.0s,mb5.4
ARU Arti 54.49 317 *e*P **P** **20 29 55.8 -2.8**
comp=Z,6.6nm,0.7s,mb4.7
ARU *e*PcP PcP 20 31 00.0 -1.2
ARU Arti 54.49 317 ⇓*i*P **P** **20 29 57.2 -1.4**
ARU *e* pP 20 30 11.1 -2.9
ARU *e* 20 30 58.7
ARU *e* 20 31 56.5
ARU *e*PPP PPP 20 33 08.9 -5.9
ARU *e*S **S** **20 37 34.3 +2.9**
ARU *e*SS SS 20 41 16.7 +2.6
ARU pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
KOLN Koldanda 54.63 275 *e*P **P** **20 29 59.2 -0.7**
comp=Z,30nm,1.0s,mb5.3
ARCES ARCESS Array B 58.35 340 P **P** **20 30 24.9 -1.0**
comp=Z,1.5nm,0.9s,mb4.0,baz=27,slow=8.1,SNR=3.3
ARCES PcP PcP 20 31 13.4 -2.7
comp=Z,1.6nm,0.7s,baz=45,slow=3.4,SNR=4.1
EDM Edmonton 58.77 44 *e*P **P** **20 30 27.7 -1.3**
JOF Joensuu 61.52 333 *e*p **P** **20 30 45.6 -2.1**
SUMG Summit 62.12 3 *e*P **P** **20 30 50.0 -1.6**
comp=Z,18nm,1.0s,mb5.2
KAF Kangasniemi 63.69 334 *e*p **P** **20 31 00.0 -1.9**
FINES FINESS Array B 64.27 334 P **P** **20 31 04.0 -1.8**
comp=Z,4.5nm,0.7s,mb4.6,baz=34,slow=6.9,SNR=21
OBN Obninsk 65.13 324 *i* P **P** **20 31 10.8 -0.6**
OBN pmax pmax
comp=Z,7.0nm,1.2s,mb4.6
OBN MLR MLR
comp=Z,100nm,20.0s,MS4.0
ELK Elko 65.33 56 P **P** **20 31 12.4 -0.6**
comp=Z,1.5nm,0.8s,mb4.1
ELK Elko 65.33 56 P **P** **20 31 12.4 -0.6**
ELK pmax pmax
comp=Z,1.0nm,0.8s
WRA Warramunga Arr 66.62 196 P **P** **20 31 18.5 -3.0**
comp=Z,2.6nm,0.8s,mb4.3,baz=15,slow=6.8,SNR=16
BW06 Boulder Array 67.26 52 *e*P **P** **20 31 24.7 -0.4**
comp=Z,2.1nm,0.6s,mb4.3
PDAR Pinedale Array 67.26 52 P **P** **20 31 24.8 -0.3**
comp=Z,2.0nm,0.8s,mb4.2,baz=314,slow=2.5,SNR=12
AFI Afiamalu 68.45 140 LR LR 20 56 10.9
comp=Z,62nm,20.6s,MS3.8,baz=302,slow=31
NB2 NORSAR Subarra 68.73 340 P **P** **20 31 32.6 -1.4**
comp=Z,1.7nm,0.6s,mb4.2,baz=32,slow=6.5
NB2 NORSAR Subarra 68.73 340 P **P** **20 31 32.6 -1.4**
NB2 pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
NOA NORSAR Array B 68.73 340 P **P** **20 31 32.9 -1.1**
comp=Z,1.6nm,0.7s,mb4.1,baz=31,slow=6.2,SNR=8.2
ULM Lac du Bonnet 68.91 39 P **P** **20 31 33.6 -1.7**
comp=Z,1.9nm,0.4s,mb4.4,baz=316,slow=5.7,SNR=6.3
GOF Gofitskoye 69.18 314 *e*P **P** **20 31 33.5 -3.5**
GOF pmax pmax
comp=Z,30nm,1.2s,mb5.1
KIV Kislovodsk 70.12 313 *e*P **P** **20 31 43.6 +0.8**
comp=Z,23nm,0.8s,mb5.2
KIV Kislovodsk 70.12 313 *d i*P **P** **20 31 44.1 +1.3**
KIV pmax pmax
comp=Z,23nm,1.0s,mb5.1
KIV MLR MLR
comp=Z,100nm,20.0s,MS4.1
AKASG Malin Array Be 71.39 325 P **P** **20 31 49.3 -1.0**
comp=Z,3.3nm,0.4s,mb4.6,baz=37,slow=6.1,SNR=26
OJC Ojcow 75.38 330 *e*P **P** **20 32 13.0 -0.5**
BURAR Bucovina Array 75.44 325 ⇓*i*P **P** **20 32 14.3 +0.4**
BURAR Bucovina Array 75.44 325 ⇓*i*P **P** **20 32 14.3 +0.4**
STHS Stebnicka Huta 75.51 328 *i* P **P** **20 32 14.7 +0.4**
KOLS Kolonicke sedl 75.53 327 *e*P **P** **20 32 14.7 +0.3**
NIE Niedzica 75.86 329 *e*P **P** **20 32 16.8 +0.6**
CRVS Cervenica-Dubn 75.86 328 *i* P **P** **20 32 16.7 +0.4**
CFR Carcaliu 76.15 322 ⇓*i*P **P** **20 32 16.9 -1.1**
CFR Carcaliu 76.15 322 ⇓*i*P **P** **20 32 16.9 -1.1**
VRI Vrincioaia 76.21 323 ⇓*i*P **P** **20 32 19.0 +0.6**
VRI Vrincioaia 76.21 323 ⇓*i*P **P** **20 32 19.0 +0.7**
MALT Malatya 76.41 311 *e*P **P** **20 32 20.5 +0.9**
comp=Z,7.1nm,0.7s,mb4.7
MALT Malatya 76.41 311 *e*P **P** **20 32 20.5 +0.8**
MALT pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
UPC Upice 76.44 332 *e*P **P** **20 32 19.5 0.0**
DPC Dobruska-Polom 76.47 332 *e*P **P** **20 32 20.0 +0.3**
MORC Moravsky Berou 76.54 331 *e*P **P** **20 32 19.7 -0.4**
comp=Z,9.4nm,1.0s,mb4.7
MORC Moravsky Berou 76.54 331 *e*P **P** **20 32 19.7 -0.4**
MORC pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
KECS Kecovo 76.57 328 *i* P **P** **20 32 20.1 -0.2**
CLL Collm 76.71 334 ⇑P **P** **20 32 20.5 -0.6**
comp=Z,logA/T=1.0,mb4.7
CLL *e*PP pP 20 32 40.0 +2.7
CLL Collm 76.71 334 ⇑*i*P **P** **20 32 20.5 -0.6**
comp=Z,12nm,1.1s,mb4.7
CLL *e*pP pP 20 32 40.0 +2.7
CLL Collm 76.71 334 ⇑*i*P **P** **20 32 20.5 -0.6**
CLL *e*PP pP 20 32 40.0 +2.7
CLL pmax pmax
comp=Z,12nm,1.1s,mb4.7
BRG Berggiesshubel 76.80 333 *e*P **P** **20 32 20.9 -0.6**
comp=Z,2.0nm,0.6s,mb4.2
BRG Berggiesshubel 76.80 333 *e*P **P** **20 32 21.0 -0.5**
BRG pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
MLR Muntele Rosu 76.84 323 ⇓*i*P **P** **20 32 23.1 +1.2**
MLR Muntele Rosu 76.84 323 ⇓*i*P **P** **20 32 23.1 +1.1**
PVCC Panska Ves 76.89 333 *e*P **P** **20 32 22.0 -0.1**
CLZ Clausthal 77.03 336 *e*P **P** **20 32 22.8 -0.1**
comp=Z,8.0nm,1.1s,mb4.6
CLZ Clausthal 77.03 336 *e*P **P** **20 32 22.8 -0.1**
CLZ pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
DRGR 77.11 326 ⇑*i*P **P** **20 32 22.6 -0.8**
DRGR 77.11 326 ⇑*i*P **P** **20 32 22.6 -0.8**
VYHS Vyhne 77.16 329 *e*P **P** **20 32 24.1 +0.4**
PSZ Piszkesteto 77.26 328 *e*P **P** **20 32 23.8 -0.4**
comp=Z,9.2nm,0.9s,mb4.7
PSZ Piszkesteto 77.26 328 *e*P **P** **20 32 23.8 -0.4**
PSZ pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
VOIR 77.26 324 ⇓*i*P **P** **20 32 25.2 +0.9**
VOIR 77.26 324 ⇓*i*P **P** **20 32 25.2 +1.0**
MNTX Cornudas Mount 77.29 58 *e*P **P** **20 32 24.4 -0.3**
comp=Z,1.1nm,0.9s,mb3.8
MNTX *e*PcP PcP 20 32 37.2 +1.7
PRU Pruhonice 77.37 332 *e*P **P** **20 32 24.5 -0.3**
UMR Umm Al-Rimmam 77.41 299 *e*P **P** **20 32 25.5 +0.1**
UMR AMb AMB 20 32 26.5
comp=Z,55nm,0.6s,mb5.7
MIB Mutribah 77.46 300 *e*P **P** **20 32 26.1 +0.4**
MIB AMb AMB 20 32 27.1
comp=Z,77nm,0.8s,mb5.7
KBD Kabd 77.69 299 *e*P **P** **20 32 27.6 +0.6**
KBD AMb AMB 20 32 28.6
comp=Z,153nm,0.8s
MOX Moxa 77.72 334 *i* P **P** **20 32 26.7 0.0**
MOX Moxa 77.72 334 *e*P **P** **20 32 26.7 0.0**
BRTR Keskin Array B 77.81 315 P **P** **20 32 28.1 +0.7**
comp=Z,3.0nm,0.7s,mb4.3,baz=90,slow=3.7,SNR=12
RDF Al-Radifah 77.95 299 *e*P **P** **20 32 29.1 +0.7**
RDF AMb AMB 20 32 30.1
comp=Z,73nm,0.6s,mb5.8
KHC Kasperske Hory 78.42 332 *e*P **P** **20 32 30.7 +0.1**
GEC2 GERESS Array S 78.63 332 *e*P **P** **20 32 31.3 -0.4**
comp=Z,5.0nm,0.7s,mb4.5
GEC2 GERESS Array S 78.63 332 *e*P **P** **20 32 31.3 -0.4**
GEC2 pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
GERES GERESS Array B 78.63 332 P **P** **20 32 31.6 -0.1**
comp=Z,3.3nm,0.5s,mb4.5,baz=37,slow=5.8,SNR=46
WET Wettzell 78.64 333 *e*P **P** **20 32 31.2 -0.6**
comp=Z,10.0nm,1.1s,mb4.7
WET Wettzell 78.64 333 *e*P **P** **20 32 31.2 -0.6**
WET pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
GRA1 Grafenberg Arr 78.68 334 *e*P **P** **20 32 32.0 0.0**
comp=Z,14nm,0.8s,mb4.9
GRF Grafenberg Arr 78.68 334 *e*P **P** **20 32 32.0 0.0**
comp=Z,14nm,0.8s,mb4.9
GRF Grafenberg Arr 78.68 334 *e*P **P** **20 32 32.0 0.0**
GRF pmax pmax
comp=Z,14nm,0.8s,mb4.9
GRF Grafenberg Arr 78.68 334 *e*P **P** **20 32 32.0 0.0**
GRF pmax pmax
comp=Z,14nm,0.8s,mb4.9
TNS Taunus Mts 79.03 336 *e*P **P** **20 32 34.0 +0.1**
comp=Z,7.0nm,0.9s,mb4.6
TNS Taunus Mts 79.03 336 *e*P **P** **20 32 34.0 +0.1**
TNS pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
MOA Molln 79.31 331 ⇑*i*P **P** **20 32 35.6 +0.1**
comp=Z,3.7nm,0.8s,mb4.4
FUR Furstenfeldbru 80.01 333 *e*P **P** **20 32 39.5 +0.3**
comp=Z,13nm,0.8s,mb4.9
FUR Furstenfeldbru 80.01 333 *e*P **P** **20 32 39.5 +0.3**
FUR pmax pmax
comp=Z,13nm,0.8s,mb4.9
TXAR Lajitas Array 80.02 58 P **P** **20 32 39.8 +0.1**
comp=Z,3.6nm,0.6s,mb4.5,baz=302,slow=4.3,SNR=16
GIVF Givet 80.14 338 *e*P **P** **20 32 39.4 -0.4**
comp=Z,5.4nm,0.5s,mb4.5
GIVF Givet 80.14 338 *e*P **P** **20 32 39.4 -0.4**
GIVF pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
KBA Koelnbreinsper 80.29 332 ⇓*i*P **P** **20 32 41.5 +0.8**
comp=Z,16nm,0.9s,mb5.0
KBA Koelnbreinsper 80.29 332 ⇓*i*P **P** **20 32 41.5 +0.8**
KBA pmax pmax
comp=Z,16nm,0.9s,mb5.0
BAIF Baives 80.33 338 *e*P **P** **20 32 40.7 -0.2**
comp=Z,4.0nm,0.5s,mb4.3
BAIF Baives 80.33 338 *e*P **P** **20 32 40.7 -0.2**
BAIF pmax pmax
comp=Z,2.0nm,0.4s,mb4.4
OBKA Obir 80.37 331 ⇑*i*P **P** **20 32 41.1 -0.1**
comp=Z,5.0nm,0.7s,mb4.5
WATA Walderalm 80.64 333 ⇑*i*P **P** **20 32 42.1 -0.5**
comp=Z,12nm,1.2s,mb4.7
WATA Walderalm 80.64 333 ⇑*i*P **P** **20 32 42.1 -0.5**
WATA pmax pmax
comp=Z,13nm,1.2s,mb4.7
WTTA Wattenberg 80.69 333 ⇑*i*P **P** **20 32 43.3 +0.5**
comp=Z,15nm,0.5s,mb5.2
WTTA Wattenberg 80.69 333 ⇑*i*P **P** **20 32 43.3 +0.5**
WTTA pmax pmax
comp=Z,15nm,0.5s,mb5.2
BFO Black Forest 80.76 335 *e*P **P** **20 32 42.8 -0.4**
comp=Z,8.0nm,1.1s,mb4.6
BFO Black Forest 80.76 335 *e*P **P** **20 32 42.8 -0.4**
BFO pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
MOTA Moosalm 80.79 333 ⇑*i*P **P** **20 32 43.6 +0.2**
comp=Z,8.3nm,1.0s,mb4.6
MOTA Moosalm 80.79 333 ⇑*i*P **P** **20 32 43.6 +0.2**
MOTA pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
SQTA Sankt Quirin 80.86 333 ⇓*i*P **P** **20 32 44.4 +0.6**
comp=Z,6.5nm,1.0s,mb4.5
SQTA Sankt Quirin 80.86 333 ⇓*i*P **P** **20 32 44.4 +0.6**
SQTA pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
CDF Champ du Feu 81.00 336 *e*P **P** **20 32 44.3 -0.1**
comp=Z,16nm,0.9s,mb4.7
CDF Champ du Feu 81.00 336 *e*P **P** **20 32 44.3 -0.1**
CDF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
MEZF Maizieres J'vi 81.54 337 *e*P **P** **20 32 47.4 +0.1**
comp=Z,14nm,0.8s,mb4.7
HAU Haudompre 81.63 336 *e*P **P** **20 32 47.5 -0.2**
comp=Z,8.3nm,0.7s,mb4.5
HAU *e*R
comp=Z,91nm,19.2s
HAU Haudompre 81.63 336 *e*P **P** **20 32 47.5 -0.2**
HAU pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
HAU MLR MLR
comp=Z,90nm,19.3s,MS4.1
ASF Jabal al Asfar 81.83 308 P **P** **20 32 49.9 +0.8**
comp=Z,3.0nm,0.8s,mb4.3,baz=291,slow=1.0,SNR=6.3
HILS Ha'il 82.57 302 P **P** **20 32 54.7 +1.7**
FLN La Foliniere 82.69 341 *e*P **P** **20 32 53.2 0.0**
FLN *e*R
comp=Z,66nm,17.2s
LDF La Druitiere 82.76 341 *e*P **P** **20 32 53.4 -0.2**
comp=Z,7.2nm,0.5s,mb4.6
LDF La Druitiere 82.76 341 *e*P **P** **20 32 53.4 -0.2**
LDF pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
MZLS Mizel 82.92 297 P **P** **20 32 55.9 +1.1**
CABF La Chapelle 82.97 336 *e*P **P** **20 32 54.8 +0.2**
LOR Lormes 82.99 338 *e*P **P** **20 32 54.7 0.0**
comp=Z,13nm,0.6s,mb4.8
LOR *e*R
comp=Z,90nm,20.2s
LOR Lormes 82.99 338 *e*P **P** **20 32 54.7 0.0**
LOR pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
LOR MLR MLR
comp=Z,90nm,20.3s,MS4.1
GRR Gorron 83.13 341 *e*P **P** **20 32 55.7 +0.3**
comp=Z,28nm,0.6s,mb5.2
GRR Gorron 83.13 341 *e*P **P** **20 32 55.7 +0.3**
GRR pmax pmax
comp=Z,14nm,0.6s,mb5.2
PPT Papeete 83.20 123 LR LR 21 08 07.0
comp=Z,21nm,19.2s,MS3.5,baz=14,slow=34
SSF Saint Saulge 83.27 338 *e*P **P** **20 32 56.2 0.0**
comp=Z,4.0nm,0.7s,mb4.6
SSF Saint Saulge 83.27 338 *e*P **P** **20 32 56.2 0.0**
SSF pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
AVF Avril sur Loir 83.56 338 *e*P **P** **20 32 57.9 +0.3**
comp=Z,11nm,0.6s,mb4.8
AVF Avril sur Loir 83.56 338 *e*P **P** **20 32 57.9 +0.3**
AVF pmax pmax
comp=Z,5.0nm,0.6s,mb4.8
SMF Signal de Mont 83.57 337 *e*P **P** **20 32 57.9 +0.3**
comp=Z,22nm,0.8s,mb5.0
SMF Signal de Mont 83.57 337 *e*P **P** **20 32 57.9 +0.3**
SMF pmax pmax
comp=Z,11nm,0.8s,mb5.0
SGMF Saint Gilles 83.63 342 *e*P **P** **20 32 58.4 +0.5**
comp=Z,21nm,0.7s,mb5.1
SGMF Saint Gilles 83.63 342 *e*P **P** **20 32 58.4 +0.5**
SGMF pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
ROSF Rostrenen 83.71 342 *e*P **P** **20 32 58.4 +0.1**
comp=Z,51nm,1.1s,mb5.3
ROSF Rostrenen 83.71 342 *e*P **P** **20 32 58.4 +0.1**
ROSF pmax pmax
comp=Z,26nm,1.1s,mb5.3
LPL La Plagne 83.77 335 *e*P **P** **20 32 59.6 +0.9**
comp=Z,16nm,0.8s,mb4.9
LPL La Plagne 83.77 335 *e*P **P** **20 32 59.6 +0.9**
LPL pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
LPG La Plagne 83.78 335 *e*P **P** **20 32 59.8 +1.1**
comp=Z,9.7nm,0.6s,mb4.8
LPG La Plagne 83.78 335 *e*P **P** **20 32 59.8 +1.1**
LPG pmax pmax
comp=Z,5.0nm,0.6s,mb4.8
BGF Bois d'Agland 83.91 338 *e*P **P** **20 33 00.3 +1.0**
comp=Z,7.8nm,0.6s,mb4.7
BGF Bois d'Agland 83.91 338 *e*P **P** **20 33 00.3 +1.0**
BGF pmax pmax
comp=Z,4.0nm,0.6s,mb4.7
QUIF Quistinic 84.08 342 *e*P **P** **20 33 00.4 +0.2**
comp=Z,24nm,1.0s,mb5.0
QUIF Quistinic 84.08 342 *e*P **P** **20 33 00.4 +0.2**
QUIF pmax pmax
comp=Z,12nm,1.0s,mb5.0
TCF Toulx Ste Croi 84.33 338 *e*P **P** **20 33 02.1 +0.7**
comp=Z,22nm,1.0s,mb4.9
TCF Toulx Ste Croi 84.33 338 *e*P **P** **20 33 02.1 +0.7**
TCF pmax pmax
comp=Z,11nm,1.0s,mb4.9
AFFS 'Afif 84.37 298 P **P** **20 33 03.0 +0.8**
MBDF Montbardon 84.48 335 *e*P **P** **20 33 02.5 +0.3**
comp=Z,8.9nm,0.6s,mb4.8
MBDF Montbardon 84.48 335 *e*P **P** **20 33 02.5 +0.3**
MBDF pmax pmax
comp=Z,4.0nm,0.6s,mb4.7
ORIF Oris-en-Rattie 84.57 335 *e*P **P** **20 33 03.6 +0.9**
comp=Z,18nm,0.7s,mb5.0
ORIF *e*R
comp=Z,51nm,17.0s
MFF Saint Martin d 84.63 340 *e*P **P** **20 33 03.7 +0.8**
comp=Z,14nm,0.6s,mb5.0
MFF Saint Martin d 84.63 340 *e*P **P** **20 33 03.7 +0.8**
MFF pmax pmax
comp=Z,7.0nm,0.6s,mb5.0
VIVF Saint-Julien-l 84.98 336 *e*P **P** **20 33 05.6 +0.9**
TBKS Tabuk 85.01 306 P **P** **20 33 06.8 +1.5**
ALWS Ilw as Safayha 85.02 307 P **P** **20 33 07.0 +1.7**
JMOS Jabal al Moall 85.11 307 P **P** **20 33 06.5 +0.7**
KBRS Khaybar 85.26 302 P **P** **20 33 08.0 +1.4**
RJF Les Rejaudoux 85.42 338 *e*P **P** **20 33 07.8 +0.9**
comp=Z,19nm,0.9s,mb4.9
RJF *e*R
comp=Z,97nm,20.0s
RJF Les Rejaudoux 85.42 338 *e*P **P** **20 33 07.8 +0.9**
RJF pmax pmax
comp=Z,9.0nm,0.9s,mb4.9
RJF MLR MLR
comp=Z,100nm,20.0s,MS4.2
CAF Calviac 85.63 338 *e*P **P** **20 33 09.3 +1.4**
comp=Z,31nm,0.9s,mb5.2
CAF Calviac 85.63 338 *e*P **P** **20 33 09.3 +1.4**
CAF pmax pmax
comp=Z,16nm,0.9s,mb5.2
BDAS Al Bad' **85.67 307** P **P** **20 33 09.6 +1.1**
TAYS Tayyib Ism 85.71 307 P **P** **20 33 10.2 +1.5**
LFF La Frestale 85.97 339 *e*P **P** **20 33 10.7 +1.2**
comp=Z,20nm,0.6s,mb5.2
LFF La Frestale 85.97 339 *e*P **P** **20 33 10.7 +1.2**
LFF pmax pmax
comp=Z,10.0nm,0.6s,mb5.2
KAMS Al Khamasin 86.02 295 P **P** **20 33 10.6 +0.2**
EPF Esparros 87.85 338 *e*P **P** **20 33 19.8 +1.0**
comp=Z,2.8nm,0.5s,mb4.4
EPF Esparros 87.85 338 *e*P **P** **20 33 19.8 +1.0**
EPF pmax pmax
comp=Z,1.0nm,0.5s,mb4.3
SJPF Ste Jean 88.17 339 *e*P **P** **20 33 22.0 +1.7**
ETSF Etsaut 88.21 339 *e*P **P** **20 33 22.1 +1.6**
comp=Z,1.1nm,0.4s,mb4.2
BLJS Baljurashi 88.22 297 P **P** **20 33 21.7 +0.6**
DJNS Zahran al Janu 88.59 294 P **P** **20 33 23.7 +0.9**
VNDA Vanda 122.92 177 PKP PKPdf 20 39 23.7 +0.1
comp=Z,0.9nm,0.8s,baz=289,slow=3.8,SNR=4.8
VNDA Vanda 122.92 177 PKIKP PKPdf 20 39 23.7 +0.1
VNDA pmax pmax
comp=Z,1.0nm,0.8s
DBIC Dimbokro 123.43 330 PKP PKPdf 20 39 26.5 +0.5
comp=Z,2.8nm,0.6s,baz=105,slow=19,SNR=6.3
DBIC Dimbokro 123.43 330 PKIKP PKPdf 20 39 26.5 +0.5
DBIC pmax pmax
comp=Z,3.0nm,0.6s
MAW Mawson 129.98 210 PKP PKPdf 20 39 38.2 +1.0
comp=Z,1.2nm,0.7s,baz=9.6,slow=2.0,SNR=8.6
MAW Mawson 129.98 210 PKIKP PKPdf 20 39 38.2 +1.0
MAW pmax pmax
comp=Z,1.0nm,0.7s
LPAZ La Paz 136.86 60 PKP PKPdf 20 39 53.4 +2.0
comp=Z,0.6nm,0.4s,baz=16,slow=6.5,SNR=6.8
LPAZ La Paz 136.86 60 PKIKP PKPdf 20 39 53.4 +2.0
LPAZ pmax pmax
comp=Z,1.0nm,0.4s
BDFB Brasilia 146.64 33 PKPbc PKPbc 20 40 11.8 +1.7
comp=Z,8.4nm,0.6s,baz=308,slow=2.5,SNR=9.7
BDFB Brasilia 146.64 33 PKP2 PKPab 20 40 11.8 -1.8
BDFB pmax pmax
comp=Z,8.0nm,0.6s
CFAA Coronel Fontan 147.37 78 PKPbc PKPdf 20 40 12.5 +3.1
comp=Z,0.6nm,0.4s,baz=270,slow=1.8,SNR=12
PLCA Paso Flores 150.24 95 PKPbc PKPdf 20 40 20.2 +6.5
comp=Z,5.0nm,0.8s,baz=256,slow=5.0,SNR=8.8
PLCA Paso Flores 150.24 95 PKIKP PKPdf 20 40 20.2 +6.5
PLCA pmax pmax
comp=Z,5.0nm,0.8s
SNAA Sanae 150.69 197 PKPbc PKPdf 20 40 19.2 +5.8
comp=Z,2.4nm,0.8s,baz=191,slow=1.9,SNR=31
SNAA Sanae 150.69 197 PKIKP PKPdf 20 40 19.2 +5.8
SNAA pmax pmax
comp=Z,2.0nm,0.8s
CPUP Villa Florida 150.99 58 PKPbc PKPdf 20 40 21.9 +6.6
comp=Z,4.1nm,0.8s,baz=30,slow=2.0,SNR=9.3
CPUP Villa Florida 150.99 58 PKIKP PKPdf 20 40 21.9 +6.6
CPUP pmax pmax
comp=Z,4.0nm,0.8s

VNA2	Neumayer--Watz	152.19 196	⇑iP	PKPdf	20 40 23.8	+8.1
VNA2	Neumayer--Watz	152.19 196		PKPdf	20 40 26.3	+11
VNA2	Neumayer--Watz	152.19 196		PKPdf	20 40 35.2	+20
VNA2	Neumayer--Watz	152.19 196		PKPdf	20 40 38.7	+23
VNA2	Neumayer--Watz	152.19 196		PKPdf	20 40 41.9	+26
VNA2	Neumayer--Watz	152.19 196		PKPdf	20 40 48.6	+33
VNA3	Neumayer Olymp	152.33 194	⇑iP	PKPdf	20 40 24.0	+8.1
VNA3	Neumayer Olymp	152.33 194		PKPdf	20 40 27.0	+11
VNA3	Neumayer Olymp	152.33 194		PKPdf	20 40 29.4	+14
VNA3	Neumayer Olymp	152.33 194		PKPdf	20 40 35.6	+20
VNA3	Neumayer Olymp	152.33 194		PKPdf	20 40 39.2	+23
VNA3	Neumayer Olymp	152.33 194		PKPdf	20 40 47.6	+32

*IDC **22** 20:28:09.6±2.0, 11.41S×162.92E, mb3.9/4, mb1 4.0/6, mb1mx3.8/15, mbtmp3.9/6, ML4.1/2, MS3.6/1, Ms1 3.5/1, ms1mx2.8/27, Error ellipse: s-maj=45.1km s-min=26.6km az=70.0*

*NEIC **22** 20:28:11.8±1.2, 11.21S×163.17E, h35km, mb4.1/1, Error ellipse: s-maj=27.6km s-min=14.9km az=55.0*

ISC 22 20:28:08.3±5.7, 11.5S±0.2×163.0E±0.2, h5km±37km, n9, σ0§95/11, mb3.8/5, MS3.5/1, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	3.61	304	Pn	Pn	20 29 06.4	+0.4
	38nm,0.3s,baz=136,slow=5.9,SNR=10						
HNR				Sn	Sn	20 29 50.5	+0.9
	74nm,0.3s,baz=25,slow=20,SNR=6.3						
HNR	Honiara	3.61	304	ePn	Pn	20 29 05.6	-0.5
HNR				eSn	Sn	20 29 59.1	+9.4
DZM	Mont Dzumac	11.04	163	Pn	P	20 30 50.6	+0.4
	0.6nm,0.3s,baz=324,slow=18,SNR=7.1						
STKA	Stephens Creek	28.30	221	P	P	20 34 06.3	+1.3
	2.0nm,1.0s,mb3.7,baz=75,slow=16,SNR=2.9						
STKA				LR	LR	20 43 56.6	
	comp=Z,122nm,19.6s,MS3.5,baz=28,slow=34						
STKA	Stephens Creek	28.30	221	P	P	20 34 04.9	-0.1
WRAB	Tennant Creek	28.77	249	P	P	20 34 09.7	+0.3
	4.4nm,1.0s,mb4.1						
WRA	Warramunga Arr	28.79	249	P	P	20 34 08.0	-1.5
	0.7nm,0.4s,mb3.7,baz=79,slow=8.9,SNR=11						
SONM	Songino Array	77.43	325	P	P	20 40 07.4	+1.1
	0.6nm,0.7s,mb3.6,baz=128,slow=5.1,SNR=5.4						
MKAR	Makanchi Array	91.98	317	P	P	20 41 18.1	-1.4
	0.4nm,0.8s,mb3.8,baz=117,slow=5.4,SNR=3.5						

MAN 22 20:28:32.5, 9.04N×123.25E, h31km, mb3.7, ML2.4, MS1.9, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCPH	Dipolog City	0.47	167	eP	Pb	20 28 43.8	+1.2
DCPH				i S	Sb	20 28 52.0	+2.6
GUIM	Jordan	1.70	338	eP	Pn	20 29 00.1	-0.5
GUIM				eS	Sn	20 29 21.6	0.0

IDC 22 20:39:25.6±1.8, 2.93N×125.42E, mb3.7/3, mb1 3.9/3, mb1mx3.6/16, mbtmp3.7/3, Error ellipse: s-maj=196.1km s-min=25.4km az=63.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.36	159	P	P	20 44 46.0	-0.6
	1.8nm,0.8s,baz=338,slow=10,SNR=9.6						
STKA	Stephens Creek	37.88	157	P	P	20 46 44.2	-2.0
	1.7nm,0.9s,baz=331,slow=10,SNR=4.0						
MKAR	Makanchi Array	57.47	326	P	P	20 49 16.4	-2.5
	0.4nm,0.5s,baz=122,slow=8.0,SNR=9.3						

*IDC **22** 20:45:49.4±0.6, 16.21N×145.99E, mb4.3/13, mb1 4.5/15, mb1mx4.3/25, mbtmp4.4/15, ML3.9/2, MS3.6/12, Ms1 3.6/12, ms1mx3.5/30, Error ellipse: s-maj=21.8km s-min=13.7km az=96.0*

*BJI **22** 20:45:53.2, 16.61N×146.01E, h21km, mB5.1, mb4.6, Ms4.3, Msz4.0*

*NEIC **22** 20:45:54.6±0.4, 16.21N×145.94E, h35km, mb4.7/15, Error ellipse: s-maj=11.8km s-min=7.3km az=84.0*

ISC 22 20:45:50.1±0.4, 16.27N±0.04×145.90E±0.07, h13km, h13km±1.2km: pP-P, n63, σ1§19/68, mb4.6/35, MS3.7/19, 2C-2D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANA2	Anatahan	0.20	292	⇓iP	Pg	20 45 53.0	-1.7
SARN	Sarigan	0.45	343	⇑iP	Pg	20 45 60.0	+0.6
SAPN	Saipan	1.06	188	⇓iP	Pb	20 46 10.9	+1.1
GUMO	Guam	2.84	201	Pn	Pn	20 46 36.3	+0.2
	31nm,0.3s,baz=25,slow=14,SNR=48						
GUMO				Sn	Sn	20 47 10.2	-0.4
	34nm,0.3s,baz=4.5,slow=20,SNR=6.7						
GUMO	Guam	2.84	201	Pn	Pn	20 46 36.3	+0.2
GUMO				Sn	Sn	20 47 10.2	-0.4
JOW	Kunigami	19.45	306	P	P	20 50 19.4	0.0
	0.4nm,0.3s,baz=155,slow=11,SNR=4.7						
JOW				LR	LR	20 56 08.2	
	comp=Z,176nm,19.5s,baz=147,slow=32						
MJAR	Matsushiro Arr	21.32	343	P	P	20 50 37.9	-1.1
	10nm,1.0s,mb4.1,baz=172,slow=11,SNR=19						
MJAR				LR	LR	20 58 04.9	
	comp=Z,278nm,18.7s,MS3.7,baz=75,slow=34						
MAJO	Matsushiro	21.32	343	eP	P	20 50 37.5	-1.5
	16nm,0.9s,mb4.3						
MAT	Matsushiro	21.32	343	P	P	20 50 37.7	-1.3
MAT	Matsushiro	21.32	343	eP	P	20 50 38.0	-1.0
	15nm,1.0s,mb4.3						
JNU	Nakatsue	21.59	324	P	P	20 50 42.5	+0.8
	15nm,0.8s,mb4.5,baz=161,slow=9.1,SNR=7.8						
JNU				LR	LR	20 57 42.3	
	comp=Z,77nm,19.7s,MS3.1,baz=176,slow=33						
SSE	Sheshan	26.93	308	eP	P	20 51 31.3	-1.9
SSE				S	S	20 56 06.3	-1.7
SSE				SCS	ScS	21 02 23.9	+0.1
SSE				AMB	AMB		
	comp=Z,22nm,0.8s,mb4.7						
SSE				AMB	AMB		
	comp=Z,63nm,6.1s						
SSE	Sheshan	26.93	308	eP	P	20 51 31.2	-2.0
	comp=Z,22nm,0.8s,mb4.7						
SSE				pP	pP	20 51 34.0	-3.0
SSE				sP	sP	20 51 35.4	-3.2
SSE				S	S	20 56 06.2	-1.8
SSE				sS		20 56 13.1	
SSE				ScS	ScS	21 02 23.9	+0.1
SSE				LR	LR		
	comp=Z,70nm,20.7s,MS3.2						
HNR	Honiara	29.07	150	LR	LR	21 01 45.1	
	comp=Z,77nm,18.3s,MS3.4,baz=341,slow=33						
NJ2	Nanjing	29.14	308	eP	P	20 51 52.3	-0.9
NJ2				AP	pP	20 51 57.1	+0.2
NJ2				PP	PP	20 52 46.5	-1.1
NJ2				PPP	PPP	20 52 58.0	-2.8
NJ2				S	S	20 56 42.0	-1.5
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,190nm,4.8s						
NJ2				LR	LR		
	comp=N,380nm,21.1s,MS4.1						
NJ2				LR	LR		
	comp=E,230nm,20.8s,MS4.1						
NJ2				LR	LR		
	comp=Z,140nm,20.7s,MS3.6						
MDJ	Mudanjiang	31.44	337	P	P	20 52 13.1	-0.3
MDJ				PCP	PcP	20 55 04.5	-2.3
MDJ				S	S	20 57 22.1	+2.5
MDJ				SCP		20 58 47.6	
MDJ				SCS	ScS	21 02 48.3	+3.6
MDJ				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb4.1						
CN2	Changchun	32.48	332	eP	P	20 52 24.3	+1.8
ENH	Enshi	36.07	299	P	P	20 52 52.9	-0.6
	comp=Z,4.8nm,0.8s,mb4.5						
WRA	Warramunga Arr	37.73	198	P	P	20 53 06.3	-1.3
	comp=Z,18nm,1.1s,mb4.7,baz=18,slow=9.5,SNR=35						
GYA	Guiyang	37.79	292	⇑iP	P	20 53 10.4	+2.3
GYA				AP	pP	20 53 14.8	+2.9
GYA				XP	sP	20 53 17.6	+4.1
GYA				PP	PP	20 54 41.1	+3.8
GYA				PCP	PcP	20 55 25.8	+0.5
GYA				S	S	20 59 03.3	+5.2
GYA				SCP		20 59 11.5	
GYA				SCS	ScS	21 03 19.8	+1.1
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
GYA				LR	LR		
	comp=N,310nm,15.9s,MS4.4						
GYA				LR	LR		
	comp=E,370nm,16.0s,MS4.4						
GYA				LR	LR		
	comp=Z,280nm,15.8s,MS4.2						
HHC	Hu-ho-hao-te	38.46	317	eP	P	20 53 17.8	+4.2
HHC				AP	pP	20 53 21.9	+4.5
HHC				XP	sP	20 53 25.3	+6.3
HHC				S	S	20 59 07.8	-0.3
HHC				SCP		20 59 16.1	
HHC				SCS	ScS	21 03 24.4	+2.0
HHC				AMB	AMB		
	comp=Z,14nm,0.4s,mb5.0						
HHC				AMB	AMB		
	comp=Z,80nm,5.0s						
HHC				LR	LR		
	comp=N,105nm,17.2s						
HHC				LR	LR		
	comp=E,106nm,23.2s						
HHC				LR	LR		
	comp=Z,113nm,17.8s,MS3.7						
BTO	Baotou	39.38	315	eP	P	20 53 24.1	+2.9
FITZ	Fitzroy Crossi	39.55	211	eP	P	20 53 20.7	-2.2
	comp=Z,8.4nm,1.1s,mb4.4						
FITZ	Fitzroy Crossi	39.55	211	P	P	20 53 21.1	-1.8
	comp=Z,17nm,1.1s,mb4.7,baz=12,slow=5.2,SNR=5.0						
CD2	Chengdu	41.03	299	P	P	20 53 36.4	+1.5
CD2				AP	pP	20 53 39.3	+0.6
CD2				PP	PP	20 55 17.1	+4.4
CD2				S	S	20 59 45.6	-1.1
CD2				XS		20 59 56.3	
CD2				SS	SS	21 02 41.8	-2.6
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
CD2				AMB	AMB		
	comp=Z,70nm,3.1s						
CD2				LR	LR		
	comp=E,260nm,9.7s						
CD2				LR	LR		
	comp=Z,240nm,10.4s,MS4.3						
KMI	Kunming	41.18	290	P	P	20 53 37.9	+1.7
KMI				AP	pP	20 53 41.9	+1.9
KMI				PP	PP	20 55 13.5	-1.0
KMI				S	S	20 59 51.5	+2.4
KMI				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.3						
KMI				AMB	AMB		
	comp=Z,49nm,3.4s						
KMI	Kunming	41.18	290	P	P	20 53 37.9	+1.7
	comp=Z,7.0nm,0.9s,mb4.3						
KMI				pP	pP	20 53 41.9	+1.9
KMI				sP	sP	20 53 43.8	+2.2
KMI				PP	PP	20 55 13.5	-1.0
KMI				S	S	20 59 51.5	+2.4
KMI				SS	SS	21 02 57.0	+10
KMI				LR	LR		
	comp=Z,40nm,18.2s,MS3.3						
LZH	Lanzhou	42.19	306	eP	P	20 53 45.5	+1.0
LZH				AP	pP	20 53 56.5	+8.2
LZH				AMB	AMB		
	comp=Z,30nm,1.5s,mb4.7						
LZH	Lanzhou	42.19	306	eP	P	20 53 45.5	+1.0
	comp=Z,30nm,1.5s,mb4.7						
LZH				pP	pP	20 53 56.5	+8.2
LZH				sP	sP	20 54 04.5	+15
DZM	Mont Dzumac	43.09	152	P	P	20 53 53.2	+1.2
	comp=Z,7.3nm,1.0s,mb4.4,baz=325,slow=12,SNR=4.9						
SONM	Songino Array	45.17	323	P	P	20 54 08.9	+0.5
	comp=Z,5.0nm,1.0s,mb4.3,baz=130,slow=7.2,SNR=27						
SONM				LR	LR	21 13 42.4	
	comp=Z,53nm,19.6s,MS3.5,baz=58,slow=37						
MBWA	Marble Bar	45.20	215	P	P	20 54 08.3	-0.6
GTA	Gaotai	46.20	309	eP	P	20 54 17.4	+0.7
GTA				AP	pP	20 54 20.9	+0.3
GTA				XP	sP	20 54 23.8	+1.7
GTA				PP	PP	20 56 06.4	+1.0
GTA				PPP	PPP	20 56 52.3	+2.9
GTA				S	S	21 01 05.9	+3.9
GTA				XS		21 01 14.3	
GTA				SS	SS	21 04 23.3	+3.6
GTA				AMB	AMB		
	comp=Z,3.0nm,1.5s,mb4.0						
GTA				AMB	AMB		
	comp=Z,108nm,3.8s						
GTA				LR	LR		
	comp=N,83nm,13.4s,MS4.1						
GTA				LR	LR		
	comp=E,127nm,17.2s,MS4.1						
GTA				LR	LR		
	comp=Z,109nm,15.5s,MS3.9						
STKA	Stephens Creek	48.05	185	eP	P	20 54 30.2	-1.1
	comp=Z,2.6nm,0.8s,mb4.3						
STKA	Stephens Creek	48.05	185	P	P	20 54 30.3	-1.0
	comp=Z,4.6nm,1.0s,mb4.5,baz=349,slow=8.9,SNR=5.4						
STKA	Stephens Creek	48.05	185	P	P	20 54 30.0	-1.3
LSA	Lhasa	51.72	295	P	P	20 55 03.0	+3.5
LSA	Lhasa	51.72	295	eP	P	20 55 00.3	+0.8
	comp=Z,6.5nm,0.6s,mb4.7						
WMQ	Urumqi	56.06	312	P	P	20 55 31.0	-0.2
WMQ				PP	PP	20 57 37.0	-0.8
WMQ				SCP		21 00 26.0	
WMQ				S	S	21 03 17.0	-0.7
WMQ				SCS	ScS	21 05 16.0	-0.7
WMQ				SS	SS	21 07 03.0	-1.1
WMQ				AMB	AMB		
	comp=Z,27nm,1.1s,mb5.2						
WMQ				AMB	AMB		
	comp=Z,19nm,6.0s						
WMQ				LR	LR		
	comp=N,78nm,16.0s,MS4.1						
WMQ				LR	LR		
	comp=E,94nm,16.0s,MS4.1						
WMQ				LR	LR		
	comp=Z,48nm,15.0s,MS3.7						
PKI	Pulchoki	56.76	293	eP	P	20 55 37.1	+0.6
	comp=Z,17nm,1.0s,mb5.0						
KKN	Kakani	56.87	293	eP	P	20 55 37.6	+0.3
DMN	Daman	57.03	293	eP	P	20 55 39.0	+0.6
	comp=Z,11nm,0.8s,mb4.9						
GKN	Gorkha	57.43	293	eP	P	20 55 42.2	+0.9
	comp=Z,69nm,1.3s,mb5.5						
KOLN	Koldanda	58.36	293	eP	P	20 55 48.6	+0.9
	comp=Z,62nm,1.6s,mb5.4						
ZAL	Zalesovo	60.07	323	P	P	20 55 59.0	-0.2
	comp=Z,0.5nm,0.3s,mb4.0,slow=9.1,SNR=2.9						
ZAL				LR	LR	21 21 16.8	
	comp=Z,38nm,19.9s,MS3.5,baz=305,slow=35						
MKAR	Makanchi Array	60.29	315	P	P	20 56 00.8	0.0
	comp=Z,11nm,1.1s,mb4.8,baz=96,slow=9.0,SNR=39						
KURK	Kurchatov	63.21	319	eP	P	20 56 18.5	-1.8
	comp=Z,34nm,1.3s,mb5.3						
ILAR	Eielson Array	65.73	26	P	P	20 56 34.2	-2.3
	comp=Z,3.1nm,1.1s,mb4.2,baz=265,slow=5.8,SNR=9.7						
ILAR				LR	LR	21 21 54.9	
	comp=Z,28nm,20.1s,MS3.5,baz=343,slow=33						
BRVK	Borovoye	68.53	321	eP	P	20 56 54.1	-0.3
	comp=Z,9.9nm,1.5s,mb4.5						
INK	Inuvik	71.53	23	P	P	20 57 10.9	-1.5
	comp=Z,1.6nm,0.6s,mb4.1,baz=239,slow=5.9,SNR=3.0						
DLBC	Dease Lake	73.20	33	P	P	20 57 23.4	+1.0
	comp=Z,2.1nm,0.7s,mb4.2,baz=339,slow=8.6,SNR=4.3						
DLBC	Dease Lake	73.20	33	P	P	20 57 23.4	+1.0
BBB	Bella Bella	74.88	40	LR	LR	21 25 01.4	
	comp=Z,58nm,20.3s,MS3.9,baz=286,slow=31						
YKA	Yellowknife Ar	80.04	28	P	P	20 58 01.0	+0.3
	comp=Z,1.5nm,0.8s,mb4.0,baz=280,slow=6.9,SNR=3.5						
YKA				LR	LR	21 33 49.5	
	comp=Z,43nm,19.3s,MS3.8,baz=265,slow=36						
YBH	Yreka Blue Hor	80.38	49	LR	LR	21 27 39.0	
	comp=Z,31nm,21.3s,MS3.6,baz=338,slow=31						
NVAR	Mina Array Bea	84.48	52	P	P	20 58 24.8	+0.5
	comp=Z,1.8nm,0.9s,mb4.2,baz=288,slow=3.6,SNR=6.2						
NVAR	Mina Array Bea	84.48	52	P	P	20 58 24.8	+0.5
ARCES	ARCESS Array B	84.86	342	LR	LR	21 39 17.9	
	comp=Z,74nm,18.8s,MS4.1,baz=221,slow=38						
ELK	Elko	86.07	49	eP	P	20 58 32.5	+0.5
	comp=Z,12nm,1.5s,mb4.9						
NOA	NORSAR Array B	94.91	340	LR	LR	21 46 56.6	
	comp=Z,40nm,18.2s,MS3.9,baz=45,slow=39						
CFAA	Coronel Fontan	145.43	122	PKPbc	PKPbc	21 05 29.9	+0.8
	comp=Z,0.8nm,0.8s,baz=257,slow=3.2,SNR=11						
LPAZ	La Paz	147.35	95	PKPbc	PKPdf	21 05 37.0	+1.5
	comp=Z,1.8nm,0.8s,baz=356,slow=3.8,SNR=7.3						
SAML	Samuel	150.73	79	PKP	PKPdf	21 05 39.4	-1.5

IDC 22 20:54:22.8±4.5, 12.65S×167.93E, mb3.9/3, mb1 4.2/3, mb1mx3.7/15, mbtmp3.9/3, Error ellipse: s-maj=233.7km s-min=33.4km az=146.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	33.00	253	P	P	21 00 59.8	-2.1
	0.3nm,0.4s,baz=83,slow=8.9,SNR=7.1						
FITZ	Fitzroy Crossi	41.07	257	P	P	21 02 08.7	-1.3
	1.5nm,0.3s,baz=91,slow=6.7,SNR=12						
ILAR	Eielson Array	84.36	18	P	P	21 06 57.4	-0.5
	0.4nm,0.6s,baz=232,slow=5.0,SNR=4.4						
ARCES	ARCESS Array B	118.40	346	PKP	PKPdf	21 13 10.3	-3.6
	3.2nm,1.1s,baz=48,slow=2.1,SNR=3.9						

*ZUR **22** 21:09:52.3, 46.99N×8.55E, h0km±1km, ML2.0/9*

*NEIC **22** 21:09:52.4, 47.00N×8.50E, h2km, ML2.6(LDG), ML2.4(STR), ML2.2(VIE), ML2.0(ZUR), After ZUR.*

*PRU **22** 21:09:52.7, 47.12N×8.39E*

*LDG **22** 21:09:53.4±0.1, 47.00N×8.60E, h2km, Md2.6/2, Ml2.6/18, Error ellipse: s-maj=1.8km s-min=1.4km az=93.0*

*CSEM **22** 21:09:53.9±0.1, 46.99N×8.54E, h12km, ML2.6/16, Error ellipse: s-maj=1.3km s-min=1.2km az=105.0*

*STR **22** 21:09:53.9±1.1, 46.97N×8.52E, h10km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*BGR **22** 21:09:53.2±0.6, 46.96N×8.58E, h5km, ML2.3/2, Error ellipse: s-maj=4.4km s-min=2.2km az=170.0*

ISC 22 21:09:51.6±0.3, 46.96N±0.02×8.48E±0.02, h6km±3km, n58, σ1§20/106, 7C-3D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUO	Muotathal	0.11	84	⇓iP	Pg	21 09 54.0	0.0
MUO				eS	Sg	21 09 55.8	+0.1
LLS	Linth-Limmern	0.38	106	eS	Sg	21 10 04.9	+0.5
ZUR	Zurich	0.42	10	ePg	Pg	21 10 00.5	+0.5
	SNR=7.5						
ZUR				eSg	Sg	21 10 06.5	+0.8
	SNR=8.8						
ZUR	Zurich	0.42	10	i S	Sg	21 10 06.6	+0.9
ZUR	Zurich	0.42	10	⇑iP	Pg	21 10 00.5	+0.5
FUSIO	Fusio	0.52	166	eP	Pg	21 10 03.2	+1.2
WILA	Wila	0.55	32	ePg	Pg	21 10 02.6	0.0
	SNR=15						
WILA				eSg	Sg	21 10 10.0	+0.2
	SNR=6.0						
WILA	Wila	0.55	32	eS	Sg	21 10 10.1	+0.3
WILA	Wila	0.55	32	⇓iP	Pg	21 10 02.4	-0.1
FLACH	Flaach	0.62	6	eP	Pg	21 10 04.3	+0.3
SULZ	Sulz-Cheisache	0.62	337	ePg	Pg	21 10 05.0	+0.9
	SNR=4.1						
SULZ				eSg	Sg	21 10 14.5	+2.1
	SNR=3.7						
SULZ	Sulz-Cheisache	0.62	337	eP	Pg	21 10 04.9	+0.8
PLONS	Plons	0.62	81	eS	Sg	21 10 11.7	-0.8
BALST	Balsthal	0.66	306	eP	Pg	21 10 06.3	+1.6
WEIN	Weingarten	0.67	31	⇑iP	Pg	21 10 04.9	-0.1
STEIN	Stein am Rhein	0.76	20	⇑iP	Pb	21 10 06.8	0.0
LIENZ	Alp Oberkamor	0.77	63	ePg	Pg	21 10 06.5	-0.6
	SNR=4.4						
LIENZ				eSg	Sg	21 10 16.4	-1.0
	SNR=6.0						
SLE	Schleitheim	0.81	1	ePg	Pg	21 10 07.7	-0.1
	SNR=34						
SLE	Schleitheim	0.81	1	⇑iP	Pb	21 10 07.6	-0.1
BBS	Basel-Blauen	0.83	308	ePg	Pg	21 10 10.1	+1.9
	SNR=6.1						
BBS				eSg	Sg	21 10 21.6	+2.1
	SNR=5.1						
BBS	Basel-Blauen	0.83	308	Pg	Pg	21 10 10.8	+2.5
BBS				Sg	Sg	21 10 22.5	+3.1
BOURR	Bourrignon	0.96	298	ePg	Pg	21 10 13.2	+2.5
	SNR=5.7						
BOURR				eSg	Sg	21 10 25.8	+2.3
	SNR=5.2						
FELD	Feldberg	0.97	341	ePg	Pg	21 10 12.3	+1.2
	SNR=10						
FELD				eSg	Sg	21 10 25.5	+1.4
	SNR=20						
FELD	Feldberg	0.97	341	Pg	Pg	21 10 12.3	+1.2
FELD				Sg	Sg	21 10 26.7	+2.6
DAVA	Damuels	1.01	70	⇑iPG	Pg	21 10 12.3	+0.5
DAVA				i SG	Sg	21 10 27.3	+1.9
	28nm,0.2s						
LOMF	Lomont	1.19	290	ePg	Pg	21 10 17.0	+1.5
	SNR=2.7						
LOMF				eSg	Sg	21 10 33.6	+2.2
	SNR=3.9						
LOMF	Lomont	1.19	290	Pg	Pg	21 10 16.9	+1.5
LOMF				Sg	Sg	21 10 33.6	+2.2
MOF	Molkenrain	1.28	315	ePg	Pg	21 10 17.8	+0.7
	SNR=3.8						
MOF				eSg	Sg	21 10 35.3	+1.1
	SNR=2.8						
MOF	Molkenrain	1.28	315	Pg	Pg	21 10 17.3	+0.1
BFO	Black Forest	1.38	356	ePg	Pg	21 10 18.4	-0.7
	SNR=6.7						
BFO				eSg	Sg	21 10 36.6	-1.0
	SNR=7.3						
BFO	Black Forest	1.38	356	ePg	Pg	21 10 17.6	-1.5
BFO				eSg	Sg	21 10 36.7	-0.8
HINF	Hinteralfeld	1.40	309	ePg	Pg	21 10 19.8	+0.2
HINF				eSn	Sn	21 10 36.8	+0.1
	40nm,0.4s						
ECH	Echery	1.54	325	Pg	Pg	21 10 22.6	+0.1
ECH				Sg	Sg	21 10 43.2	+0.1
ECH	Echery	1.54	325	eSn	Sn	21 10 40.0	-0.4
ECH				eSg	Sg	21 10 43.2	+0.1
	SNR=5.7						
CDF	Champ du Feu	1.67	331	ePn	Pn	21 10 22.1	+0.5
CDF				ePg	Pg	21 10 24.7	-0.2
CDF				eSn	Sn	21 10 42.8	-0.7
CDF				eSg	Sg	21 10 46.1	-1.1
	11nm,0.4s						
CABF	La Chapelle	1.68	259	ePg	Pg	21 10 26.2	+1.1
CABF				eSg	Sg	21 10 49.9	+2.4
	8.7nm,0.4s						
HAU	Haudompre	1.79	307	ePn	Pn	21 10 24.2	+1.0
HAU				ePg	Pg	21 10 27.1	-0.2
HAU				eSn	Sn	21 10 46.2	-0.3
HAU				eSg	Sg	21 10 50.5	-0.6
	24nm,0.3s						
MOTA	Moosalm	1.83	77	⇑iPN	Pn	21 10 24.7	+0.8
MOTA				i SG	Sg	21 10 51.2	-1.5
	4.3nm,0.3s						
STU	Stuttgart	1.88	15	eSg	Sg	21 10 52.9	-1.4
	SNR=2.1						
LPL	La Plagne	1.88	221	ePg	Pg	21 10 30.2	+1.0
LPL				eSg	Sg	21 10 55.5	+1.2
	11nm,0.5s						
SQTA	Sankt Quirin	1.89	81	⇑iPN	Pn	21 10 25.7	+1.0
SQTA				i SG	Sg	21 10 54.2	-0.2
	6.3nm,0.3s						
LPG	La Plagne	1.89	220	ePg	Pg	21 10 30.2	+0.9
LP

MEZF				*e*Pg		**Pg**	**21 10 45.8**	**-1.3**
MEZF				*e*Sg		**Sg**	**21 11 21.9**	**-2.3**
	5.0nm,0.3s							
LOR	**Lormes**	**3.17**	**277**	*e*Pg		**Pg**	**21 10 53.4**	**-1.5**
LOR				*e*Sg		**Sg**	**21 11 34.5**	**-2.6**
	5.5nm,0.4s							
SMF	**Signal de Mont**	**3.20**	**266**	*e*Pg		**Pg**	**21 10 54.1**	**-1.4**
SMF				*e*Sg		**Sg**	**21 11 35.9**	**-2.2**
	5.9nm,0.6s							
VIVF	**Saint-Julien-l**	**3.39**	**233**	*e*Sg		**Sg**	**21 11 42.0**	**-2.3**
	2.8nm,0.4s							
SSF	**Saint Saulge**	**3.40**	**274**	*e*Pg		**Pg**	**21 10 58.5**	**-1.0**
SSF				*e*Sg		**Sg**	**21 11 42.3**	**-2.6**
	1.2nm,0.4s							
AVF	**Avril sur Loir**	**3.52**	**269**	*e*Pn		**Pn**	**21 10 48.7**	**+0.7**
AVF				*e*Pg		**Pg**	**21 11 01.0**	**-0.9**
AVF				*e*Sg		**Sg**	**21 11 45.8**	**-3.0**
	1.3nm,0.4s							
KHC	**Kasperske Hory**	**4.05**	**56**	*e*PN		**Pn**	**21 10 53.9**	**-1.7**
KHC				*e*x		x	21 11 10.1	
KHC				*e*SN		**Sn**	**21 11 39.2**	**-4.8**
KHC				x		x	21 11 58.0	
KHC				x		x	21 12 08.5	
KHC	**Kasperske Hory**	**4.05**	**56**	Pg		**Pg**	**21 11 10.1**	**-2.4**
KHC				Sn		**Sn**	**21 11 39.2**	**-4.8**
KHC	**Kasperske Hory**	**4.05**	**56**	*e*Pn		**Pn**	**21 10 53.9**	**-1.7**
KHC				*e*Pg		**Pg**	**21 11 10.1**	**-2.4**
KHC				*e*Sn		**Sn**	**21 11 39.2**	**-4.8**
KHC				*e*			21 11 58.0	
KHC				*e*			21 12 08.5	
GUNZ	**Gunzen**	**4.26**	**35**	*e*Sg		**Sg**	**21 12 06.5**	**-7.0**
	SNR=2.1							
BRG	**Berggiesshubel**	**5.32**	**41**	*e*Sg		**Sg**	**21 12 40.3**	**-8.5**

NIED ***22*** *21:15:00, 22.50N×121.00E, h32km, Mw4.2 Best double couple: M0 1.93×10^15 NP1:φs 187°, δ66°, λ49°. NP2:φs 72°, δ47°, λ146°.*
IDC ***22*** *21:15:09.5±0.8, 22.43N×121.27E, mb4.1/12, mb1 4.2/13, mb1mx4.1/19, mbtmp4.1/13, ML3.7/1, MS3.3/6, Ms1 3.3/6, ms1mx3.2/19, Error ellipse: s-maj=27.6km s-min=17.7km az=66.0*
BJI ***22*** *21:15:11.2, 22.40N×121.30E, h20km, mB4.5, mb4.3, ML4.0, Ms4.1, Msz3.9*
JMA ***22*** *21:15:12.3±0.4, 22.45N×121.02E, h92km, M3.7*
NEIC ***22*** *21:15:12.9±4.0, 22.42N×121.33E, h21km±29km, mb4.4/6, ML4.7(TAP), Error ellipse: s-maj=14.9km s-min=8.5km az=57.0*
NEIC Recorded [5 TAP] in T'ai-tung, [2 TAP] in P'ing-tung and [1 TAP] in Kao-hsiung Counties.

ISC 22 21:15:09.1±1.5, 22.36N±0.05×121.14E±0.04, h5km±9km, n50, σ1°12/60, mb4.1/19, MS3.4/8, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**1.86**	**13**	*e*Pn	**Pn**	**21 15 37.9**	**-4.0**
YHNB	**Yeheng**	**2.31**	**5**	*e*Pn	**Pn**	**21 15 48.7**	**+0.3**
YHNB				*e*Sn	**Sn**	**21 16 23.1**	**+5.6**
TATO	**Taipei**	**2.63**	**7**	*e*Pn	**Pn**	**21 15 53.2**	**+0.3**
TATO				*e*Sn	**Sn**	**21 16 29.9**	**+4.4**
YOJ	**Yonaguni jima**	**2.71**	**39**	P	**Pn**	**21 15 54.8**	**+0.7**
YOJ				*e*S	**Sn**	**21 16 26.9**	**-0.7**
IRIF	**Iriomote-Funau**	**3.09**	**50**	P	**Pn**	**21 16 00.5**	**+1.0**
IRIF				*e*S	**Sn**	**21 16 37.5**	**+0.3**
JKRS	**Kuro-shima**	**3.24**	**54**	P	**Pn**	**21 16 02.3**	**+0.8**
JKRS				*e*S	**Sn**	**21 16 41.5**	**+0.6**
JIJ	**Ishigaki jima**	**3.41**	**54**	P	**Pn**	**21 16 04.5**	**+0.5**
JIJ				*e*S	**Sn**	**21 16 44.4**	**-0.9**
QZH	**Quanzhou**	**3.48**	**318**	P	**Pn**	**21 16 03.8**	**-1.1**
QZH				S	**Sn**	**21 16 42.3**	**-4.7**
QZH				Smax			
	comp=N,390nm,0.8s						
QZH				Smax			
	comp=E,410nm,0.9s						
JTJ	**Tarama**	**3.98**	**54**	P	**Pn**	**21 16 13.2**	**+1.0**
JMJ	**Miyako jima 2**	**4.53**	**56**	P	**Pn**	**21 16 20.4**	**+0.5**
CVP	**Callao Caves**	**4.67**	**172**	*e*P	**Pn**	**21 16 16.0**	**-5.9**
JKE	**Kume jima 2**	**6.49**	**51**	P	**Pn**	**21 16 45.8**	**-1.8**
JOW	**Kunigami**	**7.88**	**54**	Pn	**Pn**	**21 17 03.3**	**-3.7**
	comp=E,2.7nm,0.3s,baz=239,slow=10,SNR=15						
JOW				Sn	**Sn**	**21 18 32.9**	**-4.7**
	baz=157,slow=28,SNR=2.3						
NJ2	**Nanjing**	**9.87**	**349**	*e*P	**P**	**21 17 32.1**	**-2.6**
NJ2				S	**Sn**	**21 19 23.0**	**-4.0**
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s						
NJ2				Smax			
	comp=N,90nm,1.0s						
NJ2				Smax			
	comp=E,90nm,0.9s						
NJ2				LR	LR		
	comp=N,2μm,12.0s						
NJ2				LR	LR		
	comp=E,1μm,15.0s						
NJ2				LR	LR		
	comp=Z,730nm,11.8s						
QIZ	**Qiongzhong**	**11.08**	**255**	*e*P	**P**	**21 17 50.3**	**-1.0**
QIZ				*e*S	**S**	**21 20 01.4**	**+4.8**
QIZ				LR	LR		
	comp=N,568nm,14.3s						
QIZ				LR	LR		
	comp=Z,519nm,12.2s						
QIZ	**Qiongzhong**	**11.08**	**255**	*e*Pn	**P**	**21 17 50.1**	**-1.2**
	comp=Z,22nm,1.1s						
JNU	**Nakatsue**	**13.75**	**37**	LR	LR	21 23 51.1	
	comp=Z,62nm,19.4s,baz=11,slow=38						
HHC	**Hu-ho-hao-te**	**20.14**	**338**	*e*P	**P**	**21 19 47.6**	**+0.8**
HHC				AP		21 19 51.8	
HHC				XP		21 19 54.8	
HHC				PP	PP	21 20 08.1	+1.7
HHC				S	**S**	**21 23 27.3**	**-0.5**
HHC				XS		21 23 35.0	
HHC				SS	SS	21 23 57.6	+1.2
HHC				PCP	PcP	21 24 01.3	-0.2
HHC				AMB	AMB		
	comp=Z,17nm,0.8s						
HHC				AMB	AMB		
	comp=Z,76nm,4.2s						
HHC				LR	LR		
	comp=N,376nm,12.5s						
HHC				LR	LR		
	comp=E,235nm,17.8s						
HHC				LR	LR		
	comp=Z,274nm,13.7s,MS3.8						
LZH	**Lanzhou**	**20.33**	**316**	*e*P	**P**	**21 19 50.0**	**+1.2**
LZH				AP		21 20 02.5	
LZH				XP		21 20 06.0	
LZH				AMB	AMB		
	comp=Z,15nm,1.0s						
LZH	**Lanzhou**	**20.33**	**316**	*e*P	**P**	**21 19 50.0**	**+1.2**
	comp=Z,15nm,1.0s						
LZH				pP		21 20 02.5	
LZH				sP		21 20 06.0	
MAJO	**Matsushiro**	**20.47**	**43**	P	**P**	**21 19 48.7**	**-1.6**
MJAR	**Matsushiro Arr**	**20.47**	**43**	P	**P**	**21 19 51.7**	**+1.4**
	comp=Z,4.4nm,0.8s,baz=232,slow=8.5,SNR=13						
GUMO	**Guam**	**24.17**	**107**	LR	LR	21 27 49.6	
	comp=Z,85nm,20.5s,MS3.2,baz=80,slow=32						
GTA	**Gaotai**	**24.88**	**318**	*e*P	**P**	**21 20 34.9**	**+0.9**
GTA				AP		21 20 41.1	
GTA				XP		21 20 44.8	
GTA				PP	PP	21 21 12.1	+1.2
GTA				S	**S**	**21 24 54.4**	**-0.2**
GTA				XS		21 25 05.1	
GTA				SS	SS	21 25 54.0	+1.9
GTA				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb3.9						
GTA				AMB	AMB		
	comp=Z,29nm,4.3s						
GTA				LR	LR		
	comp=N,152nm,14.3s,MS3.8						
GTA				LR	LR		
	comp=E,158nm,16.7s,MS3.8						
GTA				LR	LR		
	comp=Z,279nm,16.1s,MS3.9						
LSA	**Lhasa**	**27.87**	**292**	P	**P**	**21 21 04.9**	**+3.2**
LSA	**Lhasa**	**27.87**	**292**	*e*P	**P**	**21 21 04.1**	**+2.3**
	comp=Z,7.4nm,1.1s,mb4.2						
ASAJ	**Asahikawa**	**28.01**	**34**	LR	LR	21 33 01.7	
	comp=Z,53nm,20.2s,MS3.1,baz=164,slow=38						
SONM	**Songino Array**	**28.04**	**339**	P	**P**	**21 21 02.4**	**-0.7**
	comp=Z,2.5nm,0.7s,mb4.0,baz=154,slow=9.4,SNR=20						
SONM				LR	LR	21 31 27.0	
	comp=Z,46nm,21.1s,MS3.0,baz=254,slow=35						
WMQ	**Urumqi**	**34.91**	**316**	*e*P	**P**	**21 22 05.0**	**+1.4**
WMQ				XP	sP	21 22 12.0	+6.1
WMQ				PP	PP	21 23 23.0	+1.7
WMQ				S	**S**	**21 27 36.0**	**+1.5**
WMQ				SS	SS	21 29 50.0	+2.0
WMQ				AMB	AMB		
	comp=Z,16nm,1.0s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,41nm,5.0s						
WMQ				LR	LR		
	comp=N,38nm,12.0s,MS3.6						
WMQ				LR	LR		
	comp=E,49nm,12.0s,MS3.6						
WMQ				LR	LR		
	comp=Z,37nm,12.0s,MS3.4						
MKAR	**Makanchi Array**	**39.63**	**317**	P	**P**	**21 22 43.7**	**+0.4**
	comp=Z,6.9nm,1.0s,mb4.3,baz=113,slow=9.1,SNR=30						
MKAR				PcP	PcP	21 24 50.1	-0.8
	comp=Z,0.7nm,0.7s,baz=90,slow=4.9,SNR=3.9						
ZAL	**Zalesovo**	**41.77**	**328**	P	**P**	**21 23 00.3**	**-0.4**
	comp=Z,2.1nm,0.9s,mb3.8,baz=352,slow=8.2,SNR=14						
ZAL				LR	LR	21 42 44.3	
	comp=Z,43nm,18.6s,MS3.4,baz=311,slow=40						
ZAL	**Zalesovo**	**41.77**	**328**	P	**P**	**21 23 00.3**	**-0.4**
ZAL				LR	LR	21 42 44.3	
MBWA	**Marble Bar**	**43.27**	**182**	P	**P**	**21 23 13.7**	**+0.2**
KURK	**Kurchatov**	**43.47**	**321**	*e*P	**P**	**21 23 13.1**	**-1.6**
	comp=Z,5.6nm,0.9s,mb4.3						
WRAB	**Tennant Creek**	**43.97**	**162**	*e*P	**P**	**21 23 19.1**	**-0.1**
WRA	**Warramunga Arr**	**43.97**	**162**	P	**P**	**21 23 17.8**	**-1.4**
	comp=Z,1.1nm,0.5s,mb3.8,baz=344,slow=8.8,SNR=14						
WRA				PcP	PcP	21 25 00.4	-5.2
	comp=Z,0.3nm,0.6s,baz=346,slow=3.6,SNR=5.3						
BRVK	**Borovoye**	**49.14**	**322**	*e*P	**P**	**21 23 59.9**	**+0.4**
	comp=Z,1.5nm,0.8s,mb4.1						
ARU	**Arti**	**56.54**	**324**	*e*P	**P**	**21 24 53.9**	**-0.7**
	comp=Z,10nm,1.4s,mb4.7						
STKA	**Stephens Creek**	**57.37**	**159**	P	**P**	**21 25 00.7**	**-0.1**
	comp=Z,0.9nm,0.5s,mb4.1,baz=338,slow=20,SNR=4.9						
JOF	**Joensuu**	**70.28**	**331**	*e*p	**P**	**21 26 23.9**	**-1.1**
ILAR	**Eielson Array**	**70.85**	**27**	P	**P**	**21 26 28.1**	**-0.4**
	comp=Z,0.4nm,0.8s,mb3.4,baz=296,slow=5.4,SNR=4.6						
MALT	**Malatya**	**70.98**	**304**	*e*P	**P**	**21 26 30.5**	**+0.8**
	comp=Z,2.2nm,0.6s,mb4.3						
ARCES	**ARCESS Array B**	**71.21**	**338**	P	**P**	**21 26 30.1**	**-0.5**
	comp=Z,3.7nm,0.9s,mb4.3,baz=67,slow=9.2,SNR=5.2						
KAF	**Kangasniemi**	**72.72**	**331**	*e*p	**P**	**21 26 41.9**	**+2.3**
FINES	**FINESS Array B**	**73.00**	**330**	P	**P**	**21 26 40.4**	**-0.9**
	comp=Z,2.7nm,0.8s,mb4.2,baz=72,slow=6.0,SNR=11						
AKASG	**Malin Array Be**	**74.21**	**319**	P	**P**	**21 26 46.5**	**-1.9**
	comp=Z,0.2nm,0.2s,mb3.7,baz=59,slow=5.7,SNR=6.3						
NB2	**NORSAR Subarra**	**79.82**	**332**	P	**P**	**21 27 18.8**	**-0.8**
	comp=Z,0.9nm,0.6s,mb3.9,baz=56,slow=5.3						
NOA	**NORSAR Array B**	**79.82**	**332**	P	**P**	**21 27 19.2**	**-0.4**
	comp=Z,1.4nm,0.7s,mb4.0,baz=56,slow=5.7,SNR=6.7						
NOA				LR	LR	22 05 54.9	
	comp=Z,38nm,18.6s,MS3.8,baz=290,slow=38						
GERES	**GERESS Array B**	**84.22**	**321**	P	**P**	**21 27 43.2**	**+0.4**
	comp=Z,1.9nm,1.1s,mb4.2,baz=56,slow=4.8,SNR=8.9						
KMBO	**Kilima Mbogo**	**84.77**	**267**	P	**P**	**21 27 48.4**	**+2.1**
	comp=Z,0.9nm,0.7s,mb4.0,baz=65,slow=11,SNR=4.6						

MAN 22 21:16:16.1, 18.09N×121.07E, h20km, mb4.5, ML3.3, MS3.2, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.55**	**218**	*e*P	Pb	21 16 27.4	+0.5
CAUP	**Cauayan**	**1.34**	**147**	*e*P	Pn	21 16 41.7	+1.8

CSEM ***22*** *21:47:26.7±0.7, 38.65N×29.05W, h3km±6km, ML2.6, Error ellipse: s-maj=9.4km s-min=5.1km az=50.0, After PDA*
PDA ***22*** *21:47:26.7±0.7, 38.65N×29.05W, h3km±6km, MD3.2, ML2.6, Error ellipse: s-maj=9.4km s-min=5.1km az=50.0*

SVSA 22 21:47:26.7±0.7, 38.65N×29.05W, h3km±6km, MD3.2, ML2.6, Error ellipse: s-maj=9.4km s-min=5.1km az=50.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.27**	**94**	*i* P	Pg	21 47 31.7	-0.5
PCED				*i* S	Sg	21 47 35.4	-0.4
	193nm,0.2s						
PCED	**Cedros**	**0.27**	**94**	*i* S	Sg	21 47 35.4	-0.4
CALA	**Caldeira**	**0.28**	**104**	*i* P	Pg	21 47 31.9	-0.4
CALA				*e*S	Sg	21 47 35.7	-0.3
CALA	**Caldeira**	**0.28**	**104**	*e*S	Sg	21 47 35.7	-0.3
HOR	**Horta**	**0.35**	**110**	*e*P	Pg	21 47 33.0	-0.7
HOR				*e*S	Sg	21 47 37.4	-1.0
PICO	**Pico**	**0.51**	**107**	*i* P	Pg	21 47 35.9	-1.0
PICO				*e*S	Sg	21 47 42.7	-1.0
PICO	**Pico**	**0.51**	**107**	*e*S	Sg	21 47 42.7	-1.0
PMAN	**Manadas**	**0.75**	**91**	*e*P	Pg	21 47 39.0	-2.7

NEIC ***22*** *22:00:06.8, 40.03S×176.64E, h30km, ML3.7(WEL), After WEL.*

WEL 22 22:00:06.9±0.2, 40.10S×176.72E, h33km±1km, ML3.7/26, 3C, Error ellipse: s-maj=3.0km s-min=1.5km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PXZ	**Pawanui**	**0.12**	**60**	⇑P*	Pb	22 00 12.3	-0.5
PXZ				S*	Sb	22 00 17.5	+0.7
PXZ				S*	Sb	22 00 17.7	+1.0
TSZ	**Takapari Road**	**0.59**	**273**	⇑PN	Pn	22 00 17.0	-1.9
TSZ				SN	Sn	22 00 24.9	-2.3
TSZ	**Takapari Road**	**0.59**	**273**	P	Pb	22 00 17.0	-1.8
TSZ				S	Sb	22 00 25.0	-2.0
BFZ	**Birch Farm**	**0.69**	**212**	*e*PN	Pn	22 00 20.4	+0.1
BFZ				SN	Sn	22 00 31.2	+1.3
BFZ	**Birch Farm**	**0.69**	**212**	*e*P	Pn	22 00 20.5	+0.2
BFZ				S	Sb	22 00 32.0	+2.2
BKZ	**Black Stump Fm**	**0.94**	**349**	PN	Pn	22 00 22.6	-1.3
BKZ				SN	Sn	22 00 34.9	-1.4
BKZ	**Black Stump Fm**	**0.94**	**349**	P	Pn	22 00 22.8	-1.1
MOVZ	**Moawhango**	**1.01**	**312**	⇑PN	Pn	22 00 23.6	-1.3
MOVZ				SN	Sn	22 00 35.6	-2.6
MOVZ	**Moawhango**	**1.01**	**312**	P	Pn	22 00 23.7	-1.3
MRZ	**Mangatainoka R**	**1.04**	**237**	PN	Pn	22 00 24.6	-0.7
MRZ	**Mangatainoka R**	**1.04**	**237**	P	Pn	22 00 24.7	-0.6
WNVZ	**Wahianoa**	**1.16**	**311**	PN	Pn	22 00 26.4	-0.6
WNVZ	**Wahianoa**	**1.16**	**311**	P	Pn	22 00 26.4	-0.6
TUVZ	**Tukino**	**1.17**	**315**	PN	Pn	22 00 26.6	-0.5
TUVZ	**Tukino**	**1.17**	**315**	P	Pn	22 00 26.7	-0.4
MTVZ	**Mangateitei**	**1.20**	**306**	PN	Pn	22 00 27.2	-0.4
TRVZ	**Turoa**	**1.20**	**311**	PN	Pn	22 00 27.4	-0.2
TRVZ				SN	Sn	22 00 42.5	-0.5
DRZ	**Dome Shelter**	**1.21**	**312**	PN	Pn	22 00 27.4	-0.3
DRZ	**Dome Shelter**	**1.21**	**312**	P	Pn	22 00 27.5	-0.3
FWVZ	**Far West T-bar**	**1.23**	**312**	PN	Pn	22 00 27.2	-0.8
FWVZ	**Far West T-bar**	**1.23**	**312**	P	Pn	22 00 27.6	-0.5
OTVZ	**Oturere**	**1.24**	**318**	PN	Pn	22 00 27.8	-0.4
OTVZ				SN	Sn	22 00 43.4	-0.3
NGZ	**Ngauruhoe**	**1.26**	**316**	PN	Pn	22 00 28.1	-0.4
NGZ				SN	Sn	22 00 44.0	-0.4
NGZ	**Ngauruhoe**	**1.26**	**316**	P	Pn	22 00 28.2	-0.3
WPVZ	**Whakapapa**	**1.27**	**314**	PN	Pn	22 00 27.9	-0.7
WPVZ	**Whakapapa**	**1.27**	**314**	P	Pn	22 00 28.1	-0.5
CNZ	**Chateau**	**1.27**	**314**	PN	Pn	22 00 27.9	-0.7
CNZ	**Chateau**	**1.27**	**314**	P	Pn	22 00 28.3	-0.4
HATZ	**Hinemaiaia**	**1.30**	**338**	*e*PN	Pn	22 00 28.2	-0.7
HATZ	**Hinemaiaia**	**1.30**	**338**	P	Pn	22 00 28.3	-0.7
RITZ	**Rihia Road**	**1.30**	**329**	*e*PN	Pn	22 00 28.2	-0.8
RITZ	**Rihia Road**	**1.30**	**329**	P	Pn	22 00 29.1	+0.1
KNZ	**Kokohu**	**1.30**	**35**	*e*PN	Pn	22 00 27.7	-1.4
KNZ	**Kokohu**	**1.30**	**35**	*e*P	Pn	22 00 27.7	-1.3
KRVZ	**Karewarewa**	**1.30**	**320**	PN	Pn	22 00 28.7	-0.3
WTVZ	**West Tongariro**	**1.31**	**318**	PN	Pn	22 00 28.4	-0.8
WTVZ	**West Tongariro**	**1.31**	**318**	P	Pn	22 00 28.8	-0.4
PKVZ	**Pokaka**	**1.33**	**307**	PN	Pn	22 00 29.3	-0.2
KATZ	**Kakaramea**	**1.37**	**324**	PN	Pn	22 00 29.5	-0.5
KATZ	**Kakaramea**	**1.37**	**324**	P	Pn	22 00 29.8	-0.2
WAZ	**Wanganui**	**1.38**	**284**	*e*PN	Pn	22 00 30.2	+0.1
WAZ	**Wanganui**	**1.38**	**284**	P	Pn	22 00 30.9	+0.7
MTW	**Mount Morrison**	**1.41**	**221**	PN	Pn	22 00 28.9	-1.7
MTW				SN	Sn	22 00 47.4	-0.9
MTW	**Mount Morrison**	**1.41**	**221**	P	Pn	22 00 29.1	-1.5
TWVZ	**Taurewa**	**1.42**	**315**	*e*PN	Pn	22 00 30.2	-0.6
TWVZ	**Taurewa**	**1.42**	**315**	P	Pn	22 00 30.0	-0.8
RATZ	**Rangitukua**	**1.43**	**329**	PN	Pn	22 00 30.5	-0.4
RATZ	**Rangitukua**	**1.43**	**329**	P	Pn	22 00 31.3	+0.4
TRWZ	**Traveller**	**1.52**	**211**	*e*PN	Pn	22 00 30.4	-1.8
KIW	**Kapiti Island**	**1.58**	**240**	*e*PN	Pn	22 00 31.4	-1.7
KIW	**Kapiti Island**	**1.58**	**240**	P	Pn	22 00 31.9	-1.2
CAW	**Cannon Point**	**1.62**	**231**	*e*PN	Pn	22 00 31.9	-1.6
CAW	**Cannon Point**	**1.62**	**231**	P	Pn	22 00 32.0	-1.6
PAWZ	**Paruwai Farm**	**1.62**	**217**	*e*PN	Pn	22 00 31.6	-2.0
PAWZ				SN	Sn	22 00 51.6	-1.9
MSWZ	**Moikau Station**	**1.73**	**220**	*e*PN	Pn	22 00 32.5	-2.7
MSWZ	**Moikau Station**	**1.73**	**220**	P	Pn	22 00 32.9	-2.3
URZ	**Urewera**	**1.86**	**9**	PN	Pn	22 00 35.0	-2.0
MWZ	**Matawai**	**1.86**	**20**	*e*PN	Pn	22 00 35.0	-2.1
MWZ	**Matawai**	**1.86**	**20**	*e*P	Pn	22 00 35.2	-1.9
MRW	**Makara Radio**	**1.91**	**233**	*e*PN	Pn	22 00 35.2	-2.6
BHW	**Baring Head**	**1.92**	**226**	*e*PN	Pn	22 00 35.4	-2.5
BHW	**Baring Head**	**1.92**	**226**	P	Pn	22 00 35.7	-2.3
SNZO	**South Karori**	**1.96**	**231**	*e*P	Pn	22 00 36.4	-2.0
HIZ	**Hauiti**	**2.14**	**317**	*e*PN	Pn	22 00 39.1	-2.0
DUWZ	**D'Urville Isla**	**2.25**	**251**	*e*PN	Pn	22 00 40.9	-1.8
NRZ	**Ngariki Road**	**2.28**	**288**	P	Pn	22 00 44.0	+0.9
PKE	**Pukeiti**	**2.29**	**292**	P	Pn	22 00 44.3	+1.0
TUWZ	**Tuamarina**	**2.50**	**237**	*e*PN	Pn	22 00 42.8	-3.4
THZ	**Tophouse**	**3.34**	**239**	*e*PN	Pn	22 00 53.9	-4.2

IDC ***22*** *22:05:02.7±1.3, 7.51N×125.78E, mb3.9/3, mb1 4.1/4, mb1mx3.7/19, mbtmp4.1/4, ML4.2/1, MS3.6/3, Ms1 3.6/3, ms1mx3.0/21, Error ellipse: s-maj=82.9km s-min=22.7km az=72.0*
MAN ***22*** *22:05:15.8, 7.86N×126.52E, h65km, mb4.6, ML3.4, MS3.3*

ISC 22 22:05:13.2±0.8, 7.81N±0.07×126.60E±0.10, h108km±7km, n12, σ1°00/13, mb3.7/3, 3C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.44**	**328**	‖ *i* P	**P**	**22 05 29.6**	**0.0**
BIPH				*i* S	**S**	**22 05 40.1**	**-1.8**
MATI	**Mati**	**0.92**	**201**	*e*P	**P**	**22 05 34.5**	**+0.8**
BUTP	**Butuan**	**1.50**	**320**	*e*P	**P**	**22 05 41.5**	**+1.1**
KCP	**Kidapawan**	**1.69**	**242**	⇑ *e*P	**P**	**22 05 43.2**	**+0.6**
KCP				*i* S	**S**	**22 06 04.8**	**+0.2**
CGP	**Cagayan de Oro**	**1.99**	**289**	⇑ *e*P	**P**	**22 05 46.7**	**+0.3**
CGP				*e*S	**S**	**22 06 10.5**	**-0.8**
SCPH	**Surigao**	**2.25**	**331**	⇑ *e*P	**P**	**22 05 50.9**	**+0.9**
JOW	**Kunigami**	**18.99**	**5**	P	**P**	**22 09 29.8**	**+0.9**
	1.2nm,0.3s,baz=187,slow=11,SNR=7.2						
JOW				LR	LR	22 16 31.5	
	comp=Z,153nm,20.1s,baz=132,slow=36						
WRA	**Warramunga Arr**	**28.61**	**165**	P	**P**	**22 10 59.9**	**-1.7**
	0.3nm,0.6s,mb3.1,baz=342,slow=9.0,SNR=5.0						
STKA	**Stephens Creek**	**41.98**	**161**	P	**P**	**22 12 55.9**	**+0.6**
	1.7nm,0.5s,mb4.0,baz=354,slow=9.7,SNR=4.7						
SONM	**Songino Array**	**43.43**	**340**	LR	LR	22 31 39.7	
	comp=Z,40nm,18.2s,baz=232,slow=37						
MKAR	**Makanchi Array**	**54.18**	**324**	P	**P**	**22 14 28.3**	**-1.4**
	0.8nm,0.5s,mb4.0,baz=118,slow=7.2,SNR=13						
ARCES	**ARCESS Array B**	**86.60**	**340**	LR	LR	23 00 51.4	
	comp=Z,54nm,19.3s,baz=230,slow=39						

JMA ***22*** *22:30:02.8±0.1, 35.41N×135.55E, h365km±1km, M3.5*
IDC ***22*** *22:30:03.0±0.9, 35.35N×135.59E, h373km±10km, mb2.9/5, mb1 3.1/9, mb1mx2.9/25, mbtmp3.7/9, Error ellipse: s-maj=24.6km s-min=15.5km az=123.0*

ISC 22 22:30:01.7±0.5, 35.37N±0.09×135.58E±0.10, h375km±4km, n28, σ0°59/32, mb3.2/5, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWT	**Wachi**	**0.17**	**240**	P	**P**	**22 30 48.5**	**0.0**
JWT				S	**S**	**22 31 23.9**	**-1.4**
JFM	**Mihama**	**0.37**	**64**	P	**P**	**22 30 48.9**	**+0.2**
JKY	**Yasaka**	**0.47**	**304**	P	**P**	**22 30 48.8**	**-0.1**
JKY				*e*S	**S**	**22 31 25.3**	**-0.6**
JEG	**Eigenji**	**0.70**	**109**	P	**P**	**22 30 49.6**	**+0.2**
JHE	**Heguri**	**0.72**	**173**	P	**P**	**22 30 49.4**	**0.0**
TSUJ	**Tsu 2**	**0.95**	**133**	P	**P**	**22 30 50.4**	**+0.3**
JGM	**Miyama**	**0.99**	**70**	P	**P**	**22 30 50.2**	**-0.1**
JKG	**Kaga**	**1.10**	**34**	P	**P**	**22 30 50.4**	**-0.3**
JWY	**Kouya**	**1.15**	**179**	P	**P**	**22 30 51.2**	**+0.2**
JIE	**Ise**	**1.34**	**136**	P	**P**	**22 30 52.2**	**+0.3**
JIE				*e*S	**S**	**22 31 30.6**	**-0.7**
JAA	**Atsumi**	**1.48**	**119**	P	**P**	**22 30 52.8**	**+0.2**
JAI	**Aioi**	**1.82**	**211**	P	**P**	**22 30 54.6**	**0.0**
JWZ	**Kozaga**	**1.84**	**176**	P	**P**	**22 30 54.6**	**-0.1**
JHS	**Saijyo**	**2.05**	**260**	P

1.1nm,0.7s,baz=260,slow=5.1,SNR=3.0
MAW LR LR 23 02 44.9
comp=Z,115nm,22.0s,MS3.6,baz=43,slow=33
CPUP Villa Florida 38.68 311 P **P 22 49 04.0 -1.4**
1.1nm,0.4s,mb4.0,baz=164,slow=11,SNR=7.2
CPUP PcP PcP 22 51 16.6 -1.0
1.3nm,0.5s,baz=130,slow=4.3,SNR=4.3
CPUP LR LR 23 04 45.2
comp=Z,89nm,18.2s,MS3.6,baz=31,slow=36
CPUP Villa Florida 38.68 311 *e*P **P 22 49 05.3 -0.2**
1.2nm,0.5s,mb3.9
CFAA Coronel Fontan 39.11 293 P **P 22 49 07.1 -1.9**
0.1nm,0.4s,baz=168,slow=10.0,SNR=3.3
CFAA PcP PcP 22 51 17.8 -1.1
0.5nm,0.4s,baz=135,slow=4.0,SNR=10
SBA Scott Base 44.34 184 *e*P **P 22 49 52.3 +1.0**
8.0nm,1.0s,mb4.4
SBA *e*pP pP 22 50 01.4 0.0
VNDA Vanda 44.81 182 P **P 22 49 55.6 +0.6**
9.4nm,1.1s,mb4.5,baz=176,slow=6.3,SNR=25
BDFB Brasilia 45.38 329 P **P 22 50 02.1 +1.7**
5.4nm,0.6s,mb4.6,baz=153,slow=3.3,SNR=10
BDFB LR LR 23 06 03.7
comp=Z,94nm,20.4s,MS3.7,baz=3.1,slow=32
BOSA Boshof 45.59 72 P **P 22 50 01.9 0.0**
3.2nm,0.7s,mb4.4,baz=203,slow=11,SNR=4.2
BOSA LR LR 23 04 52.8
comp=Z,229nm,19.2s,MS4.1,baz=205,slow=30
BOSA Boshof 45.59 72 *e*P **P 22 50 02.4 +0.5**
12nm,1.2s,mb4.7
LVC Limon Verde 46.98 300 *e*P **P 22 50 15.2 +2.2**
23nm,1.5s,mb4.9
LBTB Lobatse 48.72 70 P **P 22 50 27.0 +0.5**
2.7nm,0.8s,mb4.3,baz=219,slow=8.8,SNR=3.8
LBTB Lobatse 48.72 70 *e*P **P 22 50 27.2 +0.8**
CASY Casey 51.90 159 *e*P **P 22 50 49.7 -0.4**
CASY *e* pP 22 50 59.0 -1.4
LPAZ La Paz 52.15 305 P **P 22 50 52.7 0.0**
2.2nm,0.5s,mb4.3,baz=134,slow=7.0,SNR=11
LPAZ La Paz 52.15 305 *e*P **P 22 50 52.6 0.0**
2.2nm,0.5s,mb4.3
SAML Samuel 56.71 314 *e*P **P 22 51 24.8 -1.3**
9.8nm,0.4s,mb5.2
DBIC Dimbokro 66.46 22 P **P 22 52 31.8 +0.2**
2.7nm,0.4s,mb4.6,baz=186,slow=8.5,SNR=19
DBIC LR LR 23 14 19.8
comp=Z,47nm,18.2s,MS3.7,baz=212,slow=29
DBIC Dimbokro 66.46 22 *e*P **P 22 52 32.0 +0.4**
3.2nm,0.4s,mb4.7
ROSC El Rosal 73.74 309 LR LR 23 26 19.8
comp=Z,34nm,19.6s,MS3.6,baz=220,slow=36
KMBO Kilima Mbogo 74.87 67 LR LR 23 22 24.0
comp=Z,120nm,20.2s,MS4.2,baz=275,slow=32
MTP Monte Pirata 82.61 322 P **P 22 54 04.4 -0.1**
PPT Papeete 91.83 232 LR LR 23 27 32.9
comp=Z,142nm,18.1s,MS4.5,baz=128,slow=30
PDAR Pinedale Array 122.05 300 PKP PKPdf 23 00 34.2 +0.3
0.7nm,0.4s,baz=130,slow=5.4,SNR=10
ULM Lac du Bonnet 122.17 314 PKP PKPdf 23 00 33.8 -0.2
1.1nm,0.6s,baz=172,slow=1.3,SNR=5.8
NVAR Mina Array Bea 122.91 291 PKP PKPdf 23 00 37.5 +1.8
0.6nm,0.5s,baz=120,slow=3.2,SNR=5.8
FINES FINESS Array B 125.56 28 PKP PKPdf 23 00 40.5 +0.5
1.5nm,0.4s,baz=118,slow=2.5,SNR=41
KAF Kangasniemi 126.19 27 *e*p PKPdf 23 00 40.8 -0.4
JOF Joensuu 128.13 29 *e*p PKPdf 23 00 44.8 -0.2
ARCES ARCESS Array B 132.28 22 PKP PKPdf 23 00 53.0 +0.3
1.3nm,0.7s,baz=209,slow=0.9,SNR=10
MKAR Makanchi Array 136.59 72 PKP PKPdf 23 01 03.2 +1.9
0.3nm,0.4s,baz=228,slow=2.8,SNR=7.9
YKA Yellowknife Ar 138.11 316 PKP PKPdf 23 01 04.3 +0.7
1.9nm,0.4s,baz=128,slow=2.4,SNR=19
ZAL Zalesovo 142.31 65 PKP PKPdf 23 01 14.1 +2.9
0.8nm,0.4s,baz=53,slow=1.4,SNR=3.1
SONM Songino Array 149.90 88 PKPbc PKPdf 23 01 30.2 +6.1
4.7nm,0.4s,baz=219,slow=3.7,SNR=58
ILAR Eielson Array 151.97 309 PKPbc PKPdf 23 01 34.7 +8.0
7.5nm,0.5s,baz=131,slow=0.7,SNR=63
ILAR PKPab PKPab 23 01 44.9 -0.1
6.7nm,0.9s,baz=117,slow=2.0,SNR=7.8

MAN 22 22:53:47.4, 8.41N×124.86E, h6km, mb3.7, ML2.4, MS1.8, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CGP	**Cagayan de Oro**	**0.17**	**287**	⇑*i*P		Pg	22 53 50.8 -0.1
CGP				*i* S		Sg	22 53 54.3 +1.0

*NEIC **22** 23:05:19.8±1.8, 17.75N×96.12E, h10km, mb4.4/3, Error ellipse: s-maj=46.5km s-min=18.4km az=208.0*
*IDC **22** 23:05:21.7±10.0, 17.96N×95.29E, mb3.9/6, mb1 4.1/6, mb1mx3.7/19, mbtmp3.9/6, Error ellipse: s-maj=282.0km s-min=79.9km az=115.0*
ISC 22 23:05:14.0±0.7, 17.23N±0.08×96.14E±0.04, h10km, n19, σ1§31/25, mb4.0/8, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHG	**Chiang Mai**	**3.10**	**59**	PG	**Pn**	**23 06 06.7**	**+2.8**
CHG				SG	**Sg**	**23 06 56.5**	**-0.6**
NST	**Nakhon Sawan**	**4.13**	**111**	PN	**Pn**	**23 06 19.7**	**+1.1**
NST				PG	**Pg**	**23 06 34.7**	**-1.8**
NST				SG	**Sg**	**23 07 30.8**	**-0.7**
NANT	**Nan**	**4.61**	**70**	PN	**Pn**	**23 06 36.0**	**+11**
NANT				PG	**Pg**	**23 06 46.5**	**+0.5**
NANT				SG	**Sg**	**23 07 37.0**	**-10**
KKTK	**Khon Kaen**	**6.46**	**97**	PN	**Pg**	**23 07 29.3**	**+6.3**
KKTK				SG	**Sg**	**23 08 40.2**	**-8.9**
LSA	**Lhasa**	**13.23**	**341**	*e*P	**P**	**23 08 26.4**	**+1.8**
4.4nm,0.7s							
PKI	**Pulchoki**	**14.29**	**318**	*e*P	**P**	**23 08 37.7**	**-0.9**
14nm,0.7s							
DMN	**Daman**	**14.51**	**317**	*e*P	**P**	**23 08 40.7**	**-0.8**
16nm,0.8s							
KKN	**Kakani**	**14.52**	**318**	*e*P	**P**	**23 08 40.2**	**-1.5**
GKN	**Gorkha**	**15.08**	**317**	*e*P	**P**	**23 08 47.0**	**-2.0**
KOLN	**Koldanda**	**15.62**	**314**	*e*P	**P**	**23 08 55.4**	**-0.6**
29nm,0.8s							
MKAR	**Makanchi Array**	**31.63**	**342**	P	**P**	**23 11 38.1**	**-1.2**
1.0nm,0.6s,mb3.6,baz=156,slow=8.9,SNR=19							
KURK	**Kurchatov**	**36.23**	**341**	*e*P	**P**	**23 12 18.5**	**-0.6**
1.4nm,0.5s,mb4.2							
ZAL	**Zalesovo**	**37.68**	**349**	P	**P**	**23 12 31.7**	**+0.6**
0.7nm,0.4s,mb3.8,baz=266,slow=8.2,SNR=3.7							
KIV	**Kislovodsk**	**52.08**	**313**	*e*P	**P**	**23 14 28.4**	**+2.1**
5.9nm,0.7s,mb4.6							
FINES	**FINESS Array B**	**65.50**	**330**	P	**P**	**23 15 58.5**	**-0.9**
2.0nm,0.9s,mb4.1,baz=104,slow=7.9,SNR=4.6							
ARCES	**ARCESS Array B**	**67.23**	**339**	P	**P**	**23 16 11.8**	**+1.5**
1.9nm,0.9s,mb4.1,baz=90,slow=9.9,SNR=7.2							
ARCES	**ARCESS Array B**	**67.23**	**339**	P	**P**	**23 16 11.8**	**+1.5**
GERES	**GERESS Array B**	**72.30**	**317**	P	**P**	**23 16 43.6**	**+1.9**
0.8nm,0.7s,mb3.8,baz=76,slow=5.5,SNR=9.9							
NOA	**NORSAR Array B**	**72.64**	**329**	P	**P**	**23 16 44.3**	**+0.9**
1.9nm,1.1s,mb3.9,baz=80,slow=7.7,SNR=3.3							

*CSEM **22** 23:13:26.0±0.1, 35.68N×28.01E, h40km, MD3.2, Error ellipse: s-maj=4.7km s-min=2.9km az=89.0*
*ATH **22** 23:13:28.1, 35.92N×27.78E, h62km±3km*
*HLW **22** 23:13:28.5, 35.66N×27.98E, h30km, Mb3.3*
*ISK **22** 23:13:28.0, 35.88N×27.81E, h33km, MD3.2*
*NEIC **22** 23:13:28.7, 35.96N×27.73E, h57km, MD3.0(ATH), After ATH.*
ISC 22 23:13:25.7±0.4, 35.78N±0.03×27.89E±0.05, h81km±8km, n27, σ0§99/39, 2C-5D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.47**	**24**	*e*P	**P**	**23 13 40.0**	**+0.6**
ARG				*e*S	**S**	**23 13 48.7**	**-1.0**
KARP	**Karpathos**	**0.64**	**249**	*e*P	**P**	**23 13 42.3**	**+1.3**
KARP				*e*S	**S**	**23 13 52.5**	**+0.2**
DALT	**Dalyan (Mudla)**	**1.15**	**31**	PN	**P**	**23 13 47.4**	**+0.4**
BDRM	**Kayabasi**	**1.33**	**344**	*i* P	**P**	**23 13 49.5**	**+0.1**
BDRM				*i* S	**S**	**23 14 05.5**	**-1.3**
BODT	**Bodrum**	**1.36**	**340**	PN	**P**	**23 13 48.9**	**-0.9**
BODT				SN	**S**	**23 14 05.8**	**-1.8**
YER	**Yerkesik**	**1.39**	**13**	PN	**P**	**23 13 51.5**	**+1.4**
YER				SN	**S**	**23 14 06.2**	**-1.9**
AKAS	**Kas**	**1.46**	**72**	*i* P	**P**	**23 13 51.6**	**+0.5**
AKAS				*i* S	**S**	**23 14 09.5**	**-0.3**
MLSB	**Milas**	**1.51**	**357**	*e*PN	**P**	**23 13 52.1**	**+0.4**
MLSB				*e*SN	**S**	**23 14 10.3**	**-0.6**
AYDN	**Tasoluk**	**1.87**	**360**	*i* P	**P**	**23 13 57.4**	**+0.9**
AYDN				*i* S	**S**	**23 14 18.6**	**-0.6**
ELL	**Elmali**	**1.89**	**59**	*i* PN	**P**	**23 13 59.0**	**+2.2**
NPS	**Neapolis**	**1.93**	**255**	*e*P	**P**	**23 13 59.3**	**+2.0**
GOLH	**Golhisar**	**1.98**	**42**	*i* P	**P**	**23 13 59.1**	**+1.2**
GOLH				*i* S	**S**	**23 14 23.5**	**+1.9**
SMG	**Samos**	**2.10**	**337**	*e*P	**P**	**23 13 59.8**	**+0.2**
DENT	**Denizli**	**2.17**	**25**	*e*PN	**P**	**23 14 01.6**	**+1.0**
APE	**Apeiranthos**	**2.30**	**305**	*e*PN	**P**	**23 14 02.9**	**+0.5**
MANT	**Manisa**	**2.75**	**11**	*i* P	**P**	**23 14 08.8**	**+0.1**
MANT				*i* S	**S**	**23 14 40.2**	**-0.8**
HMAT	**Matruh**	**4.72**	**188**	⇓P	**P**	**23 14 36.4**	**+0.3**
SLUM		**4.83**	**208**	⇓P	**P**	**23 14 37.4**	**-0.1**
SLUM				S	**S**	**23 15 27.5**	**-5.1**
SWA1		**6.76**	**196**	⇓P	**P**	**23 15 03.7**	**-0.5**
SWA1				S	**S**	**23 16 13.7**	**-6.6**
AMAG	**Maghara**	**6.79**	**138**	P	**P**	**23 15 02.7**	**-2.0**
SWA2		**6.84**	**198**	⇑P	**P**	**23 15 05.0**	**-0.4**
HRSH	**Kfar Ka'horesh**	**6.85**	**133**	⇓P	**P**	**23 15 04.8**	**-0.6**
RSH		**6.85**	**133**	P	**P**	**23 15 04.8**	**-0.7**
HSAF	**As Saff**	**6.88**	**152**	⇓P	**P**	**23 15 04.8**	**-1.1**
SUZ		**7.24**	**144**	P	**P**	**23 15 10.5**	**-0.3**
HKAT	**Jabal Katrina**	**8.89**	**143**	⇑P	**P**	**23 15 33.5**	**+0.1**
ASUT		**8.93**	**158**	P	**P**	**23 15 33.5**	**-0.3**

*BGR **22** 23:20:08.6±1.3, 46.87N×8.76E, h10km, ML2.8, Error ellipse: s-maj=13.3km s-min=7.8km az=26.0*
*ZUR **22** 23:20:09.8, 46.96N×8.81E, h3km, ML2.3/20*
*LDG **22** 23:20:10.5±0.1, 46.98N×8.87E, h2km, Md2.6/2, Ml2.4/19, Error ellipse: s-maj=1.7km s-min=1.0km az=90.0*
*PRU **22** 23:20:10.4, 46.93N×8.76E*
*STR **22** 23:20:10.1±0.7, 46.92N×8.80E, h10km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*CSEM **22** 23:20:11.0±0.1, 46.95N×8.81E, h8km, ML2.6/21, Error ellipse: s-maj=1.6km s-min=1.1km az=167.0*
ISC 22 23:20:09.0±0.2, 46.98N±0.02×8.79E±0.02, h11km±2km, n62, σ1§25/112, 5C-14D, Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MUO	**Muotathal**	**0.10**	**264**	⇑*i*Pg		**Pg**	**23 20 12.7**	**+0.8**
MUO				*e*Sg		**Sg**	**23 20 14.8**	**+1.0**
LLS	**Linth-Limmern**	**0.20**	**131**	⇑*i*Pg		**Pg**	**23 20 14.0**	**+0.6**
LLS				*e*Sg		**Sg**	**23 20 17.0**	**+0.6**
PLONS	**Plons**	**0.41**	**80**	⇓*i*Pg		**Pg**	**23 20 18.0**	**+0.6**
PLONS				*i* Sg		**Sg**	**23 20 23.9**	**+0.8**
ZUR	**Zurich**	**0.42**	**340**	⇓*i*Pg		**Pg**	**23 20 19.0**	**+1.5**
ZUR				*e*Sg		**Sg**	**23 20 25.8**	**+2.6**
WILA	**Wila**	**0.44**	**10**	⇓*i*Pg		**Pg**	**23 20 19.6**	**+1.5**
FUSIO	**Fusio**	**0.53**	**189**	⇑*i*Pg		**Pg**	**23 20 20.6**	**+0.8**
FUSIO				*e*Sg		**Sg**	**23 20 28.2**	**+1.2**
WEIN	**Weingarten**	**0.57**	**14**	⇓*i*Pg		**Pg**	**23 20 21.9**	**+1.4**
LIENZ	**Alp Oberkamor**	**0.58**	**56**	*e*Pg		**Pg**	**23 20 22.0**	**+1.3**
TRULL	**Truellikon**	**0.68**	**354**	⇓*i*Pg		**Pg**	**23 20 22.8**	**+0.2**
VDL	**Val di Lei**	**0.68**	**136**	*e*Sg		**Sg**	**23 20 32.1**	**+0.3**
STEIN	**Stein am Rhein**	**0.69**	**4**	⇓*i*Pg		**Pg**	**23 20 24.3**	**+1.3**
SULZ	**Sulz-Cheisache**	**0.72**	**320**	⇓*i*Pg		**Pg**	**23 20 24.8**	**+1.4**
DAVA	**Damuels**	**0.81**	**67**	⇓*i*PG		**Pg**	**23 20 26.6**	**+1.4**
DAVA				*i* SG		**Sg**	**23 20 37.4**	**+1.4**
41nm,0.3s							
SLE	**Schleitheim**	**0.81**	**346**	*e*P*P		**Pb**	**23 20 26.1**	**+1.4**
BALST	**Balsthal**	**0.83**	**296**	*e*P*P		**Pb**	**23 20 26.8**	**+1.9**
LKBD	**Leukerbad**	**0.99**	**234**	*e*P*P		**Pb**	**23 20 29.3**	**+1.5**
BBS	**Basel-Blauen**	**1.00**	**300**	Pg		**Pg**	**23 20 30.3**	**+1.3**
BBS				Sg		**Sg**	**23 20 44.2**	**+1.8**
FELD	**Feldberg**	**1.04**	**330**	Pg		**Pg**	**23 20 30.6**	**+0.7**
FELD				Sg		**Sg**	**23 20 46.9**	**+3.0**
MUGIO	**Muggio**	**1.07**	**171**	⇑*i*P*P		**Pb**	**23 20 30.5**	**+1.4**
FUORN	**Ofenpass**	**1.07**	**109**	⇓*i*P*P		**Pb**	**23 20 30.3**	**+1.2**
BOURR	**Bourrignon**	**1.14**	**292**	*e*Pn		**Pn**	**23 20 33.0**	**+2.1**
BFO	**Black Forest**	**1.39**	**347**	*e*Pg		**Pg**	**23 20 35.8**	**-1.0**
BFO				*e*Sg		**Sg**	**23 20 56.3**	**+1.0**
LOMF	**Lomont**	**1.39**	**286**	Pg		**Pg**	**23 20 37.5**	**+0.7**
LOMF				Sg		**Sg**	**23 20 56.4**	**+1.0**
MOF	**Molkenrain**	**1.43**	**308**	Pg		**Pg**	**23 20 37.4**	**-0.1**
HINF	**Hinteralfeld**	**1.56**	**303**	*e*Pn		**Pn**	**23 20 38.1**	**+1.2**
HINF				*e*Pg		**Pg**	**23 20 40.7**	**+0.5**
HINF				*e*Sg		**Sg**	**23 21 00.8**	**-0.3**
13nm,0.3s							
BRANT	**Les Verrieres**	**1.59**	**269**	⇓*i*Pn		**Pn**	**23 20 39.6**	**+2.3**
MOTA	**Moosalm**	**1.62**	**76**	⇓*i*PG		**Pg**	**23 20 40.6**	**-0.8**
MOTA				*i* SG		**Sg**	**23 21 03.5**	**+0.4**
24nm,0.4s							
ECH	**Echery**	**1.66**	**319**	Pg		**Pg**	**23 20 42.2**	**0.0**
SQTA	**Sankt Quirin**	**1.67**	**81**	⇓*i*PG		**Pg**	**23 20 40.2**	**-2.2**
SQTA				*i* SG		**Sg**	**23 21 05.1**	**+0.4**
30nm,0.3s							
CDF	**Champ du Feu**	**1.76**	**325**	*e*Pn		**Pn**	**23 20 40.7**	**+0.9**
CDF				*e*Pg		**Pg**	**23 20 43.7**	**-0.5**
CDF				*e*Sg		**Sg**	**23 21 06.3**	**-1.4**
4.6nm,0.2s							
STU	**Stuttgart**	**1.81**	**8**	*e*Sg		**Sg**	**23 21 08.9**	**-0.6**
CABF	**La Chapelle**	**1.89**	**260**	*e*Pn		**Pn**	**23 20 42.6**	**+1.0**
CABF				*e*Pg		**Pg**	**23 20 46.6**	**-0.2**
CABF				*e*Sg		**Sg**	**23 21 12.1**	**0.0**
16nm,0.4s							
WATA	**Walderalm**	**1.94**	**78**	⇓*i*PG		**Pg**	**23 20 47.2**	**-0.5**
WATA				*i* SG		**Sg**	**23 21 13.6**	**+0.1**
10nm,0.3s							
HAU	**Haudompre**	**1.95**	**303**	*e*Pn		**Pn**	**23 20 43.7**	**+1.3**
HAU				*e*Pg		**Pg**	**23 20 47.6**	**-0.4**
HAU				*e*Sg		**Sg**	**23 21 13.1**	**-0.9**
6.6nm,0.2s							
WTTA	**Wattenberg**	**1.96**	**81**	⇑*i*PG		**Pg**	**23 20 47.0**	**-1.3**
WTTA				*i* SG		**Sg**	**23 21 14.1**	**-0.4**
10nm,0.3s							
LPL	**La Plagne**	**2.04**	**225**	*e*Pn		**Pn**	**23 20 44.9**	**+1.1**
LPL				*e*Pg		**Pg**	**23 20 49.5**	**-0.3**
LPL				*e*Sg		**Sg**	**23 21 16.3**	**-0.8**
1.4nm,0.2s							
LPG	**La Plagne**	**2.05**	**224**	*e*Pg		**Pg**	**23 20 49.2**	**-0.7**
LPG				*e*Sg		**Sg**	**23 21 17.0**	**-0.3**
9.6nm,0.3s							
FUR	**Furstenfeldbru**	**2.06**	**54**	*e*Sg		**Sg**	**23 21 17.3**	**-0.4**
MBDF	**Montbardon**	**2.66**	**213**	*e*Pg		**Pg**	**23 21 00.3**	**-1.8**
MBDF				*e*Sg		**Sg**	**23 21 35.0**	**-2.5**
4.1nm,0.4s							
RFYF	**Reffroy**	**2.78**	**308**	*e*Pn		**Pn**	**23 20 54.8**	**+0.5**
RFYF				*e*Pg		**Pg**	**23 21 02.8**	**-1.7**
SFTF	**Sexfontaines**	**2.82**	**297**	*e*Pn		**Pn**	**23 20 55.2**	**+0.3**
SFTF				*e*Pg		**Pg**	**23 21 03.9**	**-1.4**
SFTF				*e*Sg		**Sg**	**23 21 40.8**	**-2.1**
2.2nm,0.2s							
ORIF	**Oris-en-Rattie**	**2.89**	**226**	*e*Pn		**Pn**	**23 20 56.3**	**+0.4**
ORIF				*e*Pg		**Pg**	**23 21 05.1**	**-1.7**
ORIF				*e*Sg		**Sg**	**23 21 42.7**	**-2.6**
2.4nm,0.4s							
MEZF	**Maizieres J'vi**	**2.95**	**303**	*e*Pn		**Pn**	**23 20 56.5**	**-0.2**
MEZF				*e*Pg		**Pg**	**23 21 05.7**	**-2.2**
MEZF				*e*Sg		**Sg**	**23 21 44.7**	**-2.5**
9.9nm,0.5s							
GRF	**Grafenberg Arr**	**3.16**	**30**	*e*Sn		**Sn**	**23 21 37.6**	**-0.4**
LOR	**Lormes**	**3.38**	**277**	*e*Pn		**Pn**	**23 21 03.8**	**+0.9**
LOR				*e*Pg		**Pg**	**23 21 13.6**	**-2.9**
LOR				*e*Sg		**Sg**	**23 21 58.0**	**-3.5**
2.8nm,0.2s							
SMF	**Signal de Mont**	**3.42**	**266**	*e*Pg		**Pg**	**23 21 14.1**	**-3.1**
SMF				*e*Sg		**Sg**	**23 21 58.8**	**-3.9**
2.0nm,0.2s							
SMF	**Signal de Mont**	**3.42**	**266**	*e*Sg		**Sg**	**23 21 58.8**	**-3.9**
1.0nm,0.2s							
WET	**Wettzell**	**3.50**	**50**	*e*Pn		**Pn**	**23 21 04.6**	**+0.1**
WET				*e*Sn		**Sn**	**23 21 44.7**	**-1.6**
VIVF	**Saint-Julien-l**	**3.57**	**235**	*e*Sg		**Sg**	**23 22 03.9**	**-4.1**
1.8nm,0.3s							
SSF	**Saint Saulge**	**3.62**	**273**	*e*Pn		**Pn**	**23 21 07.1**	**+0.9**
SSF				*e*Sg		**Sg**	**23 22 05.5**	**-3.9**
0.6nm,0.2s							
SSF	**Saint Saulge**	**3.62**	**273**	*e*Sg		**Sg**	**23 22 05.5**	**-3.9**
0.3nm,0.2s							
AVF	**Avril sur Loir**	**3.73**	**269**	*e*Pn		**Pn**	**23 21 08.7**	**+0.8**
AVF				*e*Sg		**Sg**	**23 22 09.8**	**-3.5**
1.0nm,0.3s							
MOA	**Molln**	**3.82**	**75**	⇓*i*PN		**Pn**	**23 21 08.7**	**-0.4**
MOA				*i* PG		**Pg**	**23 21 22.4**	**-2.9**
MOA				*i* SN		**Sn**	**23 21 54.4**	**-0.1**
MOA				*i* SG		**Sg**	**23 22 15.3**	**-0.9**
1.8nm,0.3s							
KHC	**Kasperske Hory**	**3.87**	**54**	*e*PN	**Pn**	**23 21 10.1**	**+0.3**
KHC				*e*PG	**Pg**	**23 21 24.6**	**-1.6**
KHC				*e*SN	**Sn**	**23 21 54.3**	**-1.4**
KHC				*e*SG	**Sg**	**23 22 11.2**	**-6.6**
NKC	**Novy Kostel**	**4.06**	**35**	*e*PG	**Pg**	**23 21 29.4**	**-0.7**
NKC				*e*SN	**Sn**	**23 22 00.4**	**-0.3**
NKC				*e*SG	**Sg**	**23 22 19.8**	**-4.5**
BGF	**Bois d'Agland**	**4.11**	**266**	*e*Pn	**Pn**	**23 21 13.1**	**-0.1**
BGF				*e*Sg	**Sg**	**23 22 21.0**	**-4.7**
3.5nm,0.3s							
MOX	**Moxa**	**4.12**	**26**	*e*(Pg)	**Pg**	**23 21 28.4**	**-2.8**
MOX				*e*Sg	**Sg**	**23 22 23.9**	**-2.2**
TANN	**Tannenbergstha**	**4.21**	**34**	*e*Sn	**Sn**	**23 22 03.0**	**-1.5**
BAIF	**Baives**	**4.33**	**317**	*e*Pn	**Pn**	**23 21 15.8**	**-0.6**
TCF	**Toulx Ste Croi**	**4.58**	**264**	*e*Pn	**Pn**	**23 21 19.9**	**-0.1**
TCF				*e*Sg	**Sg**	**23 22 35.9**	**-5.8**
0.6nm,0.2s							
CLL	**Collm**	**5.14**	**31**	*e*Sg	**Sg**	**23 22 55.0**	**-5.1**
MFF	**Saint Martin d**	**6.15**	**270**	*e*Pn	**Pn**	**23 21 41.4**	**-0.7**

*IDC **22** 23:26:32.6±0.8, 9.10S×157.79E, mb4.1/8, mb1 4.3/9, mb1mx4.2/14, mbtmp4.1/9, ML4.3/1, MS3.0/1, Ms1 3.0/1, ms1mx2.6/20, Error ellipse: s-maj=26.2km s-min=22.9km az=134.0*
*NEIC **22** 23:26:37.5±0.6, 9.05S×157.82E, h35km, mb4.3/1, Error ellipse: s-maj=16.3km s-min=13.0km az=146.0*
ISC 22 23:26:36.0±0.6, 9.1S±0.1×157.83E±0.06, h33km, n17, σ0§87/16, mb4.2/10, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.11**	**98**	Pn	**Pn**	**23 27 09.2**	**-0.5**
100nm,0.3s,baz=219,slow=4.4,SNR=9.2							
HNR				Sn	**Sn**	**23 27 34.7**	**-0.3**
228nm,0.3s,baz=53,slow=5.2,SNR=9.8							
HNR	**Honiara**	**2.11**	**98**	*e*Pn	**Pn**	**23 27 09.4**	**-0.3**
PMG	**Port Moresby**	**10.54**	**268**	LR	LR	23 31 55.3	
comp=Z,80nm,18.4s,baz=56,slow=31							
CTAO	**Charters Tower**	**15.61**	**225**	P	**P**	**23 30 15.8**	**+0.5**
WRAB	**Tennant Creek**	**25.10**	**242**	*e*P	**P**	**23 31 58.8**	**-0.7**
6.4nm,0.8s,mb4.2							
WRA	**Warramunga Arr**	**25.11**	**242**	P	**P**	**23 31 59.0**	**-0.6**
2.3nm,0.6s,mb3.9,baz=66,slow=9.6,SNR=7.9							
GUMO	**Guam**	**25.98**	**330**	P	**P**	**23 32 04.4**	**-3.4**
28nm,0.3s,mb5.2,baz=166,slow=19,SNR=4.6							
STKA	**Stephens Creek**	**27.19**	**211**	P	**P**	**23 32 18.2**	**-0.6**
2.3nm,0.7s,mb3.8,baz=43,slow=14,SNR=4.3							
STKA	**Stephens Creek**	**27.19**	**211**	*e*P	**P**	**23 32 19.4**	**+0.6**
VNDA	**Vanda**	**68.39**	**179**	P	**P**	**23 37 36.3**	**+0.3**
1.2nm,1.0s,mb3.9,baz=341,slow=9.4,SNR=4.3							
SONM	**Songino Array**	**72.65**	**326**	P	**P**	**23 38 02.1**	**-0.1**
0.8nm,0.6s,mb3.8,baz=135,slow=4.1,SNR=6.1							
ILAR	**Eielson Array**	**84.34**	**21**	P	**P**	**23 39 05.7**	**0.0**
1.1nm,0.6s,mb4.2,baz=278,slow=4.7,SNR=11							
MKAR	**Makanchi Array**	**86.86**	**318**	P	**P**	**23 39 19.5**	**+0.9**
1.8nm,0.7s,mb4.4,baz=101,slow=6.0,SNR=20							
ZAL	**Zalesovo**	**87.52**	**326**	P	**P**	**23 39 21.2**	**-0.4**
0.6nm,0.6s,mb4.0,baz=343,slow=11,SNR=3.4							
ZAL	**Zalesovo**	**87.52**	**326**	P	**P**	**23 39 21.2**	**-0.4**
NVAR	**Mina Array Bea**	**90.84**	**51**	P	**P**	**23 39 39.6**	**+1.9**
0.9nm,0.8s,mb4.2,baz=240,slow=7.3,SNR=5.5							
BDFB	**Brasilia**	**144.49**	**134**	PKP	PKPdf	23 46 10.2	+0.3
3.3nm,0.7s,baz=234,slow=3.6,SNR=5.3							

*NEIC **22** 23:31:28.3±0.2, 30.49N×114.44W, h5km, MD4.2(ECX), After ECX.*
ECX 22 23:31:28.3±0.2, 30.49N×114.44W, h5km, MD4.0, ML4.2, 1C-2D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPX	**San Pedro Mart**	**1.04**	**303**	*e*P	Pb	23 31 46.6	-1.8
SPX				*e*S	Sb	23 32 00.9	-1.3
SPX				⇓*e*		23 32 09.5	
comp=N,3μm,1.0s							
RDX	**Rancho Dowling**	**1.93**	**319**	*e*PN	Pn	23 32 01.6	-0.5
RDX				*e*S	Sn	23 32 27.3	+0.2
RDX				⇓*e*		23 32 39.9	
comp=N,1μm,1.1s							
RDX				⇑*e*		23 32 40.4	
comp=E,1μm,1.0s							
ECNX	**Esteban Cantu**	**2.19**	**303**

FX1 pmax pmax
comp=Z,2.0nm,0.3s
ILAR Eielson Array 37.01 40 P P 00 22 20.4 -0.3
comp=Z,1.1nm,0.8s,mb3.4,baz=279,slow=8.5,SNR=14
ILAR Eielson Array 37.01 40 P P 00 22 20.4 -0.3
ILAR pmax pmax
comp=Z,1.0nm,0.8s
INK Inuvik 41.80 33 P P 00 22 59.9 +0.1
comp=Z,1.7nm,0.4s,mb3.6,baz=320,slow=5.1,SNR=12
INK Inuvik 41.80 33 P P 00 22 59.9 +0.1
INK pmax pmax
comp=Z,2.0nm,0.4s
MKAR Makanchi Array 44.17 295 P P 00 23 19.6 +0.6
comp=Z,0.8nm,0.5s,mb3.2,baz=69,slow=7.4,SNR=8.9
MKAR Makanchi Array 44.17 295 P P 00 23 19.6 +0.5
MKAR pmax pmax
comp=Z,1.0nm,0.5s
BVAR Borovoye Array 48.12 307 P P 00 23 49.9 +0.2
comp=Z,1.1nm,0.5s,mb3.4,baz=49,slow=7.0,SNR=6.2
BVAR Borovoye Array 48.12 307 P P 00 23 49.9 +0.2
BVAR pmax pmax
comp=Z,1.0nm,0.5s
YKA Yellowknife Ar 51.26 36 P P 00 24 12.5 -0.6
comp=Z,1.6nm,0.7s,mb3.4,baz=302,slow=6.7,SNR=6.8
YKA Yellowknife Ar 51.26 36 P P 00 24 12.5 -0.6
YKA pmax pmax
comp=Z,2.0nm,0.7s
FINES FINESS Array B 61.75 333 P P 00 25 25.6 -1.0
comp=Z,0.6nm,0.4s,mb3.6,baz=33,slow=8.4,SNR=12
FINES FINESS Array B 61.75 333 P P 00 25 25.6 -1.0
FINES pmax pmax
comp=Z,1.0nm,0.4s
NVAR Mina Array Bea 63.91 61 P P 00 25 41.0 +0.1
comp=Z,0.4nm,0.4s,mb3.4,baz=307,slow=4.5,SNR=4.8
PDAR Pinedale Array 65.86 52 P P 00 25 53.0 -0.3
comp=Z,1.2nm,0.5s,mb3.9,baz=70,slow=0.7,SNR=8.7
NOA NORSAR Array B 66.12 339 P P 00 25 53.8 -0.8
comp=Z,0.8nm,0.8s,mb3.5,baz=304,slow=3.8,SNR=3.1
NOA NORSAR Array B 66.12 339 P P 00 25 53.8 -0.8
NOA pmax pmax
comp=Z,1.0nm,0.8s
TXAR Lajitas Array 78.88 58 P P 00 27 09.8 +0.1
comp=Z,1.5nm,0.5s,mb4.0,baz=287,slow=4.3,SNR=35
TXAR Lajitas Array 78.88 58 P P 00 27 09.8 +0.2
TXAR pmax pmax
comp=Z,2.0nm,0.5s

CASC 23 00:25:07.9±1.6, 8.40N×83.13W, h6km±9km, MD3.4, MW4.0, 1C-3D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.26**	**351**	*eP*	Pg	00 25 13.7	+0.5
ACR			⇓	*iP*		00 25 13.7	
ACR				*eS*	Sg	00 25 17.9	+1.3
BRU2	**Volcan**	**0.58**	**48**	⇓*iP*	Pg	00 25 19.7	+0.1
BRU2				*eS*	Sg	00 25 29.4	+2.0
BUS	**Buena Vista**	**1.31**	**332**	*eP*	Pb	00 25 30.9	-1.6
BUS				*eS*	Sb	00 25 51.7	+2.3
LCR2	**La Lucha 2**	**1.59**	**327**	*eP*	Pn	00 25 36.3	-0.5
LCR2				*eS*	Sb	00 25 58.1	+0.4
LCR2				*eS*	Sb	00 25 58.4	+0.8
PRS1	**Puriscal**	**1.96**	**323**	⇑*eP*	Pn	00 25 41.8	-0.2

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*KNET **23** 01:08:52.7±0.5, 41.13N×73.61E, h1km±2km, ml2.4, Error ellipse: s-maj=5.9km s-min=2.6km az=104.0*
*NNC **23** 01:08:53.6±1.6, 41.01N×73.25E, h23km±12km, mpv2.6, Error ellipse: s-maj=12.9km s-min=10.2km az=60.0*
ISC 23 01:08:53.1±2.1, 41.1N±0.1×73.1E±0.1, h10km, n8,
σ1§17/15, 13C-3D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**1.09**	**24**	⇑P	**Pb**	**01 09 11.9**	**-1.6**
	25nm,0.2s,SNR=23						
AML				⇑S	**Sb**	**01 09 27.3**	**-0.3**
	69nm,0.3s						
EKS2	**Erkin-Say**	**1.60**	**18**	⇑P	**Pn**	**01 09 21.9**	**+0.2**
	6.3nm,0.2s,SNR=22						
AAK	**Ala-Archa**	**1.82**	**34**	⇑P	**Pn**	**01 09 24.5**	**-0.3**
	6.8nm,0.2s,SNR=6.8						
AAK				⇓S	**Sn**	**01 09 47.9**	**-0.3**
	33nm,0.3s						
AAK	**Ala-Archa**	**1.82**	**34**	⇑P	**Pn**	**01 09 24.8**	**-0.1**
	4.0nm,0.4s						
AAK				⇑S	**Sn**	**01 09 47.6**	**-0.6**
	16nm,0.3s						
KBK	**Karagaybulak**	**2.05**	**42**	⇑P	**Pn**	**01 09 27.4**	**-0.7**
	4.2nm,0.2s,SNR=6.7						
KBK				⇑S	**Sn**	**01 09 53.7**	**-0.4**
	36nm,0.3s						
CHMS	**Chumysh**	**2.23**	**33**	⇓P	**Pn**	**01 09 31.0**	**+0.3**
	6.9nm,0.2s,SNR=7.3						
CHMS				⇑S	**Sn**	**01 10 00.7**	**+2.2**
	16nm,0.3s						
USP	**Ospenovka**	**2.37**	**26**	⇓P	**Pn**	**01 09 33.4**	**+0.8**
	4.8nm,0.3s,SNR=5.5						
USP				⇑S	**Sn**	**01 10 06.1**	**+4.0**
	39nm,0.4s						
KK31	**Karatay Array**	**2.75**	**316**	⇑Pn	**Pn**	**01 09 41.3**	**+3.2**
	0.2nm,0.2s,baz=130,slow=13,SNR=40						
KK31				⇑Pg	**Pg**	**01 09 46.7**	**-1.3**
	2.4nm,0.6s,baz=132,slow=17,SNR=7.8						
KK31				⇑Lg		01 10 27.0	
	4.7nm,0.4s,baz=132,slow=27,SNR=10						

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*IDC **23** 01:13:05.6±2.2, 5.39S×146.84E, h235km±25km, mb3.8/6, mb1 3.9/10, mb1mx3.7/17, mbtmp4.5/10, Error ellipse: s-maj=24.6km s-min=17.2km az=103.0*
*NEIC **23** 01:13:05.3±1.3, 5.33S×146.80E, h229km±15km, mb4.6/3, Error ellipse: s-maj=14.8km s-min=11.0km az=121.0*
ISC 23 01:13:04.6±1.7, 5.4S±0.1×146.8E±0.1, h239km±21km, n14,
σ0§46/14, mb4.0/6, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.02**	**175**	P	**P**	**01 14 08.3**	**-0.4**
	18nm,0.3s,baz=4.3,slow=5.0,SNR=44						
HNR	**Honiara**	**13.65**	**108**	P	**P**	**01 16 10.1**	**-0.1**
	21nm,0.3s,baz=207,slow=6.8,SNR=5.4						
CTA	**Charters Tower**	**14.64**	**182**	P	**P**	**01 16 22.9**	**+0.7**
	0.2nm,0.3s,baz=352,slow=11,SNR=5.6						
CTAO	**Charters Tower**	**14.64**	**182**	*eP*	**P**	**01 16 23.9**	**+1.6**
	14nm,1.1s						
KAKA	**Kakadu**	**15.93**	**242**	*eP*	**P**	**01 16 50.3**	**+13**
	26nm,0.6s						
WRAB	**Tennant Creek**	**18.87**	**219**	*eP*	**P**	**01 17 08.7**	**-0.5**
	16nm,0.8s						
WRA	**Warramunga Arr**	**18.88**	**219**	P	**P**	**01 17 09.0**	**-0.3**
	1.1nm,0.3s,baz=44,slow=11,SNR=24						
FITZ	**Fitzroy Crossi**	**24.23**	**237**	*eP*	**P**	**01 18 01.8**	**+0.4**
	17nm,0.5s,mb4.9						
FITZ	**Fitzroy Crossi**	**24.23**	**237**	P	**P**	**01 18 01.5**	**+0.1**
	25nm,0.6s,mb5.1,baz=40,slow=6.2,SNR=47						
JOW	**Kunigami**	**36.69**	**332**	P	**P**	**01 19 51.1**	**+0.5**
	6.7nm,0.4s,mb4.5,baz=134,slow=12,SNR=6.3						
JNU	**Nakatsue**	**41.15**	**340**	P	**P**	**01 20 27.3**	**-0.1**
	6.4nm,0.7s,mb4.2,baz=190,slow=11,SNR=2.8						
SONM	**Songino Array**	**63.76**	**331**	P	**P**	**01 23 12.9**	**-0.2**
	1.1nm,0.7s,mb3.6,baz=153,slow=6.4,SNR=5.9						
VNDA	**Vanda**	**72.55**	**177**	P	**P**	**01 24 06.6**	**-0.2**
	0.7nm,0.8s,mb3.4,baz=344,slow=8.7,SNR=4.0						
ILAR	**Eielson Array**	**84.99**	**23**	P	**P**	**01 25 13.9**	**0.0**
	1.0nm,0.7s,mb3.6,baz=255,slow=5.6,SNR=13						

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*ROM **23** 01:13:37.2±1.5, 42.77N×20.99E, h12km, Ml3.8/2, Error ellipse: s-maj=23.8km s-min=5.9km az=100.0*
*TIR **23** 01:13:40.4, 42.85N×20.26E, h1km, Ml3.2*
*BEO **23** 01:13:41.9±0.3, 42.75N×20.30E, h13km±1km*
*PRU **23** 01:13:42.3, 42.81N×20.54E*
*CSEM **23** 01:13:42.2±0.2, 42.89N×20.33E, h1km±1km, ML3.3, Error ellipse: s-maj=2.6km s-min=1.4km az=57.0*
*PDG **23** 01:13:43.1±0.2, 42.76N×20.19E, h11km±2km*
*NEIC **23** 01:13:43.1, 42.76N×20.19E, h11km, ML3.3(PDG), After PDG.*
*LDG **23** 01:13:44.2±0.5, 42.72N×20.60E, h10km, Ml3.1/6, Error ellipse: s-maj=11.4km s-min=5.2km az=79.0*
*THE **23** 01:13:44.0, 42.88N×20.55E, h8km, ML3.3*
ISC 23 01:13:42.3±0.2, 42.81N±0.01×20.29E±0.02, h10km, n106,
σ1§23/150, 16C-10D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVA	**Berane**	**0.29**	**281**	⇑*iPg*	**Pg**	**01 13 48.1**	**-0.3**
IVA				*eSg*	**Sg**	**01 13 52.1**	**-0.3**
PVY	**Plav**	**0.32**	**227**	⇑*iPg*	**Pg**	**01 13 47.3**	**-1.6**
PVY				*eSg*	**Sg**	**01 13 51.6**	**-1.7**
BCI	**Bajram Curri**	**0.48**	**200**	*iPg*	**Pg**	**01 13 50.4**	**-1.5**
BCI				*iSg*	**Sg**	**01 13 56.4**	**-2.0**
KKS	**Kukesi**	**0.74**	**173**	*iPg*	**Pg**	**01 13 54.9**	**-2.3**
KKS				*iSg*	**Sg**	**01 14 03.4**	**-3.8**
NVSS	**Nova Varos 2**	**0.82**	**328**	⇑*iPg*	**Pg**	**01 13 57.3**	**-1.4**
NVSS				Sg	**Sg**	**01 14 07.1**	**-2.5**
PUK	**Puka**	**0.82**	**201**	*iPg*	**Pg**	**01 13 56.9**	**-1.9**
PUK				*iSg*	**Sg**	**01 14 11.9**	**+2.0**
PLE	**Pljevlja**	**0.83**	**308**	⇑*iPg*	**Pg**	**01 13 58.1**	**-0.9**
PLE				*eSg*	**Sg**	**01 14 10.6**	**+0.4**
TTG	**Podgorica**	**0.85**	**244**	⇑*iPg*	**Pg**	**01 13 56.4**	**-3.0**
TTG				*eSg*	**Sg**	**01 14 09.1**	**-1.7**
NKY	**Niksic**	**0.95**	**270**	⇓*iPg*	**Pg**	**01 13 59.5**	**-1.9**
NKY				*eSg*	**Sg**	**01 14 12.8**	**-1.3**
UPM	**Unac-Piva**	**1.08**	**291**	⇑*iPg*	**Pg**	**01 14 02.4**	**-1.5**
UPM				*eSg*	**Sg**	**01 14 18.4**	**-0.1**
BARS	**Barje**	**1.13**	**89**	⇓*iPg*	**Pg**	**01 14 02.8**	**-2.1**
BARS				Sg	**Sg**	**01 14 18.4**	**-1.6**
PHP	**Peshkopia**	**1.13**	**174**	*iPg*	**Pg**	**01 14 03.0**	**-2.0**
PHP				*iSg*	**Sg**	**01 14 17.8**	**-2.3**
ULC	**Ulcinj**	**1.15**	**223**	⇓*iPg*	**Pg**	**01 14 03.0**	**-2.2**
ULC				*eSg*	**Sg**	**01 14 19.6**	**-1.0**
BUM	**Brajici-Budva**	**1.15**	**244**	⇑*iPg*	**Pg**	**01 14 02.5**	**-2.8**
BUM				*eSg*	**Sg**	**01 14 19.6**	**-1.0**
SKO	**Skopje**	**1.20**	**134**	*iPn*	**Pn**	**01 14 04.2**	**-0.9**
SKO				*iSn*	**Sn**	**01 14 20.9**	**-0.5**
BRY	**Bratogost**	**1.29**	**274**	⇑*iPg*	**Pg**	**01 14 05.8**	**-2.2**
BRY				*eSg*	**Sg**	**01 14 24.4**	**-0.9**
DIVS	**Divcibare**	**1.30**	**351**	⇑*iPg*	**Pg**	**01 14 07.8**	**-0.5**
DIVS				Sg	**Sg**	**01 14 26.3**	**+0.6**
QSH	**Qafa e Shtames**	**1.32**	**193**	*iPg*	**Pg**	**01 14 09.0**	**+0.3**
QSH				*iSg*	**Sg**	**01 14 25.5**	**-0.9**
HCY	**Herceg Novi**	**1.37**	**255**	⇓*iPg*	**Pg**	**01 14 06.8**	**-2.9**
HCY				*eSg*	**Sg**	**01 14 27.5**	**-0.5**
TREB	**Trebinje**	**1.43**	**267**	Sn	**Sn**	**01 14 31.4**	**+4.0**
TIR	**Tirane**	**1.50**	**192**	*ePn*	**Pn**	**01 14 12.5**	**+3.1**
TIR				*iSn*	**Sn**	**01 14 33.2**	**+4.1**
OHR	**Ohrid**	**1.74**	**167**	*iPn*	**Pn**	**01 14 13.7**	**+0.8**
OHR				*iSn*	**Sn**	**01 14 36.6**	**+1.3**
FNA	**Florina**	**2.19**	**158**	*ePn*	**Pn**	**01 14 20.4**	**+1.2**
	comp=Z,3.0nm,0.5s						
FNA				*eSn*	**Sn**	**01 14 48.4**	**+1.9**
GRG	**Griva**	**2.44**	**139**	*ePn*	**Pn**	**01 14 22.7**	**0.0**
GRG				*eSn*	**Sn**	**01 14 52.3**	**-0.6**
KNT	**Kendrikon**	**2.55**	**129**	*ePn*	**Pn**	**01 14 23.8**	**-0.6**
LSK	**Leskovik**	**2.67**	**175**	*i* pn?	**Pn**	**01 14 32.8**	**+6.6**
LSK				*iSn*	**Sn**	**01 15 03.6**	**+4.7**
BLY	**Banja Luka**	**2.97**	**312**	Pn	**Pn**	**01 14 31.9**	**+1.5**
BLY				Sg	**Sg**	**01 15 17.3**	**-3.8**
BAI	**Bari**	**3.06**	**237**	*ePn*	**Pn**	**01 14 32.2**	**+0.5**
NOCI	**Noci**	**3.15**	**231**	Pn	**Pn**	**01 14 33.5**	**+0.6**
IGT	**Igoumenitsa**	**3.28**	**179**	*ePn*	**Pn**	**01 14 35.9**	**+1.1**
SG1	**Sgolgore (BA)**	**3.34**	**235**	*ePn*	**Pn**	**01 14 36.2**	**+0.5**
AMUR	**Altamura**	**3.35**	**237**	Pn	**Pn**	**01 14 36.6**	**+0.8**
LTRZ	**Laterza**	**3.41**	**231**	Pn	**Pn**	**01 14 37.3**	**+0.6**
	20nm,0.5s						
MS1	**Monte Sant'Ang**	**3.41**	**253**	*ePn*	**Pn**	**01 14 38.9**	**+2.2**
CDT	**Castel del Mon**	**3.46**	**241**	*ePn*	**Pn**	**01 14 37.8**	**+0.5**
RHK1	**Bakonya**	**3.64**	**335**	⇓*iP*	**Pn**	**01 14 40.3**	**+0.3**
RGNG	**Rignano Grg**	**3.67**	**254**	Pn	**Pn**	**01 14 41.3**	**+0.9**
FG2	**Serracapriola**	**3.94**	**257**	Pn	**Pn**	**01 14 45.1**	**+1.0**
	42nm,0.3s						
PKS9	**Tamasi**	**4.04**	**340**	⇓*iP*	**Pn**	**01 14 46.0**	**+0.5**
MRLC	**Muro Lucano**	**4.14**	**242**	Pn	**Pn**	**01 14 47.5**	**+0.5**
	20nm,0.6s						
PKS8	**Sarbogard**	**4.22**	**345**	⇓*iP*	**Pn**	**01 14 48.3**	**+0.1**
SLCN	**Sala Consilina**	**4.25**	**237**	Pn	**Pn**	**01 14 49.5**	**+0.9**
	40nm,0.2s						
NVLJ	**Novalja**	**4.30**	**296**	*iPn*	**Pn**	**01 14 41.6**	**-7.7**
NVLJ				*iSn*	**Sn**	**01 15 39.2**	**-0.9**
DRGR		**4.33**	**23**	⇓*iP*	**Pn**	**01 15 02.8**	**+13**
SGO	**Sicignano**	**4.36**	**241**	Pn	**Pn**	**01 14 50.5**	**+0.4**
	9.0nm,0.2s						
CSSN	**Cassano Irpino**	**4.39**	**245**	Pn	**Pn**	**01 14 51.4**	**+0.8**
	22nm,0.5s						
MGR	**Morigerati**	**4.45**	**235**	Pn	**Pn**	**01 14 52.7**	**+1.3**
	161nm,1.4s						
BOJS	**Bojanci**	**4.51**	**308**	*iPn*	**Pn**	**01 14 53.5**	**+1.2**
BOJS	**Bojanci**	**4.51**	**308**	*iPn*	**Pn**	**01 14 53.5**	**+1.2**
CII	**Carovilli**	**4.57**	**258**	Pn	**Pn**	**01 14 55.3**	**+2.1**
	54nm,0.7s						
CII	**Carovilli**	**4.57**	**258**	*eP*	**Pn**	**01 14 54.9**	**+1.7**
CII	**Carovilli**	**4.57**	**258**	Pn	**Pn**	**01 14 55.3**	**+2.1**
	54nm,0.7s						
CII	**Carovilli**	**4.57**	**258**	*eP*	**Pn**	**01 14 54.9**	**+1.7**
SGG	**Gregorio Mates**	**4.62**	**254**	Pn	**Pn**	**01 14 55.6**	**+1.7**
VAGA	**Valle Agricola**	**4.72**	**255**	Pn	**Pn**	**01 14 57.4**	**+2.2**
PKSG		**4.77**	**344**	⇑*iP*	**Pn**	**01 14 56.4**	**+0.4**
INTR	**Introdacqua**	**4.79**	**263**	Pn	**Pn**	**01 14 57.3**	**+1.0**
	180nm,1.6s						
DOBS	**Dobrina**	**4.80**	**316**	*ePn*	**Pn**	**01 14 56.7**	**+0.4**
MLR	**Muntele Rosu**	**4.87**	**55**	⇑*iP*	**Pn**	**01 15 02.8**	**+5.4**
VISS	**Visnje**	**4.92**	**309**	*ePn*	**Pn**	**01 14 58.9**	**+0.8**
RFI	**Roccamonfina**	**4.93**	**254**	Pn	**Pn**	**01 15 00.3**	**+2.0**
	6.0nm,0.6s						
MSC	**Monte Massico**	**4.98**	**253**	Pn	**Pn**	**01 15 00.7**	**+1.8**
FAGN	**Fagnano**	**4.99**	**266**	Pn	**Pn**	**01 15 00.6**	**+1.6**
	87nm,0.5s						
VVLD	**Villa Vallelon**	**5.03**	**261**	Pn	**Pn**	**01 15 01.0**	**+1.3**
PSZ	**Piszkesteto**	**5.11**	**357**	⇑*iPn*	**Pn**	**01 15 00.9**	**+0.1**
PSZ				*eSn*	**Sn**	**01 15 58.1**	**-2.5**
PSZ	**Piszkesteto**	**5.11**	**357**	*eP*	**Pn**	**01 15 00.7**	**-0.1**
	8.4nm,0.8s						
PSZ				*eS*	**Sn**	**01 15 58.1**	**-2.5**
CEY	**Cerknica**	**5.12**	**307**	*iPn*	**Pn**	**01 15 02.0**	**+1.0**
PTQR	**Pietraquaria**	**5.16**	**264**	Pn	**Pn**	**01 15 03.9**	**+2.4**
	11nm,0.4s						
CING	**Cingoli**	**5.22**	**279**	Pn	**Pn**	**01 15 03.1**	**+0.7**
	36nm,0.8s						
LJU	**Ljubljana**	**5.24**	**310**	*iPn*	**Pn**	**01 15 03.2**	**+0.7**
NRCA	**Norcia**	**5.28**	**273**	Pn	**Pn**	**01 15 04.6**	**+1.5**
	5.0nm,0.2s						
PERS	**Pernice**	**5.31**	**318**	*ePn*	**Pn**	**01 15 03.5**	**-0.1**
FIAM	**Fiamignano**	**5.33**	**267**	Pn	**Pn**	**01 15 05.6**	**+1.8**
	53nm,0.7s						
LNSS	**Leonessa**	**5.35**	**270**	Pn	**Pn**	**01 15 05.5**	**+1.4**
ARV	**Arcevia**	**5.42**	**280**	Pn	**Pn**	**01 15 05.6**	**+0.5**
	9.0nm,0.6s						
CERT	**Cerreto**	**5.48**	**263**	Pn	**Pn**	**01 15 07.3**	**+1.3**
	22nm,0.6s						
OBKA	**Obir**	**5.51**	**314**	⇓*iPN*	**Pn**	**01 15 06.8**	**+0.3**
OBKA				*i* SN	**Sn**	**01 16 10.8**	**+0.1**
FSSB	**Fossombrone**	**5.56**	**282**	Pn	**Pn**	**01 15 08.1**	**+1.0**
	10.0nm,0.5s						
ARSA	**Arzberg**	**5.58**	**324**	⇑*iPN*	**Pn**	**01 15 07.6**	**+0.3**
ARSA				*i* SN	**Sn**	**01 16 10.2**	**-2.0**
VOY	**Vojsko**	**5.60**	**307**	*ePn*	**Pn**	**01 15 08.3**	**+0.7**
VOY				*e*		01 15 16.9	
VOY				*e*(Sn)	**Sn**	**01 16 11.8**	**-1.0**
VOY				*e*		01 16 56.5	
VOY	**Vojsko**	**5.60**	**307**	Pn	**Pn**	**01 15 08.3**	**+0.7**
VOY				Sn	**Sn**	**01 16 11.8**	**-1.0**
MNS	**Montasola**	**5.63**	**268**	Pn	**Pn**	**01 15 09.1**	**+1.0**
	16nm,0.6s						
KECS	**Kecovo**	**5.67**	**1**	*ePN*	**Pn**	**01 15 09.3**	**+0.6**
KECS				*e*SN	**Sn**	**01 16 14.2**	**-0.5**
MURB	**Monte Urbino**	**5.71**	**277**	Pn	**Pn**	**01 15 10.8**	**+1.6**
	64nm,0.7s						
VYHS	**Vyhne**	**5.77**	**350**	*i* PN	**Pn**	**01 15 11.1**	**+1.0**
VYHS				*e*SN	**Sn**	**01 16 13.4**	**-3.8**
BURAR	**Bucovina Array**	**5.93**	**34**	⇑*iP*	**Pn**	**01 15 28.0**	**+16**
ROBS	**Robic**	**5.94**	**308**	*iPn*	**Pn**	**01 15 12.7**	**+0.2**
PTCC	**Patocco-Chiusa**	**6.12**	**308**	Pn	**Pn**	**01 15 15.3**	**+0.4**
	4.0nm,0.4s						
CRVS	**Cervenica-Dubn**	**6.14**	**7**	*ePN*	**Pn**	**01 15 15.1**	**-0.3**
SFI	**Santa Sofia**	**6.25**	**283**	Pn	**Pn**	**01 15 18.5**	**+1.6**
	6.0nm,0.6s						
KOLS	**Kolonicke sedl**	**6.28**	**12**	*i* PN	**Pn**	**01 15 16.7**	**-0.5**
KBA	**Koelnbreinsper**	**6.51**	**313**	⇓*iPN*	**Pn**	**01 15 21.3**	**+0.7**
KBA				*i* SN	**Sn**	**01 16 36.2**	**+0.4**
MOA	**Molln**	**6.58**	**322**	⇑*iPN*	**Pn**	**01 15 21.4**	**-0.2**
MOA				*i* SN	**Sn**	**01 16 36.3**	**-1.2**
STHS	**Stebnicka Huta**	**6.64**	**5**	*ePN*	**Pn**	**01 15 21.7**	**-0.6**
STHS				*e*		01 16 20.7	
WTTA	**Wattenberg**	**7.57**	**309**	⇑*iPN*	**Pn**	**01 15 35.5**	**+0.1**
WTTA				*i* SN	**Sn**	**01 17 01.8**	**-0.4**
KHC	**Kasperske Hory**	**7.86**	**326**	*ePN*	**Pn**	**01 15 40.4**	**+1.0**
KHC				*ex*	x	01 15 47.5	
KHC				*ex*	x	01 16 43.4	
KHC				*ex*	x	01 17 06.5	
PGF	**Pioggiola**	**8.32**	**272**	*ePn*	**P**	**01 15 45.0**	**-0.9**
PGF				*eSn*	**Sn**	**01 17 16.4**	**-4.6**
	0.5nm,0.3s						
MBDF	**Montbardon**	**9.97**	**286**	*ePn*	**P**	**01 16 07.7**	**-0.9**
MBDF				*eSn*	**Sn**	**01 17 56.1**	**-5.4**
	0.6nm,0.4s						
FRF	**La Foret Royal**	**9.99**	**279**	*ePn*	**P**	**01 16 07.8**	**-1.2**
LPG	**La Plagne**	**10.09**	**290**	*ePn*	**P**	**01 16 09.7**	**-0.6**
LPG				*eSn*	**S**	**01 17 59.3**	**-5.4**
	0.3nm,0.2s						
LPL	**La Plagne**	**10.11**	**290**	*ePn*	**P**	**01 16 09.8**	**-0.7**
LPL				*eSn*	**S**	**01 17 59.7**	**-5.4**
	1.1nm,0.3s						
ORIF	**Oris-en-Rattie**	**10.62**	**286**	*ePn*	**P**	**01 16 16.4**	**-1.1**
ORIF				*eSn*	**S**	**01 18 11.5**	**-6.0**
	0.3nm,0.2s						
HINF	**Hinteralfeld**	**10.70**	**302**	*ePn*	**P**	**01 16 18.1**	**-0.5**
HINF				*eSn*	**S**	**01 18 13.2**	**-6.3**
VIVF	**Saint-Julien-l**	**11.47**	**286**	*ePn*	**P**	**01 16 28.0**	**-1.1**
VIVF				*eSn*	**S**	**01 18 31.7**	**-6.5**
	0.4nm,0.2s						
SMF	**Signal de Mont**	**12.31**	**294**	*ePn*	**P**	**01 16 39.7**	**-0.7**
AVF	**Avril sur Loir**	**12.67**	**294**	*ePn*	**P**	**01 16 44.7**	**-0.5**

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*TIR **23** 01:14:44.1, 42.78N×20.25E, h20km*
*BEO **23** 01:14:44.1±0.2, 42.77N×20.33E, h3km±1km*
*PDG **23** 01:14:45.8±0.1, 42.76N×20.28E, h7km±2km*
*NEIC **23** 01:14:45.8, 42.76N×20.28E, h7km, ML3.1(PDG), After PDG.*
ISC 23 01:14:44.6±0.5, 42.80N±0.02×20.33E±0.03, h3km, n17,
σ1§10/34, 8C-4D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVA	**Berane**	**0.33**	**284**	⇓*iPg*	**Pg**	**01 14 51.3**	**+0.2**
IVA				*eSg*	**Sg**	**01 14 56.3**	**+0.7**
PVY	**Plav**	**0.33**	**233**	⇑*iPg*	**Pg**	**01 14 50.8**	**-0.5**
PVY				*eSg*	**Sg**	**01 14 55.3**	**-0.3**
NVSS	**Nova Varos 2**	**0.85**	**327**	⇑*iPg*	**Pg**	**01 15 00.8**	**-0.7**
NVSS				Sg	**Sg**	**01 15 11.2**	**-1.6**
PLE	**Pljevlja**	**0.87**	**308**	⇓*iPg*	**Pg**	**01 15 01.7**	**-0.3**
PLE				*eSg*	**Sg**	**01 15 15.0**	**+1.4**
TTG	**Podgorica**	**0.87**	**246**	⇑*iPg*	**Pg**	**01 15 00.8**	**-1.2**
TTG				*eSg*	**Sg**	**01 15 13.8**	**+0.3**
NKY	**Niksic**	**0.98**	**271**	⇑*iPg*	**Pg**	**01 15 03.2**	**-0.9**
NKY				*eSg*	**Sg**	**01 15 18.0**	**+0.7**
BARS	**Barje**	**1.10**	**88**	⇑*iPg*	**Pg**	**01 15 06.7**	**+0.1**
BARS				Sg	**Sg**	**01 15 21.9**	**+0.7**
UPM	**Unac-Piva**	**1.12**	**292**	⇓*iPg*	**Pg**	**01 15 06.1**	**-0.8**
UPM				*eSg*	**Sg**	**01 15 23.3**	**+1.5**
ULC	**Ulcinj**	**1.16**	**224**	⇑*iPg*	**Pg**	**01 15 06.5**	**-1.2**
ULC				*eSg*	**Sg**	**01 15 23.6**	**+0.6**
SKO	**Skopje**	**1.16**	**135**	*ePn*	**Pn**	**01 15 02.5**	**-5.1**
SKO				*eSn*	**Sn**	**01 15 24.3**	**+0.1**
BUM	**Brajici-Budva**	**1.17**	**245**	⇑*iPg*	**Pg**	**01 15 06.7**	**-1.3**
BUM				*eSg*	**Sg**	**01 15 24.2**	**+0.7**
QSH	**Qafa e Shtames**	**1.31**	**194**	*iPg*	**Pg**	**01 15 09.0**	**-1.8**
QSH				*iSg*	**Sg**	**01 15 24.0**	**-4.3**
BRY	**Bratogost**	**1.32**	**275**	⇓*iPg*	**Pg**	**01 15 09.2**	**-1.7**
BRY				*eSg*	**Sg**	**01 15 29.4**	**+0.9**
DIVS	**Divcibare**	**1.33**	**349**	*ePg*	**Pg**	**01 15 11.2**	**+0.2**
DIVS				Sg	**Sg**	**01 15 29.7**	**+1.0**
HCY	**Herceg Novi**	**1.40**	**256**	⇑*iPg*	**Pg**	**01 15 10.8**	**-1.7**
HCY				*eSg*	**Sg**	**01 15 32.0**	**+0.9**
TIR	**Tirane**	**1.49**	**194**	*i* pg?	**Pg**	**01 15 18.6**	**+4.3**
TIR				*i Sg*	**Sg**	**01 15 37.8**	**+3.7**
OHR	**Ohrid**	**1.72**	**168**	*i* Pn	**Pn**	**01 15 18.3**	**+2.7**
OHR				*i Sn*	**Sn**	**01 15 40.0**	**+1.7**

GUC 23 01:15:20.6±0.4, 41.94S×72.64W, h51km±37km, ML3.7, 1C, Southern Chile

| Code | Station Name | Δ° |

BARS	**Barje**	**0.46**	**17**	⇓*i*Pg	**Pg**	**01 35 48.9**	**-0.4**
BARS				Sg	**Sg**	**01 35 55.0**	**-0.4**
KKS	**Kukesi**	**0.96**	**252**	*e*Pg	**Pg**	**01 35 58.1**	**-1.2**
KKS				*i* Sg	**Sg**	**01 36 12.4**	**+0.2**
ZAPS	**Zavoj/Pirot**	**1.16**	**38**	⇓*i*Pg	**Pg**	**01 36 02.0**	**-1.3**
ZAPS				Sg	**Sg**	**01 36 19.6**	**+0.7**
ZAPS	**Zavoj/Pirot**	**1.16**	**38**	Pg	**Pg**	**01 36 02.0**	**-1.3**
ZAPS				Sg	**Sg**	**01 36 19.5**	**+0.7**
BCI	**Bajram Curri**	**1.17**	**270**	*i* Pg	**Pg**	**01 36 01.9**	**-1.5**
BCI				*i* Sg	**Sg**	**01 36 21.1**	**+2.2**
VTS	**Vitosha**	**1.18**	**79**	*i* P	**Pb**	**01 36 03.3**	**+0.9**
KKB	**Krupnik**	**1.19**	**115**	*i* P	**Pb**	**01 36 03.5**	**+0.9**
PVY	**Plav**	**1.25**	**280**	*e*Pg	**Pg**	**01 36 03.6**	**-1.4**
PVY				*e*Sg	**Sg**	**01 36 19.4**	**-2.4**
IVA	**Berane**	**1.38**	**292**	*e*Pg	**Pg**	**01 36 05.4**	**-2.2**
IVA				*e*Sg	**Sg**	**01 36 23.2**	**-2.7**
GRG	**Griva**	**1.53**	**158**	*e*Pg	**Pg**	**01 36 08.3**	**-2.3**
GRG				*e*Sg	**Sg**	**01 36 25.8**	**-5.2**
KNT	**Kendrikon**	**1.54**	**142**	*e*Pg	**Pg**	**01 36 08.7**	**-2.0**
	comp=Z,6.0nm,0.5s						
KNT				*e*Sg	**Sg**	**01 36 27.1**	**-4.2**
KNT	**Kendrikon**	**1.54**	**142**	*e*Pg	**Pg**	**01 36 08.7**	**-2.0**
	6.0nm,0.5s						
KNT				*e*Sg	**Sg**	**01 36 27.0**	**-4.2**
QSH	**Qafa e Shtames**	**1.55**	**237**	*i* Pn	**Pn**	**01 36 10.0**	**+1.6**
QSH				*i* Sn	**Sn**	**01 36 32.0**	**+2.9**
FNA	**Florina**	**1.61**	**187**	*e*Pg	**Pg**	**01 36 10.1**	**-2.0**
FNA				*e*Sg	**Sg**	**01 36 30.2**	**-3.4**
MMB	**Musomiste**	**1.74**	**116**	*i* P	**Pn**	**01 36 12.3**	**+1.2**
TTG	**Podgorica**	**1.77**	**272**	⇓*i*Pg	**Pg**	**01 36 12.7**	**-2.6**
TTG				*e*Sg	**Sg**	**01 36 36.6**	**-2.2**
NVSS	**Nova Varos 2**	**1.82**	**309**	⇑*i*Pn	**Pn**	**01 36 10.6**	**-1.6**
NVSS				Sg	**Sg**	**01 36 34.2**	**-6.4**
ULC	**Ulcinj**	**1.83**	**258**	*e*Pn	**Pn**	**01 36 14.8**	**+2.5**
ULC				*e*Sn	**Sn**	**01 36 39.3**	**+3.2**
PGB	**Panagyurishte**	**1.88**	**84**	*i* P	**Pn**	**01 36 15.0**	**+2.0**
PLE	**Pljevlja**	**1.91**	**301**	*e*Pn	**Pn**	**01 36 14.1**	**+0.6**
PLE				*e*Sn	**Sn**	**01 36 38.3**	**+0.2**
SVIS	**Svilajnac**	**1.94**	**351**	⇓*i*Pn	**Pn**	**01 36 14.0**	**0.0**
NKY	**Niksic**	**2.00**	**283**	*e*Pn	**Pn**	**01 36 16.4**	**+1.6**
NKY				*e*Sn	**Sn**	**01 36 41.2**	**+0.7**
THE	**Thessaloniki**	**2.01**	**150**	*e*Pb	**Pb**	**01 36 16.9**	**+0.2**
THE				*e*Sb	**Sb**	**01 36 38.2**	**-3.7**
BUM	**Brajici-Budva**	**2.04**	**269**	*e*Pn	**Pn**	**01 36 17.6**	**+2.2**
BUM				*e*Sn	**Sn**	**01 36 43.5**	**+2.1**
DIVS	**Divcibare**	**2.10**	**325**	⇓*i*Pn	**Pn**	**01 36 15.5**	**-0.8**
DIVS				Sn	**Sn**	**01 36 39.0**	**-4.0**
UPM	**Unac-Piva**	**2.17**	**293**	*e*Pn	**Pn**	**01 36 18.1**	**+0.8**
UPM				*e*Sn	**Sn**	**01 36 45.0**	**+0.2**
HCY	**Herceg Novi**	**2.33**	**273**	*e*Pn	**Pn**	**01 36 21.3**	**+1.8**
HCY				*e*Sn	**Sn**	**01 36 49.3**	**+0.4**
BRY	**Bratogost**	**2.34**	**284**	*e*Pn	**Pn**	**01 36 20.9**	**+1.2**
BRY				*e*Sn	**Sn**	**01 36 49.5**	**+0.2**
LIT	**Litokhoron**	**2.36**	**164**	*e*Pn	**Pn**	**01 36 20.4**	**+0.4**
RZN	**Rozhen**	**2.39**	**106**	*i* P	**Pn**	**01 36 21.7**	**+1.3**
BEO	**Belgrade**	**2.59**	**341**	*e*Pn	**Pn**	**01 36 23.6**	**+0.3**
OUR	**Ouranopolis**	**2.70**	**138**	*e*Pn	**Pn**	**01 36 24.5**	**-0.3**
PVL	**Pavlikeni**	**2.84**	**72**	P	**Pn**	**01 36 25.5**	**-1.4**
PAIG	**Paliouri**	**2.89**	**147**	*e*Pn	**Pn**	**01 36 27.1**	**-0.5**
PAIG				*e*Sn	**Sn**	**01 36 59.2**	**-3.9**
PAIG	**Paliouri**	**2.89**	**147**	*e*Pn	**Pn**	**01 36 27.0**	**-0.6**
PAIG				*e*Sn	**Sn**	**01 36 59.2**	**-3.9**
KDZ	**Kurdzhali**	**2.91**	**103**	P	**Pn**	**01 36 33.5**	**+5.8**
IGT	**Igoumenitsa**	**3.01**	**200**	*e*Pn	**Pn**	**01 36 32.3**	**+3.0**
XOR	**Xorichti**	**3.23**	**158**	*e*Pn	**Pn**	**01 36 32.5**	**+0.1**
AGG	**Agios Georgios**	**3.39**	**171**	*e*Pn	**Pn**	**01 36 34.8**	**+0.1**
ALN	**Alexandroupoli**	**3.62**	**113**	*e*Pn	**Pn**	**01 36 38.1**	**+0.3**
AOS	**Alonnisos**	**3.63**	**151**	*e*Pn	**Pn**	**01 36 37.5**	**-0.5**

*IDC **23** 01:38:12.7±0.6, 59.27S×27.02W, mb4.6/12, mb1 4.7/13, mb1mx4.7/16, mbtmp4.6/13, ML4.5/1, MS4.7/14, Ms1 4.7/14, ms1mx4.7/14, Error ellipse: s-maj=21.4km s-min=14.6km az=38.0*

*HRVD **23** 01:38:17.1±0.2, 59.75S×26.68W, h12km, MW5.1/68, Centroid moment Tensor Solution. LP body waves: s52, c90; Mantle waves: s68, c118; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}6.28±.11; $M_{\theta\theta}$-3.97±.13; $M_{\phi\phi}$-2.31±.12; $M_{r\theta}$3.56±.34; $M_{\theta\phi}$-0.52±.10; $M_{\phi r}$0.31±.34; Best double couple: M_o6.302×10^{16} NP1: ϕ_s254°, δ28°, λ84°. NP2: ϕ_s80°, δ62°, λ93°. Principal axes: T 7.397, Plg73°, Azm357°; N -2.191, Plg3°, Azm259°; P -5.206, Plg17°, Azm168°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **23** 01:38:17.1±3.5, 59.37S×27.03W, h30km±25km, mb5.1/8 Error ellipse: s-maj=13.4km s-min=8.4km az=206.0*

*BJI **23** 01:38:19.0, 59.40S×27.00W, h30km, Ms5.1, Msz5.0*

ISC 23 01:38:13.0±0.4,**59.30S**±0.07×**27.1W**±0.1,**h10km**,**n56**, σ**0**§**96**/36,**mb4.8**/20,**MS4.8**/13,**2C**,**South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.79**	**153**	*e*	**P**	**01 41 29.6**	**-0.8**
VNA1	**Neumayer--Stat**	**13.79**	**153**	*e*	**P**	**01 41 31.4**	**+1.0**
VNA1	**Neumayer--Stat**	**13.79**	**153**	*e*	**P**	**01 41 37.8**	**+7.4**
VNA1	**Neumayer--Stat**	**13.79**	**153**	*e*	tx	01 41 55.2	
VNA1	**Neumayer--Stat**	**13.79**	**153**	P	**P**	**01 41 28.8**	**-1.6**
VNA1				*e*		01 41 29.6	
VNA1				*e*		01 41 31.4	
VNA1				*e*		01 41 37.8	
VNA1				*e*		01 41 55.2	
VNA1				*e*		01 43 55.0	
VNA1				*e*		01 44 04.2	
VNA3	**Neumayer Olymp**	**13.93**	**156**	*e*	**P**	**01 41 30.9**	**-1.4**
VNA3	**Neumayer Olymp**	**13.93**	**156**	*e*	**P**	**01 41 32.3**	**+0.1**
VNA3	**Neumayer Olymp**	**13.93**	**156**	*e*	**P**	**01 41 39.5**	**+7.2**
VNA3	**Neumayer Olymp**	**13.93**	**156**	⇑*i*P	**P**	**01 41 29.9**	**-2.4**
VNA3				*e*		01 41 30.9	
VNA3				*e*		01 41 32.3	
VNA3				*e*		01 41 39.5	
VNA3				*e*		01 43 57.9	
VNA3				*e*		01 44 05.9	
VNA2	**Neumayer--Watz**	**14.19**	**153**	*e*	**P**	**01 41 34.2**	**-1.5**
VNA2	**Neumayer--Watz**	**14.19**	**153**	*e*	**P**	**01 41 36.5**	**+0.8**
VNA2	**Neumayer--Watz**	**14.19**	**153**	*e*	**P**	**01 41 42.3**	**+6.6**
VNA2	**Neumayer--Watz**	**14.19**	**153**	*e*	tx	01 41 58.5	
VNA2	**Neumayer--Watz**	**14.19**	**153**	⇑*i*P	**P**	**01 41 32.8**	**-2.9**
VNA2				*e*		01 41 34.2	
VNA2				*e*		01 41 36.5	
VNA2				*e*		01 41 42.3	
VNA2				*e*		01 41 58.5	
VNA2				*e*		01 44 03.8	
VNA2				*e*		01 44 11.6	
SNAA	**Sanae**	**15.78**	**152**	Pn	**P**	**01 41 55.4**	**-1.1**
	1.7nm,0.3s,baz=321,slow=13,SNR=123						
SNAA				Sn	**S**	**01 44 44.7**	**-7.0**
	0.1nm,0.3s,baz=313,slow=20,SNR=2.9						
SNAA				LR	LR	01 46 46.1	
	comp=Z,880nm,18.9s,baz=338,slow=32						
PMSA	**Palmer Station**	**17.99**	**237**	*e*P	**P**	**01 42 26.1**	**+1.8**
	49nm,1.4s						
USHA	**Ushuaia**	**22.66**	**263**	P	**P**	**01 43 15.2**	**+0.1**
	6.8nm,0.8s,mb4.1,baz=103,slow=8.9,SNR=6.6						
USHA				LR	LR	01 49 28.9	
	comp=Z,2μm,20.8s,MS4.6,baz=93,slow=30						
TRQA	**Tornquist**	**30.80**	**298**	*e*P	**P**	**01 44 29.9**	**-0.9**
	23nm,1.2s,mb4.9						
QSPA	**South Pole Qui**	**30.94**	**180**	*e*P	**P**	**01 44 31.8**	**+0.3**
	62nm,1.3s,mb5.3						
PLCA	**Paso Flores**	**32.78**	**285**	P	**P**	**01 44 47.0**	**-1.0**
	8.1nm,1.0s,mb4.6,baz=127,slow=7.7,SNR=11						
PLCA				LR	LR	01 56 30.6	
	comp=Z,884nm,20.0s,MS4.5,baz=138,slow=34						
MAW	**Mawson**	**37.52**	**141**	P	**P**	**01 45 28.5**	**+0.3**
	15nm,1.0s,mb4.7,baz=239,slow=8.1,SNR=17						
MAW				LR	LR	01 59 52.5	
	comp=Z,2μm,18.2s,MS4.8,baz=245,slow=35						
CFAA	**Coronel Fontan**	**39.01**	**297**	P	**P**	**01 45 40.4**	**-0.7**
	3.0nm,0.9s,mb4.0,baz=146,slow=6.9,SNR=16						
CPUP	**Villa Florida**	**39.08**	**314**	P	**P**	**01 45 41.5**	**-0.2**
	13nm,1.0s,mb4.6,baz=172,slow=10.0,SNR=18						
CPUP				LR	LR	02 00 40.3	
	comp=Z,1μm,19.8s,MS4.7,baz=180,slow=34						
SUR	**Sutherland**	**41.52**	**71**	P	**P**	**01 46 04.2**	**+2.6**
	7.4nm,0.9s,mb4.3,baz=180,slow=13,SNR=4.0						
VNDA	**Vanda**	**43.32**	**183**	P	**P**	**01 46 16.8**	**+1.0**
	5.3nm,0.8s,mb4.3,baz=185,slow=7.4,SNR=22						
VNDA				LR	LR	02 03 09.7	
	comp=Z,545nm,18.6s,MS4.5,baz=173,slow=34						

BDFB	**Brasilia**	**46.25**	**331**	P	**P**	**01 46 41.0**	**+0.9**
	5.9nm,0.8s,mb4.5,baz=100,slow=4.8,SNR=5.7						
BDFB				LR	LR	02 03 13.2	
	comp=Z,949nm,19.0s,MS4.8,baz=171,slow=32						
BOSA	**Boshof**	**46.78**	**73**	P	**P**	**01 46 43.8**	**-0.4**
	21nm,1.1s,mb5.0,baz=216,slow=7.9,SNR=17						
BOSA				LR	LR	02 02 48.3	
	comp=Z,843nm,19.2s,MS4.7,baz=219,slow=32						
LBTB	**Lobatse**	**49.95**	**70**	*e*P	**P**	**01 47 08.8**	**0.0**
	48nm,1.2s,mb5.4						
TSUM	**Tsumeb**	**51.27**	**58**	*e*P	**P**	**01 47 18.9**	**0.0**
	48nm,1.4s,mb5.2						
LPAZ	**La Paz**	**52.37**	**307**	P	**P**	**01 47 27.4**	**+0.2**
	26nm,0.8s,mb5.2,baz=155,slow=6.0,SNR=58						
LPAZ				LR	LR	02 10 22.5	
	comp=Z,502nm,18.7s,MS4.6,baz=158,slow=37						
DRV	**Dumont d'Urvil**	**53.98**	**174**	S	**S**	**01 55 31.0**	**+18**
DRV				R		02 05 00.0	
SAML	**Samuel**	**57.18**	**316**	*e*P	**P**	**01 48 01.1**	**-1.2**
	26nm,0.7s,mb5.4						
DBIC	**Dimbokro**	**68.11**	**24**	P	**P**	**01 49 14.3**	**-0.7**
	13nm,0.6s,mb5.1,baz=175,slow=6.0,SNR=18						
DBIC				LR	LR	02 12 10.8	
	comp=Z,619nm,20.0s,MS4.8,baz=163,slow=30						
MBAR	**Mbarara**	**73.59**	**62**	*e*P	**P**	**01 49 51.7**	**+3.6**
	28nm,1.4s,mb5.0						
ROSC	**El Rosal**	**74.06**	**310**	P	**P**	**01 49 51.1**	**+0.4**
	2.3nm,0.4s,mb4.5,baz=101,slow=7.1,SNR=5.7						
ROSC				LR	LR	02 21 17.9	
	comp=Z,486nm,21.7s,MS4.8,baz=180,slow=35						
KMBO	**Kilima Mbogo**	**76.16**	**68**	LR	LR	02 21 26.6	
	comp=Z,845nm,18.1s,MS5.1,baz=273,slow=34						
SDV	**Santo Domingo**	**76.38**	**315**	*e*P	**P**	**01 50 04.3**	**+0.2**
	10nm,1.0s,mb4.7						
STKA	**Stephens Creek**	**88.67**	**170**	P	**P**	**01 51 07.6**	**+0.4**
	5.4nm,0.9s,mb4.9,baz=144,slow=4.2,SNR=6.0						
STKA				LR	LR	02 29 47.9	
	comp=Z,917nm,18.3s,MS5.2,baz=316,slow=35						
PPT	**Papeete**	**90.33**	**234**	LR	LR	02 22 15.3	
	comp=Z,322nm,19.9s,MS4.8,baz=268,slow=29						
AKASG	**Malin Array Be**	**118.77**	**37**	PKP	PKPdf	01 57 00.1	-3.5
	0.3nm,0.3s,baz=235,slow=2.4,SNR=3.6						
PDAR	**Pinedale Array**	**122.11**	**300**	PKP	PKPdf	01 57 06.8	-3.5
	0.6nm,0.5s,baz=108,slow=4.7,SNR=4.8						
CHMT	**Chamberlain Mo**	**126.99**	**301**	*e*PKPdf	PKPdf	01 57 17.2	-2.2
FINES	**FINESS Array B**	**127.22**	**29**	PKP	PKPdf	01 57 16.7	-2.7
	2.3nm,0.9s,baz=180,slow=4.2,SNR=6.3						
FINES	**FINESS Array B**	**127.22**	**29**	PKP	PKPdf	01 57 16.7	-2.7
MSO	**Missoula**	**127.22**	**301**	*e*PKPdf	PKPdf	01 57 17.0	-2.8
BMO	**Blue Mountains**	**127.23**	**297**	*e*PKPdf	PKPdf	01 57 16.3	-3.6
KAF	**Kangasniemi**	**127.85**	**29**	*e*pkp	PKPdf	01 57 16.8	-3.9
JOF	**Joensuu**	**129.79**	**30**	*e*pkp	PKPdf	01 57 20.1	-4.3
ARCES	**ARCESS Array B**	**133.93**	**23**	PKP	PKPdf	01 57 29.8	-2.1
	2.8nm,0.9s,baz=180,slow=1.2,SNR=7.1						
YKA	**Yellowknife Ar**	**138.60**	**315**	PKP	PKPdf	01 57 36.9	-3.8
	3.5nm,0.8s,baz=129,slow=2.4,SNR=9.7						
YKA	**Yellowknife Ar**	**138.60**	**315**	PKP	PKPdf	01 57 36.9	-3.8
TIA	**Tai'an**	**147.27**	**119**	*e*PKP	PKPdf	01 57 56.9	+0.4
BTO	**Baotou**	**147.40**	**109**	*e*PKP	PKPdf	01 57 58.3	+1.7
HHC	**Hu-ho-hao-te**	**148.35**	**107**	*e*PKP	PKPdf	01 58 00.9	+2.8
HHC				APKP		01 58 04.3	
HHC				XPKP		01 58 07.0	
SONM	**Songino Array**	**150.69**	**92**	PKPbc	PKPdf	01 58 04.8	+3.3
	6.6nm,0.7s,baz=221,slow=2.5,SNR=22						
ILAR	**Eielson Array**	**152.24**	**307**	PKPbc	PKPdf	01 58 07.2	+3.8
	8.4nm,0.9s,baz=153,slow=2.3,SNR=64						

*ZUR **23** 01:39:44.6, 47.33N×9.99E, h1km±1km, ML2.0/7*

*LEDBW **23** 01:39:44.9±1.9, 47.25N×10.06E, h10km, ML2.5, Error ellipse: s-maj=36.0km s-min=22.0km az=154.0*

*NEIC **23** 01:39:45.0, 47.29N×10.03E, h10km, ML2.5(LEDBW), ML2.3(SZGRF), After LEDBW.*

*BGR **23** 01:39:46.8±0.3, 47.32N×10.00E, h10km, ML2.4/7, Error ellipse: s-maj=4.4km s-min=2.2km az=171.0*

*CSEM **23** 01:39:46.9±0.1, 47.30N×10.01E, h10km, ML2.6/18, Error ellipse: s-maj=2.3km s-min=0.9km az=178.0*

*PRU **23** 01:39:46.7, 47.31N×9.96E*

*LDG **23** 01:39:47.9±0.2, 47.35N×9.97E, h10km, Ml2.6/14, Error ellipse: s-maj=4.0km s-min=3.0km az=91.0*

*STR **23** 01:39:51.3±0.8, 47.52N×9.72E, h10km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 23 01:39:45.0±0.2,**47.34N**±0.02×**9.97E**±0.02,**h11km**±2km, **n78**, σ1§**24**/130,**5C-8D**,**Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAVA	**Damuels**	**0.08**	**226**	⇑*i*PG	**Pg**	**01 39 47.3**	**-0.2**
DAVA				*i* SG	**Sg**	**01 39 49.0**	**-0.3**
	279nm,0.2s						
DAVA	**Damuels**	**0.08**	**226**	*e*Pg	**Pg**	**01 39 47.3**	**-0.3**
DAVA				*e*Sg	**Sg**	**01 39 49.2**	**-0.1**
OBER	**Oberstdorf**	**0.23**	**74**	⇓*i*Pg	**Pg**	**01 39 50.1**	**+0.1**
LIENZ	**Alp Oberkamor**	**0.33**	**262**	*e*Pg	**Pg**	**01 39 52.3**	**+0.5**
	SNR=6.7						
LIENZ				*e*Sg	**Sg**	**01 39 58.2**	**+1.9**
	SNR=4.9						
LIENZ	**Alp Oberkamor**	**0.33**	**262**	*e*Pg	**Pg**	**01 39 52.0**	**+0.2**
LIENZ				*e*Sg	**Sg**	**01 39 58.2**	**+1.9**
UBR	**Uberruh**	**0.35**	**16**	⇓*e*Pg	**Pg**	**01 39 53.4**	**+1.2**
UBR				Sg	**Sg**	**01 39 59.8**	**+2.7**
PLONS	**Plons**	**0.50**	**234**	*e*Pg	**Pg**	**01 39 55.5**	**+0.4**
DAVOX	**Davos**	**0.57**	**186**	*e*Pg	**Pg**	**01 39 56.8**	**+0.3**
DAVOX				*e*Sg	**Sg**	**01 40 05.9**	**+1.8**
WEIN	**Weingarten**	**0.69**	**286**	*e*P*P	**Pb**	**01 39 59.5**	**+0.9**
WILA	**Wila**	**0.72**	**276**	*e*Pg	**Pg**	**01 40 00.1**	**+0.5**
	SNR=26						
WILA				*e*Sg	**Sg**	**01 40 11.3**	**+2.0**
	SNR=4.3						
WILA	**Wila**	**0.72**	**276**	*e*P*P	**Pb**	**01 40 00.0**	**+0.9**
FUORN	**Ofenpass**	**0.75**	**164**	*e*Pg	**Pg**	**01 40 00.1**	**0.0**
SISB	**Singen-Sch Ber**	**0.76**	**297**	⇓*i*Pg	**Pg**	**01 40 01.0**	**+0.7**
SISB				PmP		01 40 03.2	
SISB				Sg	**Sg**	**01 40 12.5**	**+2.0**
SISB				SmS		01 40 16.4	
MOTA	**Moosalm**	**0.77**	**90**	⇓*i*PG	**Pg**	**01 40 01.0**	**+0.5**
MOTA				*i* SG	**Sg**	**01 40 11.3**	**+0.4**
	12nm,0.3s						
STEIN	**Stein am Rhein**	**0.81**	**294**	⇓*i*P*P	**Pb**	**01 40 01.9**	**+1.3**
SQTA	**Sankt Quirin**	**0.85**	**98**	⇑*i*PG	**Pg**	**01 40 02.4**	**+0.3**
SQTA				*i* SG	**Sg**	**01 40 14.2**	**+0.6**
	34nm,0.2s						
GUT	**Gutenstein**	**0.93**	**322**	Pg	**Pg**	**01 40 05.2**	**+1.6**
GUT				Sg	**Sg**	**01 40 17.1**	**+1.1**
ZUR	**Zurich**	**0.94**	**272**	*e*Pg	**Pg**	**01 40 05.9**	**+2.0**
	SNR=24						
ZUR				*e*Sg	**Sg**	**01 40 18.1**	**+1.5**
	SNR=8.8						
SLE	**Schleitheim**	**1.08**	**293**	*e*Pg	**Pg**	**01 40 07.4**	**+0.7**
	SNR=20						
SLE				*e*Sg	**Sg**	**01 40 22.7**	**+1.5**
	SNR=9.7						
SLE	**Schleitheim**	**1.08**	**293**	⇓*i*P*P		02 40 06.6	
WATA	**Walderalm**	**1.09**	**90**	⇑*i*PG	**Pg**	**01 40 07.2**	**+0.3**
WATA				*i* SG	**Sg**	**01 40 22.7**	**+1.1**
	19nm,0.2s						
WTTA	**Wattenberg**	**1.14**	**93**	⇓*i*PG	**Pg**	**01 40 07.5**	**-0.3**
WTTA				*i* SG	**Sg**	**01 40 24.2**	**+1.2**
	13nm,0.3s						
WTTA	**Wattenberg**	**1.14**	**93**	*e*Pg	**Pg**	**01 40 09.7**	**+1.9**
WTTA				*e*Sg	**Sg**	**01 40 27.8**	**+4.8**
FUR	**Furstenfeldbru**	**1.21**	**47**	*e*Pg	**Pg**	**01 40 09.1**	**0.0**
	SNR=4.7						
FUR				*e*Sg	**Sg**	**01 40 26.7**	**+1.4**
	SNR=2.7						
SCE	**Schlegeis**	**1.23**	**104**	⇓*i*Pg	**Pg**	**01 40 11.3**	**+1.7**
HDH	**Heidenheim**	**1.25**	**7**	Sg	**Sg**	**01 40 28.2**	**+1.5**
SULZ	**Sulz-Cheisache**	**1.27**	**279**	*e*Pg	**Pg**	**01 40 10.9**	**+0.4**
	SNR=2.1						
SULZ				*e*Sg	**Sg**	**01 40 28.9**	**+1.5**
	SNR=10						
FELD	**Feldberg**	**1.43**	**293**	Pn	**Pn**	**01 40 13.8**	**+2.8**
FELD				*e*Sg	**Sg**	**01 40 33.0**	**+0.3**
	SNR=11						
FELD	**Feldberg**	**1.43**	**293**	Pg	**Pg**	**01 40 13.3**	**-0.3**
FELD				Sg	**Sg**	**01 40 31.3**	**-1.4**
BFO	**Black Forest**	**1.48**	**312**	*e*Pn	**Pn**	**01 40 14.0**	**+2.4**
	SNR=4.2						
BFO				*e*Sg	**Sg**	**01 40 34.4**	**0.0**
	SNR=13						
KIZ	**Kirchzarten**	**1.52**	**295**	Pg	**Pg**	**01 40 14.8**	**-0.5**
KIZ				Sg	**Sg**	**01 40 35.7**	**+0.2**
STU	**Stuttgart**	**1.52**	**340**	*e*Sg	**Sg**	**01 40 35.5**	**-0.2**
	SNR=13						
LBG	**Lerchenberg**	**1.54**	**330**	Sg	**Sg**	**01 40 35.9**	**-0.4**
BBS	**Basel-Blauen**	**1.67**	**275**	Pg	**Pg**	**01 40 19.7**	**+1.3**
BBS				Sg	**Sg**	**01 40 40.4**	**-0.4**
BOURR	**Bourrignon**	**1.86**	**273**	*e*Sg	**Sg**	**01 40 46.3**	**-0.7**
	SNR=4.2						
MOF	**Molkenrain**	**1.98**	**286**	*e*Pg	**Pg**	**01 40 25.7**	**+1.1**
	SNR=2.7						
MOF	**Molkenrain**	**1.98**	**286**	Pg	**Pg**	**01 40 25.5**	**+0.9**
SIND	**Sindeldorf**	**2.02**	**353**	Pn	**Pn**	**01 40 19.4**	**0.0**
WLS	**Welschbruch**	**2.06**	**302**	Pg	**Pg**	**01 40 25.6**	**-0.5**
WLS	**Welschbruch**	**2.06**	**302**	*e*Pg	**Pg**	**01 40 26.7**	**+0.6**
	SNR=3.7						
WLS				*e*Sg	**Sg**	**01 40 53.1**	**-0.5**
	SNR=2.4						
ECH	**Echery**	**2.09**	**296**	Pg	**Pg**	**01 40 26.6**	**-0.1**
CDF	**Champ du Feu**	**2.10**	**302**	*e*Pn	**Pn**	**01 40 21.4**	**+0.8**
CDF				*e*Pg	**Pg**	**01 40 27.2**	**+0.2**
CDF				*e*Sg	**Sg**	**01 40 53.3**	**-1.8**
	6.1nm,0.3s						
HINF	**Hinteralfeld**	**2.16**	**284**	*e*Pn	**Pn**	**01 40 21.9**	**+0.5**
HINF				*e*Pg	**Pg**	**01 40 27.9**	**-0.3**
HINF				*e*Sg	**Sg**	**01 40 56.0**	**-1.0**
	13nm,0.4s						
LANF	**Langenberg**	**2.19**	**319**	*e*Pg	**Pg**	**01 40 29.1**	**+0.4**
	SNR=2.1						
SWS	**Schriesheim**	**2.30**	**339**	Sg	**Sg**	**01 41 00.7**	**-1.0**
KBA	**Koelnbreinsper**	**2.32**	**95**	⇑*i*PG	**Pg**	**01 40 29.3**	**-2.0**
KBA				*i* SG	**Sg**	**01 41 00.8**	**-1.4**
	5.3nm,0.3s						
KBA	**Koelnbreinsper**	**2.32**	**95**	*e*Pg	**Pg**	**01 40 29.2**	**-2.1**
	SNR=2.7						
KBA				*e*Sg	**Sg**	**01 41 00.6**	**-1.6**
	SNR=3.7						
GRF	**Grafenberg Arr**	**2.49**	**19**	*e*Sg	**Sg**	**01 41 08.9**	**+0.8**
HAU	**Haudompre**	**2.53**	**286**	*e*Pn	**Pn**	**01 40 27.2**	**+0.4**
HAU				*e*Pg	**Pg**	**01 40 33.8**	**-1.8**
HAU				*e*Sg	**Sg**	**01 41 06.5**	**-2.9**
	14nm,0.4s						
WET	**Wettzell**	**2.65**	**46**	*e*Pn	**Pn**	**01 40 28.4**	**0.0**
	SNR=6.1						
WET				*e*Pg	**Pg**	**01 40 36.6**	**-1.3**
	SNR=2.5						
WET				*e*Sg	**Sg**	**01 41 14.3**	**+1.0**
WET	**Wettzell**	**2.65**	**46**	*e*Pn	**Pn**	**01 40 28.5**	**0.0**
WET				*e*Sg	**Sg**	**01 41 14.3**	**+1.0**
CABF	**La Chapelle**	**2.75**	**256**	*e*Pg	**Pg**	**01 40 38.3**	**-1.7**
CABF				*e*Sg	**Sg**	**01 41 15.7**	**-1.1**
	2.4nm,0.2s						
LPL	**La Plagne**	**2.89**	**232**	*e*Pn	**Pn**	**01 40 32.5**	**+0.7**
LPL				*e*Pg	**Pg**	**01 40 40.7**	**-2.0**
LPG	**La Plagne**	**2.89**	**231**	*e*Pg	**Pg**	**01 40 40.6**	**-2.1**
LPG				*e*Sg	**Sg**	**01 41 19.3**	**-2.0**
	2.0nm,0.3s						
GEC2	**GERESS Array S**	**2.92**	**58**	*e*Pn	**Pn**	**01 40 32.6**	**+0.3**
	SNR=3.2						
GEC2				*e*Pg	**Pg**	**01 40 41.9**	**-1.4**
	SNR=8.1						
GEC2				*e*Sn	**Sn**	**01 41 08

LBG				*i* Sg	Sg	01 52 59.6	+2.7
LBG				SmS		01 53 03.6	
LBG	**Lerchenberg**	**0.43**	**341**	⇓*i*P	Pg	01 52 53.3	+2.3
LBG				*i* S	Sg	01 52 59.6	+2.7
LBG				S	Sg	01 53 03.6	+6.7
BFO	**Black Forest**	**0.46**	**279**	⇑*i*Pg	Pg	01 52 53.3	+1.8
BFO				Sg	Sg	01 52 59.0	+1.3
BFO				SmS		01 53 03.3	
BFO	**Black Forest**	**0.46**	**279**	*e*Pg	Pg	01 52 53.0	+1.5
BFO				*e*Sg	Sg	01 52 59.0	+1.3
STU	**Stuttgart**	**0.53**	**14**	*e*Pg	Pg	01 52 56.4	+3.4
STU	SNR=9.1			*e*Sg	Sg	01 53 02.4	+2.2
STU	**Stuttgart**	**0.53**	**14**	*e*Pg	Pg	01 52 56.5	+3.5
STU	SNR=14			*e*Sg	Sg	01 53 02.5	+2.4
SISB	**Singen-Sch Ber**	**0.57**	**183**	⇓*i*Pg	Pg	01 52 54.7	+0.9
SISB				Sg	Sg	01 53 02.0	+0.5
SISB				SmS		01 53 06.4	
STEIN	**Stein am Rhein**	**0.59**	**189**	⇓*i*Pg	Pg	01 52 55.2	+1.0
STEIN				*e*Sg	Sg	01 53 03.0	+0.8
SLE	**Schleitheim**	**0.60**	**215**	*e*Pg	Pg	01 52 55.1	+0.8
SLE	SNR=38			*e*Sg	Sg	01 53 02.6	+0.3
SLE	**Schleitheim**	**0.60**	**215**	⇑*i*Pg	Pg	01 52 55.1	+0.8
SLE	SNR=4.6			*e*Sg	Sg	01 53 02.6	+0.2
TRULL	**Truellikon**	**0.65**	**200**	⇑*i*Pg	Pg	01 52 55.0	-0.2
WEIN	**Weingarten**	**0.73**	**181**	⇓*i*Pg	Pg	01 52 57.7	+0.8
WEIN				*e*Sg	Sg	01 53 07.2	+0.5
FLACH	**Flaach**	**0.74**	**203**	⇑*i*P	Pb	01 52 57.9	+1.1
FELD	**Feldberg**	**0.77**	**241**	⇑*i*Pg	Pg	01 52 58.6	+0.9
FELD				*e*Sg	Sg	01 53 09.1	+1.1
FELD	**Feldberg**	**0.77**	**241**	Pg	Pg	01 52 58.6	+0.9
FELD				Sg	Sg	01 53 09.9	+1.9
KIZ	**Kirchzarten**	**0.79**	**248**	⇑*i*Pn	Pn	01 52 58.8	-0.3
KIZ				Pg	Pg	01 52 59.8	+1.8
WILA	**Wila**	**0.84**	**184**	*e*Pn	Pn	01 52 59.9	-0.1
WILA	SNR=11			*e*Pg	Pg	01 53 00.8	+1.7
WILA	SNR=9.2			*e*Sg	Sg	01 53 10.8	+0.3
WILA	**Wila**	**0.84**	**184**	⇓*i*Pg	Pg	01 52 59.9	+0.7
HDH	**Heidenheim**	**0.87**	**67**	Pg	Pg	01 53 01.5	+1.9
ZUR	**Zurich**	**0.93**	**198**	*e*Pg	Pg	01 53 02.3	+1.3
ZUR	SNR=8.0			*e*Sg	Sg	01 53 13.4	0.0
ZUR	**Zurich**	**0.93**	**198**	*e*Pg	Pg	01 53 01.4	+0.5
ZUR	SNR=9.3			*e*Sg	Sg	01 53 13.6	+0.2
UBR	**Uberruh**	**0.94**	**127**	Pn	Pn	01 53 02.1	+0.7
UBR				⇑*i*Pg	Pg	01 53 02.9	+1.9
UBR				Sn	Sn	01 53 14.6	-0.3
UBR	**Uberruh**	**0.94**	**127**	⇑*i*PG	Pg	01 53 02.9	+1.8
UBR				SN	Sn	01 53 14.6	-0.3
UBR	**Uberruh**	**0.94**	**127**	⇑*i*Pg	Pg	01 53 02.9	+1.8
UBR	**Uberruh**	**0.94**	**127**	Pn	Pn	01 53 02.1	+0.8
UBR				⇑*i*Pg	Pg	01 53 02.9	+1.8
UBR				Sn	Sn	01 53 14.6	-0.3
SULZ	**Sulz-Cheisache**	**0.94**	**220**	*e*Pg	Pg	01 53 01.7	+0.6
SULZ	SNR=15			*e*Sg	Sg	01 53 14.0	+0.2
SULZ	**Sulz-Cheisache**	**0.94**	**220**	⇑*i*Pg	Pg	01 53 01.7	+0.6
LIENZ	**Alp Oberkamor**	**1.02**	**161**	*e*Pg	Pg	01 53 03.8	+1.2
LIENZ	SNR=6.4			*e*Sg	Sg	01 53 17.4	+1.2
LIENZ	**Alp Oberkamor**	**1.02**	**161**	*e*Pg	Pg	01 53 03.6	+1.0
LANF	**Langenberg**	**1.07**	**313**	Pg	Pg	01 53 04.8	+1.1
LANF				Sg	Sg	01 53 19.4	+1.3
LANF	**Langenberg**	**1.07**	**313**	P	Pb	01 53 05.9	+3.4
WLS	**Welschbruch**	**1.11**	**279**	Pg	Pg	01 53 05.9	+1.4
WLS	SNR=9.1			*e*Sg	Sg	01 53 20.1	+0.8
WLS	**Welschbruch**	**1.11**	**279**	Pg	Pg	01 53 05.7	+1.2
WLS				Sg	Sg	01 53 20.1	+0.8
CDF	**Champ du Feu**	**1.16**	**278**	*e*Pg	Pg	01 53 06.2	+0.7
CDF	61nm,0.2s			*e*Sg	Sg	01 53 21.7	+0.7
SIND	**Sindeldorf**	**1.16**	**20**	Pg	Pg	01 53 07.2	+1.7
SIND				Sg	Sg	01 53 22.4	+1.3
OBER	**Oberstdorf**	**1.22**	**134**	⇑*i*Pg	Pg	01 53 07.8	+1.2
OBER				*i* Sg	Sg	01 53 24.3	+1.5
ECH	**Echery**	**1.23**	**269**	Pg	Pg	01 53 07.8	+0.9
ECH	SNR=6.4			*e*Sg	Sg	01 53 23.8	+0.5
ECH	**Echery**	**1.23**	**269**	Pg	Pg	01 53 07.7	+0.8
ECH				Sg	Sg	01 53 23.2	-0.2
SWS	**Schriesheim**	**1.24**	**351**	Pg	Pg	01 53 08.4	+1.3
BALST	**Balsthal**	**1.27**	**224**	⇑*i*P*	Pb	01 53 06.2	+0.3
BBS	**Basel-Blauen**	**1.28**	**232**	⇑*e*Pn	Pn	01 53 06.3	+0.1
BBS				⇑*e*Pg	Pg	01 53 08.2	+0.3
BBS	SNR=1.5			*e*Sg	Sg	01 53 24.5	-0.4
MOF	**Molkenrain**	**1.32**	**253**	Pg	Pg	01 53 07.4	-1.2
TOD	**Tromm**	**1.36**	**355**	Pg	Pg	01 53 10.7	+1.3
TOD	SNR=4.3			*e*Sg	Sg	01 53 28.4	+1.0
TOD	**Tromm**	**1.36**	**355**	Pg	Pg	01 53 10.7	+1.4
TOD				Sg	Sg	01 53 28.5	+1.0
BOURR	**Bourrignon**	**1.47**	**235**	*e*Pg	Pg	01 53 11.8	+0.1
BOURR	SNR=10			*e*Sg	Sg	01 53 30.7	-0.7
BOURR	**Bourrignon**	**1.47**	**235**	*e*Pn	Pn	01 53 08.9	-0.1
HINF	**Hinteralfeld**	**1.51**	**254**	*e*Pn	Pn	01 53 09.7	+0.2
HINF				*e*Pg	Pg	01 53 12.1	-0.3
HINF	17nm,0.2s			*e*Sg	Sg	01 53 32.1	-0.4
FUR	**Furstenfeldbru**	**1.52**	**93**	*e*Pg	Pg	01 53 13.0	+0.3
FUR	SNR=2.6			*e*Sg	Sg	01 53 33.1	+0.1
FUR	**Furstenfeldbru**	**1.52**	**93**	*e*Pg	Pg	01 53 13.0	+0.3
FUR	SNR=11			*e*Sg	Sg	01 53 33.4	+0.4
MOTA	**Moosalm**	**1.69**	**122**	⇓*i*PN	Pn	01 53 13.2	+1.2
MOTA	11nm,0.2s			*i* SG	Sg	01 53 37.0	-1.4
LOMF	**Lomont**	**1.72**	**239**	Pg	Pg	01 53 16.2	-0.5
LOMF	**Lomont**	**1.72**	**239**	*e*Pg	Pg	01 53 16.6	-0.1
HAU	**Haudompre**	**1.79**	**263**	*e*Pn	Pn	01 53 14.0	+0.4
HAU	SNR=6.9			*e*Pg	Pg	01 53 17.8	-0.3
HAU	19nm,0.2s			*e*Sg	Sg	01 53 41.3	-0.8
SQTA	**Sankt Quirin**	**1.81**	**124**	⇓*i*PN	Pn	01 53 14.5	+0.7
SQTA	18nm,0.3s			*i* SG	Sg	01 53 40.4	-2.3
ABH	**Alteburg**	**1.89**	**330**	Pg	Pg	01 53 20.6	+0.7
WATA	**Walderalm**	**1.96**	**117**	⇑*i*PN	Pn	01 53 16.8	+0.8
WATA	6.8nm,0.2s			*i* SG	Sg	01 53 45.9	-1.8
TNS	**Taunus Mts**	**2.00**	**350**	*e*Pn	Pn	01 53 17.8	+1.2
TNS	SNR=1.5			*e*Sn	Sn	01 53 41.4	-0.4
TNS	SNR=2.4			*e*Sg	Sg	01 53 48.6	-0.3
THEF	**They Montfort**	**2.02**	**270**	Pg	Pg	01 53 22.2	-0.3
THEF	**They Montfort**	**2.02**	**270**	*e*Sn	Sn	01 53 41.2	-1.0
WTTA	**Wattenberg**	**2.04**	**118**	*i*	Pn	01 53 18.8	+1.8
WTTA	**Wattenberg**	**2.04**	**118**	*i* SG	Sg	01 53 48.1	-2.0
GRA1	**Grafenberg Arr**	**2.05**	**45**	*e*Pg	Pg	01 53 23.1	-0.1
GRA1				*e*Sg	Sg	01 53 49.0	-1.5
GRF	**Grafenberg Arr**	**2.05**	**45**	*e*Pg	Pg	01 53 23.1	-0.1
GRF				*e*Sg	Sg	01 53 49.0	-1.5
GRF	**Grafenberg Arr**	**2.05**	**45**	*e*Pg	Pg	01 53 23.1	-0.1
GRF				*e*Sg	Sg	01 53 49.0	-1.5
WLF	**Walferdange**	**2.35**	**308**	*e*Pg	Pg	01 53 29.0	-0.1
WLF				*e*Sg	Sg	01 53 59.6	-0.8
RFYF	**Reffroy**	**2.38**	**280**	*e*Pn	Pn	01 53 22.6	+0.7
RFYF				*e*Pg	Pg	01 53 29.2	-0.5
RFYF	11nm,0.2s			*e*Sg	Sg	01 53 59.9	-1.5
CABF	**La Chapelle**	**2.57**	**231**	*e*Pn	Pn	01 53 24.1	-0.6
CABF				*e*Pg	Pg	01 53 31.8	-1.8
CABF				*e*Sn	Sn	01 53 54.2	-2.2
CABF	4.6nm,0.3s			*e*Sg	Sg	01 54 04.5	-3.5
MEZF	**Maizieres J'vi**	**2.64**	**277**	*e*Pg	Pg	01 53 33.4	-1.6
MEZF	4.9nm,0.2s			*e*Sg	Sg	01 54 07.8	-2.5
SFTF	**Sexfontaines**	**2.65**	**270**	*e*Pn	Pn	01 53 26.5	+0.7
SFTF				*e*Pg	Pg	01 53 33.7	-1.5
SFTF	4.5nm,0.1s			*e*Sg	Sg	01 54 08.3	-2.2
WET	**Wettzell**	**2.72**	**69**	*e*Pg	Pg	01 53 34.9	-1.6
WET	SNR=3.2			*e*Sg	Sg	01 54 10.5	-2.2
MOX	**Moxa**	**2.94**	**35**	*e*Sg	Sg	01 54 17.1	-2.9
GUNZ	SNR=3.7 **Gunzen**	**3.03**	**45**	*e*Pn	Pn	01 53 30.8	-0.4
GUNZ				*e*Pg	Pg	01 53 41.0	-1.8
GUNZ	SNR=6.6			*e*Sg	Sg	01 54 21.0	-2.2
WERD	**Werda**	**3.08**	**43**	*e*Pg	Pg	01 53 41.8	-1.9
TANN	**Tannenbergstha**	**3.13**	**45**	*e*Pn	Pn	01 53 32.5	-0.1
TANN	SNR=4.7			*e*Pg	Pg	01 53 42.6	-2.1
LPL	**La Plagne**	**3.15**	**210**	*e*Pn	Pn	01 53 32.4	-0.5
LPL				*e*Pg	Pg	01 53 42.0	-3.2
LPL	2.4nm,0.3s			*e*Sg	Sg	01 54 22.7	-4.5
KHC	**Kasperske Hory**	**3.15**	**72**	*e*PN	Pn	01 53 33.3	+0.3
KHC				*e*PG	Pg	01 53 43.4	-1.8
KHC				*e*SN	Sn	01 54 10.5	-0.6
KHC				*e*SG	Sg	01 54 23.6	-3.7
KHC	**Kasperske Hory**	**3.15**	**72**	*e*Pn	Pn	01 53 33.3	+0.3
KHC				*e*Sn	Sn	01 54 10.5	-0.6
LPG	**La Plagne**	**3.16**	**210**	*e*Pn	Pn	01 53 32.6	-0.5
LPG				*e*Pg	Pg	01 53 41.7	-3.7
LPG	1.2nm,0.2s			*e*Sg	Sg	01 54 22.7	-4.8
GEC2	**GERESS Array S**	**3.18**	**78**	*e*Pn	Pn	01 53 34.2	+0.9
GEC2	SNR=1.6			*e*Sg	Sg	01 54 25.1	-3.0
LOR	**Lormes**	**3.61**	**256**	*e*Pn	Pn	01 53 39.3	-0.1
LOR				*e*Pg	Pg	01 53 51.2	-3.1
LOR				*e*Sn	Sn	01 54 19.9	-2.6
LOR	3.5nm,0.2s			*e*Sg	Sg	01 54 37.2	-5.1
BAIF	**Baives**	**3.63**	**302**	*e*Sg	Sg	01 54 39.4	-3.6
MBDF	**Montbardon**	**3.85**	**204**	*e*Pn	Pn	01 53 42.4	-0.5
SMF	**Signal de Mont**	**3.85**	**247**	*e*Pn	Pn	01 53 42.0	-0.9
SMF				*e*Pg	Pg	01 53 55.6	-3.6
SMF	3.3nm,0.3s			*e*Sg	Sg	01 54 44.5	-6.1
SSF	**Saint Saulge**	**3.90**	**254**	*e*Pn	Pn	01 53 43.1	-0.5
SSF				*e*Pg	Pg	01 53 56.6	-3.5
SSF	3.8nm,0.4s			*e*Sg	Sg	01 54 46.7	-5.5
ORIF	**Oris-en-Rattie**	**3.97**	**214**	*e*Pn	Pn	01 53 43.6	-1.0
ORIF				*e*Pg	Pg	01 53 57.0	-4.5
ORIF	1.2nm,0.3s			*e*Sg	Sg	01 54 47.6	-6.9
CLL	**Collm**	**4.00**	**39**	*e*PG	Pg	01 53 59.0	-3.2
CLL				*e*SG	Sg	01 54 52.0	-3.6
PRU	**Pruhonice**	**4.03**	**62**	*e*SG	Sg	01 54 51.6	-4.8
AVF	**Avril sur Loir**	**4.10**	**251**	*e*Pn	Pn	01 53 45.6	-0.8
AVF				*e*Pg	Pg	01 54 00.3	-3.8
HYF	**Humbligny**	**4.40**	**259**	*e*Pg	Pg	01 54 06.1	-4.0
HYF				*e*Sg	Sg	01 55 02.6	-6.3
TREC	**Trest**	**4.41**	**74**	*e*SG	Sg	01 55 03.8	-5.3
BGF	**Bois d'Agland**	**4.51**	**250**	*e*Pn	Pn	01 53 50.7	-1.6
BGF				*e*Pg	Pg	01 54 08.0	-4.3
BGF	2.4nm,0.2s			*e*Sg	Sg	01 55 05.4	-7.1
VIVF	**Saint-Julien-l**	**4.53**	**223**	*e*Pn	Pn	01 53 50.7	-1.8
VIVF	1.2nm,0.3s			*e*Sg	Sg	01 55 05.0	-7.9
TCF	**Toulx Ste Croi**	**5.03**	**249**	*e*Pn	Pn	01 53 58.2	-1.3
TCF				*e*Pg	Pg	01 54 16.9	-5.6
TCF	0.9nm,0.3s			*e*Sg	Sg	01 55 21.8	-7.7

*STR **23** 02:46:31.6±0.7, 46.64N×7.39E, h10km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*CSEM **23** 02:46:31.3±0.1, 46.62N×7.45E, h2km, ML2.6/13, Error ellipse: s-maj=1.7km s-min=1.3km az=103.0*
*LDG **23** 02:46:32.1±0.1, 46.65N×7.39E, h3km, Md2.5/2, Ml2.6/19, Error ellipse: s-maj=2.7km s-min=1.7km az=105.0*

ZUR 23 02:46:30.9, 46.65N×7.42E, h7km±4km, ML1.9/9, 1C-2D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIMIS	**Wimmis**	**0.14**	**85**	⇓*i*P	Pg	02 46 34.2	+0.2
SENIN	**Lac Senin**	**0.30**	**196**	⇓*i*P	Pg	02 46 36.9	-0.1
LKBD	**Leukerbad**	**0.30**	**151**	*e*P	Pg	02 46 37.2	+0.1
TORNY	**Torny**	**0.34**	**291**	*e*P	Pg	02 46 38.0	+0.3
TORNY				*i* S	Sg	02 46 43.6	+1.3
AIGLE	**Aigle**	**0.45**	**226**	*e*P	Pg	02 46 39.5	-0.4
GRYON	**Gryon**	**0.45**	**208**	*e*P	Pg	02 46 39.7	-0.4
GRYON				*e*S	Sg	02 46 47.6	+1.4
BRANT	**Les Verrieres**	**0.71**	**294**	*i* S	Sg	02 46 55.5	+0.9
BRANT	**Les Verrieres**	**0.71**	**294**	⇑*i*P	Pg	02 46 44.9	-0.2
BOURR	**Bourrignon**	**0.75**	**350**	*e*P	Pb	02 46 46.0	+0.1
LOMF	**Lomont**	**0.81**	**330**	Pg	Pg	02 46 46.9	-0.1
LOMF				Sg	Sg	02 46 59.1	+1.3
BBS	**Basel-Blauen**	**0.81**	**4**	Pg	Pg	02 46 47.8	+0.6
BBS				Sg	Sg	02 46 59.4	+1.3
CABF	**La Chapelle**	**0.92**	**268**	*e*Pg	Pg	02 46 48.9	-0.3
CABF				*e*Pn	Pn	02 46 50.5	+0.5
CABF				*e*Sg	Sg	02 47 01.1	-0.4
MOF	**Molkenrain**	**1.22**	**351**	Pg	Pg	02 46 54.5	-0.7
MOF				Sg	Sg	02 47 11.4	0.0
HINF	**Hinteralfeld**	**1.23**	**342**	*e*Pg	Pg	02 46 54.3	-1.1
HINF				*e*Sg	Sg	02 47 11.3	-0.5
LPL	**La Plagne**	**1.23**	**203**	*e*Pn	Pn	02 46 53.9	-0.6
LPL				*e*Pg	Pg	02 46 56.3	+0.8
LPL				*e*Sg	Sg	02 47 14.6	+2.6
LPG	**La Plagne**	**1.25**	**202**	*e*Pg	Pg	02 46 56.1	+0.3
LPG				*e*Sg	Sg	02 47 13.8	+1.4
FELD	**Feldberg**	**1.29**	**18**	Pg	Pg	02 46 56.6	0.0
HAU	**Haudompre**	**1.54**	**332**	*e*Pg	Pg	02 47 00.2	-1.4
HAU				*e*Sg	Sg	02 47 20.5	-1.6
CDF	**Champ du Feu**	**1.76**	**357**	*e*Pn	Pn	02 47 01.5	-0.6
CDF				*e*Pg	Pg	02 47 04.5	-1.6
CDF				*e*Sn	Sn	02 47 23.7	-1.3
CDF				*e*Sg	Sg	02 47 28.2	-1.4
MBDF	**Montbardon**	**1.98**	**193**	*e*Pg	Pg	02 47 07.7	-2.7
MBDF				*e*Sg	Sg	02 47 33.9	-2.9
ORIF	**Oris-en-Rattie**	**2.04**	**212**	*e*Pn	Pn	02 47 05.1	-1.0
ORIF				*e*Sg	Sg	02 47 36.4	-2.5
SFTF	**Sexfontaines**	**2.24**	**315**	*e*Pn	Pn	02 47 08.3	-0.7
SFTF				*e*Pg	Pg	02 47 13.8	-1.8
SFTF				*e*Sg	Sg	02 47 42.7	-2.8
RFYF	**Reffroy**	**2.37**	**327**	*e*Pn	Pn	02 47 10.1	-0.8
RFYF				*e*Pg	Pg	02 47 16.4	-1.9
RFYF				*e*Sn	Sn	02 47 39.0	-1.5
RFYF				*e*Sg	Sg	02 47 50.2	+0.3
MEZF	**Maizieres J'vi**	**2.45**	**320**	*e*Pg	Pg	02 47 17.3	-2.4
MEZF				*e*Sn	Sn	02 47 39.2	-3.2
SMF	**Signal de Mont**	**2.46**	**271**	*e*Pn	Pn	02 47 12.0	-0.1
SMF				*e*Pg	Pg	02 47 17.5	-2.6
SMF				*e*Sg	Sg	02 47 46.2	-6.7
LOR	**Lormes**	**2.51**	**285**	*e*Pn	Pn	02 47 10.9	-2.0
LOR				*e*Pg	Pg	02 47 18.4	-2.7
LOR				*e*Sg	Sg	02 47 49.2	-5.4
VIVF	**Saint-Julien-l**	**2.63**	**228**	*e*Pn	Pn	02 47 13.5	-1.0
VIVF				*e*Sg	Sg	02 47 55.5	-3.0
SSF	**Saint Saulge**	**2.71**	**280**	*e*Pn	Pn	02 47 15.9	+0.2
SSF				*e*Pg	Pg	02 47 22.1	-3.0
SSF				*e*Sg	Sg	02 47 56.5	-4.8
AVF	**Avril sur Loir**	**2.80**	**274**	*e*Pn	Pn	02 47 16.1	-0.8
AVF				*e*Pg	Pg	02 47 23.9	-2.9
AVF				*e*Sg	Sg	02 47 57.8	-6.3
BGF	**Bois d'Agland**	**3.15**	**270**	*e*Pn	Pn	02 47 20.4	-1.6
BGF				*e*Pg	Pg	02 47 29.5	-4.3
BGF				*e*Sn	Sn	02 47 55.4	-4.9
BGF				*e*Sg	Sg	02 48 09.8	-6.0
TCF	**Toulx Ste Croi**	**3.62**	**266**	*e*Pn	Pn	02 47 26.8	-1.8
TCF				*e*Sg	Sg	02 48 23.5	-7.8

*IDC **23** 03:04:41.7±2.7, 24.74S×179.61W, h462km±29km, mb3.5/8, mb1 3.8/10, mb1mx3.7/14, mbtmp4.5/10, Error ellipse: s-maj=19.5km s-min=16.5km az=83.0*
*NEIC **23** 03:04:42.3±1.3, 24.80S×179.52W, h473km±15km, mb4.4/5, Error ellipse: s-maj=15.8km s-min=13.3km az=113.0*

ISC 23 03:04:39.6±1.8, 24.79S±0.09×179.6W±0.1, h451km±21km, n34, σ1§00/25, mb4.0/10, 4D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**13.09**	**36**	P	P	**03 07 31.9**	**-0.1**
	8.7nm,0.3s,baz=55,slow=8.5,SNR=7.6						
DZM	**Mont Dzumac**	**13.10**	**279**	P	P	**03 07 35.7**	**+3.6**
	0.7nm,0.3s,baz=85,slow=17,SNR=8.9						
URZ	**Urewera**	**13.72**	**191**	P	P	**03 07 38.1**	**-0.5**
	2.9nm,0.3s,baz=325,slow=2.5,SNR=17						
URZ				S	S	**03 10 07.6**	**+5.2**
	1.5nm,0.3s,baz=148,slow=22,SNR=10						
NNZ	**Nelson**	**17.40**	**198**	*e*PN	P	**03 08 14.4**	**-1.6**
THZ	**Tophouse**	**18.04**	**198**	*e*PN	P	**03 08 23.5**	**+1.1**
KHZ	**Kahutara**	**18.48**	**196**	*e*PN	P	**03 08 26.5**	**-0.1**
LTZ	**Lake Taylor**	**19.16**	**199**	*e*PN	P	**03 08 33.0**	**-0.2**
RPZ	**Rata Peaks**	**20.37**	**200**	P	P	**03 08 45.1**	**+0.3**
	11nm,0.4s,baz=15,slow=3.7,SNR=18						
CTA	**Charters Tower**	**31.86**	**272**	⇓*i*P	P	**03 10 28.3**	**+0.9**
	10nm,0.4s,mb4.6						
CTA	**Charters Tower**	**31.86**	**272**	P	P	**03 10 28.3**	**+0.9**
	16nm,0.5s,mb4.7,baz=94,slow=10,SNR=28						
STKA	**Stephens Creek**	**34.74**	**249**	*e*P	P	**03 10 52.1**	**+0.4**
	1.5nm,0.3s,mb3.9						
STKA	**Stephens Creek**	**34.74**	**249**	P	P	**03 10 52.3**	**+0.6**
	1.7nm,0.3s,mb3.9,baz=93,slow=8.6,SNR=7.2						
WRAB	**Tennant Creek**	**42.71**	**267**	*e*P	P	**03 11 56.2**	**-0.7**
	13nm,0.4s,mb4.7						
WRA	**Warramunga Arr**	**42.72**	**267**	P	P	**03 11 56.4**	**-0.6**
	8.0nm,0.5s,mb4.4,baz=100,slow=7.3,SNR=52						
FITZ	**Fitzroy Crossi**	**51.13**	**266**	*e*P	P	**03 13 01.3**	**-0.1**
	9.4nm,0.7s,mb4.2						
VNDA	**Vanda**	**53.53**	**185**	P	P	**03 13 18.6**	**+0.5**
	1.1nm,0.6s,mb3.3,baz=351,slow=5.6,SNR=12						
QSPA	**South Pole Qui**	**65.30**	**180**	*e*P	P	**03 14 37.7**	**+0.9**
	8.9nm,0.9s,mb4.4						
MAW	**Mawson**	**77.05**	**200**	P	P	**03 15 45.4**	**-0.3**
	2.1nm,0.6s,mb3.9,baz=123,slow=7.9,SNR=7.9						
VNA3	**Neumayer Olymp**	**83.97**	**177**	⇓*i*	P	**03 16 21.8**	**+0.4**
VNA2	**Neumayer--Watz**	**84.39**	**177**	⇓*i*	P	**03 16 24.2**	**+0.7**
VNA1	**Neumayer--Stat**	**84.63**	**177**		P	**03 16 22.1**	**-2.6**
TXAR	**Lajitas Array**	**90.59**	**58**	P	P	**03 16 55.5**	**+1.8**
	0.4nm,0.6s,mb3.5,baz=212,slow=6.4,SNR=7.3						
TXAR	**Lajitas Array**	**90.59**	**58**	P	P	**03 16 55.5**	**+1.8**
ILAR	**Eielson Array**	**92.81**	**13**	P	P	**03 17 01.4**	**-1.7**
	0.3nm,0.7s,mb3.4,baz=229,slow=5.7,SNR=4.4						
BVAR	**Borovoye Array**	**121.35**	**318**	PKP	PKPdf	03 22 40.4	+0.3
	0.7nm,0.4s,baz=135,slow=2.1,SNR=5.4						
ARCES	**ARCESS Array B**	**132.83**	**348**	PKP	PKPdf	03 23 01.9	+0.3
	1.5nm,0.7s,baz=315,slow=1.7,SNR=5.2						
FINES	**FINESS Array B**	**139.40**	**341**	PKhKP		03 23 07.7	
	0.6nm,0.4s,baz=45,slow=5.4,SNR=5.7						
NB2	**NORSAR Subarra**	**143.01**	**351**	PKPabc	PKPdf	03 23 18.4	-1.7
	1.0nm,0.7s,baz=15,slow=3.1						
NOA	**NORSAR Array B**	**143.01**	**351**	PKhKP		03 23 18.3	
	1.7nm,0.8s,baz=17,slow=2.4,SNR=7.9						
HFS	**Hagfors**	**143.49**	**349**	PKP	PKPdf	03 23 19.7	-1.2
	6.3nm,0.4s,baz=63,slow=3.3,SNR=73						
AKASG	**Malin Array Be**	**145.91**	**327**	PKPbc	PKPbc	03 23 27.4	+0.5
	2.8nm,0.4s,baz=44,slow=4.4,SNR=19						
AKASG				PKPab	PKPab	03 23 29.4	-1.7
	2.8nm,0.4s,baz=44,slow=4.2,SNR=16						
ASF	**Jabal al Asfar**	**147.21**	**291**	PKPbc	PKPdf	03 23 33.1	+4.9
	2.4nm,0.7s,baz=180,slow=1.0,SNR=3.6						
BRTR	**Keskin Array B**	**148.40**	**306**	PKPbc	PKPdf	03 23 35.1	+5.3
	0.9nm,0.5s,baz=138,slow=5.4,SNR=6.6						
BRTR				PKPab	PKPab	03 23 40.4	-0.9
	1.8nm,0.6s,baz=106,slow=2.9,SNR=10						
CLL	**Collm**	**151.81**	**343**	⇓*i*PKP1	PKPdf	03 23 42.7	+8.0

MEX 23 03:23:17.9±0.5, 21.75N×106.40W, h20km±10km, MD4.0, Off coast of central Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAIG	**Mazatlaan**	**1.43**	**359**	*i* P	Pn	03 23 39.3	-3.7
MAIG				*i* S	Sn	03 23 57.0	-4.3
CJM	**Chamela**	**2.58**	**150**	*i* P	Pn	03 23 56.1	-3.3
CJM				*i* S	Sn	03 24 26.0	-4.5
SFJM	**Santa Fe**	**3.38**	**111**	*i* P	Pn	03 24 08.0	-2.9
SFJM				*i* S	Sn	03 24 45.5	-5.4
ZAIG	**Zacatecas**	**3.69**	**73**	*i* P	Pn	03 24 12.3	-3.0
ZAIG				*i* S	Sn	03 24 53.3	-5.5

*FUNV **23** 03:34:19.8, 10.73N×62.37W, h73km, MW3.2*
*TRN **23** 03:34:

MERV	**Las Mercedes**	**4.04**	**249**	*e*P	**P**		**03 35 19.5**	**+0.3**
MERV				*e*S	**S**		**03 36 04.4**	**-1.2**
MVM	**Montagne Vaucl**	**4.10**	**22**	*e*P	**P**		**03 35 20.6**	**+0.5**
MVM				*e*S	**S**		**03 36 07.5**	**+0.3**
FDF	**Fort de France**	**4.19**	**18⇓**	*e*P	**P**		**03 35 21.5**	**+0.3**
FDF				*e*S	**S**		**03 36 04.6**	**-4.7**
CAOV	**Caicara del Or**	**5.08**	**229**	*e*P	**P**		**03 35 32.5**	**-1.1**
CAOV				*e*S	**S**		**03 36 26.8**	**-4.7**
SCG	**Saint Claude**	**5.33**	**8**	*e*P	**P**		**03 35 38.5**	**+1.6**
SCG				*e*S	**S**		**03 36 36.5**	**-1.0**
LZG	**Guadaloupe-1**	**5.42**	**7**	*e*P	**P**		**03 35 38.6**	**+0.4**
LZG				*e*S	**S**		**03 36 38.2**	**-1.7**
SJG	**San Juan**	**8.16**	**335**	S	**S**		**03 37 36.8**	**-10**
	4.0nm,0.3s,baz=313,slow=22,SNR=7.0							
SDV	**Santo Domingo**	**8.24**	**258**	P	**P**		**03 36 16.1**	**-0.9**
	1.0nm,0.3s,baz=33,slow=5.5,SNR=6.0							
SDV				S	**S**		**03 37 44.0**	**-5.2**
	3.4nm,0.3s,baz=397,slow=11,SNR=9.7							
SIV	**San Ignacio**	**26.58**	**177**	P	**P**		**03 39 51.6**	**+1.2**
	1.2nm,0.7s,mb3.5,baz=18,slow=12,SNR=8.6							
TXAR	**Lajitas Array**	**42.62**	**302**	P	**P**		**03 42 07.9**	**+0.2**
	0.4nm,0.4s,mb3.5,baz=118,slow=9.2,SNR=18							
TXAR				PcP	PcP		03 43 58.5	-0.5
	0.3nm,0.7s,baz=124,slow=5.7,SNR=4.5							
TXAR	**Lajitas Array**	**42.62**	**302**	P	**P**		**03 42 07.9**	**+0.2**
TXAR				PcP	PcP		03 43 58.5	-0.5
SCHQ	**Schefferville**	**44.13**	**356**	P	**P**		**03 42 19.6**	**0.0**
	2.1nm,0.8s,mb3.9,baz=180,slow=4.0,SNR=4.8							
PDAR	**Pinedale Array**	**51.84**	**317**	P	**P**		**03 43 18.4**	**-1.2**
	0.9nm,0.5s,mb4.0,baz=110,slow=10,SNR=10.0							
ILAR	**Eielson Array**	**77.99**	**334**	P	**P**		**03 46 06.1**	**-2.2**
	0.3nm,0.7s,mb3.2,baz=93,slow=4.4,SNR=4.5							
FINES	**FINESS Array B**	**79.97**	**29**	P	**P**		**03 46 19.4**	**+0.2**
	0.4nm,0.3s,mb3.7,baz=297,slow=3.1,SNR=6.6							

IDC 23 03:35:32.0±33.0, 0.32S×97.24E, mb4.0/4, mb1 4.1/4, mb1mx3.7/17, mbtmp4.0/4, MS3.8/1, Ms1 3.8/1, ms1mx3.1/19, Error ellipse: s-maj=667.2km s-min=125.2km az=168.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**48.62**	**8**	P	P	03 44 17.6	-1.8
	1.6nm,0.5s,baz=207,slow=6.4,SNR=10						
SONM				LR	LR	04 06 45.8	
	comp=Z,96nm,19.8s,baz=256,slow=38						
MKAR	**Makanchi Array**	**48.71**	**346**	P	P	03 44 18.2	-2.0
	1.6nm,0.8s,baz=153,slow=8.1,SNR=8.0						
ZAL	**Zalesovo**	**55.04**	**351**	P	P	03 45 04.9	-2.8
	1.6nm,0.5s,baz=297,slow=5.3,SNR=4.7						
BVAR	**Borovoye Array**	**57.69**	**341**	P	P	03 45 24.3	-2.3
	0.6nm,0.7s,baz=158,slow=7.8,SNR=4.7						

*UCR **23** 03:37:32.0, 11.48N×84.87W, h41km, MD3.6*
CASC 23 03:37:33.4±0.9, 10.67N×84.93W, h175km±6km, MD3.4, 4C-1D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGA2	**Cerro Gallo 2**	**0.79**	**145⇑**	*e*P	P	03 37 59.7	+0.3
CGA2				*e*S	S	03 38 19.9	+0.4
JCR	**Jicaral**	**0.83**	**193⇓**	*e*P	P	03 37 59.6	-0.1
JCR				*e*S	S	03 38 20.4	+0.5
PRS1	**Puriscal**	**0.91**	**138**	*e*P	P	03 38 01.1	+0.9
CONN	**Concepcion**	**1.12**	**322⇑**	*e*P	P	03 38 02.2	+0.4
LCR2	**La Lucha 2**	**1.29**	**135⇑**	*e*P	P	03 38 04.1	+0.8
LCR2				*e*S	S	03 38 27.7	+1.3
BUS	**Buena Vista**	**1.60**	**134⇑**	*e*P	P	03 38 07.5	+1.2
BUS				*e*S	S	03 38 32.6	+1.1

*CSEM **23** 03:38:54.3±0.8, 37.00N×24.54W, ML2.8, Error ellipse: s-maj=12.2km s-min=6.1km az=38.0, After PDA*
*PDA **23** 03:38:54.3±0.8, 37.00N×24.54W, MD2.7, ML2.8, Error ellipse: s-maj=12.2km s-min=6.1km az=38.0*
SVSA 23 03:38:54.3±0.8, 37.00N×24.54W, MD2.7, ML2.8, Error ellipse: s-maj=12.2km s-min=6.1km az=38.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.42**	**271**	*e*P	Pg	03 38 22.8	-40
PSMN				*e*S	Sg	03 38 28.6	-40
MIRA	**Miradouro**	**0.98**	**323**	*e*P	Pb	03 39 11.0	-2.8
FRA1	**Furnas**	**0.99**	**319**	*e*P	Pb	03 39 11.1	-2.9
FRA1				*e*S	Sg	03 39 22.8	-4.3
PCNG	**Congro**	**1.02**	**319**	*e*S	Sg	03 39 23.9	-4.5
	101nm,0.3s						
VIF	**Vila Franca**	**1.03**	**316**	*e*S	Sb	03 39 23.3	-5.4
	98nm,0.3s						
PRCH	**Ribeira Ch**	**1.04**	**314**	*e*P	Pb	03 39 11.5	-3.4
PRCH				*e*S	Sb	03 39 23.6	-5.4
	436nm,0.3s						
MESC	**Monte Escuro**	**1.07**	**318**	*e*S	Sb	03 39 24.7	-5.1
LFA	**Lagoa do Fogo**	**1.08**	**316**	*e*P	Pb	03 39 11.8	-3.7
LFA				*e*S	Sb	03 39 24.6	-5.4
PMAT	**Coroa da Mata**	**1.10**	**318**	*e*S	Sb	03 39 24.9	-5.8
	8.7nm,0.1s						
CML	**Cha da Macela**	**1.11**	**314**	*e*P	Pb	03 39 12.2	-3.9
FAC	**Faja de Cima**	**1.17**	**311**	*erx*	Pb	03 39 25.1	+7.9

*BJI **23** 03:58:09.4, 61.10N×150.20W, h43km, mB4.4, mb4.5, Ms4.2, Msz3.8*
*IDC **23** 03:58:11.6±0.8, 61.25N×150.36W, h56km±6km, mb3.8/17, mb1 4.0/21, mb1mx3.9/24, mbtmp4.0/21, MS3.2/7, Ms1 3.1/7, ms1mx3.0/23, Error ellipse: s-maj=23.4km s-min=11.3km az=39.0*
*NEIC **23** 03:58:11.4, 61.09N×150.22W, h44km, mb4.1/14, ML4.2(PMR), ML4.0(AEIC), After AEIC.*
NEIC Felt [III] at Anchorage, Eagle River and Elemendorf AFB.
ISC 23 03:58:09.9±0.2, 61.12N±0.02×150.21W±0.04, h55km±2km, h57km±1.4km: pP-P, n117, σ1§00/120, mb4.1/30, MS3.3/4, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIB	**Fire Island**	**0.05**	**18**	P	**P**	**03 58 18.6**	**+0.4**
VOGL	**Vogel Lake**	**0.16**	**222**	P	**P**	**03 58 19.2**	**+0.7**
RC01	**Rabbit Creek A**	**0.23**	**97**	P	**P**	**03 58 18.5**	**-0.5**
RC01				S	**S**	**03 58 25.2**	**-0.4**
SLKM	**Skilak Lake**	**0.61**	**181**	P	**P**	**03 58 22.7**	**-0.1**
NKA	**Nikishka**	**0.63**	**234**	P	**P**	**03 58 24.4**	**+1.4**
PMR	**Palmer**	**0.70**	**47**	P	**P**	**03 58 24.1**	**+0.1**
PMR				S	**S**	**03 58 34.4**	**0.0**
MPA	**Moose Pass**	**0.76**	**146**	P	**P**	**03 58 25.0**	**+0.4**
SPU	**Mount Spurr**	**0.90**	**275**	P	**P**	**03 58 26.4**	**-0.1**
PWL	**Port Wells**	**0.95**	**105**	P	**P**	**03 58 28.0**	**+0.7**
CKL	**Chakachamna La**	**1.04**	**275**	P	**P**	**03 58 28.6**	**+0.1**
BGL	**Barrier Glacie**	**1.07**	**279**	P	**P**	**03 58 29.2**	**+0.2**
SML	**Sawmill**	**1.14**	**52**	P	**P**	**03 58 30.5**	**+0.7**
SML				S	**S**	**03 58 45.8**	**+1.1**
CFI	**College Fiord**	**1.19**	**86**	P	**P**	**03 58 31.2**	**+0.7**
NNL	**Ninilchik**	**1.21**	**207**	P	**P**	**03 58 32.3**	**+1.5**
RDT	**Redoubt**	**1.21**	**244**	P	**P**	**03 58 30.9**	**+0.1**
RDT				S	**S**	**03 58 46.5**	**+0.2**
CUT	**Chulitna**	**1.29**	**359**	P	**P**	**03 58 32.9**	**+0.8**
RDN	**Redoubt North**	**1.39**	**245**	P	**P**	**03 58 33.4**	**-0.1**
RSO	**Redoubt South**	**1.41**	**243**	P	**P**	**03 58 34.0**	**+0.2**
SCM	**Sheep Creek Mo**	**1.56**	**61**	P	**P**	**03 58 36.5**	**+0.7**
ILIM	**Iliamna**	**1.71**	**234**	P	**P**	**03 58 38.4**	**+0.4**
ILW	**Iliamna West**	**1.79**	**235**	P	**P**	**03 58 39.4**	**+0.3**
XLV	**Seldovia**	**1.83**	**205**	P	**P**	**03 58 39.7**	**+0.1**
HUR	**Hurricane**	**1.89**	**8**	P	**P**	**03 58 41.3**	**+0.9**
HIN	**Hinchinbrook I**	**1.96**	**110**	P	**P**	**03 58 40.9**	**-0.5**
KLU	**Klutina**	**2.10**	**78**	P	**P**	**03 58 43.7**	**+0.3**
DIV	**Divide**	**2.15**	**88**	P	**P**	**03 58 44.2**	**+0.1**
EYAK	**Cordova Ski Ar**	**2.26**	**103**	P	**P**	**03 58 44.8**	**-0.8**
RND	**Reindeer**	**2.38**	**15**	P	**P**	**03 58 48.0**	**+0.6**
AGU	**Augustine-Summ**	**2.39**	**224**	P	**P**	**03 58 47.7**	**+0.2**
KTH	**Kantishna Hill**	**2.47**	**353**	P	**P**	**03 58 49.3**	**+0.7**
TZL	**Tazlina**	**2.47**	**66**	P	**P**	**03 58 49.0**	**+0.4**
SGAM	**Sherman Glacie**	**2.53**	**102**	P	**P**	**03 58 48.6**	**-0.9**
MID	**Middleton Isla**	**2.57**	**130**	*e*P	**P**	**03 58 49.5**	**-0.5**
SVW2	**Sparrevohn**	**2.61**	**272**	P	**P**	**03 58 50.3**	**-0.3**
SDG	**Sourdough**	**2.63**	**55**	P	**P**	**03 58 51.4**	**+0.5**
BMRM	**Bremner River**	**2.73**	**91**	P	**P**	**03 58 51.6**	**-0.8**
RAGM	**Ragged Mountai**	**2.81**	**103**	P	**P**	**03 58 52.2**	**-1.3**
PAX	**Paxson**	**2.91**	**48**	P	**P**	**03 58 55.8**	**+1.0**
GLB	**Gilahina Butte**	**3.11**	**81**	P	**P**	**03 58 57.2**	**-0.4**
TT01	**Tatalina**	**3.28**	**306**	P	**P**	**03 58 60.0**	**-0.1**
KAPH	**Katmai Pasha**	**3.28**	**221**	P	**P**	**03 58 59.8**	**-0.3**
TTA	**Tatalina**	**3.29**	**306**	*e*P	**P**	**03 59 00.0**	**-0.2**
WRH	**Wood River Hil**	**3.50**	**15**	P	**P**	**03 59 03.6**	**+0.3**
KDAK	**Kodiak Island**	**3.56**	**201**	P	**P**	**03 59 02.3**	**-1.7**
WAX	**Waxell Ridge**	**3.67**	**97**	P	**P**	**03 59 04.0**	**-1.6**
CCB	**Clear Creek Bu**	**3.71**	**16**	P	**P**	**03 59 05.6**	**-0.5**
BALM	**Baldy**	**3.82**	**88**	P	**P**	**03 59 06.8**	**-1.0**
KABR	**Katmai Barrier**	**3.85**	**221**	P	**P**	**03 59 07.6**	**-0.6**
MGLS	**Mageik LS**	**3.90**	**224**	P	**P**	**03 59 08.3**	**-0.6**
COLA	**College**	**3.92**	**15**	P	**P**	**03 59 09.3**	**+0.2**
MDM	**Murphy Dome**	**3.96**	**12**	P	**P**	**03 59 09.3**	**-0.4**
IL1	**Eielson Array**	**3.97**	**21**	P	**P**	**03 59 09.6**	**-0.2**
ILAR	**Eielson Array**	**3.97**	**21**	P	**P**	**03 59 10.3**	**+0.5**
	4.5nm,0.3s,baz=202,slow=14,SNR=324						
ILAR				S	**S**	**03 59 58.3**	**+2.8**
	10nm,0.3s,baz=191,slow=14,SNR=6.5						
YAH	**Yahtse**	**4.22**	**97**	P	**P**	**03 59 12.2**	**-1.2**
CTGM	**Chitina Glacie**	**4.32**	**88**	P	**P**	**03 59 14.2**	**-0.5**
PRP	**Porcupine Dome**	**4.89**	**24**	P	**P**	**03 59 22.1**	**-0.7**
PCA	**Pinnacle**	**5.01**	**97**	P	**P**	**03 59 22.4**	**-2.0**
IM3	**Indian Mountai**	**5.13**	**344**	P	**P**	**03 59 25.3**	**-0.8**
IMA	**Indian Mountai**	**5.21**	**344**	*e*P	**P**	**03 59 28.7**	**+1.6**
PNL	**Peninsula**	**5.55**	**100**	P	**P**	**03 59 29.8**	**-2.2**
DAWY	**Dawson**	**5.80**	**55**	P	**P**	**03 59 34.4**	**-1.0**
COLD	**Coldfoot**	**6.13**	**0**	P	**P**	**03 59 39.0**	**-1.0**
BM3	**Burnt Mountain**	**6.78**	**19**	P	**P**	**03 59 47.9**	**-1.2**
WHY	**Whitehorse**	**7.49**	**87**	P	**P**	**03 59 56.6**	**-2.4**
INK	**Inuvik**	**10.11**	**37**	P	**P**	**04 00 34.1**	**-0.6**
	0.3nm,0.3s,baz=244,slow=13,SNR=13						
INK				S	**S**	**04 02 29.9**	**+2.2**
	1.2nm,0.3s,baz=194,slow=26,SNR=5.2						
INK				LR	LR	04 04 46.6	
	comp=Z,149nm,19.2s,baz=1.9,slow=39						
INK	**Inuvik**	**10.11**	**37**	*e*P	**P**	**04 00 32.7**	**-2.1**
DLBC	**Dease Lake**	**10.51**	**96**	P	**P**	**04 00 38.9**	**-1.4**
	0.2nm,0.3s,baz=304,slow=17,SNR=4.1						
DLBC				LR	LR	04 05 17.2	
	comp=Z,204nm,20.1s,baz=273,slow=40						
DLBC	**Dease Lake**	**10.51**	**96**	P	**P**	**04 00 37.9**	**-2.4**
BBB	**Bella Bella**	**15.02**	**117**	LR	LR	04 07 05.3	
	comp=Z,77nm,19.8s,baz=349,slow=35						
YKA	**Yellowknife Ar**	**16.75**	**70**	P	**P**	**04 02 03.2**	**+1.5**
	0.3nm,0.3s,baz=277,slow=9.7,SNR=15						
YKA				LR	LR	04 09 19.6	
	comp=Z,25nm,18.9s,baz=345,slow=40						
YKA	**Yellowknife Ar**	**16.75**	**70**	P	**P**	**04 02 03.2**	**+1.5**
YKA				LR	LR	04 09 19.6	
EDM	**Edmonton**	**21.23**	**95**	*e*P	**P**	**04 02 52.0**	**-0.9**
NEW	**Newport**	**22.75**	**109**	P	**P**	**04 03 10.5**	**+2.8**
	5.4nm,0.8s,mb4.0,baz=320,slow=7.2,SNR=13						
NEW				LR	LR	04 12 06.0	
	comp=Z,78nm,18.9s,MS3.2,baz=339,slow=36						
NEW	**Newport**	**22.75**	**109**	*e*P	**P**	**04 03 10.2**	**+2.5**
	16nm,1.3s,mb4.3						
WALA	**Waterton Lakes**	**23.67**	**104**	*e*P	**P**	**04 03 18.0**	**+1.4**
	1.5nm,0.5s,mb3.7						
BMO	**Blue Mountains**	**25.25**	**115**	*e*P	**P**	**04 03 32.6**	**+0.6**
	2.3nm,0.7s,mb3.8						
MSO	**Missoula**	**25.26**	**108**	*e*P	**P**	**04 03 32.4**	**+0.3**
	2.5nm,0.9s,mb3.7						
YBH	**Yreka Blue Hor**	**25.57**	**127**	P	**P**	**04 03 35.3**	**+0.3**
	6.5nm,1.0s,mb4.1,baz=241,slow=3.5,SNR=7.4						
YBH				LR	LR	04 12 02.7	
	comp=Z,32nm,18.4s,MS2.9,baz=320,slow=32						
MCMT	**McKenzie Canyo**	**27.27**	**110**	*e*P	**P**	**04 03 50.8**	**+0.1**
HLID	**Hailey**	**27.55**	**113**	*e*P	**P**	**04 03 53.3**	**+0.1**
	1.9nm,0.9s,mb3.7						
QLMT	**Earthquake Lak**	**27.92**	**108**	*e*P	**P**	**04 03 57.0**	**+0.4**
IMW	**Indian Meadow**	**28.86**	**109**	*e*P	**P**	**04 04 06.3**	**+1.3**
	14nm,0.9s,mb4.7						
RRI2	**Red Ridge**	**29.12**	**110**	*e*P	**P**	**04 04 08.2**	**+0.9**
	4.4nm,0.8s,mb4.2						
TPAW	**Teton Pass**	**29.17**	**109**	*e*P	**P**	**04 04 08.7**	**+1.0**
	9.0nm,0.7s,mb4.6						
LOHW	**Long Hollow**	**29.24**	**109**	*e*P	**P**	**04 04 08.6**	**+0.3**
	1.4nm,0.6s,mb3.9						
SNOW	**Snow King Moun**	**29.29**	**109**	*e*P	**P**	**04 04 09.9**	**+1.2**
	4.3nm,0.6s,mb4.4						
ELK	**Elko**	**29.46**	**118**	P	**P**	**04 04 12.1**	**+1.8**
	3.1nm,0.8s,mb4.1,baz=305,slow=8.9,SNR=21						
ELK	**Elko**	**29.46**	**118**	*e*P	**P**	**04 04 11.6**	**+1.2**
	3.6nm,0.8s,mb4.2						
BW06	**Boulder Array**	**30.38**	**108**	*e*P	**P**	**04 04 18.8**	**+0.3**
	2.7nm,1.1s,mb3.9						
PDAR	**Pinedale Array**	**30.38**	**108**	P	**P**	**04 04 19.4**	**+1.0**
	1.2nm,0.8s,mb3.7,baz=323,slow=7.4,SNR=10						
ULM	**Lac du Bonnet**	**31.57**	**85**	P	**P**	**04 04 28.6**	**-0.3**
	2.8nm,1.1s,mb4.0,baz=216,slow=5.1,SNR=3.3						
RSSD	**Black Hills**	**31.94**	**101**	*e*P	**P**	**04 04 32.6**	**+0.5**
	6.7nm,0.6s,mb4.7						
MSU	**Marysvale**	**32.63**	**116**	*e*P	**P**	**04 04 39.3**	**+1.1**
ARUT	**Antelope Range**	**32.70**	**119**	*e*P	**P**	**04 04 39.9**	**+1.1**
SRU	**San Rafael**	**32.87**	**114**	*e*P	**P**	**04 04 40.9**	**+0.6**
PV01	**Paradox Valley**	**34.54**	**112**	*e*P	**P**	**04 04 55.1**	**+0.4**
SDCO	**Great Sand Dun**	**36.25**	**109**	*e*P	**P**	**04 05 09.8**	**+0.6**
	1.9nm,0.8s,mb4.1						
SCHQ	**Schefferville**	**41.80**	**60**	P	**P**	**04 05 54.6**	**-0.3**
	1.8nm,0.8s,mb3.8,baz=279,slow=18,SNR=2.9						
TXAR	**Lajitas Array**	**44.14**	**114**	P	**P**	**04 06 15.6**	**+1.2**
	0.7nm,0.7s,mb3.5,baz=319,slow=6.7,SNR=11						
TXAR				PcP	PcP	04 07 57.9	-1.2
	0.2nm,0.5s,baz=90,slow=0.9,SNR=4.6						
JMIC	**Jan Mayen**	**45.48**	**17**	LR	LR	04 24 27.9	
	comp=Z,27nm,18.9s,MS3.2,baz=40,slow=35						
ELN	**Prospectdale**	**48.50**	**86**	*e*P	**P**	**04 06 47.9**	**-0.8**
ARCES	**ARCESS Array B**	**49.60**	**2**	P	**P**	**04 06 55.1**	**-1.7**
	2.1nm,0.7s,mb4.3,baz=8.5,SNR=7.1						
SONM	**Songino Array**	**55.23**	**307**	P	**P**	**04 07 38.2**	**-0.9**
	1.4nm,0.6s,mb4.2,baz=27,slow=6.6,SNR=5.2						
SONM				pP	pP	04 07 54.0	+0.1
	3.0nm,0.7s,baz=27,slow=9.9,SNR=7.2						
ZAL	**Zalesovo**	**57.29**	**325**	P	**P**	**04 07 53.4**	**-0.3**
	1.4nm,0.5s,mb4.2,baz=119,slow=4.2,SNR=3.9						
NB2	**NORSAR Subarra**	**57.34**	**11**	P	**P**	**04 07 51.3**	**-2.6**
	2.9nm,0.6s,mb4.5,baz=349,slow=7.0						
NOA	**NORSAR Array B**	**57.34**	**11**	P	**P**	**04 07 52.2**	**-1.7**
	2.8nm,0.6s,mb4.5,baz=350,slow=7.2,SNR=18						
FINES	**FINESS Array B**	**57.73**	**2**	P	**P**	**04 07 55.0**	**-1.7**
	1.3nm,0.5s,mb4.2,slow=7.6,SNR=12						
FINES	**FINESS Array B**	**57.73**	**2**	P	**P**	**04 07 55.0**	**-1.7**
BVAR	**Borovoye Array**	**61.70**	**333**	P	**P**	**04 08 22.0**	**-2.0**
	1.4nm,0.5s,mb4.3,baz=40,slow=7.0,SNR=11						
BVAR				pP	pP	04 08 36.9	-2.2
	1.9nm,0.8s,baz=56,slow=5.3,SNR=5.5						
MKAR	**Makanchi Array**	**64.40**	**323**	P	**P**	**04 08 39.0**	**-2.8**
	0.6nm,0.5s,mb3.9,baz=32,slow=7.7,SNR=5.4						
MKAR				pP	pP	04 08 55.3	-1.7
	0.9nm,0.7s,baz=31,slow=5.3,SNR=5.3						
MKAR	**Makanchi Array**	**64.40**	**323**	P	**P**	**04 08 39.0**	**-2.8**
MKAR				pP	pP	04 08 55.3	-1.7
WMQ	**Urumqi**	**65.39**	**318**	*e*P	**P**	**04 08 51.0**	**+2.8**
WMQ				XP	sP	04 09 09.0	-0.6
WMQ				PP	PP	04 11 17.0	+2.3
WMQ				S	S	04 17 31.0	+4.4
WMQ				SS	SS	04 21 46.0	+3.7
WMQ				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,21nm,8.0s						
WMQ				LR	LR		
	comp=N,54nm,16.0s,MS4.0						
WMQ				LR	LR		
	comp=E,49nm,16.0s,MS4.0						
WMQ				LR	LR		
	comp=Z,32nm,15.0s,MS3.6						
AKASG	**Malin Array Be**	**68.53**	**0**	P	**P**	**04 09 05.8**	**-2.1**
	comp=Z,0.8nm,0.4s,mb4.0,baz=0.2,slow=5.7,SNR=5.5						
AKASG				pP	pP	04 09 21.4	-1.9
	comp=Z,1.6nm,0.5s,baz=3.9,slow=6.0,SNR=5.5						
GERES	**GERESS Array B**	**69.63**	**11**	P	**P**	**04 09 13.9**	**-0.7**
	comp=Z,0.2nm,0.3s,mb3.5,baz=333,slow=6.0,SNR=4.3						
GYA	**Guiyang**	**73.23**	**294**	P	**P**	**04 09 40.9**	**+4.4**
ESDC	**Sonseca Array**	**75.86**	**26**	P	**P**	**04 09 51.2**	**-0.2**
	comp=Z,0.9nm,0.6s,mb3.9,baz=338,slow=5.4,SNR=6.0						
BOSA	**Boshof**	**147.35**	**7**	PKPbc	PKPdf	04 17 48.1	+3.8
	comp=Z,2.9nm,1.0s,baz=14,slow=4.2,SNR=4.5						

*ZUR **23** 04:54:03.4, 46.97N×8.86E, h2km±2km, ML2.2/11*
*NEIC **23** 04:54:03.4, 47.00N×8.90E, h2km, ML2.6(LDG), ML2.5(VIE), ML2.4(STR), ML2.2(ZUR), After ZUR.*
*CSEM **23** 04:54:03.9±0.1, 46.92N×8.90E, h7km±2km, ML2.6/14, Error ellipse: s-maj=3.6km s-min=2.6km az=18.0*
*STR **23** 04:54:04.5±1.1, 46.97N×8.85E, h10km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **23** 04:54:04.2±0.1, 46.97N×8.91E, h2km, Md2.6/2, Ml2.6/13, Error ellipse: s-maj=2.0km s-min=1.3km az=78.0*
*BGR **23** 04:54:04.8±0.8, 46.96N×8.90E, h5km, ML1.9/1, Error ellipse: s-maj=6.7km s-min=3.3km az=163.0*
ISC 23 04:54:03.0±0.3, 46.93N±0.02×8.82E±0.02, h11km±3km, n43, σ1§09/72, 3C-7D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUO	**Muotathal**	**0.13**	**287⇑**	*i*P	**Pg**	**04 54 06.6**	**+0.3**
MUO				*e*S	**Sg**	**04 54 09.1**	**+0.6**
LLS	**Linth-Limmern**	**0.15**	**122⇓**	*i*P	**Pg**	**04 54 06.8**	**+0.2**
LLS				*e*S	**Sg**	**04 54 09.7**	**+0.8**
PLONS	**Plons**	**0.40**	**72**	*i* S	**Sg**	**04 54 15.9**	**-0.8**
PLONS	**Plons**	**0.40**	**72**	*e*P	**Pg**	**04 54 10.8**	**-0.4**
PLONS	**Plons**	**0.40**	**72**	*e*P	**Pg**	**04 54 10.8**	**-0.4**
ZUR	**Zurich**	**0.47**	**339**	*e*Pg	**Pg**	**04 54 12.8**	**+0.2**
ZUR				*e*Sg	**Sg**	**04 54 19.9**	**+1.0**
FUSIO	**Fusio**	**0.49**	**193**	*i* S	**Sg**	**04 54 21.4**	**+1.9**
FUSIO	**Fusio**	**0.49**	**193⇓**	*i*P	**Pg**	**04 54 14.1**	**+1.2**
FUSIO	**Fusio**	**0.49**	**193⇓**	*i*P	**Pg**	**04 54 14.1**	**+1.2**
WILA	**Wila**	**0.49**	**7**	*e*Pg	**Pg**	**04 54 13.2**	**+0.2**
WILA				*e*Sg	**Sg**	**04 54 19.9**	**+0.3**
WILA	**Wila**	**0.49**	**7⇓**	*i*P	**Pg**	**04 54 13.1**	**+0.1**
WILA				*i* S	**Sg**	**04 54 19.8**	**+0.2**
LIENZ	**Alp Oberkamor**	**0.59**	**51**	*e*Sg	**Sg**	**04 54 22.8**	**0.0**
VDL	**Val di Lei**	**0.63**	**135⇓**	*i*P	**Pb**	**04 54 15.8**	**+0.3**
VDL				*e*S	**Sb**	**04 54 24.8**	**+0.8**
DAVOX	**Davos**	**0.74**	**101**	*i* S	**Sb**	**04 54 27.9**	**+0.6**
STEIN	**Stein am Rhein**	**0.74**	**2**	*e*P	**Pb**	**04 54 17.5**	**0.0**
SULZ	**Sulz-Cheisache**	**0.77**	**321**	*e*Pg	**Pg**	**04 54 20.0**	**+1.5**
SULZ				*e*Sg	**Sg**	**04 54 29.7**	**+0.9**
SLE	**Schleitheim**	**0.87**	**345**	*e*Pg	**Pg**	**04 54 21.0**	**+0.6**
SLE				*e*Sg	**Sg**	**04 54 32.7**	**+0.7**
BALST	**Balsthal**	**0.87**	**298**	*e*P	**Pb**	**04 54 20.6**	**+0.9**
LKBD	**Leukerbad**	**0.99**	**237⇑**	*i*P	**Pb**	**04 54 23.4**	**+1.8**
MUGIO	**Muggio**	**1.02**	**171**	*i*P	**Pb**	**04 54 23.8**	**+1.6**
BBS	**Basel-Blauen**	**1.04**	**301**	*e*Pg	**Pg**	**04 54 24.8**	**+0.9**
BBS				*e*Sg	**Sg**	**04 54 40.0**	**+2.1**
BBS	**Basel-Blauen**	**1.04**	**301**	Pg	**Pg**	**04 54 24.9**	**+1.0**
BBS				Sg	**Sg**	**04 54 40.0**	**+2.1**
FELD	**Feldberg**	**1.10**	**330**	*e*Pg	**Pg**	**04 54 24.9**	**-0.1**
FELD				*e*Sg	**Sg**	**04 54 40.2**	**+0.5**
FELD	**Feldberg**	**1.10**	**330**	Pg	**Pg**	**04 54 25.1**	**+0.1**
FELD				Sg	**Sg**	**04 54 40.2**	**+0.5**
BOURR	**Bourrignon**	**1.18**	**294**	*e*Pg	**Pg**	**04 54 27.5**	**+0.8**
BOURR				*e*Sg	**Sg**	**04 54 44.5**	**+2.0**
LOMF	**Lomont**	**1.43**	**288**	Pg	**Pg**	**04 54 31.4**	**-0.1**
LOMF				Sg	**Sg**	**04 54 51.4**	**+0.8**
BFO	**Black Forest**	**1.44**	**347**	*e*Pn	**Pn**	**04 54 30.8**	**+1.6**
	SNR=3.6						
BFO				*e*Sg	**Sg**	**04 54 49.6**

1.7nm,0.5s,mb3.9
KMI Kunming 41.76 53 P **P** **06 21 17.3 +2.9**
KMI AP pP 06 21 23.0 +4.0
KMI XP sP 06 21 25.8 +5.0
KMI PP PP 06 22 53.0 -1.3
KMI S **S** **06 27 31.3 +0.5**
KMI XS 06 27 41.1
KMI SS SS 06 30 29.4 -2.2
KMI AMB AMB
comp=Z,13nm,1.0s,mb4.5
KMI AMB AMB
comp=Z,28nm,3.1s
KMI LR LR
comp=N,127nm,19.4s,MS4.0
KMI LR LR
comp=E,153nm,18.8s,MS4.0
KMI LR LR
comp=Z,201nm,18.8s,MS4.0
KMI Kunming 41.76 53 P **P** **06 21 17.2 +2.8**
comp=Z,13nm,1.0s,mb4.5
KMI pP pP 06 21 23.0 +4.0
KMI sP sP 06 21 25.8 +5.0
KMI PP PP 06 22 53.0 -1.3
KMI S **S** **06 27 31.3 +0.5**
KMI sS 06 27 41.1
KMI SS SS 06 30 29.4 -2.2
KMI LR LR
comp=Z,200nm,18.8s,MS4.0
MATP Matopo 43.50 238 P **P** **06 21 30.4 +1.7**
comp=Z,2.8nm,0.8s,mb4.1,baz=61,slow=6.8,SNR=4.1
MKAR Makanchi Array 47.03 14 P **P** **06 21 54.8 -1.7**
comp=Z,1.2nm,1.1s,mb3.8,baz=214,slow=10,SNR=5.6
MKAR LR LR 06 42 04.6
comp=Z,62nm,18.4s,MS3.6,baz=184,slow=37
LBTB Lobatse 47.93 234 P **P** **06 22 03.1 -0.8**
comp=Z,4.5nm,0.8s,mb4.5,baz=23,slow=7.7,SNR=3.1
GTA Gaotai 48.16 34 *eP* **P** **06 22 06.8 +1.3**
GTA AP pP 06 22 10.0 -0.1
GTA XP sP 06 22 12.8 +0.9
GTA PP PP 06 23 54.3 -3.0
GTA AMB AMB
comp=Z,2.0nm,1.0s,mb4.1
GTA AMB AMB
comp=Z,80nm,5.1s
GTA LR LR
comp=N,123nm,16.9s,MS4.1
GTA LR LR
comp=E,145nm,18.1s,MS4.1
GTA LR LR
comp=Z,200nm,20.5s,MS4.1
BOSA Boshof 49.91 230 P **P** **06 22 19.4 +0.3**
comp=Z,5.0nm,0.7s,mb4.6,baz=80,slow=8.7,SNR=8.1
BOSA LR LR 06 40 58.5
comp=Z,294nm,18.5s,MS4.3,baz=29,slow=33
BOSA Boshof 49.91 230 P **P** **06 22 19.4 +0.3**
BOSA LR LR 06 40 58.5
KURK Kurchatov 50.00 10 *eP* **P** **06 22 17.6 -1.8**
comp=Z,2.9nm,0.9s,mb4.3
XAN Xi'an 50.83 46 P **P** **06 22 25.5 -0.5**
XAN AMB AMB
comp=Z,13nm,1.1s,mb4.8
BVAR Borovoye Array 51.40 3 P **P** **06 22 30.7 +0.7**
comp=Z,0.5nm,0.6s,mb3.6,baz=170,slow=8.8,SNR=3.5
ZAL Zalesovo 54.27 13 P **P** **06 22 50.4 -1.0**
comp=Z,1.6nm,0.5s,mb4.2,baz=301,slow=1.4,SNR=6.9
ZAL LR LR 06 46 34.9
comp=Z,99nm,20.0s,MS3.9,baz=176,slow=37
SONM Songino Array 57.35 31 P **P** **06 23 14.1 +0.3**
comp=Z,4.3nm,1.1s,mb4.4,baz=231,slow=7.3,SNR=12
SONM LR LR 06 48 07.5
comp=Z,205nm,20.4s,MS4.2,baz=81,slow=36
GERES GERESS Array B 65.45 324 LR LR 06 53 44.7
comp=Z,39nm,18.0s,MS3.6,baz=272,slow=37
MAW Mawson 69.05 182 P **P** **06 24 30.3 -0.5**
comp=Z,1.1nm,0.7s,mb3.9,baz=343,slow=5.8,SNR=3.7
MAW LR LR 06 48 59.3
comp=Z,104nm,20.1s,MS4.1,baz=39,slow=31
WRA Warramunga Arr 69.39 112 P **P** **06 24 33.2 -0.5**
comp=Z,2.9nm,0.7s,mb4.3,baz=287,slow=5.9,SNR=17
WRAB Tennant Creek 69.40 112 *eP* **P** **06 24 33.0 -0.7**
comp=Z,4.8nm,0.7s,mb4.5
DBIC Dimbokro 71.71 276 LR LR 06 58 23.7
comp=Z,38nm,18.6s,MS3.7,baz=174,slow=38
ARCES ARCESS Array B 73.22 346 LR LR 06 55 21.4
comp=Z,52nm,18.2s,MS3.9,baz=106,slow=34
SNAA Sanae 85.17 197 LR LR 06 55 17.7
comp=Z,32nm,21.2s,MS3.7,baz=173,slow=30
VNDA Vanda 92.56 167 LR LR 06 59 48.1
comp=Z,74nm,21.7s,MS4.1,baz=309,slow=30
MNTX Cornudas Mount 146.15 348 *e*PKPbc PKPbc 06 33 05.6 +1.3
TXAR Lajitas Array 148.01 344 PKPbc PKPdf 06 33 10.7 +0.8
comp=Z,1.3nm,0.7s,baz=56,slow=3.0,SNR=26

WEL 23 06:31:11.0±0.3,37.69S×176.03E,h220km±4km,ML3.6/14, 1C,Error ellipse: s-maj=6.6km s-min=5.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.03**	**124**	*e*PN	P	06 31 42.8	-0.4
URZ				SN	S	06 32 07.9	-0.3
MWZ	**Matawai**	**1.35**	**119**	*e*PN	P	06 31 45.5	-0.1
MWZ				SN	S	06 32 12.2	-0.2
BKZ	**Black Stump Fm**	**1.52**	**166**	PN	P	06 31 46.9	-0.1
BKZ				SN	S	06 32 14.3	-0.6
WNVZ	**Wahianoa**	**1.67**	**191**	PN	P	06 31 48.6	+0.3
MOVZ	**Moawhango**	**1.73**	**187**	PN	P	06 31 48.5	-0.4
KNZ	**Kokohu**	**1.85**	**136**	*e*PN	P	06 31 49.4	-0.6
KNZ				SN	S	06 32 18.6	-1.5
TSZ	**Takapari Road**	**2.36**	**181**	⇑PN	P	06 31 54.0	-1.2
TSZ				SN	S	06 32 27.2	-2.2
MRZ	**Mangatainoka R**	**2.98**	**187**	*e*PN	P	06 31 59.7	-2.3
MRZ				SN	S	06 32 38.0	-3.5
BFZ	**Birch Farm**	**2.99**	**177**	*e*PN	P	06 31 59.8	-2.3
KIW	**Kapiti Island**	**3.28**	**195**	PN	P	06 32 03.0	-2.5
MTW	**Mount Morrison**	**3.48**	**187**	PN	P	06 32 04.6	-3.3
CAW	**Cannon Point**	**3.49**	**192**	PN	P	06 32 05.2	-2.8
DUWZ	**D'Urville Isla**	**3.51**	**207**	*e*PN	P	06 32 05.6	-2.6
MRW	**Makara Radio**	**3.68**	**196**	PN	P	06 32 07.5	-2.7

*BJI **23** 06:32:25.3,4.90S×80.40W,h54km,mB5.2,Ms4.9,Msz4.8*
*IDC **23** 06:32:25.5±0.8,4.94S×80.46W,h56km±7km,mb4.2/18, mb1 4.4/20,mb1mx4.3/23,mbtmp4.5/20,MS3.5/8, Ms1 3.5/8,ms1mx3.4/21,Error ellipse: s-maj=19.7km s-min=10.0km az=64.0*
*NEIC **23** 06:32:25.3±0.2,4.95S×80.41W,mb4.8/31,Error ellipse: s-maj=7.8km s-min=3.6km az=63.0*
NEIC Felt [III] at Sullana and [II] at Paita and Piura, Peru.
ISC 23 06:32:23.7±0.2,4.93S±0.04×80.43W±0.06,h55km, h55km±2.0km:pP-P,n118,σ0°79/85,mb4.6/44,MS3.7/9, 5C-1D,Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**7.86**	**153**	*e*Pn	P	**06 34 16.6**	**-1.3**
	62nm,0.5s						
PAYG	**Puerto Ayora**	**10.71**	**293**	*e*Pn	P	**06 34 57.7**	**+0.6**
	40nm,0.6s						
ROSC	**El Rosal**	**11.47**	**32**	P	P	**06 35 08.6**	**+1.2**
	0.2nm,0.3s,baz=102,slow=20,SNR=4.0						
ROSC				LR	LR	06 39 59.3	
	comp=Z,392nm,21.6s,baz=210,slow=40						
ARE	**Arequipa**	**14.43**	**143**	*e*P	P	**06 35 48.0**	**+1.4**
LPAZ	**La Paz**	**16.52**	**134**	P	P	**06 36 14.9**	**+1.5**
	0.7nm,0.3s,baz=326,slow=11,SNR=31						
SDV	**Santo Domingo**	**16.84**	**35**	P	P	**06 36 19.0**	**+1.6**
	1.4nm,0.3s,baz=230,slow=12,SNR=8.0						
SDV	**Santo Domingo**	**16.84**	**35**	*e*P	P	**06 36 18.5**	**+1.1**
	6.4nm,0.6s						
SDV				*e*PcP	PcP	06 41 04.6	+1.1
SAML	**Samuel**	**17.58**	**104**	*e*P	P	**06 36 22.6**	**-4.0**
	16nm,0.6s						
SAML				*es*P		06 36 41.3	
LVC	**Limon Verde**	**20.81**	**149**	P	P	**06 37 04.7**	**+1.7**
	14nm,0.6s,baz=318,slow=8.1,SNR=22						
LVC	**Limon Verde**	**20.81**	**149**	*e*P	P	**06 37 04.3**	**+1.3**
	15nm,0.7s						
SIV	**San Ignacio**	**21.95**	**121**	P	P	**06 37 14.4**	**-0.1**
	4.7nm,0.5s,mb4.2,baz=300,slow=10,SNR=29						
SJG	**San Juan**	**26.88**	**31**	P	P	**06 38 02.8**	**+1.1**
	10nm,0.2s,mb4.9,baz=338,slow=19,SNR=6.5						
CFAA	**Coronel Fontan**	**28.90**	**158**	P	P	**06 38 19.2**	**-0.5**
	0.9nm,0.8s,mb3.6,baz=345,slow=8.9,SNR=15						
CFAA				LR	LR	06 48 06.2	
	comp=Z,16nm,21.6s,MS2.6,baz=152,slow=33						
CPUP	**Villa Florida**	**30.67**	**136**	P	P	**06 38 35.0**	**-0.6**
	1.6nm,0.8s,mb3.9,baz=350,slow=13,SNR=4.3						
CPUP				LR	LR	06 53 35.3	
	comp=Z,149nm,20.2s,MS3.6,baz=189,slow=41						
BDFB	**Brasilia**	**33.57**	**111**	P	P	**06 39 00.4**	**-0.5**
	2.1nm,0.4s,mb4.4,baz=254,slow=9.6,SNR=5.9						
BDFB				LR	LR	06 53 39.2	
	comp=Z,96nm,18.6s,MS3.5,baz=291,slow=38						
BAO	**Brasilia Array**	**33.59**	**111**	P	P	**06 39 01.0**	**-0.1**
PLCA	**Paso Flores**	**36.73**	**167**	P	P	**06 39 27.5**	**-0.2**
	15nm,1.2s,mb4.7,baz=349,slow=8.8,SNR=8.5						
PLCA				PcP	PcP	06 41 48.9	-0.7
	2.5nm,0.7s,baz=312,slow=4.0,SNR=5.4						
PLCA				LR	LR	06 51 25.5	
	comp=Z,72nm,20.9s,MS3.4,baz=13,slow=31						
TRQA	**Tornquist**	**37.01**	**155**	*e*P	P	**06 39 28.9**	**-1.1**
	11nm,0.9s,mb4.7						
TRQA				*e*pP	pP	06 39 43.5	-0.7
TRQA				*e*PcP	PcP	06 41 49.3	-1.1
NHSC	**New Hope**	**37.83**	**0**	*e*P	P	**06 39 37.0**	**+0.2**
	18nm,0.6s,mb5.0						
GOGA	**Godfrey**	**38.24**	**356**	*e*P	P	**06 39 39.5**	**-0.8**
	22nm,1.0s,mb4.8						
LRAL	**Lakeview Retre**	**38.27**	**351**	*e*P	P	**06 39 40.0**	**-0.5**
	7.3nm,0.5s,mb4.7						
LRAL				*e*PcP	PcP	06 41 52.6	-1.8
MYNC	**Murphy**	**39.94**	**355**	*e*P	P	**06 39 54.2**	**-0.1**
	10nm,0.6s,mb4.7						
MYNC				*e*pP	pP	06 40 03.9	-4.8
SWET	**Sewanee**	**40.27**	**353**	*e*P	P	**06 39 55.2**	**-1.8**
CPCT	**Cooper Cave**	**40.35**	**355**	⇓*e*P	P	**06 39 57.9**	**+0.2**
CPCT				*e*pP	pP	06 40 10.9	-1.2
TXAR	**Lajitas Array**	**40.73**	**328**	P	P	**06 40 02.1**	**+1.2**
	1.3nm,0.8s,mb3.6,baz=146,slow=9.3,SNR=14						
TXAR				PcP	PcP	06 42 01.8	-0.4
	2.2nm,0.8s,baz=158,slow=6.5,SNR=9.9						
UALR	**University of**	**41.06**	**345**	*e*P	P	**06 40 04.1**	**+0.5**
	19nm,0.9s,mb4.7						
TZTN	**Tazewell**	**41.36**	**356**	*e*P	P	**06 40 05.2**	**-0.9**
WVT	**Waverly**	**41.43**	**351**	*e*P	P	**06 40 05.3**	**-1.3**
	9.8nm,0.6s,mb4.6						
BLA	**Blacksburg**	**41.92**	**0**	*e*P	P	**06 40 10.7**	**0.0**
	9.0nm,0.7s,mb4.5						
ELN	**Prospectdale**	**41.94**	**360**	*e*P	P	**06 40 11.2**	**+0.3**
CBN	**Corbin**	**43.01**	**4**	*e*P	P	**06 40 19.8**	**+0.2**
	22nm,0.7s,mb5.0						
WCI	**Wyandotte Cave**	**43.28**	**353**	*e*P	P	**06 40 20.1**	**-1.8**
	14nm,0.9s,mb4.7						
MNTX	**Cornudas Mount**	**43.50**	**329**	*e*P	P	**06 40 23.6**	**-0.1**
	5.4nm,0.8s,mb4.3						
MNTX				*e*PcP	PcP	06 42 10.1	-1.4
FVM	**French Village**	**43.69**	**349**	*e*P	P	**06 40 24.6**	**-0.6**
	19nm,0.8s,mb4.9						
CCM	**Cathedral Cave**	**43.93**	**348**	*e*P	P	**06 40 26.4**	**-0.7**
	11nm,0.8s,mb4.7						
ACSO	**Alum Creek Sta**	**45.00**	**357**	*e*P	P	**06 40 34.0**	**-1.6**
	16nm,0.8s,mb4.9						
KSU1	**Kansas State U**	**46.29**	**343**	*e*P	P	**06 40 46.1**	**+0.1**
ANMO	**Albuquerque**	**46.63**	**330**	*e*P	P	**06 40 49.7**	**+1.1**
	16nm,0.8s,mb5.0						
ANMO				*e*pP	pP	06 41 04.2	+1.1
TUC	**Tucson**	**46.95**	**324**	*e*P	P	**06 40 51.5**	**+0.3**
	4.3nm,0.8s,mb4.4						
BINY	**Binghamton**	**47.08**	**5**	*e*P	P	**06 40 51.5**	**-0.6**
	20nm,0.6s,mb5.2						
SDCO	**Great Sand Dun**	**48.44**	**333**	*e*P	P	**06 41 03.3**	**+0.6**
	13nm,0.8s,mb5.0						
PV01	**Paradox Valley**	**50.18**	**331**	*e*P	P	**06 41 16.9**	**+0.7**
PV01				*e*pP	pP	06 41 32.1	+1.4
ISCO	**Idaho Springs**	**50.19**	**335**	*e*P	P	**06 41 17.1**	**+0.9**
	7.4nm,0.9s,mb4.7						
ISCO				*es*P	sP	06 41 34.7	-2.4
PV10	**Paradox Valley**	**50.60**	**331**	*e*P	P	**06 41 18.2**	**-1.1**
USHA	**Ushuaia**	**50.69**	**171**	P	P	**06 41 19.7**	**-0.1**
	6.4nm,0.6s,mb4.7,baz=340,slow=3.9,SNR=13						
SRU	**San Rafael**	**51.90**	**330**	*e*P	P	**06 41 29.4**	**+0.4**
SRU				*e*pP	pP	06 41 41.5	-2.3
MSU	**Marysvale**	**52.28**	**329**	*e*P	P	**06 41 32.2**	**+0.2**
ARUT	**Antelope Range**	**52.42**	**327**	*e*P	P	**06 41 34.2**	**+1.2**
RSSD	**Black Hills**	**53.25**	**339**	*e*P	P	**06 41 39.4**	**+0.3**
	4.5nm,0.7s,mb4.5						
RSSD				*e*pP	pP	06 41 53.8	-0.1
RSSD				*e*PcP	PcP	06 42 44.8	-1.5
DAU	**Daniels Canyon**	**53.26**	**331**	*e*P	P	**06 41 39.6**	**+0.4**
JLU	**Jordanelle**	**53.50**	**331**	*e*P	P	**06 41 41.5**	**+0.4**
TCUT	**Toone Canyon**	**53.88**	**331**	*e*P	P	**06 41 44.3**	**+0.5**
TCUT				*e*PcP	PcP	06 42 48.4	-0.3
PDAR	**Pinedale Array**	**54.33**	**334**	P	P	**06 41 46.6**	**-0.4**
	4.0nm,0.9s,mb4.3,baz=129,slow=7.3,SNR=27						
PDAR				PcP	PcP	06 42 49.2	-1.2
	1.8nm,0.6s,baz=139,slow=6.4,SNR=5.8						
PDAR				LR	LR	07 05 45.9	
	comp=Z,56nm,18.8s,MS3.6,baz=332,slow=37						
BGU	**Big Grassy Mou**	**54.53**	**330**	*e*P	P	**06 41 47.6**	**-0.9**
BGU				*e*pP	pP	06 42 03.1	-0.2
MTUM	**Tungsten Hills**	**55.04**	**323**	*e*P	P	**06 41 53.1**	**+0.7**
LOHW	**Long Hollow**	**55.46**	**334**	*e*P	P	**06 41 55.2**	**-0.1**
	1.7nm,0.7s,mb4.2						
TPAW	**Teton Pass**	**55.52**	**333**	*e*P	P	**06 41 55.6**	**0.0**
	15nm,1.4s,mb4.8						
ELK	**Elko**	**55.52**	**328**	*e*P	P	**06 41 55.7**	**0.0**
	4.1nm,0.7s,mb4.6						
ELK				*e*PcP	PcP	06 42 54.4	-0.6
ELK				*e*ScP		06 46 27.1	
NVAR	**Mina Array Bea**	**55.61**	**324**	P	P	**06 41 57.1**	**+0.7**
	6.9nm,0.7s,mb4.8,baz=138,slow=7.2,SNR=58						
NVAR				pP	pP	06 42 11.3	+0.1
	2.6nm,0.7s,baz=140,slow=7.3,SNR=6.5						
NVAR				PcP	PcP	06 42 54.8	-0.5
	2.3nm,0.8s,baz=143,slow=5.5,SNR=4.0						
BMN	**Battle Mountai**	**56.36**	**327**	*e*P	P	**06 42 01.8**	**0.0**
	8.5nm,0.7s,mb4.9						
ULM	**Lac du Bonnet**	**56.56**	**348**	P	P	**06 42 02.0**	**-1.0**
	19nm,0.9s,mb5.1,baz=168,slow=7.6,SNR=18						
ULM	**Lac du Bonnet**	**56.56**	**348**	*e*P	P	**06 42 01.6**	**-1.4**
	30nm,1.0s,mb5.3						
ULM				*e*pP	pP	06 42 16.6	-1.3
QLMT	**Earthquake Lak**	**56.79**	**334**	*e*P	P	**06 42 05.7**	**+1.0**
MCMT	**McKenzie Canyo**	**57.42**	**333**	*e*P	P	**06 42 08.7**	**-0.5**
MCMT				*e*PcP	PcP	06 43 02.5	+0.2
MSO	**Missoula**	**59.45**	**334**	*e*P	P	**06 42 22.7**	**-0.6**
	9.4nm,0.9s,mb4.8						
BUOR	**Burton Butte**	**60.40**	**325**	P	P	**06 42 30.2**	**+0.2**
BSMT	**Bassoo Peak**	**60.60**	**334**	P	P	**06 42 31.6**	**+0.5**
SCHQ	**Schefferville**	**60.61**	**9**	P	P	**06 42 29.5**	**-1.7**
	3.5nm,0.8s,mb4.5,baz=185,slow=6.6,SNR=3.7						
HBO	**Huckleberry Mo**	**61.46**	**327**	P	P	**06 42 36.8**	**-0.2**
IRO	**Indian Ridge**	**61.53**	**327**	P	P	**06 42 37.8**	**+0.3**
BROR	**Big Rock Looko**	**61.81**	**327**	P	P	**06 42 39.0**	**-0.4**
OD2	**Odessa Site #2**	**62.04**	**332**	P	P	**06 42 41.3**	**+0.4**
TDH	**Tom, Dick, Har**	**62.13**	**328**	P	P	**06 42 42.0**	**+0.5**
MPOR	**Mary's Peak**	**62.56**	**327**	P	P	**06 42 45.2**	**+0.8**
YKA	**Yellowknife Ar**	**72.11**	**344**	P	P	**06 43 43.0**	**-1.0**
	5.4nm,0.7s,mb4.6,baz=136,slow=5.9,SNR=32						
YKA				LR	LR	07 20 32.4	
	comp=Z,35nm,19.3s,MS3.6,baz=80,slow=40						
YKA	**Yellowknife Ar**	**72.11**	**344**	P	P	**06 43 43.0**	**-1.0**
YKA				LR	LR	07 20 32.4	
DBIC	**Dimbokro**	**76.31**	**82**	P	P	**06 44 09.7**	**+0.4**
	4.9nm,0.7s,mb4.6,baz=243,slow=4.8,SNR=11						
DBIC				LR	LR	07 15 18.2	
	comp=Z,87nm,19.1s,MS4.1,baz=168,slow=34						
VNA3	**Neumayer Olymp**	**79.22**	**162**	*e*	PcP	06 44 31.9	-0.8
VNA3	**Neumayer Olymp**	**79.22**	**162**	*e*	pP	06 44 41.0	+1.1
VNA3	**Neumayer Olymp**	**79.22**	**162**	*e*	sP	06 44 48.0	+2.0
VNA3	**Neumayer Olymp**	**79.22**	**162**	⇑*eP*	P	**06 44 23.8**	**-0.5**
VNA3				*e*		06 44 31.9	
VNA3				*e*	pP	06 44 41.0	+1.1
VNA3				*e*		06 44 48.0	
VNA1	**Neumayer--Stat**	**79.50**	**161**	*e*	PcP	06 44 33.3	-0.7
VNA1	**Neumayer--Stat**	**79.50**	**161**	*e*	pP	06 44 43.6	+2.2
VNA1	**Neumayer--Stat**	**79.50**	**161**	*e*	sP	06 44 50.5	+3.0
VNA1	**Neumayer--Stat**	**79.50**	**161**	⇑*eP*	P	**06 44 25.9**	**+0.1**
VNA1				*e*		06 44 33.3	
VNA1				*e*	pP	06 44 43.6	+2.2
VNA1				*e*		06 44 50.5	
VNA2	**Neumayer--Watz**	**79.85**	**161**	*e*	PcP	06 44 33.8	-1.6
VNA2	**Neumayer--Watz**	**79.85**	**161**	*e*	pP	06 44 43.5	+0.2
VNA2	**Neumayer--Watz**	**79.85**	**161**	*e*	sP	06 44 50.5	+1.1
VNA2	**Neumayer--Watz**	**79.85**	**161**	⇑*eP*	P	**06 44 27.1**	**-0.6**
VNA2				*e*		06 44 33.8	
VNA2				*e*	pP	06 44 43.5	+0.2
VNA2				*e*		06 44 50.5	
SNAA Sanae 81.45 162 *e*P **P** **06 44 35.3 -0.8**							
13nm,0.7s,mb5.0							
ESDC Sonseca Array 82.78 49 P **P** **06 44 44.4 +0.8**							
1.0nm,0.6s,mb4.0,baz=270,slow=4.4,SNR=5.5							
ILAR Eielson Array 84.64 337 P **P** **06 44 52.1 -0.3**							
3.3nm,0.7s,mb4.6,baz=152,slow=4.1,SNR=30							
QSPA South Pole Qui 85.16 180 ⇑*eP* **P** **06 44 55.5 +0.8**							
18nm,0.8s,mb5.2							
VNDA Vanda 91.00 191 P **P** **06 45 23.2 +0.5**							
1.1nm,0.7s,mb4.3,baz=86,slow=3.2,SNR=4.4							
STKA Stephens Creek 125.79 225 PKP PKPdf 06 51 20.4 +0.3							
4.4nm,0.6s,baz=152,slow=6.5,SNR=7.0							
BVAR Borovoye Array 126.40 21 PKP PKPdf 06 51 21.5 +0.8							
2.0nm,0.6s,baz=236,slow=1.4,SNR=12							
CTA Charters Tower 127.83 240 *e*P PKPdf 06 51 24.8 +0.4							
3.7nm,0.6s							
CTA Charters Tower 127.83 240 PKP PKPdf 06 51 25.2 +0.9							
4.7nm,0.6s,baz=271,slow=1.4,SNR=6.8							
ZAL Zalesovo 129.68 11 PKP PKPdf 06 51 27.1 +0.1							
5.6nm,0.7s,baz=155,slow=2.3,SNR=28							
ZAL pPKP 06 51 43.3							
1.9nm,0.7s,baz=183,slow=0.7,SNR=3.4							
KURK Kurchatov 131.10 18 *e*PKPdf PKPdf 06 51 30.7 +0.9							
CN2 Changchun 135.07 333 *e*PKP PKPdf 06 51 41.0 +3.6							
MKAR Makanchi Array 135.70 17 PKP PKPdf 06 51 38.6 +0.1							
3.1nm,0.8s,slow=1.2,SNR=17							
MKAR pPKP 06 51 55.3							
0.4nm,0.3s,slow=3.6,SNR=3.1							
SONM Songino Array 136.85 353 PKP PKPdf 06 51 41.3 +0.7							
1.5nm,0.6s,baz=341,slow=1.4,SNR=5.3							
WRA Warramunga Arr 137.82 233 PKP PKPdf 06 51 43.6 +0.5							
8.5nm,0.7s,baz=118,slow=1.7,SNR=41							
HHC Hu-ho-hao-te 142.65 345 *e*PKP PKPdf 06 51 55.8 +4.7							
FITZ Fitzroy Crossi 145.58 228 ⇓*eP* PKPdf 06 51 57.7 +0.9							
23nm,1.1s							
FITZ *e* 06 52 15.4							
GTA Gaotai 145.67 360 *e*PKP PKPdf 06 51 57.9 +1.5							
GTA APKP 06 52 09.8							
GTA SKS SKS 06 59 02.1 +4.2							
GTA SS SS 07 14 09.9 +2.4							
GTA PP PP							
comp=Z,76nm,5.0s							
GTA LR LR							
comp=N,68nm,15.5s,MS4.7							
GTA LR LR							
comp=E,85nm,16.1s,MS4.7							
GTA LR LR							
comp=Z,89nm,14.6s,MS4.7							
SSE Sheshan 146.98 325 PKP PKPdf 06 52 01.9 +3.0							
NJ2 Nanjing 147.53 329 *e*PKP PKPdf 06 52 03.3 +3.6							
LZH Lanzhou 148.74 353 *e*PKP PKPdf 06 52 06.5 +4.9							
LZH APKP 06 52 23.5							
LZH XPKP 06 52 27.5							
XAN Xi'an 149.76 344 PKP PKPdf 06 52 08.8 +5.5							
KOLN Koldanda 152.67 32 *e*P PKPdf 06 52 16.0 +8.2							
GKN Gorkha 153.01 30 *e*P PKPdf 06 52 16.8 +8.6							
comp=Z,24nm,0.7s							
ENH Enshi 153.11 341 *e*PKPbc PKPdf 06 52 16.2 +7.9							
KKN Kakani 153.51 29 *e*P PKPdf 06 52 17.9 +9.0							
comp=Z,6.9nm,0.5s							
DMN Daman 153.57 30 *e*P PKPdf 06 52 16.9 +7.9							
comp=Z,4.6nm,0.5s							
PKI Pulchoki 153.75 29 *e*P PKPdf 06 52 17.3 +8.1							
KMI Kunming 159.69 352 PKP PKPdf 06 52 18.3 +1.4							
KMI PKP2 PKPab 06 52 56.1 -2.0							
KMI SS SS 07 16 37.3 -3.8							
KMI LR LR							
comp=Z,49nm,28.0s,MS4.2							

*CSEM **23** 06:33:20.8,19.02S×169.31E,h33km,mb5.6*
*LDG **23** 06:33:20.7±0.3,17.45S×170.19E,h10km,Mb4.9/2,Error ellipse: s-maj=31.1km s-min=6.5km az=116.0*
*BJI **23** 06:33:42.4,19.07S×169.64E,h232km,mB4.8,mb4.5*
*IDC **23** 06:33:43.4±1.6,19.06S×169.24E,h216km±13km, mb4.2/11,mb1 4.5/12,mb1mx4.4/15,mbtmp4.8/12,Error ellipse: s-maj=16.5km s-min=14.7km az=174.0*
*NEIC **23** 06:33:44.2±1.4,19.14S×169.23E,h227km±12km, mb4.8/20,Error ellipse: s-maj=11.1km s-min=9.1km az=164.0*
ISC 23 06:33:43.7±1.2,19.16S±0.08×169.19E±0.07, h229km±10km,n121,σ0°93/55,mb4.6/29,26C-1D,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.87**	**221**	⇑*eP*	P	**06 34 44.5**	**-1.1**
DZM				*es*	S	**06 35 34.2**	**+0.5**
DZM	**Mont Dzumac**	**3.87**	**221**	P	P	**06 34 44.6**	**-1.1**
	71nm,0.3s,baz=52,slow=18,SNR=843						
DZM				S	S	**06 35 33.6**	**0.0**
	25nm,0.3s,baz=321,slow=22,SNR=4.2						
URZ	**Urewera**	**20.24**	**162**	P	P	**06 38 04.7**	**+2.1**
	16nm,1.0s,baz=265,slow=6.0,SNR=4.2						
CTA	**Charters Tower**	**21.62**	**264**	*e*P	P	**06 38 17.6**	**+1.3**
	21nm,0.6s,mb4.8						
CTA	**Charters Tower**	**21.62**	**264**	P	P	**06 38 18.6**	**+2.3**
	26nm,0.7s,mb4.9,baz=90,slow=12,SNR=42						
CTAO	**Charters Tower**	**21.62**	**264**	*e*P	P	**06 38 18.2**	**+2.0**
	19nm,0.6s,mb4.8						
PMG	**Port Moresby**	**23.42**	**291**	P	P	**06 38 34.6**	**+0.9**
	40nm,0.7s,mb5.1,baz=115,slow=6.5,SNR=10.0						
PMG	**Port Moresby**	**23.42**	**291**	*e*P	P	**06 38 33.8**	**+0.1**
	52nm,0.9s,mb5.1						
CNB	**Canberra Magne**	**23.79**	**223**	⇑*eP*	P	**06 38 38.6**	**+1.6**
	77nm,0.7s,mb5.4						
STKA	**Stephens Creek**	**27.85**	**238**	*e*P	P	**06 39 14.4**	**+0.2**

CN2	**Changchun**	74.37	329	*e*P	P	06 44 57.9	-0.1
KMI	**Kunming**	78.19	302	P	P	06 45 20.4	+0.7
KMI				AMB	AMB		
	comp=Z,11nm,1.3s,mb4.3						
KMI				LR	LR		
	comp=Z,39nm,18.4s						
KMI	**Kunming**	78.19	302	P	P	06 45 20.4	+0.7
	comp=Z,11nm,1.3s,mb4.3						
KMI				LR	LR		
	comp=Z,40nm,18.4s						
SYO	**Syowa Base**	85.00	196	⇑P	P	06 45 42.5	-11
GTA	**Gaotai**	87.04	313	*e*P	P	06 46 05.8	+1.3
GTA				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.5						
SONM	**Songino Array**	87.13	323	P	P	06 46 05.3	+0.6
	comp=Z,7.7nm,0.8s,mb4.5,baz=135,slow=5.2,SNR=21						
BUOR	**Burton Butte**	87.84	44	P	P	06 46 08.8	+0.6
MPOR	**Mary's Peak**	88.08	41	P	P	06 46 10.1	+0.8
NVAR	**Mina Array Bea**	88.78	49	P	P	06 46 13.2	+0.5
	comp=Z,8.2nm,0.9s,mb4.6,baz=219,slow=7.1,SNR=46						
SNAA	**Sanae**	89.24	183	*e*P	P	06 46 13.1	-1.0
	comp=Z,4.0nm,0.8s,mb4.3						
VNA3	**Neumayer Olymp**	89.83	180	⇑*i*P	P	06 46 16.1	-0.8
VNA3	**Neumayer Olymp**	89.83	180	*e*	P	06 46 17.7	+0.8
VNA3	**Neumayer Olymp**	89.83	180	*e*	pP	06 47 06.3	-6.8
VNA2	**Neumayer--Watz**	90.12	181	⇑*i*P	P	06 46 17.7	-0.6
VNA2	**Neumayer--Watz**	90.12	181	*e*	P	06 46 19.5	+1.2
VNA2	**Neumayer--Watz**	90.12	181	*e*	pP	06 47 08.1	-6.4
ILAR	**Eielson Array**	90.17	17	P	P	06 46 16.5	-2.1
	comp=Z,4.8nm,0.7s,mb4.5,baz=241,slow=5.1,SNR=29						
WVOR	**Wild Horse Val**	90.29	45	*e*P	P	06 46 19.6	-0.1
	comp=Z,28nm,1.1s,mb5.0						
WPW	**White Pass**	90.36	40	P	P	06 46 20.3	+0.3
VNA1	**Neumayer--Stat**	90.41	181	⇑*i*P	P	06 46 19.3	-0.3
VNA1	**Neumayer--Stat**	90.41	181	*e*	P	06 46 21.0	+1.4
EBG	**Ellensburg**	91.06	40	P	P	06 46 23.6	+0.5
RPW	**Rockport**	91.20	39	P	P	06 46 23.7	-0.1
DUG	**Dugway**	93.39	49	*e*P	P	06 46 33.4	-0.7
	comp=Z,3.5nm,1.1s,mb4.3						
HWUT	**Hardware Ranch**	94.79	48	*e*P	P	06 46 39.8	-0.6
	comp=Z,2.3nm,0.7s,mb4.4						
MNTX	**Cornudas Mount**	96.11	59	*e*P	P	06 46 46.0	-0.7
	comp=Z,7.6nm,1.3s,mb4.8						
BOZ	**Bozeman (W)**	96.20	44	*e*P	P	06 46 46.0	-0.7
	comp=Z,3.7nm,1.4s,mb4.4						
BW06	**Boulder Array**	96.60	47	*e*P	P	06 46 48.3	-0.3
	comp=Z,4.5nm,1.3s,mb4.5						
PDAR	**Pinedale Array**	96.60	47	P	P	06 46 48.1	-0.5
	comp=Z,0.8nm,0.8s,mb4.0,baz=243,slow=3.3,SNR=6.6						
TXAR	**Lajitas Array**	96.77	61	P	P	06 46 49.8	+0.1
	comp=Z,0.7nm,0.6s,mb4.0,baz=219,slow=4.8,SNR=10						
YKA	**Yellowknife Ar**	100.62	27	P	P	06 47 06.7	+0.3
	comp=Z,2.5nm,0.6s,baz=252,slow=4.9,SNR=12						
MKAR	**Makanchi Array**	101.65	316	P	P	06 47 11.6	+0.2
	comp=Z,0.6nm,0.6s,baz=94,slow=5.8,SNR=6.2						
MKAR	**Makanchi Array**	101.65	316	P	P	06 47 11.6	+0.2
BOSA	**Boshof**	121.09	217	PKP	PKPdf	06 52 10.3	+0.8
	comp=Z,4.7nm,1.1s,baz=116,slow=5.2,SNR=4.4						
ARCES	**ARCESS Array B**	124.98	345	PKP	PKPdf	06 52 16.1	0.0
	comp=Z,2.1nm,0.4s,baz=63,slow=2.3,SNR=35						
KAF	**Kangasniemi**	129.97	338	*e*pkp	PKPdf	06 52 25.1	-0.6
NOA	**NORSAR Array B**	135.36	345	PKP	PKPdf	06 52 36.9	+1.1
	comp=Z,0.7nm,0.6s,baz=27,slow=2.0,SNR=3.1						
AKASG	**Malin Array Be**	135.40	324	PKP	PKPdf	06 52 36.6	+0.4
	comp=Z,1.1nm,0.7s,baz=59,slow=1.9,SNR=8.0						
AKASG				SKP		06 55 50.1	
	comp=Z,0.2nm,0.3s,baz=49,slow=2.8,SNR=4.8						
BRTR	**Keskin Array B**	136.73	308	PKP	PKPdf	06 52 40.2	+1.3
	comp=Z,0.8nm,0.5s,baz=142,slow=4.7,SNR=3.7						
DPC	**Dobruska-Polom**	142.13	332	*e*PKP	PKPdf	06 52 44.5	-3.8
BRG	**Berggiesshubel**	142.78	334	P	PKPdf	06 52 47.6	-1.7
CLL	**Collm**	142.83	335	*i* PKIKP	PKPdf	06 52 47.0	-2.4
PRU	**Pruhonice**	143.19	333	*e*PKP	PKPdf	06 52 49.9	-0.2
EKA	**Eskdalemuir Ar**	143.42	353	PKhKP		06 52 48.1	
	comp=Z,1.1nm,0.5s,baz=0.8,slow=2.9,SNR=6.3						
NKC	**Novy Kostel**	143.88	335	*e*PKP	PKPdf	06 52 51.0	-0.3
MOX	**Moxa**	143.89	336	*i* P	PKPbc	06 52 50.5	-0.1
	comp=Z,logA/T=1.1						
MOX	**Moxa**	143.89	336	*e*P	PKPbc	06 52 50.5	-0.1
DIVS	**Divcibare**	144.22	321	⇑*i*PKP	PKPdf	06 52 52.2	+0.1
KHC	**Kasperske Hory**	144.24	332	*e*PKP	PKPdf	06 52 52.1	+0.1
KHC				pPKP		06 53 49.0	
GERES	**GERESS Array B**	144.40	332	PKP	PKPdf	06 52 52.3	+0.1
	comp=Z,7.3nm,0.6s,baz=45,slow=3.8,SNR=42						
ARSA	**Arzberg**	144.68	328	⇑*i*P	PKPdf	06 52 53.5	+0.7
	comp=Z,12nm,0.9s						
NVSS	**Nova Varos 2**	144.72	320	⇑*i*PKP	PKPdf	06 52 54.4	+1.4
GRF	**Grafenberg Arr**	144.80	335	*e*PKP	PKPdf	06 52 53.5	+0.6
MOA	**Molln**	144.87	330	⇑*i*P	PKPdf	06 52 54.1	+1.0
	comp=Z,32nm,0.7s						
PERS	**Pernice**	145.31	328	*e*PKPbc	PKPbc	06 52 55.1	+0.5
PERS				*e*		06 53 06.9	
OBKA	**Obir**	145.68	328	⇑*i*P	PKPdf	06 52 57.6	+3.1
	comp=Z,10nm,0.7s						
KBA	**Koelnbreinsper**	145.86	330	⇑*i*P	PKPdf	06 52 56.5	+1.7
	comp=Z,8.0nm,0.8s						
BOJS	**Bojanci**	146.01	326	*i* PKPbc	PKPbc	06 52 57.8	+1.4
LJU	**Ljubljana**	146.01	328	*i* PKPbc	PKPbc	06 52 57.5	+1.0
KNDS	**Knezji Dol**	146.44	327	*i* PKPbc	PKPbc	06 52 58.6	+1.2
WTTA	**Wattenberg**	146.50	332	⇑*i*P	PKPdf	06 52 58.9	+3.0
	comp=Z,17nm,0.9s						
WLF	**Walferdange**	146.67	340	*e*PKPbc	PKPbc	06 52 59.6	+1.8
MOTA	**Moosalm**	146.68	332	⇓*i*P	PKPdf	06 52 59.4	+3.2
	comp=Z,12nm,1.0s						
GIVF	**Givet**	146.70	342	*e*PKP1	PKPbc	06 52 59.1	+1.2
SQTA	**Sankt Quirin**	146.73	332	⇑*i*P	PKPdf	06 52 59.2	+2.9
	comp=Z,49nm,1.4s						
BAIF	**Baives**	146.92	342	⇑*i*PKP1	PKPbc	06 53 00.0	+1.6
	comp=Z,19nm,0.5s						
CDF	**Champ du Feu**	147.35	337	⇑*i*PKP1	PKPdf	06 53 01.1	+3.8
	comp=Z,32nm,0.9s						
HINF	**Hinteralfeld**	148.00	337	*e*PKP1	PKPdf	06 53 02.6	+4.3
HAU	**Haudompre**	148.03	338	⇑*i*PKP1	PKPdf	06 53 02.8	+4.4
	comp=Z,26nm,0.8s						
TIP	**Timpagrande**	148.93	316	*e*PKPbc	PKPdf	06 53 06.0	+5.9
AQU	**L'Aquila**	149.10	324	*e*PKPbc	PKPdf	06 53 06.5	+6.2
CABF	**La Chapelle**	149.30	337	⇑*i*PKP1	PKPdf	06 53 06.6	+6.2
	comp=Z,17nm,0.5s						
FLN	**La Foliniere**	149.31	347	*e*PKP1	PKPdf	06 53 05.7	+5.3
	comp=Z,11nm,0.5s						
LDF	**La Druitiere**	149.39	346	*e*PKP1	PKPdf	06 53 05.9	+5.4
LOR	**Lormes**	149.51	340	⇑*i*PKP1	PKPdf	06 53 06.6	+5.9
	comp=Z,17nm,0.6s						
GRR	**Gorron**	149.75	347	*e*PKP1	PKPdf	06 53 06.9	+5.8
SSF	**Saint Saulge**	149.80	340	⇑*i*PKP1	PKPdf	06 53 07.3	+6.1
	comp=Z,14nm,0.6s						
LPL	**La Plagne**	149.96	335	*e*PKP1	PKPdf	06 53 08.4	+6.9
	comp=Z,6.4nm,0.5s						
LPG	**La Plagne**	149.97	335	⇑*i*PKP1	PKPdf	06 53 08.4	+6.9
	comp=Z,23nm,0.9s						
SMF	**Signal de Mont**	150.06	340	*e*PKP1	PKPdf	06 53 07.8	+6.2
AVF	**Avril sur Loir**	150.09	340	⇑*i*PKP1	PKPdf	06 53 07.5	+5.8
SGMF	**Saint Gilles**	150.22	349	*e*PKP1	PKPdf	06 53 07.7	+5.9
	comp=Z,32nm,0.8s						
BNI	**Bardonecchia**	150.37	334	*e*PKPbc	PKPdf	06 53 09.0	+6.8
BGF	**Bois d'Agland**	150.46	341	*e*PKP1	PKPdf	06 53 08.8	+6.6
	comp=Z,10nm,0.5s						
MBDF	**Montbardon**	150.59	334	*e*PKP1	PKPdf	06 53 09.2	+6.7
	comp=Z,13nm,0.8s						
ORIF	**Oris-en-Rattie**	150.80	335	⇑*i*PKP1	PKPdf	06 53 09.9	+7.1
	comp=Z,15nm,0.6s						
TCF	**Toulx Ste Croi**	150.89	341	⇑*i*PKP1	PKPdf	06 53 09.7	+6.8
	comp=Z,11nm,0.7s						
SBF	**Sospel**	151.00	332	*e*PKP1	PKPdf	06 53 10.7	+7.6
MFF	**Saint Martin d**	151.26	345	*e*PKP1	PKPdf	06 53 10.4	+7.0
	comp=Z,16nm,0.8s						
PGF	**Pioggiola**	151.28	329	⇑*i*PKP1	PKPdf	06 53 10.9	+7.3
	comp=Z,53nm,0.8s						
VIVF	**Saint-Julien-l**	151.31	337	*e*PKP1	PKPdf	06 53 11.1	+7.5
FRF	**La Foret Royal**	151.59	333	⇑*i*PKP1	PKPdf	06 53 11.3	+7.3
SMRF	**Simiane la Rot**	151.70	335	*e*PKP1	PKPdf	06 53 12.2	+8.0
	comp=Z,42nm,1.0s						
LMR	**La Mourre**	151.83	333	*e*PKP1	PKPdf	06 53 11.8	+7.4
	comp=Z,13nm,0.8s						
RJF	**Les Rejaudoux**	151.99	341	*e*PKP1	PKPdf	06 53 12.3	+7.7
	comp=Z,6.9nm,0.6s						
LASF	**Ste Croix**	152.28	337	*e*PKP1	PKPdf	06 53 13.3	+8.3
LFF	**La Frestale**	152.55	342	*e*PKP1	PKPdf	06 53 13.6	+8.2

*NNC **23** 06:50:56.4±1.2, 43.86N×86.37E, h22km±6km, mpv2.5, Error ellipse: s-maj=26.7km s-min=7.6km az=46.0*
BJI 23 06:50:54.4, 44.10N×87.04E, h13km, ML3.0, 3C, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**0.55**	**120**	PG	Pg	06 51 04.8	-0.8
WMQ				SG	Sg	06 51 13.3	+0.2
WMQ				Smax			
	comp=N,278nm,0.6s						
WMQ				Smax			
	comp=E,342nm,0.6s						
MK31	**Makanchi Array**	**4.29**	**311**	⇑Pn	Pn	06 52 00.6	-0.4
	comp=E,0.3nm,0.2s,baz=134,slow=15,SNR=16						
MK31				⇑Sn	Sn	06 52 51.3	-0.2
	comp=E,1.6nm,0.3s,baz=133,slow=26,SNR=4.4						
MK31				⇑Lg		06 53 07.2	
	comp=E,6.4nm,0.6s,baz=135,slow=29,SNR=6.3						

*CSEM **23** 07:13:59.1±0.1, 38.11N×45.46E, h2km, ML3.3, Error ellipse: s-maj=3.9km s-min=2.9km az=63.0*
*ISK **23** 07:14:00.1, 38.08N×45.34E, h5km, ML3.5*
*THR **23** 07:14:01.0±0.3, 38.23N×45.66E, h16km, ML3.3*
ISC 23 07:13:58.9±0.6, 38.24N±0.07×45.67E±0.05, h2km, n13, σ1§24/14, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAKU	**Maku**	**1.35**	**326**	*e*Pg	**Pg**	**07 14 26.1**	**+0.2**
MAKU	**Maku**	**1.35**	**326**	*e*Pg	**Pg**	**07 14 26.1**	**+0.1**
SNR=91							
CLDR	**Caldiran**	**1.64**	**304**	PN	**Pn**	**07 14 29.8**	**+0.8**
CLDR				SN	**Sn**	**07 14 51.5**	**+0.6**
HKR	**Hakkari**	**1.66**	**247**	PN	**Pn**	**07 14 27.3**	**-1.9**
VANB	**Van**	**1.82**	**282**	PN	**Pn**	**07 14 30.2**	**-1.4**
GRMI	**Germi**	**1.84**	**71**	*e*PG	**Pg**	**07 14 34.7**	**-0.9**
GRMI				*e*SG	**Sg**	**07 14 59.4**	**-0.6**
GRMI				AML	AML	07 15 08.6	
	comp=N,396nm,0.5s						
GNI	**Garni**	**2.04**	**340**	PN	**Pn**	**07 14 38.0**	**+3.4**
SIRT	**Sirnak**	**2.66**	**255**	*e*PN	**Pn**	**07 14 42.0**	**-1.5**
MSL	**Mosul**	**2.83**	**227**	*e*Pn	Px	07 15 01.5	
MSL				*e*Sn	Sx	07 15 30.5	
DGRG	**David-gareji**	**3.22**	**356**	P	**Pn**	**07 15 01.5**	**+10**
BTMT	**Batman**	**3.29**	**270**	*e*PN	**Pn**	**07 14 53.5**	**+1.0**
SNGE	**Sanandaj**	**3.42**	**156**	*e*Pn	**Pn**	**07 14 55.9**	**+1.6**
SNGE				AML	AML	07 15 56.5	
	comp=N,54nm,0.5s						
ASAO	**Ashtian**	**5.09**	**135**	*e*Pn	**Pn**	**07 15 19.0**	**+0.9**

*IDC **23** 07:41:02.3±2.8, 6.18S×149.27E, h21km±16km, mb4.4/11, mb1 4.6/14, mb1mx4.6/16, mbtmp4.6/14, ML4.5/3, MS3.8/10, Ms1 3.8/10, ms1mx3.7/15, Error ellipse: s-maj=21.5km s-min=14.0km az=89.0*
*HRVD **23** 07:41:07.2±0.8, 6.77S×149.48E, h54km±5km, MW4.7/32, Centroid moment Tensor Solution. LP body waves: s13,c17;Mantle waves: s32,c43; Half duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}0.91±.29; $M_{\theta\theta}$-1.38±.15; $M_{\phi\phi}$0.47±.19; $M_{r\theta}$0.71±.12; $M_{\theta\phi}$-0.88±.21; $M_{r\phi}$0.23±.15; Best double couple: $M_0$1.516×10^16^ NP1:φ=235°, δ32°, λ71°. NP2:φ=77°, δ60°, λ101°. Principal axes: T 1.108, Plg72°, Azm14°; N .818, Plg10°, Azm251°; P -1.924, Plg15°, Azm159°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **23** 07:41:07.2±1.4, 6.36S×149.24E, h64km±13km, mb5.0/11 Error ellipse: s-maj=11.8km s-min=8.6km az=92.0*
ISC 23 07:41:06.5±2.1, 6.34S±0.08×149.2E±0.1, h72km±19km, n45, σ0§84/37, mb4.6/20, 2C, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.64**	**213**	Pn	**P**	**07 42 01.3**	**-0.5**
	136nm,0.3s,baz=41,slow=5.3,SNR=171						
PMG				Sn	**S**	**07 42 44.6**	**+0.9**
	91nm,0.3s,baz=65,slow=16,SNR=14						
HNR	**Honiara**	**11.11**	**107**	LR	LR	07 46 56.1	
	comp=Z,173nm,19.4s,baz=107,slow=32						
CTA	**Charters Tower**	**13.96**	**191**	*e*P	**P**	**07 44 21.9**	**-0.4**
	8.4nm,1.2s						
CTA	**Charters Tower**	**13.96**	**191**	Pn	**P**	**07 44 21.9**	**-0.4**
	0.3nm,0.3s,baz=7.9,slow=20,SNR=6.6						
CTA				LR	LR	07 49 08.0	
	comp=Z,388nm,20.9s,baz=9.8,slow=34						
CTAO	**Charters Tower**	**13.96**	**191**	*e*Pn	**P**	**07 44 22.2**	**-0.1**
	38nm,1.6s						
KAKA	**Kakadu**	**17.66**	**248**	*e*P	**P**	**07 45 20.1**	**+11**
	13nm,0.6s						
WRAB	**Tennant Creek**	**19.74**	**225**	*e*P	**P**	**07 45 31.9**	**-1.2**
	150nm,0.8s						
WRA	**Warramunga Arr**	**19.76**	**225**	P	**P**	**07 45 32.9**	**-0.5**
	7.0nm,0.3s,baz=48,slow=10,SNR=150						
WRA				PcP	PcP	07 49 49.4	+0.4
	0.1nm,0.3s,baz=42,slow=2.0,SNR=4.7						
WRA				ScP		07 53 23.4	
	0.1nm,0.3s,baz=36,slow=2.5,SNR=12						
DZM	**Mont Dzumac**	**22.87**	**135**	*e*P	**P**	**07 46 04.6**	**-0.1**
DZM	**Mont Dzumac**	**22.87**	**135**	P	**P**	**07 46 05.2**	**+0.5**
	30nm,0.6s,mb4.8,baz=333,slow=8.5,SNR=68						
DZM				LR	LR	07 53 40.5	
	comp=Z,378nm,20.2s,baz=19,slow=33						
ARMA	**Armidale**	**24.06**	**175**	*e*P	**P**	**07 45 57.1**	**-19**
FITZ	**Fitzroy Crossi**	**25.76**	**241**	*e*P	**P**	**07 46 32.4**	**0.0**
	89nm,0.9s,mb5.2						
FITZ				*e*	pP	07 46 49.3	+0.2
FITZ	**Fitzroy Crossi**	**25.76**	**241**	P	**P**	**07 46 32.8**	**+0.4**
	123nm,0.8s,mb5.4,baz=60,slow=4.5,SNR=133						
FITZ				ScP		07 53 41.0	
	11nm,0.8s,baz=128,slow=3.3,SNR=6.1						
STKA	**Stephens Creek**	**26.37**	**195**	*e*P	**P**	**07 46 36.9**	**-1.1**
	12nm,0.7s,mb4.4						
STKA	**Stephens Creek**	**26.37**	**195**	P	**P**	**07 46 39.4**	**+1.4**
	15nm,0.7s,mb4.5,baz=0.5,slow=8.5,SNR=27						
STKA				ScP		07 53 43.5	
	2.9nm,1.0s,baz=24,slow=10.0,SNR=3.3						
STKA				LR	LR	07 57 22.9	
	comp=Z,345nm,19.9s,baz=144,slow=37						
FORT	**Forrest**	**31.36**	**217**	⇑*i*P	**P**	**07 47 22.2**	**-0.5**
	14nm,0.6s,mb4.9						
MBWA	**Marble Bar**	**32.08**	**240**	*e*P	**P**	**07 47 28.6**	**-0.4**
	28nm,1.1s,mb4.9						
KLBR	**Kellerberrin**	**38.64**	**225**	⇑*i*P	**P**	**07 48 24.5**	**-0.1**
	18nm,0.5s,mb5.2						
JOW	**Kunigami**	**38.69**	**329**	P	**P**	**07 48 27.9**	**+2.7**
	8.5nm,0.5s,mb4.8,baz=155,slow=10,SNR=5.1						
MUN	**Mundaring**	**39.95**	**226**	*e*P	**P**	**07 48 36.1**	**+0.6**
JNU	**Nakatsue**	**42.92**	**337**	P	**P**	**07 49 00.2**	**+0.3**
	4.3nm,0.5s,mb4.4,baz=108,slow=3.2,SNR=4.3						
JNU				LR	LR	08 05 04.1	
	comp=Z,66nm,20.9s,baz=190,slow=34						
MJAR	**Matsushiro Arr**	**43.88**	**347**	LR	LR	08 06 01.1	
	comp=Z,66nm,20.5s,baz=170,slow=34						
PET	**Petropavlovsk**	**59.68**	**7**	*e*P	**P**	**07 51 04.6**	**-1.1**
	11nm,0.5s,mb5.2						
HIA	**Hailar**	**61.04**	**338**	*e*P	**P**	**07 51 15.0**	**0.0**
	5.3nm,0.4s,mb4.9						
CASY	**Casey**	**65.52**	**196**	*e*P	**P**	**07 51 43.7**	**-0.5**
	5.6nm,0.4s,mb4.8						
SONM	**Songino Array**	**65.76**	**330**	P	**P**	**07 51 46.7**	**+0.6**
	1.9nm,0.5s,mb4.2,baz=145,slow=5.8,SNR=9.3						
SONM				LR	LR	08 17 57.9	
	comp=Z,86nm,20.4s,baz=166,slow=34						
VNDA	**Vanda**	**71.46**	**177**	P	**P**	**07 52 21.7**	**+0.9**
	2.8nm,0.6s,mb4.2,baz=328,slow=6.4,SNR=22						
VNDA	**Vanda**	**71.46**	**177**	P	**P**	**07 52 21.7**	**+0.9**
MKAR	**Makanchi Array**	**79.14**	**320**	P	**P**	**07 53 05.5**	**+0.4**
	1.1nm,0.5s,mb3.9,baz=100,slow=7.4,SNR=14						
MKAR	**Makanchi Array**	**79.14**	**320**	P	**P**	**07 53 05.5**	**+0.4**
ZAL	**Zalesovo**	**80.46**	**327**	P	**P**	**07 53 11.5**	**-0.5**
	2.1nm,0.4s,mb4.3,baz=7.9,slow=9.7,SNR=3.2						
ZAL				LR	LR	08 27 27.3	
	comp=Z,88nm,19.1s,baz=270,slow=35						
ZAL	**Zalesovo**	**80.46**	**327**	P	**P**	**07 53 11.5**	**-0.5**
ZAL				LR	LR	08 27 27.3	
MAW	**Mawson**	**82.77**	**203**	P	**P**	**07 53 24.3**	**+0.6**
	1.9nm,0.6s,mb4.1,baz=104,slow=4.4,SNR=8.8						
ILAR	**Eielson Array**	**84.95**	**23**	P	**P**	**07 53 33.0**	**-1.6**
	4.9nm,0.7s,mb4.6,baz=249,slow=5.2,SNR=45						
ILAR				LR	LR	08 25 59.7	
	comp=Z,51nm,19.6s,baz=358,slow=32						
BVAR	**Borovoye Array**	**88.32**	**324**	P	**P**	**07 53 50.6**	**-0.7**
	0.9nm,0.6s,mb4.0,baz=135,slow=4.1,SNR=5.2						
INK	**Inuvik**	**91.18**	**21**	*e*P	**P**	**07 54 04.4**	**0.0**
	1.3nm,0.5s,mb4.3						
NVAR	**Mina Array Bea**	**95.87**	**52**	P	**P**	**07 54 27.9**	**+1.4**
	0.4nm,0.7s,mb4.0,baz=254,slow=8.1,SNR=3.7						
NVAR	**Mina Array Bea**	**95.87**	**52**	P	**P**	**07 54 27.9**	**+1.4**

YKA	**Yellowknife Ar**	**98.47**	**28**	LR	LR	08 39 34.1	
	comp=Z,52nm,18.8s,baz=270,slow=36						
PLCA	**Paso Flores**	**120.64**	**146**	PKP	PKPdf	07 59 52.9	+2.4
	0.6nm,0.4s,baz=244,slow=1.7,SNR=5.1						
LPAZ	**La Paz**	**136.78**	**122**	PKP	PKPdf	08 00 24.8	+3.0
	1.2nm,0.7s,baz=217,slow=6.6,SNR=5.7						
CPUP	**Villa Florida**	**138.58**	**143**	PKP	PKPdf	08 00 28.7	+3.8
	1.4nm,0.8s,baz=162,slow=3.2,SNR=3.2						
BDFB	**Brasilia**	**152.31**	**142**	PKPbc	PKPdf	08 00 57.6	+9.4
	6.9nm,0.4s,baz=251,slow=2.2,SNR=31						
BDFB				PKPab	PKPab	08 01 09.3	+1.7
	9.3nm,0.8s,baz=198,slow=4.4,SNR=6.6						
BAO	**Brasilia Array**	**152.33**	**142**	P	PKPdf	08 00 57.5	+9.3
DBIC	**Dimbokro**	**154.19**	**272**	PKPbc	PKPdf	08 01 00.6	+10
	2.5nm,0.8s,baz=101,slow=5.2,SNR=3.6						

*NNC **23** 08:23:03.4±3.9, 42.66N×76.43E, h3km±72km, mpv2.5, Error ellipse: s-maj=249.7km s-min=36.8km az=6.0*
KNET 23 08:23:03.2±0.5, 42.33N×76.37E, h14km±1km, ml2.0, 8C-11D, Error ellipse: s-maj=3.6km s-min=2.2km az=87.0, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**0.13**	**228**	⇑P	Pg	08 23 06.7	-0.2
	70nm,0.1s						
ULHL				⇑S	Sg	08 23 10.0	+0.8
	369nm,0.2s						
TKM2	**Tokmak 2**	**0.82**	**316**	⇓P	Pb	08 23 19.3	+0.6
	5.9nm,0.1s,SNR=38						
TKM2				⇓S	Sb	08 23 31.9	+2.5
	78nm,0.1s						
KBK	**Karagaybulak**	**1.10**	**288**	⇑P	Pb	08 23 24.3	+0.8
	6.1nm,0.1s,SNR=9.2						
KBK				⇓S	Sb	08 23 40.4	+2.8
	31nm,0.1s						
CHMS	**Chumysh**	**1.37**	**300**	⇑P	Pn	08 23 28.8	+0.8
	7.2nm,0.2s,SNR=8.2						
CHMS				⇓S	Sb	08 23 48.0	+2.7
	24nm,0.2s						
AAK	**Ala-Archa**	**1.42**	**283**	⇑P	Pn	08 23 29.7	+0.9
	5.9nm,0.3s						
AAK				⇓S	Sb	08 23 49.5	+2.7
	26nm,0.4s						
AAK	**Ala-Archa**	**1.42**	**283**	⇓P	Pn	08 23 29.5	+0.8
	1.7nm,0.3s						
AAK				⇑S	Sb	08 23 49.2	+2.4
	9.9nm,0.4s						
USP	**Ospenovka**	**1.67**	**305**	⇓P	Pn	08 23 33.7	+1.5
	6.6nm,0.1s,SNR=9.3						
USP				⇓S	Sn	08 23 57.2	+3.7
	38nm,0.3s						
EKS2	**Erkin-Say**	**1.95**	**281**	⇓P	Pn	08 23 39.2	+2.9
	2.7nm,0.1s,SNR=5.5						
EKS2				⇓S	Sn	08 24 07.0	+6.3
	11nm,0.2s						
AML	**Almayashu**	**2.00**	**265**	⇓P	Pn	08 23 39.7	+2.7
	8.5nm,0.3s,SNR=5.9						
KK31	**Karatay Array**	**4.39**	**282**	⇑Pg	Pg	08 24 24.2	-6.7
	0.4nm,0.5s,baz=104,slow=15,SNR=6.9						
KK31				⇑Lg		08 25 19.7	
	5.4nm,0.7s,baz=93,slow=26,SNR=13						

**IDC 23 08:35:26.0±3.8, 11.41N×92.24E, mb3.9/4, mb1 4.1/4, mb1mx3.8/19, mbtmp3.9/4, Error ellipse

RUS	**Russkaya**	**6.33 265**	*e*P	**P**	**08 38 15.1 +1.0**
RUS			*e*S	**S**	**08 39 23.4 -2.5**
ESO	**Esso**	**6.40 297**	*i* P	**P**	**08 38 14.7 -0.4**
ESO			Smax		
	comp=Z,50nm,1.2s				
KRMR	**Karymshinskiy**	**6.48 269**	*e*P	**P**	**08 38 18.5 +2.3**
KRMR			*e*S	**S**	**08 39 27.8 -1.9**
GNL	**Ganaly**	**6.51 277**	*e*P	**P**	**08 38 17.8 +1.2**
GNL			*e*S	**S**	**08 39 28.5 -1.9**
GRL	**Gorelyy**	**6.57 267**	*e*P	**P**	**08 38 19.3 +1.9**
GRL			*e*S	**S**	**08 39 31.4 -0.4**
OSSR	**Ossora**	**6.67 334**	*e*P	**P**	**08 38 17.1 -1.8**
APC	**Apacha**	**7.05 271**	*i* P	**P**	**08 38 25.8 +1.7**
APC			*e*S	**S**	**08 39 40.7 -3.1**
APC			Smax		
	comp=Z,80nm,0.9s				
MIPR	**Malaya Ipel'ka**	**7.41 266**	*e*P	**P**	**08 38 31.3 +2.1**
PAU	**Pauzhetka**	**7.61 260**	*i* P	**P**	**08 38 33.5 +1.5**
PAU			*e*S	**S**	**08 39 55.2 -2.6**
PAU			Smax		
	comp=Z,110nm,0.9s				
SEY	**Seymchan**	**12.86 324⇑**	*e*PN	**P**	**08 39 43.6 +0.3**
BILL	**Bilibino**	**14.73 356**	*i* P	**P**	**08 40 09.5 +1.9**
YSS	**Yuzh-Sakhalins**	**17.86 259⇑**	*e*P	**P**	**08 40 55.4 +8.0**
YSS			pmax	pmax	
	comp=Z,14nm,1.0s				
ASAJ	**Asahikawa**	**19.55 252**	LR	LR	08 48 03.8
	comp=Z,46nm,19.8s,baz=332,slow=34				
YAK	**Yakutsk**	**22.30 308**	*e*P	**P**	**08 41 37.1 +1.7**
	comp=Z,54nm,0.9s,mb5.0				
YAK	**Yakutsk**	**22.30 308**	*e*P	**P**	**08 41 37.1 +1.7**
YAK			pmax	pmax	
	comp=Z,54nm,0.9s,mb5.0				
ILAR	**Eielson Array**	**24.84 45**	P	**P**	**08 41 58.3 -1.7**
	comp=Z,1.1nm,0.7s,mb3.5,baz=252,slow=7.4,SNR=11				
MDJ	**Mudanjiang**	**26.91 267**	P	**P**	**08 42 22.9 +3.4**
MDJ			AMB	AMB	
	comp=Z,6.0nm,1.0s,mb4.1				
MDJ			AMB	AMB	
	comp=Z,35nm,3.5s				
INK	**Inuvik**	**30.37 38**	P	**P**	**08 42 48.1 -2.2**
	comp=Z,0.7nm,0.5s,mb3.6,baz=277,slow=8.4,SNR=5.0				
INK	**Inuvik**	**30.37 38**	P	**P**	**08 42 48.2 -2.1**
	comp=Z,8.3nm,1.2s,mb4.3				
INK	**Inuvik**	**30.37 38**	P	**P**	**08 42 48.2 -2.1**
INK			pmax	pmax	
	comp=Z,8.0nm,1.2s				
BOD	**Bodaibo**	**30.56 301**	*e*P	**P**	**08 42 50.9 -1.1**
BOD			pmax	pmax	
	comp=Z,7.0nm,1.0s,mb4.5				
DLBC	**Dease Lake**	**33.56 56**	sP	sP	08 43 28.4 -7.5
	comp=Z,3.4nm,0.7s,baz=298,slow=9.1,SNR=6.6				
DLBC	**Dease Lake**	**33.56 56**	P	**P**	**08 43 18.5 +0.3**
SONM	**Songino Array**	**38.88 288**	P	**P**	**08 44 06.5 +3.2**
	comp=Z,3.9nm,0.9s,mb4.2,baz=60,slow=9.4,SNR=14				
SONM			pP	pP	08 44 13.7 -1.8
	comp=Z,2.3nm,0.8s,baz=52,slow=8.3,SNR=5.9				
SONM			sP	sP	08 44 16.9 -4.0
	comp=Z,2.3nm,0.8s,baz=50,slow=7.9,SNR=5.9				
SONM			LR	LR	08 59 06.3
	comp=Z,66nm,19.6s,MS3.5,baz=116,slow=34				
SONM	**Songino Array**	**38.88 288**	P	**P**	**08 44 06.5 +3.2**
SONM			*SP	sP	08 44 16.9 -4.0
YKA	**Yellowknife Ar**	**39.27 46**	P	**P**	**08 44 05.2 -1.2**
	comp=Z,1.2nm,0.8s,mb3.7,baz=293,slow=8.1,SNR=2.7				
YKA			sP	sP	08 44 16.2 -7.7
	comp=Z,1.3nm,0.6s,baz=293,slow=7.4,SNR=6.2				
ZAK	**Zakamensk**	**39.30 293**	*e*P	**P**	**08 44 09.5 +2.7**
ZAK			pmax	pmax	
	comp=Z,2.0nm,1.0s,mb3.8				
NJ2	**Nanjing**	**41.43 259**	*e*P	**P**	**08 44 25.6 +1.1**
NJ2			PP	PP	08 46 05.0 +1.4
NJ2			S	**S**	**08 50 34.0 -2.3**
NJ2			AMB	AMB	
	comp=Z,10.0nm,0.7s,mb4.5				
NJ2			AMB	AMB	
	comp=Z,430nm,4.6s				
NJ2			LR	LR	
	comp=N,230nm,11.6s				
NJ2			LR	LR	
	comp=E,340nm,20.9s				
NJ2			LR	LR	
	comp=Z,210nm,17.7s				
YBH	**Yreka Blue Hor**	**45.90 76**	P	**P**	**08 45 01.2 +0.7**
	comp=Z,1.6nm,0.7s,mb4.1,baz=358,slow=6.4,SNR=4.9				
WALA	**Waterton Lakes**	**46.34 62**	P	**P**	**08 45 02.9 -1.0**
	comp=Z,14nm,1.1s,mb4.8				
ZAL	**Zalesovo**	**46.95 306**	LR	LR	09 08 05.1
	comp=Z,199nm,19.4s,MS4.1,baz=270,slow=40				
GTA	**Gaotai**	**47.74 282⇑**	*i* P	**P**	**08 45 18.3 +3.2**
GTA			AMB	AMB	
	comp=Z,8.0nm,0.8s,mb4.8				
GTA			AMB	AMB	
	comp=Z,44nm,5.3s				
GTA			LR	LR	
	comp=N,136nm,16.7s,MS4.2				
GTA			LR	LR	
	comp=E,153nm,17.3s,MS4.2				
GTA			LR	LR	
	comp=Z,183nm,16.7s,MS4.1				
BOZ	**Bozeman (W)**	**49.66 65**	*e*P	**P**	**08 45 30.7 +0.8**
	comp=Z,2.5nm,0.8s,mb4.3				
BOZ	**Bozeman (W)**	**49.66 65**	*e*P	**P**	**08 45 30.7 +0.9**
BOZ			pmax	pmax	
	comp=Z,3.0nm,0.8s,mb4.4				
KURK	**Kurchatov**	**51.92 306**	*e*P	**P**	**08 45 47.1 +0.3**
	comp=Z,5.6nm,0.8s,mb4.5				
KURK			*e*pP	pP	08 45 56.8 -2.4
KURK	**Kurchatov**	**51.92 306**	*e*P	**P**	**08 45 47.1 +0.3**
KURK			*e**PP	pP	08 45 56.8 -2.4
KURK			pmax	pmax	
	comp=Z,6.0nm,0.8s,mb4.6				
MKAR	**Makanchi Array**	**52.65 300**	P	**P**	**08 45 52.2 -0.1**
	comp=Z,1.1nm,0.7s,mb3.9,baz=53,slow=6.1,SNR=6.6				
MKAR			pP	pP	08 46 02.5 -2.2
	comp=Z,2.6nm,0.7s,baz=51,slow=7.1,SNR=12				
MKAR			LR	LR	09 09 06.0
	comp=Z,83nm,20.8s,MS3.8,baz=359,slow=37				
MKAR	**Makanchi Array**	**52.65 300**	P	**P**	**08 45 52.2 -0.1**
MKAR			pP	pP	08 46 02.5 -2.2
MKAR			LR	LR	09 09 06.0
BW06	**Boulder Array**	**52.67 66**	P	**P**	**08 45 52.9 +0.3**
	comp=Z,4.5nm,1.2s,mb4.3				
PDAR	**Pinedale Array**	**52.67 66**	P	**P**	**08 45 52.5 -0.1**
	comp=Z,0.5nm,0.6s,mb3.6,baz=304,slow=5.3,SNR=4.9				
PDAR			sP	sP	08 46 03.4 -6.8
	comp=Z,2.9nm,1.0s,baz=315,slow=6.3,SNR=10.0				
BVAR	**Borovoye Array**	**54.19 313**	P	**P**	**08 46 04.0 +0.4**
	comp=Z,6.0nm,0.8s,mb4.6,baz=45,slow=6.3,SNR=26				
BVAR			pP	pP	08 46 13.4 -2.8
	comp=Z,5.6nm,0.8s,baz=53,slow=7.4,SNR=12				
BRVK	**Borovoye**	**54.21 313**	*e*P	**P**	**08 46 04.0 +0.2**
	comp=Z,5.2nm,0.9s,mb4.5				
BRVK			*e*pP	pP	08 46 11.6 -4.7
BRVK	**Borovoye**	**54.21 313**	*e*P	**P**	**08 46 04.0 +0.2**
BRVK			*e**PP	pP	08 46 11.6 -4.7
BRVK			pmax	pmax	
	comp=Z,5.0nm,0.9s,mb4.4				
ARCES	**ARCESS Array B**	**54.48 345**	P	**P**	**08 46 05.9 +0.3**
	comp=Z,3.6nm,0.9s,mb4.3,baz=24,slow=11,SNR=3.3				
ARCES			sP	sP	08 46 16.4 -6.8
	comp=Z,2.8nm,0.8s,baz=12,slow=10,SNR=2.5				
ARCES			LR	LR	09 13 31.0
	comp=Z,47nm,19.9s,MS3.6,baz=54,slow=41				
SRU	**San Rafael**	**54.61 70**	*e*P	**P**	**08 46 07.3 +0.4**
ULM	**Lac du Bonnet**	**54.63 52**	P	**P**	**08 46 05.1 -1.8**
	comp=Z,1.2nm,0.8s,mb4.0,baz=284,slow=8.3,SNR=2.3				
ULM			sP	sP	08 46 16.6 -8.0
	comp=Z,4.6nm,0.9s,baz=324,slow=4.2,SNR=4.6				
JOF	**Joensuu**	**59.33 339**	*e*p	**P**	**08 46 38.9 -1.2**
AAK	**Ala-Archa**	**59.53 301⇓**	*e*P	**P**	**08 46 42.0 +0.2**
KAF	**Kangasniemi**	**61.08 341**	*e*p	**P**	**08 46 51.5 -0.6**
FINES	**FINESS Array B**	**61.74 341**	P	**P**	**08 46 56.0 -0.4**
	comp=Z,2.5nm,0.8s,mb4.4,baz=14,slow=7.9,SNR=8.7				
FINES			LR	LR	09 16 19.1
	comp=Z,44nm,18.3s,MS3.6,baz=4.5,slow=39				
SCHQ	**Schefferville**	**62.73 33**	P	**P**	**08 47 01.8 -1.4**
	comp=Z,1.9nm,0.7s,mb4.3,baz=335,slow=14,SNR=2.3				
SCHQ			sP	sP	08 47 13.4 -7.6
	comp=Z,4.0nm,0.8s,baz=310,slow=9.5,SNR=3.7				
NB2	**NORSAR Subarra**	**64.51 348**	P	**P**	**08 47 14.5 -0.1**
	comp=Z,2.0nm,0.7s,mb4.3,baz=16,slow=7.0				
NB2	**NORSAR Subarra**	**64.51 348**	P	**P**	**08 47 14.5 -0.1**
NB2			pmax	pmax	
	comp=Z,2.0nm,0.7s,mb4.3				
NOA	**NORSAR Array B**	**64.51 348**	P	**P**	**08 47 14.5 -0.1**
	comp=Z,1.9nm,0.8s,mb4.2,baz=15,slow=6.7,SNR=5.8				
NOA			pP	pP	08 47 22.9 -4.6
	comp=Z,0.8nm,0.6s,baz=3.9,slow=5.2,SNR=3.4				
NOA	**NORSAR Array B**	**64.51 348**	P	**P**	**08 47 14.5 -0.1**
NOA			*PP	pP	08 47 22.9 -4.5
NOA			pmax	pmax	
	comp=Z,2.0nm,0.8s				
NOA			pmax	pmax	
	comp=Z,1.0nm,0.6s				
OBN	**Obninsk**	**64.90 332⇑**	*e*P	**P**	**08 47 18.3 +1.1**
OBN			*e*		08 47 52.5
OBN			*e*S	**S**	**08 55 52.4 -1.3**
OBN			pmax	pmax	
	comp=Z,10.0nm,0.7s,mb5.0				
TXAR	**Lajitas Array**	**65.58 73**	P	**P**	**08 47 22.5 +0.4**
	comp=Z,0.4nm,0.4s,mb3.8,baz=305,slow=5.2,SNR=18				
TXAR			sP	sP	08 47 33.7 -6.1
	comp=Z,1.6nm,0.6s,baz=303,slow=4.7,SNR=16				
AKASG	**Malin Array Be**	**70.84 334**	P	**P**	**08 47 54.7 +0.3**
	comp=Z,0.8nm,0.5s,mb3.9,baz=25,slow=6.1,SNR=6.5				
AKASG			pP	pP	08 48 03.2 -4.0
	comp=Z,1.3nm,0.5s,baz=26,slow=6.1,SNR=5.5				
AKASG	**Malin Array Be**	**70.84 334**	P	**P**	**08 47 54.7 +0.3**
AKASG			pP	pP	08 48 03.2 -4.0
SOC	**Sochi**	**73.99 324**	*e*P	**P**	**08 48 21.2 +8.2**
SOC			*e*		08 50 57.2
SOC			*e*PPP	PPP	08 52 39.0 -6.2
DPC	**Dobruska-Polom**	**74.05 342**	*e*P	**P**	**08 48 15.1 +1.9**
DPC			*ex*	x	08 48 24.3
KHC	**Kasperske Hory**	**75.71 344**	*e*P	**P**	**08 48 21.2 -1.6**
KHC			*ex*	x	08 48 32.9
GERES	**GERESS Array B**	**75.96 343**	P	**P**	**08 48 25.5 +1.3**
	comp=Z,0.8nm,0.6s,mb3.9,baz=18,slow=4.2,SNR=7.1				
WRA	**Warramunga Arr**	**78.90 213**	P	**P**	**08 48 45.7 +4.5**
	comp=Z,0.8nm,0.9s,mb3.6,baz=25,slow=5.7,SNR=3.9				
BRTR	**Keskin Array B**	**79.50 326**	P	**P**	**08 48 45.9 +1.8**
	comp=Z,1.2nm,0.7s,mb4.0,baz=27,slow=5.5,SNR=3.7				
BRTR			sP	sP	08 48 57.0 -5.0
	comp=Z,1.6nm,0.8s,baz=38,slow=3.4,SNR=4.0				

*GUC **23** 08:44:17.2±0.7, 42.30S×73.87W, h12km, ML5.0*
*IDC **23** 08:44:17.8±0.6, 42.44S×73.50W, h38km±4km, mb4.3/12, mb1 4.4/13, mb1mx4.4/18, mbtmp4.5/13, MS3.7/8, Ms1 3.7/8, ms1mx3.5/18, Error ellipse: s-maj=20.9km s-min=13.2km az=79.0*
*NEIC **23** 08:44:17.6±0.3, 42.45S×73.85W, mb4.7/26, Error ellipse: s-maj=9.2km s-min=8.1km az=119.0*
NEIC Felt at Castro.

ISC 23 08:44:16.9±0.5, 42.26S±0.08×73.8W±0.1, h40km, h40km±1.2km; pP-P, n71, σ1§22/70, mb4.5/34, MS3.8/6, 5C-2D, Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMCH	**Puerto Montt**	**1.00**	**40**	⇓*i*P	**P**	**08 44 44.4**	**+10**
PMCH				*i* S	**S**	**08 44 59.1**	**+11**
VLCH	**Valdivia**	**2.48**	**9**	⇑*i*P	**P**	**08 44 58.8**	**+3.0**
VLCH				*i* S	**S**	**08 45 30.9**	**+5.8**
VLCH				AMP		08 45 51.1	
	comp=E,8μm,0.8s						
PLCA	**Paso Flores**	**2.85**	**59**	Pn	**P**	**08 45 05.2**	**+4.3**
	comp=E,16nm,0.3s,baz=232,slow=12,SNR=472						
PLCA				Lg		08 45 49.3	
	comp=E,40nm,0.3s,baz=158,slow=15,SNR=4.6						
PLCA				LR	LR	08 46 25.4	
	comp=E,604nm,19.5s,baz=194,slow=46						
PLCA	**Paso Flores**	**2.85**	**59**	⇓*i*Pn	**P**	**08 45 05.1**	**+4.2**
PLCA				Lg		08 45 49.3	
PLCA				LR	LR	08 46 25.4	
CCHI	**Chillan**	**5.80**	**13**	*e*P	**P**	**08 45 44.2**	**+1.6**
TRQA	**Tornquist**	**9.94**	**69**	*e*Pn	**P**	**08 46 41.4**	**+1.2**
	comp=E,26nm,1.2s						
CFAA	**Coronel Fontan**	**11.51**	**24**	Pn	**P**	**08 46 59.5**	**-2.1**
	comp=E,0.3nm,0.3s,baz=197,slow=12,SNR=28						
CFAA				Sn	**S**	**08 49 05.2**	**-4.7**
	comp=E,0.1nm,0.3s,baz=332,slow=14,SNR=9.0						
CFAA				LR	LR	08 51 53.9	
	comp=E,24nm,18.4s,baz=9.5,slow=39						
USHA	**Ushuaia**	**13.06**	**166**	LR	LR	08 53 07.9	
	comp=E,337nm,18.5s,baz=38,slow=41						
EFI	**East Falkland**	**14.23**	**137**	*e*Pn	**P**	**08 47 41.1**	**+3.6**
	comp=E,59nm,0.6s						
LVC	**Limon Verde**	**20.01**	**13**	P	**P**	**08 48 50.5**	**+1.6**
	comp=E,24nm,0.8s,baz=199,slow=9.1,SNR=26						
LVC				LR	LR	08 56 01.3	
	comp=E,177nm,20.1s,MS3.4,baz=191,slow=35						
LVC	**Limon Verde**	**20.01**	**13**	*e*P	**P**	**08 48 50.2**	**+1.3**
	comp=E,60nm,0.9s						
CPUP	**Villa Florida**	**20.83**	**45**	P	**P**	**08 48 56.3**	**-1.2**
	comp=E,11nm,0.5s,baz=240,slow=14,SNR=50						
CPUP				LR	LR	08 57 56.5	
	comp=E,224nm,18.3s,MS3.6,baz=20,slow=39						
LPAZ	**La Paz**	**26.33**	**12**	P	**P**	**08 49 51.5**	**+0.5**
	comp=E,2.7nm,0.4s,mb4.2,baz=255,slow=13,SNR=28						
LPAZ	**La Paz**	**26.33**	**12**	*e*P	**P**	**08 49 51.2**	**+0.2**
SIV	**San Ignacio**	**28.36**	**26**	P	**P**	**08 50 08.8**	**-0.6**
	comp=E,3.3nm,0.8s,mb4.0,baz=220,slow=11,SNR=16						
SIV				pP	pP	08 50 20.1	-0.1
	comp=E,3.9nm,0.8s,baz=212,slow=10.0,SNR=10						
SAML	**Samuel**	**34.46**	**19**	*e*P	**P**	**08 51 02.0**	**-1.0**
	comp=E,3.7nm,0.9s,mb4.3						
SAML				pP	pP	08 51 14.3	+0.3
BDFB	**Brasilia**	**34.53**	**48**	P	**P**	**08 51 01.6**	**-2.1**
	comp=E,2.0nm,0.5s,mb4.3,baz=238,slow=3.6,SNR=4.4						
BDFB				LR	LR	09 06 33.2	
	comp=E,321nm,19.6s,MS4.1,baz=27,slow=39						
VNA3	**Neumayer Olymp**	**42.35**	**154**	⇑*i*	**P**	**08 52 16.3**	**+8.1**
VNA3	**Neumayer Olymp**	**42.35**	**154**	*e*	**P**	**08 52 26.8**	**+19**
VNA1	**Neumayer--Stat**	**42.74**	**153**	⇑*i*	**P**	**08 52 19.8**	**+8.4**
VNA1	**Neumayer--Stat**	**42.74**	**153**	*e*	**P**	**08 52 24.9**	**+13**
VNA1	**Neumayer--Stat**	**42.74**	**153**	*e*	**P**	**08 52 29.4**	**+18**
VNA2	**Neumayer--Watz**	**43.06**	**154**	⇑*i*	**P**	**08 52 22.2**	**+8.2**
VNA2	**Neumayer--Watz**	**43.06**	**154**	*e*	**P**	**08 52 27.1**	**+13**
VNA2	**Neumayer--Watz**	**43.06**	**154**	*e*	**P**	**08 52 31.3**	**+17**
SNAA	**Sanae**	**44.57**	**155**	P	**P**	**08 52 23.6**	**-2.5**
	comp=E,0.5nm,0.6s,mb3.5,baz=264,slow=5.2,SNR=15						
SNAA				pP	pP	08 52 34.4	-3.0
	comp=E,6.3nm,0.9s,baz=265,slow=9.7,SNR=30						
SNAA	**Sanae**	**44.57**	**155**	*e*P	**P**	**08 52 23.9**	**-2.2**
SNAA				*e*pP	pP	08 52 34.8	-2.6
SDV	**Santo Domingo**	**50.98**	**4**	*e*P	**P**	**08 53 15.5**	**-1.4**
	comp=E,6.1nm,0.8s,mb4.6						
SDV				*e*pP	pP	08 53 27.9	-0.3
VNDA	**Vanda**	**55.75**	**193**	P	**P**	**08 53 49.2**	**-2.2**
	comp=E,1.3nm,1.0s,mb3.9,baz=86,slow=5.1,SNR=4.9						
VNDA	**Vanda**	**55.75**	**193**	P	**P**	**08 53 49.2**	**-2.2**
SYO	**Syowa Base**	**58.73**	**157**	⇑P	**P**	**08 54 19.0**	**+6.5**
MAW	**Mawson**	**65.66**	**163**	pP	pP	08 55 08.2	-2.2
	comp=E,5.1nm,0.9s,baz=217,slow=6.8,SNR=11						
MAW				LR	LR	09 24 34.1	
	comp=E,66nm,21.0s,MS3.8,baz=60,slow=37						
CASY	**Casey**	**71.74**	**182**	*e*P	**P**	**08 55 33.5**	**-2.6**
	comp=E,5.8nm,0.8s,mb4.6						
LTX	**Lajitas**	**76.39**	**333**	*e*P	**P**	**08 56 03.2**	**-0.6**
	comp=E,8.3nm,1.0s,mb4.6						
TXAR	**Lajitas Array**	**76.39**	**333**	P	**P**	**08 56 04.1**	**+0.3**
	comp=E,3.4nm,0.8s,mb4.3,baz=154,slow=8.5,SNR=46						
TXAR				pP	pP	08 56 16.5	+0.8
	comp=E,2.5nm,0.9s,baz=135,slow=5.3,SNR=11						
TXAR				sP	sP	08 56 21.0	+0.9
	comp=E,2.3nm,0.9s,baz=153,slow=8.4,SNR=6.4						
TXAR				LR	LR	09 23 06.6	
	comp=E,55nm,19.2s,MS3.9,baz=255,slow=30						
BOSA	**Boshof**	**77.46**	**117**	P	**P**	**08 56 08.2**	**-1.7**
	comp=E,9.2nm,0.9s,mb4.7,baz=197,slow=5.5,SNR=12						
BOSA				pP	pP	08 56 19.1	-2.6
	comp=E,3.8nm,0.6s,baz=243,slow=3.2,SNR=3.2						
BOSA	**Boshof**	**77.46**	**117**	*e*P	**P**	**08 56 07.9**	**-2.0**
	comp=E,6.9nm,0.7s,mb4.7						
SWET	**Sewanee**	**77.91**	**350**	*e*P	**P**	**08 56 10.5**	**-1.7**
SWET				*e*pP	pP	08 56 22.2	-1.9
WVT	**Waverly**	**79.07**	**348**	*e*P	**P**	**08 56 16.9**	**-1.6**
	comp=E,6.1nm,1.2s,mb4.4						
MNTX	**Cornudas Mount**	**79.14**	**333**	*e*P	**P**	**08 56 18.1**	**-0.9**
	comp=E,1.4nm,0.6s,mb4.1						
DBIC	**Dimbokro**	**79.15**	**71**	P	**P**	**08 56 19.0**	**-0.4**
	comp=E,6.2nm,0.8s,mb4.6,baz=200,slow=5.2,SNR=6.2						
DBIC				LR	LR	09 26 55.7	
	comp=E,54nm,21.7s,MS3.8,baz=311,slow=32						
LBTB	**Lobatse**	**80.07**	**115**	*e*P	**P**	**08 56 22.6**	**-1.6**
	comp=E,8.2nm,0.9s,mb4.7						
CCM	**Cathedral Cave**	**81.51**	**346**	*e*P	**P**	**08 56 30.9**	**-0.5**
	comp=E,16nm,0.7s,mb5.1						
CCM				*e*pP	pP	08 56 43.1	-0.4
TUC	**Tucson**	**81.64**	**329**	*e*P	**P**	**08 56 30.0**	**-2.3**
	comp=E,5.2nm,1.4s,mb4.3						
ANMO	**Albuquerque**	**82.47**	**333**	P	**P**	**08 56 37.6**	**+1.1**
	comp=E,5.4nm,0.8s,mb4.5,baz=156,slow=6.5,SNR=27						
ANMO				pP	pP	08 56 50.1	+1.6
	comp=E,3.2nm,0.8s,baz=159,slow=7.7,SNR=5.9						
ANMO	**Albuquerque**	**82.47**	**333**	*e*P	**P**	**08 56 37.2**	**+0.7**
	comp=E,6.7nm,0.9s,mb4.6						
ANMO				*e*pP	pP	08 56 49.6	+1.1
ANMO				pP	pP	08 56 50.1	+1.6
CBKS	**Cedar Bluff**	**84.09**	**340**	*e*P	**P**	**08 56 45.0**	**+0.4**
	comp=E,12nm,1.1s,mb4.9						
SDCO	**Great Sand Dun**	**84.72**	**335**	*e*P	**P**	**08 56 48.4**	**+0.6**
	comp=E,5.0nm,1.2s,mb4.5						
SDCO				*e*pP	pP	08 57 01.0	+1.2
PFO	**Pinyon Flat Ob**	**85.06**	**325**	*e*P	**P**	**08 56 49.9**	**+0.3**
	comp=E,6.2nm,1.0s,mb4.7						
PV01	**Paradox Valley**	**86.07**	**333**	*e*P	**P**	**08 56 54.9**	**+0.5**
SRU	**San Rafael**	**87.61**	**332**	*e*P	**P**	**08 57 02.5**	**+0.6**
MSU	**Marysvale**	**87.67**	**331**	*e*P	**P**	**08 57 03.4**	**+1.3**
TMUT	**Trail Mountain**	**88.02**	**332**	*e*P	**P**	**08 57 05.1**	**+1.3**
TMUT				*e*pP	pP	08 57 15.8	-0.1
DAU	**Daniels Canyon**	**89.03**	**332**	*e*P	**P**	**08 57 09.3**	**+0.7**
DAU				*e*pP	pP	08 57 19.8	-1.0
JLU	**Jordanelle**	**89.27**	**332**	*e*P	**P**	**08 57 10.0**	**+0.3**
DUG	**Dugway**	**89.38**	**331**	*e*P	**P**	**08 57 10.7**	**+0.4**
	comp=E,1.8nm,0.9s,mb4.4						
NVAR	**Mina Array Bea**	**89.96**	**327**	P	**P**	**08 57 14.5**	**+1.5**
	comp=E,1.5nm,0.8s,mb4.4,baz=158,slow=4.9,SNR=11						
RSSD	**Black Hills**	**90.18**	**339**	*e*P	**P**	**08 57 13.6**	**-0.3**
	comp=E,1.2nm,0.6s,mb4.4						
HWUT	**Hardware Ranch**	**90.20**	**333**	*e*P	**P**	**08 57 14.6**	**+0.5**
	comp=E,7.0nm,0.8s,mb5.0						
BW06	**Boulder Array**	**90.57**	**334**	*e*P	**P**	**08 57 15.7**	**-0.1**
	comp=E,3.5nm,0.8s,mb4.7						
PDAR	**Pinedale Array**	**90.57**	**334**	P	**P**	**08 57 15.8**	**0.0**
	comp=E,3.8nm,0.7s,mb4.8,baz=136,slow=5.3,SNR=40						
PDAR				pP	pP	08 57 28.2	+0.2
	comp=E,1.8nm,0.7s,baz=135,slow=3.6,SNR=7.7						
ELK	**Elko**	**90.75**	**330**	*e*P	**P**	**08 57 16.4**	**-0.3**
	comp=E,1.0nm,0.8s,mb4.2						
SNOW	**Snow King Moun**	**91.58**	**334**	*e*P	**P**	**08 57 20.8**	**+0.3**
	comp=E,2.6nm,0.7s,mb4.7						
RRI2	**Red Ridge**	**91.67**	**334**	*e*P	**P**	**08 57 20.8**	**-0.1**
	comp=E,2.3nm,0.8s,mb4.6						
LOHW	**Long Hollow**	**91.67**	**334**	*e*P	**P**	**08 57 20.9**	**+0.1**
	comp=E,3.2nm,1.0s,mb4.6						
TPAW	**Teton Pass**	**91.67**	**334**	*e*P	**P**	**08 57 20.6**	**-0.3**
	comp=E,5.4nm,0.9s,mb4.9						
IMW	**Indian Meadow**	**92.03**	**334**	*e*P	**P**	**08 57 22.8**	**+0.2**
	comp=E,4.5nm,1.0s,mb4.8						
HLID	**Hailey**	**92.91**	**332**	*e*P	**P**	**08 57 27.3**	**+0.7**
	comp=E,1.2nm,0.8s,mb4.4						
MCMT	**McKenzie Canyo**	**93.49**	**333**	*e*P	**P**	**08 57 29.9**	**+0.7**
BRTR	**Keskin Array B**	**126.70**	**67**	PKP	PKPdf	09 03 16.7	+0.7
	comp=E,0.8nm,0.6s,baz=190,slow=2.9,SNR=4.0						
BRTR				pPKP		09 03 28.4	
	comp=E,0.6nm,0.4s,baz=297,slow=3.2,SNR=2.7						
MKAR	**Makanchi Array**	**162.35**	**67**	PKPab	PKPab	09 05 02.0	-1.1
	comp=E,1.0nm,0.7s,baz=256,slow=5.0,SNR=7.2						

*IDC **23** 08:45:51.8±1.2, 53.88N×169.06E, mb3.7/8, mb1 3.9/9, mb1mx3.7/24, mbtmp3.7/9, ML3.7/1, MS2.8/1, Ms1 2.8/1, ms1mx2.5/27, Error ellipse: s-maj=38.6km s-min=11.3km az=26.0*
*MOS **23** 08:45:53.4±1.1, 54.00N×169.03E, h21km, mb4.1/1, Error ellipse: s-maj=31.2km s-min=26.0km az=80.0*
*KRSC **23** 08:45:55.5±1.8, 53.45N×168.63E, h20km±12km, ML4.1*
*NEIC **23** 08:45:55.1±1.0, 53.65N×169.16E, h30km, Error ellipse: s-maj=29.3km s-min=11.8km az=193.0*

ISC 23 08:45:54.4±0.6, 53.59N±0.06×168.89E±0.05, h44km±9km, n39, σ1§27/52, mb3.7/8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**2.35**	**315**	*e*P	**P**	**08 46 33.7**	**+2.4**
BKI				*e*S	**S**	**08 46 59.1**	**0.0**
BKI				Smax			
	290nm,1.0s						
FX1	**Attu Island--F**	**2.67**	**104**	Pn	**P**	**08 46 33.4**	**-2.6**
	42nm,0.3s,baz=326,slow=6.9,SNR=

MJAR Matsushiro Arr 24.67 349 P **P** 09 05 29.1 +0.5
1.6nm,0.7s,mb3.7,baz=176,slow=9.6,SNR=5.4
ASAJ Asahikawa 31.72 358 LR LR 09 19 23.8
comp=Z,28nm,20.1s,MS2.9,baz=344,slow=37
WRA Warramunga Arr 33.38 196 P **P** 09 06 47.0 -0.1
0.6nm,0.6s,mb3.7,baz=20,slow=9.7,SNR=9.2
MKAR Makanchi Array 61.74 317 P **P** 09 10 27.3 +0.3
0.2nm,0.3s,mb3.7,baz=106,slow=8.8,SNR=4.2
MKAR Makanchi Array 61.74 317 P **P** 09 10 27.3 +0.3
ILAR Eielson Array 70.14 25 P **P** 09 11 18.1 -2.2
107nm,0.3s,baz=252,slow=5.4,SNR=2.2
BVAR Borovoye Array 70.33 322 P **P** 09 11 21.8 +0.1
0.8nm,0.3s,baz=104,slow=8.0,SNR=8.2
INK Inuvik 75.92 22 P **P** 09 11 53.8 -0.4
1.8nm,0.8s,mb4.0,baz=34,slow=13,SNR=3.2
DLBC Dease Lake 77.59 33 P **P** 09 12 04.2 +0.4
1.2nm,0.8s,mb3.9,baz=243,slow=6.8,SNR=3.3
YKA Yellowknife Ar 84.45 27 P **P** 09 12 39.5 -0.2
2.2nm,0.9s,mb4.3,baz=294,slow=5.9,SNR=5.6
YKA Yellowknife Ar 84.45 27 P **P** 09 12 39.5 -0.2
NEW Newport 86.84 41 P **P** 09 12 52.4 +0.6
2.3nm,0.6s,mb4.6,baz=243,slow=5.8,SNR=5.2
NVAR Mina Array Bea 88.48 51 P **P** 09 13 01.2 +1.2
2.0nm,0.7s,mb4.5,baz=270,slow=5.4,SNR=17
FINES FINESS Array B 91.91 335 P **P** 09 13 15.0 -0.5
0.5nm,0.6s,mb4.0,slow=2.8,SNR=3.4
PLCA Paso Flores 138.62 139 PKP PKPdf 09 19 36.2 +3.8
1.3nm,0.9s,baz=233,slow=5.1,SNR=2.9
LPAZ La Paz 148.76 101 PKPbc PKPdf 09 19 57.8 +7.3
1.6nm,0.8s,baz=352,slow=4.7,SNR=6.9

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*IDC **23** 09:08:32.0±3.8, 51.70N×178.61E, h73km±39km, mb3.6/8, mb1 3.9/9, mb1mx3.6/25, mbtmp3.9/9, Error ellipse: s-maj=47.8km s-min=23.3km az=9.0*
*NEIC **23** 09:08:34.6, 51.42N×178.69E, h88km, mb3.6/2, After AEIC.*
ISC 23 09:08:31.6±1.3, 51.7N±0.3×178.5E±0.1, h91km±7km, n23, σ0°43/24, mb3.8/10, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIMD	**Kanaga Island**	**2.64**	**86**	P	**P**	**09 09 13.5**	**+0.3**
KIKV	**Kanaga Island**	**2.69**	**84**	P	**P**	**09 09 14.0**	**+0.2**
KIRH	**Kanaga Island**	**2.73**	**83**	P	**P**	**09 09 14.8**	**+0.3**
SMY	**Shemya**	**2.92**	**293**	P	**P**	**09 09 22.1**	**+5.0**
ADAG	**Mount Adagdak**	**3.04**	**82**	P	**P**	**09 09 18.4**	**-0.3**
GSMY	**Great Sitkin M**	**3.38**	**82**	P	**P**	**09 09 23.2**	**-0.3**
GSTR	**Great Sitkin T**	**3.39**	**81**	P	**P**	**09 09 23.5**	**0.0**
FX1	**Attu Island--F**	**3.51**	**292**	P	**P**	**09 09 25.0**	**-0.2**
	baz=90,slow=20,SNR=0.5						
FX1				S	**S**	**09 10 05.7**	**0.0**
	22nm,0.3s,baz=251,slow=20,SNR=7.7						
ATKA	**Atka Island**	**4.54**	**80**	P	**P**	**09 09 39.2**	**-0.2**
ILAR	**Eielson Array**	**22.09**	**40**	P	**P**	**09 13 20.0**	**+0.2**
	64nm,0.4s,baz=236,slow=9.1,SNR=2.9						
DAWY	**Dawson**	**25.05**	**44**	*e*P	**P**	**09 13 48.7**	**+0.4**
INK	**Inuvik**	**28.19**	**36**	P	**P**	**09 14 17.1**	**+0.1**
	1.3nm,0.5s,mb3.7,baz=308,slow=7.9,SNR=11						
YKA	**Yellowknife Ar**	**36.24**	**46**	P	**P**	**09 15 27.2**	**+0.1**
	1.2nm,0.5s,mb4.1,baz=282,slow=7.8,SNR=5.1						
YKA	**Yellowknife Ar**	**36.24**	**46**	P	**P**	**09 15 27.2**	**+0.1**
NEW	**Newport**	**40.34**	**69**	P	**P**	**09 16 01.4**	**+0.1**
	0.9nm,0.4s,mb3.9,baz=297,slow=11,SNR=3.5						
HLID	**Hailey**	**44.46**	**73**	*e*P	**P**	**09 16 34.9**	**-0.1**
	0.4nm,0.6s,mb3.3						
NVAR	**Mina Array Bea**	**45.17**	**81**	P	**P**	**09 16 41.8**	**+1.2**
	0.9nm,0.5s,mb3.8,baz=291,slow=7.7,SNR=6.6						
BW06	**Boulder Array**	**47.80**	**71**	*e*P	**P**	**09 17 00.6**	**-0.7**
	0.7nm,0.7s,mb3.6						
PDAR	**Pinedale Array**	**47.80**	**71**	P	**P**	**09 17 00.7**	**-0.6**
	1.0nm,0.8s,mb3.7,baz=322,slow=4.7,SNR=9.2						
BVAR	**Borovoye Array**	**59.57**	**318**	P	**P**	**09 18 28.0**	**+0.6**
	0.5nm,0.4s,mb3.9,baz=60,slow=7.0,SNR=3.5						
TXAR	**Lajitas Array**	**60.26**	**79**	P	**P**	**09 18 32.2**	**-0.3**
	0.4nm,0.6s,mb3.6,baz=301,slow=5.3,SNR=11						
TXAR	**Lajitas Array**	**60.26**	**79**	P	**P**	**09 18 32.2**	**-0.3**
SCHQ	**Schefferville**	**60.80**	**37**	P	**P**	**09 18 35.0**	**-0.8**
	1.8nm,0.8s,mb4.1,baz=310,slow=12,SNR=4.2						

CASC 23 09:25:38.0±1.4, 11.49N×86.18W, h157km±6km, MD3.6, ML2.8, 10C-9D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSNN	**San Juan del S**	**0.39**	**122**	*e*P	P	09 26 00.7	+0.6
APON	**Apoyo**	**0.44**	**15**	*e*P	P	09 26 00.0	-0.3
CRUN	**El Crucero**	**0.50**	**347**	*e*P	P	09 26 00.9	+0.3
CRUN				*e*S	S	09 26 18.9	+1.0
CONN	**Concepcion**	**0.55**	**82**	*e*P	P	09 26 01.1	+0.3
MADN	**Villa Maderas**	**0.64**	**97**	*e*P	P	09 26 01.7	+0.4
MGAN	**Managua**	**0.66**	**355**	*i*P	P	09 26 01.2	-0.2
MGAN				*e*S	S	09 26 18.9	-0.3
	comp=E,132nm,0.4s						
WILN	**Americas 2**	**0.67**	**360**	*e*P	P	09 26 01.2	-0.2
XAVN	**Gruta Xavier**	**0.67**	**348**	*e*P	P	09 26 01.3	-0.1
APYN	**Apoyeque**	**0.76**	**348**	*e*P	P	09 26 01.7	-0.2
COPN	**Copaltepe**	**0.79**	**330**	*e*P	P	09 26 01.8	-0.3
MOMJ	**Momotombo**	**0.98**	**339**	*e*P	P	09 26 02.9	-0.5
MIRN	**Miramar**	**1.07**	**331**	*e*P	P	09 26 04.2	0.0
CNGN	**Cerro Negro**	**1.12**	**333**	*e*P	P	09 26 04.5	-0.1
LEON	**Leon**	**1.15**	**323**	*e*P	P	09 26 04.7	-0.3
TEL3	**Telica 3**	**1.25**	**329**	*e*P	P	09 26 05.9	0.0
TELN	**Telica**	**1.27**	**330**	*e*S	S	09 26 28.4	+0.5
CRIN	**San Cristobal**	**1.47**	**325**	*e*S	S	09 26 31.1	-0.3
JCR	**Jicaral**	**1.94**	**147**	*i*P	P	09 26 14.2	+1.1
JCR				*e*S	S	09 26 39.7	-0.7
CGA2	**Cerro Gallo 2**	**2.24**	**131**	*e*P	P	09 26 17.1	+0.4
CGA2				*e*S	S	09 26 47.5	+0.9
VPS2	**Volcan Poas 2**	**2.31**	**124**	*e*P	P	09 26 18.9	+1.2
PRS1	**Puriscal**	**2.37**	**129**	*e*P	P	09 26 19.5	+1.1
PRS1				*e*S	S	09 26 52.4	+2.9
LCR2	**La Lucha 2**	**2.76**	**129**	*e*P	P	09 26 23.7	+0.5
LCR2				*e*S	S	09 26 57.9	0.0
BUS	**Buena Vista**	**3.06**	**129**	*e*P	P	09 26 28.1	+0.9
BUS				*e*S	S	09 27 06.7	+2.0

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*BJI **23** 09:31:07.2, 2.50N×94.30E, h28km, mB5.1, mb4.4, Ms4.2, Msz4.1*
*IDC **23** 09:31:09.8±1.0, 2.59N×94.23E, h27km±4km, mb3.9/8, mb1 4.0/8, mb1mx3.8/20, mbtmp4.0/8, MS3.7/4, Ms1 3.7/4, ms1mx3.3/20, Error ellipse: s-maj=36.2km s-min=19.8km az=50.0*
*NEIC **23** 09:31:09.2±0.6, 2.53N×94.33E, mb4.3/6, Error ellipse: s-maj=15.8km s-min=9.3km az=204.0*
ISC 23 09:31:07.7±1.0, 2.6N±0.2×94.36E±0.10, h27km, (h28km±6km:pP-P), n24, σ0°77/19, mb4.1/15, MS3.8/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.81**	**67**	*e*Pn	**Pn**	**09 32 48.3**	**-0.3**
KULM				*ep*Pn		09 32 56.4	
KSM	**Kuching**	**15.98**	**94**	*e*Pn	**P**	**09 34 51.9**	**-0.7**
KMI	**Kunming**	**23.79**	**19**	P	**P**	**09 36 21.0**	**+1.6**
KMI				AP		09 36 29.6	
KMI				XP		09 36 33.1	
KMI				AMB	AMB		
	comp=Z,9.0nm,1.4s,mb4.0						
KMI				AMB	AMB		
	comp=Z,122nm,4.1s						
KMI				LR	LR		
	comp=N,368nm,13.0s,MS4.2						
KMI				LR	LR		
	comp=E,234nm,10.7s,MS4.2						
KMI				LR	LR		
	comp=Z,345nm,14.0s,MS4.0						
KMI	**Kunming**	**23.79**	**19**	P	**P**	**09 36 21.0**	**+1.6**
	comp=Z,9.0nm,1.4s,mb4.0						
KMI				pP		09 36 29.6	
KMI				sP		09 36 33.1	
KMI				PP	PP	09 37 13.7	+21
KMI				S	S	09 41 04.0	+34
KMI				sS		09 41 16.3	
KMI				SS	SS	09 42 22.2	+62
KMI				LR	LR		
	comp=Z,350nm,14.0s,MS4.0						
LSA	**Lhasa**	**27.11**	**354**	P	**P**	**09 36 56.3**	**+5.7**
LSA	**Lhasa**	**27.11**	**354**	*e*P	**P**	**09 36 51.9**	**+1.3**
	comp=Z,9.8nm,0.9s,mb4.3						
GTA	**Gaotai**	**36.96**	**7**	*e*P	**P**	**09 38 16.5**	**-0.1**
GTA				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.3						
GTA				AMB	AMB		
	comp=Z,48nm,4.8s						
GTA				LR	LR		
	comp=N,144nm,19.0s,MS3.9						
GTA				LR	LR		
	comp=E,106nm,19.3s,MS3.9						
GTA				LR	LR		
	comp=Z,109nm,21.1s,MS3.6						
AAK	**Ala-Archa 43.62 339**			P	**P**	**09 39 10.7**	**-1.0**
	comp=Z,1.6nm,0.3s,mb4.2						
WRA	**Warramunga Arr 45.19 122**			P	**P**	**09 39 25.2**	**+0.6**
	comp=Z,1.1nm,1.0s,mb3.7,baz=298,slow=8.7,SNR=4.7						
WRA				pP	pP	09 39 34.2	+1.5
	comp=Z,0.7nm,0.8s,baz=301,slow=9.0,SNR=3.7						
MKAR	**Makanchi Array 45.24 348**			P	**P**	**09 39 24.6**	**0.0**
	comp=Z,4.9nm,0.8s,mb4.4,baz=162,slow=7.7,SNR=18						
MKAR				pP	pP	09 39 33.6	+0.7
	comp=Z,2.9nm,0.5s,baz=168,slow=9.3,SNR=10						
SONM	**Songino Array 46.23 11**			P	**P**	**09 39 32.9**	**+0.5**
	comp=Z,1.4nm,0.8s,mb3.9,baz=194,slow=8.0,SNR=10.0						
SONM				pP	pP	09 39 41.0	+0.3
	comp=Z,3.4nm,1.1s,baz=193,slow=7.5,SNR=10.0						
SONM				LR	LR	10 01 37.0	
	comp=Z,56nm,18.6s,MS3.5,baz=78,slow=40						
KURK	**Kurchatov 49.74 347**			*e*P	**P**	**09 39 59.8**	**0.0**
	comp=Z,7.3nm,1.4s,mb4.5						
KURK				*ep*P	pP	09 40 08.9	+0.7
ZAL	**Zalesovo 51.76 353**			P	**P**	**09 40 14.4**	**-0.7**
	comp=Z,1.6nm,0.6s,mb4.2,baz=275,slow=5.6,SNR=9.4						
MJAR	**Matsushiro Arr 52.62 45**			LR	LR	10 05 00.0	
	comp=Z,58nm,18.4s,MS3.6,baz=265,slow=38						
BVAR	**Borovoye Array 54.02 342**			P	**P**	**09 40 31.3**	**-0.5**
	comp=Z,1.5nm,0.7s,mb4.1,baz=149,slow=8.6,SNR=10						
BVAR				pP	pP	09 40 39.8	-0.4
	comp=Z,3.2nm,0.7s,baz=149,slow=8.6,SNR=10						
BRVK	**Borovoye 54.08 342**			*e*P	**P**	**09 40 31.4**	**-0.9**
	comp=Z,1.0nm,0.5s,mb4.0						
KMBO	**Kilima Mbogo 57.21 267**			LR	LR	10 02 00.4	
	comp=Z,55nm,19.2s,MS3.7,baz=284,slow=32						
MALT	**Malatya 62.09 312**			*e*P	**P**	**09 41 28.8**	**+0.1**
	comp=Z,4.7nm,1.0s,mb4.6						
MALT				*ep*P	pP	09 41 37.9	+0.6
BRTR	**Keskin Array B 66.07 313**			P	**P**	**09 41 53.9**	**-0.8**
	comp=Z,1.3nm,0.9s,mb4.0,baz=129,slow=7.9,SNR=6.0						
BRTR				pP	pP	09 42 02.1	-1.1
	comp=Z,2.2nm,0.9s,baz=135,slow=8.7,SNR=4.8						
SUR	**Sutherland 77.57 236**			LR	LR	10 12 34.4	
	comp=Z,115nm,19.6s,MS4.2,baz=9.6,slow=32						
GERES	**GERESS Array B 81.89 319**			P	**P**	**09 43 27.6**	**+1.4**
	comp=Z,1.0nm,0.7s,mb3.8,baz=101,slow=6.8,SNR=7.6						
GERES				pP	pP	09 43 36.1	+1.1
	comp=Z,2.6nm,0.8s,baz=104,slow=5.5,SNR=6.9						
NOA	**NORSAR Array B 84.40 331**			P	**P**	**09 43 39.3**	**+0.5**
	comp=Z,1.5nm,1.0s,mb4.1,baz=94,slow=5.2,SNR=2.4						
NOA				pP	pP	09 43 47.6	+0.1
	comp=Z,1.9nm,1.0s,baz=97,slow=5.0,SNR=4.6						
TXAR	**Lajitas Array 143.84 27**			PKP	PKPdf	09 50 41.7	-4.4
	comp=Z,0.3nm,0.7s,baz=270,slow=1.3,SNR=5.1						
CPUP	**Villa Florida 144.02 226**			PKP	PKPdf	09 50 42.1	-4.4
	comp=Z,1.1nm,0.7s,baz=170,slow=6.1,SNR=3.2						

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*KRSC **23** 09:54:59.5±1.3, 55.88N×166.01E, h63km±6km, ML4.5*
*IDC **23** 09:55:01.4±0.7, 55.70N×165.57E, mb3.8/10, mb1 4.1/12, mb1mx3.9/25, mbtmp3.9/12, ML3.5/2, MS3.4/6, Ms1 3.4/6, ms1mx3.1/27, Error ellipse: s-maj=19.6km s-min=11.0km az=19.0*
*MOS **23** 09:55:02.5±1.0, 55.70N×165.53E, h25km, mb4.7/9, Error ellipse: s-maj=12.9km s-min=9.6km az=139.0*
*BJI **23** 09:55:04.1, 55.75N×165.40E, h27km, mB4.6, mb4.3*
*NEIC **23** 09:55:05.2±0.3, 55.80N×165.40E, mb4.5/21, Error ellipse: s-maj=12.9km s-min=6.1km az=168.0*
ISC 23 09:55:02.8±0.9, 55.69N±0.04×165.56E±0.03, h23km±7km, h27km±8km:pP-P, n103, σ1°00/128, mb4.3/32, MS3.5/6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.54**	**154**	*i*P	**Pb**	**09 55 14.0**	**+0.5**
BKI				*i*S	**Sb**	**09 55 22.9**	**+2.0**
BKI				Smax			
	10μm,0.8s						
KBTR	**Krutoberegovo**	**1.63**	**290**	P	**Pn**	**09 55 28.2**	**-2.3**
KBTR				S	**Sn**	**09 55 49.7**	**-1.2**
KBTR	**Krutoberegovo**	**1.63**	**290**	*e*P	**Pn**	**09 55 28.1**	**-2.4**
KBTR				*e*S	**Sn**	**09 55 49.2**	**-1.7**
MKZ	**Mys Kozlova**	**2.47**	**244**	P	**Pn**	**09 55 41.6**	**-1.0**
MKZ				S	**Sn**	**09 56 13.2**	**+0.8**
MKZ	**Mys Kozlova**	**2.47**	**244**	*e*P	**Pn**	**09 55 41.6**	**-1.0**
MKZ				*e*S	**Sn**	**09 56 14.6**	**+2.2**
ZLN	**Zelenaya**	**2.70**	**279**	*e*P	**Pn**	**09 55 46.0**	**+0.2**
ZLN				*e*S	**Sn**	**09 56 20.0**	**+1.9**
CIRR	**Tsirk**	**2.74**	**281**	*i*P	**Pn**	**09 55 46.4**	**0.0**
CIRR				*e*S	**Sn**	**09 56 20.4**	**+1.2**
LGNR	**Loginova**	**2.77**	**280**	*e*P	**Pn**	**09 55 46.9**	**+0.1**
LGNR				*e*S	**Sn**	**09 56 21.6**	**+1.7**
KLY	**Klyuchi**	**2.83**	**285**	P	**Pn**	**09 55 45.6**	**-2.0**
KLY				S	**Sn**	**09 56 18.9**	**-2.4**
KLY	**Klyuchi**	**2.83**	**285**	*i*P	**Pn**	**09 55 45.4**	**-2.2**
KLY				*e*S	**Sn**	**09 56 18.2**	**-3.1**
KRSR	**Krestovskiy**	**2.86**	**283**	*e*P	**Pn**	**09 55 47.2**	**-0.9**
KMNR	**Kamenistaya**	**3.01**	**274**	*e*P	**Pn**	**09 55 50.3**	**+0.1**
KMNR				*e*S	**Sn**	**09 56 27.9**	**+1.9**
KPT	**Kopyto**	**3.02**	**278**	*e*P	**Pn**	**09 55 50.4**	**0.0**
KPT				*e*S	**Sn**	**09 56 26.1**	**-0.2**
TUMR	**Tumrok**	**3.11**	**265**	*e*P	**Pn**	**09 55 53.2**	**+1.6**
KOZR	**Kozyr**	**3.21**	**279**	PN	**Pn**	**09 55 53.6**	**+0.5**
KOZR				S	**Sn**	**09 56 32.4**	**+1.3**
KOZ	**Kozyrevsk**	**3.23**	**279**	P	**Pn**	**09 55 53.6**	**+0.3**
KOZ				S	**Sn**	**09 56 32.4**	**+1.0**
KOZ	**Kozyrevsk**	**3.23**	**279**	*e*P	**Pn**	**09 55 53.5**	**+0.2**
SRDR	**Sredinnyy**	**3.34**	**283**	*e*P	**Pn**	**09 55 54.8**	**-0.1**
SRDR				*e*S	**Sn**	**09 56 34.9**	**+0.6**
ESO	**Esso**	**3.88**	**276**	*e*P	**Pn**	**09 56 01.4**	**-1.1**
ESO				Smax			
	110nm,0.8s						
KII	**Karymskiy**	**3.90**	**247**	*e*P	**Pn**	**09 56 03.8**	**+1.0**
SPN	**Mys Shipunski**	**4.15**	**234**	P	**Pn**	**09 56 05.8**	**-0.6**
SPN				S	**Sn**	**09 56 53.1**	**-1.6**
SPN	**Mys Shipunski**	**4.15**	**234**	*e*P	**Pn**	**09 56 05.7**	**-0.7**
SPN				*e*S	**Sn**	**09 56 53.3**	**-1.4**
NLC	**Nalytchevo**	**4.42**	**238**	P	**Pn**	**09 56 09.3**	**-0.9**
NLC				S	**Sn**	**09 57 00.2**	**-1.4**
NLC	**Nalytchevo**	**4.42**	**238**	*e*P	**Pn**	**09 56 09.3**	**-0.9**
NLC				*e*S	**Sn**	**09 57 00.0**	**-1.6**
SDLR	**Sedlovina**	**4.58**	**241**	*e*P	**Pn**	**09 56 12.1**	**-0.4**
SDLR				*e*S	**Sn**	**09 57 06.5**	**+0.8**
SMAR	**Somma**	**4.63**	**241**	*e*P	**Pn**	**09 56 13.0**	**-0.2**
SMAR				*e*S	**Sn**	**09 57 07.6**	**+0.7**
UGLR	**Uglovaya**	**4.65**	**241**	*e*P	**Pn**	**09 56 13.4**	**-0.1**
AVH	**Avacha**	**4.66**	**241**	*e*P	**Pn**	**09 56 13.7**	**+0.1**
AVH				*e*S	**Sn**	**09 57 08.2**	**+0.5**
KOK	**Koryaka**	**4.69**	**242**	*e*P	**Pn**	**09 56 14.0**	**-0.1**
PET	**Petropavlovsk**	**4.84**	**239**	P	**Pn**	**09 56 16.8**	**+0.6**
PET				S	**Sn**	**09 57 12.2**	**0.0**
PET	**Petropavlovsk**	**4.84**	**239**	*e*P	**Pn**	**09 56 15.8**	**-0.4**
PET				*e*S	**Sn**	**09 57 11.5**	**-0.7**
PET	**Petropavlovsk**	**4.84**	**239**	*e*Pn	**Pn**	**09 56 15.3**	**-0.9**
PET				*e*Sn	**Sn**	**09 57 11.9**	**-0.3**
GNL	**Ganaly**	**4.85**	**249**	*e*P	**Pn**	**09 56 16.0**	**-0.3**
KRMR	**Karymshinskiy**	**5.21**	**240**	P	**Pn**	**09 56 21.2**	**-0.2**
KRMR				*e*S	**Sn**	**09 57 21.3**	**-0.2**
FX1	**Attu Island--F**	**5.27**	**119**	Pn	**Pn**	**09 56 19.4**	**-2.8**
	2.3nm,0.3s,baz=180,slow=24,SNR=513						
FX1				Sn	**Sn**	**09 57 17.8**	**-5.1**
	9.5nm,0.3s,baz=311,slow=0.1,SNR=2.9						
RUS	**Russkaya**	**5.28**	**235**	P	**Pn**	**09 56 21.3**	**-1.0**
RUS				S	**Sn**	**09 57 22.0**	**-1.2**
RUS	**Russkaya**	**5.28**	**235**	*e*P	**Pn**	**09 56 21.2**	**-1.1**
RUS				*e*S	**Sn**	**09 57 22.3**	**-0.9**
GRL	**Gorelyy**	**5.41**	**238**	*e*P	**Pn**	**09 56 25.1**	**+0.9**
APC	**Apacha**	**5.64**	**244**	*e*P	**Pn**	**09 56 27.6**	**+0.1**
APC				Smax			
	30nm,1.2s						
SMY	**Shemya**	**5.82**	**117**	*e*Pn	**Pn**	**09 56 29.9**	**-0.1**
MIPR	**Malaya Ipel'ka**	**6.21**	**240**	*e*P	**Pn**	**09 56 35.0**	**-0.6**
PAU	**Pauzhetka**	**6.71**	**235**	*e*P	**Pn**	**09 56 42.2**	**-0.3**
PAU				Smax			
	60nm,0.8s						
ALID	**Alaid**	**7.70**	**235**	P	**Pn**	**09 56 55.8**	**-0.6**
BILL	**Bilibino**	**12.40**	**1**	*i*PN	**P**	**09 58 08.9**	**+8.2**
YSS	**Yuzh-Sakhalins**	**16.65**	**248**	*e*P	**P**	**09 59 03.2**	**+7.1**
YSS				MLR	MLR		
	comp=Z,200nm,12.0s						
YSS				MLR	MLR		
	comp=N,200nm,13.0s						
ASAJ	**Asahikawa 18.68**		**241**	P	**P**	**09 59 20.9**	**-0.5**
	comp=N,0.6nm,0.3s,baz=242,slow=7.5,SNR=7.3						
ASAJ	**Asahikawa 18.68**		**241**	P	**P**	**09 59 20.9**	**-0.5**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
YAK	**Yakutsk 19.41**		**304**	*e*P	**P**	**09 59 24.8**	**-5.0**
	comp=Z,21nm,0.5s						
YAK				*ep*P		09 59 34.1	
YAK	**Yakutsk 19.41**		**304**	*e*P	**P**	**09 59 24.8**	**-5.0**
YAK				pmax	pmax		
	comp=Z,21nm,0.5s						
ILAR	**Eielson Array 24.71**		**49**	P	**P**	**10 00 22.0**	**-1.0**
	comp=Z,0.7nm,0.7s,mb3.3,baz=267,slow=8.0,SNR=11						
ILAR				LR	LR	10 09 55.3	
	comp=Z,59nm,18.1s,MS3.1,baz=177,slow=36						
MAJO	**Matsushiro 26.66**		**236**	P	**P**	**10 00 42.2**	**+0.7**
	comp=Z,6.0nm,0.6s,mb4.3						
MAJO	**Matsushiro 26.66**		**236**	P	**P**	**10 00 42.2**	**+0.7**
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.3						
MAT	**Matsushiro 26.66**		**236**	P	**P**	**10 00 42.3**	**+0.8**
MAT	**Matsushiro 26.66**		**236**	*e*P	**P**	**10 00 42.0**	**+0.5**
MJAR	**Matsushiro Arr 26.66**		**236**	P	**P**	**10 00 42.7**	**+1.2**
	comp=Z,2.0nm,0.7s,mb3.8,baz=34,slow=7.8,SNR=5.9						
INK	**Inuvik 29.84**		**41**	P	**P**	**10 01 09.0**	**-0.9**
	comp=Z,1.2nm,0.8s,mb3.7,baz=190,slow=21,SNR=5.5						
INK	**Inuvik 29.84**		**41**	P	**P**	**10 01 08.9**	**-1.0**
	comp=Z,2.5nm,0.6s,mb4.1						
INK	**Inuvik 29.84**		**41**	P	**P**	**10 01 08.9**	**-1.0**
INK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
DLBC	**Dease Lake 33.94**		**58**	P	**P**	**10 01 47.1**	**+1.2**
	comp=Z,1.0nm,0.6s,mb3.9,baz=298,slow=5.9,SNR=3.0						
SONM	**Songino Array 36.43**		**283**	P	**P**	**10 02 07.7**	**+0.5**
	comp=Z,2.5nm,0.7s,mb4.2,baz=56,slow=8.8,SNR=22						
SONM				LR	LR	10 17 27.6	
	comp=Z,33nm,19.4s,MS3.1,baz=254,slow=37						
ZAK	**Zakamensk 36.70**		**288**	*e*P	**P**	**10 02 10.2**	**+0.8**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.6						
EDM	**Edmonton 44.66**		**58**	*e*P	**P**	**10 03 14.8**	**-0.2**
EDM				*ep*P	pP	10 03 22.3	+0.3
WALA	**Waterton Lakes 46.99**		**63**	*e*P	**P**	**10 03 33.5**	**+0.1**
	comp=Z,4.5nm,0.7s,mb4.5						
WALA				pP	pP	10 03 41.8	+1.2
WVOR	**Wild Horse Val 48.94**		**72**	*e*P	**P**	**10 03 49.6**	**+0.9**
	comp=Z,1.9nm,0.8s,mb4.2						
WVOR	**Wild Horse Val 48.94**		**72**	*e*P	**P**	**10 03 49.7**	**+1.0**
WVOR				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
KURK	**Kurchatov 49.05**		**303**	*e*P	**P**	**10 03 48.3**	**-1.2**
	comp=Z,9.8nm,0.9s,mb4.8						
KURK	**Kurchatov 49.05**		**303**	*e*P	**P**	**10 03 48.3**	**-1.1**
KURK				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
WMQ	**Urumqi 49.09**		**291**	*e*P	**P**	**10 03 51.0**	**+1.1**
WMQ				AP	pP	10 04 01.0	+4.0
WMQ				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.9						
MKAR	**Makanchi Array 49.88**		**297**	P	**P**	**10 03 54.1**	**-1.8**
	comp=Z,1.9nm,0.7s,mb4.2,baz=53,slow=7.4,SNR=20						
HLID	**Hailey 50.41**		**68**	P	**P**	**10 04 00.5**	**+0.5**
	comp=Z,0.8nm,0.4s,mb4.1						
SUMG	**Summit 50.95**		**9**	P	**P**	**10 04 04.1**	**+0.4**
	comp=Z,3.0nm,0.7s,mb4.3						
NVAR	**Mina Array Bea 51.92**		**76**	P	**P**	**10 04 12.5**	**+1.0**
	comp=Z,0.4nm,0.6s,mb3.5,baz=299,slow=9.3,SNR=3.8						
NVAR	**Mina Array Bea 51.92**		**76**	P	**P**	**10 04 12.5**	**+1.0**
IMW	**Indian Meadow 51.99**		**66**	*e*P	**P**	**10 04 12.6**	**+0.5**
	comp=Z,6.0nm,1.0s,mb4.5						
TPAW	**Teton Pass 52.27**		**66**	P	**P**	**10 04 12.3**	**-1.8**
	comp=Z,11nm,1.6s,mb4.5						
LOHW	**Long Hollow 52.36**		**66**	*e*P	**P**	**10 04 16.0**	**+1.2**
	comp=Z,3.1nm,0.9s,mb4.2						
LOHW				*ep*P	pP	10 04 23.5	+1.6
HWUT	**H

LPAZ La Paz 5.66 2 P P 10 11 10.9 +1.6
2.0nm,0.3s,baz=183,slow=7.1,SNR=55
LPAZ La Paz 5.66 2 *e*Pn **P 10 11 10.1 +0.9**
SIV San Ignacio 9.12 51 P **P 10 11 54.9 -1.2**
1.1nm,0.3s,baz=234,slow=11,SNR=31
CFAA Coronel Fontan 9.60 179 P **P 10 11 60.0 -2.6**
0.2nm,0.3s,baz=6.6,slow=13,SNR=11
CPUP Villa Florida 10.99 115 P **P 10 12 21.7 +0.6**
0.1nm,0.3s,baz=302,slow=16,SNR=8.0
SAML Samuel 13.88 22 *e*Pn **P 10 12 58.3 -0.7**
TRQA Tornquist 16.95 162 *e*P **P 10 13 39.7 +2.1**
3.7nm,0.6s
PLCA Paso Flores 18.79 185 P **P 10 13 58.4 -0.6**
0.1nm,0.3s,baz=353,slow=9.3,SNR=2.9
TXAR Lajitas Array 61.29 325 P **P 10 19 51.0 -0.7**
0.1nm,0.7s,mb3.0,baz=180,slow=6.3,SNR=2.6
DBIC Dimbokro 68.40 73 P **P 10 20 37.8 0.0**
2.5nm,0.6s,mb4.2,baz=215,slow=8.7,SNR=6.0
PDAR Pinedale Array 74.76 330 P **P 10 21 15.9 +0.8**
0.3nm,0.9s,mb3.0,baz=126,slow=7.8,SNR=3.6
MKAR Makanchi Array 145.72 37 PKPbc PKPbc 10 29 14.1 +2.5
0.6nm,0.8s,baz=326,slow=2.7,SNR=4.3
MKAR pPKPbc 10 29 46.1
1.2nm,0.8s,baz=322,slow=4.3,SNR=8.3
MKAR Makanchi Array 145.72 37 PKPbc PKPbc 10 29 14.1 +2.5
MKAR pPKPbc 10 29 46.1

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*GUC **23** 10:10:29.0±0.3,23.17S×70.57W,h52km±4km,ML4.0*
*NEIC **23** 10:10:29.0,23.17S×70.57W,h52km,mb3.7/1,After GUC.*
NEIC Felt [III] at Mejillones.
*IDC **23** 10:10:30.6±5.0,23.09S×70.58W,h38km±51km,mb3.3/2, mb1 3.7/4,mb1mx3.5/16,mbtmp3.5/4,MS3.2/4,Ms1 3.2/4, ms1mx2.9/20,Error ellipse: s-maj=48.4km s-min=33.6km az=130.0*

ISC 23 10:10:30.0±1.1,23.25S±0.07×70.5W±0.1,h60km±10km, n15,σ0§97/16,mb3.6/2,MS3.2/1,1C,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANCH	**Antofagasta**	**0.45**	**164**	*i* P	**P**	**10 10 40.9**	**-0.7**
ANCH				*i* S	**S**	**10 10 50.0**	**0.0**
ANCH				AMP		10 10 51.9	
	comp=N,15μm,0.2s						
CPN1	**Cerro Paranal**	**1.38**	**175⇑**	*i* P	**P**	**10 10 54.2**	**+0.6**
CPN1				*i* S	**S**	**10 11 13.4**	**+2.3**
CPN1				AMP		10 11 19.1	
	comp=E,4μm,0.3s						
LVC	**Limon Verde**	**1.63**	**68**	Pn	**P**	**10 10 57.2**	**+0.2**
	comp=E,197nm,0.3s,baz=244,slow=14,SNR=5.5						
LVC				Sn	**S**	**10 11 17.4**	**+0.4**
	comp=E,789nm,0.3s,baz=17,slow=23,SNR=14						
LVC	**Limon Verde**	**1.63**	**68**	*i* P	**P**	**10 10 56.6**	**-0.5**
LVC				*i* S	**S**	**10 11 17.2**	**+0.2**
LVC				AMP		10 11 18.5	
	comp=E,3μm,0.4s						
CPCH	**Copiapo**	**4.10**	**178**	*i* P	**P**	**10 11 30.7**	**-1.0**
CPCH				*i* S	**S**	**10 12 17.7**	**-1.2**
LPAZ	**La Paz**	**7.28**	**19**	LR	LR	10 15 14.1	
	comp=E,131nm,21.8s,baz=354,slow=40						
CFAA	**Coronel Fontan**	**8.57**	**167**	Pn	**P**	**10 12 34.1**	**+0.3**
	comp=E,0.1nm,0.3s,baz=351,slow=14,SNR=4.1						
CFAA				Sn	**S**	**10 14 22.8**	**+13**
	comp=E,0.1nm,0.3s,baz=189,slow=11,SNR=3.9						
SIV	**San Ignacio**	**11.47**	**53**	Pn	**P**	**10 13 09.5**	**-3.9**
	comp=E,0.6nm,0.3s,baz=241,slow=14,SNR=3.1						
CPUP	**Villa Florida**	**12.39**	**107**	LR	LR	10 18 42.3	
	comp=E,120nm,20.0s,baz=307,slow=39						
TRQA	**Tornquist**	**16.49**	**156**	P	**P**	**10 14 18.5**	**-0.2**
	comp=E,4.2nm,0.7s						
TRQA				*e*pP		10 14 30.2	
PLCA	**Paso Flores**	**17.44**	**180**	LR	LR	10 20 00.4	
	comp=E,68nm,19.9s,baz=6.4,slow=32						
SDV	**Santo Domingo**	**31.93**	**360**	LR	LR	10 30 56.0	
	comp=E,55nm,19.3s,MS3.2,baz=27,slow=39						
TXAR	**Lajitas Array**	**61.23**	**327**	P	**P**	**10 20 40.5**	**-0.8**
	comp=E,0.5nm,0.8s,mb3.7,baz=153,slow=10,SNR=5.6						
NVAR	**Mina Array Bea**	**75.95**	**323**	P	**P**	**10 22 13.7**	**+1.4**
	comp=E,0.3nm,0.5s,mb3.4,baz=157,slow=6.9,SNR=3.2						
MKAR	**Makanchi Array**	**147.93**	**36**	PKPbc	PKPdf	10 30 10.5	+5.2
	comp=E,1.0nm,0.7s,baz=315,slow=2.0,SNR=5.2						

KRSC 23 10:25:00.0±1.4,55.87N×166.07E,h64km±6km,ML3.8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.67**	**185**	*i* P	P	10 25 14.4	+0.2
BKI				*i* S	S	10 25 23.3	-1.6
BKI				Smax			
	1μm,0.7s						
KBTR	**Krutoberegovo**	**1.86**	**282**	*e*P	P	10 25 28.9	-1.3
KBTR				*e*S	S	10 25 49.5	-3.0
MKZ	**Mys Kozlova**	**2.81**	**244**	*e*P	P	10 25 42.3	-1.4
MKZ				*e*S	S	10 26 15.4	-1.1
ZLN	**Zelenaya**	**2.97**	**275**	*i* P	P	10 25 47.0	+1.1
ZLN				*e*S	S	10 26 21.3	+0.9
CIRR	**Tsirk**	**3.00**	**277**	*e*P	P	10 25 47.4	+1.1
CIRR				*e*S	S	10 26 21.7	+0.5
LGNR	**Loginova**	**3.03**	**276**	*e*P	P	10 25 45.9	-0.9
KLY	**Klyuchi**	**3.07**	**281**	*e*P	P	10 25 46.3	-1.0
KLY				*e*S	S	10 26 20.2	-2.7
KRSR	**Krestovskiy**	**3.11**	**279**	*e*P	P	10 25 48.0	+0.2
KRSR				*e*S	S	10 26 24.6	+0.7
KPT	**Kopyto**	**3.29**	**274**	*e*P	P	10 25 51.2	+0.8
KPT				*e*S	S	10 26 28.8	+0.2
KMNR	**Kamenistaya**	**3.29**	**270**	*e*P	P	10 25 51.2	+0.8
KOZ	**Kozyrevsk**	**3.49**	**276**	*e*P	P	10 25 54.3	+1.1
KOZ				*e*S	S	10 26 32.7	-0.8
SRDR	**Sredinnyy**	**3.59**	**280**	*e*P	P	10 25 54.8	+0.2
SRDR				*e*S	S	10 26 36.8	+0.8
ESO	**Esso**	**4.15**	**274**	*e*P	P	10 26 03.0	+0.6
ESO				Smax			
	10.0nm,0.8s						
SPN	**Mys Shipunski**	**4.49**	**234**	P	P	10 26 06.7	-0.5
SPN				*e*S	S	10 26 55.1	-3.5
NLC	**Nalytchevo**	**4.76**	**238**	*e*P	P	10 26 10.0	-1.0
NLC				*e*S	S	10 27 02.5	-2.9
SDLR	**Sedlovina**	**4.92**	**241**	*e*P	P	10 26 13.0	-0.2
SDLR				*e*S	S	10 27 05.8	-3.6
SMAR	**Somma**	**4.97**	**241**	*i* P	P	10 26 13.9	0.0
SMAR				*e*S	S	10 27 07.1	-3.6
UGLR	**Uglovaya**	**4.99**	**241**	*e*P	P	10 26 14.2	0.0
UGLR				*e*S	S	10 27 07.5	-3.6
AVH	**Avacha**	**5.00**	**242**	*e*P	P	10 26 14.5	+0.2
AVH				*e*S	S	10 27 10.1	-1.3
KOK	**Koryaka**	**5.04**	**242**	*e*P	P	10 26 15.1	+0.3
PET	**Petropavlovsk**	**5.18**	**240**	P	P	10 26 17.5	+0.7
PET				*e*S	S	10 27 13.7	-2.2
GNL	**Ganaly**	**5.18**	**249**	*e*P	P	10 26 17.3	+0.5
RUS	**Russkaya**	**5.62**	**235**	*e*P	P	10 26 21.5	-1.3
RUS				*e*S	S	10 27 21.7	-5.1
GRL	**Gorelyy**	**5.75**	**238**	*e*P	P	10 26 25.5	+0.9
ALID	**Alaid**	**8.04**	**236**	P	P	10 26 58.6	+2.2

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*CSEM **23** 10:26:36.2±0.8,38.67N×28.55W,h1km±6km,ML1.5,Error ellipse: s-maj=5.1km s-min=2.5km az=141.0,After PDA*
*PDA **23** 10:26:36.2±0.8,38.67N×28.55W,h1km±6km,MD2.7, ML1.5,Error ellipse: s-maj=5.1km s-min=2.5km az=141.0*

SVSA 23 10:26:36.2±0.8,38.67N×28.55W,h1km±6km,MD2.7, ML1.5,Error ellipse: s-maj=5.1km s-min=2.5km az=141.0,Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.12**	**253**	*e*P	Pg	10 26 38.5	-0.1
PCED				*i* S	Sg	10 26 40.8	+0.5
	48nm,0.2s						
CALA	**Caldeira**	**0.14**	**234**	*e*P	Pg	10 26 39.1	0.0
CALA				*e*S	Sg	10 26 41.5	+0.5
HOR	**Horta**	**0.15**	**204**	*e*S	Sg	10 26 41.2	0.0
PICO	**Pico**	**0.19**	**149**	*i* P	Pg	10 26 39.7	-0.3
PICO				*e*S	Sg	10 26 42.9	+0.3
PICO	**Pico**	**0.19**	**149**	*e*S	Sg	10 26 42.9	+0.3
PMAN	**Manadas**	**0.36**	**95**	*e*P	Pg	10 26 43.0	-0.5
PMAN				*e*S	Sg	10 26 48.2	-0.1
	19nm,0.1s						

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*IDC **23** 10:37:42.2±0.9,14.18N×93.86E,h20km±4km,mb3.8/9, mb1 4.0/9,mb1mx3.9/19,mbtmp3.9/9,MS3.8/6,Ms1 3.8/6, ms1mx3.6/16,Error ellipse: s-maj=32.9km s-min=16.4km az=59.0*
*NEIC **23** 10:37:43.3±0.7,14.44N×93.37E,mb4.4/10,Error ellipse: s-maj=19.3km s-min=10.1km az=56.0*
*BJI **23** 10:37:46.9,14.67N×92.90E,h13km,mB4.6,mb4.3,Ms3.8, Msz3.6*

ISC 23 10:37:39.9±0.6,14.22N±0.08×93.10E±0.09,h18km, h18km±1.6km:pP-P,n36,σ1§20/34,mb4.2/18,MS3.9/8, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIS	**Vishakhapatnam**	**10.02**	**292**	*i* P	**P**	**10 40 05.8**	**-0.5**
VIS				*i* S	**Sn**	**10 41 46.1**	**-13**
KULM	**Kulim**	**11.57**	**139**	*e*P	**P**	**10 40 26.6**	**-0.9**
KMI	**Kunming**	**14.13**	**38**	P	**P**	**10 41 13.6**	**+12**
KMI				pP		10 41 23.6	
KMI				sP		10 41 28.5	
KMI				S	**S**	**10 43 46.5**	**+7.7**
PKI	**Pulchoki**	**15.09**	**333**	*e*P	**P**	**10 41 14.3**	**+0.1**
	8.5nm,0.3s						
DMN	**Daman**	**15.26**	**332**	*e*P	**P**	**10 41 15.9**	**-0.5**
	15nm,0.5s						
KKN	**Kakani**	**15.34**	**333**	*e*P	**P**	**10 41 17.0**	**-0.4**
LSA	**Lhasa**	**15.51**	**354**	*e*P	**P**	**10 41 20.4**	**+0.9**
	7.7nm,0.6s						
LSA				*e*		10 41 26.6	
GKN	**Gorkha**	**15.81**	**331**	*e*P	**P**	**10 41 22.3**	**-1.2**
KOLN	**Koldanda**	**16.12**	**328**	*e*P	**P**	**10 41 27.7**	**+0.2**
ENH	**Enshi**	**21.98**	**41**	P	**P**	**10 42 35.3**	**+0.5**
	17nm,0.9s,mb4.5						
LZH	**Lanzhou**	**23.81**	**22**	*e*P	**P**	**10 42 51.6**	**-1.2**
	30nm,1.0s,mb4.7						
LZH				pP		10 43 01.8	
LZH				sP		10 43 06.4	
LZH				PP	PP	10 43 33.0	+6.8
LZH				*e*S	**S**	**10 47 17.0**	**+13**
LZH				sS		10 47 34.0	
LZH				SS	SS	10 48 25.0	+31
LZH				LR	LR		
	comp=Z,690nm,20.7s,MS4.1						
XAN	**Xi'an**	**24.38**	**33**	P	**P**	**10 43 02.5**	**+4.1**
GTA	**Gaotai**	**25.78**	**12**	*e*P	**P**	**10 43 17.6**	**+6.0**
GTA				AP	pP	10 43 21.3	+4.6
GTA				XP	sP	10 43 23.9	+4.8
GTA				PP	PP	10 43 54.1	+2.1
GTA				S	**S**	**10 47 41.8**	**+4.3**
GTA				XS		10 47 48.3	
GTA				SS	SS	10 48 41.4	-1.1
GTA				AMB	AMB		
	comp=Z,5.0nm,1.1s,mb4.0						
GTA				AMB	AMB		
	comp=Z,74nm,4.5s						
GTA				LR	LR		
	comp=N,163nm,17.5s,MS3.7						
GTA				LR	LR		
	comp=E,110nm,18.1s,MS3.7						
GTA				LR	LR		
	comp=Z,116nm,14.3s,MS3.5						
NACB	**Ninganchiao**	**28.61**	**65**	P	**P**	**10 43 33.9**	**-3.7**
MKAR	**Makanchi Array**	**33.71**	**347**	P	**P**	**10 44 22.7**	**+0.4**
	comp=Z,1.0nm,0.7s,mb3.9,baz=162,slow=8.9,SNR=10						
MKAR				pP	pP	10 44 29.7	+2.2
	comp=Z,2.8nm,0.8s,baz=162,slow=8.7,SNR=11						
SONM	**Songino Array**	**35.29**	**16**	P	**P**	**10 44 34.1**	**-1.7**
	comp=Z,0.3nm,0.3s,mb3.7,baz=198,slow=9.1,SNR=4.3						
SONM				sP	sP	10 44 44.0	+0.7
	comp=Z,2.7nm,0.9s,baz=191,slow=7.6,SNR=10.0						
SONM				LR	LR	11 01 43.9	
	comp=Z,105nm,20.6s,MS3.6,baz=228,slow=41						
KURK	**Kurchatov**	**38.25**	**345**	*e*P	**P**	**10 45 01.6**	**+0.8**
	comp=Z,8.6nm,1.1s,mb4.4						
HIA	**Hailar**	**41.21**	**26**	P	**P**	**10 45 24.1**	**-1.2**
	comp=Z,17nm,1.8s,mb4.4						
GNI	**Garni**	**49.41**	**311**	P	**P**	**10 46 29.9**	**-0.9**
	comp=Z,15nm,1.2s,mb4.9						
NWAO	**Narrogin (SRO)**	**52.25**	**154**	P	**P**	**10 46 53.7**	**+1.2**
	comp=Z,111nm,1.9s,mb5.5						
WRA	**Warramunga Arr**	**52.90**	**129**	P	**P**	**10 46 52.9**	**-4.7**
	comp=Z,1.4nm,0.8s,mb4.0,baz=307,slow=8.6,SNR=6.4						
WRA				pP	pP	10 46 58.6	-4.3
	comp=Z,1.5nm,0.7s,baz=306,slow=8.3,SNR=9.0						
WRA				PcP	PcP	10 48 03.1	-3.4
	comp=Z,0.3nm,0.5s,baz=322,slow=3.2,SNR=3.5						
WRAB	**Tennant Creek**	**52.90**	**129**	*e*P	**P**	**10 46 56.5**	**-1.0**
	comp=Z,3.0nm,0.8s,mb4.3						
KMBO	**Kilima Mbogo**	**57.35**	**259**	LR	LR	11 11 44.1	
	comp=Z,51nm,18.3s,MS3.7,baz=94,slow=35						
BRTR	**Keskin Array B**	**57.63**	**308**	P	**P**	**10 47 33.8**	**+2.2**
	comp=Z,0.7nm,0.5s,mb4.0,baz=124,slow=5.2,SNR=3.1						
MLR	**Muntele Rosu**	**64.00**	**314**	P	**P**	**10 48 18.8**	**+4.0**
	comp=Z,1.2nm,0.7s,mb4.1,baz=164,slow=7.4,SNR=3.2						
STKA	**Stephens Creek**	**65.26**	**135**	P	**P**	**10 48 18.6**	**-4.6**
	comp=Z,0.6nm,0.5s,mb3.9,baz=326,slow=11,SNR=2.6						
STKA	**Stephens Creek**	**65.26**	**135**	*e*P	**P**	**10 48 24.5**	**+1.4**
STKA				*e*	pP	10 48 29.9	+1.3
FINES	**FINESS Array B**	**66.67**	**331**	LR	LR	11 23 15.9	
	comp=Z,68nm,18.1s,MS3.9,baz=166,slow=41						
ARCES	**ARCESS Array B**	**68.99**	**340**	LR	LR	11 21 55.1	
	comp=Z,90nm,19.5s,MS4.0,baz=121,slow=38						
GERES	**GERESS Array B**	**72.48**	**317**	P	**P**	**10 49 11.6**	**+4.1**
	comp=Z,1.3nm,0.6s,mb4.1,baz=90,slow=4.0,SNR=11						
NB2	**NORSAR Subarra**	**73.75**	**330**	P	**P**	**10 49 21.2**	**+6.6**
	comp=Z,0.6nm,0.6s,mb3.7,baz=88,slow=5.8						
BOSA	**Boshof**	**78.16**	**236**	P	**P**	**10 49 44.4**	**+4.2**
	comp=Z,1.4nm,0.6s,mb4.1,baz=58,slow=4.9,SNR=4.6						
MAW	**Mawson**	**84.52**	**191**	LR	LR	11 22 14.5	
	comp=Z,60nm,19.6s,MS4.0,baz=241,slow=32						
ILAR	**Eielson Array**	**89.27**	**22**	P	**P**	**10 50 37.0**	**+1.0**
	comp=Z,0.4nm,0.8s,mb3.8,baz=297,slow=4.0,SNR=4.1						
ILAR				pP	pP	10 50 42.2	+0.5
	comp=Z,0.5nm,0.7s,baz=298,slow=5.4,SNR=5.1						
VNDA	**Vanda**	**99.31**	**168**	LR	LR	11 34 24.6	
	comp=Z,45nm,20.8s,MS4.0,baz=314,slow=34						
NVAR	**Mina Array Bea**	**119.93**	**28**	pPKP		10 56 38.7	
	comp=Z,0.3nm,0.6s,baz=359,slow=1.6,SNR=3.7						

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*FUNV **23** 10:38:14.3,10.42N×62.24W,h17km,MW2.5*
*NEIC **23** 10:38:15.7,10.42N×62.26W,h8km,MD3.2(TRN),After TRN.*
*TRN **23** 10:38:21.5,10.55N×61.90W,h11km,MD3.1*

ISC 23 10:38:14.0±1.0,10.38N±0.04×62.37W±0.03,h8km±7km, n16,σ1§27/30,2C,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.30**	**28**	*e*P	**Pg**	**10 38 18.8**	**-1.4**
GUIV				*e*S	**Sg**	**10 38 23.4**	**-1.0**
CRUV	**Carupano**	**0.90**	**289**	*e*P	**Pb**	**10 38 31.4**	**-0.1**
CRUV				*e*S	**Sg**	**10 38 45.4**	**+1.3**
TPP	**Pointe-a-Pierr**	**0.91**	**94**	*e*P	**Pb**	**10 38 31.7**	**+0.2**
TPP				*e*S	**Sg**	**10 38 38.1**	**-6.1**
TPP	**Pointe-a-Pierr**	**0.91**	**94**	*e*P	**Pb**	**10 38 31.7**	**+0.2**
TPP				*e*S	**Sg**	**10 38 46.2**	**+2.0**
TRN	**Trinidad (W)**	**0.99**	**74⇑**	*i*P	**Pb**	**10 38 31.1**	**-1.8**
TRN				*e*S	**Sb**	**10 38 38.5**	**-7.4**
TRN	**Trinidad (W)**	**0.99**	**74⇑**	*i*P	**Pb**	**10 38 31.1**	**-1.8**
TRN				*e*S	**Sb**	**10 38 45.5**	**-0.4**
ITEV	**Isla Los Testi**	**1.23**	**322**	*e*P	**Pb**	**10 38 37.0**	**-0.1**
ITEV				*e*S	**Sb**	**10 38 54.4**	**+1.5**
TBH	**Brigand Hill**	**1.28**	**85**	*e*P	**Pb**	**10 38 38.7**	**+0.7**
TBH				*e*S	**Sb**	**10 38 56.2**	**+1.6**
ORIV	**Oritupano**	**1.66**	**218**	*e*P	**Pn**	**10 38 44.0**	**+0.5**
ORIV				*e*S	**Sb**	**10 39 06.5**	**+1.2**
TPR	**Prospect**	**1.76**	**63**	*e*P	**Pn**	**10 38 45.0**	**-0.1**
TPR				*e*S	**Sn**	**10 39 06.0**	**-1.9**
BOT	**Bacolet**	**1.80**	**64**	*e*P	**Pn**	**10 38 46.4**	**+0.7**
GRW	**Mount Saint Ca**	**1.90**	**21**	*e*P	**Pn**	**10 38 49.5**	**+2.4**
GRW				*e*S	**Sn**	**10 39 11.5**	**0.0**
GRHS	**Sauteurs**	**1.97**	**21**	*e*P	**Pn**	**10 38 49.0**	**+1.0**
GRHS				*e*S	**Sn**	**10 39 05.7**	**-7.5**
PCRV	**Puerto La Cruz**	**2.24**	**265**	*e*P	**Pn**	**10 38 51.5**	**-0.4**
PCRV				*e*S	**Sn**	**10 39 17.9**	**-2.2**
BIRV	**Birongo**	**3.84**	**272**	*e*P	**Pn**	**10 39 13.4**	**-1.2**
CAOV	**Caicara del Or**	**4.94**	**233**	*e*P	**Pn**	**10 39 27.9**	**-2.5**
CAOV				*e*S	**Sn**	**10 40 21.7**	**-6.8**

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*NIED **23** 12:13:00,41.60N×141.40E,h83km,Mw3.7 Best double couple: M0.65×10^14 NP1:φs336°,δ69°,λ-51°. NP2:φs90°, δ44°,λ-149°.*
*MOS **23** 12:13:47.0±0.8,41.68N×141.30E,h113km,mb4.5/10, Error ellipse: s-maj=12.4km s-min=7.9km az=81.9*
*IDC **23** 12:13:48.0±1.7,41.70N×141.20E,h101km±15km, mb3.5/10,mb1 3.6/12,mb1mx3.5/22,mbtmp3.8/12,Error ellipse: s-maj=20.8km s-min=14.2km az=118.0*
*JMA **23** 12:13:48.0±0.1,41.63N×141.36E,h95km±1km,M3.5*
JMA Felt I J1.
*NEIC **23** 12:13:49.3±0.3,41.65N×141.23E,MG3.5(JMA),Error ellipse: s-maj=6.8km s-min=4.9km az=125.0*
NEIC Recorded [1 JMA] in Aomori and Iwate Prefectures, Honshu.

ISC 23 12:13:46.6±0.2,41.64N±0.03×141.31E±0.04,h106km±2km, h115km±4.0km:pP-P,n77,σ0§72/95,mb4.2/28,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKB	**Kayabe**	**0.32**	**320**	P	**P**	**12 14 02.3**	**+0.1**
JKB				*e*S	**S**	**12 14 13.4**	**-0.4**
JOT	**Ohata**	**0.32**	**217**	P	**P**	**12 14 02.2**	**0.0**
JOT				*e*S	**S**	**12 14 12.6**	**-1.2**
JSR	**Shiriuchi**	**0.68**	**261**	P	**P**	**12 14 05.1**	**+0.6**
JSR				*e*S	**S**	**12 14 17.4**	**-0.7**
JYM2	**Yakumo 2**	**0.85**	**305**	P	**P**	**12 14 07.0**	**+0.8**
JYM2				*e*S	**S**	**12 14 21.4**	**+0.5**
JNB	**Noboribetsu**	**0.85**	**347**	P	**P**	**12 14 06.4**	**+0.1**
JNB				*e*S	**S**	**12 14 20.6**	**-0.4**
JTM	**Tenmabayashi**	**0.87**	**192**	P	**P**	**12 14 06.7**	**+0.2**
JTM				*e*S	**S**	**12 14 20.9**	**-0.4**
JEW	**Eniwo**	**1.20**	**5**	P	**P**	**12 14 10.5**	**+0.3**
JEW				*e*S	**S**	**12 14 27.2**	**-0.6**
JNBK	**Urakawa-nobuka**	**1.25**	**59**	P	**P**	**12 14 10.9**	**+0.2**
JNBK				*e*S	**S**	**12 14 29.0**	**+0.2**
JANG	**Nango**	**1.27**	**173**	P	**P**	**12 14 10.8**	**-0.1**
JANG				*e*S	**S**	**12 14 27.9**	**-1.4**
JSH	**Shimam**	**1.37**	**317**	P	**P**	**12 14 12.9**	**+0.8**
JSH				*e*S	**S**	**12 14 31.3**	**+0.1**
JBT2	**Biratori 2**	**1.38**	**34**	P	**P**	**12 14 12.8**	**+0.6**
JBT2				*e*S	**S**	**12 14 31.9**	**+0.5**
JEM	**Erimo**	**1.43**	**74**	P	**P**	**12 14 13.2**	**+0.4**
JEM				*e*S	**S**	**12 14 31.6**	**-0.9**
JOSM	**Okushiri--Mats**	**1.44**	**289**	P	**P**	**12 14 13.1**	**+0.2**
JOSM				*e*S	**S**	**12 14 32.2**	**-0.4**
JFR	**Furan**	**1.80**	**32**	P	**P**	**12 14 17.4**	**+0.1**
JCH	**Churui**	**1.81**	**57**	P	**P**	**12 14 18.2**	**+0.7**
JCH				*e*S	**S**	**12 14 39.8**	**-0.8**
JSK	**Shakotan**	**1.82**	**341**	P	**P**	**12 14 18.8**	**+1.2**
ASAJ	**Asahikawa**	**2.65**	**21**	P	**P**	**12 14 29.0**	**+0.3**
	11nm,0.3s,baz=227,slow=11,SNR=234						
ASAJ				S	**S**	**12 15 00.3**	**-0.1**
	5.9nm,0.3s,baz=300,slow=27,SNR=7.5						
ASAJ	**Asahikawa**	**2.65**	**21**	P	**P**	**12 14 29.0**	**+0.3**
ASAJ				S	**S**	**12 15 00.3**	**-0.1**
ASAJ				pmax	pmax		
	comp=Z,11nm,0.3s						
ASAJ				smax			
	comp=Z,6.0nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**4.12**	**53**	*e*P	**P**	**12 14 48.0**	**-0.7**
YUK				*e*S	**S**	**12 15 31.0**	**-5.1**
YUK				pmax	pmax		
	comp=Z,170nm,0.3s						
YUK				smax			
	comp=N,570nm,0.5s						
YUK				smax			
	comp=E,570nm,0.5s						
YSS	**Yuzh-Sakhalins**	**5.41**	**11**	*e*Pn	**P**	**12 15 07.1**	**+0.9**
	comp=E,7.1nm,0.4s						
YSS	**Yuzh-Sakhalins**	**5.41**	**11**	*e*P	**P**	**12 15 07.1**	**+0.9**
YSS				pmax	pmax		
	comp=Z,7.0nm,0.4s						
MAJO	**Matsushiro**	**5.63**	**206**	*e*Pn	**P**	**12 15 10.3**	**+1.1**
	comp=Z,5.3nm,0.5s						
MAJO	**Matsushiro**	**5.63**	**206**	*e*P	**P**	**12 15 10.4**	**+1.2**
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.5s						
MAT	**Matsushiro**	**5.63**	**206**	P	**P**	**12 15 10.0**	**+0.8**
MAT				*e*S	**S**	**12 16 14.2**	**+1.0**
MJAR	**Matsushiro Arr**	**5.63**	**206**	P	**P**	**12 15 10.4**	**+1.2**
	comp=Z,0.9nm,0.3s,baz=18,slow=13,SNR=6.6						
MDJ	**Mudanjiang**	**9.07**	**293**	Pn	**P**	**12 15 55.8**	**-0.2**
	comp=Z,10nm,1.0s						
KS15	**Wonju Array Si**	**11.18**	**252**	Pn	**P**	**12 16 24.3**	**+0.1**
PET	**Petropavlovsk**	**16.32**	**40**	*e*Pn	**P**	**12 17 30.1**	**-0.3**
	comp=Z,21nm,1.3s						
PET	**Petropavlovsk**	**16.32**	**40**	*e*P	**P**	**12 17 30.1**	**-0.3**
PET				pmax	pmax		
	comp=Z,21nm,1.3s						
BOD	**Bodaibo**	**23.70**	**322**	*e*P	**P**	**12 18 47.9**	**-1.2**
ULN	**Ulaanbaatar**	**24.96**	**296**	P	**P**	**12 19 01.3**	**0.0**
	comp=Z,4.5nm,1.5s,mb3.7						
ULN	**Ulaanbaatar**	**24.96**	**296**	P	**P**	**12 19 01.3**	**0.0**
ULN				pmax	pmax		
	comp=Z,5.0nm,1.5s,mb3.7						
SONM	**Songino Array**	**25.41**	**296**	P	**P**	**12 19 04.6**	**-0.9**
	comp=Z,0.4nm,0.4s,mb3.2,baz=78,slow=7.8,SNR=4.1						
ZAL	**Zalesovo**	**38.89**	**308**	P	**P**	**12 21 02.4**	**-0.5**
	comp=Z,2.6nm,0.5s,mb4.3,baz=21,slow=10,SNR=7.7						
MKAR	**Makanchi Array**	**41.75**	**298**	P	**P**	**12 21 26.7**	**+0.3**
	comp=Z,1.3nm,0.5s,mb4.0,baz=82,slow=10,SNR=17						
MKAR	**Makanchi Array**	**41.75**	**298**	*i* P	**P**	**12 21 26.4**	**0.0**
LSA	**Lhasa**	**41.91**	**270**	*e*P	**P**	**12 21 30.2**	**+2.2**
	comp=Z,13nm,1.4s,mb4.5					

FINES	**FINESS Array B**	**64.72**	**331**	P	**P**	**12 24 14.4**	**-0.6**
	comp=Z,0.4nm,0.3s,mb3.7,baz=45,slow=11,SNR=5.8						
NOA	**NORSAR Array B**	**69.92**	**337**	P	**P**	**12 24 47.5**	**-0.1**
	comp=Z,0.4nm,0.6s,mb3.5,baz=31,slow=2.6,SNR=2.3						
AKASG	**Malin Array Be**	**70.63**	**321**	P	**P**	**12 24 51.0**	**-1.0**
	comp=Z,1.3nm,0.4s,mb4.1,baz=42,slow=6.1,SNR=6.5						
ELK	**Elko**	**72.67**	**51**	P	**P**	**12 25 04.4**	**+0.2**
	comp=Z,21nm,2.9s,mb4.5						
ELK				pP	pP	12 25 32.3	+0.9
ELK	**Elko**	**72.67**	**51**	P	**P**	**12 25 04.4**	**+0.2**
ELK				*PP	pP	12 25 32.3	+0.9
ELK				pmax	pmax		
	comp=Z,21nm,2.9s						
TPH	**Tonopah**	**73.21**	**54**	P	**P**	**12 25 07.1**	**-0.3**
	comp=Z,6.3nm,1.0s,mb4.4						
TPH	**Tonopah**	**73.21**	**54**	P	**P**	**12 25 07.1**	**-0.3**
TPH				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.4						
HWUT	**Hardware Ranch**	**74.20**	**48**	P	**P**	**12 25 14.0**	**+0.8**
	comp=Z,10nm,2.2s,mb4.2						
PDAR	**Pinedale Array**	**74.52**	**46**	P	**P**	**12 25 15.7**	**+0.7**
	comp=Z,0.3nm,0.7s,mb3.1,baz=306,slow=7.8,SNR=3.5						
BRTR	**Keskin Array B**	**75.76**	**311**	P	**P**	**12 25 22.1**	**0.0**
	comp=Z,0.5nm,0.5s,mb3.5,baz=14,slow=5.9,SNR=3.7						
NWAO	**Narrogin (SRO)**	**77.44**	**201**	P	**P**	**12 25 31.2**	**-0.4**
	comp=Z,36nm,1.3s,mb4.9						
NWAO				pP	pP	12 26 01.2	+2.2
NWAO	**Narrogin (SRO)**	**77.44**	**201**	P	**P**	**12 25 31.2**	**-0.4**
NWAO				*PP	pP	12 26 01.2	+2.1
NWAO				pmax	pmax		
	comp=Z,35nm,1.3s						
PV10	**Paradox Valley**	**77.81**	**49**	P	**P**	**12 25 34.9**	**+1.4**
PV10				PcP	PcP	12 25 43.1	-0.3
PV10				pP	pP	12 26 01.4	+0.4
TAU	**Tasmania Unive**	**84.34**	**176**	*e*P	**P**	**12 26 07.3**	**-0.3**
TAU				*e*pP	pP	12 26 39.4	+4.0

*IDC **23** 12:39:09.9±3.0, 1.82N×98.96E, mb4.2/5, mb1 4.4/5, mb1mx3.9/18, mbtmp4.2/5, Error ellipse: s-maj=125.8km s-min=24.9km az=56.0*
*NEIC **23** 12:39:11.2±1.3, 1.20N×98.06E, h30km, mb4.9/1, Error ellipse: s-maj=34.3km s-min=18.1km az=63.0*

ISC 23 12:39:09.2±1.3, 1.2N±0.2×98.0E±0.2, h30km, n7, σ0§94/7, mb4.3/6, 1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.83**	**33**	‖ *iP*	**Pn**	**12 40 22.4**	**+0.5**
WRA	**Warramunga Arr**	**41.36**	**122**	P	**P**	**12 46 54.1**	**-0.3**
	12nm,0.5s,mb4.8,baz=302,slow=9.1,SNR=148						
WRAB	**Tennant Creek**	**41.36**	**122**	*e*P	**P**	**12 46 54.9**	**+0.5**
	23nm,0.8s,mb4.9						
SONM	**Songino Array**	**47.00**	**8**	P	**P**	**12 47 37.4**	**-2.2**
	1.0nm,0.4s,mb4.1,baz=188,slow=9.8,SNR=8.4						
MKAR	**Makanchi Array**	**47.43**	**345**	P	**P**	**12 47 44.0**	**+0.9**
	0.5nm,0.4s,mb3.8,baz=143,slow=7.9,SNR=4.3						
ZAL	**Zalesovo**	**53.67**	**350**	P	**P**	**12 48 29.9**	**-0.5**
	2.0nm,0.5s,mb4.3,baz=322,slow=4.7,SNR=5.2						
BVAR	**Borovoye Array**	**56.51**	**340**	P	**P**	**12 48 51.6**	**+0.7**
	0.4nm,0.5s,mb3.8,baz=136,slow=10,SNR=3.5						

*NEIC **23** 12:48:46.3±1.4, 36.42N×9.01W, h35km, MG2.6(MDD), Error ellipse: s-maj=18.4km s-min=12.1km az=200.0*
*CSEM **23** 12:48:46.7±1.0, 36.48N×8.94W, h40km, mb2.6/3, Error ellipse: s-maj=19.6km s-min=12.7km az=64.0*

MDD 23 12:48:41.9±2.6, 36.35N×9.15W, mbLg2.3/5, Error ellipse: s-maj=23.5km s-min=13.5km az=69.0, PRXIMO, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**1.24**	**16**	*e*P	Pb	12 49 04.2	-1.7
PTEO				*e*S	Sb	12 49 21.8	-0.5
	31nm,0.2s						
PTEO	**Sao Teotonio**	**1.24**	**16**	*e*P	Pb	12 49 04.2	-1.7
PTEO				*e*S	Sb	12 49 21.8	-0.5
	31nm,0.2s						
EGRO	**El Granado**	**1.78**	**48**	P	Pn	12 49 12.4	-1.7
	0.3nm,0.1s,SNR=11						
EGRO				S	Sn	12 49 36.3	-1.5
	18nm,0.2s,SNR=5.0						
EGRO	**El Granado**	**1.78**	**48**	P	Pn	12 49 12.4	-1.8
	0.3nm,0.1s,SNR=11						
EGRO	**El Granado**	**1.78**	**48**	P	Pn	12 49 12.4	-1.7
EGRO				S	Sn	12 49 36.6	-1.3
PBEJ	**Beja**	**1.96**	**31**	*e*S	Sn	12 49 43.9	+1.5
	6.4nm,0.2s						
SFS	**San Fernando**	**2.38**	**86**	*e*Pn	Pn	12 49 20.8	-1.9
SFS	**San Fernando**	**2.38**	**86**	*e*Pn	Pn	12 49 20.8	-1.9
EMIN	**Mina Concepcio**	**2.44**	**54**	P	Pn	12 49 22.4	-1.1
	0.6nm,0.1s,SNR=8.8						
EMIN				S	Sn	12 49 51.0	-3.4
	0.7nm,0.1s,SNR=6.0						
EMIN	**Mina Concepcio**	**2.44**	**54**	P	Pn	12 49 22.4	-1.1
	0.6nm,0.1s,SNR=8.8						
ESPR	**Espera**	**2.70**	**78**	P	Pn	12 49 25.2	-2.1
	3.7nm,0.2s,SNR=7.9						
ESPR				S	Sn	12 49 57.2	-4.0
	6.7nm,0.2s,SNR=7.9						
ESPR	**Espera**	**2.70**	**78**	P	Pn	12 49 25.2	-2.1
	3.7nm,0.2s,SNR=7.9						
ESPR				S	Sn	12 49 57.2	-4.0
	6.7nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**2.94**	**35**	P	Pn	12 49 28.9	-1.8
	0.7nm,0.1s,SNR=5.7						
EBAD				S	Sn	12 50 02.2	-5.0
	4.2nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**2.94**	**35**	P	Pn	12 49 28.9	-1.8
	0.7nm,0.1s,SNR=5.7						
EBAD				S	Sn	12 50 01.1	-6.2
	4.2nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**2.94**	**35**	P	Pn	12 49 28.9	-1.8
EBAD				S	Sn	12 50 01.1	-6.1
ECAB	**El Cabril**	**3.44**	**59**	P	Pn	12 49 35.1	-2.8
	0.8nm,0.1s,SNR=11						
ECAB				S	Sn	12 50 13.1	-6.8
	0.6nm,0.2s						
ECAB	**El Cabril**	**3.44**	**59**	P	Pn	12 49 35.1	-2.7
	0.8nm,0.1s,SNR=11						
ECAB				S	Sn	12 50 13.1	-6.8
	0.6nm,0.2s						
EADA	**Adamuz**	**4.07**	**62**	P	Pn	12 49 43.8	-3.0
	0.5nm,0.1s,SNR=7.9						
EADA				S	Sn	12 50 30.1	-5.8
	0.8nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**4.07**	**62**	P	Pn	12 49 43.8	-3.0
	0.5nm,0.1s,SNR=7.9						
EADA				S	Sn	12 50 30.1	-5.9
	0.8nm,0.1s,SNR=7.9						
MTE	**Manteigas**	**4.23**	**17**	Pn	Pn	12 49 46.6	-2.5
MTE	**Manteigas**	**4.23**	**17**	Pn	Pn	12 49 46.6	-2.5
ESLA	**Sonseca Array**	**5.27**	**49**	Pn	Pn	12 50 01.8	-2.0
	9.4nm,1.8s						
ESLA	**Sonseca Array**	**5.27**	**49**	Pn	Pn	12 50 01.8	-2.0
	9.4nm,1.8s						
CART	**Cartagena**	**6.64**	**77**	Pn	Pn	12 50 20.3	-2.8
	29nm,1.5s						
CART	**Cartagena**	**6.64**	**77**	Pn	Pn	12 50 20.3	-2.8
	29nm,1.5s						

*NIED **23** 12:54:00, 33.20N×142.50E, h29km, Mw3.7 Best double couple: M0=4.33×10^14 NP1:φs212°, δ66°, λ-28°. NP2: φs314°, δ64°, λ-154°.*
*IDC **23** 12:54:41.6±1.3, 33.28N×142.13E, mb3.7/6, mb1 3.9/8, mb1mx3.8/22, mbtmp3.7/8, ML3.6/2, Error ellipse: s-maj=35.6km s-min=24.7km az=81.0*
*JMA **23** 12:54:46.0±0.4, 33.24N×142.48E, h63km, M3.8*
*NEIC **23** 12:54:46.6±0.5, 33.26N×142.03E, h35km, mb4.5/8, MW3.7(NIED), Error ellipse: s-maj=11.1km s-min=8.8km az=34.0*

ISC 23 12:54:43.4±0.6, 33.00N±0.06×142.36E±0.09, h33km, n37, σ1§78/43, mb4.1/13, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**2.01**	**326**	P	**P**	**12 55 16.2**	**+0.6**
BSO1				S	**S**	**12 55 40.3**	**+0.5**
JHJ2	**Mitsune**	**2.14**	**274**	P	**P**	**12 55 21.5**	**+4.1**
JHJ2				S	**S**	**12 55 48.2**	**+5.2**
BSO2	**Boso 2**	**2.20**	**323**	S	**S**	**12 55 45.0**	**+0.4**
BSO3	**Boso 3**	**2.37**	**320**	P	**P**	**12 55 22.0**	**+1.3**
BSO3				S	**S**	**12 55 50.2**	**+1.4**
BSO4	**Boso 4**	**2.60**	**320**	P	**P**	**12 55 25.7**	**+1.7**
BSO4				S	**S**	**12 55 55.1**	**+0.3**
KTR	**Katsuura**	**2.73**	**322**	S	**S**	**12 55 58.4**	**+0.2**
JIM2	**Oshima 3**	**2.98**	**306**	P	**P**	**12 55 31.2**	**+1.8**
JIM2				S	**S**	**12 56 04.8**	**+0.4**
JIZS	**Izushimoda**	**3.37**	**302**	P	**P**	**12 55 37.7**	**+2.8**
JOD2	**Odawara 2**	**3.53**	**311**	P	**P**	**12 55 38.0**	**+0.7**
JRY	**Ryogami san**	**4.15**	**318**	P	**P**	**12 55 45.9**	**-0.2**
MJAR	**Matsushiro Arr**	**4.92**	**317**	Pn	**Pn**	**12 55 52.3**	**-4.7**
	5.2nm,0.3s,baz=89,slow=15,SNR=37						
MJAR				Sn	**Sn**	**12 56 35.9**	**-18**
	3.2nm,0.3s,baz=310,slow=41,SNR=4.2						
MAJO	**Matsushiro**	**4.92**	**317**	*e*Pn	**Pn**	**12 55 53.5**	**-3.5**
MAT	**Matsushiro**	**4.92**	**317**	P	**P**	**12 55 52.3**	**-4.7**
MAT				S	**S**	**12 56 33.9**	**-20**
MAT	**Matsushiro**	**4.92**	**317**	P	**P**	**12 55 54.2**	**-2.8**
MAT	**Matsushiro**	**4.92**	**317**	*e*P	**P**	**12 55 53.0**	**-4.0**
MAT				*e*S	**S**	**12 56 37.0**	**-16**
ASAJ	**Asahikawa**	**11.11**	**1**	Pn	**P**	**12 57 17.8**	**-5.2**
	0.5nm,0.3s,baz=193,slow=18,SNR=5.2						
INCN	**Inchon**	**13.61**	**294**	*e*Pn	**P**	**12 57 51.9**	**-4.5**
	9.6nm,0.4s						
MDJ	**Mudanjiang**	**15.26**	**323**	*e*Pn	**P**	**12 58 14.5**	**-3.4**
	3.5nm,0.5s						
MDJ				pP		12 58 27.9	
TATO	**Taipei**	**19.91**	**252**	P	**P**	**12 59 12.9**	**-2.1**
	300nm,2.3s						
ENH	**Enshi**	**28.06**	**273**	P	**P**	**13 00 32.2**	**-1.7**
	3.3nm,0.3s,mb4.4						
SONM	**Songino Array**	**30.82**	**309**	P	**P**	**13 00 55.1**	**-3.2**
	0.3nm,0.7s,mb3.2,baz=100,slow=9.0,SNR=3.5						
LSA	**Lhasa**	**43.51**	**280**	P	**P**	**13 02 43.8**	**-1.8**
	13nm,2.1s,mb4.3						
MKAR	**Makanchi Array**	**47.01**	**306**	P	**P**	**13 03 13.1**	**0.0**
	0.5nm,0.6s,mb3.6,baz=90,slow=11,SNR=4.2						
PMR	**Palmer**	**51.45**	**35**	P	**P**	**13 03 45.4**	**-1.7**
	4.4nm,0.9s,mb4.4						
ILAR	**Eielson Array**	**52.53**	**31**	P	**P**	**13 03 54.8**	**-0.4**
	0.5nm,0.6s,mb3.6,baz=263,slow=6.2,SNR=8.6						
WRA	**Warramunga Arr**	**53.19**	**189**	P	**P**	**13 04 03.3**	**+2.5**
	0.6nm,0.5s,mb3.8,baz=7.6,slow=7.6,SNR=9.1						
BVAR	**Borovoye Array**	**53.91**	**315**	P	**P**	**13 04 02.5**	**-3.1**
	0.2nm,0.4s,mb3.4,baz=90,slow=10,SNR=2.5						
INK	**Inuvik**	**57.65**	**26**	*e*P	**P**	**13 04 32.0**	**-0.3**
	6.1nm,1.1s,mb4.5						
STKA	**Stephens Creek**	**64.53**	**181**	P	**P**	**13 05 22.3**	**+2.9**
NWAO	**Narrogin (SRO)**	**69.71**	**202**	P	**P**	**13 05 52.7**	**+0.7**
NWAO				*e*	pP	13 06 01.6	-0.7
KIV	**Kislovodsk**	**74.16**	**312**	*e*P	**P**	**13 06 18.3**	**+0.1**
	8.6nm,0.6s,mb4.9						
KIV				pP	pP	13 06 26.1	-2.4
NOA	**NORSAR Array B**	**78.21**	**338**	P	**P**	**13 06 42.3**	**+1.5**
	1.2nm,0.8s,mb3.9,baz=39,slow=5.7,SNR=3.5						
DUG	**Dugway**	**79.42**	**49**	*e*P	**P**	**13 06 48.5**	**+0.7**
	13nm,2.2s,mb4.5						
PV10	**Paradox Valley**	**82.86**	**49**	*e*P	**P**	**13 07 09.3**	**+3.5**
SDCO	**Great Sand Dun**	**85.45**	**47**	*e*P	**P**	**13 07 21.9**	**+2.9**
	2.7nm,1.2s,mb4.2						
NNA	**Nana**	**138.51**	**69**	*e*PKPdf	PKPdf	13 14 09.6	+3.2
LPAZ	**La Paz**	**147.84**	**66**	PKPdf	PKPdf	13 14 27.4	+4.8
LPAZ				*e*		13 14 34.2	

*NIED **23** 12:54:00, 36.90N×142.30E, h32km, Mw3.5 Best double couple: M0=2.02×10^14 NP1:φs356°, δ68°, λ-137°. NP2: φs247°, δ50°, λ-29°.*

JMA 23 12:54:58.8±0.3, 36.95N×142.33E, h17km±4km, M3.8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.23**	**290**	P	Pb	12 55 20.9	-0.4
JFK				S	Sb	12 55 36.7	-0.1
ONAJ	**Iwakimizuishiy**	**1.23**	**278**	P	Pb	12 55 20.9	-0.4
JHO	**Hitachi**	**1.45**	**257**	P	Pn	12 55 24.2	-0.3
JMM	**Marumori**	**1.53**	**307**	P	Pn	12 55 25.6	0.0
JMM				S	Sn	12 55 44.9	-0.2
JFT	**Otama**	**1.69**	**290**	P	Pn	12 55 28.5	+0.6
JIO	**Ouri**	**1.69**	**333**	P	Pn	12 55 28.4	+0.5
JIO				S	Sn	12 55 49.6	+0.3
JOU	**Okura**	**1.94**	**317**	P	Pn	12 55 32.1	+1.2
JOU				S	Sn	12 55 57.4	+1.9
JFY	**Yanaizu**	**2.15**	**283**	P	Pn	12 55 35.6	+1.2
JMK	**Ichinoseki**	**2.18**	**337**	P	Pn	12 55 36.1	+1.1
JMK				S	Sn	12 56 02.6	+0.8
JYS	**Shirataka**	**2.20**	**306**	P	Pn	12 55 36.3	+1.1
JYS				S	Sn	12 56 02.2	-0.1
JAG	**Ashikaga**	**2.37**	**258**	P	Pn	12 55 38.3	+0.6
JAG				S	Sn	12 56 07.4	+0.8
JKT	**Katashina**	**2.48**	**267**	P	Pn	12 55 41.8	+2.6
JKT				S	Sn	12 56 11.0	+1.7

*ISK **23** 13:01:59.2, 39.39N×33.10E, h11km, MD3.5*
*CSEM **23** 13:01:59.2, 39.39N×33.10E, h11km, MD3.5, After ISK*

ISC 23 13:01:59.2±0.7, 39.39N±0.03×33.12E±0.03, h8km±5km, n31, σ0§62/40, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAMT	**Kaman**	**0.46**	**92**	*i* PG	**Pg**	**13 02 08.6**	**+0.1**
ANTO	**Ankara**	**0.55**	**333**	*i* PG	**Pg**	**13 02 09.9**	**-0.3**
ANTO				*i* SG	**Sg**	**13 02 17.6**	**+0.1**
LOD	**Lodumlu**	**0.57**	**331**	*i* PG	**Pg**	**13 02 11.1**	**+0.3**
LOD				*i* SG	**Sg**	**13 02 19.3**	**+0.8**
CDAG	**Cicekdag**	**1.00**	**76**	*i* P	**Pb**	**13 02 17.0**	**-1.3**
CDAG				*i* S	**Sb**	**13 02 30.6**	**-0.8**
KIZT	**Kizilcal**	**1.09**	**243**	*i* PG	**Pg**	**13 02 20.1**	**-0.9**
KDHN	**Kadinhani**	**1.17**	**223**	*i* P	**Pb**	**13 02 20.2**	**-1.0**
KDHN				*i* S	**Sb**	**13 02 36.8**	**+0.5**
CANT	**Cankiri**	**1.28**	**17**	PN	**Pn**	**13 02 24.3**	**+0.8**
CORM	**Corum**	**1.41**	**55**	PN	**Pn**	**13 02 25.0**	**-0.3**
SGKT	**Sivrigoynuk**	**1.44**	**326**	*i* P	**Pn**	**13 02 25.8**	**0.0**
SGKT				*i* S	**Sb**	**13 02 44.0**	**-0.3**
KONT	**Konya--Tatoy**	**1.56**	**203**	PN	**Pn**	**13 02 28.0**	**+0.6**
YOZ	**Yozgat**	**1.72**	**81**	PN	**Pn**	**13 02 30.0**	**+0.2**
NIG	**Nigde**	**1.73**	**137**	PN	**Pn**	**13 02 30.4**	**+0.6**
ESKT	**Eskisehir**	**1.76**	**275**	PN	**Pn**	**13 02 29.8**	**-0.6**
ESKT	**Eskisehir**	**1.76**	**275**	*i* P	**Pn**	**13 02 29.5**	**-0.9**
ESKT				*i* S	**Sn**	**13 02 53.7**	**+0.5**
CTKT	**Corum**	**1.78**	**46**	*i* P	**Pn**	**13 02 30.5**	**-0.1**
CTKT				*i* S	**Sn**	**13 02 54.4**	**+0.8**
TOS	**Tosya**	**1.79**	**22**	PN	**Pn**	**13 02 30.2**	**-0.5**
MDU	**Mudurnu**	**1.82**	**307**	PN	**Pn**	**13 02 31.3**	**+0.1**
SAFT	**Safranbolu**	**1.88**	**350**	PN	**Pn**	**13 02 32.1**	**0.0**
BALT	**Daday**	**2.16**	**5**	*i* P	**Pn**	**13 02 37.6**	**+1.6**
BALT				*i* S	**Sn**	**13 03 01.6**	**-1.7**
BNN	**Bunyan**	**2.19**	**103**	PN	**Pn**	**13 02 36.9**	**+0.5**
GPA	**Golpazari**	**2.34**	**294**	PN	**Pn**	**13 02 38.4**	**-0.3**
ALT	**Altintas**	**2.36**	**263**	PN	**Pn**	**13 02 38.8**	**-0.1**
BYBT	**Boyabat**	**2.43**	**31**	PN	**Pn**	**13 02 40.0**	**+0.1**
BOYT	**Boyabat**	**2.45**	**33**	*i* P	**Pn**	**13 02 39.7**	**-0.4**
BOYT				*i* S	**Sn**	**13 03 11.0**	**+0.4**
HDMB	**Hadim**	**2.47**	**192**	PN	**Pn**	**13 02 40.4**	**-0.1**
ISP	**Isparta**	**2.56**	**234**	*e*PN	**Pn**	**13 02 42.0**	**+0.2**
BZK	**Bozkurt**	**2.66**	**14**	*e*PN	**Pn**	**13 02 43.2**	**0.0**
KVT	**Kavak**	**2.81**	**52**	*e*PN	**Pn**	**13 02 45.1**	**-0.2**
SVSK	**Karacayir**	**3.04**	**79**	*e*PN	**Pn**	**13 02 49.1**	**+0.5**
IKL	**Isikli**	**3.17**	**172**	*e*PN	**Pn**	**13 02 50.4**	**-0.1**
PTK	**Pertek**	**4.90**	**94**	*e*PN	**Pn**	**13 03 15.8**	**+0.7**

MAN 23 13:03:04.3, 7.27N×123.61E, h23km, mb3.8, ML2.5, MS2.1, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAGZ	**Pagadian**	**0.62**	**338**	*e*P	Pb	13 03 17.0	+0.6
PAGZ				*e*S	Sb	13 03 27.9	+3.2
IPIL	**Ipil**	**1.16**	**297**	*e*P	Pn	13 03 25.7	+0.4
IPIL				*e*S	Sb	13 03 41.1	+1.1
ZMPH	**Zamboanga City**	**1.57**	**259**	*i* P	Pn	13 03 30.5	-0.7

*IDC **23** 13:57:39.9±1.7, 6.88S×106.11E, mb3.7/5, mb1 3.8/5, mb1mx3.7/15, mbtmp3.7/5, Error ellipse: s-maj=89.2km s-min=23.7km az=49.0*
*NEIC **23** 13:57:41.3±1.1, 6.90S×106.09E, h10km, mb4.0/1, Error ellipse: s-maj=58.3km s-min=14.5km az=48.0*

ISC 23 13:57:43.4±1.4, 6.8S±0.3×106.3E±0.4, h33km, n9, σ0§77/8, mb3.7/6, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**30.22**	**118**	P	**P**	**14 03 53.0**	**-0.4**
	0.6nm,0.5s,mb3.6,baz=301,slow=9.6,SNR=8.6						
WRAB	**Tennant Creek**	**30.22**	**118**	*e*P	**P**	**14 03 53.5**	**+0.1**
	0.8nm,0.3s,mb3.9						
STKA	**Stephens Creek**	**41.34**	**132**	P	**P**	**14 05 28.2**	**+0.2**
	1.6nm,0.8s,mb3.7,baz=315,slow=10.0,SNR=2.9						
STKA	**Stephens Creek**	**41.34**	**132**	P	**P**	**14 05 28.2**	**+0.2**
SONM	**Songino Array**	**54.34**	**0**	P	**P**	**14 07 10.2**	**+1.0**
	0.3nm,0.5s,mb3.5,baz=188,slow=10,SNR=2.9						
SONM				PcP	PcP	14 08 13.0	+0.3
	0.8nm,0.6s,baz=178,slow=4.0,SNR=6.9						
MKAR	**Makanchi Array**	**57.41**	**341**	P	**P**	**14 07 29.8**	**-1.5**
	0.4nm,0.5s,mb3.8,baz=137,slow=7.5,SNR=5.8						
MKAR	**Makanchi Array**	**57.41**	**341**	P	**P**	**14 07 29.8**	**-1.5**
BRTR	**Keskin Array B**	**81.13**	**312**	P	**P**	**14 09 57.9**	**+0.5**
	0.8nm,0.6s,mb3.8,baz=117,slow=5.5,SNR=3.6						
TXAR	**Lajitas Array**	**143.93**	**48**	PKP	PKPdf	14 17 17.6	+1.4
	0.5nm,0.5s,baz=270,slow=1.3,SNR=3.6						

*CSEM **23** 14:02:04.7±0.6, 60.80N×29.05E, h2km, ML3.0/1, Error ellipse: s-maj=11.8km s-min=6.9km az=135.0, Mining explosion.*
*IDC **23** 14:02:05.5±2.2, 60.88N×28.97E, mb1 3.3/2, mb1mx3.0/19, mbtmp3.1/2, ML3.4/2, Error ellipse: s-maj=19.0km s-min=10.7km az=163.0*
*NAO **23** 14:02:06.7±2.4, 60.95N×28.85E, ML2.6*
*HEL **23** 14:02:06.3±0.3, 60.93N×29.04E, ML1.8, ML2.6(NAO), Explosion*
*BER **23** 14:02:07.3±3.1, 60.92N×28.88E, ML2.6(NAO), Suspected explosion*
*NEIC **23** 14:02:07.3, 60.92N×28.88E, ML2.6(BER), After BER.*

ISC 23 14:02:03.8±1.1, 61.04N±0.05×29.0E±0.1, n24, σ1§37/40, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VJF	**Virojoki**	**0.86**	**235**	*e*P	**Pg**	**14 02 20.7**	**-0.2**
VJF				*e*S	**Sg**	**14 02 32.5**	**0.0**
VJF	**Virojoki**	**0.86**	**235**	P	**Pg**	**14 02 20.7**	**-0.3**
VJF				S	**Sg**	**14 02 32.4**	**-0.1**
FIA0	**FINESS Array S**	**1.47**	**287**	*e*P	**Pn**	**14 02 32.6**	**+1.1**
FIA0				*e*S	**Sb**	**14 02 53.0**	**+2.3**
FIA0	**FINESS Array S**	**1.47**	**287**	Pn	**Pn**	**14 02 32.5**	**+1.0**
	baz=113,slow=16						
FIA0				Lg		14 02 53.2	
	baz=107,slow=28						
FIA0				Rg		14 03 00.5	
	baz=118,slow=37						
FIA0	**FINESS Array S**	**1.47**	**287**	Pn	**Pn**	**14 02 32.5**	**+1.0**
	SNR=2.8						
FIA0				S	**Sb**	**14 02 53.0**	**+2.3**
FINES	**FINESS Array B**	**1.47**	**287**	Pg	**Pg**	**14 02 32.4**	**-0.7**
	4.7nm,0.3s,baz=111,slow=16,SNR=73						
FINES				Lg		14 02 53.0	
	6.1nm,0.3s,baz=111,slow=31,SNR=25						
FINES				Rg		14 02 59.7	
	28nm,0.6s,baz=119,slow=35,SNR=36						
FINES	**FINESS Array B**	**1.47**	**287**	Pg	**Pg**	**14 02 32.4**	**-0.7**
FINES				Lg		14 02 53.0	
FINES				Rg		14 02 59.7	
PVF	**Pernaja**	**1.61**	**254**	*e*S	**Sb**	**14 02 56.2**	**+1.2**
PVF	**Pernaja**	**1.61**	**254**	S	**Sb**	**14 02 56.1**	**+1.2**
SUF	**Sumiainen**	**2.16**	**323**	*e*P	**Pn**	**14 02 45.4**	**+3.9**
SUF				*e*S	**Sn**	**14 03 13.1**	**+3.8**
SUF				*e*SG	**Sg**	**14 03 16.2**	**+0.5**
SUF				MSG		14 03 17.5	
	comp=Z,4.1nm,0.2s						
SUF	**Sumiainen**	**2.16**	**323**	P	**Pn**	**14 02 45.3**	**+3.9**
SUF				S	**Sn**	**14 03 13.1**	**+3.8**
SUF				Sg	**Sg**	**14 03 16.1**	**+0.5**
	comp=Z,4.1nm,0.2s						
JOF	**Joensuu**	**2.19**	**29**	*e*P	**Pn**	**14 02 44.8**	**+3.0**
KEF	**Keuruu**	**2.27**	**302**	*e*SG	**Sg**	**14 03 18.0**	**-1.4**
KEF	**Keuruu**	**2.27**	**302**	Sg	**Sg**	**14 03 17.9**	**-1.5**
HFS	**Hagfors**	**7.59**	**270**	Pn	**Pn**	**14 03 56.9**	**-1.3**
	baz=87,slow=12						
HFS				Sn	**Sn**	**14 05 20.8**	**-5.2**
	baz=71,slow=28						
HFS				Lg		14 05 57.6	
	baz=89,slow=37						
HFS	**Hagfors**	**7.59**	**270**	*e*P	**Pn**	**14 03 56.9**	**-1.3**
HFS				*e*S	**Sn**	**14 05 20.8**	**-5.2**
HFS				*e*SG	**Sg**	**14 05 57.6**	**-19**
NB2	**NORSAR Subarra**	**8.62**	**278**	Pn	**P**	**14 04 11.2**	**-1.6**
	baz=83,slow=12						
NB2	**NORSAR Subarra**	**8.62**	**278**	*e*P	**P**	**14 04 11.2**	**-1.6**
NB2	**NORSAR Subarra**	**8.62**	**278**	Pn	**P**	**14 04 11.1**	**-1.7**
	SNR=4.6						
NOA	**NORSAR Array B**	**8.62**	**278**	Pn	**P**	**14 04 08.8**	**-4.0**
	comp=Z,0.2nm,0.3s

GGP	**Refugio Guagua**	**2.24**	**43**	⇓P	Pn	15 51 46.1	+1.7
PINO	**Pino**	**2.24**	**42**	⇓P	Pn	15 51 46.1	+1.6
YANA	**Yana**	**2.29**	**42**	P	Pn	15 51 46.6	+1.4
JOR1	**San Jorge 1**	**2.34**	**39**	P	Pn	15 51 44.3	-1.5
ANTI	**Antisana**	**2.39**	**55**	P	Pn	15 51 50.0	+3.4
COTA	**Cotacachi**	**2.79**	**40**	P	Pn	15 51 54.8	+2.5
COTA				S	Sn	15 52 32.3	+6.2
CAYR	**Refugio Cayamb**	**2.79**	**49**	⇑P	Pn	15 51 55.9	+3.5
CAYR				S	Sn	15 52 33.1	+6.9
CAYA	**Cayambe**	**2.84**	**49**	P	Pn	15 51 56.3	+3.3
CAYA				S	Sn	15 52 37.2	+10
LORE	**San Lorenzo**	**3.35**	**22**	⇑P	Pn	15 52 02.4	+2.2
ECEN	**Cerro Negro**	**3.40**	**39**	⇑P	Pn	15 52 03.7	+2.8

MAN 23 16:01:56.0, 17.50N×121.15E, mb4.1, ML2.9, MS2.6, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**0.37**	**14**	*e*P	Pg	16 02 03.5	0.0
APYP				*e*S	Sg	16 02 20.1	+12
ABRA	**Dolores**	**0.44**	**290**	*e*P	Pg	16 02 05.0	+0.1
ABRA				*e*S	Sg	16 02 27.1	+16
CVP	**Callao Caves**	**0.67**	**72**	*e*P	Pg	16 02 08.0	-1.5
CVP				*e*S	Sg	16 02 27.0	+8.5

JMA 23 16:10:02.0±0.2, 43.22N×147.28E, h42km, M3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.13**	**278**	P	P	16 10 22.0	+0.4
NEM2				*e*S	S	16 10 36.7	+0.5
JRA	**Rausu**	**1.73**	**295**	P	P	16 10 30.5	+0.4
JRA				*e*S	S	16 10 51.5	+0.5
JNK	**Nakash**	**1.90**	**282**	P	P	16 10 32.5	-0.1
JNK				*e*S	S	16 10 55.1	-0.4
JAK	**Akkeshi**	**1.91**	**264**	P	P	16 10 32.8	+0.1
JAK				*e*S	S	16 10 55.4	-0.1
JOB	**Onbets**	**2.54**	**264**	P	P	16 10 41.8	0.0
JOB				*e*S	S	16 11 11.0	-0.8
JTKR	**Abashiri--Toko**	**2.56**	**288**	P	P	16 10 42.8	+0.8
JTKR				*e*S	S	16 11 12.7	+0.5
JAR	**Ashorobuto**	**2.57**	**273**	P	P	16 10 42.3	+0.2
JAR				*e*S	S	16 11 12.6	+0.3
JCH	**Churui**	**2.94**	**259**	P	P	16 10 47.8	+0.4
JCH				*e*S	S	16 11 21.2	-0.6
JMP	**Maruseppu**	**2.95**	**287**	P	P	16 10 48.5	+0.9
JEM	**Erimo**	**3.27**	**250**	P	P	16 10 53.5	+1.4
JKK2	**Kamakawa 2**	**3.36**	**283**	P	P	16 10 54.1	+0.7
JFR	**Furan**	**3.43**	**271**	P	P	16 10 54.9	+0.6
JFR				*e*S	S	16 11 33.9	-0.3
JNBK	**Urakawa-nobuka**	**3.46**	**256**	P	P	16 10 55.0	+0.2
JNBK				*e*S	S	16 11 34.2	-0.9
JBT2	**Biratori 2**	**3.63**	**265**	P	P	16 10 57.1	-0.1
JSE	**Soyaes**	**3.80**	**299**	P	P	16 10 59.7	+0.1

*GUC **23** 16:42:30.3±1.0, 29.94S×72.10W, h34km±7km, ML4.6*
*IDC **23** 16:42:30.0±0.7, 29.83S×71.70W, mb4.2/6, mb1 4.3/11, mb1mx4.2/20, mbtmp4.1/11, ML4.1/4, MS3.6/4, Ms1 3.6/4, ms1mx3.3/16, Error ellipse: s-maj=32.7km s-min=16.9km az=92.0*
*NEIC **23** 16:42:30.3, 29.94S×72.10W, h34km, mb4.6/8, ML4.6(GUC), After GUC.*

ISC 23 16:42:28.4±1.6, 29.90S±0.03×71.79W±0.06, h4km±10km, n49, σ1§15/48, mb4.3/14, MS3.7/2, 12C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.47**	**91**	*i* P	**Pg**	**16 42 34.6**	**-3.3**
LSCH				*i* S	**Sg**	**16 42 45.4**	**+1.2**
LSCH				AMP		16 42 47.1	
	comp=N,32μm,0.3s						
TLL	**Tololo Astrono**	**0.89**	**108**	⇓*i*P	**Pb**	**16 42 51.2**	**+5.0**
TLL				*i* S	**Sb**	**16 43 06.8**	**+8.6**
TLL				AMP		16 43 10.7	
	comp=E,57μm,0.6s						
VACH	**Vallenar**	**1.59**	**35**	⇑*i*P	**Pn**	**16 43 00.6**	**+3.0**
VACH				*i* S	**Sb**	**16 43 23.4**	**+4.9**
VACH				AMP		16 43 31.4	
	comp=E,10μm,0.4s						
CHNG	**Los Chungos**	**1.99**	**173**	*e*P	**Pn**	**16 43 03.6**	**+0.2**
CHNG				*i* S	**Sn**	**16 43 27.7**	**-1.4**
CHNG				AMP		16 43 46.1	
	comp=E,4μm,0.6s						
ZON	**Zonda**	**3.14**	**122**	*e*P	**Pn**	**16 43 33.1**	**+13**
ZON				*e*S	**Sn**	**16 44 08.2**	**+10**
CFAA	**Coronel Fontan**	**3.50**	**120**	Pn	**Pn**	**16 43 29.3**	**+4.6**
	comp=E,4.3nm,0.3s,baz=298,slow=11,SNR=124						
CFAA				Lg		16 44 19.4	
	comp=E,5.1nm,0.3s,baz=47,slow=14,SNR=5.7						
CRCH	**Chaqaral**	**3.69**	**17**	⇓*i*P	**Pn**	**16 43 27.6**	**+0.2**
CRCH				*i* S	**Sn**	**16 44 11.2**	**-0.7**
MDZ	**Mendoza**	**3.90**	**141**	*e*P	**Pn**	**16 43 36.2**	**+5.8**
MDZ				*i*		16 43 46.1	
MDZ				S	**Sn**	**16 44 01.1**	**-16**
LVC	**Limon Verde**	**7.70**	**20**	Pn	**Pn**	**16 44 22.3**	**-1.8**
	comp=E,2.2nm,0.3s,baz=183,slow=8.5,SNR=16						
LVC				Sn	**Sn**	**16 45 49.8**	**-2.9**
	comp=E,1.5nm,0.3s,baz=201,slow=21,SNR=3.0						
LVC				Lg		16 46 25.1	
	comp=E,6.2nm,0.3s,baz=88,slow=23,SNR=4.9						
LVC	**Limon Verde**	**7.70**	**20**	*e*Pn	**Pn**	**16 44 21.8**	**-2.3**
PLCA	**Paso Flores**	**10.86**	**175**	Pn	**P**	**16 45 06.1**	**-1.7**
	comp=E,0.3nm,0.3s,baz=340,slow=13,SNR=9.8						
PLCA				LR	LR	16 50 02.2	
	comp=E,175nm,18.3s,baz=351,slow=41						
TRQA	**Tornquist**	**11.50**	**138**	Pn	**P**	**16 45 15.1**	**-1.5**
	comp=E,16nm,0.5s						
TRQA				*e*Sn	**S**	**16 47 16.1**	**-11**
CPUP	**Villa Florida**	**13.25**	**78**	Pn	**P**	**16 45 40.4**	**+0.4**
	comp=E,0.2nm,0.3s,baz=267,slow=10,SNR=3.2						
CPUP				Sn	**S**	**16 48 09.8**	**+0.9**
	comp=E,0.3nm,0.3s,baz=231,slow=14,SNR=2.1						
CPUP				Lg		16 49 22.4	
	comp=E,0.0nm,0.3s,baz=30,slow=18,SNR=1.8						
CPUP				LR	LR	16 51 12.1	
	comp=E,320nm,21.0s,baz=99,slow=40						
CPUP	**Villa Florida**	**13.25**	**78**	*e*Pn	**P**	**16 45 39.6**	**-0.3**
CPUP				Pn	**P**	**16 45 40.4**	**+0.4**
CPUP				Sn	**S**	**16 48 09.8**	**+0.9**
CPUP				Lg		16 49 22.4	
CPUP				LR	LR	16 51 12.1	
LPAZ	**La Paz**	**13.96**	**15**	*e*Pn	**P**	**16 45 47.3**	**-2.1**
	comp=E,0.2nm,0.3s,baz=222,slow=7.1,SNR=4.0						
LPAZ	**La Paz**	**13.96**	**15**	*e*Pn	**P**	**16 45 46.8**	**-2.6**
LPAZ				*e*P		16 45 53.1	
SIV	**San Ignacio**	**16.98**	**38**	Pn	**P**	**16 46 27.4**	**-1.1**
	comp=E,1.2nm,0.3s,baz=228,slow=11,SNR=45						
SAML	**Samuel**	**22.34**	**23**	*e*P	**P**	**16 47 29.9**	**+0.9**
	comp=E,8.9nm,0.9s,mb4.2						
USHA	**Ushuaia**	**25.04**	**175**	P	**P**	**16 47 55.3**	**+0.4**
	comp=E,11nm,0.8s,mb4.5,baz=2.9,slow=4.6,SNR=4.8						
BDFB	**Brasilia**	**26.04**	**62**	LR	LR	16 58 35.7	
	comp=E,98nm,18.4s,MS3.4,baz=255,slow=37						
VNA3	**Neumayer Olymp**	**53.09**	**159**	⇑*i*	pP	16 51 58.1	+8.2
VNA3	**Neumayer Olymp**	**53.09**	**159**	⇑*i*	sP	16 52 07.8	+17
VNA3	**Neumayer Olymp**	**53.09**	**159**	⇑*i*P	**P**	**16 51 48.7**	**-0.1**
VNA3				⇑*i*P		16 51 58.1	
VNA3				⇑*i*P		16 52 07.8	
VNA1	**Neumayer--Stat**	**53.37**	**158**		pP	16 52 00.3	+8.2
VNA1	**Neumayer--Stat**	**53.37**	**158**	⇑*i*P	**P**	**16 51 51.1**	**+0.2**
VNA1				P		16 52 00.3	
VNA2	**Neumayer--Watz**	**53.72**	**158**	⇑*i*	pP	16 52 02.7	+8.1
VNA2	**Neumayer--Watz**	**53.72**	**158**	⇑*i*	sP	16 52 11.9	+17
VNA2	**Neumayer--Watz**	**53.72**	**158**	⇑*i*P	**P**	**16 51 53.3**	**-0.1**
VNA2				⇑*i*P		16 52 02.7	
VNA2				⇑*i*P		16 52 11.9	
SNAA	**Sanae**	**55.31**	**159**	*e*P	**P**	**16 52 04.3**	**-0.8**
	comp=E,10nm,0.9s,mb4.9						
TXAR	**Lajitas Array**	**66.29**	**330**	P	**P**	**16 53 20.5**	**+0.2**
	comp=E,0.8nm,0.6s,mb3.9,baz=149,slow=8.3,SNR=6.8						
WVT	**Waverly**	**67.39**	**346**	*e*P	**P**	**16 53 26.1**	**-1.0**
	comp=E,2.4nm,0.6s,mb4.4						
WVT				*e*		16 53 36.1	
VNDA	**Vanda**	**68.16**	**191**	P	**P**	**16 53 33.2**	**+1.9**
	comp=E,0.6nm,0.5s,mb3.9,baz=98,slow=7.1,SNR=8.2						
VNDA	**Vanda**	**68.16**	**191**	P	**P**	**16 53 33.2**	**+1.9**
CCM	**Cathedral Cave**	**70.00**	**344**	*e*P	**P**	**16 53 42.9**	**-0.4**
	comp=E,6.9nm,0.9s,mb4.6						
SDCO	**Great Sand Dun**	**74.32**	**333**	*e*P	**P**	**16 54 09.8**	**+0.9**
	comp=E,2.6nm,0.8s,mb4.2						
SDCO				*e*		16 54 19.5	
MSU	**Marysvale**	**77.80**	**329**	*e*P	**P**	**16 54 29.8**	**+1.2**
RWWY	**Rawlins**	**78.38**	**334**	*e*P	**P**	**16 54 33.2**	**+1.5**
	comp=E,8.7nm,0.7s,mb4.8						
HWUT	**Hardware Ranch**	**80.07**	**331**	*e*P	**P**	**16 54 41.0**	**+0.1**
	comp=E,3.4nm,0.6s,mb4.5						
HWUT				*e*		16 54 50.4	
PDAR	**Pinedale Array**	**80.21**	**333**	P	**P**	**16 54 42.1**	**+0.6**
	comp=E,0.8nm,0.7s,mb3.8,baz=136,slow=6.1,SNR=8.3						
BOSA	**Boshof**	**81.80**	**118**	P	**P**	**16 54 51.1**	**+0.9**
	comp=E,2.7nm,0.7s,mb4.3,baz=234,slow=5.9,SNR=4.2						
BOSA				LR	LR	17 26 51.3	
	comp=E,74nm,18.1s,MS4.1,baz=76,slow=32						
ULM	**Lac du Bonnet**	**82.61**	**345**	P	**P**	**16 54 54.3**	**+0.4**
	comp=E,2.4nm,0.4s,mb4.6,baz=49,slow=7.0,SNR=4.1						
WALA	**Waterton Lakes**	**87.13**	**334**	*e*P	**P**	**16 55 17.1**	**+0.6**
	comp=E,3.5nm,1.0s,mb4.5						
WRA	**Warramunga Arr**	**124.42**	**210**	PKP	PKPdf	17 01 31.1	-0.8
	comp=E,0.4nm,0.5s,baz=159,slow=1.7,SNR=5.2						
YAK	**Yakutsk**	**144.92**	**343**	*e*P	PKPbc	17 02 06.8	+0.6
YAK				*e*pP		17 02 17.2	
AAK	**Ala-Archa**	**150.19**	**55**	*e*P	PKPdf	17 02 21.8	+4.2
HYB	**Hyderabad**	**150.22**	**108**	*e*P	PKPdf	17 02 23.0	+4.6
ZAL	**Zalesovo**	**150.59**	**29**	PKPbc	PKPdf	17 02 23.2	+5.3
	comp=E,11nm,0.6s,baz=166,slow=2.5,SNR=40						
MKAR	**Makanchi Array**	**153.76**	**43**	PKP	PKPdf	17 02 22.1	-0.6
	comp=E,0.5nm,0.8s,slow=1.2,SNR=5.0						
MKAR				PKPbc	PKPdf	17 02 30.0	+7.3
	comp=E,0.9nm,0.8s,baz=333,slow=2.7,SNR=8.9						
SONM	**Songino Array**	**162.03**	**4**	PKPab	PKPab	17 03 19.9	+0.7
	comp=E,0.3nm,0.5s,baz=331,slow=5.6,SNR=4.8						

*NEIC **23** 16:56:41.6, 38.01S×176.05E, h188km, MG3.9(WEL), After WEL.*

WEL 23 16:56:42.2±0.2, 38.00S×176.14E, h187km±2km, ML4.0/6, 5D, Error ellipse: s-maj=2.5km s-min=2.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.81**	**109**	⇓PN	P	16 57 09.3	-0.4
URZ				SN	S	16 57 30.5	-0.5
URZ	**Urewera**	**0.81**	**109**	P	P	16 57 09.3	-0.4
MWZ	**Matawai**	**1.15**	**108**	PN	P	16 57 11.9	-0.2
MWZ				SN	S	16 57 34.7	-0.4
MWZ	**Matawai**	**1.15**	**108**	P	P	16 57 11.9	-0.2
MWZ				S	S	16 57 34.9	-0.2
BKZ	**Black Stump Fm**	**1.20**	**167**	⇓PN	P	16 57 12.4	-0.2
BKZ				SN	S	16 57 35.4	-0.6
BKZ	**Black Stump Fm**	**1.20**	**167**	P	P	16 57 12.4	-0.1
CNZ	**Chateau**	**1.29**	**201**	PN	P	16 57 13.4	+0.1
FWVZ	**Far West T-bar**	**1.34**	**200**	PN	P	16 57 14.2	+0.4
MOVZ	**Moawhango**	**1.44**	**192**	PN	P	16 57 14.1	-0.6
MOVZ	**Moawhango**	**1.44**	**192**	P	P	16 57 14.1	-0.6
KNZ	**Kokohu**	**1.58**	**131**	⇓PN	P	16 57 15.8	-0.2
KNZ				SN	S	16 57 40.8	-1.2
KNZ	**Kokohu**	**1.58**	**131**	P	P	16 57 15.8	-0.2
WAZ	**Wanganui**	**1.97**	**207**	PN	P	16 57 19.3	-0.5
TSZ	**Takapari Road**	**2.06**	**184**	⇓PN	P	16 57 19.8	-1.1
TSZ				*e*SN	S	16 57 49.0	-1.6
TSZ	**Takapari Road**	**2.06**	**184**	P	P	16 57 19.8	-1.1
PXZ	**Pawanui**	**2.11**	**165**	*e*PN	P	16 57 20.5	-0.9
PXZ				*e*SN	S	16 57 46.8	-4.7
BFZ	**Birch Farm**	**2.68**	**178**	*e*PN	P	16 57 25.8	-2.2
BFZ				*e*SN	S	16 58 00.1	-3.2
BFZ	**Birch Farm**	**2.68**	**178**	*e*P	P	16 57 25.8	-2.2
MRZ	**Mangatainoka R**	**2.70**	**189**	⇓PN	P	16 57 25.7	-2.4
MRZ				SN	S	16 58 00.3	-3.2
MRZ	**Mangatainoka R**	**2.70**	**189**	P	P	16 57 25.7	-2.5
KIW	**Kapiti Island**	**3.02**	**198**	PN	P	16 57 29.0	-3.0
KIW	**Kapiti Island**	**3.02**	**198**	P	P	16 57 29.0	-3.0
MTW	**Mount Morrison**	**3.20**	**189**	PN	P	16 57 30.8	-3.4
MTW	**Mount Morrison**	**3.20**	**189**	P	P	16 57 30.8	-3.4
CAW	**Cannon Point**	**3.22**	**195**	PN	P	16 57 31.3	-3.1
CAW	**Cannon Point**	**3.22**	**195**	P	P	16 57 31.3	-3.1
MRW	**Makara Radio**	**3.41**	**199**	P	P	16 57 33.5	-3.4
MSWZ	**Moikau Station**	**3.48**	**191**	P	P	16 57 34.2	-3.5
SNZO	**South Karori**	**3.49**	**198**	P	P	16 57 34.1	-3.7
TCW	**Tory Channel**	**3.52**	**204**	P	P	16 57 34.8	-3.4
BHW	**Baring Head**	**3.54**	**196**	P	P	16 57 34.7	-3.8
NNZ	**Nelson**	**3.86**	**213**	*e*P	P	16 57 38.5	-4.0
BSWZ	**Blackbirch Sta**	**4.10**	**204**	P	P	16 57 41.8	-3.7
THZ	**Tophouse**	**4.51**	**212**	*e*P	P	16 57 46.7	-4.1
KHZ	**Kahutara**	**4.84**	**203**	P	P	16 57 50.7	-4.3
LTZ	**Lake Taylor**	**5.62**	**210**	*e*P	P	16 57 59.8	-5.3
MQZ	**McQueen's Vall**	**6.29**	**204**	*e*P	P	16 58 07.7	-6.1
ODZ	**Otahua Downs**	**8.16**	**209**	*e*P	P	16 58 32.9	-5.5

NNC 23 17:11:40.5±3.2, 38.13N×70.61E, mpv3.1, 5C-1D, Error ellipse: s-maj=28.2km s-min=16.6km az=175.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.97**	**359**	⇑Pn	Pn	17 13 00.0	+1.8
	0.6nm,0.3s,baz=175,slow=12,SNR=39						
KK31				⇑Sn	Sn	17 14 02.2	+4.9
	1.6nm,0.5s,baz=180,slow=23,SNR=3.2						
AAK	**Ala-Archa**	**5.39**	**32**	⇑Pn	Pn	17 13 02.2	-1.9
	1.7nm,0.4s						
AAK				⇓Sn	Sn	17 14 05.4	-2.4
	2.8nm,0.5s						
AB31	**Akbulak array**	**13.52**	**329**	⇑Pn	P	17 14 52.8	-3.1
	0.8nm,0.7s						
AB31				⇑Sn	S	17 17 25.2	-3.0
	0.6nm,0.6s,baz=156,slow=23,SNR=4.2						

*CSEM **23** 17:35:50.8±0.2, 35.62N×31.39E, h10km, MD3.5, Error ellipse: s-maj=5.6km s-min=5.0km az=106.0*
*ISK **23** 17:35:52.3, 35.55N×31.41E, h75km, MD3.5*
*HLW **23** 17:35:57.3, 35.38N×30.79E, h20km, Md3.1*

ISC 23 17:35:53.4±0.7, 35.64N±0.07×31.41E±0.08, h88km±41km, n13, σ1§03/20, 2C, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERMK	**Ermenek**	**1.57**	**50**	*i* P	**P**	**17 36 19.9**	**-0.6**
ERMK				*i* S	**S**	**17 36 39.9**	**-0.6**
HDMB	**Hadim**	**1.58**	**33**	PN	**P**	**17 36 19.9**	**-0.7**
HDMB				SN	**S**	**17 36 41.7**	**+1.1**
IKL	**Isikli**	**1.94**	**72**	PN	**P**	**17 36 25.5**	**+0.2**
MEST	**Erdemli**	**2.41**	**66**	*i* P	**P**	**17 36 33.2**	**+1.4**
MEST				*i* S	**S**	**17 37 00.6**	**+0.3**
TKTP	**Tekketepe**	**2.55**	**340**	*i* P	**P**	**17 36 37.7**	**+4.0**
TKTP				*i* S	**S**	**17 37 03.4**	**-0.3**
MERS	**Mersin**	**2.80**	**63**	*e*PN	**P**	**17 36 36.3**	**-0.9**
KDHN	**Kadinhani**	**2.93**	**11**	*i* P	**P**	**17 36 39.6**	**+0.6**
KDHN				*i* S	**S**	**17 37 12.0**	**-1.2**
YER	**Yerkesik**	**2.93**	**301**	*e*PN	**P**	**17 36 38.7**	**-0.3**
BODT	**Bodrum**	**3.60**	**294**	*e*PN	**P**	**17 36 48.9**	**+0.7**
AMAG	**Maghara**	**5.21**	**163**	⇑P	**P**	**17 37 12.6**	**+2.2**
AMAG				S	**S**	**17 38 07.6**	**-2.1**
HSAF	**As Saff**	**6.01**	**179**	⇑P	**P**	**17 37 21.6**	**+0.2**
GLL	**Jalalah**	**6.05**	**178**	P	**P**	**17 37 22.4**	**+0.4**
GLL				S	**S**	**17 38 24.5**	**-6.0**
SWA1		**7.98**	**219**	P	**P**	**17 37 44.6**	**-3.8**

*ISK **23** 18:13:56.5, 35.61N×31.60E, h89km, MD3.4*
*HLW **23** 18:13:57.2, 35.84N×31.53E, h27km, Md3.3*
*CSEM **23** 18:13:57.8±0.1, 35.66N×31.60E, h40km, MD3.4, Error ellipse: s-maj=3.2km s-min=3.0km az=131.0*

ISC 23 18:13:57.5±0.6, 35.65N±0.05×31.53E±0.07, h78km±35km, n16, σ1§01/23, 4D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERMK	**Ermenek**	**1.50**	**48**	*i* P	**P**	**18 14 23.0**	**-0.2**
ERMK				*i* S	**S**	**18 14 42.1**	**-0.1**
HDMB	**Hadim**	**1.52**	**30**	PN	**P**	**18 14 22.7**	**-0.9**
HDMB				SN	**S**	**18 14 43.9**	**+1.0**
CSS	**Prodhromos**	**1.62**	**114**	PN	**P**	**18 14 24.0**	**-0.9**
ELL	**Elmali**	**1.71**	**310**	*e*PN	**P**	**18 14 27.2**	**+1.1**
IKL	**Isikli**	**1.85**	**71**	PN	**P**	**18 14 27.6**	**-0.3**
IKL				SN	**S**	**18 14 49.7**	**-0.6**
MEST	**Erdemli**	**2.32**	**65**	*i* P	**P**	**18 14 35.5**	**+1.1**
MEST				*i* S	**S**	**18 15 02.9**	**+1.1**
TKTP	**Tekketepe**	**2.58**	**338**	*i* P	**P**	**18 14 38.7**	**+0.6**
MERS	**Mersin**	**2.71**	**62**	*e*PN	**P**	**18 14 38.5**	**-1.4**
KDHN	**Kadinhani**	**2.91**	**9**	*i* P	**P**	**18 14 42.3**	**-0.4**
KDHN				*i* S	**S**	**18 15 14.9**	**-1.7**
HRSH	**Kfar Ka'horesh**	**5.02**	**158**	⇓P	**P**	**18 15 12.9**	**+0.8**
RSH		**5.02**	**158**	P	**P**	**18 15 12.9**	**+0.9**
AMAG	**Maghara**	**5.18**	**164**	⇓P	**P**	**18 15 14.7**	**+0.5**
DABA	**Dabaa**	**5.36**	**211**	⇓P	**P**	**18 15 17.3**	**+0.6**
DABA				S	**S**	**18 16 15.8**	**-2.0**
HSAF	**As Saff**	**6.01**	**180**	P	**P**	**18 15 26.8**	**+1.2**
GLL	**Jalalah**	**6.05**	**179**	⇓P	**P**	**18 15 27.0**	**+0.8**
GLL				S	**S**	**18 16 32.8**	**-2.1**
SWA1		**8.04**	**219**	P	**P**	**18 15 53.8**	**+0.1**

*IDC **23** 18:55:02.4±0.8, 0.99N×97.14E, mb4.4/14, mb1 4.5/14, mb1mx4.3/21, mbtmp4.4/14, MS4.1/12, Ms1 4.1/12, ms1mx3.9/25, Error ellipse: s-maj=34.9km s-min=15.3km az=49.0*
*BJI **23** 18:55:04.2, 0.69N×97.79E, h39km, mB5.1, mb4.9, Ms4.7, Msz4.5*
*MOS **23** 18:55:06.7±1.1, 1.19N×97.18E, h33km, mb4.8/25, Error ellipse: s-maj=18.8km s-min=7.0km az=102.2*
*NEIC **23** 18:55:06.3±0.3, 1.04N×97.29E, mb4.7/26, MS4.6/1, Error ellipse: s-maj=9.6km s-min=6.9km az=50.0*

ISC 23 18:55:04.9±0.5, 1.03N±0.07×97.28E±0.06, h28km, h28km±1.2km: pP-P, n115, σ1§03/110, mb4.7/58, MS4.3/23, 5C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.14**	**47**	P	**Pn**	**18 56 23.2**	**+1.1**
KULM	**Kulim**	**5.41**	**38**	⇑*e*P	**Pn**	**18 56 25.5**	**-0.4**
KGM	**Kluang**	**6.12**	**81**	P	**Pn**	**18 56 37.6**	**+1.7**
TRD	**Trivandrum**	**21.55**	**291**	*i* S	**S**	**19 03 39.5**	**-7.2**
TRD				*e*P		19 03 57.5	
QIZ	**Qiongzhong**	**21.72**	**34**	*e*P	**P**	**18 59 55.0**	**-1.0**
QIZ				LR	LR		
	comp=N,516nm,14.4s						
QIZ				LR	LR		
	comp=Z,485nm,12.1s,MS4.1						
KMI	**Kunming**	**24.52**	**12**	P	**P**	**19 00 25.0**	**+1.4**
KMI				AP		19 00 31.8	
KMI				XP		19 00 37.3	
KMI				AMB	AMB		
	comp=Z,72nm,1.3s,mb5.0						
KMI				AMB	AMB		
	comp=Z,330nm,3.3s						
KMI				LR	LR		
	comp=N,1μm,14.2s,MS4.6						
KMI				LR	LR		
	comp=E,524nm,13.5s,MS4.6						
KMI				LR	LR		
	comp=Z,1μm,14.8s,MS4.6						
KMI	**Kunming**	**24.52**	**12**	P	**P**	**19 00 25.0**	**+1.4**
KMI				*PP		19 00 31.7	
KMI				*SP		19 00 37.2	
KMI						19 01 10.6	
KMI				pmax	pmax		
	comp=Z,72nm,1.3s,mb5.0						
KMI				MLR	MLR		
	comp=Z,1μm,14.8s,MS4.6						
HYB	**Hyderabad**	**24.58**	**313**	*i* P	**P**	**19 00 28.5**	**+4.3**
HYB	**Hyderabad**	**24.58**	**313**	*e*P	**P**	**19 00 28.5**	**+4.3**
GYA	**Guiyang**	**26.85**	**19**	⇑*i*P	**P**	**19 00 44.8**	**-0.4**
GYA				AP	pP	19 00 54.0	+0.5
GYA				XP	sP	19 00 58.4	+1.2
GYA				PP	PP	19 01 33.3	+2.6
GYA				S	**S**	**19 05 20.5**	**+2.5**
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.6						
GYA				AMB	AMB		
	comp=Z,120nm,3.0s						
GYA				LR	LR		
	comp=N,410nm,14.7s,MS4.4						
GYA				LR	LR		
	comp=E,620nm,14.8s,MS4.4						
GYA				LR	LR		
	comp=Z,800nm,13.2s,MS4.5						
PKI	**Pulchoki**	**28.74**	**338**	*e*P	**P**	**19 01 03.3**	**+1.0**
	comp=Z,65nm,1.2s,mb5.2						
PKI	**Pulchoki**	**28.74**	**338**	*e*P	**P**	**19 01 03.3**	**+1.0**
PKI				pmax	pmax		
	comp=Z,32nm,1.2s,mb4.9						
DMN	**Daman**	**28.89**	**337**	*e*P	**P**	**19 01 04.1**	**+0.4**
	comp=Z,43nm,1.0s,mb5.2						
KKN	**Kakani**	**28.98**	**338**	*e*P	**P**	**19 01 04.0**	**-0.6**
	comp=Z,58nm,1.1s,mb5.2						
KKN	**Kakani**	**28.98**	**338**	*e*P	**P**	**19 01 04.0**	**-0.6**
KKN				pmax	pmax		
	comp=Z,29nm,1.1s,mb4.9						
LSA	**Lhasa**	**29.10**	**349**	P	**P**	**19 01 07.0**	**+1.4**
LSA	**Lhasa**	**29.10**	**349**	*e*P	**P**	**19 01 06.6**	**+1.0**
	comp=Z,9.1nm,0.8s,mb4.6						
LSA	**Lhasa**	**29.10**	**349**	*e*P	**P**	**19 01 06.6**	**+1.0**
LSA				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.5		

comp=Z,16nm,0.6s,mb4.9,baz=299,slow=1.4,SNR=6.8
WRA Warramunga Arr 41.88 122 P **P 19 02 54.7 -0.1**
comp=Z,1.8nm,0.7s,mb3.8,baz=298,slow=9.0,SNR=11
WRAB Tennant Creek 41.89 122 *e*P **P 19 02 54.5 -0.4**
comp=Z,5.3nm,0.7s,mb4.3
KSH Kashi 42.95 336 *e*P **P 19 03 10.0 +6.6**
KSH *e*AP pP 19 03 19.0 +7.2
KSH *e*XP sP 19 03 22.0 +6.7
KSH AMB AMB
comp=Z,70nm,5.2s
WMQ Urumqi 43.45 350 P **P 19 03 08.5 +1.2**
WMQ AP pP 19 03 19.5 +3.7
WMQ AMB AMB
comp=Z,27nm,1.0s,mb4.9
KS15 Wonju Array Si 45.91 34 *e*P **P 19 03 26.8 -0.4**
TKM2 Tokmak 2 46.00 338 P **P 19 03 29.0 +1.2**
SNR=10
KBK Karagaybulak 46.02 337 P **P 19 03 30.1 +2.2**
SNR=8.1
AML Almayashu 46.09 336 P **P 19 03 30.1 +1.6**
SNR=5.2
AAK Ala-Archa 46.18 337 *e*P **P 19 03 28.6 -0.6**
comp=Z,13nm,1.3s,mb4.7
AAK Ala-Archa 46.18 337⇑ *e*P **P 19 03 29.5 +0.3**
AAK pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
AAK MLR MLR
comp=Z,200nm,21.0s,MS4.0
FRU Bishkek 46.30 337 *e*P **P 19 03 30.0 -0.1**
EKS2 Erkin-Say 46.49 336 P **P 19 03 32.7 +1.1**
SNR=9.5
USP Ospenovka 46.72 337 P **P 19 03 34.4 +1.0**
SNR=17
SONM Songino Array 47.28 8 P **P 19 03 38.3 +0.4**
comp=Z,9.6nm,0.6s,mb4.9,baz=192,slow=9.3,SNR=48
SONM PcP PcP 19 05 09.5 +0.5
comp=Z,3.3nm,0.6s,baz=182,slow=3.9,SNR=7.9
SONM LR LR 19 26 04.9
comp=Z,578nm,19.4s,MS4.5,baz=196,slow=39
ULN Ulaanbaatar 47.41 9 *e*P **P 19 03 38.7 -0.2**
comp=Z,5.9nm,0.6s,mb4.7
ULN *e*PcP PcP 19 05 09.6 +0.1
ULN Ulaanbaatar 47.41 9 *e*P **P 19 03 38.7 -0.2**
ULN *e* 19 05 09.6
ULN pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
MKAR Makanchi Array 47.42 346 P **P 19 03 39.2 +0.2**
comp=Z,7.9nm,0.7s,mb4.8,baz=160,slow=8.6,SNR=97
MKAR LR LR 19 27 31.7
comp=Z,132nm,21.1s,MS3.9,baz=171,slow=41
MKAR Makanchi Array 47.42 346 *i* P **P 19 03 39.0 +0.1**
MKAR pmax pmax
comp=Z,4.0nm,0.5s
KKAR Karatay Array 48.24 334 *i* P **P 19 03 45.7 +0.3**
KKAR pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
CN2 Changchun 49.42 27 *e*P **P 19 03 54.3 -0.2**
CN2 AMB AMB
comp=Z,30nm,0.7s,mb5.4
CN2 LR LR
comp=N,520nm,15.0s,MS4.7
CN2 LR LR
comp=E,260nm,15.0s,MS4.7
CN2 LR LR
comp=Z,400nm,16.0s,MS4.5
ZAK Zakamensk 49.43 5 *e*P **P 19 03 54.2 -0.3**
ZAK *e* 19 05 16.3
ZAK pmax pmax
comp=Z,2.0nm,1.2s,mb4.0
ZAK pmax pmax
comp=Z,1.0nm,0.8s,mb3.9
MJAR Matsushiro Arr 51.76 42 LR LR 19 25 45.7
comp=Z,171nm,19.0s,MS4.1,baz=255,slow=36
HIA Hailar 51.77 19 *e*P **P 19 04 11.8 -0.5**
comp=Z,9.3nm,0.8s,mb4.8
HIA Hailar 51.77 19 *e*P **P 19 04 11.8 -0.5**
HIA pmax pmax
comp=Z,9.0nm,0.8s
KURK Kurchatov 51.97 345 *e*P **P 19 04 13.6 -0.2**
comp=Z,12nm,0.9s,mb4.8
KURK Kurchatov 51.97 345 *e*P **P 19 04 13.6 -0.2**
KURK pmax pmax
comp=Z,12nm,0.9s,mb4.8
MDJ Mudanjiang 51.98 29 P **P 19 04 13.4 -0.5**
MDJ AP pP 19 04 22.8 +0.3
MDJ XP sP 19 04 27.4 +1.5
MDJ AMB AMB
comp=Z,9.0nm,1.1s,mb4.6
MDJ AMB AMB
comp=Z,94nm,4.4s
MDJ LR LR
comp=N,283nm,14.3s,MS4.4
MDJ LR LR
comp=E,89nm,18.9s,MS4.4
MDJ LR LR
comp=Z,403nm,16.3s,MS4.5
CIT Chita 52.62 13 *e*P **P 19 04 18.5 -0.1**
CIT pmax pmax
comp=Z,34nm,2.6s,mb4.8
STKA Stephens Creek 53.19 132 *e*P **P 19 04 23.9 +0.8**
comp=Z,3.3nm,0.6s,mb4.4
STKA Stephens Creek 53.19 132 P **P 19 04 24.3 +1.1**
comp=Z,3.7nm,0.7s,mb4.4,baz=309,slow=7.4,SNR=12
STKA LR LR 19 29 12.9
comp=Z,340nm,19.3s,MS4.4,baz=114,slow=38
ZAL Zalesovo 53.73 351 P **P 19 04 26.2 -0.6**
comp=Z,9.1nm,0.6s,mb4.9,baz=309,slow=5.9,SNR=49
ZAL LR LR 19 31 41.4
comp=Z,144nm,18.8s,MS4.0,baz=296,slow=41
ZAL Zalesovo 53.73 351 P **P 19 04 26.2 -0.6**
ZAL LR LR 19 31 41.4
NVS Novosibirsk 54.85 350 *i* P **P 19 04 33.8 -1.2**
ATD Arta Tunnel 55.00 283 LR LR 19 21 55.1
comp=Z,67nm,19.3s,MS3.7,baz=208,slow=29
VOSK Vostochnaya 55.98 341 P **P 19 04 42.1 -1.1**
VOSK pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
BVA0 Borovoye Array 56.43 341 *i* P **P 19 04 45.4 -1.0**
BVA0 pmax pmax
comp=Z,1.0nm,0.8s,mb3.9
BVAR Borovoye Array 56.43 341 P **P 19 04 45.4 -1.0**
comp=Z,5.4nm,0.7s,mb4.7,baz=141,slow=9.5,SNR=38
BRVK Borovoye 56.49 341 *e*P **P 19 04 45.0 -1.9**
comp=Z,2.9nm,0.8s,mb4.4
BRVK Borovoye 56.49 341 *e*P **P 19 04 45.0 -1.9**
BRVK pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
AB31 Akbulak array 57.70 332 *i* P **P 19 04 54.3 -1.1**
AB31 pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
BOD Bodaibo 58.16 10 *e*P **P 19 04 57.7 -0.9**
BOD pmax pmax
comp=Z,15nm,0.9s,mb5.0
YSS Yuzh-Sakhalins 60.44 34⇑ *e*P **P 19 05 14.0 -0.5**
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.3
ARU Arti 63.37 337 *e*P **P 19 05 31.7 -2.2**
comp=Z,12nm,1.4s,mb4.8
ARU *e*pP pP 19 05 39.8 -2.9
ARU Arti 63.37 337⇑ *i*P **P 19 05 32.6 -1.3**
ARU *e* 19 06 10.0
ARU pmax pmax
comp=Z,6.0nm,1.0s,mb4.7
KIV Kislovodsk 64.48 319 *e*P **P 19 05 49.3 +7.8**
KIV *e*S **S 19 14 15.7 -1.3**
KIV pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
MALT Malatya 65.30 312 *e*P **P 19 05 46.4 -0.4**
comp=Z,2.8nm,0.9s,mb4.3
MALT *e*pP pP 19 05 54.2 -1.4
MALT *e*sP sP 19 05 59.6 +0.8
MALT Malatya 65.30 312 *e*P **P 19 05 46.4 -0.4**
MALT *e**PP pP 19 05 54.3 -1.3
MALT *e**SP sP 19 05 59.6 +0.8
MALT pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
YAK Yakutsk 65.56 16 *e*P **P 19 05 46.8 -1.3**
comp=Z,7.7nm,0.6s,mb4.9
YAK Yakutsk 65.56 16 *e*P **P 19 05 45.9 -2.2**
YAK pmax pmax
comp=Z,11nm,1.0s,mb4.8
YAK pmax pmax
comp=N,4.0nm,1.2s
YAK pmax pmax
comp=E,3.0nm,1.2s
YAK MLR MLR

comp=Z,137nm,12.0s,MS4.4
YAK MLR MLR
comp=N,163nm,15.0s
ANN Anapa 68.27 318 *e*P **P 19 06 04.0 -1.6**
ANN *i* *PP pP 19 06 13.0 -1.4
ANN *e* 19 06 32.1
ANN pmax pmax
comp=Z,41nm,1.3s,mb5.3
BRTR Keskin Array B 69.28 312 P **P 19 06 11.3 -0.6**
comp=Z,1.5nm,0.8s,mb4.0,baz=121,slow=7.2,SNR=9.3
PET Petropavlovsk 72.33 34 *i* P **P 19 06 29.8 -0.2**
PET pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
OBN Obninsk 72.80 328 *e*P **P 19 06 39.9 +7.1**
OBN *e* 19 09 15.5
OBN pmax pmax
comp=Z,6.0nm,1.3s,mb4.4
SEY Seymchan 73.89 23⇓ *e*P **P 19 06 39.3 +0.4**
AKASG Malin Array Be 75.44 322 P **P 19 06 46.4 -1.7**
comp=Z,0.4nm,0.3s,mb3.8,baz=95,slow=4.8,SNR=4.7
AKASG Malin Array Be 75.44 322 P **P 19 06 46.4 -1.7**
JOF Joensuu 78.33 335 *e*p **P 19 07 03.7 -0.3**
comp=Z,3.5nm,1.1s,mb4.2
SUR Sutherland 79.14 237 LR LR 19 38 27.9
comp=Z,232nm,18.4s,MS4.5,baz=72,slow=33
FINES FINESS Array B 80.18 333 P **P 19 07 14.4 +0.3**
comp=Z,0.9nm,0.4s,mb4.0,baz=90,slow=5.7,SNR=11
FINES LR LR 19 49 37.0
comp=Z,56nm,18.9s,MS3.9,baz=302,slow=41
KAF Kangasniemi 80.27 333 *e*p **P 19 07 13.9 -0.6**
comp=Z,2.8nm,0.6s,mb4.4,baz=104,slow=5.0
KAF Kangasniemi 80.27 333 *e*P **P 19 07 13.9 -0.6**
KAF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
BILL Bilibino 81.29 21 *e*P **P 19 07 22.9 +3.1**
BILL *e* pP 19 07 32.3 +3.5
BILL pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
BILL MLR MLR
comp=Z,200nm,16.0s,MS4.6
ARCES ARCESS Array B 82.72 340 P **P 19 07 27.8 +0.7**
comp=Z,3.0nm,0.7s,mb4.4,baz=98,slow=4.7,SNR=22
ARCES LR LR 19 48 28.0
comp=Z,128nm,20.2s,MS4.3,baz=88,slow=39
DPC Dobruska-Polom 83.43 320 *e*P **P 19 07 33.0 +1.8**
UPC Upice 83.64 321 *e*pP pP 19 07 41.0 -0.3
BOJS Bojanci 83.67 316 *e*P **P 19 07 27.9 -4.6**
PERS Pernice 83.86 317 *e*P **P 19 07 42.5 +9.0**
VOJS Vojsko 84.66 316 *e*P **P 19 07 45.5 +7.9**
BRG Berggiesshubel 84.99 321 P **P 19 07 44.5 +5.5**
comp=Z,2.9nm,1.0s,mb4.4
BRG Berggiesshubel 84.99 321 P **P 19 07 44.5 +5.5**
BRG pmax pmax
comp=Z,3.0nm,1.0s,mb4.4
GERES GERESS Array B 84.99 319 P **P 19 07 40.3 +1.3**
comp=Z,2.0nm,0.8s,mb4.3,baz=108,slow=4.2,SNR=15
KHC Kasperske Hory 85.09 319 *e*P **P 19 07 40.9 +1.3**
GRA1 Grafenberg Arr 86.66 320 *e*P **P 19 07 48.5 +1.1**
comp=Z,4.0nm,0.9s,mb4.7
GRA1 *e*pP pP 19 07 56.7 +0.3
GRF Grafenberg Arr 86.66 320 *e*P **P 19 07 48.5 +1.1**
comp=Z,4.0nm,0.9s,mb4.7
GRF *e*pP pP 19 07 56.7 +0.3
GRF Grafenberg Arr 86.66 320 *e*P **P 19 07 48.5 +1.1**
GRF *e**PP pP 19 07 56.7 +0.3
GRF pmax pmax
comp=Z,4.0nm,0.9s,mb4.7
GRF Grafenberg Arr 86.66 320 *e*P **P 19 07 48.5 +1.1**
GRF *e**PP pP 19 07 56.7 +0.3
GRF pmax pmax
comp=Z,4.0nm,0.9s,mb4.7
NB2 NORSAR Subarra 87.19 331 P **P 19 07 49.6 0.0**
comp=Z,3.7nm,0.9s,mb4.6,baz=98,slow=4.6
NB2 NORSAR Subarra 87.19 331 P **P 19 07 49.6 0.0**
NB2 pmax pmax
comp=Z,4.0nm,0.9s,mb4.7
NOA NORSAR Array B 87.19 331 P **P 19 07 50.3 +0.7**
comp=Z,2.2nm,0.8s,mb4.4,baz=94,slow=4.9,SNR=8.7
NOA LR LR 19 52 32.2
comp=Z,51nm,19.6s,MS3.9,baz=80,slow=40
LPG La Plagne 89.64 315 *e*P **P 19 08 03.3 +1.6**
comp=Z,6.4nm,0.8s,mb4.7
LPG La Plagne 89.64 315 *e*P **P 19 08 03.3 +1.6**
LPG pmax pmax
comp=Z,3.0nm,0.8s,mb4.7
CPUP Villa Florida 144.93 222 PKP PKPdf 19 14 42.4 -2.8
comp=Z,1.8nm,0.8s,baz=159,slow=6.3,SNR=4.4
GOGA Godfrey 145.73 1 *e*PKPdf PKPdf 19 14 42.9 -3.5
GOGA *e*PKPab PKPab 19 14 44.1 -0.1
GOGA *e*pPKPdf 19 14 50.9
LRAL Lakeview Retre 145.88 6 *e*PKPdf PKPdf 19 14 43.3 -3.3

JMA ***23*** *18:59:08.7±0.3,24.82N×122.31E,h100km±3km,M3.4*
NEIC ***23*** *18:59:08.5±0.5,24.81N×122.31E,h102km±5km,mb4.2/2, Error ellipse: s-maj=11.2km s-min=10.5km az=80.0*
IDC ***23*** *18:59:10.6±7.4,24.90N×122.48E,h122km±76km,mb3.6/4, mb1 3.7/5,mb1mx3.4/21,mbtmp4.0/5, Error ellipse: s-maj=60.9km s-min=20.9km az=68.0*
ISC 23 18:59:07.6±0.5,**24.81N**±0.06×**122.27E**±0.03,**h108**km±4km, **n21**,σ0**67**/35,**mb3.9**/6,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TATO	**Taipei**	**0.73**	**283**	*i* P	**P**	**18 59 26.6**	**+0.3**
TATO				*i* S	**S**	**18 59 39.3**	**-0.9**
YOJ	**Yonaguni jima**	**0.75**	**117**	P	**P**	**18 59 26.5**	**0.0**
YOJ				S	**S**	**18 59 40.0**	**-0.6**
YHNB	**Yeheng**	**0.83**	**261**	*e*P	**P**	**18 59 27.8**	**+0.6**
YHNB				*e*S	**S**	**18 59 42.0**	**+0.2**
NACB	**Ninganchiao**	**0.88**	**225**	*e*P	**P**	**18 59 28.0**	**+0.3**
IRIF	**Iriomote-Funau**	**1.41**	**109**	P	**P**	**18 59 33.3**	**-0.3**
IRIF				S	**S**	**18 59 52.5**	**-0.7**
HATJ	**Hateruma jima**	**1.58**	**118**	P	**P**	**18 59 36.2**	**+0.4**
HATJ				S	**S**	**18 59 57.5**	**+0.7**
JKRS	**Kuro-shima**	**1.68**	**109**	P	**P**	**18 59 37.1**	**+0.2**
JKRS				S	**S**	**18 59 58.7**	**-0.2**
JIJ	**Ishigaki jima**	**1.76**	**104**	P	**P**	**18 59 37.7**	**-0.2**
JIJ				S	**S**	**18 59 59.9**	**-0.7**
JTJ	**Tarama**	**2.21**	**94**	P	**P**	**18 59 44.5**	**+0.6**
JTJ				S	**S**	**19 00 11.1**	**+0.1**
JMJ	**Miyako jima 2**	**2.75**	**89**	P	**P**	**18 59 51.5**	**+0.4**
JMJ				S	**S**	**19 00 23.3**	**-0.5**
JOGS	**Gusukube**	**2.85**	**90**	P	**P**	**18 59 53.3**	**+0.8**
JOGS				S	**S**	**19 00 27.1**	**+0.8**
JKE	**Kume jima 2**	**4.35**	**69**	P	**P**	**19 00 13.4**	**+0.6**
JKE				S	**S**	**19 01 04.2**	**+1.4**
JAGN	**Aguni-jima**	**4.82**	**67**	P	**P**	**19 00 19.7**	**+0.4**
JAGN				*e*S	**S**	**19 01 14.1**	**-0.2**
JOW	**Kunigami**	**5.77**	**68**	P	**P**	**19 00 31.2**	**-0.9**
	4.6nm,0.3s,baz=202,slow=13,SNR=16						
JOW				S	**S**	**19 01 35.0**	**-2.6**
	0.9nm,0.3s,baz=121,slow=27,SNR=2.6						
JOW	**Kunigami**	**5.77**	**68**	P	**P**	**19 00 30.8**	**-1.3**
JOW				*e*S	**S**	**19 01 34.7**	**-2.9**
SONM	**Songino Array**	**26.20**	**335**	P	**P**	**19 04 34.0**	**+0.2**
	1.7nm,0.7s,mb3.6,baz=159,slow=11,SNR=2.2						
MBWA	**Marble Bar**	**45.76**	**183**	P	**P**	**19 07 19.3**	**-0.8**
	0.8nm,0.5s,mb3.7						
WRAB	**Tennant Creek**	**46.00**	**164**	*e*P	**P**	**19 07 22.1**	**+0.1**
	5.2nm,0.6s,mb4.4						
WRA	**Warramunga Arr**	**46.00**	**164**	P	**P**	**19 07 22.1**	**0.0**
	4.3nm,0.6s,mb4.3,baz=346,slow=8.5,SNR=16						
BVAR	**Borovoye Array**	**47.83**	**320**	P	**P**	**19 07 36.0**	**+0.1**
	0.4nm,0.5s,mb3.5,baz=121,slow=8.4,SNR=3.0						
ARCES	**ARCESS Array B**	**69.33**	**338**	P	**P**	**19 10 04.3**	**-0.6**
	1.6nm,0.8s,mb3.9,baz=60,slow=7.3,SNR=3.6						

IDC ***23*** *19:03:21.5±1.0, 1.00N×97.14E,mb4.2/12,mb1 4.3/12, mb1mx4.2/20,mbtmp4.2/12, Error ellipse: s-maj=53.4km s-min=16.3km az=52.0*
BJI ***23*** *19:03:22.2, 0.67N×97.53E,h37km,mB4.8,mb4.8,Ms4.3, Msz4.2*
NEIC ***23*** *19:03:25.5±0.4, 1.06N×97.28E,mb4.6/12, Error ellipse: s-maj=11.9km s-min=6.7km az=53.0*
ISC 23 19:03:24.6±3.3,**1.05N**±0.09×**97.27E**±0.10,**h31**km±22km, **n38**,σ0**81**/38,**mb4.5**/27,**MS4.2**/3,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.13**	**47**	P	**Pn**	**19 04 41.8**	**+0.4**
KULM	**Kulim**	**5.40**	**39**	*e*P	**Pn**	**19 04 44.8**	**-0.4**
KGM	**Kluang**	**6.12**	**81**	P	**Pn**	**19 04 56.7**	**+1.3**
TSM	**Tawau**	**20.82**	**81**	P	**P**	**19 08 05.8**	**-0.5**
KMI	**Kunming**	**24.51**	**12**	P	**P**	**19 08 43.4**	**+0.7**
KMI				AP		19 08 50.4	
KMI				AMB	AMB		
	comp=Z,36nm,1.0s,mb4.9						
KMI				AMB	AMB		
	comp=Z,110nm,3.1s						
KMI				LR	LR		
	comp=N,473nm,16.0s,MS4.1						
KMI				LR	LR		
	comp=E,172nm,14.7s,MS4.1						
KMI				LR	LR		
	comp=Z,425nm,16.0s,MS4.0						
KMI	**Kunming**	**24.51**	**12**	P	**P**	**19 08 43.4**	**+0.7**
	comp=Z,36nm,1.0s,mb4.9						
KMI				pP		19 08 50.4	
KMI				LR	LR		
	comp=Z,430nm,16.0s,MS4.0						
PKI	**Pulchoki**	**28.72**	**338**	*e*P	**P**	**19 09 22.0**	**+0.5**
	comp=Z,22nm,1.1s,mb4.8						
DMN	**Daman**	**28.87**	**337**	*e*P	**P**	**19 09 23.3**	**+0.5**
	comp=Z,22nm,1.0s,mb4.9						
KKN	**Kakani**	**28.97**	**338**	*e*P	**P**	**19 09 23.6**	**-0.1**
	comp=Z,27nm,1.0s,mb4.9						
LSA	**Lhasa**	**29.08**	**349**	P	**P**	**19 09 26.3**	**+1.6**
LSA	**Lhasa**	**29.08**	**349**	*e*P	**P**	**19 09 25.3**	**+0.6**
	comp=Z,5.3nm,0.9s,mb4.3						
GKN	**Gorkha**	**29.41**	**337**	*e*P	**P**	**19 09 27.8**	**+0.1**
	comp=Z,25nm,1.0s,mb4.9						
KOLN	**Koldanda**	**29.62**	**335**	*e*P	**P**	**19 09 29.6**	**0.0**
	comp=Z,18nm,0.8s,mb4.8						
ENH	**Enshi**	**31.30**	**21**	*e*P	**P**	**19 09 42.1**	**-2.2**
	comp=Z,9.3nm,0.6s,mb4.8						
ENH				*e*pP	pP	19 09 49.1	-4.5
FITZ	**Fitzroy Crossi**	**33.78**	**126**	P	**P**	**19 10 05.4**	**-0.7**
	comp=Z,3.3nm,0.7s,mb4.4,baz=231,slow=5.1,SNR=5.1						
XAN	**Xi'an**	**34.59**	**17**	P	**P**	**19 10 11.5**	**-1.4**
XAN				AMB	AMB		
	comp=Z,13nm,0.8s,mb4.9						
GTA	**Gaotai**	**38.25**	**3**	P	**P**	**19 10 44.0**	**+0.2**
GTA				PP	PP	19 12 14.6	-0.3
GTA				S	**S**	**19 16 36.6**	**+1.4**
GTA				SS	SS	19 19 14.8	+0.2
GTA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
GTA				AMB	AMB		
	comp=Z,54nm,4.2s						
GTA				LR	LR		
	comp=N,166nm,14.6s,MS4.1						
GTA				LR	LR		
	comp=E,172nm,17.2s,MS4.1						
GTA				LR	LR		
	comp=Z,192nm,16.6s,MS4.0						
WRA	**Warramunga Arr**	**41.89**	**122**	P	**P**	**19 11 14.0**	**-0.1**
	comp=Z,1.5nm,0.6s,mb3.8,baz=303,slow=8.9,SNR=15						
WRAB	**Tennant Creek**	**41.90**	**122**	*e*P	**P**	**19 11 14.3**	**+0.1**
	comp=Z,5.5nm,0.8s,mb4.2						
WMQ	**Urumqi**	**43.44**	**350**	*e*P	**P**	**19 11 27.8**	**+1.4**
WMQ				AP	pP	19 11 37.8	+2.0
WMQ				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.7						
KS15	**Wonju Array Si**	**45.90**	**34**	*e*P	**P**	**19 11 46.0**	**-0.3**
SONM	**Songino Array**	**47.27**	**8**	P	**P**	**19 11 57.3**	**+0.3**
	comp=Z,7.3nm,0.7s,mb4.7,baz=190,slow=8.9,SNR=39						
SONM				PcP	PcP	19 13 28.3	+0.2
	comp=Z,2.2nm,0.7s,baz=190,slow=3.6,SNR=8.2						
ULN	**Ulaanbaatar**	**47.40**	**9**	*e*P	**P**	**19 11 57.7**	**-0.3**
	comp=Z,3.7nm,0.6s,mb4.5						
MKAR	**Makanchi Array**	**47.41**	**346**	P	**P**	**19 11 58.1**	**+0.1**
	comp=Z,4.5nm,0.7s,mb4.5,baz=158,slow=9.1,SNR=46						
CN2	**Changchun**	**49.41**	**27**	*e*P	**P**	**19 12 12.8**	**-0.8**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
CN2				LR	LR		
	comp=N,250nm,15.0s,MS4.4						
CN2				LR	LR		
	comp=E,200nm,15.0s,MS4.4						
CN2				LR	LR		
	comp=Z,260nm,16.0s,MS4.3						
KURK	**Kurchatov**	**51.96**	**345**	*e*P	**P**	**19 12 32.0**	**-0.9**
	comp=Z,8.2nm,1.0s,mb4.6						
STKA	**Stephens Creek**	**53.20**	**132**	P	**P**	**19 12 43.4**	**+0.9**
	comp=Z,3.9nm,0.8s,mb4.4,baz=301,slow=7.4,SNR=7.1						
ZAL	**Zalesovo**	**53.71**	**351**	P	**P**	**19 12 45.1**	**-0.7**
	comp=Z,4.4nm,0.8s,mb4.5,baz=296,slow=7.1,SNR=23						
BVAR	**Borovoye Array**	**56.42**	**341**	P	**P**	**19 13 04.3**	**-1.2**
	comp=Z,2.5nm,0.7s,mb4.3,baz=143,slow=7.4,SNR=18						
BRTR	**Keskin Array B**	**69.27**	**312**	P	**P**	**19 14 30.1**	**-1.0**
	comp=Z,0.4nm,0.6s,mb3.5,baz=143,slow=6.2,SNR=4.1						
FINES	**FINESS Array B**	**80.17**	**333**	P	**P**	**19 15 33.0**	**-0.2**
	comp=Z,0.6nm,0.6s,mb3.7,baz=135,slow=2.7,SNR=4.9						
FINES	**FINESS Array B**	**80.17**	**333**	P	**P**	**19 15 33.0**	**-0.2**
ARCES	**ARCESS Array B**	**82.70**	**340**	P	**P**	**19 15 46.8**	**+0.5**
	comp=Z,2.2nm,0.7s,mb4.3,baz=104,slow=5.0,SNR=10						
GERES	**GERESS Array B**	**84.98**	**319**	P	**P**	**19 15 59.4**	**+1.2**
	comp=Z,0.8nm,0.7s,mb3.9,baz=104,slow=5.5,SNR=8.2						
NB2	**NORSAR Subarra**	**87.17**	**331**	P	**P**	**19 16 09.0**	**+0.2**
	comp=Z,0.7nm,0.7s,mb4.0,baz=96,slow=4.6						
NOA	**NORSAR Array B**	**87.17**	**331**	P	**P**	**19 16 09.1**	**+0.3**
	comp=Z,1.1nm,0.8s,mb4.2,baz=93,slow=4.8,SNR=5.3						
NOA	**NORSAR Array B**	**87.17**	**331**	P	**P**	**19 16 09.1**	**+0.3**
LRAL	**Lakeview Retre**	**145.86**	**6**	*e*PKPdf	PKPdf	19 23 02.7	-3.4

BJI ***23*** *19:14:07.0, 32.80S×68.80W,h10km,mB4.9,Ms4.8, Msz4.7*
HRVD ***23*** *19:14:07.0±0.6,32.93S×69.14W,h20km±3km,MW4.8/31, Centroid moment Tensor Solution. LP body waves: s10,c13;Mantle waves: s31,c41; Half duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}0.91±.20; $M_{\theta\theta}$-0.81±.13; $M_{\phi\phi}$-0.09±.15; $M_{r\theta}$0.24±.24; $M_{\theta\phi}$1.22±.09; $M_{\phi r}$1.71±.46; Best double couple: $M_0$2.255×10^16 NP1:φ95°,δ40°,λ24°. NP2:φ346°,δ75°,λ127°. Principal axes: T 2.463, Plg47°, Azm295°; N -.416, Plg36°, Azm154°; P -2.047, Plg21°, Azm48°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***23*** *19:14:07.0,32.81S×68.77W,h10km,mb4.9/17, MD5.0(SJA),ML4.8(GUC),After SJA.*
NEIC One weak house collapsed at Las Heras. Glass broken [VI] at Mendoza. Felt [III] at San Juan. Also felt at Lujan de Cuyo.
GUC ***23*** *19:14:08.1±0.8,32.74S×68.94W,h6km±3km,ML4.8*
IDC ***23*** *19:14:09.4±2.9,32.74S×68.77W,h35km±22km,mb4.1/11, mb1 4.2/16,mb1mx4.2/21,mbtmp4.3/16,ML4.3/4,MS4.1/11, Ms1 4.1/11,ms1mx3.9/20, Error ellipse: s-maj=22.9km s-min=13.8km az=90.0*
MOS ***23*** *19:14:10.6±3.4,32.77S×69.04W,h33km,mb5.0/1, Error ellipse: s-maj=23.0km s-min=10.9km az=80.8*
ISC 23 19:14:06.1±0.6,**32.79S**±0.03×**68.66W**±0.03,**h24**km±4km, **n111**,σ1**908**/112,**mb4.6**/27,**MS4.1**/8,**11C-14D,Mendoza Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDZ	**Mendoza**	**0.19**	**239⇓**	*i*P	**Pb**	**19 14 10.3**	**-1.2**
MDZ				*i*		19 14 12.3	
MDZ				*i* S	**Sb**	**19 14 14.3**	**-0.8**
CFAA	**Coronel Fontan**	**1.23**	**17**	Pn	**Pn**	**19 14 30.0**	**+1.9**
	122nm,0.3s,baz=197,slow=16,SNR=1181						
CFAA				Pg	**Pn**	**19 14 32.6**	**+4.5**
	125nm,0.3s,baz=202,slow=13,SNR=1185						
CFAA				Sn	**Sn**	**19 14 49.0**	**+4.9**
	711nm,0.3s,baz=269,slow=11,SNR=72						
CFAA				Lg		19 14 51.8	
	918nm,0.3s,baz=118,slow=14,SNR=89						
CFAA	**Coronel Fontan**	**1.23**	**17**	Pn	**Pn**	**19 14 30.0**	**+1.9**
CFAA				Pg	**Pn**	**19 14 32.6**	**+4.5**
CFAA				Sn	**Sn**	**19 14 49.0**	**+4.9**
CFAA				Lg		19 14 51.8	
ZON	**Zonda**	**1.24**	**359**	*e*P	**Pn**	**19 14 32.8**	**+4.6**
ZON				*e*S	**Sn**	**19 14 54.4**	**+10**
ZON	**Zonda**	**1.24**	**359**	*e*P	**Pn**	**19 14 32.8**	**+4.6**
ZON				*i* S	**Sn**	**19 14 54.4**	**+10**
FCH	**Farellones**	**1.48**	**248⇓**	*i*P	**Pn**	**19 14 30.7**	**-0.9**
FCH				*i* S	**Sn**	**19 14 48.2**	**-2.1**
FCH				AMP		19 14 51.7	
	comp=N,17μm,0.6s						
JACH	**Jahuel**	**1.64**	**273⇓**	*i*P	**Pn**	**19 14 33.0**	**-0.9**
JACH				*i* S	**Sn**	**19 14 52.0**	**-2.4**
LMEL	**Las Melosas**	**1.67**	**230⇓**	*i*P	**Pn**	**19 14 34.6**	**+0.2**
LMEL				*i* S	**Sn**	**19 14 55.6**	**+0.3**

LMEL AMP 19 14 58.5
comp=N,12μm,0.2s
CLCH Cerro Calan 1.69 248⇓iP Pn 19 14 34.6 -0.1
CLCH *i* S **Sn 19 14 54.7 -1.1**
CLCH AMP 19 15 01.7
comp=E,22μm,0.6s
FSR Penalolen 1.71 246⇓iP Pn 19 14 35.0 0.0
FSR *i* S **Sn 19 14 55.7 -0.7**
DSCH Colegio Aleman 1.72 249⇑iP Pn 19 14 35.2 +0.1
DSCH *i* S **Sn 19 14 55.7 -0.8**
DSCH AMP 19 14 58.5
comp=E,25μm,0.7s
PEL Peldehue 1.74 258⇓iP Pn 19 14 34.9 -0.5
PEL *i* S **Sn 19 14 55.6 -1.5**
PCH Pirque 1.77 241⇑iP Pn 19 14 36.0 +0.3
PCH *i* S **Sn 19 14 57.9 +0.2**
STL Santa Lucia 1.79 248⇓iP Pn 19 14 35.3 -0.7
STL *i* S **Sn 19 14 56.5 -1.7**
SAN Santiago 1.81 248⇑iP Pn 19 14 36.6 +0.2
SAN *i* S **Sn 19 14 58.1 -0.7**
SAN AMP 19 15 04.2
comp=E,9μm,0.7s
ANTU Antumapu 1.83 244⇓iP Pn 19 14 37.1 +0.4
ANTU *i* S **Sn 19 14 59.0 -0.3**
ANTU AMP 19 15 00.8
comp=E,14μm,0.6s
RCDM Rinconada Maip 1.94 248⇓iP Pn 19 14 38.9 +0.7
RCDM *i* S **Sn 19 15 02.2 +0.2**
RCDM AMP 19 15 05.9
comp=N,6μm,0.5s
ROCH El Roble 1.99 264⇓iP Pn 19 14 39.3 +0.3
ROCH *i* S **Sn 19 15 03.0 -0.4**
CHCH Chadas Angostu 2.02 235⇑iP Pn 19 14 40.8 +1.3
CHCH *i* S **Sn 19 15 05.5 +1.2**
CACH El Canelo 2.10 230 *i* P Pn 19 14 42.5 +1.9
CACH *i* S **Sn 19 15 08.2 +2.1**
TACH Talagante 2.10 245⇑iP Pn 19 14 41.5 +0.9
TACH *i* S **Sn 19 15 06.7 +0.6**
CICH Cipreses 2.12 223 *i* P Pn 19 14 42.6 +1.7
CICH *i* S **Sn 19 15 09.3 +2.5**
ILCH Illapel 2.42 298⇓iP Pn 19 14 47.2 +2.0
ILCH *i* S **Sn 19 15 16.1 +1.8**
LCCH Las Cruces 2.54 254⇓iP Pn 19 14 47.3 +0.5
LCCH *i* S **Sn 19 15 18.2 +0.8**
CHNG Los Chungos 2.57 290⇑iP Pn 19 14 48.1 +0.9
CHNG AMP 19 15 23.6
comp=E,11μm,0.5s
TLL Tololo Astrono 3.19 324⇑iP Pn 19 14 58.8 +2.7
TLL *i* S **Sn 19 15 36.7 +2.8**
TLL AMP 19 15 48.7
comp=N,13μm,0.6s
LSCH La Serena 3.62 322 AMP 19 15 38.4
comp=E,4μm,0.4s
VACH Vallenar 4.57 336⇑iP Pn 19 15 17.1 +1.3
VACH *i* S **Sn 19 16 09.1 +0.3**
TRQA Tornquist 7.57 136 *e*Pn **Pn 19 15 57.8 -0.1**
PLCA Paso Flores 8.07 190 Pn **P 19 16 04.1 -0.9**
comp=E,0.2nm,0.3s,baz=4.2,slow=14,SNR=8.0
PLCA Lg 19 18 26.2
comp=E,12nm,0.3s,baz=273,slow=20,SNR=5.8
PLCA LR LR 19 19 21.7
comp=E,2μm,19.1s,baz=16,slow=38
PLCA Paso Flores 8.07 190 Pn **P 19 16 04.1 -0.9**
PLCA Lg 19 18 26.2
PLCA LR LR 19 19 21.7
LVC Limon Verde 10.14 359 Pn **P 19 16 31.9 -1.6**
comp=E,2.5nm,0.3s,baz=174,slow=8.2,SNR=11
LVC Lg 19 19 30.8
comp=E,6.1nm,0.3s,baz=267,slow=6.7,SNR=6.4
LVC LR LR 19 20 44.7
comp=E,3μm,18.5s,baz=193,slow=39
LVC Limon Verde 10.14 359 *e*Pn **P 19 16 30.9 -2.5**
CPUP Villa Florida 11.77 60 Pn **P 19 16 54.8 -0.9**
comp=E,1.4nm,0.3s,baz=258,slow=12,SNR=33
CPUP Lg 19 20 27.1
comp=E,2.9nm,0.3s,baz=324,slow=13,SNR=2.7
CPUP LR LR 19 21 47.6
comp=E,552nm,19.0s,baz=257,slow=39
LPAZ La Paz 16.43 2 Pn **P 19 17 58.7 +1.7**
comp=E,0.5nm,0.3s,baz=178,slow=9.5,SNR=24
LPAZ La Paz 16.43 2 Pn **P 19 17 58.7 +1.7**
ARE Arequipa 16.45 350 *e*P **P 19 17 57.0 -0.3**
SIV San Ignacio 18.08 24 P **P 19 18 17.4 -0.2**
comp=E,0.7nm,0.3s,baz=205,slow=12,SNR=32
USHA Ushuaia 22.04 180 P **P 19 19 01.2 +0.5**
comp=E,2.7nm,0.4s,mb4.0,baz=329,slow=18,SNR=2.4
USHA LR LR 19 28 35.5
comp=E,756nm,19.4s,MS4.1,baz=356,slow=39
SAML Samuel 24.26 13 *e*P **P 19 19 22.3 -0.4**
comp=E,21nm,1.0s,mb4.5
BDFB Brasilia 25.33 53 P **P 19 19 33.6 +0.7**
comp=E,13nm,0.6s,mb4.6,baz=230,slow=9.2,SNR=14
BDFB LR LR 19 30 59.2
comp=E,520nm,19.4s,MS4.1,baz=129,slow=40
BAO Brasilia Array 25.35 53 P **P 19 19 33.0 -0.1**
ROSC El Rosal 37.82 351 LR LR 19 37 12.8
comp=E,196nm,20.3s,MS3.9,baz=176,slow=37
VNA3 Neumayer Olymp 49.43 159 P 19 23 01.4 +5.6
VNA3 Neumayer Olymp 49.43 159 P 19 23 03.8 +8.0
VNA3 Neumayer Olymp 49.43 159 P 19 23 08.9 +13
VNA3 Neumayer Olymp 49.43 159 P **P 19 22 56.2 +0.4**
VNA3 P pP 19 23 01.4 -1.6
VNA1 Neumayer--Stat 49.70 158 P 19 23 00.4 +2.6
VNA1 Neumayer--Stat 49.70 158 P 19 23 06.1 +8.3
VNA1 Neumayer--Stat 49.70 158 P 19 23 11.1 +13
VNA1 Neumayer--Stat 49.70 158 P 19 23 13.5 +16
VNA2 Neumayer--Watz 50.05 158 P 19 23 01.2 +0.7
VNA2 Neumayer--Watz 50.05 158 P 19 23 07.4 +7.0
VNA2 Neumayer--Watz 50.05 158 P 19 23 15.4 +15
VNA2 Neumayer--Watz 50.05 158 P 19 23 19.4 +19
SNAA Sanae 51.65 158 P **P 19 23 12.4 -0.3**
comp=E,0.7nm,0.5s,mb3.8,baz=277,slow=3.1,SNR=15
QSPA South Pole Qui 57.45 180 *e*P **P 19 23 54.8 -0.2**
comp=E,14nm,1.0s,mb5.0
VNDA Vanda 65.83 191 P **P 19 24 51.5 +0.4**
comp=E,1.6nm,0.8s,mb4.1,baz=132,slow=4.9,SNR=10
SYO Syowa Base 65.94 158 ⇓P **P 19 24 49.5 -2.5**
SYO Syowa Base 65.94 158 ⇑pP pP 19 24 51.8 -7.5
LRAL Lakeview Retre 67.71 343 *e*P **P 19 25 01.5 -2.4**
comp=E,7.6nm,0.9s,mb4.7
MYNC Murphy 69.05 346 *e*P **P 19 25 10.8 -1.3**
comp=E,15nm,0.9s,mb4.9
OXF Oxford 69.72 342 *e*P **P 19 25 14.7 -1.6**
comp=E,50nm,1.1s,mb5.3
TXAR Lajitas Array 70.14 328 P **P 19 25 17.9 -1.0**
comp=E,2.3nm,0.7s,mb4.2,baz=157,slow=9.2,SNR=11
TXAR LR LR 19 52 07.7
comp=E,102nm,18.8s,MS4.1,baz=235,slow=32
WVT Waverly 70.87 344 *e*P **P 19 25 21.8 -1.4**
comp=E,47nm,0.8s,mb5.5
PARMO Parma 71.85 342 *e*P **P 19 25 28.1 -1.0**
DBIC Dimbokro 72.11 69 P **P 19 25 31.2 +0.2**
comp=E,3.1nm,0.8s,mb4.3,baz=214,slow=11,SNR=3.3
DBIC LR LR 19 56 55.4
comp=E,118nm,18.4s,MS4.2,baz=321,slow=36
DBIC Dimbokro 72.11 69 *e*P **P 19 25 31.5 +0.5**
comp=E,7.2nm,0.9s,mb4.6
SUR Sutherland 72.91 118 P **P 19 25 36.6 +1.1**
comp=E,6.1nm,0.9s,mb4.5,baz=233,slow=13,SNR=2.8
FVM French Village 73.27 342 *e*P **P 19 25 36.1 -1.3**
comp=E,34nm,1.1s,mb5.2
MAW Mawson 73.51 163 P **P 19 25 38.4 +0.2**
comp=E,0.7nm,0.4s,mb3.9,baz=281,slow=18,SNR=4.3
MAW LR LR 20 00 39.9
comp=E,153nm,18.7s,MS4.3,baz=244,slow=38
ACSO Alum Creek Sta 73.85 349 *e*P **P 19 25 39.1 -1.6**
comp=E,5.2nm,0.7s,mb4.6
ANMO Albuquerque 76.15 329 *e*P **P 19 25 53.8 -0.2**
comp=E,7.8nm,1.1s,mb4.5
ANMO Albuquerque 76.15 329 *c iP* **P 19 25 54.0 0.0**
CBKS Cedar Bluff 76.87 336 *e*P **P 19 25 57.0 -1.0**
comp=E,16nm,0.9s,mb5.0
BOSA Boshof 78.10 116 P **P 19 26 05.6 +0.7**
comp=E,2.2nm,0.7s,mb4.2,baz=192,slow=17,SNR=5.2
BOSA LR LR 19 57 20.2
comp=E,149nm,19.2s,MS4.3,baz=178,slow=33
SDCO Great Sand Dun 78.12 331 *e*P **P 19 26 05.1 +0.2**
comp=E,2.6nm,0.7s,mb4.3
CASY Casey 81.25 180 *e*P **P 19 26 21.5 +0.4**
MSU Marysvale 81.66 327 *e*P **P 19 26 24.2 +0.4**
RSSD Black Hills 83.06 335 *e*P **P 19 26 30.9 -0.1**
comp=E,6.2nm,0.9s,mb4.6
HWUT Hardware Ranch 83.91 329 *e*P **P 19 26 35.1 -0.3**
comp=E,3.9nm,0.8s,mb4.6
PDAR Pinedale Array 84.02 331 P **P 19 26 35.3 -0.5**
comp=E,1.1nm,0.9s,mb4.0,baz=153,slow=3.3,SNR=7.2
PDAR LR LR 20 01 17.3
comp=E,58nm,18.7s,MS4.0,baz=163,slow=34
MATP Matopo 84.92 111 P **P 19 26 42.3 +1.4**
comp=E,1.4nm,0.7s,mb4.2,baz=225,slow=9.0,SNR=4.5
HLID Hailey 86.72 329 *e*P **P 19 26 49.5 +0.2**
comp=E,7.3nm,1.1s,mb4.8
DGMT Dagmar 86.91 337 *e*P **P 19 26 50.2 +0.2**
comp=E,9.9nm,0.7s,mb5.2
MCMT McKenzie Canyo 87.07 330 *e*P **P 19 26 51.4 +0.4**
WALA Waterton Lakes 90.91 332 *e*P **P 19 27 08.9 -0.1**
comp=E,5.5nm,1.0s,mb4.8
AKASG Malin Array Be 119.30 46 PKP PKPdf 19 32 53.7 -4.0
comp=E,0.2nm,0.3s,baz=265,slow=2.3,SNR=5.1
ARCES ARCESS Array B 121.73 24 PKP PKPdf 19 32 58.3 -3.8
comp=E,0.9nm,0.7s,baz=243,slow=4.0,SNR=4.6
WRA Warramunga Arr 123.14 206 PKP PKPdf 19 33 01.5 -4.3
comp=E,0.9nm,0.8s,baz=155,slow=1.4,SNR=6.8
OBN Obninsk 124.62 42 *i* PKIKP PKPdf 19 33 04.4 -3.5
OBN pmax pmax
comp=Z,3.0nm,0.8s
SEY Seymchan 140.34 332 *i* PKIKP PKPdf 19 33 34.5 -2.6
YAK Yakutsk 148.46 344 PKPdf PKPdf 19 33 48.9 -1.9
YAK *e*PKPbc PKPdf 19 33 51.0 +0.2
YAK Yakutsk 148.46 344 *e*PKIKP PKPdf 19 33 49.2 -1.7
YAK pmax pmax
comp=Z,10.0nm,0.9s
YAK pmax pmax
comp=N,2.0nm,1.1s
AAK Ala-Archa 149.44 61 *e*PKPdf PKPdf 19 33 51.0 -2.0
AAK *e*PKPbc PKPdf 19 33 55.2 +2.1
AAK Ala-Archa 149.44 61⇑iPKHKP 19 33 55.1
FRU Bishkek 149.51 60 *e*PKHKP 19 33 55.0
KURK Kurchatov 150.06 44 *e*PKPbc PKPdf 19 33 56.4 +2.6
KURK *e*PKPab PKPab 19 34 03.2 +0.9
KURK Kurchatov 150.06 44 *i* PKIKP PKPdf 19 33 55.8 +2.0
NVS Novosibirsk 150.39 33 *i* PKIKP PKPdf 19 33 56.5 +2.4
NVS pmax pmax
comp=Z,36nm,1.5s
NVS pmax pmax
comp=N,2.0nm,0.9s
NVS pmax pmax
comp=E,5.0nm,1.0s
ZAL Zalesovo 151.66 34 PKPbc PKPdf 19 33 59.3 +3.2
comp=E,9.6nm,0.8s,baz=173,slow=2.6,SNR=46
MKAR Makanchi Array 153.83 49 PKPbc PKPdf 19 34 03.9 +4.6
comp=E,1.5nm,0.7s,baz=306,slow=2.2,SNR=8.8
MKAR Makanchi Array 153.83 49 PKPbc PKPdf 19 34 03.9 +4.5
BOD Bodaibo 154.90 357 *e*PKIKP PKPdf 19 34 04.7 +4.3
MJAR Matsushiro Arr 157.62 287 PKPab PKPab 19 34 33.7 -1.2
comp=E,2.0nm,0.9s,baz=128,slow=2.6,SNR=4.8
WMQ Urumqi 158.49 52 *e*PKP PKPdf 19 34 06.0 +0.4
WMQ PP PP 19 38 25.0 +5.2
CN2 Changchun 164.42 319 *e*PKP PKPdf 19 34 07.0 -4.7
SONM Songino Array 164.51 13 PKP PKPdf 19 34 09.9 -1.8
comp=E,0.3nm,0.7s,baz=293,slow=1.3,SNR=3.7
SONM PKPab PKPab 19 35 04.0 -0.3
comp=E,0.4nm,0.8s,baz=330,slow=5.6,SNR=3.5
KMI Kunming 169.28 133 PKP PKPdf 19 34 15.5 -0.3
KMI LR LR
comp=Z,83nm,21.3s
HHC Hu-ho-hao-te 171.95 359 *e*PKP PKPdf 19 34 17.1 +0.1
HHC PP PP 19 39 32.0 +2.8
HHC SKS SKS 19 41 18.8 -0.4
HHC SKKS 19 46 20.5
HHC PP PP
comp=Z,122nm,11.9s
HHC LR LR
comp=N,109nm,34.5s
NJ2 Nanjing 173.61 265 *e*PKP PKPdf 19 34 12.4 -5.6

IDC 23 19:24:27.0±9.3, 22.38N×144.22E, h71km±82km, mb3.4/4, mb1 3.6/5, mb1mx3.4/20, mbtmp3.7/5, ML3.6/1, MS3.4/1, Ms1 3.4/1, ms1mx2.9/12, Error ellipse: s-maj=68.6km s-min=25.7km az=78.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**15.04**	**341**	P	P	19 27 55.1	-1.8
	0.3nm,0.3s,baz=166,slow=9.8,SNR=3.6						
JOW	**Kunigami**	**15.16**	**290**	LR	LR	19 33 51.8	
	comp=Z,132nm,18.5s,baz=56,slow=37						
SONM	**Songino Array**	**39.44**	**319**	P	P	19 31 50.4	-1.2
	0.4nm,0.7s,baz=130,slow=8.3,SNR=3.4						
WRA	**Warramunga Arr**	**43.16**	**194**	P	P	19 32 20.6	-2.0
	1.1nm,0.4s,baz=17,slow=8.8,SNR=7.6						
MKAR	**Makanchi Array**	**54.95**	**312**	P	P	19 33 51.4	-1.6
	0.3nm,0.6s,baz=85,slow=9.3,SNR=4.8						
FINES	**FINESS Array B**	**82.98**	**335**	P	P	19 36 42.9	-2.5
	0.5nm,0.6s,baz=45,slow=5.9,SNR=3.8						
LPAZ	**La Paz**	**148.92**	**85**	PKPbc	PKPdf	19 44 08.5	+5.1
	0.6nm,0.5s,baz=302,slow=3.9,SNR=3.9						

*LDG **23** 20:05:21.3±0.4, 12.63S×167.06E, h10km, Mb4.9/4, Ms4.2/6, Error ellipse: s-maj=46.3km s-min=9.7km az=85.0*
*BJI **23** 20:05:24.3, 12.90S×166.70E, h28km, mB5.0, mb4.9, Ms4.1, Msz3.9*
*NEIC **23** 20:05:24.4±0.4, 12.92S×166.71E, mb4.8/11, Error ellipse: s-maj=12.2km s-min=9.0km az=88.0*
*IDC **23** 20:05:25.7±0.8, 12.99S×166.63E, h30km±4km, mb4.4/11, mb1 4.5/13, mb1mx4.4/18, mbtmp4.6/13, ML3.7/2, MS4.2/18, Ms1 4.2/18, ms1mx4.1/24, Error ellipse: s-maj=23.2km s-min=15.8km az=86.0*

ISC 23 20:05:24.4±0.5, 13.06S±0.06×166.40E±0.08, h28km, h28km±.8km: pP-P, n76, σ1$04/50, mb4.7/22, MS4.2/18, 3C-3D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.28**	**299**	Pn	**Pn**	**20 07 12.4**	**+0.6**
	112nm,0.3s,baz=183,slow=3.3,SNR=58						
HNR				Sn	**Sn**	**20 08 32.4**	**-2.0**
	25nm,0.3s,baz=223,slow=12,SNR=2.0						
DZM	**Mont Dzumac**	**8.96**	**180**	*e*P	**P**	**20 07 35.5**	**+0.4**
DZM				*e*S	**Sn**	**20 09 26.6**	**+10**
DZM	**Mont Dzumac**	**8.96**	**180**	Pn	**P**	**20 07 35.3**	**+0.2**
	1.0nm,0.3s,baz=1.8,slow=17,SNR=27						
DZM				LR	LR	20 10 42.3	
	comp=Z,1μm,21.0s,baz=360,slow=35						
DZM	**Mont Dzumac**	**8.96**	**180**	*e*P	**P**	**20 07 35.5**	**+0.4**
DZM				*e*S	**Sn**	**20 09 26.6**	**+10**
NOUC	**Port Laguerre**	**8.99**	**181**	*e*P	**P**	**20 07 37.0**	**+1.5**
NOUC	**Port Laguerre**	**8.99**	**181**	*e*P	**P**	**20 07 37.0**	**+1.5**
PMG	**Port Moresby**	**19.21**	**279**	P	**P**	**20 09 50.5**	**+1.3**
	0.7nm,0.3s,baz=113,slow=4.7,SNR=9.8						
PMG				LR	LR	20 16 36.9	
	comp=Z,526nm,19.5s,baz=111,slow=34						
CTA	**Charters Tower**	**20.52**	**247**	*e*P	**P**	**20 10 05.1**	**+1.8**
	11nm,0.9s						
CTA	**Charters Tower**	**20.52**	**247**	P	**P**	**20 10 05.3**	**+2.0**
	11nm,0.9s,baz=81,slow=13,SNR=8.0						
CTA				LR	LR	20 17 15.6	
	comp=Z,1μm,18.6s,MS4.3,baz=69,slow=34						
CTAO	**Charters Tower**	**20.52**	**247**	*e*P	**P**	**20 10 03.5**	**+0.2**
	22nm,1.1s						
AFI	**Afiamalu**	**21.24**	**95**	LR	LR	20 16 14.1	
	comp=Z,413nm,18.8s,MS3.8,baz=229,slow=31						
URZ	**Urewera**	**26.84**	**161**	LR	LR	20 20 40.0	
	comp=Z,700nm,18.2s,MS4.3,baz=344,slow=34						
STKA	**Stephens Creek**	**29.47**	**227⇑iP**		**P**	**20 11 28.7**	**+0.3**
	4.4nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**29.47**	**227**	P	**P**	**20 11 28.6**	**+0.3**
	5.7nm,0.7s,mb4.4,baz=58,slow=7.9,SNR=16						
STKA				PcP	PcP	20 14 32.8	-0.9
	12nm,0.7s,baz=30,slow=2.9,SNR=14						
STKA				LR	LR	20 22 39.5	
	comp=Z,535nm,18.5s,MS4.2,baz=49,slow=35						
RPZ	**Rata Peaks**	**30.81**	**173**	P	**P**	**20 11 39.1**	**-1.0**
	19nm,0.7s,mb5.1,baz=151,slow=1.2,SNR=12						
WRAB	**Tennant Creek**	**31.44**	**253**	*e*P	**P**	**20 11 44.9**	**-0.9**
	9.3nm,1.1s,mb4.5						
WRA	**Warramunga Arr**	**31.45**	**253**	P	**P**	**20 11 45.1**	**-0.8**
	2.8nm,0.7s,mb4.2,baz=86,slow=8.8,SNR=16						
WRA				PcP	PcP	20 14 38.0	-0.8
	2.8nm,1.0s,baz=74,slow=2.9,SNR=6.8						
FORT	**Forrest**	**39.45**	**237**	*e*P	**P**	**20 12 54.2**	**+0.1**
	28nm,0.6s,mb5.2						
FITZ	**Fitzroy Crossi**	**39.52**	**257**	*e*P	**P**	**20 12 55.0**	**+0.3**
	7.4nm,1.0s,mb4.4						
PPT	**Papeete**	**42.63**	**102**	LR	LR	20 27 08.8	
	comp=Z,199nm,19.8s,MS4.0,baz=290,slow=31						
KLBR	**Kellerberrin**	**48.20**	**239⇓iP**		**P**	**20 14 04.3**	**-0.3**
MUN	**Mundaring**	**49.57**	**239**	*e*P	**P**	**20 14 14.9**	**-0.3**
MJAR	**Matsushiro Arr**	**56.04**	**333**	P	**P**	**20 15 01.8**	**-1.5**
	2.1nm,0.7s,mb4.3,baz=172,slow=6.9,SNR=5.1						
VNDA	**Vanda**	**64.50**	**181**	P	**P**	**20 15 59.5**	**-0.9**
	7.1nm,1.1s,mb4.6,baz=3.5,slow=6.5,SNR=18						
VNDA				LR	LR	20 39 58.6	
	comp=Z,141nm,19.4s,MS4.2,baz=352,slow=32						
CASY	**Casey**	**64.75**	**202⇑iP**		**P**	**20 16 00.9**	**-1.3**
MDJ	**Mudanjiang**	**66.42**	**332**	P	**P**	**20 16 14.0**	**+0.7**
MDJ				AMB	AMB		
	comp=Z,13nm,0.8s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,44nm,3.6s						
MDJ				LR	LR		
	comp=N,67nm,23.3s,MS3.9						
MDJ				LR	LR		
	comp=E,36nm,19.7s,MS3.9						
MDJ				LR	LR		
	comp=Z,94nm,25.1s						
CN2	**Changchun**	**67.79**	**329**	*e*P	**P**	**20 16 22.0**	**0.0**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
KMI	**Kunming**	**72.71**	**302**	P	**P**	**20 17 02.5**	**+10**
KMI				pP	pP	20 17 12.3	+11
KMI				LR	LR		
	comp=Z,80nm,22.3s,MS4.0						
HIA	**Hailar**	**74.43**	**330**	*e*P	**P**	**20 17 02.1**	**+0.3**
	comp=Z,12nm,1.1s,mb4.7						
LZH	**Lanzhou**	**76.58**	**312**	*e*P	**P**	**20 17 16.0**	**+1.7**
LZH				AP	pP	20 17 24.0	+0.8
LZH				XP	sP	20 17 28.5	+2.3
LZH				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
LZH	**Lanzhou**	**76.58**	**312**	*e*P	**P**	**20 17 16.0**	**+1.7**
	comp=Z,20nm,1.0s,mb5.0						
LZH				pP	pP	20 17 24.0	+0.8
LZH				sP	sP	20 17 28.5	+2.3
QSPA	**South Pole Qui**	**76.95**	**180⇓iP**		**P**	**20 17 15.8**	**+0.3**
	comp=Z,54nm,1.1s,mb5.4						
ULN	**Ulaanbaatar**	**80.30**	**324**	*e*P	**P**	**20 17 35.2**	**+0.9**
	comp=Z,22nm,1.4s,mb4.9						
ULN				*e*pP	pP	20 17 43.7	+0.4
SONM	**Songino Array**	**80.66**	**324**	P	**P**	**20 17 37.2**	**+1.0**
	comp=Z,3.5nm,0.9s,mb4.3,baz=143,slow=4.7,SNR=22						
SONM				pP	pP	20 17 45.9	+0.7
	comp=Z,4.1nm,1.1s,baz=128,slow=4.7,SNR=8.5						
SONM				LR	LR	20 52 57.1	
	comp=Z,145nm,19.4s,MS4.3,baz=84,slow=35						
GTA	**Gaotai**	**80.91**	**314**	⇑P	**P**	**20 17 39.6**	**+1.8**
GTA				AP	pP	20 17 48.8	+2.1
GTA				XP	sP	20 17 52.0	+2.3
GTA				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.5						
MAW	**Mawson**	**83.10**	**202**	P	**P**	**20 17 48.8**	**+0.2**
	comp=Z,4.0nm,1.1s,mb4.4,baz=99,slow=7.9,SNR=4.7						
MAW				LR	LR	20 47 21.7	
	comp=Z,93nm,20.9s,MS4.1,baz=231,slow=30						
ILAR	**Eielson Array**	**85.21**	**18**	P	**P**	**20 17 57.3**	**-1.9**
	comp=Z,0.7nm,0.6s,mb4.0,baz=250,slow=4.9,SNR=11						
ILAR				LR	LR	20 53 10.7	
	comp=Z,90nm,18.4s,MS4.2,baz=360,slow=34						
DLBC	**Dease Lake**	**87.87**	**28**	LR	LR	20 52 07.8	
	comp=Z,94nm,18.7s,MS4.2,baz=254,slow=32						
SYO	**Syowa Base**	**90.05**	**197**	⇓P	**P**	**20 18 20.4**	**-2.1**
WMQ	**Urumqi**	**90.96**	**315**	*e*P	**P**	**20 18 27.5**	**+0.3**
WMQ				AP	pP	20 18 37.5	+1.2
WMQ				AMB	AMB		
	comp=Z,11nm,1.0s,mb5.1						
INK	**Inuvik**	**91.59**	**19**	LR	LR	20 57 38.0	
	comp=Z,198nm,18.5s,MS4.6,baz=342,slow=34						
PDAR	**Pinedale Array**	**94.44**	**47**	LR	LR	20 55 40.9	
	comp=Z,69nm,19.8s,MS4.1,baz=43,slow=32						
ANMO	**Albuquerque**	**95.06**	**55**	LR	LR	20 56 03.0	
	comp=Z,156nm,18.3s,MS4.5,baz=229,slow=32						
SNAA	**Sanae**	**95.16**	**183**	*e*P	**P**	**20 18 44.9**	**-1.0**
	comp=Z,12nm,1.0s,mb5.3						
MKAR	**Makanchi Array**	**95.42**	**317**	P	**P**	**20 18 48.3**	**+0.6**
	comp=Z,4.6nm,0.8s,mb5.0,baz=95,slow=6.3,SNR=37						
MKAR				pP	pP	20 18 57.5	+0.7
	comp=Z,5.0nm,0.9s,baz=101,slow=6.2,SNR=14						
MKAR	**Makanchi Array**	**95.42**	**317**	P	**P**	**20 18 48.3**	**+0.6**
MKAR				pP	pP	20 18 57.5	+0.7
ZAL	**Zalesovo**	**95.56**	**324**	P	**P**	**20 18 47.6**	**-0.5**
	comp=Z,2.1nm,0.9s,mb4.6,baz=3.3,slow=5.7,SNR=15						
ZAL				pP	pP	20 18 56.8	-0.4
	comp=Z,1.1nm,0.8s,baz=348,slow=4.5,SNR=3.2						
ZAL				LR	LR	21 01 06.9	
	comp=Z,135nm,20.1s,MS4.4,baz=39,slow=35						
VNA3	**Neumayer Olymp**	**95.86**	**181**		**P**	**20 18 50.1**	**+1.0**
VNA3	**Neumayer Olymp**	**95.86**	**181**		**P**	**20 18 55.9**	**+6.8**
VNA3	**Neumayer Olymp**	**95.86**	**181**	P	**P**	**20 18 48.1**	**-1.0**
VNA3				P		20 18 50.1	
VNA3				P	pP	20 18 55.9	-2.3
VNA2	**Neumayer--Watz**	**96.11**	**182**		**P**	**20 18 52.3**	**+2.0**
VNA2	**Neumayer--Watz**	**96.11**	**182**		**P**	**20 18 59.2**	**+8.9**
VNA2	**Neumayer--Watz**	**96.11**	**182**	P	**P**	**20 18 49.5**	**-0.8**
VNA2				P		20 18 52.3	
VNA2				P	pP	20 18 59.2	-0.2
TXAR	**Lajitas Array**	**96.23**	**61**	LR	LR	20 54 19.4	
	comp=Z,105nm,18.3s,MS4.3,baz=185,slow=31						
VNA1	**Neumayer--Stat**	**96.41**	**182**		**P**	**20 18 51.8**	**+0.1**
YKA	**Yellowknife Ar**	**96.46**	**27**	LR	LR	21 03 53.0	
	comp=Z,71nm,18.1s,MS4.2,baz=265,slow=36						
ARCES	**ARCESS Array B**	**118.44**	**345**	PKP	PKPdf	20 24 09.2	-4.8
	comp=Z,0.9nm,0.6s,baz=76,slow=1.6,SNR=9.1						
BOSA	**Boshof**	**124.07**	**222**	PKP	PKPdf	20 24 21.9	-3.9
	comp=Z,5.6nm,0.8s,baz=275,slow=0.8,SNR=9.2						
SSF	**Saint Saulge**	**143.19**	**340**	*e*PKP1	PKPbc	20 24 53.6	-0.5
	comp=Z,3.5nm,0.7s						
LPL	**La Plagne**	**143.34**	**336**	*e*PKP1	PKPbc	20 24 54.2	-0.4
	comp=Z,6.2nm,0.7s						
LPG	**La Plagne**	**143.34**	**336**	*e*PKP1	PKPbc	20 24 54.9	+0.3
	comp=Z,9.4nm,0.8s						
MBDF	**Montbardon**	**143.97**	**335**	*e*PKP1	PKPbc	20 24 55.8	-0.7
	comp=Z,9.3nm,0.9s						
ORIF	**Oris-en-Rattie**	**144.17**	**336**	*e*PKP1	PKPbc	20 24 57.0	0.0
	comp=Z,28nm,0.8s						
ORIF				*e*R			
	comp=Z,78nm,19.0s						
TCF	**Toulx Ste Croi**	**144.29**	**341**	*e*PKP1	PKPbc	20 24 56.9	-0.4
	comp=Z,11nm,0.9s						
SBF	**Sospel**	**144.38**	**334**	*e*PKP1	PKPbc	20 24 57.0	-0.7
	comp=Z,67nm,0.8s						
VIVF	**Saint-Julien-l**	**144.69**	**337**	*e*PKP1	PKPbc	20 24 58.6	+0.1
	comp=Z,30nm,1.0s						
MFF	**Saint Martin d**	**144.70**	**344**	*e*PKP1	PKPbc	20 24 58.0	-0.5
	comp=Z,38nm,0.8s						
PGF	**Pioggiola**	**144.70**	**331**	*e*PKP1	PKPbc	20 24 58.3	-0.3
	comp=Z,26nm,0.8s						
FRF	**La Foret Royal**	**144.97**	**334**	*e*PKP1	PKPbc	20 24 58.3	-1.0
	comp=Z,28nm,0.8s						
LMR	**La Mourre**	**145.21**	**334**	*e*PKP1	PKPbc	20 24 59.1	-0.8
RJF	**Les Rejaudoux**	**145.39**	**341**	*e*PKP1	PKPbc	20 24 59.0	-1.3
	comp=Z,16nm,0.

*TIF **23** 20:17:30.6, 39.38N×44.15E, h10km±3km*
*ISK **23** 20:17:31.1, 39.36N×44.19E, h16km, ML3.0*
ISC 23 20:17:33.7±0.6, **39.41N**±0.03×**43.9E**±0.1, **h10**km, **n11**, σ1°**29**/17, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLDR	**Caldiran**	**0.27**	**172**	PG	**Pg**	**20 17 37.1**	**-2.2**
CLDR				SG	**Sg**	**20 17 42.9**	**-0.2**
VANB	**Van**	**0.89**	**205**	PG	**Pg**	**20 17 51.3**	**-0.3**
TVAN	**Van**	**0.95**	**202**	*i* P	**Pb**	**20 17 51.1**	**-0.6**
TVAN				*i* S	**Sb**	**20 18 14.9**	**+11**
GNI	**Garni**	**1.00**	**42**	PG	**Pg**	**20 17 49.0**	**-4.8**
DIGO	**Kars**	**1.08**	**339**	*i* P	**Pb**	**20 17 49.9**	**-4.1**
DIGO				*i* S	**Sb**	**20 18 12.7**	**+4.9**
HAKT	**HAKKARI**	**1.85**	**184**	*i* P	**Pn**	**20 18 07.8**	**+1.9**
HAKT				*i* S	**Sn**	**20 18 32.3**	**+2.9**
ERZM	**Erzurum**	**2.00**	**285**	*i* P	**Pn**	**20 18 07.4**	**-0.5**
EZM	**Erzurum**	**2.00**	**285**	PN	**Pn**	**20 18 08.8**	**+0.9**
DGRG	**David-gareji**	**2.34**	**29**	P	**Pn**	**20 18 12.3**	**-0.6**
DGRG				S	**Sn**	**20 18 46.1**	**+4.1**
TBLG	**Delisi**	**2.41**	**16**	P	**Pn**	**20 18 12.7**	**-1.2**
TBLG				S	**Sn**	**20 18 45.4**	**+1.6**
BCA	**Borcka**	**2.66**	**321**	*e*PN	**Pn**	**20 18 17.0**	**-0.4**

JMA 23 21:11:16.0±0.2, **24.90N**×**123.00E**, **h123**km±2km, **M3.5**, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.44**	**179**	P	P	21 11 34.0	-0.1
YOJ				S	S	21 11 48.1	+0.4
IRIF	**Iriomote-Funau**	**0.87**	**130**	P	P	21 11 37.1	-0.2
IRIF				S	S	21 11 53.2	-0.1
HATJ	**Hateruma jima**	**1.11**	**139**	P	P	21 11 39.7	-0.1
HATJ				S	S	21 11 57.4	-0.2
JKRS	**Kuro-shima**	**1.13**	**125**	P	P	21 11 40.1	+0.2
JKRS				S	S	21 11 58.0	+0.1
JIJ	**Ishigaki jima**	**1.17**	**117**	P	P	21 11 40.0	-0.3
JIJ				S	S	21 11 57.8	-0.8
JTJ	**Tarama**	**1.57**	**99**	P	P	21 11 44.7	-0.1
JTJ				S	S	21 12 06.5	-0.2
JMJ	**Miyako jima 2**	**2.08**	**92**	P	P	21 11 51.3	+0.2
JMJ				S	S	21 12 17.4	-0.4
JOGS	**Gusukube**	**2.19**	**93**	P	P	21 11 52.8	+0.3
JOGS				S	S	21 12 20.0	-0.2
JKE	**Kume jima 2**	**3.70**	**67**	P	P	21 12 12.0	-0.6
JKE				S	S	21 12 55.6	-0.3

IDC 23 21:43:25.3±4.1, **1.38N**×**97.28E**, **mb3.7**/4, **mb1 3.8**/4, **mb1mx3.6**/18, **mbtmp3.7**/4, **Error ellipse: s-maj=159.2km s-min=27.4km az=57.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.07**	**122**	P	P	21 51 19.1	-1.7
	0.5nm,0.6s,baz=303,slow=9.2,SNR=3.1						
SONM	**Songino Array**	**46.94**	**8**	P	P	21 51 58.3	-1.4
	1.2nm,0.8s,baz=189,slow=9.9,SNR=9.0						
MKAR	**Makanchi Array**	**47.09**	**346**	P	P	21 51 59.2	-1.6
	0.6nm,0.5s,baz=158,slow=9.3,SNR=12						
ZAL	**Zalesovo**	**53.38**	**351**	P	P	21 52 45.7	-3.2
	1.1nm,0.6s,baz=319,slow=11,SNR=5.6						

*JMA **23** 21:43:31.5±0.5, 31.55N×140.80E, M3.6*
ISC 23 21:43:32.0±2.5, **31.5N**±0.1×**140.8E**±0.2, **n8**, σ0°**93**/12, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.77**	**333**	*e*S	**Sn**	**21 44 26.7**	**-1.0**
BSO1	**Boso 1**	**3.11**	**3**	P	**Pn**	**21 44 22.3**	**-0.9**
BSO1				*e*S	**Sn**	**21 45 01.4**	**-0.3**
BSO2	**Boso 2**	**3.20**	**359**	S	**Sn**	**21 45 04.7**	**+0.7**
BSO3	**Boso 3**	**3.26**	**356**	P	**Pn**	**21 44 25.1**	**-0.3**
BSO3				*e*S	**Sn**	**21 45 05.2**	**-0.3**
BSO4	**Boso 4**	**3.46**	**354**	P	**Pn**	**21 44 28.6**	**+0.4**
BSO4				*e*S	**Sn**	**21 45 10.9**	**+0.3**
TATJ	**Tateyama 2**	**3.56**	**348**	*e*S	**Sn**	**21 45 14.2**	**+1.1**
JHU	**Hanno**	**4.48**	**344**	*e*S	**Sn**	**21 45 34.0**	**-2.4**
MAT	**Matsushiro**	**5.43**	**337**	P	**Pn**	**21 44 57.0**	**+0.9**
MAT				S	**Sn**	**21 46 01.5**	**+1.2**

*BJI **23** 21:52:38.7, 1.83N×96.44E, h38km, mB4.7, mb4.9, Ms4.2, Msz3.9*
*IDC **23** 21:52:38.0±0.9, 2.17N×96.14E, mb4.5/14, mb1 4.6/14, mb1mx4.4/21, mbtmp4.5/14, Error ellipse: s-maj=38.3km s-min=14.4km az=48.0*
*NEIC **23** 21:52:42.6±0.4, 2.20N×96.23E, h30km, mb4.6/16, Error ellipse: s-maj=11.2km s-min=5.8km az=42.0*
ISC 23 21:52:41.4±0.6, **2.23N**±0.09×**96.28E**±0.08, **h33**km, (**h22**km±3.6km:**pP-P**), **n45**, σ0°**77**/46, **mb4.6**/34, **MS3.8**/2, **1C, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.32**	**55**	⇑*e*Pn	**Pn**	**21 54 00.6**	**0.0**
KKM	**Kota Kinabalu**	**20.24**	**79**	*e*P	**P**	**21 57 16.5**	**-0.2**
KMI	**Kunming**	**23.60**	**15**	P	**P**	**21 57 52.3**	**+2.0**
KMI				AP		21 58 03.0	
KMI				XP		21 58 09.8	
KMI				PP	PP	21 58 29.4	+6.3
KMI				AMB	AMB		
	comp=Z,17nm,0.8s,mb4.5						
KMI				AMB	AMB		
	comp=Z,111nm,5.6s						
KMI				LR	LR		
	comp=N,184nm,16.3s,MS3.9						
KMI				LR	LR		
	comp=E,260nm,17.7s,MS3.9						
KMI				LR	LR		
	comp=Z,208nm,13.9s,MS3.8						
KMI	**Kunming**	**23.60**	**15**	P	**P**	**21 57 52.2**	**+1.9**
	comp=Z,17nm,0.8s,mb4.5						
KMI				pP		21 58 03.0	
KMI				sP		21 58 09.8	
KMI				PP	PP	21 58 29.4	+6.3
KMI				S	**S**	**22 02 11.7**	**+13**
KMI				sS		22 02 29.3	
KMI				SS	SS	22 03 05.9	+18
KMI				LR	LR		
	comp=Z,210nm,13.9s,MS3.8						
PKI	**Pulchoki**	**27.26**	**339**	*e*P	**P**	**21 58 25.0**	**+0.1**
	comp=Z,27nm,0.7s,mb4.9						
DMN	**Daman**	**27.41**	**338**	*e*P	**P**	**21 58 26.7**	**+0.5**
	comp=Z,25nm,0.6s,mb4.9						
KKN	**Kakani**	**27.51**	**339**	*e*P	**P**	**21 58 27.3**	**+0.2**
	comp=Z,37nm,0.7s,mb5.1						
LSA	**Lhasa**	**27.75**	**350**	P	**P**	**21 58 30.5**	**+1.2**
LSA	**Lhasa**	**27.75**	**350**	*e*P	**P**	**21 58 29.4**	**+0.1**
	comp=Z,18nm,0.9s,mb4.7						
GKN	**Gorkha**	**27.94**	**338**	*e*P	**P**	**21 58 31.3**	**+0.2**
	comp=Z,38nm,0.5s,mb5.3						
KOLN	**Koldanda**	**28.14**	**336**	*e*P	**P**	**21 58 33.6**	**+0.7**
	comp=Z,34nm,0.7s,mb5.1						
XAN	**Xi'an**	**33.78**	**19**	P	**P**	**21 59 21.0**	**-1.4**
XAN				AMB	AMB		
	comp=Z,36nm,0.8s,mb5.3						
LZH	**Lanzhou**	**34.41**	**11**	*e*P	**P**	**21 59 26.5**	**-1.3**
LZH				AP	pP	21 59 34.0	-3.5
LZH				XP	sP	21 59 38.5	-3.3
LZH				AMB	AMB		
	comp=Z,26nm,1.2s,mb5.0						
LZH	**Lanzhou**	**34.41**	**11**	*e*P	**P**	**21 59 26.5**	**-1.3**
	comp=Z,26nm,1.2s,mb5.0						
LZH				pP	pP	21 59 34.0	-3.5
LZH				sP	sP	21 59 38.5	-3.3
FITZ	**Fitzroy Crossi**	**35.27**	**126**	*e*P	**P**	**21 59 34.6**	**-0.8**
	comp=Z,7.5nm,0.7s,mb4.7						
FITZ	**Fitzroy Crossi**	**35.27**	**126**	P	**P**	**21 59 34.9**	**-0.5**
	comp=Z,9.5nm,0.7s,mb4.8,baz=199,slow=3.5,SNR=13						
GTA	**Gaotai**	**37.15**	**5**	P	**P**	**21 59 50.8**	**-0.2**
GTA				AP	pP	21 59 57.6	-3.2
GTA				XP	sP	22 00 01.3	-3.7
GTA				PP	PP	22 01 22.6	+4.3
GTA				S	**S**	**22 05 45.1**	**+10**
GTA				XS		22 05 56.3	
GTA				AMB	AMB		
	comp=Z,16nm,0.8s,mb4.9						
GTA				AMB	AMB		
	comp=Z,49nm,5.6s						
GTA				LR	LR		
	comp=N,99nm,12.8s,MS3.9						
GTA				LR	LR		
	comp=E,108nm,14.6s,MS3.9						
GTA				LR	LR		
	comp=Z,110nm,14.0s,MS3.8						
KAKA	**Kakadu**	**38.85**	**113**	*e*P	**P**	**22 00 18.1**	**+13**
	comp=Z,8.1nm,0.6s,mb4.6						
HHC	**Hu-ho-hao-te**	**40.85**	**18**	*e*P	**P**	**22 00 23.1**	**+1.3**
HHC				AP	pP	22 00 31.3	-0.4
HHC				XP	sP	22 00 36.8	+1.0
HHC				AMB	AMB		
	comp=Z,28nm,0.8s,mb4.9						
HHC				AMB	AMB		
	comp=Z,119nm,5.5s						
HHC				LR	LR		
	comp=N,155nm,23.2s						
HHC				LR	LR		
	comp=E,213nm,16.6s						
HHC				LR	LR		
	comp=Z,132nm,15.5s						
WRA	**Warramunga Arr**	**43.36**	**122**	P	**P**	**22 00 43.2**	**+0.5**
	comp=Z,3.0nm,0.6s,mb4.2,baz=301,slow=9.3,SNR=13						
WRAB	**Tennant Creek**	**43.36**	**122**	*e*P	**P**	**22 00 42.8**	**+0.1**
	comp=Z,5.0nm,0.5s,mb4.5						
AAK	**Ala-Archa**	**44.70**	**337**	*e*P	**P**	**22 00 54.4**	**+1.2**
	comp=Z,2.8nm,0.7s,mb4.2						
MKAR	**Makanchi Array**	**46.03**	**347**	P	**P**	**22 01 03.8**	**0.0**
	comp=Z,6.8nm,0.4s,mb4.9,baz=157,slow=9.4,SNR=211						
SONM	**Songino Array**	**46.27**	**9**	P	**P**	**22 01 05.6**	**0.0**
	comp=Z,4.1nm,0.4s,mb4.7,baz=190,slow=9.0,SNR=51						
SONM				PcP	PcP	22 02 41.7	+0.6
	comp=Z,3.1nm,0.6s,baz=190,slow=3.4,SNR=9.9						
ULN	**Ulaanbaatar**	**46.41**	**10**	*e*P	**P**	**22 01 06.5**	**-0.2**
	comp=Z,4.4nm,0.8s,mb4.4						
CN2	**Changchun**	**48.82**	**28**	*e*P	**P**	**22 01 24.6**	**-1.0**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
KURK	**Kurchatov**	**50.57**	**346**	*e*P	**P**	**22 01 38.3**	**-0.6**
	comp=Z,4.3nm,0.9s,mb4.4						
MJAR	**Matsushiro Arr**	**51.57**	**43**	P	**P**	**22 01 47.6**	**+0.9**
	comp=Z,1.2nm,0.7s,mb4.0,baz=202,slow=5.4,SNR=6.0						
PMG	**Port Moresby**	**51.99**	**104**	P	**P**	**22 01 49.8**	**-0.2**
	comp=Z,12nm,0.6s,mb5.0,baz=292,slow=2.1,SNR=5.4						
ZAL	**Zalesovo**	**52.40**	**351**	P	**P**	**22 01 52.0**	**-0.6**
	comp=Z,13nm,0.5s,mb5.2,baz=306,slow=4.8,SNR=55						
ZAL	**Zalesovo**	**52.40**	**351**	P	**P**	**22 01 52.0**	**-0.6**
STKA	**Stephens Creek**	**54.72**	**132**	*e*P	**P**	**22 02 10.6**	**+0.5**
	comp=Z,3.4nm,0.8s,mb4.4						
STKA	**Stephens Creek**	**54.72**	**132**	P	**P**	**22 02 10.8**	**+0.7**
	comp=Z,3.0nm,0.6s,mb4.5,baz=299,slow=8.4,SNR=7.2						
BVAR	**Borovoye Array**	**54.98**	**341**	P	**P**	**22 02 10.8**	**-0.9**
	comp=Z,5.9nm,0.5s,mb4.9,baz=142,slow=9.5,SNR=67						
BRVK	**Borovoye**	**55.05**	**341**	*e*P	**P**	**22 02 10.3**	**-1.9**
	comp=Z,2.9nm,0.5s,mb4.6						
BRTR	**Keskin Array B**	**67.74**	**312**	P	**P**	**22 03 37.3**	**-0.6**
	comp=Z,1.0nm,0.7s,mb4.0,baz=128,slow=5.9,SNR=5.7						
AKASG	**Malin Array Be**	**73.89**	**322**	P	**P**	**22 04 14.3**	**-0.5**
	comp=Z,1.7nm,0.5s,mb4.2,baz=86,slow=5.2,SNR=9.1						
JOF	**Joensuu**	**76.83**	**335**	*e*p	**P**	**22 04 31.1**	**-0.4**
	comp=Z,2.7nm,0.9s,mb4.2						
FINES	**FINESS Array B**	**78.67**	**333**	P	**P**	**22 04 42.0**	**+0.3**
	comp=Z,2.0nm,0.5s,mb4.3,baz=89,slow=5.7,SNR=27						
FINES	**FINESS Array B**	**78.67**	**333**	P	**P**	**22 04 42.0**	**+0.3**
KAF	**Kangasniemi**	**78.76**	**333**	*e*p	**P**	**22 04 42.0**	**-0.1**
	comp=Z,2.3nm,0.5s,mb4.4,baz=103,slow=5.1						
ARCES	**ARCESS Array B**	**81.26**	**340**	P	**P**	**22 04 56.3**	**+0.9**
	comp=Z,3.0nm,0.5s,mb4.5,baz=95,slow=5.4,SNR=67						
ARE0	**ARCESS Array S**	**81.26**	**340**	*e*P	**P**	**22 04 55.9**	**+0.5**
GERES	**GERESS Array B**	**83.44**	**319**	P	**P**	**22 05 07.1**	**+0.2**
	comp=Z,1.1nm,0.8s,mb3.9,SNR=7.2						
TXAR	**Lajitas Array**	**143.26**	**30**	PKP	PKPdf	22 12 13.4	+0.4
	comp=Z,0.8nm,0.5s,baz=270,slow=2.5,SNR=6.4						

*CNRM **23** 22:06:03.4, 34.80N×4.91W, h4km, MD3.3*
*CSEM **23** 22:06:05.8±0.2, 34.64N×4.21W, h25km, MD3.3, Error ellipse: s-maj=7.0km s-min=3.5km az=101.0*
*NEIC **23** 22:06:06.6, 34.67N×4.21W, MG3.3(MDD), After MDD.*
*MDD **23** 22:06:06.3±1.2, 34.61N×4.12W, h13km±15km, mbLg2.0/11, Error ellipse: s-maj=11.0km s-min=7.7km az=116.0, PRXIMO*
ISC 23 22:06:05.3±0.4, **34.68N**±0.02×**4.25W**±0.04, **h13**km, **n46**, σ1°**29**/83, **Morocco**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TZK	**Tazeka**	**0.59**	**174**	*i* P	**Pb**	**22 06 16.0**	**-1.0**
TZK				*i* S	**Sb**	**22 06 27.0**	**+1.9**
EMEL	**Melilla**	**1.23**	**60**	P	**Pb**	**22 06 28.4**	**+0.5**
	81nm,0.4s,SNR=4.7						
EMEL				S	**Sb**	**22 06 45.4**	**+1.9**
	73nm,0.2s,SNR=4.6						
EMLI	**Melilla**	**1.23**	**60**	P	**Pb**	**22 06 28.4**	**+0.4**
	81nm,0.4s,SNR=4.7						
EMLI				S	**Sb**	**22 06 45.4**	**+1.8**
	73nm,0.2s,SNR=4.6						
EALB	**Alboran**	**1.60**	**38**	P	**Pn**	**22 06 32.1**	**-1.4**
	3.0nm,0.2s,SNR=7.0						
EALB				S	**Sn**	**22 06 52.8**	**-1.4**
	24nm,0.4s						
EALB	**Alboran**	**1.60**	**38**	P	**Pn**	**22 06 31.9**	**-1.6**
	3.0nm,0.2s,SNR=7.0						
EALB				S	**Sn**	**22 06 52.8**	**-1.4**
	24nm,0.4s						
EALB	**Alboran**	**1.60**	**38**	P	**Pn**	**22 06 31.9**	**-1.6**
EALB				S	**Sn**	**22 06 52.8**	**-1.4**
CZD	**Col de Zad**	**1.77**	**202**	*e*P	**Pn**	**22 06 35.0**	**-1.0**
CZD				*i* S	**Sn**	**22 06 59.0**	**+0.5**
EMIJ	**Mijas**	**1.92**	**347**	P	**Pn**	**22 06 36.1**	**-2.0**
	0.8nm,0.3s,SNR=7.6						
EMIJ				S	**Sn**	**22 06 57.3**	**-5.0**
	4.9nm,0.2s,SNR=6.9						
EMIJ	**Mijas**	**1.92**	**347**	P	**Pn**	**22 06 36.0**	**-2.1**
	0.8nm,0.3s,SNR=7.6						
EMIJ				S	**Sn**	**22 06 58.5**	**-3.9**
	4.9nm,0.2s,SNR=6.9						
EMIJ	**Mijas**	**1.92**	**347**	P	**Pn**	**22 06 36.0**	**-2.2**
EMIJ				S	**Sn**	**22 06 58.5**	**-3.9**
EJIF	**Jimena Fronter**	**2.02**	**331**	P	**Pn**	**22 06 41.3**	**+1.7**
	2.3nm,0.5s,SNR=7.9						
EJIF				S	**Sn**	**22 07 06.9**	**+2.0**
	5.6nm,0.7s,SNR=7.9						
EGUA	**Guajares**	**2.22**	**14**	P	**Pn**	**22 06 40.9**	**-1.4**
	0.7nm,0.2s,SNR=7.9						
EGUA				S	**Sn**	**22 07 08.7**	**-1.1**
	1.4nm,0.3s,SNR=7.9						
EGUA	**Guajares**	**2.22**	**14**	P	**Pn**	**22 06 40.8**	**-1.5**
	0.7nm,0.2s,SNR=7.9						
EGUA				S	**Sn**	**22 07 08.0**	**-1.8**
	1.4nm,0.3s,SNR=7.9						
EGUA	**Guajares**	**2.22**	**14**	P	**Pn**	**22 06 40.8**	**-1.5**
EGUA				S	**Sn**	**22 07 08.0**	**-1.8**
ELOJ	**Sierra Loja**	**2.46**	**2**	P	**Pn**	**22 06 47.0**	**+1.2**
	1.8nm,0.3s,SNR=6.8						
ELOJ	**Sierra Loja**	**2.46**	**2**	P	**Pn**	**22 06 47.7**	**+1.9**
	1.8nm,0.3s,SNR=6.8						
ELOJ				S	**Sn**	**22 07 17.4**	**+1.4**
	2.3nm,0.3s,SNR=6.0						
ELOJ	**Sierra Loja**	**2.46**	**2**	P	**Pn**	**22 06 47.7**	**+1.9**
ELOJ				S	**Sn**	**22 07 17.4**	**+1.4**
EBER	**Berja**	**2.47**	**26**	P	**Pn**	**22 06 45.8**	**-0.2**
	1.6nm,0.3s,SNR=7.9						
EBER				S	**Sn**	**22 07 14.4**	**-1.9**
	7.0nm,0.3s,SNR=4.6						
EBER	**Berja**	**2.47**	**26**	P	**Pn**	**22 06 48.5**	**+2.5**
	1.6nm,0.3s,SNR=7.9						
EBER				S	**Sn**	**22 07 18.1**	**+1.8**
	7.0nm,0.3s,SNR=4.6						
EBER	**Berja**	**2.47**	**26**	P	**Pn**	**22 06 48.5**	**+2.5**
EBER				S	**Sn**	**22 07 18.1**	**+1.8**
ESPR	**Espera**	**2.54**	**330**	P	**Pn**	**22 06 48.7**	**+1.7**
	0.4nm,0.2s,SNR=7.9						
ESPR				S	**Sn**	**22 07 19.2**	**+1.1**
	2.3nm,0.3s,SNR=7.9						
ESPR	**Espera**	**2.54**	**330**	P	**Pn**	**22 06 49.5**	**+2.5**
	0.4nm,0.2s,SNR=7.9						
ESPR				S	**Sn**	**22 07 19.1**	**+1.1**
ESPR	**Espera**	**2.54**	**330**	P	**Pn**	**22 06 49.5**	**+2.5**
ESPR				S	**Sn**	**22 07 19.1**	**+1.1**
EQUE	**Quentar**	**2.60**	**14**	P	**Pn**	**22 06 46.9**	**-1.0**
	1.1nm,0.3s,SNR=7.9						
EQUE				S	**Sn**	**22 07 19.3**	**-0.3**
	5.3nm,0.6s,SNR=7.9						
ZFT	**Errachidia**	**2.64**	**182**	*e*P	**Pn**	**22 06 47.0**	**-1.4**
ZFT				*i* S	**Sn**	**22 07 20.0**	**-0.6**
EQES	**Quesada**	**3.26**	**17**	P	**Pn**	**22 06 57.4**	**+0.2**
	1.6nm,0.3s,SNR=18						
EQES				S	**Sn**	**22 07 35.2**	**-1.0**
	3.3nm,0.4s						
EQES	**Quesada**	**3.26**	**17**	P	**Pn**	**22 06 57.4**	**+0.2**
	1.6nm,0.3s,SNR=18						
EQES				S	**Sn**	**22 07 35.9**	**-0.3**
	3.3nm,0.4s						
EQES	**Quesada**	**3.26**	**17**	P	**Pn**	**22 06 57.4**	**+0.2**
EQES				S	**Sn**	**22 07 35.9**	**-0.3**
EHUE	**Huescar**	**3.40**	**23**	P	**Pn**	**22 06 59.1**	**-0.1**
	0.5nm,0.4s,SNR=5.5						
EHUE	**Huescar**	**3.40**	**23**	P	**Pn**	**22 07 00.3**	**+1.1**
	0.5nm,0.4s,SNR=5.5						
EHUE				S	**Sn**	**22 07 38.9**	**-0.9**
	1.7nm,0.5s						
EHUE	**Huescar**	**3.40**	**23**	P	**Pn**	**22 07 00.3**	**+1.1**
EHUE				S	**Sn**	**22 07 38.9**	**-1.0**
EADA	**Adamuz**	**3.49**	**356**	P	**Pn**	**22 07 00.7**	**+0.3**
	0.6nm,0.2s,SNR=5.8						
EADA				S	**Sn**	**22 07 40.8**	**-1.2**
	1.0nm,0.3s						
EADA	**Adamuz**	**3.49**	**356**	P	**Pn**	**22 07 00.7**	**+0.3**
	0.6nm,0.2s,SNR=5.8						
EADA				S	**Sn**	**22 07 42.0**	**0.0**
	1.0nm,0.3s						
EADA	**Adamuz**	**3.49**	**356**	P	**Pn**	**22 07 00.8**	**+0.3**
EADA				S	**Sn**	**22 07 42.0**	**+0.1**
EMIN	**Mina Concepcio**	**3.65**	**328**	P	**Pn**	**22 07 01.3**	**-1.4**
	0.6nm,0.2s,SNR=7.9						
EMIN				S	**Sn**	**22 07 43.7**	**-2.3**
	0.5nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.65**	**328**	P	**Pn**	**22 07 02.9**	**+0.2**
EMIN				S	**Sn**	**22 07 43.7**	**-2.3**
EMIN	**Mina Concepcio**	**3.65**	**328**	P	**Pn**	**22 07 02.9**	**+0.2**
EMIN				S	**Sn**	**22 07 43.7**	**-2.3**
EGRO	**El Granado**	**3.86**	**318**	P	**Pn**	**22 07 06.2**	**+0.4**
	1.6nm,0.3s,SNR=7.0						
EGRO	**El Granado**	**3.86**	**318**	P	**Pn**	**22 07 06.2**	**+0.4**
ETOB	**Tobarra**	**4.51**	**28**	P	**Pn**	**22 07 14.4**	**-0.6**
	0.8nm,0.3s,SNR=9.0						
ETOB	**Tobarra**	**4.51**	**28**	P	**Pn**	**22 07 14.8**	**-0.2**
ETOB				S	**Sn**	**22 08 06.8**	**-1.2**
ETOB	**Tobarra**	**4.51**	**28**	P	**Pn**	**22 07 14.8**	**-0.2**
ETOB				S	**Sn**	**22 08 06.8**	**-1.2**
ESDC	**Sonseca Array**	**4.99**	**3**	P	**Pn**	**22 07 20.8**	**-0.9**
	0.2nm,0.1s,baz=181,slow=12,SNR=4.3						
ESDC	**Sonseca Array**	**4.99**	**3**	P	**Pn**	**22 07 20.8**	**-0.9**
ESLA	**Sonseca Array**	**4.99**	**3**	P	**Pn**	**22 07 22.0**	**+0.3**
ESLA	**Sonseca Array**	**4.99**	**3**	P	**Pn**	**22 07 22.0**	**+0.2**

*NNC **23** 22:09:00.9±1.2, 44.84N×78.75E, h6km±5km, mpv3.5, Error ellipse: s-maj=15.1km s-min=6.9km az=134.0*
*NEIC **23** 22:09:00.9, 44.84N×78.75E, h6km, MG3.5(NNC), After NNC.*
NEIC Felt [II] at Taldyqorghan.
*MOS **23** 22:09:03.7±1.2, 45.03N×78.32E, h8km, mb3.9/1, Error ellipse: s-maj=19.0km s-min=13.3km az=87.5*
MOS Felt (II) at Taldy-Kurgan.
ISC 23 22:09:03.0±0.5, **45.22N**±0.04×**78.41E**±0.07, **h6**km, **n24**, σ0°**99**/35, **15C-3D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAA	**Alma-Ata**	**2.21**	**209**	*i* P	**Pn**	**22 09 40.8**	**+0.1**
AAA	**Alma-Ata**	**2.21**	**209**	*i* PN	**Pn**	**22 09 40.7**	**0.0**
AAA				*e*S	**Sn**	**22 10 09.0**	**+0.4**
AAA				smax			
	comp=N,1.0nm,0.4s						
TKM2	**Tokmak 2**	**3.06**	**222**	P	**Pn**	**22 09 52.0**	**-0.9**
	SNR=14						
MK31	**Makanchi Array**	**3.13**	**58**	Pn	**Pn**	**22 09 53.9**	**+0.1**
	comp=N,9.4nm,0.3s,baz=225,slow=14,SNR=696						
MK31				⇓Pg	**Pg**	**22 09 59.6**	**-5.9**
	comp=N,11nm,0.2s,baz=222,slow=14,SNR=42						
MK31				⇑Sn	**Sn**	**22 10 31.6**	**-0.3**
	comp=N,22nm,0.5s,baz=226,slow=25,SNR=5.2						
MK31				⇑Lg		22 10 39.1	
	comp=N,17nm,0.3s,baz=227,slow=30,SNR=8.7						
MKAR	**Makanchi Array**	**3.13**	**58**	*i* PN	**Pn**	**22 09 53.9**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,17nm,0.2s						
ULHL	**Ulahol**	**3.36**	**209**	P	**Pn**	**22 09 59.9**	**+2.8**
	SNR=9.0						
USP	**Ospenovka**	**3.42**	**237**	P	**Pn**	**22 09 58.0**	**0.0**
	SNR=25						
CHMS	**Chumysh**	**3.44**	**231**	P	**Pn**	**22 09 57.8**	**-0.5**
	SNR=11						
KBK	**Karagaybulak**	**3.58**	**226**	P	**Pn**	**22 09 59.8**	**-0.3**
	SNR=37						
AAK	**Ala-Archa**	**3.83**	**229**	P	**Pn**	**22 10 03.3**	**-0.4**
	SNR=5.8						
AAK	**Ala-Archa**	**3.83**	**229**	⇑Pn	**Pn**	**22 10 03.2**	**-0.5**
	comp=Z,11nm,0.3s						
AAK				⇑Pg	**Pg**	**22 10 10.9**	**-8.6**
AAK				⇑Lg		22 10 59.1	
	comp=Z,102nm,0.5s						
AAK	**Ala-Archa**	**3.83**	**229**	*e*Pn	**Pn**	**22 10 02.1**	**-1.7**
AAK				*e*Pg	**Pg**	**22 10 10.0**	**-9.5**
AAK				*e*Sg	**Sg**	**22 10 58.2**	**-12**
UCH	**Uchtor**	**4.11**	**225**	P	**Sn**	**22 11 06.2**	**+9.4**
	SNR=6.9						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.32**	**154**	*i* P	P	22 37 60.0	-1.4
ZIIG				*i* S	S	22 38 06.8	-1.9
ZIIG	**Zihuatanejo**	**0.32**	**154**	*i* P	P	22 37 59.9	-1.5
ZIIG				*i* S	S	22 38 06.8	-1.9
CAIG	**El Cayaco**	**1.54**	**123**	*i* P	P	22 38 14.9	-2.1
CAIG				*i* S	S	22 38 33.5	-2.5
MOIG	**Morelia**	**1.82**	**13**	*i* P	P	22 38 19.0	-1.8
MOIG				*i* S	S	22 38 40.9	-1.8
ACX	**Acapulco**	**1.92**	**122**	*i* P	P	22 38 23.0	+0.8
ACX				*i* S	S	22 38 46.0	+0.8
PLIG	**Platanillo**	**2.07**	**76**	*i* P	P	22 38 22.4	-1.9
PLIG				*i* S	S	22 38 47.2	-1.7

PRE 23 22:44:33.7±2.0, 28.00S×26.75E, h2km, ML3.6, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEK	**Senekal**	**0.84**	**113**	*e*P	Pg	22 44 50.8	+0.3
SEK				*e*S	Sg	22 44 59.7	-2.1
SEK				AML	AML	22 45 04.5	
	comp=Z,661nm,0.3s						
BOSA	**Boshof**	**1.45**	**245**	*e*P	Pn	22 45 02.4	+1.4
BOSA				*e*S	Sb	22 45 22.0	+2.1
SWZ	**Schweizer**	**1.50**	**303**	*e*P	Pn	22 45 02.9	+1.2
SWZ				*e*S	Sb	22 45 22.8	+1.6
SWZ				AML	AML	22 45 38.8	
	comp=Z,1μm,0.9s						
KSR	**Koster**	**2.14**	**4**	*e*P	Pn	22 45 11.6	+0.7
KSR				*e*S	Sn	22 45 38.1	-0.3
KSR				AML	AML	22 45 44.1	
	comp=Z,2μm,0.5s						
SLR	**Silverton**	**2.64**	**32**	*e*P	Pn	22 45 18.1	+0.1
SLR				*e*S	Sn	22 45 49.0	-2.0
SLR				AML	AML	22 45 56.2	
	comp=Z,75nm,0.4s						
NWL	**Newcastle**	**2.85**	**85**	*e*P	Pn	22 45 21.0	-0.1
NWL				*e*S	Sn	22 45 54.6	-1.9
NWL				AML	AML	22 46 08.1	
	comp=Z,350nm,0.3s						
LBTB	**Lobatse**	**3.15**	**341**	*e*P	Pn	22 45 25.9	+0.7
LBTB				*e*S	Sn	22 46 01.9	-1.9
PKA	**Prieska**	**3.88**	**244**	*e*P	Pn	22 45 35.5	-0.1
PKA				*e*S	Sn	22 46 19.2	-3.2
SUR	**Sutherland**	**6.74**	**228**	*e*P	Pn	22 46 13.8	-2.3
CVNA	**Calvinia**	**6.99**	**239**	*e*P	Pn	22 46 17.6	-2.1
CVNA				*e*S	Sn	22 47 33.1	-7.7
CVNA				AML	AML	22 48 13.8	
	comp=Z,18nm,0.6s						

*IDC **23** 22:47:04.4±1.3, 1.25N×97.06E, mb4.0/9, mb1 4.2/9, mb1mx4.0/19, mbtmp4.0/9, Error ellipse: s-maj=58.6km s-min=21.1km az=51.0*
*BJI **23** 22:47:07.1, 1.30N×97.20E, h30km, mB4.7, mb4.4*
*NEIC **23** 22:47:09.1±0.5, 1.29N×97.15E, h30km, mb4.3/8, Error ellipse: s-maj=13.7km s-min=7.8km az=48.0*
ISC 23 22:47:08.5±4.2, 1.3N±0.2×97.2E±0.2, h38km±35km, n24, σ0§74/24, mb4.2/19, MS3.5/1, 1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.24**	**41**	*e*Pn	P	**22 48 26.4**	**0.0**
KMI	**Kunming**	**24.25**	**12**	P	P	**22 52 25.0**	**+1.8**
	5.0nm,1.2s,mb3.8						
KMI				LR	LR		
	comp=Z,120nm,14.4s,MS3.5						
GYA	**Guiyang**	**26.59**	**19**	⇓*i*P	P	**22 52 45.3**	**0.0**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
PKI	**Pulchoki**	**28.43**	**338**	*e*P	P	**22 53 02.1**	**+0.2**
DMN	**Daman**	**28.58**	**337**	*e*P	P	**22 53 02.9**	**-0.4**
	comp=Z,11nm,0.8s,mb4.6						
KKN	**Kakani**	**28.68**	**338**	*e*P	P	**22 53 04.7**	**+0.6**
LSA	**Lhasa**	**28.79**	**349**	P	P	**22 53 05.0**	**-0.1**
GKN	**Gorkha**	**29.11**	**337**	*e*P	P	**22 53 08.5**	**+0.5**
	comp=Z,27nm,1.1s,mb4.9						
KOLN	**Koldanda**	**29.34**	**335**	*e*P	P	**22 53 10.2**	**+0.2**
	comp=Z,15nm,0.8s,mb4.8						
ENH	**Enshi**	**31.06**	**21**	*e*P	P	**22 53 23.9**	**-1.4**
	comp=Z,9.6nm,0.8s,mb4.7						
FITZ	**Fitzroy Crossi**	**34.01**	**126**	P	P	**22 53 50.8**	**-0.3**
	comp=Z,2.3nm,0.6s,mb4.3,baz=350,slow=12,SNR=4.0						
GTA	**Gaotai**	**37.98**	**3**	*e*P	P	**22 54 24.3**	**-0.1**
GTA				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb4.0						
WRA	**Warramunga Arr**	**42.11**	**122**	P	P	**22 54 59.3**	**+0.3**
	comp=Z,1.4nm,0.6s,mb3.8,baz=300,slow=9.1,SNR=5.2						
WRAB	**Tennant Creek**	**42.12**	**122**	*e*P	P	**22 54 59.1**	**+0.1**
	comp=Z,3.0nm,0.8s,mb4.0						
SONM	**Songino Array**	**47.00**	**8**	P	P	**22 55 38.3**	**+0.5**
	comp=Z,3.1nm,0.8s,mb4.3,baz=189,slow=9.3,SNR=27						
MKAR	**Makanchi Array**	**47.11**	**346**	P	P	**22 55 39.0**	**+0.3**
	comp=Z,2.0nm,0.5s,mb4.3,baz=159,slow=9.4,SNR=30						
MKAR	**Makanchi Array**	**47.11**	**346**	P	P	**22 55 39.0**	**+0.3**
KURK	**Kurchatov**	**51.66**	**345**	*e*P	P	**22 56 12.9**	**-0.8**
	comp=Z,3.0nm,0.9s,mb4.2						
ZAL	**Zalesovo**	**53.42**	**351**	P	P	**22 56 26.0**	**-0.7**
	comp=Z,3.8nm,0.6s,mb4.5,baz=294,slow=4.7,SNR=20						
BRVK	**Borovoye**	**56.19**	**341**	*e*P	P	**22 56 45.3**	**-1.6**
	comp=Z,1.0nm,0.6s,mb4.0						
BRVK				*e*pP	pP	22 56 51.1	-7.1
BRTR	**Keskin Array B**	**69.02**	**312**	P	P	**22 58 11.6**	**-0.8**
	comp=Z,0.2nm,0.3s,mb3.5,baz=143,slow=7.2,SNR=2.7						
FINES	**FINESS Array B**	**79.88**	**332**	P	P	**22 59 14.7**	**+0.1**
	comp=Z,0.8nm,0.9s,mb3.6,baz=117,slow=6.2,SNR=4.1						
ARCES	**ARCESS Array B**	**82.41**	**340**	P	P	**22 59 28.0**	**+0.2**
	comp=Z,2.3nm,0.8s,mb4.2,baz=72,slow=3.8,SNR=6.0						
GERES	**GERESS Array B**	**84.71**	**319**	P	P	**22 59 41.5**	**+1.7**
	comp=Z,0.2nm,0.6s,mb3.4,baz=108,slow=6.2,SNR=2.4						

KRSC 23 22:53:23.1±0.8, 50.89N×158.25E, h40km±29km, ML3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**1.07**	**303**	*i* P	P	22 53 41.9	0.0
PAU				*e*S	S	22 53 55.2	-0.6
PAU				Smax			
	390nm,0.7s						
RUS	**Russkaya**	**1.55**	**6**	*e*P	P	22 53 47.7	-1.1
RUS				*e*S	S	22 54 06.5	-1.4
GRL	**Gorelyy**	**1.67**	**356**	*i* P	P	22 53 50.3	-0.1
GRL				*e*S	S	22 54 09.7	-1.0
MIPR	**Malaya Ipel'ka**	**1.67**	**327**	*i* P	P	22 53 50.7	+0.3
MIPR				*e*S	S	22 54 10.7	-0.1
ALID	**Alaid**	**1.71**	**270**	*e*P	P	22 53 51.7	+0.7
ALID				*e*S	S	22 54 11.7	-0.1
KRMR	**Karymshinskiy**	**1.94**	**358**	P	P	22 53 55.9	+1.6
KRMR				*e*S	S	22 54 18.8	+1.1
APC	**Apacha**	**2.15**	**342**	*i* P	P	22 53 57.2	0.0
APC				*e*S	S	22 54 21.4	-1.4
APC				Smax			
	40nm,0.9s						
PET	**Petropavlovsk**	**2.15**	**6**	*e*P	P	22 53 56.6	-0.7
PET				*e*S	S	22 54 21.2	-1.7
UGLR	**Uglovaya**	**2.35**	**8**	*e*P	P	22 54 00.2	+0.1
UGLR				*e*S	S	22 54 27.4	-0.5
NLC	**Nalytchevo**	**2.38**	**16**	*e*P	P	22 53 59.2	-1.4
NLC				*e*S	S	22 54 27.2	-1.6
AVH	**Avacha**	**2.40**	**7**	*e*P	P	22 54 01.4	+0.6
AVH				*e*S	S	22 54 29.5	+0.3
SMAR	**Somma**	**2.40**	**8**	*e*P	P	22 54 01.6	+0.8
SMAR				*e*S	S	22 54 30.1	+0.8
KOK	**Koryaka**	**2.42**	**6**	*e*P	P	22 54 01.7	+0.6
KOK				*e*S	S	22 54 30.3	+0.6
SDLR	**Sedlovina**	**2.42**	**9**	*e*P	P	22 54 00.9	-0.3
SDLR				*e*S	S	22 54 28.7	-1.1
SPN	**Mys Shipunski**	**2.47**	**26**	*e*P	P	22 54 02.0	+0.2
SPN				*e*S	S	22 54 29.8	-1.2
GNL	**Ganaly**	**2.82**	**356**	*e*P	P	22 54 06.8	0.0
GNL				*e*S	S	22 54 40.0	+0.2
KII	**Karymskiy**	**3.24**	**13**	*e*P	P	22 54 14.3	+1.6
KII				*e*S	S	22 54 51.8	+1.3
MKZ	**Mys Kozlova**	**4.24**	**29**	*e*P	P	22 54 25.5	-1.4
MKZ				*e*S	S	22 55 12.6	-3.2
KMNR	**Kamenistaya**	**5.02**	**13**	P	P	22 54 39.5	+1.6
ESO	**Esso**	**5.05**	**3**	*e*P	P	22 54 39.3	+0.9
KBTR	**Krutoberegovo**	**5.98**	**25**	*e*P	P	22 54 50.3	-1.1
BKI	**Bering**	**6.35**	**44**	*e*S	S	22 56 01.6	-7.2

*BUC **23** 22:53:59.6±1.1, 45.58N×26.41E, h146km±12km, MD4.3/6, Error ellipse: s-maj=8.7km s-min=6.2km az=18.0*
*MOS **23** 22:54:00.2±0.7, 45.58N×26.36E, h138km, mb4.0/1, Error ellipse: s-maj=17.4km s-min=8.0km az=85.5*
*NEIC **23** 22:54:01.8, 45.58N×26.49E, h130km, MG3.6(BUC), After BUC.*
*CSEM **23** 22:54:01.0±0.2, 45.56N×26.44E, h126km±1km, mb4.0, Error ellipse: s-maj=2.6km s-min=2.0km az=179.0*
*SOF **23** 22:54:03.5, 45.30N×26.25E, h20km, MD2.9*
ISC 23 22:53:59.8±0.7, 45.62N±0.04×26.44E±0.05, h141km±5km, n49, σ0§86/77, 25C-5D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRI	**Vrincioaia**	**0.32**	**39**	⇑*i*P	P	**22 54 20.3**	**+0.5**
VRI				*i* S	S	**22 54 35.1**	**0.0**
VRI	**Vrincioaia**	**0.32**	**39**	⇑*i*P	P	**22 54 20.3**	**+0.4**
VRI				*i* S	S	**22 54 35.1**	**0.0**
MLR	**Muntele Rosu**	**0.37**	**250**	⇑*i*P	P	**22 54 20.6**	**+0.6**
MLR				*i* S	S	**22 54 35.9**	**+0.4**
MLR	**Muntele Rosu**	**0.37**	**250**	⇑*i*P	P	**22 54 20.6**	**+0.6**
MLR				*i* S	S	**22 54 35.9**	**+0.4**
MLR	**Muntele Rosu**	**0.37**	**250**	P	P	**22 54 20.7**	**+0.7**
ISR	**Istrita**	**0.51**	**171**	⇑*i*P	P	**22 54 20.4**	**-0.3**
ISR				*i* S	S	**22 54 38.2**	**+1.6**
ISR	**Istrita**	**0.51**	**171**	⇑*i*P	P	**22 54 20.4**	**-0.2**
ISR				*i* S	S	**22 54 38.2**	**+1.6**
SNX	**Sinaia**	**0.70**	**248**	⇑*i*P	P	**22 54 21.7**	**-0.1**
SNX				*i* S	S	**22 54 38.1**	**-0.5**
SNX	**Sinaia**	**0.70**	**248**	⇑*i*P	P	**22 54 21.7**	**-0.1**
SNX				*i* S	S	**22 54 38.1**	**-0.5**
VOIR		**0.99**	**260**	⇑*i*P	P	**22 54 24.2**	**+0.4**
VOIR		**0.99**	**260**	⇑*i*P	P	**22 54 24.2**	**+0.4**
MTUR	**Matau**	**1.04**	**248**	⇑*i*P	P	**22 54 24.1**	**-0.2**
MTUR				*i* S	S	**22 54 43.3**	**+0.2**
MTUR	**Matau**	**1.04**	**248**	⇑*i*P	P	**22 54 24.1**	**-0.2**
MTUR				*i* S	S	**22 54 43.3**	**+0.2**
BUC	**Bucharest**	**1.23**	**191**	*i* S	S	**22 54 47.6**	**+1.2**
CFR	**Carcaliu**	**1.27**	**110**	⇓*i*P	P	**22 54 27.2**	**+0.6**
CFR				*i* S	S	**22 54 46.3**	**-1.0**
CFR	**Carcaliu**	**1.27**	**110**	⇓*i*P	P	**22 54 27.2**	**+0.5**
CFR				*i* S	S	**22 54 46.3**	**-0.9**
BUC1	**Bucharest**	**1.30**	**193**	⇑*i*P	P	**22 54 27.5**	**+0.6**
BUC1				*i* S	S	**22 54 47.6**	**-0.2**
BUC1	**Bucharest**	**1.30**	**193**	⇑*i*P	P	**22 54 27.5**	**+0.5**
BUC1				*i* S	S	**22 54 47.6**	**-0.1**
BUC1	**Bucharest**	**1.30**	**193**	P	P	**22 54 27.6**	**+0.7**
HARR	**Harsova**	**1.41**	**131**	⇑*i*P	P	**22 54 27.7**	**-0.3**
HARR				*i* S	S	**22 54 48.4**	**-1.3**
HARR	**Harsova**	**1.41**	**131**	⇑*i*P	P	**22 54 27.7**	**-0.4**
HARR				*i* S	S	**22 54 48.4**	**-1.3**
TLCR		**1.73**	**104**	⇓*i*P	P	**22 54 32.1**	**+0.5**
TLCR				*i* S	S	**22 54 55.9**	**-0.1**
TLCR		**1.73**	**104**	⇓*i*P	P	**22 54 32.1**	**+0.5**
TLCR				*i* S	S	**22 54 55.9**	**-0.1**
TLCR		**1.73**	**104**	P	P	**22 54 32.5**	**+0.9**
TLCR				S	S	**22 54 55.9**	**-0.1**
IAS	**Iasi**	**1.76**	**26**	⇑*i*P	P	**22 54 32.4**	**+0.5**
IAS				*i* S	S	**22 54 55.5**	**-1.0**
IAS	**Iasi**	**1.76**	**26**	⇑*i*P	P	**22 54 32.4**	**+0.5**
IAS				*i* S	S	**22 54 55.5**	**-1.0**
TIRR	**Tirgusor**	**1.82**	**129**	⇑*i*P	P	**22 54 33.1**	**+0.5**
TIRR				*i* S	S	**22 54 56.3**	**-1.4**
TIRR	**Tirgusor**	**1.82**	**129**	⇑*i*P	P	**22 54 33.1**	**+0.5**
TIRR				*i* S	S	**22 54 56.3**	**-1.4**
TIRR	**Tirgusor**	**1.82**	**129**	P	P	**22 54 33.0**	**+0.4**
TIRR				S	S	**22 54 56.6**	**-1.1**
KIS	**Kishinev**	**2.15**	**49**	*e*P	P	**22 54 38.0**	**+1.4**
KIS				*i* S	S	**22 55 03.5**	**-1.3**
	700nm,0.5s						
KIS	**Kishinev**	**2.15**	**49**	*e*P	P	**22 54 38.0**	**+1.4**
KIS				*i* S	S	**22 55 03.5**	**-1.3**
KIS				smax			
	comp=N,700nm,0.5s						
KIS				smax			
	comp=E,800nm,0.5s						
KIS				smax			
	comp=N,700nm,0.5s						
KIS				smax			
	comp=E,700nm,0.5s						
BURAR	**Bucovina Array**	**2.17**	**338**	⇑*i*P	P	**22 54 38.5**	**+1.7**
BURAR	**Bucovina Array**	**2.17**	**338**	⇑*i*P	P	**22 54 38.5**	**+1.7**
CRAR	**CRAIOVA**	**2.27**	**236**	⇑*i*P	P	**22 54 37.7**	**-0.5**
CRAR				*i* S	S	**22 55 06.0**	**-1.6**
PSN	**Preselentsi**	**2.30**	**147**	*i* P	P	**22 54 39.5**	**+0.9**
SZH	**Strazhica**	**2.38**	**189**	*e*P	P	**22 54 39.8**	**+0.3**
PRD	**Provadia**	**2.51**	**164**	*i* P	P	**22 54 41.8**	**+0.5**
PVL	**Pavlikeni**	**2.53**	**199**	*e*P	P	**22 54 42.8**	**+1.3**
DRGR		**2.84**	**296**	⇑*i*P	P	**22 54 43.8**	**-1.7**
DRGR		**2.84**	**296**	⇑*i*P	P	**22 54 43.8**	**-1.7**
DRGR		**2.84**	**296**	P	P	**22 54 44.0**	**-1.5**
JMB	**Yambol**	**3.15**	**178**	*e*P	P	**22 54 49.0**	**-0.6**
ZAPS	**Zavoj/Pirot**	**3.59**	**231**	⇓*i*Pn	P	**22 54 54.1**	**-1.2**
ZAPS				Sn	S	**22 55 32.5**	**-5.2**
VTS	**Vitosha**	**3.82**	**219**	*e*P	P	**22 54 57.5**	**-0.8**
VTS	**Vitosha**	**3.82**	**219**	P	P	**22 54 57.7**	**-0.6**
VTS	**Vitosha**	**3.82**	**219**	P	P	**22 54 57.7**	**-0.6**
VTS	**Vitosha**	**3.82**	**219**	P	P	**22 54 57.7**	**-0.6**
RZN	**Rozhen**	**4.12**	**198**	*e*P	P	**22 55 02.0**	**-0.3**
MMB	**Musomiste**	**4.48**	**207**	*e*P	P	**22 55 07.3**	**+0.2**

*CSEM **23** 23:31:25.8±0.1, 35.66N×4.70W, h88km±3km, mb3.4/9, Error ellipse: s-maj=2.4km s-min=1.8km az=15.0*
*INMG **23** 23:31:28.6±0.9, 35.77N×4.69W, h61km±6km, ML2.2, Error ellipse: s-maj=4.1km s-min=2.4km az=27.0*
*MDD **23** 23:31:28.6±0.7, 35.71N×4.67W, h62km±15km, mb3.2/19, Error ellipse: s-maj=6.6km s-min=4.8km az=27.0, PRXIMO*
*NEIC **23** 23:31:29.8, 35.81N×4.62W, h67km, MG3.4(MDD), After MDD.*
ISC 23 23:31:26.2±0.5, 35.72N±0.03×4.72W±0.03, h78km±9km, n59, σ1§19/99, 6C-1D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMIJ	**Mijas**	**0.84**	**357**	⇓P	P	**23 31 44.0**	**+0.5**
	2.3nm,0.1s,SNR=18						
EMIJ				S	S	**23 31 55.0**	**-1.4**
	26nm,0.1s,SNR=38						
EJIF	**Jimena Fronter**	**0.94**	**320**	⇑P	P	**23 31 46.8**	**+2.1**
	1.7nm,0.1s,SNR=18						
EJIF				S	S	**23 31 59.9**	**+1.3**
	1.1nm,0.1s,SNR=4.0						
EJIF	**Jimena Fronter**	**0.94**	**320**	P	P	**23 31 48.3**	**+3.6**
	1.7nm,0.1s,SNR=18						
EJIF				S	S	**23 32 01.1**	**+2.5**
	1.1nm,0.1s,SNR=4.0						
EJIF	**Jimena Fronter**	**0.94**	**320**	⇑P	P	**23 31 48.3**	**+3.6**
EJIF				S	S	**23 32 01.1**	**+2.5**
EALB	**Alboran**	**1.39**	**81**	P	P	**23 31 50.6**	**+0.1**
	6.0nm,0.1s,SNR=8.7						
EALB				S	S	**23 32 06.8**	**-1.7**
	67nm,0.3s,SNR=5.0						
EALB	**Alboran**	**1.39**	**81**	P	P	**23 31 50.6**	**+0.1**
	6.0nm,0.1s,SNR=8.7						
EALB				S	S	**23 32 06.8**	**-1.7**
	67nm,0.3s,SNR=5.0						
EGUA	**Guajares**	**1.45**	**40**	P	P	**23 31 51.5**	**+0.1**
	1.8nm,0.2s,SNR=7.9						
EGUA				S	S	**23 32 08.9**	**-0.9**
	1.1nm,0.2s,SNR=4.0						
ESPR	**Espera**	**1.46**	**322**	P	P	**23 31 53.7**	**+2.2**
	1.8nm,0.1s,SNR=8.6						
ESPR				S	S	**23 32 11.4**	**+1.2**
	12nm,0.2s,SNR=4.0						
ESPR	**Espera**	**1.46**	**322**	P	P	**23 31 53.7**	**+2.2**
	1.8nm,0.1s,SNR=8.6						
ESPR				S	S	**23 32 12.1**	**+1.9**
	12nm,0.2s,SNR=4.0						
ESPR	**Espera**	**1.46**	**322**	P	P	**23 31 53.7**	**+2.2**
ESPR				S	S	**23 32 12.2**	**+2.0**
ERON	**Agron**	**1.49**	**30**	P	P	**23 31 51.9**	**+0.1**
	2.4nm,0.2s,SNR=7.9						
ELOJ	**Sierra Loja**	**1.49**	**18**	P	P	**23 31 53.5**	**+1.6**
	0.6nm,0.1s,SNR=7.9						
ELOJ	**Sierra Loja**	**1.49**	**18**	P	P	**23 31 53.7**	**+1.8**
	0.6nm,0.1s,SNR=7.9						
ELOJ	**Sierra Loja**	**1.49**	**18**	P	P	**23 31 53.7**	**+1.8**
EMEL	**Melilla**	**1.50**	**106**	S	S	**23 32 10.5**	**-0.5**
	25nm,0.1s,SNR=4.0						
EMLI	**Melilla**	**1.51**	**106**	S	S	**23 32 10.5**	**-0.7**
	25nm,0.1s,SNR=4.0						
TZK	**Tazeka**	**1.69**	**165**	*i* P	P	**23 31 54.0**	**-0.5**
TZK				*i* S	S	**23 32 15.0**	**-0.3**
EQUE	**Quentar**	**1.80**	**35**	P	P	**23 31 57.3**	**+1.3**
	0.5nm,0.1s,SNR=7.9						
EQUE				S	S	**23 32 17.5**	**-0.4**
	0.8nm,0.2s,SNR=4.0						
ECOG	**Cogollos-Vega**	**1.81**	**31**	P	P	**23 31 58.1**	**+2.1**
	0.8nm,0.1s,SNR=7.9						
ECOG				S	S	**23 32 18.8**	**+0.7**
	1.3nm,0.2s,SNR=4.0						
ECOG	**Cogollos-Vega**	**1.81**	**31**	P	P	**23 31 59.0**	**+2.9**
	0.8nm,0.1s,SNR=7.9						
ECOG				S	S	**23 32 21.2**	**+3.1**
	1.3nm,0.2s,SNR=4.0						
ECOG	**Cogollos-Vega**	**1.81**	**31**	P	P	**23 31 59.0**	**+2.9**
ECOG				S	S	**23 32 21.2**	**+3.2**
EBER	**Berja**	**1.89**	**51**	P	P	**23 31 57.7**	**+0.5**
	2.6nm,0.4s,SNR=4.9						
EBER				S	S	**23 32 19.0**	**-0.9**
	2.3nm,0.2s						
EBER	**Berja**	**1.89**	**51**	P	P	**23 31 57.7**	**+0.6**
	2.6nm,0.4s,SNR=4.9						
EBER				S	S	**23 32 19.0**	**-0.9**
	2.3nm,0.2s						
ENIJ	**Nijar**	**2.38**	**58**	P	P	**23 32 04.3**	**+0.3**
	0.1nm,0.1s,SNR=4.0						
EADA	**Adamuz**	**2.44**	**3**	P	P	**23 32 05.4**	**+0.6**
	1.2nm,0.1s,SNR=11						
EADA				S	S	**23 32 32.0**	**-1.6**
	8.1nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**2.44**	**3**	P	P	**23 32 05.4**	**+0.5**
	1.2nm,0.1s,SNR=11						
EQES	**Quesada**	**2.46**	**32**	P	P	**23 32 06.2**	**+1.0**
	0.4nm,0.1s,SNR=9.5						
EQES				S	S	**23 32 33.8**	**-0.3**
	1.0nm,0.1s,SNR=5.0						
EQES	**Quesada**	**2.46**	**32**	P	P	**23 32 06.2**	**+1.0**
	0.4nm,0.1s,SNR=9.5						
EQES				S	S	**23 32 34.5**	**+0.3**
	1.0nm,0.1s,SNR=5.0						
EQES	**Quesada**	**2.46**	**32**	P	P	**23 32 06.2**	**+1.0**
EQES				S	S	**23 32 34.5**	**+0.4**
EBAN	**Banos Encina**	**2.55**	**17**	P	P	**23 32 06.9**	**+0.6**
	0.8nm,0.1s,SNR=7.9						
EBAN				S	S	**23 32 34.2**	**-2.2**
	2.5nm,0.1s,SNR=9.3						
EMIN	**Mina Concepcio**	**2.57**	**323**	⇑P	P	**23 32 07.4**	**+0.7**
	0.9nm,0.1s,SNR=18						
EMIN				S	S	**23 32 35.4**	**-1.5**
	4.1nm,0.1s,SNR=13						
EMIN	**Mina Concepcio**	**2.57**	**323**	P	P	**23 32 07.4**	**+0.7**
	0.9nm,0.1s,SNR=18						
EMIN	**Mina Concepcio**	**2.57**	**323**	⇑P	P	**23 32 07.4**	**+0.7**
EMIN				S	S	**23 32 35.1**	**-1.8**
CZD	**Col de Zad**	**2.70**	**186**	*i* P	P	**23 32 06.0**	**-2.4**
CZD				*i* S	S	**23 32 36.0**	**-4.0**
EHUE	**Huescar**	**2.70**	**39**	S	S	**23 32 40.7**	**+0.6**
	0.2nm,0.1s,SNR=4.0						
EGRO	**El Granado**	**2.86**	**310**	⇑P	P	**23 32 11.5**	**+0.7**
	6.2nm,0.1s,SNR=18						
EGRO				S	S	**23 32 42.9**	**-1.3**
	5.0nm,0.1s,SNR=9.9						
EGRO	**El Granado**	**2.86**	**310**	P	P	**23 32 11.5**	**+0.7**
	6.2nm,0.1s,SNR=18						
EGRO	**El Granado**	**2.86**	**310**	⇑P	P	**23 32 11.5**	**+0.8**
EGRO				S	S	**23 32 42.5**	**-1.7**
PBEJ	**Beja**	**3.41**	**313**	*e*P	P	**23 32 18.9**	**+0.5**
PBEJ				*e*S	S	**23 32 56.0**	**-1.8**
EBAD	**Badajoz**	**3.54**	**330**	P	P	**23 32 20.6**	**+0.5**
	2.9nm,0.1s,SNR=18						
EBAD				S	S	**23 32 58.6**	**-2.3**
	4.6nm,0.1s,SNR=18						
PTEO	**Sao Teotonio**	**3.70**	**301**	*e*P	P	**23 32 23.0**	**+0.7**
PTEO				*e*S	S	**23 33 03.8**	**-1.1**
ETOB	**Tobarra**	**3.86**	**40**	P	P	**23 32 25.0**	**+0.3**
	0.3nm,0.1s,SNR=4.0						
ETOB	**Tobarra**	**3.86**	**40**	P	P	**23 32 25.0**	**+0.3**
	0.3nm,0.1s,SNR=4.0						
ESDC	**Sonseca Array**	**3.99**	**8**	S	S	**23 33 08.0**	**-4.3**
	0.7nm,0.1s,baz=185,slow=22,SNR=8.8						
PCBR	**Castelo Branco**	**4.65**	**333**	*e*P	P	**23 32 36.1**	**+0.5**
PCBR				*e*S	S	**23 33 24.8**	**-4.0**
	1.4nm,0.1s						
PCBR	**Castelo Branco**	**4.65**	**333**	P	P	**23 32 36.1**	**+0.5**
PCBR				S	S	**23 33 24.8**	**-4.0**
	0.7nm,0.1s						
PTOM	**Tomar**	**4.87**	**324**	*e*P	P	**23 32 39.3**	**+0.8**
PTOM				*e*S	S	**23 33 30.1**	**-4.0**
	2.0nm,0.1s						
PTOM	**Tomar**	**4.87**	**324**	P	P	**23 32 39.3**	**+0.8**
PTOM				S	S	**23 33 30.1**	**-4.0**
	1.0nm,0.1s						
MTE	**Manteigas**	**5.17**	**335**	*e*S	S	**23 33 38.4**	**-3.3**
EMOS	**Mosqueruela**	**5.72**	**35**	P	P	**23 32 50.7**	**+0.5**
	SNR=4.0						
EMOS	**Mosqueruela**	**5.72**	**35**	P	P	**23 32 50.7**	**+0.5**
PVRL	**Vila Real**	**6.02**	**338**	*e*P	P	**23 32 54.8**	**+0.4**
PVRL				*e*S	S	**23 33 57.6**	**-5.1**
	10nm,0.1s

mb1 4.1/9, mb1mx3.9/16, mbtmp4.7/9, Error ellipse: s-maj=29.8km s-min=12.9km az=63.0
NEIC ***23*** *23:47:58.7±1.2, 6.01S×128.54E, h296km±14km, mb4.5/6, Error ellipse: s-maj=14.8km s-min=7.0km az=53.0*
ISC 23 23:47:56.8±2.3, 6.0S±0.1×128.5E±0.1, h295km±27km, n27, σ0:78/28, mb4.1/12, 1C-3D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**7.70**	**150**	⇓*i*P	**P**	**23 49 59.9**	**+13**
KAKA	127nm,0.3s			*e*S	**S**	**23 51 22.7**	**+8.5**
FITZ	**Fitzroy Crossi**	**12.33**	**193**	⇓*i*P	**P**	**23 50 45.4**	**+0.7**
FITZ	123nm,0.6s **Fitzroy Crossi**	**12.33**	**193**	P	**P**	**23 50 45.6**	**+1.0**
WRAB	7.1nm,0.3s,baz=15,slow=8.0,SNR=51 **Tennant Creek**	**14.95**	**158**	*e*P	**P**	**23 51 14.8**	**-1.4**
WRAB	51nm,0.5s			*e*S	**S**	**23 53 52.8**	**-2.0**
WRA	**Warramunga Arr**	**14.96**	**158**	P	**P**	**23 51 15.7**	**-0.6**
WRA	0.5nm,0.3s,baz=340,slow=12,SNR=52			S	**S**	**23 53 56.2**	**+1.3**
WB2	4.5nm,0.3s,baz=341,slow=22,SNR=14 **Warramunga Arr**	**14.96**	**158**	⇓*i*P	**P**	**23 51 15.5**	**-0.8**
WB2				*e*S	**S**	**23 53 55.8**	**+0.9**
KKM	**Kota Kinabalu**	**17.15**	**314**	*e*P	**P**	**23 51 40.6**	**+0.6**
PMG	**Port Moresby**	**18.79**	**101**	P	**P**	**23 51 57.1**	**+0.4**
CTA	6.3nm,0.3s,baz=283,slow=3.1,SNR=18 **Charters Tower**	**22.20**	**131**	*e*P	**P**	**23 52 30.8**	**+0.7**
CTA	11nm,0.9s,mb4.2 **Charters Tower**	**22.20**	**131**	P	**P**	**23 52 30.9**	**+0.8**
CTAO	16nm,0.8s,mb4.4,baz=313,slow=12,SNR=12 **Charters Tower**	**22.20**	**131**	*e*P	**P**	**23 52 30.5**	**+0.4**
STKA	17nm,0.8s,mb4.4 **Stephens Creek**	**28.49**	**156**	⇑*i*P	**P**	**23 53 27.5**	**0.0**
STKA	6.7nm,0.8s,mb4.1 **Stephens Creek**	**28.49**	**156**	P	**P**	**23 53 27.7**	**+0.2**
PKI	8.7nm,0.7s,mb4.3,baz=331,slow=9.7,SNR=13 **Pulchoki**	**53.36**	**311**	*e*P	**P**	**23 56 47.3**	**-1.1**
KKN	6.6nm,0.5s,mb4.2 **Kakani**	**53.58**	**311**	*e*P	**P**	**23 56 49.7**	**-0.3**
DMN	15nm,0.8s,mb4.4 **Daman**	**53.61**	**311**	*e*P	**P**	**23 56 50.2**	**0.0**
GKN	7.1nm,0.6s,mb4.2 **Gorkha**	**54.17**	**311**	*e*P	**P**	**23 56 54.5**	**+0.3**
KOLN	14nm,0.5s,mb4.6 **Koldanda**	**54.83**	**310**	*e*P	**P**	**23 56 59.4**	**+0.4**
SONM	7.6nm,0.6s,mb4.3 **Songino Array**	**57.05**	**342**	P	**P**	**23 57 14.4**	**0.0**
SONM	1.2nm,0.4s,mb3.7,baz=155,slow=6.8,SNR=14			pP	pP	23 58 05.5	-14
MKAR	1.2nm,0.7s,baz=139,slow=9.3,SNR=6.4 **Makanchi Array**	**66.60**	**327**	P	**P**	**23 58 17.6**	**+0.2**
KURK	5.8nm,0.7s,mb4.4,baz=116,slow=8.9,SNR=52 **Kurchatov**	**70.91**	**329**	*e*P	**P**	**23 58 43.5**	**-0.3**
VNDA	6.5nm,1.0s,mb4.2 **Vanda**	**73.60**	**173**	P	**P**	**23 58 59.9**	**+0.7**
VNDA	1.2nm,0.8s,mb3.6,baz=313,slow=7.4,SNR=8.4 **Vanda**	**73.60**	**173**	P	**P**	**23 58 59.9**	**+0.7**
BVAR	**Borovoye Array**	**76.45**	**328**	P	**P**	**23 59 15.6**	**-0.2**
CPUP	0.4nm,0.5s,mb3.3,baz=141,slow=6.7,SNR=6.1 **Villa Florida**	**147.35**	**170**	PKPbc	PKPdf	00 07 08.8	+5.1
LPAZ	3.2nm,0.8s,baz=190,slow=6.3,SNR=5.3 **La Paz**	**152.39**	**144**	PKPbc	PKPdf	00 07 21.8	+10
LPAZ	0.6nm,0.4s,baz=41,slow=3.2,SNR=7.1			PKPab	PKPab	00 07 34.1	+1.6
LPAZ	1.3nm,0.7s,baz=154,slow=1.9,SNR=8.5 **La Paz**	**152.39**	**144**	*e*PKPbc	PKPdf	00 07 21.5	+10
LPAZ				*e*PKPab	PKPab	00 07 34.1	+1.6

NIED ***23*** *23:52:00, 29.30N×130.10E, h44km, Mw3.8 Best double couple: M0:5.17×10^14 NP1:φs28°, δ80°, λ111°. NP2:φs143°, δ23°, λ26°.*
JMA 23 23:52:35.7, 29.32N×130.07E, h48km±3km, M3.8, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.55**	**342**	P	P	23 52 47.3	-0.1
JNN				S	S	23 52 55.6	-0.3
JAM	**Amami Oshima**	**0.99**	**204**	P	P	23 52 53.4	-0.1
JAM				S	S	23 53 06.2	-0.4
JKC	**Kuchinoerabu**	**1.14**	**5**	P	P	23 52 55.6	+0.1
JKC				S	S	23 53 09.9	-0.4
JTN	**Tanegashima 3**	**1.55**	**30**	P	P	23 53 01.5	+0.1
JTK	**Tokunoshima**	**1.82**	**213**	P	P	23 53 04.7	-0.5
JTSR	**Tashiro 2**	**1.98**	**22**	P	P	23 53 08.8	+1.3
JSU	**Suzuyama**	**2.20**	**9**	P	P	23 53 10.6	0.0
JSJ	**Shimokoshiki**	**2.37**	**353**	P	P	23 53 12.9	-0.1

IDC 24 00:39:39.4±1.2, 20.88N×146.23E, mb3.9/6, mb1 4.1/6, mb1mx3.8/20, mbtmp3.9/6, Error ellipse: s-maj=44.8km s-min=31.1km az=123.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**43.68**	**209**	P	P	00 47 45.5	-2.5
MKAR	3.9nm,0.8s,baz=10,slow=10.0,SNR=3.1 **Makanchi Array**	**57.33**	**313**	P	P	00 49 29.6	-1.9
ILAR	0.5nm,0.8s,baz=98,slow=10,SNR=4.8 **Eielson Array**	**61.48**	**27**	P	P	00 49 56.9	-3.0
YKA	1.2nm,0.9s,baz=264,slow=5.1,SNR=8.5 **Yellowknife Ar**	**75.84**	**28**	P	P	00 51 27.4	-1.4
FINES	1.0nm,0.7s,baz=300,slow=5.8,SNR=3.6 **FINESS Array B**	**85.12**	**335**	P	P	00 52 17.0	-1.2
PDAR	0.5nm,0.7s,baz=76,slow=7.9,SNR=5.3 **Pinedale Array**	**85.95**	**46**	P	P	00 52 22.1	-0.7
LPAZ	0.2nm,0.4s,baz=304,slow=6.5,SNR=2.5 **La Paz**	**147.16**	**88**	PKPbc	PKPdf	00 59 26.4	+1.5
	1.1nm,0.9s,baz=339,slow=2.9,SNR=4.1						

IDC 24 00:59:15.8±16.0, 19.89S×178.38W, h655km±167km, mb3.2/3, mb1 3.3/4, mb1mx2.9/15, mbtmp4.3/4, Error ellipse: s-maj=137.2km s-min=94.7km az=97.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.34**	**259**	P	P	01 02 16.6	-0.3
CTA	0.4nm,0.3s,baz=85,slow=19,SNR=4.2 **Charters Tower**	**33.20**	**263**	P	P	01 05 02.3	-1.0
STKA	2.6nm,0.4s,baz=72,slow=6.4,SNR=4.1 **Stephens Creek**	**37.74**	**243**	P	P	01 05 38.8	-1.7
WRA	1.7nm,0.5s,baz=103,slow=8.0,SNR=5.3 **Warramunga Arr**	**44.34**	**262**	P	P	01 06 30.9	-1.8
BRTR	1.7nm,0.3s,baz=97,slow=7.6,SNR=28 **Keskin Array B**	**146.17**	**313**	PKPbc	PKPbc	01 17 44.8	+0.7
GERES	0.6nm,0.5s,baz=90,slow=1.4,SNR=4.4 **GERESS Array B**	**149.52**	**344**	PKPbc	PKPdf	01 17 52.6	+5.3
	0.6nm,0.5s,baz=45,slow=1.9,SNR=5.8						

KNET ***24*** *01:01:19.4±0.5, 42.07N×75.63E, h14km±3km, ml2.2, Error ellipse: s-maj=3.2km s-min=2.2km az=157.0*
NNC ***24*** *01:01:22.4±11.0, 42.33N×75.67E, mpv2.9, Error ellipse: s-maj=194.3km s-min=65.0km az=21.0*
ISC 24 01:01:19.8±1.0, 42.05N±0.06×75.66E±0.05, h5km±7km, n11, σ0:42/19, 9C-9D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZA	**Kyzart**	**0.30**	**276**	⇑P	**Pg**	**01 01 25.6**	**-0.4**
KZA	107nm,0.1s,SNR=40			⇑S	**Sg**	**01 01 30.2**	**+0.1**
ULHL	2μm,0.2s **Ulahol**	**0.48**	**65**	⇓P	**Pg**	**01 01 29.2**	**-0.2**
ULHL	16nm,0.1s,SNR=8.0			⇑S	**Sg**	**01 01 36.1**	**+0.4**
KBK	**Karagaybulak**	**0.80**	**319**	⇓P	**Pb**	**01 01 35.4**	**-0.4**
KBK	53nm,0.1s,SNR=68			⇑S	**Sg**	**01 01 46.8**	**+0.2**
TKM2	95nm,0.2s **Tokmak 2**	**0.87**	**357**	⇓P	**Pb**	**01 01 36.7**	**-0.3**
TKM2	20nm,0.2s,SNR=5.5			⇑S	**Sb**	**01 01 48.8**	**+0.1**
AAK	108nm,0.1s **Ala-Archa**	**1.04**	**305**	⇑P	**Pb**	**01 01 39.2**	**-0.7**
AAK	51nm,0.2s,SNR=29			⇑S	**Sb**	**01 01 53.4**	**-0.2**
AAK	55nm,0.3s **Ala-Archa**	**1.04**	**305**	⇓P	**Pb**	**01 01 39.2**	**-0.7**
AAK	11nm,0.2s			⇓S	**Sb**	**01 01 53.3**	**-0.4**
CHMS	20nm,0.3s **Chumysh**	**1.16**	**325**	⇓P	**Pb**	**01 01 41.6**	**-0.4**
CHMS	17nm,0.1s,SNR=9.7			⇑S	**Sb**	**01 01 57.4**	**+0.3**
AML	21nm,0.1s **Almayashu**	**1.46**	**274**	⇑P	**Pn**	**01 01 46.5**	**-0.4**
AML	6.2nm,0.1s,SNR=12			⇓S	**Sb**	**01 02 06.1**	**+0.3**
USP	63nm,0.2s **Ospenovka**	**1.49**	**325**	⇓P	**Pn**	**01 01 47.4**	**+0.1**
EKS2	14nm,0.2s,SNR=18 **Erkin-Say**	**1.52**	**294**	⇓P	**Pn**	**01 01 48.2**	**+0.4**
KK31	7.8nm,0.1s,SNR=26 **Karatay Array**	**3.94**	**287**	Pn	**Pb**	**01 02 30.6**	**+1.1**
KK31	0.5nm,0.4s,baz=112,slow=16,SNR=20			Lg		01 03 22.4	
	1.4nm,0.3s,baz=98,slow=29,SNR=7.6						

CSEM ***24*** *01:14:58.4±0.1, 37.77N×1.50W, h5km, ML2.5/4, Error ellipse: s-maj=3.5km s-min=2.2km az=156.0*
SFS ***24*** *01:14:59.0, 37.77N×1.51W, h4km*
MDD 24 01:14:58.8±0.3, 37.78N×1.51W, h10km±1km, mbLg2.0/13, 1C-1D, Error ellipse: s-maj=3.6km s-min=2.6km az=165.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMUR	**La Murta**	**0.23**	**73**	⇑Pg	Pg	01 15 03.3	-0.4
EMUR	13nm,0.1s,SNR=18			Lg		01 15 07.2	
EMUR	123nm,0.2s,SNR=5.0 **La Murta**	**0.23**	**73**	Pg	Pg	01 15 03.3	-0.4
CART	13nm,0.1s,SNR=18 **Cartagena**	**0.45**	**115**	Pg	Pg	01 15 07.7	-0.3
CART				Lg		01 15 13.5	
CART	**Cartagena**	**0.45**	**115**	*e*P	Pg	01 15 07.7	-0.3
EHUE	**Huescar**	**0.86**	**273**	Pg	Pg	01 15 14.5	-1.5
EHUE	0.4nm,0.1s,SNR=13			Lg		01 15 27.0	
ETOB	4.5nm,0.2s,SNR=11 **Tobarra**	**0.87**	**358**	⇓Pg	Pg	01 15 14.3	-1.9
ETOB	1.2nm,0.1s,SNR=18			Lg		01 15 27.7	
ETOB	26nm,0.2s,SNR=12 **Tobarra**	**0.87**	**358**	Pg	Pg	01 15 14.3	-1.9
ENIJ	1.2nm,0.1s,SNR=18 **Nijar**	**0.98**	**215**	Pg	Pg	01 15 16.1	-2.3
ENIJ	0.4nm,0.1s,SNR=16			Lg		01 15 29.6	
EVIA	1.4nm,0.2s,SNR=5.0 **Vianos**	**1.16**	**318**	Pg	Pg	01 15 20.1	-2.0
EVIA	2.3nm,0.2s,SNR=12			Lg		01 15 36.1	
EQES	18nm,0.2s,SNR=20 **Quesada**	**1.23**	**272**	Pg	Pg	01 15 21.2	-2.4
EQES	0.9nm,0.1s,SNR=49			Lg		01 15 38.8	
EQES	48nm,0.3s,SNR=36 **Quesada**	**1.23**	**272**	Pg	Pg	01 15 21.2	-2.4
EBEN	0.9nm,0.1s,SNR=49 **Beniarda**	**1.37**	**47**	Pg	Pg	01 15 22.7	-3.6
EBEN	1.6nm,0.2s,SNR=6.7			Lg		01 15 41.6	
EBEN	3.6nm,0.4s,SNR=4.0 **Beniarda**	**1.37**	**47**	Pg	Pg	01 15 22.7	-3.6
EBER	1.6nm,0.2s,SNR=6.7 **Berja**	**1.41**	**232**	Pg	Pg	01 15 24.1	-2.8
EBER	2.0nm,0.3s,SNR=9.9			Lg		01 15 42.9	
EBER	10nm,0.4s,SNR=5.0 **Berja**	**1.41**	**232**	Pg	Pg	01 15 24.1	-2.9
EQUE	2.0nm,0.3s,SNR=9.9 **Quentar**	**1.64**	**250**	Pg	Pg	01 15 28.8	-2.8
EQUE	1.7nm,0.2s,SNR=7.9			Lg		01 15 51.5	
ECOG	3.4nm,0.2s,SNR=7.9 **Cogollos-Vega**	**1.71**	**254**	Pg	Pg	01 15 29.5	-3.5
ECOG	1.5nm,0.1s,SNR=7.5			Lg		01 15 53.2	
EBAN	5.7nm,0.2s,SNR=11 **Banos Encina**	**1.84**	**283**	Pn	Pn	01 15 29.8	-1.0
EBAN	1.1nm,0.1s,SNR=6.4			Lg		01 15 55.4	
ECHE	4.5nm,0.2s,SNR=7.3 **Chera**	**1.86**	**13**	Pg	Pg	01 15 32.2	-3.8
ECHE	0.8nm,0.4s,SNR=6.0			Lg		01 15 59.0	
EADA	2.6nm,0.2s,SNR=4.0 **Adamuz**	**2.45**	**280**	Pn	Pn	01 15 38.0	-1.5
EADA	0.1nm,0.1s,SNR=6.8			Sn	Sn	01 16 07.9	-1.9
EADA	2.6nm,0.2s,SNR=6.4			Lg		01 16 17.0	
EADA	4.4nm,0.2s,SNR=6.4 **Adamuz**	**2.45**	**280**	Pn	Pn	01 15 38.0	-1.6
EADA	0.1nm,0.1s,SNR=6.8			Sn	Sn	01 16 07.9	-1.9
EIBI	2.6nm,0.2s,SNR=6.4 **Ibiza**	**2.57**	**60**	Pn	Pn	01 15 39.9	-1.3
EIBI	1.8nm,0.2s,SNR=8.6			Sn	Sn	01 16 09.9	-2.9
EIBI	1.6nm,0.2s,SNR=5.0 **Ibiza**	**2.57**	**60**	Pn	Pn	01 15 39.9	-1.3
EIBI	1.8nm,0.2s,SNR=8.6			Sn	Sn	01 16 09.9	-2.8
ESDC	1.6nm,0.2s,SNR=5.0 **Sonseca Array**	**2.69**	**315**	Pg	Pg	01 15 48.7	-4.0
ESDC	1.6nm,0.2s,baz=131,slow=17,SNR=12			Sn	Sn	01 16 11.9	-4.1
ESDC	1.2nm,0.1s,baz=133,slow=30,SNR=12			Lg		01 16 23.9	
ESDC	2.1nm,0.1s,SNR=7.9 **Sonseca Array**	**2.69**	**315**	Pg	Pg	01 15 48.7	-4.0
ESDC	1.6nm,0.2s,slow=17,SNR=12			Sn	Sn	01 16 11.9	-4.1
EMIN	1.2nm,0.1s,baz=133,SNR=12 **Mina Concepcio**	**4.09**	**271**	Pn	Pn	01 16 00.7	-2.2
EMIN	0.1nm,0.1s,SNR=7.9			Sn	Sn	01 16 45.5	-5.8
EMIN	0.2nm,0.3s,SNR=4.0			Lg		01 17 04.1	
EMIN	0.5nm,0.2s,SNR=7.9 **Mina Concepcio**	**4.09**	**271**	Pn	Pn	01 16 00.7	-2.1
EMIN	0.1nm,0.1s,SNR=7.9			Sn	Sn	01 16 47.3	-4.0
EBAD	0.2nm,0.3s,SNR=4.0 **Badajoz**	**4.44**	**284**	Sn	Sn	01 16 55.4	-4.8
EBAD	0.7nm,0.2s,SNR=7.9			Lg		01 17 19.9	
	3.8nm,0.2s,SNR=7.9						

IDC ***24*** *01:30:54.2±0.6, 22.45S×170.12E, mb4.7/12, mb1 4.8/15, mb1mx4.7/19, mbtmp4.8/15, ML4.1/2, MS4.4/17, Ms1 4.4/17, ms1mx4.4/22, Error ellipse: s-maj=19.2km s-min=16.3km az=90.0*
BJI ***24*** *01:30:56.1, 21.74S×170.59E, h12km, mB5.0, mb4.8, Ms4.8, Msz4.5*
HRVD ***24*** *01:30:58.5±0.2, 22.46S×170.23E, h16km±1km, MW5.2/71, Centroid moment Tensor Solution. LP body waves: s45,c67;Mantle waves: s71,c137; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.20±.19; Mθθ-4.82±.17; Mφφ5.02±.18; Mrθ2.88±.59; Mθφ2.51±.14; Mφr3.32±.65; Best double couple: M0:6.961×10^16 NP1: φs326°, δ53°, λ176°. NP2:φs58°, δ87°, λ37°. Principal axes: T 7.644, Plg27°, Azm288°; N -1.369, Plg53°, Azm62°; P -6.278, Plg23°, Azm186°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***24*** *01:30:58.5±3.0, 22.45S×170.16E, h28km±20km, mb5.1/17 Error ellipse: s-maj=10.1km s-min=7.6km az=58.0*
ISC 24 01:30:57.3±0.4, 22.46S±0.06×170.14E±0.05, h33km, (h24km±5.9km:pP-P), n129, σ1º15/64, mb4.9/32, MS4.5/21, 8C-7D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.45**	**276**	*e*P	**P**	**01 31 49.0**	**-1.0**
DZM	**Mont Dzumac**	**3.45**	**276**	Pn	**Pn**	**01 31 48.9**	**-1.3**
DZM	24nm,0.3s,baz=102,slow=14,SNR=380			Sn	**Sn**	**01 32 31.2**	**+0.9**
	19nm,0.3s,baz=104,slow=20,SNR=2.8						
DZM	**Mont Dzumac**	**3.45**	**276**	*e*P	**P**	**01 31 49.0**	**-1.0**
RAO	**Raoul Island**	**12.70**	**125**	LR	LR	01 37 30.4	
URZ	comp=Z,3μm,20.1s,baz=131,slow=31 **Urewera**	**16.85**	**161**	Pn	**P**	**01 34 53.5**	**+1.3**
URZ	0.5nm,0.3s,baz=337,slow=6.1,SNR=5.2			LR	LR	01 39 53.3	
ARMA	comp=Z,3μm,18.4s,baz=2.3,slow=32 **Armidale**	**18.36**	**241**	*e*S	**S**	**01 38 30.3**	**-1.4**
AFI	**Afiamalu**	**19.15**	**67**	P	**P**	**01 35 19.5**	**-1.3**
AFI	3.0nm,0.3s,baz=267,slow=20,SNR=4.2			LR	LR	01 40 54.7	
RPZ	comp=Z,820nm,19.1s,baz=247,slow=31 **Rata Peaks**	**21.21**	**178**	P	**P**	**01 35 43.0**	**+0.6**
RPZ	71nm,1.1s,mb4.9,baz=344,slow=2.8,SNR=7.2			LR	LR	01 43 16.1	
CNB	comp=Z,2μm,18.2s,MS4.6,baz=356,slow=35 **Canberra Magne**	**22.20**	**230**	*e*P	**P**	**01 35 55.0**	**+2.7**
CTA	68nm,1.3s,mb4.9 **Charters Tower**	**22.38**	**272**	*e*P	**P**	**01 35 56.2**	**+2.0**
CTA	15nm,0.8s,mb4.5			*e*S	**S**	**01 40 02.2**	**+9.0**
CTA	**Charters Tower**	**22.38**	**272**	P	**P**	**01 35 55.5**	**+1.2**
CTAO	11nm,0.8s,mb4.4,baz=105,slow=13,SNR=8.4 **Charters Tower**	**22.38**	**272**	*e*P	**P**	**01 35 55.4**	**+1.2**
CTAO	17nm,0.8s,mb4.5			LR	LR		
PMG	comp=Z,1μm,19.0s,MS4.4 **Port Moresby**	**25.58**	**297**	LR	LR	01 45 19.8	
STKA	comp=Z,2μm,18.5s,MS4.7,baz=103,slow=34 **Stephens Creek**	**27.01**	**244**	*e*P	**P**	**01 36 38.3**	**-0.1**
STKA	comp=Z,17nm,1.6s,mb4.3 **Stephens Creek**	**27.01**	**244**	P	**P**	**01 36 38.4**	**0.0**
STKA	comp=Z,17nm,1.0s,mb4.5,baz=89,slow=10,SNR=16			LR	LR	01 47 37.0	
WRAB	comp=Z,1μm,18.4s,MS4.5,baz=344,slow=37 **Tennant Creek**	**33.42**	**268**	*e*P	**P**	**01 37 31.5**	**-3.8**
WRAB	comp=Z,70nm,1.5s,mb5.4			LR	LR		
WRA	comp=Z,493nm,22.0s,MS4.2 **Warramunga Arr**	**33.43**	**268**	P	**P**	**01 37 33.5**	**-1.8**
WRA	comp=Z,5.7nm,0.6s,mb4.7,baz=100,slow=8.1,SNR=18			PcP	PcP	01 40 15.9	-0.5
KAKA	comp=Z,1.3nm,0.6s,baz=91,slow=2.8,SNR=4.7 **Kakadu**	**37.13**	**279**	*e*P	**P**	**01 38 21.2**	**+14**
PPT	comp=Z,8.4nm,0.6s,mb4.8 **Papeete**	**38.08**	**90**	LR	LR	01 50 05.8	
FITZ	comp=Z,318nm,20.6s,MS4.1,baz=262,slow=30 **Fitzroy Crossi**	**41.86**	**268**	*e*P	**P**	**01 38 45.8**	**-0.4**
GUMO	comp=Z,30nm,0.8s,mb5.0 **Guam**	**43.55**	**323**	P	**P**	**01 39 00.1**	**0.0**
GUMO	comp=Z,11nm,0.3s,mb5.1,baz=270,slow=5.1,SNR=3.6			LR	LR	01 53 51.1	
MBWA	comp=Z,209nm,21.1s,MS4.0,baz=136,slow=32 **Marble Bar**	**46.64**	**262**	*e*P	**P**	**01 39 24.3**	**-0.4**
MBWA	comp=Z,14nm,0.6s,mb5.0			LR	LR		
KLBR	comp=Z,1μm,21.0s,MS4.8 **Kellerberrin**	**47.17**	**247**	*e*P	**P**	**01 39 28.3**	**-0.4**
DRV	comp=Z,52nm,1.3s,mb5.3 **Dumont d'Urvil**	**48.16**	**196**	S	**S**	**01 46 44.0**	**+12**
DRV				R		01 54 00.0	
MUN	**Mundaring**	**48.47**	**247**	*e*P	**P**	**01 39 39.4**	**+0.5**
VNDA	**Vanda**	**55.26**	**182**	P	**P**	**01 40 28.0**	**-1.3**
VNDA	comp=Z,2.2nm,0.9s,mb4.2,baz=6.3,slow=8.2,SNR=5.7			LR	LR	02 00 35.6	
SBA	comp=Z,524nm,18.9s,MS4.6,baz=9.5,slow=32 **Scott Base**	**55.47**	**181**	*e*P	**P**	**01 40 31.7**	**+0.9**
CBIJ	comp=Z,29nm,1.2s,mb5.2 **Chichi jima**	**56.20**	**330**	LR	LR	02 00 34.9	
CASY	comp=Z,268nm,21.1s,MS4.3,baz=116,slow=32 **Casey**	**57.54**	**204**	*e*P	**P**	**01 40 44.9**	**-0.8**
JOW	**Kunigami**	**63.57**	**318**	LR	LR	02 03 28.4	
MJAR	comp=Z,162nm,18.9s,MS4.2,baz=125,slow=31 **Matsushiro Arr**	**65.98**	**332**	P	**P**	**01 41 41.0**	**-1.6**
MAJO	comp=Z,10nm,0.8s,mb4.9,baz=164,slow=6.7,SNR=15 **Matsushiro**	**65.98**	**332**	*e*P	**P**	**01 41 41.8**	**-0.9**
MAT	comp=Z,9.1nm,0.6s,mb5.0 **Matsushiro**	**65.98**	**332**	P	**P**	**01 41 41.0**	**-1.7**
MAT	**Matsushiro**	**65.98**	**332**	*e*P	**P**	**01 41 41.0**	**-1.7**
YHNB	comp=Z,19nm,1.3s,mb5.0 **Yeheng**	**66.60**	**312**	*e*P	**P**	**01 41 47.4**	**+0.6**
JNU	**Nakatsue**	**66.77**	**325**	P	**P**	**01 41 47.0**	**-0.7**
QSPA	comp=Z,26nm,1.0s,mb5.2,baz=137,slow=5.0,SNR=5.9 **South Pole Qui**	**67.61**	**180**	*e*P	**P**	**01 41 51.7**	**-0.6**
ASAJ	comp=Z,27nm,1.2s,mb5.2 **Asahikawa**	**70.89**	**339**	P	**P**	**01 42 13.5**	**+0.5**
ASAJ	comp=Z,5.9nm,0.5s,mb4.7,baz=121,slow=19,SNR=3.6			LR	LR	02 12 04.9	
MAW	comp=Z,527nm,19.3s,MS4.8,baz=162,slow=35 **Mawson**	**75.78**	**202**	*e*P	**P**	**01 42 41.4**	**+0.2**
MAW	comp=Z,5.6nm,0.9s,mb4.5 **Mawson**	**75.78**	**202**	P	**P**	**01 42 40.7**	**-0.5**
MAW	comp=Z,6.9nm,0.9s,mb4.6,baz=110,slow=7.3,SNR=16			LR	LR	02 10 30.2	
KKTK	comp=Z,236nm,21.5s,MS4.5,baz=74,slow=31 **Khon Kaen**	**76.33**	**294**	P	**P**	**01 42 46.0**	**+0.7**
MDJ	**Mudanjiang**	**76.34**	**331**	P	**P**	**01 42 44.3**	**-0.5**
MDJ				AP	pP	01 42 50.6	-4.5
MDJ				PP	PP	01 45 35.4	-2.7
MDJ				S	S	01 52 27.4	+1.3
MDJ				XS		01 52 39.1	
MDJ	comp=Z,10.0nm,1.1s,mb4.7			AMB	AMB		
MDJ	comp=Z,38nm,3.2s			AMB	AMB		
MDJ	comp=N,108nm,25.1s,MS4.3			LR	LR		
MDJ	comp=E,148nm,22.9s,MS4.3			LR	LR		
MDJ	comp=Z,160nm,18.6s,MS4.4			LR	LR		
CN2	**Changchun**	**77.63**	**329**	*e*P	**P**	**01 42 52.4**	**+0.3**
CN2	comp=Z,20nm,1.2s,mb4.9			AMB	AMB		
CN2	comp=N,230nm,18.0s,MS4.7			LR	LR		
CN2	comp=E,280nm,18.0s,MS4.7			LR	LR		
CN2	comp=Z,310nm,21.0s,MS4.6			LR	LR		
GYA	**Guiyang**	**78.35**	**305**	⇑*i*P	**P**	**01 42 57.3**	**+0.9**
GYA	comp=Z,10.0nm,0.8s,mb4.8			AMB	AMB		
NANT	**Nan**	**79.28**	**295**	P	**P**	**01 43 01.0**	**-0.6**
KMI	**Kunming**	**80.69**	**302**	P	**P**	**01 43 10.8**	**+1.8**
KMI				AP	pP	01 43 20.8	+1.4
KMI				XP	sP	01 43 25.1	+2.1
KMI				AMB	AMB		
KMI	comp=Z,22nm,1.9s,mb4.8			AMB	AMB		
KMI	comp=Z,163nm,3.1s			LR	LR		
KMI	comp=N,122nm,19.0s,MS4.5			LR	LR		
KMI	comp=E,160nm,20.4s,MS4.5			LR	LR		
KMI	comp=Z,219nm,17.7s,MS4.6			LR	LR		
KMI	**Kunming**	**80.69**	**302**	P	**P**	**01 43 10.8**	**+1.8**
KMI	comp=Z,22nm,1.9s,mb4.8			pP	pP	01 43 20.8	+1.4
KMI				sP	sP	01 43 25.1	+2.1
KMI				PP	PP	01 46 23.3	+8.4
KMI				PPP	PPP	01 48 16.0	+10
KMI				S	S	01 53 28.6	+16
KMI				SS	SS	01 58 53.1	+24
KMI				LR	LR		
XAN	comp=Z,220nm,17.7s,MS4.6 **Xi'an**	**80.90**	**313**	P	**P**	**01 43 11.5**	**+1.5**
XAN				AP	pP	01 43 19.3	-1.1
XAN				AMB	AMB		
SYO	comp=Z,16nm,2.2s,mb4.6 **Syowa Base**	**82.09**	**196**	⇑P	**P**	**01 43 12.7**	**-2.8**
SYO	**Syowa Base**	**82.09**	**196**	⇓P	**P**	**01 43 18.2**	**+2.7**
HHC	**Hu-ho-hao-te**	**83.20**	**319**	*e*P	**P**	**01 43 23.5**	**+1.8**
HHC	comp=Z,16nm,0.9s,mb5.0			AMB	AMB		
HHC	comp=Z,101nm,6.5s			AMB	AMB		
PMSA	**Palmer Station**	**83.61**	**160**

LZH sP sP 01 43 56.5 +9.1
SNAA Sanae 86.00 182 *e*P **P 01 43 33.9 -1.1**
comp=Z,30nm,1.3s,mb5.4
VNA3 Neumayer Olymp 86.55 180⇑*i* **P 01 43 36.9 -0.8**
VNA3 Neumayer Olymp 86.55 180 *e* **P 01 43 42.1 +4.4**
VNA3 Neumayer Olymp 86.55 180 *e* **P 01 43 50.1 +12**
VNA2 Neumayer--Watz 86.86 181⇑*i* **P 01 43 38.5 -0.7**
VNA2 Neumayer--Watz 86.86 181 *e* **P 01 43 43.3 +4.1**
VNA2 Neumayer--Watz 86.86 181 *e* **P 01 43 52.0 +13**
VNA1 Neumayer--Stat 87.14 181⇑*i* **P 01 43 40.2 -0.4**
VNA1 Neumayer--Stat 87.14 181 *e* **P 01 43 45.4 +4.8**
VNA1 Neumayer--Stat 87.14 181 *e* **P 01 43 54.2 +14**
GTA Gaotai 89.94 313 P **P 01 43 55.1 +0.5**
GTA SKS SKS 01 54 24.3 +3.5
GTA AMB AMB
comp=Z,5.0nm,1.7s,mb4.6
GTA AMB AMB
comp=Z,104nm,12.5s
GTA LR LR
comp=N,160nm,17.5s,MS4.7
GTA LR LR
comp=E,173nm,17.9s,MS4.7
GTA LR LR
comp=Z,176nm,22.4s,MS4.4
SONM Songino Array 90.28 323 P **P 01 43 57.6 +1.6**
comp=Z,5.4nm,0.9s,mb4.9,baz=140,slow=5.2,SNR=27
SONM LR LR 02 26 06.7
comp=Z,114nm,18.6s,MS4.3,baz=224,slow=37
ILAR Eielson Array 93.04 17 P **P 01 44 07.2 -1.2**
comp=Z,2.0nm,1.0s,mb4.5,baz=226,slow=5.6,SNR=9.8
ILAR LR LR 02 25 26.9
comp=Z,248nm,18.2s,MS4.7,baz=62,slow=35
PLCA Paso Flores 95.58 138 LR LR 02 15 48.4
comp=Z,98nm,20.8s,MS4.3,baz=316,slow=28
PDAR Pinedale Array 98.17 47 LR LR 02 21 57.1
comp=Z,137nm,18.9s,MS4.5,baz=251,slow=31
BVAR Borovoye Array 113.41 320 PKiKP 01 49 33.4
comp=Z,0.5nm,0.7s,baz=56,slow=5.2,SNR=3.2
ARCES ARCESS Array B 128.38 345 PKP PKPdf 01 50 02.4 +2.1
comp=Z,1.6nm,0.8s,baz=45,slow=1.7,SNR=6.3
AKASG Malin Array Be 138.57 323 SKPbc 01 53 57.2
comp=Z,0.2nm,0.3s,baz=90,slow=1.0,SNR=4.2
BRTR Keskin Array B 139.40 305 PKP PKPdf 01 50 24.1 +2.6
comp=Z,0.5nm,0.7s,baz=117,slow=3.2,SNR=2.4
KOLS Kolonicke sedl 143.33 324 *e*PKP PKPdf 01 50 27.2 -0.9
KOLS *e* 01 50 43.4
STHS Stebnicka Huta 143.60 325 *e*PKP PKPdf 01 50 29.0 +0.5
KECS Kecovo 144.56 325 *e*PKP PKPdf 01 50 31.5 +1.2
OKC Ostrava-Krasne 144.91 328 *e*PKP PKPdf 01 50 32.7 +1.8
OKC *ep*PKP 01 50 42.5
OKC *ex* x 01 50 51.0
KSP Ksiaz 145.10 331 *e*PKP PKPdf 01 50 32.8 +1.6
KSP *ep*PKP 01 50 42.2
PSZ Piszkesteto 145.21 324⇓*e*PKP/p 01 50 34.0
PSZ Piszkesteto 145.21 324 *e*P PKPdf 01 50 33.8 +2.4
MORC Moravsky Berou 145.25 328 *e*P PKPdf 01 50 33.5 +2.1
VYHS Vyhne 145.42 326 *e*PKP PKPdf 01 50 34.2 +2.4
VYHS *e* 01 50 42.5
DPC Dobruska-Polom 145.43 330 *e*PKP PKPdf 01 50 34.8 +3.1
DPC *ep*PKP 01 50 41.8
DPC *ex* x 01 50 51.3
UPC Upice 145.47 331 *e*PKP PKPdf 01 50 34.7 +2.9
UPC *ep*PKP 01 50 43.7
VRAC Vranov 146.02 329 PKPbc PKPbc 01 50 36.7 +3.0
comp=Z,2.4nm,0.5s,baz=66,slow=4.7,SNR=14
PVCC Panska Ves 146.09 332 *e*PKP PKPdf 01 50 36.1 +3.2
PVCC *ep*PKP 01 50 45.3
PVCC *ex* x 01 50 54.0
BRG Berggiesshubel 146.11 333 *e*P PKPdf 01 50 36.3 +3.4
BRG *i* 01 50 53.5
CLL Collm 146.17 334⇓*i*PKP1 PKPbc 01 50 36.5 +2.4
CLL *i* *PPKP 01 50 45.1
CLL *i* 01 50 50.9
PRU Pruhonice 146.50 331 *e*PKP PKPdf 01 50 37.6 +4.0
PRU *ep*PKP 01 50 47.7
PRU *ex* x 01 50 54.8
ZST Bratislava 146.51 327 *e*PKP PKPdf 01 50 37.8 +4.2
EKA Eskdalemuir Ar 146.79 353 PKPbc PKPbc 01 50 37.9 +2.5
comp=Z,5.9nm,0.7s,baz=346,slow=2.9,SNR=7.9
NKC Novy Kostel 147.22 333 *e*PKP PKPdf 01 50 39.4 +4.6
NKC *ex* x 01 50 57.8
MOX Moxa 147.24 334 *i* P PKPdf 01 50 39.5 +4.7
comp=Z,logA/T=1.2
MOX Moxa 147.24 334 *e*PKP PKPdf 01 50 39.5 +4.7
DIVS Divcibare 147.29 318⇑*i*PKP PKPdf 01 50 37.6 +2.5
SKO Skopje 147.41 314 *i* P PKPdf 01 50 40.5 +5.2
KHC Kasperske Hory 147.55 331 *e*PKP PKPdf 01 50 40.3 +5.0
KHC *ep*PKP 01 50 50.9
KHC *ex* x 01 50 58.3
KHC x x 01 51 11.5
KHC Kasperske Hory 147.55 331 *e*P PKPdf 01 50 40.3 +5.0
KHC *e* 01 50 50.9
KHC *e* 01 50 58.3
KHC *e* 01 51 11.5
GEC2 GERESS Array S 147.71 330 *e*PKPbc PKPdf 01 50 40.3 +4.7
GERES GERESS Array B 147.71 330 PKPbc PKPdf 01 50 40.5 +4.9
comp=Z,1.9nm,0.7s,baz=45,slow=1.9,SNR=18
ARSA Arzberg 147.93 327⇓*i*P PKPdf 01 50 41.6 +5.6
GRF Grafenberg Arr 148.14 334 *e*PKP PKPdf 01 50 41.9 +5.6
MOA Molln 148.15 329⇑*i*P PKPdf 01 50 41.7 +5.4
TOD Tromm 149.16 336 *e*P PKPdf 01 50 45.9 +8.0
FUR Furstenfeldbru 149.29 332 *e*PKPbc PKPdf 01 50 44.6 +6.4
ABH Alteburg 149.39 338 *e*P PKPdf 01 50 45.2 +6.9
RUP Ruppelstein 149.71 338 *e*P PKPdf 01 50 45.9 +7.1
WATA Walderalm 149.78 330⇑*i*P PKPdf 01 50 46.7 +7.7
WTTA Wattenberg 149.81 330⇓*i*P PKPdf 01 50 46.3 +7.3
MOTA Moosalm 149.99 331⇓*i*P PKPdf 01 50 46.5 +7.2
SQTA Sankt Quirin 150.03 331⇓*i*P PKPdf 01 50 46.8 +7.4
LANF Langenberg 150.05 336 *e*P PKPdf 01 50 53.7 +14
WLF Walferdange 150.05 339 *e*P PKPdf 01 50 47.2 +7.9
GIVF Givet 150.09 341 *e*PKP1 PKPdf 01 50 41.1 +1.7
BFO Black Forest 150.38 335 *e*PKPbc PKPdf 01 50 47.2 +7.3
WLS Welschbruch 150.69 336 *e*P PKPdf 01 50 47.6 +7.3
CDF Champ du Feu 150.72 336 *e*PKP1 PKPdf 01 50 42.7 +2.3
comp=Z,34nm,1.2s
FELD Feldberg 150.88 335 *e*P PKPdf 01 50 55.8 +15
ECH Echery 150.92 336 *e*P PKPdf 01 50 48.0 +7.3
DAVOX Davos 150.96 331 PKPbc PKPdf 01 50 49.2 +8.4
comp=Z,8.1nm,0.6s,baz=64,slow=6.7,SNR=12
MOF Molkenrain 151.24 336 *e*P PKPdf 01 50 49.2 +8.1
THEF They Montfort 151.34 338 *e*P PKPdf 01 50 51.6 +10
HINF Hinteralfeld 151.37 336 *e*PKP1 PKPdf 01 50 44.2 +2.9
comp=Z,36nm,1.3s
HAU Haudompre 151.40 337 *e*PKP1 PKPdf 01 50 44.2 +2.8
comp=Z,42nm,1.1s
LOMF Lomont 151.77 336 *e*P PKPdf 01 50 50.6 +8.6
LPL La Plagne 153.31 333 *e*PKP1 PKPdf 01 50 54.0 +10
comp=Z,21nm,1.1s
LPG La Plagne 153.31 333 *e*PKP1 PKPdf 01 50 54.2 +10
comp=Z,36nm,1.1s
ESDC Sonseca Array 162.12 345 PKPab PKPab 01 51 44.2 0.0
comp=Z,0.2nm,0.3s,baz=43,slow=3.0,SNR=4.2
DBIC Dimbokro 163.58 198 PKPab PKPab 01 51 50.6 -0.7
comp=Z,5.3nm,0.9s,baz=168,slow=6.0,SNR=6.1

*ATH **24** 01:30:56.6,38.69N×25.33E,h34km±6km,MD3.1/4*
*ISK **24** 01:30:56.2,38.45N×25.44E,h19km,MD3.1*
*NEIC **24** 01:30:56.6,38.69N×25.33E,h34km,MD3.1(ATH),After ATH.*
*CSEM **24** 01:30:56.6,38.69N×25.33E,h34km,MD3.1/1,After ATH*
ISC 24 01:30:58.0±0.8,38.67N±0.05×25.38E±0.06,h34km,n11,
σ1°20/18,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.90**	**50**	*e*PB	**P**	**01 31 13.6**	**-0.6**
PRK				*e*SN	**S**	**01 31 27.0**	**+0.8**
URLA	**Izmir**	**1.00**	**108**	*i* P	**P**	**01 31 13.6**	**-2.2**
URLA				*i* S	**S**	**01 31 25.7**	**-3.3**
AYVA	**Ayvalik**	**1.20**	**58**	*i* P	**P**	**01 31 17.8**	**-0.7**
AYVA				*i* S	**S**	**01 31 33.7**	**-0.3**
LIA	**Limnos Island**	**1.23**	**353**	*e*PN	**P**	**01 31 19.6**	**+0.7**
BLCB	**Balcova**	**1.34**	**102**	PN	**P**	**01 31 19.8**	**-0.7**
BLCB				SN	**S**	**01 31 36.6**	**-0.7**
SMG	**Samos**	**1.50**	**130**	*e*PN	**P**	**01 31 23.7**	**+0.8**
SMG				*e*SN	**S**	**01 31 43.1**	**+1.6**
IZM	**Izmir**	**1.50**	**100**	PN	**P**	**01 31 21.8**	**-1.1**
IZM				SN	**S**	**01 31 41.0**	**-0.5**
KDAG	**Bornova**	**1.51**	**100**	*i* P	**P**	**01 31 23.6**	**+0.6**
KDAG				*i* S	**S**	**01 31 44.5**	**+2.9**
APE	**Apeiranthos**	**1.61**	**176**	*e*PN	**P**	**01 31 24.9**	**+0.5**
NEO	**Neokhori**	**1.79**	**291**	*e*PN	**P**	**01 31 26.4**	**-0.7**
CANB	**Canakkale**	**1.87**	**44**	*e*PN	**P**	**01 31 30.3**	**+2.1**

*NEIC **24** 01:44:20.5±0.8,51.38N×178.11W,h53km±5km,mb4.5/5,*
ML4.1(AEIC),Error ellipse: s-maj=17.2km s-min=5.6km
az=178.0
*IDC **24** 01:44:21.1±3.1,51.33N×178.19W,h60km±25km,mb3.7/16,*
mb1 3.9/17,mb1mx3.8/27,mbtmp4.0/17,ML3.7/1,Error
ellipse: s-maj=30.8km s-min=12.9km az=5.0
ISC 24 01:44:20.0±1.1,51.5N±0.2×178.19W±0.06,h59km±5km,
n47,σ0°87/48,mb4.2/20,1C-3D,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIMD	**Kanaga Island**	**0.67**	**63**	P	**P**	**01 44 32.8**	**-1.0**
KIMD				S	**S**	**01 44 44.8**	**+0.7**
KIWB	**Kanaga Island**	**0.76**	**58**	P	**P**	**01 44 34.7**	**-0.3**
KIKV	**Kanaga Island**	**0.76**	**56**	P	**P**	**01 44 34.7**	**-0.3**
KINC	**Kanaga Island**	**0.81**	**54**	P	**P**	**01 44 35.6**	**0.0**
ADAG	**Mount Adagdak**	**1.12**	**62**	P	**P**	**01 44 39.4**	**-0.4**
GSTD	**Great Sitkin T**	**1.40**	**64**	P	**P**	**01 44 44.2**	**+0.3**
GSTD				S	**S**	**01 45 02.5**	**+0.9**
GSMY	**Great Sitkin M**	**1.45**	**65**	P	**P**	**01 44 44.3**	**-0.2**
GSMY				S	**S**	**01 45 06.1**	**+3.5**
GSTR	**Great Sitkin T**	**1.47**	**64**	P	**P**	**01 44 45.3**	**+0.6**
ATKA	**Atka Island**	**2.59**	**72**	P	**P**	**01 44 60.0**	**-0.5**
ATKA				S	**S**	**01 45 30.5**	**-0.3**
SMY	**Shemya**	**4.92**	**288**	P	**P**	**01 45 33.4**	**+0.1**
FX1	**Attu Island--F**	**5.51**	**288**	P	**P**	**01 45 40.6**	**-0.7**
FX1	8.5nm,0.3s,baz=90,slow=24,SNR=928 baz=250,slow=20,SNR=1.6			S	**S**	**01 46 44.3**	**+0.1**
FX1	**Attu Island--F**	**5.51**	**288**	P	**P**	**01 45 41.8**	**+0.4**
ILAR	**Eielson Array**	**20.94**	**39**	P	**P**	**01 49 00.2**	**+0.5**
	0.8nm,0.6s,baz=239,slow=8.7,SNR=14						
INK	**Inuvik**	**27.17**	**35**	P	**P**	**01 49 57.9**	**-1.5**
	0.9nm,0.3s,mb3.7,baz=220,slow=8.3,SNR=7.3						
NEW	**Newport**	**38.50**	**70**	P	**P**	**01 51 38.0**	**+0.3**
	2.3nm,0.5s,mb4.2,baz=289,slow=9.9,SNR=5.5						
BOZ	**Bozeman (W)**	**43.07**	**70**	*e*P	**P**	**01 52 15.6**	**+0.2**
	1.9nm,0.6s,mb4.0						
ELK	**Elko**	**43.67**	**79**	P	**P**	**01 52 20.1**	**-0.2**
	0.3nm,0.3s,mb3.5,baz=288,slow=13,SNR=2.4						
PDAR	**Pinedale Array**	**45.92**	**73**	P	**P**	**01 52 38.4**	**+0.1**
	2.5nm,0.6s,mb4.3,baz=315,slow=3.9,SNR=26						
ULN	**Ulaanbaatar**	**46.57**	**297**	*e*P	**P**	**01 52 43.6**	**+0.3**
	1.7nm,0.4s,mb4.3						
SONM	**Songino Array**	**46.95**	**297**	P	**P**	**01 52 47.1**	**+0.8**
	2.3nm,0.7s,mb4.2,baz=64,slow=8.1,SNR=17						
ARCES	**ARCESS Array B**	**58.08**	**350**	P	**P**	**01 54 07.8**	**-1.0**
	1.3nm,0.5s,mb4.2,baz=18,slow=7.3,SNR=12						
TXAR	**Lajitas Array**	**58.27**	**82**	P	**P**	**01 54 09.5**	**-1.2**
	0.3nm,0.5s,mb3.6,baz=315,slow=5.5,SNR=8.7						
TXAR	**Lajitas Array**	**58.27**	**82**	P	**P**	**01 54 09.5**	**-1.2**
MKAR	**Makanchi Array**	**60.28**	**309**	P	**P**	**01 54 22.7**	**-1.7**
	1.4nm,0.6s,mb4.2,baz=53,slow=6.4,SNR=11						
BVAR	**Borovoye Array**	**61.07**	**320**	P	**P**	**01 54 28.6**	**-1.0**
	1.7nm,0.3s,mb4.6,baz=51,slow=7.3,SNR=20						
JOF	**Joensuu**	**63.61**	**345**	*e*p	**P**	**01 54 44.3**	**-2.0**
KAF	**Kangasniemi**	**65.11**	**348**	*e*p	**P**	**01 54 55.0**	**-1.0**
FINES	**FINESS Array B**	**65.79**	**347**	P	**P**	**01 54 59.1**	**-1.2**
	0.7nm,0.5s,mb3.9,baz=26,slow=6.5,SNR=7.4						
NB2	**NORSAR Subarra**	**67.60**	**355**	P	**P**	**01 55 12.2**	**+0.5**
	0.6nm,0.6s,mb3.8,baz=7.0,slow=6.5						
NOA	**NORSAR Array B**	**67.60**	**355**	P	**P**	**01 55 11.9**	**+0.2**
	0.4nm,0.5s,mb3.7,baz=6.7,slow=6.4,SNR=4.0						
KKN	**Kakani**	**72.61**	**293**	*e*P	**P**	**01 55 42.7**	**-0.1**
	9.6nm,0.5s,mb5.0						
PKI	**Pulchoki**	**72.71**	**292**	*e*P	**P**	**01 55 43.4**	**+0.1**
GKN	**Gorkha**	**72.83**	**293**	*e*P	**P**	**01 55 44.2**	**+0.2**
	24nm,0.9s,mb5.1						
DMN	**Daman**	**72.85**	**293**	*e*P	**P**	**01 55 45.2**	**+1.0**
KOLN	**Koldanda**	**73.60**	**294**	*e*P	**P**	**01 55 48.9**	**+0.4**
	11nm,0.9s,mb4.8						
AKASG	**Malin Array Be**	**75.59**	**342**	P	**P**	**01 56 00.3**	**+0.8**
	0.6nm,0.3s,mb4.0,baz=18,slow=5.5,SNR=6.3						
BURAR	**Bucovina Array**	**79.28**	**344**⇓*i*P	P	**P**	**01 56 21.5**	**+1.4**
CFR	**Carcaliu**	**81.09**	**341**⇑*i*P	P	**P**	**01 56 29.8**	**0.0**
MLR	**Muntele Rosu**	**81.20**	**343**	P	**P**	**01 56 32.6**	**+2.2**
	3.7nm,0.5s,mb4.6,baz=314,slow=6.3,SNR=18						
MLR	**Muntele Rosu**	**81.20**	**343**⇓*i*P	P	**P**	**01 56 32.7**	**+2.3**
MLR	**Muntele Rosu**	**81.20**	**343**⇓*i*P	P	**P**	**01 56 32.7**	**+2.3**
BRTR	**Keskin Array B**	**85.03**	**336**	P	**P**	**01 56 51.5**	**+1.6**
	1.4nm,0.7s,mb4.2,baz=50,slow=1.4,SNR=9.5						
ESDC	**Sonseca Array**	**89.10**	**4**	P	**P**	**01 57 10.0**	**+0.4**
	0.2nm,0.4s,mb3.8,baz=342,slow=4.5,SNR=4.6						
DBIC	**Dimbokro**	**121.82**	**8**	PKP	PKPdf	02 03 08.3	+0.7
	3.7nm,1.0s,baz=283,slow=2.2,SNR=5.3						
DBIC	**Dimbokro**	**121.82**	**8**	PKP	PKPdf	02 03 08.3	+0.7
MAW	**Mawson**	**146.78**	**218**	PKPbc	PKPbc	02 03 53.1	-0.5
	1.8nm,0.8s,baz=100,slow=1.7,SNR=5.2						
BOSA	**Boshof**	**151.20**	**313**	PKPbc	PKPdf	02 04 06.9	+6.7
	2.9nm,0.5s,baz=31,slow=10,SNR=13						

*IDC **24** 01:48:11.9±0.6,16.86S×70.59W,mb4.2/12,mb1 4.4/17,*
mb1mx4.3/25,mbtmp4.2/17,ML3.8/2,MS4.1/6,Ms1 4. 1/6,
ms1mx3.7/28,Error ellipse: s-maj=15.7km s-min=13.6km
az=37.0
*BJI **24** 01:48:12.7,16.90S×70.60W,h7km*
*NEIC **24** 01:48:12.8±1.6,16.88S×70.58W,h8km±10km,mb4.8/7,*
Error ellipse: s-maj=12.3km s-min=7.2km az=51.0
ISC 24 01:48:10.4±2.6,16.77S±0.05×70.40W±0.08,h4km±16km,
n57,σ1°07/43,mb4.3/19,MS3.9/4,2C-1D,Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**1.09**	**286**⇑*i*P	**Pb**	**Pb**	**01 48 31.0**	**-0.5**
LPAZ	**La Paz**	**2.23**	**78**	Pn	**Pn**	**01 48 55.6**	**+6.9**
	51nm,0.3s,baz=254,slow=15,SNR=1442						
LPAZ				Sn	**Sn**	**01 49 26.9**	**+10**
	16nm,0.3s,baz=29,slow=18,SNR=2.4						
LPAZ				Lg		01 49 29.6	
	22nm,0.3s,baz=78,slow=20,SNR=3.2						
LPAZ				LR	LR	01 50 04.1	
	comp=Z,4μm,20.3s,baz=38,slow=46						
LVC	**Limon Verde**	**5.98**	**167**	Pn	**Pn**	**01 49 43.1**	**+1.3**
	10nm,0.3s,baz=331,slow=10,SNR=48						
LVC				Sn	**Sn**	**01 50 51.6**	**-0.1**
	3.2nm,0.3s,baz=38,slow=19,SNR=2.1						
LVC				Lg		01 51 13.5	
	12nm,0.3s,baz=172,slow=5.5,SNR=7.1						
SIV	**San Ignacio**	**8.99**	**86**	Pn	**P**	**01 50 24.6**	**+0.6**
	1.3nm,0.3s,baz=270,slow=11,SNR=37						
SIV				Lg		01 52 57.8	
	1.0nm,0.3s,baz=214,slow=18,SNR=3.9						
SAML	**Samuel**	**10.48**	**43**	*e*P	**P**	**01 50 44.0**	**-0.7**
	8.1nm,1.0s						
CFAA	**Coronel Fontan**	**14.90**	**173**	Pn	**P**	**01 51 41.4**	**-2.4**
	0.1nm,0.3s,baz=343,slow=13,SNR=12						
CFAA				LR	LR	01 57 37.4	
	comp=Z,27nm,19.1s,baz=154,slow=38						
CPUP	**Villa Florida**	**15.43**	**130**	Pn	**P**	**01 51 50.6**	**-0.1**
	0.0nm,0.3s,baz=311,slow=9.3,SNR=2.9						
CPUP				LR	LR	01 58 53.0	
	comp=Z,813nm,18.3s,baz=331,slow=41						
FCH	**Farellones**	**16.49**	**180**⇑*i*P	P	**P**	**01 52 05.0**	**+0.7**
BDFB	**Brasilia**	**21.53**	**90**	LR	LR	02 01 58.3	
	comp=Z,362nm,19.1s,MS3.8,baz=154,slow=38						
PLCA	**Paso Flores**	**23.88**	**180**	P	**P**	**01 53 26.8**	**+0.9**
	11nm,1.1s,mb4.2,baz=355,slow=12,SNR=12						
PLCA				LR	LR	02 02 35.4	
	comp=Z,98nm,18.4s,MS3.3,baz=347,slow=36						
SDV	**Santo Domingo**	**25.49**	**359**	P	**P**	**01 53 43.8**	**+2.2**
	3.8nm,0.7s,mb4.0,baz=206,slow=11,SNR=4.5						
RPN	**Rapa Nui**	**37.42**	**247**	LR	LR	02 06 20.1	
	comp=Z,379nm,19.0s,MS4.2,baz=160,slow=29						
WVT	**Waverly**	**55.14**	**343**	*e*P	**P**	**01 57 44.0**	**-2.4**
	7.6nm,1.2s,mb4.6						
TXAR	**Lajitas Array**	**55.97**	**325**	P	**P**	**01 57 52.5**	**0.0**
	0.8nm,0.7s,mb3.9,baz=140,slow=7.1,SNR=9.7						
FVM	**French Village**	**57.62**	**341**	*e*P	**P**	**01 58 02.4**	**-1.7**
	26nm,1.0s,mb5.2						
CCM	**Cathedral Cave**	**57.94**	**341**	*e*P	**P**	**01 58 04.8**	**-1.6**
	15nm,1.1s,mb4.9						
ANMO	**Albuquerque**	**61.79**	**327**	P	**P**	**01 58 33.2**	**+0.3**
	1.7nm,0.9s,mb4.2,baz=174,slow=4.6,SNR=4.6						
ANMO	**Albuquerque**	**61.79**	**327**	P	**P**	**01 58 33.2**	**+0.3**
VNA3	**Neumayer Olymp**	**64.99**	**162**	*e*	**P**	**01 58 53.0**	**-0.4**
VNA3	**Neumayer Olymp**	**64.99**	**162**	*e*	**P**	**01 58 59.9**	**+6.5**
VNA3	**Neumayer Olymp**	**64.99**	**162**	*e*	PcP	01 59 25.4	-0.9
VNA1	**Neumayer--Stat**	**65.19**	**161**	*e*	**P**	**01 58 54.8**	**+0.1**
VNA1	**Neumayer--Stat**	**65.19**	**161**	*e*	**P**	**01 59 04.3**	**+10**
VNA1	**Neumayer--Stat**	**65.19**	**161**	*e*	PcP	01 59 28.5	+1.4
PV01	**Paradox Valley**	**65.32**	**328**	*e*P	**P**	**01 58 56.2**	**+0.2**
VNA2	**Neumayer--Watz**	**65.56**	**161**	*e*	**P**	**01 58 56.5**	**-0.5**
VNA2	**Neumayer--Watz**	**65.56**	**161**	*e*	**P**	**01 59 05.3**	**+8.3**
VNA2	**Neumayer--Watz**	**65.56**	**161**	*e*	PcP	01 59 27.8	-0.8
SNAA	**Sanae**	**67.19**	**162**	*e*P	**P**	**01 59 06.3**	**-1.1**
	14nm,1.4s,mb4.8						
MSU	**Marysvale**	**67.50**	**326**	*e*P	**P**	**01 59 11.0**	**+1.0**
DBIC	**Dimbokro**	**68.85**	**76**	LR	LR	02 27 15.5	
	comp=Z,226nm,20.8s,MS4.4,baz=222,slow=34						
DUG	**Dugway**	**69.06**	**326**	*e*P	**P**	**01 59 20.8**	**+1.2**
	8.9nm,1.4s,mb4.5						
PDAR	**Pinedale Array**	**69.33**	**330**	P	**P**	**01 59 21.2**	**0.0**
	1.8nm,1.0s,mb4.0,baz=153,slow=6.6,SNR=10.0						
ULM	**Lac du Bonnet**	**70.40**	**343**	P	**P**	**01 59 27.1**	**-0.6**
	4.1nm,0.8s,mb4.4,baz=131,slow=7.5,SNR=5.2						
RRI2	**Red Ridge**	**70.61**	**330**	*e*P	**P**	**01 59 30.2**	**+1.2**
	7.7nm,0.9s,mb4.6						
ELK	**Elko**	**70.75**	**325**	P	**P**	**01 59 28.4**	**-1.5**
	1.4nm,1.0s,mb3.9,baz=121,slow=7.7,SNR=4.9						
ELK	**Elko**	**70.75**	**325**	P	**P**	**01 59 28.4**	**-1.5**
NVAR	**Mina Array Bea**	**70.92**	**322**	P	**P**	**01 59 32.7**	**+1.7**
	1.4nm,1.0s,mb3.8,baz=146,slow=6.5,SNR=3.5						
NVAR	**Mina Array Bea**	**70.92**	**322**	P	**P**	**01 59 32.7**	**+1.7**
BOZ	**Bozeman (W)**	**72.48**	**331**	P	**P**	**01 59 40.2**	**0.0**
	7.8nm,1.4s,mb4.5						
EDM	**Edmonton**	**78.90**	**335**	*e*P	**P**	**02 00 16.2**	**-0.2**
VNDA	**Vanda**	**81.24**	**190**	P	**P**	**02 00 29.2**	**+0.7**
	0.8nm,0.8s,mb3.7,baz=153,slow=1.7,SNR=4.7						
SYO	**Syowa Base**	**81.41**	**160**⇓⇓*i*	P	**P**	**02 00 28.2**	**-1.3**
ESDC	**Sonseca Array**	**83.50**	**45**	P	**P**	**02 00 41.2**	**+0.2**
	0.8nm,0.8s,mb3.8,baz=259,slow=6.5,SNR=3.4						
MAW	**Mawson**	**89.24**	**164**	P	**P**	**02 01 08.7**	**+0.2**
	7.1nm,0.9s,mb5.0,baz=225,slow=6.4,SNR=9.5						
DLBC	**Dease Lake**	**89.37**	**333**	P	**P**	**02 01 10.7**	**+1.3**
	4.0nm,0.9s,mb4.7,baz=164,slow=6.0,SNR=6.1						
DLBC	**Dease Lake**	**89.37**	**333**	*e*P	**P**	**02 01 10.6**	**+1.3**
WRA	**Warramunga Arr**	**136.16**	**215**	PKP	PKPdf	02 07 34.5	-1.8
	1.0nm,0.9s,baz=144,slow=1.3,SNR=4.1						
ZAL	**Zalesovo**	**138.20**	**22**	PKP	PKPdf	02 07 38.1	-1.1
	3.0nm,0.9s,baz=151,slow=1.7,SNR=13						
MKAR	**Makanchi Array**	**142.49**	**31**	PKP	PKPdf	02 07 44.9	-2.1
	0.6nm,0.7s,baz=315,slow=1.7,SNR=4.6						
WMQ	**Urumqi**	**147.27**	**30**	*e*PKP	PKPdf	02 07 57.5	+2.2
MJAR	**Matsushiro Arr**	**147.92**	**313**	PKPbc	PKPdf	02 07 59.2	+2.7
	8.1nm,0.9s,baz=46,slow=1.1,SNR=17						
MAJO	**Matsushiro**	**147.92**	**313**	*e*PKPbc	PKPdf	02 07 59.5	+2.9
MAT	**Matsushiro**	**147.92**	**313**	PKP	PKPdf	02 07 59.4	+2.8
MAT	**Matsushiro**	**147.92**	**313**	*e*PKP	PKPdf	02 07 59.0	+2.4
SONM	**Songino Array**	**148.91**	**4**	PKP	PKPdf	02 07 58.2	+0.4
	4.3nm,0.9s,baz=270,slow=1.4,SNR=13						
SONM				PKPbc	PKPdf	02 08 01.7	+4.0
	4.2nm,0.9s,baz=304,slow=1.8,SNR=19						
ULN	**Ulaanbaatar**	**148.92**	**3**	*e*PKPbc	PKPdf	02 08 01.9	+4.2

*IDC **24** 01:59:36.2±1.2,22.11S×170.17E,mb3.9/5,mb1 4.1/6,*
mb1mx4.0/12,mbtmp3.9/6,ML3.8/1,MS3.4/1,Ms1 3.4/1,
ms1mx3.1/21,Error ellipse: s-maj=34.1km s-min=28.1km
az=163.0
ISC 24 01:59:37.3±6.6,22.3S±0.2×170.2E±0.1,h24km±45km,n19,
σ0°89/13,mb3.9/6,3C,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.52**	**273**	*e*P	**Pn**	**02 01 31.6**	**-0.3**
DZM				*e*S	**Sn**	**02 01 13.2**	**-0.1**
DZM	**Mont Dzumac**	**3.52**	**273**	Pn	**Pn**	**02 00 31.7**	**-0.2**
	8.5nm,0.3s,baz=93,slow=21,SNR=121						
DZM				LR	LR	02 01 10.6	
	comp=Z,618nm,20.1s,baz=184,slow=27						
DZM				Sn	**Sn**	**02 01 12.9**	**-0.3**
	18nm,0.3s,baz=292,slow=23,SNR=6.0						
STKA	**Stephens Creek**	**27.16**	**243**	P	**P**	**02 05 21.5**	**+0.6**
	1.4nm,0.6s,mb3.7,baz=94,slow=14,SNR=3.7						
WRA	**Warramunga Arr**	**33.52**	**267**	P	**P**	**02 06 17.0**	**-0.5**
	1.3nm,0.7s,mb3.9,baz=132,slow=8.9,SNR=4.6						
FITZ	**Fitzroy Crossi**	**41.95**	**267**	*e*P	**P**	**02 07 28.5**	**+0.3**
	8.0nm,1.0s,mb4.3						
VNDA	**Vanda**	**55.42**	**182**	P	**P**	**02 09 13.3**	**+1.5**
	0.6nm,0.9s,mb3.6,baz=10,slow=11,SNR=2.6

URZ	Urewera	15.91	168	LR	LR	02 10 44.5
	comp=Z,640nm,18.7s,baz=3.0,slow=31					
AFI	Afiamalu	16.96	62	LR	LR	02 11 59.8
	comp=Z,275nm,18.3s,baz=228,slow=33					
HNR	Honiara	18.13	315	LR	LR	02 12 33.5
	comp=Z,280nm,18.0s,baz=131,slow=33					
RPZ	Rata Peaks	21.01	184	P	P	02 07 18.0 -0.2
	13nm,0.8s,mb4.3,baz=135,slow=2.9,SNR=6.0					
RPZ				LR	LR	02 14 18.7
	comp=Z,620nm,20.2s,MS4.0,baz=16,slow=34					
CTA	Charters Tower	24.94	271	*eP*	P	02 07 58.7 +1.5
	9.6nm,1.6s,mb4.1					
CTA	Charters Tower	24.94	271	P	P	02 07 58.8 +1.6
	3.1nm,0.6s,mb4.0,baz=103,slow=14,SNR=5.6					
CTAO	Charters Tower	24.94	271	*eP*	P	02 07 58.1 +0.9
	5.4nm,0.8s,mb4.1					
STKA	Stephens Creek	29.20	245	P	P	02 08 37.1 +1.0
	2.1nm,0.5s,mb4.1,baz=91,slow=11,SNR=5.4					
STKA				LR	LR	02 18 14.1
	comp=Z,281nm,21.5s,MS3.9,baz=30,slow=32					
STKA	Stephens Creek	29.20	245	*eP*	P	02 08 36.6 +0.5
STKA				LR	LR	02 18 14.1
PPT	Papeete	35.53	89	LR	LR	02 21 37.6
	comp=Z,149nm,18.4s,MS3.8,baz=161,slow=32					
WRA	Warramunga Arr	35.96	267	P	P	02 09 33.4 -1.7
	0.7nm,0.4s,mb4.0,baz=94,slow=8.2,SNR=5.7					
FITZ	Fitzroy Crossi	44.40	267	*eP*	P	02 10 44.5 -0.4
	12nm,0.8s,mb4.7					
NWAO	Narrogin (SRO)	49.79	245	P	P	02 11 27.3 +0.2
VNDA	Vanda	55.12	183	P	P	02 12 06.6 +0.3
	0.7nm,0.6s,mb3.9,baz=359,slow=8.3,SNR=9.2					
VNDA				LR	LR	02 31 57.9
	comp=Z,194nm,20.2s,MS4.2,baz=83,slow=32					
QSPA	South Pole Qui	67.36	180	⇓*iP*	P	02 13 29.8 +0.9
	17nm,0.8s,mb5.1					
MJAR	Matsushiro Arr	67.43	330	P	P	02 13 30.8 +0.8
	2.0nm,0.7s,mb4.2,baz=147,slow=5.2,SNR=5.1					
ASAJ	Asahikawa	72.07	338	P	P	02 13 59.2 +1.0
	7.0nm,0.7s,mb4.7,baz=208,slow=15,SNR=4.1					
MAW	Mawson	76.51	202	P	P	02 14 24.4 +0.9
	4.6nm,1.0s,mb4.4,baz=111,slow=9.1,SNR=7.6					
VNA3	Neumayer Olymp	86.28	179	*e*	P	02 15 13.6 -1.0
VNA3	Neumayer Olymp	86.28	179	*e*	P	02 15 28.3 +14
VNA2	Neumayer--Watz	86.62	180	*e*	P	02 15 15.7 -0.5
VNA2	Neumayer--Watz	86.62	180	*e*	P	02 15 30.2 +14
VNA1	Neumayer--Stat	86.89	180	*e*	P	02 15 17.3 -0.3
VNA1	Neumayer--Stat	86.89	180	*e*	P	02 15 30.4 +13
ILAR	Eielson Array	92.56	16	P	P	02 15 42.4 -1.9
	0.6nm,0.7s,mb4.1,baz=224,slow=4.1,SNR=5.4					
CLL	Collm	147.47	336	*i* PKP1	PKPdf	02 22 17.8 0.0
CLL				*i* PKP2	PKPab	02 22 20.1 +0.1
GERES	GERESS Array B	149.14	333	PKPbc	PKPdf	02 22 22.4 +1.9
	1.5nm,0.8s,baz=45,slow=4.2,SNR=5.2					

NEIC ***24*** *02:05:34.8, 32.65S×71.65W, h14km, ML2.8(GUC), After GUC.*

GUC 24 02:05:34.8±0.8, 32.65S×71.65W, h14km±2km, MD3.5, ML2.8, 7C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	Papudo	0.21	58	*eP*	Pg	02 05 40.0	+0.4
IHA	Instituto Hidr	0.38	180	⇓*iP*	Pb	02 05 42.7	-0.1
IHA				*i* S	Sg	02 05 48.6	+0.5
ROCH	El Roble	0.62	122	⇑*iP*	Pb	02 05 47.2	+0.2
ROCH				*i* S	Sb	02 05 56.4	+1.1
CHNG	Los Chungos	0.77	9	⇓*iP*	Pb	02 05 49.0	-0.5
CHNG				*i* S	Sb	02 05 59.5	0.0
CHNG				AMP		02 06 01.0	
	comp=N,162nm,0.2s						
LCCH	Las Cruces	0.83	176	⇑*iP*	Pb	02 05 49.4	-1.0
JACH	Jahuel	0.89	93	⇑*iP*	Pb	02 05 51.0	-0.4
JACH				*i* S	Sb	02 06 03.3	+0.4
RCDM	Rinconada Maip	1.10	140	*eP*	Pb	02 05 54.2	-0.9
RCDM				*i* S	Sb	02 06 08.5	-0.4
RCDM				AMP		02 06 10.6	
	comp=N,609nm,0.1s						
TACH	Talagante	1.17	150	⇑*iP*	Pb	02 05 55.3	-1.0
CLCH	Cerro Calan	1.19	129	*eP*	Pb	02 05 55.9	-0.8
CLCH				*i* S	Sb	02 06 11.8	+0.1
CLCH				AMP		02 06 13.0	
	comp=N,334nm,0.4s						
ANTU	Antumapu	1.25	138	*eP*	Pb	02 05 56.9	-0.8
ANTU				*i* S	Sb	02 06 13.9	+0.4
ANTU				AMP		02 06 18.3	
	comp=N,261nm,0.3s						
LNV	Longovilo	1.32	172	*eP*	Pb	02 05 56.5	-2.3
LNV				*i* S	Sb	02 06 13.4	-2.1
FCH	Farellones	1.33	121	⇓*iP*	Pb	02 05 58.0	-0.9
FCH				*i* S	Sb	02 06 15.8	+0.2
FCH				AMP		02 06 17.1	
	comp=E,204nm,0.2s						
PCH	Pirque	1.36	136	*eP*	Pn	02 05 58.4	-1.0
PCH				*i* S	Sb	02 06 16.9	+0.3
CHCH	Chadas Angostu	1.53	147	*eP*	Pn	02 06 01.1	-0.8
CHCH				*i* S	Sb	02 06 21.4	-0.1
CMCH	Combarbala	1.57	21	⇑*iP*	Pn	02 06 01.4	-1.0
CMCH				*i* S	Sn	02 06 22.3	-0.2
CMCH				AMP		02 06 27.1	
	comp=N,841nm,0.5s						
LMEL	Las Melosas	1.70	135	⇑*iP*	Pn	02 06 04.0	-0.4
LMEL				*i* S	Sn	02 06 26.3	+0.3
LMEL				AMP		02 06 29.0	
	comp=N,294nm,0.2s						
CACH	El Canelo	1.71	149	*eP*	Pn	02 06 05.0	+0.6
CICH	Cipreses	1.96	149	⇑*iP*	Pn	02 06 07.6	-0.4
CICH				*i* S	Sn	02 06 33.7	+1.2
SFDO	San Fernando	2.03	165	*eP*	Pn	02 06 09.3	+0.3
SFDO				*i* S	Sn	02 06 35.0	+0.6

BJI ***24*** *02:30:00.1, 22.40S×170.30E, h5km, mB5.1, mb4.8*
HRVD ***24*** *02:30:00.8±0.3, 22.50S×170.15E, h13km±2km, MW5.0/57, Centroid moment Tensor Solution. LP body waves: s19,c26;Mantle waves: s57,c93; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.83±.17; Mθθ-2.64±.16; Mφφ1.81±.14; Mrθ1.40±.39; Mrφ1.89±.11; Mθφ1.34±.41; Best double couple: M0 3.576×10^16 NP1:φs331°, δ58°, λ164°. NP2:φs69°, δ77°, λ33°. Principal axes: T 3.628, Plg33°, Azm295°; N -.107, Plg54°, Azm89°; P -3.523, Plg12°, Azm197°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***24*** *02:30:00.5±0.8, 22.37S×170.21E, mb4.3/9, mb1 4.5/10, mb1mx4.4/14, mbtmp4.4/10, ML3.9/1, MS4.2/13, Ms1 4.1/13, ms1mx4.1/19 Error ellipse: s-maj=23.8km s-min=20.8km az=90.0*
NEIC ***24*** *02:30:00.8±9.7, 22.42S×170.26E, h4km±56km, mb5.0/10, Error ellipse: s-maj=24.8km s-min=11.5km az=66.0*

ISC 24 02:30:04.4±0.5, 22.48S±0.08×170.12E±0.06, h33km, (h29km±3.3km:pP-P), n114, σ1§32/51, mb4.7/24, MS4.1/10, 3C-7D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.43	276	*eP*	P	02 30 56.1	-0.7
DZM				*eS*	S	02 31 35.2	-1.6
DZM	Mont Dzumac	3.43	276	Pn	Pn	02 30 56.2	-0.6
	12nm,0.3s,baz=82,slow=19,SNR=149						
DZM				Sn	Sn	02 31 38.4	+1.5
	16nm,0.3s,baz=78,slow=15,SNR=6.3						
DZM	Mont Dzumac	3.43	276	*eP*	P	02 30 56.0	-0.7
DZM				*eS*	S	02 31 35.2	-1.6
RAO	Raoul Island	12.70	125	LR	LR	02 36 35.6	
	comp=Z,2μm,18.8s,baz=343,slow=31						
URZ	Urewera	16.83	161	LR	LR	02 38 59.1	
	comp=Z,1μm,18.6s,baz=56,slow=32						
AFI	Afiamalu	19.18	67	LR	LR	02 39 03.2	
	comp=Z,175nm,18.9s,baz=208,slow=28						
RPZ	Rata Peaks	21.19	178	P	P	02 34 49.3	+0.1
	21nm,0.8s,mb4.5,baz=118,slow=6.2,SNR=5.3						
RPZ				LR	LR	02 41 31.6	
	comp=Z,1μm,18.7s,MS4.4,slow=32						
CNB	Canberra Magne	22.16	230	*eP*	P	02 35 01.1	+2.1
	29nm,1.0s,mb4.7						
CTA	Charters Tower	22.36	272	*eP*	P	02 35 02.0	+1.0
	19nm,1.6s,mb4.3						
CTA	Charters Tower	22.36	272	P	P	02 35 02.8	+1.7
	8.0nm,1.0s,mb4.1,baz=92,slow=10.0,SNR=3.5						
CTA				LR	LR	02 42 36.9	
	comp=Z,532nm,18.7s,MS4.0,baz=270,slow=34						
CTAO	Charters Tower	22.36	272	*eP*	P	02 35 02.4	+1.4
	33nm,1.4s,mb4.6						
PMG	Port Moresby	25.57	297	LR	LR	02 43 55.8	
	comp=Z,862nm,18.8s,MS4.3,baz=81,slow=33						
STKA	Stephens Creek	26.98	244	P	P	02 35 45.7	+0.6
	6.7nm,0.8s,mb4.2,baz=84,slow=9.4,SNR=11						
STKA				LR	LR	02 46 08.3	
	comp=Z,878nm,18.1s,MS4.4,baz=70,slow=36						
STKA	Stephens Creek	26.98	244	⇓*iP*	P	02 35 45.4	+0.3
	8.6nm,1.8s,mb4.0						
STKA				*eP*		02 35 45.8	
WRAB	Tennant Creek	33.40	268	*eP*	P	02 36 39.5	-2.7
WRA	Warramunga Arr	33.41	268	P	P	02 36 40.8	-1.4
	4.9nm,1.1s,mb4.4,baz=100,slow=9.3,SNR=8.7						
PPT	Papeete	38.10	90	LR	LR	02 49 37.2	
	comp=Z,171nm,20.6s,MS3.8,baz=261,slow=31						
FITZ	Fitzroy Crossi	41.84	268	*eP*	P	02 37 52.8	-0.3
	25nm,1.0s,mb4.8						
MBWA	Marble Bar	46.62	262	*eP*	P	02 38 31.1	-0.4
NWAO	Narrogin (SRO)	47.54	245	P	P	02 38 38.1	-0.5
VNDA	Vanda	55.23	182	P	P	02 39 35.3	-0.8
	0.9nm,0.9s,mb3.8,baz=9.1,slow=8.3,SNR=3.0						
VNDA				LR	LR	03 00 39.4	
	comp=Z,230nm,21.9s,MS4.2,baz=18,slow=33						
JOW	Kunigami	63.58	318	LR	LR	03 02 16.6	
	comp=Z,22nm,20.1s,MS3.3,baz=311,slow=30						
MJAR	Matsushiro Arr	65.99	332	P	P	02 40 47.4	-2.4
	7.8nm,1.1s,mb4.7,baz=168,slow=7.4,SNR=11						
MAT	Matsushiro	65.99	332	P	P	02 40 47.4	-2.4
MAT	Matsushiro	65.99	332	*eP*	P	02 40 47.0	-2.8
	27nm,1.3s,mb5.1						
QSPA	South Pole Qui	67.59	180	*eP*	P	02 40 58.5	-0.6
	17nm,1.2s,mb5.0						
MAW	Mawson	75.75	202	P	P	02 41 47.9	-0.1
	6.9nm,1.1s,mb4.5,baz=113,slow=9.1,SNR=10						
MAW				LR	LR	03 08 47.9	
	comp=Z,153nm,20.5s,MS4.3,baz=315,slow=31						
MDJ	Mudanjiang	76.35	331	P	P	02 41 50.6	-1.3
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,54nm,3.4s						
CN2	Changchun	77.64	329	*eP*	P	02 42 00.5	+1.3
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
GYA	Guiyang	78.34	305	⇓*iP*	P	02 42 03.9	+0.5
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
ENH	Enshi	78.36	310	*eP*	P	02 42 03.4	0.0
	comp=Z,115nm,1.8s,mb5.5						
NANT	Nan	79.27	295	P	P	02 42 08.0	-0.6
KMI	Kunming	80.68	302	P	P	02 42 17.8	+1.8
KMI				AP	pP	02 42 25.6	-0.8
KMI				AMB	AMB		
	comp=Z,11nm,0.9s,mb4.8						
KMI				AMB	AMB		
	comp=Z,104nm,3.1s						
CHG	Chiang Mai	80.75	295	⇑P	P	02 42 18.5	+2.0
	comp=Z,12nm,0.8s,mb4.9						
XAN	Xi'an	80.90	313	P	P	02 42 17.3	+0.3
XAN				AMB	AMB		
	comp=Z,15nm,1.6s,mb4.7						
HHC	Hu-ho-hao-te	83.20	319	*eP*	P	02 42 31.8	+3.1
HHC				AMB	AMB		
	comp=Z,15nm,1.5s,mb4.8						
HHC				AMB	AMB		
	comp=Z,106nm,3.8s						
LZH	Lanzhou	85.50	312	*eP*	P	02 42 43.0	+2.6
LZH				AMB	AMB		
	comp=Z,60nm,1.5s,mb5.5						
LZH	Lanzhou	85.50	312	*eP*	P	02 42 43.0	+2.6
	comp=Z,60nm,1.5s,mb5.5						
LZH				pP	pP	02 42 54.0	+3.1
LZH				sP	sP	02 42 59.0	+4.6
SNAA	Sanae	85.97	182	*eP*	P	02 42 40.8	-1.0
	comp=Z,29nm,1.4s,mb5.3						
VNA3	Neumayer Olymp	86.53	180	*e*	P	02 42 45.7	+1.1
VNA3	Neumayer Olymp	86.53	180	*e*	P	02 42 48.0	+3.4
VNA3	Neumayer Olymp	86.53	180	*e*	P	02 42 53.3	+8.7
VNA3	Neumayer Olymp	86.53	180	*e*	pP	02 43 03.3	+8.2
VNA3	Neumayer Olymp	86.53	180	*e*	sP	02 43 08.6	+10
VNA3	Neumayer Olymp	86.53	180	*e*	Px	02 43 21.8	
VNA3	Neumayer Olymp	86.53	180	P	P	02 42 43.8	-0.8
VNA3				*e*	pP	02 42 53.3	-1.8
VNA3				*e*		02 43 03.3	
VNA3				*e*		02 43 08.6	
VNA3				*e*		02 43 21.8	
VNA2	Neumayer--Watz	86.83	181	⇓*i*	P	02 42 45.5	-0.6
VNA2	Neumayer--Watz	86.83	181	*e*	P	02 42 47.3	+1.2
VNA2	Neumayer--Watz	86.83	181	*e*	P	02 42 49.9	+3.8
VNA2	Neumayer--Watz	86.83	181	*e*	P	02 42 55.1	+9.0
VNA2	Neumayer--Watz	86.83	181	*e*	pP	02 43 04.8	+8.2
VNA2	Neumayer--Watz	86.83	181	*e*	sP	02 43 10.7	+11
VNA2	Neumayer--Watz	86.83	181	*e*	Px	02 43 23.6	
VNA1	Neumayer--Stat	87.12	181	⇓*i*	P	02 42 47.2	-0.3
VNA1	Neumayer--Stat	87.12	181	*e*	P	02 42 49.0	+1.5
VNA1	Neumayer--Stat	87.12	181	*e*	P	02 42 51.3	+3.8
VNA1	Neumayer--Stat	87.12	181	*e*	P	02 42 56.7	+9.2
VNA1	Neumayer--Stat	87.12	181	*e*	pP	02 43 05.4	+7.4
VNA1	Neumayer--Stat	87.12	181	*e*	sP	02 43 10.6	+9.1
VNA1	Neumayer--Stat	87.12	181	*e*	Px	02 43 24.3	
GTA	Gaotai	89.94	313	P	P	02 43 02.4	+0.7
GTA				AMB	AMB		
	comp=Z,5.0nm,1.9s,mb4.5						
SONM	Songino Array	90.29	323	P	P	02 43 03.4	+0.3
	comp=Z,6.4nm,1.2s,mb4.8,baz=132,slow=3.9,SNR=20						
ILAR	Eielson Array	93.07	17	P	P	02 43 13.8	-1.7
	comp=Z,0.5nm,0.6s,mb4.1,baz=233,slow=6.4,SNR=5.9						
TXAR	Lajitas Array	97.58	62	LR	LR	03 20 20.0	
	comp=Z,96nm,18.5s,MS4.3,baz=190,slow=31						
PDAR	Pinedale Array	98.21	47	LR	LR	03 20 32.3	
	comp=Z,78nm,20.3s,MS4.2,baz=122,slow=31						
MKAR	Makanchi Array	104.61	315	PP	PP	02 48 27.8	-2.4
	comp=Z,0.3nm,0.7s,baz=112,slow=6.5,SNR=4.0						
ARCES	ARCESS Array B	128.40	345	PKP	PKPdf	02 49 10.3	+3.0
	comp=Z,2.1nm,0.8s,baz=45,slow=3.8,SNR=4.2						
BRTR	Keskin Array B	139.40	305	PKP	PKPdf	02 49 31.0	+2.4
	comp=Z,2.2nm,1.2s,baz=167,slow=2.5,SNR=5.0						
STHS	Stebnicka Huta	143.61	325	*e*	PKPbc	02 49 25.2	-9.1
KECS	Kecovo	144.57	325	*e*PKP	PKPdf	02 49 36.0	-1.3
KECS				*e*		02 49 43.0	
OKC	Ostrava-Krasne	144.92	328	*e*PKP	PKPdf	02 49 40.5	+2.6
KSP	Ksiaz	145.11	331	*e*PKP	PKPdf	02 49 40.8	+2.6
KSP				*e*pPKP		02 49 53.2	
PSZ	Piszkesteto	145.22	324	⇑*e*pPKP	/F	02 49 41.6	
PSZ	Piszkesteto	145.22	324	*e*P	PKPdf	02 49 39.6	+1.1
MORC	Moravsky Berou	145.26	328	*e*P	PKPdf	02 49 39.1	+0.7
VYHS	Vyhne	145.43	326	*e*PKP	PKPdf	02 49 40.7	+1.9
DPC	Dobruska-Polom	145.44	330	*e*PKP	PKPdf	02 49 40.3	+1.5
UPC	Upice	145.48	331	*e*PKP	PKPdf	02 49 40.2	+1.4
KOLL	Kolacno	145.60	326	*e*PKP	PKPdf	02 49 41.2	+2.1
KOLL				*e*		02 49 46.0	
PVCC	Panska Ves	146.11	332	*e*PKP	PKPdf	02 49 44.3	+4.4
BRG	Berggiesshubel	146.12	333	*e*P	PKPdf	02 49 41.5	+1.6
BRG				*i*		02 49 44.6	
BRG				*e*		02 50 08.4	
SRO	Srobarova	146.13	325	*e*PKP	PKPdf	02 49 45.2	+5.2
CLL	Collm	146.19	334	*e*PKIKP	PKPdf	02 49 42.0	+2.0
CLL				*i* PKP1	PKPbc	02 49 43.5	+2.4
CLL				*i*		02 49 49.9	
CLL				*e*		02 50 12.0	
CLL	Collm	146.19	334	*e*PKP	PKPdf	02 49 42.0	+2.0
CLL				⇓*i*PKP	PKPdf	02 49 43.5	+3.5
CLL				*i*		02 49 49.9	
PRU	Pruhonice	146.51	331	*e*PKP	PKPdf	02 49 45.2	+4.6
ZST	Bratislava	146.51	327	*e*PKP	PKPdf	02 49 44.9	+4.2
TREC	Trest	146.57	329	*e*PKP	PKPdf	02 49 45.7	+5.0
EKA	Eskdalemuir Ar	146.81	353	PKPbc	PKPdc	02 49 44.0	+1.6
	comp=Z,5.7nm,0.9s,slow=2.1,SNR=5.7						
NKC	Novy Kostel	147.23	333	*e*PKP	PKPdf	02 49 47.7	+5.9
MOX	Moxa	147.25	334	*i* P	PKPdf	02 49 47.9	+6.1
	comp=Z,logA/T=1.1						
MOX	Moxa	147.25	334	*e*PKP	PKPdf	02 49 47.9	+6.1
DIVS	Divcibare	147.30	318	⇓*i*PKP	PKPdf	02 49 43.7	+1.6
SKO	Skopje	147.41	314	*i* P	PKPdf	02 49 47.8	+5.4
KHC	Kasperske Hory	147.56	331	*e*PKP	PKPdf	02 49 48.8	+6.4
KHC				x	x	02 49 59.0	
KHC				x	x	02 50 08.5	
KHC				x	x	02 50 34.5	
KHC	Kasperske Hory	147.56	331	*e*P	PKPdf	02 49 48.8	+6.4
KHC				*e*		02 49 59.0	
KHC				*e*		02 50 08.5	
KHC				*e*		02 50 34.5	
GERES	GERESS Array B	147.72	330	PKPbc	PKPdf	02 49 46.2	+3.6
	comp=Z,0.8nm,0.8s,baz=342,slow=3.1,SNR=9.9						
GRF	Grafenberg Arr	148.16	334	*e*PKP	PKPdf	02 49 49.4	+6.1
TOD	Tromm	149.18	336	*e*P	PKPdf	02 49 51.0	+6.1
ABH	Alteburg	149.41	338	*e*P	PKPdf	02 49 52.2	+6.9
RUP	Ruppelstein	149.73	338	*e*P	PKPdf	02 49 54.0	+8.2
WTTA	Wattenberg	149.82	330	⇓*i*P	PKPdf	02 49 54.9	+8.9
GIVF	Givet	150.11	341	*e*PKP1	PKPdf	02 49 48.3	+1.9
DAVA	Damuels	150.58	332	⇑*i*P	PKPdf	02 49 55.7	+8.5
WLS	Welschbruch	150.70	336	*e*P	PKPdf	02 49 54.6	+7.2
CDF	Champ du Feu	150.73	336	*e*PKP1	PKPdf	02 49 49.8	+2.4
	comp=Z,39nm,1.2s						
FELD	Feldberg	150.89	335	*e*P	PKPdf	02 49 58.6	+11
ECH	Echery	150.94	336	*e*P	PKPdf	02 49 58.9	+11
MOF	Molkenrain	151.25	336	*e*P	PKPdf	02 49 59.3	+11
HINF	Hinterlafeld	151.38	336	*e*PKP1	PKPdf	02 49 51.3	+2.9
	comp=Z,10nm,0.9s						
HAU	Haudompre	151.41	337	*e*PKP1	PKPdf	02 49 51.3	+2.9
	comp=Z,35nm,1.3s						
MEZF	Maizieres J'vi	151.44	339	*e*PKP1	PKPdf	02 49 51.9	+3.5
	comp=Z,38nm,1.1s						
LPL	La Plagne	153.32	333	*e*PKP1	PKPdf	02 50 01.4	+10
LPG	La Plagne	153.33	333	*e*PKP1	PKPdf	02 50 01.4	+10
	comp=Z,46nm,1.6s						
DBIC	Dimbokro	163.55	198	PKPab	PKPab	02 50 56.6	-1.5
	comp=Z,5.9nm,0.8s,baz=196,slow=3.0,SNR=4.0						

SOF ***24*** *03:06:17.6, 39.66N×25.70E, h5km, MD4.0*
ATH ***24*** *03:06:19.9, 39.68N×25.55E, h28km, MD4.3/17, ML4.7*
CSEM ***24*** *03:06:19.1, 39.69N×25.53E, h10km, ML4.8*
CRAAG ***24*** *03:06:19.1, 39.69N×25.52E, Mb4.8*
MOS ***24*** *03:06:19.7±1.0, 39.69N×25.51E, h10km, mb4.7/25, Error ellipse: s-maj=3.7km s-min=2.1km az=119.1*
IDC ***24*** *03:06:19.6±0.6, 39.68N×25.47E, mb4.3/20, mb1 4.5/28, mb1mx4.5/30, mbtmp4.4/28, ML4.1/9, MS3.9/16, Ms1 3.9/16, ms1mx3.8/27, Error ellipse: s-maj=11.7km s-min=9.5km az=95.0*
IPEC ***24*** *03:06:19.3±0.1, 39.66N×25.58E, ML4.8/1, Error ellipse: s-maj=2.1km s-min=0.9km az=68.0*
NEIC ***24*** *03:06:19.9, 39.68N×25.56E, h29km, mb4.4/58, ML4.7(ATH), ML4.4(THE), ML5.1(ISK), After ATH.*
NEIC Felt in parts of western Canakkale, Turkey.
HRVD ***24*** *03:06:19.9±1.1, 39.86N×25.60E, h23km±3km, MW4.7/38, Centroid moment Tensor Solution. LP body waves: s7,c7; Mantle waves: s38,c55; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.63±.23; Mθθ1.50±.17; Mφφ-0.87±.12; Mrθ0.10±.20; Mrφ-0.66±.09; Mθφ0.40±.20; Best double couple: M0 1.48×10^16 NP1:φs145°, δ68°, λ-23°. NP2: φs244°, δ68°, λ-156°. Principal axes: T 1.669, Plg0°, Azm14°; N -.377, Plg58°, Azm284°; P -1.292, Plg32°, Azm104°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISK ***24*** *03:06:20.5, 39.72N×25.41E, h38km, ML5.2*
PDG ***24*** *03:06:21.5±0.1, 39.86N×25.64E, h8km*
BJI ***24*** *03:06:25.0, 39.28N×25.74E, h32km, mB5.0, mb4.8*

ISC 24 03:06:18.6±0.5, 39.68N±0.01×25.53E±0.01, h3km±3km, h36km±2.2km:pP-P, n577, σ1§07/634, mb4.5/60, MS4.0/17, 38C-31D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	Limnos Island	0.35	309	*e*PB	Pb	03 06 28.4	+1.4
LIA				*e*SB	Sb	03 06 34.0	+1.4
LOS	Limnos	0.43	306	*eP*	Pg	03 06 30.5	+3.3
LOS	Limnos	0.43	306	P	Pg	03 06 30.5	+3.3
LOS				S	Sg	03 06 43.0	+10
PRK	Paraskevi	0.72	127	*e*PN	Pn	03 06 34.4	-0.9
PRK				*e*SN	Sn	03 06 44.1	-2.8
AYVA	Ayvalik	0.97	112	*i* P	Pb	03 06 38.7	+1.0
AYVA				*i* S	Sb	03 06 53.2	+2.5
LPK	Lapseki	1.17	53	*i* PN	Pn	03 06 42.0	+0.2
LPK				*i* SN	Sn	03 06 57.7	-0.7
CANB	Canakkale	1.23	74	*i* PN	Pn	03 06 43.3	+0.7
CANB				*i* SN	Sn	03 06 58.7	-1.1
OUR	Ouranopolis	1.36	299	*eP*	Pb	03 06 45.3	+0.9
OUR	Ouranopolis	1.36	299	P	Pb	03 06 45.3	+0.9
OUR				S	Sb	03 07 09.6	+7.6
AOS	Alonnisos	1.38	249	*eP*	Pb	03 06 45.9	+1.3
AOS	Alonnisos	1.38	249	P	Pb	03 06 45.9	+1.3
AOS				S	Sb	03 07 09.7	+7.2
RDO	Rodhopi	1.47	0	*e*Pn	Pn	03 06 46.2	+0.2
RDO				*e*Sg	Sg	03 07 05.2	-2.2
URLA	Izmir	1.56	147	*i* P	Pn	03 06 46.7	-0.6
URLA				*i* S	Sb	03 07 10.8	+3.1
MFT	Murefte	1.74	50	*i* PN	Pn	03 06 49.9	0.0
PLG	Polygyros	1.75	294	*e*PB	Pb	03 06 50.3	-0.7

GPA Golpazari 3.72 79 PN **Pn 03 07 18.9 +0.7**
ITM Ithomi 3.77 230 *e*PN **Pn 03 07 20.0 +1.0**
PRD Provadia 3.79 21 *i* P **Pn 03 07 18.5 -0.6**
DALT Dalyan (Mudla) 3.80 139 *e*PN **Pn 03 07 19.3 0.0**
BORA Eskisehir 3.80 85 *i* P **Pn 03 07 19.8 +0.5**
BORA *i* S **Sg 03 08 19.0 -6.0**
LSK Leskovik 3.82 279 *e*Pn **Pn 03 07 21.2 +1.6**
LSK *i* Sn **Sn 03 08 00.6 -5.1**
KYTH Kithira 3.92 211 *e*PN **Pn 03 07 20.7 -0.4**
GOLH Golhisar 3.99 126 *i* P **Pn 03 07 21.6 -0.5**
GOLH *i* S **Sg 03 08 27.7 -3.9**
ARG Arkhangelos 4.02 149 *e*PN **Pn 03 07 22.2 -0.2**
TKTP Tekketepe 4.08 112 *i* P **Pn 03 07 23.3 -0.1**
TKTP *i* S Sg 03 08 36.3 +1.8
ESKT Eskisehir 4.11 91 *i* P **Pn 03 07 23.4 -0.4**
ESKT *i* S **Sb 03 08 29.3 +7.3**
ESKT Eskisehir 4.11 91 *e*Pn **Pn 03 07 24.4 +0.6**
VLS Valsamata 4.14 250 *e*PN **Pn 03 07 25.0 +0.9**
BARS Barje 4.20 320⇑*i*Pn **Pn 03 07 25.3 +0.2**
BARS Sn **Sn 03 08 16.8 +1.5**
ZAPS Zavoj/Pirot 4.22 330⇑*i*Pn **Pn 03 07 26.9 +1.5**
ZAPS Sn **Sn 03 08 15.7 -0.2**
HENT Hendek 4.26 73 *i* P **Pn 03 07 24.8 -1.1**
HENT *i* S **Sn 03 08 18.3 +1.4**
SRN Sarande 4.27 274 *i* Pn **Pn 03 07 29.1 +3.1**
ISP Isparta 4.30 114 *e*PN **Pn 03 07 27.2 +0.8**
ISP Isparta 4.30 114 P **Pn 03 07 27.8 +1.4**
KARP Karpathos 4.32 162 *e*PN **Pn 03 07 26.5 -0.3**
VAM Vamos 4.39 194 *e*PN **Pn 03 07 27.8 0.0**
NPS Neapolis 4.41 179 *e*PN **Pn 03 07 26.7 -1.3**
IDI Anoyia 4.41 187 Pn **Pn 03 07 26.8 -1.3**
7.2nm,0.3s,baz=16,slow=12,SNR=40
IDI Pg **Pg 03 07 41.8 -5.0**
16nm,0.3s,baz=20,slow=14,SNR=8.4
IDI Sn **Sn 03 08 17.0 -3.7**
26nm,0.3s,baz=0.3,slow=9.1,SNR=4.0
IDI Lg 03 08 39.6
10nm,0.3s,baz=69,slow=14,SNR=1.9
IDI Anoyia 4.41 187 Pg **Pg 03 07 41.8 -4.9**
MDU Mudurnu 4.43 78 *e*PN **Pn 03 07 28.7 +0.4**
PSN Preselentsi 4.46 26 *i* P **Pn 03 07 28.5 -0.3**
LAST Lasithi 4.51 181 Pn **Pn 03 07 28.3 -1.1**
ELL Elmali 4.52 129 *e*PN **Pn 03 07 30.1 +0.5**
BCK Bucak 4.54 118 *e*PN **Pn 03 07 30.9 +1.1**
TIR Tirane 4.63 293 P **Pn 03 07 32.3 +1.2**
QSH Qafa e Shtames 4.66 295 *i* Pn **Pn 03 07 34.8 +3.2**
QSH *i* Sn **Sn 03 08 22.8 -4.2**
BUC1 Bucharest 4.68 4⇑*i*P **Pn 03 07 34.9 +3.1**
BUC1 Bucharest 4.68 4⇑*i*P **Pn 03 07 34.9 +3.0**
AKAS Kas 4.71 136 *i* P **Pn 03 07 32.3 +0.1**
AKAS *i* S Sg 03 08 52.0 -3.5
KSL Kastellorizon 4.76 136 *e*PN **Pn 03 07 33.0 0.0**
XRY Khrisi 4.80 178 *e*PN **Pn 03 07 33.5 0.0**
CRAR CRAIOVA 4.82 345⇑*i*P **Pn 03 07 34.0 +0.2**
CRAR CRAIOVA 4.82 345 P **Pn 03 07 36.3 +2.5**
PUK Puka 4.88 301 *i* Pn **Pn 03 07 35.3 +0.6**
PUK Puka 4.88 301 *e*Pn **Pn 03 07 35.3 +0.6**
KIZT Kizilcal 4.99 97 *e*PN **Pn 03 07 37.0 +0.8**
SGKT Sivrigoynuk 5.08 78 *i* P **Pn 03 07 36.6 -0.9**
SGKT *i* S Sg 03 08 58.2 -10
PVY Plav 5.11 307⇓*i*Pn **Pn 03 07 39.3 +1.4**
PVY *e*Sn **Sn 03 08 38.3 +0.1**
TIRR Tirgusor 5.23 23⇓*i*P **Pn 03 07 38.2 -1.5**
TIRR Tirgusor 5.23 23 P **Pn 03 07 39.1 -0.6**
TIRR Tirgusor 5.23 23⇓*i*P **Pn 03 07 38.2 -1.5**
ULC Ulcinj 5.28 298⇓*i*Pn **Pn 03 07 42.1 +1.7**
ULC *e*Sn **Sn 03 08 43.2 +0.5**
IVA Berane 5.31 309⇓*i*Pn **Pn 03 07 42.0 +1.3**
IVA *e*Sn **Sn 03 08 43.0 -0.3**
HARR Harsova 5.31 19⇑*i*P **Pn 03 07 39.1 -1.7**
HARR Harsova 5.31 19⇑*i*P **Pn 03 07 39.1 -1.7**
TTG Podgorica 5.48 302⇓*i*Pn **Pn 03 07 44.9 +1.8**
TTG *e*Sn **Sn 03 08 47.6 +0.1**
ISR Istrita 5.49 8⇑*i*P **Pn 03 07 43.1 -0.1**
ISR Istrita 5.49 8⇑*i*P **Pn 03 07 43.1 -0.1**
MTUR Matau 5.55 357⇓*i*P **Pn 03 07 43.5 -0.7**
LOD Lodumlu 5.58 86 *e*PN **Pn 03 07 44.8 +0.3**
ANTO Ankara 5.60 86 *e*PN **Pn 03 07 45.6 +0.8**
ANTO Ankara 5.60 86 P **Pn 03 07 44.9 +0.1**
ANTO Ankara 5.60 86 *e*Pn **Pn 03 07 45.6 +0.8**
ANTO Ankara 5.60 86 P **Pn 03 07 44.9 +0.1**
KONT Konya--Tatoy 5.61 106 *e*PN **Pn 03 07 45.6 +0.7**
SVIS Svilajnac 5.62 327⇑*i*Pn **Pn 03 07 41.3 -3.8**
SVIS *e*Sn **Sb 03 09 12.3 +6.6**
BUM Brajici-Budva 5.66 300⇓*i*Pn **Pn 03 07 47.4 +1.7**
BUM *e*Sn **Sn 03 08 52.0 0.0**
SNX Sinaia 5.67 360⇑*i*P **Pn 03 07 45.2 -0.6**
SNX Sinaia 5.67 360⇑*i*P **Pn 03 07 45.2 -0.7**
SAFT Safranbolu 5.68 72 *e*PN **Pn 03 07 46.2 +0.3**
VOIR 5.76 357⇓*i*P **Pn 03 07 46.6 -0.6**
VOIR 5.76 357⇓*i*P **Pn 03 07 46.6 -0.6**
NVSS Nova Varos 2 5.81 313⇓*i*Pn **Pn 03 07 46.6 -1.1**
NVSS *e*Sn **Sb 03 09 15.7 +4.5**
MLR Muntele Rosu 5.82 3 Pn **Pn 03 07 48.3 +0.5**
11nm,0.3s,baz=226,slow=3.4,SNR=116
MLR Lg 03 09 26.7
9.3nm,0.3s,baz=73,slow=19,SNR=2.5
MLR Muntele Rosu 5.82 3⇑*i*P **Pn 03 07 48.0 +0.1**
MLR Muntele Rosu 5.82 3⇑*i*P **Pn 03 07 48.0 +0.2**
CFR Carcaliu 5.82 18⇓*i*P **Pn 03 07 45.6 -2.4**
CFR Carcaliu 5.82 18⇓*i*P **Pn 03 07 45.6 -2.4**
NKY Niksic 5.83 305⇓*i*Pn **Pn 03 07 49.8 +1.6**
NKY *e*Sn **Sn 03 08 55.9 -0.5**
PLE Pljevlja 5.88 310⇓*i*Pn **Pn 03 07 49.8 +1.1**
PLE *e*Sn **Sn 03 08 56.5 -1.0**
HCY Herceg Novi 5.99 300⇓*i*Pn **Pn 03 07 51.5 +1.2**
HCY *e*Sn **Sn 03 09 00.1 -0.2**
TLCR 6.01 23⇑*i*P **Pn 03 07 49.7 -1.0**
TLCR 6.01 23 P **Pn 03 07 49.8 -0.9**
TLCR 6.01 23⇑*i*P **Pn 03 07 49.7 -1.0**
DIVS Divcibare 6.05 319⇑*i*Pn **Pn 03 07 49.2 -1.9**
DIVS *e*Sn **Sb 03 09 22.6 +4.5**
UPM Unac-Piva 6.09 307⇓*i*Pn **Pn 03 07 53.0 +1.2**
UPM *e*Sn **Sn 03 09 02.1 -0.9**
HDMB Hadim 6.10 114 *e*PN **Pn 03 07 52.4 +0.5**
ELDT Eldivan 6.11 80 *i* P **Pn 03 07 50.6 -1.4**
ELDT *i* S Sg 03 09 33.0 -9.0
BRY Bratogost 6.17 304⇓*i*Pn **Pn 03 07 54.4 +1.5**
BRY *e*Sn **Sn 03 09 03.8 -1.1**
VRI Vrincioaia 6.25 8⇓*i*P **Pn 03 07 54.2 +0.3**
VRI Vrincioaia 6.25 8⇓*i*P **Pn 03 07 54.2 +0.2**
BRTR Keskin Array B 6.25 87 Pn **Pn 03 07 53.8 -0.3**
14nm,0.3s,baz=260,slow=13,SNR=312
BRTR Pg Pg 03 08 15.4 -8.0
7.3nm,0.3s,baz=278,slow=18,SNR=6.6
BRTR Sn **Sn 03 09 01.8 -5.1**
24nm,0.3s,baz=268,slow=24,SNR=8.9
BRTR Lg 03 09 39.2
3.6nm,0.3s,baz=270,slow=22,SNR=8.8
BRTR Keskin Array B 6.25 87 Pg **Pb 03 08 15.4 +7.3**
BRTR Keskin Array B 6.25 87 P **Pn 03 07 53.8 -0.2**
BRTR 03 09 01.8
CANT Cankiri 6.27 79 *e*PN **Pn 03 07 54.5 +0.3**
KAMT Kaman 6.33 90 *e*PN **Pn 03 07 55.5 +0.3**
BEO Belgrade 6.37 325⇑*i*Pn **Pn 03 07 58.8 +3.1**
BEO *e*Sn **Sb 03 09 32.9 +5.4**
BRT Bari-Castellan P 6.48 283 P **Pn 03 07 57.9 +0.7**
ERMK Ermenek 6.56 115 *i* P **Pn 03 07 59.8 +1.5**
ERMK *i* S Sg 03 09 58.1 +1.1
TOS Tosya 6.63 75 *e*PN **Pn 03 07 58.6 -0.7**
LTRZ Laterza 6.74 281 P **Pn 03 08 00.8 -0.1**
TIP Timpagrande 6.81 269 *e*P **Pn 03 08 01.6 -0.3**
TIP Timpagrande 6.81 269 *e*P **Pn 03 08 01.6 -0.3**
BZK Bozkurt 6.82 68 *e*PN **Pn 03 08 01.4 -0.6**
CDAG Cicekdag 6.82 88 *i* P **Pn 03 08 01.0 -1.1**
CDAG *i* S **Sn 03 09 14.2 -7.0**
SG1 Sgolgore (BA) 6.87 283 *e*Pn **Pn 03 08 02.1 -0.6**
ORI Oriolo Calabro 7.00 276 P **Pn 03 08 05.0 +0.5**
CORM Corum 7.01 83 *e*PN **Pn 03 08 05.4 +0.7**
GRI Girifalco 7.12 266 P **Pn 03 08 05.9 -0.4**
CTKT Corum 7.16 79 *i* P **Pn 03 08 05.2 -1.6**
CTKT *i* S Sg 03 10 07.8 -9.0
CDT Castel del Mon 7.21 284 *e*Pn **Pn 03 08 06.8 -0.7**
ALFC Alevga 7.21 127 P **Pn 03 08 04.6 -2.9**
PPCY Paphos 7.24 129 P **Pn 03 08 07.2 -0.7**
BYBT Boyabat 7.25 73 *e*PN **Pn 03 08 07.5 -0.6**
AVNT Avonos 7.29 94 *i* P **Pn 03 08 08.9 +0.2**
AVNT *i* S Sg 03 10 13.8 -7.6
IKL Isikli 7.30 116 *e*PN **Pn 03 08 09.2 +0.4**
DRGR 7.40 345 P **Pn 03 08 10.9 +0.7**

DRGR 7.40 345 P **Pn 03 08 11.0 +0.8**
LEF Lefka 7.42 126 *e*PN **Pn 03 08 09.5 -0.9**
CUC Castrocucco 7.48 275 P **Pn 03 08 11.5 +0.1**
MS1 Monte Sant'Ang 7.56 289 *e*Pn **Pn 03 08 10.8 -1.7**
SOI Samo 7.57 261 P **Pn 03 08 11.4 -1.1**
MERS Mersin 7.61 109 *e*PN **Pn 03 08 12.9 -0.2**
SLCN Sala Consilina 7.63 278 P **Pn 03 08 13.8 +0.4**
CEL Celeste 7.64 262 P **Pn 03 08 12.4 -1.2**
SZAC Souni-Zanaja 7.65 128 P **Pn 03 08 12.6 -1.1**
MGR Morigerati 7.69 277 P **Pn 03 08 14.6 +0.4**
KIS Kishinev 7.70 17*o i*P **Pn 03 08 12.0 -2.3**
KIS pmax pmax
comp=Z,300nm,0.5s
KIS pmax pmax
comp=Z,400nm,0.5s
KIS MLR MLR
comp=Z,2μm,8.0s
KIS MLR MLR
comp=N,2μm,10.0s
GMB Gambarie 7.71 262 P **Pn 03 08 14.2 -0.4**
FG4 Candela 7.78 284 P **Pn 03 08 14.9 -0.6**
SCLL Scilla 7.78 263 P **Pn 03 08 15.3 -0.2**
CSS Prodhromos 7.79 125 P **Pn 03 08 14.8 -0.9**
comp=N,0.8nm,0.3s
RGNG Rignano Grg 7.82 288 P **Pn 03 08 14.3 -1.7**
MTTG Motta San Giov 7.86 261 P **Pn 03 08 15.5 -1.1**
SGO Sicignano 7.88 280 P **Pn 03 08 16.6 -0.4**
BURAR Bucovina Array 7.94 358 P **Pn 03 08 17.9 +0.2**
BURAR Bucovina Array 7.94 358 P **Pn 03 08 17.9 +0.2**
CSSN Cassano Irpino 8.12 282 P **P 03 08 19.2 -1.0**
FG2 Serracapriola 8.15 288 P **P 03 08 19.2 -1.5**
PKS6 Bocsa 8.18 330⇓*e*P **P 03 08 20.0 -1.0**
PKSM Moragy 8.25 325 P **P 03 08 20.4 -1.7**
SIM Simferopol' 8.26 48 *i* P **P 03 08 20.0 -2.1**
comp=N,88nm,0.7s
SIM *e*S **Sn 03 09 54.0 -2.9**
comp=N,330nm,16.6s
SIM Simferopol' 8.26 48*d i*P **P 03 08 20.0 -2.1**
SIM *e*S **Sn 03 09 54.0 -2.9**
SIM pmax pmax
comp=Z,88nm,0.7s
SIM smax
comp=N,124nm,0.8s
SIM smax
comp=E,82nm,0.9s
SIM MLR MLR
comp=Z,330nm,16.6s
PKSN Nyarlorinc 8.31 332⇓*e*P **P 03 08 21.8 -1.1**
PSB1 Pescosannita 8.32 284 P **P 03 08 22.3 -0.7**
SLNA Salina 8.39 266 P **P 03 08 24.1 +0.1**
RHK1 Bakonya 8.43 322⇑*i*P **P 03 08 23.1 -1.4**
SSY Sortino 8.59 256 P **P 03 08 25.2 -1.6**
PKS7 Kunszentmiklos 8.70 330⇓*e*P **P 03 08 30.2 +1.9**
PKS8 Sarbogard 8.76 327⇓*e*P **P 03 08 27.5 -1.6**
CII Carovilli 8.77 287 *e*P **P 03 08 28.0 -1.3**
comp=Z,120nm,1.0s
CII Carovilli 8.77 287 *e*P **P 03 08 28.0 -1.3**
comp=Z,120nm,1.0s
MIDA Miranda 8.79 286 P **P 03 08 28.7 -0.9**
SVST Sivas 8.80 86 *i* P **P 03 08 30.0 +0.2**
SVST *i* S **Sn 03 10 05.2 -5.4**
SVSK Karacayir 8.83 85 *e*PN **P 03 08 28.7 -1.4**
RNI2 Rionero Sannit 8.88 287 P **P 03 08 30.3 -0.5**
RFI Roccamonfina 8.95 284 P **P 03 08 31.5 -0.2**
VAE Valguarnera 8.98 259 Pn **P 03 08 30.6 -1.6**
comp=Z,2.9nm,0.3s,baz=348,slow=8.8,SNR=8.1
VAE Sn **Sn 03 10 16.8 +1.8**
comp=Z,1.6nm,0.3s,baz=232,slow=19,SNR=2.5
BUD Budapest 9.12 331 P **P 03 08 32.8 -1.2**
INTR Introdacqua 9.12 289 P **P 03 08 32.9 -1.2**
CSLB Castelbuono 9.12 263 P **P 03 08 34.4 +0.2**
GIB Gibilmanna 9.14 263 P **P 03 08 33.7 -0.6**
PSZ Piszkesteto 9.19 336⇑*e* **P 03 08 35.8 +0.8**
PSZ Piszkesteto 9.19 336 *e*Pn **P 03 08 32.8 -2.2**
PSZ Piszkesteto 9.19 336 P **P 03 08 36.0 +1.0**
PSZ Piszkesteto 9.19 336 *e*P **P 03 08 32.8 -2.2**
comp=Z,56nm,0.8s
PSZ P 03 08 36.0
UZH Uzhgorod 9.25 347 *e*P **P 03 08 37.0 +1.1**
UZH *e*S **Sn 03 10 24.0 +2.4**
PKSG 9.29 328 *e*P **P 03 08 37.4 +1.0**
VVLD Villa Vallelon 9.30 287 P **P 03 08 35.4 -1.2**
NVLJ Novalja 9.30 305 *i* P **P 03 08 34.6 -2.0**
TERO Teramo 9.47 292 P **P 03 08 37.7 -1.2**
PTQR Pietraquaria 9.49 288 P **P 03 08 39.0 -0.2**
KECS Kecovo 9.52 339 *e*PN **P 03 08 38.7 -0.8**
KOLS Kolonicke sedl 9.54 347 *e* **P 03 08 42.0 +2.1**
AQU L'Aquila 9.55 290 *e*P **P 03 08 37.5 -2.5**
comp=Z,54nm,0.9s
AQU L'Aquila 9.55 290 *e*P **P 03 08 37.6 -2.4**
AQU pmax pmax
comp=Z,54nm,0.9s
USI Ustica 9.64 268 P **P 03 08 39.9 -1.4**
SRO Srobarova 9.66 330 *e*PN **P 03 08 42.7 +1.2**
CRVS Cervenica-Dubn 9.67 344 *e* **P 03 08 43.2 +1.6**
CRVS *e* 03 11 40.8
FIAM Fiamignano 9.74 289 P **P 03 08 42.3 -0.3**
CERT Cerreto 9.78 287 P **P 03 08 42.2 -1.0**
CLTB Caltabellotta 9.86 262 P **P 03 08 43.7 -0.7**
NRCA Norcia 9.87 293 P **P 03 08 42.6 -1.8**
VYHS Vyhne 10.04 334 *e*PN **P 03 08 46.3 -0.4**
MNS Montasola 10.08 290 P **P 03 08 46.5 -0.8**
KNDS Knezji Dol 10.08 309 *e*Pn **P 03 08 46.6 -0.7**
CEY Cerknica 10.17 310 *e*Pn **P 03 08 48.0 -0.5**
LVV L'vov 10.19 354 *e*P **P 03 08 50.1 +1.2**
comp=Z,420nm,9.7s
LVV L'vov 10.19 354 *e*P **P 03 08 50.1 +1.2**
LVV *e*S **S 03 10 51.2 +6.3**
LVV MLR MLR
comp=Z,420nm,9.7s
LVV MLR MLR
comp=N,500nm,9.1s
LVV MLR MLR
comp=E,1μm,9.7s
ANN Anapa 10.20 56 *e*P **P 03 08 48.7 -0.2**
comp=E,327nm,13.0s
ANN Anapa 10.20 56 *e*P **P 03 08 48.7 -0.2**
ANN *e*S **S 03 10 37.9 -7.1**
ANN MLR MLR
comp=Z,327nm,13.0s
STHS Stebnicka Huta 10.20 344 *e*PN **P 03 08 49.5 +0.5**
STHS *e* 03 11 52.1
LJU Ljubljana 10.28 312 *e*Pn **P 03 08 50.1 +0.1**
LJU Ljubljana 10.28 312 *e*Pn **P 03 08 50.0 0.0**
MURB Monte Urbino 10.40 294 P **P 03 08 52.0 +0.4**
KSDI Kefar Szold 10.41 125 *e*Pn **P 03 08 48.9 -3.0**
NIE Niedzica 10.42 341 *e*P **P 03 08 51.8 -0.2**
ZST Bratislava 10.45 327 *e*PN **P 03 08 52.2 -0.2**
ARSA Arzberg 10.49 319⇑*i*P **P 03 08 51.9 -1.0**
comp=Z,22nm,1.1s
OBKA Obir 10.53 314⇑*i*P **P 03 08 53.5 0.0**
comp=Z,21nm,1.2s
TRI Trieste 10.55 309 *e*Pn **P 03 08 52.1 -1.6**
TRI Trieste 10.55 309 P **P 03 08 52.5 -1.2**
VOY Vojsko 10.64 310 *e*Pn **P 03 08 54.2 -0.7**
VOY *e* 03 08 58.3
VOY *e* 03 12 16.8
RSM Repubblica di 10.65 298 P **P 03 08 54.5 -0.6**
BADI Badiali 10.66 295 P **P 03 08 56.5 +1.2**
GUMT Gumushane 10.72 81 *e*PN **P 03 08 54.0 -2.1**
CRE Caprese Michel 10.90 296 P **P 03 08 59.3 +0.8**
ROBS Robic 10.98 311 *e*Pn **P 03 08 58.5 -1.1**
SFI Santa Sofia 11.05 297 P **P 03 09 00.6 0.0**
PGD Poggio Sodo 11.13 297 P **P 03 09 01.9 +0.2**
PTCC Patocco-Chiusa 11.15 311 P **P 03 09 01.7 -0.3**
OJC Ojcow 11.29 341 *e*P **P 03 09 02.9 -0.9**
SOC Sochi 11.31 65 *e*P **P 03 09 04.3 +0.2**
comp=Z,13nm,0.8s
SOC *e*S **S 03 11 10.3 -1.9**
SOC Sochi 11.31 65 *e*P **P 03 09 04.3 +0.2**
SOC *e* 03 11 10.3
SOC pmax pmax
comp=Z,15nm,1.0s
SOC pmax pmax
comp=N,13nm,0.8s
SOC pmax pmax
comp=E,29nm,1.1s
SOC MLR MLR
comp=N,252nm,17.0s
SOC MLR MLR
comp=E,400nm,17.0s
SOC MLR MLR
comp=Z,325nm,17.0s

AKASG Malin Array Be 11.32 12 Pn **P 03 09 01.1 -3.1**
comp=Z,4.8nm,0.3s,baz=197,slow=13,SNR=21
AKASG Sn **S 03 10 59.1 -13**
comp=Z,3.4nm,0.3s,baz=227,slow=25,SNR=3.2
AKASG Lg 03 12 17.3
baz=191,slow=25,SNR=2.5
AKASG Malin Array Be 11.32 12 Sn **S 03 10 59.1 -13**
AKASG Malin Array Be 11.32 12 Pn **P 03 09 01.1 -3.2**
AKASG Sn **S 03 10 59.1 -13**
AKASG Lg 03 12 17.3
KRUC Moravsky 11.43 328 P **P 03 09 07.3 +1.6**
OKC Ostrava-Krasne 11.43 335 *e*P **P 03 09 06.5 +0.8**
OKC AMS AMS 03 13 50.0
comp=Z,1μm,12.7s
SEI Scarperia 11.44 297 P **P 03 09 05.6 -0.3**
MOA Molln 11.52 319⇓*i*P **P 03 09 06.3 -0.7**
comp=Z,24nm,0.9s
KBA Koelnbreinsper 11.54 314⇑*i*P **P 03 09 07.1 -0.1**
comp=Z,36nm,1.0s
KBA Koelnbreinsper 11.54 314⇑*i*P **P 03 09 07.1 -0.1**
KBA pmax pmax
comp=Z,36nm,1.0s
VRAC Vranov 11.54 329 Pn **P 03 09 05.7 -1.5**
comp=Z,0.2nm,0.3s,baz=145,slow=13,SNR=6.7
VRAC Lg 03 12 19.5
comp=Z,0.2nm,0.3s,baz=228,slow=14,SNR=2.1
VRAC LR LR 03 13 47.3
comp=Z,398nm,20.8s,baz=144,slow=39
MORC Moravsky Berou 11.58 333 P **P 03 09 07.1 -0.6**
MORC P 03 09 11.7
ASF Jabal al Asfar 11.87 126 Pn **P 03 09 11.0 -0.7**
comp=Z,1.3nm,0.3s,baz=163,slow=7.1,SNR=3.6
ASF Sn **S 03 11 22.2 -3.6**
comp=Z,0.3nm,0.3s,baz=318,slow=15,SNR=1.6
ASF LR LR 03 14 10.1
comp=Z,331nm,20.9s,baz=179,slow=40
TREC Trest 11.98 327 AMS AMS 03 14 10.0
comp=Z,2μm,11.5s
CTI Castel Tesino 12.00 307 P **P 03 09 12.0 -1.5**
SEST Monte Rota 12.00 310 P **P 03 09 13.3 -0.2**
GSCL Gusciola 12.05 298 P **P 03 09 14.2 0.0**
APPI Appiano 12.46 308 P **P 03 09 18.3 -1.4**
GEC2 GERESS Array S 12.47 321 *e*P **P 03 09 19.3 -0.5**
GERES GERESS Array B 12.47 321 Pn **P 03 09 19.1 -0.7**
comp=Z,0.1nm,0.3s,baz=139,slow=12,SNR=13
GERES LR LR 03 14 40.0
comp=Z,458nm,18.2s,baz=130,slow=40
DPC Dobruska-Polom 12.49 332 *e*P **P 03 09 20.6 +0.5**
DPC AMS AMS 03 15 10.0
comp=Z,900nm,9.1s
SAL Salo 12.53 303 P **P 03 09 18.8 -1.8**
WTTA Wattenberg 12.61 311⇑*i*P **P 03 09 22.4 +0.7**
comp=Z,22nm,1.0s
WTTA Wattenberg 12.61 311⇑*i*P **P 03 09 22.4 +0.7**
WTTA pmax pmax
comp=Z,22nm,1.0s
WATA Walderalm 12.68 312⇓*i*P **P 03 09 23.5 +0.8**
comp=Z,52nm,1.1s
WATA Walderalm 12.68 312⇓*i*P **P 03 09 23.5 +0.8**
WATA pmax pmax
comp=Z,53nm,1.1s
KHC Kasperske Hory 12.72 322 *e*P **P 03 09 22.6 -0.6**
KHC *x* *x* 03 09 34.0
KHC *ex* *x* 03 13 24.0
KHC AMS AMS 03 14 20.0
comp=Z,800nm,13.7s
KHC Kasperske Hory 12.72 322 *e*P **P 03 09 22.6 -0.6**
KHC *e* 03 09 34.0
KHC *e* 03 13 24.0
UPC Upice 12.73 331 *e*P **P 03 09 25.4 +2.1**
PGF Pioggiola 12.79 288 *e*P **P 03 09 23.2 -1.0**
comp=Z,106nm,1.3s
PGF Pioggiola 12.79 288 *e*P **P 03 09 23.2 -1.0**
PGF pmax pmax
comp=Z,53nm,1.3s
KSP Ksiaz 12.91 333 *e*P **P 03 09 28.9 +3.3**
KSP Ksiaz 12.91 333 *e*P **P 03 09 28.7 +3.1**
PRU Pruhonice 12.91 327 *e*P **P 03 09 20.6 -5.1**
PRU AMS AMS 03 14 20.0
comp=Z,900nm,11.8s
BOB Bobbio (Coli) 12.96 298 P **P 03 09 27.2 +0.9**
MOTA Moosalm 12.96 311⇑*i*P **P 03 09 26.8 +0.4**
comp=Z,28nm,1.0s
MOTA Moosalm 12.96 311⇑*i*P **P 03 09 26.8 +0.4**
MOTA pmax pmax
comp=Z,28nm,1.0s
BRMO Bormio 12.99 306 P **P 03 09 25.3 -1.4**
WET Wettzell 13.07 321 *e*P **P 03 09 27.9 +0.1**
PVCC Panska Ves 13.31 328 *e*P **P 03 09 31.7 +0.7**
PVCC AMS AMS 03 15 10.0
comp=Z,800nm,11.7s
DAVOX Davos 13.43 307 Pn **P 03 09 32.0 -0.5**
comp=Z,1.0nm,0.3s,baz=166,slow=14,SNR=25
DAVOX LR LR 03 14 48.8
comp=Z,610nm,18.0s,baz=112,slow=38
KIV Kislovodsk 13.49 66 *i* P **P 03 09 39.6 +6.3**
TUE Stuetta 13.63 305 P **P 03 09 34.6 -0.5**
DAVA Damuels 13.66 309⇓*i*P **P 03 09 35.7 +0.2**
comp=Z,22nm,1.0s
BRG Berggiesshubel 13.83 328 *i* P **P 03 09 40.3 +2.5**
comp=Z,4.1nm,1.0s
BRG Berggiesshubel 13.83 328 *i* P **P 03 09 40.3 +2.5**
comp=Z,4.1nm,1.0s
BRG Berggiesshubel 13.83 328 *i* P **P 03 09 40.3 +2.5**
BRG pmax pmax
comp=Z,4.0nm,1.0s
GOF Gofitskoye 14.00 62 *i* P **P 03 09 50.0 +10**
GOF pmax pmax
comp=Z,51nm,0.8s
SBF Sospel 14.13 293 *e*P **P 03 09 41.8 0.0**
comp=Z,82nm,0.8s
SBF Sospel 14.13 293 *e*P **P 03 09 41.8 0.0**
SBF pmax pmax
comp=Z,41nm,0.8s
GRA1 Grafenberg Arr 14.25 319 *e*P **P 03 09 44.0 +0.7**
GRF Grafenberg Arr 14.25 319 *e*P **P 03 09 44.0 +0.7**
MUO Muotathal 14.28 306⇑⇑P **P 03 09 45.0 +1.3**
TOUF Mont Tournerai 14.30 294 *e*P **P 03 09 48.3 +4.4**
MVIF Mont Vial 14.34 293 *e*P **P 03 09 48.8 +4.3**
SUW Suwalki 14.43 354 *e*P **P 03 09 45.8 +0.2**
CALN Calern 14.50 292 *e*P **P 03 09 47.7 +1.1**
CLL Collm 14.55 327 *e*PP 03 09 49.0
CLL *e* 03 09 58.0
CLL Collm 14.55 327 *i* P **P 03 09 48.6 +1.4**
comp=Z,9.0nm,0.8s
CLL *i* 03 09 59.2
CLL Collm 14.55 327 *i* P **P 03 09 48.6 +1.4**
CLL pmax pmax
comp=Z,9.0nm,0.8s
FRF La Foret Royal 14.64 291 *e*P **P 03 09 49.1 +0.6**
comp=Z,80nm,1.1s
FRF La Foret Royal 14.64 291 *e*P **P 03 09 49.1 +0.6**
FRF pmax pmax
comp=Z,40nm,1.1s
MOX Moxa 14.69 323 *i* P **P 03 09 51.6 +2.6**
MOX PP PP 03 10 01.0 +0.3
MOX L 03 15 03.0
MOX Moxa 14.69 323 *e*P **P 03 09 51.6 +2.6**
comp=Z,27nm,1.5s
MOX *e* 03 10 01.3
MOX Moxa 14.69 323 *e*P **P 03 09 51.6 +2.6**
MOX pmax pmax
comp=Z,27nm,1.5s
LKBD Leukerbad 14.70 303⇑⇑P **P 03 09 49.1 0.0**
LMR La Mourre 14.71 291 *e*P **P 03 09 50.6 +1.2**
GKP Gorka Klasztor 14.73 340 *e*P **P 03 09 52.7 +3.2**
GKP Gorka Klasztor 14.73 340 *e*P **P 03 09 52.7 +3.2**
GNI Garni 14.76 82 Pn **P 03 09 56.6 +6.6**
comp=Z,0.6nm,0.3s,baz=153,slow=6.8,SNR=12
GNI LR LR 03 16 23.7
comp=Z,349nm,20.2s,baz=290,slow=41
GNI Garni 14.76 82*c i*P **P 03 09 53.1 +3.1**
MBDF Montbardon 14.78 296 *e*P **P 03 09 50.7 +0.4**
comp=Z,73nm,0.8s
MBDF Montbardon 14.78 296 *e*P **P 03 09 50.7 +0.4**
MBDF pmax pmax
comp=Z,36nm,0.8s
MNK Minsk 14.91 5 *e*P **P 03 09 44.0 -7.9**
VRSR Storozhevoye 14.97 35 *e*P **P 03 09 49.3 -3.4**
VRSR *e*S **S 03 12 39.2 -0.7**
VRSR pmax pmax
comp=Z,30nm,0.7s
VRSR pmax pmax
comp=N,60nm,0.6s
VRSR pmax pmax

comp=E,60nm,0.8s
VRSR smax
comp=N,100nm,1.1s
VRSR smax
comp=Z,10.0nm,0.6s
VRSR smax
comp=E,160nm,1.0s
VRSR MLR MLR
comp=Z,340nm,14.0s
VRSR MLR MLR
comp=N,230nm,15.0s
VRSR MLR MLR
comp=E,160nm,14.0s
LPG La Plagne 14.99 299 *e*P **P 03 09 53.1 +0.1**
comp=E,52nm,0.8s
LPG La Plagne 14.99 299 *e*P **P 03 09 53.1 +0.1**
LPG pmax pmax
comp=Z,26nm,0.8s
LPL La Plagne 15.01 299 *e*P **P 03 09 53.2 -0.1**
comp=Z,39nm,0.8s
LPL La Plagne 15.01 299 *e*P **P 03 09 53.2 -0.1**
LPL pmax pmax
comp=Z,20nm,0.8s
FELD Feldberg 15.06 309 *e*P **P 03 09 52.3 -1.6**
BFO Black Forest 15.07 311 *e*P **P 03 09 52.5 -1.6**
comp=Z,7.0nm,0.8s
BFO Black Forest 15.07 311 *e*P **P 03 09 52.5 -1.6**
BFO pmax pmax
comp=Z,7.0nm,0.8s
BBS Basel-Blauen 15.18 307 *e*P **P 03 09 53.3 -2.2**
DGRG David-gareji 15.19 77 P **P 03 09 59.4 +3.9**
ORIF Oris-en-Rattie 15.44 296 *e*P **P 03 10 00.2 +1.3**
comp=Z,50nm,0.8s
ORIF *e*R
comp=Z,693nm,20.0s
TOD Tromm 15.47 315 *e*P **P 03 10 04.8 +5.6**
SMRF Simiane la Rot 15.48 293 *e*P **P 03 09 59.0 -0.4**
comp=Z,88nm,1.4s
STR Strasbourg 15.53 311 *e*P **P 03 10 05.0 +5.0**
LOMF Lomont 15.56 306 *e*P **P 03 09 59.6 -0.8**
LANF Langenberg 15.70 312 *e*P **P 03 10 07.6 +5.4**
KTD Kalmit 15.71 314 *e*P **P 03 10 07.9 +5.5**
ECH Echery 15.72 309 *e*P **P 03 09 59.8 -2.6**
HINF Hinteralfeld 15.73 307 *e*P **P 03 10 01.6 -1.0**
comp=Z,26nm,1.0s
HINF Hinteralfeld 15.73 307 *e*P **P 03 10 01.6 -1.0**
HINF pmax pmax
comp=Z,13nm,1.0s
CDF Champ du Feu 15.73 310 *e*P **P 03 10 01.7 -1.0**
comp=Z,46nm,1.0s
CDF Champ du Feu 15.73 310 *e*P **P 03 10 01.7 -1.0**
CDF pmax pmax
comp=Z,23nm,1.0s
CABF La Chapelle 15.77 302 *e*P **P 03 10 02.1 -1.1**
comp=Z,83nm,1.1s
CABF La Chapelle 15.77 302 *e*P **P 03 10 02.1 -1.1**
CABF pmax pmax
comp=Z,42nm,1.1s
DFRA Djebel Bou Aff 15.78 265 P **P 03 10 11.0 +7.6**
TNS Taunus Mts 16.00 317 *e*P **P 03 10 06.8 +0.7**
comp=Z,51nm,1.1s
TNS Taunus Mts 16.00 317 *e*P **P 03 10 06.8 +0.7**
TNS pmax pmax
comp=Z,51nm,1.1s
VRHR Novokhopersk 16.02 39 *e*P **P 03 10 09.9 +3.5**
VRHR *e*S **S 03 13 09.3 +4.5**
VRHR pmax pmax
comp=Z,30nm,0.8s
VRHR pmax pmax
comp=N,60nm,0.9s
VRHR pmax pmax
comp=E,50nm,0.9s
VRHR pmax pmax
comp=Z,60nm,0.7s
VRHR pmax pmax
comp=N,30nm,0.6s
VRHR pmax pmax
comp=E,30nm,0.7s
VRHR smax
comp=N,60nm,1.4s
VRHR smax
comp=E,30nm,0.7s
VRHR smax
comp=Z,7.0nm,0.7s
VRHR MLR MLR
comp=Z,490nm,17.0s
VRHR MLR MLR
comp=N,290nm,20.0s
VRHR MLR MLR
comp=E,430nm,20.0s
CMER Merouana 16.07 262 P **P 03 10 09.0 +2.0**
CLZ Clausthal 16.08 324 *e*P **P 03 10 09.9 +2.8**
HAU Haudompre 16.12 307 *e*P **P 03 10 06.7 -0.9**
comp=E,47nm,1.1s
HAU *e*R
comp=E,132nm,22.5s
SET Setif 16.25 264 P **P 03 10 12.0 +2.6**
VIVF Saint-Julien-l 16.27 295 *e*P **P 03 10 09.7 +0.1**
comp=E,31nm,0.8s
VIVF Saint-Julien-l 16.27 295 *e*P **P 03 10 09.7 +0.1**
VIVF pmax pmax
comp=Z,16nm,0.8s
ABH Alteburg 16.30 315 *e*P **P 03 10 12.3 +2.4**
THEF They Montfort 16.43 308 *e*P **P 03 10 10.7 -0.9**
RUP Ruppelstein 16.48 314 *e*P **P 03 10 16.3 +4.1**
LASF Ste Croix 16.72 292 *e*P **P 03 10 16.0 +0.7**
comp=Z,65nm,1.2s
MEZF Maizieres J'vi 17.11 308 *e*P **P 03 10 16.5 -3.7**
comp=Z,37nm,1.1s
OBN Obninsk 17.12 22 *i*P **P 03 10 19.8 -0.4**
comp=Z,14nm,0.6s
OBN Obninsk 17.12 22 *d i*P **P 03 10 19.8 -0.4**
OBN *e*S **S 03 13 19.9 -10**
OBN pmax pmax
comp=Z,14nm,0.6s
OBN MLR MLR
comp=Z,500nm,19.0s
PLDF La Plantade 17.23 299 *e*P **P 03 10 21.0 -0.7**
SMF Signal de Mont 17.26 301 *e*P **P 03 10 21.8 -0.3**
comp=Z,14nm,0.7s
SMF Signal de Mont 17.26 301 *e*P **P 03 10 21.8 -0.3**
SMF pmax pmax
comp=Z,7.0nm,0.7s
LBL Lubilhac 17.33 296 *e*P **P 03 10 21.4 -1.6**
LOR Lormes 17.43 303 *e*P **P 03 10 23.9 -0.3**
comp=Z,32nm,1.1s
LOR *e*R
comp=Z,180nm,17.2s
AKET Djebel Ketaf 17.47 265 P **P 03 10 17.6 -7.2**
AGO Saint Agoulin 17.59 299 *e*P **P 03 10 23.3 -2.8**
SSF Saint Saulge 17.60 302 *e*P **P 03 10 26.8 +0.5**
comp=Z,10nm,0.8s
SSF Saint Saulge 17.60 302 *e*P **P 03 10 26.8 +0.5**
SSF pmax pmax
comp=Z,10.0nm,0.8s
BSEG Bad Segeberg 17.60 329 *e*P **P 03 10 27.4 +1.1**
AVF Avril sur Loir 17.62 301 *e*P **P 03 10 27.4 +0.8**
comp=Z,58nm,1.2s
AVF Avril sur Loir 17.62 301 *e*P **P 03 10 27.4 +0.8**
AVF pmax pmax
comp=Z,29nm,1.2s
ADJB Djebel Djouab 17.78 266 P **P 03 10 19.5 -9.1**
MTLF Montolieu 17.83 289 *e*P **P 03 10 30.0 +0.8**
comp=Z,60nm,1.2s
MTLF Montolieu 17.83 289 *e*P **P 03 10 30.0 +0.8**
MTLF pmax pmax
comp=Z,30nm,1.2s
BGF Bois d'Agland 17.90 300 *e*P **P 03 10 30.1 +0.1**
GIVF Givet 17.94 312 *e*P **P 03 10 28.8 -1.7**
comp=Z,81nm,1.3s
GIVF Givet 17.94 312 *e*P **P 03 10 28.8 -1.7**
GIVF pmax pmax
comp=Z,40nm,1.3s
MOS Moscow 17.96 23 *e*P **P 03 10 37.7 +6.9**
MOS *e*S **S 03 13 58.5 +9.3**
MOS pmax pmax
comp=Z,82nm,0.8s
CAF Calviac 18.11 294 *e*P **P 03 10 33.3 +0.6**
comp=Z,50nm,1.1s
CAF Calviac 18.11 294 *e*P **P 03 10 33.3 +0.6**
CAF pmax pmax
comp=Z,25nm,1.1s
TCF Toulx Ste Croi 18.26 299 *e*P **P 03 10 34.7 +0.1**
comp=Z,36nm,1.0s
TCF Toulx Ste Croi 18.26 299 *e*P **P 03 10 34.7 +0.1**
TCF pmax pmax
comp=Z,18nm,1.0s
BAIF Baives 18.27 312 *e*P **P 03 10 33.1 -1.6**
comp=Z,68nm,1.5s
BAIF Baives 18.27 312 *e*P **P 03 10 33.1 -1.6**
BAIF pmax pmax
comp=Z,34nm,1.5s
EMIR Miracle 18.30 285 P **P 03 10 37.2 +2.1**
comp=Z,35nm,1.2s,SNR=7.9
RJF Les Rejaudoux 18.55 295 *e*P **P 03 10 39.3 +1.1**
comp=Z,117nm,1.5s
RJF *e*R
comp=Z,707nm,20.0s
VSU Vasula 18.82 2 P **P 03 10 41.3 0.0**
LFF La Frestale 19.04 294 *e*P **P 03 10 43.1 -1.0**
comp=Z,89nm,1.3s
LFF La Frestale 19.04 294 *e*P **P 03 10 43.1 -1.0**
LFF pmax pmax
comp=Z,45nm,1.3s
EGRA Graus 19.20 286 P **P 03 10 46.3 +0.3**
comp=Z,18nm,0.9s,SNR=7.9
EGRA Graus 19.20 286 P **P 03 10 46.3 +0.3**
comp=Z,18nm,0.9s
EBIE Bielsa 19.32 287 P **P 03 10 47.7 +0.2**
comp=Z,12nm,0.8s,SNR=7.4
EBIE Bielsa 19.32 287 P **P 03 10 47.7 +0.2**
comp=Z,12nm,0.8s
LABF Labassere 19.38 288 *e*P **P 03 10 49.0 +0.9**
ETSF Etsaut 19.84 288 *e*P **P 03 10 52.5 -0.8**
comp=Z,24nm,0.7s
ETSF Etsaut 19.84 288 *e*P **P 03 10 52.5 -0.8**
ETSF pmax pmax
comp=Z,12nm,0.7s
EMOS Mosqueruela 19.91 280 P **P 03 10 54.7 +0.6**
comp=Z,19nm,1.0s,SNR=6.5
EMOS Mosqueruela 19.91 280 P **P 03 10 54.8 +0.6**
comp=Z,19nm,1.0s
MFF Saint Martin d 19.92 299 *e*P **P 03 10 53.8 -0.4**
comp=Z,47nm,1.0s
MFF Saint Martin d 19.92 299 *e*P **P 03 10 53.8 -0.4**
MFF pmax pmax
comp=Z,23nm,1.0s
EBEN Beniarda 19.97 275 P **P 03 10 54.7 -0.1**
comp=Z,39nm,1.3s,SNR=4.5
SJPF Ste Jean 20.33 288 *e*P **P 03 10 58.2 -0.4**
comp=Z,41nm,0.7s
SJPF Ste Jean 20.33 288 *e*P **P 03 10 58.2 -0.4**
SJPF pmax pmax
comp=Z,20nm,0.7s
PUL Pulkovo 20.33 7⇑ *e*P **P 03 11 03.5 +5.0**
PUL pmax pmax
comp=N,89nm,0.6s
PUL pmax pmax
comp=Z,53nm,0.6s
PUL MLR MLR
comp=Z,688nm,18.0s,MS4.0
PUL MLR MLR
comp=N,385nm,13.0s
RST Umm Al-Ruwaisa 20.34 113 *e*P **P 03 10 59.0 +0.3**
RST AMb AMB 03 11 03.1
comp=Z,54nm,1.0s
OSSF Osses 20.36 289 *e*P **P 03 10 58.0 -0.9**
LDF La Druitiere 20.38 304 *e*P **P 03 10 58.2 -0.8**
comp=Z,20nm,0.7s
LDF La Druitiere 20.38 304 *e*P **P 03 10 58.2 -0.8**
LDF pmax pmax
comp=Z,10.0nm,0.7s
ECHE Chera 20.39 278 P **P 03 10 59.9 +0.7**
comp=Z,9.9nm,0.9s,SNR=6.3
ECHE Chera 20.39 278 P **P 03 10 59.9 +0.7**
comp=Z,9.9nm,0.9s
ECHE Chera 20.39 278 P **P 03 10 59.9 +0.7**
ECHE pmax pmax
comp=Z,10.0nm,0.9s
MIB Mutribah 20.41 112 *e*P **P 03 10 59.0 -0.5**
MIB AMb AMB 03 11 02.6
comp=Z,84nm,0.6s
EALK Alkurruntz 20.54 289 P **P 03 11 00.4 -0.3**
comp=Z,22nm,0.9s,SNR=6.9
EALK Alkurruntz 20.54 289 P **P 03 11 00.4 -0.3**
comp=Z,22nm,0.9s
EARA Aranguren 20.59 287 P **P 03 11 01.5 +0.2**
comp=Z,44nm,0.9s,SNR=7.9
FLN La Foliniere 20.65 305 *e*P **P 03 11 01.0 -0.9**
comp=Z,30nm,0.7s
FLN *e*R
comp=Z,377nm,18.2s
FLN La Foliniere 20.65 305 *e*P **P 03 11 01.0 -0.9**
FLN pmax pmax
comp=Z,15nm,0.7s
FLN MLR MLR
comp=Z,380nm,18.3s,MS3.8
GRR Gorron 20.79 303 *e*P **P 03 11 02.4 -0.9**
comp=Z,90nm,1.4s
GRR Gorron 20.79 303 *e*P **P 03 11 02.4 -0.9**
GRR pmax pmax
comp=Z,45nm,1.4s
UMR Umm Al-Rimmam 20.82 112 *e*P **P 03 10 59.7 -4.0**
UMR AMb AMB 03 11 08.8
comp=Z,86nm,0.8s
EMUR La Murta 20.93 274 P **P 03 11 03.3 -1.5**
comp=Z,6.1nm,0.8s,SNR=7.9
EMUR La Murta 20.93 274 P **P 03 11 03.3 -1.5**
comp=Z,6.1nm,0.8s
ETOB Tobarra 21.00 276 P **P 03 11 05.1 -0.4**
comp=Z,10.0nm,1.1s,SNR=5.7
ETOB Tobarra 21.00 276 P **P 03 11 05.1 -0.4**
comp=Z,10.0nm,1.1s
EVIA Vianos 21.73 276 P **P 03 11 14.5 +1.6**
comp=Z,11nm,0.6s,mb4.5,SNR=9.4
EVIA Vianos 21.73 276 P **P 03 11 14.5 +1.5**
comp=Z,11nm,0.6s,mb4.5
EVIA Vianos 21.73 276 P **P 03 11 14.5 +1.6**
EVIA pmax pmax
comp=Z,11nm,0.6s,mb4.5
HFS Hagfors 21.78 344 P **P 03 11 11.8 -1.5**
comp=Z,4.3nm,0.6s,mb4.0,baz=153,slow=9.9,SNR=29
HFS LR LR 03 20 31.3
comp=Z,380nm,18.2s,MS3.8,baz=336,slow=39
HFA0 Hagfors New Ar 21.79 344 P **P 03 11 11.9 -1.5**
FINES FINESS Array B 21.79 1 P **P 03 11 13.1 -0.3**
comp=Z,14nm,1.0s,mb4.3,baz=153,slow=17,SNR=4.9
FINES LR LR 03 20 38.5
comp=Z,334nm,18.2s,MS3.8,baz=350,slow=39
SGMF Saint Gilles 21.86 302 *e*P **P 03 11 14.0 -0.2**
comp=Z,86nm,1.3s,mb4.7
SGMF Saint Gilles 21.86 302 *e*P **P 03 11 14.0 -0.2**
SGMF pmax pmax
comp=Z,43nm,1.3s,mb4.7
ELAN Lanestosa 21.95 289 P **P 03 11 16.6 +1.5**
comp=Z,20nm,1.1s,mb4.5,SNR=5.0
EHUE Huescar 21.98 274 P **P 03 11 16.1 +0.7**
comp=Z,9.0nm,1.0s,mb4.1,SNR=9.1
EHUE Huescar 21.98 274 P **P 03 11 16.1 +0.6**
comp=Z,9.0nm,1.0s,mb4.2
EHUE Huescar 21.98 274 P **P 03 11 16.1 +0.7**
EHUE pmax pmax
comp=Z,9.0nm,1.0s,mb4.2
QUIF Quistinic 22.19 301 *e*P **P 03 11 16.7 -0.8**
comp=Z,116nm,1.0s,mb5.0
QUIF Quistinic 22.19 301 *e*P **P 03 11 16.7 -0.8**
QUIF pmax pmax
comp=Z,58nm,1.0s,mb5.0
ROSF Rostrenen 22.35 302 *e*P **P 03 11 18.9 -0.1**
comp=Z,77nm,1.1s,mb4.8
ROSF Rostrenen 22.35 302 *e*P **P 03 11 18.9 -0.1**
ROSF pmax pmax
comp=Z,38nm,1.1s,mb4.7
EQES Quesada 22.35 274 P **P 03 11 19.4 +0.3**
comp=Z,32nm,1.0s,mb4.7,SNR=16
KONO Kongsberg 22.38 339 *i*P **P 03 11 19.2 0.0**
EBER Berja 22.44 272 P **P 03 11 22.0 +2.0**
comp=Z,36nm,1.0s,mb4.7,SNR=14
EBER Berja 22.44 272 P **P 03 11 22.0 +2.0**
comp=Z,36nm,1.0s,mb4.8
KAF Kangasniemi 22.47 1 *e*p **P 03 11 19.6 -0.5**
ESDC Sonseca Array 22.66 279 P **P 03 11 20.9 -1.3**
comp=Z,2.6nm,0.6s,mb3.9,baz=75,slow=10,SNR=20
ESDC Sonseca Array 22.66 279 P **P 03 11 20.9 -1.3**
ESDC P 03 11 24.1
EBAN Banos Encina 22.82 276 P **P 03 11 24.9 +1.2**
comp=Z,9.6nm,0.9s,mb4.2,SNR=10
EBAN Banos Encina 22.82 276 P **P 03 11 24.9 +1.2**
comp=Z,9.6nm,0.9s,mb4.2
EBAN Banos Encina 22.82 276 P **P 03 11 24.9 +1.2**
EBAN pmax pmax
comp=Z,10.0nm,0.9s,mb4.2
EGUA Guajares 22.98 272 P **P 03 11 26.6 +1.3**
comp=Z,1.5nm,0.6s,mb3.6,SNR=7.9
EGUA Guajares 22.98 272 P **P 03 11 26.6 +1.3**
comp=Z,1.5nm,0.6s,mb3.6
EGUA Guajares 22.98 272 P **P 03 11 26.7 +1.4**
EGUA pmax pmax
comp=Z,2.0nm,0.6s,mb3.7
ERON Agron 23.12 273 P **P 03 11 27.7 +1.1**
comp=Z,5.4nm,0.5s,mb4.2,SNR=12
ERON Agron 23.12 273 P **P 03 11 27.7 +1.1**
comp=Z,5.4nm,0.5s,mb4.2
NB2 NORSAR Subarra 23.15 342 P **P 03 11 26.9 +0.2**
comp=Z,12nm,0.7s,mb4.4,baz=144,slow=10
NB2 NORSAR Subarra 23.15 342 P **P 03 11 26.9 +0.2**
NB2 pmax pmax
comp=Z,12nm,0.7s,mb4.4
NOA NORSAR Array B 23.15 342 P **P 03 11 27.2 +0.5**
comp=Z,12nm,0.7s,mb4.5,baz=147,slow=9.3,SNR=22
NOA LR LR 03 19 33.5
comp=Z,118nm,21.6s,MS3.3,baz=155,slow=34
NOA NORSAR Array B 23.15 342 P **P 03 11 27.2 +0.5**
NOA LR LR 03 19 33.5
ELOJ Sierra Loja 23.35 273 P **P 03 11 29.5 +0.6**
comp=Z,3.2nm,0.6s,mb4.0,SNR=10
ELOJ Sierra Loja 23.35 273 P **P 03 11 29.5 +0.7**
comp=Z,3.2nm,0.6s,mb3.9
ELOJ Sierra Loja 23.35 273 P **P 03 11 29.5 +0.6**
ELOJ pmax pmax
comp=Z,3.0nm,0.6s,mb3.9
EADA Adamuz 23.43 276 P **P 03 11 30.0 +0.4**
comp=Z,78nm,1.7s,mb4.9,SNR=13
EADA Adamuz 23.43 276 P **P 03 11 30.0 +0.4**
comp=Z,78nm,1.7s,mb4.9
JOF Joensuu 23.53 7 *e*p **P 03 11 30.2 -0.2**
EMIJ Mijas 23.99 272 P **P 03 11 34.2 -0.9**
comp=Z,39nm,0.9s,mb4.9,SNR=22
EMIJ Mijas 23.99 272 P **P 03 11 34.2 -0.8**
comp=Z,39nm,0.9s,mb4.8
ECAL Calabor 24.45 286 P **P 03 11 38.8 -0.8**
comp=Z,11nm,0.9s,mb4.3
ECAL Calabor 24.45 286 P **P 03 11 38.8 -0.8**
comp=Z,11nm,0.9s,mb4.3
PBRG Braganca 24.47 285 *e*P **P 03 11 40.3 +0.6**
comp=Z,21nm,1.1s,mb4.5
EJIF Jimena Fronter 24.56 272 P **P 03 11 40.8 +0.1**
comp=Z,5.0nm,0.8s,mb4.1,SNR=7.3
EJIF Jimena Fronter 24.56 272 P **P 03 11 40.8 +0.1**
comp=Z,5.0nm,0.8s,mb4.1
EJIF Jimena Fronter 24.56 272 P **P 03 11 40.8 +0.1**
EJIF pmax pmax
comp=Z,5.0nm,0.8s,mb4.1
EKA Eskdalemuir Ar 24.67 319 P **P 03 11 41.1 -0.4**
comp=Z,7.6nm,0.6s,mb4.4,baz=111,slow=9.2,SNR=11
ESPR Espera 24.74 274 P **P 03 11 41.3 -1.1**
SNR=6.2
EMIN Mina Concepcio 25.13 276 P **P 03 11 46.9 +0.8**
comp=Z,18nm,0.9s,mb4.6,SNR=12
EBAD Badajoz 25.16 278 P **P 03 11 46.7 +0.3**
comp=Z,7.7nm,1.2s,mb4.1,SNR=7.9
EBAD Badajoz 25.16 278 P **P 03 11 46.7 +0.3**
comp=Z,7.7nm,1.2s,mb4.1
MDT Midelt 25.18 264 LR LR 03 22 35.3
comp=Z,169nm,18.1s,MS3.6,baz=298,slow=39
MTE Manteigas 25.26 282 *e*P **P 03 11 48.0 +0.7**
comp=Z,22nm,1.3s,mb4.5
PCBR Castelo Branco 25.30 281 *e*P **P 03 11 49.1 +1.4**
PBEJ Beja 25.98 277 *e*P **P 03 11 53.9 -0.2**
ARU Arti 27.35 41 *e*P **P 03 12 06.7 +0.2**
comp=Z,300nm,17.0s
ARU Arti 27.35 41⇑ *e*P **P 03 12 06.7 +0.2**
ARU pmax pmax
comp=Z,11nm,1.0s,mb4.3
ARU MLR MLR
comp=Z,300nm,17.0s,MS3.9
SOKR Solikamsk 27.97 34⇑ *i*P **P 03 12 15.5 +3.4**
SOKR pmax pmax
comp=Z,40nm,1.2s,mb4.9
SOKR MLR MLR
comp=Z,400nm,16.0s,MS4.1
APA Apatity 28.28 6 *e*P **P 03 12 17.5 +2.7**
APA pmax pmax
comp=Z,14nm,0.8s,mb4.6
APA MLR MLR
comp=Z,900nm,14.0s,MS4.5
LVZ Lovozero 28.72 7⇑ *e*P **P 03 12 32.0 +13**
LVZ pmax pmax
comp=N,14nm,1.1s
LVZ pmax pmax
comp=Z,18nm,1.1s,mb4.7
LVZ MLR MLR
comp=Z,501nm,12.0s,MS4.3
ARCES ARCESS Array B 29.92 360 P **P 03 12 28.8 -0.7**
comp=Z,7.6nm,0.8s,mb4.5,baz=180,slow=7.3,SNR=16
ARCES LR LR 03 25 30.3
comp=Z,372nm,18.7s,MS4.0,baz=248,slow=38
KEV Kevo 30.15 1 *e*p **P 03 12 32.6 +1.0**
VOSK Vostochnaya 33.48 52 P **P 03 13 02.9 +2.0**
comp=Z,7.0nm,0.8s,mb4.6
VOSK Vostochnaya 33.48 52 P **P 03 13 02.9 +2.0**
VOSK pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
KKAR Karatay Array 33.61 69 *i*P **P 03 13 04.4 +2.3**
KKAR pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
AAK Ala-Archa 36.58 69 *i*P **P 03 13 29.1 +1.7**
comp=Z,10.0nm,1.2s,mb4.5
AAK Ala-Archa 36.58 69 *c i*P **P 03 13 29.1 +1.7**
AAK pmax pmax
comp=Z,10.0nm,1.2s,mb4.5
FRU Bishkek 36.62 69 *e*P **P 03 13 30.0 +2.2**
comp=Z,60nm,1.6s,mb5.2
FRU Bishkek 36.62 69 *e*P **P 03 13 30.0 +2.2**
FRU *e* 03 13 39.0
FRU pmax pmax
comp=Z,60nm,1.6s,mb5.2
KURK Kurchatov 38.23 55 *i*P **P 03 13 44.4 +3.1**
KURK pmax pmax
comp=Z,9.0nm,1.3s,mb4.3
NVS Novosibirsk 40.78 48 *i*P **P 03 14 06.1 +3.8**
NVS pmax pmax
comp=N,5.0nm,0.9s
NVS pmax pmax
comp=E,13nm,0.9s
NVS pmax pmax
comp=Z,22nm,0.9s,mb4.8
MKAR Makanchi Array 41.17 61 P **P 03 14 06.0 +0.3**
comp=Z,14nm,0.7s,mb4.7,baz=278,slow=7.0,SNR=55
MKAR Makanchi Array 41.17 61 P **P 03 14 05.9 +0.2**
ZAL Zalesovo 41.75 50 P **P 03 14 10.2 0.0**
comp=Z,7.7nm,0.7s,mb4.5,baz=206,slow=8.1,SNR=25
ZAL LR LR 03 34 41.2
comp=Z,146nm,18.3s,MS3.9,baz=202,slow=41
ZAL Zalesovo 41.75 50 P **P 03 14 10.2 0.0**
DBIC Dimbokro 42.72 228 P **P 03 14 18.4 -0.4**
comp=Z,5.3nm,0.7s,mb4.4,baz=9.6,slow=13,SNR=8.2
LIC Lamto 43.18 228 *e*P **P 03 14 21.6 -0.9**
comp=Z,20nm,0.7s,mb4.7
WMQ Urumqi 45.60 64 P **P 03 14 45.3 +3.7**
WMQ AP pP 03 14 55.3 +13
WMQ AMB AMB
comp=Z,15nm,1.0s,mb4.9
BHPL Bhopal 46.56 95 *e*P **P 03 14 49.3 -0.1**
BHPL *e*S PcP 03 16 08.2 -16
BHPL AML AML 03 16 12.1
comp=E,4.9nm,0.1s
BHPL AML AML 03 16 12.2
comp=N,5.9nm,0.3s
KAD Karad 47.54 104 *e*P **P 03 14 57.8 +0.5**
KAD *e*S PcP 03 16 28.4 +0.7
KAD AML AML 03 16 30.4
comp=N,2.5nm,0.3s
KAD AML AML 03 16 32.9
comp=E,2.6nm,0.0s
KOLN Koldanda 48.97 85 *e*P **P 03 15 08.2 0.0**
comp=E,10nm,0.7s,mb5.0
GKN Gorkha 49.65 85 *e*P **P 03 15 13.3 -0.2**
comp=E,60nm,1.4s,mb5.5
DMN Daman 50.21 85 *e*P **P 03 15 18.0 +0.2**
KKN Kakani 50.25 84 *e*P **P 03 15 18.7 +0.6**
comp=E,15nm,0.8s,mb5.1
PKI Pulchoki 50.46 85 *e*P **P 03 15 20.3 +0.6**
ZAK Zakamensk 53.60 51 *e*P **P 03 15 46.6 +3.6**
ZAK pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
GTA Gaotai 55.66 65 P **P 03 16 00.3 +2.1**
GTA AP pP 03 16 12.8 +14
GTA XP sP 03 16 18.5 +19

GTA AMB AMB
comp=Z,9.0nm,0.9s,mb4.8
SONM Songino Array 56.46 53 P **P 03 16 03.5 -0.3**
comp=Z,3.8nm,0.9s,mb4.4,baz=287,slow=9.5,SNR=22
BOD Bodaibo 56.76 40 *e*P **P 03 16 03.8 -2.0**
SCHQ Schefferville 59.98 318 P **P 03 16 26.9 -1.5**
comp=Z,4.1nm,0.8s,mb4.5,baz=32,slow=8.1,SNR=5.7
HHC Hu-ho-hao-te 62.94 58 *e*P **P 03 16 51.4 +2.9**
HHC PP PP 03 19 15.3 +6.7
HHC AMB AMB
comp=Z,15nm,1.2s,mb5.0
HHC AMB AMB
comp=Z,144nm,7.1s
CHG Chiang Mai 65.64 85 ⇓P **P 03 17 07.8 +1.4**
comp=Z,15nm,1.0s,mb5.0
NANT Nan 66.99 84 P **P 03 17 15.0 0.0**
BOSA Boshof 67.94 180 P **P 03 17 20.0 -0.9**
comp=Z,2.5nm,0.9s,mb4.2,baz=58,slow=17,SNR=3.1
BOSA LR LR 03 50 41.0
comp=Z,126nm,19.9s,MS4.1,baz=253,slow=39
NJ2 Nanjing 72.67 63 *e*P **P 03 17 49.4 -0.1**
NJ2 AP pP 03 17 59.8 +9.2
NJ2 XP sP 03 18 03.9 +13
NJ2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
YKA Yellowknife Ar 73.25 342 P **P 03 17 52.0 -0.3**
comp=Z,1.8nm,0.7s,mb4.1,baz=37,slow=5.9,SNR=6.0
YKA LR LR 03 51 03.2
comp=Z,100nm,18.9s,MS4.1,baz=55,slow=37
YKA Yellowknife Ar 73.25 342 P **P 03 17 52.0 -0.3**
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA MLR MLR
comp=Z,100nm,18.9s
SSE Sheshan 74.84 62 P **P 03 18 02.5 +0.4**
SSE AMB AMB
comp=Z,84nm,4.0s
ILAR Eielson Array 75.72 357 P **P 03 18 06.6 +0.1**
comp=Z,1.0nm,0.9s,mb3.8,baz=344,slow=4.5,SNR=6.9
ILAR LR LR 03 50 23.5
comp=Z,65nm,18.2s,MS4.0,baz=269,slow=35
ULM Lac du Bonnet 76.74 326 P **P 03 18 11.7 -0.8**
comp=Z,8.5nm,0.9s,mb4.7,baz=19,slow=5.4,SNR=9.2
ULM LR LR 03 52 17.6
comp=Z,129nm,18.5s,MS4.3,baz=352,slow=36
MJAR Matsushiro Arr 82.10 49 P **P 03 18 43.3 +1.6**
comp=Z,2.1nm,0.8s,mb4.1,baz=316,slow=5.3,SNR=2.2
MJAR Matsushiro Arr 82.10 49 P **P 03 18 43.3 +1.6**
MJAR pmax pmax
comp=Z,2.0nm,0.8s
BDFB Brasilia 87.69 248 P **P 03 19 11.7 +1.6**
comp=Z,11nm,0.6s,mb5.2,baz=70,slow=4.2,SNR=18
BDFB Brasilia 87.69 248 P **P 03 19 11.7 +1.6**
BDFB pmax pmax
comp=Z,11nm,0.6s
PDAR Pinedale Array 88.41 329 P **P 03 19 12.8 -0.2**
comp=Z,0.5nm,0.7s,mb3.9,baz=72,slow=4.7,SNR=5.1
PDAR LR LR 03 59 03.9
comp=Z,107nm,18.6s,MS4.3,baz=316,slow=36
NVAR Mina Array Bea 95.49 332 P **P 03 19 46.1 +0.2**
comp=Z,0.7nm,0.8s,mb4.2,baz=51,slow=4.6,SNR=5.8
TXAR Lajitas Array 96.66 317 P **P 03 19 51.1 -0.3**
comp=Z,0.8nm,0.8s,mb4.2,baz=64,slow=4.1,SNR=12
TXAR Lajitas Array 96.66 317 P **P 03 19 51.1 -0.3**
TXAR pmax pmax
comp=Z,1.0nm,0.8s

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*ATH **24** 03:17:14.7, 39.77N×25.64E, h21km±1km, MD3.0/5*
*ISK **24** 03:17:14.4, 39.68N×25.60E, h16km, MD3.2*
*NEIC **24** 03:17:14.7, 39.77N×25.64E, h21km, MD3.0(ATH), After ATH.*
*CSEM **24** 03:17:14.7, 39.77N×25.64E, h21km, MD3.0/2, After ATH*
ISC 24 03:17:14.6±1.0, 39.64N±0.06×25.56E±0.07, h19km±10km, n10, σ0.44/13, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.39**	**312**	*e*PB	**Pb**	**03 17 22.7**	**0.0**
EZN	**Ezine**	**0.62**	**72**	*i* PG	**Pb**	**03 17 26.3**	**-0.3**
EZN				*i* SG	**Sb**	**03 17 34.9**	**+0.2**
PRK	**Paraskevi**	**0.67**	**125**	*e*PN	**Pn**	**03 17 28.5**	**-0.4**
PRK				*e*SN	**Sn**	**03 17 38.9**	**0.0**
CANB	**Canakkale**	**1.22**	**71**	PN	**Pn**	**03 17 37.5**	**+0.8**
CANB				SN	**Sn**	**03 17 53.3**	**+0.6**
RDO	**Rodhopi**	**1.51**	**359**	*e*PN	**Pn**	**03 17 40.8**	**-0.1**
MFT	**Murefte**	**1.75**	**48**	*e*PN	**Pn**	**03 17 44.0**	**-0.3**
MRMT	**Marmara Adasi**	**1.83**	**58**	*e*PN	**Pn**	**03 17 44.7**	**-0.9**
NVR	**Nevrokopi**	**2.15**	**323**	*e*PN	**Pn**	**03 17 50.5**	**+0.4**
SMG	**Samos**	**2.17**	**152**	*e*PB	**Pb**	**03 17 53.3**	**+0.4**
DST	**Dursunbey**	**2.37**	**90**	PN	**Pn**	**03 17 52.9**	**-0.3**

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*NEIC **24** 04:07:35.8, 32.81S×70.29W, h99km, MD3.4(GUC), After GUC.*
GUC 24 04:07:35.8±0.7, 32.81S×70.29W, h99km±3km, MD3.4, ML3.5, 8C-6D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACH	**Jahuel**	**0.29**	**297**	⇑*i*P	P	04 07 50.5	+0.2
JACH				*i* S	S	04 08 01.9	+0.7
PEL	**Peldehue**	**0.47**	**225**	⇑*i*P	P	04 07 51.5	+0.1
PEL				*i* S	S	04 08 03.2	+0.1
FCH	**Farellones**	**0.51**	**180**	⇓*i*P	P	04 07 52.1	+0.4
FCH				*i* S	S	04 08 04.9	+1.2
FCH				AMP		04 08 05.2	
comp=E,3μm,0.2s							
CLCH	**Cerro Calan**	**0.62**	**200**	⇓*i*P	P	04 07 52.7	+0.1
CLCH				*i* S	S	04 08 05.6	+0.5
CLCH				AMP		04 08 07.4	
comp=E,2μm,0.4s							
CLCH				AMP		04 08 08.0	
comp=E,3μm,0.4s							
DSCH	**Colegio Aleman**	**0.63**	**202**	⇑*i*P	P	04 07 52.8	+0.1
DSCH				*i* S	S	04 08 05.9	+0.5
DSCH				AMP		04 08 07.2	
comp=E,6μm,0.2s							
ROCH	**El Roble**	**0.63**	**255**	⇓*i*P	P	04 07 52.9	+0.2
ROCH				*i* S	S	04 08 06.1	+0.8
STL	**Santa Lucia**	**0.69**	**205**	*i* P	P	04 07 52.3	-0.9
STL				*i* S	S	04 08 05.6	-0.6
STL				AMP		04 08 06.0	
comp=N,3μm,0.2s							
FSR	**Penalolen**	**0.69**	**197**	⇑*i*P	P	04 07 53.6	+0.4
FSR				*i* S	S	04 08 07.0	+0.7
FSR				AMP		04 08 08.3	
comp=N,2μm,0.2s							
SAN	**Santiago**	**0.71**	**206**	⇑*i*P	P	04 07 53.7	+0.2
SAN				*i* S	S	04 08 07.0	+0.4
SAN				AMP		04 08 07.7	
comp=E,5μm,0.3s							
RCDM	**Rinconada Maip**	**0.80**	**213**	*e*P	P	04 07 54.3	-0.1
RCDM				*i* S	S	04 08 08.7	+0.6
RCDM				AMP		04 08 09.3	
comp=N,5μm,0.1s							
ANTU	**Antumapu**	**0.81**	**201**	*i* P	P	04 07 54.6	+0.2
ANTU				*i* S	S	04 08 08.9	+0.7
ANTU				AMP		04 08 09.8	
comp=E,3μm,0.3s							
SJCH	**San Jose de Ma**	**0.83**	**184**	*i* P	P	04 07 54.4	-0.2
SJCH				*i* S	S	04 08 09.1	+0.5
SJCH				AMP		04 08 09.7	
comp=N,591nm,0.3s							
PCH	**Pirque**	**0.83**	**193**	*e*P	P	04 07 54.7	+0.1
PCH				*i* S	S	04 08 09.4	+0.9
TACH	**Talagante**	**1.00**	**213**	⇓*i*P	P	04 07 56.2	-0.2
TACH				*i* S	S	04 08 12.0	+0.1
LMEL	**Las Melosas**	**1.03**	**176**	*e*P	P	04 07 57.1	+0.4
LMEL				*i* S	S	04 08 13.7	+1.1
LMEL				AMP		04 08 20.1	
comp=N,956nm,0.1s							
CHCH	**Chadas Angostu**	**1.16**	**195**	⇓*i*P	P	04 07 58.1	-0.2
CHCH				*i* S	S	04 08 15.7	+0.5
MDZ	**Mendoza**	**1.21**	**94**	*e*P	P	04 07 59.4	+0.4
MDZ				*e*		04 08 17.7	
LCCH	**Las Cruces**	**1.26**	**238**	⇓*i*P	P	04 07 59.1	-0.4
LCCH				*i* S	S	04 08 16.8	-0.5
CHNG	**Los Chungos**	**1.38**	**312**	⇑*i*P	P	04 08 01.1	+0.1
CHNG				*i* S	S	04 08 19.9	+0.2
CHNG				AMP		04 08 25.1	
comp=E,276nm,0.3s							
ILCH	**Illapel**	**1.39**	**327**	*e*P	P	04 08 01.3	+0.2
ILCH				*i* S	S	04 08 20.5	+0.6
ILCH				AMP		04 08 21.5	
comp=N,618nm,0.3s							
LNV	**Longovilo**	**1.48**	**219**	⇑*i*P	P	04 08 01.2	-1.0
LNV				*i* S	S	04 08 20.6	-1.2
CMCH	**Combarbala**	**1.74**	**339**	*e*P	P	04 08 05.5	0.0
CMCH				*i* S	S	04 08 28.0	+0.6
CMCH				AMP		04 08 33.5	
comp=E,637nm,0.4s							
ZON	**Zonda**	**1.86**	**48**	⇑*i*P	P	04 08 10.7	+3.8
ZON				*e*S	S	04 08 41.9	+12

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*IDC **24** 04:23:58.3±0.6, 1.14N×97.32E, mb4.5/18, mb1 4.6/18, mb1mx4.5/22, mbtmp4.5/18, MS4.2/11, Ms1 4.1/11, ms1mx3.9/26, Error ellipse: s-maj=19.4km s-min=14.8km az=52.0*
*MOS **24** 04:24:02.0±0.9, 1.26N×97.36E, h33km, mb5.0/20, Error ellipse: s-maj=20.1km s-min=8.1km az=105.1*
*BJI **24** 04:24:03.3, 1.07N×97.53E, h52km, mB5.0, mb4.9, Ms4.7, Msz4.5*
*NEIC **24** 04:24:05.3±1.5, 1.09N×97.40E, h51km±13km, mb4.8/25, Error ellipse: s-maj=8.6km s-min=6.0km az=46.0*
NEIC Felt [II] on Nias.
ISC 24 04:24:00.9±1.8, 1.09N±0.06×97.34E±0.05, h30km±12km, h32km±3.0km: pP-P, n111, σ0.94/103, mb4.8/60, MS4.3/21, 4C-5D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.06**	**47**	P	**Pn**	**04 25 17.9**	**+1.1**
KULM	**Kulim**	**5.32**	**38**	*e*P	**Pn**	**04 25 21.4**	**+0.9**
KGM	**Kluang**	**6.05**	**81**	P	**Pn**	**04 25 32.2**	**+1.4**
SNG	**Songkhla**	**6.87**	**28**	P	**Pn**	**04 25 42.0**	**-0.4**
260nm,0.8s							
CHG	**Chiang Mai**	**17.68**	**5**	⇓P	**P**	**04 28 06.7**	**-0.2**
12nm,0.8s							
NANT	**Nan**	**17.91**	**10**	⇓P	**P**	**04 28 08.0**	**-1.7**
456nm,1.0s							
KKM	**Kota Kinabalu**	**19.47**	**75**	P	**P**	**04 28 30.3**	**+1.8**
KKM	**Kota Kinabalu**	**19.47**	**75**	*e*P	**P**	**04 28 26.9**	**-1.5**
TSM	**Tawau**	**20.75**	**81**	P	**P**	**04 28 42.4**	**+0.3**
VIS	**Vishakhapatnam**	**21.51**	**321**	*i* P	**P**	**04 28 49.1**	**-0.6**
QIZ	**Qiongzhong**	**21.64**	**34**	⇑P	**P**	**04 28 50.5**	**-0.5**
QIZ				AMB	AMB		
comp=Z,25nm,1.4s,mb4.5							
QIZ				LR	LR		
comp=N,461nm,14.7s,MS4.2							
QIZ				LR	LR		
comp=E,481nm,13.8s,MS4.2							
QIZ				LR	LR		
comp=Z,555nm,12.0s,MS4.2							
QIZ	**Qiongzhong**	**21.64**	**34**	*e*P	**P**	**04 28 50.7**	**-0.3**
comp=Z,24nm,1.3s,mb4.5							
KMI	**Kunming**	**24.45**	**12**	P	**P**	**04 29 20.4**	**+1.7**
KMI				AP		04 29 26.6	
KMI				XS		04 33 58.4	
KMI				AMB	AMB		
comp=Z,83nm,1.3s,mb5.0							
KMI				AMB	AMB		
comp=Z,298nm,3.5s							
KMI				LR	LR		
comp=N,1μm,16.6s,MS4.6							
KMI				LR	LR		
comp=E,634nm,12.4s,MS4.6							
KMI	**Kunming**	**24.45**	**12**	P	**P**	**04 29 20.4**	**+1.7**
comp=E,83nm,1.3s,mb5.0							
KMI				pP		04 29 26.6	
KMI				sP		04 29 30.7	
KMI				PP	PP	04 30 02.1	+7.6
KMI				PPP	PPP	04 30 16.0	+11
KMI				S	**S**	**04 33 46.8**	**+13**
KMI				sS		04 33 58.4	
KMI				SS	SS	04 34 54.8	+26
KMI				SSS	SSS	04 35 14.7	+29
HYB	**Hyderabad**	**24.59**	**312**	*i* P	**P**	**04 29 22.0**	**+2.0**
HYB	**Hyderabad**	**24.59**	**312**	*e*P	**P**	**04 29 22.0**	**+2.0**
GYA	**Guiyang**	**26.77**	**19**	⇑*i*P	**P**	**04 29 40.1**	**-0.2**
GYA				AMB	AMB		
comp=Z,10.0nm,0.9s,mb4.3							
PKI	**Pulchoki**	**28.71**	**338**	*e*P	**P**	**04 29 59.0**	**+1.1**
comp=Z,61nm,1.1s,mb5.2							
GUN	**Gumba**	**28.84**	**339**	*e*P	**P**	**04 29 59.6**	**+0.6**
comp=Z,129nm,1.0s,mb5.6							
DMN	**Daman**	**28.86**	**337**	*e*P	**P**	**04 30 00.7**	**+1.5**
comp=Z,52nm,1.1s,mb5.2							
KKN	**Kakani**	**28.95**	**338**	*e*P	**P**	**04 30 00.7**	**+0.6**
comp=Z,98nm,1.2s,mb5.4							
LSA	**Lhasa**	**29.05**	**349**	*e*P	**P**	**04 30 02.4**	**+1.4**
comp=Z,9.9nm,0.5s,mb4.8							
GKN	**Gorkha**	**29.39**	**337**	*e*P	**P**	**04 30 04.6**	**+0.5**
comp=Z,93nm,1.1s,mb5.4							
KOLN	**Koldanda**	**29.61**	**335**	*e*P	**P**	**04 30 06.9**	**+0.8**
comp=Z,36nm,0.8s,mb5.2							
CD2	**Chengdu**	**30.27**	**11**	P	**P**	**04 30 11.0**	**-0.9**
CD2				AMB	AMB		
comp=Z,10.0nm,0.5s,mb4.8							
ENH	**Enshi**	**31.23**	**21**	*e*P	**P**	**04 30 19.0**	**-1.3**
comp=Z,31nm,0.9s,mb5.1							
FITZ	**Fitzroy Crossi**	**33.75**	**126**	*e*P	**P**	**04 30 41.2**	**-1.2**
comp=Z,4.8nm,0.6s,mb4.6							
FITZ	**Fitzroy Crossi**	**33.75**	**126**	P	**P**	**04 30 41.3**	**-1.1**
comp=Z,5.6nm,0.6s,mb4.7,baz=9.6,slow=3.9,SNR=11							
XAN	**Xi'an**	**34.52**	**17**	P	**P**	**04 30 47.9**	**-1.0**
XAN				AP	pP	04 30 57.3	-0.5
XAN				AMB	AMB		
comp=Z,26nm,0.9s,mb5.2							
LZH	**Lanzhou**	**35.34**	**9**	*e*P	**P**	**04 30 55.9**	**0.0**
LZH				AMB	AMB		
comp=Z,80nm,1.3s,mb5.5							
LZH				AMB	AMB		
comp=Z,280nm,4.8s							
LZH				LR	LR		
comp=E,1μm,13.5s							
LZH				LR	LR		
comp=Z,1μm,21.6s							
LZH	**Lanzhou**	**35.34**	**9**	*e*P	**P**	**04 30 55.9**	**0.0**
comp=Z,80nm,1.3s,mb5.5							
LZH				pP	pP	04 31 03.5	-1.2
LZH				sP	sP	04 31 06.4	-2.1
LZH				PP	PP	04 31 45.3	-30
LZH				LR	LR		
comp=Z,1μm,21.6s,MS4.6							
NJ2	**Nanjing**	**36.88**	**31**	*e*P	**P**	**04 31 08.8**	**-0.1**
NJ2				AP	pP	04 31 18.5	+0.7
NJ2				XP	sP	04 31 22.6	+1.0
NJ2				PP	PP	04 32 35.5	+0.4
NJ2				S	**S**	**04 36 51.0**	**-0.1**
NJ2				XS		04 37 06.0	
NJ2				AMB	AMB		
comp=Z,40nm,1.0s,mb5.2							
NJ2				AMB	AMB		
comp=Z,224nm,5.2s							
NJ2				LR	LR		
comp=N,920nm,12.3s							
NJ2				LR	LR		
comp=E,940nm,17.4s							
NJ2				LR	LR		
comp=Z,500nm,16.1s,MS4.4							
GTA	**Gaotai**	**38.20**	**3**	P	**P**	**04 31 20.3**	**+0.4**
GTA				AP	pP	04 31 29.9	+1.1
GTA				XP	sP	04 31 33.9	+1.3
GTA				PP	PP	04 32 52.5	+1.6
GTA				PPP	PPP	04 33 15.1	+1.9
GTA				PCP	PcP	04 33 35.4	+0.8
GTA				S	**S**	**04 37 12.8**	**+1.6**
GTA				SCP		04 37 17.4	
GTA				PCS		04 37 22.0	
GTA				XS		04 37 28.3	
GTA				SS	SS	04 39 54.3	+4.1
GTA				SCS	ScS	04 41 27.4	+0.3
GTA				AMB	AMB		
comp=Z,26nm,1.0s,mb4.9							
GTA				AMB	AMB		
comp=Z,132nm,11.4s							
GTA				LR	LR		
comp=N,339nm,16.7s,MS4.4							
GTA				LR	LR		
comp=E,367nm,15.2s,MS4.4							
GTA				LR	LR		
comp=Z,337nm,17.5s,MS4.2							
JOW	**Kunigami**	**39.21**	**47**	P	**P**	**04 31 28.9**	**+0.3**
comp=Z,17nm,0.5s,mb5.0,baz=240,slow=4.2,SNR=5.8							
WRA	**Warramunga Arr**	**41.86**	**122**	P	**P**	**04 31 50.2**	**-0.3**
comp=Z,3.8nm,0.9s,mb4.0,baz=299,slow=9.3,SNR=14							
WRAB	**Tennant Creek**	**41.87**	**122**	*e*P	**P**	**04 31 50.1**	**-0.4**
comp=Z,7.6nm,0.6s,mb4.5							
JNU	**Nakatsue**	**44.80**	**41**	P	**P**	**04 32 14.3**	**+0.2**
comp=Z,16nm,1.0s,mb4.8,baz=226,slow=3.8,SNR=3.1							
KS15	**Wonju Array Si**	**45.83**	**34**	*e*P	**P**	**04 32 22.7**	**+0.5**
AAK	**Ala-Archa**	**46.15**	**337**	*e*P	**P**	**04 32 24.7**	**-0.1**
comp=Z,10nm,1.1s,mb4.7							
AAK	**Ala-Archa**	**46.15**	**337**	*e*P	**P**	**04 32 24.7**	**-0.1**
AAK				pmax	pmax		
comp=Z,10.0nm,1.1s,mb4.7							
SONM	**Songino Array**	**47.22**	**8**	P	**P**	**04 32 33.8**	**+0.6**
comp=Z,12nm,0.6s,mb5.0,baz=191,slow=9.5,SNR=47							
SONM				PcP	PcP	04 34 04.8	+0.2
comp=Z,5.4nm,0.7s,baz=186,slow=3.6,SNR=8.5							
MKAR	**Makanchi Array**	**47.38**	**346**	P	**P**	**04 32 34.6**	**+0.2**
comp=Z,7.8nm,0.5s,mb4.9,baz=153,slow=8.1,SNR=88							
MKAR				LR	LR	04 56 27.7	
comp=Z,150nm,21.3s,MS3.9,baz=180,slow=41							
KKAR	**Karatay Array**	**48.21**	**334**	*i* P	**P**	**04 32 41.0**	**0.0**
KKAR				pmax	pmax		
comp=Z,14nm,1.2s,mb4.9							
CN2	**Changchun**	**49.34**	**27**	*e*P	**P**	**04 32 49.6**	**0.0**
CN2				AMB	AMB		
comp=Z,40nm,0.7s,mb5.6							
CN2				LR	LR		
comp=N,530nm,15.0s,MS4.7							
CN2				LR	LR		
comp=E,290nm,15.0s,MS4.7							
CN2				LR	LR		
comp=Z,460nm,16.0s,MS4.6							
ZAK	**Zakamensk**	**49.37**	**5**	⇑*e*P	**P**	**04 32 50.0**	**+0.2**
ZAK				*e*		04 34 11.4	
ZAK				pmax	pmax		
comp=Z,3.0nm,0.8s,mb4.4							
ZAK				pmax	pmax		
comp=Z,2.0nm,0.8s,mb4.2							
MJAR	**Matsushiro Arr**	**51.68**	**42**	P	**P**	**04 33 06.2**	**-1.4**
comp=Z,0.8nm,0.3s,mb4.1,baz=225,slow=6.9,SNR=4.3							
HIA	**Hailar**	**51.70**	**19**	*e*P	**P**	**04 33 07.7**	**+0.1**
comp=Z,10nm,0.8s,mb4.8							
HIA	**Hailar**	**51.70**	**19**	*e*P	**P**	**04 33 07.7**	**+0.2**
HIA				pmax	pmax		
comp=Z,10.0nm,0.8s							
MDJ	**Mudanjiang**	**51.89**	**29**	P	**P**	**04 33 09.3**	**+0.2**
MDJ				AMB	AMB		
comp=Z,11nm,0.7s,mb4.9							
MDJ				AMB	AMB		
comp=Z,70nm,3.9s							
MDJ				LR	LR		
comp=N,345nm,15.3s,MS4.5							
MDJ				LR	LR		
comp=E,142nm,16.5s,MS4.5							
MDJ				LR	LR		
comp=Z,497nm,14.7s,MS4.7							
MDJ	**Mudanjiang**	**51.89**	**29**	*e*P	**P**	**04 33 09.9**	**+0.8**
comp=Z,12nm,0.9s,mb4.8							
KURK	**Kurchatov**	**51.93**	**345**	*e*P	**P**	**04 33 08.9**	**-0.3**
comp=Z,19nm,1.0s,mb5.0							
KURK	**Kurchatov**	**51.93**	**345**	*e*P	**P**	**04 33 08.9**	**-0.4**
KURK				pmax	pmax		
comp=Z,19nm,1.0s,mb5.0							
CIT	**Chita**	**52.55**	**13**	*e*P	**P**	**04 33 14.5**	**+0.6**
CIT				*e*		04 34 22.4	
CIT				pmax	pmax		
comp=Z,43nm,1.7s,mb5.1							
OPO	**Ambohidratompo**	**53.01**	**246**	P	**P**	**04 33 17.7**	**-0.1**
comp=Z,5.1nm,0.9s,mb4.5,baz=31,slow=3.0,SNR=3.5							
STKA	**Stephens Creek**	**53.18**	**132**	*e*P	**P**	**04 33 19.4**	**+0.5**
comp=Z,7.5nm,0.8s,mb4.7							
STKA	**Stephens Creek**	**53.18**	**132**	P	**P**	**04 33 19.7**	**+0.8**
comp=Z,8.0nm,0.7s,mb4.7,baz=312,slow=8.0,SNR=15							
STKA				LR	LR	04 57 57.0	
comp=Z,408nm,18.5s,MS4.5,baz=214,slow=38							
ZAL	**Zalesovo**	**53.68**	**351**	P	**P**	**04 33 21.6**	**-0.5**
comp=Z,14nm,0.5s,mb5.1,baz=312,slow=4.9,SNR=54							
NVS	**Novosibirsk**	**54.81**	**350**	*e*P	**P**	**04 33 29.0**	**-1.5**
NVS				pmax	pmax		
comp=N,9.0nm,0.9s							
NVS				pmax	pmax		
comp=E,9.0nm,0.9s							
NVS				pmax	pmax		
comp=Z,10.0nm,0.9s,mb4.8							
VOSK	**Vostochnaya**	**55.95**	**341**	P	**P**	**04 33 37.6**	**-1.1**
VOSK				pmax	pmax		
comp=Z,7.0nm,0.8s,mb4.7							
BVA0	**Borovoye Array**	**56.40**	**341**	*i* P	**P**	**04 33 40.9**	**-1.1**
BVA0				pmax	pmax		
comp=Z,1.0nm,0.8s,mb3.9							
BRVK	**Borovoye**	**56.46**	**341**	*e*P	**P**	**04 33 41.0**	**-1.4**
comp=Z,6.3nm,1.0s,mb4.6							
BRVK	**Borovoye**	**56.46**	**341**	*e*P	**P**	**04 33 41.0**	**-1.4**
BRVK				pmax	pmax		
comp=Z,6.0nm,1.0s,mb4.6							
AB31	**Akbulak array**	**57.67**	**332**	*i* P	**P**	**04 33 50.0**	**-1.1**
AB31				pmax	pmax		
comp=Z,7.0nm,0.8s,mb4.7							
BOD	**Bodaibo**	**58.09**	**10**	*e*P	**P**	**04 33 53.3**	**-0.5**
BOD				pmax	pmax		
comp=Z,22nm,0.9s,mb5.2							
CLNS	**Chul'man**	**59.80**	**17**	*e*P	**P**	**04 34 02.9**	**-2.9**
CLNS				pmax	pmax		
comp=Z,11nm,1.2s,mb4.8							
CLNS				pmax	pmax		
comp=N,4.0nm,0.9s							
CLNS				pmax	pmax		
comp=E,4.0nm,0.8s							
CLNS				MLR	MLR		
comp=Z,400nm,14.0s,MS4.7							
CLNS				MLR	MLR		
comp=N,100nm,13.0s,MS4.6							
CLNS				MLR	MLR		
comp=E,300nm,14.0s,MS4.6							
KMBO	**Kilima Mbogo**	**60.12**	**268**	P	**P**	**04 34 09.6**	**+1.1**
comp=E,0.6nm,0.4s,mb4.0,baz=112,slow=5.4,SNR=3.1							
KMBO				LR	LR	04 59 05.1	
comp=E,119nm,18.1s,MS4.1,baz=99,slow=35							
GNI	**Garni**	**61.47**	**316**	*i* P	**P**	**04 34 17.8**	**+0.5**
ARU	**Arti**	**63.34**	**337**	⇑*i*P	**P**	**04 34 28.2**	**-1.3**
ARU				*e*		04 36 47.8	
ARU				*e*S	**S**	**04 43 00.1**	**+2.0**
ARU				*e*		04 44 16.7	
ARU				*e*SS	SS	04 47 08.2	+1.5
ARU				pmax	pmax		
comp=Z,9.0nm,1.0s,mb4.8							
KIV	**Kislovodsk**	**64.48**	**319**	*de*P	**P**	**04 34 35.7**	**-1.5**
KIV				*e*		04 36 57.8	
KIV				*i* S	**S**	**04 43 17.6**	**+5.1**
KIV				*i* SS	SS	04 47 28.8	+4.2
KIV				pmax	pmax		
comp=Z,14nm,1.3s,mb4.8							
MALT	**Malatya**	**65.30**	**312**	*e*P	**P**	**04 34 41.1**	**-1.6**
comp=Z,3.4nm,0.8s,mb4.4							
YAK	**Yakutsk**	**65.48**	**16**	⇓*e*P	**P**	**04 34 42.5**	**-0.9**
YAK				pmax	pmax		
comp=Z,25nm,0.6s,mb5.4							
YAK				MLR	MLR		
comp=Z,300nm,13.0s,MS4.7							
SOC	**Sochi**	**66.29**	**318**	*e*P	**P**	**04 34 45.0**	**-3.9**
SOC				*e*		04 37 08.9	
SOC				*e*PPP	PPP	04 38 48.0	-4.5
SOC				*e*S	S	04 43 33.9	-0.9
SOC				*e*		04 44 38.8	
SOC				pmax	pmax		
comp=N,6.0nm,0.6s							
SOC				pmax	pmax		
comp=Z,11nm,0.6s,mb5.1							
SOC				pmax	pmax		
comp=E,7.0nm,0.5s							
BRTR	**Keskin Array B**	**69.29**	**312**	P	**P**	**04 35 06.8**	**-0.9**
comp=E,2.4nm,0.8s,mb4.2,baz=129,slow=7.9,SNR=9.9							
MAW	**Mawson**	**72.64**	**193**	P	**P**	**04 35 28.4**	**+1.0**
comp=E,1.2nm,0.6s,mb4.0,baz=329

AKASG	**Malin Array Be**	**75.43**	**322**		**P**		**04 35 42.7**	**-1.1**
JOF	**Joensuu**	**78.30**	**335**	*ep*	**P**		**04 35 58.4**	**-1.2**
	comp=Z,2.1nm,0.9s,mb4.1							
KOLS	**Kolonicke sedl**	**79.39**	**320**	*eP*	**P**		**04 36 07.3**	**+1.5**
KOLS				*e*			04 36 13.4	
STHS	**Stebnicka Huta**	**80.14**	**320**	*e*	**P**		**04 36 10.7**	**+0.8**
STHS				*eP*	pP		04 36 25.8	+6.5
STHS				*e*			05 15 45.2	
STHS				*e*			05 15 48.3	
FINES	**FINESS Array B**	**80.16**	**332**	P	**P**		**04 36 09.4**	**-0.3**
	comp=Z,4.3nm,0.9s,mb4.4,baz=97,slow=6.1,SNR=11							
FINES				LR	LR		05 14 44.7	
	comp=Z,78nm,18.2s,MS4.1,baz=144,slow=38							
KAF	**Kangasniemi**	**80.24**	**333**	*ep*	**P**		**04 36 09.4**	**-0.7**
	comp=Z,4.1nm,0.6s,mb4.5,baz=103,slow=5.0							
KAF	**Kangasniemi**	**80.24**	**333**	*eP*	**P**		**04 36 09.4**	**-0.7**
KAF				pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.5							
URZ	**Urewera**	**82.64**	**129**	LR	LR		05 12 31.9	
	comp=Z,231nm,19.6s,MS4.5,baz=197,slow=35							
ARCES	**ARCESS Array B**	**82.68**	**340**	P	**P**		**04 36 22.8**	**0.0**
	comp=Z,5.5nm,0.8s,mb4.6,baz=92,slow=4.4,SNR=15							
ARCES				LR	LR		05 17 33.9	
	comp=Z,127nm,19.6s,MS4.3,baz=88,slow=39							
VAE	**Valguarnera**	**83.72**	**307**	LR	LR		05 15 52.2	
	comp=Z,100nm,18.3s,MS4.2,baz=304,slow=37							
VOJS	**Vojsko**	**84.67**	**316**	*eP*	**P**		**04 36 33.6**	**+0.3**
BRG	**Berggiesshubel**	**84.98**	**321**	P	**P**		**04 36 35.5**	**+0.7**
GERES	**GERESS Array B**	**84.98**	**319**	P	**P**		**04 36 35.9**	**+1.0**
	comp=Z,3.2nm,0.9s,mb4.4,baz=63,slow=2.2,SNR=14							
VNDA	**Vanda**	**85.69**	**169**	LR	LR		05 09 22.7	
	comp=Z,90nm,19.8s,MS4.2,baz=299,slow=32							
MOX	**Moxa**	**86.44**	**320**	*eP*	**P**		**04 36 42.0**	**0.0**
GRA1	**Grafenberg Arr**	**86.65**	**320**	*eP*	**P**		**04 36 44.0**	**+0.9**
	comp=Z,5.0nm,0.9s,mb4.7							
GRF	**Grafenberg Arr**	**86.65**	**320**	*eP*	**P**		**04 36 44.0**	**+0.9**
	comp=Z,5.0nm,0.9s,mb4.7							
GRF	**Grafenberg Arr**	**86.65**	**320**	*eP*	**P**		**04 36 44.0**	**+0.9**
GRF				pmax	pmax			
	comp=Z,5.0nm,0.9s,mb4.7							
GRF	**Grafenberg Arr**	**86.65**	**320**	*eP*	**P**		**04 36 44.0**	**+0.9**
GRF				pmax	pmax			
	comp=Z,5.0nm,0.9s,mb4.7							
NB2	**NORSAR Subarra**	**87.17**	**331**	P	**P**		**04 36 45.5**	**+0.2**
	comp=Z,4.7nm,0.8s,mb4.8,baz=94,slow=4.6							
NB2	**NORSAR Subarra**	**87.17**	**331**	P	**P**		**04 36 45.5**	**+0.2**
NB2				pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.8							
NOA	**NORSAR Array B**	**87.17**	**331**	P	**P**		**04 36 45.8**	**+0.5**
	comp=Z,3.4nm,0.8s,mb4.6,baz=94,slow=4.9,SNR=11							
NOA				LR	LR		05 21 39.1	
	comp=Z,74nm,18.8s,MS4.1,baz=90,slow=40							
LPG	**La Plagne**	**89.64**	**315**	*eP*	**P**		**04 36 58.4**	**+0.9**
	comp=Z,15nm,1.0s,mb5.0							
LPG	**La Plagne**	**89.64**	**315**	*eP*	**P**		**04 36 58.4**	**+0.9**
LPG				pmax	pmax			
	comp=Z,7.0nm,1.0s,mb5.0							
ILAR	**Eielson Array**	**99.74**	**23**	PP	PP		04 41 50.1	0.0
	comp=Z,0.3nm,0.7s,baz=276,slow=6.0,SNR=4.1							
YKA	**Yellowknife Ar**	**112.16**	**15**	PP	PP		04 43 17.5	-5.0
	comp=Z,0.2nm,0.3s,baz=333,slow=8.2,SNR=3.8							
PDAR	**Pinedale Array**	**130.08**	**26**	PKhKP			04 43 07.5	
	comp=Z,0.5nm,0.9s,slow=1.5,SNR=3.4							
WVT	**Waverly**	**142.66**	**7**	*eP*	PKPdf		04 43 28.8	-8.1
TXAR	**Lajitas Array**	**143.69**	**32**	PKP	PKPdf		04 43 33.7	-5.1
	comp=Z,1.0nm,0.8s,baz=27,slow=1.1,SNR=12							
CPUP	**Villa Florida**	**145.02**	**222**	PKPbc	PKPbc		04 43 37.4	+1.0
	comp=Z,3.8nm,0.8s,baz=179,slow=5.8,SNR=9.5							
NATX	**Nacogdoches**	**145.40**	**18**	*eP*	PKPbc		04 43 39.0	+1.7
GOGA	**Godfrey**	**145.67**	**1**	*e*PKPdf	PKPdf		04 43 38.9	-3.3
LRAL	**Lakeview Retre**	**145.81**	**6**	*eP*	PKPbc		04 43 39.0	+0.8

IGQ 24 04:28:33.7,2.78S×80.57W,h12km±16km,mb4.2,3D,
Error ellipse: s-maj=15.6km s-min=11.9km az=149.9,
Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARRY	**Arrayan**	**2.46**	**59**	P	Pn	04 29 15.5	+1.0
QIL1	**Quilotoa**	**2.52**	**41**	P	Pn	04 29 15.4	+0.2
ULBA	**Ulba**	**2.54**	**59**	P	Pn	04 29 17.4	+1.9
PISA	**Pisayambo**	**2.77**	**52**	P	Pn	04 29 20.9	+2.0
CAMI	**Rancho Maria**	**2.94**	**45**	P	Pn	04 29 23.3	+2.1
NAS1	**Nasa**	**2.99**	**45**	P	Pn	04 29 24.6	+2.8
TAMB	**Tambo**	**3.02**	**47**	P	Pn	04 29 25.3	+2.9
VC1	**Cotopaxi 1**	**3.03**	**46**	⇓P	Pn	04 29 25.0	+2.4
JUA2	**San Juan 2**	**3.22**	**38**	P	Pn	04 29 27.4	+2.2
TERV	**Terraza Guagua**	**3.25**	**37**	P	Pn	04 29 28.1	+2.5
GGP	**Refugio Guagua**	**3.26**	**37**	P	Pn	04 29 27.3	+1.6
GGP				S	Sn	04 30 06.1	+1.3
PINO	**Pino**	**3.26**	**37**	⇓P	Pn	04 29 27.3	+1.5
YANA	**Yana**	**3.31**	**37**	⇓P	Pn	04 29 28.2	+1.7
YANA				S	Sn	04 30 07.2	+1.0
ANTI	**Antisana**	**3.34**	**46**	P	Pn	04 29 29.0	+2.1
JOR1	**San Jorge 1**	**3.37**	**35**	P	Pn	04 29 25.2	-2.1
JOR1				S	Sn	04 30 03.1	-4.5
CAYR	**Refugio Cayamb**	**3.78**	**43**	P	Pn	04 29 35.1	+2.0
COTA	**Cotacachi**	**3.81**	**36**	P	Pn	04 29 35.6	+2.0
ECEN	**Cerro Negro**	**4.42**	**36**	P	Pn	04 29 44.6	+2.4

*JSN **24** 04:53:35.1±1.3, 19.64N×81.12W, h15km±999km, MD4.6*
*SSNC **24** 04:53:38.7±7.9, 19.15N×81.27W, MD3.9, ML3.5*
ISC 24 04:53:35.4±1.2,18.93N±0.07×81.30W±0.07,h33km,n10,
σ1°17/18,4D,North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGV	**Manicaragua**	**3.40**	**21**	*eP*	**P**	**04 54 27.1**	**-0.3**
MGV				*eS*	**S**	**04 55 06.5**	**-0.5**
	comp=N,317nm,0.1s						
	comp=E,263nm,0.1s						
PCJ	**Portland Cotta**	**4.11**	**106**	⇓*iP*	**P**	**04 54 36.7**	**-0.7**
PCJ				*eS*	**S**	**04 55 25.3**	**+0.3**
SOR	**Soroa**	**4.16**	**338**	*eP*	**P**	**04 54 39.4**	**+1.1**
SOR				*eS*	**S**	**04 55 25.5**	**-0.9**
	comp=N,3μm,0.2s						
	comp=E,2μm,0.2s						
LMGC	**Las Mercedes**	**4.20**	**74**	*eP*	**P**	**04 54 41.2**	**+2.4**
LMGC				*eS*	**S**	**04 55 28.4**	**+1.0**
	comp=N,86nm,0.1s						
	comp=E,109nm,0.1s						
STH	**Stony Hill**	**4.34**	**101**	⇓*eP*	**P**	**04 54 40.2**	**-0.6**
STH				*eS*	**S**	**04 55 27.7**	**-3.2**
HOJ	**Hope**	**4.41**	**101**	⇓*eP*	**P**	**04 54 41.5**	**-0.4**
GWJ	**Greenwich**	**4.42**	**100**	⇓*iP*	**P**	**04 54 41.2**	**-0.6**
HLGC	**Holguin**	**5.30**	**68**	*eP*	**P**	**04 54 53.8**	**-0.5**
HLGC				*eS*	**S**	**04 55 51.9**	**-3.1**
	comp=N,13nm,0.4s						
	comp=E,13nm,0.4s						
RCC	**Rio Carpintero**	**5.39**	**78**	*eP*	**P**	**04 54 56.6**	**+1.0**
RCC				*eS*	**S**	**04 55 51.4**	**-5.9**
	comp=N,616nm,0.5s						
	comp=E,499nm,0.4s						
MOAC	**Moa**	**6.21**	**73**	*eP*	**P**	**04 55 08.3**	**+1.2**
MOAC				*eS*	**S**	**04 56 18.8**	**+1.0**
	comp=N,1.6nm,0.6s						
	comp=E,0.0nm,0.1s						

*ATH **24** 04:54:12.2, 39.76N×25.65E, h21km, MD3.1/3*
*CSEM **24** 04:54:12.9±0.2, 39.68N×25.59E, h10km, MD3.0, Error ellipse: s-maj=7.1km s-min=4.4km az=30.0*
*THE **24** 04:54:13.5, 39.72N×25.60E, h10km*
ISC 24 04:54:10.9±1.3,39.65N±0.06×25.64E±0.07,h4km±12km,
n8,σ0°78/11,1D,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.43**	**305**	⇓*eP*B	**Pb**	**04 54 20.4**	**-0.4**
LOS	**Limnos**	**0.52**	**304**	*eP*g	**Pg**	**04 54 22.4**	**+1.0**
LOS				*eS*g	**Sg**	**04 54 29.1**	**+0.8**
PRK	**Paraskevi**	**0.63**	**129**	*eP*B	**Pb**	**04 54 25.4**	**+1.3**
PRK				*eS*N	**Sn**	**04 54 36.3**	**-0.6**
ALN	**Alexandroupoli**	**1.29**	**14**	*eP*g	**Pg**	**04 54 36.1**	**-0.5**
ALN				*eS*g	**Sg**	**04 54 53.8**	**0.0**
OUR	**Ouranopolis**	**1.45**	**299**	*eP*g	**Pg**	**04 54 39.3**	**-0.6**
RDO	**Rodhopi**	**1.50**	**357**	*eP*N	**Pn**	**04 54 38.6**	**-0.1**
PAIG	**Paliouri**	**1.54**	**281**	*eP*g	**Pg**	**04 54 40.2**	**-1.5**
KNT	**Kendrikon**	**2.59**	**307**	*eP*n	**Pn**	**04 54 54.9**	**+0.6**

*BJI **24** 04:56:39.9, 21.00S×178.00W, h379km, mB4.8, mb4.6*

*NEIC **24** 04:56:40.0±1.4, 21.03S×177.96W, h379km±14km, mb4.4/13, Error ellipse: s-maj=12.9km s-min=8.9km az=127.0*
*IDC **24** 04:56:45.0±2.6, 21.00S×178.11W, h432km±26km, mb3.8/14, mb1 4.0/15, mb1mx3.9/18, mbtmp4.6/15, Error ellipse: s-maj=15.8km s-min=13.4km az=102.0*
ISC 24 04:56:37.9±0.9,21.04S±0.05×177.97W±0.07,
h368km±9km,n105,σ1°02/67,mb4.3/27,8C-4D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**8.18**	**180**	S	**S**	**05 00 10.2**	**+2.4**
	135nm,0.3s,baz=60,slow=22,SNR=7.0						
AFI	**Afiamalu**	**9.23**	**41**	P	**P**	**04 58 47.5**	**-0.2**
	18nm,0.3s,baz=18,slow=3.1,SNR=17						
AFI				S	**S**	**05 00 28.6**	**-1.5**
	22nm,0.3s,baz=32,slow=21,SNR=7.3						
AFI	**Afiamalu**	**9.23**	**41**	*eP*	**P**	**04 58 47.3**	**-0.3**
	64nm,0.6s						
DZM	**Mont Dzumac**	**14.54**	**263**	P	**P**	**04 59 51.2**	**+1.9**
	0.4nm,0.3s,baz=86,slow=19,SNR=4.5						
TOZ	**Tahuroa Road**	**17.57**	**197**	*ePN*	**P**	**05 00 20.6**	**0.0**
MWZ	**Matawai**	**17.67**	**192**	*ePN*	**P**	**05 00 20.5**	**-1.1**
URZ	**Urewera**	**17.68**	**193**	P	**P**	**05 00 21.4**	**-0.4**
	14nm,0.3s,baz=325,slow=4.4,SNR=28						
URZ				S	**S**	**05 03 22.0**	**-0.5**
	1.7nm,0.3s,baz=225,slow=20,SNR=6.1						
URZ	**Urewera**	**17.68**	**193**	*ePN*	**P**	**05 00 19.9**	**-1.9**
KNZ	**Kokohu**	**18.31**	**191**	*ePN*	**P**	**05 00 28.4**	**+0.4**
HIZ	**Hauiti**	**18.49**	**198**	PN	**P**	**05 00 33.1**	**+3.3**
BKZ	**Black Stump Fm**	**18.69**	**194**	*ePN*	**P**	**05 00 30.4**	**-1.4**
SNZO	**South Karori**	**21.14**	**195**	*eP*	**P**	**05 00 56.2**	**+0.6**
KHZ	**Kahutara**	**22.48**	**197**	PN	**P**	**05 01 06.7**	**-1.6**
WVZ	**Waitaha Valley**	**23.92**	**201**	PN	**P**	**05 01 21.1**	**-0.5**
RPZ	**Rata Peaks**	**24.40**	**200**	P	**P**	**05 01 27.9**	**+2.1**
	32nm,0.6s,mb4.7,baz=302,slow=1.4,SNR=12						
CTA	**Charters Tower**	**33.47**	**265**	P	**P**	**05 02 45.2**	**-0.3**
	4.6nm,0.8s,mb3.8,baz=100,slow=14,SNR=3.8						
PMG	**Port Moresby**	**35.49**	**284**	P	**P**	**05 03 02.5**	**-0.1**
	22nm,0.8s,mb4.4,baz=140,slow=9.5,SNR=3.6						
STKA	**Stephens Creek**	**37.58**	**245**	P	**P**	**05 03 20.4**	**+0.5**
	3.8nm,0.6s,mb3.8,baz=95,slow=7.3,SNR=6.5						
WRAB	**Tennant Creek**	**44.54**	**263**	*eP*	**P**	**05 04 13.7**	**-2.7**
WRA	**Warramunga Arr**	**44.55**	**263**	P	**P**	**05 04 14.7**	**-1.8**
	4.9nm,0.9s,mb3.6,baz=96,slow=6.8,SNR=19						
WRA				PcP	PcP	05 05 50.3	-2.5
	3.8nm,1.0s,baz=96,slow=3.8,SNR=5.5						
SBA	**Scott Base**	**57.34**	**184**	*eP*	**P**	**05 05 51.5**	**+1.2**
VNDA	**Vanda**	**57.38**	**185**	P	**P**	**05 05 50.5**	**0.0**
	1.7nm,0.9s,mb3.4,baz=37,slow=9.1,SNR=6.2						
VNDA				PcP	PcP	05 06 37.8	-2.1
	0.7nm,0.7s,baz=36,slow=5.3,SNR=4.1						
VNDA				ScP		05 09 57.8	
	0.8nm,0.8s,baz=34,slow=6.4,SNR=4.0						
QSPA	**South Pole Qui**	**69.04**	**180**	*eP*	**P**	**05 07 05.6**	**-0.1**
	22nm,0.7s,mb5.0						
MJAR	**Matsushiro Arr**	**70.65**	**324**	P	**P**	**05 07 16.0**	**-0.1**
	5.2nm,0.6s,mb4.5,baz=156,slow=6.4,SNR=12						
MAJO	**Matsushiro**	**70.65**	**324**	*eP*	**P**	**05 07 16.0**	**-0.2**
NJ2	**Nanjing**	**80.24**	**310**	*eP*	**P**	**05 08 10.4**	**+0.5**
NJ2				PP	PP	05 11 20.3	+1.4
NJ2				S	S	05 17 45.0	+1.9
NJ2				SKS	SKS	05 17 51.0	+3.3
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,402nm,4.9s						
NJ2				LR	LR		
	comp=N,440nm,14.0s						
NJ2				LR	LR		
	comp=E,290nm,17.5s						
NJ2				LR	LR		
	comp=Z,120nm,19.3s						
PMSA	**Palmer Station**	**80.79**	**157**	*eP*	**P**	**05 08 11.1**	**-1.0**
	comp=Z,17nm,1.6s,mb4.5						
MDJ	**Mudanjiang**	**80.97**	**325**	P	**P**	**05 08 13.9**	**+0.5**
MDJ				S	S	05 17 51.9	+1.6
MDJ				SS	SS	05 23 18.0	+0.6
MDJ				AMB	AMB		
	comp=Z,11nm,0.9s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,72nm,4.3s						
MDJ	**Mudanjiang**	**80.97**	**325**	*eP*	**P**	**05 08 14.3**	**+0.9**
	comp=Z,6.5nm,0.7s,mb4.5						
MAW	**Mawson**	**81.07**	**200**	P	**P**	**05 08 12.6**	**-0.8**
	comp=Z,4.1nm,0.7s,mb4.2,baz=111,slow=7.9,SNR=12						
NVAR	**Mina Array Bea**	**81.39**	**43**	P	**P**	**05 08 16.5**	**+0.8**
	comp=Z,7.9nm,1.0s,mb4.4,baz=230,slow=12,SNR=34						
LDFC	**Landfair**	**81.64**	**48**	*eP*	**P**	**05 08 17.9**	**+0.8**
CN2	**Changchun**	**82.73**	**322**	*eP*	**P**	**05 08 25.3**	**+2.8**
TUC	**Tucson**	**83.29**	**52**	*eP*	**P**	**05 08 26.7**	**+1.2**
	comp=Z,7.7nm,1.1s,mb4.5						
ELK	**Elko**	**84.66**	**43**	*eP*	**P**	**05 08 32.2**	**0.0**
	comp=Z,3.0nm,1.0s,mb4.1						
HAWA	**Hanford**	**85.36**	**36**	*eP*	**P**	**05 08 35.2**	**-0.2**
	comp=Z,1.5nm,1.3s,mb3.7						
MSU	**Marysvale**	**85.46**	**46**	*eP*	**P**	**05 08 37.1**	**+1.0**
BMO	**Blue Mountains**	**85.72**	**38**	*eP*	**P**	**05 08 37.3**	**+0.1**
	comp=Z,2.6nm,0.7s,mb4.2						
SYO	**Syowa Base**	**86.21**	**193**	⇓P	**P**	**05 08 35.8**	**-3.2**
SYO	**Syowa Base**	**86.21**	**193**	⇑PcP	PcP	05 08 39.5	-2.0
SYO	**Syowa Base**	**86.21**	**193**	⇑pP	pP	05 10 03.2	-1.4
ENH	**Enshi**	**86.36**	**304**	*eP*	**P**	**05 08 39.6**	**-1.0**
HLID	**Hailey**	**86.71**	**41**	*eP*	**P**	**05 08 41.8**	**-0.3**
	comp=Z,6.7nm,1.4s,mb4.3						
SRU	**San Rafael**	**86.87**	**46**	*eP*	**P**	**05 08 43.2**	**+0.3**
TXAR	**Lajitas Array**	**87.32**	**57**	P	**P**	**05 08 45.8**	**+0.5**
	comp=Z,3.5nm,0.8s,mb4.2,baz=218,slow=6.7,SNR=45						
VNA3	**Neumayer Olymp**	**87.61**	**176**	⇓*iP*	**P**	**05 08 44.2**	**-1.5**
VNA3	**Neumayer Olymp**	**87.61**	**176**	*e*	**P**	**05 08 45.6**	**-0.1**
VNA3	**Neumayer Olymp**	**87.61**	**176**	*e*	**P**	**05 08 50.5**	**+4.8**
ANMO	**Albuquerque**	**87.72**	**51**	P	**P**	**05 08 47.0**	**0.0**
	comp=Z,3.0nm,0.8s,mb4.2,baz=225,slow=6.2,SNR=13						
ANMO	**Albuquerque**	**87.72**	**51**	*eP*	**P**	**05 08 47.1**	**+0.1**
	comp=Z,6.4nm,1.3s,mb4.3						
VNA2	**Neumayer--Watz**	**88.05**	**177**	⇓*iP*	**P**	**05 08 46.6**	**-1.2**
VNA2	**Neumayer--Watz**	**88.05**	**177**	*e*	**P**	**05 08 48.0**	**+0.2**
VNA2	**Neumayer--Watz**	**88.05**	**177**	*e*	**P**	**05 08 52.4**	**+4.6**
VNA1	**Neumayer--Stat**	**88.28**	**177**	⇓*iP*	**P**	**05 08 47.9**	**-0.9**
VNA1	**Neumayer--Stat**	**88.28**	**177**	*e*	**P**	**05 08 49.4**	**+0.6**
VNA1	**Neumayer--Stat**	**88.28**	**177**	*e*	**P**	**05 08 53.9**	**+5.1**
RRI2	**Red Ridge**	**88.51**	**42**	*eP*	**P**	**05 08 51.1**	**+0.5**
	comp=Z,4.4nm,0.7s,mb4.4						
DLMT	**Dillon**	**88.78**	**40**	*eP*	**P**	**05 08 52.3**	**+0.6**
TPAW	**Teton Pass**	**88.81**	**42**	*eP*	**P**	**05 08 52.0**	**0.0**
	comp=Z,3.3nm,0.5s,mb4.4						
ILAR	**Eielson Array**	**88.83**	**13**	P	**P**	**05 08 50.2**	**-1.3**
	comp=Z,1.7nm,0.6s,mb4.1,baz=219,slow=5.1,SNR=21						
PLCA	**Paso Flores**	**88.89**	**134**	P	**P**	**05 08 52.0**	**-0.4**
	comp=Z,1.1nm,0.7s,mb3.8,baz=240,slow=8.6,SNR=3.3						
SNOW	**Snow King Moun**	**88.92**	**42**	*eP*	**P**	**05 08 53.1**	**+0.6**
	comp=Z,16nm,1.0s,mb4.8						
HIA	**Hailar**	**89.14**	**325**	*eP*	**P**	**05 08 53.1**	**-0.2**
CHMT	**Chamberlain Mo**	**89.22**	**38**	P	**P**	**05 08 53.0**	**-0.7**
FLWY	**Flagg Ranch**	**89.27**	**42**	*eP*	**P**	**05 08 55.0**	**+0.9**
PDAR	**Pinedale Array**	**89.33**	**43**	P	**P**	**05 08 54.0**	**-0.4**
	comp=Z,4.4nm,0.8s,mb4.4,baz=211,slow=2.3,SNR=42						
KMI	**Kunming**	**89.61**	**297**	P	**P**	**05 08 57.3**	**+1.2**
KMI				AP	pP	05 10 23.4	+1.1
KMI				XP	sP	05 10 59.3	-0.2
KMI				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.6						
LPAZ	**La Paz**	**101.83**	**113**	P	P	05 09 53.9	+2.1
	comp=Z,0.8nm,0.7s,baz=233,slow=4.2,SNR=5.5						
MKAR	**Makanchi Array**	**111.58**	**313**	PKiKP		05 14 27.1	
	comp=Z,0.3nm,0.5s,baz=45,slow=1.7,SNR=3.9						
SUR	**Sutherland**	**123.93**	**199**	PKPdf	PKPdf	05 14 52.2	-0.9
BOSA	**Boshof**	**125.78**	**205**	PKP	PKPdf	05 14 56.3	-0.5
	comp=Z,2.3nm,0.8s,baz=45,slow=2.9,SNR=3.5						
ARCES	**ARCESS Array B**	**129.45**	**350**	PKP	PKPdf	05 15 01.7	-1.1
	comp=Z,1.5nm,0.5s,baz=22,slow=1.2,SNR=16						
FINES	**FINESS Array B**	**136.29**	**344**	PKP	PKPdf	05 15 13.9	-1.8
	comp=Z,0.8nm,0.5s,baz=45,slow=2.7,SNR=4.2						
HFS	**Hafors**	**140.00**	**351**	PKhKP		05 15 15.9	
	comp=Z,1.3nm,0.5s,baz=135,slow=2.1,SNR=10						
SUW	**Suwalki**	**143.34**	**339**	*ePKP*	PKPdf	05 15 26.2	-2.2
SUW	**Suwalki**	**143.34**	**339**	*ePKP*	PKPdf	05 15 26.2	-2.2
AKASG	**Malin Array Be**	**143.49**	**331**	PKhKP		05 15 25.7	
	comp=Z,10nm,0.7s,baz=40,slow=4.3,SNR=66						
MALT	**Malatya**	**144.27**	**307**	*ePKPdf*	PKPdf	05 15 29.8	-0.7
EKA	**Eskdalemuir Ar**	**145.53**	**5**	PKPbc	PKPbc	05 15 32.4	-0.7
	comp=Z,2.1nm,0.7s,baz=322,slow=2.2,SNR=3.9						
ASF	**Jabal al Asfar**	**147.04**	**297**	PKPbc	PKPdf	05 15 38.3	+2.9
	comp=Z,5.2nm,0.7s,baz=289,slow=6.4,SNR=3.2						
BRTR	**Keskin Array B**	**147.21**	**312**	PKPbc	PKPdf	05 15 38.0	+2.6
	comp=Z,1.7nm,0.5s,baz=128,slow=4.2,SNR=7.9						
BRTR				PKPab	PKPab	05 15 42.7	-0.8
	comp=Z,2.4nm,0.8s,baz=63,slow=2.8,SNR=8.7						
KOLS	**Kolonicke sedl**	**147.80**	**335**	*ePKP*	PKPdf	05 15 43.9	+7.9
KSP	**Ksiaz**	**148.21**	**343**	*ePKP*	PKPdf	05 15 40.7	+4.1
OKC	**Ostrava-Krasne**	**148.54**	**340**	*ePKPAB*	PKPab	05 15 46.3	-2.1
CLL	**Collm**	**148.59**	**347**	*i* PKP1	PKPdf	05 15 41.3	+4.1
CLL				*ePKP2*	PKPab	05 15 47.0	-1.6
CLL				*e*PPKP		05 17 27.0	
CLL	**Collm**	**148.59**	**347**	*i* PKP	PKPdf	05 15 41.3	+4.1
CLL				*ep*PKP		05 17 27.0	
UPC	**Upice**	**148.59**	**343**	⇑*ePKPB*		05 15 41.8	
UPC				*ePKPAB*	PKPab	05 15 47.3	-1.3
DPC	**Dobruska-Polom**	**148.64**	**342**	⇑*ePKPB*		05 15 42.1	
DPC				*ePKPAB*	PKPab	05 15 47.6	-1.2
MLR	**Muntele Rosu**	**148.68**	**327**	PKPbc	PKPdf	05 15 41.7	+4.1
	comp=Z,6.9nm,0.9s,baz=314,slow=3.5,SNR=9.4						
BRG	**Berggiesshubel**	**148.78**	**345**	*eP*	PKPdf	05 15 42.3	+4.7
KECS	**Kecovo**	**148.87**	**336**	*ePKP*	PKPdf	05 15 42.1	+4.3
KECS				*e*		05 15 48.7	
PVCC	**Panska Ves**	**148.95**	**344**	⇑*ePKPB*		05 15 42.7	
PVCC				*ePKPAB*	PKPab	05 15 49.0	-1.1
PRU	**Pruhonice**	**149.45**	**344**	⇑*ePKPB*		05 15 43.7	
PRU				*ePKPAB*	PKPab	05 15 50.7	-1.5
VYHS	**Vyhne**	**149.46**	**338**	*ePKP*	PKPdf	05 15 43.5	+4.8
VYHS				*e*		05 15 49.8	
VRAC	**Vranov**	**149.49**	**341**	PKPbc	PKPdf	05 15 43.6	+4.9
	comp=Z,2.3nm,0.5s,baz=262,slow=18,SNR=3.0						
VRAC				PKPab	PKPab	05 15 51.0	-1.3
	comp=Z,2.0nm,0.3s,baz=294,slow=8.7,SNR=4.8						
NKC	**Novy Kostel**	**149.72**	**347**	⇑*ePKPB*		05 15 43.9	
KHC	**Kasperske Hory**	**150.49**	**345**	⇑*ePKPB*		05 15 46.0	
KHC				*ePKPAB*	PKPab	05 15 54.9	-1.6
GERES	**GERESS Array B**	**150.72**	**344**	PKPbc	PKPdf	05 15 46.7	+6.1
	comp=Z,2.6nm,0.6s,slow=1.3,SNR=21						
GERES				PKPab	PKPab	05 15 56.0	-1.5
	comp=Z,0.6nm,0.5s,slow=4.0,SNR=5.3						
BAIF	**Baives**	**150.99**	**357**	*ePKP*1	PKPdf	05 15 40.7	-0.3
VOJS	**Vojsko**	**153.24**	**341**	*i* PKPbc	PKPdf	05 15 51.5	+7.2
BOJS	**Bojanci**	**153.28**	**339**	*i* PKPbc	PKPdf	05 15 52.4	+8.0
DAVOX	**Davos**	**153.53**	**348**	PKPbc	PKPdf	05 15 52.9	+8.1
	comp=Z,3.0nm,0.5s,baz=209,slow=10,SNR=5.2						
LOR	**Lormes**	**153.79**	**357**	*ePKP*1	PKPdf	05 15 47.3	+2.3
	comp=Z,30nm,1.4s						
SSF	**Saint Saulge**	**154.01**	**358**	*ePKP*1	PKPdf	05 15 47.9	+2.5
DBIC	**Dimbokro**	**164.24**	**154**	PKPab	PKPab	05 16 55.3	-1.2
	comp=Z,4.2nm,0.7s,baz=225

0.2nm,0.3s,baz=229,slow=13,SNR=5.0
GERES **GERESS Array B 15.29 336 P P 05 17 29.9 -1.7**
0.2nm,0.3s,baz=184,slow=35,SNR=3.2
AKASG **Malin Array Be 16.04 14 P P 05 17 40.4 -0.7**
0.1nm,0.3s,baz=214,slow=13,SNR=3.1
GNI **Garni 17.71 68 P P 05 18 02.8 +0.7**
0.4nm,0.3s,baz=348,slow=8.5,SNR=3.7
HFS **Hagfors 25.65 349 P P 05 19 24.1 +1.1**
1.9nm,0.6s,mb3.7,baz=117,slow=6.6,SNR=5.4
FINES **FINESS Array B 26.27 3 P P 05 19 28.0 -0.7**
0.6nm,0.5s,mb3.3,baz=144,slow=12,SNR=3.1
NOA **NORSAR Array B 26.92 347 P P 05 19 34.5 -0.1**
0.2nm,0.4s,mb3.0,baz=155,slow=9.4,SNR=2.6
ARCES **ARCESS Array B 34.35 1 P P 05 20 38.9 -1.2**
1.3nm,0.8s,mb3.8,baz=191,slow=6.2,SNR=4.5
MKAR **Makanchi Array 45.05 56 P P 05 22 09.0 +0.2**
0.7nm,0.5s,mb3.7,baz=282,slow=11,SNR=8.0
SONM **Songino Array 60.65 50 P P 05 24 04.5 +0.3**
0.3nm,0.7s,mb3.4,baz=270,slow=4.4,SNR=3.9

MEX 24 05:14:39.4±0.7, 15.93N×94.10W, h10km±15km, MD3.7, 1C, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**1.38**	**327**	⇑*i*P		Pn	05 15 00.9	-3.9
CMIG				*i*S		Sb	05 15 18.2	-4.2
CCIG	**Comitan**	**1.92**	**79**	*i*P		Pn	05 15 08.9	-3.7
CCIG				*i*S		Sn	05 15 32.5	-4.6
OXX	**Oaxaca**	**2.76**	**295**	*e*P		Pn	05 15 22.0	-2.7
OXX				*i*S		Sn	05 15 53.0	-5.5
VHO	**Vista Hermosa**	**2.77**	**295**	*i*P		Pn	05 15 21.8	-2.9
VHO				*i*S		Sn	05 15 53.1	-5.4

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*CNRM **24** 05:27:35.9, 35.06N×3.65W, h3km, MD3.2*
*CSEM **24** 05:27:36.3±0.2, 34.94N×3.85W, h5km, MD3.2, Error ellipse: s-maj=7.1km s-min=4.3km az=104.0*
*NEIC **24** 05:27:40.6, 35.07N×3.91W, MG3.0(MDD), After MDD.*
*MDD **24** 05:27:40.1±0.8, 34.92N×3.85W, h18km±9km, mbLg2.2/6, Error ellipse: s-maj=9.4km s-min=4.5km az=124.0, PRXIMO*
ISC 24 05:27:37.5±0.9, 34.99N±0.03×3.95W±0.04, h7km±6km, n37, σ1§32/71, Morocco

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TOU	**Touzarine**	**0.17**	**100**	*i*P		**Pg**	05 27 38.5	-2.5
MPAL	**Palemas**	**0.23**	**2**	*i*P		**Pg**	05 27 41.5	-0.8
EMEL	**Melilla**	**0.87**	**69**	P		**Pb**	05 27 54.6	+0.1
	29nm,0.1s,SNR=7.9							
EMEL				S		**Sb**	05 28 07.3	+1.1
	116nm,0.2s,SNR=7.9							
EMLI	**Melilla**	**0.88**	**69**	P		**Pb**	05 27 54.6	-0.1
	29nm,0.1s,SNR=7.9							
EMLI				S		**Sb**	05 28 07.3	+0.9
	116nm,0.2s,SNR=7.9							
TZK	**Tazeka**	**0.92**	**192**	*i*P		**Pb**	05 27 56.0	+0.6
TZK				*i*S		**Sb**	05 28 09.0	+1.4
EALB	**Alboran**	**1.21**	**38**	P		**Pb**	05 28 01.3	+1.0
	0.6nm,0.0s,SNR=6.1							
EALB				S		**Sb**	05 28 16.3	+0.4
	22nm,0.4s,SNR=7.9							
EALB	**Alboran**	**1.21**	**38**	P		**Pb**	05 28 02.5	+2.2
	0.6nm,0.0s,SNR=6.1							
EALB				S		**Sb**	05 28 15.2	-0.7
	22nm,0.4s,SNR=7.9							
EALB	**Alboran**	**1.21**	**38**	P		**Pb**	05 28 02.5	+2.2
EALB				S		**Sb**	05 28 15.2	-0.7
EMIJ	**Mijas**	**1.70**	**337**	P		**Pn**	05 28 08.6	+0.7
	0.4nm,0.1s,SNR=7.9							
EMIJ				S		**Sn**	05 28 31.3	+1.1
	2.8nm,0.2s,SNR=7.9							
EMIJ	**Mijas**	**1.70**	**337**	P		**Pn**	05 28 14.0	+6.1
EMIJ				S		**Sn**	05 28 31.3	+1.1
EJIF	**Jimena Fronter**	**1.91**	**320**	P		**Pn**	05 28 12.1	+1.3
	0.6nm,0.2s,SNR=4.0							
EJIF				S		**Sn**	05 28 37.1	+1.7
	0.7nm,0.2s,SNR=7.9							
EJIF	**Jimena Fronter**	**1.91**	**320**	P		**Pn**	05 28 13.2	+2.4
	SNR=4.0							
EJIF				S		**Sn**	05 28 37.1	+1.8
	SNR=7.9							
EJIF	**Jimena Fronter**	**1.91**	**320**	P		**Pn**	05 28 13.2	+2.4
EJIF				S		**Sn**	05 28 37.1	+1.7
EBER	**Berja**	**2.09**	**24**	P		**Pn**	05 28 13.4	0.0
	0.2nm,0.0s,SNR=7.9							
EBER				S		**Sn**	05 28 38.9	-1.0
	7.2nm,0.3s,SNR=7.9							
EBER	**Berja**	**2.09**	**24**	P		**Pn**	05 28 13.7	+0.3
	0.2nm,0.0s,SNR=7.9							
EBER				S		**Sn**	05 28 38.2	-1.7
	7.2nm,0.3s,SNR=7.9							
EBER	**Berja**	**2.09**	**24**	P		**Pn**	05 28 13.7	+0.3
EBER				S		**Sn**	05 28 38.2	-1.7
CZD	**Col de Zad**	**2.15**	**205**	*e*P		**Pn**	05 28 13.0	-1.3
CZD				*i*S		**Sn**	05 28 42.0	+0.4
EQUE	**Quentar**	**2.25**	**11**	P		**Pn**	05 28 15.6	0.0
	0.5nm,0.2s,SNR=7.9							
EQUE				S		**Sn**	05 28 42.9	-1.0
	0.9nm,0.3s,SNR=7.9							
EQES	**Quesada**	**2.89**	**14**	P		**Pn**	05 28 24.9	0.0
	0.5nm,0.2s,SNR=7.9							
EQES				S		**Sn**	05 29 00.1	-0.2
	0.9nm,0.2s,SNR=7.9							
EQES	**Quesada**	**2.89**	**14**	P		**Pn**	05 28 25.6	+0.7
	0.5nm,0.2s,SNR=7.9							
EQES				S		**Sn**	05 29 00.5	+0.1
	1.8nm,0.2s,SNR=7.9							
EQES	**Quesada**	**2.89**	**14**	P		**Pn**	05 28 25.6	+0.7
EQES				S		**Sn**	05 29 00.5	+0.1
ZFT	**Errachidia**	**2.97**	**187**	*e*P		**Pn**	05 28 24.0	-2.0
ZFT				*i*S		**Sn**	05 28 59.0	-3.3
EADA	**Adamuz**	**3.21**	**351**	P		**Pn**	05 28 30.3	+0.9
	0.5nm,0.3s,SNR=7.9							
EADA				S		**Sn**	05 29 07.3	-1.1
	0.8nm,0.3s,SNR=4.0							
EADA	**Adamuz**	**3.21**	**351**	P		**Pn**	05 28 31.3	+1.9
	0.5nm,0.3s,SNR=7.9							
EADA				S		**Sn**	05 29 07.3	-1.0
	1.4nm,0.3s,SNR=4.0							
EADA	**Adamuz**	**3.21**	**351**	P		**Pn**	05 28 31.3	+2.0
EADA				S		**Sn**	05 29 07.3	-1.1
EMIN	**Mina Concepcio**	**3.53**	**322**	P		**Pn**	05 28 34.8	+0.8
	0.1nm,0.1s,SNR=7.9							
EMIN				S		**Sn**	05 29 14.4	-2.1
	0.4nm,0.2s,SNR=7.9							
EMIN	**Mina Concepcio**	**3.53**	**322**	P		**Pn**	05 28 34.8	+0.8
	0.1nm,0.1s,SNR=7.9							
EMIN				S		**Sn**	05 29 14.2	-2.4
	0.3nm,0.2s,SNR=7.9							
EMIN	**Mina Concepcio**	**3.53**	**322**	P		**Pn**	05 28 34.8	+0.8
EMIN				S		**Sn**	05 29 14.2	-2.4
EGRO	**El Granado**	**3.82**	**313**	P		**Pn**	05 28 38.8	+0.7
	0.1nm,0.1s,SNR=7.9							
EGRO				S		**Sn**	05 29 21.4	-2.3
	0.6nm,0.1s,SNR=7.9							
EGRO	**El Granado**	**3.82**	**313**	P		**Pn**	05 28 38.1	+0.1
	0.1nm,0.1s,SNR=7.9							
EGRO				S		**Sn**	05 29 21.0	-2.7
	0.4nm,0.3s,SNR=7.9							
EGRO	**El Granado**	**3.82**	**313**	P		**Pn**	05 28 38.1	+0.1
EGRO				S		**Sn**	05 29 21.0	-2.7
ETOB	**Tobarra**	**4.12**	**27**	P		**Pn**	05 28 42.9	+0.5
	2.2nm,0.5s,SNR=7.9							
ETOB				S		**Sn**	05 29 27.1	-4.4
	0.4nm,0.4s,SNR=7.9							
ETOB	**Tobarra**	**4.12**	**27**	P		**Pn**	05 28 43.6	+1.2
	2.2nm,0.5s,SNR=7.9							
ETOB				S		**Sn**	05 29 29.3	-2.2
	1.3nm,0.4s,SNR=7.9							
ETOB	**Tobarra**	**4.12**	**27**	P		**Pn**	05 28 43.6	+1.2
ETOB				S		**Sn**	05 29 29.3	-2.2
EBAD	**Badajoz**	**4.49**	**328**	P		**Pn**	05 28 48.1	+0.5
	0.4nm,0.1s,SNR=7.9							
EBAD				S		**Sn**	05 29 38.1	-2.5
	1.2nm,0.2s,SNR=7.9							
EBAD	**Badajoz**	**4.49**	**328**	P		**Pn**	05 28 48.6	+1.1
EBAD	**Badajoz**	**4.49**	**328**	P		**Pn**	05 28 48.6	+1.1
EBAD				S		**Sn**	05 29 36.4	-4.3

JMA 24 05:31:29.1±0.4, 32.99N×142.18E, M3.7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.94**	**329**	*e*S		Sn	05 32 28.9	-0.1
BSO2	**Boso 2**	**2.12**	**326**	*e*S		Sn	05 32 33.9	+0.3
BSO3	**Boso 3**	**2.28**	**323**	*e*S		Sn	05 32 38.3	+0.6
BSO4	**Boso 4**	**2.51**	**323**	*e*S		Sn	05 32 44.9	+1.2

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*CSEM **24** 06:13:26.1±0.1, 32.05N×54.97E, h2km, ML3.5, Error ellipse: s-maj=3.2km s-min=1.7km az=50.0*
*THR **24** 06:13:27.2±0.7, 32.08N×55.00E, h16km±9km, ML3.2*
*TEH **24** 06:13:28.4, 32.12N×55.36E, h10km, Mn3.5*
ISC 24 06:13:26.6±0.6, 32.09N±0.04×54.99E±0.06, h2km, n21, σ1§16/24, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ICHK	**Chekchek**	**0.52**	**288**	Pg		**Pg**	06 13 37.1	+0.1
IBAF	**Bafgh**	**0.70**	**135**	Pg		**Pg**	06 13 38.4	-2.1
IMEH	**Mehriz**	**0.77**	**205**	Pg		**Pg**	06 13 40.3	-1.6
NASN	**Na'in**	**1.98**	**292**	*e*PG		**Pg**	06 14 03.1	-2.9
NASN				*e*Sg		**Sg**	06 14 30.6	-1.8
IGAR	**Garneh**	**2.38**	**275**	Pn		**Pn**	06 14 07.8	+0.7
IZEF	**Zefreh**	**2.39**	**290**	Pn		**Pn**	06 14 07.9	+0.6
KRBR	**Kerman**	**2.59**	**144**	*e*PN		**Pn**	06 14 10.8	+0.6
IPAR	**Pars**	**2.79**	**217**	Pn		**Pn**	06 14 16.6	+3.5
IKLH	**Kalahroud**	**3.13**	**294**	Pn		**Pn**	06 14 18.4	+0.5
ISRV	**Sarvestan**	**3.15**	**211**	Pn		**Pn**	06 14 20.3	+2.2
IMOK	**Mook**	**3.61**	**214**	Pn		**Pn**	06 14 26.1	+1.4
IVRN	**Varamin**	**3.98**	**318**	Pn		**Pn**	06 14 31.2	+1.2
IVRN				Sn		**Sn**	06 15 18.4	+0.5
IFIR	**Firoozkooh**	**4.00**	**333**	Pn		**Pn**	06 14 30.9	+0.6
IFIR				Sn		**Sn**	06 15 17.5	-1.0
GHIR	**Ghir-Karzin**	**4.17**	**205**	*e*PN		**Pn**	06 14 32.3	-0.3
GHIR				AML		AML	06 15 50.5	
	comp=N,37nm,0.8s							
IDMV	**Damavand**	**4.26**	**326**	Pn		**Pn**	06 14 35.2	+1.2
DAMV	**Damavand**	**4.34**	**325**	*e*PN		**Pn**	06 14 35.0	-0.1
BNDS	**Bandar-Abbas**	**4.78**	**167**	*e*PN		**Pn**	06 14 40.8	-0.5
ASAO	**Ashtian**	**4.83**	**302**	*e*PN		**Pn**	06 14 41.7	-0.3
ASAO				AML		AML	06 16 17.7	
	comp=N,15nm,0.8s							
IRAZ	**Razeghan**	**5.36**	**309**	Pn		**Pn**	06 14 55.4	+5.9
ZHSF	**Zahedan**	**5.55**	**115**	*e*PN		**Pn**	06 14 51.8	-0.4
SNGE	**Sanandaj**	**7.05**	**297**	*e*PN		**Pn**	06 15 12.3	-1.0

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*IDC **24** 06:22:26.0±1.3, 21.69S×179.10W, h574km±15km, mb3.4/8, mb1 3.7/11, mb1mx3.5/17, mbtmp4.5/11, Error ellipse: s-maj=18.0km s-min=13.9km az=136.0*
*NEIC **24** 06:22:26.6±0.7, 21.77S×179.11W, h586km±9km, mb4.6/7, Error ellipse: s-maj=11.9km s-min=9.5km az=151.0*
ISC 24 06:22:25.3±0.7, 21.82S±0.06×179.09W±0.09, h586km±12km, n56, σ1§11/37, mb4.2/14, 4C-4D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**7.47**	**172**	P		**P**	06 24 21.9	+2.2
	58nm,0.3s,baz=68,slow=19,SNR=2.9							
RAO				S		**S**	06 25 53.8	+2.9
	62nm,0.3s,baz=81,slow=22,SNR=5.9							
AFI	**Afiamalu**	**10.50**	**43**	P		**P**	06 24 48.7	-0.4
	2.7nm,0.3s,baz=216,slow=4.0,SNR=5.3							
AFI				S		**S**	06 26 42.9	-1.8
	2.0nm,0.3s,baz=15,slow=18,SNR=3.9							
DZM	**Mont Dzumac**	**13.43**	**266**	P		**P**	06 25 19.9	+1.7
	1.2nm,0.3s,baz=168,slow=17,SNR=13							
URZ	**Urewera**	**16.71**	**190**	P		**P**	06 25 50.1	+0.1
	2.1nm,0.3s,baz=356,slow=5.2,SNR=15							
URZ				S		**S**	06 28 30.7	-4.1
	0.6nm,0.3s,baz=98,slow=15,SNR=7.0							
URZ	**Urewera**	**16.71**	**190**	*e*PN		**P**	06 25 48.8	-1.1
MWZ	**Matawai**	**16.71**	**189**	*e*PN		**P**	06 25 49.9	-0.1
BKZ	**Black Stump Fm**	**17.70**	**191**	*e*PN		**P**	06 25 58.1	-1.2
KIW	**Kapiti Island**	**19.65**	**194**	*e*PN		**P**	06 26 17.7	+0.2
QRZ	**Quartz Range**	**20.23**	**199**	*e*PN		**P**	06 26 23.7	+0.8
NNZ	**Nelson**	**20.36**	**197**	*e*PN		**P**	06 26 23.6	-0.4
TUWZ	**Tuamarina**	**20.41**	**195**	PN		**P**	06 26 24.1	-0.4
THZ	**Tophouse**	**20.99**	**197**	PN		**P**	06 26 28.8	-1.1
KHZ	**Kahutara**	**21.45**	**195**	*e*PN		**P**	06 26 32.3	-1.6
LTZ	**Lake Taylor**	**22.11**	**197**	PN		**P**	06 26 38.0	-2.0
CTA	**Charters Tower**	**32.37**	**267**	⇓*i*P		**P**	06 28 10.0	+0.7
	16nm,0.7s,mb4.8							
CTAO	**Charters Tower**	**32.37**	**267**	*e*P		**P**	06 28 09.8	+0.5
	27nm,1.0s,mb4.8							
PMG	**Port Moresby**	**34.68**	**286**	P		**P**	06 28 28.3	-0.3
	16nm,0.8s,mb4.7,baz=62,slow=6.1,SNR=4.4							
STKA	**Stephens Creek**	**36.31**	**246**	⇓*i*P		**P**	06 28 42.9	+1.1
	6.1nm,0.6s,mb4.3							
STKA	**Stephens Creek**	**36.31**	**246**	P		**P**	06 28 43.2	+1.4
	12nm,0.8s,mb4.5,baz=93,slow=8.9,SNR=17							
WRAB	**Tennant Creek**	**43.42**	**264**	*e*P		**P**	06 29 38.2	-0.8
	50nm,0.9s,mb5.0							
WRA	**Warrumnga Arr**	**43.43**	**264**	P		**P**	06 29 38.6	-0.5
	13nm,0.3s,mb5.0,baz=94,slow=8.0,SNR=269							
WRA				ScP			06 34 11.3	
	1.7nm,1.0s,baz=102,slow=4.8,SNR=5.9							
KAKA	**Kakadu**	**47.01**	**273**	⇓*i*P		**P**	06 30 19.5	+13
	17nm,0.4s,mb4.9							
FORT	**Forrest**	**47.85**	**248**	*e*P		**P**	06 30 12.0	-0.8
	12nm,0.5s,mb4.7							
FITZ	**Fitzroy Crossi**	**51.86**	**264**	⇑*i*P		**P**	06 30 42.2	-0.1
	3.9nm,0.3s,mb4.2							
VNDA	**Vanda**	**56.51**	**185**	P		**P**	06 31 14.8	+0.6
	0.8nm,0.6s,mb3.1,baz=351,slow=5.5,SNR=7.8							
VNDA	**Vanda**	**56.51**	**185**	P		**P**	06 31 14.8	+0.6
KLBR	**Kellerberrin**	**56.58**	**246**	⇓*i*P		**P**	06 31 14.5	-0.7
	14nm,0.8s,mb4.2							
MJAR	**Matsushiro Arr**	**70.68**	**325**	P		**P**	06 32 44.5	+0.1
	2.8nm,0.6s,mb4.0,baz=148,slow=5.8,SNR=6.7							
NVAR	**Mina Array Bea**	**82.68**	**44**	P		**P**	06 33 51.2	+1.9
	0.4nm,0.5s,mb3.2,baz=224,slow=8.9,SNR=4.3							
ENH	**Enshi**	**85.95**	**305**	*e*P		**P**	06 34 06.4	+0.9
VNA3	**Neumayer Olymp**	**86.89**	**177**	⇑*i*P		**P**	06 34 08.7	-0.3
VNA3				*e*			06 34 24.0	
VNA2	**Neumayer--Watz**	**87.32**	**177**	⇑*i*P		**P**	06 34 11.6	+0.6
VNA2				*e*			06 34 26.0	
TXAR	**Lajitas Array**	**88.62**	**58**	P		**P**	06 34 20.1	+2.0
	0.1nm,0.4s,mb3.0,baz=225,slow=3.8,SNR=3.7							
ILAR	**Eielson Array**	**89.82**	**13**	P		**P**	06 34 22.7	-0.1
	0.5nm,0.7s,mb3.5,baz=232,slow=5.3,SNR=6.3							
MKAR	**Makanchi Array**	**111.36**	**313**	PKiKP			06 39 53.6	
	0.5nm,0.7s,SNR=4.2							
ARCES	**ARCESS Array B**	**130.03**	**349**	PKP		PKPdf	06 40 29.7	+1.2
	1.9nm,0.7s,slow=1.2,SNR=8.0							
ARCES				SKPbc			06 42 58.7	
	4.0nm,0.9s,baz=34,slow=4.4,SNR=4.6							
ARCES	**ARCESS Array B**	**130.03**	**349**	PKP		PKPdf	06 40 29.7	+1.2
ARCES				SKPbc			06 42 58.7	
FINES	**FINESS Array B**	**136.74**	**343**	PKP		PKPdf	06 40 42.0	+0.9
	1.9nm,0.9s,baz=139,slow=18,SNR=3.9							
HILS	**Ha'il**	**142.54**	**287**	P		PKPdf	06 40 52.3	-0.1
LTHS	**Al Lith**	**143.17**	**275**	P		PKPbc	06 40 54.7	+2.2
AKASG	**Malin Array Be**	**143.65**	**329**	PKP		PKPdf	06 40 53.4	-0.2
	2.5nm,0.4s,baz=38,slow=4.4,SNR=26							
UMJS	**Umm Lajj**	**146.52**	**283**	P		PKPdf	06 41 03.4	+4.1
BRTR	**Keskin Array B**	**146.94**	**310**	PKPbc		PKPbc	06 41 04.0	+2.2
	3.2nm,0.7s,baz=129,slow=4.1,SNR=13							
TBKS	**Tabuk**	**147.17**	**289**	P		PKPdf	06 41 05.2	+4.9
JMQS	**Jabal Moqyreh**	**147.71**	**290**	P		PKPdf	06 41 06.1	+4.9
ALWS	**Ilw as Safayha**	**148.38**	**291**	P		PKPdf	06 41 08.4	+6.2
HAQS	**Haql**	**148.53**	**290**	P		PKPdf	06 41 09.0	+6.6
TAYS	**Tayyib Ism**	**148.62**	**289**	P		PKPdf	06 41 09.0	+6.4
UPC	**Upice**	**149.01**	**341**	*e*P		PKPdf	06 41 09.7	+7.3
DPC	**Dobruska-Polom**	**149.06**	**341**	*e*P		PKPdf	06 41 09.8	+7.3
CLL	**Collm**	**149.10**	**345**	⇑*i*PKP1		PKPdf	06 41 09.8	+7.3
KECS	**Kecovo**	**149.14**	**334**	*e*PKP		PKPdf	06 41 10.3	+7.6
PVCC	**Panska Ves**	**149.41**	**343**	*e*P		PKPdf	06 41 10.5	+7.4
PRU	**Pruhonice**	**149.90**	**342**	*e*P		PKPdf	06 41 11.4	+7.5
KHC	**Kasperske Hory**	**150.95**	**343**	*e*P		PKPdf	06 41 13.9	+8.4
GERES	**GERESS Array B**	**151.17**	**342**	PKPbc		PKPdf	06 41 14.0	+8.2
	1.9nm,0.7s,slow=2.0,SNR=12							

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*SOF **24** 07:13:41.5, 39.67N×25.63E, h2km, MD2.9*
*ISK **24** 07:13:42.6, 39.63N×25.55E, h11km, MD3.6*
*ATH **24** 07:13:43.0, 39.86N×25.76E, h21km±2km, MD3.5/11, ML3.8*
*NEIC **24** 07:13:43.0, 39.86N×25.76E, h21km, ML3.8(ATH), After ATH.*
*THE **24** 07:13:44.8, 39.64N×25.62E, h16km, ML3.4*
*CSEM **24** 07:13:45.1±0.1, 39.74N×25.68E, h20km, ML3.4, Error ellipse: s-maj=1.6km s-min=1.3km az=15.0*
ISC 24 07:13:44.6±0.4, 39.66N±0.02×25.59E±0.02, h22km±5km, n80, σ0§92/96, 1C-2D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.39**	**307**	⇓*i*PB		**Pb**	07 13 52.0	-0.8
LOS	**Limnos**	**0.48**	**305**	*e*Pg		**Pb**	07 13 54.1	-0.1
LOS				*e*Sg		**Sb**	07 14 02.9	+2.0
EZN	**Ezine**	**0.59**	**74**	*i*PG		**Pb**	07 13 55.5	-0.6
EZN				*i*SG		**Sb**	07 14 04.0	0.0
PRK	**Paraskevi**	**0.67**	**128**	⇓*i*PN		**Pn**	07 13 57.8	-0.9
PRK				*e*SN		**Sn**	07 14 07.0	-1.6
AYVA	**Ayvalik**	**0.92**	**112**	*i*P		**Pb**	07 14 02.0	+0.3
AYVA				*i*S		**Sb**	07 14 16.6	+3.0
LPK	**Lapseki**	**1.14**	**51**	*i*PN		**Pn**	07 14 05.7	+0.2
CANB	**Canakkale**	**1.19**	**72**	PN		**Pn**	07 14 06.7	+0.6
ALN	**Alexandroupoli**	**1.28**	**16**	*e*Pg		**Pn**	07 14 07.4	0.0
	comp=Z,23nm,0.5s							
ALN				*e*Sg		**Sb**	07 14 24.5	+0.5
OUR	**Ouranopolis**	**1.41**	**299**	*e*Pg		**Pn**	07 14 09.1	-0.2
AOS	**Alonnisos**	**1.41**	**250**	*e*Pg		**Pn**	07 14 09.3	0.0
AOS				*e*Sg		**Sn**	07 14 28.0	+0.6
PAIG	**Paliouri**	**1.50**	**281**	*e*Pg		**Pn**	07 14 10.1	-0.4
URLA	**Izmir**	**1.52**	**149**	*i*P		**Pn**	07 14 10.1	-0.7
URLA				*i*S		**Sn**	07 14 29.5	-0.6
BLCB	**Balcova**	**1.70**	**138**	PN		**Pn**	07 14 12.3	-1.2
MFT	**Murefte**	**1.71**	**48**	PN		**Pn**	07 14 13.6	0.0
BALB	**Balikesir**	**1.77**	**90**	PN		**Pn**	07 14 14.4	0.0
PLG	**Polygyros**	**1.79**	**294**	*e*PB		**Pb**	07 14 14.7	-1.9
MRMT	**Marmara Adasi**	**1.80**	**58**	PN		**Pn**	07 14 14.8	-0.1
KDAG	**Bornova**	**1.81**	**133**	*i*P		**Pn**	07 14 14.7	-0.4
KDAG				*i*S		**Sn**	07 14 41.2	+3.7
IZM	**Izmir**	**1.81**	**134**	PN		**Pn**	07 14 14.9	-0.1
NEO	**Neokhori**	**1.87**	**260**	*e*PN		**Pn**	07 14 18.2	+2.4
NEO				*e*SN		**Sn**	07 14 43.9	+5.0
XOR	**Xorichti**	**1.88**	**262**	*e*Pb		**Pb**	07 14 15.4	-2.6
XOR				*e*Sb		**Sb**	07 14 40.2	-1.0
BTOK	**Tokmak**	**1.88**	**86**	*i*P		**Pn**	07 14 17.0	+0.9
BTOK				*i*S		**Sn**	07 14 42.2	+2.8
AKS	**Akhisar**	**1.89**	**114**	PN		**Pn**	07 14 16.5	+0.3
BNT	**Bandirma**	**1.92**	**68**	PN		**Pn**	07 14 16.9	+0.4
KDZ	**Kurdzhali**	**1.99**	**356**	*e*P		**Pn**	07 14 17.0	-0.6
KDZ				*e*Pg		**Pn**	07 14 20.0	+2.4
KDZ	**Kurdzhali**	**1.99**	**356**	*i*P		**Pn**	07 14 17.0	-0.6
KDZ	**Kurdzhali**	**1.99**	**356**	*e*Pg		**Pn**	07 14 20.0	+2.4
SOH	**Sokhos**	**2.07**	**305**	*e*Pn		**Pn**	07 14 18.7	0.0
PTL	**Penteli**	**2.10**	**220**	*e*PB		**Pb**	07 14 22.5	+0.7
SRS	**Serrai**	**2.11**	**314**	*e*Pn		**Pn**	07 14 18.8	-0.5
RZN	**Rozhen**	**2.13**	**342**	*i*P		**Pn**	07 14 19.8	+0.2
RZN	**Rozhen**	**2.13**	**342**	*i*P		**Pn**	07 14 19.5	-0.1
NVR	**Nevrokopi**	**2.14**	**323**	*e*PN		**Pn**	07 14 19.4	-0.3
SMG	**Samos**	**2.18**	**153**	*e*PN		**Pn**	07 14 21.3	+1.0
ATH	**Athens Observa**	**2.23**	**222**	*e*PB		**Pb**	07 14 25.0	+0.9
THE	**Thessaloniki**	**2.23**	**297**	*e*Pn		**Pn**	07 14 21.0	0.0
DST	**Dursunbey**	**2.34**	**90**	*e*PN		**Pn**	07 14 23.0	+0.3
EDRB	**Edirne**	**2.35**	**21**	*e*PN		**Pn**	07 14 22.2	-0.6
DIM	**Dimitrovgrad**	**2.39**	**359**	*e*P		**Pn**	07 14 24.0	+0.8
DIM	**Dimitrovgrad**	**2.39**	**359**	*e*P		**Pn**	07 14 23.0	-0.2
DIM	**Dimitrovgrad**	**2.39**	**359**	*e*P		**Pn**	07 14 23.0	-0.2
MMB	**Musomiste**	**2.39**	**324**	*i*P		**Pn**	07 14 23.0	-0.3
MMB	**Musomiste**	**2.39**	**324**	*i*P		**Pn**	07 14 22.0	-1.3

KIZ			*i* Sg	Sg	07 52 30.9	+1.3
FELD	**Feldberg**	**0.23 184**	⇑*i*Pg	Pg	07 52 29.5	+0.8
FELD			*e*Sg	Sg	07 52 32.4	+0.7
SNR=38						
FELD	**Feldberg**	**0.23 184**	⇑*i*P	Pg	07 52 29.5	+0.8
FELD			S	Sg	07 52 32.5	+0.8
FELD	**Feldberg**	**0.23 184**	Pg	Pg	07 52 29.4	+0.7
FELD			Sg	Sg	07 52 32.4	+0.7
SNR=38						
BFO	**Black Forest**	**0.30 42**	⇑*i*Pg	Pg	07 52 31.3	+1.1
BFO			*e*Sg	Sg	07 52 35.5	+1.2
BFO	**Black Forest**	**0.30 42**	⇑*i*P	Pg	07 52 31.3	+1.1
BFO			*e*S	Sg	07 52 35.5	+1.2
SLE	**Schleitheim**	**0.46 137**	*e*Pg	Pg	07 52 33.4	+0.1
SNR=12						
SLE			*e*Sg	Sg	07 52 39.3	-0.2
SNR=3.6						
SLE	**Schleitheim**	**0.46 137**	⇓*i*P	Pg	07 52 33.5	+0.2
SLE			*i* S	Sg	07 52 39.4	0.0
SPAK	**Spaichingen**	**0.51 90**	Sg	Sg	07 52 40.9	-0.2
SPAK	**Spaichingen**	**0.51 90**	P	Pg	07 52 34.8	+0.5
WLS	**Welschbruch**	**0.55 305**	⇓*i*Pg	Pg	07 52 36.3	+1.3
WLS			*e*Sg	Sg	07 52 43.4	+1.2
SNR=5.1						
WLS	**Welschbruch**	**0.55 305**	⇓*i*P	Pg	07 52 36.3	+1.3
WLS			S	Sg	07 52 43.7	+1.4
WLS	**Welschbruch**	**0.55 305**	Pg	Pg	07 52 36.0	+1.0
WLS			Sg	Sg	07 52 43.6	+1.3
SULZ	**Sulz-Cheisache**	**0.58 174**	*e*Sg	Sg	07 52 43.0	-0.4
SNR=7.0						
SULZ	**Sulz-Cheisache**	**0.58 174**	⇓*i*P	Pg	07 52 35.7	+0.1
SULZ			*i* S	Sg	07 52 43.1	-0.3
CDF	**Champ du Feu**	**0.59 302**	*e*Pg	Pg	07 52 36.9	+1.1
CDF			*e*Sg	Sg	07 52 44.6	+0.9
20nm,0.2s						
ECH	**Echery**	**0.59 281**	Pg	Pg	07 52 36.7	+0.8
ECH			*e*Sg	Sg	07 52 44.6	+0.8
SNR=8.0						
ECH	**Echery**	**0.59 281**	P	Pg	07 52 36.9	+1.0
ECH			S	Sg	07 52 44.9	+1.1
ECH	**Echery**	**0.59 281**	Pg	Pg	07 52 36.5	+0.6
ECH			Sg	Sg	07 52 44.7	+0.9
FLACH	**Flaach**	**0.64 145**	⇓*i*P	Pg	07 52 37.0	+0.1
MOF	**Molkenrain**	**0.65 248**	Pg	Pg	07 52 37.7	+0.6
MOF			*e*Sg	Sg	07 52 45.8	+0.1
SNR=6.7						
MOF	**Molkenrain**	**0.65 248**	P	Pg	07 52 37.8	+0.7
MOF	**Molkenrain**	**0.65 248**	Pg	Pg	07 52 37.7	+0.6
MOF			Sg	Sg	07 52 47.3	+1.6
STEIN	**Stein am Rhein**	**0.71 127**	⇑*i*P	Pg	07 52 38.5	+0.2
STEIN			*i* S	Sg	07 52 48.0	+0.1
BBS	**Basel-Blauen**	**0.73 209**	⇑*i*Pg	Pg	07 52 38.8	+0.2
BBS			*e*Sg	Sg	07 52 48.4	+0.1
SNR=4.1						
BBS	**Basel-Blauen**	**0.73 209**	⇑*i*P	Pg	07 52 38.8	+0.2
BBS			S	Sg	07 52 48.5	+0.2
BBS	**Basel-Blauen**	**0.73 209**	Pg	Pg	07 52 38.6	0.0
BBS	**Basel-Blauen**	**0.73 209**	⇑*i*P	Pg	07 52 38.8	+0.2
BBS			Sg	Sg	07 52 48.4	+0.1
GUT	**Gutenstein**	**0.73 92**	⇑*i*Pg	Pg	07 52 38.7	0.0
GUT			Sg	Sg	07 52 48.2	-0.3
GUT			SmS		07 52 49.2	
GUT	**Gutenstein**	**0.73 92**	⇑*i*P	Pg	07 52 38.7	+0.1
GUT			S	Sg	07 52 48.2	-0.2
GUT			S	Sg	07 52 49.3	+0.9
GUT	**Gutenstein**	**0.73 92**	S	Sg	07 52 49.2	+0.8
GUT	**Gutenstein**	**0.73 92**	⇑*i*P	Pg	07 52 38.7	0.0
GUT			Sg	Sg	07 52 48.2	-0.2
GUT			S	Sg	07 52 49.2	+0.8
SISB	**Singen-Sch Ber**	**0.76 123**	⇓*i*Pg	Pg	07 52 39.2	0.0
SISB			S	Sg	07 52 49.3	0.0
LBG	**Lerchenberg**	**0.76 42**	*i* Pg	Pg	07 52 39.5	+0.2
LBG			Sg	Sg	07 52 49.8	+0.3
LBG			SmS		07 52 51.2	
LBG	**Lerchenberg**	**0.76 42**	*i* P	Pg	07 52 39.5	+0.2
LBG			S	Sg	07 52 49.9	+0.4
LBG			S	Sg	07 52 51.2	+1.7
BALST	**Balsthal**	**0.80 196**	⇑*i*P	Pg	07 52 39.8	-0.2
TUBL	**Tuebingen Lnz**	**0.82 59**	P	Pg	07 52 41.0	+0.6
TUBL			S	Sg	07 52 51.9	+0.5
ZUR	**Zurich**	**0.82 153**	*e*Pg	Pg	07 52 40.2	-0.4
SNR=1.7						
ZUR			*e*Sg	Sg	07 52 50.9	-0.6
SNR=2.9						
ZUR	**Zurich**	**0.82 153**	*e*P	Pg	07 52 40.3	-0.2
HINF	**Hinteralfeld**	**0.84 250**	*e*Pg	Pg	07 52 40.5	-0.3
HINF			*e*Sg	Sg	07 52 51.3	-0.7
26nm,0.2s						
WEIN	**Weingarten**	**0.86 131**	⇓*i*P	Pb	07 52 41.3	+0.1
BOURR	**Bourrignon**	**0.89 217**	*e*Pg	Pg	07 52 41.9	+0.1
SNR=8.4						
BOURR			*e*Sg	Sg	07 52 53.4	-0.3
SNR=4.8						
BOURR	**Bourrignon**	**0.89 217**	⇑*i*P	Pb	07 52 41.8	+0.2
BOURR			*e*S	Sg	07 52 53.7	0.0
LANF	**Langenberg**	**0.89 351**	Pg	Pg	07 52 41.9	0.0
LANF			Sg	Sg	07 52 55.1	+1.4
LANF	**Langenberg**	**0.89 351**	*e*Sg	Sg	07 52 53.5	-0.2
SNR=5.5						
WILA	**Wila**	**0.91 139**	*e*Pg	Pg	07 52 42.0	-0.3
SNR=4.0						
WILA			*e*Sg	Sg	07 52 53.8	-0.6
SNR=5.3						
WILA	**Wila**	**0.91 139**	⇓*i*P	Pb	07 52 42.1	+0.1
WILA			*i* S	Sb	07 52 54.2	0.0
LOMF	**Lomont**	**1.10 228**	*e*Pg	Pg	07 52 45.8	-0.3
SNR=11						
LOMF			⇑*i*Pn	Pn	07 52 45.9	-0.2
LOMF			*e*Sg	Sg	07 53 00.5	-0.4
SNR=2.9						
LOMF	**Lomont**	**1.10 228**	⇑*i*P	Pb	07 52 45.9	+0.6
LOMF			S	Sb	07 53 00.7	+0.9
LOMF	**Lomont**	**1.10 228**	Pg	Pg	07 52 45.7	-0.4
LOMF			Sg	Sg	07 53 00.3	-0.6
HAU	**Haudompre**	**1.13 266**	*e*Pn	Pn	07 52 46.2	-0.3
HAU			*e*Sg	Sg	07 53 00.5	-1.2
33nm,0.2s						
KTD	**Kalmit**	**1.22 2**	*e*Sg	Sg	07 53 04.4	-0.2
SNR=2.2						
LIENZ	**Alp Oberkamor**	**1.28 129**	*e*Pg	Pg	07 52 49.3	-0.3
SNR=2.0						
LIENZ			*e*Sg	Sg	07 53 05.5	-1.1
SNR=3.0						
LIENZ	**Alp Oberkamor**	**1.28 129**	*e*P	Pb	07 52 49.1	+0.8
THEF	**They Montfort**	**1.37 276**	*e*Sg	Sg	07 53 08.8	-0.9
SNR=3.9						
SWS	**Schriesheim**	**1.45 18**	Sg	Sg	07 53 11.2	-1.2
UBR	**Uberruh**	**1.46 106**	Sg	Sg	07 53 11.1	-1.7
UBR	**Uberruh**	**1.46 106**	S	Sb	07 53 11.4	+1.2
HDH	**Heidenheim**	**1.53 71**	Sg	Sg	07 53 13.1	-2.0
HDH	**Heidenheim**	**1.53 71**	P	Pn	07 52 53.6	+1.4
HDH			S	Sb	07 53 13.4	+1.1
SIND	**Sindeldorf**	**1.63 39**	Pg	Pg	07 52 55.8	-0.8
RUP	**Ruppelstein**	**1.72 339**	*e*Pg	Pg	07 52 57.8	-0.6
SNR=3.0						
ABH	**Alteburg**	**1.81 350**	*e*Sg	Sg	07 53 22.2	-2.1
SNR=2.0						
CABF	**La Chapelle**	**1.99 222**	*e*Pg	Pg	07 53 01.7	-2.1
CABF			*e*Sg	Sg	07 53 27.6	-2.7
2.3nm,0.2s						
TNS	**Taunus Mts**	**2.14 7**	*e*Sg	Sg	07 53 33.7	-1.6
SNR=2.3						
LOR	**Lormes**	**2.94 255**	*e*Pg	Pg	07 53 19.7	-3.0
LOR			*e*Sg	Sg	07 53 56.8	-5.0
2.6nm,0.2s						
SMF	**Signal de Mont**	**3.20 244**	*e*Pg	Pg	07 53 24.2	-3.7
SMF			*e*Sg	Sg	07 54 04.7	-5.7
4.8nm,0.3s						
SSF	**Saint Saulge**	**3.23 253**	*e*Pn	Pn	07 53 15.1	-1.4
SSF			*e*Pg	Pg	07 53 24.9	-3.7
SSF			*e*Sg	Sg	07 54 06.0	-5.7
1.7nm,0.2s						
SSF	**Saint Saulge**	**3.23 253**	*e*Pg	Pg	07 53 24.9	-3.7
SSF			*e*Sg	Sg	07 54 06.0	-5.7
0.9nm,0.2s						
AVF	**Avril sur Loir**	**3.43 249**	*e*Pn	Pn	07 53 17.3	-2.1
AVF			*e*Pg	Pg	07 53 28.5	-4.1
AVF			*e*Sg	Sg	07 54 12.0	-6.3
0.7nm,0.2s						
BGF	**Bois d'Agland**	**3.85 248**	*e*Pg	Pg	07 53 36.0	-4.8
BGF			*e*Sg	Sg	07 54 24.7	-7.4
3.9nm,0.3s						

NEIC ***24*** *08:31:16.9, 14.24N×92.42W, h83km, MD4.3(MEX), After MEX.*

MEX 24 08:31:16.8±0.5, 14.19N×92.51W, h20km±103km, MD4.3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**2.11**	**10**	*i* P	Pn	08 31 48.5	-3.2
CCIG				*i* S	Sn	08 32 13.1	-4.5
SCX	**San Cristobal**	**2.53**	**357**	*e*P	Pn	08 31 56.0	-1.7
CMIG	**Matias Romero**	**3.68**	**322**	*i* P	Pn	08 32 10.2	-3.8
CMIG				*i* S	Sn	08 32 52.7	-4.6
OXX	**Oaxaca**	**4.97**	**306**	*e*P	Pn	08 32 31.0	-1.4
OXX				*i* S	Sn	08 33 30.0	0.0
VHO	**Vista Hermosa**	**4.98**	**306**	*i* P	Pn	08 32 29.2	-3.2
VHO				*i* S	Sn	08 33 23.4	-6.7
VHO	**Vista Hermosa**	**4.98**	**306**	*i* P	Pn	08 32 30.2	-2.2
VHO				*i* S	Sn	08 33 29.0	-1.1

IDC ***24*** *08:52:21.5±0.6, 6.72S×128.64E, mb4.5/11, mb1 4.6/12, mb1mx4.6/17, mbtmp4.6/12, ML3.8/1, MS3.9/8, Ms1 3.9/8, ms1mx3.8/15, Error ellipse: s-maj=28.7km s-min=13.6km az=73.0*

BJI ***24*** *08:52:24.8, 6.70S×128.60E, h21km, mB4.7, mb4.9, Ms4.9, Msz4.6*

HRVD ***24*** *08:52:24.9±0.3, 6.65S×128.63E, h22km±2km, MW4.9/50, Centroid moment Tensor Solution. LP body waves: s13,c14;Mantle waves: s50,c74; Half duration: 0 Moment tensor: Scale 1016Nm; Mrr0.45±.21; Mθθ-2.99±.15; Mφφ2.54±.16; Mrθ-0.51±.23; Mrφ-0.21±.13; Mθφ1.12±.31; Best double couple: M0:3.058×1016 NP1:φ:45°, δ67°, λ12°. NP2:φ:311°, δ79°, λ157°. Principal axes: T:3.053, Plg24°, Azm266°; N .011, Plg65°, Azm107°; P -3.064, Plg8°, Azm359°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***24*** *08:52:24.9±4.0, 6.74S×128.61E, h21km±28km, mb4.9/15 Error ellipse: s-maj=11.8km s-min=7.7km az=59.0*

MOS ***24*** *08:52:24.4±2.5, 6.91S×128.57E, h33km, mb4.9/15, Error ellipse: s-maj=18.3km s-min=8.6km az=117.8*

ISC 24 08:52:22.8±0.3, 6.81S±0.04×128.55E±0.08, h21km, n69, σ1§13/63, mb4.8/36, MS4.0/10, 3C-2D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**7.00**	**147**	*e*P	Px	08 54 18.0	
77nm,0.6s							
KAKA				*e*S	Sx	08 55 36.3	
FITZ	**Fitzroy Crossi**	**11.57**	**194**	*e*P	**P**	**08 55 06.9**	**-3.2**
12nm,0.2s							
FITZ				*e*S	**S**	**08 57 17.6**	**-2.1**
FITZ	**Fitzroy Crossi**	**11.57**	**194**	Pn	**P**	**08 55 06.1**	**-4.0**
3.5nm,0.3s,baz=16,slow=9.9,SNR=40							
FITZ				Sn	**S**	**08 57 16.4**	**-3.3**
8.1nm,0.3s,baz=136,slow=12,SNR=7.4							
FITZ				LR	LR	09 00 00.4	
comp=Z,657nm,18.5s,baz=24,slow=39							
WRAB	**Tennant Creek**	**14.20**	**157**	*e*P	**P**	**08 55 39.6**	**-5.5**
86nm,0.8s							
WRAB	**Tennant Creek**	**14.20**	**157**	*e*P	**P**	**08 55 39.6**	**-5.5**
WRAB				pmax	pmax		
comp=Z,86nm,0.8s							
WRA	**Warramunga Arr**	**14.21**	**157**	Pn	**P**	**08 55 39.7**	**-5.5**
comp=Z,4.6nm,0.3s,baz=324,slow=14,SNR=109							
WRA				Sn	**S**	**08 58 11.1**	**-12**
comp=Z,1.9nm,0.3s,baz=333,slow=22,SNR=8.9							
MBWA	**Marble Bar**	**16.62**	**210**	*e*P	**P**	**08 56 15.5**	**-0.9**
comp=Z,83nm,0.8s							
PMG	**Port Moresby**	**18.60**	**99**	P	**P**	**08 56 39.9**	**-1.1**
comp=Z,0.9nm,0.3s,baz=283,slow=8.2,SNR=7.7							
KSM	**Kuching**	**19.98**	**294**	*e*P	**P**	**08 56 58.3**	**+1.2**
CTA	**Charters Tower**	**21.66**	**129**	*e*P	**P**	**08 57 16.5**	**+2.4**
comp=Z,21nm,0.9s,mb4.6							
CTA	**Charters Tower**	**21.66**	**129**	P	**P**	**08 57 14.0**	**-0.1**
comp=Z,11nm,0.8s,mb4.4,baz=316,slow=10,SNR=11							
CTA	**Charters Tower**	**21.66**	**129**	*e*P	**P**	**08 57 16.5**	**+2.4**
CTA				pmax	pmax		
comp=Z,21nm,0.9s							
CTAO	**Charters Tower**	**21.66**	**129**	*e*P	**P**	**08 57 14.6**	**+0.4**
comp=Z,45nm,1.0s,mb4.8							
CTAO	**Charters Tower**	**21.66**	**129**	*e*P	**P**	**08 57 14.6**	**+0.5**
CTAO				pmax	pmax		
comp=Z,45nm,1.0s,mb4.8							
FORT	**Forrest**	**23.84**	**181**	⇑*i*P	**P**	**08 57 37.6**	**+2.0**
comp=Z,109nm,0.7s,mb5.4							
GUMO	**Guam**	**25.95**	**39**	LR	LR	09 05 40.1	
comp=Z,126nm,20.9s,MS3.4,baz=216,slow=31							
KLBR	**Kellerberrin**	**26.64**	**201**	*e*P	**P**	**08 58 03.3**	**+1.2**
comp=Z,64nm,1.3s,mb5.0							
STKA	**Stephens Creek**	**27.75**	**156**	*e*P	**P**	**08 58 11.7**	**-0.5**
comp=Z,15nm,0.9s,mb4.6							
STKA	**Stephens Creek**	**27.75**	**156**	P	**P**	**08 58 11.9**	**-0.3**
comp=Z,19nm,0.9s,mb4.7,baz=325,slow=8.0,SNR=33							
STKA				LR	LR	09 09 14.4	
comp=Z,572nm,19.1s,MS4.2,baz=324,slow=36							
NWAO	**Narrogin (SRO)**	**28.03**	**201**	P	**P**	**08 58 14.9**	**+0.2**
comp=Z,18nm,0.7s,mb4.8,baz=0.1,slow=9.5,SNR=6.5							
JOW	**Kunigami**	**33.45**	**360**	P	**P**	**08 59 02.1**	**-0.5**
comp=Z,18nm,0.8s,mb5.0,baz=41,slow=0.2,SNR=3.8							
TOO	**Toolangi**	**34.27**	**156**	*e*P	**P**	**08 59 11.1**	**+1.4**
comp=Z,13nm,0.8s,mb4.9							
TOO	**Toolangi**	**34.27**	**156**	*e*P	**P**	**08 59 11.1**	**+1.4**
TOO				pmax	pmax		
comp=Z,13nm,0.8s,mb4.9							
NANT	**Nan**	**37.44**	**313**	⇓P	**P**	**08 59 37.0**	**+0.3**
comp=Z,100nm,1.0s,mb5.6							
SSE	**Sheshan**	**38.35**	**350**	P	**P**	**08 59 50.3**	**+6.1**
SSE				S	**S**	**09 05 38.0**	**+0.8**
SSE				AMB	AMB		
comp=Z,22nm,0.7s,mb5.0							
SSE				AMB	AMB		
comp=Z,50nm,3.8s							
NJ2	**Nanjing**	**39.74**	**347**	*e*P	**P**	**09 00 00.5**	**+4.7**
NJ2				S	**S**	**09 05 56.0**	**-2.2**
NJ2				AMB	AMB		
comp=Z,20nm,1.0s,mb4.8							
NJ2				AMB	AMB		
comp=Z,202nm,4.6s							
NJ2				LR	LR		
comp=N,360nm,11.6s,MS4.8							
NJ2				LR	LR		
comp=E,690nm,13.3s,MS4.8							
MJAR	**Matsushiro Arr**	**44.07**	**11**	P	**P**	**09 00 29.2**	**-2.0**
comp=E,5.6nm,0.9s,mb4.3,baz=186,slow=9.7,SNR=8.6							
MJAR				LR	LR	09 17 33.7	
comp=E,130nm,20.2s,MS3.8,baz=185,slow=34							
GTA	**Gaotai**	**53.13**	**332**	P	**P**	**09 01 41.8**	**+0.4**
GTA				AP	pP	09 01 55.8	+7.9
GTA				AMB	AMB		
comp=Z,5.0nm,0.8s,mb4.5							
GTA				AMB	AMB		
comp=Z,100nm,11.4s							
GTA				LR	LR		
comp=N,108nm,20.2s,MS4.0							
GTA				LR	LR		
comp=E,99nm,21.3s,MS4.0							
GTA				LR	LR		
comp=Z,297nm,18.6s,MS4.4							
PKI	**Pulchoki**	**53.92**	**311**	*e*P	**P**	**09 01 47.6**	**+0.3**
comp=Z,9.8nm,0.7s,mb4.9							
PKI	**Pulchoki**	**53.92**	**311**	*e*P	**P**	**09 01 47.6**	**+0.3**
PKI				pmax	pmax		
comp=Z,5.0nm,0.6s,mb4.6							
KKN	**Kakani**	**54.13**	**311**	*e*P	**P**	**09 01 48.4**	**-0.5**
DMN	**Daman**	**54.17**	**311**	*e*P	**P**	**09 01 49.7**	**+0.5**
comp=Z,31nm,1.0s,mb5.2							
GKN	**Gorkha**	**54.73**	**311**	*e*P	**P**	**09 01 53.1**	**-0.2**
comp=Z,34nm,0.9s,mb5.4							
KOLN	**Koldanda**	**55.38**	**310**	*e*P	**P**	**09 01 58.1**	**0.0**
comp=Z,22nm,0.8s,mb5.2							
SONM	**Songino Array**	**57.82**	**343**	P	**P**	**09 02 16.3**	**+1.1**
comp=Z,2.7nm,0.8s,mb4.3,baz=165,slow=7.0,SNR=16							
SONM				LR	LR	09 31 05.9	
comp=Z,76nm,18.9s,MS3.8,baz=305,slow=40							
ZAK	**Zakamensk**	**61.03**	**342**	*e*P	**P**	**09 02 42.4**	**+5.1**
ZAK				pmax	pmax		
comp=Z,2.0nm,0.9s,mb4.2							
WMQ	**Urumqi**	**62.46**	**328**	P	**P**	**09 02 46.4**	**-0.6**
WMQ				AP	pP	09 02 56.4	+2.8
WMQ				AMB	AMB		
comp=Z,10.0nm,1.0s,mb4.9							
BOD	**Bodaibo**	**65.49**	**352**	*e*P	**P**	**09 03 05.2**	**-1.4**
BOD				pmax	pmax		
comp=Z,8.0nm,0.8s,mb4.8							
MKAR	**Makanchi Array**	**67.29**	**327**	P	**P**	**09 03 18.2**	**0.0**
comp=Z,5.2nm,0.7s,mb4.7,baz=129,slow=7.8,SNR=34							
MKAR	**Makanchi Array**	**67.29**	**327**	*i* P	**P**	**09 03 18.1**	**-0.2**
MKAR				pmax	pmax		
comp=Z,4.0nm,0.7s							
YAK	**Yakutsk**	**68.64**	**1**	P	**P**	**09 03 24.0**	**-2.5**
comp=Z,66nm,0.9s,mb5.6							
YAK	**Yakutsk**	**68.64**	**1**	P	**P**	**09 03 24.0**	**-2.4**
YAK				pmax	pmax		
comp=Z,66nm,0.9s,mb5.6							
AAK	**Ala-Archa**	**69.48**	**320**	*e*P	**P**	**09 03 32.1**	**+0.2**
comp=Z,8.2nm,1.0s,mb4.6							
AAK	**Ala-Archa**	**69.48**	**320**	*e*P	**P**	**09 03 32.1**	**+0.2**
AAK				pmax	pmax		
comp=Z,8.0nm,1.0s,mb4.6							
ZAL	**Zalesovo**	**70.79**	**334**	P	**P**	**09 03 38.3**	**-1.4**
comp=Z,6.0nm,1.0s,mb4.5,baz=330,slow=3.6,SNR=17							
KURK	**Kurchatov**	**71.62**	**329**	*e*P	**P**	**09 03 44.7**	**0.0**
comp=Z,8.7nm,0.8s,mb4.7							
KURK	**Kurchatov**	**71.62**	**329**	*e*P	**P**	**09 03 44.7**	**0.0**
KURK				pmax	pmax		
comp=Z,9.0nm,0.8s,mb4.8							
SEY	**Seymchan**	**71.89**	**11**	*i* P	**P**	**09 03 47.2**	**+1.0**
NVS	**Novosibirsk**	**72.08**	**334**	*i* P	**P**	**09 03 46.2**	**-1.2**
NVS				pmax	pmax		
comp=Z,8.0nm,1.0s,mb4.6							
NVS				pmax	pmax		
comp=Z,3.0nm,0.8s,mb4.3							
VNDA	**Vanda**	**72.81**	**173**	P	**P**	**09 03 51.6**	**+0.3**
comp=Z,1.6nm,0.8s,mb4.0,baz=303,slow=6.8,SNR=9.5							
VNDA				LR	LR	09 36 52.2	
comp=Z,107nm,19.9s,MS4.1,baz=347,slow=37							
MAW	**Mawson**	**74.60**	**201**	P	**P**	**09 04 03.7**	**+1.8**
comp=Z,1.9nm,0.7s,mb4.1,baz=74,slow=12,SNR=8.5							
MAW				LR	LR	09 34 19.5	
comp=Z,94nm,21.0s,MS4.1,baz=121,slow=34							
BVAR	**Borovoye Array**	**77.14**	**328**	P	**P**	**09 04 16.4**	**-0.1**
comp=Z,3.4nm,0.8s,mb4.3,baz=121,slow=8.6,SNR=11							
BRVK	**Borovoye**	**77.22**	**328**	*e*P	**P**	**09 04 17.1**	**+0.2**
comp=Z,4.8nm,1.0s,mb4.4							
BRVK	**Borovoye**	**77.22**	**328**	*e*P	**P**	**09 04 17.1**	**+0.1**
BRVK				pmax	pmax		
comp=Z,5.0nm,1.0s,mb4.4							
TIXI	**Tiksi**	**78.30**	**0**	*e*P	**P**	**09 04 24.0**	**+1.4**
TIXI				pmax	pmax		
comp=Z,7.0nm,0.8s,mb4.6							
BILL	**Bilibino**	**79.27**	**14**	⇓*e*P	**P**	**09 04 29.4**	**+1.5**
BILL				*e*S	S	09 14 16.3	-9.3
BILL				pmax	pmax		
comp=Z,2.0nm,0.4s,mb4.4							
BILL				MLR	MLR		
comp=Z,100nm,20.0s,MS4.2							
ARU	**Arti**	**84.79**	**328**	⇑*i*P	**P**	**09 04 57.3**	**+0.5**
ARU				*e*		09 08 18.7	
ARU				*e*SS	SS	09 21 00.1	+2.6
ARU				pmax	pmax		
comp=Z,5.0nm,1.0s,mb4.6							
KIV	**Kislovodsk**	**91.71**	**314**	⇑*e*P	**P**	**09 05 25.8**	**-4.4**
KIV				*e*S	SKS	09 15 55.6	-11
KIV				pmax	pmax		
comp=Z,6.0nm,1.0s,mb4.9							
ILAR	**Eielson Array**	**93.79**	**25**	LR	LR	09 50 51.4	
comp=Z,30nm,18.4s,MS3.8,baz=177,slow=38							
ANN	**Anapa**	**95.54**	**314**	*e*P	**P**	**09 05 48.5**	**+0.7**
ANN				pmax	pmax		
comp=Z,24nm,1.0s,mb5.6							
OBN	**Obninsk**	**96.67**	**325**	*e*P	**P**	**09 05 51.8**	**-0.9**
OBN				*e*		09 09 44.7	
OBN				*e*SS	SS	09 23 40.6	-7.5
OBN				pmax	pmax		
comp=Z,6.0nm,1.3s,mb4.9							
SNOW	**Snow King Moun**	**116.73**	**45**	*e*PKiKP		09 11 09.2	
PDAR	**Pinedale Array**	**117.78**	**45**	PKP	PKPdf	09 11 09.2	-3.0
comp=Z,0.6nm,0.7s,baz=270,slow=1.5,SNR=3.7							
ANMO	**Albuquerque**	**122.34**	**53**	*i* PKIKP	PKPdf	09 11 13.2	-8.0
MNTX	**Cornudas Mount**	**124.05**	**56**	*e*PKPdf	PKPdf	09 11 21.4	-3.2
TXAR	**Lajitas Array**	**126.06**	**59**	PKP	PKPdf	09 11 25.7	-2.9
comp=Z,0.4nm,0.7s,baz=270,slow=3.8,SNR=2.7							
CPUP	**Villa Florida**	**146.56**	**170**	PKPbc	PKPbc	09 12 06.1	+2.8
comp=Z,4.5nm,0.7s,baz=174,slow=4.4,SNR=5.8							
LPAZ	**La Paz**	**151.72**	**144**	PKP	PKPdf	09 12 13.5	-1.1
comp=Z,1.5nm,1.0s,baz=111,slow=3.9,SNR=4.0							
LPAZ				PKPbc	PKPdf	09 12 18.6	+4.0
comp=Z,2.1nm,0.9s,baz=224,slow=3.1,SNR=7.1							
LPAZ				PKPab	PKPab	09 12 30.1	+2.2
comp=Z,3.8nm,0.8s,baz=329,slow=0.8,SNR=10							
LPAZ	**La Paz**	**151.72**	**144**	PKP	PKPdf	09 12 13.5	-1.1
LPAZ				PKPbc	PKPdf	09 12 18.6	+4.0
LPAZ				PKPab	PKPab	09 12 30.1	+2.2

IDC 24 09:33:11.4±1.9, 3.06N×128.21E, mb3.9/3, mb1 4.1/3, mb1mx3.7/16, mbtmp3.9/3, MS2.9/1, Ms1 2.9/1, ms1mx2.8/22, Error ellipse: s-maj=137.0km s-min=24.9km az=66.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**19.50**	**57**	LR	LR	09 43 51.5	
comp=Z,38nm,20.2s,baz=53,slow=33							
WRA	**Warramunga Arr**	**23.64**	**165**	P	P	09 38 24.5	-0.9
4.1nm,0.

MW3.7,1C, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRU2	**Volcan**	**0.27**	**144**	⇑*iP*	Pg	10 01 07.1	+0.3
LCR2	**La Lucha 2**	**1.35**	**303**	*eP*	Pn	10 01 25.4	-0.1
LCR2				*eS*	Sb	10 01 43.8	+1.3
PRS1	**Puriscal**	**1.73**	**304**	*eP*	Pn	10 01 30.6	-0.4
PRS1				*eS*	Sn	10 01 53.0	0.0
CGA2	**Cerro Gallo 2**	**1.88**	**302**	*eP*	Pn	10 01 34.4	+1.4
CGA2				*eS*	Sn	10 01 57.5	+0.7

IDC ***24*** *10:03:54.4±0.7, 4.81N×82.73W, mb4.3/13, mb1 4.6/15, mb1mx4.4/25, mbtmp4.3/15, ML3.6/2, MS3.9/7, Ms1 3.9/7, ms1mx3.8/30, Error ellipse: s-maj=26.4km s-min=12.4km az=57.0*

CASC ***24*** *10:03:56.4±1.8, 5.14N×82.55W, h7km±32km, MD4.7, ML3.9, MW4.6, mb4.6(NEIC)*

NEIC ***24*** *10:04:00.7±1.1, 4.86N×82.58W, h43km±11km, mb4.6/18, Error ellipse: s-maj=9.3km s-min=5.9km az=58.0*

ISC 24 10:03:54.5±1.3, 5.10N±0.03×82.59W±0.04, h3km±8km, n73, σ1$25/87, mb4.4/29, MS3.9/5, 4C-5D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AZU2	**Pedas**	**3.51**	**46**	*eP*	**Pn**	**10 04 52.5**	**+1.4**
AZU2				*eS*	**Sn**	**10 05 32.1**	**-1.5**
BRU2	**Volcan**	**3.67**	**358**	⇑*eP*	**Pn**	**10 04 53.3**	**0.0**
BRU2				*eS*	**Sn**	**10 05 37.1**	**-0.6**
BUS	**Buena Vista**	**4.57**	**345**	*eP*	**Pn**	**10 05 06.0**	**-0.2**
BUS				⇑*eP*		10 05 06.0	
BUS				*eS*	**Sn**	**10 06 01.1**	**+0.5**
LCR2	**La Lucha 2**	**4.82**	**343**	⇓*eP*	**Pn**	**10 05 08.5**	**-1.1**
UPA	**Univ. de Panam**	**4.90**	**38**	*eP*	**Pn**	**10 05 13.1**	**+2.3**
UPA				*eS*	**Sn**	**10 06 09.6**	**+0.7**
SJS	**Escuela Geolog**	**5.02**	**343**	⇑*eP*	**Pn**	**10 05 12.0**	**-0.5**
SJS				⇓*eP*		10 05 12.5	
SJS				*eS*	**Sn**	**10 06 10.9**	**-1.0**
PRS1	**Puriscal**	**5.14**	**341**	⇓*eP*	**Pn**	**10 05 11.6**	**-2.6**
PRS1				*eS*	**Sn**	**10 06 14.8**	**-0.1**
CGA2	**Cerro Gallo 2**	**5.22**	**339**	⇓*eP*	**Pn**	**10 05 14.3**	**-1.1**
CGA2				*eS*	**Sn**	**10 06 17.7**	**+0.7**
VPS2	**Volcan Poas 2**	**5.31**	**342**	⇓*eP*	**Pn**	**10 05 16.4**	**-0.2**
VPS2				*eS*	**Sn**	**10 06 18.9**	**-0.3**
JCR	**Jicaral**	**5.34**	**332**	⇑*eP*	**Pn**	**10 05 14.7**	**-2.3**
JCR				*eS*	**Sn**	**10 06 18.4**	**-1.5**
FORC	**Fortuna**	**5.72**	**339**	*eP*	**Pn**	**10 05 19.6**	**-2.7**
FORC				*eS*	**Sn**	**10 06 29.1**	**-0.3**
MADN	**Villa Maderas**	**6.91**	**335**	*eP*	**Pn**	**10 05 39.3**	**+0.2**
SSNN	**San Juan del S**	**6.94**	**332**	*eP*	**Pn**	**10 05 40.2**	**+0.6**
CONN	**Concepcion**	**7.09**	**335**	*eP*	**Pn**	**10 05 41.8**	**+0.1**
CRUN	**El Crucero**	**7.76**	**332**	*eP*	**Pn**	**10 05 52.2**	**+1.2**
MGAN	**Managua**	**7.88**	**333**	*eP*	**Pn**	**10 05 51.4**	**-1.3**
MGAN				*eS*	**Sn**	**10 07 21.9**	**-1.6**
MGAN				*i*		10 07 27.0	
	comp=E,76nm,0.1s						
COPN	**Copaltepe**	**8.07**	**331**	*eP*	**P**	**10 05 54.6**	**-0.7**
ROSC	**El Rosal**	**8.23**	**91**	Pn	**P**	**10 05 59.1**	**+1.5**
	comp=E,7.8nm,0.3s,baz=254,slow=15,SNR=10						
ROSC				Sn	**Sn**	**10 07 39.8**	**+7.6**
	comp=E,1.3nm,0.3s,baz=263,slow=18,SNR=2.7						
ROSC				LR	LR	10 08 48.4	
	comp=E,336nm,19.0s,baz=359,slow=35						
MIRN	**Miramar**	**8.35**	**331**	*eP*	**P**	**10 05 59.5**	**+0.2**
CNGN	**Cerro Negro**	**8.40**	**331**	*eP*	**P**	**10 05 59.6**	**-0.4**
LEON	**Leon**	**8.42**	**330**	*eP*	**P**	**10 05 59.6**	**-0.6**
TEL3	**Telica 3**	**8.53**	**331**	*eP*	**P**	**10 06 01.4**	**-0.4**
CRIN	**San Cristobal**	**8.74**	**330**	*eP*	**P**	**10 06 04.0**	**-0.7**
PAYG	**Puerto Ayora**	**9.60**	**233**	*eP*	**P**	**10 06 13.7**	**-3.0**
	comp=E,142nm,1.4s						
CNCH	**Conchagua**	**9.63**	**328**	*eP*	**P**	**10 06 35.0**	**+18**
CNCH				*eS*	**Sn**	**10 08 23.8**	**+17**
LCBS	**La Ceiba**	**10.58**	**324**	*eP*	**P**	**10 06 48.2**	**+18**
LCBS				*eS*	**S**	**10 08 48.1**	**+18**
LFRS	**El Faro**	**10.60**	**323**	*eP*	**P**	**10 06 48.6**	**+18**
LFRS				*eS*	**S**	**10 08 47.6**	**+17**
SDV	**Santo Domingo**	**12.44**	**72**	Pn	**P**	**10 06 56.6**	**+1.1**
	comp=E,0.8nm,0.3s,baz=272,slow=10.0,SNR=12						
SDV				Sn	**S**	**10 09 14.5**	**-1.3**
	comp=E,3.3nm,0.3s,baz=136,slow=18,SNR=5.2						
SDV				LR	LR	10 11 32.6	
	comp=E,466nm,19.9s,baz=254,slow=36						
SDV	**Santo Domingo**	**12.44**	**72**	*eP*	**P**	**10 06 55.9**	**+0.4**
	comp=E,26nm,0.6s						
NNA	**Nana**	**17.91**	**161**	*eP*	**P**	**10 08 04.8**	**-1.6**
	comp=E,24nm,0.8s						
SJG	**San Juan**	**20.62**	**50**	P	**P**	**10 08 39.1**	**+1.4**
	comp=E,34nm,0.6s,baz=281,slow=11,SNR=9.5						
SJG				LR	LR	10 15 34.0	
	comp=E,222nm,21.6s,MS3.5,baz=263,slow=33						
SAML	**Samuel**	**23.86**	**126**	*eP*	**P**	**10 09 07.4**	**-2.7**
	comp=E,57nm,1.1s,mb4.9						
ARE	**Arequipa**	**24.07**	**153**	*eP*	**P**	**10 09 12.0**	**-0.2**
LPAZ	**La Paz**	**25.62**	**146**	P	**P**	**10 09 25.3**	**-1.7**
	comp=E,6.6nm,0.7s,mb4.3,baz=339,slow=11,SNR=34						
LPAZ				LR	LR	10 20 25.9	
	comp=E,530nm,20.6s,MS4.0,baz=270,slow=39						
LPAZ	**La Paz**	**25.62**	**146**	*eP*	**P**	**10 09 25.2**	**-1.8**
	comp=E,12nm,1.0s,mb4.4						
LRAL	**Lakeview Retre**	**28.09**	**352**	*eP*	**P**	**10 09 50.3**	**+0.8**
	comp=E,5.5nm,0.9s,mb4.2						
SIV	**San Ignacio**	**29.88**	**135**	P	**P**	**10 10 02.7**	**-3.1**
	comp=E,4.9nm,0.8s,mb4.3,baz=309,slow=11,SNR=23						
WVT	**Waverly**	**31.25**	**352**	*eP*	**P**	**10 10 16.2**	**-1.5**
	comp=E,13nm,1.3s,mb4.6						
TXAR	**Lajitas Array**	**31.28**	**323**	P	**P**	**10 10 18.0**	**0.0**
	comp=E,1.3nm,1.0s,mb3.7,baz=144,slow=11,SNR=8.6						
TXAR				LR	LR	10 24 18.2	
	comp=E,110nm,18.4s,MS3.6,baz=170,slow=39						
TXAR	**Lajitas Array**	**31.28**	**323**	P	**P**	**10 10 18.0**	**0.0**
TXAR				LR	LR	10 24 18.2	
CCM	**Cathedral Cave**	**33.73**	**348**	*eP*	**P**	**10 10 37.4**	**-2.0**
	comp=E,11nm,1.1s,mb4.7						
MNTX	**Cornudas Mount**	**34.01**	**324**	*eP*	**P**	**10 10 42.1**	**+0.3**
	comp=E,14nm,1.2s,mb4.8						
ANMO	**Albuquerque**	**37.00**	**326**	*eP*	**P**	**10 11 08.6**	**+1.3**
	comp=E,14nm,1.2s,mb4.7						
TUC	**Tucson**	**37.78**	**319**	*eP*	**P**	**10 11 14.7**	**+0.9**
	comp=E,7.4nm,1.2s,mb4.3						
CFAA	**Coronel Fontan**	**38.98**	**160**	P	**P**	**10 11 21.2**	**-2.7**
	comp=E,0.5nm,0.9s,mb3.2,baz=1.1,slow=8.2,SNR=6.6						
CPUP	**Villa Florida**	**39.69**	**143**	P	**P**	**10 11 26.4**	**-3.5**
	comp=E,3.2nm,0.9s,mb4.1,baz=304,slow=9.1,SNR=4.9						
CPUP				LR	LR	10 29 41.5	
	comp=E,290nm,20.0s,MS4.1,baz=335,slow=39						
BDFB	**Brasilia**	**39.96**	**122**	LR	LR	10 28 28.1	
	comp=E,410nm,18.1s,MS4.3,baz=110,slow=37						
ISCO	**Idaho Springs**	**40.31**	**332**	*eP*	**P**	**10 11 36.5**	**+1.8**
	comp=E,5.8nm,1.2s,mb4.2						
PV01	**Paradox Valley**	**40.50**	**328**	*eP*	**P**	**10 11 38.7**	**+2.4**
PV10	**Paradox Valley**	**40.92**	**328**	*eP*	**P**	**10 11 40.7**	**+0.9**
SRU	**San Rafael**	**42.25**	**327**	*eP*	**P**	**10 11 52.7**	**+1.9**
NEN	**Nelson**	**42.49**	**320**	*eP*	**P**	**10 11 54.4**	**+1.6**
MSU	**Marysvale**	**42.75**	**325**	*eP*	**P**	**10 11 57.2**	**+2.3**
RSSD	**Black Hills**	**43.20**	**337**	*eP*	**P**	**10 12 00.5**	**+2.1**
	comp=E,22nm,1.4s,mb4.7						
PDAR	**Pinedale Array**	**44.48**	**332**	P	**P**	**10 12 09.2**	**+0.3**
	comp=E,1.1nm,0.8s,mb3.7,baz=124,slow=11,SNR=12						
HWUT	**Hardware Ranch**	**44.61**	**329**	*eP*	**P**	**10 12 10.0**	**0.0**
	comp=E,13nm,1.1s,mb4.7						
SNOW	**Snow King Moun**	**45.58**	**331**	*eP*	**P**	**10 12 18.5**	**+0.9**
	comp=E,5.2nm,0.8s,mb4.5						
TPAW	**Teton Pass**	**45.69**	**331**	*eP*	**P**	**10 12 20.3**	**+1.7**
	comp=E,12nm,1.2s,mb4.7						
NVAR	**Mina Array Bea**	**46.38**	**321**	P	**P**	**10 12 24.6**	**+0.6**
	comp=E,6.7nm,0.7s,mb4.7,baz=124,slow=7.4,SNR=53						
QLMT	**Earthquake Lak**	**46.93**	**332**	*eP*	**P**	**10 12 30.9**	**+2.7**
PLCA	**Paso Flores**	**46.93**	**167**	P	**P**	**10 12 24.9**	**-3.5**
	comp=E,3.8nm,1.0s,mb4.3,baz=326,slow=10.0,SNR=5.1						
BMN	**Battle Mountai**	**46.95**	**324**	*eP*	**P**	**10 12 30.0**	**+1.5**
	comp=E,18nm,1.3s,mb4.8						
HLID	**Hailey**	**47.48**	**329**	*eP*	**P**	**10 12 32.6**	**-0.1**
	comp=E,3.4nm,1.1s,mb4.2						
BOZ	**Bozeman (W)**	**47.63**	**333**	*eP*	**P**	**10 12 34.8**	**+0.9**
	comp=E,9.5nm,1.3s,mb4.7						
WVOR	**Wild Horse Val**	**49.03**	**325**	*eP*	**P**	**10 12 45.1**	**+0.3**
	comp=E,24nm,1.2s,mb5.1						
WALA	**Waterton Lakes**	**51.22**	**334**	*eP*	**P**	**10 13 02.1**	**+0.7**
EDM	**Edmonton**	**54.18**	**338**	*eP*	**P**	**10 13 23.2**	**-0.2**
YKA	**Yellowknife Ar**	**61.94**	**344**	P	**P**	**10 14 16.5**	**-1.2**
	comp=E,1.5nm,0.7s,mb4.2,baz=135,slow=6.9,SNR=13						
DLBC	**Dease Lake**	**64.56**	**335**	P	**P**	**10 14 35.4**	**+0.3**
	comp=E,5.4nm,0.9s,mb4.6,baz=133,slow=6.0,SNR=11						
INK	**Inuvik**	**71.61**	**342**	P	**P**	**10 15 19.1**	**+0.1**
	comp=E,6.1nm,1.2s,mb4.4,baz=128,slow=5.6,SNR=5.8						
ILAR	**Eielson Array**	**74.63**	**336**	P	**P**	**10 15 35.5**	**-1.2**
	comp=E,2.8nm,1.0s,mb4.1,baz=131,slow=4.1,SNR=10						
ESDC	**Sonseca Array**	**78.00**	**51**	P	**P**	**10 15 56.5**	**+0.4**
	comp=E,0.3nm,0.3s,mb3.7,baz=282,slow=6.2,SNR=5.8						
WRA	**Warramunga Arr**	**141.18**	**244**	PKP	PKPdf	10 23 27.8	-2.0
	comp=E,0.4nm,0.6s,baz=105,slow=2.2,SNR=5.6						

JMA ***24*** *10:14:44.6±0.2, 38.47N×143.29E, h6km±3km, M5.9*

BJI ***24*** *10:14:46.2, 38.61N×143.04E, h13km, mB5.9, mb5.3, Ms6.3, Msz6.0*

CRAAG ***24*** *10:14:46.7, 38.55N×143.21E, Mb5.7*

NEIC ***24*** *10:14:47.5±0.1, 38.48N×143.15E, h10km, mb5.7/173, ME5.2, MW5.7, MW5.8(NIED), Error ellipse: s-maj=3.9km s-min=2.4km az=160.0 Broadband fault plane solution: P waves. NP1:φs10°, δ75°, λ.90°. NP2:φs190°, δ15°, λ.90°. Principal axes: T Plg60°, Azm280°; N Plg0°, Azm0°; P Plg30°, Azm100°; Moment Tensor Solution. s17 Moment tensor: Scale 10^{17} Nm; M_{rr}1.87; $M_{\theta\theta}$-0.11; $M_{\phi\phi}$-1.76; $M_{r\theta}$0.91; $M_{\theta\phi}$-0.38; $M_{\phi r}$4.14; Best double couple: $M_0$4.6×10^{17} NP1:φs192°, δ12°, λ.90°. NP2:φs12°, δ78°, λ.90°. Principal axes: T 4.64, Plg57°, Azm282°; N -.02, Plg0°, Azm192°; P -4.62, Plg33°, Azm102°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

IDC ***24*** *10:14:50.3±2.5, 38.46N×143.12E, h29km±16km, mb4.9/30, mb1 5.0/35, mb1mx5.0/36, mbtmp5.1/35, ML4.7/5, MS5.4/3, Ms1 5.4/3, ms1mx4.9/24 Error ellipse: s-maj=12.5km s-min=9.3km az=106.0*

MOS ***24*** *10:14:51.7±0.9, 38.89N×143.07E, h33km, mb5.7/45, MS6.1/14, Error ellipse: s-maj=8.5km s-min=4.3km az=104.8*

NIED ***24*** *10:15:00, 38.40N×143.10E, h8km, Mw5.9 Best double couple: $M_0$7.14×10^{17} NP1:φs16°, δ69°, λ.67°. NP2:φs247°, δ31°, λ.136°.*

ISC 24 10:14:45.6±0.8, 38.49N±0.02×143.18E±0.02, h6km±4km, h34km±2.5km: pP-P, n769, σ1$01/763, mb5.5/232, MS6.1/39, 133C-32D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.32**	**297**	P	**Pb**	**10 15 10.6**	**+0.3**
OFUJ				S	**Sb**	**10 15 29.5**	**+2.2**
JIO	**Ouri**	**1.44**	**269**	⇑P	**Pn**	**10 15 12.2**	**0.0**
JIO				S	**Sb**	**10 15 32.1**	**+1.4**
MIYJ	**Miyakonagasawa**	**1.51**	**316**	P	**Pn**	**10 15 13.5**	**+0.2**
JMK	**Ichinoseki**	**1.60**	**287**	⇑P	**Pn**	**10 15 14.8**	**+0.3**
JMK				S	**Sb**	**10 15 37.3**	**+1.9**
JOM	**Ohasama**	**1.77**	**304**	⇑P	**Pn**	**10 15 17.6**	**+0.7**
JOM				*e*S	**Sn**	**10 15 41.8**	**+1.9**
JTH	**Tanohata**	**1.77**	**325**	⇑P	**Pn**	**10 15 16.9**	**-0.1**
JOU	**Okura**	**1.98**	**267**	⇑P	**Pn**	**10 15 21.2**	**+1.2**
JMM	**Marumori**	**1.98**	**252**	⇑P	**Pn**	**10 15 20.3**	**+0.3**
JMM				*e*S	**Sn**	**10 15 46.8**	**+1.5**
JKZ	**Kuzumaki**	**2.07**	**317**	⇑P	**Pn**	**10 15 21.9**	**+0.6**
JFK	**Kawauchi**	**2.14**	**239**	⇑P	**Pn**	**10 15 22.3**	**0.0**
JRG	**Rokugo**	**2.18**	**295**	⇑P	**Pn**	**10 15 23.9**	**+1.1**
JYK	**Kaneyama**	**2.25**	**282**	⇑P	**Pn**	**10 15 24.7**	**+0.9**
JANG	**Nango**	**2.28**	**326**	⇑P	**Pn**	**10 15 23.7**	**-0.6**
ONAJ	**Iwakimizuishiy**	**2.34**	**234**	⇑P	**Pn**	**10 15 24.9**	**-0.3**
JFT	**Otama**	**2.44**	**247**	⇑P	**Pn**	**10 15 27.9**	**+1.2**
JYS	**Shirataka**	**2.46**	**265**	⇑P	**Pn**	**10 15 27.8**	**+0.9**
JYW	**Yuwa**	**2.54**	**295**	⇑P	**Pn**	**10 15 29.2**	**+1.2**
JHO	**Hitachi**	**2.80**	**229**	⇑P	**Pn**	**10 15 30.9**	**-0.8**
JSB	**Shiboa**	**3.00**	**240**	P	**Pn**	**10 15 35.4**	**+0.9**
JHK	**Hiroka**	**3.52**	**251**	⇑P	**Pn**	**10 15 42.9**	**+1.0**
JKT	**Katashina**	**3.56**	**242**	⇑P	**Pn**	**10 15 44.1**	**+1.5**
JGK	**Kuni**	**4.09**	**243**	P	**Pn**	**10 15 52.4**	**+2.4**
MJAR	**Matsushiro Arr**	**4.40**	**245**	Pn	**Pn**	**10 15 55.4**	**+0.9**
	91nm,0.3s,baz=71,slow=15,SNR=440						
MAJO	**Matsushiro**	**4.40**	**245**	⇑*e*Pn	**Pn**	**10 15 55.6**	**+1.1**
MAT	**Matsushiro**	**4.40**	**245**	P	**Pn**	**10 15 55.8**	**+1.3**
MAT				*e*S	**Sn**	**10 16 49.9**	**+3.1**
MAT	**Matsushiro**	**4.40**	**245**	*e*P	**Pn**	**10 15 56.0**	**+1.5**
MAT				S	**Sn**	**10 16 53.0**	**+6.2**
JNG	**Nsakai**	**4.54**	**244**	P	**Pn**	**10 15 57.6**	**+1.1**
JOD2	**Odawara 2**	**4.60**	**227**	P	**Pn**	**10 15 57.1**	**-0.1**
JNT	**Takato**	**4.80**	**239**	⇑P	**Pn**	**10 16 01.2**	**+1.1**
JGN	**Niukaw**	**5.19**	**246**	⇑P	**Pn**	**10 16 07.3**	**+1.7**
ASAJ	**Asahikawa**	**5.64**	**356**	Pn	**Pn**	**10 16 10.8**	**-1.1**
	29nm,0.3s,baz=217,slow=15,SNR=108						
ASAJ	**Asahikawa**	**5.64**	**356**	P	**Pn**	**10 16 10.9**	**-1.0**
ASAJ				pmax	pmax		
	comp=Z,29nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**5.89**	**19**	⇓*iP*	**Pn**	**10 16 11.8**	**-3.8**
YUK				pmax	pmax		
	comp=N,2μm,1.0s						
YUK				pmax	pmax		
	comp=E,2μm,1.0s						
YUK				pmax	pmax		
	comp=Z,5μm,1.0s						
YUK				pmax	pmax		
	comp=N,910nm,0.5s						
YUK				pmax	pmax		
	comp=E,780nm,0.4s						
YUK				pmax	pmax		
	comp=Z,2μm,0.4s						
JHJ	**Hachijo jima 2**	**6.03**	**208**	Pn	**Pn**	**10 16 14.7**	**-2.8**
	comp=Z,128nm,0.3s,baz=74,slow=17,SNR=13						
JHJ				LR	LR	10 18 30.9	
	comp=Z,15μm,18.9s,baz=39,slow=37						
JWT	**Wachi**	**7.00**	**245**	P	**Pn**	**10 16 31.6**	**+0.4**
KUR	**Kuril'sk**	**7.59**	**26**	*e*P	**Pn**	**10 16 32.5**	**-6.9**
KUR				pmax	pmax		
	comp=N,260nm,0.8s						
KUR				pmax	pmax		
	comp=E,320nm,0.8s						
KUR				pmax	pmax		
	comp=Z,970nm,0.8s						
KUR				pmax	pmax		
	comp=N,15μm,4.0s						
KUR				pmax	pmax		
	comp=E,8μm,4.0s						
KUR				pmax	pmax		
	comp=Z,12μm,4.0s						
YSS	**Yuzh-Sakhalins**	**8.46**	**358**	⇑*e*Pn	**P**	**10 16 48.4**	**-3.2**
	comp=Z,794nm,0.9s						
YSS	**Yuzh-Sakhalins**	**8.46**	**358**	*j eP*	**P**	**10 16 49.0**	**-2.6**
YSS				*e*S	**Sn**	**10 18 22.0**	**-6.5**
YSS				pmax	pmax		
	comp=N,110nm,0.9s						
YSS				pmax	pmax		
	comp=Z,150nm,0.9s						
YSS				pmax	pmax		
	comp=E,60nm,1.0s						
YSS				pmax	pmax		
	comp=N,2μm,5.0s						
YSS				pmax	pmax		
	comp=Z,1μm,5.0s						
YSS				smax			
	comp=N,870nm,1.1s						
YSS				smax			
	comp=N,8μm,15.0s						
YSS				smax			
	comp=E,6μm,15.0s						
YSS				MLR	MLR		
	comp=N,80μm,19.0s						
YSS				MLR	MLR		
	comp=E,94μm,18.0s						
YSS				MLR	MLR		
	comp=Z,83μm,18.0s						
VLA	**Vladivostok**	**9.72**	**302**	*i* P	**P**	**10 17 08.3**	**-0.7**
UGL	**Uglegorsk**	**10.61**	**356**	*e*P	**P**	**10 17 18.0**	**-3.2**
JNU	**Nakatsue**	**11.33**	**245**	Pn	**P**	**10 17 29.3**	**-1.7**
	comp=Z,1.8nm,0.3s,baz=51,slow=23,SNR=16						
CBIJ	**Chichi jima**	**11.39**	**184**	Pn	**P**	**10 17 28.4**	**-3.6**
	comp=Z,16nm,0.3s,baz=274,slow=21,SNR=5.1						
MDJ	**Mudanjiang**	**11.87**	**305**	P	**P**	**10 17 38.1**	**-0.2**
MDJ				XP		10 17 49.3	
MDJ				AMB	AMB		
	comp=Z,97nm,0.8s						
MDJ				AMB	AMB		
	comp=Z,3μm,5.4s						
MDJ				LR	LR		
	comp=N,35μm,13.5s						
MDJ				LR	LR		
	comp=E,37μm,16.6s						
MDJ				LR	LR		
	comp=Z,61μm,15.1s						
MDJ	**Mudanjiang**	**11.87**	**305**	*e*P	**P**	**10 17 38.7**	**+0.4**
	comp=Z,782nm,1.0s						
KS15	**Wonju Array Si**	**12.12**	**270**	*e*P	**P**	**10 17 40.9**	**-0.8**
TYV	**Tymovskoe**	**12.38**	**358**	*e*P	**P**	**10 17 39.0**	**-6.1**
TYV				pmax	pmax		
	comp=N,20nm,0.9s						
TYV				pmax	pmax		
	comp=E,36nm,0.9s						
TYV				pmax	pmax		
	comp=Z,40nm,0.9s						
TYV				pmax	pmax		
	comp=N,2μm,5.0s						
TYV				pmax	pmax		
	comp=Z,2μm,5.0s						
TYV				MLR	MLR		
	comp=N,62μm,15.0s						
TYV				MLR	MLR		
	comp=Z,92μm,15.0s						
TYV				MLR	MLR		
	comp=E,40μm,20.0s						
INCN	**Inchon**	**13.09**	**271**	*e*P	**P**	**10 17 51.3**	**-3.4**
	comp=E,135nm,1.3s						
CN2	**Changchun**	**14.37**	**297**	*e*P	**P**	**10 18 10.3**	**-1.1**
CN2				AMB	AMB		
	comp=Z,60nm,1.0s						
CN2				AMB	AMB		
	comp=Z,2μm,8.0s						
CN2				LR	LR		
	comp=N,36μm,13.0s						
CN2				LR	LR		
	comp=E,38μm,13.0s						
CN2				LR	LR		
	comp=Z,31μm,12.0s						
SKR	**Severo-Kuril's**	**15.25**	**33**	*e*P	**P**	**10 18 26.0**	**+3.0**
SKR				pmax	pmax		
	comp=N,180nm,1.0s						
SKR				pmax	pmax		
	comp=E,160nm,1.0s						
SKR				pmax	pmax		
	comp=Z,220nm,1.0s						
SKR				pmax	pmax		
	comp=Z,1μm,6.0s						
SNY	**Shenyang**	**15.35**	**289**	⇑P	**P**	**10 18 23.5**	**-0.8**
SNY				AMB	AMB		
	comp=Z,50nm,1.2s						
SNY				AMB	AMB		
	comp=Z,2μm,6.9s						
SNY				LR	LR		
	comp=E,75μm,16.5s						
SNY				LR	LR		
	comp=Z,84μm,16.0s						
DL2	**Dalian**	**16.83**	**278**	⇑*iP*	**P**	**10 18 42.0**	**-1.3**
DL2				AP		10 18 49.1	
DL2				XP		10 18 54.1	
DL2				AMB	AMB		
	comp=Z,150nm,1.1s						
DL2				AMB	AMB		
	comp=Z,2μm,6.7s						
DL2				LR	LR		
	comp=N,28μm,16.9s						
DL2				LR	LR		
	comp=E,15μm,17.3s						
DL2				LR	LR		
	comp=Z,18μm,18.0s						
JOW	**Kunigami**	**17.08**	**231**	P	**P**	**10 18 48.0**	**+1.5**
	comp=Z,2.9nm,0.3s,baz=54,slow=18,SNR=7.8						
PET	**Petropavlovsk**	**18.05**	**31**	*e*P	**P**	**10 18 58.5**	**+0.1**
	comp=Z,683nm,1.5s						
PET	**Petropavlovsk**	**18.05**	**31**	*i* P	**P**	**10 18 59.0**	**+0.6**
PET				pmax	pmax		
	comp=E,40nm,1.5s						
PET				pmax	pmax		
	comp=N,70nm,1.3s						
PET				pmax	pmax		
	comp=Z,97nm,1.3s						
PET				pmax	pmax		
	comp=N,1μm,6.1s						
PET				pmax	pmax		
	comp=E,700nm,5.9s						
PET				pmax	pmax		
	comp=Z,2μm,5.8s						
PET				pmax	pmax		
	comp=E,1μm,4.8s						
PET				pmax	pmax		
	comp=Z,4μm,5.4s						
PET				pmax	pmax		
	comp=N,2μm,5.2s						
PET				MLR	MLR		
	comp=Z,21μm,17.0s						
SSE	**Sheshan**	**19.48**	**254**	P	**P**	**10 19 16.8**	**+0.9**
HIA	**Hailar**	**19.95**	**310**	*e*P	**P**	**10 19 16.3**	**-4.8**
	comp=Z,136nm,1.0s						
TIA	**Tai'an**	**20.82**	**272**	*e*P	**P**	**10 19 27.6**	**-2.6**
TIA				AP		10 19 35.6	
TIA				XP		10 19 41.0	
TIA				LR	LR		
	comp=N,22μm,14.0s,MS6.0						
TIA				LR	LR		
	comp=E,38μm,14.0s,MS6.0						
NJ2	**Nanjing**	**20.84**	**259**	*e*P	**P**	**10 19 28.3**	**-2.1**
NJ2				AP		10 19 36.1	
NJ2				XP		10 19 41.4	
NJ2				PP	PP	10 19 50.3	-2.3
NJ2				AMB	AMB		
	comp=Z,60nm,0.8s						
NJ2				AMB	AMB		
	comp=Z,266nm,3.5s						
NJ2				LR	LR		
	comp=N,80μm,20.4s						
NJ2				LR	LR		
	comp=E,16μm,15.0s						
NJ2				LR	LR		
	comp=Z,393μm,19.1s,MS6.8						
MA2	**Magadan**	**21.65**	**10**	*e*P	**P**	**10 19 37.6**	**-0.9**
	comp=Z,1μm,1.4s,mb6.1						
MA2	**Magadan**	**21.65**	**10**	*c iP*	**P**	**10 19 37.2**	**-1.3**
MA2				pmax	pmax		
	comp=Z,229nm,1.2s,mb5.5						
MA2				MLR	MLR		
	comp=Z,21μm,23.0s,MS5.5						
CLNS	**

comp=Z,699nm,2.2s,mb5.8
QZH Quanzhou 24.80 244⇑*i*P P 10 20 07.6 -2.0
QZH AMB AMB
comp=Z,230nm,0.9s,mb5.7
QZH AMB AMB
comp=Z,4μm,8.1s
QZH LR LR
comp=N,49μm,15.2s,MS6.4
QZH LR LR
comp=E,88μm,18.4s,MS6.4
QZH LR LR
comp=Z,53μm,14.8s,MS6.2
WHN Wuhan 24.97 260 ⇓P P 10 20 11.8 +0.6
WHN LR LR
comp=N,69μm,15.8s,MS6.4
WHN LR LR
comp=E,66μm,18.4s,MS6.4
WHN LR LR
comp=Z,80μm,13.6s,MS6.4
YAK Yakutsk 24.99 345⇑*e*P P 10 20 09.6 -1.5
comp=Z,450nm,0.8s,mb6.0
YAK Yakutsk 24.99 345*c i*P P 10 20 10.1 -0.9
YAK *e**PP 10 20 19.8
YAK *e* 10 20 49.6
YAK *e*PPP PPP 10 21 00.7 +1.3
YAK *e* 10 23 43.6
YAK *e*S **S 10 24 33.6 +1.2**
YAK *e*SS SS 10 25 25.8 -5.1
YAK *e*SSS SSS 10 25 40.4 -6.6
YAK *e* 10 31 08.5
YAK pmax pmax
comp=E,21nm,0.9s
YAK pmax pmax
comp=Z,96nm,0.9s,mb5.3
YAK pmax pmax
comp=N,23nm,1.0s
YAK pmax pmax
comp=Z,41nm,0.7s,mb5.1
YAK pmax pmax
comp=N,61nm,1.1s
YAK pmax pmax
comp=E,93nm,1.2s
YAK smax
comp=Z,27nm,1.3s
YAK smax
comp=N,96nm,1.1s
YAK smax
comp=E,39nm,1.4s
YAK MLR MLR
comp=Z,20μm,16.0s,MS5.7
YAK MLR MLR
comp=N,16μm,14.0s,MS5.8
YAK MLR MLR
comp=E,12μm,14.0s,MS5.8
SEY Seymchan 25.10 10⇑*i*P P 10 20 13.1 +1.0
FX1 Attu Island--F 25.18 45 P P 10 20 15.8 +2.8
comp=E,61nm,0.7s,mb5.2,baz=232,slow=6.6,SNR=15
FX1 Attu Island--F 25.18 45 P **P 10 20 15.8 +2.8**
FX1 pmax pmax
comp=Z,61nm,0.7s
BTO Baotou 25.57 285 *e*P P 10 20 14.0 -2.8
BTO PP PP 10 20 54.9 -1.3
BTO S **S 10 24 47.1 +4.8**
BTO LR LR
comp=N,53μm,13.9s,MS6.4
BTO LR LR
comp=E,75μm,15.3s,MS6.4
SMY Shemya 25.65 46 *e*P P 10 20 18.7 +1.3
comp=E,482nm,1.5s,mb5.8
SMY Shemya 25.65 46⇑*e*P P 10 20 17.7 +0.3
SMY pmax pmax
comp=Z,580nm,1.4s,mb5.9
BBP Basco 25.68 232 *e*P P 10 20 18.7 +0.8
BOD Bodaibo 27.09 325 *e*P P 10 20 29.0 -1.6
SGCP Mt. Cagua 27.32 228 *e*P P 10 20 33.8 +0.7
APYP Conner 28.09 229 *e*P P 10 20 40.1 +0.1
SONM Songino Array 28.18 301 P **P 10 20 40.1 -0.4**
comp=Z,79nm,1.1s,mb5.3,baz=97,slow=7.2,SNR=122
CAUP Cauayan 28.47 227 *e*P P 10 20 50.4 +6.9
ABRA Dolores 28.57 230 *e*P P 10 20 52.6 +8.2
ENH Enshi 28.86 264⇑*i*P P 10 20 45.4 -1.6
comp=Z,1μm,1.1s,mb6.6
BALP Baler 29.57 226 *e*P P 10 20 56.0 +2.5
HKC Hong Kong 29.60 245 *e*P P 10 20 56.0 +2.3
IRK Irkutsk 30.20 310 *e*P P 10 20 58.2 -0.4
IRK pmax pmax
comp=Z,128nm,2.2s,mb5.3
ZAK Zakamensk 30.50 306 *e*P P 10 21 01.2 -0.2
ZAK pmax pmax
comp=Z,47nm,0.9s,mb5.3
LZH Lanzhou 31.23 278 *e*P P 10 21 07.0 -0.9
LZH AMB AMB
comp=Z,80nm,1.2s,mb5.4
LZH AMB AMB
comp=Z,2μm,4.8s
LZH LR LR
comp=E,67μm,12.8s
LZH LR LR
comp=Z,77μm,17.6s,MS6.4
LZH Lanzhou 31.23 278 *e*P P 10 21 07.0 -0.9
comp=Z,80nm,1.2s,mb5.4
LZH pP pP 10 21 19.8 +10
LZH sP sP 10 21 25.8 +15
LZH PP PP 10 22 14.0 +3.3
LZH S **S 10 26 15.4 +2.0**
LZH sS 10 26 31.0
LZH SS SS 10 28 10.0 +11
LZH LR LR
comp=Z,77μm,17.6s,MS6.4
LUBP Lubang 31.95 226 *e*P sP 10 21 27.6 +10
MOY Mondy 32.10 308 *e*P P 10 21 15.0 -0.4
MOY pmax pmax
comp=Z,142nm,3.1s
BILL Bilibino 32.24 16⇑*e*P P 10 21 14.9 -1.5
comp=Z,170nm,1.3s,mb5.7
BILL Bilibino 32.24 16⇑*i*P P 10 21 15.0 -1.4
BILL *e**PP Px 10 22 18.8
BILL *e* 10 22 31.5
BILL *e*SS SS 10 28 45.4 +23
BILL pmax pmax
comp=Z,163nm,1.2s,mb5.7
BILL MLR MLR
comp=Z,12μm,19.0s,MS5.6
GYA Guiyang 32.85 260⇑*i*P P 10 21 20.4 -1.8
GYA AMB AMB
comp=Z,40nm,1.2s,mb5.2
GYA AMB AMB
comp=Z,920nm,7.4s
GYA LR LR
comp=N,23μm,14.4s,MS6.2
GYA LR LR
comp=E,25μm,15.6s,MS6.2
GYA LR LR
comp=Z,15μm,18.0s,MS5.7
CD2 Chengdu 33.08 269 P **P 10 21 22.6 -1.6**
CD2 AP pP 10 21 34.1 +8.0
CD2 S **S 10 26 37.6 -4.8**
CD2 SS SS 10 28 41.3 -1.1
CD2 AMB AMB
comp=Z,60nm,1.1s,mb5.4
CD2 AMB AMB
comp=Z,830nm,6.0s
CD2 LR LR
comp=N,12μm,18.0s
CD2 LR LR
comp=Z,6μm,25.2s
GTA Gaotai 33.50 285 P **P 10 21 27.3 -0.4**
GTA AP pP 10 21 35.3 +5.7
GTA XP sP 10 21 38.9 +8.5
GTA AMB AMB
comp=Z,93nm,1.1s,mb5.6
GTA AMB AMB
comp=Z,1μm,7.3s
GTA LR LR
comp=N,36μm,17.9s,MS6.4
GTA LR LR
comp=E,49μm,16.7s,MS6.4
GTA LR LR
comp=Z,61μm,16.3s,MS6.4
TIXI Tiksi 34.03 352⇑*i*P P 10 21 28.1 -3.9
TIXI *e*S **S 10 26 58.9 +2.3**
TIXI pmax pmax
comp=Z,42nm,1.3s,mb5.2
TIXI MLR MLR
comp=Z,16μm,14.0s,MS5.9
QIZ Qiongzhong 34.80 246 ⇑P **P 10 21 39.8 +0.7**
QIZ AMB AMB
comp=Z,920nm,9.7s
QIZ LR LR
comp=N,23μm,22.0s,MS6.0
QIZ LR LR
comp=E,23μm,22.0s,MS6.0
QIZ LR LR
comp=Z,21μm,16.6s
QIZ Qiongzhong 34.80 246 *e*P P 10 21 38.4 -0.8
comp=Z,15nm,0.8s,mb5.0
KMI Kunming 36.57 261 P **P 10 21 53.3 -0.8**
KMI AP pP 10 22 03.3 +7.3
KMI AMB AMB
comp=Z,64nm,1.3s,mb5.3
KMI AMB AMB
comp=Z,1μm,6.9s
KMI LR LR
comp=N,27μm,12.9s,MS6.2
KMI LR LR
comp=E,11μm,17.1s,MS6.2
KMI LR LR
comp=Z,18μm,19.3s,MS5.8
KMI Kunming 36.57 261 P **P 10 21 53.2 -0.9**
comp=Z,64nm,1.3s,mb5.3
KMI pP pP 10 22 03.3 +7.3
KMI sP sP 10 22 07.9 +11
KMI PP PP 10 23 18.5 +0.2
KMI S **S 10 27 33.5 -2.9**
KMI sS 10 27 52.3
KMI SS SS 10 29 55.6 -6.4
KMI LR LR
comp=Z,18μm,19.3s,MS5.8
KKM Kota Kinabalu 40.50 224 P **P 10 22 27.5 +0.6**
KKM Kota Kinabalu 40.50 224⇑*i*P P 10 22 27.4 +0.4
TSM Tawau 41.10 220 P **P 10 22 32.1 +0.2**
WMQ Urumqi 41.45 296 P **P 10 22 35.0 +0.5**
WMQ AMB AMB
comp=Z,46nm,1.0s,mb5.1
WMQ AMB AMB
comp=Z,2μm,6.0s
WMQ LR LR
comp=N,10μm,16.0s,MS5.9
WMQ LR LR
comp=E,7μm,16.0s,MS5.9
WMQ LR LR
comp=Z,7μm,16.0s,MS5.6
KKTK Khon Kaen 41.63 249 PN **P 10 22 36.0 -0.3**
NANT Nan 41.68 254 ⇑P **P 10 22 34.0 -2.7**
comp=Z,1μm,1.0s,mb6.5
ZAL Zalesovo 42.00 311 P **P 10 22 38.1 -0.6**
comp=Z,14nm,0.6s,mb4.7,baz=24,slow=8.1,SNR=53
CHG Chiang Mai 43.01 256 ⇓P **P 10 22 48.2 +0.7**
comp=Z,23nm,1.0s,mb4.9
LSA Lhasa 43.48 275 P **P 10 22 52.8 +1.6**
LSA AMB AMB
comp=Z,1μm,8.8s
LSA LR LR
comp=N,13μm,16.2s,MS6.2
LSA LR LR
comp=E,22μm,15.7s,MS6.2
LSA LR LR
comp=Z,32μm,16.0s,MS6.3
LSA Lhasa 43.48 275 *e*P P 10 22 51.9 +0.7
comp=Z,624nm,1.5s,mb6.1
IMP Imphal 43.61 267 *e*x P 10 22 57.0 +4.7
NST Nakhon Sawan 44.04 251 P **P 10 22 56.0 +0.1**
comp=Z,67nm,1.0s,mb5.3
MKAR Makanchi Array 44.55 301 P **P 10 22 59.0 -0.6**
comp=Z,22nm,0.8s,mb5.0,baz=82,slow=8.6,SNR=96
MKAR S **S 10 29 27.8 -7.2**
comp=Z,1.8nm,0.8s,baz=90,slow=16,SNR=1.9
MKAR Makanchi Array 44.55 301 P **P 10 22 59.0 -0.6**
MKAR S **S 10 29 27.8 -7.2**
IMA Indian Mountai 44.72 31 *e*P P 10 23 02.3 +1.5
comp=Z,35nm,1.1s,mb5.1
RSO Redoubt South 44.89 39 *e*P P 10 23 03.2 +0.9
KDAK Kodiak Island 45.08 43 *e*P P 10 23 03.9 +0.1
SPU Mount Spurr 45.23 38 *e*P P 10 23 05.7 +0.8
KURK Kurchatov 46.15 307⇑*i*P P 10 23 11.1 -1.2
comp=Z,378nm,0.9s,mb6.3
NNT Nongplab 46.33 248 P **P 10 23 15.0 +0.8**
PMR Palmer 46.62 37 *e*P P 10 23 15.8 -0.1
comp=Z,82nm,1.4s,mb5.5
COLA College 47.10 33 *e*P P 10 23 25.4 +5.8
COLA pmax pmax
comp=Z,1.0nm,0.6s
ILAR Eielson Array 47.52 33 P **P 10 23 21.9 -1.0**
comp=Z,24nm,0.8s,mb5.3,baz=270,slow=5.5,SNR=104
KSM Kuching 47.57 227⇑*e*P P 10 23 23.9 -0.2
PMG Port Moresby 47.79 175 P **P 10 23 25.0 -0.8**
comp=Z,9.4nm,0.7s,mb4.9,baz=333,slow=23,SNR=2.8
PMG S **S 10 30 19.1 -2.7**
comp=Z,5.5nm,0.9s,baz=122,slow=7.1,SNR=1.7
KKN Kakani 48.93 275 *e*P P 10 23 34.3 -0.1
comp=Z,208nm,0.8s,mb6.2
PKI Pulchoki 48.94 275 *e*P P 10 23 33.8 -0.7
comp=Z,113nm,0.9s,mb5.9
MENT Mentasta 49.04 35 *e*P P 10 23 35.7 +0.9
AAA Alma-Ata 49.13 298 *i*P P 10 23 36.2 +0.5
AAA pmax pmax
comp=Z,2μm,10.6s
AAA MLR MLR
comp=Z,20μm,14.1s,MS6.3
DMN Daman 49.15 275 *e*P P 10 23 35.8 -0.4
comp=Z,149nm,1.1s,mb6.0
CAL Calcutta 49.16 268 *e*x P 10 23 30.7 -5.6
CAL *e*x **S 10 30 52.9 +12**
GKN Gorkha 49.33 276 *e*P P 10 23 37.1 -0.4
comp=Z,389nm,1.1s,mb6.3
SNG Songkhla 49.42 242 P **P 10 23 39.0 +0.6**
comp=Z,208nm,1.0s,mb6.1
TKM2 Tokmak 2 50.18 298 P **P 10 23 43.9 +0.1**
SNR=84
KOLN Koldanda 50.25 276 *e*P P 10 23 44.3 -0.3
comp=Z,278nm,1.2s,mb6.2
BVAR Borovoye Array 50.64 312 P **P 10 23 46.2 -0.9**
comp=Z,16nm,0.7s,mb5.0,baz=76,slow=6.1,SNR=50
BRVK Borovoye 50.69 312⇑*i*P P 10 23 46.3 -1.2
comp=Z,55nm,0.8s,mb5.5
BRVK Borovoye 50.69 312 P **P 10 23 46.6 -0.9**
BRVK pmax pmax
comp=Z,55nm,0.8s,mb5.5
KBK Karagaybulak 50.72 298 P **P 10 23 47.8 -0.1**
SNR=44
CHMS Chumysh 50.74 298 P **P 10 23 48.4 +0.3**
SNR=11
KULM Kulim 50.75 240⇑*e*P P 10 23 48.0 -0.6
USP Ospenovka 50.82 299 P **P 10 23 48.1 -0.5**
SNR=37
FRU Bishkek 50.88 298 *e*P P 10 23 48.0 -1.2
FRU *e* 10 33 32.0
FRU pmax pmax
comp=Z,160nm,1.6s,mb5.7
FRU MLR MLR
comp=Z,20μm,14.0s,MS6.3
IPM Ipoh 51.02 239 P **P 10 23 51.4 +0.9**
AAK Ala-Archa 51.04 298 P **P 10 23 49.9 -0.4**
SNR=13
AAK Ala-Archa 51.04 298⇑*e*P P 10 23 48.4 -1.9
comp=Z,98nm,0.9s,mb5.7
AAK Ala-Archa 51.04 298*c i*P P 10 23 46.3 -4.0
AAK pmax pmax
comp=Z,57nm,1.7s,mb5.2
AAK MLR MLR
comp=Z,11μm,17.0s,MS6.0
KSH Kashi 51.10 294⇑*i*P P 10 23 51.0 +0.2
KSH AMB AMB
comp=Z,770nm,4.9s
KSH LR LR
comp=N,6μm,11.2s,MS6.0
KSH LR LR
comp=E,7μm,11.6s,MS6.0
KGM Kluang 51.41 235 P **P 10 23 54.4 +0.8**
EKS2 Erkin-Say 51.52 298 P **P 10 23 53.6 -0.4**
SNR=16
AML Almayashu 51.77 298 P **P 10 23 56.2 +0.3**
SNR=36
KAKA Kakadu 51.91 193 *e*P P 10 24 09.5 +12
comp=E,129nm,0.7s,mb6.0
PTH Pithoragarh 52.05 280 *e*P P 10 23 58.0 -0.2
PTH *e*x x 10 29 15.0
INK Inuvik 52.45 28 P **P 10 24 00.4 -0.3**
comp=E,18nm,1.1s,mb4.9,baz=277,slow=6.6,SNR=14
INK Inuvik 52.45 28 *e*P P 10 23 59.7 -1.0
comp=E,26nm,0.8s,mb5.2
INK Inuvik 52.45 28 P **P 10 24 00.4 -0.3**
INK pmax pmax
comp=Z,18nm,1.1s
ALBI Allahabad 52.85 275 *e*P P 10 24 02.5 -1.8
BLSP Bilaspur 54.24 271 *e*P P 10 24 14.0 -0.5
SIT Sitka 54.37 42 *e*P P 10 24 14.7 -0.3
comp=Z,112nm,1.6s,mb5.5
SIT Sitka 54.37 42 P **P 10 24 16.7 +1.7**
SIT pmax pmax
comp=Z,110nm,1.6s,mb5.5
NDI New Delhi 54.77 281 *e*P P 10 24 15.0 -3.3
NDI *e*x x 10 25 28.0
JBP Jabalpur 55.38 273 *i*P P 10 24 24.6 +1.8
VIS Vishakhapatnam 55.72 266 *i*P P 10 24 21.9 -3.4
SOKR Solikamsk 56.03 322*c i*P P 10 24 26.1 -0.9
SOKR pmax pmax
comp=Z,80nm,1.2s,mb5.6
ARU Arti 56.20 318⇑*i*P P 10 24 26.7 -1.6
comp=Z,310nm,1.0s,mb6.3
ARU Arti 56.20 318⇑*i*P P 10 24 27.1 -1.2
ARU *e* 10 25 23.7
ARU *e* 10 26 31.2
ARU *e*PPP PPP 10 27 44.0 -7.1
ARU *i*S **S 10 32 15.4 -0.9**
ARU *e* 10 34 06.8
ARU *e*SS SS 10 36 03.5 +0.4
ARU pmax pmax
comp=Z,92nm,1.1s,mb5.7
ARU MLR MLR
comp=N,16μm,16.0s,MS6.4
ARU MLR MLR
comp=E,21μm,16.0s,MS6.4
ARU MLR MLR
comp=Z,32μm,16.0s,MS6.5
DLBC Dease Lake 56.62 39 P **P 10 24 32.0 +0.7**
comp=Z,15nm,0.9s,mb5.0,baz=305,slow=8.0,SNR=18
DLBC Dease Lake 56.62 39 *e*P P 10 24 31.5 +0.3
BHPL Bhopal 57.34 275 *e*P P 10 24 34.8 -2.2
BHPL AMb AMB 10 24 38.2
comp=Z,68nm,1.4s,mb5.5
AJM Ajmer 57.84 280 *i*P P 10 24 38.0 -2.4
CTA Charters Tower 58.34 177 *e*P P 10 24 45.5 +1.6
comp=Z,9.4nm,0.9s,mb4.8
CTAO Charters Tower 58.34 177 *e*P P 10 24 43.4 -0.5
comp=Z,26nm,1.4s,mb5.1
CTAO Charters Tower 58.34 177 P **P 10 24 51.3 +7.4**
CTAO pmax pmax
comp=Z,26nm,1.4s,mb5.1
FITZ Fitzroy Crossi 58.65 200 *e*P P 10 24 45.0 -1.1
comp=Z,36nm,0.7s,mb5.5
FITZ Fitzroy Crossi 58.65 200 P **P 10 24 45.0 -1.1**
comp=Z,60nm,0.9s,mb5.6,baz=8.9,slow=5.8,SNR=25
FITZ Fitzroy Crossi 58.65 200 *e*S S 10 32 49.5 +0.4
WRAB Tennant Creek 58.70 190⇑*e*P P 10 24 43.8 -2.7
comp=Z,670nm,1.0s,mb6.6
WRAB Tennant Creek 58.70 190 P **P 10 24 44.2 -2.2**
WRAB pmax pmax
comp=Z,670nm,1.0s,mb6.6
WRA Warramunga Arr 58.71 190 P **P 10 24 44.2 -2.3**
comp=Z,42nm,0.7s,mb5.6,baz=8.9,slow=7.2,SNR=275
WRA PKP2bc 10 54 33.7
comp=Z,5.1nm,1.3s,baz=212,slow=2.1,SNR=5.5
WRA Warramunga Arr 58.71 190 P **P 10 24 44.2 -2.3**
WRA ⇑*e* 10 54 33.7
KBS Kingsbay 59.46 350 *e*P P 10 24 50.2 -0.8
KBS *e*S **S 10 32 58.1 -0.8**
KBS AMS AMS 10 51 27.2
comp=Z,6μm,20.5s,MS5.7
KBS Kingsbay 59.46 350 *e*P P 10 24 50.2 -0.8
KBS LR LR
comp=Z,5598μm,20.5s
HYB Hyderabad 59.64 269 *i*P P 10 24 51.0 -2.0
HYB Hyderabad 59.64 269 *e*P P 10 24 51.0 -2.0
BBB Bella Bella 60.05 45 P **P 10 24 55.0 -0.3**
comp=Z,27nm,1.2s,mb5.2,baz=295,slow=3.9,SNR=3.7
BBB Bella Bella 60.05 45 P **P 10 24 55.0 -0.3**
LATR Latur 60.64 271 *e*P P 10 25 00.0 +0.2
RES Resolute Bay 60.84 15 *e*P P 10 24 58.8 -1.6
comp=Z,104nm,1.0s,mb5.9
RES Resolute Bay 60.84 15 P **P 10 24 59.7 -0.7**
MDRS Chennai 60.84 264 *e*x pP 10 25 01.0 -2.2
MDRS AMb AMB 10 25 53.4
comp=Z,304nm,1.5s,mb6.2
LVZ Lovozero 61.35 336*c i*P P 10 24 59.5 -4.5
LVZ pmax pmax
comp=E,13nm,1.1s
LVZ pmax pmax
comp=Z,30nm,1.1s,mb5.3
LVZ pmax pmax
comp=N,16nm,1.3s
YKW3 Yellowknife Ar 61.81 31⇑*e*P P 10 25 05.3 -1.9
YKA Yellowknife Ar 61.84 31 P **P 10 25 06.2 -1.1**
comp=N,5.4nm,0.8s,mb4.7,baz=297,slow=6.5,SNR=32
YKA Yellowknife Ar 61.84 31 P **P 10 25 06.2 -1.2**
APA Apatity 61.93 336⇑*i*P P 10 25 07.2 -0.7
APA *i* 10 25 16.0
APA *i* 10 25 49.2
APA *i* 10 27 18.0
APA *i*S **S 10 33 32.0 +1.4**
APA pmax pmax
comp=Z,72nm,1.1s,mb5.7
BHV Bhavnagar 62.26 277 *e*P P 10 25 13.0 +2.3
KEV Kevo 62.57 339 *e*p P 10 25 10.4 -1.8
comp=Z,12nm,0.7s,mb5.2
KEV Kevo 62.57 339 *e*P P 10 25 10.4 -1.8
KEV pmax pmax
comp=Z,13nm,0.7s,mb5.2
ARCES ARCESS Array B 63.12 340 P **P 10 25 14.8 -0.9**
comp=Z,18nm,0.9s,mb5.2,baz=51,slow=7.6,SNR=25
ARE0 ARCESS Array S 63.12 340 *e*P P 10 25 14.5 -1.3
KAD Karad 63.13 271 *e*P P 10 25 15.4 -1.1
KAD AMb AMB 10 25 16.9
comp=Z,72nm,1.2s,mb5.7
KAD *e*x x 10 34 07.6
MBWA Marble Bar 63.28 205 *e*P P 10 25 15.7 -1.8
comp=Z,26nm,1.0s,mb5.3
BHJ Bhuj 63.38 279 *e*x x 10 25 09.1
BHJ AMb AMB 10 25 20.6
comp=Z,152nm,1.2s,mb6.0
BHJ *e*S **S 10 33 49.0 -0.4**
PECR Pechory 63.54 322*d i*P P 10 25 18.0 -0.6
PECR *e*S **S 10 33 51.0 +0.2**
PECR *e* 10 35 00.0
PECR pmax pmax
comp=N,300nm,6.0s
PECR pmax pmax
comp=E,500nm,6.0s
PECR pmax pmax
comp=Z,1μm,6.0s
PECR smax
comp=N,2μm,8.0s
PECR smax
comp=E,1μm,6.0s
PECR MLR MLR
comp=E,20μm,14.0s,MS6.5
PECR MLR MLR
comp=Z,21μm,14.0s,MS6.5
PECR MLR MLR
comp=N,7μm,12.0s,MS6.5
ASH Ashkhabad 64.18 299 *i*P P 10 25 23.0 -0.2
PGC Sidney 64.32 47 *e*P P 10 25 23.2 -0.6
comp=N,216nm,1.3s,mb6.0
OCWA Octopus Mounta 64.34 48⇑*i*P P 10 25 24.5 +0.5
comp=N,71nm,1.4s,mb5.5
DAG Danmarks Havn 64.44 355*b i*P P 10 25 23.9 -0.3
comp=N,15nm,0.8s,mb5.1
comp=Z,4μm,21.0s
DAG Danmarks Havn 64.44 355 *i* Pcr **P 10 25 23.9 -0.3**
comp=Z,15nm,0.8s,mb5.1
DAG LR LR
comp=Z,4μm,21.0s,MS5.6
GOA Goa 64.45 270 *e*P P 10 25 23.0 -2.2
TRO Tromso 64.79 341 *e*P P 10 25 24.3 -2.3
TRO *e*S **S 10 34 05.3 -0.8**
TRO AMS AMS 11 00 58.5
comp=Z,8μm,18.1s,MS6.0
TRO Tromso 64.79 341 *e*P P 10 25 24.3 -2.3
TRO LR LR
comp=Z,8227μm,18.1s
JOF Joensuu 65.33 332 *e*p P 10 25 25.8 -4.4
comp=Z,24nm,1.0s,mb5.2
RPW Rockport 65.53 47 P **P 10 25 31.9 +0.1**
RMW Rattlesnake Mo 65.88 48 P **P 10 25 34.6 +0.7**
PNT Penticton 66.16 45 P **P 10 25 35.1 -0.6**
TRD Trivandrum 66.16 262 *e*P P 10 25 35.4 -0.9
TRD AMb AMB 10 25 37.3

comp=Z,53nm,1.1s,mb5.5
COR Corvallis 66.47 51 *e*P **P 10 25 37.6 -0.2**
comp=Z,42nm,0.8s,mb5.5
COR Corvallis 66.47 51 P **P 10 25 39.7 +1.9**
COR pmax pmax
comp=Z,42nm,0.9s,mb5.5
LTY Liberty 66.64 48 P **P 10 25 38.4 -0.4**
KEBM Edson Butte 66.73 53 *e*P **P 10 25 39.4 0.0**
WTV Waterville 66.82 47 P **P 10 25 39.9 0.0**
EBG Ellensburg 66.88 48 P **P 10 25 40.6 +0.2**
MOS Moscow 66.91 324 *e*P **P 10 25 37.7 -2.7**
MOS *e*S S 10 34 32.2 0.0
MOS pmax pmax
comp=Z,800nm,2.5s,mb6.3
MOS pmax pmax
comp=Z,228nm,1.4s,mb6.0
EDM Edmonton 67.34 39⇑ *i*P **P 10 25 42.0 -1.2**
EDM Edmonton 67.34 39 P **P 10 25 42.2 -0.9**
VRHR Novokhopersk 67.54 318 *e*P **P 10 25 42.2 -2.3**
VRHR pmax pmax
comp=Z,180nm,1.5s,mb5.9
VRHR pmax pmax
comp=N,170nm,2.1s
VRHR pmax pmax
comp=E,80nm,1.3s
PUL Pulkovo 67.65 330 *i*P **P 10 25 43.7 -1.3**
PUL Pulkovo 67.65 330⇑ *e*P **P 10 25 42.6 -2.4**
PUL *e*S S 10 35 15.0 +34
PUL pmax pmax
comp=E,61nm,0.6s
PUL pmax pmax
comp=Z,55nm,0.6s,mb5.8
PUL MLR MLR
comp=Z,13μm,21.0s,MS6.1
PUL MLR MLR
comp=N,9μm,15.0s
PUL MLR MLR
comp=E,7μm,16.0s
KAF Kangasniemi 67.65 333 *e*p **P 10 25 43.4 -1.5**
comp=E,10nm,0.6s,mb5.0,baz=47,slow=6.0
KAF Kangasniemi 67.65 333 *e*P **P 10 25 43.4 -1.5**
KAF pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
OD2 Odessa Site #2 67.69 47 P **P 10 25 45.1 -0.4**
OBN Obninsk 67.76 324 *e*P **P 10 25 44.5 -1.3**
comp=Z,104nm,1.1s,mb5.8
OBN Obninsk 67.76 324*c i*P **P 10 25 45.1 -0.7**
OBN *e**PP pP 10 26 07.4 +20
OBN *i* S S 10 34 34.9 -7.6
OBN pmax pmax
comp=Z,226nm,1.8s,mb5.9
OBN MLR MLR
comp=Z,19μm,15.0s,MS6.4
HAWA Hanford 67.76 48 *e*P **P 10 25 45.5 -0.5**
comp=Z,5.1nm,1.1s,mb4.5
NEW Newport 68.11 45 P **P 10 25 47.7 -0.4**
comp=Z,47nm,1.1s,mb5.4,baz=307,slow=5.9,SNR=49
NEW S S 10 34 46.5 -0.2
comp=Z,0.6nm,0.4s,baz=52,slow=19,SNR=2.1
NEW Newport 68.11 45 *e*P **P 10 25 47.4 -0.6**
comp=Z,132nm,1.1s,mb5.9
NEW Newport 68.11 45 P **P 10 25 47.7 -0.4**
NEW S S 10 34 46.6 -0.2
NEW pmax pmax
comp=Z,47nm,1.1s
KHMM Horse Mountain 68.16 55 *e*P **P 10 25 49.6 +1.1**
FINES FINESS Array B 68.17 333 P **P 10 25 47.0 -1.2**
comp=Z,20nm,0.8s,mb5.2,baz=45,slow=8.1,SNR=46
YBH Yreka Blue Hor 68.35 53 P **P 10 25 49.7 0.0**
comp=Z,25nm,1.1s,mb5.2,baz=276,slow=1.6,SNR=14
MAK Makhachkala 68.66 308 *e*P **P 10 25 51.0 -0.6**
MAK pmax pmax
comp=Z,1μm,6.0s
VRSR Storozhevoye 68.74 319*c i*P **P 10 25 50.8 -1.1**
VRSR pmax pmax
comp=Z,130nm,1.4s,mb5.7
VRSR pmax pmax
comp=N,60nm,0.9s
VRSR pmax pmax
comp=E,50nm,1.2s
JMIC Jan Mayen 68.95 350 *e*P **P 10 25 58.6 +5.7**
JMIC *e*S S 10 34 57.8 +1.4
JMIC AMS AMS 11 00 06.2
comp=Z,3μm,17.9s,MS5.6
SUMG Summit 69.22 1⇑ *e*P **P 10 25 54.3 -0.3**
comp=Z,334nm,1.5s,mb6.0
WALA Waterton Lakes 69.42 43⇑ *i*P **P 10 25 55.6 -0.5**
comp=Z,106nm,1.0s,mb5.7
LBCM Butte Creek Ri 69.70 54 P **P 10 25 57.9 0.0**
MOD Modoc 69.76 52 P **P 10 25 58.5 +0.1**
VSU Vasula 69.90 330⇑ *i*P **P 10 25 58.1 -0.8**
VSU Vasula 69.90 330*c i*P **P 10 25 58.0 -0.9**
BMO Blue Mountains 69.92 48⇑ *i*P **P 10 25 59.1 -0.2**
comp=Z,107nm,1.5s,mb5.5
STKA Stephens Creek 70.02 181 *e*P **P 10 25 58.4 -1.7**
comp=Z,5.4nm,0.6s,mb4.7
STKA Stephens Creek 70.02 181 P **P 10 25 59.0 -1.2**
comp=Z,4.3nm,0.6s,mb4.5,baz=339,slow=5.8,SNR=21
STKA LR LR 10 58 54.3
comp=Z,3μm,19.2s,MS5.5,baz=1.5,slow=38
FORT Forrest 70.34 194 *e*P **P 10 26 00.9 -1.2**
comp=Z,46nm,0.7s,mb5.5
NSS Namsos 70.41 340 *e*P **P 10 26 00.3 -1.6**
NSS AMS AMS 11 03 00.1
comp=Z,10μm,19.0s,MS6.1
NSS Namsos 70.41 340 *e*P **P 10 26 00.6 -1.3**
OHCM Honcut 70.45 55 *e*P **P 10 26 02.4 -0.2**
WVOR Wild Horse Val 70.49 51⇑ *i*P **P 10 26 02.3 -0.4**
comp=Z,198nm,1.6s,mb5.8
MSO Missoula 70.70 45⇑ *e*P **P 10 26 03.1 -0.9**
comp=Z,77nm,1.4s,mb5.4
SCO Scoresbysund 70.80 355 *i*P **P 10 26 05.5 +1.3**
comp=Z,10.0nm,1.0s,mb4.7
SCO *i* S 10 36 05.5
SCO Scoresbysund 70.80 355 *i*P **P 10 26 05.5 +1.3**
SCO *i* S 10 36 05.5
SCO pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
BEKR Beckwourth 70.87 54 *e*P **P 10 26 04.6 -0.6**
comp=Z,82nm,1.4s,mb5.5
KIV Kislovodsk 71.00 311⇑ *i*P **P 10 26 05.5 -0.4**
comp=Z,475nm,1.2s,mb6.3
KIV Kislovodsk 71.00 311*c i*P **P 10 26 05.3 -0.6**
KIV pmax pmax
comp=Z,165nm,1.2s,mb5.8
KIV MLR MLR
comp=Z,16μm,19.0s,MS6.3
CHMT Chamberlain Mo 71.03 45 *e*P **P 10 26 05.7 -0.3**
ONI Oni 71.34 310 P **P 10 26 07.2 -0.7**
PAHR Pah Rah Range 71.58 54 *e*P **P 10 26 10.2 +0.8**
comp=Z,15nm,0.9s,mb4.9
GNI Garni 71.95 307 P **P 10 26 12.1 +0.5**
comp=Z,2.3nm,0.4s,mb4.5,baz=157,slow=7.7,SNR=9.6
GNI Garni 71.95 307 *e*P **P 10 26 11.8 +0.2**
comp=Z,194nm,1.4s,mb5.8
GNI Garni 71.95 307*c i*P **P 10 26 11.3 -0.3**
GNI pmax pmax
comp=Z,24nm,1.3s
AKH Akhalkalaki 71.99 309 P **P 10 26 11.8 0.0**
FCC Fort Churchill 72.07 27 *e*P **P 10 26 10.2 -1.8**
comp=Z,43nm,1.3s,mb5.2
FCC Fort Churchill 72.07 27 P **P 10 26 10.5 -1.5**
FCC pmax pmax
comp=Z,43nm,1.2s,mb5.2
MNK Minsk 72.09 326 *e*P **P 10 26 10.0 -2.2**
DLMT Dillon 72.33 46 *e*P **P 10 26 13.9 +0.1**
HLID Hailey 72.36 48 *e*P **P 10 26 14.1 +0.1**
comp=Z,83nm,1.5s,mb5.4
MCMT McKenzie Canyo 72.50 46 *e*P **P 10 26 15.5 +0.7**
BMN Battle Mountai 72.51 52 *e*P **P 10 26 15.6 +0.7**
comp=Z,107nm,1.3s,mb5.6
BMN Battle Mountai 72.51 52 P **P 10 26 15.9 +1.0**
DIGO Kars 72.65 308 *i*P **P 10 26 14.9 -0.8**
BOZ Bozeman (W) 72.69 45 *e*P **P 10 26 15.8 0.0**
comp=Z,63nm,1.0s,mb5.5
BOZ Bozeman (W) 72.69 45 P **P 10 26 16.1 +0.2**
SOC Sochi 72.96 312*c i*P **P 10 26 16.6 -0.9**
SOC *i* S SKS 10 36 21.4 -1.5
SOC pmax pmax
comp=Z,80nm,1.3s,mb5.5
NVAR Mina Array Bea 73.00 54 P **P 10 26 17.7 -0.1**
comp=Z,15nm,0.9s,mb4.9,baz=292,slow=4.8
CLDR Caldiran 73.05 307 *e*P **P 10 26 16.8 -1.3**
ARTV Artvin 73.08 309 *i*P **P 10 26 16.9 -1.3**
BCA Borcka 73.11 310 *e*P **P 10 26 18.9 +0.5**

QLMT Earthquake Lak 73.31 46 *e*P **P 10 26 19.9 +0.4**
NB2 NORSAR Subarra 73.38 338 P **P 10 26 18.6 -0.9**
comp=Z,208nm,1.4s,mb5.9,baz=37,slow=5.8
NB2 NORSAR Subarra 73.38 338 P **P 10 26 18.6 -0.9**
baz=37,slow=5.9
NOA NORSAR Array B 73.38 338 P **P 10 26 18.9 -0.6**
comp=Z,72nm,1.1s,mb5.5,baz=38,slow=5.9,SNR=45
PTRM Twissleman Ran 73.38 58 *e*P **P 10 26 20.1 +0.1**
MTUM Tungsten Hills 73.46 55 *e*P **P 10 26 21.2 +0.7**
ANN Anapa 73.52 314⇑ *i*P **P 10 26 19.7 -1.0**
ANN Anapa 73.52 314*c i*P **P 10 26 19.6 -1.1**
ANN *e*S S 10 35 50.1 +0.5
ANN pmax pmax
comp=Z,92nm,1.3s,mb5.5
ELK Elko 73.55 51 *e*P **P 10 26 21.3 +0.4**
comp=Z,115nm,1.6s,mb5.6
ELK Elko 73.55 51 P **P 10 26 21.4 +0.4**
KLBR Kellerberrin 73.64 202 *e*P **P 10 26 21.4 -0.3**
comp=Z,33nm,1.2s,mb5.1
YMR Madison River 73.67 46 *e*P **P 10 26 22.1 +0.6**
GCMT Greycliff 73.69 44 *e*P **P 10 26 22.1 +0.4**
VANB Van 73.71 306 *e*P **P 10 26 17.2 -4.7**
YNR Norris Junctio 73.80 45 *e*P **P 10 26 24.6 +2.3**
YFT Old Faithful 73.87 46 *e*P **P 10 26 25.0 +2.2**
TPH Tonopah 73.90 54 *e*P **P 10 26 23.2 +0.2**
comp=Z,95nm,1.4s,mb5.5
TPH Tonopah 73.90 54 P **P 10 26 23.9 +0.9**
TPH pmax pmax
comp=Z,95nm,1.4s,mb5.5
AKASG Malin Array Be 73.99 323 P **P 10 26 22.5 -0.8**
comp=Z,68nm,0.9s,mb5.5,baz=42,slow=6.1,SNR=122
LKWY Lake 74.05 45 *e*P **P 10 26 25.3 +1.5**
HAKT HAKKARI 74.12 305 *i*P **P 10 26 21.9 -2.5**
IMW Indian Meadow 74.16 46 *e*P **P 10 26 25.4 +0.9**
comp=Z,165nm,1.4s,mb5.8
FLWY Flagg Ranch 74.18 46 *e*P **P 10 26 26.1 +1.6**
ERZM Erzurum 74.19 309 *i*P **P 10 26 25.3 +0.6**
RRI2 Red Ridge 74.28 47⇑ *i*P **P 10 26 25.6 +0.5**
comp=Z,182nm,1.4s,mb5.8
SFJD Kangerlussuaq 74.31 6⇑ *i*P **P 10 26 24.5 -0.3**
comp=Z,53nm,1.2s,mb5.3
SFJD *i* 10 27 08.9
comp=Z,5μm,22.0s
HVU Hansel Valley 74.40 49 *e*P **P 10 26 25.8 -0.1**
HVU Hansel Valley 74.40 49 P **P 10 26 27.1 +1.2**
TPAW Teton Pass 74.40 47 *e*P **P 10 26 26.6 +0.7**
comp=Z,269nm,1.6s,mb5.9
SUW Suwalki 74.41 328 *e*P **P 10 26 25.0 -0.6**
SUW Suwalki 74.41 328 *e*P **P 10 26 25.0 -0.6**
ISA Isabella 74.52 57 *e*P **P 10 26 26.0 -0.6**
comp=Z,24nm,1.8s,mb4.8
ISA Isabella 74.52 57 P **P 10 26 22.0 -4.7**
LOHW Long Hollow 74.53 46⇑ *e*P **P 10 26 26.9 +0.4**
comp=Z,112nm,1.6s,mb5.5
MACK Trabzon 74.53 310 *i*P **P 10 26 25.7 -1.0**
SNOW Snow King Moun 74.53 47 *e*P **P 10 26 27.1 +0.5**
comp=Z,63nm,1.1s,mb5.5
DAC Darwin (Calif) 74.73 56 *e*P **P 10 26 27.5 -0.4**
comp=Z,38nm,1.1s,mb5.2
DGMT Dagmar 74.83 40 *e*P **P 10 26 27.6 -0.6**
comp=Z,69nm,0.8s,mb5.6
KONO Kongsberg 74.97 338 *e*P **P 10 26 32.3 +3.5**
KONO *e*S S 10 36 06.5 +1.0
KONO Kongsberg 74.97 338 *e*P **P 10 26 27.4 -1.4**
comp=Z,48nm,1.2s,mb5.3
KONO *e*P 10 26 32.3
KONO Kongsberg 74.97 338 P **P 10 26 29.2 +0.4**
KONO pmax pmax
comp=Z,48nm,1.2s,mb5.3
GUMT Gumushane 75.00 310 *e*P **P 10 26 29.6 +0.2**
HWUT Hardware Ranch 75.22 48⇑ *i*P **P 10 26 30.9 +0.3**
comp=Z,208nm,1.5s,mb5.8
SIM Simferopol' 75.26 316*c i*P **P 10 26 31.0 +0.2**
SIM *e*S S 10 36 07.0 -2.0
SIM *e* 10 36 54.0
SIM pmax pmax
comp=Z,56nm,0.9s,mb5.5
SIM MLR MLR
comp=Z,13μm,18.8s,MS6.3
KELT Kelkit 75.32 310 *i*P **P 10 26 31.2 -0.1**
DUG Dugway 75.35 50 *e*P **P 10 26 31.7 +0.3**
comp=Z,132nm,1.4s,mb5.7
DUG Dugway 75.35 50 P **P 10 26 32.0 +0.6**
DUG pmax pmax
comp=Z,130nm,1.3s,mb5.7
GRSN GIRESUNGRSN 75.44 311 *i*P **P 10 26 30.0 -1.9**
NOQ North Oquirrh 75.48 49 *e*P **P 10 26 32.4 +0.2**
BER Bergen 75.58 340 *e*P **P 10 26 34.0 +1.8**
BER *e*S S 10 36 08.0 -4.2
BER AMS AMS 11 05 39.6
comp=Z,10μm,18.8s,MS6.1
BER Bergen 75.58 340 *e*P **P 10 26 34.0 +1.8**
BER LR LR
comp=Z,9784μm,18.8s
TCUT Toone Canyon 75.61 49 *e*P **P 10 26 33.1 +0.2**
MWC Mount Wilson 75.65 58 *e*P **P 10 26 32.5 -0.8**
MWC Mount Wilson 75.65 58 P **P 10 26 33.1 -0.1**
PDAR Pinedale Array 75.65 47 P **P 10 26 32.8 -0.3**
comp=Z,11nm,0.8s,mb4.8,baz=255,slow=2.0,SNR=55
CTU Camp Tracy 75.68 49 *e*P **P 10 26 33.3 +0.1**
TOO Toolangi 75.72 178 *e*P **P 10 26 33.7 +0.1**
comp=Z,7.9nm,0.6s,mb4.8
JLU Jordanelle 75.91 49⇑ *e*P **P 10 26 34.7 +0.2**
NLU North Lily Min 75.94 50 *e*P **P 10 26 35.0 +0.2**
PTK Pertek 76.02 309 *e*P **P 10 26 35.2 0.0**
MARD Mardin 76.12 307 *i*P **P 10 26 34.9 -0.9**
DAU Daniels Canyon 76.15 49 *e*P **P 10 26 36.6 +0.7**
DAU Daniels Canyon 76.15 49 P **P 10 26 37.1 +1.2**
UMR Umm Al-Rimmam 76.17 297 *e*P **P 10 26 35.5 -0.7**
UMR AMb AMB 10 27 20.0
comp=Z,112nm,0.6s,mb5.9
MPU Maple Canyon 76.17 50 *e*P **P 10 26 36.3 +0.2**
BHD Baghdad 76.24 302 *e*P **P 10 26 33.5 -3.1**
BHD *e*S S 10 36 10.0 -10
KBD Kabd 76.41 296 *e*P **P 10 26 36.9 -0.7**
KBD AMb AMB 10 27 24.3
comp=Z,486nm,1.0s,mb6.4
ARUT Antelope Range 76.45 52 *e*P **P 10 26 37.9 +0.3**
ARUT Antelope Range 76.45 52 *e*P **P 10 26 38.7 +1.0**
QRN Al-Qurain 76.50 296 *e*P **P 10 26 37.6 -0.6**
QRN AMb AMB 10 27 22.7
comp=Z,282nm,0.5s,mb6.4
ELZG Elazig 76.51 309 *i*P **P 10 26 38.1 +0.1**
KVT Kavak 76.64 312 *e*P **P 10 26 38.9 +0.2**
RDF Al-Radifah 76.66 296 *e*P **P 10 26 38.0 -1.0**
RDF AMb AMB 10 27 25.2
comp=Z,317nm,1.2s,mb6.1
KIS Kishinev 76.68 320*α i*P **P 10 26 37.0 -1.8**
KIS *e* 10 26 50.0
MSU Marysvale 76.78 51 *e*P **P 10 26 40.2 +0.7**
MSU Marysvale 76.78 51 P **P 10 26 40.3 +0.8**
BSD Bornholm Skovb 76.81 332⇓ *i*P **P 10 26 39.5 +0.2**
comp=Z,54nm,1.1s,mb5.4
SVSK Karacayir 76.82 311 *e*P **P 10 26 40.1 +0.4**
TMUT Trail Mountain 76.88 50 *e*P **P 10 26 40.5 +0.5**
NEN Nelson 76.88 55 *e*P **P 10 26 40.1 0.0**
MYA Malataya 76.96 309 *e*P **P 10 26 39.7 -0.8**
MALT Malatya 76.97 309⇑ *i*P **P 10 26 41.1 +0.5**
comp=Z,123nm,1.1s,mb5.8
LVV L'vov 77.02 325⇑ *i*P **P 10 26 40.5 -0.1**
LVV *e*S S 10 36 28.1 0.0
LVV MLR MLR
comp=Z,2μm,19.0s,MS5.5
LDFC Landfair 77.06 55 *e*P **P 10 26 40.9 -0.3**
PFO Pinyon Flat Ob 77.08 57 *e*P **P 10 26 40.8 -0.4**
comp=Z,46nm,1.2s,mb5.3
PFO Pinyon Flat Ob 77.08 57 P **P 10 26 41.5 +0.2**
BOYT Boyabat 77.09 313 *i*P **P 10 26 39.7 -1.4**
COP Copenhagen 77.24 334 *i*P **P 10 26 41.7 0.0**
comp=Z,64nm,1.0s,mb5.5
COP *i* S S 10 36 33.2 +2.8
COP *i* 10 37 18.1
comp=Z,8μm,18.0s
BZK Bozkurt 77.25 314 *e*P **P 10 26 41.4 -0.7**
URFA Urfa 77.27 308 *e*P **P 10 26 41.8 -0.4**
HASS Wahat al Ahsa' 77.34 292 P **P 10 26 41.7 -1.2**
GKP Gorka Klasztor 77.35 330 *e*P **P 10 26 42.8 +0.5**
GKP Gorka Klasztor 77.35 330 *e*P **P 10 26 42.8 +0.4**
SRU San Rafael 77.41 50 *e*P **P 10 26 42.8 -0.1**
SRU San Rafael 77.41 50 *e*P **P 10 26 43.1 +0.2**
BAR Barrett 77.50 58 *e*P **P 10 26 43.2 -0.4**
ULM Lac du Bonnet 77.52 34 P **P 10 26 42.5 -0.8**
comp=Z,17nm,1.2s,mb4.9,baz=322,slow=7.2,SNR=13
ULM Lac du Bonnet 77.52 34 *e*P **P 10 26 42.2 -1.1**

comp=Z,36nm,0.9s,mb5.3
ATAB Bozova 77.58 308 *i*P **P 10 26 43.5 -0.4**
CTKT Corum 77.67 312 *i*P **P 10 26 43.7 -0.7**
RWWY Rawlins 77.68 46 *e*P **P 10 26 43.2 -1.2**
comp=Z,44nm,1.0s,mb5.3
MUD Monsted U'grnd 77.71 336⇑ *i*P **P 10 26 44.3 +0.1**
comp=Z,12μm,20.0s
MUD Monsted U'grnd 77.71 336 *i*P **P 10 26 44.3 +0.1**
KWP Kalwaria 77.75 325 *e*P **P 10 26 44.9 +0.3**
KWP Kalwaria 77.75 325 *e*P **P 10 26 44.9 +0.3**
RSSD Black Hills 77.81 43 *e*P **P 10 26 44.4 -0.7**
comp=Z,67nm,1.1s,mb5.5
BALT Daday 77.88 314 *i*P **P 10 26 45.5 0.0**
BURAR Bucovina Array 78.03 322⇓ *i*P **P 10 26 46.5 +0.3**
BURAR Bucovina Array 78.03 322⇓ *i*P **P 10 26 46.5 +0.4**
CORM Corum 78.05 312 *e*P **P 10 26 45.6 -0.8**
GZT Gaziantep 78.10 308 *i*P **P 10 26 46.6 -0.2**
BNN Bunyan 78.19 310 *e*P **P 10 26 48.4 +1.1**
CFR Carcaliu 78.27 319⇓ *i*P **P 10 26 47.8 +0.2**
CFR Carcaliu 78.27 319⇓ *i*P **P 10 26 47.8 +0.2**
GAZ Gaziantep 78.43 308 *e*P **P 10 26 48.5 -0.2**
KOLS Kolonicke sedl 78.45 325 *e*P **P 10 26 49.1 +0.6**
KOLS *e* 10 26 58.1
VRI Vrincioaia 78.51 320⇓ *i*P **P 10 26 49.8 +0.9**
VRI Vrincioaia 78.51 320⇓ *i*P **P 10 26 49.8 +0.9**
VRI Vrincioaia 78.51 320 P **P 10 26 49.5 +0.6**
ELDT Eldivan 78.54 313 *i*P **P 10 26 48.9 -0.3**
CDAG Cicekdag 78.56 312 *i*P **P 10 26 48.2 -1.1**
STHS Stebnicka Huta 78.56 326 *i*P **P 10 26 50.5 +1.4**
OJC Ojcow 78.60 327⇑ *e*P **P 10 26 49.4 +0.1**
OJC *e*S S 10 36 44.3 -0.8
TIRR Tirgusor 78.62 318⇓ *i*P **P 10 26 50.0 +0.5**
TIRR Tirgusor 78.62 318⇓ *i*P **P 10 26 50.0 +0.5**
UZH Uzhgorod 78.66 325 *i*P **P 10 26 50.0 +0.4**
UZH *e*S S 10 36 45.0 -0.8
PV10 Paradox Valley 78.77 50 *e*P **P 10 26 51.0 +0.6**
AVNT Avonos 78.82 311 *i*P **P 10 26 50.5 -0.3**
CRVS Cervenica-Dubn 78.84 325 *e*P **P 10 26 50.9 +0.3**
CRVS *e* 10 27 32.2
CRVS *e*S S 10 36 53.0 +5.3
CRVS Cervenica-Dubn 78.84 325 *e*P **P 10 26 50.9 +0.3**
CRVS *e* 10 36 53.0
BRTR Keskin Array B 78.92 312 P **P 10 26 51.1 -0.2**
comp=Z,19nm,1.1s,mb4.9,baz=90,slow=3.7,SNR=52
PHWY Pilot Hill 78.92 46 *e*P **P 10 26 51.1 -0.1**
NIE Niedzica 78.97 326⇓ *i*P **P 10 26 52.9 +1.6**
KAMT Kaman 79.11 312 *i*P **P 10 26 51.7 -0.6**
ISR Istrita 79.13 320⇑ *i*P **P 10 26 53.3 +1.0**
ISR Istrita 79.13 320⇑ *i*P **P 10 26 53.3 +1.1**
MLR Muntele Rosu 79.17 320 P **P 10 26 52.7 +0.2**
comp=Z,46nm,1.2s,mb5.3,baz=354,slow=5.7,SNR=24
PV01 Paradox Valley 79.20 50 *e*P **P 10 26 53.2 +0.4**
SGKT Sivrigoynuk 79.27 314 *i*P **P 10 26 52.3 -0.8**
PSN Preselentsi 79.28 318 *e*P **P 10 26 54.0 +0.9**
RUE Ruedersdorf 79.29 331 *e*P **P 10 26 53.0 0.0**
comp=Z,22nm,0.3s,mb5.6
ANTO Ankara 79.31 313 *e*P **P 10 26 52.8 -0.6**
ANTO Ankara 79.31 313 P **P 10 26 54.1 +0.7**
BSEG Bad Segeberg 79.38 334 *e*P **P 10 26 53.5 0.0**
RAC Raciborz 79.38 328 *e*P **P 10 26 54.4 +0.9**
COBT Iskenderun 79.44 308 *i*P **P 10 26 53.1 -1.0**
SNX Sinaia 79.47 321⇑ *i*P **P 10 26 55.0 +0.9**
SNX Sinaia 79.47 321⇑ *i*P **P 10 26 55.0 +0.8**
KECS Kecovo 79.59 325 *e*P **P 10 26 54.8 +0.1**
KECS *e* 10 27 04.6
KSP Ksiaz 79.59 329 *e*P **P 10 26 55.3 +0.6**
KSP Ksiaz 79.59 329⇑ *e*P **P 10 26 54.9 +0.3**
KSP *e*pP pP 10 27 04.4 +7.7
KSP *e*S S 10 36 51.0 -4.6
OKC Ostrava-Krasne 79.59 327 *e*P **P 10 26 55.3 +0.6**
VOIR 79.65 321⇓ *i*P **P 10 26 56.0 +0.9**
VOIR 79.65 321⇓ *i*P **P 10 26 56.0 +0.9**
HENT Hendek 79.75 314 *i*P **P 10 26 54.7 -1.1**
MDU Mudurnu 79.82 314 *e*P **P 10 26 55.5 -0.6**
ISCO Idaho Springs 79.84 47⇑ *i*P **P 10 26 56.9 +0.7**
comp=Z,105nm,1.5s,mb5.5
ISCO Idaho Springs 79.84 47 P **P 10 26 57.3 +1.1**
MORC Moravsky Berou 79.89 328 *e*P **P 10 26 55.5 -0.8**
comp=Z,224nm,1.4s,mb5.9
MORC Moravsky Berou 79.89 328 *e*P **P 10 26 55.5 -0.8**
MORC pmax pmax
comp=Z,224nm,1.4s,mb5.9
DPC Dobruska-Polom 79.96 329 *e*P **P 10 26 57.4 +0.8**
UPC Upice 79.96 329 *e*P **P 10 26 57.1 +0.5**
PRD Provadia 80.02 318 *e*P **P 10 26 58.3 +1.2**
MERS Mersin 80.27 310 *e*P **P 10 26 58.4 -0.2**
PSZ Piszkesteto 80.27 325⇓ *e*P **P 10 26 59.8 +1.4**
PSZ *e* 10 27 41.6
PSZ Piszkesteto 80.27 325 *e*P **P 10 26 58.3 0.0**
comp=Z,366nm,1.4s,mb6.1
PSZ Piszkesteto 80.27 325 P **P 10 26 59.4 +1.0**
PSZ pmax pmax
comp=Z,370nm,1.4s,mb6.1
VYHS Vyhne 80.31 326 *e*P **P 10 26 59.0 +0.5**
VYHS *e* 10 27 08.3
VYHS *e* 10 27 38.6
VYHS *e* 10 30 41.7
VYHS *e*S S 10 37 05.0 +1.9
VYHS *e* 10 37 43.0
VYHS Vyhne 80.31 326 *e*P **P 10 26 59.0 +0.5**
VYHS *e* 10 27 08.3
VYHS *e*S S 10 37 05.0 +1.9
VYHS *e* 10 37 43.0
BRG Berggiesshubel 80.50 330 *i*P **P 10 27 00.3 +0.8**
comp=Z,56nm,1.1s,mb5.4
BRG Berggiesshubel 80.50 330 *i*P **P 10 27 00.3 +0.8**
BRG pmax pmax
comp=Z,56nm,1.1s,mb5.4
KIZT Kizilcal 80.50 312 *e*P **P 10 27 00.3 +0.5**
CLL Collm 80.52 331 ⇑P **P 10 26 59.2 -0.4**
comp=Z,logA/T=1.9,mb5.6
CLL *i* *SP sP 10 27 03.4 +1.1
CLL *e*S S 10 37 08.0 +2.7
CLL Collm 80.52 331 P **P 10 27 09.4 +10**
comp=Z,logA/T=1.7,mb5.4
CLL Collm 80.52 331⇑ *i*P **P 10 26 59.2 -0.4**
comp=Z,93nm,1.1s,mb5.6
CLL *e*pP pP 10 27 09.0 +7.4
CLL *e*S S 10 37 08.0 +2.7
CLL Collm 80.52 331⇑ *i*P **P 10 26 59.2 -0.4**
CLL *e**PP pP 10 27 09.0 +7.4
CLL *e*S S 10 37 08.0 +2.7
CLL pmax pmax
comp=Z,93nm,1.1s,mb5.6
PVCC Panska Ves 80.52 330 *e*P **P 10 27 00.6 +1.0**
KDHN Kadinhani 80.61 312 *i*P **P 10 26 58.8 -1.5**
BORA Eskisehir 80.64 314 *i*P **P 10 27 00.2 -0.3**
VRAC Vranov 80.65 328 P **P 10 27 01.0 +0.7**
ESKT Eskisehir 80.66 314 *e*P **P 10 27 00.7 0.0**
ESKT Eskisehir 80.66 314 *i*P **P 10 26 59.5 -1.1**
SZH Strazhica 80.74 319 *e*P **P 10 27 02.2 +1.3**
YLV Yalova 80.78 315 *e*P **P 10 26 59.9 -1.3**
KONT Konya--Tatoy 80.85 312 *e*P **P 10 27 02.3 +0.6**
PRU Pruhonice 80.96 329 *e*P **P 10 27 02.5 +0.6**
JMB Yambol 80.97 318 *e*P **P 10 27 03.6 +1.4**
SRO Srobarova 81.05 326 *e*P **P 10 27 04.0 +1.5**
SRO *e* 10 27 43.3
SRO *e* 10 31 00.4
CLZ Clausthal 81.06 333 *e*P **P 10 27 02.7 +0.2**
comp=Z,351nm,1.4s,mb6.1
CLZ Clausthal 81.06 333 *e*P **P 10 27 02.7 +0.2**
CLZ pmax pmax
comp=Z,351nm,1.4s,mb6.1
PVL Pavlikeni 81.08 319 *e*P **P 10 27 03.5 +0.7**
TREC Trest 81.12 328 *e*P **P 10 27 03.2 +0.4**
IKL Isikli 81.19 310 *e*P **P 10 27 04.0 +0.5**
ULDT Uludag 81.20 315 *i*P **P 10 27 02.6 -0.8**
ZST Bratislava 81.29 327 *e*S S 10 37 23.4 +10
ZST *e* 10 37 57.0
MZLS Mizel 81.29 294 P **P 10 27 04.0 -0.2**
EDRB Edirne 81.32 317 *e*P **P 10 27 01.5 -2.5**
ERMK Ermenek 81.39 310 *i*P **P 10 27 02.1 -2.4**
ALT Altintas 81.40 314 *e*P **P 10 27 04.3 -0.1**
BHL Bhannes 81.51 307 *e*P **P 10 27 04.9 -0.3**
VKA Vienna 81.57 327⇑ *i*P **P 10 27 06.0 +0.8**
VKA *i* 10 27 52.5
comp=Z,1μm,4.0s
VKA Vienna 81.57 327⇑ *i*P **P 10 27 06.0 +0.8**
comp=Z,1μm,4.0s
VKA *i* 10 27 52.5
VKA LR LR
comp=Z,7μm,15.0s,MS6.1

MOX Moxa 81.58 331 ⇓ i P P 10 27 05.9 +0.8
comp=Z,logA/T=1.8,mb5.5
MOX e 10 31 40.0
MOX PS PS 10 38 05.0 -0.3
MOX SS SS 10 42 42.0 +5.7
MOX LR LR 10 54 30.0
MOX L 11 09 32.0
MOX Moxa 81.58 331 e P P 10 27 05.9 +0.8
comp=Z,88nm,1.5s,mb5.5
MOX LR LR
comp=Z,16μm,17.0s,MS6.5
MOX Moxa 81.58 331 e P P 10 27 05.9 +0.8
MOX pmax pmax
comp=Z,88nm,1.5s,mb5.5
MOX MLR MLR
comp=Z,16μm,17.0s,MS6.5
NKC Novy Kostel 81.59 331 e P P 10 27 06.2 +1.0
TUC Tucson 81.60 55 e P P 10 27 05.4 -0.3
comp=Z,64nm,1.5s,mb5.3
HILS Ha'il 81.61 298 P P 10 27 06.9 +1.1
MRMT Marmara Adasi 81.73 316 e P P 10 27 05.6 -0.6
GDZ Gediz 81.73 314 i P P 10 27 04.8 -1.4
DIM Dimitrovgrad 81.81 318 e P P 10 27 08.0 +1.4
ASF Jabal al Asfar 81.84 305 P P 10 27 06.9 0.0
comp=Z,12nm,0.9s,mb4.8,baz=45,slow=3.9,SNR=12
TKTP Tekketepe 81.97 313 i P P 10 27 06.4 -1.1
HIZ Hauiti 81.98 155 e P* P 10 27 14.9 +7.4
ISP Isparta 82.00 312 e P P 10 27 05.8 -1.8
KHC Kasperske Hory 82.02 329 e P P 10 27 08.2 +0.7
KHC i x x 10 27 13.0
KHC Kasperske Hory 82.02 329 e P P 10 27 08.2 +0.7
KHC e 10 27 13.0
PKSM Moragy 82.12 325 P P 10 27 08.8 +0.7
KDZ Kurdzhali 82.16 318 e P P 10 27 10.0 +1.6
PGB Panagyurishte 82.16 319 e P P 10 27 10.0 +1.6
GEC2 GERESS Array S 82.20 329 e P P 10 27 08.0 -0.4
comp=Z,124nm,1.5s,mb5.6
GEC2 GERESS Array S 82.20 329 e P P 10 27 08.0 -0.4
GEC2 pmax pmax
comp=Z,124nm,1.5s,mb5.6
GERES GERESS Array B 82.20 329 P P 10 27 08.5 +0.1
comp=Z,12nm,0.9s,mb4.8,baz=34,slow=4.8,SNR=46
PLD Plovdiv 82.20 319 e P P 10 27 10.0 +1.4
WTSB Winterswijk 82.21 334 e P P 10 27 07.0 -1.4
comp=Z,60nm,1.3s,mb5.4
WTSB e 10 27 47.2
comp=Z,94nm,1.8s
CSS Prodhromos 82.25 309 e P P 10 27 09.2 +0.2
CSS Prodhromos 82.25 309 e P P 10 27 08.8 -0.3
comp=Z,29nm,0.8s,mb5.3
WET Wettzell 82.29 330 e P P 10 27 09.4 +0.5
comp=Z,228nm,1.5s,mb5.9
BOLS Boljevac 82.33 321 i P P 10 27 09.6 +0.4
ZAPS Zavoj/Pirot 82.40 321 ⇑ i P P 10 27 07.4 -2.2
RDO Rodhopi 82.45 318 e P P 10 27 08.5 -1.4
GRA1 Grafenberg Arr 82.49 331 e P P 10 27 10.5 +0.6
comp=Z,366nm,1.3s,mb6.2
GRF Grafenberg Arr 82.49 331 e P P 10 27 10.5 +0.6
comp=Z,366nm,1.3s,mb6.2
GRF Grafenberg Arr 82.49 331 e P P 10 27 10.5 +0.6
ANMO Albuquerque 82.58 51 e P P 10 27 11.1 +0.4
comp=Z,45nm,1.1s,mb5.4
ANMO Albuquerque 82.58 51 P P 10 27 11.4 +0.7
ANMO pmax pmax
comp=Z,45nm,1.1s
VTS Vitosha 82.62 320 i P P 10 27 12.5 +1.8
ARSA Arzberg 82.69 327 ⇑ i P P 10 27 11.4 +0.4
comp=Z,628nm,4.3s
MOA Molln 82.75 328 ⇑ i P P 10 27 11.8 +0.5
comp=Z,183nm,2.0s,mb5.8
GRUS Gruza 82.90 322 i P P 10 27 12.3 +0.1
AFFS 'Afif 82.93 295 P P 10 27 13.5 +0.8
GOLH Golhisar 82.96 313 i P P 10 27 11.3 -1.4
MMB Musomiste 83.08 319 i P P 10 27 12.4 -0.8
DIVS Divcibare 83.09 323 ⇑ i P P 10 27 13.8 +0.7
TNS Taunus Mts 83.09 333 e P P 10 27 13.1 +0.1
comp=Z,94nm,1.4s,mb5.6
ELL Elmali 83.09 312 e P P 10 27 13.9 +0.5
BARS Barje 83.14 321 ⇑ i P P 10 27 12.9 -0.5
NVR Nevrokopi 83.18 319 e P P 10 27 10.5 -3.2
KKB Krupnik 83.21 319 i P P 10 27 14.8 +1.0
PERS Pernice 83.35 327 e P P 10 27 13.9 -0.5
SIND Sindeldorf 83.39 332 ⇑ e P P 10 27 14.5 0.0
PRK Paraskevi 83.41 316 e P P 10 27 11.0 -3.9
KDAG Bornova 83.45 315 i P P 10 27 14.2 -0.9
IZM Izmir 83.46 315 e P P 10 27 15.3 +0.1
TOD Tromm 83.47 332 ⇑ e P P 10 27 15.1 +0.1
TOD Tromm 83.47 332 ⇑ e P P 10 27 15.3 +0.3
HGN Heimansgroeve 83.52 334 e P P 10 27 15.7 +0.6
comp=Z,33nm,1.3s,mb5.3
LIA Limnos Island 83.53 317 e P P 10 27 12.5 -3.0
BBLS Bajina Basta - 83.54 323 i P P 10 27 17.0 +1.6
SCHQ Schefferville 83.55 17 P P 10 27 15.0 -0.2
comp=Z,12nm,1.0s,mb5.0,baz=356,slow=6.0,SNR=9.6
SCHQ Schefferville 83.55 17 e P P 10 27 13.8 -1.3
comp=Z,16nm,0.9s,mb5.1
SWS Schriesheim 83.61 332 e P P 10 27 15.3 -0.3
NVSS Nova Varos 2 83.67 322 ⇓ i P P 10 27 16.2 +0.2
OBKA Obir 83.69 327 ⇑ i P P 10 27 16.1 0.0
comp=Z,546nm,4.3s
ABH Alteburg 83.70 333 ⇑ e P P 10 27 16.2 +0.1
ABH Alteburg 83.70 333 ⇑ e P P 10 27 16.4 +0.3
FUR Furstenfeldbru 83.71 330 e P P 10 27 16.6 +0.4
comp=Z,364nm,1.3s,mb6.3
KBA Koelnbreinsper 83.75 328 ⇑ i P P 10 27 16.7 +0.3
comp=Z,146nm,1.9s,mb5.8
YER Yerkesik 83.77 313 e P P 10 27 17.7 +1.0
HDH Heidenheim 83.78 331 ⇑ e P P 10 27 16.1 -0.4
CBKS Cedar Bluff 83.81 44 e P P 10 27 16.0 -1.0
comp=Z,90nm,1.4s,mb5.7
CBKS Cedar Bluff 83.81 44 P P 10 27 17.5 +0.6
DALT Dalyan (Mudla) 83.82 313 e P P 10 27 15.9 -1.1
URLA Izmir 83.86 315 i P P 10 27 15.5 -1.7
MLSB Milas 83.94 314 e P P 10 27 18.2 +0.6
PLE Pljevlja 83.95 322 ⇓ i P P 10 27 18.8 +1.3
SKO Skopje 83.96 320 e P P 10 27 18.9 +1.3
KTD Kalmit 83.97 332 e P P 10 27 17.6 +0.1
STU Stuttgart 84.01 331 e P P 10 27 17.9 +0.2
comp=Z,104nm,1.4s,mb5.8
STU Stuttgart 84.01 331 P P 10 27 19.0 +1.3
STU pmax pmax
comp=Z,100nm,1.3s,mb5.8
RUP Ruppelstein 84.02 333 ⇑ e P P 10 27 17.4 -0.3
RUP Ruppelstein 84.02 333 ⇑ e P P 10 27 17.7 0.0
IVA Berane 84.05 322 ⇓ i P P 10 27 18.3 +0.3
LJU Ljubljana 84.07 327 e P P 10 27 17.4 -0.6
PLG Polygyros 84.11 318 e P P 10 27 18.5 +0.1
MRZ Mangatainoka R 84.16 156 P* P 10 27 17.7 -1.0
BOJS Bojanci 84.18 326 e P P 10 27 18.3 -0.3
SMG Samos 84.18 314 e P P 10 27 15.5 -3.3
PVY Plav 84.22 322 ⇓ i P P 10 27 18.7 -0.2
LBG Lerchenberg 84.25 332 ⇑ e P P 10 27 19.1 +0.2
WATA Walderalm 84.26 329 ⇑ i P P 10 27 20.0 +1.0
comp=Z,84nm,1.6s,mb5.6
UPM Unac-Piva 84.28 323 ⇓ i P P 10 27 19.9 +0.7
WTTA Wattenberg 84.30 329 ⇑ i P P 10 27 19.4 +0.3
comp=Z,118nm,1.7s,mb5.7
VOY Vojsko 84.35 327 e P P 10 27 19.3 -0.1
VOY e 10 28 03.5
LANF Langenberg 84.36 332 ⇑ e P P 10 27 18.8 -0.6
BODT Bodrum 84.37 314 e P P 10 27 19.4 -0.3
KBRS Khaybar 84.37 298 P P 10 27 20.7 +0.7
WLF Walferdange 84.37 334 e P P 10 27 19.5 +0.1
comp=Z,97nm,1.5s,mb5.7
WLF Walferdange 84.37 334 P P 10 27 20.5 +1.0
WLF pmax pmax
comp=Z,97nm,1.5s,mb5.7
MOTA Moosalm 84.44 330 ⇑ i P P 10 27 20.2 +0.3
comp=Z,88nm,1.2s,mb5.8
GIVF Givet 84.46 335 e P P 10 27 19.8 -0.1
comp=Z,119nm,1.6s,mb5.5
ARG Arkhangelos 84.50 313 e P P 10 27 20.0 -0.4
SQTA Sankt Quirin 84.50 329 ⇓ i P P 10 27 20.7 +0.5
comp=Z,46nm,1.2s,mb5.5
NKY Niksic 84.53 322 ⇓ i P P 10 27 20.5 +0.1
UBR Uberruh 84.56 330 e P P 10 27 21.0 +0.5
GUT Gutenstein 84.62 331 ⇑ e P P 10 27 20.8 0.0
TBKS Tabuk 84.64 302 P P 10 27 21.7 +0.3
JMQS Jabal Moqyreh 84.65 303 P P 10 27 21.7 +0.3
BRY Bratogost 84.68 323 ⇓ i P P 10 27 21.6 +0.4
TTG Podgorica 84.69 322 ⇓ i P P 10 27 21.2 -0.1
BAIF Baives 84.70 335 e P P 10 27 21.1 0.0
comp=Z,56nm,1.3s,mb5.2

BFO Black Forest 84.70 332 e P P 10 27 21.3 +0.1
comp=Z,381nm,1.4s,mb6.3
SPAK Spaichingen 84.72 331 e P P 10 27 22.1 +0.8
SPAK Spaichingen 84.72 331 ⇑ e P P 10 27 22.7 +1.4
ALWS Ilw as Safayha 84.90 304 P P 10 27 23.7 +1.1
BUM Brajici-Budva 84.97 322 ⇓ i P P 10 27 22.2 -0.4
DAVA Damuels 84.97 330 ⇑ i P P 10 27 22.9 +0.4
comp=Z,360nm,3.3s
WLS Welschbruch 84.99 332 ⇑ e P P 10 27 22.9 +0.3
NEO Neokhori 85.00 318 e P P 10 27 20.0 -2.9
CDF Champ du Feu 85.02 332 e P P 10 27 23.0 +0.3
comp=Z,204nm,1.2s,mb5.8
KZN Kozani 85.03 319 e P P 10 27 21.0 -2.0
HCY Herceg Novi 85.05 322 ⇓ i P P 10 27 23.2 +0.1
ULC Ulcinj 85.05 322 ⇓ i P P 10 27 23.4 +0.3
QSH Qafa e Shtames 85.06 321 i Pn P 10 27 23.0 -0.1
NVLJ Novalja 85.08 326 i P P 10 27 20.4 -2.7
LIBD Limburg 85.12 332 e P P 10 27 22.7 -0.6
HAQS Haql 85.16 303 P P 10 27 24.7 +0.8
KIZ Kirchzarten 85.17 332 ⇑ e P P 10 27 23.3 -0.2
FELD Feldberg 85.20 332 ⇑ e P P 10 27 23.6 -0.1
TIR Tirane 85.21 321 e Pn P 10 27 22.0 -1.9
ECH Echery 85.23 332 ⇑ e P P 10 27 23.7 -0.1
KSU1 Kansas State U 85.29 42 e P P 10 27 23.4 -0.9
APE Apeiranthos 85.37 315 e P P 10 27 21.1 -3.7
APE Apeiranthos 85.37 315 e P P 10 27 19.0 -5.8
DAVOX Davos 85.39 330 LR LR 11 05 13.6
comp=Z,5μm,20.0s,MS5.9,baz=202,slow=35
MNTX Cornudas Mount 85.44 53 e P P 10 27 24.1 -1.2
comp=Z,24nm,1.0s,mb5.3
BDAS Al Bad' 85.46 303 P P 10 27 26.1 +0.7
TAYS Tayyib Ism 85.53 303 P P 10 27 24.9 -0.9
MOF Molkenrain 85.55 332 ⇑ e P P 10 27 24.8 -0.6
LKR Lokris 85.60 317 e P P 10 27 22.0 -3.9
THEF They Montfort 85.64 333 ⇑ e P P 10 27 26.1 +0.2
HINF Hinteralfeld 85.68 332 e P P 10 27 25.8 -0.2
comp=Z,88nm,1.3s,mb5.5
HAU Haudompre 85.70 333 e P P 10 27 26.0 -0.2
comp=Z,97nm,1.3s,mb5.6
BBS Basel-Blauen 85.73 332 ⇑ e P P 10 27 26.4 +0.1
BBS Basel-Blauen 85.73 332 ⇑ e P P 10 27 26.5 +0.2
MEZF Maizieres J'vi 85.74 334 e P P 10 27 26.7 +0.4
comp=Z,192nm,1.2s,mb5.9
JAN Janina 85.98 319 e P P 10 27 18.0 -10
EVR Evrytania 86.04 318 e P P 10 27 28.5 +0.4
UMJS Umm Lajj 86.07 299 P P 10 27 29.9 +1.4
LOMF Lomont 86.08 332 ⇑ e P P 10 27 28.1 +0.1
DJNS Zahran al Janu 86.43 290 P P 10 27 31.4 +0.9
KEK Kerkira 86.48 320 e P P 10 27 24.5 -5.7
BLJS Baljurashi 86.48 293 P P 10 27 32.2 +1.5
CABF La Chapelle 86.97 332 e P P 10 27 32.6 +0.1
comp=Z,127nm,1.5s,mb5.6
LTHS Al Lith 87.09 294 P P 10 27 33.2 -0.5
LOR Lormes 87.21 334 e P P 10 27 33.6 0.0
comp=Z,226nm,1.2s,mb6.0
ITM Ithomi 87.26 317 e P P 10 27 47.0 +13
VAM Vamos 87.31 314 e P P 10 27 32.5 -1.9
FLN La Foliniere 87.34 337 e P P 10 27 34.0 -0.1
comp=Z,146nm,1.4s,mb5.7
LDF La Druitiere 87.37 337 e P P 10 27 34.2 -0.1
comp=Z,209nm,1.5s,mb5.8
AQU L'Aquila 87.48 325 e P P 10 27 35.8 +0.8
comp=Z,34nm,1.1s,mb5.5
AQU L'Aquila 87.48 325 P P P 10 27 36.1 +1.1
AQU pmax pmax
comp=Z,35nm,1.1s,mb5.5
SSF Saint Saulge 87.52 334 e P P 10 27 35.2 +0.2
comp=Z,64nm,1.0s,mb5.5
CII Carovilli 87.58 324 e P P 10 27 35.9 +0.5
comp=Z,173nm,1.5s,mb6.1
HYF Humbligny 87.63 334 e P P 10 27 36.2 +0.6
LPL La Plagne 87.66 331 e P P 10 27 36.1 +0.3
comp=Z,57nm,1.0s,mb5.4
LPG La Plagne 87.66 331 e P P 10 27 36.3 +0.5
comp=Z,128nm,1.3s,mb5.7
SMF Signal de Mont 87.76 333 e P P 10 27 36.3 +0.1
comp=Z,208nm,1.4s,mb5.9
GRR Gorron 87.78 337 e P P 10 27 36.5 +0.2
comp=Z,222nm,1.3s,mb5.9
AVF Avril sur Loir 87.80 334 e P P 10 27 36.6 +0.2
comp=Z,201nm,1.2s,mb5.9
BNI Bardonecchia 88.07 331 e P P 10 27 39.4 +1.6
comp=Z,36nm,1.4s,mb5.4
LTX Lajitas 88.13 53 e P P 10 27 39.1 +0.7
comp=Z,22nm,1.2s,mb5.3
LTX Lajitas 88.13 53 P P P 10 27 39.4 +1.0
LTX pmax pmax
comp=Z,22nm,1.2s,mb5.3
TXAR Lajitas Array 88.13 53 P P 10 27 38.4 0.0
comp=Z,5.9nm,0.7s,mb4.9,baz=298,slow=3.2,SNR=36
TXAR PKKPbc 10 45 29.8
comp=Z,0.1nm,0.6s,baz=162,slow=4.0,SNR=3.8
BGF Bois d'Agland 88.18 334 e P P 10 27 38.5 +0.3
comp=Z,146nm,1.6s,mb5.7
MBDF Montbardon 88.31 331 e P P 10 27 38.6 -0.3
comp=Z,21nm,0.9s,mb5.1
TIP Timpagrande 88.40 321 e P P 10 27 39.4 -0.1
PLDF La Plantade 88.42 333 ⇑ e P P 10 27 40.9 +1.5
SGMF Saint Gilles 88.42 338 e P P 10 27 39.6 +0.3
comp=Z,133nm,1.4s,mb5.7
ORIF Oris-en-Rattie 88.48 331 e P P 10 27 40.0 +0.3
comp=Z,35nm,1.1s,mb5.2
AGO Saint Agoulin 88.52 333 ⇑ e P P 10 27 41.0 +1.1
ROSF Rostrenen 88.55 338 e P P 10 27 40.1 +0.1
comp=Z,231nm,1.5s,mb6.0
SAOF Saorge 88.62 330 e P P 10 27 39.7 -0.7
TCF Toulx Ste Croi 88.63 334 e P P 10 27 40.8 +0.4
comp=Z,126nm,1.4s,mb5.7
AUTN L'Aution 88.66 330 e P P 10 27 39.7 -0.9
SBF Sospel 88.77 330 e P P 10 27 41.8 +0.7
PYM Petit Puy Mans 88.82 333 ⇑ e P P 10 27 42.6 +1.3
CCM Cathedral Cave 88.85 40 e P P 10 27 40.9 -0.8
comp=Z,58nm,0.9s,mb5.9
QUIF Quistinic 88.90 338 e P P 10 27 41.4 -0.3
comp=Z,89nm,1.4s,mb5.6
VIVF Saint-Julien-l 88.99 332 e P P 10 27 42.3 +0.1
comp=Z,81nm,1.5s,mb5.5
MFF Saint Martin d 89.14 336 e P P 10 27 43.0 +0.2
comp=Z,102nm,1.2s,mb5.7
LBL Lubilhac 89.18 333 ⇑ e P P 10 27 44.6 +1.5
PGF Pioggiola 89.23 328 e P P 10 27 42.7 -0.7
comp=Z,145nm,1.6s,mb5.8
FVM French Village 89.32 40 e P P 10 27 43.5 -0.3
comp=Z,411nm,1.3s,mb5.6
SMRF Simiane la Rot 89.40 331 e P P 10 27 44.0 -0.1
LMR La Mourre 89.58 330 e P P 10 27 45.8 +0.8
RJF Les Rejaudoux 89.73 334 e P P 10 27 46.0 +0.4
comp=Z,127nm,1.4s,mb5.8
CAF Calviac 89.87 334 e P P 10 27 47.0 +0.7
comp=Z,94nm,1.3s,mb5.7
LASF Ste Croix 89.96 332 e P P 10 27 47.0 +0.3
comp=Z,38nm,1.2s,mb5.3
BLO Bloomington 90.27 36 e P P 10 27 48.6 +0.3
comp=Z,4.9nm,0.6s,mb5.0
LFF La Frestale 90.31 334 e P P 10 27 48.9 +0.5
comp=Z,116nm,1.2s,mb5.8
PARMO Parma 90.68 40 e P P 10 27 50.0 -0.2
UALR University of 90.79 43 e P P 10 27 50.9 +0.1
comp=Z,9.5nm,0.9s,mb5.1
GENY Geneseo 90.96 29 e P P 10 27 53.6 +2.2
ACSO Alum Creek Sta 91.00 34 e P P 10 27 52.1 +0.5
comp=Z,7.3nm,0.7s,mb5.1
ALLY Alegheny Colle 91.00 31 e P P 10 27 48.1 -3.5
HBAR Harrisburg 91.08 41 e P P 10 27 52.2 +0.1
GNAR Gosnell 91.09 41 e P P 10 27 52.2 0.0
WCI Wyandotte Cave 91.13 37 e P P 10 27 51.9 -0.4
comp=Z,14nm,0.8s,mb5.3
WCI Wyandotte Cave 91.13 37 P P P 10 27 52.6 +0.3
WCI pmax pmax
comp=Z,14nm,0.9s,mb5.3
MTLF Montolieu 91.19 333 e P P 10 27 52.8 +0.4
comp=Z,77nm,1.4s,mb5.5
NCB Newcomb 91.22 26 e P P 10 27 52.1 -0.5
comp=Z,19nm,0.8s,mb5.5
EJON La Jonquera 91.72 332 P P P 10 27 53.7 -1.2
comp=Z,63nm,2.3s,mb5.5
NATX Nacogdoches 91.79 46 e P P 10 27 55.8 +0.3
ACCN Adirondack Com 91.93 26 e P P 10 27 54.8 -1.1
MLS Moulis 91.93 333 ⇑ e P P 10 27 56.4 +0.6
WVT Waverly 92.06 39 e P P 10 27 56.2 -0.4
comp=Z,40nm,1.4s,mb5.6
EPF Esparros 92.13 334 e P P 10 27 56.6 -0.2
comp=Z,30nm,1.2s,mb5.2
BINY Binghamton 92.14 28 e P P 10 27 56.1 -0.7
comp=Z,32nm,1.3s,mb5.5

RESF Ens 92.32 334 e P P 10 27 58.2 +0.5
EBIE Bielsa 92.50 334 P P 10 28 00.0 +1.5
comp=Z,16nm,1.2s,mb5.2
FFD Franklin Falls 92.53 25 e P P 10 28 00.1 +1.5
comp=Z,62nm,0.6s,mb6.2
OXF Oxford 92.53 41 e P P 10 27 59.4 +0.5
comp=Z,51nm,1.2s,mb5.8
ETSF Etsaut 92.55 334 e P P 10 27 59.5 +0.8
comp=Z,139nm,1.7s,mb5.8
EALK Alkurruntz 92.59 335 P P 10 28 00.4 +1.6
comp=Z,28nm,1.2s,mb5.6
EMMW East Machias 92.69 21 e P P 10 28 00.5 +1.2
comp=Z,160nm,1.4s,mb6.3
MCWV Mont Chateau 92.80 32 e P P 10 28 01.2 +1.3
comp=Z,4.9nm,0.6s,mb5.1
EGRA Graus 92.87 333 P P 10 28 00.8 +0.6
comp=Z,22nm,1.1s,mb5.5
ELAN Lanestosa 93.20 336 P P 10 28 02.6 +0.9
comp=Z,16nm,1.0s,mb5.4
EPOB Poblet 93.34 332 P P 10 28 02.9 +0.5
comp=Z,68nm,2.0s,mb5.7
ZAIG Zacatecas 93.39 57 i P P 10 28 05.6 +2.5
ESAC San Caprasio 93.56 334 P P 10 28 04.4 +1.0
comp=Z,200nm,2.0s,mb6.2
EARI Arriondas 93.69 337 P P 10 28 04.1 +0.2
comp=Z,113nm,1.9s,mb6.0
ERTA Horta de San J 93.95 333 P P 10 28 05.3 +0.1
comp=Z,74nm,1.9s,mb5.8
CPCT Cooper Cave 94.20 37 e P P 10 28 07.2 +0.7
ELN Prospectdale 94.46 34 e P P 10 28 08.0 +0.4
SFJM Santa Fe 94.65 59 i P P 10 28 10.0 +1.1
EMOS Mosqueruela 94.77 333 P P 10 28 10.7 +1.8
comp=Z,75nm,1.6s,mb5.9
ESDC Sonseca Array 96.58 335 P P 10 28 15.9 -1.4
comp=Z,0.2nm,0.3s,baz=30,slow=3.5,SNR=7.2
ESDC Sonseca Array 96.58 335 P P 10 28 15.9 -1.4
ESDC P pP 10 28 19.2 -0.2
ETOB Tobarra 96.67 333 P P 10 28 18.7 +1.0
comp=Z,24nm,1.0s,mb5.6
EVIA Vianos 97.02 334 P P 10 28 21.1 +1.8
comp=Z,6.9nm,0.7s,mb5.2
EHUE Huescar 97.78 333 P P 10 28 24.6 +1.9
comp=Z,18nm,3.2s
EBAN Banos Encina 97.88 334 P P 10 28 25.6 +2.5
comp=Z,4.0nm,1.6s,mb4.7
EQES Quesada 97.96 334 P P 10 28 26.3 +2.8
comp=Z,23nm,2.1s,mb5.3
EADA Adamuz 98.15 335 P P 10 28 27.1 +2.8
comp=Z,45nm,2.8s,mb5.5
EBAD Badajoz 98.39 337 P P 10 28 29.9 +4.4
comp=Z,33nm,2.5s,mb5.4
EBER Berja 98.71 333 P P 10 28 29.5 +2.6
comp=Z,28nm,7.2s
ERON Agron 98.92 334 P P 10 28 30.6 +2.8
comp=Z,43nm,2.4s,mb5.6
EMIN Mina Concepcio 99.19 336 P P 10 28 32.4 +3.4
comp=Z,17nm,3.1s
EMIJ Mijas 99.66 334 P P 10 28 33.0 +1.8
comp=Z,12nm,3.7s
KMBO Kilima Mbogo 103.14 279 Pdiff Pdif 10 28 47.2 -0.2
comp=Z,0.6nm,0.4s,baz=349,slow=2.2,SNR=3.6
KMBO Kilima Mbogo 103.14 279 Pdif Pdif 10 28 47.2 -0.3
PDA Ponta Delgada 103.44 351 e 10 43 00.0
VNDA Vanda 116.31 176 PKP PKPdf 10 33 29.9 -1.7
comp=Z,0.6nm,0.6s,baz=267,slow=4.9,SNR=2.7
MAW Mawson 121.46 206 e P PKPdf 10 33 38.8 -3.0
comp=Z,3.1nm,0.7s
MAW Mawson 121.46 206 PKP PKPdf 10 33 39.5 -2.3
comp=Z,2.7nm,0.8s,baz=302,slow=2.8,SNR=9.7
MAW Mawson 121.46 206 PKIKP PKPdf 10 33 39.5 -2.3
MAW pmax pmax
comp=Z,3.0nm,0.8s
SDV Santo Domingo 123.31 41 e PKPdf PKPdf 10 33 45.8 -0.8
ROSC El Rosal 124.62 47 PKP PKPdf 10 33 47.8 -1.4
comp=Z,2.8nm,0.4s,baz=106,slow=22,SNR=4.5
DBIC Dimbokro 126.14 319 PKP PKPdf 10 33 50.9 -1.2
comp=Z,5.9nm,1.1s,baz=270,slow=1.0,SNR=2.7
QSPA South Pole Qui 128.23 180 e P PKPdf 10 33 52.3 -2.2
SAML Samuel 142.23 46 e PKPdf PKPdf 10 34 17.3 -4.7
VNA2 Neumayer--Watz 144.10 196 e PKPbc 10 34 27.3 +7.1
VNA2 Neumayer--Watz 144.10 196 ⇑ i P PKPbc 10 34 19.6 -0.6
VNA2 e 10 34 27.3
VNA2 e 10 34 43.2
VNA3 Neumayer Olymp 144.33 195 e PKPbc 10 34 27.7 +6.9
VNA3 Neumayer Olymp 144.33 195 ⇑ i P PKPbc 10 34 20.1 -0.7
VNA3 e 10 34 27.7
VNA3 e 10 34 43.5
VNA1 Neumayer--Stat 144.50 196 e PKPbc 10 34 28.8 +7.5
VNA1 Neumayer--Stat 144.50 196 ⇑ i P PKPbc 10 34 21.2 -0.1
VNA1 e 10 34 28.8
VNA1 e 10 34 43.7
LPAZ La Paz 144.75 60 PKP PKPdf 10 34 25.0 -1.2
comp=Z,14nm,1.1s,baz=356,slow=5.4,SNR=26
LPAZ La Paz 144.75 60 e PKPdf PKPdf 10 34 24.4 -1.9
LPAZ La Paz 144.75 60 PKIKP PKPdf 10 34 25.0 -1.2
LPAZ pmax pmax
comp=Z,14nm,1.1s
LVC Limon Verde 148.35 69 e PKPbc PKPdf 10 34 33.1 +1.0
PMSA Palmer Station 149.21 157 e PKPbc PKPdf 10 34 35.9 +3.7
USHA Ushuaia 153.15 138 PKPbc PKPdf 10 34 45.8 +7.5
comp=Z,8.5nm,0.9s,baz=180,slow=3.0,SNR=2.4
PLCA Paso Flores 154.01 106 PKPbc PKPdf 10 34 47.0 +7.0
comp=Z,3.0nm,0.8s,baz=259,slow=1.2,SNR=8.2
PLCA PKPab PKPab 10 35 01.6 +0.3
comp=Z,2.9nm,0.8s,baz=188,slow=3.0,SNR=4.5
PLCA Paso Flores 154.01 106 PKP2 PKPab 10 35 01.6 +0.3
PLCA pmax pmax
comp=Z,3.0nm,0.9s
BDFB Brasilia 155.19 26 PKPbc PKPdf 10 34 50.8 +8.6
comp=Z,1.7nm,0.4s,baz=135,slow=2.9,SNR=3.2
BDFB PKPab PKPab 10 35 06.4 -0.6
comp=Z,4.0nm,0.8s,baz=304,slow=5.9,SNR=3.6
BDFB Brasilia 155.19 26 PKP2 PKPab 10 35 06.4 -0.6
BDFB pmax pmax
comp=Z,4.0nm,0.8s

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*BJI **24** 10:15:27.3,38.43N×143.02E,h14km,mB6.3,mb5.9, Ms6.3,Ms2.6.1*
*HRVD **24** 10:15:28.2±0.1,38.55N×143.34E,h12km,MW5.9/74, Centroid moment Tensor Solution. LP body waves: s66,c150;Mantle waves: s74,c244; Half duration: 2±1 Moment tensor: Scale 10^{17}Nm; M_{rr}4.25±.07; $M_{\theta\theta}$-0.78±.07; $M_{\phi\phi}$-3.47±.06; $M_{r\theta}$3.85±.21; $M_{\theta\phi}$-3.40±.06; $M_{\phi r}$5.69±.20; Best double couple: $M_0$8.506×10^{17} NP1: ϕ_s214°,δ18°,λ90°. NP2:ϕ_s34°,δ72°,λ90°. Principal axes: T 7.741, Plg63°, Azm304°; N 1.531, Plg0°, Azm34°; P -9.272, Plg27°, Azm124°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **24** 10:15:28.2±0.2,38.56N×142.99E,h10km,mb6.0/86, ME5.9,MS5.6/107,MW6.1 Error ellipse: s-maj=7.2km s-min=4.8km az=155.0 Broadband fault plane solution: P waves. NP1:ϕ_s30°,δ85°,λ90°. NP2:ϕ_s210°,δ5°,λ90°. Principal axes: T Plg50°, Azm300°; N Plg0°, Azm0°; P Plg40°, Azm120°; Moment Tensor Solution. s22 Moment tensor: Scale 10^{18} Nm; M_{rr}0.66; $M_{\theta\theta}$-0.24; $M_{\phi\phi}$-0.42; $M_{r\theta}$0.94; $M_{\theta\phi}$-0.35; $M_{\phi r}$1.52; Best double couple: $M_0$1.9×10^{18} NP1:ϕ_s224°,δ10°,λ101°. NP2:ϕ_s32°, δ80°,λ88°. Principal axes: T 1.9, Plg55°, Azm300°; N .03, Plg2°, Azm32°; P -1.93, Plg35°, Azm124°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt at Koriyama, Misawa and Sendai. Recorded [3 JMA] in Iwate and Miyagi; [2 JMA] in Akita, Aomori, Fukushima and Yamagata; [1 JMA] in Ibaraki, Saitama and Tochigi Prefectures. Also recorded [1 JMA] in the Kaminokuni, Kushiro, Obihiro and Shizunai areas, Hokkaido.
*JMA **24** 10:15:29.6±0.2,38.44N×143.09E,h14km,M6.3*
JMA Felt III J1.
*MOS **24** 10:15:31.2±1.6,38.52N×142.87E,h33km,mb6.1/37, MS6.3/25,Error ellipse: s-maj=10.6km s-min=5.3km az=103.4*
*IDC **24** 10:15:32.8±1.1,38.40N×142.96E,h32km±7km,mb5.1/28, mb1 5.2/28,mb1mx5.2/29,mbtmp5.3/28,MS5.4/7, Ms1 5.4/7,ms1mx5.2/21,Error ellipse: s-maj=9.1km s-min=7.3km az=104.0*
ISC 24 10:15:33.1±0.1,**38.49N**±0.03×**142.97E**±0.02,**h59**km, **h59**km±3.0km:**pP-P,n513,**σ1§**39**/454,**mb5.8**/141,**MS5.8**/138,

29C-7D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.17**	**300**	*e*S	**S**	**10 16 09.6**	**+0.7**
JIO	**Ouri**	**1.27**	**269**	S	**S**	**10 16 11.9**	**+0.5**
JMK	**Ichinoseki**	**1.45**	**289**	S	**S**	**10 16 16.9**	**+1.3**
JOM	**Ohasama**	**1.63**	**307**	S	**S**	**10 16 23.8**	**+3.7**
JOU	**Okura**	**1.82**	**267**	*e*S	**S**	**10 16 30.2**	**+5.7**
JMM	**Marumori**	**1.83**	**251**	*e*S	**S**	**10 16 26.8**	**+2.0**
JFK	**Kawauchi**	**2.00**	**236**	*e*S	**S**	**10 16 29.2**	**+0.2**
JANG	**Nango**	**2.19**	**329**	*e*S	**S**	**10 16 37.4**	**+3.6**
JFT	**Otama**	**2.30**	**246**	*e*S	**S**	**10 16 40.4**	**+3.9**
JAH	**Hinai**	**2.48**	**314**	*e*S	**S**	**10 16 48.3**	**+7.2**
MJAR	**Matsushiro Arr**	**4.26**	**244**	Pn	**P**	**10 16 37.7**	**+0.6**
	150nm,0.3s,baz=59,slow=11,SNR=11						
MJAR				Sn	**S**	**10 17 31.8**	**+5.8**
	baz=74,slow=14,SNR=4.5						
MJAR				LR	LR	10 17 49.4	
	comp=Z,26μm,19.6s,baz=35,slow=33						
MAJO	**Matsushiro**	**4.26**	**244**	*e*Pn	**P**	**10 16 35.0**	**-2.1**
MAT	**Matsushiro**	**4.26**	**244**	P	**P**	**10 16 36.8**	**-0.2**
MAT				*e*S	**S**	**10 17 27.1**	**+1.1**
MAT	**Matsushiro**	**4.26**	**244**	P	**P**	**10 16 37.0**	**0.0**
MAT				S	**S**	**10 17 35.0**	**+9.0**
ASAJ	**Asahikawa**	**5.62**	**357**	Pn	**P**	**10 16 58.5**	**+2.4**
	82nm,0.3s,baz=245,slow=8.8,SNR=6.9						
ASAJ				Sn	**S**	**10 17 58.3**	**-1.8**
	73nm,0.3s,baz=359,slow=29,SNR=3.9						
ASAJ				LR	LR	10 20 01.7	
	comp=Z,70μm,18.4s,baz=188,slow=47						
ASAJ	**Asahikawa**	**5.62**	**357**	P	**P**	**10 16 58.5**	**+2.5**
ASAJ						10 17 58.3	
ASAJ				pmax	pmax		
	comp=Z,82nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,70μm,18.4s						
YUK	**Yuzh-Kuril'sk**	**5.95**	**21**	*i* P	**P**	**10 16 54.3**	**-6.2**
YUK				pmax	pmax		
	comp=N,10μm,1.0s						
YUK				pmax	pmax		
	comp=E,12μm,1.0s						
YUK				pmax	pmax		
	comp=N,5μm,0.5s						
YUK				pmax	pmax		
	comp=E,2μm,0.5s						
JHJ	**Hachijo jima 2**	**5.96**	**207**	Pn	**P**	**10 17 00.8**	**+0.1**
	comp=E,332nm,0.3s,baz=241,slow=21,SNR=5.2						
JHJ				Sn	**S**	**10 18 02.3**	**-6.1**
	comp=E,349nm,0.3s,baz=59,slow=23,SNR=3.7						
YSS	**Yuzh-Sakhalins**	**8.46**	**359**	*e*Pn	**P**	**10 17 32.3**	**-3.1**
YSS	**Yuzh-Sakhalins**	**8.46**	**359**	*c i* P	**P**	**10 17 32.0**	**-3.4**
YSS				*e*S	**S**	**10 19 05.0**	**-5.3**
YSS				pmax	pmax		
	comp=Z,5μm,6.0s						
YSS				pmax	pmax		
	comp=N,5μm,5.0s						
YSS				smax			
	comp=N,2.0nm,1.0s						
YSS				smax			
	comp=E,14μm,8.0s						
YSS				MLR	MLR		
	comp=N,58μm,17.0s						
YSS				MLR	MLR		
	comp=E,82μm,17.0s						
YSS				MLR	MLR		
	comp=Z,113μm,17.0s						
VLA	**Vladivostok**	**9.58**	**302⇑**	*i* P	**P**	**10 17 52.8**	**+2.0**
UGL	**Uglegorsk**	**10.60**	**357**	*e*P	**P**	**10 17 57.0**	**-7.6**
JNU	**Nakatsue**	**11.18**	**245**	Pn	**P**	**10 18 12.4**	**-0.1**
	comp=Z,7.0nm,0.3s,baz=35,slow=26,SNR=8.3						
JNU				LR	LR	10 22 39.8	
	comp=Z,26μm,18.1s,baz=56,slow=38						
CBIJ	**Chichi jima**	**11.39**	**184**	Pn	**P**	**10 18 08.8**	**-6.5**
	comp=Z,42nm,0.3s,baz=274,slow=17,SNR=4.4						
CBIJ				Sn	**S**	**10 20 05.0**	**-17**
	comp=Z,36nm,0.3s,baz=271,slow=21,SNR=2.4						
CBIJ				LR	LR	10 22 20.2	
	comp=Z,19μm,19.3s,baz=170,slow=36						
MDJ	**Mudanjiang**	**11.74**	**306**	P	**P**	**10 18 20.3**	**+0.4**
MDJ				AP		10 18 28.4	
MDJ				S	**S**	**10 20 30.8**	**+0.6**
MDJ				SS	SS	10 20 44.3	-1.4
MDJ				AMB	AMB		
	comp=Z,450nm,1.2s						
MDJ				AMB	AMB		
	comp=Z,10μm,5.9s						
MDJ				LR	LR		
	comp=N,93μm,11.4s						
MDJ				LR	LR		
	comp=E,38μm,13.5s						
MDJ				LR	LR		
	comp=Z,88μm,13.5s						
MDJ	**Mudanjiang**	**11.74**	**306**	*e*P	**P**	**10 18 17.8**	**-2.2**
KS15	**Wonju Array Si**	**11.96**	**270**	*e*Pn	**P**	**10 18 18.9**	**-4.0**
INCN	**Inchon**	**12.93**	**271**	*e*Pn	**P**	**10 18 34.8**	**-1.1**
	comp=Z,350nm,1.1s						
CN2	**Changchun**	**14.22**	**297**	*e*P	**P**	**10 18 52.0**	**-0.7**
CN2				*e*S	**S**	**10 21 26.8**	**-2.7**
CN2				AMB	AMB		
	comp=Z,400nm,1.2s						
CN2				AMB	AMB		
	comp=Z,12μm,8.0s						
CN2				LR	LR		
	comp=N,62μm,13.0s						
CN2				LR	LR		
	comp=E,36μm,13.0s						
CN2				LR	LR		
	comp=Z,39μm,12.0s						
DL2	**Dalian**	**16.67**	**278⇑**	*i* P	**P**	**10 19 23.9**	**-0.1**
DL2				AP		10 19 30.4	
DL2				XP		10 19 34.4	
DL2				S	**S**	**10 22 22.1**	**-4.2**
DL2				AMB	AMB		
	comp=Z,540nm,1.5s						
DL2				AMB	AMB		
	comp=Z,4μm,6.4s						
DL2				LR	LR		
	comp=N,16μm,11.5s						
DL2				LR	LR		
	comp=E,29μm,11.8s						
DL2				LR	LR		
	comp=Z,28μm,11.5s						
JOW	**Kunigami**	**16.96**	**231**	Pn	**P**	**10 19 31.6**	**+4.0**
	comp=Z,4.6nm,0.3s,baz=40,slow=18,SNR=5.3						
PET	**Petropavlovsk**	**18.13**	**32**	*e*P	**P**	**10 19 41.2**	**-0.9**
PET	**Petropavlovsk**	**18.13**	**32**	*e*P	**P**	**10 19 42.5**	**+0.4**
PET				*i* S	**S**	**10 23 07.3**	**+8.2**
PET				pmax	pmax		
	comp=N,220nm,1.4s						
PET				pmax	pmax		
	comp=E,164nm,1.4s						
PET				pmax	pmax		
	comp=Z,345nm,1.4s						
PET				pmax	pmax		
	comp=N,2μm,5.4s						
PET				pmax	pmax		
	comp=E,1μm,5.5s						
PET				pmax	pmax		
	comp=Z,3μm,5.2s						
PET				pmax	pmax		
	comp=Z,6μm,4.8s						
PET				pmax	pmax		
	comp=N,4μm,4.1s						
PET				pmax	pmax		
	comp=E,3μm,4.0s						
PET				smax			
	comp=N,9μm,7.6s						
PET				smax			
	comp=E,25μm,9.4s						
PET				smax			
	comp=E,32μm,8.5s						
PET				MLR	MLR		
	comp=Z,17μm,14.0s						
SSE	**Sheshan**	**19.33**	**254**	P	**P**	**10 19 55.0**	**-1.1**
SSE				S	**S**	**10 23 18.3**	**-7.7**
SSE				XS		10 23 40.8	
SSE				AMB	AMB		
	comp=Z,446nm,1.4s						
SSE				AMB	AMB		
	comp=Z,4μm,8.4s						
SSE				LR	LR		
	comp=N,61μm,14.9s						
SSE				LR	LR		
	comp=E,34μm,14.9s						
SSE				LR	LR		
	comp=Z,64μm,16.0s						
SSE	**Sheshan**	**19.33**	**254**	P	**P**	**10 19 55.0**	**-1.1**
	comp=Z,446nm,1.4s						
SSE				sP		10 20 13.1	
SSE				S	**S**	**10 23 18.2**	**-7.8**
SSE				sS		10 23 40.8	
HIA	**Hailar**	**19.83**	**310**	*e*P	**P**	**10 19 58.6**	**-2.8**
	comp=Z,432nm,1.1s						
NJ2	**Nanjing**	**20.68**	**259**	*e*P	**P**	**10 20 10.5**	**0.0**
NJ2				AP		10 20 20.1	
NJ2				XP		10 20 23.0	
NJ2				PP	PP	10 20 33.5	+0.1
NJ2				S	**S**	**10 23 56.0**	**+2.8**
NJ2				XS		10 24 11.0	
NJ2				AMB	AMB		
	comp=Z,1μm,1.2s						
NJ2				AMB	AMB		
	comp=Z,2μm,4.0s						
NJ2				LR	LR		
	comp=N,40μm,20.4s						
NJ2				LR	LR		
	comp=E,26μm,15.0s						
NJ2				LR	LR		
	comp=Z,201μm,20.2s,MS6.5						
MA2	**Magadan**	**21.68**	**11⇑**	*e*P	**P**	**10 20 19.7**	**-0.6**
	comp=Z,1μm,1.4s,mb6.2						
MA2				LR	LR		
	comp=Z,13μm,20.0s,MS5.3						
CLNS	**Chul'man**	**21.90**	**333**	*c i* P	**P**	**10 20 21.7**	**-0.8**
CLNS				*e*PPP	PPP	10 20 50.1	-10
CLNS				*e*		10 24 16.9	
CLNS				*e*S	**S**	**10 24 19.7**	**+4.0**
CLNS				*e*SS	SS	10 25 07.2	+10
CLNS				pmax	pmax		
	comp=Z,1μm,2.0s,mb6.0						
CLNS				pmax	pmax		
	comp=N,1μm,1.5s						
CLNS				pmax	pmax		
	comp=E,389nm,1.5s						
CLNS				smax			
	comp=E,283nm,1.7s						
CLNS				smax			
	comp=Z,130nm,1.6s						
CLNS				smax			
	comp=N,473nm,1.5s						
CLNS				MLR	MLR		
	comp=Z,17μm,12.0s,MS5.7						
CLNS				MLR	MLR		
	comp=N,18μm,13.0s,MS6.0						
CLNS				MLR	MLR		
	comp=E,36μm,13.0s,MS6.0						
TATO	**Taipei**	**22.64**	**240**	*e*P	**P**	**10 20 27.8**	**-2.1**
	comp=E,388nm,0.9s,mb5.8						
TATO				LR	LR		
	comp=Z,23μm,19.0s,MS5.6						
YHNB	**Yeheng**	**22.91**	**239**	*e*P	**P**	**10 20 29.5**	**-3.2**
NACB	**Ninganchiao**	**23.10**	**238**	*e*P	**P**	**10 20 31.1**	**-3.3**
CIT	**Chita**	**24.53**	**313**	*e*P	**P**	**10 20 48.3**	**+0.2**
CIT				*e*		10 21 34.8	
CIT				pmax	pmax		
	comp=Z,4μm,2.0s,mb6.6						
QZH	**Quanzhou**	**24.66**	**244⇑**	*i* P	**P**	**10 20 48.0**	**-1.6**
QZH				S	**S**	**10 25 14.4**	**+10**
QZH				AMB	AMB		
	comp=Z,400nm,1.0s,mb5.9						
QZH				AMB	AMB		
	comp=Z,6μm,10.6s						
QZH				LR	LR		
	comp=N,47μm,15.3s,MS6.2						
QZH				LR	LR		
	comp=E,14μm,12.3s,MS6.2						
QZH				LR	LR		
	comp=Z,35μm,11.9s,MS6.1						
GUMO	**Guam**	**24.86**	**176**	P	**P**	**10 20 49.9**	**-1.7**
	comp=Z,122nm,0.9s,mb5.4,baz=353,slow=4.8,SNR=4.9						
YAK	**Yakutsk**	**24.95**	**345⇑**	*e*P	**P**	**10 20 51.0**	**-1.0**
	comp=Z,584nm,0.8s,mb6.2						
YAK				LR	LR		
	comp=Z,31μm,20.0s,MS5.8						
SEY	**Seymchan**	**25.13**	**10**	*i* P	**P**	**10 20 55.2**	**+1.5**
SMY	**Shemya**	**25.77**	**46**	*e*P	**P**	**10 20 59.5**	**-0.2**
	comp=Z,2μm,1.5s,mb6.3						
SMY				LR	LR		
	comp=Z,14μm,20.0s,MS5.5						
SMY	**Shemya**	**25.77**	**46**	*e*P	**P**	**10 20 59.6**	**-0.2**
SMY				pmax	pmax		
	comp=Z,2μm,1.5s,mb6.3						
SMY				MLR	MLR		
	comp=Z,14μm,20.0s,MS5.5						
BOD	**Bodaibo**	**27.00**	**325**	*e*P	**P**	**10 21 10.9**	**-0.2**
XAN	**Xi'an**	**27.72**	**271**	P	**P**	**10 21 17.8**	**-0.1**
XAN				AMB	AMB		
	comp=Z,242nm,1.9s,mb5.5						
XAN				AMB	AMB		
	comp=Z,5μm,12.4s						
XAN				LR	LR		
	comp=N,17μm,13.8s,MS6.0						
XAN				LR	LR		
	comp=E,21μm,15.6s,MS6.0						
XAN				LR	LR		
	comp=Z,29μm,14.9s,MS6.0						
SONM	**Songino Array**	**28.04**	**301**	P	**P**	**10 21 21.0**	**+0.3**
	comp=Z,101nm,0.9s,mb5.5,baz=96,slow=7.0,SNR=16						
WAKE	**Wake Island**	**28.08**	**126**	PFAKE		10 21 30.0	+8.7
WAKE				LR	LR		
	comp=Z,16μm,20.0s,MS5.6						
ENH	**Enshi**	**28.71**	**264**	*e*P	**P**	**10 21 24.7**	**-2.1**
BOLP	**Bolinao**	**29.91**	**229**	*e*P	**P**	**10 21 42.5**	**+4.9**
IRK	**Irkutsk**	**30.07**	**310**	*e*P	**P**	**10 21 38.7**	**0.0**
IRK				pmax	pmax		
	comp=Z,597nm,2.0s,mb6.0						
LZH	**Lanzhou**	**31.07**	**278**	*e*P	**P**	**10 21 46.1**	**-1.6**
LZH				AP	pP	10 21 56.3	-6.0
LZH				XP	sP	10 22 00.3	-9.2
LZH				PP	PP	10 22 53.1	+1.7
LZH				S	**S**	**10 26 48.0**	**+0.6**
LZH				XS		10 27 05.0	
LZH				SS	SS	10 28 36.0	+0.6
LZH				AMB	AMB		
	comp=Z,2μm,1.5s,mb6.6						
LZH				AMB	AMB		
	comp=Z,3μm,4.2s						
LZH				LR	LR		
	comp=Z,77μm,17.6s,MS6.4						
LZH	**Lanzhou**	**31.07**	**278**	*e*P	**P**	**10 21 46.1**	**-1.6**
	comp=Z,2μm,1.5s,mb6.6						
LZH				pP	pP	10 21 56.3	-6.0
LZH				sP	sP	10 22 00.3	-9.2
LZH				PP	PP	10 22 53.1	+1.7
LZH				S	**S**	**10 26 48.0**	**+0.6**
LZH				sS		10 27 05.0	
LZH				SS	SS	10 28 36.0	+0.6
LZH				LR	LR		
	comp=Z,77μm,17.6s,MS6.4						
BILL	**Biiibino**	**32.28**	**16**	*i* P	**P**	**10 21 57.2**	**-0.8**
BILL				LR	LR		
	comp=Z,13μm,22.0s,MS5.6						
BILL	**Bilibino**	**32.28**	**16⇑**	*e*P	**P**	**10 21 58.2**	**+0.2**
BILL				*e*		10 23 13.1	
BILL				*e*S	**S**	**10 27 06.9**	**+0.8**
BILL				pmax	pmax		
	comp=Z,462nm,1.7s,mb6.0						
GYA	**Guiyang**	**32.69**	**259⇑**	*i* P	**P**	**10 22 01.9**	**-0.1**
GYA				PP	PP	10 23 15.4	+2.9
GYA				S	**S**	**10 27 16.1**	**+3.1**
GYA				SCP		10 28 24.3	
GYA				SS	SS	10 29 18.5	+4.8
GYA				AMB	AMB		
	comp=Z,90nm,1.2s,mb5.6						
GYA				AMB	AMB		
	comp=Z,2μm,10.2s						
GYA				LR	LR		
	comp=N,18μm,17.7s,MS6.1						
GYA				LR	LR		
	comp=E,28μm,17.0s,MS6.1						
GYA				LR	LR		
	comp=Z,25μm,18.0s,MS6.0						
GTA	**Gaotai**	**33.34**	**285**	P	**P**	**10 22 07.9**	**+0.5**
GTA				PP	PP	10 23 21.3	+0.8
GTA				PPP	PPP	10 23 38.5	+1.1
GTA				PCP	PcP	10 24 47.8	-0.5
GTA				S	**S**	**10 27 26.1**	**+3.2**
GTA				SCP		10 28 28.8	
GTA				PCS		10 28 32.0	
GTA				SCS	ScS	10 32 27.1	+1.2
GTA				AMB	AMB		
	comp=Z,308nm,1.2s,mb6.1						
GTA				AMB	AMB		
	comp=Z,4μm,12.2s						
GTA				LR	LR		
	comp=N,36μm,17.6s,MS6.4						
GTA				LR	LR		
	comp=E,49μm,17.2s,MS6.4						
GTA				LR	LR		
	comp=Z,61μm,17.2s,MS6.4						
TIXI	**Tiksi**	**34.00**	**352**	PFAKE		10 22 20.0	+7.2
TIXI				LR	LR		
	comp=Z,26μm,19.0s,MS6.0						
TIXI	**Tiksi**	**34.00**	**352**	*e*P	**P**	**10 22 07.3**	**-5.5**
TIXI				*e*S	**S**	**10 27 31.7**	**-1.1**
TIXI				*e*SS	SS	10 29 47.2	+3.9
TIXI				pmax	pmax		
	comp=Z,175nm,1.8s,mb5.7						
TIXI				MLR	MLR		
	comp=Z,16μm,14.0s,MS5.9						
MIDW	**Midway**	**34.45**	**95**	PFAKE		10 22 30.0	+13
MIDW				LR	LR		
	comp=Z,13μm,19.0s,MS5.7						
QIZ	**Qiongzhong**	**34.66**	**245⇑**	P	**P**	**10 22 19.1**	**+0.2**
QIZ				S	**S**	**10 27 42.8**	**-0.7**
QIZ				XS		10 27 57.3	
QIZ				AMB	AMB		
	comp=Z,2μm,13.4s						
QIZ				LR	LR		
	comp=N,25μm,17.9s,MS6.2						
QIZ				LR	LR		
	comp=E,29μm,17.6s,MS6.2						
QIZ				LR	LR		
	comp=Z,24μm,13.8s,MS6.1						
QIZ	**Qiongzhong**	**34.66**	**245**	*e*P	**P**	**10 22 18.6**	**-0.3**
DAV	**Davao City (W)**	**35.02**	**211**	*e*P	**P**	**10 22 26.0**	**+4.0**
KMI	**Kunming**	**36.41**	**261**	P	**P**	**10 22 34.0**	**+0.2**
KMI				PP	PP	10 23 58.5	-0.2
KMI				S	**S**	**10 28 08.9**	**-1.5**
KMI				SS	SS	10 30 35.8	-2.5
KMI				AMB	AMB		
	comp=Z,145nm,1.3s,mb5.8						
KMI				AMB	AMB		
	comp=Z,3μm,12.0s						
KMI				LR	LR		
	comp=N,27μm,15.7s,MS6.4						
KMI				LR	LR		
	comp=E,42μm,15.1s,MS6.4						
KMI				LR	LR		
	comp=Z,35μm,14.5s,MS6.3						
KMI	**Kunming**	**36.41**	**261**	P	**P**	**10 22 34.0**	**+0.2**
	comp=Z,145nm,1.3s,mb5.8						
KMI				pP	pP	10 22 47.6	-1.1
KMI				sP	sP	10 22 54.8	-1.1
KMI				PP	PP	10 23 58.5	-0.2
KMI				S	**S**	**10 28 08.9**	**-1.5**
KMI				ScP		10 28 33.2	
KMI				sS		10 28 37.3	
KMI				SS	SS	10 30 35.8	-2.5
KMI				LR	LR		
	comp=Z,35μm,14.5s,MS6.3						
KWAJ	**Kwajalein Atol**	**36.95**	**137**	PFAKE		10 22 50.0	+12
KWAJ				LR	LR		
	comp=Z,4μm,20.0s,MS5.2						
KKM	**Kota Kinabalu**	**40.39**	**224⇑**	*e*P	**P**	**10 23 06.4**	**-0.6**
WMQ	**Urumqi**	**41.30**	**296**	*e*P	**P**	**10 23 16.0**	**+1.8**
WMQ				PP	PP	10 24 55.0	+1.7
WMQ				S	**S**	**10 29 26.0**	**+2.0**
WMQ				SS	SS	10 32 26.0	+1.5
WMQ				AMB	AMB		
	comp=Z,65nm,1.1s,mb5.2						
WMQ				AMB	AMB		
	comp=Z,4μm,6.0s						
WMQ				LR	LR		
	comp=N,15μm,16.0s,MS6.0						
WMQ				LR	LR		
	comp=E,8μm,16.0s,MS6.0						
WMQ				LR	LR		
	comp=Z,8μm,16.0s,MS5.7						
ZAL	**Zalesovo**	**41.88**	**311**	P	**P**	**10 23 21.2**	**+2.5**
	comp=Z,46nm,0.8s,mb5.2,baz=24,slow=10.0						
LSA	**Lhasa**	**43.32**	**274**	*e*P	**P**	**10 23 31.2**	**+0.3**
IMP	**Imphal**	**43.45**	**266**	*e*P	**P**	**10 23 29.0**	**-3.0**
MKAR	**Makanchi Array**	**44.41**	**301**	P	**P**	**10 23 40.8**	**+1.3**
	comp=Z,56nm,0.7s,mb5.4,baz=87,slow=7.9,SNR=8.8						
MKAR				S	**S**	**10 30 21.3**	**+12**
	comp=Z,6.9nm,1.0s,baz=77,slow=19,SNR=3.6						
MKAR	**Makanchi Array**	**44.41**	**301**	P	**P**	**10 23 40.8**	**+1.3**
MKAR				S	**S**	**10 30 21.3**	**+12**
KDAK	**Kodiak Island**	**45.19**	**43**	*e*P	**P**	**10 23 43.9**	**-1.6**
KDAK				LR	LR		
	comp=Z,2μm,20.0s,MS5.1						
SPU	**Mount Spurr**	**45.33**	**38**	*e*P	**P**	**10 23 45.0**	**-1.6**
KURK	**Kurchatov**	**46.02**	**307**	*e*P	**P**	**10 23 48.8**	**-3.4**
KURK				LR	LR		
	comp=Z,3μm,19.0s,MS5.3						
GTK	**Gangtok**	**46.38**	**273**	*e*P	**P**	**10 23 57.0**	**+1.7**
PMR	**Palmer**	**46.72**	**37**	*e*P	**P**	**10 23 55.5**	**-2.0**
PMR				LR	LR		
	comp=Z,5μm,19.0s,MS5.5						
COLA	**College**	**47.19**	**33**	PFAKE		10 24 10.0	+8.8
COLA				LR	LR		
	comp=Z,31nm,21.0s						
KSM	**Kuching**	**47.45**	**227**	*e*P	**P**	**10 24 03.7**	**-0.3**
ILAR	**Eielson Array**	**47.60**	**33**	P	**P**	**10 24 06.3**	**+1.8**
	comp=Z,56nm,0.8s,mb5.7,baz=266,slow=5.9,SNR=15						
PMG	**Port Moresby**	**47.81**	**174**	P	**P**	**10 24 06.9**	**+0.1**
	comp=Z,42nm,1.0s,mb5.4,baz=40,slow=8.6,SNR=5.2						
PMG				S	**S**	**10 31 01.2**	**+3.1**
	comp=Z,18nm,0.9s,baz=207,slow=15,SNR=1.9						
KKN	**Kakani**	**48.77**	**275**	*e*P	**P**	**10 24 15.4**	**+1.4**
	comp=Z,619nm,0.9s,mb6.7						
PKI	**Pulchoki**	**48.77**	**275**	*e*P	**P**	**10 24 15.5**	**+1.4**
	comp=Z,1μm,1.5s,mb6.7						
DMN	**Daman**	**48.99**	**275**	*e*P	**P**	**10 24 16.0**	**+0.3**
	comp=Z,2μm,1.7s,mb6.8						
GKN	**Gorkha**	**49.17**	**276**	*e*P	**P**	**10 24 18.2**	**+1.1**
	comp=Z,2μm,1.4s						
KOLN	**Koldanda**	**50.09**	**276**	*e*P	**P**	**10 24 24.0**	**-0.2**
	comp=Z,2μm,1.4s,mb6.9						
HNR	**Honiara**	**50.24**	**158**	PFAKE		10 24 40.0	+15
HNR				LR	LR		
	comp=Z,7μm,20.0s,MS5.7						
BVAR	**Borovoye Array**	**50.52**	**312**	P	**P**	**10 24 27.5**	**+0.4**
	comp=Z,39nm,0.6s,mb5.5,baz=79,slow=7.6,SNR=9.2						
BVAR				PcP	PcP	10 25 45.1	+0.6
	comp=Z,42nm,0.8s,baz=90,slow=4.3,SNR=1.8						
BVAR				S	**S**	**10 31 40.7**	**+5.4**
	comp=Z,2.9nm,1.1s,baz=39,slow=20,SNR=1.9						
BRVK	**Borovoye**	**50.57**	**312**	*e*P	**P**	**10 24 25.9**	**-1.6**
BRVK				LR	LR		
	comp=Z,2μm,19.0s,MS5.2						
KULM	**Kulim**	**50.62**	**240**	P	**P**	**10 24 27.7**	**-0.6**
AAK	**Ala-Archa**	**50.90**	**298**	*e*P	**P**	**10 24 27.9**	**-2.1**
AAK				LR	LR		
	comp=Z,1μm,19.0s,MS5.0						
AAK	**Ala-Archa**	**50.90**	**298**	*i* P	**P**	**10 24 29.3**	**-0.8**
AAK				pmax	pmax		
	comp=Z,157nm,1.7s,mb5.7						
KSH	**Kashi**	**50.95**	**294**	P	**P**	**10 24 35.1**	**+4.5**
KSH				*e*PP	PP	10 26 33.3	+5.2
KSH				*e*S	**S**	**10 31 47.0**	**+5.5**
KSH				*e*SCS	ScS	10 34 20.0	+7.5
KSH				*e*SS	SS	10 35 17.0	+2.4
KSH				AMB	AMB		
	comp=Z,2μm,5.7s						
KSH				LR	LR		
	comp=N,13μm,11.6s,MS6.3						
KSH				LR	LR		
	comp=E,13μm,11.8s,MS6.3						
KAKA	**Kakadu**	**51.88**	**193**	*e*P	**P**	**10 24 50.1**	**+12**
	comp=E,433nm,0.8s,mb6.4						
PBA	**Port Blair**	**51.96**	**253**	*e*x	x	10 30 52.8	
PBA				*e*x	x	10 40 21.1	
INK	**Inuvik**	**52.52**	**28**	P	**P**	**10 24 42.8**	**+0.8**
	comp=E,21nm,0.7s,mb5.2,baz=299,slow=5.7,SNR=7.6						
INK				S	**S**	**10 32 07.1**	**+4.4**
	comp=E,1.3nm,0.8s,baz=94,slow=19,SNR=1.9						
INK	**Inuvik**	**52.52**	**28**	*e*P	**P**	**10 24 41.9**	**-0.1**
INK	**Inuvik**	**52.52**	**28**	P	**P**	**10 24 42.8**	**+0.8**
INK				S	**S**	**10 32 07.1**	**+4.4**
INK				pmax	pmax		
	comp=Z,21nm,0.7s						
KIP	**Kipapa**	**53.02**	**91**	PFAKE		10 25 00.0	+14
KIP				LR	LR		
	comp=Z,2μm,19.0s,MS5.1						

BLSP Bilaspur 54.08 271 *ex* x 10 25 05.0
SIT Sitka 54.48 42 *e*P **P** **10 24 57.5 +0.9**
SIT LR LR
comp=Z,6μm,19.0s,MS5.7
SIT Sitka 54.48 42 *e*P **P** **10 24 57.8 +1.3**
SIT pmax pmax
comp=Z,170nm,1.3s,mb5.8
JBP Jabalpur 55.22 273 *e*P **P** **10 25 05.2 +2.8**
JBP AMb AMB 10 25 13.5
comp=Z,207nm,1.1s,mb6.1
JBP *i* S **S** **10 32 47.5 +7.9**
VIS Vishakhapatnam 55.56 266 *i* P **P** **10 25 04.8 -0.1**
VIS AMb AMB 10 26 05.3
comp=Z,82nm,1.1s,mb5.7
VIS *e*S **S** **10 32 53.1 +8.8**
POHA Pohakuloa 55.88 91 PFAKE 10 25 20.0 +13
POHA LR LR
comp=Z,24μm,20.0s,MS6.3
SOKR Solikamsk 55.93 322*c i*P **P** **10 25 09.1 +2.1**
SOKR S **S** **10 32 54.1 +5.4**
SOKR pmax pmax
comp=Z,240nm,1.1s,mb6.1
SOKR MLR MLR
comp=Z,17μm,15.0s,MS6.3
ARU Arti 56.09 318 *e*P **P** **10 25 06.2 -2.0**
ARU LR LR
comp=Z,8μm,19.0s,MS5.8
ARU Arti 56.09 318⇑*i*P **P** **10 25 06.6 -1.6**
ARU *e* 10 26 02.3
ARU *e* 10 27 12.0
ARU *e*PPP PPP 10 28 29.5 -2.4
ARU *e*S **S** **10 32 55.5 +4.7**
ARU *e* 10 34 58.8
ARU *e*SS SS 10 36 43.5 +5.7
ARU pmax pmax
comp=Z,407nm,1.5s,mb6.2
DLBC Dease Lake 56.72 39 P **P** **10 25 13.6 +0.9**
comp=Z,45nm,0.9s,mb5.5,baz=301,slow=7.9,SNR=14
DLBC S **S** **10 33 08.5 +9.5**
comp=Z,0.7nm,0.7s,baz=223,slow=18,SNR=1.7
DLBC Dease Lake 56.72 39 *e*P **P** **10 25 13.6 +0.9**
AJM Ajmer 57.68 280 *i* P **P** **10 25 18.0 -1.9**
CTA Charters Tower 58.35 176 *e*P **P** **10 25 23.5 -1.1**
comp=Z,20nm,1.1s,mb5.0
CTA *e*S **S** **10 33 06.7 -14**
CTA Charters Tower 58.35 176 LR LR 10 47 37.0
comp=Z,3μm,21.7s,MS5.4,baz=339,slow=33
CTAO Charters Tower 58.35 176 *e*P **P** **10 25 24.4 -0.2**
comp=Z,115nm,1.6s,mb5.7
CTAO LR LR
comp=Z,3μm,21.0s,MS5.4
CTAO Charters Tower 58.35 176 *e*P **P** **10 25 24.7 +0.1**
CTAO pmax pmax
comp=Z,110nm,1.6s,mb5.6
FITZ Fitzroy Crossi 58.60 199 *e*P **P** **10 25 27.3 +0.9**
comp=Z,157nm,0.9s,mb6.0
FITZ Fitzroy Crossi 58.60 199 P **P** **10 25 27.1 +0.7**
comp=Z,264nm,1.0s,mb6.2,baz=17,slow=3.9,SNR=17
FITZ S **S** **10 33 28.5 +4.3**
comp=Z,5.3nm,0.8s,baz=21,slow=17,SNR=2.1
WRAB Tennant Creek 58.68 190 *e*P **P** **10 25 25.7 -1.2**
WRAB LR LR
comp=Z,2μm,22.0s,MS5.1
WRAB Tennant Creek 58.68 190*d i*P **P** **10 25 25.3 -1.6**
WRA Warramunga Arr 58.69 190 P **P** **10 25 25.7 -1.3**
comp=Z,356nm,1.0s,mb6.4,baz=7.8,slow=7.2,SNR=16
WRA S **S** **10 33 25.8 +0.4**
comp=Z,2.4nm,1.1s,baz=14,slow=14,SNR=3.8
WRA PKP2bc 10 55 15.7
comp=Z,3.2nm,1.1s,baz=209,slow=2.4,SNR=5.9
WRA Warramunga Arr 58.69 190 P **P** **10 25 25.7 -1.3**
WRA S **S** **10 33 25.8 +0.4**
WRA ⇑*e* 10 55 15.7
HYB Hyderabad 59.48 269 *i* P **P** **10 25 30.5 -2.0**
comp=Z,100nm,1.0s,mb5.8
HYB *e*PP PP 10 27 41.0 -5.1
HYB *e*S **S** **10 33 40.0 +4.4**
HYB *e*SS SS 10 37 44.0 +11
HYB LR LR 10 54 44.0
comp=Z,6.7nm,16.0s
HYB Hyderabad 59.48 269 *e*P **P** **10 25 30.5 -2.0**
comp=Z,100nm,1.0s,mb5.8
HYB *e*S **S** **10 33 40.0 +4.4**
BBB Bella Bella 60.16 45 P **P** **10 25 37.4 +0.6**
comp=Z,49nm,1.1s,mb5.5,baz=275,slow=7.3,SNR=6.9
BBB S **S** **10 33 49.9 +5.9**
comp=Z,8.4nm,1.0s,baz=125,slow=6.2,SNR=2.3
MDRS Chennai 60.68 263 *e*P **P** **10 25 41.0 +0.2**
MDRS *ex* x 10 25 41.0
MDRS Chennai 60.68 263 *ex* **P** **10 25 41.0 +0.2**
RES Resolute Bay 60.88 15 *e*P **P** **10 25 40.3 -1.0**
comp=Z,118nm,1.1s,mb5.9
LVZ Lovozero 61.29 336*c i*P **P** **10 25 42.3 -1.9**
LVZ *i* 10 27 55.7
LVZ *e*S **S** **10 33 55.5 -2.7**
LVZ *e* 10 35 30.6
LVZ *i* SS SS 10 37 57.5 -3.2
LVZ pmax pmax
comp=Z,128nm,1.7s,mb5.8
LVZ pmax pmax
comp=E,53nm,1.1s
LVZ MLR MLR
comp=Z,11μm,17.0s,MS6.1
LVZ Lovozero 61.29 336 *e*S **S** **10 33 50.2 -8.0**
YKW3 Yellowknife Ar 61.89 31 *e*P **P** **10 25 48.7 +0.5**
YKA Yellowknife Ar 61.93 31 P **P** **10 25 50.0 +1.5**
comp=Z,16nm,0.7s,mb5.2,baz=298,slow=6.5,SNR=4.2
YKA S **S** **10 34 08.7 +2.3**
comp=Z,0.3nm,0.4s,baz=284,slow=2.5,SNR=2.3
YKA PKP2bc 10 55 09.6
comp=Z,0.8nm,0.7s,baz=132,slow=1.8,SNR=3.6
YKA LR LR 10 56 15.1
comp=Z,3μm,19.1s,MS5.5,baz=290,slow=39
YKA Yellowknife Ar 61.93 31 P **P** **10 25 50.0 +1.5**
YKA S **S** **10 34 08.7 +2.3**
YKA ⇑*e* 10 55 09.7
YKA LR LR 10 56 15.2
KEV Kevo 62.52 339 *e*P **P** **10 25 51.1 -1.3**
comp=Z,77nm,1.0s,mb5.8
KEV LR LR
comp=Z,9μm,20.0s,MS6.0
KEV Kevo 62.52 339 *e*P **P** **10 25 51.1 -1.3**
KEV pmax pmax
comp=Z,77nm,1.0s,mb5.8
KEV MLR MLR
comp=Z,9μm,20.0s,MS6.0
POO Poona 62.54 272⇓*i*P **P** **10 25 54.9 +1.7**
KAD Karad 62.97 271 *e*P **P** **10 25 57.0 +0.9**
KAD AMb AMB 10 26 03.4
comp=Z,198nm,1.1s,mb6.2
KAD *e*S **S** **10 34 26.2 +6.2**
ARCES ARCESS Array B 63.07 340 P **P** **10 25 56.4 +0.4**
comp=Z,49nm,0.9s,mb5.6,baz=52,slow=7.0,SNR=13
ARCES ARCESS Array B 63.07 340 P **P** **10 25 56.4 +0.4**
ARE0 ARCESS Array S 63.07 340 *e*P **P** **10 25 53.9 -2.1**
MBWA Marble Bar 63.22 204 *e*P **P** **10 25 57.1 -0.6**
comp=Z,103nm,1.0s,mb5.9
MBWA LR LR
comp=Z,2μm,19.0s,MS5.3
BHJ Bhuj 63.22 279 *ex* **S** **10 34 12.4 -11**
PECR Pechory 63.44 322 *e*P **P** **10 26 02.0 +3.4**
PECR *e* 10 26 36.0
PECR *e* 10 28 20.0
PECR *i* S **S** **10 34 33.0 +7.6**
PECR *e* 10 35 02.4
PECR pmax pmax
comp=Z,2μm,4.4s
PECR pmax pmax
comp=N,1μm,4.6s
PECR pmax pmax
comp=E,2μm,5.6s
PECR pmax pmax
comp=E,2μm,11.0s
PECR pmax pmax
comp=Z,2μm,11.0s
PECR pmax pmax
comp=N,1μm,10.0s
PECR smax
comp=E,7μm,11.0s
PECR smax
comp=N,2μm,10.0s
PECR MLR MLR
comp=Z,12μm,14.0s,MS6.2
PECR MLR MLR
comp=N,5μm,13.0s,MS6.4
PECR MLR MLR
comp=E,16μm,13.0s,MS6.4
PALK Pallekele 63.88 258 *e*P **P** **10 26 00.9 -1.3**
comp=E,280nm,2.0s,mb6.0
PALK LR LR
comp=Z,776nm,19.0s,MS4.9
PGC Sidney 64.44 47 *e*P **P** **10 26 04.3 -0.9**
OCWA Octopus Mounta 64.46 48 *e*P **P** **10 26 07.6 +2.2**
comp=Z,193nm,1.5s,mb5.9
OCWA LR LR
comp=Z,3μm,20.0s,MS5.4
MNGI Mangalore 65.00 267 *e*P **P** **10 26 11.8 +2.5**
MNGI *e*S S 10 34 54.8 +10
JOF Joensuu 65.26 332 *ep* **P** **10 26 07.5 -2.7**
comp=Z,56nm,0.9s,mb5.6
TRD Trivandrum 66.01 262 *ex* x 10 25 29.5
TRD *e*S S 10 35 03.3 +5.7
COR Corvallis 66.60 51 *e*P **P** **10 26 20.0 +0.9**
comp=Z,257nm,1.3s,mb6.1
COR LR LR
comp=Z,754nm,20.0s,MS4.9
COR Corvallis 66.60 51 *e*P **P** **10 26 21.5 +2.4**
COR pmax pmax
comp=Z,260nm,1.3s,mb6.1
MOS Moscow 66.81 324 *e*P **P** **10 26 18.6 -1.6**
MOS *e* pP 10 26 37.1 +0.8
MOS *e* 10 28 45.8
MOS *e*PPP PPP 10 30 28.1 +1.6
MOS *e*S S 10 35 12.4 +5.8
MOS *e* 10 36 12.5
MOS pmax pmax
comp=Z,2μm,2.0s,mb6.7
MOS pmax pmax
comp=Z,750nm,1.5s,mb6.5
MOS MLR MLR
comp=Z,26μm,15.0s,MS6.6
MOS MLR MLR
comp=N,13μm,13.8s,MS6.4
MOS MLR MLR
comp=E,8μm,14.4s,MS6.4
KEBM Edson Butte 66.85 53 *e*P **P** **10 26 21.7 +1.0**
AFI Afiamalu 67.15 132 PFAKE 10 26 30.0 +7.0
AFI LR LR
comp=Z,6μm,22.0s,MS5.7
VRHR Novokhopersk 67.44 318 *e*P **P** **10 26 21.5 -2.7**
VRHR *e*PP pP 10 26 28.2 -12
VRHR *e* 10 28 49.5
VRHR *e*S S 10 35 15.0 +0.8
VRHR *e*SS SS 10 39 38.5 +1.7
VRHR pmax pmax
comp=Z,250nm,2.2s,mb5.9
VRHR pmax pmax
comp=N,150nm,1.3s
VRHR pmax pmax
comp=E,120nm,1.1s
VRHR pmax pmax
comp=Z,230nm,1.7s,mb5.9
VRHR pmax pmax
comp=N,240nm,3.1s
VRHR pmax pmax
comp=E,390nm,1.5s
VRHR smax
comp=N,1μm,12.6s
VRHR smax
comp=Z,600nm,9.5s
VRHR smax
comp=E,2μm,8.7s
VRHR MLR MLR
comp=Z,30μm,15.0s,MS6.6
VRHR MLR MLR
comp=N,13μm,14.0s,MS6.5
VRHR MLR MLR
comp=E,18μm,14.0s,MS6.5
EDM Edmonton 67.44 39 *e*P **P** **10 26 21.1 -3.0**
PUL Pulkovo 67.56 330 *i* P **P** **10 26 25.5 +0.6**
PUL Pulkovo 67.56 330⇓*e*P **P** **10 26 23.9 -1.0**
PUL *i* 10 28 56.9
PUL *i* PPP PPP 10 30 29.8 -3.5
PUL *e*S S 10 35 17.0 +1.4
PUL *e* 10 36 18.5
PUL pmax pmax
comp=Z,263nm,1.0s,mb6.2
PUL MLR MLR
comp=Z,12μm,19.0s,MS6.1
PUL MLR MLR
comp=N,9μm,15.0s,MS6.2
PUL MLR MLR
comp=E,7μm,16.0s,MS6.2
KAF Kangasniemi 67.58 333 *ep* **P** **10 26 22.3 -2.6**
comp=E,96nm,1.1s,mb5.7,baz=48,slow=6.1
KAF Kangasniemi 67.58 333 *e*P **P** **10 26 22.3 -2.6**
KAF pmax pmax
comp=Z,96nm,1.1s,mb5.7
OBN Obninsk 67.67 323 *e*P **P** **10 26 23.0 -2.5**
OBN LR LR
comp=Z,2μm,19.0s,MS5.4
OBN Obninsk 67.67 323*c e*P **P** **10 26 23.3 -2.3**
OBN *e* 10 28 55.3
OBN *e*S S 10 35 27.6 +11
OBN *e*SS SS 10 39 42.5 +2.3
OBN pmax pmax
comp=Z,503nm,1.3s,mb6.4
OBN MLR MLR
comp=Z,19μm,15.0s,MS6.4
HAWA Hanford 67.88 48 *e*P **P** **10 26 28.3 +1.2**
HAWA LR LR
comp=Z,201nm,20.0s
FINES FINESS Array B 68.10 332 P **P** **10 26 29.0 +0.8**
comp=Z,19nm,0.6s,mb5.3,baz=45,slow=8.1,SNR=8.0
NEW Newport 68.22 45 P **P** **10 26 31.0 +1.8**
comp=Z,88nm,1.1s,mb5.7,baz=300,slow=5.4,SNR=12
NEW S S 10 35 27.7 +4.0
comp=Z,0.7nm,0.4s,baz=84,slow=22,SNR=2.9
NEW Newport 68.22 45 *e*P **P** **10 26 26.8 -2.4**
NEW S S 10 35 27.7 +4.0
NEW LR LR
comp=Z,3μm,20.0s,MS5.5
NEW Newport 68.22 45 P **P** **10 26 31.0 +1.8**
NEW S S 10 35 27.7 +4.0
NEW pmax pmax
comp=Z,88nm,1.1s
KHMM Horse Mountain 68.29 55 *e*P **P** **10 26 31.4 +1.7**
YBH Yreka Blue Hor 68.48 53 P **P** **10 26 32.9 +2.0**
comp=Z,42nm,1.0s,mb5.4,baz=130,slow=3.0,SNR=9.8
MAK Makhachkala 68.53 308*c i*P **P** **10 26 35.0 +3.8**
MAK *i* 10 27 04.0
MAK *i* 10 29 10.0
MAK *e*PPP PPP 10 30 40.0 -2.8
MAK *e*S S 10 35 30.0 +2.6
MAK *i* PS PS 10 35 56.0 -4.7
MAK pmax pmax
comp=Z,3μm,6.0s
MAK smax
comp=N,2μm,8.0s
MAK smax
comp=E,2μm,8.0s
VRSR Storozhevoye 68.63 319*c i*P **P** **10 26 30.5 -1.2**
VRSR *e*SP sP 10 26 36.7 -17
VRSR *e* 10 26 55.8
VRSR *e* 10 28 59.0
VRSR *e*S S 10 35 35.0 +6.5
VRSR *e* 10 36 27.0
VRSR *e*SS SS 10 40 02.4 +7.0
VRSR pmax pmax
comp=Z,70nm,1.2s,mb5.5
VRSR pmax pmax
comp=N,60nm,0.8s
VRSR pmax pmax
comp=E,50nm,0.8s
VRSR smax
comp=N,530nm,4.9s
VRSR smax
comp=Z,520nm,5.8s
VRSR smax
comp=E,1μm,6.2s
VRSR MLR MLR
comp=Z,15μm,16.0s,MS6.3
VRSR MLR MLR
comp=N,3μm,13.0s,MS6.0
VRSR MLR MLR
comp=E,4μm,12.0s,MS6.0
SUMG Summit 69.22 0 *e*P **P** **10 26 36.4 +1.4**
comp=E,170nm,1.3s,mb5.8
WALA Waterton Lakes 69.53 43 *e*P **P** **10 26 34.6 -2.6**
VSU Vasula 69.82 330⇑*i*P **P** **10 26 37.3 -1.5**
VSU Vasula 69.82 330*c i*P **P** **10 26 37.3 -1.5**
STKA Stephens Creek 70.02 181 *e*P **P** **10 26 41.0 +0.5**
comp=E,15nm,0.6s,mb5.1
STKA *i* S S 10 35 47.3 +2.1
STKA Stephens Creek 70.02 181 P **P** **10 26 41.1 +0.6**
comp=E,20nm,0.7s,mb5.2,baz=353,slow=6.8,SNR=14
BMO Blue Mountains 70.04 48 *e*P **P** **10 26 41.2 +0.8**
BMO LR LR
comp=Z,3μm,21.0s,MS5.5
FORT Forrest 70.31 194 *e*P **P** **10 26 44.1 +1.8**
comp=Z,102nm,0.7s,mb5.9
OHCM Honcut 70.58 55 *e*P **P** **10 26 41.4 -2.3**
WVOR Wild Horse Val 70.61 51 *e*P **P** **10 26 44.7 +0.8**
WVOR LR LR
comp=Z,4μm,20.0s,MS5.6
MSO Missoula 70.81 45 *e*P **P** **10 26 45.7 +0.6**
MSO LR LR
comp=Z,2μm,20.0s,MS5.3
KIV Kislovodsk 70.88 311⇑*i*P **P** **10 26 45.5 0.0**
comp=Z,32nm,1.2s,mb5.1
KIV LR LR
comp=Z,2μm,19.0s,MS5.3
KIV Kislovodsk 70.88 311*d i*P **P** **10 26 46.1 +0.6**
KIV *e* 10 29 32.9
KIV *i* S S 10 36 06.6 +12
KIV pmax pmax
comp=Z,540nm,2.5s,mb6.0
BEKR Beckwourth 71.00 54 *e*P **P** **10 26 46.9 +0.6**
comp=Z,54nm,1.1s,mb5.4
CHMT Chamberlain Mo 71.14 45 *e*P **P** **10 26 44.3 -2.7**
PAHR Pah Rah Range 71.71 54 *e*P **P** **10 26 48.6 -1.9**
comp=Z,57nm,1.3s,mb5.3
GNI Garni 71.82 307 P **P** **10 26 51.8 +0.6**
comp=Z,4.8nm,0.4s,mb4.8,baz=180,slow=5.1,SNR=3.7
FCC Fort Churchill 72.14 27 *e*P **P** **10 26 52.9 +0.1**
comp=Z,106nm,1.3s,mb5.6
DLMT Dillon 72.44 46 *e*P **P** **10 26 52.5 -2.3**
HLID Hailey 72.48 48 *e*P **P** **10 26 56.2 +1.1**
HLID LR LR
comp=Z,3μm,20.0s,MS5.6
MCMT McKenzie Canyo 72.62 46 *e*P **P** **10 26 55.9 +0.1**
BMN Battle Mountai 72.64 52 *e*P **P** **10 26 55.0 -1.0**
BMN LR LR
comp=Z,3μm,19.0s,MS5.5
BOZ Bozeman (W) 72.81 45 P **P** **10 26 54.3 -2.5**
BOZ LR LR
comp=Z,4μm,20.0s,MS5.7
NB2 NORSAR Subarra 73.31 338 P **P** **10 26 58.2 -1.3**
comp=Z,26nm,0.8s,mb5.2,baz=39,slow=6.2
NB2 NORSAR Subarra 73.31 338 P **P** **10 26 58.2 -1.3**
baz=38,slow=6.2
NOA NORSAR Array B 73.31 338 P **P** **10 26 58.7 -0.8**
comp=Z,97nm,0.9s,mb5.7,baz=38,slow=5.9,SNR=12
NOA PP PP 10 29 48.9 +3.5
comp=Z,4.7nm,0.8s,baz=32,slow=8.0,SNR=3.8
NOA NORSAR Array B 73.31 338 P **P** **10 26 58.7 -0.8**
NOA PP PP 10 29 48.9 +3.5
ANN Anapa 73.40 314*c i*P **P** **10 26 59.0 -1.4**
ANN *e* pP 10 27 16.0 -0.7
ANN *e* 10 29 40.0
ANN *e*PPP PPP 10 31 33.0 +2.6
ANN *i* S S 10 36 27.2 +3.5
ANN *e* 10 37 03.0
ANN *e*SS SS 10 41 14.6 +5.3
ANN pmax pmax
comp=E,96nm,2.0s
ANN pmax pmax
comp=Z,273nm,2.0s,mb5.8
ANN smax
comp=N,2μm,9.5s
ANN smax
comp=E,3μm,9.5s
QLMT Earthquake Lak 73.42 46 *e*P **P** **10 27 02.7 +2.2**
PTRM Twissleman Ran 73.51 57 *e*P **P** **10 27 03.0 +1.8**
KLBR Kellerberrin 73.58 202 *e*P **P** **10 27 02.6 +0.9**
comp=E,34nm,0.8s,mb5.3
MTUM Tungsten Hills 73.59 55 *e*P **P** **10 27 00.9 -0.8**
ELK Elko 73.67 51 *e*P **P** **10 27 01.1 -1.0**
ELK LR LR
comp=Z,3μm,21.0s,MS5.5
CNB Canberra Magne 73.68 175 *e*P **P** **10 27 03.6 +1.4**
comp=Z,16nm,0.9s,mb5.0
YMR Madison River 73.78 46 *e*P **P** **10 27 00.6 -2.0**
GCMT Greycliff 73.80 44 *e*P **P** **10 27 01.2 -1.5**
AKASG Malin Array Be 73.89 323 P **P** **10 27 03.5 +0.4**
comp=Z,90nm,0.9s,mb5.7,baz=44,slow=6.6,SNR=12
AKASG PP PP 10 29 49.9 -0.4
comp=Z,10.0nm,1.0s,baz=43,slow=7.3,SNR=5.2
AKASG S S 10 36 35.6 +6.6
comp=Z,0.4nm,0.4s,baz=333,slow=2.1,SNR=4.0
YNR Norris Junctio 73.91 45 *e*P **P** **10 27 06.4 +3.1**
YFT Old Faithful 73.99 46 P **P** **10 27 05.9 +2.1**
TPH Tonopah 74.03 54 *e*P **P** **10 27 02.4 -1.8**
comp=Z,204nm,1.8s,mb5.8
TPH LR LR
comp=Z,3μm,20.0s,MS5.5
TPH Tonopah 74.03 54 *e*P PcP 10 27 15.8 -3.6
TPH pmax pmax
comp=Z,92nm,1.1s,mb5.6
LKWY Lake 74.16 45 *e*P **P** **10 27 06.6 +1.8**
LKWY LR LR
comp=Z,7μm,20.0s,MS5.9
IMW Indian Meadow 74.27 46 *e*P **P** **10 27 05.5 +0.1**
comp=Z,65nm,1.0s,mb5.5
FLWY Flagg Ranch 74.29 46 *e*P **P** **10 27 08.5 +2.9**
SUW Suwalki 74.32 328 *e*P **P** **10 27 06.8 +1.3**
SUW *ep*P pP 10 27 21.9 0.0
SUW *e*S S 10 36 39.6 +6.0
SUW *e*SKS SKS 10 37 14.1 +11
SUW MLR MLR 11 01 17.5
comp=Z,13μm,19.5s,MS6.2
SUW Suwalki 74.32 328 *e*P **P** **10 27 06.8 +1.3**
SUW *ep*P pP 10 27 21.8 0.0
SUW *e*S S 10 36 39.6 +6.0
SUW *e*SKS SKS 10 37 14.1 +11
SFJD Kangerlussuaq 74.32 6 *e*P **P** **10 27 04.5 -0.7**
SFJD Kangerlussuaq 74.32 6 *i* P **P** **10 27 06.9 +1.6**
RRI2 Red Ridge 74.40 47 *e*P **P** **10 27 08.8 +2.7**
HVU Hansel Valley 74.52 49 *e*P **P** **10 27 06.4 -0.5**
TPAW Teton Pass 74.52 47 *e*P **P** **10 27 06.7 -0.2**
LOHW Long Hollow 74.64 46 *e*P **P** **10 27 08.9 +1.4**
SNOW Snow King Moun 74.65 46 *e*P **P** **10 27 07.0 -0.6**
ISA Isabella 74.65 57 P **P** **10 27 06.3 -1.5**
ISA LR LR
comp=Z,691nm,21.0s,MS4.9
DAC Darwin (Calif) 74.86 56 *e*P **P** **10 27 06.7 -2.3**
DAC LR LR
comp=Z,2μm,20.0s,MS5.4
AHID Auburn Hatcher 74.88 47 PFAKE 10 27 20.0 +11
AHID LR LR
comp=Z,3μm,20.0s,MS5.5
KONO Kongsberg 74.91 338 *e*P **P** **10 27 07.5 -1.3**
comp=Z,157nm,1.3s,mb5.8
KONO LR LR
comp=Z,12μm,19.0s,MS6.2
KONO Kongsberg 74.91 338 *e*P **P** **10 27 11.1 +2.3**
KONO pmax pmax
comp=Z,160nm,1.3s,mb5.8
DGMT Dagmar 74.93 39 *e*P **P** **10 27 10.2 +1.1**
DGMT LR LR
comp=Z,5μm,21.0s,MS5.8
NWAO Narrogin (SRO) 74.98 202 PFAKE 10 27 20.0 +10
NWAO LR LR
comp=Z,2μm,22.0s,MS5.3
LAO LASA Array 75.06 42 PFAKE 10 27 20.0 +10
LAO LR LR
comp=Z,3μm,19.0s,MS5.7
HWUT Hardware Ranch 75.34 48 *e*P **P** **10 27 12.9 +1.3**
HWUT LR LR
comp=Z,2μm,19.0s,MS5.4
DUG Dugway 75.47 50 *e*P **P** **10 27 10.9 -1.5**
comp=Z,100nm,1.3s,mb5.6
DUG LR LR
comp=Z,2μm,19.0s,MS5.5
NOQ North Oquirrh 75.60 49 *e*P **P** **10 27 14.3 +1.1**
TOO Toolangi 75.73 178 *e*P **P** **10 27 13.5 -0.4**
comp=Z,25nm,0.8s,mb5.2
TCUT Toone Canyon 75.73 49 *e*P **P** **10 27 15.3 +1.4**
BW06 Boulder Array 75.77 46 PFAKE 10 27 30.0 +16
BW06 LR LR
comp=Z,3μm,20.0s,MS5.7
PDAR Pinedale Array 75.77 46 P **P** **10 27 15.7 +1.6**
comp=Z,21nm,0.9s,mb5.1,baz=273,slow=2.4,SNR=11
PDAR S S 10 36 56.2 +6.3
comp=Z,0.4nm,0.8s,baz=31,slow=5.3,SNR=2.5

MWC Mount Wilson 75.78 58 *eP* **P 10 27 14.3 0.0**
MWC Mount Wilson 75.78 58 *eP* **P 10 27 15.4 +1.1**
CTU Camp Tracy 75.80 49 *eP* **P 10 27 13.3 -0.9**
JLU Jordanelle 76.03 49 *eP* **P 10 27 14.5 -1.1**
NLU North Lily Min 76.06 50 *eP* **P 10 27 16.4 +0.7**
BHD Baghdad 76.10 301 *eP* **P 10 27 12.0 -4.2**
DAU Daniels Canyon 76.27 49 *eP* **P 10 27 19.0 +2.1**
DAU Daniels Canyon 76.27 49 *eP* **P 10 27 23.2 +6.3**
MPU Maple Canyon 76.29 50 *eP* **P 10 27 14.9 -2.2**
BORG Borgarnes 76.36 353 PFAKE 10 27 30.0 +13
BORG LR LR
comp=Z,812nm,20.0s,MS5.0
WAR Warsaw 76.50 328 *eP* **P 10 27 20.4 +2.4**
WAR *e*PcP PcP 10 27 26.4 -3.3
WAR *e*pP pP 10 27 35.4 +1.0
WAR *e*S S 10 37 09.7 +12
WAR MLR MLR 11 03 21.2
comp=Z,11µm,20.0s,MS6.2
WAR Warsaw 76.50 328 *eP* **P 10 27 20.1 +2.1**
WAR *e*PcP PcP 10 27 26.4 -3.4
WAR *e*pP pP 10 27 35.4 +1.0
WAR *e*S S 10 37 09.7 +12
WAR LR LR
comp=Z,11µm,20.0s,MS6.2
WAR Warsaw 76.50 328 *eP* **P 10 27 20.4 +2.4**
WAR *e* 10 27 26.4
WAR *e**PP pP 10 27 35.4 +1.0
WAR *e*S S 10 37 09.7 +12
WAR MLR MLR
comp=Z,11µm,20.0s,MS6.2
ARUT Antelope Range 76.58 52 *eP* **P 10 27 18.2 -0.5**
KIS Kishinev 76.58 320*c i*P **P 10 27 18.0 -0.6**
KIS *i* pP 10 27 34.0 -0.9
KIS *i* 10 30 17.0
KIS *i* PPP PPP 10 32 00.0 -0.5
KIS *i* S S 10 37 04.0 +5.3
KIS *i* PS PS 10 37 28.0 -17
KIS pmax pmax
comp=Z,3µm,6.0s
KIS pmax pmax
comp=Z,1µm,8.0s
KIS smax
comp=E,3µm,10.0s
KIS MLR MLR
comp=N,18µm,14.0s,MS6.6
KIS MLR MLR
comp=Z,23µm,14.0s,MS6.6
KIS MLR MLR
comp=E,10µm,13.0s,MS6.6
RAO Raoul Island 76.66 145 PFAKE 10 27 30.0 +11
RAO LR LR
comp=Z,7µm,19.0s,MS6.0
BSD Bornholm Skovb 76.74 332 *i* P **P 10 27 18.4 -0.9**
MALT Malatya 76.84 309 *eP* **P 10 27 19.4 -0.9**
MSU Marysvale 76.90 51 *eP* **P 10 27 20.0 -0.6**
LVV L'vov 76.92 324 *eP* **P 10 27 24.3 +3.9**
LVV *e* 10 30 17.3
LVV *e* 10 32 07.9
LVV *i* S S 10 37 09.9 +7.5
LVV *e* 10 37 44.1
LVV MLR MLR
comp=N,6µm,15.0s,MS6.2
LVV MLR MLR
comp=E,8µm,16.0s,MS6.2
LVV MLR MLR
comp=Z,12µm,16.0s,MS6.3
TMUT Trail Mountain 77.00 50 *eP* **P 10 27 20.2 -0.9**
NEN Nelson 77.01 55 *eP* **P 10 27 20.6 -0.7**
COP Copenhagen 77.17 334 *i* P **P 10 27 23.3 +1.6**
LDFC Landfair 77.19 55 *eP* **P 10 27 24.0 +1.7**
PFO Pinyon Flat Ob 77.21 57 *eP* **P 10 27 20.4 -2.0**
PFO LR LR
comp=Z,814nm,21.0s,MS5.0
GKP Gorka Klasztor 77.27 330 *eP* **P 10 27 24.5 +2.2**
GKP *e*PcP PcP 10 27 30.8 -2.3
GKP *e*pP pP 10 27 38.8 +0.1
GKP *e*PP PP 10 30 19.5 +1.1
GKP *e*S S 10 37 10.9 +4.7
GKP *e*SKS SKS 10 37 34.3 +10
GKP MLR MLR 11 03 14.4
comp=Z,10µm,21.4s,MS6.1
GKP Gorka Klasztor 77.27 330 *eP* **P 10 27 24.5 +2.2**
GKP *e*PcP PcP 10 27 30.8 -2.3
GKP *e*pP pP 10 27 38.8 +0.1
GKP *e*PP PP 10 30 19.5 +1.2
GKP *e*S S 10 37 10.9 +4.8
GKP *e*SKS SKS 10 37 34.3 +9.5
GKP LR LR
comp=Z,10µm,21.4s,MS6.1
SRU San Rafael 77.53 50 *eP* **P 10 27 22.4 -1.6**
ULM Lac du Bonnet 77.61 34 P **P 10 27 25.5 +1.3**
comp=Z,20nm,0.8s,mb5.1,baz=319,slow=5.3,SNR=9.3
ULM S S 10 37 11.1 +1.3
comp=Z,1.2nm,0.7s,baz=229,slow=7.9,SNR=1.8
ULM LR LR 11 05 32.6
comp=Z,2µm,19.1s,MS5.5,baz=333,slow=39
ULM Lac du Bonnet 77.61 34 *eP* **P 10 27 22.3 -1.9**
ULM S S 10 37 11.1 +1.3
ULM LR LR 11 05 32.6
BAR Barrett 77.64 58 *eP* **P 10 27 23.8 -0.9**
MUD Monsted U'grnd 77.64 336 *i* P **P 10 27 23.9 -0.4**
MUD *i* S S 10 37 16.9 +6.9
MUD Monsted U'grnd 77.64 336 *i* S S 10 37 16.9 +6.9
MUD Monsted U'grnd 77.64 336 *i* S S 10 37 16.9 +6.9
KWP Kalwaria 77.66 325 *eP* **P 10 27 24.7 +0.2**
KWP *e*PcP PcP 10 27 33.6 -1.2
KWP *e*pP pP 10 27 41.8 +0.9
KWP *e*PP PP 10 30 23.3 +1.5
KWP *e*S S 10 37 17.9 +7.5
KWP MLR MLR 11 04 57.6
comp=Z,38µm,16.3s,MS6.8
KWP Kalwaria 77.66 325 *eP* **P 10 27 24.7 +0.2**
KWP *e*PcP PcP 10 27 33.6 -1.2
KWP *e*pP pP 10 27 41.8 +0.9
KWP *e*PP PP 10 30 23.3 +1.4
KWP *e*S S 10 37 17.9 +7.6
RGN Rugen 77.76 333 P **P 10 27 24.6 -0.3**
comp=Z,330nm,1.4s,mb6.1
RWWY Rawlins 77.79 46 *eP* **P 10 27 25.7 +0.3**
RSSD Black Hills 77.92 43 *eP* **P 10 27 26.3 +0.2**
KOLS Kolonicke sedl 78.36 325 *eP* **P 10 27 30.9 +2.5**
KOLS *e* 10 30 28.7
STHS Stebnicka Huta 78.47 325 *i* P **P 10 27 31.8 +2.8**
OJC Ojcow 78.51 327 *eP* **P 10 27 32.0 +2.8**
OJC *e*PP PP 10 30 28.6 -0.4
OJC *e*S S 10 37 27.7 +8.3
OJC MLR MLR 11 06 08.1
comp=Z,18µm,18.1s,MS6.4
TIRR Tirgusor 78.52 318 *eP* **P 10 27 28.6 -0.7**
CRVS Cervenica-Dubn 78.75 325 *eP* **P 10 27 32.2 +1.7**
CRVS *e* 10 30 30.0
CRVS *e*S S 10 37 18.0 -4.0
BRTR Keskin Array B 78.80 312 P **P 10 27 30.9 -0.1**
comp=Z,30nm,1.1s,mb5.1,baz=80,slow=3.3,SNR=5.9
BRTR PP PP 10 30 36.5 +5.0
comp=Z,10nm,0.9s,baz=80,slow=7.5,SNR=4.2
BRTR S S 10 37 33.1 +10
comp=Z,0.3nm,0.4s,baz=109,slow=30,SNR=2.5
NIE Niedzica 78.88 326 *eP* **P 10 27 34.0 +2.8**
PV10 Paradox Valley 78.89 50 *eP* **P 10 27 32.1 +0.6**
PHWY Pilot Hill 79.04 46 *eP* **P 10 27 31.7 -0.6**
MLR Muntele Rosu 79.06 320 P **P 10 27 34.0 +1.7**
comp=Z,18nm,0.8s,mb5.0,baz=42,slow=5.8,SNR=8.6
MLR S S 10 37 32.6 +7.2
comp=Z,0.9nm,0.4s,baz=93,slow=19,SNR=1.6
MLR Muntele Rosu 79.06 320 P **P 10 27 34.0 +1.7**
MLR S S 10 37 32.6 +7.2
MLR pmax pmax
comp=Z,18nm,0.8s
RUE Ruedersdorf 79.22 331 *eP* **P 10 27 32.8 -0.2**
RAC Raciborz 79.30 327 *eP* **P 10 27 33.8 +0.3**
RAC *e*S S 10 37 31.4 +3.6
RAC MLR MLR 11 06 29.4
comp=Z,23µm,16.7s,MS6.6
RAC LMN 11 06 41.2
comp=Z,20µm,15.8s
RAC LME 11 06 55.5
comp=Z,20µm,15.6s
PV01 Paradox Valley 79.32 50 *eP* **P 10 27 32.7 -1.2**
KECS Kecovo 79.50 325 *eP* **P 10 27 37.1 +2.5**
KECS *e* 10 30 35.8
OKC Ostrava-Krasne 79.50 327 *eP* **P 10 27 34.7 +0.1**
OKC *e*S S 10 37 36.9 +7.0
OKC *e*SS SS 10 42 39.0 -2.4
OKC AMS AMS 11 05 50.0
comp=Z,15µm,16.0s
KSP Ksiaz 79.50 329 *eP* **P 10 27 34.5 -0.1**
KSP *e*PP PP 10 30 37.8 +0.9
KSP *e*S S 10 37 39.9 +10
KSP *e*SKS SKS 10 37 56.1 +15
KSP Ksiaz 79.50 329⇑ *eP* **P 10 27 34.2 -0.4**
KSP *e*pP pP 10 27 50.1 -0.9
KSP *e*PP PP 10 30 37.0 +0.1
KSP *e*PPP PPP 10 32 25.0 -2.8
KSP *e*S S 10 37 35.0 +5.1
KSP LR LR
comp=Z,39µm,15.7s,MS6.8
WCZ Waipu Caves 79.54 155 P* **P 10 27 37.4 +2.3**
DGAR Diego Garcia 79.62 252 PFAKE 10 27 50.0 +14
DGAR LR LR
comp=Z,924nm,19.0s,MS5.1
MORC Moravsky Berou 79.80 328 *eP* **P 10 27 33.1 -3.1**
DPC Dobruska-Polom 79.87 329 *eP* **P 10 27 36.8 +0.2**
DPC *e*S S 10 37 40.8 +7.0
DPC *e*SS SS 10 42 46.9 0.0
DPC AMS AMS 11 10 10.0
comp=Z,15µm,14.2s
UPC Upice 79.88 329 *eP* **P 10 27 39.8 +3.2**
ISCO Idaho Springs 79.95 47 *eP* **P 10 27 39.0 +1.8**
ISCO LR LR
comp=Z,6µm,19.0s,MS6.0
RAR Rarotonga 80.03 127 PFAKE 10 27 50.0 +12
RAR LR LR
comp=Z,4µm,19.0s,MS5.8
PSZ Piszkesteto 80.18 325 *eP* **P 10 27 38.0 -0.3**
KOLL Kolacno 80.34 326 *e* **P 10 27 42.2 +3.1**
BRG Berggiesshubel 80.42 330 *i* P **P 10 27 42.5 +3.0**
comp=Z,199nm,1.5s,mb5.8
BRG *i* pP 10 27 59.6 +3.6
BRG *i* 10 28 37.1
BRG PP PP 10 30 39.0 -5.6
BRG *i* 10 32 32.0
BRG *e* 10 33 06.7
BRG S S 10 37 42.0 +2.5
BRG SS SS 10 42 56.0 +0.9
BRG LR LR
comp=Z,23µm,16.9s,MS6.6
BRG Berggiesshubel 80.42 330 *i* P **P 10 27 42.5 +3.0**
BRG *i* pP 10 27 59.6 +3.6
BRG 10 30 39.0
BRG *i* 10 32 32.0
BRG S S 10 37 42.0 +2.5
BRG SS SS 10 42 56.0 +0.9
BRG pmax pmax
comp=Z,199nm,1.5s,mb5.8
BRG MLR MLR
comp=N,2µm,14.6s,MS5.6
BRG MLR MLR
comp=E,1µm,15.9s,MS5.6
BRG MLR MLR
comp=Z,23µm,16.9s,MS6.6
CLL Collm 80.44 331⇓ P **P 10 27 39.2 -0.4**
CLL *i* *PP pP 10 27 43.9 -12
CLL *i* PCP PcP 10 27 48.7 +2.0
CLL *i* pP 10 27 59.7 +3.6
CLL *i* 10 30 31.6
CLL *e* 10 30 45.0
CLL *e*PPP PPP 10 32 30.0 -6.2
CLL *e* 10 33 48.0
CLL *e*S S 10 37 46.0 +6.3
CLL *e*SP SP 10 38 25.0 -1.0
CLL *e*PPS PPS 10 38 51.0 -3.5
CLL *e*SSS SSS 10 46 19.0 +1.8
CLL Collm 80.44 331⇓ *i* P **P 10 27 39.2 -0.4**
comp=Z,233nm,1.2s,mb6.0
CLL *i* PcP PcP 10 27 48.7 +2.0
CLL *i* sP sP 10 27 59.7 -2.9
CLL *e*S S 10 37 46.0 +6.3
CLL LR LR
comp=Z,20µm,14.3s,MS6.6
CLL Collm 80.44 331⇓ *i* P **P 10 27 39.2 -0.4**
CLL *i* 10 27 48.7
CLL *e*S S 10 37 46.0 +6.3
CLL pmax pmax
comp=Z,233nm,1.2s,mb6.0
CLL MLR MLR
comp=Z,20µm,14.3s,MS6.6
PVCC Panska Ves 80.44 330 *eP* **P 10 27 40.1 +0.5**
PVCC *e*S S 10 37 46.9 +7.2
PVCC *e*SS SS 10 43 01.7 +6.3
PVCC AMS AMS 11 08 20.0
comp=Z,19µm,14.4s
VRAC Vranov 80.56 328 S S 10 37 48.6 +7.6
comp=Z,3.6nm,0.5s,baz=296,slow=16,SNR=2.9
PRA Prague 80.85 329 P **P 10 27 44.0 +2.2**
PRA AMS AMS 11 08 30.0
PRU Pruhonice 80.87 329 *eP* **P 10 27 42.1 +0.2**
PRU *e*S S 10 37 50.4 +6.1
PRU *e*SS SS 10 43 18.2 +16
PRU AMS AMS 11 08 20.0
comp=Z,19µm,15.6s
PRU Pruhonice 80.87 329 *eP* **P 10 27 42.1 +0.2**
PRU *e*S S 10 37 50.4 +6.1
PRU MLR MLR
comp=Z,19µm,15.6s,MS6.5
TREC Trest 81.03 328 *eP* **P 10 27 43.1 +0.4**
TREC *e*SKS SKS 10 37 55.5 +3.8
TREC AMS AMS 11 08 10.0
comp=Z,29µm,13.9s
SRO1 Iza 81.04 326 *e* **P 10 27 44.0 +1.2**
TAU Tasmania Unive 81.12 177 PFAKE 10 28 00.0 +17
TAU LR LR
comp=Z,1µm,21.0s,MS5.2
WIT Witteveen 81.48 335 *eP* **P 10 27 46.1 +1.1**
MOX Moxa 81.50 331 *i* P **P 10 27 45.0 -0.2**
MOX Moxa 81.50 331 PP PP 10 30 52.0 -1.8
NKC Novy Kostel 81.51 330 *eP* **P 10 27 45.3 +0.1**
NKC *e*S S 10 37 56.5 +5.7
NKC *e*SS SS 10 42 45.8 -26
NKC AMS AMS 11 10 50.0
comp=Z,19µm,13.7s
NKC Novy Kostel 81.51 330 *eP* **P 10 27 45.3 +0.1**
NKC *e*S S 10 37 56.5 +5.7
NKC MLR MLR
comp=Z,19µm,13.7s,MS6.6
ASF Jabal al Asfar 81.71 305 P **P 10 27 48.6 +1.9**
comp=Z,23nm,0.8s,mb5.2,baz=320,slow=3.1,SNR=6.2
ASF PP PP 10 30 60.0 +4.1
comp=Z,64nm,1.3s,baz=306,slow=1.5,SNR=4.9
ASF S S 10 38 00.3 +7.1
comp=Z,1.3nm,0.3s,baz=33,slow=18,SNR=2.3
ASF Jabal al Asfar 81.71 305 P **P 10 27 48.6 +1.9**
ASF 10 31 00.0
ASF S S 10 38 00.3 +7.1
ASF pmax pmax
comp=Z,23nm,0.8s
ASF pmax pmax
comp=Z,64nm,1.3s
TUC Tucson 81.73 55 *eP* **P 10 27 42.9 -3.9**
TUC LR LR
comp=Z,2µm,20.0s,MS5.4
KHC Kasperske Hory 81.94 329 *eP* **P 10 27 47.9 +0.4**
KHC pP pP 10 28 06.5 +2.5
KHC *e*S S 10 38 03.2 +8.0
KHC *e*SS SS 10 43 20.9 +3.0
KHC AMS AMS 11 08 10.0
comp=Z,15µm,16.7s
KHC Kasperske Hory 81.94 329 *eP* **P 10 27 47.9 +0.4**
KHC *e* pP 10 28 06.5 +2.5
KHC *e*S S 10 38 03.2 +8.0
KHC *e*SS SS 10 43 20.9 +3.0
KHC LR LR
comp=Z,15µm,16.7s,MS6.4
HIZ Hauiti 82.05 155 P* **P 10 27 50.3 +2.0**
GERES GERESS Array B 82.11 329 P **P 10 27 50.6 +2.3**
comp=Z,14nm,0.8s,mb4.9,baz=34,slow=6.2,SNR=10
GERES S S 10 38 01.8 +4.8
comp=Z,0.3nm,0.2s,baz=27,slow=18,SNR=2.7
GERES PKKPbc 10 46 23.5
comp=Z,0.3nm,0.4s,baz=243,slow=3.0,SNR=3.5
CSS Prodhromos 82.13 309 *eP* **P 10 27 48.9 +0.1**
ESK Eskdalemuir 82.19 341 PFAKE 10 28 00.0 +11
ESK LR LR
comp=Z,1µm,19.0s,MS5.3
GRA1 Grafenberg Arr 82.41 331 *ep*P pP 10 27 50.5 -16
GRA1 *es*P sP 10 28 08.3 -4.6
GRA1 *e*SS S 10 38 06.3 +6.3
GRF Grafenberg Arr 82.41 331 *eP* **P 10 27 50.5 +0.6**
GRF *e* pP 10 28 08.3 +1.8
GRF *e*S S 10 38 06.3 +6.3
GRF Grafenberg Arr 82.41 331 *ep*P **P 10 27 50.5 +0.6**
GRF *es*P sP 10 28 08.3 -4.6
GRF *es*S S 10 38 06.3 +6.3
GRF Grafenberg Arr 82.41 331 *e*S S 10 38 06.3 +6.3
ANMO Albuquerque 82.70 51 PFAKE 10 28 00.0 +8.3
ANMO LR LR
comp=Z,2µm,20.0s,MS5.5
ANMO Albuquerque 82.70 51 *i* P **P 10 27 51.3 -0.4**
PERS Pernice 83.26 327 *eP* **P 10 27 53.9 -0.3**
HGN Heimansgroeve 83.45 334 *eP* **P 10 27 54.3 -0.8**
comp=Z,118nm,1.1s,mb5.8
HGN *e*PP PP 10 31 13.1 +3.7
HGN *e*PPP PPP 10 33 07.9 +4.2
HGN *e*S S 10 38 26.0 +16
SCHQ Schefferville 83.59 17 P **P 10 27 57.5 +1.8**
comp=Z,17nm,0.7s,mb5.3,baz=352,slow=6.7,SNR=7.8
SCHQ S S 10 38 18.2 +6.5
comp=Z,2.6nm,0.9s,baz=326,slow=1.6,SNR=2.1
SCHQ Schefferville 83.59 17 *eP* **P 10 27 57.1 +1.5**
comp=Z,23nm,0.8s,mb5.4
SCHQ LR LR
comp=Z,5µm,22.0s,MS5.8
CBKS Cedar Bluff 83.92 44 *eP* **P 10 27 57.9 +0.1**
CBKS LR LR
comp=Z,3µm,19.0s,MS5.8
STU Stuttgart 83.94 331 *eP* **P 10 27 57.4 -0.2**
comp=Z,202nm,1.3s,mb6.1
STU Stuttgart 83.94 331 *eP* **P 10 28 01.0 +3.4**
STU pmax pmax
comp=Z,220nm,1.3s,mb6.1
LJU Ljubljana 83.98 327 *eP* **P 10 27 58.9 +1.0**
LJU *e*PcP PcP 10 28 02.0 -0.1
LJU *e*PP PP 10 31 15.5 +1.8
LJU *e* 10 33 01.6
LJU *e*S S 10 38 21.3 +5.5
LJU *e*ScS ScS 10 38 32.8 +6.4
LJU *e* 10 47 32.5
NNZ Nelson 84.05 157 *eP** **P 10 27 57.7 -0.6**
BOJS Bojanci 84.08 326 *i* P **P 10 27 57.9 -0.5**
BOJS *i* PcP PcP 10 28 02.6 0.0
BOJS *e* 10 33 14.0
BOJS *e*S S 10 38 22.9 +6.1
BOJS *e*ScS ScS 10 38 36.0 +8.7
BOJS *e* 10 47 27.8
MRZ Mangatainoka R 84.23 156 P* **P 10 27 58.2 -1.1**
WLF Walferdange 84.30 333 *eP* **P 10 28 03.0 +3.6**
WLF pmax pmax
comp=Z,360nm,1.6s,mb6.2
GIVF Givet 84.39 334 *eP* **P 10 27 58.5 -1.3**
comp=Z,522nm,1.7s,mb6.1
SNZO South Karori 84.54 157 PFAKE 10 28 10.0 +9.2
SNZO LR LR
comp=Z,5µm,21.0s,MS5.9
BAIF Baives 84.63 335 *eP* **P 10 27 59.8 -1.2**
comp=Z,204nm,1.4s,mb5.8
DLF Lyons Farm 84.84 342⇑ *i P* **P 10 28 05.6 +3.6**
CDF Champ du Feu 84.95 332 *eP* **P 10 28 01.6 -1.0**
comp=Z,811nm,1.5s,mb6.3
DCN Croghan 84.98 343⇑ *i P* **P 10 28 06.3 +3.6**
NVLJ Novalja 84.99 326 *i P* **P 10 28 01.0 -1.9**
DAVOX Davos 85.31 330 S S 10 38 31.5 +2.7
comp=Z,0.6nm,0.3s,baz=152,slow=20,SNR=2.2
MNTX Cornudas Mount 85.56 53 *eP* **P 10 28 04.8 -1.3**
MNTX LR LR
comp=Z,2µm,20.0s,MS5.6
HINF Hinteralfeld 85.60 332 *eP* **P 10 28 04.5 -1.4**
comp=Z,379nm,1.6s,mb6.1
HAU Haudompre 85.63 332 *eP* **P 10 28 04.7 -1.3**
comp=Z,302nm,1.5s,mb6.0
MEZF Maizieres J'vi 85.67 333 *eP* **P 10 28 05.4 -0.8**
comp=Z,622nm,1.5s,mb6.3
NPS Neapolis 86.50 313 *eP* **P 10 28 01.5 -9.1**
IDI Anoyia 86.89 314 S S 10 38 38.2 -6.1
comp=Z,14nm,1.0s,baz=306,slow=14,SNR=2.1
CABF La Chapelle 86.90 332 *eP* **P 10 28 11.3 -1.0**
comp=Z,366nm,1.6s,mb6.1
LOR Lormes 87.14 333 *eP* **P 10 28 12.2 -1.2**
comp=Z,682nm,1.6s,mb6.4
FLN La Foliniere 87.27 337 *eP* **P 10 28 12.7 -1.3**
comp=Z,454nm,1.5s,mb6.2
LDF La Druitiere 87.31 336 *eP* **P 10 28 12.8 -1.4**
comp=Z,586nm,1.7s,mb6.2
AQU L'Aquila 87.39 325 *eP* **P 10 28 14.7 -0.1**
AQU L'Aquila 87.39 325 *eP* **P 10 28 15.9 +1.1**
AQU pmax pmax
comp=Z,230nm,1.5s,mb6.2
SSF Saint Saulge 87.44 334 *eP* **P 10 28 13.8 -1.1**
comp=Z,228nm,1.4s,mb5.9
CII Carovilli 87.48 324 *eP* **P 10 28 15.0 -0.2**
HYF Humbligny 87.56 334 *eP* **P 10 28 14.9 -0.6**
LPL La Plagne 87.58 331 *eP* **P 10 28 14.8 -0.8**
comp=Z,130nm,1.0s,mb5.8
LPG La Plagne 87.58 331 *eP* **P 10 28 14.9 -0.7**
SMF Signal de Mont 87.68 333 *eP* **P 10 28 15.0 -1.0**
comp=Z,685nm,1.6s,mb6.3
GRR Gorron 87.72 337 *eP* **P 10 28 15.1 -1.1**
comp=Z,483nm,1.4s,mb6.2
AVF Avril sur Loir 87.73 334 *eP* **P 10 28 15.3 -1.0**
comp=Z,807nm,1.6s,mb6.4
BNI Bardonecchia 87.99 331 *eP* **P 10 28 18.3 +0.7**
BNI Bardonecchia 87.99 331 *eP* **P 10 28 23.0 +5.5**
BNI pmax pmax
comp=Z,65nm,1.3s,mb5.7
BGF Bois d'Agland 88.11 334 *eP* **P 10 28 17.2 -0.9**
comp=Z,379nm,1.7s,mb6.1
MBDF Montbardon 88.22 330 *eP* **P 10 28 17.3 -1.4**
comp=Z,55nm,1.0s,mb5.5
LTX Lajitas 88.26 53 *eP* **P 10 28 21.2 +2.0**
LTX LR LR
comp=Z,3µm,20.0s,MS5.7
LTX Lajitas 88.26 53 *eP* **P 10 28 21.7 +2.5**
LTX pmax pmax
comp=Z,32nm,1.0s,mb5.5
TXAR Lajitas Array 88.26 53 P **P 10 28 21.4 +2.1**
comp=Z,5.7nm,0.5s,mb5.0,baz=296,slow=2.6,SNR=11
TXAR S S 10 39 00.5 +3.2
comp=Z,0.1nm,0.6s,baz=321,slow=12,SNR=2.5
TXAR PKKPbc 10 46 04.0
comp=Z,0.3nm,0.5s,baz=152,slow=5.5,SNR=5.6
TXAR PKPPKP 10 54 18.8
comp=Z,0.6nm,1.1s,baz=180,slow=2.5,SNR=3.5
TXAR Lajitas Array 88.26 53 P **P 10 28 21.4 +2.1**
TXAR S S 10 39 00.5 +3.2
TXAR PKKPbc 10 46 04.0
TXAR P'P' 10 54 18.8
TIP Timpagrande 88.30 321 *eP* **P 10 28 18.9 -0.3**
SGMF Saint Gilles 88.35 338 *eP* **P 10 28 18.4 -0.8**
comp=Z,343nm,1.6s,mb6.0
ORIF Oris-en-Rattie 88.41 331 *eP* **P 10 28 18.6 -0.9**
comp=Z,208nm,1.6s,mb5.8
ROSF Rostrenen 88.49 338 *eP* **P 10 28 19.0 -0.8**
comp=Z,539nm,1.9s,mb6.2
TCF Toulx Ste Croi 88.56 334 *eP* **P 10 28 19.4 -0.8**
comp=Z,460nm,1.8s,mb6.2
SBF Sospel 88.69 330 *eP* **P 10 28 20.4 -0.5**
comp=Z,80nm,1.0s,mb5.7
VIVF Saint-Julien-l 88.91 332 *eP* **P 10 28 21.0 -0.9**
comp=Z,242nm,1.6s,mb6.0
CCM Cathedral Cave 88.95 40 *eP* **P 10 28 23.9 +1.5**
CCM LR LR
comp=Z,711nm,20.0s,MS5.1
SLM Saint Louis 89.00 39 P **P 10 28 26.5 +4.0**
SLM pmax pmax
comp=Z,46nm,0.7s,mb5.9
MFF Saint Martin d 89.07 336 *eP* **P 10 28 21.9 -0.8**
comp=Z,294nm,1.4s,mb6.1
PGF Pioggiola 89.14 328 *eP* **P 10 28 21.3 -1.8**
comp=Z,130nm,1.4s,mb5.8
SMRF Simiane la Rot 89.32 331 *eP* **P 10 28 22.9 -1.0**
comp=Z,169nm,1.7s,mb5.8
FVM French Village 89.42 39 *eP* **P 10 28 25.6 +1.1**
comp=Z,92nm,1.4s,mb5.9
FVM French Village 89.42 39 *eP* **P 10 28 26.2 +1.7**
FVM pmax pmax
comp=Z,79nm,1.3s,mb5.9
LMR La Mourre 89.50 330 *eP* **P 10 28 23.1 -1.6**
comp=Z,262nm,1.7s,mb6.0
RJF Les Rejaudoux 89.66 334 *eP* **P 10 28 24.7 -0.7**
comp=Z,490nm,1.7s,mb6.2
CAF Calviac 89.79 333 *eP* **P 10 28 25.6 -0.5**
comp=Z,280nm,1.5s,mb6.1

LASF	Ste Croix	89.88	332	*e*P	P	10 28 25.7	-0.8
	comp=Z,77nm,1.2s,mb5.6						
LFF	La Frestale	90.24	334	*e*P	P	10 28 27.6	-0.6
	comp=Z,131nm,1.0s,mb5.9						
BLO	Bloomington	90.36	36	*e*P	P	10 28 27.3	-1.6
	comp=Z,51nm,1.3s,mb5.7						
BLO	Bloomington	90.36	36	*e*P	P	10 28 32.9	+4.0
BLO				pmax	pmax		
	comp=Z,120nm,1.7s,mb6.0						
MIAR	Mount Ida	90.41	44	PFAKE		10 28 40.0	+11
MIAR				LR	LR		
	comp=Z,48nm,21.0s						
PARMO	Parma	90.78	40	*e*P	P	10 28 33.1	+2.2
PQI	Presque Isle	90.79	21	PFAKE		10 28 40.0	+9.3
PQI				LR	LR		
	comp=Z,23μm,21.0s,MS6.6						
UALR	University of	90.90	43	*e*P	P	10 28 32.2	+0.7
	comp=Z,19nm,1.1s,mb5.3						
GENY	Geneseo	91.04	29	*e*P	P	10 28 33.4	+1.4
ACSO	Alum Creek Sta	91.08	33	*e*P	P	10 28 29.4	-2.9
	comp=Z,29nm,1.0s,mb5.6						
ACSO				LR	LR		
	comp=Z,2μm,20.0s,MS5.6						
ALLY	Alegheny Colle	91.08	31	*e*P	P	10 28 28.3	-3.9
MTLF	Montolieu	91.11	333	*e*P	P	10 28 31.5	-0.8
	comp=Z,132nm,1.4s,mb5.8						
HBAR	Harrisburg	91.18	41	*e*P	P	10 28 33.9	+1.0
GNAR	Gosnell	91.19	40	*e*P	P	10 28 33.7	+0.8
WCI	Wyandotte Cave	91.22	37	*e*P	P	10 28 29.8	-3.1
	comp=Z,31nm,0.9s,mb5.6						
WCI				LR	LR		
	comp=Z,1μm,19.0s,MS5.3						
WCI	Wyandotte Cave	91.22	37	*e*P	P	10 28 34.6	+1.7
WCI				pmax	pmax		
	comp=Z,31nm,0.9s,mb5.6						
NCB	Newcomb	91.29	26	*e*P	P	10 28 31.2	-1.9
	comp=Z,36nm,0.8s,mb5.8						
NCB				LR	LR		
	comp=Z,5μm,20.0s,MS6.0						
NATX	Nacogdoches	91.90	46	*e*P	P	10 28 38.7	+2.5
NATX				LR	LR		
	comp=Z,3μm,19.0s,MS5.7						
ACCN	Adirondack Com	92.00	26	*e*P	P	10 28 38.5	+2.1
EPF	Esparros	92.06	334	*e*P	P	10 28 35.3	-1.3
	comp=Z,119nm,1.4s,mb5.7						
WVT	Waverly	92.16	39	*e*P	P	10 28 39.0	+1.7
WVT				LR	LR		
	comp=Z,2μm,20.0s,MS5.6						
BINY	Binghamton	92.21	28	*e*P	P	10 28 39.4	+2.0
	comp=Z,54nm,1.3s,mb5.7						
BINY				LR	LR		
	comp=Z,4μm,20.0s,MS5.9						
WVL	Waterville	92.23	23	PFAKE		10 28 50.0	+13
WVL				LR	LR		
	comp=Z,15μm,19.0s,MS6.5						
ETSF	Etsaut	92.48	334	*e*P	P	10 28 38.3	-0.3
	comp=Z,155nm,1.6s,mb5.8						
SJPF	Ste Jean	92.52	335	*e*P	P	10 28 37.7	-1.1
FFD	Franklin Falls	92.59	24	*e*P	P	10 28 43.4	+4.3
OXF	Oxford	92.63	41	*e*P	P	10 28 40.1	+0.6
	comp=Z,88nm,1.1s,mb6.1						
OXF				LR	LR		
	comp=Z,3μm,20.0s,MS5.7						
OXF	Oxford	92.63	41	*e*P	P	10 28 41.7	+2.2
OXF				pmax	pmax		
	comp=Z,88nm,1.0s,mb6.1						
EMMW	East Machias	92.74	21	*e*P	P	10 28 36.6	-3.1
	comp=Z,166nm,1.2s,mb6.3						
EMMW				LR	LR		
	comp=Z,25μm,20.0s,MS6.7						
MCWV	Mont Chateau	92.89	32	*e*P	P	10 28 32.2	-8.4
MCWV				LR	LR		
	comp=Z,4μm,20.0s,MS5.8						
WES	Weston	93.67	25	PFAKE		10 29 00.0	+16
WES				LR	LR		
	comp=Z,5μm,19.0s,MS6.0						
CPCT	Cooper Cave	94.30	37	*e*P	P	10 28 46.3	-0.7
ELN	Prospectdale	94.55	34	*e*P	P	10 28 48.5	+0.4
BLA	Blacksburg	94.70	33	PFAKE		10 29 00.0	+11
BLA				LR	LR		
	comp=Z,5μm,20.0s,MS6.0						
MYNC	Murphy	94.79	37	PFAKE		10 29 00.0	+11
MYNC				LR	LR		
	comp=Z,3μm,20.0s,MS5.8						
LRAL	Lakeview Retre	95.03	40	PFAKE		10 29 00.0	+10
LRAL				LR	LR		
	comp=Z,2μm,19.0s,MS5.7						
CBN	Corbin	95.13	31	PFAKE		10 29 00.0	+9.2
CBN				LR	LR		
	comp=Z,7μm,20.0s,MS6.1						
GOGA	Godfrey	96.47	38	PFAKE		10 29 10.0	+13
GOGA				LR	LR		
	comp=Z,4μm,19.0s,MS5.9						
ESDC	Sonseca Array	96.51	335	P	P	10 28 58.6	+1.5
	comp=Z,2.8nm,0.8s,mb4.8,baz=24,slow=3.3,SNR=7.3						
ESDC				PP	PP	10 32 47.9	-6.3
	comp=Z,2.0nm,0.7s,baz=28,slow=6.6,SNR=4.7						
ESLA	Sonseca Array	96.51	335	PFAKE		10 29 10.0	+13
ESLA				LR	LR		
	comp=Z,53μm,19.0s						
NHSC	New Hope	98.25	35	PFAKE		10 29 20.0	+15
NHSC				LR	LR		
	comp=Z,4μm,19.0s,MS5.9						
DWPF	Disney	101.81	39	PFAKE		10 29 30.0	+8.7
DWPF				LR	LR		
	comp=Z,650nm,19.0s,MS5.2						
PTCN	Pitcairn Islan	102.89	112	PFAKE		10 29 40.0	+14
PTCN				LR	LR		
	comp=Z,5μm,19.0s,MS6.1						
KMBO	Kilima Mbogo	102.98	279	PP	PP	10 33 46.5	+2.0
	comp=Z,8.2nm,1.1s,baz=25,slow=8.9,SNR=8.4						
KMBO	Kilima Mbogo	102.98	279	PFAKE		10 29 40.0	+13
KMBO				LR	LR		
	comp=Z,388μm,21.0s						
CMLA	Cha da Macela	103.38	351	PFAKE		10 29 40.0	+12
CMLA				LR	LR		
	comp=Z,3μm,19.0s,MS5.9						
BBSR	BB Station	104.94	24	PFAKE		10 29 50.0	+15
BBSR				LR	LR		
	comp=Z,3μm,19.0s,MS5.8						
CASY	Casey	107.39	193	PFAKE		10 34 10.0	
CASY				LR	LR		
	comp=Z,2μm,19.0s,MS5.7						
MBAR	Mbarara	107.66	284	PFAKE		10 34 10.0	
MBAR				LR	LR		
	comp=Z,546nm,20.0s,MS5.1						
VNDA	Vanda	116.33	175	PKP	PKPdf	10 34 11.9	+2.9
	comp=Z,2.8nm,0.9s,baz=290,slow=4.0,SNR=8.0						
VNDA				PP	PP	10 35 21.1	+0.6
	comp=Z,3.7nm,0.9s,baz=324,slow=8.2,SNR=5.3						
VNDA	Vanda	116.33	175	PKIKP	PKPdf	10 34 11.9	+2.9
VNDA						10 35 21.1	
VNDA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
VNDA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SBA	Scott Base	116.98	174	PFAKE		10 34 20.0	+10
SBA				LR	LR		
	comp=Z,1μm,21.0s,MS5.5						
CPD	Cerro la Pandu	117.58	31	*e*P	Pdif	10 30 38.9	+8.0
PAYG	Puerto Ayora	118.47	66	PFAKE		10 34 30.0	+15
PAYG				LR	LR		
	comp=Z,2μm,20.0s,MS5.7						
RPN	Rapa Nui	119.58	102	PFAKE		10 34 30.0	+14
RPN				LR	LR		
	comp=Z,1μm,20.0s,MS5.5						
MAW	Mawson	121.39	206	*e*P	PKPdf	10 34 21.3	+2.3
	comp=Z,7.3nm,0.6s						
MAW	Mawson	121.39	206	PKP	PKPdf	10 34 21.3	+2.3
	comp=Z,8.4nm,0.6s,baz=34,slow=1.6,SNR=14						
MAW	Mawson	121.39	206	PKIKP	PKPdf	10 34 21.3	+2.3
MAW				pmax	pmax		
	comp=Z,8.0nm,0.6s						
SDV	Santo Domingo	123.42	41	*e*PKPdf	PKPdf	10 34 27.4	+3.2
SDV				LR	LR		
	comp=Z,2μm,21.0s,MS5.7						
ROSC	El Rosal	124.74	47	PKP	PKPdf	10 34 30.4	+3.6
	comp=Z,5.3nm,0.4s,baz=280,slow=22,SNR=3.1						
LBTB	Lobatse	126.02	265	PFAKE		10 34 40.0	+11
LBTB				LR	LR		
	comp=Z,3μm,21.0s,MS5.9						
DBIC	Dimbokro	126.03	319	PKP	PKPdf	10 34 31.2	+2.0
	comp=Z,6.9nm,0.6s,baz=11,slow=5.3,SNR=10.0						
DBIC				PP	PP	10 36 26.3	-1.6
	comp=Z,34nm,1.1s,baz=12,slow=9.6,SNR=5.9						
DBIC	Dimbokro	126.03	319	PKIKP	PKPdf	10 34 31.2	+2.0
DBIC						10 36 26.3	
DBIC				pmax	pmax		
	comp=Z,7.0nm,0.6s						
DBIC				pmax	pmax		
	comp=Z,34nm,1.1s						
BOSA	Boshof	128.04	261	PKP	PKPdf	10 34 35.5	+2.7
	comp=Z,4.9nm,0.9s,baz=243,slow=2.3,SNR=2.6						
BOSA	Boshof	128.04	261	PKIKP	PKPdf	10 34 35.5	+2.7
BOSA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
QSPA	South Pole Qui	128.23	180	*e*P	PKPdf	10 34 35.0	+3.2
TSUM	Tsumeb	129.21	276	PFAKE		10 34 50.0	+15
TSUM				LR	LR		
	comp=Z,3μm,20.0s,MS6.0						
SYO	Syowa Base	130.06	207	⇑PKPdf	PKPdf	10 34 34.6	-0.9
SUR	Sutherland	133.14	259	PFAKE		10 35 00.0	+18
SUR				LR	LR		
	comp=Z,657nm,19.0s,MS5.4						
NNA	Nana	135.87	64	PFAKE		10 35 00.0	+12
NNA				LR	LR		
	comp=Z,449nm,19.0s,MS5.2						
SAML	Samuel	142.34	45	*e*PKPdf	PKPdf	10 34 58.2	-1.3
SAML				LR	LR		
	comp=Z,2μm,20.0s,MS5.8						
VNA2	Neumayer--Watz	144.06	196	⇑*i*	PKPbc	10 35 01.1	+1.0
VNA2	Neumayer--Watz	144.06	196	*e*	PKPbc	10 35 02.9	+2.8
VNA2	Neumayer--Watz	144.06	196	*e*	PKPbc	10 35 09.4	+9.3
VNA2	Neumayer--Watz	144.06	196	*e*	PKPbc	10 35 12.6	+13
VNA2	Neumayer--Watz	144.06	196	*e*	PKPbc	10 35 22.8	+23
VNA2	Neumayer--Watz	144.06	196	*e*	PKPbc	10 35 26.1	+26
VNA3	Neumayer Olymp	144.29	195	⇑*i*	PKPbc	10 35 01.1	+0.4
VNA3	Neumayer Olymp	144.29	195	*e*	PKPbc	10 35 03.2	+2.5
VNA3	Neumayer Olymp	144.29	195	*e*	PKPbc	10 35 09.8	+9.1
VNA3	Neumayer Olymp	144.29	195	*e*	PKPbc	10 35 14.3	+14
VNA3	Neumayer Olymp	144.29	195	*e*	PKPbc	10 35 23.9	+23
VNA3	Neumayer Olymp	144.29	195	*e*	PKPbc	10 35 26.5	+26
VNA1	Neumayer--Stat	144.46	196	⇑*i*	PKPbc	10 35 02.8	+1.6
VNA1	Neumayer--Stat	144.46	196	*e*	PKPbc	10 35 04.5	+3.3
VNA1	Neumayer--Stat	144.46	196	*e*	PKPbc	10 35 10.8	+10
VNA1	Neumayer--Stat	144.46	196	*e*	PKPbc	10 35 15.5	+14
VNA1	Neumayer--Stat	144.46	196	*e*	PKPbc	10 35 24.3	+23
VNA1	Neumayer--Stat	144.46	196	*e*	PKPbc	10 35 27.8	+27
LPAZ	La Paz	144.89	60	PKP	PKPdf	10 35 07.0	+3.2
	comp=Z,9.5nm,1.0s,baz=337,slow=2.5,SNR=8.1						
LPAZ	La Paz	144.89	60	*e*PKPdf	PKPdf	10 35 05.4	+1.6
LPAZ				LR	LR		
	comp=Z,2μm,21.0s,MS5.9						
LPAZ	La Paz	144.89	60	PKIKP	PKPdf	10 35 07.0	+3.2
LPAZ				pmax	pmax		
	comp=Z,10.0nm,1.0s						
RCBR	Riachuelo	147.47	358	*e*PKPbc	PKPdf	10 35 13.4	+5.1
RCBR				LR	LR		
	comp=Z,2μm,21.0s,MS5.9						
LVC	Limon Verde	148.50	69	*e*PKPbc	PKPdf	10 35 13.7	+4.0
LVC				LR	LR		
	comp=Z,2μm,22.0s,MS5.9						
PMSA	Palmer Station	149.28	158	*e*PKPbc	PKPdf	10 35 14.7	+5.0
PMSA				LR	LR		
	comp=Z,2μm,20.0s,MS5.9						
USHA	Ushuaia	153.26	138	PKPbc	PKPdf	10 35 27.9	+12
	comp=Z,19nm,0.9s,baz=252,slow=1.5,SNR=5.2						
PLCA	Paso Flores	154.16	106	PKPbc	PKPdf	10 35 28.8	+11
	comp=Z,3.0nm,0.7s,baz=283,slow=2.6,SNR=4.0						
PLCA				PKPab	PKPab	10 35 44.1	+2.0
	comp=Z,8.7nm,1.1s,baz=236,slow=3.7,SNR=6.7						
PLCA	Paso Flores	154.16	106	PFAKE		10 35 30.0	+12
PLCA				LR	LR		
	comp=Z,1μm,19.0s,MS5.8						
PLCA	Paso Flores	154.16	106	PKP2	PKPab	10 35 44.1	+2.0
PLCA				pmax	pmax		
	comp=Z,9.0nm,1.1s						
BDFB	Brasilia	155.26	26	PKPbc	PKPdf	10 35 30.0	+10
	comp=Z,12nm,1.0s,baz=40,slow=4.8,SNR=5.7						
BDFB				PKPab	PKPab	10 35 49.5	+2.1
	comp=Z,5.1nm,0.7s,baz=153,slow=2.3,SNR=3.7						
CPUP	Villa Florida	159.06	61	PKPab	PKPab	10 36 06.4	+2.9
	comp=Z,9.7nm,1.0s,baz=341,slow=3.0,SNR=4.2						
CPUP	Villa Florida	159.06	61	PFAKE		10 35 40.0	+16
CPUP				LR	LR		
	comp=Z,3μm,20.0s,MS6.1						
CPUP	Villa Florida	159.06	61	PKP2	PKPab	10 36 06.4	+2.9
CPUP				pmax	pmax		
	comp=Z,10.0nm,1.0s						
EFI	East Falkland	160.24	139	PFAKE		10 35 40.0	+15
EFI				LR	LR		
	comp=Z,726nm,22.0s						
TRQA	Tornquist	160.42	97	PFAKE		10 35 40.0	+15
TRQA				LR	LR		
	comp=Z,3μm,20.0s						

*ZUR **24** 10:18:19.2, 46.94N×8.25E, h4km, ML1.8/8*
*STR **24** 10:18:20.0±1.2, 46.94N×8.30E, h2km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*CSEM **24** 10:18:20.8±0.2, 46.97N×8.26E, h1km±1km, ML2.5/9, Error ellipse: s-maj=2.1km s-min=1.6km az=71.0*
*LDG **24** 10:18:22.1±0.1, 47.01N×8.19E, h2km, Md2.4/3, Ml2.4/11, Error ellipse: s-maj=2.5km s-min=1.3km az=92.0*
ISC 24 10:18:19.5±0.3, 46.97N±0.02×8.22E±0.03, h1km, n26, σ1°03/45, 2C-4D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HASLI	Hasliberg	0.22	192	⇓*i*Pg	Pg	10 18 22.9	-1.0
HASLI				*i* Sg	Sg	10 18 26.4	-0.4
MUO	Muotathal	0.29	91	⇑*i*Pg	Pg	10 18 25.0	-0.3
MUO				*e*Sg	Sg	10 18 29.8	+0.7
BALST	Balsthal	0.51	316	*e*Pg	Pg	10 18 30.3	+0.6
LLS	Linth-Limmern	0.56	102	*e*Sg	Sg	10 18 37.0	-1.1
SULZ	Sulz-Cheisache	0.56	353	*e*Pg	Pg	10 18 31.4	+0.7
BBS	Basel-Blauen	0.69	316	Pg	Pg	10 18 34.6	+1.3
BBS				Sg	Sg	10 18 46.4	+4.0
LKBD	Leukerbad	0.71	215	⇓*i*Pg	Pg	10 18 33.2	-0.5
FELD	Feldberg	0.92	351	Pg	Pg	10 18 38.4	+0.6
LOMF	Lomont	1.02	292	Pg	Pg	10 18 40.5	+0.6
LOMF				Sg	Sg	10 18 55.4	+1.9
MOF	Molkenrain	1.15	321	Pg	Pg	10 18 42.7	+0.3
MOF				Sg	Sg	10 18 58.5	+0.8
DAVA	Damuels	1.18	74	⇑*i*PG	Pg	10 18 44.0	+0.9
DAVA				*i* SG	Sg	10 18 58.4	-0.4
	4.8nm,0.4s						
BRANT	Les Verrieres	1.19	269	⇓*i*P*P		10 18 43.0	
HINF	Hinteralfeld	1.25	313	*e*Pg	Pg	10 18 45.0	+0.5
HINF				*e*Sg	Sg	10 19 01.0	-0.2
	13nm,0.3s						
BFO	Black Forest	1.36	3	*e*Pn	Pn	10 18 46.3	+0.7
BFO				*e*Sg	Sg	10 19 04.7	-0.1
ECH	Echery	1.44	331	Pg	Pg	10 18 47.7	-0.5
CABF	La Chapelle	1.50	257	*e*Pn	Pn	10 18 48.3	+0.6
CABF				*e*Pg	Pg	10 18 50.2	+0.6
CABF				*e*Sg	Sg	10 19 08.8	-0.8
	12nm,0.3s						
CDF	Champ du Feu	1.57	337	*e*Pn	Pn	10 18 49.5	+0.8
CDF				*e*Sg	Sg	10 19 10.7	-1.2
	3.3nm,0.2s						
HAU	Haudompre	1.64	310	*e*Pn	Pn	10 18 49.8	+0.2
HAU				*e*Pg	Pg	10 18 51.6	-0.5
HAU				*e*Sg	Sg	10 19 12.8	-1.1
	8.0nm,0.3s						
LPL	La Plagne	1.78	216	*e*Pn	Pn	10 18 53.1	+1.4
LPL				*e*Sg	Sg	10 19 18.6	-0.2
	2.2nm,0.3s						
LPG	La Plagne	1.79	215	*e*Pn	Pn	10 18 53.2	+1.4
LPG				*e*Pg	Pg	10 18 56.1	+0.9
LPG				*e*Sg	Sg	10 19 19.1	0.0
	1.9nm,0.3s						
MOTA	Moosalm	2.01	78	⇓*i*PG	Pg	10 18 56.9	-2.7
MOTA				*i* SG	Sg	10 19 21.9	-4.4
	2.2nm,0.3s						
MBDF	Montbardon	2.46	205	*e*Pn	Pn	10 19 01.9	+0.5
RFYF	Reffroy	2.48	313	*e*Pn	Pn	10 19 01.2	-0.5
RFYF				*e*Pg	Pg	10 19 07.7	-1.4
RFYF				*e*Sg	Sg	10 19 39.0	-3.2
	4.1nm,0.2s						
LOR	Lormes	2.99	277	*e*Sg	Sg	10 19 55.4	-3.6
	2.8nm,0.3s						
SMF	Signal de Mont	3.02	265	*e*Pg	Pg	10 19 17.8	-2.0
SMF				*e*Sg	Sg	10 19 56.7	-3.4
	2.2nm,0.2s						
BGF	Bois d'Agland	3.71	266	*e*Sg	Sg	10 20 18.3	-4.8
	4.9nm,0.3s						

JMA 24 10:32:51.4±0.2, 38.49N×143.23E, h21km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	1.35	296	P	Pn	10 33 15.1	-0.3
JIO	Ouri	1.48	269	P	Pn	10 33 17.2	+0.1
JIO				S	Sn	10 33 35.7	-0.2
JMK	Ichinoseki	1.64	287	P	Pn	10 33 19.9	+0.5
JMK				*e*S	Sn	10 33 40.7	+0.7

*IDC **24** 10:38:23.9±1.3, 38.46N×143.47E, mb3.6/4, mb1 3.8/6, mb1mx3.6/22, mbtmp3.6/6, ML3.4/2, Error ellipse: s-maj=31.7km s-min=26.0km az=78.0*
*JMA **24** 10:38:24.2±0.2, 38.48N×143.31E, h14km±5km, M4.0*
ISC 24 10:38:25.6±2.3, 38.44N±0.07×143.27E±0.08, h21km±19km, n18, σ0°63/21, mb3.5/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	1.41	297	P	Pn	10 38 49.6	-0.7
JIO	Ouri	1.51	271	P	Pn	10 38 51.2	-0.6
JIO				S	Sn	10 39 10.6	-0.4
JMK	Ichinoseki	1.69	288	P	Pn	10 38 53.9	-0.4
JMK				S	Sn	10 39 15.7	+0.3
JMM	Marumori	2.04	254	P	Pn	10 38 59.0	-0.3
JOU	Okura	2.05	269	P	Pn	10 38 59.8	+0.3
JFK	Kawauchi	2.18	241	P	Pn	10 39 00.9	-0.5
JYK	Kaneyama	2.33	283	P	Pn	10 39 03.6	+0.1
JANG	Nango	2.36	325	P	Pn	10 39 04.6	+0.6
JFT	Otama	2.50	249	P	Pn	10 39 06.8	+0.9
JYS	Shiratake	2.53	266	P	Pn	10 39 06.9	+0.5
JAH	Hinai	2.69	311	P	Pn	10 39 09.2	+0.6
MJAR	Matsushiro Arr	4.45	246	Pn	Pn	10 39 34.3	+0.6
	3.9nm,0.3s,baz=66,slow=12,SNR=22						
MAT	Matsushiro	4.45	246	P	Pn	10 39 34.2	+0.5
MAT				*e*S	Sn	10 40 24.7	-0.9
ASAJ	Asahikawa	5.69	355	Pn	Pn	10 39 49.6	-1.6
	0.8nm,0.3s,baz=187,slow=9.7,SNR=5.3						
SONM	Songino Array	28.27	301	P	P	10 44 19.7	+0.5
	0.3nm,0.4s,mb3.2,baz=94,slow=9.6,SNR=3.1						
MKAR	Makanchi Array	44.64	301	P	P	10 46 39.1	+0.9
	0.2nm,0.3s,mb3.4,baz=90,slow=5.8,SNR=2.6						
WRA	Warramunga Arr	58.68	190	P	P	10 48 23.5	-0.6
	1.4nm,0.7s,mb4.1,baz=8.3,slow=7.1,SNR=13						
TXAR	Lajitas Array	88.10	54	P	P	10 51 16.0	+0.1
	0.2nm,0.6s,mb3.5,baz=326,slow=3.3,SNR=2.9						

JMA 24 10:38:35.8±0.1, 38.47N×143.13E, h11km±5km, M4.2, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	1.29	299	P	Pb	10 38 59.6	-0.1
OFUJ				S	Sb	10 39 16.6	+0.4
JIO	Ouri	1.40	270	P	Pn	10 39 01.1	-0.3
JIO				S	Sb	10 39 19.0	-0.2
JMK	Ichinoseki	1.57	288	P	Pn	10 39 04.0	+0.2
JMK				S	Sb	10 39 24.4	+0.2

*THR **24** 10:42:22.5±0.3, 36.97N×49.59E, h15km±10km, ML3.0*
*CSEM **24** 10:42:25.3±0.1, 36.81N×49.47E, h20km, ML3.3, Error ellipse: s-maj=3.7km s-min=1.9km az=7.0*
TEH 24 10:42:26.4, 36.71N×49.40E, h10km, Mn3.3, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRAZ	Razeghan	1.37	162	Pn	Sb	10 43 03.4	-5.8
THKV	Tehran--Karaj	1.43	123	*e*PG	Pn	10 42 49.8	-2.8
IMHD	Mahdasht	1.45	135	Lg		10 43 11.3	
IMHD	Mahdasht	1.45	135	Pn	Pn	10 42 50.2	-2.6
IAFJ	Afjeh	2.05	114	Pn	Pn	10 43 00.9	-0.5
ASAO	Ashtian	2.22	167	*e*Pn	Pn	10 43 04.0	+0.2
ASAO				AML	AML	10 43 41.5	
	comp=N,54nm,0.4s						
IBST	Bostanabad	2.23	297	Pn	Pn	10 43 03.1	-0.9
SNGE	Sanandaj	2.32	227	*e*Pn	Pn	10 43 06.3	+1.0
IPRN	Paran-Amol	2.34	101	Pn	Pn	10 43 05.9	+0.4
DAMV	Damavand	2.34	117	*e*Pg	Pn	10 43 05.0	-0.6
DAMV				AML	AML	10 43 39.8	
	comp=E,103nm,0.4s						
GRMI	Germi	2.41	331	*e*PG	Pn	10 43 03.9	-2.7
GRMI				AML	AML	10 43 38.7	
	comp=N,103nm,0.4s						
IDMV	Damavand	2.41	117	Pn	Pn	10 43 06.0	-0.6
IVRN	Varamin	2.55	131	Pn	Pn	10 43 07.8	-0.8
IFIR	Firoozkooh	2.92	111	Pn	Pn	10 43 12.5	-1.3
IFIR				Sn	Sn	10 43 46.8	-2.4
IGLO	Galoogah	3.32	96	Pn	Pn	10 43 20.9	+1.4
IKIA	Kiasar	3.49	97	Pn	Pn	10 43 20.2	-1.7

*JMA **24** 10:47:19.2±0.2, 38.52N×143.22E, h14km, M3.2*
*IDC **24** 10:47:20.3±3.3, 38.79N×142.92E, mb3.4/2, mb1 3.6/3, mb1mx3.3/21, mbtmp3.3/3, Error ellipse: s-maj=73.4km s-min=39.1km az=61.0*
ISC 24 10:47:20.9±1.5, 38.51N±0.09×143.3E±0.1, h33km, n12, σ0°79/16, mb3.2/2, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	1.37	295	P	P	10 47 43.6	-0.3
OFUJ				*e*S	S	10 48 01.1	+0.1
JIO	Ouri	1.50	269	P	P	10 47 44.9	-0.9
JIO				*e*S	S	10 48 03.2	-1.1
JMK	Ichinoseki	1.66	286	P	P	10 47 47.7	-0.3
JMK				S	S	10 48 08.9	+0.6
JOM	Ohasama	1.81	303	P	P	10 47 50.8	+0.6
JOU	Okura	2.04	267	P	P	10 47 53.9	+0.4
JMM	Marumori	2.04	253	P	P	10 47 53.4	-0.2
JMM				*e*S	S	10 48 17.8	-0.3
JYK	Kaneyama	2.31	281	P	P	10 47 57.8	+0.5
JFT	Otama	2.51	248	P	P	10 48 00.9	+0.7
JYS	Shiratake	2.53	265	*e*S	S	10 48 31.5	+1.1
MJAR	Matsushiro Arr	4.47	246

JIO	**Ouri**	**1.54 270**	P	**Pn**	**10 57 30.0**	**-0.5**
JIO			S	**Sn**	**10 57 49.6**	**-0.5**
MIYJ	**Miyakonagasawa**	**1.60 314**	P	**Pn**	**10 57 30.4**	**-0.9**
MIYJ			S	**Sn**	**10 57 50.3**	**-1.3**
JMK	**Ichinoseki**	**1.70 287**	P	**Pn**	**10 57 32.7**	**-0.1**
JMK			*e*S	**Sn**	**10 57 54.4**	**+0.1**
JOM	**Ohasama**	**1.86 303**	*e*S	**Sn**	**10 57 58.0**	**-0.3**
JOU	**Okura**	**2.08 268**	P	**Pn**	**10 57 38.7**	**+0.5**
JOU			*e*S	**Sn**	**10 58 05.7**	**+1.8**
JFK	**Kawauchi**	**2.22 241**	P	**Pn**	**10 57 39.9**	**-0.4**
JANG	**Nango**	**2.35 324**	P	**Pn**	**10 57 43.1**	**+1.0**
JANG			*e*S	**Sn**	**10 58 12.2**	**+1.5**
MAT	**Matsushiro**	**4.49 246**	P	**Pn**	**10 58 12.7**	**+0.1**
MAT			*e*S	**Sn**	**10 59 04.9**	**-0.1**

IDC 24 10:58:33.7±7.0, 45.27N×146.05E, h191km±116km, mb3.1/5, mb1 3.5/5, mb1mx3.1/21, mbtmp3.7/5, Error ellipse: s-maj=197.9km s-min=55.5km az=104.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**2.72 246**		P	P	10 59 19.5	-0.6
	1.7nm,0.3s,baz=146,slow=15,SNR=7.2						
ILAR	**Eielson Array**	**40.74**	**37**	P	P	11 05 55.3	-1.6
	0.5nm,0.5s,baz=280,slow=9.9,SNR=10						
INK	**Inuvik**	**45.50**	**31**	P	P	11 06 33.3	-1.7
	1.1nm,0.4s,baz=280,slow=5.6,SNR=12						
NVAR	**Mina Array Bea**	**67.44**	**58**	P	P	11 09 08.8	-1.6
	0.5nm,0.7s,baz=293,slow=6.9,SNR=5.0						
PDAR	**Pinedale Array**	**69.53**	**50**	P	P	11 09 21.6	-1.5
	0.3nm,0.5s,baz=63,slow=2.0,SNR=4.9						
TXAR	**Lajitas Array**	**82.46**	**56**	P	P	11 10 35.0	-0.7
	0.2nm,0.6s,baz=308,slow=2.4,SNR=4.0						

*JMA **24** 11:00:14.8±0.1, 38.51N×143.21E, h8km±2km, M4.3*
*IDC **24** 11:00:14.6±0.9, 38.48N×143.33E, mb3.6/7, mb1 4.0/9, mb1mx3.8/22, mbtmp3.7/9, ML3.8/2, MS4.1/1, Ms1 4.1/1, ms1mx3.5/26, Error ellipse: s-maj=26.3km s-min=20.7km az=124.0*
*NEIC **24** 11:00:16.4±10.0, 38.44N×143.41E, h10km±68km, mb4.3/1, Error ellipse: s-maj=23.9km s-min=22.4km az=222.0*
ISC 24 11:00:14.2±1.6, 38.52N±0.05×143.25E±0.05, h5km±10km, n25, σ0s87/35, mb3.6/8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.36 295**		P	**Pb**	**11 00 39.4**	**-0.4**
OFUJ				*e*S	**Sb**	**11 00 57.3**	**0.0**
JIO	**Ouri**	**1.49 268**		P	**Pn**	**11 00 41.3**	**-0.5**
JIO				S	**Sb**	**11 01 00.4**	**-0.8**
JMK	**Ichinoseki**	**1.65 286**		P	**Pn**	**11 00 43.8**	**-0.2**
JMK				*e*S	**Sb**	**11 01 04.9**	**-0.8**
JOM	**Ohasama**	**1.80 303**		P	**Pn**	**11 00 46.4**	**+0.2**
JOM				*e*S	**Sn**	**11 01 08.7**	**-1.0**
JOU	**Okura**	**2.04 267**		P	**Pn**	**11 00 50.0**	**+0.4**
JOU				*e*S	**Sn**	**11 01 15.9**	**+0.2**
JMM	**Marumori**	**2.04 252**		P	**Pn**	**11 00 49.4**	**-0.2**
JMM				*e*S	**Sn**	**11 01 15.7**	**-0.1**
JFK	**Kawauchi**	**2.20 239**		P	**Pn**	**11 00 51.5**	**-0.4**
JYK	**Kaneyama**	**2.30 281**		P	**Pn**	**11 00 53.8**	**+0.5**
JYK				*e*S	**Sn**	**11 01 22.6**	**+0.3**
JFT	**Otama**	**2.51 248**		P	**Pn**	**11 00 57.0**	**+0.7**
JFT				*e*S	**Sn**	**11 01 28.3**	**+0.7**
JYS	**Shiratake**	**2.52 264**		P	**Pn**	**11 00 56.9**	**+0.4**
JYS				*e*S	**Sn**	**11 01 28.6**	**+0.6**
MJAR	**Matsushiro Arr**	**4.46 245**		Pn	**Pn**	**11 01 24.7**	**+0.6**
	6.9nm,0.3s,baz=86,slow=17,SNR=31						
MAJO	**Matsushiro**	**4.47 245**		*e*P	**Pn**	**11 01 25.1**	**+1.0**
MAT	**Matsushiro**	**4.47 245**		P	**Pn**	**11 01 24.7**	**+0.5**
MAT				*e*S	**Sn**	**11 02 16.1**	**-1.2**
MAT	**Matsushiro**	**4.47 245**		*e*P	**Pn**	**11 01 26.0**	**+1.8**
ASAJ	**Asahikawa**	**5.62 355**		Pn	**Pn**	**11 01 38.8**	**-1.7**
	2.1nm,0.3s,baz=200,slow=12,SNR=12						
ASAJ				Sn	**Sn**	**11 02 48.6**	**+2.4**
	1.3nm,0.3s,baz=28,slow=27,SNR=2.5						
CBIJ	**Chichi jima**	**11.42 185**		LR	LR	11 06 10.0	
	comp=Z,1μm,21.6s,baz=76,slow=31						
SONM	**Songino Array**	**28.21 301**		P	**P**	**11 06 09.6**	**-0.1**
	0.6nm,0.6s,mb3.4,baz=97,slow=8.0,SNR=4.7						
SONM	**Songino Array**	**28.21 301**		P	**P**	**11 06 09.6**	**-0.1**
MKAR	**Makanchi Array**	**44.58 301**		P	**P**	**11 08 28.8**	**+0.1**
	0.2nm,0.4s,mb3.3,baz=100,slow=8.8,SNR=2.7						
KURK	**Kurchatov**	**46.18 307**		P	**P**	**11 08 44.2**	**+2.8**
	2.5nm,0.7s,mb4.2						
ILAR	**Eielson Array**	**47.46**	**33**	P	**P**	**11 08 50.5**	**-0.9**
	0.9nm,0.7s,mb3.8,baz=262,slow=7.4,SNR=10						
WRA	**Warramunga Arr**	**58.74 190**		P	**P**	**11 10 13.8**	**-1.7**
	0.9nm,0.5s,mb4.0,baz=8.0,slow=7.0,SNR=13						
NVAR	**Mina Array Bea**	**72.94**	**54**	P	**P**	**11 11 47.0**	**+0.6**
	0.1nm,0.3s,mb3.2,baz=278,slow=6.4,SNR=3.7						
PDAR	**Pinedale Array**	**75.59**	**47**	P	**P**	**11 12 00.7**	**-0.9**
	0.4nm,0.6s,mb3.6,slow=1.5,SNR=4.3						
TXAR	**Lajitas Array**	**88.07**	**53**	P	**P**	**11 13 07.2**	**+0.2**
	0.2nm,0.7s,mb3.5,baz=315,slow=3.5,SNR=3.5						

IDC 24 11:07:53.8±2.4, 2.44N×96.32E, mb4.0/6, mb1 4.1/6, mb1mx3.8/19, mbtmp4.0/6, Error ellipse: s-maj=99.8km s-min=29.2km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.44 123**		P	P	11 15 58.8	-1.7
	0.3nm,0.6s,baz=303,slow=9.3,SNR=3.5						
MKAR	**Makanchi Array**	**45.83 347**		P	P	11 16 18.0	-1.3
	2.1nm,0.5s,baz=164,slow=8.8,SNR=20						
SONM	**Songino Array**	**46.05**	**9**	P	P	11 16 19.4	-1.7
	1.0nm,0.4s,baz=191,slow=9.6,SNR=10						
SONM				PcP	PcP	11 17 55.8	-2.2
	0.4nm,0.4s,baz=196,slow=4.8,SNR=3.7						
ZAL	**Zalesovo**	**52.19 351**		P	P	11 17 05.7	-2.7
	2.0nm,0.5s,baz=327,slow=1.8,SNR=5.3						
BVAR	**Borovoye Array**	**54.79 341**		P	P	11 17 25.1	-2.5
	0.8nm,0.5s,baz=149,slow=8.4,SNR=6.7						
ARCES	**ARCESS Array B**	**81.07 340**		P	P	11 20 10.1	-1.7
	2.9nm,1.0s,baz=76,slow=5.0,SNR=6.1						

*JMA **24** 11:14:17.9±0.1, 38.52N×143.26E, h18km, M3.5*
ISC 24 11:14:17.8±2.1, 38.47N±0.09×143.2E±0.2, h5km±28km, n9, σ0s53/15, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.32 298**		P	**Pb**	**11 14 42.2**	**-0.6**
OFUJ				*e*S	**Sb**	**11 14 59.8**	**-0.1**
JIO	**Ouri**	**1.43 270**		P	**Pn**	**11 14 43.9**	**-0.6**
JIO				S	**Sb**	**11 15 03.1**	**+0.1**
JMK	**Ichinoseki**	**1.60 288**		P	**Pn**	**11 14 46.7**	**-0.2**
JMK				*e*S	**Sn**	**11 15 08.1**	**-0.1**
JMM	**Marumori**	**1.97 253**		*e*S	**Sn**	**11 15 16.5**	**-1.0**
JOU	**Okura**	**1.97 268**		P	**Pn**	**11 14 52.8**	**+0.6**
JOU				*e*S	**Sn**	**11 15 18.6**	**+1.0**
JFK	**Kawauchi**	**2.12 240**		P	**Pn**	**11 14 53.9**	**-0.5**
JFK				*e*S	**Sn**	**11 15 21.4**	**0.0**
JYK	**Kaneyama**	**2.25 282**		P	**Pn**	**11 14 56.5**	**+0.3**
JYS	**Shiratake**	**2.45 265**		P	**Pn**	**11 14 59.5**	**+0.4**
MAT	**Matsushiro**	**4.39 246**		P	**Pn**	**11 15 27.4**	**+0.7**
MAT				*e*S	**Sn**	**11 16 18.7**	**-0.2**

*NAO **24** 11:16:57.1±2.6, 77.69N×17.83E, h12km±23km, ML2.6*
*CSEM **24** 11:16:58.2±0.3, 77.76N×17.60E, h12km, ML2.6, Error ellipse: s-maj=14.3km s-min=4.3km az=70.0*
*BER **24** 11:16:59.3±5.0, 77.77N×17.82E, h4km±18km, MD2.3, ML2.4, ML2.6(NAO)*
ISC 24 11:16:56.3±1.0, 77.80N±0.05×18.3E±0.2, h8km±8km, n7, σ0s87/14, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPA0	**Spitsbergen Ar**	**0.55 314**		P	**Pg**	**11 17 07.4**	**+0.1**
	baz=138,slow=28						
SPA0				Sg	**Sg**	**11 17 14.7**	**0.0**
	baz=152,slow=37						
HSP	**Hornsund**	**1.00 218**		P	**Pb**	**11 17 15.8**	**+0.3**
HSP				S	**Sb**	**11 17 28.8**	**+0.1**
KBS	**Kingsbay**	**1.71 314**		Pn	**Pn**	**11 17 27.9**	**+1.2**
KBS				Lg		11 17 52.3	
KBS	**Kingsbay**	**1.71 314**		*e*P	**Pn**	**11 17 27.8**	**+1.1**
KBS				*e*S	**Sn**	**11 17 48.2**	**-0.8**
KBS				AML	AML	11 17 58.1	
	comp=Z,73nm,0.7s						
KBS	**Kingsbay**	**1.71 314**		*e*P	**Pn**	**11 17 27.8**	**+1.1**
	SNR=50						
KBS				*e*S	**Sn**	**11 17 48.2**	**-0.8**
	comp=Z,73nm,0.7s,SNR=50						
HOPEN	**Hopen**	**1.99 128**		*e*P	**Pn**	**11 17 36.4**	**+5.6**
HOPEN				*e*S	**Sn**	**11 17 56.8**	**+0.7**
HOPEN				*e*Sg	**Sg**	**11 18 02.4**	**-0.2**
ARA0	**ARCESS Array S**	**8.55 163**		Pn	**P**	**11 19 00.4**	**-3.0**
	baz=357,slow=12						
ARA0				Sn	**Sn**	**11 20 27.9**	**-13**
	baz=7.7,slow=22						

*LDG **24** 11:20:56.3±0.4, 41.42N×1.46E, h13km, Ml2.5/5, Error ellipse: s-maj=7.2km s-min=4.2km az=157.0*
MDD 24 11:20:57.3±0.6, 41.45N×1.44E, mbLg1.8/7, Error ellipse: s-maj=6.8km s-min=1.9km az=124.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EPOB	**Poblet**	**0.29 250**		Pg	Pg	11 21 02.5	-0.5
	2.4nm,0.2s,SNR=24						
EPOB				Lg		11 21 06.8	
	149nm,0.8s						
EMIR	**Miracle**	**0.47**	**8**	Pg	Pg	11 21 05.8	-0.8
	4.2nm,0.2s,SNR=10.0						
EMIR				Lg		11 21 12.2	
	19nm,0.4s,SNR=12						
ERTA	**Horta de San J**	**0.97 240**		Pg	Pg	11 21 15.5	-1.1
	3.5nm,0.3s,SNR=19						
ERTA				Lg		11 21 29.4	
	13nm,0.2s						
EGRA	**Graus**	**1.12 312**		Pg	Pg	11 21 18.2	-1.5
	7.5nm,0.4s,SNR=9.0						
EGRA				Lg		11 21 33.7	
	8.6nm,0.5s						
ESAC	**San Caprasio**	**1.46 281**		Pg	Pg	11 21 24.2	-2.2
	22nm,0.4s,SNR=14						
ESAC				Lg		11 21 44.2	
	40nm,0.4s						
EJON	**La Jonquera**	**1.47**	**47**	Pn	Pn	11 21 24.0	-1.1
	3.3nm,0.7s,SNR=7.9						
EJON				Sn	Sn	11 21 44.3	-1.1
	2.9nm,0.5s,SNR=7.9						
EBIE	**Bielsa**	**1.57 322**		Pn	Pn	11 21 25.7	-0.8
	1.8nm,0.7s,SNR=11						
EBIE				Sn	Sn	11 21 46.2	-1.6
	7.8nm,0.4s,SNR=13						
EPF	**Esparros**	**1.78 333**		*e*Pg	Pg	11 21 30.2	-2.6
EPF				*e*Sg	Sg	11 21 53.9	-2.5
	12nm,0.2s						
EMOS	**Mosqueruela**	**1.81 234**		Pn	Pn	11 21 27.8	-2.2
	1.2nm,0.4s,SNR=7.9						
EMOS				Pg	Pg	11 21 30.6	-2.8
	0.4nm,0.1s,SNR=7.9						
EMOS				Sn	Sn	11 21 52.4	-1.6
	3.2nm,0.4s,SNR=7.9						
MTLF	**Montolieu**	**1.97**	**17**	*e*Pg	Pg	11 21 33.6	-3.1
MTLF				*e*Sg	Sg	11 21 58.4	-4.6
	6.9nm,0.3s						
ETSF	**Etsaut**	**2.07 315**		*e*Pn	Pn	11 21 29.5	-4.2
ETSF				*e*Pg	Pg	11 21 35.5	-3.2
ETSF				*e*Sg	Sg	11 22 01.9	-4.4
	5.1nm,0.3s						
SJPF	**Ste Jean**	**2.58 311**		*e*Pg	Pg	11 21 44.4	-4.4
SJPF				*e*Sg	Sg	11 22 18.9	-4.3
	2.4nm,0.2s						
EALK	**Alkurruntz**	**2.81 310**		Pn	Pn	11 21 41.1	-3.2
	0.6nm,0.3s,SNR=7.9						
EALK				Pg	Pg	11 21 48.5	-4.9
	1.5nm,0.7s,SNR=7.9						
EALK				Sn	Sn	11 22 15.5	-3.9
	2.7nm,0.5s,SNR=7.9						
EALK				Lg		11 22 27.1	
	2.2nm,0.3s,SNR=7.9						
CAF	**Calviac**	**3.50**	**7**	*e*Sg	Sg	11 22 46.8	-7.1
	1.1nm,0.2s						

*JMA **24** 11:29:41.5±0.1, 38.48N×143.25E, h18km, M4.2*
*NEIC **24** 11:29:42.2±0.5, 38.51N×143.25E, h10km, mb4.3/2, Error ellipse: s-maj=13.0km s-min=8.0km az=139.0*
*IDC **24** 11:29:45.5±6.8, 38.45N×143.14E, h32km±50km, mb3.6/10, mb1 3.8/12, mb1mx3.7/22, mbtmp3.8/12, ML3.4/2, Error ellipse: s-maj=26.4km s-min=21.2km az=103.0*
ISC 24 11:29:43.3±0.6, 38.46N±0.05×143.29E±0.05, h33km, n30, σ0s88/40, mb3.8/11, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.41 296**		P	**P**	**11 30 06.0**	**-0.8**
OFUJ				S	**S**	**11 30 24.2**	**-0.1**
JIO	**Ouri**	**1.52 270**		P	**P**	**11 30 07.3**	**-1.1**
JIO				S	**S**	**11 30 26.1**	**-1.2**
JMK	**Ichinoseki**	**1.69 287**		P	**P**	**11 30 10.2**	**-0.6**
JMK				S	**S**	**11 30 31.7**	**+0.2**
JOM	**Ohasama**	**1.85 304**		P	**P**	**11 30 12.8**	**-0.4**
JOM				*e*S	**S**	**11 30 36.9**	**+1.3**
JMM	**Marumori**	**2.05 254**		P	**P**	**11 30 15.3**	**-0.8**
JMM				*e*S	**S**	**11 30 40.5**	**-0.3**
JOU	**Okura**	**2.06 268**		P	**P**	**11 30 16.1**	**-0.1**
JOU				*e*S	**S**	**11 30 42.1**	**+1.1**
JFK	**Kawauchi**	**2.20 241**		P	**P**	**11 30 17.2**	**-1.0**
JYK	**Kaneyama**	**2.33 282**		P	**P**	**11 30 20.1**	**0.0**
JANG	**Nango**	**2.35 325**		P	**P**	**11 30 19.0**	**-1.3**
JFT	**Otama**	**2.51 249**		P	**P**	**11 30 23.0**	**+0.3**
JFT				*e*S	**S**	**11 30 53.8**	**+1.3**
JYS	**Shiratake**	**2.54 266**		P	**P**	**11 30 23.1**	**0.0**
JYS				*e*S	**S**	**11 30 55.0**	**+1.8**
MJAR	**Matsushiro Arr**	**4.47 246**		Pn	**Pn**	**11 30 50.3**	**-0.3**
	2.6nm,0.3s,baz=76,slow=14,SNR=27						
MAJO	**Matsushiro**	**4.47 246**		*e*P	**P**	**11 30 50.7**	**+0.2**
MAT	**Matsushiro**	**4.47 246**		P	**P**	**11 30 50.5**	**0.0**
MAT				*e*S	**S**	**11 31 42.5**	**+0.4**
MAT	**Matsushiro**	**4.47 246**		*e*P	**P**	**11 30 51.0**	**+0.5**
ASAJ	**Asahikawa**	**5.67 355**		Pn	**Pn**	**11 31 06.6**	**-1.0**
	0.7nm,0.3s,baz=198,slow=14,SNR=8.8						
ASAJ				Sn	**Sn**	**11 32 16.4**	**+4.1**
	0.4nm,0.3s,baz=284,slow=25,SNR=2.5						
SONM	**Songino Array**	**28.27 301**		P	**P**	**11 35 35.1**	**-0.3**
	1.3nm,0.8s,mb3.6,baz=96,slow=10,SNR=8.8						
ENH	**Enshi**	**28.95 264**		P	**P**	**11 35 40.5**	**-1.1**
ZAL	**Zalesovo**	**42.08 311**		P	**P**	**11 37 33.0**	**-0.3**
	0.8nm,0.4s,mb3.7,baz=277,slow=5.8,SNR=3.1						
MKAR	**Makanchi Array**	**44.63 301**		P	**P**	**11 37 53.8**	**-0.4**
	0.5nm,0.6s,mb3.5,baz=97,slow=9.8,SNR=5.1						
KURK	**Kurchatov**	**46.23 307**		*e*P	**P**	**11 38 06.4**	**-0.4**
	4.2nm,0.6s,mb4.5						
ILAR	**Eielson Array**	**47.49**	**33**	P	**P**	**11 38 17.5**	**+1.0**
	0.6nm,0.9s,mb3.5,baz=262,slow=5.9,SNR=6.3						
WRAB	**Tennant Creek**	**58.69 190**		P	**P**	**11 39 39.5**	**-0.6**
WRAB				*e*pP	pP	11 39 46.2	-4.0
WRA	**Warramunga Arr**	**58.70 190**		P	**P**	**11 39 39.3**	**-0.9**
	2.2nm,0.9s,mb4.2,baz=7.6,slow=7.0,SNR=28						
FINES	**FINESS Array B**	**68.24 333**		P	**P**	**11 40 42.3**	**+0.1**
	2.2nm,0.9s,mb4.2,baz=74,slow=10,SNR=4.0						
NB2	**NORSAR Subarra**	**73.43 338**		P	**P**	**11 41 13.9**	**+0.5**
	1.2nm,0.8s,mb3.9,baz=39,slow=6.2						
NOA	**NORSAR Array B**	**73.43 338**		P	**P**	**11 41 14.1**	**+0.7**
	2.2nm,0.8s,mb4.1,baz=38,slow=6.1,SNR=4.0						
AKASG	**Malin Array Bea**	**74.07 323**		P	**P**	**11 41 18.0**	**+0.7**
	0.4nm,0.3s,mb3.8,baz=44,slow=5.7,SNR=6.4						
PDAR	**Pinedale Array**	**75.61**	**47**	P	**P**	**11 41 28.3**	**+2.0**
	0.3nm,0.6s,mb3.4,baz=333,slow=2.0,SNR=3.0						
TXAR	**Lajitas Array**	**88.08**	**54**	P	**P**	**11 42 33.8**	**+2.2**
	0.2nm,0.6s,mb3.5,baz=307,slow=4.5,SNR=2.9						

IDC 24 11:40:05.8±5.9, 15.60S×173.14W, h51km±44km, mb3.4/4, mb1 3.7/5, mb1mx3.5/17, mbtmp3.7/5, MS3.0/1, Ms1 3.0/1, ms1mx2.8/17, Error ellipse: s-maj=131.7km s-min=20.3km az=143.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.13**	**38**	P	P	11 40 38.9	-0.9
	6.1nm,0.3s,baz=221,slow=19,SNR=8.1						
AFI				S	S	11 41 05.2	+0.1
	9.8nm,0.3s,baz=213,slow=23,SNR=6.9						
AFI				LR	LR	11 41 26.3	
	comp=Z,380nm,20.6s,baz=317,slow=38						
STKA	**Stephens Creek**	**44.15 240**		P	P	11 48 09.9	-1.5
	0.7nm,0.6s,baz=87,slow=11,SNR=3.8						
WRA	**Warramunga Arr**	**50.04 257**		P	P	11 48 55.5	-2.2
	0.6nm,0.5s,baz=94,slow=7.1,SNR=22						
NVAR	**Mina Array Bea**	**74.31**	**42**	P	P	11 51 38.5	-1.3
	0.5nm,0.8s,baz=229,slow=8.3,SNR=3.8						
PDAR	**Pinedale Array**	**82.25**	**42**	P	P	11 52 21.8	-1.5
	0.4nm,0.7s,baz=270,slow=0.9,SNR=3.7						

MAN 24 12:07:54.3, 15.08N×121.96E, h58km, mb3.6, ML2.3, MS1.8, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POLP	**Polilio Island**	**0.35 184**		*e*P	P	12 08 06.5	+1.8
POLP				*e*S	S	12 08 14.5	+2.2
BALP	**Baler**	**0.76 330**		*e*P	P	12 08 10.6	+1.5
BALP				*e*S	S	12 08 22.7	+2.5
CAUP	**Cauayan**	**1.86 356**		*e*P	P	12 08 22.7	-1.7
CAUP				*e*S	S	12 08 50.4	+3.7
APYP	**Conner**	**2.85 346**		*e*P	P	12 08 38.9	+0.4

*IDC **24** 12:30:35.4±1.5, 33.07N×142.65E, mb3.5/4, mb1 3.7/7, mb1mx3.6/22, mbtmp3.6/7, ML3.7/3, Error ellipse: s-maj=30.0km s-min=28.0km az=119.0*
*JMA **24** 12:30:37.8±0.4, 33.11N×142.61E, h63km, M3.6*
ISC 24 12:30:37.4±2.1, 33.16N±0.06×142.61E±0.07, h28km±18km, n19, σ1s11/27, mb3.4/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**2.02 318**		P	**Pn**	**12 31 10.6**	**+0.3**
BSO1				*e*S	**Sn**	**12 31 35.9**	**+1.1**
JHJ2	**Mitsune**	**2.34 270**		P	**Pn**	**12 31 15.0**	**+0.1**
JHJ2				*e*S	**Sn**	**12 31 43.0**	**0.0**
JHJ	**Hachijo jima 2**	**2.37 270**		Pn	**Pn**	**12 31 14.9**	**-0.4**
	30nm,0.3s,baz=244,slow=22,SNR=9.0						
JHJ				Sn	**Sn**	**12 31 43.0**	**-0.8**
	56nm,0.3s,baz=233,slow=23,SNR=3.7						
BSO3	**Boso 3**	**2.39 314**		P	**Pn**	**12 31 16.3**	**+0.6**
BSO3				*e*S	**Sn**	**12 31 45.9**	**+1.6**
BSO4	**Boso 4**	**2.62 315**		P	**Pn**	**12 31 20.0**	**+1.0**
JIM2	**Oshima 3**	**3.07 301**		*e*S	**Sn**	**12 32 00.6**	**-0.7**
JOD2	**Odawara 2**	**3.59 307**		P	**Pn**	**12 31 32.0**	**-0.7**
JYN	**Shimob**	**4.09 306**		P	**Pn**	**12 31 40.0**	**+0.2**
JYN				*e*S	**Sn**	**12 32 28.3**	**+0.9**
JAG	**Ashikaga**	**4.17 322**		P	**Pn**	**12 31 41.2**	**+0.3**
JRY	**Ryogami san**	**4.18 314**		*e*S	**Sn**	**12 32 29.5**	**-0.1**
JMM	**Marumori**	**4.93 343**		P	**Pn**	**12 31 49.9**	**-1.7**
JMM				*e*S	**Sn**	**12 32 44.2**	**-4.2**
MJAR	**Matsushiro Arr**	**4.95 314**		Pn	**Pn**	**12 31 52.4**	**+0.5**
	1.2nm,0.3s,baz=152,slow=13,SNR=11						
MJAR				Sn	**Sn**	**12 32 46.2**	**-2.7**
	2.1nm,0.3s,baz=21,slow=11,SNR=8.4						
MAT	**Matsushiro**	**4.95 314**		P	**Pn**	**12 31 52.7**	**+0.8**
MAT				S	**Sn**	**12 32 46.4**	**-2.6**
MAT	**Matsushiro**	**4.95 314**		P	**Pn**	**12 31 53.3**	**+1.4**
ASAJ	**Asahikawa**	**10.94 360**		Pn	**P**	**12 33 12.7**	**-2.6**
	1.0nm,0.3s,baz=256,slow=18,SNR=8.7						
SONM	**Songino Array**	**30.88 309**		P	**P**	**12 36 53.9**	**+0.4**
	0.1nm,0.3s,mb3.1,baz=121,slow=8.4,SNR=2.4						
MKAR	**Makanchi Array**	**47.08 305**		P	**P**	**12 39 10.3**	**+1.8**
	0.6nm,0.6s,mb3.7,baz=90,slow=12,SNR=3.1						
ILAR	**Eielson Array**	**52.28**	**31**	P	**P**	**12 39 48.7**	**+0.6**
	0.4nm,0.6s,mb3.5,baz=259,slow=6.0,SNR=9.3						
WRA	**Warramunga Arr**	**53.39 190**		P	**P**	**12 39 56.1**	**-0.9**
	0.3nm,0.5s,mb3.5,baz=7.8,slow=7.7,SNR=3.2						

BJI 24 12:35:21.1, 31.64N×115.87E, h22km, ML3.6, Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHN	**Wuhan**	**1.70 230**		PG	Pn	12 35 56.3	+6.4
WHN				SG	Sn	12 36 16.0	+4.8
WHN				Smax			
	comp=N,732nm,0.2s						
WHN				Smax			
	comp=E,479nm,0.4s						
NJ2	**Nanjing**	**2.57**	**80**	*e*P	Pn	12 35 58.3	-4.1
NJ2				PG	Pn	12 36 05.1	+2.7
NJ2				S	Sn	12 36 29.4	-4.0
NJ2				SG	Sn	12 36 37.1	+3.7
NJ2				Smax			
	comp=N,140nm,0.4s						
NJ2				Smax			
	comp=E,160nm,0.5s						

JMA 24 12:37:55.8±0.1, 38.55N×143.21E, h15km, M1.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.31 294**		P	Pb	12 38 19.5	-0.2
OFUJ				*e*S	Sb	12 38 36.8	+0.6
JIO	**Ouri**	**1.46 267**		P	Pn	12 38 21.8	0.0
JIO				*e*S	Sb	12 38 40.2	-0.3
JMK	**Ichinoseki**	**1.61 285**		P	Pn	12 38 24.2	+0.3
JMK				*e*S	Sn	12 38 44.8	+0.4

*NIED **24** 12:38:00, 38.50N×143.30E, h5km, Mw4.3 Best double couple: M0:3.31×10^15 NP1:φs122°, δ89°, λ-102°. NP2: φs29°, δ12°, λ-3°.*
*JMA **24** 12:38:33.6±0.2, 38.50N×143.26E, h12km±4km, M4.2*
*NEIC **24** 12:38:34.6±0.6, 38.47N×143.37E, h10km,

0.4nm,0.5s,mb3.7,baz=37,slow=6.9,SNR=3.1
HFS Hagfors 73.39 336 P **P 12 50 07.0 +0.8**
2.4nm,1.0s,mb4.1,baz=59,slow=8.4,SNR=4.0
AKASG Malin Array Be 74.07 323 P **P 12 50 11.1 +0.8**
0.3nm,0.3s,mb3.8,baz=39,slow=5.1,SNR=2.9
PDAR Pinedale Array 75.61 47 P **P 12 50 20.1 +0.8**
0.2nm,0.3s,mb3.5,baz=315,slow=2.6,SNR=4.7

JMA 24 12:49:02.7±0.2, 43.02N×148.46E, M3.8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**2.02**	**281**	P	Pn	12 49 38.8	+0.5
NEM2				eS	Sn	12 50 05.1	+0.5
JRA	**Rausu**	**2.60**	**292**	eS	Sn	12 50 19.8	+0.4
JAK	**Akkeshi**	**2.76**	**271**	P	Pn	12 49 49.5	+0.5
JAK				eS	Sn	12 50 23.3	-0.2
JNK	**Nakash**	**2.79**	**283**	P	Pn	12 49 49.6	+0.2
JNK				eS	Sn	12 50 23.9	-0.3
JAR	**Ashorobuto**	**3.44**	**276**	P	Pn	12 49 59.2	+0.5
JAR				eS	Sn	12 50 40.6	-0.2
JTKR	**Abashiri--Toko**	**3.45**	**288**	P	Pn	12 49 59.3	+0.6
JCH	**Churui**	**3.77**	**266**	P	Pn	12 50 03.6	+0.2
JCH				eS	Sn	12 50 48.3	-0.8
JNBK	**Urakawa-nobuka**	**4.27**	**262**	eS	Sn	12 51 00.6	-1.3
JOT	**Ohata**	**5.74**	**256**	P	Pn	12 50 30.7	-0.6
JOT				eS	Sn	12 51 34.9	-4.0
JANG	**Nango**	**5.83**	**245**	eS	Sn	12 51 35.6	-5.5
JMK	**Ichinoseki**	**6.82**	**236**	eS	Sn	12 51 58.2	-7.6

*CRAAG **24** 13:03:31.2, 36.85N×3.47E, Ml2.5*
*MDD **24** 13:03:32.4±1.9, 36.86N×3.48E, mbLg1.8/3, Error ellipse: s-maj=19.5km s-min=7.4km az=35.0*
ISC 24 13:03:30.2±0.9, 36.94N±0.04×3.5E±0.1, n10, σ1§01/13, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABMS	**Boumerdes**	**0.19**	**187**	P	**Pg**	**13 03 34.3**	**+0.3**
ABA	**Alger-Bouzarea**	**0.40**	**250**	P	**Pg**	**13 03 39.0**	**+0.7**
ADJB	**Djebel Djouab**	**0.78**	**184**	P	**Pg**	**13 03 45.2**	**-0.6**
EMHD	**Djebel Mahouad**	**0.86**	**211**	P	**Pg**	**13 03 47.0**	**-0.4**
AKET	**Djebel Ketaf**	**0.94**	**161**	P	**Pg**	**13 03 48.4**	**-0.6**
EIBI	**Ibiza**	**2.70**	**321**	P	**Pn**	**13 04 16.8**	**+1.2**
	2.5nm,0.1s,SNR=7.9						
EIBI				S	**Sn**	**13 04 46.6**	**-2.8**
	2.7nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**2.88**	**349**	P	**Pn**	**13 04 19.4**	**+1.2**
	1.3nm,0.1s,SNR=7.9						
ETOS				S	**Sn**	**13 04 53.0**	**-1.0**
	1.3nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**4.35**	**295**	P	**Pn**	**13 04 38.7**	**-0.5**
	0.3nm,0.1s,SNR=7.9						
ETOB				S	**Sn**	**13 05 27.3**	**-4.0**
	0.3nm,0.3s,SNR=7.9						
ECHE	**Chera**	**4.41**	**308**	P	**Pn**	**13 04 40.7**	**+0.8**
	1.3nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**4.63**	**319**	P	**Pn**	**13 04 43.7**	**+0.6**
	0.7nm,0.1s,SNR=7.9						

*IDC **24** 13:21:47.8±1.4, 33.07N×142.60E, mb3.5/4, mb1 3.7/7, mb1mx3.6/22, mbtmp3.6/7, ML3.7/3, MS3.1/2, Ms1 3.1/2, ms1mx2.8/17, Error ellipse: s-maj=29.0km s-min=25.5km az=85.0*
*JMA **24** 13:21:51.4±0.5, 33.09N×142.45E, h86km, M3.2*
ISC 24 13:21:50.9±1.6, 33.14N±0.06×142.5E±0.1, h34km±16km, n18, σ1§32/22, mb3.5/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.99**	**320**	P	**P**	**13 22 23.7**	**+1.0**
BSO1				eS	**S**	**13 22 48.4**	**+1.7**
BSO2	**Boso 2**	**2.18**	**318**	eS	**S**	**13 22 52.9**	**+1.2**
JHJ2	**Mitsune**	**2.28**	**270**	P	**P**	**13 22 27.2**	**+0.3**
JHJ	**Hachijo jima 2**	**2.30**	**270**	Pn	**P**	**13 22 26.6**	**-0.7**
	25nm,0.3s,baz=38,slow=23,SNR=5.0						
JHJ				Sn	**S**	**13 22 54.6**	**-0.1**
	53nm,0.3s,baz=57,slow=22,SNR=4.6						
JHJ				LR	LR	13 22 57.9	
	comp=Z,320nm,18.3s,baz=110,slow=30						
BSO3	**Boso 3**	**2.36**	**315**	eS	**S**	**13 22 57.5**	**+1.4**
BSO4	**Boso 4**	**2.59**	**316**	P	**P**	**13 22 32.5**	**+1.1**
JOD2	**Odawara 2**	**3.55**	**308**	eS	**S**	**13 23 23.4**	**-3.1**
JYN	**Shimob**	**4.05**	**307**	P	**P**	**13 22 53.0**	**+0.9**
JAG	**Ashikaga**	**4.14**	**323**	P	**P**	**13 22 53.9**	**+0.5**
JAG				eS	**S**	**13 23 39.4**	**-2.0**
JRY	**Ryogami san**	**4.15**	**315**	eS	**S**	**13 23 41.9**	**+0.4**
MJAR	**Matsushiro Arr**	**4.92**	**315**	Pn	**P**	**13 23 02.1**	**-2.3**
	1.3nm,0.3s,baz=164,slow=14,SNR=9.7						
MJAR				Sn	**S**	**13 23 59.0**	**-1.9**
	2.4nm,0.3s,baz=43,slow=29,SNR=9.3						
MAT	**Matsushiro**	**4.92**	**315**	P	**P**	**13 23 04.6**	**+0.2**
MAT				S	**S**	**13 23 59.6**	**-1.3**
JNU	**Nakatsue**	**9.77**	**273**	LR	LR	13 27 00.0	
	comp=Z,112nm,19.6s,baz=245,slow=32						
ASAJ	**Asahikawa**	**10.96**	**0**	Pn	**P**	**13 24 25.6**	**-2.9**
	1.0nm,0.3s,baz=242,slow=13,SNR=4.7						
SONM	**Songino Array**	**30.84**	**309**	P	**P**	**13 28 08.3**	**+2.4**
	0.5nm,0.8s,mb3.4,baz=90,slow=7.2,SNR=3.0						
MKAR	**Makanchi Array**	**47.04**	**305**	P	**P**	**13 30 21.4**	**+0.6**
	0.3nm,0.4s,mb3.6,baz=98,slow=10,SNR=2.3						
ILAR	**Eielson Array**	**52.33**	**31**	P	**P**	**13 31 01.1**	**0.0**
	0.4nm,0.6s,mb3.5,baz=264,slow=6.9,SNR=8.2						
WRA	**Warramunga Arr**	**53.36**	**190**	P	**P**	**13 31 08.4**	**-0.9**
	0.3nm,0.5s,mb3.4,baz=8.0,slow=7.6,SNR=4.3						

WEL 24 13:25:36.9±0.4, 38.55S×175.88E, h151km±3km, ML3.5/15, 6C, Error ellipse: s-maj=2.6km s-min=2.3km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWVZ	**Taurewa**	**0.62**	**213**	⇑PN	P	13 25 59.1	-0.3
CNZ	**Chateau**	**0.70**	**202**	PN	P	13 25 59.7	-0.1
WPVZ	**Whakapapa**	**0.70**	**202**	⇑PN	P	13 25 59.8	-0.1
TUVZ	**Tukino**	**0.74**	**194**	⇑PN	P	13 26 00.1	0.0
FWVZ	**Far West T-bar**	**0.75**	**200**	PN	P	13 25 59.8	-0.3
BKZ	**Black Stump Fm**	**0.78**	**142**	⇑PN	P	13 26 00.4	+0.1
BKZ				SN	S	13 26 17.8	-0.5
WNVZ	**Wahianoa**	**0.81**	**196**	PN	P	13 26 00.5	-0.1
PKVZ	**Pokaka**	**0.85**	**209**	PN	P	13 26 00.5	-0.3
MOVZ	**Moawhango**	**0.86**	**187**	⇑PN	P	13 26 00.5	-0.4
MOVZ				eSN	S	13 26 17.9	-1.4
URZ	**Urewera**	**1.01**	**74**	PN	P	13 26 01.6	-0.4
URZ				SN	S	13 26 20.1	-1.1
MWZ	**Matawai**	**1.31**	**81**	PN	P	13 26 04.6	-0.3
MWZ				SN	S	13 26 25.4	-1.1
WAZ	**Wanganui**	**1.39**	**210**	ePN	P	13 26 04.8	-0.9
WAZ				SN	S	13 26 28.1	+0.2
KNZ	**Kokohu**	**1.48**	**109**	ePN	P	13 26 06.7	+0.1
KNZ				SN	S	13 26 28.8	-0.7
TSZ	**Takapari Road**	**1.51**	**178**	⇑PN	P	13 26 06.2	-0.7
TSZ				SN	S	13 26 28.1	-2.0
PXZ	**Pawanui**	**1.66**	**153**	PN	P	13 26 08.0	-0.6
PXZ				SN	S	13 26 31.8	-1.3
PUZ	**Puketiti**	**1.93**	**76**	ePN	P	13 26 10.9	-0.7
PUZ				SN	S	13 26 36.6	-1.6
MRZ	**Mangatainoka R**	**2.12**	**186**	PN	P	13 26 11.8	-2.1
MRZ				SN	S	13 26 40.2	-2.1
BFZ	**Birch Farm**	**2.15**	**173**	ePN	P	13 26 12.6	-1.6
KIW	**Kapiti Island**	**2.43**	**198**	PN	P	13 26 14.8	-2.9
MTW	**Mount Morrison**	**2.62**	**186**	PN	P	13 26 17.0	-3.2

WEL 24 13:36:27.7±0.7, 35.95S×179.32E, h33km, ML3.5/6, Error ellipse: s-maj=9.3km s-min=6.1km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**2.28**	**202**	ePN	Pn	13 37 02.4	-1.5
PUZ				SN	Sn	13 37 29.0	-2.2
PUZ				SN	Sn	13 37 29.1	-2.1
MWZ	**Matawai**	**2.78**	**211**	eP*	Pb	13 37 09.8	-6.7
MWZ				S*	Sb	13 37 41.9	-8.5
MWZ				S*	Sb	13 37 42.1	-8.3
URZ	**Urewera**	**2.91**	**217**	P*	Pb	13 37 12.1	-6.6
URZ				S*	Sb	13 37 45.4	-8.6
EDRZ	**Edgecumbe**	**2.98**	**223**	S*	Sb	13 37 45.5	-11
KNZ	**Kokohu**	**3.33**	**203**	ePN	Pn	13 37 15.3	-3.5
BKZ	**Black Stump Fm**	**3.92**	**214**	S*	Sb	13 38 09.4	-14
MRZ	**Mangatainoka R**	**5.55**	**211**	eSN	Sn	13 38 43.5	-10
TCW	**Tory Channel**	**6.57**	**215**	eSN	Sn	13 39 09.2	-10
QRZ	**Quartz Range**	**7.22**	**226**	SN	Sn	13 39 25.6	-10
MQZ	**McQueen's Vall**	**9.29**	**211**	SN	Sn	13 40 08.0	-19

*FUNV **24** 14:10:23.8, 6.68N×73.24W, h168km, MW3.3*
*IDC **24** 14:10:25.6±0.8, 6.77N×73.01W, h159km±14km, mb3.7/5, mb1 4.0/8, mb1mx3.7/21, mbtmp4.3/8, Error ellipse: s-maj=41.3km s-min=7.8km az=132.0*
*NEIC **24** 14:10:26.1±0.7, 6.78N×72.97W, h167km±11km, mb4.3/1, Error ellipse: s-maj=31.0km s-min=10.3km az=131.0*
ISC 24 14:10:24.7±0.6, 6.78N±0.06×72.93W±0.06, h172km±5km, n31, σ0§91/37, mb3.9/5, 6D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.24**	**30**	⇓iP	**P**	**14 10 54.5**	**+0.7**
CAPV				eS	**S**	**14 11 16.2**	**-0.2**
ROSC	**El Rosal**	**2.37**	**216**	P	**P**	**14 11 06.6**	**+0.7**
	94nm,0.3s,baz=349,slow=2.4,SNR=230						
ROSC				S	**S**	**14 11 36.2**	**-1.3**
	83nm,0.3s,baz=93,slow=17,SNR=12						
SOCV	**Socops**	**2.54**	**54**	eP	**P**	**14 11 09.3**	**+1.3**
VIGV	**El Vigia**	**2.57**	**37**	⇓iP	**P**	**14 11 09.0**	**+0.7**
VIGV				eS	**S**	**14 11 42.3**	**+0.4**
SDV	**Santo Domingo**	**3.09**	**47**	P	**P**	**14 11 16.2**	**+1.4**
	91nm,0.3s,baz=242,slow=3.0,SNR=125						
SDV				S	**S**	**14 11 54.2**	**+1.0**
	29nm,0.3s,baz=274,slow=21,SNR=9.3						
SDV	**Santo Domingo**	**3.09**	**47**	eP	**P**	**14 11 16.0**	**+1.2**
VIRV	**Villa del Rosa**	**3.73**	**8**	⇓iP	**P**	**14 11 21.4**	**-1.5**
VIRV				eS	**S**	**14 12 04.4**	**-3.2**
QARV	**Quebrada Arrib**	**4.15**	**35**	⇓iP	**P**	**14 11 29.0**	**+0.7**
SANV	**Sanarito**	**4.31**	**51**	eP	**P**	**14 11 30.9**	**+0.5**
SANV				eS	**S**	**14 12 21.1**	**0.0**
CURV	**Curarigua**	**4.35**	**42**	⇓iP	**P**	**14 11 31.3**	**+0.4**
DABV	**Dabajuro**	**4.70**	**29**	eP	**P**	**14 11 35.5**	**+0.2**
TEPV	**Terepaima**	**4.87**	**49**	eP	**P**	**14 11 38.2**	**+0.6**
SIQV	**Siquisique**	**4.93**	**39**	⇓iP	**P**	**14 11 38.4**	**0.0**
SIQV				eS	**S**	**14 12 33.9**	**-1.4**
IMOV	**Isla Los Monje**	**5.89**	**20**	eP	**P**	**14 11 50.0**	**-0.9**
MONV	**Montecano**	**5.91**	**29**	eP	**P**	**14 11 50.6**	**-0.6**
MONV				eS	**S**	**14 12 54.7**	**-3.9**
TURV	**Turiamo**	**6.22**	**54**	eP	**P**	**14 11 55.3**	**0.0**
CAOV	**Caicara del Or**	**6.58**	**85**	eP	**P**	**14 11 59.7**	**-0.5**
CAOV				eS	**S**	**14 13 12.1**	**-2.4**
MERV	**Las Mercedes**	**7.01**	**69**	eP	**P**	**14 12 05.8**	**-0.1**
BIRV	**Birongo**	**7.54**	**60**	iP	**P**	**14 12 12.5**	**-0.3**
SJG	**San Juan**	**13.06**	**30**	P	**P**	**14 13 25.6**	**+0.8**
	3.2nm,0.3s,baz=320,slow=22,SNR=3.3						
LPAZ	**La Paz**	**23.41**	**168**	pP		14 15 54.4	
	1.5nm,0.6s,baz=350,slow=14,SNR=5.8						
SIV	**San Ignacio**	**25.50**	**153**	pP	pP	14 16 10.9	-2.8
	0.7nm,0.5s,baz=330,slow=11,SNR=4.2						
TXAR	**Lajitas Array**	**36.62**	**312**	P	**P**	**14 17 16.7**	**+0.4**
	0.6nm,0.5s,mb3.5,baz=134,slow=9.5,SNR=6.3						
TXAR	**Lajitas Array**	**36.62**	**312**	P	**P**	**14 17 16.7**	**+0.3**
ULM	**Lac du Bonnet**	**47.38**	**340**	P	**P**	**14 18 42.9**	**-0.4**
	2.8nm,0.4s,mb4.3,baz=128,slow=6.0,SNR=8.0						
SCHQ	**Schefferville**	**48.16**	**5**	P	**P**	**14 18 49.9**	**+0.6**
	3.8nm,0.8s,mb4.1,baz=124,slow=4.7,SNR=3.6						
SCHQ	**Schefferville**	**48.16**	**5**	eP	**P**	**14 18 50.1**	**+0.8**
	9.3nm,1.0s,mb4.4						
PDAR	**Pinedale Array**	**48.22**	**324**	P	**P**	**14 18 50.2**	**+0.3**
	0.6nm,0.6s,mb3.4,baz=125,slow=9.5,SNR=6.0						
YKA	**Yellowknife Ar**	**63.36**	**340**	P	**P**	**14 20 37.2**	**-0.4**
	1.9nm,0.5s,mb4.2,baz=132,slow=6.4,SNR=8.1						
YKA	**Yellowknife Ar**	**63.36**	**340**	P	**P**	**14 20 37.2**	**-0.4**
WRA	**Warramunga Arr**	**150.48**	**241**	PKPbc	PKPdf	14 29 58.8	+7.6
	0.2nm,0.3s,baz=107,slow=2.9,SNR=5.5						

*THE **24** 14:16:54.0, 39.62N×25.70E, h9km, ML3.5*
*CSEM **24** 14:16:53.6±0.1, 39.69N×25.66E, h2km, MD3.5, Error ellipse: s-maj=2.2km s-min=1.2km az=15.0*
*ATH **24** 14:16:54.8, 39.79N×25.65E, h10km±1km, MD3.5/14, ML3.7*
*NEIC **24** 14:16:54.8, 39.79N×25.65E, h9km, ML3.7(ATH), After ATH.*
*SOF **24** 14:16:55.3, 39.88N×25.60E, h10km, MD3.5*
*ISK **24** 14:16:55.1, 39.69N×25.64E, h17km, MD3.5*
ISC 24 14:16:54.7±0.2, 39.75N±0.02×25.60E±0.02, h10km, n93, σ1§23/124, 2C-6D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.35**	**295**	⇓iPB	**Pb**	**14 17 02.6**	**-0.1**
LIA				eSB	**Sb**	**14 17 07.6**	**-0.4**
LOS	**Limnos**	**0.44**	**295**	ePg	**Pg**	**14 17 04.6**	**+0.9**
LOS				eSg	**Sg**	**14 17 13.7**	**+4.0**
EZN	**Ezine**	**0.56**	**82**	iPG	**Pg**	**14 17 06.2**	**+0.1**
EZN				iSG	**Sg**	**14 17 14.3**	**+0.5**
PRK	**Paraskevi**	**0.72**	**134**	⇓iPG	**Pg**	**14 17 08.4**	**-0.9**
PRK				eSB	**Sb**	**14 17 18.6**	**0.0**
AYVA	**Ayvalik**	**0.95**	**117**	iP	**Pb**	**14 17 12.7**	**-0.2**
AYVA				iS	**Sb**	**14 17 26.3**	**+1.0**
LPK	**Lapseki**	**1.09**	**55**	iPN	**Pn**	**14 17 15.9**	**-0.1**
CANB	**Canakkale**	**1.16**	**76**	iPN	**Pn**	**14 17 17.0**	**0.0**
ALN	**Alexandroupoli**	**1.20**	**16**	ePg	**Pg**	**14 17 17.4**	**-1.3**
	comp=Z,22nm,0.4s						
ALN				eSg	**Sg**	**14 17 34.8**	**+0.1**
OUR	**Ouranopolis**	**1.37**	**296**	ePg	**Pg**	**14 17 20.2**	**-2.0**
OUR				eSg	**Sg**	**14 17 40.5**	**0.0**
OUR	**Ouranopolis**	**1.37**	**296**	ePg	**Pg**	**14 17 20.2**	**-2.0**
OUR				eSg	**Sg**	**14 17 40.5**	**-0.1**
RDO	**Rodhopi**	**1.40**	**358**	ePB	**Pb**	**14 17 20.3**	**-0.2**
AOS	**Alonnisos**	**1.45**	**247**	ePg	**Pg**	**14 17 20.0**	**-3.7**
AOS				eSg	**Sg**	**14 17 39.7**	**-3.4**
PAIG	**Paliouri**	**1.49**	**278**	ePg	**Pg**	**14 17 20.8**	**-3.7**
PAIG				eSg	**Sg**	**14 17 42.6**	**-1.8**
URLA	**Izmir**	**1.59**	**150**	iP	**Pn**	**14 17 20.6**	**-2.6**
URLA				iS	**Sb**	**14 17 44.1**	**+0.3**
MFT	**Murefte**	**1.65**	**51**	PN	**Pn**	**14 17 24.8**	**+0.8**
MRMT	**Marmara Adasi**	**1.75**	**60**	PN	**Pn**	**14 17 25.7**	**+0.2**
BALB	**Balikesir**	**1.76**	**93**	ePN	**Pn**	**14 17 24.8**	**-0.8**
BLCB	**Balcova**	**1.76**	**140**	PN	**Pn**	**14 17 25.3**	**-0.8**
PLG	**Polygyros**	**1.77**	**291**	ePN	**Pn**	**14 17 27.5**	**+1.8**
PLG				eSN	**Sn**	**14 17 50.6**	**+2.2**
KDAG	**Bornova**	**1.87**	**135**	iP	**Pn**	**14 17 27.1**	**0.0**
KDAG				iS	**Sn**	**14 17 51.3**	**+0.3**
IZM	**Izmir**	**1.87**	**136**	PN	**Pn**	**14 17 26.3**	**-0.8**
BTOK	**Tokmak**	**1.87**	**89**	iP	**Pn**	**14 17 28.0**	**+0.8**
BTOK				iS	**Sn**	**14 17 59.9**	**+8.8**
BNT	**Bandirma**	**1.88**	**70**	PN	**Pn**	**14 17 27.1**	**-0.2**
NEO	**Neokhori**	**1.89**	**257**	ePN	**Pn**	**14 17 29.5**	**+2.1**
NEO				eSN	**Sn**	**14 17 55.3**	**+3.8**
XOR	**Xorichti**	**1.90**	**259**	ePb	**Pb**	**14 17 26.8**	**-2.3**
XOR				eSb	**Sb**	**14 17 51.6**	**-1.3**
KDZ	**Kurdzhali**	**1.91**	**356**	iP	**Pn**	**14 17 27.0**	**-0.7**
KDZ				iPg	**Pg**	**14 17 30.5**	**-2.3**
KDZ	**Kurdzhali**	**1.91**	**356**	iP	**Pn**	**14 17 27.4**	**-0.3**
KDZ	**Kurdzhali**	**1.91**	**356**	iP	**Pn**	**14 17 27.4**	**-0.3**
AKS	**Akhisar**	**1.92**	**116**	PN	**Pn**	**14 17 27.5**	**-0.4**
SOH	**Sokhos**	**2.02**	**303**	ePn	**Pn**	**14 17 29.0**	**-0.4**
SOH				eSn	**Sn**	**14 17 56.7**	**+1.8**
RZN	**Rozhen**	**2.05**	**341**	iP	**Pn**	**14 17 30.0**	**+0.3**
RZN				iPg	**Pg**	**14 17 34.0**	**-1.7**
NVR	**Nevrokopi**	**2.08**	**321**	ePN	**Pn**	**14 17 31.5**	**+1.4**
MPAR	**Parnis Oros**	**2.16**	**223**	ePN	**Pn**	**14 17 34.0**	**+2.7**
PTL	**Penteli**	**2.17**	**219**	ePN	**Pn**	**14 17 33.5**	**+2.0**
THE	**Thessaloniki**	**2.20**	**294**	ePn	**Pn**	**14 17 31.3**	**-0.7**
THE				eSn	**Sn**	**14 18 01.2**	**+1.7**
SMG	**Samos**	**2.25**	**154**	ePN	**Pn**	**14 17 35.0**	**+2.3**
SMG				eSN	**Sn**	**14 18 04.4**	**+3.6**
SMG	**Samos**	**2.25**	**154**	ePn	**Pn**	**14 17 35.0**	**+2.3**
SMG				eSn	**Sn**	**14 18 05.0**	**+4.2**
EDRB	**Edirne**	**2.27**	**22**	ePN	**Pn**	**14 17 33.2**	**+0.3**
LKR	**Lokris**	**2.30**	**242**	ePN	**Pn**	**14 17 35.5**	**+2.2**
LKR	**Lokris**	**2.30**	**242**	ePn	**Pn**	**14 17 36.9**	**+3.6**
DIM	**Dimitrovgrad**	**2.30**	**359**	iP	**Pn**	**14 17 33.0**	**-0.3**
DIM	**Dimitrovgrad**	**2.30**	**359**	iP	**Pn**	**14 17 33.6**	**+0.3**
DIM	**Dimitrovgrad**	**2.30**	**359**	iP	**Pn**	**14 17 33.6**	**+0.3**
ATH	**Athens Observa**	**2.30**	**220**	ePN	**Pn**	**14 17 36.3**	**+2.9**
MMB	**Musomiste**	**2.33**	**323**	iP	**Pn**	**14 17 33.0**	**-0.7**
MMB				iPg	**Pg**	**14 17 39.0**	**-2.2**
MMB	**Musomiste**	**2.33**	**323**	iP	**Pn**	**14 17 33.3**	**-0.4**
MMB	**Musomiste**	**2.33**	**323**	iP	**Pn**	**14 17 33.3**	**-0.4**
LIT	**Litokhoron**	**2.42**	**279**	ePn	**Pn**	**14 17 34.5**	**-0.5**
PLD	**Plovdiv**	**2.45**	**344**	eP	**Pn**	**14 17 36.0**	**+0.5**
NSAL	**Nisos Salamina**	**2.48**	**223**	ePB	**Pb**	**14 17 38.0**	**-1.1**
NSAL	**Nisos Salamina**	**2.48**	**223**	ePb	**Pb**	**14 17 37.5**	**-1.6**
KNT	**Kendrikon**	**2.50**	**305**	ePn	**Pn**	**14 17 36.2**	**0.0**
	comp=Z,14nm,0.5s						
KNT				eSn	**Sn**	**14 18 08.7**	**+1.7**
MGER	**Gerania Oros**	**2.54**	**227**	ePB	**Pb**	**14 17 38.5**	**-1.5**
ORLT	**Orhaneli**	**2.55**	**82**	ePN	**Pn**	**14 17 37.0**	**+0.1**
CTT	**Catalca**	**2.57**	**56**	ePN	**Pn**	**14 17 37.0**	**-0.2**
NAIG	**Nisos Aigina**	**2.58**	**220**	ePN	**Pn**	**14 17 40.5**	**+3.1**
MANT	**Manisa**	**2.62**	**118**	iP	**Pn**	**14 17 37.7**	**-0.2**
MANT				iS	**Sn**	**14 18 16.1**	**+6.1**
AGG	**Agios Georgios**	**2.64**	**255**	ePn	**Pn**	**14 17 36.4**	**-1.7**
	comp=Z,4.0nm,0.5s						
APE	**Apeiranthos**	**2.68**	**181**	ePN	**Pn**	**14 17 36.1**	**-2.6**
APE	**Apeiranthos**	**2.68**	**181**	ePN	**Pn**	**14 17 41.5**	**+2.8**
GRG	**Griva**	**2.73**	**297**	ePn	**Pn**	**14 17 38.5**	**-0.9**
ULDT	**Uludag**	**2.75**	**81**	iP	**Pn**	**14 17 45.7**	**+6.0**
ULDT				iS	**Sn**	**14 18 19.8**	**+6.5**
JMB	**Yambol**	**2.82**	**15**	iP	**Pn**	**14 17 41.0**	**+0.3**
JMB	**Yambol**	**2.82**	**15**	iP	**Pn**	**14 17 41.2**	**+0.5**
KKB	**Krupnik**	**2.85**	**319**	iP	**Pn**	**14 17 41.0**	**-0.2**
KKB				iPg	**Pg**	**14 17 49.0**	**-2.7**
ISK	**Istanbul-Kandi**	**2.95**	**62**	ePN	**Pn**	**14 17 43.3**	**+0.7**
PGB	**Panagyurishte**	**3.00**	**339**	iP	**Pn**	**14 17 42.0**	**-1.3**
PGB	**Panagyurishte**	**3.00**	**339**	eP	**Pn**	**14 17 42.0**	**-1.3**
YLV	**Yalova**	**3.00**	**73**	ePN	**Pn**	**14 17 44.2**	**+0.8**
BDRM	**Kayabasi**	**3.04**	**151**	iP	**Pn**	**14 17 41.9**	**-2.1**
BDRM				iS	**Sn**	**14 18 29.9**	**+9.1**
EVR	**Evrytania**	**3.06**	**255**	ePN	**Pn**	**14 17 46.5**	**+2.4**
GDZ	**Gediz**	**3.08**	**101**	eP	**Pn**	**14 17 52.1**	**+7.8**
GDZ				iS	**Sn**	**14 18 30.0**	**+8.4**
HRT	**Hereke**	**3.29**	**70**	ePN	**Pn**	**14 17 47.7**	**+0.3**
YER	**Yerkesik**	**3.35**	**140**	ePN	**Pn**	**14 17 46.6**	**-1.7**
VTS	**Vitosha**	**3.37**	**328**	iP	**Pn**	**14 17 49.0**	**+0.5**
VTS	**Vitosha**	**3.37**	**328**	eP	**Pn**	**14 17 49.0**	**+0.5**
FNA	**Florina**	**3.39**	**289**	ePn	**Pn**	**14 17 48.5**	**-0.4**
PVL	**Pavlikeni**	**3.47**	**357**	eP	**Pn**	**14 17 49.6**	**-0.4**
SZH	**Strazhica**	**3.52**	**4**	eP	**Pn**	**14 17 51.0**	**+0.3**
ALT	**Altintas**	**3.56**	**100**	ePN	**Pn**	**14 17 51.4**	**+0.1**
EYL	**Eskiyayla**	**3.59**	**75**	ePN	**Pn**	**14 17 52.1**	**+0.5**
PRD	**Provadia**	**3.70**	**21**	iP	**Pn**	**14 17 53.0**	**-0.3**
ESKT	**Eskisehir**	**4.06**	**92**	eP	**Pn**	**14 17 56.5**	**-1.9**
ESKT				iS	**Sg**	**14 19 03.3**	**-6.6**
ESKT	**Eskisehir**	**4.06**	**92**	ePn	**Pn**	**14 17 58.1**	**-0.3**
ZAPS	**Zavoj/Pirot**	**4.19**	**329**	⇓iPn	**Pn**	**14 18 00.6**	**+0.4**
ZAPS				Sn	**Sn**	**14 18 52.7**	**+2.8**
MDU	**Mudurnu**	**4.37**	**79**	ePN	**Pn**	**14 18 03.1**	**+0.4**
PSN	**Preselentsi**	**4.38**	**25**	eP	**Pn**	**14 18 02.0**	**-0.9**
KIZT	**Kizilcal**	**4.95**	**98**	ePN	**Pn**	**14 18 11.1**	**+0.1**
MLR	**Muntele Rosu**	**5.75**	**2**	⇑iP	**Pn**	**14 18 23.4**	**+1.2**
MLR	**Muntele Rosu**	**5.75**	**2**	⇑iP	**Pn**	**14 18 23.4**	**+1.2**
VRI	**Vrincioaia**	**6.17**	**7**	⇓iP	**Pn**	**14 18 32.0**	**+3.8**
BURAR	**Bucovina Array**	**7.87**	**358**	⇓iP	**Pn**	**14 18 52.0**	**0.0**
BURAR	**Bucovina Array**	**7.87**	**358**	⇓iP	**Pn**	**14 18 52.0**	**0.0**

*NEIC **24** 14:21:18.2, 33.02S×71.12W, h48km, MD3.9(GUC), After GUC.*
**GUC 24 14:21:18.2±0.9, 33.02S×71.12W, h48km±4km, MD3.9, ML3.5, 4C-10D, Near coast of central Chile

CRQ2	**Rosemanowes 2**	**0.80 297**	⇑*iP*	**Pb**	**14 32 27.8**	**-0.6**
CRQ2			*eS*	**Sb**	**14 32 36.4**	**-2.6**
CGW	**Gweek**	**0.80 292**	*eP*	**Pb**	**14 32 28.0**	**-0.5**
CCA1	**Carnmenellis**	**0.84 297**	*eP*	**Pb**	**14 32 28.6**	**-0.6**
CPZ	**Penzance**	**1.04 290**	*eP*	**Pb**	**14 32 32.6**	**+0.1**
	184nm,0.1s					
HTL	**Hartland**	**1.22 348**	*eP*	**Pb**	**14 32 35.5**	**-0.2**
HTL			*eS*	**Sb**	**14 32 49.6**	**-1.6**
HTL			AML	AML	14 32 51.6	
	comp=N,165nm,0.3s					
HTL			AML	AML	14 32 52.2	
	comp=E,184nm,0.1s					
HEX	**Exmoor**	**1.27 8**	*eP*	**Pb**	**14 32 36.5**	**0.0**
HEX	**Exmoor**	**1.27 8**	*eP*	**Pb**	**14 32 36.5**	**-0.1**
JVM	**Valle D.L. Mar**	**1.35 115**	*eP*	**Pb**	**14 32 40.6**	**+2.7**
JSA	**Saint Aubin**	**1.39 116**	*eP*	**Pb**	**14 32 41.1**	**+2.6**
JLP	**Les Platons**	**1.40 113**	*eP*	**Pn**	**14 32 41.3**	**+2.6**
JRS	**Jersey**	**1.43 115**	*eP*	**Pn**	**14 32 42.2**	**+3.2**
JRS	**Jersey**	**1.43 115**	*eP*	**Pn**	**14 32 42.2**	**+3.1**
ROSF	**Rostrenen**	**1.56 160**	*ePn*	**Pn**	**14 32 43.6**	**+2.6**
ROSF			*eSn*	**Sn**	**14 33 02.6**	**+1.2**
ROSF			*eSg*	**Sg**	**14 33 07.9**	**+2.8**
	comp=E,102nm,0.2s					
SWK	**Warminster**	**1.78 40**	⇑*iP*	**Pn**	**14 32 45.2**	**+1.2**
SWK	**Warminster**	**1.78 40**	⇑*iP*	**Pn**	**14 32 45.2**	**+1.2**
SGMF	**Saint Gilles**	**1.85 147**	*ePn*	**Pn**	**14 32 47.7**	**+2.7**
SGMF			*eSg*	**Sg**	**14 33 16.8**	**+2.3**
	comp=E,76nm,0.2s					
SIW	**Isle of Wight**	**1.94 62**	*eP*	**Pn**	**14 32 48.3**	**+2.0**
QUIF	**Quistinic**	**1.98 162**	*ePn*	**Pn**	**14 32 49.4**	**+2.4**
QUIF			*eSg*	**Sg**	**14 33 20.4**	**+1.3**
	comp=E,67nm,0.2s					
HGH	**Gray Hill**	**2.00 23**	*eP*	**Pn**	**14 32 47.5**	**+0.3**
SWN1	**Swindon**	**2.24 39**	*eP*	**Pn**	**14 32 51.8**	**+1.2**
SWN1			AML	AML	14 33 28.0	
	comp=E,256nm,0.5s					
SWN1			AML	AML	14 33 28.2	
	comp=N,304nm,0.4s					
SWN1	**Swindon**	**2.24 39**	*eP*	**Pn**	**14 32 51.8**	**+1.2**
	comp=N,54nm,0.2s					
MCH1	**Michaelchurch**	**2.30 17**	*eP*	**Pn**	**14 32 51.1**	**-0.4**
MCH1			*eS*	**Sn**	**14 33 17.3**	**-2.7**
MCH1			AML	AML	14 33 26.4	
	comp=N,74nm,0.3s					
MCH1			AML	AML	14 33 26.4	
	comp=E,54nm,0.2s					
HTR	**Trewern Hill**	**2.33 12**	*eP*	**Pn**	**14 32 51.9**	**0.0**
HAE	**Alders End**	**2.43 23**	*eP*	**Pn**	**14 32 53.6**	**+0.2**
GRR	**Gorron**	**2.54 123**	*ePn*	**Pn**	**14 32 57.1**	**+2.1**
GRR			*ePg*	**Pg**	**14 33 04.0**	**+0.2**
GRR			*eSg*	**Sg**	**14 33 36.6**	**-1.1**
	comp=E,93nm,0.2s					
FLN	**La Foliniere**	**2.57 113**	*ePn*	**Pn**	**14 32 58.2**	**+2.8**
FLN			*ePg*	**Pg**	**14 33 06.2**	**+1.9**
FLN			*eSn*	**Sn**	**14 33 27.2**	**+0.2**
FLN			*eSg*	**Sg**	**14 33 36.1**	**-2.5**
	comp=E,153nm,0.4s					
FLN	**La Foliniere**	**2.57 113**	Pn	**Pn**	**14 32 58.2**	**+2.8**
FLN			Sn	**Sn**	**14 33 27.2**	**+0.2**
SSW	**Stow on the Wo**	**2.58 32**	*eP*	**Pn**	**14 32 57.3**	**+1.7**
SSP1	**Stoney Pound**	**2.68 13**	*eP*	**Pn**	**14 32 57.0**	**0.0**
SSP1			AML	AML	14 33 38.4	
	comp=E,69nm,0.5s					
SSP1			AML	AML	14 33 40.2	
	comp=N,69nm,0.3s					
SSP1	**Stoney Pound**	**2.68 13**	*eP*	**Pn**	**14 32 57.0**	**0.0**
	comp=N,69nm,0.3s					
LDF	**La Druitiere**	**2.86 114**	*ePn*	**Pn**	**14 33 02.0**	**+2.5**
LDF			*eSn*	**Sn**	**14 33 32.9**	**-1.5**
LDF			*eSg*	**Sg**	**14 33 44.9**	**-3.3**
	comp=N,62nm,0.4s					
MFF	**Saint Martin d**	**4.14 139**	*ePn*	**Pn**	**14 33 19.4**	**+1.6**
MFF			*eSn*	**Sn**	**14 34 05.0**	**-1.9**
MFF			*eSg*	**Sg**	**14 34 26.1**	**-4.8**
	comp=N,38nm,0.4s					
HYF	**Humbligny**	**5.13 117**	*ePn*	**Pn**	**14 33 32.7**	**+1.0**
HYF			*eSn*	**Sn**	**14 34 26.6**	**-5.1**
HYF			*eSg*	**Sg**	**14 34 58.8**	**-5.0**
BAIF	**Baives**	**5.35 84**	*ePn*	**Pn**	**14 33 35.5**	**+0.6**
BAIF			*eSn*	**Sn**	**14 34 32.3**	**-5.0**
	comp=N,6.9nm,0.3s					
TCF	**Toulx Ste Croi**	**5.49 128**	*ePn*	**Pn**	**14 33 36.7**	**-0.1**
TCF			*eSn*	**Sn**	**14 34 34.7**	**-6.1**
	comp=N,14nm,0.2s					
BGF	**Bois d'Agland**	**5.65 122**	*ePn*	**Pn**	**14 33 39.1**	**0.0**
BGF			*eSn*	**Sn**	**14 34 39.0**	**-5.9**
	comp=N,24nm,0.3s					
BGF			*eSg*	**Sg**	**14 35 13.5**	**-7.7**
SSF	**Saint Saulge**	**5.74 116**	*ePn*	**Pn**	**14 33 40.1**	**-0.3**
SSF			*eSn*	**Sn**	**14 34 40.6**	**-6.5**
	comp=N,5.2nm,0.3s					
GIVF	**Givet**	**5.75 84**	*ePn*	**Pn**	**14 33 42.5**	**+2.0**
GIVF			*eSn*	**Sn**	**14 34 42.4**	**-4.9**
	comp=N,9.8nm,0.2s					
AVF	**Avril sur Loir**	**5.80 119**	*ePn*	**Pn**	**14 33 40.9**	**-0.3**
AVF			*eSn*	**Sn**	**14 34 41.9**	**-6.7**
	comp=N,9.0nm,0.2s					
LOR	**Lormes**	**5.85 113**	*ePn*	**Pn**	**14 33 41.6**	**-0.2**
LOR			*eSn*	**Sn**	**14 34 42.5**	**-7.2**
	comp=N,12nm,0.2s					
LFF	**La Frestale**	**5.86 144**	*ePn*	**Pn**	**14 33 42.2**	**+0.1**
LFF			*eSn*	**Sn**	**14 34 45.2**	**-5.0**
LFF			*eSg*	**Sg**	**14 35 22.1**	**-6.1**
	comp=N,58nm,0.6s					
RJF	**Les Rejaudoux**	**5.88 138**	*ePn*	**Pn**	**14 33 42.2**	**-0.1**
RJF			*eSn*	**Sn**	**14 34 43.4**	**-7.2**
RJF			*eSg*	**Sg**	**14 35 20.3**	**-8.4**
	comp=N,25nm,0.4s					
SMF	**Signal de Mont**	**6.16 118**	*ePn*	**Pn**	**14 33 46.0**	**-0.3**
SMF			*eSn*	**Sn**	**14 34 50.4**	**-7.2**
	comp=N,5.0nm,0.2s					
CAF	**Calviac**	**6.42 137**	*ePn*	**Pn**	**14 33 49.7**	**-0.2**
CAF			*eSn*	**Sn**	**14 34 56.5**	**-7.5**
CAF			*eSg*	**Sg**	**14 35 36.1**	**-11**
	comp=N,8.8nm,0.3s					
ELAN	**Lanestosa**	**6.59 176**	Pn	**Pn**	**14 33 52.7**	**+0.3**
	comp=N,0.8nm,0.2s,SNR=6.0					
ELAN			Sn	**Sn**	**14 35 00.0**	**-8.3**
	comp=N,0.8nm,0.2s,SNR=5.8					
EPON	**Pontenova**	**6.82 199**	Pn	**Pn**	**14 33 55.3**	**-0.3**
	comp=N,0.9nm,0.1s,SNR=6.1					
EPON			Sn	**Sn**	**14 35 05.9**	**-8.1**
	comp=N,2.2nm,0.3s					
EALK	**Alkurruntz**	**6.82 164**	Pn	**Pn**	**14 33 55.9**	**+0.3**
	comp=N,1.8nm,0.2s,SNR=7.9					
EALK			Sn	**Sn**	**14 35 05.0**	**-9.2**
	comp=N,1.8nm,0.2s,SNR=7.9					
SJPF	**Ste Jean**	**6.98 163**	*ePn*	**Pn**	**14 33 57.3**	**-0.5**
SJPF			*eSn*	**Sn**	**14 35 09.8**	**-8.2**
	comp=N,3.7nm,0.2s					
HAU	**Haudompre**	**7.10 101**	*ePn*	**Pn**	**14 33 59.0**	**-0.5**
HAU			*eSn*	**Sn**	**14 35 11.6**	**-9.5**
	comp=N,7.8nm,0.2s					
ETSF	**Etsaut**	**7.32 159**	*ePn*	**Pn**	**14 34 01.3**	**-1.3**
ETSF			*eSn*	**Sn**	**14 35 17.3**	**-9.4**
	comp=N,2.4nm,0.2s					
EPF	**Esparros**	**7.43 154**	*ePn*	**Pn**	**14 34 03.3**	**-0.8**
EPF			*eSn*	**Sn**	**14 35 20.3**	**-9.0**
	comp=N,5.5nm,0.2s					
HINF	**Hinteralfeld**	**7.48 101**	*eSn*	**Sn**	**14 35 20.8**	**-10**
	comp=N,3.8nm,0.3s					
CABF	**La Chapelle**	**7.50 111**	*ePn*	**Pn**	**14 34 04.4**	**-0.7**
CDF	**Champ du Feu**	**7.58 96**	*eSn*	**Sn**	**14 35 22.4**	**-11**
	comp=N,3.0nm,0.2s					
EBIE	**Bielsa**	**7.70 156**	Pn	**Pn**	**14 34 07.2**	**-0.6**
	comp=N,1.6nm,0.3s,SNR=12					
EBIE			Sn	**Sn**	**14 35 27.6**	**-8.4**
	comp=N,1.9nm,0.2s,SNR=6.0					
MTLF	**Montolieu**	**7.78 144**	*ePn*	**Pn**	**14 34 08.2**	**-0.8**
MTLF			*eSn*	**Sn**	**14 35 27.7**	**-10**
	comp=N,3.5nm,0.2s					
LASF	**Ste Croix**	**7.89 134**	*ePn*	**Pn**	**14 34 10.1**	**-0.5**
ORIF	**Oris-en-Rattie**	**8.34 122**	*ePn*	**P**	**14 34 16.3**	**-0.5**
LPL	**La Plagne**	**8.46 116**	*eSn*	**Sn**	**14 35 46.7**	**-8.3**
	comp=N,2.2nm,0.3s					

NEIC ***24*** *14:42:12.9, 45.57N×26.57E, h138km, After BUC.*
BUC ***24*** *14:42:12.3±1.1, 45.58N×26.59E, h141km±10km, MD3.6/5, Error ellipse: s-maj=11.3km s-min=5.8km az=24.0*
CSEM 24 14:42:12.3±1.1, 45.58N×26.59E, h141km±10km, MD3.6/5, 11C-8D, Error ellipse: s-maj=11.3km s-min=5.8km az=24.0, After BUC, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRI	**Vrincioaia**	**0.31**	**18**	⇓*iP*	P	14 42 32.4	+0.1
VRI				*i* S	S	14 42 46.9	-0.7
VRI	**Vrincioaia**	**0.31**	**18**	⇓*iP*	P	14 42 32.4	+0.1
VRI				*i* S	S	14 42 46.9	-0.7
ISR	**Istrita**	**0.46**	**184**	⇓*iP*	P	14 42 32.8	-0.2
ISR				*i* S	S	14 42 47.9	-0.9
ISR	**Istrita**	**0.46**	**184**	⇓*iP*	P	14 42 32.8	-0.2
ISR				*i* S	S	14 42 47.9	-0.9
MLR	**Muntele Rosu**	**0.46**	**260**	⇑P	P	14 42 32.9	-0.1
MLR				*i* S	S	14 42 48.7	-0.1
MLR	**Muntele Rosu**	**0.46**	**260**	⇑P	P	14 42 32.9	-0.1
MLR				*i* S	S	14 42 48.7	-0.1
SNX	**Sinaia**	**0.79**	**254**	⇑*iP*	P	14 42 35.2	+0.3
SNX	**Sinaia**	**0.79**	**254**	⇑*iP*	P	14 42 35.2	+0.3
MTUR	**Matau**	**1.13**	**253**	⇑*iP*	P	14 42 38.1	+0.4
MTUR				*i* S	S	14 42 56.1	-1.1
MTUR	**Matau**	**1.13**	**253**	⇑*iP*	P	14 42 38.1	+0.4
MTUR				*i* S	S	14 42 56.1	-1.1
CFR	**Carcaliu**	**1.16**	**110**	⇑P	P	14 42 37.8	-0.2
CFR				*i* S	S	14 42 57.7	-0.1
CFR	**Carcaliu**	**1.16**	**110**	⇑*iP*	P	14 42 37.8	-0.2
CFR				S	S	14 42 57.7	-0.1
CFR	**Carcaliu**	**1.16**	**110**	⇑*iP*	P	14 42 37.8	-0.2
CFR				*i* S	S	14 42 57.7	-0.1
HARR	**Harsova**	**1.30**	**133**	⇑*iP*	P	14 42 39.3	-0.1
HARR				*i* S	S	14 42 59.4	-0.9
HARR	**Harsova**	**1.30**	**133**	⇑*iP*	P	14 42 39.3	-0.1
HARR				*i* S	S	14 42 59.4	-0.9
TIRR	**Tirgusor**	**1.71**	**130**	⇓*iP*	P	14 42 44.7	+0.8
TIRR	**Tirgusor**	**1.71**	**130**	⇓*iP*	P	14 42 44.7	+0.8
BURAR	**Bucovina Array**	**2.25**	**336**	⇓*iP*	P	14 42 50.2	-0.2
BURAR	**Bucovina Array**	**2.25**	**336**	⇓*iP*	P	14 42 50.2	-0.2

IDC ***24*** *14:42:28.9±2.1, 5.91N×124.63E, mb3.7/3, mb1 3.9/3, mb1mx3.6/18, mbtmp3.7/3, Error ellipse: s-maj=216.4km s-min=28.2km az=63.0*
MAN ***24*** *14:42:36.1, 6.56N×126.09E, h46km, mb4.3, ML3.1, MS2.9*
ISC 24 14:42:34.0±1.1, 6.31N±0.08×126.12E±0.07, h47km±17km, n12, σ0°68/17, mb3.6/3, 4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.65**	**12**	*eP*	**P**	**14 42 47.2**	**+0.3**
MATI				*eS*	**S**	**14 42 56.4**	**-0.1**
DMPH	**Davao City--Mi**	**0.98**	**322**	*eP*	**P**	**14 42 52.0**	**+0.4**
DMPH				*eS*	**S**	**14 43 05.6**	**+1.0**
GSPH	**General Santos**	**1.19**	**259**	⇓*iP*	**P**	**14 42 54.2**	**-0.2**
GSPH				*i* S	**S**	**14 43 09.5**	**-0.3**
KCP	**Kidapawan**	**1.24**	**304**	⇓*eP*	**P**	**14 42 55.5**	**+0.2**
KCP				*i* S	**S**	**14 43 11.3**	**+0.2**
BIPH	**Bislig**	**1.88**	**7**	⇓*iP*	**P**	**14 43 04.2**	**-0.1**
BIPH				*i* S	**S**	**14 43 26.4**	**-0.5**
BUKP	**Musuan**	**1.88**	**326**	*eP*	**P**	**14 43 04.2**	**-0.1**
CGP	**Cagayan de Oro**	**2.56**	**326**	⇓*eP*	**P**	**14 43 12.4**	**-1.7**
BUTP	**Butuan**	**2.69**	**349**	*eP*	**P**	**14 43 19.3**	**+3.4**
PAGZ	**Pagadian**	**3.12**	**300**	*eP*	**P**	**14 43 21.9**	**-0.2**
WRA	**Warramunga Arr**	**27.31**	**163**	P	**P**	**14 48 16.5**	**-0.1**
	0.9nm,0.3s,mb3.7,baz=339,slow=10,SNR=12						
STKA	**Stephens Creek**	**40.74**	**160**	P	**P**	**14 50 12.8**	**+0.6**
	1.9nm,0.7s,mb3.9,baz=322,slow=11,SNR=2.9						
MKAR	**Makanchi Array**	**55.11**	**325**	P	**P**	**14 51 59.0**	**-4.9**
	0.2nm,0.5s,mb3.4,baz=118,slow=7.7,SNR=4.2						

NIED ***24*** *14:52:00, 38.50N×143.40E, h11km, Mw4.6 Best double couple: $M_0$9.95×10^15 NP1:ϕ_s74°, δ90°, λ151°. NP2:ϕ_s164°, δ61°, λ1°.*
BJI ***24*** *14:52:22.7, 38.52N×143.39E, h18km, mB5.0, mb4.8, Ms4.6, Msz4.4*
JMA ***24*** *14:52:22.6±0.2, 38.46N×143.41E, h17km±5km, M4.9*
JMA Felt I J1.
IDC ***24*** *14:52:23.0±0.6, 38.38N×143.23E, mb4.3/18, mb1 4.5/22, mb1mx4.4/28, mbtmp4.3/22, ML3.9/4, MS4.0/14, Ms1 4.0/14, ms1mx3.8/25, Error ellipse: s-maj=16.1km s-min=14.6km az=140.0*
HRVD ***24*** *14:52:25.7±1.0, 38.59N×143.25E, h12km, MW4.7/41, Centroid moment Tensor Solution. LP body waves: s2,c2; Mantle waves: s41,c49; Half duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}-0.21±.11; $M_{\theta\theta}$0.68±.11; $M_{\phi\phi}$-0.47±.09; $M_{r\theta}$1.12±.27; $M_{\theta\phi}$-0.65±.08; $M_{\phi r}$-0.15±.30; Best double couple: $M_0$1.36×10^16 NP1:ϕ_s164°, δ33°, λ-11°. NP2: ϕ_s263°, δ84°, λ-123°. Principal axes: T 1.627, Plg31°, Azm19°; N -.533, Plg32°, Azm267°; P -1.093, Plg42°, Azm142°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***24*** *14:52:25.7±0.3, 38.39N×143.16E, h10km, mb5.0/47, MW4.6(NIED) Error ellipse: s-maj=9.4km s-min=5.7km az=149.0*
MOS ***24*** *14:52:28.0±1.5, 38.55N×143.07E, h33km, mb5.1/34, Error ellipse: s-maj=9.7km s-min=6.0km az=109.9*
ISC 24 14:52:23.8±1.1, 38.45N±0.04×143.20E±0.03, h7km±7km, h28km±3.4km: pP-P, n232, σ1§38/234, mb4.8/80, MS4.2/20, 4C-6D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.35**	**298**	P	**Pb**	**14 52 49.1**	**0.0**
OFUJ				S	**Sb**	**14 53 08.1**	**+1.7**
JIO	**Ouri**	**1.45**	**271**	P	**Pn**	**14 52 50.6**	**0.0**
JIO				S	**Sb**	**14 53 10.9**	**+1.6**
MIYJ	**Miyakonagasawa**	**1.56**	**317**	P	**Pn**	**14 52 51.3**	**-0.8**
JMK	**Ichinoseki**	**1.63**	**289**	P	**Pn**	**14 52 53.4**	**+0.3**
JMK				S	**Sb**	**14 53 15.9**	**+1.5**
JOM	**Ohasama**	**1.80**	**305**	P	**Pn**	**14 52 55.8**	**+0.2**
JMM	**Marumori**	**1.98**	**254**	P	**Pn**	**14 52 58.4**	**+0.2**
JMM				*eS*	**Sn**	**14 53 23.8**	**+0.3**
JOU	**Okura**	**1.99**	**268**	P	**Pn**	**14 52 59.4**	**+1.1**
JFK	**Kawauchi**	**2.13**	**240**	P	**Pn**	**14 53 00.1**	**-0.2**
JYK	**Kaneyama**	**2.27**	**283**	P	**Pn**	**14 53 03.2**	**+0.9**
JANG	**Nango**	**2.32**	**326**	P	**Pn**	**14 53 01.9**	**-1.2**
JFT	**Otama**	**2.44**	**249**	P	**Pn**	**14 53 06.0**	**+1.2**
JFT				*eS*	**Sn**	**14 53 37.4**	**+2.2**
JYS	**Shiratake**	**2.47**	**266**	P	**Pn**	**14 53 05.9**	**+0.7**
MAJO	**Matsushiro**	**4.40**	**246**	*eP*	**Pn**	**14 53 33.2**	**+0.6**
MAT	**Matsushiro**	**4.40**	**246**	P	**Pn**	**14 53 33.2**	**+0.6**
MAT				*eS*	**Sn**	**14 54 27.2**	**+2.4**
MAT	**Matsushiro**	**4.40**	**246**	*eP*	**Pn**	**14 53 34.0**	**+1.4**
MAT				S	**Sn**	**14 54 22.0**	**-2.8**
MJAR	**Matsushiro Arr**	**4.40**	**246**	Pn	**Pn**	**14 53 32.3**	**-0.3**
	12nm,0.3s,baz=75,slow=14,SNR=110						
MJAR				Sn	**Sn**	**14 54 30.2**	**+5.4**
	6.3nm,0.3s,baz=62,slow=12,SNR=2.8						
ASAJ	**Asahikawa**	**5.68**	**356**	Pn	**Pn**	**14 53 48.6**	**-2.1**
	3.8nm,0.3s,baz=231,slow=14,SNR=30						
ASAJ				Sn	**Sn**	**14 54 54.4**	**-2.7**
	2.1nm,0.3s,baz=270,slow=20,SNR=1.9						
ASAJ				LR	LR	14 56 43.8	
	comp=Z,1μm,20.7s,baz=195,slow=45						
ASAJ	**Asahikawa**	**5.68**	**356**	P	**Pn**	**14 53 48.6**	**-2.1**
ASAJ						14 54 54.4	
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,1μm,20.7s						
YUK	**Yuzh-Kuril'sk**	**5.93**	**19**	⇓*iP*	**Pn**	**14 53 49.0**	**-5.2**
YUK				*i* S	**Sn**	**14 54 52.8**	**-10**
YUK				pmax	pmax		
	comp=Z,2μm,0.8s						
YUK				pmax	pmax		
	comp=Z,710nm,0.4s						
YUK				pmax	pmax		
	comp=N,140nm,0.4s						
YUK				pmax	pmax		
	comp=E,180nm,0.5s						
YUK				smax			
	comp=N,3μm,0.8s						
YUK				smax			
	comp=E,4μm,1.2s						
YUK				smax			
	comp=N,2μm,0.5s						
YUK				smax			
	comp=E,2μm,0.6s						
YUK				MLR	MLR		
	comp=Z,3μm,12.0s						
YUK				MLR	MLR		
	comp=N,2μm,13.0s						
YUK				MLR	MLR		
	comp=E,2μm,13.0s						
JHJ	**Hachijo jima 2**	**6.00**	**209**	Pn	**Pn**	**14 53 50.4**	**-4.8**
	comp=E,12nm,0.3s,baz=237,slow=19,SNR=2.1						
JHJ				Sn	**Sn**	**14 54 58.4**	**-6.6**
	comp=E,36nm,0.3s,baz=72,slow=23,SNR=4.5						
JHJ				LR	LR	14 56 25.8	
	comp=E,962nm,19.2s,baz=41,slow=41						
YSS	**Yuzh-Sakhalins**	**8.51**	**358**	*eP*	**P**	**14 54 27.7**	**-2.7**
	comp=E,44nm,0.6s						
YSS	**Yuzh-Sakhalins**	**8.51**	**358**	*eP*	**P**	**14 54 26.0**	**-4.4**
YSS				*e*		14 56 03.9	
YSS				pmax	pmax		
	comp=Z,30nm,0.9s						
YSS				pmax	pmax		
	comp=N,30nm,1.0s						
YSS				MLR	MLR		
	comp=Z,900nm,15.0s						
YSS				MLR	MLR		
	comp=N,1μm,13.0s						
YSS				MLR	MLR		
	comp=E,800nm,14.0s						
YSS				MLR	MLR		
	comp=Z,500nm,17.0s						
JNU	**Nakatsue**	**11.32**	**246**	Pn	**P**	**14 55 08.1**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=130,slow=17,SNR=6.4						
JNU				LR	LR	14 59 43.5	
	comp=Z,1μm,18.0s,baz=53,slow=39						
CBIJ	**Chichi jima**	**11.35**	**185**	LR	LR	14 59 15.1	
	comp=Z,273nm,19.2s,baz=38,slow=36						
MDJ	**Mudanjiang**	**11.91**	**305**	P	**P**	**14 55 17.6**	**+0.6**
MDJ				XP		14 55 30.5	
MDJ				S	**S**	**14 57 27.3**	**-3.9**
MDJ				SS	SS	14 57 43.5	-1.8
MDJ				AMB	AMB		
	comp=Z,34nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,137nm,3.6s						
MDJ				LR	LR		
	comp=N,1μm,11.1s						
MDJ				LR	LR		
	comp=E,458nm,12.6s						
MDJ				LR	LR		
	comp=Z,1μm,12.6s						
MDJ	**Mudanjiang**	**11.91**	**305**	*eP*	**P**	**14 55 15.6**	**-1.4**
	comp=Z,76nm,1.6s						
KS15	**Wonju Array Si**	**12.13**	**270**	*eP*	**P**	**14 55 28.0**	**+7.9**
CN2	**Changchun**	**14.40**	**297**	*eP*	**P**	**14 55 52.5**	**+2.5**
CN2				*eS*	**S**	**14 58 29.8**	**-1.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s						
CN2				AMB	AMB		
	comp=Z,370nm,8.0s						
CN2				LR	LR		
	comp=N,520nm,16.0s						
CN2				LR	LR		
	comp=E,870nm,16.0s						
CN2				LR	LR		
	comp=Z,540nm,14.0s						
SKR	**Severo-Kuril's**	**15.28**	**33**	*eP*	**P**	**14 55 55.0**	**-6.5**
SKR				pmax	pmax		
	comp=Z,110nm,1.0s						
SKR				MLR	MLR		
	comp=E,1μm,16.0s						
SKR				MLR	MLR		
	comp=Z,1μm,16.0s						
SKR				MLR	MLR		
	comp=N,1μm,10.0s						
PET	**Petropavlovsk**	**18.07**	**31**	P	**P**	**14 56 37.5**	**+0.5**
PET	**Petropavlovsk**	**18.07**	**31**	*eP*	**P**	**14 56 36.4**	**-0.5**
PET				*eS*	**S**	**14 59 59.6**	**+3.5**
PET				pmax	pmax		
	comp=Z,25nm,1.4s						
PET				pmax	pmax		
	comp=N,28nm,1.4s						
PET				pmax	pmax		
	comp=E,15nm,1.4s						
PET				pmax	pmax		
	comp=Z,31nm,1.2s						
PET				smax			
	comp=E,300nm,8.4s						
PET				smax			
	comp=E,300nm,7.9s						
PET				MLR	MLR		
	comp=Z,400nm,18.0s						
SSE	**Sheshan**	**19.49**	**255**	P	**P**	**14 56 54.3**	**+0.2**
SSE				S	**S**	**15 00 25.6**	**-2.6**
SSE				AMB	AMB		
	comp=Z,26nm,0.6s						
SSE				AMB	AMB		
	comp=Z,171nm,3.9s						
SSE				LR	LR		
	comp=N,439nm,18.2s						
SSE				LR	LR		
	comp=E,345nm,18.2s						
SSE				LR	LR		
	comp=Z,505nm,16.9s						
SSE	**Sheshan**	**19.49**	**255**	P	**P**	**14 56 54.3**	**+0.2**
	comp=Z,26nm,0.6s						
SSE				pP		14 57 07.2	
SSE				sP		14 57 15.7	
SSE				S	**S**	**15 00 25.6**	**-2.6**
SSE				sS		15 00 49.1	
HIA	**Hailar**	**19.99**	**310**	*eP*	**P**	**14 56 56.1**	**-3.5**
	comp=Z,11nm,0.6s						
HIA	**Hailar**	**19.99**	**310**	*eP*	**P**	**14 56 56.1**	**-3.5**
HIA				pmax	pmax		
	comp=Z,11nm,0.6s						
TIA	**Tai'an**	**20.83**	**272**	*eP*	**P**	**14 57 08.5**	**0.0**
NJ2	**Nanjing**	**20.85**	**260**	*eP*	**P**	**14 57 08.1**	**-0.6**
NJ2				PP	PP	14 57 33.0	+2.1
NJ2				S	**S**	**15 00 52.0**	**-4.6**
NJ2				XS		15 01 13.0	
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s						
NJ2				AMB	AMB		
	comp=Z,1μm,4.0s						
NJ2				LR	LR		
	comp=N,10μm,16.4s,MS5.3						
NJ2				LR	LR		
	comp=E,6μm,18.0s,MS5.3						
MA2	**Magadan**	**21.69**	**10**	*eP*	**P**	**14 57 16.4**	**-0.7**
MA2	**Magadan**	**21.69**	**10**	*i* P	**P**	**14 57 15.9**	**-1.1**
MA2				pmax	pmax		
	comp=Z,92nm,1.7s,mb4.9						
CLNS	**Chul'man**	**22.02**	**333**	*eP*	**P**	**14 57 18.5**	**-1.8**
CLNS				*e**PP		14 57 27.5	
CLNS				*e*		14 57 51.7	
CLNS				pmax	pmax		
	comp=N,67nm,1.8

YAK Yakutsk 25.04 345 *eP* **P 14 57 48.0 -1.6**
YAK Yakutsk 25.04 345 *eP* **P 14 57 48.4 -1.2**
YAK *e**PP pP 14 57 57.9 +6.2
YAK *e* 14 58 25.8
YAK *e*PPP PPP 14 58 34.3 -3.9
YAK *e*S **S 15 02 15.9 +4.7**
YAK *e*SS SS 15 03 14.1 +4.0
YAK *e*SSS SSS 15 03 29.6 +3.4
YAK *e* 15 08 43.7
YAK pmax pmax
comp=Z,17nm,0.9s,mb4.6
YAK pmax pmax
comp=N,10.0nm,1.0s
YAK pmax pmax
comp=E,5.0nm,1.0s
YAK pmax pmax
comp=Z,8.0nm,0.7s,mb4.4
YAK pmax pmax
comp=N,8.0nm,1.1s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK smax
comp=E,5.0nm,1.2s
YAK smax
comp=N,4.0nm,1.0s
YAK MLR MLR
comp=Z,189nm,13.0s,MS3.8
YAK MLR MLR
comp=N,194nm,12.0s,MS3.9
YAK MLR MLR
comp=E,167nm,17.0s,MS3.9
SEY Seymchan 25.14 10 *eP* **P 14 57 51.1 +0.5**
BTO Baotou 25.60 285 *eP* **P 14 57 53.5 -1.6**
BOD Bodaibo 27.13 325 *eP* **P 14 58 06.9 -2.2**
BOD pmax pmax
comp=Z,21nm,1.5s,mb4.5
XAN Xi'an 27.89 272 P **P 14 58 14.9 -1.4**
XAN AMB AMB
comp=Z,13nm,0.9s,mb4.6
SONM Songino Array 28.21 301 P **P 14 58 18.7 -0.3**
comp=Z,5.6nm,0.7s,mb4.3,baz=101,slow=9.3,SNR=28
SONM LR LR 15 09 57.3
comp=Z,263nm,19.1s,MS3.9,baz=82,slow=37
ENH Enshi 28.88 264 *eP* **P 14 58 22.3 -2.9**
comp=Z,40nm,0.8s,mb5.2
ZAK Zakamensk 30.54 306 *eP* **P 14 58 38.9 -0.9**
ZAK pmax pmax
comp=Z,7.0nm,0.5s,mb4.8
LZH Lanzhou 31.25 278 *eP* **P 14 58 45.0 -1.2**
LZH AP pP 14 58 52.5 +4.2
LZH XP sP 14 58 56.5 +7.3
LZH AMB AMB
comp=Z,30nm,1.2s,mb5.0
LZH LR LR
comp=E,860nm,12.0s
LZH LR LR
comp=Z,870nm,15.6s,MS4.5
LZH Lanzhou 31.25 278 *eP* **P 14 58 45.0 -1.2**
comp=Z,30nm,1.2s,mb5.0
LZH pP pP 14 58 52.5 +4.2
LZH sP sP 14 58 56.5 +7.3
LZH LR LR
comp=Z,870nm,15.6s,MS4.5
LZH Lanzhou 31.25 278 *eP* **P 14 58 45.0 -1.2**
LZH *SP sP 14 58 56.5 +7.3
LZH pmax pmax
comp=Z,30nm,1.2s,mb5.0
LZH MLR MLR
comp=Z,870nm,15.6s,MS4.5
BILL Bilibino 32.28 16 *eP* **P 14 58 53.2 -1.7**
comp=Z,27nm,1.2s,mb5.0
BILL Bilibino 32.28 16 *eP* **P 14 58 53.2 -1.7**
BILL pmax pmax
comp=Z,27nm,1.2s,mb5.0
GYA Guiyang 32.86 260⇓ *iP* **P 14 58 58.5 -1.9**
GYA AP pP 14 59 10.8 +8.3
GYA PP PP 15 00 08.3 -1.9
GYA AMB AMB
comp=Z,20nm,0.8s,mb5.1
GYA LR LR
comp=N,410nm,15.8s,MS4.3
GYA LR LR
comp=E,340nm,16.0s,MS4.3
GYA LR LR
comp=Z,480nm,15.6s,MS4.3
GTA Gaotai 33.52 286 P **P 14 59 05.8 -0.2**
GTA AP pP 14 59 17.3 +9.1
GTA XP sP 14 59 20.8 +12
GTA PP PP 15 00 18.8 +0.6
GTA PPP PPP 15 00 37.5 +2.3
GTA PCP PcP 15 01 46.0 -1.0
GTA AMB AMB
comp=Z,16nm,1.4s,mb4.8
GTA AMB AMB
comp=Z,160nm,9.9s
GTA LR LR
comp=N,684nm,16.8s,MS4.5
GTA LR LR
comp=E,422nm,16.4s,MS4.5
GTA LR LR
comp=Z,519nm,17.6s,MS4.3
KMI Kunming 36.58 261 P **P 14 59 31.3 -1.0**
KMI AP pP 14 59 38.9 +4.5
KMI XP sP 14 59 42.3 +7.0
KMI PP PP 15 00 57.6 +1.0
KMI PPP PPP 15 01 23.6 +7.0
KMI S **S 15 05 14.1 -0.5**
KMI XS 15 05 28.9
KMI AMB AMB
comp=Z,5.0nm,0.7s,mb4.5
KMI AMB AMB
comp=Z,126nm,6.8s
KMI LR LR
comp=N,539nm,13.4s,MS4.6
KMI LR LR
comp=E,641nm,17.1s,MS4.6
KMI LR LR
comp=Z,559nm,16.2s,MS4.4
KMI Kunming 36.58 261 P **P 14 59 31.2 -1.1**
comp=Z,5.0nm,0.7s,mb4.5
KMI pP pP 14 59 38.9 +4.5
KMI sP sP 14 59 42.2 +6.9
KMI PP PP 15 00 57.6 +1.0
KMI PPP PPP 15 01 23.6 +7.0
KMI S **S 15 05 14.1 -0.5**
KMI sS 15 05 28.9
KMI SS SS 15 07 49.2 +8.9
KMI SSS SSS 15 08 10.3 +0.2
KMI LR LR
comp=Z,560nm,16.2s,MS4.4
KMI Kunming 36.58 261 P **P 14 59 31.2 -1.1**
KMI *SP sP 14 59 42.2 +6.9
KMI 15 00 57.6
KMI PPP PPP 15 01 23.6 +7.0
KMI S **S 15 05 14.1 -0.5**
KMI *SS 15 05 28.9
KMI SSS SSS 15 08 10.3 +0.2
KMI pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
KMI MLR MLR
comp=Z,560nm,16.2s,MS4.4
WMQ Urumqi 41.48 296 SP 15 00 11.0
WMQ AP pP 15 00 23.0 +8.0
WMQ PP PP 15 01 50.0 -1.9
WMQ S **S 15 06 22.0 -6.3**
WMQ AMB AMB
comp=Z,15nm,1.0s,mb4.6
WMQ AMB AMB
comp=Z,2μm,6.0s
WMQ LR LR
comp=N,241nm,15.0s,MS4.2
WMQ LR LR
comp=E,101nm,15.0s,MS4.2
WMQ LR LR
comp=Z,115nm,15.0s,MS3.9
ZAL Zalesovo 42.04 311 P **P 15 00 16.4 -0.9**
comp=Z,2.0nm,0.7s,mb3.9,baz=17,slow=10,SNR=12
ZAL PcP PcP 15 02 11.0 -1.9
comp=Z,1.6nm,0.6s,baz=160,slow=3.1,SNR=3.2
NVS Novosibirsk 42.91 313 *eP* **P 15 00 21.5 -2.8**
NVS pmax pmax
comp=Z,14nm,1.4s,mb4.5
NVS pmax pmax
comp=E,16nm,1.8s
LSA Lhasa 43.50 275 P **P 15 00 31.4 +1.9**
LSA Lhasa 43.50 275 P **P 15 00 29.6 +0.1**
comp=E,14nm,1.1s,mb4.6
LSA Lhasa 43.50 275 P **P 15 00 29.6 +0.1**
LSA pmax pmax
comp=Z,14nm,1.1s,mb4.6
MKAR Makanchi Array 44.58 301 P **P 15 00 36.8 -1.2**
comp=Z,2.8nm,0.6s,mb4.3,baz=87,slow=9.8,SNR=16
MKAR LR LR 15 19 55.2
comp=Z,149nm,19.3s,MS3.9,baz=180,slow=37
KURK Kurchatov 46.19 307 *eP* **P 15 00 49.5 -1.2**
comp=Z,36nm,1.0s,mb5.3
KURK Kurchatov 46.19 307 *eP* **P 15 00 49.6 -1.1**
KURK pmax pmax
comp=Z,36nm,1.0s,mb5.3
ILAR Eielson Array 47.54 33 P **P 15 01 00.1 -1.1**
comp=Z,4.6nm,0.9s,mb4.5,baz=263,slow=6.3,SNR=33
KSM Kuching 47.55 227 *eP* **P 15 01 02.5 +0.4**
KKN Kakani 48.95 276 *eP* **P 15 01 11.3 -1.4**
comp=Z,32nm,0.7s,mb5.5
KKN Kakani 48.95 276 *eP* **P 15 01 11.3 -1.4**
KKN pmax pmax
comp=Z,16nm,0.7s,mb5.2
PKI Pulchoki 48.95 275 *eP* **P 15 01 09.8 -2.9**
comp=Z,9.0nm,0.5s,mb5.0
PKI Pulchoki 48.95 275 *eP* **P 15 01 09.8 -2.9**
PKI pmax pmax
comp=Z,5.0nm,0.5s,mb4.8
DMN Daman 49.17 275 *eP* **P 15 01 11.9 -2.5**
GKN Gorkha 49.35 276 *eP* **P 15 01 15.1 -0.7**
KOLN Koldanda 50.27 276 *eP* **P 15 01 20.1 -2.8**
comp=Z,69nm,1.4s,mb5.5
BVAR Borovoye Array 50.68 312 P **P 15 01 24.8 -0.8**
comp=Z,2.2nm,0.6s,mb4.3,baz=74,slow=8.4,SNR=10
BVAR PcP PcP 15 02 40.0 -3.2
comp=Z,2.3nm,0.7s,baz=90,slow=1.5,SNR=3.9
BRVK Borovoye 50.73 312 *eP* **P 15 01 24.8 -1.2**
comp=Z,3.1nm,0.6s,mb4.4
BRVK Borovoye 50.73 312 *eP* **P 15 01 24.8 -1.2**
BRVK pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
FRU Bishkek 50.92 298 *eP* **P 15 01 27.0 -0.6**
FRU pmax pmax
comp=Z,40nm,1.8s,mb5.0
AAK Ala-Archa 51.07 298 *eP* **P 15 01 26.4 -2.4**
comp=Z,4.0nm,0.8s,mb4.4
AAK Ala-Archa 51.07 298 *eP* **P 15 01 26.4 -2.3**
AAK pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
KSH Kashi 51.13 294 *eP* **P 15 01 32.0 +2.8**
KSH *e*PCP PcP 15 02 47.3 +2.2
KSH *e*PPP PPP 15 04 30.3 +3.8
KSH *e*SCP 15 06 38.1
KSH *e*PCS 15 06 43.3
KSH *e*S **S 15 08 45.1 -0.9**
KSH *e*SCS ScS 15 11 15.3 -2.0
KSH *e*SS SS 15 12 19.0 -0.1
KSH AMB AMB
comp=Z,90nm,4.2s
KSH LR LR
comp=N,210nm,5.6s
KSH LR LR
comp=E,330nm,7.2s
KAKA Kakadu 51.88 193⇓ *iP* **P 15 01 47.5 +12**
comp=E,46nm,0.8s,mb5.5
INK Inuvik 52.48 28 P **P 15 01 38.5 -0.5**
comp=E,1.7nm,0.8s,mb4.1,baz=302,slow=1.9,SNR=3.9
INK Inuvik 52.48 28 *eP* **P 15 01 40.1 +1.1**
ARU Arti 56.24 318 *eP* **P 15 02 04.7 -2.0**
comp=E,11nm,0.8s,mb5.0
ARU Arti 56.24 318⇑ *iP* **P 15 02 04.8 -1.9**
ARU *e* 15 02 20.4
ARU *e* 15 04 08.8
ARU *e*S **S 15 09 52.9 -2.0**
ARU *e*SS SS 15 13 42.3 +0.4
ARU pmax pmax
comp=Z,27nm,1.7s,mb5.0
DLBC Dease Lake 56.64 39 *eP* **P 15 02 11.7 +2.2**
FITZ Fitzroy Crossi 58.61 200 *eP* **P 15 02 22.9 -1.1**
comp=Z,20nm,1.1s,mb5.1
WRAB Tennant Creek 58.66 190 *eP* **P 15 02 22.0 -2.3**
comp=Z,116nm,1.3s,mb5.8
WRAB Tennant Creek 58.66 190 *c iP* **P 15 02 22.2 -2.1**
WRA Warramunga Arr 58.67 190 P **P 15 02 21.6 -2.7**
comp=Z,34nm,0.9s,mb5.4,baz=8.6,slow=7.3,SNR=85
YKA Yellowknife Ar 61.87 31 LR LR 15 34 45.7
comp=Z,59nm,18.2s,MS3.8,baz=280,slow=41
ARCES ARCESS Array B 63.17 340 P **P 15 02 52.8 -1.4**
comp=Z,3.6nm,0.9s,mb4.5,baz=49,slow=11,SNR=6.5
ARCES LR LR 15 37 20.6
comp=Z,160nm,18.4s,MS4.2,baz=163,slow=43
PALK Pallekele 64.05 258 *eP* **P 15 02 59.0 -1.8**
JOF Joensuu 65.38 332 *ep* **P 15 03 07.1 -1.5**
comp=Z,4.3nm,0.6s,mb4.7
MOS Moscow 66.95 324 *eP* **P 15 03 17.4 -1.4**
MOS pmax pmax
comp=Z,55nm,1.3s,mb5.4
AFI Afiamalu 66.98 132 LR LR 15 32 41.6
comp=Z,90nm,18.4s,MS4.0,baz=342,slow=36
KAF Kangasniemi 67.69 333 *ep* **P 15 03 22.0 -1.4**
comp=Z,4.8nm,0.6s,mb4.7,baz=47,slow=6.0
KAF Kangasniemi 67.69 333 *eP* **P 15 03 22.0 -1.4**
KAF pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
OBN Obninsk 67.81 324 *eP* **P 15 03 22.0 -2.2**
OBN Obninsk 67.81 324 *ce*P **P 15 03 22.1 -2.1**
OBN *e* 15 05 50.4
OBN *e*S S 15 12 09.2 -12
OBN pmax pmax
comp=Z,50nm,1.7s,mb5.3
OBN MLR MLR
comp=Z,400nm,15.0s,MS4.8
NEW Newport 68.13 45 P **P 15 03 24.8 -1.5**
comp=Z,6.4nm,0.8s,mb4.7,baz=256,slow=4.2,SNR=6.6
NEW Newport 68.13 45 *eP* **P 15 03 25.8 -0.5**
FINES FINESS Array B 68.22 333 P **P 15 03 24.9 -1.7**
comp=Z,4.5nm,0.8s,mb4.5,baz=45,slow=8.1,SNR=11
FINES LR LR 15 37 17.4
comp=Z,128nm,19.1s,MS4.2,baz=23,slow=40
FINES FINESS Array B 68.22 333 P **P 15 03 24.9 -1.7**
FINES LR LR 15 37 17.4
SUMG Summit 69.27 1 *eP* **P 15 03 33.0 +0.1**
WALA Waterton Lakes 69.44 43 *eP* **P 15 03 33.2 -1.1**
BMO Blue Mountains 69.93 48 *eP* **P 15 03 38.8 +1.4**
comp=Z,3.7nm,1.0s,mb4.3
BMO *e* 15 03 43.1
VSU Vasula 69.95 330 *eP* **P 15 03 37.1 -0.2**
STKA Stephens Creek 69.98 181 P **P 15 03 35.3 -2.7**
comp=Z,2.7nm,0.6s,mb4.3,baz=354,slow=3.3,SNR=5.3
WVOR Wild Horse Val 70.50 51 *eP* **P 15 03 40.9 0.0**
comp=Z,5.9nm,1.1s,mb4.4
WVOR Wild Horse Val 70.50 51 *eP* **P 15 03 40.9 -0.1**
WVOR pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
HRY Holter Researc 71.96 44 *eP* **P 15 03 47.9 -1.8**
GNI Garni 71.99 307 *i P* **P 15 03 49.4 -0.6**
GNI pmax pmax
comp=Z,6.0nm,1.3s
DLMT Dillon 72.34 46 *eP* **P 15 03 51.7 -0.3**
HLID Hailey 72.38 48 *eP* **P 15 03 52.5 +0.3**
comp=Z,2.7nm,1.1s,mb4.1
BOZ Bozeman (W) 72.71 45 *eP* **P 15 03 53.9 -0.2**
comp=Z,7.0nm,1.1s,mb4.5
BOZ Bozeman (W) 72.71 45 *eP* **P 15 03 53.9 -0.2**
BOZ pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
SOC Sochi 73.00 312 *eP* **P 15 04 04.5 +8.7**
SOC *e*PPP PPP 15 08 18.1 -5.4
SOC *e*S S 15 13 26.9 +5.1
SOC *e* 15 14 10.1
SOC *e*SS SS 15 18 06.0 +1.1
SOC pmax pmax
comp=N,23nm,1.0s
SOC pmax pmax
comp=Z,27nm,1.0s,mb5.1
SOC pmax pmax
comp=E,18nm,0.8s
NVAR Mina Array Bea 73.01 54 P **P 15 03 56.4 +0.3**
comp=E,2.0nm,0.8s,mb4.1,baz=295,slow=4.7,SNR=14
NB2 NORSAR Subarra 73.42 338 P **P 15 03 56.9 -1.0**
comp=E,15nm,1.0s,mb4.9,baz=39,slow=5.8
NB2 NORSAR Subarra 73.42 338 P **P 15 03 56.9 -1.0**
NB2 pmax pmax
comp=Z,15nm,1.0s,mb4.9
NOA NORSAR Array B 73.42 338 P **P 15 03 57.4 -0.5**
comp=Z,5.0nm,0.8s,mb4.5,baz=38,slow=5.9,SNR=10
NOA LR LR 15 41 26.8
comp=Z,142nm,18.0s,MS4.3,baz=295,slow=40
ELK Elko 73.56 51 P **P 15 03 58.0 -1.2**
comp=Z,0.3nm,0.4s,mb3.6,baz=168,slow=20,SNR=2.1
ELK Elko 73.56 51 *eP* **P 15 03 58.9 -0.3**
comp=Z,26nm,2.0s,mb4.8
ELK Elko 73.56 51 *eP* **P 15 03 58.9 -0.3**
ELK pmax pmax
comp=Z,26nm,2.0s
AKASG Malin Array Be 74.04 323 P **P 15 04 00.5 -1.2**
comp=Z,5.5nm,0.7s,mb4.6,baz=43,slow=5.8,SNR=23
ISA Isabella 74.53 57 *eP* **P 15 04 00.9 -4.0**
comp=Z,1.1nm,0.3s,mb4.3
ISA Isabella 74.53 57 *eP* **P 15 04 00.9 -4.0**
ISA pmax pmax
comp=Z,1.0nm,0.3s,mb4.2
HWUT Hardware Ranch 75.23 48 *eP* **P 15 04 10.1 +1.2**
comp=Z,7.7nm,1.2s,mb4.5
DUG Dugway 75.36 50 P **P 15 04 09.8 +0.2**
PDAR Pinedale Array 75.67 47 P **P 15 04 10.6 -0.7**
comp=Z,1.1nm,0.7s,mb3.9,baz=300,slow=1.4,SNR=8.6
MSU Marysvale 76.79 51 *eP* **P 15 04 17.7 0.0**
MALT Malatya 77.01 309 P **P 15 04 17.0 -1.8**
comp=Z,3.8nm,0.8s,mb4.4
MALT Malatya 77.01 309 P **P 15 04 17.0 -1.9**
MALT pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
SRU San Rafael 77.42 50 *eP* **P 15 04 21.3 +0.2**
KWP Kalwaria 77.80 325 *eP* **P 15 04 22.8 -0.2**
comp=Z,68nm,1.3s,mb5.4
KWP Kalwaria 77.80 325 *eP* **P 15 04 22.8 -0.2**
KWP pmax pmax
comp=Z,68nm,1.3s,mb5.4
KOLS Kolonicke sedl 78.50 325 *eP* **P 15 04 29.0 +2.2**
STHS Stebnicka Huta 78.61 326 *i P* **P 15 04 30.2 +2.8**
OJC Ojcow 78.64 327 *eP* **P 15 04 29.0 +1.4**
PV10 Paradox Valley 78.78 50 *eP* **P 15 04 29.4 +0.8**
CRVS Cervenica-Dubn 78.89 325 *i P* **P 15 04 31.0 +2.0**
NIE Niedzica 79.02 326 *eP* **P 15 04 32.9 +3.2**
PV01 Paradox Valley 79.22 50 *eP* **P 15 04 31.9 +0.9**
KSP Ksiaz 79.63 329 *eP* **P 15 04 32.7 -0.3**
OKC Ostrava-Krasne 79.63 327 *eP* **P 15 04 36.2 +3.2**
MORC Moravsky Berou 79.94 328 *eP* **P 15 04 34.7 +0.1**
comp=Z,14nm,1.1s,mb4.8
MORC Moravsky Berou 79.94 328 *eP* **P 15 04 34.7 +0.1**
MORC pmax pmax
comp=Z,15nm,1.1s,mb4.8
DPC Dobruska-Polom 80.00 329 *eP* **P 15 04 35.3 +0.3**
UPC Upice 80.01 329 *eP* **P 15 04 36.8 +1.8**
PSZ Piszkesteto 80.32 325 *eP* **P 15 04 36.5 -0.3**
comp=Z,32nm,1.6s,mb5.0
PSZ Piszkesteto 80.32 325 *eP* **P 15 04 36.5 -0.2**
PSZ pmax pmax
comp=Z,32nm,1.6s,mb5.0
VYHS Vyhne 80.35 326 *i P* **P 15 04 39.5 +2.6**
BRG Berggiesshubel 80.54 330 *eP* **P 15 04 40.1 +2.2**
comp=Z,11nm,1.3s,mb4.6
BRG Berggiesshubel 80.54 330 *eP* **P 15 04 40.1 +2.2**
BRG pmax pmax
comp=Z,11nm,1.3s,mb4.6
CLL Collm 80.56 331 P **P 15 04 38.9 +0.9**
comp=Z,logA/T=1.2,mb4.9
CLL *i* PCP PcP 15 04 44.1 -1.2
CLL *e* 15 05 02.0
CLL Collm 80.56 331 *i P* **P 15 04 38.9 +0.9**
comp=Z,16nm,1.0s,mb4.9
CLL *i* PcP PcP 15 04 44.1 -1.2
CLL Collm 80.56 331 *i P* **P 15 04 38.9 +0.9**
CLL *i* 15 04 44.1
CLL pmax pmax
comp=Z,16nm,1.0s,mb4.9
PVCC Panska Ves 80.57 330 *eP* **P 15 04 39.3 +1.3**
PRU Pruhonice 81.00 329 *eP* **P 15 04 42.9 +2.6**
TREC Trest 81.16 328 *eP* **P 15 04 42.7 +1.6**
MOX Moxa 81.62 331 *i P* **P 15 04 45.5 +2.0**
comp=Z,logA/T=1.1,mb4.8
MOX Moxa 81.62 331 *eP* **P 15 04 45.5 +2.0**
comp=Z,18nm,1.6s,mb4.8
MOX Moxa 81.62 331 *eP* **P 15 04 45.5 +2.0**
MOX pmax pmax
comp=Z,18nm,1.6s,mb4.8
NKC Novy Kostel 81.63 331 *eP* **P 15 04 45.7 +2.1**
KHC Kasperske Hory 82.07 329 *eP* **P 15 04 47.5 +1.7**
KHC PCP PcP 15 04 52.5 +0.6
KHC Kasperske Hory 82.07 329 *eP* **P 15 04 47.5 +1.7**
KHC *e* 15 04 52.5
GERES GERESS Array B 82.24 329 P **P 15 04 45.5 -1.3**
comp=Z,0.8nm,0.6s,mb3.9,baz=53,slow=6.7,SNR=5.8
GERES LR LR 15 46 13.0
comp=Z,102nm,19.5s,MS4.2,baz=340,slow=39
GRA1 Grafenberg Arr 82.54 331 *eP* **P 15 04 48.9 +0.6**
comp=Z,18nm,1.1s,mb5.0
GRA1 *e*pP pP 15 04 55.7 +5.1
GRF Grafenberg Arr 82.54 331 *eP* **P 15 04 48.9 +0.6**
comp=Z,18nm,1.1s,mb5.0
GRF *e*pP pP 15 04 55.7 +5.1
GRF Grafenberg Arr 82.54 331 *eP* **P 15 04 48.9 +0.6**
GRF *e**PP pP 15 04 55.7 +5.1
GRF pmax pmax
comp=Z,18nm,1.1s,mb5.0
GRF Grafenberg Arr 82.54 331 *eP* **P 15 04 48.9 +0.6**
GRF *e**PP pP 15 04 55.7 +5.1
GRF pmax pmax
comp=Z,18nm,1.1s,mb5.0
ANMO Albuquerque 82.59 51 P **P 15 04 46.6 -2.3**
comp=Z,1.3nm,0.5s,mb4.2,baz=297,slow=2.3,SNR=2.4
ANMO Albuquerque 82.59 51 P **P 15 04 46.9 -2.0**
DIVS Divcibare 83.13 323⇑ *iP* **P 15 04 53.1 +1.6**
SCHQ Schefferville 83.58 17 LR LR 15 47 52.5
comp=Z,61nm,18.5s,MS4.0,baz=75,slow=40
PPT Papeete 84.02 118 LR LR 15 36 14.8
comp=Z,153nm,21.3s,MS4.3,baz=352,slow=31
GIVF Givet 84.50 335 *eP* **P 15 04 59.1 +0.9**
CDF Champ du Feu 85.07 332 *eP* **P 15 05 02.3 +1.2**
comp=Z,26nm,1.1s,mb5.0
CDF Champ du Feu 85.07 332 *eP* **P 15 05 02.3 +1.2**
CDF pmax pmax
comp=Z,13nm,1.1s,mb5.0
HAU Haudompre 85.75 333 *eP* **P 15 05 05.3 +0.8**
HAU *e*R
comp=Z,133nm,20.2s
MEZF Maizieres J'vi 85.79 334 *eP* **P 15 05 06.1 +1.4**
CABF La Chapelle 87.02 332 *eP* **P 15 05 12.1 +1.3**
LOR Lormes 87.26 334 *eP* **P 15 05 13.0 +1.1**
comp=Z,69nm,1.5s,mb5.4
SSF Saint Saulge 87.56 334 *eP* **P 15 05 14.4 +1.0**
comp=Z,21nm,1.1s,mb5.0
LPL La Plagne 87.70 331 *eP* **P 15 05 15.4 +1.3**
LPG La Plagne 87.71 331 *eP* **P 15 05 15.7 +1.6**
comp=Z,60nm,1.5s,mb5.3
SMF Signal de Mont 87.80 333 *eP* **P 15 05 15.8 +1.2**
GRR Gorron 87.83 337 *eP* **P 15 05 15.8 +1.2**
comp=Z,28nm,0.8s,mb5.2
AVF Avril sur Loir 87.85 334 *eP* **P 15 05 15.9 +1.1**
comp=Z,32nm,1.1s,mb5.2
TXAR Lajitas Array 88.14 53 P **P 15 05 16.5 -0.1**
comp=Z,1.0nm,0.6s,mb4.2,baz=302,slow=4.1,SNR=3.8
TXAR Lajitas Array 88.14 53 P **P 15 05 16.5 -0.1**
TXAR pmax pmax
comp=Z,1.0nm,0.6s
MBDF Montbardon 88.35 331 *eP* **P 15 05 18.2 +1.0**
SGMF Saint Gilles 88.46 338 *eP* **P 15 05 19.1 +1.4**
comp=Z,282nm,1.8s,mb5.9
ORIF Oris-en-Rattie 88.53 331 *eP* **P 15 05 19.4 +1.3**
ORIF *e*R
comp=Z,189nm,18.2s
ROSF Rostrenen 88.60 338 *eP* **P 15 05 20.1 +1.8**
comp=Z,315nm,1.8s,mb6.0
TCF Toulx Ste Croi 88.68 334 *eP* **P 15 05 20.3 +1.5**
SBF Sospel 88.81 330 *eP* **P 15 05 20.4 +0.9**
CCM Cathedral Cave 88.87 40 *eP* **P 15 05 16.5 -3.4**
comp=Z,11nm,1.3s,mb5.0
VIVF Saint-Julien-l 89.03 332 *eP* **P 15 05 21.4 +0.9**
MFF Saint Martin d 89.19 336 *eP* **P 15 05 22.6 +1.4**
comp=Z,11nm,0.7s,mb5.0
PGF Pioggiola 89.27 328 *eP* **P 15 05 22.1 +0.4**
comp=Z,160nm,1.6s,mb5.8
SMRF Simiane la Rot 89.44 331 *eP* **P 15 05 23.3 +0.8**
comp=Z,138nm,1.9s,mb5.7
LMR La Mourre 89.62 330 *eP* **P 15 05 23.6 +0.3**
comp=Z,41nm,1.0s,mb5.4
RJF Les Rejaudoux 89.77 334 *eP* **P 15 05 25.2 +1.2**
comp=Z,31nm,1.3s,mb5.2
RJF *e*R
comp=Z,122nm,20.0s

CAF	**Calviac**	**89.91**	**334**	*e*P		**P**	**15 05 26.4**	**+1.8**
LFF	**La Frestale**	**90.36**	**334**	*e*P		**P**	**15 05 28.3**	**+1.6**
MTLF	**Montolieu**	**91.24**	**333**	*e*P		**P**	**15 05 32.2**	**+1.4**
VNA2	**Neumayer--Watz**	**144.07**	**196**	‖ *i*		PKPbc	15 11 58.0	-0.2
VNA2	**Neumayer--Watz**	**144.07**	**196**			PKPbc	15 12 00.8	+2.6
VNA2	**Neumayer--Watz**	**144.07**	**196**			PKPbc	15 12 05.1	+6.9
VNA2	**Neumayer--Watz**	**144.07**	**196**			PKPbc	15 12 12.1	+14
VNA2	**Neumayer--Watz**	**144.07**	**196**			PKPbc	15 12 17.0	+19
VNA3	**Neumayer Olymp**	**144.29**	**195**	‖ *i*		PKPbc	15 11 58.5	-0.3
VNA3	**Neumayer Olymp**	**144.29**	**195**			PKPbc	15 12 01.1	+2.3
VNA3	**Neumayer Olymp**	**144.29**	**195**			PKPbc	15 12 03.9	+5.1
VNA3	**Neumayer Olymp**	**144.29**	**195**			PKPbc	15 12 11.6	+13
VNA3	**Neumayer Olymp**	**144.29**	**195**			PKPbc	15 12 14.9	+16
VNA3	**Neumayer Olymp**	**144.29**	**195**			PKPbc	15 12 20.9	+22
VNA1	**Neumayer--Stat**	**144.46**	**196**	‖ *i*		PKPbc	15 11 59.7	+0.4
VNA1	**Neumayer--Stat**	**144.46**	**196**			PKPbc	15 12 02.3	+3.0
VNA1	**Neumayer--Stat**	**144.46**	**196**			PKPbc	15 12 19.3	+20
LPAZ	**La Paz**	**144.76**	**60**	PKP		PKPdf	15 12 01.4	-3.1
	comp=Z,0.7nm,0.5s,baz=283,slow=5.0,SNR=3.5							
LPAZ	**La Paz**	**144.76**	**60**	PKIKP		PKPdf	15 12 01.4	-3.1
LPAZ				pmax		pmax		
	comp=Z,1.0nm,0.5s							
LVC	**Limon Verde**	**148.35**	**69**	PKPbc		PKPdf	15 12 11.9	+1.5
	baz=294,slow=10.0							

NIED ***24*** *14:57:00, 38.50N×143.20E, h11km, Mw4.0 Best double couple: M0 1.05×10^15 NP1:φs 329°, δ70°, λ70°. NP2:φs 196°, δ28°, λ133°.*
BJI ***24*** *14:57:15.1, 38.50N×143.40E, h10km, mB4.6, mb4.6*
JMA ***24*** *14:57:15.8±0.2, 38.53N×143.25E, h22km±5km, M4.1*
NEIC ***24*** *14:57:15.1±0.7, 38.53N×143.36E, h10km, mb4.4/2, Error ellipse: s-maj=16.9km s-min=11.2km az=139.0*
MOS ***24*** *14:57:16.5±1.5, 38.58N×143.36E, h33km, mb4.1/5, Error ellipse: s-maj=25.0km s-min=15.1km az=86.8*
IDC ***24*** *14:57:20.2±3.3, 38.51N×143.21E, h42km±29km, mb3.6/7, mb1 3.8/9, mb1mx3.6/23, mbtmp3.8/9, ML3.5/2, Error ellipse: s-maj=31.6km s-min=21.4km az=99.0*
ISC 24 14:57:16.0±1.7, 38.56N±0.04×143.32E±0.06, h28km±13km, n38, σ0§85/49, mb4.1/12, 1C, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.39**	**292**	P	**Pn**	**14 57 39.8**	**-0.1**
OFUJ				S	**Sn**	**14 57 56.9**	**-0.6**
MIYJ	**Miyakonagasawa**	**1.55**	**311**	P	**Pn**	**14 57 41.9**	**-0.2**
MIYJ				S	**Sn**	**14 58 00.9**	**-0.5**
JIO	**Ouri**	**1.55**	**267**	P	**Pn**	**14 57 41.6**	**-0.6**
JIO				*e*S	**Sn**	**14 58 00.6**	**-1.0**
JMK	**Ichinoseki**	**1.69**	**284**	P	**Pn**	**14 57 44.2**	**0.0**
JMK				S	**Sn**	**14 58 05.4**	**+0.4**
JOM	**Ohasama**	**1.82**	**300**	P	**Pn**	**14 57 46.3**	**+0.2**
JOM				S	**Sn**	**14 58 09.0**	**+0.5**
JOU	**Okura**	**2.10**	**265**	P	**Pn**	**14 57 50.4**	**+0.4**
JMM	**Marumori**	**2.11**	**252**	P	**Pn**	**14 57 49.6**	**-0.6**
JFK	**Kawauchi**	**2.27**	**239**	P	**Pn**	**14 57 51.6**	**-1.0**
JANG	**Nango**	**2.29**	**323**	P	**Pn**	**14 57 53.8**	**+1.1**
JYK	**Kaneyama**	**2.34**	**280**	P	**Pn**	**14 57 54.2**	**+0.6**
JFT	**Otama**	**2.58**	**247**	P	**Pn**	**14 57 57.4**	**+0.5**
JFT				*e*S	**Sn**	**14 58 28.1**	**+0.5**
JYS	**Shiratake**	**2.58**	**263**	P	**Pn**	**14 57 57.3**	**+0.4**
JAH	**Hinai**	**2.64**	**309**	P	**Pn**	**14 57 58.5**	**+0.7**
MJAR	**Matsushiro Arr**	**4.54**	**245**	P	**Pn**	**14 58 25.4**	**+0.7**
	5.8nm,0.3s,baz=79,slow=14,SNR=34						
MJAR	**Matsushiro Arr**	**4.54**	**245**	P	**Pn**	**14 58 25.5**	**+0.8**
MJAR				pmax	pmax		
	comp=Z,6.0nm,0.3s						
MAJO	**Matsushiro**	**4.54**	**245**	*e*P	**Pn**	**14 58 23.8**	**-0.9**
MAT	**Matsushiro**	**4.54**	**245**	P	**Pn**	**14 58 24.4**	**-0.3**
MAT				*e*S	**Sn**	**14 59 17.4**	**+0.2**
MAT	**Matsushiro**	**4.54**	**245**	*e*P	**Pn**	**14 58 25.0**	**+0.3**
MAT				S	**Sn**	**14 59 21.0**	**+3.8**
ASAJ	**Asahikawa**	**5.58**	**355**	P	**Pn**	**14 58 39.9**	**+0.6**
	comp=Z,0.8nm,0.3s,baz=174,slow=22,SNR=8.7						
ASAJ				S	**Sn**	**14 59 42.1**	**-1.1**
	comp=Z,1.1nm,0.3s,baz=307,slow=15,SNR=2.3						
ASAJ	**Asahikawa**	**5.58**	**355**	P	**Pn**	**14 58 39.9**	**+0.6**
ASAJ				S	**Sn**	**14 59 42.2**	**-1.0**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**5.79**	**18**	*e*P	**Pn**	**14 58 39.5**	**-2.9**
YUK				*e*S	**Sn**	**14 59 43.9**	**-4.7**
YUK				pmax	pmax		
	comp=Z,210nm,0.3s						
YUK				smax			
	comp=N,230nm,0.5s						
YUK				smax			
	comp=E,270nm,0.5s						
HHC	**Hu-ho-hao-te**	**24.47**	**285**	*e*P		**P**	**15 02 41.3**	**+7.6**
HHC				AMB		AMB		
	comp=Z,19nm,0.4s,mb4.9							
HHC				AMB		AMB		
	comp=Z,125nm,7.9s							
SONM	**Songino Array**	**28.24**	**301**	P		**P**	**15 03 09.2**	**+0.8**
	comp=Z,1.1nm,0.7s,mb3.6,baz=102,slow=8.8,SNR=5.1							
SONM	**Songino Array**	**28.24**	**301**	P		**P**	**15 03 09.2**	**+0.7**
SONM				pmax		pmax		
	comp=Z,1.0nm,0.7s							
ENH	**Enshi**	**28.99**	**264**	P		**P**	**15 03 13.9**	**-1.5**
	comp=Z,5.8nm,0.6s,mb4.5							
GYA	**Guiyang**	**32.98**	**260** ⇑	*i*P		**P**	**15 03 54.3**	**+3.7**
GYA				AMB		AMB		
	comp=Z,10.0nm,0.9s,mb4.8							
GTA	**Gaotai**	**33.59**	**285**	P		**P**	**15 03 56.5**	**+0.7**
GTA				AP		pP	15 04 03.8	-0.5
GTA				XP		sP	15 04 08.3	+0.4
GTA				AMB		AMB		
	comp=Z,4.0nm,1.2s,mb4.2							
MKAR	**Makanchi Array**	**44.61**	**301**	P		**P**	**15 05 27.4**	**0.0**
	comp=Z,0.6nm,0.7s,mb3.5,baz=87,slow=10,SNR=5.7							
KURK	**Kurchatov**	**46.20**	**307**	*e*P		**P**	**15 05 39.9**	**0.0**
	comp=Z,2.2nm,0.7s,mb4.2							
ILAR	**Eielson Array**	**47.39**	**33**	P		**P**	**15 05 51.0**	**+1.7**
	comp=Z,0.9nm,0.7s,mb3.8,baz=267,slow=6.8,SNR=6.2							
ILAR	**Eielson Array**	**47.39**	**33**	P		**P**	**15 05 51.0**	**+1.8**
ILAR				pmax		pmax		
	comp=Z,1.0nm,0.7s							
BVAR	**Borovoye Array**	**50.67**	**312**	P		**P**	**15 06 13.7**	**-0.9**
	comp=Z,0.6nm,0.5s,mb3.8,baz=79,slow=7.3,SNR=2.9							
BVAR	**Borovoye Array**	**50.67**	**312**	P		**P**	**15 06 13.7**	**-1.0**
BVAR				pmax		pmax		
	comp=Z,1.0nm,0.5s							
WRA	**Warramunga Arr**	**58.80**	**190**	P		**P**	**15 07 13.3**	**-1.0**
	comp=Z,4.1nm,0.8s,mb4.5,baz=9.5,slow=7.4,SNR=14							
WRA	**Warramunga Arr**	**58.80**	**190**	P		**P**	**15 07 13.3**	**-1.0**
WRA				pmax		pmax		
	comp=Z,4.0nm,0.8s							
FINES	**FINESS Array B**	**68.16**	**333**	P		**P**	**15 08 15.8**	**+0.6**
	comp=Z,0.8nm,0.8s,mb3.8,baz=50,slow=11,SNR=3.5							
FINES	**FINESS Array B**	**68.16**	**333**	P		**P**	**15 08 15.9**	**+0.6**
FINES				pmax		pmax		
	comp=Z,1.0nm,0.8s							
AKASG	**Malin Array Be**	**74.00**	**323**	P		**P**	**15 08 51.0**	**+0.5**
	comp=Z,0.4nm,0.3s,mb3.8,baz=46,slow=5.1,SNR=6.4							

MAN 24 15:30:57.0, 14.94N×121.62E, h48km, mb3.8, ML2.5, MS2.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POLP	**Polilio Island**	**0.37**	**125**	*e*P	P	15 31 08.5	+1.8
POLP				*e*S	S	15 31 16.8	+3.2
BALP	**Baler**	**0.80**	**357**	*e*P	P	15 31 13.2	+1.2
BALP				*e*S	S	15 31 25.1	+2.1
CAUP	**Cauayan**	**2.00**	**6**	*e*P	P	15 31 28.6	-0.5
CAUP				*e*S	S	15 31 52.1	-0.8

NEIC ***24*** *15:46:12.3±0.6, 49.35N×19.89E, h5km, MG2.6(WAR), Error ellipse: s-maj=7.8km s-min=6.1km az=208.0*
IPEC ***24*** *15:46:12.8±0.1, 49.38N×19.94E, ML2.3/2, Error ellipse: s-maj=1.3km s-min=0.9km az=77.0*
PRU ***24*** *15:46:13.5, 49.43N×19.87E*
CSEM ***24*** *15:46:13.8±0.2, 49.43N×19.88E, h2km, ML3.0/4, Error ellipse: s-maj=5.1km s-min=3.2km az=6.0*
WAR 24 15:46:10, 49.33N×19.90E, ML2.8, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIE	**Niedzica**	**0.28**	**72**	*e*PG	Pg	15 46 17.0	+1.3
NIE				*e*SG	Sg	15 46 21.0	+1.5
STHS	**Stebnicka Huta**	**0.88**	**84**	*e*Pg	Pg	15 46 30.1	+2.5
STHS				*e*Sg	Sg	15 46 43.5	+4.1
OJC	**Ojcow**	**0.89**	**356**	*e*PG	Pg	15 46 28.0	+0.2
OJC				*e*SG	Sg	15 46 40.0	+0.3
OJC	**Ojcow**	**0.89**	**356**	*e*Pg	Pg	15 46 28.1	+0.3
OJC				*e*Sg	Sg	15 46 39.8	+0.1
KECS	**Kecovo**	**0.93**	**155**	*i* PG	Pg	15 46 30.4	+1.8
VYHS	**Vyhne**	**1.09**	**220**	*e*PG	Pg	15 46 34.1	+2.3
VYHS				*e*SG	Sg	15 46 51.9	+5.5
VYHS	**Vyhne**	**1.09**	**220**	*e*Pg	Pg	15 46 34.7	+2.9
VYHS				*e*Sg	Sg	15 46 51.9	+5.5
CRVS	**Cervenica-Dubn**	**1.11**	**112**	*e*Pg	Pg	15 46 33.4	+1.2
CRVS				*e*Sg	Sg	15 46 51.0	+4.0
OKC	**Ostrava-Krasne**	**1.25**	**295**	*e*PG	Pg	15 46 36.2	+1.3
OKC				*e*SG	Sg	15 46 52.4	+0.8
	32nm,0.4s						
PSZ	**Piszkesteto**	**1.41**	**180**	*e*P	Pb	15 46 37.6	+0.7
PSZ	**Piszkesteto**	**1.41**	**180**	*e*P	Pb	15 46 37.6	+0.7
JAVC	**Velka Javorina**	**1.54**	**253**	*e*Pn	Pn	15 46 42.6	+3.8
MORC	**Moravsky Berou**	**1.60**	**287**	*e*P	Pn	15 46 41.5	+1.8
MORC	**Moravsky Berou**	**1.60**	**287**	*e*Pn	Pn	15 46 41.8	+2.1
MORC				*e*Sg	Sg	15 47 03.0	-0.2
	43nm,0.5s						
MORC	**Moravsky Berou**	**1.60**	**287**	*e*P	Pn	15 46 41.5	+1.9
KOLS	**Kolonicke sedl**	**1.61**	**103**	*e*Pn	Pn	15 46 42.2	+2.4
KOLS				*e*Sn	Sn	15 47 04.0	+2.4
SMOL	**Smolenice**	**1.82**	**244**	*e*SG	Sg	15 47 11.1	+0.4
SMOL				*e*		16 16 36.2	
VRAC	**Vranov**	**2.16**	**271**	*e*Pn	Pn	15 46 51.1	+3.4
VRAC				*e*Sg	Sg	15 47 20.5	-1.5
	8.9nm,0.4s						
DPC	**Dobruska-Polom**	**2.53**	**295**	*e*PG	Pg	15 46 58.2	-2.3
DPC				*e*SG	Sg	15 47 31.0	-3.3
	4.8nm,0.3s						
PRU	**Pruhonice**	**3.54**	**283**	*e*SG	Sg	15 48 04.2	-3.8
KHC	**Kasperske Hory**	**4.15**	**270**	*e*SG	Sg	15 48 25.4	-2.7

IDC ***24*** *15:48:07.2±1.1, 27.03N×140.13E, h425km±11km, mb3.5/11, mb1 3.6/14, mb1mx3.5/22, mbtmp4.2/14, Error ellipse: s-maj=18.4km s-min=13.7km az=65.0*
NEIC ***24*** *15:48:08.5±1.5, 27.08N×140.09E, h429km±14km, mb4.0/4, Error ellipse: s-maj=17.4km s-min=14.1km az=58.0*
JMA ***24*** *15:48:08.5±0.3, 27.41N×141.03E, h434km±4km, M3.8*
ISC 24 15:48:06.4±0.6, 27.15N±0.07×140.3E±0.2, h430km±6km, n44, σ1§19/51, mb3.7/16, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.69**	**91**	P	**P**	**15 49 03.8**	**-0.1**
	66nm,0.3s,baz=263,slow=21,SNR=11						
CBIJ				S	**S**	**15 49 45.9**	**-3.2**
	56nm,0.3s,baz=274,slow=23,SNR=6.2						
CBIJ	**Chichi jima**	**1.69**	**91**	P	**P**	**15 49 03.7**	**-0.2**
CBIJ				*e*S	**S**	**15 49 46.1**	**-3.0**
JHHJ	**Haha-jima-NKT**	**1.77**	**107**	P	**P**	**15 49 04.5**	**+0.2**
JHHJ				S	**S**	**15 49 49.0**	**-0.8**
JHJ2	**Mitsune**	**5.96**	**356**	P	**P**	**15 49 41.9**	**+1.6**
JHJ	**Hachijo jima 2**	**5.97**	**356**	P	**P**	**15 49 41.5**	**+1.1**
	43nm,0.3s,baz=77,slow=20,SNR=9.9						
BSO1	**Boso 1**	**7.50**	**4**	P	**P**	**15 49 58.0**	**+0.8**
JIM2	**Oshima 3**	**7.58**	**355**	P	**P**	**15 49 59.1**	**+1.0**
BSO3	**Boso 3**	**7.63**	**1**	P	**P**	**15 49 59.6**	**+1.0**
BSO3				*e*S	**S**	**15 51 25.8**	**-1.5**
BSO4	**Boso 4**	**7.82**	**0**	P	**P**	**15 50 01.5**	**+0.8**
BSO4				*e*S	**S**	**15 51 27.3**	**-3.7**
JIE	**Ise**	**7.85**	**338**	P	**P**	**15 50 03.9**	**+2.9**
JKN2	**Miekihoku**	**7.87**	**335**	P	**P**	**15 50 04.3**	**+3.1**
HMMJ	**Hamamatsu 2**	**7.99**	**345**	P	**P**	**15 50 04.1**	**+1.5**
JOD2	**Odawara 2**	**8.15**	**353**	P	**P**	**15 50 04.8**	**+0.3**
JNY	**Yasuok**	**8.44**	**346**	P	**P**	**15 50 09.1**	**+1.4**
JAO	**Obara**	**8.50**	**343**	P	**P**	**15 50 09.6**	**+1.3**
JHU	**Hanno**	**8.72**	**355**	P	**P**	**15 50 10.1**	**-0.7**
JHU				*e*S	**S**	**15 51 44.8**	**-4.4**
JRY	**Ryogami san**	**8.92**	**353**	P	**P**	**15 50 13.0**	**-0.1**
JRY				*e*S	**S**	**15 51 50.9**	**-2.4**
JYT	**Yasato**	**9.05**	**360**	P	**P**	**15 50 14.0**	**-0.6**
JAG	**Ashikaga**	**9.28**	**356**	P	**P**	**15 50 16.1**	**-1.0**
JAG				*e*S	**S**	**15 51 55.0**	**-5.6**
JHO	**Hitachi**	**9.44**	**1**	P	**P**	**15 50 18.7**	**-0.2**
MJAR	**Matsushiro Arr**	**9.53**	**350**	P	**P**	**15 50 21.2**	**+1.2**
	0.9nm,0.3s,baz=160,slow=10,SNR=7.6						
MJAR				S	**S**	**15 52 03.1**	**-2.7**
	0.4nm,0.3s,baz=190,slow=15,SNR=3.5						
MAJO	**Matsushiro**	**9.53**	**350**	P	**P**	**15 50 18.3**	**-1.7**
ASAJ	**Asahikawa**	**17.03**	**6**	P	**P**	**15 51 43.3**	**+3.2**
	0.3nm,0.3s,baz=169,slow=4.3,SNR=4.3						
SONM	**Songino Array**	**33.51**	**317**	P	**P**	**15 54 09.1**	**-0.3**
	0.3nm,0.5s,mb2.9,baz=112,slow=6.0,SNR=3.6						
WRA	**Warramunga Arr**	**47.16**	**188**	P	**P**	**15 55 58.5**	**-1.5**
	2.1nm,0.6s,mb3.6,baz=6.3,slow=7.8,SNR=20						
ZAL	**Zalesovo**	**48.35**	**319**	P	**P**	**15 56 07.5**	**-1.1**
	0.9nm,0.5s,mb3.4,baz=356,slow=11,SNR=5.9						
MKAR	**Makanchi Array**	**49.14**	**310**	P	**P**	**15 56 14.4**	**-0.3**
	1.5nm,0.6s,mb3.5,baz=87,slow=10,SNR=22						
BVAR	**Borovoye Array**	**56.86**	**317**	P	**P**	**15 57 09.8**	**-0.4**
	4.7nm,0.4s,mb4.2,baz=88,slow=7.4,SNR=29						
BRVK	**Borovoye**	**56.92**	**317**	*e*P	**P**	**15 57 09.8**	**-0.9**
	3.1nm,0.9s,mb3.6						
ILAR	**Eielson Array**	**58.48**	**29**	P	**P**	**15 57 21.1**	**-0.1**
	0.8nm,0.5s,mb3.3,baz=249,slow=6.4,SNR=11						
KEV	**Kevo**	**72.37**	**340**	*e*p	**P**	**15 58 48.1**	**-0.1**
	8.8nm,0.9s,mb4.3						
YKA	**Yellowknife Ar**	**72.89**	**28**	P	**P**	**15 58 51.9**	**+0.7**
	1.5nm,0.5s,mb3.8,baz=295,slow=5.9,SNR=3.7						
YKA	**Yellowknife Ar**	**72.89**	**28**	P	**P**	**15 58 51.9**	**+0.7**
ARCES	**ARCESS Array B**	**72.93**	**340**	P	**P**	**15 58 51.9**	**+0.5**
	1.9nm,0.5s,mb3.9,baz=71,slow=8.2,SNR=21						
JOF	**Joensuu**	**74.28**	**333**	*e*p	**P**	**15 58 58.7**	**-0.5**
	1.7nm,0.5s,mb3.9						
KAF	**Kangasniemi**	**76.69**	**334**	*e*p	**P**	**15 59 12.0**	**-0.5**
	2.0nm,0.4s,mb4.1,baz=54,slow=5.2						
FINES	**FINESS Array B**	**77.15**	**333**	P	**P**	**15 59 15.0**	**-0.1**
	2.1nm,0.3s,mb4.2,baz=66,slow=5.5,SNR=31						
FINES	**FINESS Array B**	**77.15**	**333**	P	**P**	**15 59 15.0**	**-0.1**
AKASG	**Malin Array Be**	**81.57**	**323**	P	**P**	**15 59 38.4**	**-0.2**
	0.7nm,0.5s,mb3.7,baz=50,slow=5.3,SNR=6.8						
NVAR	**Mina Array Bea**	**81.81**	**51**	P	**P**	**15 59 42.5**	**+2.4**
	0.7nm,0.7s,mb3.5,baz=310,slow=7.0,SNR=5.7						
NB2	**NORSAR Subarra**	**82.93**	**338**	P	**P**	**15 59 44.8**	**-0.5**
	1.3nm,0.5s,mb3.9,baz=51,slow=4.6						
NOA	**NORSAR Array B**	**82.93**	**338**	P	**P**	**15 59 45.0**	**-0.2**
	2.3nm,0.6s,mb4.1,baz=46,slow=4.9,SNR=6.3						
PLCA	**Paso Flores**	**151.22**	**126**	PKPbc	PKPdf	16 07 11.9	+8.7
	1.3nm,0.9s,baz=217,slow=6.0,SNR=3.6						
LPAZ	**La Paz**	**151.54**	**74**	PKPbc	PKPdf	16 07 14.4	+10
	1.0nm,0.5s,baz=299,slow=4.7,SNR=5.2						

IDC ***24*** *15:57:40.1±7.4, 10.35N×138.49E, h32km±55km, mb3.9/9, mb1 4.0/10, mb1mx3.9/20, mbtmp4.1/10, MS3.7/1, Ms1 3.7/1, ms1mx2.9/33, Error ellipse: s-maj=27.3km s-min=18.0km az=75.0*
NEIC ***24*** *15:57:40.6±2.1, 10.34N×138.46E, h37km±19km, mb4.6/2, Error ellipse: s-maj=18.6km s-min=11.0km az=75.0*
ISC 24 15:57:39.6±4.1, 10.3N±0.1×138.6E±0.2, h50km±40km, n19, σ0§51/15, mb4.1/11, MS3.7/1, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**6.94**	**62**	Pn	**P**	**15 59 21.6**	**+0.4**
GUMO				Sn	**S**	**16 00 39.2**	**-0.3**
	2.0nm,0.3s,baz=28,slow=23,SNR=3.4						
WRA	**Warramunga Arr**	**30.38**	**188**	P	**P**	**16 03 48.8**	**-0.6**
	1.1nm,0.9s,mb3.6,baz=357,slow=10.0,SNR=6.3						
WRA				PcP	PcP	16 06 48.4	0.0
	0.4nm,0.7s,baz=355,slow=3.0,SNR=4.7						
STKA	**Stephens Creek**	**42.07**	**176**	P	**P**	**16 05 28.8**	**+0.4**
	3.3nm,0.9s,mb4.0,baz=318,slow=6.9,SNR=4.7						
STKA	**Stephens Creek**	**42.07**	**176**	*e*P	**P**	**16 05 28.9**	**+0.5**
SONM	**Songino Array**	**46.16**	**330**	P	**P**	**16 06 01.4**	**+0.2**
	1.3nm,1.0s,mb3.8,baz=135,slow=5.5,SNR=7.1						
SONM				PcP	PcP	16 07 36.2	-0.7
	0.3nm,0.7s,baz=146,slow=5.3,SNR=3.6						
AFI	**Afiamalu**	**54.80**	**115**	LR	LR	16 27 17.5	
	comp=Z,73nm,20.3s,MS3.7,baz=87,slow=32						
MKAR	**Makanchi Array**	**59.70**	**319**	P	**P**	**16 07 41.8**	**+0.3**
	1.8nm,0.9s,mb4.1,baz=108,slow=7.7,SNR=14						
ZAL	**Zalesovo**	**60.83**	**327**	P	**P**	**16 07 48.2**	**-0.9**
	0.8nm,0.8s,mb3.9,baz=174,slow=18,SNR=4.5						
KURK	**Kurchatov**	**63.22**	**322**	*e*P	**P**	**16 08 04.2**	**-0.9**
	6.9nm,0.8s,mb4.8						
BVAR	**Borovoye Array**	**68.74**	**323**	P	**P**	**16 08 40.5**	**+0.3**
	3.1nm,0.8s,mb4.3,baz=104,slow=6.1,SNR=21						
BRVK	**Borovoye**	**68.81**	**323**	*e*P	**P**	**16 08 40.8**	**+0.1**
	2.5nm,0.8s,mb4.2						
ILAR	**Eielson Array**	**74.12**	**25**	P	**P**	**16 09 12.1**	**-0.1**
	0.8nm,0.7s,mb3.8,baz=254,slow=5.8,SNR=6.7						
ARCES	**ARCESS Array B**	**88.22**	**341**	P	**P**	**16 10 26.3**	**+0.1**
	2.5nm,0.9s,mb4.4,baz=101,slow=6.2,SNR=3.6						
FINES	**FINESS Array B**	**91.42**	**334**	P	**P**	**16 10 42.2**	**+0.8**
	0.4nm,0.5s,mb4.0,baz=90,slow=7.6,SNR=5.4						
FINES	**FINESS Array B**	**91.42**	**334**	P	**P**	**16 10 42.2**	**+0.8**
SDV	**Santo Domingo**	**145.20**	**58**	PKPbc	PKPbc	16 17 16.3	+3.0
	1.9nm,0.4s,baz=313,slow=5.4,SNR=5.5						
CFAA	**Coronel Fontan**	**147.36**	**134**	PKPbc	PKPdf	16 17 21.8	+5.8
	0.2nm,0.7s,baz=295,slow=3.8,SNR=3.5						
CFAA	**Coronel Fontan**	**147.36**	**134**	PKPbc	PKPdf	16 17 21.8	+5.8
LPAZ	**La Paz**	**153.34**	**106**	PKPbc	PKPdf	16 17 37.6	+12
	0.6nm,0.8s,baz=200,slow=9.3,SNR=3.6						

IDC ***24*** *16:04:56.5±0.7, 5.31N×94.36E, mb4.5/11, mb1 4.6/11, mb1mx4.3/20, mbtmp4.5/11, Error ellipse: s-maj=39.3km s-min=15.2km az=53.0*
BJI ***24*** *16:04:58.0, 5.30N×94.40E, h25km, mB5.0, mb4.7*
NEIC ***24*** *16:05:00.4±4.6, 5.31N×94.36E, h25km±31km, mb4.7/11, Error ellipse: s-maj=19.3km s-min=6.8km az=54.0*
NEIC Felt [II] at Banda Aceh.
ISC 24 16:04:60.0±0.5, 5.34N±0.08×94.48E±0.09, h33km, n49, σ0§93/38, mb4.6/26, 2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.15**	**90**	‖ *e*P	**P**	**16 06 31.9**	**+1.1**
CHG	**Chiang Mai**	**14.08**	**18**	P	**P**	**16 08 24.6**	**+5.2**
PKI	**Pulchoki**	**23.73**	**340**	*e*P	**P**	**16 10 10.4**	**+0.2**
	20nm,0.6s,mb4.7						
DMN	**Daman**	**23.87**	**339**	*e*P	**P**	**16 10 11.8**	**+0.2**
	18nm,0.6s,mb4.7						
KKN	**Kakani**	**23.98**	**340**	*e*P	**P**	**16 10 12.7**	**+0.1**
	14nm,0.5s,mb4.7						
GYA	**Guiyang**	**24.01**	**28**	‖ *i*P	**P**	**16 10 14.3**	**+1.4**
GYA				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.7						
GKN	**Gorkha**	**24.40**	**339**	*e*P	**P**	**16 10 17.3**	**+0.6**
	comp=Z,21nm,0.3s,mb5.0						
LSA	**Lhasa**	**24.43**	**353**	*e*P	**P**	**16 10 18.2**	**+1.2**
	comp=Z,13nm,0.4s,mb4.7						
KOLN	**Koldanda**	**24.59**	**336**	*e*P	**P**	**16 10 19.6**	**+1.1**
	comp=Z,40nm,0.6s,mb5.1						
XAN	**Xi'an**	**31.55**	**23**	P	**P**	**16 11 19.9**	**-1.7**
XAN				AMB	AMB		
	comp=Z,15nm,0.6s,mb5.0						
GTA	**Gaotai**	**34.26**	**7**	P	**P**	**16 11 43.9**	**-1.2**
GTA				AP	pP	16 11 53.9	-0.9
GTA				XP	sP	16 11 57.4	-1.7
GTA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
FITZ	**Fitzroy Crossi**	**38.57**	**128**	P	**P**	**16 12 21.1**	**-0.6**
	comp=Z,6.2nm,0.7s,mb4.5,baz=328,slow=4.9,SNR=9.8						
AAK	**Ala-Archa**	**41.15**	**337**	*e*P	**P**	**16 12 42.5**	**-0.4**
	comp=Z,2.6nm,0.6s,mb4.0						
MKAR	**Makanchi Array**	**42.62**	**348**	P	**P**	**16 12 55.2**	**+0.3**
	comp=Z,14nm,0.6s,mb4.8,baz=170,slow=8.2,SNR=170						
SONM	**Songino Array**	**43.55**	**12**	P	**P**	**16 13 02.0**	**-0.5**
	comp=Z,4.3nm,0.6s,mb4.4,baz=189,slow=8.0,SNR=48						
SONM				Pc

GTA AP pP 16 13 53.8 +0.4
GTA XP sP 16 14 01.1 +2.5
GTA AMB AMB
comp=Z,12nm,0.9s,mb4.8
FITZ Fitzroy Crossi 38.57 128 P **P 16 14 18.2 -0.1**
comp=Z,5.7nm,0.7s,mb4.4,baz=317,slow=2.0,SNR=7.0
FITZ LR LR 16 28 44.7
comp=Z,74nm,21.5s,MS3.5,baz=312,slow=34
AAK Ala-Archa 41.18 338 *eP* **P 16 14 39.4 -0.2**
comp=Z,3.2nm,0.6s,mb4.1
MKAR Makanchi Array 42.65 348 P **P 16 14 51.5 -0.2**
comp=Z,18nm,0.6s,mb5.0,baz=166,slow=8.2,SNR=44
SONM Songino Array 43.61 12 P **P 16 14 58.4 -1.0**
comp=Z,5.2nm,0.6s,mb4.5,baz=190,slow=8.2,SNR=23
SONM PcP PcP 16 16 46.5 -0.4
comp=Z,1.4nm,0.4s,baz=193,slow=3.9,SNR=10
SONM LR LR 16 36 55.8
comp=Z,53nm,19.3s,MS3.5,baz=59,slow=41
WRA Warramunga Arr 46.56 124 P **P 16 15 23.4 0.0**
comp=Z,6.2nm,0.6s,mb4.7,baz=304,slow=9.3,SNR=12
WRAB Tennant Creek 46.57 124 *eP* **P 16 15 23.4 0.0**
comp=Z,9.9nm,0.6s,mb4.9
KURK Kurchatov 47.17 346 *eP* **P 16 15 27.7 0.0**
ZAL Zalesovo 49.13 352 P **P 16 15 42.1 -0.8**
comp=Z,9.3nm,0.5s,mb5.1,baz=304,slow=7.1,SNR=18
BVAR Borovoye Array 51.51 342 P **P 16 16 00.2 -0.9**
comp=Z,5.3nm,0.6s,mb4.7,baz=138,slow=9.8,SNR=13
STKA Stephens Creek 58.14 133 P **P 16 16 49.4 -0.2**
comp=Z,1.8nm,0.7s,mb4.2,baz=300,slow=9.3,SNR=3.2
BRTR Keskin Array B 64.34 312 P **P 16 17 30.0 -1.3**
comp=Z,2.5nm,0.6s,mb4.4,baz=120,slow=8.2,SNR=11
AKASG Malin Array Be 70.35 322 P **P 16 18 07.3 -1.5**
comp=Z,2.9nm,0.6s,mb4.4,baz=88,slow=5.2,SNR=14
AKASG Malin Array Be 70.35 322 P **P 16 18 07.3 -1.6**
MLR Muntele Rosu 71.22 316⇑*iP* **P 16 18 15.3 +1.1**
MLR Muntele Rosu 71.22 316⇑*iP* **P 16 18 15.3 +1.1**
VOIR 71.83 316⇓*iP* **P 16 18 17.4 -0.4**
VOIR 71.83 316⇓*iP* **P 16 18 17.4 -0.4**
BURAR Bucovina Array 72.15 318⇑*iP* **P 16 18 20.3 +0.6**
BURAR Bucovina Array 72.15 318⇑*iP* **P 16 18 20.3 +0.6**
JOF Joensuu 73.29 335 *ep* **P 16 18 24.3 -1.9**
KOLS Kolonicke sedl 74.33 319 *eP* **P 16 18 33.8 +1.3**
BOSA Boshof 74.48 239 LR LR 16 45 40.5
comp=Z,79nm,19.1s,MS4.0,baz=285,slow=31
CRVS Cervenica-Dubn 74.86 319 *eP* **P 16 18 36.1 +0.6**
STHS Stebnicka Huta 75.08 320 *iP* **P 16 18 38.2 +1.4**
FINES FINESS Array B 75.12 332 P **P 16 18 36.0 -0.8**
comp=Z,1.7nm,0.5s,mb4.2,baz=92,slow=5.2,SNR=11
FINES FINESS Array B 75.12 332 P **P 16 18 36.0 -0.8**
KAF Kangasniemi 75.21 333 *ep* **P 16 18 33.3 -4.0**
KECS Kecovo 75.43 319 *iP* **P 16 18 39.2 +0.4**
OJC Ojcow 76.13 320 *eP* **P 16 18 43.1 +0.3**
VYHS Vyhne 76.52 319 *iP* **P 16 18 45.1 +0.1**
KEV Kevo 77.35 341 *ep* **P 16 18 44.9 -4.4**
ZST Bratislava 77.63 318 *iP* **P 16 18 51.9 +0.7**
ARCES ARCESS Array B 77.78 340 P **P 16 18 51.6 0.0**
comp=Z,1.4nm,0.3s,mb4.3,baz=97,slow=6.3,SNR=17
GERES GERESS Array B 79.94 319 P **P 16 19 04.4 +0.6**
comp=Z,5.2nm,0.6s,mb4.6,baz=90,slow=5.3,SNR=24
LPG La Plagne 84.64 315 *eP* **P 16 19 29.2 +1.1**
comp=Z,17nm,0.9s,mb4.9
VNA2 Neumayer--Watz 98.84 199 **P 16 20 28.0 -5.8**
VNA2 Neumayer--Watz 98.84 199 **P 16 20 28.3 -5.5**
VNA2 Neumayer--Watz 98.84 199 **P 16 20 31.8 -2.0**
VNA2 Neumayer--Watz 98.84 199 **P 16 20 39.0 +5.2**
VNA2 Neumayer--Watz 98.84 199 **P 16 20 48.9 +15**
VNA3 Neumayer Olymp 99.51 199 **P 16 20 32.2 -4.7**
VNA3 Neumayer Olymp 99.51 199 **P 16 20 43.9 +7.0**
VNA3 Neumayer Olymp 99.51 199 **P 16 20 53.4 +17**
ULM Lac du Bonnet 123.96 8 PKP PKPdf 16 25 51.6 +0.1
comp=Z,1.7nm,0.5s,baz=117,slow=2.3,SNR=3.4
ELK Elko 126.71 28 PKP PKPdf 16 25 58.9 +1.8
comp=Z,0.8nm,0.4s,baz=246,slow=4.3,SNR=5.8
NVAR Mina Array Bea 126.95 32 PKP PKPdf 16 26 00.2 +2.6
baz=288,slow=2.6
PDAR Pinedale Array 127.44 22 PKP PKPdf 16 26 00.0 +1.6
comp=Z,1.0nm,0.5s,baz=93,slow=2.6,SNR=7.8
TXAR Lajitas Array 141.42 26 PKP PKPdf 16 26 26.8 +2.0
comp=Z,1.0nm,0.4s,baz=172,slow=0.8,SNR=5.4
CFAA Coronel Fontan 149.19 210 PKPbc PKPdf 16 26 44.2 +6.4
comp=Z,0.3nm,0.7s,baz=118,slow=1.9,SNR=6.2
CFAA Coronel Fontan 149.19 210 PKPbc PKPdf 16 26 44.2 +6.4

*IDC **24** 16:09:02.8±0.8, 13.55S×66.36E, mb4.1/10, mb1 4.1/11, mb1mx4.0/22, mbtmp4.0/11, MS3.7/6, Ms1 3.7/6, ms1mx3.5/20, Error ellipse: s-maj=26.0km s-min=18.7km az=166.0*
*NEIC **24** 16:09:04.2±0.5, 13.60S×66.33E, h10km, mb4.1/2, Error ellipse: s-maj=14.5km s-min=10.2km az=148.0*
ISC 24 16:09:02.2±0.7,**13.6S**±0.1×**66.4E**±0.1,**h10**km,**n16,** σ0**64**/14,**mb4.1**/11,**MS3.7/6,Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**19.08**	**252**	P	**P**	**16 13 27.7**	**+0.2**
	0.6nm,0.3s,baz=78,slow=14,SNR=3.8						
KMBO	**Kilima Mbogo**	**31.35**	**291**	P	**P**	**16 15 26.1**	**+0.5**
	1.8nm,0.8s,mb4.0,baz=63,slow=13,SNR=7.0						
KMBO				LR	LR	16 26 39.0	
	comp=Z,123nm,18.4s,MS3.6,baz=97,slow=34						
ATD	**Arta Tunnel**	**34.15**	**316**	LR	LR	16 27 26.5	
	comp=Z,75nm,21.3s,MS3.4,baz=129,slow=32						
MATP	**Matopo**	**36.78**	**254**	P	**P**	**16 12 13.3**	**+0.1**
	3.0nm,0.9s,mb4.1,baz=95,slow=12,SNR=4.5						
MATP	**Matopo**	**36.78**	**254**	P	**P**	**16 12 13.3**	**+0.1**
LBTB	**Lobatse**	**39.98**	**247**	P	**P**	**16 16 37.6**	**-1.2**
	2.7nm,1.0s,mb3.9						
BOSA	**Boshof**	**40.95**	**242**	P	**P**	**16 16 47.2**	**+0.4**
	2.8nm,0.9s,mb3.9,baz=64,slow=9.0,SNR=4.0						
BOSA				LR	LR	16 31 05.1	
	comp=Z,97nm,18.7s,MS3.7,baz=340,slow=32						
BOSA	**Boshof**	**40.95**	**242**	P	**P**	**16 16 46.7**	**0.0**
	8.9nm,1.2s,mb4.3						
MAW	**Mawson**	**54.02**	**182**	LR	LR	16 35 28.4	
	comp=Z,123nm,20.3s,MS4.0,baz=164,slow=29						
FITZ	**Fitzroy Crossi**	**57.01**	**103**	P	**P**	**16 18 51.1**	**+0.2**
	6.0nm,0.8s,mb4.7,baz=216,slow=6.5,SNR=4.1						
BRTR	**Keskin Array B**	**61.16**	**332**	P	**P**	**16 19 20.4**	**+1.0**
	0.4nm,0.4s,mb4.0,baz=158,slow=7.8,SNR=2.1						
MKAR	**Makanchi Array**	**61.77**	**12**	P	**P**	**16 19 23.2**	**-0.2**
	1.3nm,0.8s,mb4.1,baz=198,slow=7.7,SNR=6.3						
MKAR				LR	LR	16 43 50.9	
	comp=Z,53nm,18.5s,MS3.7,slow=34						
WRA	**Warramunga Arr**	**65.03**	**106**	P	**P**	**16 19 45.7**	**+0.3**
	1.7nm,0.7s,mb4.2,baz=272,slow=5.8,SNR=10						
BVAR	**Borovoye Array**	**66.42**	**3**	P	**P**	**16 19 52.8**	**-0.9**
	1.7nm,0.8s,mb4.1,baz=162,slow=7.2,SNR=5.3						
ZAL	**Zalesovo**	**69.06**	**12**	P	**P**	**16 20 09.4**	**-0.8**
	1.1nm,0.7s,mb3.9,baz=338,slow=5.4,SNR=2.6						
ZAL				LR	LR	16 49 46.1	
	comp=Z,66nm,19.5s,MS3.9,baz=97,slow=35						
SONM	**Songino Array**	**70.78**	**27**	P	**P**	**16 20 21.3**	**+0.5**
	0.8nm,0.8s,mb3.7,baz=214,slow=5.3,SNR=4.6						

*NIED **24** 16:11:00, 38.50N×143.20E, h5km, Mw4.3 Best double couple: M0=3.11×10^15 NP1:φs=127°, δ88°, λ-85°. NP2: φs=240°, δ5°, λ-157°.*
*JMA **24** 16:11:16.8±0.1, 38.51N×143.23E, h10km±3km, M4.6*
*IDC **24** 16:11:16.1±0.7, 38.51N×143.30E, mb4.1/14, mb1 4.3/18, mb1mx4.2/27, mbtmp4.1/18, ML4.3/3, MS4.4/2, Ms1 4.4/2, ms1mx3.0/32, Error ellipse: s-maj=19.5km s-min=15.2km az=119.0*
*BJI **24** 16:11:17.1, 38.50N×143.40E, h10km, mB4.3, mb4.5*
*NEIC **24** 16:11:17.5±0.4, 38.49N×143.37E, h10km, mb4.6/5, MW4.3(NIED), Error ellipse: s-maj=11.3km s-min=8.0km az=146.0*
ISC 24 16:11:16.9±1.6,**38.51N**±0.04×**143.31E**±0.06,**h17**km±11km, **n54,** σ0**93**/56,**mb4.2**/21,**MS5.2**/1,**1D,Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.40**	**294**	P	**Pn**	**16 11 41.5**	**-0.3**
OFUJ				*eS*	**Sb**	**16 11 59.6**	**-0.1**
JIO	**Ouri**	**1.54**	**268**	P	**Pn**	**16 11 43.5**	**-0.3**
JIO				*eS*	**Sn**	**16 12 02.8**	**-0.7**
MIYJ	**Miyakonagasawa**	**1.57**	**313**	P	**Pn**	**16 11 44.1**	**-0.2**
JMK	**Ichinoseki**	**1.69**	**286**	P	**Pn**	**16 11 46.0**	**0.0**
JOM	**Ohasama**	**1.84**	**302**	P	**Pn**	**16 11 48.4**	**+0.3**
JOM				*eS*	**Sn**	**16 12 10.8**	**-0.4**
JOU	**Okura**	**2.08**	**267**	P	**Pn**	**16 11 52.0**	**+0.4**
JMM	**Marumori**	**2.09**	**253**	P	**Pn**	**16 11 51.5**	**-0.1**
JMM				*eS*	**Sn**	**16 12 16.8**	**-0.6**
JFK	**Kawauchi**	**2.24**	**240**	P	**Pn**	**16 11 53.5**	**-0.3**
JANG	**Nango**	**2.32**	**324**	P	**Pn**	**16 11 54.6**	**-0.4**
JYK	**Kaneyama**	**2.35**	**281**	P	**Pn**	**16 11 55.8**	**+0.5**
JFT	**Otama**	**2.55**	**248**	P	**Pn**	**16 11 58.8**	**+0.5**
JFT				*eS*	**Sn**	**16 12 30.9**	**+1.7**
JYS	**Shiratake**	**2.57**	**264**	P	**Pn**	**16 11 59.4**	**+0.9**
MJAR	**Matsushiro Arr**	**4.51**	**246**	Pn	**Pn**	**16 12 26.8**	**+0.7**
	25nm,0.3s,baz=86,slow=16,SNR=114						
MAJO	**Matsushiro**	**4.51**	**246**	*eP*	**Pn**	**16 12 26.9**	**+0.8**
MAT	**Matsushiro**	**4.51**	**246**	P	**Pn**	**16 12 26.7**	**+0.6**
MAT				*eS*	**Sn**	**16 13 17.9**	**-0.9**
MAT	**Matsushiro**	**4.51**	**246**	*eP*	**Pn**	**16 12 27.0**	**+0.9**
MAT				S	**Sn**	**16 13 22.0**	**+3.2**
ASAJ	**Asahikawa**	**5.62**	**355**	Pn	**Pn**	**16 12 40.9**	**-0.9**
	5.3nm,0.3s,baz=193,slow=7.9,SNR=43						
ASAJ				Sn	**Sn**	**16 13 46.4**	**-0.4**
	3.3nm,0.3s,baz=342,slow=20,SNR=3.3						
JHJ	**Hachijo jima 2**	**6.10**	**209**	Pn	**Pn**	**16 12 46.2**	**-2.3**
	37nm,0.3s,baz=66,slow=19,SNR=4.0						
JHJ				Sn	**Sn**	**16 13 51.2**	**-7.4**
	23nm,0.3s,baz=73,slow=19,SNR=3.1						
JNU	**Nakatsue**	**11.44**	**246**	Pn	**P**	**16 14 01.2**	**-1.3**
	baz=90,slow=3.0,SNR=2.6						
JNU				LR	LR	16 18 46.3	
	comp=Z,201nm,18.1s,baz=46,slow=39						
MDJ	**Mudanjiang**	**11.94**	**305**	P	**P**	**16 14 12.3**	**+3.0**
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,43nm,3.9s						
MDJ	**Mudanjiang**	**11.94**	**305**	*eP*	**P**	**16 14 10.8**	**+1.5**
FX1	**Attu Island--F**	**25.09**	**45**	LR	LR	16 25 23.8	
	comp=Z,8μm,21.0s,MS5.2,baz=309,slow=34						
XAN	**Xi'an**	**27.98**	**271**	P	**P**	**16 17 07.8**	**-0.8**
SONM	**Songino Array**	**28.26**	**301**	P	**P**	**16 17 11.2**	**+0.3**
	comp=Z,0.9nm,0.4s,mb3.7,baz=101,slow=9.4,SNR=5.4						
ENH	**Enshi**	**28.97**	**264**	P	**P**	**16 17 16.5**	**-1.1**
	comp=Z,17nm,0.6s,mb5.0						
GYA	**Guiyang**	**32.96**	**260⇓***iP*		**P**	**16 17 54.9**	**+2.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
GTA	**Gaotai**	**33.59**	**285**	P	**P**	**16 17 57.9**	**-0.3**
GTA				AP	pP	16 18 08.0	+4.7
GTA				XP	sP	16 18 13.1	+7.6
GTA				AMB	AMB		
	comp=Z,6.0nm,0.6s,mb4.7						
KMI	**Kunming**	**36.68**	**261**	P	**P**	**16 18 31.8**	**+7.2**
KMI				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.4						
ZAL	**Zalesovo**	**42.07**	**311**	P	**P**	**16 19 10.0**	**+1.1**
	comp=Z,1.6nm,0.4s,mb4.0,baz=13,slow=7.7,SNR=4.8						
ZAL	**Zalesovo**	**42.07**	**311**	P	**P**	**16 19 10.0**	**+1.1**
LSA	**Lhasa**	**43.58**	**275**	P	**P**	**16 19 22.3**	**+0.6**
	comp=Z,2.2nm,0.6s,mb4.1						
MKAR	**Makanchi Array**	**44.63**	**301**	P	**P**	**16 19 31.1**	**+1.2**
	comp=Z,0.7nm,0.5s,mb3.7,baz=90,slow=9.7,SNR=6.1						
MKAR	**Makanchi Array**	**44.63**	**301**	P	**P**	**16 19 31.1**	**+1.2**
KURK	**Kurchatov**	**46.22**	**307**	*eP*	**P**	**16 19 40.9**	**-1.6**
	comp=Z,5.6nm,0.6s,mb4.7						
ILAR	**Eielson Array**	**47.44**	**33**	P	**P**	**16 19 52.6**	**+0.7**
	comp=Z,2.1nm,0.7s,mb4.2,baz=264,slow=6.4,SNR=22						
BVAR	**Borovoye Array**	**50.70**	**312**	P	**P**	**16 20 15.3**	**-2.0**
	comp=Z,0.8nm,0.6s,mb3.8,baz=94,slow=9.3,SNR=3.4						
INK	**Inuvik**	**52.38**	**28**	P	**P**	**16 20 30.3**	**+0.5**
	comp=Z,0.9nm,0.5s,mb4.0,baz=225,slow=1.4,SNR=3.6						
INK	**Inuvik**	**52.38**	**28**	P	**P**	**16 20 30.3**	**+0.5**
FITZ	**Fitzroy Crossi**	**58.71**	**200**	P	**P**	**16 21 16.2**	**+0.1**
	comp=Z,5.1nm,0.7s,mb4.7,baz=48,slow=3.7,SNR=5.9						
WRAB	**Tennant Creek**	**58.74**	**190**	*eP*	**P**	**16 21 15.5**	**-0.8**
	comp=Z,8.9nm,0.9s,mb4.8						
WRA	**Warramunga Arr**	**58.75**	**190**	P	**P**	**16 21 15.1**	**-1.3**
	comp=Z,3.0nm,0.6s,mb4.5,baz=7.5,slow=7.0,SNR=28						
FINES	**FINESS Array B**	**68.20**	**333**	P	**P**	**16 22 17.5**	**-0.4**
	comp=Z,0.8nm,0.6s,mb3.9,baz=36,slow=16,SNR=3.5						
NVAR	**Mina Array Bea**	**72.90**	**54**	P	**P**	**16 22 48.2**	**+1.5**
	comp=Z,1.4nm,0.9s,mb3.9,baz=281,slow=4.6,SNR=5.8						
NB2	**NORSAR Subarra**	**73.40**	**338**	P	**P**	**16 22 49.7**	**+0.5**
	comp=Z,1.0nm,0.8s,mb3.8,baz=39,slow=6.2						
NOA	**NORSAR Array B**	**73.40**	**338**	P	**P**	**16 22 49.2**	**0.0**
	comp=Z,1.3nm,0.7s,mb3.9,baz=38,slow=5.9,SNR=4.1						
AKASG	**Malin Array Be**	**74.04**	**323**	P	**P**	**16 22 52.9**	**-0.2**
	comp=Z,0.5nm,0.4s,mb3.8,baz=45,slow=5.6,SNR=7.6						
PDAR	**Pinedale Array**	**75.56**	**47**	P	**P**	**16 23 03.1**	**+1.1**
	comp=Z,0.8nm,0.5s,mb3.9,baz=183,SNR=8.3						
TXAR	**Lajitas Array**	**88.03**	**54**	P	**P**	**16 24 06.9**	**-0.5**
	comp=Z,0.5nm,0.5s,mb4.0,baz=307,slow=6.3,SNR=4.0						
VNA2	**Neumayer--Watz**	**144.15**	**196**		PKPbc	16 30 52.0	+2.2
VNA2	**Neumayer--Watz**	**144.15**	**196**		PKPbc	16 31 02.0	+12
VNA3	**Neumayer Olymp**	**144.38**	**195**		PKPbc	16 30 52.8	+2.3
VNA3	**Neumayer Olymp**	**144.38**	**195**		PKPbc	16 31 00.4	+10
LPAZ	**La Paz**	**144.65**	**60**	PKP	PKPdf	16 30 55.2	-1.5
	comp=Z,0.8nm,0.6s,baz=90,slow=4.0,SNR=3.2						
LPAZ	**La Paz**	**144.65**	**60**	PKP	PKPdf	16 30 55.2	-1.6

*NEIC **24** 16:25:13.4±0.4, 43.79N×105.18W, ML3.4, Error ellipse: s-maj=6.0km s-min=4.4km az=108.0, Suspected Mining explosion.*
NEIC 0.0 [ ]. 65 km [40 miles] SSE of Gillette.
*IDC **24** 16:25:14.6±1.6, 43.98N×105.68W, mb3.8/1, mb1 3.8/5, mb1mx3.6/24, mbtmp3.6/5, ML3.4/3, Error ellipse: s-maj=60.5km s-min=7.5km az=147.0*
ISC 24 16:25:11.1±0.6,**43.75N**±0.04×**105.10W**±0.08,**n41,** σ1**92**/43,**mb4.0**/1,**Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHWY	**Pilot Hill**	**2.46**	**186**	*eP*	**Pn**	**16 25 55.0**	**+1.9**
RWWY	**Rawlins**	**2.58**	**218**	*eP*	**Pn**	**16 25 57.0**	**+2.1**
LAO	**LASA Array**	**3.04**	**345**	P	**Pn**	**16 26 01.7**	**+0.3**
PDAR	**Pinedale Array**	**3.40**	**255**	Pn	**Pn**	**16 26 07.3**	**+0.8**
	4.4nm,0.3s,baz=74,slow=16,SNR=58						
PDAR				Pg	**Pg**	**16 26 12.2**	**-6.9**
	11nm,0.3s,baz=75,slow=18,SNR=77						
PDAR				Lg		16 26 51.9	
	16nm,0.3s,baz=78,slow=29,SNR=16						
PDAR	**Pinedale Array**	**3.40**	**255**	Pn	**Pn**	**16 26 07.3**	**+0.8**
PDAR				Pg	**Pg**	**16 26 12.2**	**-6.9**
PDAR				Lg		16 26 51.9	
BW06	**Boulder Array**	**3.40**	**255**	*eP*	**Pn**	**16 26 07.2**	**+0.6**
ISCO	**Idaho Springs**	**3.97**	**186**	*eP*	**Pn**	**16 26 15.2**	**+0.6**
LOHW	**Long Hollow**	**3.99**	**270**	P	**Pn**	**16 26 15.1**	**+0.1**
FLWY	**Flagg Ranch**	**4.06**	**277**	*ePn*	**Pn**	**16 26 16.4**	**+0.5**
SNOW	**Snow King Moun**	**4.12**	**268**	*ePn*	**Pn**	**16 26 16.6**	**-0.1**
YNR	**Norris Junctio**	**4.12**	**285**	Pn	**Pn**	**16 26 19.4**	**+2.6**
YFT	**Old Faithful**	**4.19**	**282**	Pn	**Pn**	**16 26 18.0**	**+0.3**
REDW	**Red Top Meadow**	**4.20**	**267**	Pn	**Pn**	**16 26 17.5**	**-0.4**
IMW	**Indian Meadow**	**4.23**	**274**	Pn	**Pn**	**16 26 17.1**	**-1.1**
TPAW	**Teton Pass**	**4.26**	**268**	Pn	**Pn**	**16 26 19.8**	**+1.1**
RRI2	**Red Ridge**	**4.54**	**267**	*ePn*	**Pn**	**16 26 23.5**	**+0.8**
QLMT	**Earthquake Lak**	**4.67**	**286**	Pn	**Pn**	**16 26 24.2**	**-0.3**
DGMT	**Dagmar**	**4.76**	**7**	Pn	**Pn**	**16 26 25.0**	**-0.8**
BOZ	**Bozeman (W)**	**5.03**	**294**	*ePn*	**Pn**	**16 26 29.1**	**-0.5**
TCUT	**Toone Canyon**	**5.36**	**243**	*ePn*	**Pn**	**16 26 32.9**	**-1.4**
DLMT	**Dillon**	**5.59**	**289**	*ePn*	**Pn**	**16 26 36.8**	**-0.8**
HRY	**Holter Researc**	**5.60**	**304**	Pn	**Pn**	**16 26 36.8**	**-0.9**
MCMT	**McKenzie Canyo**	**5.67**	**284**	Pn	**Pn**	**16 26 39.9**	**+1.3**
DAU	**Daniels Canyon**	**5.67**	**236**	*ePn*	**Pn**	**16 26 37.2**	**-1.4**
JLU	**Jordanelle**	**5.67**	**238**	*ePn*	**Pn**	**16 26 38.5**	**-0.1**
HVU	**Hansel Valley**	**5.98**	**253**	*ePn*	**Pn**	**16 26 42.2**	**-0.9**
SDCO	**Great Sand Dun**	**6.01**	**183**	Pn	**Pn**	**16 26 41.4**	**-2.0**
PV10	**Paradox Valley**	**6.14**	**210**	Pn	**Pn**	**16 26 45.4**	**+0.1**
MPU	**Maple Canyon**	**6.14**	**235**	Pn	**Pn**	**16 26 47.2**	**+1.9**
SRU	**San Rafael**	**6.17**	**223**	*ePn*	**Pn**	**16 26 44.0**	**-1.8**
PV01	**Paradox Valley**	**6.20**	**206**	*ePn*	**Pn**	**16 26 46.6**	**+0.5**
TMUT	**Trail Mountain**	**6.39**	**228**	Pn	**Pn**	**16 26 48.1**	**-0.7**
CHMT	**Chamberlain Mo**	**6.56**	**302**	*ePn*	**Pn**	**16 26 51.5**	**+0.3**
DUG	**Dugway**	**6.76**	**241**	*ePn*	**Pn**	**16 26 52.8**	**-1.2**
MSU	**Marysvale**	**7.48**	**228**	*ePn*	**Pn**	**16 27 03.0**	**-1.1**
ELK	**Elko**	**8.10**	**252**	Pn	**P**	**16 27 13.3**	**+0.5**
	0.2nm,0.3s,baz=74,slow=15,SNR=2.8						
ELK				Lg		16 29 15.0	
	0.1nm,0.3s,baz=349,slow=19,SNR=3.0						
ELK	**Elko**	**8.10**	**252**	Pn	**P**	**16 27 13.3**	**+0.5**
ELK				Lg		16 29 15.0	
ULM	**Lac du Bonnet**	**9.05**	**41**	Pn	**P**	**16 27 26.1**	**+0.1**
	1.6nm,0.3s,baz=230,slow=12,SNR=11						
ULM				Lg		16 29 54.3	
	0.3nm,0.3s,baz=321,slow=19,SNR=2.0						
NVAR	**Mina Array Bea**	**11.29**	**246**	Pn	**P**	**16 27 56.7**	**-0.1**
	baz=63,slow=12,SNR=2.8						
ARCES	**ARCESS Array B**	**61.37**	**18**	P	**P**	**16 35 30.9**	**+0.4**
	0.5nm,0.4s,mb4.0,baz=338,slow=6.5,SNR=6.8						
ARCES	**ARCESS Array B**	**61.37**	**18**	P	**P**	**16 35 30.9**	**+0.4**

*TEH **24** 16:58:08.8, 43.20N×45.68E, h10km, Mn4.3*
*MOS **24** 16:58:08.4±1.1, 43.28N×45.79E, h10km, mb4.5/9, Error ellipse: s-maj=7.0km s-min=4.8km az=129.8*
MOS Felt (III) at Vedeno, Botlikh, Dubki.
*BJI **24** 16:58:09.5, 43.00N×45.70E, h32km, mB4.9, mb4.9, Ms4.7, Msz4.6*
*TIF **24** 16:58:09.0, 43.00N×45.66E, h23km±3km*
*CSEM **24** 16:58:10.5±0.1, 43.09N×45.81E, h40km, mb4.4/9, Error ellipse: s-maj=2.4km s-min=1.7km az=53.0*
*IDC **24** 16:58:11.7±1.7, 42.90N×45.68E, h39km±18km, mb4.0/17, mb1 4.1/21, mb1mx4.0/26, mbtmp4.2/21, ML4.1/3, MS3.4/12, Ms1 3.4/12, ms1mx3.2/32, Error ellipse: s-maj=14.6km s-min=12.4km az=66.0*
*NEIC **24** 16:58:11.6±1.5, 43.04N×45.72E, h32km±12km, mb4.3/7, Error ellipse: s-maj=6.0km s-min=4.0km az=221.0*
NEIC Felt [III] at Botlikh, Dubki and Vedeno.
*NNC **24** 16:58:23.1±2.7, 43.29N×46.83E, h64km±23km, Error ellipse: s-maj=37.4km s-min=15.4km az=130.0*
ISC 24 16:58:10.7±0.3,**43.04N**±0.03×**45.78E**±0.02,**h41**km±4km, **n134,** σ1**$21**/161,**mb4.3**/32,**MS3.4**/11,**18C-11D,Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTLR	**Botlikh**	**0.50**	**139**	Pg	**P**	**16 58 24.5**	**+3.0**
DLMR	**Dylym**	**0.63**	**87⇓***iPG*		**P**	**16 58 23.6**	**+0.4**
DLMR				*i* S	**S**	**16 58 36.0**	**+3.7**
DBC	**Dubki**	**0.77**	**91**	*i* Pg	**P**	**16 58 26.0**	**+0.7**
	2μm,0.3s						
DBC				*i* Sg	**S**	**16 58 39.5**	**+3.6**
DBC	**Dubki**	**0.77**	**91**	*i* PG	**P**	**16 58 26.0**	**+0.7**
DBC				*i* S	**S**	**16 58 39.5**	**+3.6**
DBC				pmax	pmax		
	comp=Z,2μm,0.3s						
UNCR	**Uncukul**	**0.82**	**113**	*i* Pg	**P**	**16 58 25.0**	**-0.9**
UNCR				*i* Sg	**S**	**16 58 38.0**	**+1.0**
UNCR	**Uncukul**	**0.82**	**113⇑***iPG*		**P**	**16 58 25.0**	**-0.9**
UNCR				*i* S	**S**	**16 58 38.0**	**+1.0**
XNZR	**Khunzakh**	**0.85**	**126**	*i* Pg	**P**	**16 58 27.0**	**+0.7**
XNZR				*e*Sg	**S**	**16 58 39.5**	**+1.7**
XNZR	**Khunzakh**	**0.85**	**126⇑***iPG*		**P**	**16 58 27.0**	**+0.7**
XNZR				*e*S	**S**	**16 58 39.5**	**+1.7**
KRNR	**Karanay**	**0.86**	**104**	*i* Pg	**P**	**16 58 24.2**	**-2.3**
	comp=Z,4μm,0.3s						
KRNR				*i* Sg	**S**	**16 58 37.4**	**-0.6**
KRNR	**Karanay**	**0.86**	**104⇓***iPG*		**P**	**16 58 24.2**	**-2.3**
KRNR				*i* S	**S**	**16 58 37.4**	**-0.6**
KRNR				pmax	pmax		
	comp=Z,4μm,0.3s						
ARKR	**Arakani**	**1.00**	**116**	*i* Pg	**P**	**16 58 27.5**	**-0.9**
ARKR				*e*Sg	**S**	**16 58 42.5**	**+0.9**
ARKR	**Arakani**	**1.00**	**116⇑***iPG*		**P**	**16 58 27.5**	**-0.9**
ARKR				*e*S	**S**	**16 58 42.5**	**+0.9**
BUJR	**Buynaksk**	**1.00**	**102⇑***iPG*		**P**	**16 58 30.5**	**+2.0**
BUJR				*e*S	**S**	**16 58 47.2**	**+5.5**
BUJR				pmax	pmax		
	comp=Z,1μm,0.2s						
ARNR	**Ardon**	**1.10**	**278**	*i* PG	**P**	**16 58 31.0**	**+1.1**
LACR	**Lac**	**1.11**	**259**	*i* PG	**P**	**16 58 29.3**	**-0.7**
MAK	**Makhachkala**	**1.27**	**93⇓***iPG*		**P**	**16 58 36.8**	**+4.5**
MAK				*i*		16 58 56.8	
MAK				pmax	pmax		
	comp=Z,825nm,1.0s						
MAK				smax			
	comp=N,8μm,0.8s						
MAK				smax			
	comp=E,21μm,0.8s						
TBLG	**Delisi**	**1.52**	**211**	P	**P**	**

comp=E,38nm,0.6s
OBN Obninsk 13.49 337 *e*P **P 17 01 18.4 -3.2**
comp=E,18nm,0.6s
OBN Obninsk 13.49 337 *e*P **P 17 01 18.4 -3.2**
comp=E,18nm,0.6s
OBN Obninsk 13.49 337*d i*P **P 17 01 18.1 -3.5**
OBN pmax pmax
comp=Z,27nm,1.0s
OBN MLR MLR
comp=Z,100nm,6.0s
AKASG Malin Array Be 13.65 310 Pn **P 17 01 20.8 -2.9**
comp=Z,0.2nm,0.3s,baz=141,slow=16,SNR=2.1
AKASG Sn **S 17 03 48.0 -6.9**
comp=Z,1.0nm,0.3s,baz=114,slow=25,SNR=3.8
MOS Moscow 13.76 340 *e*P **P 17 01 21.8 -3.2**
comp=Z,52nm,0.9s
MOS Moscow 13.76 340 *e*P **P 17 01 21.8 -3.2**
MOS pmax pmax
comp=Z,52nm,0.9s
MLR Muntele Rosu 14.42 287 Pn **P 17 01 33.9 +0.1**
comp=Z,0.2nm,0.3s,baz=166,slow=12,SNR=2.4
MLR LR LR 17 08 47.0
comp=Z,99nm,20.3s,baz=340,slow=44
ARU Arti 15.71 27 *e*P **P 17 01 47.5 -2.9**
comp=Z,23nm,0.7s
ARU *e*S **S 17 04 41.7 -1.4**
ARU Arti 15.71 27 *e*P **P 17 01 47.5 -2.8**
comp=Z,23nm,0.7s
ARU Arti 15.71 27⇓*i*P **P 17 01 47.2 -3.2**
ARU *e*S **S 17 04 41.7 -1.4**
ARU pmax pmax
comp=Z,14nm,0.7s
SOKR Solikamsk 17.88 18 *e*P **P 17 02 15.0 -2.7**
comp=Z,30nm,0.9s
SOKR Solikamsk 17.88 18 *e*P **P 17 02 15.0 -2.7**
SOKR pmax pmax
comp=Z,30nm,0.9s
KK31 Karatay Array 18.06 81 P **P 17 02 20.6 +0.5**
comp=Z,14nm,0.9s,baz=263,slow=15,SNR=77
KK31 ⇓S **S 17 05 30.0 -7.1**
comp=Z,16nm,0.9s
BRVK Borovoye 19.11 50 *e*P **P 17 02 31.6 -1.1**
comp=Z,12nm,0.8s
BRVK Borovoye 19.11 50 *e*P **P 17 02 31.6 -1.1**
comp=Z,12nm,0.8s
BRVK Borovoye 19.11 50 *e*P **P 17 02 31.6 -1.1**
BRVK pmax pmax
comp=Z,11nm,0.8s
BVA0 Borovoye Array 19.16 50 ⇑P **P 17 02 33.6 +0.4**
comp=Z,2.6nm,0.8s,baz=249,slow=15,SNR=54
BVA0 ⇑S **S 17 05 57.2 -4.6**
comp=Z,3.3nm,0.8s
BVAR Borovoye Array 19.16 50 P **P 17 02 32.6 -0.6**
comp=Z,1.3nm,0.3s,baz=236,slow=11,SNR=23
BVAR S **S 17 05 57.7 -4.1**
comp=Z,1.0nm,0.3s,baz=242,slow=24,SNR=5.1
VOSK Vostochnaya 19.39 51 ⇑P **P 17 02 34.7 -1.0**
comp=Z,15nm,0.7s
VOSK ⇑S **S 17 06 04.7 -2.2**
comp=Z,9.7nm,0.8s
VSU Vasula 19.47 329 *i*P **P 17 02 34.8 -1.7**
MORC Moravsky Berou 20.52 299 *e*P **P 17 02 48.3 +0.5**
AAK Ala-Archa 21.03 81 ⇑P **P 17 02 54.3 +1.3**
comp=Z,9.3nm,0.7s,mb4.3
AAK Ala-Archa 21.03 81 *e*P **P 17 02 53.2 +0.2**
comp=Z,16nm,0.9s,mb4.4
AAK Ala-Archa 21.03 81 *e*P **P 17 02 53.2 +0.2**
comp=Z,16nm,0.9s,mb4.4
AAK Ala-Archa 21.03 81 *e*P **P 17 02 53.2 +0.2**
AAK pmax pmax
comp=Z,16nm,0.9s,mb4.3
VRAC Vranov 21.07 297 LR LR 17 11 58.5
comp=Z,61nm,19.2s,MS3.0,baz=103,slow=39
FRU Bishkek 21.08 81 *e*P 17 03 08.0
JOF Joensuu 21.63 342 *e*p **P 17 02 59.0 +0.1**
FINES FINESS Array B 21.86 334 P **P 17 03 01.7 +0.5**
comp=Z,9.4nm,0.5s,mb4.5,baz=139,slow=9.9,SNR=37
FINES LR LR 17 12 17.1
comp=Z,108nm,18.4s,MS3.3,baz=304,slow=38
KAF Kangasniemi 22.30 336 *e*p **P 17 03 06.2 +0.6**
GERES GERESS Array B 22.93 296 P **P 17 03 13.4 +1.5**
comp=Z,3.1nm,0.7s,mb3.8,baz=90,slow=8.0,SNR=20
KHC Kasperske Hory 23.03 297 *e*P **P 17 03 13.5 +0.7**
KURK Kurchatov 23.57 60 ⇑P **P 17 03 20.0 +2.0**
comp=Z,7.5nm,1.1s,mb4.0
KURK Kurchatov 23.57 60 *e*P **P 17 03 19.6 +1.6**
KURK Kurchatov 23.57 60 *e*P **P 17 03 20.0 +2.0**
comp=Z,12nm,0.8s,mb4.4
CLL Collm 23.60 302 P **P 17 03 20.0 +1.7**
MOX Moxa 24.40 300 *e*P **P 17 03 28.0 +1.9**
GRA1 Grafenberg Arr 24.59 298 *e*P **P 17 03 29.3 +1.3**
comp=Z,7.0nm,1.0s,mb4.2
GRF Grafenberg Arr 24.59 298 *e*P **P 17 03 29.3 +1.3**
comp=Z,7.0nm,1.0s,mb4.2
GRF LR LR
comp=Z,600nm,20.5s,MS4.1
GRF Grafenberg Arr 24.59 298 *e*P **P 17 03 29.3 +1.3**
GRF pmax pmax
comp=Z,7.0nm,1.0s,mb4.2
GRF MLR MLR
comp=Z,600nm,20.5s,MS4.1
APA Apatity 25.47 349⇓*i*P **P 17 03 40.2 +4.1**
APA pmax pmax
comp=Z,11nm,0.7s,mb4.5
DAVOX Davos 25.55 291 LR LR 17 13 57.5
comp=Z,63nm,20.8s,MS3.1,baz=88,slow=37
LVZ Lovozero 25.61 350 *e*P **P 17 03 39.5 +2.0**
comp=Z,25nm,1.2s,mb4.6
LVZ Lovozero 25.61 350⇑*e*P **P 17 03 39.5 +2.0**
LVZ pmax pmax
comp=Z,25nm,1.2s,mb4.6
LVZ pmax pmax
comp=N,12nm,1.1s
LVZ pmax pmax
comp=E,4.0nm,1.1s
HFS Hagfors 25.88 322 P **P 17 03 40.3 +0.2**
comp=E,4.8nm,0.7s,mb4.2,baz=114,slow=9.4,SNR=13
HFS LR LR 17 14 54.9
comp=E,133nm,19.2s,MS3.5,baz=107,slow=39
MK31 Makanchi Array 25.98 69 ⇑P **P 17 03 42.2 +1.1**
comp=E,3.1nm,0.7s,mb4.0,baz=270,slow=8.2,SNR=38
MKAR Makanchi Array 25.98 69 P **P 17 03 42.4 +1.3**
comp=E,2.0nm,0.5s,mb3.9,baz=269,slow=8.9,SNR=40
MKAR LR LR 17 15 47.8
comp=E,64nm,18.6s,MS3.2,baz=2.2,slow=40
MKAR Makanchi Array 25.98 69 P **P 17 03 42.3 +1.2**
NB2 NORSAR Subarra 27.38 323 P **P 17 03 53.3 -0.6**
comp=E,5.8nm,1.1s,mb4.0,baz=114,slow=8.6
NB2 NORSAR Subarra 27.38 323 P **P 17 03 53.3 -0.6**
NB2 pmax pmax
comp=Z,6.0nm,1.1s,mb4.0
NOA NORSAR Array B 27.38 323 P **P 17 03 53.6 -0.3**
comp=Z,1.1nm,0.7s,mb3.5,baz=118,slow=8.4,SNR=4.2
NOA LR LR 17 14 20.7
comp=Z,37nm,18.1s,MS3.0,baz=105,slow=35
KONO Kongsberg 27.58 320 *i*P **P 17 03 55.1 -0.5**
ZAL Zalesovo 27.72 53 P **P 17 03 56.9 -0.1**
comp=Z,1.1nm,0.4s,mb3.8,baz=212,slow=11,SNR=5.7
ZAL Zalesovo 27.72 53 P **P 17 03 56.8 -0.2**
ARCES ARCESS Array B 28.54 345 P **P 17 04 04.2 0.0**
comp=Z,1.2nm,0.4s,mb4.0,baz=155,slow=9.5,SNR=38
ARCES LR LR 17 16 11.7
comp=Z,107nm,18.1s,MS3.5,baz=146,slow=38
ATD Arta Tunnel 31.50 185 LR LR 17 17 31.9
comp=Z,60nm,19.6s,MS3.3,baz=146,slow=37
EKA Eskdalemuir Ar 33.56 309 P **P 17 04 47.6 -0.8**
comp=Z,1.0nm,0.5s,mb4.0,baz=87,slow=7.0,SNR=7.2
ZAK Zakamensk 39.23 59 *e*P **P 17 05 38.4 +2.0**
comp=Z,1.0nm,0.8s,mb3.6
ZAK Zakamensk 39.23 59 *e*P **P 17 05 38.4 +2.0**
ZAK *e* 17 07 36.1
ZAK pmax pmax
comp=Z,1.0nm,0.8s,mb3.6
GTA Gaotai 40.22 76 P **P 17 05 46.5 +1.7**
GTA AP pP 17 05 59.5 +3.2
GTA AMB AMB
comp=Z,4.0nm,0.8s,mb4.2
SONM Songino Array 41.85 62 P **P 17 05 59.4 +1.4**
comp=Z,1.9nm,0.7s,mb3.9,baz=285,slow=9.1,SNR=16
SONM LR LR 17 25 36.0
comp=Z,122nm,20.1s,MS3.8,baz=102,slow=39
BOD Bodaibo 43.94 46 *e*P **P 17 06 14.9 -0.1**
comp=Z,2.0nm,0.8s,mb3.9
BOD Bodaibo 43.94 46 *e*P **P 17 06 14.9 -0.1**
BOD pmax pmax
comp=Z,2.0nm,0.8s,mb3.9
KMBO Kilima Mbogo 44.63 192 LR LR 17 23 54.6
comp=Z,51nm,19.6s,MS3.5,baz=87,slow=35
TIXI Tiksi 47.70 25 *e*P **P 17 06 44.1 -0.5**
comp=Z,5.0nm,1.2s,mb4.4
TIXI Tiksi 47.70 25 *e*P **P 17 06 44.1 -0.5**
TIXI pmax pmax
comp=Z,5.0nm,1.2s,mb4.4
YAK Yakutsk 50.47 37 *i*P **P 17 07 05.9 -0.2**
comp=Z,10.0nm,0.7s,mb5.0
YAK Yakutsk 50.47 37*d i*P **P 17 07 05.9 -0.2**
YAK pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
GYA Guiyang 51.60 88⇑*i*P **P 17 07 15.3 +0.2**
GYA AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
DBIC Dimbokro 57.29 246 P **P 17 07 53.8 -3.0**
comp=Z,3.4nm,0.7s,mb4.5,baz=17,slow=11,SNR=4.5
NJ2 Nanjing 57.29 75 *e*P **P 17 07 57.8 +1.2**
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
SEY Seymchan 59.41 31*d i*P **P 17 08 12.4 +1.5**
SSE Sheshan 59.48 75 P **P 17 08 10.9 -0.9**
SSE AMB AMB
comp=Z,193nm,3.3s
SSE Sheshan 59.48 75 P **P 17 08 10.9 -0.9**
comp=Z,29nm,0.9s,mb5.3
BILL Bilibino 60.65 22 *e*P **P 17 08 18.6 -0.8**
comp=Z,7.0nm,1.0s,mb4.8
BILL Bilibino 60.65 22⇑*e*P **P 17 08 18.6 -0.8**
BILL pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
MATP Matopo 65.12 198 P **P 17 08 48.8 -0.8**
comp=Z,1.3nm,0.6s,mb4.1,baz=20,slow=14,SNR=3.3
SCHQ Schefferville 66.94 325 P **P 17 08 59.9 -0.7**
comp=Z,1.8nm,0.5s,mb4.3,baz=94,slow=7.5,SNR=6.0
INK Inuvik 68.97 360 P **P 17 09 11.4 -1.7**
baz=7.3,slow=7.7
ILAR Eielson Array 72.07 6 P **P 17 09 32.5 +0.7**
comp=Z,0.7nm,0.6s,mb3.8,baz=330,slow=6.2,SNR=6.9
YKA Yellowknife Ar 73.64 351 P **P 17 09 41.6 +0.7**
comp=Z,4.7nm,0.7s,mb4.5,baz=8.6,slow=6.0,SNR=8.9
YKA Yellowknife Ar 73.64 351 P **P 17 09 41.7 +0.8**
BOSA Boshof 73.76 199 P **P 17 09 42.1 -0.2**
comp=Z,3.0nm,0.9s,mb4.2,baz=50,slow=4.1,SNR=3.9
DLBC Dease Lake 78.83 358 P **P 17 10 10.9 +0.6**
comp=Z,3.7nm,0.9s,mb4.3,baz=72,slow=6.4,SNR=3.6
ULM Lac du Bonnet 81.24 336 P **P 17 10 23.6 +0.2**
comp=Z,1.0nm,0.5s,mb4.0,baz=61,slow=7.2,SNR=3.0
EDM Edmonton 82.44 348 *e*P **P 17 10 30.4 +0.8**

IDC 24 17:02:42.1±2.6, 1.36N×97.08E, mb4.1/6, mb1 4.2/6, mb1mx3.8/19, mbtmp4.1/6, Error ellipse: s-maj=103.2km s-min=29.8km az=54.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.22**	**122**	P	P	17 10 37.1	-1.8
	0.5nm,0.6s,baz=304,slow=8.9,SNR=3.5						
SONM	**Songino Array**	**46.99**	**9**	P	P	17 11 15.5	-1.4
	1.6nm,0.8s,baz=192,slow=9.7,SNR=13						
MKAR	**Makanchi Array**	**47.06**	**346**	P	P	17 11 16.2	-1.2
	2.2nm,0.9s,baz=143,slow=9.7,SNR=10						
ZAL	**Zalesovo**	**53.38**	**351**	P	P	17 12 03.2	-2.4
	2.5nm,0.3s,baz=311,slow=3.8,SNR=5.5						
BVAR	**Borovoye Array**	**56.06**	**341**	P	P	17 12 21.8	-3.4
	0.8nm,0.6s,baz=143,slow=7.4,SNR=5.7						
ARCES	**ARCESS Array B**	**82.35**	**340**	P	P	17 15 05.4	-1.4
	3.9nm,1.1s,baz=104,slow=5.0,SNR=4.0						

*IDC **24** 17:07:43.8±0.9, 10.14N×103.82W, mb4.6/19, mb1 4.7/20, mb1mx4.6/25, mbtmp4.6/20, ML3.8/1, MS5.1/22, Ms1 5.1/22, ms1mx5.0/29, Error ellipse: s-maj=29.4km s-min=12.6km az=57.0*

*BJI **24** 17:07:45.7, 10.10N×103.50W, h10km, mB5.9, Ms5.6, Msz5.3*

*HRVD **24** 17:07:45.8±0.1, 10.43N×103.62W, h12km, MW5.6/70, Centroid moment Tensor Solution. LP body waves: s65,c143;Mantle waves: s70,c165; Half duration: 1s6 Moment tensor: Scale 10^{17}Nm; M_{rr}0.07±.04; $M_{\theta\theta}$-1.34±.04; $M_{\phi\phi}$1.27±.05; $M_{r\theta}$0.50±.10; $M_{\theta\phi}$2.71±.03; $M_{\phi r}$-0.34±.11; Best double couple: $M_0$3.064×10^{17} NP1: ϕ_s257°, δ82°, λ-7°. NP2:ϕ_s348°, δ83°, λ-172°. Principal axes: T 2.973, Plg0°, Azm122°; N .184, Plg79°, Azm30°; P -3.155, Plg11°, Azm212°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **24** 17:07:45.8±0.4, 10.08N×103.55W, h10km, mb5.1/53, MS5.1/44, MW5.7 Error ellipse: s-maj=10.0km s-min=6.2km az=58.0, Moment Tensor Solution. s14 Moment tensor: Scale 10^{17}Nm; M_{rr}0.04; $M_{\theta\theta}$-1.52; $M_{\phi\phi}$1.48; $M_{r\theta}$-0.82; $M_{\theta\phi}$3.41; $M_{\phi r}$0.08; Best double couple: $M_0$3.8×10^{17} NP1:ϕ_s168°, δ78°, λ-177°. NP2:ϕ_s78°, δ87°, λ-12°. Principal axes: T 3.74, Plg6°, Azm124°; N .14, Plg78°, Azm243°; P -3.88, Plg11°, Azm33°;*

*MOS **24** 17:07:48.0±1.0, 10.15N×103.49W, h33km, mb5.4/15, MS5.1/8 Error ellipse: s-maj=18.4km s-min=8.3km az=100.7*

ISC 24 17:07:44.6±0.4, 10.16N±0.05×103.49W±0.06, h10km, n208, σ1§12/136, mb5.0/63, MS5.1/74, 1C, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**7.52**	**27**	*e*P	**Pn**	17 09 40.0	+3.0
OXX	**Oaxaca**	**9.52**	**43**	*e*P	**P**	17 10 09.0	+4.1
UNM	**Universidad Na**	**10.03**	**24**	*e*P	**P**	17 10 10.0	-1.9
PPM	**Popocatepetl**	**10.03**	**27**	*e*P	**P**	17 10 12.0	+0.1
SFJM	**Santa Fe**	**10.28**	**2**	*i*P	**P**	17 10 17.0	+1.7
CMIG	**Matias Romero**	**10.84**	**50**	*i*P	**P**	17 10 15.3	-7.7
ZAIG	**Zacatecas**	**12.57**	**4**	*i*P	**P**	17 10 47.8	+1.3
CCIG	**Comitan**	**12.62**	**60**	*i*P	**P**	17 10 45.7	-1.4
CCIG				*i*S	**S**	17 13 04.3	-4.5
PAYG	**Puerto Ayora**	**16.98**	**129**	P	**P**	17 11 45.4	+1.3
	156nm,1.4s						
LTX	**Lajitas**	**19.08**	**360**	*e*P	**P**	17 12 11.9	+2.1
	106nm,1.4s						
TXAR	**Lajitas Array**	**19.08**	**360**	P	**P**	17 12 09.3	-0.5
	0.1nm,0.3s,baz=180,slow=10.0,SNR=49						
TXAR				LR	LR	17 18 16.4	
	comp=Z,6μm,21.2s,baz=235,slow=33						
MNTX	**Cornudas Mount**	**21.51**	**356**	*e*P	**P**	17 12 34.7	-1.1
	126nm,1.6s,mb5.1						
NATX	**Nacogdoches**	**23.00**	**20**	*e*P	**P**	17 12 51.8	+1.0
	743nm,1.6s,mb5.9						
TUC	**Tucson**	**23.05**	**344**	*e*P	**P**	17 12 53.0	+1.7
	30nm,1.2s,mb4.6						
SOR	**Soroa**	**23.28**	**55**	*e*P	**P**	17 12 55.4	+1.9
	baz=237						
SOR				*e*S	S	17 17 24.7	+23
	comp=N,6μm,10.0s						
	comp=E,9μm,10.7s						
ANMO	**Albuquerque**	**24.83**	**354**	P	**P**	17 13 08.6	+0.1
	comp=E,16nm,1.2s,mb4.4,baz=164,slow=11,SNR=23						
ANMO				LR	LR	17 22 57.7	
	comp=E,3μm,18.0s,MS4.8,slow=37						
ANMO	**Albuquerque**	**24.83**	**354**	*e*P	**P**	17 13 07.7	-0.7
	comp=E,27nm,1.2s,mb4.7						
ANMO	**Albuquerque**	**24.83**	**354**	*e*P	**P**	17 13 07.7	-0.7
ANMO				pmax	pmax		
	comp=Z,27nm,1.2s						
PFO	**Pinyon Flat Ob**	**26.20**	**335**	*e*P	**P**	17 13 22.4	+1.0
	comp=Z,125nm,2.3s,mb5.0						
PFO	**Pinyon Flat Ob**	**26.20**	**335**	*e*P	**P**	17 13 22.4	+1.0
PFO				pmax	pmax		
	comp=Z,125nm,2.3s,mb5.0						
UALR	**University of**	**26.54**	**21**	*e*P	**P**	17 13 24.2	-0.2
	comp=Z,82nm,1.4s,mb5.1						
LRAL	**Lakeview Retre**	**27.37**	**31**	*e*P	**P**	17 13 32.6	+0.5
	comp=Z,51nm,1.3s,mb4.9						
NEN	**Nelson**	**27.40**	**340**	*e*P	**P**	17 13 32.4	+0.1
MWC	**Mount Wilson**	**27.42**	**333**	*e*P	**P**	17 13 30.1	-2.4
OXF	**Oxford**	**27.45**	**26**	*e*P	**P**	17 13 32.5	-0.3
	comp=Z,51nm,1.1s,mb5.0						
OXF	**Oxford**	**27.45**	**26**	*e*P	**P**	17 13 32.5	-0.3
OXF				pmax	pmax		
	comp=Z,51nm,1.1s,mb5.0						
PV01	**Paradox Valley**	**28.23**	**352**	*e*P	**P**	17 13 40.1	+0.3
PLAL	**Pickwick Lake**	**28.44**	**27**	*e*P	**P**	17 13 40.8	-0.9
	comp=Z,51nm,0.6s,mb5.3						
PV10	**Paradox Valley**	**28.54**	**351**	*e*P	**P**	17 13 41.2	-1.3
CBKS	**Cedar Bluff**	**28.73**	**6**	*e*P	**P**	17 13 43.8	-0.6
	comp=Z,23nm,0.9s,mb4.9						
CBKS				LR	LR		
	comp=Z,14μm,19.0s,MS5.6						
ARUT	**Antelope Range**	**28.93**	**344**	*e*P	**P**	17 13 47.5	+1.4
DAC	**Darwin (Calif)**	**28.98**	**336**	*e*P	**P**	17 13 47.5	+0.9
	comp=Z,7.0nm,0.9s,mb4.4						
GLAT	**Glass**	**29.01**	**24**	*e*P	**P**	17 13 46.3	-0.6
PARMO	**Parma**	**29.17**	**23**	*e*P	**P**	17 13 49.6	+1.3
MSU	**Marysvale**	**29.29**	**346**	*e*P	**P**	17 13 50.7	+1.3
ROSC	**El Rosal**	**29.38**	**98**	P	**P**	17 13 54.0	+3.6
	comp=Z,6.9nm,0.4s,mb4.8,baz=98,slow=20,SNR=8.4						
ROSC				LR	LR	17 23 01.2	
	comp=Z,4μm,19.2s,MS5.0,baz=103,slow=31						
KSU1	**Kansas State U**	**29.47**	**11**	*e*P	**P**	17 13 50.5	-0.5
SRU	**San Rafael**	**29.51**	**349**	*e*P	**P**	17 13 50.3	-1.1
GOGA	**Godfrey**	**29.57**	**35**	PFAKE		17 14 00.0	+8.0
GOGA				LR	LR		
	comp=Z,852nm,22.0s,MS4.3						
ISCO	**Idaho Springs**	**29.58**	**357**	*e*P	**P**	17 13 51.0	-1.0
	comp=Z,37nm,1.7s,mb4.8						
SWET	**Sewanee**	**29.64**	**30**	*e*P	**P**	17 13 52.0	-0.5
CCM	**Cathedral Cave**	**29.88**	**20**	*e*P	**P**	17 13 54.3	-0.4
	comp=Z,52nm,1.7s,mb5.0						
CCM				LR	LR		
	comp=Z,1μm,20.0s,MS4.5						
FVM	**French Village**	**30.09**	**21**	*e*P	**P**	17 13 57.0	+0.4
	comp=Z,74nm,1.6s,mb5.2						
MTUM	**Tungsten Hills**	**30.30**	**336**	*e*P	**P**	17 13 59.8	+1.4
MYNC	**Murphy**	**30.45**	**32**	*e*P	**P**	17 14 00.4	+0.6
	comp=Z,22nm,1.0s,mb4.8						
CPCT	**Cooper Cave**	**30.53**	**31**	*e*P	**P**	17 14 00.5	+0.1
DAU	**Daniels Canyon**	**30.91**	**348**	*e*P	**P**	17 14 04.8	+1.1
DUG	**Dugway**	**31.04**	**346**	*e*P	**P**	17 14 05.0	+0.1
DUG				LR	LR		
	comp=Z,2μm,20.0s,MS4.7						
PHWY	**Pilot Hill**	**31.07**	**357**	*e*P	**P**	17 14 04.2	-0.9
NVAR	**Mina Array Bea**	**31.13**	**337**	P	**P**	17 14 04.7	-0.9
	comp=Z,0.8nm,0.6s,baz=164,slow=6.6,SNR=8.7						
BGU	**Big Grassy Mou**	**31.78**	**346**	*e*P	**P**	17 14 11.6	+0.2
TZTN	**Tazewell**	**31.88**	**31**	*e*P	**P**	17 14 12.1	-0.2
WCI	**Wyandotte Cave**	**31.93**	**26**	*e*P	**P**	17 14 12.7	0.0
	comp=Z,171nm,1.8s,mb5.6						
ELK	**Elko**	**32.19**	**343**	*e*P	**P**	17 14 15.7	+0.7
	comp=Z,36nm,1.9s,mb4.9						
ELK				LR	LR		
	comp=Z,4μm,21.0s,MS5.0						
ELK	**Elko**	**32.19**	**343**	*e*P	**P**	17 14 15.7	+0.8
ELK				pmax	pmax		
	comp=Z,36nm,1.9s						
ELK				MLR	MLR		
	comp=Z,4μm,21.0s						
SDV	**Santo Domingo**	**32.42**	**89**	P	**P**	17 14 19.6	+2.4
	comp=Z,47nm,1.0s,mb5.3,baz=280,slow=5.2,SNR=24						
SDV				LR	LR	17 26 02.7	
	comp=Z,6μm,20.4s,MS5.2,baz=286,slow=34						
SDV	**Santo Domingo**	**32.42**	**89**	*e*P	**P**	17 14 19.7	+2.4
	comp=Z,86nm,1.0s,mb5.5						
BMN	**Battle Mountai**	**32.52**	**340**	*e*P	**P**	17 14 18.9	+1.1
	comp=Z,45nm,1.5s,mb5.2						
BMN	**Battle Mountai**	**32.52**	**340**	*e*P	**P**	17 14 18.9	+1.1
BMN				pmax	pmax		
	comp=Z,45nm,1.5s,mb5.2						
HVU	**Hansel Valley**	**32.54**	**347**	*e*P	**P**	17 14 18.1	+0.2
BW06	**Boulder Array**	**32.91**	**352**	PFAKE		17 14 30.0	+8.8
BW06				LR	LR		
	comp=Z,2μm,20.0s,MS4.9						
PDAR	**Pinedale Array**	**32.91**	**352**	P	**P**	17 14 20.9	-0.4
	comp=Z,6.7nm,0.9s,mb4.6,baz=164,slow=8.3,SNR=24						
PDAR				LR	LR	17 28 07.1	
	comp=Z,1μm,20.1s,MS4.5,baz=191,slow=37						
OHCM	**Honcut**	**33.20**	**334**	*e*P	**P**	17 14 24.8	+1.1
RRI2	**Red Ridge**	**33.76**	**350**	*e*P	**P**	17 14 29.0	+0.4
	comp=Z,16nm,0.9s,mb5.0						
SNOW	**Snow King Moun**	**33.78**	**350**	*e*P	**P**	17 14 30.4	+1.7
	comp=Z,32nm,1.0s,mb5.2						
TPAW	**Teton Pass**	**33.84**	**350**	*e*P	**P**	17 14 29.8	+0.5
	comp=Z,14nm,0.9s,mb4.9						
ELN	**Prospectdale**	**33.87**	**34**	*e*P	**P**	17 14 29.5	-0.1
LOHW	**Long Hollow**	**33.90**	**351**	*e*P	**P**	17 14 29.5	-0.3
	comp=Z,16nm,0.8s,mb5.0						
BLA	**Blacksburg**	**34.04**	**34**	*e*P	**P**	17 14 30.4	-0.7
	comp=Z,29nm,1.1s,mb5.1						
BLA	**Blacksburg**	**34.04**	**34**	*e*P	**P**	17 14 30.4	-0.7
BLA				pmax	pmax		
	comp=Z,29nm,1.1s,mb5.1						
FWV	**Forest Hill**	**34.10**	**33**	*e*P	**P**	17 14 32.1	+0.5
IMW	**Indian Meadow**	**34.23**	**350**	*e*P	**P**	17 14 33.2	+0.5
	comp=Z,24nm,1.2s,mb5.0						
FLWY	**Flagg Ranch**	**34.37**	**351**	*e*P	**P**	17 14 34.6	+0.7
HLID	**Hailey**	**34.61**	**346**	*e*P	**P**	17 14 36.7	+0.8
	comp=Z,16nm,1.2s,mb4.8						
HLID				LR	LR		
	comp=Z,3μm,20.0s,MS5.0						
WVOR	**Wild Horse Val**	**34.78**	**340**	*e*P	**P**	17 14 37.5	+0.1
	comp=Z,13nm,1.1s,mb4.8						
LKWY	**Lake**	**34.80**	**351**	PFAKE		17 14 50.0	+12
LKWY				LR	LR		
	comp=Z,8μm,21.0s,MS5.4						
ACSO	**Alum Creek Sta**	**35.05**	**28**	*e*P	**P**	17 14 39.2	-0.5
	comp=Z,20nm,1.0s,mb5.0						
DLMT	**Dillon**	**35.94**	**349**	*e*P	**P**	17 14 48.5	+1.3
BOZ	**Bozeman (W)**	**36.05**	**350**	*e*P	**P**	17 14 49.1	+1.0
	comp=Z,108nm,1.9s,mb5.5						
BOZ				LR	LR		
	comp=Z,3μm,19.0s,MS5.0						
BOZ	**Bozeman (W)**	**36.05**	**350**	*e*P	**P**	17 14 49.1	+1.0
BOZ				pmax	pmax		
	comp=Z,108nm,1.9s,mb5.5						
BOZ				MLR	MLR		
	comp=Z,3μm,19.0s,MS5.0						
CBN	**Corbin**	**36.45**	**36**	PFAKE		17 15 00.0	+8.4
CBN				LR	LR		
	comp=Z,3μm,20.0s,MS5.1						
LAO	**LASA Array**	**36.48**	**357**	*e*P	**P**	17 14 51.6	-0.2
	comp=Z,57nm,1.5s,mb5.3						
LAO				LR	LR		
	comp=Z,4μm,21.0s,MS5.2						
BMO	**Blue Mountains**	**36.56**	**343**	*e*P	**P**	17 14 52.6	+0.1
	comp=Z,35nm,1.6s,mb4.9						
BMO				LR	LR		
	comp=Z,2μm,20.0s,MS4.9						
SJG	**San Juan**	**37.01**	**73**	P	**P**	17 14 56.9	+0.5
	comp=Z,41nm,0.8s,mb5.3,baz=235,slow=18,SNR=7.1						
SJG				LR	LR	17 29 17.5	
	comp=Z,1μm,19.2s,MS4.8,baz=75,slow=35						
SJG	**San Juan**	**37.01**	**73**	*e*P	**P**	17 14 57.0	+0.5
	comp=Z,49nm,0.9s,mb5.3						
SJG	**San Juan**	**37.01**	**73**	*e*P	**P**	17 14 57.0	+0.5
SJG				pmax	pmax		
	comp=Z,49nm,0.9s						
ALLY	**Alegheny Colle**	**37.49**	**29**	*e*P	**P**	17 14 58.1	-2.2
MTP	**Monte Pirata**	**37.57**	**74**	*e*P	**P**	17 15 01.4	+0.2
MSO	**Missoula**	**37.61**	**348**	*e*P	**P**	17 15 00.1	-1.1
	comp=Z,17nm,1.4s,mb4.6						
DGMT	**Dagmar**	**38.19**	**359**	*e*P	**P**	17 15 05.7	-0.4
	comp=Z,47nm,1.0s,mb5.2						
DGMT				LR	LR		
	comp=Z,2μm,20.0s,MS5.0						
COR	**Corvallis**	**38.33**	**337**	PFAKE		17 15 20.0	+13
COR				LR	LR		
	comp=Z,3μm,20.0s,MS5.1						
NEW	**Newport**	**39.67**	**346**	LR	LR	17 30 48.0	
	comp=Z,3μm,18.2s,MS5.1,baz=162,slow=35						
NEW	**Newport**	**39.67**	**346**	*e*P	**P**	17 15 18.8	+0.2

LPAZ	**La Paz**	**43.76**	**127**	*e*P		**P**	**17 15 52.1**	**-0.2**
	comp=Z,28nm,1.0s,mb5.0							
LPAZ	**La Paz**	**43.76**	**127**	*e*P		**P**	**17 15 52.2**	**-0.2**
LPAZ				pmax	pmax			
	comp=Z,28nm,1.0s							
SAML	**Samuel**	**44.38**	**114**	*e*P		**P**	**17 15 55.6**	**-1.9**
	comp=Z,39nm,1.3s,mb5.0							
EMMW	**East Machias**	**46.33**	**35**	PFAKE			17 16 20.0	+7.5
EMMW				LR	LR			
	comp=Z,5μm,19.0s,MS5.5							
BBB	**Bella Bella**	**46.44**	**339**	P		**P**	**17 16 11.2**	**-2.1**
	comp=Z,2.8nm,0.6s,mb4.3,baz=120,slow=7.0,SNR=3.6							
BBB				LR	LR		17 34 01.5	
	comp=Z,2μm,21.2s,MS5.0,baz=158,slow=34							
LVC	**Limon Verde**	**47.00**	**134**	P		**P**	**17 16 20.2**	**+2.1**
	comp=Z,7.5nm,0.7s,mb4.7,baz=356,slow=14,SNR=1.6							
LVC	**Limon Verde**	**47.00**	**134**	P		**P**	**17 16 17.4**	**-0.7**
	comp=Z,46nm,0.9s,mb5.4							
FCC	**Fort Churchill**	**49.03**	**6**	*e*P		**P**	**17 16 33.1**	**-0.3**
	comp=Z,100nm,1.7s,mb5.6							
FCC	**Fort Churchill**	**49.03**	**6**	*e*P		**P**	**17 16 33.1**	**-0.3**
FCC				pmax	pmax			
	comp=Z,100nm,1.7s,mb5.6							
DLBC	**Dease Lake**	**52.24**	**343**	LR	LR		17 39 15.8	
	comp=Z,2μm,18.8s,MS5.2,baz=146,slow=36							
YKA	**Yellowknife Ar**	**52.86**	**354**	P		**P**	**17 17 01.5**	**-1.1**
	comp=Z,2.7nm,0.8s,mb4.2,baz=159,slow=7.7,SNR=6.7							
SCHQ	**Schefferville**	**53.14**	**26**	P		**P**	**17 17 02.6**	**-2.1**
	comp=Z,14nm,1.1s,mb4.8,baz=237,slow=5.8,SNR=7.2							
SCHQ				LR	LR		17 43 27.6	
	comp=Z,1μm,18.8s,MS5.0,baz=234,slow=40							
SCHQ	**Schefferville**	**53.14**	**26**	*e*P		**P**	**17 17 02.3**	**-2.5**
	comp=Z,31nm,1.2s,mb5.1							
PPT	**Papeete**	**53.21**	**239**	LR	LR		17 33 25.0	
	comp=Z,2μm,19.1s,MS5.1,baz=61,slow=29							
KIP	**Kipapa**	**53.41**	**289**	PFAKE			17 17 20.0	+13
KIP				LR	LR			
	comp=Z,3μm,19.0s,MS5.3							
CFAA	**Coronel Fontan**	**53.52**	**142**	LR	LR		17 35 17.4	
	comp=Z,367nm,18.5s,MS4.5,baz=318,slow=31							
CPUP	**Villa Florida**	**57.68**	**130**	P		**P**	**17 17 37.7**	**-0.2**
	comp=Z,8.7nm,1.0s,mb4.7,baz=355,slow=13,SNR=5.7							
PLCA	**Paso Flores**	**59.07**	**151**	P		**P**	**17 17 47.6**	**+0.2**
	comp=Z,5.4nm,1.1s,mb4.5,baz=306,slow=10,SNR=4.6							
PLCA				LR	LR		17 37 46.7	
	comp=Z,4μm,19.3s,MS5.5,baz=321,slow=30							
KDAK	**Kodiak Island**	**60.44**	**332**	PFAKE			17 18 10.0	+13
KDAK				LR	LR			
	comp=Z,258nm,21.0s,MS4.3							
BDFB	**Brasilia**	**60.62**	**114**	P		**P**	**17 17 58.5**	**+0.1**
	comp=Z,1.8nm,0.4s,mb4.6,baz=242,slow=10,SNR=4.3							
BDFB				LR	LR		17 43 00.5	
	comp=Z,6μm,19.4s,MS5.7,baz=299,slow=35							
SLKM	**Skilak Lake**	**60.91**	**336**	P		**P**	**17 17 58.6**	**-1.2**
INK	**Inuvik**	**61.34**	**348**	LR	LR		17 44 23.9	
	comp=Z,2μm,18.8s,MS5.3,baz=150,slow=36							
INK	**Inuvik**	**61.34**	**348**	*e*P		**P**	**17 18 01.5**	**-1.2**
	comp=Z,7.8nm,0.9s,mb4.8							
INK	**Inuvik**	**61.34**	**348**	*e*P		**P**	**17 18 01.5**	**-1.1**
INK				pmax	pmax			
	comp=Z,8.0nm,0.9s							
SPU	**Mount Spurr**	**62.03**	**336**	*e*P		**P**	**17 18 07.2**	**-0.2**
ILAR	**Eielson Array**	**62.30**	**341**	P		**P**	**17 18 06.0**	**-3.1**
	comp=Z,6.5nm,0.7s,mb4.8,baz=150,slow=4.9,SNR=32							
AFI	**Afiamalu**	**71.83**	**252**	PFAKE			17 19 20.0	+10
AFI				LR	LR			
	comp=Z,882nm,20.0s,MS5.0							
EFI	**East Falkland**	**72.95**	**152**	PFAKE			17 19 30.0	+14
EFI				LR	LR			
	comp=Z,379nm,19.0s,MS4.7							
SUMG	**Summit**	**73.01**	**17**	*e*P		**P**	**17 19 16.6**	**+0.5**
	comp=Z,28nm,1.3s,mb5.0							
CMLA	**Cha da Macela**	**74.37**	**54**	PFAKE			17 19 40.0	+15
CMLA				LR	LR			
	comp=Z,3μm,20.0s,MS5.6							
DAG	**Danmarks Havn**	**79.00**	**14**	*i* P		**P**	**17 19 50.0**	**+0.2**
	comp=Z,5.8nm,1.3s,mb4.3							
	comp=Z,2μm,21.0s							
DAG	**Danmarks Havn**	**79.00**	**14**	*e*P		**P**	**17 19 50.0**	**+0.2**
	comp=Z,5.8nm,1.3s,mb4.3							
DAG				LR	LR			
	comp=Z,2μm,21.0s,MS5.5							
DAG	**Danmarks Havn**	**79.00**	**14**	*e*P		**P**	**17 19 50.0**	**+0.2**
DAG				pmax	pmax			
	comp=Z,6.0nm,1.3s,mb4.4							
DAG				MLR	MLR			
	comp=Z,2μm,21.0s,MS5.5							
JMIC	**Jan Mayen**	**82.09**	**19**	AMS	AMS		17 57 47.3	
	comp=Z,827nm,17.1s,MS5.2							
KBS	**Kingsbay**	**84.83**	**10**	*e*SKSa			17 30 44.1	
KBS				*e*SS	SS		17 36 22.6	+0.5
KBS				AMS	AMS		18 00 07.1	
	comp=Z,840nm,18.3s,MS5.2							
PET	**Petropavlovsk**	**86.66**	**323**	*e*P		**P**	**17 20 34.6**	**+5.0**
PET				*e*			17 23 50.2	
PET				*e*S	S		17 30 55.3	-10
PET				*e*SS	SS		17 36 50.6	+1.3
PET				pmax	pmax			
	comp=Z,200nm,5.1s							
PET				pmax	pmax			
	comp=Z,100nm,15.2s							
PET				smax				
	comp=E,300nm,21.1s							
KWAJ	**Kwajalein Atol**	**87.40**	**278**	PFAKE			17 20 40.0	+5.8
KWAJ				LR	LR			
	comp=Z,383nm,22.0s,MS4.8							
ESK	**Eskdalemuir**	**87.52**	**34**	PFAKE			17 20 50.0	+16
ESK				LR	LR			
	comp=Z,329nm,19.0s,MS4.8							
ESDC	**Sonseca Array**	**90.83**	**50**	P		**P**	**17 20 49.4**	**-0.4**
	comp=Z,0.2nm,0.3s,mb3.9,baz=288,slow=5.9,SNR=7.5							
ESDC				PP	PP		17 24 30.9	+2.9
	comp=Z,0.1nm,0.3s,baz=272,slow=9.2,SNR=4.0							
ESLA	**Sonseca Array**	**90.83**	**50**	PFAKE			17 21 00.0	+10
ESLA				LR	LR			
	comp=Z,6μm,19.0s,MS6.0							
LDF	**La Druitiere**	**91.15**	**40**	*e*P		**P**	**17 20 48.9**	**-2.1**
	comp=Z,94nm,1.4s,mb5.6							
TRO	**Tromso**	**91.19**	**17**	*e*SKSa			17 31 21.4	
TRO				*e*SS	SS		17 37 53.2	-1.2
TRO				AMS	AMS		18 00 59.3	
	comp=Z,405nm,22.3s,MS4.8							
TIXI	**Tiksi**	**91.39**	**345**	⇑*i*P		**P**	**17 20 50.2**	**-1.4**
TIXI				*e**PP	pP		17 21 08.2	+13
TIXI				*e*S	SKS		17 31 19.1	-8.1
TIXI				*e**SS			17 31 44.2	
TIXI				pmax	pmax			
	comp=Z,23nm,1.1s,mb5.4							
TIXI				MLR	MLR			
	comp=Z,598nm,19.0s,MS5.0							
NSS	**Namsos**	**91.44**	**23**	AMS	AMS		17 59 00.9	
	comp=Z,742nm,22.0s,MS5.1							
MDT	**Midelt**	**91.92**	**56**	P		**P**	**17 20 57.4**	**+2.4**
	comp=Z,2.6nm,1.0s,mb4.5,baz=261,slow=5.2,SNR=3.7							
KONO	**Kongsberg**	**92.59**	**28**	*e*SKSa	SKS		17 31 31.7	-2.7
KONO				*e*SS	SS		17 38 15.9	+1.1
KONO	**Kongsberg**	**92.59**	**28**	PFAKE			17 21 10.0	+13
KONO				LR	LR			
	comp=Z,406nm,19.0s,MS4.9							
NOA	**NORSAR Array B**	**92.71**	**26**	LR	LR		18 03 24.2	
	comp=Z,594nm,19.1s,MS5.1,baz=300,slow=36							
ARCES	**ARCESS Array B**	**93.09**	**16**	LR	LR		18 04 14.8	
	comp=Z,966nm,18.9s,MS5.3,baz=324,slow=36							
KEV	**Kevo**	**93.34**	**15**	PFAKE			17 21 10.0	+9.4
KEV				LR	LR			
	comp=Z,2μm,21.0s,MS5.5							
TCF	**Toulx Ste Croi**	**93.36**	**42**	*e*P		**P**	**17 21 00.0**	**-1.2**
	comp=Z,24nm,1.2s,mb5.2							
GIVF	**Givet**	**93.74**	**38**	*e*P		**P**	**17 21 01.5**	**-1.4**
LOR	**Lormes**	**94.11**	**41**	*e*P		**P**	**17 21 02.6**	**-2.1**
	comp=Z,32nm,1.1s,mb5.3							
LOR	**Lormes**	**94.11**	**41**	*e*P		**P**	**17 21 02.6**	**-2.1**
LOR				pmax	pmax			
	comp=Z,16nm,1.1s,mb5.4							
YAK	**Yakutsk**	**97.11**	**338**	*e*P		**P**	**17 21 18.1**	**+0.2**
	comp=Z,8.8nm,0.8s,mb5.2							
YAK	**Yakutsk**	**97.11**	**338**	*e*P		**P**	**17 21 18.1**	**+0.1**
YAK				pmax	pmax			
	comp=Z,9.0nm,0.8s,mb5.2							
DBIC	**Dimbokro**	**97.28**	**82**	LR	LR		18 05 16.1	
	comp=Z,516nm,18.4s,MS5.0,baz=263,slow=35							
DBIC	**Dimbokro**	**97.28**	**82**	PFAKE			17 21 30.0	+10
DBIC				LR	LR			
	comp=Z,600nm,20.0s,MS5.1							
CLL	**Collm**	**98.01**	**35**	P		**P**	**17 21 24.0**	**+1.7**
	comp=Z,logA/T=1.0,mb5.3							
CLL				*e*PP	PP		17 25 18.0	-6.2
CLL				*e*PPP	PPP		17 27 39.0	+7.8
CLL				*e*PS	PS		17 34 18.0	+2.7
CLL				*e*PPS	PPS		17 34 50.0	-8.5
CLL				*e*SS	SS		17 39 33.0	+1.7
CLL	**Collm**	**98.01**	**35**	*e*P		**P**	**17 21 24.0**	**+1.7**
	comp=Z,15nm,1.4s,mb5.3							
CLL				*e*PS	PS		17 34 18.0	+2.7
CLL				LR	LR			
	comp=Z,800nm,18.4s,MS5.2							
CLL	**Collm**	**98.01**	**35**	*e*P		**P**	**17 21 24.0**	**+1.7**
CLL				*e*PS	PS		17 34 18.0	+2.7
CLL				pmax	pmax			
	comp=Z,15nm,1.4s,mb5.3							
CLL				MLR	MLR			
	comp=Z,800nm,18.4s,MS5.2							
HNR	**Honiara**	**98.02**	**262**	PFAKE			17 21 30.0	+6.8
HNR				LR	LR			
	comp=Z,529nm,19.0s,MS5.0							
FINES	**FINESS Array B**	**98.50**	**22**	LR	LR		18 05 19.8	
	comp=Z,820nm,21.7s,MS5.2,baz=131,slow=35							
BRG	**Berggiesshubel**	**98.74**	**35**	*e*PKP		**P**	**17 21 26.8**	**+1.2**
	comp=Z,9.6nm,1.5s,mb5.1							
BRG				*i*			17 34 26.0	
BRG				SS	SS		17 39 43.0	+1.5
BRG				LR	LR			
	comp=Z,890nm,22.3s,MS5.2							
BRG	**Berggiesshubel**	**98.74**	**35**	*e*P		**P**	**17 21 26.8**	**+1.2**
BRG				*i*			17 34 26.0	
BRG				SS	SS		17 39 43.0	+1.5
BRG				pmax	pmax			
	comp=Z,10.0nm,1.5s,mb5.1							
BRG				MLR	MLR			
	comp=Z,890nm,22.3s,MS5.2							
GERES	**GERESS Array B**	**99.54**	**37**	P		**P**	**17 21 31.7**	**+2.4**
	comp=Z,0.9nm,0.8s,mb4.2,baz=270,slow=2.9,SNR=5.5							
GERES				LR	LR		18 04 05.7	
	comp=Z,1μm,21.7s,MS5.4,baz=295,slow=34							
VNA3	**Neumayer Olymp**	**100.78**	**161**		P		17 21 36.2	+1.8
VNA2	**Neumayer--Watz**	**101.53**	**161**		P		17 21 37.1	-0.7
VNA2	**Neumayer--Watz**	**101.53**	**161**				17 26 00.6	
VNA2	**Neumayer--Watz**	**101.53**	**161**				17 26 08.1	
MAT	**Matsushiro**	**105.78**	**313**	PP	PP		17 26 20.8	-2.2
MDJ	**Mudanjiang**	**107.44**	**323**	PDIF	Pdif		17 22 04.6	+0.1
MDJ				PP	PP		17 26 32.6	-2.8
MDJ				S			17 34 06.4	
MDJ				PS	PS		17 35 52.8	+0.1
MDJ				SS	SS		17 41 40.9	-0.6
MDJ				LR	LR			
	comp=N,110nm,26.4s,MS5.0							
MDJ				LR	LR			
	comp=E,472nm,22.0s,MS5.0							
MDJ				LR	LR			
	comp=Z,656nm,19.8s,MS5.2							
DRV	**Dumont d'Urvil**	**109.61**	**202**	Pdif	Pdif		17 22 11.0	-2.6
HIA	**Hailar**	**109.72**	**332**	PFAKE			17 26 30.0	
HIA				LR	LR			
	comp=Z,864nm,20.0s,MS5.3							
CN2	**Changchun**	**110.33**	**324**	*e*PKP	PKPdf		17 26 19.3	-0.7
CN2				PP	PP		17 26 57.3	+0.7
CN2				PP	PP			
	comp=Z,230nm,6.0s							
CN2				LR	LR			
	comp=N,610nm,19.0s,MS5.3							
CN2				LR	LR			
	comp=E,470nm,19.0s,MS5.3							
CN2				LR	LR			
	comp=Z,700nm,23.0s,MS5.2							
ARU	**Arti**	**112.00**	**11**	PFAKE			17 26 30.0	+7.2
ARU				LR	LR			
	comp=Z,55nm,20.0s,MS4.1							
INCN	**Inchon**	**113.33**	**318**	PFAKE			17 26 40.0	+14
INCN				LR	LR			
	comp=Z,1μm,21.0s,MS5.4							
BR131	**Keskin Array S**	**116.42**	**36**	PFAKE			17 26 40.0	+8.0
BR131				LR	LR			
	comp=Z,415nm,21.0s,MS5.0							
BRVK	**Borovoye**	**116.81**	**4**	PFAKE			17 26 40.0	+7.6
BRVK				LR	LR			
	comp=Z,251nm,20.0s,MS4.8							
KIV	**Kislovodsk**	**118.00**	**27**	PFAKE			17 26 40.0	+5.1
KIV				LR	LR			
	comp=Z,22nm,20.0s							
KURK	**Kurchatov**	**119.36**	**358**	PFAKE			17 26 50.0	+13
KURK				LR	LR			
	comp=Z,76nm,20.0s,MS4.3							
CASY	**Casey**	**119.36**	**195**	PFAKE			17 26 50.0	+13
CASY				LR	LR			
	comp=Z,511nm,20.0s,MS5.2							
HHC	**Hu-ho-hao-te**	**119.82**	**330**	*e*PKP	PKPdf		17 26 32.3	-6.2
HHC				SKS	SKS		17 33 44.6	+8.3
HHC				LR	LR			
	comp=N,396nm,21.4s,MS5.2							
HHC				LR	LR			
	comp=E,513nm,21.4s,MS5.2							
HHC				LR	LR			
	comp=Z,577nm,30.3s							
NJ2	**Nanjing**	**121.69**	**318**	*e*PKP	PKPdf		17 26 36.5	-6.0
NJ2				PP	PP		17 28 14.0	-2.5
NJ2				SKS	SKS		17 33 45.0	+2.2
NJ2				PP	PP			
	comp=Z,660nm,8.8s							
NJ2				LR	LR			
	comp=N,590nm,21.5s,MS5.3							
NJ2				LR	LR			
	comp=E,560nm,25.6s,MS5.3							
NJ2				LR	LR			
	comp=Z,600nm,19.8s							
GNI	**Garni**	**121.94**	**28**	PFAKE			17 26 50.0	+7.3
GNI				LR	LR			
	comp=Z,417nm,19.0s,MS5.1							
MKAR	**Makanchi Array**	**123.07**	**355**	PKP	PKPdf		17 26 41.3	-3.3
	comp=Z,0.8nm,0.8s,baz=27,slow=2.7,SNR=8.2							
MKAR				PKKPbc			17 36 35.0	
	comp=Z,0.4nm,0.8s,baz=153,slow=2.7,SNR=4.1							
WRA	**Warramunga Arr**	**123.54**	**253**	PKP	PKPdf		17 26 43.0	-3.2
	comp=Z,1.9nm,0.8s,baz=86,slow=1.6,SNR=10.0							
WMQ	**Urumqi**	**125.33**	**350**	*e*PKP	PKPdf		17 26 49.0	-0.2
WMQ				PP	PP		17 28 44.0	+3.4
GTA	**Gaotai**	**126.14**	**338**	PKP	PKPdf		17 26 51.5	+0.7
LZH	**Lanzhou**	**127.28**	**332**	*e*PKP	PKPdf		17 26 53.5	+0.4
LZH				LR	LR			
	comp=E,2μm,20.0s							
LZH				LR	LR			
	comp=Z,1μm,21.0s,MS5.6							
LZH	**Lanzhou**	**127.28**	**332**	*e*P	PKPdf		17 26 53.5	+0.4
LZH				pP			17 27 01.5	
LZH				sP			17 27 04.5	
LZH				LR	LR			
	comp=Z,1μm,21.0s,MS5.6							
AAK	**Ala-Archa**	**127.44**	**2**	PFAKE			17 27 00.0	+6.7
AAK				LR	LR			
	comp=Z,39nm,19.0s,MS4.1							
BOSA	**Boshof**	**128.70**	**119**	PFAKE			17 27 10.0	+14
BOSA				LR	LR			
	comp=Z,1μm,20.0s,MS5.6							
ENH	**Enshi**	**128.80**	**323**	PFAKE			17 27 10.0	+14
ENH				LR	LR			
	comp=Z,790nm,22.0s,MS5.4							
LBTB	**Lobatse**	**129.56**	**114**	PFAKE			17 27 10.0	+12
LBTB				LR	LR			
	comp=Z,2μm,19.0s,MS5.8							
KMI	**Kunming**	**136.60**	**324**	PKP	PKPdf		17 27 06.6	-4.3
KMI				XPKP			17 27 14.1	
KMI				PP	PP		17 29 53.1	-0.4
KMI				SS	SS		17 47 53.8	-0.1
KMI				PP	PP			
	comp=Z,164nm,4.9s							
KMI				LR	LR			
	comp=N,354nm,20.0s,MS5.4							
KMI				LR	LR			
	comp=E,624nm,18.7s,MS5.4							
KMI				LR	LR			
	comp=Z,597nm,20.0s,MS5.3							
KMI	**Kunming**	**136.60**	**324**	PKP	PKPdf		17 27 06.6	-4.3
KMI				pPKP			17 27 11.8	
KMI				sPKP			17 27 14.1	
KMI				PP	PP		17 29 53.1	-0.4
KMI				PKS	PKS		17 30 49.0	+6.0
KMI				SS	SS		17 47 53.7	-0.2
KMI				SSS	SSS		17 52 26.9	-32
KMI				LR	LR			
	comp=Z,600nm,20.0s,MS5.3							
KMBO	**Kilima Mbogo**	**139.96**	**80**	PFAKE			17 27 30.0	+13
KMBO				LR	LR			
	comp=Z,414μm,19.0s							
BHJ	**Bhuj**	**146.12**	**11**	*e*P	PKPbc		17 27 26.5	+0.5
BHPL	**Bhopal**	**146.80**	**358**	*e*P	PKPbc		17 27 27.2	-0.3
BLSP	**Bilaspur**	**147.44**	**350**	*e*P	PKPdf		17 27 28.4	-1.8
BLSP				AMb	AMB		17 27 33.9	
	comp=Z,33nm,1.1s							
POO	**Poona**	**151.38**	**5**	*e*P	PKPdf		17 27 36.8	+0.4
VIS	**Vishakhapatnam**	**151.49**	**346**	*e*P	PKPdf		17 27 33.3	-3.3
MDRS	**Chennai**	**156.63**	**351**	*e*P	PKPdf		17 27 40.3	-3.4
DGAR	**Diego Garcia**	**175.15**	**56**	PFAKE			17 28 10.0	+11
DGAR				LR	LR			
	comp=Z,339nm,21.0s							

NEIC ***24*** *17:12:30.8, 29.95S×71.98W, h36km, ML3.8(GUC), After GUC.*

GUC 24 17:12:30.8±0.7, 29.95S×71.98W, h36km±3km, ML3.8, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.64**	**86**	*i* P	P	17 12 43.2	-0.2
LSCH				*i* S	S	17 12 52.5	0.0
LSCH				AMP		17 12 55.9	
	comp=E,4μm,0.3s						
OVCH	**Ovalle**	**0.94**	**134**	⇑*i*P	P	17 12 47.9	+0.3
OVCH				*i* S	S	17 13 01.0	+0.9
OVCH				AMP		17 13 02.9	
	comp=E,6μm,0.5s						
TLL	**Tololo Astrono**	**1.04**	**102**	⇓*i*P	P	17 12 50.2	+1.1
TLL				*i* S	S	17 13 04.5	+1.8
TLL				AMP		17 13 09.6	
	comp=E,8μm,0.7s						
CMCH	**Combarbala**	**1.48**	**145**	*e*P	P	17 12 56.5	+1.0
CMCH				*i* S	S	17 13 16.2	+2.4
CMCH				AMP		17 13 21.7	
	comp=E,10μm,0.7s						
VACH	**Vallenar**	**1.74**	**38**	*i* P	P	17 12 59.8	+0.7
VACH				*i* S	S	17 13 22.2	+1.9
VACH				AMP		17 13 29.5	
	comp=E,3μm,0.3s						
CHNG	**Los Chungos**	**1.97**	**168**	*i* P	P	17 13 03.0	+0.6
CHNG				*i* S	S	17 13 26.8	+0.8
CHNG				AMP		17 13 48.8	
	comp=E,391nm,0.7s						

NEIC ***24*** *17:20:36.5±1.4, 19.79S×69.03W, h109km±13km, mb4.0/1, Error ellipse: s-maj=29.8km s-min=13.3km az=94.0*
IDC ***24*** *17:20:37.2±1.1, 19.91S×68.87W, h122km±12km, mb3.0/1, mb1 3.7/4, mb1mx3.4/17, mbtmp3.9/4, MS3.4/1, Ms1 3.6/1, ms1mx2.9/7, Error ellipse: s-maj=41.2km s-min=9.1km az=98.0*

ISC 24 17:20:37.7±0.9, 19.94S±0.06×68.6W±0.2, h113km±12km, n12, σ0°59/13, mb3.4/1, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.67**	**185**	P		**P**	**17 21 19.8**	**-0.5**
	36nm,0.3s,baz=22,slow=12,SNR=119						
LVC				S		**S**	**17 21 53.1**	**+0.7**
	81nm,0.3s,baz=132,slow=22,SNR=30						
LVC	**Limon Verde**	**2.67**	**185**	*e*P		**P**	**17 21 19.4**	**-1.0**
LVC				S		**S**	**17 21 53.1**	**+0.7**
LPAZ	**La Paz**	**3.66**	**8**	P		**P**	**17 21 33.0**	**-0.7**
	5.4nm,0.3s,baz=191,slow=12,SNR=24						
LPAZ				S		**S**	**17 22 17.1**	**+0.7**
	0.5nm,0.3s,baz=223,slow=18,SNR=1.3						
LPAZ				LR	LR		17 22 55.9	
	comp=Z,540nm,18.4s,baz=35,slow=38						
LPAZ	**La Paz**	**3.66**	**8**	*e*P		**P**	**17 21 32.6**	**-1.1**
LPAZ				S		**S**	**17 22 17.1**	**+0.7**
LPAZ				LR	LR		17 22 55.9	
SIV	**San Ignacio**	**8.20**	**63**	P		**P**	**17 22 35.3**	**0.0**
	1.4nm,0.3s,baz=255,slow=12,SNR=34						
TRQA	**Tornquist**	**18.96**	**164**	*e*P		**P**	**17 24 52.1**	**-0.4**
	8.2nm,1.0s						
TXAR	**Lajitas Array**	**59.51**	**324**	P		**P**	**17 30 25.6**	**-6.0**
	0.2nm,0.5s,mb3.4,baz=153,slow=4.0,SNR=3.5						
VNA3	**Neumayer Olymp**	**61.47**	**162**			**P**	**17 30 44.6**	**+0.3**
VNA2	**Neumayer--Watz**	**62.03**	**161**			**P**	**17 30 48.4**	**+0.3**
WRA	**Warramunga Arr**	**134.42**	**211**	PKP	PKPdf		17 39 42.1	-1.2
	0.7nm,0.7s,baz=154,slow=1.8,SNR=8.6						
MKAR	**Makanchi Array**	**144.22**	**35**	PKP	PKPdf		17 39 58.2	-1.9
	0.4nm,0.7s,baz=324,slow=2.9,SNR=5.2						
SONM	**Songino Array**	**151.88**	**7**	PKPbc	PKPdf		17 40 18.2	+5.8
	1.0nm,0.5s,slow=2.9,SNR=10						

NEIC ***24*** *17:25:31.3, 44.37S×169.58E, h12km, ML3.9(WEL), After WEL.*

WEL 24 17:25:30.8±0.1, 44.35S×169.57E, h12km, ML3.8/9, 3C-1D, Error ellipse: s-maj=1.4km s-min=1.0km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBZ	**Lake Benmore**	**0.44**	**96**	⇓P*	Pb	17 25 39.8	-0.3
LBZ				S*	Sb	17 25 45.8	-0.6
LBZ				S*	Sb	17 25 46.0	-0.3
LBZ	**Lake Benmore**	**0.44**	**96**	P	Pg	17 25 39.8	-0.1
LBZ				S	Sg	17 25 46.0	0.0
WKZ	**Wanaka**	**0.62**	**219**	⇑P*	Pb	17 25 42.3	-0.9
WKZ				S*	Sb	17 25 51.0	-0.5
WKZ				S*	Sb	17 25 51.4	-0.2
WKZ	**Wanaka**	**0.62**	**219**	P	Pb	17 25 42.3	-0.9
WKZ				S	Sb	17 25 51.4	-0.2
FOZ	**Fox Glacier**	**0.78**	**6**	⇑P*	Pb	17 25 46.1	+0.2
FOZ				S*	Sb	17 25 56.1	-0.1
FOZ	**Fox Glacier**	**0.78**	**6**	P	Pb	17 25 46.1	+0.2
EAZ	**Earnscleugh**	**0.91**	**192**	P*	Pb	17 25 47.1	-0.9
EAZ				S*	Sb	17 25 59.4	-0.4
EAZ	**Earnscleugh**	**0.91**	**192**	P	Pb	17 25 47.1	-0.9
MSZ	**Milford Sound**	**1.22**	**254**	P*	Pb	17

LBZ	Lake Benmore	1.25 200	⇑P*	Pb	18 07 14.8	-0.6
LBZ	Lake Benmore	1.25 200	P	Pb	18 07 14.8	-0.6
CRLZ	Canterbury Las	1.40 106	PN	Pn	18 07 17.3	-0.6
CRLZ	Canterbury Las	1.40 106	P	Pn	18 07 17.4	-0.5
MQZ	McQueen's Vall	1.46 111	ePN	Pn	18 07 17.9	-0.9
MQZ	McQueen's Vall	1.46 111	eP	Pn	18 07 18.1	-0.7
DSZ	Denniston Nort	1.65 28	ePN	Pn	18 07 20.3	-1.2
DSZ	Denniston Nort	1.65 28	eP	Pn	18 07 20.3	-1.2
WKZ	Wanaka	2.05 217	PN	Pn	18 07 26.2	-1.1
WKZ	Wanaka	2.05 217	P	Pn	18 07 26.4	-0.9
THZ	Tophouse	2.14 48	ePN	Pn	18 07 27.9	-0.7
THZ	Tophouse	2.14 48	eP	Pn	18 07 28.4	-0.1
KHZ	Kahutara	2.19 70	ePN	Pn	18 07 28.4	-0.8
KHZ	Kahutara	2.19 70	eP	Pn	18 07 28.6	-0.6
EAZ	Earnscleugh	2.28 207	ePN	Pn	18 07 28.6	-1.9
EAZ	Earnscleugh	2.28 207	eP	Pn	18 07 28.6	-1.9
MSZ	Milford Sound	2.52 234	ePN	Pn	18 07 32.7	-1.3
MSZ	Milford Sound	2.52 234	eP	Pn	18 07 33.4	-0.5
QRZ	Quartz Range	2.72 29	ePN	Pn	18 07 35.2	-1.6
QRZ	Quartz Range	2.72 29	eP	Pn	18 07 35.3	-1.5
NNZ	Nelson	2.78 45	ePN	Pn	18 07 36.9	-0.7
NNZ	Nelson	2.78 45	eP	Pn	18 07 37.3	-0.4
MLZ	Mavora Lakes	2.84 220	ePN	Pn	18 07 37.0	-1.5
MLZ	Mavora Lakes	2.84 220	eP	Pn	18 07 37.4	-1.1
TUZ	Tuapeka	2.86 196	ePN	Pn	18 07 36.6	-2.3
TUZ	Tuapeka	2.86 196	eP	Pn	18 07 36.9	-2.0
TUWZ	Tuamarina	2.95 54	ePN	Pn	18 07 39.5	-0.6
WHZ	Wether Hill Ro	3.36 216	ePN	Pn	18 07 43.0	-2.9
DUWZ	D'Urville Isla	3.36 45	ePN	Pn	18 07 45.7	-0.2
DCZ	Deep Cove	3.44 228	ePN	Pn	18 07 44.5	-2.6
CAW	Cannon Point	3.83 58	ePN	Pn	18 07 50.2	-2.3
CAW	Cannon Point	3.83 58	P	Pn	18 07 50.5	-2.0
KIW	Kapiti Island	3.88 54	ePN	Pn	18 07 51.1	-2.1
KIW	Kapiti Island	3.88 54	P	Pn	18 07 51.8	-1.4
MRZ	Mangatainoka R	4.40 56	ePN	Pn	18 07 57.4	-3.3
NRZ	Ngariki Road	4.54 33	P	Pn	18 08 02.0	-0.7
NEZ	North Egmont	4.67 34	ePN	Pn	18 08 03.3	-1.2
NEZ	North Egmont	4.67 34	P	Pn	18 08 03.6	-0.9
PKE	Pukeiti	4.69 32	PN	Pn	18 08 03.4	-1.4
PKE	Pukeiti	4.69 32	P	Pn	18 08 03.6	-1.2
VRZ	Vera Road	5.07 38	ePN	Pn	18 08 08.3	-1.9
VRZ	Vera Road	5.07 38	eP	Pn	18 08 08.8	-1.4
PKVZ	Pokaka	5.22 43	ePN	Pn	18 08 11.1	-1.1
HIZ	Hauiti	5.62 35	PN	Pn	18 08 15.2	-2.8
WCZ	Waipu Caves	7.77 22	ePN	Pn	18 08 44.8	-3.4

ISC 24 18:11:09.0±0.8, 47.07N±0.05×11.33E±0.04, h10km, n9, σ0°83/17, 5C-3D, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SQTA	Sankt Quirin	0.17	331	⇓iPG	Pg	18 11 13.3	+0.4
SQTA				iSG	Sg	18 11 15.5	0.0
	100nm,0.1s						
SCE	Schlegeis	0.26	96	⇑iPg	Pg	18 11 15.4	+0.9
SCE				iSg	Sg	18 11 19.6	+1.4
WTTA	Wattenberg	0.29	47	⇑iPG	Pg	18 11 15.5	+0.5
WTTA				iSG	Sg	18 11 19.8	+0.8
	28nm,0.2s						
WATA	Walderalm	0.32	32	⇓iPG	Pg	18 11 16.1	+0.6
WATA				iSG	Sg	18 11 20.2	+0.3
	28nm,0.1s						
MOTA	Moosalm	0.32	331	⇓iPG	Pg	18 11 15.7	+0.1
MOTA				iSG	Sg	18 11 19.6	-0.4
	37nm,0.2s						
DAVA	Damuels	1.01	283	⇑iPg	Pg	18 11 29.0	-0.3
DAVA				iSG	Sg	18 11 43.0	+0.1
	6.7nm,0.3s						
KBA	Koelnbreinsper	1.38	89	⇑iPg	Pg	18 11 35.5	-1.0
KBA				iSG	Sg	18 11 54.4	-0.5
	5.5nm,0.3s						
MOA	Molln	2.14	67	⇑iPG	Pg	18 11 49.7	-2.0
MOA				iSG	Sg	18 12 19.3	-1.0
	1.9nm,0.3s						
KHC	Kasperske Hory	2.56	35	eP	Sg	18 12 30.0	-4.1

MAN 24 18:16:53.9, 15.22N×119.94E, h100km, mb3.7, ML2.4, MS1.9, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	Santa Cruz	0.55	357	eP	P	18 17 11.3	+1.1
SCZP				eS	S	18 17 25.6	+3.1
BOLP	Bolinao	1.15	359	eP	P	18 17 16.6	+0.2
LUBP	Lubang	1.51	169	eP	P	18 17 21.0	+4.4

MAN 24 18:19:29.8, 16.47N×120.69E, h20km, mb3.7, ML2.4, MS1.9, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALP	Baler	1.12	130	eP	Pb	18 19 49.7	-0.7
BALP				eS	Sb	18 20 04.7	+0.1
ABRA	Dolores	1.17	1	eP	Pb	18 19 50.4	-0.9
CAUP	Cauayan	1.19	66	eP	Pn	18 19 50.3	-1.2
APYP	Conner	1.48	21	eP	Pn	18 19 55.3	-0.4
APYP				eS	Sn	18 20 13.6	-1.1

IDC 24 18:26:47.9±2.3, 21.70N×143.15E, h282km±21km, mb3.1/5, mb1 3.3/7, mb1mx3.1/22, mbtmp3.9/7, Error ellipse: s-maj=49.4km s-min=18.4km az=79.0

ISC 24 18:26:45.9±2.5, 21.7N±0.2×143.5E±0.6, h291km±19km, n8, σ1°05/8, mb3.3/5, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	5.54	347	P	P	18 28 08.9	-1.0
CBIJ	12nm,0.3s,baz=149,slow=19,SNR=2.7						
				S	S	18 29 16.9	+1.0
	9.0nm,0.3s,baz=269,slow=18,SNR=3.5						
MJAR	Matsushiro Arr	15.52	344	P	P	18 30 11.1	-0.7
	0.5nm,0.3s,baz=168,slow=11,SNR=4.3						
SONM	Songino Array	39.56	320	P	P	18 33 51.2	+0.6
	0.2nm,0.4s,mb2.8,baz=142,slow=6.5,SNR=3.3						
WRA	Warramunga Arr	42.33	193	P	P	18 34 14.0	+0.5
	0.4nm,0.5s,mb3.0,baz=17,slow=9.2,SNR=7.3						
MKAR	Makanchi Array	54.95	313	P	P	18 35 48.1	-0.8
	0.3nm,0.5s,mb3.0,baz=91,slow=8.3,SNR=8.9						
MKAR				PcP	PcP	18 36 46.6	-0.6
	0.4nm,0.6s,baz=78,slow=3.6,SNR=4.8						
ARCES	ARCESS Array B	79.05	342	P	P	18 38 19.6	+0.7
	2.1nm,0.7s,mb4.0,baz=72,slow=7.7,SNR=9.2						
FINES	FINESS Array B	83.34	335	P	P	18 38 41.1	-0.2
	0.8nm,0.6s,mb3.8,baz=63,slow=4.3,SNR=8.2						
PLCA	Paso Flores	145.50	131	PKPbc	PKPbc	18 45 54.5	+4.2
	1.7nm,0.9s,baz=227,slow=2.6,SNR=3.2						

IDC 24 18:31:59.9±1.8, 2.17N×127.26E, mb3.7/4, mb1 3.9/4, mb1mx3.6/16, mbtmp3.8/4, Error ellipse: s-maj=100.3km s-min=24.2km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	20.21	184	P	P	18 36 36.5	-2.8
	1.6nm,0.6s,baz=6.5,slow=12,SNR=3.6						
WRA	Warramunga Arr	23.05	163	P	P	18 37 06.5	-1.7
	0.9nm,0.4s,baz=342,slow=11,SNR=18						
STKA	Stephens Creek	36.49	159	P	P	18 39 07.2	-1.7
	2.3nm,0.8s,baz=339,slow=8.6,SNR=4.0						
MKAR	Makanchi Array	59.13	326	P	P	18 42 02.6	-2.2
	0.4nm,0.6s,baz=120,slow=7.6,SNR=6.9						

ATH 24 18:49:23.4, 39.00N×23.26E, h25km±1km, MD2.9/7, ML3.1
THE 24 18:49:23.5, 38.96N×23.38E, h1km, ML2.7
NEIC 24 18:49:23.4, 39.00N×23.26E, h25km, ML3.1(ATH), After ATH.
CSEM 24 18:49:23.5±0.1, 38.95N×23.36E, h5km, ML3.1, Error ellipse: s-maj=2.1km s-min=1.5km az=94.0

ISC 24 18:49:22.9±0.6, 38.97N±0.03×23.37E±0.04, h7km±5km, n19, σ0°76/29, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	Neokhori	0.36	341	ePB	Pb	18 49 30.5	-0.6
NEO				eSB	Sb	18 49 35.9	-0.7
XOR	Xorichti	0.42	341	ePg	Pg	18 49 31.7	+0.3
XOR				eSg	Sg	18 49 37.6	+0.5
LKR	Lokris	0.43	223	ePB	Pb	18 49 31.8	-0.6
LKR				eSB	Sb	18 49 38.7	0.0
AOS	Alonnisos	0.44	63	ePg	Pg	18 49 32.0	+0.1
AOS				eSg	Sg	18 49 38.2	+0.3
AGG	Agios Georgios	0.81	274	ePg	Pg	18 49 38.3	-0.9
AGG				eSg	Sg	18 49 51.0	+1.0
AGG	Agios Georgios	0.81	274	ePg	Pg	18 49 38.3	-0.9
AGG				eSg	Sg	18 49 51.0	+1.0
MGER	Gerania Oros	0.98	185	ePN	Pn	18 49 43.5	+0.5
PAIG	Paliouri	0.99	14	ePg	Pg	18 49 42.9	+0.3
PAIG				eSg	Sg	18 49 56.2	+0.4
ATH	Athens Observa	1.03	165	ePN	Pn	18 49 44.3	+0.7
NSAL	Nisos Salamina	1.06	176	ePN	Pn	18 49 44.0	-0.1
NAIG	Nisos Aigina	1.21	176	ePN	Pn	18 49 46.5	+0.3
LIT	Litokhoron	1.32	329	ePg	Pg	18 49 47.8	-1.5
LIT				eSg	Sg	18 50 08.0	+1.1
PLG	Polygyros	1.41	2	ePN	Pn	18 49 48.9	-0.1
PLG				eSN	Sn	18 50 07.1	-0.8
OUR	Ouranopolis	1.44	19	ePg	Pg	18 49 49.6	-2.1
MEV	Metsovon	1.85	297	ePb	Pb	18 49 55.5	-1.2
GRG	Griva	2.12	340	ePn	Pn	18 49 59.2	0.0
GRG				eSn	Sn	18 50 27.4	+1.3
SRS	Serrai	2.15	4	ePn	Pn	18 50 00.3	+0.6
KNT	Kendrikon	2.22	351	ePn	Pn	18 50 01.2	+0.5
FNA	Florina	2.38	320	ePn	Pn	18 50 03.0	+0.1

ISK 24 19:03:54.6, 34.56N×32.85E, h32km, MD3.7
HLW 24 19:03:56.1, 34.82N×32.82E, h10km, Mb3.5
CSEM 24 19:03:56.6±0.1, 34.81N×32.82E, h40km, Mw3.2, Error ellipse: s-maj=2.1km s-min=1.5km az=74.0
NIC 24 19:03:57.2±0.2, 34.81N×32.97E, h15km, ML3.6, MW3.4
NIC Felt earthquake; Maximum Intensity 3; Felt I=III MM at Limasol.
NEIC 24 19:03:57.3±0.4, 34.75N×32.97E, h11km±4km, ML3.6(NIC), Error ellipse: s-maj=5.3km s-min=4.3km az=211.0
NEIC Felt [III] at Limassol.
GRAL 24 19:03:58.5±3.0, 34.84N×32.97E, h12km±13km, MD3.9
IDC 24 19:03:60.0±1.5, 34.61N×32.75E, h76km±27km, mb3.2/2, mb1 3.3/6, mb1mx3.1/22, mbtmp3.5/6, Error ellipse: s-maj=18.7km s-min=12.5km az=41.0
GII 24 19:04:02.2±1.1, 34.61N×33.09E, h25km±30km, ML3.2/8, Mw3.1/5

ISC 24 19:03:56.1±0.3, 34.68N±0.02×32.89E±0.03, h15km, n71, σ1°10/99, mb3.5/1, 11C-10D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SZAC	Souni-Zanaja	0.07	359	⇑P	Pg	19 04 00.8	+1.6
SZAC	Souni-Zanaja	0.07	359	iPg	Pg	19 04 00.8	+1.6
SZAC	Souni-Zanaja	0.07	359	⇑iP	Pg	19 04 00.8	+1.6
LEF	Lefka	0.44	1	iPG	Pg	19 04 05.6	+0.3
LEF				iSG	Sg	19 04 15.2	+3.8
CSS	Prodhromos	0.46	52	⇓P	Pb	19 04 04.1	-1.3
CSS	34nm,0.2s						
CSS				S	Sb	19 04 09.9	-1.8
CSS	Prodhromos	0.46	52	iP	Pb	19 04 05.1	-0.4
CSS				iS	Sb	19 04 10.7	-1.1
CSS	Prodhromos	0.46	52	iPg	Pb	19 04 04.1	-1.3
CSS	Prodhromos	0.46	52	⇓iP	Pb	19 04 04.1	-1.3
CSS				S	Sb	19 04 09.9	-1.8
PPCY	Paphos	0.49	295	⇑P	Pg	19 04 07.6	+1.3
PPCY	Paphos	0.49	295	iPg	Pg	19 04 07.6	+1.3
PPCY	Paphos	0.49	295	⇑eP	Pg	19 04 07.6	+1.3
ALFC	Alevga	0.53	334	⇑P	Pb	19 04 06.7	+0.1
ALFC	55nm,0.5s						
ALFC				S	Sb	19 04 14.6	+0.9
ALFC	Alevga	0.53	334	iPg	Pb	19 04 06.7	+0.1
ALFC				S	Sb	19 04 14.6	+0.9
ALFC	Alevga	0.53	334	⇑eP	Pb	19 04 06.7	+0.1
ALFC				S	Sb	19 04 14.6	+0.9
MAMC	Mammari	0.56	29	⇓P	Pb	19 04 05.9	-1.2
MAMC	Mammari	0.56	29	iPg	Pb	19 04 05.9	-1.2
MAMC	Mammari	0.56	29	⇓iP	Pb	19 04 05.9	-1.2
AKMC	Akamas	0.57	307	iPg	Pg	19 04 08.5	+0.6
PHNC	Paralimni	1.00	71	⇑P	Pb	19 04 15.0	+0.4
PHNC				S	Sb	19 04 26.8	-0.5
PHNC	Paralimni	1.00	71	iPg	Pb	19 04 15.0	+0.4
PHNC				S	Sb	19 04 26.8	-0.5
PHNC	Paralimni	1.00	71	⇑eP	Pb	19 04 15.0	+0.4
PHNC				S	Sb	19 04 26.8	-0.5
IKL	Isikli	1.69	23	iPN	Pn	19 04 24.0	-1.3
ERMK	Ermenek	1.96	1	iP	Pn	19 04 29.2	-0.1
ERMK				iS	Sn	19 04 53.3	-0.3
MEST	Erdemli	2.16	28	iP	Pn	19 04 31.2	-1.0
MEST				iS	Sn	19 04 59.6	+0.8
HDMB	Hadim	2.30	352	PN	Pn	19 04 33.5	-0.7
MATL	Matirih	2.35	120	ePn	Pn	19 04 38.3	+3.4
BHL	Bhannes	2.42	108	ePn	Pn	19 04 38.2	+2.3
BHL				Sn	Sn	19 05 02.3	-3.1
HNTI	Hanita	2.48	129	Pn	Pn	19 04 36.7	-0.1
HNTI				Sn	Sn	19 05 05.1	-1.9
MERS	Mersin	2.56	31	PN	Pn	19 04 37.4	-0.4
HWQ	Hawqa	2.56	98	ePn	Pn	19 04 38.4	+0.5
HWQ				Sn	Sn	19 05 07.6	-1.4
HAF	Haifa	2.60	136	Pn	Pn	19 04 38.7	+0.2
OFRI	'Ofer	2.70	139	Pn	Pn	19 04 40.2	+0.3
KSDI	Kefar Szold	2.74	122	Pn	Pn	19 04 40.6	+0.1
HRI	Mount Hermon	2.76	120	Pn	Pn	19 04 41.2	+0.5
KSHT	Keshet	2.97	124	Pn	Pn	19 04 44.1	+0.5
SLTI	Sal'it	3.03	143	Pn	Pn	19 04 46.3	+1.7
SLTI				Sn	Sn	19 05 19.4	-1.4
MMLI	Mount Malkishu	3.08	136	Pn	Pn	19 04 45.9	+0.6
ELL	Elmali	3.18	311	ePN	Pn	19 04 44.7	-2.0
CEYT	Ceyhan	3.29	44	ePN	Pn	19 04 46.6	-1.6
COBT	Iskenderun	3.30	55	iP	Pn	19 04 48.7	+0.3
COBT				iS	Sn	19 05 27.9	+0.2
HRSH	Kfar Ka'horesh	3.78	169	⇓P	Pn	19 04 56.2	+1.0
HRSH				S	Sn	19 05 39.6	-0.2
RSH		3.78	169	P	Pn	19 04 56.2	+1.0
RSH				S	Sn	19 05 39.6	-0.2
MKRJ	Makawir	3.88	143	Pn	Pn	19 04 57.8	+1.1
RTMM	Retamin	3.92	157	Pn	Pn	19 04 58.0	+0.8
MZDA	Masada	3.96	148	Pn	Pn	19 04 58.9	+1.2
MZDA				Sn	Sn	19 05 44.0	-0.3
KZIT	Kziot	3.97	161	Pn	Pn	19 04 58.6	+0.7
KZIT				Sn	Sn	19 05 43.7	-1.0
MASH	Mash'abbe Sade	4.01	156	Pn	Pn	19 04 59.4	+1.0
AMAG	Maghara	4.04	176	⇓P	Pn	19 04 59.4	+0.6
ASF	Jabal al Asfar	4.18	126	P	Pn	19 05 00.8	-0.1
	1.5nm,0.3s,baz=339,slow=17,SNR=6.7						
ASF				S	Sn	19 05 51.9	+1.8
	2.2nm,0.3s,slow=20,SNR=3.6						
GAZ	Gaziantep	4.30	53	ePN	Pn	19 05 01.4	-1.2
PRNI	Paran	4.67	157	Pn	Pn	19 05 09.2	+1.3
PRNI				Sn	Sn	19 05 60.0	-2.5
HHAG	Hagoal	4.76	188	P	Pn	19 05 08.4	-0.7
KMTI	Karmit	4.82	161	Pn	Pn	19 05 10.7	+0.7
KMTI				Sn	Sn	19 06 04.1	-2.1
KOT	Kottamia	4.82	191	⇑P	Pn	19 05 10.3	+0.3
KOT				S	Sn	19 06 04.5	-1.7
HNKL	Nakhl	4.83	169	⇓P	Pn	19 05 10.6	+0.5
BRTR	Keskin Array B	5.07	7	P	Pn	19 05 14.0	+0.5
	0.4nm,0.3s,baz=186,slow=14,SNR=5.5						
BRTR				S	Sn	19 06 13.7	+1.3
	0.1nm,0.3s,baz=176,slow=26,SNR=3.4						
BODT	Bodrum	5.11	299	ePN	Pn	19 05 12.2	-1.9
HSAF	As Saff	5.17	193	⇓P	Pn	19 05 15.0	+0.1
GLL	Jalalah	5.19	191	⇓P	Pn	19 05 15.2	+0.1
EIL	Elat	5.29	160	Pn	Pn	19 05 17.4	+0.7
MALT	Malatya	5.75	49	eP	Pn	19 05 25.3	+2.2
	3.0nm,0.6s						
NUB		5.83	165	⇓P	Pn	19 05 24.8	+0.5
HDHB	Dhahab	6.12	166	⇑P	Pn	19 05 28.9	+0.6
HKAT	Jabal Katrina	6.21	171	P	Pn	19 05 29.9	+0.3
IDI	Anoyia	6.59	278	P	Pn	19 05 33.5	-1.5
	0.6nm,0.3s,baz=97,slow=8.1,SNR=4.2						
IDI				S	Sn	19 06 45.5	-5.1
	0.5nm,0.3s,baz=322,slow=18,SNR=3.7						
SWA1		8.14	230	P	P	19 05 55.5	-1.2
SWA1				S	Sn	19 07 22.4	-6.9
SWA2		8.32	231	⇑P	P	19 05 57.5	-1.6
AKASG	Malin Array Be	16.23	352	P	P	19 07 45.1	0.0
	0.4nm,0.3s,baz=168,slow=11,SNR=4.3						
GERES	GERESS Array B	20.05	321	P	P	19 08 26.0	-5.4
	0.5nm,0.7s,baz=124,slow=11,SNR=4.0						
FINES	FINESS Array B	27.13	353	P	P	19 09 36.2	-4.0
	1.3nm,0.9s,mb3.5,baz=166,slow=7.9,SNR=5.8						
FINES	FINESS Array B	27.13	353	P	P	19 09 36.2	-4.0

IDC 24 19:29:22.9±2.2, 33.19N×142.23E, mb3.4/3, mb1 3.5/5, mb1mx3.4/20, mbtmp3.4/5, ML3.3/2, Error ellipse: s-maj=45.9km s-min=27.2km az=54.0
JMA 24 19:29:24.2±0.4, 33.45N×142.52E, h82km, M3.3

ISC 24 19:29:24.4±2.2, 33.37N±0.06×142.41E±0.10, h30km±20km, n15, σ1°05/22, mb3.4/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	1.75	318	P	Pn	19 29 53.4	+0.2
BSO1				eS	Sn	19 30 14.8	+0.1
BSO3	Boso 3	2.13	313	P	Pn	19 29 58.9	+0.2
BSO3				eS	Sn	19 30 25.6	+1.2
JHJ2	Mitsune	2.19	264	P	Pn	19 30 00.7	+1.2
JHJ2				eS	Sn	19 30 27.9	+2.0
JHJ	Hachijo jima 2	2.22	264	Pn	Pn	19 29 58.5	-1.4
	20nm,0.3s,baz=112,slow=19,SNR=3.4						
JHJ				Sn	Sn	19 30 25.1	-1.5
	58nm,0.3s,baz=59,slow=19,SNR=4.7						
BSO4	Boso 4	2.36	314	P	Pn	19 30 02.7	+0.7
BSO4				eS	Sn	19 30 31.7	+1.5
KTR	Katsuura	2.48	316	eS	Sn	19 30 33.3	0.0
JIM2	Oshima 3	2.82	299	P	Pn	19 30 08.6	+0.1
JIZS	Izushimoda	3.23	296	P	Pn	19 30 14.6	+0.3
JOD2	Odawara 2	3.34	305	P	Pn	19 30 15.3	-0.6
JAG	Ashikaga	3.90	322	P	Pn	19 30 23.1	-0.8
MJAR	Matsushiro Arr	4.68	314	Pn	Pn	19 30 35.0	0.0
	2.0nm,0.3s,baz=113,slow=9.3,SNR=17						
MJAR				Sn	Sn	19 31 27.0	-2.0
	2.7nm,0.3s,baz=56,slow=42,SNR=7.0						
MAT	Matsushiro	4.69	314	P	Pn	19 30 34.8	-0.2
MAT				S	Sn	19 31 26.6	-2.5
SONM	Songino Array	30.62	309	P	P	19 35 38.9	+0.9
	0.3nm,0.6s,mb3.3,baz=112,slow=7.9,SNR=3.8						
MKAR	Makanchi Array	46.83	305	P	P	19 37 53.8	+0.6
	0.2nm,0.6s,mb3.2,baz=82,slow=10,SNR=4.6						
WRA	Warramunga Arr	53.57	189	P	P	19 38 44.2	-0.8
	0.5nm,0.6s,mb3.6,baz=6.7,slow=7.7,SNR=6.9						

JMA 24 19:44:30.4±0.1, 38.58N×143.48E, h38km, M3.4
IDC 24 19:44:34.7±8.3, 32.30N×137.01E, mb3.3/2, mb1 3.3/3, mb1mx3.2/22, mbtmp3.2/3, Error ellipse: s-maj=141.2km s-min=41.5km az=134.0

ISC 24 19:44:30.4±2.4, 38.62N±0.07×143.4E±0.1, h20km±25km, n12, σ0°59/18, mb3.2/2, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	1.44	289	P	Pn	19 44 55.9	+0.2
OFUJ				eS	Sn	19 45 14.8	+0.6
MIYJ	Miyakonagasawa	1.57	308	P	Pn	19 44 57.3	-0.3
MIYJ				eS	Sn	19 45 17.3	-0.1
JIO	Ouri	1.63	265	P	Pn	19 44 58.2	-0.2
JIO				S	Sn	19 45 18.6	-0.4
JMK	Ichinoseki	1.75	282	P	Pn	19 45 00.4	+0.3
JMK				eS	Sn	19 45 22.0	0.0
JOM	Ohasama	1.86	298	P	Pn	19 45 01.9	+0.1
JOU	Okura	2.17	264	P	Pn	19 45 06.3	+0.1
JMM	Marumori	2.20	251	P	Pn	19 45 05.8	-0.8
JMM				eS	Sn	19 45 32.3	-1.1
JANG	Nango	2.29	321	P	Pn	19 45 07.2	-0.7
JYK	Kaneyama	2.41	278	P	Pn	19 45 10.4	+0.8
MJAR	Matsushiro Arr	4.63	245	Pn	Pn	19 45 41.6	+0.5
	1.2nm,0.3s,baz=194,slow=17,SNR=11						
MJAR				Sn	Sn	19 46 35.8	+0.9
	0.2nm,0.3s,baz=177,slow=25,SNR=3.0						
SONM	Songino Array	28.27	301	P	P	19 50 25.2	+0.9
	0.3nm,0.7s,mb3.0,baz=116,slow=10,SNR=3.2						
MKAR	Makanchi Array	44.64	301	P	P	19 52 42.5	-0.7
	0.3nm,0.5s,mb3.4,baz=82,slow=9.6,SNR=3.9						

WEL 24 19:54:11.6±1.1, 36.16S×178.15E, h33km, ML3.5/6, Error ellipse: s-maj=12.1km s-min=7.6km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	Puketiti	1.91	177	PN	Pn	19 54 41.0	-1.4
PUZ				SN	Sn	19 55 03.0	-2.5
MWZ	Matawai	2.22	193	P*	Pb	19 54 46.7	-4.3
MWZ				S*	Sb	19 55 12.7	-5.6
URZ	Urewera	2.25	201	P*	Pb	19 54 47.1	-4.4
URZ				S*	Sb	19 55 12.6	-6.5
KNZ	Kokohu	2.88	187	ePN	Pn	19 54 53.2	-3.0
BKZ	Black Stump Fm	3.27	203	P*	Pb	19 55 00.2	-8.6
WNVZ	Wahianoa	3.75	212	eP*	Pb	19 55 09.2	-7.8
KIW	Kapiti Island	5.33	207	ePN	Pn	19 55 25.6	-5.5
MQZ	McQueen's Vall	8.63	208	eSN	Sn	19 57 36.5	-18

NIED 24 19:58:00, 33.10N×142.50E, h8km, Mw4.5 Best double couple: M0 7.4×10^15 NP1:φs175°, δ70°, λ-97°. NP2:φs13°, δ21°, λ-73°.
IDC 24 19:58:56.5±0.4, 33.11N×142.60E, mb4.5/16, mb1 4.7/22, mb1mx4.6/26, mbtmp4.5/22, ML4.1/6, MS3.7/11, Ms1 3.7/11, ms1mx3.5/32, Error ellipse: s-maj=15.4km s-min=13.2km az=69.0
BJI 24 19:58:59.4, 33.15N×142.52E, h32km, mB4.7, mb4.5, Ms4.2, Msz3.9
JMA 24 19:58:59.4±0.5, 33.12N×142.52E, h72km, M4.2
*MOS 24 19:59:00.0±1.0, 33.09N×142.47E, h33km, mb5.0/37, Error ellipse: s-maj=12.5km s-min=5.

YSS Yuzh-Sakhalins 13.76 1 *e*P **P 20 02 09.0 -6.4**
YSS pmax pmax
comp=Z,20nm,0.9s
JOW Kunigami 13.81 246 LR LR 20 06 45.4
comp=Z,434nm,20.6s,baz=80,slow=34
MDJ Mudanjiang 15.16 323 P **P 20 02 33.1 -0.7**
MDJ XP 20 02 45.4
MDJ S **S 20 05 18.0 -3.2**
MDJ SS SS 20 05 37.3 -1.6
MDJ AMB AMB
comp=Z,6.0nm,0.9s
MDJ AMB AMB
comp=Z,61nm,3.6s
MDJ LR LR
comp=N,87nm,18.4s
MDJ LR LR
comp=E,197nm,19.3s
CN2 Changchun 16.98 314 *e*P **P 20 02 54.8 -2.2**
CN2 *e*XP 20 03 09.3
CN2 *e*S **S 20 06 01.8 -1.5**
CN2 AMB AMB
comp=Z,20nm,1.0s
CN2 LR LR
comp=N,430nm,15.0s
CN2 LR LR
comp=E,330nm,15.0s
CN2 LR LR
comp=Z,230nm,16.0s
SSE Sheshan 18.13 269 P **P 20 03 10.8 -0.7**
SSE XP 20 03 23.6
SSE S **S 20 06 24.3 -5.2**
SSE XS 20 06 44.1
SSE AMB AMB
comp=Z,25nm,0.8s
SSE AMB AMB
comp=Z,98nm,6.1s
SSE LR LR
comp=N,47nm,22.0s
SSE LR LR
comp=E,155nm,21.9s
SSE LR LR
comp=Z,179nm,19.6s
SSE Sheshan 18.13 269 P **P 20 03 10.7 -0.8**
comp=Z,25nm,0.8s
SSE sP 20 03 23.6
SSE S **S 20 06 24.3 -5.2**
SSE sS 20 06 44.1
GUMO Guam 19.63 173 P **P 20 03 26.5 -2.8**
comp=Z,3.2nm,0.3s,baz=176,slow=5.9,SNR=5.4
NJ2 Nanjing 19.90 273 *e*P **P 20 03 34.5 +2.3**
NJ2 AP 20 03 43.4
NJ2 XP 20 03 47.3
NJ2 PP PP 20 03 54.5 +3.4
NJ2 S **S 20 07 12.0 +3.1**
NJ2 XS 20 07 26.0
NJ2 AMB AMB
comp=Z,10.0nm,1.0s
NJ2 AMB AMB
comp=Z,1µm,3.5s
NJ2 LR LR
comp=N,730nm,14.8s
NJ2 LR LR
comp=E,420nm,15.0s
PET Petropavlovsk 22.99 26 *i* P **P 20 04 04.5 +1.4**
PET pmax pmax
comp=Z,19nm,1.7s,mb4.2
HIA Hailar 23.31 320 *e*P **P 20 04 06.4 +0.1**
comp=Z,12nm,0.8s,mb4.4
HIA Hailar 23.31 320 *e*P **P 20 04 06.4 +0.2**
HIA pmax pmax
comp=Z,12nm,0.8s
WHN Wuhan 23.98 271 ⇓P **P 20 04 12.8 -0.1**
WHN AP 20 04 23.5
HHC Hu-ho-hao-te 25.73 296 *e*P **P 20 04 29.5 0.0**
HHC AP pP 20 04 39.0 0.0
HHC XP sP 20 04 42.9 -0.4
HHC PP PP 20 05 10.6 +0.8
HHC S **S 20 08 51.8 -1.9**
HHC XS 20 09 07.9
HHC SS SS 20 09 57.8 -1.0
HHC PCS 20 11 37.1
HHC AMB AMB
comp=Z,9.0nm,1.1s,mb4.2
HHC AMB AMB
comp=Z,115nm,8.9s
HHC LR LR
comp=N,158nm,16.6s,MS3.8
HHC LR LR
comp=E,181nm,18.4s,MS3.8
HHC LR LR
comp=Z,204nm,17.3s,MS3.7
CLNS Chul'man 26.55 338 *e*P **P 20 04 37.8 +0.9**
CLNS *e*PPP PPP 20 05 21.5 -11
CLNS *e* 20 08 03.2
CLNS *e*S **S 20 09 05.8 -1.4**
CLNS *e*SS SS 20 10 22.4 +3.9
CLNS pmax pmax
comp=Z,19nm,0.8s,mb4.7
CLNS pmax pmax
comp=N,12nm,1.4s
CLNS pmax pmax
comp=E,8.0nm,1.0s
CLNS pmax pmax
comp=Z,7.0nm,0.7s,mb4.3
CLNS smax
comp=N,7.0nm,0.8s
CLNS smax
comp=E,6.0nm,1.0s
MA2 Magadan 26.97 9 *i* P **P 20 04 41.3 +0.6**
MA2 pmax pmax
comp=Z,40nm,2.5s,mb4.5
XAN Xi'an 27.87 281 P **P 20 04 49.3 +0.1**
XAN AP pP 20 04 58.3 -0.4
XAN AMB AMB
comp=Z,7.0nm,1.2s,mb4.2
CIT Chita 28.12 321 *e*P **P 20 04 52.2 +1.0**
CIT pmax pmax
comp=Z,44nm,2.1s,mb4.7
ENH Enshi 28.12 273 *e*P **P 20 04 49.9 -1.6**
comp=Z,16nm,0.8s,mb4.7
YAK Yakutsk 30.00 348 *i* P **P 20 05 07.3 -0.7**
YAK pmax pmax
comp=Z,13nm,1.0s,mb4.6
SEY Seymchan 30.43 9 *e*P **P 20 05 10.8 -0.9**
SONM Songino Array 30.76 309 P **P 20 05 15.9 +1.0**
comp=Z,3.9nm,0.7s,mb4.3,baz=112,slow=8.8,SNR=15
SONM LR LR 20 18 52.9
comp=Z,104nm,18.7s,MS3.5,baz=109,slow=39
BOD Bodaibo 31.26 331 *e*P **P 20 05 18.3 -0.9**
BOD pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
GYA Guiyang 31.65 267⇑*i*P **P 20 05 23.3 +0.4**
GYA AP pP 20 05 32.8 +0.3
GYA XP sP 20 05 36.5 -0.3
GYA PP PP 20 06 28.1 +0.1
GYA S **S 20 10 27.3 -1.5**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
GYA LR LR
comp=N,310nm,15.6s,MS4.3
GYA LR LR
comp=E,340nm,15.0s,MS4.3
GYA LR LR
comp=Z,300nm,15.2s,MS4.1
ZAK Zakamensk 33.41 313 *e*P **P 20 05 39.0 +1.0**
ZAK pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
GTA Gaotai 34.67 293 P **P 20 05 50.5 +1.5**
GTA AP pP 20 05 59.9 +1.2
GTA XP sP 20 06 04.3 +1.5
GTA PP PP 20 07 09.6 +3.4
GTA PPP PPP 20 07 26.8 +2.6
GTA PCP PcP 20 08 23.3 +0.5
GTA S **S 20 11 19.9 +4.3**
GTA XS 20 11 35.9
GTA SCP 20 12 03.9
GTA PCS 20 12 08.0
GTA SCS ScS 20 16 07.1 +1.1
GTA AMB AMB
comp=Z,5.0nm,0.7s,mb4.5
GTA AMB AMB
comp=Z,121nm,9.2s
GTA LR LR
comp=N,159nm,15.7s,MS4.1
GTA LR LR
comp=E,177nm,13.4s,MS4.1
GTA LR LR
comp=Z,198nm,13.8s,MS4.0
KMI Kunming 35.43 267 P **P 20 05 56.1 +0.5**
KMI AP pP 20 06 05.8 +0.5
KMI XP sP 20 06 09.4 0.0
KMI PP PP 20 07 17.5 +1.8
KMI PPP PPP 20 07 33.8 -0.8
KMI S **S 20 11 28.9 +1.4**
KMI XS 20 11 42.9
KMI SS SS 20 13 46.8 +0.3
KMI SSS SSS 20 14 11.9 -2.1
KMI AMB AMB
comp=Z,6.0nm,0.8s,mb4.6
KMI AMB AMB
comp=Z,139nm,5.0s
KMI LR LR
comp=N,158nm,13.3s,MS4.2
KMI LR LR
comp=E,209nm,13.3s,MS4.2
KMI LR LR
comp=Z,159nm,11.9s,MS4.0
KMI Kunming 35.43 267 P **P 20 05 56.1 +0.5**
comp=Z,6.0nm,0.8s,mb4.6
KMI pP pP 20 06 05.7 +0.4
KMI sP sP 20 06 09.4 0.0
KMI PP PP 20 07 17.5 +1.8
KMI PPP PPP 20 07 33.8 -0.8
KMI S **S 20 11 28.9 +1.4**
KMI sS 20 11 42.9
KMI SS SS 20 13 46.7 +0.2
KMI SSS SSS 20 14 11.9 -2.1
KMI LR LR
comp=Z,160nm,11.9s,MS4.0
KMI Kunming 35.43 267 P **P 20 05 56.1 +0.5**
KMI *PP pP 20 06 05.7 +0.4
KMI *SP sP 20 06 09.4 0.0
KMI 20 07 17.5
KMI PPP PPP 20 07 33.8 -0.8
KMI S **S 20 11 28.9 +1.4**
KMI *SS 20 11 42.9
KMI SS SS 20 13 46.7 +0.2
KMI SSS SSS 20 14 11.9 -2.1
KMI pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
KMI MLR MLR
comp=Z,160nm,11.9s,MS4.0
BILL Bilibino 37.50 14⇑*e*P **P 20 06 12.0 -0.6**
BILL pmax pmax
comp=Z,27nm,2.5s,mb4.5
BILL MLR MLR
comp=Z,100nm,22.0s,MS3.6
TIXI Tiksi 39.20 353 *e*P **P 20 06 19.0 -7.8**
TIXI pmax pmax
comp=Z,6.0nm,1.1s,mb4.2
WMQ Urumqi 43.44 301 *e*P **P 20 07 02.0 +0.2**
WMQ AP pP 20 07 12.0 +0.4
WMQ XP sP 20 07 16.0 +0.4
WMQ PP PP 20 08 45.0 +0.3
WMQ S **S 20 13 27.0 -0.4**
WMQ SS SS 20 16 35.0 +0.2
WMQ AMB AMB
comp=Z,10.0nm,1.0s,mb4.5
WMQ AMB AMB
comp=Z,208nm,5.0s
WMQ LR LR
comp=N,78nm,15.0s,MS3.9
WMQ LR LR
comp=E,92nm,15.0s,MS3.9
WMQ LR LR
comp=Z,58nm,14.0s,MS3.6
ZAL Zalesovo 45.20 315 P **P 20 07 15.6 -0.3**
comp=Z,0.9nm,0.4s,mb3.9,baz=38,slow=4.6,SNR=6.5
ZAL PcP PcP 20 08 55.0 -1.1
comp=Z,2.7nm,0.7s,baz=329,slow=4.4,SNR=6.6
ZAL LR LR 20 28 04.1
comp=Z,68nm,18.5s,MS3.6,baz=13,slow=38
ZAL Zalesovo 45.20 315 P **P 20 07 15.6 -0.3**
ZAL PcP PcP 20 08 55.0 -1.1
ZAL LR LR 20 28 04.1
NVS Novosibirsk 46.16 316 *e*P **P 20 07 23.3 -0.1**
NVS pmax pmax
comp=Z,12nm,1.1s,mb4.7
NVS pmax pmax
comp=E,10.0nm,1.2s
KAKA Kakadu 46.63 193 *e*P **P 20 07 39.5 +12**
comp=E,9.1nm,0.6s,mb4.9
MKAR Makanchi Array 46.96 305 P **P 20 07 30.2 +0.3**
comp=E,4.1nm,0.7s,mb4.5,baz=91,slow=9.8,SNR=58
MKAR LR LR 20 27 30.2
comp=E,88nm,19.1s,MS3.7,baz=0.8,slow=36
PKI Pulchoki 49.02 279 *e*P **P 20 07 46.2 0.0**
comp=E,12nm,0.6s,mb5.1
PKI Pulchoki 49.02 279 *e*P **P 20 07 46.2 0.0**
PKI pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
KURK Kurchatov 49.03 311 *e*P **P 20 07 45.1 -0.9**
comp=Z,23nm,0.8s,mb5.3
KURK Kurchatov 49.03 311 *e*P **P 20 07 45.1 -0.9**
KURK pmax pmax
comp=Z,23nm,0.8s,mb5.3
KKN Kakani 49.05 280 *e*P **P 20 07 46.4 0.0**
comp=Z,25nm,0.8s,mb5.3
KKN Kakani 49.05 280 *e*P **P 20 07 46.4 0.0**
KKN pmax pmax
comp=Z,13nm,0.8s,mb5.0
DMN Daman 49.26 280 *e*P **P 20 07 47.5 -0.5**
comp=Z,25nm,1.1s,mb5.1
GKN Gorkha 49.50 280 *e*P **P 20 07 49.7 -0.2**
comp=Z,22nm,0.9s,mb5.2
SPU Mount Spurr 49.83 35 *e*P **P 20 07 52.1 +0.2**
KOLN Koldanda 50.44 280 *e*P **P 20 07 56.9 -0.2**
comp=Z,12nm,0.8s,mb5.0
ILAR Eielson Array 52.32 31 P **P 20 08 09.4 -1.4**
comp=Z,5.9nm,0.6s,mb4.7,baz=265,slow=6.1,SNR=68
AAK Ala-Archa 53.14 301 *e*P **P 20 08 16.5 -0.7**
comp=Z,1.7nm,0.7s,mb4.1
AAK Ala-Archa 53.14 301 *e*P **P 20 08 16.5 -0.7**
AAK pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
WRAB Tennant Creek 53.38 190 *e*P **P 20 08 16.7 -2.5**
comp=Z,15nm,0.8s,mb5.0
WRAB *e*pP pP 20 08 27.5 -1.7
WRAB Tennant Creek 53.38 190 *e*P **P 20 08 16.7 -2.6**
WRAB *e**PP pP 20 08 27.5 -1.7
WRAB pmax pmax
comp=Z,15nm,0.8s,mb5.0
WRA Warramunga Arr 53.39 190 P **P 20 08 16.8 -2.5**
comp=Z,6.6nm,0.7s,mb4.7,baz=6.2,slow=7.6,SNR=78
WRA PcP PcP 20 09 26.2 0.0
comp=Z,2.3nm,0.7s,baz=0.9,slow=4.1,SNR=8.4
FITZ Fitzroy Crossi 53.47 200 *e*P **P 20 08 18.6 -1.3**
comp=Z,9.8nm,0.9s,mb4.7
FITZ *e* pP 20 08 29.2 -0.7
INK Inuvik 57.44 26 P **P 20 08 47.6 -0.4**
comp=Z,7.5nm,0.7s,mb4.8,baz=289,slow=4.6,SNR=16
ARU Arti 59.83 320 *e*P **P 20 09 03.6 -1.2**
comp=Z,14nm,0.8s,mb5.0
ARU *e*pP pP 20 09 14.1 -0.8
ARU Arti 59.83 320⇑*i*P **P 20 09 03.7 -1.0**
ARU *e*S **S 20 17 10.5 -1.7**
ARU *e*SS SS 20 21 05.6 -4.1
ARU pmax pmax
comp=Z,13nm,0.8s,mb5.0
AFI Afiamalu 64.03 129 LR LR 20 33 15.0
comp=Z,120nm,19.9s,MS4.1,baz=207,slow=32
STKA Stephens Creek 64.72 181 *e*P **P 20 09 36.3 -1.4**
comp=Z,4.8nm,0.8s,mb4.6
STKA Stephens Creek 64.72 181 P **P 20 09 35.7 -2.0**
comp=Z,6.5nm,0.9s,mb4.7,baz=351,slow=8.7,SNR=10
YKA Yellowknife Ar 66.72 30 P **P 20 09 48.3 -1.6**
comp=Z,4.3nm,0.8s,mb4.5,baz=294,slow=6.1,SNR=5.7
ARCES ARCESS Array B 67.90 340 P **P 20 09 57.5 +0.2**
comp=Z,6.0nm,0.9s,mb4.6,baz=63,slow=8.1,SNR=5.8
ARCES ARCESS Array B 67.90 340 P **P 20 09 57.5 +0.2**
JOF Joensuu 69.76 333 *e*p **P 20 10 07.8 -1.1**
comp=Z,7.5nm,1.0s,mb4.6
OBN Obninsk 71.70 324 *ce*P **P 20 10 20.2 -0.6**
OBN *e*S S 20 19 31.3 -5.6
OBN pmax pmax
comp=Z,41nm,2.8s,mb4.9
OBN MLR MLR
comp=Z,100nm,16.0s,MS4.2
KAF Kangasniemi 72.12 334 *e*p **P 20 10 22.2 -1.0**
comp=Z,6.0nm,0.8s,mb4.6,baz=50,slow=5.7
KAF Kangasniemi 72.12 334 *e*P **P 20 10 22.2 -1.0**
KAF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
NEW Newport 72.31 44 *e*P **P 20 10 24.1 -0.5**
comp=Z,6.1nm,1.2s,mb4.4
NEW Newport 72.31 44 *e*P **P 20 10 24.1 -0.4**
NEW pmax pmax
comp=Z,6.0nm,1.2s
FINES FINESS Array B 72.62 333 P **P 20 10 25.9 -0.1**
comp=Z,7.2nm,0.9s,mb4.6,baz=90,slow=7.6,SNR=23
GOF Gofitskoye 73.32 313⇓*i*P **P 20 10 41.5 +11**
GOF pmax pmax
comp=Z,14nm,0.8s,mb4.9
KIV Kislovodsk 74.09 312 *e*P **P 20 10 35.7 +0.7**
comp=Z,5.1nm,0.7s,mb4.6
KIV Kislovodsk 74.09 312⇑*e*P **P 20 10 33.0 -2.0**
KIV pmax pmax
comp=Z,12nm,1.0s,mb4.8
KIV Kislovodsk 74.09 312 *i* P **P 20 10 36.1 +1.1**
KIV pmax pmax
comp=Z,12nm,1.0s,mb4.8
VSU Vasula 74.21 331 *e*P **P 20 10 36.0 +0.7**
WVOR Wild Horse Val 74.33 49 *e*P **P 20 10 36.6 +0.2**
comp=Z,3.4nm,0.9s,mb4.3
WVOR *e*pP pP 20 10 46.0 -0.7
WVOR Wild Horse Val 74.33 49 *e*P **P 20 10 36.6 +0.2**
WVOR *e**PP pP 20 10 46.0 -0.6
WVOR pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
GNI Garni 74.71 308 LR LR 20 47 35.1
comp=Z,40nm,18.4s,MS3.8,baz=165,slow=39
GNI Garni 74.71 308 *i* P **P 20 10 40.0 +1.4**
GNI pmax pmax
comp=Z,11nm,1.3s
DLMT Dillon 76.48 44 *e*P **P 20 10 48.8 +0.2**
NVAR Mina Array Bea 76.62 53 P **P 20 10 49.9 +0.3**
comp=Z,2.2nm,0.7s,mb4.2,baz=296,slow=4.1,SNR=14
MCMT McKenzie Canyo 76.63 45 *e*P **P 20 10 49.6 +0.2**
ANN Anapa 76.83 315 *e*P **P 20 10 40.5 -10**
ANN pmax pmax
comp=Z,25nm,1.1s,mb5.1
ELK Elko 77.39 50 *e*P **P 20 10 54.3 +0.6**
comp=Z,1.4nm,0.8s,mb3.9
ELK *e*pP pP 20 11 04.1 +0.1
ELK Elko 77.39 50 *e*P **P 20 10 54.3 +0.6**
ELK *e**PP pP 20 11 04.1 +0.1
ELK pmax pmax
comp=Z,1.0nm,0.8s
AKASG Malin Array Be 77.87 323 P **P 20 10 56.1 -0.1**
comp=Z,2.2nm,0.6s,mb4.2,baz=42,slow=6.0,SNR=16
NB2 NORSAR Subarra 78.06 338 P **P 20 10 57.2 +0.2**
comp=Z,13nm,1.0s,mb4.8,baz=40,slow=5.6
NB2 NORSAR Subarra 78.06 338 P **P 20 10 57.2 +0.2**
NB2 pmax pmax
comp=Z,13nm,1.0s,mb4.8
NOA NORSAR Array B 78.06 338 P **P 20 10 57.5 +0.5**
comp=Z,6.9nm,0.9s,mb4.6,baz=38,slow=5.6,SNR=13
NOA LR LR 20 50 05.8
comp=Z,51nm,19.1s,MS3.9,baz=275,slow=39
MIB Mutribah 78.20 298 *e*P **P 20 10 58.2 -0.2**
MIB AMb AMB 20 10 59.7
comp=Z,27nm,0.8s,mb5.2
KBD Kabd 78.27 297 *e*P **P 20 10 59.5 +0.7**
KBD AMb AMB 20 11 00.2
comp=Z,81nm,0.6s,mb5.8
RDF Al-Radifah 78.50 297 *e*P **P 20 11 00.2 +0.1**
RDF AMb AMB 20 11 01.9
comp=Z,43nm,0.8s,mb5.4
SUW Suwalki 78.59 328 *e*P **P 20 11 00.5 +0.4**
SUW Suwalki 78.59 328 *e*P **P 20 11 00.5 +0.5**
HWUT Hardware Ranch 79.21 47 *e*P **P 20 11 03.4 -0.3**
comp=Z,5.0nm,0.9s,mb4.4
BW06 Boulder Array 79.76 45 *e*P **P 20 11 06.5 -0.1**
PDAR Pinedale Array 79.76 45 P **P 20 11 06.8 +0.2**
comp=Z,1.2nm,0.8s,mb3.9,baz=295,slow=2.4,SNR=10
MALT Malatya 79.84 309 *e*P **P 20 11 08.4 +1.3**
comp=Z,4.2nm,1.1s,mb4.3
MALT Malatya 79.84 309 *e*P **P 20 11 08.4 +1.3**
MALT pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
MSU Marysvale 80.59 50 *e*P **P 20 11 11.8 +0.6**
KWP Kalwaria 81.76 325 *e*P **P 20 11 17.8 +0.8**
KWP Kalwaria 81.76 325 *e*P **P 20 11 17.8 +0.8**
BR131 Keskin Array S 82.06 313 *e*P **P 20 11 19.3 +0.6**
comp=Z,2.7nm,0.8s,mb4.2
BRTR Keskin Array B 82.06 313 P **P 20 11 19.8 +1.0**
comp=Z,2.3nm,0.7s,mb4.2,baz=92,slow=3.8,SNR=12
PPT Papeete 82.15 117 LR LR 20 39 07.3
comp=Z,91nm,20.2s,MS4.1,baz=354,slow=29
KOLS Kolonicke sedl 82.44 325 *e*P **P 20 11 21.4 +0.8**
STHS Stebnicka Huta 82.60 326 *e*P **P 20 11 22.6 +1.2**
PV10 Paradox Valley 82.67 49 *e*P **P 20 11 22.9 +0.9**
OJC Ojcow 82.71 327 *e*P **P 20 11 22.9 +1.0**
CRVS Cervenica-Dubn 82.85 325 *e*P **P 20 11 23.9 +1.2**
MZLS Mizel 82.88 294 P **P 20 11 24.5 +1.1**
NIE Niedzica 83.04 326 *e*P **P 20 11 25.4 +1.8**
PV01 Paradox Valley 83.11 49 *e*P **P 20 11 24.8 +0.5**
HILS Ha'il 83.61 298 P **P 20 11 28.1 +1.0**
KECS Kecovo 83.61 325 *i* P **P 20 11 27.6 +1.1**
OKC Ostrava-Krasne 83.73 327 *e*P **P 20 11 28.4 +1.3**
ISCO Idaho Springs 83.92 46 *e*P **P 20 11 29.5 +1.2**
comp=Z,3.7nm,0.8s,mb4.6
ISCO Idaho Springs 83.92 46 *e*P **P 20 11 29.5 +1.2**
ISCO pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
DPC Dobruska-Polom 84.17 329 *e*P **P 20 11 30.5 +1.2**
UPC Upice 84.19 329 *e*P **P 20 11 30.5 +1.1**
VYHS Vyhne 84.38 326 *i* P **P 20 11 32.0 +1.6**
PVCC Panska Ves 84.80 330 *e*P **P 20 11 33.4 +1.0**
BRG Berggiesshubel 84.80 330 *e*P **P 20 11 33.2 +0.7**
comp=Z,5.5nm,0.9s,mb4.7
BRG *e* pP 20 11 43.4 +0.5
BRG Berggiesshubel 84.80 330 *e*P **P 20 11 33.2 +0.7**
BRG *e* pP 20 11 43.4 +0.5
BRG pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
CLL Collm 84.86 331 ⇑P **P 20 11 33.4 +0.7**
comp=Z,logA/T=1.2,mb5.1
CLL *i* *PP pP 20 11 44.0 +0.8
CLL Collm 84.86 331⇑*i*P **P 20 11 33.4 +0.7**
comp=Z,14nm,0.9s,mb5.1
CLL *i* pP pP 20 11 44.0 +0.8
CLL Collm 84.86 331⇑*i*P **P 20 11 33.4 +0.7**
CLL *i* *PP pP 20 11 44.0 +0.8
CLL pmax pmax
comp=Z,14nm,0.9s,mb5.1
PRU Pruhonice 85.21 329 *e*P **P 20 11 35.5 +1.0**
SDCO Great Sand Dun 85.27 47 *e*P **P 20 11 36.0 +0.8**
comp=Z,3.7nm,0.8s,mb4.6
SDCO *e*pP pP 20 11 46.7 +1.1
ZST Bratislava 85.40 327 *e*P **P 20 11 37.7 +2.2**
KAMS Al Khamasin 85.40 291 P **P 20 11 36.4 +0.2**
NKC Novy Kostel 85.91 330 *e*P **P 20 11 39.7 +1.7**
GIVF Givet 88.98 334 *e*P **P 20 11 50.8 -2.1**
BAIF Baives 89.24 335 *e*P **P 20 11 52.0 -2.1**
CDF Champ du Feu 89.43 332 *e*P **P 20 11 54.3 -0.7**
HAU Haudompre 90.12 332 *e*P **P 20 11 56.6 -1.7**
CABF La Chapelle 91.36 332 *e*P **P 20 12 03.2 -0.8**
comp=Z,8.0nm,0.8s,mb4.8
CABF La Chapelle 91.36 332 *e*P **P 20 12 03.2 -0.8**
CABF pmax pmax
comp=Z,4.0nm,0.8s,mb4.8
LOR Lormes 91.69 333 *e*P **P 20 12 04.3 -1.2**
TXAR Lajitas Array 91.77 53 P **P 20 12 06.5 +0.2**
comp=Z,1.6nm,0.6s,mb4.5,baz=307,slow=2.9,SNR=16
TXAR LR LR 20 49 11.5
comp=Z,71nm,18.6s,MS4.1,baz=320,slow=33
LPL La Plagne 91.99 331 *e*P **P 20 12 06.9 0.0**
comp=Z,11nm,1.1s,mb4.8
LPL La Plagne 91.99 331 *e*P **P 20 12 06.9 0.0**
LPL pmax pmax
comp=Z,6.0nm,1.1s,mb4.8
SSF Saint Saulge 91.99 333 *e*P **P 20 12 05.8 -1.1**
LPG La Plagne 92.00 331 *e*P **P 20 12 07.3 +0.4**
comp=Z,8.5nm,0.8s,mb4.8
LPG La Plagne 92.00 331 *e*P **P 20 12 07.3 +0.4**
LPG pmax pmax
comp=Z,4.0nm,0.8s,mb4.8
HYF Humbligny 92.14 334 *e*P **P 20 12 07.2 -0.4**
SMF Signal de Mont 92.21 333 *e*P **P 20 12 06.3 -1.6**
comp=Z,4.6nm,0.6s,mb4.7
SMF Signal de Mont 92.21 333 *e*P **P 20 12 06.3 -1.6**
SMF pmax pmax
comp=Z,2.0nm,0.6s,mb4.6
AVF Avril sur Loir 92.28 333 *e*P **P 20 12 07.5 -0.7**

comp=Z,7.4nm,0.8s,mb4.8
AVF Avril sur Loir 92.28 333 *e*P **P 20 12 07.5 -0.7**
AVF pmax pmax
comp=Z,4.0nm,0.8s,mb4.8
MBDF Montbardon 92.61 330 *e*P **P 20 12 09.3 -0.5**
comp=Z,6.8nm,0.7s,mb4.9
MBDF Montbardon 92.61 330 *e*P **P 20 12 09.3 -0.5**
MBDF pmax pmax
comp=Z,3.0nm,0.7s,mb4.8
BGF Bois d'Agland 92.66 333 *e*P **P 20 12 09.3 -0.7**
ORIF Oris-en-Rattie 92.83 331 *e*P **P 20 12 10.8 0.0**
comp=Z,8.7nm,0.9s,mb4.9
ORIF Oris-en-Rattie 92.83 331 *e*P **P 20 12 10.8 0.0**
ORIF pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
SBF Sospel 93.03 329 *e*P **P 20 12 11.7 0.0**
comp=Z,21nm,0.8s,mb5.3
SBF Sospel 93.03 329 *e*P **P 20 12 11.7 0.0**
SBF pmax pmax
comp=Z,11nm,0.8s,mb5.3
TCF Toulx Ste Croi 93.13 334 *e*P **P 20 12 11.1 -1.0**
comp=Z,6.8nm,0.9s,mb4.8
TCF Toulx Ste Croi 93.13 334 *e*P **P 20 12 11.1 -1.0**
TCF pmax pmax
comp=Z,3.0nm,0.9s,mb4.7
VIVF Saint-Julien-l 93.37 331 *e*P **P 20 12 13.2 -0.1**
MFF Saint Martin d 93.71 335 *e*P **P 20 12 13.8 -1.0**
SMRF Simiane la Rot 93.72 330 *e*P **P 20 12 15.2 +0.3**
LMR La Mourre 93.86 329 *e*P **P 20 12 14.8 -0.7**
comp=Z,21nm,1.2s,mb5.2
LMR La Mourre 93.86 329 *e*P **P 20 12 14.8 -0.7**
LMR pmax pmax
comp=Z,11nm,1.2s,mb5.2
RJF Les Rejaudoux 94.22 334 *e*P **P 20 12 17.4 +0.2**
CAF Calviac 94.33 333 *e*P **P 20 12 17.9 +0.2**
SJPF Ste Jean 97.11 334 *e*P **P 20 12 29.8 -0.6**
BOSA Boshof 126.62 257 PKP PKPdf 20 18 02.2 -3.9
comp=Z,1.5nm,0.7s,baz=54,slow=11,SNR=3.9
SDV Santo Domingo 127.64 43 PKP PKPdf 20 18 04.6 -3.9
comp=Z,5.7nm,0.7s,baz=282,slow=2.9,SNR=7.3
SDV Santo Domingo 127.64 43 *e*PKP PKPdf 20 18 04.2 -4.3
SNAA Sanae 137.30 195 PKP PKPdf 20 18 22.2 -2.9
comp=Z,0.5nm,0.8s,baz=122,slow=2.2,SNR=5.4
VNA2 Neumayer--Watz 138.84 195 PKPdf 20 18 24.1 -3.8
VNA2 Neumayer--Watz 138.84 195 PKPdf 20 18 26.8 -1.1
VNA2 Neumayer--Watz 138.84 195 PKPdf 20 18 35.5 +7.6
VNA2 Neumayer--Watz 138.84 195 PKPdf 20 18 38.1 +10
VNA3 Neumayer Olymp 139.05 193 PKPdf 20 18 24.3 -4.0
VNA3 Neumayer Olymp 139.05 193 PKPdf 20 18 27.5 -0.8
VNA3 Neumayer Olymp 139.05 193 PKPdf 20 18 36.5 +8.2
VNA3 Neumayer Olymp 139.05 193 PKPdf 20 18 37.9 +10
SAML Samuel 146.22 50 *e*PKP PKPdf 20 18 38.2 -4.1
LPAZ La Paz 147.69 66 PKP PKPdf 20 18 41.9 -2.8
comp=Z,4.6nm,0.8s,baz=4.0,slow=7.4,SNR=14
LPAZ PKPbc PKPdf 20 18 44.2 -0.5
comp=Z,4.6nm,0.8s,baz=334,slow=5.4,SNR=14
LPAZ La Paz 147.69 66 *e*PKP PKPdf 20 18 41.2 -3.5
LVC Limon Verde 150.45 77 PKPbc PKPdf 20 18 49.9 +0.9
comp=Z,5.8nm,1.1s,baz=18,slow=4.9,SNR=5.5
PLCA Paso Flores 152.69 116 PKPbc PKPdf 20 18 54.0 +2.4
comp=Z,3.0nm,1.1s,baz=32,slow=5.8,SNR=4.1
SIV San Ignacio 152.71 57 PKP PKPdf 20 18 48.7 -3.7
comp=Z,0.9nm,0.8s,baz=280,slow=3.8,SNR=8.0
SIV PKPbc PKPdf 20 18 54.9 +2.5
comp=Z,4.3nm,0.9s,baz=246,slow=2.1,SNR=14
SIV PKPab PKPab 20 19 04.9 -2.4
comp=Z,3.2nm,0.9s,baz=70,slow=5.7,SNR=5.4
CFAA Coronel Fontan 154.08 95 PKPbc PKPdf 20 18 57.8 +3.9
comp=Z,0.2nm,0.4s,baz=119,slow=3.5,SNR=4.5
CFAA PKPab PKPab 20 19 11.9 -0.8
comp=Z,1.1nm,0.7s,baz=250,slow=4.0,SNR=4.6

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*IDC **24** 20:15:54.4±1.4,33.03N×142.65E,mb3.5/3,mb1 3.7/5, mb1mx3.5/21,mbtmp3.5/5,ML3.4/2,Error ellipse: s-maj=31.5km s-min=28.3km az=79.0*
*JMA **24** 20:15:57.2±0.6,33.15N×142.60E,h85km,M3.5*
ISC 24 20:15:57.8±1.4,**33.11N**±0.07×**142.5E**±0.1,**h38**km±15km, **n15**,σ1º**02**/24,**mb3.6**/3,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**2.01**	**320**	P	**P**	**20 16 29.9**	**0.0**
BSO1				*e*S	**S**	**20 16 55.3**	**+1.3**
JHJ2	**Mitsune**	**2.28**	**271**	P	**P**	**20 16 34.7**	**+0.9**
JHJ	**Hachijo jima 2**	**2.31**	**271**	Pn	**P**	**20 16 34.0**	**-0.2**
JHJ	26nm,0.3s,baz=66,slow=19,SNR=4.2			Sn	**S**	**20 17 01.1**	**-0.4**
	43nm,0.3s,baz=242,slow=21,SNR=4.2						
BSO3	**Boso 3**	**2.38**	**316**	P	**P**	**20 16 35.4**	**+0.2**
BSO3				*e*S	**S**	**20 17 04.8**	**+1.3**
BSO4	**Boso 4**	**2.61**	**316**	P	**P**	**20 16 39.3**	**+0.7**
BSO4				*e*S	**S**	**20 17 10.8**	**+1.4**
JOD2	**Odawara 2**	**3.57**	**308**	P	**P**	**20 16 51.3**	**-0.9**
JYN	**Shimob**	**4.07**	**307**	P	**P**	**20 16 59.1**	**-0.1**
JYN				*e*S	**S**	**20 17 46.8**	**+0.5**
JAG	**Ashikaga**	**4.17**	**323**	P	**P**	**20 17 00.3**	**-0.3**
JAG				*e*S	**S**	**20 17 45.8**	**-2.9**
JRY	**Ryogami san**	**4.17**	**315**	P	**P**	**20 17 00.9**	**+0.2**
JRY				*e*S	**S**	**20 17 48.7**	**-0.1**
MJAR	**Matsushiro Arr**	**4.93**	**315**	Pn	**P**	**20 17 11.1**	**-0.4**
MJAR	1.3nm,0.3s,baz=167,slow=14,SNR=10			Sn	**S**	**20 18 05.5**	**-2.6**
	1.8nm,0.3s,baz=260,slow=29,SNR=7.0						
MAT	**Matsushiro**	**4.94**	**315**	P	**P**	**20 17 11.6**	**+0.1**
MAT				S	**S**	**20 18 06.0**	**-2.2**
ASAJ	**Asahikawa**	**10.99**	**0**	Pn	**P**	**20 18 30.6**	**-4.9**
	0.6nm,0.3s,baz=316,slow=14,SNR=5.2						
MKAR	**Makanchi Array**	**47.06**	**305**	P	**P**	**20 24 29.1**	**+1.6**
	0.4nm,0.6s,mb3.5,baz=90,slow=9.1,SNR=5.5						
ILAR	**Eielson Array**	**52.35**	**31**	P	**P**	**20 25 07.5**	**-0.2**
	0.4nm,0.6s,mb3.5,baz=262,slow=6.4,SNR=7.2						
WRA	**Warramunga Arr**	**53.33**	**190**	P	**P**	**20 25 15.0**	**-0.7**
	0.6nm,0.7s,mb3.6,baz=7.2,slow=7.6,SNR=10						

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*IDC **24** 20:18:27.2±1.4,33.04N×142.76E,mb3.3/4,mb1 3.5/6, mb1mx3.4/21,mbtmp3.3/6,ML3.3/2,Error ellipse: s-maj=32.4km s-min=27.9km az=66.0*
*JMA **24** 20:18:28.8±0.6,33.26N×142.58E,h16km,M3.9*
ISC 24 20:18:29.3±3.0,**33.37N**±0.07×**142.72E**±0.10,**h20**km±25km, **n12**,σ1º**18**/16,**mb3.3**/4,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.45**	**265**	P	**Pn**	**20 19 07.3**	**-1.7**
JHJ	**Hachijo jima 2**	**2.47**	**265**	Pn	**Pn**	**20 19 09.8**	**+0.5**
JHJ	26nm,0.3s,baz=72,slow=19,SNR=2.8			Sn	**Sn**	**20 19 33.4**	**-6.0**
	42nm,0.3s,baz=67,slow=22,SNR=3.1						
JIM2	**Oshima 3**	**3.04**	**297**	S	**Sn**	**20 19 53.2**	**-0.5**
JHO	**Hitachi**	**3.68**	**332**	P	**Pn**	**20 19 27.2**	**+0.7**
JHO				*e*S	**Sn**	**20 20 09.8**	**-0.1**
JAG	**Ashikaga**	**4.06**	**320**	*e*S	**Sn**	**20 20 19.2**	**-0.3**
JFK	**Kawauchi**	**4.26**	**340**	P	**Pn**	**20 19 35.4**	**+0.6**
JFK				*e*S	**Sn**	**20 20 22.8**	**-1.7**
MJAR	**Matsushiro Arr**	**4.87**	**312**	Pn	**Pn**	**20 19 44.8**	**+1.3**
	0.6nm,0.3s,baz=120,slow=18,SNR=4.5						
MJAR				Sn	**Sn**	**20 20 41.1**	**+1.2**
	0.7nm,0.3s,baz=300,slow=17,SNR=5.1						
ASAJ	**Asahikawa**	**10.73**	**360**	Pn	**P**	**20 21 02.6**	**-2.4**
	0.5nm,0.3s,baz=200,slow=12,SNR=3.0						
SONM	**Songino Array**	**30.82**	**309**	P	**P**	**20 24 46.4**	**+0.4**
	0.1nm,0.7s,mb2.7,baz=124,slow=10,SNR=2.6						
MKAR	**Makanchi Array**	**47.04**	**305**	P	**P**	**20 27 01.8**	**+0.7**
	0.3nm,0.7s,mb3.3,baz=90,slow=7.2,SNR=3.5						
ILAR	**Eielson Array**	**52.05**	**31**	P	**P**	**20 27 40.4**	**+1.0**
	0.6nm,0.8s,mb3.6,baz=263,slow=5.9,SNR=5.6						
WRA	**Warramunga Arr**	**53.62**	**190**	P	**P**	**20 27 47.9**	**-3.8**
	0.4nm,0.7s,mb3.4,baz=10,slow=7.9,SNR=3.9						

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*IDC **24** 20:27:18.3±1.0,33.09N×142.70E,mb3.6/4,mb1 3.8/7, mb1mx3.7/21,mbtmp3.7/7,ML3.7/3,MS3.3/1,Ms1 3.3/1, ms1mx2.7/23,Error ellipse: s-maj=26.7km s-min=22.3km az=71.0*
*NEIC **24** 20:27:19.4±1.0,33.08N×142.68E,h10km,mb4.2/1,Error ellipse: s-maj=31.3km s-min=16.3km az=46.0*
*JMA **24** 20:27:21.5±0.5,33.12N×142.57E,h84km,M3.9*
ISC 24 20:27:20.5±2.1,**33.13N**±0.06×**142.61E**±0.08,**h27**km±17km, **n22**,σ1º**03**/30,**mb3.7**/5,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**2.04**	**319**	P	**Pn**	**20 27 54.1**	**+0.4**
BSO1				*e*S	**Sn**	**20 28 18.8**	**+0.4**
BSO2	**Boso 2**	**2.23**	**317**	*e*S	**Sn**	**20 28 24.0**	**+0.6**
JHJ2	**Mitsune**	**2.35**	**270**	P	**Pn**	**20 27 58.5**	**+0.4**
JHJ	**Hachijo jima 2**	**2.37**	**270**	Pn	**Pn**	**20 27 58.8**	**+0.2**
JHJ	37nm,0.3s,baz=70,slow=22,SNR=7.3			Sn	**Sn**	**20 28 26.0**	**-1.0**
	84nm,0.3s,baz=71,slow=23,SNR=6.0						
JHJ				LR	LR	20 28 51.9	
	comp=Z,630nm,20.9s,baz=273,slow=39						
BSO3	**Boso 3**	**2.41**	**314**	P	**Pn**	**20 27 59.8**	**+0.8**
BSO3				*e*S	**Sn**	**20 28 29.2**	**+1.2**
BSO4	**Boso 4**	**2.65**	**315**	P	**Pn**	**20 28 03.6**	**+1.2**
BSO4				*e*S	**Sn**	**20 28 34.9**	**+1.0**
JIM2	**Oshima 3**	**3.08**	**302**	P	**Pn**	**20 28 08.8**	**+0.2**
JOD2	**Odawara 2**	**3.61**	**307**	P	**Pn**	**20 28 15.7**	**-0.4**
JHO	**Hitachi**	**3.85**	**335**	P	**Pn**	**20 28 18.8**	**-0.7**
JYN	**Shimob**	**4.11**	**306**	P	**Pn**	**20 28 23.2**	**0.0**
MJAR	**Matsushiro Arr**	**4.97**	**314**	Pn	**Pn**	**20 28 35.6**	**+0.3**
	2.1nm,0.3s,baz=164,slow=13,SNR=18						
MJAR				Sn	**Sn**	**20 29 30.6**	**-2.0**
	3.4nm,0.3s,baz=138,slow=18,SNR=6.5						
MAJO	**Matsushiro**	**4.97**	**314**	*e*P	**Pn**	**20 28 32.8**	**-2.5**
	15nm,0.5s						
MAT	**Matsushiro**	**4.97**	**314**	P	**Pn**	**20 28 36.1**	**+0.8**
MAT				S	**Sn**	**20 29 30.6**	**-2.0**
MAT	**Matsushiro**	**4.97**	**314**	*e*P	**Pn**	**20 28 36.0**	**+0.7**
MAT				*e*S	**Sn**	**20 29 31.0**	**-1.6**
CBIJ	**Chichi jima**	**6.03**	**184**	Pn	**Pn**	**20 28 45.1**	**-5.1**
	8.8nm,0.3s,baz=270,slow=20,SNR=2.6						
CBIJ				Sn	**Sn**	**20 29 50.6**	**-8.6**
	14nm,0.3s,baz=282,slow=20,SNR=4.4						
ASAJ	**Asahikawa**	**10.97**	**360**	Pn	**P**	**20 29 56.4**	**-2.4**
	0.8nm,0.3s,baz=227,slow=18,SNR=6.6						
ASAJ				Sn	**S**	**20 31 51.9**	**-10**
	0.3nm,0.3s,baz=77,slow=19,SNR=2.3						
SONM	**Songino Array**	**30.90**	**309**	P	**P**	**20 33 37.7**	**+0.9**
	0.2nm,0.6s,mb3.2,baz=100,slow=8.8,SNR=2.7						
MKAR	**Makanchi Array**	**47.10**	**305**	P	**P**	**20 35 51.9**	**+0.1**
	0.5nm,0.7s,mb3.5,baz=100,slow=7.4,SNR=5.8						
KURK	**Kurchatov**	**49.17**	**311**	*e*P	**P**	**20 36 08.7**	**+0.9**
	2.0nm,0.7s,mb4.3						
ILAR	**Eielson Array**	**52.30**	**31**	P	**P**	**20 36 31.9**	**+0.5**
	0.6nm,0.6s,mb3.7,baz=258,slow=6.4,SNR=8.6						
WRA	**Warramunga Arr**	**53.37**	**190**	P	**P**	**20 36 39.1**	**-0.8**
	1.2nm,0.7s,mb3.9,baz=6.8,slow=7.6,SNR=17						
WRA				PcP	PcP	20 37 48.4	+1.3
	0.2nm,0.5s,baz=4.3,slow=4.2,SNR=4.5						
LPAZ	**La Paz**	**147.59**	**66**	PKPbc	PKPdf	20 47 03.5	-1.4
	0.5nm,0.3s,baz=282,slow=9.3,SNR=2.8						

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*IDC **24** 20:32:22.8±2.4,23.04N×94.85E,mb4.1/8,mb1 4.2/8, mb1mx3.9/20,mbtmp4.1/8,Error ellipse: s-maj=68.1km s-min=30.0km az=107.0*
*NEIC **24** 20:32:36.3±1.5,23.19N×94.55E,h99km±9km,mb3.9/3, Error ellipse: s-maj=20.1km s-min=10.1km az=175.0*
*BJI **24** 20:32:37.1,23.40N×94.42E,h83km,mb4.1,Ms4.2*
ISC 24 20:32:42.1±0.9,**23.44N**±0.08×**94.08E**±0.06,**h146**km±6km, **n30**,σ0º**82**/43,**mb3.9**/10,**Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**1.35**	**354**	*e*PN	**P**	**20 33 09.0**	**-1.2**
IMP				*i* x	x	20 33 27.0	
IMP				*e*SN	**S**	**20 33 33.0**	**+1.3**
GTK	**Gangtok**	**6.28**	**309**	*e*P	**S**	**20 35 25.0**	**+0.5**
CHG	**Chiang Mai**	**6.46**	**134**	PN	**P**	**20 34 15.2**	**-0.7**
CHG				SG	**S**	**20 35 38.4**	**+10**
LSA	**Lhasa**	**6.77**	**338**	P	**P**	**20 34 19.5**	**-0.6**
LSA				S	**S**	**20 35 35.0**	**-1.2**
LSA	**Lhasa**	**6.77**	**338**	*e*P	**P**	**20 34 19.8**	**-0.3**
	22nm,0.6s						
PKI	**Pulchoki**	**8.85**	**300**	*e*Pn	**P**	**20 34 48.4**	**+0.6**
PKI				*e*Sn	**S**	**20 36 26.3**	**+0.2**
	110nm,0.5s						
PKI	**Pulchoki**	**8.85**	**300**	*e*Pn	**P**	**20 34 48.4**	**+0.6**
	55nm,0.5s						
PKI				*e*Sn	**S**	**20 36 26.3**	**+0.2**
KKN	**Kakani**	**9.05**	**300**	*e*Pn	**P**	**20 34 51.1**	**+0.6**
KKN				*e*Sn	**S**	**20 36 31.1**	**+0.3**
	140nm,0.5s						
KKN	**Kakani**	**9.05**	**300**	*e*Pn	**P**	**20 34 51.1**	**+0.6**
	70nm,0.5s						
KKN				*e*Sn	**S**	**20 36 31.1**	**+0.3**
DMN	**Daman**	**9.11**	**299**	*e*Pn	**P**	**20 34 51.6**	**+0.3**
DMN				*e*Sn	**S**	**20 36 32.2**	**0.0**
	84nm,0.4s						
DMN	**Daman**	**9.11**	**299**	*e*Pn	**P**	**20 34 51.6**	**+0.3**
	42nm,0.4s						
DMN				*e*Sn	**S**	**20 36 32.2**	**0.0**
GKN	**Gorkha**	**9.65**	**300**	*e*Pn	**P**	**20 34 58.7**	**+0.2**
GKN				*e*Sn	**S**	**20 36 44.7**	**-0.5**
	136nm,0.3s						
GKN	**Gorkha**	**9.65**	**300**	*e*Pn	**P**	**20 34 58.7**	**+0.2**
	68nm,0.3s						
GKN				*e*Sn	**S**	**20 36 44.7**	**-0.5**
KOLN	**Koldanda**	**10.40**	**297**	*e*Pn	**P**	**20 35 08.4**	**+0.1**
KOLN				*e*Sn	**S**	**20 37 00.9**	**-1.9**
	92nm,0.4s						
KOLN	**Koldanda**	**10.40**	**297**	*e*Pn	**P**	**20 35 08.4**	**+0.1**
	46nm,0.4s						
KOLN				*e*Sn	**S**	**20 37 00.9**	**-1.9**
QIZ	**Qiongzhong**	**15.33**	**104**	*e*P	**P**	**20 36 06.4**	**-5.6**
ENH	**Enshi**	**15.34**	**60**	P	**P**	**20 36 04.8**	**-7.1**
	12nm,0.9s						
WMQ	**Urumqi**	**21.00**	**347**	*e*P	**P**	**20 37 15.3**	**+0.1**
AAK	**Ala-Archa**	**25.11**	**324**	*e*P	**P**	**20 37 57.4**	**+2.5**
	2.4nm,0.8s,mb3.8						
MKAR	**Makanchi Array**	**25.16**	**341**	P	**P**	**20 37 56.8**	**+1.5**
	9.9nm,0.5s,mb4.6,baz=147,slow=12,SNR=87						
SONM	**Songino Array**	**26.26**	**19**	P	**P**	**20 38 00.8**	**-4.6**
	0.3nm,0.5s,mb3.2,baz=202,slow=9.9,SNR=5.2						
KURK	**Kurchatov**	**29.77**	**340**	*e*P	**P**	**20 38 37.1**	**+0.1**
	1.8nm,0.8s,mb3.9						
ZAL	**Zalesovo**	**31.25**	**349**	P	**P**	**20 38 49.0**	**-1.0**
	2.1nm,0.4s,mb4.2,baz=282,slow=5.3,SNR=8.0						
BVAR	**Borovoye Array**	**34.59**	**335**	P	**P**	**20 39 19.3**	**+0.6**
	1.0nm,0.6s,mb3.6,baz=141,slow=9.5,SNR=9.2						
AKASG	**Malin Array Be**	**56.40**	**316**	P	**P**	**20 42 10.1**	**-0.3**
	0.7nm,0.6s,mb3.7,baz=79,slow=6.7,SNR=5.1						
JOF	**Joensuu**	**57.05**	**331**	*e*p	**P**	**20 42 14.5**	**-0.2**
KAF	**Kangasniemi**	**59.18**	**330**	*e*p	**P**	**20 42 29.4**	**-0.3**
FINES	**FINESS Array B**	**59.20**	**329**	P	**P**	**20 42 29.2**	**-0.5**
	0.3nm,0.4s,mb3.5,baz=72,slow=6.0,SNR=4.5						
ARCES	**ARCESS Array B**	**60.78**	**338**	P	**P**	**20 42 40.2**	**-0.3**
	3.5nm,1.0s,mb4.2,baz=98,slow=6.4,SNR=4.8						
BOSA	**Boshof**	**84.07**	**236**	P	**P**	**20 44 58.3**	**+0.3**
	3.1nm,0.6s,mb4.2,baz=58,slow=5.8,SNR=11						

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*BJI **24** 20:32:42.2,1.70N×127.01E,h10km,mB5.0,mb4.8,Ms4.6, Msz4.4*
*IDC **24** 20:32:47.4±0.6,2.42N×127.08E,mb4.5/22,mb1 4.6/22, mb1mx4.5/24,mbtmp4.5/22,MS3.7/3,Ms1 3.7/3, ms1mx3.3/20,Error ellipse: s-maj=26.9km s-min=11.8km az=85.0*
*HRVD **24** 20:32:48.8±0.6,2.65N×126.85E,h36km±2km,MW4.8/37, Centroid moment Tensor Solution. LP body waves: s7,c9; Mantle waves: s37,c60; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.47±.29; $M_{\theta\theta}$1.20±.16; $M_{\phi\phi}$-0.73±.17; $M_{r\theta}$0.58±.13; $M_{\theta\phi}$1.45±.10; $M_{\phi r}$0.07±.17; Best double couple: M=1.822×10^{16} NP1:ϕ_s16°,δ73°,λ180°. NP2: ϕ_s106°,δ90°,λ17°. Principal axes: T 2.091, Plg12°, Azm333°; N -.537, Plg73°, Azm106°; P -1.553, Plg12°, Azm240°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **24** 20:32:48.8±0.3,2.44N×127.13E,h10km,mb4.9/21 Error ellipse: s-maj=14.5km s-min=6.6km az=77.0*
ISC 24 20:32:52.9±1.0,**2.40N**±0.04×**126.99E**±0.08,**h53**km±8km, **n75**,σ1º**18**/77,**mb4.7**/44,**MS3.6**/4,**4C-2D**,**Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**4.19**	**331**	⇑*e*P	**P**	**20 33 56.0**	**0.0**
MATI	**Mati**	**4.58**	**351**	*e*P	**P**	**20 34 02.1**	**+0.7**
MATI				*e*S	**S**	**20 34 58.1**	**+4.3**
BUKP	**Musuan**	**5.78**	**341**	*e*P	**P**	**20 34 18.5**	**+0.5**
BIPH	**Bislig**	**5.78**	**354**	⇑*i*P	**P**	**20 34 16.9**	**-1.2**
BIPH				*i* S	**S**	**20 35 24.1**	**0.0**
PAGZ	**Pagadian**	**6.50**	**327**	*e*P	**P**	**20 34 27.8**	**-0.4**
BUTP	**Butuan**	**6.67**	**348**	*e*P	**P**	**20 34 31.2**	**+0.6**
IPIL	**Ipil**	**6.93**	**321**	*e*P	**P**	**20 34 33.3**	**-1.0**
IPIL				*e*S	**S**	**20 35 46.3**	**-6.2**
MSLP	**Maasin**	**7.97**	**345**	*e*P	**P**	**20 34 50.5**	**+1.8**
GUIM	**Jordan**	**9.27**	**332**	*e*P	**P**	**20 35 06.7**	**+0.2**
BATP	**Bataraza**	**11.14**	**305**	*e*P	**P**	**20 35 31.7**	**-0.4**
ENPP	**El Nido**	**11.53**	**320**	*e*P	**P**	**20 35 38.1**	**+0.7**
KAKA	**Kakadu**	**15.95**	**160**	*e*P	**P**	**20 36 49.8**	**+14**
	61nm,0.8s						
KSM	**Kuching**	**16.70**	**267**	*e*P	**P**	**20 36 47.8**	**+2.9**
FITZ	**Fitzroy Crossi**	**20.41**	**184**	*e*P	**P**	**20 37 26.8**	**-1.4**
	29nm,0.8s						
FITZ	**Fitzroy Crossi**	**20.41**	**184**	P	**P**	**20 37 27.0**	**-1.2**
	18nm,0.6s,baz=5.6,slow=7.7,SNR=20						
GUMO	**Guam**	**20.88**	**57**	LR	LR	20 45 13.7	
	comp=Z,65nm,18.2s,MS3.0,baz=288,slow=36						
YHNB	**Yeheng**	**22.80**	**347**	*e*P	**P**	**20 37 50.9**	**-1.2**
WRAB	**Tennant Creek**	**23.34**	**162**	*e*P	**P**	**20 37 57.4**	**0.0**
	75nm,0.8s,mb5.2						
WRA	**Warramunga Arr**	**23.34**	**162**	P	**P**	**20 37 56.3**	**-1.1**
	38nm,0.6s,mb5.0,baz=341,slow=11,SNR=180						
WRA				S	**S**	**20 42 04.1**	**+1.4**
	1.6nm,0.6s,baz=334,slow=19,SNR=5.0						
QIZ	**Qiongzhong**	**23.56**	**316**	⇑P	**P**	**20 38 00.0**	**+0.5**
JOW	**Kunigami**	**24.33**	**3**	P	**P**	**20 38 08.2**	**+1.3**
	29nm,0.8s,mb4.8,baz=192,slow=10,SNR=10						
GZH	**Guangzhou**	**24.46**	**328**	P	**P**	**20 38 10.3**	**+2.1**
JNU	**Nakatsue**	**30.78**	**6**	P	**P**	**20 39 05.3**	**-0.5**
	19nm,1.0s,mb4.9,baz=137,slow=9.1,SNR=4.6						
GYA	**Guiyang**	**30.88**	**323**	⇓*i*P	**P**	**20 39 06.8**	**+0.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.6						
ENH	**Enshi**	**32.31**	**331**	*e*P	**P**	**20 39 17.8**	**-1.4**
	comp=Z,20nm,0.8s,mb5.0						
KMI	**Kunming**	**32.51**	**316**	P	**P**	**20 39 21.5**	**+0.5**
KMI				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.6						
KMI	**Kunming**	**32.51**	**316**	P	**P**	**20 39 21.5**	**+0.5**
	comp=Z,10.0nm,1.2s,mb4.6						
KMI				pP	pP	20 39 42.4	+7.7
KMI				LR	LR		
	comp=Z,110nm,22.5s,MS3.5						
FORT	**Forrest**	**33.01**	**178**	*e*P	**P**	**20 39 23.0**	**-2.2**
	comp=Z,43nm,0.7s,mb5.5						
KLBR	**Kellerberrin**	**34.92**	**194**	*e*P	**P**	**20 39 41.6**	**-0.1**
	comp=Z,14nm,0.6s,mb5.1						
MJAR	**Matsushiro Arr**	**35.52**	**16**	P	**P**	**20 39 45.4**	**-1.3**
	comp=Z,4.8nm,0.8s,mb4.5,baz=175,slow=9.9,SNR=6.2						
MUN	**Mundaring**	**35.69**	**196**	*e*P	**P**	**20 39 49.0**	**+0.8**
CD2	**Chengdu**	**35.87**	**325**	P	**P**	**20 39 47.6**	**-2.2**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
NWAO	**Narrogin (SRO)**	**36.33**	**194**	P	**P**	**20 39 54.0**	**+0.4**
	comp=Z,15nm,0.7s,mb5.0,baz=49,slow=6.5,SNR=7.8						
STKA	**Stephens Creek**	**36.80**	**159**	⇑*i*P	**P**	**20 39 57.3**	**-0.3**
	comp=Z,34nm,0.8s,mb5.2						
STKA	**Stephens Creek**	**36.80**	**159**	P	**P**	**20 39 57.0**	**-0.6**
	comp=Z,48nm,0.8s,mb5.4,baz=332,slow=8.6,SNR=97						
SNY	**Shenyang**	**39.38**	**356**	⇓P	**P**	**20 40 22.3**	**+3.4**
SNY				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.2						
LZH	**Lanzhou**	**39.78**	**330**	*e*P	**P**	**20 40 22.5**	**+0.2**
LZH				AP	pP	20 40 32.5	-3.8
LZH				AMB	AMB		
	comp=Z,30nm,1.5s,mb4.8						
LZH	**Lanzhou**	**39.78**	**330**	*e*P	**P**	**20 40 22.5**	**+0.2**
	comp=Z,30nm,1.5s,mb4.8						
LZH				pP	pP	20 40 32.5	-3.8
LZH				sP	sP	20 40 36.5	-6.2
HHC	**Hu-ho-hao-te**	**40.74**	**342**	*e*P	**P**	**20 40 32.1**	**+1.9**
HHC				XP	sP	20 40 38.1	-12
HHC				PP	PP	20 42 09.1	+1.3
HHC				S	**S**	**20 46 43.8**	**+7.2**
HHC				SCS	ScS	20 50 35.3	+6.9
HHC				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.5						
MDJ	**Mudanjiang**	**42.10**	**3**	P	**P**	**20 40 42.5**	**+1.1**
MDJ				AMB	AMB		
	comp=Z,18nm,0.8s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,73nm,3.4s						
MDJ	**Mudanjiang**	**42.10**	**3**	*e*P	**P**	**20 40 42.5**	**+1.0**
	comp=Z,20nm,1.0s,mb4.7						
TOO	**Toolangi**	**43.31**	**158**	*e*P	**P**	**20 40 52.4**	**+1.0**
	comp=Z,7.1nm,1.2s,mb4.3						
LSA	**Lhasa**	**43.52**	**312**	*e*P	**P**	**20 40 52.4**	**-0.8**
	comp=Z,8.2nm,0.6s,mb4.6						
**

FITZ eS S 21 03 47.2 -13
FITZ Fitzroy Crossi 11.75 200 P P 21 01 46.3 -3.0
0.4nm,0.3s,baz=11,slow=11,SNR=12
FITZ S S 21 03 45.5 -14
1.9nm,0.3s,baz=5.3,slow=24,SNR=3.7
WRA Warramunga Arr 13.62 161 P P 21 02 13.3 -0.8
1.1nm,0.3s,baz=341,slow=14,SNR=55
WRA S S 21 04 35.3 -9.3
3.1nm,0.3s,baz=325,slow=23,SNR=15
STKA Stephens Creek 27.11 157 P P 21 04 39.7 -2.1
0.7nm,0.4s,baz=345,slow=12,SNR=4.3
MKAR Makanchi Array 68.09 327 P P 21 09 56.0 -2.0
0.3nm,0.5s,baz=129,slow=7.8,SNR=4.5

*IDC **24** 21:22:37.1±1.6,20.30S×68.71W,h115km±16km,mb3.3/1, mb1 3.5/5,mb1mx3.4/18,mbtmp3.8/5,Error ellipse: s-maj=39.4km s-min=14.4km az=106.0*
ISC 24 21:22:36.5±1.1,20.30S±0.06×68.7W±0.2,h124km±16km, n7,σ0§35/7,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.31**	**184**	P	**P**	**21 23 14.4**	**-0.3**
	33nm,0.3s,baz=25,slow=11,SNR=209						
LVC				S	**S**	**21 23 43.7**	**+0.1**
	37nm,0.3s,baz=334,slow=8.6,SNR=7.8						
LPAZ	**La Paz**	**4.03**	**8**	P	**P**	**21 23 37.6**	**+0.1**
	1.7nm,0.3s,baz=200,slow=6.4,SNR=30						
LPAZ				S	**S**	**21 24 24.4**	**+0.1**
	0.3nm,0.3s,baz=280,slow=12,SNR=1.7						
SIV	**San Ignacio**	**8.45**	**61**	P	**P**	**21 24 36.7**	**-0.4**
	1.4nm,0.3s,baz=257,slow=10,SNR=31						
CPUP	**Villa Florida**	**12.07**	**122**	P	**P**	**21 25 25.7**	**+0.4**
	0.2nm,0.3s,baz=313,slow=14,SNR=3.0						
PLCA	**Paso Flores**	**20.43**	**184**	P	**P**	**21 27 05.7**	**0.0**
	2.7nm,0.8s,baz=24,slow=16,SNR=6.9						
MKAR	**Makanchi Array**	**144.56**	**35**	PKP	PKPdf	21 41 59.1	+1.1
	0.2nm,0.5s,baz=316,slow=2.2,SNR=5.2						
SONM	**Songino Array**	**152.25**	**7**	PKPbc	PKPdf	21 42 19.2	+8.9
	0.2nm,0.4s,baz=1.8,slow=0.5,SNR=5.6						

*MEX **24** 21:25:22.4±1.4, 13.75N×92.26W,h14km±254km,MD4.7*
*CASC **24** 21:25:22.7±2.7, 14.05N×91.84W,MD4.4,mb4.5(NEIC)*
*BJI **24** 21:25:25.5,14.10N×91.70W,h66km,mB5.4,Ms5.1, Msz5.0*
*NEIC **24** 21:25:25.6±0.9, 14.09N×91.66W,h66km±8km,mb4.5/23, MD4.7(MEX),Error ellipse: s-maj=8.2km s-min=5.0km az=50.0*
*IDC **24** 21:25:27.5±3.9, 14.19N×91.58W,h81km±35km,mb4.0/17, mb1 4.2/18,mb1mx4.1/24,mbtmp4.3/18,MS3.8/15, Ms1 3.8/15,ms1mx3.7/27,Error ellipse: s-maj=27.0km s-min=9.8km az=57.0*
ISC 24 21:25:23.7±0.6,14.03N±0.05×91.96W±0.04,h64km±5km, n110,σ1§35/106,mb4.4/34,5C-5D,Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**1.16**	**69**	⇓iP	**P**	**21 25 43.5**	**-0.8**
TP2	**Tecpan 2**	**1.18**	**51**	⇓eP	**P**	**21 25 44.5**	**0.0**
PCG	**Pacaya**	**1.36**	**75**	eP	**P**	**21 25 46.7**	**-0.5**
IXG	**Ixpaco**	**1.47**	**84**	eP	**P**	**21 25 47.2**	**-1.5**
IXG				eS	**S**	**21 26 08.3**	**+1.2**
RBDL	**Robledal**	**2.21**	**88**	⇓eP	**P**	**21 26 12.7**	**+14**
RBDL				eS	**S**	**21 26 41.1**	**+16**
CCIG	**Comitan**	**2.24**	**356**	eP	**P**	**21 25 59.6**	**+0.3**
CCIG				i S	**S**	**21 26 29.0**	**+3.2**
RTR	**El Retiro**	**2.25**	**93**	⇑eP	**P**	**21 26 20.3**	**+21**
RTR				eS	S	21 26 49.5	+23
SBLS	**San Blas**	**2.28**	**95**	⇑eP	**P**	**21 26 20.7**	**+21**
SBLS				eS	S	21 26 49.9	+23
SNJE	**San Jose**	**2.29**	**94**	⇑eP	**P**	**21 26 20.7**	**+21**
SNJE				eS	S	21 26 52.2	+25
MRL	**Marmol**	**2.43**	**65**	⇓eP	**P**	**21 26 02.4**	**+0.4**
BOQS	**Boqueron**	**2.62**	**96**	eP	**P**	**21 26 25.4**	**+21**
BOQS				eS	S	21 27 00.1	+25
SCX	**San Cristobal**	**2.77**	**347**	i P	**P**	**21 26 08.5**	**+1.8**
SCX				i S	**S**	**21 26 43.0**	**+4.0**
LFRS	**El Faro**	**2.85**	**98**	⇑eP	**P**	**21 26 28.4**	**+21**
LFRS				eS	S	21 27 05.2	+24
LBRS	**Las Brisas**	**2.85**	**96**	eP	**P**	**21 26 29.0**	**+21**
LBRS				eS	**S**	**21 27 03.9**	**+23**
LCBS	**La Ceiba**	**2.92**	**97**	⇑eP	**P**	**21 26 29.8**	**+21**
LCBS				eS	S	21 27 06.6	+24
VSM	**San Miguel**	**3.63**	**99**	eP	**P**	**21 26 39.9**	**+21**
VSM				eS	S	21 27 25.4	+25
CNCH	**Conchagua**	**4.08**	**100**	⇓eP	**P**	**21 26 47.1**	**+22**
CNCH				eS	S	21 27 37.8	+26
CMIG	**Matias Romero**	**4.14**	**318**	eP	**P**	**21 26 22.6**	**-3.4**
CMIG				i S	**S**	**21 27 10.3**	**-3.3**
HUIG	**Huatulco**	**4.36**	**294**	eP	**P**	**21 26 28.1**	**-1.0**
HUIG				i S	**S**	**21 27 12.1**	**-7.0**
TUIG	**Tuzandepetl**	**4.63**	**330**	i S	**S**	**21 27 24.5**	**-1.3**
TEL3	**Telica 3**	**5.19**	**106**	eP	**P**	**21 26 40.9**	**+0.3**
LEON	**Leon**	**5.19**	**107**	eP	**P**	**21 26 41.1**	**+0.4**
MIRN	**Miramar**	**5.35**	**107**	eP	**P**	**21 26 43.1**	**+0.3**
EVV	**El Vigia**	**5.47**	**324**	eP	**P**	**21 26 43.2**	**-1.2**
EVV				i S	**S**	**21 27 45.5**	**-1.3**
OXX	**Oaxaca**	**5.50**	**304**	eP	**P**	**21 26 45.0**	**+0.2**
OXX				i S	**S**	**21 27 43.0**	**-4.5**
VHO	**Vista Hermosa**	**5.50**	**304**	eP	**P**	**21 26 41.1**	**-3.8**
VHO				i S	**S**	**21 27 42.4**	**-5.2**
MGAN	**Managua**	**5.88**	**108**	eP	**P**	**21 26 50.9**	**+0.8**
CRUN	**El Crucero**	**5.88**	**110**	eP	**P**	**21 26 52.3**	**+2.2**
PPM	**Popocatepetl**	**8.12**	**309**	eP	**P**	**21 27 23.0**	**+1.8**
ACX	**Acapulco**	**8.17**	**291**	eP	**P**	**21 27 19.0**	**-2.9**
UNM	**Universidad Na**	**8.69**	**308**	eP	**P**	**21 27 28.0**	**-1.0**
LTX	**Lajitas**	**18.69**	**326**	eP	**P**	**21 29 40.1**	**+0.8**
	14nm,0.9s						
TXAR	**Lajitas Array**	**18.69**	**326**	P	**P**	**21 29 40.2**	**+0.9**
	0.4nm,0.3s,baz=153,slow=11,SNR=30						
LRAL	**Lakeview Retre**	**19.45**	**13**	eP	**P**	**21 29 46.7**	**-1.0**
	22nm,0.9s						
ROSC	**El Rosal**	**19.62**	**116**	P	**P**	**21 29 51.3**	**+1.6**
	2.0nm,0.3s,baz=96,slow=22,SNR=10						
OXF	**Oxford**	**20.52**	**6**	P	**P**	**21 29 57.5**	**-1.5**
	55nm,1.1s						
UALR	**University of**	**20.66**	**359**	eP	**P**	**21 29 59.9**	**-0.5**
	24nm,0.8s						
GOGA	**Godfrey**	**20.78**	**20**	eP	**P**	**21 30 00.9**	**-0.9**
	31nm,0.9s						
MNTX	**Cornudas Mount**	**21.46**	**327**	eP	**P**	**21 30 08.5**	**0.0**
	24nm,0.8s,mb4.6						
SDV	**Santo Domingo**	**21.52**	**101**	P	**P**	**21 30 07.6**	**-1.6**
	3.9nm,0.4s,mb4.2,baz=337,slow=7.7,SNR=3.8						
SDV	**Santo Domingo**	**21.52**	**101**	eP	**P**	**21 30 06.9**	**-2.3**
	11nm,0.8s,mb4.3						
SWET	**Sewanee**	**21.78**	**13**	eP	**P**	**21 30 10.2**	**-1.5**
MYNC	**Murphy**	**22.11**	**17**	P	**P**	**21 30 15.5**	**+0.5**
WVT	**Waverly**	**22.32**	**9**	eP	**P**	**21 30 15.8**	**-1.1**
	17nm,0.6s,mb4.6						
CPCT	**Cooper Cave**	**22.35**	**16**	eP	**P**	**21 30 16.7**	**-0.7**
CCM	**Cathedral Cave**	**23.93**	**1**	eP	**P**	**21 30 31.6**	**-1.1**
	11nm,0.7s,mb4.4						
SLM	**Saint Louis**	**24.55**	**3**	eP	**P**	**21 30 38.4**	**-0.4**
ANMO	**Albuquerque**	**24.59**	**330**	P	**P**	**21 30 40.9**	**+1.7**
	15nm,0.7s,mb4.6,baz=147,slow=12,SNR=41						
ANMO				LR	LR	21 41 45.1	
	comp=Z,82nm,19.8s,slow=40						
ANMO	**Albuquerque**	**24.59**	**330**	eP	**P**	**21 30 40.3**	**+1.1**
	15nm,0.7s,mb4.6						
WCI	**Wyandotte Cave**	**24.62**	**11**	eP	**P**	**21 30 38.2**	**-1.2**
	24nm,0.8s,mb4.8						
TUC	**Tucson**	**25.03**	**320**	eP	**P**	**21 30 44.2**	**+0.8**
	2.4nm,0.8s,mb3.8						
SJG	**San Juan**	**25.12**	**77**	LR	LR	21 40 20.6	
	comp=Z,250nm,21.6s,baz=270,slow=36						
ELN	**Prospectdale**	**25.17**	**21**	eP	**P**	**21 30 43.4**	**-1.3**
FWV	**Forest Hill**	**25.47**	**21**	eP	**P**	**21 30 46.4**	**-1.0**
SDCO	**Great Sand Dun**	**26.51**	**335**	eP	**P**	**21 30 58.3**	**+1.3**
	3.3nm,0.9s,mb3.9						
ACSO	**Alum Creek Sta**	**27.26**	**15**	eP	**P**	**21 31 01.5**	**-2.4**
	7.3nm,0.7s,mb4.3						
PV01	**Paradox Valley**	**28.17**	**331**	eP	**P**	**21 31 13.5**	**+1.4**
NEN	**Nelson**	**29.77**	**320**	eP	**P**	**21 31 27.1**	**+0.6**
MSU	**Marysvale**	**30.24**	**327**	eP	**P**	**21 31 32.9**	**+2.3**
TMUT	**Trail Mountain**	**30.34**	**330**	eP	**P**	**21 31 32.5**	**+1.0**
ARUT	**Antelope Range**	**30.39**	**325**	eP	**P**	**21 31 33.7**	**+1.7**
BINY	**Binghamton**	**31.29**	**23**	eP	**P**	**21 31 38.0**	**-1.8**
	14nm,0.8s,mb4.8						
PDAR	**Pinedale Array**	**32.41**	**335**	P	**P**	**21 31 49.5**	**-0.1**
	1.0nm,0.6s,mb3.9,baz=135,slow=8.4,SNR=7.4						
PDAR				PcP	PcP	21 34 35.5	-0.4
	1.1nm,0.5s,baz=135,slow=6.3,SNR=5.9						
BGU	**Big Grassy Mou**	**32.49**	**330**	eP	**P**	**21 31 51.4**	**+1.1**
SADO	**Sadowa**	**32.52**	**17**	P	**P**	**21 31 47.8**	**-2.8**
	5.2nm,0.7s,mb4.6,baz=230,slow=8.6,SNR=6.2						
SADO				PcP	PcP	21 34 34.9	-1.2
	3.8nm,0.6s,baz=234,slow=13,SNR=4.4						
HVU	**Hansel Valley**	**33.02**	**331**	eP	**P**	**21 31 56.0**	**+1.0**
SNOW	**Snow King Moun**	**33.47**	**335**	eP	**P**	**21 32 00.0**	**+1.2**
	30nm,0.9s,mb5.2						
ELK	**Elko**	**33.48**	**327**	P	**P**	**21 32 00.5**	**+1.5**
	6.7nm,0.7s,mb4.7,baz=131,slow=9.3						
ELK				PcP	PcP	21 34 39.4	+0.6
	1.7nm,0.8s,baz=63,slow=0.9,SNR=5.0						
ELK				LR	LR	21 47 12.9	
	comp=Z,212nm,19.6s,baz=342,slow=39						
ELK	**Elko**	**33.48**	**327**	P	**P**	**21 32 00.5**	**+1.5**
ELK				PcP	PcP	21 34 39.4	+0.6
ELK				LR	LR	21 47 12.9	
NVAR	**Mina Array Bea**	**33.67**	**321**	P	**P**	**21 32 02.6**	**+2.1**
	baz=139,slow=8.3						
HLID	**Hailey**	**35.16**	**331**	eP	**P**	**21 32 14.2**	**+1.0**
	5.6nm,0.8s,mb4.5						
MCMT	**McKenzie Canyo**	**35.46**	**334**	eP	**P**	**21 32 17.6**	**+1.8**
BOZ	**Bozeman (W)**	**35.63**	**336**	eP	**P**	**21 32 17.3**	**+0.1**
	3.7nm,0.8s,mb4.4						
DLMT	**Dillon**	**35.78**	**335**	eP	**P**	**21 32 19.0**	**+0.4**
BEKR	**Beckwourth**	**35.81**	**321**	eP	**P**	**21 32 20.5**	**+1.6**
	4.6nm,0.9s,mb4.4						
ULM	**Lac du Bonnet**	**36.26**	**356**	LR	LR	21 51 07.6	
	comp=Z,82nm,18.5s,baz=115,slow=43						
WVOR	**Wild Horse Val**	**36.48**	**326**	eP	**P**	**21 32 25.1**	**+0.7**
	7.0nm,0.8s,mb4.6						
SAML	**Samuel**	**36.56**	**127**	eP	**P**	**21 32 23.4**	**-2.0**
	1.9nm,0.6s,mb4.1						
BMO	**Blue Mountains**	**37.51**	**330**	eP	**P**	**21 32 33.1**	**+0.1**
	5.7nm,1.0s,mb4.3						
LPAZ	**La Paz**	**38.24**	**141**	P	**P**	**21 32 40.1**	**+0.8**
	1.4nm,0.5s,mb3.9,baz=306,slow=7.1,SNR=10.0						
LPAZ				LR	LR	21 48 03.5	
	comp=Z,85nm,20.0s,baz=104,slow=36						
LPAZ	**La Paz**	**38.24**	**141**	eP	**P**	**21 32 39.5**	**+0.1**
YBH	**Yreka Blue Hor**	**38.36**	**322**	LR	LR	21 50 20.5	
	comp=Z,148nm,19.9s,baz=146,slow=39						
NEW	**Newport**	**39.98**	**334**	P	**P**	**21 32 53.8**	**+0.3**
	2.5nm,0.6s,mb4.2,baz=132,slow=18,SNR=2.3						
NEW				LR	LR	21 52 10.7	
	comp=Z,121nm,18.3s,baz=339,slow=40						
EDM	**Edmonton**	**42.62**	**341**	eP	**P**	**21 33 14.4**	**-0.7**
SIV	**San Ignacio**	**42.69**	**133**	P	**P**	**21 33 15.7**	**-0.5**
	3.3nm,0.8s,mb4.1,baz=312,slow=9.1,SNR=20						
SIV				PcP	PcP	21 35 06.8	-0.9
	1.1nm,0.7s,baz=307,slow=5.1,SNR=2.4						
PGC	**Sidney**	**43.18**	**330**	eP	**P**	**21 33 20.8**	**+1.0**
	25nm,0.8s,mb5.0						
SCHQ	**Schefferville**	**45.18**	**20**	P	**P**	**21 33 33.5**	**-2.2**
	2.4nm,0.7s,mb4.1,baz=244,slow=3.3,SNR=6.6						
CFAA	**Coronel Fontan**	**50.77**	**154**	P	**P**	**21 34 19.1**	**-0.5**
	0.1nm,0.3s,mb3.2,baz=9.6,slow=4.5,SNR=16						
YKA	**Yellowknife Ar**	**51.00**	**347**	P	**P**	**21 34 19.5**	**-1.4**
	5.3nm,0.7s,mb4.6,baz=146,slow=7.4,SNR=11						
YKA				PcP	PcP	21 35 35.4	-1.0
	3.5nm,0.8s,baz=148,slow=4.2,SNR=4.9						
CPUP	**Villa Florida**	**52.38**	**140**	P	**P**	**21 34 29.5**	**-2.3**
	2.3nm,0.7s,mb4.2,baz=352,slow=10,SNR=5.7						
CPUP				LR	LR	21 58 07.2	
	comp=Z,75nm,18.1s,baz=108,slow=38						
CPUP	**Villa Florida**	**52.38**	**140**	eP	**P**	**21 34 29.5**	**-2.3**
BDFB	**Brasilia**	**52.51**	**123**	P	**P**	**21 34 29.1**	**-3.7**
	2.2nm,0.6s,mb4.3,baz=132,slow=1.1,SNR=3.7						
BDFB				LR	LR	21 58 14.5	
	comp=Z,70nm,20.3s,baz=292,slow=38						
DLBC	**Dease Lake**	**52.64**	**336**	LR	LR	22 00 10.5	
	comp=Z,88nm,19.0s,baz=89,slow=40						
DLBC	**Dease Lake**	**52.64**	**336**	eP	**P**	**21 34 34.4**	**+1.1**
PLCA	**Paso Flores**	**57.99**	**161**	P	**P**	**21 35 11.9**	**-0.2**
	0.6nm,0.6s,mb3.8,baz=300,slow=4.7,SNR=3.7						
PLCA				LR	LR	21 56 12.3	
	comp=Z,99nm,18.4s,baz=12,slow=32						
INK	**Inuvik**	**60.42**	**344**	LR	LR	22 05 57.4	
	comp=Z,96nm,18.7s,baz=91,slow=40						
ILAR	**Eielson Array**	**62.82**	**337**	P	**P**	**21 35 44.1**	**-0.6**
	9.8nm,1.0s,mb4.9,baz=124,slow=4.8,SNR=48						
ILAR				PcP	PcP	21 36 22.1	-0.3
	1.5nm,0.7s,baz=138,slow=2.8,SNR=6.1						
RSO	**Redoubt South**	**63.64**	**331**	eP	**P**	**21 35 49.5**	**-0.6**
PPT	**Papeete**	**64.94**	**243**	LR	LR	21 55 42.0	
	comp=Z,84nm,20.4s,baz=85,slow=28						
NOA	**NORSAR Array B**	**84.10**	**28**	P	**P**	**21 37 48.6**	**+0.1**
	1.9nm,0.8s,mb4.2,baz=290,slow=5.2,SNR=4.0						
NOA				LR	LR	22 14 16.9	
	comp=Z,78nm,19.7s,baz=280,slow=35						
DBIC	**Dimbokro**	**85.61**	**84**	P	**P**	**21 37 56.9**	**-0.3**
	9.2nm,1.2s,mb4.9,baz=274,slow=13,SNR=3.2						
ARCES	**ARCESS Array B**	**86.10**	**18**	P	**P**	**21 37 57.1**	**-1.1**
	2.0nm,0.7s,mb4.4,baz=293,slow=9.2,SNR=4.5						
ARCES				LR	LR	22 15 58.3	
	comp=Z,75nm,18.3s,baz=258,slow=35						
SONM	**Songino Array**	**116.27**	**346**	PKP	PKPdf	21 44 01.3	+1.4
	0.3nm,0.7s,baz=335,slow=1.4,SNR=4.1						
MKAR	**Makanchi Array**	**119.24**	**5**	PKP	PKPdf	21 44 06.3	+0.7
	0.3nm,0.5s,baz=319,slow=3.2,SNR=6.7						
BOSA	**Boshof**	**120.34**	**115**	PKP	PKPdf	21 44 10.4	+2.2
	2.6nm,0.8s,baz=5.9,slow=3.0,SNR=5.0						
WMQ	**Urumqi**	**122.43**	**0**	ePKP	PKPdf	21 44 10.0	-1.9
NJ2	**Nanjing**	**125.49**	**328**	ePKP	PKPdf	21 44 23.1	+4.9
NJ2				PP	PP	21 46 20.0	+5.8
NJ2				PKS	PKS	21 47 58.0	+4.1
NJ2				PP	PP		
	comp=Z,460nm,7.9s						
NJ2				LR	LR		
	comp=N,700nm,24.2s						
NJ2				LR	LR		
	comp=E,550nm,24.5s						
NJ2				LR	LR		
	comp=Z,1μm,26.7s						
STKA	**Stephens Creek**	**128.10**	**240**	PKP	PKPdf	21 44 24.9	+1.6
	comp=Z,1.7nm,0.9s,baz=336,slow=1.8,SNR=5.2						
WRA	**Warramunga Arr**	**135.44**	**256**	PKP	PKPdf	21 44 38.7	+1.4
	comp=Z,0.6nm,0.6s,baz=89,slow=2.2,SNR=10						
FITZ	**Fitzroy Crossi**	**143.68**	**258**	PKP	PKPdf	21 44 52.4	+0.2
	comp=Z,3.9nm,0.6s,baz=199,slow=3.7,SNR=5.1						

*NEIC **24** 21:32:41.5, 38.75N×0.59W,h18km,ML2.6(LDG), MN2.4(MDD),After MDD.*
*CSEM **24** 21:32:41.2±0.1, 38.79N×0.69W,h10km,ML2.8/18,Error ellipse: s-maj=3.4km s-min=2.0km az=139.0*
*LDG **24** 21:32:44.6±0.7, 38.86N×0.43W,h5km,Ml2.6/3,Error ellipse: s-maj=18.2km s-min=10.8km az=107.0*
MDD 24 21:32:41.6±0.2,38.75N×0.60W,h14km±4km,mbLg2.4/17, 5C-1D,Error ellipse: s-maj=3.7km s-min=2.2km az=171.0,PRXIMO,Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EBEN	**Beniarda**	**0.30**	**98**	Pg	Pg	21 32 47.5	-0.6
	29nm,0.2s,SNR=62						
EBEN				Lg		21 32 52.2	
	277nm,0.4s,SNR=5.0						
EBEN	**Beniarda**	**0.30**	**98**	Pg	Pg	21 32 47.5	-0.6
	29nm,0.2s,SNR=62						
EBEN				Lg		21 32 52.2	
	277nm,0.4s,SNR=5.0						
ETOB	**Tobarra**	**0.75**	**262**	⇑Pg	Pg	21 32 55.2	-1.6
	38nm,0.1s,SNR=18						
ETOB				Lg		21 33 06.0	
	87nm,0.2s,SNR=25						
ETOB	**Tobarra**	**0.75**	**262**	Pg	Pg	21 32 55.2	-1.5
	38nm,0.1s,SNR=18						
ETOB	**Tobarra**	**0.75**	**262**	⇑Pg	Pg	21 32 55.2	-1.6
ETOB				Lg		21 33 06.7	
ECHE	**Chera**	**0.89**	**341**	⇓Pg	Pg	21 32 57.8	-1.7
	30nm,0.2s,SNR=18						
ECHE				Lg		21 33 10.5	
	36nm,0.2s,SNR=14						
EMUR	**La Murta**	**1.03**	**209**	Pg	Pg	21 33 00.5	-1.8
	14nm,0.2s,SNR=42						
EMUR				Lg		21 33 14.0	
	51nm,0.3s,SNR=21						
EMUR	**La Murta**	**1.03**	**209**	Pg	Pg	21 33 00.5	-1.9
	14nm,0.2s,SNR=42						
CART	**Cartagena**	**1.20**	**195**	eP	Pb	21 33 02.2	-1.4
CART	**Cartagena**	**1.20**	**195**	eP	Pb	21 33 02.1	-1.5
EVIA	**Vianos**	**1.49**	**266**	⇑Pg	Pg	21 33 06.9	-4.5
	14nm,0.3s,SNR=18						
EVIA				Sn	Sn	21 33 26.1	-1.3
	10.0nm,0.2s,SNR=6.8						
EVIA				Lg		21 33 28.8	
	67nm,0.6s,SNR=7.9						
EIBI	**Ibiza**	**1.54**	**79**	Pn	Pn	21 33 07.5	-1.3
	5.8nm,0.3s,SNR=7.9						
EIBI				Pg	Pg	21 33 08.9	-3.6
	2.9nm,0.2s,SNR=7.9						
EIBI				Lg		21 33 28.8	
	20nm,0.4s,SNR=7.9						
EIBI	**Ibiza**	**1.54**	**79**	Pg	Pg	21 33 07.8	-4.7
EIBI				Lg		21 33 28.3	
EMOS	**Mosqueruela**	**1.62**	**4**	Pg	Pg	21 33 09.8	-4.2
	0.8nm,0.1s,SNR=16						
EMOS				Lg		21 33 30.6	
	7.7nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**1.62**	**4**	Pg	Pg	21 33 09.8	-4.2
	0.8nm,0.1s,SNR=16						
EMOS				Sn	Sn	21 33 28.2	-2.5
	6.6nm,0.2s,SNR=7.3						
EMOS	**Mosqueruela**	**1.62**	**4**	Pg	Pg	21 33 09.8	-4.2
EMOS				Sn	Sn	21 33 28.2	-2.5
EMOS				Lg		21 33 30.6	
EHUE	**Huescar**	**1.82**	**240**	Pn	Pn	21 33 12.3	-0.6
	16nm,0.2s,SNR=20						
EHUE	**Huescar**	**1.82**	**240**	Pg	Pg	21 33 12.4	-5.7
	16nm,0.2s,SNR=20						
EHUE				Sn	Sn	21 33 34.0	-1.9
	2.3nm,0.2s,SNR=5.0						
EHUE	**Huescar**	**1.82**	**240**	Pg	Pg	21 33 12.4	-5.7
EHUE				Sn	Sn	21 33 34.0	-1.9
EQES	**Quesada**	**2.16**	**245**	Pn	Pn	21 33 16.8	-0.9
	2.7nm,0.2s,SNR=27						
EQES				Sn	Sn	21 33 41.6	-2.9
	3.0nm,0.2s,SNR=5.0						
EQES				Lg		21 33 47.9	
	13nm,0.3s,SNR=7.9						
EQES	**Quesada**	**2.16**	**245**	Pn	Pn	21 33 16.8	-0.9
	2.7nm,0.2s,SNR=27						
EQES				Sn	Sn	21 33 40.0	-4.4
	3.0nm,0.2s,SNR=5.0						
EQES	**Quesada**	**2.16**	**245**	Pn	Pn	21 33 16.8	-0.9
EQES				Sn	Sn	21 33 40.0	-4.4
EQES				Lg		21 33 48.0	
ERTA	**Horta de San J**	**2.32**	**18**	Pn	Pn	21 33 18.8	-1.3
	1.0nm,0.2s,SNR=5.6						
ERTA				Sn	Sn	21 33 44.0	-4.5
	1.8nm,0.2s,SNR=5.0						
ERTA				Lg		21 33 52.6	
	8.8nm,0.4s,SNR=7.9						
ERTA	**Horta de San J**	**2.32**	**18**	Pn	Pn	21 33 18.8	-1.2
	1.0nm,0.2s,SNR=5.6						
ERTA				Sn	Sn	21 33 44.0	-4.5
	1.8nm,0.2s,SNR=5.0						
EBAN	**Banos Encina**	**2.57**	**258**	⇑Pn	Pn	21 33 21.4	-2.1
	7.0nm,0.1s,SNR=18						
EBAN				Pg	Pg	21 33 27.4	-5.5
	5.4nm,0.2s,SNR=7.9						
EBAN				Sn	Sn	21 33 50.0	-4.7
	4.3nm,0.2s,SNR=7.9						
EBAN				Lg		21 34 01.0	
	5.3nm,0.2s,SNR=5.0						
EBAN	**Banos Encina**	**2.57**	**258**	Pg	Pg	21 33 27.4	-5.5
	5.4nm,0.2s,SNR=7.9						
EBAN				Sn	Sn	21 33 49.5	-5.3
	4.3nm,0.2s,SNR=7.9						
EBAN	**Banos Encina**	**2.57**	**258**	⇑Pn	Pn	21 33 21.4	-2.1
EBAN				Pg	Pg	21 33 27.4	-5.5
EBAN				Sn	Sn	21 33 49.5	-5.2
EBAN				Lg		21 34 01.0	
EBER	**Berja**	**2.59**	**225**	Pg	Pg	21 33 27.1	-6.2
	0.3nm,0.1s,SNR=5.9						
EBER	**Berja**	**2.59**	**225**	Sn	Sn	21 33 51.4	-3.9
	1.1nm,0.3s						
EBER	**Berja**	**2.59**	**225**	Pg	Pg	21 33 25.3	-8.0
EBER				Sn	Sn	21 33 51.4	-3.8
EQUE	**Quentar**	**2.72**	**236**	Pn	Pn	21 33 23.9	-1.8
	0.3nm,0.2s,SNR=7.9						
EQUE				Lg		21 34 06.5	
	5.7nm,0.4s,SNR=7.9						
ESDC	**Sonseca Array**	**2.77**	**291**	Pn	Pn	21 33 24.2	-2.2
	2.5nm,0.1s,baz=106,slow=14,SNR=14						
ESDC				Pg	Pg	21 33 30.2	-6.7
	2.0nm,0.3s,SNR=7.9						
ESDC				Sn	Sn	21 33 56.5	-3.5
	3.7nm,0.4s,SNR=7.9						
ESDC				Lg		21 34 06.6	
	11nm,0.3s,SNR=7.9						
ESDC	**Sonseca Array**	**2.77**	**291**	Pn	Pn	21 33 24.2	-2.2
	0.4nm,0.2s

EPF			*e*Sg		Sg	21 34 54.6	-12
	3.4nm,0.5s						
SJPF	**Ste Jean**	**4.39 354**	*e*Pn		Pn	21 33 48.2	-1.2
SJPF			*e*Pg		Pg	21 34 04.5	-4.7
SJPF			*e*Sn		Sn	21 34 36.4	-4.5
SJPF			*e*Sg		Sg	21 34 57.9	-10
	3.6nm,0.4s						
SJPF	**Ste Jean**	**4.39 354**	Pn		Pn	21 33 48.2	-1.2
SJPF			Lg			21 34 57.9	
	1.8nm,0.4s						
ESPR	**Espera**	**4.56 247**	Pn		Pn	21 33 48.9	-3.0
	0.5nm,0.2s,SNR=4.8						
ESPR	**Espera**	**4.56 247**	Pn		Pn	21 33 48.9	-3.0
	0.5nm,0.2s,SNR=4.8						
EMIN	**Mina Concepcio**	**4.88 260**	Pn		Pn	21 33 51.9	-4.5
	0.4nm,0.3s,SNR=7.9						
EMIN			Sn		Sn	21 34 45.9	-7.3
	0.9nm,0.3s,SNR=7.9						
EMIN			Lg			21 35 10.6	
	0.3nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.88 260**	Pn		Pn	21 33 51.9	-4.5
	0.4nm,0.3s,SNR=7.9						
EMIN			Sn		Sn	21 34 45.9	-7.3
	0.9nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.88 260**	Pn		Pn	21 33 51.9	-4.5
EMIN			Sn		Sn	21 34 45.9	-7.3
EMIN			Lg			21 35 12.0	
EBAD	**Badajoz**	**5.01 272**	Pn		Pn	21 33 54.2	-4.0
	0.5nm,0.1s,SNR=7.9						
EBAD			Sn		Sn	21 34 48.8	-7.9
	1.9nm,0.2s,SNR=7.9						
EBAD			Lg			21 35 16.3	
	3.1nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**5.01 272**	Pn		Pn	21 33 54.2	-4.1
	0.5nm,0.1s,SNR=7.9						
EBAD			Sn		Sn	21 34 48.8	-7.8
	1.9nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**5.01 272**	Pn		Pn	21 33 54.2	-4.0
EBAD			Sn		Sn	21 34 48.8	-7.9
EBAD			Lg			21 35 16.7	
MTLF	**Montolieu**	**5.06 24**	*e*Sg		Sg	21 35 18.8	-11
	2.1nm,0.5s						
PCBR	**Castelo Branco**	**5.45 284**	*e*Sg		Sg	21 35 32.0	-11
	2.7nm,0.4s						
PCBR	**Castelo Branco**	**5.45 284**	*e*Sg		Sg	21 35 32.0	-11
	2.7nm,0.4s						
PBRG	**Braganca**	**5.60 305**	*e*Sg		Sg	21 35 36.1	-12
	3.1nm,0.5s						
PBRG	**Braganca**	**5.60 305**	*e*Sg		Sg	21 35 36.1	-12
	3.1nm,0.5s						
MTE	**Manteigas**	**5.61 289**	*e*Sg		Sg	21 35 37.2	-11
	4.9nm,0.3s						
MTE	**Manteigas**	**5.61 289**	*e*Sg		Sg	21 35 37.2	-11
	4.9nm,0.3s						
PCAB	**Cabril**	**6.41 300**	*e*Sg		Sg	21 36 02.2	-13
	2.7nm,0.6s						
PCAB	**Cabril**	**6.41 300**	*e*Sg		Sg	21 36 02.2	-13
	2.7nm,0.6s						
CAF	**Calviac**	**6.49 17**	*e*Sn		Sn	21 35 25.9	-7.7
ELOB	**Lobios**	**6.50 301**	Pn		Pn	21 34 15.6	-3.6
	1.3nm,0.3s,SNR=7.9						
ELOB			Sn		Sn	21 35 24.4	-9.4
	1.2nm,0.4s,SNR=7.9						
ELOB			Lg			21 36 01.2	
	0.1nm,0.2s,SNR=7.9						
ELOB	**Lobios**	**6.50 301**	Pn		Pn	21 34 15.6	-3.6
	1.3nm,0.3s,SNR=7.9						
ELOB			Sn		Sn	21 35 24.4	-9.4
RJF	**Les Rejaudoux**	**6.74 13**	*e*Pn		Pn	21 34 18.4	-4.2
RJF			*e*Pg		Pg	21 34 46.2	-10

MAN 24 21:38:19.0, 8.19N×126.42E, h15km, mb3.7, ML2.5, MS2.0, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**0.06 263**		⇓*i*P	Pb	21 38 24.4	+3.0
BIPH				*e*S	Sb	21 38 33.0	+10
BUTP	**Butuan**	**1.10 314**		*e*P	Pb	21 38 38.7	-0.6
BUTP				*e*S	Sb	21 38 59.8	+6.5
MATI	**Mati**	**1.25 187**		*e*P	Pb	21 38 40.9	-0.9
BUKP	**Musuan**	**1.38 257**		*e*P	Pn	21 38 47.7	+3.9
BUKP				*e*S	Sb	21 39 17.6	+16

*NEIC **24** 21:54:24.3, 32.88S×69.17W, h8km, ML2.9(GUC), After GUC.*

GUC 24 21:54:24.3±0.7, 32.88S×69.17W, h8km±6km, MD3.7, ML2.9, 2C-3D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MDZ	**Mendoza**	**0.27**	**91**	⇓*i*P	Pg	21 54 28.4	-1.4
MDZ				*i*		21 54 30.4	
MDZ				*i* S	Sg	21 54 33.3	-0.2
FCH	**Farellones**	**1.04**	**244**	⇓*i*P	Pb	21 54 43.8	-0.4
FCH				*i* S	Sb	21 54 58.4	+0.6
FCH				AMP		21 55 01.0	
	comp=N,446nm,0.2s						
JACH	**Jahuel**	**1.22**	**279**	⇓*i*P	Pb	21 54 46.6	-0.6
JACH				*i* S	Sb	21 55 03.6	+0.7
CLCH	**Cerro Calan**	**1.26**	**245**	*e*P	Pb	21 54 47.0	-0.8
CLCH				*i* S	Sb	21 55 05.1	+1.0
CLCH				AMP		21 55 10.7	
	comp=N,514nm,0.7s						
LMEL	**Las Melosas**	**1.30**	**222**	⇑*i*P	Pb	21 54 47.7	-0.8
LMEL				*i* S	Sb	21 55 06.0	+0.9
LMEL				AMP		21 55 06.6	
	comp=N,402nm,0.1s						
PEL	**Peldehue**	**1.30**	**258**	*i* P	Pb	21 54 48.4	-0.2
PEL				*i* S	Sb	21 55 05.7	+0.3
PCH	**Pirque**	**1.35**	**236**	*e*P	Pb	21 54 49.1	-0.3
PCH				*i* S	Sb	21 55 08.0	+1.3
ZON	**Zonda**	**1.39**	**17**	*e*P	Pn	21 54 52.0	+1.9
ZON				*e*S	Sb	21 55 14.1	+6.1
RCDM	**Rinconada Maip**	**1.50**	**246**	*e*P	Pn	21 54 52.2	+0.6
RCDM				*e*S	Sb	21 55 12.8	+1.6
RCDM				AMP		21 55 14.8	
	comp=N,350nm,0.5s						
ROCH	**El Roble**	**1.55**	**266**	⇑*i*P	Pn	21 54 52.7	+0.3
ROCH				*i* S	Sb	21 55 14.0	+1.4
CHCH	**Chadas Angostu**	**1.63**	**229**	*e*P	Pn	21 54 53.7	+0.3
CHCH				*i* S	Sb	21 55 16.2	+1.4
TACH	**Talagante**	**1.67**	**242**	*i* P	Pn	21 54 54.4	+0.3
TACH				*i* S	Sn	21 55 17.5	+1.6
CACH	**El Canelo**	**1.72**	**224**	*e*P	Pn	21 54 55.9	+1.1
CACH				*i* S	Sn	21 55 19.5	+2.4
CICH	**Cipreses**	**1.78**	**216**	*e*P	Pn	21 54 56.7	+1.1
CICH				*i* S	Sn	21 55 21.0	+2.4
LCCH	**Las Cruces**	**2.10**	**253**	*e*P	Pn	21 55 01.3	+1.1
LCCH				*i* S	Sn	21 55 30.1	+3.3
CHNG	**Los Chungos**	**2.21**	**296**	*e*P	Pn	21 55 03.2	+1.4
CHNG				*i* S	Sn	21 55 33.2	+3.7
CHNG				AMP		21 55 35.0	
	comp=N,159nm,0.6s						
CMCH	**Combarbala**	**2.31**	**317**	*e*P	Pn	21 55 04.7	+1.5
CMCH				*i* S	Sn	21 55 36.3	+4.3
SFDO	**San Fernando**	**2.31**	**221**	*i* P	Pn	21 55 05.7	+2.3

*WEL **24** 22:21:19.6±0.1, 39.49S×176.05E, h71km±1km, ML4.7/22, Error ellipse: s-maj=1.0km s-min=0.6km az=90.0, 4.*
WEL Felt between Taupo, Wellington and Hawke's Bay, maximum reported intensity MM.
*NEIC **24** 22:21:20.3, 39.45S×176.09E, h65km, ML4.7(WEL), After WEL.*
NEIC Felt from Porirua to Taupo.

ISC 24 22:21:18.1±0.3, 39.53S±0.02×176.05E±0.03, h76km±3km, n118, σ0§99/153, 7C-4D, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOVZ	**Moawhango**	**0.26**	**298**	⇑PN	**P**	**22 21 30.1**	**+0.3**
MOVZ				SN	**S**	**22 21 37.4**	**-1.1**
TUVZ	**Tukino**	**0.40**	**311**	PN	**P**	**22 21 31.4**	**+0.7**
TUVZ				SN	**S**	**22 21 39.6**	**-0.6**
TUVZ	**Tukino**	**0.40**	**311**	P	**P**	**22 21 31.4**	**+0.7**
WNVZ	**Wahianoa**	**0.40**	**300**	PN	**P**	**22 21 31.4**	**+0.7**
WNVZ				SN	**S**	**22 21 39.6**	**-0.6**
WNVZ	**Wahianoa**	**0.40**	**300**	P	**P**	**22 21 31.4**	**+0.7**
TRVZ	**Turoa**	**0.45**	**301**	⇑PN	**P**	**22 21 31.9**	**+0.8**
TRVZ				SN	**S**	**22 21 40.2**	**-0.7**
DRZ	**Dome Shelter**	**0.45**	**304**	PN	**P**	**22 21 31.9**	**+0.8**
DRZ				SN	**S**	**22 21 40.8**	**-0.2**
DRZ	**Dome Shelter**	**0.45**	**304**	P	**P**	**22 21 31.9**	**+0.8**
MTVZ	**Mangateitei**	**0.47**	**288**	⇑PN	**P**	**22 21 32.0**	**+0.8**
MTVZ				SN	**S**	**22 21 40.9**	**-0.3**
OTVZ	**Oturere**	**0.47**	**321**	PN	**P**	**22 21 31.9**	**+0.6**
OTVZ				SN	**S**	**22 21 40.6**	**-0.7**
FWVZ	**Far West T-bar**	**0.47**	**306**	⇓PN	**P**	**22 21 32.0**	**+0.7**
FWVZ				SN	**S**	**22 21 40.5**	**-0.8**
FWVZ	**Far West T-bar**	**0.47**	**306**	P	**P**	**22 21 32.0**	**+0.7**
NGZ	**Ngauruhoe**	**0.50**	**316**	PN	**P**	**22 21 32.2**	**+0.7**
NGZ				SN	**S**	**22 21 41.1**	**-0.5**
NGZ	**Ngauruhoe**	**0.50**	**316**	P	**P**	**22 21 32.2**	**+0.7**
BKZ	**Black Stump Fm**	**0.50**	**43**	PN	**P**	**22 21 32.3**	**+0.7**
BKZ				SN	**S**	**22 21 41.0**	**-0.6**
WPVZ	**Whakapapa**	**0.51**	**310**	⇑PN	**P**	**22 21 32.4**	**+0.8**
WPVZ				SN	**S**	**22 21 41.2**	**-0.6**
CNZ	**Chateau**	**0.51**	**310**	PN	**P**	**22 21 32.4**	**+0.7**
TSZ	**Takapari Road**	**0.53**	**187**	⇑PN	**P**	**22 21 33.3**	**+1.4**
TSZ				SN	**S**	**22 21 42.5**	**+0.4**
TSZ	**Takapari Road**	**0.53**	**187**	P	**P**	**22 21 33.3**	**+1.4**
KRVZ	**Karewarewa**	**0.54**	**324**	⇓PN	**P**	**22 21 32.5**	**+0.6**
KRVZ				SN	**S**	**22 21 41.5**	**-0.7**
WTVZ	**West Tongariro**	**0.55**	**319**	PN	**P**	**22 21 32.4**	**+0.4**
WTVZ				SN	**S**	**22 21 41.5**	**-0.9**
WTVZ	**West Tongariro**	**0.55**	**319**	P	**P**	**22 21 32.4**	**+0.3**
RITZ	**Rihia Road**	**0.57**	**345**	⇓PN	**P**	**22 21 32.8**	**+0.4**
RITZ				SN	**S**	**22 21 42.3**	**-0.5**
RITZ	**Rihia Road**	**0.57**	**345**	P	**P**	**22 21 32.8**	**+0.5**
PKVZ	**Pokaka**	**0.59**	**294**	⇑PN	**P**	**22 21 33.3**	**+0.7**
PKVZ				SN	**S**	**22 21 42.8**	**-0.4**
KATZ	**Kakaramea**	**0.62**	**334**	PN	**P**	**22 21 33.3**	**+0.5**
KATZ	**Kakaramea**	**0.62**	**334**	P	**P**	**22 21 33.3**	**+0.5**
HATZ	**Hinemaiaia**	**0.64**	**3**	⇓PN	**P**	**22 21 33.0**	**0.0**
HATZ				SN	**S**	**22 21 42.4**	**-1.6**
HATZ	**Hinemaiaia**	**0.64**	**3**	P	**P**	**22 21 33.0**	**0.0**
TWVZ	**Taurewa**	**0.66**	**314**	PN	**P**	**22 21 33.5**	**+0.3**
TWVZ				SN	**S**	**22 21 43.3**	**-1.1**
RATZ	**Rangitukua**	**0.70**	**342**	PN	**P**	**22 21 33.8**	**+0.2**
RATZ	**Rangitukua**	**0.70**	**342**	P	**P**	**22 21 33.8**	**+0.2**
PXZ	**Pawanui**	**0.80**	**129**	PN	**P**	**22 21 36.3**	**+1.5**
PXZ				SN	**S**	**22 21 48.3**	**+1.1**
WAZ	**Wanganui**	**0.85**	**254**	PN	**P**	**22 21 36.8**	**+1.5**
WAZ				SN	**S**	**22 21 50.3**	**+2.1**
WAZ	**Wanganui**	**0.85**	**254**	P	**P**	**22 21 37.3**	**+2.0**
WAZ				S	**S**	**22 21 50.5**	**+2.3**
WATZ	**Wairara**	**0.86**	**343**	PN	**P**	**22 21 35.5**	**+0.1**
WATZ				SN	**S**	**22 21 47.6**	**-0.8**
WHTZ	**Whakaora**	**0.87**	**355**	PN	**P**	**22 21 35.8**	**+0.3**
WHTZ	**Whakaora**	**0.87**	**355**	P	**P**	**22 21 36.0**	**+0.5**
VRZ	**Vera Road**	**1.08**	**292**	PN	**P**	**22 21 38.9**	**+0.7**
VRZ				SN	**S**	**22 21 53.6**	**+0.5**
VRZ	**Vera Road**	**1.08**	**292**	P	**P**	**22 21 38.9**	**+0.8**
VRZ				S	**S**	**22 21 53.6**	**+0.5**
BFZ	**Birch Farm**	**1.16**	**173**	PN	**P**	**22 21 40.3**	**+1.2**
BFZ				SN	**S**	**22 21 56.2**	**+1.3**
MRZ	**Mangatainoka R**	**1.18**	**198**	⇑PN	**P**	**22 21 40.5**	**+1.1**
MRZ				SN	**S**	**22 21 56.0**	**+0.4**
RAEZ	**Rainy Point**	**1.30**	**280**	P	**P**	**22 21 42.7**	**+1.5**
TAZ	**Tarawera**	**1.35**	**16**	PN	**P**	**22 21 42.0**	**+0.2**
TAZ	**Tarawera**	**1.35**	**16**	P	**P**	**22 21 42.0**	**+0.2**
UTU	**Utuhina**	**1.36**	**5**	PN	**P**	**22 21 42.1**	**+0.2**
UTU	**Utuhina**	**1.36**	**5**	P	**P**	**22 21 42.2**	**+0.3**
KNZ	**Kokohu**	**1.36**	**68**	PN	**P**	**22 21 41.9**	**0.0**
KNZ				SN	**S**	**22 21 58.3**	**-1.3**
HIZ	**Hauiti**	**1.38**	**317**	PN	**P**	**22 21 42.6**	**+0.4**
HIZ				SN	**S**	**22 21 59.3**	**-0.7**
HIZ	**Hauiti**	**1.38**	**317**	P	**P**	**22 21 42.5**	**+0.3**
URZ	**Urewera**	**1.52**	**33**	PN	**P**	**22 21 43.4**	**-0.6**
DFE	**Dawson Falls**	**1.52**	**277**	PN	**P**	**22 21 45.9**	**+1.8**
DFE	**Dawson Falls**	**1.52**	**277**	P	**P**	**22 21 46.0**	**+2.0**
EDRZ	**Edgecumbe**	**1.52**	**21**	PN	**P**	**22 21 43.8**	**-0.3**
EDRZ	**Edgecumbe**	**1.52**	**21**	P	**P**	**22 21 43.9**	**-0.1**
NEZ	**North Egmont**	**1.54**	**279**	PN	**P**	**22 21 45.9**	**+1.6**
NEZ	**North Egmont**	**1.54**	**279**	P	**P**	**22 21 46.0**	**+1.8**
LIRZ	**Lichensteins R**	**1.55**	**10**	P	**P**	**22 21 45.1**	**+0.7**
KIW	**Kapiti Island**	**1.59**	**213**	PN	**P**	**22 21 45.5**	**+0.6**
KIW	**Kapiti Island**	**1.59**	**213**	P	**P**	**22 21 45.5**	**+0.6**
MARZ	**Manawahe**	**1.62**	**18**	P	**P**	**22 21 45.2**	**-0.1**
PKE	**Pukeiti**	**1.63**	**281**	PN	**P**	**22 21 47.0**	**+1.5**
PKE	**Pukeiti**	**1.63**	**281**	P	**P**	**22 21 47.1**	**+1.6**
NRZ	**Ngariki Road**	**1.65**	**276**	P	**P**	**22 21 47.4**	**+1.7**
MWZ	**Matawai**	**1.66**	**44**	PN	**P**	**22 21 45.8**	**-0.1**
MTW	**Mount Morrison**	**1.68**	**194**	PN	**P**	**22 21 46.2**	**+0.1**
NWEZ	**Newall Road**	**1.71**	**278**	P	**P**	**22 21 48.1**	**+1.6**
CAW	**Cannon Point**	**1.74**	**205**	PN	**P**	**22 21 47.2**	**+0.2**
CAW	**Cannon Point**	**1.74**	**205**	P	**P**	**22 21 47.2**	**+0.2**
TGRZ	**Tauranga**	**1.81**	**5**	PN	**P**	**22 21 47.9**	**0.0**
TGRZ				SN	**S**	**22 22 09.5**	**-0.3**
TGRZ	**Tauranga**	**1.81**	**5**	P	**P**	**22 21 48.2**	**+0.4**
TOZ	**Tahuroa Road**	**1.85**	**346**	PN	**P**	**22 21 48.5**	**+0.1**
TRWZ	**Traveller**	**1.89**	**188**	PN	**P**	**22 21 48.7**	**-0.2**
PAWZ	**Paruwai Farm**	**1.91**	**194**	PN	**P**	**22 21 48.9**	**-0.3**
PAWZ				SN	**S**	**22 22 11.6**	**-0.5**
MSWZ	**Moikau Station**	**1.98**	**198**	PN	**P**	**22 21 49.7**	**-0.5**
MRW	**Makara Radio**	**1.98**	**211**	PN	**P**	**22 21 50.0**	**-0.2**
WEL	**Wellington**	**2.01**	**209**	PN	**P**	**22 21 50.3**	**-0.2**
WEL	**Wellington**	**2.01**	**209**	P	**P**	**22 21 50.3**	**-0.2**
SNZO	**South Karori**	**2.05**	**210**	PN	**P**	**22 21 50.7**	**-0.4**
SNZO	**South Karori**	**2.05**	**210**	P	**P**	**22 21 50.7**	**-0.5**
BHW	**Baring Head**	**2.08**	**205**	PN	**P**	**22 21 51.0**	**-0.6**
TCW	**Tory Channel**	**2.16**	**218**	PN	**P**	**22 21 52.2**	**-0.5**
WIZ	**White Island**	**2.19**	**24**	P	**P**	**22 21 52.2**	**-1.0**
PUZ	**Puketiti**	**2.26**	**51**	PN	**P**	**22 21 53.4**	**-0.7**
TUWZ	**Tuamarina**	**2.48**	**220**	PN	**P**	**22 21 56.3**	**-1.0**
MKAZ	**Moumakai**	**2.52**	**344**	P	**P**	**22 21 57.8**	**+0.1**
NNZ	**Nelson**	**2.64**	**230**	PN	**P**	**22 21 58.4**	**-1.1**
MXZ	**Matakaoa Point**	**2.65**	**43**	PN	**P**	**22 21 58.8**	**-0.7**
OTAZ	**Otara**	**2.73**	**341**	P	**P**	**22 22 00.9**	**+0.2**
BSWZ	**Blackbirch Sta**	**2.74**	**216**	P	**P**	**22 21 59.8**	**-1.0**
KUZ	**Kuaotunu**	**2.79**	**355**	*e*P	**P**	**22 22 01.4**	**-0.2**
WTAZ	**Waiatarua**	**2.84**	**335**	P	**P**	**22 22 02.9**	**+0.6**
MTAZ	**Motutapu**	**2.88**	**342**	P	**P**	**22 22 02.9**	**0.0**
KAAZ	**Kauri Point**	**2.90**	**338**	P	**P**	**22 22 03.4**	**+0.2**
QRZ	**Quartz Range**	**2.99**	**243**	PN	**P**	**22 22 02.7**	**-1.6**
THZ	**Tophouse**	**3.27**	**226**	PN	**P**	**22 22 06.6**	**-1.6**
KHZ	**Kahutara**	**3.45**	**213**	PN	**P**	**22 22 08.4**	**-2.4**
WCZ	**Waipu Caves**	**3.83**	**339**	P	**P**	**22 22 16.0**	**0.0**
DSZ	**Denniston Nort**	**3.91**	**234**	PN	**P**	**22 22 14.7**	**-2.5**
LTZ	**Lake Taylor**	**4.32**	**220**	PN	**P**	**22 22 19.3**	**-2.9**
OUZ	**Omahuta**	**4.73**	**335**	*e*P	**P**	**22 22 28.3**	**-0.2**
CRLZ	**Canterbury Las**	**4.79**	**211**	*e*P	**P**	**22 22 26.4**	**-2.9**
WVZ	**Waitaha Valley**	**5.34**	**227**	*e*P	**P**	**22 22 33.4**	**-3.5**
RPZ	**Rata Peaks**	**5.61**	**220**	*e*P	**P**	**22 22 37.9**	**-2.7**
LBZ	**Lake Benmore**	**6.53**	**220**	*e*PN	**P**	**22 22 49.4**	**-4.0**
LBZ				SN	**S**	**22 23 58.2**	**-8.9**
LBZ	**Lake Benmore**	**6.53**	**220**	*e*P	**P**	**22 22 49.4**	**-4.0**
ODZ	**Otahua Downs**	**6.81**	**214**	*e*PN	**P**	**22 22 52.3**	**-5.0**
ODZ				SN	**S**	**22 24 04.0**	**-10**
ODZ	**Otahua Downs**	**6.81**	**214**	*e*P	**P**	**22 22 53.4**	**-3.9**
WKZ	**Wanaka**	**7.43**	**222**	PN	**P**	**22 22 58.9**	**-7.0**
WKZ				SN	**S**	**22 24 19.6**	**-10**
EAZ	**Earnscleugh**	**7.57**	**219**	*e*PN	**P**	**22 23 03.3**	**-4.5**
EAZ				SN	**S**	**22 24 22.5**	**-10**
EAZ	**Earnscleugh**	**7.57**	**219**	*e*P	**P**	**22 23 03.8**	**-4.0**
TUZ	**Tuapeka**	**7.97**	**214**	*e*PN	**P**	**22 23 09.1**	**-4.1**
TUZ				SN	**S**	**22 24 31.3**	**-11**
TUZ	**Tuapeka**	**7.97**	**214**	*e*P	**P**	**22 23 09.1**	**-4.1**
MLZ	**Mavora Lakes**	**8.22**	**222**	SN	**S**	**22 24 39.7**	**-9.2**
VNA3	**Neumayer Olymp**	**69.46**	**178**		**P**	**22 32 21.8**	**+2.4**
VNA3	**Neumayer Olymp**	**69.46**	**178**		**P**	**22 32 33.6**	**+14**
VNA2	**Neumayer--Watz**	**69.82**	**179**		**P**	**22 32 24.1**	**+2.5**
VNA2	**Neumayer--Watz**	**69.82**	**179**		**P**	**22 32 34.3**	**+13**

*NNC **24** 22:32:40.6±3.9, 40.01N×80.06E, mpv5.0, Error ellipse: s-maj=32.1km s-min=17.0km az=175.0*
*MOS **24** 22:32:42.3±0.9, 39.88N×79.70E, h33km, mb5.2/43, MS4.2/21, Error ellipse: s-maj=7.0km s-min=3.8km az=128.2*
*BJI **24** 22:32:43.8, 39.83N×79.92E, h36km, mB4.6, mb4.6, ML5.6, Ms4.8, Msz4.6*
*NEIC **24** 22:32:44.0±0.2, 39.72N×79.67E, mb5.1/109, Error ellipse: s-maj=5.6km s-min=3.3km az=219.0*
*HRVD **24** 22:32:44.0±0.3, 39.88N×79.66E, h46km±1km, MW5.0/63, Centroid moment Tensor Solution. LP body waves: s33,c47;Mantle waves: s63,c109; Half duration: 0*
Moment tensor: Scale 10^{16}Nm; M_{rr}1.63±.19; $M_{\theta\theta}$-4.21±.13; $M_{\phi\phi}$2.59±.14; $M_{r\theta}$-1.02±.13; $M_{\theta\phi}$-0.44±.12; $M_{\phi r}$2.20±.12; Best double couple: M_0=4.429×10^{16} NP1: ϕ_s48°, δ56°, λ24°. NP2:ϕ_s304°, δ71°, λ143°. Principal axes: T 4.474, Plg39°, Azm262°; N -.081, Plg49°, Azm100°; P -4.384, Plg9°, Azm359°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
*IDC **24** 22:32:44.1±0.6, 39.79N×79.70E, h42km±4km, mb4.6/24, mb1 4.7/26, mb1mx4.7/27, mbtmp4.8/26, ML5.5/1, MS4.2/16, Ms1 4.2/16, ms1mx4.2/22 Error ellipse: s-maj=12.7km s-min=11.4km az=3.0*

ISC 24 22:32:41.9±0.1, 39.70N±0.02×79.71E±0.03, h40km, h40km±1.4km: pP-P, n423, σ1§12/443, mb5.0/153, MS4.3/40, 83C-43D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**2.89**	**268**	⇑*i*P	**P**	**22 33 31.0**	**+4.3**
KSH				S	**S**	**22 34 06.4**	**+5.9**
KSH				Smax			
	comp=N,14μm,0.3s						
KSH				Smax			
	comp=E,17μm,0.6s						
ULHL	**Ulahol**	**3.66**	**315**	P	**P**	**22 33 40.1**	**+2.6**
	SNR=160						
KZA	**Kyzart**	**4.13**	**307**	P	**P**	**22 33 46.9**	**+2.6**
	SNR=8.1						
TKM2	**Tokmak 2**	**4.47**	**317**	P	**P**	**22 33 50.9**	**+1.9**
	SNR=62						
KBK	**Karagaybulak**	**4.65**	**311**	P	**P**	**22 33 53.8**	**+2.2**
	SNR=30						
UCH	**Uchtor**	**4.67**	**304**	P	**P**	**22 33 54.3**	**+2.4**
	SNR=19						
AAK	**Ala-Archa**	**4.91**	**308**	P	**P**	**22 33 57.5**	**+2.3**
	SNR=26						
AAK	**Ala-Archa**	**4.91**	**308**	⇑Pn	**P**	**22 33 57.0**	**+1.8**
	comp=E,125nm,0.9s						
AAK				⇓Pg	P	22 34 16.6	+21
	comp=E,892nm,1.1s						
AAK				⇑Lg		22 35 18.9	
	comp=E,2μm,0.8s						
AAK	**Ala-Archa**	**4.91**	**308**	⇑Pn	**P**	**22 33 57.0**	**+1.8**
AAK				⇓Pg	P	22 34 16.6	+21
AAK				Lg		22 35 18.9	
CHMS	**Chumysh**	**4.98**	**313**	P	**P**	**22 33 57.7**	**+1.5**
	SNR=27						
AML	**Almayashu**	**5.16**	**300**	P	**P**	**22 34 01.2**	**+2.4**
	SNR=66						
USP	**Ospenovka**	**5.29**	**314**	P	**P**	**22 34 02.4**	**+1.8**
	SNR=15						
EKS2	**Erkin-Say**	**5.37**	**305**	P	**P**	**22 34 03.7**	**+2.1**
	SNR=114						
WMQ	**Urumqi**	**7.25**	**53**	⇑*i*P	**P**	**22 34 28.8**	**+0.8**
WMQ				S	**S**	**22 35 45.0**	**-5.0**
WMQ				Smax			
	comp=N,2μm,0.8s						
WMQ				Smax			
	comp=E,3μm,0.8s						
MK31	**Makanchi Array**	**7.34**	**14**	⇓Pn	**P**	**22 34 29.3**	**+0.1**
	comp=E,167nm,0.5s,baz=202,slow=14,SNR=3903						
MK31				⇑Sn	**S**	**22 35 48.2**	**-3.9**
	comp=E,151nm,0.3s,baz=197,slow=24,SNR=13						
MK31				⇑Lg		22 36 12.6	
	comp=E,655nm,0.8s,baz=190,slow=22						
MK31	**Makanchi Array**	**7.34**	**14**	⇓Pn	**P**	**22 34 29.3**	**+0.1**
	comp=E,167nm,0.5s						
MK31				Sn	**S**	**22 35 48.2**	**-3.9**
MK31				Lg		22 36 12.6	
MKAR	**Makanchi Array**	**7.34**	**14**	P	**P**	**22 34 29.2**	**0.0**
	comp=E,77nm,0.3s,baz=197,slow=13,SNR=1440						
MKAR				S	**S**	**22 35 48.6**	**-3.5**
	comp=E,180nm,0.3s,baz=203,slow=2,SNR=19						
MKAR				Lg		22 36 38.9	
	comp=E,34nm,0.3s,baz=183,slow=21,SNR=3.8						
MKAR				LR	LR	22 37 51.5	
	comp=E,3μm,21.4s,baz=182,slow=42						
MKAR	**Makanchi Array**	**7.34**	**14**	P	**P**	**22 34 29.2**	**0.0**
MKAR				S	**S**	**22 35 48.6**	**-3.5**
MKAR				Lg		22 36 38.9	
MKAR				LR	LR	22 37 51.5	
KK31	**Karatay Array**	**7.70**	**299**	⇓Pn	**P**	**22 34 34.1**	**-0.2**
	comp=E,1.4nm,0.2s,baz=126,slow=12,SNR=68						
KK31				⇓Pg	P	22 35 03.8	+29
	comp=E,92nm,0.6s,baz=123,slow=15,SNR=9.1		

BVAR Lg 22 40 32.9
comp=Z,1.5nm,0.3s,baz=142,slow=26,SNR=5.3
BRVK Borovoye 14.84 337 *eP* **P 22 36 08.2 -2.3**
comp=Z,665nm,3.8s
BRVK Borovoye 14.84 337 *eP* **P 22 36 08.2 -2.3**
BRVK pmax pmax
comp=Z,665nm,3.8s
NVS Novosibirsk 15.33 8⇓*iP* **P 22 36 14.2 -2.6**
NVS pmax pmax
comp=Z,244nm,1.0s
NVS pmax pmax
comp=N,257nm,1.3s
GTA Gaotai 15.51 85 ⇑P **P 22 36 19.6 +0.3**
GTA AP 22 36 26.1
GTA PP PP 22 36 32.1 +0.3
GTA S **S 22 39 09.8 -0.3**
GTA SS SS 22 39 27.8 -1.1
GTA PCP PcP 22 41 24.1 +2.9
GTA LG2 22 41 52.8
GTA SCP 22 44 54.8
GTA PCS 22 44 58.3
GTA SCS ScS 22 48 32.1 +4.2
GTA AMB AMB
comp=Z,12nm,0.5s
GTA AMB AMB
comp=Z,142nm,9.9s
GTA LR LR
comp=N,2μm,9.1s
GTA LR LR
comp=E,2μm,13.7s
GTA LR LR
comp=Z,2μm,19.0s
SHBG Sahibganj 15.91 153 *eP* **P 22 36 25.5 +1.0**
JBP Jabalpur 16.48 179⇓*iP* **P 22 36 31.9 +0.2**
JBP *i* x x 22 39 23.5
BHPL Bhopal 16.52 187 *eP* **P 22 36 29.2 -3.0**
BHPL AMb AMB 22 36 36.3
comp=Z,52nm,0.8s
BHPL *ex* x 22 39 19.8
AB31 Akbulak array 16.99 311 ⇑P **P 22 36 36.3 -1.6**
comp=Z,20nm,0.8s
AB31 ⇓Lg 22 41 42.4
comp=Z,171nm,1.9s
AB31 Akbulak array 16.99 311 ⇑P **P 22 36 36.3 -1.6**
comp=Z,20nm,0.8s
AB31 Lg 22 41 42.4
SHL Shillong 17.40 140 *eP* **P 22 36 43.0 -0.3**
SHL *eS* **S 22 39 59.0 +5.4**
BLSP Bilaspur 17.64 173 *eP* **P 22 36 44.8 -1.4**
BLSP AMb AMB 22 36 50.7
comp=Z,72nm,1.0s
BLSP *ex* x 22 39 49.1
AKTK Aktyubinsk 18.64 312 ⇑P **P 22 36 57.1 -1.3**
AKTK Lg 22 42 29.6
AKTO Aktyubinsk 18.64 312 ⇑P **P 22 36 57.1 -1.3**
comp=Z,3.5nm,0.7s
AKTO ⇓Lg 22 42 29.6
comp=Z,39nm,2.8s
MOY Mondy 19.00 44 *eP* **P 22 37 02.4 -0.3**
MOY pmax pmax
comp=Z,112nm,2.2s
BHV Bhavnagar 19.02 202 *ex* x 22 37 06.0
AKL Akola 19.07 188⇓*ix* x 22 38 59.4
AKL *i* x x 22 42 21.0
IMP Imphal 19.09 137 *ex* **P 22 37 06.0 +2.1**
LZH *eP* **P 22 37 07.8 +0.9**
LZH AP 22 37 16.6
LZH XP 22 37 19.8
LZH PP PP 22 37 30.0 +5.3
LZH AMB AMB
comp=Z,30nm,1.0s
LZH AMB AMB
comp=Z,190nm,4.0s
LZH LR LR
comp=E,3μm,14.8s
LZH LR LR
comp=Z,4μm,20.5s
LZH Lanzhou 19.37 93 *eP* **P 22 37 07.8 +0.9**
comp=Z,30nm,1.0s
LZH pP 22 37 16.6
LZH sP 22 37 19.7
LZH PP PP 22 37 30.0 +5.3
LZH S **S 22 40 54.1 +16**
LZH sS 22 41 07.0
LZH SS SS 22 41 25.0 +20
LZH Lanzhou 19.37 93 *eP* **P 22 37 07.8 +0.9**
LZH pmax pmax
comp=Z,30nm,1.0s
ZAK Zakamensk 19.70 49⇑*iP* **P 22 37 10.7 +0.3**
ZAK pmax pmax
comp=Z,35nm,1.0s
BWNR Bhubaneshwar 20.04 163 *ex* x 22 37 23.9
BWNR AMb AMB 22 37 26.4
comp=Z,75nm,1.0s
BWNR *ex* x 22 40 57.1
SONM Songino Array 20.84 58 P **P 22 37 23.1 +0.7**
comp=Z,56nm,0.7s,baz=254,slow=11,SNR=501
SONM LR LR 22 46 52.8
comp=Z,1μm,20.9s,MS4.3,baz=256,slow=41
IRK Irkutsk 21.06 45 *eP* **P 22 37 25.7 +1.1**
IRK *eS* **S 22 41 27.6 +16**
IRK pmax pmax
comp=Z,225nm,2.3s,mb5.1
LATR Latur 21.38 188 *eP* **P 22 37 28.1 0.0**
CD2 Chengdu 21.45 107 P **P 22 37 31.4 +2.8**
CD2 XP 22 37 44.6
CD2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.4
CD2 LR LR
comp=N,360nm,10.8s
CD2 LR LR
comp=Z,330nm,9.7s
POO Poona 21.70 195 *eP* **P 22 37 31.7 +0.5**
POO AMb AMB 22 37 33.3
comp=Z,80nm,0.8s,mb5.2
POO *ex* x 22 41 19.9
ARU Arti 21.76 327 *eP* **P 22 37 31.1 -0.5**
comp=Z,74nm,0.9s,mb5.1
ARU Arti 21.76 327⇓*iP* **P 22 37 31.6 0.0**
ARU *e* 22 37 53.6
ARU *e*PPP PPP 22 38 04.1 -3.1
ARU *e*S **S 22 41 31.8 +7.0**
ARU *e*SS SS 22 41 56.7 -6.6
ARU *e*SSS SSS 22 42 17.3 -1.1
ARU pmax pmax
comp=Z,41nm,0.8s,mb4.9
ARU MLR MLR
comp=Z,1μm,19.0s,MS4.2
ARU MLR MLR
comp=N,400nm,18.0s,MS4.1
ARU MLR MLR
comp=E,600nm,18.0s,MS4.1
VIS Vishakhapatnam 22.12 171 *eP* **P 22 37 36.6 +1.1**
VIS AMb AMB 22 37 51.6
comp=Z,182nm,1.4s,mb5.3
VIS *ex* x 22 41 33.5
HYB Hyderabad 22.23 183⇑*iP* **P 22 37 37.0 +0.5**
HYB *e*pP 22 37 50.0
HYB *e* 22 41 33.0
HYB *e*S **S 22 41 35.0 +1.4**
HYB Hyderabad 22.23 183⇑*eP* **P 22 37 37.0 +0.5**
HYB *e*S **S 22 41 33.0 -0.6**
KAD Karad 22.82 194⇑*iP* **P 22 37 43.5 +1.1**
XAN Xi'an 23.98 94 P **P 22 37 56.1 +2.6**
XAN AP 22 38 06.8
XAN S **S 22 42 05.9 +1.3**
XAN AMB AMB
comp=Z,74nm,5.3s
XAN LR LR
comp=N,539nm,16.6s,MS4.3
XAN LR LR
comp=E,783nm,20.5s,MS4.3
XAN LR LR
comp=Z,1μm,23.5s,MS4.4
KMI Kunming 24.18 120 P **P 22 37 58.1 +2.6**
KMI AP 22 38 07.9
KMI XP 22 38 11.9
KMI S **S 22 42 08.9 +0.8**
KMI AMB AMB
comp=Z,14nm,0.9s,mb4.4
KMI AMB AMB
comp=Z,80nm,4.9s
KMI LR LR
comp=N,398nm,13.5s,MS4.2
KMI LR LR
comp=E,464nm,15.0s,MS4.2
KMI LR LR
comp=Z,400nm,24.0s
KMI Kunming 24.18 120 P **P 22 37 58.1 +2.6**
comp=Z,14nm,0.9s,mb4.4
KMI pP 22 38 07.9
KMI sP 22 38 11.9
KMI PP PP 22 38 28.2 -2.8
KMI PPP PPP 22 38 40.8 -0.5
KMI S **S 22 42 08.9 +0.8**
KMI sS 22 42 22.3
KMI SS SS 22 42 59.6 -2.5
KMI SSS SSS 22 43 19.5 +0.6
KMI LR LR
comp=Z,400nm,24.0s,MS3.8
KMI Kunming 24.18 120 P **P 22 37 58.1 +2.6**
KMI *PP 22 38 07.9
KMI *SP 22 38 11.9
KMI 22 38 28.2
KMI PPP PPP 22 38 40.8 -0.5
KMI S **S 22 42 08.9 +0.8**
KMI *SS 22 42 22.3
KMI SS SS 22 42 59.6 -2.5
KMI SSS SSS 22 43 19.5 +0.6
KMI pmax pmax
comp=Z,14nm,0.9s,mb4.4
KMI MLR MLR
comp=Z,400nm,24.0s,MS3.8
MAK Makhachkala 24.32 288 *eP* **P 22 37 58.2 +1.5**
MAK *eS* **S 22 42 20.0 +10**
MAK smax
comp=E,900nm,7.0s
MAK MLR MLR
comp=Z,2μm,12.0s,MS4.7
MAK MLR MLR
comp=E,1μm,14.0s
SOKR Solikamsk 24.59 332*d iP* **P 22 38 00.3 +1.2**
SOKR pmax pmax
comp=Z,30nm,0.7s,mb4.9
SOKR MLR MLR
comp=Z,1μm,19.0s,MS4.4
DGRG David-gareji 26.04 285 P **P 22 38 14.1 +1.1**
ENH Enshi 26.05 102 *eP* **P 22 38 14.8 +1.5**
comp=Z,62nm,1.0s,mb5.1
GYA Guiyang 26.05 112⇓*iP* **P 22 38 15.0 +1.7**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.4
CIT Chita 26.34 51 *eP* **P 22 38 16.6 +0.9**
CIT *e* 22 38 58.6
CIT *e* 22 42 37.4
CIT pmax pmax
comp=Z,63nm,2.0s,mb4.8
MTA Mtatsminda 26.44 286 P **P 22 38 17.9 +1.1**
TBLG Delisi 26.48 286 P **P 22 38 18.0 +0.9**
CHG Chiang Mai 26.63 136⇓P **P 22 38 19.3 +0.6**
comp=Z,14nm,0.8s,mb4.5
GNI Garni 26.72 282 P **P 22 38 21.3 +2.0**
comp=Z,18nm,0.9s,mb4.6,baz=314,slow=2.2,SNR=14
GNI LR LR 22 50 43.9
comp=Z,347nm,21.7s,MS3.9,baz=292,slow=40
GOR Gori 26.91 286 P **P 22 38 23.0 +1.9**
ONI Oni 27.33 288 P **P 22 38 26.0 +1.1**
AKH Akhalkalaki 27.45 285 P **P 22 38 28.3 +2.3**
GOF Gofitskoye 27.45 293 *iP* **P 22 38 27.0 +1.0**
GOF pmax pmax
comp=Z,33nm,1.0s,mb4.8
NANT Nan 27.61 133⇓P **P 22 38 26.0 -1.6**
comp=Z,302nm,0.8s,mb6.0
KIV Kislovodsk 27.76 291 *eP* **P 22 38 29.1 +0.4**
comp=Z,25nm,0.7s,mb5.0
KIV Kislovodsk 27.76 291*c iP* **P 22 38 28.9 +0.1**
KIV pmax pmax
comp=Z,26nm,1.7s,mb4.6
KIV MLR MLR
comp=Z,500nm,17.0s,MS4.2
UMR Umm Al-Rimmam 28.08 259 *eP* **P 22 38 32.7 +0.9**
UMR AMb AMB 22 38 33.7
comp=Z,96nm,0.7s,mb5.5
KBD Kabd 28.28 258 *eP* **P 22 38 34.9 +1.3**
KBD AMb AMB 22 38 36.1
comp=Z,256nm,0.6s,mb6.0
QRN Al-Qurain 28.33 257 *eP* **P 22 38 35.5 +1.4**
RDF Al-Radifah 28.52 258 *eP* **P 22 38 37.0 +1.3**
RDF AMb AMB 22 38 38.0
comp=Z,99nm,0.9s,mb5.5
BOD Bodaibo 28.53 39 *eP* **P 22 38 35.3 -0.2**
BOD *e* pP 22 38 47.3 +0.8
BOD pmax pmax
comp=Z,6.0nm,1.0s,mb4.3
BOD pmax pmax
comp=Z,11nm,0.9s,mb4.6
BOD pmax pmax
comp=Z,21nm,0.6s,mb5.0
ARTV Artvin 28.65 285 *iP* **P 22 38 36.8 +0.1**
VRHR Novokhopersk 28.75 306 *eP* **P 22 38 36.6 -1.0**
VRHR pmax pmax
comp=Z,20nm,0.9s,mb4.8
VRHR pmax pmax
comp=N,20nm,1.5s
VRHR pmax pmax
comp=E,10.0nm,0.8s
ERZM Erzurum 29.31 283 *iP* **P 22 38 44.1 +1.4**
WHN Wuhan 29.62 97 *eP* **P 22 38 47.5 +2.0**
WHN LR LR
comp=N,840nm,10.2s,MS4.7
WHN LR LR
comp=E,590nm,10.4s,MS4.7
NST Nakhon Sawan 29.86 138 P **P 22 38 48.0 +0.3**
SOC Sochi 29.94 291 *eP* **P 22 38 47.1 -1.1**
SOC *e* 22 39 41.1
SOC *e*PPP PPP 22 40 02.6 +2.1
SOC *e* 22 41 49.0
SOC *e*S **S 22 43 43.3 +1.6**
SOC pmax pmax
comp=Z,27nm,1.2s,mb4.8
SOC pmax pmax
comp=N,10.0nm,0.8s
SOC pmax pmax
comp=E,23nm,1.2s
SOC MLR MLR
comp=Z,367nm,14.0s,MS4.2
SOC MLR MLR
comp=N,92nm,11.0s,MS4.2
SOC MLR MLR
comp=E,302nm,14.0s,MS4.2
VRSR Storozhevoye 30.29 306 *eP* **P 22 38 50.4 -0.8**
VRSR pmax pmax
comp=N,5.0nm,0.6s
VRSR pmax pmax
comp=Z,30nm,0.6s,mb5.2
VRSR pmax pmax
comp=E,10.0nm,0.7s
KELT Kelkit 30.84 284 *iP* **P 22 38 53.4 -2.9**
ANN Anapa 31.44 293 *eP* **P 22 39 01.2 -0.3**
ANN *e* 22 39 18.2
ANN *e*PPP PPP 22 40 15.0 -6.1
ANN *e*S **S 22 44 10.1 +4.8**
ANN *e*SS SS 22 46 00.1 +5.4
ANN *e*SSS SSS 22 46 18.0 +0.5
ANN pmax pmax
comp=Z,34nm,0.9s,mb5.2
ANN MLR MLR
comp=N,377nm,13.0s
ANN MLR MLR
comp=Z,373nm,13.0s,MS4.2
MALT Malatya 31.91 281 *eP* **P 22 39 07.0 +1.2**
comp=Z,73nm,1.1s,mb5.4
MALT Malatya 31.91 281 *eP* **P 22 39 07.0 +1.3**
MALT pmax pmax
comp=Z,73nm,1.1s,mb5.4
MOS Moscow 31.95 314 *eP* **P 22 39 04.3 -1.5**
MOS *e* pP 22 39 13.6 -3.4
MOS *e*S **S 22 44 06.5 -6.6**
MOS *e* 22 49 30.0
MOS pmax pmax
comp=Z,68nm,0.9s,mb5.5
MOS MLR MLR
comp=Z,500nm,18.0s,MS4.2
OBN Obninsk 32.42 313*c iP* **P 22 39 09.0 -0.9**
OBN *i* *PP pP 22 39 19.5 -1.6
OBN *e* 22 40 21.0
OBN pmax pmax
comp=Z,42nm,1.2s,mb5.1
OBN MLR MLR
comp=Z,400nm,21.0s,MS4.1
NJ2 Nanjing 32.42 91 *eP* **P 22 39 12.3 +2.0**
NJ2 AP pP 22 39 21.4 0.0
NJ2 XP sP 22 39 25.9 -0.7
NJ2 PP PP 22 40 20.3 +1.3
NJ2 S **S 22 44 23.0 +2.2**
NJ2 XS 22 44 40.0
NJ2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
NJ2 LR LR
comp=N,750nm,11.9s,MS4.9
NJ2 LR LR
comp=E,1μm,11.4s,MS4.9
GZT Gaziantep 32.84 280 *iP* **P 22 39 13.8 0.0**
QIZ Qiongzhong 33.13 120 *eP* **P 22 39 18.0 +1.5**
QIZ S **S 22 44 41.3 +9.4**
QIZ LR LR
comp=N,326nm,17.1s,MS4.2
QIZ LR LR
comp=E,303nm,18.1s,MS4.2
QIZ LR LR
comp=Z,446nm,24.1s
SIM Simferopol' 33.77 294*c iP* **P 22 39 21.8 +0.1**
SIM pmax pmax
comp=Z,28nm,0.7s,mb5.3
SIM MLR MLR
comp=Z,830nm,22.8s,MS4.4
BOYT Boyabat 33.80 288 *iP* **P 22 39 21.5 -0.5**
SSE Sheshan 34.63 91 P **P 22 39 25.9 -3.4**
comp=Z,16nm,0.7s,mb5.1
SSE sP sP 22 39 38.6 -7.1
SSE S **S 22 44 50.9 -4.2**
SSE sS 22 45 05.3
SSE ScS ScS 22 49 47.6 +2.0
SSE LR LR
comp=Z,240nm,17.8s,MS4.0
BALT Daday 34.89 288 *iP* **P 22 39 30.9 -0.5**
ELDT Eldivan 35.10 287 *iP* **P 22 39 33.3 +0.1**
BR131 Keskin Array S 35.14 285 *eP* **P 22 39 34.1 +0.6**
comp=Z,22nm,0.6s,mb5.3
BRTR Keskin Array B 35.14 285 P **P 22 39 33.7 +0.1**
comp=Z,40nm,0.9s,mb5.3,baz=93,slow=7.6,SNR=156
ASF Jabal al Asfar 35.20 271 P **P 22 39 34.8 +0.7**
comp=Z,10nm,0.9s,mb4.8,baz=287,slow=2.6,SNR=21
ASF LR LR 22 57 13.1
comp=Z,338nm,19.0s,MS4.1,baz=297,slow=42
SGKT Sivrigoynuk 36.09 287 *iP* **P 22 39 41.6 0.0**
AKASG Malin Array Be 36.57 305 P **P 22 39 44.2 -1.3**
comp=Z,4.8nm,0.6s,mb4.5,baz=73,slow=8.1,SNR=26
AKASG pP pP 22 39 55.7 -1.1
comp=Z,7.1nm,0.5s,baz=67,slow=8.8,SNR=17
AKASG PcP PcP 22 42 07.6 -1.1
comp=Z,1.4nm,0.5s,baz=68,slow=3.5,SNR=4.2
JOF Joensuu 36.86 325 *ep* **P 22 39 47.6 -0.2**
HENT Hendek 36.88 288 *iP* **P 22 39 47.9 -0.3**
ESKT Eskisehir 37.27 286 *iP* **P 22 39 51.1 -0.4**
LVZ Lovozero 37.33 334⇑*eP* **P 22 39 48.1 -3.7**
LVZ pmax pmax
comp=Z,26nm,0.9s,mb5.1
LVZ pmax pmax
comp=E,7.0nm,0.6s
YAK Yakutsk 37.34 37 *eP* **P 22 39 49.9 -2.0**
comp=E,34nm,0.5s,mb5.4
YAK Yakutsk 37.34 37 *eP* **P 22 39 51.4 -0.5**
YAK *e*PP pP 22 40 00.5 -2.7
YAK *e* 22 41 16.3
YAK *e* 22 42 09.8
YAK *e*S **S 22 45 35.3 -1.1**
YAK *e*SS SS 22 48 07.8 -1.9
YAK *e* 22 50 03.8
YAK pmax pmax
comp=Z,27nm,0.9s,mb5.1
YAK pmax pmax
comp=N,5.0nm,1.1s
YAK pmax pmax
comp=E,10.0nm,1.1s
YAK pmax pmax
comp=N,6.0nm,0.9s
YAK pmax pmax
comp=E,7.0nm,0.9s
YAK pmax pmax
comp=Z,11nm,0.9s,mb4.7
YAK smax
comp=E,19nm,1.3s
YAK smax
comp=N,8.0nm,1.0s
YAK MLR MLR
comp=N,271nm,19.0s,MS4.4
YAK MLR MLR
comp=Z,775nm,19.0s,MS4.5
YAK MLR MLR
comp=E,413nm,16.0s,MS4.4
MNK Minsk 37.38 311 *eP* **P 22 39 50.0 -2.3**
TIRR Tirgusor 37.86 294⇓*iP* **P 22 39 57.2 +0.8**
TIRR Tirgusor 37.86 294⇓*iP* **P 22 39 57.2 +0.8**
CFR Carcaliu 37.92 296⇑*iP* **P 22 39 56.4 -0.5**
CFR Carcaliu 37.92 296⇑*iP* **P 22 39 56.4 -0.5**
TKTP Tekketepe 38.10 284 *iP* **P 22 39 58.4 -0.1**
PSN Preselentsi 38.18 293 *eP* **P 22 40 01.0 +1.9**
VSU Vasula 38.24 317 *eP* **P 22 40 00.0 +0.6**
ULDT Uludag 38.36 287 *iP* **P 22 39 59.8 -0.8**
VRI Vrincioaia 38.77 297⇓*iP* **P 22 40 05.6 +1.7**
VRI Vrincioaia 38.77 297⇓*iP* **P 22 40 05.6 +1.7**
PRD Provadia 38.84 293 *eP* **P 22 40 06.0 +1.4**
FINES FINESS Array B 38.94 322 P **P 22 40 04.5 -0.7**
comp=E,5.2nm,0.7s,mb4.4,baz=100,slow=9.8,SNR=24
FINES LR LR 22 56 53.4
comp=E,527nm,20.8s,MS4.3,baz=95,slow=37
KAF Kangasniemi 38.94 323 *ep* **P 22 40 04.7 -0.5**
ISR Istrita 39.03 296⇓*iP* **P 22 40 08.2 +2.0**
ISR Istrita 39.03 296⇓*iP* **P 22 40 08.2 +2.0**
MLR Muntele Rosu 39.38 297⇑*iP* **P 22 40 10.9 +1.9**
MLR Muntele Rosu 39.38 297⇑*iP* **P 22 40 11.0 +2.0**
BURAR Bucovina Array 39.50 300 P **P 22 40 10.9 +0.9**
JMB Yambol 39.60 292 *iP* **P 22 40 13.0 +2.1**
LVV L'vov 39.96 304⇓*iP* **P 22 40 13.4 -0.4**
LVV *e* pP 22 40 24.6 -0.5
LVV MLR MLR
comp=Z,100nm,19.8s,MS3.7
SUW Suwalki 40.12 310 *eP* **P 22 40 15.1 0.0**
SUW Suwalki 40.12 310 *eP* **P 22 40 15.1 0.0**
TIXI Tiksi 40.25 22⇑*iP* **P 22 40 14.5 -1.5**
TIXI pmax pmax
comp=Z,10.0nm,0.7s,mb4.7
TIXI MLR MLR
comp=Z,259nm,12.0s,MS4.3
KEV Kevo 40.61 335 *ep* **P 22 40 19.1 +0.1**
KWP Kalwaria 40.84 303 *eP* **P 22 40 22.6 +1.5**
KWP Kalwaria 40.84 303 *eP* **P 22 40 22.6 +1.5**
ARCES ARCESS Array B 41.04 334 P **P 22 40 22.4 -0.1**
comp=Z,11nm,0.7s,mb4.6,baz=98,slow=8.5,SNR=37
ARCES LR LR 22 58 34.6
comp=Z,522nm,19.4s,MS4.4,baz=102,slow=38
ARCES ARCESS Array B 41.04 334 P **P 22 40 22.4 -0.1**
ARCES LR LR 22 58 34.6
RZN Rozhen 41.15 291 *iP* **P 22 40 27.0 +3.3**
KOLS Kolonicke sedl 41.23 303 *iP* **P 22 40 25.2 +0.9**
PGB Panagyurishte 41.30 293 *iP* **P 22 40 27.0 +2.0**
DRGR 41.33 299 P **P 22 40 25.5 +0.4**
CRVS Cervenica-Dubn 41.76 303 *iP* **P 22 40 29.1 +0.5**
STHS Stebnicka Huta 41.81 303 *iP* **P 22 40 29.6 +0.6**
MMB Musomiste 41.88 291 *iP* **P 22 40 31.2 +1.5**
VTS Vitosha 41.97 293 *iP* **P 22 40 32.2 +1.7**
APE Apeiranthos 42.01 284 P **P 22 40 31.5 +0.6**
APE Apeiranthos 42.01 284 *iP* **P 22 40 31.3 +0.5**
KKB Krupnik 42.27 292 *iP* **P 22 40 33.2 +0.3**
NIE Niedzica 42.41 304⇑*eP* **P 22 40 35.1 +1.2**
KECS Kecovo 42.47 302 *iP* **P 22 40 35.5 +1.0**
OJC Ojcow 42.60 305 *eP* **P 22 40 35.8 +0.3**
PSZ Piszkesteto 42.97 301 P **P 22 40 39.9 +1.3**
IDI Anoyia 43.15 282 P **P 22 40 39.4 -0.8**
comp=Z,37nm,1.1s,mb5.0,baz=34,slow=7.7,SNR=13
VYHS Vyhne 43.54 302 *iP* **P 22 40 44.5 +1.3**
VYHS *e*PP PP 22 42 24.2 -2.3
GKP Gorka Klasztor 43.71 310 *eP* **P 22 40 45.5 +1.0**
GKP Gorka Klasztor 43.71 310 *eP* **P 22 40 45.5 +1.0**
OKC Ostrava-Krasne 43.72 305 *eP* **P 22 40 44.9 +0.3**
OKC *e*pP pP 22 40 55.5 -0.5
OKC AMS AMS 22 59 50.0
comp=Z,300nm,17.2s
DIVS Divcibare 43.82 296⇓*iP* **P 22 40 45.9 +0.4**
MORC Moravsky Berou 44.12 305 *eP* **P 22 40 47.8 0.0**
comp=Z,19nm,1.2s,mb4.7
MORC Moravsky Berou 44.12 305 *eP* **P 22 40 47.8 0.0**

MORC pmax pmax
comp=Z,19nm,1.2s,mb4.7
IVA Berane 44.23 294⇑iP P 22 40 50.1 +1.3
PVY Plav 44.26 294⇑iP P 22 40 49.6 +0.5
PLE Pljevlja 44.45 295⇑iP P 22 40 51.9 +1.3
KSP Ksiaz 44.69 306 eP **P 22 40 52.7 +0.3**
KSP epP pP 22 41 03.7 -0.1
KSP eSS SS 22 50 50.0 +12
KSP LR LR
comp=Z,700nm,25.1s,MS4.5
DPC Dobruska-Polom 44.77 306 eP **P 22 40 53.7 +0.7**
DPC epP pP 22 41 04.8 +0.3
DPC AMS AMS 23 00 00.0
comp=Z,400nm,23.3s
BSD Bornholm Skovb 44.81 312 iP **P 22 40 52.6 -0.6**
BSD i pP 22 41 05.6 +0.9
TTG Podgorica 44.81 294⇑iP P 22 40 53.6 +0.1
UPM Unac-Piva 44.83 295⇑iP P 22 40 54.1 +0.5
NKY Niksic 44.88 295⇑iP P 22 40 54.1 +0.1
UPC Upice 44.93 306 eP **P 22 40 55.1 +0.8**
UPC epP pP 22 41 06.0 +0.2
ULC Ulcinj 44.97 293⇑iP P 22 40 55.2 +0.5
BUM Brajici-Budva 45.11 294⇑iP P 22 40 56.1 +0.3
BRY Bratogost 45.18 295⇑iP P 22 40 55.9 -0.4
YSS Yuzh-Sakhalins 45.33 59 eP **P 22 41 06.8 +9.3**
YSS e 22 41 13.0
YSS MLR MLR
comp=Z,1µm,17.0s,MS4.9
YSS MLR MLR
comp=N,500nm,13.0s,MS4.9
YSS MLR MLR
comp=E,1µm,16.0s,MS4.9
HCY Herceg Novi 45.35 294⇑iP P 22 40 58.2 +0.5
MJAR Matsushiro Arr 45.43 75 P **P 22 41 00.1 +1.6**
comp=E,0.8nm,0.4s,mb4.0,baz=295,slow=9.5,SNR=6.1
MJAR LR LR 23 02 56.8
comp=E,201nm,18.9s,MS4.1,baz=300,slow=40
TREC Trest 45.53 304 eP **P 22 41 00.3 +1.2**
TREC epP pP 22 41 10.6 +0.1
TREC AMS AMS 23 00 10.0
PVCC Panska Ves 45.83 306 eP **P 22 41 02.2 +0.7**
PVCC epP pP 22 41 13.0 +0.1
PVCC AMS AMS 22 59 40.0
comp=E,400nm,19.8s
PRU Pruhonice 45.97 305 eP **P 22 41 03.6 +1.0**
PRU epP pP 22 41 13.9 -0.1
PRU AMS AMS 23 00 40.0
comp=E,400nm,22.9s
ARSA Arzberg 46.00 302⇑iP P 22 41 03.1 +0.2
comp=E,15nm,1.4s,mb4.7
NB2 NORSAR Subarra 46.10 321 P **P 22 41 03.2 -0.3**
comp=E,19nm,0.7s,mb5.1,baz=85,slow=7.9
NB2 NORSAR Subarra 46.10 321 P **P 22 41 03.2 -0.3**
baz=85,slow=7.9
NB2 NORSAR Subarra 46.10 321 P **P 22 41 03.2 -0.3**
NB2 pmax pmax
comp=Z,19nm,0.7s,mb5.1
NOA NORSAR Array B 46.10 321 P **P 22 41 03.1 -0.3**
comp=Z,11nm,0.6s,mb5.0,baz=86,slow=7.9,SNR=35
NOA LR LR 23 01 04.5
comp=Z,458nm,21.4s,MS4.4,baz=70,slow=37
NOA NORSAR Array B 46.10 321 P **P 22 41 03.1 -0.3**
NOA LR LR 23 01 04.5
BRG Berggiesshubel 46.14 307 iP **P 22 41 04.8 +0.9**
comp=Z,24nm,1.2s,mb5.0
BRG i 22 51 24.0
BRG Berggiesshubel 46.14 307 iP **P 22 41 04.8 +0.9**
NAO01 NORSAR Array S 46.27 321 eP **P 22 41 04.3 -0.5**
comp=Z,12nm,0.6s,mb5.0
PERS Pernice 46.44 301 eP **P 22 41 06.5 +0.2**
CLL Collm 46.62 308 P **P 22 41 07.6 -0.1**
comp=Z,logA/T=1.4,mb5.1
CLL i *PP pP 22 41 18.9 -0.2
CLL i pP 22 41 21.5 +2.4
CLL e*SP sP 22 41 24.0 0.0
CLL ePP PP 22 42 53.0 -4.3
CLL Collm 46.62 308 iP **P 22 41 07.6 -0.1**
comp=Z,29nm,1.2s,mb5.1
CLL i pP 22 41 18.9 -0.2
CLL Collm 46.62 308 iP **P 22 41 07.6 -0.1**
CLL i pP 22 41 18.9 -0.2
CLL pmax pmax
comp=Z,29nm,1.2s,mb5.1
BOJS Bojanci 46.67 299 eP **P 22 41 08.3 +0.2**
MOA Molln 46.67 303⇑iP P 22 41 08.2 +0.1
comp=Z,13nm,1.2s,mb4.7
GEC2 GERESS Array S 46.77 304 eP **P 22 41 09.5 +0.6**
comp=Z,35nm,1.2s,mb5.2
GEC2 GERESS Array S 46.77 304 eP **P 22 41 09.5 +0.6**
GEC2 pmax pmax
comp=Z,35nm,1.2s,mb5.2
GERES GERESS Array B 46.77 304 P **P 22 41 09.6 +0.7**
comp=Z,8.6nm,0.7s,mb4.8,baz=73,slow=7.7,SNR=72
GERES LR LR 23 03 38.7
comp=Z,342nm,21.0s,MS4.3,baz=76,slow=40
KHC Kasperske Hory 46.78 304 eP **P 22 41 09.4 +0.4**
KHC epP pP 22 41 19.3 -1.1
KHC PP PP 22 43 02.5 +3.7
KHC AMS AMS 23 00 40.0
comp=Z,400nm,25.3s
KHC Kasperske Hory 46.78 304 eP **P 22 41 09.4 +0.4**
KHC epP pP 22 41 19.3 -1.1
KHC e 22 43 02.5
KHC LR LR
comp=Z,400nm,25.3s,MS4.3
OBKA Obir 46.85 301⇑iP P 22 41 10.1 +0.6
comp=Z,25nm,1.2s,mb5.0
LJU Ljubljana 46.99 300 eP **P 22 41 11.0 +0.3**
NKC Novy Kostel 47.22 306 eP **P 22 41 13.4 +1.0**
NKC epP pP 22 41 25.6 +1.8
NKC AMS AMS 23 01 30.0
comp=Z,400nm,18.0s
WET Wettzell 47.22 305 eP **P 22 41 13.4 +0.9**
comp=Z,31nm,1.5s,mb5.0
WET Wettzell 47.22 305 eP **P 22 41 13.4 +0.9**
WET pmax pmax
comp=Z,31nm,1.5s,mb5.0
KNDS Knezji Dol 47.24 300 eP **P 22 41 12.9 +0.2**
KBA Koelnbreinsper 47.48 302⇑iP P 22 41 15.0 +0.5
comp=Z,6.3nm,0.9s,mb4.5
KBA Koelnbreinsper 47.48 302⇑iP P 22 41 15.0 +0.5
KBA pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
MA2 Magadan 47.54 41 eP **P 22 41 15.7 +0.9**
MA2 e 22 43 05.6
MA2 ePS PS 22 48 08.4 -11
MA2 pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
MA2 MLR MLR
comp=Z,300nm,24.0s,MS4.2
MOX Moxa 47.63 307 iP **P 22 41 16.4 +0.7**
comp=Z,logA/T=1.3,mb5.1
MOX pP pP 22 41 30.0 +2.9
MOX L 23 04 56.0
MOX Moxa 47.63 307 eP **P 22 41 16.4 +0.7**
comp=Z,31nm,1.5s,mb5.1
MOX e pP 22 41 29.5 +2.4
MOX LR LR
comp=Z,200nm,19.0s,MS4.1
MOX Moxa 47.63 307 eP **P 22 41 16.4 +0.7**
MOX e pP 22 41 29.5 +2.4
MOX pmax pmax
comp=Z,31nm,1.5s,mb5.1
MOX MLR MLR
comp=Z,200nm,19.0s,MS4.1
BSEG Bad Segeberg 47.65 312 eP **P 22 41 16.9 +1.1**
TIP Timpagrande 47.70 291 eP **P 22 41 16.2 -0.2**
SEY Seymchan 47.87 36 iP **P 22 41 16.7 -0.6**
CLZ Clausthal 48.10 309 eP **P 22 41 19.5 +0.2**
comp=Z,26nm,1.3s,mb5.1
CLZ Clausthal 48.10 309 eP **P 22 41 19.5 +0.2**
CLZ pmax pmax
comp=Z,26nm,1.3s,mb5.1
GRA1 Grafenberg Arr 48.12 306 eP **P 22 41 20.6 +1.1**
comp=Z,42nm,1.0s,mb5.4
GRF Grafenberg Arr 48.12 306 eP **P 22 41 20.6 +1.1**
comp=Z,42nm,1.0s,mb5.4
GRF LR LR
comp=Z,400nm,21.5s,MS4.4
GRF Grafenberg Arr 48.12 306 eP **P 22 41 20.6 +1.1**
GRF pmax pmax
comp=Z,42nm,1.0s,mb5.4
GRF MLR MLR
comp=Z,400nm,21.5s,MS4.4
FUR Furstenfeldbru 48.51 304 eP **P 22 41 24.1 +1.6**
comp=Z,34nm,0.5s,mb5.6
FUR Furstenfeldbru 48.51 304 eP **P 22 41 24.1 +1.6**
FUR pmax pmax
comp=Z,34nm,0.5s,mb5.6
CII Carovilli 48.53 295 eP **P 22 41 23.3 +0.6**
comp=Z,7.8nm,0.8s,mb4.8
WTTA Wattenberg 48.54 303⇑iP P 22 41 22.6 -0.2
comp=Z,16nm,0.9s,mb5.0
WTTA Wattenberg 48.54 303⇑iP P 22 41 22.6 -0.2
WTTA pmax pmax
comp=Z,16nm,0.9s,mb5.0
WATA Walderalm 48.56 303⇓iP P 22 41 22.9 0.0
comp=Z,24nm,1.4s,mb5.0
WATA Walderalm 48.56 303⇓iP P 22 41 22.9 0.0
WATA pmax pmax
comp=Z,24nm,1.4s,mb5.0
SQTA Sankt Quirin 48.83 303⇓iP P 22 41 25.0 0.0
comp=Z,19nm,1.2s,mb5.0
SQTA Sankt Quirin 48.83 303⇓iP P 22 41 25.0 0.0
SQTA pmax pmax
comp=Z,19nm,1.2s,mb5.0
MOTA Moosalm 48.87 303⇓iP P 22 41 25.3 +0.1
comp=Z,26nm,1.3s,mb5.1
MOTA Moosalm 48.87 303⇓iP P 22 41 25.3 +0.1
MOTA pmax pmax
comp=Z,26nm,1.3s,mb5.1
AQU L'Aquila 48.94 296 eP **P 22 41 25.6 -0.3**
comp=Z,24nm,0.8s,mb5.3
AQU L'Aquila 48.94 296 eP **P 22 41 25.6 -0.3**
AQU pmax pmax
comp=Z,24nm,0.8s,mb5.3
TOD Tromm 49.66 306 eP **P 22 41 31.7 +0.4**
STU Stuttgart 49.66 305 eP **P 22 41 31.3 0.0**
comp=Z,20nm,1.2s,mb5.0
STU Stuttgart 49.66 305 eP **P 22 41 31.3 -0.1**
STU pmax pmax
comp=Z,20nm,1.2s,mb5.0
DAVA Damuels 49.67 303⇑iP P 22 41 31.2 -0.3
comp=Z,23nm,0.8s,mb5.3
TNS Taus Mts 49.70 307 eP **P 22 41 32.4 +0.8**
comp=Z,56nm,1.9s,mb5.3
TNS Taunus Mts 49.70 307 eP **P 22 41 32.4 +0.8**
TNS pmax pmax
comp=Z,56nm,1.9s,mb5.3
DAVOX Davos 49.84 302 P **P 22 41 32.6 -0.1**
comp=Z,13nm,0.5s,mb5.3,baz=111,slow=3.9,SNR=35
BFO Black Forest 50.34 305 eP **P 22 41 35.9 -0.7**
comp=Z,30nm,1.5s,mb5.1
BFO Black Forest 50.34 305 eP **P 22 41 35.9 -0.7**
BFO pmax pmax
comp=Z,30nm,1.5s,mb5.1
SARO Sassorosso 50.36 299 P **P 22 41 37.7 +1.0**
VLC Villacollemand 50.38 299 eP **P 22 41 36.9 -0.1**
comp=Z,30nm,0.8s,mb5.4
MAIM 50.39 299 P **P 22 41 36.4 -0.6**
VALM 50.40 299 P **P 22 41 37.6 +0.5**
GRAM 50.48 300 P **P 22 41 38.0 +0.4**
BACM 50.55 299 P **P 22 41 38.5 +0.4**
CODM 50.66 299 P **P 22 41 39.6 +0.6**
WLS Welschbruch 50.93 305 eP **P 22 41 41.4 +0.3**
CDF Champ du Feu 50.98 305⇑iP P 22 41 41.0 -0.4
comp=Z,36nm,1.0s,mb5.0
ECH Echery 51.12 305 eP **P 22 41 42.8 +0.3**
MOF Molkenrain 51.26 305 eP **P 22 41 44.0 +0.5**
HINF Hinteralfeld 51.44 305⇑iP P 22 41 44.5 -0.4
comp=Z,25nm,0.6s,mb5.0
ORX Oropa 51.46 302 P **P 22 41 42.9 -2.2**
PCP Pian Castagno 51.48 300 P **P 22 41 45.0 -0.2**
HAU Haudompre 51.70 305⇑iP P 22 41 46.4 -0.5
comp=Z,14nm,0.6s,mb4.8
HAU eR
comp=Z,218nm,22.0s
FIN Finale Ligure 51.82 300 P **P 22 41 46.1 -1.7**
THEF They Montfort 51.85 305 eP **P 22 41 48.2 +0.2**
PGF Pioggiola 51.90 298⇑iP P 22 41 48.1 -0.3
comp=Z,146nm,1.4s,mb5.4
GIVF Givet 51.95 308 eP **P 22 41 48.7 0.0**
ROB Roburent 52.02 300 P **P 22 41 48.2 -1.1**
LSD Ceresole Reale 52.07 302 P **P 22 41 49.0 -0.7**
RSP Reno Superiore 52.11 301 P **P 22 41 47.6 -2.4**
IMI Imperia 52.15 300 P **P 22 41 49.9 -0.3**
BHB Bricherasio 52.22 301 P **P 22 41 48.6 -2.2**
FENE Fenestrelle 52.28 301 P **P 22 41 50.0 -1.2**
NEGI Negi 52.29 300 P **P 22 41 50.3 -1.0**
LPG La Plagne 52.32 302⇑iP P 22 41 51.8 +0.3
comp=Z,51nm,0.9s,mb5.1
LPL La Plagne 52.32 302⇑iP P 22 41 51.7 +0.2
comp=Z,80nm,0.9s,mb5.3
ENR Entracque 52.34 300 P **P 22 41 49.4 -2.3**
SAOF Saorge 52.34 300 eP **P 22 41 52.1 +0.4**
BAIF Baives 52.34 308⇑iP P 22 41 51.6 0.0
comp=Z,59nm,1.2s,mb5.1
MEZF Maizieres J'vi 52.35 306⇑iP P 22 41 51.7 0.0
comp=Z,77nm,1.0s,mb5.3
CABF La Chapelle 52.35 303⇑iP P 22 41 51.0 -0.7
comp=Z,18nm,0.8s,mb4.7
STV2 Anna di Valdie 52.40 300 P **P 22 41 50.5 -1.6**
STV Sta Anna Valdi 52.40 300 P **P 22 41 50.2 -1.9**
AUTN L'Aution 52.42 300 eP **P 22 41 53.1 +0.8**
SBF Sospel 52.47 300⇑iP P 22 41 52.4 -0.2
comp=Z,77nm,0.8s,mb5.4
RRL Cesana Torines 52.51 301 P **P 22 41 51.9 -1.0**
BNI Bardonecchia 52.53 301 eP **P 22 41 52.7 -0.4**
comp=Z,48nm,1.2s,mb5.3
TOUF Mont Tournerai 52.54 300 eP **P 22 41 53.8 +0.6**
MBDF Montbardon 52.59 301⇑iP P 22 41 52.7 -0.8
comp=Z,18nm,0.7s,mb4.8
BILL Bilibino 52.63 28⇑eP P 22 41 49.5 -4.1
BILL pmax pmax
comp=Z,2.0nm,0.4s,mb4.4
BILL MLR MLR
comp=Z,400nm,17.0s,MS4.5
CALN Calern 52.88 300 eP **P 22 41 56.0 +0.3**
ORIF Oris-en-Rattie 53.10 301 eP **P 22 41 56.5 -0.9**
comp=Z,30nm,0.7s,mb5.0
ORIF eR
comp=Z,438nm,21.8s
FRF La Foret Royal 53.11 300⇑iP P 22 41 56.7 -0.8
comp=Z,19nm,0.8s,mb4.8
LMR La Mourre 53.29 299⇑iP P 22 41 58.0 -0.8
comp=Z,30nm,1.0s,mb4.9
LOR Lormes 53.54 305 eP **P 22 41 59.3 -1.3**
comp=Z,12nm,0.8s,mb4.6
DAG Danmarks Havn 53.61 344⇑iP P 22 42 00.6 -0.2
comp=Z,6.7nm,0.6s,mb4.8
DAG Danmarks Havn 53.61 344⇑iP P 22 42 00.6 -0.2
DAG pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
SMRF Simiane la Rot 53.67 300 eP **P 22 42 01.0 -0.6**
comp=Z,18nm,1.0s,mb4.7
SMF Signal de Mont 53.78 304⇑iP P 22 42 01.3 -1.1
comp=Z,60nm,1.0s,mb5.2
SSF Saint Saulge 53.84 305⇑iP P 22 42 01.6 -1.2
comp=Z,25nm,0.9s,mb4.8
VIVF Saint-Julien-l 53.92 302 eP **P 22 42 02.8 -0.6**
comp=Z,22nm,0.8s,mb4.9
AVF Avril sur Loir 54.04 304⇑iP P 22 42 03.4 -0.9
comp=Z,73nm,0.8s,mb5.3
HYF Humbligny 54.31 305 eP **P 22 42 05.7 -0.5**
BGF Bois d'Agland 54.45 304 eP **P 22 42 06.2 -1.1**
comp=Z,11nm,0.6s,mb4.6
AGO Saint Agoulin 54.46 304 eP **P 22 42 08.5 +1.1**
LBL Lubilhac 54.70 303 eP **P 22 42 10.2 +1.0**
LASF Ste Croix 54.77 301⇑iP P 22 42 09.2 -0.4
comp=Z,28nm,0.9s,mb5.0
TCF Toulx Ste Croi 54.96 304⇑iP P 22 42 10.4 -0.6
comp=Z,26nm,0.8s,mb5.0
LDF La Druitiere 55.51 308 eP **P 22 42 13.9 -1.1**
comp=Z,32nm,0.6s,mb5.2
CAF Calviac 55.59 303⇑iP P 22 42 15.2 -0.4
comp=Z,19nm,0.9s,mb4.8
FLN La Foliniere 55.67 308⇑iP P 22 42 15.0 -1.1
comp=Z,15nm,0.7s,mb4.9
FLN eR
comp=Z,406nm,22.8s
RJF Les Rejaudoux 55.80 303 eP **P 22 42 16.9 -0.1**
comp=Z,28nm,0.8s,mb5.0
RJF eR
comp=Z,209nm,19.5s
GRR Gorron 56.05 308 eP **P 22 42 17.6 -1.2**
comp=Z,64nm,0.8s,mb5.4
MTLF Montolieu 56.15 301⇑iP P 22 42 19.0 -0.6
comp=Z,21nm,0.8s,mb4.9
KMBO Kilima Mbogo 56.17 234 P **P 22 42 20.5 +0.3**
comp=Z,19nm,1.1s,mb5.0,baz=32,slow=10,SNR=33
KMBO LR LR 23 07 56.6
comp=Z,200nm,20.1s,MS4.2,baz=196,slow=38
KMBO Kilima Mbogo 56.17 234 P **P 22 42 20.5 +0.3**
KMBO pmax pmax
comp=Z,19nm,1.1s
KMBO MLR MLR
comp=Z,200nm,20.1s
MFF Saint Martin d 56.32 305⇑iP P 22 42 19.6 -1.2
comp=Z,19nm,0.8s,mb4.9
LFF La Frestale 56.45 303⇑iP P 22 42 21.4 -0.3
comp=Z,32nm,0.7s,mb5.2
SGMF Saint Gilles 57.14 308⇑iP P 22 42 25.8 -0.8
comp=Z,38nm,0.7s,mb5.2
EMIR Miracle 57.23 300 P **P 22 42 26.4 -0.9**
comp=Z,59nm,1.4s,mb5.4
ETOS Mallorca 57.30 297 P **P 22 42 27.3 -0.7**
comp=Z,111nm,1.1s,mb5.8
EPF Esparros 57.52 301⇑iP P 22 42 28.9 -0.5
comp=Z,4.9nm,0.5s,mb4.5
ROSF Rostrenen 57.54 308⇑iP P 22 42 28.5 -0.9
comp=Z,9.4nm,0.5s,mb4.8
QUIF Quistinic 57.65 308 eP **P 22 42 29.1 -1.1**
comp=Z,33nm,0.8s,mb5.1
EPOB Poblet 57.77 299 P **P 22 42 30.7 -0.5**
comp=Z,51nm,2.3s,mb5.1
EBIE Bielsa 57.81 301 P **P 22 42 30.8 -0.6**
comp=Z,25nm,1.1s,mb5.2
EGRA Graus 57.91 300 P **P 22 42 31.2 -1.0**
comp=Z,20nm,1.0s,mb5.1
ETSF Etsaut 58.17 302⇑iP P 22 42 33.6 -0.4
comp=Z,14nm,0.6s,mb4.8
ERTA Horta de San J 58.46 299 P **P 22 42 34.8 -1.1**
comp=Z,74nm,1.7s,mb5.4
SJPF Ste Jean 58.52 302⇑iP P 22 42 35.4 -0.9
comp=Z,13nm,0.8s,mb4.7
ESAC San Caprasio 58.65 300 P **P 22 42 36.5 -0.8**
comp=Z,102nm,1.5s,mb5.6
EALK Alkurruntz 58.65 302 P **P 22 42 36.8 -0.5**
comp=Z,237nm,2.3s,mb5.8
EMOS Mosqueruela 59.27 299 P **P 22 42 41.2 -0.4**
comp=Z,61nm,1.7s,mb5.3
ELAN Lanestosa 59.90 303 P **P 22 42 45.6 -0.3**
comp=Z,110nm,2.0s,mb5.5
ECHE Chera 59.97 298 P **P 22 42 44.6 -1.9**
comp=Z,3.6nm,0.8s,mb4.5
MBAR Mbarara 60.01 241 c iP **P 22 42 45.7 -1.4**
ETOB Tobarra 60.82 298 P **P 22 42 52.1 -0.2**
comp=Z,42nm,2.2s,mb5.2
EMUR La Murta 61.00 297 P **P 22 42 53.0 -0.5**
comp=Z,25nm,1.2s,mb5.2
EVIA Vianos 61.48 298 P **P 22 42 56.5 -0.2**
comp=Z,7.8nm,0.7s,mb5.0
ESDC Sonseca Array 61.95 300 P **P 22 42 59.0 -0.8**
comp=Z,3.5nm,0.5s,mb4.8,baz=54,slow=6.7,SNR=33
ESDC pP pP 22 43 12.3 +0.6
comp=Z,4.4nm,0.8s,baz=54,slow=7.2,SNR=6.5
ESDC Sonseca Array 61.95 300 P **P 22 42 59.1 -0.8**
comp=Z,11nm,0.8s,mb5.0
EPON Pontenova 62.24 305 P **P 22 42 59.0 -2.7**
comp=Z,167nm,2.1s,mb5.8
EQES Quesada 62.28 297 P **P 22 43 01.3 -0.8**
comp=Z,57nm,1.8s,mb5.4
EBAN Banos Encina 62.59 298 P **P 22 43 03.0 -1.1**
comp=Z,6.8nm,0.6s,mb5.0
EBER Berja 62.61 296 P **P 22 43 03.0 -1.3**
comp=Z,66nm,1.7s,mb5.5
ECAL Calabor 62.66 303 P **P 22 43 03.9 -0.7**
comp=Z,309nm,2.7s,mb6.0
ERUA La Rua 62.69 304 P **P 22 43 03.4 -1.3**
comp=Z,15nm,0.8s,mb5.2
PBRG Braganca 62.73 303 eP **P 22 43 04.7 -0.3**
EGUA Guajares 63.11 297 P **P 22 43 06.3 -1.4**
EADA Adamuz 63.12 298 P **P 22 43 05.9 -1.8**
comp=Z,60nm,2.3s,mb5.3
ERON Agron 63.18 297 P **P 22 43 06.9 -1.2**
comp=Z,6.6nm,0.5s,mb5.0
EALB Alboran 63.20 296 P **P 22 43 07.1 -1.2**
comp=Z,32nm,0.9s,mb5.5
ELOB Lobios 63.55 304 P **P 22 43 10.2 -0.2**
comp=Z,205nm,2.6s,mb5.7
PCAB Cabril 63.61 303 eP **P 22 43 11.5 +0.7**
comp=Z,43nm,1.6s,mb5.2
PVRL Vila Real 63.63 303 eP **P 22 43 10.6 -0.3**
MTE Manteigas 63.96 302 eP **P 22 43 13.7 +0.6**
EMIJ Mijas 64.08 297 P **P 22 43 11.2 -2.7**
comp=Z,35nm,2.1s,mb5.0
PCBR Castelo Branco 64.21 301 eP **P 22 43 15.2 +0.5**
EBAD Badajoz 64.46 300 P **P 22 43 13.7 -2.7**
comp=Z,61nm,2.0s,mb5.3
EJIF Jimena Fronter 64.62 297 P **P 22 43 15.1 -2.4**
comp=Z,3.8nm,0.6s,mb4.6
ESPR Espera 64.67 298 P **P 22 43 15.6 -2.1**
comp=Z,24nm,1.3s,mb5.1
EMIN Mina Concepcio 64.75 299 P **P 22 43 17.3 -1.0**
comp=Z,20nm,1.0s,mb5.1
EGRO El Granado 65.42 299 P **P 22 43 22.3 -0.3**
comp=Z,155nm,3.0s
INK Inuvik 69.47 13 P **P 22 43 47.1 -0.3**
comp=Z,2.9nm,0.7s,mb4.3,baz=54,slow=8.0,SNR=6.4
INK Inuvik 69.47 13 P **P 22 43 47.2 -0.2**
INK pmax pmax
comp=Z,3.0nm,0.7s
ILAR Eielson Array 69.66 19 P **P 22 43 48.0 -0.7**
comp=Z,3.8nm,0.7s,mb4.4,baz=315,slow=5.2,SNR=34
ILAR Eielson Array 69.66 19 P **P 22 43 48.0 -0.6**
ILAR pmax pmax
comp=Z,4.0nm,0.7s
FITZ Fitzroy Crossi 71.70 134 eP **P 22 44 02.7 +1.0**
comp=Z,10nm,0.9s,mb4.8
FITZ i pP 22 44 15.8 +2.0
YKA Yellowknife Ar 77.50 7 P **P 22 44 34.1 -0.2**
comp=Z,4.9nm,0.6s,mb4.6,baz=338,slow=5.5,SNR=11
YKA pP pP 22 44 47.9 +1.5
comp=Z,6.3nm,0.6s,baz=341,slow=5.7,SNR=7.5
YKA Yellowknife Ar 77.50 7 P **P 22 44 34.1 -0.2**
YKA pP pP 22 44 47.9 +1.5
YKA Yellowknife Ar 77.50 7 P **P 22 44 34.1 -0.3**
YKA *PP pP 22 44 47.9 +1.4
YKA pmax pmax
comp=Z,5.0nm,0.6s
YKA pmax pmax
comp=Z,6.0nm,0.6s
WRA Warramunga Arr 78.20 128 P **P 22 44 39.4 +0.4**
comp=Z,12nm,0.9s,mb4.8,baz=327,slow=5.4,SNR=38
WRA pP pP 22 44 52.2 +1.0
comp=Z,20nm,0.8s,baz=328,slow=5.5,SNR=27
WRA Warramunga Arr 78.20 128 P **P 22 44 39.4 +0.3**
WRA *PP pP 22 44 52.2 +1.0
WRA pmax pmax
comp=Z,12nm,0.9s
WRA pmax pmax
comp=Z,20nm,0.8s
SCHQ Schefferville 81.58 341 P **P 22 44 56.0 -0.4**
comp=Z,7.1nm,0.8s,mb4.7,baz=16,slow=4.6,SNR=9.0
SCHQ LR LR 23 22 30.8
comp=Z,73nm,19.3s,MS4.0,baz=219,slow=37
DBIC Dimbokro 81.61 272 P **P 22 44 57.6 +0.2**
comp=Z,17nm,0.9s,mb5.0,baz=34,slow=6.5,SNR=12
DBIC LR LR 23 26 45.7
comp=Z,148nm,19.2s,MS4.4,baz=36,slow=40
DBIC Dimbokro 81.61 272 P **P 22 44 57.6 +0.2**
DBIC pmax pmax
comp=Z,17nm,0.9s
DBIC MLR MLR
comp=Z,148nm,19.2s
LIC Lamto 82.02 271 eP **P 22 44 58.5 -1.1**
comp=Z,31nm,0.9s,mb4.9
FORT Forrest 83.26 140⇑iP P 22 45 06.6 +1.0
comp=Z,26nm,0.7s,mb5.4
FORT i pP 22 45 19.7 +1.9
BOSA Boshof 84.76 226 P **P 22 45 14.2 +1.0**
comp=Z,27nm,0.8s,mb5.4,baz=29,slow=4.4,SNR=58
BOSA LR LR 23 26 39.3
comp=Z,125nm,19.6s,MS4.3,baz=31,slow=38
BOSA Boshof 84.76 226 P **P 22 45 14.3 +1.1**
BOSA pmax pmax
comp=Z,27nm,0.8s,mb5.4
BOSA MLR MLR
comp=Z,125nm,19.6s,MS4.3
CTA Charters Tower 85.91 120⇓iP P 22 45 20.4 +1.4
comp=Z,16nm,0.8s,mb5.3
CTA i pP 22 45 31.9 +0.6
ULM Lac du Bonnet 90.35 357 P **P 22 45 38.6 -1.0**
comp=Z,1.7nm,0.5s,mb4.6,baz=300,slow=14,SNR=3.3
ULM pP pP 22 45 52.0 0.0
comp=Z,3.3nm,0.6s,baz=9.0,slow=4.5,SNR=3.4
ULM LR LR 23 30 23.6

comp=Z,101nm,19.9s,MS4.2,baz=8.3,slow=38
NEW Newport 91.15 11 P **P 22 45 44.0 +0.6**
comp=Z,1.3nm,0.4s,mb4.6,baz=350,slow=8.9,SNR=3.6
NEW LR LR 23 28 53.2
comp=Z,53nm,18.3s,MS4.0,baz=146,slow=37
NEW Newport 91.15 11 P **P 22 45 44.0 +0.6**
NEW LR LR 23 28 53.2
NEW Newport 91.15 11 P **P 22 45 44.0 +0.6**
NEW pmax pmax
comp=Z,1.0nm,0.4s
NEW MLR MLR
comp=Z,53nm,18.3s
STKA Stephens Creek 91.44 131 P **P 22 45 45.2 +0.1**
comp=Z,1.9nm,0.9s,mb4.4,baz=343,slow=7.3,SNR=5.0
STKA pP pP 22 45 58.0 +0.5
comp=Z,3.6nm,0.6s,baz=335,slow=5.4,SNR=4.8
STKA Stephens Creek 91.44 131 P **P 22 45 45.2 +0.1**
STKA pP pP 22 45 58.0 +0.5
PDAR Pinedale Array 97.49 7 LR LR 23 34 25.5
comp=Z,90nm,18.3s,MS4.3,baz=191,slow=38
VNA2 Neumayer--Watz 126.02 204⇓*i* PKPdf 22 51 41.7 +2.9
VNA2 Neumayer--Watz 126.02 204 PKPdf 22 51 53.7 +15
VNA2 Neumayer--Watz 126.02 204 PKPdf 22 51 55.7 +17
VNA2 Neumayer--Watz 126.02 204 PKPdf 22 52 01.8 +23
VNA2 Neumayer--Watz 126.02 204 PKPdf 22 52 07.8 +29
VNA3 Neumayer Olymp 126.82 204⇓*i* PKPdf 22 51 43.4 +3.0
VNA3 Neumayer Olymp 126.82 204 PKPdf 22 51 56.6 +16
VNA3 Neumayer Olymp 126.82 204 PKPdf 22 52 02.6 +22
VNA3 Neumayer Olymp 126.82 204 PKPdf 22 52 06.7 +26
ARE Arequipa 145.88 304 *e*P PKPdf 22 52 20.0 +3.4
PLCA Paso Flores 157.31 258 PKPab PKPab 22 53 06.8 +0.3
comp=Z,10nm,0.9s,baz=97,slow=6.0,SNR=17
PLCA Paso Flores 157.31 258 PKP2 PKPab 22 53 06.9 +0.3
PLCA pmax pmax
comp=Z,10.0nm,1.0s

*NEIC **24** 22:54:13.4, 37.89S×176.72E, h8km, ML3.8(WEL), After WEL.*
NEIC Felt at Kawerau.
WEL 24 22:54:13.5±0.1, 37.90S×176.71E, h8km±1km, ML3.7/11, 2C, Error ellipse: s-maj=0.9km s-min=0.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARZ	**Manawahe**	**0.10**	**199**	PG	Pg	22 54 15.9	+0.1
MARZ	**Manawahe**	**0.10**	**199**	P	Pg	22 54 15.9	0.0
EDRZ	**Edgecumbe**	**0.21**	**175**	PG	Pg	22 54 17.9	0.0
EDRZ	**Edgecumbe**	**0.21**	**175**	P	Pg	22 54 17.9	0.0
LIRZ	**Lichensteins R**	**0.28**	**247**	PG	Pg	22 54 19.5	+0.2
LIRZ	**Lichensteins R**	**0.28**	**247**	P	Pg	22 54 19.5	+0.2
MKRZ	**Makatiti**	**0.31**	**219**	PG	Pg	22 54 20.4	+0.6
MKRZ				SG	Sg	22 54 25.6	+1.5
MKRZ	**Makatiti**	**0.31**	**219**	P	Pg	22 54 20.4	+0.5
TAZ	**Tarawera**	**0.37**	**206**	PG	Pg	22 54 21.5	+0.4
TAZ				SG	Sg	22 54 26.9	+0.8
TAZ	**Tarawera**	**0.37**	**206**	P	Pg	22 54 21.6	+0.5
TGRZ	**Tauranga**	**0.40**	**294**	PG	Pg	22 54 21.5	0.0
TGRZ				SG	Sg	22 54 27.0	+0.2
URZ	**Urewera**	**0.48**	**140**	⇑PG	Pg	22 54 22.7	-0.5
URZ				SG	Sg	22 54 28.7	-0.9
URZ	**Urewera**	**0.48**	**140**	P	Pg	22 54 22.7	-0.4
UTU	**Utuhina**	**0.50**	**236**	PG	Pg	22 54 23.8	+0.2
UTU	**Utuhina**	**0.50**	**236**	P	Pg	22 54 23.7	+0.2
WIZ	**White Island**	**0.53**	**46**	P*	Pb	22 54 24.0	-0.5
WIZ				S*	Sb	22 54 31.4	-0.5
WIZ	**White Island**	**0.53**	**46**	P	Pg	22 54 24.2	+0.1
MYRZ	**Mayor Island**	**0.72**	**328**	P*	Pb	22 54 27.3	-0.5
MWZ	**Matawai**	**0.78**	**125**	⇑P*	Pb	22 54 28.2	-0.7
MWZ				S*	Sb	22 54 39.0	-0.3
TOZ	**Tahuroa Road**	**0.97**	**279**	P*	Pb	22 54 30.6	-1.5
TOZ				S*	Sb	22 54 43.0	-2.0
TOZ	**Tahuroa Road**	**0.97**	**279**	P	Pb	22 54 30.6	-1.6
BKZ	**Black Stump Fm**	**1.28**	**188**	*e*P*	Pb	22 54 35.6	-1.8
BKZ	**Black Stump Fm**	**1.28**	**188**	*e*P	Pb	22 54 35.6	-1.8
KNZ	**Kokohu**	**1.35**	**146**	*e*PN	Pn	22 54 38.5	-0.3
KNZ	**Kokohu**	**1.35**	**146**	*e*P	Pb	22 54 38.5	-0.2
KUZ	**Kuaotunu**	**1.39**	**325**	PN	Pn	22 54 38.2	-1.1
KUZ				SN	Sn	22 54 56.3	-1.8
KUZ	**Kuaotunu**	**1.39**	**325**	P	Pn	22 54 38.2	-1.1
MKAZ	**Moumakai**	**1.46**	**302**	PN	Pn	22 54 39.9	-0.3
MKAZ	**Moumakai**	**1.46**	**302**	P	Pn	22 54 39.9	-0.3
HIZ	**Hauiti**	**1.59**	**247**	PN	Pn	22 54 40.1	-2.0
HIZ	**Hauiti**	**1.59**	**247**	*e*P	Pn	22 54 40.1	-2.0
CNZ	**Chateau**	**1.59**	**215**	*e*P*	Pb	22 54 42.5	-0.2
CNZ	**Chateau**	**1.59**	**215**	P	Pn	22 54 43.7	+1.6
WNVZ	**Wahianoa**	**1.68**	**211**	P*	Pb	22 54 42.8	-1.4
WNVZ	**Wahianoa**	**1.68**	**211**	P	Pn	22 54 42.8	-0.6
MTAZ	**Motutapu**	**1.81**	**307**	PN	Pn	22 54 45.4	+0.1
MTAZ	**Motutapu**	**1.81**	**307**	P	Pn	22 54 45.4	+0.1
WTAZ	**Waiatarua**	**1.96**	**299**	P	Pn	22 54 50.0	+2.6
PXZ	**Pawanui**	**2.14**	**177**	PN	Pn	22 54 48.7	-1.2
TSZ	**Takapari Road**	**2.24**	**195**	*e*PN	Pn	22 54 50.5	-1.0
TSZ	**Takapari Road**	**2.24**	**195**	*e*P	Pn	22 54 50.7	-0.7

PLV 24 23:38:55.2±1.2, 23.25N×104.26E, MD3.7, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBV	**Dienbien**	**2.18**	**212**	*e*PG	Pg	23 39 37.1	-1.6
DBV				*e*SG	Sg	23 40 04.8	-2.9
BVV	**Ba Vi**	**2.37**	**154**	*e*PN	Pn	23 39 35.9	-0.1
BVV				*e*PG	Pg	23 39 41.9	-0.6
BVV				*e*SG	Sg	23 40 12.9	-1.2
MTZV	**Met**	**2.56**	**131**	*e*Pn	Pn	23 39 37.3	-1.4
MTZV				*e*Pg	Pg	23 39 44.0	-2.4
MTZV				*e*Sg	Sg	23 40 17.4	-3.2
HNV	**Hanoi**	**2.61**	**147**	*e*Pn	Pn	23 39 39.8	+0.4
HNV				*e*PG	Pg	23 39 46.1	-1.2
HNV				*e*SG	Sg	23 40 21.4	-0.8
YTV	**Yen Tu**	**3.08**	**132**	*e*Pn	Pn	23 39 45.1	-1.0
YTV				*e*Pg	Pg	23 39 54.1	-2.7
YTV				*e*Sg	Sg	23 40 34.2	-3.7
DSV	**Doi Son**	**3.09**	**149**	*e*Pn	Pn	23 39 45.6	-0.6
DSV				*e*Pg	Pg	23 39 55.0	-1.9
DSV				*e*SG	Sg	23 40 35.3	-2.8
PLV	**Phu-Lien**	**3.28**	**137**	*e*Pn	Pn	23 39 48.2	-0.6
PLV				*e*Pg	Pg	23 39 57.8	-2.9
PLV				*e*Sg	Sg	23 40 41.0	-3.4

NNC 24 23:48:00.2±4.2, 37.37N×70.71E, mpv2.8, 1D, Error ellipse: s-maj=34.8km s-min=28.5km az=66.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.73**	**359**	P	Pn	23 49 27.7	-0.8
	0.3nm,0.3s,baz=175,slow=12,SNR=20						
KK31				⇓S	Sn	23 50 34.0	-1.9
	0.8nm,0.3s,baz=187,slow=27,SNR=6.0						
AAK	**Ala-Archa**	**6.00**	**28**	P	Pn	23 49 29.5	-2.9
AAK				S	Sn	23 50 41.3	-1.5
AB31	**Akbulak array**	**14.21**	**330**	P	P	23 51 20.3	-4.5
	0.3nm,0.3s,baz=153,slow=11,SNR=11						

JMA 25 00:01:33.3±0.2, 38.46N×143.13E, h11km±3km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.30**	**299**	P	Pb	00 01 57.2	-0.1
OFUJ				*e*S	Sb	00 02 14.4	+0.6
JIO	**Ouri**	**1.40**	**270**	P	Pn	00 01 58.5	-0.4
JIO				*e*S	Sb	00 02 16.1	-0.6
JMK	**Ichinoseki**	**1.57**	**289**	P	Pn	00 02 01.4	0.0
JMK				*e*S	Sb	00 02 22.1	+0.3
JOM	**Ohasama**	**1.75**	**306**	P	Pn	00 02 04.5	+0.6
JOM				*e*S	Sn	00 02 26.9	+0.5
JMM	**Marumori**	**1.94**	**253**	P	Pn	00 02 06.7	+0.2
JMM				*e*S	Sn	00 02 30.8	-0.2
JOU	**Okura**	**1.94**	**268**	P	Pn	00 02 07.7	+1.1
JOU				*e*S	Sn	00 02 31.8	+0.7
JFK	**Kawauchi**	**2.09**	**239**	P	Pn	00 02 08.5	-0.3
JFK				*e*S	Sn	00 02 33.8	-1.2
JYK	**Kaneyama**	**2.22**	**283**	P	Pn	00 02 11.5	+0.9
JANG	**Nango**	**2.28**	**327**	P	Pn	00 02 11.9	+0.4
JFT	**Otama**	**2.40**	**248**	P	Pn	00 02 13.8	+0.6
JYS	**Shiratake**	**2.42**	**265**	P	Pn	00 02 14.5	+1.0

*NEIC **25** 00:05:41.2, 19.57N×68.91W, h75km, MD3.7(RSPR), After RSPR.*
RSPR 25 00:05:41.2, 19.57N×68.91W, h75km±18km, MD3.7/8, MD3.7/8, 8C, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSP	**Las Mesas**	**2.21**	**129**	⇑*e*P	P	00 06 15.3	-1.3
CRPR	**Cabo Rojo, PR**	**2.31**	**132**	⇑*e*P	P	00 06 16.2	-1.7
CRPR				*e*S	S	00 06 44.3	-0.8
MGP	**Maguayo**	**2.32**	**132**	⇑*e*P	P	00 06 16.5	-1.6
LRS	**Lares**	**2.33**	**123**	⇑*e*P	P	00 06 17.7	-0.5
LRS				*e*S	S	00 06 44.9	-0.8
AOPR	**Arecibo Observ**	**2.38**	**121**	⇑*e*P	P	00 06 18.2	-0.7
AOPR				*e*S	S	00 06 46.1	-0.7
PORP	**Portuguez**	**2.63**	**125**	⇑*e*P	P	00 06 20.9	-1.5
PORP				*e*S	S	00 06 52.0	-1.2
HUMP	**Col San Antoni**	**3.23**	**116**	⇑*e*P	P	00 06 29.3	-1.4
HUMP				*e*S	S	00 07 06.4	-1.8
MTP	**Monte Pirata**	**3.50**	**114**	⇑*e*P	P	00 06 33.0	-1.5

CASC 25 00:13:18.0±2.4, 14.12N×91.35W, h91km±22km, MD3.8, ML4.3, 1C-4D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**0.59**	**56**	⇓*e*P	P	00 13 33.8	0.0
TP2	**Tecpan 2**	**0.73**	**26**	⇓*e*P	P	00 13 36.1	+0.9
TP2				*e*S	S	00 13 49.0	+1.2
TP2				AML	AML	00 13 55.7	
	comp=E,3μm,0.3s						
PCG	**Pacaya**	**0.77**	**69**	*e*P	P	00 13 35.7	+0.2
PCG				*e*S	S	00 13 51.2	+2.8
IXG	**Ixpaco**	**0.87**	**86**	⇓*e*P	P	00 13 36.6	+0.1
IXG				*e*S	S	00 13 50.8	+0.5
IXG				AML	AML	00 13 55.9	
	comp=E,24μm,0.3s						
RBDL	**Robledal**	**1.61**	**90**	⇑*e*P	P	00 14 08.0	+22
RBDL				*e*S	S	00 14 30.1	+24
RTR	**El Retiro**	**1.67**	**97**	*e*P	P	00 14 09.6	+23
RTR				*e*S	S	00 14 33.2	+26
SBLS	**San Blas**	**1.70**	**99**	*e*P	P	00 14 11.3	+25
SBLS				*e*S	S	00 14 32.7	+25
SNJE	**San Jose**	**1.71**	**98**	*e*P	P	00 14 11.2	+24
SNJE				*e*S	S	00 14 34.0	+26
MRL	**Marmol**	**1.86**	**59**	⇓*e*P	P	00 13 49.0	+0.2
BOQS	**Boqueron**	**2.04**	**101**	*e*P	P	00 14 16.2	+25
BOQS				*e*S	S	00 14 42.9	+27
LFRS	**El Faro**	**2.27**	**102**	*e*P	P	00 14 19.6	+25
LFRS				*e*S	S	00 14 47.3	+26
LCBS	**La Ceiba**	**2.35**	**101**	*e*P	P	00 14 20.6	+25
LCBS				*e*S	S	00 14 50.4	+27
SNVI	**San Vicente**	**2.49**	**101**	*e*P	P	00 14 22.7	+25
SNVI				*e*S	S	00 14 53.6	+27

*IDC **25** 00:18:02.5±1.4, 9.32N×126.40E, mb3.9/6, mb1 4.1/6, mb1mx3.8/19, mbtmp3.9/6, Error ellipse: s-maj=160.0km s-min=21.7km az=66.0*
*NEIC **25** 00:18:07.9±1.0, 9.18N×126.09E, h35km, mb4.0/2, Error ellipse: s-maj=132.0km s-min=12.2km az=66.0*
*MAN **25** 00:18:10.1, 9.21N×126.32E, h27km, mb4.6, ML3.5, MS3.4*
ISC 25 00:18:09.0±0.8, 9.21N±0.05×126.41E±0.06, h66km±7km, n22, σ0=98/29, mb3.8/8, 3C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.81**	**253**	*e*P	**P**	**00 18 24.4**	**-0.8**
BUTP				*e*S	**S**	**00 18 36.7**	**-0.4**
BIPH	**Bislig**	**1.02**	**183**	⇑*e*P	**P**	**00 18 27.9**	**+0.1**
BIPH				*e*S	**S**	**00 18 40.9**	**-0.9**
SCPH	**Surigao**	**1.07**	**302**	⇓*e*P	**P**	**00 18 27.9**	**-0.6**
SCPH				*e*S	**S**	**00 18 41.4**	**-1.6**
MSLP	**Maasin**	**1.79**	**301**	*e*P	**P**	**00 18 38.7**	**+0.5**
CGP	**Cagayan de Oro**	**1.85**	**246**	⇑*e*P	**P**	**00 18 38.5**	**-0.7**
CGP				*i* S	**S**	**00 19 00.9**	**-0.5**
BUKP	**Musuan**	**1.88**	**225**	*e*P	**P**	**00 18 40.8**	**+1.2**
BESP	**Borongan**	**2.56**	**338**	*e*P	**P**	**00 18 51.2**	**+2.0**
LLP	**Lapu-Lapu**	**2.65**	**295**	*e*P	**P**	**00 18 50.7**	**+0.2**
LLP				*e*S	**S**	**00 19 21.2**	**-0.2**
DCPH	**Dipolog City**	**3.08**	**259**	⇑*i*P	**P**	**00 18 56.5**	**0.0**
DCPH				*i* S	**S**	**00 19 32.1**	**-0.3**
SNPH	**Sibulan**	**3.14**	**273**	*e*P	**P**	**00 18 58.0**	**+0.7**
SNPH				*e*S	**S**	**00 19 35.6**	**+1.9**
PAGZ	**Pagadian**	**3.29**	**246**	*e*P	**P**	**00 19 01.1**	**+1.7**
CNP	**Catarman**	**3.70**	**333**	*e*P	**P**	**00 19 06.0**	**+0.8**
GUIM	**Jordan**	**4.02**	**291**	*e*P	**P**	**00 19 09.6**	**0.0**
WRA	**Warramunga Arr**	**30.00**	**165**	P	**P**	**00 24 13.6**	**-0.3**
	0.4nm,0.8s,mb3.1,baz=346,slow=9.4,SNR=5.0						
STKA	**Stephens Creek**	**43.36**	**161**	P	**P**	**00 26 07.8**	**+1.1**
	0.8nm,0.4s,mb3.8,baz=340,slow=12,SNR=4.4						
MKAR	**Makanchi Array**	**52.95**	**323**	P	**P**	**00 27 20.4**	**-0.7**
	1.0nm,0.6s,mb4.0,baz=121,slow=8.1,SNR=14						
KURK	**Kurchatov**	**57.02**	**326**	*e*P	**P**	**00 27 49.0**	**-1.4**
	2.0nm,1.0s,mb4.1						
BVAR	**Borovoye Array**	**62.61**	**326**	P	**P**	**00 28 27.4**	**-1.3**
	0.4nm,0.6s,mb3.5,baz=90,slow=4.3,SNR=4.2						
BRVK	**Borovoye**	**62.69**	**326**	P	**P**	**00 28 27.7**	**-1.5**
	0.9nm,0.7s,mb3.8						
ARCES	**ARCESS Array B**	**85.23**	**340**	P	**P**	**00 30 40.5**	**+1.2**
	1.8nm,0.7s,mb4.1,baz=90,slow=4.9,SNR=8.4						
FINES	**FINESS Array B**	**86.89**	**332**	P	**P**	**00 30 47.7**	**+0.2**
	1.4nm,0.9s,mb3.9,baz=56,slow=5.0,SNR=3.9						
FINES	**FINESS Array B**	**86.89**	**332**	P	**P**	**00 30 47.7**	**+0.2**

NNC 25 00:40:01.0±2.3, 39.21N×69.85E, mpv3.6, 3C-2D, Error ellipse: s-maj=17.1km s-min=12.8km az=12.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**3.92**	**7**	⇓Pn	Pn	00 41 03.0	-0.8
	3.8nm,0.3s,baz=189,slow=13,SNR=174						
KK31				⇓Sn	Sn	00 41 50.6	-0.5
	6.3nm,0.3s,baz=187,slow=28						
KK31				⇑Lg		00 42 03.6	
	21nm,0.3s,baz=184,slow=30,SNR=4.9						
AAK	**Ala-Archa**	**4.91**	**44**	⇑Pn	Pn	00 41 16.1	-1.6
	7.6nm,0.6s						
AAK				⇑Sn	Sn	00 42 14.3	-1.8
	20nm,0.9s						
AB31	**Akbulak array**	**12.29**	**328**	P	P	00 42 56.2	-3.9
	0.8nm,0.3s,baz=139,slow=11,SNR=64						
AB31				S	S	00 45 15.3	-3.7
	0.9nm,0.4s,baz=152,slow=23,SNR=5.2						

*IDC **25** 00:48:03.8±0.6, 15.25S×172.01W, h20km±3km, mb4.5/15, mb1 4.7/15, mb1mx4.6/20, mbtmp4.6/15, MS4.6/17, Ms1 4.6/17, ms1mx4.6/18, Error ellipse: s-maj=19.9km s-min=9.8km az=123.0*
*BJI **25** 00:48:05.8, 15.50S×171.90W, h35km, mB5.5, mb5.0, Ms4.9, Msz4.5*
*HRVD **25** 00:48:05.8±0.2, 15.49S×171.66W, h28km±1km, MW5.3/64, Centroid moment Tensor Solution. LP body waves: s48,c83;Mantle waves: s64,c129; Half duration: 1s1 Moment tensor: Scale 10^{17}Nm; M_{rr}=0.30±.02; $M_{\theta\theta}$=-0.52±.02; $M_{\phi\phi}$0.82±.02; $M_{r\theta}$0.39±.04; $M_{\theta\phi}$0.31±.02; $M_{\phi r}$-0.69±.05; Best double couple: $M_0$1.113×10^{17} NP1: ϕ_s233°, δ41°, λ-16°. NP2:ϕ_s335°, δ80°, λ-130°. Principal axes: T 1.156, Plg24°, Azm95°; N -.088, Plg39°, Azm343°; P -1.07, Plg41°, Azm208°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **25** 00:48:05.8±0.1, 15.49S×171.95W, h35km, mb5.0/53, MS4.9/2 Error ellipse: s-maj=9.1km s-min=4.0km az=140.0*
*MOS **25** 00:48:05.1±1.6, 15.37S×171.99W, h33km, mb5.3/4, Error ellipse: s-maj=14.9km s-min=11.1km az=55.1*
ISC 25 00:48:02.0±0.2, 15.52S±0.06×171.93W±0.06, h19km, h19km±, 4km: pP-P, n205, σ0=99/121, mb4.9/67, MS4.7/22, 3C-11D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.61**	**5**	Pn	**Pn**	**00 48 26.1**	**-3.7**
	2μm,0.3s,baz=176,slow=1.8,SNR=1013						
AFI				Sn	**Sn**	**00 48 44.0**	**-6.1**
	9μm,0.3s,baz=12,slow=20,SNR=57						
AFI				LR	LR	00 49 06.9	
	comp=Z,13μm,20.1s,baz=231,slow=47						
AFI	**Afiamalu**	**1.61**	**5**	*e*Pn	**Pn**	**00 48 26.1**	**-3.7**
AFI				*e*Sn	**Sn**	**00 48 42.9**	**-7.2**
RAR	**Rarotonga**	**12.85**	**118**	*e*P	**P**	**00 50 58.7**	**-7.8**
	62nm,0.6s						
RAR				*e*Sn	**S**	**00 53 10.7**	**-19**
RAO	**Raoul Island**	**14.74**	**201**	LR	LR	00 56 32.1	
	comp=Z,2μm,20.4s,baz=360,slow=34						
DZM	**Mont Dzumac**	**21.48**	**249**	P	**P**	**00 52 51.2**	**-0.5**
	14nm,0.8s,mb4.3,baz=94,slow=14,SNR=5.0						
DZM				sP		00 52 59.2	
	30nm,0.9s,baz=68,slow=12,SNR=7.6						
PPT	**Papeete**	**21.52**	**99**	LR	LR	00 58 46.1	
	comp=Z,2μm,20.3s,MS4.4,baz=264,slow=30						
NOUC	**Port Laguerre**	**21.61**	**249**	*e*P	**P**	**00 53 01.0**	**+7.9**
URZ	**Urewera**	**24.63**	**201**	P	**P**	**00 53 25.9**	**+3.3**
	10nm,0.7s,mb4.5,baz=294,slow=0.6,SNR=3.9						
URZ				S	**S**	**00 57 47.6**	**+7.6**
	6.9nm,0.6s,baz=150,slow=20,SNR=5.0						
HNR	**Honiara**	**28.10**	**279**	LR	LR	01 03 25.8	
	comp=Z,2μm,20.5s,MS4.7,baz=274,slow=33						
HNR	**Honiara**	**28.10**	**279**	*e*P	**P**	**00 53 52.8**	**-2.2**
	208nm,0.8s,mb5.8						
SNZO	**South Karori**	**28.18**	**202**	P	**P**	**00 53 53.7**	**-1.7**
RPZ	**Rata Peaks**	**31.62**	**204**	P	**P**	**00 54 29.2**	**+3.2**
	6.3nm,0.5s,mb4.7,baz=346,slow=8.3,SNR=5.0						
CNB	**Canberra Magne**	**39.81**	**233**	*e*P	**P**	**00 55 35.8**	**0.0**
	39nm,1.2s,mb5.0						
CTA	**Charters Tower**	**40.00**	**257**	*e*P	**P**	**00 55 38.2**	**+0.7**
	11nm,1.5s,mb4.4						
CTA	**Charters Tower**	**40.00**	**257**	P	**P**	**00 55 38.0**	**+0.5**
	6.5nm,0.7s,mb4.5,baz=96,slow=11,SNR=8.1						
CTAO	**Charters Tower**	**40.00**	**257**	*e*P	**P**	**00 55 37.9**	**+0.4**
	7.3nm,0.7s,mb4.5						
PMG	**Port Moresby**	**40.36**	**274**	LR	LR	01 10 01.2	
	comp=Z,781nm,18.2s,MS4.6,baz=321,slow=33						
PMG	**Port Moresby**	**40.36**	**274**	*e*P	**P**	**00 55 41.5**	**+1.0**
	45nm,1.2s,mb5.1						
TOO	**Toolangi**	**43.49**	**231**	*e*P	**P**	**00 56 06.5**	**+0.5**
	19nm,0.8s,mb4.9						
STKA	**Stephens Creek**	**45.21**	**240**	*e*P	**P**	**00 56 19.2**	**-0.7**
	14nm,0.9s,mb4.8						
STKA	**Stephens Creek**	**45.21**	**240**	P	**P**	**00 56 19.5**	**-0.4**
	12nm,0.7s,mb4.8,baz=84,slow=8.1,SNR=23						
STKA				S	**S**	**01 02 54.7**	**-3.4**
	5.0nm,0.8s,baz=334,slow=14,SNR=3.2						
STKA				LR	LR	01 13 13.8	
	comp=Z,679nm,18.6s,MS4.6,baz=170,slow=33						
WRAB	**Tennant Creek**	**51.19**	**257**	*e*P	**P**	**00 57 04.8**	**-1.7**
	113nm,1.7s,mb5.5						
WRAB	**Tennant Creek**	**51.19**	**257**	*i* P	**P**	**00 57 05.5**	**-1.0**
WRA	**Warramunga Arr**	**51.20**	**257**	P	**P**	**00 57 05.2**	**-1.4**
	5.9nm,0.7s,mb4.6,baz=92,slow=7.6,SNR=5.4						
GUMO	**Guam**	**51.60**	**302**	P	**P**	**00 57 10.8**	**+1.1**
	19nm,0.3s,mb5.5,baz=66,slow=12,SNR=2.9						
GUMO				LR	LR	01 16 48.7	
	comp=Z,164nm,18.3s,MS4.1,baz=84,slow=34						
GUMO	**Guam**	**51.60**	**302**	P	**P**	**00 57 11.9**	**+2.2**
	38nm,0.9s,mb5.3						
KAKA	**Kakadu**	**53.91**	**265**	*e*P	**P**	**00 57 40.6**	**+14**
	19nm,0.6s,mb5.2						
FORT	**Forrest**	**56.63**	**243**	*e*P	**P**	**00 57 45.1**	**-1.3**
	34nm,0.7s,mb5.5						
FITZ	**Fitzroy Crossi**	**59.58**	**258**	*e*P	**P**	**00 58 06.8**	**-0.4**
	14nm,0.8s,mb5.0						
FITZ	**Fitzroy Crossi**	**59.58**	**258**	P	**P**	**00 58 07.2**	**0.0**
	16nm,0.7s,mb5.2,baz=158,slow=7.3,SNR=20						
SBA	**Scott Base**	**63.25**	**185**	*e*P	**P**	**00 58 31.6**	**+0.4**
	23nm,0.9s,mb5.3						
VNDA	**Vanda**	**63.40**	**186**	P	**P**	**00 58 32.4**	**+0.2**
	8.5nm,0.9s,mb4.9,baz=9.2,slow=6.3,SNR=39						
VNDA				LR	LR	01 22 19.6	
	comp=Z,205nm,19.9s,MS4.3,baz=24,slow=32						
VNDA	**Vanda**	**63.40**	**186**	P	**P**	**00 58 32.4**	**+0.2**
VNDA				LR	LR	01 22 19.6	
MBWA	**Marble Bar**	**64.69**	**254**	*e*P	**P**	**00 58 40.5**	**-0.9**
	86nm,1.4s,mb5.6						
KLBR	**Kellerberrin**	**65.44**	**242**	*e*P	**P**	**00 58 45.3**	**-0.8**
	22nm,0.7s,mb5.3						
NWAO	**Narrogin (SRO)**	**65.80**	**241**	P	**P**	**00 58 47.9**	**-0.5**
	10nm,0.9s,mb4.9,baz=66,slow=4.9,SNR=5.1						
NWAO	**Narrogin (SRO)**	**65.80**	**241**	*e*P	**P**	**00 58 47.9**	**-0.5**
	15nm,0.8s,mb5.1						
MUN	**Mundaring**	**66.73**	**242**	*e*P	**P**	**00 58 54.2**	**-0.1**
MJAR	**Matsushiro Arr**	**69.96**	**319**	LR	LR	01 23 54.5	
	comp=Z,365nm,20.2s,MS4.6,baz=140,slow=31						
SAO	**San Andreas Ge**	**70.48**	**41**	*e*P	**P**	**00 59 18.2**	**+0.7**
	14nm,1.0s,mb4.8						
LRV	**Little Rabbit**	**70.55**	**42**	P	**P**	**00 59 24.2**	**+6.2**
LRV				*e*	pP	00 59 28.7	+4.7
CASY	**Casey**	**70.89**	**205**	⇓*i*P	**P**	**00 59 18.8**	**-0.7**
CMB	**Columbia Colle**	**71.92**	**41**	*e*P	**P**	**00 59 25.3**	**-0.9**
	21nm,1.3s,mb4.9						
CMB				*e*	pP	00 59 31.6	-0.6
WDC	**Whiskeytown Da**	**72.20**	**37**	P	**P**	**00 59 23.9**	**-3.9**
	14nm,1.3s,mb4.7						
WDC				*e*		00 59 38.4	
MTUM	**Tungsten Hills**	**72.68**	**42**	*e*P	**P**	**00 59 30.1**	**-0.6**
MTUM				*e

BMO e pP 01 00 05.2 -1.1
BMO e 01 00 11.4
MIR Mirnyy 77.89 204 *d* iP **P 01 00 01.4 +1.6**
MIR pmax pmax
comp=Z,56nm,1.6s,mb5.2
DUG Dugway 77.99 42 *e*P **P 01 00 00.5 -0.3**
comp=Z,9.4nm,1.0s,mb4.7
DUG e pP 01 00 05.9 -1.1
DUG e 01 00 12.4
KSM Kuching 78.61 275 *e*P **P 01 00 05.6 +0.7**
KSM e pP 01 00 11.9 +0.9
SPUT South Promonto 78.82 41 *e*P **P 01 00 05.0 -0.4**
SPUT e pP 01 00 10.9 -0.7
SPUT e 01 00 17.1
HLID Hailey 78.83 39 *e*P **P 01 00 06.0 +0.6**
comp=Z,14nm,1.2s,mb4.8
HLID e 01 00 16.8
SRU San Rafael 78.94 44 *e*P **P 01 00 05.6 -0.5**
SRU e pP 01 00 12.7 +0.4
SRU e 01 00 18.1
SRU e 01 00 24.0
MNTX Cornudas Mount 79.16 53 *e*P **P 01 00 06.8 -0.7**
comp=Z,11nm,1.3s,mb4.6
MNTX e pP 01 00 12.7 -0.9
MNTX e 01 00 18.7
SSE Sheshan 79.17 307 P **P 01 00 06.8 -0.7**
SSE XP sP 01 00 20.0 +4.2
SSE PP PP 01 03 07.1 -1.7
SSE S S 01 10 07.6 +2.7
SSE XS 01 10 24.0
SSE SS SS 01 15 16.8 +2.5
SSE AMB AMB
comp=Z,17nm,0.6s,mb5.2
SSE AMB AMB
comp=Z,389nm,4.2s
SSE LR LR
comp=N,138nm,28.0s,MS4.2
SSE LR LR
comp=E,79nm,28.0s,MS4.2
SSE LR LR
comp=Z,165nm,25.4s,MS4.3
SSE Sheshan 79.17 307 P **P 01 00 06.7 -0.8**
comp=Z,17nm,0.6s,mb5.2
SSE sP sP 01 00 20.0 +4.2
SSE PP PP 01 03 07.1 -1.7
SSE S S 01 10 07.6 +2.7
SSE sS 01 10 24.0
SSE SS SS 01 15 16.7 +2.4
SSE LR LR
comp=Z,170nm,25.4s,MS4.3
DIV Divide 79.20 13 P **P 01 00 08.1 +1.1**
comp=Z,60nm,0.9s,mb5.5
DIV e pP 01 00 13.1 -0.2
DIV e 01 00 17.7
TCUT Toone Canyon 79.38 42 *e*P **P 01 00 09.0 +0.5**
TCUT e pP 01 00 14.9 +0.2
TCUT e 01 00 21.0
LTX Lajitas 79.50 56 *e*P **P 01 00 10.4 +1.0**
comp=Z,14nm,1.3s,mb4.7
LTX e pP 01 00 16.3 +0.8
LTX e 01 00 22.2
TXAR Lajitas Array 79.50 56 P **P 01 00 09.2 -0.2**
comp=Z,2.5nm,1.1s,mb4.0,baz=216,slow=6.4,SNR=17
TXAR LR LR 01 28 19.6
comp=Z,682nm,19.5s,MS5.0,baz=180,slow=30
HWUT Hardware Ranch 79.54 42 *e*P **P 01 00 09.8 +0.5**
comp=Z,4.7nm,0.9s,mb4.4
HWUT e pP 01 00 14.5 -1.0
PV10 Paradox Valley 79.58 45 *e*P **P 01 00 09.2 -0.4**
PV10 e pP 01 00 16.2 +0.4
PV01 Paradox Valley 79.78 46 *e*P **P 01 00 11.6 +0.9**
PV01 e pP 01 00 16.8 -0.1
PV01 e 01 00 23.2
ANMO Albuquerque 79.80 49 P **P 01 00 11.0 +0.2**
comp=Z,1.5nm,0.9s,mb3.9,baz=248,slow=7.4,SNR=6.1
ANMO Albuquerque 79.80 49 *e*P **P 01 00 10.5 -0.4**
comp=Z,31nm,1.9s,mb4.9
ANMO e pP 01 00 17.5 +0.5
ANMO Albuquerque 79.80 49 *i* P **P 01 00 11.2 +0.4**
MDJ Mudanjiang 79.99 322 P **P 01 00 13.0 +1.3**
MDJ AMB AMB
comp=Z,4.0nm,0.6s,mb4.5
MDJ AMB AMB
comp=Z,34nm,3.6s
NEW Newport 80.01 34 *e*P **P 01 00 14.2 +2.5**
comp=Z,9.3nm,1.2s,mb4.6
MCMT McKenzie Canyo 80.46 38 *e*P **P 01 00 14.8 +0.7**
MCMT e pP 01 00 19.9 -0.4
MCMT e 01 00 26.5
RRI2 Red Ridge 80.60 40 *e*P **P 01 00 14.3 -0.7**
comp=Z,23nm,1.2s,mb5.0
RRI2 e pP 01 00 21.3 +0.2
DLMT Dillon 80.91 38 *e*P **P 01 00 16.9 +0.4**
DLMT e pP 01 00 22.8 +0.2
DLMT e 01 00 28.9
TPAW Teton Pass 80.91 40 *e*P **P 01 00 16.6 0.0**
comp=Z,12nm,1.0s,mb4.8
TPAW e pP 01 00 23.2 +0.5
TPAW e 01 00 29.1
MCK McKinley 80.98 10 *e*P **P 01 00 15.3 -1.2**
comp=Z,14nm,1.0s,mb4.9
MCK e pP 01 00 21.6 -1.1
MCK e 01 00 28.0
SNOW Snow King Moun 81.02 40 *e*P **P 01 00 17.3 +0.1**
comp=Z,23nm,1.0s,mb5.1
SNOW e pP 01 00 23.6 +0.3
SNOW e 01 00 28.8
IMW Indian Meadow 81.13 40 *e*P **P 01 00 17.7 0.0**
comp=Z,16nm,1.2s,mb4.8
IMW e pP 01 00 24.0 +0.1
IMW e 01 00 29.7
LOHW Long Hollow 81.19 40 *e*P **P 01 00 17.8 -0.2**
comp=Z,6.9nm,0.9s,mb4.6
LOHW e pP 01 00 24.2 +0.1
LOHW e 01 00 30.6
QLMT Earthquake Lak 81.32 39 *e*P **P 01 00 19.3 +0.6**
QLMT e pP 01 00 24.8 -0.1
FLWY Flagg Ranch 81.37 40 *e*P **P 01 00 19.3 +0.3**
FLWY e pP 01 00 25.6 +0.4
CHMT Chamberlain Mo 81.38 36 *e*P **P 01 00 19.2 +0.2**
CHMT e pP 01 00 24.2 -0.9
NJ2 Nanjing 81.38 307 *e*P **P 01 00 20.0 +0.7**
NJ2 AP pP 01 00 30.6 +5.2
NJ2 XP sP 01 00 34.6 +7.1
NJ2 S S 01 10 27.0 -0.8
NJ2 SKS SKS 01 10 33.0 -6.8
NJ2 XS 01 10 43.0
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.0
NJ2 AMB AMB
comp=Z,290nm,5.7s
NJ2 LR LR
comp=N,320nm,19.0s
NJ2 LR LR
comp=E,550nm,29.2s
NJ2 LR LR
comp=Z,300nm,25.9s
PDAR Pinedale Array 81.41 41 P **P 01 00 18.8 -0.5**
comp=Z,5.3nm,0.7s,mb4.6,baz=236,slow=3.3,SNR=17
PDAR LR LR 01 31 03.2
comp=Z,882nm,19.0s,MS5.1,baz=19,slow=32
BOZ Bozeman (W) 81.63 38 *e*P **P 01 00 19.7 -0.6**
comp=Z,15nm,1.4s,mb4.7
BOZ e pP 01 00 26.0 -0.4
SDCO Great Sand Dun 81.75 47 *e*P **P 01 00 21.5 +0.5**
comp=Z,13nm,1.9s,mb4.5
SDCO e pP 01 00 27.8 +0.6
CN2 Changchun 82.10 320 *e*P **P 01 00 25.1 +2.4**
WALA Waterton Lakes 82.21 34 *e*P **P 01 00 22.6 -0.6**
comp=Z,49nm,1.8s,mb5.1
WALA e pP 01 00 29.1 -0.3
WALA e 01 00 35.2
ILAR Eielson Array 82.30 11 P **P 01 00 22.4 -0.9**
comp=Z,1.0nm,0.7s,mb3.9,baz=267,slow=4.5,SNR=10
ILAR pP pP 01 00 29.1 -0.4
comp=Z,3.3nm,0.9s,baz=220,slow=6.0,SNR=11
ILAR LR LR 01 32 18.9
comp=Z,345nm,19.9s,MS4.7,baz=193,slow=32
ISCO Idaho Springs 82.60 45 *e*P **P 01 00 26.4 +0.9**
comp=Z,8.7nm,1.7s,mb4.5
ISCO e pP 01 00 31.9 +0.3
ISCO e 01 00 37.1
PHWY Pilot Hill 83.39 44 P **P 01 00 29.2 -0.3**
PHWY e pP 01 00 36.1 +0.4

QIZ Qiongzhong 84.27 291 ⇑P **P 01 00 35.8 +1.3**
BILL Bilibino 84.82 352 *i* P **P 01 00 38.5 +2.4**
BILL pmax pmax
comp=Z,30nm,2.5s,mb5.0
BILL MLR MLR
comp=Z,300nm,20.0s,MS4.7
INK Inuvik 88.05 13 *e*P **P 01 00 51.2 -0.7**
comp=Z,12nm,1.2s,mb5.0
INK e pP 01 00 57.5 -0.7
INK e 01 01 03.9
MAW Mawson 88.13 198 ⇓*i*P **P 01 00 52.9 +0.6**
comp=Z,11nm,0.8s,mb5.2
MAW Mawson 88.13 198 P **P 01 00 53.2 +0.9**
comp=Z,15nm,0.9s,mb5.2,baz=131,slow=6.4,SNR=34
MAW LR LR 01 40 36.8
comp=Z,390nm,18.5s,MS4.8,baz=84,slow=36
PLCA Paso Flores 88.37 132 P **P 01 00 55.4 +1.2**
comp=Z,1.8nm,1.0s,mb4.3,baz=198,slow=3.2,SNR=3.0
PLCA pP pP 01 01 01.6 +1.2
comp=Z,3.1nm,0.9s,baz=237,slow=5.7,SNR=5.6
PLCA LR LR 01 32 53.9
comp=Z,299nm,18.8s,MS4.7,baz=240,slow=30
PLCA Paso Flores 88.37 132 P **P 01 00 52.7 -1.4**
comp=Z,4.7nm,0.9s,mb4.7
PLCA *e* 01 01 01.0
GYA Guiyang 89.36 298 P **P 01 01 00.3 +1.1**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb5.2
YKA Yellowknife Ar 89.65 23 pP pP 01 01 07.0 +1.1
comp=Z,1.3nm,0.6s,baz=231,slow=4.0,SNR=3.0
YKA LR LR 01 37 06.0
comp=Z,304nm,19.0s,MS4.8,baz=225,slow=33
KMI Kunming 92.36 295 P **P 01 01 13.4 +0.3**
KMI AP pP 01 01 26.0 +6.7
KMI XP sP 01 01 31.0 +10
KMI PP PP 01 04 58.4 +1.8
KMI S S 01 12 14.3 +1.6
KMI XS 01 12 34.4
KMI SS SS 01 18 28.6 +1.2
KMI AMB AMB
comp=Z,7.0nm,0.5s,mb5.2
KMI AMB AMB
comp=Z,127nm,4.0s
KMI LR LR
comp=N,128nm,16.0s,MS4.8
KMI LR LR
comp=E,238nm,15.8s,MS4.8
KMI LR LR
comp=Z,206nm,20.7s,MS4.6
KMI Kunming 92.36 295 P **P 01 01 13.4 +0.3**
comp=Z,7.0nm,0.5s,mb5.2
KMI pP pP 01 01 26.0 +6.7
KMI sP sP 01 01 31.0 +10
KMI PP PP 01 04 58.4 +1.8
KMI S S 01 12 14.2 +1.5
KMI sS 01 12 34.4
KMI SS SS 01 18 28.6 +1.2
KMI LR LR
comp=Z,210nm,20.7s,MS4.6
VNA3 Neumayer Olymp 92.60 174 ⇓*i*P **P 01 01 13.1 0.0**
VNA3 *e* 01 01 23.2
VNA3 *e* 01 01 26.9
VNA3 *e* 01 01 53.7
SYO Syowa Base 92.75 191 ⇑P **P 01 01 12.0 -1.8**
VNA2 Neumayer--Watz 93.11 175 *e* **P 01 01 24.1 +8.7**
VNA2 Neumayer--Watz 93.11 175 *e* **P 01 01 28.6 +13**
VNA2 Neumayer--Watz 93.11 175 *e* Px 01 01 57.4
VNA2 Neumayer--Watz 93.11 175 ⇓*i*P **P 01 01 15.8 +0.4**
VNA2 *e* 01 01 24.1
VNA2 *e* 01 01 28.6
VNA2 *e* 01 01 57.4
ULM Lac du Bonnet 93.14 39 LR LR 01 36 26.5
comp=Z,1μm,21.4s,MS5.3,baz=83,slow=31
VNA1 Neumayer--Stat 93.30 175 ⇓*i*P **P 01 01 17.2 +0.9**
VNA1 *e* 01 01 27.3
VNA1 *e* 01 01 31.2
VNA1 *e* 01 01 57.3
SONM Songino Array 95.89 318 P **P 01 01 31.2 +2.5**
comp=Z,0.4nm,0.6s,mb4.0,baz=117,slow=3.2,SNR=3.1
LPAZ La Paz 98.43 109 LR LR 01 39 00.0
comp=Z,144nm,19.5s,MS4.5,baz=65,slow=31
ROSC El Rosal 98.59 87 LR LR 01 36 28.5
comp=Z,197nm,21.9s,MS4.6,baz=241,slow=29
WMQ Urumqi 108.01 312 *e*PDIF Pdif 01 02 23.0 +0.1
WMQ PP PP 01 06 55.0 -0.3
WMQ SS SS 01 22 05.0 +0.4
WMQ PP PP
comp=Z,158nm,8.0s
WMQ LR LR
comp=N,168nm,20.0s,MS4.7
WMQ LR LR
comp=E,104nm,20.0s,MS4.7
WMQ LR LR
comp=E,102nm,20.0s
ARU Arti 124.19 329 *i* PKIKP PKPdf 01 07 00.0 -3.5
ARU *e* 01 08 43.3
ARU *e* 01 14 08.8
ARU *e*SP SP 01 18 35.8 -4.4
ARU *e*PS PS 01 18 43.8 +1.2
ARU *e*SS SS 01 25 31.5 -4.1
ARCES ARCESS Array B 124.92 353 PKP PKPdf 01 07 00.2 -4.3
comp=E,3.7nm,0.8s,slow=2.4,SNR=5.1
FINES FINESS Array B 132.36 348 PKP PKPdf 01 07 15.7 -3.3
comp=E,1.3nm,0.8s,baz=18,slow=6.0,SNR=3.7
OBN Obninsk 134.78 337 *i* PKIKP PKPdf 01 07 22.0 -1.7
OBN MLR MLR
comp=Z,100nm,16.0s,MS4.6
LVV L'vov 143.41 343 *e*PKIKP PKPdf 01 07 47.8 +8.6
LVV *e* 01 14 07.0
LVV MLR MLR
comp=Z,160nm,22.0s,MS4.7
LVV MLR MLR
comp=N,100nm,21.0s,MS4.6
LVV MLR MLR
comp=E,70nm,21.0s,MS4.6
KWP Kalwaria 143.95 344 *e*PKP PKPdf 01 07 34.5 -5.7
KWP Kalwaria 143.95 344 *e*PKP PKPdf 01 07 34.5 -5.7
CLL Collm 144.09 355 *e*PKIKP PKPdf 01 07 35.0 -5.4
OJC Ojcow 144.11 347 *e*PKP PKPdf 01 07 35.1 -5.3
BRG Berggiesshubel 144.42 354 *i* PKP PKPdf 01 07 44.6 +3.6
BRG Berggiesshubel 144.42 354 *i* PKIKP PKPdf 01 07 44.6 +3.6
BRG pmax pmax
comp=Z,16nm,1.8s
UPC Upice 144.52 351 *e*PKP PKPdf 01 07 36.8 -4.4
STHS Stebnicka Huta 144.53 345 *i* PKP PKPdf 01 07 37.7 -3.5
STHS *e* 01 07 42.8
STHS *e* 01 07 51.3
DPC Dobruska-Polom 144.63 351 *e*PKP PKPdf 01 07 37.8 -3.6
DPC *ep*PKP 01 07 44.1
DPC *es*PKP 01 07 50.8
PVCC Panska Ves 144.69 353 *e*PKP PKPdf 01 07 38.7 -2.8
PVCC *ep*PKP 01 07 43.5
PVCC *es*PKP 01 07 51.1
KOLS Kolonicke sedl 144.71 344 *i* PKP PKPdf 01 07 37.6 -4.0
OKC Ostrava-Krasne 144.81 349 *e*PKP PKPdf 01 07 38.4 -3.3
OKC *ep*PKP 01 07 44.3
OKC *es*PKP 01 07 51.5
MOX Moxa 144.85 356 *i* P PKPbc 01 07 32.9 -4.9
comp=Z,logA/T=1.2
MOX L 01 19 18.0
MOX Moxa 144.85 356 *e*PKHKP 01 07 32.9
MOX pmax pmax
comp=Z,32nm,1.8s
MOX pmax pmax
comp=Z,200nm,17.0s
MALT Malatya 144.94 316 *e*PKPdf PKPdf 01 07 39.5 -2.9
MALT *e* 01 07 52.1
MORC Moravsky Berou 144.98 349 ⇓*e*PKP PKPdf 01 07 38.2 -3.8
MORC *e* 01 07 51.2
UZH Uzhgorod 144.98 344 *e*PKIKP PKPdf 01 07 39.0 -3.0
KAMS Al Khamasin 144.99 283 P PKPbc 01 07 39.9 +0.8
NKC Novy Kostel 145.20 355 *e*PKP PKPdf 01 07 39.5 -2.9
NKC *ep*PKP 01 07 46.1
NKC *es*PKP 01 07 52.1
PRU Pruhonice 145.23 353 *e*PKP PKPdf 01 07 39.3 -3.1
PRU *ep*PKP 01 07 46.4
PRU *es*PKP 01 07 52.6
TNS Taunus Mts 145.39 360 *e*PKP PKPdf 01 07 40.7 -2.0
GIVF Givet 145.41 4 *e*PKP1 PKPbc 01 07 40.2 +1.0
BAIF Baives 145.41 4 *e*PKP1 PKPbc 01 07 40.4 +1.2
comp=Z,46nm,1.1s
KECS Kecovo 145.58 345 *i* PKP PKPdf 01 07 40.8 -2.3
TREC Trest 145.78 351 *e*PKP PKPdf 01 07 41.1 -2.3

TREC *ep*PKP 01 07 48.2
TREC *es*PKP 01 07 54.4
GRA1 Grafenberg Arr 145.83 356 *e*PKP PKPdf 01 07 41.7 -1.8
GRF Grafenberg Arr 145.83 356 *e*PKP2 PKPab 01 07 41.7 -0.8
WLF Walferdange 145.91 2 *e*PKPdf PKPdf 01 07 41.8 -1.8
WLF *e* 01 07 48.4
VYHS Vyhne 145.95 347 *i* PKP PKPdf 01 07 42.0 -1.7
VYHS *e* 01 07 47.9
VYHS *e* 01 07 54.9
DJNS Zahran al Janu 145.97 279 P PKPbc 01 07 44.9 +3.3
AFFS 'Afif 146.15 290 P PKPbc 01 07 43.1 +1.3
KHC Kasperske Hory 146.18 354 *e*PKP PKPdf 01 07 42.7 -1.4
KHC *e* 01 07 49.5
KHC *e* 01 07 55.9
KHC Kasperske Hory 146.18 354 *e*PKP2 PKPab 01 07 42.1 -1.8
KHC Kasperske Hory 146.18 354 *e*PKP2 PKPab 01 07 42.7 -1.1
WET Wettzell 146.24 354 *e*PKP PKPdf 01 07 42.5 -1.7
GEC2 GERESS Array S 146.45 353 *e*PKP PKPdf 01 07 43.2 -1.4
GERES GERESS Array B 146.45 353 PKPbc PKPbc 01 07 42.7 +0.9
comp=Z,2.5nm,0.7s,baz=27,slow=3.0,SNR=18
ZST Bratislava 146.58 349 *e*PKP PKPdf 01 07 44.1 -0.7
HILS Ha'il 146.58 296 P PKPbc 01 07 45.7 +3.0
KMBO Kilima Mbogo 146.75 243 PKPbc PKPbc 01 07 46.4 +2.8
comp=Z,7.7nm,0.8s,baz=69,slow=3.9,SNR=19
CDF Champ du Feu 147.20 1 *e*PKP1 PKPdf 01 07 44.6 -1.2
comp=Z,39nm,1.3s
BFO Black Forest 147.28 360 *e*PKP PKPdf 01 07 45.7 -0.3
FUR Furstenfeldbru 147.34 356 *e*PKP PKPdf 01 07 44.9 -1.2
MOA Molln 147.36 352 ⇓*i*P PKPdf 01 07 45.5 -0.6
MOA *i* 01 36 06.0
HAU Haudompre 147.58 2 *e*PKP1 PKPdf 01 07 45.7 -0.7
comp=Z,21nm,0.9s
HAU *e*R
comp=Z,296nm,17.5s
HINF Hinteralfeld 147.78 2 *e*PKP1 PKPdf 01 07 46.7 -0.1
BLJS Baljurashi 147.80 283 P PKPdf 01 07 48.6 +1.0
LOR Lormes 148.15 5 *e*PKP1 PKPdf 01 07 47.5 +0.1
comp=Z,18nm,1.0s
MOTA Moosalm 148.17 356 ⇑*i*P PKPdf 01 07 48.2 +0.8
WTTA Wattenberg 148.21 355 ⇓*i*P PKPdf 01 07 48.3 +0.8
DAVA Damuels 148.29 358 ⇓*i*P PKPdf 01 07 48.4 +0.8
SSF Saint Saulge 148.32 6 *e*PKP1 PKPdf 01 07 47.8 +0.1
comp=Z,33nm,1.1s
AVF Avril sur Loir 148.58 6 *e*PKP1 PKPdf 01 07 48.0 -0.1
BGF Bois d'Agland 148.75 7 *e*PKP1 PKPdf 01 07 49.0 +0.6
SMF Signal de Mont 148.77 6 *e*PKP1 PKPdf 01 07 48.8 +0.4
TCF Toulx Ste Croi 148.94 8 *e*PKP1 PKPdf 01 07 49.0 +0.3
CABF La Chapelle 148.96 3 *e*PKP1 PKPdf 01 07 50.0 +1.3
comp=Z,124nm,1.7s
VOJS Vojsko 149.20 352 *e*PKPdf PKPdf 01 07 51.0 +1.9
BOJS Bojanci 149.51 350 *i* PKPdf PKPdf 01 07 53.0 +3.4
BOJS *e*PKPbc PKPdf 01 08 06.1 +16
RJF Les Rejaudoux 149.80 9 *e*PKP1 PKPdf 01 07 51.4 +1.3
comp=Z,78nm,1.3s
RJF *e*R
comp=Z,404nm,22.0s
LFF La Frestale 150.03 10 *e*PKP1 PKPdf 01 07 52.0 +1.5
comp=Z,138nm,1.6s
LPL La Plagne 150.08 2 *e*PKP1 PKPdf 01 07 53.3 +2.8
comp=Z,106nm,1.8s
LPG La Plagne 150.10 2 *e*PKP1 PKPdf 01 07 53.5 +3.0
comp=Z,39nm,1.3s
CAF Calviac 150.25 9 *e*PKP1 PKPdf 01 07 52.8 +2.0
comp=Z,40nm,1.3s
BNI Bardonecchia 150.54 2 *e*PKPbc PKPdf 01 07 54.8 +3.5
BNI *e* 01 08 01.6
BNI *e* 01 08 08.4
VIVF Saint-Julien-l 150.62 5 *e*PKP1 PKPdf 01 07 54.0 +2.6
comp=Z,44nm,1.2s
ORIF Oris-en-Rattie 150.64 3 *e*PKP1 PKPdf 01 07 54.2 +2.8
comp=Z,30nm,1.1s
ORIF *e*R
comp=Z,517nm,21.0s
MBDF Montbardon 150.87 2 *e*PKP1 PKPdf 01 07 54.6 +2.9
LASF Ste Croix 151.31 6 *e*PKP1 PKPdf 01 07 55.1 +2.7
SMRF Simiane la Rot 151.56 4 *e*PKP1 PKPdf 01 07 56.6 +3.8
comp=Z,45nm,1.2s
ETSF Etsaut 151.73 13 *e*PKP1 PKPdf 01 07 56.6 +3.5
comp=Z,29nm,0.9s
ESDC Sonseca Array 153.73 21 PKPbc PKPdf 01 08 01.1 +5.1
comp=Z,0.6nm,0.6s,baz=350,slow=4.7,SNR=4.6
ESDC *p*PKPbc 01 08 08.0
comp=Z,0.9nm,0.7s,baz=325,slow=3.9,SNR=5.3
ESDC PKPab PKPab 01 08 14.6 -0.6
comp=Z,1.1nm,0.6s,baz=338,slow=2.4,SNR=8.1
TIP Timpagrande 155.23 344 *e*PKPab PKPab 01 08 18.8 -2.7

IDC ***25*** *00:54:51.1±2.5, 0.52N×123.41E, h250km±24km, mb3.9/13, mb1 4.0/14, mb1mx3.9/20, mbtmp4.5/14, Error ellipse: s-maj=20.0km s-min=9.5km az=76.0*
BJI ***25*** *00:54:53.0, 0.50N×123.40E, h269km, mb4.4*
NEIC ***25*** *00:54:53.0±1.4, 0.47N×123.42E, h270km±13km, mb4.2/15, Error ellipse: s-maj=15.0km s-min=6.0km az=60.0*

ISC 25 00:54:53.0±1.2, 0.49N±0.05×123.50E±0.09, h285km±12km, n58, σ1§05/56, mb4.3/30, 2C-3D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSM	**Tawau**	**6.78**	**304**	P	**P**	**00 56 31.4**	**-0.6**
KKM	**Kota Kinabalu**	**9.13**	**307**	P	**P**	**00 57 01.6**	**+0.4**
KKM	**Kota Kinabalu**	**9.13**	**307**	*e*P	**P**	**00 57 00.6**	**-0.6**
KSM	**Kuching**	**13.23**	**274**	*e*P	**P**	**00 57 53.8**	**+1.8**
KAKA	**Kakadu** 44nm,0.3s	**15.83**	**146**	*e*P	**P**	**00 58 35.6**	**+13**
FITZ	**Fitzroy Crossi** 22nm,0.7s	**18.59**	**174**	*e*P	**P**	**00 58 49.8**	**-1.7**
FITZ				*e*S	**S**	**01 02 03.7**	**-0.1**
FITZ	**Fitzroy Crossi** 4.2nm,0.3s,baz=7.1,slow=6.4,SNR=44	**18.59**	**174**	P	**P**	**00 58 49.9**	**-1.6**
FITZ	baz=177,slow=15,SNR=3.9			S	**S**	**01 02 04.1**	**+0.3**
QIZ	**Qiongzhong**	**22.78**	**325**	⇑P	**P**	**00 59 35.8**	**+3.2**
QIZ	**Qiongzhong** 9.1nm,0.8s,mb4.2	**22.78**	**325**	*e*P	**P**	**00 59 34.5**	**+1.9**
WRAB	**Tennant Creek** 22nm,0.5s,mb4.8	**22.91**	**153**	*e*P	**P**	**00 59 33.5**	**-0.2**
WRA	**Warramunga Arr** 15nm,0.3s,mb4.8,baz=337,slow=10,SNR=113	**22.91**	**153**	P	**P**	**00 59 33.8**	**0.0**
WRA	5.1nm,0.9s,baz=334,slow=16,SNR=5.7			S	**S**	**01 03 19.8**	**-0.1**
WRA				ScP		01 06 27.9	
	0.6nm,0.7s,baz=330,slow=2.5,SNR=5.3						
KULM	**Kulim**	**23.31**	**282**	*e*P	**P**	**00 59 35.8**	**-1.8**
NANT	**Nan** 125nm,0.6s,mb5.5	**28.84**	**310**	⇓P	**P**	**01 00 28.5**	**+0.9**
CHG	**Chiang Mai** 17nm,0.7s,mb4.7	**30.20**	**309**	⇓P	**P**	**01 00 39.7**	**+0.1**
CTA	**Charters Tower** 3.0nm,0.5s,mb4.1,baz=293,slow=9.1,SNR=2.3	**30.25**	**134**	P	**P**	**01 00 39.6**	**-0.4**
KMI	**Kunming**	**31.66**	**322**	P	**P**	**01 00 58.1**	**+5.9**
KMI				AMB	AMB		
	comp=Z,11nm,0.5s,mb4.6						
KMI	**Kunming** comp=Z,11nm,0.5s,mb4.6	**31.66**	**322**	P	**P**	**01 00 58.1**	**+5.9**
CBIJ	**Chichi jima** comp=Z,44nm,0.4s,mb5.3,baz=294,slow=20,SNR=6.4	**31.97**	**33**	P	**P**	**01 00 54.1**	**-0.7**
ENH	**Enshi**	**32.48**	**337**	P	**P**	**01 00 59.7**	**+0.5**
NWAO	**Narrogin (SRO)** comp=Z,7.9nm,0.9s,mb4.2,baz=82,slow=7.1,SNR=2.6	**33.76**	**190**	P	**P**	**01 01 09.3**	**-0.7**
STKA	**Stephens Creek** comp=Z,4.4nm,0.9s,mb4.0	**36.46**	**154**	*e*P	**P**	**01 01 33.1**	**+0.3**
STKA	**Stephens Creek** comp=Z,4.5nm,0.5s,mb4.3,baz=332,slow=8.6,SNR=14	**36.46**	**154**	P	**P**	**01 01 33.0**	**+0.2**
MJAR	**Matsushiro Arr** comp=Z,2.2nm,0.5s,mb3.9,baz=183,slow=8.6,SNR=4.9	**38.38**	**19**	P	**P**	**01 01 47.8**	**-0.9**
LSA	**Lhasa** comp=Z,4.0nm,0.5s,mb3.9	**42.34**	**316**	*e*P	**P**	**01 02 22.4**	**+1.2**
CN2	**Changchun**	**43.16**	**2**	*e*P	**P**	**01 02 29.4**	**+1.9**
MDJ	**Mudanjiang**	**44.27**	**6**	P	**P**	**01 02 36.8**	**+0.4**
MDJ	comp=Z,8.0nm,1.5s,mb3.7			AMB	AMB		
GTA	**Gaotai**	**44.38**	**334**	P	**P**	**01 02 38.1**	**+0.8**
GTA	comp=Z,11nm,0.6s,mb4.3			AMB	AMB		
PKI	**Pulchoki**	**45.37**	**310**	*e*P	**P**	**01 02 44.4**	**-0.9**
KKN	**Kakani**	**45.58**	**310**	*e*P	**P**	**01 02 47.0**	**+0.1**
DMN	**Daman** comp=Z,16nm,0.5s,mb4.6	**45.62**	**310**	*e*P	**P**	**01 02 47.1**	**-0.1**
GKN	**Gorkha** comp=Z,18nm,0.4s,mb4.7	**46.18**	**310**	*e*P	**P**	**01 02 51.5**	**-0.1**
KOLN	**Koldanda** comp=Z,12nm,0.3s,mb4.8	**46.87**	**309**	*e*P	**P**	**01 02 56.7**	**-0.2**

DZM	**Mont Dzumac**	47.48	121		P		P	01 03 03.0 +1.3
	comp=Z,4.9nm,0.7s,mb4.0,baz=266,slow=18,SNR=3.3							
SONM	**Songino Array**	49.45	345		P		P	01 03 16.1 -0.3
	comp=Z,3.1nm,0.8s,mb3.7,baz=161,slow=8.4,SNR=16							
MKAR	**Makanchi Array**	58.47	328		P		P	01 04 20.5 -0.9
	comp=Z,4.1nm,0.4s,mb4.2,baz=127,slow=8.3,SNR=49							
MKAR					PcP		PcP	01 05 07.9 -0.8
	comp=Z,2.2nm,0.4s,baz=163,slow=3.1,SNR=11							
AAK	**Ala-Archa**	60.67	320	*eP*			P	01 04 34.8 -1.6
	comp=Z,2.8nm,0.8s,mb3.8							
CASY	**Casey**	67.26	186	*eP*			P	01 05 18.1 -0.3
	comp=Z,2.6nm,0.7s,mb4.1							
BRVK	**Borovoye**	68.40	329	*eP*			P	01 05 24.1 -1.5
	comp=Z,2.7nm,0.6s,mb4.2							
ARU	**Arti**	75.97	329		P		P	01 06 08.7 -1.5
MAW	**Mawson**	79.62	200	*eP*			P	01 06 30.5 +0.7
	comp=Z,2.6nm,0.6s,mb4.1							
MAW	**Mawson**	79.62	200		P		P	01 06 30.9 +1.2
	comp=Z,3.2nm,0.6s,mb4.2,baz=88,slow=6.3,SNR=21							
VNDA	**Vanda**	80.66	172		P		P	01 06 36.2 +1.2
	comp=Z,1.2nm,0.8s,mb3.7,baz=291,slow=8.3,SNR=4.7							
MALT	**Malatya**	85.83	308	*eP*			P	01 07 02.4 +0.4
	comp=Z,3.4nm,0.8s,mb4.2							
KMBO	**Kilima Mbogo**	86.26	269		P		P	01 07 05.2 +0.6
	comp=Z,2.0nm,0.7s,mb4.0,baz=67,slow=11,SNR=5.9							
KMBO	**Kilima Mbogo**	86.26	269		P		P	01 07 05.2 +0.6
SYO	**Syowa Base**	88.26	201	⇑P			P	01 07 12.6 -0.2
SYO	**Syowa Base**	88.26	201	⇓PcP			PcP	01 07 14.0 -0.5
QSPA	**South Pole Qui**	90.42	180	*eP*			P	01 07 24.3 +1.5
	comp=Z,1.9nm,0.7s,mb4.0							
ARCES	**ARCESS Array B**	92.35	340		P		P	01 07 31.1 -0.8
	comp=Z,2.9nm,0.8s,mb4.2,baz=85,slow=4.8,SNR=8.6							
FINES	**FINESS Array B**	93.13	331		P		P	01 07 37.4 +1.7
	comp=Z,0.6nm,0.5s,mb3.8,baz=79,slow=7.1,SNR=5.3							
RZN	**Rozhen**	96.25	312	*eP*			P	01 07 52.0 +1.7
MMB	**Musomiste**	96.99	312	*eP*			P	01 07 54.0 +0.3
VTS	**Vitosha**	97.25	313	*eP*			P	01 07 53.0 -1.9
KKB	**Krupnik**	97.44	312	*eP*			P	01 07 54.0 -1.7
PDAR	**Pinedale Array**	115.90	41		PKKPab			01 23 41.4
	comp=Z,0.5nm,0.6s,baz=108,slow=2.9,SNR=4.0							
SCHQ	**Schefferville**	124.21	7		PKP		PKPdf	01 13 20.0 +2.2
	comp=Z,1.2nm,0.4s,baz=359,slow=6.4,SNR=7.1							
TXAR	**Lajitas Array**	126.12	52		PKP		PKPdf	01 13 25.1 +2.9
	comp=Z,0.2nm,0.5s,baz=270,slow=0.9,SNR=3.9							
CPUP	**Villa Florida**	154.29	178		PKPbc		PKPdf	01 14 22.8 +12
	comp=Z,1.4nm,0.6s,baz=135,slow=2.9,SNR=4.9							

PRE 25 01:43:38.1±2.4, 26.90S×26.75E, h2km, ML3.7, South Africa

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PRYS	**Parys**	0.54	93		*eP*		Pg	01 43 49.9	+1.0
PRYS					*eS*		Sg	01 43 55.2	-0.9
PRYS					AML		AML	01 44 01.3	
	comp=Z,1μm,0.6s								
KSR	**Koster**	1.05	7		*eP*		Pb	01 43 58.1	-0.5
KSR					*eS*		Sb	01 44 12.1	-0.6
KSR					AML		AML	01 44 19.7	
	comp=Z,2μm,0.2s								
SWZ	**Schweizer**	1.30	257		*eP*		Pb	01 44 03.8	+0.9
SWZ					*eS*		Sb	01 44 21.3	+1.3
SEK	**Senekal**	1.62	152		*eP*		Pn	01 44 09.5	+1.6
SEK					*eS*		Sb	01 44 30.0	+0.8
SEK					AML		AML	01 44 31.6	
	comp=Z,734nm,0.2s								
SLR	**Silverton**	1.79	50		*eP*		Pn	01 44 11.5	+1.2
SLR					*eS*		Sn	01 44 34.1	+0.1
SLR					AML		AML	01 44 36.4	
	comp=Z,631nm,0.2s								
NWL	**Newcastle**	2.96	107		*eP*		Pn	01 44 27.6	+0.5
NWL					*eS*		Sn	01 45 01.4	-2.3
NWL					AML		AML	01 45 12.4	
	comp=Z,524nm,0.7s								
PKA	**Prieska**	4.48	231		*eP*		Pn	01 44 48.3	-0.3
PKA					*eS*		Sn	01 45 39.0	-3.1
PKA					AML		AML	01 46 02.3	
	comp=Z,63nm,0.7s								
SUR	**Sutherland**	7.52	222		*eP*		Pn	01 45 29.5	-2.0
SUR					*eS*		Sn	01 46 50.3	-8.1
CVNA	**Calvinia**	7.63	232		*eP*		Pn	01 45 31.6	-1.4
CVNA					*eS*		Sn	01 46 52.4	-8.7
CVNA					AML		AML	01 46 57.3	
	comp=N,11nm,0.1s								

NIED ***25*** *01:45:00, 38.30N×142.00E, h71km, Mw4.2 Best double couple: M₀2.51×10¹⁵ NP1:φs334°, δ84°, λ-54°. NP2:φs72°, δ36°, λ-170°.*

JMA 25 01:45:22.6±0.1, 38.25N×142.05E, h42km±1km, M3.5, 2C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JIO	**Ouri**	0.59	291		P		P	01 45 34.6	0.0
JIO					S		S	01 45 43.0	-0.2
OFUJ	**Ofunato**	0.88	340		⇓P		P	01 45 38.4	-0.3
OFUJ					*eS*		S	01 45 49.9	-0.6
JMK	**Ichinoseki**	0.96	317		P		P	01 45 39.9	+0.2
JMK					*eS*		S	01 45 52.4	0.0
JMM	**Marumori**	1.06	249		⇑P		P	01 45 40.8	-0.4
JMM					*eS*		S	01 45 54.1	-1.0
JOU	**Okura**	1.10	276		⇑P		P	01 45 42.0	+0.3
JOU					*eS*		S	01 45 56.4	+0.5
JFK	**Kawauchi**	1.28	227		P		P	01 45 43.4	-1.0
JFK					*eS*		S	01 45 58.4	-2.3
JOM	**Ohasama**	1.36	334		P		P	01 45 45.7	+0.2
JOM					S		S	01 46 02.5	-0.1
JYK	**Kaneyama**	1.48	297		P		P	01 45 47.6	+0.3
JFT	**Otama**	1.54	242		P		P	01 45 48.1	0.0
JFT					S		S	01 46 07.5	+0.4
JYS	**Shiratake**	1.56	270		P		P	01 45 48.5	+0.1

SKHL 25 01:56:11.4±0.3, 52.69N×143.69E, h10km, mb3.5/2, Sakhalin Island

WEL 25 02:09:23.0±0.3, 45.05S×167.48E, h123km±2km, ML3.5/6, 4D, Error ellipse: s-maj=2.9km s-min=1.8km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	0.48	209		PN		P	02 09 40.7	-0.7
DCZ					SN		S	02 09 54.3	-1.0
MSZ	**Milford Sound**	0.49	40		PN		P	02 09 41.2	-0.3
MSZ					SN		S	02 09 54.2	-1.2
MLZ	**Mavora Lakes**	0.57	121		*e*PN		P	02 09 41.6	-0.3
MLZ					SN		S	02 09 55.6	-0.7
WHZ	**Wether Hill Ro**	0.90	159		PN		P	02 09 44.4	-0.2
WHZ					SN		S	02 10 00.4	-0.5
WKZ	**Wanaka**	1.11	79	⇓	*e*PN		P	02 09 46.4	-0.4
EAZ	**Earnscleugh**	1.30	99	⇓	PN		P	02 09 48.2	-0.7
TUZ	**Tuapeka**	1.76	122	⇓	*e*PN		P	02 09 53.6	-0.5
TUZ					SN		S	02 10 14.8	-2.9
LBZ	**Lake Benmore**	2.04	72		*e*PN		P	02 09 55.2	-2.3
LBZ					SN		S	02 10 19.3	-4.4
ODZ	**Otahua Downs**	2.24	91	⇓	*e*PN		P	02 09 58.4	-1.8

WEL 25 02:15:12.2±0.7, 45.98S×166.14E, h5km, ML3.6/6, 1C, Error ellipse: s-maj=7.7km s-min=3.8km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	0.87	55	⇑	P*		Pb	02 15 28.8	-0.6
DCZ					S*		Sb	02 15 41.1	0.0
DCZ					S*		Sb	02 15 41.2	+0.2
WHZ	**Wether Hill Ro**	1.27	87		*e*P*		Pb	02 15 35.1	-1.1
WHZ					S*		Sb	02 15 53.0	+0.4
MLZ	**Mavora Lakes**	1.56	67		*e*PN		Pn	02 15 40.0	-0.7
MLZ					SN		Sn	02 16 00.8	-0.7
MSZ	**Milford Sound**	1.81	45		*e*PN		Pn	02 15 43.2	-1.1
WKZ	**Wanaka**	2.33	62		*e*PN		Pn	02 15 51.9	+0.2
EAZ	**Earnscleugh**	2.35	73		*e*PN		Pn	02 15 51.1	-0.9
TUZ	**Tuapeka**	2.44	91		*e*PN		Pn	02 15 52.2	-1.1
LBZ	**Lake Benmore**	3.27	62		*e*PN		Pn	02 16 02.7	-2.5
ODZ	**Otahua Downs**	3.30	75		*e*PN		Pn	02 16 02.6	-3.0

ATH ***25*** *02:22:48.9, 40.17N×23.94E, h27km±1km, MD3.2/5*
SOF ***25*** *02:22:48.9, 40.27N×24.05E, h8km, MD2.8*
NEIC ***25*** *02:22:48.9, 40.17N×23.94E, h27km, MD3.2(ATH), After ATH.*
THE ***25*** *02:22:49.7, 40.17N×23.96E, h10km, ML2.8*
CSEM ***25*** *02:22:49.3±0.1, 40.16N×23.95E, h15km, ML2.8, Error ellipse: s-maj=2.0km s-min=1.8km az=61.0*

ISC 25 02:22:48.6±0.5, 40.16N±0.03×23.97E±0.03, h9km±4km, n26, σ0.88/37, 2C, Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	0.17	3		*e*Pg		Pg	02 22 53.4	+1.0
PLG	**Polygyros**	0.45	298	⇑	*i*PB		Pb	02 22 57.7	-0.7
LOS	**Limnos**	0.88	105		*e*Pg		Pg	02 23 06.9	+0.6
LOS					*e*Sg		Sg	02 23 19.3	+1.2
THE	**Thessaloniki**	0.90	302		*e*Pg		Pg	02 23 06.3	-0.4
	comp=Z,4.0nm,0.5s								
THE					*e*Sg		Sg	02 23 19.3	+0.6
LIA	**Limnos Island**	0.97	106	⇑	*i*PN		Pn	02 23 08.3	0.0
LIA					*e*SN		Sn	02 23 21.8	-0.4
AOS	**Alonnisos**	0.99	184		*e*Pg		Pg	02 23 08.2	-0.4
AOS					*e*Sg		Sg	02 23 23.2	+1.3
SRS	**Serrai**	0.99	343		*e*Pg		Pg	02 23 08.1	-0.5
SRS					*e*Sg		Sg	02 23 22.4	+0.5
XOR	**Xorichti**	1.00	217		*e*Pg		Pg	02 23 08.2	-0.4
NEO	**Neokhori**	1.03	214		*e*PN		Pn	02 23 08.8	-0.4
NEO					*e*SN		Sn	02 23 22.8	-1.1
LIT	**Litokhoron**	1.14	267		*e*Pg		Pg	02 23 10.4	-1.0
	comp=Z,6.5nm,0.5s								
LIT					*e*Sg		Sg	02 23 27.5	+0.9
NVR	**Nevrokopi**	1.19	356		*e*PN		Pn	02 23 11.3	-0.1
KNT	**Kendrikon**	1.29	321		*e*Pg		Pg	02 23 12.9	-1.5
KNT					*e*Sg		Sg	02 23 32.0	+0.4
KNT	**Kendrikon**	1.29	321		*e*Pg		Pg	02 23 12.9	-1.5
KNT					*e*Sg		Sg	02 23 32.0	+0.4
GRG	**Griva**	1.43	304		*e*Pg		Pg	02 23 15.9	-1.4
GRG					*e*Sg		Sg	02 23 36.3	-0.2
MMB	**Musomiste**	1.44	353		*i* Pg		Pg	02 23 14.6	-2.7
RDO	**Rodhopi**	1.54	50		*e*PN		Pn	02 23 16.9	+0.4
RZN	**Rozhen**	1.62	20		*i* P		Pn	02 23 18.0	+0.3
LKR	**Lokris**	1.69	207		*e*PN		Pn	02 23 18.3	-0.3
KKB	**Krupnik**	1.83	339		*i* P		Pn	02 23 21.0	+0.4
KDZ	**Kurdzhali**	1.84	36		*e*P		Pn	02 23 20.0	-0.8
PRK	**Paraskevi**	2.00	117		*e*PB		Pb	02 23 23.8	-1.0
PLD	**Plovdiv**	2.02	16		*e*P		Pn	02 23 27.5	+4.2
FNA	**Florina**	2.07	288		*e*Pn		Pn	02 23 24.9	+0.8
FNA					*e*Sn		Sn	02 23 51.9	+1.6
MEV	**Metsovon**	2.14	261		*e*Pn		Pn	02 23 26.2	+1.1
PGB	**Panagyurishte**	2.39	3		*i* P		Pn	02 23 33.3	+4.7
VTS	**Vitosha**	2.49	347		*e*P		Pn	02 23 31.0	+0.9

JMA 25 02:23:20.3±0.2, 43.88N×147.49E, h11km, M4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	1.37	249		P		Pn	02 23 45.3	-0.1
NEM2					*e*S		Sb	02 24 03.5	+0.7
JRA	**Rausu**	1.71	273		P		Pn	02 23 50.4	+0.1
JRA					*e*S		Sn	02 24 12.6	+0.2
JNK	**Nakash**	2.03	263		P		Pn	02 23 55.0	+0.1
JNK					*e*S		Sn	02 24 20.3	-0.1
JAK	**Akkeshi**	2.22	247		P		Pn	02 23 57.3	-0.3
JAK					*e*S		Sn	02 24 24.1	-1.1
JTKR	**Abashiri--Toko**	2.59	273		P		Pn	02 24 02.4	-0.5
JTKR					*e*S		Sn	02 24 34.4	-0.3
JAR	**Ashorobuto**	2.77	259		P		Pn	02 24 05.9	+0.5
JAR					*e*S		Sn	02 24 40.1	+1.0
JOB	**Onbets**	2.84	251		P		Pn	02 24 06.6	+0.2
JOB					*e*S		Sn	02 24 40.9	0.0
JMP	**Maruseppu**	2.99	274		P		Pn	02 24 08.4	-0.2
JCH	**Churui**	3.27	249		P		Pn	02 24 13.1	+0.5
JCH					*e*S		Sn	02 24 51.8	-0.1
JEM	**Erimo**	3.69	241		P		Pn	02 24 18.6	+0.1
JNBK	**Urakawa-nobuka**	3.82	247		P		Pn	02 24 20.1	-0.3

IDC ***25*** *02:24:17.5±0.8, 52.22N×174.05E, mb4.1/13, mb1 4.2/13, mb1mx4.1/22, mbtmp4.1/13, MS3.6/3, Ms1 3.6/3, ms1mx3.1/28, Error ellipse: s-maj=24.0km s-min=18.5km az=161.0*
KRSC ***25*** *02:24:21.8±1.9, 51.98N×173.75E, h32km±31km, ML4.2*
NEIC ***25*** *02:24:22.3±1.8, 52.20N×174.06E, h33km±11km, mb4.2/4, Error ellipse: s-maj=16.0km s-min=9.3km az=176.0*

ISC 25 02:24:22.9±0.9, 52.33N±0.09×173.80E±0.06, h49km±6km, n47, σ1.13/57, mb4.1/17, MS3.5/3, Near Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SMY	**Shemya**	0.44	24		*e*P		P	02 24 33.3	-0.1
SMY					*e*S		S	02 24 41.0	0.0
BKI	**Bering**	5.47	305		*e*P		P	02 25 43.3	-0.5
BKI					*e*S		S	02 26 44.6	-1.6
BKI					Smax				
	70nm,1.1s								
KBTR	**Krutoberegovo**	7.51	305		*e*P		P	02 26 13.2	+0.8
MKZ	**Mys Kozlova**	7.55	292		*e*P		P	02 26 12.7	-0.2
MKZ					*e*S		S	02 27 32.6	-5.4
SPN	**Mys Shipunski**	8.41	281		*e*P		P	02 26 23.6	-1.2
SPN					*e*S		S	02 27 53.4	-5.9
KRSR	**Krestovskiy**	8.67	302		*e*P		P	02 26 30.1	+1.7
KMNR	**Kamenistaya**	8.69	299		*e*P		P	02 26 30.2	+1.5
KMNR					*e*S		S	02 28 03.8	-2.5
KPT	**Kopyto**	8.76	300		*e*P		P	02 26 32.5	+2.8
KII	**Karymskiy**	8.79	287		*e*P		P	02 26 28.7	-1.4
NLC	**Nalytchevo**	8.81	281		*e*P		P	02 26 29.7	-0.7
NLC					*e*S		S	02 28 01.7	-7.7
SDLR	**Sedlovina**	9.09	282		*e*P		P	02 26 33.9	-0.3
SDLR					*e*S		S	02 28 10.3	-6.0
UGLR	**Uglovaya**	9.13	281		*e*P		P	02 26 34.4	-0.3
UGLR					*e*S		S	02 28 10.3	-6.9
SMAR	**Somma**	9.14	282		*e*P		P	02 26 34.3	-0.6
AVH	**Avacha**	9.18	282		*e*P		P	02 26 35.2	-0.2
AVH					*e*S		S	02 28 14.0	-4.4
OSSR	**Ossora**	9.20	323		*e*P		P	02 26 37.5	+1.9
KOK	**Koryaka**	9.24	282		*e*P		P	02 26 37.0	+0.7
RUS	**Russkaya**	9.36	277		*e*P		P	02 26 37.4	-0.5
RUS					*e*S		S	02 28 14.7	-8.1
ESO	**Esso**	9.57	298		P		P	02 26 42.0	+1.4
GRL	**Gorelyy**	9.61	278		P		P	02 26 42.2	+0.9
GNL	**Ganaly**	9.66	284		*e*P		P	02 26 42.3	+0.4
GNL					*e*S		S	02 28 24.7	-5.4
APC	**Apacha**	10.14	280		*e*P		P	02 26 49.8	+1.3
APC					*e*S		S	02 28 36.9	-5.0
APC					Smax				
	10.0nm,0.9s								
MIPR	**Malaya Ipel'ka**	10.44	276		*e*P		P	02 26 53.3	+0.7
ALID	**Alaid**	11.45	270		*e*P		P	02 27 05.3	-0.9
ALID					*e*S		S	02 29 05.2	-8.4
ASAJ	**Asahikawa**	22.22	261		LR		LR	02 37 03.4	
	comp=Z,75nm,18.3s,MS3.1,baz=51,slow=34								
ILAR	**Eielson Array**	23.53	43		P		P	02 29 29.6	+0.8
	0.6nm,0.5s,mb3.3,baz=242,slow=7.7,SNR=8.3								
DAWY	**Dawson**	26.64	46		*e*P		P	02 29 58.8	+0.4
SONM	**Songino Array**	42.08	292		P		P	02 32 13.1	+2.1
	0.8nm,0.5s,mb3.6,baz=61,slow=7.9,SNR=8.5								
SONM					LR		LR	02 51 47.1	
	comp=Z,74nm,18.7s,MS3.6,baz=59,slow=39								
LAO	**LASA Array**	49.74	63		P		P	02 33 10.3	-1.6
BW06	**Boulder Array**	50.31	69		P		P	02 33 15.2	-1.2
	0.5nm,0.4s,mb3.9								
PDAR	**Pinedale Array**	50.31	69		P		P	02 33 13.6	-2.8
	0.5nm,0.7s,mb3.7,baz=315,slow=3.8,SNR=3.8								
KURK	**Kurchatov**	54.96	309		*e*P		P	02 33 50.8	0.0
	13nm,1.0s,mb4.9								
MKAR	**Makanchi Array**	55.77	304		P		P	02 33 56.5	-0.2
	2.3nm,0.4s,mb4.5,baz=51,slow=6.5,SNR=25								
MKAR					LR		LR	02 57 33.8	
	comp=Z,85nm,18.4s,MS3.9,baz=180,slow=36								
SDCO	**Great Sand Dun**	55.95	71		P		P	02 33 55.5	-2.6
	0.3nm,0.5s,mb3.6								
ARCES	**ARCESS Array B**	56.26	347		P		P	02 33 59.6	-0.3
	1.0nm,0.5s,mb4.1,baz=23,slow=9.2,SNR=8.4								
BRVK	**Borovoye**	57.12	316		*e*P		P	02 34 06.1	-0.2
	2.4nm,0.4s,mb4.6								
SCHQ	**Schefferville**	61.98	35		P		P	02 34 39.7	+0.1
	1.7nm,0.7s,mb4.3,baz=346,slow=8.3,SNR=3.8								
TXAR	**Lajitas Array**	62.97	76		P		P	02 34 45.7	-0.9
	0.5nm,0.5s,mb3.9,baz=307,slow=5.6,SNR=14								
TXAR	**Lajitas Array**	62.97	76		P		P	02 34 45.7	-0.9
FINES	**FINESS Array B**	63.70	343		P		P	02 34 51.1	+0.3
	1.9nm,0.8s,mb4.2,baz=27,slow=8.5,SNR=7.8								
NB2	**NORSAR Subarra**	66.13	351		P		P	02 35 06.6	+0.2
	1.5nm,0.5s,mb4.3,baz=11,slow=6.2								
NOA	**NORSAR Array B**	66.13	351		P		P	02 35 06.9	+0.5
	3.2nm,0.8s,mb4.4,baz=12,slow=6.5,SNR=6.0								
AKASG	**Malin Array Be**	73.07	337		P		P	02 35 49.8	+0.9
	1.2nm,0.4s,mb4.2,baz=23,slow=6.3,SNR=10.0								
WRA	**Warramunga Arr**	79.74	217		P		P	02 36 27.0	-0.1
	1.6nm,0.7s,mb4.1,baz=32,slow=6.3,SNR=8.0								
FITZ	**Fitzroy Crossi**	81.63	226		P		P	02 36 37.9	+0.8
	6.7nm,0.8s,mb4.6,baz=358,slow=11,SNR=5.0								
BRTR	**Keskin Array B**	82.00	330		P		P	02 36 39.9	+1.2
	1.2nm,0.7s,mb4.0,baz=46,slow=3.6,SNR=6.4								
MAW	**Mawson**	144.42	218		PKP		PKPdf	02 43 52.3	+0.3
	2.8nm,1.0s,baz=77,slow=4.5,SNR=6.7								
BOSA	**Boshof**	146.77	303		PKPbc		PKPbc	02 44 01.4	+2.7
	3.1nm,1.1s,baz=6.3,slow=9.2,SNR=4.3								

IDC ***25*** *02:27:40.7±1.1, 40.55N×124.28W, mb3.9/5, mb1 4.1/8, mb1mx3.8/25, mbtmp3.8/8, ML4.0/2, MS3.1/6, Ms1 3.1/6, ms1mx3.0/37, Error ellipse: s-maj=13.6km s-min=10.7km az=113.0*
BJI ***25*** *02:27:43.6, 41.36N×123.82W, h20km, mB4.5, mb4.4, Ms4.4, Msz4.2*
NEIC ***25*** *02:27:44.3, 40.48N×124.31W, h27km, MW4.2(NCEDC), After NCEDC.*
NEIC Felt [IV] at Ferndale, Loleta, Petrolia and Rio Dell; [III] at Eureka, Carlotta, Fortuna, Garberville, Hydesville and Scotia; [II] at Arcata, McKinleyville, Myers Flat and Redway.

ISC 25 02:27:42.8±1.5, 40.43N±0.03×124.24W±0.08, h29km±11km, n78, σ0.81/76, mb4.1/5, MS3.4/2, 5C-1D, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KHMM	**Horse Mountain**	0.59	41		*e*Pg		Pb	02 27 55.4	+0.8
KIPM	**Iron Peak**	0.85	137		*e*Pg		Pn	02 27 60.0	+1.1
KCPM	**Cahto Peak**	0.90	146		*e*Pn		Pn	02 28 00.6	+1.1
KRMB	**Red Mountain**	1.12	13		*e*Pn		Pn	02 28 02.1	-0.7
WDC	**Whiskeytown Da**	1.30	83		*e*Pn		Pn	02 28 06.0	+0.7
KTRM	**Thompson Ridge**	1.61	23	⇓	P		Pn	02 28 09.3	-0.4
YBH	**Yreka Blue Hor**	1.74	41		Pg		Pn	02 28 11.7	+0.2
	90nm,0.3s,baz=253,slow=12,SNR=1285								
YBH					Lg			02 28 33.3	
	117nm,0.3s,baz=139,slow=19,SNR=27								
YBH	**Yreka Blue Hor**	1.74	41		*e*Pn		Pn	02 28 11.6	+0.1
KBO	**Bosley Butte**	1.78	0		*e*Pn		Pn	02 28 10.5	-1.6
LHEM	**Herd Peak**	1.94	51	⇑	P		Pn	02 28 15.7	+1.2
LTIM	**Timbered Crate**	2.22	69	⇑	P		Pn	02 28 19.1	+0.7
LBCM	**Butte Creek Ri**	2.23	79	⇑	P		Pn	02 28 19.6	+0.9
NSHM	**Saint Helena R**	2.29	146		*e*Pn		Pn	02 28 19.5	+0.1
LASM	**Arnica Sink**	2.33	59		P		Pn	02 28 20.4	+0.4
BUOR	**Burton Butte**	2.38	38	⇑	P		Pn	02 28 22.1	+1.3
HUMO	**Hull Mountain**	2.38	23		*e*Pn		Pn	02 28 19.9	-0.8
OHCM	**Honcut**	2.38	116		*e*Pn		Pn	02 28 20.6	-0.2
LAB	**Little Aspen B**	2.46	41	⇑	P		Pn	02 28 22.8	+0.9
VSP	**Spence Mountai**	2.57	41		P		Pn	02 28 24.1	+0.7
HOG	**Hogback Mounta**	2.63	46		P		Pn	02 28 24.7	+0.4
BBOR	**Butler Butte**	2.72	25		P		Pn	02 28 26.0	+0.4
DBO	**Dodson Butte**	2.79	15		P		Pn	02 28 26.4	-0.2
BEKR	**Beckwourth**	3.03	99		*e*Pn		Pn	02 28 30.8	+0.9
SAC	**San Andreas**	3.18	153		*e*Pn		Pn	02 28 31.4	-0.6
MOD	**Modoc**	3.31	62		*e*Pn		Pn	02 28 33.3	-0.7
HBO	**Huckleberry Mo**	3.70	22		P		Pn	02 28 39.8	+0.4
PAHR	**Pah Rah Range**	3.79	99		*e*Pn		Pn	02 28 41.0	+0.2
CMB	**Columbia Colle**	3.83	127		*e*Pn		Pn	02 28 42.2	+0.8
IRO	**Indian Ridge**	3.87	22		P		Pn	02 28 42.0	+0.2
WIFE	**Three Sisters-**	4.05	26		P		Pn	02 28 43.9	-0.6
FRIS	**Frissel Point**	4.10	22		P		Pn	02 28 45.3	+0.1
SAO	**San Andreas Ge**

OUR			*e*Sg	**Sg**	**02 43 53.3**	**0.0**
PLG	**Polygyros**	**0.43 300**	*e*PB	**Pb**	**02 43 55.0**	**-0.4**
PLG			*e*SB	**Sb**	**02 44 01.0**	**-0.4**
THE	**Thessaloniki**	**0.87 303**	*e*Pg	**Pg**	**02 44 04.3**	**+0.4**
THE			*e*Sg	**Sg**	**02 44 16.7**	**+1.0**
LOS	**Limnos**	**0.91 104**	*e*Pg	**Pg**	**02 44 04.1**	**-0.6**
LOS			*e*Sg	**Sg**	**02 44 17.1**	**+0.1**
XOR	**Xorichti**	**0.98 216**	*e*Pg	**Pg**	**02 44 05.7**	**-0.3**
XOR			*e*Sg	**Sg**	**02 44 19.9**	**+0.9**
SRS	**Serrai**	**0.99 345**	*e*Pg	**Pg**	**02 44 06.1**	**-0.1**
SRS			*e*Sg	**Sg**	**02 44 20.0**	**+0.5**
AOS	**Alonnisos**	**0.99 182**	*e*Pg	**Pg**	**02 44 05.5**	**-0.7**
AOS			*e*Sg	**Sg**	**02 44 20.4**	**+0.8**
LIA	**Limnos Island**	**1.00 105**	*e*PN	**Pn**	**02 44 05.6**	**-0.5**
LIA			*e*SN	**Sn**	**02 44 19.0**	**-1.2**
NEO	**Neokhori**	**1.01 213**	*e*PN	**Pn**	**02 44 06.1**	**-0.2**
NEO			*e*SN	**Sn**	**02 44 20.3**	**-0.2**
LIT	**Litokhoron**	**1.10 267**	*e*Pg	**Pg**	**02 44 08.4**	**-0.2**
LIT			*e*Sg	**Sg**	**02 44 24.7**	**+1.4**
NVR	**Nevrokopi**	**1.19 358**	*e*PN	**Pn**	**02 44 09.0**	**+0.1**
KNT	**Kendrikon**	**1.27 322**	*e*Pg	**Pg**	**02 44 10.7**	**-1.1**
KNT			*e*Sg	**Sg**	**02 44 28.8**	**0.0**
GRG	**Griva**	**1.41 305**	*e*Pg	**Pg**	**02 44 13.0**	**-1.6**
GRG			*e*Sg	**Sg**	**02 44 32.3**	**-1.1**
RDO	**Rodhopi**	**1.57 51**	*e*PN	**Pn**	**02 44 16.2**	**+1.9**
RDO			*e*SN	**Sn**	**02 44 36.5**	**+1.8**

*IDC **25** 03:07:44.7±3.8, 18.39S×168.68E, h108km±30km, mb3.9/9, mb1 4.0/10, mb1mx4.0/15, mbtmp4.3/10, MS3.1/1, Ms1 3.1/1, ms1mx2.7/17, Error ellipse: s-maj=31.8km s-min=18.3km az=76.0*

*NEIC **25** 03:07:44.7±2.2, 18.34S×168.73E, h115km±16km, mb4.5/4, Error ellipse: s-maj=22.5km s-min=11.3km az=59.0*

ISC 25 03:07:44.7±2.9, 18.4S±0.1×168.6E±0.2, h121km±22km, n29, σ0§95/31, mb4.2/13, 3C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.14 208**		*e*P	**P**	**03 08 47.9**	**+0.8**
DZM				*e*S	**S**	**03 09 33.7**	**-1.3**
DZM	**Mont Dzumac**	**4.14 208**		P	**P**	**03 08 47.9**	**+0.7**
	54nm,0.3s,baz=61,slow=20,SNR=590						
DZM				S	**S**	**03 09 35.2**	**+0.2**
	30nm,0.3s,baz=315,slow=23,SNR=9.1						
DZM				LR	LR	03 09 46.8	
	comp=Z,224nm,18.5s,baz=193,slow=29						
DZM	**Mont Dzumac**	**4.14 208**		*e*P	**P**	**03 08 47.9**	**+0.8**
DZM				*e*S	**S**	**03 09 33.7**	**-1.3**
SNZO	**South Karori**	**23.41 168**		P	**P**	**03 12 44.3**	**+0.8**
	19nm,0.6s,mb4.6						
RPZ	**Rata Peaks**	**25.30 176**		P	**P**	**03 13 01.8**	**+0.3**
	9.8nm,0.6s,mb4.4,baz=249,slow=4.3,SNR=7.2						
STKA	**Stephens Creek**	**27.75 236**		*e*P	**P**	**03 13 25.0**	**+0.9**
	4.8nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**27.75 236**		P	**P**	**03 13 25.1**	**+1.0**
	5.4nm,0.5s,mb4.3,baz=72,slow=8.5,SNR=22						
STKA	**Stephens Creek**	**27.75 236**		*e*P	**P**	**03 13 24.8**	**+0.7**
WRA	**Warramunga Arr**	**32.32 262**		P	**P**	**03 14 04.9**	**+0.3**
	0.4nm,0.8s,mb3.2,baz=94,slow=8.6,SNR=3.5						
FITZ	**Fitzroy Crossi**	**40.69 263**		P	**P**	**03 15 15.2**	**+0.3**
	3.7nm,0.7s,mb4.3,baz=149,slow=7.5,SNR=3.7						
VNDA	**Vanda**	**59.22 182**		P	**P**	**03 17 33.9**	**-1.2**
	0.6nm,0.7s,mb3.7,baz=356,slow=8.0,SNR=3.2						
SBA	**Scott Base**	**59.47 180**		*e*P	**P**	**03 17 36.4**	**-0.4**
	8.2nm,1.0s,mb4.7						
CASY	**Casey**	**60.62 203**		P	**P**	**03 17 42.8**	**-1.9**
	4.3nm,1.1s,mb4.4						
MJAR	**Matsushiro Arr**	**61.73 332**		P	**P**	**03 17 51.2**	**-1.5**
	1.4nm,0.5s,mb4.3,baz=163,slow=6.2,SNR=4.8						
MJAR	**Matsushiro Arr**	**61.73 332**		P	**P**	**03 17 51.2**	**-1.5**
ASAJ	**Asahikawa**	**66.61 340**		P	**P**	**03 18 24.4**	**+0.1**
	5.5nm,0.7s,mb4.5,baz=220,slow=6.0,SNR=7.3						
QSPA	**South Pole Qui**	**71.63 180**		*e*P	**P**	**03 18 53.7**	**-0.6**
	2.9nm,0.7s,mb4.2						
MAW	**Mawson**	**78.94 202**		P	**P**	**03 19 36.8**	**+0.8**
	2.2nm,0.7s,mb4.1,baz=121,slow=6.2,SNR=7.4						
SONM	**Songino Array**	**86.18 323**		P	**P**	**03 20 13.8**	**+0.4**
	1.5nm,0.7s,mb4.0,baz=142,slow=6.5,SNR=9.3						
VNA3	**Neumayer Olymp**	**90.56 181**		*e*	**P**	**03 20 35.1**	**+1.4**
VNA3	**Neumayer Olymp**	**90.56 181**		*e*	**P**	**03 20 37.3**	**+3.6**
VNA3	**Neumayer Olymp**	**90.56 181**		⇑*i*P	**P**	**03 20 33.1**	**-0.6**
VNA3				*e*		03 20 35.1	
VNA3				*e*		03 20 37.3	
VNA2	**Neumayer--Watz**	**90.84 181**		*e*	**P**	**03 20 36.4**	**+1.3**
VNA2	**Neumayer--Watz**	**90.84 181**		*e*	**P**	**03 20 38.8**	**+3.7**
VNA2	**Neumayer--Watz**	**90.84 181**		⇑*i*P	**P**	**03 20 34.6**	**-0.5**
VNA2				*e*		03 20 36.4	
VNA2				*e*		03 20 38.8	
VNA1	**Neumayer--Stat**	**91.14 181**		*e*	**P**	**03 20 38.4**	**+1.9**
VNA1	**Neumayer--Stat**	**91.14 181**		*e*	**P**	**03 20 41.0**	**+4.5**
VNA1	**Neumayer--Stat**	**91.14 181**		⇑*i*P	**P**	**03 20 36.7**	**+0.2**
VNA1				*e*		03 20 38.4	
VNA1				*e*		03 20 41.0	
ARCES	**ARCESS Array B**	**124.12 345**		PKP	PKPdf	03 26 28.4	-0.1
	1.0nm,0.7s,baz=72,slow=3.8,SNR=6.5						

*IDC **25** 03:09:40.8±0.8, 35.95N×82.71W, mb3.8/8, mb1 4.0/11, mb1mx3.8/26, mbtmp3.8/11, ML4.0/3, MS3.2/2, Ms1 3.2/2, ms1mx2.6/26, Error ellipse: s-maj=21.0km s-min=15.3km az=103.0*

*NEIC **25** 03:09:42.0, 35.88N×82.80W, h8km, MW3.6(SLM), After CERI.*

NEIC Felt [IV] at Alexander, Arden, Asheville, Candler, Canton, Clyde, Hot Springs, Leicester, Marshall, Mars Hill, Swannanoa, Waynesville and Weaverville. Felt [IV] at Afton, Del Rio, Greeneville, Hartford, Limestone, Mosheim, Newport, Parrottsville and Sevierville, Tennessee. Also felt [IV] at Chesnee, Greenville and Piedmont, South Carolina. Felt in parts of Georgia, Kentucky, North Carolina, South Carolina, Tennessee, Virginia and West Virginia.

ISC 25 03:09:39.8±0.3, 35.96N±0.03×82.82W±0.04, h8km, n55, σ1§29/58, mb3.8/8, MS3.8/1, 2C, North Carolina

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TZTN	**Tazewell**	**0.83 315**		⇑*e*Pn	**Pn**	**03 09 57.9**	**+0.3**
TZTN				*e*S	**Sb**	**03 10 09.4**	**+2.4**
MYNC	**Murphy**	**1.39 231**		*e*Pn	**Pn**	**03 10 05.7**	**+0.2**
CPCT	**Cooper Cave**	**1.48 250**		⇑*e*Pn	**Pn**	**03 10 07.8**	**+1.0**
CPCT				*e*S	**Sb**	**03 10 26.4**	**+0.6**
ELN	**Prospectdale**	**2.09 52**		*e*Pn	**Pn**	**03 10 19.3**	**+3.7**
JSC	**Jenkinsville**	**2.11 142**		*e*Pn	**Pn**	**03 10 17.0**	**+1.1**
FWV	**Forest Hill**	**2.28 44**		*e*Pn	**Pn**	**03 10 21.9**	**+3.5**
BLA	**Blacksburg**	**2.30 56**		*e*Pn	**Pn**	**03 10 22.0**	**+3.4**
GOGA	**Godfrey**	**2.60 192**		*e*Pn	**Pn**	**03 10 23.8**	**+0.9**
SWET	**Sewanee**	**2.64 255**		*e*Pn	**Pn**	**03 10 24.6**	**+1.1**
WCI	**Wyandotte Cave**	**3.58 310**		*e*Pn	**Pn**	**03 10 37.2**	**+0.4**
NHSC	**New Hope**	**3.59 142**		*e*Pn	**Pn**	**03 10 36.5**	**-0.4**
CSU	**Charleston Sou**	**3.74 142**		*e*Pn	**Pn**	**03 10 39.4**	**+0.3**
RGRS	**Roger Stewart**	**3.74 144**		*e*Pn	**Pn**	**03 10 38.5**	**-0.6**
WVT	**Waverly**	**4.06 274**		Pn	**Pn**	**03 10 43.9**	**+0.2**
ACSO	**Alum Creek Sta**	**4.27 358**		*e*Pn	**Pn**	**03 10 48.2**	**+1.6**
BLO	**Bloomington**	**4.35 319**		Pn	**Pn**	**03 10 47.8**	**+0.1**
USIN	**University of**	**4.37 299**		Pn	**Pn**	**03 10 50.0**	**+2.0**
MCWV	**Mont Chateau**	**4.38 32**		*e*Pn	**Pn**	**03 10 49.7**	**+1.5**
LRAL	**Lakeview Retre**	**4.52 231**		Pn	**Pn**	**03 10 49.6**	**-0.5**
CBN	**Corbin**	**4.90 61**		*e*Pn	**Pn**	**03 10 56.1**	**+0.6**
UTMT	**University of**	**4.91 276**		Pn	**Pn**	**03 10 54.9**	**-0.8**
GLAT	**Glass**	**5.24 275**		Pn	**Pn**	**03 10 59.6**	**-0.8**
HALT	**Halls**	**5.29 271**		*e*Pn	**Pn**	**03 10 59.9**	**-1.2**
SIUC	**Southern Illin**	**5.42 291**		Pn	**Pn**	**03 11 02.4**	**-0.6**
OXF	**Oxford**	**5.58 257**		*e*Pn	**Pn**	**03 11 03.8**	**-1.4**
PVMO	**Portageville**	**5.58 277**		*e*Lg		03 12 33.0	
ALLY	**Alegheny Colle**	**6.05 19**		*e*Pn	**Pn**	**03 11 12.2**	**+0.3**
HBAR	**Harrisburg**	**6.38 269**		Pn	**Pn**	**03 11 21.2**	**+4.7**
FVM	**French Village**	**6.41 291**		Pn	**Pn**	**03 11 16.0**	**-0.9**
SLM	**Saint Louis**	**6.49 297**		Pn	**Pn**	**03 11 17.8**	**-0.2**
CCM	**Cathedral Cave**	**7.06 290**		*e*Pn	**Pn**	**03 11 23.9**	**-2.0**
GENY	**Geneseo**	**7.82 28**		Pn	**Pn**	**03 11 37.0**	**+0.3**
UALR	**University of**	**7.87 264**		*e*Pn	**Pn**	**03 11 34.9**	**-2.5**
BINY	**Binghamton**	**8.19 38**		*e*Pn	**P**	**03 11 40.7**	**-1.1**
SADO	**Sadowa**	**9.23 17**		Pn	**P**	**03 11 53.8**	**-2.5**
	1.1nm,0.3s,baz=204,slow=12,SNR=12						
SADO				Pg	P	03 12 26.5	+30
	1.7nm,0.3s,baz=208,slow=14,SNR=5.7						
SADO				Sn	**Sn**	**03 13 33.0**	**-8.5**
	1.8nm,0.3s,baz=302,slow=19,SNR=2.2						
SADO				Lg		03 14 21.5	
	5.5nm,0.3s,baz=285,slow=21,SNR=4.3						
SADO				LR	LR	03 14 52.5	
	comp=Z,38nm,18.6s,baz=195,slow=34						
SADO	**Sadowa**	**9.23 17**		Pn	**P**	**03 11 53.8**	**-2.5**
SADO				Pg	P	03 12 26.5	+30
SADO				Sn	**Sn**	**03 13 33.0**	**-8.5**
SADO				Lg		03 14 21.5	
SADO				LR	LR	03 14 52.5	
ACCN	**Adirondack Com**	**10.23 41**		*e*Pn	**P**	**03 12 07.5**	**-2.5**
MIV	**Mineville/With**	**10.78 38**		*e*Pn	**P**	**03 12 15.2**	**-2.3**
FRNY	**Flat Rock**	**11.31 36**		*e*Pn	**P**	**03 12 21.8**	**-2.9**
CBKS	**Cedar Bluff**	**13.75 287**		Pn	**P**	**03 12 54.7**	**-2.7**
ULM	**Lac du Bonnet**	**17.13 331**		P	**P**	**03 13 37.8**	**-3.2**
	0.2nm,0.3s,baz=130,slow=12,SNR=3.0						
ULM				S	**S**	**03 16 42.9**	**-7.5**
	0.3nm,0.3s,baz=100,slow=17,SNR=3.1						
ULM				Lg		03 18 31.1	
	0.4nm,0.3s,baz=259,slow=18,SNR=2.9						
ULM	**Lac du Bonnet**	**17.13 331**		P	**P**	**03 13 37.8**	**-3.2**
ULM				S	**S**	**03 16 42.9**	**-7.5**
ULM				Lg		03 18 31.1	
TXAR	**Lajitas Array**	**18.74 255**		P	**P**	**03 14 01.7**	**+0.5**
	0.5nm,0.3s,baz=62,slow=11,SNR=30						
TXAR	**Lajitas Array**	**18.74 255**		P	**P**	**03 14 01.7**	**+0.5**
ANMO	**Albuquerque**	**19.28 274**		P	**P**	**03 14 09.1**	**+1.6**
	baz=72,slow=8.8,SNR=6.4						
ANMO				Lg		03 19 55.5	
	baz=318,slow=19,SNR=6.1						
PDAR	**Pinedale Array**	**21.71 296**		P	**P**	**03 14 34.2**	**+1.1**
	2.6nm,0.9s,mb3.7,baz=97,slow=12,SNR=12						
PDAR				Lg		03 21 02.1	
	2.4nm,1.1s,baz=100,slow=27,SNR=4.5						
SCHQ	**Schefferville**	**21.86 25**		P	**P**	**03 14 35.0**	**+0.3**
	3.6nm,0.9s,mb3.8,baz=236,slow=15,SNR=4.0						
SCHQ				Lg		03 20 53.2	
	18nm,1.1s,baz=317,slow=8.7,SNR=6.8						
ILAR	**Eielson Array**	**47.13 328**		P	**P**	**03 18 15.2**	**+1.3**
	0.3nm,0.7s,mb3.3,baz=90,slow=7.2,SNR=3.3						
LPAZ	**La Paz**	**53.79 162**		P	**P**	**03 19 04.8**	**-0.4**
	1.4nm,0.8s,mb4.0,baz=327,slow=10,SNR=7.1						
SIV	**San Ignacio**	**55.62 154**		P	**P**	**03 19 18.3**	**-0.3**
	1.2nm,0.9s,mb3.9,slow=10,SNR=5.8						
ARCES	**ARCESS Array B**	**62.77 22**		P	**P**	**03 20 07.5**	**0.0**
	0.8nm,0.4s,mb4.2,baz=297,slow=4.9,SNR=9.7						
FINES	**FINESS Array B**	**67.27 30**		P	**P**	**03 20 37.1**	**+0.6**
	1.1nm,0.6s,mb4.0,baz=315,slow=5.4,SNR=6.3						
PLCA	**Paso Flores**	**77.15 170**		LR	LR	03 57 56.1	
	comp=Z,43nm,18.1s,MS3.8,baz=314,slow=38						
BRTR	**Keskin Array B**	**84.64 44**		P	**P**	**03 22 16.8**	**+1.7**
	0.3nm,0.4s,mb3.8,slow=2.9,SNR=3.6						
WRA	**Warramunga Arr**	**143.75 286**		PKhKP		03 29 13.9	
	0.6nm,0.7s,baz=56,slow=3.6,SNR=5.1						
WRA				PKP	PKPdf	03 29 16.2	-2.4
	0.6nm,0.7s,baz=57,slow=3.4,SNR=4.8						

SKHL 25 03:15:47.1±0.1, 55.10N×142.02E, h10km, mb3.5/1, Sea of Okhotsk

IDC 25 03:45:17.1±2.3, 4.14S×152.24E, mb3.6/3, mb1 3.9/3, mb1mx3.6/12, mbtmp3.6/3, MS3.5/6, Ms1 3.5/6, ms1mx3.3/14, Error ellipse: s-maj=80.6km s-min=31.8km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.27 224**		LR	LR	03 48 56.3	
	comp=Z,80nm,19.6s,baz=67,slow=30						
GUMO	**Guam**	**19.07 338**		LR	LR	03 56 31.2	
	comp=Z,37nm,18.1s,baz=265,slow=35						
WRA	**Warramunga Arr**	**23.48 227**		P	P	03 50 28.8	-0.7
	1.0nm,0.6s,baz=50,slow=9.9,SNR=9.4						
STKA	**Stephens Creek**	**29.35 199**		LR	LR	04 02 58.2	
	comp=Z,201nm,18.9s,baz=26,slow=36						
MJAR	**Matsushiro Arr**	**42.54 343**		LR	LR	04 08 06.9	
	comp=Z,250nm,19.1s,baz=200,slow=32						
SONM	**Songino Array**	**65.47 328**		P	P	03 56 02.5	-1.7
	0.4nm,0.6s,baz=139,slow=6.6,SNR=3.3						
SONM				LR	LR	04 21 37.0	
	comp=Z,44nm,18.4s,baz=71,slow=33						
MKAR	**Makanchi Array**	**79.46 319**		LR	LR	04 29 56.3	
	comp=Z,27nm,19.2s,baz=180,slow=34						
ILAR	**Eielson Array**	**81.76 22**		P	P	03 57 37.1	-1.7
	0.8nm,0.8s,baz=256,slow=4.7,SNR=6.8						

*TIF **25** 03:55:36.9, 42.93N×45.66E, h20km±3km*

*MOS **25** 03:55:38.0±3.8, 43.29N×45.27E, h34km, mb4.2/1, Error ellipse: s-maj=15.3km s-min=8.7km az=32.6*

*CSEM **25** 03:55:38.0±0.1, 43.29N×45.27E, h34km, mb4.2, Error ellipse: s-maj=3.2km s-min=2.1km az=23.0, After OBN*

ISC 25 03:55:38.5±0.5, 43.02N±0.04×45.71E±0.05, h47km±24km, n35, σ0§89/42, 3D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLMR	**Dylym**	**0.68 85**		*i* Pg	**P**	**03 55 53.5**	**+1.6**
	1μm,0.3s						
DLMR	**Dylym**	**0.68 85**		*i* PG	**P**	**03 55 53.5**	**+1.6**
DLMR				pmax	pmax		
	comp=Z,1μm,0.3s						
DBC	**Dubki**	**0.82 89**		*i* Pg	**P**	**03 55 53.5**	**-0.4**
	comp=Z,289nm,0.2s						
DBC	**Dubki**	**0.82 89**		⇓*i*PG	**P**	**03 55 53.5**	**-0.4**
DBC				pmax	pmax		
	comp=Z,289nm,0.2s						
XNZR	**Khunzakh**	**0.88 122**		*e*Pg	**P**	**03 55 54.5**	**-0.1**
	comp=Z,267nm,0.3s						
XNZR	**Khunzakh**	**0.88 122**		*e*PG	**P**	**03 55 54.5**	**-0.1**
XNZR				pmax	pmax		
	comp=Z,267nm,0.3s						
KRNR	**Karanay**	**0.90 102**		*i* Pg	**P**	**03 55 52.5**	**-2.5**
	comp=Z,239nm,0.2s						
KRNR	**Karanay**	**0.90 102**		⇓*i*PG	**P**	**03 55 52.5**	**-2.5**
KRNR				pmax	pmax		
	comp=Z,239nm,0.2s						
BUJR	**Buynaksk**	**1.05 100**		*i* Pg	**P**	**03 55 58.0**	**+1.0**
	comp=Z,195nm,0.2s						
BUJR	**Buynaksk**	**1.05 100**		*i* PG	**P**	**03 55 58.0**	**+1.0**
BUJR				pmax	pmax		
	comp=Z,195nm,0.2s						
GNBR	**Gunib**	**1.12 124**		*e*Pg	**P**	**03 55 57.5**	**-0.5**
	comp=Z,76nm,0.2s						
GNBR	**Gunib**	**1.12 124**		*e*PG	**P**	**03 55 57.5**	**-0.5**
GNBR				pmax	pmax		
	comp=Z,76nm,0.2s						
MAK	**Makhachkala**	**1.32 92**		*e*Pn	**P**	**03 56 08.2**	**+7.1**
TI2	**Plekhanov**	**1.47 209**		*i* Pn	**P**	**03 55 58.2**	**-4.8**
TBLG	**Delisi**	**1.47 209**		P	**P**	**03 56 02.7**	**-0.5**
TBLG				S	**S**	**03 56 20.5**	**-0.9**
MTA	**Mtatsminda**	**1.48 207**		P	**P**	**03 56 02.7**	**-0.6**
MTA				S	**S**	**03 56 20.8**	**-1.0**
GOR	**Gori**	**1.57 229**		P	**P**	**03 56 05.1**	**+0.7**
GOR				S	**S**	**03 56 24.2**	**+0.4**
DGRG	**David-gareji**	**1.58 189**		P	**P**	**03 56 04.3**	**-0.4**
DGRG				S	**S**	**03 56 24.5**	**+0.4**
ONI	**Oni**	**1.72 256**		P	**P**	**03 56 07.3**	**+0.7**
ONI				S	**S**	**03 56 31.3**	**+3.9**
KUBR	**Kubataba**	**1.85 296**		*e*Pg	**P**	**03 56 08.7**	**+0.3**
AKT	**Akhty**	**2.15 135**		*e*Pn	**P**	**03 56 13.0**	**+0.3**
	comp=Z,61nm,0.3s						
AKT	**Akhty**	**2.15 135**		*e*PN	**P**	**03 56 13.0**	**+0.3**
AKT				pmax	pmax		
	comp=Z,61nm,0.3s						
PYA	**Pyatigorsk**	**2.18 299**		*e*Pn	**P**	**03 56 13.2**	**+0.1**
AKH	**Akhalkalaki**	**2.30 226**		P	**P**	**03 56 14.0**	**-0.8**
AKH				S	**S**	**03 56 43.4**	**+1.5**
BEYR	**Belyy Ugol+**	**2.33 296**		*e*Pn	**P**	**03 56 14.9**	**-0.3**
SHAR	**Shatzhatmas**	**2.33 289**		*e*Pn	**P**	**03 56 15.3**	**0.0**
KIV0	**Kislovodsk Arr**	**2.38 294**		*e*Pn	**P**	**03 56 16.1**	**+0.1**
KIV	**Kislovodsk**	**2.39 294**		*i* Pn	**P**	**03 56 17.2**	**+1.1**
	comp=Z,6.0nm,0.5s						
KIV				*e*Sg	**S**	**03 56 42.3**	**-2.0**
KIV	**Kislovodsk**	**2.39 294**		*d i*PN	**P**	**03 56 17.2**	**+1.1**
KIV				*e*		03 56 42.3	
KIV				pmax	pmax		
	comp=Z,6.0nm,0.5s						
GOF	**Gofitskoye**	**2.81 318**		*e*Pn	**P**	**03 56 34.0**	**+12**
GNI	**Garni**	**2.96 194**		*i* Pn	**P**	**03 56 25.0**	**+0.8**
ANN	**Anapa**	**6.24 289**		*e*P	**P**	**03 57 05.3**	**-5.0**
OBN	**Obninsk**	**13.49 337**		P	**P**	**03 58 59.0**	**+10**
	comp=Z,12nm,1.0s						
OBN	**Obninsk**	**13.49 337**		P	**P**	**03 58 59.0**	**+10**
OBN				pmax	pmax		
	comp=Z,12nm,1.0s						
ARU	**Arti**	**15.75 27**		*i* P	**P**	**03 59 18.4**	**-0.1**

*LDG **25** 04:11:21.9±0.3, 51.64N×16.39E, h1km, Ml3.0/9, Error ellipse: s-maj=6.9km s-min=3.2km az=11.0, Suspected Mining induced.*

*NEIC **25** 04:11:22.6±0.3, 51.51N×16.13E, h5km, ML3.3(VIE), ML3.1(SZGRF), Error ellipse: s-maj=3.6km s-min=2.9km az=203.0*

*IPEC **25** 04:11:22.0±0.3, 51.51N×16.17E, ML2.9/4, Error ellipse: s-maj=1.9km s-min=1.4km az=38.0*

*PRU **25** 04:11:23.9, 51.45N×16.10E*

*CSEM **25** 04:11:23.9±0.1, 51.43N×16.14E, h0km, ML3.5/8, Error ellipse: s-maj=2.0km s-min=1.2km az=16.0*

*BGR **25** 04:11:24.6±0.7, 51.44N×16.04E, h1km, ML3.1, Error ellipse: s-maj=6.7km s-min=5.6km az=164.0*

*WAR **25** 04:11:24, 51.45N×16.10E, h1km, ML3.2, Mining Induced*

*IDC **25** 04:11:26.5±1.9, 51.42N×16.01E, h18km±16km, mb1 3.3/6, mb1mx3.2/22, mbtmp3.3/6, ML3.0/6, Error ellipse: s-maj=14.3km s-min=9.6km az=104.0*

ISC 25 04:11:21.8±0.4, 51.40N±0.02×16.08E±0.02, n76, σ1§33/134, 5C-3D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.57 166**		⇓*i*PG	**Pg**	**04 11 35.6**	**+2.4**
KSP				⇓*e*SG	**Sg**	**04 11 44.6**	**+3.8**
KSP	**Ksiaz**	**0.57 166**		*e*Pg	**Pg**	**04 11 35.6**	**+2.4**
KSP				*e*Sg	**Sg**	**04 11 44.9**	**+4.1**
KSP	**Ksiaz**	**0.57 166**		⇓*i*Pg	**Pg**	**04 11 35.5**	**+2.3**
KSP				*e*Sg	**Sg**	**04 11 44.2**	**+3.4**
KSP				*e*		04 11 49.0	
UPC	**Upice**	**0.89 183**		*e*PG	**Pg**	**04 11 41.6**	**+2.0**
DPC	**Dobruska-Polom**	**1.06 172**		*e*PG	**Pg**	**04 11 44.3**	**+1.4**
DPC				*e*SG	**Sg**	**04 11 59.0**	**+2.0**
	69nm,0.5s						
PVCC	**Panska Ves**	**1.29 228**		*e*Pn	**Pn**	**04 11 48.7**	**+1.6**
PVCC	**Panska Ves**	**1.29 228**		*e*Pg	**Pg**	**04 11 48.9**	**+1.3**
PVCC				*e*Sg	**Sg**	**04 12 06.2**	**+1.4**
BRG	**Berggiesshuebel**	**1.45 250**		*e*Pg	**Pg**	**04 11 51.3**	**+0.6**
BRG				*e*Sg	**Sg**	**04 12 11.5**	**+1.6**
BRG	**Berggiesshuebel**	**1.45 250**		Pg	**Pg**	**04 11 51.8**	**+1.2**
BRG				Sg	**Sg**	**04 12 11.5**	**+1.6**
BRG	**Berggiesshuebel**	**1.45 250**		Pn	**Pn**	**04 11 49.8**	**+0.5**
BRG				Pg	**Pg**	**04 11 51.8**	**+1.1**
BRG				Sg	**Sg**	**04 12 11.6**	**+1.7**
PRU	**Pruhonice**	**1.72 215**		*e*PN	**Pn**	**04 11 54.4**	**+1.3**
PRU				*e*PG	**Pg**	**04 11 56.2**	**+0.1**
PRU				*e*SG	**Sg**	**04 12 20.7**	**+1.8**
	147nm,1.3s						
FBE	**Freiberg**	**1.78 256**		Sg	**Sg**	**04 12 20.7**	**-0.4**
RUE	**Ruedersdorf**	**1.79 308**		*e*Pn	**Pn**	**04 11 53.5**	**-0.7**
RUE				Sg	**Sg**	**04 12 21.3**	**-0.1**
RUE	**Ruedersdorf**	**1.79 308**		*e*Pn	**Pn**	**04 11 53.5**	**-0.7**
RUE				*e*Sn	**Sn**	**04 12 20.7**	**+2.7**
MORC	**Moravsky Berou**	**1.87 150**		*e*Pn	**Pn**	**04 11 56.0**	**+0.7**
MORC				*e*Sn	**Sn**	**04 12 17.1**	**-2.9**
MORC				*e*Sg	**Sg**	**04 12 22.7**	**-1.4**
	54nm,0.6s						
MORC	**Moravsky Berou**	**1.87 150**		*e*Pn	**Pn**	**04 11 56.0**	**+0.7**
MORC				*e*Sn	**Sn**	**04 12 17.1**	**-2.9**
RAC	**Raciborz**	**1.88 134**		*e*P	**Pn**	**04 12 00.0**	**+4.5**
RAC				*e*S	**Sn**	**04 12 24.0**	**+3.8**
RAC	**Raciborz**	**1.88 134**		*e*Pg	**Pg**	**04 11 59.6**	**+0.3**
RAC				*e*Sg	**Sg**	**04 12 24.2**	**-0.2**
CLL	**Collm**	**1.93 269**		*e*Pn	**Pn**	**04 11 56.2**	**0.0**
CLL				*i* Pg	**Pg**	**04 11 59.8**	**-0.6**
CLL				*e*Sg	**Sg**	**04 12 26.1**	**0.0**
CLL	**Collm**	**1.93 269**		*i* PN	**Pn**	**04 11 56.3**	**+0.1**
CLL				*i* PG	**Pg**	**04 11 59.8**	**-0.6**
CLL				*e*		04 12 04.0	
CLL				*i*		04 12 14.1	
CLL				*i* SG	**Sg**	**04 12 25.4**	**-0.7**
CLL	**Collm**	**1.93 269**		Pg	**Pg**	**04 11 59.8**	**-0.6**
CLL

WTTA *i* Sg **Sg** **04 14 08.5 -1.5**
BOJS Bojanci 5.92 186 *i* Pg **Pg** **04 13 23.3 +3.3**
comp=Z,6.0nm,0.1s
BOJS Bojanci 5.92 186 *i* Sg **Pg** **04 13 24.7 +4.7**
DAVOX Davos 6.16 224 Lg 04 14 40.5
comp=Z,0.5nm,0.3s,baz=200,slow=20,SNR=3.3
CDF Champ du Feu 6.42 246 *e*Pn **Pn** **04 12 59.3 -0.7**
CDF *e*Sg **Sg** **04 14 52.3 -3.3**
comp=Z,1.3nm,0.3s
HINF Hinteralfeld 6.98 243 *e*Pn **Pn** **04 13 07.3 -0.6**
HINF *e*Sg **Sg** **04 15 10.1 -4.2**
comp=Z,0.8nm,0.3s
HAU Haudompre 7.17 246 *e*Sg **Sg** **04 15 15.7 -4.6**
comp=Z,1.1nm,0.3s
MEZF Maizieres J'vi 7.68 252 *e*Pn **Pn** **04 13 15.7 -2.0**
SFTF Sexfontaines 7.83 250 *e*Sg **Sg** **04 15 34.9 -7.4**
comp=Z,1.4nm,0.3s
CABF La Chapelle 8.13 238 *e*Sg **Sg** **04 15 45.9 -6.5**
comp=Z,0.6nm,0.3s
AKASG Malin Array Be 8.31 90 Pn **P** **04 13 22.6 -3.8**
comp=Z,0.3nm,0.3s,baz=277,slow=12,SNR=4.3
AKASG Lg 04 15 49.1
comp=Z,0.3nm,0.3s,baz=240,slow=43,SNR=3.6
AKASG Malin Array Be 8.31 90 Pn **P** **04 13 22.6 -3.9**
LPL La Plagne 8.55 230 *e*Pn **P** **04 13 28.7 -1.1**
HFS Hagfors 8.86 352 Pn **P** **04 13 30.2 -3.8**
comp=Z,0.0nm,0.3s,baz=158,slow=16,SNR=3.6
SSF Saint Saulge 9.30 247 *e*Pn **P** **04 13 38.1 -2.0**
SSF *e*Sg **Sg** **04 16 21.6 -10**
comp=Z,0.4nm,0.2s
ORIF Oris-en-Rattie 9.40 230 *e*Pn **P** **04 13 40.0 -1.5**
AVF Avril sur Loir 9.53 246 *e*Pn **P** **04 13 40.8 -2.5**
TCF Toulx Ste Croi 10.47 246 *e*Pn **P** **04 13 54.6 -1.5**
FINES FINESS Array B 11.47 25 Pn **P** **04 14 04.5 -5.3**
comp=Z,0.2nm,0.3s,baz=204,slow=14,SNR=4.6
ARCES ARCESS Array B 18.74 10 Pn **P** **04 15 40.7 -3.1**
comp=Z,0.2nm,0.3s,baz=194,slow=11,SNR=7.7
ARCES ARCESS Array B 18.74 10 Pn **P** **04 15 40.7 -3.1**

NIED ***25*** *04:20:00, 38.50N×143.30E, h8km, Mw3.5 Best double couple: M₀1.82×10¹⁴ NP1:φs252°, δ63°, λ143°. NP2:φs1°, δ58°, λ32°.*
JMA ***25*** *04:20:04.6±0.1, 38.52N×143.26E, h17km±4km, M3.5*
ISC 25 04:20:05.2±1.9, 38.51N±0.08×143.3E±0.1, h19km±16km, n11, σ0968/18, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.38**	**295**	P	**Pn**	**04 20 29.0**	**-0.7**
OFUJ				*e*S	**Sb**	**04 20 47.4**	**+0.1**
JIO	**Ouri**	**1.51**	**269**	P	**Pn**	**04 20 30.7**	**-0.9**
JIO				*e*S	**Sn**	**04 20 49.9**	**-1.0**
JMK	**Ichinoseki**	**1.67**	**286**	P	**Pn**	**04 20 33.5**	**-0.3**
JMK				*e*S	**Sn**	**04 20 54.8**	**0.0**
JOM	**Ohasama**	**1.82**	**303**	P	**Pn**	**04 20 35.7**	**-0.3**
JOM				*e*S	**Sn**	**04 20 58.6**	**-0.1**
JOU	**Okura**	**2.06**	**267**	P	**Pn**	**04 20 39.6**	**+0.3**
JOU				*e*S	**Sn**	**04 21 05.0**	**+0.3**
JFK	**Kawauchi**	**2.21**	**240**	P	**Pn**	**04 20 40.6**	**-1.0**
JYK	**Kaneyama**	**2.32**	**281**	P	**Pn**	**04 20 43.4**	**+0.3**
JFT	**Otama**	**2.52**	**248**	P	**Pn**	**04 20 46.5**	**+0.5**
JFT				*e*S	**Sn**	**04 21 17.0**	**+0.5**
JYS	**Shirataka**	**2.54**	**265**	P	**Pn**	**04 20 46.5**	**+0.2**
JYS				*e*S	**Sn**	**04 21 17.3**	**+0.4**
JAH	**Hinai**	**2.65**	**310**	P	**Pn**	**04 20 50.8**	**+3.0**
MAT	**Matsushiro**	**4.48**	**246**	P	**Pn**	**04 21 14.3**	**+0.4**

NEIC ***25*** *05:08:55.2, 16.15N×97.64W, h32km, MD3.7(MEX), After MEX.*
MEX 25 05:08:55.2±0.6, 16.15N×97.64W, h32km±14km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.53**	**298**	*i* P	Pb	05 09 04.7	-1.5
PNIG				*i* S	Sb	05 09 11.3	-2.4
VHO	**Vista Hermosa**	**1.27**	**43**	*i* P	Pn	05 09 14.8	-2.1
VHO				*i* S	Sn	05 09 30.1	-3.0
OXX	**Oaxaca**	**1.28**	**43**	*e*P	Pn	05 09 15.0	-2.2
OXX				*i* S	Sn	05 09 32.0	-1.4
CMIG	**Matias Romero**	**2.80**	**70**	*e*P	Pn	05 09 35.4	-3.6
CMIG				*i* S	Sn	05 10 09.0	-3.1

CSEM ***25*** *05:22:39.9±1.0, 38.60N×28.81W, ML1.1, Error ellipse: s-maj=6.6km s-min=3.9km az=76.0, After PDA*
PDA ***25*** *05:22:39.9±1.0, 38.60N×28.81W, MD2.6, ML1.1, Error ellipse: s-maj=6.6km s-min=3.9km az=76.0*
SVSA 25 05:22:39.9±1.0, 38.60N×28.81W, MD2.6, ML1.1, Error ellipse: s-maj=6.6km s-min=3.9km az=76.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**0.09**	**103**	*e*P	Pg	05 22 41.5	-0.1
CALA				*e*S	Sg	05 22 42.5	-0.2
PCED	**Cedros**	**0.09**	**72**	*e*P	Pg	05 22 41.8	+0.2
PCED				*e*S	Sg	05 22 43.1	+0.3
29nm,0.2s
HOR	**Horta**	**0.16**	**118**	*e*P	Pg	05 22 42.8	-0.2
HOR				*e*S	Sg	05 22 45.4	+0.3
PICO	**Pico**	**0.32**	**108**	*e*P	Pg	05 22 46.1	-0.1
PICO				*e*S	Sg	05 22 50.5	+0.1

BJI ***25*** *05:39:22.4, 24.70S×179.80E, h531km, mB4.6, mb4.5*
IDC ***25*** *05:39:23.5±1.0, 24.65S×179.78E, h513km±9km, mb3.7/11, mb1 3.9/12, mb1mx3.8/15, mbtmp4.5/12, Error ellipse: s-maj=16.0km s-min=13.2km az=173.0*
NEIC ***25*** *05:39:24.5±0.7, 24.74S×179.79E, h532km±8km, mb4.6/17, Error ellipse: s-maj=9.2km s-min=7.1km az=184.0*
ISC 25 05:39:23.3±0.9, 24.68S±0.07×179.71E±0.08, h524km±11km, h527km±9.6km: pP-P, n92, σ0992/50, mb4.5/24, 2C-5D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.03**	**156**	P	**P**	**05 40 52.4**	**-0.1**
203nm,0.3s,baz=73,slow=16,SNR=7.4
RAO S **S** **05 42 03.9** **+0.7**
74nm,0.3s,baz=270,slow=20,SNR=2.7
RAO Raoul Island 5.03 156 *e*Pn **P** **05 40 51.9** **-0.6**
RAO *e*Sn **S** **05 41 55.3** **-7.9**
DZM Mont Dzumac 12.45 279 *e*P **P** **05 42 10.3** **+3.2**
DZM Mont Dzumac 12.45 279 P **P** **05 42 10.1** **+3.0**
4.1nm,0.3s,baz=85,slow=17,SNR=32
AFI Afiamalu 13.39 38 P **P** **05 42 11.0** **-5.7**
2.4nm,0.3s,baz=342,slow=9.6,SNR=9.3
AFI S **S** **05 44 26.2** **-10**
1.8nm,0.3s,baz=253,slow=19,SNR=2.6
AFI Afiamalu 13.39 38 *e*P **P** **05 42 09.9** **-6.7**
AFI *e*S **S** **05 44 25.2** **-11**
URZ Urewera 13.72 189 P **P** **05 42 19.7** **-0.3**
6.3nm,0.3s,baz=21,slow=2.1,SNR=41
URZ S **S** **05 44 43.2** **+0.7**
3.4nm,0.3s,baz=198,slow=22,SNR=14
RAR Rarotonga 19.21 84 P **P** **05 43 13.9** **-0.1**
14nm,0.6s
RPZ Rata Peaks 20.27 198 P **P** **05 43 22.9** **-0.9**
4.0nm,0.5s,baz=37,slow=5.1,SNR=3.8
PPT Papeete 29.47 82 P **P** **05 44 44.7** **-1.3**
15nm,0.6s,mb4.8,baz=222,slow=16,SNR=3.2
CTA Charters Tower 31.22 272 ⇓*i*P **P** **05 45 02.0** **+1.0**
48nm,0.4s,mb5.4
CTAO Charters Tower 31.22 272 *e*P **P** **05 45 01.8** **+0.8**
58nm,0.8s,mb5.2
STKA Stephens Creek 34.19 249 ⇓*i*P **P** **05 45 26.7** **+0.7**
5.0nm,0.4s,mb4.4
STKA Stephens Creek 34.19 249 P **P** **05 45 26.7** **+0.8**
6.5nm,0.4s,mb4.5,baz=94,slow=10,SNR=33
PMG Port Moresby 34.50 290 P **P** **05 45 29.4** **+0.7**
7.7nm,0.5s,mb4.5,baz=117,slow=6.3,SNR=5.5
PMG Port Moresby 34.50 290 *e*P **P** **05 45 29.1** **+0.4**
34nm,0.9s,mb4.9
WRAB Tennant Creek 42.09 267 *e*P **P** **05 46 29.9** **-0.5**
41nm,0.6s,mb5.1
WRAB *e*ScP 05 51 13.4
WRA Warramunga Arr 42.09 267 P **P** **05 46 30.2** **-0.3**
30nm,0.5s,mb5.1,baz=99,slow=8.0,SNR=168
WRA ScP 05 51 15.8
5.1nm,0.9s,baz=102,slow=4.3,SNR=9.7

WRA S **S** **05 52 08.6 -4.1**
2.1nm,1.0s,baz=101,slow=14,SNR=5.2
FORT Forrest 45.79 250 *e*P **P** **05 46 58.3 -1.0**
38nm,0.5s,mb5.2
KAKA Kakadu 46.12 276 ⇓*i*P **P** **05 47 15.0 +13**
17nm,0.3s,mb5.0
FITZ Fitzroy Crossi 50.51 266 *e*P **P** **05 47 33.9 -1.0**
39nm,0.7s,mb4.8
VNDA Vanda 53.59 185 P **P** **05 47 56.5 +0.2**
0.5nm,0.8s,baz=25,slow=10,SNR=3.5
VNDA ScP 05 52 01.9
1.0nm,0.8s,baz=338,slow=6.1,SNR=5.7
SBA Scott Base 53.59 183 *e*P **P** **05 47 57.5 +1.1**
3.6nm,1.0s,mb3.7
KLBR Kellerberrin 54.45 248 *e*P **P** **05 48 02.0 -1.0**
26nm,1.0s,mb4.5
MBWA Marble Bar 54.98 261 *e*P **P** **05 48 05.5 -1.4**
18nm,0.9s,mb4.3
CASY Casey 59.30 206 *e*P **P** **05 48 34.1 -1.6**
4.3nm,0.6s,mb3.9
KSM Kuching 71.98 280 *e*P **P** **05 49 55.1 -0.3**
MJAR Matsushiro Arr 72.39 326 P **P** **05 49 57.9 +0.5**
9.7nm,0.8s,mb4.3,baz=160,slow=5.5,SNR=16
MAJO Matsushiro 72.39 326 *e*P **P** **05 49 56.9 -0.5**
6.3nm,0.6s,mb4.2
PMSA Palmer Station 78.30 157 *e*P **P** **05 50 29.1 -0.3**
5.9nm,0.7s,mb4.0
SSE Sheshan 78.80 312 P **P** **05 50 32.8 0.0**
SSE AMB AMB
comp=Z,22nm,0.6s,mb4.7
SSE AMB AMB
comp=Z,91nm,3.6s
SSE Sheshan 78.80 312 P **P** **05 50 32.7 -0.1**
comp=Z,22nm,0.6s,mb4.7
NJ2 Nanjing 80.97 311 *e*P **P** **05 50 45.6 +1.5**
NJ2 AMB AMB
comp=Z,30nm,1.3s,mb4.6
MDJ Mudanjiang 82.76 326 P **P** **05 50 53.3 +0.4**
MDJ AMB AMB
comp=Z,9.0nm,1.4s,mb4.1
MDJ AMB AMB
comp=Z,71nm,4.5s
MDJ Mudanjiang 82.76 326 P **P** **05 50 52.8 -0.1**
comp=Z,8.7nm,0.8s,mb4.3
VNA3 Neumayer Olymp 84.12 177 ⇓*i*P **P** **05 50 59.0 0.0**
VNA3 *e* pP 05 52 54.1 -0.1
VNA3 *e* pP 05 52 58.0 +3.9
CN2 Changchun 84.35 324 *e*P **P** **05 50 59.9 -0.9**
CN2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.3
VNA2 Neumayer--Watz 84.53 178 ⇓*i*P **P** **05 51 01.2 +0.2**
VNA2 *e* pP 05 52 57.0 +0.7
VNA2 *e* 05 53 01.7
VNA1 Neumayer--Stat 84.77 177 ⇑*i*P **P** **05 51 04.3 +2.1**
VNA1 *e* pP 05 52 56.3 -1.3
VNA1 *e* pP 05 53 00.9 +3.3
NVAR Mina Array Bea 85.49 44 P **P** **05 51 07.5 +1.0**
comp=Z,0.5nm,0.7s,baz=225,slow=6.4,SNR=3.9
ENH Enshi 86.67 305 *e*P **P** **05 51 13.1 +0.8**
comp=Z,7.3nm,0.6s,mb4.5
TXAR Lajitas Array 91.07 58 P **P** **05 51 33.3 +0.6**
comp=Z,1.0nm,0.7s,mb3.9,baz=214,slow=6.7,SNR=16
ILAR Eielson Array 92.84 14 P **P** **05 51 38.9 -1.2**
comp=Z,0.5nm,0.6s,mb3.7,baz=222,slow=5.5,SNR=9.4
ILAR PP PP 05 55 28.9 -4.2
comp=Z,0.4nm,1.0s,baz=225,slow=10,SNR=2.8
SONM Songino Array 97.52 319 P **P** **05 52 02.5 +0.8**
comp=Z,0.5nm,0.8s,mb3.9,baz=135,slow=4.1,SNR=3.4
SONM PP PP 05 56 04.3 -4.7
comp=Z,0.1nm,0.3s,baz=108,slow=4.6,SNR=2.7
LPAZ La Paz 102.35 114 PP PP 05 56 39.0 -6.7
comp=Z,0.5nm,0.5s,baz=258,slow=14,SNR=6.0
MKAR Makanchi Array 112.48 312 PKiKP 05 56 58.5
MKAR comp=Z,0.6nm,0.7s,baz=63,slow=3.2,SNR=4.8 SKP 05 59 47.2
MKAR comp=Z,0.2nm,0.4s,baz=136,slow=0.3,SNR=6.9
MKAR Makanchi Array 112.48 312 PKPdf PKPdf 05 56 58.5 -0.7
MKAR SKP 05 59 47.2
ARCES ARCESS Array B 132.59 348 PKhKP 05 57 31.1
comp=Z,1.9nm,0.8s,baz=180,slow=1.2,SNR=5.7
ARCES PKP PKPdf 05 57 37.6 +0.3
comp=Z,1.9nm,0.6s,baz=90,slow=3.2,SNR=14
ARCES SKPbc 06 00 17.4
comp=Z,1.8nm,0.7s,baz=11,slow=4.6,SNR=4.2
JOF Joensuu 136.37 340 *e*pkp PKPdf 05 57 46.2 +1.8
KAF Kangasniemi 138.50 341 *e*pkp PKPdf 05 57 39.3 -9.1
FINES FINESS Array B 139.09 341 PKhKP 05 57 41.7
comp=Z,0.6nm,0.3s,baz=39,slow=4.8,SNR=8.8
FINES SKPbc 06 00 37.0
comp=Z,3.6nm,0.8s,baz=45,slow=2.7,SNR=8.2
FINES FINESS Array B 139.09 341 PKP PKPdf 05 57 41.7 -7.8
FINES SKPbc 06 00 37.0
NB2 NORSAR Subarra142.80 351 PKPabc PKPdf 05 57 53.8 -2.0
comp=Z,2.6nm,0.7s,baz=16,slow=3.1
NOA NORSAR Array B 142.80 351 PKhKP 05 57 54.2
comp=Z,5.5nm,0.8s,baz=11,slow=2.3,SNR=9.3
NOA NORSAR Array B 142.80 351 PKP PKPdf 05 57 54.2 -1.6
ELZG Elazig 144.09 302 *i* P PKPbc 05 58 00.2 +1.6
GZT Gaziantep 145.41 301 *i* P PKPdf 05 58 03.1 +2.0
AKASG Malin Array Be 145.47 326 PKPbc PKPbc 05 58 02.5 +0.5
comp=Z,6.6nm,0.5s,baz=45,slow=3.9,SNR=39
AKASG SKPbc 06 00 53.6
comp=Z,1.9nm,0.7s,baz=45,slow=2.3,SNR=8.6
BOYT Boyabat 146.38 308 *i* P PKPdf 05 58 06.0 +3.3
AVNT Avonos 147.18 304 *i* P PKPdf 05 58 08.6 +4.6
BALT Daday 147.42 309 *i* P PKPdf 05 58 08.4 +4.2
ELDT Eldivan 147.74 308 *i* P PKPdf 05 58 09.1 +4.3
BR131 Keskin Array S 147.82 306 *e*PKPbc PKPdf 05 58 09.7 +4.7
BRTR Keskin Array B 147.82 306 PKPbc PKPdf 05 58 10.1 +5.1
comp=Z,3.7nm,0.7s,baz=143,slow=3.5,SNR=15
SGKT Sivrigoynuk 148.70 308 *i* P PKPdf 05 58 08.5 +2.2
ESKT Eskisehir 149.93 307 *i* P PKPdf 05 58 13.7 +5.3
KOLS Kolonicke sedl 150.01 330 *e*PKP PKPdf 05 58 15.8 +7.6
OJC Ojcow 150.12 334 *e*PKP PKPdf 05 58 15.6 +7.3
STHS Stebnicka Huta 150.12 331 *e*PKP PKPdf 05 58 15.4 +7.1
CRVS Cervenica-Dubn 150.40 330 *i* PKP PKPdf 05 58 17.2 +8.4
NIE Niedzica 150.52 332 *e*PKP PKPdf 05 58 17.5 +8.6
KSP Ksiaz 150.91 338 *e*PKP PKPdf 05 58 17.7 +8.2
ULDT Uludag 150.93 309 *i* P PKPdf 05 58 16.2 +6.4
DPC Dobruska-Polom 151.32 338 *e*PKPbc PKPdf 05 58 18.9 +8.8
CLL Collm 151.51 342 ⇑*i*PKP1 PKPdf 05 58 18.2 +7.9
CLL *i* PKP2 PKPab 05 58 29.4 -0.9
BRG Berggiesshubel 151.63 341 *i* P PKPdf 05 58 18.9 +8.5
BRG *i* 05 58 30.4
KHC Kasperske Hory 153.28 340 *e*PKPab PKPab 05 58 37.7 -0.1
GERES GERESS Array B 153.49 339 PKPbc PKPdf 05 58 23.3 +10
comp=Z,0.5nm,0.6s,baz=135,slow=1.9,SNR=4.5
GERES PKPab PKPab 05 58 38.0 -0.7
comp=Z,1.2nm,0.6s,baz=76,slow=11,SNR=6.6
GIVF Givet 154.31 352 *e*PKP2 PKPab 05 58 41.0 -1.1
BAIF Baives 154.42 353 *e*PKP2 PKPab 05 58 41.4 -1.2
CDF Champ du Feu 155.57 348 *e*PKP2 PKPab 05 58 46.4 -1.1
HAU Haudompre 156.13 349 *e*PKP2 PKPab 05 58 48.7 -1.2
comp=Z,16nm,0.8s
HINF Hinteralfeld 156.22 348 *e*PKP2 PKPab 05 58 48.9 -1.4
LOR Lormes 157.21 353 *e*PKP2 PKPab 05 58 53.6 -1.0
SSF Saint Saulge 157.46 353 *e*PKP2 PKPab 05 58 54.6 -1.1
comp=Z,16nm,0.8s
CABF La Chapelle 157.52 348 *e*PKP2 PKPab 05 58 55.3 -0.7
AVF Avril sur Loir 157.74 353 *e*PKP2 PKPab 05 58 55.6 -1.3
comp=Z,4.4nm,0.7s
SMF Signal de Mont 157.83 352 *e*PKP2 PKPab 05 58 56.2 -1.1
comp=Z,7.9nm,0.5s
TCF Toulx Ste Croi 158.34 355 *e*PKP2 PKPab 05 58 57.3 -2.2
LPG La Plagne 158.46 346 *e*PKP2 PKPab 05 59 00.2 +0.2
comp=Z,4.9nm,0.7s
ORIF Oris-en-Rattie 159.19 348 *e*PKP2 PKPab 05 59 02.9 -0.3
comp=Z,5.6nm,0.6s
SMRF Simiane la Rot 160.16 347 *e*PKP2 PKPab 05 59 07.3 -0.1

NEIC ***25*** *06:20:06.7, 9.46N×83.91W, h10km, mb4.2/1, MD4.3(CASC), After CASC.*
CASC 25 06:20:07.1±2.3, 9.46N×83.90W, h6km±8km, MD4.0, MW4.8, mb4.3(NEIC), 12C-11D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUS	**Buena Vista**	**0.17**	**57**	⇓*i*P	Pg	06 20 11.8	+1.2
BUS	**Buena Vista**	**0.17**	**57**	⇓*i*P	Pg	06 20 11.7	+1.2
LCR2	**La Lucha 2**	**0.29**	**340**	⇓*i*P	Pg	06 20 13.2	+0.2
LCR2	**La Lucha 2**	**0.29**	**340**	⇑*e*P	Pg	06 20 13.1	0.0
SJS	**Escuela Geolog**	**0.50**	**342**	⇓*i*P	Pg	06 20 16.9	-0.2
SJS *e*S Sg 06 20 24.5 +0.8
SJS Escuela Geolog 0.50 342 ⇓*i*P Pg 06 20 16.9 -0.2
SJS *e*S Sg 06 20 24.5 +0.8
PRS1 Puriscal 0.66 322 ⇑*i*P Pg 06 20 18.4 -1.8
PRS1 Puriscal 0.66 322 ⇑*i*P Pg 06 20 18.4 -1.9
CGA2 Cerro Gallo 2 0.78 315 ⇑*e*P Pb 06 20 21.1 -1.6
CGA2 *e*S Sg 06 20 31.9 -1.3
CGA2 Cerro Gallo 2 0.78 315 ⇑*i*P Pb 06 20 21.1 -1.7
VPS2 Volcan Poas 2 0.79 335 ⇓*e*P Pb 06 20 22.1 -0.8
VPS2 Volcan Poas 2 0.79 335 ⇓*e*P Pb 06 20 22.1 -0.8
ACR Cerro Adams 1.08 138 *e*P Pb 06 20 26.0 -1.8
FORC Fortuna 1.26 323 ⇑*i*P Pb 06 20 29.5 -1.3
FORC Fortuna 1.26 323 ⇑*i*P Pb 06 20 29.4 -1.4
JCR Jicaral 1.26 288 ⇓*e*P Pb 06 20 28.8 -2.0
JCR *e*S Sb 06 20 46.4 -0.7
JCR Jicaral 1.26 288 ⇓*i*P Pb 06 20 28.8 -2.0
BRU2 Volcan 1.37 119 ⇑*i*P Pb 06 20 31.2 -1.4
BRU2 *e*S Sb 06 20 50.2 0.0
BRU2 Volcan 1.37 119 ⇑*e*P Pb 06 20 31.4 -1.3
BRU2 *e*S Sb 06 20 49.8 -0.5
LIM1 Limonal 1.81 313 ⇓*e*P Pn 06 20 38.1 -1.0
LIM1 *i* S Sn 06 21 02.4 -0.3
MADN Villa Maderas 2.51 320 ⇑*e*P Pn 06 20 49.2 0.0
SSNN San Juan del S 2.64 314 ⇑*e*P Pn 06 20 51.2 +0.2
CONN Concepcion 2.69 321 ⇑*e*P Pn 06 20 53.1 +1.4
MGAN Managua 3.53 319 *e*S Sn 06 21 43.5 -2.6
MIRN Miramar 4.05 317 ⇓*e*P Pn 06 21 11.0 +0.1
TEL3 Telica 3 4.23 317 *e*P Pn 06 21 14.1 +0.5
SDV Santo Domingo 13.11 91 *e*P P 06 23 14.6 -2.1
3.3nm,0.6s
NNA Nana 22.43 162 *e*P P 06 25 05.1 -3.2
PLCA Paso Flores 51.44 167 *e*P P 06 29 11.5 -3.9
2.7nm,0.9s

NEIC ***25*** *06:48:12.6, 32.09S×70.20W, h127km, MD3.7(GUC), After GUC.*
GUC 25 06:48:12.6±0.8, 32.09S×70.20W, h127km±5km, MD3.7, ML3.6, 10C-14D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACH	**Jahuel**	**0.68**	**209**	⇑*i*P	P	06 48 32.9	+0.3
JACH *i* S S 06 48 48.2 +0.3
ILCH Illapel 0.94 298 ⇑*i*P P 06 48 35.4 +0.6
ILCH *i* S S 06 48 51.9 +0.2
ILCH AMP 06 48 52.3
comp=N,1μm,0.2s
ROCH El Roble 1.11 218 ⇑*i*P P 06 48 37.0 +0.4
ROCH *i* S S 06 48 55.3 +0.5
CHNG Los Chungos 1.12 280 ⇓*i*P P 06 48 37.5 +0.7
CHNG *i* S S 06 48 55.6 +0.7
CHNG AMP 06 48 58.9
comp=E,267nm,0.3s
PEL Peldehue 1.13 201 ⇓*i*P P 06 48 37.1 +0.3
PEL *i* S S 06 48 55.2 +0.2
CMCH Combarbala 1.14 323 ⇑*i*P P 06 48 37.2 +0.3
CMCH *i* S S 06 48 55.7 +0.5
CMCH AMP 06 48 56.3
comp=N,5μm,0.4s
FCH Farellones 1.24 183 ⇓*i*P P 06 48 38.4 +0.5
FCH *i* S S 06 48 57.9 +0.8
FCH AMP 06 48 59.0
comp=N,857nm,0.2s
CLCH Cerro Calan 1.33 192 ⇓*i*P P 06 48 39.1 +0.1
CLCH *i* S S 06 48 59.2 0.0
CLCH AMP 06 49 04.9
comp=E,1μm,0.6s
CLCH AMP 06 49 05.4
comp=E,2μm,0.6s
DSCH Colegio Aleman 1.34 193 ⇓*i*P P 06 48 39.4 +0.3
DSCH *i* S S 06 48 59.6 +0.3
DSCH AMP 06 49 00.8
comp=E,908nm,0.3s
MDZ Mendoza 1.39 125 ⇓*i*P P 06 48 38.6 -1.1
MDZ *i* 06 48 58.4
MDZ S S 06 49 02.7 +2.4
STL Santa Lucia 1.39 195 ⇓*i*P P 06 48 38.8 -0.9
STL *i* S S 06 48 59.4 -1.0
STL AMP 06 49 00.1
comp=N,348nm,0.3s
ZON Zonda 1.41 68 *e*P P 06 48 40.9 +1.1
ZON *e*S S 06 48 58.7 -1.9
FSR Penalolen 1.41 191 ⇓*i*P P 06 48 40.2 +0.3
FSR *i* S S 06 49 00.9 +0.2
FSR AMP 06 49 03.6
comp=N,856nm,0.3s
SAN Santiago 1.42 196 *i* S S 06 49 00.8 0.0
SAN AMP 06 49 01.8
comp=E,578nm,0.2s
RCDM Rinconada Maip 1.49 200 ⇑*i*P P 06 48 40.9 +0.1
RCDM *i* S S 06 49 02.3 +0.1
RCDM AMP 06 49 03.1
comp=E,2μm,0.1s
ANTU Antumapu 1.52 194 ⇓*i*P P 06 48 41.2 +0.1
ANTU *i* S S 06 49 02.9 0.0
ANTU AMP 06 49 03.5
comp=N,1μm,0.3s
PCH Pirque 1.55 190 ⇓*i*P P 06 48 41.7 +0.2
PCH *i* S S 06 49 03.8 +0.4
SJCH San Jose de Ma 1.55 185 ⇑*i*P P 06 48 41.5 0.0
SJCH *i* S S 06 49 03.9 +0.4
SJCH AMP 06 49 05.4
comp=N,331nm,0.4s
TACH Talagante 1.68 201 ⇑*i*P P 06 48 42.7 -0.3
TACH *i* S S 06 49 05.8 -0.2
LMEL Las Melosas 1.75 180 ⇓*i*P P 06 48 44.2 +0.4
LMEL AMP 06 49 12.1
comp=N,528nm,0.2s
LCCH Las Cruces 1.80 219 ⇑*i*P P 06 48 44.8 +0.4
LCCH *i* S S 06 49 08.1 -0.4
CHCH Chadas Angostu 1.88 191 ⇑*i*P P 06 48 45.3 0.0
CHCH *i* S S 06 49 10.1 -0.1
TLL Tololo Astrono 1.98 345 *e*P P 06 48 47.4 +0.8
TLL *i* S S 06 49 13.1 +0.7
TLL AMP 06 49 16.6
comp=E,511nm,0.2s
CACH El Canelo 2.05 189 ⇓*i*P P 06 48 48.0 +0.5
CACH *i* S S 06 49 15.8 +1.9
LNV Longovilo 2.12 208 ⇓*i*P P 06 48 47.6 -0.7
LNV *i* S S 06 49 14.2 -1.4
CICH Cipreses 2.23 185 ⇑*i*P P 06 48 50.0 +0.1
CICH *i* S S 06 49 19.4 +1.2
LSCH La Serena 2.35 337 *e*P P 06 48 51.4 0.0
LSCH *i* S S 06 49 19.8 -1.0
LSCH AMP 06 49 21.1
comp=N,419nm,0.3s
SFDO San Fernando 2.61 195 ⇓*i*P P 06 48 54.2 -0.6
SFDO *i* S S 06 49 26.1 -0.7

IDC ***25*** *07:24:38.9±1.1, 6.18N×123.51E, mb3.7/6, mb1 3.9/6, mb1mx3.7/20, mbtmp3.7/6, Error ellipse: s-maj=110.1km s-min=17.8km az=69.0*
NEIC ***25*** *07:24:39.9±0.7, 6.37N×124.04E, h10km, mb4.2/2, Error ellipse: s-maj=74.1km s-min=11.0km az=70.0*
MAN ***25*** *07:24:40.9, 6.45N×123.83E, h11km, mb4.0, ML2.8, MS2.5*
ISC 25 07:24:41.9±1.4, 6.40N±0.09×123.92E±0.08, h35km±14km, n15, σ1910/17, mb3.8/8, 3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.88**	**22**	⇓*i*P	**P**	**07 24 56.9**	**-0.8**
CTBH *i* S **S** **07 25 07.1** **-2.4**
KCP Kidapawan 1.31 62 ⇓*e*P **P** **07 25 04.6** **+0.5**
PAGZ Pagadian 1.53 340 *e*P **P** **07 25 06.7** **-0.5**
BUKP Musuan 1.86 38 *e*P **P** **07 25 13.2** **+1.4**
IPIL Ipil 1.92 316 *e*P **P** **07 25 12.8** **+0.1**
IPIL *e*S **S** **07 25 35.8** **-0.1**
CGP Cagayan de Oro 2.18 21 ⇓*e*P **P** **07 25 19.4** **+3.0**
FITZ Fitzroy Crossi 24.40 176 P **P** **07 29 58.8** **+0.4**
2.8nm,0.6s,mb3.8,baz=356,slow=13,SNR=4.0
WRA Warramunga Arr 28.11 159 P **P** **07 30 30.9** **-2.0**
0.5nm,0.5s,mb3.4,baz=333,slow=11,SNR=5.3
STKA Stephens Creek 41.63 157 P **P** **07 32 28.9** **+0.3**
1.8nm,0.5s,mb3.9,baz=321,slow=6.1,SNR=5.8
STKA Stephens Creek 41.63 157 *e*P **P** **07 32 28.3** **-0.3**
ULN Ulaanbaatar 43.76 344 P **P** **07 32 46.2** **+0.5**
5.7nm,1.4s,mb4.1
SONM Songino Array 43.92 343 P **P** **07 32 48.2** **+1.2**
0.3nm,0.5s,mb3.2,baz=162,slow=6.4,SNR=3.4
MKAR Makanchi Array 53.78 326 P **P** **07 34 04.0** **+0.8**
0.6nm,0.6s,mb3.7,baz=135,slow=8.6,SNR=5.2
KURK Kurchatov 58.00 328 *e*P **P** **07 34 32.9** **-0.5**

1.7nm,0.6s,mb4.2
BVAR Borovoye Array 63.57 327 P P 07 35 10.4 -0.8
0.3nm,0.6s,mb3.5,baz=135,slow=8.2,SNR=2.9

JMA 25 07:39:50.3±0.3, 33.01N×142.23E, h2km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.94**	**328**	P	Pn	07 40 24.7	0.0
BSO3	**Boso 3**	**2.29**	**322**	P	Pn	07 40 30.1	+0.5
BSO3				eS	Sn	07 40 59.3	+0.5
BSO4	**Boso 4**	**2.52**	**322**	P	Pn	07 40 33.8	+0.8
BSO4				eS	Sn	07 41 05.0	+0.3
JAG	**Ashikaga**	**4.10**	**327**	P	Pn	07 40 55.5	+0.1
JMM	**Marumori**	**4.99**	**347**	P	Pn	07 41 03.9	-4.1
JMM				eS	Sn	07 41 57.6	-9.4

*NEIC **25** 08:47:10.5±1.3, 5.17S×80.15W, h75km±14km, mb4.1/6, Error ellipse: s-maj=22.9km s-min=8.9km az=221.0*
NEIC Felt [II] at Piura.
*IDC **25** 08:47:13.1±7.2, 5.15S×80.11W, h94km±72km, mb3.6/7, mb1 3.7/8, mb1mx3.6/17, mbtmp4.0/8, ML4.4/1, MS3.0/3, Ms1 3.0/3, ms1mx2.7/24, Error ellipse: s-maj=48.0km s-min=21.5km az=49.0*
*IGQ **25** 08:47:55.9, 3.63S×79.50W, h33km±3km, mb4.6, Error ellipse: s-maj=12.4km s-min=3.6km az=14.7*
ISC 25 08:47:01.1±0.6, 5.38S±0.04×80.68W±0.06, h10km, n38, σ1§38/38, mb3.9/8, MS3.2/1, 1D, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARRY	**Arrayan**	**4.44**	**30**	⇓P	**Pg**	**08 48 34.4**	**+4.6**
ARRY				S	**Sn**	**08 49 02.5**	**0.0**
CUSU	**Cusua**	**4.48**	**29**	P	**Pg**	**08 48 35.7**	**+5.1**
JUIV	**Juive**	**4.51**	**29**	P	**Pg**	**08 48 35.8**	**+4.7**
ULBA	**Ulba**	**4.51**	**30**	P	**Pg**	**08 48 36.7**	**+5.5**
RUN5	**Runtun**	**4.53**	**30**	P	**Pg**	**08 48 36.7**	**+5.1**
PISA	**Pisayambo**	**4.86**	**28**	P	**Pg**	**08 48 40.5**	**+2.3**
CAMI	**Rancho Maria**	**5.15**	**25**	P	**Pg**	**08 48 45.8**	**+1.8**
TAMB	**Tambo**	**5.19**	**26**	P	**Pg**	**08 48 49.2**	**+4.4**
VC1	**Cotopaxi 1**	**5.22**	**26**	P	**Pg**	**08 48 43.5**	**-1.9**
JUA2	**San Juan 2**	**5.53**	**22**	P	**Pg**	**08 48 51.5**	**-0.1**
JUA2				S	**Sn**	**08 49 30.4**	**+0.4**
PINO	**Pino**	**5.58**	**22**	P	**Pg**	**08 48 51.7**	**-0.8**
PINO				S	**Sn**	**08 49 31.6**	**+0.3**
YANA	**Yana**	**5.63**	**22**	P	**Pg**	**08 48 52.0**	**-1.6**
YANA				S	**Sn**	**08 49 33.2**	**+0.7**
COTA	**Cotacachi**	**6.14**	**22**	P	**Pg**	**08 48 59.9**	**-3.8**
ECEN	**Cerro Negro**	**6.73**	**24**	P	**Pg**	**08 49 10.4**	**-5.1**
LORE	**San Lorenzo**	**6.88**	**15**	P	**Pg**	**08 49 07.1**	**-11**
NNA	**Nana**	**7.58**	**150**	ePn	**Pn**	**08 48 57.1**	**+2.7**
	58nm,0.3s						
NNA				eSn	**Sn**	**08 50 10.7**	**-11**
PAYG	**Puerto Ayora**	**10.67**	**296**	eP	**P**	**08 49 45.9**	**+8.6**
PAYG				eS	**S**	**08 51 37.7**	**-0.2**
LPAZ	**La Paz**	**16.40**	**132**	P	**P**	**08 50 55.2**	**+2.0**
	0.6nm,0.3s,baz=334,slow=14,SNR=24						
LPAZ				LR	LR	08 58 12.6	
	comp=Z,28nm,22.0s,baz=86,slow=41						
LPAZ	**La Paz**	**16.40**	**132**	P	**P**	**08 50 55.2**	**+2.0**
LPAZ				LR	LR	08 58 12.6	
SDV	**Santo Domingo**	**17.35**	**35**	LR	LR	08 57 50.5	
	comp=Z,51nm,18.0s,baz=234,slow=38						
SAML	**Samuel**	**17.71**	**103**	eP	**P**	**08 51 05.1**	**-4.6**
	24nm,1.0s						
SAML				eS	S	08 53 53.6	-31
LVC	**Limon Verde**	**20.56**	**148**	P	**P**	**08 51 43.6**	**+0.8**
	5.3nm,0.9s,baz=305,slow=9.5,SNR=9.0						
LVC	**Limon Verde**	**20.56**	**148**	eP	**P**	**08 51 42.6**	**-0.2**
	12nm,1.1s						
SIV	**San Ignacio**	**21.94**	**120**	P	**P**	**08 51 55.3**	**-1.4**
	4.8nm,0.6s,mb4.1,baz=303,slow=11,SNR=31						
CFAA	**Coronel Fontan**	**28.58**	**157**	P	**P**	**08 53 00.7**	**+1.1**
	0.2nm,0.4s,mb3.2,baz=311,slow=2.6,SNR=5.2						
CPUP	**Villa Florida**	**30.52**	**136**	LR	LR	09 06 00.9	
	comp=Z,46nm,18.3s,MS3.2,baz=306,slow=37						
BDFB	**Brasilia**	**33.64**	**110**	P	**P**	**08 53 40.5**	**-3.9**
	3.2nm,0.8s,mb4.3,baz=252,slow=7.5,SNR=3.2						
TXAR	**Lajitas Array**	**40.98**	**329**	pP	pP	08 55 07.3	+18
	0.3nm,0.7s,baz=153,slow=11,SNR=4.2						
ANMO	**Albuquerque**	**46.89**	**331**	P	**P**	**08 55 35.2**	**+1.5**
	1.3nm,0.7s,mb4.0,baz=154,slow=7.9,SNR=8.4						
ANMO				pP	pP	08 55 55.6	+19
	2.3nm,0.8s,baz=145,slow=8.4,SNR=9.7						
ANMO	**Albuquerque**	**46.89**	**331**	P	**P**	**08 55 35.1**	**+1.4**
	0.6nm,0.6s,mb3.7						
ANMO				pP	pP	08 55 55.6	+19
PDAR	**Pinedale Array**	**54.62**	**334**	P	**P**	**08 56 32.0**	**-0.2**
	0.3nm,0.7s,mb3.5,baz=135,slow=8.4,SNR=3.5						
PDAR				pP	pP	08 56 52.1	+17
	0.5nm,0.7s,baz=143,slow=7.4,SNR=5.4						
ULM	**Lac du Bonnet**	**56.94**	**348**	pP	pP	08 57 09.2	+17
	3.5nm,0.8s,baz=152,slow=10.0,SNR=4.3						
HLID	**Hailey**	**57.46**	**331**	eP	**P**	**08 56 52.8**	**+0.1**
	1.8nm,0.9s,mb4.1						
DBIC	**Dimbokro**	**76.61**	**82**	P	**P**	**08 58 51.6**	**-2.8**
	5.2nm,0.7s,mb4.5,baz=221,slow=5.0,SNR=4.3						
DBIC	**Dimbokro**	**76.61**	**82**	eP	**P**	**08 58 51.3**	**-3.2**
	16nm,1.1s,mb4.9						
SNAA	**Sanae**	**81.10**	**162**	P	**P**	**08 59 16.9**	**-0.8**
	0.8nm,0.6s,mb3.8						
VNDA	**Vanda**	**90.52**	**191**	pP	pP	09 00 34.1	+27
	1.9nm,0.8s,baz=92,slow=5.2,SNR=15						
WRA	**Warramunga Arr**	**137.35**	**233**	PKP	PKPdf	09 06 25.6	-3.4
	0.4nm,0.5s,baz=115,slow=2.1,SNR=7.7						

MOS 25 08:52:23.8±1.4, 56.36N×112.64E, h22km, mb4.2/1, Error ellipse: s-maj=31.7km s-min=22.0km az=73.5, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOA	**Uoyan**	**0.56**	**246**	ePG	Pb	08 52 34.5	-0.3
YOA				pmax	pmax		
	comp=Z,52nm,0.3s						
SVKR	**Severomuysk**	**0.57**	**115**	ePG	Pb	08 52 33.6	-1.4
SVKR				pmax	pmax		
	comp=Z,407nm,0.6s						
KMO	**Kumora**	**0.94**	**240**	ePG	Pb	08 52 40.5	-0.7
UKT	**Uakit**	**1.03**	**147**	ePG	Pb	08 52 41.9	-1.0
UKT				pmax	pmax		
	comp=Z,32nm,0.1s						
YLYR	**Ulyunkhan**	**1.71**	**210**	ePN	Pn	08 52 53.3	+0.6
YLYR				pmax	pmax		
	comp=Z,18nm,0.3s						
CRS	**Chara**	**3.16**	**78**	ePN	Pn	08 53 12.4	-1.0
CRS				pmax	pmax		
	comp=Z,20nm,0.8s						

*NEIC **25** 09:14:37.9, 62.62N×151.26W, h92km, MG3.3(AEIC), After AEIC.*
*IDC **25** 09:14:39.3±5.2, 62.72N×151.22W, h107km±44km, mb3.1/4, mb1 3.3/6, mb1mx3.2/19, mbtmp3.5/6, Error ellipse: s-maj=47.7km s-min=19.7km az=39.0*
ISC 25 09:14:36.8±0.3, 62.63N±0.02×151.23W±0.06, h105km±4km, n69, σ0§78/85, mb3.4/4, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUT	**Chulitna**	**0.50**	**117**	P	**P**	**09 14 52.9**	**-0.3**
HUR	**Hurricane**	**0.81**	**64**	P	**P**	**09 14 56.0**	**+0.2**
HUR				S	**S**	**09 15 09.5**	**-0.6**
KTH	**Kantishna Hill**	**0.94**	**8**	P	**P**	**09 14 57.4**	**+0.3**
KTH				S	**S**	**09 15 11.5**	**-0.9**
RND	**Reindeer**	**1.33**	**53**	P	**P**	**09 15 02.1**	**+0.4**
RND				S	**S**	**09 15 20.2**	**-0.2**
GHO	**Glory Hole Cre**	**1.38**	**128**	P	**P**	**09 15 02.9**	**+0.6**
GHO				S	**S**	**09 15 22.6**	**+1.2**
PMR	**Palmer**	**1.44**	**136**	P	**P**	**09 15 02.8**	**-0.1**
PMR				S	**S**	**09 15 22.5**	**0.0**
BGL	**Barrier Glacie**	**1.48**	**202**	P	**P**	**09 15 03.5**	**+0.1**
SPU	**Mount Spurr**	**1.51**	**195**	P	**P**	**09 15 03.3**	**-0.5**
SPU				S	**S**	**09 15 23.4**	**-0.7**
MCK	**McKinley**	**1.52**	**42**	P	**P**	**09 15 04.4**	**+0.5**
CKL	**Chakachamna La**	**1.53**	**201**	P	**P**	**09 15 04.0**	**-0.1**
CKL				S	**S**	**09 15 25.0**	**+0.4**
FIB	**Fire Island**	**1.55**	**161**	P	**P**	**09 15 05.3**	**+0.9**
SML	**Sawmill**	**1.59**	**120**	P	**P**	**09 15 05.1**	**+0.3**
SML				S	**S**	**09 15 26.7**	**+1.0**
VOGL	**Vogel Lake**	**1.69**	**167**	P	**P**	**09 15 07.3**	**+1.3**
VOGL				S	**S**	**09 15 29.6**	**+1.8**
RC01	**Rabbit Creek A**	**1.70**	**155**	P	**P**	**09 15 05.6**	**-0.7**
RC01				S	**S**	**09 15 27.8**	**-0.4**
KNK	**Knik Glacier**	**1.79**	**132**	P	**P**	**09 15 07.4**	**+0.1**
NKA	**Nikishka**	**1.90**	**180**	P	**P**	**09 15 10.3**	**+1.6**
SCM	**Sheep Creek Mo**	**1.99**	**112**	P	**P**	**09 15 09.8**	**-0.1**
RDT	**Redoubt**	**2.14**	**196**	P	**P**	**09 15 11.7**	**-0.2**
RDT				S	**S**	**09 15 38.0**	**-0.2**
SLKM	**Skilak Lake**	**2.19**	**167**	eP	**P**	**09 15 12.6**	**+0.1**
CFI	**College Fiord**	**2.19**	**130**	P	**P**	**09 15 12.4**	**-0.2**
CFI				S	**S**	**09 15 37.8**	**-1.5**
TTA	**Tatalina**	**2.22**	**280**	P	**P**	**09 15 12.4**	**-0.6**
TT01	**Tatalina**	**2.22**	**279**	P	**P**	**09 15 12.4**	**-0.6**
NCT	**North Crescent**	**2.23**	**202**	P	**P**	**09 15 12.1**	**-1.0**
NCT				S	**S**	**09 15 40.9**	**+0.6**
RDN	**Redoubt North**	**2.25**	**200**	P	**P**	**09 15 13.2**	**-0.2**
RSO	**Redoubt South**	**2.30**	**199**	P	**P**	**09 15 14.0**	**0.0**
WRH	**Wood River Hil**	**2.32**	**36**	P	**P**	**09 15 14.4**	**0.0**
MPA	**Moose Pass**	**2.33**	**157**	P	**P**	**09 15 14.3**	**-0.2**
CCB	**Clear Creek Bu**	**2.53**	**36**	P	**P**	**09 15 17.1**	**-0.1**
SVW2	**Sparrevohn**	**2.58**	**235**	P	**P**	**09 15 17.1**	**-0.8**
SDG	**Sourdough**	**2.63**	**90**	P	**P**	**09 15 18.9**	**+0.3**
GLI	**Glacier Island**	**2.64**	**130**	P	**P**	**09 15 17.6**	**-1.1**
GLI				S	**S**	**09 15 49.2**	**-0.9**
PAX	**Paxson**	**2.67**	**80**	P	**P**	**09 15 19.8**	**+0.7**
PAX				S	**S**	**09 15 53.5**	**+2.7**
SEW	**Seward**	**2.68**	**161**	P	**P**	**09 15 18.5**	**-0.7**
MDM	**Murphy Dome**	**2.69**	**28**	P	**P**	**09 15 19.3**	**-0.1**
ILIM	**Iliamna**	**2.69**	**199**	P	**P**	**09 15 19.1**	**-0.3**
COLA	**College**	**2.70**	**32**	P	**P**	**09 15 19.6**	**0.0**
ILW	**Iliamna West**	**2.74**	**200**	P	**P**	**09 15 20.1**	**0.0**
KLU	**Klutina**	**2.75**	**112**	P	**P**	**09 15 19.1**	**-1.1**
VLZ	**Valdez**	**2.76**	**121**	P	**P**	**09 15 19.6**	**-0.8**
TZL	**Tazlina**	**2.77**	**100**	P	**P**	**09 15 20.8**	**+0.3**
ILAR	**Eielson Array**	**2.89**	**40**	P	**P**	**09 15 21.9**	**-0.2**
	4.9nm,0.3s,baz=223,slow=14,SNR=245						
ILAR				S	**S**	**09 15 56.6**	**+0.4**
	8.8nm,0.3s,baz=223,slow=21,SNR=12						
IL1	**Eielson Array**	**2.89**	**40**	P	**P**	**09 15 21.9**	**-0.2**
FID	**Port Fidalgo**	**2.95**	**128**	P	**P**	**09 15 21.6**	**-1.3**
DIV	**Divide**	**2.99**	**118**	P	**P**	**09 15 22.5**	**-1.0**
LTI	**Latouche**	**3.07**	**147**	P	**P**	**09 15 23.7**	**-0.8**
CNPM	**China Poot**	**3.12**	**180**	P	**P**	**09 15 25.5**	**+0.3**
XLV	**Seldovia**	**3.20**	**185**	P	**P**	**09 15 26.9**	**+0.6**
EYAK	**Cordova Ski Ar**	**3.35**	**126**	P	**P**	**09 15 27.2**	**-1.1**
DOT	**Dot Lake**	**3.41**	**69**	P	**P**	**09 15 29.6**	**+0.4**
MENT	**Mentasta**	**3.46**	**82**	P	**P**	**09 15 31.0**	**+1.0**
AUI	**Augustine Isla**	**3.48**	**199**	P	**P**	**09 15 32.0**	**+1.9**
IM3	**Indian Mountai**	**3.54**	**343**	P	**P**	**09 15 31.1**	**+0.1**
BMRM	**Bremner River**	**3.56**	**115**	P	**P**	**09 15 31.3**	**+0.1**
IMA	**Indian Mountai**	**3.61**	**344**	eP	**P**	**09 15 32.7**	**+0.7**
GLB	**Gilahina Butte**	**3.69**	**106**	P	**P**	**09 15 32.4**	**-0.6**
MID	**Middleton Isla**	**4.00**	**141**	P	**P**	**09 15 37.5**	**+0.3**
KAHC	**Katmai Hardscr**	**4.41**	**207**	P	**P**	**09 15 42.5**	**-0.4**
KAHG	**Katmai Hook Gl**	**4.46**	**203**	P	**P**	**09 15 44.4**	**+0.9**
BALM	**Baldy**	**4.50**	**107**	P	**P**	**09 15 42.6**	**-1.5**
KAIC	**Katmai Ikaglui**	**4.57**	**206**	P	**P**	**09 15 45.9**	**+0.9**
COLD	**Coldfoot**	**4.64**	**5**	P	**P**	**09 15 46.0**	**+0.1**
DAWY	**Dawson**	**5.52**	**70**	P	**P**	**09 15 57.6**	**-0.2**
BM3	**Burnt Mountain**	**5.56**	**27**	P	**P**	**09 15 58.1**	**-0.3**
INK	**Inuvik**	**9.28**	**45**	P	**P**	**09 16 50.2**	**+1.2**
	0.2nm,0.3s,baz=222,slow=17,SNR=6.7						
TXAR	**Lajitas Array**	**45.21**	**115**	P	**P**	**09 22 46.6**	**+1.9**
	0.2nm,0.6s,mb3.0,baz=333,slow=5.6,SNR=3.4						
SONM	**Songino Array**	**53.95**	**306**	P	**P**	**09 23 51.8**	**+0.6**
	0.4nm,0.4s,mb3.6,baz=27,slow=9.7,SNR=3.1						
MKAR	**Makanchi Array**	**62.90**	**322**	P	**P**	**09 24 52.2**	**-1.3**
	0.3nm,0.4s,mb3.6,baz=34,slow=6.6,SNR=2.6						
AKASG	**Malin Array Be**	**67.01**	**360**	P	**P**	**09 25 19.2**	**-0.6**
	0.2nm,0.2s,mb3.5,baz=2.9,slow=6.5,SNR=4.5						
AKASG	**Malin Array Be**	**67.01**	**360**	P	**P**	**09 25 19.2**	**-0.6**

*IDC **25** 09:24:30.8±1.0, 0.82N×97.35E, mb4.4/12, mb1 4.4/12, mb1mx4.2/21, mbtmp4.4/12, MS3.7/1, Ms1 3.7/1, ms1mx3.1/26, Error ellipse: s-maj=42.6km s-min=16.1km az=51.0*
*BJI **25** 09:24:31.4, 0.39N×97.03E, h41km, mB5.0, mb4.9, Ms4.3, Msz4.1*
*NEIC **25** 09:24:35.4±0.6, 0.82N×97.44E, h30km, mb4.5/9, Error ellipse: s-maj=15.5km s-min=7.8km az=48.0*
ISC 25 09:24:32.3±2.9, 0.80N±0.08×97.36E±0.09, h22km±19km, n40, σ1§02/39, mb4.5/25, MS3.8/2, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.25**	**44**	P	**Pn**	**09 25 52.0**	**+0.4**
KULM	**Kulim**	**5.54**	**36**	ePn	**Pn**	**09 25 55.2**	**-0.6**
KGM	**Kluang**	**6.08**	**78**	P	**Pn**	**09 26 04.4**	**+1.1**
SNG	**Songkhla**	**7.12**	**27**	P	**Pn**	**09 26 17.0**	**-1.1**
	104nm,1.0s						
KSM	**Kuching**	**12.96**	**87**	P	**P**	**09 27 41.0**	**+2.8**
CHG	**Chiang Mai**	**17.97**	**5**	P	**P**	**09 28 41.7**	**-1.1**
NANT	**Nan**	**18.19**	**10**	P	**P**	**09 28 46.5**	**+0.9**
KKM	**Kota Kinabalu**	**19.52**	**74**	P	**P**	**09 29 00.6**	**-0.9**
PKI	**Pulchoki**	**28.99**	**338**	eP	**P**	**09 30 32.7**	**-0.2**
GUN	**Gumba**	**29.12**	**339**	eP	**P**	**09 30 34.8**	**+0.7**
	28nm,0.6s,mb5.2						
DMN	**Daman**	**29.14**	**337**	eP	**P**	**09 30 34.3**	**0.0**
	9.9nm,0.7s,mb4.7						
KKN	**Kakani**	**29.23**	**338**	eP	**P**	**09 30 35.7**	**+0.6**
LSA	**Lhasa**	**29.35**	**349**	eP	**P**	**09 30 36.8**	**+0.6**
	5.1nm,0.6s,mb4.4						
GKN	**Gorkha**	**29.67**	**337**	eP	**P**	**09 30 39.3**	**+0.2**
	22nm,0.9s,mb4.9						
KOLN	**Koldanda**	**29.89**	**335**	eP	**P**	**09 30 41.4**	**+0.4**
	14nm,0.8s,mb4.8						
ENH	**Enshi**	**31.50**	**20**	eP	**P**	**09 30 52.4**	**-2.8**
FITZ	**Fitzroy Crossi**	**33.56**	**125**	P	**P**	**09 31 11.5**	**-1.7**
	5.2nm,0.8s,mb4.5,baz=337,slow=4.8,SNR=4.2						
XAN	**Xi'an**	**34.80**	**17**	P	**P**	**09 31 22.3**	**-1.5**
XAN				AMB	AMB		
	comp=Z,16nm,0.7s,mb5.1						
NWAO	**Narrogin (SRO)**	**38.42**	**153**	eP	**P**	**09 31 48.0**	**-6.4**
	comp=Z,25nm,0.7s,mb5.0						
GTA	**Gaotai**	**38.50**	**3**	P	**P**	**09 31 55.0**	**+0.1**
GTA				AP	pP	09 32 01.8	+0.4
GTA				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.5						
JOW	**Kunigami**	**39.40**	**46**	P	**P**	**09 32 01.9**	**-0.6**
	comp=Z,12nm,0.6s,mb4.8,baz=261,slow=11,SNR=5.1						
WRA	**Warramunga Arr**	**41.69**	**122**	P	**P**	**09 32 21.9**	**+0.4**
	comp=Z,2.3nm,0.6s,mb4.0,baz=304,slow=9.2,SNR=26						
WRAB	**Tennant Creek**	**41.69**	**122**	eP	**P**	**09 32 20.5**	**-1.1**
	comp=Z,13nm,1.0s,mb4.5						
HHC	**Hu-ho-hao-te**	**41.90**	**16**	eP	**P**	**09 32 25.5**	**+2.5**
HHC				AP	pP	09 32 35.3	+5.8
HHC				PP	PP	09 34 09.5	+6.3
HHC				S	**S**	**09 38 40.0**	**+0.3**
HHC				XS		09 38 59.0	
HHC				SS	SS	09 41 44.5	+3.3
HHC				AMB	AMB		
	comp=Z,14nm,0.6s,mb4.8						
HHC				AMB	AMB		
	comp=Z,133nm,5.8s						
HHC				LR	LR		
	comp=N,194nm,17.2s,MS4.2						
HHC				LR	LR		
	comp=E,187nm,20.2s,MS4.2						
HHC				LR	LR		
	comp=Z,133nm,23.2s,MS3.8						
SONM	**Songino Array**	**47.51**	**8**	P	**P**	**09 33 08.0**	**+0.1**
	comp=Z,3.7nm,0.8s,mb4.5,baz=190,slow=9.6,SNR=23						
SONM				PcP	PcP	09 34 38.4	+0.1
	comp=Z,0.9nm,0.6s,baz=180,slow=3.4,SNR=4.0						
ULN	**Ulaanbaatar**	**47.63**	**9**	eP	**P**	**09 33 08.8**	**-0.2**
	comp=Z,2.6nm,0.7s,mb4.4						
MKAR	**Makanchi Array**	**47.67**	**346**	P	**P**	**09 33 09.2**	**0.0**
	comp=Z,8.2nm,0.5s,mb5.0,baz=158,slow=8.0,SNR=93						
CN2	**Changchun**	**49.59**	**27**	eP	**P**	**09 33 26.0**	**+1.9**
MDJ	**Mudanjiang**	**52.14**	**29**	P	**P**	**09 33 43.8**	**+0.3**
MDJ				AMB	AMB		
	comp=Z,12nm,2.1s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,54nm,3.5s						
CTA	**Charters Tower**	**52.18**	**116**	LR	LR	09 57 42.8	
	comp=Z,83nm,21.8s,MS3.7,baz=227,slow=38						
KURK	**Kurchatov**	**52.22**	**345**	eP	**P**	**09 33 43.4**	**-0.6**
	comp=Z,3.5nm,0.7s,mb4.4						
STKA	**Stephens Creek**	**52.97**	**132**	P	**P**	**09 33 50.6**	**+0.7**
	comp=Z,2.7nm,0.7s,mb4.3,baz=295,slow=5.2,SNR=8.0						
STKA	**Stephens Creek**	**52.97**	**132**	eP	**P**	**09 33 50.6**	**+0.8**
ZAL	**Zalesovo**	**53.97**	**351**	P	**P**	**09 33 56.7**	**-0.2**
	comp=Z,5.8nm,0.4s,mb4.9,baz=322,slow=5.2,SNR=5.0						
BVAR	**Borovoye Array**	**56.68**	**341**	P	**P**	**09 34 14.7**	**-1.8**
	comp=Z,2.7nm,0.7s,mb4.4,baz=149,slow=9.1,SNR=19						
AKASG	**Malin Array Be**	**75.67**	**322**	P	**P**	**09 36 17.1**	**-0.8**
	comp=Z,0.9nm,0.5s,mb4.0,baz=86,slow=5.0,SNR=5.8						
FINES	**FINESS Array B**	**80.43**	**333**	P	**P**	**09 36 43.6**	**-0.1**
	comp=Z,0.9nm,0.5s,mb4.0,baz=90,slow=8.3,SNR=2.6						
ARCES	**ARCESS Array B**	**82.97**	**340**	P	**P**	**09 36 57.4**	**+0.6**
	comp=Z,2.6nm,0.8s,mb4.3,baz=76,slow=5.0,SNR=7.0						
GERES	**GERESS Array B**	**85.22**	**319**	P	**P**	**09 37 10.1**	**+1.4**
	comp=Z,0.2nm,0.3s,mb3.7,baz=90,slow=2.7,SNR=6.0						
TXAR	**Lajitas Array**	**143.93**	**32**	PKP	PKPdf	09 44 07.3	-3.8
	comp=Z,0.3nm,0.6s,baz=143,slow=1.2,SNR=5.9						

*NEIC **25** 09:25:18.8, 36.78N×9.76W, MN2.8(MDD), After MDD.*
*INMG **25** 09:25:19.7±0.8, 36.67N×9.73W, h4km±5km, ML2.3, Error ellipse: s-maj=5.0km s-min=3.1km az=59.0*
MDD 25 09:25:18.9±1.9, 36.57N×9.83W, h22km±52km, mbLg2.6/16, 1C, Error ellipse: s-maj=60.0km s-min=11.6km az=44.0, PRXIMO, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**1.32**	**42**	eP	Pn	09 25 41.4	-0.9
PTEO				eS	Sn	09 25 57.3	-2.1
	14nm,0.1s						
PTEO	**Sao Teotonio**	**1.32**	**42**	P	Pn	09 25 41.4	-0.9
PTEO				S	Sn	09 25 57.3	-2.1
	7.1nm,0.1s						
EGRO	**El Granado**	**2.12**	**62**	P	Pn	09 25 52.4	-1.3
	0.9nm,0.1s,SNR=7.9						
EGRO				S	Sn	09 26 16.6	-3.0
	7.5nm,0.1s,SNR=7.9						
PBEJ	**Beja**	**2.14**	**46**	ePn	Pn	09 25 52.6	-1.5
PBEJ				eSn	Sn	09 26 16.9	-3.3
	7.9nm,0.1s						
PBEJ	**Beja**	**2.14**	**46**	P	Pn	09 25 52.6	-1.5
PBEJ				S	Sn	09 26 16.9	-3.3
	4.0nm,0.1s						
PLOU	**Loures**	**2.38**	**13**	ePn	Pn	09 25 56.0	-1.4
PLOU				eSn	Sn	09 26 23.6	-2.6
	27nm,0.3s						
PLOU	**Loures**	**2.38**	**13**	P	Pn	09 25 56.0	-1.4
PLOU				S	Sn	09 26 23.6	-2.6
	13nm,0.3s						
EMIN	**Mina Concepcio**	**2.80**	**64**	P	Pn	09 26 01.5	-1.9
	0.9nm,0.1s,SNR=7.3						
EMIN				S	Sn	09 26 32.5	-4.4
	2.8nm,0.1s,SNR=12						
EMIN	**Mina Concepcio**	**2.80**	**64**	P	Pn	09 26 01.5	-1.9
EMIN				S	Sn	09 26 33.5	-3.4
EBAD	**Badajoz**	**3.13**	**45**	⇑P	Pn	09 26 05.6	-2.6
	3.6nm,0.1s,SNR=18						
EBAD				S	Sn	09 26 40.3	-4.9
	6.1nm,0.1s,SNR=8.3						
ESPR	**Espera**	**3.21**	**83**	P	Pn	09 26 06.7	-2.6
	2.0nm,0.1s,SNR=6.6						
ESPR				S	Sn	09 26 43.5	-3.8
	38nm,0.2s,SNR=7.9						
PTOM	**Tomar**	**3.25**	**20**	eSn	Sn	09 26 43.5	-4.8
	12nm,0.1s						
PTOM	**Tomar**	**3.25**	**20**	S	Sn	09 26 43.5	-4.8
	6.2nm,0.1s						
ECAB	**El Cabril**	**3.83**	**65**	P	Pn	09 26 15.6	-2.4
	0.4nm,0.1s,SNR=7.9						
ECAB				S	Sn	09 26 57.9	-5.0
	1.2nm,0.1s,SNR=7.9						
MTE	**Manteigas**	**4.23**	**24**	ePn	Pn	09 26 21.0	-2.8
MTE				eSn	Sn	09 27 07.0	-6.1
	4.2nm,0.2s						
MTE	**Manteigas**	**4.23**	**24**	P	Pn	09 26 21.0	-2.8
MTE				S	Sn	09 27 07.0	-6.1
	2.1nm,0.2s						
EADA	**Adamuz**	**4.48**	**68**	P	Pn	09 26 24.4	-2.9
	0.5nm,0.1s,SNR=7.9						
EADA				S	Sn	09 27 12.1	-7.4
	3.9nm,0.1s,SNR=7.9						
EBAN	**Banos Encina**	**5.08**	**70**	P	Pn	09 26 32.3	-3.4
	0.8nm,0.1s,SNR=7.9						
EBAN				S	Sn	09 27 27.5	-7.0
	2.0nm,0.1s,SNR=7.9						
PCAB	**Cabril**	**5.33**	**15**	ePn	Pn	09 26 36.1	-3.2
PCAB				eSn

0.8nm,0.4s,mb3.7,baz=34,slow=4.8,SNR=6.2
TXAR Lajitas Array 77.40 60 P **P 09 40 55.3 -0.2**
0.1nm,0.5s,mb2.7,baz=300,slow=5.0,SNR=4.5

NIED ***25*** *09:40:00,33.10N×142.60E,h8km,Mw4.2 Best double couple: M0.2.5×10^15 NP1:φs198°,δ63°,λ-94°. NP2:φs28°, δ28°,λ-82°.*
IDC ***25*** *09:40:09.0±0.6,33.05N×142.52E,mb4.0/14,mb1 4.2/17, mb1mx4.2/25,mbtmp4.0/17,ML3.8/3,MS3.5/4,Ms1 3.5/4, ms1mx3.0/36,Error ellipse: s-maj=17.3km s-min=15.9km az=71.0*
JMA ***25*** *09:40:11.8±0.8,33.09N×142.55E,h78km,M4.1*
MOS ***25*** *09:40:12.1±1.4,33.22N×142.56E,h33km,mb4.5/6,Error ellipse: s-maj=20.0km s-min=8.7km az=114.9*
NEIC ***25*** *09:40:13.0±4.4,33.08N×142.52E,h25km±30km,mb4.4/5, Error ellipse: s-maj=16.6km s-min=12.0km az=91.0*
ISC 25 09:40:11.9±0.5,33.07N±0.05×142.52E±0.06,h33km,n57, σ1§20/61,mb4.1/19,MS3.6/2,2C,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**2.04**	**321**	P	**P**	**09 40 44.6**	**+0.1**
BSO1				*e*S	**S**	**09 41 10.6**	**+1.6**
JHJ2	**Mitsune**	**2.27**	**272**	P	**P**	**09 40 48.8**	**+1.0**
JHJ	**Hachijo jima 2**	**2.30**	**272**	Pn	**Pn**	**09 40 47.7**	**-0.7**
	65nm,0.3s,baz=83,slow=21,SNR=8.7						
JHJ				Sn	**Sn**	**09 41 16.8**	**+1.0**
	187nm,0.3s,baz=50,slow=21,SNR=7.3						
BSO3	**Boso 3**	**2.41**	**317**	P	**P**	**09 40 49.9**	**+0.2**
BSO4	**Boso 4**	**2.64**	**317**	P	**P**	**09 40 53.7**	**+0.6**
JCN	**Nagara**	**3.03**	**321**	P	**P**	**09 40 59.5**	**+0.8**
JYN	**Shimob**	**4.09**	**307**	P	**P**	**09 41 13.5**	**-0.2**
JYN				S	**S**	**09 42 01.8**	**+0.7**
JRY	**Ryogami san**	**4.19**	**316**	S	**S**	**09 42 03.6**	**-0.1**
JAG	**Ashikaga**	**4.20**	**324**	P	**P**	**09 41 14.4**	**-0.8**
MJAR	**Matsushiro Arr**	**4.96**	**316**	Pn	**Pn**	**09 41 25.7**	**-0.5**
	5.2nm,0.3s,baz=165,slow=13,SNR=17						
MJAR				Sn	**Sn**	**09 42 22.7**	**-0.5**
	6.7nm,0.3s,baz=142,slow=18,SNR=8.4						
MJAR	**Matsushiro Arr**	**4.96**	**316**	Pn	**Pn**	**09 41 25.7**	**-0.5**
MJAR				Sn	**Sn**	**09 42 22.7**	**-0.5**
MAJO	**Matsushiro**	**4.96**	**316**	*e*Pn	**Pn**	**09 41 26.1**	**-0.1**
MAT	**Matsushiro**	**4.96**	**316**	P	**P**	**09 41 25.2**	**-0.9**
MAT				S	**S**	**09 42 20.8**	**-2.3**
MAT	**Matsushiro**	**4.96**	**316**	P	**P**	**09 41 25.8**	**-0.3**
MAT				*e*S	**S**	**09 42 21.0**	**-2.1**
MAT	**Matsushiro**	**4.96**	**316**	*e*P	**P**	**09 41 25.0**	**-1.1**
MAT				*e*S	**S**	**09 42 21.0**	**-2.1**
CBIJ	**Chichi jima**	**5.96**	**183**	Pn	**Pn**	**09 41 37.6**	**-2.6**
	6.6nm,0.3s,baz=140,slow=22,SNR=3.8						
CBIJ				Sn	**Sn**	**09 42 42.5**	**-5.6**
	28nm,0.3s,baz=316,slow=23,SNR=4.8						
JMK	**Ichinoseki**	**5.97**	**350**	P	**P**	**09 41 36.1**	**-4.1**
JNU	**Nakatsue**	**9.77**	**274**	LR	LR	09 45 52.9	
	comp=Z,329nm,21.8s,baz=40,slow=35						
ASAJ	**Asahikawa**	**11.04**	**0**	Pn	**P**	**09 42 45.5**	**-5.0**
	1.6nm,0.3s,baz=179,slow=15,SNR=7.9						
ASAJ				Sn	**S**	**09 44 43.6**	**-10**
	0.3nm,0.3s,baz=88,slow=33,SNR=2.9						
ASAJ	**Asahikawa**	**11.04**	**0**	P	**P**	**09 42 45.5**	**-5.0**
ASAJ						09 44 43.7	
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
JOW	**Kunigami**	**13.82**	**247**	LR	LR	09 48 10.0	
	comp=Z,155nm,20.4s,baz=273,slow=35						
YSS	**Yuzh-Sakhalins**	**13.87**	**1**	*e*P	**P**	**09 43 25.5**	**-2.8**
ULN	**Ulaanbaatar**	**30.46**	**310**	P	**P**	**09 46 20.6**	**-3.0**
	comp=Z,3.8nm,0.9s,mb4.1						
ULN	**Ulaanbaatar**	**30.46**	**310**	P	**P**	**09 46 20.6**	**-3.0**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
SONM	**Songino Array**	**30.88**	**309**	P	**P**	**09 46 29.0**	**+1.7**
	comp=Z,2.1nm,0.9s,mb4.0,baz=110,slow=9.7,SNR=10						
BOD	**Bodaibo**	**31.40**	**331**	*e*P	**P**	**09 46 30.6**	**-1.2**
BOD				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
ZAK	**Zakamensk**	**33.54**	**313**	*e*P	**P**	**09 46 48.8**	**-1.7**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.4s,mb3.5						
ZAL	**Zalesovo**	**45.33**	**315**	LR	LR	10 10 12.3	
	comp=Z,48nm,20.4s,MS3.4,baz=270,slow=40						
MKAR	**Makanchi Array**	**47.08**	**305**	P	**P**	**09 48 43.6**	**+1.4**
	comp=Z,0.9nm,0.7s,mb3.8,baz=94,slow=7.4,SNR=7.3						
KURK	**Kurchatov**	**49.16**	**311**	*e*P	**P**	**09 48 58.6**	**+0.3**
	comp=Z,7.4nm,0.8s,mb4.8						
KURK	**Kurchatov**	**49.16**	**311**	*e*P	**P**	**09 48 58.6**	**+0.3**
KURK				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
ILAR	**Eielson Array**	**52.40**	**31**	P	**P**	**09 49 22.4**	**-0.4**
	comp=Z,1.4nm,0.6s,mb4.1,baz=263,slow=6.0,SNR=14						
WRAB	**Tennant Creek**	**53.27**	**190**	*e*P	**P**	**09 49 22.9**	**-7.0**
	comp=Z,18nm,1.3s,mb4.8						
WRAB	**Tennant Creek**	**53.27**	**190**	*e*P	**P**	**09 49 22.9**	**-7.0**
WRAB				pmax	pmax		
	comp=Z,18nm,1.3s,mb4.8						
WRA	**Warramunga Arr**	**53.28**	**190**	P	**P**	**09 49 29.2**	**-0.8**
	comp=Z,2.7nm,0.8s,mb4.2,baz=7.7,slow=7.6,SNR=18						
FITZ	**Fitzroy Crossi**	**53.38**	**200**	P	**P**	**09 49 31.1**	**+0.5**
	comp=Z,5.4nm,0.8s,mb4.5,baz=11,slow=16,SNR=2.6						
BVAR	**Borovoye Array**	**53.96**	**315**	P	**P**	**09 49 32.6**	**-1.9**
	comp=Z,0.8nm,0.6s,mb3.9,baz=112,slow=7.8,SNR=4.4						
INK	**Inuvik**	**57.52**	**26**	P	**P**	**09 50 00.1**	**+0.1**
	comp=Z,1.6nm,0.8s,mb4.1,baz=264,slow=7.4,SNR=6.4						
INK	**Inuvik**	**57.52**	**26**	*e*P	**P**	**09 49 59.3**	**-0.7**
	comp=Z,2.5nm,0.8s,mb4.3						
INK	**Inuvik**	**57.52**	**26**	*e*P	**P**	**09 49 59.3**	**-0.7**
INK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
INK	**Inuvik**	**57.52**	**26**	P	**P**	**09 50 00.1**	**+0.1**
INK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
STKA	**Stephens Creek**	**64.60**	**181**	P	**P**	**09 50 47.9**	**-0.5**
	comp=Z,2.3nm,0.9s,mb4.2,baz=356,slow=11,SNR=4.1						
STKA	**Stephens Creek**	**64.60**	**181**	*e*P	**P**	**09 50 48.7**	**+0.4**
FINES	**FINESS Array B**	**72.75**	**333**	P	**P**	**09 51 39.0**	**+0.9**
	comp=Z,3.6nm,0.9s,mb4.3,baz=157,slow=14,SNR=4.3						
NVAR	**Mina Array Bea**	**76.65**	**53**	P	**P**	**09 52 02.4**	**+1.3**
	comp=Z,0.6nm,0.6s,mb3.7,baz=301,slow=4.9,SNR=6.2						
NVAR	**Mina Array Bea**	**76.65**	**53**	P	**P**	**09 52 02.4**	**+1.3**
AKASG	**Malin Array Be**	**78.00**	**323**	P	**P**	**09 52 07.7**	**-0.7**
	comp=Z,0.2nm,0.3s,mb3.5,baz=42,slow=5.9,SNR=6.8						
NB2	**NORSAR Subarra**	**78.19**	**338**	P	**P**	**09 52 10.1**	**+0.9**
	comp=Z,1.1nm,0.7s,mb3.9,baz=38,slow=5.3						
NB2	**NORSAR Subarra**	**78.19**	**338**	P	**P**	**09 52 10.1**	**+0.9**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
NOA	**NORSAR Array B**	**78.19**	**338**	P	**P**	**09 52 10.1**	**+0.9**
	comp=Z,2.6nm,0.9s,mb4.2,baz=40,slow=5.6,SNR=4.5						
NOA				LR	LR	10 30 01.8	
	comp=Z,38nm,18.4s,MS3.8,baz=85,slow=38						
NOA	**NORSAR Array B**	**78.19**	**338**	P	**P**	**09 52 10.1**	**+0.9**
NOA				LR	LR	10 30 01.8	
PDAR	**Pinedale Array**	**79.80**	**45**	P	**P**	**09 52 19.8**	**+1.5**
	comp=Z,0.5nm,0.9s,mb3.5,baz=315,slow=4.2,SNR=4.0						
CLL	**Collm**	**84.99**	**331**	P	**P**	**09 52 47.0**	**+2.2**
TXAR	**Lajitas Array**	**91.80**	**53**	P	**P**	**09 53 19.3**	**+1.4**
	comp=Z,0.4nm,0.6s,mb4.0,baz=305,slow=3.9,SNR=8.0						
VNA2	**Neumayer--Watz**	**138.74**	**194**	⇑*i*	PKPdf	09 59 38.3	+4.4
VNA1	**Neumayer--Stat**	**139.13**	**194**	⇑*i*	PKPdf	09 59 35.2	+0.6
LPAZ	**La Paz**	**147.69**	**66**	PKPbc	PKPdf	09 59 56.9	+6.1
	comp=Z,1.8nm,0.7s,baz=350,slow=6.7,SNR=6.1						

IDC ***25*** *10:20:39.6±0.7,9.57S×123.16E,mb4.3/9,mb1 4.4/10, mb1mx4.3/15,mbtmp4.4/10,ML4.8/1,MS3.6/1,Ms1 3.6/1, ms1mx2.8/20,Error ellipse: s-maj=34.6km s-min=16.1km az=81.0*
NEIC ***25*** *10:20:40.3±0.6,9.61S×123.44E,h10km,mb4.5/3,Error ellipse: s-maj=19.1km s-min=9.5km az=82.0*
ISC 25 10:20:42.2±0.5,9.63S±0.07×123.6E±0.1,h33km,n31, σ1§39/31,mb4.3/11,MS3.4/1,2C,Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**8.65**	**167**	*e*P	**P**	**10 22 47.0**	**-0.9**
	15nm,0.4s						
FITZ				*e*S	**S**	**10 24 16.9**	**-8.4**
FITZ	**Fitzroy Crossi**	**8.65**	**167**	Pn	**P**	**10 22 47.3**	**-0.5**
	7.8nm,0.3s,baz=2.4,slow=8.5,SNR=104						
FITZ				Sn	**Sn**	**10 24 17.6**	**-7.9**
	52nm,0.3s,baz=221,slow=2.6,SNR=14						
KAKA	**Kakadu**	**9.19**	**110**	*e*P	**P**	**10 23 13.6**	**+18**
	24nm,0.6s						
KAKA				*e*S	**S**	**10 24 51.9**	**+13**
MBWA	**Marble Bar**	**12.05**	**198**	*e*P	**P**	**10 23 30.8**	**-3.8**
	16nm,0.9s						
MBWA				*e*S	**S**	**10 25 29.2**	**-20**
WRA	**Warramunga Arr**	**14.57**	**136**	Pn	**P**	**10 24 06.5**	**-1.5**
	0.6nm,0.3s,baz=304,slow=14,SNR=45						
WRA				Sn	**S**	**10 26 41.1**	**-8.1**
	4.3nm,0.3s,baz=308,slow=24,SNR=15						
WRAB	**Tennant Creek**	**14.57**	**136**	*e*P	**P**	**10 24 02.1**	**-5.9**
WRAB				*e*S	**S**	**10 26 39.2**	**-10**
KKM	**Kota Kinabalu**	**17.23**	**334**	*e*P	**P**	**10 24 43.8**	**+1.8**
KLBR	**Kellerberrin**	**22.52**	**193**	*e*P	**P**	**10 25 40.3**	**-0.1**
	57nm,1.6s,mb4.8						
MUN	**Mundaring**	**23.27**	**196**	*e*P	**P**	**10 25 47.6**	**-0.2**
NWAO	**Narrogin (SRO)**	**23.92**	**193**	P	**P**	**10 25 54.5**	**+0.4**
	6.3nm,0.4s,mb4.4,baz=27,slow=7.6,SNR=24						
NWAO	**Narrogin (SRO)**	**23.92**	**193**	*e*P	**P**	**10 25 54.2**	**+0.1**
	6.7nm,0.5s,mb4.3						
CTA	**Charters Tower**	**24.20**	**118**	LR	LR	10 34 52.9	
	comp=Z,136nm,20.2s,MS3.4,baz=34,slow=35						
STKA	**Stephens Creek**	**27.71**	**146**	*e*P	**P**	**10 26 31.7**	**+2.0**
	2.1nm,0.6s,mb3.9						
STKA	**Stephens Creek**	**27.71**	**146**	P	**P**	**10 26 31.9**	**+2.2**
	2.2nm,0.6s,mb4.0,baz=317,slow=12,SNR=11						
STKA	**Stephens Creek**	**27.71**	**146**	*e*P	**P**	**10 26 31.5**	**+1.9**
MJAR	**Matsushiro Arr**	**47.94**	**16**	P	**P**	**10 29 19.8**	**+0.2**
	1.8nm,0.5s,mb4.4,baz=191,slow=9.6,SNR=5.6						
MJAR	**Matsushiro Arr**	**47.94**	**16**	P	**P**	**10 29 19.8**	**+0.2**
ULN	**Ulaanbaatar**	**59.10**	**347**	P	**P**	**10 30 39.7**	**-2.0**
	3.6nm,1.1s,mb4.3						
SONM	**Songino Array**	**59.22**	**347**	P	**P**	**10 30 41.5**	**-1.1**
	1.3nm,0.5s,mb4.2,baz=162,slow=8.5,SNR=11						
MKAR	**Makanchi Array**	**67.17**	**331**	P	**P**	**10 31 33.6**	**-1.3**
	1.8nm,0.5s,mb4.4,baz=142,slow=7.5,SNR=12						
MAW	**Mawson**	**70.23**	**201**	P	**P**	**10 31 54.4**	**+0.8**
	3.6nm,0.7s,mb4.4,baz=75,slow=6.6,SNR=18						
VNDA	**Vanda**	**70.69**	**172**	P	**P**	**10 31 57.3**	**+1.1**
	0.7nm,0.5s,mb3.9,baz=327,slow=7.3,SNR=7.8						
KMBO	**Kilima Mbogo**	**86.22**	**270**	P	**P**	**10 33 21.6**	**-0.8**
	0.6nm,0.3s,mb4.2,baz=37,slow=9.2,SNR=4.1						
MATP	**Matopo**	**91.42**	**249**	P	**P**	**10 33 46.2**	**-0.8**
	1.8nm,0.6s,mb4.6,baz=189,slow=13,SNR=4.3						
VNA2	**Neumayer--Watz**	**93.20**	**194**	⇑*i*	**P**	**10 33 56.1**	**+2.1**
VNA3	**Neumayer Olymp**	**93.52**	**194**	⇑*i*	**P**	**10 33 57.4**	**+2.0**
BRTR	**Keskin Array B**	**96.05**	**309**	PP	PP	10 37 47.0	-16
	0.9nm,0.7s,baz=106,slow=10,SNR=4.1						
PDAR	**Pinedale Array**	**123.21**	**45**	PKP	PKPdf	10 39 39.8	+3.7
	0.3nm,0.4s,SNR=3.8						
TXAR	**Lajitas Array**	**131.69**	**59**	PKP	PKPdf	10 39 57.0	+4.3
	0.2nm,0.4s,baz=186,slow=3.0,SNR=10						
CPUP	**Villa Florida**	**144.24**	**179**	PKP	PKPdf	10 40 16.7	+1.3
	1.3nm,0.7s,baz=148,slow=2.7,SNR=4.3						
LPAZ	**La Paz**	**151.75**	**156**	PKPbc	PKPdf	10 40 39.2	+11
	0.7nm,0.5s,baz=99,slow=3.2,SNR=5.1						
LPAZ				PKPab	PKPab	10 40 47.8	+2.3
	1.7nm,0.6s,baz=225,slow=5.7,SNR=6.4						

TIF ***25*** *10:24:48.7,40.73N×48.56E,h2km±1km*
MOS ***25*** *10:24:54.3±1.5,40.99N×48.54E,h33km,mb4.4/4,Error ellipse: s-maj=11.3km s-min=9.3km az=122.6*
NEIC ***25*** *10:24:56.4±1.2,40.53N×48.56E,h71km±18km,mb4.1/7, Error ellipse: s-maj=23.6km s-min=7.6km az=185.0*
CSEM ***25*** *10:24:57.0±0.4,40.48N×48.59E,h110km±2km,mb4.1/3, Error ellipse: s-maj=9.1km s-min=3.8km az=176.0*
IDC ***25*** *10:24:58.3±2.9,40.66N×48.44E,h78km±45km,mb3.9/6, mb1 3.9/11,mb1mx3.7/23,mbtmp4.0/11,ML3.4/5,MS3.4/5, Ms1 3.4/5,ms1mx3.1/22,Error ellipse: s-maj=62.1km s-min=19.9km az=4.0*
NNC ***25*** *10:24:59.2±11.0,40.82N×49.31E,h20km±110km,Error ellipse: s-maj=155.4km s-min=54.7km az=94.0*
ISC 25 10:24:55.2±0.9,40.84N±0.07×48.60E±0.05,h54km±11km, n71,σ1§29/78,mb4.1/10,MS3.3/4,9C-6D,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAK	**Makhachkala**	**2.27**	**339**	*i* Pn	**P**	**10 25 38.5**	**+7.3**
	660nm,1.0s						
MAK				*i* Sg	**S**	**10 26 10.0**	**+12**
MAK	**Makhachkala**	**2.27**	**339**	⇓*i*PN	**P**	**10 25 38.5**	**+7.3**
MAK				*i* S	**S**	**10 26 10.0**	**+12**
MAK				pmax	pmax		
	comp=Z,660nm,1.0s						
MAK				smax			
	comp=E,4μm,1.0s						
MAK				MLR	MLR		
	comp=E,1μm,6.0s						
MAK				MLR	MLR		
	comp=Z,2μm,6.0s						
DGRG	**David-gareji**	**2.51**	**285**	P	**P**	**10 25 34.0**	**-0.6**
MTA	**Mtatsminda**	**3.00**	**288**	P	**P**	**10 25 42.9**	**+1.5**
GNI	**Garni**	**3.02**	**258**	P	**P**	**10 25 41.8**	**-0.1**
	comp=Z,7.7nm,0.3s,baz=96,slow=2.9,SNR=13						
GNI	**Garni**	**3.02**	**258**	*e*Pn	**P**	**10 25 39.6**	**-2.3**
GNI	**Garni**	**3.02**	**258**	*e*Pn	**P**	**10 25 39.6**	**-2.3**
GNI	**Garni**	**3.02**	**258**	*e i*PN	**P**	**10 25 41.3**	**-0.6**
TBLG	**Delisi**	**3.04**	**288**	P	**P**	**10 25 41.4**	**-0.8**
TBLG				S	**S**	**10 26 20.2**	**+2.6**
VLKR	**Vladikavkaz**	**3.66**	**308**	*e*PN	**P**	**10 25 57.8**	**+6.9**
LACR	**Lac**	**3.78**	**303**	*e*PN	**P**	**10 26 01.2**	**+8.7**
AKH	**Akhalkalaki**	**3.90**	**280**	P	**P**	**10 25 54.9**	**+0.7**
ARNR	**Ardon**	**3.98**	**307**	*e*PN	**P**	**10 26 03.2**	**+7.8**
ONI	**Oni**	**4.23**	**296**	P	**P**	**10 25 59.1**	**+0.3**
DIGR	**Digorskoe uzhe**	**4.28**	**300**	*e*PN	**P**	**10 26 10.5**	**+11**
SHAR	**Shatzhatmas**	**5.27**	**305**	*e*PN	**P**	**10 26 05.2**	**-8.2**
KIV	**Kislovodsk**	**5.37**	**307**	P	**P**	**10 26 08.2**	**-6.6**
	comp=Z,24nm,0.6s						
KIV	**Kislovodsk**	**5.37**	**307**	Pn	**P**	**10 26 24.0**	**+9.2**
	comp=Z,300nm,11.0s						
KIV				*e*Sn	**S**	**10 27 14.6**	**-1.5**
KIV	**Kislovodsk**	**5.37**	**307**	P	**P**	**10 26 08.2**	**-6.6**
	comp=Z,24nm,0.6s						
KIV	**Kislovodsk**	**5.37**	**307**	PN	**P**	**10 26 24.0**	**+9.2**
KIV				*e*		10 27 14.6	
KIV				pmax	pmax		
	comp=Z,16nm,1.0s						
KIV				pmax	pmax		
	comp=Z,33nm,0.7s						
KIV				MLR	MLR		
	comp=Z,300nm,11.0s						
GOF	**Gofitskoye**	**5.87**	**318**	*e*P	**P**	**10 26 29.0**	**+7.3**
BRTR	**Keskin Array B**	**11.49**	**269**	P	**P**	**10 27 37.8**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=90,slow=16,SNR=6.2						
AB31	**Akbulak array**	**11.61**	**40**	P	**P**	**10 27 37.4**	**-3.2**
	comp=Z,2.1nm,0.6s,baz=224,slow=12,SNR=26						
AB31				⇑S	**S**	**10 29 45.9**	**-3.7**
	comp=Z,2.9nm,0.6s,baz=217,slow=22,SNR=4.4						
AKTO	**Aktyubinsk**	**11.63**	**31**	⇑P	**P**	**10 27 39.7**	**-1.1**
	comp=Z,1.0nm,0.7s						
AKTO				⇓S	**S**	**10 29 47.9**	**-2.0**
	comp=Z,2.5nm,1.6s						
TIRR	**Tirgusor**	**15.29**	**290**	⇑*i*P	**P**	**10 28 32.6**	**+3.7**
OBN	**Obninsk**	**16.36**	**335**	P	**P**	**10 28 34.6**	**-7.8**
	comp=Z,100nm,19.0s						
OBN	**Obninsk**	**16.36**	**335**	P	**P**	**10 28 34.6**	**-7.8**
OBN				pmax	pmax		
	comp=Z,9.0nm,0.4s						
OBN				MLR	MLR		
	comp=Z,100nm,19.0s						
KK31	**Karatay Array**	**16.44**	**75**	⇑P	**P**	**10 28 43.7**	**+0.2**
	comp=Z,2.7nm,0.6s,baz=283,slow=12,SNR=23						
AKASG	**Malin Array Be**	**16.68**	**313**	P	**P**	**10 28 47.6**	**+1.1**
	comp=Z,1.9nm,0.3s,baz=123,slow=12,SNR=5.1						
ARU	**Arti**	**16.90**	**19**	*e*P	**P**	**10 28 47.7**	**-1.5**
ARU				*e*S	**S**	**10 31 56.0**	**+2.0**
MLR	**Muntele Rosu**	**17.15**	**293**	P	**P**	**10 28 53.0**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=238,slow=7.7,SNR=6.7						
MLR				LR	LR	10 37 28.2	
	comp=Z,126nm,20.8s,baz=23,slow=44						
MLR	**Muntele Rosu**	**17.15**	**293**	⇑*i*P	**P**	**10 28 56.5**	**+4.1**
VOIR		**17.77**	**293**	⇑*i*P	**P**	**10 29 01.5**	**+1.3**
VOIR		**17.77**	**293**	⇑*i*P	**P**	**10 29 01.5**	**+1.3**
BURAR	**Bucovina Array**	**18.04**	**300**	⇓*i*P	**P**	**10 29 03.6**	**+0.2**
BURAR	**Bucovina Array**	**18.04**	**300**	⇓*i*P	**P**	**10 29 03.6**	**+0.1**
BRVK	**Borovoye**	**19.10**	**43**	*e*P	**P**	**10 29 15.1**	**-0.9**
	comp=Z,3.9nm,0.6s						
BRVK	**Borovoye**	**19.10**	**43**	*e*P	**P**	**10 29 15.1**	**-0.9**
	comp=Z,3.9nm,0.6s						
BRVK	**Borovoye**	**19.10**	**43**	*e*P	**P**	**10 29 15.1**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BVA0	**Borovoye Array**	**19.14**	**43**	⇓P	**P**	**10 29 20.0**	**+3.6**
	comp=Z,1.1nm,1.0s,baz=266,slow=44,SNR=31						
BVAR	**Borovoye Array**	**19.14**	**43**	P	**P**	**10 29 17.0**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=250,slow=9.2,SNR=13						
BVAR				S	**S**	**10 32 44.4**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=238,slow=23,SNR=5.3						
VOSK	**Vostochnaya**	**19.30**	**44**	⇑P	**P**	**10 29 18.4**	**+0.2**
	comp=Z,4.2nm,0.8s						
AAK	**Ala-Archa**	**19.38**	**76**	*e*P	**P**	**10 29 17.8**	**-1.4**
	comp=Z,3.4nm,0.6s						
AAK	**Ala-Archa**	**19.38**	**76**	*e*P	**P**	**10 29 17.8**	**-1.4**
	comp=Z,3.4nm,0.6s						
AAK	**Ala-Archa**	**19.38**	**76**	⇓*i*P	**P**	**10 29 17.4**	**-1.8**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
AAK				MLR	MLR		
	comp=Z,100nm,15.0s						
FRU	**Bishkek**	**19.46**	**76**	P	**P**	**10 29 22.0**	**+2.0**
KWP	**Kalwaria**	**20.16**	**305**	P	**P**	**10 29 26.5**	**-1.0**
	comp=Z,14nm,0.7s						
KWP	**Kalwaria**	**20.16**	**305**	P	**P**	**10 29 26.5**	**-1.0**
KWP				pmax	pmax		
	comp=Z,14nm,0.7s						
PSZ	**Piszkesteto**	**21.62**	**299**	P	**P**	**10 29 41.9**	**-0.4**
	comp=Z,6.0nm,0.9s,mb4.0						
PSZ	**Piszkesteto**	**21.62**	**299**	P	**P**	**10 29 41.9**	**-0.4**
	comp=Z,6.0nm,0.9s,mb4.0						
PSZ	**Piszkesteto**	**21.62**	**299**	P	**P**	**10 29 41.9**	**-0.4**
PSZ				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.0						
VSU	**Vasula**	**22.44**	**329**	*e*P	**P**	**10 29 47.2**	**-3.1**
KURK	**Kurchatov**	**23.00**	**54**	*e*P	**P**	**10 29 57.8**	**+2.0**
	comp=Z,6.6nm,0.7s,mb4.2						
KURK	**Kurchatov**	**23.00**	**54**	*e*P	**P**	**10 29 57.8**	**+2.0**
	comp=Z,6.6nm,0.7s,mb4.2						
KURK	**Kurchatov**	**23.00**	**54**	*e*P	**P**	**10 29 57.8**	**+2.0**
KURK				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.2						
VRAC	**Vranov**	**23.99**	**301**	LR	LR	10 41 39.0	
	comp=Z,60nm,18.1s,MS3.1,baz=200,slow=42						
JOF	**Joensuu**	**24.39**	**341**	*e*p	**P**	**10 30 09.2**	**+0.1**
FINES	**FINESS Array B**	**24.76**	**334**	P	**P**	**10 30 13.0**	**+0.3**
	comp=Z,5.7nm,0.3s,mb4.5,baz=131,slow=10,SNR=54						
FINES				LR	LR	10 39 34.3	
	comp=Z,64nm,18.4s,MS3.2,baz=31,slow=35						
FINES	**FINESS Array B**	**24.76**	**334**	P	**P**	**10 30 13.0**	**+0.3**
FINES				LR	LR	10 39 34.3	
FINES	**FINESS Array B**	**24.76**	**334**	*e*P	**P**	**10 30 13.2**	**+0.4**
MK31	**Makanchi Array**	**24.89**	**65**	P	**P**	**10 30 15.2**	**+1.0**
	comp=Z,1.2nm,0.6s,mb3.6,baz=287,slow=7.0,SNR=14						
MKAR	**Makanchi Array**	**24.89**	**65**	P	**P**	**10 30 15.6**	**+1.3**
	comp=Z,1.5nm,0.6s,mb3.7,baz=264,slow=8.2,SNR=13						
KAF	**Kangasniemi**	**25.17**	**335**	*e*p	**P**	**10 30 17.0**	**+0.3**
GERES	**GERESS Array B**	**25.83**	**300**	P	**P**	**10 30 21.9**	**-1.0**
	comp=Z,0.6nm,0.5s,mb3.4,baz=117,slow=12,SNR=4.6						
HFS	**Hagfors**	**28.91**	**324**	P	**P**	**10 30 50.2**	**-0.6**
	comp=Z,4.9nm,0.4s,mb4.6,baz=117,slow=9.9,SNR=18						
NB2	**NORSAR Subarra**	**30.40**	**324**	P	**P**	**10 31 02.8**	**-1.3**
	comp=Z,2.9nm,0.5s,mb4.3,baz=115,slow=8.6						
NB2	**NORSAR Subarra**	**30.40**	**324**	P	**P**	**10 31 02.8**	**-1.3**
NB2				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.3						
NOA	**NORSAR Array B**	**30.40**	**324**	P	**P**	**10 31 03.1**	**-1.0**
	comp=Z,3.1nm,0.5s,mb4.3,baz=117,slow=8.4,SNR=13						
NOA				LR	LR	10 44 30.

2.8nm,0.3s,baz=252,slow=22,SNR=4.6
AFI S **S** **10 33 39.3 -0.4**
2.4nm,0.3s,baz=53,slow=17,SNR=4.2
AFI Afiamalu 8.83 48 *e*Pn **P** **10 31 57.7 -0.4**
AFI *e*Sn **S** **10 33 38.0 -1.7**
URZ Urewera 18.59 191 P **P** **10 33 33.4 -0.8**
2.2nm,0.3s,baz=278,slow=3.8,SNR=13
CTA Charters Tower 33.08 264 P **P** **10 35 44.5 +2.4**
7.2nm,0.5s,mb4.5,baz=82,slow=11,SNR=18
CTAO Charters Tower 33.08 264 *e*P **P** **10 35 44.0 +1.9**
7.4nm,0.5s,mb4.5
PMG Port Moresby 34.78 283 P **P** **10 35 58.1 +1.8**
24nm,0.9s,mb4.7
STKA Stephens Creek 37.59 243 P **P** **10 36 20.3 +1.0**
2.5nm,0.9s,mb3.7,baz=109,slow=6.6,SNR=3.3
STKA Stephens Creek 37.59 243 P **P** **10 36 18.5 -0.7**
WRAB Tennant Creek 44.20 262 *e*P **P** **10 37 12.1 -0.1**
9.5nm,0.9s,mb4.3
WRA Warramunga Arr 44.21 262 P **P** **10 37 13.1 +0.9**
2.1nm,0.3s,mb4.2,baz=98,slow=7.2,SNR=160
WRA S **S** **10 43 03.5 -1.8**
0.5nm,1.0s,baz=101,slow=17,SNR=4.0
MBWA Marble Bar 57.51 257 *e*P **P** **10 38 46.7 -2.1**
8.3nm,1.0s,mb3.9
VNDA Vanda 58.36 185 P **P** **10 38 54.7 +0.8**
0.5nm,0.6s,mb2.9,baz=359,slow=4.7,SNR=6.7
VNDA Vanda 58.36 185 P **P** **10 38 54.7 +0.8**
ASAJ Asahikawa 73.07 332 P **P** **10 40 27.0 +1.6**
6.4nm,0.8s,mb4.1,baz=135,slow=1.4,SNR=5.9
KS15 Wonju Array Si 76.23 319 *e*P **P** **10 40 40.3 -2.8**
SSE Sheshan 77.02 310 P **P** **10 40 46.5 -1.0**
SSE AMB AMB
comp=Z,27nm,0.7s,mb4.8
SSE AMB AMB
comp=Z,88nm,3.8s
SSE Sheshan 77.02 310 P **P** **10 40 46.4 -1.1**
comp=Z,27nm,0.7s,mb4.8
NJ2 Nanjing 79.21 310 *e*P **P** **10 40 59.0 -0.1**
NJ2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.2
YBH Yreka Blue Hor 80.19 39 P **P** **10 41 05.5 +1.5**
comp=Z,1.7nm,0.6s,mb3.5,baz=180,slow=4.0,SNR=4.1
CN2 Changchun 81.63 323 *e*P **P** **10 41 12.0 +0.7**
MA2 Magadan 83.19 345 P **P** **10 41 15.3 -3.5**
comp=Z,23nm,1.3s,mb4.5
MCK McKinley 86.59 13 P **P** **10 41 34.4 -0.7**
TXAR Lajitas Array 87.18 58 P **P** **10 41 40.4 +1.6**
comp=Z,0.1nm,0.4s,mb2.8,baz=207,slow=8.4,SNR=4.6
ILAR Eielson Array 87.94 13 P **P** **10 41 40.9 -0.5**
comp=Z,1.2nm,0.5s,mb3.9,baz=215,slow=5.3,SNR=20
VNA3 Neumayer Olymp 88.67 176⇑*i* **P** **10 41 44.2 -0.6**
KMI Kunming 88.71 297 P **P** **10 41 44.5 -1.6**
KMI AMB AMB
comp=Z,10.0nm,0.6s,mb4.8
PDAR Pinedale Array 88.92 43 P **P** **10 41 47.3 +0.7**
comp=Z,0.5nm,0.7s,mb3.5,baz=196,slow=4.1,SNR=5.0
VNA2 Neumayer--Watz 89.10 177⇑*i* **P** **10 41 46.8 0.0**
VNA1 Neumayer--Stat 89.33 177⇑*i* **P** **10 41 44.0 -3.9**
ARCES ARCESS Array B 128.35 349 PKP PKPdf 10 47 53.4 +0.4
comp=Z,1.4nm,0.8s,baz=333,slow=2.7,SNR=5.0
HFS Hagfors 138.98 351 PKhKP 10 48 07.6
comp=Z,1.0nm,0.4s,baz=63,slow=3.3,SNR=8.3
AKASG Malin Array Be 142.36 331 PKhKP 10 48 16.7
comp=Z,2.4nm,0.5s,baz=43,slow=4.3,SNR=17
BRTR Keskin Array B 146.17 313 PKPbc PKPbc 10 48 29.7 +2.0
comp=Z,1.3nm,0.6s,baz=129,slow=3.8,SNR=6.5
CLL Collm 147.48 347 *i* PKP1 PKPdf 10 48 32.6 +4.9
GERES GERESS Array B 149.60 344 PKPbc PKPdf 10 48 38.2 +7.1
comp=Z,1.0nm,0.6s,baz=90,slow=2.7,SNR=7.3

*KISR **25** 10:32:43.3±1.0,28.41N×57.74E,h2km±999km,ML4.3*
*THR **25** 10:32:45.7±0.5,28.19N×58.13E,h14km±6km,ML3.1*
*CSEM **25** 10:32:46.5±0.4,27.45N×57.68E,h15km,mb3.6,Error ellipse: s-maj=9.8km s-min=3.1km az=55.0*
*OMAN **25** 10:32:49.6±21.0,27.52N×57.71E,h30km,Error ellipse: s-maj=10.5km s-min=8.1km az=36.0*
ISC 25 10:32:44.8±1.2,27.53N±0.06×57.73E±0.08,h10km,n16, σ1°12/28,5C-3D,Southern Iran
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
BNDS Bandar-Abbas 1.39 265 *e*PG **Pg** **10 33 20.4 +7.8**
BNDS *e*SG **Sg** **10 33 46.0 +15**
BNDS AML AML 10 33 53.2
comp=E,392nm,0.6s
KRBR Kerman 2.59 341 *e*PG **Pn** **10 33 24.9 -2.5**
KRBR AML AML 10 34 10.3
comp=E,62nm,0.5s
HOQ Hoqain 3.95 186 P **Pn** **10 33 48.6 +1.7**
SNR=6.7
HOQ ⇓S **Sn** **10 34 36.0 +2.2**
BIDO Bidbid 4.01 175 P **Pn** **10 33 47.1 -0.5**
SNR=8.2
BIDO ⇑S **Sn** **10 34 33.9 -1.3**
GHIR Ghir-Karzin 4.27 281 *e*PN **Pn** **10 33 56.4 +5.1**
SMDO Samad 4.46 176 P **Pn** **10 33 54.3 +0.2**
SNR=12
SMDO ⇓S **Sn** **10 34 47.5 +0.7**
QRN Al-Qurain 8.75 280 *e*P **P** **10 34 55.2 +0.9**
QRN *e*S **Sn** **10 36 35.0 +0.9**
QRN AML AML 10 36 35.4
comp=Z,24nm,0.3s
KBD Kabd 9.00 283 *e*P **P** **10 34 59.0 +1.3**
KBD AML AML 10 36 39.1
comp=Z,31nm,0.4s
KBD *e*S **Sn** **10 36 39.8 -0.4**
KBD Kabd 9.00 283 *e*P **P** **10 34 59.0 +1.2**
KBD *e*S **Sn** **10 36 40.6 +0.4**
UMR Umm Al-Rimmam 9.04 285 *e*P **P** **10 34 58.7 +0.4**
UMR *e*S **Sn** **10 36 39.8 -1.4**
UMR AML AML 10 36 40.0
comp=Z,12nm,0.3s
UMR Umm Al-Rimmam 9.04 285 *e*P **P** **10 34 58.7 +0.4**
UMR *e*S **Sn** **10 36 39.6 -1.6**
RDF Al-Radifah 9.09 281 *e*P **P** **10 34 59.9 +0.9**
RDF AML AML 10 36 43.9
comp=Z,10nm,0.3s
RDF Al-Radifah 9.09 281 *e*P **P** **10 34 59.9 +0.9**
RDF *e*S **Sn** **10 36 42.0 -0.5**
WHFO Wadi Hawf 10.24 202 ⇑P **P** **10 35 15.1 +0.2**
WHFO ⇑S **S** **10 37 10.2 -0.7**
RBK Rabkut 10.50 199 ⇑P **P** **10 35 18.3 -0.2**
RBK ⇑S **S** **10 37 15.4 -1.8**
ABTO Aybut 10.93 203 ⇓P **P** **10 35 23.5 -0.9**

IDC 25 10:51:00.7±6.6,53.41N×36.06W,mb3.1/3,mb1 3.6/4, mb1mx3.4/25,mbtmp3.2/4,ML2.1/1,MS3.1/1,Ms1 3.0/1, ms1mx2.8/7,Error ellipse: s-maj=130.4km s-min=66.1km az=128.0,Reykjanes Ridge
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SCHQ Schefferville 18.03 287 P P 10 55 12.6 -1.4
0.1nm,0.3s,baz=104,slow=14,SNR=2.7
SCHQ LR LR 11 00 59.5
comp=Z,58nm,18.8s,baz=40,slow=33
PDAR Pinedale Array 48.16 289 P P 10 59 42.2 -1.9
0.3nm,0.6s,baz=70,slow=11,SNR=3.5
ILAR Eielson Array 50.77 329 P P 11 00 01.9 -2.0
0.2nm,0.8s,baz=14,slow=7.4,SNR=4.2
TXAR Lajitas Array 53.88 272 P P 11 00 25.6 -2.0
0.1nm,0.4s,baz=34,slow=6.5,SNR=2.6

*IDC **25** 11:12:20.6±0.7,5.32N×93.39E,h26km±4km,mb3.8/8, mb1 3.9/8,mb1mx3.7/18,mbtmp4.0/8,Error ellipse: s-maj=30.2km s-min=14.9km az=61.0*
*NEIC **25** 11:12:20.2±0.5,5.24N×93.32E,mb4.7/2,Error ellipse: s-maj=12.6km s-min=9.1km az=206.0*
ISC 25 11:12:17.9±0.7,5.2N±0.1×93.30E±0.09,h28km, h28km±1.3km:pP-P,n16,σ0°76/15,mb4.1/10,Off west coast of northern Sumatera
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KULM Kulim 7.32 89 *e*Pn **Pn** **11 14 04.9 -0.9**
KULM *e*Sn **Sn** **11 15 20.5 -8.3**
PALK Pallekele 12.70 280 *e*P **P** **11 15 18.2 -1.4**
PALK *e*S **S** **11 17 25.5 -16**
QIZ Qiongzhong 21.22 48 *e*P **P** **11 17 03.7 -0.3**
26nm,1.2s,mb4.4
LSA Lhasa 24.49 355 P **P** **11 17 36.6 +0.4**

MKAR Makanchi Array 42.55 349 P **P** **11 20 13.8 +0.8**
0.6nm,0.5s,mb3.6,baz=159,slow=8.3,SNR=6.3
MKAR pP pP 11 20 21.4 0.0
1.3nm,0.5s,baz=165,slow=8.3,SNR=9.6
SONM Songino Array 43.98 13 P **P** **11 20 24.5 0.0**
1.2nm,0.6s,mb3.8,baz=194,slow=8.3,SNR=12
SONM pP pP 11 20 32.5 -0.4
1.6nm,0.7s,baz=195,slow=8.3,SNR=8.6
SONM pPcP 11 22 18.0
0.9nm,0.5s,baz=196,slow=2.9,SNR=6.3
WRA Warramunga Arr 47.43 123 P **P** **11 20 52.2 -0.1**
3.0nm,0.7s,mb4.4,baz=301,slow=9.2,SNR=22
WRA pP pP 11 21 02.1 +1.2
4.0nm,0.7s,baz=301,slow=9.0,SNR=14
WRAB Tennant Creek 47.44 123 *e*P **P** **11 20 52.2 -0.1**
8.9nm,0.8s,mb4.8
WRAB *e* pP 11 21 02.3 +1.4
BVAR Borovoye Array 51.29 342 P **P** **11 21 21.7 +0.1**
0.4nm,0.6s,mb3.5,baz=158,slow=7.8,SNR=3.2
BVAR pP pP 11 21 29.0 -1.1
0.9nm,0.5s,baz=150,slow=7.1,SNR=4.9
STKA Stephens Creek 58.88 132 P **P** **11 22 17.1 +0.2**
1.4nm,0.3s,mb4.5,baz=315,slow=5.7,SNR=2.8
BRTR Keskin Array B 63.59 312 P **P** **11 22 48.5 -0.1**
0.7nm,0.6s,mb3.8,baz=99,slow=9.2,SNR=3.4
BRTR pP pP 11 22 56.8 -0.6
0.8nm,0.7s,baz=124,slow=8.9,SNR=2.8
FINES FINESS Array B 74.72 333 pP pP 11 24 04.7 -0.8
1.6nm,1.0s,baz=90,slow=1.9,SNR=1.1
MAW Mawson 75.72 192 P **P** **11 24 05.3 +2.9**
0.9nm,0.5s,mb3.9,baz=45,slow=14,SNR=5.4
ARCES ARCESS Array B 77.53 341 P **P** **11 24 12.6 +0.1**
2.6nm,1.0s,mb4.1,baz=68,slow=6.5,SNR=5.3
ARCES pP pP 11 24 21.4 +0.2
1.1nm,0.6s,baz=108,slow=7.7,SNR=1.9
GERES GERESS Array B 79.29 319 pP pP 11 24 32.2 +0.8
1.3nm,0.7s,baz=90,slow=5.3,SNR=3.9
CPUP Villa Florida 144.92 230 PKPbc PKPbc 11 31 55.3 +2.0
1.4nm,0.5s,baz=158,slow=5.4,SNR=5.8

ISC 25 11:17:50.1±0.7,40.07N±0.06×28.79E±0.05,h16km±7km, n7,σ1°27/12,Turkey
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
ORLT Orhaneli 0.08 103 PG **Pb** **11 17 53.1 -0.4**
ORLT SG **Sb** **11 17 57.5 +1.8**
ULDT Uludag 0.28 74 *i* P **Pb** **11 17 55.0 -1.3**
ULDT *i* S **Sb** **11 17 59.2 -1.2**
BTOK Tokmak 0.66 243 *i* P **Pb** **11 18 01.6 -1.1**
BTOK *i* S **Sb** **11 18 11.9 +0.6**
YLV Yalova 0.67 42 *e*PG **Pb** **11 18 04.2 +1.2**
MRMT Marmara Adasi 1.06 301 *e*PN **Pn** **11 18 11.0 +0.7**
GDZ Gediz 1.11 151 *i* P **Pb** **11 18 07.8 -2.7**
GDZ *i* S **Sb** **11 18 25.1 +0.6**
ESKT Eskisehir 1.68 108 *i* P **Pn** **11 18 18.2 -0.9**
ESKT *i* S **Sn** **11 18 42.4 +2.0**

MEX 25 11:57:37.6±0.4,16.98N×100.11W,h23km±9km,MD3.5,1C, Near coast of Guerrero
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CAIG El Cayaco 0.17 293⇑*i* P Pb 11 57 41.8 -0.9
CAIG *i* S Sb 11 57 44.8 -1.3
ACX Acapulco 0.21 122 *i* P Pb 11 57 42.0 -1.2
ACX *i* S Sb 11 57 46.0 -1.0

ISC 25 12:00:21.7±1.7,46.05N±0.06×13.6E±0.1,n5,σ0°52/8,1C, Austria
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
DRE Drenchia 0.13 23⇑*i* Pg **Pg** **12 00 24.2 -0.2**
ROBS Robic 0.20 348 *i* Pg **Pg** **12 00 26.4 +0.7**
CADS Cadrg 0.21 34 *i* Pg **Pg** **12 00 25.9 -0.1**
CADS *i* Sg **Sg** **12 00 29.0 +0.2**
comp=Z,8.0nm,0.1s
JAVS Javornik 0.38 114 *i* Pg **Pg** **12 00 28.6 -0.7**
JAVS *i* Sg **Sg** **12 00 35.1 +0.8**
GORS Gorjuse 0.40 48 *i* Pg **Pg** **12 00 28.9 -0.8**
GORS *i* Sg **Sg** **12 00 35.0 0.0**
comp=Z,4.0nm,0.1s

*NEIC **25** 12:05:34.5,16.24N×98.75W,h17km,MD4.1(MEX),After MEX.*
MEX 25 12:05:34.5±1.2,16.24N×98.75W,h17km±89km,MD4.1,1C, Near coast of Guerrero
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PNIG Pinotepa 0.62 76⇑*i* P 12 05 44.1 -2.3
PNIG *i* S Sb 12 05 52.6 -2.0
ACX Acapulco 1.28 299 *i* P Pb 12 05 54.5 -3.2
ACX *i* S Sb 12 06 10.0 -3.8
CAIG El Cayaco 1.66 299 *e*P Pn 12 06 00.1 -3.1
CAIG *i* S Sn 12 06 17.0 -7.2
VHO Vista Hermosa 2.10 67 *i* P Pn 12 06 06.5 -3.0
VHO *i* S Sn 12 06 30.7 -4.8
OXX Oaxaca 2.12 66 *i* P Pn 12 06 07.0 -2.7
OXX *i* S Sn 12 06 32.0 -3.8
PLIG Platanillo 2.26 342 *i* P Pn 12 06 07.5 -4.2
PLIG *i* S Sn 12 06 35.0 -4.4
HUIG Huatulco 2.58 100 *e*P Pn 12 06 12.7 -3.8
HUIG *i* S Sn 12 06 42.0 -5.7
YAIG Yautepec 2.62 353 *e*P Pn 12 06 13.6 -3.4
YAIG *i* S Sn 12 06 43.9 -4.8
PPM Popocatepetl 2.81 2 *e*P Pn 12 06 17.5 -2.2
UNM Universidad Na 3.10 353 *e*P Pn 12 06 28.0 +4.3
CMIG Matias Romero 3.80 77 *i* P Pn 12 06 29.9 -3.8
CMIG *i* S Sn 12 07 14.7 -3.8
EVV El Vigia 3.93 55 *e*P Pn 12 06 38.0 +2.5
LVIG Laguna Verde 4.12 32 *e*P Pn 12 06 46.2 +8.0
LVIG *i* S Sn 12 07 20.7 -5.8
MOIG Morelia 4.13 326 *e*P Pn 12 06 47.8 +9.4
MOIG *i* S Sn 12 07 21.6 -5.3
CCIG Comitan 6.35 89 *e*P Pn 12 07 35.1 +25
CCIG *i* S Sn 12 08 15.6 -7.2

*CSEM **25** 12:17:20.5±0.3,37.78N×25.17W,h6km,ML3.2,Error ellipse: s-maj=8.6km s-min=5.8km az=33.0,After PDA*
*PDA **25** 12:17:20.5±0.8,37.78N×25.17W,h6km±3km,MD2.9, ML3.2,Error ellipse: s-maj=3.7km s-min=2.0km az=51.0*
SVSA 25 12:17:20.5±0.8,37.78N×25.17W,h6km±3km,MD2.9, ML3.2,Error ellipse: s-maj=3.7km s-min=2.0km az=51.0, Azores Islands
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
MIRA Miradouro 0.08 276 *i* P Pg 12 17 22.8 +0.3
PFAD Fenais da Ajud 0.13 298 *i* P Pg 12 17 23.8 +0.4
PFAD *e*S Sg 12 17 25.9 +0.5
PFAD Fenais da Ajud 0.13 298 *e*S Sg 12 17 25.9 +0.5
FRA1 Furnas 0.15 257 *e*P Pg 12 17 24.0 +0.3
FRA1 *e*S Sg 12 17 26.1 +0.3
PCNG Congro 0.18 267 *i* P Pg 12 17 24.5 +0.3
PCNG *i* S Sg 12 17 27.6 +0.9
3μm,0.2s
PCNG Congro 0.18 267 *i* S Sg 12 17 27.6 +0.9
VIF Vila Franca 0.21 262 *i* P Pg 12 17 25.1 +0.2
VIF *e*S Sg 12 17 28.8 +0.9
2μm,0.2s
VIF Vila Franca 0.21 262 *e*S Sg 12 17 28.8 +0.9
MESC Monte Escuro 0.22 275 *i* P Pg 12 17 25.1 +0.1
MESC *i* S Sg 12 17 28.7 +0.7
MESC Monte Escuro 0.22 275 *i* S Sg 12 17 28.7 +0.7
PMAT Coroa da Mata 0.24 280 *e*P Pg 12 17 25.4 0.0
PMAT *e*S Sg 12 17 29.1 +0.4
777nm,0.1s
LFA Lagoa do Fogo 0.25 269 *i* P Pg 12 17 25.7 +0.2
PRCH Ribeira Ch 0.25 259 *e*P Pg 12 17 25.6 0.0
PRCH *e*S Sg 12 17 29.4 +0.4
2μm,0.3s
PVER Pico Vermelho 0.27 275 *e*P Pg 12 17 25.9 -0.1
PVER *e*S Sg 12 17 30.5 +0.8
CML Cha da Macela 0.30 269 *e*P Pg 12 17 26.3 -0.2
CML *e*S Sg 12 17 31.0 +0.5
FAC Faja de Cima 0.38 270 *e*P Pg 12 17 27.7 -0.4
FAC *e*S Sg 12 17 33.1 -0.1

PDA Ponta Delgada 0.39 266 *i* P Pg 12 17 26.5 -1.9
PDA *i* S Sg 12 17 33.0 -0.6
PDA Ponta Delgada 0.39 266 *i* S Sg 12 17 33.0 -0.6
PSET Sete Cidades 0.44 276 *e*P Pg 12 17 27.2 -2.1
PSET *e*S Sg 12 17 33.5 -1.7
1μm,0.3s
PSAN Santo Antonio 0.44 280 *e*P Pg 12 17 29.1 -0.3
PSAN *e*S Sg 12 17 35.3 -0.1
PFET Feteiras 0.49 275 *e*P Pg 12 17 29.5 -0.8
SET4 Mosteiros 0.51 281 *e*P Pg 12 17 30.1 -0.6
SET2 Ginetes 0.51 278 *e*P Pg 12 17 30.0 -0.7
PSMN Pico do Norte, 0.78 174 *e*P Pb 12 17 33.4 -2.6
PSMN *e*S Sg 12 17 43.1 -3.3
PFAV Pico das Favas 1.77 302 *e*P Pn 12 17 47.8 -4.1
PFAV *e*S Sn 12 18 07.8 -7.1
27nm,0.2s
PSCM Serra do Cume 1.79 302 *e*P Pn 12 17 46.1 -6.0
PSCM *e*S Sn 12 18 06.6 -8.8
84nm,0.4s
RIB2 Ribeirinha 1.81 300 *e*S Sn 12 18 04.3 -12
46nm,0.2s
ADH Angra Heroismo 1.85 299 *e*S Sn 12 18 08.7 -8.2
PPAD Pico dos Padre 1.90 300 *e*S Sn 12 18 07.8 -11
18nm,0.3s
ASBA Santa Barbara 1.94 300 *e*S Sn 12 18 08.8 -10
31nm,0.2s
PSBA Serra de Santa 1.96 301 *e*S Sn 12 18 11.3 -8.5
PMAN Manadas 2.45 291 *e*P Pn 12 17 57.7 -3.9
PMAN *e*S Sn 12 18 24.9 -7.3
PGRA Graciosa 2.54 300 *e*S Sn 12 18 26.2 -8.2
PICO Pico 2.67 287 *e*P Pn 12 18 00.4 -4.3
PICO *e*S Sn 12 18 29.8 -7.9
CALA Caldeira 2.90 287 *e*S Sn 12 18 36.8 -6.7
PCED Cedros 2.91 288 *e*S Sn 12 18 36.3 -7.5
21nm,0.4s

*PRU **25** 12:17:23.7,50.32N×18.79E*
*NEIC **25** 12:17:24.1±1.4,50.33N×18.75E,h5km,MG2.5(WAR), Error ellipse: s-maj=19.8km s-min=8.2km az=173.0*
WAR 25 12:17:23.9,50.26N×18.86E,h0km,ML2.4,Mining Induced,Poland
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
OJC Ojcow 0.60 93 *e*PG Pg 12 17 36.0 +0.1
OJC *e*SG Sg 12 17 44.0 0.0
OKC Ostrava-Krasne 0.62 228 *e*PG Pg 12 17 35.6 -0.7
OKC *e*SG Sg 12 17 43.7 -0.9
MORC Moravsky Berou 0.98 241 *e*Pg Pg 12 17 41.9 -1.5
NIE Niedzica 1.26 131 *e*PG Pg 12 17 48.0 -1.0
NIE *e*SG Sg 12 18 06.0 +0.2
DPC Dobruska-Polom 1.63 274 *e*PG Pg 12 17 53.0 -3.5
DPC *e*SG Sg 12 18 13.7 -4.5
9.7nm,0.5s
KSP Ksiaz 1.74 291 *e*PG Pg 12 17 56.0 -2.7
KSP *e*SG Sg 12 18 18.0 -3.9
KSP Ksiaz 1.74 291 *e*P Pn 12 17 56.5 +1.0
STHS Stebnicka Huta 1.76 118 *e*PN Pn 12 17 57.6 +1.9
STHS *e*SN Sn 12 18 20.6 +1.5
VYHS Vyhne 1.76 181 *e*PN Pn 12 17 55.8 -0.1
VYHS *e*SG Sg 12 18 21.9 -0.7
KECS Kecovo 2.07 148 *e*PG Pg 12 18 02.5 -2.7
KECS *e*SN Sn 12 18 28.9 +1.9
PRU Pruhonice 2.79 266 *e*SG Sg 12 18 50.7 -6.2
KHC Kasperske Hory 3.61 254 *e*PG Pg 12 18 31.0 -5.0
KHC *e*SG Sg 12 19 17.9 -6.2
CII Carovilli 9.10 202 P P 12 19 36.8 -2.7
27nm,0.5s

*HLW **25** 12:31:21.1,34.81N×25.05E,h22km,Mb3.9*
*IDC **25** 12:31:21.9±5.6,34.67N×24.65E,h29km±27km,mb3.7/1, mb1 3.7/6,mb1mx3.5/25,mbtmp3.6/6,ML3.4/3,MS3.1/3, Ms1 3.1/3,ms1mx2.7/25,Error ellipse: s-maj=48.8km s-min=24.4km az=30.0*
*CSEM **25** 12:31:21.2±0.1,34.72N×24.96E,h80km,MD3.9,Error ellipse: s-maj=5.0km s-min=2.9km az=59.0*
*ATH **25** 12:31:22.5,34.69N×24.68E,h57km±8km,MD3.9/9*
*NEIC **25** 12:31:22.5,34.69N×24.68E,h57km,MD3.9(ATH),After ATH.*
ISC 25 12:31:21.3±0.4,34.59N±0.03×24.87E±0.06,h58km±10km, n54,σ1°26/45,mb3.7/1,MS3.0/2,3C-9D,Crete
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
GVD Gavdhos 0.69 291 *e*P **P** **12 31 35.0 -0.3**
IDI Anoyia 0.70 1 Pg **P** **12 31 34.6 -0.9**
66nm,0.3s,baz=200,slow=14,SNR=345
IDI Lg 12 31 44.0
446nm,0.3s,baz=313,slow=19,SNR=91
XRY Khrisi 0.74 67⇑*i* **P** **12 31 39.0 +3.0**
NPS Neapolis 0.91 42 *e*P **P** **12 31 40.9 +2.7**
VAM Vamos 0.98 326 *e*P **P** **12 31 38.5 -0.8**
VAM *e*S **S** **12 31 51.4 -1.2**
KARP Karpathos 2.11 62 *e*P **P** **12 31 59.0 +4.0**
KYTH Kithira 2.26 319 *e*P **P** **12 31 57.0 -0.1**
APE Apeiranthos 2.53 12 *e*P **P** **12 32 01.5 +0.5**
VLI Veliai 2.64 324 *e*P **P** **12 32 01.8 -0.8**
SLUM 3.10 175 ⇓P **P** **12 32 10.9 +1.8**
SLUM S **S** **12 32 47.0 +1.9**
ARG Arkhangelos 3.12 58 *e*P **P** **12 32 11.7 +2.4**
MPAR Parnis Oros 3.67 346 *e*P **P** **12 32 17.0 0.0**
HMAT Matruh 3.96 151 ⇓P **P** **12 32 22.7 +1.6**
SWA2 5.35 174 ⇓P **P** **12 32 41.9 +1.4**
SWA2 S **S** **12 33 40.7 -0.9**
SWA1 5.36 172 ⇓P **P** **12 32 42.2 +1.6**
SWA1 S **S** **12 33 41.0 -0.8**
HNAT Natroun 6.94 134 P **P** **12 33 02.4 -0.3**
FYM Al Fayyum 7.16 131 ⇑P **P** **12 33 04.9 -0.8**
AYT Al 'Ayyat 7.22 131 P **P** **12 33 07.1 +0.5**
KOT Kottamia 7.50 126 P **P** **12 33 09.8 -0.8**
HSAF As Saff 7.53 129 ⇑P **P** **12 33 10.4 -0.5**
GLL Jalalah 7.66 129 P **P** **12 33 11.7 -0.9**
HHAG Hagoal 7.67 125 ⇓P **P** **12 33 11.4 -1.4**
HHAG Hagoal 7.67 125 P **P** **12 33 11.4 -1.4**
AMAG Maghara 8.06 117 ⇓P **P** **12 33 16.3 -1.9**
OFRI 'Ofer 8.66 100 S Sx 12 34 57.4
BRTR Keskin Array B 8.68 51 Pn **P** **12 33 27.7 +1.1**
0.1nm,0.3s,baz=230,slow=14,SNR=3.0
HNTI Hanita 8.70 97 S Sx 12 34 59.1
SLTI Sal'it 8.82 103 S Sx 12 35 01.1
KZIT Kziot 8.82 112 S Sx 12 35 01.3
HNKL Nakhl 9.00 119 P **P** **12 33 30.6 -0.6**
MZDA Masada 9.40 107 S Sx 12 35 15.4
KMTI Karmit 9.46 115 S Sx 12 35 16.0
MKRJ Makawir 9.53 106 S Sx 12 35 19.3
PRNI Paran 9.55 113 S Sx 12 35 17.5
ZFRI Zfri 9.58 112 S Sx 12 35 19.6
HRFI Mount Harif 9.73 115 S Sx 12 35 24.4
HDK1 Dakhla 9.83 155 ⇓P **P** **12 33 43.4 +0.9**
EIL Elat 9.85 117 S Sx 12 35 24.8
HKAT Jabal Katrina 9.85 125 ⇓P **P** **12 33 41.9 -0.9**
NUB 9.99 121 P **P** **12 33 43.8 -0.9**
ALWS Ilw as Safayha 10.13 118 P **P** **12 33 46.1 -0.5**
HAQS Haql 10.18 120 P **P** **12 33 46.7 -0.6**
ASF Jabal al Asfar 10.34 100 Pn **P** **12 33 51.7 +2.2**
0.3nm,0.3s,baz=283,slow=18,SNR=3.4
ASF Sn **S** **12 35 40.0 -4.8**
0.8nm,0.3s,baz=270,slow=11,SNR=4.4
TAYS Tayyib Ism 10.44 122 P **P** **12 33 47.7 -3.1**
HHRG Al Ghardaqah 10.47 132 ⇓P **P** **12 33 51.1 -0.2**
BDAS Al Bad' 10.67 122 P **P** **12 33 52.5 -1.5**
MLR Muntele Rosu 10.92 4 Pn **P** **12 33 55.2 -2.1**
0.1nm,0.3s,baz=180,slow=4.0,SNR=1.8
JMQS Jabal Moqyreh 10.96 118 P **P** **12 33 57.6 -0.2**
VRAC Vranov 15.93 340 LR LR 12 41 21.3
comp=Z,49nm,19.0s,baz=93,slow=38
AKASG Malin Array Be 16.41 10 Pn **P** **12 35 09.9 +0.8**
1.1nm,0.3s,baz=202,slow=11,SNR=5.8
GERES GERESS Array B 16.48 333 Pn **P** **12 35 11.0 +1.1**
0.2nm,0.3s,baz=148,slow=13,SNR=9.0
FINES FINESS Array B 26.88 1 LR LR 12 47 53.5
comp=Z,84nm,18.6s,MS3.3,baz=340,slow=37
ATD Arta Tunnel 28.20 140 LR LR 12 48 56.2
comp=Z,17nm,18.2s,MS2.7,baz=266,slow=37
MKAR Makanchi Array 44.29 56 P **P** **12 39 28.9 +2.0**
0.7nm,0.4s,mb3.7,baz=276,slow=6.9,SNR=9.6

*ISK **25** 13:09:10.3,37.23N×28.00E,h24km,MD3.0*

*NEIC **25** 13:09:10.0, 37.22N×28.00E, h25km, MD3.5(ATH), MD3.0(ISK), After ISK.*
*CSEM **25** 13:09:10.3±0.1, 37.35N×28.10E, h12km, MD3.0, Error ellipse: s-maj=4.2km s-min=2.4km az=45.0*
*ATH **25** 13:09:13.7, 37.12N×27.82E, h5km, MD3.5/4*
ISC 25 13:09:10.8±0.6,**37.30N**±0.05×**28.07E**±0.04,**h13**km±6km, **n14**,σ0**91/19**,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.23**	**269**	*i* PG	**Pg**	**13 09 16.6**	**+0.7**
MLSB				*i* SG	**Sg**	**13 09 20.1**	**+0.7**
YER	**Yerkesik**	**0.24**	**133**	*i* PG	**Pg**	**13 09 16.5**	**+0.4**
BODT	**Bodrum**	**0.65**	**249**	PG	**Pg**	**13 09 22.8**	**-1.1**
BODT				SG	**Sg**	**13 09 30.9**	**-1.7**
DALT	**Dalyan (Mudla)**	**0.70**	**139**	*e*PG	**Pg**	**13 09 24.5**	**-0.4**
DALT				*e*SG	**Sg**	**13 09 34.9**	**+0.5**
DENT	**Denizli**	**0.89**	**59**	*e*PG	**Pg**	**13 09 28.9**	**+0.1**
SMG	**Samos**	**1.06**	**293**	*e*PG	**Pg**	**13 09 31.6**	**-0.5**
SMG				*e*SB	**Sb**	**13 09 46.5**	**+2.4**
SMG	**Samos**	**1.06**	**293**	*e*Pb	**Pg**	**13 09 31.6**	**-0.5**
SMG				*e*Sb	**Sb**	**13 09 47.7**	**+3.6**
ARG	**Arkhangelos**	**1.08**	**177**	*e*PB	**Pb**	**13 09 31.7**	**+0.8**
IZM	**Izmir**	**1.27**	**330**	*e*PN	**Pn**	**13 09 33.9**	**-0.4**
ELL	**Elmali**	**1.57**	**110**	*e*PN	**Pn**	**13 09 37.4**	**-1.3**
AKS	**Akhisar**	**1.59**	**353**	*e*PN	**Pn**	**13 09 38.4**	**-0.6**
KARP	**Karpathos**	**1.89**	**203**	*e*PB	**Pb**	**13 09 45.5**	**+0.7**
PRK	**Paraskevi**	**2.40**	**325**	*e*PN	**Pn**	**13 09 57.5**	**+7.0**
PRK	**Paraskevi**	**2.40**	**325**	*e*Pg	**Pg**	**13 09 59.3**	**+0.5**

*IDC **25** 13:20:37.0±1.2, 22.75S×68.97W, h88km±7km, mb3.6/1, mb1 3.4/4, mb1mx3.3/16, mbtmp3.6/4, Error ellipse: s-maj=43.9km s-min=24.6km az=111.0*
*NEIC **25** 13:20:36.8±1.2, 22.66S×69.09W, h94km±9km, mb4.3/1, Error ellipse: s-maj=29.9km s-min=13.7km az=100.0*
ISC 25 13:20:34.9±0.8,**22.67S**±0.08×**69.3W**±0.1,**h102**km±7km, **n14**,σ1**27/17**,**mb4.0**/2,**Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.36**	**81**	P	**P**	**13 20 50.6**	**+0.4**
	979nm,0.3s,baz=270,slow=5.5						
LVC				S	**S**	**13 21 01.0**	**-0.7**
	439nm,0.3s,baz=136,slow=22,SNR=50						
LVC	**Limon Verde**	**0.36**	**81**	*e*P	**P**	**13 20 50.2**	**+0.1**
LVC				*i* S	**S**	**13 21 00.9**	**-0.8**
LVC	**Limon Verde**	**0.36**	**81**	*e*Pg	**P**	**13 20 50.0**	**-0.2**
LVC				*e*Sn	**S**	**13 21 00.3**	**-1.4**
LVC				S	**S**	**13 21 01.0**	**-0.7**
SPCH	**San Pedro de A**	**1.04**	**103**	*e*P	**P**	**13 20 57.5**	**+1.2**
SPCH				*i* S	**S**	**13 21 12.9**	**+0.6**
CPN1	**Cerro Paranal**	**2.19**	**207**	*i* P	**P**	**13 21 12.1**	**+1.4**
CPN1				*e*S	**S**	**13 21 36.5**	**-0.9**
LPAZ	**La Paz**	**6.44**	**10**	P	**P**	**13 22 10.8**	**+2.1**
	0.7nm,0.3s,baz=212,slow=7.3,SNR=14						
CFAA	**Coronel Fontan**	**8.95**	**174**	P	**P**	**13 22 41.5**	**-1.3**
	0.1nm,0.3s,baz=1.0,slow=16,SNR=2.7						
SIV	**San Ignacio**	**10.22**	**51**	P	**P**	**13 22 56.9**	**-3.0**
	0.8nm,0.3s,baz=248,slow=12,SNR=19						
SAML	**Samuel**	**14.85**	**24**	P	**P**	**13 23 59.3**	**-1.5**
	1.2nm,0.7s						
BDFB	**Brasilia**	**21.27**	**75**	P	**P**	**13 25 14.5**	**-0.1**
	1.9nm,0.3s,mb3.9,baz=284,slow=3.4,SNR=3.6						
SNAA	**Sanae**	**61.30**	**161**	*e*P	**P**	**13 30 42.5**	**+1.0**
	2.9nm,1.1s,mb4.2						
WRA	**Warramunga Arr**	**131.77**	**210**	PKP	PKPdf	13 39 40.9	+4.2
	0.3nm,0.5s,baz=157,slow=1.7,SNR=12						
MKAR	**Makanchi Array**	**146.79**	**37**	PKPbc	PKPbc	13 40 07.2	+2.7
	0.3nm,0.5s,baz=309,slow=3.2,SNR=4.7						
MKAR				pPKPbc		13 40 32.7	
	0.4nm,0.6s,baz=322,slow=1.9,SNR=4.7						
MKAR	**Makanchi Array**	**146.79**	**37**	PKPbc	PKPbc	13 40 07.2	+2.7
MKAR				pPKPbc		13 40 32.7	

*MOS **25** 13:44:16.8±1.1, 22.08S×176.35W, h33km, mb5.2/5, Error ellipse: s-maj=19.0km s-min=12.8km az=141.9*
*BJI **25** 13:44:21.4, 22.20S×176.30W, h60km, mB5.2, mb4.9, Ms4.6, Msz4.4*
*IDC **25** 13:44:21.8±3.3, 22.19S×176.33W, h64km±28km, mb4.5/15, mb1 4.6/17, mb1mx4.6/21, mbtmp4.8/17, ML4.9/1, MS3.8/6, Ms1 3.8/6, ms1mx3.4/27, Error ellipse: s-maj=20.2km s-min=13.4km az=121.0*
*NEIC **25** 13:44:21.4±1.2, 22.21S×176.32W, h60km±10km, mb5.0/44, Error ellipse: s-maj=9.0km s-min=4.7km az=135.0*
*HRVD **25** 13:44:21.4±0.4, 22.28S×175.92W, h119km±5km, MW4.9/53, Centroid moment Tensor Solution. LP body waves: s19,c23;Mantle waves: s53,c81; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_r0.13±.22; $M_{\theta\theta}$-0.57±.24; $M_{\phi\phi}$0.43±.29; $M_{r\theta}$-0.49±.12; $M_{\phi\theta}$-0.41±.22; $M_{\phi r}$-3.03±.11; Best double couple: $M_0$3.12×10^{16} NP1: ϕ_s104°, δ10°, λ-177°. NP2:ϕ_s11°, δ90°, λ-80°. Principal axes: T 3.318, Plg44°, Azm91°; N -.396, Plg10°, Azm191°; P -2.922, Plg45°, Azm291°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 25 13:44:15.3±2.9,**22.19S**±0.05×**176.32W**±0.06, **h21**km±20km,**n167**,σ0**98/123**,**mb5.0**/59,**MS4.0**/10,**6C-9D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**7.17**	**191**	S	**Sn**	**13 47 25.2**	**+1.6**
	83nm,0.3s,baz=135,slow=19,SNR=3.5						
RAO	**Raoul Island**	**7.17**	**191**	P	**Pn**	**13 46 10.1**	**+8.3**
RAO				*e*S	**Sn**	**13 47 20.2**	**-3.3**
AFI	**Afiamalu**	**9.30**	**28**	P	**P**	**13 46 32.3**	**+1.0**
	8.6nm,0.3s,baz=34,slow=4.1,SNR=26						
AFI				S	**Sn**	**13 48 05.3**	**-11**
	8.9nm,0.3s,baz=162,slow=19,SNR=4.4						
AFI	**Afiamalu**	**9.30**	**28**	*e*P	**P**	**13 46 31.7**	**+0.3**
	67nm,0.8s						
AFI				*e*S	**Sn**	**13 48 03.1**	**-13**
RAR	**Rarotonga**	**15.41**	**89**	*e*P	**P**	**13 47 52.1**	**-1.2**
	70nm,0.9s						
RAR				*e*S	**S**	**13 50 27.5**	**-16**
DZM	**Mont Dzumac**	**15.98**	**267**	*e*P	**P**	**13 48 08.5**	**+7.8**
DZM	**Mont Dzumac**	**15.98**	**267**	P	**P**	**13 48 08.7**	**+8.1**
	1.0nm,0.3s,baz=81,slow=18,SNR=17						
DZM				LR	LR	13 52 09.2	
	comp=Z,317nm,19.0s,baz=19,slow=29						
NOUC	**Port Laguerre**	**16.11**	**267**	*e*P	**P**	**13 48 11.3**	**+9.0**
URZ	**Urewera**	**16.98**	**198**	P	**P**	**13 48 13.3**	**0.0**
	4.5nm,0.3s,baz=43,slow=1.7,SNR=20						
URZ				S	**S**	**13 51 07.4**	**-13**
	1.2nm,0.3s,baz=322,slow=5.8,SNR=4.8						
URZ	**Urewera**	**16.98**	**198**	*e*PN	**P**	**13 48 11.6**	**-1.7**
TSZ	**Takapari Road**	**18.98**	**198**	*e*PN	**P**	**13 48 32.5**	**-5.5**
MRZ	**Mangatainoka R**	**19.65**	**199**	*e*PN	**P**	**13 48 40.6**	**-5.1**
MRZ				SN	**S**	**13 52 00.3**	**-20**
KIW	**Kapiti Island**	**20.04**	**200**	*e*PN	**P**	**13 48 50.4**	**+0.6**
SNZO	**South Karori**	**20.51**	**200**	P	**P**	**13 48 56.1**	**+1.3**
QRZ	**Quartz Range**	**20.84**	**204**	*e*PN	**P**	**13 49 00.1**	**+1.9**
NNZ	**Nelson**	**20.87**	**202**	*e*PN	**P**	**13 48 53.5**	**-5.0**
THZ	**Tophouse**	**21.51**	**202**	*e*PN	**P**	**13 49 02.5**	**-2.5**
KHZ	**Kahutara**	**21.88**	**200**	*e*PN	**P**	**13 49 06.1**	**-2.6**
DSZ	**Denniston Nort**	**21.91**	**204**	*e*PN	**P**	**13 49 09.8**	**+0.8**
LTZ	**Lake Taylor**	**22.63**	**202**	*e*PN	**P**	**13 49 15.8**	**-0.4**
RPZ	**Rata Peaks**	**23.88**	**203**	P	**P**	**13 49 28.2**	**-0.2**
PPT	**Papeete**	**25.55**	**84**	LR	LR	13 57 03.9	
	comp=Z,155nm,18.1s,MS3.6,baz=348,slow=30						
HNR	**Honiara**	**26.08**	**295**	P	**P**	**13 49 53.4**	**+3.9**
	95nm,0.9s,mb5.3,baz=153,slow=4.9,SNR=5.0						
CNB	**Canberra Magne**	**32.64**	**239**	*e*P	**P**	**13 50 48.9**	**+0.9**
	29nm,1.1s,mb5.1						
CTA	**Charters Tower**	**34.92**	**266**	⇑*i*P	**P**	**13 51 08.6**	**+0.7**
	30nm,0.6s,mb5.4						
CTAO	**Charters Tower**	**34.92**	**266**	*e*P	**P**	**13 51 08.7**	**+0.8**
	40nm,0.6s,mb5.5						
CTAO	**Charters Tower**	**34.92**	**266**	*e*P	**P**	**13 51 08.6**	**+0.7**
TOO	**Toolangi**	**36.22**	**236**	⇓*i*P	**P**	**13 51 19.9**	**+1.2**
	4.8nm,0.6s,mb4.6						
TAU	**Tasmania Unive**	**36.57**	**227**	P	**P**	**13 51 24.4**	**+2.7**
	8.5nm,0.7s,mb4.7						
PMG	**Port Moresby**	**37.26**	**284**	P	**P**	**13 51 28.9**	**+1.1**
	29nm,0.9s,mb5.1,baz=123,slow=5.2,SNR=6.3						
PMG				LR	LR	14 04 51.7	
	comp=Z,136nm,19.9s,MS3.7,baz=192,slow=33						
PMG	**Port Moresby**	**37.26**	**284**	*e*P	**P**	**13 51 28.7**	**+1.0**
	47nm,1.0s,mb5.3						
STKA	**Stephens Creek**	**38.51**	**246**	⇑*i*P	**P**	**13 51 38.6**	**+0.6**
	11nm,0.8s,mb4.7						
STKA	**Stephens Creek**	**38.51**	**246**	P	**P**	**13 51 38.4**	**+0.3**
	15nm,0.9s,mb4.8,baz=92,slow=8.2,SNR=23						
WRAB	**Tennant Creek**	**45.94**	**263**	*e*P	**P**	**13 52 38.2**	**-0.6**
	76nm,0.9s,mb5.6						
WRAB	**Tennant Creek**	**45.94**	**263**	*c i*P	**P**	**13 52 37.9**	**-0.9**
WRA	**Warramunga Arr**	**45.94**	**263**	P	**P**	**13 52 37.9**	**-0.9**
	37nm,0.8s,mb5.3,baz=96,slow=8.0,SNR=362						
KAKA	**Kakadu**	**49.59**	**272**	*e*P	**P**	**13 53 20.2**	**+13**
	20nm,0.6s,mb5.3						
FORT	**Forrest**	**50.09**	**248**	*e*P	**P**	**13 53 09.9**	**-1.1**
	62nm,0.6s,mb5.8						
FITZ	**Fitzroy Crossi**	**54.37**	**263**	*e*P	**P**	**13 53 43.1**	**-0.1**
	46nm,0.8s,mb5.5						
SBA	**Scott Base**	**56.30**	**184**	*e*P	**P**	**13 53 57.8**	**+1.3**
	15nm,1.1s,mb4.9						
VNDA	**Vanda**	**56.38**	**186**	P	**P**	**13 53 57.6**	**+0.5**
	3.2nm,0.9s,mb4.3,baz=14,slow=7.1,SNR=16						
KLBR	**Kellerberrin**	**58.78**	**246**	*e*P	**P**	**13 54 12.5**	**-2.0**
	18nm,0.9s,mb5.1						
MBWA	**Marble Bar**	**59.03**	**258**	*e*P	**P**	**13 54 14.4**	**-2.0**
	6.6nm,0.4s,mb5.0						
NWAO	**Narrogin (SRO)**	**59.03**	**244**	P	**P**	**13 54 14.9**	**-1.4**
	1.1nm,0.5s,mb4.1						
CASY	**Casey**	**63.12**	**206**	*e*P	**P**	**13 54 42.4**	**-1.1**
MIR	**Mirnyy**	**70.13**	**205**	*e*P	**P**	**13 55 28.0**	**+0.1**
MIR				pmax	pmax		
	comp=Z,28nm,1.8s,mb4.9						
FX1	**Attu Island--F**	**75.31**	**353**	P	**P**	**13 55 57.1**	**-1.5**
	comp=Z,12nm,0.8s,mb4.9,baz=198,slow=6.4,SNR=4.8						
YSS	**Yuzh-Sakhalins**	**78.11**	**333**	*e*P	**P**	**13 56 11.2**	**-3.2**
YSS				pmax	pmax		
	comp=Z,24nm,1.7s,mb4.8						
SAO	**San Andreas Ge**	**78.20**	**42**	*e*P	**P**	**13 56 15.0**	**-0.1**
	comp=Z,37nm,1.3s,mb5.2						
PMSA	**Palmer Station**	**79.12**	**156**	P	**P**	**13 56 18.8**	**-0.7**
	comp=Z,7.1nm,0.7s,mb4.7						
ISA	**Isabella**	**79.41**	**45**	*e*P	**P**	**13 56 21.8**	**0.0**
	comp=Z,15nm,1.0s,mb4.9						
CMB	**Columbia Colle**	**79.66**	**42**	*e*P	**P**	**13 56 22.6**	**-0.4**
	comp=Z,20nm,1.4s,mb4.9						
OHCM	**Honcut**	**79.81**	**40**	*e*P	**P**	**13 56 23.9**	**+0.1**
SSE	**Sheshan**	**79.97**	**309**	P	**P**	**13 56 25.5**	**+0.7**
SSE				XP	sP	13 56 48.8	+15
SSE				PP	PP	13 59 28.5	+0.3
SSE				S	S	14 06 26.8	+0.7
SSE				XS		14 06 56.0	
SSE				AMB	AMB		
	comp=Z,33nm,0.6s,mb5.4						
SSE				AMB	AMB		
	comp=Z,87nm,3.5s						
SSE				LR	LR		
	comp=N,27nm,19.5s,MS3.8						
SSE				LR	LR		
	comp=E,33nm,20.0s,MS3.8						
SSE				LR	LR		
	comp=Z,45nm,16.2s,MS3.9						
SSE	**Sheshan**	**79.97**	**309**	P	**P**	**13 56 25.6**	**+0.8**
	comp=Z,33nm,0.6s,mb5.4						
SSE				sP	sP	13 56 48.8	+15
SSE				PP	PP	13 59 28.4	+0.2
SSE				S	S	14 06 26.8	+0.7
SSE				sS		14 06 55.9	
SSE				SS	SS	14 11 14.0	-25
SSE				LR	LR		
	comp=Z,50nm,16.2s,MS4.0						
WDC	**Whiskeytown Da**	**79.99**	**39**	*e*P	**P**	**13 56 25.2**	**+0.5**
	comp=Z,23nm,1.1s,mb5.0						
MTUM	**Tungsten Hills**	**80.38**	**43**	*e*P	**P**	**13 56 27.1**	**+0.3**
MAW	**Mawson**	**80.50**	**199**	*e*P	**P**	**13 56 26.3**	**-0.6**
	comp=Z,4.5nm,0.9s,mb4.4						
MAW				*e*		13 56 35.1	
MAW	**Mawson**	**80.50**	**199**	P	**P**	**13 56 26.6**	**-0.3**
	comp=Z,8.2nm,1.0s,mb4.6,baz=130,slow=6.6,SNR=11						
YBH	**Yreka Blue Hor**	**80.64**	**38**	P	**P**	**13 56 28.8**	**+0.6**
	comp=Z,11nm,0.8s,mb4.9,baz=190,slow=0.8,SNR=26						
YBH	**Yreka Blue Hor**	**80.64**	**38**	*e*P	**P**	**13 56 28.6**	**+0.5**
	comp=Z,11nm,0.8s,mb4.8						
BEKR	**Beckwourth**	**80.82**	**40**	*e*P	**P**	**13 56 29.4**	**+0.3**
	comp=Z,20nm,1.4s,mb4.9						
HUMO	**Hull Mountain**	**81.08**	**37**	*e*P	**P**	**13 56 31.0**	**+0.5**
	comp=Z,21nm,1.2s,mb4.9						
LDFC	**Landfair**	**81.30**	**47**	*e*P	**P**	**13 56 32.1**	**+0.3**
TPH	**Tonopah**	**81.66**	**43**	*e*P	**P**	**13 56 33.7**	**+0.1**
	comp=Z,31nm,1.7s,mb5.0						
NEN	**Nelson**	**81.80**	**46**	*e*P	**P**	**13 56 34.8**	**+0.4**
NJ2	**Nanjing**	**82.16**	**309**	*e*P	**P**	**13 56 35.0**	**-1.3**
NJ2				PP	PP	13 59 46.8	+0.1
NJ2				S	S	14 06 40.0	-8.8
NJ2				XS		14 07 18.0	
NJ2				AMB	AMB		
	comp=Z,90nm,1.0s,mb5.7						
NJ2				AMB	AMB		
	comp=Z,140nm,8.0s						
NJ2				LR	LR		
	comp=N,480nm,30.0s						
NJ2				LR	LR		
	comp=E,240nm,20.0s						
NJ2				LR	LR		
	comp=Z,190nm,28.0s,MS4.3						
MDJ	**Mudanjiang**	**82.80**	**324**	P	**P**	**13 56 40.8**	**+1.4**
MDJ				AMB	AMB		
	comp=Z,11nm,1.9s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,163nm,4.2s						
TUC	**Tucson**	**82.80**	**51**	*e*P	**P**	**13 56 40.5**	**+0.8**
	comp=Z,16nm,1.1s,mb5.0						
BMN	**Battle Mountai**	**83.06**	**41**	*e*P	**P**	**13 56 41.2**	**+0.4**
	comp=Z,17nm,1.1s,mb5.0						
WVOR	**Wild Horse Val**	**83.43**	**39**	*e*P	**P**	**13 56 43.0**	**+0.4**
	comp=Z,16nm,0.9s,mb5.1						
OCWA	**Octopus Mounta**	**83.87**	**32**	*e*P	**P**	**13 56 45.7**	**+1.0**
	comp=Z,23nm,0.8s,mb5.4						
ARUT	**Antelope Range**	**83.94**	**45**	*e*P	**P**	**13 56 45.8**	**+0.4**
CN2	**Changchun**	**84.59**	**322**	*e*P	**P**	**13 56 51.0**	**+2.5**
CN2				LR	LR		
	comp=Z,270nm,19.0s,MS4.7						
PGC	**Sidney**	**84.84**	**32**	*e*P	**P**	**13 56 48.6**	**-1.0**
	comp=Z,35nm,1.0s,mb5.5						
BBB	**Bella Bella**	**85.16**	**27**	P	**P**	**13 56 51.5**	**+0.4**
	comp=Z,6.3nm,0.9s,mb4.7,baz=263,slow=8.1,SNR=5.4						
MSU	**Marysvale**	**85.17**	**45**	*e*P	**P**	**13 56 52.5**	**+1.0**
TMUT	**Trail Mountain**	**86.23**	**45**	*e*P	**P**	**13 56 57.2**	**+0.4**
VNA3	**Neumayer Olymp**	**86.35**	**176**	P	**P**	**13 56 56.6**	**0.0**
MNTX	**Cornudas Mount**	**86.46**	**54**	*e*P	**P**	**13 56 58.2**	**+0.1**
	comp=Z,24nm,1.3s,mb5.3						
MNTX				*e*		13 57 28.6	
SRU	**San Rafael**	**86.58**	**45**	*e*P	**P**	**13 56 58.2**	**-0.3**
LTX	**Lajitas**	**86.66**	**57**	*e*P	**P**	**13 56 59.4**	**+0.3**
	comp=Z,28nm,1.4s,mb5.3						
TXAR	**Lajitas Array**	**86.66**	**57**	P	**P**	**13 56 59.0**	**-0.1**
	comp=Z,6.2nm,0.9s,mb4.8,baz=217,slow=6.3,SNR=39						
TXAR				LR	LR	14 26 41.9	
	comp=Z,38nm,19.7s,MS3.8,baz=210,slow=29						
VNA2	**Neumayer--Watz**	**86.81**	**176**	P	**P**	**13 56 59.4**	**+0.5**
VNA2	**Neumayer--Watz**	**86.81**	**176**		**P**	**13 57 01.6**	**+2.7**
PLCA	**Paso Flores**	**86.98**	**133**	P	**P**	**13 57 00.6**	**+0.2**
	comp=Z,7.3nm,1.0s,mb4.9,baz=256,slow=3.1,SNR=6.3						
PLCA				LR	LR	14 29 20.1	
	comp=Z,50nm,18.8s,MS3.9,baz=65,slow=31						
PLCA	**Paso Flores**	**86.98**	**133**	*e*P	**P**	**13 56 59.5**	**-0.9**
	comp=Z,12nm,1.1s,mb5.0						
PLCA	**Paso Flores**	**86.98**	**133**	P	**P**	**13 57 00.1**	**-0.3**
VNA1	**Neumayer--Stat**	**87.03**	**176**	P	**P**	**13 57 00.4**	**+0.5**
PV10	**Paradox Valley**	**87.18**	**47**	*e*P	**P**	**13 57 01.1**	**-0.3**
ANMO	**Albuquerque**	**87.25**	**51**	*e*P	**P**	**13 57 01.7**	**-0.2**
	comp=Z,6.6nm,1.0s,mb4.8						
ANMO	**Albuquerque**	**87.25**	**51**	⇑*i*P	**P**	**13 57 01.4**	**-0.4**
PV01	**Paradox Valley**	**87.37**	**47**	*e*P	**P**	**13 57 02.4**	**+0.1**
NEW	**Newport**	**87.84**	**35**	P	**P**	**13 57 03.8**	**-0.6**
MCK	**McKinley**	**88.29**	**12**	*e*P	**P**	**13 57 05.5**	**-0.6**
	comp=Z,5.1nm,0.9s,mb4.8						
SEY	**Seymchan**	**88.38**	**346**	*e*P	**P**	**13 57 05.3**	**-1.2**
DLMT	**Dillon**	**88.68**	**39**	*e*P	**P**	**13 57 08.5**	**+0.1**
QLMT	**Earthquake Lak**	**89.08**	**40**	*e*P	**P**	**13 57 11.2**	**+0.8**
FLWY	**Flagg Ranch**	**89.12**	**41**	*e*P	**P**	**13 57 11.2**	**+0.6**
PDAR	**Pinedale Array**	**89.13**	**43**	P	**P**	**13 57 10.1**	**-0.5**
	comp=Z,2.8nm,0.9s,mb4.6,baz=221,slow=2.5,SNR=18						
CHMT	**Chamberlain Mo**	**89.17**	**38**	*e*P	**P**	**13 57 10.5**	**-0.3**
SDCO	**Great Sand Dun**	**89.28**	**48**	*e*P	**P**	**13 57 11.2**	**-0.3**
	comp=Z,2.3nm,0.8s,mb4.6						
BOZ	**Bozeman (W)**	**89.41**	**39**	*e*P	**P**	**13 57 11.9**	**+0.1**
	comp=Z,12nm,1.1s,mb5.1						
ILAR	**Eielson Array**	**89.62**	**12**	P	**P**	**13 57 11.3**	**-1.1**
	comp=Z,1.1nm,0.5s,mb4.4,baz=236,slow=4.4,SNR=14						
IMA	**Indian Mountai**	**89.65**	**9**	P	**P**	**13 57 12.1**	**-0.5**
	comp=Z,70nm,1.6s,mb5.7						
HRY	**Holter Researc**	**89.87**	**38**	*e*P	**P**	**13 57 14.1**	**+0.1**
WALA	**Waterton Lakes**	**90.03**	**36**	*e*P	**P**	**13 57 13.3**	**-1.4**
	comp=Z,8.5nm,1.1s,mb5.0						
WALA				*e*		13 57 22.4	
DAWY	**Dawson**	**90.66**	**15**	*e*P	**P**	**13 57 17.5**	**+0.2**
BILL	**Bilibino**	**90.88**	**354**	⇓*e*P	**P**	**13 57 11.7**	**-6.5**
BILL				*e*		14 00 49.0	
BILL				PS	PS	14 09 24.1	-1.7
BILL				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.9						
KMI	**Kunming**	**91.51**	**296**	P	**P**	**13 57 22.3**	**+0.2**
KMI				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.9						
KMI	**Kunming**	**91.51**	**296**	P	**P**	**13 57 22.2**	**+0.1**
	comp=Z,5.0nm,0.8s,mb4.9						
HHC	**Hu-ho-hao-te**	**91.65**	**314**	*e*P	**P**	**13 57 24.5**	**+2.1**
HHC				XP	sP	13 57 47.8	+17
HHC				PP	PP	14 01 06.5	+3.0
HHC				S	S	14 08 18.8	-0.1
HHC				SS	SS	14 14 30.5	+1.0
HHC				AMB	AMB		
	comp=Z,13nm,0.6s,mb5.4						
HHC				AMB	AMB		
	comp=Z,105nm,5.0s						
HHC				LR	LR		
	comp=N,147nm,19.6s,MS4.6						
HHC				LR	LR		
	comp=E,140nm,18.4s,MS4.6						
HHC				LR	LR		
	comp=Z,138nm,17.8s,MS4.5						
EDM	**Edmonton**	**92.68**	**32**	*e*P	**P**	**13 57 26.3**	**-0.5**
RSSD	**Black Hills**	**93.29**	**43**	*e*P	**P**	**13 57 29.6**	**-0.2**
	comp=Z,15nm,0.9s,mb5.4						
YAK	**Yakutsk**	**94.27**	**338**	*e*P	**P**	**13 57 30.8**	**-3.1**
YAK				pmax	pmax		
	comp=Z,13nm,2.1s,mb5.0						
INK	**Inuvik**	**95.50**	**15**	P	**P**	**13 57 38.7**	**-0.7**
	comp=Z,2.5nm,1.0s,mb4.6,baz=252,slow=3.2,SNR=3.1						
INK	**Inuvik**	**95.50**	**15**	*e*P	**P**	**13 57 39.1**	**-0.3**
	comp=Z,8.8nm,1.3s,mb5.0						
LPAZ	**La Paz**	**99.97**	**112**	P	**P**	**13 58 00.6**	**-0.2**
	comp=Z,0.6nm,0.2s,mb4.6,baz=227,slow=7.6,SNR=4.3						
LPAZ				LR	LR	14 31 57.0	
	comp=Z,36nm,21.5s,MS3.8,baz=20,slow=29						
WMQ	**Urumqi**	**109.22**	**310**	*e*PDIF	Pdif	13 58 41.0	-0.2
WMQ				PP	PP	14 03 18.0	+0.3
WMQ				SS	SS	14 18 28.0	-5.3
WMQ				PP	PP		
	comp=Z,24nm,8.0s						
WMQ				LR	LR		
	comp=N,42nm,20.0s,MS4.2						
WMQ				LR	LR		
	comp=E,48nm,20.0s,MS4.2						
WMQ				LR	LR		
	comp=Z,45nm,20.0s,MS4.0						
MKAR	**Makanchi Array**	**113.50**	**313**	PKiKP		14 02 51.1	
	comp=Z,0.5nm,0.7s,baz=45,slow=1.7,SNR=5.4						
MKAR				PKKPbc		14 13 36.1	
	comp=Z,0.5nm,0.7s,baz=279,slow=2.8,SNR=6.2						
AAK	**Ala-Archa**	**118.57**	**307**	*i* PKIKP	PKPdf	14 02 58.8	-7.3
BVAR	**Borovoye Array**	**121.38**	**319**	PKP	PKPdf	14 03 07.0	-4.3
	comp=Z,1.0nm,0.3s,baz=90,slow=1.5,SNR=8.6						
BOSA	**Boshof**	**125.37**	**203**	PKP	PKPdf	14 03 14.0	-5.7
	comp=Z,3.2nm,0.7s,baz=210,slow=8.1,SNR=5.6						
ARU	**Arti**	**127.48**	**325**	*i* PKIKP	PKPdf	14 03 18.6	-4.3
ARU				*e*		14 05 16.8	
ARCES	**ARCESS Array B**	**130.86**	**350**	PKP	PKPdf	14 03 24.6	-4.4
	comp=Z,1.5nm,0.6s,baz=24,slow=12,SNR=12						
FINES	**FINESS Array B**	**137.83**	**344**	PKhKP		14 03 26.9	
	comp=Z,0.9nm,0.8s,baz=45,slow=2.0,SNR=2.9						
FINES				PKP	PKPdf	14 03 38.2	-4.0
	comp=Z,1.1nm,0.6s,baz=63,slow=3.1,SNR=5.6						
FINES	**FINESS Array B**	**137.83**	**344**	PKP		14 03 26.9	
FINES				PKP	PKPdf	14

WRA	Warramunga Arr	30.38	188	P		P	14 21 30.0	0.0
	1.5nm,0.8s,mb3.8,baz=1.3,slow=9.5,SNR=10							
ASAJ	Asahikawa	33.83	5	LR		LR	14 33 41.1	
	comp=Z,33nm,20.7s,MS3.0,baz=262,slow=33							
STKA	Stephens Creek	42.09	176	*e*P		P	14 23 09.4	0.0
	3.3nm,0.9s,mb4.0							
STKA	Stephens Creek	42.09	176	P		P	14 23 09.4	0.0
	4.1nm,0.8s,mb4.1,baz=326,slow=8.7,SNR=6.3							
SONM	Songino Array	46.09	330	P		P	14 23 41.8	+0.4
	3.0nm,1.1s,mb4.1,baz=135,slow=6.3,SNR=8.0							
YAK	Yakutsk	51.99	355	P		P	14 24 25.7	-0.9
	15nm,0.8s,mb5.0							
MKAR	Makanchi Array	59.62	319	P		P	14 25 21.9	+0.1
	1.7nm,0.8s,mb4.1,baz=106,slow=8.8,SNR=14							
MKAR				LR		LR	14 53 21.1	
	comp=Z,44nm,18.0s,MS3.6,baz=266,slow=38							
ZAL	Zalesovo	60.76	327	P		P	14 25 29.7	+0.2
	1.4nm,0.3s,mb4.5,baz=225,slow=0.9,SNR=5.7							
ZAL				LR		LR	14 52 32.0	
	comp=Z,57nm,18.1s,MS3.8,baz=221,slow=37							
KURK	Kurchatov	63.14	322	*e*P		P	14 25 45.3	-0.2
	15nm,0.8s,mb5.2							
BVAR	Borovoye Array	68.66	323	P		P	14 26 20.9	+0.3
	4.8nm,0.8s,mb4.5,baz=112,slow=8.0,SNR=30							
BRVK	Borovoye	68.73	323	*e*P		P	14 26 20.8	-0.2
	6.4nm,0.9s,mb4.5							
SML	Sawmill	73.00	28	*e*P		P	14 26 47.2	+0.5
MCK	McKinley	73.09	26	*e*P		P	14 26 47.2	+0.1
	3.3nm,0.8s,mb4.3							
ILAR	Eielson Array	74.15	25	P		P	14 26 52.5	-0.8
	1.1nm,0.7s,mb3.9,baz=249,slow=6.5,SNR=16							
PPT	Papeete	76.26	111	LR		LR	14 54 27.6	
	comp=Z,115nm,19.9s,MS4.2,baz=318,slow=31							
CASY	Casey	79.14	191	*e*P		P	14 27 20.6	-0.8
	3.5nm,0.8s,mb4.3							
INK	Inuvik	79.72	22	*e*P		P	14 27 24.7	+0.3
	3.6nm,0.9s,mb4.3							
BBB	Bella Bella	83.99	38	LR		LR	15 00 38.5	
	comp=Z,54nm,18.9s,MS4.0,baz=251,slow=32							
ARCES	ARCESS Array B	88.17	341	P		P	14 28 07.7	+0.7
	2.4nm,0.8s,mb4.5,baz=51,slow=5.8,SNR=3.0							
VNDA	Vanda	88.72	175	P		P	14 28 10.4	+0.9
	0.4nm,0.7s,mb3.9,baz=326,slow=5.0,SNR=3.1							
FINES	FINESS Array B	91.36	334	P		P	14 28 21.8	-0.4
	1.6nm,0.9s,mb4.3,baz=124,slow=6.9,SNR=4.4							
FINES	FINESS Array B	91.36	334	P		P	14 28 21.8	-0.4
EFI	East Falkland	136.63	165	*e*PKPpre			14 34 35.6	
SDV	Santo Domingo	145.28	58	*e*PKPdf		PKPdf	14 34 56.1	+2.0
TRQA	Tornquist	146.85	150	*e*PKPbc		PKPbc	14 34 59.9	+2.3
LPAZ	La Paz	153.45	106	PKPbc		PKPdf	14 35 17.3	+11
	0.6nm,0.3s,baz=359,slow=4.7,SNR=4.3							

JMA 25 14:27:01.1±0.4,34.84N×136.96E,h343km±4km,M2.9
IDC 25 14:27:01.4±1.1,34.71N×137.10E,h325km±23km,mb3.1/3,mb1 3.3/5,mb1mx3.0/22,mbtmp3.8/5,Error ellipse: s-maj=54.0km s-min=19.5km az=64.0
NEIC 25 14:27:01.7±0.9,34.74N×136.98E,h329km±8km,mb4.0/2, Error ellipse: s-maj=19.2km s-min=15.1km az=168.0
ISC 25 14:27:01.1±0.7,34.8N±0.1×136.99E±0.08,h337km±4km, n21,σ0°71/28,mb3.5/5,Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGM	Miyama	0.93	346	P	P	14 27 45.9	+0.6
JWY	Kouya	1.29	244	P	P	14 27 47.5	+0.5
JWT	Wachi	1.39	291	P	P	14 27 47.8	+0.3
JWT				*e*S	S	14 28 22.8	-1.1
JYN	Shimob	1.46	61	P	P	14 27 48.5	+0.6
JKG	Kaga	1.57	340	P	P	14 27 48.6	0.0
JRY	Ryogami san	1.98	51	P	P	14 27 52.1	+0.8
JRY				*e*S	S	14 28 31.2	+0.6
MAJO	Matsushiro	2.01	29	*e*Pn	P	14 27 51.8	+0.3
MAT	Matsushiro	2.01	29	P	P	14 27 51.4	-0.1
MAT				S	S	14 28 29.9	-1.0
MAT	Matsushiro	2.01	29	P	P	14 27 51.9	+0.4
MAT				*e*S	S	14 28 31.2	+0.3
MAT	Matsushiro	2.01	29	*e*P	P	14 27 51.0	-0.5
MAT				*e*S	S	14 28 30.0	-0.9
MJAR	Matsushiro Arr	2.01	29	P	P	14 27 52.0	+0.5
	11nm,0.3s,baz=205,slow=8.5,SNR=110						
MJAR				S	S	14 28 30.3	-0.7
	baz=49,slow=52,SNR=3.3						
JHS	Saijyo	3.19	275	P	P	14 28 01.8	+0.2
JHS				*e*S	S	14 28 49.0	0.0
BSO1	Boso 1	3.29	91	P	P	14 28 01.6	-0.9
KS15	Wonju Array Si	7.83	292	P	P	14 28 53.6	-0.1
ASAJ	Asahikawa	10.27	23	P	P	14 29 22.6	-0.4
	0.9nm,0.3s,baz=223,slow=12,SNR=8.7						
YSS	Yuzh-Sakhalins	12.90	18	P	P	14 29 54.0	-0.8
PET	Petropavlovsk	23.83	33	*e*P	P	14 31 46.8	+0.7
	16nm,1.0s,mb4.2						
ULN	Ulaanbaatar	25.82	310	P	P	14 32 02.8	-1.3
	2.6nm,0.7s,mb3.6						
SONM	Songino Array	26.23	309	P	P	14 32 09.1	+1.3
	0.7nm,0.4s,mb3.2,baz=106,slow=11,SNR=4.1						
MKAR	Makanchi Array	42.31	304	P	P	14 34 24.6	+0.6
	0.4nm,0.6s,mb2.7,baz=83,slow=8.7,SNR=6.2						
WRA	Warramunga Arr	54.49	183	P	P	14 35 55.7	-1.1
	1.4nm,0.4s,mb3.6,baz=0.4,slow=7.5,SNR=65						

IDC 25 14:28:05.2±8.4,2.61S×122.93E,h71km±80km,mb3.5/4, mb1 3.7/4,mb1mx3.5/16,mbtmp3.8/4,MS3.7/1,Ms1 3.7/1, ms1mx3.0/9,Error ellipse: s-maj=114.3km s-min=27.9km az=64.0,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	15.62	170	*e*P	P	14 31 41.6	-1.0
	10.0nm,0.6s						
FITZ	Fitzroy Crossi	15.62	170	P	P	14 31 41.4	-1.2
	baz=3.3,slow=11						
WRA	Warramunga Arr	20.51	148	P	P	14 32 36.9	-3.1
	1.3nm,0.8s,baz=325,slow=10,SNR=10.0						
STKA	Stephens Creek	34.00	151	P	P	14 34 43.5	-0.9
	3.7nm,1.0s,baz=318,slow=11,SNR=4.8						
MJAR	Matsushiro Arr	41.47	19	LR	LR	14 53 59.6	
	comp=Z,85nm,18.3s,baz=215,slow=38						
MKAR	Makanchi Array	60.80	329	P	P	14 38 10.0	-2.2
	0.6nm,0.8s,baz=129,slow=7.0,SNR=5.8						
VNDA	Vanda	77.69	172	P	P	14 39 53.2	-2.1
	0.5nm,0.7s,baz=311,slow=9.3,SNR=5.1						

NEIC 25 14:40:21.4,55.18N×157.87W,h22km,mb3.5/1, ML3.6(AEIC),After AEIC.,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGN	Chignik	1.17	345	P	Pn	14 40 39.8	-2.8
CHGN				S	Sb	14 40 55.1	-2.4
SDPT	Sand Point	1.50	278	P	Pn	14 40 45.1	-2.3
SDPT				S	Sn	14 41 04.5	-2.0
ANPB	Aniakchak Plen	1.64	352	P	Pn	14 40 47.5	-1.9
ANPK	Aniakchak Peak	1.67	355	P	Pn	14 40 47.9	-2.0
ANPK				S	Sn	14 41 10.0	-0.8
PS1A	Pavlof South-1	2.23	278	P	Pn	14 40 55.7	-2.0
PVV	Pavlof Volcano	2.25	277	P	Pn	14 40 56.2	-1.9
PVV				S	Sn	14 41 25.6	+0.1
DOL	Dolgoi Island	2.29	271	P	Pn	14 40 56.0	-2.7
DOL				S	Sn	14 41 26.3	-0.2
HAG	Hague Volcano	2.31	275	P	Pn	14 40 57.7	-1.3
PN6	Pavlof North-6	2.33	278	P	Pn	14 40 57.8	-1.5
PN7A	Pavlof North-7	2.37	278	P	Pn	14 40 58.5	-1.4
BLHA	Black Hill	2.45	284	P	Pn	14 40 58.7	-2.3
DTNA	Dutton South F	2.52	271	P	Pn	14 40 59.2	-2.6
DT1	Dutton Round H	2.53	270	P	Pn	14 40 59.7	-2.5
DRIA	Deer Island	2.54	267	P	Pn	14 41 00.5	-1.6
BALA	Baldy Mountain	2.82	272	P	Pn	14 41 04.5	-1.7
KJL	Kejulik	3.15	23	P	Pn	14 41 08.2	-2.7
CAHL	Cahill	3.21	25	P	Pn	14 41 09.2	-2.6
ANCK	Angle Creek	3.30	22	P	Pn	14 41 10.4	-2.6
MGLS	Mageik LS	3.35	24	P	Pn	14 41 10.8	-2.9
KABR	Katmai Barrier	3.37	27	P	Pn	14 41 11.3	-2.6
MTBL	Makushin Table	5.27	260	P	Pn	14 41 37.9	-3.0
RSO	Redoubt South	5.96	25	*e*P	Pn	14 41 48.6	-2.1
SCM	Sheep Creek Mo	8.65	35	P	P	14 42 23.7	-4.7
KLU	Klutina	8.91	40	P	P	14 42 26.5	-5.4
INK	Inuvik	17.31	31	*e*P	P	14 44 19.3	-3.7
	3.1nm,0.8s						

NEIC 25 14:54:05.9±0.6,51.49N×16.16E,h5km,ML3.0(VIE),
ML2.8(SZGRF),Error ellipse: s-maj=7.1km s-min=5.4km az=65.0
IPEC 25 14:54:05.6±0.3,51.51N×16.16E,ML2.2/4,Error ellipse: s-maj=1.9km s-min=1.5km az=39.0
IDC 25 14:54:07.5±0.7,51.45N×15.99E,mb1 3.3/7, mb1mx3.2/23,mbtmp3.2/7,ML3.0/6,Error ellipse: s-maj=13.0km s-min=7.0km az=102.0
WAR 25 14:54:07.7,51.45N×16.08E,h1km,ML2.6,Mining Induced
PRU 25 14:54:07.4,51.42N×16.08E
CSEM 25 14:54:07.1±0.1,51.45N×16.09E,h2km,ML3.2/8,Error ellipse: s-maj=1.9km s-min=1.2km az=47.0
ISC 25 14:54:04.2±0.5,51.46N±0.03×16.11E±0.04,n37,σ1°50/72, 1C-4D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.63	169	⇓*i*PG	Pg	14 54 19.1	+2.3
KSP				⇓*e*SG	Sg	14 54 27.1	+1.9
KSP	Ksiaz	0.63	169	*e*Pg	Pg	14 54 19.1	+2.3
KSP				*e*Sg	Sg	14 54 28.1	+2.9
KSP	Ksiaz	0.63	169	⇓*i*Pg	Pg	14 54 19.1	+2.3
KSP				*e*Sg	Sg	14 54 27.3	+2.1
UPC	Upice	0.96	184	*e*PG	Pg	14 54 25.0	+1.6
DPC	Dobruska-Polom	1.12	173	*e*PG	Pg	14 54 27.9	+1.3
DPC				*e*SG	Sg	14 54 42.1	+0.6
	37nm,0.2s						
DPC	Dobruska-Polom	1.12	173	Pg	Pg	14 54 27.9	+1.3
DPC				*e*Sg	Sg	14 54 42.3	+0.8
PVCC	Panska Ves	1.35	227	*e*PG	Pg	14 54 32.0	+0.8
PVCC				*e*SG	Sg	14 54 50.5	+1.3
PVCC	Panska Ves	1.35	227	Pg	Pg	14 54 32.0	+0.8
PVCC				*e*Sg	Sg	14 54 49.8	+0.6
BRG	Berggiesshubel	1.49	248	Pg	Pg	14 54 34.5	+0.6
BRG	Berggiesshubel	1.49	248	Pn	Pn	14 54 33.8	+1.5
BRG				Pg	Pg	14 54 34.5	+0.6
BRG				Sg	Sg	14 54 54.5	+0.8
RUE	Ruedersdorf	1.77	306	*e*Pg	Pg	14 54 40.1	+0.6
RUE				*e*Sg	Sg	14 55 03.7	+0.6
PRU	Pruhonice	1.78	215	*e*PG	Pg	14 54 37.8	-2.0
PRU				*e*SG	Sg	14 55 00.9	-2.6
	14nm,0.2s						
MORC	Moravsky Berou	1.92	151	*e*Pn	Pn	14 54 39.9	+1.4
MORC				*e*Sn	Sn	14 55 04.2	+0.6
MORC				*e*Sg	Sg	14 55 06.8	-1.3
	17nm,0.2s						
MORC	Moravsky Berou	1.92	151	*e*Pn	Pn	14 54 38.1	-0.4
MORC				*e*Sn	Sn	14 55 04.2	+0.6
CLL	Collm	1.95	267	*e*PN	Pn	14 54 39.0	0.0
CLL				*e*PG	Pg	14 54 43.0	-0.3
CLL				*e*		14 54 47.0	
CLL				*e*		14 54 58.0	
CLL				*i* SG	Sg	14 55 09.0	-0.3
CLL	Collm	1.95	267	*e*Pn	Pn	14 54 39.0	0.0
CLL				*e*Pg	Pg	14 54 43.0	-0.3
CLL				*i* Sg	Sg	14 55 09.0	-0.3
OKC	Ostrava-Krasne	2.08	141	*e*PG	Pg	14 54 45.2	-0.6
OKC				*e*SG	Sg	14 55 12.2	-1.3
	16nm,0.3s						
VRAC	Vranov	2.18	172	Pn	Pn	14 54 44.0	+1.8
	1.7nm,0.3s,baz=345,slow=20,SNR=18						
VRAC				Sn	Sn	14 55 13.9	+3.7
	3.6nm,0.3s,baz=70,slow=22,SNR=4.3						
VRAC	Vranov	2.18	172	*e*Pn	Pn	14 54 43.9	+1.7
VRAC				*e*Sg	Sg	14 55 15.4	-1.3
	11nm,0.2s						
KRUC	Moravsky	2.41	176	*e*Pn	Pn	14 54 46.9	+1.4
KRUC				*e*Sg	Sg	14 55 22.7	-1.7
	11nm,0.3s						
NKC	Novy Kostel	2.63	244	*e*PN	Pn	14 54 50.1	+1.5
NKC				*e*PG	Pg	14 54 56.2	-0.5
NKC				*e*SG	Sg	14 55 31.3	-0.4
	23nm,0.2s						
KHC	Kasperske Hory	2.84	216	*e*PN	Pn	14 54 52.8	+1.1
KHC				*e*PG	Pg	14 54 59.0	-2.0
KHC				*e*SN	Sn	14 55 23.6	-3.5
KHC				*e*SG	Sg	14 55 34.5	-4.4
	6.3nm,0.3s						
MOX	Moxa	2.95	256	*i* P	Pn	14 54 54.3	+1.0
MOX				Pg	Pg	14 55 02.0	-1.2
MOX				Sg	Sg	14 55 42.0	-0.5
MOX	Moxa	2.95	256	*e*Pn	Pn	14 54 54.3	+1.0
MOX				*e*Pg	Pg	14 55 02.4	-0.8
MOX				*e*Sg	Sg	14 55 42.1	-0.4
GEC2	GERESS Array S	3.04	212	*e*Pn	Pn	14 54 56.6	+2.0
GERES	GERESS Array B	3.04	212	Pn	Pn	14 54 56.2	+1.7
	0.8nm,0.3s,baz=29,slow=13,SNR=13						
GERES				Pg	Pg	14 55 02.4	-2.6
	3.5nm,0.3s,baz=32,slow=17,SNR=30						
GERES				Lg		14 55 41.3	
	3.6nm,0.3s,baz=29,slow=27,SNR=7.1						
GERES	GERESS Array B	3.04	212	Pg	Pg	14 55 02.4	-2.6
SMOL	Smolenice	3.07	163	*e*SG	Sg	14 55 47.9	+1.4
WET	Wettzell	3.11	223	*e*Pn	Pn	14 54 56.8	+1.3
MOA	Molln	3.81	199	⇑*i*PN	Pn	14 55 06.7	+1.3
MOA				*i* SG	Sg	14 56 08.5	-2.5
	13nm,0.5s						
STHS	Stebnicka Huta	3.87	120	*e*PN	Pn	14 55 09.6	+3.3
KBA	Koelnbreinsper	4.75	203	⇓*i*PN	Pn	14 55 17.2	-1.5
KBA				*i* SN	Sn	14 56 12.5	-2.8
KBA				*i* SG	Sg	14 56 36.8	-5.4
	3.7nm,0.5s						
AKASG	Malin Array Be	8.29	90	Pn	P	14 56 06.2	-2.4
	0.6nm,0.3s,baz=277,slow=12,SNR=2.3						
HFS	Hagfors	8.80	352	Pn	P	14 56 13.1	-2.6
	0.0nm,0.3s,baz=176,slow=19,SNR=3.6						
NOA	NORSAR Array B	9.98	346	Pn	P	14 56 29.4	-2.4
	0.1nm,0.3s,baz=153,slow=12,SNR=2.5						
FINES	FINESS Array B	11.41	25	Pn	P	14 56 48.2	-3.2
	0.2nm,0.3s,baz=210,slow=12,SNR=5.6						
ARCES	ARCESS Array B	18.67	10	Pn	P	14 58 21.3	-4.2
	0.1nm,0.3s,baz=194,slow=10.0,SNR=4.0						

CSEM 25 14:54:29.6±0.1,44.27N×11.85E,h25km,MD2.7/12,Error ellipse: s-maj=1.7km s-min=1.3km az=126.0
ROM 25 14:54:30.6±0.3,44.25N×11.84E,h9km±7km,Md2.7/12, Ml2.3/8,1D,Error ellipse: s-maj=6.1km s-min=2.3km az=32.0,Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRSN	Barisano	0.17	79	⇓*i*Pg	Pg	14 54 35.3	+0.9
	831nm,0.2s						
SFI	Santa Sofia	0.34	179	Pg	Pg	14 54 37.9	+0.2
SFI				Sg	Sg	14 54 44.6	+2.2
	290nm,0.2s						
VMG	Vicchio	0.36	217	Pg	Pg	14 54 38.2	+0.3
VMG				Sg	Sg	14 54 45.0	+2.2
	110nm,0.2s						
PGD	Poggio Sodo	0.38	193	Pg	Pg	14 54 38.7	+0.3
PGD				Sg	Sg	14 54 45.9	+2.2
	108nm,0.4s						
SEI	Scarperia	0.40	241	Pg	Pg	14 54 38.8	+0.1
SEI				Sg	Sg	14 54 46.4	+2.3
	198nm,0.2s						
FNVD	Fontana Vidola	0.52	261	Pg	Pg	14 54 40.9	-0.2
FNVD				Sg	Sg	14 54 50.5	+2.3
	150nm,0.5s						
RSM	Repubblica di	0.54	126	Pg	Pg	14 54 41.7	+0.1
	64nm,0.6s						
CRE	Caprese Michel	0.64	173	Pg	Pg	14 54 43.1	-0.3
	43nm,0.4s						
PZZT	Monte Pizzetto	0.71	261	Pg	Pg	14 54 44.5	-0.4
	119nm,0.6s						
BADI	Badiali	0.80	158	Pg	Pg	14 54 45.9	-0.7
	198nm,0.5s						
CSNT	Castellina Chi	0.87	207	Pg	Pg	14 54 49.3	+1.2
	58nm,0.3s						
FSSB	Fossombrone	0.88	129	Pg	Pg	14 54 47.9	-0.3
	56nm,0.4s						
BDI	Bagni Di Lucca	0.91	259	Pg	Pg	14 54 49.5	+0.6
	65nm,0.5s						
VLC	Villacollemand	1.05	266	Pg	Pg	14 54 51.8	+0.2
	118nm,1.1s						
PII	Pisa	1.09	241	Pg	Pg	14 54 51.6	-0.7
	30nm,0.2s						
ARV	Arcevia	1.10	133	Pg	Pg	14 54 52.7	+0.2
	22nm,0.3s						
MURB	Monte Urbino	1.10	153	Pg	Pg	14 54 53.6	+0.9
	174nm,0.3s						
NVLJ	Novalja	2.20	81	*i* Pn	Pn	14 55 05.0	-2.8
NVLJ				*i* Sn	Sn	14 55 31.6	-3.8
VOY	Vojsko	2.30	38	*e*Pn	Pn	14 55 05.7	-3.6
VOY				*e*Sn	Sn	14 55 33.2	-4.8

CSEM 25 14:55:55.7±0.3,37.78N×25.45W,h2km±2km,ML2.7,Error ellipse: s-maj=6.9km s-min=3.5km az=4.0,After PDA
PDA 25 14:55:55.7±0.8,37.78N×25.45W,h2km±1km,MD2.7, ML2.7,Error ellipse: s-maj=1.1km s-min=1.0km az=97.0
SVSA 25 14:55:55.7±0.8,37.78N×25.45W,h2km±1km,MD2.7, ML2.7,Error ellipse: s-maj=1.1km s-min=1.0km az=97.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MESC	Monte Escuro	0.02	6	*i* P	Pg	14 55 06.5	+0.4
LFA	Lagoa do Fogo	0.03	263	*i* P	Pg	14 55 56.6	+0.3
VIF	Vila Franca	0.03	168	*i* P	Pg	14 55 56.6	+0.2
VIF				*e*S	Sg	14 55 58.4	+1.5
VIF	Vila Franca	0.03	168	*e*S	Sg	14 55 58.4	+1.5
PCNG	Congro	0.04	102	*i* P	Pg	14 55 57.0	+0.4
PCNG				*e*S	Sg	14 55 58.5	+1.3
PCNG	Congro	0.04	102	*e*S	Sg	14 55 58.5	+1.3
PMAT	Coroa da Mata	0.04	335	*e*P	Pg	14 55 57.0	+0.4
PMAT				*e*S	Sg	14 55 58.5	+1.3
	2μm,0.4s						
PRCH	Ribeira Ch	0.05	208	*i* P	Pg	14 55 57.2	+0.4
PRCH				*e*S	Sg	14 55 58.8	+1.2
	3μm,0.2s						
PRCH	Ribeira Ch	0.05	208	*e*S	Sg	14 55 58.8	+1.2
PVER	Pico Vermelho	0.06	292	*e*P	Pg	14 55 57.5	+0.6
CML	Cha da Macela	0.08	266	*e*P	Pg	14 55 58.1	+0.8
FRA1	Furnas	0.08	114	*e*P	Pg	14 55 58.0	+0.7
PFAD	Fenais da Ajud	0.12	58	*e*P	Pg	14 55 59.0	+0.9
PFAD				*e*S	Sg	14 56 01.0	+1.4
MIRA	Miradouro	0.13	86	*e*P	Pg	14 55 59.2	+0.8
PDA	Ponta Delgada	0.17	260	*e*P	Pg	14 56 00.5	+1.3
PDA				*e*S	Sg	14 56 05.5	+4.0
PSET	Sete Cidades	0.22	282	*e*P	Pg	14 56 02.8	+2.7
PSET				*e*S	Sg	14 56 06.8	+3.7
	1μm,0.4s						

JMA 25 15:00:17.9±0.4,33.58N×141.14E,h2km,M3.6,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	1.08	353	P	Pb	15 00 38.1	-0.9
BSO1				*e*S	Sb	15 00 53.4	+0.1
JHJ2	Mitsune	1.20	248	P	Pb	15 00 41.0	-0.1
JHJ2				S	Sb	15 00 56.0	-0.9
BSO3	Boso 3	1.33	337	P	Pb	15 00 44.0	+0.8
BSO3				*e*S	Sb	15 01 02.1	+1.6
BSO4	Boso 4	1.56	335	P	Pn	15 00 47.7	+1.0
BSO4				*e*S	Sb	15 01 07.4	+0.2
MAT	Matsushiro	3.81	322	P	Pn	15 01 19.6	+0.7
MAT				S	Sn	15 02 04.3	-0.6

NEIC 25 15:06:08.8,51.62N×177.77E,h62km,ML3.9(AEIC),After AEIC.
IDC 25 15:06:09.8±4.2,51.80N×177.71E,h85km±30km,mb3.3/7, mb1 3.4/7,mb1mx3.3/22,mbtmp3.6/7,Error ellipse: s-maj=36.6km s-min=22.8km az=154.0
ISC 25 15:06:07.2±0.9,51.8N±0.2×177.84E±0.07,h81km±8km, n19,σ0°70/23,mb3.5/7,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	Shemya	2.50	294	P	P	15 06 46.9	+0.1
SMY				S	S	15 07 16.6	+0.4
KIMD	Kanaga Island	3.06	88	P	P	15 06 54.5	-0.1
KIMD				S	S	15 07 28.9	-1.2
FX1	Attu Island--F	3.08	293	P	P	15 06 54.1	-0.7
	76nm,0.3s,baz=179,slow=2.8,SNR=346						
FX1				S	S	15 07 30.5	-0.2
	121nm,0.3s,baz=258,slow=22,SNR=21						
FX1	Attu Island--F	3.08	293	P	P	15 06 54.5	-0.3
KIKV	Kanaga Island	3.10	86	P	P	15 06 55.2	+0.1
KIKV				S	S	15 07 31.4	+0.3
KIWB	Kanaga Island	3.11	86	*e*P	P	15 06 55.1	-0.1
KINC	Kanaga Island	3.12	85	P	P	15 06 55.5	+0.1
ADAG	Mount Adagdak	3.45	84	P	P	15 06 59.4	-0.6
GSTD	Great Sitkin T	3.73	83	P	P	15 07 03.8	-0.1
GSMY	Great Sitkin M	3.79	83	P	P	15 07 05.0	+0.4
GSTR	Great Sitkin T	3.79	83	P	P	15 07 05.5	+0.8
ATKA	Atka Island	4.94	82	P	P	15 07 21.0	+0.4
ILAR	Eielson Array	22.29	41	P	P	15 11 00.8	+2.4
	0.2nm,0.4s,mb2.8,baz=243,slow=8.1,SNR=3.9						
SONM	Songino Array	44.59	295	P	P	15 14 13.3	+0.8
	0.5nm,0.4s,mb3.6,baz=59,slow=8.4,SNR=4.5						
ARCES	ARCESS Array B	57.34	349	P	P	15 15 47.6	-0.8
	1.5nm,0.7s,mb4.1,baz=34,slow=7.7,SNR=8.6						
MKAR	Makanchi Array	58.14	306	P	P	15 15 53.8	-0.6
	0.4nm,0.6s,mb3.6,baz=45,slow=6.7,SNR=5.7						
FINES	FINESS Array B	64.92	345	P	P	15 16 38.4	-1.2
	0.3nm,0.4s,mb3.5,baz=10,slow=5.2,SNR=5.0						
NOA	NORSAR Array B	67.04	353	P	P	15 16 53.0	-0.1
	0.4nm,0.6s,mb3.4,baz=8.1,slow=6.3,SNR=2.6						
WRA	Warramunga Arr	80.88	221	P	P	15 18 14.1	+0.3
	0.6nm,1.1s,mb3.4,baz=30,slow=5.7,SNR=4.6						

KRSC 25 15:35:25.7±1.4,55.01N×165.44E,h40km±6km,ML5.2
BJI 25 15:35:26.5,55.04N×164.97E,h20km,mB4.8,mb4.7, Ms4.4,Msz4.2
*MOS 25 15:35:27.9±1.3,55.07N×165.25E,h46km,mb4.7/32,Error ellipse: s-maj=8.4km

SPN Mys Shipunski 3.64 241 P **Pn 15 36 21.7 -0.1**
SPN S **Sn 15 37 01.6 -2.8**
SPN Mys Shipunski 3.64 241 *i* P **Pn 15 36 21.6 -0.2**
SPN *i* S **Sn 15 37 01.9 -2.5**
ESO Esso 3.90 287 *i* P **Pn 15 36 25.7 +0.3**
ESO *e*S **Sn 15 37 09.0 -1.9**
ESO Smax
500nm,1.1s
NLC Nalytchevo 3.96 246 P **Pn 15 36 26.2 0.0**
NLC S **Sn 15 37 09.4 -2.9**
NLC Nalytchevo 3.96 246 *i* P **Pn 15 36 26.0 -0.2**
NLC *i* S **Sn 15 37 09.6 -2.7**
SDLR Sedlovina 4.15 249 *i* P **Pn 15 36 29.6 +0.6**
SDLR *e*S **Sn 15 37 15.5 -1.7**
SMAR Somma 4.20 249 *i* P **Pn 15 36 30.4 +0.7**
SMAR *i* S **Sn 15 37 17.7 -0.8**
UGLR Uglovaya 4.21 248 *i* P **Pn 15 36 30.6 +0.7**
UGLR *e*S **Sn 15 37 18.3 -0.5**
AVH Avacha 4.24 249 *i* P **Pn 15 36 31.1 +0.9**
AVH *e*S **Sn 15 37 18.3 -1.1**
KOK Koryaka 4.28 250 *i* P **Pn 15 36 31.9 +1.1**
KOK *e*S **Sn 15 37 19.7 -0.8**
PET Petropavlovsk 4.39 247 P **Pn 15 36 32.7 +0.3**
PET S **Sn 15 37 20.9 -2.4**
PET Petropavlovsk 4.39 247 *i* P **Pn 15 36 32.7 +0.3**
PET *i* S **Sn 15 37 21.1 -2.2**
PET Petropavlovsk 4.39 247 *e*Pn **Pn 15 36 32.4 0.0**
PET *e*Sn **Sn 15 37 20.9 -2.4**
OSSR Ossora 4.48 345 *i* P **Pn 15 36 29.5 -4.2**
OSSR *e*S **Sn 15 37 19.8 -5.7**
OSSR Smax
770nm,0.5s
GNL Ganaly 4.51 257 *i* P **Pn 15 36 35.1 +1.0**
GNL *e*S **Sn 15 37 25.2 -1.1**
KRMR Karymshinskiy 4.76 246 *i* P **Pn 15 36 38.5 +0.8**
KRMR *e*S **Sn 15 37 30.2 -2.5**
RUS Russkaya 4.78 241 P **Pn 15 36 37.6 -0.3**
RUS S **Sn 15 37 29.4 -3.6**
RUS Russkaya 4.78 241 *e*P **Pn 15 36 37.7 -0.2**
RUS *e*S **Sn 15 37 29.4 -3.6**
GRL Gorelyy 4.94 244 *i* P **Pn 15 36 41.5 +1.4**
GRL *e*S **Sn 15 37 34.8 -2.2**
FX1 Attu Island--F 5.07 111 Pn **Pn 15 36 42.2 +0.2**
10.0nm,0.3s,baz=306,slow=21,SNR=33
FX1 Sn **Sn 15 37 38.6 -1.9**
14nm,0.3s,baz=328,slow=19,SNR=2.6
FX1 Attu Island--F 5.07 111 *e*Pn **Pn 15 36 42.3 +0.2**
FX1 *e*Sn **Sn 15 37 40.0 -0.5**
APC Apacha 5.24 250 *i* P **Pn 15 36 45.6 +1.2**
APC *e*S **Sn 15 37 43.1 -1.6**
APC Smax
250nm,0.8s
MIPR Malaya Ipel'ka 5.77 246 *i* P **Pn 15 36 53.0 +1.2**
PAU Pauzhetka 6.20 239 *i* P **Pn 15 36 57.9 0.0**
PAU *e*S **Sn 15 38 06.4 -2.2**
PAU Smax
250nm,1.0s
SKR Severo-Kuril's 7.04 236 *e*PN **Pn 15 37 05.3 -4.4**
SKR pmax pmax
comp=N,40nm,0.5s
SKR pmax pmax
comp=E,80nm,0.5s
SKR pmax pmax
comp=Z,190nm,0.5s
SKR MLR MLR
comp=N,2µm,18.0s
SKR MLR MLR
comp=E,2µm,18.0s
SKR MLR MLR
comp=Z,600nm,18.0s
ALID Alaid 7.19 239 *e*P **Pn 15 37 11.6 -0.3**
SEY Seymchan 10.40 325 *e*PN **P 15 37 55.1 -1.1**
BILL Bilibino 13.14 2 *e*P **P 15 38 32.9 -0.1**
comp=Z,22nm,0.8s
BILL Bilibino 13.14 2⇓ *i*PN **P 15 38 32.4 -0.6**
BILL pmax pmax
comp=Z,15nm,0.7s
YSS Yuzh-Sakhalins 16.27 250 *e*P **P 15 39 15.1 +1.3**
comp=Z,20nm,0.8s
YSS Yuzh-Sakhalins 16.27 250 *e*P **P 15 39 16.2 +2.4**
YSS pmax pmax
comp=Z,20nm,0.7s
YSS MLR MLR
comp=Z,200nm,19.0s
ASAJ Asahikawa 18.23 243 P **P 15 39 39.2 +0.9**
comp=Z,2.9nm,0.3s,baz=65,slow=10,SNR=23
ASAJ Asahikawa 18.23 243 P **P 15 39 39.2 +0.9**
ASAJ pmax pmax
comp=Z,3.0nm,0.3s
YAK Yakutsk 19.72 305 *e*P **P 15 39 51.6 -4.1**
comp=Z,29nm,0.8s
YAK Yakutsk 19.72 305 *d i*P **P 15 39 53.6 -2.1**
YAK pmax pmax
comp=Z,17nm,0.8s
TTA Tatalina 21.18 52 *e*P **P 15 40 11.2 +0.3**
IMA Indian Mountai 22.57 44 *e*P **P 15 40 25.2 +0.7**
comp=Z,48nm,1.0s,mb4.9
IMA Indian Mountai 22.57 44 *e*P **P 15 40 25.2 +0.7**
IMA pmax pmax
comp=Z,48nm,1.0s,mb4.9
TIXI Tiksi 22.82 331 *e*P **P 15 40 25.6 -1.3**
TIXI *e*S **S 15 44 28.0 -1.8**
TIXI pmax pmax
comp=Z,11nm,1.3s,mb4.1
TIXI MLR MLR
comp=Z,224nm,15.0s,MS3.7
MCK McKinley 24.40 50 *e*P **P 15 40 42.1 -0.3**
comp=Z,21nm,1.2s,mb4.4
MCK McKinley 24.40 50 *e*P **P 15 40 42.1 -0.3**
MCK pmax pmax
comp=Z,21nm,1.2s,mb4.4
PMR Palmer 24.41 56 *e*P **P 15 40 48.0 +5.5**
comp=Z,4.1nm,0.4s,mb4.2
PMR Palmer 24.41 56 *e*P **P 15 40 48.0 +5.5**
PMR pmax pmax
comp=Z,4.0nm,0.4s,mb4.2
MDJ Mudanjiang 25.02 260 P **P 15 40 49.0 +0.4**
MDJ AP pP 15 40 57.5 +0.9
MDJ XP sP 15 41 01.5 +1.2
MDJ PCP PcP 15 44 24.0 0.0
MDJ S **S 15 45 11.0 +2.9**
MDJ SCP 15 48 00.5
MDJ PCS 15 48 04.3
MDJ AMB AMB
comp=Z,16nm,1.1s,mb4.5
MDJ AMB AMB
comp=Z,110nm,5.7s
ILAR Eielson Array 25.29 48 P **P 15 40 50.1 -0.8**
comp=Z,21nm,0.8s,mb4.7,baz=260,slow=8.6,SNR=127
ILAR LR LR 15 51 48.1
comp=Z,224nm,18.4s,MS3.7,baz=29,slow=39
MAJO Matsushiro 26.14 236 *e*P **P 15 41 01.1 +1.9**
comp=Z,28nm,0.7s,mb4.9
MAJO Matsushiro 26.14 236 *e*P **P 15 41 01.1 +1.9**
MAJO pmax pmax
comp=Z,28nm,0.7s,mb4.9
MAT Matsushiro 26.14 236 P **P 15 40 59.8 +0.6**
MAT Matsushiro 26.14 236 *e*P **P 15 41 00.0 +0.8**
comp=Z,16nm,1.0s,mb4.5
MAT Matsushiro 26.14 236 *e*P **P 15 41 00.0 +0.8**
MAT pmax pmax
comp=Z,16nm,1.0s,mb4.5
MJAR Matsushiro Arr 26.14 236 P **P 15 41 01.4 +2.2**
comp=Z,8.4nm,0.8s,mb4.3,baz=32,slow=9.0,SNR=17
MJAR pP pP 15 41 07.6 +0.4
comp=Z,14nm,0.7s,baz=30,slow=9.6,SNR=23
MJAR LR LR 15 52 07.4
comp=Z,199nm,21.1s,MS3.6,baz=45,slow=38
CN2 Changchun 27.88 263 *e*P **P 15 41 14.8 -0.2**
CN2 *e*XP sP 15 41 28.8 +2.1
CN2 *e*S **S 15 45 54.3 -0.8**
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.4
CN2 AMB AMB
comp=Z,140nm,6.0s
CN2 LR LR
comp=N,320nm,13.0s,MS4.2
CN2 LR LR
comp=E,320nm,13.0s,MS4.2
CN2 LR LR
comp=Z,260nm,14.0s,MS4.0
BOD Bodaibo 28.00 297 *e*P **P 15 41 13.5 -2.4**
BOD pmax pmax
comp=Z,5.0nm,1.2s,mb4.0

DAWY Dawson 28.58 49 *e*P **P 15 41 20.0 -1.1**
INK Inuvik 30.48 40 P **P 15 41 37.3 -0.7**
comp=Z,11nm,0.7s,mb4.7,baz=276,slow=6.0,SNR=27
INK Inuvik 30.48 40 *e*P **P 15 41 37.4 -0.5**
comp=Z,10nm,0.8s,mb4.6
INK Inuvik 30.48 40 *e*P **P 15 41 37.4 -0.5**
INK pmax pmax
comp=Z,10.0nm,0.8s
DLBC Dease Lake 34.44 57 *e*P **P 15 42 13.8 +1.2**
ULN Ulaanbaatar 36.09 283 *e*P **P 15 42 27.7 +1.0**
comp=Z,6.0nm,0.9s,mb4.5
ULN Ulaanbaatar 36.09 283 *d i*P **P 15 42 28.0 +1.3**
SONM Songino Array 36.47 284 P **P 15 42 31.2 +1.2**
comp=Z,5.0nm,0.8s,mb4.5,baz=57,slow=8.3,SNR=19
SONM LR LR 15 57 50.1
comp=Z,71nm,19.2s,MS3.5,baz=254,slow=37
ZAK Zakamensk 36.81 289 *e*P **P 15 42 34.4 +1.6**
ZAK *e* 15 43 53.8
ZAK pmax pmax
comp=Z,2.0nm,1.2s,mb3.8
ZAK pmax pmax
comp=Z,1.0nm,1.0s,mb3.6
ZAK pmax pmax
comp=Z,1.0nm,1.0s,mb3.6
HHC Hu-ho-hao-te 37.73 271 *e*P **P 15 42 41.0 +0.4**
HHC AP pP 15 42 49.0 +0.1
HHC XP sP 15 42 53.8 +1.4
HHC PP PP 15 44 10.3 +0.4
HHC *e*S **S 15 48 27.8 -1.1**
HHC XS 15 48 42.8
HHC SS SS 15 50 59.0 -5.3
HHC SCS ScS 15 52 50.8 +1.5
HHC AMB AMB
comp=Z,14nm,0.6s,mb4.9
HHC AMB AMB
comp=Z,95nm,6.5s
HHC LR LR
comp=N,208nm,20.2s,MS4.1
HHC LR LR
comp=E,170nm,17.3s,MS4.1
HHC LR LR
comp=Z,253nm,13.7s,MS4.2
SSE Sheshan 39.21 251 P **P 15 42 53.0 -0.1**
SSE AMB AMB
comp=Z,33nm,0.6s,mb5.2
SSE AMB AMB
comp=Z,67nm,4.1s
SSE Sheshan 39.21 251 P **P 15 42 52.9 -0.2**
comp=Z,33nm,0.6s,mb5.2
YKA Yellowknife Ar 39.67 46 P **P 15 42 56.7 +0.2**
comp=Z,7.3nm,0.7s,mb4.5,baz=299,slow=7.9,SNR=7.7
YKA LR LR 16 00 39.8
comp=Z,118nm,19.2s,MS3.7,baz=280,slow=38
YKA Yellowknife Ar 39.67 46 P **P 15 42 56.7 +0.1**
YKA LR LR 16 00 39.8
NJ2 Nanjing 39.76 254 *e*P **P 15 42 59.0 +1.3**
NJ2 AP pP 15 43 08.5 +2.5
NJ2 XP sP 15 43 12.3 +2.9
NJ2 PP PP 15 44 35.0 +2.1
NJ2 S **S 15 49 01.0 +1.4**
NJ2 LR LR
comp=N,360nm,34.0s,MS4.1
NJ2 LR LR
comp=E,230nm,30.0s,MS4.1
NJ2 LR LR
comp=Z,360nm,28.0s,MS4.1
NVS Novosibirsk 44.58 305⇑ *i*P **P 15 43 35.0 -1.7**
NVS pmax pmax
comp=Z,17nm,1.6s,mb4.6
NVS pmax pmax
comp=E,12nm,1.5s
EDM Edmonton 45.16 57 *e*P **P 15 43 41.5 +0.2**
LZH Lanzhou 45.41 272 *e*P **P 15 43 44.3 +0.8**
LZH AP pP 15 43 56.5 +4.7
LZH XP sP 15 44 01.0 +5.8
LZH AMB AMB
comp=Z,50nm,1.3s,mb5.2
LZH LR LR
comp=E,380nm,11.2s
LZH LR LR
comp=Z,520nm,14.0s,MS4.6
LZH Lanzhou 45.41 272 *e*P **P 15 43 44.3 +0.8**
comp=Z,50nm,1.3s,mb5.2
LZH pP pP 15 43 56.4 +4.6
LZH sP sP 15 44 00.9 +5.7
LZH LR LR
comp=Z,520nm,14.0s,MS4.6
LZH Lanzhou 45.41 272 *e*P **P 15 43 44.3 +0.8**
LZH *PP pP 15 43 56.4 +4.6
LZH *SP sP 15 44 00.9 +5.7
LZH pmax pmax
comp=Z,50nm,1.3s,mb5.2
LZH MLR MLR
comp=Z,520nm,14.0s,MS4.6
GTA Gaotai 45.44 278 P **P 15 43 45.0 +1.3**
GTA AP pP 15 43 57.0 +5.0
GTA PCP PcP 15 45 21.5 -1.5
GTA PP PP 15 45 33.8 +3.2
GTA PPP PPP 15 46 18.3 +5.6
GTA SCP 15 49 16.5
GTA S **S 15 50 25.0 +2.4**
GTA SCS ScS 15 53 35.5 -0.2
GTA AMB AMB
comp=Z,8.0nm,1.2s,mb4.4
GTA AMB AMB
comp=Z,63nm,10.7s
GTA LR LR
comp=N,169nm,19.8s,MS4.1
GTA LR LR
comp=E,176nm,20.9s,MS4.1
GTA LR LR
comp=Z,149nm,19.4s,MS3.9
WALA Waterton Lakes 47.45 62 *e*P **P 15 43 59.4 -0.1**
comp=Z,31nm,1.4s,mb5.0
YBH Yreka Blue Hor 47.51 75 P **P 15 44 00.8 +0.7**
comp=Z,1.0nm,0.4s,mb4.2,baz=37,slow=2.5,SNR=4.2
BMO Blue Mountains 48.40 68 *e*P **P 15 44 06.9 0.0**
comp=Z,4.1nm,1.3s,mb4.3
MOD Modoc 48.73 73 *e*P **P 15 44 09.8 +0.3**
comp=Z,3.7nm,0.7s,mb4.5
CHMT Chamberlain Mo 49.17 64 P **P 15 44 11.3 -1.5**
WMQ Urumqi 49.23 291 P **P 15 44 15.0 +1.7**
WMQ AP pP 15 44 25.0 +3.2
WMQ XP sP 15 44 29.0 +3.9
WMQ PP PP 15 46 09.0 +1.6
WMQ S **S 15 51 17.0 +0.8**
WMQ SCS ScS 15 54 01.0 +0.7
WMQ SS SS 15 54 45.0 +1.5
WMQ AMB AMB
comp=Z,18nm,1.0s,mb5.1
WMQ AMB AMB
comp=Z,21nm,6.0s
WMQ LR LR
comp=N,159nm,16.0s,MS4.3
WMQ LR LR
comp=E,178nm,16.0s,MS4.3
WMQ LR LR
comp=Z,102nm,16.0s,MS3.9
KURK Kurchatov 49.34 303 *e*P **P 15 44 13.5 -0.6**
comp=Z,25nm,1.0s,mb5.2
KURK Kurchatov 49.34 303 *e*P **P 15 44 13.5 -0.5**
KURK pmax pmax
comp=Z,25nm,1.0s,mb5.2
MKAR Makanchi Array 50.09 297 P **P 15 44 19.4 -0.5**
comp=Z,1.5nm,0.6s,mb4.2,baz=54,slow=6.1,SNR=9.4
MKAR LR LR 16 06 10.1
comp=Z,108nm,18.3s,MS3.9,baz=1.8,slow=37
MKAR Makanchi Array 50.09 297 *i* P **P 15 44 19.3 -0.6**
MKAR pmax pmax
comp=Z,3.0nm,0.7s
MCMT McKenzie Canyo 50.78 65 *e*P **P 15 44 24.3 -0.9**
BOZ Bozeman (W) 50.86 64 *e*P **P 15 44 26.0 +0.3**
comp=Z,4.1nm,1.1s,mb4.3
BOZ Bozeman (W) 50.86 64 *e*P **P 15 44 26.0 +0.3**
BOZ pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
GYA Guiyang 50.89 261⇑ *i*P **P 15 44 27.0 +0.8**
GYA AP pP 15 44 36.8 +2.1
GYA XP sP 15 44 40.8 +2.9
GYA PP PP 15 46 23.5 +0.1
GYA S **S 15 51 38.3 -1.1**
GYA AMB AMB
comp=Z,10.0nm,0.1s,mb5.7
GYA LR LR
comp=N,210nm,17.9s,MS4.4

GYA LR LR
comp=E,240nm,18.6s,MS4.4
GYA LR LR
comp=Z,260nm,18.8s,MS4.3
QLMT Earthquake Lak 51.52 65 *e*P **P 15 44 30.8 0.0**
VOSK Vostochnaya 51.55 309 P **P 15 44 30.5 -0.4**
VOSK pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
BVA0 Borovoye Array 51.61 310 *i* P **P 15 44 31.8 +0.5**
BVA0 pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
BRVK Borovoye 51.63 310 *e*P **P 15 44 31.8 +0.3**
comp=Z,8.9nm,0.8s,mb4.8
BRVK Borovoye 51.63 310 *e*P **P 15 44 31.8 +0.3**
BRVK pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
SUMG Summit 51.69 9 *e*P **P 15 44 30.6 -1.1**
comp=Z,16nm,1.0s,mb4.9
NVAR Mina Array Bea 52.23 75 P **P 15 44 37.4 +1.1**
comp=Z,1.7nm,0.7s,mb4.1,baz=312,slow=6.9,SNR=12
FLWY Flagg Ranch 52.41 65 *e*P **P 15 44 38.2 +0.7**
IMW Indian Meadow 52.41 65 *e*P **P 15 44 38.2 +0.7**
comp=Z,7.7nm,1.0s,mb4.6
ARCES ARCESS Array B 52.43 343 P **P 15 44 35.3 -2.0**
comp=Z,2.6nm,0.8s,mb4.2,baz=18,slow=7.7,SNR=6.7
ARCES LR LR 16 11 18.6
comp=Z,76nm,18.0s,MS3.8,baz=55,slow=41
ARCES ARCESS Array B 52.43 343 P **P 15 44 35.3 -2.0**
ARCES LR LR 16 11 18.6
LOHW Long Hollow 52.78 65 *e*P **P 15 44 40.4 +0.1**
comp=Z,2.6nm,0.8s,mb4.2
TPH Tonopah 53.09 74 P **P 15 44 42.6 0.0**
PDAR Pinedale Array 53.92 65 P **P 15 44 49.2 +0.6**
comp=Z,2.7nm,0.9s,mb4.2,baz=333,slow=3.3,SNR=18
ARU Arti 54.07 319⇓ *i*P **P 15 44 49.1 -0.4**
ARU *e* 15 46 45.8
ARU *e*PPP PPP 15 48 01.0 -1.6
ARU *e*S **S 15 52 23.0 +0.6**
ARU *e*SS SS 15 56 05.2 +1.6
ARU pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
ISA Isabella 54.11 77 P **P 15 44 48.1 -2.0**
KMI Kunming 54.16 263 ⇓P **P 15 44 52.0 +1.4**
KMI AP pP 15 45 03.8 +4.7
KMI PCP PcP 15 45 57.0 +2.1
KMI PP PP 15 46 53.3 -0.5
KMI PPP PPP 15 48 08.0 +3.9
KMI S **S 15 52 24.8 +0.8**
KMI SS SS 15 56 08.0 +2.6
KMI AMB AMB
comp=Z,9.0nm,1.5s,mb4.5
KMI AMB AMB
comp=Z,96nm,5.6s
KMI LR LR
comp=N,160nm,15.7s,MS4.3
KMI LR LR
comp=E,167nm,18.3s,MS4.3
KMI LR LR
comp=Z,121nm,17.6s,MS4.0
KMI Kunming 54.16 263 ⇓P **P 15 44 52.1 +1.5**
comp=Z,9.0nm,1.5s,mb4.5
KMI pP pP 15 45 03.7 +4.6
KMI sP sP 15 45 08.9 +6.6
KMI PcP PcP 15 45 56.9 +2.0
KMI PP PP 15 46 53.3 -0.5
KMI PPP PPP 15 48 08.0 +3.9
KMI S **S 15 52 24.8 +0.8**
KMI sS 15 52 44.4
KMI SS SS 15 56 08.1 +2.7
KMI LR LR
comp=Z,120nm,17.6s,MS4.0
KMI Kunming 54.16 263 ⇓P **P 15 44 52.1 +1.5**
KMI *PP pP 15 45 03.7 +4.6
KMI *SP sP 15 45 08.9 +6.6
KMI 15 45 56.9
KMI 15 46 53.3
KMI PPP PPP 15 48 08.0 +3.9
KMI S **S 15 52 24.8 +0.8**
KMI *SS 15 52 44.4
KMI SS SS 15 56 08.1 +2.7
KMI pmax pmax
comp=Z,9.0nm,1.5s,mb4.5
KMI MLR MLR
comp=Z,120nm,17.6s,MS4.0
ULM Lac du Bonnet 55.27 51 P **P 15 44 58.5 0.0**
comp=Z,7.7nm,0.9s,mb4.8,baz=312,slow=7.0,SNR=9.1
ULM LR LR 16 10 12.0
comp=Z,115nm,18.9s,MS4.0,baz=288,slow=38
TMUT Trail Mountain 55.51 69 *e*P **P 15 45 01.5 +1.2**
MSU Marysvale 55.55 71 *e*P **P 15 45 01.6 +0.9**
RSSD Black Hills 55.80 61 *e*P **P 15 45 01.7 -0.6**
comp=Z,10nm,1.4s,mb4.7
RSSD *e* 15 45 18.4
RSSD Black Hills 55.80 61 *e*P **P 15 45 01.7 -0.6**
RSSD *e* 15 45 18.4
RSSD pmax pmax
comp=Z,10.0nm,1.4s,mb4.7
SRU San Rafael 56.01 69 *e*P **P 15 45 04.3 +0.3**
SRU *e* 15 45 21.7
NEN Nelson 56.15 75 *e*P **P 15 45 05.6 +0.6**
LDFC Landfair 56.42 76 *e*P **P 15 45 06.0 -1.0**
FRU Bishkek 56.77 298 P **P 15 45 08.0 -1.3**
AAK Ala-Archa 56.97 298 *e*P **P 15 45 09.9 -0.9**
comp=Z,10nm,1.1s,mb4.8
AAK Ala-Archa 56.97 298⇓ *i*P **P 15 45 09.8 -1.0**
AAK pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
AAK MLR MLR
comp=Z,100nm,18.0s,MS4.0
JOF Joensuu 57.12 337 *e*p **P 15 45 08.5 -3.1**
comp=Z,3.6nm,0.7s,mb4.5
LSA Lhasa 57.35 276 P **P 15 45 14.8 +1.1**
ISCO Idaho Springs 58.12 65 *e*P **P 15 45 19.4 +0.6**
comp=Z,9.7nm,1.1s,mb4.8
ISCO Idaho Springs 58.12 65 *e*P **P 15 45 19.4 +0.5**
ISCO pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
KKAR Karatay Array 58.62 301 *i* P **P 15 45 21.8 -0.5**
KKAR pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
AKTO Aktyubinsk 58.79 314 P **P 15 45 22.7 -0.7**
AKTO pmax pmax
comp=Z,18nm,2.5s,mb4.7
AB31 Akbulak array 58.88 312 *i* P **P 15 45 23.2 -0.8**
AB31 pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
KAF Kangasniemi 58.92 339 *e*p **P 15 45 22.6 -1.6**
comp=Z,2.6nm,0.7s,mb4.4,baz=24,slow=6.4
KAF Kangasniemi 58.92 339 *e*P **P 15 45 22.6 -1.6**
KAF pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
FINES FINESS Array B 59.57 339 P **P 15 45 27.1 -1.6**
comp=Z,3.2nm,0.7s,mb4.5,baz=18,slow=6.0,SNR=13
FINES LR LR 16 13 14.8
comp=Z,45nm,18.3s,MS3.6,baz=356,slow=38
ANMO Albuquerque 61.27 69 *e*P **P 15 45 40.7 +0.1**
comp=Z,1.7nm,0.7s,mb4.3
ANMO Albuquerque 61.27 69 *e*P **P 15 45 40.1 -0.5**
SCHQ Schefferville 62.51 31 *e*P **P 15 45 47.1 -1.5**
comp=Z,14nm,1.2s,mb5.0
OBN Obninsk 62.54 330 *e*P **P 15 45 48.6 -0.2**
OBN *e* 15 46 05.9
OBN pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
OBN MLR MLR
comp=Z,100nm,16.0s,MS4.1
NB2 NORSAR Subarra 62.55 346 P **P 15 45 47.3 -1.5**
comp=Z,2.2nm,0.7s,mb4.4,baz=18,slow=7.0
NB2 NORSAR Subarra 62.55 346 P **P 15 45 47.3 -1.5**
NB2 pmax pmax
comp=Z,2.0nm,0.7s,mb4.4
NOA NORSAR Array B 62.55 346 P **P 15 45 47.4 -1.4**
comp=Z,3.1nm,0.7s,mb4.5,baz=17,slow=6.9,SNR=11
HNR Honiara 64.31 186 LR LR 16 12 08.6
comp=Z,139nm,19.2s,MS4.2,baz=310,slow=34
MNTX Cornudas Mount 64.32 71 *e*P **P 15 46 01.1 +0.2**
comp=Z,14nm,1.4s,mb4.8
MNTX *e* 15 46 18.5
TXAR Lajitas Array 67.09 71 P **P 15 46 19.1 +0.5**
comp=Z,2.0nm,0.6s,mb4.3,baz=302,slow=4.5,SNR=12
TXAR LR LR 16 15 02.6
comp=Z,47nm,19.6s,MS3.7,baz=60,slow=35
AKASG Malin Array Be 68.52 332 P **P 15 46 26.4 -0.8**
comp=Z,1.8nm,0.6s,mb4.2,baz=28,slow=6.4,SNR=9.5
AKASG Malin Array Be 68.52 332 P **P 15 46 26.4 -0.8**

KIV	**Kislovodsk**	**70.10 320**	*e*P	**P**	**15 46 31.5**	**-5.5**
LVV	**L'vov**	**70.68 335**	*e*P	**P**	**15 46 23.8**	**-17**
KWP	**Kalwaria**	**71.18 335**	*e*P	**P**	**15 46 44.4**	**+0.9**
KWP	**Kalwaria**	**71.18 335**	*e*P	**P**	**15 46 44.4**	**+1.0**
OJC	**Ojcow**	**71.30 337**	*e*P	**P**	**15 46 44.8**	**+0.6**
CLL	**Collm**	**71.62 342**	P	**P**	**15 46 46.2**	**+0.1**
	comp=Z,logA/T=0.9,mb4.6					
CLL	**Collm**	**71.62 342**	*i* P	**P**	**15 46 46.2**	**+0.1**
	comp=Z,7.0nm,0.8s,mb4.6					
CLL	**Collm**	**71.62 342**	*i* P	**P**	**15 46 46.2**	**+0.1**
CLL			pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6					
BRG	**Berggiesshubel**	**71.87 341**	P	**P**	**15 46 47.7**	**+0.2**
	comp=Z,3.6nm,0.8s,mb4.3					
BRG	**Berggiesshubel**	**71.87 341**	P	**P**	**15 46 47.7**	**+0.2**
BRG			pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4					
MORC	**Moravsky Berou**	**72.21 339**	*e*P	**P**	**15 46 50.1**	**+0.5**
	comp=Z,3.0nm,0.8s,mb4.3					
MORC	**Moravsky Berou**	**72.21 339**	*e*P	**P**	**15 46 50.1**	**+0.5**
MORC			pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3					
GNI	**Garni**	**72.56 316**	*i* P	**P**	**15 46 52.3**	**+0.5**
GRA1	**Grafenberg Arr**	**73.49 343**	*e*P	**P**	**15 46 58.2**	**+1.2**
	comp=Z,6.0nm,0.9s,mb4.5					
GRF	**Grafenberg Arr**	**73.49 343**	*e*P	**P**	**15 46 58.2**	**+1.2**
GRF			pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5					
KHC	**Kasperske Hory**	**73.61 341**	*e*P	**P**	**15 46 59.3**	**+1.6**
GERES	**GERESS Array B**	**73.86 341**	P	**P**	**15 46 59.8**	**+0.7**
	comp=Z,1.8nm,0.7s,mb4.1,baz=34,slow=4.8,SNR=13					
GIVF	**Givet**	**74.05 347**	*e*P	**P**	**15 46 56.7**	**-3.5**
BRTR	**Keskin Array B**	**77.05 324**	P	**P**	**15 47 18.6**	**+1.1**
	comp=Z,2.1nm,0.8s,mb4.1,baz=46,slow=3.5,SNR=8.7					
SSF	**Saint Saulge**	**77.20 347**	*e*P	**P**	**15 47 13.9**	**-4.3**
LPL	**La Plagne**	**78.27 345**	*e*P	**P**	**15 47 21.0**	**-3.1**
	comp=Z,11nm,1.0s,mb4.5					
LPL	**La Plagne**	**78.27 345**	*e*P	**P**	**15 47 21.0**	**-3.1**
LPL			pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5					
LPG	**La Plagne**	**78.28 345**	*e*P	**P**	**15 47 21.4**	**-2.7**
	comp=Z,27nm,1.3s,mb4.7					
LPG	**La Plagne**	**78.28 345**	*e*P	**P**	**15 47 21.4**	**-2.7**
LPG			pmax	pmax		
	comp=Z,14nm,1.3s,mb4.7					
ORIF	**Oris-en-Rattie**	**78.98 345**	*e*P	**P**	**15 47 24.8**	**-3.2**
	comp=Z,11nm,0.9s,mb4.5					
ORIF	**Oris-en-Rattie**	**78.98 345**	*e*P	**P**	**15 47 24.8**	**-3.2**
ORIF			pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5					
MBDF	**Montbardon**	**79.03 345**	*e*P	**P**	**15 47 24.9**	**-3.4**
	comp=Z,4.4nm,0.7s,mb4.2					
MBDF	**Montbardon**	**79.03 345**	*e*P	**P**	**15 47 24.9**	**-3.4**
MBDF			pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2					
WRAB	**Tennant Creek**	**79.14 210**	*e*P	**P**	**15 47 28.9**	**-0.4**
WRA	**Warramunga Arr**	**79.15 210**	P	**P**	**15 47 30.7**	**+1.3**
	comp=Z,1.5nm,0.9s,mb3.9,baz=22,slow=6.2,SNR=2.7					
ESDC	**Sonseca Array**	**85.30 352**	P	**P**	**15 48 02.5**	**+1.8**
	comp=Z,5.2nm,0.8s,mb4.7,baz=5.0,slow=5.0,SNR=13					
QSPA	**South Pole Qui**	**144.71 180**	*e*P	PKPbc	15 54 59.3	+1.5

IDC 25 15:38:43.5±1.8, 2.44S×140.52E, mb3.9/3, mb1 4.1/4, mb1mx3.8/11, mbtmp3.9/4, ML3.9/1, MS3.1/3, Ms1 3.1/3, ms1mx3.0/18, Error ellipse: s-maj=66.6km s-min=27.1km az=110.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**16.50**	**15**	LR	LR	15 47 31.0	
	comp=Z,52nm,21.0s,baz=256,slow=32						
WRA	**Warramunga Arr**	**18.42**	**199**	P	P	15 43 01.8	-0.4
	0.4nm,0.3s,baz=19,slow=12,SNR=27						
FITZ	**Fitzroy Crossi**	**21.34**	**222**	P	P	15 43 31.0	-3.6
	7.0nm,1.1s,baz=29,slow=10,SNR=3.7						
FITZ				LR	LR	15 53 00.3	
	comp=Z,166nm,20.2s,baz=167,slow=40						
FX1	**Attu Island--F**	**61.56**	**22**	LR	LR	16 13 15.9	
	comp=Z,6.2nm,19.3s,baz=86,slow=34						
MKAR	**Makanchi Array**	**70.68**	**322**	P	P	15 50 01.9	-1.3
	1.7nm,0.9s,baz=129,slow=7.8,SNR=10.0						
ILAR	**Eielson Array**	**84.84**	**24**	P	P	15 51 19.3	-1.7
	0.2nm,0.5s,baz=270,slow=5.4,SNR=3.3						

ISC 25 15:40:18.8±0.9, 41.71N±0.07×33.63E±0.07, h10km, n6, σ0$95/11, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALT	**Daday**	**0.26**	**226**	*i* P	**Pg**	**15 40 23.0**	**-1.2**
BALT				*i* S	**Sg**	**15 40 28.5**	**+0.7**
BZK	**Bozkurt**	**0.37**	**48**	*i* PG	**Pg**	**15 40 25.9**	**-0.6**
BZK				*i* SG	**Sg**	**15 40 32.5**	**+0.9**
TOS	**Tosya**	**0.74**	**156**	PG	**Pg**	**15 40 33.2**	**-0.4**
BOYT	**Boyabat**	**1.00**	**107**	*i* P	**Pb**	**15 40 36.2**	**-1.6**
BOYT				*i* S	**Sb**	**15 40 51.2**	**+0.5**
CTKT	**Corum**	**1.40**	**141**	*i* P	**Pn**	**15 40 45.0**	**+0.5**
CTKT				*i* S	**Sb**	**15 41 06.4**	**+4.1**
SGKT	**Sivrigoynuk**	**1.65**	**227**	*i* P	**Pn**	**15 40 48.8**	**+0.8**
SGKT				*i* S	**Sn**	**15 41 18.4**	**+9.1**

KRSC 25 15:44:39.8±1.5, 55.01N×165.39E, h36km±7km, ML3.9, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.39**	**60**	*i* P	P	15 44 48.1	-0.8
BKI				*i* S	S	15 44 54.0	-1.2
BKI				Smax			
	2μm,0.3s						
KBTR	**Krutoberegovo**	**1.89**	**311**	*e*P	P	15 45 08.5	-1.7
KBTR				*e*S	S	15 45 30.2	-2.8
MKZ	**Mys Kozlova**	**2.17**	**259**	*i* P	P	15 45 14.5	+0.3
MKZ				*e*S	S	15 45 38.9	-1.2
ZLN	**Zelenaya**	**2.80**	**293**	*e*S	S	15 45 54.0	-2.1
CIRR	**Tsirk**	**2.86**	**295**	*e*S	S	15 45 57.4	-0.3
LGNR	**Loginova**	**2.88**	**294**	*e*S	S	15 45 55.3	-2.9
KLY	**Klyuchi**	**2.98**	**298**	*e*P	P	15 45 24.5	-1.4
KLY				*e*S	S	15 45 57.4	-3.5
KRSR	**Krestovskiy**	**2.99**	**296**	*e*P	P	15 45 24.8	-1.2
KRSR				*e*S	S	15 45 58.8	-2.2
KMNR	**Kamenistaya**	**3.03**	**286**	*e*P	P	15 45 27.7	+1.1
KMNR				*e*S	S	15 46 02.2	+0.1
KPT	**Kopyto**	**3.09**	**290**	*e*P	P	15 45 27.7	+0.3
KPT				*e*S	S	15 46 04.5	+0.9
KOZ	**Kozyrevsk**	**3.31**	**291**	*e*P	P	15 45 31.9	+1.5
KOZ				*e*S	S	15 46 08.0	-1.0
SRDR	**Sredinnyy**	**3.47**	**294**	*e*P	P	15 45 33.6	+0.8
SRDR				*e*S	S	15 46 11.1	-2.1
SPN	**Mys Shipunski**	**3.70**	**241**	*e*P	P	15 45 35.3	-0.7
SPN				*e*S	S	15 46 15.6	-3.4
ESO	**Esso**	**3.92**	**286**	*e*P	P	15 45 40.5	+1.4
ESO				*e*S	S	15 46 23.2	-1.3
ESO				Smax			
	20nm,1.0s						
NLC	**Nalytchevo**	**4.01**	**245**	*e*P	P	15 45 39.8	-0.6
NLC				*e*S	S	15 46 24.2	-2.6
SDLR	**Sedlovina**	**4.20**	**248**	*e*P	P	15 45 43.5	+0.4
SDLR				*i* S	S	15 46 30.7	-1.0
SMAR	**Somma**	**4.25**	**248**	*e*P	P	15 45 44.3	+0.4
SMAR				*e*S	S	15 46 31.2	-1.8
UGLR	**Uglovaya**	**4.26**	**248**	*e*P	P	15 45 44.2	+0.2
UGLR				*e*S	S	15 46 31.8	-1.5
AVH	**Avacha**	**4.29**	**249**	*e*P	P	15 45 45.1	+0.8
AVH				*e*S	S	15 46 32.2	-1.6
KOK	**Koryaka**	**4.33**	**249**	*e*P	P	15 45 45.7	+0.8
KOK				*e*S	S	15 46 33.1	-1.8
PET	**Petropavlovsk**	**4.44**	**246**	*e*P	P	15 45 46.7	+0.1
PET				*e*S	S	15 46 34.7	-3.1
GNL	**Ganaly**	**4.55**	**256**	*e*P	P	15 45 49.1	+1.0
GNL				*e*S	S	15 46 40.9	+0.4
KRMR	**Karymshinskiy**	**4.81**	**246**	*e*P	P	15 45 50.2	-1.6
KRMR				*e*S	S	15 46 44.7	-2.5
RUS	**Russkaya**	**4.83**	**241**	*e*P	P	15 45 51.8	-0.3
RUS				*e*S	S	15 46 44.3	-3.3
GRL	**Gorelyy**	**4.99**	**243**	*e*P	P	15 45 55.0	+0.7
GRL				*e*S	S	15 46 50.2	-1.3
APC	**Apacha**	**5.29**	**250**	*e*P	P	15 45 59.0	+0.5
APC				*e*S	S	15 46 57.4	-1.7
MIPR	**Malaya Ipel'ka**	**5.82**	**245**	*e*P	P	15 46 06.4	+0.5

KRSC 25 15:55:21.8±1.0, 55.00N×165.38E, h36km±8km, ML3.8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.40**	**59**	*i* P	P	15 55 29.4	-1.6
BKI				*i* S	S	15 55 35.2	-2.2
BKI				Smax			
	2μm,0.2s						
KBTR	**Krutoberegovo**	**1.89**	**311**	*e*P	P	15 55 50.0	-2.2
KBTR				*e*S	S	15 56 11.6	-3.5
MKZ	**Mys Kozlova**	**2.16**	**260**	*i* P	P	15 55 56.0	-0.1
MKZ				*e*S	S	15 56 21.2	-0.7
ZLN	**Zelenaya**	**2.79**	**293**	*e*S	S	15 56 37.0	-1.0
LGNR	**Loginova**	**2.88**	**294**	*e*S	S	15 56 40.7	+0.6
KLY	**Klyuchi**	**2.98**	**298**	*e*P	P	15 56 07.0	-0.9
KLY				*e*S	S	15 56 39.6	-3.2
KRSR	**Krestovskiy**	**2.99**	**296**	*e*P	P	15 56 08.5	+0.5
KRSR				*e*S	S	15 56 43.2	+0.2
KMNR	**Kamenistaya**	**3.03**	**287**	*e*P	P	15 56 09.6	+1.1
KMNR				*e*S	S	15 56 43.4	-0.6
KPT	**Kopyto**	**3.09**	**290**	*e*P	P	15 56 10.1	+0.7
KPT				*e*S	S	15 56 44.5	-1.1
KOZ	**Kozyrevsk**	**3.31**	**291**	*e*P	P	15 56 11.6	-0.8
KOZ				*e*S	S	15 56 49.1	-1.9
SRDR	**Sredinnyy**	**3.47**	**295**	*e*P	P	15 56 15.9	+1.2
SRDR				*e*S	S	15 56 56.6	+1.4
KII	**Karymskiy**	**3.59**	**257**	*e*P	P	15 56 16.9	+0.5
KII				*e*S	S	15 56 55.8	-2.4
SPN	**Mys Shipunski**	**3.69**	**241**	*e*P	P	15 56 17.2	-0.6
SPN				*i* S	S	15 56 57.2	-3.5
ESO	**Esso**	**3.91**	**286**	*e*P	P	15 56 21.4	+0.3
ESO				*e*S	S	15 57 05.0	-1.4
NLC	**Nalytchevo**	**4.00**	**245**	*i* P	P	15 56 21.8	-0.4
NLC				*i* S	S	15 57 05.8	-2.8
SDLR	**Sedlovina**	**4.19**	**248**	*e*P	P	15 56 25.0	0.0
SDLR				*e*S	S	15 57 12.3	-1.2
SMAR	**Somma**	**4.24**	**248**	*i* P	P	15 56 26.2	+0.5
SMAR				*e*S	S	15 57 13.1	-1.6
UGLR	**Uglovaya**	**4.26**	**248**	*e*P	P	15 56 26.1	+0.2
UGLR				*i* S	S	15 57 13.3	-1.8
AVH	**Avacha**	**4.28**	**249**	*e*P	P	15 56 26.6	+0.4
AVH				*e*S	S	15 57 14.8	-0.8
KOK	**Koryaka**	**4.32**	**249**	*e*P	P	15 56 27.7	+0.9
KOK				*e*S	S	15 57 16.4	-0.3
PET	**Petropavlovsk**	**4.43**	**246**	*e*P	P	15 56 28.7	+0.2
PET				*e*S	S	15 57 17.0	-2.6
GNL	**Ganaly**	**4.54**	**256**	*i* P	P	15 56 30.8	+0.8
GNL				*e*S	S	15 57 19.3	-3.0
KRMR	**Karymshinskiy**	**4.80**	**246**	*e*S	S	15 57 24.6	-4.3
RUS	**Russkaya**	**4.82**	**241**	*i* P	P	15 56 33.4	-0.5
RUS				*e*S	S	15 57 25.9	-3.4
GRL	**Gorelyy**	**4.98**	**243**	*e*P	P	15 56 36.7	+0.5
APC	**Apacha**	**5.28**	**250**	P	P	15 56 41.1	+0.7
MIPR	**Malaya Ipel'ka**	**5.81**	**246**	*e*P	P	15 56 47.1	-0.7
ALID	**Alaid**	**7.24**	**239**	*e*P	P	15 57 07.6	-0.2

NIED ***25*** *15:57:00, 38.50N×143.30E, h11km, Mw4.5 Best double couple: M0:5.59×10^15 NP1:φs=258°, δ83°, λ-150°. NP2: φs=164°, δ60°, λ-8°.*
BJI ***25*** *15:57:37.8, 38.60N×143.07E, h11km, mB5.1, mb5.0, Ms4.5, Msz4.3*
JMA ***25*** *15:57:37.6±0.1, 38.48N×143.35E, h15km, M4.9*
JMA Felt I J1.
IDC ***25*** *15:57:40.5±0.6, 38.45N×143.22E, h20km±3km, mb4.3/17, mb1 4.5/21, mb1mx4.4/26, mbtmp4.5/21, ML4.6/1, MS3.8/9, Ms1 3.8/9, ms1mx3.5/29, Error ellipse: s-maj=16.1km s-min=13.4km az=104.0*
NEIC ***25*** *15:57:41.0±0.2, 38.48N×143.18E, mb5.1/50, MS4.3/3, MW4.4(NIED), Error ellipse: s-maj=6.3km s-min=3.8km az=140.0*
MOS ***25*** *15:57:42.7±0.8, 38.73N×142.97E, h33km, mb5.2/51, MS4.1/11, Error ellipse: s-maj=9.1km s-min=5.2km az=112.3*

ISC 25 15:57:39.4±0.2, 38.44N±0.03×143.24E±0.03, h23km, h23km±1.0km: pP-P, n255, σ1$07/267, mb4.9/86, MS4.1/26, 8C-5D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.38**	**298**	P	**Pn**	**15 58 03.4**	**-0.2**
OFUJ				S	**Sn**	**15 58 22.5**	**+1.3**
JIO	**Ouri**	**1.48**	**271**	P	**Pn**	**15 58 04.9**	**-0.1**
JIO				S	**Sn**	**15 58 24.9**	**+1.1**
MIYJ	**Miyakonagasawa**	**1.58**	**316**	P	**Pn**	**15 58 05.7**	**-0.7**
MIYJ				S	**Sn**	**15 58 27.0**	**+0.7**
JMK	**Ichinoseki**	**1.66**	**288**	P	**Pn**	**15 58 07.7**	**+0.2**
JOM	**Ohasama**	**1.83**	**305**	P	**Pn**	**15 58 10.0**	**0.0**
JOM				S	**Sn**	**15 58 35.0**	**+2.3**
JMM	**Marumori**	**2.01**	**254**	P	**Pn**	**15 58 12.7**	**+0.1**
JMM				S	**Sn**	**15 58 38.3**	**+1.0**
JOU	**Okura**	**2.02**	**269**	P	**Pn**	**15 58 14.0**	**+1.2**
JFK	**Kawauchi**	**2.15**	**241**	P	**Pn**	**15 58 14.5**	**-0.2**
JFK				*e*S	**Sn**	**15 58 40.2**	**-0.7**
JYK	**Kaneyama**	**2.30**	**283**	P	**Pn**	**15 58 17.1**	**+0.3**
JANG	**Nango**	**2.34**	**326**	P	**Pn**	**15 58 19.0**	**+1.6**
JANG				S	**Sn**	**15 58 49.7**	**+4.0**
JFT	**Otama**	**2.47**	**249**	P	**Pn**	**15 58 20.1**	**+0.9**
JFT				S	**Sn**	**15 58 51.5**	**+2.6**
JYS	**Shirataka**	**2.50**	**266**	P	**Pn**	**15 58 20.1**	**+0.5**
JYS				S	**Sn**	**15 58 50.2**	**+0.4**
MJAR	**Matsushiro Arr**	**4.42**	**246**	Pn	**Pn**	**15 58 47.3**	**+0.3**
	31nm,0.3s,baz=60,slow=11,SNR=152						
MAJO	**Matsushiro**	**4.43**	**246**	*e*P	**Pn**	**15 58 48.4**	**+1.4**
MAT	**Matsushiro**	**4.43**	**246**	P	**Pn**	**15 58 47.9**	**+0.9**
MAT				S	**Sn**	**15 59 40.0**	**+1.5**
MAT	**Matsushiro**	**4.43**	**246**	*e*P	**Pn**	**15 58 48.0**	**+1.0**
MAT				*e*S	**Sn**	**15 59 46.0**	**+7.5**
ASAJ	**Asahikawa**	**5.69**	**355**	Pn	**Pn**	**15 59 02.0**	**-2.8**
	baz=14,slow=0.1						
ASAJ				LR	LR	16 01 22.0	
	comp=Z,524nm,19.3s,baz=192,slow=39						
YUK	**Yuzh-Kuril'sk**	**5.93**	**19**	*e*P	**Pn**	**15 59 03.0**	**-5.1**
YUK				*e*S	**Sn**	**16 00 07.0**	**-9.1**
YUK				pmax	pmax		
	comp=N,340nm,0.5s						
YUK				pmax	pmax		
	comp=Z,360nm,0.5s						
YUK				smax			
	comp=N,4μm,1.0s						
YUK				smax			
	comp=E,5μm,1.0s						
YUK				smax			
	comp=N,1μm,0.4s						
YUK				smax			
	comp=E,2μm,0.5s						
YUK				MLR	MLR		
	comp=Z,2μm,15.0s						
JHJ	**Hachijo jima 2**	**6.01**	**209**	Pn	**Pn**	**15 59 08.3**	**-1.0**
	baz=4.5						
JHJ				Sn	**Sn**	**16 00 12.8**	**-5.4**
	baz=94,slow=19						
YSS	**Yuzh-Sakhalins**	**8.51**	**358**	*e*P	**P**	**15 59 40.3**	**-4.1**
	comp=Z,42nm,0.6s						
YSS	**Yuzh-Sakhalins**	**8.51**	**358**	*e*P	**P**	**15 59 41.0**	**-3.4**
YSS				*e*S	**Sn**	**16 01 10.5**	**-10**
YSS				pmax	pmax		
	comp=Z,30nm,0.7s						
YSS				pmax	pmax		
	comp=N,30nm,0.9s						
YSS				pmax	pmax		
	comp=E,20nm,0.9s						
YSS				pmax	pmax		
	comp=Z,50nm,0.7s						
YSS				smax			
	comp=E,40nm,1.1s						
YSS				MLR	MLR		
	comp=Z,600nm,15.0s						
YSS				MLR	MLR		
	comp=N,1μm,12.0s						
CBIJ	**Chichi jima**	**11.35**	**185**	Sn	**S**	**16 02 16.2**	**-14**
	comp=N,23nm,0.3s,baz=288,slow=22,SNR=6.9						
JNU	**Nakatsue**	**11.35**	**246**	Pn	**P**	**16 00 23.1**	**-0.3**
	baz=118,slow=2.6						
MDJ	**Mudanjiang**	**11.93**	**305**	P	**P**	**16 00 30.0**	**-1.2**
MDJ				AP		16 00 34.8	
MDJ				XP		16 00 38.0	
MDJ				S	**S**	**16 02 43.5**	**-1.1**
MDJ				PCP	PcP	16 06 15.8	-0.8
MDJ				SCP		16 09 47.3	
MDJ				PCS		16 09 49.5	
MDJ				SCS	ScS	16 13 23.3	+2.0
MDJ				AMB	AMB		
	comp=Z,43nm,1.5s						
MDJ				AMB	AMB		
	comp=Z,216nm,4.2s						
MDJ				LR	LR		
	comp=N,573nm,12.8s						
MDJ				LR	LR		
	comp=E,619nm,15.0s						
MDJ				LR	LR		
	comp=Z,1μm,14.1s						
MDJ	**Mudanjiang**	**11.93**	**305**	*e*P	**P**	**16 00 30.9**	**-0.4**
	comp=Z,89nm,1.1s						
KS15	**Wonju Array Si**	**12.16**	**270**	*e*P	**P**	**16 00 31.9**	**-2.4**
CN2	**Changchun**	**14.43**	**297**	*e*P	**P**	**16 01 04.0**	**-0.2**
CN2				*e*XP		16 01 13.0	
CN2				*e*S	**S**	**16 03 43.3**	**-1.1**
CN2				AMB	AMB		
	comp=Z,20nm,2.0s						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,510nm,10.0s						
CN2				LR	LR		
	comp=E,580nm,10.0s						
CN2				LR	LR		
	comp=Z,460nm,15.0s						
DL2	**Dalian**	**16.88**	**278**	P	**P**	**16 01 36.3**	**+0.5**
DL2				S	**S**	**16 04 47.8**	**+6.2**
DL2				AMB	AMB		
	comp=Z,40nm,1.1s						
DL2				AMB	AMB		
	comp=Z,160nm,4.7s						
DL2				LR	LR		
	comp=N,340nm,10.4s						
DL2				LR	LR		
	comp=E,240nm,12.0s						
DL2				LR	LR		
	comp=Z,340nm,12.8s						
JOW	**Kunigami**	**17.09**	**232**	LR	LR	16 08 14.6	
	comp=Z,184nm,19.6s,baz=103,slow=37						
PET	**Petropavlovsk**	**18.06**	**31**	P	**P**	**16 01 52.0**	**+1.5**
	comp=Z,42nm,1.3s						
PET	**Petropavlovsk**	**18.06**	**31**	*e*P	**P**	**16 01 54.6**	**+4.1**
PET				pmax	pmax		
	comp=Z,26nm,1.3s						
SSE	**Sheshan**	**19.51**	**255**	P	**P**	**16 02 07.5**	**-0.5**
SSE				AP		16 02 13.3	
SSE				XP		16 02 16.0	
SSE				S	**S**	**16 05 43.3**	**+2.0**
SSE				PCP	PcP	16 06 29.8	+2.0
SSE				AMB	AMB		
	comp=Z,64nm,0.7s						
SSE				AMB	AMB		
	comp=Z,76nm,3.7s						
SSE				LR	LR		
	comp=N,375nm,15.8s						
SSE				LR	LR		
	comp=E,107nm,16.0s						
SSE				LR	LR		
	comp=Z,350nm,17.0s						
SSE	**Sheshan**	**19.51**	**255**	P	**P**	**16 02 07.5**	**-0.5**
	comp=Z,64nm,0.7s						
SSE				pP		16 02 13.2	
SSE				sP		16 02 16.0	
SSE				S	**S**	**16 05 43.3**	**+2.0**
SSE				sS		16 05 54.8	
SSE				PcP	PcP	16 06 29.8	+2.0
HIA	**Hailar**	**20.02**	**310**	*e*P	**P**	**16 02 08.8**	**-4.6**
	comp=Z,44nm,0.7s						
HIA	**Hailar**	**20.02**	**310**	*e*P	**P**	**16 02 08.8**	**-4.6**
HIA				pmax	pmax		
	comp=Z,44nm,0.7s						
NJ2	**Nanjing**	**20.88**	**260**	*e*P	**P**	**16 02 19.3**	**-3.1**
NJ2				PP	PP	16 02 46.0	+1.1
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s						
NJ2				LR	LR		
	comp=N,790nm,22.0s,MS4.2						
NJ2				LR	LR		
	comp=E,780nm,18.0s,MS4.2						
NJ2				LR	LR		
	comp=Z,250nm,16.0s,MS3.7						
MA2	**Magadan**	**21.69**	**10**	*e*P	**P**	**16 02 29.5**	**-0.9**
	comp=Z,31nm,0.7s,mb4.8						
MA2	**Magadan**	**21.69**	**10**	*e*P	**P**	**16 02 29.5**	**-0.9**
MA2				pmax	pmax		
	comp=Z,31nm,0.7s,mb4.8						
CLNS	**Chul'man**	**22.04**	**333**	*e*P	**P**	**16 02 32.4**	**-1.5**
CLNS				*e*PP		16 02 45.9	
CLNS				*e*		16 02 57.6	
CLNS				*e*S	**S**	**16 06 33.5**	**+2.7**
CLNS				*e*SS	SS	16 07 22.0	+12
CLNS				pmax	pmax		
	comp=Z,27nm,0.8s,mb4.7						
CLNS				pmax	pmax		
	comp=N,22nm,1.3s						
CLNS				pmax	pmax		
	comp=E,13nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,30nm,0.9s,mb4.7						
CLNS				pmax	pmax		
	comp=N,50nm,0.8s						
CLNS				pmax	pmax		
	comp=E,20nm,0.8s						
CLNS				smax			
	comp=N,114nm,11.3s						
CLNS				smax			
	comp=Z,89nm,12.5s						
CLNS				smax			
	comp=E,69nm,10.3s						
CLNS				MLR	MLR		
	comp=Z,500nm,13.0s,MS4.1						
CLNS				MLR	MLR		
	comp=N,400nm,15.0s,MS4.1						
CLNS				MLR	MLR		
	comp=E,400nm,13.0s,MS4.1						
YHNB	**Yeheng**	**23.07**	**240**	P	**P**	**16 02 44.1**	**-0.2**
NACB	**Ninganchiao**	**23.25**	**239**	P	**P**	**16 02 45.4**	**-0.7**
HHC	**Hu-ho-hao-te**	**24.44**	**286**	*e*P	**P**	**16 02 55.8**	**-1.7**
HHC				AP		16 03 02.5	
HHC				XP		16 03 06.3	
HHC				PP	PP	16 03 30.0	-3.2
HHC				PCP	PcP	16 06 35.5	-1.9
HHC				*e*S	**S**	**16 07 10.0**	**-3.2**
HHC				XS		16 07 20.5	
HHC				SS	SS	16 08 04.0	-4.1
HHC				PCS		16 10 14.8	
HHC				AMB	AMB		
	comp=Z,30nm,0.9s,mb4.7						
HHC				AMB	AMB		
	comp=Z,165nm,3.7s						
HHC				LR	LR		
	comp=N,589nm,15.5s,MS4.4						
HHC				LR	LR		
	comp=E,678nm,12.5s,MS4.4						
HHC				LR	LR		
	comp=Z,659nm,13.7s,MS4.3						
CIT	**Chita**	**24.72**	**313**	*e*P	**P**	**16 02 57.8**	**-2.3**
CIT				*e*		16 03 45.5	
CIT				pmax	pmax		
	comp=Z,171nm,2.0s,mb5.2						
QZH	**Quanzhou**	**24.82**	**244**	*e*P	**P**	**16 03

YAK				pmax	pmax		
	comp=E,2.0nm,0.8s						
YAK				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.3						
YAK				pmax	pmax		
	comp=N,10.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,3.0nm,0.9s						
YAK				MLR	MLR		
	comp=Z,230nm,14.0s,MS3.8						
YAK				MLR	MLR		
	comp=N,224nm,17.0s,MS3.8						
YAK				MLR	MLR		
	comp=E,55nm,15.0s,MS3.8						
SEY	**Seymchan**	**25.14**	**10**	*d iP*	**P**	**16 03 05.1**	**+1.1**
BTO	**Baotou**	**25.63**	**285**	*eP*	**P**	**16 03 07.5**	**-1.3**
BTO				S	**S**	**16 07 25.5**	**-7.7**
BTO				LR	LR		
	comp=N,691nm,13.9s,MS4.5						
BTO				LR	LR		
	comp=E,703nm,15.1s,MS4.5						
BOD	**Bodaibo**	**27.16**	**325**	*eP*	**P**	**16 03 21.3**	**-1.4**
BOD				pmax	pmax		
	comp=Z,24nm,0.9s,mb4.7						
ULN	**Ulaanbaatar**	**27.80**	**302**	*eP*	**P**	**16 03 28.7**	**+0.1**
	comp=Z,51nm,1.3s,mb5.0						
ULN	**Ulaanbaatar**	**27.80**	**302**	*eP*	**P**	**16 03 28.7**	**0.0**
ULN				pmax	pmax		
	comp=Z,51nm,1.3s,mb5.0						
XAN	**Xi'an**	**27.92**	**272**	P	**P**	**16 03 28.5**	**-1.4**
XAN				AP	pP	16 03 35.8	-0.8
XAN				AMB	AMB		
	comp=Z,30nm,0.9s,mb4.9						
SONM	**Songino Array**	**28.24**	**301**	P	**P**	**16 03 32.7**	**+0.1**
	comp=Z,9.7nm,0.8s,mb4.5,baz=102,slow=8.2,SNR=46						
SONM				LR	LR	16 15 09.8	
	comp=Z,203nm,18.4s,MS3.8,baz=301,slow=37						
ENH	**Enshi**	**28.91**	**264**	*eP*	**P**	**16 03 37.6**	**-1.2**
	comp=Z,38nm,0.7s,mb5.2						
IRK	**Irkutsk**	**30.26**	**310**	*eP*	**P**	**16 03 48.8**	**-1.9**
IRK				*e*		16 04 57.4	
IRK				pmax	pmax		
	comp=Z,38nm,2.3s,mb4.7						
ZAK	**Zakamensk**	**30.57**	**306⇑**	*iP*	**P**	**16 03 52.6**	**-0.8**
ZAK				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.6						
LZH	**Lanzhou**	**31.28**	**278**	*eP*	**P**	**16 03 58.5**	**-1.3**
LZH				AP	pP	16 04 10.5	+4.0
LZH				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.9						
LZH				AMB	AMB		
	comp=Z,200nm,4.0s						
LZH				LR	LR		
	comp=E,880nm,13.1s						
LZH				LR	LR		
	comp=Z,680nm,19.5s						
LZH	**Lanzhou**	**31.28**	**278**	*eP*	**P**	**16 03 58.5**	**-1.3**
	comp=Z,20nm,1.0s,mb4.9						
LZH				pP	pP	16 04 10.4	+3.9
LZH				sP	sP	16 04 15.8	+6.3
LZH				LR	LR		
	comp=Z,680nm,19.5s,MS4.3						
LZH	**Lanzhou**	**31.28**	**278**	*eP*	**P**	**16 03 58.5**	**-1.3**
LZH				*PP	pP	16 04 10.4	+3.9
LZH				*SP	sP	16 04 15.8	+6.3
LZH				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.9						
LZH				MLR	MLR		
	comp=Z,680nm,19.5s,MS4.3						
MOY	**Mondy**	**32.17**	**308**	*eP*	**P**	**16 04 07.2**	**-0.2**
BILL	**Bilibino**	**32.27**	**16**	P	**P**	**16 04 07.2**	**-0.9**
BILL				*e*	pP	16 04 13.7	-1.3
BILL	**Bilibino**	**32.27**	**16**	P	**P**	**16 04 07.2**	**-1.0**
BILL				*e*	pP	16 04 13.7	-1.2
GYA	**Guiyang**	**32.89**	**260⇑**	*iP*	**P**	**16 04 12.5**	**-1.5**
GYA				AP	pP	16 04 21.8	+1.1
GYA				XP	sP	16 04 26.0	+2.3
GYA				PP	PP	16 05 19.5	-4.7
GYA				S	**S**	**16 09 34.3**	**+5.1**
GYA				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.2						
GYA				AMB	AMB		
	comp=Z,90nm,3.0s						
GYA				LR	LR		
	comp=N,460nm,16.2s,MS4.3						
GYA				LR	LR		
	comp=E,290nm,15.6s,MS4.3						
GYA				LR	LR		
	comp=Z,370nm,14.1s,MS4.2						
CD2	**Chengdu**	**33.13**	**269**	P	**P**	**16 04 15.5**	**-0.5**
CD2				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.0						
CD2				LR	LR		
	comp=N,250nm,10.8s						
CD2				LR	LR		
	comp=Z,190nm,14.4s,MS3.9						
GTA	**Gaotai**	**33.55**	**286**	P	**P**	**16 04 19.0**	**-0.6**
GTA				AP	pP	16 04 27.0	+0.6
GTA				XP	sP	16 04 30.5	+1.2
GTA				PP	PP	16 05 30.0	-2.2
GTA				PPP	PPP	16 05 49.5	+0.2
GTA				PCP	PcP	16 07 02.0	+1.9
GTA				S	**S**	**16 09 37.8**	**-1.6**
GTA				XS		16 09 49.0	
GTA				SCP		16 10 42.3	
GTA				PCS		16 10 45.8	
GTA				SS	SS	16 11 41.5	-2.4
GTA				SCS	ScS	16 14 41.8	0.0
GTA				AMB	AMB		
	comp=Z,33nm,1.3s,mb5.1						
GTA				AMB	AMB		
	comp=Z,273nm,9.2s						
GTA				LR	LR		
	comp=N,317nm,14.5s,MS4.3						
GTA				LR	LR		
	comp=E,308nm,16.8s,MS4.3						
GTA				LR	LR		
	comp=Z,476nm,15.7s,MS4.3						
TIXI	**Tiksi**	**34.08**	**352**	*eP*	**P**	**16 04 19.7**	**-4.2**
TIXI				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
TIXI				MLR	MLR		
	comp=Z,149nm,14.0s,MS3.9						
KMI	**Kunming**	**36.61**	**261**	P	**P**	**16 04 46.0**	**+0.2**
KMI				AP	pP	16 04 53.0	+0.4
KMI				XP	sP	16 04 57.0	+1.5
KMI				PP	PP	16 06 10.3	-0.3
KMI				PPP	PPP	16 06 31.5	+0.9
KMI				S	**S**	**16 10 27.0**	**+0.3**
KMI				XS		16 10 36.5	
KMI				SS	SS	16 12 51.3	-2.4
KMI				AMB	AMB		
	comp=Z,68nm,3.1s						
KMI				LR	LR		
	comp=N,327nm,16.9s,MS4.4						
KMI				LR	LR		
	comp=E,418nm,17.5s,MS4.4						
KMI				LR	LR		
	comp=Z,313nm,15.4s,MS4.2						
KMI	**Kunming**	**36.61**	**261**	P	**P**	**16 04 46.0**	**+0.2**
	comp=Z,0.1nm,3.1s						
KMI				pP	pP	16 04 53.0	+0.4
KMI				sP	sP	16 04 57.0	+1.5
KMI				PP	PP	16 06 10.2	-0.4
KMI				PPP	PPP	16 06 31.4	+0.8
KMI				S	**S**	**16 10 27.1**	**+0.4**
KMI				sS		16 10 36.4	
KMI				SS	SS	16 12 51.2	-2.5
KMI				LR	LR		
	comp=Z,310nm,15.4s,MS4.2						
KMI	**Kunming**	**36.61**	**261**	P	**P**	**16 04 46.0**	**+0.2**
KMI				*SP	sP	16 04 57.0	+1.5
KMI						16 06 10.2	
KMI				PPP	PPP	16 06 31.4	+0.8
KMI				S	**S**	**16 10 27.1**	**+0.4**
KMI				SS	SS	16 12 51.2	-2.5
KMI				MLR	MLR		
	comp=Z,310nm,15.4s,MS4.2						
WMQ	**Urumqi**	**41.51**	**296**	P	**P**	**16 05 27.0**	**+0.7**
WMQ				XP	sP	16 05 36.0	0.0
WMQ				PP	PP	16 07 06.0	+0.6
WMQ				SCP		16 11 13.0	
WMQ				S	**S**	**16 11 41.0**	**+0.6**
WMQ				SS	SS	16 14 41.0	+0.6
WMQ				AMB	AMB		
	comp=Z,25nm,1.0s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,81nm,6.0s						
WMQ				LR	LR		
	comp=N,157nm,15.0s,MS4.1						
WMQ				LR	LR		
	comp=E,85nm,15.0s,MS4.1						
WMQ				LR	LR		
	comp=Z,79nm,15.0s,MS3.7						
NANT	**Nan**	**41.72**	**254**	P	**P**	**16 05 23.0**	**-5.3**
ZAL	**Zalesovo**	**42.07**	**311**	P	**P**	**16 05 30.6**	**-0.1**
	comp=Z,3.5nm,0.6s,mb4.2,baz=26,slow=9.5						
NVS	**Novosibirsk**	**42.93**	**313**	*eP*	**P**	**16 05 35.8**	**-2.0**
NVS				pmax	pmax		
	comp=E,16nm,1.8s						
NVS				pmax	pmax		
	comp=Z,23nm,1.8s,mb4.6						
CHG	**Chiang Mai**	**43.04**	**256**	P	**P**	**16 05 45.2**	**+6.0**
LSA	**Lhasa**	**43.53**	**275**	P	**P**	**16 05 46.0**	**+3.0**
LSA	**Lhasa**	**43.53**	**275**	*eP*	**P**	**16 05 42.3**	**-0.7**
	comp=Z,56nm,1.4s,mb5.1						
LSA	**Lhasa**	**43.53**	**275**	*eP*	**P**	**16 05 42.3**	**-0.7**
LSA				pmax	pmax		
	comp=Z,56nm,1.4s,mb5.1						
MKAR	**Makanchi Array**	**44.61**	**301**	P	**P**	**16 05 51.2**	**-0.3**
	comp=Z,6.0nm,0.8s,mb4.5,baz=85,slow=9.7,SNR=60						
MKAR				LR	LR	16 24 35.7	
	comp=Z,92nm,18.8s,MS3.7,baz=359,slow=36						
MKAR	**Makanchi Array**	**44.61**	**301**	P	**P**	**16 05 51.2**	**-0.3**
MKAR				LR	LR	16 24 35.7	
KURK	**Kurchatov**	**46.22**	**307**	*eP*	**P**	**16 06 03.1**	**-1.1**
	comp=Z,25nm,0.7s,mb5.3						
KURK	**Kurchatov**	**46.22**	**307**	*eP*	**P**	**16 06 03.1**	**-1.1**
KURK				pmax	pmax		
	comp=Z,25nm,0.7s,mb5.2						
SML	**Sawmill**	**47.00**	**37**	*eP*	**P**	**16 06 12.4**	**+2.1**
ILAR	**Eielson Array**	**47.53**	**33**	P	**P**	**16 06 13.4**	**-1.0**
	comp=Z,2.0nm,0.6s,mb4.3,baz=267,slow=6.3,SNR=22						
KKN	**Kakani**	**48.98**	**276**	*eP*	**P**	**16 06 26.3**	**+0.1**
	comp=Z,72nm,0.7s,mb5.8						
KKN	**Kakani**	**48.98**	**276**	*eP*	**P**	**16 06 26.3**	**+0.1**
KKN				pmax	pmax		
	comp=Z,36nm,0.7s,mb5.5						
PKI	**Pulchoki**	**48.98**	**275**	*eP*	**P**	**16 06 26.5**	**+0.3**
	comp=Z,39nm,1.0s,mb5.4						
PKI	**Pulchoki**	**48.98**	**275**	*eP*	**P**	**16 06 26.5**	**+0.3**
PKI				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.1						
DMN	**Daman**	**49.20**	**275**	*eP*	**P**	**16 06 27.8**	**-0.1**
	comp=Z,31nm,0.9s,mb5.3						
GKN	**Gorkha**	**49.39**	**276**	*eP*	**P**	**16 06 29.0**	**-0.3**
	comp=Z,119nm,1.2s,mb5.8						
TKM2	**Tokmak 2**	**50.24**	**298**	P	**P**	**16 06 36.2**	**+0.5**
	SNR=23						
KOLN	**Koldanda**	**50.30**	**276**	*eP*	**P**	**16 06 36.2**	**-0.1**
	comp=Z,73nm,1.1s,mb5.6						
BVA0	**Borovoye Array**	**50.70**	**312**	P	**P**	**16 06 38.2**	**-0.8**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
BRVK	**Borovoye**	**50.76**	**312**	*eP*	**P**	**16 06 38.9**	**-0.6**
	comp=Z,6.5nm,0.9s,mb4.6						
BRVK	**Borovoye**	**50.76**	**312**	*eP*	**P**	**16 06 38.9**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
KBK	**Karagaybulak**	**50.78**	**298**	P	**P**	**16 06 40.0**	**+0.3**
	SNR=20						
USP	**Ospenovka**	**50.88**	**299**	P	**P**	**16 06 40.3**	**-0.2**
	SNR=13						
FRU	**Bishkek**	**50.95**	**298**	P	**P**	**16 06 39.0**	**-2.0**
FRU				pmax	pmax		
	comp=Z,50nm,2.0s,mb5.1						
AAK	**Ala-Archa**	**51.10**	**298**	*eP*	**P**	**16 06 41.0**	**-1.2**
	comp=Z,9.4nm,0.9s,mb4.7						
AAK	**Ala-Archa**	**51.10**	**298**	*c iP*	**P**	**16 06 40.8**	**-1.4**
AAK				pmax	pmax		
	comp=Z,15nm,1.7s,mb4.7						
KSH	**Kashi**	**51.16**	**294**	*eP*	**P**	**16 06 39.0**	**-3.7**
KSH				*e*AP	pP	16 06 51.3	+1.6
KSH				*e*XP	sP	16 06 56.5	+4.1
KSH				*e*PCP	PcP	16 07 55.5	-2.7
KSH				*e*PP	PP	16 08 36.3	-4.0
KSH				*e*PCS		16 11 51.0	
KSH				*e*S	**S**	**16 13 50.0**	**-8.0**
KSH				*e*XS		16 14 11.3	
KSH				AMB	AMB		
	comp=Z,80nm,4.5s						
KSH				LR	LR		
	comp=N,220nm,6.8s						
KSH				LR	LR		
	comp=E,260nm,5.4s						
EKS2	**Erkin-Say**	**51.59**	**298**	P	**P**	**16 06 45.7**	**-0.2**
	SNR=7.9						
AML	**Almayashu**	**51.83**	**298**	P	**P**	**16 06 48.8**	**+1.0**
	SNR=7.2						
KAKA	**Kakadu**	**51.88**	**193**	*eP*	**P**	**16 07 01.4**	**+13**
	comp=E,20nm,0.7s,mb5.1						
INK	**Inuvik**	**52.47**	**28**	P	**P**	**16 06 51.9**	**-0.3**
	comp=E,1.8nm,0.8s,mb4.1,baz=342,slow=5.2,SNR=5.0						
KKAR	**Karatay Array**	**53.67**	**300**	*i P*	**P**	**16 07 00.5**	**-0.9**
KKAR				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
ARU	**Arti**	**56.27**	**318⇑**	*iP*	**P**	**16 07 19.2**	**-0.9**
ARU				*e*		16 08 13.6	
ARU				*e*		16 09 19.4	
ARU				*e*PPP	PPP	16 10 39.3	-4.4
ARU				*e*S	**S**	**16 15 09.2**	**+2.4**
ARU				pmax	pmax		
	comp=Z,46nm,1.6s,mb5.3						
ARU				MLR	MLR		
	comp=Z,300nm,17.0s,MS4.5						
ARU				MLR	MLR		
	comp=N,100nm,16.0s,MS4.3						
ARU				MLR	MLR		
	comp=E,200nm,16.5s,MS4.3						
DLBC	**Dease Lake**	**56.63**	**39**	P	**P**	**16 07 22.1**	**-0.5**
	comp=E,1.4nm,0.7s,mb4.1,baz=301,slow=5.9,SNR=2.9						
AB31	**Akbulak array**	**58.14**	**310**	P	**P**	**16 07 32.0**	**-1.4**
AB31				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.8						
FITZ	**Fitzroy Crossi**	**58.62**	**200**	*eP*	**P**	**16 07 37.3**	**+0.1**
	comp=Z,8.1nm,1.0s,mb4.7						
WRAB	**Tennant Creek**	**58.66**	**190**	*eP*	**P**	**16 07 35.8**	**-1.7**
	comp=Z,42nm,1.0s,mb5.4						
WRAB	**Tennant Creek**	**58.66**	**190⇑**	*iP*	**P**	**16 07 35.4**	**-2.1**
WRA	**Warramunga Arr**	**58.67**	**190**	P	**P**	**16 07 35.7**	**-1.8**
	comp=Z,20nm,0.8s,mb5.2,baz=7.3,slow=7.0,SNR=77						
WRA				pP	pP	16 07 42.8	-1.9
	comp=Z,8.4nm,0.5s,baz=7.4,slow=7.0,SNR=12						
YKA	**Yellowknife Ar**	**61.86**	**31**	LR	LR	16 38 13.3	
	comp=Z,45nm,18.3s,MS3.7,baz=285,slow=39						
KEV	**Kevo**	**62.64**	**339**	*ep*	**P**	**16 08 02.0**	**-1.9**
	comp=Z,16nm,0.9s,mb5.2						
KEV	**Kevo**	**62.64**	**339**	*eP*	**P**	**16 08 02.0**	**-1.9**
KEV				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.2						
ARCES	**ARCESS Array B**	**63.19**	**340**	P	**P**	**16 08 06.5**	**-1.0**
	comp=Z,2.4nm,0.6s,mb4.5,baz=51,slow=7.8,SNR=14						
ARCES				pP	pP	16 08 12.8	-1.8
	comp=Z,3.8nm,0.8s,baz=51,slow=7.8,SNR=3.1						
ARCES				LR	LR	16 41 40.5	
	comp=Z,118nm,18.3s,MS4.1,baz=58,slow=42						
MBWA	**Marble Bar**	**63.26**	**205**	P	**P**	**16 08 06.8**	**-1.8**
	comp=Z,14nm,1.1s,mb5.0						
PALK	**Pallekele**	**64.08**	**258**	P	**P**	**16 08 13.2**	**-1.0**
	comp=Z,24nm,1.3s,mb5.1						
JOF	**Joensuu**	**65.40**	**332**	*ep*	**P**	**16 08 19.9**	**-2.0**
	comp=Z,4.2nm,0.6s,mb4.7						
MOS	**Moscow**	**66.98**	**324**	*eP*	**P**	**16 08 31.5**	**-0.6**
MOS				*e*		16 08 45.2	
MOS				*e*		16 11 03.9	
MOS				pmax	pmax		
	comp=Z,41nm,0.6s,mb5.6						
KAF	**Kangasniemi**	**67.71**	**333**	*ep*	**P**	**16 08 34.9**	**-1.7**
	comp=Z,4.0nm,0.6s,mb4.6,baz=47,slow=6.0						
KAF	**Kangasniemi**	**67.71**	**333**	*eP*	**P**	**16 08 34.9**	**-1.7**
KAF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
OBN	**Obninsk**	**67.83**	**324**	*eP*	**P**	**16 08 36.1**	**-1.4**
	comp=Z,21nm,0.7s,mb5.3						
OBN	**Obninsk**	**67.83**	**324**	*deP*	**P**	**16 08 36.4**	**-1.1**
OBN				*e*	pP	16 08 43.6	-1.0
OBN				pmax	pmax		
	comp=Z,52nm,1.7s,mb5.3						
OBN				MLR	MLR		
	comp=Z,200nm,14.0s,MS4.5						
FINES	**FINESS Array B**	**68.24**	**333**	P	**P**	**16 08 38.9**	**-1.0**
	comp=Z,8.1nm,0.8s,mb4.8,baz=37,slow=9.5,SNR=29						
FINES				pP	pP	16 08 45.7	-1.3
	comp=Z,4.1nm,0.6s,baz=56,slow=6.9,SNR=6.2						
FINES	**FINESS Array B**	**68.24**	**333**	P	**P**	**16 08 38.9**	**-1.0**
FINES				pP	pP	16 08 45.7	-1.3
BMO	**Blue Mountains**	**69.92**	**48**	*eP*	**P**	**16 08 51.8**	**+1.3**
	comp=Z,4.8nm,1.3s,mb4.3						
BMO	**Blue Mountains**	**69.92**	**48**	*eP*	**P**	**16 08 51.8**	**+1.3**
BMO				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.3						
VSU	**Vasula**	**69.97**	**330⇑**	*iP*	**P**	**16 08 49.2**	**-1.4**
STKA	**Stephens Creek**	**69.98**	**181**	*eP*	**P**	**16 08 49.7**	**-1.4**
	comp=Z,2.4nm,0.7s,mb4.2						
STKA	**Stephens Creek**	**69.98**	**181**	P	**P**	**16 08 50.4**	**-0.7**
	comp=Z,3.1nm,1.0s,mb4.2,baz=339,slow=12,SNR=4.5						
GOF	**Gofitskoye**	**70.23**	**312**	*eP*	**P**	**16 08 50.5**	**-1.9**
GOF				pmax	pmax		
	comp=Z,30nm,1.1s,mb5.1						
KIV	**Kislovodsk**	**71.07**	**311**	*eP*	**P**	**16 08 58.0**	**+0.5**
	comp=Z,38nm,1.0s,mb5.3						
KIV	**Kislovodsk**	**71.07**	**311**	*c iP*	**P**	**16 08 57.8**	**+0.3**
KIV				pmax	pmax		
	comp=Z,61nm,1.7s,mb5.2						
KIV				MLR	MLR		
	comp=Z,100nm,16.0s,MS4.2						
GNI	**Garni**	**72.02**	**307**	*d iP*	**P**	**16 09 09.3**	**+6.0**
GNI				pmax	pmax		
	comp=Z,24nm,1.7s						
DLMT	**Dillon**	**72.33**	**46**	P	**P**	**16 09 06.1**	**+1.1**
BOZ	**Bozeman (W)**	**72.69**	**45**	*eP*	**P**	**16 09 07.8**	**+0.6**
	comp=Z,17nm,1.7s,mb4.7						
BOZ	**Bozeman (W)**	**72.69**	**45**	*eP*	**P**	**16 09 07.8**	**+0.7**
BOZ				pmax	pmax		
	comp=Z,17nm,1.7s,mb4.7						
NVAR	**Mina Array Bea**	**72.99**	**54**	P	**P**	**16 09 10.1**	**+1.0**
	comp=Z,2.5nm,0.8s,mb4.2,baz=299,slow=5.2,SNR=17						
SOC	**Sochi**	**73.03**	**312**	*eP*	**P**	**16 09 09.9**	**+0.8**
SOC				*e*		16 09 27.6	
SOC				*e*PPP	PPP	16 13 29.6	-7.3
SOC				*e*		16 19 06.2	
SOC				pmax	pmax		
	comp=N,18nm,1.2s						
SOC				pmax	pmax		
	comp=Z,26nm,1.2s,mb5.0						
SOC				pmax	pmax		
	comp=E,12nm,0.8s						
NB2	**NORSAR Subarra**	**73.44**	**338**	P	**P**	**16 09 10.7**	**-0.4**
	comp=E,18nm,1.1s,mb4.9,baz=38,slow=5.8						
NB2	**NORSAR Subarra**	**73.44**	**338**	P	**P**	**16 09 10.7**	**-0.4**
	baz=38,slow=6.2						
NB2	**NORSAR Subarra**	**73.44**	**338**	P	**P**	**16 09 10.7**	**-0.4**
NB2				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.9						
NOA	**NORSAR Array B**	**73.44**	**338**	P	**P**	**16 09 10.9**	**-0.2**
	comp=Z,7.9nm,0.8s,mb4.7,baz=38,slow=5.9,SNR=19						
NOA				pP	pP	16 09 17.6	-0.7
	comp=Z,9.3nm,0.9s,baz=37,slow=5.8,SNR=10.0						
ANN	**Anapa**	**73.59**	**314**	*eP*	**P**	**16 09 07.7**	**-4.7**
ANN				*e*S	S	16 18 38.2	-1.6
ANN				pmax	pmax		
	comp=Z,27nm,1.6s,mb4.9						
AKASG	**Malin Array Be**	**74.06**	**323**	P	**P**	**16 09 14.6**	**-0.4**
	comp=Z,14nm,0.8s,mb5.0,baz=45,slow=6.1,SNR=43						
AKASG				pP	pP	16 09 20.9	-1.3
	comp=Z,6.9nm,0.7s,baz=45,slow=5.7,SNR=11						
IMW	**Indian Meadow**	**74.16**	**46**	P	**P**	**16 09 16.7**	**+1.0**
	comp=Z,3.1nm,0.8s,mb4.3						
SIM	**Simferopol'**	**75.33**	**316**	*eP*	**P**	**16 09 23.0**	**+0.6**
SIM				pmax	pmax		
	comp=Z,13nm,0.6s,mb5.0						
SIM				MLR	MLR		
	comp=Z,100nm,18.9s,MS4.1						
PDAR	**Pinedale Array**	**75.65**	**47**	P	**P**	**16 09 24.4**	**+0.1**
	comp=Z,1.7nm,0.7s,mb4.1,baz=297,slow=3.3,SNR=9.6						
MSU	**Marysvale**	**76.77**	**51**	*eP*	**P**	**16 09 33.1**	**+2.4**
TMUT	**Trail Mountain**	**76.87**	**50**	*eP*	**P**	**16 09 26.2**	**-5.0**
MALT	**Malatya**	**77.03**	**309**	*eP*	**P**	**16 09 32.9**	**+0.7**
	comp=Z,23nm,1.3s,mb5.0						
MALT	**Malatya**	**77.03**	**309**	*eP*	**P**	**16 09 32.9**	**+0.8**
MALT				pmax	pmax		
	comp=Z,23nm,1.3s,mb5.0						
LVV	**L'vov**	**77.08**	**325**	*eP*	**P**	**16 09 30.4**	**-1.8**
LVV				*e*		16 12 31.8	
LVV				*e*S	S	16 19 15.8	-2.4
LVV				*e*		16 19 47.4	
LVV				*e*		16 20 17.4	
LVV				MLR	MLR		
	comp=Z,120nm,18.0s,MS4.3						
LVV				MLR	MLR		
	comp=N,280nm,21.0s,MS4.6						
LVV				MLR	MLR		
	comp=E,170nm,20.0s,MS4.6						
SRU	**San Rafael**	**77.40**	**50**	*eP*	**P**	**16 09 34.5**	**+0.4**
KWP	**Kalwaria**	**77.82**	**325**	*eP*	**P**	**16 09 37.3**	**+1.1**
KWP				*e*	pP	16 09 43.9	+0.5
KWP	**Kalwaria**	**77.82**	**325**	*eP*	**P**	**16 09 37.3**	**+1.1**
KWP				*e*	pP	16 09 43.9	+0.4
STHS	**Stebnicka Huta**	**78.63**	**326**	*i P*	**P**	**16 09 42.1**	**+1.4**
OJC	**Ojcow**	**78.66**	**327**	*eP*	**P**	**16 09 41.4**	**+0.5**
PV10	**Paradox Valley**	**78.76**	**50**	*eP*	**P**	**16 09 43.2**	**+1.6**
CRVS	**Cervenica-Dubn**	**78.91**	**325**	*eP*	**P**	**16 09 43.2**	**+1.0**
BRTR	**Keskin Array B**	**78.99**	**312**	P	**P**	**16 09 43.2**	**+0.3**
	comp=E,1.9nm,0.6s,mb4.2,baz=95,slow=4.4,SNR=10.0						
NIE	**Niedzica**	**79.04**	**326**	*eP*	**P**	**16 09 44.3**	**+1.4**
PV01	**Paradox Valley**	**79.20**	**50**	P	**P**	**16 09 45.4**	**+1.3**
BSEG	**Bad Segeberg**	**79.45**	**334**	*eP*	**P**	**16 09 45.6**	**+0.6**
KECS	**Kecovo**	**79.65**	**325**	*eP*	**P**	**16 09 46.5**	**+0.2**
KSP	**Ksiaz**	**79.65**	**329**	*eP*	**P**	**16 09 47.1**	**+0.9**
KSP				*e*	pP	16 09 53.8	+0.3
KSP	**Ksiaz**	**79.65**	**329**	*eP*	**P**	**16 09 46.5**	**+0.3**
KSP				*e*pP	pP	16 09 53.2	-0.3
OKC	**Ostrava-Krasne**	**79.66**	**327**	*eP*	**P**	**16 09 47.3**	**+1.1**
OKC				*e*pP	pP	16 09 54.4	+0.9
DPC	**Dobruska-Polom**	**80.02**	**329**	*eP*	**P**	**16 09 49.3**	**+1.1**
DPC				*e*pP	pP	16 09 56.1	+0.6
UPC	**Upice**	**80.03**	**329**	*eP*	**P**	**16 09 49.3**	**+1.1**
PSZ	**Piszkesteto**	**80.34**	**325‖**	*e*	**P**	**16 09 51.2**	**+1.3**
PSZ	**Piszkesteto**	**80.34**	**325**	*eP*	**P**	**16 09 51.1**	**+1.1**
	comp=E,25nm,1.3s,mb5.0						
PSZ	**Piszkesteto**	**80.34**	**325**	*eP*	**P**	**16 09 51.1**	**+1.2**
PSZ				pmax	pmax		
	comp=Z,25nm,1.3s,mb5.0						
VYHS	**Vyhne**	**80.38**	**326**	*i P*	**P**	**16 09 51.3**	**+1.2**
BRG	**Berggiesshubel

GEC2 GERESS Array S 82.26 329 *e*P **P 16 10 00.4 +0.4**
GEC2 pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
GERES GERESS Array B 82.26 329 P **P 16 10 00.1 +0.1**
comp=Z,1.2nm,0.6s,mb4.0,baz=34,slow=4.8,SNR=10
GERES LR LR 16 50 33.4
comp=Z,96nm,18.0s,MS4.2,baz=338,slow=39
WET Wettzell 82.36 330 *e*P **P 16 10 01.4 +1.0**
comp=Z,16nm,1.5s,mb4.7
WET Wettzell 82.36 330 *e*P **P 16 10 01.4 +1.0**
WET pmax pmax
comp=Z,16nm,1.5s,mb4.7
GRA1 Grafenberg Arr 82.56 331 *e*P **P 16 10 02.7 +1.2**
comp=Z,34nm,1.1s,mb5.3
GRA1 *e*pP pP 16 10 09.9 +1.1
GRF Grafenberg Arr 82.56 331 *e*P **P 16 10 02.7 +1.2**
GRF *e**PP pP 16 10 09.9 +1.1
GRF pmax pmax
comp=Z,34nm,1.1s,mb5.3
ANMO Albuquerque 82.57 51⇑ *i*P **P 16 10 03.0 +1.1**
TNS Taunus Mts 83.16 333 *e*P **P 16 10 05.2 +0.6**
comp=Z,5.0nm,0.8s,mb4.6
TNS Taunus Mts 83.16 333 *e*P **P 16 10 05.2 +0.6**
TNS pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
PERS Pernice 83.42 327 *e*P **P 16 10 06.4 +0.4**
PERS *e* 16 10 17.6
PPT Papeete 83.99 118 LR LR 16 40 56.5
comp=Z,87nm,21.4s,MS4.1,baz=302,slow=31
VISS Visnje 84.19 327 *e*P **P 16 10 10.0 +0.1**
VISS *i* pP 16 10 17.1 -0.1
GIVF Givet 84.52 335 *e*P **P 16 10 11.2 -0.2**
TBKS Tabuk 84.70 302 P **P 16 10 02.9 -10**
JMQS Jabal Moqyreh 84.72 303 P **P 16 10 13.9 +1.0**
BFO Black Forest 84.77 332 *e*P **P 16 10 13.6 +0.9**
comp=Z,22nm,1.3s,mb5.1
BFO Black Forest 84.77 332 *e*P **P 16 10 13.6 +0.9**
BFO pmax pmax
comp=Z,22nm,1.3s,mb5.1
CDF Champ du Feu 85.09 332 *e*P **P 16 10 14.5 +0.2**
comp=Z,35nm,1.2s,mb5.1
CDF Champ du Feu 85.09 332 *e*P **P 16 10 14.5 +0.2**
CDF pmax pmax
comp=Z,17nm,1.2s,mb5.0
BDAS Al Bad' 85.53 303 P **P 16 10 10.6 -6.3**
HINF Hinteralfeld 85.74 332 *e*P **P 16 10 17.5 -0.1**
HAU Haudompre 85.77 333 *e*P **P 16 10 17.6 -0.1**
HAU *e*R
comp=Z,114nm,21.2s
MEZF Maizieres J'vi 85.81 334 *e*P **P 16 10 18.2 +0.3**
LOR Lormes 87.28 334 *e*P **P 16 10 25.1 0.0**
comp=Z,40nm,1.2s,mb5.2
LOR *e*R
comp=Z,107nm,21.0s
LOR Lormes 87.28 334 *e*P **P 16 10 25.1 0.0**
LOR pmax pmax
comp=Z,20nm,1.2s,mb5.2
LOR MLR MLR
comp=Z,110nm,21.0s,MS4.2
LDF La Druitiere 87.44 337 *e*P **P 16 10 25.6 -0.2**
SSF Saint Saulge 87.58 334 *e*P **P 16 10 26.7 +0.1**
comp=Z,7.2nm,1.0s,mb4.9
SSF Saint Saulge 87.58 334 *e*P **P 16 10 26.7 +0.1**
SSF pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
LPL La Plagne 87.72 331 *e*P **P 16 10 27.7 +0.4**
LPG La Plagne 87.73 331 *e*P **P 16 10 28.0 +0.7**
comp=Z,25nm,1.2s,mb5.0
LPG La Plagne 87.73 331 *e*P **P 16 10 28.0 +0.7**
LPG pmax pmax
comp=Z,12nm,1.2s,mb5.0
SMF Signal de Mont 87.82 333 *e*P **P 16 10 27.8 +0.1**
comp=Z,20nm,1.0s,mb5.0
SMF Signal de Mont 87.82 333 *e*P **P 16 10 27.8 +0.1**
SMF pmax pmax
comp=Z,10.0nm,1.0s,mb5.0
GRR Gorron 87.85 337 *e*P **P 16 10 27.9 +0.1**
AVF Avril sur Loir 87.87 334 *e*P **P 16 10 28.1 +0.2**
comp=Z,41nm,1.2s,mb5.2
AVF Avril sur Loir 87.87 334 *e*P **P 16 10 28.1 +0.2**
AVF pmax pmax
comp=Z,21nm,1.2s,mb5.2
TXAR Lajitas Array 88.12 53 P **P 16 10 30.6 +1.0**
comp=Z,0.7nm,0.6s,mb4.0,baz=292,slow=3.1,SNR=5.4
BGF Bois d'Agland 88.24 334 *e*P **P 16 10 30.4 +0.7**
SADO Sadowa 88.78 29 LR LR 16 52 28.0
comp=Z,36nm,18.0s,MS3.8,baz=26,slow=37
SBF Sospel 88.83 330 *e*P **P 16 10 32.8 +0.1**
MFF Saint Martin d 89.20 336 *e*P **P 16 10 34.6 +0.3**
comp=Z,30nm,1.1s,mb5.2
MFF Saint Martin d 89.20 336 *e*P **P 16 10 34.6 +0.3**
MFF pmax pmax
comp=Z,15nm,1.1s,mb5.2
LMR La Mourre 89.64 330 *e*P **P 16 10 35.6 -0.9**
comp=Z,53nm,1.2s,mb5.5
LMR La Mourre 89.64 330 *e*P **P 16 10 35.6 -0.9**
LMR pmax pmax
comp=Z,26nm,1.2s,mb5.4
CAF Calviac 89.93 334 *e*P **P 16 10 38.6 +0.8**
MTLF Montolieu 91.25 333 *e*P **P 16 10 44.4 +0.5**
comp=Z,18nm,1.2s,mb5.0
MTLF Montolieu 91.25 333 *e*P **P 16 10 44.4 +0.5**
MTLF pmax pmax
comp=Z,9.0nm,1.2s,mb5.0
SYO Syowa Base 130.12 207 ⇓Pdiff Pdif 16 13 37.3 +1.5
VNA2 Neumayer--Watz 144.07 196 P PKPbc 16 17 13.2 +2.0
VNA2 Neumayer--Watz 144.07 196 PKPbc 16 17 15.9 +4.7
VNA2 Neumayer--Watz 144.07 196 PKPbc 16 17 19.5 +8.3
VNA2 Neumayer--Watz 144.07 196 PKPbc 16 17 26.5 +15
VNA3 Neumayer Olymp 144.29 195 P PKPbc 16 17 13.5 +1.6
VNA3 Neumayer Olymp 144.29 195 PKPbc 16 17 16.6 +4.7
VNA3 Neumayer Olymp 144.29 195 PKPbc 16 17 23.4 +12
VNA3 Neumayer Olymp 144.29 195 PKPbc 16 17 27.1 +15
VNA3 Neumayer Olymp 144.29 195 PKPbc 16 17 31.4 +20
VNA1 Neumayer--Stat 144.47 196 P PKPbc 16 17 14.8 +2.4
VNA1 Neumayer--Stat 144.47 196 PKPbc 16 17 17.4 +5.0
VNA1 Neumayer--Stat 144.47 196 PKPbc 16 17 22.3 +10
VNA1 Neumayer--Stat 144.47 196 PKPbc 16 17 26.1 +14
LPAZ La Paz 144.74 60 PKP PKPdf 16 17 16.7 -2.5
comp=Z,0.8nm,0.7s,baz=257,slow=5.7,SNR=3.8

*CNRM **25** 15:59:39.0,35.52N×3.83W,h18km,MD2.6*
*CSEM **25** 15:59:39.0,35.52N×3.83W,h18km,MD2.6,After CNRM*
*MDD **25** 15:59:41.4±0.4,35.39N×3.83W,h16km±7km,mbLg1.9/10, Error ellipse: s-maj=6.6km s-min=4.7km az=156.0, PRXIMO*
ISC 25 15:59:40.5±0.5,35.40N±0.06×3.90W±0.05,h22km±10km, n16,σ1°17/29,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAL	**Palemas**	**0.18**	**192**	*i* P	**Pb**	**15 59 45.0**	**-0.6**
MPAL				*i* S	**Sb**	**15 59 49.0**	**-0.1**
TOU	**Touzarine**	**0.46**	**165**	*i* P	**Pb**	**15 59 49.5**	**-0.3**
TOU				*i* S	**Sb**	**15 59 56.0**	**-0.2**
EMEL	**Melilla**	**0.77**	**97**	P	**Pb**	**15 59 56.8**	**+1.6**
	105nm,0.1s,SNR=7.9						
EMEL				S	**Sb**	**16 00 05.8**	**+0.6**
	206nm,0.1s,SNR=5.3						
EALB	**Alboran**	**0.88**	**52**	P	**Pb**	**15 59 57.2**	**+0.3**
	7.3nm,0.1s,SNR=33						
EALB				S	**Sb**	**16 00 07.9**	**-0.5**
	55nm,0.2s,SNR=5.8						
ZAI	**Zaio**	**1.04**	**114**	*e*P	**Pb**	**15 59 58.0**	**-1.6**
EMIJ	**Mijas**	**1.36**	**329**	P	**Pn**	**16 00 05.9**	**+1.4**
	1.2nm,0.1s,SNR=7.9						
EMIJ				S	**Sn**	**16 00 22.9**	**+1.0**
	5.9nm,0.2s,SNR=7.9						
EGUA	**Guajares**	**1.45**	**10**	P	**Pn**	**16 00 05.2**	**-0.6**
	0.5nm,0.2s,SNR=4.0						
EGUA				S	**Sn**	**16 00 23.4**	**-0.8**
	3.1nm,0.2s,SNR=7.9						
ERON	**Agron**	**1.61**	**3**	P	**Pn**	**16 00 07.8**	**-0.2**
	3.2nm,0.4s,SNR=7.9						
ERON				S	**Sn**	**16 00 27.8**	**-0.5**
	4.7nm,0.3s,SNR=4.0						
EBER	**Berja**	**1.70**	**28**	P	**Pn**	**16 00 09.6**	**+0.3**
	0.6nm,0.1s,SNR=4.0						
EBER				S	**Sn**	**16 00 30.2**	**-0.3**
	3.0nm,0.3s,SNR=7.9						
EQUE	**Quentar**	**1.83**	**11**	P	**Pn**	**16 00 10.6**	**-0.7**
	0.2nm,0.1s,SNR=7.9						
EQUE				S	**Sn**	**16 00 32.5**	**-1.5**
	2.3nm,0.4s,SNR=7.9						
EQES	**Quesada**	**2.48**	**15**	P	**Pn**	**16 00 23.1**	**+2.5**
	0.3nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**16 00 52.6**	**+2.1**
	2.7nm,0.7s,SNR=7.9						
EADA	**Adamuz**	**2.81**	**349**	P	**Pn**	**16 00 26.8**	**+1.7**
	0.2nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**16 00 57.6**	**-1.2**
	3.4nm,1.2s,SNR=7.9						
ECAB	**El Cabril**	**2.93**	**336**	S	**Sn**	**16 01 02.6**	**+0.7**
	5.6nm,0.7s,SNR=7.9						
EMUR	**La Murta**	**3.24**	**40**	P	**Pn**	**16 00 29.5**	**-1.8**
	1.0nm,0.0s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.25**	**317**	P	**Pn**	**16 00 33.2**	**+1.8**
	0.1nm,0.1s,SNR=4.0						
EMIN				S	**Sn**	**16 01 08.2**	**-1.6**
	3.1nm,1.2s,SNR=4.0						
EGRO	**El Granado**	**3.59**	**307**	P	**Pn**	**16 00 37.4**	**+1.2**
	0.2nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**16 01 16.6**	**-1.8**
	3.2nm,0.5s,SNR=7.9						

*NEIC **25** 16:11:08.1±2.4,51.53N×16.16E,h5km,ML2.8(VIE),Error ellipse: s-maj=23.7km s-min=7.8km az=207.0*
*CSEM **25** 16:11:08.8±0.3,51.50N×16.17E,h1km,ML2.9/5,Error ellipse: s-maj=4.7km s-min=1.8km az=17.0*
*PRU **25** 16:11:09.1,51.48N×16.17E*
*WAR **25** 16:11:10.1,51.47N×16.11E,h1km,ML2.3,Mining Induced*
ISC 25 16:11:07.4±1.0,51.46N±0.04×16.10E±0.05,n16,σ1°28/33, 1C,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.63**	**169**	*e*PG	**Pg**	**16 11 22.0**	**+2.0**
KSP				*e*SG	**Sg**	**16 11 30.0**	**+1.6**
KSP	**Ksiaz**	**0.63**	**169**	*e*Pg	**Pg**	**16 11 21.8**	**+1.8**
KSP				*e*Sg	**Sg**	**16 11 30.3**	**+1.9**
UPC	**Upice**	**0.95**	**183**	*e*PG	**Pg**	**16 11 27.7**	**+1.2**
DPC	**Dobruska-Polom**	**1.12**	**173**	*e*PG	**Pg**	**16 11 30.5**	**+0.7**
DPC				*e*SG	**Sg**	**16 11 45.4**	**+0.7**
	9.7nm,0.2s						
PVCC	**Panska Ves**	**1.34**	**227**	*e*PG	**Pg**	**16 11 35.4**	**+1.2**
PVCC				*e*SG	**Sg**	**16 11 53.6**	**+1.5**
BRG	**Berggiesshubel**	**1.48**	**247**	Pg	**Pg**	**16 11 37.5**	**+0.6**
BRG				Sg	**Sg**	**16 11 57.5**	**+0.9**
PRU	**Pruhonice**	**1.77**	**214**	*e*PG	**Pg**	**16 11 42.6**	**-0.2**
PRU				*e*SG	**Sg**	**16 12 06.4**	**-0.1**
	3.7nm,0.2s						
MORC	**Moravsky Berou**	**1.92**	**151**	*e*Pn	**Pn**	**16 11 42.7**	**+1.0**
MORC				*e*Sg	**Sg**	**16 12 08.4**	**-2.9**
CLL	**Collm**	**1.95**	**267**	*e*PG	**Pg**	**16 11 45.0**	**-1.3**
CLL				*i*		16 11 49.7	
CLL				*e*SG	**Sg**	**16 12 12.0**	**-0.2**
CLL	**Collm**	**1.95**	**267**	*e*Pg	**Pg**	**16 11 45.0**	**-1.3**
CLL				*e*Sg	**Sg**	**16 12 12.0**	**-0.2**
OKC	**Ostrava-Krasne**	**2.08**	**140**	*e*PG	**Pg**	**16 11 47.7**	**-1.3**
OKC				*e*SG	**Sg**	**16 12 15.0**	**-1.7**
	7.8nm,0.4s						
VRAC	**Vranov**	**2.18**	**171**	*e*Sg	**Sg**	**16 12 17.9**	**-2.0**
NKC	**Novy Kostel**	**2.62**	**243**	*e*PN	**Pn**	**16 11 53.5**	**+1.8**
NKC				*e*PG	**Pg**	**16 11 58.8**	**-0.9**
NKC				*e*SG	**Sg**	**16 12 34.1**	**-0.5**
	9.6nm,0.2s						
KHC	**Kasperske Hory**	**2.84**	**216**	*e*PN	**Pn**	**16 11 55.2**	**+0.4**
KHC				*e*PG	**Pg**	**16 12 01.4**	**-2.6**
KHC				*e*SN	**Sn**	**16 12 30.4**	**+0.2**
KHC				*e*SG	**Sg**	**16 12 40.2**	**-1.6**
MOX	**Moxa**	**2.94**	**256**	*e*Pg	**Pg**	**16 12 04.8**	**-1.4**
MOX				*e*Sg	**Sg**	**16 12 44.1**	**-1.3**
MOA	**Molln**	**3.80**	**199**	⇑*i*PN	**Pn**	**16 12 10.0**	**+1.5**
MOA				*i* SG	**Sg**	**16 13 14.1**	**0.0**
	2.2nm,0.3s						

*IDC **25** 16:39:44.8±1.3,10.73N×85.50W,mb4.1/5,mb1 4.4/5, mb1mx4.0/18,mbtmp4.1/5,MS3.3/4,Ms1 3.3/4, ms1mx2.9/24,Error ellipse: s-maj=105.6km s-min=23.3km az=60.0*
*CASC **25** 16:39:54.7±2.2,10.88N×86.64W,h10km±7km,MD4.0, ML4.2,mb4.0(NEIC)*
*NEIC **25** 16:40:10.1±5.0,11.25N×86.18W,h174km±49km,mb4.0/7, Error ellipse: s-maj=51.4km s-min=11.5km az=46.0*
ISC 25 16:39:52.2±1.6,10.81N±0.04×86.79W±0.04,h10km±10km, n50,σ0°90/48,mb4.0/10,MS3.2/4,15C-8D,Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSNN	**San Juan del S**	**1.04**	**63**⇓	*e*P	**Pb**	**16 40 11.2**	**-0.6**
CRUN	**El Crucero**	**1.26**	**22**	*e*P	**Pb**	**16 40 16.7**	**+1.1**
APON	**Apoyo**	**1.31**	**33**⇑	*e*P	**Pb**	**16 40 15.9**	**-0.5**
MASN	**Masaya**	**1.33**	**28**⇓	*e*P	**Pb**	**16 40 16.5**	**-0.2**
TICN	**Ticuantepe**	**1.33**	**24**⇑	*e*P	**Pb**	**16 40 17.0**	**+0.2**
CONN	**Concepcion**	**1.37**	**57**⇑	*e*P	**Pn**	**16 40 16.3**	**-1.1**
MADN	**Villa Maderas**	**1.37**	**64**⇑	*e*P	**Pn**	**16 40 16.6**	**-0.8**
COPN	**Copaltepe**	**1.38**	**8**⇓	*e*P	**Pn**	**16 40 18.0**	**+0.5**
XAVN	**Gruta Xavier**	**1.41**	**19**⇑	*e*P	**Pn**	**16 40 18.1**	**+0.2**
MGAN	**Managua**	**1.43**	**22**⇑	*e*P	**Pn**	**16 40 18.1**	**-0.2**
MGAN				*e*S	**Sb**	**16 40 35.7**	**-0.9**
MGAN				*i*		16 40 37.5	
	comp=E,5μm,0.5s						
WILN	**Americas 2**	**1.47**	**24**⇑	*e*P	**Pn**	**16 40 18.4**	**-0.4**
WILN				*e*S	**Sb**	**16 40 36.8**	**-0.8**
APYN	**Apoyeque**	**1.48**	**17**⇓	*e*P	**Pn**	**16 40 19.3**	**+0.3**
LIM1	**Limonal**	**1.52**	**94**⇑	*e*P	**Pn**	**16 40 18.1**	**-1.4**
LIM1				*i* S	**Sb**	**16 40 37.7**	**-1.3**
LEON	**Leon**	**1.60**	**356**⇑	*e*P	**Pn**	**16 40 21.6**	**+0.9**
MOMJ	**Momotombo**	**1.61**	**9**⇑	*e*P	**Pn**	**16 40 20.8**	**0.0**
MIRN	**Miramar**	**1.62**	**3**⇓	*e*P	**Pn**	**16 40 21.8**	**+0.7**
CNGN	**Cerro Negro**	**1.68**	**3**⇑	*e*P	**Pn**	**16 40 22.4**	**+0.5**
TEL3	**Telica 3**	**1.75**	**358**⇑	*e*P	**Pn**	**16 40 23.8**	**+0.9**
TELN	**Telica**	**1.78**	**359**⇑	*e*P	**Pn**	**16 40 24.3**	**+1.0**
PYTN	**Playitas**	**1.86**	**23**⇑	*e*P	**Pn**	**16 40 23.7**	**-0.7**
CRIN	**San Cristobal**	**1.90**	**352**⇑	*e*P	**Pn**	**16 40 26.1**	**+1.1**
CRIN				*e*S	**Sn**	**16 40 51.6**	**+2.6**
FORC	**Fortuna**	**2.11**	**99**⇓	*e*P	**Pn**	**16 40 29.3**	**+1.2**
CGA2	**Cerro Gallo 2**	**2.42**	**109**	*e*P	**Pn**	**16 40 32.4**	**0.0**
PRS1	**Puriscal**	**2.58**	**108**	*e*P	**Pn**	**16 40 34.7**	**0.0**
VPS2	**Volcan Poas 2**	**2.59**	**104**	*e*P	**Pn**	**16 40 34.8**	**-0.1**
VPS2				*e*S	**Sn**	**16 41 06.7**	**0.0**
CNCH	**Conchagua**	**2.65**	**338**	*e*P	Px	16 41 05.7	
CNCH				*e*S	Sx	16 41 38.0	
SJS	**Escuela Geolog**	**2.83**	**108**	*e*S	**Sn**	**16 41 14.4**	**+1.6**
LCR2	**La Lucha 2**	**2.94**	**111**⇓	*e*P	**Pn**	**16 40 40.6**	**+0.7**
LCR2				*e*S	**Sn**	**16 41 16.3**	**+0.7**
BUS	**Buena Vista**	**3.24**	**112**⇓	*e*P	**Pn**	**16 40 44.8**	**+0.7**
BUS				*e*S	**Sn**	**16 41 23.5**	**+0.5**
LCBS	**La Ceiba**	**3.54**	**323**	*e*P	Px	16 41 19.2	
LCBS				*e*S	Sx	16 42 01.2	
LFRS	**El Faro**	**3.57**	**322**	*e*P	Px	16 41 19.8	
LFRS				*e*S	Sx	16 42 02.6	
BOQS	**Boqueron**	**3.79**	**320**	*e*P	Px	16 41 22.4	
BOQS				*e*S	Sx	16 42 08.3	
RTR	**El Retiro**	**4.15**	**318**	*e*P	Px	16 41 27.5	
RTR				*e*S	Sx	16 42 16.1	
SDV	**Santo Domingo**	**16.04**	**95**	P	**P**	**16 43 40.2**	**+0.6**
	comp=E,13nm,1.5s						
SJG	**San Juan**	**21.25**	**68**	LR	LR	16 51 52.8	
	comp=E,55nm,19.5s,MS3.0,baz=277,slow=36						
LTX	**Lajitas**	**24.25**	**322**	*e*P	**P**	**16 45 10.6**	**+0.1**
	comp=E,4.0nm,0.7s,mb4.0						
TXAR	**Lajitas Array**	**24.25**	**322**	P	**P**	**16 45 11.2**	**+0.7**
	comp=E,4.8nm,0.8s,mb4.0,baz=134,slow=11,SNR=22						
ANMO	**Albuquerque**	**29.97**	**326**	LR	LR	17 00 17.7	
	comp=E,28nm,18.4s,MS2.9,baz=138,slow=40						
SAML	**Samuel**	**30.61**	**129**	*e*P	**P**	**16 46 05.9**	**-3.0**
	comp=E,4.1nm,1.0s,mb4.2						
SDCO	**Great Sand Dun**	**31.65**	**331**	*e*P	**P**	**16 46 16.9**	**-0.9**
	comp=E,1.8nm,0.7s,mb4.0						
PV10	**Paradox Valley**	**33.91**	**328**	*e*P	**P**	**16 46 36.2**	**-1.3**
PDAR	**Pinedale Array**	**37.51**	**332**	P	**P**	**16 47 06.4**	**-1.6**
	comp=E,1.2nm,0.7s,mb3.7,baz=125,slow=9.1,SNR=7.1						
HWUT	**Hardware Ranch**	**37.60**	**329**	*e*P	**P**	**16 47 07.9**	**-0.9**
	comp=E,3.7nm,0.8s,mb4.2						
ULM	**Lac du Bonnet**	**40.03**	**351**	P	**P**	**16 47 23.7**	**-5.2**
	comp=E,2.6nm,0.5s,mb4.2,baz=194,slow=8.8,SNR=6.7						
HLID	**Hailey**	**40.47**	**329**	*e*P	**P**	**16 47 32.5**	**-0.1**
	comp=E,2.1nm,0.6s,mb4.0						
MCMT	**McKenzie Canyo**	**40.62**	**331**	*e*P	**P**	**16 47 33.8**	**-0.1**
WVOR	**Wild Horse Val**	**42.00**	**324**	*e*P	**P**	**16 47 44.5**	**-0.7**
	comp=E,2.7nm,0.6s,mb4.0						
SCHQ	**Schefferville**	**46.66**	**16**	LR	LR	17 08 10.9	
	comp=E,42nm,18.5s,MS3.4,baz=273,slow=37						
ILAR	**Eielson Array**	**67.77**	**336**	P	**P**	**16 50 48.2**	**-3.8**
	comp=E,0.6nm,0.6s,mb3.8,baz=115,slow=4.0,SNR=5.8						
ILAR				LR	LR	17 22 54.5	
	comp=E,32nm,18.7s,MS3.6,baz=359,slow=38						
WRA	**Warramunga Arr**	**139.41**	**252**	PKP	PKPdf	16 59 19.0	-4.8
	comp=E,0.7nm,0.9s,baz=92,slow=0.3,SNR=4.5						

IDC 25 16:47:37.9±4.0,3.74N×95.56E,mb3.7/4,mb1 3.9/4, mb1mx3.6/19,mbtmp3.7/4,Error ellipse: s-maj=158.0km s-min=26.9km az=58.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**44.41**	**347**	P	P	16 55 50.2	-1.9
	0.8nm,0.7s,baz=164,slow=8.8,SNR=9.4						
WRA	**Warramunga Arr**	**44.78**	**123**	P	P	16 55 53.7	-1.8
	1.6nm,0.7s,baz=301,slow=9.2,SNR=11						
SONM	**Songino Array**	**44.91**	**10**	P	P	16 55 54.5	-1.7
	0.4nm,0.6s,baz=186,slow=8.2,SNR=3.9						
ZAL	**Zalesovo**	**50.81**	**352**	P	P	16 56 39.9	-2.2
	1.3nm,0.4s,baz=303,slow=2.3,SNR=6.2						

MAN 25 16:58:47.7,10.26N×126.22E,h32km,mb3.8,ML2.6, MS2.2,1C,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.87**	**237**⇑	*i*P	Pn	16 59 04.5	+0.7
SCPH				*e*S	Sn	16 59 15.6	+0.2
MSLP	**Maasin**	**1.35**	**265**	*e*P	Pn	16 59 10.6	-0.1
MSLP				*e*S	Sn	16 59 27.6	0.0
BESP	**Borongan**	**1.54**	**330**	*e*P	Pn	16 59 13.0	-0.3
CNP	**Catarman**	**2.71**	**326**	*e*P	Pn	16 59 29.9	-0.2

MAN 25 17:02:49.4,9.07N×126.28E,h31km,mb3.5,ML2.2,MS1.7, 1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.66**	**262**	*e*P	Pb	17 03 02.9	+0.4
BUTP				*e*S	Sb	17 03 13.3	+2.0
SCPH	**Surigao**	**1.06**	**312**⇑	*e*P	Pn	17 03 19.0	+11
SCPH				*e*S	Sn	17 03 24.2	+2.2
BUKP	**Musuan**	**1.69**	**226**	*e*P	Pn	17 03 17.1	-0.2
BESP	**Borongan**	**2.65**	**342**	*e*P	Pn	17 03 31.0	-0.1
PAGZ	**Pagadian**	**3.11**	**247**	*e*P	Pn	17 03 37.2	-0.4
GUIM	**Jordan**	**3.95**	**293**	*e*P	Pn	17 03 49.1	-0.5

IDC 25 17:30:04.0±1.2,59.89S×28.61W,mb3.8/2,mb1 3.9/2, mb1mx3.7/13,mbtmp3.8/2,Error ellipse: s-maj=66.6km s-min=32.5km az=62.0,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAW	**Mawson**	**37.56**	**141**	P	P	17 37 18.0	-3.1
	3.0nm,1.0s,baz=218,slow=11,SNR=4.2						
VNDA	**Vanda**	**42.69**	**183**	P	P	17 38 02.2	-1.0
	0.4nm,0.7s,baz=164,slow=3.6,SNR=2.6						
SONM	**Songino Array**	**151.45**	**95**	PKPbc	PKPdf	17 50 00.0	+5.9
	1.4nm,1.0s,baz=227,slow=3.1,SNR=6.1						
ILAR	**Eielson Array**	**151.96**	**307**	PKPbc	PKPdf	17 49 58.0	+3.6
	0.7nm,0.7s,baz=90,slow=0.9,SNR=8.2						
ILAR				PKPab	PKPab	17 50 08.4	-2.2
	1.6nm,0.8s,baz=117,slow=2.0,SNR=9.2						

*IDC **25** 17:39:15.9±0.9,15.36S×173.17W,mb4.0/6,mb1 4.3/6, mb1mx4.1/17,mbtmp4.0/6,MS3.7/6,Ms1 3.7/6, ms1mx3.3/28,Error ellipse: s-maj=51.0km s-min=20.7km az=134.0*
*NEIC **25** 17:39:17.0±0.4,15.41S×173.20W,h10km,mb4.6/5,Error ellipse: s-maj=30.2km s-min=9.6km az=134.0*
ISC 25 17:39:15.7±0.6,15.35±0.2×173.3W±0.2,h10km,n27, σ0°62/21,mb4.1/10,MS3.7/6,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.05**	**47**	Pn	**Pn**	**17 39 49.9**	**-0.8**
	212nm,0.3s,baz=27,slow=11,SNR=117						
AFI				Sn	**Sn**	**17 40 09.3**	**-7.1**
	156nm,0.3s,baz=268,slow=22,SNR=7.0						
AFI				LR	LR	17 40 20.9	
	comp=Z,514nm,19.5s,baz=129,slow=33						
AFI	**Afiamalu**	**2.05**	**47**	Pn	**Pn**	**17 39 49.9**	**-0.8**
AFI				*e*Sn	**Sn**	**17 40 05.4**	**-11**
AFI				LR	LR	17 40 20.9	
DZM	**Mont Dzumac**	**20.30**	**248**	LR	LR	17 49 29.7	
	comp=Z,139nm,18.1s,MS3.4,baz=68,slow=30						
URZ	**Urewera**	**24.37**	**198**	P	**P**	**17 44 35.7**	**+0.6**
	4.2nm,0.3s,mb4.3,slow=10,SNR=8.0						
PMG	**Port Moresby**	**38.99**	**274**	LR	LR	17 59 08.2	
	comp=Z,69nm,20.3s,MS3.5,baz=190,slow=30						
TAU	**Tasmania Unive**	**43.43**	**223**	P	**P**	**17 47 17.8**	**-2.7**
	158nm,1.6s						
STKA	**Stephens Creek**	**44.14**	**240**	LR	LR	18 03 23.3	
	comp=Z,162nm,21.9s,MS3.9,baz=26,slow=33						
WRA	**Warramunga Arr**	**49.93**	**257**	P	**P**	**17 48 12.1**	**+0.1**
	0.2nm,0.7s,mb3.3,baz=91,slow=6.7,SNR=5.5						
MJAR	**Matsushiro Arr**	**68.91**	**320**	LR	LR	18 14 17.7	
	comp=Z,57nm,20.6s,MS3.8,baz=195,slow=30						
NVAR	**Mina Array Bea**	**74.21**	**42**	P	**P**	**17 50 54.6**	**-0.2**
	0.8nm,0.7s,mb3.8,baz=225,slow=8.9,SNR=10						
MSU	**Marysvale**	**78.31**	**45**	*e*P	**P**	**17 51 18.0**	**+0.2**
BMO	**Blue Mountains**	**78.51**	**37**	*e*P	**P**	**17 51 18.7**	**-0.1**
	7.4nm,1.4s,mb4.4						
PV10	**Paradox Valley**	**80.40**	**46**	*e*P	**P**	**17 51 28.5**	**-0.7**
TXAR	**Lajitas Array**	**80.50**	**56**	P	**P**	**17 51 30.1**	**+0.2**
	1.4nm,0.9s,mb3.9,baz=211,slow=7.3,SNR=7.5						
PV01	**Paradox Valley**	**80.61**	**46**	*e*P	**P**	**17 51 30.5**	**+0.2**
ANMO	**Albuquerque**	**80.69**	**50**	LR	LR	18 17 32.4	
	comp=Z,44nm,21.2s,MS3.8,baz=129,slow=28						

*CSEM **25** 17:53:54.1±0.1, 44.73N×27.04E, h10km, ML4.0, Error ellipse: s-maj=1.9km s-min=1.4km az=151.0*
*NEIC **25** 17:53:55.8, 44.79N×27.01E, h10km, ML4.0(BUC), After BUC.*
*BUC **25** 17:53:55.3±0.4, 44.75N×27.01E, h10km, MD3.9/5, Error ellipse: s-maj=4.9km s-min=3.1km az=0.0*
*IDC **25** 17:53:56.2±1.6, 44.98N×27.08E, mb3.5/4, mb1 3.7/6, mb1mx3.6/19, mbtmp3.6/6, ML3.9/1, MS2.8/4, Ms1 2.9/4, ms1mx2.6/23, Error ellipse: s-maj=20.5km s-min=10.0km az=11.0*
ISC 25 17:53:54.8±0.6, 44.74N±0.02×27.00E±0.03, h5km±4km, n63, σ1º23/85, mb3.4/4, MS3.0/1, 15C-5D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISR	**Istrita**	**0.50**	**319**	⇑*i*P	**Pg**	**17 54 05.3**	**+0.5**
ISR				S	**Sg**	**17 54 10.2**	**-1.2**
ISR	**Istrita**	**0.50**	**319**	⇓P	**Pg**	**17 54 04.2**	**-0.6**
ISR				S	**Sg**	**17 54 10.2**	**-1.2**
HARR	**Harsova**	**0.67**	**94**	⇑*i*P	**Pg**	**17 54 08.7**	**+0.6**
HARR				*i* S	**Sg**	**17 54 19.5**	**+2.5**
HARR	**Harsova**	**0.67**	**94**	⇑P	**Pg**	**17 54 07.7**	**-0.4**
HARR				*i* S	**Sg**	**17 54 19.5**	**+2.5**
HARR	**Harsova**	**0.67**	**94**	⇑P	**Pg**	**17 54 07.7**	**-0.5**
HARR				S	**Sg**	**17 54 18.1**	**+1.1**
BUC1	**Bucharest**	**0.80**	**241**	⇓*i*P	**Pg**	**17 54 11.7**	**+0.9**
BUC1				*i* S	**Sg**	**17 54 23.4**	**+1.9**
BUC1	**Bucharest**	**0.80**	**241**	P	**Pg**	**17 54 10.9**	**+0.1**
BUC1				*i* S	**Sg**	**17 54 23.4**	**+1.9**
CFR	**Carcaliu**	**0.92**	**61**	⇑*i*P	**Pb**	**17 54 13.0**	**+0.1**
CFR				*i* S	**Sb**	**17 54 26.1**	**+1.0**
CFR	**Carcaliu**	**0.92**	**61**	⇓P	**Pb**	**17 54 12.1**	**-0.8**
CFR				*i* S	**Sb**	**17 54 26.1**	**+1.0**
CFR	**Carcaliu**	**0.92**	**61**	⇓P	**Pb**	**17 54 12.1**	**-0.8**
CFR				S	**Sb**	**17 54 25.1**	**-0.1**
TIRR	**Tirgusor**	**1.05**	**105**	*e*Pg	**Pg**	**17 54 14.9**	**-0.9**
TIRR				*e*Sg	**Sg**	**17 54 30.0**	**+0.2**
TIRR	**Tirgusor**	**1.05**	**105**	*e*Pg	**Pg**	**17 54 14.9**	**-0.9**
TIRR				*e*Sg	**Sg**	**17 54 30.0**	**+0.3**
MLR	**Muntele Rosu**	**1.06**	**315**	Pg	**Pg**	**17 54 15.4**	**-0.5**
MLR	47nm,0.3s,baz=89,slow=5.0,SNR=381			Lg		17 54 28.5	
MLR	**Muntele Rosu**	**1.06**	**315**	⇑*i*P	**Pb**	**17 54 15.5**	**+0.2**
MLR	64nm,0.3s,baz=78,slow=19,SNR=25			*i* S	**Sb**	**17 54 30.8**	**+1.6**
MLR	**Muntele Rosu**	**1.06**	**315**	P	**Pb**	**17 54 15.4**	**+0.1**
VRI	**Vrincioaia**	**1.14**	**350**	⇑*i*P	**Pb**	**17 54 17.7**	**+1.0**
VRI				*i* S	**Sb**	**17 54 34.1**	**+2.5**
VRI	**Vrincioaia**	**1.14**	**350**	P	**Pb**	**17 54 17.7**	**+1.0**
SNX	**Sinaia**	**1.22**	**301**	⇑*i*P	**Pb**	**17 54 19.0**	**+1.0**
SNX				*i* S	**Sb**	**17 54 35.5**	**+1.6**
SNX	**Sinaia**	**1.22**	**301**	⇑P	**Pb**	**17 54 18.0**	**0.0**
SNX				*i* S	**Sb**	**17 54 35.5**	**+1.6**
SNX	**Sinaia**	**1.22**	**301**	⇑P	**Pb**	**17 54 18.0**	**0.0**
SNX				S	**Sb**	**17 54 36.1**	**+2.2**
PSN	**Preselentsi**	**1.36**	**141**	*i* P	**Pb**	**17 54 21.3**	**+0.9**
TLCR		**1.36**	**70**	*i* S	**Sb**	**17 54 39.7**	**+1.6**
MTUR	**Matau**	**1.46**	**290**	⇑*i*P	**Pn**	**17 54 22.8**	**+0.8**
MTUR				S	**Sb**	**17 54 45.3**	**+4.4**
MTUR	**Matau**	**1.46**	**290**	⇑*i*P	**Pn**	**17 54 22.8**	**+0.8**
MTUR				*i* S	**Sb**	**17 54 45.3**	**+4.4**
PRD	**Provadia**	**1.57**	**169**	*i* P	**Pn**	**17 54 24.7**	**+1.1**
ZIMR		**1.60**	**228**	⇑P	**Pn**	**17 54 24.8**	**+0.8**
ZIMR				S	**Sb**	**17 54 47.6**	**+2.6**
SZH	**Strazhica**	**1.67**	**208**	*i* P	**Pn**	**17 54 25.0**	**+0.1**
JMB	**Yambol**	**2.30**	**188**	*i* P	**Pn**	**17 54 35.5**	**+1.5**
IAS	**Iasi**	**2.48**	**9**	*i* S	**Sn**	**17 55 07.2**	**-0.5**
DIM	**Dimitrovgrad**	**2.90**	**202**	P	**Pn**	**17 54 43.0**	**+0.5**
PGB	**Panagyurishte**	**3.01**	**224**	*i* P	**Pn**	**17 54 44.7**	**+0.6**
PLD	**Plovdiv**	**3.12**	**213**	P	**Pn**	**17 54 45.0**	**-0.8**
BURAR	**Bucovina Array**	**3.13**	**337**	P	**Pn**	**17 54 46.4**	**+0.6**
KDZ	**Kurdzhali**	**3.30**	**201**	*i* P	**Pn**	**17 54 48.7**	**+0.4**
ZAPS	**Zavoj/Pirot**	**3.48**	**247**	⇑*i*Pn	**Pn**	**17 54 49.4**	**-1.4**
ZAPS				Sn	**Sn**	**17 55 28.4**	**-4.5**
RZN	**Rozhen**	**3.48**	**209**	*i* P	**Pn**	**17 54 50.0**	**-0.8**
VTS	**Vitosha**	**3.49**	**233**	*i* P	**Pn**	**17 54 50.3**	**-0.7**
VTS	**Vitosha**	**3.49**	**233**	P	**Pn**	**17 54 50.6**	**-0.4**
ALN	**Alexandroupoli**	**3.91**	**191**	*e*P	**Pn**	**17 54 56.7**	**-0.2**
MMB	**Musomiste**	**3.96**	**218**	*i* P	**Pn**	**17 54 57.5**	**-0.1**
KKB	**Krupnik**	**4.05**	**226**	*i* P	**Pn**	**17 54 59.0**	**0.0**
BARS	**Barje**	**4.21**	**245**	⇑*i*Pn	**Pn**	**17 54 59.8**	**-1.4**
BARS				Sn	**Sn**	**17 55 53.5**	**+2.0**
SRS	**Serrai**	**4.40**	**216**	*e*P	**Pn**	**17 55 02.7**	**-1.3**
KNT	**Kendrikon**	**4.68**	**221**	*e*P	**Pn**	**17 55 06.8**	**-1.0**
KNT	**Kendrikon**	**4.68**	**221**	*e*P	**Pn**	**17 55 06.8**	**-1.0**
SKO	**Skopje**	**4.91**	**238**	*e*P	**Pg**	**17 55 28.3**	**-4.6**
DIVS	**Divcibare**	**5.06**	**265**	⇓*i*Pn	**Pn**	**17 55 10.6**	**-2.7**
DIVS				Sn	**Sn**	**17 56 07.2**	**-5.8**
GRG	**Griva**	**5.07**	**223**	*e*P	**Pn**	**17 55 12.1**	**-1.4**
CRVS	**Cervenica-Dubn**	**5.63**	**320**	*e*PN	**Pn**	**17 55 22.4**	**+1.0**
KECS	**Kecovo**	**5.84**	**312**	*e*PN	**Pn**	**17 55 21.5**	**-2.8**
KECS				*e*		17 56 29.7	
XOR	**Xorichti**	**6.07**	**209**	*e*P	**Pn**	**17 55 25.0**	**-2.5**
STHS	**Stebnicka Huta**	**6.11**	**322**	*e*PN	**Pn**	**17 55 26.3**	**-1.7**
STHS				*e*		17 56 39.4	
AKASG	**Malin Array Be**	**6.15**	**13**	Pn	**Pn**	**17 55 24.9**	**-3.7**
AKASG	3.1nm,0.3s,baz=196,slow=13,SNR=17			Sn	**Sn**	**17 56 32.0**	**-8.2**
AKASG	17nm,0.3s,baz=201,slow=22,SNR=5.5			Lg		17 57 02.9	
BRTR	**Keskin Array B**	**7.03**	**133**	Pn	**Pn**	**17 55 48.7**	**+7.7**
BRTR	**Keskin Array B**	**7.03**	**133**	Pn	**Pn**	**17 55 48.7**	**+7.7**
GERES	**GERESS Array B**	**10.00**	**299**	LR	LR	18 00 37.2	
FINES	**FINESS Array B**	**16.74**	**358**	Pn	**P**	**17 57 44.9**	**-6.6**
FINES	0.1nm,0.3s,baz=170,slow=16,SNR=3.0			LR	LR	18 05 02.4	
HFS	**Hagfors**	**17.36**	**337**	Pn	**P**	**17 57 54.0**	**-5.3**
NOA	**NORSAR Array B**	**18.81**	**336**	LR	LR	18 06 21.1	
ARCES	**ARCESS Array B**	**24.87**	**359**	P	**P**	**17 59 18.6**	**-0.7**
ARCES	1.4nm,0.8s,mb3.5,baz=167,slow=12,SNR=5.3			LR	LR	18 08 38.3	
ZAL	**Zalesovo**	**37.78**	**55**	P	**P**	**18 01 12.0**	**-1.4**
MKAR	**Makanchi Array**	**37.95**	**67**	P	**P**	**18 01 13.7**	**-1.2**
SONM	**Songino Array**	**52.64**	**56**	P	**P**	**18 03 10.8**	**-1.1**

*IDC **25** 18:05:02.5±1.7, 43.71N×105.49W, mb3.8/3, mb1 3.9/6, mb1mx3.7/23, mbtmp3.8/6, ML3.5/3, Error ellipse: s-maj=53.9km s-min=8.8km az=150.0*
*NEIC **25** 18:05:02.8±0.5, 43.75N×105.33W, ML3.3, Error ellipse: s-maj=9.8km s-min=7.3km az=139.0, Suspected Mining explosion.*
NEIC 0.0 [ ]. 60 km [40 miles] SSE of Gillette.
ISC 25 18:05:01.6±0.5, 43.73N±0.04×105.31W±0.06, n41, σ1º03/41, mb3.8/3, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.00**	**66**	*e*P	**Pb**	**18 05 22.0**	**+0.5**
PHWY	**Pilot Hill**	**2.42**	**183**	*e*P	**Pn**	**18 05 44.1**	**+1.0**
RWWY	**Rawlins**	**2.47**	**215**	*e*P	**Pn**	**18 05 45.4**	**+1.6**
LAO	**LASA Array**	**3.03**	**348**	*e*P	**Pn**	**18 05 51.9**	**+0.1**
BW06	**Boulder Array**	**3.25**	**254**	*e*P	**Pn**	**18 05 55.1**	**+0.3**
PDAR	**Pinedale Array**	**3.25**	**254**	Pn	**Pn**	**18 05 56.2**	**+1.4**
PDAR	6.2nm,0.3s,baz=75,slow=16,SNR=38			Lg		18 06 39.2	
GCMT	**Greycliff**	**3.73**	**305**	P	**Pn**	**18 06 02.7**	**+1.0**
LKWY	**Lake**	**3.76**	**285**	P	**Pn**	**18 06 02.2**	**+0.1**
LOHW	**Long Hollow**	**3.84**	**270**	*e*P	**Pn**	**18 06 02.8**	**-0.5**
FLWY	**Flagg Ranch**	**3.91**	**277**	*e*P	**Pn**	**18 06 02.3**	**-2.0**
ISCO	**Idaho Springs**	**3.93**	**183**	*e*P	**Pn**	**18 06 04.2**	**-0.4**
SNOW	**Snow King Moun**	**3.96**	**268**	P	**Pn**	**18 06 04.3**	**-0.7**
YNR	**Norris Junctio**	**3.98**	**286**	P	**Pn**	**18 06 04.2**	**-1.1**
REDW	**Red Top Meadow**	**4.05**	**267**	P	**Pn**	**18 06 05.9**	**-0.3**
YFT	**Old Faithful**	**4.05**	**282**	P	**Pn**	**18 06 07.8**	**+1.6**
IMW	**Indian Meadow**	**4.08**	**274**	*e*P	**Pn**	**18 06 06.5**	**-0.1**
TPAW	**Teton Pass**	**4.10**	**269**	P	**Pn**	**18 06 09.0**	**+2.0**
AHID	**Auburn Hatcher**	**4.34**	**259**	*e*P	**Pn**	**18 06 11.1**	**+0.8**
RRI2	**Red Ridge**	**4.39**	**267**	*e*P	**Pn**	**18 06 10.8**	**-0.2**
QLMT	**Earthquake Lak**	**4.53**	**286**	P	**Pn**	**18 06 13.6**	**+0.5**
DGMT	**Dagmar**	**4.81**	**9**	P	**Pn**	**18 06 17.4**	**+0.4**
BOZ	**Bozeman (W)**	**4.90**	**295**	*e*P	**Pn**	**18 06 17.4**	**-0.9**
HWUT	**Hardware Ranch**	**5.08**	**247**	*e*P	**Pn**	**18 06 19.5**	**-1.3**
DLMT	**Dillon**	**5.46**	**290**	P	**Pn**	**18 06 27.9**	**+1.7**
HRY	**Holter Researc**	**5.49**	**305**	*e*P	**Pn**	**18 06 26.2**	**-0.4**
MCMT	**McKenzie Canyo**	**5.53**	**284**	*e*P	**Pn**	**18 06 27.4**	**+0.2**
DAU	**Daniels Canyon**	**5.53**	**235**	P	**Pn**	**18 06 26.6**	**-0.6**
CTU	**Camp Tracy**	**5.66**	**240**	P	**Pn**	**18 06 29.2**	**+0.1**
SPUT	**South Promonto**	**5.80**	**248**	*e*P	**Pn**	**18 06 31.4**	**+0.3**
HVU	**Hansel Valley**	**5.83**	**253**	*e*P	**Pn**	**18 06 29.8**	**-1.7**
SDCO	**Great Sand Dun**	**5.98**	**181**	P	**Pn**	**18 06 32.2**	**-1.3**
MPU	**Maple Canyon**	**6.00**	**234**	P	**Pn**	**18 06 35.0**	**+1.1**
CHMT	**Chamberlain Mo**	**6.44**	**302**	*e*P	**Pn**	**18 06 39.5**	**-0.6**
CBKS	**Cedar Bluff**	**6.46**	**138**	P	**Pn**	**18 06 40.4**	**+0.2**
DUG	**Dugway**	**6.61**	**240**	*e*P	**Pn**	**18 06 41.3**	**-1.1**
ELK	**Elko**	**7.95**	**251**	Pn	**Pn**	**18 07 00.5**	**-0.7**
ELK	**Elko**	**7.95**	**251**	Pn	**Pn**	**18 07 00.5**	**-0.7**
ULM	**Lac du Bonnet**	**9.17**	**41**	Pn	**P**	**18 07 14.8**	**-3.3**
ARCES	**ARCESS Array B**	**61.44**	**18**	P	**P**	**18 15 19.2**	**-2.3**
SONM	**Songino Array**	**84.64**	**339**	P	**P**	**18 17 39.0**	**+1.2**
MKAR	**Makanchi Array**	**89.62**	**355**	P	**P**	**18 18 02.4**	**+0.3**

*BJI **25** 18:19:42.2, 14.77S×167.34E, h19km, mB5.1, mb4.6, Ms4.6, Msz4.3*
*HRVD **25** 18:19:43.7±0.6, 15.03S×166.82E, h34km±1km, MW4.9/35, Centroid moment Tensor Solution. LP body waves: s31,c36;Mantle waves: s35,c52; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.54±.21; Mθθ0.01±.14; Mφφ-2.55±.13; Mrθ-0.18±.19; Mθφ0.48±.12; Mφr-0.25±.14; Best double couple: M0:2.607×10^16 NP1:φs345°, δ43°, λ83°. NP2:φs175°, δ48°, λ97°. Principal axes: T 2.568, Plg84°, Azm145°; N .077, Plg5°, Azm350°; P -2.645, Plg2°, Azm260°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **25** 18:19:43.7±0.2, 14.92S×166.99E, mb4.9/27, MS4.5/2 Error ellipse: s-maj=9.7km s-min=7.3km az=102.0*
*LDG **25** 18:19:44.7±0.2, 14.76S×166.49E, h10km, Mb4.9/3, Ms4.2/7, Error ellipse: s-maj=31.5km s-min=7.2km az=84.0*
*IDC **25** 18:19:44.5±0.7, 14.87S×166.92E, h14km±3km, mb4.5/14, mb1 4.6/15, mb1mx4.6/19, mbtmp4.6/15, ML4.4/1, MS4.0/21, Ms1 4.0/21, ms1mx3.8/34, Error ellipse: s-maj=20.3km s-min=12.9km az=82.0*
*MOS **25** 18:19:46.4±1.4, 14.96S×166.91E, h33km, mb5.0/19, Error ellipse: s-maj=11.2km s-min=9.6km az=125.6*
ISC 25 18:19:42.8±0.3, 14.97S±0.04×166.91E±0.06, h15km, h15km±1.6km: pP-P, n235, σ0º99/107, mb4.8/42, MS4.0/20, 9C-5D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.08**	**184**	*e*P	**Pn**	**18 21 28.8**	**+0.3**
DZM				*e*S	**Sn**	**18 22 42.4**	**-7.0**
DZM	**Mont Dzumac**	**7.08**	**184**	Pn	**Pn**	**18 21 28.8**	**+0.3**
DZM	5.7nm,0.3s,baz=4.1,slow=17,SNR=102			Sn	**Sn**	**18 22 47.6**	**-1.8**
DZM	3.9nm,0.3s,baz=319,slow=19,SNR=2.5			LR	LR	18 23 58.4	
DZM	**Mont Dzumac**	**7.08**	**184**	*e*P	**Pn**	**18 21 28.8**	**+0.3**
DZM				*e*S	**Sn**	**18 22 42.4**	**-7.0**
HNR	**Honiara**	**8.75**	**308**	Pn	**P**	**18 21 53.3**	**+1.6**
HNR	12nm,0.3s,baz=193,slow=4.7,SNR=12			Sn	**Sn**	**18 23 29.4**	**-1.7**
HNR	11nm,0.3s,baz=31,slow=19,SNR=4.4			LR	LR	18 24 51.6	
HNR	**Honiara**	**8.75**	**308**	*e*Pn	**P**	**18 21 53.4**	**+1.6**
HNR	164nm,0.9s			*e*Sn	**Sn**	**18 23 30.1**	**-1.0**
HNR	**Honiara**	**8.75**	**308**	*e*P	**P**	**18 21 53.4**	**+1.6**
HNR				*e*		18 23 30.1	
HNR				pmax	pmax		
RAO	**Raoul Island**	**19.96**	**138**	LR	LR	18 29 58.8	
CTA	**Charters Tower**	**20.34**	**253**	*e*P	**P**	**18 24 25.1**	**+3.7**
CTA	**Charters Tower**	**20.34**	**253**	P	**P**	**18 24 22.6**	**+1.2**
CTA	12nm,0.8s,baz=55,slow=15,SNR=4.7			LR	LR	18 31 20.2	
CTA	**Charters Tower**	**20.34**	**253**	*e*P	**P**	**18 24 25.1**	**+3.7**
CTA				pmax	pmax		
CTAO	**Charters Tower**	**20.34**	**253**	P	**P**	**18 24 22.2**	**+0.8**
CTAO	**Charters Tower**	**20.34**	**253**	P	**P**	**18 24 22.2**	**+0.8**
CTAO				pmax	pmax		
AFI	**Afiamalu**	**20.67**	**90**	LR	LR	18 30 31.9	
URZ	**Urewera**	**24.89**	**161**	P	**P**	**18 25 07.3**	**+0.8**
URZ				S	**S**	**18 29 33.5**	**+7.4**
STKA	**Stephens Creek**	**28.57**	**230**	*e*P	**P**	**18 25 40.2**	**-0.2**
STKA	**Stephens Creek**	**28.57**	**230**	P	**P**	**18 25 40.6**	**+0.2**
STKA				LR	LR	18 36 13.3	
WRAB	**Tennant Creek**	**31.42**	**256**	*e*P	**P**	**18 26 04.8**	**-1.0**
WRAB	**Tennant Creek**	**31.42**	**256**	*e*P	**P**	**18 26 04.9**	**-0.9**
WRAB				pmax	pmax		
WRA	**Warramunga Arr**	**31.43**	**256**	P	**P**	**18 26 04.7**	**-1.2**
WRA				pScP		18 32 48.3	
RAR	**Rarotonga**	**32.23**	**106**	P	**P**	**18 26 12.7**	**-0.2**
GUMO	**Guam**	**35.79**	**321**	LR	LR	18 38 47.8	
FORT	**Forrest**	**38.88**	**239**	⇓*i*P	**P**	**18 27 10.0**	**+0.5**
FITZ	**Fitzroy Crossi**	**39.63**	**260**	*e*P	**P**	**18 27 16.3**	**+0.5**
FITZ	**Fitzroy Crossi**	**39.63**	**260**	P	**P**	**18 27 16.2**	**+0.3**
PPT	**Papeete**	**41.79**	**100**	LR	LR	18 41 07.0	
MBWA	**Marble Bar**	**45.15**	**255**	P	**P**	**18 27 57.2**	**-3.7**
KLBR	**Kellerberrin**	**47.68**	**241**	*e*P	**P**	**18 28 20.2**	**-0.7**
NWAO	**Narrogin (SRO)**	**48.33**	**239**	*e*P	**P**	**18 28 25.3**	**-0.6**
NWAO	**Narrogin (SRO)**	**48.33**	**239**	*e*P	**P**	**18 28 25.3**	**-0.5**
NWAO				pmax	pmax		
MUN	**Mundaring**	**49.04**	**241**	*e*P	**P**	**18 28 31.0**	**-0.4**
JOW	**Kunigami**	**55.99**	**318**	pP	pP	18 29 28.2	+0.3
MJAR	**Matsushiro Arr**	**57.95**	**333**	P	**P**	**18 29 36.0**	**-1.1**
MJAR				pP	pP	18 29 39.8	-2.0
MJAR				LR	LR	18 50 50.8	
MAJO	**Matsushiro**	**57.96**	**333**	*e*P	**P**	**18 29 34.5**	**-2.7**
MAJO	**Matsushiro**	**57.96**	**333**	*e*P	**P**	**18 29 34.5**	**-2.6**
MAJO				pmax	pmax		
MAT	**Matsushiro**	**57.96**	**333**	P	**P**	**18 29 36.1**	**-1.0**
MAT	**Matsushiro**	**57.96**	**333**	*e*P	**P**	**18 29 34.0**	**-3.1**
JNU	**Nakatsue**	**58.91**	**325**	pP	pP	18 29 47.6	-0.9
VNDA	**Vanda**	**62.62**	**181**	P	**P**	**18 30 07.9**	**-0.6**
VNDA				LR	LR	18 52 44.2	
ASAJ	**Asahikawa**	**62.85**	**341**	P	**P**	**18 30 10.7**	**+0.3**
ASAJ				pP	pP	18 30 15.1	0.0
SBA	**Scott Base**	**62.90**	**180**	*e*P	**P**	**18 30 10.6**	**+0.2**
SBA	**Scott Base**	**62.90**	**180**	*e*P	**P**	**18 30 10.6**	**+0.3**
SBA				pmax	pmax		
SSE	**Sheshan**	**63.45**	**317**	P	**P**	**18 30 15.3**	**+0.7**
SSE				AMB	AMB		
SSE				AMB	AMB		
SSE	**Sheshan**	**63.45**	**317**	P	**P**	**18 30 15.3**	**+0.7**
YSS	**Yuzh-Sakhalins**	**65.34**	**342**	*e*P	**P**	**18 30 27.1**	**+0.5**
YSS	**Yuzh-Sakhalins**	**65.34**	**342**	⇓*i*P	**P**	**18 30 27.0**	**+0.3**
YSS				pmax	pmax		
YSS				pmax	pmax		
NJ2	**Nanjing**	**65.60**	**316**	*e*P	**P**	**18 30 29.0**	**+0.4**
NJ2				AP	pP	18 30 39.5	+6.2
NJ2				XP	sP	18 30 43.0	+8.0
NJ2				PP	PP	18 32 56.3	+1.0
NJ2				S	S	18 39 13.0	+1.1
NJ2				XS		18 39 29.0	
NJ2				AMB	AMB		
NJ2				LR	LR		
NJ2				LR	LR		
NJ2				LR	LR		
FX1	**Attu Island--F**	**67.78**	**4**	*e*P	**P**	**18 30 42.1**	**+0.1**
PET	**Petropavlovsk**	**68.08**	**355**	⇑*i*P	**P**	**18 30 44.8**	**+0.8**
MDJ	**Mudanjiang**	**68.33**	**332**	P	**P**	**18 30 46.8**	**+1.2**
MDJ				AMB	AMB		
MDJ				AMB	AMB		
MDJ	**Mudanjiang**	**68.33**	**332**	*e*P	**P**	**18 30 46.0**	**+0.4**
CN2	**Changchun**	**69.67**	**329**	*e*P	**P**	**18 30 53.5**	**-0.4**
CN2				AMB	AMB		
CN2				LR	LR		
MIR	**Mirnyy**	**69.97**	**204**	*d*iP	**P**	**18 30 51.2**	**-4.1**
MIR				pmax	pmax		
ENH	**Enshi**	**71.25**	**310**	*e*P	**P**	**18 31 02.4**	**-1.3**
XAN	**Xi'an**	**73.59**	**313**	P	**P**	**18 31 17.0**	**-0.6**
XAN				AP	pP	18 31 22.3	0.0
XAN				AMB	AMB		
KMI	**Kunming**	**74.13**	**302**	⇑P	**P**	**18 31 22.0**	**+1.1**
KMI				S	S	18 40 50.0	-2.0
KMI				SKS	SKS	18 41 18.0	-11
KMI				SS	SS	18 45 39.3	-0.4
KMI				AMB	AMB		
KMI				AMB	AMB		
KMI				LR	LR		
KMI				LR	LR		
KMI				LR	LR		
KMI	**Kunming**	**74.13**	**302**	⇑P	**P**	**18 31 22.1**	**+1.2**
KMI				pP	pP	18 31 38.1	+12
KMI				S	S	18 40 50.0	-2.0
KMI				SKS	SKS	18 41 18.0	-11
KMI				SS	SS	18 45 39.2	-0.5
KMI				LR	LR		
KMI	**Kunming**	**74.13**	**302**	⇑P	**P**	**18 31 22.1**	**+1.2**
KMI				*PP	pP	18 31 38.1	+12
KMI				S	S	18 40 50.0	-2.0
KMI						18 41 18.0	
KMI				SS	SS	18 45 39.2	-0.5
KMI				pmax	pmax		
KMI				MLR	MLR		
QSPA	**South Pole Qui**	**75.06**	**180**	*e*P	**P**	**18 31 25.3**	**+0.1**
MA2	**Magadan**	**75.43**	**352**	*e*P	**P**	**18 31 30.3**	**+2.7**
MA2	**Magadan**	**75.43**	**352**	*e*P	**P**	**18 31 30.2**	**+2.6**
MA2				pmax	pmax		
HIA	**Hailar**	**76.32**	**330**	*e*P	**P**	**18 31 33.2**	**+0.3**
LZH	**Lanzhou**	**78.22**	**312**	*e*P	**P**	**18 31 45.0**	**+1.3**
LZH				AMB	AMB		
LZH	**Lanzhou**	**78.22**	**312**	*e*P	**P**	**18 31 45.0**	**+1.3**
LZH				pP	pP	18 31 58.0	+10
LZH				sP	sP	18 32 04.0	+14
LZH	**Lanzhou**	**78.22**	**312**	*e*P	**P**	**18 31 45.0**	**+1.3**
LZH				*PP	pP	18 31 58.0	+10
LZH				pmax	pmax		
SEY	**Seymchan**	**78.47**	**353**	⇓*i*P	**P**	**18 31 44.6**	**+0.1**
SEY	**Seymchan**	**78.47**	**353**	⇓*i*P	**P**	**18 31 44.5**	**0.0**
CIT	**Chita**	**81.10**	**330**	*e*P	**P**	**18 31 59.1**	**+0.3**
MAW	**Mawson**	**81.53**	**202**	*e*P	**P**	**18 32 01.3**	**+0.5**
MAW	**Mawson**	**81.53**	**202**	P	**P**	**18 32 01.6**	**+0.8**
MAW				LR	LR	19 02 42.2	
MAW	**Mawson**	**81.53**	**202**	*e*P	**P**	**18 32 01.3**	**+0.5**
MAW				pmax	pmax		
ULN	**Ulaanbaatar**	**82.12**	**324**	*e*P	**P**	**18 32 05.1**	**+0.8**
ULN	**Ulaanbaatar**	**82.12**	**324**	*c*iP	**P**	**18 32 05.2**	**+1.0**
YAK	**Yakutsk**	**82.16**	**343**	*e*P	**P**	**18 32 03.8**	**-0.3**
YAK	**Yakutsk**	**82.16**	**343**	*e*P	**P**	**18 32 04.1**	**0.0**
YAK				pmax	pmax		
YAK				pmax	pmax		
YAK				pmax	pmax		
SONM	**Songino Array**	**82.48**	**324**	P	**P**	**18 32 06.8**	**+0.7**
SONM				pP	pP	18 32 11.5	+0.5
GTA	**Gaotai**	**82.58**	**314**	P	**P**	**18 32 08.3**	**+1.5**
GTA				AP	pP	18 32 14.8	+3.2
GTA				XP	sP	18 32 18.0	+4.8
GTA				AMB	AMB		
SLKM	**Skilak Lake**	**82.68**	**20**	*e*P	**P**	**18 32 04.8**	**-2.0**
BILL	**Bilibino**	**82.78**	**360**	*e*P	**P**	**18 32 07.2**	**0.0**
BILL	**Bilibino**	**82.78**	**360**	*c*iP	**P**	**18 32 07.4**	**+0.2**
BILL				pmax	pmax		
BOD	**Bodaibo**	**84.54**	**335**	*e*P	**P**	**18 32 16.0**	**-0.4**
BOD				pmax	pmax		
LSA	**Lhasa**	**85.39**	**302**	*e*P	**P**	**18 32 22.6**	**+1.3**
LSA	**Lhasa**	**85.39**	**302**	*e*P	**P**	**18 32 22.6**	**+1.3**
LSA				pmax	pmax		
MCK	**McKinley**	**85.49**	**18**	*e*P	**P**	**18 32 21.8**	**+0.9**
MCK	**McKinley**	**85.49**	**18**	*e*P	**P**	**18 32 21.8**	**+0.9**
MCK				pmax	pmax		
ZAK	**Zakamensk**	**85.54**	**325**	⇑*i*P	**P**	**18 32 21.8**	**+0.3**
ZAK				pmax	pmax		
YBH	**Yreka Blue Hor**	**85.83**	**45**	P	**P**	**18 32 23.2**	**0.0**
YBH				LR	LR	19 03 04.6	
CMB	**Columbia Colle**	**86.02**	**49**	*e*P	**P**	**18 32 23.4**	**-0.8**
CMB	**Columbia Colle**	**86.02**	**49**	*e*P	**P**	**18 32 23.4**	**-0.8**

CMB pmax pmax
comp=Z,3.0nm,0.7s,mb4.6
ILAR Eielson Array 86.86 18 P P 18 32 26.2 -1.4
comp=Z,5.0nm,0.7s,mb4.8,baz=236,slow=5.5,SNR=42
ILAR LR LR 19 06 08.3
comp=Z,111nm,18.9s,MS4.3,baz=352,slow=32
SYO Syowa Base 88.38 197 ⇑P P 18 32 34.0 -0.9
WVOR Wild Horse Val 88.90 46 P P 18 32 36.9 -1.2
comp=Z,8.5nm,1.2s,mb5.0
WVOR Wild Horse Val 88.90 46 P P 18 32 36.9 -1.1
WVOR pmax pmax
comp=Z,8.0nm,1.2s,mb4.9
DLBC Dease Lake 89.31 28 LR LR 19 05 31.7
comp=Z,69nm,19.9s,MS4.1,baz=264,slow=31
BMO Blue Mountains 90.66 44 *eP* **P 18 32 45.9 -0.3**
comp=Z,4.6nm,1.1s,mb4.7
BMO Blue Mountains 90.66 44 *eP* **P 18 32 45.9 -0.3**
BMO pmax pmax
comp=Z,5.0nm,1.1s,mb4.8
ELK Elko 90.71 48 LR LR 19 05 39.4
comp=Z,89nm,19.1s,MS4.2,baz=198,slow=30
PMSA Palmer Station 91.66 161 P P 18 32 48.8 -1.6
comp=Z,12nm,0.8s,mb5.3
NEW Newport 91.97 40 LR LR 19 14 21.4
comp=Z,74nm,18.0s,MS4.2,baz=107,slow=36
WMQ Urumqi 92.65 315 *eP* **P 18 32 55.0 -0.4**
VNA3 Neumayer Olymp 93.97 181 P P 18 33 00.8 0.0
VNA3 Neumayer Olymp 93.97 181 P 18 33 04.4 +3.6
VNA3 Neumayer Olymp 93.97 181 P 18 33 06.8 +6.0
VNA3 Neumayer Olymp 93.97 181 pP 18 33 12.1 +6.4
VNA3 Neumayer Olymp 93.97 181 sP 18 33 16.4 +9.1
VNA2 Neumayer--Watz 94.23 182 P P 18 33 02.8 +0.8
VNA2 Neumayer--Watz 94.23 182 P 18 33 05.1 +3.1
VNA2 Neumayer--Watz 94.23 182 pP 18 33 12.6 +5.7
VNA2 Neumayer--Watz 94.23 182 sP 18 33 15.1 +6.6
VNA1 Neumayer--Stat 94.53 182 P P 18 33 05.6 +2.2
PDAR Pinedale Array 95.36 47 LR LR 19 07 12.9
comp=Z,50nm,20.3s,MS4.0,baz=155,slow=30
ANMO Albuquerque 95.72 56 LR LR 19 08 13.2
comp=Z,71nm,19.4s,MS4.2,baz=331,slow=30
ANMO Albuquerque 95.72 56 *eP* **P 18 33 09.8 +0.1**
TXAR Lajitas Array 96.70 62 LR LR 19 07 09.1
comp=Z,52nm,20.1s,MS4.0,baz=270,slow=29
MKAR Makanchi Array 97.13 316 P P 18 33 15.8 0.0
comp=Z,2.6nm,0.7s,mb4.8,baz=89,slow=5.3,SNR=16
MKAR pP pP 18 33 20.0 -0.7
comp=Z,2.6nm,0.7s,baz=86,slow=6.9,SNR=18
MKAR Makanchi Array 97.13 316 P P 18 33 15.8 0.0
MKAR pP pP 18 33 20.0 -0.7
ZAL Zalesovo 97.39 324 P P 18 33 16.2 -0.6
comp=Z,1.8nm,0.8s,mb4.6,baz=346,slow=3.8,SNR=8.9
ZAL pP pP 18 33 20.1 -1.5
comp=Z,1.8nm,0.8s,baz=315,slow=4.3,SNR=6.0
ZAL LR LR 19 17 11.5
comp=Z,73nm,18.9s,MS4.2,baz=174,slow=35
ZAL Zalesovo 97.39 324 P P 18 33 16.2 -0.6
ZAL pP pP 18 33 20.1 -1.5
ZAL LR LR 19 17 11.5
YKA Yellowknife Ar 97.92 27 LR LR 19 14 46.8
comp=Z,36nm,19.1s,MS3.9,baz=300,slow=34
ARCES ARCESS Array B 120.39 345 PKP PKPdf 18 38 33.7 -3.2
comp=Z,3.4nm,0.5s,baz=71,slow=1.9,SNR=32
ARCES ARCESS Array B 120.39 345 PKP PKPdf 18 38 33.7 -3.2
BOSA Boshof 122.97 221 pPKP 18 38 44.3
comp=Z,3.5nm,0.9s,baz=153,slow=4.5,SNR=3.0
JOF Joensuu 122.97 338 *e*pkp PKPdf 18 38 37.2 -4.8
GNI Garni 124.00 308 *i* PKIKP PKPdf 18 38 39.0 -5.7
OBN Obninsk 124.72 328 *e*PKP PKPdf 18 38 41.3 -4.3
OBN Obninsk 124.72 328 ⇑*i*PKIKP PKPdf 18 38 45.5 -0.1
OBN pmax pmax
comp=Z,12nm,1.3s
KAF Kangasniemi 125.29 339 *e*pkp PKPdf 18 38 38.2 -8.3
FINES FINESS Array B 125.81 338 PKP PKPdf 18 38 45.1 -2.4
comp=Z,1.3nm,0.6s,baz=27,slow=4.3,SNR=10
AKASG Malin Array Be 130.73 326 PKP PKPdf 18 38 55.1 -2.2
comp=Z,0.2nm,0.2s,baz=47,slow=1.5,SNR=5.6
AKASG SKP 18 42 23.7
comp=Z,2.8nm,0.7s,baz=42,slow=4.6,SNR=14
NB2 NORSAR Subarra 130.76 345 PKPabc PKPdf 18 38 54.4 -2.6
comp=Z,1.1nm,0.7s,baz=35,slow=2.2
NB2 NORSAR Subarra 130.76 345 PKPab PKPdf 18 38 54.4 -2.6
NB2 PKPab 18 42 23.3
NOA NORSAR Array B 130.76 345 PKP PKPdf 18 38 54.7 -2.3
comp=Z,1.1nm,0.8s,baz=37,slow=2.2,SNR=3.6
NOA SKP 18 42 23.9
comp=Z,7.2nm,0.8s,baz=31,slow=3.1,SNR=16
NOA NORSAR Array B 130.76 345 PKP PKPdf 18 38 54.7 -2.3
NOA SKP 18 42 23.9
HFS Hagfors 130.85 343 SKP 18 42 27.0
comp=Z,1.1nm,0.5s,baz=56,slow=5.3,SNR=6.1
BRTR Keskin Array B 132.40 310 PKP PKPdf 18 38 59.7 -1.1
comp=Z,0.9nm,0.6s,baz=90,slow=1.2,SNR=4.2
GERES GERESS Array B 139.69 333 PKP PKPdf 18 39 10.8 -3.1
comp=Z,0.3nm,0.5s,baz=27,slow=4.4,SNR=2.9
GERES pPKP 18 39 17.1
comp=Z,1.5nm,0.8s,baz=90,slow=2.7,SNR=4.6
GERES SKP 18 42 51.4
comp=Z,0.6nm,0.6s,baz=45,slow=1.4,SNR=5.1
CDF Champ du Feu 142.66 338 *e*PKP1 PKPdf 18 39 14.5 -4.6
comp=Z,15nm,0.9s
DAVOS Davos 142.93 334 PKIKP PKPdf 18 39 15.8 -3.8
DAVOX Davos 142.94 334 PKP PKPdf 18 39 15.8 -3.8
comp=Z,6.8nm,0.7s,baz=107,slow=3.5,SNR=7.5
HINF Hinteralfeld 143.32 337 *e*PKP1 PKPbc 18 39 17.0 +2.1
comp=Z,6.5nm,0.8s
HAU Haudompre 143.34 338 *e*PKP1 PKPbc 18 39 17.3 +2.3
comp=Z,26nm,1.0s
HAU *e*R
comp=Z,98nm,21.8s
MEZF Maizieres J'vi 143.37 340 *e*PKP1 PKPbc 18 39 17.1 +2.0
comp=Z,13nm,0.7s
CII Carovilli 144.34 324 *e*PKPdf PKPdf 18 39 17.6 -4.6
TIP Timpagrande 144.40 318 *e*PKPdf PKPdf 18 39 19.1 -3.2
AQU L'Aquila 144.44 325 *e*PKPdf PKPdf 18 39 19.2 -3.2
CABF La Chapelle 144.61 337 *e*PKP1 PKPbc 18 39 19.9 +1.2
comp=Z,77nm,1.3s
GRAM 144.61 331 P PKPbc 18 39 19.0 +0.2
VALM 144.63 331 P PKPbc 18 39 19.5 +0.6
ORX Oropa 144.65 334 P PKPbc 18 39 18.8 -0.1
SARO Sassorosso 144.68 330 P PKPbc 18 39 19.2 +0.2
FLN La Foliniere 144.74 346 *e*PKP1 PKPbc 18 39 19.3 +0.3
comp=Z,26nm,0.7s
FLN *e*R
comp=Z,84nm,18.0s
BACM 144.77 331 P PKPbc 18 39 18.9 -0.4
CODM 144.79 331 P PKPbc 18 39 19.5 +0.2
LDF La Druitiere 144.81 345 *e*PKP1 PKPbc 18 39 20.1 +0.9
comp=Z,18nm,0.8s
VINC Vinca 144.84 330 P PKPbc 18 39 18.9 -0.5
LOR Lormes 144.84 340 *e*PKP1 PKPbc 18 39 20.2 +0.8
comp=Z,40nm,1.1s
LOR *e*R
comp=Z,103nm,17.8s
MAIM 144.84 330 P PKPbc 18 39 18.8 -0.7
TRAV 144.85 334 P PKPbc 18 39 19.2 -0.2
LSD Ceresole Reale 145.14 335 P PKPbc 18 39 21.7 +1.5
SSF Saint Saulge 145.14 340 *e*PKP1 PKPbc 18 39 21.3 +1.1
comp=Z,76nm,0.9s
RSL Roselend 145.17 336 PKP PKPdf 18 39 21.2 -2.3
GRR Gorron 145.18 346 *e*PKP1 PKPbc 18 39 21.0 +0.8
comp=Z,65nm,0.7s
HYF Humbligny 145.24 341 *e*PKP1 PKPbc 18 39 21.8 +1.4
LPL La Plagne 145.26 335 *e*PKP1 PKPbc 18 39 22.1 +1.6
comp=Z,76nm,1.0s
PCP Pian Castagno 145.27 332 P PKPbc 18 39 21.0 +0.4
LPG La Plagne 145.27 335 *e*PKP1 PKPbc 18 39 22.2 +1.7
comp=Z,63nm,0.9s
OG05 Jujurieux 145.33 337 PKP PKPdf 18 39 21.9 -1.9
RSP Reno Superiore 145.34 334 P PKPbc 18 39 21.7 +0.9
SMF Signal de Mont 145.39 339 *e*PKP1 PKPbc 18 39 21.9 +1.1
comp=Z,70nm,1.0s
AVF Avril sur Loir 145.43 340 *e*PKP1 PKPbc 18 39 21.9 +1.0
comp=Z,68nm,1.1s
FENE Fenestrelle 145.52 334 P PKPbc 18 39 22.4 +1.2
BHB Bricherasio 145.59 334 P PKPbc 18 39 21.3 -0.1
BNI Bardonecchia 145.66 335 *e*PKPdf PKPdf 18 39 23.0 -1.4
FIN Finale Ligure 145.68 332 P PKPbc 18 39 21.7 0.0
SGMF Saint Gilles 145.69 347 *e*PKP1 PKPbc 18 39 22.5 +1.0
comp=Z,93nm,0.9s
RRL Cesana Torines 145.73 335 P PKPbc 18 39 22.8 +1.1
OG22 Abries 145.74 334 PKP PKPdf 18 39 24.2 -0.3
ROSF Rostrenen 145.75 348 *e*PKP1 PKPbc 18 39 22.7 +1.0
comp=Z,37nm,0.8s
ROB Roburent 145.76 333 P PKPbc 18 39 21.9 +0.1
GDM Grand'Maison 145.77 336 PKP PKPdf 18 39 23.5 -1.1
BGF Bois d'Agland 145.80 340 *e*PKP1 PKPbc 18 39 23.2 +1.4
comp=Z,72nm,0.9s
GRN Grenoble 145.88 336 PKP PKPdf 18 39 23.8 -1.0
MBDF Montbardon 145.89 334 *e*PKP1 PKPbc 18 39 23.5 +1.4
comp=Z,64nm,1.0s
MONE Monesi 145.99 333 P PKPbc 18 39 23.3 +0.9
ENR Entracque 146.02 333 P PKPbc 18 39 22.4 -0.1
STV Sta Anna Valdi 146.04 333 P PKPbc 18 39 22.9 +0.4
IMI Imperia 146.06 332 P PKPbc 18 39 23.2 +0.7
SURF Saint Ours 146.07 334 PKP PKPdf 18 39 24.5 -0.6
ORIF Oris-en-Rattie 146.10 336 *e*PKP1 PKPbc 18 39 24.4 +1.8
comp=Z,96nm,0.8s
ORIF *e*R
comp=Z,79nm,17.5s
QUIF Quistinic 146.13 348 *e*PKP1 PKPbc 18 39 23.6 +1.0
SAOF Saorge 146.15 333 PKP PKPdf 18 39 24.4 -0.9
AUTN L'Aution 146.20 333 PKP PKPdf 18 39 25.7 +0.4
TCF Toulx Ste Croi 146.24 341 *e*PKP1 PKPbc 18 39 24.5 +1.6
comp=Z,44nm,0.9s
TOUF Mont Tournerai 146.26 333 PKP PKPdf 18 39 25.0 -0.5
SBF Sospel 146.30 333 *e*PKP1 PKPbc 18 39 24.3 +1.2
comp=Z,113nm,0.8s
PGF Pioggiola 146.59 330 *e*PKP1 PKPbc 18 39 25.4 +1.6
comp=Z,138nm,1.0s
OG26 St.-Nazaire-De 146.61 336 PKP PKPdf 18 39 26.1 +0.1
VIVF Saint-Julien-l 146.62 337 *e*PKP1 PKPbc 18 39 25.9 +2.1
comp=Z,31nm,0.9s
CALN Calern 146.62 333 PKP PKPdf 18 39 24.8 -1.3
MFF Saint Martin d 146.65 344 *e*PKP1 PKPbc 18 39 25.6 +1.8
comp=Z,65nm,0.7s
LCHF La Chataignera 146.75 344 PKP PKPdf 18 39 26.8 +0.6
FRF La Foret Royal 146.88 333 *e*PKP1 PKPbc 18 39 26.1 +1.6
comp=Z,110nm,1.0s
FRNF Fournols 146.92 340 PKP PKPdf 18 39 26.7 +0.2
SMRF Simiane la Rot 147.00 335 *e*PKP1 PKPbc 18 39 27.1 +2.4
comp=Z,54nm,0.9s
LMR La Mourre 147.13 333 *e*PKP1 PKPdf 18 39 26.8 -0.1
comp=Z,69nm,0.9s
RJF Les Rejaudoux 147.34 341 *e*PKP1 PKPdf 18 39 27.7 +0.5
comp=Z,24nm,0.8s
RJF *e*R
comp=Z,58nm,17.2s
CAF Calviac 147.50 340 *e*PKP1 PKPdf 18 39 28.4 +0.9
comp=Z,25nm,0.9s
LASF Ste Croix 147.59 337 *e*PKP1 PKPdf 18 39 28.7 +1.1
comp=Z,42nm,0.9s
LFF La Frestale 147.91 341 *e*PKP1 PKPdf 18 39 29.2 +1.1
comp=Z,102nm,1.0s
MTLF Montolieu 148.83 338 *e*PKP1 PKPdf 18 39 31.7 +2.0
comp=Z,56nm,1.0s
LRDF Laroque-de-Fa 149.06 337 PKP PKPdf 18 39 31.7 +1.7
EJON La Jonquera 149.35 336 PKP PKPdf 18 39 36.6 +6.1
EPF Esparros 149.75 340 *e*PKP1 PKPdf 18 39 34.0 +2.9
comp=Z,26nm,1.1s
RESF Ens 149.95 340 PKP PKPdf 18 39 35.8 +4.3
VIEF Viey 149.99 341 PKP PKPdf 18 39 35.6 +4.1
EBIE Bielsa 150.12 340 PKP PKPdf 18 39 38.3 +6.5
EALK Alkurruntz 150.14 343 PKP PKPdf 18 39 36.0 +4.3
ETSF Etsaut 150.16 341 *e*PKP1 PKPdf 18 39 35.4 +3.6
comp=Z,28nm,0.8s
SJPF Ste Jean 150.16 342 *e*PKP1 PKPdf 18 39 35.1 +3.3
comp=Z,28nm,0.9s
EMIR Miracle 150.32 338 PKP PKPdf 18 39 42.1 +10
EGRA Graus 150.50 340 PKP PKPdf 18 39 40.2 +7.8
ELAN Lamestosa 150.64 346 PKP PKPdf 18 39 36.6 +4.1
EPOB Poblet 150.98 338 PKP PKPdf 18 39 36.6 +3.6
ESAC San Caprasio 151.19 340 PKP PKPdf 18 39 40.9 +7.5
EPON Pontenova 151.28 351 PKP PKPdf 18 39 37.0 +3.6
ERTA Horta de San J 151.59 338 PKP PKPdf 18 39 36.2 +2.2
ETOS Mallorca 151.63 334 PKP PKPdf 18 39 40.2 +6.1
STS Santiago 151.91 353 PKP PKPdf 18 39 39.6 +5.2
EMOS Mosqueruela 152.40 339 PKP PKPdf 18 39 42.6 +7.4
ECAL Calabor 152.57 350 PKP PKPdf 18 39 40.5 +5.1
EZAM Zamans 152.65 353 PKP PKPdf 18 39 37.4 +1.9
ELOB Lobios 152.84 352 PKP PKPdf 18 39 41.8 +6.1
ECHE Chera 153.26 339 PKP PKPdf 18 39 43.7 +7.3
ESDC Sonseca Array 154.12 344 PKPbc PKPdf 18 39 44.1 +6.5
comp=Z,0.2nm,0.3s,baz=1.1,slow=3.0,SNR=4.4
ESDC Sonseca Array 154.12 344 PKP PKPdf 18 39 47.1 +9.5
EVIA Vianos 154.64 340 PKP PKPdf 18 39 48.4 +10

THR ***25*** *18:26:17.7±0.4, 34.56N×53.13E, h14km±3km, ML3.6*
CSEM ***25*** *18:26:17.4±0.1, 34.58N×53.19E, h18km, ML3.6, Error ellipse: s-maj=3.5km s-min=1.5km az=73.0*
TEH ***25*** *18:26:18.7, 34.61N×53.19E, h10km, Mn3.6*
ISC 25 18:26:17.8±0.7, 34.53N±0.04×53.12E±0.07, h10km, n20, σ1§22/22, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IFIR	**Firoozkooh**	**1.15**	**345**	Pg	**Pg**	**18 26 38.3**	**-2.5**
IVRN	**Varamin**	**1.23**	**293**	Pg	**Pg**	**18 26 41.5**	**-1.0**
IVRN				Sg	**Sg**	**18 26 59.0**	**0.0**
IDMV	**Damavand**	**1.37**	**320**	Pn	**Pn**	**18 26 43.5**	**+0.4**
DAMV	**Damavand**	**1.45**	**320**	*e*PG	**Pg**	**18 26 44.2**	**-2.4**
DAMV	**Damavand**	**1.45**	**320**	*e*Pg	**Pg**	**18 26 44.2**	**-2.5**
SNR=90							
NASN	**Na'in**	**1.75**	**189**	*e*PG	**Pg**	**18 26 50.2**	**-2.5**
NASN				*e*SG	**Sg**	**18 27 14.4**	**-1.6**
NASN				AML	AML	18 27 16.6	
comp=N,1μm,0.4s							
IAFJ	**Afjeh**	**1.75**	**319**	Lg		18 27 12.2	
IAFJ	**Afjeh**	**1.75**	**319**	Pn	**Pn**	**18 26 49.3**	**+0.8**
IZEF	**Zefreh**	**1.76**	**202**	Pn	**Pn**	**18 26 49.5**	**+0.9**
IKLH	**Kalahroud**	**1.76**	**227**	Pn	**Pn**	**18 26 50.0**	**+1.4**
THKV	**Tehran--Karaj**	**2.29**	**308**	*e*PN	**Pn**	**18 26 57.2**	**+0.9**
IMHD	**Mahdasht**	**2.31**	**301**	Pn	**Pn**	**18 26 57.0**	**+0.4**
IGAR	**Garneh**	**2.41**	**199**	Pn	**Pn**	**18 26 58.0**	**+0.1**
ICHK	**Chekchek**	**2.52**	**154**	Pn	**Pn**	**18 27 03.7**	**+4.1**
ASAO	**Ashtian**	**2.55**	**271**	*e*PN	**Pn**	**18 27 01.1**	**+1.1**
ASAO				*e*SG	**Sg**	**18 27 38.1**	**-4.7**
ASAO				AML	AML	18 27 41.7	
comp=N,207nm,0.6s							
ISAD	**Sadrabad**	**2.65**	**169**	Pn	**Pn**	**18 27 03.8**	**+2.4**
IMEH	**Mehriz**	**3.38**	**158**	Pn	**Pn**	**18 27 11.8**	**+0.1**
IBAF	**Bafgh**	**3.58**	**144**	Pn	**Pn**	**18 27 14.4**	**-0.2**
SNGE	**Sanandaj**	**4.78**	**278**	*e*PN	**Pn**	**18 27 31.6**	**0.0**
SNGE				AML	AML	18 28 51.9	
comp=N,28nm,0.6s							
KRBR	**Kerman**	**5.49**	**145**	*e*PN	**Pn**	**18 27 41.5**	**-0.1**
KRBR				AML	AML	18 29 21.8	
comp=N,30nm,0.8s							

WEL 25 18:50:44.6±0.6, 38.53S×175.56E, h213km±4km, ML3.5/11, Error ellipse: s-maj=6.9km s-min=5.2km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKVZ	**Pokaka**	**0.78**	**192**	PN	P	18 51 14.3	-0.4
WNVZ	**Wahianoa**	**0.80**	**178**	PN	P	18 51 14.7	0.0
MOVZ	**Moawhango**	**0.89**	**170**	PN	P	18 51 15.0	-0.3
MOVZ				SN	S	18 51 38.2	-0.8
BKZ	**Black Stump Fm**	**0.97**	**131**	*e*PN	P	18 51 16.0	+0.3
URZ	**Urewera**	**1.25**	**78**	PN	P	18 51 17.3	-0.5
URZ				SN	S	18 51 42.7	-0.7
WAZ	**Wanganui**	**1.31**	**200**	*e*PN	P	18 51 17.3	-0.9
TSZ	**Takapari Road**	**1.56**	**169**	PN	P	18 51 19.7	-0.7
TSZ				SN	S	18 51 48.2	+0.2
PXZ	**Pawanui**	**1.81**	**146**	*e*PN	P	18 51 21.9	-0.8
MRZ	**Mangatainoka R**	**2.13**	**180**	PN	P	18 51 23.9	-2.0
KIW	**Kapiti Island**	**2.39**	**192**	PN	P	18 51 25.8	-2.8
KIW				SN	S	18 51 58.5	-4.0
DUWZ	**D'Urville Isla**	**2.60**	**208**	PN	P	18 51 27.3	-3.6
CAW	**Cannon Point**	**2.61**	**188**	PN	P	18 51 28.2	-2.7
MTW	**Mount Morrison**	**2.63**	**181**	PN	P	18 51 28.3	-2.9
MRW	**Makara Radio**	**2.78**	**193**	PN	P	18 51 29.6	-3.2
SNZO	**South Karori**	**2.86**	**193**	PN	P	18 51 30.3	-3.4
TCW	**Tory Channel**	**2.86**	**200**	PN	P	18 51 30.7	-3.1
TUWZ	**Tuamarina**	**3.15**	**203**	*e*PN	P	18 51 33.7	-3.6
NNZ	**Nelson**	**3.17**	**211**	SN	S	18 52 12.0	-6.2
QRZ	**Quartz Range**	**3.28**	**225**	PN	P	18 51 33.3	-5.4
THZ	**Tophouse**	**3.82**	**211**	*e*PN	P	18 51 39.9	-5.3
THZ				SN	S	18 52 25.9	-6.3
KHZ	**Kahutara**	**4.18**	**201**	*e*PN	P	18 51 45.3	-4.5
MQZ	**McQueen's Vall**	**5.62**	**202**	SN	S	18 53 02.2	-11

IDC ***25*** *19:01:31.7±2.5, 41.99N×141.59E, h102km±21km, mb3.6/8, mb1 3.7/8, mb1mx3.5/21, mbtmp3.9/8, Error ellipse: s-maj=22.8km s-min=21.0km az=149.0*
JMA ***25*** *19:01:33.2±0.1, 42.07N×141.56E, h114km±2km, M3.2*
NEIC ***25*** *19:01:34.0±3.1, 42.21N×141.39E, h113km±19km, mb4.1/5, Error ellipse: s-maj=37.5km s-min=12.6km az=160.0*
ISC 25 19:01:31.9±0.4, 42.05N±0.03×141.59E±0.04, h120km±2km, n34, σ0§76/50, mb3.9/12, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKB	**Kayabe**	**0.44**	**249**	P	**P**	**19 01 49.9**	**+0.2**
JKB				*e*S	**S**	**19 02 02.9**	**-0.2**
JNB	**Noboribetsu**	**0.59**	**316**	P	**P**	**19 01 50.7**	**+0.1**
JNB				*e*S	**S**	**19 02 03.9**	**-0.8**
JOT	**Ohata**	**0.78**	**211**	P	**P**	**19 01 52.7**	**+0.6**
JOT				*e*S	**S**	**19 02 07.7**	**+0.4**
JEW	**Eniwo**	**0.80**	**353**	P	**P**	**19 01 52.3**	**0.0**
JEW				*e*S	**S**	**19 02 06.7**	**-0.9**
JNBK	**Urakawa-nobuka**	**0.90**	**75**	P	**P**	**19 01 53.9**	**+0.6**
JNBK				*e*S	**S**	**19 02 09.8**	**+0.6**
JYM2	**Yakumo 2**	**0.91**	**275**	P	**P**	**19 01 54.0**	**+0.6**
JYM2				*e*S	**S**	**19 02 09.5**	**+0.1**
JBT2	**Biratori 2**	**0.93**	**38**	P	**P**	**19 01 54.1**	**+0.5**
JBT2				*e*S	**S**	**19 02 09.8**	**0.0**
JSR	**Shiriuchi**	**1.02**	**240**	P	**P**	**19 01 55.2**	**+0.8**
JEM	**Erimo**	**1.17**	**91**	P	**P**	**19 01 56.9**	**+0.8**
JEM				*e*S	**S**	**19 02 14.3**	**+0.2**
JFR	**Furan**	**1.34**	**33**	*e*S	**S**	**19 02 17.0**	**-0.7**
JCH	**Churui**	**1.43**	**66**	P	**P**	**19 01 59.6**	**+0.6**
JCH				*e*S	**S**	**19 02 18.8**	**-0.8**
JSK	**Shakotan**	**1.54**	**328**	P	**P**	**19 02 00.7**	**+0.4**
JSK				*e*S	**S**	**19 02 21.3**	**-0.4**
JOSM	**Okushiri--Mats**	**1.57**	**272**	P	**P**	**19 02 01.2**	**+0.5**
JOSM				*e*S	**S**	**19 02 22.3**	**-0.1**
JANG	**Nango**	**1.67**	**182**	P	**P**	**19 02 01.7**	**-0.1**
JANG				*e*S	**S**	**19 02 22.6**	**-1.8**
JHR	**Hokuryu**	**1.70**	**3**	P	**P**	**19 02 03.0**	**+0.9**
JHR				*e*S	**S**	**19 02 25.8**	**+0.8**
JKK2	**Kamakawa 2**	**2.01**	**25**	P	**P**	**19 02 06.9**	**+0.9**
JKK2				*e*S	**S**	**19 02 32.0**	**+0.3**
JAR	**Ashorobuto**	**2.04**	**51**	P	**P**	**19 02 06.5**	**+0.2**
JAR				*e*S	**S**	**19 02 30.7**	**-1.6**
ASAJ	**Asahikawa**	**2.20**	**19**	P	**P**	**19 02 08.6**	**+0.2**
1.7nm,0.3s,baz=234,slow=10,SNR=15							
ASAJ				S	**S**	**19 02 35.4**	**-0.6**
3.1nm,0.3s,baz=52,slow=30,SNR=8.5							
YSS	**Yuzh-Sakhalins**	**4.98**	**9**	Pn	**P**	**19 02 45.2**	**-0.5**
HIA	**Hailar**	**16.86**	**303**	*e*P	**P**	**19 05 19.1**	**-2.5**
13nm,1.4s							
YAK	**Yakutsk**	**21.25**	**344**	P	**P**	**19 06 02.4**	**-7.0**
5.2nm,0.5s,mb4.1							
ULN	**Ulaanbaatar**	**24.98**	**295**	P	**P**	**19 06 44.9**	**-0.7**
SONM	**Songino Array**	**25.42**	**295**	P	**P**	**19 06 50.2**	**+0.6**
0.5nm,0.6s,mb3.1,baz=89,slow=7.9,SNR=6.6							
ENH	**Enshi**	**28.29**	**256**	P	**P**	**19 07 15.9**	**-0.1**
6.8nm,0.9s,mb4.2							
ZAL	**Zalesovo**	**38.80**	**308**	P	**P**	**19 08 46.3**	**+0.2**
1.5nm,0.4s,mb4.2,baz=33,slow=11,SNR=6.0							
MKAR	**Makanchi Array**	**41.75**	**297**	P	**P**	**19 09 10.6**	**+0.3**
0.5nm,0.5s,mb3.5,baz=90,slow=9.3,SNR=2.1							
KURK	**Kurchatov**	**43.09**	**304**	P	**P**	**19 09 20.7**	**-0.5**
3.0nm,0.6s,mb4.2							
ILAR	**Eielson Array**	**45.25**	**35**	P	**P**	**19 09 38.8**	**+0.4**
0.8nm,0.6s,mb3.6,baz=264,slow=5.6,SNR=6.8							
BVAR	**Borovoye Array**	**47.41**	**309**	P	**P**	**19 09 55.6**	**0.0**
2.5nm,0.4s,mb4.3,baz=77,slow=9.3,SNR=11							
BRVK	**Borovoye**	**47.46**	**309**	*e*P	**P**	**19 09 58.9**	**+2.9**
1.1nm,0.6s,mb3.8							
INK	**Inuvik**	**49.90**	**29**	P	**P**	**19 10 14.7**	**+0.2**
1.5nm,0.3s,mb4.4,baz=282,slow=9.3,SNR=9.8							
WRA	**Warramunga Arr**	**62.04**	**188**	P	**P**	**19 11 40.6**	**-1.4**
0.3nm,0.5s,mb3.6,baz=5.3,slow=7.0,SNR=9.6							
FINES	**FINESS Array B**	**64.47**	**331**	P	**P**	**19 11 56.6**	**-0.6**
1.2nm,0.9s,mb3.7,baz=34,slow=6.9,SNR=4.3							
STKA	**Stephens Creek**	**73.56**	**180**	P	**P**	**19 12 58.6**	**+5.2**

JMA 25 19:54:08.4±0.3, 43.94N×147.74E, M3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.56**	**249**	P	Pn	19 54 37.5	0.0
NEM2				*e*S	Sb	19 54 58.4	+0.3
JRA	**Rausu**	**1.89**	**271**	P	Pn	19 54 42.5	+0.3
JRA				*e*S	Sn	19 55 07.6	+0.5
JNK	**Nakash**	**2.22**	**262**	P	Pn	19 54 46.8	-0.1
JNK				S	Sn	19 55 15.4	0.0
JAK	**Akkeshi**	**2.41**	**248**	P	Pn	19 54 49.8	+0.2
JAK				*e*S	Sn	19 55 20.3	0.0
JAR	**Ashorobuto**	**2.95**	**259**	P	Pn	19 54 58.1	+0.7
JAR				*e*S	Sn	19 55 35.2	+1.1
JOB	**Onbets**	**3.03**	**251**	P	Pn	19 54 59.0	+0.5
JMP	**Maruseppu**	**3.16**	**273**	P	Pn	19 55 00.4	0.0
JCH	**Churui**	**3.46**	**249**	P	Pn	19 55 04.5	-0.1

CASC 25 21:01:48.2±1.4, 8.98N×82.87W, h13km±9km, MD3.4, MW3.9, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUS	**Buena Vista**	**1.04**	**303**	*e*P	Pb	21 02 07.9	+0.2
BUS				*e*S	Sb	21 02 21.7	+0.7
LCR2	**La Lucha 2**	**1.35**	**304**	*e*P	Pn	21 02 12.2	-0.6
LCR2				*e*S	Sb	21 02 31.0	+1.2
PRS1	**Puriscal**	**1.73**	**305**	*e*S	Sn	21 02 40.2	-0.3
CGA2	**Cerro Gallo 2**	**1.88**	**303**	*e*P	Pn	21 02 21.1	+0.7

BJI ***25*** *21:08:11.5, 37.05N×79.22E, h16km, mB5.2, mb5.0, ML6.1, Ms5.4, Msz5.1*
IDC ***25*** *21:08:12.6±0.6, 36.97N×79.34E, h16km±3km, mb4.9/23, mb1 5.0/25, mb1mx5.0/25, mbtmp5.0/25, ML4.5/2, MS4.9/24, Ms1 4.8/24, ms1mx4.8/29, Error ellipse: s-maj=11.3km s-min=8.3km az=170.0*
DHMR ***25*** *21:08:12.7±2.8, 36.79N×79.25E, h10km, mb5.9*
BGS ***25*** *21:08:13.3±2.4, 36.94N×79.17E, h20km, mb5.7*
NEIC ***25*** *21:08:13.0±0.1, 36.94N×79.17E, mb5.5/171, MS5.0/94, MW5.3, Error ellipse: s-maj=3.5km s-min=2.2km az=29.0, Moment Tensor Solution. s18 Moment tensor: Scale 10^{17} Nm; M_{rr}1.12; $M_{\theta\theta}$-1.12; $M_{\phi\phi}$-0.01; $M_{r\theta}$-0.20; $M_{\theta\phi}$0.23; $M_{\phi r}$0.11; Best double couple: $M_0$1.2×10^{17} NP1:φs98°, δ40°, λ85°. NP2:

KBK	**Karagaybulak**	6.62	332	P	Pn	21 09 51.1 +1.0
	SNR=40					
TKM2	**Tokmak 2**	6.63	337	P	Pn	21 09 52.5 +2.2
	SNR=11					
CEP	**Cherat**	6.64	245	P	Pn	21 09 51.8 +1.4
AML	**Almayashu**	6.73	323	P	Pn	21 09 52.8 +1.1
	SNR=51					
AAK	**Ala-Archa**	6.78	330	P	Pn	21 09 53.0 +0.7
	SNR=21					
AAK	**Ala-Archa**	6.78	330	⇑Pn	Pn	21 09 52.3 0.0
	comp=E,822nm,0.8s					
AAK				⇑Lg		21 11 36.6
	comp=E,3μm,1.3s					
AAK	**Ala-Archa**	6.78	330	*d iP*	Pn	21 09 51.8 -0.5
AAK				pmax	pmax	
	comp=Z,51nm,1.3s					
AAK				MLR	MLR	
	comp=Z,24μm,15.0s					
FRU	**Bishkek**	6.90	331	*i* P	Pn	21 09 54.0 0.0
CHMS	**Chumysh**	6.99	333	P	Pn	21 09 56.6 +1.4
	SNR=9.5					
EKS2	**Erkin-Say**	7.11	326	P	Pn	21 09 58.4 +1.5
	SNR=58					
SARP	**Sargodha**	7.27	229	⇑P	Pn	21 10 01.2 +1.9
SARP				S	Sn	21 11 20.0 -2.2
USP	**Ospenovka**	7.31	332	P	Pn	21 10 01.3 +1.5
	SNR=8.5					
THW	**Thamme Wali**	7.31	238	⇓P	Pn	21 10 00.8 +1.0
PTH	**Pithoragarh**	7.36	173	*ex*	Pn	21 10 03.0 +2.6
PTH				*ex*	Sn	21 11 27.0 +2.7
SBDP	**Sheikh Budin**	8.24	239	⇑P	P	21 10 13.5 +0.7
NDI	**New Delhi**	8.32	192	⇑*i* P	P	21 10 15.0 +1.1
NDI				*i* S	Sn	21 11 38.9 -10
DRP	**Derazinda**	8.98	238	⇓P	P	21 10 23.4 +0.3
KK31	**Karatay Array**	9.09	316	⇓Pn	P	21 10 22.3 -2.2
	comp=Z,97nm,0.7s,baz=126,slow=12,SNR=244					
KK31				⇑Sn	Sn	21 12 00.3 -7.0
	comp=Z,121nm,0.5s					
KK31				⇑Lg		21 12 51.3
	comp=Z,573nm,0.9s					
KK31	**Karatay Array**	9.09	316	⇓Pn	P	21 10 22.3 -2.2
	comp=Z,97nm,0.6s					
KK31				Sn	Sn	21 12 00.3 -7.0
KK31				Lg		21 12 51.3
KKAR	**Karatay Array**	9.09	316	*i* P	P	21 10 22.3 -2.2
WMQ	**Urumqi**	9.53	41	P	P	21 10 26.0 -4.6
WMQ				S	Sn	21 12 07.0 -11
WMQ				Smax		
	comp=N,5μm,1.0s					
WMQ				Smax		
	comp=E,3μm,1.0s					
KOLN	**Koldanda**	9.82	156	*e*P	P	21 10 34.2 -0.5
GKN	**Gorkha**	9.98	151	*e*P	P	21 10 36.9 0.0
	comp=E,446nm,0.5s					
MK31	**Makanchi Array**	10.19	12	Pn	P	21 10 36.0 -3.6
	comp=E,212nm,0.6s,baz=187,slow=12,SNR=3150					
MK31				⇓Sn	S	21 12 24.9 -10
	comp=E,945nm,0.8s,baz=196,slow=20,SNR=7.9					
MK31	**Makanchi Array**	10.19	12	Pn	P	21 10 36.0 -3.6
	comp=E,212nm,0.6s					
MK31				Sn	S	21 12 24.9 -10
MKAR	**Makanchi Array**	10.19	12	Pn	P	21 10 36.2 -3.4
	comp=E,9.3nm,0.3s,baz=186,slow=13,SNR=286					
MKAR				Sn	S	21 12 24.9 -10
	comp=E,38nm,0.3s,baz=190,slow=22,SNR=9.3					
MKAR				LR	LR	21 15 30.7
	comp=E,8μm,21.7s,baz=184,slow=44					
MKAR	**Makanchi Array**	10.19	12	Pn	P	21 10 36.2 -3.4
MKAR				Sn	S	21 12 24.9 -10
MKAR				LR	LR	21 15 30.8
KKN	**Kakani**	10.43	148	*e*P	P	21 10 43.1 0.0
	comp=E,324nm,0.5s					
DMN	**Daman**	10.52	150	*e*P	P	21 10 43.8 -0.5
	comp=E,292nm,0.7s					
PKI	**Pulchoki**	10.68	148	*e*P	P	21 10 46.6 +0.2
	comp=E,415nm,0.6s					
AJM	**Ajmer**	11.04	202	*i* P	P	21 10 51.0 -0.4
JHNI	**Jhansi**	11.38	183	⇓*i*P	P	21 10 54.0 -2.0
JHNI				*ex*	S	21 13 00.0 -3.7
ALBI	**Allahabad**	11.75	168	*e*P	P	21 10 58.5 -2.5
ALBI				*e*S	S	21 13 01.5 -11
LSA	**Lhasa**	12.33	122	P	P	21 11 12.5 +3.7
LSA				S	S	21 13 34.5 +7.8
LSA				LR	LR	
	comp=N,2μm,10.1s					
LSA				LR	LR	
	comp=E,4μm,10.9s					
LSA				LR	LR	
	comp=Z,4μm,11.8s					
LSA	**Lhasa**	12.33	122	⇑*i*P	P	21 11 12.8 +4.0
	comp=Z,46nm,0.7s					
LSA				*e*ScP		21 20 20.8
BHPL	**Bhopal**	13.66	187	*e*P	P	21 11 24.0 -2.5
BHPL				*ex*	S	21 13 55.4 -3.4
BHPL				AML	AML	21 13 58.6
	comp=N,72nm,0.3s					
BHPL				AML	AML	21 13 58.7
	comp=E,46nm,0.3s					
JBP	**Jabalpur**	13.68	177	*e*P	P	21 11 27.7 +1.0
JBP				AMb	AMB	21 11 36.1
	comp=Z,176nm,0.9s					
JBP				*e*S	S	21 13 57.9 -1.2
KURK	**Kurchatov**	13.85	359	⇓P	P	21 11 24.4 -4.4
	comp=Z,122nm,0.9s					
KURK	**Kurchatov**	13.85	359	*e*P	P	21 11 24.5 -4.3
KURK				pmax	pmax	
	comp=Z,100nm,1.5s					
BOK	**Bokaro**	14.27	154	*i* P	P	21 11 30.9 -3.6
BOK				*i* x	S	21 14 03.9 -9.3
BLSP	**Bilaspur**	14.92	169	*e*P	P	21 11 41.0 -1.9
BLSP				*ex*	S	21 14 21.5 -7.1
SHL	**Shillong**	15.66	132	*ex*	P	21 11 42.8 -10
NGP	**Nagpur**	15.66	180	*e*P	P	21 11 51.1 -1.6
NGP				AMb	AMB	21 12 03.5
	comp=Z,199nm,1.5s					
BHJ	**Bhuj**	15.85	214	*e*P	P	21 11 53.7 -1.4
BHJ				AMb	AMB	21 12 03.1
	comp=Z,449nm,1.4s					
BHJ				*ex*	S	21 14 46.2 -4.1
BHV	**Bhavnagar**	16.24	204	*e*P	P	21 12 03.0 +2.9
CAL	**Calcutta**	16.35	148	*e*P	P	21 11 59.5 -1.9
CAL				*ex*	S	21 15 09.2 +7.2
GTA	**Gaotai**	16.46	75	⇓P	P	21 11 59.3 -3.5
GTA				AP		21 12 07.0
GTA				XP		21 12 12.0
GTA				PP	PP	21 12 14.3 -2.1
GTA				AMB	AMB	
	comp=Z,195nm,9.6s					
GTA				LR	LR	
	comp=N,5μm,12.9s					
GTA				LR	LR	
	comp=E,7μm,13.7s					
GTA				LR	LR	
	comp=Z,8μm,16.4s					
BVA0	**Borovoye Array**	17.28	342	P	P	21 12 10.4 -2.6
	comp=Z,26nm,1.3s,baz=160,slow=13,SNR=261					
BVA0	**Borovoye Array**	17.28	342	*i* P	P	21 12 10.3 -2.7
BVA0				pmax	pmax	
	comp=Z,34nm,1.3s					
BVAR	**Borovoye Array**	17.28	342	P	P	21 12 10.9 -2.1
	comp=Z,0.7nm,0.3s,baz=153,slow=12,SNR=47					
BVAR				S	S	21 15 27.7 +4.6
	baz=139,slow=16,SNR=2.5					
BVAR				Lg		21 17 19.5
	comp=Z,1.0nm,0.3s,baz=160,slow=22,SNR=6.6					
BRVK	**Borovoye**	17.34	342	*e*P	P	21 12 10.9 -2.8
	comp=Z,100nm,1.5s					
IMP	**Imphal**	17.48	129	*e*P	P	21 12 16.0 +0.3
ZAL	**Zalesovo**	17.52	11	P	P	21 12 11.6 -4.3
	comp=Z,0.9nm,0.3s,baz=278,slow=11,SNR=60					
ZAL				S	S	21 15 20.1 -8.4
	comp=Z,0.8nm,0.3s,baz=84,slow=21,SNR=2.3					
LATR	**Latur**	18.52	188	*e*P	P	21 12 27.4 -1.3
LATR				*ex*	S	21 15 51.0 -0.6
AB31	**Akbulak array**	18.64	318	P	P	21 12 27.9 -2.0
	comp=Z,86nm,1.1s,baz=125,slow=12,SNR=295					
AB31	**Akbulak array**	18.64	318	*i* P	P	21 12 27.9 -2.0
AB31						21 15 50.3
AB31				pmax	pmax	
	comp=Z,17nm,0.6s					
BOM	**Bombay**	18.75	199	*ex*	P	21 12 35.4 +4.0
BOM				*ex*	S	21 15 52.8 -3.8
POO	**Poona**	18.85	196	*e*P	P	21 12 30.8 -1.9
POO				AMb	AMB	21 12 38.8
	comp=Z,199nm,2.1s					
POO				*ex*	S	21 15 57.1 -2.0
HYB	**Hyderabad**	19.38	182	*i* P	P	21 12 37.0 -1.9
	comp=Z,280nm,1.0s					
HYB				*e*		21 16 03.0
HYB				*e*S	S	21 16 18.0 +6.9
HYB				LR	LR	21 20 20.0
	comp=Z,42nm,12.0s					
HYB	**Hyderabad**	19.38	182	*e*P	P	21 12 37.0 -1.9
	comp=Z,280nm,1.0s					
HYB				*e*S	S	21 16 18.0 +6.9
VIS	**Vishakhapatnam**	19.43	168	*e*P	P	21 12 38.9 -0.5
VIS				AMb	AMB	21 12 41.8
	comp=Z,245nm,1.1s					
VIS				*e*S	S	21 16 17.0 +4.9
LZH	**Lanzhou**	19.87	85	*e*P	P	21 12 43.8 -0.5
LZH				AP		21 12 52.0
LZH				XP		21 12 55.3
LZH				PP	PP	21 13 05.0 +1.8
LZH				S	S	21 16 24.3 +2.7
LZH				SS	SS	21 16 53.0 +3.3
LZH				AMB	AMB	
	comp=Z,40nm,1.0s					
LZH				AMB	AMB	
	comp=Z,510nm,4.1s					
LZH				LR	LR	
	comp=N,9μm,9.1s					
LZH				LR	LR	
	comp=Z,8μm,12.3s					
LZH	**Lanzhou**	19.87	85	*e*P	P	21 12 43.7 -0.6
	comp=Z,40nm,1.0s					
LZH				pP		21 12 52.1
LZH				sP		21 12 55.2
LZH				PP	PP	21 13 05.0 +1.8
LZH				S	S	21 16 24.2 +2.6
LZH				sS		21 16 37.0
LZH				SS	SS	21 16 53.0 +3.3
KAD	**Karad**	19.97	194	*e*P	P	21 12 43.2 -2.2
KAD				AMb	AMB	21 12 58.8
	comp=Z,352nm,1.8s					
KAD				*ex*	S	21 16 21.4 -2.3
AKTK	**Aktyubinsk**	20.34	318	⇑P	P	21 12 48.1 -0.9
AKTO	**Aktyubinsk**	20.34	318	⇑P	P	21 12 48.1 -0.9
	comp=Z,26nm,1.5s					
AKTO	**Aktyubinsk**	20.34	318	P	P	21 12 48.1 -1.0
AKTO				S	S	21 16 25.9 -5.2
AKTO				pmax	pmax	
	comp=Z,40nm,1.2s					
CD2	**Chengdu**	21.26	99	⇓*i*P	P	21 12 59.0 +0.4
CD2				PP	PP	21 13 21.0 -1.3
CD2				PPP	PPP	21 13 33.0 +1.4
CD2				S	S	21 16 52.8 +3.6
CD2				XS		21 16 55.8
CD2				SS	SS	21 17 22.8 -0.6
CD2				AMB	AMB	
	comp=Z,40nm,1.2s,mb4.6					
CD2				AMB	AMB	
	comp=Z,370nm,12.0s					
CD2				LR	LR	
	comp=N,2μm,14.4s					
CD2				LR	LR	
	comp=Z,2μm,11.4s,MS4.7					
MOY	**Mondy**	21.42	39	*e*P	P	21 12 59.8 -0.3
MOY				*e*		21 16 59.1
MOY				pmax	pmax	
	comp=Z,231nm,2.5s,mb5.1					
GOA	**Goa**	21.81	194	*e*P	P	21 13 05.0 +0.7
GOA				*ex*	S	21 17 01.0 +1.4
ZAK	**Zakamensk**	21.96	44	⇓*i*P	P	21 13 05.2 -0.4
ZAK				pmax	pmax	
	comp=Z,41nm,1.1s,mb4.8					
BIDO	**Bidbid**	22.45	240	⇑P	P	21 13 14.0 +3.3
SMDO	**Samad**	22.81	239	P	P	21 13 18.1 +3.9
	SNR=30					
SONM	**Songino Array**	22.81	53	P	P	21 13 14.5 +0.5
	comp=Z,17nm,0.9s,mb4.5,baz=247,slow=8.7,SNR=86					
SONM				S	S	21 17 22.1 +4.4
	comp=Z,3.3nm,0.8s,baz=253,slow=5.2,SNR=1.9					
SONM				LR	LR	21 23 24.6
	comp=Z,11μm,18.1s,MS5.3,baz=246,slow=40					
HOQ	**Hoqain**	22.98	241	⇓P	P	21 13 18.3 +2.4
	SNR=24					
ULN	**Ulaanbaatar**	23.25	53	*i* P	P	21 13 18.8 +0.6
ULN				LR	LR	
	comp=Z,6μm,22.0s,MS5.0					
KMI	**Kunming**	23.31	113	⇑P	P	21 13 20.0 +0.9
KMI				AP		21 13 27.0
KMI				XP		21 13 29.5
KMI				PP	PP	21 13 54.0 +3.6
KMI				PPP	PPP	21 14 01.0 +0.6
KMI				PCP	PcP	21 17 11.5 +3.7
KMI				S	S	21 17 29.0 +2.3
KMI				XS		21 17 41.5
KMI				SS	SS	21 18 16.5 +3.1
KMI				SSS	SSS	21 18 32.3 +3.2
KMI				AMB	AMB	
	comp=Z,82nm,1.7s,mb4.9					
KMI				AMB	AMB	
	comp=Z,497nm,5.4s					
KMI				LR	LR	
	comp=N,2μm,15.5s,MS5.0					
KMI				LR	LR	
	comp=E,3μm,12.9s,MS5.0					
KMI				LR	LR	
	comp=Z,3μm,12.6s,MS5.0					
KMI	**Kunming**	23.31	113	⇑P	P	21 13 20.0 +0.9
	comp=Z,82nm,1.7s,mb4.9					
KMI				pP		21 13 27.1
KMI				sP		21 13 29.4
KMI				PP	PP	21 13 53.9 +3.5
KMI				PPP	PPP	21 14 01.0 +0.6
KMI				PcP	PcP	21 17 11.6 +3.8
KMI				S	S	21 17 29.1 +2.4
KMI				sS		21 17 41.5
KMI				SS	SS	21 18 16.4 +3.0
KMI				SSS	SSS	21 18 32.2 +3.1
KMI				LR	LR	
	comp=Z,3μm,12.6s,MS5.0					
IRK	**Irkutsk**	23.43	41	*e*P	P	21 13 21.4 +1.5
IRK				*e*S	S	21 17 30.4 +1.9
MDRS	**Chennai**	23.72	177	*e*P	P	21 13 24.5 +1.4
MDRS				AMb	AMB	21 13 34.7
	comp=Z,366nm,0.9s,mb5.8					
ARU	**Arti**	23.96	331	*e*P	P	21 13 26.0 +1.0
ARU				*e*		21 13 55.4
ARU				*e*PPP	PPP	21 14 06.1 -3.1
ARU				*e*		21 17 05.5
ARU				*e*S	S	21 17 43.6 +5.9
ARU				*e*SS	SS	21 18 30.4 +1.7
ARU				MLR	MLR	
	comp=Z,5μm,16.0s,MS5.1					
ARU				MLR	MLR	
	comp=N,2μm,18.0s,MS5.0					
ARU				MLR	MLR	
	comp=E,4μm,15.0s,MS5.0					
MNGI	**Mangalore**	24.14	190	*e*P	P	21 13 29.2 +2.0
MNGI				AMb	AMB	21 13 38.7
	comp=Z,337nm,1.2s,mb5.7					
MNGI				*e*S	S	21 17 50.9 +10
BTO	**Baotou**	24.31	72	*e*P	P	21 13 29.5 +0.8
BTO				S	S	21 17 41.3 -2.6
BTO				AMB	AMB	
	comp=Z,73nm,2.4s,mb4.7					
BTO				LR	LR	
	comp=N,4μm,12.2s,MS5.4					
BTO				LR	LR	
	comp=E,7μm,13.9s,MS5.4					
XAN	**Xi'an**	24.38	88	P	P	21 13 29.8 +0.4
XAN				AP		21 13 39.5
XAN				S	S	21 17 42.5 -2.6
XAN				AMB	AMB	
	comp=Z,25nm,1.2s,mb4.5					
XAN				AMB	AMB	
	comp=Z,306nm,9.1s					
XAN				LR	LR	
	comp=N,2μm,11.2s,MS5.0					
XAN				LR	LR	
	comp=E,3μm,12.0s,MS5.0					
XAN				LR	LR	
	comp=Z,4μm,12.0s,MS5.1					
MAK	**Makhachkala**	24.92	294	*e*P	P	21 13 38.0 +3.5
MAK				*e*S	S	21 17 59.0 +4.9
MAK				pmax	pmax	
	comp=E,1μm,8.0s					
MAK				pmax	pmax	
	comp=Z,2μm,8.0s					
MAK				smax		
	comp=N,2μm,10.0s					
CHG	**Chiang Mai**	25.02	131	PG	P	21 13 34.7 -0.9
	comp=N,150nm,1.1s,mb5.4					
SALM	**Salem**	25.12	182	*e*P	P	21 13 38.0 +1.3
HHC	**Hu-ho-hao-te**	25.48	71	*e*P	P	21 13 41.5 +1.7
HHC				PP	PP	21 14 19.5 +0.4
HHC				PCP	PcP	21 17 16.8 +4.6
HHC				S	S	21 18 05.5 +2.0
HHC				SS	SS	21 19 06.8 +0.5
HHC				PCS		21 20 55.3
HHC				AMB	AMB	
	comp=Z,21nm,1.2s,mb4.5					
HHC				AMB	AMB	
	comp=Z,634nm,9.5s					
HHC				LR	LR	
	comp=N,3μm,13.7s,MS5.2					
HHC				LR	LR	
	comp=E,4μm,17.8s,MS5.2					
HHC				LR	LR	
	comp=Z,4μm,14.9s,MS5.1					
GYA	**Guiyang**	25.54	106	⇑*i*P	P	21 13 41.5 +1.0
GYA				AP	pP	21 13 51.0 +5.3
GYA				XP	sP	21 13 54.8 +6.8
GYA				S	S	21 18 07.0 +2.3
GYA				AMB	AMB	
	comp=Z,110nm,0.9s,mb5.4					
GYA				AMB	AMB	
	comp=Z,410nm,6.6s					
GYA				LR	LR	
	comp=N,2μm,12.8s,MS5.0					
GYA				LR	LR	
	comp=E,2μm,10.5s,MS5.0					
GYA				LR	LR	
	comp=Z,3μm,11.4s,MS5.0					
NANT	**Nan**	26.12	128	⇑P	P	21 13 46.0 0.0
	comp=Z,738nm,0.4s					
TIY	**Taiyuan**	26.43	78	*e*P	P	21 13 45.0 -3.6
TIY				S	S	21 18 20.0 +0.7
TIY				LR	LR	
	comp=N,4μm,12.0s					
TIY				LR	LR	
	comp=Z,1μm,7.0s					
DGRG	**David-gareji**	26.48	290	P	P	21 13 50.2 +1.2
SOKR	**Solikamsk**	26.90	335	*c iP*	P	21 13 53.6 +0.8
SOKR				S	S	21 18 30.3 +3.4
SOKR				pmax	pmax	
	comp=Z,90nm,0.9s,mb5.3					
SOKR				MLR	MLR	
	comp=Z,8μm,19.0s,MS5.3					
MTA	**Mtatsminda**	26.91	291	P	P	21 13 53.4 +0.4
TBLG	**Delisi**	26.95	291	P	P	21 13 54.8 +1.5
TBLG				S		21 18 53.4
GNI	**Garni**	27.01	288	P	P	21 13 56.6 +2.6
	comp=Z,34nm,0.8s,mb4.9,baz=337,slow=2.6,SNR=13					
GNI				S	S	21 18 36.2 +7.3
	comp=Z,2.7nm,0.6s,baz=136,slow=23,SNR=1.2					
GNI				LR	LR	21 26 29.3
	comp=Z,2μm,18.2s,MS4.6,baz=249,slow=40					
GNI	**Garni**	27.01	288	*e*P	P	21 13 55.7 +1.8
	comp=Z,188nm,1.1s,mb5.5					
GNI				LR	LR	
	comp=Z,2μm,19.0s,MS4.6					
UMR	**Umm Al-Rimmam**	27.20	264	*e*P	P	21 13 56.3 +0.6
UMR				AMb	AMB	21 14 01.9
	comp=Z,174nm,0.8s,mb5.6					
KBD	**Kabd**	27.37	263	*e*P	P	21 13 57.9 +0.6
KBD				AMb	AMB	21 14 02.5
	comp=Z,420nm,0.9s,mb6.0					
QRN	**Al-Qurain**	27.37	262	*e*P	P	21 13 57.7 +0.3
QRN				AMb	AMB	21 14 13.0
	comp=Z,255nm,0.8s,mb5.8					
MIB	**Mutribah**	27.40	264	*e*P	P	21 13 57.9 +0.3
MIB				AMb	AMB	21 14 03.9
	comp=Z,214nm,0.9s,mb5.7					
ZEI	**Tsey**	27.56	293	*e*P	P	21 13 57.4 -1.6
ZEI				*i* *PP	pP	21 14 02.6 -1.5
ZEI				*i*		21 14 41.7
ZEI				*e*S	S	21 18 35.3 -2.4
ZEI				pmax	pmax	
	comp=Z,23nm,1.2s,mb4.7					
RDF	**Al-Radifah**	27.59	263	*e*P	P	21 13 59.9 +0.6
RDF				AMb	AMB	21 14 08.2
	comp=Z,180nm,0.9s,mb5.7					
CLDR	**Caldiran**	27.74	286	*i* P	Px	21 13 01.7
ONI	**Oni**	27.89	293	P	P	21 14 03.3 +1.3
ONI				S	S	21 18 48.0 +5.0
HAKT	**HAKKARI**	28.13	282	*i* P	P	21 14 04.8 +0.7
NST	**Nakhon Sawan**	28.16	133	⇓P	P	21 14 05.0 +0.4
	comp=Z,58nm,0.8s,mb5.3					
GOF	**Gofitskoye**	28.28	298	⇓*i*P	P	21 14 06.2 +0.8
GOF				pmax	pmax	
	comp=Z,86nm,1.0s,mb5.3					
TRD	**Trivandrum**	28.30	185	*ex*	x	21 14 14.5
TRD				*i* x	x	21 19 02.5
CIT	**Chita**	28.54	47	*e*P	P	21 14 06.7 -0.9
CIT				*e*		21 15 01.8
CIT				*e*		21 17 23.0
CIT				pmax	pmax	
	comp=Z,85nm,2.5s,mb5.0					
WHFO	**Wadi Hawf**	29.24	237	P	P	21 14 14.8 +0.5
	SNR=31					
RBK	**Rabkut**	29.25	235	⇑P	P	21 14 14.9 +0.5
	SNR=9.8					
BCA	**Borcka**	29.29	291	P	Px	21 13 15.8
KKTK	**Khon Kaen**	29.30	128	⇑P	P	21 14 14.3 -0.5
	comp=Z,864nm,0.6s					
PALK	**Pallekele**	29.49	177	*e*P	P	21 14 18.0 +1.3
	comp=Z,98nm,1.5s,mb5.3					
PALK				LR	LR	
	comp=Z,206nm,20.0s					
ERZM	**Erzurum**	29.62	288	*i* P	P	21 14 18.6 +1.1
EZM	**Erzurum**	29.62	288	P	Px	21 13 20.6
WHN	**Wuhan**	29.85	92	*e*P	P	21 14 20.5 +0.8
WHN				LR	LR	
	comp=N,1μm,8.3s					
WHN				LR	LR	
	comp=E,4μm,10.6s					
WHN				LR	LR	
	comp=Z,4μm,10.8s,MS5.4					
ABTO	**Aybut**	29.96	236	⇓P	P	21 14 20.6 -0.2
	SNR=11					
BEST	**Besiri**	29.98	284	*i* P	P	21 14 22.4 +1.6
VRHR	**Novokhopersk**	30.14	310	*c iP*	P	21 14 21.3 -0.8
VRHR				*e*SP	sP	21 14 26.3 -3.2
VRHR				*e*S	S	21 19 16.7 -2.2
VRHR				*e*SS		21 19 28.1
VRHR				pmax	pmax	
	comp=Z,170nm,0.8s,mb5.8					
VRHR				pmax	pmax	
	comp=N,80nm,1.0s					
VRHR				pmax	pmax	
	comp=E,160nm,1.0s					
VRHR				smax		
	comp=E,390nm,2.3s					
VRHR				smax		
	comp=Z,150nm,2.8s					
VRHR				smax		
	comp=N,520nm,4.1s					
VRHR				MLR	MLR	
	comp=Z,6μm,14.0s,MS5.4					
VRHR				MLR	MLR	
	comp=N,2μm,13.0s,MS5.3					
VRHR				MLR	MLR	
	comp=E,4μm,13.0s,MS5.3					
TIA	**Tai'an**	30.40	80	*e*P	P	21 14 25.0 +0.5
TIA				S	S	21 19 26.0 +3.0
TIA				LR	LR	
	comp=N,3μm,13.0s,MS5.3					
TIA				LR	LR	
	comp=E,3μm,13.0s,MS5.3					
NNT	**Nongplab**	30.43	137	P	P	21 14 25.0 +0.1
MARD	**Mardin**	30.46	283	*i* P	P	21 14 25.6 +0.5
PECR	**Pechory**	30.48	321	*e*P	P	21 14 29.2 +4.3
PECR				MLR	MLR	
	comp=E,6μm,10.0s					
PECR				MLR	MLR	
	comp=Z,6μm,10.0s,MS5.6					
SOC	**Sochi**	30.62	295	*c iP*	P	21 14 25.9 -0.4
SOC				*e*PPP	PPP	21 15 34.1 -7.4
SOC				*e*S	S	21 19 21.9 -4.6
SOC				*e*SSS	SSS	21 21 13.0 -17
SOC				pmax	pmax	
	comp=N,7.0nm,0.6s					

SOC				pmax	pmax	
	comp=E,20nm,0.9s					
SOC				pmax	pmax	
	comp=Z,30nm,0.9s,mb5.1					
SOC				MLR	MLR	
	comp=N,773nm,13.0s,MS5.0					
SOC				MLR	MLR	
	comp=E,2μm,14.0s,MS5.0					
SOC				MLR	MLR	
	comp=Z,2μm,14.0s,MS4.9					
BOD	**Bodaibo**	**31.04**	**36**	*e*P	**P**	**21 14 28.7 -1.2**
BOD				pmax	pmax	
	comp=Z,14nm,0.9s,mb4.8					
KELT	**Kelkit**	**31.20**	**288**	*i* P	**P**	**21 14 31.9 +0.4**
PTK	**Pertek**	**31.27**	**286**	*i* P	Px	21 13 33.2
UBT	**Ubonrachathani**	**31.51**	**126**	P	**P**	**21 14 33.8 -0.6**
VORD	**Divnogorie**	**31.55**	**309**	*e*P	**P**	**21 14 33.6 -0.9**
VORD				*e*S	**S**	**21 19 38.5 -2.5**
VORD				pmax	pmax	
	comp=N,100nm,0.9s					
VORD				pmax	pmax	
	comp=Z,160nm,0.9s,mb5.8					
VORD				pmax	pmax	
	comp=E,280nm,0.8s					
VORD				smax		
	comp=Z,30nm,1.6s					
VORD				smax		
	comp=N,140nm,0.9s					
VORD				smax		
	comp=E,100nm,0.9s					
VORD				MLR	MLR	
	comp=Z,7μm,14.0s,MS5.5					
VORD				MLR	MLR	
	comp=N,2μm,12.0s,MS5.4					
VORD				MLR	MLR	
	comp=E,4μm,13.0s,MS5.4					
ELZG	**Elazig**	**31.65**	**285**	*i* P	**P**	**21 14 36.4 +1.0**
VRSR	**Storozhevoye**	**31.67**	**310**	*e*P	**P**	**21 14 35.0 -0.5**
VRSR				*e**SP	sP	21 14 40.0 -2.9
VRSR				*e*S	**S**	**21 19 41.7 -1.1**
VRSR				pmax	pmax	
	comp=Z,160nm,0.8s,mb5.9					
VRSR				pmax	pmax	
	comp=N,30nm,1.1s					
VRSR				pmax	pmax	
	comp=E,230nm,0.9s					
VRSR				smax		
	comp=N,140nm,1.1s					
VRSR				smax		
	comp=Z,20nm,1.2s					
VRSR				smax		
	comp=E,60nm,1.0s					
VRSR				MLR	MLR	
	comp=N,970nm,14.0s,MS5.0					
VRSR				MLR	MLR	
	comp=E,2μm,15.0s,MS5.0					
VRSR				MLR	MLR	
	comp=Z,4μm,15.0s,MS5.2					
MZLS	**Mizel**	**31.76**	**256**	P	**P**	**21 14 36.9 +0.3**
VOR	**Voronezh**	**31.76**	**311**	*e*P	**P**	**21 14 36.0 -0.3**
VOR				*e**SP	sP	21 14 41.0 -2.8
VOR				*e*S	**S**	**21 19 43.0 -1.3**
VOR				pmax	pmax	
	comp=N,50nm,1.2s					
VOR				pmax	pmax	
	comp=E,230nm,1.2s					
VOR				pmax	pmax	
	comp=Z,250nm,1.2s,mb5.9					
VOR				smax		
	comp=N,200nm,1.4s					
VOR				smax		
	comp=E,170nm,1.4s					
VOR				smax		
	comp=Z,130nm,2.0s					
HIA	**Hailar**	**31.77**	**54**	*e*P	**P**	**21 14 31.4 -5.0**
	comp=Z,12nm,0.8s,mb4.8					
MALT	**Malatya**	**32.11**	**285**	P	Px	21 13 40.7
MALT	**Malatya**	**32.11**	**285**	*e*P	**P**	**21 14 41.0 +1.6**
	comp=Z,58nm,1.0s,mb5.4					
QIZ	**Qiongzhong**	**32.23**	**115**	*e*P	**P**	**21 14 40.8 +0.1**
QIZ				PPP	PPP	21 16 03.5 +0.2
QIZ				S	**S**	**21 19 52.5 +0.6**
QIZ				XS		21 20 01.0
QIZ				AMB	AMB	
	comp=Z,186nm,8.3s					
QIZ				LR	LR	
	comp=N,1μm,12.7s,MS4.9					
QIZ				LR	LR	
	comp=E,970nm,14.7s,MS4.9					
QIZ				LR	LR	
	comp=Z,2μm,15.9s,MS4.9					
ANN	**Anapa**	**32.25**	**297⇑**	*i*P	**P**	**21 14 40.1 -0.5**
ANN	**Anapa**	**32.25**	**297**	*e*P	**P**	**21 14 39.6 -1.0**
ANN				*e**PP	pP	21 14 44.9 -0.9
ANN				*e*		21 15 47.4
ANN				*e*PPP	PPP	21 15 59.9 -3.4
ANN				*e*S	**S**	**21 19 50.3 -1.6**
ANN				pmax	pmax	
	comp=Z,101nm,1.2s,mb5.5					
ANN				MLR	MLR	
	comp=N,4μm,15.0s,MS5.3					
ANN				MLR	MLR	
	comp=E,3μm,15.0s,MS5.3					
ANN				MLR	MLR	
	comp=Z,4μm,15.0s,MS5.2					
GZH	**Guangzhou**	**32.47**	**105**	P	**P**	**21 14 42.3 -0.5**
GZH				S	**S**	**21 19 54.3 -1.3**
GZH				LR	LR	
	comp=N,2μm,12.3s,MS5.0					
GZH				LR	LR	
	comp=E,1μm,12.1s,MS5.0					
GZH				LR	LR	
	comp=Z,3μm,12.3s,MS5.1					
HILS	**Ha'il**	**32.84**	**264**	P	**P**	**21 14 46.6 +0.7**
NJ2	**Nanjing**	**32.93**	**86**	*e*P	**P**	**21 14 46.3 -0.4**
NJ2				AP	pP	21 14 51.5 -0.4
NJ2				XP	sP	21 14 54.0 -0.2
NJ2				PP	PP	21 15 56.3 -0.8
NJ2				S	**S**	**21 20 05.0 +2.3**
NJ2				AMB	AMB	
	comp=Z,20nm,1.2s,mb4.9					
NJ2				AMB	AMB	
	comp=Z,50nm,6.9s					
NJ2				LR	LR	
	comp=N,4μm,15.1s,MS5.4					
NJ2				LR	LR	
	comp=E,4μm,13.6s,MS5.4					
NJ2				LR	LR	
	comp=Z,2μm,22.0s					
SVSK	**Karacayir**	**32.95**	**288**	*e*P	Px	21 13 49.0
GZT	**Gaziantep**	**32.97**	**284**	*i* P	**P**	**21 14 47.4 +0.5**
GAZ	**Gaziantep**	**33.28**	**283**	P	Px	21 13 49.3
DL2	**Dalian**	**33.38**	**73**	P	**P**	**21 14 51.0 +0.5**
DL2				S	**S**	**21 20 10.0 +0.4**
DL2				AMB	AMB	
	comp=Z,30nm,1.2s,mb5.1					
DL2				AMB	AMB	
	comp=Z,200nm,6.0s					
DL2				LR	LR	
	comp=N,980nm,16.2s,MS4.8					
DL2				LR	LR	
	comp=E,1μm,14.7s,MS4.8					
DL2				LR	LR	
	comp=Z,2μm,17.0s,MS4.8					
KAHT	**Ahir Dag**	**33.45**	**284**	*i* P	**P**	**21 14 53.1 +1.9**
AFFS	**'Afif**	**33.53**	**258**	P	**P**	**21 14 52.1 +0.1**
MOS	**Moscow**	**33.66**	**317**	*e*P	**P**	**21 14 52.3 -0.5**
MOS				*i*	pP	21 14 57.4 -0.6
MOS				*e*		21 16 04.2
MOS				*e*		21 17 27.6
MOS				*e*S	**S**	**21 20 10.1 -3.7**
MOS				*e*SS	SS	21 22 22.1 +3.2
MOS				pmax	pmax	
	comp=Z,200nm,1.5s,mb5.8					
MOS				pmax	pmax	
	comp=Z,145nm,1.3s,mb5.8					
MOS				smax		
	comp=N,700nm,3.5s					
MOS				MLR	MLR	
	comp=E,2μm,10.3s					
MOS				MLR	MLR	
	comp=Z,4μm,10.3s,MS5.5					
OBN	**Obninsk**	**34.08**	**316**	*e*P	**P**	**21 14 55.9 -0.5**
	comp=Z,153nm,0.9s,mb5.9					
OBN				*e*pP	pP	21 15 02.0 +0.4
OBN				*e*sP	sP	21 15 04.6 +0.8
OBN				LR	LR	
	comp=Z,350nm,20.0s,MS4.1					
OBN	**Obninsk**	**34.08**	**316**	*c i*P	**P**	**21 14 56.1 -0.3**
OBN				*i*		21 15 04.2
OBN				*e*		21 16 07.5
OBN				*e*		21 17 39.0
OBN				*i* S	**S**	**21 20 18.2 -2.0**
OBN				*e*SS	SS	21 22 33.3 +4.8
OBN				pmax	pmax	
	comp=Z,115nm,1.2s,mb5.7					
OBN				MLR	MLR	
	comp=Z,5μm,14.0s,MS5.4					
KOZT	**Kozan**	**34.29**	**284**	*e*P	Px	21 13 60.0
KAMS	**Al Khamasin**	**34.31**	**251**	P	**P**	**21 14 58.5 -0.2**
SNY	**Shenyang**	**34.43**	**68**	PR		21 14 59.0
SNY				S	**S**	**21 20 25.3 -0.5**
SNY				LR	LR	
	comp=N,4μm,14.1s,MS5.4					
SNY				LR	LR	
	comp=E,3μm,14.4s,MS5.4					
SNY				LR	LR	
	comp=Z,3μm,14.5s,MS5.2					
CEYT	**Ceyhan**	**34.46**	**284**	*e*P	Px	21 14 02.2
SIM	**Simferopol'**	**34.60**	**298**	*c i*P	**P**	**21 15 01.6 +0.6**
SIM				*i* S	**S**	**21 20 30.0 +1.6**
SIM				pmax	pmax	
	comp=Z,136nm,0.7s,mb6.0					
QURS	**Qurayyt al Mil**	**34.84**	**273**	P	**P**	**21 15 04.6 +1.4**
MUKL	**Al Mukalla**	**34.87**	**238⇑**	*e*P	**P**	**21 15 04.5 +0.9**
BZK	**Bozkurt**	**34.93**	**293**	P	Px	21 14 05.2
NIG	**Nigde**	**35.10**	**286**	*e*P	Px	21 14 08.0
SSE	**Sheshan**	**35.13**	**87**	P	**P**	**21 15 06.5 +0.8**
SSE				XP	sP	21 15 16.0 +2.8
SSE				PP	PP	21 16 26.0 +1.4
SSE				PCP	PcP	21 17 36.8 -0.5
SSE				S	**S**	**21 20 39.3 +2.5**
SSE				XS		21 20 50.3
SSE				SCP		21 21 21.5
SSE				AMB	AMB	
	comp=Z,34nm,1.2s,mb5.2					
SSE				AMB	AMB	
	comp=Z,167nm,6.0s					
SSE				LR	LR	
	comp=N,1μm,12.8s,MS5.0					
SSE				LR	LR	
	comp=E,1μm,12.8s,MS5.0					
SSE				LR	LR	
	comp=Z,2μm,13.4s,MS5.1					
SSE	**Sheshan**	**35.13**	**87**	P	**P**	**21 15 06.4 +0.7**
	comp=Z,34nm,1.2s,mb5.2					
SSE				sP	sP	21 15 16.0 +2.8
SSE				PP	PP	21 16 26.1 +1.6
SSE				PcP	PcP	21 17 36.8 -0.5
SSE				S	**S**	**21 20 39.2 +2.4**
SSE				sS		21 20 50.2
SSE				ScP		21 21 21.4
SSE				SS	SS	21 23 12.2 +19
SSE				LR	LR	
	comp=Z,2μm,13.4s,MS5.1					
MERS	**Mersin**	**35.45**	**284**	*e*P	Px	21 14 10.1
BR131	**Keskin Array S**	**35.53**	**289**	*e*P	**P**	**21 15 09.6 +0.6**
	comp=Z,39nm,0.9s,mb5.3					
BR131				*e*pP	pP	21 15 15.0 +0.8
BR131				LR	LR	
	comp=Z,707nm,19.0s,MS4.4					
BRTR	**Keskin Array B**	**35.53**	**289**	P	**P**	**21 15 09.8 +0.7**
	comp=Z,42nm,0.9s,mb5.4,baz=90,slow=7.4,SNR=183					
BRTR				S	**S**	**21 20 44.3 +1.4**
	comp=Z,0.2nm,0.4s,baz=35,slow=35,SNR=2.1					
KAMT	**Kaman**	**35.54**	**288**	*e*P	Px	21 14 10.0
KBRS	**Khaybar**	**35.58**	**263**	P	**P**	**21 15 11.2 +1.7**
CN2	**Changchun**	**35.60**	**64**	*e*P	**P**	**21 15 10.0 +0.5**
CN2				*e*XP	sP	21 15 18.0 +1.0
CN2				*e*S	**S**	**21 20 43.0 -0.9**
CN2				AMB	AMB	
	comp=Z,400nm,4.0s					
CN2				LR	LR	
	comp=N,3μm,11.0s,MS5.5					
CN2				LR	LR	
	comp=E,3μm,11.0s,MS5.5					
CN2				LR	LR	
	comp=Z,4μm,11.0s,MS5.5					
QZH	**Quanzhou**	**35.64**	**98**	PR		21 15 13.0
QZH				S	**S**	**21 20 45.0 +0.2**
QZH				LR	LR	
	comp=N,3μm,11.7s,MS5.4					
QZH				LR	LR	
	comp=E,2μm,12.5s,MS5.4					
QZH				LR	LR	
	comp=Z,3μm,15.4s,MS5.1					
SAFT	**Safranbolu**	**36.00**	**292**	*e*P	Px	21 14 14.5
ANTO	**Ankara**	**36.15**	**289**	*e*P	Px	21 14 15.6
CLNS	**Chul'man**	**36.23**	**42**	*e*P	**P**	**21 15 19.7 +4.9**
CLNS				pmax	pmax	
	comp=Z,29nm,0.8s,mb5.3					
CLNS				pmax	pmax	
	comp=N,8.0nm,0.9s					
CLNS				pmax	pmax	
	comp=E,15nm,1.1s					
CLNS				MLR	MLR	
	comp=Z,5μm,13.0s,MS5.5					
CLNS				MLR	MLR	
	comp=N,3μm,14.0s,MS5.5					
CLNS				MLR	MLR	
	comp=E,4μm,14.0s,MS5.5					
SGKT	**Sivrigoynuk**	**36.58**	**291**	*i* P	**P**	**21 15 18.1 +0.3**
DJNS	**Zahran al Janu**	**36.66**	**248**	P	**P**	**21 15 20.4 +1.7**
TBKS	**Tabuk**	**36.67**	**269**	P	**P**	**21 15 20.3 +1.6**
BLJS	**Baljurashi**	**36.83**	**253**	P	**P**	**21 15 21.8 +1.6**
CSS	**Prodhromos**	**36.88**	**281**	*e*P	**P**	**21 15 17.9 -2.5**
	comp=E,22nm,0.9s,mb5.0					
KDHN	**Kadinhani**	**36.93**	**287**	*i* P	**P**	**21 15 18.8 -2.0**
KIZT	**Kizilcal**	**37.03**	**288**	*e*P	Px	21 14 23.1
KULM	**Kulim**	**37.09**	**143**	*e*P	**P**	**21 15 22.5 +0.1**
KULM				*e*pP	pP	21 15 28.5 +0.9
UMJS	**Umm Lajj**	**37.39**	**264**	P	**P**	**21 15 27.1 +2.2**
HENT	**Hendek**	**37.40**	**291**	*i* P	**P**	**21 15 24.2 -0.6**
LTHS	**Al Lith**	**37.52**	**255**	P	**P**	**21 15 27.9 +2.0**
INCN	**Inchon**	**37.53**	**74**	*e*P	**P**	**21 15 22.6 -3.2**
	comp=E,119nm,1.4s,mb5.4					
INCN				LR	LR	
	comp=Z,1μm,19.0s,MS4.7					
BDHA	**Al Bayda'**	**37.62**	**242⇓**	*e*P	**P**	**21 15 28.6 +1.7**
BDHA				AMb	AMB	21 15 29.1
	comp=Z,193nm,0.9s,mb5.8					
HAQS	**Haql**	**37.63**	**271**	P	**P**	**21 15 29.3 +2.5**
ESKT	**Eskisehir**	**37.69**	**289**	*e*P	Px	21 14 27.4
ESKT	**Eskisehir**	**37.69**	**289**	*i* P	**P**	**21 15 26.4 -0.7**
BDAS	**Al Bad'**	**37.75**	**270**	P	**P**	**21 15 29.8 +2.0**
AKASG	**Malin Array Be**	**37.87**	**308**	P	**P**	**21 15 28.2 -0.3**
	comp=Z,53nm,0.8s,mb5.3,baz=78,slow=6.9,SNR=162					
AKASG				PP	PP	21 16 57.0 -1.2
	comp=Z,10nm,0.7s,baz=93,slow=12,SNR=5.4					
AKASG				S	**S**	**21 21 16.5 -2.1**
	comp=Z,6.3nm,1.0s,baz=92,slow=14,SNR=8.7					
TAYS	**Tayyib Ism**	**37.88**	**270**	P	**P**	**21 15 30.9 +2.0**
LBOS		**37.92**	**242⇑**	*e*P	**P**	**21 15 30.8 +1.5**
LBOS				AMb	AMB	21 15 31.5
	comp=Z,266nm,0.9s,mb6.0					
TATO	**Taipei**	**37.93**	**96**	PFAKE		21 15 40.0 +11
TATO				LR	LR	
	comp=Z,2μm,20.0s,MS4.8					
YHNB	**Yeheng**	**37.99**	**96**	*e*P	**P**	**21 15 30.8 +1.0**
YHNB				*e*pP	pP	21 15 37.3 +2.2
DHBB	**Dhamar BB**	**38.06**	**244⇑**	*e*P	**P**	**21 15 32.2 +1.7**
DHBB				AMb	AMB	21 15 34.0
	comp=Z,199nm,0.9s,mb5.8					
KIS	**Kishinev**	**38.19**	**302**	*c i*P	**P**	**21 15 31.0 -0.3**
KIS				*i*		21 15 39.0
KIS				*e*		21 16 56.0
KIS				*e*		21 17 20.0
KIS				*e*S	**S**	**21 21 22.0 -1.5**
KIS				*e*SS	SS	21 24 02.0 +0.1
KIS				MLR	MLR	
	comp=Z,5μm,15.0s,MS5.4					
KIS				MLR	MLR	
	comp=N,2μm,13.0s,MS5.4					
KIS				MLR	MLR	
	comp=E,3μm,13.0s,MS5.4					
ISP	**Isparta**	**38.32**	**287**	*e*P	**P**	**21 15 32.7 +0.2**
	comp=E,35nm,0.9s,mb5.1					
ISP				*e*pP	pP	21 15 38.7 +0.9
ISP	**Isparta**	**38.32**	**287**	*e*P	**P**	**21 15 32.7 +0.2**
ISP				*e**PP	pP	21 15 38.7 +1.0
ISP				pmax	pmax	
	comp=Z,35nm,0.9s,mb5.1					
TLCR		**38.33**	**299⇓**	*i*P	**P**	**21 15 33.2 +0.7**
TLCR		**38.33**	**299⇓**	*i*P	**P**	**21 15 33.2 +0.7**
NACB	**Ninganchiao**	**38.40**	**97**	*e*P	**P**	**21 15 35.7 +2.4**
NACB				*e*pP	pP	21 15 42.5 +3.9
TKTP	**Tekketepe**	**38.42**	**287**	*i* P	**P**	**21 15 32.4 -0.9**
MDJ	**Mudanjiang**	**38.48**	**62**	P	**P**	**21 15 33.0 -0.8**
MDJ				PCP	PcP	21 17 47.0 -0.3
MDJ				S	**S**	**21 21 27.8 -0.2**
MDJ				SCP		21 21 34.8
MDJ				PCS		21 21 36.3
MDJ				AMB	AMB	
	comp=Z,28nm,1.0s,mb5.0					
MDJ				AMB	AMB	
	comp=Z,215nm,3.7s					
MDJ				LR	LR	
	comp=N,3μm,14.8s					
MDJ				LR	LR	
	comp=E,4μm,20.1s					
MDJ				LR	LR	
	comp=Z,5μm,18.0s,MS5.3					
MDJ	**Mudanjiang**	**38.48**	**62**	*e*P	**P**	**21 15 34.5 +0.7**
	comp=Z,22nm,0.8s,mb4.9					
PUL	**Pulkovo**	**38.51**	**322**	*e*P	**P**	**21 15 33.5 -0.4**
PUL	**Pulkovo**	**38.51**	**322⇑**	*e*P	**P**	**21 15 30.3 -3.6**
PUL				*e*		21 17 07.4
PUL				*e*S	**S**	**21 21 26.6 -1.7**
PUL				*e*SS	SS	21 24 08.6 -0.3
PUL				pmax	pmax	
	comp=N,22nm,0.4s					
PUL				pmax	pmax	
	comp=Z,36nm,0.4s,mb5.5					
PUL				pmax	pmax	
	comp=E,61nm,0.6s					
PUL				smax		
	comp=N,271nm,1.3s					
PUL				MLR	MLR	
	comp=Z,4μm,12.0s,MS5.4					
YLV	**Yalova**	**38.59**	**291**	*e*P	Px	21 14 35.0
TIRR	**Tirgusor**	**38.69**	**298**	*e*P	**P**	**21 15 35.3 -0.3**
CFR	**Carcaliu**	**38.81**	**299⇑**	*i*P	**P**	**21 15 36.1 -0.4**
CFR	**Carcaliu**	**38.81**	**299⇑**	*i*P	**P**	**21 15 36.1 -0.4**
ULDT	**Uludag**	**38.85**	**291**	*i* P	**P**	**21 15 36.6 -0.4**
MNK	**Minsk**	**38.95**	**314**	*e*P	**P**	**21 15 35.0 -2.6**
PSN	**Preselentsi**	**38.95**	**296**	P	**P**	**21 15 45.0 +7.2**
JOF	**Joensuu**	**38.96**	**327**	*e*p	**P**	**21 15 37.2 -0.4**
	comp=Z,35nm,0.9s,mb5.1					
ELL	**Elmali**	**39.06**	**285**	*e*P	Px	21 14 39.8
KSL	**Kastellorizon**	**39.47**	**284**	*e*P	**P**	**21 15 42.0 -0.2**
DNZL	**Cakiroluk**	**39.48**	**287**	*i* P	**P**	**21 15 42.4 +0.2**
PRD	**Provadia**	**39.59**	**296**	*i* P	**P**	**21 15 43.5 +0.5**
MANT	**Manisa**	**39.66**	**288**	*i* P	**P**	**21 15 44.2 +0.6**
IDID	**Didziasalis**	**39.66**	**315**	*e*P	**P**	**21 15 44.2 +0.7**
IDID				AMb	AMB	21 15 45.8
	comp=Z,25nm,1.1s,mb4.8					
VRI	**Vrincioaia**	**39.72**	**300⇑**	*i*P	**P**	**21 15 45.4 +1.3**
VRI	**Vrincioaia**	**39.72**	**300⇑**	*i*P	**P**	**21 15 45.4 +1.3**
VRI	**Vrincioaia**	**39.72**	**300**	P	**P**	**21 15 45.6 +1.5**
BTOK	**Tokmak**	**39.76**	**290**	*i* P	**P**	**21 15 45.0 +0.5**
YAK	**Yakutsk**	**39.91**	**35**	P	**P**	**21 15 44.0 -1.4**
	comp=Z,106nm,0.8s,mb5.6					
YAK				*e*pP	pP	21 15 49.4 -1.3
YAK				LR	LR	
	comp=Z,1μm,22.0s,MS4.8					
YAK	**Yakutsk**	**39.91**	**35**	*e*P	**P**	**21 15 50.3 +4.8**
YAK				*e**PP	pP	21 16 01.6 +11
YAK				*e*		21 17 20.4
YAK				*e*		21 17 58.3
YAK				*e*S	**S**	**21 21 46.7 -2.6**
YAK				*e**SS		21 21 59.3
YAK				pmax	pmax	
	comp=Z,63nm,0.9s,mb5.3					
YAK				pmax	pmax	
	comp=N,12nm,1.1s					
YAK				pmax	pmax	
	comp=E,16nm,1.0s					
YAK				pmax	pmax	
	comp=E,18nm,1.2s					
YAK				pmax	pmax	
	comp=Z,21nm,1.2s,mb4.7					
YAK				pmax	pmax	
	comp=N,8.0nm,1.1s					
YAK				smax		
	comp=N,12nm,1.1s					
YAK				smax		
	comp=Z,6.0nm,0.9s					
YAK				smax		
	comp=E,14nm,1.2s					
YAK				MLR	MLR	
	comp=N,934nm,12.0s,MS5.3					
YAK				MLR	MLR	
	comp=E,3μm,15.0s,MS5.3					
YAK				MLR	MLR	
	comp=Z,3μm,15.0s,MS5.3					
ISR	**Istrita**	**39.93**	**299⇓**	*i*P	**P**	**21 15 47.4 +1.5**
ISR	**Istrita**	**39.93**	**299⇓**	*i*P	**P**	**21 15 47.4 +1.5**
IIGN	**Ignalina**	**39.95**	**315**	*e*P	**P**	**21 15 46.7 +0.7**
IZAR	**Zarasai**	**39.98**	**315**	*e*P	**P**	**21 15 47.0 +0.9**
IZAR				AMb	AMB	21 15 48.5
	comp=Z,29nm,1.0s,mb5.0					
ISAL	**Salakas**	**40.03**	**315**	*e*P	**P**	**21 15 47.5 +0.9**
ISAL				AMb	AMB	21 15 49.0
	comp=Z,24nm,1.0s,mb4.9					
VSU	**Vasula**	**40.06**	**320⇓**	*i*P	**P**	**21 15 46.4 -0.3**
VSU	**Vasula**	**40.06**	**320⇓**	*i*P	**P**	**21 15 46.3 -0.4**
JMB	**Yambol**	**40.30**	**295**	*i* P	**P**	**21 15 50.7 +1.8**
MLR	**Muntele Rosu**	**40.31**	**299⇑**	*i*P	**P**	**21 15 50.9 +2.0**
MLR	**Muntele Rosu**	**40.31**	**299⇑**	*i*P	**P**	**21 15 50.9 +1.9**
MLR	**Muntele Rosu**	**40.31**	**299**	P	**P**	**21 15 51.1 +2.2**
BURAR	**Bucovina Array**	**40.59**	**303⇑**	*i*P	**P**	**21 15 52.2 +1.0**
BURAR	**Bucovina Array**	**40.59**	**303⇑**	*i*P	**P**	**21 15 52.2 +1.0**
KDAG	**Bornova**	**40.66**	**288**	*i* P	**P**	**21 15 49.2 -2.7**
AYVA	**Ayvalik**	**40.88**	**290**	*i* P	**P**	**21 15 52.0 -1.7**
FINES	**FINESS Array B**	**40.93**	**324**	P	**P**	**21 15 54.1 +0.2**
	comp=Z,21nm,0.8s,mb4.8,baz=117,slow=8.5,SNR=49					
FINES				LR	LR	21 34 08.8
	comp=Z,2μm,20.4s,MS5.0,baz=95,slow=38					
KAF	**Kangasniemi**	**40.97**	**325**	*e*p	**P**	**21 15 54.2 0.0**
	comp=Z,11nm,0.9s,mb4.5,baz=102,slow=8.2					
KAF	**Kangasniemi**	**40.97**	**325**	*e*P	**P**	**21 15 54.2 0.0**
KAF				pmax	pmax	
	comp=Z,11nm,0.9s,mb4.5					
URLA	**Izmir**	**41.18**	**289**	*i* P	**P**	**21 16 00.7 +4.5**
LVV	**L'vov**	**41.21**	**306**	*i* P	**P**	**21 15 56.8 +0.5**
LVV				*e*		21 17 40.6
LVV				*i* S	**S**	**21 22 08.0 -0.8**
LVV				*e*		21 25 07.2
LVV				MLR	MLR	
	comp=N,900nm,16.0s,MS5.3					
LVV				MLR	MLR	
	comp=E,3μm,17.0s,MS5.3					
LVV				MLR	MLR	
	comp=Z,3μm,17.0s,MS5.2					
KARP	**Karpathos**	**41.53**	**284**	*e*P	**P**	**21 16 00.1 +1.0**
SUW	**Suwalki**	**41.65**	**313**	*e*P	**P**	**21 15 59.9 +0.2**
SUW				*e*pP	pP	21 16 04.4 -0.6
SUW				*e*S	**S**	**21 22 17.2 +1.9**
SUW				*e*sS		21 22 24.2
SUW				MLR	MLR	21 34 36.3
	comp=Z,7μm,16.1s,MS5.6					
SUW	**Suwalki**	**41.65**	**313**	*e*P	**P**	**21 15 59.9 +0.1**
SUW				*e*pP	pP	21 16 04.4 -0.6
SUW				*e*S	**S**	**21 22 17.2 +2.0**
SUW				*e*SS		21 22 24.2
SUW	**Suwalki**	**41.65**	**313**	*e*P	**P**	**21 15 59.9 +0.1**
SUW				*e*S	**S**	**21 22 17.2 +2.0**
RZN	**Rozhen**	**41.82**	**294**	*i* P	**P**	**21 16 02.7 +1.4**
LOS	**Limnos**	**41.94**	**291**	*e*P	**P**	**21 16 02.6 +0.3**
PGB	**Panagyurishte**	**42.04**	**295**	*i* P	**P**	**21 16 05.3 +2.1**
KWP	**Kalwaria**	**42.08**	**306**	*e*P	**P**	**21 16 04.5 +1.1**
KWP				*e*pP	pP	21 16 09.5 +0.9
KWP				*e*PP	PP	21 17 45.6 +1.6
KWP				*e*S	**S**	**21 22 21.1 -0.5**
KWP				*e*sS		21 22 32.2
KWP				*e*SS	SS	21 25 31.8 +8.1
KWP				MLR	MLR	21 36 16.6
	comp=Z,4μm,19.3s,MS5.3					
KWP	**Kalwaria**	**42.08**	**306**	*e*P	**P**	**21 16 04.5 +1.1**
KWP				*e*pP	pP	21 16 09.5 +0.9
KWP				*e*PP	PP	21 17 45.6 +1.6
KWP				*e*S	**S**	**21 22 21.1 -0.5**
KWP				*e*SS		21 22 32.2

KWP eSS SS 21 25 31.8 +8.0
JNU Nakatsue 42.13 79 LR LR 21 35 44.9
comp=Z,916nm,18.3s,MS4.7,baz=77,slow=39
APE Apeiranthos 42.34 287 eP **P** **21 16 07.0 +1.3**
APE Apeiranthos 42.34 287 P **P** **21 16 06.9 +1.2**
APE Apeiranthos 42.34 287 c iP **P** **21 16 06.0 +0.3**
KOLS Kolonicke sedl 42.42 305 i P **P** **21 16 06.8 +0.6**
NVR Nevrokopi 42.52 294 eP **P** **21 16 08.1 +1.0**
JOW Kunigami 42.52 89 LR LR 21 37 04.2
comp=Z,1μm,18.1s,MS4.8,baz=134,slow=41
MMB Musomiste 42.56 294 i P **P** **21 16 08.7 +1.3**
OUR Ouranopolis 42.66 292 eP **P** **21 16 09.4 +1.1**
VTS Vitosha 42.73 296 i P **P** **21 16 10.3 +1.5**
VTS Vitosha 42.73 296 P **P** **21 16 10.1 +1.3**
SRS Serrai 42.77 293 eP **P** **21 16 09.8 +0.6**
NPS Neapolis 42.82 285 eP **P** **21 16 10.0 +0.3**
XRY Khrisi 42.88 284 eP **P** **21 16 11.0 +0.8**
CRVS Cervenica-Dubn 42.96 305 i P **P** **21 16 11.1 +0.5**
WAR Warsaw 42.98 310 eP **P** **21 16 12.3 +1.6**
WAR epP pP 21 16 17.6 +1.6
WAR ePcP PcP 21 18 05.2 +3.6
WAR eS **S** **21 22 36.9 +2.0**
WAR MLR MLR 21 35 36.7
comp=Z,7μm,16.7s,MS5.6
WAR Warsaw 42.98 310 eP **P** **21 16 12.4 +1.7**
WAR epP pP 21 16 17.6 +1.6
WAR ePcP PcP 21 18 05.2 +3.6
WAR eS **S** **21 22 36.9 +2.1**
WAR LR LR
comp=Z,7μm,16.7s,MS5.6
KEV Kevo 43.00 336 ep **P** **21 16 10.3 -0.3**
comp=Z,22nm,0.8s,mb4.9
KEV Kevo 43.00 336 eP **P** **21 16 09.9 -0.7**
KEV e pP 21 16 15.3 -0.6
KEV pmax pmax
comp=Z,52nm,1.1s,mb5.2
ZAPS Zavoj/Pirot 43.01 297⇑ i P **P** **21 16 11.8 +0.7**
AOS Alonnisos 43.02 291 eP **P** **21 16 11.5 +0.2**
TIXI Tiksi 43.04 21 PFAKE 21 16 20.0 +9.0
TIXI LR LR
comp=Z,2μm,19.0s,MS5.1
TIXI Tiksi 43.04 21 eP **P** **21 16 10.0 -1.0**
TIXI e 21 17 50.0
TIXI eS **S** **21 22 25.6 -10**
TIXI eSS SS 21 25 40.1 -1.4
TIXI pmax pmax
comp=Z,52nm,0.9s,mb5.3
TIXI MLR MLR
comp=Z,2μm,11.0s,MS5.2
PLG Polygyros 43.05 292 eP **P** **21 16 12.2 +0.8**
STHS Stebnicka Huta 43.05 306 i P **P** **21 16 12.0 +0.7**
KNT Kendrikon 43.27 294 eP **P** **21 16 14.2 +1.0**
ARCES ARCESS Array B 43.41 336 P **P** **21 16 13.9 0.0**
comp=Z,11nm,0.7s,mb4.7,baz=100,slow=5.7,SNR=34
ARCES LR LR 21 36 15.3
comp=Z,2μm,18.1s,MS5.0,baz=109,slow=39
ARE0 ARCESS Array S 43.41 336 eP **P** **21 16 14.0 0.0**
ARE0 epP pP 21 16 18.5 -0.7
NEO Neokhori 43.48 291 eP **P** **21 16 15.2 +0.3**
XOR Xorichti 43.49 291 eP **P** **21 16 15.4 +0.4**
KECS Kecovo 43.65 305 i P **P** **21 16 17.2 +1.0**
NIE Niedzica 43.65 306⇑ i P **P** **21 16 17.7 +1.5**
NIE ePP PP 21 18 04.5 +4.8
BARS Barje 43.68 296⇓ i P **P** **21 16 17.3 +0.8**
GRG Griva 43.68 294 eP **P** **21 16 17.1 +0.6**
LIT Litokhoron 43.82 292 eP **P** **21 16 17.6 -0.1**
LKR Lokris 43.83 290 eP **P** **21 16 17.5 -0.2**
VAM Vamos 43.87 285 eP **P** **21 16 18.0 -0.2**
OJC Ojcow 43.90 307 eP **P** **21 16 18.5 +0.3**
OJC eS **S** **21 22 48.7 +0.5**
OJC MLR MLR 21 36 46.3
comp=Z,6μm,16.0s,MS5.6
KTK1 Kautokeino 44.01 335 eP **P** **21 16 19.4 +0.6**
KTK1 epP pP 21 16 24.3 +0.2
KTK1 AMb AMB 21 16 29.4
comp=Z,64nm,1.6s,mb5.1
KTK1 Kautokeino 44.01 335 eP **P** **21 16 19.4 +0.6**
comp=Z,64nm,1.6s,mb5.1
PSZ Piszkesteto 44.12 304⇑ epP pP 21 16 21.0 -4.3
PSZ Piszkesteto 44.12 304 eP **P** **21 16 20.8 +0.8**
comp=Z,27nm,0.9s,mb5.0
PSZ epP pP 21 16 25.7 +0.5
PSZ Piszkesteto 44.12 304 eP **P** **21 16 20.8 +0.8**
PSZ pmax pmax
comp=Z,27nm,0.9s,mb5.0
GVD Gavdhos 44.14 285 eP **P** **21 16 20.3 -0.1**
comp=Z,91nm,0.6s,mb5.7
VLI Veliai 44.43 287 eP **P** **21 16 21.7 -1.0**
FNA Florina 44.48 294 eP **P** **21 16 23.3 +0.3**
DGAR Diego Garcia 44.49 189 PFAKE 21 16 40.0 +17
DGAR LR LR
comp=Z,686nm,20.0s,MS4.6
KYTH Kithira 44.49 287 eP **P** **21 16 22.8 -0.4**
EVR Evrytania 44.65 291 eP **P** **21 16 24.4 0.0**
DIVS Divcibare 44.72 298⇓ i P **P** **21 16 25.7 +0.8**
VYHS Vyhne 44.74 305 i P **P** **21 16 26.3 +1.3**
BUD Budapest 44.77 303 esP sP 21 16 26.1 -6.6
RAC Raciborz 44.94 307 eP **P** **21 16 27.7 +1.1**
RAC MLR MLR 21 37 19.0
comp=Z,9μm,15.3s,MS5.8
RAC LMN 21 37 20.5
comp=Z,2μm,14.2s
RAC LME 21 37 22.7
comp=Z,8μm,15.2s
OKC Ostrava-Krasne 45.00 307 eP **P** **21 16 27.7 +0.6**
OKC epP pP 21 16 33.1 +0.7
OKC eS **S** **21 23 05.7 +1.6**
OKC ex x 21 26 15.4
OKC AMS AMS 21 37 20.0
comp=Z,5μm,14.5s
KOLL Kolacno 45.01 305 i P **P** **21 16 28.3 +1.1**
SRO Srobarova 45.19 304 i P **P** **21 16 30.1 +1.5**
GKP Gorka Klasztor 45.21 312 eP **P** **21 16 29.2 +0.6**
GKP epP pP 21 16 33.9 -0.1
GKP eS **S** **21 23 07.4 +0.3**
GKP esS 21 23 13.8
GKP MLR MLR 21 37 01.8
comp=Z,6μm,16.3s,MS5.7
GKP Gorka Klasztor 45.21 312 eP **P** **21 16 29.2 +0.5**
GKP epP pP 21 16 33.9 -0.1
GKP eS **S** **21 23 07.4 +0.3**
GKP eSS 21 23 13.8
GKP LR LR
comp=Z,6μm,16.3s,MS5.7
GKP Gorka Klasztor 45.21 312 eP **P** **21 16 29.2 +0.5**
GKP eS **S** **21 23 07.4 +0.3**
GKP eSS 21 23 13.8
GKP MLR MLR
comp=Z,6μm,16.3s,MS5.7
PKSM Moragy 45.24 302 P **P** **21 16 29.8 +0.8**
MORC Moravsky Berou 45.40 307 eP **P** **21 16 30.7 +0.5**
comp=Z,66nm,1.0s,mb5.4
MORC epP pP 21 16 36.3 +0.8
MORC esP sP 21 16 39.1 +1.4
MORC ePcP PcP 21 18 09.9 -0.1
MORC Moravsky Berou 45.40 307 eP **P** **21 16 30.7 +0.5**
MORC e*SP sP 21 16 39.1 +1.4
MORC e 21 18 09.9
MORC pmax pmax
comp=Z,66nm,1.0s,mb5.4
KSM Kuching 45.48 133 eP **P** **21 16 31.4 0.0**
KSM epP pP 21 16 37.6 +1.0
LKD Levkas 45.57 291 eP **P** **21 16 32.6 +0.8**
IGT Igoumenitsa 45.58 292 eP **P** **21 16 31.2 -0.6**
TRO Tromso 45.65 335 eP **P** **21 16 31.9 0.0**
TRO AMb AMB 21 16 40.8
comp=Z,58nm,1.6s,mb5.2
TRO Tromso 45.65 335 eP **P** **21 16 31.9 0.0**
comp=Z,58nm,1.6s,mb5.3
SMOL Smolenice 45.66 305 i P **P** **21 16 33.5 +1.2**
KKM Kota Kinabalu 45.67 123 eP **P** **21 16 33.3 +0.4**
KKM epP pP 21 16 39.8 +1.7
ZST Bratislava 45.93 305 i P **P** **21 16 35.6 +1.2**
KSP Ksiaz 46.05 308 eP **P** **21 16 36.0 +0.7**
KSP epP pP 21 16 40.9 +0.3
KSP eS **S** **21 23 20.5 +1.4**
KSP esS 21 23 26.5
KSP eSS SS 21 26 51.3 +15
KSP MLR MLR 21 37 56.6
comp=Z,18μm,16.3s,MS6.1
KSP Ksiaz 46.05 308 eP **P** **21 16 35.8 +0.4**
KSP epP pP 21 16 41.0 +0.3

KSP ePP PP 21 18 26.0 +2.3
KSP eS **S** **21 23 20.0 +0.9**
KSP eSS SS 21 26 31.0 -5.4
KSP LR LR
comp=Z,21μm,16.3s,MS6.2
VRAC Vranov 46.08 306 P **P** **21 16 36.8 +1.2**
DPC Dobruska-Polom 46.10 308 eP **P** **21 16 36.9 +1.2**
DPC epP pP 21 16 42.2 +1.2
DPC eS **S** **21 23 22.3 +2.5**
DPC ex x 21 26 35.4
DPC AMS AMS 21 37 50.0
comp=Z,8μm,14.8s
UPC Upice 46.27 308 eP **P** **21 16 38.1 +1.0**
UPC epP pP 21 16 43.4 +1.0
VKA Vienna 46.43 305⇑ i P **P** **21 16 39.6 +1.2**
STON Ston 46.62 297 i P **P** **21 16 39.7 -0.3**
MAJO Matsushiro 46.68 72 eP **P** **21 16 39.0 -1.6**
comp=Z,13nm,0.8s,mb4.9
MAJO Matsushiro 46.68 72 P **P** **21 16 40.2 -0.3**
MAJO pmax pmax
comp=Z,13nm,0.8s,mb4.9
MAT Matsushiro 46.68 72 P **P** **21 16 39.3 -1.2**
MAT S **S** **21 23 25.6 -2.7**
MAT Matsushiro 46.68 72 eP **P** **21 16 39.0 -1.5**
comp=Z,8.7nm,0.6s,mb4.9
MAT eS **S** **21 23 26.0 -2.3**
MJAR Matsushiro Arr 46.68 72 P **P** **21 16 40.0 -0.5**
comp=Z,7.7nm,0.8s,mb4.7,baz=284,slow=9.1,SNR=17
MJAR PcP PcP 21 18 13.5 -1.1
comp=Z,9.9nm,1.1s,baz=290,slow=4.9,SNR=4.1
MJAR LR LR 21 37 06.2
comp=Z,365nm,21.9s,MS4.3,baz=250,slow=37
MOR8 Moi Rana 46.75 330 eP **P** **21 16 39.6 -1.1**
MOR8 epP pP 21 16 45.0 -1.0
MOR8 AMb AMB 21 16 49.2
comp=Z,98nm,1.0s,mb5.7
MOR8 Moi Rana 46.75 330 eP **P** **21 16 39.6 -1.1**
comp=Z,98nm,1.0s,mb5.7
HFS Hagfors 46.84 321 P **P** **21 16 41.5 0.0**
comp=Z,30nm,0.8s,mb5.2,baz=101,slow=7.6,SNR=32
HFS LR LR 21 37 25.3
comp=Z,4μm,18.2s,MS5.4,baz=87,slow=37
MSEY Mahe Island 46.86 213 PFAKE 21 16 50.0 +7.7
MSEY LR LR
comp=Z,372nm,19.0s,MS4.4
MELSS Ber_school_2 47.11 331 eP **P** **21 16 43.0 -0.5**
ARSA Arzberg 47.15 304⇑ i P **P** **21 16 44.5 +0.4**
comp=Z,59nm,1.3s,mb5.4
PVCC Panska Ves 47.18 308 eP **P** **21 16 45.2 +0.9**
PVCC eS **S** **21 23 41.6 +6.4**
PVCC eSS SS 21 27 17.5 +22
PVCC AMS AMS 21 38 30.0
comp=Z,10μm,14.7s
PVCC Panska Ves 47.18 308 eP **P** **21 16 45.2 +0.9**
PVCC eS **S** **21 23 41.6 +6.4**
PVCC MLR MLR
comp=Z,10μm,14.7s,MS5.9
YSS Yuzh-Sakhalins 47.21 57 eP **P** **21 16 44.8 +0.2**
comp=Z,55nm,1.3s,mb5.3
YSS epP pP 21 16 50.6 +0.7
YSS LR LR
comp=Z,2μm,22.0s,MS5.0
YSS Yuzh-Sakhalins 47.21 57 eP **P** **21 16 42.0 -2.6**
YSS e 21 16 50.0
YSS eS **S** **21 23 35.0 -0.7**
YSS MLR MLR
comp=E,4μm,13.0s
YSS MLR MLR
comp=Z,4μm,13.0s,MS5.6
PRU Pruhonice 47.29 307 eP **P** **21 16 45.9 +0.7**
PRU epP pP 21 16 51.2 +0.7
PRU eS **S** **21 23 39.0 +2.3**
PRU eSS SS 21 27 10.0 +12
PRU AMS AMS 21 38 40.0
comp=Z,7μm,14.5s
PRU Pruhonice 47.29 307 eP **P** **21 16 45.9 +0.7**
PRU e*PP pP 21 16 51.2 +0.7
PRU eS **S** **21 23 39.0 +2.3**
PRU MLR MLR
comp=Z,7μm,14.5s,MS5.8
LOF Lofoten 47.31 332 eP **P** **21 16 47.2 +2.0**
LOF AMb AMB 21 16 55.7
comp=Z,134nm,1.2s,mb5.7
LOF Lofoten 47.31 332 eP **P** **21 16 47.2 +2.0**
comp=Z,134nm,1.2s,mb5.8
PRA Prague 47.34 308 AMS AMS 21 39 00.0
RUE Ruedersdorf 47.38 311 eP **P** **21 16 45.7 -0.1**
comp=Z,72nm,1.0s,mb5.6
RUE epP pP 21 16 51.8 +0.6
BRG Berggiesshubel 47.52 309⇑ i P **P** **21 16 47.5 +0.5**
comp=Z,94nm,1.0s,mb5.8
BRG i pP 21 16 52.6 +0.3
BRG i PcP PcP 21 18 17.2 -0.1
BRG PP PP 21 18 35.0 -2.9
BRG S **S** **21 23 38.0 -2.0**
BRG SS SS 21 27 03.0 +1.1
BRG LR LR
comp=Z,10μm,14.8s,MS5.9
BRG Berggiesshubel 47.52 309⇑ i P **P** **21 16 47.5 +0.5**
BRG i pP 21 16 52.6 +0.3
BRG i 21 18 17.3
BRG 21 18 35.0
BRG S **S** **21 23 38.0 -2.0**
BRG SS SS 21 27 03.0 +1.1
BRG pmax pmax
comp=Z,94nm,1.0s,mb5.8
BRG MLR MLR
comp=Z,10μm,14.8s,MS5.9
PERS Pernice 47.55 303 eP **P** **21 16 47.9 +0.6**
PERS epP pP 21 16 52.8 +0.2
BOJS Bojanci 47.70 301 eP **P** **21 16 48.6 +0.1**
BOJS epP pP 21 16 53.8 -0.1
BOJS eS **S** **21 23 44.1 +1.4**
ASAJ Asahikawa 47.74 61 LR LR 21 39 00.8
comp=Z,3μm,18.2s,MS5.3,baz=101,slow=39
COP Copenhagen 47.78 315 i P **P** **21 16 49.5 +0.5**
comp=Z,89nm,0.9s,mb5.8
COP i pP 21 16 55.6 +1.3
COP i S **S** **21 23 43.8 +0.2**
COP i 21 26 45.2
comp=Z,2μm,17.0s
COP Copenhagen 47.78 315 i P **P** **21 16 49.5 +0.5**
COP i pP 21 16 55.6 +1.3
COP i S **S** **21 23 43.8 +0.2**
COP pmax pmax
comp=Z,89nm,0.9s,mb5.8
COP MLR MLR
comp=Z,2μm,17.0s,MS5.2
MOA Molln 47.86 305⇑ i P **P** **21 16 49.9 +0.2**
comp=Z,49nm,1.1s,mb5.5
VISS Visnje 47.92 302 eP **P** **21 16 50.8 +0.6**
VISS epP pP 21 16 55.9 +0.3
OBKA Obir 47.96 303⇑ i P **P** **21 16 51.1 +0.6**
comp=Z,87nm,1.2s,mb5.7
GEC2 GERESS Array S 48.03 306 eP **P** **21 16 51.7 +0.7**
comp=Z,86nm,1.0s,mb5.7
GEC2 ePcP PcP 21 18 18.8 -0.5
GEC2 GERESS Array S 48.03 306 eP **P** **21 16 51.7 +0.7**
GEC2 e 21 18 18.8
GEC2 pmax pmax
comp=Z,86nm,1.0s,mb5.7
GERES GERESS Array B 48.03 306 P **P** **21 16 51.7 +0.7**
comp=Z,42nm,0.9s,mb5.5,baz=79,slow=6.8,SNR=116
GERES pP pP 21 16 56.9 +0.5
comp=Z,32nm,0.8s,baz=90,slow=5.3,SNR=21
GERES PcP PcP 21 18 18.4 -0.9
comp=Z,7.5nm,0.9s,baz=72,slow=6.2,SNR=2.7
GERES S **S** **21 23 51.9 +4.7**
comp=Z,0.2nm,0.3s,baz=197,slow=36,SNR=1.9
GERES LR LR 21 40 41.0
comp=Z,2μm,18.3s,MS5.2,baz=72,slow=40
CLL Collm 48.03 309⇑ P **P** **21 16 50.8 -0.2**
comp=Z,logA/T=1.8,mb5.6
CLL i *PP pP 21 16 56.4 +0.1
CLL i *SP sP 21 16 58.6 +0.1
CLL ePP PP 21 18 45.0 +2.5
CLL i *SPP 21 18 51.2
CLL eS **S** **21 23 49.0 +1.8**
CLL eSS SS 21 27 32.0 +21
CLL eSSS SSS 21 28 30.0 +2.6
CLL Collm 48.03 309⇑ i P **P** **21 16 50.8 -0.2**
comp=Z,65nm,1.0s,mb5.6
CLL i pP pP 21 16 56.4 +0.1
CLL i sP sP 21 16 58.6 +0.1

CLL eS **S** **21 23 49.0 +1.8**
CLL LR LR
comp=Z,6μm,14.5s,MS5.7
CLL Collm 48.03 309⇑ i P **P** **21 16 50.8 -0.2**
CLL i *SP sP 21 16 58.6 +0.1
CLL eS **S** **21 23 49.0 +1.8**
CLL pmax pmax
comp=Z,65nm,1.0s,mb5.6
CLL MLR MLR
comp=Z,6μm,14.5s,MS5.7
NB2 NORSAR Subarra 48.04 323 P **P** **21 16 50.3 -0.6**
comp=Z,13nm,0.5s,mb5.2,baz=89,slow=7.9
NB2 NORSAR Subarra 48.04 323 P **P** **21 16 50.3 -0.6**
baz=88,slow=7.9
NOA NORSAR Array B 48.04 323 P **P** **21 16 50.3 -0.7**
comp=Z,22nm,0.8s,mb5.3,baz=89,slow=7.6,SNR=70
NOA LR LR 21 37 30.0
comp=Z,925nm,19.8s,MS4.8,baz=80,slow=37
KHC Kasperske Hory 48.06 306 eP **P** **21 16 52.0 +0.8**
KHC epP pP 21 16 57.4 +0.8
KHC eS **S** **21 23 50.2 +2.6**
KHC eSS SS 21 27 34.3 +23
KHC AMS AMS 21 39 00.0
comp=Z,6μm,14.0s
KHC Kasperske Hory 48.06 306 eP **P** **21 16 52.0 +0.8**
KHC e*PP pP 21 16 57.4 +0.8
KHC eS **S** **21 23 50.2 +2.6**
KHC MLR MLR
comp=Z,6μm,14.0s,MS5.7
LJU Ljubljana 48.08 302 eP **P** **21 16 52.1 +0.7**
LJU epP pP 21 16 57.2 +0.5
LJU eS **S** **21 23 49.4 +1.5**
NVLJ Novalja 48.19 300 i P **P** **21 16 51.8 -0.5**
NVLJ Novalja 48.19 300 i P **P** **21 16 51.8 -0.5**
NAO01 NORSAR Array S 48.21 322 eP **P** **21 16 51.0 -1.2**
comp=Z,20nm,0.5s,mb5.4
NAO01 epP pP 21 16 56.7 -0.9
TIP Timpagrande 48.33 293 eP **P** **21 16 53.2 -0.3**
TIP epP pP 21 16 58.9 +0.1
WET Wettzell 48.51 307 eP **P** **21 16 55.3 +0.6**
comp=Z,63nm,1.0s,mb5.6
WET Wettzell 48.51 307 eP **P** **21 16 55.3 +0.6**
WET pmax pmax
comp=Z,63nm,1.0s,mb5.6
VOY Vojsko 48.51 302 eP **P** **21 16 54.8 +0.1**
VOY e pP 21 16 59.6 -0.5
VOY e 21 17 05.8
NKC Novy Kostel 48.57 308 eP **P** **21 16 55.8 +0.7**
NKC epP pP 21 17 00.8 +0.3
NKC AMS AMS 21 39 20.0
comp=Z,12μm,14.7s
KONO Kongsberg 48.93 321 eP **P** **21 16 57.5 -0.3**
comp=Z,45nm,0.9s,mb5.5
KONO epP pP 21 17 02.8 -0.3
KONO LR LR
comp=Z,2μm,21.0s,MS5.1
KONO Kongsberg 48.93 321⇓ i P **P** **21 16 57.1 -0.7**
MOX Moxa 49.01 309 i P **P** **21 16 58.9 +0.3**
comp=Z,logA/T=1.8,mb5.6
MOX SS SS 21 27 47.0 +19
MOX L 21 39 54.0
MOX Moxa 49.01 309 eP **P** **21 16 58.9 +0.3**
comp=Z,68nm,1.1s,mb5.6
MOX LR LR
comp=Z,7μm,16.0s,MS5.8
MOX Moxa 49.01 309 eP **P** **21 16 58.9 +0.3**
MOX pmax pmax
comp=Z,68nm,1.1s,mb5.6
MOX MLR MLR
comp=Z,7μm,16.0s,MS5.8
DOMB Dombas 49.03 324 eP **P** **21 16 58.2 -0.3**
DOMB AMb AMB 21 17 07.7
comp=Z,47nm,1.0s,mb5.5
DOMB Dombas 49.03 324 eP **P** **21 16 58.2 -0.3**
comp=Z,47nm,1.0s,mb5.5
JHJ Hachijo jima 2 49.10 75 LR LR 21 39 27.5
comp=Z,1μm,19.6s,MS4.9,baz=56,slow=38
BSEG Bad Segeberg 49.23 313 eP **P** **21 17 00.7 +0.6**
BSEG ePcP PcP 21 18 23.8 +0.3
BSEG ePP PP 21 18 54.9 +0.5
CII Carovilli 49.35 297 eP **P** **21 17 01.5 +0.1**
comp=Z,31nm,1.0s,mb5.3
GRA1 Grafenberg Arr 49.45 308 eP **P** **21 17 03.1 +1.1**
comp=Z,136nm,1.0s,mb5.9
GRA1 epP pP 21 17 08.4 +1.1
GRA1 ePP PP 21 18 56.4 -0.3
GRF Grafenberg Arr 49.45 308 eP **P** **21 17 03.1 +1.1**
GRF e*PP pP 21 17 08.4 +1.1
GRF e 21 18 56.4
GRF pmax pmax
comp=Z,136nm,1.0s,mb5.9
MUD Monsted U'grnd 49.50 317⇑ i P **P** **21 17 02.3 0.0**
comp=Z,31nm,1.0s,mb5.3
MUD i pP 21 17 08.3 +0.7
MUD i S **S** **21 24 11.9 +4.1**
comp=Z,3μm,18.0s
CLZ Clausthal 49.55 311 eP **P** **21 17 03.2 +0.5**
comp=Z,67nm,1.1s,mb5.6
CLZ ePcP PcP 21 18 24.7 0.0
CLZ ePP PP 21 18 56.2 -1.5
CLZ Clausthal 49.55 311 eP **P** **21 17 03.2 +0.5**
CLZ e 21 18 24.7
CLZ e 21 18 56.2
CLZ pmax pmax
comp=Z,67nm,1.1s,mb5.6
MOL Molde 49.70 325 eP **P** **21 17 04.0 +0.3**
MOL AMb AMB 21 17 16.6
comp=Z,74nm,1.4s,mb5.5
MOL Molde 49.70 325 eP **P** **21 17 04.0 +0.3**
comp=Z,74nm,1.4s,mb5.5
WTTA Wattenberg 49.73 304⇑ i P **P** **21 17 03.8 -0.3**
comp=Z,94nm,1.3s,mb5.7
KBS Kingsbay 49.74 346 eP **P** **21 17 08.8 +4.9**
WATA Walderalm 49.75 305⇓ i P **P** **21 17 03.6 -0.7**
comp=Z,27nm,1.1s,mb5.2
FUR Furstenfeldbru 49.75 306 eP **P** **21 17 05.1 +0.8**
comp=Z,210nm,0.9s,mb6.2
FUR Furstenfeldbru 49.75 306 eP **P** **21 17 05.1 +0.8**
FUR pmax pmax
comp=Z,210nm,0.9s,mb6.2
AQU L'Aquila 49.81 298 eP **P** **21 17 05.1 +0.3**
comp=Z,48nm,1.1s,mb5.4
AQU epP pP 21 17 09.6 -0.7
AQU L'Aquila 49.81 298 P **P** **21 17 05.5 +0.7**
AQU pmax pmax
comp=Z,48nm,1.1s,mb5.4
MA2 Magadan 49.99 39 eP **P** **21 17 05.0 -0.9**
comp=Z,38nm,0.8s,mb5.5
MA2 epP pP 21 17 10.6 -0.8
MA2 LR LR
comp=Z,482nm,20.0s,MS4.5
MA2 Magadan 49.99 39 eP **P** **21 17 06.7 +0.7**
MA2 pmax pmax
comp=Z,34nm,1.0s,mb5.3
MA2 MLR MLR
comp=Z,2μm,20.0s,MS5.1
SQTA Sankt Quirin 50.02 304⇑ i P **P** **21 17 05.3 -1.1**
comp=Z,36nm,1.1s,mb5.3
MOTA Moosalm 50.06 305⇓ i P **P** **21 17 05.8 -0.9**
comp=Z,26nm,1.0s,mb5.2
HDH Heidenheim 50.35 306 eP **P** **21 17 08.9 +0.1**
SEY Seymchan 50.43 35⇑ i P **P** **21 17 09.8 +0.5**
BLS5 Blasjo 50.55 321 eP **P** **21 17 12.8 +2.6**
BLS5 esP sP 21 17 17.9 +0.2
BLS5 AMb AMB 21 17 22.7
comp=Z,38nm,2.3s,mb4.9
BLS5 Blasjo 50.55 321 eP **P** **21 17 12.8 +2.6**
comp=Z,38nm,2.3s,mb4.9
SIND Sindeldorf 50.55 307 eP **P** **21 17 10.6 +0.2**
UBR Uberruh 50.63 305⇑ eP **P** **21 17 11.0 0.0**
FUORN Ofenpass 50.80 304⇑ i P **P** **21 17 12.0 -0.3**
DAVA Damuels 50.88 305⇑ i P **P** **21 17 12.7 -0.2**
comp=Z,93nm,1.1s,mb5.6
STU Stuttgart 50.95 307 eP **P** **21 17 13.6 +0.2**
comp=Z,96nm,1.0s,mb5.7
STU epP pP 21 17 18.8 0.0
STU Stuttgart 50.95 307 P **P** **21 17 13.8 +0.4**
STU pmax pmax
comp=Z,96nm,1.0s,mb5.7
RUND Rundenannen 50.96 322 eP **P** **21 17 24.9 +12**
RUND AMb AMB 21 17 47.7
comp=Z,148nm,2.2s,mb5.5
BER Bergen 50.98 322 eP **P** **21 17 13.3 -0.1**
BER AMb AMB 21 17 53.3
comp=Z,119nm,2.1s,mb5.5

BER **Bergen** 50.98 322 *eP* P 21 17 13.3 -0.1
comp=Z,119nm,2.1s,mb5.5
TOD **Tromm** 51.00 308⇑*eP* P 21 17 13.8 0.0
TOD **Tromm** 51.00 308⇑*eP* P 21 17 13.7 -0.1
DAVOX **Davos** 51.01 304⇑*iP* P 21 17 13.6 -0.3
BERNI **Berninapass** 51.01 304⇑*iP* P 21 17 13.6 -0.3
ASK **Askoy** 51.03 322 *eP* P 21 17 14.6 +0.7
ASK AMb AMB 21 17 17.8
comp=Z,203nm,2.0s,mb5.7
ASK **Askoy** 51.03 322 *eP* P 21 17 14.6 +0.7
comp=Z,203nm,2.0s,mb5.7
EGD **Espegrend** 51.05 322 *eP* P 21 17 13.9 0.0
EGD AMb AMB 21 17 23.0
comp=Z,176nm,1.7s,mb5.7
EGD **Espegrend** 51.05 322 *eP* P 21 17 13.9 0.0
comp=Z,176nm,1.7s,mb5.7
TNS **Taunus Mts** 51.08 309 *eP* P 21 17 14.6 +0.2
comp=Z,35nm,1.0s,mb5.2
TNS *ePcP* PcP 21 18 30.2 -0.1
TNS **Taunus Mts** 51.08 309 *eP* P 21 17 14.6 +0.2
TNS *e* 21 18 30.2
TNS pmax pmax
comp=Z,35nm,1.0s,mb5.2
SWS **Schriesheim** 51.10 308 *eP* P 21 17 14.5 0.0
LIENZ **Alp Oberkamor** 51.13 305⇑*iP* P 21 17 14.6 -0.2
GUT **Gutenstein** 51.18 306⇑*eP* P 21 17 15.1 -0.1
LBG **Lerchenberg** 51.24 307⇑*eP* P 21 17 15.9 +0.3
PLONS **Plons** 51.27 305⇑*iP* P 21 17 15.4 -0.5
VDL **Val di Lei** 51.36 304⇑*iP* P 21 17 16.2 -0.4
SARO **Sassorosso** 51.38 301 P P 21 17 16.6 -0.2
SPAK **Spaichingen** 51.39 306 *eP* P 21 17 16.9 +0.2
MAIM 51.40 301 P P 21 17 16.3 -0.6
VLC **Villacollemand** 51.40 301 *eP* P 21 17 16.9 +0.1
comp=Z,82nm,0.9s,mb5.7
VLC *epP* pP 21 17 22.2 0.0
VALM 51.44 301 P P 21 17 16.1 -1.0
STEIN **Stein am Rhein** 51.44 306⇑*iP* P 21 17 16.7 -0.5
WILA **Wila** 51.49 305⇑*iP* P 21 17 16.9 -0.6
GRAM 51.52 301 P P 21 17 16.5 -1.3
VINC **Vinca** 51.56 301 P P 21 17 16.9 -1.2
LLS **Linth-Limmern** 51.57 305⇑*iP* P 21 17 17.7 -0.4
WIT **Witteveen** 51.58 312 *eP* P 21 17 23.5 +5.3
BFO **Black Forest** 51.62 306 *eP* P 21 17 18.3 -0.2
comp=Z,33nm,1.0s,mb5.2
BFO **Black Forest** 51.62 306 *eP* P 21 17 18.3 -0.2
BFO pmax pmax
comp=Z,33nm,1.0s,mb5.2
SLE **Schleitheim** 51.66 306⇑*iP* P 21 17 18.3 -0.5
WTSB **Winterswijk** 51.69 311⇑*eP* P 21 17 19.2 +0.2
comp=Z,62nm,0.9s,mb5.5
WTSB *epP* pP 21 17 24.5 +0.1
CODM 51.70 301 P P 21 17 18.2 -1.0
ABH **Alteburg** 51.73 309 *eP* P 21 17 19.5 +0.2
ABH **Alteburg** 51.73 309⇑*eP* P 21 17 19.3 0.0
MUO **Muotathal** 51.78 305⇑*iP* P 21 17 19.4 -0.4
LANF **Langenberg** 51.79 307⇑*eP* P 21 17 20.0 +0.2
MUGIO **Muggio** 51.80 303⇑*iP* P 21 17 18.4 -1.5
FUSIO **Fusio** 51.91 304⇑*iP* P 21 17 20.0 -0.7
STR **Strasbourg** 51.92 307⇑*eP* P 21 17 20.6 -0.2
FELD **Feldberg** 51.95 306 *eP* P 21 17 20.8 -0.2
SULZ **Sulz-Cheisache** 51.97 306⇑*iP* P 21 17 20.5 -0.7
KIZ **Kirchzarten** 51.99 306⇑*eP* P 21 17 20.8 -0.5
RUP **Ruppelstein** 52.08 308⇑*eP* P 21 17 22.2 +0.3
RUP **Ruppelstein** 52.08 308⇑*eP* P 21 17 22.1 +0.2
HASLI **Hasliberg** 52.16 305⇑*iP* P 21 17 21.9 -0.7
WLS **Welschbruch** 52.23 307⇑*eP* P 21 17 22.3 -0.3
CDF **Champ du Feu** 52.28 307⇑*iP* P 21 17 23.3 -0.2
comp=Z,144nm,1.1s,mb5.5
BALST **Balsthal** 52.30 305⇑*iP* P 21 17 22.8 -0.9
BBS **Basel-Blauen** 52.39 306 *eP* P 21 17 23.8 -0.5
BBS **Basel-Blauen** 52.39 306⇑*eP* P 21 17 23.0 -1.3
ECH **Echery** 52.41 307⇑*eP* P 21 17 24.1 -0.3
HGN **Heimansgroeve** 52.51 310⇑*eP* P 21 17 24.7 -0.5
comp=Z,32nm,1.1s,mb5.2
HGN *epP* pP 21 17 30.5 -0.1
HGN *esP* sP 21 17 33.0 +0.4
HGN *eS* S 21 24 55.2 +5.9
MOF **Molkenrain** 52.52 306⇑*eP* P 21 17 25.0 -0.3
WIMIS **Wimmis** 52.54 305⇑*iP* P 21 17 24.8 -0.6
PCP **Pian Castagno** 52.54 302 P P 21 17 24.5 -1.0
BOURR **Bourrignon** 52.59 306⇑*iP* P 21 17 25.2 -0.6
ORX **Oropa** 52.60 303 P P 21 17 23.5 -2.4
LKBD **Leukerbad** 52.61 304⇑*iP* P 21 17 25.5 -0.5
WLF **Walferdange** 52.66 309 *eP* P 21 17 26.5 +0.2
comp=Z,104nm,0.9s,mb5.8
WLF *epP* pP 21 17 31.8 +0.2
WLF **Walferdange** 52.66 309 P P 21 17 26.8 +0.5
WLF pmax pmax
comp=Z,100nm,1.0s,mb5.7
HINF **Hinteralfeld** 52.71 306⇑*iP* P 21 17 26.4 -0.3
comp=Z,158nm,1.0s,mb5.6
TRAV 52.79 303 P P 21 17 24.9 -2.5
SENIN **Lac Senin** 52.84 304⇑*iP* P 21 17 27.4 -0.3
DIX **Grande Dixence** 52.85 304⇑*iP* P 21 17 27.8 0.0
PGF **Pioggiola** 52.85 299⇑*iP* P 21 17 27.4 -0.5
comp=Z,92nm,1.0s,mb5.3
LOMF **Lomont** 52.86 306⇑*eP* P 21 17 27.3 -0.6
FIN **Finale Ligure** 52.88 302 P P 21 17 26.2 -1.8
TORNY **Torny** 52.94 305⇑*iP* P 21 17 28.0 -0.5
HAU **Haudompre** 52.99 307⇑*iP* P 21 17 28.4 -0.4
comp=Z,137nm,1.0s,mb5.5
HAU *eR*
comp=Z,5μm,17.2s
AIGLE **Aigle** 53.07 304⇑*iP* P 21 17 28.9 -0.5
ROB **Roburent** 53.08 302 P P 21 17 28.2 -1.3
SALAN **Lac Salanfe** 53.12 304⇑*iP* P 21 17 29.6 -0.2
THEF **They Montfort** 53.16 307⇑*eP* P 21 17 29.7 -0.3
IMI **Imperia** 53.19 301 P P 21 17 29.7 -0.6
EMV **Vieux Emosson** 53.19 304⇑*iP* P 21 17 30.3 0.0
LSD **Ceresole Reale** 53.20 303 P P 21 17 29.8 -0.6
BRANT **Les Verrieres** 53.21 305⇑*iP* P 21 17 30.1 -0.4
MONE **Monesi** 53.23 301 P P 21 17 29.6 -1.0
RSP **Reno Superiore** 53.23 303 P P 21 17 28.5 -2.1
OG01 **Vacheresse** 53.26 304⇑*eP* P 21 17 30.5 -0.3
BHB **Bricherasio** 53.32 303 P P 21 17 29.1 -2.2
NEGI **Negi** 53.34 301 P P 21 17 29.2 -2.2
GIVF **Givet** 53.37 309⇑*iP* P 21 17 31.6 +0.1
comp=Z,138nm,1.0s,mb5.5
SAOF **Saorge** 53.39 301⇑*eP* P 21 17 31.9 +0.1
FENE **Fenestrelle** 53.40 303 P P 21 17 30.0 -1.8
ENR **Entracque** 53.41 302 P P 21 17 30.2 -1.7
LPG **La Plagne** 53.46 303⇑*iP* P 21 17 32.7 +0.4
comp=Z,380nm,0.9s,mb6.0
STV2 **Anna di Valdie** 53.47 302 P P 21 17 30.4 -1.9
STV **Sta Anna Valdi** 53.47 302 P P 21 17 30.3 -2.1
LPL **La Plagne** 53.47 303⇑*iP* P 21 17 32.7 +0.3
comp=Z,364nm,1.0s,mb6.0
GIMEL **Gimel** 53.47 305⇑*iP* P 21 17 32.2 -0.1
AUTN **L'Aution** 53.48 301⇑*eP* P 21 17 32.9 +0.5
RSL **Roselend** 53.49 304⇑*eP* P 21 17 32.2 -0.3
CBIJ **Chichi jima** 53.51 81 LR LR 21 40 19.3
comp=Z,321nm,20.8s,MS4.4,baz=232,slow=36
SBF **Sospel** 53.51 301⇑*iP* P 21 17 32.6 -0.1
comp=Z,228nm,0.8s,mb5.8
OG22 **Abries** 53.54 303⇑*eP* P 21 17 32.7 -0.2
CABF **La Chapelle** 53.56 305⇑*iP* P 21 17 32.7 -0.3
comp=Z,80nm,0.8s,mb5.4
TOUF **Mont Tournerai** 53.59 302⇑*eP* P 21 17 33.6 +0.3
RRL **Cesana Torines** 53.62 303 P P 21 17 32.4 -1.1
BNI **Bardonecchia** 53.65 303 *eP* P 21 17 33.2 -0.4
comp=Z,110nm,1.0s,mb5.7
BNI *epP* pP 21 17 39.0 0.0
BNI **Bardonecchia** 53.65 303 P P 21 17 33.5 -0.2
BNI pmax pmax
comp=Z,110nm,1.0s,mb5.7
MEZF **Maizieres J'vi** 53.67 307⇑*iP* P 21 17 33.9 +0.1
comp=Z,273nm,1.0s,mb5.8
MBDF **Montbardon** 53.69 303⇑*iP* P 21 17 33.3 -0.7
comp=Z,135nm,0.9s,mb5.6
MVIF **Mont Vial** 53.70 301⇑*eP* P 21 17 33.9 -0.1
SURF **Saint Ours** 53.74 302 *eP* P 21 17 34.5 +0.2
BAIF **Baives** 53.76 309⇑*iP* P 21 17 34.5 +0.1
comp=Z,137nm,1.2s,mb5.5
CALN **Calern** 53.92 301⇑*eP* P 21 17 35.5 -0.2
GDM **Grand'Maison** 53.98 303⇑*eP* P 21 17 35.8 -0.3
FRF **La Foret Royal** 54.15 301⇑*iP* P 21 17 36.9 -0.5
comp=Z,115nm,1.0s,mb5.5
OG05 **Jujurieux** 54.15 304⇑*eP* P 21 17 37.0 -0.3
KMBO **Kilima Mbogo** 54.18 235 P P 21 17 39.3 +1.4
comp=Z,29nm,1.0s,mb5.2,baz=33,slow=9.3,SNR=67
KMBO LR LR 21 41 31.2
comp=Z,1μm,20.4s,MS5.0,baz=198,slow=37
GRN **Grenoble** 54.22 303⇑*eP* P 21 17 37.8 0.0

ORIF **Oris-en-Rattie** 54.23 303⇑*iP* P 21 17 37.2 -0.7
comp=Z,90nm,0.9s,mb5.4
ORIF *eR*
comp=Z,4μm,17.2s
OG25 **Le Caire** 54.28 302⇑*eP* P 21 17 40.3 +2.0
LMR **La Mourre** 54.32 301⇑*iP* P 21 17 38.1 -0.5
comp=Z,117nm,1.3s,mb5.4
OG26 **St.-Nazaire-De** 54.73 303⇑*eP* P 21 17 41.9 +0.3
SMRF **Simiane la Rot** 54.75 302⇑*iP* P 21 17 41.5 -0.2
comp=Z,49nm,1.1s,mb5.2
LOR **Lormes** 54.81 306⇑*iP* P 21 17 41.2 -1.0
comp=Z,94nm,1.0s,mb5.5
LOR *eR*
comp=Z,4μm,18.0s
SMF **Signal de Mont** 55.02 306⇑*iP* P 21 17 43.0 -0.8
comp=Z,200nm,1.0s,mb5.8
VIVF **Saint-Julien-l** 55.06 303⇑*iP* P 21 17 43.7 -0.4
comp=Z,151nm,1.0s,mb5.7
SSF **Saint Saulge** 55.11 306⇑*iP* P 21 17 43.5 -0.9
comp=Z,178nm,1.0s,mb5.8
AVF **Avril sur Loir** 55.30 306⇑*iP* P 21 17 45.0 -0.7
comp=Z,259nm,1.0s,mb5.9
BILL **Bilibino** 55.35 27 *i* P P 21 17 46.2 +0.4
BILL LR LR
comp=Z,3μm,20.0s,MS5.4
BILL **Bilibino** 55.35 27*d iP* P 21 17 46.1 +0.3
BILL pmax pmax
comp=Z,21nm,0.8s,mb5.2
BILL MLR MLR
comp=Z,4μm,17.0s,MS5.5
PLDF **La Plantade** 55.39 305⇑*eP* P 21 17 46.8 +0.4
COLF **Collangettes** 55.49 304⇑*eP* P 21 17 46.7 -0.5
HYF **Humbligny** 55.60 307⇑*iP* P 21 17 47.6 -0.3
PET **Petropavlovsk** 55.65 46 PFAKE 21 18 00.0 +12
PET LR LR
comp=Z,1μm,19.0s,MS5.1
PET **Petropavlovsk** 55.65 46 *eP* P 21 17 51.7 +3.5
PET *eS* S 21 25 33.7 +2.1
PET *eSS* SS 21 29 18.9 +1.9
PET pmax pmax
comp=Z,300nm,4.5s
PET MLR MLR
comp=Z,2μm,15.0s,MS5.4
PET MLR MLR
comp=Z,2μm,15.0s
AGO **Saint Agoulin** 55.68 305⇑*eP* P 21 17 49.1 +0.6
BGF **Bois d'Agland** 55.70 306⇑*iP* P 21 17 47.8 -0.8
comp=Z,94nm,1.1s,mb5.4
PYM **Petit Puy Mans** 55.87 305⇑*eP* P 21 17 50.5 +0.7
LASF **Ste Croix** 55.88 303⇑*iP* P 21 17 49.8 -0.1
comp=Z,206nm,1.1s,mb5.8
LBL **Lubilhac** 55.88 304⇑*eP* P 21 17 50.7 +0.7
DAG **Danmarks Havn** 56.20 344⇑*iP* P 21 17 53.0 +1.1
comp=Z,2.5nm,1.1s
comp=Z,1μm,18.0s
DAG **Danmarks Havn** 56.20 344⇑*eP* P 21 17 53.0 +1.1
comp=Z,2.5nm,1.1s
DAG LR LR
comp=Z,1μm,18.0s
TCF **Toulx Ste Croi** 56.21 306⇑*iP* P 21 17 51.9 -0.4
comp=Z,213nm,1.0s,mb5.8
VERF **Verneugheol** 56.21 305⇑*eP* P 21 17 52.1 -0.2
FRNF **Fournols** 56.28 305⇑*eP* P 21 17 52.7 -0.1
ESK **Eskdalemuir** 56.55 317 *eP* P 21 17 53.8 -0.7
comp=Z,42nm,0.9s,mb5.5
ESK *epP* pP 21 17 58.9 -1.1
ESK LR LR
comp=Z,546nm,21.0s,MS4.6
ESK **Eskdalemuir** 56.55 317 P P 21 17 54.6 0.0
ESK pmax pmax
comp=Z,42nm,1.0s,mb5.4
CAF **Calviac** 56.78 304⇑*iP* P 21 17 56.2 -0.2
comp=Z,135nm,0.9s,mb5.7
LDF **La Druitiere** 56.91 309⇑*iP* P 21 17 56.3 -1.0
comp=Z,158nm,0.9s,mb5.7
RJF **Les Rejaudoux** 57.01 305⇑*iP* P 21 17 57.9 -0.1
comp=Z,120nm,1.0s,mb5.6
RJF *eR*
comp=Z,2μm,18.5s
FLN **La Foliniere** 57.08 309⇑*iP* P 21 17 57.4 -1.1
comp=Z,127nm,1.0s,mb5.6
FLN *eR*
comp=Z,3μm,18.8s
SJAF **Saint Jean de** 57.12 301⇑*eP* P 21 17 57.8 -1.1
EJON **La Jonquera** 57.12 301 P P 21 17 57.5 -1.4
comp=Z,12nm,0.6s,mb5.1
LRDF **Laroque-de-Fa** 57.18 302⇑*eP* P 21 17 58.9 -0.4
MTLF **Montolieu** 57.25 302⇑*iP* P 21 17 59.3 -0.5
comp=Z,88nm,1.0s,mb5.5
HLM1 **Long Mynd** 57.25 314⇑*eP* P 21 17 58.8 -0.9
HLM1 AMb AMB 21 18 05.7
comp=Z,70nm,1.1s,mb5.6
FILF **Fillols** 57.31 301⇑*eP* P 21 18 00.1 -0.1
SBD1 **Bryn Du** 57.34 315⇑*eP* P 21 17 59.5 -0.8
SBD1 AMb AMB 21 18 01.4
comp=Z,109nm,1.1s,mb5.8
SSP1 **Stoney Pound** 57.42 314⇑*eP* P 21 18 00.2 -0.6
SSP1 AMb AMB 21 18 01.9
comp=Z,75nm,1.4s,mb5.5
GRR **Gorron** 57.44 309⇑*iP* P 21 18 00.0 -1.0
comp=Z,249nm,0.9s,mb5.9
MCH1 **Michaelchurch** 57.49 313⇑*eP* P 21 18 00.5 -0.9
MCH1 AMb AMB 21 18 02.0
comp=Z,188nm,1.0s,mb6.1
HGH **Gray Hill** 57.50 313⇑*eP* P 21 18 00.5 -1.0
HGH AMb AMB 21 18 02.0
comp=Z,197nm,1.1s,mb6.1
LPEF **Le Peyrat** 57.61 302⇑*eP* P 21 18 02.0 -0.3
MFF **Saint Martin d** 57.62 307⇑*iP* P 21 18 01.3 -1.0
comp=Z,140nm,1.0s,mb5.7
HTR **Trewern Hill** 57.62 314⇑*eP* P 21 18 01.5 -0.8
HTR AMb AMB 21 18 03.0
comp=Z,230nm,1.1s,mb6.1
LFF **La Frestale** 57.65 305⇑*iP* P 21 18 02.3 -0.3
comp=Z,138nm,1.0s,mb5.7
VALF **Valcebollere** 57.74 301⇑*eP* P 21 18 02.9 -0.3
LCHF **La Chataignera** 57.98 307⇑*eP* P 21 18 05.0 +0.2
MLS **Moulis** 58.16 302⇑*eP* P 21 18 05.2 -0.9
SALF **Salau** 58.17 302⇑*eP* P 21 18 04.8 -1.4
ETOS **Mallorca** 58.21 298 P P 21 18 06.2 -0.4
comp=Z,148nm,1.0s,mb6.0
MBAR **Mbarara** 58.25 242 *eP* P 21 18 06.4 -0.8
comp=Z,51nm,1.0s
MBAR *epP* pP 21 18 12.2 -0.4
MBAR LR LR
comp=Z,123nm,19.0s
MBAR **Mbarara** 58.25 242*c iP* P 21 18 06.0 -1.2
EMIR **Miracle** 58.27 301 P P 21 18 06.3 -0.6
comp=Z,61nm,0.6s,mb5.8
SGMF **Saint Gilles** 58.55 309⇑*iP* P 21 18 08.1 -0.7
comp=Z,216nm,1.0s,mb5.8
EPF **Esparros** 58.64 303⇑*iP* P 21 18 08.1 -1.4
comp=Z,40nm,1.0s,mb5.1
RESF **Ens** 58.73 302 *eP* P 21 18 09.6 -0.5
EPOB **Poblet** 58.79 301 P P 21 18 09.2 -1.4
comp=Z,67nm,0.9s,mb5.7
EBIE **Bielsa** 58.91 302 P P 21 18 10.5 -0.9
comp=Z,44nm,0.9s,mb5.5
VIEF **Viey** 58.91 303⇑*eP* P 21 18 11.1 -0.3
ROSF **Rostrenen** 58.96 309⇑*iP* P 21 18 10.9 -0.8
comp=Z,159nm,0.9s,mb5.7
EGRA **Graus** 58.98 302 P P 21 18 11.4 -0.5
comp=Z,48nm,0.8s,mb5.6
QUIF **Quistinic** 59.05 309⇑*iP* P 21 18 11.4 -0.9
comp=Z,116nm,0.9s,mb5.6
DLF **Lyons Farm** 59.06 316 *eP* P 21 18 11.0 -1.3
ETSF **Etsaut** 59.30 303⇑*iP* P 21 18 13.8 -0.3
comp=Z,71nm,0.8s,mb5.5
FDAF **Les Forges d'A** 59.34 303⇑*eP* P 21 18 14.3 0.0
DCN **Croghan** 59.46 316 *eP* P 21 18 14.0 -1.0
ERTA **Horta de San J** 59.47 300 P P 21 18 14.0 -1.3
comp=Z,141nm,1.2s,mb5.9
LARF **Larrau** 59.53 303 *eP* P 21 18 15.6 -0.1
EIBI **Ibiza** 59.55 298 P P 21 18 14.6 -1.3
comp=Z,52nm,1.0s,mb5.5
SJPF **Ste Jean** 59.66 303⇑*iP* P 21 18 15.7 -0.9
comp=Z,73nm,1.0s,mb5.3
ESAC **San Caprasio** 59.71 301 P P 21 18 15.7 -1.3
comp=Z,150nm,0.9s,mb6.0
EALK **Alkurruntz** 59.81 303 P P 21 18 16.6 -1.0
comp=Z,101nm,1.0s,mb5.8
EMOS **Mosqueruela** 60.27 300 P P 21 18 20.4 -0.4
comp=Z,88nm,1.0s,mb5.7
EBEN **Beniarda** 60.80 298 P P 21 18 24.2 -0.2
comp=Z,70nm,1.0s,mb5.8
ECHE **Chera** 60.94 299 P P 21 18 25.2 -0.2

comp=Z,20nm,0.7s,mb5.4
ELAN **Lanestosa** 61.09 304 P P 21 18 25.5 -0.8
comp=Z,202nm,1.0s,mb6.2
ETOB **Tobarra** 61.76 299 P P 21 18 30.6 -0.3
comp=Z,81nm,1.1s,mb5.8
CART **Cartagena** 61.84 297 *eP* P 21 18 30.2 -1.3
comp=Z,73nm,1.0s,mb5.8
CART *epP* pP 21 18 35.2 -1.8
EMUR **La Murta** 61.90 298 P P 21 18 30.5 -1.3
comp=Z,74nm,1.2s,mb5.7
EARI **Arriondas** 62.23 305 P P 21 18 34.1 +0.1
comp=Z,80nm,1.0s,mb5.8
EVIA **Vianos** 62.43 299 P P 21 18 35.0 -0.5
comp=Z,20nm,0.7s,mb5.3
GUMO **Guam** 62.61 93 LR LR 21 49 02.7
comp=Z,213nm,19.1s,MS4.3,baz=242,slow=39
GUMO **Guam** 62.61 93 PFAKE 21 18 50.0 +13
GUMO LR LR
comp=Z,136nm,21.0s,MS4.1
SUMG **Summit** 62.76 343 *eP* P 21 18 36.7 -0.4
comp=Z,35nm,1.1s,mb5.4
EHUE **Huescar** 62.87 298 P P 21 18 38.4 +0.2
comp=Z,26nm,0.9s,mb5.4
ENIJ **Nijar** 62.97 297 P P 21 18 38.6 -0.4
comp=Z,3.0nm,0.6s,mb4.6
ESDC **Sonseca Array** 62.99 301 P P 21 18 38.4 -0.6
comp=Z,21nm,0.8s,mb5.3,baz=57,slow=7.2,SNR=64
ESDC pP pP 21 18 43.6 -0.9
comp=Z,9.3nm,0.7s,baz=55,slow=7.2,SNR=12
ESDC PP PP 21 20 57.2 -2.0
comp=Z,2.5nm,0.7s,baz=55,slow=7.6,SNR=3.4
ESDC S S 21 27 12.0 +5.2
comp=Z,0.6nm,0.8s,baz=345,slow=23,SNR=2.9
ESDC **Sonseca Array** 62.99 301 P P 21 18 37.9 -1.1
comp=Z,24nm,0.8s,mb5.4
ESLA **Sonseca Array** 62.99 301 *eP* P 21 18 38.2 -0.8
comp=Z,8.7nm,1.0s,mb4.8
ESLA *epP* pP 21 18 43.9 -0.7
ESLA LR LR
comp=Z,5μm,20.0s,MS5.7
EQES **Quesada** 63.21 298 P P 21 18 39.6 -0.9
comp=Z,76nm,1.0s,mb5.8
EPON **Pontenova** 63.49 306 P P 21 18 41.8 -0.5
comp=Z,98nm,0.8s,mb6.0
EBER **Berja** 63.49 297 P P 21 18 41.1 -1.3
comp=Z,22nm,0.5s,mb5.5
EBAN **Banos Encina** 63.55 299 P P 21 18 42.2 -0.5
comp=Z,30nm,0.7s,mb5.4
FX1 **Attu Island--F** 63.83 42 *eP* P 21 18 43.5 -0.9
FX1 *epP* pP 21 18 48.5 -1.4
ECAL **Calabor** 63.84 304 P P 21 18 43.8 -0.8
comp=Z,88nm,1.1s,mb5.7
ERUA **La Rua** 63.91 305 P P 21 18 44.7 -0.3
comp=Z,30nm,0.9s,mb5.3
PBRG **Braganca** 63.91 304 *eP* P 21 18 44.8 -0.3
comp=Z,19nm,1.0s,mb5.1
EALB **Alboran** 64.04 297 P P 21 18 44.1 -1.9
comp=Z,62nm,0.9s,mb5.6
ERON **Agron** 64.09 298 P P 21 18 45.0 -1.3
comp=Z,16nm,0.7s,mb5.2
EADA **Adamuz** 64.10 299 P P 21 18 45.4 -1.0
comp=Z,24nm,0.8s,mb5.3
ELUQ **Luque** 64.16 299 P P 21 18 45.7 -1.1
comp=Z,57nm,0.8s,mb5.7
ELOJ **Sierra Loja** 64.27 298 P P 21 18 46.0 -1.6
comp=Z,6.7nm,0.9s,mb4.7
STS **Santiago** 64.61 306 P P 21 18 49.3 -0.3
comp=Z,10nm,0.6s,mb5.0
ELOB **Lobios** 64.75 304 P P 21 18 50.2 -0.4
comp=Z,106nm,1.0s,mb5.8
PVRL **Vila Real** 64.80 304 *eP* P 21 18 50.4 -0.5
comp=Z,41nm,1.1s,mb5.4
PCAB **Cabril** 64.81 304 *eP* P 21 18 51.0 +0.1
comp=Z,84nm,1.1s,mb5.7
EMAZ **Mazaricos** 64.85 306 P P 21 18 50.5 -0.7
comp=Z,8.6nm,0.5s,mb5.0
EMIJ **Mijas** 64.99 298 P P 21 18 49.3 -2.9
comp=Z,38nm,1.0s,mb5.4
EZAM **Zamans** 65.04 305 P P 21 18 52.1 -0.3
comp=Z,33nm,1.0s,mb5.3
MTE **Manteigas** 65.09 303 *eP* P 21 18 52.8 0.0
comp=Z,103nm,1.1s,mb5.8
MTE *eS* S 21 27 37.7 +4.8
MTE *e-* 21 47 20.6
comp=Z,864nm,20.0s
MTE **Manteigas** 65.09 303 *eP* P 21 18 52.7 -0.1
comp=Z,72nm,1.0s,mb5.7
MTE *epP* pP 21 18 57.4 -0.9
PCBR **Castelo Branco** 65.31 302 *eP* P 21 18 54.3 +0.1
comp=Z,48nm,1.1s,mb5.4
EBAD **Badajoz** 65.51 301 P P 21 18 54.4 -1.1
comp=Z,70nm,0.9s,mb5.7
EJIF **Jimena Fronter** 65.53 298 P P 21 18 54.1 -1.6
comp=Z,17nm,0.8s,mb5.7
TNA **Tin City** 65.59 25 PFAKE 21 19 10.0 +14
TNA LR LR
comp=Z,421nm,22.0s,MS4.6
ESPR **Espera** 65.61 299 P P 21 18 54.6 -1.6
comp=Z,60nm,1.1s,mb5.5
EMIN **Mina Concepcio** 65.75 300 P P 21 18 56.1 -0.9
comp=Z,70nm,1.0s,mb5.6
PTOM **Tomar** 66.05 302 *eP* P 21 18 58.8 -0.1
comp=Z,138nm,1.1s,mb5.9
EVO **Evora** 66.30 301⇑*iP* P 21 19 00.7 +0.1
comp=Z,86nm,1.2s,mb5.3
EVO *eR*
comp=Z,1μm,19.0s
EGRO **El Granado** 66.42 300 P P 21 19 00.2 -1.1
comp=Z,108nm,1.2s,mb5.8
PBEJ **Beja** 66.45 301 *eP* P 21 19 01.2 -0.3
comp=Z,50nm,1.1s,mb5.5
PTEO **Sao Teotonio** 67.28 301 *eP* P 21 19 06.6 -0.2
comp=Z,66nm,1.0s,mb5.6
MBWA **Marble Bar** 69.27 140 PFAKE 21 19 30.0 +11
MBWA LR LR
comp=Z,484nm,19.0s,MS4.8
SFJD **Kangerlussuaq** 69.65 341 *i* P P 21 19 20.7 -0.3
comp=Z,30nm,1.0s,mb5.2
SFJD *e* 21 19 49.7
SFJD *i* S S 21 28 29.2 +2.0
SFJD *i* 21 36 35.7
comp=Z,810nm,16.0s
SFJD **Kangerlussuaq** 69.65 341 *i* P P 21 19 20.7 -0.3
SFJD *e* 21 19 49.7
SFJD *i* S S 21 28 29.2 +2.0
SFJD pmax pmax
comp=Z,30nm,1.0s,mb5.2
SFJD MLR MLR
comp=Z,820nm,16.0s,MS5.1
IMA **Indian Mountai** 69.65 20 *eP* P 21 19 20.7 -0.3
IMA **Indian Mountai** 69.65 20 *eP* P 21 19 21.1 +0.1
IMA pmax pmax
comp=Z,290nm,1.1s,mb6.1
FITZ **Fitzroy Crossi** 70.09 133 LR LR 21 53 21.6
comp=Z,260nm,20.7s,MS4.5,baz=291,slow=39
KAKA **Kakadu** 70.30 124 *eP* P 21 19 39.1 +13
comp=Z,22nm,0.8s,mb5.1
TTA **Tatalina** 71.24 23 *eP* P 21 19 30.8 +0.1
COLA **College** 72.14 19 PFAKE 21 19 50.0 +14
COLA LR LR
comp=Z,20nm,19.0s
INK **Inuvik** 72.33 12 P P 21 19 36.7 -0.4
comp=Z,14nm,0.9s,mb4.9,baz=353,slow=7.5,SNR=23
INK S S 21 28 55.9 -2.3
comp=Z,1.7nm,0.9s,baz=181,slow=24,SNR=2.4
INK **Inuvik** 72.33 12 *eP* P 21 19 36.5 -0.6
comp=Z,26nm,0.8s,mb5.2
INK *epP* pP 21 19 41.4 -1.3
INK **Inuvik** 72.33 12 P P 21 19 36.7 -0.4
INK S S 21 28 55.9 -2.3
INK pmax pmax
comp=Z,14nm,0.9s
ILAR **Eielson Array** 72.48 19 P P 21 19 37.2 -0.9
comp=Z,15nm,0.9s,mb4.9,baz=315,slow=5.1,SNR=89
ILAR PP PP 21 22 19.0 -2.1
comp=Z,2.8nm,0.8s,baz=310,slow=7.0,SNR=3.6
ILAR S S 21 28 59.2 -0.8
comp=Z,0.2nm,0.5s,baz=90,slow=21,SNR=3.2
ILAR LR LR 21 56 32.2
comp=Z,1μm,18.4s,MS5.1,baz=339,slow=40
SVW2 **Sparrevohn** 72.72 25 *eP* P 21 19 41.0 +1.6
MCK **McKinley** 72.75 20 *eP* P 21 19 39.4 -0.2
comp=Z,17nm,1.0s,mb4.9
MCK *epP* pP 21 19 44.4 -0.7
MCK LR LR
comp=Z,653nm,21.0s,MS4.9
MCK **McKinley** 72.75 20 P P 21 19 38.3 -1.3

MCK pmax pmax
comp=Z,17nm,1.0s,mb4.9
SPU Mount Spurr 73.80 23 *e*P **P** **21 19 45.4 -0.3**
SPU *e*pP pP 21 19 50.5 -0.8
RSO Redoubt South 74.12 24 *e*P **P** **21 19 48.6 +1.1**
RSO *e*pP pP 21 19 53.1 0.0
PMR Palmer 74.37 22 *e*P **P** **21 19 48.4 -0.6**
PMR *e*pP pP 21 19 56.7 +2.1
PMR LR LR
comp=Z,597nm,19.0s,MS4.9
PMR Palmer 74.37 22 P **P** **21 19 52.4 +3.4**
PMR *e* pP 21 19 58.3 +3.7
PMR pmax pmax
comp=Z,78nm,1.2s,mb5.5
FIB Fire Island 74.39 22 PFAKE 21 20 00.0 +11
FIB LR LR
comp=Z,1μm,22.0s,MS5.1
SML Sawmill 74.44 21 *e*P **P** **21 19 49.3 -0.1**
SML *e*pP pP 21 19 54.3 -0.7
DAWY Dawson 74.89 16 *e*P **P** **21 19 51.5 -0.5**
DAWY *e*pP pP 21 19 56.2 -1.3
SLKM Skilak Lake 74.89 23 *e*P **P** **21 19 51.3 -0.7**
SLKM *e*pP pP 21 19 56.4 -1.2
DIV Divide 75.72 21 *e*P **P** **21 19 56.8 0.0**
comp=Z,54nm,0.8s,mb5.5
DIV *e*pP pP 21 20 01.9 -0.4
DIV LR LR
comp=Z,3μm,22.0s,MS5.6
EYAK Cordova Ski Ar 76.20 21 *e*P **P** **21 19 59.8 +0.3**
EYAK *e*pP pP 21 20 05.0 -0.1
KDAK Kodiak Island 76.21 26 *e*P **P** **21 20 00.4 +0.7**
WRA Warramunga Arr 76.82 127 P **P** **21 20 02.8 -1.0**
comp=Z,28nm,1.1s,mb5.1,baz=330,slow=5.6,SNR=62
WRA PKKPbc 21 39 13.6
comp=Z,0.5nm,0.8s,baz=126,slow=1.8,SNR=6.1
WRAB Tennant Creek 76.82 127 *e*P **P** **21 20 03.3 -0.5**
comp=Z,102nm,1.3s,mb5.6
WRAB *e*pP pP 21 20 09.4 0.0
WRAB LR LR
comp=Z,193nm,19.0s,MS4.4
WRAB Tennant Creek 76.82 127 *e*P **P** **21 20 03.3 -0.5**
WRAB *e**PP pP 21 20 09.4 0.0
WRAB pmax pmax
comp=Z,102nm,1.3s,mb5.6
WRAB MLR MLR
comp=Z,193nm,19.0s,MS4.4
NWAO Narrogin (SRO) 78.02 148 PFAKE 21 20 20.0 +10
NWAO LR LR
comp=Z,760nm,20.0s,MS5.0
CMLA Cha da Macela 78.26 308 PFAKE 21 20 20.0 +8.6
CMLA LR LR
comp=Z,4μm,22.0s,MS5.7
PMG Port Moresby 78.51 111 *e*P **P** **21 20 13.6 +0.4**
comp=Z,65nm,0.9s,mb5.6
PMG *e*pP pP 21 20 20.6 +1.7
PMG Port Moresby 78.51 111 ⇓*i*P **P** **21 20 13.2 0.0**
LBTB Lobatse 79.56 228 *e*P **P** **21 20 19.8 +1.0**
comp=Z,67nm,0.9s,mb5.6
LBTB *e*pP pP 21 20 25.5 +1.1
LBTB LR LR
comp=Z,584nm,19.0s,MS4.9
LBTB Lobatse 79.56 228 P **P** **21 20 20.2 +1.4**
LBTB pmax pmax
comp=Z,67nm,0.9s,mb5.6
YKW3 Yellowknife Ar 80.30 6 *e*P **P** **21 20 21.0 -0.9**
YKW3 *e*pP pP 21 20 26.5 -1.1
YKA Yellowknife Ar 80.36 6 P **P** **21 20 22.2 -0.1**
comp=Z,11nm,0.6s,mb4.9,baz=341,slow=5.6,SNR=24
YKA pP pP 21 20 27.3 -0.6
comp=Z,16nm,0.6s,baz=342,slow=5.5,SNR=23
YKA S S 21 30 24.4 -1.5
comp=Z,1.0nm,0.7s,baz=174,slow=36,SNR=3.1
YKA Yellowknife Ar 80.36 6 P **P** **21 20 22.2 -0.1**
YKA pP pP 21 20 27.3 -0.6
YKA S S 21 30 24.4 -1.5
TSUM Tsumeb 80.46 237 *e*P **P** **21 20 24.3 +0.6**
comp=Z,46nm,1.2s,mb5.3
TSUM *e*pP pP 21 20 30.7 +1.4
TSUM LR LR
comp=Z,1μm,21.0s,MS5.2
DBIC Dimbokro 81.24 272 P **P** **21 20 27.9 0.0**
comp=Z,12nm,0.8s,mb4.9,baz=44,slow=5.4,SNR=15
DBIC S S 21 30 37.3 +1.3
comp=Z,2.6nm,0.9s,baz=237,slow=9.3,SNR=2.0
DBIC LR LR 22 04 07.8
comp=Z,558nm,18.1s,MS5.0,baz=36,slow=41
DBIC Dimbokro 81.24 272 *e*P **P** **21 20 27.6 -0.3**
comp=Z,16nm,0.9s,mb4.9
DBIC *e*pP pP 21 20 32.8 -0.7
DBIC LR LR
comp=Z,596nm,19.0s,MS5.0
DBIC Dimbokro 81.24 272 P **P** **21 20 27.9 0.0**
DBIC S S 21 30 37.3 +1.3
DBIC pmax pmax
comp=Z,12nm,0.8s
DBIC MLR MLR
comp=Z,558nm,18.2s
FORT Forrest 81.41 139 *e*P **P** **21 20 28.4 -0.1**
comp=Z,45nm,0.7s,mb5.5
LIC Lamto 81.64 272 *e*P **P** **21 20 29.7 -0.3**
comp=Z,46nm,1.1s,mb5.0
DLBC Dease Lake 81.97 15 P **P** **21 20 31.0 +0.3**
comp=Z,8.4nm,0.9s,mb4.7,baz=307,slow=3.8,SNR=13
DLBC Dease Lake 81.97 15 *e*P **P** **21 20 31.5 +0.7**
DLBC *e*pP pP 21 20 36.6 +0.3
SIT Sitka 82.01 18 PFAKE 21 20 40.0 +9.0
SIT LR LR
comp=Z,1μm,19.0s,MS5.3
BOSA Boshof 82.47 226 P **P** **21 20 35.1 +1.1**
comp=Z,44nm,1.0s,mb5.3,baz=54,slow=7.7,SNR=38
BOSA LR LR 21 53 54.6
comp=Z,532nm,21.7s,MS4.9,baz=39,slow=33
BOSA Boshof 82.47 226 *e*P **P** **21 20 34.8 +0.8**
comp=Z,43nm,0.9s,mb5.4
BOSA *e*pP pP 21 20 39.2 -0.4
BOSA LR LR
comp=Z,812nm,19.0s,MS5.1
BOSA Boshof 82.47 226 P **P** **21 20 34.9 +0.9**
BOSA pmax pmax
comp=Z,43nm,0.9s,mb5.4
MIDW Midway 83.35 60 PFAKE 21 20 50.0 +11
MIDW LR LR
comp=Z,454nm,21.0s,MS4.8
SCHQ Schefferville 84.10 341 P **P** **21 20 41.6 -0.1**
comp=Z,3.8nm,0.7s,mb4.6,baz=22,slow=5.9,SNR=4.6
SCHQ S S 21 31 03.5 -0.6
comp=Z,0.9nm,0.4s,baz=95,slow=14,SNR=1.7
SCHQ LR LR 21 58 13.5
comp=Z,420nm,18.9s,MS4.8,baz=110,slow=36
CTA Charters Tower 84.89 120 ⇑*i*P **P** **21 20 47.1 +0.6**
comp=Z,57nm,0.7s,mb5.8
CTA *e* pP 21 20 53.1 +1.0
CTA Charters Tower 84.89 120 LR LR 22 00 22.0
comp=Z,252nm,19.2s,MS4.6,baz=267,slow=37
CTAO Charters Tower 84.89 120 *e*P **P** **21 20 47.1 +0.7**
comp=Z,96nm,0.8s,mb6.0
CTAO *e*pP pP 21 20 52.0 -0.1
CTAO Charters Tower 84.89 120 P **P** **21 20 47.2 +0.7**
CTAO pmax pmax
comp=Z,96nm,0.8s,mb6.0
SUR Sutherland 87.83 226 *e*P **P** **21 21 02.5 +1.8**
comp=Z,280nm,1.8s,mb6.2
SUR *e*pP pP 21 21 08.1 +1.8
EDM Edmonton 89.63 7 *e*P **P** **21 21 08.9 +0.3**
EDM *e*pP pP 21 21 13.9 -0.5
STKA Stephens Creek 89.91 131 ⇑*i*P **P** **21 21 09.3 -1.3**
comp=Z,4.1nm,1.4s,mb4.6
STKA Stephens Creek 89.91 131 P **P** **21 21 09.9 -0.7**
comp=Z,4.7nm,0.8s,mb4.8,baz=160,slow=1.3,SNR=15
STKA LR LR 22 04 17.4
comp=Z,344nm,19.9s,MS4.8,baz=113,slow=37
PQI Presque Isle 91.76 338 PFAKE 21 21 30.0 +11
PQI LR LR
comp=Z,5μm,22.0s,MS5.9
PNT Penticton 92.59 12 P **P** **21 21 23.6 +1.1**
ULM Lac du Bonnet 93.14 357 P **P** **21 21 24.9 -0.1**
comp=Z,7.2nm,0.8s,mb5.1,baz=342,slow=8.4,SNR=5.8
ULM LR LR 22 07 34.2
comp=Z,866nm,19.1s,MS5.2,baz=260,slow=38
ULM Lac du Bonnet 93.14 357 P **P** **21 21 24.9 -0.1**
ULM LR LR 22 07 34.2
OOW Octopus West 93.23 16 P **P** **21 21 28.1 +2.7**
EMMW East Machias 93.36 337 PFAKE 21 21 40.0 +14
EMMW LR LR
comp=Z,3μm,20.0s,MS5.7

OSR Olympics--Salm 93.50 15 P **P** **21 21 29.0 +2.3**
HDW Hoodsport 93.55 15 P **P** **21 21 29.0 +2.1**
WALA Waterton Lakes 93.67 9 *e*P **P** **21 21 27.1 -0.3**
comp=Z,8.4nm,0.9s,mb5.2
NEW Newport 94.01 11 P **P** **21 21 29.9 +0.9**
comp=Z,5.1nm,0.6s,mb5.1,baz=340,slow=2.3,SNR=7.0
WVL Waterville 94.16 338 PFAKE 21 21 40.0 +10
WVL LR LR
comp=Z,4μm,22.0s,MS5.8
SAW Saint Andrews 94.19 12 P **P** **21 21 30.8 +0.9**
GSM Grass Mountain 94.23 14 P **P** **21 21 31.2 +1.1**
FMW Mount Fremont 94.51 14 P **P** **21 21 32.6 +1.2**
BSMT Bassoo Peak 94.74 9 P **P** **21 21 33.8 +1.4**
HAWA Hanford 95.43 13 PFAKE 21 21 50.0 +14
HAWA LR LR
comp=Z,65nm,19.0s,MS4.1
CHMT Chamberlain Mo 95.86 9 *e*P **P** **21 21 37.3 -0.2**
CHMT *e*pP pP 21 21 43.1 -0.1
NCB Newcomb 95.98 341 *e*P **P** **21 21 37.6 -0.6**
comp=Z,14nm,1.3s,mb5.2
NCB LR LR
comp=Z,837nm,19.0s,MS5.2
HRY Holter Researc 96.22 8 *e*P **P** **21 21 39.7 +0.5**
COR Corvallis 96.42 16 PFAKE 21 21 50.0 +10
COR LR LR
comp=Z,121nm,19.0s,MS4.4
HRV Harvard--Oak R 96.60 339 PFAKE 21 21 50.0 +9.0
HRV LR LR
comp=Z,486nm,20.0s,MS5.0
WES Weston 96.64 338 PFAKE 21 21 50.0 +8.8
WES LR LR
comp=Z,848nm,22.0s,MS5.2
LCCM Lewis and Clar 97.08 8 P **P** **21 21 43.4 +0.3**
BOZ Bozeman (W) 97.29 8 PFAKE 21 22 00.0 +16
BOZ LR LR
comp=Z,467nm,19.0s,MS5.0
BMO Blue Mountains 97.31 12 PFAKE 21 22 00.0 +16
BMO LR LR
comp=Z,636nm,19.0s,MS5.1
HUMO Hull Mountain 98.38 16 PFAKE 21 22 00.0 +11
HUMO LR LR
comp=Z,500nm,19.0s,MS5.0
LKWY Lake 98.48 7 PFAKE 21 22 00.0 +11
LKWY LR LR
comp=Z,1μm,19.0s,MS5.4
FLWY Flagg Ranch 98.93 7 *e*P **P** **21 21 52.8 +1.3**
FLWY *e*pP pP 21 21 58.2 +1.1
IMW Indian Meadow 99.09 7 *e*P **P** **21 21 54.1 +1.9**
comp=Z,4.8nm,0.8s,mb5.1
IMW *e*pP pP 21 21 58.9 +1.0
YBH Yreka Blue Hor 99.26 16 PFAKE 21 22 00.0 +7.0
YBH LR LR
comp=Z,809nm,19.0s,MS5.2
RSSD Black Hills 99.34 2 *e*P **P** **21 21 54.2 +0.9**
comp=Z,4.5nm,0.8s,mb5.0
RSSD *e*pP pP 21 22 00.2 +1.2
RSSD LR LR
comp=Z,158nm,19.0s,MS4.5
RSSD Black Hills 99.34 2 P **P** **21 21 55.8 +2.5**
RSSD pmax pmax
comp=Z,5.0nm,0.8s,mb5.1
WVOR Wild Horse Val 99.42 13 PFAKE 21 22 10.0 +16
WVOR LR LR
comp=Z,413nm,19.0s,MS5.0
MOD Modoc 99.62 15 PFAKE 21 22 10.0 +15
MOD LR LR
comp=Z,336nm,19.0s,MS4.9
AHID Auburn Hatcher 100.20 8 PFAKE 21 22 10.0 +13
AHID LR LR
comp=Z,464nm,20.0s,MS5.0
PDAR Pinedale Array 100.35 6 P P 21 21 56.5 -1.5
comp=Z,0.6nm,0.8s,baz=27,slow=3.3,SNR=5.3
PDAR pP 21 22 03.7
comp=Z,1.6nm,0.8s,baz=23,slow=4.2,SNR=9.2
WDC Whiskeytown Da 100.40 17 PFAKE 21 22 10.0 +12
WDC LR LR
comp=Z,677nm,21.0s,MS5.1
HWUT Hardware Ranch 101.29 8 *e*P P 21 22 02.6 +0.4
comp=Z,3.6nm,0.7s
HWUT *e*pP 21 22 09.1
HWUT LR LR
comp=Z,695nm,19.0s,MS5.2
ACSO Alum Creek Sta 101.53 346 PFAKE 21 22 10.0 +6.6
ACSO LR LR
comp=Z,407nm,20.0s,MS4.9
BMN Battle Mountai 101.62 13 PFAKE 21 22 20.0 +16
BMN LR LR
comp=Z,491nm,19.0s,MS5.0
HOPS Hopland 101.78 18 PFAKE 21 22 20.0 +15
HOPS LR LR
comp=Z,393nm,20.0s,MS4.9
DUG Dugway 102.53 9 PFAKE 21 22 20.0 +12
DUG LR LR
comp=Z,490nm,19.0s,MS5.0
BBSR BB Station 103.27 329 PFAKE 21 22 20.0 +8.7
BBSR LR LR
comp=Z,365nm,19.0s,MS4.9
CMB Columbia Colle 103.31 16 PFAKE 21 22 20.0 +8.6
CMB LR LR
comp=Z,599nm,21.0s,MS5.1
NVAR Mina Array Bea 103.36 14 Pdiff Pdif 21 22 12.6 +1.0
comp=Z,0.5nm,0.8s,slow=4.5,SNR=4.3
NVAR Mina Array Bea 103.36 14 Pdif Pdif 21 22 12.6 +1.0
BLA Blacksburg 103.90 343 PFAKE 21 22 30.0 +16
BLA LR LR
comp=Z,1μm,20.0s,MS5.4
TPH Tonopah 103.91 13 PFAKE 21 22 30.0 +16
TPH LR LR
comp=Z,556nm,19.0s,MS5.1
WCI Wyandotte Cave 104.07 348 PFAKE 21 22 30.0 +15
WCI LR LR
comp=Z,240nm,19.0s,MS4.8
SAO San Andreas Ge 104.29 17 PFAKE 21 22 30.0 +14
SAO LR LR
comp=Z,440nm,19.0s,MS5.0
CBKS Cedar Bluff 104.68 359 PFAKE 21 22 30.0 +13
CBKS LR LR
comp=Z,712nm,19.0s,MS5.2
CCM Cathedral Cave 104.92 352 PFAKE 21 22 30.0 +12
CCM LR LR
comp=Z,155nm,19.0s,MS4.6
DAC Darwin (Calif) 105.58 14 PFAKE 21 26 50.0
DAC LR LR
comp=Z,539nm,19.0s,MS5.1
CASY Casey 105.63 167 PFAKE 21 26 50.0
CASY LR LR
comp=Z,972nm,22.0s,MS5.3
SDCO Great Sand Dun 105.63 4 PFAKE 21 26 50.0
SDCO LR LR
comp=Z,782nm,19.0s,MS5.3
ISA Isabella 106.00 15 PFAKE 21 26 50.0
ISA LR LR
comp=Z,102nm,19.0s,MS4.4
WVT Waverly 106.37 349 PFAKE 21 26 50.0
WVT LR LR
comp=Z,821nm,19.0s,MS5.3
PLAL Pickwick Lake 107.53 349 PFAKE 21 26 50.0
PLAL LR LR
comp=Z,962nm,20.0s,MS5.3
GOGA Godfrey 108.22 345 PFAKE 21 26 50.0
GOGA LR LR
comp=Z,855nm,20.0s,MS5.3
ANMO Albuquerque 108.36 5 PKKP PKKP 21 38 03.7 +4.4
comp=Z,1.2nm,0.6s,baz=211,slow=6.8,SNR=3.1
ANMO Albuquerque 108.36 5 PFAKE 21 26 50.0
ANMO LR LR
comp=Z,566nm,21.0s,MS5.1
PFO Pinyon Flat Ob 108.39 14 PFAKE 21 26 50.0
PFO LR LR
comp=Z,156nm,20.0s,MS4.6
LRAL Lakeview Retre 109.26 348 PFAKE 21 26 50.0
LRAL LR LR
comp=Z,1μm,19.0s,MS5.5
TUC Tucson 110.56 9 PFAKE 21 27 00.0 +14
TUC LR LR
comp=Z,437nm,19.0s,MS5.0
NATX Nacogdoches 111.48 354 PFAKE 21 27 00.0 +12
NATX LR LR
comp=Z,745nm,20.0s,MS5.3
DWPF Disney 112.83 341 PFAKE 21 27 00.0 +9.1
DWPF LR LR
comp=Z,216nm,21.0s,MS4.7
RCBR Riachuelo 113.45 281 PFAKE 21 27 00.0 +7.5
RCBR LR LR
comp=Z,566nm,22.0s,MS5.1

TXAR Lajitas Array 114.09 3 PKP PKPdf 21 26 51.7 -1.7
comp=Z,0.7nm,0.6s,baz=90,slow=1.3,SNR=3.6
TXAR PKKPbc 21 37 32.0
comp=Z,0.3nm,0.3s,baz=146,slow=4.5,SNR=2.5
TXAR Lajitas Array 114.09 3 PKP PKPdf 21 26 51.7 -1.7
TXAR PKKPbc 21 37 32.0
SJG San Juan 116.26 323 PFAKE 21 27 10.0 +12
SJG LR LR
comp=Z,343nm,22.0s,MS4.9
VNA2 Neumayer--Watz 123.25 203 ⇑*i*P PKPdf 21 27 08.2 -1.9
VNA2 Neumayer--Watz 123.25 203 PKPdf 21 27 15.0 +4.9
VNA2 Neumayer--Watz 123.25 203 PKPdf 21 27 16.9 +6.8
VNA1 Neumayer--Stat 123.44 204 ⇑*i*P PKPdf 21 27 09.5 -1.0
VNA1 Neumayer--Stat 123.44 204 PKPdf 21 27 15.4 +4.9
VNA1 Neumayer--Stat 123.44 204 PKPdf 21 27 20.1 +10
VNA3 Neumayer Olymp 124.05 203 ⇑*i*P PKPdf 21 27 09.8 -1.9
VNA3 Neumayer Olymp 124.05 203 PKPdf 21 27 16.0 +4.3
VNA3 Neumayer Olymp 124.05 203 PKPdf 21 27 18.2 +6.5
VNDA Vanda 124.12 165 PKP PKPdf 21 27 08.3 -3.5
comp=Z,0.7nm,0.6s,baz=274,slow=5.6,SNR=4.2
VNDA PP PP 21 28 52.8 -4.5
comp=Z,4.0nm,1.3s,baz=299,slow=8.1,SNR=4.1
SBA Scott Base 125.22 165 PFAKE 21 27 20.0 +6.3
SBA LR LR
comp=Z,573nm,21.0s,MS5.2
SDV Santo Domingo 126.37 322 PKP PKPdf 21 27 14.8 -2.6
comp=Z,17nm,0.8s,baz=48,slow=1.9,SNR=25
SDV Santo Domingo 126.37 322 PKP PKPdf 21 27 14.8 -2.6
SDV LR LR
comp=Z,319nm,22.0s,MS5.0
QSPA South Pole Qui 126.65 180 ⇓*i*P PKPdf 21 27 13.8 -2.5
QSPA LR LR
comp=Z,744nm,19.0s,MS5.4
ROSC El Rosal 131.66 323 PKPdf 21 27 26.5 -1.2
comp=Z,14nm,0.8s,baz=102,slow=22,SNR=14
ROSC SKPbc 21 30 51.6
comp=Z,25nm,0.9s,baz=95,slow=7.2,SNR=14
SAML Samuel 136.00 300 PFAKE 21 27 50.0 +14
SAML LR LR
comp=Z,501nm,22.0s,MS5.2
SIV San Ignacio 139.13 290 PKhKP 21 27 31.9
comp=Z,2.1nm,0.8s,baz=24,slow=4.4,SNR=5.9
SIV SKPbc 21 31 14.1
comp=Z,5.6nm,1.0s,baz=75,slow=3.9,SNR=8.1
SIV SKPab 21 31 24.7
comp=Z,4.8nm,1.0s,baz=49,slow=4.8,SNR=5.4
CPUP Villa Florida 141.75 273 PKhKP 21 27 36.9
comp=Z,6.2nm,1.0s,baz=68,slow=3.4,SNR=7.9
LPAZ La Paz 144.53 297 PKP PKPdf 21 27 46.9 -4.0
comp=Z,7.0nm,1.0s,baz=52,slow=3.1,SNR=17
LPAZ La Paz 144.53 297 PKP PKPdf 21 27 46.9 -4.0
LPAZ LR LR
comp=Z,324nm,21.0s,MS5.1
PMSA Palmer Station 144.58 206 PFAKE 21 28 00.0 +15
PMSA LR LR
comp=Z,311nm,20.0s,MS5.1
ARE Arequipa 147.02 300 *e*P PKPdf 21 27 54.0 -1.1
NNA Nana 147.14 313 PFAKE 21 28 00.0 +4.6
NNA LR LR
comp=Z,74nm,20.0s,MS4.5
LVC Limon Verde 149.00 288 PKP PKPdf 21 27 57.8 -0.4
comp=Z,116nm,1.0s,baz=7.7,slow=1.9,SNR=19
LVC PKPbc PKPdf 21 28 01.4 +3.3
comp=Z,116nm,1.0s,baz=34,slow=3.9,SNR=86
LVC Limon Verde 149.00 288 PKP PKPdf 21 27 57.8 -0.4
LVC PKPbc PKPdf 21 28 01.4 +3.3
LVC LR LR
comp=Z,274nm,20.0s,MS5.0
TRQA Tornquist 149.26 256 PFAKE 21 28 10.0 +12
TRQA LR LR
comp=Z,465nm,19.0s,MS5.3
USHA Ushuaia 151.51 221 PKPbc PKPdf 21 28 06.0 +5.0
comp=Z,19nm,0.9s,baz=124,slow=1.7,SNR=8.1
USHA PKPab PKPab 21 28 11.8 -2.3
comp=Z,21nm,0.8s,baz=2.9,slow=2.6,SNR=8.1
CFAA Coronel Fontan 152.60 271 PKP PKPdf 21 28 02.4 -1.0
comp=Z,0.4nm,0.7s,baz=88,slow=0.5,SNR=5.6
CFAA PKPbc PKPdf 21 28 08.9 +5.5
comp=Z,2.1nm,1.0s,baz=20,slow=3.1,SNR=15
PLCA Paso Flores 156.12 251 PKP PKPdf 21 28 06.8 -1.0
comp=Z,3.1nm,0.8s,baz=263,slow=12,SNR=3.5
PLCA Paso Flores 156.12 251 PKP PKPdf 21 28 06.8 -1.0
PLCA LR LR
comp=Z,367nm,22.0s,MS5.2

BER ***25*** *21:19:05.4±5.6, 80.55N×3.53E, h15km±588km, MD3.1, ML2.3(NAO)*
NAO ***25*** *21:19:05.2±6.0, 80.29N×4.00E, ML2.3*
IDC ***25*** *21:19:06.9±1.1, 79.36N×1.46W, mb3.8/5, mb1 4.0/7, mb1mx3.8/21, mbtmp3.8/7, ML2.9/1, MS4.3/1, Ms1 4.3/1, ms1mx3.3/24, Error ellipse: s-maj=34.3km s-min=21.5km az=52.0*

ISC 25 21:19:05.5±4.0, 79.3N±0.1×1.2E±0.4, h17km±31km, n12, σ0973/16, mb3.8/4, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**2.08**	**96**	Pn	**Pn**	**21 19 39.9**	**-0.2**
KBS				Sn	**Sn**	**21 20 06.1**	**+0.2**
KBS	**Kingsbay**	**2.08**	**96**	*e*P	**Pn**	**21 19 40.0**	**-0.2**
KBS				*e*S	**Sn**	**21 20 05.5**	**-0.4**
SPA0	**Spitsbergen Ar**	**3.19**	**104**	Pn	**Pn**	**21 19 55.7**	**-0.3**
	baz=318,slow=7.9						
SPA0				Sn	**Sn**	**21 20 33.9**	**-0.1**
	baz=340,slow=28						
ARA0	**ARCESS Array S**	**11.64**	**134**	Pn	**P**	**21 21 54.0**	**+0.3**
	baz=318,slow=10						
ARA0				Sn	**S**	**21 24 04.6**	**+0.2**
	baz=359,slow=22						
ARCES	**ARCESS Array B**	**11.64**	**134**	Pn	**P**	**21 21 58.5**	**+4.8**
	0.1nm,0.3s,baz=331,slow=11,SNR=4.9						
ARCES				Sn	**S**	**21 24 00.6**	**-3.8**
	0.1nm,0.3s,baz=137,slow=28,SNR=2.2						
ARCES				LR	LR	21 26 39.9	
	comp=Z,1μm,19.6s,baz=110,slow=38						
FIA0	**FINESS Array S**	**19.47**	**143**	P	**P**	**21 23 38.8**	**+4.9**
	baz=333,slow=14						
FINES	**FINESS Array B**	**19.47**	**143**	P	**P**	**21 23 38.4**	**+4.6**
	0.2nm,0.3s,baz=338,slow=10,SNR=6.2						
GERES	**GERESS Array B**	**30.94**	**164**	P	**P**	**21 25 28.4**	**+5.2**
	2.8nm,1.0s,mb4.0,baz=14,slow=8.1,SNR=5.6						
ILAR	**Eielson Array**	**34.92**	**337**	P	**P**	**21 25 58.3**	**+0.6**
	0.5nm,0.8s,mb3.5,baz=354,slow=4.7,SNR=4.1						
BRTR	**Keskin Array B**	**41.70**	**142**	P	**P**	**21 26 59.5**	**+5.1**
	0.5nm,0.9s,mb3.2,baz=333,slow=6.4,SNR=2.6						
SONM	**Songino Array**	**46.12**	**64**	P	pP	21 27 35.5	+0.5
	0.4nm,0.5s,baz=340,slow=8.0,SNR=3.0						
SDV	**Santo Domingo**	**77.99**	**254**	P	**P**	**21 31 03.2**	**-0.8**
	3.0nm,0.5s,mb4.4,baz=9.5,slow=6.1,SNR=3.8						

MAN 25 21:33:13.8, 19.96N×122.28E, h3km, mb4.5, ML3.4, MS3.2, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBP	**Basco**	**0.56**	**328**	*e*P	Pg	21 33 24.7	-0.2
CVP	**Callao Caves**	**2.29**	**191**	*e*P	Pn	21 33 53.0	0.0
APYP	**Conner**	**2.31**	**205**	*e*P	Pn	21 33 54.0	+0.8
APYP				*e*S	Sn	21 34 21.8	-0.7
ABRA	**Dolores**	**2.74**	**213**	*e*P	Pn	21 34 00.4	+1.0
ABRA				*e*S	Sn	21 34 33.0	-0.5
BALP	**Baler**	**4.25**	**189**	*e*P	Pn	21 34 20.4	-0.5

ATH ***25*** *21:49:03.5, 39.70N×25.59E, h9km±1km, MD3.1/5*
NEIC ***25*** *21:49:03.5, 39.70N×25.59E, h9km, MD3.1(ATH), After ATH.*
CSEM ***25*** *21:49:03.3±0.1, 39.73N×25.63E, h5km, MD3.1, Error ellipse: s-maj=2.2km s-min=1.3km az=11.0*
ISK ***25*** *21:49:04.8, 39.79N×25.71E, h15km, MD3.2*
THE ***25*** *21:49:06.1, 39.77N×25.47E, h11km*

ISC 25 21:49:02.3±0.6, 39.71N±0.03×25.56E±0.02, h2km±5km, n28, σ1912/41, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.34**	**303**	*e*PB	**Pb**	**21 49 10.8**	**0.0**
LOS	**Limnos**	**0.43**	**301**	*e*Pg	**Pg**	**21 49 12.8**	**+1.8**
LOS				*e*Sg	**Sg**	**21 49 18.2**	**+1.5**
EZN	**Ezine**	**0.60**	**79**	*i* PG	**Pg**	**21 49 14.0**	**-0.3**
EZN				*i* SG	**Sg**	**21 49 22.5**	**+0.1**
PRK	**Paraskevi**	**0.72**	**130**	*e*PB	**Pb**	**21 49 16.6**	**-0.7**

PRK				*e*SB		**Sb**	**21 49 26.4**	**-1.0**
AYVA	**Ayvalik**	**0.96**	**114**	*i* P		**Pb**	**21 49 21.2**	**-0.2**
AYVA				*i* S		**Sg**	**21 49 34.9**	**+0.5**
LPK	**Lapseki**	**1.13**	**54**	*i* PG		**Pg**	**21 49 24.4**	**-0.6**
CANB	**Canakkale**	**1.20**	**75**	PG		**Pg**	**21 49 25.2**	**-1.0**
CANB				SG		**Sg**	**21 49 40.7**	**-1.5**
AOS	**Alonnisos**	**1.41**	**248**	*e*Pg		**Pg**	**21 49 30.2**	**-0.2**
AOS				*e*Sg		**Sg**	**21 49 48.8**	**-0.5**
RDO	**Rodhopi**	**1.43**	**359**	*e*PB		**Pb**	**21 49 30.8**	**+1.3**
URLA	**Izmir**	**1.57**	**149**	*i* P		**Pn**	**21 49 31.5**	**+0.1**
URLA				*i* S		**Sb**	**21 49 53.0**	**+0.9**
MFT	**Murefte**	**1.70**	**50**	PN		**Pn**	**21 49 32.8**	**-0.4**
PLG	**Polygyros**	**1.75**	**293**	*e*PN		**Pn**	**21 49 36.1**	**+2.1**
BLCB	**Balcova**	**1.76**	**138**	*e*PN		**Pn**	**21 49 35.4**	**+1.4**
BALB	**Balikesir**	**1.79**	**92**	PN		**Pn**	**21 49 34.8**	**+0.2**
MRMT	**Marmara Adasi**	**1.80**	**60**	PN		**Pn**	**21 49 34.1**	**-0.5**
XOR	**Xorichti**	**1.86**	**260**	*e*Pb		**Pb**	**21 49 36.4**	**-0.4**
XOR				*e*Sb		**Sb**	**21 49 59.9**	**-0.7**
IZM	**Izmir**	**1.86**	**134**	*e*PN		**Pn**	**21 49 37.4**	**+1.8**
BTOK	**Tokmak**	**1.91**	**88**	*i* P		**Pn**	**21 49 36.1**	**-0.1**
BNT	**Bandirma**	**1.92**	**70**	*e*PN		**Pn**	**21 49 36.7**	**+0.3**
SRS	**Serrai**	**2.06**	**314**	*e*Pb		**Pb**	**21 49 38.4**	**-1.7**
SRS				*e*Sb		**Sb**	**21 50 03.9**	**-2.2**
NVR	**Nevrokopi**	**2.09**	**322**	*e*PN		**Pn**	**21 49 41.0**	**+2.2**
EDRB	**Edirne**	**2.31**	**22**	*e*PN		**Pn**	**21 49 42.6**	**+0.6**
KNT	**Kendrikon**	**2.50**	**306**	*e*Pn		**Pn**	**21 49 44.6**	**0.0**
KNT				*e*Sn		**Sn**	**21 50 14.5**	**-1.5**
MANT	**Manisa**	**2.63**	**117**	*i* P		**Pn**	**21 49 53.6**	**+7.0**
MANT				*i* S		**Sn**	**21 50 26.8**	**+7.3**
GRG	**Griva**	**2.72**	**298**	*e*Pn		**Pn**	**21 49 47.7**	**-0.1**
AYDN	**Tasoluk**	**2.74**	**138**	*i* P		**Sn**	**21 50 15.3**	**-6.9**
ULDT	**Uludag**	**2.78**	**80**	*i* P		**Pn**	**21 49 48.2**	**-0.5**
ULDT				*i* S		**Sn**	**21 50 25.8**	**+2.4**
BDRM	**Kayabasi**	**3.03**	**150**	*i* P		**Pn**	**21 49 50.0**	**-2.3**
BDRM				*i* S		**Sn**	**21 50 16.6**	**-13**

LDG ***25*** *21:51:24.5±0.2, 36.80N×79.05E, h10km, Mb4.4/9, Error ellipse: s-maj=11.8km s-min=5.0km az=52.0*
IDC ***25*** *21:51:26.1±2.4, 37.22N×79.37E, mb3.6/7, mb1 3.8/10, mb1mx3.7/22, mbtmp3.7/10, ML3.4/3, Error ellipse: s-maj=46.5km s-min=23.4km az=157.0*
NEIC ***25*** *21:51:26.1±0.2, 37.05N×79.46E, h10km, mb4.5/9, Error ellipse: s-maj=8.2km s-min=4.1km az=59.0*
NNC ***25*** *21:51:27.8±11.0, 37.15N×79.08E, h28km±110km, mpv3.4, Error ellipse: s-maj=92.4km s-min=49.5km az=167.0*
BJI ***25*** *21:51:27.2, 37.19N×79.29E, h21km, mb4.2, ML4.3*
ISC 25 21:51:23.9±0.3,**36.99N**±0.03×**79.34E**±0.06,**h10**km,**n45,** σ1§**13**/51,**mb4.2**/13,**5C-1D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**6.76**	**328**	*e*Pn	**Pb**	**21 53 18.3**	**-3.0**
KK31	**Karatay Array**	**9.11**	**315**	⇑Pn	**P**	**21 53 35.6**	**-2.9**
	0.7nm,0.4s,baz=143,slow=14,SNR=8.5						
KK31				⇑Sn	**Sn**	**21 55 13.0**	**-9.2**
	5.0nm,0.8s						
KK31				⇓Lg		21 56 05.0	
	5.6nm,0.7s						
WMQ	**Urumqi**	**9.33**	**40**	*e*P	**P**	**21 53 43.0**	**+1.5**
WMQ				S	**Sn**	**21 55 29.0**	**+1.4**
WMQ				Smax			
	comp=N,53nm,0.8s						
WMQ				Smax			
	comp=E,46nm,0.8s						
KOLN	**Koldanda**	**9.87**	**157**	*e*P	**P**	**21 53 48.4**	**-0.6**
	comp=E,11nm,0.6s						
KOLN				*e*S	**Sn**	**21 55 41.2**	**+0.3**
GKN	**Gorkha**	**10.01**	**152**	*e*P	**P**	**21 53 49.8**	**-1.1**
	comp=E,15nm,0.5s						
GKN				*e*S	**S**	**21 55 44.5**	**+0.1**
MK31	**Makanchi Array**	**10.04**	**12**	Pn	**P**	**21 53 48.2**	**-3.0**
	comp=E,3.3nm,0.6s,baz=187,slow=13,SNR=24						
MK31				⇑Sn	**S**	**21 55 38.7**	**-6.2**
	comp=E,12nm,0.7s,baz=194,slow=20,SNR=7.4						
MKAR	**Makanchi Array**	**10.04**	**12**	Pn	**P**	**21 53 48.7**	**-2.5**
	comp=E,0.8nm,0.3s,baz=196,slow=13,SNR=23						
MKAR				Sn	**S**	**21 55 38.8**	**-6.1**
	comp=E,1.5nm,0.3s,baz=194,slow=20,SNR=9.5						
KKN	**Kakani**	**10.45**	**150**	*e*P	**P**	**21 53 56.4**	**-0.6**
	comp=E,8.4nm,0.4s						
DMN	**Daman**	**10.55**	**151**	*e*P	**P**	**21 53 57.7**	**-0.5**
PKI	**Pulchoki**	**10.70**	**150**	*e*P	**P**	**21 53 59.9**	**-0.4**
	comp=E,8.0nm,0.4s						
AJM	**Ajmer**	**11.21**	**202**	*e*P	**P**	**21 54 07.0**	**-0.3**
KURK	**Kurchatov**	**13.73**	**358**	⇑P	**P**	**21 54 38.8**	**-2.1**
	comp=E,2.2nm,0.7s						
KURK	**Kurchatov**	**13.73**	**358**	*e*P	**P**	**21 54 35.7**	**-5.2**
	comp=E,4.7nm,0.7s						
GTA	**Gaotai**	**16.28**	**75**	*e*P	**P**	**21 55 19.0**	**+4.9**
GTA				AP		21 55 25.8	
GTA				XP		21 55 28.3	
GTA				AMB	AMB		
	comp=Z,2.0nm,0.8s						
BVA0	**Borovoye Array**	**17.21**	**341**	P	**P**	**21 55 21.6**	**-4.3**
	comp=Z,0.1nm,0.5s,baz=150,slow=11,SNR=4.2						
BVAR	**Borovoye Array**	**17.21**	**341**	P	**P**	**21 55 25.3**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=266,slow=39,SNR=3.2						
BRVK	**Borovoye**	**17.27**	**341**	P	**P**	**21 55 22.3**	**-4.3**
	comp=Z,1.8nm,0.7s						
ZAL	**Zalesovo**	**17.36**	**11**	P	**P**	**21 55 27.5**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=202,slow=11,SNR=3.1						
ZAL	**Zalesovo**	**17.36**	**11**	P	**P**	**21 55 27.5**	**-0.2**
AB31	**Akbulak array**	**18.66**	**317**	⇑P	**P**	**21 55 43.0**	**-0.9**
	comp=Z,0.7nm,0.5s,baz=126,slow=11,SNR=8.1						
SONM	**Songino Array**	**22.61**	**53**	P	**P**	**21 56 25.8**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=239,slow=8.4,SNR=3.2						
BR131	**Keskin Array S**	**35.65**	**289**	P	**P**	**21 58 20.1**	**-3.7**
	comp=Z,2.0nm,0.9s,mb4.0						
BRTR	**Keskin Array B**	**35.65**	**289**	P	**P**	**21 58 24.6**	**+0.8**
	comp=Z,1.1nm,0.8s,mb3.8,baz=80,slow=7.5,SNR=6.0						
AKASG	**Malin Array Be**	**37.92**	**307**	P	**P**	**21 58 43.4**	**+0.5**
	comp=Z,1.4nm,0.5s,mb4.0,baz=76,slow=8.8,SNR=7.9						
FINES	**FINESS Array B**	**40.93**	**324**	P	**P**	**21 59 07.2**	**-0.6**
	comp=Z,1.0nm,0.7s,mb3.5,baz=90,slow=7.6,SNR=4.7						
NB2	**NORSAR Subarra**	**48.05**	**323**	P	**P**	**22 00 05.2**	**+0.3**
	comp=Z,0.8nm,0.6s,mb3.9,baz=89,slow=7.9						
NOA	**NORSAR Array B**	**48.05**	**323**	P	**P**	**22 00 06.5**	**+1.6**
	comp=Z,1.1nm,0.7s,mb4.0,baz=90,slow=7.6,SNR=4.3						
GERES	**GERESS Array B**	**48.09**	**306**	P	**P**	**22 00 07.4**	**+2.0**
	comp=Z,0.9nm,0.7s,mb3.9,baz=74,slow=7.1,SNR=5.8						
HINF	**Hinteralfeld**	**52.77**	**306**	*e*P	**P**	**22 00 41.6**	**+0.5**
HAU	**Haudompre**	**53.05**	**307**	*e*P	**P**	**22 00 43.6**	**+0.5**
	comp=Z,12nm,1.0s,mb4.5						
LPG	**La Plagne**	**53.53**	**303**	*e*P	**P**	**22 00 48.1**	**+1.4**
	comp=Z,10.0nm,0.9s,mb4.4						
LPL	**La Plagne**	**53.54**	**303**	*e*P	**P**	**22 00 48.1**	**+1.3**
	comp=Z,6.1nm,0.7s,mb4.3						
SBF	**Sospel**	**53.59**	**301**	*e*P	**P**	**22 00 47.6**	**+0.4**
	comp=Z,19nm,0.7s,mb4.8						
CABF	**La Chapelle**	**53.63**	**305**	*e*P	**P**	**22 00 47.9**	**+0.5**
MBDF	**Montbardon**	**53.76**	**303**	*e*P	**P**	**22 00 48.6**	**+0.2**
ORIF	**Oris-en-Rattie**	**54.30**	**303**	*e*P	**P**	**22 00 49.3**	**-3.1**
SMF	**Signal de Mont**	**55.09**	**306**	*e*P	**P**	**22 00 58.5**	**+0.4**
SSF	**Saint Saulge**	**55.17**	**306**	*e*P	**P**	**22 00 58.8**	**+0.1**
	comp=Z,11nm,0.9s,mb4.6						
AVF	**Avril sur Loir**	**55.35**	**306**	*e*P	**P**	**22 01 00.2**	**+0.1**
BGF	**Bois d'Agland**	**55.76**	**306**	*e*P	**P**	**22 01 03.1**	**+0.1**
LASF	**Ste Croix**	**55.95**	**303**	*e*P	**P**	**22 01 05.2**	**+0.8**
TCF	**Toulx Ste Croi**	**56.27**	**306**	*e*P	**P**	**22 01 07.3**	**+0.7**
	comp=Z,7.3nm,1.0s,mb4.4						
GRR	**Gorron**	**57.49**	**309**	*e*P	**P**	**22 01 15.2**	**-0.1**
ETSF	**Etsaut**	**59.37**	**303**	*e*P	**P**	**22 01 29.0**	**+0.5**
	comp=Z,7.7nm,0.7s,mb4.5						
ILAR	**Eielson Array**	**72.31**	**19**	P	**P**	**22 02 52.8**	**+1.7**
	comp=Z,0.5nm,0.7s,mb3.5,baz=313,slow=3.9,SNR=4.3						

LDG ***25*** *22:06:57.5±0.1, 36.94N×79.24E, h10km, Mb4.3/7, Error ellipse: s-maj=9.1km s-min=3.8km az=53.0*
IDC ***25*** *22:06:58.3±1.8, 36.91N×79.23E, mb3.8/7, mb1 3.9/10, mb1mx3.8/21, mbtmp3.8/10, ML3.4/3, MS3.6/1, Ms1 3.6/1, ms1mx3.0/28, Error ellipse: s-maj=35.8km s-min=24.5km az=146.0*
NEIC ***25*** *22:07:00.3±0.3, 37.00N×79.26E, h10km, mb4.3/9, Error ellipse: s-maj=9.9km s-min=5.4km az=58.0*
BJI ***25*** *22:07:04.7, 37.47N×79.59E, h10km, mb4.7, ML4.3, Ms4.0*
NNC ***25*** *22:07:08.9±4.1, 37.71N×78.96E, mpv3.3, Error ellipse: s-maj=39.2km s-min=20.2km az=162.0*
ISC 25 22:07:01.5±0.7,**36.93N**±0.04×**79.32E**±0.05,**h37**km±8km, **n48,** σ1§**11**/53,**mb4.0**/15,**MS3.4**/1,**5C-3D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**8.93**	**315**	⇑Pn	P	22 22 16.4	-0.7
	0.4nm,0.5s,baz=134,slow=12,SNR=4.9						
KK31				⇑Sn	Sn	22 23 51.9	-6.7
	1.2nm,0.7s,baz=132,slow=12,SNR=6.3						
WMQ	**Urumqi**	**9.44**	**41**	*e*P	P	22 22 27.0	+2.9
WMQ				S	Sn	22 24 07.0	-4.3
WMQ				Smax			
	comp=N,15nm,0.8s						
WMQ				Smax			
	comp=E,14nm,0.8s						
MK31	**Makanchi Array**	**10.04**	**13**	⇑Pn	P	22 22 29.6	-2.7
	comp=E,0.6nm,0.6s,baz=197,slow=14,SNR=16						
MK31				Sn	S	22 24 18.1	-7.9
	comp=E,4.1nm,0.7s,baz=196,slow=23,SNR=5.5						
BVA0	**Borovoye Array**	**17.10**	**342**	P	P	22 24 06.3	+0.7
	baz=155,slow=13,SNR=4.1						

IDC 25 22:24:07.9±2.2,**1.27N**×**97.18E, mb4.2**/6,**mb1 4.3**/6, **mb1mx3.9**/20,**mbtmp4.2**/6,**MS3.7**/1,**Ms1 3.7**/1, **ms1mx3.3**/18,**Error ellipse: s-maj=63.6km s-min=24.8km az=50.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**38.92**	**153**	LR	LR	22 46 32.9	
	comp=Z,105nm,20.8s,baz=337,slow=35						
JOW	**Kunigami**	**39.21**	**47**	P	P	22 31 38.0	-1.7
	5.5nm,0.5s,baz=203,slow=10,SNR=7.3						
WRA	**Warramunga Arr**	**42.09**	**122**	P	P	22 32 01.8	-1.7
	0.9nm,0.6s,baz=301,slow=9.2,SNR=10.0						
SONM	**Songino Array**	**47.07**	**8**	P	P	22 32 41.5	-1.7
	1.6nm,0.7s,baz=190,slow=9.2,SNR=17						
MKAR	**Makanchi Array**	**47.17**	**346**	P	P	22 32 42.3	-1.8
	1.7nm,0.6s,baz=162,slow=8.2,SNR=18						
ZAL	**Zalesovo**	**53.48**	**351**	P	P	22 33 30.1	-2.0
	3.8nm,0.4s,baz=314,slow=5.8,SNR=11						
BVAR	**Borovoye Array**	**56.18**	**341**	P	P	22 33 48.8	-3.0
	1.2nm,0.5s,baz=141,slow=9.2,SNR=12						

NIED ***25*** *22:28:00, 37.70N×143.60E, h17km, Mw5.1 Best double couple: M0:4.62×10^16 NP1:φs40°, δ50°, λ121°. NP2:φs177°, δ49°, λ59°.*
JMA ***25*** *22:28:52.9±0.2, 37.66N×143.59E, h10km, M5.4*
JMA Felt II J1.
MOS ***25*** *22:29:02.3±0.8, 37.94N×142.99E, h33km, mb5.5/84, MS5.0/21, Error ellipse: s-maj=8.0km s-min=4.2km az=114.9*
IDC ***25*** *22:29:02.6±3.8, 37.73N×143.12E, h34km±29km, mb4.5/26, mb1 4.6/31, mb1mx4.6/34, mbtmp4.7/31, ML4.0/4, MS4.3/11, Ms1 4.3/11, ms1mx4.2/25, Error ellipse: s-maj=14.8km s-min=12.7km az=128.0*
HRVD ***25*** *22:29:03.2±0.4, 37.80N×143.23E, h15km, MW5.1/59, Centroid moment Tensor Solution. LP body waves: s31,c46;Mantle waves: s59,c104; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.59±.11; Mθθ-0.13±.11; Mφφ-2.45±.08; Mrθ2.13±.38; Mθφ-1.19±.07; Mφr5.29±.33; Best double couple: M0:6.34×10^16 NP1: φs204°, δ13°, λ92°. NP2:φs22°, δ77°, λ90°. Principal axes: T 6.16, Plg58°, Azm291°; N .37, Plg0°, Azm22°; P -6.521, Plg32°, Azm112°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***25*** *22:29:03.2±0.6, 37.74N×143.07E, h38km±5km, mb5.2/107, MS5.1/5, MW5.0(NIED) Error ellipse: s-maj=5.1km s-min=3.7km az=152.0*
NEIC Recorded [2 JMA] in Miyagi and [1 JMA] in Fukushima Prefectures.
BJI ***25*** *22:29:04.6, 37.86N×142.46E, h38km, mB5.2, mb5.2, Ms5.2, Msz5.0*
ISC 25 22:29:00.8±0.2,**37.78N**±0.03×**143.02E**±0.03,**h29**km, **h29**km±1.0km:**pP-P, n503,** σ0§**98**/508,**mb5.1**/165,**MS5.0**/44, **57C-17D, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.48**	**298**	⇑Pp	**Pn**	**22 29 26.5**	**+0.6**
JIO				*e*S	**Sn**	**22 29 50.6**	**+6.1**
OFUJ	**Ofunato**	**1.68**	**321**	⇑Pp	**Pn**	**22 29 28.5**	**-0.3**
OFUJ				*e*S	**Sn**	**22 29 54.5**	**+5.0**
JMM	**Marumori**	**1.77**	**274**	⇑Pp	**Pn**	**22 29 30.5**	**+0.5**
JMK	**Ichinoseki**	**1.84**	**310**	⇑Pp	**Pn**	**22 29 31.3**	**+0.3**
JMK				*e*S	**Sn**	**22 29 58.5**	**+4.9**
ONAJ	**Iwakimizuishiy**	**1.90**	**250**	⇑Pp	**Pn**	**22 29 31.8**	**0.0**
JOU	**Okura**	**1.95**	**288**	⇑Pp	**Pn**	**22 29 33.9**	**+1.3**
JFT	**Otama**	**2.15**	**264**	⇑Pp	**Pn**	**22 29 36.5**	**+1.0**
JOM	**Ohasama**	**2.17**	**322**	P	**Pn**	**22 29 35.7**	**-0.1**
JYS	**Shirataka**	**2.38**	**282**	⇑Pp	**Pn**	**22 29 39.8**	**+1.1**
JYK	**Kaneyama**	**2.38**	**299**	⇑Pp	**Pn**	**22 29 39.6**	**+0.8**
JRG	**Rokugo**	**2.47**	**312**	P	**Pn**	**22 29 40.3**	**+0.2**
JKZ	**Kuzumaki**	**2.57**	**330**	⇑Pp	**Pn**	**22 29 41.0**	**-0.5**
JFY	**Yanaizu**	**2.66**	**263**	⇑Pp	**Pn**	**22 29 43.6**	**+0.8**
JYA	**Atsumi**	**2.73**	**288**	⇑Pp	**Pn**	**22 29 44.6**	**+0.8**
JYW	**Yuwa**	**2.82**	**309**	P	**Pn**	**22 29 45.7**	**+0.6**
JANG	**Nango**	**2.85**	**336**	P	**Pn**	**22 29 43.6**	**-1.8**
JNS	**Sasagawa**	**2.94**	**272**	P	**Pn**	**22 29 47.8**	**+1.1**
JAH	**Hinai**	**3.04**	**323**	P	**Pn**	**22 29 48.0**	**-0.2**
JAW	**Awa shima**	**3.05**	**284**	⇑Pp	**Pn**	**22 29 49.5**	**+1.2**
JAG	**Ashikaga**	**3.16**	**246**	⇑Pp	**Pn**	**22 29 49.7**	**-0.1**
JRY	**Ryogami san**	**3.74**	**243**	⇑Pp	**Pn**	**22 29 57.7**	**-0.4**
JOT	**Ohata**	**3.91**	**338**	P	**Pn**	**22 30 01.0**	**+0.5**
MJAR	**Matsushiro Arr**	**4.04**	**254**	Pn	**Pn**	**22 30 02.9**	**+0.6**
	11nm,0.3s,baz=73,slow=13,SNR=242						
MAJO	**Matsushiro**	**4.04**	**254**	*e*Pn	**Pn**	**22 30 03.3**	**+0.9**
MAT	**Matsushiro**	**4.04**	**254**	P	**Pn**	**22 30 02.7**	**+0.3**
MAT				S	**Sn**	**22 30 55.0**	**+5.7**
MAT	**Matsushiro**	**4.04**	**254**	*e*P	**Pn**	**22 30 03.0**	**+0.6**
MAT				*e*S	**Sn**	**22 30 55.0**	**+5.7**
JKB	**Kayabe**	**4.38**	**340**	P	**Pn**	**22 30 07.4**	**+0.2**
JNY	**Yasuok**	**4.80**	**241**	⇑Pp	**Pn**	**22 30 14.0**	**+0.8**
JCH	**Churui**	**4.84**	**3**	P	**Pn**	**22 30 10.2**	**-3.5**
JHJ	**Hachijo jima 2**	**5.35**	**211**	Pn	**Pn**	**22 30 18.6**	**-2.3**
	39nm,0.3s,baz=222,slow=20,SNR=8.1						
JHJ				Sn	**Sn**	**22 31 13.9**	**-8.3**
	69nm,0.3s,baz=279,slow=23,SNR=3.4						
ASAJ	**Asahikawa**	**6.34**	**357**	Pn	**Pn**	**22 30 33.0**	**-1.9**
	3.6nm,0.3s,baz=150,slow=9.0,SNR=14						
ASAJ				Sn	**Sn**	**22 31 44.9**	**-2.2**
	3.0nm,0.3s,baz=9.4,slow=31,SNR=3.9						
ASAJ				LR	LR	22 33 51.2	
	comp=Z,6μm,18.4s,baz=184,slow=45						
ASAJ	**Asahikawa**	**6.34**	**357**	P	**Pn**	**22 30 33.0**	**-1.9**
ASAJ						22 31 44.9	
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,6μm,18.4s						
KUR	**Kuril'sk**	**8.29**	**24**	*e*P	**P**	**22 30 51.0**	**-11**
KUR				pmax	pmax		
	comp=N,150nm,1.0s						
KUR				pmax	pmax		
	comp=E,40nm,1.0s						
KUR				pmax	pmax		
	comp=Z,210nm,1.0s						
KUR				pmax	pmax		
	comp=N,300nm,2.0s						
KUR				pmax	pmax		
	comp=E,400nm,2.0s						
KUR				pmax	pmax		
	comp=Z,1μm,2.0s						
KUR				MLR	MLR		
	comp=N,8μm,12.0s						
KUR				MLR	MLR		
	comp=E,13μm,12.0s						
KUR				MLR	MLR		
	comp=Z,3μm,12.0s						
YSS	**Yuzh-Sakhalins**	**9.17**	**359**	*e*Pn	**P**	**22 31 09.8**	**-4.6**
	comp=Z,72nm,0.9s						
YSS	**Yuzh-Sakhalins**	**9.17**	**359**	*e*P	**P**	**22 31 12.1**	**-2.3**
YSS				pmax	pmax		
	comp=Z,49nm,1.3s						
YSS				MLR	MLR		
	comp=Z,4μm,21.0s						
CBIJ	**Chichi jima**	**10.67**	**184**	Pn	**P**	**22 31 28.9**	**-6.0**
	comp=Z,4.3nm,0.3s,baz=275,slow=9.2,SNR=3.9						
CBIJ				Sn	**S**	**22 33 18.1**	**-17**
	comp=Z,27nm,0.3s,baz=320,slow=24,SNR=6.6						
CBIJ				LR	LR	22 35 19.7	
	comp=Z,1μm,18.4s,baz=4.4,slow=36						
JNU	**Nakatsue**	**10.94**	**249**	Pn	**P**	**22 31 37.4**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=69,slow=18,SNR=18						
KS15	**Wonju Array Si**	**12.01**	**273**	*e*P	**P**	**22 31 54.0**	**+0.9**
MDJ	**Mudanjiang**	**12.20**	**308**	P	**P**	**22 31 53.8**	**-1.8**
MDJ				AP		22 32 02.0	
MDJ				XP		22 32 08.5	
MDJ				S	**S**	**22 34 08.0**	**-3.6**
MDJ				PCP	PcP	22 37 35.5	-1.9

NNC ***25*** *22:20:13.7±3.6, 37.74N×78.91E, mpv3.0, Error ellipse: s-maj=32.8km s-min=15.4km az=166.0*
BJI 25 22:20:05.2, 37.04N×79.07E, h11km, ML3.9, 3C, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**8.93**	**315**	⇑Pn	P	22 22 16.4	-0.7
	0.4nm,0.5s,baz=134,slow=12,SNR=4.9						
KK31				⇑Sn	Sn	22 23 51.9	-6.7
	1.2nm,0.7s,baz=132,slow=12,SNR=6.3						
WMQ	**Urumqi**	**9.44**	**41**	*e*P	P	22 22 27.0	+2.9
WMQ				S	Sn	22 24 07.0	-4.3

MDJ			SCP			22 41 05.3	
MDJ			PCS			22 41 10.3	
MDJ			SCS	ScS		22 44 41.0	-0.7
MDJ			AMB	AMB			
comp=Z,626nm,8.8s							
MDJ			LR	LR			
comp=N,3μm,13.5s							
MDJ			LR	LR			
comp=E,4μm,14.2s							
MDJ			LR	LR			
comp=Z,7μm,14.0s							
MDJ	**Mudanjiang**	**12.20 308**	*e*P	**P**		**22 31 52.8**	**-2.8**
comp=Z,194nm,1.5s							
INCN	**Inchon**	**13.00 274**	*e*P	**P**		**22 32 06.5**	**+0.2**
comp=Z,105nm,1.3s							
TYV	**Tymovskoe**	**13.09 359**	*e*P	**P**		**22 32 00.5**	**-6.9**
TYV			*e*S	**S**		**22 34 26.0**	**-6.9**
TYV			pmax	pmax			
comp=Z,65nm,1.2s							
TYV			pmax	pmax			
comp=Z,300nm,3.0s							
TYV			smax				
comp=E,500nm,10.0s							
TYV			MLR	MLR			
comp=Z,4μm,18.0s							
TYV			MLR	MLR			
comp=N,4μm,20.0s							
TYV			MLR	MLR			
comp=E,2μm,22.0s							
CN2	**Changchun**	**14.60 300**	*e*P	**P**		**22 32 27.3**	**0.0**
CN2			*e*XP			22 32 42.3	
CN2			*e*S	**S**		**22 35 06.0**	**-2.9**
CN2			AMB	AMB			
comp=Z,20nm,0.9s							
CN2			AMB	AMB			
comp=Z,780nm,8.0s							
CN2			LR	LR			
comp=N,3μm,13.0s							
CN2			LR	LR			
comp=E,4μm,13.0s							
CN2			LR	LR			
comp=Z,4μm,14.0s							
SNY	**Shenyang**	**15.48 291**	⇑P	**P**		**22 32 36.3**	**-2.4**
SNY			AMB	AMB			
comp=Z,40nm,1.2s							
SNY			AMB	AMB			
comp=Z,710nm,10.5s							
SNY			LR	LR			
comp=E,7μm,12.9s							
SNY			LR	LR			
comp=Z,8μm,13.2s							
JOW	**Kunigami**	**16.55 233**	Pn	**P**		**22 32 54.0**	**+1.5**
JOW			LR	LR		22 39 37.0	
comp=Z,858nm,18.3s,baz=195,slow=38							
DL2	**Dalian**	**16.82 280**	P	**P**		**22 32 53.5**	**-2.4**
DL2			XP			22 33 07.0	
DL2			S	**S**		**22 35 56.3**	**-4.5**
DL2			XS			22 36 11.5	
DL2			AMB	AMB			
comp=Z,80nm,1.2s							
DL2			AMB	AMB			
comp=Z,390nm,5.8s							
DL2			LR	LR			
comp=N,970nm,14.1s							
DL2			LR	LR			
comp=E,1μm,13.8s							
DL2			LR	LR			
comp=Z,1μm,12.1s							
PET	**Petropavlovsk**	**18.72 30**	P	**P**		**22 33 18.9**	**-0.4**
comp=Z,67nm,1.2s							
PET	**Petropavlovsk**	**18.72 30**	*e*P	**P**		**22 33 22.5**	**+3.2**
PET			*e*S	**S**		**22 36 44.9**	**+1.2**
PET			pmax	pmax			
comp=Z,100nm,9.8s							
PET			pmax	pmax			
comp=Z,400nm,4.0s							
PET			pmax	pmax			
comp=Z,54nm,1.0s							
PET			smax				
comp=E,1μm,8.5s							
PET			smax				
comp=N,500nm,17.1s							
PET			smax				
comp=E,1μm,13.7s							
PET			MLR	MLR			
comp=Z,2μm,15.0s							
PET			MLR	MLR			
comp=Z,1μm,14.0s							
SSE	**Sheshan**	**19.18 256**	P	**P**		**22 33 23.5**	**-1.5**
SSE			XP			22 33 32.0	
SSE			S	**S**		**22 36 56.8**	**+2.4**
SSE			PCP	PcP		22 37 47.8	+0.2
SSE			AMB	AMB			
comp=Z,40nm,1.4s							
SSE			AMB	AMB			
comp=Z,486nm,7.0s							
SSE			LR	LR			
comp=N,2μm,13.7s							
SSE			LR	LR			
comp=E,2μm,13.7s							
SSE			LR	LR			
comp=Z,5μm,13.4s							
SSE	**Sheshan**	**19.18 256**	P	**P**		**22 33 23.4**	**-1.6**
comp=Z,40nm,1.4s							
SSE			sP			22 33 32.0	
SSE			S	**S**		**22 36 56.7**	**+2.3**
SSE			sS			22 37 07.8	
SSE			PcP	PcP		22 37 47.8	+0.2
HIA	**Hailar**	**20.33 312**	*e*P	**P**		**22 33 32.7**	**-4.6**
comp=Z,58nm,0.9s							
HIA	**Hailar**	**20.33 312**	*e*P	**P**		**22 33 32.7**	**-4.6**
HIA			pmax	pmax			
comp=Z,58nm,0.9s							
NJ2	**Nanjing**	**20.60 261**	*e*P	**P**		**22 33 37.5**	**-2.7**
NJ2			AP			22 33 45.3	
NJ2			XP			22 33 50.3	
NJ2			PP	PP		22 33 55.5	-6.2
NJ2			AMB	AMB			
comp=Z,50nm,1.0s							
NJ2			AMB	AMB			
comp=Z,70nm,4.5s							
NJ2			LR	LR			
comp=N,6μm,11.2s,MS5.4							
NJ2			LR	LR			
comp=E,9μm,13.7s,MS5.4							
NJ2			LR	LR			
comp=Z,4μm,13.6s,MS4.9							
TIA	**Tai'an**	**20.73 274**	*e*P	**P**		**22 33 38.3**	**-3.2**
TIA			AMB	AMB			
comp=Z,149nm,1.3s							
TIA			LR	LR			
comp=E,5μm,14.0s							
MA2	**Magadan**	**22.38 10**	P	**P**		**22 34 00.6**	**+2.7**
comp=E,76nm,1.1s,mb5.0							
MA2	**Magadan**	**22.38 10**	*e*P	**P**		**22 34 02.6**	**+4.7**
MA2			pmax	pmax			
comp=Z,120nm,2.5s,mb4.9							
MA2			MLR	MLR			
comp=Z,800nm,17.0s,MS4.2							
CLNS	**Chul'man**	**22.56 334**	⇑*i*P	**P**		**22 33 58.9**	**-0.7**
CLNS			*e*			22 34 10.4	
CLNS			*e*PPP	PPP		22 34 19.4	-18
CLNS			*e*S	**S**		**22 37 54.8**	**-5.6**
CLNS			*e*			22 45 13.1	
CLNS			pmax	pmax			
comp=Z,107nm,0.9s,mb5.3							
CLNS			pmax	pmax			
comp=N,79nm,1.0s							
CLNS			pmax	pmax			
comp=E,21nm,1.0s							
CLNS			pmax	pmax			
comp=Z,77nm,0.7s,mb5.2							
CLNS			pmax	pmax			
comp=N,200nm,1.1s							
CLNS			pmax	pmax			
comp=E,75nm,0.8s							
CLNS			smax				
comp=N,639nm,12.5s							
CLNS			smax				
comp=Z,234nm,11.7s							
CLNS			smax				
comp=E,703nm,12.1s							
CLNS			MLR	MLR			
comp=N,800nm,15.0s,MS4.9							
CLNS			MLR	MLR			
comp=Z,2μm,15.0s,MS4.7							
CLNS			MLR	MLR			
comp=E,3μm,13.0s,MS4.9							
YHNB	**Yeheng**	**22.59 241**	P	**P**		**22 33 59.4**	**-0.9**
NACB	**Ninganchiao**	**22.77 240**	*e*P	**P**		**22 34 01.3**	**-0.7**
GUMO	**Guam**	**24.14 176**	LR	LR		22 44 04.1	
comp=E,524nm,18.2s,MS4.0,baz=51,slow=37							
QZH	**Quanzhou**	**24.39 245**	⇓*i*P	**P**		**22 34 15.5**	**-2.3**
QZH			S	**S**		**22 38 36.0**	**+3.3**
QZH			AMB	AMB			
comp=Z,140nm,1.0s,mb5.3							
QZH			LR	LR			
comp=N,2μm,11.9s,MS5.0							
QZH			LR	LR			
comp=E,2μm,13.9s,MS5.0							
QZH			LR	LR			
comp=Z,4μm,13.4s,MS5.0							
HHC	**Hu-ho-hao-te**	**24.47 287**	*e*P	**P**		**22 34 17.0**	**-1.4**
HHC			AP			22 34 28.5	
HHC			XP			22 34 34.0	
HHC			PP	PP		22 34 55.0	+0.7
HHC			S	**S**		**22 38 32.0**	**-1.8**
HHC			XS			22 38 49.3	
HHC			PCS			22 41 34.0	
HHC			AMB	AMB			
comp=Z,45nm,1.2s,mb4.8							
HHC			AMB	AMB			
comp=Z,518nm,8.3s							
HHC			LR	LR			
comp=N,2μm,14.9s,MS5.0							
HHC			LR	LR			
comp=E,4μm,14.3s,MS5.0							
HHC			LR	LR			
comp=Z,4μm,14.3s,MS5.1							
WHN	**Wuhan**	**24.74 262**	⇓P	**P**		**22 34 21.0**	**-0.1**
WHN			AP			22 34 32.0	
WHN			AMB	AMB			
comp=Z,224nm,1.0s,mb5.7							
WHN			LR	LR			
comp=N,3μm,11.6s,MS5.4							
WHN			LR	LR			
comp=E,6μm,12.3s,MS5.4							
WHN			LR	LR			
comp=Z,9μm,13.4s,MS5.5							
CIT	**Chita**	**25.06 314**	*e*P	**P**		**22 34 22.6**	**-1.3**
CIT			*e*			22 34 36.9	
CIT			pmax	pmax			
comp=Z,692nm,1.8s,mb5.9							
YAK	**Yakutsk**	**25.65 345**	*e*P	**P**		**22 34 27.9**	**-1.5**
comp=Z,125nm,0.8s,mb5.5							
YAK			*e*	pP		22 34 37.0	-0.6
YAK	**Yakutsk**	**25.65 345**	*e*P	**P**		**22 34 29.0**	**-0.4**
YAK			*e**PP	pP		22 34 37.6	-0.1
YAK			*e*			22 35 19.4	
YAK			*e*S	**S**		**22 38 58.7**	**+5.3**
YAK			pmax	pmax			
comp=N,16nm,0.9s							
YAK			pmax	pmax			
comp=Z,50nm,0.9s,mb5.0							
YAK			pmax	pmax			
comp=E,11nm,1.0s							
YAK			pmax	pmax			
comp=Z,40nm,0.9s,mb5.0							
YAK			pmax	pmax			
comp=N,29nm,1.1s							
YAK			pmax	pmax			
comp=E,23nm,1.0s							
YAK			smax				
comp=E,21nm,1.6s							
YAK			smax				
comp=Z,4.0nm,0.7s							
YAK			smax				
comp=N,10.0nm,1.2s							
YAK			MLR	MLR			
comp=Z,1μm,15.0s,MS4.6							
YAK			MLR	MLR			
comp=N,581nm,11.0s,MS4.5							
YAK			MLR	MLR			
comp=E,569nm,14.0s,MS4.5							
BTO	**Baotou**	**25.65 287**	*e*P	**P**		**22 34 28.5**	**-1.1**
BTO			S	**S**		**22 38 50.0**	**-3.7**
BTO			AMB	AMB			
comp=Z,69nm,1.3s,mb5.0							
BTO			LR	LR			
comp=N,2μm,12.3s,MS5.2							
BTO			LR	LR			
comp=E,4μm,13.2s,MS5.2							
FX1	**Attu Island--F**	**25.77 44**	P	**P**		**22 34 31.3**	**+0.7**
comp=E,29nm,0.9s,mb4.8,baz=114,slow=9.9,SNR=8.0							
FX1			LR	LR		22 43 09.9	
comp=E,17nm,19.0s,baz=258,slow=33							
FX1	**Attu Island--F**	**25.77 44**	*e*P	**P**		**22 34 31.1**	**+0.5**
SEY	**Seymchan**	**25.83 10**	*d i*P	**P**		**22 34 31.3**	**+0.3**
BOD	**Bodaibo**	**27.61 326**	*e*P	**P**		**22 34 46.7**	**-0.7**
BOD			pmax	pmax			
comp=Z,57nm,1.2s,mb5.1							
XAN	**Xi'an**	**27.78 273**	P	**P**		**22 34 48.5**	**-0.7**
XAN			AP	pP		22 34 58.0	+0.4
XAN			PP	PP		22 35 34.0	-4.5
XAN			S	**S**		**22 39 17.0**	**-12**
XAN			AMB	AMB			
comp=Z,49nm,1.4s,mb4.9							
XAN			AMB	AMB			
comp=Z,425nm,8.4s							
XAN			LR	LR			
comp=N,356nm,13.2s,MS5.0							
XAN			LR	LR			
comp=E,2μm,12.7s,MS5.0							
XAN			LR	LR			
comp=Z,3μm,12.9s,MS5.1							
ULN	**Ulaanbaatar**	**28.02 303**	*e*P	**P**		**22 34 51.6**	**+0.4**
comp=Z,95nm,1.3s,mb5.3							
ULN	**Ulaanbaatar**	**28.02 303**	*e*P	**P**		**22 34 51.6**	**+0.4**
ULN			pmax	pmax			
comp=Z,95nm,1.3s,mb5.3							
SONM	**Songino Array**	**28.45 302**	P	**P**		**22 34 55.8**	**+0.6**
comp=Z,40nm,1.0s,mb5.0,baz=106,slow=7.4,SNR=113							
SONM			LR	LR		22 46 54.3	
comp=Z,2μm,18.1s,MS4.7,baz=116,slow=38							
ENH	**Enshi**	**28.67 265**	*e*P	**P**		**22 34 56.2**	**-1.1**
comp=Z,102nm,0.9s,mb5.5							
IRK	**Irkutsk**	**30.57 311**	*e*P	**P**		**22 35 13.4**	**-0.6**
IRK			pmax	pmax			
comp=Z,67nm,2.0s,mb5.1							
ZAK	**Zakamensk**	**30.83 307**	*e*P	**P**		**22 35 15.2**	**-1.1**
ZAK			pmax	pmax			
comp=Z,23nm,1.1s,mb4.9							
LZH	**Lanzhou**	**31.21 279**	*e*P	**P**		**22 35 19.5**	**-0.3**
LZH			AP	pP		22 35 32.3	+4.1
LZH			XP	sP		22 35 35.8	+3.9
LZH			PP	PP		22 36 19.0	-4.0
LZH			AMB	AMB			
comp=Z,140nm,1.2s,mb5.7							
LZH			AMB	AMB			
comp=Z,550nm,4.0s							
LZH			LR	LR			
comp=E,5μm,12.4s							
LZH			LR	LR			
comp=Z,7μm,14.4s,MS5.5							
LZH	**Lanzhou**	**31.21 279**	*e*P	**P**		**22 35 19.4**	**-0.4**
comp=Z,140nm,1.2s,mb5.7							
LZH			pP	pP		22 35 32.2	+4.0
LZH			sP	sP		22 35 35.7	+3.8
LZH			PP	PP		22 36 19.0	-4.0
LZH			S	**S**		**22 40 28.3**	**+5.2**
LZH			sS			22 40 43.0	
LZH			SS	SS		22 42 23.0	+13
LZH			LR	LR			
comp=Z,7μm,14.4s,MS5.5							
LZH	**Lanzhou**	**31.21 279**	*e*P	**P**		**22 35 19.4**	**-0.4**
LZH			*PP	pP		22 35 32.2	+4.0
LZH						22 36 19.0	
LZH			S	**S**		**22 40 28.3**	**+5.2**
LZH			*SS			22 40 43.0	
LZH			pmax	pmax			
comp=Z,140nm,1.2s,mb5.7							
LZH			MLR	MLR			
comp=Z,7μm,14.4s,MS5.5							
MOY	**Mondy**	**32.45 309**	*e*P	**P**		**22 35 31.0**	**+0.5**
MOY			pmax	pmax			
comp=Z,74nm,2.4s,mb5.1							
GYA	**Guiyang**	**32.61 260**	⇑*i*P	**P**		**22 35 31.0**	**-1.1**
GYA			AP	pP		22 35 40.3	-0.3
GYA			XP	sP		22 35 44.5	+0.3
GYA			PP	PP		22 36 40.8	-0.5
GYA			S	**S**		**22 40 45.5**	**+0.5**
GYA			SCP			22 41 54.3	
GYA			SCS	ScS		22 45 53.0	-3.9
GYA			AMB	AMB			
comp=Z,60nm,1.2s,mb5.4							
GYA			AMB	AMB			
comp=Z,120nm,3.6s							
GYA			LR	LR			
comp=N,2μm,12.0s,MS5.1							
GYA			LR	LR			
comp=E,2μm,15.0s,MS5.1							
GYA			LR	LR			
comp=Z,2μm,13.2s,MS5.1							
CD2	**Chengdu**	**32.95 270**	⇑*i*P	**P**		**22 35 34.0**	**-1.1**
CD2			AP	pP		22 35 46.0	+2.5
CD2			PP	PP		22 36 41.8	-3.9
CD2			PPP	PPP		22 36 57.3	-4.4
CD2			S	**S**		**22 40 46.3**	**-4.0**
CD2			SS	SS		22 42 37.8	-13
CD2			AMB	AMB			
comp=Z,20nm,0.9s,mb5.0							
CD2			AMB	AMB			
comp=Z,200nm,8.4s							
CD2			LR	LR			
comp=N,1μm,12.6s							
CD2			LR	LR			
comp=Z,910nm,12.0s,MS4.7							
BILL	**Bilibino**	**32.96 16**	P	**P**		**22 35 32.5**	**-2.3**
comp=Z,11nm,0.8s,mb4.8							
BILL	**Bilibino**	**32.96 16**	⇓*i*P	**P**		**22 35 41.3**	**+6.6**
BILL			pmax	pmax			
comp=Z,27nm,1.7s,mb4.9							
BILL			MLR	MLR			
comp=Z,500nm,14.0s,MS4.4							
GTA	**Gaotai**	**33.58 286**	⇑*i*P	**P**		**22 35 41.0**	**+0.6**
GTA			AP	pP		22 35 50.0	+1.1
GTA			XP	sP		22 35 54.0	+1.5
GTA			PP	PP		22 36 54.3	+1.1
GTA			PPP	PPP		22 37 11.8	+1.5
GTA			PCP	PcP		22 38 21.0	+0.4
GTA			S	**S**		**22 41 00.0**	**+0.2**
GTA			XS			22 41 16.5	
GTA			SCP			22 42 00.5	
GTA			PCS			22 42 05.3	
GTA			SCS	ScS		22 46 04.8	+3.1
GTA			AMB	AMB			
comp=Z,81nm,1.2s,mb5.5							
GTA			AMB	AMB			
comp=Z,441nm,8.4s							
GTA			LR	LR			
comp=N,1μm,13.4s,MS5.1							
GTA			LR	LR			
comp=E,2μm,16.8s,MS5.1							
GTA			LR	LR			
comp=Z,3μm,18.3s,MS5.0							
QIZ	**Qiongzhong**	**34.40 246**	⇓P	**P**		**22 35 48.8**	**+1.1**
QIZ			AMB	AMB			
comp=Z,17nm,1.5s,mb4.8							
QIZ			AMB	AMB			
comp=Z,222nm,9.7s							
QIZ			LR	LR			
comp=N,2μm,13.2s,MS5.0							
QIZ			LR	LR			
comp=E,1μm,13.2s,MS5.0							
QIZ			LR	LR			
comp=Z,2μm,13.7s,MS5.1							
QIZ	**Qiongzhong**	**34.40 246**	P	**P**		**22 35 46.1**	**-1.6**
comp=Z,28nm,1.2s,mb5.1							
TIXI	**Tiksi**	**34.72 352**	*e*P	**P**		**22 35 47.3**	**-2.6**
TIXI			*e*S	**S**		**22 41 11.8**	**-5.4**
TIXI			pmax	pmax			
comp=Z,14nm,1.0s,mb4.8							
TIXI			MLR	MLR			
comp=Z,937nm,15.0s,MS4.7							
KMI	**Kunming**	**36.34 262**	⇑P	**P**		**22 36 03.8**	**-0.4**
KMI			AP	pP		22 36 09.0	-3.6
KMI			PP	PP		22 37 26.5	-1.3
KMI			PCP	PcP		22 38 26.3	-2.5
KMI			S	**S**		**22 41 44.5**	**+1.8**
KMI			XS			22 41 53.0	
KMI			PCS			22 42 16.3	
KMI			AMB	AMB			
comp=Z,52nm,1.2s,mb5.3							
KMI			AMB	AMB			
comp=Z,266nm,3.8s							
KMI			LR	LR			
comp=N,2μm,14.9s,MS5.1							
KMI			LR	LR			
comp=E,2μm,15.5s,MS5.1							
KMI			LR	LR			
comp=Z,3μm,15.0s,MS5.1							
KMI	**Kunming**	**36.34 262**	⇑P	**P**		**22 36 03.7**	**-0.5**
comp=Z,52nm,1.2s,mb5.3							
KMI			pP	pP		22 36 08.9	-3.7
KMI			sP	sP		22 36 10.7	-5.6
KMI			PP	PP		22 37 26.4	-1.4
KMI			PcP	PcP		22 38 26.2	-2.6
KMI			S	**S**		**22 41 44.4**	**+1.7**
KMI			sS			22 41 53.0	
KMI			PcS			22 42 16.2	
KMI			SS	SS		22 44 14.3	+6.2
KMI			LR	LR			
comp=Z,3μm,15.0s,MS5.1							
KMI	**Kunming**	**36.34 262**	⇑P	**P**		**22 36 03.7**	**-0.5**
KMI			*SP	sP		22 36 10.7	-5.6
KMI						22 37 26.4	
KMI						22 38 26.2	
KMI			S	**S**		**22 41 44.4**	**+1.7**
KMI			SS	SS		22 44 14.3	+6.2
KMI			pmax	pmax			
comp=Z,52nm,1.2s,mb5.3							
KMI			MLR	MLR			
comp=Z,3μm,15.0s,MS5.1							
KKTK	**Khon Kaen**	**41.27 250**	P	**P**		**22 36 46.0**	**+0.7**
NANT	**Nan**	**41.38 255**	⇑P	**P**		**22 36 47.0**	**+0.9**
comp=Z,100nm,1.0s,mb5.4							
WMQ	**Urumqi**	**41.65 296**	P	**P**		**22 36 48.0**	**-0.1**
WMQ			AP	pP		22 37 02.0	+5.3
WMQ			XP	sP		22 37 06.0	+5.8
WMQ			PP	PP		22 38 28.0	+0.5
WMQ			SCP			22 42 30.0	
WMQ			S	**S**		**22 43 02.0**	**-0.6**
WMQ			XS			22 43 22.0	
WMQ			SS	SS		22 46 02.0	-1.3
WMQ			AMB	AMB			
comp=Z,48nm,1.0s,mb5.1							
WMQ			AMB	AMB			
comp=Z,242nm,5.0s							
WMQ			LR	LR			
comp=N,564nm,14.0s,MS4.7							
WMQ			LR	LR			
comp=E,554nm,14.0s,MS4.7							
WMQ			LR	LR			
comp=Z,605nm,14.0s,MS4.6							
ZAL	**Zalesovo**	**42.38 312**	P	**P**		**22 36 54.1**	**+0.2**
comp=Z,16nm,1.0s,mb4.6,baz=24,slow=7.7,SNR=75							
ZAL			LR	LR		22 53 30.3	
comp=Z,404nm,20.4s,MS4.3,baz=26,slow=35							
CHG	**Chiang Mai**	**42.72 256**	⇑P	**P**		**22 36 57.4**	**+0.3**
comp=Z,36nm,1.2s,mb5.0							
NVS	**Novosibirsk**	**43.26 313**	⇑*i*P	**P**		**22 37 00.7**	**-0.4**
NVS			*e*S	**S**		**22 43 19.6**	**-6.4**
NVS			pmax	pmax			
comp=Z,42nm,1.0s,mb5.1							
NVS			pmax	pmax			
comp=E,49nm,1.1s							
NVS			smax				
comp=E,22nm,1.9s							
LSA	**Lhasa**	**43.42 275**	P	**P**		**22 37 03.5**	**+0.8**
LSA			AP	pP		22 37 15.8	+4.5
LSA			AMB	AMB			
comp=Z,300nm,9.3s							
LSA			LR	LR			
comp=N,490nm,16.3s,MS4.9							
LSA			LR	LR			
comp=E,970nm,13.8s,MS4.9							
LSA			LR	LR			
comp=Z,1μm,13.3s,MS5.0							
LSA	**Lhasa**	**43.42 275**	*e*P	**P**		**22 37 04.0**	**+1.3**
comp=Z,27nm,0.9s,mb5.0							
LSA	**Lhasa**	**43.42 275**	*e*P	**P**		**22 37 04.0**	**+1.3**
LSA			pmax	pmax			
comp=Z,27nm,0.9s,mb5.0							
SHL	**Shillong**	**44.70 270**	*e*P	**P**		**22 37 12.6**	**-0.6**
SHL			AMb	AMB		22 37 32.8	
comp=Z,317nm,1.3s,mb6.0							

MKAR Makanchi Array 44.81 302 P **P** **22 37 13.8 +0.1**
comp=Z,47nm,0.9s,mb5.3,baz=82,slow=8.6,SNR=56
MKAR Makanchi Array 44.81 302 *i* P **P** **22 37 13.4 -0.4**
MKAR pmax pmax
comp=Z,87nm,0.9s
KDAK Kodiak Island 45.69 42 *e*P **P** **22 37 20.4 -0.2**
comp=Z,60nm,1.5s,mb5.3
SPU Mount Spurr 45.87 38 *e*P **P** **22 37 21.6 -0.2**
KURK Kurchatov 46.49 308 *e*P **P** **22 37 26.6 -0.4**
comp=Z,136nm,0.9s,mb5.9
KURK *e* pP 22 37 33.8 -1.8
KURK Kurchatov 46.49 308 *e*P **P** **22 37 26.6 -0.4**
KURK *e* pP 22 37 33.8 -1.8
KURK pmax pmax
comp=Z,136nm,0.9s,mb5.9
KSM Kuching 46.99 228 *e*P **P** **22 37 32.0 +0.5**
PMG Port Moresby 47.09 174 *i* P **P** **22 37 29.4 -2.9**
PMR Palmer 47.26 37 P **P** **22 37 33.4 +0.4**
comp=Z,25nm,1.5s,mb4.9
PMR Palmer 47.26 37 P **P** **22 37 33.4 +0.4**
PMR pmax pmax
comp=Z,25nm,1.5s,mb4.9
MCK McKinley 47.30 34 *e*P **P** **22 37 32.9 -0.4**
comp=Z,6.6nm,1.2s,mb4.4
MCK McKinley 47.30 34 *e*P **P** **22 37 32.9 -0.3**
MCK pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
ILAR Eielson Array 48.18 33 P **P** **22 37 39.0 -1.1**
comp=Z,2.5nm,0.8s,mb4.3,baz=263,slow=6.9,SNR=15
PKI Pulchoki 48.88 276 *e*P **P** **22 37 46.0 0.0**
comp=Z,143nm,1.2s,mb5.9
PKI Pulchoki 48.88 276 *e*P **P** **22 37 46.0 0.0**
PKI pmax pmax
comp=Z,72nm,1.2s,mb5.6
KKN Kakani 48.88 276 *e*P **P** **22 37 46.3 +0.3**
comp=Z,252nm,1.0s,mb6.2
KKN Kakani 48.88 276 *e*P **P** **22 37 46.3 +0.3**
KKN pmax pmax
comp=Z,126nm,1.0s,mb5.9
DIV Divide 48.91 38 *e*P **P** **22 37 45.5 -0.2**
comp=Z,66nm,1.1s,mb5.6
SNG Songkhla 48.98 242 P **P** **22 37 47.0 0.0**
CAL Calcutta 49.01 268 *ex* x 22 40 23.4
DMN Daman 49.10 276 *e*P **P** **22 37 48.1 +0.4**
comp=Z,168nm,1.4s,mb5.9
GKN Gorkha 49.29 277 *e*P **P** **22 37 49.4 +0.2**
comp=Z,465nm,1.1s
KOLN Koldanda 50.22 277 *e*P **P** **22 37 56.4 +0.1**
comp=Z,229nm,1.2s,mb6.1
TKM2 Tokmak 2 50.41 298 P **P** **22 37 58.4 +0.9**
SNR=54
KBK Karagaybulak 50.94 298 P **P** **22 38 02.1 +0.6**
SNR=30
CHMS Chumysh 50.97 299 P **P** **22 38 01.8 0.0**
SNR=11
BVA0 Borovoye Array 51.02 312 P **P** **22 38 01.4 -0.6**
BVA0 pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
BVAR Borovoye Array 51.02 312 P **P** **22 38 01.4 -0.6**
comp=Z,27nm,0.9s,mb5.2,baz=79,slow=7.6,SNR=93
USP Ospenovka 51.06 299 P **P** **22 38 02.4 -0.1**
SNR=33
BRVK Borovoye 51.08 312 *e*P **P** **22 38 01.8 -0.6**
comp=Z,35nm,1.0s,mb5.2
BRVK *e* pP 22 38 09.2 -1.9
BRVK Borovoye 51.08 312 *e*P **P** **22 38 01.8 -0.6**
BRVK *e* pP 22 38 09.2 -2.0
BRVK pmax pmax
comp=Z,35nm,1.0s,mb5.2
FRU Bishkek 51.12 299 *e*P **P** **22 38 02.6 -0.3**
FRU *e* 22 40 01.0
FRU pmax pmax
comp=Z,130nm,1.8s,mb5.6
KAKA Kakadu 51.19 193 *e*P **P** **22 38 19.4 +16**
comp=Z,24nm,1.0s,mb5.1
AAK Ala-Archa 51.27 298 P **P** **22 38 04.3 +0.3**
SNR=7.4
AAK Ala-Archa 51.27 298 *e*P **P** **22 38 02.7 -1.3**
comp=Z,39nm,1.0s,mb5.3
AAK Ala-Archa 51.27 298*c* *i*P **P** **22 38 02.9 -1.1**
AAK pmax pmax
comp=Z,42nm,1.1s,mb5.3
AAK MLR MLR
comp=Z,1μm,17.0s,MS4.9
KSH Kashi 51.27 294⇑ *i*P **P** **22 38 04.0 -0.1**
KSH *e*AP pP 22 38 16.3 +3.5
KSH *e*XP sP 22 38 21.3 +5.1
KSH *e*PCP PcP 22 39 20.0 +0.9
KSH *e*PP PP 22 40 01.3 -0.5
KSH *e*PPP PPP 22 41 02.3 -0.5
KSH *e*SCP 22 43 10.0
KSH *e*PCS 22 43 15.0
KSH S **S** **22 45 17.0 -2.6**
KSH PS PS 22 45 33.0 +0.8
KSH XS 22 45 38.5
KSH *e*SCS ScS 22 47 47.0 -2.3
KSH SS SS 22 48 51.3 -1.8
KSH AMB AMB
comp=Z,190nm,2.3s,mb5.6
KSH LR LR
comp=N,2μm,14.5s,MS5.4
KSH LR LR
comp=E,2μm,14.1s,MS5.4
EKS2 Erkin-Say 51.76 299 P **P** **22 38 07.8 +0.1**
SNR=18
AML Almayashu 51.99 298 P **P** **22 38 10.2 +0.7**
SNR=9.5
INK Inuvik 53.14 27 P **P** **22 38 16.4 -1.4**
comp=E,1.5nm,0.5s,mb4.2,baz=283,slow=7.3,SNR=4.3
INK Inuvik 53.14 27 *e*P **P** **22 38 12.3 -5.4**
comp=E,4.7nm,0.9s,mb4.4
INK Inuvik 53.14 27 *e*P **P** **22 38 12.3 -5.5**
INK pmax pmax
comp=Z,5.0nm,0.9s
KKAR Karatay Array 53.86 300 *i* P **P** **22 38 22.9 -0.4**
BLSP Bilaspur 54.13 272 *e*P **P** **22 38 24.3 -1.3**
NDI New Delhi 54.79 281 *e*P **P** **22 38 29.4 -1.0**
NDI AMb AMB 22 38 31.0
comp=Z,111nm,0.8s,mb5.9
SOKR Solikamsk 56.52 322⇓ *i*P **P** **22 38 42.4 -0.1**
SOKR S **S** **22 46 34.5 +4.3**
SOKR pmax pmax
comp=Z,20nm,0.8s,mb5.2
SOKR MLR MLR
comp=Z,820nm,17.0s,MS4.9
ARU Arti 56.65 319⇑ *i*P **P** **22 38 42.7 -0.7**
ARU *e* 22 39 42.8
ARU *e* 22 40 44.8
ARU *e*S **S** **22 46 26.1 -5.9**
ARU *e* 22 48 23.4
ARU pmax pmax
comp=Z,36nm,0.9s,mb5.4
ARU MLR MLR
comp=Z,2μm,17.0s,MS5.3
ARU MLR MLR
comp=N,500nm,15.0s,MS5.2
ARU MLR MLR
comp=E,2μm,16.0s,MS5.2
NGP Nagpur 57.09 272 *e*P **P** **22 38 42.9 -4.1**
NGP AMb AMB 22 38 47.6
comp=Z,67nm,0.6s,mb5.9
DLBC Dease Lake 57.25 39 P **P** **22 38 47.1 -0.5**
comp=Z,0.9nm,0.3s,mb4.3,baz=164,slow=26,SNR=3.6
DLBC Dease Lake 57.25 39 P **P** **22 38 46.9 -0.8**
BHPL Bhopal 57.29 275 *e*P **P** **22 38 46.1 -2.3**
BHPL AMb AMB 22 38 49.1
comp=Z,63nm,1.8s,mb5.3
CTAO Charters Tower 57.63 176 P **P** **22 38 47.6 -3.2**
comp=Z,24nm,1.3s,mb5.1
CTAO Charters Tower 57.63 176 P **P** **22 38 47.6 -3.3**
CTAO pmax pmax
comp=Z,24nm,1.3s,mb5.1
AJM Ajmer 57.85 280 *i* P **P** **22 38 50.0 -2.3**
FITZ Fitzroy Crossi 57.94 200 *e*P **P** **22 38 52.3 -0.7**
comp=Z,23nm,1.8s,mb4.9
FITZ Fitzroy Crossi 57.94 200 P **P** **22 38 51.7 -1.3**
comp=Z,11nm,0.8s,mb4.9,baz=9.2,slow=15,SNR=5.3
WRAB Tennant Creek 57.98 190 *e*P **P** **22 38 51.1 -2.1**
comp=Z,60nm,1.1s,mb5.5
WRAB Tennant Creek 57.98 190 *e*P **P** **22 38 51.2 -2.1**
WRAB pmax pmax
comp=Z,60nm,1.1s,mb5.5
WRA Warramunga Arr 57.99 190 P **P** **22 38 50.9 -2.5**
comp=Z,11nm,0.8s,mb4.9,baz=9.6,slow=7.3,SNR=50
AB31 Akbulak array 58.44 310 P **P** **22 38 55.1 -1.0**
AB31 pmax pmax
comp=Z,22nm,0.8s,mb5.2
AKL Akola 58.93 273 *ex* x 22 40 56.6
AKTO Aktyubinsk 59.13 312 P **P** **22 38 59.6 -1.3**
AKTO pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
HYB Hyderabad 59.50 269 *i* P **P** **22 39 03.5 -0.4**
HYB Hyderabad 59.50 269 *e*P **P** **22 39 03.5 -0.4**
RES Resolute Bay 61.56 15 *e*P **P** **22 39 14.3 -2.9**
comp=Z,13nm,1.0s,mb5.0
RES *e* pP 22 39 24.7 -1.4
RES Resolute Bay 61.56 15 *e*P **P** **22 39 14.3 -2.9**
RES *e* pP 22 39 24.7 -1.4
RES pmax pmax
comp=Z,13nm,1.0s,mb5.0
YKA Yellowknife Ar 62.52 31 P **P** **22 39 20.7 -3.1**
comp=Z,1.2nm,0.7s,mb4.1,baz=297,slow=6.3,SNR=3.6
YKA LR LR 23 11 43.7
comp=Z,207nm,18.9s,MS4.3,baz=295,slow=41
YKA Yellowknife Ar 62.52 31 P **P** **22 39 20.7 -3.1**
YKA LR LR 23 11 43.7
APA Apatity 62.54 336⇑ *i*P **P** **22 39 23.0 -0.8**
APA *i* pP 22 39 31.6 -1.1
APA pmax pmax
comp=Z,43nm,1.3s,mb5.4
APA MLR MLR
comp=Z,1μm,14.0s,MS5.2
MBWA Marble Bar 62.58 205 P **P** **22 39 22.9 -1.9**
comp=Z,15nm,1.0s,mb5.1
POO Poona 62.61 273 *e*P **P** **22 39 24.1 -0.9**
POO AMb AMB 22 39 26.4
comp=Z,75nm,1.4s,mb5.6
KAD Karad 63.02 272 *e*P **P** **22 39 27.2 -0.5**
KAD AMb AMB 22 39 39.4
comp=Z,60nm,1.4s,mb5.5
KEV Kevo 63.20 339 *ep* **P** **22 39 25.7 -2.4**
comp=Z,23nm,1.0s,mb5.3
KEV Kevo 63.20 339 *e*P **P** **22 39 25.7 -2.4**
KEV pmax pmax
comp=Z,23nm,1.0s,mb5.3
BOM Bombay 63.23 274 *e*P **P** **22 39 31.6 +2.5**
ARCES ARCESS Array B 63.75 340 P **P** **22 39 31.1 -0.6**
comp=Z,6.7nm,0.9s,mb4.7,baz=45,slow=8.6,SNR=9.4
ARCES LR LR 23 14 46.2
comp=Z,512nm,19.0s,MS4.7,baz=53,slow=43
ARE0 ARCESS Array S 63.75 340 *e*P **P** **22 39 30.9 -0.8**
ARE0 *e* pP 22 39 39.4 -1.2
MNGI Mangalore 65.00 267 *ex* x 22 39 48.5
DAG Danmarks Havn 65.14 355⇑ *i*P **P** **22 39 39.6 -1.0**
comp=Z,7.0nm,1.0s,mb4.7
DAG Danmarks Havn 65.14 355⇑ *i*P **P** **22 39 39.6 -1.0**
DAG pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
JOF Joensuu 65.91 332 *ep* **P** **22 39 43.2 -2.5**
comp=Z,17nm,0.9s,mb5.1
MOS Moscow 67.41 324 *e*P **P** **22 39 53.9 -1.5**
MOS *e* 22 40 24.7
MOS *e* 22 48 50.0
MOS pmax pmax
comp=Z,100nm,1.5s,mb5.6
MOS pmax pmax
comp=Z,88nm,1.3s,mb5.6
MOS MLR MLR
comp=Z,1μm,14.7s,MS5.3
MOS MLR MLR
comp=N,800nm,14.3s,MS5.1
MOS MLR MLR
comp=E,300nm,13.5s,MS5.1
EDM Edmonton 67.97 39 *e*P **P** **22 39 58.1 -0.8**
VRHR Novokhopersk 68.00 318 *e*P **P** **22 39 57.4 -1.7**
VRHR *e**PP pP 22 40 04.8 -3.2
VRHR pmax pmax
comp=Z,30nm,0.8s,mb5.4
VRHR pmax pmax
comp=N,20nm,1.0s
VRHR pmax pmax
comp=E,50nm,1.7s
VRHR MLR MLR
comp=Z,2μm,15.0s,MS5.5
VRHR MLR MLR
comp=N,940nm,17.0s,MS5.4
VRHR MLR MLR
comp=E,2μm,16.0s,MS5.4
KAF Kangasniemi 68.23 333 *ep* **P** **22 39 58.5 -1.9**
comp=E,15nm,1.0s,mb5.0,baz=46,slow=6.0
KAF Kangasniemi 68.23 333 *e*P **P** **22 39 58.5 -1.9**
KAF pmax pmax
comp=Z,15nm,1.0s,mb5.0
OBN Obninsk 68.27 324 *e*P **P** **22 39 60.0 -0.8**
comp=Z,60nm,1.0s,mb5.6
OBN *e* pP 22 40 08.3 -1.4
OBN Obninsk 68.27 324α *i*P **P** **22 40 00.1 -0.6**
OBN *i* pP 22 40 08.5 -1.1
OBN *e* 22 42 32.9
OBN *e* 22 49 56.6
OBN pmax pmax
comp=Z,72nm,1.2s,mb5.6
OBN MLR MLR
comp=Z,1μm,15.0s,MS5.2
NEW Newport 68.70 45 P **P** **22 40 02.6 -1.0**
comp=Z,1.3nm,0.4s,mb4.2,baz=61,slow=5.7,SNR=2.4
FINES FINESS Array B 68.75 333 P **P** **22 40 03.2 -0.5**
comp=Z,12nm,0.8s,mb4.8,baz=72,slow=6.0,SNR=30
FINES FINESS Array B 68.75 333 P **P** **22 40 03.2 -0.5**
YBH Yreka Blue Hor 68.88 53 P **P** **22 40 03.6 -1.1**
comp=Z,0.6nm,0.3s,baz=265,slow=8.9,SNR=3.6
VRSR Storozhevoye 69.20 319 *e*P **P** **22 40 06.0 -0.6**
VRSR pmax pmax
comp=Z,40nm,0.8s,mb5.4
VRSR pmax pmax
comp=N,40nm,0.9s
VRSR pmax pmax
comp=E,30nm,1.0s
STKA Stephens Creek 69.31 181 *e*P **P** **22 40 06.5 -1.1**
comp=E,2.8nm,0.9s,mb4.2
STKA Stephens Creek 69.31 181 P **P** **22 40 06.3 -1.3**
comp=E,2.4nm,0.7s,mb4.2,baz=359,slow=9.5,SNR=4.4
SUMG Summit 69.94 0 *e*P **P** **22 40 10.6 -0.2**
comp=E,18nm,0.9s,mb5.0
SUMG *e* pP 22 40 18.3 -1.4
WALA Waterton Lakes 70.02 43 P **P** **22 40 10.7 -0.9**
comp=E,8.4nm,1.4s,mb4.5
VSU Vasula 70.46 330*c* *i*P **P** **22 40 13.7 -0.4**
BMO Blue Mountains 70.48 48 *e*P **P** **22 40 14.5 0.0**
comp=E,5.2nm,1.1s,mb4.4
BMO Blue Mountains 70.48 48 *e*P **P** **22 40 14.5 0.0**
BMO pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
GOF Gofitskoye 70.56 312⇓ *i*P **P** **22 40 14.9 0.0**
GOF *e*S S 22 49 26.0 +0.8
GOF pmax pmax
comp=Z,122nm,1.3s,mb5.7
WVOR Wild Horse Val 71.03 51 *e*P **P** **22 40 17.3 -0.6**
comp=Z,16nm,1.3s,mb4.8
WVOR Wild Horse Val 71.03 51 *e*P **P** **22 40 17.3 -0.6**
WVOR pmax pmax
comp=Z,16nm,1.3s,mb4.8
DGRG David-gareji 71.16 308 P PcP 22 40 30.2 -8.5
ZEI Tsey 71.33 310 *e*P **P** **22 40 10.5 -9.2**
ZEI *i* *PP pP 22 40 26.6 -2.0
ZEI pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
TBLG Delisi 71.39 309 P **P** **22 40 21.0 +0.9**
TBLG Delisi 71.39 309 P PcP 22 40 38.6 -1.1
GOR Gori 71.64 309 P **P** **22 40 22.2 +0.7**
ONI Oni 71.71 310 P **P** **22 40 22.6 +0.7**
GNI Garni 72.28 307 P **P** **22 40 25.0 -0.4**
comp=Z,5.7nm,0.8s,mb4.5,baz=331,slow=7.4,SNR=4.2
GNI Garni 72.28 307 *e*P **P** **22 40 23.4 -2.0**
comp=Z,43nm,1.1s,mb5.3
GNI Garni 72.28 307*d* *i*P **P** **22 40 27.0 +1.6**
GNI pmax pmax
comp=Z,28nm,1.3s
GNI MLR MLR
comp=Z,800nm,18.0s
CMB Columbia Colle 72.39 55 *e*P **P** **22 40 25.1 -1.0**
comp=Z,9.8nm,1.1s,mb4.7
CMB Columbia Colle 72.39 55 *e*P **P** **22 40 25.1 -1.0**
CMB pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
BOZ Bozeman (W) 73.28 45 P **P** **22 40 29.9 -1.3**
comp=Z,6.7nm,1.2s,mb4.5
BOZ Bozeman (W) 73.28 45 P **P** **22 40 29.9 -1.2**
BOZ pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
SOC Sochi 73.35 312*c* *i*P **P** **22 40 31.4 -0.2**
SOC *e* 22 40 48.9
SOC *e* 22 43 10.5
SOC *e*PPP PPP 22 44 52.8 -7.9
SOC *i*S S 22 49 53.3 -3.9
SOC *e* 22 50 32.7
SOC *e*SS SS 22 54 33.5 -8.4
SOC *e*SSS SSS 22 57 46.4 -6.2
SOC pmax pmax
comp=Z,45nm,0.9s,mb5.4
SOC pmax pmax
comp=N,4.0nm,1.0s
SOC pmax pmax
comp=E,9.0nm,0.7s
SOC MLR MLR
comp=Z,796nm,16.0s,MS5.1
SOC MLR MLR
comp=N,223nm,14.0s,MS5.0
SOC MLR MLR
comp=E,558nm,16.0s,MS5.0
CLDR Caldiran 73.38 307 P **P** **22 40 31.8 0.0**
ARTV Artvin 73.44 309 *i* P **P** **22 40 31.7 -0.5**
BCA Borcka 73.47 310 P **P** **22 40 32.4 +0.1**
NVAR Mina Array Bea 73.52 54 P **P** **22 40 32.1 -0.6**
comp=E,3.3nm,0.8s,mb4.3,baz=286,slow=6.6,SNR=16
QLMT Earthquake Lak 73.89 46 *e*P **P** **22 40 36.2 +1.5**
ANN Anapa 73.93 314 *e*P **P** **22 40 33.8 -1.1**
ANN *e* 22 40 53.1
ANN *e* 22 43 21.2
ANN *e*PPP PPP 22 45 00.4 -6.1
ANN *e*SS SS 22 54 46.0 -4.6
ANN *e*SSS SSS 22 58 04.2 +1.7
ANN pmax pmax
comp=Z,76nm,1.2s,mb5.5
NB2 NORSAR Subarra 73.99 338 P **P** **22 40 34.5 -0.4**
comp=Z,21nm,1.1s,mb5.0,baz=40,slow=5.8
NB2 NORSAR Subarra 73.99 338 P **P** **22 40 34.5 -0.4**
baz=40,slow=6.2
NB2 NORSAR Subarra 73.99 338 P **P** **22 40 34.5 -0.4**
NB2 pmax pmax
comp=Z,21nm,1.1s,mb5.0
NOA NORSAR Array B 73.99 338 P **P** **22 40 34.5 -0.4**
comp=Z,11nm,0.9s,mb4.8,baz=38,slow=5.8,SNR=20
NOA LR LR 23 17 50.9
comp=Z,788nm,18.7s,MS5.0,baz=30,slow=40
VANB Van 74.04 307 *e*P PcP 22 40 52.7 +1.6
NAO01 NORSAR Array S 74.25 338 *e*P **P** **22 40 34.6 -1.8**
comp=Z,13nm,0.9s,mb4.9
NAO01 *e* pP 22 40 44.3 -1.0
HAKT HAKKARI 74.44 306 *i* P **P** **22 40 37.1 -0.9**
AKASG Malin Array Be 74.49 323 P **P** **22 40 37.2 -0.8**
comp=Z,16nm,1.0s,mb4.9,baz=43,slow=6.0,SNR=64
AKASG PP PP 22 43 20.6 -5.8
comp=Z,0.6nm,0.5s,baz=46,slow=7.2,SNR=3.3
ERZM Erzurum 74.54 309 *i* P **P** **22 40 38.1 -0.4**
EZM Erzurum 74.54 309 P **P** **22 40 39.6 +1.1**
IMW Indian Meadow 74.74 46 *e*P **P** **22 40 40.8 +1.2**
comp=Z,13nm,1.2s,mb4.7
FLWY Flagg Ranch 74.76 46 *e*P **P** **22 40 39.1 -0.6**
RRI2 Red Ridge 74.86 47 *e*P **P** **22 40 42.3 +2.0**
comp=Z,20nm,1.2s,mb4.9
SUW Suwalki 74.95 328 *e*P **P** **22 40 40.4 -0.2**
SUW Suwalki 74.95 328 *e*P **P** **22 40 40.4 -0.2**
SFJD Kangerlussuaq 75.03 6 *i* P **P** **22 40 38.8 -2.0**
comp=Z,16nm,0.9s,mb4.9
SFJD *i* S S 22 50 20.9 +5.4
comp=Z,340nm,17.0s
SFJD Kangerlussuaq 75.03 6 *e*P **P** **22 40 38.8 -2.0**
comp=Z,16nm,0.9s,mb4.9
SFJD *i* S S 22 50 20.9 +5.4
SFJD LR LR
comp=Z,350nm,17.0s,MS4.7
SFJD Kangerlussuaq 75.03 6 *e*P **P** **22 40 38.8 -2.0**
SFJD *i* S S 22 50 20.9 +5.4
SFJD pmax pmax
comp=Z,16nm,0.9s,mb5.0
SFJD MLR MLR
comp=Z,350nm,17.0s,MS4.7
LOHW Long Hollow 75.11 46 *e*P **P** **22 40 42.9 +1.1**
comp=Z,6.4nm,1.1s,mb4.5
SIRT Sirnak 75.28 306 P **P** **22 40 42.0 -0.9**
GUMT Gumushane 75.36 310 P **P** **22 40 44.3 +1.0**
BTMT Batman 75.48 307 *e*P **P** **22 40 43.9 0.0**
KELT Kelkit 75.69 310 *i* P **P** **22 40 45.4 +0.3**
SIM Simferopol' 75.69 316⇓ *i*P **P** **22 40 44.8 -0.2**
SIM pmax pmax
comp=Z,33nm,0.9s,mb5.3
HWUT Hardware Ranch 75.78 48 *e*P **P** **22 40 45.4 -0.2**
comp=Z,15nm,1.3s,mb4.8
GRSN GIRESUNGRSN 75.81 311 *i* P **P** **22 40 43.1 -2.7**
DUG Dugway 75.90 50 *e*P **P** **22 40 45.6 -0.7**
comp=Z,15nm,1.4s,mb4.7
DUG Dugway 75.90 50 *e*P **P** **22 40 45.7 -0.6**
DUG pmax pmax
comp=Z,15nm,1.4s,mb4.7
PDAR Pinedale Array 76.23 46 P **P** **22 40 47.9 -0.2**
comp=Z,0.9nm,0.4s,mb4.1,baz=304,slow=5.3,SNR=7.1
PTK Pertek 76.37 309 *e*P **P** **22 40 49.8 +0.8**
MARD Mardin 76.45 307 *i* P **P** **22 40 49.0 -0.5**
DAU Daniels Canyon 76.70 49 *e*P **P** **22 40 50.5 -0.3**
ELZG Elazig 76.86 309 *i* P **P** **22 40 52.0 +0.2**
SVSK Karacayir 77.19 311 *e*P **P** **22 40 55.2 +1.6**
MYA Malataya 77.31 309 *e*P **P** **22 40 57.2 +3.0**
MALT Malatya 77.32 309 *e*P **P** **22 40 55.6 +1.3**
MALT *e* pP 22 41 04.4 +1.1
MSU Marysvale 77.32 51 *e*P **P** **22 40 55.5 +1.3**
NEN Nelson 77.39 55 *e*P **P** **22 40 55.2 +0.5**
BOYT Boyabat 77.48 313 *i* P **P** **22 40 55.1 0.0**
HASS Wahat al Ahsa' 77.50 292 P **P** **22 40 54.6 -0.9**
LVV L'vov 77.53 325 *e*P **P** **22 40 54.0 -1.2**
LVV *i* pP 22 41 04.8 +0.6
LVV *e* 22 43 45.8
LVV *e*S S 22 50 35.4 -7.7
LVV *e* 22 51 12.8
LVV MLR MLR
comp=Z,990nm,15.0s,MS5.3
LVV MLR MLR
comp=N,630nm,14.0s,MS5.3
LVV MLR MLR
comp=E,860nm,15.0s,MS5.3
URFA Urfa 77.61 308 *e*P **P** **22 40 45.2 -11**
IAS Iasi 77.65 321 P **P** **22 40 56.7 +0.8**
GKP Gorka Klasztor 77.91 330 *e*P **P** **22 41 06.3 +9.1**
GKP Gorka Klasztor 77.91 330 *e*P **P** **22 41 06.3 +9.1**
SRU San Rafael 77.96 50 *e*P **P** **22 40 58.2 +0.5**
CTKT Corum 78.06 312 *i* P **P** **22 40 58.1 -0.2**
KWP Kalwaria 78.27 325 *e*P **P** **22 41 00.2 +1.0**
KWP Kalwaria 78.27 325 *e*P **P** **22 41 00.2 +1.0**
BALT Daday 78.29 314 *i* P **P** **22 40 59.7 +0.2**
RSSD Black Hills 78.42 43 *e*P **P** **22 41 00.2 0.0**
comp=E,5.8nm,1.1s,mb4.4
RSSD Black Hills 78.42 43 *e*P **P** **22 41 00.2 0.0**
RSSD pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
GZT Gaziantep 78.45 308 *i* P **P** **22 41 00.4 -0.1**
BURAR Bucovina Array 78.52 322⇓ *i*P **P** **22 41 01.5 +0.9**
BURAR Bucovina Array 78.52 322⇓ *i*P **P** **22 41 01.6 +0.9**
KAHT Ahir Dag 78.70 309 *i* P **P** **22 41 03.4 +1.5**
CFR Carcaliu 78.73 319⇓ *i*P **P** **22 41 01.0 -0.9**
CFR Carcaliu 78.73 319⇓ *i*P **P** **22 41 01.0 -0.9**
CDAG Cicekdag 78.95 312 *i* P **P** **22 41 02.6 -0.6**
KOLS Kolonicke sedl 78.97 325 *i* P **P** **22 41 03.3 +0.2**
VRI Vrincioaia 78.98 320⇑ *i*P **P** **22 41 04.2 +1.0**
VRI Vrincioaia 78.98 320⇑ *i*P **P** **22 41 04.2 +1.0**
VRI Vrincioaia 78.98 320 P **P** **22 41 04.6 +1.4**
TIRR Tirgusor 79.08 318 *e*P **P** **22 41 03.2 -0.6**
TIRR *e* pP 22 41 12.4 -0.4
STHS Stebnicka Huta 79.08 326 *i* P **P** **22 41 04.9 +1.2**
OJC Ojcow 79.13 327 *e*P **P** **22 41 04.5 +0.6**
AVNT Avonos 79.20 311 *i* P **P** **22 41 04.8 +0.2**
BR131 Keskin Array S 79.31 312 *e*P **P** **22 41 05.7 +0.6**
comp=Z,15nm,1.1s,mb4.8
BR131 *e* pP 22 41 13.7 -0.5
BRTR Keskin Array B 79.31 312 P **P** **22 41 05.7 +0.5**
comp=Z,12nm,1.1s,mb4.8,baz=90,slow=3.7,SNR=43
BRTR PP PP 22 44 05.2 -1.6
comp=Z,2.7nm,1.0s,baz=63,slow=6.4,SNR=4.7
PV10 Paradox Valley 79.32 50 *e*P **P** **22 41 05.0 -0.2**
CRVS Cervenica-Dubn 79.36 325 *i* P **P** **22 41 06.4 +1.2**
CRVS *e*PP PP 22 44 01.2 -5.8
NIE Niedzica 79.50 326 *e*P **P** **22 41 07.4 +1.5**
PHWY Pilot Hill 79.51 45 P **P** **22 41 01.2 -5.0**
ISR Istrita 79.59 320⇑ *i*P **P** **22 41 07.4 +0.8**
ISR Istrita 79.59 320⇑ *i*P **P** **22 41 07.4 +0.9**

MLR	**Muntele Rosu**	**79.64 320**	‖ *i* P	**P**	**22 41 07.2 +0.4**
MLR	**Muntele Rosu**	**79.64 320**	‖ *i* P	**P**	**22 41 07.2 +0.4**
SGKT	**Sivrigoynuk**	**79.67 314**	*i* P	**P**	**22 41 06.7 -0.4**
ANTO	**Ankara**	**79.71 313**	P	**P**	**22 41 08.7 +1.4**
PV01	**Paradox Valley**	**79.76 49**	*e*P	**P**	**22 41 09.5 +1.9**
RAC	**Raciborz**	**79.92 328**	*e*P	**P**	**22 41 09.1 +0.9**
BSEG	**Bad Segeberg**	**79.97 334**	*e*P	**P**	**22 41 08.6 +0.2**
KECS	**Kecovo**	**80.11 325**	*i* P	**P**	**22 41 10.3 +1.1**
OKC	**Ostrava-Krasne**	**80.13 327**	*e*P	**P**	**22 41 10.3 +1.0**
OKC			*ep*P	pP	22 41 19.0 +0.6
OKC			*e*S	S	22 51 12.2 +1.6
OKC			AMS	AMS	23 19 50.0
	comp=Z,1μm,15.0s				
KSP	**Ksiaz**	**80.14 329**	*e*P	**P**	**22 41 10.2 +0.8**
KSP	**Ksiaz**	**80.14 329**	*e*P	**P**	**22 41 10.0 +0.7**
KSP			*ep*P	pP	22 41 14.3 -4.1
KSP			LR	LR	
	comp=Z,1μm,20.4s,MS5.2				
RYDS	**Riyadh**	**80.32 293**	P	**P**	**22 41 09.4 -1.5**
MORC	**Moravsky Berou**	**80.43 328**	*e*P	**P**	**22 41 09.6 -1.3**
	comp=Z,21nm,1.0s,mb5.0				
MORC			*e*	pP	22 41 20.4 +0.4
MORC	**Moravsky Berou**	**80.43 328**	*e*P	**P**	**22 41 09.6 -1.3**
MORC			*e*	pP	22 41 20.4 +0.4
MORC			pmax	pmax	
	comp=Z,21nm,1.0s,mb5.0				
DPC	**Dobruska-Polom**	**80.50 329**	*e*P	**P**	**22 41 12.7 +1.4**
DPC			*ep*P	pP	22 41 21.1 +0.7
DPC			*e*SKS	SKS	22 51 23.3 -7.4
DPC			AMS	AMS	23 23 00.0
	comp=Z,900nm,13.8s				
DPC	**Dobruska-Polom**	**80.50 329**	*e*P	**P**	**22 41 12.7 +1.4**
DPC			*ep*P	pP	22 41 21.1 +0.7
DPC			*e*S	S	22 51 23.3 +8.8
UPC	**Upice**	**80.51 329**	*e*P	**P**	**22 41 12.2 +0.9**
UPC			*ep*P	pP	22 41 21.3 +0.9
PSZ	**Piszkesteto**	**80.79 325**	⇑ *i* P	**P**	**22 41 13.8 +0.9**
PSZ	**Piszkesteto**	**80.79 325**	*e*P	**P**	**22 41 13.3 +0.5**
	comp=Z,26nm,1.1s,mb5.1				
PSZ			*e*	pP	22 41 21.9 -0.1
PSZ	**Piszkesteto**	**80.79 325**	*e*P	**P**	**22 41 13.3 +0.4**
PSZ			*e*	pP	22 41 21.9 -0.1
PSZ			pmax	pmax	
	comp=Z,26nm,1.1s,mb5.1				
VYHS	**Vyhne**	**80.83 326**	*i* P	**P**	**22 41 14.1 +1.0**
VYHS			*e*PP	PP	22 44 18.3 -1.3
MEST	**Erdemli**	**81.05 310**	*i* P	**P**	**22 41 14.9 +0.4**
BRG	**Berggiesshubel**	**81.06 330**	*e*P	**P**	**22 41 14.4 +0.2**
	comp=Z,14nm,1.1s,mb4.8				
BRG			*e*	pP	22 41 22.6 -0.6
BRG			*e*		22 44 22.5
BRG			S	S	22 51 22.0 +1.7
BRG			LR	LR	
	comp=Z,1μm,16.1s,MS5.4				
BRG	**Berggiesshubel**	**81.06 330**	*e*P	**P**	**22 41 14.4 +0.2**
BRG			*e*	pP	22 41 22.7 -0.6
BRG			*e*		22 44 22.5
BRG			S	S	22 51 22.0 +1.7
BRG			pmax	pmax	
	comp=Z,14nm,1.1s,mb4.8				
BRG			MLR	MLR	
	comp=Z,1μm,16.1s,MS5.4				
ESKT	**Eskisehir**	**81.07 314**	*i* P	**P**	**22 41 14.0 -0.5**
PVCC	**Panska Ves**	**81.08 330**	*e*P	**P**	**22 41 15.2 +0.9**
PVCC			*ep*P	pP	22 41 24.2 +0.8
PVCC			AMS	AMS	23 20 50.0
	comp=Z,1μm,15.2s				
CLL	**Collm**	**81.08 331**	⇑ P	**P**	**22 41 14.3 0.0**
	comp=Z,logA/T=1.4,mb5.1				
CLL			*i* *PP	pP	22 41 22.7 -0.7
CLL			*e**SP	sP	22 41 31.0 +4.6
CLL	**Collm**	**81.08 331**	⇑ *i* P	**P**	**22 41 14.3 0.0**
	comp=Z,25nm,1.1s,mb5.1				
CLL			*i*	pP	22 41 22.7 -0.7
CLL	**Collm**	**81.08 331**	⇑ *i* P	**P**	**22 41 14.3 0.0**
CLL			*i*	pP	22 41 22.7 -0.7
CLL			pmax	pmax	
	comp=Z,25nm,1.1s,mb5.1				
VRAC	**Vranov**	**81.19 328**	P	**P**	**22 41 15.9 +1.0**
SMOL	**Smolenice**	**81.44 327**	*i* P	**P**	**22 41 18.1 +1.9**
MZLS	**Mizel**	**81.46 294**	P	**P**	**22 41 17.3 +0.4**
PRU	**Pruhonice**	**81.51 329**	*e*P	**P**	**22 41 17.5 +0.9**
PRU			*ep*P	pP	22 41 26.3 +0.6
PRU			*e*SKS	SKS	22 51 32.6 -5.2
PRU			AMS	AMS	23 20 50.0
	comp=Z,1μm,16.7s				
ULDT	**Uludag**	**81.62 315**	*i* P	**P**	**22 41 16.9 -0.5**
CLZ	**Clausthal**	**81.64 333**	*e*P	**P**	**22 41 17.9 +0.7**
	comp=Z,41nm,1.2s,mb5.2				
CLZ	**Clausthal**	**81.64 333**	*e*P	**P**	**22 41 17.9 +0.7**
CLZ			pmax	pmax	
	comp=Z,41nm,1.2s,mb5.2				
SDCO	**Great Sand Dun**	**81.84 48**	P	**P**	**22 41 19.7 +1.1**
	comp=Z,8.5nm,1.2s,mb4.5				
HILS	**Ha'il**	**81.85 298**	P	**P**	**22 41 19.7 +0.9**
MOX	**Moxa**	**82.14 331**	*i* P	**P**	**22 41 20.1 +0.2**
	comp=Z,logA/T=1.3,mb5.0				
MOX			L		23 21 15.0
MOX	**Moxa**	**82.14 331**	*e*P	**P**	**22 41 20.1 +0.2**
	comp=Z,29nm,1.6s,mb5.0				
MOX			LR	LR	
	comp=Z,700nm,18.0s,MS5.1				
MOX	**Moxa**	**82.14 331**	*e*P	**P**	**22 41 20.1 +0.2**
MOX			pmax	pmax	
	comp=Z,29nm,1.6s,mb5.0				
MOX			MLR	MLR	
	comp=Z,700nm,18.0s,MS5.1				
ASF	**Jabal al Asfar**	**82.15 305**	P	**P**	**22 41 20.8 +0.5**
	comp=Z,7.0nm,1.0s,mb4.6,baz=334,slow=2.8,SNR=7.1				
ASF			PP	PP	22 44 29.0 -1.7
	comp=Z,5.5nm,0.9s,baz=68,slow=6.1,SNR=2.4				
NKC	**Novy Kostel**	**82.15 331**	*e*P	**P**	**22 41 20.4 +0.5**
NKC			*ep*P	pP	22 41 29.5 +0.5
NKC			*e*SKS	SKS	22 51 42.8 +0.5
NKC			AMS	AMS	23 21 20.0
	comp=Z,1μm,15.1s				
TKTP	**Tekketepe**	**82.37 313**	*i* P	**P**	**22 41 21.4 +0.1**
ISP	**Isparta**	**82.39 312** *c*	*i* P	**P**	**22 41 21.2 -0.2**
KHC	**Kasperske Hory**	**82.57 329**	*e*P	**P**	**22 41 23.1 +1.0**
KHC			*ep*P	pP	22 41 31.3 +0.1
KHC			*e*SKS	SKS	22 51 42.2 -3.0
KHC			AMS	AMS	23 21 40.0
	comp=Z,1μm,16.7s				
CSS	**Prodhromos**	**82.61 309**	*e*P	**P**	**22 41 22.4 -0.2**
	comp=Z,31nm,0.9s,mb5.3				
CSS			*e*	pP	22 41 30.9 -0.8
PKSM	**Moragy**	**82.63 325**	P	**P**	**22 41 23.3 +0.8**
GEC2	**GERESS Array S**	**82.75 329**	*e*P	**P**	**22 41 23.2 +0.2**
	comp=Z,13nm,1.2s,mb4.8				
GEC2	**GERESS Array S**	**82.75 329**	*e*P	**P**	**22 41 23.2 +0.2**
GEC2			pmax	pmax	
	comp=Z,13nm,1.2s,mb4.8				
GERES	**GERESS Array B**	**82.75 329**	P	**P**	**22 41 23.4 +0.3**
	comp=Z,3.4nm,0.9s,mb4.4,baz=34,slow=4.8,SNR=20				
WET	**Wettzell**	**82.84 330**	*e*P	**P**	**22 41 24.1 +0.6**
	comp=Z,19nm,1.3s,mb5.0				
WET	**Wettzell**	**82.84 330**	*e*P	**P**	**22 41 24.1 +0.6**
WET			pmax	pmax	
	comp=Z,19nm,1.3s,mb5.0				
GRA1	**Grafenberg Arr**	**83.06 331**	*e*P	**P**	**22 41 25.4 +0.8**
	comp=Z,51nm,1.2s,mb5.4				
GRA1			*ep*P	pP	22 41 34.2 +0.5
GRF	**Grafenberg Arr**	**83.06 331**	*e*P	**P**	**22 41 25.4 +0.8**
GRF			*e**PP	pP	22 41 34.2 +0.5
GRF			pmax	pmax	
	comp=Z,51nm,1.2s,mb5.4				
AFFS	**'Afif**	**83.12 295**	P	**P**	**22 41 25.9 +0.4**
ANMO	**Albuquerque**	**83.12 51**	*e*P	**P**	**22 41 27.5 +2.2**
	comp=Z,7.8nm,1.1s,mb4.7				
ANMO	**Albuquerque**	**83.12 51**	*e*P	**P**	**22 41 27.5 +2.2**
ANMO			pmax	pmax	
	comp=Z,8.0nm,1.1s				
ARSA	**Arzberg**	**83.23 327**	⇑ *i* P	**P**	**22 41 26.1 +0.6**
	comp=Z,60nm,2.5s,mb5.2				
MOA	**Molln**	**83.30 328**	⇑ *i* P	**P**	**22 41 26.6 +0.7**
	comp=Z,97nm,2.3s,mb5.4				
DIVS	**Divcibare**	**83.58 323**	‖ *i* P	**P**	**22 41 27.7 +0.4**
TNS	**Taunus Mts**	**83.67 333**	*e*P	**P**	**22 41 28.4 +0.7**
	comp=Z,11nm,1.0s,mb4.9				
TNS	**Taunus Mts**	**83.67 333**	*e*P	**P**	**22 41 28.4 +0.7**
TNS			pmax	pmax	
	comp=Z,11nm,1.0s,mb4.9				
PERS	**Pernice**	**83.88 327**	*i* P	**P**	**22 41 29.3 +0.5**
PERS			*i*	pP	22 41 37.8 -0.2
TOD	**Tromm**	**84.05 332**	*e*P	**P**	**22 41 29.8 +0.2**
KAMS	**Al Khamasin**	**84.19 291**	P	**P**	**22 41 31.2 +0.2**
SCHQ	**Schefferville**	**84.27 17**	LR	LR	23 22 41.8
	comp=Z,221nm,19.6s,MS4.5,baz=105,slow=38				
SCHQ	**Schefferville**	**84.27 17**	*e*P	**P**	**22 41 34.3 +3.8**
	comp=Z,13nm,1.0s,mb5.0				
FUR	**Furstenfeldbru**	**84.27 330**	*e*P	**P**	**22 41 31.6 +0.9**
	comp=Z,46nm,1.1s,mb5.5				
FUR	**Furstenfeldbru**	**84.27 330**	*e*P	**P**	**22 41 31.6 +0.9**
FUR			pmax	pmax	
	comp=Z,46nm,1.1s,mb5.5				
URLA	**Izmir**	**84.28 315**	*i* P	**P**	**22 41 29.4 -1.6**
ABH	**Alteburg**	**84.28 333**	*e*P	**P**	**22 41 31.1 +0.4**
KBA	**Koelnbreinsper**	**84.29 328**	⇑ *i* P	**P**	**22 41 31.3 +0.4**
	comp=Z,143nm,3.1s				
KBA	**Koelnbreinsper**	**84.29 328**	⇑ *i* P	**P**	**22 41 31.3 +0.4**
KBA			pmax	pmax	
	comp=Z,143nm,3.1s				
SKO	**Skopje**	**84.44 320**	*e*P	**P**	**22 41 30.7 -1.0**
STU	**Stuttgart**	**84.58 331**	*e*P	**P**	**22 41 32.5 +0.2**
	comp=Z,14nm,0.8s,mb5.1				
STU	**Stuttgart**	**84.58 331**	*e*P	**P**	**22 41 32.5 +0.2**
STU			pmax	pmax	
	comp=Z,14nm,0.8s,mb5.1				
RUP	**Ruppelstein**	**84.60 333**	*e*P	**P**	**22 41 33.3 +0.9**
KBRS	**Khaybar**	**84.61 298**	P	**P**	**22 41 34.0 +1.1**
BOJS	**Bojanci**	**84.70 326**	*e*P	**P**	**22 41 33.0 0.0**
BOJS			*i*	pP	22 41 41.9 -0.2
WATA	**Walderalm**	**84.81 329**	⇑ *i* P	**P**	**22 41 34.0 +0.5**
	comp=Z,18nm,1.3s,mb5.0				
WATA	**Walderalm**	**84.81 329**	⇑ *i* P	**P**	**22 41 34.0 +0.5**
WATA			pmax	pmax	
	comp=Z,18nm,1.3s,mb5.0				
WTTA	**Wattenberg**	**84.85 329**	⇑ *i* P	**P**	**22 41 34.3 +0.7**
	comp=Z,18nm,1.0s,mb5.2				
WTTA	**Wattenberg**	**84.85 329**	⇑ *i* P	**P**	**22 41 34.3 +0.7**
WTTA			pmax	pmax	
	comp=Z,18nm,1.0s,mb5.2				
ROBS	**Robic**	**84.88 327**	*i* P	**P**	**22 41 33.3 -0.6**
ROBS			*e*	pP	22 41 42.4 -0.6
VOJS	**Vojsko**	**84.89 327**	*i* P	**P**	**22 41 33.7 -0.2**
VOJS			*e*	pP	22 41 42.4 -0.6
TBKS	**Tabuk**	**84.91 302**	P	**P**	**22 41 35.8 +1.3**
WLF	**Walferdange**	**84.96 334**	*e*P	**P**	**22 41 32.4 -1.8**
	comp=Z,112nm,1.8s,mb5.7				
WLF	**Walferdange**	**84.96 334**	*e*P	**P**	**22 41 32.4 -1.7**
WLF			pmax	pmax	
	comp=Z,112nm,1.8s,mb5.7				
MOTA	**Moosalm**	**85.00 329**	⇑ *i* P	**P**	**22 41 34.9 +0.5**
	comp=Z,22nm,1.2s,mb5.2				
MOTA	**Moosalm**	**85.00 329**	⇑ *i* P	**P**	**22 41 34.9 +0.5**
MOTA			pmax	pmax	
	comp=Z,22nm,1.2s,mb5.2				
GIVF	**Givet**	**85.05 334**	*e*P	**P**	**22 41 34.8 +0.2**
SQTA	**Sankt Quirin**	**85.05 329**	⇑ *i* P	**P**	**22 41 35.3 +0.6**
	comp=Z,16nm,1.3s,mb5.0				
SQTA	**Sankt Quirin**	**85.05 329**	⇑ *i* P	**P**	**22 41 35.3 +0.6**
SQTA			pmax	pmax	
	comp=Z,16nm,1.3s,mb5.0				
ALWS	**Ilw as Safayha**	**85.20 304**	P	**P**	**22 41 35.5 -0.3**
BFO	**Black Forest**	**85.27 332**	*e*P	**P**	**22 41 36.1 +0.3**
	comp=Z,39nm,1.1s,mb5.5				
BFO	**Black Forest**	**85.27 332**	*e*P	**P**	**22 41 36.1 +0.3**
BFO			pmax	pmax	
	comp=Z,39nm,1.1s,mb5.5				
BAIF	**Baives**	**85.30 335**	*e*P	**P**	**22 41 35.9 +0.1**
	comp=Z,84nm,1.5s,mb5.4				
BAIF	**Baives**	**85.30 335**	*e*P	**P**	**22 41 35.9 +0.1**
BAIF			pmax	pmax	
	comp=Z,42nm,1.5s,mb5.3				
HAQS	**Haql**	**85.45 303**	P	**P**	**22 41 38.0 +0.8**
DAVA	**Damuels**	**85.53 330**	‖ *i* P	**P**	**22 41 37.7 +0.6**
	comp=Z,70nm,1.4s,mb5.7				
WLS	**Welschbruch**	**85.57 332**	*e*P	**P**	**22 41 37.6 +0.4**
CDF	**Champ du Feu**	**85.60 332**	*e*P	**P**	**22 41 37.7 +0.3**
	comp=Z,90nm,1.2s,mb5.6				
CDF	**Champ du Feu**	**85.60 332**	*e*P	**P**	**22 41 37.7 +0.3**
CDF			pmax	pmax	
	comp=Z,45nm,1.2s,mb5.6				
BDAS	**Al Bad'**	**85.75 303**	P	**P**	**22 41 39.3 +0.7**
FELD	**Feldberg**	**85.77 331**	*e*P	**P**	**22 41 38.7 +0.4**
ECH	**Echery**	**85.81 332**	*e*P	**P**	**22 41 38.7 +0.3**
TAYS	**Tayyib Ism**	**85.82 303**	P	**P**	**22 41 42.2 +3.2**
MOF	**Molkenrain**	**86.12 332**	*e*P	**P**	**22 41 40.0 0.0**
THEF	**They Montfort**	**86.23 333**	*e*P	**P**	**22 41 40.8 +0.3**
HINF	**Hinteralfeld**	**86.25 332**	*e*P	**P**	**22 41 40.5 -0.1**
	comp=Z,80nm,1.6s,mb5.4				
HINF	**Hinteralfeld**	**86.25 332**	*e*P	**P**	**22 41 40.5 -0.1**
HINF			pmax	pmax	
	comp=Z,40nm,1.6s,mb5.4				
HAU	**Haudompre**	**86.28 332**	*e*P	**P**	**22 41 40.7 -0.1**
	comp=Z,26nm,1.0s,mb5.1				
HAU			*e*R		
	comp=Z,749nm,20.5s				
HAU	**Haudompre**	**86.28 332**	*e*P	**P**	**22 41 40.7 -0.1**
HAU			pmax	pmax	
	comp=Z,13nm,1.0s,mb5.1				
HAU			MLR	MLR	
	comp=Z,750nm,20.5s,MS5.1				
BBS	**Basel-Blauen**	**86.30 332**	*e*P	**P**	**22 41 40.6 -0.3**
UMJS	**Umm Lajj**	**86.31 299**	P	**P**	**22 41 42.5 +1.0**
MEZF	**Maizieres J'vi**	**86.33 334**	*e*P	**P**	**22 41 41.5 +0.5**
	comp=Z,103nm,1.3s,mb5.6				
DJNS	**Zahran al Janu**	**86.56 290**	P	**P**	**22 41 44.1 +1.2**
BLJS	**Baljurashi**	**86.65 292**	P	**P**	**22 41 44.3 +1.1**
LTHS	**Al Lith**	**87.27 293**	P	**P**	**22 41 46.4 +0.2**
CABF	**La Chapelle**	**87.55 332**	*e*P	**P**	**22 41 47.2 +0.2**
	comp=Z,46nm,1.4s,mb5.2				
CABF	**La Chapelle**	**87.55 332**	*e*P	**P**	**22 41 47.2 +0.2**
CABF			pmax	pmax	
	comp=Z,23nm,1.4s,mb5.2				
LOR	**Lormes**	**87.80 334**	*e*P	**P**	**22 41 48.3 +0.2**
	comp=Z,64nm,1.1s,mb5.5				
LOR			*e*R		
	comp=Z,538nm,17.0s				
LOR	**Lormes**	**87.80 334**	*e*P	**P**	**22 41 48.3 +0.2**
LOR			pmax	pmax	
	comp=Z,32nm,1.1s,mb5.5				
LOR			MLR	MLR	
	comp=Z,540nm,17.0s,MS5.0				
FLN	**La Foliniere**	**87.94 337**	*e*P	**P**	**22 41 48.8 0.0**
	comp=Z,262nm,1.8s,mb5.9				
FLN			*e*R		
	comp=Z,938nm,19.2s				
FLN	**La Foliniere**	**87.94 337**	*e*P	**P**	**22 41 48.8 0.0**
FLN			pmax	pmax	
	comp=Z,131nm,1.8s,mb5.9				
FLN			MLR	MLR	
	comp=Z,940nm,19.3s,MS5.2				
LDF	**La Druitiere**	**87.98 337**	*e*P	**P**	**22 41 49.2 +0.2**
	comp=Z,56nm,1.3s,mb5.3				
LDF	**La Druitiere**	**87.98 337**	*e*P	**P**	**22 41 49.2 +0.2**
LDF			pmax	pmax	
	comp=Z,28nm,1.3s,mb5.3				
CII	**Carovilli**	**88.08 324**	*e*P	**P**	**22 41 49.1 -0.5**
	comp=Z,13nm,1.1s,mb5.1				
SSF	**Saint Saulge**	**88.10 334**	*e*P	**P**	**22 41 49.7 +0.1**
	comp=Z,15nm,1.0s,mb5.2				
SSF	**Saint Saulge**	**88.10 334**	*e*P	**P**	**22 41 49.7 +0.1**
SSF			pmax	pmax	
	comp=Z,15nm,1.0s,mb5.2				
LPL	**La Plagne**	**88.22 331**	*e*P	**P**	**22 41 50.8 +0.6**
	comp=Z,40nm,1.2s,mb5.2				
LPL	**La Plagne**	**88.22 331**	*e*P	**P**	**22 41 50.8 +0.6**
LPL			pmax	pmax	
	comp=Z,20nm,1.2s,mb5.2				
HYF	**Humbligny**	**88.22 334**	*e*P	**P**	**22 41 50.9 +0.7**
LPG	**La Plagne**	**88.23 331**	*e*P	**P**	**22 41 51.0 +0.7**
	comp=Z,38nm,1.1s,mb5.3				
LPG	**La Plagne**	**88.23 331**	*e*P	**P**	**22 41 51.0 +0.7**
LPG			pmax	pmax	
	comp=Z,19nm,1.1s,mb5.2				
SMF	**Signal de Mont**	**88.34 333**	*e*P	**P**	**22 41 51.0 +0.3**
	comp=Z,95nm,1.5s,mb5.5				
SMF	**Signal de Mont**	**88.34 333**	*e*P	**P**	**22 41 51.0 +0.3**
SMF			pmax	pmax	
	comp=Z,47nm,1.5s,mb5.5				
AVF	**Avril sur Loir**	**88.39 334**	*e*P	**P**	**22 41 51.2 +0.2**
	comp=Z,69nm,1.1s,mb5.5				
AVF	**Avril sur Loir**	**88.39 334**	*e*P	**P**	**22 41 51.2 +0.2**
AVF			pmax	pmax	
	comp=Z,34nm,1.1s,mb5.5				
GRR	**Gorron**	**88.39 337**	*e*P	**P**	**22 41 51.3 +0.3**
	comp=Z,138nm,1.4s,mb5.7				
GRR	**Gorron**	**88.39 337**	*e*P	**P**	**22 41 51.3 +0.3**
GRR			pmax	pmax	
	comp=Z,69nm,1.4s,mb5.7				
TXAR	**Lajitas Array**	**88.65 53**	pP	pP	22 42 01.9 0.0
	comp=Z,1.0nm,0.5s,baz=315,slow=3.5,SNR=5.9				
BGF	**Bois d'Agland**	**88.77 334**	*e*P	**P**	**22 41 53.1 +0.3**
	comp=Z,26nm,1.1s,mb5.2				
BGF	**Bois d'Agland**	**88.77 334**	*e*P	**P**	**22 41 53.1 +0.3**
BGF			pmax	pmax	
	comp=Z,13nm,1.1s,mb5.2				
MBDF	**Montbardon**	**88.87 330**	*e*P	**P**	**22 41 53.9 +0.6**
	comp=Z,18nm,1.1s,mb5.0				
MBDF	**Montbardon**	**88.87 330**	*e*P	**P**	**22 41 53.9 +0.6**
MBDF			pmax	pmax	
	comp=Z,9.0nm,1.1s,mb5.0				
TIP	**Timpagrande**	**88.88 321**	*e*P	**P**	**22 41 53.2 -0.3**
TIP			*e*	pP	22 42 01.8 -0.9
PLDF	**La Plantade**	**89.00 333**	*e*P	**P**	**22 41 55.6 +1.7**
ORIF	**Oris-en-Rattie**	**89.05 331**	*e*P	**P**	**22 41 54.5 +0.3**
	comp=Z,26nm,1.1s,mb5.2				
ORIF			*e*R		
	comp=Z,859nm,20.2s				
ROSF	**Rostrenen**	**89.17 338**	*e*P	**P**	**22 41 54.9 +0.2**
	comp=Z,125nm,1.6s,mb5.7				
ROSF	**Rostrenen**	**89.17 338**	*e*P	**P**	**22 41 54.9 +0.2**
ROSF			pmax	pmax	
	comp=Z,63nm,1.6s,mb5.7				
TCF	**Toulx Ste Croi**	**89.22 334**	*e*P	**P**	**22 41 55.5 +0.5**
	comp=Z,32nm,1.1s,mb5.3				
TCF	**Toulx Ste Croi**	**89.22 334**	*e*P	**P**	**22 41 55.5 +0.5**
TCF			pmax	pmax	
	comp=Z,16nm,1.1s,mb5.3				
SBF	**Sospel**	**89.33 330**	*e*P	**P**	**22 41 56.1 +0.6**
PYM	**Petit Puy Mans**	**89.41 333**	*e*P	**P**	**22 41 57.4 +1.6**
VIVF	**Saint-Julien-I**	**89.56 332**	*e*P	**P**	**22 41 56.7 +0.1**
	comp=Z,44nm,1.3s,mb5.3				
VIVF	**Saint-Julien-I**	**89.56 332**	*e*P	**P**	**22 41 56.7 +0.1**
VIVF			pmax	pmax	
	comp=Z,22nm,1.3s,mb5.3				
MFF	**Saint Martin d**	**89.74 336**	*e*P	**P**	**22 41 57.9 +0.5**
	comp=Z,67nm,1.3s,mb5.5				
MFF	**Saint Martin d**	**89.74 336**	*e*P	**P**	**22 41 57.9 +0.5**
MFF			pmax	pmax	
	comp=Z,34nm,1.3s,mb5.5				
PGF	**Pioggiola**	**89.77 328**	*e*P	**P**	**22 41 58.1 +0.5**
	comp=Z,73nm,1.3s,mb5.5				
PGF	**Pioggiola**	**89.77 328**	*e*P	**P**	**22 41 58.1 +0.5**
PGF			pmax	pmax	
	comp=Z,37nm,1.3s,mb5.5				
FRF	**La Foret Royal**	**89.89 330**	*e*P	**P**	**22 41 58.7 +0.5**
	comp=Z,64nm,1.5s,mb5.4				
FRF	**La Foret Royal**	**89.89 330**	*e*P	**P**	**22 41 58.7 +0.5**
FRF			pmax	pmax	
	comp=Z,32nm,1.5s,mb5.4				
SMRF	**Simiane la Rot**	**89.96 331**	*e*P	**P**	**22 41 58.5 0.0**
LMR	**La Mourre**	**90.14 330**	*e*P	**P**	**22 41 58.9 -0.4**
	comp=Z,49nm,1.3s,mb5.4				
LMR	**La Mourre**	**90.14 330**	*e*P	**P**	**22 41 58.9 -0.4**
LMR			pmax	pmax	
	comp=Z,24nm,1.3s,mb5.4				
RJF	**Les Rejaudoux**	**90.32 334**	*e*P	**P**	**22 42 00.7 +0.6**
	comp=Z,38nm,1.1s,mb5.3				
RJF			*e*R		
	comp=Z,662nm,19.8s				
RJF	**Les Rejaudoux**	**90.32 334**	*e*P	**P**	**22 42 00.7 +0.6**
RJF			pmax	pmax	
	comp=Z,19nm,1.1s,mb5.3				
RJF			MLR	MLR	
	comp=Z,660nm,19.8s,MS5.1				
CAF	**Calviac**	**90.45 333**	*e*P	**P**	**22 42 01.6 +0.9**
	comp=Z,58nm,1.1s,mb5.5				
CAF	**Calviac**	**90.45 333**	*e*P	**P**	**22 42 01.6 +0.9**
CAF			pmax	pmax	
	comp=Z,29nm,1.1s,mb5.5				
LASF	**Ste Croix**	**90.53 332**	*e*P	**P**	**22 42 01.5 +0.4**
	comp=Z,39nm,1.3s,mb5.3				
LFF	**La Frestale**	**90.90 334**	*e*P	**P**	**22 42 03.5 +0.7**
	comp=Z,86nm,1.3s,mb5.6				
LFF	**La Frestale**	**90.90 334**	*e*P	**P**	**22 42 03.5 +0.7**
LFF			pmax	pmax	
	comp=Z,43nm,1.3s,mb5.6				
ATD	**Arta Tunnel**	**90.92 285**	P	**P**	**22 42 04.4 +0.8**
	comp=Z,6.3nm,0.8s,mb5.0,baz=268,slow=21,SNR=3.2				
MTLF	**Montolieu**	**91.77 333**	*e*P	**P**	**22 42 07.4 +0.6**
	comp=Z,36nm,1.2s,mb5.3				
MTLF	**Montolieu**	**91.77 333**	*e*P	**P**	**22 42 07.4 +0.6**
MTLF			pmax	pmax	
	comp=Z,18nm,1.2s,mb5.3				
EPF	**Esparros**	**92.71 334**	*e*P	**P**	**22 42 11.2 0.0**
ETSF	**Etsaut**	**93.14 334**	*e*P	**P**	**22 42 13.1 -0.1**
SJPF	**Ste Jean**	**93.18 335**	*e*P	**P**	**22 42 13.9 +0.6**
ESDC	**Sonseca Array**	**97.18 335**	P	**P**	**22 42 31.7 0.0**
	comp=Z,1.8nm,0.8s,mb4.5,baz=19,slow=3.9,SNR=6.6				
SDV	**Santo Domingo**	**123.93 41**	*e*PKPdf	PKPdf	22 47 57.6 -4.2
SDV			*e*		22 48 06.7
VNA2	**Neumayer--Watz**	**143.38 196**	P	PKPbc	22 48 31.4 +1.7
VNA2	**Neumayer--Watz**	**143.38 196**		PKPbc	22 48 32.9 +3.2
VNA2	**Neumayer--Watz**	**143.38 196**		PKPbc	22 48 41.6 +12
VNA2	**Neumayer--Watz**	**143.38 196**		PKPbc	22 48 46.0 +16
VNA2	**Neumayer--Watz**	**143.38 196**		PKPbc	22 48 48.5 +19
VNA2	**Neumayer--Watz**	**143.38 196**		PKPbc	22 48 54.5 +25
VNA2	**Neumayer--Watz**	**143.38 196**		PKPbc	22 49 01.2 +32
VNA2	**Neumayer--Watz**	**143.38 196**		PKPbc	22 49 07.4 +38
VNA3	**Neumayer Olymp**	**143.61 194**	P	PKPbc	22 48 31.7 +1.4
VNA3	**Neumayer Olymp**	**143.61 194**		PKPbc	22 48 34.2 +3.9
VNA3	**Neumayer Olymp**	**143.61 194**		PKPbc	22 48 41.1 +11
VNA3	**Neumayer Olymp**	**143.61 194**		PKPbc	22 48 46.5 +

661nm,0.3s,baz=271,slow=2.3,SNR=19
RAO S **S** **23 12 12.0 -0.9**
303nm,0.3s,baz=72,slow=23,SNR=7.8
RAO Raoul Island 5.90 162 *e*Pn **P** **23 10 55.2 -0.3**
2µm,0.7s
AFI Afiamalu 12.44 40 P **P** **23 11 56.1 -5.5**
12nm,0.3s,baz=35,slow=12,SNR=13
AFI S **S** **23 14 01.4 -12**
2.6nm,0.3s,baz=215,slow=22,SNR=2.7
AFI Afiamalu 12.44 40 *e*P **P** **23 11 55.3 -6.3**
185nm,0.9s
AFI *e*Sn **S** **23 14 00.2 -13**
DZM Mont Dzumac 12.57 275 *e*P **P** **23 12 05.8 +2.9**
DZM *e*S **S** **23 14 26.0 +10**
DZM Mont Dzumac 12.57 275 P **P** **23 12 02.0 -0.9**
0.2nm,0.3s,baz=124,slow=15,SNR=1.8
DZM S **S** **23 14 22.7 +7.2**
baz=154,slow=15,SNR=1.6
DZM ScP 23 19 41.9
1.3nm,0.3s,baz=111,slow=15,SNR=12
NOUC Port Laguerre 12.69 274 *e*P **P** **23 12 07.2 +3.1**
OUZ Omahuta 12.80 204⇓*e*PN **P** **23 12 08.5 +3.3**
OUZ Omahuta 12.80 204 *e*P **P** **23 12 08.7 +3.5**
WCZ Waipu Caves 13.19 200 PN **P** **23 12 12.3 +3.2**
WCZ Waipu Caves 13.19 200 P **P** **23 12 12.4 +3.3**
TGRZ Tauranga 14.39 192 *e*PN **P** **23 12 23.0 +1.6**
TGRZ Tauranga 14.39 192 *e*P **P** **23 12 23.0 +1.6**
PUZ Puketiti 14.46 185 *e*PN **P** **23 12 23.0 +1.0**
PUZ SN **S** **23 14 51.6 +1.1**
PUZ Puketiti 14.46 185 *e*P **P** **23 12 23.0 +1.0**
TOZ Tahuroa Road 14.55 194 *e*PN **P** **23 12 24.5 +1.5**
TOZ Tahuroa Road 14.55 194 *e*P **P** **23 12 24.5 +1.5**
URZ Urewera 14.77 189 P **P** **23 12 24.1 -1.1**
44nm,0.3s,baz=13,slow=2.7,SNR=49
URZ S **S** **23 14 54.8 -1.4**
29nm,0.3s,baz=185,slow=21,SNR=16
URZ Urewera 14.77 189 *e*PN **P** **23 12 22.4 -2.8**
URZ SN **S** **23 14 55.3 -0.9**
URZ Urewera 14.77 189 *e*P **P** **23 12 24.1 -1.1**
MWZ Matawai 14.79 188 SN **S** **23 14 57.5 +0.9**
FUNA Funafuti 15.05 357 *e*P **P** **23 12 25.7 -2.4**
HIZ Hauiti 15.45 195 *e*PN **P** **23 12 33.9 +2.0**
HIZ Hauiti 15.45 195 *e*P **P** **23 12 33.3 +1.4**
KNZ Kokohu 15.45 187 *e*PN **P** **23 12 34.0 +2.1**
KNZ Kokohu 15.45 187 *e*P **P** **23 12 34.1 +2.2**
BKZ Black Stump Fm 15.75 190 *e*PN **P** **23 12 33.6 -1.2**
BKZ Black Stump Fm 15.75 190 *e*P **P** **23 12 33.8 -1.1**
OTVZ Oturere 15.90 192 PN **P** **23 12 35.5 -0.8**
OTVZ SN **S** **23 15 22.1 +5.6**
NGZ Ngauruhoe 15.92 192 *e*PN **P** **23 12 36.2 -0.3**
NGZ Ngauruhoe 15.92 192 P **P** **23 12 37.5 +1.0**
CNZ Chateau 15.96 193 *e*PN **P** **23 12 39.0 +2.2**
CNZ Chateau 15.96 193 P **P** **23 12 39.0 +2.2**
TUVZ Tukino 16.00 192 PN **P** **23 12 36.3 -1.0**
TUVZ Tukino 16.00 192 P **P** **23 12 36.5 -0.8**
VRZ Vera Road 16.05 195 *e*PN **P** **23 12 39.9 +2.0**
VRZ Vera Road 16.05 195 *e*P **P** **23 12 40.2 +2.4**
WNVZ Wahianoa 16.07 192 *e*PN **P** **23 12 36.4 -1.5**
WNVZ Wahianoa 16.07 192 P **P** **23 12 37.4 -0.6**
PKVZ Pokaka 16.08 193 *e*PN **P** **23 12 37.5 -0.6**
MOVZ Moawhango 16.12 192 PN **P** **23 12 36.5 -2.0**
MOVZ Moawhango 16.12 192 P **P** **23 12 37.0 -1.4**
PXZ Pawanui 16.55 188 *e*PN **P** **23 12 44.0 +1.4**
TSZ Takapari Road 16.71 191 *e*PN **P** **23 12 42.8 -1.4**
TSZ Takapari Road 16.71 191 *e*P **P** **23 12 42.8 -1.4**
BFZ Birch Farm 17.27 190 *e*PN **P** **23 12 48.0 -1.7**
BFZ SN **S** **23 15 40.8 +0.1**
BFZ Birch Farm 17.27 190 *e*P **P** **23 12 49.0 -0.7**
MRZ Mangatainoka R 17.36 191 *e*PN **P** **23 12 49.0 -1.6**
MRZ SN **S** **23 15 39.3 -3.0**
MRZ Mangatainoka R 17.36 191 *e*P **P** **23 12 50.0 -0.6**
KIW Kapiti Island 17.69 193 PN **P** **23 12 52.2 -1.5**
KIW Kapiti Island 17.69 193 P **P** **23 12 52.7 -1.0**
DUWZ D'Urville Isla 17.85 195 *e*PN **P** **23 12 53.8 -1.4**
MTW Mount Morrison 17.86 191 *e*PN **P** **23 12 54.2 -1.2**
MTW Mount Morrison 17.86 191 P **P** **23 12 54.3 -1.1**
CAW Cannon Point 17.89 192 *e*PN **P** **23 12 54.8 -0.9**
CAW SN **S** **23 15 50.5 -0.8**
CAW Cannon Point 17.89 192 P **P** **23 12 55.2 -0.5**
MRW Makara Radio 18.08 193 *e*PN **P** **23 12 56.8 -0.7**
MRW Makara Radio 18.08 193 *e*P **P** **23 12 57.4 -0.1**
PAWZ Paruwai Farm 18.09 191 SN **S** **23 15 55.3 +0.5**
MSWZ Moikau Station 18.16 191 SN **S** **23 15 54.5 -1.3**
SNZO South Karori 18.16 193 *e*PN **P** **23 12 58.0 -0.2**
SNZO South Karori 18.16 193 *e*P **P** **23 12 58.1 -0.1**
QRZ Quartz Range 18.24 198 *e*PN **P** **23 13 00.7 +1.7**
QRZ SN **S** **23 16 00.8 +3.6**
QRZ Quartz Range 18.24 198 *e*P **P** **23 13 00.8 +1.8**
NNZ Nelson 18.37 196 *e*PN **P** **23 13 00.2 -0.1**
NNZ SN **S** **23 15 59.3 -0.3**
NNZ Nelson 18.37 196 *e*P **P** **23 13 00.3 0.0**
TUWZ Tuamarina 18.44 194 *e*PN **P** **23 13 01.6 +0.7**
RAR Rarotonga 18.89 87 *e*P **P** **23 13 03.1 -2.2**
80nm,1.3s
THZ Tophouse 19.01 196 *e*PN **P** **23 13 06.1 -0.3**
THZ SN **S** **23 16 08.6 -1.7**
THZ Tophouse 19.01 196 *e*P **P** **23 13 07.3 +1.0**
DSZ Denniston Nort 19.30 199 PN **P** **23 13 09.9 +0.8**
DSZ Denniston Nort 19.30 199 P **P** **23 13 10.0 +0.9**
KHZ Kahutara 19.47 194 *e*PN **P** **23 13 10.0 -0.7**
KHZ SN **S** **23 16 15.5 -2.5**
KHZ Kahutara 19.47 194 *e*P **P** **23 13 10.4 -0.3**
LTZ Lake Taylor 20.13 197 *e*PN **P** **23 13 16.0 -0.9**
LTZ Lake Taylor 20.13 197 *e*P **P** **23 13 16.2 -0.6**
WVZ Waitaha Valley 20.83 199 *e*PN **P** **23 13 22.6 -0.7**
WVZ Waitaha Valley 20.83 199 *e*P **P** **23 13 23.1 -0.2**
MQZ McQueen's Vall 20.90 195 *e*PN **P** **23 13 23.2 -0.8**
MQZ McQueen's Vall 20.90 195 *e*P **P** **23 13 24.0 +0.1**
RPZ Rata Peaks 21.32 198 P **P** **23 13 27.5 -0.4**
97nm,0.6s,mb5.6,baz=3.5,slow=2.4,SNR=34
RPZ S **S** **23 16 47.0 -1.9**
38nm,0.9s,baz=235,slow=20,SNR=3.4
RPZ ScP 23 19 56.2
16nm,0.8s,baz=231,slow=0.7,SNR=5.3
RPZ Rata Peaks 21.32 198 *e*PN **P** **23 13 27.3 -0.5**
RPZ Rata Peaks 21.32 198 *e*P **P** **23 13 28.8 +0.9**
FOZ Fox Glacier 21.60 201 *e*PN **P** **23 13 28.8 -1.6**
FOZ Fox Glacier 21.60 201 *e*P **P** **23 13 29.3 -1.1**
LBZ Lake Benmore 22.19 199 *e*PN **P** **23 13 33.7 -2.1**
LBZ Lake Benmore 22.19 199 P **P** **23 13 34.1 -1.7**
WKZ Wanaka 22.95 200 *e*PN **P** **23 13 41.0 -1.6**
WKZ Wanaka 22.95 200 *e*P **P** **23 13 41.1 -1.5**
EAZ Earnscleugh 23.22 199 *e*PN **P** **23 13 45.0 -0.1**
EAZ Earnscleugh 23.22 199 *e*P **P** **23 13 45.2 +0.1**
MLZ Mavora Lakes 23.68 201 *e*PN **P** **23 13 49.5 +0.2**
MLZ Mavora Lakes 23.68 201 *e*P **P** **23 13 50.5 +1.3**
HNR Honiara 23.79 303 P **P** **23 13 48.8 -1.7**
268nm,0.9s,mb5.9,baz=238,slow=1.8,SNR=6.2
HNR Honiara 23.79 303 *e*P **P** **23 13 48.9 -1.6**
443nm,0.9s,mb6.1
WHZ Wether Hill Ro 24.24 201 *e*PN **P** **23 13 54.4 +0.2**
CNB Canberra Magne 28.95 239⇓*i*P **P** **23 14 37.8 +2.0**
49nm,0.9s,mb5.1
CNB *e*S **S** **23 18 53.1 +3.3**
CNB *e*SCP 23 20 21.8
PPT Papeete 29.11 84 P **P** **23 14 36.1 -1.1**
23nm,0.3s,mb5.3,baz=205,slow=10,SNR=3.6
CTA Charters Tower 31.45 270⇓*i*P **P** **23 14 58.7 +1.5**
217nm,0.3s
CTA *e*S **S** **23 19 29.0 +0.6**
CTA *e*SCP 23 20 30.0
CTA Charters Tower 31.45 270 P **P** **23 14 58.7 +1.5**
255nm,0.4s,mb6.1,baz=94,slow=11,SNR=680
CTA S **S** **23 19 28.6 +0.2**
20nm,1.2s,baz=238,slow=18,SNR=10
CTA ScP 23 20 30.3
27nm,0.8s,baz=119,slow=2.6,SNR=8.9
CTAO Charters Tower 31.45 270⇓*i*P **P** **23 14 58.5 +1.2**
255nm,0.4s,mb6.1
CTAO *e*S **S** **23 19 28.9 +0.4**
CTAO *e*ScP 23 20 29.7
TOO Toolangi 32.56 237⇓*i*P **P** **23 15 08.2 +1.7**
13nm,0.4s,mb4.8
TAU Tasmania Unive 33.09 227 *e*P **P** **23 15 08.6 -2.2**
307nm,1.7s,mb5.6
PMG Port Moresby 34.38 289 P **P** **23 15 22.7 +0.7**
412nm,0.9s,mb6.0,baz=115,slow=4.8,SNR=45
PMG Port Moresby 34.38 289 *e*P **P** **23 15 21.9 0.0**
402nm,0.9s,mb6.0
STKA Stephens Creek 34.79 248⇓*i*P **P** **23 15 26.9 +1.7**
21nm,0.4s,mb5.0
STKA *e*PCP PcP 23 17 44.9 +0.7
STKA *e*SCS ScS 23 24 46.3 +3.4
STKA Stephens Creek 34.79 248 P **P** **23 15 26.9 +1.7**
28nm,0.5s,mb5.1,baz=94,slow=9.7,SNR=77
STKA PcP PcP 23 17 44.4 +0.2
14nm,0.6s,baz=75,slow=5.6,SNR=4.1
STKA S **S** **23 20 18.8 -0.6**
7.5nm,0.9s,baz=216,slow=18,SNR=3.8
STKA ScP 23 20 41.2
8.3nm,0.9s,baz=105,slow=8.4,SNR=3.9
STKA ScS ScS 23 24 46.1 +3.2
2.3nm,0.8s,baz=255,slow=22,SNR=3.6
ADE Adelaide 37.47 243 *e*P **P** **23 15 48.8 +1.6**
WB2 Warramunga Arr 42.38 266⇓*i*P **P** **23 16 27.2 +0.2**
WB2 *e*SCP 23 21 11.5
WB2 *e*S **S** **23 22 08.2 -2.4**
WB2 *e*SCS ScS 23 25 30.9 +3.3
WRAB Tennant Creek 42.39 266⇓*i*P **P** **23 16 27.1 0.0**
352nm,0.9s,mb5.9
WRAB *e*ScP 23 21 11.2
WRAB *e*S **S** **23 22 08.0 -2.7**
WRAB Tennant Creek 42.39 266⇓*i*P **P** **23 16 27.1 +0.1**
WRAB *e*S **S** **23 22 08.0 -2.6**
WRAB pmax pmax
comp=Z,351nm,0.9s,mb5.9
WRA Warramunga Arr 42.39 266 P **P** **23 16 27.1 0.0**
comp=Z,82nm,0.4s,mb5.6,baz=93,slow=8.4,SNR=917
WRA ScP 23 21 11.7
comp=Z,46nm,0.9s,baz=100,slow=4.2,SNR=62
WRA S **S** **23 22 07.7 -3.1**
comp=Z,18nm,0.7s,baz=100,slow=14,SNR=22
WRA ScS ScS 23 25 30.3 +2.6
comp=Z,2.9nm,0.9s,baz=90,slow=4.2,SNR=3.5
KAKA Kakadu 46.26 275⇓*i*P **P** **23 17 11.1 +14**
comp=Z,78nm,0.9s,mb5.2
KAKA *e*SCP 23 21 40.8
KAKA *e*S **S** **23 23 17.8 +13**
FORT Forrest 46.37 249⇓*i*P **P** **23 16 57.9 0.0**
comp=Z,174nm,0.6s,mb5.8
FORT *e*SCP 23 21 27.6
FORT *e*S **S** **23 23 04.8 -1.7**
GUMO Guam 50.47 314 P **P** **23 17 28.1 -0.8**
comp=Z,153nm,0.6s,mb5.6,baz=153,slow=11,SNR=8.3
FITZ Fitzroy Crossi 50.82 265⇓*i*P **P** **23 17 31.5 +0.2**
comp=Z,97nm,0.8s,mb5.2
FITZ *e*S **S** **23 24 08.8 +1.5**
FITZ Fitzroy Crossi 50.82 265 ScP 23 21 47.3
comp=Z,24nm,0.9s,baz=62,slow=1.6,SNR=3.7
FITZ S **S** **23 24 08.1 +0.8**
comp=Z,10nm,0.8s,baz=353,slow=19,SNR=6.5
SBA Scott Base 54.63 183⇑*e*P **P** **23 17 59.9 +2.0**
comp=Z,70nm,0.8s,mb4.9
SBA *e*PcP PcP 23 18 53.1 +0.5
VNDA Vanda 54.63 185 P **P** **23 17 59.2 +1.3**
comp=Z,18nm,0.7s,mb4.4,baz=353,slow=7.4,SNR=81
VNDA PcP PcP 23 18 53.0 +0.4
comp=Z,18nm,0.8s,baz=330,slow=3.8,SNR=9.2
VNDA ScP 23 22 00.2
comp=Z,4.7nm,0.9s,baz=358,slow=6.0,SNR=4.2
VNDA S **S** **23 25 00.2 +3.1**
comp=Z,0.4nm,0.8s,baz=327,slow=13,SNR=3.4
VNDA Vanda 54.63 185⇑*e*P **P** **23 17 59.0 +1.2**
comp=Z,18nm,0.7s,mb4.4
VNDA *e*PcP PcP 23 18 52.4 -0.2
KLBR Kellerberrin 55.06 247⇓*i*P **P** **23 18 01.2 -0.2**
comp=Z,53nm,0.7s,mb4.9
NWAO Narrogin (SRO) 55.31 245 *e*P **P** **23 18 02.7 -0.5**
comp=Z,38nm,1.1s,mb4.5
MBWA Marble Bar 55.39 260⇓*i*P **P** **23 18 03.4 -0.5**
comp=Z,81nm,0.9s,mb5.0
MBWA *e*pP pP 23 19 42.8 -5.1
MUN Mundaring 56.31 246 *e*P **P** **23 18 10.2 +0.2**
CASY Casey 60.33 206⇑*i*P **P** **23 18 36.6 0.0**
CBIJ Chichi jima 62.26 322 P **P** **23 18 48.9 -0.9**
comp=Z,67nm,0.5s,mb5.3,baz=279,slow=18,SNR=9.2
RPN Rapa Nui 63.19 110 P **P** **23 18 54.5 -1.3**
comp=Z,72nm,1.1s,mb5.0,baz=308,slow=7.4,SNR=3.7
RPN Rapa Nui 63.19 110 *e*P **P** **23 18 54.4 -1.3**
comp=Z,216nm,1.1s,mb5.5
QSPA South Pole Qui 66.44 180 *e*P **P** **23 19 16.9 +1.5**
comp=Z,161nm,0.8s,mb5.6
TSM Tawau 66.53 286 P **P** **23 19 17.1 +0.1**
MIR Mirnyy 67.36 206*d*P **P** **23 19 22.2 +1.0**
MIR pmax pmax
comp=Z,81nm,2.0s,mb4.9
KKM Kota Kinabalu 68.80 287 P **P** **23 19 30.8 0.0**
KKM Kota Kinabalu 68.80 287⇓*i*P **P** **23 19 30.5 -0.3**
KKM *e*pP pP 23 21 18.8 -3.0
JOW Kunigami 70.80 312 P **P** **23 19 42.3 -0.1**
comp=Z,73nm,0.7s,mb5.3,baz=166,slow=6.3,SNR=18
JOW S S 23 28 14.9 +0.1
comp=Z,1.4nm,0.3s,baz=134,slow=26,SNR=2.6
MJAR Matsushiro Arr 71.67 326 P **P** **23 19 46.8 -0.6**
comp=Z,24nm,0.8s,mb4.7,baz=161,slow=5.9,SNR=34
MAJO Matsushiro 71.67 326 *e*P **P** **23 19 46.2 -1.1**
comp=Z,36nm,0.9s,mb4.8
MAT Matsushiro 71.67 326 P **P** **23 19 46.3 -1.1**
MAT S S 23 28 21.0 -3.4
MAT Matsushiro 71.67 326 *e*P **P** **23 19 46.0 -1.4**
comp=Z,15nm,0.8s,mb4.5
KSM Kuching 72.03 280⇑*i*P **P** **23 19 49.7 -0.1**
KSM *e*pP pP 23 21 39.1 -3.0
JNU Nakatsue 73.32 319 P **P** **23 19 56.7 -0.2**
comp=Z,27nm,0.8s,mb4.7,baz=60,slow=7.3,SNR=10
NACB Ninganchiao 73.93 306⇓*i*P **P** **23 19 59.1 -1.3**
YHNB Yeheng 74.38 306⇑*e*P **P** **23 20 02.7 -0.3**
TATO Taipei 74.47 307 *e*P **P** **23 20 02.9 -0.6**
comp=Z,103nm,0.8s,mb5.3
ASAJ Asahikawa 75.62 333 P **P** **23 20 11.0 +1.5**
comp=Z,30nm,0.8s,mb4.8,baz=169,slow=3.4,SNR=15
ASAJ S S 23 29 09.8 +2.5
comp=Z,1.9nm,0.3s,baz=261,slow=28,SNR=2.3
YSS Yuzh-Sakhalins 77.89 335 *e*P **P** **23 20 22.3 +0.6**
comp=Z,26nm,0.6s,mb4.8
YSS Yuzh-Sakhalins 77.89 335⇓*e*P **P** **23 20 22.1 +0.4**
YSS *e**PP pP 23 22 20.8 +4.6
YSS *e* 23 23 36.0
YSS *e*S S 23 29 35.0 +3.9
YSS pmax pmax
comp=Z,40nm,0.9s,mb4.8
YSS smax
comp=N,900nm,14.0s
MAW Mawson 77.98 200⇑*i*P **P** **23 20 23.2 +1.4**
comp=N,42nm,0.6s,mb5.0
MAW *i*S S 23 29 32.1 +0.5
MAW Mawson 77.98 200 P **P** **23 20 23.3 +1.5**
comp=N,53nm,0.7s,mb5.0,baz=126,slow=6.7,SNR=127
MAW S S 23 29 32.7 +1.1
comp=N,0.7nm,0.8s,baz=7.0,slow=22,SNR=1.8
KS15 Wonju Array Si 78.05 320 *e*P **P** **23 20 23.4 +0.6**
SSE Sheshan 78.30 311 P **P** **23 20 23.5 -0.7**
SSE AP pP 23 22 18.0 -0.8
SSE XP sP 23 23 13.5 +1.0
SSE PP PP 23 23 31.0 -0.4
SSE S S 23 29 36.5 +0.8
SSE SS SS 23 34 57.0 +0.6
SSE AMB AMB
comp=Z,41nm,0.7s,mb4.9
SSE AMB AMB
comp=Z,486nm,7.0s
SSE Sheshan 78.30 311 P **P** **23 20 23.5 -0.7**
comp=Z,41nm,0.7s,mb4.9
SSE pP pP 23 22 18.1 -0.7
SSE sP sP 23 23 13.6 +1.1
SSE PP PP 23 23 31.0 -0.4
SSE S S 23 29 36.6 +0.9
SSE sS 23 33 02.5
SSE SS SS 23 34 57.1 +0.7
SSE LR LR
comp=Z,160nm,24.0s
PET Petropavlovsk 78.57 347 *e*P **P** **23 20 24.2 -1.0**
PET pmax pmax
comp=Z,16nm,0.7s,mb4.5
KGM Kluang 78.60 277 P **P** **23 20 26.8 +0.7**
PMSA Palmer Station 79.16 157⇑*i*P **P** **23 20 28.9 +0.8**
comp=Z,73nm,0.9s,mb5.0
SAO San Andreas Ge 81.59 44⇑*i*P **P** **23 20 41.3 +0.1**
comp=Z,68nm,1.1s,mb5.0
IPM Ipoh 81.74 279 P **P** **23 20 42.7 +0.3**
HOPS Hopland 81.97 41 *e*P **P** **23 20 43.6 +0.5**
comp=Z,92nm,1.1s,mb5.1
MDJ Mudanjiang 82.04 326 P **P** **23 20 44.3 +1.1**
MDJ XP sP 23 23 30.5 -1.9
MDJ PP PP 23 23 58.5 -3.1
MDJ S S 23 30 11.8 -1.5
MDJ AMB AMB
comp=Z,18nm,0.8s,mb4.5
MDJ AMB AMB
comp=Z,104nm,4.4s
MDJ Mudanjiang 82.04 326 *e*P **P** **23 20 43.9 +0.6**
comp=Z,36nm,1.1s,mb4.7
KCPM Cahto Peak 82.10 40⇑*e*P **P** **23 20 44.3 +0.7**
USHA Ushuaia 82.53 147 P **P** **23 20 46.3 +0.8**
comp=Z,38nm,1.0s,mb4.9,baz=247,slow=7.7,SNR=10
KHMM Horse Mountain 82.77 39 *e*P **P** **23 20 47.7 +0.7**
ISA Isabella 82.87 46 *e*P **P** **23 20 53.7 +6.1**
comp=Z,28nm,1.8s,mb4.5
CMB Columbia Colle 83.04 43⇑*i*P **P** **23 20 48.3 -0.2**
comp=Z,100nm,1.1s,mb5.3
CMB *e*pP pP 23 22 47.1 +2.5
PFO Pinyon Flat Ob 83.06 49 *e*P **P** **23 20 48.8 +0.1**
comp=Z,31nm,1.1s,mb4.7
KRMB Red Mountain 83.08 39⇑*e*P **P** **23 20 49.2 +0.5**
OHCM Honcut 83.15 42 *e*P **P** **23 20 49.2 +0.2**
SYO Syowa Base 83.25 193 ⇓P **P** **23 20 47.6 -1.3**
SYO Syowa Base 83.25 193 ⇓PcP PcP 23 20 50.0 -2.5
SYO Syowa Base 83.25 193 ⇓pP pP 23 22 42.6 -2.6
WDC Whiskeytown Da 83.28 40⇑*e*P **P** **23 20 49.3 -0.3**
comp=Z,70nm,1.1s,mb5.1
CN2 Changchun 83.67 324 *e*P **P** **23 20 51.8 +0.3**
CN2 *e*AP pP 23 22 48.5 +0.7
CN2 *e*S S 23 30 29.5 +0.2
CN2 AMB AMB
comp=Z,30nm,1.2s,mb4.7
CN2 AMB AMB
comp=Z,140nm,3.0s
KEBM Edson Butte 83.71 38 *e*P **P** **23 20 52.8 +1.1**
MTUM Tungsten Hills 83.79 45 *e*P **P** **23 20 52.9 +0.6**
DAC Darwin (Calif) 83.80 46 *e*P **P** **23 20 51.9 -0.4**
comp=Z,24nm,1.1s,mb4.7
YBH Yreka Blue Hor 83.91 39 P **P** **23 20 53.4 +0.7**
comp=Z,25nm,0.9s,mb4.7,baz=171,slow=3.4,SNR=35
YBH S S 23 30 33.6 +1.9
comp=Z,0.5nm,0.4s,baz=147,slow=22,SNR=1.7
YBH Yreka Blue Hor 83.91 39⇑*e*P **P** **23 20 53.1 +0.4**
comp=Z,37nm,1.1s,mb4.8
YBH *e*pP pP 23 22 49.9 +0.7
BEKR Beckwourth 84.16 42⇑*e*P **P** **23 20 53.9 0.0**
comp=Z,42nm,1.2s,mb4.8
KDAK Kodiak Island 84.31 14 *e*P **P** **23 20 53.3 -0.9**
comp=Z,28nm,1.1s,mb4.7
HUMO Hull Mountain 84.32 39 *e*P **P** **23 20 55.3 +0.6**
comp=Z,67nm,1.1s,mb5.1
BUOR Burton Butte 84.52 39 P **P** **23 20 56.7 +1.1**
NVAR Mina Array Bea 84.59 44 P **P** **23 20 56.4 +0.3**
comp=Z,34nm,1.0s,mb4.8,baz=217,slow=6.7,SNR=110
NVAR PKKPbc 23 39 05.2
comp=Z,0.8nm,0.8s,baz=76,slow=4.8,SNR=5.4
NVAR PKPPKP 23 47 03.5
comp=Z,0.5nm,0.6s,baz=135,slow=2.6,SNR=4.8
NVAR Mina Array Bea 84.59 44 P **P** **23 20 56.4 +0.3**
NVAR PKKPbc 23 39 05.2
NVAR P'P' 23 47 03.5
BBOR Butler Butte 84.65 38 P **P** **23 20 57.2 +0.9**
HOG Hogback Mounta 84.81 39 P **P** **23 20 58.1 +1.0**
SNAA Sanae 84.92 179 S S 23 30 30.3 -10
comp=Z,0.7nm,0.8s,baz=205,slow=20,SNR=11
SNAA PKKPbc 23 39 00.3
comp=Z,0.3nm,1.0s,baz=354,slow=6.6,SNR=6.3
SNAA Sanae 84.92 179 *e*P **P** **23 20 57.0 +0.1**
comp=Z,4µm,1.9s
TPH Tonopah 85.08 45⇑*e*P **P** **23 20 58.2 -0.3**
comp=Z,64nm,1.1s,mb5.1
VNA3 Neumayer Olymp 85.13 177 P **P** **23 20 59.4 +1.4**
NEN Nelson 85.30 48 *e*P **P** **23 20 59.6 0.0**
NEN *e*PP PP 23 24 15.9 -12
MOD Modoc 85.43 40⇑*i*P **P** **23 21 00.2 +0.1**
comp=Z,44nm,1.0s,mb4.9
MAIT Maitri 85.47 184 *e*P **P** **23 21 00.4 +0.7**
NVL N'lazarevskaya 85.48 184⇓*i*P **P** **23 20 59.8 +0.1**
NVL *e* 23 23 53.0
NVL *i*S S 23 30 45.0 -0.9
NVL pmax pmax
comp=Z,4.0nm,0.8s,mb4.0
VNA2 Neumayer--Watz 85.55 178 P **P** **23 21 01.4 +1.4**
VNA2 Neumayer--Watz 85.55 178 **P** **23 21 16.6 +17**
VNA1 Neumayer--Stat 85.79 177 P **P** **23 21 03.3 +2.2**
VNA1 Neumayer--Stat 85.79 177 **P** **23 21 17.8 +17**
ENH Enshi 86.27 305⇓*e*P **P** **23 21 05.2 +0.7**
comp=Z,23nm,0.8s,mb4.9
ENH *e*pP pP 23 23 04.9 +3.3
MA2 Magadan 86.32 346 *e*P **P** **23 21 02.2 -1.7**
comp=Z,26nm,0.8s,mb4.9
MA2 Magadan 86.32 346 *e*P **P** **23 21 02.8 -1.1**
MA2 pmax pmax
comp=Z,25nm,0.9s,mb4.8
TUC Tucson 86.39 53⇑*i*P **P** **23 21 05.8 +0.9**
comp=Z,76nm,1.1s,mb5.2
BMN Battle Mountai 86.43 43 *e*P **P** **23 21 04.8 -0.2**
comp=Z,40nm,1.1s,mb5.0
SVW2 Sparrevohn 86.73 12 *e*P **P** **23 21 04.9 -0.9**
WVOR Wild Horse Val 86.74 41⇑*e*P **P** **23 21 06.3 0.0**
comp=Z,66nm,1.2s,mb5.1
VFP Flag Point 86.86 37 P **P** **23 21 07.1 +0.3**
OSD Olympics--Snow 87.25 34 P **P** **23 21 10.0 +1.4**
SLKM Skilak Lake 87.30 14 *e*P **P** **23 21 07.7 -0.8**
SLKM *e*pP pP 23 23 05.0 -0.9
ARUT Antelope Range 87.40 47 *e*P **P** **23 21 10.0 +0.4**
SPU Mount Spurr 87.50 13 *e*P **P** **23 21 08.0 -1.4**
GNW Green Mountain 87.54 35 P **P** **23 21 10.3 +0.4**
ELK Elko 87.85 43⇑*i*P **P** **23 21 11.5 -0.1**
comp=Z,32nm,1.1s,mb5.0
PGC Sidney 87.91 34⇑*e*P **P** **23 21 11.8 +0.1**
comp=Z,156nm,1.0s,mb5.7
MXC Moxie City 88.28 37 P **P** **23 21 14.0 +0.5**
TWW Teanaway 88.31 36 P **P** **23 21 14.7 +1.1**
TTA Tatalina 88.36 11 *e*P **P** **23 21 13.0 -0.4**
PLCA Paso Flores 88.46 134 P **P** **23 21 16.1 +1.6**
comp=Z,24nm,1.1s,mb4.9,baz=240,slow=5.0,SNR=16
PLCA Paso Flores 88.46 134 *e*P **P** **23 21 15.8 +1.3**
comp=Z,32nm,1.1s,mb5.0
PMR Palmer 88.51 14 *e*P **P** **23 21 13.7 -0.4**
comp=Z,42nm,0.9s,mb5.3
XAN Xi'an 88.56 308 P **P** **23 21 16.3 +1.2**
XAN AMB AMB
comp=Z,26nm,0.7s,mb5.2
HAWA Hanford 88.58 37⇑*e*P **P** **23 21 14.8 0.0**
comp=Z,7.0nm,1.2s,mb4.4
MSU Marysvale 88.63 47 *e*P **P** **23 21 16.2 +0.9**
DIV Divide 88.90 16⇑*e*P **P** **23 21 15.2 -0.8**
comp=Z,142nm,1.0s,mb5.8
DIV *e*pP pP 23 23 12.4 -1.5
BMO Blue Mountains 88.94 39⇑*i*P **P** **23 21 16.1 -0.5**
comp=Z,28nm,1.2s,mb5.0
SEY Seymchan 89.01 348*c i*P **P** **23 21 16.4 -0.1**
DUG Dugway 89.11 45⇑*e*P **P** **23 21 16.7 -0.8**
comp=Z,24nm,1.1s,mb4.9
DUG *e*PP PP 23 24 53.5 -5.1
KMI Kunming 89.12 298 P **P** **23 21 19.0 +1.1**
KMI AP pP 23 23 15.5 -0.3
KMI XP sP 23 24 12.5 +4.1
KMI PP PP 23 24 59.3 +0.3
KMI SKS SKS 23 30 57.5 +1.2
KMI S S 23 31 21.5 +1.3
KMI SS SS 23 37 32.0 -1.5
KMI AMB AMB
comp=Z,15nm,1.2s,mb4.7
KMI AMB AMB
comp=Z,94nm,5.6s
KMI Kunming 89.12 298 P **P** **23 21 19.0 +1.1**
comp=Z,15nm,1.2s,mb4.7
KMI pP pP 23 23 15.6 -0.2
KMI sP sP 23 24 12.6 +4.2
KMI PP PP 23 24 59.3 +0.3
KMI SKS SKS 23 30 57.4 +1.1
KMI S S 23 31 21.6 +1.4
KMI sS 23 34 50.2
KMI SS SS 23 37 32.0 -1.5
KMI LR LR
comp=Z,200nm,25.1s
EFI East Falkland 89.44 148 *e*P **P** **23 21 18.8 +0.1**
comp=Z,111nm,1.1s,mb5.6
EFI *e* 23 21 26.3
NLU North Lily Min 89.46 45⇑*e*P **P** **23 21 18.8 -0.3**
OD2 Odessa Site #2 89.63 37 P **P** **23 21 20.1 +0.4**
TMUT Trail Mountain 89.69 46⇑*i*P **P** **23 21 20.9 +0.8**
MPU Maple Canyon 89.78 46⇑*e*P **P** **23 21 20.9 +0.3**
NOQ North Oquirrh 89.80 45⇑*e*P **P** **23 21 20.4 -0.2**
SPUT South Promonto 89.93 44⇑*e*P **P** **23 21 20.9 -0.4**
HVU Hansel Valley 89.97 44⇑*i*P **P** **23 21 21.4 0.0**

SRU San Rafael 90.05 47⇑ eP P 23 21 21.5 -0.3
CTU Camp Tracy 90.06 45⇑ eP P 23 21 21.7 -0.1
JLU Jordanelle 90.20 45⇑ iP P 23 21 22.7 +0.2
HHC Hu-ho-hao-te 90.22 315 eP P 23 21 23.5 +0.9
HHC AP pP 23 23 22.8 +2.1
HHC XP sP 23 24 15.5 +2.2
HHC PP PP 23 25 02.3 -5.0
HHC SKS SKS 23 31 00.8 -1.6
HHC S S 23 31 34.3 +4.7
HHC AMB AMB
comp=Z,18nm,1.0s,mb4.9
HHC AMB AMB
comp=Z,229nm,10.8s
DAU Daniels Canyon 90.23 45 eP P 23 21 23.5 +0.9
TXAR Lajitas Array 90.32 58 P P 23 21 23.9 +0.6
comp=Z,36nm,1.0s,mb5.2,baz=225,slow=5.3,SNR=123
TXAR PP PP 23 25 04.1 -4.3
comp=Z,0.3nm,0.2s,baz=288,slow=5.7,SNR=2.6
TXAR PKKPbc 23 38 50.8
comp=Z,1.0nm,0.5s,baz=90,slow=3.2,SNR=9.0
TXAR Lajitas Array 90.32 58 P P 23 21 23.9 +0.6
TXAR PP PP 23 25 04.1 -4.3
TXAR PKKPbc 23 38 50.8
MCK McKinley 90.44 13⇑ eP P 23 21 21.7 -1.4
comp=Z,12nm,1.0s,mb4.7
TCUT Toone Canyon 90.50 45⇑ iP P 23 21 24.3 +0.4
HWUT Hardware Ranch 90.65 44⇑ iP P 23 21 23.8 -0.7
comp=Z,43nm,1.2s,mb5.2
HWUT ePP PP 23 25 06.6 -4.1
PV10 Paradox Valley 90.68 48 eP P 23 21 24.5 -0.3
ANMO Albuquerque 90.83 52 P P 23 21 25.8 +0.2
comp=Z,36nm,1.1s,mb5.2,baz=221,slow=5.3,SNR=46
ANMO PP PP 23 25 09.2 -3.1
comp=Z,0.8nm,0.6s,baz=250,slow=11,SNR=3.5
ANMO Albuquerque 90.83 52⇑ iP P 23 21 25.6 0.0
comp=Z,47nm,1.2s,mb5.3
ANMO Albuquerque 90.83 52⇑ iP P 23 21 25.6 +0.1
ANMO pmax pmax
comp=Z,47nm,1.2s
PV01 Paradox Valley 90.88 48 eP P 23 21 25.6 0.0
CD2 Chengdu 90.91 303⇑ iP P 23 21 28.5 +2.5
CD2 PPP PPP 23 27 22.5 +5.6
CD2 SKS SKS 23 31 06.0 -0.6
CD2 S S 23 31 42.5 +6.6
CD2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
AHID Auburn Hatcher 91.55 43⇑ eP P 23 21 28.6 -0.1
comp=Z,44nm,1.0s,mb5.4
MCMT McKenzie Canyo 91.56 41 eP P 23 21 29.1 +0.4
MCMT epP pP 23 23 28.4 +1.5
IMA Indian Mountai 91.66 10 eP P 23 21 25.4 -3.2
comp=Z,43nm,1.0s,mb5.4
RRI2 Red Ridge 91.71 43⇑ eP P 23 21 29.5 +0.1
comp=Z,63nm,1.2s,mb5.5
RRI2 epP pP 23 23 29.8 +2.0
ILAR Eielson Array 91.79 14 P P 23 21 27.9 -1.4
comp=Z,5.1nm,0.9s,mb4.5,baz=230,slow=5.7,SNR=28
ILAR pP pP 23 23 26.3 -1.3
comp=Z,0.4nm,0.7s,baz=352,slow=15,SNR=4.9
ILAR S 23 31 09.5
comp=Z,0.5nm,1.0s,baz=252,slow=9.0,SNR=2.8
ILAR PKKP PKKP 23 38 44.2 +58
comp=Z,0.6nm,0.6s,baz=321,slow=3.5,SNR=5.4
BILL Bilibino 91.97 355 eP P 23 21 29.7 -0.3
comp=Z,14nm,0.8s,mb5.0
BILL Bilibino 91.97 355⇑ iP P 23 21 29.8 -0.2
BILL pmax pmax
comp=Z,19nm,0.9s,mb5.1
TPAW Teton Pass 92.02 43 eP P 23 21 30.9 +0.1
comp=Z,33nm,1.1s,mb5.3
SNOW Snow King Moun 92.13 43 eP P 23 21 31.4 +0.2
comp=Z,53nm,1.2s,mb5.4
IMW Indian Meadow 92.23 43⇑ eP P 23 21 31.9 +0.1
comp=Z,36nm,1.2s,mb5.3
LOHW Long Hollow 92.30 43⇑ eP P 23 21 31.9 -0.2
comp=Z,17nm,1.2s,mb4.9
QLMT Earthquake Lak 92.42 42 eP P 23 21 33.2 +0.6
FLWY Flagg Ranch 92.48 42⇑ eP P 23 21 33.1 +0.2
PDAR Pinedale Array 92.53 44 P P 23 21 33.2 0.0
comp=Z,21nm,1.1s,mb5.1,baz=207,slow=3.3,SNR=63
PDAR pP pP 23 23 29.3 -2.3
comp=Z,0.3nm,0.4s,baz=219,slow=5.8,SNR=1.4
PDAR PP PP 23 25 15.7 -10
comp=Z,0.3nm,0.3s,baz=240,slow=7.3,SNR=2.8
PDAR PKKP PKKP 23 38 42.0 +56
comp=Z,0.9nm,0.6s,baz=90,slow=4.4,SNR=6.7
SDCO Great Sand Dun 92.82 50⇑ iP P 23 21 34.5 -0.1
comp=Z,28nm,1.0s,mb5.2
DAWY Dawson 92.99 17 eP P 23 21 33.8 -0.9
HRY Holter Researc 93.16 40 eP P 23 21 35.9 -0.1
WALA Waterton Lakes 93.22 37 eP P 23 21 35.6 -0.5
comp=Z,10nm,1.1s,mb4.8
ISCO Idaho Springs 93.70 48 eP P 23 21 38.3 -0.3
comp=Z,6.0nm,1.0s,mb4.7
YAK Yakutsk 94.33 339⇑ iP P 23 21 40.4 -0.5
YAK pmax pmax
comp=Z,24nm,0.8s,mb5.4
CFAA Coronel Fontan 94.73 127 P P 23 21 43.7 +0.2
comp=Z,2.2nm,1.0s,mb4.3,baz=248,slow=3.9,SNR=9.8
CFAA Coronel Fontan 94.73 127 P P 23 21 43.7 +0.2
TRQA Tornquist 95.49 136 eP P 23 21 46.9 +0.2
comp=Z,9.2nm,1.0s,mb4.9
EDM Edmonton 95.76 34 P P 23 21 46.6 -0.9
ULN Ulaanbaatar 96.51 320c iP P 23 21 50.7 -0.4
RSSD Black Hills 96.71 45 eP P 23 21 51.2 -0.9
comp=Z,7.1nm,0.9s,mb4.9
SONM Songino Array 96.89 319 P P 23 21 52.7 -0.2
comp=Z,0.7nm,0.6s,mb4.1,baz=124,slow=5.7,SNR=6.5
SONM pP pP 23 23 49.8 -1.7
comp=Z,0.8nm,1.0s,baz=135,slow=8.2,SNR=2.3
SONM PP PP 23 25 50.3 -8.0
comp=Z,4.3nm,1.1s,baz=135,slow=4.2,SNR=6.7
SONM S 23 31 37.6
comp=Z,1.0nm,1.1s,baz=27,slow=9.9,SNR=4.2
SONM PKKPbc 23 38 32.4
comp=Z,4.4nm,0.9s,baz=272,slow=3.4,SNR=21
INK Inuvik 97.79 16 pP pP 23 23 51.8 -3.4
comp=Z,3.9nm,1.1s,baz=343,slow=9.5,SNR=3.5
INK PKiKP 23 26 27.2
comp=Z,1.4nm,0.9s,baz=124,slow=3.0,SNR=2.2
INK Inuvik 97.79 16 eP P 23 21 54.9 -1.6
comp=Z,8.6nm,1.1s,mb5.0
INK epP pP 23 23 54.0 -1.2
LPAZ La Paz 102.55 114 P Pdif 23 22 21.5 +2.7
comp=Z,1.4nm,0.8s,baz=239,slow=4.3,SNR=6.0
LPAZ PKiKP 23 26 38.2
comp=Z,1.0nm,0.9s,baz=211,slow=7.0,SNR=3.6
LPAZ PKKPbc 23 38 17.1
comp=Z,0.7nm,0.7s,baz=97,slow=7.6,SNR=3.4
LPAZ La Paz 102.55 114 P Pdif 23 22 21.5 +2.7
ULM Lac du Bonnet 104.23 41 PKiKP 23 26 39.5
comp=Z,1.2nm,0.7s,baz=322,slow=2.2,SNR=3.5
ULM PKKPbc 23 38 11.7
comp=Z,1.1nm,0.6s,baz=118,slow=3.1,SNR=3.3
SIV San Ignacio 108.53 117 PKiKP 23 26 46.6
comp=Z,0.4nm,0.7s,baz=282,slow=11,SNR=4.4
SIV PKKPbc 23 37 58.4
SDV Santo Domingo 111.23 89 PKiKP 23 26 51.9
comp=Z,5.5nm,0.8s,baz=280,slow=2.8,SNR=5.9
ZAL Zalesovo 111.75 321 PKiKP 23 26 51.9
comp=Z,2.3nm,0.4s,baz=355,slow=2.3,SNR=6.7
ZAL PKKPbc 23 37 48.0
comp=Z,0.9nm,0.7s,baz=161,slow=5.5,SNR=5.3
ZAL PKKPab 23 37 59.2
comp=Z,1.0nm,0.5s,baz=194,slow=4.1,SNR=4.4
ZAL Zalesovo 111.75 321 PKPdf PKPdf 23 26 51.9 +0.3
ZAL PKKPbc 23 37 48.0
ZAL PKKPab 23 37 59.2
MKAR Makanchi Array 111.96 313 SKP 23 29 38.6
comp=Z,3.8nm,0.9s,baz=180,slow=1.2,SNR=4.0
MKAR Sdiff 23 32 44.4
comp=Z,1.3nm,0.7s,baz=72,slow=7.7,SNR=5.0
MKAR PKKPbc 23 37 47.6
comp=Z,5.1nm,0.9s,baz=270,slow=3.6,SNR=13
MKAR PKKPab 23 37 57.2
comp=Z,7.7nm,1.0s,baz=288,slow=3.8,SNR=13
SADO Sadowa 113.79 50 PKKPab 23 37 50.0
comp=Z,2.1nm,0.7s,baz=127,slow=2.6,SNR=3.7
AAK Ala-Archa 116.72 307 i PKIKP PKPdf 23 27 00.4 -1.2
SJG San Juan 118.45 82 PKP PKPdf 23 27 05.3 -0.2
comp=Z,34nm,1.0s,baz=270,slow=2.0,SNR=5.2
SJG San Juan 118.45 82 ePKPdf PKPdf 23 27 05.3 -0.2
BDFB Brasilia 118.98 125 PKP PKPdf 23 27 06.9 +0.4
comp=Z,11nm,0.8s,baz=201,slow=5.6,SNR=14
BDFB PKKPbc 23 37 23.8
comp=Z,2.5nm,0.6s,baz=214,slow=4.7,SNR=4.3
BDFB PKKPab 23 37 29.2
comp=Z,1.9nm,0.6s,baz=69,slow=6.8,SNR=3.4
BAO Brasilia Array 119.00 125 PKPdf PKPdf 23 27 07.5 +0.9
BVA0 Borovoye Array 120.23 319 i PKIKP PKPdf 23 27 08.0 -0.1
BVA0 pmax pmax
comp=Z,3.0nm,0.9s
BVAR Borovoye Array 120.23 319 PKP PKPdf 23 27 08.5 +0.4
comp=Z,11nm,0.7s,baz=100,slow=1.4,SNR=42
BVAR SKP 23 29 54.6
comp=Z,5.5nm,0.8s,baz=129,slow=2.0,SNR=5.6
BVAR PKKPbc 23 37 19.2
comp=Z,2.3nm,0.8s,baz=297,slow=3.3,SNR=10
SUR Sutherland 120.84 201 ePKPdf PKPdf 23 27 11.5 +1.7
SCHQ Schefferville 122.30 39 PKP PKPdf 23 27 12.1 0.0
comp=Z,10nm,0.9s,baz=354,slow=2.7,SNR=9.1
SCHQ PKKPbc 23 37 11.5
comp=Z,1.6nm,0.7s,baz=56,slow=19,SNR=4.7
SCHQ Schefferville 122.30 39 ePKPdf PKPdf 23 27 11.7 -0.4
BOSA Boshof 122.62 206 PKP PKPdf 23 27 15.3 +2.0
comp=Z,18nm,0.8s,baz=117,slow=0.8,SNR=28
BOSA PKKPbc 23 37 09.2
comp=Z,5.9nm,1.0s,baz=350,slow=4.6,SNR=4.5
BOSA Boshof 122.62 206 ePKPdf PKPdf 23 27 15.0 +1.7
SUMG Summit 126.64 13 ePKPdf PKPdf 23 27 20.7 +0.7
ARU Arti 126.66 324 i PKIKP PKPdf 23 27 20.4 0.0
ARU e 23 29 26.8
ARU e 23 30 21.9
SOKR Solikamsk 126.78 328⇑ iPKIKP PKPdf 23 27 21.8 +1.3
SOKR pmax pmax
comp=Z,30nm,0.8s
AB31 Akbulak array 127.01 315 PKIKP PKPdf 23 27 22.1 +0.9
AB31 pmax pmax
comp=Z,15nm,1.0s
AKTO Aktyubinsk 128.09 316 PKIKP PKPdf 23 27 23.8 +0.5
AKTO pmax pmax
comp=Z,2.0nm,0.8s
KEV Kevo 131.16 348 epkp PKPdf 23 27 24.1 -4.6
ARCES ARCESS Array B 131.63 348 PKhKP 23 27 20.3
comp=Z,1.4nm,0.6s,baz=90,slow=1.2,SNR=8.1
ARCES PKP PKPdf 23 27 29.7 +0.2
comp=Z,22nm,0.8s,baz=45,slow=1.7,SNR=36
ARCES SKPbc 23 30 07.2
comp=Z,23nm,0.9s,baz=34,slow=4.4,SNR=14
ARE0 ARCESS Array S 131.63 348 ePKPdf PKPdf 23 27 29.5 -0.1
TSUM Tsumeb 134.08 203 ePKPpre 23 27 28.8
TSUM ePKPdf PKPdf 23 27 37.2 +1.8
HASS Wahat al Ahsa' 134.90 283 P PKPdf 23 27 38.0 +1.2
JOF Joensuu 135.48 340 epkp PKPdf 23 27 26.5 -10
KMBO Kilima Mbogo 136.19 241 PKP PKPdf 23 27 41.6 +2.2
comp=Z,8.2nm,0.9s,baz=58,slow=4.3,SNR=17
KMBO SKPbc 23 30 25.5
comp=Z,8.6nm,0.9s,baz=52,slow=2.5,SNR=14
ATD Arta Tunnel 137.54 261 SKP 23 30 30.6
comp=Z,14nm,0.9s,baz=76,slow=5.7,SNR=5.5
KAF Kangasniemi 137.59 342 epkp PKPdf 23 27 32.8 -7.9
MOS Moscow 137.69 329 ePKIKP PKPdf 23 27 53.8 +13
VRHR Novokhopersk 137.87 321 i PKIKP PKPdf 23 27 41.9 +0.4
VRHR pmax pmax
comp=Z,40nm,0.9s
VRHR pmax pmax
comp=N,10.0nm,1.1s
VRHR pmax pmax
comp=E,6.0nm,0.5s
FINES FINESS Array B 138.20 342 PKhKP 23 27 31.4
comp=E,2.3nm,0.4s,baz=30,slow=4.3,SNR=18
FINES SKPbc 23 30 27.6
comp=E,20nm,0.8s,baz=63,slow=4.3,SNR=19
OBN Obninsk 138.54 329 i PKIKP PKPdf 23 27 42.0 -0.6
OBN e 23 30 37.9
OBN pmax pmax
comp=Z,9.0nm,1.2s
KAMS Al Khamasin 138.62 274 P PKPdf 23 27 45.6 +1.9
MZLS Mizel 138.75 280 P PKPdf 23 27 47.5 +3.6
GNI Garni 139.03 305 PKP PKPdf 23 27 45.8 +1.8
comp=Z,14nm,0.8s,baz=128,slow=0.6,SNR=8.3
GNI SKPbc 23 30 30.3
comp=Z,16nm,1.1s,baz=44,slow=21,SNR=3.6
GNI Garni 139.03 305 i PKIKP PKPdf 23 27 45.3 +1.3
ZEI Tsey 139.12 309 ePKIKP PKPdf 23 27 43.1 -0.9
VRSR Storozhevoye 139.19 323 i PKIKP PKPdf 23 27 46.9 +3.0
AFFS 'Afif 140.73 279 P PKPdf 23 27 44.8 -2.6
MBAR Mbarara 141.60 235 ePKPdf PKPdf 23 27 46.1 -3.1
MBAR eSKP 23 30 39.1
MBAR Mbarara 141.60 235⇑ iPKHKP 23 27 46.3
NB2 NORSAR Subarra 141.83 351 PKPabc PKPdf 23 27 44.6 -3.6
comp=Z,22nm,0.8s,baz=17,slow=3.0
NB2 NORSAR Subarra 141.83 351 PKPa 23 27 44.6
baz=17,slow=3.1
NOA NORSAR Array B 141.83 351 PKhKP 23 27 44.8
comp=Z,18nm,0.8s,baz=16,slow=4.6,SNR=52
NOA SKPbc 23 30 37.1
comp=Z,12nm,1.0s,baz=15,slow=4.2,SNR=8.7
SOC Sochi 141.84 311 i PKIKP PKPdf 23 27 51.9 +3.2
SOC e 23 30 59.8
SOC ePPP PPP 23 34 05.9 -11
SOC pmax pmax
comp=Z,15nm,0.8s
SOC pmax pmax
comp=N,8.0nm,0.7s
SOC pmax pmax
comp=E,15nm,0.9s
NAO01 NORSAR Array S 142.06 351 ePKPpre 23 27 45.0
HILS Ha'il 142.20 285 P PKPdf 23 27 49.6 -0.3
ANN Anapa 142.96 314 i PKIKP PKPdf 23 27 49.4 -1.2
ANN pmax pmax
comp=Z,142nm,1.0s
ASK Askoy 143.01 356 eP PKPbc 23 27 48.8 +0.1
ASK AMb AMB 23 27 56.5
comp=Z,261nm,1.7s
ASK Askoy 143.01 356 eP PKPbc 23 27 48.4 -0.3
BER Bergen 143.09 356 eP PKPbc 23 27 48.1 -0.9
BER AMb AMB 23 27 51.1
comp=Z,128nm,1.6s
EGD Espegrend 143.22 356 eP PKPbc 23 27 49.5 +0.1
EGD AMb AMB 23 27 50.3
comp=Z,162nm,1.1s
KONO Kongsberg 143.39 352 eP PKPbc 23 27 48.8 -1.1
KONO Kongsberg 143.39 352c i PKIKP PKPdf 23 27 49.7 -1.1
BLS5 Blasjo 143.96 354 eP PKPbc 23 27 53.0 +1.4
BLS5 AMb AMB 23 27 54.6
comp=Z,48nm,1.0s
MALT Malatya 144.20 303 ePKPdf PKPdf 23 27 54.5 +1.6
MALT eSKP 23 30 45.1
AKASG Malin Array Be 144.74 327 PKP PKPdf 23 27 54.3 +0.8
comp=Z,59nm,0.7s,baz=42,slow=4.0,SNR=223
AKASG pPKP 23 29 58.2
comp=Z,7.4nm,0.7s,baz=40,slow=3.8,SNR=4.5
AKASG SKPbc 23 30 44.2
comp=Z,35nm,0.9s,baz=44,slow=2.5,SNR=19
SVSK Karacayir 144.88 306 eP PKPdf 23 27 56.4 +2.3
SVST Sivas 144.95 306 i P PKPdf 23 27 57.7 +3.5
SUW Suwalki 145.02 336 ePKP PKPdf 23 27 55.8 +1.9
SUW Suwalki 145.02 336 ePKP PKPdf 23 27 55.8 +1.9
SIM Simferopol' 145.06 316c iPKIKP PKPdf 23 27 57.0 +2.7
SIM i 23 30 04.0
SIM pmax pmax
comp=Z,92nm,0.9s
BOYT Boyabat 145.92 310 i P PKPdf 23 27 58.8 +2.9
BYBT Boyabat 146.00 310 eP PKPdf 23 27 58.6 +2.6
UMJS Umm Lajj 146.03 280 P PKPdf 23 27 59.8 +3.2
CTKT Corum 146.27 308 i P PKPdf 23 27 57.1 +0.6
BZK Bozkurt 146.35 311 eP PKPdf 23 27 60.0 +3.4
CORM Corum 146.53 308 eP PKPdf 23 27 59.2 +2.4
MUD Monsted U'grnd 146.54 351⇑ iP PKPdf 23 27 59.8 +3.5
comp=Z,63nm,1.0s
TOS Tosya 146.68 310 eP PKPdf 23 28 01.2 +4.2
COP Copenhagen 146.70 347 i P PKPdf 23 28 00.0 +3.4
COP Copenhagen 146.70 347 eP PKPdf 23 28 00.0 +3.4
AVNT Avonos 146.79 305 i P PKPdf 23 28 01.8 +4.4
TBKS Tabuk 146.87 286 P PKPdf 23 28 03.3 +5.5
CDAG Cicekdag 146.90 307 i P PKPdf 23 28 00.1 +2.7
BALT Daday 146.94 311 i P PKPdf 23 28 01.5 +4.0
WAR Warsaw 147.22 336 ePKP PKPdf 23 28 02.8 +5.2
WAR Warsaw 147.22 336 ePKP PKPdf 23 28 02.7 +5.1
ELDT Eldivan 147.29 309 i P PKPdf 23 28 02.1 +4.0
BR131 Keskin Array S 147.40 307 ePKPdf PKPdf 23 27 59.1 +0.8
BR131 ePKPbc PKPdf 23 28 02.9 +4.6
BR131 ePKPab PKPab 23 28 07.0 -0.8
BRTR Keskin Array B 147.40 307 PKP PKPdf 23 27 58.6 +0.4
comp=Z,12nm,0.7s,baz=135,slow=3.5,SNR=15
BRTR PKPbc PKPdf 23 28 02.8 +4.5
comp=Z,12nm,0.7s,baz=134,slow=3.7,SNR=29
BRTR PKPab PKPab 23 28 07.2 -0.7
comp=Z,21nm,0.7s,baz=95,slow=4.6,SNR=30
BRTR pPKPbc 23 30 03.4
comp=Z,3.2nm,0.9s,baz=142,slow=4.2,SNR=4.5
BRTR SKPbc 23 30 51.6
comp=Z,5.2nm,1.0s,baz=90,slow=2.5,SNR=3.6
KAMT Kaman 147.46 307 eP PKPdf 23 28 02.3 +3.9
GKP Gorka Klasztor 147.65 341 ePKP PKPdf 23 28 03.6 +5.4
GKP Gorka Klasztor 147.65 341 ePKP PKPdf 23 28 03.6 +5.4
IAS Iasi 147.77 324 P PKPdf 23 28 03.0 +4.3
LVV L'vov 147.80 330⇑ iPKP2 PKPab 23 28 03.6 -5.5
LVV e 23 31 38.4
LVV e 23 35 06.8
ANTO Ankara 147.96 308 P PKPdf 23 28 05.1 +5.9
LOD Lodumlu 147.98 308 eP PKPdf 23 28 04.5 +5.3
BDAS Al Bad' 148.15 286 P PKPdf 23 28 05.4 +5.6
ALWS Ilw as Safayha 148.16 288 P PKPdf 23 28 06.4 +6.6
TLCR 148.21 320⇓ iP PKPdf 23 28 06.6 +7.2
TLCR 148.21 320⇓ iP PKPdf 23 28 06.6 +7.2
TLCR 148.21 320 PKP2 PKPab 23 28 05.3 -5.6
SGKT Sivrigoynuk 148.23 310 i P PKPdf 23 27 59.8 +0.3
ESK Eskdalemuir 148.28 3 ePKPbc PKPdf 23 28 03.4 +4.3
HAQS Haql 148.29 287 P PKPdf 23 28 06.2 +6.2
TAYS Tayyib Ism 148.35 286 P PKPdf 23 28 05.7 +5.5
PHNC Paralimni 148.36 299 ⇑P PKPdf 23 28 05.9 +5.9
PHNC Paralimni 148.36 299⇑ ePKPdf 23 28 05.9 +5.9
KWP Kalwaria 148.53 331 ePKP PKPdf 23 28 05.9 +6.2
KWP Kalwaria 148.53 331 ePKP PKPdf 23 28 05.9 +6.1
BURAR Bucovina Array 148.74 326⇓ iP PKPdf 23 28 06.7 +6.5
BURAR Bucovina Array 148.74 326⇓ iP PKPdf 23 28 06.7 +6.5
BSEG Bad Segeberg 148.76 348 ePKPdf PKPdf 23 28 01.0 +1.0
BSEG ePKPbc PKPdf 23 28 06.2 +6.2
BSEG ePKPab PKPab 23 28 11.8 -1.0
BSEG Bad Segeberg 148.76 348 ePKHKP 23 28 06.2
BSEG Bad Segeberg 148.76 348 ePKP2 PKPab 23 28 11.8 -1.0
TIRR Tirgusor 148.85 319 ePKPdf PKPdf 23 28 00.7 +0.2
TIRR ePKPbc PKPdf 23 28 06.5 +6.1
TIRR epPKPdf 23 30 08.5
ERMK Ermenek 148.86 302 i P PKPdf 23 28 06.2 +5.5
MDU Mudurnu 148.87 310 eP PKPdf 23 28 06.2 +5.6
KDHN Kadinhani 148.91 306 i P PKPdf 23 28 05.8 +5.1
CSS Prodhromos 148.93 299 ⇑P PKPdf 23 28 07.3 +6.4
comp=Z,0.9nm,0.6s
CSS Prodhromos 148.93 299⇑ eP PKPdf 23 28 07.3 +6.4
HENT Hendek 148.94 311 i P PKPdf 23 28 03.7 +3.0
KIZT Kizilcal 148.97 307 eP PKPdf 23 28 06.9 +6.1
CKE Keswick 149.01 3⇑ eP PKPdf 23 28 06.0 +5.7
VRI Vrincioaia 149.03 322⇓ iP PKPdf 23 28 06.6 +5.9
VRI Vrincioaia 149.03 322⇓ iP PKPdf 23 28 06.6 +5.9
XDE Dent Fell 149.07 4⇑ eP PKPdf 23 28 06.1 +5.6
XDE AMb AMB 23 28 07.5
comp=Z,259nm,1.1s
HDMB Hadim 149.11 303 eP PKPdf 23 28 07.4 +6.3
GIM North Isle of 149.21 5⇑ eP PKPdf 23 28 06.4 +5.7
KOLS Kolonicke sedl 149.24 331 ePKP PKPdf 23 28 03.1 +2.2
KOLS e 23 28 08.4
KOLS e 23 28 15.2
KOLS e 23 30 18.5
CDU1 Dunnerdale 149.26 4⇑ eP PKPdf 23 28 06.4 +5.6
OJC Ojcow 149.29 335 ePKP PKPdf 23 28 07.6 +6.6
STHS Stebnicka Huta 149.33 332 ePKP PKPdf 23 28 08.2 +7.2
STHS e 23 30 16.3
RUE Ruedersdorf 149.34 343 ePKPbc PKPdf 23 28 07.4 +6.4
RUE epPKPbc 23 30 15.3
SZAC Souni-Zanaja 149.34 299 ⇑P PKPdf 23 28 08.3 +6.8
SZAC Souni-Zanaja 149.34 299⇑ eP PKPdf 23 28 08.3 +6.8
DMUB Kingscourt 149.35 8 eP PKPdf 23 28 01.0 +0.1
DMUB Kingscourt 149.35 8⇑ iP PKPdf 23 28 07.0 +6.1
ALFC Alevga 149.48 300 ⇑P PKPdf 23 28 08.1 +6.3
ALFC Alevga 149.48 300⇑ eP PKPdf 23 28 08.1 +6.3
ESKT Eskisehir 149.49 309 eP PKPdf 23 28 06.8 +5.1
ESKT Eskisehir 149.49 309 i P PKPdf 23 28 01.4 -0.2
ISR Istrita 149.58 321⇑ iP PKPdf 23 28 07.3 +5.7
ISR Istrita 149.58 321⇑ iP PKPdf 23 28 07.3 +5.7
BORA Eskisehir 149.63 309 i P PKPdf 23 28 08.6 +6.7
MLR Muntele Rosu 149.69 322⇓ iP PKPdf 23 28 08.0 +6.2
MLR Muntele Rosu 149.69 322⇓ iP PKPdf 23 28 08.0 +6.2
MLR Muntele Rosu 149.69 322 PKHKP 23 28 08.5
NIE Niedzica 149.72 333 ePKP PKPdf 23 28 03.7 +2.0
NIE e 23 28 09.3
NIE e 23 30 13.0
HRT Hereke 149.79 312 eP PKPdf 23 28 06.8 +4.7
DCN Croghan 149.84 9 eP PKPdf 23 28 02.1 +0.4
DCN Croghan 149.84 9⇑ iP PKPdf 23 28 08.1 +6.4
DLF Lyons Farm 149.99 8 eP PKPdf 23 28 01.2 -0.8
KSP Ksiaz 150.04 339 ePKP PKPdf 23 28 09.7 +7.5
KSP Ksiaz 150.04 339⇑ iPKP PKPdf 23 28 09.7 +7.6
KSP epPKP 23 30 13.4
KSP e 23 30 17.0
YLV Yalova 150.11 311 eP PKPdf 23 28 09.0 +6.5
WCB1 Church Bay 150.11 5⇑ eP PKPdf 23 28 08.2 +6.1
WCB1 AMb AMB 23 28 10.0
comp=Z,147nm,1.0s
WME Myndd Eilian 150.12 5 eP PKPdf 23 28 08.4 +6.3
WLF1 Llynfaes 150.22 5 eP PKPdf 23 28 08.4 +6.1
OKC Ostrava-Krasne 150.23 336⇑ ePKPB PKPdf 23 28 09.8 +7.3
OKC ePKPAB PKPab 23 28 18.6 -0.4
OKC epPKP 23 30 18.2
YRC Rhoscolyn 150.24 6⇑ eP PKPdf 23 28 08.5 +6.2
YRC AMb AMB 23 28 10.4
comp=Z,104nm,1.0s
WPM1 Penmaenmawr 150.28 5⇑ eP PKPdf 23 28 08.8 +6.4
WPM1 AMb AMB 23 28 10.9
comp=Z,161nm,1.1s
ISP Isparta 150.33 306 eP PKPdf 23 28 08.4 +5.4
ISP Isparta 150.33 306 ePKPbc PKPdf 23 28 09.5 +6.5
ISP epPKPdf 23 30 15.1
ISP Isparta 150.33 306 PKIKP PKPdf 23 28 10.0 +7.0
KECS Kecovo 150.36 332 eP PKPdf 23 28 10.1 +7.4
KECS e 23 28 18.8
KECS e 23 30 19.0
YLL Llanberis 150.38 5⇑ eP PKPdf 23 28 08.8 +6.2
YLL AMb AMB 23 28 10.3
comp=Z,118nm,1.0s
TKTP Tekketepe 150.41 306 i P PKPdf 23 28 05.3 +2.2
UPC Upice 150.42 339 ePKPDF PKPdf 23 28 06.4 +3.7
UPC ⇑ePKPB PKPdf 23 28 10.4 +7.7
UPC epPKP 23 30 14.4
UPC ex x 23 30 17.9
WIT Witteveen 150.43 352 eP PKPdf 23 28 10.6 +7.9
ULDT Uludag 150.45 311 i P PKPdf 23 28 03.2 +0.1
DPC Dobruska-Polom 150.45 339 ePKPDF PKPdf 23 28 05.6 +2.8
DPC ⇑ePKPB PKPdf 23 28 10.6 +7.8
DPC epPKP 23 30 13.6
DPC ex x 23 30 19.0
CTT Catalca 150.49 313 eP PKPdf 23 28 09.2 +6.1
MORC Moravsky Berou 150.51 337 ePKPdf PKPdf 23 28 03.6 +0.8
MORC ePKPbc PKPdf 23 28 10.5 +7.7
MORC ePKPab PKPab 23 28 19.6 -0.5
MORC epPKPdf 23 30 14.1
MORC Moravsky Berou 150.51 337 P PKPdf 23 28 10.7 +7.8
MORC Moravsky Berou 150.51 337 PKIKP PKPdf 23 28 10.7 +7.8
YRE Yr Eifl 150.52 5⇑ eP PKPdf 23 28 09.0 +6.2
CLL Collm 150.60 343 ePKIKP PKPdf 23 28 04.0 +1.0
comp=Z,logA/T=1.1
CLL i PKP1 PKPdf 23 28 10.6 +7.6
CLL i PKP2 PKPab 23 28 19.6 -0.9
CLL e*PPKP 23 30 14.0
CLL i *PPKP 23 30 18.1
CLL i *PPKP2 23 30 24.6
CLL Collm 150.60 343 ePKP PKPdf 23 28 04.0 +1.0
CLL ⇑iPKP PKPdf 23 28 10.6 +7.6
CLL i PKP PKPab 23 28 19.6 -0.9
CLL i pPKP 23 30 18.1
CLL Collm 150.60 343 ePKIKP PKPdf 23 28 04.0 +1.0
CLL i 23 28 19.6
GDZ Gediz 150.63 309 i P PKPdf 23 28 09.6 +6.2
ORLT Orhaneli 150.66 311 eP PKPdf 23 28 10.0 +6.6
SBD1 Bryn Du 150.68 4⇑ eP PKPdf 23 28 10.1 +7.0
CLZ Clausthal 150.73 347 ePKPdf PKPdf 23 28 04.0 +0.9
CLZ ePKPbc PKPdf 23 28 11.0 +7.9
CLZ epPKPdf 23 30 15.0
CLZ epPKPbc 23 30 19.2
BRG Berggiesshubel 150.74 342 ePKP PKPdf 23 28 04.9 +1.8
BRG i PKP PKPdf 23 28 10.8 +7.7
BRG i 23 28 17.0
BRG i 23 30 14.4
BRG i 23 30 18.6
PVCC Panska Ves 150.86 341 ePKPDF PKPdf 23 28 05.1 +1.7
PVCC ⇑ePKPB PKPdf 23 28 11.4 +8.0
PVCC epPKP 23 30 15.1
PVCC ex x 23 30 19.7

VYHS	**Vyhne**	**151.05 334**	*e*PKP	PKPdf	23 28 11.5	+7.8
VYHS			*e*		23 28 21.8	
VYHS			*e*		23 30 15.8	
PSZ	**Piszkesteto**	**151.05 332**	⇑*i*PKP/F	PKPdf	23 28 11.4	+7.7
PSZ	**Piszkesteto**	**151.05 332**	*e*PKPbc	PKPdf	23 28 11.2	+7.4
PSZ			*e*pPKPdf		23 30 12.4	
PSZ	**Piszkesteto**	**151.05 332**	PKIKP	PKPdf	23 28 11.7	+8.0
PSZ	**Piszkesteto**	**151.05 332**	P	PKPdf	23 28 11.7	+8.0
HLM1	**Long Mynd**	**151.09 4**	⇑*e*P	PKPdf	23 28 10.8	+7.1
HLM1			AMb	AMB	23 28 12.2	
	comp=Z,117nm,1.1s					
ELL	**Elmali**	**151.14 304**	*e*P	PKPdf	23 28 12.0	+7.8
KOLL	**Kolacno**	**151.15 334**	*e*PKP	PKPdf	23 28 05.4	+1.5
KOLL			*e*		23 28 12.0	
KOLL			*e*		23 28 18.1	
KOLL			*e*		23 28 21.8	
KOLL	**Kolacno**	**151.15 334**	*e*PKIKP	PKPdf	23 28 05.4	+1.5
KOLL			*e*		23 28 21.8	
SSP1	**Stoney Pound**	**151.18 4**	⇑*e*P	PKPdf	23 28 11.1	+7.3
SSP1			AMb	AMB	23 28 12.5	
	comp=Z,130nm,1.0s					
VRAC	**Vranov**	**151.24 337**	P	PKPdf	23 28 12.3	+8.3
WTSB	**Winterswijk**	**151.24 351**	*e*P	PKPdf	23 28 11.7	+7.8
	comp=Z,130nm,0.8s					
PRU	**Pruhonice**	**151.34 340**	*e*PKPDF	PKPdf	23 28 05.9	+1.8
PRU			⇑*e*PKPB	PKPdf	23 28 12.2	+8.1
PRU			*e*pPKP		23 30 16.4	
PRU			*e*x	x	23 30 26.8	
BTOK	**Tokmak**	**151.38 311**	*i* P	PKPdf	23 28 12.4	+8.0
DNZL	**Cakiroluk**	**151.47 306**	*i* P	PKPdf	23 28 13.3	+8.6
HTR	**Trewern Hill**	**151.50 4**	⇑*e*P	PKPdf	23 28 11.5	+7.2
HTR			AMb	AMB	23 28 13.5	
	comp=Z,96nm,1.5s					
MANT	**Manisa**	**151.53 308**	*i* P	PKPdf	23 28 13.1	+8.3
MOX	**Moxa**	**151.57 344**	*i* P	PKPdf	23 28 05.2	+0.8
MOX			PP2		23 28 12.0	
MOX			PKP2	PKPab	23 28 23.0	-1.6
MOX			pPKP		23 30 21.0	
MOX	**Moxa**	**151.57 344**	*e*P	PKPdf	23 28 05.2	+0.8
MOX			*e*		23 28 12.5	
MOX			*e*		23 28 23.4	
MOX			*e*		23 30 20.8	
SMOL	**Smolenice**	**151.59 335**	*e*PKP	PKPdf	23 28 06.9	+2.4
SMOL			*e*		23 28 13.3	
SMOL			*e*		23 28 25.1	
SMOL	**Smolenice**	**151.59 335**	*e*PKIKP	PKPdf	23 28 06.9	+2.4
SMOL			*e*		23 28 25.1	
MCH1	**Michaelchurch**	**151.60 4**	⇑*e*P	PKPdf	23 28 11.8	+7.5
NKC	**Novy Kostel**	**151.73 343**	*e*PKPDF	PKPdf	23 28 06.2	+1.6
NKC			⇑*e*PKPB	PKPdf	23 28 13.2	+8.6
NKC			*e*pPKP		23 30 17.4	
NKC			*e*x	x	23 30 21.6	
SRO1	**Iza**	**151.87 333**	*e*PKP	PKPdf	23 28 14.1	+9.2
HGH	**Gray Hill**	**151.97 4**	⇑*e*P	PKPdf	23 28 12.6	+7.7
HGH			AMb	AMB	23 28 14.0	
	comp=Z,95nm,1.1s					
ZST	**Bratislava**	**151.97 335**	*e*PKP	PKPdf	23 28 07.5	+2.5
ZST			*e*		23 28 14.1	
ZST			*e*		23 28 26.6	
ZST			*e*		23 30 29.6	
ZST	**Bratislava**	**151.97 335**	*e*PKIKP	PKPdf	23 28 07.5	+2.5
ZST			*e*		23 28 26.6	
AYDN	**Tasoluk**	**152.34 307**	*i* P	PKPdf	23 28 15.2	+9.3
KHC	**Kasperske Hory**	**152.39 341**	*e*PKPDF	PKPdf	23 28 06.6	+1.0
KHC			⇑*e*PKPB	PKPdf	23 28 14.6	+9.0
KHC			*e*PKPAB	PKPab	23 28 28.0	-0.1
KHC			*e*pPKP		23 30 18.4	
KHC			*e*x	x	23 30 22.8	
KHC	**Kasperske Hory**	**152.39 341**	*e*PKIKP	PKPdf	23 28 06.6	+1.0
KHC			*e*		23 28 28.0	
KDAG	**Bornova**	**152.50 309**	*i* P	PKPdf	23 28 13.3	+7.2
IZM	**Izmir**	**152.50 309**	*e*P	PKPdf	23 28 13.6	+7.5
HGN	**Heimansgroeve**	**152.53 352**	*e*P	PKPdf	23 28 14.1	+8.4
	comp=Z,19nm,0.9s					
HGN			*e*x	x	23 28 27.5	
GRA1	**Grafenberg Arr**	**152.54 344**	*e*PKPbc	PKPdf	23 28 14.6	+8.8
GRF	**Grafenberg Arr**	**152.54 344**	*e*PKIKP	PKPdf	23 28 14.6	+8.8
WET	**Wettzell**	**152.59 341**	*e*PKPdf	PKPdf	23 28 06.8	+1.0
WET			*e*PKPbc	PKPdf	23 28 14.8	+9.0
WET			*e*PKPab	PKPab	23 28 28.6	-0.4
WET	**Wettzell**	**152.59 341**	*e*PKIKP	PKPdf	23 28 14.8	+9.0
WET	**Wettzell**	**152.59 341**	*e*P	PKPab	23 28 28.6	-0.4
GERES	**GERESS Array B**	**152.61 340**	PKP	PKPdf	23 28 06.4	+0.5
	comp=Z,3.4nm,1.0s,baz=45,slow=1.9,SNR=12					
GERES			PKPbc	PKPdf	23 28 14.5	+8.6
	comp=Z,13nm,0.8s,baz=45,slow=1.9,SNR=40					
GERES			PKPab	PKPab	23 28 27.7	-1.3
	comp=Z,3.4nm,0.8s,baz=34,slow=4.8,SNR=4.3					
GERES			pPKPbc		23 30 18.5	
	comp=Z,5.8nm,1.0s,baz=34,slow=4.8,SNR=2.7					
TNS	**Taunus Mts**	**152.66 348**	*e*PKPbc	PKPdf	23 28 15.1	+9.2
TNS			*e*PKPab	PKPab	23 28 28.2	-1.0
TNS			*e*pPKPdf		23 30 18.8	
TNS			*e*pPKPbc		23 30 23.2	
ZAPS	**Zavoj/Pirot**	**152.93 322**	⇑*i*PKP	PKPdf	23 28 07.1	+0.6
VTS	**Vitosha**	**153.02 320**	P	PKPdf	23 28 16.4	+10
ABH	**Alteburg**	**153.15 349**	PKP	PKPdf	23 28 08.3	+1.7
TOD	**Tromm**	**153.18 347**	PKP	PKPdf	23 28 08.3	+1.7
MOA	**Molln**	**153.29 338**	⇑*i*P	PKPdf	23 28 07.0	+0.1
MOA			*i*		23 28 16.3	
MOA			*i*		23 28 31.6	
MOA			*i*		23 30 22.7	
GIVF	**Givet**	**153.32 353**	*e*PKIKP	PKPdf	23 28 08.1	+1.3
RUP	**Ruppelstein**	**153.40 350**	PKP	PKPdf	23 28 07.4	+0.5
BAIF	**Baives**	**153.43 354**	*e*PKIKP	PKPdf	23 28 08.0	+1.0
	comp=Z,30nm,1.0s					
BAIF	**Baives**	**153.43 354**	*e*PKIKP	PKPdf	23 28 07.4	+0.4
WLF	**Walferdange**	**153.58 351**	*e*PKPdf	PKPdf	23 28 09.4	+2.3
WLF			*e*PKPbc	PKPdf	23 28 17.2	+10
STU	**Stuttgart**	**153.88 346**	*e*PKPdf	PKPdf	23 28 08.6	+1.0
STU			*e*PKPbc	PKPdf	23 28 18.1	+11
STU			*e*PKPab	PKPab	23 28 33.3	-1.1
FUR	**Furstenfeldbru**	**153.93 343**	*e*PKPdf	PKPdf	23 28 08.8	+1.1
FUR			*e*PKPab	PKPab	23 28 34.3	-0.3
FUR	**Furstenfeldbru**	**153.93 343**	*e*P	PKPab	23 28 34.3	-0.3
LANF	**Langenberg**	**153.97 348**	PKP	PKPdf	23 28 09.8	+2.1
KBA	**Koelnbreinsper**	**154.27 339**	⇓*i*P	PKPdf	23 28 09.0	+0.8
KBA			*i*		23 28 18.3	
KBA			*i*		23 28 35.2	
KBA			*i*		23 30 26.6	
SKO	**Skopje**	**154.43 321**	*e*P	PKPdf	23 28 17.5	+8.9
BFO	**Black Forest**	**154.49 347**	*e*PKPbc	PKPdf	23 28 18.7	+10
BFO			*e*PKPab	PKPab	23 28 35.7	-1.2
WATA	**Walderalm**	**154.60 341**	⇑*i*P	PKPdf	23 28 09.6	+1.0
WATA			*i*		23 28 19.7	
WATA			*i*		23 28 36.6	
WATA			*i*		23 30 27.8	
CDF	**Champ du Feu**	**154.61 349**	*e*PKIKP	PKPdf	23 28 09.5	+0.9
	comp=Z,19nm,1.2s					
WTTA	**Wattenberg**	**154.65 341**	⇑*i*P	PKPdf	23 28 09.9	+1.2
WTTA			*i*		23 28 19.3	
WTTA			*i*		23 28 37.2	
WTTA			*i*		23 30 27.9	
MOTA	**Moosalm**	**154.73 342**	⇓*i*P	PKPdf	23 28 09.5	+0.7
MOTA			*i*		23 28 20.0	
MOTA			*i*		23 28 37.5	
MOTA			*i*		23 30 27.1	
LJU	**Ljubljana**	**154.74 336**	*i* PKPdf	PKPdf	23 28 10.0	+1.2
LJU			*e*PKPbc	PKPdf	23 28 19.2	+10
LJU			*e*		23 28 36.8	
SQTA	**Sankt Quirin**	**154.81 342**	⇓*i*P	PKPdf	23 28 09.9	+1.0
SQTA			*i*		23 28 19.5	
SQTA			*i*		23 28 36.9	
SQTA			*i*		23 30 28.2	
MEZF	**Maizieres J'vi**	**154.87 352**	*e*PKIKP	PKPdf	23 28 10.4	+1.4
BOJS	**Bojanci**	**154.91 334**	*e*PKPdf	PKPdf	23 28 09.9	+0.8
BOJS			*e*PKPbc	PKPdf	23 28 19.8	+11
BOJS			*e*		23 28 38.2	
FLN	**La Foliniere**	**154.93 1**	*e*PKIKP	PKPdf	23 28 09.9	+0.9
	comp=Z,84nm,1.2s					
ROBS	**Robic**	**154.94 337**	*e*PKPdf	PKPdf	23 28 09.4	+0.3
ROBS			*e*PKPbc	PKPdf	23 28 19.2	+10
ROBS			*e*		23 28 36.8	
FELD	**Feldberg**	**154.99 347**	PKP	PKPdf	23 28 10.7	+1.6
LDF	**La Druitiere**	**155.10 0**	*e*PKIKP	PKPdf	23 28 10.2	+0.9
	comp=Z,33nm,1.1s					
DAVA	**Damuels**	**155.11 344**	⇑*i*P	PKPdf	23 28 10.0	+0.7
DAVA			*i*		23 28 25.7	
DAVA			*i*		23 28 37.8	
DAVA			*i*		23 30 27.6	
HAU	**Haudompre**	**155.16 350**	*e*PKIKP	PKPdf	23 28 10.5	+1.1
	comp=Z,24nm,1.2s					
MOF	**Molkenrain**	**155.18 348**	PKP	PKPdf	23 28 09.2	-0.2
ROSF	**Rostrenen**	**155.22 5**	*e*PKIKP	PKPdf	23 28 10.5	+1.1
	comp=Z,76nm,1.5s					
HINF	**Hinteralfeld**	**155.26 349**	*e*PKIKP	PKPdf	23 28 10.6	+1.1
GRR	**Gorron**	**155.30 1**	*e*PKIKP	PKPdf	23 28 10.4	+0.9
SGMF	**Saint Gilles**	**155.36 4**	*e*PKIKP	PKPdf	23 28 11.1	+1.5
	comp=Z,47nm,1.2s					
QUIF	**Quistinic**	**155.65 5**	*e*PKIKP	PKPdf	23 28 11.1	+1.1
LOR	**Lormes**	**156.22 353**	⇑*i*PKIKP	PKPdf	23 28 12.0	+1.2
	comp=Z,35nm,1.1s					
HYF	**Humbligny**	**156.33 355**	*e*PKIKP	PKPdf	23 28 12.5	+1.6
SSF	**Saint Saulge**	**156.46 354**	⇑*i*PKIKP	PKPdf	23 28 12.3	+1.2
	comp=Z,30nm,1.0s					
CABF	**La Chapelle**	**156.56 349**	⇑*i*PKIKP	PKPdf	23 28 12.8	+1.6
	comp=Z,36nm,1.1s					
AVF	**Avril sur Loir**	**156.75 354**	*e*PKIKP	PKPdf	23 28 12.3	+0.8
	comp=Z,8.3nm,1.0s					
SMF	**Signal de Mont**	**156.84 353**	*e*PKIKP	PKPdf	23 28 12.5	+0.9
	comp=Z,16nm,1.1s					
BGF	**Bois d'Agland**	**157.02 355**	⇑*i*PKIKP	PKPdf	23 28 13.1	+1.3
	comp=Z,39nm,1.0s					
MFF	**Saint Martin d**	**157.09 0**	*e*PKIKP	PKPdf	23 28 13.0	+1.1
	comp=Z,52nm,1.2s					
TCF	**Toulx Ste Croi**	**157.34 356**	⇑*i*PKIKP	PKPdf	23 28 13.4	+1.1
	comp=Z,42nm,1.0s					
AGO	**Saint Agoulin**	**157.50 354**	PKP	PKPdf	23 28 15.3	+2.8
LPL	**La Plagne**	**157.50 348**	*e*PKIKP	PKPdf	23 28 14.1	+1.6
	comp=Z,9.6nm,1.0s					
LPG	**La Plagne**	**157.51 347**	*e*PKIKP	PKPdf	23 28 14.0	+1.5
	comp=Z,14nm,1.2s					
PYM	**Petit Puy Mans**	**157.81 354**	PKP	PKPdf	23 28 15.8	+2.9
BNI	**Bardonecchia**	**157.95 347**	*e*PKPdf	PKPdf	23 28 13.0	-0.1
ORIF	**Oris-en-Rattie**	**158.24 349**	*e*PKIKP	PKPdf	23 28 14.6	+1.2
	comp=Z,8.3nm,1.0s					
MBDF	**Montbardon**	**158.25 347**	*e*PKIKP	PKPdf	23 28 14.7	+1.2
	comp=Z,23nm,1.2s					
LBL	**Lubilhac**	**158.30 354**	PKP	PKPdf	23 28 15.8	+2.3
RJF	**Les Rejaudoux**	**158.36 357**	⇑*i*PKIKP	PKPdf	23 28 14.7	+1.1
	comp=Z,41nm,1.2s					
VIVF	**Saint-Julien-l**	**158.50 351**	*e*PKIKP	PKPdf	23 28 15.1	+1.4
	comp=Z,11nm,0.9s					
CAF	**Calviac**	**158.70 356**	*e*PKIKP	PKPdf	23 28 15.4	+1.4
	comp=Z,20nm,1.1s					
LFF	**La Frestale**	**158.75 358**	*e*PKIKP	PKPdf	23 28 15.1	+1.1
SBF	**Sospel**	**158.92 345**	*e*PKIKP	PKPdf	23 28 15.3	+1.1
TIP	**Timpagrande**	**158.96 321**	*e*PKPdf	PKPdf	23 28 15.3	+0.9
SMRF	**Simiane la Rot**	**159.20 349**	*e*PKIKP	PKPdf	23 28 16.0	+1.5
	comp=Z,17nm,1.0s					
LASF	**Ste Croix**	**159.37 352**	*e*PKIKP	PKPdf	23 28 16.3	+1.6
FRF	**La Foret Royal**	**159.39 346**	*e*PKIKP	PKPdf	23 28 16.7	+1.9
	comp=Z,38nm,1.4s					
STS	**Santiago**	**159.55 18**	PKP	PKPdf	23 28 16.8	+1.8
LMR	**La Mourre**	**159.63 346**	*e*PKIKP	PKPdf	23 28 17.1	+2.0
PGF	**Pioggiola**	**159.71 340**	*e*PKIKP	PKPdf	23 28 17.1	+1.9
	comp=Z,25nm,1.0s					
MTLF	**Montolieu**	**160.27 355**	⇑*i*PKIKP	PKPdf	23 28 16.9	+1.1
	comp=Z,37nm,1.1s					
ERUA	**La Rua**	**160.39 16**	PKP	PKPdf	23 28 17.2	+1.3
SJPF	**Ste Jean**	**160.56 3**	*e*PKIKP	PKPdf	23 28 17.6	+1.5
	comp=Z,23nm,1.0s					
ELOB	**Lobios**	**160.63 18**	PKP	PKPdf	23 28 17.7	+1.6
EPF	**Esparros**	**160.66 359**	⇑*i*PKIKP	PKPdf	23 28 17.6	+1.4
	comp=Z,31nm,1.1s					
PCAB	**Cabril**	**160.79 18**	*e*PKPdf	PKPdf	23 28 17.6	+1.3
PCAB			*e*PKPab	PKPab	23 29 03.7	-0.5
ETSF	**Etsaut**	**160.79 1**	*e*PKIKP	PKPdf	23 28 18.0	+1.7
	comp=Z,35nm,1.1s					
ECAL	**Calabor**	**160.92 15**	PKP	PKPdf	23 28 17.8	+1.4
EBIE	**Bielsa**	**161.01 360**	PKP	PKPdf	23 28 18.3	+1.9
PBRG	**Braganca**	**161.04 16**	*e*PKPdf	PKPdf	23 28 17.8	+1.3
PBRG			*e*PKPab	PKPab	23 29 05.1	-0.2
PVRL	**Vila Real**	**161.28 18**	*e*PKPdf	PKPdf	23 28 18.8	+2.0
PVRL			*e*PKPab	PKPab	23 29 05.4	-1.0
EGRA	**Graus**	**161.50 359**	PKP	PKPdf	23 28 18.6	+1.7
EMIR	**Miracle**	**161.74 356**	PKP	PKPdf	23 28 18.0	+0.8
ESAC	**San Caprasio**	**161.97 1**	PKP	PKPdf	23 28 17.4	0.0
LIC	**Lamto**	**162.03 164**	*e*PKIKP	PKPdf	23 28 19.3	+1.0
	comp=Z,78nm,1.0s					
MTE	**Manteigas**	**162.14 19**	*e*PKPdf	PKPdf	23 28 19.5	+1.8
MTE	**Manteigas**	**162.14 19**	*e*PKPdf	PKPdf	23 28 19.2	+1.6
EPOB	**Poblet**	**162.32 357**	PKP	PKPdf	23 28 18.1	+0.3
DBIC	**Dimbokro**	**162.50 164**	PKP	PKPdf	23 28 20.1	+1.4
	comp=Z,22nm,0.9s,baz=135,slow=1.9,SNR=22					
DBIC			PKPab	PKPab	23 29 12.4	-0.1
	comp=Z,28nm,1.0s,baz=180,slow=5.4,SNR=12					
DBIC	**Dimbokro**	**162.50 164**	*e*PKPdf	PKPdf	23 28 19.4	+0.6
DBIC			*e*PKPab	PKPab	23 29 12.1	-0.4
PTOM	**Tomar**	**162.57 22**	*e*PKPdf	PKPdf	23 28 19.8	+1.7
PTOM			*e*PKPab	PKPab	23 29 10.5	-1.5
PCBR	**Castelo Branco**	**162.67 20**	*e*PKPdf	PKPdf	23 28 19.9	+1.7
ERTA	**Horta de San J**	**162.74 359**	PKP	PKPdf	23 28 18.7	+0.4
EMOS	**Mosqueruela**	**163.33 1**	PKP	PKPdf	23 28 19.5	+0.6
EVO	**Evora**	**163.67 23**	⇑*i*PKIKP	PKPdf	23 28 21.3	+2.0
	comp=Z,65nm,1.0s					
ESDC	**Sonseca Array**	**163.68 11**	PKP	PKPdf	23 28 20.9	+1.6
	comp=Z,1.1nm,0.8s,baz=4.9,slow=3.9,SNR=5.7					
ESDC			PKPab	PKPab	23 29 15.4	-1.5
	comp=Z,13nm,1.0s,baz=346,slow=4.3,SNR=26					
ESDC			SKPbc		23 31 18.5	
	comp=Z,1.6nm,0.9s,baz=347,slow=4.2,SNR=4.4					
ESDC	**Sonseca Array**	**163.68 11**	PKP	PKPdf	23 28 19.7	+0.4
ETOS	**Mallorca**	**163.75 352**	PKP	PKPdf	23 28 19.9	+0.7
EBAD	**Badajoz**	**163.81 20**	PKP	PKPdf	23 28 20.4	+1.0
ECHE	**Chera**	**164.08 3**	PKP	PKPdf	23 28 20.8	+1.2
PBEJ	**Beja**	**164.18 23**	*e*PKPdf	PKPdf	23 28 21.6	+1.8
PTEO	**Sao Teotonio**	**164.27 26**	*e*PKPdf	PKPdf	23 28 22.1	+2.2
EGRO	**El Granado**	**164.75 23**	PKP	PKPdf	23 28 20.7	+0.4
EMIN	**Mina Concepcio**	**164.82 20**	PKP	PKPdf	23 28 22.0	+1.6
EVIA	**Vianos**	**164.91 7**	PKP	PKPdf	23 28 22.5	+2.1
ETOB	**Tobarra**	**164.99 5**	PKP	PKPdf	23 28 21.9	+1.4
EADA	**Adamuz**	**165.01 14**	PKP	PKPdf	23 28 21.8	+1.2
EBAN	**Banos Encina**	**165.18 12**	PKP	PKPdf	23 28 22.5	+1.9
EQES	**Quesada**	**165.65 10**	PKP	PKPdf	23 28 22.1	+1.0
ESPE	**Espera**	**165.90 20**	PKP	PKPdf	23 28 23.0	+1.7
ELOJ	**Sierra Loja**	**166.08 14**	PKP	PKPdf	23 28 22.2	+0.7
EJIF	**Jimena Fronter**	**166.40 19**	PKP	PKPdf	23 28 23.7	+1.9
EMIJ	**Mijas**	**166.49 17**	PKP	PKPdf	23 28 21.9	+0.1
EALB	**Alboran**	**167.47 11**	PKP	PKPdf	23 28 22.9	+0.5

*MOS **25** 23:19:25.6s1.3,54.88Nx162.58E,h34km,mb4.2/1,Error ellipse: s-maj=24.0km s-min=11.5km az=69.0*

KRSC 25 23:19:26.3s0.8,54.93Nx162.52E,h23km±4km,ML4.1,1C, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.59**	**231**	P	Pb	23 19 38.5	+0.6
MKZ				S	Sb	23 19 47.0	+1.1
MKZ	**Mys Kozlova**	**0.59**	**231**	*i* P	Pb	23 19 38.4	+0.5
MKZ				*e*S	Sb	23 19 47.0	+1.1
KBTR	**Krutoberegovo**	**1.29**	**7**	*i* P	Pn	23 19 49.0	-0.2
KBTR				*e*S	Sn	23 20 05.9	0.0
ZLN	**Zelenaya**	**1.46**	**319**	*e*P	Pn	23 19 52.3	+0.6
ZLN				*e*S	Sn	23 20 10.8	+0.6
KMNR	**Kamenistaya**	**1.54**	**303**	*e*P	Pn	23 19 52.8	0.0
KMNR				*e*S	Sn	23 20 13.4	+1.1
LGNR	**Loginova**	**1.56**	**319**	*i* P	Pn	23 19 54.0	+1.0
LGNR				*e*S	Sn	23 20 13.9	+1.3
CIRR	**Tsirk**	**1.56**	**320**	*e*P	Pn	23 19 53.8	+0.8
CIRR				*e*S	Sn	23 20 13.6	+1.0
KPT	**Kopyto**	**1.67**	**309**	*e*P	Pn	23 19 55.0	+0.4
KPT				*e*S	Sn	23 20 15.6	+0.1
KRSR	**Krestovskiy**	**1.70**	**320**	*e*P	Pn	23 19 54.9	-0.2
KRSR				*e*S	Sn	23 20 16.2	-0.1
KLY	**Klyuchi**	**1.75**	**323**	P	Pn	23 19 55.7	0.0
KLY				S	Sn	23 20 17.4	0.0
KLY	**Klyuchi**	**1.75**	**323**	*e*P	Pn	23 19 54.9	-0.8
KLY				*e*S	Sn	23 20 16.0	-1.4
KOZR	**Kozyr**	**1.88**	**308**	PN	Pn	23 19 58.2	+0.6
KOZR				S	Sn	23 20 22.2	+1.4
KOZ	**Kozyrevsk**	**1.88**	**308**	P	Pn	23 19 58.2	+0.5
KOZ				S	Sn	23 20 22.2	+1.3
KOZ	**Kozyrevsk**	**1.88**	**308**	*e*P	Pn	23 19 58.1	+0.4
KOZ				*e*S	Sn	23 20 22.3	+1.4
KII	**Karymskiy**	**2.00**	**245**	P	Pn	23 19 59.0	-0.4
KII				S	Sn	23 20 23.9	-0.1
KII	**Karymskiy**	**2.00**	**245**	*e*P	Pn	23 19 59.2	-0.2
KII				*e*S	Sn	23 20 24.0	0.0
BKI	**Bering**	**2.00**	**81**	*e*P	Pn	23 19 58.8	-0.6
BKI				*e*S	Sn	23 20 21.5	-2.5
BKI				Smax			
	40nm,0.2s						
SRDR	**Sredinnyy**	**2.11**	**312**	*e*P	Pn	23 20 01.0	+0.1
SRDR				*i* S	Sn	23 20 26.9	+0.2
SPN	**Mys Shipunski**	**2.35**	**220**	*e*P	Pn	23 20 02.6	-1.8
SPN				*e*S	Sn	23 20 28.8	-4.1
ESO	**Esso**	**2.40**	**296**	*i* P	Pn	23 20 04.3	-0.7
ESO				*e*S	Sn	23 20 32.0	-1.9
ESO				Smax			
	170nm,0.6s						
NLC	**Nalytchevo**	**2.57**	**228**	P	Pn	23 20 06.2	-1.3
NLC				S	Sn	23 20 35.3	-3.1
NLC	**Nalytchevo**	**2.57**	**228**	*e*P	Pn	23 20 06.5	-1.0
NLC				*e*S	Sn	23 20 36.1	-2.3
SDLR	**Sedlovina**	**2.71**	**234**	*e*P	Pn	23 20 09.6	+0.2
SDLR				*e*S	Sn	23 20 41.3	-0.5
SMAR	**Somma**	**2.75**	**234**	*i* P	Pn	23 20 10.5	+0.4
SMAR				*e*S	Sn	23 20 41.8	-1.2
UGLR	**Uglovaya**	**2.78**	**233**	*i* P	Pn	23 20 10.8	+0.3
UGLR				*e*S	Sn	23 20 43.0	-0.6
AVH	**Avacha**	**2.78**	**235**	*i* P	Pn	23 20 11.1	+0.6
AVH				*e*S	Sn	23 20 43.7	-0.1
KOK	**Koryaka**	**2.81**	**236**	*e*P	Pn	23 20 12.1	+1.1
KOK				*e*S	Sn	23 20 45.2	+0.6
GNL	**Ganaly**	**2.95**	**247**	*i* P	Pn	23 20 13.1	+0.1
PET	**Petropavlovsk**	**2.98**	**232**	P	Pn	23 20 13.3	0.0
PET				S	Sn	23 20 47.8	-0.9
PET	**Petropavlovsk**	**2.98**	**232**	*e*P	Pn	23 20 13.4	+0.1
PET				*e*S	Sn	23 20 47.4	-1.3
PET	**Petropavlovsk**	**2.98**	**232**	⇑*i*PN	Pn	23 20 13.4	+0.1
PET				*e*S	Sn	23 20 47.4	-1.3
PET				pmax	pmax		
	comp=Z,16nm,0.4s						
PET				smax			
	comp=E,80nm,0.5s						
PET				smax			
	comp=N,175nm,0.6s						
KRMR	**Karymshinskiy**	**3.34**	**233**	P	Pn	23 20 19.3	+0.8
KRMR				*e*S	Sn	23 20 57.6	-0.3
RUS	**Russkaya**	**3.46**	**225**	P	Pn	23 20 19.2	-0.9
RUS				S	Sn	23 20 57.2	-3.5
RUS	**Russkaya**	**3.46**	**225**	*e*P	Pn	23 20 19.3	-0.8
RUS				*e*S	Sn	23 20 57.4	-3.3
GRL	**Gorelyy**	**3.56**	**230**	*e*P	Pn	23 20 22.1	+0.6
GRL				*e*S	Sn	23 21 03.0	-0.3
APC	**Apacha**	**3.75**	**240**	*i* P	Pn	23 20 26.2	+1.9
APC				*e*S	Sn	23 21 09.7	+1.4
APC				Smax			
	comp=N,40nm,2.1s						

*BJI **25** 23:19:57.7,36.85Nx79.23E,h17km,ML4.6,Ms4.0*
*IDC **25** 23:19:59.5s2.8,37.11Nx79.16E,mb3.6/4,mb1 3.8/7, mb1mx3.7/21,mbtmp3.7/7,ML3.5/3,Error ellipse: s-maj=49.3km s-min=25.2km az=153.0*
*NEIC **25** 23:20:00.0s0.5,37.05Nx79.24E,h10km,mb3.5/4,Error ellipse: s-maj=12.1km s-min=5.7km az=63.0*
*MOS **25** 23:20:01.4s2.9,36.99Nx79.36E,h33km,mb4.3/3,Error ellipse: s-maj=15.8km s-min=7.1km az=111.2*
*NNC **25** 23:20:05.6s3.8,37.58Nx78.93E,mpv4.5,Error ellipse: s-maj=38.5km s-min=21.8km az=158.0*

ISC 25 23:19:57.8±0.4,36.97N±0.03x79.46E±0.06,h10km,n50, σ1§54/63,mb3.9/6,8C-4D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**3.74**	**314**	P	**Pn**	**23 20 58.8**	**+1.9**
KSH				S	**Sn**	**23 21

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKTK	**Aktyubinsk**	**20.43**	**318**	⇑P	**P**	**23 24 37.2**	**-0.6**
AKTO	**Aktyubinsk**	**20.43**	**318**	⇑P	**P**	**23 24 37.3**	**-0.6**
	comp=Z,0.9nm,0.8s						
ZAK	**Zakamensk**	**21.71**	**44**	*e*P	**P**	**23 24 53.8**	**+2.9**
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.2						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb3.4						
SONM	**Songino Array**	**22.55**	**53**	P	**P**	**23 25 02.5**	**+3.3**
	comp=Z,0.8nm,0.9s,mb3.1,baz=233,slow=7.2,SNR=3.2						
ARU	**Arti**	**24.00**	**331**	*e*P	**P**	**23 25 18.3**	**+5.1**
BRTR	**Keskin Array B**	**35.74**	**289**	P	**P**	**23 26 57.5**	**-1.1**
	comp=Z,0.8nm,0.7s,mb3.8,baz=90,slow=7.4,SNR=6.8						
BRTR				pP	pP	23 27 02.6	+1.0
	comp=Z,0.8nm,0.7s,baz=98,slow=8.7,SNR=5.3						
AKASG	**Malin Array Be**	**38.01**	**307**	P	**P**	**23 27 16.2**	**-1.4**
	comp=Z,1.0nm,0.4s,mb3.9,baz=76,slow=8.0,SNR=9.3						
AKASG				pP	pP	23 27 21.3	+0.7
	comp=Z,1.6nm,0.4s,baz=75,slow=8.2,SNR=9.7						
NB2	**NORSAR Subarra**	**48.12**	**323**	P	**P**	**23 28 42.9**	**+3.5**
	comp=Z,1.3nm,0.6s,mb4.1,baz=88,slow=7.9						
NB2	**NORSAR Subarra**	**48.12**	**323**	P	**P**	**23 28 42.9**	**+3.5**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
NOA	**NORSAR Array B**	**48.12**	**323**	P	**P**	**23 28 39.0**	**-0.4**
	comp=Z,1.1nm,0.7s,mb4.0,baz=90,slow=7.7,SNR=2.0						
AQU	**L'Aquila**	**49.99**	**298**	*e*P	**P**	**23 28 53.5**	**-0.6**
	comp=Z,16nm,1.0s,mb5.0						
AQU	**L'Aquila**	**49.99**	**298**	*e*P	**P**	**23 28 53.5**	**-0.6**
AQU				pmax	pmax		
	comp=Z,16nm,1.0s,mb5.0						

NEIC ***25*** *23:43:53.5, 16.16N×99.09W, h20km, MD3.9(MEX), After MEX.*

MEX 25 23:43:53.7±0.8, 16.20N×99.09W, h26km±22km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.94**	**78**	*i*P	Pb	23 44 08.8	-2.5
PNIG				*i*S	Sb	23 44 19.7	-3.8
ACX	**Acapulco**	**1.04**	**310**	*i*P	Pn	23 44 09.5	-3.2
ACX				*i*S	Sb	23 44 22.0	-4.1
CAIG	**El Cayaco**	**1.41**	**307**	*i*P	Pn	23 44 15.7	-2.3
CAIG				*i*S	Sn	23 44 31.4	-4.5
CAIG	**El Cayaco**	**1.41**	**307**	*i*P	Pn	23 44 16.6	-1.4
CAIG				*i*S	Sn	23 44 34.6	-1.3
PLIG	**Platanillo**	**2.22**	**350**	*e*P	Pn	23 44 26.6	-3.0
PLIG				*e*S	Sn	23 44 53.6	-2.8
PLIG	**Platanillo**	**2.22**	**350**	*e*P	Pn	23 44 28.2	-1.4
PLIG				*e*S	Sn	23 44 53.6	-2.8
VHO	**Vista Hermosa**	**2.42**	**69**	*e*P	Pn	23 44 30.9	-1.6
VHO				*e*S	Sn	23 44 57.6	-4.0
OXX	**Oaxaca**	**2.43**	**68**	*e*P	Pn	23 44 30.0	-2.7
OXX				*i*S	Sn	23 44 58.0	-3.9
YAIG	**Yautepec**	**2.65**	**0**	*e*P	Pn	23 44 32.9	-2.9
YAIG				*e*S	Sn	23 45 02.3	-5.2
YAIG	**Yautepec**	**2.65**	**0**	*e*P	Pn	23 44 35.2	-0.6
YAIG				*e*S	Sn	23 45 02.3	-5.2
HUIG	**Huatulco**	**2.90**	**98**	*e*P	Pn	23 44 36.0	-3.3
HUIG				*e*S	Sn	23 45 08.0	-5.7
MOIG	**Morelia**	**4.00**	**330**	*i*S	Sn	23 45 36.7	-4.8
CMIG	**Matias Romero**	**4.13**	**77**	*e*P	Pn	23 44 53.3	-3.5
CMIG				*i*S	Sn	23 45 40.1	-4.7
EVV	**El Vigia**	**4.22**	**57**	*i*P	Pn	23 45 00.0	+1.9
LVIG	**Laguna Verde**	**4.33**	**36**	*e*P	Pn	23 45 05.4	+5.8
LVIG				*e*S	Sn	23 45 44.4	-5.7

IDC ***26*** *00:07:43.9±0.7, 2.28N×126.65E, mb4.3/15, mb1 4.4/15, mb1mx4.3/18, mbtmp4.3/15, MS3.8/4, Ms1 3.8/4, ms1mx3.5/23, Error ellipse: s-maj=42.9km s-min=13.7km az=79.0*

BJI ***26*** *00:07:52.2, 1.82N×126.52E, h112km, mB4.9, mb4.7*

NEIC ***26*** *00:07:54.3±2.1, 2.28N×126.73E, h86km±19km, mb4.8/11, Error ellipse: s-maj=18.9km s-min=7.7km az=72.0*

ISC 26 00:07:53.2±2.2, 2.31N±0.07×126.7E±0.1, h90km±20km, n38, σ0.96/36, mb4.5/29, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**11.09**	**290**	*e*Pn	**P**	**00 10 31.7**	**+1.3**
GUMO	**Guam**	**21.17**	**57**	LR	LR	00 20 14.2	
	comp=Z,80nm,19.5s,baz=253,slow=35						
WRAB	**Tennant Creek**	**23.35**	**162**	*e*P	**P**	**00 12 54.6**	**+0.3**
	19nm,0.6s,mb4.6						
WRA	**Warramunga Arr**	**23.35**	**162**	P	**P**	**00 12 53.0**	**-1.4**
	7.4nm,0.4s,mb4.3,baz=341,slow=11,SNR=16						
QIZ	**Qiongzhong**	**23.42**	**316**	*e*P	**P**	**00 12 55.0**	**0.0**
MBWA	**Marble Bar**	**24.30**	**196**	*e*P	**P**	**00 13 02.8**	**-0.8**
	5.8nm,0.7s,mb4.0						
JOW	**Kunigami**	**24.43**	**3**	P	**P**	**00 13 06.2**	**+1.4**
	16nm,0.7s,mb4.5,baz=215,slow=7.2,SNR=11						
KMI	**Kunming**	**32.37**	**317**	P	**P**	**00 14 14.5**	**-1.9**
KMI				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.4						
KMI				LR	LR		
	comp=N,138nm,14.9s						
KMI				LR	LR		
	comp=E,167nm,14.9s						
KMI				LR	LR		
	comp=Z,203nm,22.8s						
KMI	**Kunming**	**32.37**	**317**	P	pP	00 14 31.7	-5.7
KMI				S	Sx	00 18 58.0	
KMI				LR	LR		
	comp=Z,200nm,22.8s						
KLBR	**Kellerberrin**	**34.77**	**193**	*e*P	**P**	**00 14 37.4**	**+0.4**
	comp=Z,87nm,1.8s,mb5.3						
XAN	**Xi'an**	**35.67**	**334**	P	**P**	**00 14 44.0**	**-0.6**
XAN				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.6						
MJAR	**Matsushiro Arr**	**35.68**	**16**	P	**P**	**00 14 43.0**	**-1.7**
	comp=Z,1.4nm,0.4s,mb4.2,baz=190,slow=10,SNR=4.8						
NWAO	**Narrogin (SRO)**	**36.17**	**194**	P	**P**	**00 14 48.8**	**-0.1**
	comp=Z,2.8nm,0.5s,mb4.5,baz=22,slow=17,SNR=3.5						
STKA	**Stephens Creek**	**36.82**	**159**	*e*P	**P**	**00 14 54.4**	**0.0**
	comp=Z,6.2nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**36.82**	**159**	P	**P**	**00 14 54.4**	**0.0**
	comp=Z,4.0nm,0.5s,mb4.6,baz=323,slow=6.9,SNR=8.5						
STKA				LR	LR	00 29 06.9	
	comp=Z,212nm,20.5s,baz=15,slow=35						
LSA	**Lhasa**	**43.36**	**313**	*e*P	**P**	**00 15 49.0**	**+0.6**
	comp=Z,8.6nm,0.8s,mb4.5						
GTA	**Gaotai**	**44.30**	**330**	P	**P**	**00 15 56.0**	**+0.2**
GTA				AMB	AMB		
	comp=Z,3.0nm,0.6s,mb4.2						
PKI	**Pulchoki**	**46.77**	**306**	*e*P	**P**	**00 16 14.8**	**-0.8**
KKN	**Kakani**	**46.97**	**307**	*e*P	**P**	**00 16 16.4**	**-0.7**
	comp=Z,14nm,0.4s,mb5.0						
DMN	**Daman**	**47.03**	**306**	*e*P	**P**	**00 16 17.1**	**-0.5**
	comp=Z,16nm,0.7s,mb4.9						
GKN	**Gorkha**	**47.57**	**307**	*e*P	**P**	**00 16 21.5**	**-0.4**
	comp=Z,28nm,0.9s,mb5.1						
KOLN	**Koldanda**	**48.31**	**306**	*e*P	**P**	**00 16 26.9**	**-0.7**
	comp=Z,51nm,0.7s,mb5.4						
ULN	**Ulaanbaatar**	**48.45**	**342**	*e*P	**P**	**00 16 28.5**	**+0.1**
	comp=Z,2.4nm,0.5s,mb4.3						
SONM	**Songino Array**	**48.63**	**342**	P	**P**	**00 16 29.8**	**0.0**
	comp=Z,1.6nm,0.4s,mb4.3,baz=156,slow=9.0,SNR=7.7						
SONM				LR	LR	00 39 23.7	
	comp=Z,79nm,19.5s,baz=161,slow=39						
SONM	**Songino Array**	**48.63**	**342**	P	**P**	**00 16 29.8**	**0.0**
SONM				LR	LR	00 39 23.7	
WMQ	**Urumqi**	**53.87**	**326**	*e*P	**P**	**00 17 10.0**	**+0.7**
WMQ				AP	pP	00 17 36.0	+4.3
WMQ				PP	PP	00 19 14.0	+1.3
WMQ				S	**S**	**00 24 35.0**	**-0.6**
WMQ				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,102nm,6.0s						
WMQ				LR	LR		
	comp=N,139nm,15.0s						
WMQ				LR	LR		
	comp=E,153nm,15.0s						
WMQ				LR	LR		
	comp=Z,109nm,14.0s						
MKAR	**Makanchi Array**	**58.70**	**326**	P	**P**	**00 17 42.7**	**-1.0**
	comp=Z,2.2nm,0.3s,mb4.6,baz=116,slow=6.9,SNR=25						
MKAR	**Makanchi Array**	**58.70**	**326**	P	**P**	**00 17 42.7**	**-1.0**
RPZ	**Rata Peaks**	**60.63**	**144**	LR	LR	00 45 38.8	
	comp=Z,264nm,20.1s,baz=103,slow=38						
ZAL	**Zalesovo**	**61.83**	**333**	P	**P**	**00 18 04.8**	**-0.2**
	comp=Z,1.3nm,0.3s,mb4.4,baz=316,slow=6.0,SNR=2.7						
KURK	**Kurchatov**	**62.91**	**328**	*e*P	**P**	**00 18 11.4**	**-0.8**
	comp=Z,11nm,0.7s,mb4.9						
BVAR	**Borovoye Array**	**68.49**	**327**	P	**P**	**00 18 47.7**	**0.0**
	comp=Z,1.1nm,0.4s,mb4.0,baz=124,slow=11,SNR=7.3						
VNDA	**Vanda**	**82.03**	**173**	P	**P**	**00 20 04.8**	**+0.4**
	comp=Z,1.7nm,0.8s,mb3.9,baz=322,slow=6.6,SNR=6.1						
MAW	**Mawson**	**82.42**	**200**	P	**P**	**00 20 07.4**	**+0.9**
	comp=Z,1.6nm,0.6s,mb4.0,baz=102,slow=3.5,SNR=5.6						
BRTR	**Keskin Array B**	**90.90**	**310**	P	**P**	**00 20 49.1**	**+0.8**
	comp=Z,0.5nm,0.6s,mb3.8,baz=121,slow=7.2,SNR=4.0						
ARCES	**ARCESS Array B**	**91.76**	**340**	P	**P**	**00 20 54.0**	**+2.4**
	comp=Z,2.7nm,0.9s,mb4.5,baz=90,slow=5.4,SNR=4.1						
AKASG	**Malin Array Be**	**92.97**	**321**	P	**P**	**00 20 58.8**	**+1.2**
	comp=Z,0.5nm,0.5s,mb4.1,baz=65,slow=5.4,SNR=4.6						
FINES	**FINESS Array B**	**93.06**	**332**	P	**P**	**00 21 00.5**	**+2.7**
	comp=Z,0.8nm,0.7s,mb4.2,baz=90,slow=5.7,SNR=5.8						

BJI 26 00:08:22.0, 37.16N×79.38E, h26km, ML3.6, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**3.56**	**312**	PG	Pn	00 09 25.5	+8.4
KSH				SG	Sn	00 10 11.0	+12
KSH				Smax			
	comp=N,180nm,1.2s						
KSH				Smax			
	comp=E,130nm,1.0s						

ATH ***26*** *00:34:59.5, 39.66N×24.16E, h30km±2km, MD3.0/6*

NEIC ***26*** *00:34:59.5, 39.66N×24.16E, h30km, MD3.0(ATH), After ATH.*

THE ***26*** *00:35:00.7, 39.66N×24.18E, h8km, ML2.5*

CSEM ***26*** *00:35:00.5±0.1, 39.65N×24.17E, h20km, ML2.5, Error ellipse: s-maj=3.4km s-min=2.4km az=146.0*

ISC 26 00:35:00.4±0.5, 39.68N±0.04×24.17E±0.04, h29km±6km, n16, σ0.69/23, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAIG	**Paliouri**	**0.46**	**304**	*e*Pg	**Pb**	**00 35 09.9**	**-0.2**
PAIG				*e*Sg	**Sb**	**00 35 17.1**	**+0.4**
AOS	**Alonnisos**	**0.55**	**204**	*e*Pg	**Pb**	**00 35 10.9**	**-0.7**
AOS				*e*Sg	**Sb**	**00 35 19.2**	**-0.1**
OUR	**Ouranopolis**	**0.67**	**348**	*e*Pg	**Pb**	**00 35 13.8**	**+0.2**
	comp=Z,10.0nm,0.4s						
OUR				*e*Sg	**Sb**	**00 35 23.8**	**+1.1**
LOS	**Limnos**	**0.75**	**69**	*e*Pg	**Pb**	**00 35 14.8**	**0.0**
LOS				*e*Sg	**Sb**	**00 35 25.5**	**+0.8**
LIA	**Limnos Island**	**0.81**	**74**	*e*PN	**Pn**	**00 35 15.8**	**-0.1**
XOR	**Xorichti**	**0.82**	**248**	*e*Pg	**Pb**	**00 35 16.0**	**0.0**
XOR				*e*Sg	**Sb**	**00 35 27.6**	**+0.8**
NEO	**Neokhori**	**0.82**	**244**	*e*PN	**Pn**	**00 35 15.7**	**-0.4**
NEO				*e*SN	**Sn**	**00 35 26.8**	**-0.5**
PLG	**Polygyros**	**0.89**	**322**	*e*PN	**Pn**	**00 35 16.9**	**-0.2**
LKR	**Lokris**	**1.37**	**222**	*e*PN	**Pn**	**00 35 24.0**	**+0.1**
AGG	**Agios Georgios**	**1.57**	**246**	*e*Pg	**Pn**	**00 35 28.1**	**+1.3**
PRK	**Paraskevi**	**1.68**	**104**	*e*PN	**Pn**	**00 35 29.4**	**+1.0**
NVR	**Nevrokopi**	**1.69**	**352**	*e*PN	**Pn**	**00 35 29.1**	**+0.6**
KNT	**Kendrikon**	**1.77**	**327**	*e*Pb	**Pb**	**00 35 31.3**	**-0.9**
RDO	**Rodhopi**	**1.80**	**35**	*e*PN	**Pn**	**00 35 29.9**	**-0.2**
GRG	**Griva**	**1.86**	**314**	*e*Pb	**Pb**	**00 35 32.5**	**-1.2**
ALN	**Alexandroupoli**	**1.88**	**49**	*e*Pb	**Pb**	**00 35 32.5**	**-1.5**
ALN				*e*Sb	**Sb**	**00 35 57.0**	**-0.3**

BJI ***26*** *00:36:46.1, 4.82N×94.59E, h30km, mB4.9, mb5.1, Ms4.2, Msz4.1*

MOS ***26*** *00:36:51.6±0.8, 5.54N×94.72E, h33km, mb5.1/42, Error ellipse: s-maj=12.3km s-min=5.2km az=118.7*

HRVD ***26*** *00:36:53.0±0.9, 5.13N×94.58E, h62km±3km, MW4.8/40, Centroid moment Tensor Solution. LP body waves: s13,c18;Mantle waves: s40,c55; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.46±.18; $M_{\theta\theta}$-0.85±.15; $M_{\phi\phi}$-0.61±.21; $M_{r\theta}$0.43±.07; $M_{\theta\phi}$1.02±.11; $M_{\phi r}$-0.51±.10; Best double couple: $M_0$1.744×10^{16} NP1:ϕ_s307°,δ34°,λ83°. NP2:ϕ_s136°,δ56°,λ95°. Principal axes: T 1.598, Plg78°, Azm62°; N .289, Plg4°, Azm313°; P -1.889, Plg11°, Azm222°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***26*** *00:36:53.0±0.2, 5.44N×94.57E, h30km, mb4.9/74 Error ellipse: s-maj=5.4km s-min=3.8km az=18.0*

NEIC Felt [III] at Banda Aceh.

IDC ***26*** *00:36:56.5±2.2, 5.50N×94.66E, h58km±19km, mb4.5/21, mb1 4.5/21, mb1mx4.4/26, mbtmp4.8/21, MS3.9/12, Ms1 3.9/12, ms1mx3.7/22, Error ellipse: s-maj=15.2km s-min=10.5km az=56.0*

ISC 26 00:36:53.7±0.2, 5.45N±0.04×94.63E±0.03, h49km, h49km±2.8km: pP-P, n286, σ0.94/285, mb4.9/123, MS4.0/23, 55C-10D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.00**	**91**	*e*Pn	**P**	**00 38 22.0**	**-0.1**
KULM				*e*Sn	**S**	**00 39 28.7**	**-1.7**
SNG	**Songkhla**	**6.20**	**74**	P	**P**	**00 38 25.5**	**+0.6**
	600nm,1.0s						
IPM	**Ipoh**	**6.43**	**97**	P	**P**	**00 38 28.3**	**0.0**
NNT	**Nongplab**	**8.71**	**35**	P	**P**	**00 39 01.0**	**+1.2**
KGM	**Kluang**	**9.32**	**111**	P	**P**	**00 39 09.3**	**+1.2**
NST	**Nakhon Sawan**	**11.51**	**28**	P	**P**	**00 39 40.2**	**+2.0**
CHG	**Chiang Mai**	**13.94**	**17**	PG	**P**	**00 40 14.9**	**+4.4**
CHG				SG		00 40 17.5	
PALK	**Pallekele**	**13.96**	**278**	*e*Pn	**P**	**00 40 06.4**	**-4.3**
PALK				*e*Sn	**S**	**00 42 31.7**	**-13**
NANT	**Nan**	**14.54**	**24**	P	**P**	**00 40 23.0**	**+4.7**
	200nm,0.4s						
KSM	**Kuching**	**16.14**	**104**	*e*P	**P**	**00 40 42.4**	**+3.5**
VIS	**Vishakhapatnam**	**16.46**	**319**	*e*P	**P**	**00 40 39.6**	**-3.4**
VIS				AMb	AMB	00 40 48.1	
	comp=Z,21nm,0.3s						
VIS				*e*S	**S**	**00 43 32.1**	**-11**
BWNR	**Bhubaneshwar**	**17.07**	**331**	*e*x	**S**	**00 43 57.0**	**-0.3**
BWNR				AMb	AMB	00 44 04.3	
	comp=Z,40nm,0.4s						
SALM	**Salem**	**17.37**	**292**	*e*x	**P**	**00 41 02.0**	**+7.6**
SALM				*e*x	**S**	**00 43 53.0**	**-11**
HYB	**Hyderabad**	**19.72**	**308**	*i*P	**P**	**00 41 23.0**	**+0.9**
HYB				*e*S	**S**	**00 44 55.0**	**-1.5**
HYB	**Hyderabad**	**19.72**	**308**	*e*P	**P**	**00 41 23.0**	**+0.9**
QIZ	**Qiongzhong**	**20.06**	**46**	P	**P**	**00 41 27.0**	**+1.3**
QIZ				PP	PP	00 41 47.3	+1.2
QIZ				S	**S**	**00 45 09.0**	**+5.5**
QIZ				SS	SS	00 45 33.8	+0.2
QIZ				AMB	AMB		
	comp=Z,27nm,1.0s						
QIZ				LR	LR		
	comp=N,365nm,17.4s,MS3.9						
QIZ				LR	LR		
	comp=E,307nm,18.2s,MS3.9						
QIZ				LR	LR		
	comp=Z,476nm,18.5s,MS3.9						
QIZ	**Qiongzhong**	**20.06**	**46**	*e*P	**P**	**00 41 26.3**	**+0.5**
	comp=Z,21nm,0.8s						
BLSP	**Bilaspur**	**20.52**	**325**	*e*P	**P**	**00 41 30.8**	**+0.2**
BLSP				AMb	AMB	00 41 36.3	
	comp=Z,60nm,1.2s						
BLSP				*e*S	**S**	**00 45 13.6**	**+1.1**
KMI	**Kunming**	**21.06**	**21**	⇑P	**P**	**00 41 37.8**	**+1.8**
KMI				AP		00 41 49.3	
KMI				XP		00 41 52.0	
KMI				PP	PP	00 42 03.5	+3.5
KMI				PPP	PPP	00 42 12.3	+2.8
KMI				S	**S**	**00 45 28.5**	**+5.8**
KMI				SS	SS	00 46 04.0	+6.4
KMI				AMB	AMB		
	comp=Z,41nm,1.2s,mb4.6						
KMI				AMB	AMB		
	comp=Z,78nm,3.1s						
KMI				LR	LR		
	comp=N,229nm,18.7s,MS3.7						
KMI				LR	LR		
	comp=E,252nm,22.2s,MS3.7						
KMI				LR	LR		
	comp=Z,317nm,23.5s,MS3.6						
KMI	**Kunming**	**21.06**	**21**	⇑P	**P**	**00 41 37.8**	**+1.8**
	comp=Z,41nm,1.2s,mb4.6						
KMI				pP		00 41 49.3	
KMI				sP		00 41 52.1	
KMI				PP	PP	00 42 03.6	+3.6
KMI				PPP	PPP	00 42 12.3	+2.8
KMI				S	**S**	**00 45 28.5**	**+5.8**
KMI				sS		00 45 41.5	
KMI				SS	SS	00 46 04.1	+6.5
KMI				LR	LR		
	comp=Z,320nm,23.5s,MS3.6						
KMI	**Kunming**	**21.06**	**21**	⇑P	**P**	**00 41 37.8**	**+1.8**
KMI				*PP		00 41 49.3	
KMI				*SP		00 41 52.1	
KMI						00 42 03.6	
KMI				S	**S**	**00 45 28.5**	**+5.8**
KMI				*SS		00 45 41.5	
KMI				SS	SS	00 46 04.1	+6.5
KMI				pmax	pmax		
	comp=Z,41nm,1.2s,mb4.6						
KMI				MLR	MLR		
	comp=Z,320nm,23.5s,MS3.6						
KKM	**Kota Kinabalu**	**21.49**	**87**	P	**P**	**00 41 41.7**	**+1.3**
KKM	**Kota Kinabalu**	**21.49**	**87**	*e*P	**P**	**00 41 40.9**	**+0.5**
LATR	**Latur**	**21.85**	**308**	*e*x	**S**	**00 45 35.0**	**-2.4**
KAD	**Karad**	**23.22**	**302**	*e*P	**P**	**00 41 58.0**	**+0.5**
KAD				AMb	AMB	00 42 04.9	
	comp=Z,15nm,1.1s,mb4.3						
KAD				*e*x	**S**	**00 46 06.7**	**+4.6**
ALBI	**Allahabad**	**23.26**	**329**	*e*P	**P**	**00 41 58.0**	**+0.1**
PKI	**Pulchoki**	**23.69**	**339**	*e*P	**P**	**00 42 01.8**	**-0.2**
	comp=Z,25nm,0.5s,mb4.9						
PKI	**Pulchoki**	**23.69**	**339**	*e*P	**P**	**00 42 01.8**	**-0.2**
PKI				pmax	pmax		
	comp=Z,13nm,0.5s,mb4.6						
DMN	**Daman**	**23.83**	**339**	*e*P	**P**	**00 42 03.9**	**+0.5**
	comp=Z,36nm,0.6s,mb5.0						
GYA	**Guiyang**	**23.85**	**28**	⇓*i*P	**P**	**00 42 05.0**	**+1.4**
GYA				AP		00 42 14.8	
GYA				XP		00 42 18.8	
GYA				PP	PP	00 42 41.5	+3.3
GYA				XS		00 46 36.5	
GYA				AMB	AMB		
	comp=Z,30nm,0.7s,mb4.8						
GYA				AMB	AMB		
	comp=Z,320nm,6.8s						
GYA				LR	LR		
	comp=N,410nm,15.8s,MS4.1						
GYA				LR	LR		
	comp=E,250nm,16.2s,MS4.1						
GYA				LR	LR		
	comp=Z,350nm,16.2s,MS3.9						
KKN	**Kakani**	**23.93**	**339**	*e*P	**P**	**00 42 04.0**	**-0.4**
	comp=Z,70nm,0.8s,mb5.1						
KKN	**Kakani**	**23.93**	**339**	*e*P	**P**	**00 42 04.0**	**-0.4**
KKN				pmax	pmax		
	comp=Z,35nm,0.8s,mb4.8						
POO	**Poona**	**24.09**	**304**	⇑*i*P	**P**	**00 42 09.0**	**+3.1**
POO				*e*x		00 46 37.0	
BHPL	**Bhopal**	**24.25**	**319**	*e*P	**P**	**00 42 08.0**	**+0.5**
BHPL				AMb	AMB	00 42 10.5	
	comp=Z,27nm,1.6s,mb4.4						
BHPL				*e*x	**S**	**00 46 19.2**	**-0.8**
LSA	**Lhasa**	**24.35**	**353**	P	**P**	**00 42 13.5**	**+5.1**
LSA	**Lhasa**	**24.35**	**353**	*e*P	**P**	**00 42 10.0**	**+1.6**
	comp=Z,38nm,0.6s,mb5.0						
LSA	**Lhasa**	**24.35**	**353**	*e*P	**P**	**00 42 10.0**	**+1.6**
LSA				pmax	pmax		
	comp=Z,38nm,0.6s,mb5.0						
GKN	**Gorkha**	**24.36**	**338**	*e*P	**P**	**00 42 08.8**	**+0.3**
	comp=Z,34nm,0.3s,mb5.3						
KOLN	**Koldanda**	**24.55**	**336**	*e*P	**P**	**00 42 11.2**	**+0.8**
	comp=Z,32nm,0.3s,mb5.4						
CD2	**Chengdu**	**26.75**	**18**	P	**P**	**00 42 30.0**	**-1.0**
CD2				AP	pP	00 42 40.8	-2.6
CD2				AMB	AMB		
	comp=Z,20nm,0.4s,mb5.0						
CD2				LR	LR		
	comp=N,140nm,15.6s						
CD2				LR	LR		
	comp=Z,160nm,5.7s						
ENH	**Enshi**	**28.39**	**28**	*e*P	**P**	**00 42 43.9**	**-1.9**
	comp=Z,14nm,0.6s,mb4.8						
XAN	**Xi'an**	**31.39**	**23**	P	**P**	**00 43 11.0**	**-1.5**
XAN				AP	pP	00 43 24.3	-0.9
XAN				AMB	AMB		
	comp=Z,52nm,1.0s,mb5.3						
LZH	**Lanzhou**	**31.65**	**14**	*e*P	**P**	**00 43 13.5**	**-1.2**
LZH				AP	pP	00 43 28.0	+0.6
LZH				PP	PP	00 44 20.0	-0.5
LZH				*e*S	**S**	**00 48 20.5**	**+1.2**
LZH				SS	SS	00 50 14.3	+3.2
LZH				AMB	AMB		
	comp=Z,38nm,1.0s,mb5.2						
LZH				AMB	AMB		
	comp=Z,160nm,4.2s						
LZH				LR	LR		
	comp=E,1μm,14.4s						
LZH				LR	LR		
	comp=Z,2μm,15.6s,MS4.8						
LZH	**Lanzhou**	**31.65**	**14**	*e*P	**P**	**00 43 13.4**	**-1.3**
	comp=Z,38nm,1.0s,mb5.2						
LZH				pP	pP	00 43 23.5	-3.9
LZH				sP	sP	00 43 28.0	-5.5
LZH				PP	PP	00 44 20.0	-0.5
LZH				*e*S	**S**	**00 48 20.5**	**+1.2**
LZH				sS		00 48 31.0	
LZH				SS	SS	00 50 14.3	+3.2
LZH				LR	LR		
	comp=Z,2μm,15.6s,MS4.8						
LZH	**Lanzhou**	**31.65**	**14**	*e*P	**P**	**00 43 13.4**	**-1.3**
LZH				*PP	pP	00 43 23.5	-3.9
LZH				*SP	sP	00 43 28.0	-5.5
LZH						00 44 20.0	
LZH				*e*S	**S**	**00 48 20.5**	**+1.2**
LZH				SS	SS	00 50 14.3	+3.2
LZH				pmax	pmax		
	comp=Z,38nm,1.0s,mb5.2						
LZH				MLR	MLR		
	comp=Z,2μm,15.6s,MS4.8						
GTA	**Gaotai**	**34.14**	**7**	⇑*i*P	**P**	**00 43 35.5**	**-0.7**
G

SSE LR LR
comp=Z,177nm,22.0s,MS3.8
SSE Sheshan 35.68 41 P **P** **00 43 49.5 +0.1**
comp=Z,24nm,0.7s,mb5.2
SSE sP sP 00 44 02.1 -6.4
SSE PP PP 00 45 11.0 -0.1
SSE PcP PcP 00 46 16.2 -1.1
SSE S **S** **00 49 25.6 +3.8**
SSE sS 00 49 40.8
SSE ScP 00 50 00.1
SSE LR LR
comp=Z,180nm,22.0s,MS3.8
KSH Kashi 37.87 336 *e*P **P** **00 44 07.0 -0.8**
KSH *e*AP pP 00 44 20.0 -0.8
KSH *e*PP PP 00 45 36.0 -1.9
KSH *e*PPP PPP 00 45 58.0 -2.2
KSH *e*PCP PcP 00 46 23.0 -0.9
KSH *e*S **S** **00 49 54.8 -0.5**
KSH *e*SCP 00 50 07.0
KSH AMB AMB
comp=Z,160nm,5.1s
KSH LR LR
comp=N,180nm,4.6s
KSH LR LR
comp=E,180nm,4.8s
HHC Hu-ho-hao-te 38.38 21 ⇑P **P** **00 44 12.5 +0.5**
HHC AP pP 00 44 22.0 -3.0
HHC PP PP 00 45 43.5 -0.4
HHC PCP PcP 00 46 26.5 +1.1
HHC S **S** **00 50 04.8 +1.8**
HHC SCS ScS 00 54 19.0 +2.5
HHC AMB AMB
comp=Z,27nm,0.8s,mb5.0
HHC AMB AMB
comp=Z,95nm,13.2s
HHC LR LR
comp=N,225nm,20.4s,MS4.1
HHC LR LR
comp=E,188nm,18.0s,MS4.1
HHC LR LR
comp=Z,260nm,20.4s,MS4.0
JOW Kunigami 38.48 53 P **P** **00 44 14.2 +1.3**
comp=Z,7.2nm,0.3s,mb4.9,baz=171,slow=11,SNR=6.5
FITZ Fitzroy Crossi 38.52 128 ⇑*i*P **P** **00 44 12.1 -1.2**
comp=Z,16nm,0.6s,mb4.9
FITZ Fitzroy Crossi 38.52 128 P **P** **00 44 12.2 -1.2**
comp=Z,21nm,0.6s,mb5.1,baz=342,slow=8.1,SNR=32
FITZ PcP PcP 00 46 25.9 -0.1
comp=Z,8.4nm,0.9s,baz=310,slow=3.2,SNR=4.7
WMQ Urumqi 38.70 352 P **P** **00 44 15.0 +0.3**
WMQ AP pP 00 44 25.0 -2.7
WMQ PP PP 00 45 49.0 +1.4
WMQ S **S** **00 50 10.0 +2.1**
WMQ AMB AMB
comp=Z,24nm,0.8s,mb5.0
WMQ AMB AMB
comp=Z,38nm,6.0s
WMQ LR LR
comp=N,85nm,14.0s,MS4.0
WMQ LR LR
comp=E,164nm,15.0s,MS4.0
WMQ LR LR
comp=Z,113nm,14.0s,MS3.8
ULHL Ulahol 40.13 339 P **P** **00 44 27.4 +0.9**
SNR=6.5
TKM2 Tokmak 2 40.95 339 P **P** **00 44 34.3 +1.0**
SNR=34
KBK Karagaybulak 40.96 338 P **P** **00 44 35.0 +1.7**
SNR=43
AML Almayashu 41.00 336 P **P** **00 44 35.6 +1.9**
SNR=12
AAK Ala-Archa 41.11 337 P **P** **00 44 35.8 +1.2**
SNR=22
AAK Ala-Archa 41.11 337 *e*P **P** **00 44 34.7 +0.1**
comp=Z,25nm,0.8s,mb4.9
AAK Ala-Archa 41.11 337 *c i*P **P** **00 44 34.9 +0.3**
AAK pmax pmax
comp=Z,29nm,0.9s,mb4.9
FRU Bishkek 41.24 338 *e*P **P** **00 44 35.2 -0.5**
FRU *e* 00 44 54.0
FRU pmax pmax
comp=Z,60nm,2.0s,mb4.9
DL2 Dalian 41.32 32 P **P** **00 44 37.3 +0.9**
DL2 AMB AMB
comp=Z,40nm,0.9s,mb5.0
CHMS Chumysh 41.33 338 P **P** **00 44 36.9 +0.5**
SNR=12
EKS2 Erkin-Say 41.42 337 P **P** **00 44 38.4 +1.3**
SNR=35
USP Ospenovka 41.65 338 P **P** **00 44 40.0 +0.9**
SNR=58
KAKA Kakadu 41.68 116 *e*P **P** **00 44 53.9 +14**
comp=Z,31nm,1.5s,mb4.7
MKAR Makanchi Array 42.55 347 P **P** **00 44 46.3 -0.1**
comp=Z,20nm,0.6s,mb5.0,baz=159,slow=7.6,SNR=165
MKAR LR LR 01 04 56.9
comp=Z,85nm,21.2s,MS3.6,baz=184,slow=40
MKAR Makanchi Array 42.55 347 *i*P **P** **00 44 46.0 -0.4**
MKAR pmax pmax
comp=Z,9.0nm,0.4s
SONM Songino Array 43.42 12 P **P** **00 44 53.0 -0.6**
comp=Z,15nm,0.7s,mb4.8,baz=190,slow=8.2,SNR=128
SONM PcP PcP 00 46 41.4 -0.3
comp=Z,3.5nm,0.5s,baz=196,slow=3.8,SNR=15
SONM LR LR 01 04 54.9
comp=Z,116nm,19.9s,MS3.8,baz=191,slow=39
JNU Nakatsue 43.53 46 P **P** **00 44 54.8 +0.1**
comp=Z,13nm,0.8s,mb4.7,baz=176,slow=5.9,SNR=4.4
JNU LR LR 01 05 24.9
comp=Z,148nm,18.5s,MS3.9,baz=131,slow=39
ULN Ulaanbaatar 43.59 12 *e*P **P** **00 44 53.9 -0.9**
comp=Z,9.7nm,0.6s,mb4.7
ULN *e*PcP PcP 00 46 41.9 -0.3
ULN Ulaanbaatar 43.59 12 *e*P **P** **00 44 53.9 -0.9**
ULN *e* 00 46 41.9
ULN pmax pmax
comp=Z,10.0nm,0.6s,mb4.7
KS15 Wonju Array Si 43.97 39 *e*P **P** **00 44 57.6 -0.5**
SNY Shenyang 44.46 31 ⇑P **P** **00 45 01.5 -0.5**
SNY AMB AMB
comp=Z,30nm,0.6s,mb5.2
ZAK Zakamensk 45.37 8 ⇑*i*P **P** **00 45 08.3 -0.8**
ZAK *e* 00 46 46.4
ZAK pmax pmax
comp=Z,4.0nm,1.4s,mb4.1
ZAK pmax pmax
comp=Z,2.0nm,1.1s,mb3.9
WRA Warramunga Arr 46.49 124 P **P** **00 45 17.7 -0.6**
comp=Z,14nm,0.5s,mb5.2,baz=306,slow=8.4,SNR=9.0
WRAB Tennant Creek 46.49 124 *e*P **P** **00 45 17.6 -0.8**
comp=Z,37nm,0.6s,mb5.5
WRAB Tennant Creek 46.49 124 *e*P **P** **00 45 17.6 -0.8**
WRAB pmax pmax
comp=Z,37nm,0.6s,mb5.5
CN2 Changchun 46.84 31 *e*P **P** **00 45 20.0 -0.8**
CN2 *e*AP pP 00 45 34.0 0.0
CN2 *e*S **S** **00 52 09.0 +2.1**
CN2 AMB AMB
comp=Z,20nm,0.5s,mb5.3
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,300nm,17.0s,MS4.4
CN2 LR LR
comp=E,200nm,17.0s,MS4.4
CN2 LR LR
comp=Z,200nm,18.0s,MS4.1
KURK Kurchatov 47.07 346 ⇑*i*P **P** **00 45 22.5 0.0**
comp=Z,57nm,0.6s,mb5.7
KURK Kurchatov 47.07 346 *i*P **P** **00 45 22.5 0.0**
KURK pmax pmax
comp=Z,57nm,0.6s,mb5.7
HIA Hailar 48.57 22 *e*P **P** **00 45 33.4 -0.8**
comp=Z,10.0nm,0.4s,mb5.2
HIA Hailar 48.57 22 *e*P **P** **00 45 33.4 -0.8**
HIA pmax pmax
comp=Z,10.0nm,0.4s
CIT Chita 49.00 15 *e*P **P** **00 45 36.4 -1.1**
CIT *e* pP 00 45 54.3 +3.6
CIT pmax pmax
comp=Z,35nm,1.4s,mb5.2
ZAL Zalesovo 49.00 352 P **P** **00 45 37.4 -0.1**
comp=Z,18nm,0.5s,mb5.4,baz=302,slow=5.6,SNR=70
MDJ Mudanjiang 49.56 33 P **P** **00 45 42.5 +0.6**
MDJ AP pP 00 45 51.5 -3.7
MDJ PCS 00 50 59.5
MDJ S **S** **00 52 49.8 +4.7**
MDJ AMB AMB
comp=Z,19nm,1.0s,mb5.1
MDJ AMB AMB
comp=Z,65nm,3.3s
MDJ LR LR
comp=N,35nm,24.4s,MS3.8
MDJ LR LR
comp=E,105nm,23.6s,MS3.8
MDJ LR LR
comp=Z,115nm,24.4s,MS3.8
NVS Novosibirsk 50.10 351 ⇑*i*P **P** **00 45 44.6 -1.4**
NVS *e*S **S** **00 52 52.9 +0.4**
NVS pmax pmax
comp=N,12nm,0.9s
NVS pmax pmax
comp=Z,15nm,0.9s,mb5.0
NVS pmax pmax
comp=E,11nm,1.0s
NVS smax
comp=N,14nm,2.1s
NVS smax
comp=E,20nm,1.8s
GUMO Guam 50.13 77 LR LR 01 08 34.0
comp=E,69nm,18.4s,MS3.7,baz=265,slow=38
MJAR Matsushiro Arr 50.46 46 P **P** **00 45 48.7 -0.2**
comp=E,2.5nm,0.6s,mb4.4,baz=248,slow=9.8,SNR=7.8
MJAR LR LR 01 07 38.1
comp=E,140nm,19.6s,MS4.0,baz=260,slow=36
VOSK Vostochnaya 50.99 342 P **P** **00 45 52.1 -0.6**
VOSK pmax pmax
comp=Z,19nm,0.7s,mb5.1
BVA0 Borovoye Array 51.43 342 *i*P **P** **00 45 55.4 -0.6**
BVA0 pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
BVAR Borovoye Array 51.43 342 P **P** **00 45 55.4 -0.7**
comp=Z,17nm,0.6s,mb5.2,baz=143,slow=9.7,SNR=162
BVAR S **S** **00 53 11.4 +0.6**
comp=Z,1.0nm,0.8s,baz=135,slow=12,SNR=5.1
BRVK Borovoye 51.49 341 ⇑*i*P **P** **00 45 55.6 -0.9**
comp=Z,16nm,0.6s,mb5.1
BRVK Borovoye 51.49 341 ⇑*i*P **P** **00 45 55.6 -0.9**
BRVK pmax pmax
comp=Z,16nm,0.6s,mb5.1
OPO Ambohidratompo 52.49 242 P **P** **00 46 05.4 +0.9**
comp=Z,2.0nm,0.8s,mb4.1,baz=117,slow=2.3,SNR=3.9
AB31 Akbulak array 52.59 332 *i*P **P** **00 46 04.2 -0.5**
AB31 pmax pmax
comp=Z,1.0nm,0.3s,mb4.2
AKTO Aktyubinsk 54.30 332 P **P** **00 46 16.0 -1.4**
AKTO pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
PMG Port Moresby 54.39 106 P **P** **00 46 17.8 -0.8**
comp=Z,13nm,0.7s,mb5.0,baz=221,slow=12,SNR=4.7
BOD Bodaibo 54.39 13 *e*P **P** **00 46 16.2 -1.8**
BOD pmax pmax
comp=Z,17nm,1.0s,mb4.9
GNI Garni 56.48 315 P **P** **00 46 32.6 -0.7**
comp=Z,4.8nm,0.7s,mb4.7,baz=326,slow=7.3,SNR=4.2
CTA Charters Tower 56.72 118 P **P** **00 46 34.3 -1.0**
comp=Z,9.6nm,1.1s,mb4.7,baz=310,slow=7.9,SNR=2.7
ASAJ Asahikawa 56.94 40 LR LR 01 13 03.8
comp=Z,86nm,18.1s,MS3.9,baz=91,slow=38
KMBO Kilima Mbogo 57.67 265 LR LR 01 06 04.5
comp=Z,187nm,21.2s,MS4.2,baz=275,slow=30
SVE Sverdlovsk 57.82 339 *e*P **P** **00 46 42.0 -0.6**
SVE *e* pP 00 46 52.0 -4.1
SVE *e* 00 50 14.0
SVE pmax pmax
comp=Z,44nm,1.7s,mb5.2
STKA Stephens Creek 58.10 133 *e*P **P** **00 46 43.6 -1.2**
comp=Z,2.3nm,0.4s,mb4.6
STKA Stephens Creek 58.10 133 P **P** **00 46 43.8 -1.0**
comp=Z,4.4nm,0.5s,mb4.7,baz=303,slow=7.3,SNR=11
STKA LR LR 01 12 03.2
comp=Z,106nm,18.1s,MS4.0,baz=22,slow=36
ARU Arti 58.30 337 ⇑*i*P **P** **00 46 44.5 -1.4**
ARU *e* 00 47 32.6
ARU *e* 00 48 56.5
ARU *e*S **S** **00 54 41.2 -1.6**
ARU *e*SS SS 00 58 41.3 +4.5
ARU pmax pmax
comp=Z,14nm,1.0s,mb5.0
YSS Yuzh-Sakhalins 58.41 37 *d i*P **P** **00 46 45.5 -1.3**
YSS pmax pmax
comp=Z,42nm,1.7s,mb5.2
MALT Malatya 60.41 311 *e*P **P** **00 46 59.4 -1.3**
comp=Z,7.0nm,1.1s,mb4.6
MALT Malatya 60.41 311 *e*P **P** **00 46 59.4 -1.3**
MALT pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
SOC Sochi 61.27 317 *c i*P **P** **00 47 02.9 -3.6**
SOC *e* 00 47 41.9
SOC *e*S **S** **00 55 15.5 -5.8**
SOC *e* 00 59 19.4
SOC pmax pmax
comp=N,11nm,0.8s
SOC pmax pmax
comp=E,15nm,0.8s
SOC pmax pmax
comp=Z,18nm,0.8s,mb5.2
YAK Yakutsk 62.14 18 *d i*P **P** **00 47 08.7 -3.3**
YAK pmax pmax
comp=Z,28nm,0.7s,mb5.5
VRHR Novokhopersk 63.20 326 *e*P **P** **00 47 17.1 -2.1**
VRHR pmax pmax
comp=Z,20nm,0.6s,mb5.4
VRHR pmax pmax
comp=N,10.0nm,1.2s
VRHR pmax pmax
comp=E,20nm,1.5s
ANN Anapa 63.24 318 *e*P **P** **00 47 14.9 -4.7**
ANN pmax pmax
comp=Z,28nm,1.0s,mb5.3
CSS Prodhromos 63.48 306 *e*P **P** **00 47 20.9 -0.4**
comp=Z,7.7nm,0.5s,mb5.1
BR131 Keskin Array S 64.38 312 *e*P **P** **00 47 25.6 -1.6**
comp=Z,4.4nm,0.7s,mb4.6
BRTR Keskin Array B 64.38 312 P **P** **00 47 25.8 -1.4**
comp=Z,5.3nm,0.7s,mb4.7,baz=128,slow=7.4,SNR=50
VRSR Storozhevoye 64.63 325 *e*P **P** **00 47 26.2 -2.3**
VRSR pmax pmax
comp=Z,10.0nm,0.5s,mb5.1
VRSR pmax pmax
comp=N,9.0nm,0.7s
VRSR pmax pmax
comp=E,6.0nm,0.7s
SIM Simferopol' 65.52 317 ⇑*e*P **P** **00 47 33.2 -1.2**
SIM pmax pmax
comp=Z,11nm,0.9s,mb4.9
ISP Isparta 66.32 309 *c i*P **P** **00 47 38.0 -1.6**
OBN Obninsk 67.68 328 ⇑*i*P **P** **00 47 46.4 -1.5**
comp=Z,19nm,0.8s,mb5.2
OBN Obninsk 67.68 328 *c i*P **P** **00 47 46.3 -1.6**
OBN pmax pmax
comp=Z,55nm,1.7s,mb5.3
MA2 Magadan 68.69 27 *e*P **P** **00 47 52.9 -1.2**
comp=Z,9.5nm,0.6s,mb4.9
MA2 Magadan 68.69 27 *e*P **P** **00 47 53.0 -1.1**
MA2 *e**PP pP 00 48 16.9 +8.9
MA2 *e*S S 00 56 44.3 -7.8
MA2 *e**SS 00 57 43.8
MA2 pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
TIXI Tiksi 69.51 11 *e*P **P** **00 47 53.7 -5.2**
TIXI pmax pmax
comp=Z,14nm,0.7s,mb5.0
TIXI MLR MLR
comp=Z,106nm,18.0s,MS4.1
CFR Carcaliu 69.66 316 ⇓P **P** **00 47 58.6 -1.7**
CFR Carcaliu 69.66 316 ⇓P **P** **00 47 58.6 -1.7**
HARR Harsova 69.70 316 ⇑P **P** **00 47 58.9 -1.6**
HARR Harsova 69.70 316 ⇑P **P** **00 47 58.9 -1.6**
AKASG Malin Array Be 70.35 322 P **P** **00 48 02.6 -1.8**
comp=Z,4.4nm,0.5s,mb4.7,baz=86,slow=5.1,SNR=32
VRI Vrincioaia 70.78 317 ⇓P **P** **00 48 07.5 +0.4**
VRI Vrincioaia 70.78 317 ⇓P **P** **00 48 07.5 +0.4**
MLR Muntele Rosu 71.24 316 ⇑P **P** **00 48 10.0 +0.1**
MLR Muntele Rosu 71.24 316 ⇑P **P** **00 48 10.0 +0.2**
VOIR 71.85 316 ⇓P **P** **00 48 12.8 -0.7**
VOIR 71.85 316 ⇓P **P** **00 48 12.8 -0.7**
BURAR Bucovina Array 72.16 318 ⇑P **P** **00 48 15.5 +0.2**
BURAR Bucovina Array 72.16 318 ⇑P **P** **00 48 15.5 +0.2**
JOF Joensuu 73.24 335 *ep* **P** **00 48 18.9 -2.4**
comp=Z,5.8nm,0.8s,mb4.6
VSU Vasula 73.91 330 *i*P **P** **00 48 25.0 -0.4**
KWP Kalwaria 74.19 320 *e*P **P** **00 48 27.1 -0.1**
KWP *e* pP 00 48 41.1 -0.1
KWP Kalwaria 74.19 320 *e*P **P** **00 48 27.1 0.0**
KWP *e* pP 00 48 41.1 0.0
KOLS Kolonicke sedl 74.34 319 *i*P **P** **00 48 28.3 +0.2**
BOSA Boshof 74.72 239 P **P** **00 48 32.0 +1.3**
comp=Z,1.5nm,0.6s,mb4.1,baz=152,slow=7.6,SNR=4.4
BOSA LR LR 01 15 48.0
comp=Z,93nm,20.4s,MS4.1,baz=157,slow=31
SUW Suwalki 74.75 325 *e*P **P** **00 48 29.4 -0.9**
SUW *e* pP 00 48 45.2 +0.9
SUW Suwalki 74.75 325 *e*P **P** **00 48 29.4 -0.9**
SUW *e* pP 00 48 45.2 +0.9
CRVS Cervenica-Dubn 74.87 319 *i*P **P** **00 48 31.2 +0.1**
FINES FINESS Array B 75.07 332 P **P** **00 48 31.4 -0.6**
comp=Z,2.1nm,0.3s,mb4.5,baz=89,slow=5.9,SNR=42
STHS Stebnicka Huta 75.09 320 *i*P **P** **00 48 32.8 +0.5**
KAF Kangasniemi 75.16 333 *ep* **P** **00 48 31.4 -1.1**
comp=Z,3.8nm,0.5s,mb4.6,baz=104,slow=5.4
KAF Kangasniemi 75.16 333 *e*P **P** **00 48 31.4 -1.1**
KAF pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
KECS Kecovo 75.44 319 *i*P **P** **00 48 34.4 0.0**
NIE Niedzica 75.69 320 *e*P **P** **00 48 35.7 -0.1**
PSZ Piszkesteto 75.75 318 *e*P **P** **00 48 36.0 -0.2**
comp=Z,3.9nm,0.7s,mb4.5
PSZ Piszkesteto 75.75 318 *e*P **P** **00 48 36.0 -0.2**
PSZ pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
OJC Ojcow 76.14 320 *e*P **P** **00 48 38.2 -0.1**
MAW Mawson 76.27 192 P **P** **00 48 40.0 +1.3**
comp=Z,0.5nm,0.5s,baz=51,slow=20,SNR=3.3
MAW LR LR 01 13 40.2
comp=Z,64nm,20.2s,baz=235,slow=29
VYHS Vyhne 76.53 318 *i*P **P** **00 48 40.7 +0.1**
OKC Ostrava-Krasne 77.14 320 *e*P **P** **00 48 44.0 0.0**
OKC *ep*P pP 00 49 00.1 +2.1
TIP Timpagrande 77.18 309 *e*P **P** **00 48 44.2 -0.2**
KEV Kevo 77.27 341 *ep* **P** **00 48 43.9 -0.4**
comp=Z,14nm,0.6s,mb5.1
KEV Kevo 77.27 341 *e*P **P** **00 48 43.9 -0.4**
KEV pmax pmax
comp=Z,14nm,0.6s,mb5.1
MORC Moravsky Berou 77.52 320 *e*P **P** **00 48 46.0 -0.1**
comp=Z,12nm,1.0s,mb4.8
MORC Moravsky Berou 77.52 320 *e*P **P** **00 48 46.0 -0.1**
MORC pmax pmax
comp=Z,12nm,1.0s,mb4.8
ZST Bratislava 77.65 318 *i*P **P** **00 48 47.4 +0.6**
ARCES ARCESS Array B 77.70 340 P **P** **00 48 46.5 -0.1**
comp=Z,6.3nm,0.4s,mb4.9,baz=96,slow=6.0,SNR=74
ARE0 ARCESS Array S 77.70 340 *e*P **P** **00 48 46.3 -0.4**
BILL Bilibino 78.16 21 *e*P **P** **00 48 47.4 -1.8**
DPC Dobruska-Polom 78.37 320 *e*P **P** **00 48 51.3 +0.6**
DPC *ep*P pP 00 49 07.1 +2.3
UPC Upice 78.58 320 *e*P **P** **00 48 52.4 +0.5**
UPC *ep*P pP 00 49 08.1 +2.1
ARSA Arzberg 78.63 317 ⇑*i*P **P** **00 48 52.4 +0.2**
comp=Z,10nm,1.6s,mb4.5
BOJS Bojanci 78.69 315 *i*P **P** **00 48 52.6 0.0**
FX1 Attu Island--F 78.76 37 *e*P **P** **00 48 52.2 -0.6**
PERS Pernice 78.86 316 *i*P **P** **00 48 53.8 +0.3**
LJU Ljubljana 79.23 316 *e*P **P** **00 48 55.9 +0.3**
OBKA Obir 79.24 316 ⇑*i*P **P** **00 48 55.9 +0.3**
comp=Z,10nm,1.0s,mb4.7
PRU Pruhonice 79.48 320 *e*P **P** **00 48 56.7 -0.1**
PRU *ep*P pP 00 49 13.1 +2.2
MOA Molln 79.52 318 ⇑*i*P **P** **00 48 56.9 -0.2**
comp=Z,6.8nm,1.0s,mb4.5
AQU L'Aquila 79.87 312 *e*P **P** **00 48 58.9 -0.2**
comp=Z,7.9nm,0.8s,mb4.7
AQU L'Aquila 79.87 312 *e*P **P** **00 48 58.9 -0.2**
AQU pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
BRG Berggiesshubel 79.92 321 *e*P **P** **00 48 59.5 +0.3**
comp=Z,6.4nm,1.0s,mb4.5
BRG Berggiesshubel 79.92 321 *e*P **P** **00 48 59.5 +0.4**
BRG pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
GEC2 GERESS Array S 79.95 319 *e*P **P** **00 48 59.8 +0.4**
comp=Z,14nm,0.9s,mb4.9
GEC2 GERESS Array S 79.95 319 *e*P **P** **00 48 59.8 +0.4**
GEC2 pmax pmax
comp=Z,14nm,0.9s,mb4.9
GERES GERESS Array B 79.95 319 P **P** **00 48 59.7 +0.3**
comp=Z,8.4nm,0.7s,mb4.8,baz=100,slow=5.4,SNR=73
KHC Kasperske Hory 80.05 319 *e*P **P** **00 48 59.5 -0.4**
KHC *ep*P pP 00 49 18.1 +4.1
KBA Koelnbreinsper 80.10 317 ⇑*i*P **P** **00 48 59.9 -0.3**
comp=Z,4.2nm,0.6s,mb4.5
KBA Koelnbreinsper 80.10 317 ⇑*i*P **P** **00 48 59.9 -0.3**
KBA pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
WET Wettzell 80.51 319 *e*P **P** **00 49 02.5 +0.2**
comp=Z,8.0nm,1.0s,mb4.6
WET Wettzell 80.51 319 *e*P **P** **00 49 02.5 +0.2**
WET pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
CLL Collm 80.54 321 P **P** **00 49 02.0 -0.4**
CLL Collm 80.54 321 *e*P **P** **00 49 02.0 -0.4**
NKC Novy Kostel 80.84 320 *e*P **P** **00 49 04.5 +0.5**
NKC *ep*P pP 00 49 20.4 +2.2
WTTA Wattenberg 81.27 317 ⇑*i*P **P** **00 49 06.1 -0.3**
comp=Z,9.9nm,0.7s,mb4.8
WTTA Wattenberg 81.27 317 ⇑*i*P **P** **00 49 06.1 -0.3**
WTTA pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
WATA Walderalm 81.31 317 ⇑*i*P **P** **00 49 06.0 -0.6**
comp=Z,2.6nm,0.8s,mb4.2
WATA Walderalm 81.31 317 ⇑*i*P **P** **00 49 06.0 -0.6**
WATA pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
MOX Moxa 81.38 320 *e*P **P** **00 49 06.0 -0.9**
SQTA Sankt Quirin 81.56 317 ⇑*i*P **P** **00 49 07.6 -0.3**
comp=Z,4.2nm,0.8s,mb4.4
SQTA Sankt Quirin 81.56 317 ⇑*i*P **P** **00 49 07.6 -0.3**
SQTA pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
GRA1 Grafenberg Arr 81.61 319 *e*P **P** **00 49 08.5 +0.4**
comp=Z,12nm,1.0s,mb4.8
GRF Grafenberg Arr 81.61 319 *e*P **P** **00 49 08.5 +0.4**
GRF pmax pmax
comp=Z,12nm,1.0s,mb4.8
MOTA Moosalm 81.64 317 ⇑*i*P **P** **00 49 07.8 -0.5**
comp=Z,8.3nm,1.1s,mb4.6
MOTA Moosalm 81.64 317 ⇑*i*P **P** **00 49 07.8 -0.5**
MOTA pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
NB2 NORSAR Subarra 82.07 331 P **P** **00 49 09.3 -0.9**
comp=Z,7.4nm,1.2s,mb4.5,baz=94,slow=5.6
NB2 NORSAR Subarra 82.07 331 P **P** **00 49 09.3 -0.9**
NB2 pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
CLZ Clausthal 82.20 321 *e*P **P** **00 49 11.3 +0.2**
comp=Z,10.0nm,1.2s,mb4.6
CLZ Clausthal 82.20 321 *e*P **P** **00 49 11.3 +0.2**
CLZ pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
DAVA Damuels 82.47 317 ⇑*i*P **P** **00 49 12.8 +0.2**
comp=Z,11nm,1.3s,mb4.6
KONO Kongsberg 82.82 329 *d i*P **P** **00 49 03.9 -10**
PGF Pioggiola 83.13 312 ⇑*i*P **P** **00 49 16.4 +0.4**
comp=Z,15nm,0.8s,mb4.8
SYO Syowa Base 83.24 197 ⇑PcP PcP 00 49 23.4 +2.5
BFO Black Forest 83.51 318 *e*P **P** **00 49 17.6 -0.2**
comp=Z,9.0nm,1.1s,mb4.8
BFO Black Forest 83.51 318 *e*P **P** **00 49 17.6 -0.2**
BFO pmax pmax
comp=Z,9.0nm,1.1s,mb4.8
CDF Champ du Feu 84.21 318 *e*P **P** **00 49 21.1 -0.3**
comp=Z,4.8nm,0.8s,mb4.4
SBF Sospel 84.24 313 ⇑*i*P **P** **00 49 21.9 +0.3**
comp=Z,26nm,0.6s,mb5.2
HINF Hinteralfeld 84.51 317 *e*P **P** **00 49 22.7 -0.2**
LPG La Plagne 84.67 315 ⇑*i*P **P** **00 49 24.3 +0.6**
comp=Z,15nm,0.8s,mb4.9
LPL La Plagne 84.68 315 ⇑*i*P **P** **00 49 24.3 +0.5**
comp=Z,19nm,0.8s,mb5.0
MBDF Montbardon 84.68 314 *e*P **P** **00 49 25.4 +1.6**
comp=Z,7.3nm,0.7s,mb4.6
BNI Bardonecchia 84.74 315 *e*P **P** **00 49 23.5 -0.6**
comp=Z,6.6nm,0.9s,mb4.8
FRF La Foret Royal 84.82 313 ⇑*i*P **P** **00 49 25.0 +0.4**
comp=Z,26nm,0.8s,mb5.1
HAU Haudompre 84.84 318 ⇑*i*P **P** **00 49 24.4 -0.1**

comp=Z,14nm,0.7s,mb4.9
LMR La Mourre 84.93 313⇑ *i*P P 00 49 25.4 +0.3
comp=Z,6.6nm,0.6s,mb4.6
CABF La Chapelle 85.08 316⇑ *i*P P 00 49 26.2 +0.4
comp=Z,9.2nm,0.7s,mb4.8
ORIF Oris-en-Rattie 85.31 315⇑ *i*P P 00 49 27.5 +0.6
comp=Z,6.3nm,0.6s,mb4.6
SMRF Simiane la Rot 85.58 314⇑ *i*P P 00 49 29.2 +0.9
comp=Z,7.6nm,0.7s,mb4.7
BAIF Baives 86.14 320 *e*P P 00 49 31.3 +0.4
comp=Z,6.2nm,0.7s,mb4.6
VIVF Saint-Julien-l 86.17 315 *e*P P 00 49 31.5 +0.4
LOR Lormes 86.56 317⇑ *i*P P 00 49 33.1 +0.1
comp=Z,9.4nm,0.7s,mb4.8
SMF Signal de Mont 86.62 316 *e*P P 00 49 33.3 0.0
LASF Ste Croix 86.81 314 *e*P P 00 49 35.0 +0.7
SSF Saint Saulge 86.82 317 *e*P P 00 49 34.3 0.0
comp=Z,6.4nm,0.8s,mb4.6
AVF Avril sur Loir 86.95 317 *e*P P 00 49 34.9 0.0
BGF Bois d'Agland 87.31 316 *e*P P 00 49 37.2 +0.5
TCF Toulx Ste Croi 87.78 316 *e*P P 00 49 39.3 +0.4
ETOS Mallorca 87.95 310 P P **00 49 40.8 +0.9**
comp=Z,20nm,1.0s,mb5.3
CAF Calviac 88.01 315 *e*P P 00 49 40.8 +0.7
comp=Z,6.3nm,0.9s,mb4.5
MTLF Montolieu 88.06 313⇑ *i*P P 00 49 41.0 +0.7
comp=Z,7.2nm,0.8s,mb4.7
RJF Les Rejaudoux 88.36 315 *e*P P 00 49 42.6 +0.9
comp=Z,4.9nm,0.6s,mb4.6
EMIR Miracle 88.71 312 P P **00 49 44.5 +1.1**
comp=Z,21nm,1.0s,mb5.4
LFF La Frestale 88.94 315 *e*P P 00 49 45.3 +0.8
LDF La Druitiere 89.10 319 *e*P P 00 49 44.8 -0.3
comp=Z,7.4nm,0.8s,mb4.8
EPOB Poblet 89.10 311 P P **00 49 45.3 0.0**
comp=Z,7.9nm,0.8s,mb5.1
MFF Saint Martin d 89.36 317 *e*P P 00 49 46.7 +0.3
EPF Esparros 89.45 313 *e*P P 00 49 47.5 +0.5
EGRA Graus 89.57 312 P P **00 49 48.7 +1.1**
GRR Gorron 89.61 318 *e*P P 00 49 48.2 +0.6
EBIE Bielsa 89.64 313 P P **00 49 48.1 +0.3**
comp=Z,21nm,1.9s,mb5.1
ETSF Etsaut 90.13 313 *e*P P 00 49 51.4 +1.3
EMOS Mosqueruela 90.39 310 P P **00 49 53.1 +1.6**
comp=Z,22nm,1.2s,mb5.4
VNDA Vanda 90.47 168 LR LR 01 24 06.3
comp=Z,61nm,20.0s,MS4.0,baz=321,slow=31
SJPF Ste Jean 90.58 313 *e*P P 00 49 53.5 +1.2
ECHE Chera 90.87 310 P P **00 49 55.7 +2.0**
comp=Z,4.5nm,0.8s,mb4.8
ETOB Tobarra 91.45 309 P P **00 49 57.8 +1.3**
comp=Z,21nm,1.2s,mb5.3
EBER Berja 92.75 307 P P **00 50 03.4 +0.9**
EQES Quesada 92.76 308 P P **00 50 03.9 +1.5**
comp=Z,10nm,1.4s,mb5.1
ESDC Sonseca Array 93.14 310 P P **00 50 05.1 +0.9**
comp=Z,1.2nm,0.5s,mb4.6,baz=61,slow=4.1,SNR=15
ESDC Sonseca Array 93.14 310 P P **00 50 05.0 +0.8**
comp=Z,3.9nm,0.6s,mb5.0
IMA Indian Mountai 93.67 22 *e*P P 00 50 06.7 +0.8
comp=Z,37nm,0.6s
DBIC Dimbokro 98.75 278 LR LR 01 30 17.1
comp=Z,67nm,21.2s,MS4.1,baz=4.2,slow=32
SCHQ Schefferville 117.98 348 PKP PKPdf 00 55 36.1 +1.0
comp=Z,1.5nm,0.4s,slow=5.1,SNR=8.8
NEW Newport 119.71 24 *e*PKPdf PKPdf 00 55 40.0 +1.3
CHMT Chamberlain Mo 122.32 22 *e*PKPdf PKPdf 00 55 44.7 +1.0
ULM Lac du Bonnet 123.79 8 PKP PKPdf 00 55 47.2 +0.6
comp=Z,5.3nm,0.7s,baz=349,slow=4.1,SNR=12
ULM Lac du Bonnet 123.79 8 PKP PKPdf 00 55 47.2 +0.6
DLMT Dillon 123.87 23 *e*PKPdf PKPdf 00 55 48.4 +1.6
RRI2 Red Ridge 126.06 23 *e*PKPdf PKPdf 00 55 53.1 +2.1
TPAW Teton Pass 126.08 23 *e*PKPdf PKPdf 00 55 52.9 +1.8
LOHW Long Hollow 126.11 23 *e*PKPdf PKPdf 00 55 53.0 +1.8
ELK Elko 126.49 28 *e*PKPdf PKPdf 00 55 54.1 +2.1
NVAR Mina Array Bea 126.72 32 PKP PKPdf 00 55 55.0 +2.5
comp=Z,1.6nm,0.5s,baz=274,slow=4.2,SNR=15
BW06 Boulder Array 127.23 22 *e*PKPdf PKPdf 00 55 54.8 +1.4
PDAR Pinedale Array 127.23 22 PKP PKPdf 00 55 54.7 +1.3
comp=Z,1.8nm,0.5s,baz=354,slow=2.1,SNR=12
HWUT Hardware Ranch 127.42 25 *e*PKPdf PKPdf 00 55 55.1 +1.3
RSSD Black Hills 127.87 17 *e*PKPdf PKPdf 00 55 55.9 +1.3
DUG Dugway 128.04 27 *e*PKPdf PKPdf 00 55 56.3 +1.2
MSU Marysvale 129.69 27 *e*PKPdf PKPdf 00 56 00.4 +2.2
ANMO Albuquerque 135.18 25 *e*PKPdf PKPdf 00 56 10.6 +1.9
ANMO Albuquerque 135.18 25 *c i*PKIKP PKPdf 00 56 11.3 +2.7
TXAR Lajitas Array 141.21 26 PKhKP 00 56 15.0
comp=Z,0.4nm,0.4s,baz=68,slow=1.3,SNR=7.1
TXAR PKP PKPdf 00 56 21.4 +1.6
comp=Z,1.7nm,0.5s,baz=236,slow=0.6,SNR=16
TXAR SKPbc 00 59 52.2
comp=Z,0.7nm,0.9s,baz=202,slow=2.1,SNR=4.3
CPUP Villa Florida 146.11 229 PKPbc PKPbc 00 56 30.9 +1.5
comp=Z,1.8nm,0.5s,baz=103,slow=3.4,SNR=8.9
CFAA Coronel Fontan 149.42 210 PKPbc PKPdf 00 56 39.4 +5.8
comp=Z,0.8nm,0.6s,baz=140,slow=2.4,SNR=9.3
CFAA Coronel Fontan 149.42 210 PKPbc PKPdf 00 56 39.4 +5.8

*NEIC **26** 00:46:36.0±9.0,30.34S×177.56W,h47km±55km,mb4.5/2, Error ellipse: s-maj=111.5km s-min=29.7km az=144.0*
*IDC **26** 00:46:37.6±5.3,30.25S×177.73W,h49km±39km,mb4.2/3, mb1 4.3/3,mb1mx3.8/13,mbtmp4.4/3,Error ellipse: s-maj=61.4km s-min=36.5km az=124.0*

ISC 26 00:46:36.6±4.8,30.3S±0.3×178.1W±0.7,h33km,n8, σ0§52/8,mb4.5/4,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.06**	**10**	P	**P**	**00 46 55.3**	**+0.1**
	88nm,0.3s,baz=92,slow=21,SNR=6.3						
RAO				S	**S**	**00 47 08.9**	**0.0**
	708nm,0.3s,baz=75,slow=24,SNR=15						
CTA	**Charters Tower**	**33.68**	**279**	P	**P**	**00 53 17.5**	**+0.8**
	2.3nm,0.4s,mb4.4,baz=92,slow=14,SNR=4.3						
CTA	**Charters Tower**	**33.68**	**279**	P	**P**	**00 53 17.5**	**+0.8**
CTAO	**Charters Tower**	**33.68**	**279**	*e*P	**P**	**00 53 17.3**	**+0.6**
	2.1nm,0.5s,mb4.3						
STKA	**Stephens Creek**	**34.40**	**257**	P	**P**	**00 53 23.3**	**+0.5**
	3.6nm,0.5s,mb4.5,baz=95,slow=12,SNR=9.7						
WRAB	**Tennant Creek**	**43.98**	**272**	*e*P	**P**	**00 54 42.1**	**-0.6**
	3.9nm,0.3s,mb4.6						
WRA	**Warramunga Arr**	**43.99**	**272**	P	**P**	**00 54 42.1**	**-0.7**
	1.9nm,0.3s,mb4.3,baz=110,slow=8.1,SNR=21						
FINES	**FINESS Array B**	**145.02**	**340**	PKPbc	PKPbc	01 06 07.5	-2.4
	1.4nm,0.8s,baz=18,slow=4.4,SNR=6.5						

*NAO **26** 01:06:19.1±7.6,77.84N×21.22E,h16km±42km,ML1.9*
*HEL **26** 01:06:19.7±0.4,77.87N×21.41E,h10km,ML3.0, MD2.7(BER),ML1.9(NAO)*
*CSEM **26** 01:06:19.8±0.1,77.26N×18.43E,h10km,ML1.9,Error ellipse: s-maj=7.1km s-min=2.5km az=62.0*
*BER **26** 01:06:23.8±3.5,77.27N×17.63E,h0km±18km,MD2.4, ML3.1,ML1.9(NAO)*

ISC 26 01:06:20.3±0.6,77.19N±0.04×17.1E±0.2,h10km,n13, σ1§31/20,Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSP	**Hornsund**	**0.39**	**244**	*i*P	**Sg**	**01 06 34.1**	**+0.4**
SPA0	**Spitsbergen Ar**	**1.01**	**351**	*e*P	**Pb**	**01 06 38.7**	**-0.7**
	baz=158,slow=22						
SPA0				*e*SG	**Sg**	**01 06 53.6**	**-0.4**
	baz=168,slow=18						
HOPEN	**Hopen**	**1.93**	**107**	*e*P	**Pn**	**01 06 55.5**	**+2.0**
HOPEN				*e*S	**Sn**	**01 07 18.4**	**+0.3**
KBS	**Kingsbay**	**2.05**	**331**	Pn	**Pn**	**01 06 55.9**	**+0.6**
KBS				Pg	**Pg**	**01 06 59.3**	**-2.0**
KBS				Sn	**Sn**	**01 07 23.7**	**+2.5**
KBS	**Kingsbay**	**2.05**	**331**	*e*P	**Pn**	**01 06 56.1**	**+0.8**
KBS				*e*Pg	**Pg**	**01 06 59.2**	**-2.1**
KBS				*e*S	**Sn**	**01 07 24.3**	**+3.1**
KBS				AML	AML	01 07 26.6	
	comp=Z,258nm,0.3s						
KEV	**Kevo**	**7.97**	**154**	*e*P	**Pn**	**01 08 18.0**	**-0.9**
KEV				MPN		01 08 21.0	
	comp=Z,0.5nm,0.2s						
KEV	**Kevo**	**7.97**	**154**	P	**Pn**	**01 08 18.0**	**-0.9**
	comp=Z,0.5nm,0.2s						
ARA0	**ARCESS Array S**	**8.05**	**158**	*e*P	**P**	**01 08 19.5**	**-0.5**
	baz=355,slow=12						
KIF	**Kilpisjarvi**	**8.29**	**171**	*e*P	**P**	**01 08 26.2**	**+2.7**
KIF	**Kilpisjarvi**	**8.29**	**171**	P	**P**	**01 08 26.1**	**+2.6**
SGF	**Sodankyl**	**10.18**	**159**	*e*P	**P**	**01 08 48.7**	**-0.6**
SGF				MPN		01 08 51.2	
	comp=Z,0.6nm,0.3s						
SGF				*e*S	**S**	**01 10 39.6**	**-5.1**
SGF	**Sodankyl**	**10.18**	**159**	P	**P**	**01 08 48.7**	**-0.6**
	comp=Z,0.6nm,0.3s						
KJN	**Kajaani**	**13.58**	**160**	*e*P	**P**	**01 09 33.5**	**-1.5**

*CNRM **26** 01:25:44.7,35.03N×3.84W,h18km,MD2.6*
*CSEM **26** 01:25:44.9±0.1,34.93N×3.89W,h10km,MD2.6,Error ellipse: s-maj=2.7km s-min=1.8km az=105.0*
*INMG **26** 01:25:47.5±1.2,34.85N×3.81W,h15km±13km,ML2.2, Error ellipse: s-maj=15.2km s-min=4.4km az=154.0*
*MDD **26** 01:25:48.0±0.6,34.86N×3.79W,h17km±8km,mbLg2.3/19, Error ellipse: s-maj=8.2km s-min=3.5km az=129.0, PRXIMO*
*NEIC **26** 01:25:48.1,35.01N×3.85W,MG3.5(MDD),After MDD.*
*SFS **26** 01:25:48.0,35.01N×3.86W*
*LDG **26** 01:25:50.2±0.5,35.00N×3.84W,h10km,Ml2.9/1,Error ellipse: s-maj=10.5km s-min=4.9km az=172.0*

ISC 26 01:25:45.8±0.3,34.96N±0.02×3.92W±0.03,h10km,n59, σ1§16/101,Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOU	**Touzarine**	**0.14**	**89**	*i*P	**Pg**	**01 25 46.5**	**-2.6**
EMEL	**Melilla**	**0.86**	**67**	P	**Pb**	**01 26 02.4**	**0.0**
	118nm,0.1s,SNR=22						
EMEL				S	**Sb**	**01 26 13.9**	**+0.2**
	771nm,0.2s,SNR=12						
EMLI	**Melilla**	**0.87**	**67**	P	**Pb**	**01 26 02.3**	**-0.2**
	118nm,0.1s,SNR=22						
EMLI				S	**Sb**	**01 26 13.9**	**0.0**
	771nm,0.2s,SNR=12						
MELI	**Melilla**	**0.88**	**67**	P	**Pb**	**01 26 03.2**	**+0.6**
MELI				S	**Sb**	**01 26 14.8**	**+0.7**
MELI	**Melilla**	**0.88**	**67**	*i*P	**Pb**	**01 26 03.2**	**+0.6**
MELI				*e*S	**Sb**	**01 26 14.8**	**+0.6**
TZK	**Tazeka**	**0.90**	**194**	*i*P	**Pb**	**01 26 03.0**	**0.0**
TZK				*i*S	**Sb**	**01 26 16.0**	**+1.3**
ZAI	**Zaio**	**0.97**	**89**	S	**Sb**	**01 26 14.5**	**-2.3**
EALB	**Alboran**	**1.22**	**36**	P	**Pb**	**01 26 08.6**	**+0.1**
	17nm,0.2s,SNR=40						
EALB				S	**Sb**	**01 26 23.3**	**-0.8**
	32nm,0.2s,SNR=8.2						
EALB	**Alboran**	**1.22**	**36**	P	**Pb**	**01 26 08.6**	**+0.1**
	17nm,0.2s,SNR=40						
EALB				S	**Sb**	**01 26 23.3**	**-0.8**
	32nm,0.2s,SNR=8.2						
EMIJ	**Mijas**	**1.74**	**337**	P	**Pn**	**01 26 17.4**	**+1.0**
	3.8nm,0.2s,SNR=11						
EMIJ				S	**Sn**	**01 26 36.4**	**-2.5**
	10nm,0.2s						
MIF	**Mishlifen**	**1.89**	**215**	*e*P	**Pn**	**01 26 17.0**	**-1.5**
MIF				*i*S	**Sn**	**01 26 42.0**	**-0.5**
EGUA	**Guajares**	**1.89**	**9**	P	**Pn**	**01 26 19.7**	**+1.1**
	1.2nm,0.2s,SNR=7.9						
EJIF	**Jimena Fronter**	**1.95**	**320**	P	**Pn**	**01 26 20.8**	**+1.4**
	1.2nm,0.1s,SNR=7.9						
EJIF				S	**Sn**	**01 26 44.5**	**+0.5**
	2.9nm,0.3s,SNR=7.9						
EBER	**Berja**	**2.11**	**23**	P	**Pn**	**01 26 22.4**	**+0.7**
	2.1nm,0.2s,SNR=8.2						
EBER				S	**Sn**	**01 26 47.8**	**-0.4**
	8.2nm,0.2s						
EBER	**Berja**	**2.11**	**23**	P	**Pn**	**01 26 22.4**	**+0.8**
	2.1nm,0.2s,SNR=8.2						
EBER				S	**Sn**	**01 26 47.8**	**-0.3**
	8.2nm,0.2s						
CZD	**Col de Zad**	**2.14**	**206**	*i*P	**Pn**	**01 26 20.5**	**-1.5**
CZD				*i*S	**Sn**	**01 26 48.0**	**-0.8**
ELOJ	**Sierra Loja**	**2.19**	**355**	P	**Pn**	**01 26 24.4**	**+1.5**
	1.9nm,0.3s,SNR=8.2						
ELOJ				S	**Sn**	**01 26 48.1**	**-2.2**
	1.4nm,0.2s,SNR=4.8						
EQUE	**Quentar**	**2.27**	**10**	P	**Pn**	**01 26 25.0**	**+1.0**
	1.7nm,0.2s,SNR=7.9						
EQUE				S	**Sn**	**01 26 52.1**	**-0.2**
	3.8nm,0.3s,SNR=7.9						
ECOG	**Cogollos-Vega**	**2.33**	**7**	P	**Pn**	**01 26 26.6**	**+1.8**
	3.9nm,0.2s,SNR=7.9						
ENIJ	**Nijar**	**2.44**	**34**	P	**Pn**	**01 26 27.1**	**+0.7**
	0.2nm,0.2s,SNR=7.9						
ESPR	**Espera**	**2.47**	**321**	P	**Pn**	**01 26 29.3**	**+2.5**
	1.5nm,0.2s,SNR=7.9						
ESPR				S	**Sn**	**01 26 58.2**	**+1.0**
	6.6nm,0.3s,SNR=7.9						
EQES	**Quesada**	**2.92**	**13**	P	**Pn**	**01 26 34.7**	**+1.4**
	2.4nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**01 27 08.5**	**-0.2**
	4.6nm,0.3s,SNR=7.9						
EQES	**Quesada**	**2.92**	**13**	P	**Pn**	**01 26 34.7**	**+1.5**
	2.4nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**01 27 08.5**	**-0.2**
	4.6nm,0.3s,SNR=7.9						
EBAN	**Banos Encina**	**3.20**	**2**	P	**Pn**	**01 26 37.8**	**+0.6**
	0.3nm,0.2s,SNR=7.9						
EBAN				S	**Sn**	**01 27 15.7**	**-0.1**
	0.6nm,0.2s,SNR=7.9						
EBAN	**Banos Encina**	**3.20**	**2**	P	**Pn**	**01 26 37.8**	**+0.5**
EBAN				S	**Sn**	**01 27 15.7**	**-0.1**
EADA	**Adamuz**	**3.24**	**351**	P	**Pn**	**01 26 39.0**	**+1.1**
	0.6nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**01 27 16.7**	**-0.3**
	2.4nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**3.24**	**351**	P	**Pn**	**01 26 39.0**	**+1.2**
	0.6nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**01 27 16.7**	**-0.2**
	2.4nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.57**	**322**	P	**Pn**	**01 26 42.6**	**+0.1**
	1.4nm,0.2s,SNR=7.9						
EMIN				S	**Sn**	**01 27 21.3**	**-4.0**
	1.4nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.57**	**322**	P	**Pn**	**01 26 42.6**	**+0.1**
	1.4nm,0.2s,SNR=7.9						
EMIN				S	**Sn**	**01 27 21.3**	**-4.0**
	1.4nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**3.60**	**36**	P	**Pn**	**01 26 42.8**	**-0.1**
	2.5nm,0.5s,SNR=7.9						
EMUR				S	**Sn**	**01 27 21.8**	**-4.1**
	1.5nm,0.3s,SNR=7.9						
EMUR	**La Murta**	**3.60**	**36**	P	**Pn**	**01 26 42.8**	**-0.1**
	2.5nm,0.5s,SNR=7.9						
EMUR				S	**Sn**	**01 27 21.8**	**-4.1**
	1.5nm,0.3s,SNR=7.9						
EGRO	**El Granado**	**3.86**	**313**	P	**Pn**	**01 26 46.6**	**0.0**
	4.2nm,0.3s,SNR=7.9						
EGRO				S	**Sn**	**01 27 30.3**	**-2.1**
	2.6nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**3.86**	**313**	P	**Pn**	**01 26 46.6**	**+0.1**
	4.2nm,0.3s,SNR=7.9						
EGRO				S	**Sn**	**01 27 30.3**	**-2.1**
	2.6nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**4.14**	**27**	P	**Pn**	**01 26 50.9**	**+0.3**
	0.8nm,0.2s,SNR=7.9						
ETOB				S	**Sn**	**01 27 37.0**	**-2.6**
	2.4nm,0.5s,SNR=7.9						
ETOB	**Tobarra**	**4.14**	**27**	P	**Pn**	**01 26 50.9**	**+0.3**
	0.8nm,0.2s,SNR=7.9						
ETOB				S	**Sn**	**01 27 37.0**	**-2.7**
	2.4nm,0.5s,SNR=7.9						
PBEJ	**Beja**	**4.41**	**315**	*e*Pn	**Pn**	**01 26 55.5**	**+1.1**
PBEJ				*e*Sn	**Sn**	**01 27 45.1**	**-1.4**
	1.9nm,0.3s						
PBEJ	**Beja**	**4.41**	**315**	P	**Pn**	**01 26 55.5**	**+1.1**
PBEJ				S	**Sn**	**01 27 45.1**	**-1.4**
	0.9nm,0.3s						
EBAD	**Badajoz**	**4.53**	**328**	P	**Pn**	**01 26 55.8**	**-0.3**
	0.8nm,0.2s,SNR=7.9						
EBAD				S	**Sn**	**01 27 44.4**	**-5.0**
	3.5nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**4.53**	**328**	P	**Pn**	**01 26 55.8**	**-0.3**
	0.8nm,0.2s,SNR=7.9						
PTEO	**Sao Teotonio**	**4.66**	**305**	*e*Pn	**Pn**	**01 26 59.5**	**+1.6**
PTEO				*e*Sn	**Sn**	**01 27 51.1**	**-1.7**
	3.8nm,0.3s						
PTEO	**Sao Teotonio**	**4.66**	**305**	P	**Pn**	**01 26 59.5**	**+1.6**
PTEO				S	**Sn**	**01 27 51.1**	**-1.7**
	1.9nm,0.3s						
ESDC	**Sonseca Array**	**4.71**	**360**	P	**Pn**	**01 26 58.4**	**-0.2**
	1.1nm,0.1s,baz=180,slow=12,SNR=13						
ESDC	**Sonseca Array**	**4.71**	**360**	P	**Pn**	**01 26 58.4**	**-0.2**
EVO	**Evora**	**4.85**	**319**	*e*Pn	**Pn**	**01 27 01.3**	**+0.7**
EVO				*e*Sn	**Sn**	**01 27 54.6**	**-2.9**
	3.9nm,0.3s						
PCBR	**Castelo Branco**	**5.63**	**331**	*e*Pn	**Pn**	**01 27 11.6**	**-0.1**
PCBR				*e*Sn	**Sn**	**01 28 10.9**	**-6.3**
	1.6nm,0.6s						
EIBI	**Ibiza**	**5.85**	**45**	P	**Pn**	**01 27 12.9**	**-1.8**
	0.6nm,0.2s,SNR=7.9						
PTOM	**Tomar**	**5.87**	**324**	*e*Pn	**Pn**	**01 27 15.5**	**+0.5**
PTOM				*e*Sn	**Sn**	**01 28 17.6**	**-5.5**
MTE	**Manteigas**	**6.14**	**333**	*e*Pn	**Pn**	**01 27 20.5**	**+1.6**
MTE				*e*Sn	**Sn**	**01 28 26.0**	**-4.0**
	1.7nm,0.4s						
MTE	**Manteigas**	**6.14**	**333**	P	**Pn**	**01 27 20.5**	**+1.6**
MTE				S	**Sn**	**01 28 26.0**	**-4.0**
	0.9nm,0.4s						
PVRL	**Vila Real**	**6.98**	**336**	*e*Pn	**Pn**	**01 27 30.9**	**+0.3**
PVRL				*e*Sn	**Sn**	**01 28 45.6**	**-5.3**
	1.7nm,0.2s						
PVRL	**Vila Real**	**6.98**	**336**	P	**Pn**	**01 27 30.9**	**+0.3**
PVRL				S	**Sn**	**01 28 45.6**	**-5.3**
	0.9nm,0.2s						
PBRG	**Braganca**	**7.18**	**343**	*e*Pn	**Pn**	**01 27 33.5**	**0.0**
ECAL	**Calabor**	**7.31**	**343**	P	**Pn**	**01 27 35.5**	**+0.2**
	2.9nm,0.5s,SNR=7.9						
ECAL	**Calabor**	**7.31**	**343**	P	**Pn**	**01 27 35.5**	**+0.2**
PCAB	**Cabril**	**7.47**	**336**	*e*Pn	**Pn**	**01 27 37.3**	**-0.2**
ELOB	**Lobios**	**7.62**	**336**	P	**Pn**	**01 27 39.3**	**-0.4**
	0.8nm,0.3s,SNR=7.9						
ELOB	**Lobios**	**7.62**	**336**	P	**Pn**	**01 27 39.3**	**-0.4**
ETSF	**Etsaut**	**8.35**	**17**	*e*Pn	**P**	**01 27 51.8**	**+2.0**
SJPF	**Ste Jean**	**8.41**	**14**	*e*Pn	**P**	**01 27 49.9**	**-0.7**

ISC 26 02:14:56.4±2.7,22.7N±0.2×93.6E±0.2,h33km,n6,σ0§64/7, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**2.15**	**8**	*e*P	**P**	**02 15 30.0**	**-0.5**
SHL	**Shillong**	**3.30**	**332**	*e*PN	**Pn**	**02 15 48.5**	**+1.3**
SHL				*e*SN	**Sn**	**02 16 25.5**	**-0.2**
PKI	**Pulchoki**	**8.90**	**305**	*e*P	**P**	**02 17 05.9**	**+0.3**
	13nm,0.4s						
KKN	**Kakani**	**9.11**	**306**	*e*P	**P**	**02 17 08.8**	**+0.3**
	5.1nm,0.2s						
GKN	**Gorkha**	**9.71**	**305**	*e*P	**P**	**02 17 16.4**	**-0.4**
	16nm,0.3s						
KOLN	**Koldanda**	**10.39**	**301**	*e*P	**P**	**02 17 25.6**	**-0.7**
	6.1nm,0.3s						

*CSEM **26** 02:21:39.3±0.1,37.24N×54.39E,h18km,mb4.3/7,ML4.8/2, Error ellipse: s-maj=2.0km s-min=1.6km az=158.0*
*THR **26** 02:21:40.5±0.4,37.11N×54.35E,h16km±3km,ML4.2*
*TEH **26** 02:21:42.9,37.06N×54.49E,h10km,Mn4.6*
*NEIC **26** 02:21:42.9,37.06N×54.49E,h10km,mb4.0/9, ML4.6(TEH),After TEH.*
*MOS **26** 02:21:44.3±1.4,37.58N×54.36E,h33km,mb4.5/8,Error ellipse: s-maj=9.6km s-min=6.8km az=44.8*
*IDC **26** 02:21:45.1±4.4,36.99N×54.41E,h62km±33km,mb3.7/12, mb1 3.9/15,mb1mx3.8/24,mbtmp4.0/15,ML3.2/1,MS3.3/3, Ms1 3.3/3,ms1mx2.9/27,Error ellipse: s-maj=48.1km s-min=14.8km az=173.0*

ISC 26 02:21:38.7±0.2,37.20N±0.03×54.42E±0.03,h10km,n99, σ1§27/114,mb4.2/24,MS3.2/3,12C-2D, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKIA	**Kiasar**	**1.16**	**211**	Pg	**Pg**	**02 22 01.4**	**-0.5**
IGLO	**Galoogah**	**1.16**	**220**	Pg	**Pb**	**02 21 55.7**	**-4.7**
IPRN	**Paran-Amol**	**1.99**	**242**	Pn	**Pn**	**02 22 13.3**	**+0.4**
IFIR	**Firoozkooh**	**2.06**	**221**	Pn	**Pn**	**02 22 16.4**	**+2.6**
IDMV	**Damavand**	**2.52**	**231**	Pn	**Pn**	**02 22 23.1**	**+2.7**
DAMV	**Damavand**	**2.52**	**232**	*e*PN	**Pn**	**02 22 21.9**	**+1.5**
DAMV				*e*SG	**Sg**	**02 22 56.6**	**-6.1**
DAMV				AML	AML	02 23 05.7	
	comp=N,2μm,0.5s						
DAMV	**Damavand**	**2.52**	**232**	*e*Pn	**Pn**	**02 22 21.9**	**+1.5**
	SNR=52						
DAMV				*e*Sg	**Sg**	**02 22 56.7**	**-6.0**
	comp=N,2μm,0.5s,SNR=90						
IAFJ	**Afjeh**	**2.56**	**239**	Pn	**Pn**	**02 22 23.0**	**+2.0**
ISFR	**Esferayen**	**2.87**	**92**	Pn	**Pn**	**02 22 25.1**	**-0.3**
VAN	**Vannovskaya**	**3.02**	**75**	*e*P	**Pn**	**02 22 29.0**	**+1.4**
VAN				*e*S	**Sn**	**02 23 09.1**	**+4.8**
IVRN	**Varamin**	**3.10**	**225**	Pn	**Pn**	**02 22 29.9**	**+1.3**
THKV	**Tehran--Karaj**	**3.13**	**247**	*e*PN	**Pn**	**02 22 30.2**	**+1.1**
IQHU	**Quchan**	**3.30**	**91**	Pn	**Pn**	**02 22 32.4**	**+0.9**
IKRD	**Kardeh**	**3.31**	**96**	Pn	**Pg**	**02 22 44.0**	**-0.8**
IEMG	**Emamqoli**	**3.38**	**85**	Pn	**Pn**	**02 22 33.2**	**+0.5**
IPAY	**Payeh**	**3.75**	**100**	Pn	**Pn**	**02 22 38.9**	**+1.0**
IMOG	**Moghan**	**4.11**	**104**	Pn	**Pn**	**02 22 43.8**	**+0.8**
ASAO	**Ashtian**	**4.44**	**235**	*e*PN	**Pn**	**02 22 48.4**	**+0.7**
ASAO				*e*SG	**Sg**	**02 23 55.2**	**-11**
ASAO				AML	AML	02 24 16.8	
	comp=E,166nm,0.6s						
ASAO	**Ashtian**	**4.44**	**235**	*e*Pn	**Pn**	**02 22 48.4**	**+0.6**
	SNR=52						
ASAO				*e*Sg	**Sg**	**02 23 55.2**	**-11**
	comp=E,166nm,0.6s,SNR=90						
NASN	**Na'in**	**4.59**	**197**	*e*PN	**Pn**	**02 22 50.0**	**+0.1**
NASN				SN	**Sn**	**02 23 41.2**	**-2.7**
IMYA	**Miamay**	**4.64**	**99**	Pn	**Pn**	**02 22 51.2**	**+0.6**
ICHK	**Chekchek**	**4.95**	**180**	Pn	**Pn**	**02 22 54.1**	**-0.8**
IBAF	**Bafgh**	**5.68**	**170**	Pn	**Pn**	**02 23 05.3**	**+0.1**
IMEH	**Mehriz**	**5.80**	**178**	Pn	**Pn**	**02 23 06.8**	**-0.1**
SNGE	**Sanandaj**	**6.10**	**252**	*e*PN	**Pn

VRHR smax
comp=E,10.0nm,0.5s
VRHR smax
comp=Z,10.0nm,0.5s
VRSR Storozhevoye 17.71 327 *e*P **P 02 25 44.1 -2.7**
comp=Z,10.0nm,0.8s
VRSR *e*S **S 02 29 02.7 +0.7**
VRSR Storozhevoye 17.71 327 *e*P **P 02 25 44.1 -2.7**
VRSR *e*SS SS 02 29 02.7 -22
VRSR pmax pmax
comp=Z,7.0nm,0.4s
VRSR pmax pmax
comp=N,10.0nm,0.8s
VRSR pmax pmax
comp=E,4.0nm,0.4s
BVAR Borovoye Array 19.35 30 P **P 02 26 06.4 -0.5**
comp=E,0.6nm,0.3s,baz=218,slow=9.8,SNR=21
ARU Arti 19.43 7 *e*P **P 02 26 06.2 -1.6**
ARU *e*S **S 02 29 42.3 +1.2**
ARU MLR MLR
comp=Z,100nm,18.0s
ARU MLR MLR
comp=N,100nm,17.0s
ARU MLR MLR
comp=E,20nm,19.0s
CFR Carcaliu 21.25 300 ⇑P **P 02 26 25.7 -1.5**
HARR Harsova 21.30 299 ⇑P **P 02 26 26.9 -0.7**
HARR Harsova 21.30 299 ⇑P **P 02 26 26.9 -0.7**
OBN Obninsk 21.65 331 *i* P **P 02 26 32.3 +1.2**
comp=E,29nm,1.3s,mb4.5
OBN *e*S **S 02 30 25.9 +0.1**
comp=E,100nm,16.0s
OBN Obninsk 21.65 331 *d i*P **P 02 26 32.3 +1.2**
OBN *e*S **S 02 30 25.9 +0.1**
OBN *e*SS SS 02 30 55.6 -6.4
OBN pmax pmax
comp=Z,29nm,1.3s,mb4.5
OBN MLR MLR
comp=Z,100nm,16.0s,MS3.3
MOS Moscow 21.74 334 *e*P **P 02 26 32.0 0.0**
KURK Kurchatov 21.92 44 *e*P **P 02 26 34.3 +0.5**
comp=Z,18nm,1.0s,mb4.4
KURK Kurchatov 21.92 44 *e*P **P 02 26 34.3 +0.5**
comp=Z,18nm,1.0s,mb4.4
KURK Kurchatov 21.92 44 *e*P **P 02 26 34.3 +0.5**
KURK pmax pmax
comp=Z,17nm,1.0s,mb4.4
ISR Istrita 22.35 299 ⇑P **P 02 26 33.1 -5.0**
ISR Istrita 22.35 299 ⇑P **P 02 26 33.1 -5.0**
VRI Vrincioaia 22.37 301 ⇑P **P 02 26 40.8 +2.4**
VRI Vrincioaia 22.37 301 ⇑P **P 02 26 40.9 +2.5**
AKASG Malin Array Be 22.47 315 P **P 02 26 38.9 -0.4**
comp=Z,2.9nm,0.5s,mb4.0,baz=124,slow=9.8,SNR=16
MKAR Makanchi Array 22.72 56 P **P 02 26 42.9 +1.1**
comp=Z,1.3nm,0.6s,mb3.6,baz=270,slow=7.3,SNR=9.5
MLR Muntele Rosu 22.83 300 P **P 02 26 44.7 +1.9**
comp=Z,7.9nm,0.7s,mb4.2,baz=203,slow=7.7,SNR=12
MLR Muntele Rosu 22.83 300 ⇑P **P 02 26 45.1 +2.3**
MLR Muntele Rosu 22.83 300 ⇑P **P 02 26 45.1 +2.3**
VOIR 23.44 300 ⇑P **P 02 26 50.7 +1.9**
VOIR 23.44 300 ⇑P **P 02 26 50.7 +2.0**
IDI Anoyia 23.85 274 P **P 02 26 52.7 -0.1**
comp=Z,10nm,0.7s,mb4.3,baz=18,slow=8.8,SNR=8.6
KOLN Koldanda 26.27 102 *e*P **P 02 27 15.5 -0.4**
comp=Z,13nm,0.9s,mb4.5
ZAL Zalesovo 26.77 42 P **P 02 27 19.4 -0.9**
comp=Z,1.2nm,0.3s,mb3.9,baz=240,slow=6.6,SNR=4.2
ZAL LR LR 02 39 58.6
comp=Z,71nm,19.3s,MS3.2,baz=349,slow=41
GKN Gorkha 26.97 101 *e*P **P 02 27 21.7 -0.6**
comp=Z,18nm,0.7s,mb4.7
DMN Daman 27.52 101 *e*P **P 02 27 24.4 -3.0**
comp=Z,13nm,0.6s,mb4.7
PKI Pulchoki 27.77 101 *e*P **P 02 27 28.4 -1.3**
comp=Z,8.3nm,0.7s,mb4.5
GERES GERESS Array B 31.59 305 P **P 02 28 03.4 -0.1**
comp=Z,0.4nm,0.6s,mb3.4,baz=107,slow=10,SNR=3.7
GERES LR LR 02 43 31.1
comp=Z,38nm,19.1s,MS3.1,baz=111,slow=41
PGF Pioggiola 34.94 293 *e*P **P 02 28 31.6 -1.0**
comp=Z,17nm,0.8s,mb4.7
PGF Pioggiola 34.94 293 *e*P **P 02 28 31.6 -1.0**
PGF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
ARCES ARCESS Array B 35.96 343 P **P 02 28 40.9 -0.1**
comp=Z,1.5nm,0.9s,mb3.9,baz=135,slow=8.6,SNR=3.7
NB2 NORSAR Subarra 35.98 325 P **P 02 28 40.3 -1.0**
comp=Z,0.7nm,0.7s,mb3.7,baz=116,slow=7.9
NB2 NORSAR Subarra 35.98 325 P **P 02 28 40.3 -1.0**
NB2 pmax pmax
comp=Z,1.0nm,0.7s,mb3.9
NOA NORSAR Array B 35.98 325 P **P 02 28 40.6 -0.7**
comp=Z,0.9nm,0.8s,mb3.8,baz=117,slow=8.1,SNR=4.1
LPG La Plagne 36.28 299 *e*P **P 02 28 42.4 -1.5**
LPL La Plagne 36.29 299 *e*P **P 02 28 43.3 -0.7**
MBDF Montbardon 36.32 297 *e*P **P 02 28 43.4 -0.9**
comp=Z,8.7nm,0.8s,mb4.4
MBDF Montbardon 36.32 297 *e*P **P 02 28 43.4 -0.9**
MBDF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
FRF La Foret Royal 36.53 295 *e*P **P 02 28 45.1 -1.0**
comp=Z,11nm,0.8s,mb4.4
FRF La Foret Royal 36.53 295 *e*P **P 02 28 45.1 -1.0**
FRF pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
ORIF Oris-en-Rattie 36.94 298 *e*P **P 02 28 49.3 -0.2**
AVF Avril sur Loir 38.54 301 *e*P **P 02 29 02.1 -0.8**
comp=Z,4.2nm,0.6s,mb4.0
AVF Avril sur Loir 38.54 301 *e*P **P 02 29 02.1 -0.8**
AVF pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
SONM Songino Array 39.08 57 P **P 02 29 07.5 0.0**
comp=Z,0.7nm,0.8s,mb3.4,baz=263,slow=8.7,SNR=5.1
ULN Ulaanbaatar 39.52 57 *e*P **P 02 29 10.6 -0.5**
ULN Ulaanbaatar 39.52 57 *e*P **P 02 29 10.6 -0.5**
ULN Ulaanbaatar 39.52 57 ‖*i*P **P 02 29 12.1 +1.0**
MTLF Montolieu 39.76 296 *e*P **P 02 29 12.1 -1.0**
comp=Z,2.1nm,0.5s,mb3.8
MTLF Montolieu 39.76 296 *e*P **P 02 29 12.1 -1.0**
MTLF pmax pmax
comp=Z,1.0nm,0.5s,mb3.8
ESDC Sonseca Array 45.10 292 P **P 02 29 54.0 -2.7**
comp=Z,1.8nm,0.6s,mb4.1,baz=69,slow=8.0,SNR=13
LIC Lamto 62.07 256 *e*P **P 02 31 59.0 -3.1**
BILL Bilibino 63.51 23 *e*P **P 02 32 11.6 +0.9**
BILL *e* 02 32 47.9
BILL *e* 02 34 31.6
BILL *e*SS SS 02 44 48.2 -3.1
BILL pmax pmax
comp=Z,5.0nm,1.3s,mb4.4
ILAR Eielson Array 76.99 9 P **P 02 33 32.8 +0.1**
comp=Z,1.2nm,0.9s,mb3.8,baz=343,slow=5.0,SNR=11
DAWY Dawson 78.48 6 *e*P **P 02 33 41.2 +0.4**
DAWY *e* 02 33 49.4
YKA Yellowknife Ar 80.25 355 P **P 02 33 50.3 -0.1**
comp=Z,1.6nm,0.8s,mb4.0,baz=360,slow=7.2,SNR=11

IDC 26 02:39:46.0±2.6, 5.97N×60.89E, mb3.9/5, mb1 3.9/5, mb1mx3.7/18, mbtmp3.9/5, MS3.3/3, Ms1 3.3/3, ms1mx2.9/23, Error ellipse: s-maj=77.6km s-min=26.3km az=145.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**24.64**	**254**	P	P	02 45 08.6	-1.2
KMBO	5.3nm,0.7s,baz=52,slow=13,SNR=21			LR	LR	02 53 03.6	
	comp=Z,45nm,21.1s,baz=98,slow=32						
GNI	**Garni**	**36.99**	**339**	LR	LR	03 02 03.2	
	comp=Z,22nm,19.5s,baz=169,slow=36						
BRTR	**Keskin Array B**	**41.60**	**328**	P	P	02 47 36.8	-0.8
	0.8nm,0.8s,baz=127,slow=7.2,SNR=5.0						
MKAR	**Makanchi Array**	**44.65**	**21**	P	P	02 47 59.6	-2.6
	0.5nm,0.6s,baz=206,slow=9.3,SNR=4.5						
BOSA	**Boshof**	**48.59**	**223**	LR	LR	03 06 25.8	
	comp=Z,86nm,21.7s,baz=154,slow=33						
ZAL	**Zalesovo**	**51.61**	**18**	P	P	02 48 53.0	-3.2
	0.9nm,0.5s,baz=224,slow=11,SNR=5.1						
SONM	**Songino Array**	**56.90**	**35**	P	P	02 49 33.9	-1.3
	1.3nm,0.9s,baz=233,slow=7.2,SNR=8.7						

*BJI **26** 02:41:47.5, 7.63S×130.61E, h46km, mB5.1, mb4.8, Ms4.2, Msz4.2*

*IDC **26** 02:41:54.0±3.7, 6.70S×130.24E, h41km±33km, mb4.2/10, mb1 4.4/11, mb1mx4.3/16, mbtmp4.5/11, ML5.1/2, MS3.6/3, Ms1 3.6/3, ms1mx3.2/20, Error ellipse: s-maj=32.8km s-min=15.6km az=71.0*
*NEIC **26** 02:41:54.7±1.6, 6.75S×130.09E, h46km±14km, mb4.6/11, Error ellipse: s-maj=13.2km s-min=11.5km az=77.0*
ISC 26 02:41:52.2±2.1, 6.77S±0.08×130.1E±0.1, h36km±19km, n44, σ1$22/42, mb4.5/17, MS3.7/3, 7C-1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.33**	**159**	⇑*i*P	P	02 43 42.5	+17
	214nm,0.5s						
KAKA				*e*S	S	02 44 48.7	+11
FITZ	**Fitzroy Crossi**	**12.08**	**201**	*e*P	P	02 44 44.3	-0.6
	60nm,0.3s						
FITZ				*e*S	S	02 46 51.6	-7.7
FITZ	**Fitzroy Crossi**	**12.08**	**201**	P	P	02 44 44.5	-0.4
	31nm,0.3s,baz=19,slow=9.2,SNR=59						
FITZ				S	S	02 46 49.6	-10
	20nm,0.3s,baz=346,slow=23,SNR=8.7						
FITZ				LR	LR	02 49 46.1	
	comp=Z,155nm,20.9s,baz=90,slow=39						
WRAB	**Tennant Creek**	**13.72**	**163**	*e*Pn	P	02 45 05.1	-1.6
	35nm,0.5s						
WRAB				*e*Sn	S	02 47 26.5	-12
WRA	**Warramunga Arr**	**13.72**	**163**	P	P	02 45 05.2	-1.6
	5.2nm,0.3s,baz=345,slow=13,SNR=44						
WRA				S	S	02 47 27.6	-11
	11nm,0.3s,baz=343,slow=23,SNR=6.8						
PMG	**Port Moresby**	**17.08**	**100**	P	P	02 45 53.0	+3.1
	0.8nm,0.3s,baz=48,slow=21,SNR=2.3						
MBWA	**Marble Bar**	**17.48**	**214**	*e*P	P	02 45 56.6	+1.6
	18nm,0.8s						
CTA	**Charters Tower**	**20.51**	**132**	⇑*i*P	P	02 46 30.5	+0.5
	16nm,0.7s						
CTA	**Charters Tower**	**20.51**	**132**	P	P	02 46 30.0	+0.1
	21nm,0.7s,baz=310,slow=13,SNR=21						
CTAO	**Charters Tower**	**20.51**	**132**	*e*P	P	02 46 30.1	+0.1
	35nm,1.1s						
FORT	**Forrest**	**23.96**	**184**	*e*P	P	02 47 06.2	+1.9
	33nm,0.5s,mb5.0						
STKA	**Stephens Creek**	**27.18**	**158**	⇑*i*P	P	02 47 33.9	-0.7
	15nm,0.4s,mb4.9						
STKA	**Stephens Creek**	**27.18**	**158**	P	P	02 47 33.9	-0.7
	18nm,0.4s,mb4.9,baz=334,slow=8.7,SNR=68						
KLBR	**Kellerberrin**	**27.27**	**204**	*e*P	P	02 47 36.0	+0.6
	37nm,1.5s,mb4.7						
NWAO	**Narrogin (SRO)**	**28.65**	**203**	P	P	02 47 47.8	0.0
	2.7nm,0.5s,mb4.3,baz=13,slow=13,SNR=5.6						
NWAO				LR	LR	02 59 06.2	
	comp=Z,103nm,20.2s,MS3.4,baz=125,slow=36						
CNB	**Canberra Magne**	**33.47**	**151**	‖*i*P	P	02 48 30.9	+0.7
	11nm,0.8s,mb4.8						
KMI	**Kunming**	**41.41**	**321**	P	P	02 49 40.8	+3.8
KMI				AMB	AMB		
	comp=Z,7.0nm,0.5s,mb4.5						
KMI	**Kunming**	**41.41**	**321**	P	P	02 49 40.8	+3.8
	comp=Z,7.0nm,0.5s,mb4.5						
ULN	**Ulaanbaatar**	**58.08**	**342**	*e*P	P	02 51 44.1	-0.2
	comp=Z,2.1nm,0.6s,mb4.3						
SONM	**Songino Array**	**58.26**	**341**	P	P	02 51 45.2	-0.3
	comp=Z,0.9nm,0.6s,mb4.0,baz=159,slow=7.1,SNR=7.5						
WMQ	**Urumqi**	**63.26**	**327**	*e*P	P	02 52 21.0	+1.4
WMQ				AP	pP	02 52 33.0	+2.5
WMQ				XP	sP	02 52 39.0	+4.3
WMQ				PP	PP	02 54 42.0	+1.6
WMQ				S	S	03 00 48.0	+0.8
WMQ				AMB	AMB		
	comp=Z,17nm,1.0s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,154nm,6.0s						
WMQ				LR	LR		
	comp=N,23nm,16.0s,MS3.7						
WMQ				LR	LR		
	comp=E,36nm,16.0s,MS3.7						
MKAR	**Makanchi Array**	**68.09**	**327**	P	P	02 52 50.3	-0.2
	comp=E,6.4nm,0.5s,mb4.9,baz=117,slow=8.3,SNR=58						
AAK	**Ala-Archa**	**70.44**	**320**	*e*P	P	02 53 04.6	-0.3
	comp=E,5.3nm,1.0s,mb4.4						
ZAL	**Zalesovo**	**71.43**	**334**	P	P	02 53 09.9	-0.8
	comp=E,1.0nm,0.4s,mb4.1,baz=117,slow=2.0,SNR=3.7						
VNDA	**Vanda**	**72.66**	**173**	P	P	02 53 16.3	-1.3
	comp=E,1.3nm,0.5s,mb4.1,baz=322,slow=5.5,SNR=6.6						
VNDA				LR	LR	03 22 30.1	
	comp=E,62nm,18.5s,MS3.9,baz=245,slow=34						
MAW	**Mawson**	**75.21**	**201**	P	P	02 53 32.7	+0.2
	comp=E,3.0nm,0.6s,mb4.4,baz=71,slow=5.7,SNR=11						
BVAR	**Borovoye Array**	**77.93**	**328**	P	P	02 53 47.3	-0.8
	comp=E,0.9nm,0.5s,mb4.0,baz=135,slow=6.3,SNR=8.2						
QSPA	**South Pole Qui**	**83.21**	**180**	*e*P	P	02 54 15.1	-0.5
	comp=E,5.3nm,0.7s,mb4.7						
SYO	**Syowa Base**	**83.92**	**201**	⇑P	P	02 54 17.5	-1.9
ILAR	**Eielson Array**	**93.09**	**25**	P	P	02 55 00.7	-2.6
	comp=E,1.1nm,0.7s,mb4.4,baz=261,slow=4.6,SNR=8.7						
SNAA	**Sanae**	**95.92**	**193**	‖*i*	P	02 55 15.9	-0.1
SNAA	**Sanae**	**95.92**	**193**	*e*	P	02 55 17.8	+1.8
VNA2	**Neumayer--Watz**	**97.48**	**193**	‖*i*	P	02 55 23.2	+0.1
VNA2	**Neumayer--Watz**	**97.48**	**193**	*e*	P	02 55 24.9	+1.8
VNA3	**Neumayer Olymp**	**97.73**	**192**	‖*i*	P	02 55 24.4	+0.1
VNA3	**Neumayer Olymp**	**97.73**	**192**	*e*	P	02 55 25.9	+1.6
ULM	**Lac du Bonnet**	**122.19**	**33**	PKP	PKPdf	03 00 42.6	-0.8
	comp=E,0.9nm,0.5s,baz=216,slow=8.7,SNR=3.6						
TXAR	**Lajitas Array**	**124.71**	**59**	PKP	PKPdf	03 00 48.9	-0.1
	comp=E,0.4nm,0.8s,baz=270,slow=1.3,SNR=4.8						
DBIC	**Dimbokro**	**135.29**	**273**	PKP	PKPdf	03 01 11.3	+1.9
	comp=E,1.4nm,0.4s,baz=90,slow=2.0,SNR=5.8						
DBIC	**Dimbokro**	**135.29**	**273**	PKP	PKPdf	03 01 11.3	+1.9
LVC	**Limon Verde**	**145.37**	**148**	PKPbc	PKPbc	03 01 29.2	+1.6
	comp=E,2.9nm,0.5s,baz=262,slow=5.5,SNR=7.4						
CPUP	**Villa Florida**	**146.31**	**168**	PKPbc	PKPbc	03 01 30.4	+0.5
	comp=E,5.9nm,0.9s,baz=231,slow=5.1,SNR=10						
CPUP	**Villa Florida**	**146.31**	**168**	PKPbc	PKPbc	03 01 30.4	+0.5
SIV	**San Ignacio**	**154.82**	**154**	PKPbc	PKPdf	03 01 53.2	+11
	comp=E,0.4nm,0.6s,baz=262,slow=7.1,SNR=2.7						
SIV				PKPab	PKPab	03 02 06.6	-1.5
	comp=E,1.6nm,0.6s,baz=197,slow=4.2,SNR=9.4						

JMA 26 02:52:55.2±0.1, 29.07N×140.67E, h210km, M4.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.38**	**145**	P	P	02 53 38.7	-0.1
CBIJ				*e*S	S	02 54 12.2	-0.4
JHHJ	**Haha-jima-NKT**	**2.77**	**151**	P	P	02 53 42.8	-0.4
JHHJ				S	S	02 54 19.4	-1.0
BSO1	**Boso 1**	**5.57**	**3**	P	P	02 54 18.0	+0.2
BSO1				*e*S	S	02 55 19.1	-3.0
BSO3	**Boso 3**	**5.72**	**359**	S	S	02 55 20.9	-4.5
JAG	**Ashikaga**	**7.41**	**352**	P	P	02 54 40.4	-1.1
JHO	**Hitachi**	**7.52**	**359**	P	P	02 54 42.3	-0.7
JHO				*e*S	S	02 56 01.3	-5.9

WEL 26 02:53:06.9±0.3, 47.45S×165.56E, h33km, ML3.7/6, Error ellipse: s-maj=3.4km s-min=2.5km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**2.26**	**30**	*e*PN	Pn	02 53 41.4	-1.4
WHZ	**Wether Hill Ro**	**2.26**	**47**	PN	Pn	02 53 40.9	-2.0
WHZ				*e*SN	Sn	02 54 06.2	-3.7
WHZ				SN	Sn	02 54 06.9	-3.1
MLZ	**Mavora Lakes**	**2.77**	**42**	*e*PN	Pn	02 53 47.7	-2.5
MLZ				SN	Sn	02 54 19.0	-3.8
TUZ	**Tuapeka**	**3.18**	**63**	*e*PN	Pn	02 53 53.9	-1.9
TUZ				SN	Sn	02 54 29.0	-4.0
WKZ	**Wanaka**	**3.56**	**44**	*e*PN	Pn	02 53 59.9	-1.4
WKZ				*e*SN	Sn	02 54 39.1	-3.6
ODZ	**Otahua Downs**	**4.27**	**58**	*e*PN	Pn	02 54 06.8	-4.6
LBZ	**Lake Benmore**	**4.45**	**48**	*e*PN	Pn	02 54 10.5	-3.5

*IDC **26** 02:53:09.2±1.1, 15.83N×92.69E, mb3.9/8, mb1 4.1/8, mb1mx3.9/20, mbtmp3.9/8, Error ellipse: s-maj=49.7km s-min=19.9km az=56.0*
*NEIC **26** 02:53:13.3±0.7, 16.20N×93.50E, h10km, mb4.5/7, Error ellipse: s-maj=30.8km s-min=15.4km az=52.0*
ISC 26 02:53:07.3±0.8, 16.0N±0.1×92.44E±0.08, h10km, n17, σ1$25/18, mb4.0/9, 1D, Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHG	**Chiang Mai**	**6.83**	**65**	‖P	Sn	02 56 12.2	+3.5
	13nm,0.8s						
VIS	**Vishakhapatnam**	**8.90**	**283**	*i* P	P	02 55 18.4	-0.6
VIS				*i* S	Sn	02 57 00.8	+0.6
PKI	**Pulchoki**	**13.26**	**332**	*e*P	P	02 56 17.8	-0.6
	12nm,0.5s						
HYB	**Hyderabad**	**13.38**	**278**	*e*P	P	02 56 26.5	+6.5
KKN	**Kakani**	**13.51**	**332**	*e*P	P	02 56 20.9	-0.8
GKN	**Gorkha**	**13.99**	**330**	*e*P	P	02 56 26.7	-1.3
	9.3nm,0.3s						
KOLN	**Koldanda**	**14.32**	**327**	*e*P	P	02 56 31.5	-0.9
	11nm,0.5s						
LZH	**Lanzhou**	**22.48**	**25**	*e*P	P	02 57 58.0	-10
	23nm,1.0s,mb4.6						
LZH				pP		02 58 08.5	
LZH				sP		02 58 12.5	
MKAR	**Makanchi Array**	**31.88**	**347**	P	P	02 59 37.2	+2.3
	0.2nm,0.4s,mb3.3,baz=164,slow=10,SNR=3.4						
SONM	**Songino Array**	**33.81**	**17**	P	P	02 59 51.8	+0.2
	0.8nm,0.6s,mb3.8,baz=195,slow=7.9,SNR=6.0						
ZAL	**Zalesovo**	**38.36**	**353**	P	P	03 00 34.9	+4.7
	1.7nm,0.5s,mb4.1,baz=298,slow=7.0,SNR=7.3						
FITZ	**Fitzroy Crossi**	**47.06**	**135**	P	P	03 01 40.2	-1.2
	4.9nm,0.6s,mb4.6,baz=351,slow=7.0,SNR=7.2						
WRA	**Warramunga Arr**	**54.49**	**129**	P	P	03 02 37.6	-0.1
	2.2nm,0.8s,mb4.1,baz=313,slow=7.9,SNR=6.5						
BRTR	**Keskin Array B**	**56.06**	**307**	P	P	03 02 50.5	+1.6
	0.3nm,0.4s,mb3.7,baz=90,slow=8.7,SNR=2.7						
FINES	**FINESS Array B**	**64.85**	**331**	P	P	03 03 52.0	+3.4
	3.4nm,1.1s,mb4.3,baz=108,slow=6.0,SNR=3.9						
FINES	**FINESS Array B**	**64.85**	**331**	P	P	03 03 52.0	+3.4
GERES	**GERESS Array B**	**70.78**	**317**	P	P	03 04 29.7	+3.8
	0.3nm,0.4s,mb3.5,baz=131,slow=9.0,SNR=2.6						

NEIC 26 03:05:32.5, 37.83S×178.20E, h56km, ML3.9(WEL), After WEL., Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWZ	**Matawai**	**0.73**	**226**	P	P	03 05 46.8	-0.2
MWZ				S	S	03 05 55.6	-2.2
URZ	**Urewera**	**0.96**	**243**	P	P	03 05 49.7	-0.4
MARZ	**Manawahe**	**1.22**	**262**	P	P	03 05 52.8	-0.8
KNZ	**Kokohu**	**1.26**	**199**	*e*P	P	03 05 53.9	-0.3
TAZ	**Tarawera**	**1.40**	**253**	P	P	03 05 56.5	+0.3
TGRZ	**Tauranga**	**1.54**	**273**	P	P	03 05 57.0	-1.2
BKZ	**Black Stump Fm**	**1.89**	**225**	*e*P	P	03 06 02.6	-0.5
KUZ	**Kuaotunu**	**2.25**	**298**	*e*P	P	03 06 07.1	-1.1
TSZ	**Takapari Road**	**2.83**	**217**	*e*P	P	03 06 14.3	-2.1
WAZ	**Wanganui**	**3.16**	**232**	*e*P	P	03 06 20.5	-0.6
BFZ	**Birch Farm**	**3.23**	**207**	*e*P	P	03 06 19.0	-3.0
MRZ	**Mangataimoka R**	**3.48**	**215**	*e*P	P	03 06 21.7	-3.9

*NEIC **26** 03:23:47.5±2.1, 0.41N×122.25E, h130km±19km, mb4.4/9, Error ellipse: s-maj=29.4km s-min=7.5km az=65.0*
*IDC **26** 03:23:49.4±9.4, 0.37N×122.29E, h147km±92km, mb3.6/6, mb1 3.9/7, mb1mx3.6/19, mbtmp4.2/7, Error ellipse: s-maj=58.0km s-min=18.6km az=64.0*
ISC 26 03:23:46.8±2.5, 0.4N±0.1×122.2E±0.2, h140km±24km, n21, σ0$79/20, mb4.2/13, 1C, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**8.21**	**313**	*e*Pn	P	03 25 44.1	-0.1
FITZ	**Fitzroy Crossi**	**18.69**	**170**	*e*P	P	03 27 56.9	0.0
	12nm,0.4s						
FITZ	**Fitzroy Crossi**	**18.69**	**170**	P	P	03 27 56.8	-0.1
	4.3nm,0.3s,baz=1.8,slow=10.0,SNR=57						
MBWA	**Marble Bar**	**21.56**	**186**	*e*P	P	03 28 27.1	+1.0
	4.9nm,0.5s,mb4.2						
WRAB	**Tennant Creek**	**23.44**	**150**	*e*P	P	03 28 44.7	+0.2
	5.3nm,0.7s,mb4.1						
WRA	**Warramunga Arr**	**23.44**	**150**	P	P	03 28 44.5	-0.1
	5.1nm,0.8s,mb4.0,baz=325,slow=11,SNR=18						
KLBR	**Kellerberrin**	**32.10**	**187**	‖*i*P	P	03 30 02.1	-0.8
	8.5nm,0.4s,mb4.8						
NWAO	**Narrogin (SRO)**	**33.48**	**188**	P	P	03 30 14.2	-0.6
	5.0nm,0.8s,mb4.3,baz=24,slow=7.1,SNR=6.9						
STKA	**Stephens Creek**	**36.97**	**152**	*e*P	P	03 30 44.5	+0.2
	3.8nm,0.9s,mb4.0						
STKA	**Stephens Creek**	**36.97**	**152**	P	P	03 30 44.4	+0.1
	1.4nm,0.3s,mb4.0,baz=326,slow=7.3,SNR=8.7						
PKI	**Pulchoki**	**44.45**	**311**	*e*P	P	03 31 44.0	-1.8
DMN	**Daman**	**44.70**	**310**	*e*P	P	03 31 46.9	-0.9
GKN	**Gorkha**	**45.26**	**311**	*e*P	P	03 31 53.8	+1.6
	9.3nm,0.4s,mb4.8						
KOLN	**Koldanda**	**45.94**	**310**	*e*P	P	03 31 59.0	+1.4
	3.8nm,0.3s,mb4.6						
SONM	**Songino Array**	**49.21**	**346**	P	P	03 32 22.3	-0.4
	0.3nm,0.5s,mb3.2,baz=170,slow=9.0,SNR=3.9						
MKAR	**Makanchi Array**	**57.87**	**329**	P	P	03 33 26.7	+0.5
	1.2nm,0.5s,mb4.0,baz=119,slow=9.2,SNR=14						
MKAR	**Makanchi Array**	**57.87**	**329**	P	P	03 33 26.7	+0.5
AAK	**Ala-Archa**	**59.93**	**321**	*e*P	P	03 33 40.7	+0.1
	2.8nm,0.7s,mb4.2						
KURK	**Kurchatov**	**62.25**	**330**	*e*P	P	03 33 56.0	-0.1
	4.5nm,0.6s,mb4.5						
BVAR	**Borovoye Array**	**67.74**	**329**	P	P	03 34 31.0	-0.3
	0.6nm,0.7s,mb3.5,baz=141,slow=9.2,SNR=4.6						
TXAR	**Lajitas Array**	**127.18**	**52**	PKP	PKPdf	03 42 37.2	+1.9
	0.3nm,0.8s,baz=225,slow=1.3,SNR=4.3						

*ATH **26** 03:42:46.4, 38.99N×23.30E, h16km±2km, MD2.9/6*
*THE **26** 03:42:46.6, 38.98N×23.34E, h8km, ML2.6*
*NEIC **26** 03:42:46.4, 38.99N×23.30E, h16km, MD2.9(ATH), After ATH.*
*CSEM **26** 03:42:46.4±0.1, 38.96N×23.33E, h8km, ML2.6, Error ellipse: s-maj=2.4km s-min=1.5km az=92.0*
ISC 26 03:42:45.8±0.6, 38.99N±0.03×23.33E±0.04, h10km±6km, n13, σ0$75/21, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.33**	**346**	⇑*i*PB	Pb	03 42 53.3	0.0
NEO				*e*SB	Sb	03 42 58.1	-0.2
XOR	**Xorichti**	**0.39**	**344**	*e*Pg	Pg	03 42 54.4	+0.5
XOR				*e*Sg	Sg	03 43 00.3	+1.0
LKR	**Lokris**	**0.42**	**218**	*e*PB	Pb	03 42 54.7	-0.2
LKR				*e*SB	Sb	03 43 00.7	-0.3
AOS	**Alonnisos**	**0.47**	**67**	*e*Pg	Pg	03 42 55.1	-0.2
AOS				*e*Sg	Sg	03 43 02.3	+0.6
AGG	**Agios Georgios**	**0.78**	**273**

URZ	Urewera	0.98	77	PN	P	03 44 22.3	-0.3
URZ				SN	S	03 44 40.6	-0.8
MWZ	Matawai	1.29	83	⇑PN	P	03 44 25.4	-0.2
MWZ				SN	S	03 44 45.8	-1.0
WAZ	Wanganui	1.45	209	*e*PN	P	03 44 26.4	-0.8
KNZ	Kokohu	1.49	111	*e*PN	P	03 44 27.7	+0.1
KNZ				SN	S	03 44 49.7	-0.7
TSZ	Takapari Road	1.56	178	*e*PN	P	03 44 27.6	-0.8
PXZ	Pawanui	1.71	154	⇑PN	P	03 44 29.4	-0.6
MRZ	Mangatainoka R	2.18	186	PN	P	03 44 33.5	-2.1
BFZ	Birch Farm	2.20	173	*e*PN	P	03 44 34.2	-1.6
KIW	Kapiti Island	2.48	198	PN	P	03 44 36.5	-2.9

CASC 26 03:51:50.6±2.5, 13.31N×90.07W, h29km±6km, MD4.0, 9C-10D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	San Blas	0.69	39⇑	*e*P	Pb	03 52 05.7	+1.8
RTR	El Retiro	0.72	35⇑	*e*P	Pb	03 52 06.5	+2.0
SNJE	San Jose	0.72	39⇑	*e*P	Pb	03 52 06.2	+1.6
BOQS	Boqueron	0.88	61⇑	*e*P	Pn	03 52 08.0	+0.8
BOQS				*e*S	Sb	03 52 19.2	+0.6
RBDL	Robledal	0.89	25⇓	*e*P	Pn	03 52 09.0	+1.8
RBDL				*e*S	Sb	03 52 22.7	+3.9
SNET	Serv Nac Est T	0.90	65⇓	*e*P	Pn	03 52 05.0	-2.4
SNET				⇑*e*P		03 52 07.9	
SNET				*e*S	Sb	03 52 17.4	-1.8
IXG	Ixpaco	0.94	337⇓	*e*P	Pn	03 52 07.3	-0.7
IXG				*e*S	Sb	03 52 20.3	0.0
LFU	La Fuente	1.03	65⇓	*e*P	Pn	03 52 10.1	+0.8
LFRS	El Faro	1.03	72⇑	*e*P	Pn	03 52 09.4	+0.1
LBRS	Las Brisas	1.09	67⇑	*e*P	Pn	03 52 10.8	+0.7
LBRS				*e*S	Sn	03 52 23.9	-0.4
LCBS	La Ceiba	1.12	72⇓	*e*P	Pn	03 52 11.0	+0.5
LCBS				*e*S	Sn	03 52 24.7	-0.4
SNVI	San Vicente	1.24	76⇓	*e*P	Pn	03 52 12.8	+0.6
SNVI				*e*S	Sn	03 52 28.9	+0.8
FUG	Fuego 3	1.36	327⇑	*e*P	Pn	03 52 13.4	-0.6
TP2	Tecpan 2	1.73	328⇓	*e*P	Pn	03 52 19.6	+0.3
TP2				*e*S	Sn	03 52 42.7	+2.0
VSM	San Miguel	1.75	86⇓	*e*P	Pn	03 52 20.2	+0.5
VSM				*e*S	Sn	03 52 41.8	+0.6
MRL	Marmol	1.79	12⇑	*e*P	Pn	03 52 19.8	-0.3
MRL				*e*S	Sn	03 52 44.2	+2.1
BLLM	Bellamira	1.79	85	*e*P	Pn	03 52 20.1	0.0
BLLM				*e*S	Sn	03 52 42.9	+0.8
CNCH	Conchagua	2.18	90⇓	*e*P	Pn	03 52 25.6	-0.1
CRIN	San Cristobal	3.01	101	*e*P	Pn	03 52 36.8	-0.7
LEON	Leon	3.22	106⇓	*e*P	Pn	03 52 39.5	-1.1
MIRN	Miramar	3.39	104	*e*P	Pn	03 52 41.1	-1.8
MOMJ	Momotombo	3.56	104	*e*P	Pn	03 52 43.9	-1.4
COPN	Copaltepe	3.58	108	*e*P	Pn	03 52 43.2	-2.3
COPN				*e*S	Sn	03 53 26.8	-0.6
APYN	Apoyeque	3.78	106	*e*P	Pn	03 52 46.6	-2.0
XAVN	Gruta Xavier	3.83	107	*e*P	Pn	03 52 45.6	-3.6
MGAN	Managua	3.91	107	*e*P	Pn	03 52 48.9	-1.4
CRUN	El Crucero	3.91	109	*e*P	Pn	03 52 49.2	-1.1
TICN	Ticuantepe	3.96	108	*e*P	Pn	03 52 50.1	-0.8
APON	Apoyo	4.15	109	*e*P	Pn	03 52 52.2	-1.5

*BJI **26** 04:00:42.3, 23.70S×66.70W, h190km, mB4.9*
*GUC **26** 04:00:42.0±0.8, 23.73S×67.30W, h250km±12km, ML4.4*
*IDC **26** 04:00:42.9±0.8, 23.62S×66.61W, h194km±7km, mb3.8/12, mb1 3.9/18, mb1mx3.3/21, mbtmp4.3/18, Error ellipse: s-maj=11.8km s-min=9.7km az=59.0*
*NEIC **26** 04:00:42.4±0.5, 23.68S×66.65W, h191km±4km, mb4.2/27, Error ellipse: s-maj=7.9km s-min=5.6km az=74.0*

ISC 26 04:00:41.2±0.5, 23.76S±0.03×66.70W±0.05, h194km±4km, n89, σ1°06/88, mb4.1/34, 10C-1D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPCH	San Pedro de A	1.62	301	↑*i*P	P	04 01 19.2	+3.4
SPCH				*i* S	S	04 01 48.4	+5.8
LVC	Limon Verde	2.34	299	P	P	04 01 25.4	+2.1
	179nm,0.3s,baz=127,slow=7.1,SNR=1308						
LVC				S	S	04 01 58.1	+2.3
	110nm,0.3s,baz=247,slow=22,SNR=16						
LVC	Limon Verde	2.34	299	⇑*i*P	P	04 01 25.3	+2.0
LVC				*i* S	S	04 01 57.8	+2.0
LVC				AMP		04 02 02.1	
	comp=E,583nm,0.5s						
LVC	Limon Verde	2.34	299	↑*i*Pn	P	04 01 25.3	+2.0
LVC				*e*Sn	S	04 01 50.4	-5.4
CPN1	Cerro Paranal	3.50	255	↑*i*P	P	04 01 38.4	+1.3
CPN1				*i* S	S	04 02 19.6	-0.6
CPN1				AMP		04 02 23.2	
	comp=E,860nm,0.3s						
CRCH	Chaqaral	4.39	233	↑*i*P	P	04 01 48.6	+0.2
CRCH				*i* S	S	04 02 38.8	-1.6
CPCH	Copiapo	4.87	222	↑*i*P	P	04 01 53.8	-0.7
CPCH				*i* S	S	04 02 50.2	-1.2
LPAZ	La Paz	7.55	349	P	P	04 02 30.9	+1.5
	comp=E,1.4nm,0.3s,baz=152,slow=6.5,SNR=42						
LPAZ				S	S	04 03 53.7	-0.2
	comp=E,0.4nm,0.3s,baz=148,slow=25,SNR=6.3						
LPAZ	La Paz	7.55	349	*e*Pn	P	04 02 29.6	+0.2
	comp=E,5.9nm,0.6s						
CFAA	Coronel Fontan	7.94	190	P	P	04 02 35.2	+0.8
	comp=E,0.2nm,0.3s,baz=25,slow=13,SNR=54						
CFAA				S	S	04 04 00.5	-2.4
	comp=E,0.6nm,0.3s,baz=111,slow=22,SNR=12						
CFAA	Coronel Fontan	7.94	190	P	P	04 02 35.2	+0.8
CFAA				S	S	04 04 00.5	-2.4
ARE	Arequipa	8.54	327	*e*P	P	04 02 41.0	-1.3
ARE				*e*S	S	04 04 11.0	-6.0
CPUP	Villa Florida	8.87	109	P	P	04 02 47.1	+0.5
	comp=E,0.3nm,0.3s,baz=310,slow=15,SNR=29						
CPUP	Villa Florida	8.87	109	*e*Pn	P	04 02 47.3	+0.7
	comp=E,23nm,1.1s						
SIV	San Ignacio	9.36	35	P	P	04 02 51.9	-1.1
	comp=E,1.7nm,0.3s,baz=230,slow=12,SNR=51						
SIV				S	S	04 04 36.2	+0.1
	baz=283,slow=16,SNR=2.6						
TRQA	Tornquist	14.81	165	*e*P	P	04 04 02.6	+0.3
	comp=E,5.7nm,0.6s						
SAML	Samuel	15.11	13	*e*P	P	04 04 04.8	-1.3
	comp=E,4.3nm,0.6s						
PLCA	Paso Flores	17.23	190	P	P	04 04 32.2	+0.7
	comp=E,0.4nm,0.3s,baz=27,slow=12,SNR=4.0						
PLCA	Paso Flores	17.23	190	*e*P	P	04 04 31.5	+0.1
	comp=E,1.8nm,0.4s						
BDFB	Brasilia	19.34	69	P	P	04 04 53.5	-0.2
	comp=E,2.8nm,0.3s,baz=247,slow=10.0,SNR=36						
BAO	Brasilia Array	19.36	69	P	P	04 04 54.0	0.0
SDV	Santo Domingo	32.67	353	P	P	04 06 54.8	-2.5
	comp=E,6.8nm,0.2s,mb4.8,baz=202,slow=3.7,SNR=5.3						
SDV	Santo Domingo	32.67	353	*e*P	P	04 06 54.7	-2.5
VNA3	Neumayer Olymp	57.29	161	⇑*i*P	P	04 10 11.0	+0.7
VNA3				*e*		04 11 02.2	
VNA3				*e*		04 11 18.2	
VNA1	Neumayer--Stat	57.48	160	*e*	P	04 10 15.9	+4.2
VNA1	Neumayer--Stat	57.48	160	P	P	04 10 10.9	-0.8
VNA1				*e*		04 11 02.5	
VNA2	Neumayer--Watz	57.85	160	*e*	P	04 10 20.4	+6.2
VNA2	Neumayer--Watz	57.85	160	*e*	pP	04 10 57.4	-1.3
VNA2	Neumayer--Watz	57.85	160	⇑*i*P	P	04 10 15.5	+1.3
VNA2				*e*		04 10 20.4	
VNA2				*e*	pP	04 10 57.4	-1.3
VNA2				*e*	pP	04 11 04.8	+6.1
VNA2				*e*		04 11 20.5	
SNAA	Sanae	59.49	161	*e*	P	04 10 32.5	+7.0
SNAA	Sanae	59.49	161	*e*	pP	04 11 10.1	-0.1
SNAA	Sanae	59.49	161	P	P	04 10 26.2	+0.7
	comp=E,0.6nm,0.6s,mb3.4,baz=276,slow=8.3,SNR=25						
SNAA	Sanae	59.49	161	*e*P	P	04 10 26.9	+1.4
SNAA				*e*		04 10 32.5	
SNAA				*e*	pP	04 11 10.1	-0.1
SNAA				*e*		04 11 32.0	
SWET	Sewanee	61.42	342	*e*P	P	04 10 35.9	-3.1
WVT	Waverly	62.83	341	*e*P	P	04 10 45.8	-2.6
	comp=E,13nm,0.7s,mb4.7						
TXAR	Lajitas Array	63.64	324	P	P	04 10 53.1	-0.8
	comp=E,1.0nm,0.4s,mb3.8,baz=150,slow=8.5,SNR=15						
WCI	Wyandotte Cave	64.34	343	*e*P	P	04 10 55.3	-3.0
	comp=E,5.5nm,0.7s,mb4.3						
WMOK	Wichita Mounta	65.66	331	*e*P	P	04 11 04.8	-2.0
	comp=E,1.0nm,0.6s,mb3.6						
CCM	Cathedral Cave	65.67	339	*e*P	P	04 11 04.6	-2.1
	comp=E,15nm,0.6s,mb4.8						
DBIC	Dimbokro	67.46	71	P	P	04 11 16.9	-1.6
	comp=E,2.2nm,0.3s,mb4.2,baz=222,slow=6.1,SNR=21						
ANMO	Albuquerque	69.51	326	*e*P	P	04 11 30.4	-0.3
	comp=E,3.8nm,0.9s,mb4.0						
CBKS	Cedar Bluff	69.51	333	*e*P	P	04 11 29.7	-0.9
	comp=E,20nm,1.0s,mb4.7						
TUC	Tucson	69.87	321	*e*P	P	04 11 32.7	-0.2
	comp=E,2.6nm,1.2s,mb3.7						
SDCO	Great Sand Dun	71.23	328	*e*P	P	04 11 41.4	+0.4
	comp=E,2.5nm,0.7s,mb4.0						
ISCO	Idaho Springs	72.91	330	*e*P	P	04 11 51.5	+0.5
	comp=E,4.7nm,1.1s,mb4.0						
PV10	Paradox Valley	73.46	326	*e*P	P	04 11 53.7	-0.5
SYO	Syowa Base	73.67	159	⇑P	P	04 11 54.8	0.0
SYO	Syowa Base	73.67	159	⇑PcP	PcP	04 12 05.2	-4.5
SYO	Syowa Base	73.67	159	⇓pP	pP	04 12 35.0	-6.3
VNDA	Vanda	74.99	190	P	P	04 12 03.3	+1.2
	comp=E,0.5nm,0.4s,mb3.5,baz=335,slow=5.6,SNR=3.6						
MSU	Marysvale	75.19	325	*e*P	P	04 12 04.5	+0.4
MSU				*e*		04 12 16.9	
ARUT	Antelope Range	75.34	323	*e*P	P	04 12 05.9	+1.0
RSSD	Black Hills	75.73	319	*e*P	P	04 12 07.2	+0.3
	comp=E,3.0nm,0.8s,mb4.0						
ISA	Isabella	76.75	319	*e*P	P	04 12 13.6	+0.8
	comp=E,3.2nm,0.7s,mb4.1						
DUG	Dugway	76.76	325	*e*P	P	04 12 13.1	+0.3
	comp=E,2.6nm,0.9s,mb3.9						
PDAR	Pinedale Array	77.08	329	P	P	04 12 14.6	+0.1
	comp=E,1.1nm,0.6s,mb3.7,baz=129,slow=7.1,SNR=13						
BW06	Boulder Array	77.08	329	*e*P	P	04 12 14.3	-0.2
	comp=E,1.3nm,0.6s,mb3.7						
HWUT	Hardware Ranch	77.17	327	*e*P	P	04 12 15.2	+0.2
	comp=E,2.7nm,0.6s,mb4.0						
SPUT	South Promonto	77.40	326	*e*P	P	04 12 16.6	+0.4
ULM	Lac du Bonnet	78.09	341	P	P	04 12 18.8	-1.0
	comp=E,3.7nm,0.6s,mb4.2,baz=152,slow=5.9,SNR=13						
SNOW	Snow King Moun	78.18	329	*e*P	P	04 12 21.1	+0.6
	comp=E,7.1nm,0.8s,mb4.3						
LOHW	Long Hollow	78.22	329	*e*P	P	04 12 21.4	+0.7
	comp=E,3.9nm,0.6s,mb4.2						
SCHQ	Schefferville	78.27	360	P	P	04 12 19.7	-0.9
	comp=E,3.0nm,0.6s,mb4.1,baz=185,slow=8.4,SNR=5.9						
TPAW	Teton Pass	78.29	329	*e*P	P	04 12 21.8	+0.7
	comp=E,8.3nm,1.1s,mb4.3						
RRI2	Red Ridge	78.36	328	*e*P	P	04 12 22.1	+0.6
	comp=E,7.5nm,1.0s,mb4.3						
ELK	Elko	78.44	324	*e*P	P	04 12 22.4	+0.4
	comp=E,4.8nm,1.3s,mb4.0						
NVAR	Mina Array Bea	78.52	321	P	P	04 12 23.4	+0.9
	comp=E,0.6nm,0.5s,mb3.5,baz=141,slow=6.3,SNR=7.1						
IMW	Indian Meadow	78.60	329	*e*P	P	04 12 23.5	+0.8
	comp=E,9.6nm,1.0s,mb4.4						
FLWY	Flagg Ranch	78.62	329	*e*P	P	04 12 23.9	+1.1
LAO	LASA Array	78.70	333	*e*P	P	04 12 23.1	-0.1
	comp=E,11nm,0.9s,mb4.5						
YMR	Madison River	79.19	330	*e*P	P	04 12 27.7	+1.8
MCMT	McKenzie Canyo	80.20	329	*e*P	P	04 12 32.3	+1.0
BOZ	Bozeman (W)	80.24	330	*e*P	P	04 12 31.2	-0.3
	comp=E,1.8nm,0.7s,mb3.8						
DLMT	Dillon	80.48	329	*e*P	P	04 12 33.4	+0.7
BOSA	Boshof	80.59	117	P	P	04 12 33.7	0.0
	comp=E,1.0nm,0.4s,mb3.8,baz=270,slow=7.1,SNR=4.3						
BOSA	Boshof	80.59	117	P	P	04 12 33.7	0.0
MAW	Mawson	81.58	163	P	P	04 12 39.6	+1.5
	comp=E,2.7nm,0.9s,mb3.9,baz=239,slow=7.8,SNR=4.7						
YKA	Yellowknife Ar	93.99	340	P	P	04 13 37.7	+0.1
	comp=E,1.7nm,0.6s,mb4.3,baz=135,slow=4.7,SNR=12						
YKA	Yellowknife Ar	93.99	340	P	P	04 13 37.7	+0.1
YKW3	Yellowknife Ar	94.05	340	*e*P	P	04 13 37.5	-0.3
WRA	Warrarunga Arr	131.97	207	PKP	PKPdf	04 19 33.8	+1.6
	comp=E,0.9nm,0.5s,baz=167,slow=1.7,SNR=8.3						
WRA				SKPbc		04 22 41.4	
	comp=E,0.5nm,0.7s,baz=156,slow=3.6,SNR=6.9						
ZAL	Zalesovo	143.05	28	PKP	PKPdf	04 19 50.3	-1.0
	comp=E,1.7nm,0.3s,baz=172,slow=4.5,SNR=7.1						
MKAR	Makanchi Array	146.16	39	PKPbc	PKPbc	04 19 59.3	+1.1
	comp=E,5.3nm,0.6s,baz=304,slow=3.2,SNR=41						
WMQ	Urumqi	150.98	40	*e*PKP	PKPdf	04 20 09.0	+4.3
WMQ				PP	PP	04 23 57.0	+3.7
MDJ	Mudanjiang	155.30	331	PKP	PKPdf	04 20 12.5	+1.9
SONM	Songino Array	155.35	11	PKP	PKPdf	04 20 13.5	+2.9
	comp=E,1.0nm,0.9s,baz=31,slow=1.9,SNR=6.6						
SONM				PKPbc	PKPdf	04 20 22.1	+12
	comp=E,0.8nm,0.6s,baz=323,slow=0.8,SNR=6.0						
SONM				PKPab	PKPab	04 20 39.4	0.0
	comp=E,1.2nm,0.6s,baz=322,slow=4.4,SNR=9.2						
LZH	Lanzhou	165.24	32	*e*PKP	PKPdf	04 20 22.0	0.0
LZH				APKP		04 21 12.0	
LZH				XPKP		04 21 32.0	
LZH	Lanzhou	165.24	32	*e*PKP	PKPdf	04 20 21.9	-0.1
LZH				pPKP		04 21 12.0	
LZH				sPKP		04 21 32.0	
NJ2	Nanjing	170.39	331	*e*PKP	PKPdf	04 20 23.0	-2.5

*NEIC **26** 04:07:21.7, 37.90S×178.06E, h54km, ML4.1(WEL), After WEL.*

WEL 26 04:07:21.6±0.3, 37.89S×178.05E, h55km±3km, ML4.0/6, 5C, Error ellipse: s-maj=2.4km s-min=1.3km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	Puketiti	0.24	138	⇑PN	P	04 07 30.3	-0.5
PUZ				SN	S	04 07 37.4	-0.2
PUZ	Puketiti	0.24	138	P	P	04 07 30.3	-0.6
PUZ				S	S	04 07 37.4	-0.2
MXZ	Matakaoa Point	0.38	32	PN	P	04 07 32.3	+0.1
MXZ				SN	S	04 07 40.3	+0.5
MXZ	Matakaoa Point	0.38	32	P	P	04 07 32.4	+0.3
MWZ	Matawai	0.61	223	⇑PN	P	04 07 34.3	-0.2
MWZ				SN	S	04 07 43.2	-0.9
MWZ	Matawai	0.61	223	P	P	04 07 34.3	-0.2
MWZ				S	S	04 07 43.2	-0.8
WIZ	White Island	0.78	298	PN	P	04 07 36.1	-0.6
WIZ	White Island	0.78	298	P	P	04 07 36.1	-0.6
URZ	Urewera	0.83	243	⇑PN	P	04 07 37.3	-0.1
URZ				SN	S	04 07 48.8	-0.3
URZ	Urewera	0.83	243	P	P	04 07 37.3	-0.1
EDRZ	Edgecumbe	1.06	258	⇑PN	P	04 07 40.4	-0.2
EDRZ	Edgecumbe	1.06	258	P	P	04 07 40.4	-0.2
MARZ	Manawahe	1.09	265	PN	P	04 07 40.2	-0.9
MARZ	Manawahe	1.09	265	P	P	04 07 40.3	-0.8
KNZ	Kokohu	1.17	195	*e*PN	P	04 07 41.4	-0.6
KNZ				SN	S	04 07 57.3	+0.2
KNZ	Kokohu	1.17	195	*e*P	P	04 07 41.4	-0.6
TAZ	Tarawera	1.27	254	PN	P	04 07 43.4	-0.1
TAZ	Tarawera	1.27	254	P	P	04 07 43.6	+0.1
LIRZ	Lichensteins R	1.32	265	PN	P	04 07 43.8	-0.6
LIRZ	Lichensteins R	1.32	265	P	P	04 07 43.9	-0.5
TGRZ	Tauranga	1.43	276	PN	P	04 07 44.6	-1.2
TGRZ				*e*SN	S	04 08 02.2	-1.5
MYRZ	Mayor Island	1.56	292	*e*PN	P	04 07 46.6	-1.0
BKZ	Black Stump Fm	1.77	223	*e*PN	P	04 07 50.0	-0.4
BKZ	Black Stump Fm	1.77	223	*e*P	P	04 07 49.9	-0.6
KUZ	Kuaotunu	2.18	301	⇑PN	P	04 07 54.6	-1.7
KUZ	Kuaotunu	2.18	301	P	P	04 07 54.6	-1.7
KRVZ	Karewarewa	2.24	237	PN	P	04 07 56.9	-0.3
OTVZ	Oturere	2.26	235	PN	P	04 07 57.0	-0.4
WTVZ	West Tongariro	2.29	237	*e*PN	P	04 07 58.3	+0.4
WTVZ	West Tongariro	2.29	237	P	P	04 07 58.2	+0.4
NGZ	Ngauruhoe	2.31	236	PN	P	04 07 57.7	-0.5
NGZ	Ngauruhoe	2.31	236	P	P	04 07 57.2	-1.0
PXZ	Pawanui	2.33	203	*e*PN	P	04 07 55.6	-2.8
PXZ				SN	S	04 08 23.5	-2.5
MOVZ	Moawhango	2.35	229	P	P	04 07 57.9	-0.9
CNZ	Chateau	2.36	236	P	P	04 07 58.4	-0.4
WNVZ	Wahianoa	2.40	233	P	P	04 07 58.6	-0.8
TSZ	Takapari Road	2.71	216	*e*P	P	04 08 01.6	-2.2
WAZ	Wanganui	3.03	231	*e*P	P	04 08 07.9	-0.5
BFZ	Birch Farm	3.12	206	*e*P	P	04 08 06.2	-3.4
MRZ	Mangatainoka R	3.37	214	*e*P	P	04 08 09.0	-4.1
WCZ	Waipu Caves	3.55	302	*e*P	P	04 08 14.5	-1.2
KIW	Kapiti Island	3.84	218	P	P	04 08 15.6	-4.1
CAW	Cannon Point	3.96	215	P	P	04 08 16.6	-4.8
THZ	Tophouse	5.54	224	*e*P	P	04 08 38.2	-5.2
KHZ	Kahutara	5.69	216	*e*P	P	04 08 41.1	-4.5
LTZ	Lake Taylor	6.59	220	*e*P	P	04 08 51.3	-6.9
MQZ	McQueen's Vall	7.11	213	*e*P	P	04 08 58.4	-7.0

MEX 26 04:32:11.4±0.6, 16.63N×100.44W, h5km±7km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.45	22	*i* P	Pg	04 32 19.6	-0.8
CAIG				*i* S	Sg	04 32 26.0	-0.3
ACX	Acapulco	0.55	65	*i* P	Pg	04 32 21.5	-1.0
ACX				*i* S	Sg	04 32 30.0	+0.1

JMA 26 04:43:51.5, 25.88N×130.84E, h26km, M3.8, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMZ	Minamidaito 2	0.35	100	P	Pb	04 43 59.2	-0.1
JMZ				*e*S	Sb	04 44 04.6	0.0
JOW	Kunigami	2.49	293	P	Pn	04 44 31.4	+0.1
JOW				*e*S	Sn	04 44 58.4	-2.7
JTK	Tokunoshima	2.54	319	P	Pn	04 44 32.8	+0.8
JAM	Amami Oshima	2.75	337	P	Pn	04 44 35.7	+0.7
JAM				*e*S	Sn	04 45 07.9	+0.1
JJT2	Tamagusuku 2	2.79	276	*e*S	Sn	04 45 07.3	-1.6
JIH	Iheya	2.82	295	P	Pn	04 44 35.2	-0.8
JIH				*e*S	Sn	04 45 07.8	-1.7
JAGN	Aguni-jima	3.31	283	S	Sn	04 45 18.7	-3.1
JKE	Kume jima 2	3.67	278	*e*S	Sn	04 45 26.3	-4.8

*IDC **26** 04:51:07.0±0.8, 2.46S×140.26E, mb4.1/8, mb1 4.4/9, mb1mx4.3/13, mbtmp4.2/9, ML4.5/1, MS3.9/3, Ms1 3.9/3, ms1mx3.3/20, Error ellipse: s-maj=38.3km s-min=18.4km az=84.0*
*BJI **26** 04:51:18.4, 2.60S×140.00E, h86km, mB4.7, mb4.8, Ms4.4, Msz4.2*
*NEIC **26** 04:51:18.4±2.3, 2.61S×139.98E, h87km±22km, mb4.5/7, Error ellipse: s-maj=17.9km s-min=13.3km az=87.0*
NEIC Felt [III] at Jayapura.

ISC 26 04:51:11.5±3.2, 2.65S±0.07×140.3E±0.2, h48km±30km, n32, σ1°01/31, mb4.3/16, MS3.9/4, 1C, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	9.55	135	Pn	P	04 53 36.6	+7.4
KAKA	Kakadu	12.69	218	*e*P	P	04 54 25.0	+13
	66nm,0.6s						
KAKA				*e*S	S	04 56 44.9	+12
WRAB	Tennant Creek	18.15	198	*e*P	P	04 55 21.8	-0.1
	31nm,0.8s						
WRA	Warramunga Arr	18.16	198	P	P	04 55 23.0	+0.9
	1.5nm,0.3s,baz=22,slow=12,SNR=25						
WRA				S	S	04 58 38.1	-1.7
	0.1nm,0.3s,baz=35,slow=24,SNR=3.6						
CTA	Charters Tower	18.27	162	LR	LR	05 02 52.0	
	comp=Z,342nm,18.4s,baz=35,slow=38						
CTAO	Charters Tower	18.27	162	P	P	04 55 29.0	+5.5
	11nm,0.9s						
FITZ	Fitzroy Crossi	21.06	222	*e*P	P	04 55 54.1	+0.2
	38nm,0.9s,mb4.7						
FITZ				*e*S	S	04 59 42.9	+2.3
FITZ	Fitzroy Crossi	21.06	222	P	P	04 55 53.7	-0.2
	59nm,0.9s,mb4.9,baz=26,slow=6.5,SNR=12						
FITZ				S	S	04 59 42.2	+1.5
	31nm,1.0s,baz=180,slow=19,SNR=3.9						
FITZ				LR	LR	05 05 08.5	
	comp=Z,294nm,19.0s,MS3.7,baz=67,slow=40						
MBWA	Marble Bar	27.22	226	*e*P	P	04 56 51.9	-1.3
	1nm,0.8s,mb4.5						
STKA	Stephens Creek	29.10	178	P	P	04 57 10.2	+0.2
	2.5nm,0.8s,mb4.0,baz=334,slow=7.0,SNR=3.9						
GYA	Guiyang	43.53	314	P	P	04 59 15.0	+2.4
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
NANT	Nan	44.43	300	P	P	04 59 15.0	-4.9
KMI	Kunming	45.72	309	P	P	04 59 30.0	-0.1
KMI				AMB	AMB		
	comp=Z,8.0nm,0.6s,mb4.8						
KMI	Kunming	45.72	309	P	P	04 59 29.9	-0.2
	comp=Z,8.0nm,0.6s,mb4.8						
HHC	Hu-ho-hao-te	50.62	332	*e*P	P	05 00 11.0	+3.0
HHC				AP	pP	05 00 28.5	+7.4
HHC				PCP	PcP	05 01 27.3	+2.1
HHC				PP	PP	05 02 08.0	+3.1
HHC				S	S	05 07 24.5	+6.7
HHC				AMB	AMB		
	comp=Z,11nm,1.1s,mb4.7						
HHC				AMB	AMB		
	comp=Z,53nm,9.6s						
HHC	

JSU			S	**S**	**04 59 27.9**	**+1.0**
JTZ	**Takazaki**	**1.66 356**	P	**P**	**04 59 12.3**	**0.0**
JNU	**Nakatsue**	**2.89 354**	P	**P**	**04 59 30.0**	**+0.3**
1.4nm,0.3s,baz=128,slow=19,SNR=3.9						
JNU			S	**S**	**05 00 03.1**	**-0.4**
2.9nm,0.3s,baz=66,slow=20,SNR=4.6						
JOW	**Kunigami**	**4.28 218**	P	**P**	**04 59 49.8**	**+0.4**
1.7nm,0.3s,baz=84,slow=21,SNR=8.2						
JOW			S	**S**	**05 00 34.3**	**-4.3**
1.4nm,0.3s,baz=36,slow=29,SNR=5.9						
JHJ	**Hachijo jima 2**	**7.83 66**	LR	LR	05 02 54.6	
comp=Z,205nm,18.0s,baz=97,slow=31						
SONM	**Songino Array**	**25.92 320**	P	**P**	**05 04 12.5**	**-1.7**
0.9nm,0.8s,mb3.3,baz=137,slow=8.8,SNR=5.0						
MKAR	**Makanchi Array**	**41.01 308**	P	**P**	**05 06 25.1**	**+0.3**
0.2nm,0.5s,mb3.0,baz=101,slow=7.3,SNR=3.0						
BVAR	**Borovoye Array**	**49.16 316**	P	**P**	**05 07 29.4**	**-0.3**
0.6nm,0.5s,mb3.9,baz=82,slow=10,SNR=4.3						
FINES	**FINESS Array B**	**70.69 331**	P	**P**	**05 09 57.2**	**0.0**
0.7nm,0.4s,mb3.9,baz=72,slow=6.0,SNR=9.6						
YKA	**Yellowknife Ar**	**73.78 26**	LR	LR	05 45 59.8	
comp=Z,39nm,18.9s,MS3.7,baz=55,slow=38						

HLW ***26*** *05:29:38.2, 38.03N×21.71E, h33km, Mb3.7*
ATH ***26*** *05:29:39.4, 37.83N×21.14E, h4km±1km, MD3.9/19, ML3.9*
NEIC ***26*** *05:29:39.4, 37.83N×21.14E, h4km, mb3.6/1, ML3.9(ATH), After ATH.*
CSEM ***26*** *05:29:40.3±0.1, 37.57N×21.11E, h69km±1km, ML3.9, Error ellipse: s-maj=1.8km s-min=1.5km az=7.0*
ROM ***26*** *05:29:43.1±1.4, 37.55N×20.52E, h12km, Ml3.5/4, Error ellipse: s-maj=22.6km s-min=5.9km az=54.0*
IDC ***26*** *05:29:44.5±2.4, 37.91N×20.94E, h66km±21km, mb3.5/8, mb1 3.5/14, mb1mx3.5/29, mbtmp3.6/14, MS2.9/3, Ms1 2.9/3, ms1mx2.6/20, Error ellipse: s-maj=30.1km s-min=14.3km az=169.0*
ISC 26 05:29:37.9±0.3, 37.70N±0.03×21.03E±0.02, h10km, n95, σ1§54/106, mb3.7/8, MS2.8/2, 1C-4D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.49**	**44**	⇓iPG	**Pg**	**05 29 46.7**	**-1.2**
RLS				*e*SG	**Sg**	05 29 51.0	-3.6
VLS	**Valsamata**	**0.59**	**324**	*e*PG	**Pg**	**05 29 50.0**	**+0.2**
VLS				*e*SG	**Sg**	**05 29 58.3**	**+0.6**
ITM	**Ithomi**	**0.89**	**126**	*e*PG	**Pg**	**05 29 56.2**	**+0.5**
ITM				*e*SG	**Sg**	**05 30 09.7**	**+2.2**
LKD	**Levkas**	**1.04**	**343**	*e*S	**Sb**	**05 30 11.8**	**+0.7**
EVR	**Evrytania**	**1.36**	**27**	*e*PB	**Pb**	**05 30 01.4**	**-1.6**
EVR				*e*SB	**Sb**	**05 30 18.4**	**-1.8**
MGER	**Gerania Oros**	**1.79**	**80**	*e*PG	**Pb**	**05 30 10.8**	**+0.5**
VLI	**Veliai**	**1.81**	**122**	*e*PB	**Pb**	**05 30 13.5**	**+2.7**
LKR	**Lokris**	**1.82**	**58**	*e*PB	**Pb**	**05 30 10.9**	**+0.1**
LKR				*e*SB	**Sb**	**05 30 34.3**	**+0.7**
NSAL	**Nisos Salamina**	**1.94**	**83**	*e*PG	**Pg**	**05 30 13.5**	**-3.1**
NAIG	**Nisos Aigina**	**1.95**	**88**	*e*PG	**Pb**	**05 30 13.8**	**+0.7**
JAN	**Janina**	**1.96**	**356**	*e*PB	**Pb**	**05 30 14.0**	**+0.8**
JAN				*e*SB	**Sb**	**05 30 39.0**	**+1.4**
JAN	**Janina**	**1.96**	**356**	*e*Pb	**Pb**	**05 30 14.0**	**+0.8**
JAN				*e*Sb	**Sb**	**05 30 39.5**	**+1.9**
MEV	**Metsovon**	**2.08**	**4**	*e*P	**Pn**	**05 30 13.8**	**+0.5**
ATH	**Athens Observa**	**2.14**	**82**	*e*PN	**Pn**	**05 30 16.1**	**+1.9**
ATH				*e*SN	**Sn**	**05 30 44.0**	**+2.9**
KYTH	**Kithira**	**2.14**	**131**	*e*PN	**Pn**	**05 30 18.0**	**+3.7**
MPAR	**Parnis Oros**	**2.19**	**77**	*e*PN	**Pn**	**05 30 16.8**	**+2.0**
KEK	**Kerkira**	**2.23**	**335**	*e*PN	**Pn**	**05 30 18.3**	**+2.9**
KEK	**Kerkira**	**2.23**	**335**	Pn	**Pg**	**05 30 21.9**	**-0.5**
PTL	**Penteli**	**2.27**	**80**	*e*PN	**Pn**	**05 30 18.5**	**+2.5**
NEO	**Neokhori**	**2.35**	**46**	*e*PN	**Pn**	**05 30 18.5**	**+1.3**
XOR	**Xorichti**	**2.37**	**45**	*e*P	**Pn**	**05 30 18.0**	**+0.5**
LIT	**Litokhoron**	**2.65**	**25**	*e*P	**Pn**	**05 30 21.8**	**+0.3**
KZN	**Kozani**	**2.66**	**12**	*e*PN	**Pn**	**05 30 23.7**	**+2.0**
AOS	**Alonnisos**	**2.67**	**56**	*e*P	**Pn**	**05 30 22.1**	**+0.3**
FNA	**Florina**	**3.09**	**5**	*e*P	**Pn**	**05 30 28.3**	**+0.6**
PLG	**Polygyros**	**3.26**	**34**	*e*PN	**Pn**	**05 30 30.9**	**+0.7**
GRG	**Griva**	**3.42**	**18**	*e*P	**Pn**	**05 30 32.3**	**-0.1**
APE	**Apeiranthos**	**3.64**	**99**	*e*PN	**Pn**	**05 30 38.5**	**+2.9**
TIP	**Timpagrande**	**3.66**	**295**	Pn	**Pn**	**05 30 36.3**	**+0.4**
35nm,0.8s							
TIP	**Timpagrande**	**3.66**	**295**	*e*Pn	**Pn**	**05 30 36.0**	**+0.1**
KNT	**Kendrikon**	**3.74**	**22**	*e*P	**Pn**	**05 30 37.0**	**0.0**
KNT	**Kendrikon**	**3.74**	**22**	*e*P	**Pn**	**05 30 37.0**	**0.0**
LOS	**Limnos**	**3.87**	**54**	*e*P	**Pn**	**05 30 39.2**	**+0.4**
LOS	**Limnos**	**3.87**	**54**	*e*P	**Pn**	**05 30 39.2**	**+0.4**
IDI	**Anoyia**	**3.94**	**127**	LR	LR	05 32 37.7	
comp=Z,158nm,20.5s,baz=329,slow=42							
SOI	**Samo**	**3.95**	**277**	Pn	**Pn**	**05 30 40.5**	**+0.5**
CEL	**Celeste**	**4.10**	**279**	Pn	**Pn**	**05 30 42.7**	**+0.7**
203nm,1.2s							
MTTG	**Motta San Giov**	**4.23**	**276**	Pn	**Pn**	**05 30 44.1**	**+0.1**
63nm,0.6s							
SKO	**Skopje**	**4.27**	**4**	*e*P	**Pn**	**05 30 47.2**	**+2.6**
ORI	**Oriolo Calabro**	**4.28**	**305**	Pn	**Pn**	**05 30 46.3**	**+1.6**
52nm,0.6s							
PRK	**Paraskevi**	**4.39**	**68**	*e*PN	**Pn**	**05 30 47.0**	**+0.7**
MMB	**Musomiste**	**4.40**	**27**	*i* P	**Pn**	**05 30 46.0**	**-0.4**
URLA	**Izmir**	**4.44**	**80**	*i* P	**Pn**	**05 30 45.1**	**-1.9**
KKB	**Krupnik**	**4.45**	**20**	*i* P	**Pn**	**05 30 51.0**	**+4.0**
SG1	**Sgolgore (BA)**	**4.61**	**314**	*e*Pn	**Pn**	**05 30 48.7**	**-0.6**
CUC	**Castrocucco**	**4.67**	**301**	Pn	**Pn**	**05 30 53.5**	**+3.3**
75nm,0.6s							
RZN	**Rozhen**	**4.89**	**34**	*i* P	**Pn**	**05 30 51.8**	**-1.5**
MGR	**Morigerati**	**4.91**	**301**	Pn	**Pn**	**05 30 55.6**	**+2.0**
21nm,0.6s							
KDAG	**Bornova**	**4.97**	**80**	*i* P	**Pn**	**05 30 52.2**	**-2.2**
SLCN	**Sala Consilina**	**4.98**	**304**	Pn	**Pn**	**05 30 55.7**	**+1.1**
19nm,0.4s							
CDT	**Castel del Mon**	**5.00**	**314**	*e*Pn	**Pn**	**05 30 53.9**	**-0.9**
HMDC	**Modica**	**5.04**	**263**	Pn	**Pn**	**05 30 54.2**	**-1.2**
HVZN	**Vizzini**	**5.05**	**266**	Pn	**Pn**	**05 30 54.1**	**-1.5**
VTS	**Vitosha**	**5.16**	**18**	*e*P	**Pn**	**05 30 58.5**	**+1.4**
KDZ	**Kurdzhali**	**5.19**	**39**	*e*P	**Pn**	**05 31 03.0**	**+5.4**
VAE	**Valguarnera**	**5.26**	**270**	P	**Pn**	**05 31 00.2**	**+1.7**
1.4nm,0.3s,baz=12,slow=20,SNR=2.9							
VAE				S	**Sn**	**05 31 59.9**	**-0.1**
3.7nm,0.3s,baz=52,slow=17,SNR=2.4							
VAE	**Valguarnera**	**5.26**	**270**	P	**Pn**	**05 31 00.2**	**+1.7**
VAE				S	**Sn**	**05 32 00.0**	**0.0**
MRLC	**Muro Lucano**	**5.27**	**307**	Pn	**Pn**	**05 31 00.6**	**+1.9**
9.0nm,0.4s							
SGO	**Sicignano**	**5.29**	**304**	Pn	**Pn**	**05 31 00.2**	**+1.3**
18nm,0.6s							
MCRV	**Calabrutti - M**	**5.49**	**306**	Pn	**Pn**	**05 31 03.6**	**+1.8**
35nm,0.4s							
NVSS	**Nova Varos 2**	**5.88**	**351**	⇓*i*Pn	**Pn**	**05 31 04.3**	**-3.0**
ISOR	**Termini**	**5.95**	**301**	Pn	**Pn**	**05 31 08.0**	**-0.2**
USI	**Ustica**	**6.26**	**282**	Pn	**Pn**	**05 31 12.1**	**-0.6**
40nm,0.4s							
SGG	**Gregorio Mates**	**6.32**	**308**	Pn	**Pn**	**05 31 15.5**	**+2.0**
DIVS	**Divcibare**	**6.44**	**353**	*i* Pn	**Pn**	**05 31 12.5**	**-2.7**
CII	**Carovilli**	**6.56**	**310**	*e*Pn	**Pn**	**05 31 16.2**	**-0.6**
18nm,0.6s							
CII	**Carovilli**	**6.56**	**310**	*e*Pn	**Pn**	**05 31 16.2**	**-0.6**
18nm,0.6s							
ULDT	**Uludag**	**6.77**	**66**	*i* P	**Pn**	**05 31 17.2**	**-2.7**
SLUM		**7.09**	**150**	⇓P	**Pn**	**05 31 21.5**	**-2.8**
TKTP	**Tekketepe**	**7.36**	**85**	*i* P	**Pn**	**05 31 21.3**	**-6.7**
HMAT	**Matruh**	**8.28**	**141**	P	**P**	**05 31 35.6**	**-5.4**
MLR	**Muntele Rosu**	**8.61**	**24**	P	**P**	**05 31 44.3**	**-1.2**
0.1nm,0.3s,baz=217,slow=20,SNR=2.0							
SGKT	**Sivrigoynuk**	**9.03**	**68**	*i* P	**P**	**05 31 40.6**	**-11**
SWA2		**9.21**	**155**	⇓P	**P**	**05 31 50.7**	**-3.2**
SWA1		**9.28**	**154**	⇑P	**P**	**05 31 51.6**	**-3.2**
VOY	**Vojsko**	**9.87**	**330**	*e*Pn	**P**	**05 32 02.9**	**0.0**
VOY				*e*Sn	**Sn**	**05 33 47.5**	**-7.4**
BRTR	**Keskin Array B**	**10.06**	**75**	P	**P**	**05 32 07.0**	**+1.5**
0.2nm,0.3s,baz=258,slow=13,SNR=3.5							
HBRG	**Burj al 'Arab**	**10.19**	**132**	P	**P**	**05 32 00.9**	**-6.4**
BALT	**Daday**	**10.27**	**64**	*i* P	**P**	**05 32 06.8**	**-1.6**
DAVOX	**Davos**	**12.26**	**321**	P	**P**	**05 32 34.0**	**-1.4**
0.2nm,0.3s,baz=107,slow=8.4,SNR=2.4							
DAVOX				S	**S**	**05 34 45.0**	**-8.2**
0.3nm,0.3s,baz=151,slow=19,SNR=2.6							
DAVOX	**Davos**	**12.26**	**321**	P	**P**	**05 32 34.0**	**-1.4**
GERES	**GERESS Array B**	**12.34**	**337**	P	**P**	**05 32 33.8**	**-2.7**
0.2nm,0.3s,baz=157,slow=13,SNR=2.4							
ESDC	**Sonseca Array**	**19.59**	**284**	P	**P**	**05 34 06.3**	**-2.7**
0.1nm,0.3s,baz=78,slow=11,SNR=5.0							
HFS	**Hagfors**	**22.93**	**351**	P	**P**	**05 34 40.9**	**-2.0**
3.0nm,0.8s,mb3.8,baz=172,slow=10,SNR=4.5							
HFS				LR	LR	05 43 01.0	
comp=Z,42nm,18.9s,MS2.9,baz=151,slow=35							
HFS	**Hagfors**	**22.93**	**351**	P	**P**	**05 34 40.9**	**-2.0**
HFS				LR	LR	05 43 01.0	
FINES	**FINESS Array B**	**23.97**	**6**	P	**P**	**05 34 50.5**	**-2.4**
1.2nm,0.6s,mb3.5,baz=169,slow=9.7,SNR=5.1							
EKA	**Eskdalemuir Ar**	**24.05**	**325**	P	**P**	**05 34 52.1**	**-1.7**
1.9nm,0.7s,mb3.6,baz=128,slow=9.3,SNR=4.5							
NB2	**NORSAR Subarra**	**24.16**	**348**	P	**P**	**05 34 53.3**	**-1.5**
1.2nm,0.8s,mb3.4,baz=158,slow=9.3							
NOA	**NORSAR Array B**	**24.16**	**348**	P	**P**	**05 34 52.9**	**-1.9**
1.2nm,0.8s,mb3.4,baz=154,slow=9.1,SNR=3.8							
NOA				LR	LR	05 44 35.0	
comp=Z,19nm,18.6s,MS2.6,baz=180,slow=37							
NOA	**NORSAR Array B**	**24.16**	**348**	P	**P**	**05 34 52.9**	**-1.9**
NOA				LR	LR	05 44 35.0	
ARCES	**ARCESS Array B**	**31.98**	**3**	P	**P**	**05 36 01.7**	**-4.2**
0.6nm,0.7s,mb3.5,baz=174,slow=9.1,SNR=3.1							
MKAR	**Makanchi Array**	**45.21**	**58**	P	**P**	**05 37 53.9**	**-2.8**
1.2nm,0.5s,mb4.0,baz=274,slow=7.1,SNR=5.2							
ZAL	**Zalesovo**	**45.70**	**48**	P	**P**	**05 37 57.9**	**-2.5**
1.0nm,0.6s,mb4.0,baz=191,slow=10,SNR=4.2							
ZAL	**Zalesovo**	**45.70**	**48**	P	**P**	**05 37 57.9**	**-2.5**
SCHQ	**Schefferville**	**59.08**	**318**	P	**P**	**05 39 36.0**	**-4.3**
1.6nm,0.8s,mb4.1,baz=95,slow=12,SNR=2.1							

IDC ***26*** *05:30:35.0±0.4, 1.78N×126.06E, mb4.8/22, mb1 4.8/23, mb1mx4.8/24, mbtmp4.8/23, ML5.1/1, MS4.1/7, Ms1 4.0/7, ms1mx3.8/20, Error ellipse: s-maj=23.3km s-min=10.9km az=76.0*
MOS ***26*** *05:30:38.7±1.3, 1.83N×126.12E, h33km, mb5.3/33, Error ellipse: s-maj=12.7km s-min=5.9km az=111.1*
BJI ***26*** *05:30:41.9, 1.53N×126.15E, h82km, mB5.0, mb4.9, Ms4.4, Msz4.2*
HRVD ***26*** *05:30:43.8±0.3, 1.74N×126.23E, h37km±1km, MW5.1/61, Centroid moment Tensor Solution. LP body waves: s34,c45;Mantle waves: s61,c112; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.99±.28; Mθθ2.26±.17; Mφφ-4.25±.21; Mrθ-2.22±.19; Mθφ-3.49±.16; Mφr-0.81±.24; Best double couple: M0:5.496×10^16 NP1:φs342°, δ58°, λ16°. NP2:φs243°, δ76°, λ147°. Principal axes: T 4.886, Plg33°, Azm198°; N 1.222, Plg55°, Azm43°; P -6.107, Plg12°, Azm296°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***26*** *05:30:43.8±1.4, 1.78N×126.25E, h68km±13km, mb5.0/34 Error ellipse: s-maj=9.8km s-min=5.4km az=73.0*
NEIC Felt [III] at Manado, Indonesia.
ISC 26 05:30:42.6±0.2, 1.78N±0.03×126.11E±0.05, h70km, h70km±4.0km: pP-P, n199, σ1§17/202, mb4.9/96, 17C-11D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**4.44**	**345**	*e*P	**P**	**05 31 47.4**	**-1.6**
GSPH				*i* S	**S**	**05 32 38.8**	**-1.0**
DAV	**Davao City (W)**	**5.29**	**354**	*e*P	**P**	**05 32 04.0**	**+3.3**
KCP	**Kidapawan**	**5.30**	**349**	⇓*e*P	**P**	**05 32 04.7**	**+3.8**
CTBH	**Cotabato--PC H**	**5.72**	**341**	⇑*i*P	**P**	**05 32 06.7**	**+0.1**
CTBH				*i* S	**S**	**05 33 09.3**	**-2.5**
BIPH	**Bislig**	**6.37**	**2**	⇑*e*P	**P**	**05 32 13.9**	**-1.9**
BIPH				*e*S	**S**	**05 33 29.3**	**+1.5**
ZMPH	**Zamboanga City**	**6.54**	**322**	⇓*i*P	**P**	**05 32 16.0**	**-2.1**
SCPH	**Surigao**	**7.98**	**356**	⇓*e*P	**P**	**05 32 38.6**	**+0.6**
SNPH	**Sibulan**	**8.04**	**339**	⇓*e*P	**P**	**05 32 41.3**	**+2.4**
TSM	**Tawau**	**8.60**	**287**	P	**P**	**05 32 46.3**	**-0.2**
KKM	**Kota Kinabalu**	**10.74**	**294**	P	**P**	**05 33 17.2**	**+1.4**
KKM	**Kota Kinabalu**	**10.74**	**294**	*e*Pn	**P**	**05 33 18.3**	**+2.5**
KAKA	**Kakadu**	**15.71**	**157**	*e*P	**P**	**05 34 32.5**	**+11**
152nm,1.0s							
KSM	**Kuching**	**15.80**	**269**	*e*Pn	**P**	**05 34 26.0**	**+3.8**
KSM				*e*P		05 34 28.8	
CVP	**Callao Caves**	**16.38**	**345**	*e*P	**P**	**05 34 32.0**	**+2.5**
FITZ	**Fitzroy Crossi**	**19.76**	**181**	*e*P	**P**	**05 35 07.2**	**-2.4**
38nm,0.9s							
FITZ				*e*S	**S**	**05 38 48.4**	**+5.1**
FITZ	**Fitzroy Crossi**	**19.76**	**181**	P	**P**	**05 35 06.8**	**-2.8**
4.7nm,0.3s,baz=7.7,slow=9.8,SNR=51							
FITZ				S	**S**	**05 38 45.8**	**+2.6**
0.3nm,0.3s,baz=24,slow=13,SNR=3.2							
KGM	**Kluang**	**22.78**	**271**	P	**P**	**05 35 46.8**	**+6.6**
WRAB	**Tennant Creek**	**23.04**	**160**	*e*P	**P**	**05 35 41.1**	**-1.5**
80nm,0.6s,mb5.2							
WRAB	**Tennant Creek**	**23.04**	**160**	*c i*P	**P**	**05 35 40.8**	**-1.8**
WRA	**Warramunga Arr**	**23.04**	**160**	P	**P**	**05 35 40.8**	**-1.9**
28nm,0.4s,mb4.9,baz=337,slow=11,SNR=191							
WRA				S	**S**	**05 39 46.6**	**+2.3**
14nm,1.1s,baz=334,slow=18,SNR=11							
YHNB	**Yeheng**	**23.21**	**349**	*e*P	**P**	**05 35 43.6**	**-0.7**
QIZ	**Qiongzhong**	**23.41**	**318**	⇓P	**P**	**05 35 46.0**	**-0.2**
QIZ				PP	PP	05 36 24.0	+4.1
QIZ				S	**S**	**05 39 50.5**	**-0.2**
QIZ				AMB	AMB		
comp=Z,24nm,1.3s,mb4.4							
QIZ				AMB	AMB		
comp=Z,281nm,3.8s							
QIZ				LR	LR		
comp=N,643nm,16.7s							
QIZ				LR	LR		
comp=Z,491nm,19.8s							
QIZ	**Qiongzhong**	**23.41**	**318**	*e*P	**P**	**05 35 47.8**	**+1.7**
comp=Z,22nm,0.7s,mb4.6							
MBWA	**Marble Bar**	**23.63**	**195**	*e*P	**P**	**05 35 47.9**	**-0.5**
comp=Z,50nm,0.8s,mb4.9							
PMG	**Port Moresby**	**23.73**	**118**	P	**P**	**05 35 49.4**	**+0.1**
comp=Z,17nm,0.8s,mb4.4,baz=235,slow=14,SNR=2.8							
QZH	**Quanzhou**	**24.15**	**343**	P	**P**	**05 35 52.3**	**-1.0**
QZH				S	**S**	**05 40 04.5**	**+1.1**
QZH				AMB	AMB		
comp=Z,100nm,1.2s,mb5.0							
QZH				AMB	AMB		
comp=Z,640nm,3.2s							
QZH				LR	LR		
comp=N,650nm,17.8s							
QZH				LR	LR		
comp=E,610nm,13.0s							
QZH				LR	LR		
comp=Z,1μm,27.7s							
GZH	**Guangzhou**	**24.54**	**331**	P	**P**	**05 36 00.0**	**+2.8**
GZH				LR	LR		
comp=N,489nm,19.8s							
GZH				LR	LR		
comp=E,387nm,23.8s							
GZH				LR	LR		
comp=Z,454nm,18.7s							
JOW	**Kunigami**	**25.00**	**5**	P	**P**	**05 36 02.2**	**+0.7**
comp=Z,45nm,0.7s,mb5.0,baz=191,slow=8.1,SNR=19							
IPM	**Ipoh**	**25.20**	**277**	P	**P**	**05 36 08.5**	**+5.0**
CTA	**Charters Tower**	**29.37**	**139**	P	**P**	**05 36 41.8**	**+0.4**
comp=Z,16nm,1.0s,mb4.6,baz=328,slow=12,SNR=3.7							
SSE	**Sheshan**	**29.53**	**351**	P	**P**	**05 36 51.5**	**+8.7**
comp=Z,24nm,0.8s,mb4.9							
SSE				pP	pP	05 37 09.9	+10
SSE				sP	sP	05 37 19.9	+12
SSE				PP	PP	05 38 02.1	+21
SSE				PcP	PcP	05 39 47.1	+0.5
SSE				S	**S**	**05 41 49.3**	**+18**
SSE				sS		05 42 21.9	
SSE				ScP		05 43 22.2	
SSE				LR	LR		
comp=Z,310nm,28.3s							
NANT	**Nan**	**30.10**	**306**	P	**P**	**05 36 48.0**	**0.0**
comp=Z,162nm,0.5s,mb5.9							
GYA	**Guiyang**	**30.84**	**324**	⇑*i*P	**P**	**05 36 54.3**	**-0.2**
GYA				AMB	AMB		
comp=Z,20nm,1.5s,mb4.6							
GYA				AMB	AMB		
comp=Z,130nm,6.5s							
GYA				LR	LR		
comp=N,350nm,22.1s							
GYA				LR	LR		
comp=E,410nm,21.8s							
GYA				LR	LR		
comp=Z,500nm,19.7s							
NJ2	**Nanjing**	**30.88**	**348**	*e*P	**P**	**05 36 58.8**	**+4.0**
NJ2				AP	pP	05 37 13.3	+1.7
NJ2				PP	PP	05 38 01.3	+3.0
NJ2				S	**S**	**05 41 59.0**	**+6.6**
NJ2				AMB	AMB		
comp=Z,20nm,0.8s,mb4.9							
NJ2				AMB	AMB		
comp=Z,180nm,3.8s							
NJ2				LR	LR		
comp=N,710nm,23.8s							
NJ2				LR	LR		
comp=E,660nm,25.3s							
NJ2				LR	LR		
comp=Z,410nm,21.6s							
CHG	**Chiang Mai**	**31.55**	**304**	⇑P	**P**	**05 37 01.5**	**+0.8**
comp=Z,14nm,0.8s,mb4.7							
KMI	**Kunming**	**32.36**	**318**	P	**P**	**05 37 09.3**	**+1.6**
KMI				AP	pP	05 37 31.0	+6.4
KMI				PP	PP	05 38 20.5	+3.3
KMI				PCP	PcP	05 39 51.5	-2.6
KMI				S	**S**	**05 42 17.3**	**+1.7**
KMI				AMB	AMB		
comp=Z,14nm,1.3s,mb4.5							
KMI				AMB	AMB		
comp=Z,106nm,4.8s							
KMI				LR	LR		
comp=N,350nm,20.4s							
KMI				LR	LR		
comp=E,344nm,18.1s							
KMI				LR	LR		
comp=Z,519nm,23.4s							
KMI	**Kunming**	**32.36**	**318**	P	**P**	**05 37 09.2**	**+1.5**
comp=Z,14nm,1.3s,mb4.5							
KMI				pP	pP	05 37 25.1	+0.5
KMI				sP	sP	05 37 31.0	-2.1
KMI				PP	PP	05 38 20.5	+3.3
KMI				PPP	PPP	05 39 16.2	+43
KMI				PcP	PcP	05 39 51.5	-2.6
KMI				S	**S**	**05 42 17.3**	**+1.7**
KMI				sS		05 42 41.3	
KMI				SS	SS	05 44 11.5	-3.1
KMI				LR	LR		
comp=Z,520nm,23.4s							
KMI	**Kunming**	**32.36**	**318**	P	**P**	**05 37 09.2**	**+1.5**
KMI				*PP	pP	05 37 25.1	+0.5
KMI						05 38 20.5	
KMI						05 39 51.5	
KMI				S	**S**	**05 42 17.3**	**+1.7**
KMI				SS	SS	05 44 11.5	-3.1
KMI				pmax	pmax		
comp=Z,14nm,1.3s,mb4.5							
KMI				MLR	MLR		
comp=Z,520nm,23.4s							
ENH	**Enshi**	**32.43**	**333**	*e*P	**P**	**05 37 06.7**	**-1.6**
comp=Z,33nm,0.8s,mb5.1							
ENH				*e*PcP	PcP	05 39 55.0	+0.8
KLBR	**Kellerberrin**	**34.12**	**193**	⇑*i*P	**P**	**05 37 22.1**	**-0.8**
comp=Z,47nm,0.8s,mb5.4							
MUN	**Mundaring**	**34.86**	**195**	*e*P	**P**	**05 37 28.7**	**-0.5**
NWAO	**Narrogin (SRO)**	**35.52**	**193**	P	**P**	**05 37 34.5**	**-0.3**
comp=Z,25nm,0.9s,mb5.2,baz=24,slow=9.7,SNR=18							
KS15	**Wonju Array Si**	**35.53**	**2**	*e*P	**P**	**05 37 35.2**	**+0.3**
CD2	**Chengdu**	**35.88**	**326**	⇑*i*P	**P**	**05 37 37.3**	**-0.6**
CD2				AP	pP	05 37 58.0	+3.0
CD2				PP	PP	05 39 02.5	+1.5
CD2				S	**S**	**05 43 07.0**	**-3.0**
CD2				AMB	AMB		
comp=Z,20nm,1.3s,mb4.9							
CD2				LR	LR		
comp=N,190nm,19.8s							
CD2				LR	LR		
comp=Z,220nm,19.2s							
XAN	**Xi'an**	**35.90**	**335**	P	**P**	**05 37 36.8**	**-1.2**
XAN				S	**S**	**05 43 19.5**	**+9.3**
XAN				AMB	AMB		
comp=Z,25nm,1.0s,mb5.1							
XAN				AMB	AMB		
comp=Z,70nm,7.0s							
XAN				LR	LR		
comp=N,105nm,30.0s							
XAN				LR	LR		
comp=E,229nm,25.4s							
XAN				LR	LR		
comp=Z,407nm,28.6s							
MJAR	**Matsushiro Arr**	**36.36**	**17**	P	**P**	**05 37 40.7**	**-1.1**
comp=Z,4.9nm,0.5s,mb4.7,baz=190,slow=8.7,SNR=13							
MAJO	**Matsushiro**	**36.36**	**17**	*e*P	**P**	**05 37 40.4**	**-1.5**
comp=Z,39nm,1.1s,mb5.2							
MAJO	**Matsushiro**	**36.36**	**17**	*e*P	**P**	**05 37 40.4**	**-1.5**
MAJO				pmax	pmax		
comp=Z,39nm,1.1s,mb5.2							
MAT	**Matsushiro**	**36.36**	**17**	P	**P**	**05 37 39.3**	**-2.6**
MAT				S	**S**	**05 43 21.2**	**+3.9**
MAT	**Matsushiro**	**36.36**	**17**	*e*P	**P**	**05 37 39.0**	**-2.9**
comp=Z,60nm,1.6s,mb5.3							
MAT				*e*S	**S**	**05 43 21.0**	**+3.7**
MAT				LR	LR		
comp=Z,350nm,20.0s							
MAT	**Matsushiro**	**36.36**	**17**	*e*P	**P**	**05 37 39.0**	**-2.9**
MAT				*e*S	**S**	**05 43 21.0**	**+3.7**
MAT				pmax	pmax		
comp=Z,60nm,1.6s,mb5.3							
MAT				MLR	MLR	

MDJ AMB AMB
comp=Z,72nm,4.0s
MDJ LR LR
comp=E,215nm,30.5s
MDJ LR LR
comp=Z,186nm,29.4s
MDJ Mudanjiang 42.77 4 *eP* **P 05 38 34.8 -0.1**
comp=Z,19nm,1.0s,mb4.8
TOO Toolangi 43.07 157 *eP* **P 05 38 37.9 +0.5**
comp=Z,8.2nm,0.9s,mb4.5
TOO Toolangi 43.07 157 *eP* **P 05 38 37.9 +0.5**
TOO pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
LSA Lhasa 43.29 313 P **P 05 38 40.3 +1.0**
LSA Lhasa 43.29 313 *eP* **P 05 38 40.7 +1.4**
comp=Z,29nm,0.6s,mb5.2
LSA Lhasa 43.29 313 *eP* **P 05 38 40.7 +1.4**
LSA pmax pmax
comp=Z,29nm,0.6s,mb5.2
BWNR Bhubaneshwar 43.44 298 *ex* x 05 38 31.7
GTA Gaotai 44.47 331 ⇓P **P 05 38 47.8 -0.9**
GTA AP pP 05 39 11.8 +5.7
GTA PP PP 05 40 33.0 -1.6
GTA S **S 05 45 17.8 -0.1**
GTA AMB AMB
comp=Z,10.0nm,1.1s,mb4.5
GTA AMB AMB
comp=Z,115nm,12.6s
GTA LR LR
comp=N,203nm,27.8s
GTA LR LR
comp=E,277nm,22.4s
GTA LR LR
comp=Z,385nm,19.9s
ASAJ Asahikawa 44.63 17 P **P 05 38 50.1 +0.2**
comp=Z,9.4nm,0.7s,mb4.6,baz=277,slow=17,SNR=4.2
BOK Bokaro 44.65 303 *eP* **P 05 38 51.0 +0.6**
BOK AMb AMB 05 38 58.8
comp=Z,8.0nm,0.8s,mb4.5
PKI Pulchoki 46.62 307 *eP* **P 05 39 04.9 -1.0**
comp=Z,21nm,0.8s,mb4.9
PKI Pulchoki 46.62 307 *eP* **P 05 39 04.9 -1.0**
PKI pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
KKN Kakani 46.82 307 *eP* **P 05 39 07.4 -0.1**
comp=Z,9.6nm,0.4s,mb4.9
KKN Kakani 46.82 307 *eP* **P 05 39 07.4 -0.1**
KKN pmax pmax
comp=Z,5.0nm,0.4s,mb4.6
DMN Daman 46.88 307 *eP* **P 05 39 07.7 -0.3**
comp=Z,16nm,0.5s,mb5.0
BLSP Bilaspur 47.28 299 *eP* **P 05 39 12.4 +1.3**
BLSP AMb AMB 05 39 15.2
comp=Z,26nm,1.2s,mb4.8
YSS Yuzh-Sakhalins 47.28 15 *eP* **P 05 39 12.0 +1.2**
YSS *e* pP 05 39 30.0 +1.6
GKN Gorkha 47.42 307 *eP* **P 05 39 12.6 +0.4**
comp=Z,10nm,0.4s,mb4.9
HIA Hailar 47.63 354 *eP* **P 05 39 13.6 +0.1**
comp=Z,57nm,1.3s,mb5.2
HIA Hailar 47.63 354 *eP* **P 05 39 13.6 +0.1**
HIA pmax pmax
comp=Z,57nm,1.3s
KOLN Koldanda 48.15 307 *eP* **P 05 39 18.1 +0.2**
comp=Z,52nm,0.6s,mb5.5
ULN Ulaanbaatar 48.78 343 *eP* **P 05 39 22.2 -0.3**
comp=Z,21nm,1.0s,mb5.0
ULN Ulaanbaatar 48.78 343 *c iP* **P 05 39 22.6 +0.1**
SONM Songino Array 48.95 342 P **P 05 39 23.5 -0.2**
comp=Z,12nm,1.1s,mb4.7,baz=162,slow=8.2,SNR=34
SONM PcP PcP 05 40 48.3 +0.9
comp=Z,7.0nm,0.9s,baz=159,slow=3.9,SNR=5.5
SONM LR LR 06 04 03.1
comp=Z,79nm,18.2s,baz=154,slow=41
HYB Hyderabad 49.22 292 *i* P **P 05 39 28.0 +1.7**
HYB Hyderabad 49.22 292 *eP* **P 05 39 28.0 +1.7**
NGP Nagpur 49.71 296 *eP* **P 05 39 32.9 +2.9**
CIT Chita 51.16 350 *eP* **P 05 39 41.3 +0.6**
CIT pmax pmax
comp=Z,92nm,1.4s,mb5.6
BHPL Bhopal 51.75 298 *i* P **P 05 39 45.0 -0.4**
BHPL AMb AMB 05 39 48.7
comp=Z,34nm,1.1s,mb5.3
ZAK Zakamensk 52.16 342 *eP* **P 05 39 47.5 -0.7**
ZAK *e* 05 40 59.3
ZAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
ZAK pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
AGRA Agra 52.58 303 *eP* **P 05 39 48.4 -3.3**
AGRA AMb AMB 05 39 51.9
comp=Z,58nm,0.3s
KALG Kalgarh 52.75 306 *ex* x 05 39 26.1
SONA Sohna 53.65 304 *eP* **P 05 39 57.0 -2.6**
SONA AMb AMB 05 40 01.9
comp=Z,45nm,0.8s,mb5.5
NDI New Delhi 53.69 305 *eP* **P 05 39 57.3 -2.6**
NDI AMb AMB 05 40 04.2
comp=Z,25nm,0.7s,mb5.4
KLP Kalpa 53.94 308 *i* P **P 05 40 01.6 0.0**
KLP AMb AMB 05 40 21.6
comp=Z,38nm,1.1s,mb5.3
WMQ Urumqi 53.98 326 P **P 05 40 02.0 +0.3**
WMQ AP pP 05 40 21.0 +1.3
WMQ PP PP 05 42 06.0 +1.0
WMQ SCP 05 44 56.0
WMQ S **S 05 47 31.0 +0.6**
WMQ SCS ScS 05 49 41.0 +0.1
WMQ SS SS 05 51 13.0 +1.0
WMQ AMB AMB
comp=Z,21nm,1.0s,mb5.1
WMQ AMB AMB
comp=Z,125nm,4.0s
WMQ LR LR
comp=N,398nm,16.0s
WMQ LR LR
comp=E,296nm,16.0s
WMQ LR LR
comp=Z,214nm,15.0s
KHET Khetri 54.65 304 *eP* **P 05 40 05.2 -1.6**
KHET AMb AMB 05 40 10.0
comp=Z,32nm,1.1s,mb5.3
CLNS Chul'man 54.91 359 *eP* **P 05 40 07.7 -0.6**
CLNS *e* 05 41 09.8
CLNS *e* 05 42 08.9
CLNS *e*S **S 05 47 47.4 +4.7**
CLNS *e*PS PS 05 48 02.9 -1.7
CLNS pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
CLNS pmax pmax
comp=N,4.0nm,0.6s
CLNS pmax pmax
comp=E,2.0nm,0.8s
CLNS pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
CLNS pmax pmax
comp=N,9.0nm,0.9s
CLNS pmax pmax
comp=E,9.0nm,0.9s
CLNS smax
comp=E,8.0nm,0.7s
CLNS smax
comp=Z,6.0nm,0.6s
CLNS smax
comp=N,3.0nm,0.5s
CLNS MLR MLR
comp=Z,100nm,13.0s
CLNS MLR MLR
comp=N,200nm,12.0s
CLNS MLR MLR
comp=E,100nm,13.0s
BOD Bodaibo 56.70 352 *eP* **P 05 40 20.8 -0.4**
BOD pmax pmax
comp=Z,27nm,0.9s,mb5.3
JASL Jaisalmer 58.46 301 *eP* **P 05 40 33.6 -0.4**
JASL AMb AMB 05 40 34.4
MKAR Makanchi Array 58.81 326 P **P 05 40 35.1 -1.0**
comp=Z,13nm,0.6s,mb5.1,baz=120,slow=7.7,SNR=79
MKAR LR LR 06 08 09.0
comp=Z,190nm,18.3s,baz=180,slow=38
MKAR Makanchi Array 58.81 326 P **P 05 40 35.1 -1.0**
MKAR LR LR 06 08 09.0
MKAR Makanchi Array 58.81 326 *i* P **P 05 40 35.4 -0.7**
MKAR pmax pmax
comp=Z,6.0nm,0.3s
KSH Kashi 59.00 316 *eP* **P 05 40 36.0 -1.5**
KSH *e*PCP PcP 05 41 24.0 -1.6
KSH *e*PP PP 05 42 48.3 -2.0
KSH *e*PPP PPP 05 44 13.0 -2.1
KSH *e*SCP 05 45 16.0
KSH *e*PCS 05 45 24.3
KSH *e*S **S 05 48 31.8 -5.0**
KSH *e*SCS ScS 05 50 15.0 -2.2
KSH *e*SS SS 05 52 29.3 -4.1
KSH AMB AMB
comp=Z,130nm,4.2s
KSH LR LR
comp=N,170nm,4.8s
KSH LR LR
comp=E,210nm,5.6s
YAK Yakutsk 60.17 2 *eP* **P 05 40 44.3 -0.9**
YAK pmax pmax
comp=N,4.0nm,0.9s
YAK pmax pmax
comp=Z,15nm,0.9s,mb5.0
YAK pmax pmax
comp=N,26nm,0.9s
YAK pmax pmax
comp=N,11nm,1.2s
YAK pmax pmax
comp=E,6.0nm,1.1s
MA2 Magadan 60.74 14 *eP* **P 05 40 49.3 +0.2**
comp=E,32nm,0.9s,mb5.3
MA2 Magadan 60.74 14⇑*eP* **P 05 40 49.5 +0.3**
MA2 pmax pmax
comp=Z,21nm,0.9s,mb5.2
MA2 MLR MLR
comp=Z,100nm,21.0s
AAK Ala-Archa 61.39 319 *eP* **P 05 40 54.6 +0.8**
comp=Z,7.4nm,0.9s,mb4.7
AAK Ala-Archa 61.39 319⇓*eP* **P 05 40 54.3 +0.5**
AAK pmax pmax
comp=Z,9.0nm,1.4s,mb4.6
AAK MLR MLR
comp=Z,200nm,18.0s
FRU Bishkek 61.40 319 *eP* **P 05 40 52.0 -1.9**
ZAL Zalesovo 62.05 334 P **P 05 40 55.3 -2.7**
comp=Z,2.7nm,0.3s,mb4.7,baz=359,slow=5.6,SNR=11
ZAL LR LR 06 09 42.6
comp=Z,96nm,19.2s,baz=334,slow=38
KURK Kurchatov 63.05 328 *eP* **P 05 41 04.2 -0.6**
comp=Z,72nm,0.8s,mb5.7
KURK Kurchatov 63.05 328 *i* P **P 05 41 04.4 -0.4**
KURK pmax pmax
comp=Z,39nm,0.8s,mb5.4
NVS Novosibirsk 63.33 334 *eP* **P 05 41 04.6 -2.0**
NVS *e* 05 41 47.0
NVS *e*S **S 05 49 29.8 -1.9**
NVS *i* 05 50 53.0
NVS pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
NVS pmax pmax
comp=N,11nm,1.1s
NVS pmax pmax
comp=E,8.0nm,0.7s
NVS smax
comp=N,19nm,2.4s
NVS smax
comp=E,11nm,1.8s
SEY Seymchan 64.06 13⇑*eP* **P 05 41 12.1 +0.9**
FX1 Attu Island--F 64.08 30 *eP* **P 05 41 11.7 +0.3**
KKAR Karatay Array 64.24 318 *i* P **P 05 41 12.9 +0.2**
KKAR pmax pmax
comp=Z,8.0nm,0.8s,mb4.6
BVA0 Borovoye Array 68.62 328 *i* P **P 05 41 39.7 -0.5**
BVA0 pmax pmax
comp=Z,1.0nm,0.8s
BVAR Borovoye Array 68.62 328 P **P 05 41 39.6 -0.6**
comp=Z,7.3nm,0.7s,mb4.6,baz=127,slow=7.2
BRVK Borovoye 68.69 328 *eP* **P 05 41 39.9 -0.8**
comp=Z,7.4nm,0.7s,mb4.6
BRVK Borovoye 68.69 328 *eP* **P 05 41 39.9 -0.8**
BRVK pmax pmax
comp=Z,7.0nm,0.7s,mb4.6
CASY Casey 68.81 187⇑*iP* **P 05 41 41.1 -0.1**
TIXI Tiksi 69.79 1 *eP* **P 05 41 45.1 -2.0**
TIXI pmax pmax
comp=Z,18nm,1.0s,mb4.9
BILL Bilibino 71.59 15 *eP* **P 05 42 00.0 +2.0**
BILL *e* pP 05 42 17.2 +0.4
BILL *e* 05 44 40.4
BILL *e*S S 05 51 20.7 +10
BILL pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
BILL MLR MLR
comp=Z,100nm,20.0s
MIR Mirnyy 72.13 193 *d iP* **P 05 42 01.8 +0.6**
MIR pmax pmax
comp=Z,34nm,1.2s,mb5.0
AB31 Akbulak array 73.27 321 *i* P **P 05 42 07.9 -0.3**
AB31 pmax pmax
comp=Z,1.0nm,0.4s,mb4.0
SVE Sverdlovsk 75.30 329 *eP* **P 05 42 18.5 -1.3**
SVE *e* pP 05 42 36.7 -2.0
SVE pmax pmax
comp=Z,60nm,2.0s,mb5.0
ARU Arti 76.25 328⇑*iP* **P 05 42 25.3 +0.1**
ARU *e* 05 42 36.0
ARU *e* 05 45 17.4
ARU *e*PPP PPP 05 47 03.3 -3.0
ARU *e*S S 05 52 09.5 +6.9
ARU *e*SS SS 05 57 07.6 +7.0
ARU pmax pmax
comp=Z,31nm,0.9s,mb5.0
SOKR Solikamsk 78.10 331⇑*iP* **P 05 42 36.3 +0.9**
SOKR pmax pmax
comp=Z,20nm,1.0s,mb4.8
VNDA Vanda 81.58 173 P **P 05 42 54.0 +0.2**
comp=Z,4.8nm,0.4s,mb4.7,baz=320,slow=5.7,SNR=23
MAW Mawson 81.72 200⇑*iP* **P 05 42 55.7 +1.0**
comp=Z,8.9nm,1.1s,mb4.5
MAW Mawson 81.72 200 P **P 05 42 54.8 +0.2**
comp=Z,13nm,1.1s,mb4.7,baz=63,slow=7.3,SNR=14
MAW LR LR 06 15 19.9
comp=Z,52nm,21.1s,baz=172,slow=33
MAW Mawson 81.72 200⇑*iP* **P 05 42 55.7 +1.0**
MAW pmax pmax
comp=Z,9.0nm,1.1s
SBA Scott Base 82.50 172 *eP* **P 05 42 59.5 +0.9**
comp=Z,16nm,1.2s,mb4.7
SBA Scott Base 82.50 172 *eP* **P 05 42 59.5 +1.0**
SBA pmax pmax
comp=Z,16nm,1.2s,mb4.7
ZEI Tsey 83.08 313 *eP* **P 05 42 59.9 -2.2**
ZEI *i* *PP pP 05 43 09.0 -12
ZEI *i* 05 46 16.4
ZEI pmax pmax
comp=Z,8.0nm,0.8s,mb4.6
KIV Kislovodsk 84.03 314 *eP* **P 05 43 06.6 -0.3**
KIV *e* 05 46 18.4
KIV pmax pmax
comp=Z,14nm,1.5s,mb4.6
RSO Redoubt South 84.09 29 *eP* **P 05 43 06.9 +0.1**
IMA Indian Mountai 84.41 24 *eP* **P 05 43 09.7 +1.4**
comp=Z,29nm,0.8s,mb5.2
IMA Indian Mountai 84.41 24 *eP* **P 05 43 09.7 +1.4**
IMA pmax pmax
comp=Z,29nm,0.8s,mb5.2
ARTV Artvin 84.45 311 *i* P **P 05 43 13.2 +4.1**
SPU Mount Spurr 84.51 29 *eP* **P 05 43 08.6 -0.3**
VRHR Novokhopersk 85.16 321 *eP* **P 05 43 12.6 +0.2**
VRHR pmax pmax
comp=Z,60nm,0.8s,mb5.6
VRHR pmax pmax
comp=N,20nm,0.7s
VRHR pmax pmax
comp=E,20nm,0.8s
SLKM Skilak Lake 85.34 30 *eP* **P 05 43 13.7 +0.6**
SOC Sochi 86.17 313 *eP* **P 05 43 18.4 +0.9**
SOC *e* 05 46 36.8
SOC *e*S S 05 53 41.4 -3.5
SOC pmax pmax
comp=N,15nm,0.9s
SOC pmax pmax
comp=E,8.0nm,0.9s
SOC pmax pmax
comp=Z,31nm,0.9s,mb5.2
MCK McKinley 86.18 26 *eP* **P 05 43 17.9 +0.8**
comp=Z,1.8nm,0.8s,mb4.0
MCK McKinley 86.18 26 *eP* **P 05 43 17.9 +0.8**
MCK pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
KELT Kelkit 86.46 310 *i* P **P 05 43 18.6 -0.4**
VORD Divnogorie 86.62 321 *eP* **P 05 43 20.3 +0.8**
VORD pmax pmax
comp=Z,30nm,0.9s,mb5.2
VORD pmax pmax
comp=N,30nm,1.5s
VORD pmax pmax
comp=E,30nm,1.0s
VRSR Storozhevoye 86.69 321 *eP* **P 05 43 20.9 +1.0**
VRSR pmax pmax
comp=Z,20nm,0.7s,mb5.2
VRSR pmax pmax
comp=N,7.0nm,0.6s
VRSR pmax pmax
comp=E,10.0nm,0.7s
MALT Malatya 87.09 308 *eP* **P 05 43 23.8 +1.6**
comp=E,12nm,0.9s,mb4.8
MALT Malatya 87.09 308 *eP* **P 05 43 23.8 +1.6**
MALT pmax pmax
comp=Z,12nm,0.9s,mb4.8
ILAR Eielson Array 87.12 25 P **P 05 43 21.1 -0.5**
comp=Z,1.4nm,0.9s,mb3.9,baz=264,slow=7.6,SNR=5.0
MOS Moscow 87.69 326 *eP* **P 05 43 24.8 +0.2**
MOS *e* pP 05 43 41.5 -2.5
MOS pmax pmax
comp=Z,55nm,0.7s,mb5.7
GZT Gaziantep 87.78 307 *i* P **P 05 43 25.9 +0.4**
ANN Anapa 87.82 315⇑*iP* **P 05 43 26.2 +0.7**
ANN pmax pmax
comp=Z,103nm,1.8s,mb5.6
OBN Obninsk 88.29 325⇓*eP* **P 05 43 29.7 +2.2**
OBN *e* 05 46 56.5
OBN *e*SS SS 05 59 58.8 +0.1
OBN pmax pmax
comp=Z,9.0nm,0.4s,mb5.2
OBN MLR MLR
comp=Z,100nm,22.0s
ASF Jabal al Asfar 88.40 302 P **P 05 43 30.8 +2.2**
comp=Z,16nm,0.8s,mb5.1,baz=337,slow=2.5,SNR=17
KMBO Kilima Mbogo 88.89 269 P **P 05 43 33.0 +1.7**
comp=Z,4.1nm,0.9s,mb4.5,baz=46,slow=8.8,SNR=6.5
BOYT Boyabat 89.74 311 *i* P **P 05 43 33.8 -0.9**
CTKT Corum 89.86 310 *i* P **P 05 43 35.0 -0.3**
SYO Syowa Base 90.39 201⇑P **P 05 43 37.1 0.0**
JOF Joensuu 90.62 333 *ep* **P 05 43 38.4 +0.1**
BR131 Keskin Array S 90.78 310 *eP* **P 05 43 39.5 -0.1**
BRTR Keskin Array B 90.78 310 P **P 05 43 39.6 0.0**
comp=Z,2.4nm,0.9s,mb4.3,baz=117,slow=5.5,SNR=9.4
CSS Prodhromos 91.27 305 *eP* **P 05 43 42.6 +0.6**
comp=Z,18nm,1.0s,mb5.2
QSPA South Pole Qui 91.69 180⇓*iP* **P 05 43 44.6 +1.7**
comp=Z,5.8nm,0.8s,mb4.9
ARCES ARCESS Array B 92.06 340 P **P 05 43 44.9 +0.1**
comp=Z,5.0nm,0.8s,mb4.8,baz=80,slow=5.7,SNR=11
ARCES LR LR 06 28 27.7
comp=Z,140nm,21.8s,baz=88,slow=38
ARCES ARCESS Array B 92.06 340 P **P 05 43 44.9 +0.1**
ARCES LR LR 06 28 27.7
INK Inuvik 92.20 21 *eP* **P 05 43 45.7 +0.3**
comp=Z,2.8nm,0.8s,mb4.5
INK Inuvik 92.20 21 *eP* **P 05 43 45.7 +0.2**
INK pmax pmax
comp=Z,3.0nm,0.8s
AKASG Malin Array Be 93.01 321 P **P 05 43 48.9 -0.7**
comp=Z,1.9nm,0.7s,mb4.5,baz=66,slow=4.2,SNR=7.5
KAF Kangasniemi 93.03 332 *ep* **P 05 43 48.6 -0.8**
FINES FINESS Array B 93.25 332 P **P 05 43 49.7 -0.7**
comp=Z,1.4nm,0.4s,mb4.6,baz=45,slow=2.7,SNR=6.3
FINES LR LR 06 28 36.7
comp=Z,139nm,20.6s,baz=11,slow=37
DLBC Dease Lake 95.73 31 LR LR 06 22 55.5
comp=Z,120nm,21.6s,baz=285,slow=33
HFS Hagfors 99.45 332 P **P 05 44 18.4 -0.2**
comp=Z,3.1nm,0.8s,mb4.9,baz=124,slow=5.3,SNR=7.1
NOA NORSAR Array B 100.25 333 P P 05 44 22.3 +0.1
comp=Z,1.0nm,0.7s,baz=69,slow=4.7,SNR=3.3
NOA NORSAR Array B 100.25 333 P P 05 44 22.3 +0.1
SNAA Sanae 103.18 195 *e* 05 49 00.8
VNA2 Neumayer--Watz 104.79 194 *e* 05 48 59.0
LPG La Plagne 108.83 320 *e*PP PP 05 49 34.6 -1.8
comp=Z,9.9nm,0.8s
LPL La Plagne 108.84 320 *e*PP PP 05 49 34.4 -2.0
comp=Z,29nm,1.5s
PDAR Pinedale Array 113.22 41 PKKPbc 06 00 00.6
comp=Z,0.5nm,0.7s,baz=117,slow=5.2,SNR=5.6
PDAR PKKPab 06 00 08.3
comp=Z,2.5nm,0.9s,baz=109,slow=5.3,SNR=15
RSSD Black Hills 116.10 38 *e*PKPdf PKPdf 05 49 19.5 +1.5
SCHQ Schefferville 122.58 9 PKP PKPdf 05 49 32.1 +1.8
comp=Z,0.8nm,0.4s,baz=76,slow=7.9,SNR=5.1
TXAR Lajitas Array 123.27 53 PKP PKPdf 05 49 34.4 +2.1
comp=Z,1.1nm,0.9s,baz=232,slow=1.9,SNR=11
TXAR PKKPbc 05 59 25.1
comp=Z,0.4nm,0.8s,baz=129,slow=8.0,SNR=5.5
DBIC Dimbokro 130.34 280 PKP PKPdf 05 49 49.1 +2.9
comp=Z,5.3nm,0.8s,baz=350,slow=2.1,SNR=11
LIC Lamto 130.57 280 *e*PKIKP PKPdf 05 49 49.4 +2.7
comp=Z,12nm,0.6s
WVT Waverly 130.79 37 *e*PKPdf PKPdf 05 49 47.4 +0.9
PLCA Paso Flores 138.39 161 PKP PKPdf 05 50 02.9 +2.3
comp=Z,5.3nm,1.0s,baz=325,slow=4.0,SNR=5.3
PLCA Paso Flores 138.39 161 *e*PKPdf PKPdf 05 50 03.2 +2.6
TRQA Tornquist 143.14 169 *e*PKPdf PKPdf 05 50 07.9 -1.1
LVC Limon Verde 154.66 146 *e*PKPab PKPab 05 50 52.9 -0.8
CPUP Villa Florida 155.36 173 PKP PKPdf 05 50 32.0 +3.6
comp=Z,1.3nm,1.0s,baz=246,slow=17,SNR=2.5
CPUP PKPbc PKPdf 05 50 40.8 +12
comp=Z,6.2nm,1.0s,baz=97,slow=6.1,SNR=8.7
CPUP PKPab PKPab 05 50 55.7 -0.8
comp=Z,5.8nm,0.9s,baz=210,slow=6.7,SNR=5.9
CPUP Villa Florida 155.36 173 PKP PKPdf 05 50 32.0 +3.6
CPUP PKPbc PKPdf 05 50 40.8 +12
CPUP PKPab PKPab 05 50 55.7 -0.8
LPAZ La Paz 159.88 137 PKP PKPdf 05 50 38.2 +4.0
comp=Z,2.2nm,0.9s,baz=77,slow=4.1,SNR=9.1
LPAZ La Paz 159.88 137 *e*PKPdf PKPdf 05 50 37.9 +3.6
SAML Samuel 168.33 128 *e*PKPdf PKPdf 05 50 44.3 +2.4

MAN 26 05:44:37.8, 18.47N×119.61E, h14km, mb4.5, ML3.4, MS3.3, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**2.24**	**110**	*e*P	Pn	05 45 14.0	-1.1
CVP				*e*S	Sn	05 45 38.0	-4.7
BCPH	**Baguio City Da**	**2.28**	**156**	⇓*i*P	Pn	05 45 15.5	-0.1
BCPH				*i* S	Sn	05 45 43.8	+0.1

ISK ***26*** *05:52:58.4, 38.63N×25.20E, h19km, ML3.8*
ATH ***26*** *05:53:01.1, 38.67N×25.46E, h41km±2km, MD3.7/15, ML3.6*
NEIC ***26*** *05:53:01.1, 38.67N×25.46E, h41km, MD3.7(ATH), After ATH.*
CSEM ***26*** *05:53:01.4±0.1, 38.64N×25.52E, h50km±2km, ML3.6, Error ellipse: s-maj=1.8km s-min=1.5km az=163.0*
THE ***26*** *05:53:06.0, 38.79N×25.30E, h31km, ML3.5*
SOF ***26*** *05:53:24.5, 40.37N×24.69E, h10km, MD3.2*

ISC 26 05:53:02.2±0.2, 38.65N±0.02×25.44E±0.02, h41km, n77, σ0:78/97, 8C-1D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.88**	**47**	*e*P	**P**	**05 53 17.8**	**-0.4**
PRK				*e*S	**S**	**05 53 30.2**	**+0.3**
URLA	**Izmir**	**0.95**	**108**	*i* P	**P**	**05 53 17.7**	**-1.6**
URLA				*i* S	**S**	**05 53 31.2**	**-0.6**
AYVA	**Ayvalik**	**1.17**	**56**	*i* P	**P**	**05 53 22.2**	**-0.2**
AYVA				*i* S	**S**	**05 53 37.4**	**0.0**
LIA	**Limnos Island**	**1.26**	**351**	⇑*iP*	**P**	**05 53 23.8**	**+0.2**
LIA				*e*S	**S**	**05 53 39.3**	**-0.4**
BLCB	**Balcova**	**1.28**	**101**	*i* PN	**P**	**05 53 25.4**	**+1.4**
LOS	**Limnos**	**1.31**	**348**	*e*Pg	**P**	**05 53 24.9**	**+0.4**
LOS				*e*Sg	**S**	**05 53 40.3**	**-0.7**
AOS	**Alonnisos**	**1.32**	**293**	*e*Pg	**P**	**05 53 25.4**	**+0.7**
AOS				*e*Sg	**S**	**05 53 40.6**	**-0.7**
EZN	**Ezine**	**1.36**	**30**	*i* PN	**P**	**05 53 24.8**	**-0.3**
EZN				*i* SN	**S**	**05 53 44.1**	**+2.0**
PTL	**Penteli**	**1.38**	**245**	*e*P	**P**	**05 53 26.0**	**+0.6**
MPAR	**Parnis Oros**	**1.43**	**250**	*e*P	**P**	**05 53 26.5**	**+0.4**
SMG	**Samos**	**1.45**	**130**	*e*P	**P**	**05 53 26.4**	**0.0**
SMG				*e*S	**S**	**05 53 44.7**	**+0.3**

IZM	**Izmir**	**1.45**	**100**	*e*PN	**P**	**05 53 26.5**	**+0.1**
KDAG	**Bornova**	**1.45**	**99**	*i* P	**P**	**05 53 24.8**	**-1.7**
KDAG				*i* S	**S**	**05 53 44.5**	**0.0**
ATH	**Athens Observa**	**1.52**	**244**	*e*P	**P**	**05 53 27.8**	**+0.4**
ATH				*e*S	**S**	**05 53 46.8**	**+0.7**
APE	**Apeiranthos**	**1.58**	**177**	PN	**P**	**05 53 26.3**	**-2.0**
APE	**Apeiranthos**	**1.58**	**177**	*e*P	**P**	**05 53 27.6**	**-0.7**
APE				*e*S	**S**	**05 53 48.5**	**+0.8**
APE	**Apeiranthos**	**1.58**	**177**	*e*P	**P**	**05 53 27.6**	**-0.7**
APE				*e*S	**S**	**05 53 48.5**	**+0.8**
NSAL	**Nisos Salamina**	**1.73**	**245**	*e*P	**P**	**05 53 30.5**	**+0.2**
NAIG	**Nisos Aigina**	**1.78**	**241**	*e*P	**P**	**05 53 31.5**	**+0.4**
MGER	**Gerania Oros**	**1.84**	**249**	*e*P	**P**	**05 53 31.5**	**-0.4**
NEO	**Neokhori**	**1.85**	**291**	*e*P	**P**	**05 53 32.1**	**+0.1**
CANB	**Canakkale**	**1.85**	**42**	*e*PN	**P**	**05 53 32.4**	**+0.3**
AKS	**Akhisar**	**1.87**	**82**	*e*PN	**P**	**05 53 32.2**	**-0.1**
XOR	**Xorichti**	**1.89**	**293**	*e*Pb	**P**	**05 53 33.0**	**+0.3**
LKR	**Lokris**	**1.91**	**271**	*e*P	**P**	**05 53 32.9**	**-0.1**
LPK	**Lapseki**	**2.00**	**30**	*e*PN	**P**	**05 53 34.5**	**+0.3**
OUR	**Ouranopolis**	**2.02**	**327**	*e*Pb	**P**	**05 53 34.9**	**+0.3**
OUR				*e*Sb	**S**	**05 53 57.6**	**-1.1**
BALB	**Balikesir**	**2.14**	**62**	*e*PN	**P**	**05 53 37.2**	**+1.1**
AYDN	**Tasoluk**	**2.16**	**117**	*i* P	**P**	**05 53 41.3**	**+4.8**
AYDN				*i* S	**S**	**05 54 09.7**	**+7.4**
BODT	**Bodrum**	**2.17**	**136**	*e*PN	**P**	**05 53 36.1**	**-0.5**
BDRM	**Kayabasi**	**2.24**	**134**	*i* P	**P**	**05 53 36.9**	**-0.7**
BDRM				*i* S	**S**	**05 54 11.9**	**+7.7**
MLSB	**Milas**	**2.29**	**126**	*e*PN	**P**	**05 53 38.3**	**0.0**
BTOK	**Tokmak**	**2.30**	**60**	*i* P	**P**	**05 53 43.9**	**+5.5**
PLG	**Polygyros**	**2.31**	**319**	*e*P	**P**	**05 53 38.1**	**-0.6**
MANT	**Manisa**	**2.45**	**93**	*i* P	**P**	**05 53 46.9**	**+6.3**
MANT				*i* S	**S**	**05 54 18.1**	**+8.6**
RDO	**Rodhopi**	**2.49**	**2⇑**	*i*P	**P**	**05 53 40.7**	**-0.5**
MFT	**Murefte**	**2.56**	**33**	*e*PN	**P**	**05 53 41.3**	**-0.9**
MRMT	**Marmara Adasi**	**2.56**	**40**	*e*PN	**P**	**05 53 42.0**	**-0.2**
BNT	**Bandirma**	**2.56**	**48**	*e*PN	**P**	**05 53 42.0**	**-0.2**
LIT	**Litokhoron**	**2.71**	**303**	*e*Pn	**P**	**05 53 44.8**	**+0.5**
LIT				*e*Sn	**S**	**05 54 14.8**	**-1.3**
YER	**Yerkesik**	**2.71**	**123**	*e*PN	**P**	**05 53 43.6**	**-0.7**
THE	**Thessaloniki**	**2.75**	**317**	*e*Pn	**P**	**05 53 45.4**	**+0.4**
VLI	**Veliai**	**2.77**	**227**	*e*P	**P**	**05 53 44.4**	**-0.8**
SRS	**Serrai**	**2.84**	**331**	*e*Pn	**P**	**05 53 46.8**	**+0.6**
EVR	**Evrytania**	**2.85**	**276**	*e*P	**P**	**05 53 47.0**	**+0.6**
KDZ	**Kurdzhali**	**2.99**	**360**	*e*P	**P**	**05 53 51.0**	**+2.6**
DNZL	**Cakiroluk**	**3.00**	**108**	*i* P	**P**	**05 53 58.7**	**+10**
ORLT	**Orhaneli**	**3.02**	**61**	*e*PN	**P**	**05 53 49.5**	**+0.8**
KYTH	**Kithira**	**3.04**	**220**	*e*P	**P**	**05 53 48.5**	**-0.6**
KYTH	**Kithira**	**3.04**	**220**	*e*P	**P**	**05 53 48.0**	**-1.1**
RZN	**Rozhen**	**3.08**	**350**	*i* P	**P**	**05 53 49.5**	**-0.1**
KNT	**Kendrikon**	**3.18**	**323**	*e*Pn	**P**	**05 53 51.6**	**+0.6**
	comp=Z,3.0nm,0.5s						
GDZ	**Gediz**	**3.18**	**81**	*i* P	**P**	**05 54 00.4**	**+9.3**
GDZ				*i* S	**S**	**05 54 47.1**	**+19**
MMB	**Musomiste**	**3.21**	**336**	*i* P	**P**	**05 53 51.0**	**-0.5**
ULDT	**Uludag**	**3.23**	**61**	*i* P	**P**	**05 53 58.0**	**+6.4**
ULDT				*i* S	**S**	**05 54 35.4**	**+6.1**
GRG	**Griva**	**3.28**	**315**	*e*Pn	**P**	**05 53 53.4**	**+0.9**
GRG	**Griva**	**3.28**	**315**	*e*Pn	**P**	**05 53 53.3**	**+0.8**
EDRB	**Edirne**	**3.34**	**17**	*e*PN	**P**	**05 53 52.8**	**-0.5**
CTT	**Catalca**	**3.39**	**42**	*e*PN	**P**	**05 53 53.3**	**-0.7**
GOLH	**Golhisar**	**3.55**	**112**	*i* P	**P**	**05 54 06.4**	**+10**
GOLH				*i* S	**S**	**05 54 51.3**	**+14**
YLV	**Yalova**	**3.59**	**57**	*e*PN	**P**	**05 53 56.5**	**-0.3**
KKB	**Krupnik**	**3.68**	**331**	*i* P	**P**	**05 53 58.0**	**-0.1**
FNA	**Florina**	**3.79**	**305**	*e*Pn	**P**	**05 53 59.7**	**+0.1**
TKTP	**Tekketepe**	**3.88**	**98**	*i* P	**P**	**05 54 03.9**	**+2.9**
HRT	**Hereke**	**3.91**	**55**	*e*PN	**P**	**05 54 02.4**	**+1.0**
VTS	**Vitosha**	**4.29**	**337**	*e*P	**P**	**05 54 07.8**	**+1.1**
ESKT	**Eskisehir**	**4.30**	**77**	*i* P	**P**	**05 54 17.8**	**+11**
MDU	**Mudurnu**	**4.81**	**66**	*e*PN	**P**	**05 54 15.3**	**+1.1**
KIZT	**Kizilcal**	**5.04**	**85**	*e*PN	**P**	**05 54 17.5**	**+0.2**
ZAPS	**Zavoj/Pirot**	**5.11**	**336⇓**	*i*Pn	**P**	**05 54 18.3**	**0.0**
SGKT	**Sivrigoynuk**	**5.46**	**67**	*i* P	**P**	**05 54 22.1**	**-1.0**
VOIR		**6.79**	**358**	⇑P	**P**	**05 54 40.4**	**-1.4**
VOIR		**6.79**	**358**	⇑P	**P**	**05 54 40.4**	**-1.4**
MLR	**Muntele Rosu**	**6.84**	**3**	⇑P	**P**	**05 54 42.6**	**0.0**
MLR	**Muntele Rosu**	**6.84**	**3**	⇑P	**P**	**05 54 42.6**	**0.0**
VRI	**Vrincioaia**	**7.27**	**7**	⇑P	**P**	**05 54 47.6**	**-1.0**
VRI	**Vrincioaia**	**7.27**	**7**	⇑P	**P**	**05 54 47.6**	**-1.0**

BJI 26 05:56:52.9, 30.37N×124.80E, h15km, mb4.3, ML4.3, Off east coast of southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSE	**Sheshan**	**3.19**	**284**	PG	Pg	05 57 48.0	-8.7
SSE				S	Sn	05 58 19.8	-2.0
SSE				Smax			
	comp=N,3μm,0.5s						
SSE				Smax			
	comp=E,2μm,0.4s						
NJ2	**Nanjing**	**5.36**	**290**	PG	Pg	05 58 27.5	-12
NJ2				S	Sn	05 59 25.3	+8.7
NJ2				Smax			
	comp=N,360nm,0.8s						
NJ2				Smax			
	comp=E,250nm,0.9s						
LZH	**Lanzhou**	**18.42**	**294**	*e*P	P	06 01 07.5	-2.0
LZH				AP		06 01 15.5	
LZH				AMB	AMB		
	comp=Z,13nm,1.0s						

*IDC **26** 06:06:55.2±0.7, 2.09N×96.60E, mb4.8/17, mb1 4.9/17, mb1mx4.7/23, mbtmp4.8/17, MS3.9/5, Ms1 3.9/5, ms1mx3.6/28, Error ellipse: s-maj=25.3km s-min=13.9km az=46.0*

*BJI **26** 06:06:58.2, 1.92N×96.86E, h43km, mB5.1, mb5.0, Ms4.4, Msz4.1*

*MOS **26** 06:06:58.7±0.9, 2.16N×96.66E, h33km, mb5.1/22, Error ellipse: s-maj=15.5km s-min=7.2km az=109.0*

*HRVD **26** 06:07:00.2±1.3, 1.93N×96.80E, h32km±1km, MW4.7/24, Centroid moment Tensor Solution. LP body waves: s19,c20;Mantle waves: s24,c32; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.69±.21; $M_{\theta\theta}$-0.57±.14; $M_{\phi\phi}$-1.11±.17; $M_{r\theta}$0.39±.13; $M_{\theta\phi}$0.40±.08; $M_{\phi r}$-0.25±.17; Best double couple: $M_0$1.571×10^{16} NP1:ϕ_s337°, δ38°, λ99°. NP2:ϕ_s145°, δ53°, λ83°. Principal axes: T 1.766, Plg80°, Azm23°; N -.385, Plg6°, Azm150°; P -1.375, Plg8°, Azm240°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **26** 06:07:00.2±0.3, 2.16N×96.69E, mb4.9/27 Error ellipse: s-maj=8.5km s-min=5.4km az=219.0*

ISC 26 06:06:59.2±1.3, 2.19N±0.06×96.70E±0.06, h36km±10km, h32km±2.9km:pP-P, n124, σ0.86/114, mb4.9/63, MS4.1/15, 11C-8D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**4.92**	**61**	P	**P**	**06 08 13.7**	**+0.9**
KULM	**Kulim**	**5.00**	**52⇑**	*i*Pn	**P**	**06 08 14.7**	**+0.9**
SNG	**Songkhla**	**6.30**	**38**	P	**P**	**06 08 31.0**	**-1.1**
	520nm,1.0s						
KGM	**Kluang**	**6.61**	**91**	P	**P**	**06 08 37.5**	**+1.0**
NNT	**Nongplab**	**10.76**	**16**	P	**P**	**06 09 34.0**	**0.0**
KSM	**Kuching**	**13.62**	**93**	*e*Pn	**P**	**06 10 13.8**	**+1.4**
CHG	**Chiang Mai**	**16.66**	**7**	⇓P	**P**	**06 10 50.4**	**-1.3**
	16nm,0.8s						
NANT	**Nan**	**16.96**	**13**	⇓P	**P**	**06 10 52.0**	**-3.5**
	188nm,0.4s						
KKM	**Kota Kinabalu**	**19.83**	**78**	P	**P**	**06 11 30.4**	**+0.4**
KKM	**Kota Kinabalu**	**19.83**	**78**	*e*P	**P**	**06 11 29.6**	**-0.4**
KKM				*e*		06 11 41.5	
QIZ	**Qiongzhong**	**21.11**	**37**	P	**P**	**06 11 42.5**	**-0.7**
QIZ				*e*S	**S**	**06 15 25.3**	**-5.7**
QIZ				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.2						
QIZ				LR	LR		
	comp=E,546nm,16.2s						
QIZ				LR	LR		
	comp=Z,567nm,14.7s,MS4.1						
QIZ	**Qiongzhong**	**21.11**	**37**	*e*P	**P**	**06 11 42.3**	**-0.9**
	comp=Z,7.1nm,0.7s,mb4.1						
TSM	**Tawau**	**21.24**	**84**	P	**P**	**06 11 44.2**	**-0.3**
HYB	**Hyderabad**	**23.38**	**311**	*i* P	**P**	**06 12 09.5**	**+3.7**
HYB	**Hyderabad**	**23.38**	**311**	*e*P	**P**	**06 12 09.5**	**+3.7**
KMI	**Kunming**	**23.53**	**14**	⇓P	**P**	**06 12 09.5**	**+2.3**
KMI				AP		06 12 17.0	
KMI				XP		06 12 21.3	
KMI				PP	PP	06 12 44.0	+4.2
KMI				PPP	PPP	06 12 54.8	+5.0
KMI				AMB	AMB		
	comp=Z,40nm,1.1s,mb4.8						
KMI				AMB	AMB		
	comp=Z,83nm,3.1s						
KMI				LR	LR		
	comp=N,299nm,16.8s,MS3.9						
KMI				LR	LR		
	comp=E,276nm,21.7s,MS3.9						
KMI				LR	LR		
	comp=Z,394nm,15.9s						
KMI	**Kunming**	**23.53**	**14**	⇓P	**P**	**06 12 09.4**	**+2.2**
	comp=Z,40nm,1.1s,mb4.8						
KMI				pP		06 12 16.9	
KMI				sP		06 12 21.2	
KMI				PP	PP	06 12 44.1	+4.3
KMI				PPP	PPP	06 12 54.8	+5.0
KMI				S	**S**	**06 16 22.6**	**+7.5**
KMI				sS		06 16 34.2	
KMI				SS	SS	06 17 13.2	+9.2
KMI				LR	LR		
	comp=Z,390nm,15.9s,MS4.0						
KMI	**Kunming**	**23.53**	**14**	⇓P	**P**	**06 12 09.4**	**+2.2**
KMI				*PP		06 12 16.9	
KMI				*SP		06 12 21.2	
KMI						06 12 44.1	
KMI				PPP	PPP	06 12 54.8	+5.0
KMI				S	**S**	**06 16 22.6**	**+7.5**
KMI				*SS		06 16 34.2	
KMI				SS	SS	06 17 13.2	+9.2
KMI				pmax	pmax		
	comp=Z,40nm,1.1s,mb4.8						
KMI				MLR	MLR		
	comp=Z,390nm,15.9s,MS4.0						
GYA	**Guiyang**	**25.95**	**21**	P	**P**	**06 12 30.0**	**-0.4**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.3						
ALBI	**Allahabad**	**27.10**	**329**	*e*P	**P**	**06 12 40.0**	**-0.9**
PKI	**Pulchoki**	**27.45**	**338**	*e*P	**P**	**06 12 44.6**	**+0.4**
	comp=Z,51nm,1.0s,mb5.0						
PKI	**Pulchoki**	**27.45**	**338**	*e*P	**P**	**06 12 44.6**	**+0.4**
PKI				pmax	pmax		
	comp=Z,26nm,1.0s,mb4.7						
GUN	**Gumba**	**27.59**	**339**	*e*P	**P**	**06 12 46.2**	**+0.8**
	comp=Z,102nm,0.6s,mb5.6						
DMN	**Daman**	**27.60**	**337**	*e*P	**P**	**06 12 46.0**	**+0.5**
	comp=Z,33nm,0.7s,mb5.1						
KKN	**Kakani**	**27.70**	**338**	*e*P	**P**	**06 12 46.7**	**+0.3**
	comp=Z,86nm,0.9s,mb5.4						
KKN	**Kakani**	**27.70**	**338**	*e*P	**P**	**06 12 46.7**	**+0.3**
KKN				pmax	pmax		
	comp=Z,43nm,0.9s,mb5.1						
LSA	**Lhasa**	**27.86**	**350**	P	**P**	**06 12 48.8**	**+1.0**
LSA	**Lhasa**	**27.86**	**350**	*e*P	**P**	**06 12 48.2**	**+0.4**
	comp=Z,27nm,0.9s,mb4.9						
LSA	**Lhasa**	**27.86**	**350**	*e*P	**P**	**06 12 48.2**	**+0.4**
LSA				pmax	pmax		
	comp=Z,27nm,0.9s,mb4.9						
GKN	**Gorkha**	**28.14**	**337**	*e*P	**P**	**06 12 50.6**	**+0.3**
	comp=Z,69nm,0.9s,mb5.3						
KOLN	**Koldanda**	**28.35**	**335**	*e*P	**P**	**06 12 52.9**	**+0.6**
	comp=Z,81nm,0.7s,mb5.5						
CD2	**Chengdu**	**29.33**	**12**	*e*P	**P**	**06 13 00.0**	**-0.9**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.7						
ENH	**Enshi**	**30.44**	**22**	*e*P	**P**	**06 13 08.8**	**-2.0**
	comp=Z,8.2nm,0.7s,mb4.6						
MBWA	**Marble Bar**	**32.35**	**137**	*e*P	**P**	**06 13 27.4**	**-0.4**
	comp=Z,19nm,1.2s,mb4.8						
XAN	**Xi'an**	**33.68**	**18**	P	**P**	**06 13 37.5**	**-1.6**
XAN				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
LZH	**Lanzhou**	**34.37**	**10**	*e*P	**P**	**06 13 45.0**	**0.0**
LZH				AMB	AMB		
	comp=Z,51nm,1.1s,mb5.4						
LZH				AMB	AMB		
	comp=Z,226nm,4.5s						
LZH				LR	LR		
	comp=E,930nm,17.0s						
LZH				LR	LR		
	comp=Z,1μm,17.9s,MS4.7						
LZH	**Lanzhou**	**34.37**	**10**	*e*P	**P**	**06 13 45.0**	**0.0**
	comp=Z,51nm,1.1s,mb5.4						
LZH				pP	pP	06 14 13.5	+18
LZH				sP	sP	06 14 22.7	+23
LZH				LR	LR		
	comp=Z,1μm,17.9s,MS4.7						
FITZ	**Fitzroy Crossi**	**34.91**	**126⇓**	*i*P	**P**	**06 13 49.0**	**-0.8**
	comp=Z,22nm,0.8s,mb5.1						
FITZ	**Fitzroy Crossi**	**34.91**	**126**	P	**P**	**06 13 48.8**	**-1.0**
	comp=Z,27nm,0.7s,mb5.3,baz=304,slow=3.7,SNR=27						
SSE	**Sheshan**	**36.90**	**36**	P	**P**	**06 14 04.5**	**-2.0**
SSE				XP	sP	06 14 17.0	-4.5
SSE				PP	PP	06 15 28.8	-4.1
SSE				PCP	PcP	06 16 24.5	-3.5
SSE				S	**S**	**06 19 48.8**	**+0.4**
SSE				XS		06 20 03.8	
SSE				AMB	AMB		
	comp=Z,29nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,92nm,4.3s						
SSE				LR	LR		
	comp=N,167nm,22.7s,MS3.9						
SSE				LR	LR		
	comp=E,140nm,22.9s,MS3.9						
SSE				LR	LR		
	comp=Z,180nm,17.9s,MS3.9						
SSE	**Sheshan**	**36.90**	**36**	P	**P**	**06 14 04.6**	**-1.9**
	comp=Z,29nm,0.7s,mb5.2						
SSE				sP	sP	06 14 16.9	-4.6
SSE				PP	PP	06 15 28.7	-4.2
SSE				PcP	PcP	06 16 24.6	-3.4
SSE				S	**S**	**06 19 48.7**	**+0.3**
SSE				sS		06 20 03.8	
SSE				SS	SS	06 22 31.4	+13
SSE				LR	LR		
	comp=Z,180nm,17.9s,MS3.9						
GTA	**Gaotai**	**37.15**	**4⇑**	*i*P	**P**	**06 14 08.8**	**+0.3**
GTA				AP	pP	06 14 20.3	+1.4
GTA				XP	sP	06 14 25.3	+1.8
GTA				AMB	AMB		
	comp=Z,64nm,0.7s,mb5.6						
GTA				AMB	AMB		
	comp=Z,92nm,13.0s						
GTA				LR	LR		
	comp=N,241nm,22.2s,MS4.0						
GTA				LR	LR		
	comp=E,153nm,22.2s,MS4.0						
GTA				LR	LR		
	comp=Z,176nm,18.7s,MS3.9						
KAKA	**Kakadu**	**38.45**	**114⇑**	*i*P	**P**	**06 14 32.6**	**+13**
	comp=Z,32nm,0.8s,mb5.1						
JOW	**Kunigami**	**38.94**	**48**	P	**P**	**06 14 24.2**	**+0.7**
	comp=Z,13nm,0.5s,mb4.9,baz=211,slow=8.6						
HHC	**Hu-ho-hao-te**	**40.76**	**17**	⇑P	**P**	**06 14 39.5**	**+1.0**
HHC				AP	pP	06 14 48.5	-0.5
HHC				XP	sP	06 14 53.3	-0.2
HHC				PP	PP	06 16 13.5	-2.2
HHC				AMB	AMB		
	comp=Z,67nm,2.4s,mb4.8						
HHC				LR	LR		
	comp=N,224nm,16.8s,MS4.3						
HHC				LR	LR		
	comp=E,242nm,16.8s,MS4.3						
HHC				LR	LR		
	comp=Z,156nm,19.2s,MS3.9						
WMQ	**Urumqi**	**42.22**	**350**	*e*P	**P**	**06 14 51.0**	**+0.5**
WMQ				AP	pP	06 15 01.0	0.0
WMQ				XP	sP	06 15 05.0	-0.5
WMQ				PP	PP	06 16 32.0	+0.7
WMQ				AMB	AMB		
	comp=Z,17nm,1.0s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,125nm,6.0s						
WMQ				LR	LR		
	comp=N,274nm,14.0s,MS4.4						
WMQ				LR	LR		
	comp=E,278nm,14.0s,MS4.4						
WMQ				LR	LR		
	comp=Z,147nm,14.0s,MS4.0						
WRA	**Warramunga Arr**	**42.98**	**123**	P	**P**	**06 14 56.4**	**-0.7**
	comp=Z,17nm,0.7s,mb4.9,baz=300,slow=9.3,SNR=77						
WRAB	**Tennant Creek**	**42.99**	**123**	*e*P	**P**	**06 14 57.1**	**0.0**
	comp=Z,20nm,0.8s,mb4.9						
WRAB				*e*pP	pP	06 15 04.8	-2.8
WRAB	**Tennant Creek**	**42.99**	**123**	*e*P	**P**	**06 14 57.1**	**-0.1**
WRAB				*e**PP	pP	06 15 04.8	-2.9
WRAB				pmax	pmax		
	comp=Z,21nm,0.8s,mb4.9						
JNU	**Nakatsue**	**44.40**	**42**	P	**P**	**06 15 08.6**	**+0.2**
	comp=Z,16nm,0.9s,mb4.8,baz=140,slow=4.6,SNR=4.7						
AAK	**Ala-Archa**	**44.90**	**337**	*e*P	**P**	**06 15 12.9**	**+0.7**
	comp=Z,6.9nm,0.7s,mb4.6						
AAK	**Ala-Archa**	**44.90**	**337**	*e*P	**P**	**06 15 12.9**	**+0.7**
AAK				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.6						
KS15	**Wonju Array Si**	**45.29**	**35**	*e*P	**P**	**06 15 15.3**	**-0.2**
MKAR	**Makanchi Array**	**46.16**	**346**	P	**P**	**06 15 22.6**	**+0.3**
	comp=Z,41nm,0.7s,mb5.5,baz=162,slow=7.7,SNR=198						
SONM	**Songino Array**	**46.23**	**9**	P	**P**	**06 15 23.4**	**+0.7**
	comp=Z,18nm,0.7s,mb5.1,baz=188,slow=8.7,SNR=41						
ULN	**Ulaanbaatar**	**46.37**	**10**	*e*P	**P**	**06 15 24.3**	**+0.5**
	comp=Z,15nm,0.9s,mb4.9						
KKAR	**Karatay Array**	**46.95**	**334**	P	**P**	**06 15 28.9**	**+0.4**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
CN2	**Changchun**	**48.65**	**28**	*e*P	**P**	**06 15 41.5**	**-0.3**
CN2				AMB	AMB		
	comp=Z,40nm,0.6s,mb5.6						
CN2				LR	LR		
	comp=Z,200nm,16.0s,MS4.2						
KURK	**Kurchatov**	**50.71**	**345**	*e*P	**P**	**06 15 57.3**	**-0.2**
	comp=Z,10nm,0.6s,mb4.9						
KURK	**Kurchatov**	**50.71**	**345**	*e*P	**P**	**06 15 57.3**	**-0.2**
KURK				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.9						
HIA	**Hailar**	**50.87**	**19**	*e*P	**P**	**06 15 59.1**	**+0.4**
	comp=Z,18nm,0.9s,mb5.0						
HIA	**Hailar**	**50.87**	**19**	*e*P	**P**	**06 15 59.1**	**+0.4**
HIA				pmax	pmax		
	comp=Z,18nm,0.9s						
MDJ	**Mudanjiang**	**51.25**	**30**	P	**P**	**06 16 01.8**	**+0.2**
MDJ				AMB	AMB		
	comp=Z,22nm,1.1s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,132nm,5.2s						
MJAR	**Matsushiro Arr**	**51.30**	**43**	P	**P**	**06 16 02.3**	**+0.2**
	comp=Z,5.6nm,0.9s,mb4.5,baz=217,slow=6.8,SNR=6.0						
PMG	**Port Moresby**	**51.57**	**104**	P	**P**	**06 16 04.3**	**-0.1**
	comp=Z,36nm,0.7s,mb5.4,baz=265,slow=2.5,SNR=6.2						
PMG	**Port Moresby**	**51.57**	**104**	*e*P	**P**	**06 16 04.2**	**-0.2**
	comp=Z,40nm,0.8s,mb5.4						
PMG				*e*pP	pP	06 16 13.2	-1.8
PMG	**Port Moresby**	**51.57**	**104**	*e*P	**P**	**06 16 04.2**	**-0.2**
PMG				*e**PP	pP	06 16 13.2	-1.8
PMG				pmax	pmax		
	comp=Z,40nm,0.8s						
ZAL	**Zalesovo**	**52.50**	**351**	P	**P**	**06 16 11.2**	**+0.3**
	comp=Z,35nm,0.5s,mb5.5,baz=308,slow=5.4,SNR=59						
CTAO	**Charters Tower**	**53.39**	**117**	*e*P	**P**	**06 16 17.7**	**-0.3**
	comp=Z,9.5nm,0.8s,mb4.8						
CTAO	**Charters Tower**	**53.39**	**117**	*e*P	**P**	**06 16 17.7**	**-0.3**
CTAO				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
NVS	**Novosibirsk**	**53.62**	**350⇑**	*i*P	**P**	**06 16 18.1**	**-1.1**
NVS				pmax	pmax		
	comp=N,17nm,0.7s						
NVS				pmax	pmax		
	comp=Z,22nm,0.7s,mb5.2						
NVS				pmax	pmax		
	comp=E,10.0nm,0.6s						
STKA	**Stephens Creek**	**54.39**	**132**	*e*P	**P**	**06 16 25.0**	**-0.2**
	comp=E,5.6nm,0.8s,mb4.5						
STKA	**Stephens Creek**	**54.39**	**132**	P	**P**	**06 16 24.9**	**-0.3**
	comp=E,6.8nm,1.0s,mb4.5,baz=304,slow=8.8,SNR=9.4						
BVA0	**Borovoye Array**	**55.15**	**341**	P	**P**	**06 16 29.7**	**-0.7**
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
BVAR	**Borovoye Array**	**55.15**	**341**	P	**P**	**06 16 29.8**	**-0.7**
	comp=Z,11nm,0.6s,mb5.0,baz=144,slow=9.0,SNR=73						
BRVK	**Borovoye**	**55.22**	**341**	*e*P	**P**	**06 16 30.0**	**-0.9**
	comp=Z,12nm,1.0s,mb4.9						
BRVK				*e*pP	pP	06 16 40.6	-1.1
BRVK	**Borovoye**	**55.22**	**341**	*e*P	**P**	**06 16 30.0**	**-0.9**
BRVK				*e**PP	pP	06 16 40.6	-1.0
BRVK				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.9						
AB31	**Akbulak array**	**56.41**	**332**	P	**P**	**06 16 38.9**	**-0.6**
AB31				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
BOD	**Bodaibo**	**57.13**	**11**	*e*P	**P**	**06 16 43.5**	**-1.1**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.7						
ASAJ	**Asahikawa**	**58.17**	**37**	LR	LR	06 40 02.7	
	comp=Z,76nm,20.6s,MS3.8,baz=340,slow=34						
KMBO	**Kilima Mbogo**	**59.53**	**267**	LR	LR	06 39 27.9	
	comp=Z,122nm,18.9s,MS4.1,baz=96,slow=33						
YSS	**Yuzh-Sakhalins**	**59.81**	**35**	P	**P**	**06 17 03.4**	**0.0**
	comp=Z,11nm,0.6s,mb5.1						
YSS	**Yuzh-Sakhalins**	**59.81**	**35**	P	**P**	**06 17 03.4**	**0.0**
YSS				pmax	pmax		
	comp=Z,11nm,0.6s,mb5.1						
SVE	**Sverdlovsk**	**61.59**	**338**	*e*P	**P**	**06 17 14.7**	**-0.6**
SVE				*e*	pP	06 17 27.0	+0.9
SVE				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.3						
ZEI	**Tsey**	**61.93**	**318**	*e*P	**P**	**06 17 17.6**	**-0.2**
ZEI				*i* *PP	pP	06 17 26.2	-2.4
ZEI				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.7						
ARU	**Arti**	**62.08**	**337⇑**	*i*P	**P**	**06 17 16.9**	**-1.7**
ARU				*e*		06 19 32.0

comp=Z,20nm,1.0s,mb5.0,baz=241,slow=13,SNR=3.4
BILL Bilibino 80.42 21 *e*P P **06 19 10.2 +1.8**
BILL *e*S S 06 29 14.4 +3.9
BILL *e*SS SS 06 34 27.0 +1.3
BILL pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
BILL MLR MLR
comp=Z,200nm,17.0s,MS4.5
ARCES ARCESS Array B 81.44 340 P P **06 19 14.7 +0.9**
comp=Z,2.5nm,0.5s,mb4.4,baz=94,slow=5.0,SNR=26
GERES GERESS Array B 83.74 319 P P **06 19 26.5 +0.5**
comp=Z,3.1nm,0.9s,mb4.4,baz=104,slow=5.5,SNR=15
NB2 NORSAR Subarra 85.90 331 P P **06 19 36.9 +0.5**
comp=Z,1.3nm,0.8s,mb4.2,baz=91,slow=5.6
NOA NORSAR Array B 85.90 331 P P **06 19 36.5 +0.1**
comp=Z,1.7nm,0.8s,mb4.3,baz=93,slow=5.0,SNR=4.3
BORG Borgarnes 99.62 337 LR LR 07 10 11.6
comp=Z,46nm,21.0s,MS4.0,baz=337,slow=38
BOZ Bozeman (W) 126.15 24 *e*PKPdf PKPdf 06 26 00.7 +2.3
SNOW Snow King Moun 128.28 25 *e*PKPdf PKPdf 06 26 04.5 +2.0
PDAR Pinedale Array 129.36 25 PKP PKPdf 06 26 06.2 +1.6
comp=Z,0.6nm,1.0s,SNR=4.7
HWUT Hardware Ranch 129.41 27 *e*PKPdf PKPdf 06 26 07.0 +2.2
DUG Dugway 129.91 29 *e*PKPdf PKPdf 06 26 08.6 +2.9
RSSD Black Hills 130.29 20 *e*PKPdf PKPdf 06 26 08.9 +2.6
PV10 Paradox Valley 133.15 28 *e*PKPdf PKPdf 06 26 15.8 +3.9
MNTX Cornudas Mount 140.30 30 *e*PKPdf PKPdf 06 26 28.2 +3.0
TXAR Lajitas Array 143.08 30 PKP PKPdf 06 26 29.9 -0.2
comp=Z,0.7nm,0.7s,baz=308,slow=0.6,SNR=8.4
TXAR Lajitas Array 143.08 30 PKP PKPdf 06 26 29.9 -0.2
CPUP Villa Florida 145.39 224 PKPbc PKPbc 06 26 34.9 +0.2
comp=Z,2.3nm,0.7s,baz=124,slow=5.5,SNR=7.7

NNC 26 06:07:21.9±3.3, 37.13N×70.47E, h228km±39km, mpv3.2, 2C-3D, Error ellipse: s-maj=30.3km s-min=23.4km az=23.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.96**	**0**	⇓P	P	06 08 49.1	-0.8
	1.5nm,0.6s,baz=171,slow=10,SNR=20						
KK31				⇑S	S	06 09 59.0	+0.6
	4.7nm,0.4s,baz=154,slow=12,SNR=4.3						
AAK	**Ala-Archa**	**6.31**	**28**	⇓S	S	06 10 07.2	+1.0
	5.3nm,0.7s						
AB31	**Akbulak array**	**14.33**	**331**	⇓P	P	06 10 34.6	-1.1
	0.3nm,0.4s,baz=140,slow=11,SNR=6.2						
AB31				⇑S	S	06 13 14.0	+4.9
	0.5nm,0.6s,baz=150,slow=12,SNR=4.1						

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*BJI **26** 06:08:59.5, 36.84N×142.49E, h32km, mB4.8, mb4.6, Ms4.2, Msz3.8*
*NIED **26** 06:09:00, 37.00N×142.50E, h23km, Mw4.5 Best double couple: M0:5.65×10^15 NP1:φs26°, δ83°, λ25°. NP2:φs293°, δ65°, λ173°.*
*JMA **26** 06:09:00.8±0.2, 37.00N×142.51E, h51km, M4.5 Broadband fault plane solution: P waves. NP1:φs146°, δ12°, λ-111°. NP2:φs348°, δ79°, λ-86°. Principal axes: T Plg34°, Azm74°; N Plg4°, Azm167°; P Plg56°, Azm263°;*
*MOS **26** 06:09:00.9±1.2, 36.80N×142.45E, h33km, mb4.8/15 Error ellipse: s-maj=12.3km s-min=9.7km az=127.4*
*NEIC **26** 06:09:03.2±0.5, 36.73N×142.47E, mb4.7/12, MW4.4(NIED), Error ellipse: s-maj=13.3km s-min=7.9km az=166.0*
*IDC **26** 06:09:05.9±2.8, 36.69N×142.28E, h61km±28km, mb3.6/10, mb1 3.9/13, mb1mx3.8/25, mbtmp4.0/13, ML4.2/3, MS3.6/6, Ms1 3.6/6, ms1mx3.1/31, Error ellipse: s-maj=20.6km s-min=15.0km az=61.0*

ISC 26 06:09:01.9±0.4, 36.94N±0.03×142.41E±0.04, h38km, h38km±1.5km: pP-P, n86, σ1§10/105, mb4.5/33, MS4.0/9, 18C-3D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.29**	**290**	⇑P	P	**06 09 23.9**	**+0.1**
JFK				*e*S	S	**06 09 40.2**	**-0.1**
ONAJ	**Iwakimizuishiy**	**1.30**	**277**	⇑P	P	**06 09 24.0**	**+0.1**
ONAJ				*e*S	S	**06 09 41.1**	**+0.8**
JHO	**Hitachi**	**1.51**	**258**	⇑P	P	**06 09 27.2**	**+0.2**
JHO				*e*S	S	**06 09 46.9**	**+1.2**
JMM	**Marumori**	**1.58**	**306**	⇑P	P	**06 09 27.9**	**-0.1**
JMM				S	S	**06 09 47.5**	**+0.1**
JIO	**Ouri**	**1.73**	**331**	P	P	**06 09 28.9**	**-1.1**
JIO				*e*S	S	**06 09 49.4**	**-1.6**
JFT	**Otama**	**1.75**	**290**	⇑P	P	**06 09 31.0**	**+0.7**
JOU	**Okura**	**1.98**	**316**	P	P	**06 09 33.6**	**-0.1**
JOU				*e*S	S	**06 09 58.0**	**+0.5**
JMK	**Ichinoseki**	**2.21**	**335**	⇓P	P	**06 09 35.6**	**-1.4**
JMK				*e*S	S	**06 10 01.7**	**-1.6**
JAG	**Ashikaga**	**2.43**	**259**	⇑P	P	**06 09 40.3**	**+0.2**
JAG				*e*S	S	**06 10 09.2**	**+0.4**
JYK	**Kaneyama**	**2.55**	**321**	P	P	**06 09 41.6**	**-0.2**
JYK				*e*S	S	**06 10 11.4**	**-0.5**
BSO1	**Boso 1**	**2.56**	**207**	⇑P	P	**06 09 41.5**	**-0.5**
BSO1				*e*S	S	**06 10 11.6**	**-0.6**
JOM	**Ohasama**	**2.67**	**341**	P	P	**06 09 42.4**	**-1.2**
JOM				*e*S	S	**06 10 13.5**	**-1.5**
JRY	**Ryogami san**	**2.97**	**253**	⇑P	P	**06 09 48.0**	**+0.2**
JRY				*e*S	S	**06 10 21.6**	**-1.0**
MJAR	**Matsushiro Arr**	**3.40**	**264**	P	P	**06 09 54.8**	**+1.0**
	21nm,0.3s,baz=79,slow=13,SNR=153						
MJAR				S	S	**06 10 32.8**	**-0.6**
	9.8nm,0.3s,baz=166,slow=22,SNR=5.1						
MAJO	**Matsushiro**	**3.40**	**264**	*e*Pn	P	**06 09 55.0**	**+1.1**
MAT	**Matsushiro**	**3.40**	**264**	P	P	**06 09 55.1**	**+1.3**
MAT				*e*S	S	**06 10 36.5**	**+3.1**
MAT	**Matsushiro**	**3.40**	**264**	*e*P	P	**06 09 55.0**	**+1.2**
MAT				S	S	**06 10 37.0**	**+3.6**
JHJ	**Hachijo jima 2**	**4.38**	**210**	P	P	**06 10 06.2**	**-1.6**
	96nm,0.3s,baz=123,slow=4.5,SNR=24						
JHJ				S	S	**06 10 52.6**	**-5.6**
	179nm,0.3s,baz=51,slow=23,SNR=16						
ASAJ	**Asahikawa**	**7.17**	**1**	P	P	**06 10 43.8**	**-3.2**
	4.4nm,0.3s,baz=209,slow=14,SNR=12						
ASAJ				S	S	**06 11 60.0**	**-8.0**
	1.6nm,0.3s,baz=159,slow=25,SNR=4.9						
ASAJ				LR	LR	06 14 13.2	
	comp=Z,552nm,19.4s,baz=175,slow=41						
CBIJ	**Chichi jima**	**9.82**	**181**	P	P	**06 11 16.6**	**-7.0**
	16nm,0.3s,baz=117,slow=22,SNR=11						
CBIJ				S	S	**06 13 00.8**	**-13**
	31nm,0.3s,baz=298,slow=21,SNR=4.6						
CBIJ				LR	LR	06 14 49.6	
	comp=Z,222nm,21.0s,baz=155,slow=36						
YSS	**Yuzh-Sakhalins**	**10.01**	**1**	*e*Pn	P	**06 11 21.9**	**-4.3**
	33nm,0.8s						
YSS	**Yuzh-Sakhalins**	**10.01**	**1**	*c i*P	P	**06 11 22.3**	**-3.9**
YSS				pmax	pmax		
	comp=Z,47nm,1.2s						
JNU	**Nakatsue**	**10.19**	**251**	P	P	**06 11 26.5**	**-2.3**
	comp=Z,1.1nm,0.3s,baz=67,slow=18,SNR=7.9						
JNU				LR	LR	06 15 42.9	
	comp=Z,209nm,19.5s,baz=276,slow=40						
KS15	**Wonju Array Si**	**11.60**	**277**	*e*Pn	P	**06 11 48.7**	**+0.9**
MDJ	**Mudanjiang**	**12.36**	**312**	P	P	**06 11 57.5**	**-0.6**
MDJ				AP		06 12 04.3	
MDJ				XP		06 12 08.8	
MDJ				S	S	**06 14 16.3**	**+0.7**
MDJ				XS		06 14 25.0	
MDJ				SS	SS	06 14 35.8	+5.2
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.9s						
MDJ				AMB	AMB		
	comp=Z,71nm,4.0s						
MDJ				LR	LR		
	comp=N,275nm,21.6s						
MDJ				LR	LR		
	comp=E,115nm,20.1s						
MDJ				LR	LR		
	comp=Z,253nm,20.8s						
CN2	**Changchun**	**14.62**	**303**	*e*P	P	**06 12 30.3**	**+2.5**
CN2				LR	LR		
	comp=Z,200nm,14.0s						
JOW	**Kunigami**	**15.66**	**234**	LR	LR	06 18 21.4	
	comp=Z,134nm,21.8s,baz=144,slow=36						
PET	**Petropavlovsk**	**19.69**	**30**	*e*P	P	**06 13 33.5**	**+3.0**
PET				*e*		06 16 59.4	
PET				MLR	MLR		
	comp=Z,100nm,17.0s						
CLNS	**Chul'man**	**23.09**	**335**	*e*P	P	**06 13 56.0**	**-8.9**
CLNS				*e*		06 14 06.4	
CLNS				*e*PPP		06 14 13.2	
CLNS				*e*		06 17 57.2	
CLNS				*e*SS	S	**06 18 11.2**	**+1.9**
CLNS				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.0						
CLNS				pmax	pmax		
	comp=N,5.0nm,0.8s						
CLNS				pmax	pmax		
	comp=E,4.0nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.2						
CLNS				pmax	pmax		
	comp=N,7.0nm,0.7s						
CLNS				pmax	pmax		
	comp=E,8.0nm,0.9s						
CLNS				MLR	MLR		
	comp=Z,300nm,16.0s,MS3.8						
CLNS				MLR	MLR		
	comp=N,300nm,13.0s,MS4.2						
CLNS				MLR	MLR		
	comp=E,500nm,14.0s,MS4.2						
MA2	**Magadan**	**23.29**	**11**	*i* P	P	**06 14 06.5**	**-0.2**
HHC	**Hu-ho-hao-te**	**24.25**	**289**	*e*P	P	**06 14 17.5**	**+1.1**
HHC				AP		06 14 27.0	
HHC				XP		06 14 31.5	
HHC				AMB	AMB		
	comp=E,243nm,21.4s,MS3.8						
HHC				AMB	AMB		
	comp=Z,74nm,7.7s						
HHC				LR	LR		
	comp=N,224nm,17.8s,MS3.8						
HHC				LR	LR		
	comp=E,243nm,21.4s,MS3.8						
HHC				LR	LR		
	comp=Z,146nm,18.4s,MS3.5						
CIT	**Chita**	**25.30**	**316**	*e*P	P	**06 14 26.7**	**+0.5**
CIT				pmax	pmax		
	comp=Z,81nm,1.9s,mb4.9						
YAK	**Yakutsk**	**26.34**	**346**	⇑*e*P	P	**06 14 35.7**	**-0.1**
YAK				pmax	pmax		
	comp=Z,16nm,0.5s,mb4.8						
SEY	**Seymchan**	**26.73**	**10**	⇑*e*P	P	**06 14 40.4**	**+0.9**
BOD	**Bodaibo**	**28.03**	**327**	*e*P	P	**06 14 50.3**	**-1.1**
BOD				*e*	pP	06 15 00.2	-1.7
BOD				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.0						
BOD				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.2						
ULN	**Ulaanbaatar**	**28.06**	**304**	*e*P	P	**06 14 51.6**	**-0.1**
	comp=Z,11nm,1.3s,mb4.3						
ULN	**Ulaanbaatar**	**28.06**	**304**	⇓*e*P	P	**06 14 52.1**	**+0.4**
ENH	**Enshi**	**28.12**	**266**	*e*P	P	**06 14 51.2**	**-1.2**
	comp=Z,20nm,0.7s,mb4.8						
SONM	**Songino Array**	**28.50**	**304**	P	P	**06 14 56.0**	**+0.4**
	comp=Z,4.1nm,0.7s,mb4.1,baz=102,slow=9.1,SNR=35						
SONM				LR	LR	06 26 45.3	
	comp=Z,99nm,18.4s,MS3.4,baz=120,slow=37						
LZH	**Lanzhou**	**30.87**	**280**	*e*P	P	**06 15 16.8**	**0.0**
LZH				AP	pP	06 15 28.0	+0.6
LZH				XP	sP	06 15 32.5	+0.1
LZH				PP	PP	06 16 19.0	+0.1
LZH				AMB	AMB		
	comp=Z,38nm,1.4s,mb5.0						
LZH				AMB	AMB		
	comp=Z,142nm,4.2s						
LZH				LR	LR		
	comp=E,930nm,17.0s						
LZH				LR	LR		
	comp=Z,1μm,17.9s,MS4.6						
LZH	**Lanzhou**	**30.87**	**280**	*e*P	P	**06 15 16.7**	**-0.1**
	comp=Z,38nm,1.4s,mb5.0						
LZH				pP	pP	06 15 27.9	+0.5
LZH				sP	sP	06 15 32.5	+0.1
LZH				PP	PP	06 16 19.0	+0.1
LZH				LR	LR		
	comp=Z,1μm,17.9s,MS4.6						
LZH	**Lanzhou**	**30.87**	**280**	*e*P	P	**06 15 16.7**	**-0.1**
LZH				*PP	pP	06 15 27.9	+0.5
LZH				*SP	sP	06 15 32.5	+0.1
LZH						06 16 19.0	
LZH				pmax	pmax		
	comp=Z,38nm,1.4s,mb5.0						
LZH				MLR	MLR		
	comp=Z,1μm,17.9s,MS4.6						
ZAK	**Zakamensk**	**30.95**	**308**	*e*P	P	**06 15 17.0**	**-0.4**
ZAK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.4						
GYA	**Guiyang**	**31.99**	**261**	⇑*i*P	P	**06 15 25.8**	**-1.0**
GYA				AP	pP	06 15 35.8	-1.7
GYA				PP	PP	06 16 33.3	-0.3
GYA				S	S	**06 20 32.5**	**-2.1**
GYA				XS		06 20 53.3	
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
GYA				AMB	AMB		
	comp=Z,80nm,2.8s,mb5.1						
GYA				LR	LR		
	comp=N,280nm,16.9s,MS4.1						
GYA				LR	LR		
	comp=E,240nm,17.0s,MS4.1						
GYA				LR	LR		
	comp=Z,260nm,17.2s,MS4.0						
CD2	**Chengdu**	**32.47**	**271**	P	P	**06 15 29.0**	**-1.9**
GTA	**Gaotai**	**33.35**	**287**	P	P	**06 15 40.0**	**+1.5**
GTA				AP	pP	06 15 51.5	+2.3
GTA				XP	sP	06 15 56.5	+2.4
GTA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
QIZ	**Qiongzhong**	**33.62**	**247**	*e*P	P	**06 15 40.6**	**-0.4**
KMI	**Kunming**	**35.73**	**262**	⇑P	P	**06 15 59.5**	**+0.5**
KMI				AP	pP	06 16 11.0	+1.2
KMI				S	S	**06 21 38.0**	**+5.4**
KMI				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
KMI				AMB	AMB		
	comp=Z,61nm,3.1s						
KMI				LR	LR		
	comp=N,214nm,19.8s,MS4.0						
KMI				LR	LR		
	comp=E,183nm,20.3s,MS4.0						
KMI				LR	LR		
	comp=Z,168nm,17.3s,MS3.9						
KMI	**Kunming**	**35.73**	**262**	⇑P	P	**06 15 59.5**	**+0.5**
	comp=Z,10.0nm,1.0s,mb4.7						
KMI				pP	pP	06 16 11.0	+1.2
KMI				sP	sP	06 16 17.7	+3.0
KMI				PP	PP	06 17 25.6	+5.1
KMI				S	S	**06 21 37.9**	**+5.3**
KMI				LR	LR		
	comp=Z,170nm,17.3s,MS3.9						
KMI	**Kunming**	**35.73**	**262**	⇑P	P	**06 15 59.5**	**+0.5**
KMI				*PP	pP	06 16 11.0	+1.2
KMI				*SP	sP	06 16 17.7	+3.0
KMI						06 17 25.6	
KMI				S	S	**06 21 37.9**	**+5.3**
KMI				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
KMI				MLR	MLR		
	comp=Z,170nm,17.3s,MS3.9						
WMQ	**Urumqi**	**41.59**	**297**	*e*P	P	**06 16 48.0**	**+0.4**
WMQ				AP	pP	06 16 58.0	-0.5
WMQ				XP	sP	06 17 02.0	-1.2
WMQ				PP	PP	06 18 28.0	+1.1
WMQ				S	S	**06 23 03.0**	**+2.1**
WMQ				SS	SS	06 26 04.0	+2.4
WMQ				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,132nm,6.0s						
WMQ				LR	LR		
	comp=N,268nm,14.0s,MS4.4						
WMQ				LR	LR		
	comp=E,239nm,14.0s,MS4.4						
WMQ				LR	LR		
	comp=Z,125nm,13.0s,MS4.0						
MKAR	**Makanchi Array**	**44.84**	**302**	P	P	**06 17 14.0**	**+0.1**
	comp=Z,3.3nm,0.7s,mb4.3,baz=87,slow=9.4,SNR=3.6						
KURK	**Kurchatov**	**46.61**	**308**	*e*P	P	**06 17 27.1**	**-0.8**
	comp=Z,5.5nm,0.7s,mb4.6						
KURK				*e*pP	pP	06 17 38.8	-0.1
KURK	**Kurchatov**	**46.61**	**308**	*e*P	P	**06 17 27.1**	**-0.8**
KURK				*e*PP	pP	06 17 38.8	-0.1
KURK				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
GUN	**Gumba**	**47.95**	**276**	*e*P	P	**06 17 39.5**	**+0.7**
	comp=Z,48nm,0.8s,mb5.5						
PKI	**Pulchoki**	**48.48**	**276**	*e*P	P	**06 17 41.6**	**-1.2**
KKN	**Kakani**	**48.48**	**276**	*e*P	P	**06 17 43.0**	**+0.1**
	comp=Z,22nm,0.8s,mb5.2						
KKN	**Kakani**	**48.48**	**276**	*e*P	P	**06 17 43.0**	**+0.1**
KKN				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.9						
DMN	**Daman**	**48.70**	**276**	*e*P	P	**06 17 44.3**	**-0.3**
GKN	**Gorkha**	**48.90**	**277**	*e*P	P	**06 17 46.2**	**+0.1**
	comp=Z,68nm,1.0s						
ILAR	**Eielson Array**	**49.15**	**32**	P	P	**06 17 48.9**	**+1.4**
	comp=Z,1.1nm,0.8s,mb3.9,baz=252,slow=5.9,SNR=9.0						
KOLN	**Koldanda**	**49.83**	**277**	*e*P	P	**06 17 53.3**	**0.0**
	comp=Z,35nm,1.2s,mb5.3						
BVAR	**Borovoye Array**	**51.22**	**313**	P	P	**06 18 03.6**	**+0.1**
	comp=Z,1.0nm,0.7s,mb3.8,baz=117,slow=6.4,SNR=2.0						
AAK	**Ala-Archa**	**51.23**	**299**	*i* P	P	**06 18 06.2**	**+2.5**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
AAK				MLR	MLR		
	comp=Z,200nm,24.0s,MS4.1						
BRVK	**Borovoye**	**51.28**	**313**	P	P	**06 18 03.3**	**-0.6**
	comp=Z,3.9nm,0.9s,mb4.3						
BRVK				*e*pP	pP	06 18 13.6	-1.3
BRVK	**Borovoye**	**51.28**	**313**	P	P	**06 18 03.3**	**-0.6**
BRVK				*e*PP	pP	06 18 13.6	-1.3
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
INK	**Inuvik**	**54.11**	**27**	P	P	**06 18 26.4**	**+1.7**
	comp=Z,0.6nm,0.5s,mb3.8,baz=209,slow=12,SNR=3.1						
ARU	**Arti**	**56.95**	**319**	⇓*i*P	P	**06 18 56.3**	**+11**
ARU				*e*S	S	**06 26 50.8**	**+16**
ARU				pmax	pmax		
	comp=Z,16nm,1.0s,mb5.0						
WRAB	**Tennant Creek**	**57.08**	**189**	*e*P	P	**06 18 44.2**	**-2.7**
	comp=Z,3.8nm,0.7s,mb4.5						
WRAB	**Tennant Creek**	**57.08**	**189**	*e*P	P	**06 18 44.2**	**-2.7**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
WRA	**Warramunga Arr**	**57.09**	**189**	P	P	**06 18 44.8**	**-2.2**
	comp=Z,2.0nm,0.7s,mb4.2,baz=6.3,slow=7.1,SNR=7.7						
JOF	**Joensuu**	**66.42**	**332**	*e*p	pP	06 19 57.5	-2.8
OBN	**Obninsk**	**68.64**	**324**	*e*P	P	**06 20 03.3**	**+0.4**
OBN				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
KAF	**Kangasniemi**	**68.75**	**333**	*e*p	P	**06 20 06.9**	**+3.5**
KIV	**Kislovodsk**	**71.56**	**311**	*e*P	P	**06 20 25.7**	**+4.9**
KIV				*e*		06 20 46.1	
KIV				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
NVAR	**Mina Array Bea**	**74.41**	**54**	P	P	**06 20 39.8**	**+2.2**
	comp=Z,0.2nm,0.5s,baz=280,slow=5.5,SNR=3.5						
NB2	**NORSAR Subarra**	**74.58**	**338**	P	pP	06 20 47.4	-2.2
	comp=Z,2.3nm,0.8s,baz=39,slow=5.8						
PDAR	**Pinedale Array**	**77.16**	**46**	P	P	**06 20 54.0**	**+0.7**
	comp=Z,0.4nm,0.6s,mb3.5,baz=297,slow=3.3,SNR=3.7						
MALT	**Malatya**	**77.45**	**309**	*e*P	P	**06 20 55.5**	**+0.5**
	comp=Z,4.5nm,1.0s,mb4.3						
MALT				*e*	pP	06 21 07.1	+0.6
MALT	**Malatya**	**77.45**	**309**	*e*P	P	**06 20 55.5**	**+0.5**
MALT				*e*	pP	06 21 07.1	+0.6
MALT				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
BRTR	**Keskin Array B**	**79.50**	**312**	P	P	**06 21 06.5**	**+0.3**
	comp=Z,0.4nm,0.4s,mb3.7,baz=72,slow=4.6,SNR=2.9						
PPT	**Papeete**	**83.88**	**117**	LR	LR	06 53 45.7	
	comp=Z,96nm,21.4s,MS4.1,baz=326,slow=32						
TXAR	**Lajitas Array**	**89.55**	**53**	P	P	**06 21 56.8**	**+0.1**
	comp=Z,0.3nm,0.7s,mb3.7,baz=270,slow=1.8,SNR=3.8						
SNAA	**Sanae**	**140.89**	**197**	⇑*i*P	PKPdf	06 28 25.4	-1.4
VNA2	**Neumayer--Watz**	**142.45**	**196**	⇑/PKPdf	PKPdf	06 28 26.5	-3.0
VNA2				*e*		06 37 47.7	
VNA3	**Neumayer Olymp**	**142.68**	**194**	⇑/PKPdf	PKPdf	06 28 28.6	-1.3
VNA3				*e*		06 37 47.5	

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*NEIC **26** 06:20:47.7, 27.92S×71.36W, h27km, ML3.8(GUC), After GUC.*

GUC 26 06:20:47.7±1.1, 27.92S×71.36W, h27km±10km, ML3.8, 1C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.84**	**141**	⇓*i*P	Pb	06 21 03.6	0.0
VACH				*i* S	Sb	06 21 14.2	-0.3
VACH				AMP		06 21 14.8	
	comp=E,12μm,0.3s						
CPCH	**Copiapo**	**1.05**	**58**	*i* P	Pn	06 21 06.4	-0.4
CPCH				*i* S	Sb	06 21 20.4	-0.2
CPCH				AMP		06 21 22.7	
	comp=E,10μm,0.1s						
CRCH	**Chaqaral**	**1.70**	**23**	⇑*i*P	Pn	06 21 16.4	+0.3
CRCH				*i* S	Sn	06 21 37.2	0.0
CRCH				AMP		06 21 44.8	
	comp=E,922nm,0.5s						
LSCH	**La Serena**	**1.98**	**177**	*i* P	Pn	06 21 20.3	+0.1
LSCH				*i* S	Sn	06 21 45.7	+1.3
LSCH				AMP		06 21 49.8	
	comp=E,576nm,0.2s						
TLL	**Tololo Astrono**	**2.29**	**168**	*i* P	Pn	06 21 25.4	+0.8
TLL				*i* S	Sn	06 21 54.8	+2.6
TLL				AMP		06 22 02.1	
	comp=E,887nm,0.6s						

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*NIED **26** 06:25:00, 42.40N×145.10E, h23km, Mw3.8 Best double couple: M0:5.26×10^14 NP1:φs22°, δ71°, λ63°. NP2:φs259°, δ33°, λ142°.*
*JMA **26** 06:25:23.6, 42.41N×145.06E, h37km±1km, M3.9*
*NEIC **26** 06:25:25.0±0.9, 42.41N×144.88E, h35km, mb4.1/2, Error ellipse: s-maj=21.1km s-min=10.0km az=124.0*
*IDC **26** 06:25:26.2±3.4, 42.23N×144.94E, h56km±26km, mb3.7/6, mb1 3.8/8, mb1mx3.5/23, mbtmp3.9/8, ML4.1/2, MS2.9/1, Ms1 2.9/1, ms1mx2.5/29, Error ellipse: s-maj=24.5km s-min=23.8km az=99.0*

ISC 26 06:25:22.1±1.1, 42.32N±0.06×145.2E±0.1, h39km±9km, n20, σ6§94/25, mb3.9/8, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**0.76**	**333**	P	P	**06 25 36.2**	**-0.2**
JAK				*e*S	S	**06 25 46.1**	**-0.7**
NEM2	**Nemuro 2**	**1.13**	**22**	P	P	**06 25 42.4**	**+0.7**
NEM2				*e*S	S	**06 25 56.4**	**+0.1**
JOB	**Onbets**	**1.14**	**301**	P	P	**06 25 41.9**	**+0.1**
JNK	**Nakash**	**1.31**	**346**	P	P	**06 25 43.8**	**-0.5**
JNK				*e*S	S	**06 25 59.4**	**-1.4**
JCH	**Churui**	**1.36**	**283**	P	P	**06 25 45.7**	**+0.6**
JAR	**Ashorobuto**	**1.42**	**314**	P	P	**06 25 45.2**	**-0.6**
JEM	**Erimo**	**1.52**	**259**	P	P	**06 25 48.9**	**+1.6**
JRA	**Rausu**	**1.62**	**359**	P	P	**06 25 48.9**	**+0.2**
JRA				*e*S	S	**06 26 08.0**	**-0.6**
ASAJ	**Asahikawa**	**2.60**	**315**	P	P	**06 26 03.6**	**+1.0**
	34nm,0.3s,baz=133,slow=14,SNR=48						
ASAJ				S	S	**06 26 35.8**	**+2.5**
	13nm,0.3s,baz=300,slow=32,SNR=6.3						
ASAJ				LR	LR	06 27 08.1	
	comp=Z,196nm,18.0s,baz=332,slow=40						
MJAR	**Matsushiro Arr**	**7.88**	**225**	P	P	**06 27 16.2**	**-0.9**
	1.1nm,0.3s,baz=26,slow=14,SNR=6.1						
MAJO	**Matsushiro**	**7.88**	**225**	*e*Pn	P	**06 27 15.9**	**-1.1**
SONM	**Songino Array**	**27.71**	**295**	P	P	**06 31 08.4**	**-0.3**

GUC 26 06:32:23.7±0.8, 32.37S×71.34W, h46km±2km, MD3.7, ML2.9, 9C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.50**	**344**	⇑*i*P			P	06 32 35.2	+0.5
CHNG				*i*S			S	06 32 43.4	+0.9
CHNG				AMP				06 32 43.9	
	comp=E,806nm,0.4s								
ROCH	**El Roble**	**0.67**	**156**	⇑*i*P			P	06 32 37.5	+0.7
ROCH				*i*S			S	06 32 47.9	+1.4
JACH	**Jahuel**	**0.70**	**117**	⇑*i*P			P	06 32 38.0	+0.7
JACH				*i*S			S	06 32 48.7	+1.3
IHA	**Instituto Hidr**	**0.71**	**201**	⇓*i*P			P	06 32 37.7	+0.3
IHA				*i*S			S	06 32 47.9	+0.4
ILCH	**Illapel**	**0.74**	**11**	⇑*i*P			P	06 32 38.7	+0.8
ILCH				*i*S			S	06 32 49.5	+1.3
ILCH				AMP				06 32 50.7	
	comp=N,2μm,0.2s								
PEL	**Peldehue**	**0.95**	**145**	⇑*i*P			P	06 32 41.5	+0.7
PEL				*i*S			S	06 32 54.8	+1.3
LCCH	**Las Cruces**	**1.12**	**190**	*i*P			P	06 32 43.6	+0.4
LCCH				*i*S			S	06 32 58.3	+0.5
RCDM	**Rinconada Maip**	**1.21**	**158**	*i*P			P	06 32 44.6	+0.2
RCDM				*i*S			S	06 33 00.9	+1.0
RCDM				AMP				06 33 01.4	
	comp=E,707nm,0.2s								
DSCH	**Colegio Aleman**	**1.22**	**148**	⇑*i*P			P	06 32 45.2	+0.7
DSCH				*i*S			S	06 33 01.6	+1.5
DSCH				AMP				06 33 02.5	
	comp=N,486nm,0.3s								
STL	**Santa Lucia**	**1.22**	**151**	⇑*i*P			P	06 32 43.4	-1.2
STL				*i*S			S	06 32 59.8	-0.4
STL				AMP				06 33 01.1	
	comp=N,96nm,0.2s								
CMCH	**Combarbala**	**1.22**	**14**	⇑*i*P			P	06 32 44.7	0.0
CMCH				*i*S			S	06 33 01.2	+1.0
CMCH				AMP				06 33 04.3	
	comp=E,2μm,0.8s								
CLCH	**Cerro Calan**	**1.23**	**147**	⇓*i*P			P	06 32 45.4	+0.6
CLCH				*i*S			S	06 33 01.6	+1.2
CLCH				AMP				06 33 03.8	
	comp=E,344nm,0.8s								
FCH	**Farellones**	**1.30**	**138**	⇓*i*P			P	06 32 46.4	+0.5
FCH				*i*S			S	06 33 04.1	+1.7
FCH				AMP				06 33 13.7	
	comp=N,160nm,0.1s								
FSR	**Penalolen**	**1.30**	**149**	*e*P			P	06 32 46.5	+0.5
FSR				*i*S			S	06 33 03.6	+1.2
FSR				AMP				06 33 06.1	
	comp=N,334nm,0.3s								
TACH	**Talagante**	**1.33**	**165**	⇓*i*P			P	06 32 46.6	+0.3
TACH				*i*S			S	06 33 03.7	+0.7
ANTU	**Antumapu**	**1.34**	**154**	*i*P			P	06 32 46.9	+0.5
ANTU				*i*S			S	06 33 04.1	+0.8
ANTU				AMP				06 33 05.5	
	comp=N,316nm,0.2s								
PCH	**Pirque**	**1.43**	**151**	⇓*i*P			P	06 32 48.2	+0.5
PCH				*i*S			S	06 33 06.8	+1.3
SJCH	**San Jose de Ma**	**1.52**	**147**	⇑*i*P			P	06 32 49.0	+0.1
SJCH				*i*S			S	06 33 08.4	+0.8
SJCH				AMP				06 33 10.4	
	comp=E,160nm,0.4s								
LNV	**Longovilo**	**1.59**	**182**	*i*P			P	06 32 49.6	-0.3
CHCH	**Chadas Angostu**	**1.67**	**160**	*e*P			P	06 32 51.6	+0.6
LMEL	**Las Melosas**	**1.76**	**148**	⇓*i*P			P	06 32 53.1	+0.8
LMEL				AMP				06 33 19.1	
	comp=N,402nm,0.1s								
CICH	**Cipreses**	**2.10**	**159**	*i*P			P	06 32 58.1	+1.0
CICH				*i*S			S	06 33 23.8	+1.8
SFDO	**San Fernando**	**2.26**	**173**	*e*P			P	06 33 00.5	+1.1

NNC 26 06:46:26.9±6.3, 38.72N×71.81E, h280km±61km, mpv3.1, 2C-1D, Error ellipse: s-maj=69.7km s-min=34.9km az=11.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**4.41**	**27**	⇑S			S	06 48 33.1	+0.9
	8.3nm,0.7s								
KK31	**Karatay Array**	**4.49**	**348**	P			P	06 47 36.7	-1.5
	1.0nm,0.3s,baz=173,slow=12,SNR=39								
KK31				⇑S			S	06 48 35.0	+1.2
	7.3nm,0.6s,baz=162,slow=28,SNR=5.7								
AB31	**Akbulak array**	**13.54**	**325**	P			P	06 49 31.4	+1.9
	0.2nm,0.5s,baz=133,slow=14,SNR=5.6								
AB31				⇓S			S	06 51 55.3	+1.1
	3.3nm,0.9s,baz=136,slow=22,SNR=13								

*ATH **26** 07:05:19.8, 39.73N×25.61E, h25km±1km, MD3.1/5*
*THE **26** 07:05:19.8, 39.70N×25.74E, h10km, ML2.9*
*NEIC **26** 07:05:19.8, 39.73N×25.61E, h25km, MD3.1(ATH), After ATH.*
*CSEM **26** 07:05:20.9±0.1, 39.72N×25.61E, h15km, MD3.1, Error ellipse: s-maj=2.5km s-min=1.5km az=5.0*
*ISK **26** 07:05:21.8, 39.58N×25.75E, h22km, MD3.0*

ISC 26 07:05:20.6±0.8, 39.64N±0.05×25.61E±0.04, h17km±8km, n16, σ1°03/22, 1D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.42**	**309**	⇓*i*PB			**Pb**	**07 05 28.5**	**-0.6**
LIA				*e*SB			**Sb**	**07 05 33.6**	**-1.3**
LOS	**Limnos**	**0.50**	**306**	*e*Pg			**Pb**	**07 05 30.5**	**-0.1**
LOS				*e*Sg			**Sb**	**07 05 39.1**	**+1.8**
EZN	**Ezine**	**0.58**	**71**	PG			**Pb**	**07 05 32.7**	**+0.7**
EZN				SG			**Sb**	**07 05 40.5**	**+0.7**
PRK	**Paraskevi**	**0.65**	**127**	*e*PN			**Pn**	**07 05 33.8**	**-1.0**
PRK				*e*SN			**Sn**	**07 05 43.8**	**-0.7**
LPK	**Lapseki**	**1.15**	**50**	PN			**Pn**	**07 05 42.0**	**0.0**
LPK				SN			**Sn**	**07 05 57.8**	**+0.5**
CANB	**Canakkale**	**1.18**	**71**	PN			**Pn**	**07 05 43.2**	**+0.8**
ALN	**Alexandroupoli**	**1.30**	**15**	*e*Pg			**Pn**	**07 05 42.6**	**-1.6**
ALN				*e*Sg			**Sn**	**07 06 00.4**	**-0.8**
AOS	**Alonnisos**	**1.42**	**251**	*e*Pg			**Pn**	**07 05 47.5**	**+1.7**
OUR	**Ouranopolis**	**1.43**	**300**	*e*Pg			**Pn**	**07 05 46.8**	**+0.9**
	comp=Z,5.5nm,0.5s								
RDO	**Rodhopi**	**1.51**	**358**	*e*PN			**Pn**	**07 05 46.0**	**-1.1**
PAIG	**Paliouri**	**1.51**	**282**	*e*Pg			**Pn**	**07 05 48.6**	**+1.4**
MRMT	**Marmara Adasi**	**1.80**	**57**	PN			**Pn**	**07 05 51.0**	**-0.3**
PLG	**Polygyros**	**1.81**	**295**	*e*PN			**Pn**	**07 05 51.5**	**0.0**
NEO	**Neokhori**	**1.87**	**261**	*e*PB			**Pb**	**07 05 52.4**	**-1.6**
NVR	**Nevrokopi**	**2.17**	**323**	*e*PB			**Pn**	**07 05 55.7**	**-0.8**
EDRB	**Edirne**	**2.37**	**21**	*e*PN			**Pn**	**07 06 01.0**	**+1.6**

*NEIC **26** 07:35:52.7, 37.88S×176.71E, h5km, ML4.0(WEL), After WEL.*
NEIC Felt in central Bay of Plenty.

WEL 26 07:35:52.8±0.1, 37.90S×176.72E, h8km±1km, ML3.9/16, 7C-6D, Error ellipse: s-maj=0.7km s-min=0.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MARZ	**Manawahe**	**0.09**	**203**	⇑PG			Pg	07 35 55.4	+0.3
MARZ	**Manawahe**	**0.09**	**203**	P			Pg	07 35 55.4	+0.3
EDRZ	**Edgecumbe**	**0.21**	**176**	⇓PG			Pg	07 35 57.4	+0.2
EDRZ	**Edgecumbe**	**0.21**	**176**	P			Pg	07 35 57.4	+0.2
LIRZ	**Lichensteins R**	**0.28**	**249**	⇓PG			Pg	07 35 59.0	+0.3
LIRZ	**Lichensteins R**	**0.28**	**249**	P			Pg	07 35 59.0	+0.3
MKRZ	**Makatiti**	**0.31**	**220**	⇓PG			Pg	07 35 59.8	+0.6
MKRZ	**Makatiti**	**0.31**	**220**	P			Pg	07 35 59.8	+0.6
TAZ	**Tarawera**	**0.37**	**207**	⇑PG			Pg	07 36 00.8	+0.5
TAZ	**Tarawera**	**0.37**	**207**	P			Pg	07 36 00.8	+0.4
TGRZ	**Tauranga**	**0.40**	**295**	⇑PG			Pg	07 36 00.9	-0.1
TGRZ				SG			Sg	07 36 06.4	-0.1
TGRZ	**Tauranga**	**0.40**	**295**	P			Pg	07 36 00.9	-0.1
URZ	**Urewera**	**0.47**	**139**	⇑PG			Pg	07 36 02.1	-0.2
URZ				*e*SG			Sg	07 36 09.0	+0.3
URZ				*e*SG			Sg	07 36 09.3	+0.6
URZ	**Urewera**	**0.47**	**139**	P			Pg	07 36 02.1	-0.2
UTU	**Utuhina**	**0.50**	**236**	⇓PG			Pg	07 36 03.2	+0.3
UTU	**Utuhina**	**0.50**	**236**	P			Pg	07 36 03.2	+0.3
WIZ	**White Island**	**0.53**	**45**	⇓P*			Pb	07 36 03.3	-0.6
WIZ	**White Island**	**0.53**	**45**	P			Pg	07 36 03.4	0.0
MYRZ	**Mayor Island**	**0.73**	**328**	⇑P*			Pb	07 36 06.8	-0.6
MWZ	**Matawai**	**0.77**	**124**	⇑P*			Pb	07 36 07.5	-0.5
MWZ				S*			Sb	07 36 17.5	-0.9
MWZ	**Matawai**	**0.77**	**124**	*e*P			Pb	07 36 07.5	-0.6
TOZ	**Tahuroa Road**	**0.98**	**280**	P*			Pb	07 36 10.2	-1.4
TOZ	**Tahuroa Road**	**0.98**	**280**	P			Pb	07 36 10.2	-1.4
WATZ	**Wairara**	**1.12**	**224**	⇓P*			Pb	07 36 12.9	-1.1
WATZ	**Wairara**	**1.12**	**224**	P			Pb	07 36 12.9	-1.1
PUZ	**Puketiti**	**1.23**	**98**	⇑P*			Pb	07 36 15.6	-0.2
PUZ	**Puketiti**	**1.23**	**98**	*e*P			Pb	07 36 15.8	-0.1
BKZ	**Black Stump Fm**	**1.28**	**188**	P*			Pb	07 36 15.2	-1.5
BKZ	**Black Stump Fm**	**1.28**	**188**	*e*P			Pb	07 36 15.7	-1.0
MXZ	**Matakaoa Point**	**1.30**	**75**	*e*P*			Pb	07 36 15.2	-1.9
MXZ	**Matakaoa Point**	**1.30**	**75**	*e*P			Pb	07 36 18.2	+1.0
KNZ	**Kokohu**	**1.34**	**146**	*e*PN			Pn	07 36 18.0	0.0
KNZ	**Kokohu**	**1.34**	**146**	*e*P			Pb	07 36 18.0	+0.1
KUZ	**Kuaotunu**	**1.40**	**325**	PN			Pn	07 36 17.7	-1.1
KUZ	**Kuaotunu**	**1.40**	**325**	*e*P			Pn	07 36 17.5	-1.3
OTVZ	**Oturere**	**1.51**	**213**	*e*P*			Pb	07 36 19.4	-1.3
CNZ	**Chateau**	**1.59**	**215**	P			Pn	07 36 22.0	+0.5
HIZ	**Hauiti**	**1.59**	**247**	*e*PN			Pn	07 36 19.6	-1.9
HIZ	**Hauiti**	**1.59**	**247**	*e*P			Pn	07 36 19.6	-1.9
TUVZ	**Tukino**	**1.60**	**211**	*e*P*			Pb	07 36 22.0	-0.3
TUVZ	**Tukino**	**1.60**	**211**	P			Pn	07 36 22.0	+0.4
WNVZ	**Wahianoa**	**1.67**	**211**	*e*P*			Pb	07 36 22.8	-0.7
WNVZ	**Wahianoa**	**1.67**	**211**	P			Pn	07 36 22.9	+0.2
OTAZ	**Otara**	**1.72**	**303**	P			Pn	07 36 23.1	-0.2
MTAZ	**Motutapu**	**1.82**	**307**	PN			Pn	07 36 22.7	-2.1
MTAZ	**Motutapu**	**1.82**	**307**	P			Pn	07 36 22.7	-2.1
KAAZ	**Kauri Point**	**1.93**	**303**	P			Pn	07 36 24.2	-2.2
WTAZ	**Waiatarua**	**1.96**	**299**	PN			Pn	07 36 27.0	+0.1
WTAZ	**Waiatarua**	**1.96**	**299**	P			Pn	07 36 27.0	+0.2
PXZ	**Pawanui**	**2.13**	**177**	*e*PN			Pn	07 36 28.1	-1.1
TSZ	**Takapari Road**	**2.23**	**195**	*e*PN			Pn	07 36 30.2	-0.6
TSZ	**Takapari Road**	**2.23**	**195**	*e*P			Pn	07 36 30.2	-0.5
RAEZ	**Rainy Point**	**2.29**	**232**	P			Pn	07 36 31.6	+0.1
WAZ	**Wanganui**	**2.29**	**216**	*e*P			Pn	07 36 34.2	+2.6
NEZ	**North Egmont**	**2.47**	**236**	P			Pn	07 36 34.0	-0.1
PKE	**Pukeiti**	**2.50**	**238**	P			Pn	07 36 32.5	-2.0
WCZ	**Waipu Caves**	**2.73**	**315**	*e*P			Pn	07 36 35.0	-2.8
MRZ	**Mangatainoka R**	**2.90**	**197**	*e*P			Pn	07 36 38.7	-1.5

*NNC **26** 07:39:04.8±12.0, 38.19N×79.96E, mpv3.5, Error ellipse: s-maj=114.6km s-min=53.5km az=159.0*

BJI 26 07:38:52.2, 37.32N×79.54E, h26km, ML3.7, 3C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KSH	**Kashi**	**3.56**	**309**	*e*P			Pn	07 39 46.8	-0.4
KSH				S			Sn	07 40 29.0	+0.1
KSH				Smax					
	comp=N,200nm,0.5s								
KSH				Smax					
	comp=E,150nm,0.4s								
AAK	**Ala-Archa**	**6.57**	**325**	⇑Pg			Pn	07 40 51.3	+22
	comp=E,2.2nm,0.6s								
AAK				⇓Lg				07 42 16.8	
	comp=E,23nm,1.1s								
KK31	**Karatay Array**	**9.00**	**313**	⇓Pn			P	07 41 17.8	+14
	comp=E,1.8nm,0.8s,baz=127,slow=13,SNR=4.4								
KK31				⇑Sn			Sn	07 42 54.9	+10
	comp=E,0.4nm,0.3s,baz=226,slow=45,SNR=2.7								
MK31	**Makanchi Array**	**9.68**	**11**	Pn			P	07 41 11.6	-1.5
	comp=E,1.2nm,0.5s,baz=200,slow=13,SNR=14								
MK31				⇑Sn			Sn	07 43 01.3	-0.7
	comp=E,1.4nm,0.5s,baz=198,slow=24,SNR=3.6								

*MOS **26** 07:45:26.3±0.9, 36.38N×71.54E, h98km, mb5.2/70, Error ellipse: s-maj=6.8km s-min=3.5km az=130.4*
*HRVD **26** 07:45:27.9±0.3, 36.30N×71.20E, h112km±2km, MW5.0/60, Centroid moment Tensor Solution. LP body waves: s33,c46;Mantle waves: s60,c111; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.32±.12; $M_{\theta\theta}$-0.63±.15; $M_{\phi\phi}$-1.69±.13; $M_{r\theta}$-1.47±.10; $M_{\theta\phi}$-2.53±.13; $M_{\phi r}$0.40±.11; Best double couple: $M_0$3.591×10^{16} NP1:ϕ_s8°, δ50°,λ41°. NP2:ϕ_s249°,δ60°,λ132°. Principal axes: T 3.371, Plg54°, Azm212°; N .439, Plg35°, Azm45°; P -3.811, Plg6°, Azm311°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **26** 07:45:27.9±0.2, 36.31N×71.63E, mb5.0/101 Error ellipse: s-maj=5.8km s-min=3.5km az=24.0*
*BJI **26** 07:45:28.3, 36.59N×71.45E, h114km, mB4.8, mb4.7*
*IDC **26** 07:45:28.6±0.6, 36.38N×71.64E, h110km±5km, mb4.5/19, mb1 4.6/21, mb1mx4.6/23, mbtmp4.8/21, MS3.8/12, Ms1 3.8/12, ms1mx3.6/31, Error ellipse: s-maj=13.5km s-min=10.4km az=4.0*
*NNC **26** 07:45:35.4±5.2, 37.04N×71.13E, h176km±50km, mpv5.2, Error ellipse: s-maj=45.9km s-min=28.8km az=28.0*

ISC 26 07:45:26.6±0.1, 36.30N±0.02×71.61E±0.02, h108km, h108km±1.4km: pP-P, n407, σ1°12/435, mb5.0/135, 37C-29D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.49**	**174**	⇓P			**P**	**07 46 09.6**	**+3.1**
CHCP	**Chirah Chowk**	**2.97**	**152**	⇓P			**P**	**07 46 15.9**	**+2.8**
THW	**Thamme Wali**	**3.50**	**178**	⇑P			**P**	**07 46 22.0**	**+1.7**
SBDP	**Sheikh Budin**	**4.05**	**190**	⇑P			**P**	**07 46 27.8**	**0.0**
SARP	**Sargodha**	**4.46**	**168**	⇑P			**P**	**07 46 34.3**	**+1.0**
KSH	**Kashi**	**4.71**	**46**	P			**P**	**07 46 39.0**	**+2.3**
KSH				XP				07 47 04.0	
KSH				S			**S**	**07 47 32.0**	**+1.4**
KSH				LR			LR		
	comp=N,5μm,3.2s								
KSH				LR			LR		
	comp=E,5μm,4.1s								
AML	**Almayashu**	**6.04**	**15**	P			**P**	**07 46 54.5**	**-0.3**
	SNR=63								
KZA	**Kyzart**	**6.42**	**25**	P			**P**	**07 47 00.7**	**+0.7**
	SNR=8.8								
EKS2	**Erkin-Say**	**6.57**	**14**	P			**P**	**07 47 01.4**	**-0.7**
	SNR=149								
AAK	**Ala-Archa**	**6.70**	**19**	P			**P**	**07 47 03.5**	**-0.4**
	SNR=186								
AAK	**Ala-Archa**	**6.70**	**19**	⇓P			**P**	**07 47 03.4**	**-0.5**
	comp=E,77nm,0.3s								
AAK				⇓S			**S**	**07 48 15.2**	**-4.1**
	comp=E,158nm,0.9s								
AAK	**Ala-Archa**	**6.70**	**19**	⇓P			**P**	**07 47 03.4**	**-0.5**
	comp=E,77nm,0.3s								
AAK				S			**S**	**07 48 15.2**	**-4.1**
KK31	**Karatay Array**	**6.84**	**353**	⇑P			**P**	**07 47 03.0**	**-2.9**
	comp=E,102nm,0.3s,baz=177,slow=12,SNR=3749								
KK31				⇑S			**S**	**07 48 14.0**	**-8.7**
	comp=E,280nm,0.8s,baz=182,slow=22,SNR=4.8								
KK31	**Karatay Array**	**6.84**	**353**	⇑P			**P**	**07 47 03.0**	**-2.9**
	comp=E,102nm,0.3s								
KK31				S			**S**	**07 48 14.0**	**-8.8**
KKAR	**Karatay Array**	**6.84**	**353**	*i*P			**P**	**07 47 02.0**	**-3.9**
KKAR				*i*S			**S**	**07 48 14.0**	**-8.8**
KKAR	**Karatay Array**	**6.84**	**353**	*i*PN			**P**	**07 47 02.9**	**-3.0**
KKAR				pmax			pmax		
	comp=Z,134nm,0.2s								
KBK	**Karagaybulak**	**6.85**	**21**	P			**P**	**07 47 05.8**	**-0.1**
	SNR=36								
FRU	**Bishkek**	**6.92**	**19**	⇓*i*PN			**P**	**07 47 06.0**	**-1.0**
FRU				pmax			pmax		
	comp=Z,500nm,2.2s								
FRU				pmax			pmax		
	comp=Z,550nm,2.1s								
SMLA	**Simla**	**6.93**	**137**	⇑*i*P			**P**	**07 47 07.2**	**+0.1**
SMLA				*i*S			**S**	**07 48 22.6**	**-2.3**
ULHL	**Ulahol**	**6.93**	**30**	P			**P**	**07 47 07.0**	**-0.1**
	SNR=34								
CHMS	**Chumysh**	**7.11**	**19**	P			**P**	**07 47 08.7**	**-0.9**
	SNR=126								
KLP	**Kalpa**	**7.28**	**129**	*e*P			**P**	**07 47 12.4**	**+0.5**
TKM2	**Tokmak 2**	**7.29**	**24**	P			**P**	**07 47 11.5**	**-0.4**
	SNR=140								
USP	**Ospenovka**	**7.30**	**17**	P			**P**	**07 47 10.5**	**-1.6**
	SNR=63								
BHGR	**Bahadurgarh**	**8.82**	**148**	*e*P			**P**	**07 47 32.1**	**-0.6**
KHET	**Khetri**	**8.94**	**155**	*e*P			**P**	**07 47 33.3**	**-1.0**
KHET				*e*S			**S**	**07 49 06.2**	**-7.7**
KUDL	**Kundal**	**9.12**	**152**	*e*P			**P**	**07 47 35.3**	**-1.4**
KUDL				*e*S			**S**	**07 49 12.8**	**-5.4**
SONA	**Sohna**	**9.27**	**149**	*e*P			**P**	**07 47 37.9**	**-0.8**
SONA				*e*S			**S**	**07 49 16.1**	**-5.7**
JASL	**Jaisalmer**	**9.37**	**184**	*e*P			**P**	**07 47 39.0**	**-1.0**
AGRA	**Agra**	**10.53**	**147**	*e*P			**P**	**07 47 53.6**	**-1.9**
VAN	**Vannovskaya**	**10.91**	**283**	P			**P**	**07 47 53.8**	**-6.8**
MK31	**Makanchi Array**	**13.17**	**34**	⇓P			**P**	**07 48 29.1**	**-1.2**
	comp=Z,33nm,0.9s,baz=203,slow=8.9,SNR=78								
MKAR	**Makanchi Array**	**13.17**	**34**	*i*P			**P**	**07 48 28.6**	**-1.7**
	comp=Z,0.5nm,0.3s,baz=203,slow=9.2,SNR=46								
MKAR	**Makanchi Array**	**13.17**	**34**	*i*P			**P**	**07 48 29.1**	**-1.2**
MKAR				pmax			pmax		
	comp=Z,46nm,1.0s								
KOLN	**Koldanda**	**13.25**	**127**	*e*P			**P**	**07 48 30.1**	**-1.3**
	comp=Z,426nm,0.5s								
GKN	**Gorkha**	**13.78**	**123**	*e*P			**P**	**07 48 37.2**	**-1.1**
	comp=Z,768nm,0.5s								
BHPL	**Bhopal**	**13.96**	**157**	*e*P			**P**	**07 48 39.8**	**-0.8**
BHPL				AMb			AMB	07 48 41.2	
	comp=Z,71nm,0.8s								
BHPL				*ex*			**S**	**07 51 06.2**	**-7.0**
ALBI	**Allahabad**	**14.02**	**139**	*i*x			**P**	**07 48 38.0**	**-3.4**
DMN	**Daman**	**14.35**	**123**	*e*P			**P**	**07 48 44.8**	**-0.9**
	comp=Z,545nm,0.7s								
KKN	**Kakani**	**14.36**	**122**	*e*P			**P**	**07 48 44.1**	**-1.6**
	comp=Z,361nm,0.5s								
KKN	**Kakani**	**14.36**	**122**	*e*P			**P**	**07 48 44.1**	**-1.6**
KKN				pmax			pmax		
	comp=Z,181nm,0.5s								
WMQ	**Urumqi**	**14.41**	**54**	P			**P**	**07 48 47.0**	**+0.7**
WMQ				XP				07 49 18.0	
WMQ				S			**S**	**07 51 24.0**	**+0.3**
WMQ				PCP			PcP	07 53 57.0	+1.2
WMQ				SCP				07 57 19.0	
WMQ				AMB			AMB		
	comp=Z,28nm,0.8s								
WMQ				AMB			AMB		
	comp=Z,24nm,4.0s								
WMQ				LR			LR		
	comp=N,128nm,8.0s								
WMQ				LR			LR		
	comp=E,196nm,8.0s								
WMQ				LR			LR		
	comp=Z,121nm,8.0s								
BHV	**Bhavnagar**	**14.51**	**178**	*e*P			**P**	**07 48 51.0**	**+3.2**
PKI	**Pulchoki**	**14.58**	**123**	*e*P			**P**	**07 48 47.8**	**-0.9**
	comp=Z,451nm,0.6s								
PKI	**Pulchoki**	**14.58**	**123**	*e*P			**P**	**07 48 47.8**	**-0.9**
PKI				pmax			pmax		
	comp=Z,226nm,0.6s								
JBP	**Jabalpur**	**14.96**	**149**	*i*P			**P**	**07 48 56.4**	**+2.8**
JBP				*i*x			**S**	**07 51 32.9**	**-3.8**
KURK	**Kurchatov**	**15.26**	**17**	P			**P**	**07 48 57.9**	**+0.8**
KURK	**Kurchatov**	**15.26**	**17**	*e*Pn			**P**	**07 48 52.7**	**-4.5**
	comp=Z,36nm,0.9s								
KURK				*e*P				07 48 59.3	
KURK	**Kurchatov**	**15.26**	**17**	*e*P			**P**	**07 48 52.7**	**-4.5**
KURK				pmax			pmax		
	comp=Z,37nm,0.9s								
AB31	**Akbulak array**	**15.50**	**330**	⇓P			**P**	**07 48 54.9**	**-5.2**
	comp=Z,48nm,0.7s								
AB31				⇓S			**S**	**07 51 34.2**	**-14**
	comp=Z,46nm,0.7s,baz=149,slow=23,SNR=7.2								
AB31	**Akbulak array**	**15.50**	**330**	⇓P			**P**	**07 48 54.9**	**-5.2**
	comp=Z,48nm,0.7s								
AB31				S			**S**	**07 51 34.2**	**-14**
AKL	**Akola**	**16.25**	**162**	⇓*i*x			x	07 51 08.1	
AKL				*i*x			x	07 53 58.4	
BVA0	**Borovoye Array**	**16.74**	**357**	P			**P**	**07 49 11.9**	**-3.6**
	comp=Z,11nm,1.5s,baz=170,slow=11,SNR=103								
BVA0	**Borovoye Array**	**16.74**	**357**	P			**P**	**07 49 11.9**	**-3.7**
	comp=Z,11nm,1.5s								
BVA0	**Borovoye Array**	**16.74**	**357**	P			**P**	**07 49 11.9**	**-3.7**
BVA0				pmax			pmax		
	comp=Z,11nm,1.5s								
BVAR	**Borovoye Array**	**16.74**	**357**	P			**P**	**07 49 11.6**	**-4.0**
	comp=Z,1.5nm,0.3s,baz=180,slow=12,SNR=57								
BVAR				S			**S**	**07 52 20.1**	**+3.2**
	baz=168,slow=21,SNR=5.2								
BRVK	**Borovoye**	**16.78**	**357**	*e*Pn			**P**	**07 49 12.3**	**-3.8**
	comp=Z,39nm,1.0s								
BRVK				*e*P				07 49 16.2	
BRVK				*e*Sn			**S**	**07 52 19.0**	**+1.2**
BRVK	**Borovoye**	**16.78**	**357**	*e*P			**P**	**07 49 12.3**	**-3.7**
BRVK				*e*				07 52 19.0	
BRVK				pmax			pmax		
	comp=Z,39nm,1.0s								
BLSP	**Bilaspur**	**16.83**	**144**	*e*P			**P**	**07 49 16.8**	**-0.1**
BLSP				AMb			AMB	07 49 18.7	
	comp=Z,62

GNI Garni 21.42 288 *e*P **P** **07 50 09.0 +1.9**
comp=Z,384nm,1.0s,mb5.7
GNI Garni 21.42 288 P **P** **07 50 08.9 +1.8**
GNI S **S** **07 54 02.9 +10**
GNI pmax pmax
comp=Z,195nm,0.8s
MTA Mtatsminda 21.48 293 P **P** **07 50 08.7 +1.0**
RDF Al-Radifah 21.53 257 *e*P **P** **07 50 07.9 -0.3**
RDF AMb AMB 07 50 09.0
comp=Z,473nm,0.7s,mb5.9
TBLG Delisi 21.53 293 P **P** **07 50 09.3 +1.2**
SVE Sverdlovsk 21.82 344 *e*P **P** **07 50 09.2 -1.7**
SVE *e* 07 50 35.0
SVE *e*S **S** **07 54 08.0 +7.8**
SVE *e*SS SS 07 54 39.0 -7.3
SVE pmax pmax
comp=Z,60nm,1.2s,mb4.8
SVE MLR MLR
comp=N,400nm,9.0s
SVE MLR MLR
comp=E,100nm,9.0s
SVE MLR MLR
comp=Z,400nm,9.0s
ARU Arti 21.98 340⇓*i*P **P** **07 50 11.4 -1.1**
ARU *e*PPP PPP 07 50 45.5 -8.1
ARU *e*S **S** **07 54 00.8 -2.3**
ARU *e*SSS SSS 07 54 43.4 -25
ARU pmax pmax
comp=Z,122nm,1.1s,mb5.1
ZEI Tsey 22.27 295 *e*P **P** **07 50 15.4 0.0**
ZEI *i* *PP 07 50 40.5
ZEI pmax pmax
comp=Z,9.0nm,0.7s,mb4.2
IMP Imphal 22.34 115⇓*ex* **P** **07 50 20.0 +3.9**
AKH Akhalkalaki 22.43 292 P **P** **07 50 19.4 +2.4**
GTA Gaotai 22.45 74 P **P** **07 50 22.0 +4.9**
GTA AP 07 50 44.3
GTA XP 07 50 57.3
GTA PCP PcP 07 54 05.8 -3.7
GTA SCP 07 57 33.0
GTA PCS 07 57 44.5
GTA SCS ScS 08 01 19.5 -0.2
GTA AMB AMB
comp=Z,37nm,1.3s,mb4.5
GTA AMB AMB
comp=Z,125nm,3.9s
GTA LR LR
comp=N,243nm,10.4s
GTA LR LR
comp=E,152nm,9.0s
GTA LR LR
comp=Z,120nm,16.8s
BHD Baghdad 22.54 270 *e*P **P** **07 50 16.5 -1.6**
BHD *e*PP PP 07 50 46.5 -3.2
BHD *e*S **S** **07 54 16.5 +3.3**
ONI Oni 22.57 295 P **P** **07 50 20.5 +2.2**
ONI Oni 22.57 295 P **S** **07 54 24.0 +10**
GOF Gofitskoye 23.27 301⇑*i*P **P** **07 50 23.6 -1.4**
GOF *i* 07 50 55.2
GOF pmax pmax
comp=Z,210nm,1.1s,mb5.4
KIV Kislovodsk 23.32 298 *e*P **P** **07 50 26.3 +0.9**
comp=Z,97nm,0.8s,mb5.2
KIV Kislovodsk 23.32 298*c i*P **P** **07 50 26.4 +1.0**
KIV pmax pmax
comp=Z,106nm,1.9s,mb4.8
WHFO Wadi Hawf 24.17 225 P **P** **07 50 34.9 +1.0**
SNR=21
RBK Rabkut 24.25 224 P **P** **07 50 35.9 +1.2**
SNR=15
ABTO Aybut 24.89 225⇑P **P** **07 50 42.1 +1.2**
SNR=42
SOKR Solikamsk 25.19 342*d i*P **P** **07 50 43.5 +0.2**
SOKR pmax pmax
comp=Z,70nm,1.1s,mb5.0
SALM Salem 25.26 165 *ex* x 07 52 11.0
SALM *ex* x 07 55 35.0
SOC Sochi 25.40 296*c i*P **P** **07 50 48.2 +2.8**
SOC *e* 07 54 13.1
SOC *e*S **S** **07 55 03.4 +1.7**
SOC *e* 08 01 30.1
SOC pmax pmax
comp=Z,94nm,0.8s,mb5.3
SOC pmax pmax
comp=N,17nm,0.9s
SOC pmax pmax
comp=E,40nm,0.9s
MOY Mondy 25.90 44 *e*P **P** **07 50 52.3 +2.4**
MOY pmax pmax
comp=Z,62nm,1.8s,mb4.7
LZH Lanzhou 25.95 81 *e*P **P** **07 50 55.5 +4.9**
LZH AP pP 07 51 18.5 +4.6
LZH XP sP 07 51 32.0 +5.3
LZH PP PP 07 51 36.5 +1.1
LZH *e*S **S** **07 55 19.0 +8.2**
LZH SS SS 07 56 26.0 +0.3
LZH AMB AMB
comp=Z,60nm,1.5s,mb4.8
LZH AMB AMB
comp=Z,112nm,4.8s
LZH Lanzhou 25.95 81 *e*P **P** **07 50 55.5 +4.9**
comp=Z,60nm,1.5s,mb4.8
LZH pP pP 07 51 18.5 +4.6
LZH sP sP 07 51 32.0 +5.3
LZH PP PP 07 51 36.5 +1.1
LZH *e*S **S** **07 55 19.0 +8.2**
LZH sS 07 55 34.0
LZH SS SS 07 56 26.0 +0.3
VRHR Novokhopersk 26.01 314 *e*P **P** **07 50 50.1 -0.9**
VRHR pmax pmax
comp=Z,50nm,1.0s,mb4.9
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.5s
MALT Malatya 26.39 284 *e*P **P** **07 50 54.9 +0.2**
comp=E,17nm,1.1s,mb4.4
MALT Malatya 26.39 284 *e*P **P** **07 50 54.9 +0.2**
MALT pmax pmax
comp=Z,17nm,1.1s,mb4.4
ZAK Zakamensk 26.75 48 *e*P **P** **07 50 59.7 +1.9**
ANN Anapa 27.16 299 *e*P **P** **07 51 01.1 -0.5**
ANN *e*S **S** **07 55 30.5 0.0**
ANN pmax pmax
comp=Z,65nm,1.6s,mb4.9
CD2 Chengdu 27.23 92 P **P** **07 51 06.3 +3.9**
CD2 AP pP 07 51 30.3 +4.4
CD2 XP sP 07 51 46.5 +8.0
CD2 PP PP 07 51 56.5 +3.4
CD2 S **S** **07 55 42.8 +11**
CD2 XS 07 56 17.0
CD2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.3
CD2 LR LR
comp=N,100nm,7.8s
CD2 LR LR
comp=Z,120nm,8.3s
VRSR Storozhevoye 27.48 313 *e*P **P** **07 51 03.9 -0.6**
VRSR pmax pmax
comp=N,20nm,1.1s
VRSR pmax pmax
comp=Z,60nm,1.1s,mb5.0
VRSR pmax pmax
comp=E,80nm,1.0s
VOR Voronezh 27.66 314 *e*P **P** **07 51 05.0 -1.1**
VOR *e**PP pP 07 51 34.0 +4.4
VOR pmax pmax
comp=N,150nm,1.2s
VOR pmax pmax
comp=E,100nm,1.2s
VOR pmax pmax
comp=Z,140nm,1.2s,mb5.4
SONM Songino Array 28.04 55 P **P** **07 51 10.6 +1.0**
comp=Z,3.3nm,0.9s,mb3.9,baz=269,slow=9.1,SNR=16
SONM pP pP 07 51 32.6 -0.6
comp=Z,2.2nm,0.7s,baz=263,slow=12,SNR=3.2
SONM LR LR 08 04 12.3
comp=Z,171nm,18.0s,baz=356,slow=40
SONM Songino Array 28.04 55 P **P** **07 51 10.6 +1.0**
SONM pP pP 07 51 32.6 -0.6
SONM LR LR 08 04 12.3
TRD Trivandrum 28.09 169 *ex* x 07 51 19.5
TRD *i* x x 07 56 37.5
ULN Ulaanbaatar 28.48 55 *i* P **P** **07 51 15.4 +1.9**

KMI Kunming 28.87 104 P **P** **07 51 20.0 +2.8**
KMI AP pP 07 51 42.3 +1.4
KMI XP sP 07 51 55.0 +1.6
KMI PP PP 07 52 16.8 +2.3
KMI PPP PPP 07 52 30.0 +2.2
KMI PCP PcP 07 54 27.0 +2.9
KMI S **S** **07 56 00.5 +2.5**
KMI XS 07 56 42.3
KMI SS SS 07 57 36.5 +2.2
KMI AMB AMB
comp=Z,5.0nm,0.8s,mb4.2
KMI AMB AMB
comp=Z,65nm,5.4s
KMI LR LR
comp=N,152nm,14.8s
KMI LR LR
comp=E,122nm,12.6s
KMI LR LR
comp=Z,157nm,28.2s
KMI Kunming 28.87 104 P **P** **07 51 20.1 +2.9**
comp=Z,5.0nm,0.8s,mb4.2
KMI pP pP 07 51 42.3 +1.4
KMI sP sP 07 51 54.9 +1.5
KMI PP PP 07 52 16.7 +2.2
KMI PPP PPP 07 52 29.9 +2.1
KMI PcP PcP 07 54 26.9 +2.8
KMI S **S** **07 56 00.6 +2.6**
KMI sS 07 56 42.2
KMI SS SS 07 57 36.4 +2.1
KMI SSS SSS 07 58 01.3 +3.7
KMI LR LR
comp=Z,160nm,28.2s
KMI Kunming 28.87 104 P **P** **07 51 20.1 +2.9**
KMI *PP pP 07 51 42.3 +1.4
KMI *SP sP 07 51 54.9 +1.5
KMI 07 52 16.7
KMI 07 54 26.9
KMI S **S** **07 56 00.6 +2.6**
KMI *SS 07 56 42.2
KMI SS SS 07 57 36.4 +2.1
KMI pmax pmax
comp=Z,5.0nm,0.8s,mb4.2
KMI MLR MLR
comp=Z,160nm,28.2s
ASF Jabal al Asfar 28.90 272 P **P** **07 51 17.4 0.0**
comp=Z,1.2nm,0.4s,mb3.9,baz=344,slow=2.0,SNR=4.2
ASF LR LR 08 04 48.2
comp=Z,130nm,20.7s,baz=296,slow=40
SIM Simferopol' 29.52 299 P **P** **07 51 22.7 -0.1**
SIM 07 51 58.6
SIM PPP PPP 07 52 22.1 -14
SIM pmax pmax
comp=Z,27nm,0.8s,mb4.9
SIM MLR MLR
comp=Z,200nm,19.0s
CHG Chiang Mai 29.69 119⇓P pP 07 51 39.2 -9.2
comp=Z,16nm,1.0s
BR131 Keskin Array S 29.96 288 *e*P **P** **07 51 26.3 -0.5**
comp=Z,5.2nm,0.6s,mb4.3
BRTR Keskin Array B 29.96 288 P **P** **07 51 26.2 -0.5**
comp=Z,5.8nm,0.7s,mb4.3,baz=97,slow=8.3,SNR=32
MOS Moscow 30.12 321 *e*P **P** **07 51 26.5 -1.5**
MOS *e**PP pP 07 52 01.0 +9.1
MOS *e* 07 52 28.9
MOS *e* 07 52 48.2
MOS pmax pmax
comp=Z,91nm,0.8s,mb5.5
MOS pmax pmax
comp=N,77nm,0.7s
OBN Obninsk 30.41 319 *e*P **P** **07 51 30.1 -0.4**
comp=N,37nm,0.6s,mb5.2
OBN Obninsk 30.41 319⇑*e*P **P** **07 51 30.3 -0.2**
OBN *e* 07 54 29.9
OBN pmax pmax
comp=Z,77nm,0.6s,mb5.5
OBN MLR MLR
comp=Z,200nm,15.0s
GYA Guiyang 31.35 98 P **P** **07 51 41.8 +2.7**
GYA S **S** **07 56 40.3 +3.3**
GYA AMB AMB
comp=Z,20nm,0.8s,mb4.9
GYA AMB AMB
comp=Z,110nm,3.0s
GYA LR LR
comp=N,370nm,16.4s
GYA LR LR
comp=E,350nm,16.5s
GYA LR LR
comp=Z,390nm,15.8s
HHC Hu-ho-hao-te 31.37 69 *e*P **P** **07 51 40.8 +1.7**
HHC AMB AMB
comp=Z,36nm,2.3s,mb4.7
ENH Enshi 32.08 90 *e*P **P** **07 51 46.5 +1.1**
comp=Z,16nm,1.0s,mb4.7
CIT Chita 33.41 49 *e*P **P** **07 51 52.0 -4.7**
CIT pmax pmax
comp=Z,52nm,1.8s,mb5.1
AKASG Malin Array Be 33.45 309 P **P** **07 51 55.6 -1.5**
comp=Z,33nm,1.0s,mb5.1,baz=90,slow=7.5,SNR=86
AKASG PP PP 07 53 06.7 -5.7
comp=Z,17nm,0.9s,baz=89,slow=11,SNR=5.3
VRI Vrincioaia 34.75 300⇓P **P** **07 52 09.4 +1.2**
VRI Vrincioaia 34.75 300⇓P **P** **07 52 09.4 +1.2**
MNK Minsk 35.02 315 *e*P **P** **07 52 08.0 -2.3**
BOD Bodaibo 35.19 39 *e*P **P** **07 52 11.5 -0.3**
BOD *e* pP 07 52 36.9 +0.5
BOD pmax pmax
comp=Z,4.0nm,1.4s,mb4.1
BOD pmax pmax
comp=Z,14nm,1.3s,mb4.6
MLR Muntele Rosu 35.31 299 P **P** **07 52 14.6 +1.6**
comp=Z,52nm,0.9s,mb5.3,baz=116,slow=2.2,SNR=64
MLR LR LR 08 10 49.8
comp=Z,152nm,18.8s,baz=33,slow=43
MLR Muntele Rosu 35.31 299⇓P **P** **07 52 15.0 +2.1**
MLR Muntele Rosu 35.31 299⇓P **P** **07 52 15.0 +2.1**
PUL Pulkovo 35.36 325⇑*e*P **P** **07 52 13.5 +0.3**
PUL pmax pmax
comp=Z,67nm,0.6s,mb5.7
PUL pmax pmax
comp=E,31nm,0.4s
BURAR Bucovina Array 35.81 303⇑P **P** **07 52 18.0 +0.9**
BURAR Bucovina Array 35.81 303⇑P **P** **07 52 18.0 +0.9**
VOIR 35.94 299⇑P **P** **07 52 18.5 +0.3**
VOIR 35.94 299⇑P **P** **07 52 18.6 +0.3**
JOF Joensuu 36.28 330 *ep* **P** **07 52 20.0 -1.0**
comp=E,37nm,0.5s,mb5.6
VSU Vasula 36.65 322⇑*i*P **P** **07 52 22.4 -1.6**
LVV L'vov 36.67 307⇑*i*P **P** **07 52 24.5 +0.1**
LVV *e* 07 53 46.3
LVV *e* 07 54 41.5
LVV *e*S **S** **07 58 01.3 +2.3**
LVV MLR MLR
comp=N,300nm,16.0s
LVV MLR MLR
comp=E,500nm,16.0s
LVV MLR MLR
comp=Z,100nm,16.0s
KWP Kalwaria 37.52 306 *e*P **P** **07 52 32.5 +1.0**
KWP Kalwaria 37.52 306 *e*P **P** **07 52 32.5 +1.0**
SUW Suwalki 37.61 314 *e*P **P** **07 52 32.1 0.0**
SUW Suwalki 37.61 314 *e*P **P** **07 52 32.1 -0.1**
FINES FINESS Array B 37.92 326 P **P** **07 52 34.6 0.0**
comp=Z,18nm,0.6s,mb5.1,baz=108,slow=9.3,SNR=60
FINES LR LR 08 09 01.0
comp=Z,149nm,22.0s,baz=159,slow=37
APA Apatity 38.01 337⇑*i*P **P** **07 52 36.9 +1.6**
APA *i* PPP PPP 07 54 29.0 -2.1
APA pmax pmax
comp=Z,36nm,1.2s,mb5.1
APA MLR MLR
comp=Z,1μm,10.0s
KAF Kangasniemi 38.06 327 *ep* **P** **07 52 35.5 -0.3**
comp=Z,6.6nm,0.5s,mb4.7,baz=111,slow=8.5
KAF Kangasniemi 38.06 327 *e*P **P** **07 52 35.5 -0.3**
KAF pmax pmax
comp=Z,7.0nm,0.5s,mb4.8
CRVS Cervenica-Dubn 38.33 305 *e*P **P** **07 52 36.1 -2.1**
CRVS *e*PP PP 07 54 04.6 -5.9
STHS Stebnicka Huta 38.47 306 *e*P **P** **07 52 38.6 -0.8**
STHS *e*PP PP 07 54 10.5 -1.7
KECS Kecovo 38.98 305 *e*P **P** **07 52 44.3 +0.7**
KECS *e*PP PP 07 54 14.1 -4.1
NIE Niedzica 39.08 306⇓*i*P **P** **07 52 46.1 +1.7**

PSZ Piszkesteto 39.39 304 *e*P **P** **07 52 47.3 +0.3**
comp=Z,79nm,1.7s,mb5.3
PSZ Piszkesteto 39.39 304 *e*P **P** **07 52 47.3 +0.3**
PSZ pmax pmax
comp=Z,79nm,1.7s,mb5.3
OJC Ojcow 39.42 307⇓*i*P **P** **07 52 47.6 +0.4**
OJC *e*PP PP 07 54 21.5 -1.5
DIVS Divcibare 39.63 298⇓*i*P **P** **07 52 50.3 +1.2**
VYHS Vyhne 40.08 305 *e*P **P** **07 52 53.1 +0.4**
VYHS *e* 07 53 10.7
VYHS *e*PP PP 07 54 26.6 -3.5
VYHS Vyhne 40.08 305 *e*P **P** **07 52 53.1 +0.4**
VYHS *e* 07 54 26.6
SRO Srobarova 40.46 304 *e*P **P** **07 52 58.2 +2.4**
OKC Ostrava-Krasne 40.48 307 *e*P **P** **07 52 56.7 +0.7**
SRO1 Iza 40.52 304 *e*P **P** **07 52 58.3 +2.0**
MORC Moravsky Berou 40.88 307 *e*P **P** **07 52 59.5 +0.2**
comp=Z,40nm,1.1s,mb5.2
MORC *e* 07 53 30.9
MORC Moravsky Berou 40.88 307 *e*P **P** **07 52 59.5 +0.3**
MORC *e* 07 53 30.9
MORC pmax pmax
comp=Z,40nm,1.1s,mb5.2
GKP Gorka Klasztor 41.07 312 *e*P **P** **07 53 01.4 +0.6**
KEV Kevo 41.17 338 *ep* **P** **07 53 01.0 -0.4**
comp=Z,11nm,0.9s,mb4.7
KEV Kevo 41.17 338 *e*P **P** **07 53 01.0 -0.4**
KEV pmax pmax
comp=Z,11nm,0.9s,mb4.7
ZST Bratislava 41.25 304 *e*P **P** **07 53 03.3 +1.0**
ZST *e*PP PP 07 54 39.3 -2.8
CN2 Changchun 41.26 62 *e*P **P** **07 53 02.5 +0.1**
ARCES ARCESS Array B 41.51 338 P **P** **07 53 04.5 +0.3**
comp=Z,18nm,0.7s,mb4.9,baz=111,slow=8.2,SNR=48
ARCES LR LR 08 11 17.8
comp=Z,449nm,18.9s,baz=240,slow=37
ARCES ARCESS Array B 41.51 338 P **P** **07 53 04.5 +0.3**
ARCES LR LR 08 11 17.8
ARE0 ARCESS Array S 41.51 338 *e*P **P** **07 53 04.0 -0.2**
DPC Dobruska-Polom 41.64 308 *e*P **P** **07 53 06.5 +1.1**
DPC *e*PP PP 07 54 46.4 0.0
KSP Ksiaz 41.65 308 *e*P **P** **07 53 06.4 +1.0**
KSP Ksiaz 41.65 308 *e*P **P** **07 53 06.0 +0.5**
UPC Upice 41.84 308 *e*P **P** **07 53 07.9 +0.9**
KTK1 Kautokeino 41.99 336 *e*P **P** **07 53 09.0 +0.9**
PERS Pernice 42.74 302 *e*P **P** **07 53 15.0 +0.5**
PVCC Panska Ves 42.76 308 *e*P **P** **07 53 15.4 +0.9**
BOJS Bojanci 42.80 300 *e*P **P** **07 53 15.2 +0.3**
PRU Pruhonice 42.80 307 *e*P **P** **07 53 15.8 +0.8**
PRU *e*PP PP 07 54 53.3 -5.1
BRG Berggiesshubel 43.13 308 *i* P **P** **07 53 18.3 +0.7**
comp=Z,73nm,1.3s,mb5.2
BRG *e*pP pP 07 53 42.1 -0.6
BRG *e* 07 53 52.8
BRG *e*PcP PcP 07 54 57.7 -8.3
BRG Berggiesshubel 43.13 308 *i* P **P** **07 53 18.3 +0.7**
BRG *e**PP pP 07 53 42.1 -0.6
BRG *e* 07 53 52.8
BRG *e* 07 54 57.7
BRG pmax pmax
comp=Z,73nm,1.3s,mb5.2
OBKA Obir 43.15 302⇑*i*P **P** **07 53 18.1 +0.3**
comp=Z,23nm,1.1s,mb4.8
MOA Molln 43.17 304⇑*i*P **P** **07 53 18.3 +0.3**
comp=Z,37nm,1.1s,mb5.0
LJU Ljubljana 43.22 301 *e*P **P** **07 53 19.2 +0.8**
KNDS Knezji Dol 43.40 301 *e*P **P** **07 53 20.4 +0.5**
GEC2 GERESS Array S 43.45 306 *e*P **P** **07 53 21.0 +0.8**
comp=Z,19nm,1.2s,mb4.7
GEC2 GERESS Array S 43.45 306 *e*P **P** **07 53 21.0 +0.8**
GEC2 pmax pmax
comp=Z,19nm,1.2s,mb4.7
GERES GERESS Array B 43.45 306 P **P** **07 53 20.4 +0.2**
comp=Z,4.6nm,0.9s,mb4.2,baz=101,slow=6.8,SNR=26
GERES PP PP 07 55 03.0 -1.8
comp=Z,4.2nm,0.9s,baz=82,slow=9.4,SNR=7.6
KHC Kasperske Hory 43.50 306 *e*P **P** **07 53 21.2 +0.6**
KHC *e*sP sP 07 53 55.7 -2.5
KHC *e*PP PP 07 55 01.7 -3.6
HFS Hagfors 43.53 322 LR LR 08 11 54.1
comp=Z,140nm,21.4s,baz=58,slow=36
CLL Collm 43.70 309⇓P **P** **07 53 22.3 +0.1**
comp=Z,logA/T=1.6,mb5.1
CLL *e*PP PP 07 55 04.0 -3.3
CLL *i* PCP PcP 07 55 07.0 -0.9
CLL *e*S **S** **07 59 45.0 +1.5**
CLL Collm 43.70 309⇓*i*P **P** **07 53 22.3 +0.1**
comp=Z,44nm,1.2s,mb5.1
CLL *i* PcP PcP 07 55 07.0 -0.9
CLL *e*S **S** **07 59 45.0 +1.5**
CLL Collm 43.70 309⇓*i*P **P** **07 53 22.3 +0.1**
CLL *i* 07 55 07.0
CLL *e*S **S** **07 59 45.0 +1.5**
CLL pmax pmax
comp=Z,44nm,1.2s,mb5.1
YAK Yakutsk 43.84 35 *i* P **P** **07 53 24.0 +0.8**
YAK Yakutsk 43.84 35 *i* P **P** **07 53 24.9 +1.7**
YAK pmax pmax
comp=Z,15nm,0.5s,mb5.0
KBA Koelnbreinsper 43.89 303⇑*i*P **P** **07 53 24.0 +0.2**
comp=Z,22nm,1.2s,mb4.8
KBA Koelnbreinsper 43.89 303⇑*i*P **P** **07 53 24.0 +0.2**
KBA pmax pmax
comp=Z,22nm,1.2s,mb4.8
MDJ Mudanjiang 44.07 61 P **P** **07 53 24.8 -0.5**
MDJ AMB AMB
comp=Z,11nm,2.1s,mb4.2
MDJ AMB AMB
comp=Z,147nm,3.6s
NKC Novy Kostel 44.13 308 *e*P **P** **07 53 26.5 +0.8**
NKC *e*sP sP 07 54 01.0 -2.2
MOR8 Moi Rana 44.23 331 *e*P **P** **07 53 25.7 -0.6**
MOR8 AMb AMB 07 53 26.6
comp=Z,64nm,0.7s,mb5.5
MOR8 Moi Rana 44.23 331 *e*P **P** **07 53 25.7 -0.6**
comp=Z,64nm,0.7s,mb5.5
MOX Moxa 44.62 308 *i* P **P** **07 53 30.2 +0.6**
comp=Z,logA/T=1.6,mb5.1
MOX pP pP 07 53 57.0 +2.2
MOX Moxa 44.62 308 *e*P **P** **07 53 30.2 +0.6**
comp=Z,58nm,1.6s,mb5.1
MOX *e*pP pP 07 53 56.6 +1.8
MOX Moxa 44.62 308 *e*P **P** **07 53 30.2 +0.6**
MOX *e**PP pP 07 53 56.6 +1.8
MOX pmax pmax
comp=Z,58nm,1.6s,mb5.1
MELSS Ber_school_2 44.67 332 *e*P **P** **07 53 29.8 0.0**
NB2 NORSAR Subarra 44.83 323 P **P** **07 53 30.4 -0.8**
comp=Z,41nm,0.6s,mb5.3,baz=95,slow=7.4
NB2 NORSAR Subarra 44.83 323 P **P** **07 53 30.4 -0.8**
baz=95,slow=7.9
NB2 NORSAR Subarra 44.83 323 P **P** **07 53 30.4 -0.8**
NB2 pmax pmax
comp=Z,41nm,0.6s,mb5.3
NOA NORSAR Array B 44.83 323 P **P** **07 53 30.5 -0.6**
comp=Z,33nm,0.5s,mb5.3,baz=96,slow=7.7,SNR=172
NOA PP PP 07 55 16.2 -2.2
comp=Z,4.5nm,0.7s,baz=93,slow=9.7,SNR=3.5
NOA LR LR 08 15 07.4
comp=Z,75nm,18.0s,baz=105,slow=40
NOA NORSAR Array B 44.83 323 P **P** **07 53 30.5 -0.6**
NOA PP PP 07 55 16.2 -2.2
NOA LR LR 08 15 07.4
GRA1 Grafenberg Arr 44.97 307 *e*P **P** **07 53 33.8 +1.4**
comp=Z,117nm,1.5s,mb5.4
GRF Grafenberg Arr 44.97 307 *e*P **P** **07 53 33.8 +1.4**
GRF pmax pmax
comp=Z,117nm,1.5s,mb5.4
NAO01 NORSAR Array S 44.98 323 *e*P **P** **07 53 31.5 -0.8**
comp=Z,44nm,1.0s,mb5.1
WTTA Wattenberg 45.02 304⇑*i*P **P** **07 53 32.0 -0.8**
comp=Z,32nm,1.1s,mb5.0
WTTA Wattenberg 45.02 304⇑*i*P **P** **07 53 32.0 -0.8**
WTTA pmax pmax
comp=Z,32nm,1.1s,mb5.0
WATA Walderalm 45.05 304⇑*i*P **P** **07 53 32.0 -1.0**
comp=Z,18nm,1.2s,mb4.7
WATA Walderalm 45.05 304⇑*i*P **P** **07 53 32.0 -1.0**
WATA pmax pmax
comp=Z,18nm,1.2s,mb4.7
FUR Furstenfeldbru 45.13 305 *e*P **P** **07 53 34.4 +0.7**
comp=Z,130nm,1.6s,mb5.4
FUR Furstenfeldbru 45.13 305 *e*P **P** **07 53 34.4 +0.7**
FUR pmax pmax

comp=Z,130nm,1.6s,mb5.4
BSEG Bad Segeberg 45.19 313 *e*P **P 07 53 34.4 +0.3**
CLZ Clausthal 45.30 310 *e*P **P 07 53 35.2 +0.3**
comp=Z,78nm,1.3s,mb5.3
CLZ Clausthal 45.30 310 *e*P **P 07 53 35.2 +0.3**
CLZ pmax pmax
comp=Z,78nm,1.3s,mb5.3
SQTA Sankt Quirin 45.31 304⇑ *i*P **P 07 53 34.6 -0.5**
comp=Z,13nm,1.0s,mb4.6
SQTA Sankt Quirin 45.31 304⇑ *i*P **P 07 53 34.6 -0.5**
SQTA pmax pmax
comp=Z,13nm,1.0s,mb4.6
MOTA Moosalm 45.36 304⇑ *i*P **P 07 53 34.4 -1.1**
comp=Z,24nm,1.0s,mb4.9
MOTA Moosalm 45.36 304⇑ *i*P **P 07 53 34.4 -1.1**
MOTA pmax pmax
comp=Z,24nm,1.0s,mb4.9
KONO Kongsberg 45.55 321 *e*P **P 07 53 36.0 -0.9**
comp=Z,24nm,0.7s,mb5.0
KONO Kongsberg 45.55 321 *c i*P **P 07 53 36.1 -0.7**
TIXI Tiksi 45.77 22 *e*P **P 07 53 34.7 -3.8**
TIXI pmax pmax
comp=Z,16nm,0.9s,mb4.8
DAVA Damuels 46.19 304⇑ *i*P **P 07 53 41.1 -1.0**
comp=Z,54nm,0.9s,mb5.3
DAVOX Davos 46.28 303 LR LR 08 16 49.8
comp=Z,118nm,20.6s,baz=86,slow=41
TOD Tromm 46.54 307 *e*P **P 07 53 45.2 +0.4**
TNS Taunus Mts 46.69 308 *e*P **P 07 53 46.3 +0.4**
comp=Z,24nm,1.1s,mb4.8
TNS Taunus Mts 46.69 308 *e*P **P 07 53 46.3 +0.4**
TNS pmax pmax
comp=Z,24nm,1.1s,mb4.8
BFO Black Forest 47.05 305 *e*P **P 07 53 48.4 -0.4**
comp=Z,18nm,1.1s,mb4.7
BFO Black Forest 47.05 305 *e*P **P 07 53 48.4 -0.4**
BFO pmax pmax
comp=Z,18nm,1.1s,mb4.7
BLS5 Blasjo 47.15 321 *e*P **P 07 53 51.1 +1.7**
BLS5 AMb AMB 07 53 52.9
comp=Z,42nm,1.4s,mb5.0
BLS5 Blasjo 47.15 321 *e*P **P 07 53 51.1 +1.7**
comp=Z,42nm,1.4s,mb5.0
LANF Langenberg 47.28 306 *e*P **P 07 53 51.3 +0.6**
FELD Feldberg 47.34 305 *e*P **P 07 53 51.1 0.0**
RUP Ruppelstein 47.65 308 *e*P **P 07 53 54.0 +0.5**
CDF Champ du Feu 47.73 306 *e*P **P 07 53 54.0 -0.1**
comp=Z,26nm,1.0s,mb4.7
CDF Champ du Feu 47.73 306 *e*P **P 07 53 54.0 -0.1**
CDF pmax pmax
comp=Z,13nm,1.0s,mb4.7
BBS Basel-Blauen 47.75 304 *e*P **P 07 53 53.3 -1.0**
ECH Echery 47.84 306 *e*P **P 07 53 56.3 +1.3**
MOF Molkenrain 47.92 305 *e*P **P 07 53 55.6 -0.1**
HINF Hinteralfeld 48.12 305 *e*P **P 07 53 56.6 -0.5**
comp=Z,54nm,1.1s,mb5.0
HINF Hinteralfeld 48.12 305 *e*P **P 07 53 56.6 -0.5**
HINF pmax pmax
comp=Z,27nm,1.1s,mb5.0
JNU Nakatsue 48.16 76 P **P 07 53 59.3 +1.6**
comp=Z,12nm,0.8s,mb4.8,baz=332,slow=7.2,SNR=5.7
LOMF Lomont 48.22 304 *e*P **P 07 53 58.2 +0.2**
WLF Walferdange 48.24 308 *e*P **P 07 53 58.7 +0.7**
comp=Z,77nm,1.3s,mb5.4
WLF Walferdange 48.24 308 *e*P **P 07 53 58.7 +0.7**
WLF pmax pmax
comp=Z,77nm,1.3s,mb5.4
HAU Haudompre 48.41 305 *e*P **P 07 53 59.0 -0.4**
comp=Z,68nm,1.2s,mb5.0
HAU *e*R
comp=Z,62nm,19.5s
HAU Haudompre 48.41 305 *e*P **P 07 53 59.0 -0.4**
HAU pmax pmax
comp=Z,34nm,1.3s,mb5.0
HAU MLR MLR
comp=Z,60nm,19.5s
SAOF Saorge 48.47 300 *e*P **P 07 54 00.7 +0.8**
AUTN L'Aution 48.55 300 *e*P **P 07 54 00.8 +0.2**
SBF Sospel 48.58 300 *e*P **P 07 54 00.7 -0.1**
comp=Z,40nm,0.8s,mb5.1
SBF Sospel 48.58 300 *e*P **P 07 54 00.7 -0.1**
SBF pmax pmax
comp=Z,20nm,0.8s,mb5.1
THEF They Montfort 48.61 306 *e*P **P 07 54 01.0 +0.1**
LPG La Plagne 48.67 302 *e*P **P 07 54 01.5 +0.1**
comp=Z,25nm,0.9s,mb4.8
LPG La Plagne 48.67 302 *e*P **P 07 54 01.5 +0.1**
LPG pmax pmax
comp=Z,12nm,0.9s,mb4.8
TOUF Mont Tournerai 48.68 300 *e*P **P 07 54 01.8 +0.3**
LPL La Plagne 48.68 302 *e*P **P 07 54 01.6 +0.1**
BNI Bardonecchia 48.82 301 *e*P **P 07 54 02.3 -0.3**
comp=Z,8.9nm,0.9s,mb4.7
BNI Bardonecchia 48.82 301 *e*P **P 07 54 02.3 -0.3**
BNI pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
MBDF Montbardon 48.84 301 *e*P **P 07 54 03.0 +0.3**
comp=Z,16nm,0.6s,mb4.8
MBDF Montbardon 48.84 301 *e*P **P 07 54 03.0 +0.3**
MBDF pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
CABF La Chapelle 48.87 304 *e*P **P 07 54 02.9 -0.1**
comp=Z,111nm,1.3s,mb5.3
CABF La Chapelle 48.87 304 *e*P **P 07 54 02.9 -0.1**
CABF pmax pmax
comp=Z,55nm,1.3s,mb5.3
GIVF Givet 49.01 308 *e*P **P 07 54 04.2 +0.2**
comp=Z,142nm,1.5s,mb5.4
GIVF Givet 49.01 308 *e*P **P 07 54 04.2 +0.2**
GIVF pmax pmax
comp=Z,71nm,1.5s,mb5.4
KMBO Kilima Mbogo 49.07 228 P **P 07 54 06.5 +1.6**
comp=Z,6.4nm,0.7s,mb4.7,baz=35,slow=11,SNR=23
KMBO Kilima Mbogo 49.07 228 P **P 07 54 06.5 +1.6**
MEZF Maizieres J'vi 49.16 306 *e*P **P 07 54 05.2 0.0**
comp=Z,250nm,1.6s,mb5.6
FRF La Foret Royal 49.21 300 *e*P **P 07 54 05.1 -0.5**
BAIF Baives 49.40 308 *e*P **P 07 54 07.3 +0.3**
comp=Z,108nm,1.2s,mb5.4
BAIF Baives 49.40 308 *e*P **P 07 54 07.3 +0.3**
BAIF pmax pmax
comp=Z,54nm,1.2s,mb5.3
ORIF Oris-en-Rattie 49.41 301 *e*P **P 07 54 07.9 +0.8**
ORIF *e*R
comp=Z,112nm,21.8s
SMRF Simiane la Rot 49.85 300 *e*P **P 07 54 10.2 -0.4**
LOR Lormes 50.21 305 *e*P **P 07 54 12.3 -1.0**
comp=Z,27nm,1.2s,mb4.8
LOR Lormes 50.21 305 *e*P **P 07 54 12.3 -1.0**
LOR pmax pmax
comp=Z,13nm,1.2s,mb4.7
VIVF Saint-Julien-l 50.25 302 *e*P **P 07 54 13.7 +0.1**
comp=Z,33nm,0.8s,mb5.0
VIVF *e*pP pP 07 54 39.0 -0.2
VIVF Saint-Julien-l 50.25 302 *e*P **P 07 54 13.7 +0.1**
VIVF *e**PP pP 07 54 39.0 -0.2
VIVF pmax pmax
comp=Z,16nm,0.8s,mb5.0
SMF Signal de Mont 50.37 304 *e*P **P 07 54 13.9 -0.6**
comp=Z,88nm,1.2s,mb5.3
SMF Signal de Mont 50.37 304 *e*P **P 07 54 13.9 -0.6**
SMF pmax pmax
comp=Z,44nm,1.2s,mb5.3
SSF Saint Saulge 50.50 305 *e*P **P 07 54 14.7 -0.7**
comp=Z,30nm,1.4s,mb5.0
SSF Saint Saulge 50.50 305 *e*P **P 07 54 14.7 -0.7**
SSF pmax pmax
comp=Z,30nm,1.4s,mb5.0
AVF Avril sur Loir 50.66 304 *e*P **P 07 54 16.0 -0.7**
comp=Z,53nm,0.8s,mb5.3
AVF Avril sur Loir 50.66 304 *e*P **P 07 54 16.0 -0.7**
AVF pmax pmax
comp=Z,27nm,0.8s,mb5.3
KKM Kota Kinabalu 50.68 115 *e*P **P 07 54 17.3 0.0**
PLDF La Plantade 50.69 303 *e*P **P 07 54 17.9 +1.0**
AGO Saint Agoulin 51.00 304 *e*P **P 07 54 20.5 +1.3**
HYF Humbligny 51.02 305 *e*P **P 07 54 19.1 -0.3**
LASF Ste Croix 51.02 301 *e*P **P 07 54 19.5 0.0**
comp=Z,56nm,1.0s,mb5.2
LASF *e*pP pP 07 54 45.0 -0.2
BGF Bois d'Agland 51.06 304 *e*P **P 07 54 18.9 -0.8**
LBL Lubilhac 51.13 302 *e*P **P 07 54 21.7 +1.4**
PYM Petit Puy Mans 51.16 303 *e*P **P 07 54 21.7 +1.3**
TCF Toulx Ste Croi 51.55 304 *e*P **P 07 54 23.2 -0.2**
comp=Z,79nm,1.1s,mb5.4
TCF *e*pP pP 07 54 48.9 -0.3
TCF Toulx Ste Croi 51.55 304 *e*P **P 07 54 23.2 -0.2**
TCF *e**PP pP 07 54 48.9 -0.3
TCF pmax pmax
comp=Z,40nm,1.1s,mb5.4
CAF Calviac 52.02 302 *e*P **P 07 54 26.8 -0.1**
comp=Z,27nm,0.8s,mb5.0
CAF *e*pP pP 07 54 52.4 -0.3
CAF Calviac 52.02 302 *e*P **P 07 54 26.8 -0.1**
CAF *e**PP pP 07 54 52.4 -0.3
CAF pmax pmax
comp=Z,13nm,0.8s,mb5.0
RJF Les Rejaudoux 52.29 303 *e*P **P 07 54 28.9 0.0**
comp=Z,24nm,1.0s,mb4.9
RJF *e*pP pP 07 54 54.7 0.0
RJF *e*R
comp=Z,67nm,18.2s
RJF Les Rejaudoux 52.29 303 *e*P **P 07 54 28.9 0.0**
RJF *e**PP pP 07 54 54.7 0.0
RJF pmax pmax
comp=Z,12nm,1.0s,mb4.9
RJF MLR MLR
comp=Z,70nm,18.3s
MTLF Montolieu 52.37 300 *e*P **P 07 54 29.2 -0.4**
comp=Z,26nm,0.9s,mb5.0
MTLF Montolieu 52.37 300 *e*P **P 07 54 29.2 -0.4**
MTLF pmax pmax
comp=Z,13nm,0.9s,mb5.0
LDF La Druitiere 52.49 307 *e*P **P 07 54 29.4 -1.0**
comp=Z,77nm,1.2s,mb5.3
LDF La Druitiere 52.49 307 *e*P **P 07 54 29.4 -1.0**
LDF pmax pmax
comp=Z,38nm,1.2s,mb5.3
YSS Yuzh-Sakhalins 52.53 55 *i* P **P 07 54 32.2 +1.5**
YSS Yuzh-Sakhalins 52.53 55 *e*P **P 07 54 33.6 +2.9**
YSS *e* 07 55 08.5
MAT Matsushiro 52.56 69 P **P 07 54 31.0 -0.1**
FLN La Foliniere 52.68 308 *e*P **P 07 54 30.7 -1.1**
comp=Z,38nm,0.8s,mb5.2
FLN *e*R
comp=Z,103nm,17.8s
FLN La Foliniere 52.68 308 *e*P **P 07 54 30.7 -1.1**
FLN pmax pmax
comp=Z,19nm,0.8s,mb5.2
FLN MLR MLR
comp=Z,100nm,17.8s
MBAR Mbarara 52.80 235 *e*P **P 07 54 31.9 -1.3**
comp=Z,7.5nm,0.6s,mb4.9
MBAR Mbarara 52.80 235 *c i*P **P 07 54 32.2 -1.0**
ESK Eskdalemuir 52.80 316 *e*P **P 07 54 31.9 -0.7**
comp=Z,58nm,1.2s,mb5.5
ESK Eskdalemuir 52.80 316 *e*P **P 07 54 31.9 -0.7**
ESK pmax pmax
comp=Z,58nm,1.2s,mb5.5
LFF La Frestale 52.92 303 *e*P **P 07 54 33.3 -0.3**
comp=Z,24nm,0.7s,mb5.0
LFF La Frestale 52.92 303 *e*P **P 07 54 33.3 -0.3**
LFF pmax pmax
comp=Z,12nm,0.7s,mb5.0
GRR Gorron 53.02 307 *e*P **P 07 54 33.1 -1.2**
comp=Z,74nm,1.0s,mb5.4
GRR Gorron 53.02 307 *e*P **P 07 54 33.1 -1.2**
GRR pmax pmax
comp=Z,37nm,1.0s,mb5.4
MFF Saint Martin d 53.04 305 *e*P **P 07 54 33.3 -1.2**
comp=Z,38nm,1.0s,mb5.1
MFF Saint Martin d 53.04 305 *e*P **P 07 54 33.3 -1.2**
MFF pmax pmax
comp=Z,19nm,1.0s,mb5.1
MLS Moulis 53.27 300 *e*P **P 07 54 34.7 -1.6**
EPF Esparros 53.77 301 *e*P **P 07 54 38.4 -1.5**
EPOB Poblet 53.80 298 P **P 07 54 39.5 -0.6**
comp=Z,4.3nm,0.7s,mb4.6
EBIE Bielsa 54.02 300 P **P 07 54 41.4 -0.3**
comp=Z,4.2nm,0.6s,mb4.7
SGMF Saint Gilles 54.14 308 *e*P **P 07 54 41.8 -0.8**
comp=Z,142nm,1.2s,mb5.6
SGMF Saint Gilles 54.14 308 *e*P **P 07 54 41.8 -0.8**
SGMF pmax pmax
comp=Z,71nm,1.2s,mb5.6
SEY Seymchan 54.31 34⇑ *e*P **P 07 54 44.4 +0.9**
ETSF Etsaut 54.44 301 *e*P **P 07 54 44.5 -0.3**
comp=Z,32nm,0.7s,mb5.1
ETSF Etsaut 54.44 301 *e*P **P 07 54 44.5 -0.3**
ETSF pmax pmax
comp=Z,16nm,0.7s,mb5.2
ROSF Rostrenen 54.58 308 *e*P **P 07 54 44.8 -0.9**
comp=Z,34nm,0.7s,mb5.2
ROSF Rostrenen 54.58 308 *e*P **P 07 54 44.8 -0.9**
ROSF pmax pmax
comp=Z,17nm,0.7s,mb5.2
QUIF Quistinic 54.63 307 *e*P **P 07 54 44.9 -1.2**
comp=Z,50nm,1.0s,mb5.2
QUIF Quistinic 54.63 307 *e*P **P 07 54 44.9 -1.2**
QUIF pmax pmax
comp=Z,25nm,1.0s,mb5.2
ESAC San Caprasio 54.77 299 P **P 07 54 46.5 -0.7**
comp=Z,19nm,0.7s,mb5.2
SJPF Ste Jean 54.83 301 *e*P **P 07 54 46.5 -1.2**
comp=Z,38nm,1.1s,mb5.0
SJPF Ste Jean 54.83 301 *e*P **P 07 54 46.5 -1.2**
SJPF pmax pmax
comp=Z,19nm,1.1s,mb5.0
ELAN Lanestosa 56.31 302 P **P 07 54 58.2 -0.1**
comp=Z,20nm,0.7s,mb5.2
EHUE Huescar 57.72 296 P **P 07 55 07.4 -0.9**
comp=Z,4.1nm,0.7s,mb4.6
EHUE Huescar 57.72 296 P **P 07 55 07.4 -0.9**
EHUE pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
ESDC Sonseca Array 57.99 298 P **P 07 55 08.2 -2.0**
comp=Z,3.0nm,0.8s,mb4.4,baz=55,slow=7.1,SNR=9.9
ESDC pP pP 07 55 35.6 -0.9
comp=Z,3.9nm,0.8s,baz=58,slow=6.9,SNR=4.0
ESDC Sonseca Array 57.99 298 P **P 07 55 08.7 -1.4**
comp=Z,3.1nm,0.7s,mb4.5
EQES Quesada 58.08 296 P **P 07 55 09.1 -1.7**
comp=Z,6.8nm,0.7s,mb4.8
BILL Bilibino 58.57 26 *e*P **P 07 55 13.1 -0.7**
BILL *e**PP pP 07 55 40.8 +0.7
BILL *e* 07 56 05.0
BILL *e* 07 57 21.6
BILL *e*S **S 08 03 07.2 -0.1**
BILL pmax pmax
comp=Z,7.0nm,1.5s,mb4.5
EPON Pontenova 58.81 303 P **P 07 55 14.8 -1.0**
comp=Z,7.9nm,0.7s,mb4.8
EADA Adamuz 59.02 297 P **P 07 55 15.2 -2.1**
comp=Z,5.4nm,0.8s,mb4.6
ECAL Calabor 59.05 302 P **P 07 55 15.1 -2.4**
comp=Z,6.1nm,0.8s,mb4.7
ELOB Lobios 59.99 302 P **P 07 55 23.1 -0.8**
comp=Z,10.0nm,1.0s,mb4.8
EBAD Badajoz 60.52 298 P **P 07 55 26.1 -1.5**
comp=Z,8.4nm,0.7s,mb4.9
EMIN Mina Concepcio 60.69 297 P **P 07 55 26.9 -1.9**
comp=Z,3.3nm,0.8s,mb4.4
SUMG Summit 61.41 341 *e*P **P 07 55 33.3 +0.2**
comp=Z,38nm,0.9s,mb5.4
SUMG *e*pP pP 07 55 58.2 -1.5
SUMG *e*sP sP 07 56 08.4 -3.3
FX1 Attu Island--F 68.23 40 LR LR 08 28 14.4
comp=Z,1.9nm,19.5s,baz=68,slow=38
IMA Indian Mountai 72.16 18 *e*P **P 07 56 40.8 0.0**
comp=Z,32nm,1.2s,mb5.0
IMA Indian Mountai 72.16 18 *e*P **P 07 56 40.8 0.0**
IMA pmax pmax
comp=Z,32nm,1.2s,mb5.0
MBWA Marble Bar 73.03 133 *e*P **P 07 56 47.7 +1.0**
comp=Z,14nm,1.0s,mb4.8
INK Inuvik 74.02 9 *e*P **P 07 56 51.6 0.0**
comp=Z,11nm,0.9s,mb4.6
INK *e*pP pP 07 57 18.0 -1.0
INK Inuvik 74.02 9 *e*P **P 07 56 51.6 +0.1**
INK *e**PP pP 07 57 18.0 -1.1
INK pmax pmax
comp=Z,11nm,0.9s
ILAR Eielson Array 74.83 16 P **P 07 56 55.0 -1.3**
comp=Z,4.4nm,0.9s,mb4.2,baz=315,slow=5.0,SNR=37
ILAR pP pP 07 57 24.4 +0.6
comp=Z,2.7nm,0.9s,baz=314,slow=5.0,SNR=4.8
LBTB Lobatse 74.86 223 *e*P **P 07 56 57.9 +0.7**
comp=Z,84nm,1.2s,mb5.3
LBTB Lobatse 74.86 223 *e*P **P 07 56 57.9 +0.6**
LBTB pmax pmax
comp=Z,84nm,1.2s,mb5.3
DBIC Dimbokro 75.18 267 P **P 07 56 56.6 -2.7**
comp=Z,2.3nm,0.5s,mb4.2,baz=16,slow=7.4,SNR=6.3
DBIC LR LR 08 34 37.4
comp=Z,39nm,18.3s,baz=38,slow=39
DBIC Dimbokro 75.18 267 P **P 07 56 56.6 -2.7**
DBIC LR LR 08 34 37.4
TSUM Tsumeb 75.19 232 *e*P **P 07 56 59.1 -0.1**
comp=Z,26nm,1.1s,mb4.9
LIC Lamto 75.58 267 *e*P **P 07 56 59.2 -2.3**
comp=Z,12nm,0.8s,mb4.4
DAWY Dawson 77.00 13 *e*P **P 07 57 08.2 -0.2**
DAWY *e*pP pP 07 57 36.2 0.0
BOSA Boshof 77.92 221 P **P 07 57 14.8 +0.5**
comp=Z,32nm,0.8s,mb5.1,baz=41,slow=5.9,SNR=31
BOSA PKKPbc 08 16 11.8
comp=Z,5.3nm,1.0s,baz=174,slow=19,SNR=6.2
BOSA Boshof 77.92 221 *e*P **P 07 57 14.4 +0.1**
comp=Z,36nm,0.9s,mb5.1
BOSA Boshof 77.92 221 *e*P **P 07 57 14.4 +0.1**
BOSA pmax pmax
comp=Z,36nm,0.9s,mb5.1
BOSA Boshof 77.92 221 P **P 07 57 14.8 +0.5**
BOSA pmax pmax
comp=Z,32nm,0.8s,mb5.1
BOSA pmax pmax
comp=Z,5.0nm,1.0s,mb4.2
YKW3 Yellowknife Ar 81.35 3 *e*P **P 07 57 32.2 +0.2**
YKW3 *e*pP pP 07 57 59.5 -0.4
YKA Yellowknife Ar 81.42 3 P **P 07 57 32.3 -0.1**
comp=Z,7.0nm,0.8s,mb4.5,baz=347,slow=5.3,SNR=42
YKA pP pP 07 58 00.0 -0.3
comp=Z,4.1nm,0.7s,baz=349,slow=5.4,SNR=5.0
YKA LR LR 08 34 52.3
comp=Z,36nm,18.9s,slow=36
YKA Yellowknife Ar 81.42 3 P **P 07 57 32.3 -0.1**
YKA pP pP 07 58 00.1 -0.2
YKA LR LR 08 34 52.3
WRA Warramunga Arr 81.47 122 P **P 07 57 34.4 +0.9**
comp=Z,3.0nm,0.7s,mb4.2,baz=322,slow=5.0,SNR=18
WRA pP pP 07 58 02.3 +0.8
comp=Z,7.0nm,0.9s,baz=322,slow=5.2,SNR=7.7
WRA PKKP PKKP 08 15 53.6 +13
comp=Z,1.0nm,0.6s,baz=150,slow=3.4,SNR=6.8
WRAB Tennant Creek 81.47 122 *e*P **P 07 57 34.0 +0.5**
comp=Z,6.1nm,0.8s,mb4.5
WRAB *e*pP pP 07 58 01.6 +0.2
WRAB Tennant Creek 81.47 122 *e*P **P 07 57 34.0 +0.5**
WRAB *e**PP pP 07 58 01.6 +0.2
WRAB pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
SCHQ Schefferville 82.47 337 P **P 07 57 38.2 +0.3**
comp=Z,6.5nm,0.9s,mb4.5,baz=61,slow=3.4,SNR=6.1
SCHQ LR LR 08 33 29.5
comp=Z,84nm,21.7s,baz=24,slow=35
SCHQ Schefferville 82.47 337 P **P 07 57 38.2 +0.3**
SCHQ LR LR 08 33 29.5
EDM Edmonton 90.74 3 *e*P **P 07 58 19.1 +1.0**
ULM Lac du Bonnet 93.11 352 P **P 07 58 28.9 -0.2**
comp=Z,5.0nm,1.1s,mb4.8,baz=28,slow=3.0,SNR=4.9
ULM pP pP 07 58 58.1 +0.5
comp=Z,2.2nm,0.8s,baz=356,slow=4.9,SNR=2.5
ULM LR LR 08 39 40.8
comp=Z,38nm,21.6s,baz=59,slow=35
TXAR Lajitas Array 114.56 355 PKKPbc 08 14 34.7
comp=Z,0.2nm,0.8s,baz=150,slow=7.3,SNR=2.7
TXAR PKKPab 08 14 40.9
comp=Z,0.8nm,1.0s,baz=190,slow=7.6,SNR=5.8
SNAA Sanae 119.39 200 *e* PKPdf 08 04 03.4 +0.9
VNA2 Neumayer--Watz 120.40 202 *e* PKPdf 08 04 04.9 +0.4
VNA3 Neumayer Olymp 121.21 202 *e* PKPdf 08 04 06.0 0.0
QSPA South Pole Qui 126.10 180 *e*P PKPdf 08 04 15.7 +0.6
CPUP Villa Florida 135.70 268 PKP PKPdf 08 04 34.7 0.0
comp=Z,1.6nm,0.7s,baz=62,slow=15,SNR=6.6
LVC Limon Verde 143.28 281 *e*PKPdf PKPdf 08 04 45.9 -2.4
CFAA Coronel Fontan 146.54 266 PKPbc PKPbc 08 04 55.1 0.0
comp=Z,1.6nm,0.8s,baz=39,slow=3.1,SNR=25
USHA Ushuaia 147.04 223 PKPbc PKPdf 08 04 57.7 +3.9
comp=Z,12nm,1.1s,baz=281,slow=5.7,SNR=3.6
PLCA Paso Flores 150.22 250 PKPbc PKPdf 08 05 05.2 +5.9
comp=Z,7.0nm,0.9s,baz=124,slow=1.1,SNR=9.9
PLCA Paso Flores 150.22 250 *e*PKPbc PKPdf 08 05 05.8 +6.5

GUC ***26*** *07:53:56.8±0.7, 23.18S×67.21W, h245km±7km, ML4.1*
IDC ***26*** *07:53:56.1±0.8, 23.14S×66.64W, h205km±8km, mb3.7/7, mb1 4.0/14, mb1mx3.8/21, mbtmp4.3/14, MS3.2/1, Ms1 3.1/1, ms1mx2.3/18, Error ellipse: s-maj=12.6km s-min=11.6km az=32.0*
NEIC ***26*** *07:53:56.2±0.5, 23.19S×66.64W, h205km±5km, mb4.2/12, Error ellipse: s-maj=9.3km s-min=6.9km az=89.0*
ISC 26 07:53:55.1±0.5,**23.24S**±0.04×**66.68W**±0.06,**h211**km±5km,
n54,σ1**19**/60,**mb3.9**/13,**11C,Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPCH	**San Pedro de A**	**1.44**	**283**	⇑ *i*P	**P**	**07 54 32.5**	**+2.9**
SPCH				*i* S	**S**	**07 55 00.3**	**+4.0**
SPCH				AMP		07 55 03.4	
comp=N,761nm,0.4s							
LVC	**Limon Verde**	**2.15**	**286**	P	**P**	**07 54 38.1**	**+1.7**
comp=N,45nm,0.3s,baz=95,slow=6.3,SNR=953							
LVC				S	**S**	**07 55 09.0**	**+0.8**
comp=N,111nm,0.3s,baz=263,slow=20,SNR=38							
LVC	**Limon Verde**	**2.15**	**286**	⇑ *i*P	**P**	**07 54 38.0**	**+1.7**
LVC				*i* S	**S**	**07 55 09.0**	**+0.8**
LVC				AMP		07 55 11.1	
comp=E,1μm,0.6s							
LVC	**Limon Verde**	**2.15**	**286**	⇑ *i*Pn	**P**	**07 54 38.1**	**+1.8**
LVC				*e*Sn	**S**	**07 55 08.5**	**+0.3**
CPN1	**Cerro Paranal**	**3.68**	**247**	⇑ *i*P	**P**	**07 54 54.9**	**+0.9**
CPN1				*i* S	**S**	**07 55 39.4**	**0.0**
CRCH	**Chaqaral**	**4.73**	**228**	*e*P	**P**	**07 55 06.7**	**-0.3**
CRCH				*i* S	**S**	**07 56 01.0**	**-1.9**
CPCH	**Copiapo**	**5.28**	**218**	⇑ *i*P	**P**	**07 55 13.1**	**-0.9**
CPCH				*i* S	**S**	**07 56 13.7**	**-1.6**
LPAZ	**La Paz**	**7.05**	**349**	P	**P**	**07 55 37.7**	**+1.0**
comp=E,9.6nm,0.3s,baz=164,slow=8.2,SNR=283							
LPAZ				S	**S**	**07 56 54.2**	**-2.0**
comp=E,0.4nm,0.3s,baz=107,slow=19,SNR=2.6							
LPAZ	**La Paz**	**7.05**	**349**	⇑ *i*Pn	**P**	**07 55 37.6**	**+0.8**
comp=E,25nm,0.6s							
LPAZ				*e*Sn	**S**	**07 56 53.2**	**-3.0**
CFAA	**Coronel Fontan**	**8.45**	**189**	P	**P**	**07 55 54.8**	**-0.1**
comp=E,0.6nm,0.3s,baz=9.2,slow=12,SNR=73							
CFAA				S	**S**	**07 57 25.3**	**-3.3**
comp=E,1.6nm,0.3s,baz=276,slow=16,SNR=18							
SIV	**San Ignacio**	**8.94**	**37**	P	**P**	**07 56 00.1**	**-1.2**
comp=E,3.5nm,0.3s,baz=238,slow=11,SNR=74							
SIV				S	**S**	**07 57 30.2**	**-10**
comp=E,0.4nm,0.3s,baz=244,slow=16,SNR=4.1							
CPUP	**Villa Florida**	**9.04**	**112**	P	**P**	**07 56 03.0**	**+0.5**
comp=E,0.1nm,0.3s,baz=297,slow=16,SNR=7.4							
CPUP	**Villa Florida**	**9.04**	**112**	*e*Pn	**P**	**07 56 03.6**	**+1.1**
comp=E,24nm,1.1s							
SAML	**Samuel**	**14.60**	**14**	*e*P	**P**	**07 57 11.8**	**-1.3**
comp=E,22nm,0.8s							
TRQA	**Tornquist**	**15.31**	**166**	*e*P	**P**	**07 57 21.1**	**-0.5**
comp=E,8.4nm,0.7s							
PLCA	**Paso Flores**	**17.74**	**190**	P	**P**	**07 57 50.4**	**+0.6**
comp=E,0.2nm,0.3s,baz=2.8,slow=12,SNR=16							
PLCA	**Paso Flores**	**17.74**	**190**	*e*P	**P**	**07 57 50.0**	**+0.3**
comp=E,5.0nm,0.8s							
BDFB	**Brasilia**	**19.14**	**70**	P	**P**	**07 58 04.4**	**+0.1**
comp=E,4.4nm,0.3s,baz=251,slow=11,SNR=140							
BDFB				LR	LR	08 06 21.2	
comp=E,68nm,18.7s,baz=186,slow=39							
CAM4	**Nova Friburgo**	**22.24**	**92**	(P)	**P**	**07 58 35.1**	**+0.1**
CAM4				*i*		07 58 36.5	
CAM4				*i*		07 58 45.0	
RCBR	**Riachuelo**	**34.33**	**65**	*e*P	**P**	**08 00 22.7**	**-1.0**
comp=E,16nm,0.7s,mb4.7							
VNA3	**Neumayer Olymp**	**57.77**	**161**	*e*	**P**	**08 03 28.5**	**+2.7**
VNA3	**Neumayer Olymp**	**57.77**	**161**	*e*	**P**	**08 03 35.2**	**+9.4**
VNA3	**Neumayer Olymp**	**57.77**	**161**	*e*	sP	08 04 38.8	+1.9
VNA3	**Neumayer Olymp**	**57.77**	**161**	⇑ *i*PKPdf	**P**	**08 03 26.8**	**+1.0**
VNA3				*e*		08 04 38.8	
VNA1	**Neumayer--Stat**	**57.96**	**160**	⇑ *i*P	**P**	**08 03 28.5**	**+1.4**
VNA1	**Neumayer--Stat**	**57.96**	**160**	*e*	**P**	**08 03 30.1**	**+3.0**
VNA1	**Neumayer--Stat**	**57.96**	**160**	*e*	**P**	**08 03 37.0**	**+10**
VNA2	**Neumayer--Watz**	**58.33**	**161**	*e*	**P**	**08 03 32.4**	**+2.7**
VNA2	**Neumayer--Watz**	**58.33**	**161**	*e*	**P**	**08 03 38.3**	**+8.6**
VNA2	**Neumayer--Watz**	**58.33**	**161**	*e*	sP	08 04 37.5	-3.3
VNA2	**Neumayer--Watz**	**58.33**	**161**	⇑ *i*PKPdf	**P**	**08 03 30.7**	**+1.0**
VNA2				*e*		08 04 37.5	

SNAA	Sanae	59.97 161	e	P		08 03 43.2	+2.3
SNAA	Sanae	59.97 161	e	P		08 03 49.4	+8.5
SNAA	Sanae	59.97 161	e	pP		08 04 26.5	-2.8
SNAA	Sanae	59.97 161	e	sP		08 04 58.9	+6.7
SNAA	Sanae	59.97 161	⇑PKPdf	P		08 03 41.5	+0.6
SNAA			e	pP		08 04 26.5	-2.8
SNAA			e			08 04 58.9	
WVT	Waverly	62.34 341	eP	P		08 03 54.9	-2.3
comp=E,2.0nm,0.5s,mb4.0							
TXAR	Lajitas Array	63.24 324	P	P		08 04 02.6	-0.6
comp=E,0.5nm,0.7s,mb3.3,baz=149,slow=8.2,SNR=9.6							
MNTX	Cornudas Mount	66.00 324	eP	P		08 04 19.2	-1.8
comp=E,2.6nm,1.0s,mb3.8							
DBIC	Dimbokro	67.28 72	P	P		08 04 27.6	-1.7
comp=E,8.8nm,0.9s,mb4.4,baz=246,slow=5.7,SNR=8.4							
DBIC	Dimbokro	67.28 72	eP	P		08 04 27.6	-1.8
comp=E,14nm,1.1s,mb4.5							
ANMO	Albuquerque	69.09 326	eP	P		08 04 40.6	+0.5
comp=E,1.9nm,0.8s,mb3.8							
TUC	Tucson	69.48 321	eP	P		08 04 43.0	+0.5
comp=E,2.4nm,1.0s,mb3.8							
SDCO	Great Sand Dun	70.80 328	eP	P		08 04 51.1	+0.7
comp=E,2.2nm,0.8s,mb3.8							
SYO	Syowa Base	74.15 159	⇑P	P		08 05 02.6	-6.9
SRU	San Rafael	74.36 326	eP	P		08 05 11.8	+0.5
MSU	Marysvale	74.78 325	eP	P		08 05 14.8	+1.0
VNDA	Vanda	75.50 190	P	P		08 05 18.3	+1.3
comp=E,1.3nm,0.7s,mb3.6,baz=197,slow=0.8,SNR=4.7							
PDAR	Pinedale Array	76.65 329	P	P		08 05 24.4	+0.4
comp=E,0.9nm,0.7s,mb3.5,baz=140,slow=7.3,SNR=7.8							
ELK	Elko	78.03 324	P	P		08 05 31.6	-0.1
comp=E,1.2nm,0.8s,mb3.6,baz=130,slow=1.9							
ELK	Elko	78.03 324	P	P		08 05 31.6	-0.1
BOSA	Boshof	80.81 117	P	P		08 05 46.8	-0.1
comp=E,5.9nm,0.7s,mb4.3,baz=169,slow=7.8,SNR=6.1							
ESDC	Sonseca Array	85.64 43	P	P		08 06 11.7	+0.6
comp=E,1.1nm,0.5s,mb3.8,baz=231,slow=6.1,SNR=10							
MKAR	Makanchi Array	145.75 39	PKPbc	PKPbc		08 13 10.6	+1.5
comp=E,5.9nm,0.7s,baz=333,slow=2.7,SNR=12							

IDC 26 07:59:55.8±2.9, 52.53N×34.88E, mb1 4.0/4, mb1mx3.6/21, mbtmp3.9/4, ML3.5/4, Error ellipse: s-maj=33.4km s-min=10.5km az=113.0, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKASG	Malin Array Be	3.97 245		Pn	Pn	08 00 55.4	-3.9
1.1nm,0.3s,baz=61,slow=15,SNR=3.0							
AKASG				Pg	Pg	08 01 05.3	-10
3.1nm,0.3s,baz=57,slow=16,SNR=7.1							
AKASG				Sn	Sn	08 01 44.0	-3.3
4.6nm,0.3s,baz=62,slow=22,SNR=8.4							
AKASG				Lg		08 02 00.2	
4.9nm,0.3s,baz=69,slow=29,SNR=5.5							
FINES	FINESS Array B	10.13 335		Pn	P	08 02 17.1	-8.4
0.4nm,0.3s,baz=148,slow=13,SNR=8.1							
FINES				Sn	S	08 04 05.0	-16
0.2nm,0.3s,baz=140,slow=24,SNR=2.3							
FINES				Lg		08 05 13.0	
0.3nm,0.3s,baz=141,slow=29,SNR=2.6							
HFS	Hagfors	13.95 311		Pn	P	08 03 08.3	-8.4
0.1nm,0.3s,baz=108,slow=14,SNR=4.6							
NOA	NORSAR Array B	15.43 313		Pn	P	08 03 27.1	-9.1
0.3nm,0.3s,baz=104,slow=11,SNR=3.2							
ARCES	ARCESS Array B	17.61 349		Pn	P	08 03 57.1	-6.7
0.9nm,0.3s,baz=160,slow=11,SNR=20							

IDC 26 08:07:24.3±4.5, 35.46N×78.58E, mb3.4/2, mb1 3.6/4, mb1mx3.4/20, mbtmp3.6/4, ML3.8/2, Error ellipse: s-maj=79.8km s-min=43.1km az=179.0
BJI 26 08:07:42.4, 37.33N×79.48E, h17km, ML3.8
ISC 26 08:07:30.3±2.5, 35.8N±0.2×78.4E±0.2, h33km, n5, σ1$20/6, mb3.4/2, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	Kashi	4.13 333		eP	P	08 08 37.5	+4.8
KSH				S	S	08 09 19.8	-0.6
KSH				Smax			
comp=N,150nm,0.4s							
KSH				Smax			
comp=E,160nm,0.6s							
MKAR	Makanchi Array	11.33 14		Pn	P	08 10 14.2	+1.3
comp=E,1.4nm,0.3s,baz=197,slow=12,SNR=13							
BVAR	Borovoye Array	18.08 344		P	P	08 11 40.7	+0.3
comp=E,0.1nm,0.3s,baz=150,slow=11,SNR=4.3							
SONM	Songino Array	23.94 51		P	P	08 12 41.0	-1.2
comp=E,0.2nm,0.3s,mb3.0,baz=260,slow=9.0,SNR=4.0							
NOA	NORSAR Array B	48.48 323		P	P	08 16 11.6	+0.3
comp=E,0.7nm,0.8s,mb3.7,baz=90,slow=6.7,SNR=2.6							

ATH 26 08:27:11.3, 37.73N×26.81E, h19km±5km, MD3.1/3
CSEM 26 08:27:11.8±0.4, 37.75N×26.86E, h12km, MD3.1, Error ellipse: s-maj=16.5km s-min=9.8km az=110.0
ISK 26 08:27:12.1, 37.78N×26.79E, h28km, MD2.9
ISC 26 08:27:11.0±0.8, 37.78N±0.03×26.74E±0.05, h2km±6km, n15, σ0$89/25, 1D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	Samos	0.10 134		⇓iPB	Pb	08 27 14.9	-0.5
SMG				eSB	Sb	08 27 16.9	-1.2
URLA	Izmir	0.59 349		iP	Pg	08 27 22.5	-0.3
URLA				iS	Sg	08 27 30.5	-0.1
IZM	Izmir	0.74 34		PG	Pg	08 27 25.8	0.0
KDAG	Bornova	0.74 34		iP	Pg	08 27 25.0	-1.0
KDAG				iS	Sg	08 27 35.7	-0.1
BODT	Bodrum	0.85 148		PG	Pg	08 27 28.0	0.0
BODT				SG	Sg	08 27 39.7	+0.4
BDRM	Kayabasi	0.91 142		iP	Pb	08 27 30.6	+1.4
BDRM				iS	Sg	08 27 42.7	+1.5
AYDN	Tasoluk	0.91 97		iP	Pb	08 27 29.4	+0.3
AYDN				iS	Sg	08 27 42.0	+0.7
MLSB	Milas	0.95 120		PG	Pg	08 27 29.4	-0.7
APE	Apeiranthos	1.20 234		PN	Pn	08 27 33.9	-0.8
APE	Apeiranthos	1.20 234		ePN	Pn	08 27 34.1	-0.6
APE				eSN	Sn	08 27 51.5	-0.2
AKS	Akhisar	1.38 37		PN	Pn	08 27 36.5	-0.8
YER	Yerkesik	1.39 117		PN	Pn	08 27 36.0	-1.4
PRK	Paraskevi	1.51 346		ePN	Pn	08 27 40.7	+1.6
PRK				eSN	Sn	08 28 01.1	+1.5
MANT	Manisa	1.60 63		iP	Pn	08 27 44.7	+4.2
MANT				iS	Sb	08 28 01.3	-0.2
DNZL	Cakiroluk	1.83 92		iP	Pn	08 27 48.2	+4.5
DNZL				iS	Sn	08 28 12.0	+4.2

ISK 26 08:47:12.5, 39.14N×36.04E, h4km, MD3.6, ML3.8
CSEM 26 08:47:12.5, 39.14N×36.04E, h4km, MD3.6, After ISK
ISC 26 08:47:13.1±0.3, 39.14N±0.03×36.04E±0.03, h4km, n38, σ0$84/46, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNN	Bunyan	0.33 208		iPG	Pg	08 47 18.8	-0.8
YOZ	Yozgat	0.75 312		PG	Pg	08 47 27.3	-0.7
YOZ				SG	Sg	08 47 39.2	+1.2
SVST	Sivas	0.95 48		iP	Pb	08 47 30.8	-0.8
SVST				iS	Sb	08 47 45.9	+1.5
AVNT	Avonos	0.99 249		iP	Pb	08 47 31.4	-1.1
AVNT				iS	Sb	08 47 45.4	-0.3
SVSK	Karacayir	1.07 43		PG	Pg	08 47 33.0	-1.5
SVSK				SG	Sg	08 47 48.6	-0.2
TOKT	Tokat	1.24 18		PN	Pn	08 47 37.4	+0.2
CDAG	Cicekdag	1.38 291		iP	Pb	08 47 38.0	-1.1
CDAG				iS	Sb	08 47 58.6	+1.6
CORM	Corum	1.50 314		PN	Pn	08 47 40.1	-0.8
NIG	Nigde	1.52 228		PN	Pn	08 47 40.8	-0.4
KAHT	Ahir Dag	1.64 156		iP	Pn	08 47 44.6	+1.7
KAHT				iS	Sb	08 48 07.8	+3.2
KOZT	Kozan	1.67 186		PN	Pn	08 47 43.0	-0.3
KAMT	Kaman	1.82 278		PN	Pn	08 47 45.9	+0.4
KVT	Kavak	1.94 0		PN	Pn	08 47 47.4	+0.3
MYA	Malataya	2.04 113		PN	Pn	08 47 49.4	+0.9
CEYT	Ceyhan	2.14 186		PN	Pn	08 47 49.9	-0.1
GZT	Gaziantep	2.15 146		iP	Pn	08 47 48.9	-1.2
GZT				iS	Sn	08 48 20.7	+3.1
GAZ	Gaziantep	2.17 154		PN	Pn	08 47 50.8	+0.3
CANT	Cankiri	2.37 309		ePN	Pn	08 47 53.3	0.0

ELZG	Elazig	2.39 105		iP	Pn	08 47 53.2	-0.3
ELZG				iS	Sn	08 48 21.7	-2.0
TOS	Tosya	2.44 321		ePN	Pn	08 47 54.7	+0.3
BYBT	Boyabat	2.52 338		ePN	Pn	08 47 55.9	+0.4
MERS	Mersin	2.57 208		ePN	Pn	08 47 56.1	0.0
ANTO	Ankara	2.62 287		ePN	Pn	08 47 56.7	-0.1
KRTS	Karatas	2.62 192		ePN	Pn	08 47 51.6	-5.3
PTK	Pertek	2.62 94		ePN	Pn	08 47 57.0	+0.1
LOD	Lodumlu	2.64 287		ePN	Pn	08 47 57.4	+0.2
URFA	Urfa	2.77 127		ePN	Pn	08 47 58.8	-0.2
GUMT	Gumushane	2.96 62		ePN	Pn	08 48 01.9	+0.2
HTY	Hatay	3.02 179		ePN	Pn	08 48 03.0	+0.5
KONT	Konya--Tatoy	3.12 249		ePN	Pn	08 48 04.1	0.0
BZK	Bozkurt	3.22 332		ePN	Pn	08 48 05.7	+0.3
KIZT	Kizilcat	3.25 267		ePN	Pn	08 48 05.4	-0.5
SAFT	Safranbolu	3.32 310		ePN	Pn	08 48 07.0	+0.2
IKL	Isikli	3.45 214		ePN	Pn	08 48 08.8	+0.1
HDMB	Hadim	3.55 233		ePN	Pn	08 48 10.3	+0.2
MDU	Mudurnu	3.95 291		ePN	Pn	08 48 15.7	-0.1
ESKT	Eskisehir	4.04 277		ePN	Pn	08 48 16.7	-0.4
EZM	Erzurum	4.19 78		ePN	Pn	08 48 19.4	+0.2

IGQ 26 08:55:52.9, 1.81S×78.17W, h180km±2km, mb4.2, Error ellipse: s-maj=5.5km s-min=2.4km az=26.3
NEIC 26 08:55:57.4±2.6, 1.23S×77.53W, h159km±28km, mb3.9/16, MD4.2(IGQ), Error ellipse: s-maj=24.7km s-min=9.0km az=225.0
IDC 26 08:56:02.0±8.4, 1.43S×77.66W, h210km±94km, mb3.3/10, mb1 3.5/11, mb1mx3.4/23, mbtmp3.8/11, Error ellipse: s-maj=76.9km s-min=16.2km az=41.0
ISC 26 08:55:54.6±0.6, 1.81S±0.07×78.05W±0.08, h165km±2km, n50, σ0$84/57, mb3.7/23, 3C-14D, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARRY	Arrayan	0.50 307		⇓P	P	08 56 18.1	+0.1
ARRY				S	S	08 56 35.0	-1.0
ULBA	Ulba	0.51 315		⇓P	P	08 56 18.1	0.0
ULBA				S	S	08 56 35.0	-1.1
RUN5	Runtun	0.54 317		⇓P	P	08 56 18.2	0.0
RUN5				S	S	08 56 35.4	-0.9
CUSU	Cusua	0.56 311		⇓P	P	08 56 18.7	+0.4
JUIV	Juive	0.56 313		⇑P	P	08 56 18.4	+0.1
PISA	Pisayambo	0.82 336		⇓P	P	08 56 19.9	+0.3
PISA				S	S	08 56 40.1	+1.1
TAMB	Tambo	1.15 344		⇓P	P	08 56 22.7	+0.4
VC1	Cotopaxi 1	1.21 343		⇓P	P	08 56 23.2	+0.4
CAMI	Rancho Maria	1.21 338		⇓P	P	08 56 23.6	+0.8
NAS1	Nasa	1.24 340		P	P	08 56 24.1	+1.0
ANTI	Antisana	1.36 355		⇓P	P	08 56 24.3	+0.1
JUA2	San Juan 2	1.68 341		⇓P	P	08 56 27.2	-0.2
PINO	Pino	1.73 341		⇓P	P	08 56 27.7	-0.3
ECOPE	Copete-Rev Vol	1.75 14		P	P	08 56 28.0	-0.2
LAV3	Lava3-Reventad	1.75 14		P	P	08 56 28.5	+0.2
LAV3				S	S	08 56 53.6	-0.6
YANA	Yana	1.76 343		P	P	08 56 28.2	-0.1
CONE	Cono NE Rev Vo	1.78 13		⇓P	P	08 56 28.8	+0.3
CONE				S	S	08 56 55.0	+0.3
CAYR	Refugio Cayamb	1.81 1		⇑P	P	08 56 29.7	+0.8
CAYA	Cayambe	1.87 2		P	P	08 56 29.9	+0.4
CAYA				S	S	08 56 57.1	+0.7
JOR1	San Jorge 1	1.89 342		⇓P	P	08 56 27.1	-2.6
COTA	Cotacachi	2.15 352		⇓P	P	08 56 33.3	+0.5
ECEN	Cerro Negro	2.62 2		⇑P	P	08 56 38.6	+0.1
LORE	San Lorenzo	3.19 346		P	P	08 56 44.1	-1.4
SAML	Samuel	16.41 116		eP	P	08 59 36.4	-0.6
3.6nm,0.6s							
LPAZ	La Paz	17.39 146		P	P	08 59 52.7	+4.0
0.1nm,0.3s,baz=302,slow=9.5,SNR=2.6							
SIV	San Ignacio	21.87 131		P	P	09 00 37.5	+2.6
0.8nm,0.8s,mb3.2,baz=323,slow=11,SNR=6.1							
WVT	Waverly	38.83 347		P	P	09 03 03.2	-2.1
1.5nm,0.6s,mb3.8							
TXAR	Lajitas Array	39.49 324		P	P	09 03 11.8	+1.1
0.4nm,0.7s,mb3.2,baz=144,slow=7.8,SNR=8.9							
WMOK	Wichita Mounta	41.23 334		eP	P	09 03 24.1	-0.9
1.2nm,0.8s,mb3.6							
MNTX	Cornudas Mount	42.23 324		eP	P	09 03 33.5	+0.2
1.5nm,0.8s,mb3.7							
ANMO	Albuquerque	45.23 327		P	P	09 03 58.5	+1.2
3.4nm,0.8s,mb4.0,baz=135,slow=12							
ANMO	Albuquerque	45.23 327		eP	P	09 03 58.1	+0.8
3.2nm,0.8s,mb4.0							
TUC	Tucson	45.95 320		eP	P	09 04 03.9	+0.9
1.7nm,0.8s,mb3.7							
SDCO	Great Sand Dun	46.84 330		eP	P	09 04 11.0	+1.2
2.5nm,0.6s,mb4.0							
DUG	Dugway	52.50 327		eP	P	09 04 53.7	+0.8
0.7nm,0.6s,mb3.5							
BW06	Boulder Array	52.68 331		P	P	09 04 53.8	-0.4
0.5nm,0.5s,mb3.5							
PDAR	Pinedale Array	52.68 331		P	P	09 04 54.0	-0.1
0.3nm,0.6s,mb3.2,baz=153,slow=6.6,SNR=4.7							
HWUT	Hardware Ranch	52.83 329		eP	P	09 04 55.2	-0.1
1.7nm,0.6s,mb4.0							
LOHW	Long Hollow	53.82 331		eP	P	09 05 02.4	-0.2
1.3nm,0.7s,mb3.8							
TPAW	Teton Pass	53.90 331		eP	P	09 05 03.1	0.0
1.0nm,0.5s,mb3.8							
RRI2	Red Ridge	53.97 330		eP	P	09 05 03.6	0.0
3.0nm,0.8s,mb4.1							
ULM	Lac du Bonnet	54.07 346		P	P	09 05 02.0	-2.2
1.6nm,0.8s,mb3.8,baz=119,slow=6.5,SNR=5.2							
NVAR	Mina Array Bea	54.57 321		P	P	09 05 09.2	+1.1
0.7nm,0.6s,mb3.6,baz=127,slow=7.6,SNR=6.3							
BOZ	Bozeman (W)	55.82 332		eP	P	09 05 16.7	-0.3
2.5nm,1.3s,mb3.9							
WVOR	Wild Horse Val	57.26 325		eP	P	09 05 27.3	+0.2
3.5nm,1.2s,mb4.1							
YBH	Yreka Blue Hor	59.25 322		P	P	09 05 40.0	-1.1
0.8nm,0.2s,mb4.1,baz=298,slow=0.6,SNR=8.2							
NEW	Newport	60.32 331		P	P	09 05 48.0	-0.2
0.3nm,0.3s,mb3.6,baz=107,slow=5.6,SNR=3.7							
NEW	Newport	60.32 331		eP	P	09 05 47.7	-0.5
1.3nm,0.7s,mb3.9							
DBIC	Dimbokro	73.54 83		P	P	09 07 10.6	-1.3
2.3nm,0.7s,mb4.0,baz=200,slow=8.2,SNR=3.5							
ILAR	Eielson Array	82.74 336		P	P	09 08 01.2	+0.2
0.7nm,0.6s,mb3.6,baz=155,slow=4.9,SNR=12							

IDC 26 09:04:01.9±3.5, 24.12S×176.58W, mb3.6/3, mb1 4.1/3, mb1mx3.8/14, mbtmp3.6/3, Error ellipse: s-maj=246.1km s-min=34.2km az=161.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	45.51 265		P	P	09 12 23.3	-1.8
0.6nm,0.9s,baz=102,slow=8.5,SNR=7.8							
NVAR	Mina Array Bea	82.77 42		P	P	09 16 29.9	+0.7
0.1nm,0.3s,baz=209,slow=7.1,SNR=4.5							
TXAR	Lajitas Array	87.91 57		P	P	09 16 52.1	-2.9
0.3nm,0.8s,baz=210,slow=7.3,SNR=5.2							

CASC 26 09:12:06.9±1.2, 10.19N×84.33W, h77km±5km, MD3.7, MW4.6, mb4.0(NEIC), Fault plane solution: NP1:φ=277.79°, δ79.45°, λ-44.01°.
NEIC 26 09:12:07.6, 10.11N×84.38W, h73km, mb4.0/1, After CASC.
IDC 26 09:12:14.9±5.4, 10.93N×84.05W, h126km±53km, mb3.5/9, mb1 3.8/10, mb1mx3.6/21, mbtmp4.0/10, MS3.1/2, Ms1 3.1/2, ms1mx2.7/18, Error ellipse: s-maj=36.8km s-min=16.3km az=43.0
ISC 26 09:12:06.0±0.4, 10.22N±0.09×84.34W±0.07, h90km±5km, n36, σ0$87/41, mb3.7/9, 8C-9D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VPS2	Volcan Poas 2	0.11 108		⇓eP	P	09 12 18.7	-0.2
VPS2	Volcan Poas 2	0.11 108		⇓eP	P	09 12 18.6	-0.2
CGA2	Cerro Gallo 2	0.24 210		⇑iP	P	09 12 18.6	-0.6
PRS1	Puriscal	0.24 173		⇑iP	P	09 12 19.1	-0.1
PRS1	Puriscal	0.24 173		⇑iP	P	09 12 19.1	-0.1
SJS	Escuela Geolog	0.40 135		⇓iP	P	09 12 19.9	-0.2
SJS				eS	S	09 12 30.1	-0.7
SJS	Escuela Geolog	0.40 135		⇓iP	P	09 12 19.9	-0.2
SJS				eS	S	09 12 30.1	-0.7
FORC	Fortuna	0.40 308		⇓iP	P	09 12 20.4	+0.2
FORC	Fortuna	0.40 308		⇓iP	P	09 12 20.4	+0.2

JCR	Jicaral	0.84 244		⇓eP	P	09 12 23.6	-0.6
JCR				eS	S	09 12 37.8	+0.1
JCR	Jicaral	0.84 244		⇓eP	P	09 12 23.7	-0.6
BUS	Buena Vista	0.88 139		⇑iP	P	09 12 24.4	-0.2
BUS				eS	S	09 12 38.2	-0.2
BUS	Buena Vista	0.88 139		⇑iP	P	09 12 24.4	-0.2
BUS				eS	S	09 12 37.9	-0.5
LIM1	Limonal	1.01 298		⇑eP	P	09 12 26.3	+0.2
LIM1				eS	S	09 12 41.5	+0.2
MADN	Villa Maderas	1.66 315		⇑eP	P	09 12 34.9	+0.6
SSNN	San Juan del S	1.82 306		⇑eP	P	09 12 37.3	+0.9
CONN	Concepcion	1.83 317		⇓eP	P	09 12 36.9	+0.3
ACR	Cerro Adams	1.94 143		eP	P	09 12 37.8	-0.3
ACR	Cerro Adams	1.94 143		eP	P	09 12 37.9	-0.1
BRU2	Volcan	2.16 131		iP	P	09 12 41.8	+0.8
BRU2				eS	S	09 13 08.0	+1.1
BRU2	Volcan	2.16 131		eP	P	09 12 41.8	+0.8
BRU2				eS	S	09 13 07.0	+0.1
SDV	Santo Domingo	13.59 94		P	P	09 15 18.6	+2.4
0.8nm,0.3s,baz=208,slow=3.4,SNR=6.0							
SDV	Santo Domingo	13.59 94		ePn	P	09 15 18.5	+2.3
SJG	San Juan	19.29 64		LR	LR	09 22 49.4	
comp=Z,13nm,20.9s,baz=85,slow=34							
TXAR	Lajitas Array	26.23 319		P	P	09 17 35.0	+0.4
0.4nm,0.4s,mb3.2,baz=140,slow=11,SNR=11							
SIV	San Ignacio	34.77 138		P	P	09 18 57.1	+7.1
0.3nm,0.5s,mb3.4,baz=306,slow=14,SNR=3.4							
ULM	Lac du Bonnet	41.03 349		P	P	09 19 39.8	-2.1
1.9nm,0.6s,mb4.1,baz=149,slow=8.0,SNR=5.0							
NVAR	Mina Array Bea	41.38 318		P	P	09 19 46.6	+1.7
0.7nm,0.6s,mb3.7,baz=128,slow=7.5,SNR=8.0							
SCHQ	Schefferville	46.61 14		P	P	09 20 25.5	-1.3
1.7nm,0.5s,mb4.0,baz=173,slow=2.1,SNR=6.9							
YKA	Yellowknife Ar	56.57 344		P	P	09 21 39.6	-1.8
0.3nm,0.3s,mb3.8,baz=147,slow=6.4,SNR=4.5							
USHA	Ushuaia	66.18 170		LR	LR	09 48 28.2	
comp=Z,65nm,19.4s,baz=208,slow=32							
ESDC	Sonseca Array	76.17 52		P	P	09 23 46.5	+0.3
0.2nm,0.3s,mb3.3,baz=276,slow=6.1,SNR=5.1							
DBIC	Dimbokro	78.54 85		P	P	09 23 60.0	+0.1
5.1nm,1.0s,mb4.3,baz=134,slow=1.9,SNR=4.1							
NB2	NORSAR Subarra	83.82 29		P	P	09 24 26.6	+0.1
0.9nm,0.6s,mb3.8,baz=280,slow=4.8							
NOA	NORSAR Array B	83.82 29		P	P	09 24 25.5	-1.0
1.4nm,0.8s,mb3.9,baz=276,slow=4.9,SNR=4.5							
WRA	Warramunga Arr	141.51 251		PKhKP		09 31 25.2	
0.4nm,0.4s,baz=95,slow=3.4,SNR=14							
WRA				PKP	PKPdf	09 31 30.7	+3.1
1.2nm,0.5s,baz=91,slow=2.5,SNR=25							

ISC 26 09:18:17.0±1.8, 40.49N±0.09×36.8E±0.1, h10km, n8, σ0$84/14, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVSK	Karacayir	0.60 163		iPG	Pg	09 18 29.2	+0.2
SVSK				iSG	Sg	09 18 36.8	-0.3
SVST	Sivas	0.73 169		iP	Pb	09 18 31.1	-0.3
SVST				iS	Sb	09 18 41.2	+0.1
YOZ	Yozgat	1.40 233		ePN	Pn	09 18 41.0	-1.7
CTKT	Corum	1.52 276		iP	Pn	09 18 46.1	+1.7
CTKT				iS	Sb	09 19 02.9	-1.1
CORM	Corum	1.67 260		ePN	Pn	09 18 46.8	+0.2
BOYT	Boyabat	1.69 304		iP	Pn	09 18 52.4	+5.5
BOYT				iS	Sn	09 19 17.3	+8.5
CDAG	Cicekdag	2.04 246		iP	Pn	09 18 51.2	-0.6
CDAG				iS	Sn	09 19 17.9	+0.4
AVNT	Avonos	2.26 222		iP	Pn	09 18 55.6	+0.5
AVNT				iS	Sn	09 19 24.0	+0.8

NEIC 26 09:45:59.3, 33.02S×71.00W, h37km, MD3.5(GUC), After GUC.
GUC 26 09:45:59.3±0.8, 33.02S×71.00W, h37km±1km, MD3.5, ML3.6, 5C-5D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	El Roble	0.05 344		⇓iP	P	09 46 06.1	+0.9
ROCH				iS	S	09 46 10.9	+1.4
JACH	Jahuel	0.48 46		⇑iP	P	09 46 09.5	-0.1
JACH				iS	S	09 46 17.1	+0.2
RCDM	Rinconada Maip	0.50 161		iP	P	09 46 10.2	+0.3
RCDM				iS	S	09 46 18.0	+0.6
SAN	Santiago	0.52 147		⇑iP	P	09 46 10.5	+0.4
SAN				iS	S	09 46 18.5	+0.6
SAN				AMP		09 46 19.2	
comp=E,3μm,0.5s							
DSCH	Colegio Aleman	0.52 137		⇓iP	P	09 46 10.8	+0.6
DSCH				iS	S	09 46 18.8	+0.8
DSCH				AMP		09 46 20.0	
comp=E,7μm,0.3s							
CLCH	Cerro Calan	0.54 135		iP	P	09 46 11.0	+0.6
CLCH				iS	S	09 46 19.1	+0.6
CLCH				AMP		09 46 20.5	
comp=E,5μm,0.4s							
IHA	Instituto Hidr	0.54 269		⇑iP	P	09 46 10.1	-0.4
IHA				iS	S	09 46 18.6	+0.1
FSR	Penalolen	0.60 140		iP	P	09 46 11.9	+0.5
FSR				iS	S	09 46 21.0	+0.9
FSR				AMP		09 46 21.7	
comp=N,3μm,0.3s							
ANTU	Antumapu	0.63 151		eP	P	09 46 12.0	+0.3
ANTU				eS	S	09 46 21.1	+0.4
ANTU				AMP		09 46 21.7	
comp=N,4μm,0.2s							
TACH

JOW Kunigami 19.12 331 P **P 10 07 58.6 +1.5**
2.2nm,0.3s,baz=164,slow=12,SNR=13
JOW LR LR 10 14 19.1
comp=Z,243nm,18.7s,baz=157,slow=33
JNU Nakatsue 23.79 344 LR LR 10 16 00.9
comp=Z,133nm,19.6s,MS3.4,baz=312,slow=31
HNR Honiara 28.88 132 LR LR 10 19 02.8
comp=Z,114nm,21.3s,MS3.5,baz=311,slow=32
WRA Warramunga Arr 30.38 188 P **P 10 09 44.9 -0.4**
1.7nm,0.9s,mb3.8,baz=354,slow=10,SNR=12
FITZ Fitzroy Crossi 31.04 205 LR LR 10 22 34.4
comp=Z,125nm,18.5s,MS3.6,baz=75,slow=37
CTA Charters Tower 31.14 166 LR LR 10 20 54.8
comp=Z,145nm,19.6s,MS3.6,baz=205,slow=33
STKA Stephens Creek 42.06 176 P **P 10 11 24.2 -0.1**
1.8nm,0.5s,mb4.0,baz=340,slow=11,SNR=5.6
STKA LR LR 10 31 13.7
comp=Z,182nm,19.8s,MS4.0,baz=207,slow=39
STKA Stephens Creek 42.06 176 P **P 10 11 24.2 -0.1**
STKA LR LR 10 31 13.8
ULN Ulaanbaatar 45.89 331 *e*P **P 10 11 54.7 -0.3**
1.4nm,0.5s,mb4.2
SONM Songino Array 46.19 330 P **P 10 11 57.5 +0.2**
2.1nm,1.0s,mb4.0,baz=144,slow=8.0,SNR=12
SONM LR LR 10 33 50.4
comp=Z,58nm,19.2s,MS3.5,baz=228,slow=39
MKAR Makanchi Array 59.74 319 P **P 10 13 37.5 -0.2**
5.0nm,1.1s,mb4.5,baz=108,slow=7.7,SNR=7.1
MKAR LR LR 10 41 43.9
comp=Z,57nm,18.6s,MS3.7,baz=180,slow=38
ZAL Zalesovo 60.87 327 P **P 10 13 44.3 -1.0**
0.9nm,0.5s,mb4.2,baz=78,slow=11,SNR=4.5
ZAL LR LR 10 43 14.1
comp=Z,78nm,19.0s,MS3.9,baz=151,slow=39
KURK Kurchatov 63.26 322 *e*P **P 10 14 00.1 -1.3**
16nm,1.0s,mb5.1
KURK *e*pP pP 10 14 17.4 +3.1
BVAR Borovoye Array 68.77 323 P **P 10 14 35.5 -0.9**
3.9nm,0.7s,mb4.5,baz=104,slow=6.8,SNR=7.1
BRVK Borovoye 68.84 323 *e*P **P 10 14 35.7 -1.1**
3.5nm,0.7s,mb4.4
BRVK *e*pP pP 10 14 53.7 +3.7
SML Sawmill 72.94 28 *e*P **P 10 15 01.8 +0.4**
MCK McKinley 73.03 26 *e*P **P 10 15 01.9 +0.1**
9.8nm,1.4s,mb4.5
ILAR Eielson Array 74.10 25 P **P 10 15 07.3 -0.7**
1.3nm,0.8s,mb3.9,baz=247,slow=5.8,SNR=17
PPT Papeete 76.10 111 LR LR 10 43 49.1
comp=Z,244nm,19.6s,MS4.5,baz=314,slow=32
DAWY Dawson 77.26 27 *e*P **P 10 15 27.0 +1.0**
CASY Casey 79.15 191 P **P 10 15 36.4 0.0**
1.0nm,0.5s,mb4.0
YKA Yellowknife Ar 88.50 26 LR LR 10 56 34.5
comp=Z,52nm,18.7s,MS4.0,baz=275,slow=36
FINES FINESS Array B 91.45 334 P **P 10 16 38.7 +1.2**
1.2nm,0.6s,mb4.4,baz=90,slow=5.6,SNR=4.0
FINES FINESS Array B 91.45 334 P **P 10 16 38.7 +1.2**
NVAR Mina Array Bea 93.68 50 P **P 10 16 50.6 +2.3**
1.0nm,0.7s,mb4.3,baz=263,slow=3.9,SNR=9.7
HFS Hagfors 97.35 336 LR LR 11 01 07.6
comp=Z,57nm,18.4s,MS4.1,baz=190,slow=35
PDAR Pinedale Array 98.54 44 LR LR 10 58 02.7
comp=Z,36nm,18.7s,MS3.9,baz=147,slow=33
SDV Santo Domingo 145.16 58 *e*PKPdf PKPdf 10 23 09.3 +0.6

*JMA **26** 10:15:09.9±0.2,38.55N×143.18E,h8km±3km,M3.7*
ISC 26 10:15:10.0±1.3,38.56N±0.06×143.20E±0.10,h8km,n13,
σ0§64/19,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.30**	**294**	P	**Pb**	**10 15 34.0**	**-0.3**
OFUJ				*e*S	**Sb**	**10 15 51.1**	**+0.1**
JIO	**Ouri**	**1.45**	**266**	P	**Pn**	**10 15 35.9**	**-0.8**
JIO				*e*S	**Sb**	**10 15 55.1**	**-0.3**
MIYJ	**Miyakonagasawa**	**1.48**	**314**	P	**Pn**	**10 15 36.3**	**-0.7**
MIYJ				S	**Sb**	**10 15 55.9**	**-0.2**
JMK	**Ichinoseki**	**1.59**	**285**	P	**Pn**	**10 15 38.5**	**-0.2**
JMK				*e*S	**Sb**	**10 15 59.3**	**-0.2**
JOM	**Ohasama**	**1.74**	**302**	P	**Pn**	**10 15 40.7**	**-0.1**
JOM				*e*S	**Sn**	**10 16 03.6**	**+0.2**
JOU	**Okura**	**2.00**	**265**	P	**Pn**	**10 15 44.8**	**+0.3**
JMM	**Marumori**	**2.02**	**251**	P	**Pn**	**10 15 44.5**	**-0.3**
JFK	**Kawauchi**	**2.19**	**238**	P	**Pn**	**10 15 46.0**	**-1.2**
JANG	**Nango**	**2.23**	**325**	P	**Pn**	**10 15 49.4**	**+1.6**
JYK	**Kaneyama**	**2.25**	**280**	P	**Pn**	**10 15 48.7**	**+0.6**
JYS	**Shiratake**	**2.48**	**263**	P	**Pn**	**10 15 51.7**	**+0.3**
JFT	**Otama**	**2.48**	**246**	P	**Pn**	**10 15 51.9**	**+0.4**
MAT	**Matsushiro**	**4.45**	**245**	P	**Pn**	**10 16 19.2**	**-0.2**
MAT				*e*S	**Sn**	**10 17 13.3**	**+1.3**

IDC 26 10:17:10.1±3.3,1.28N×97.33E,mb3.7/5,mb1 3.9/5,
mb1mx3.7/19,mbtmp3.7/5,Error ellipse:
s-maj=135.4km s-min=27.0km az=55.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.97**	**122**	P	P	10 25 03.1	-1.8
0.4nm,0.6s,baz=302,slow=9.1,SNR=7.8							
SONM	**Songino Array**	**47.03**	**8**	P	P	10 25 43.8	-1.4
0.6nm,0.8s,baz=180,slow=7.1,SNR=4.9							
MKAR	**Makanchi Array**	**47.19**	**346**	P	P	10 25 44.9	-1.6
0.6nm,0.5s,baz=158,slow=8.5,SNR=6.1							
ZAL	**Zalesovo**	**53.49**	**351**	P	P	10 26 32.1	-2.3
1.3nm,0.3s,baz=207,slow=3.1,SNR=3.7							
BVAR	**Borovoye Array**	**56.21**	**341**	P	P	10 26 51.0	-3.3
0.1nm,0.3s,baz=153,slow=9.9,SNR=3.5							

*GUC **26** 10:19:14.7±0.9,24.58S×67.24W,h140km,ML4.7*
*IDC **26** 10:19:14.8±0.9,24.42S×67.08W,h158km±9km,mb3.6/7,*
mb1 3.9/13,mb1mx3.8/19,mbtmp4.3/13,Error ellipse:
s-maj=15.9km s-min=10.5km az=69.0
*NEIC **26** 10:19:15.1±0.6,24.38S×67.00W,h158km±5km,mb4.1/18,*
Error ellipse: s-maj=8.6km s-min=5.2km az=75.0
ISC 26 10:19:13.2±0.5,24.50S±0.03×67.14W±0.06,h155km±6km,
n53,σ1§16/56,mb3.8/19,2C-6D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.48**	**319**	P	**P**	**10 19 57.4**	**+2.5**
53nm,0.3s,baz=144,slow=6.9,SNR=828							
LVC				S	**S**	**10 20 28.4**	**+1.5**
390nm,0.3s,baz=267,slow=22,SNR=88							
LVC	**Limon Verde**	**2.48**	**319**	*e*Pn	**P**	**10 19 57.3**	**+2.4**
LVC				*e*Sn	**S**	**10 20 28.1**	**+1.2**
CPN1	**Cerro Paranal**	**2.97**	**267**	*i*P	**P**	**10 20 02.7**	**+1.6**
CPN1				*i* S	**S**	**10 20 37.8**	**0.0**
CPN1				AMP		10 20 42.8	
comp=N,2μm,0.8s							
CRCH	**Chaqaral**	**3.64**	**239**	*e*P	**P**	**10 20 10.2**	**+0.4**
CRCH				*i* S	**S**	**10 20 52.1**	**-1.1**
CPCH	**Copiapo**	**4.06**	**225**	*e*P	**P**	**10 20 15.4**	**+0.3**
CPCH				*i* S	**S**	**10 21 02.0**	**-0.8**
VACH	**Vallenar**	**5.19**	**218**	*e*P	**P**	**10 20 30.2**	**+0.1**
VACH				*e*S	**S**	**10 21 28.9**	**-0.7**
LSCH	**La Serena**	**6.51**	**213**	*e*P	**P**	**10 20 46.5**	**-1.1**
TLL	**Tololo Astrono**	**6.52**	**209**	*e*P	**P**	**10 20 47.3**	**-0.4**
TLL				*i* S	**S**	**10 22 00.1**	**-1.1**
CFAA	**Coronel Fontan**	**7.14**	**188**	P	**P**	**10 20 58.8**	**+2.7**
comp=N,0.4nm,0.3s,baz=359,slow=13,SNR=28							
CFAA				S	**S**	**10 22 15.7**	**-0.6**
comp=N,0.8nm,0.3s,baz=126,slow=20,SNR=5.9							
CMCH	**Combarbala**	**7.47**	**206**	*e*P	**P**	**10 20 58.9**	**-1.6**
LPAZ	**La Paz**	**8.22**	**353**	P	**P**	**10 21 11.6**	**+1.1**
comp=N,8.0nm,0.3s,baz=156,slow=6.4,SNR=245							
LPAZ				S	**S**	**10 22 40.9**	**-1.2**
comp=N,0.4nm,0.3s,baz=346,slow=18,SNR=4.4							
LPAZ	**La Paz**	**8.22**	**353**	*i*Pn	**P**	**10 21 11.3**	**+0.9**
comp=N,17nm,0.4s							
CPUP	**Villa Florida**	**9.06**	**104**	P	**P**	**10 21 23.0**	**+1.5**
comp=N,0.4nm,0.3s,baz=307,slow=14,SNR=15							
CPUP	**Villa Florida**	**9.06**	**104**	*e*Pn	**P**	**10 21 22.1**	**+0.5**
comp=N,13nm,0.6s							
SIV	**San Ignacio**	**10.20**	**35**	P	**P**	**10 21 34.8**	**-1.8**
comp=N,9.7nm,0.3s,baz=222,slow=13,SNR=224							
SIV				S	**S**	**10 23 17.6**	**-11**
baz=222,slow=17,SNR=4.8							
TRQA	**Tornquist**	**14.21**	**163**	*e*Pn	**P**	**10 22 29.0**	**+0.6**
comp=N,3.6nm,0.5s							
TRQA				*e*P		10 22 32.6	

SAML	**Samuel**	**15.92**	**14**	*e*P	**P**	**10 22 47.9**	**-2.0**
comp=N,13nm,0.7s							
PLCA	**Paso Flores**	**16.44**	**189**	P	**P**	**10 22 57.9**	**+1.7**
comp=N,0.2nm,0.3s,baz=15,slow=13,SNR=9.4							
PLCA	**Paso Flores**	**16.44**	**189**	*e*P	**P**	**10 22 57.5**	**+1.3**
comp=N,7.2nm,0.6s							
BDFB	**Brasilia**	**19.99**	**67**	P	**P**	**10 23 34.7**	**-0.9**
comp=N,2.6nm,0.3s,baz=244,slow=11,SNR=26							
VNA3	**Neumayer Olymp**	**56.72**	**161**	||*i*	**P**	**10 28 42.8**	**+0.3**
VNA1	**Neumayer--Stat**	**56.92**	**160**	||*i*P	**P**	**10 28 44.6**	**+0.7**
VNA1				*e*		10 28 57.4	
VNA2	**Neumayer--Watz**	**57.29**	**160**	||*i*P	**P**	**10 28 46.9**	**+0.4**
VNA2				*e*		10 28 59.6	
SNAA	**Sanae**	**58.92**	**161**	||*i*P	**P**	**10 28 57.6**	**-0.3**
SNAA				*e*		10 29 12.3	
WVT	**Waverly**	**63.39**	**341**	*e*P	**P**	**10 29 26.2**	**-2.1**
comp=N,3.5nm,0.7s,mb4.3							
TXAR	**Lajitas Array**	**64.01**	**325**	P	**P**	**10 29 31.6**	**-0.9**
comp=N,0.4nm,0.8s,mb3.3,baz=148,slow=7.0,SNR=5.8							
MNTX	**Cornudas Mount**	**66.78**	**325**	*e*P	**P**	**10 29 48.6**	**-1.6**
comp=N,1.2nm,0.9s,mb3.7							
DBIC	**Dimbokro**	**68.08**	**71**	P	**P**	**10 29 56.5**	**-2.1**
comp=N,2.6nm,0.4s,mb4.3,baz=224,slow=6.4,SNR=11							
ANMO	**Albuquerque**	**69.89**	**326**	*e*P	**P**	**10 30 09.2**	**-0.1**
comp=N,3.6nm,1.3s,mb3.9							
SDCO	**Great Sand Dun**	**71.64**	**329**	*e*P	**P**	**10 30 20.3**	**+0.6**
comp=N,1.3nm,0.7s,mb3.8							
SYO	**Syowa Base**	**73.13**	**159**	||X		10 30 38.3	
SMCO	**Snowmass**	**73.48**	**329**	*e*P	**P**	**10 30 31.7**	**+1.2**
DUG	**Dugway**	**77.14**	**326**	*e*P	**P**	**10 30 52.1**	**+0.9**
comp=N,1.0nm,0.6s,mb3.6							
HWUT	**Hardware Ranch**	**77.58**	**327**	*e*P	**P**	**10 30 54.0**	**+0.5**
comp=N,1.5nm,0.6s,mb3.8							
LOHW	**Long Hollow**	**78.65**	**329**	P	**P**	**10 31 00.1**	**+0.8**
comp=N,0.9nm,0.6s,mb3.6							
TPAW	**Teton Pass**	**78.72**	**329**	*e*P	**P**	**10 31 00.8**	**+1.1**
comp=N,1.6nm,0.9s,mb3.6							
RRI2	**Red Ridge**	**78.78**	**329**	*e*P	**P**	**10 31 01.3**	**+1.3**
comp=N,1.6nm,0.5s,mb3.9							
ELK	**Elko**	**78.80**	**325**	*e*P	**P**	**10 31 00.3**	**+0.1**
comp=N,1.1nm,0.7s,mb3.6							
NVAR	**Mina Array Bea**	**78.84**	**321**	P	**P**	**10 30 59.2**	**-1.3**
comp=N,0.4nm,0.8s,mb3.1,baz=157,slow=6.9,SNR=4.8							
NVAR	**Mina Array Bea**	**78.84**	**321**	P	**P**	**10 30 59.2**	**-1.3**
SCHQ	**Schefferville**	**79.00**	**0**	P	**P**	**10 30 58.9**	**-2.1**
comp=N,3.3nm,1.1s,mb3.9,baz=34,slow=12,SNR=3.8							
BOSA	**Boshof**	**80.62**	**117**	P	**P**	**10 31 10.3**	**+0.1**
comp=N,4.0nm,0.8s,mb4.1,baz=252,slow=2.9,SNR=13							
BOSA	**Boshof**	**80.62**	**117**	*e*P	**P**	**10 31 10.5**	**+0.3**
comp=N,3.5nm,0.4s,mb4.3							
MAW	**Mawson**	**81.00**	**163**	P	**P**	**10 31 12.6**	**+1.2**
comp=N,1.4nm,0.6s,mb3.8,baz=188,slow=6.5,SNR=8.6							
LBTB	**Lobatse**	**82.31**	**114**	*e*P	**P**	**10 31 19.5**	**+0.5**
comp=N,3.7nm,0.4s,mb4.4							
ESDC	**Sonseca Array**	**86.85**	**44**	P	**P**	**10 31 41.4**	**+0.1**
comp=N,0.2nm,0.4s,mb3.3,baz=225,slow=4.2,SNR=5.1							
CASY	**Casey**	**89.49**	**179**	*e*P	**P**	**10 31 55.1**	**+1.9**
comp=N,3.9nm,0.8s,mb4.4							
WRA	**Warramunga Arr**	**131.12**	**207**	PKP	PKPdf	10 38 08.7	+1.4
comp=N,0.5nm,0.5s,baz=155,slow=1.7,SNR=19							
WRAB	**Tennant Creek**	**131.13**	**207**	*e*PKPdf	PKPdf	10 38 09.0	+1.7
KURK	**Kurchatov**	**142.86**	**36**	*e*PKPdf	PKPdf	10 38 30.3	+2.5
ZAL	**Zalesovo**	**143.89**	**28**	PKP	PKPdf	10 38 29.6	+0.2
comp=N,1.5nm,0.5s,baz=129,slow=6.0,SNR=5.1							
MKAR	**Makanchi Array**	**146.99**	**40**	PKPbc	PKPbc	10 38 39.0	+2.2
comp=N,2.9nm,0.5s,baz=300,slow=3.5,SNR=27							
SONM	**Songino Array**	**156.15**	**11**	PKPab	PKPab	10 39 19.0	-0.3
comp=N,0.5nm,0.5s,baz=333,slow=6.4,SNR=3.7							

*NAO **26** 10:21:18.6±3.6,59.36N×26.88E,ML2.3*
*BER **26** 10:21:19.2±3.5,59.36N×27.06E,ML2.3(NAO),*
Suspected explosion
HEL 26 10:21:17.4±0.8,59.31N×27.12E,ML2.3(NAO),
Explosion,Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIA0	**FINESS Array S**	**2.20**	**347**	*e*P	Pn	10 21 54.9	-0.8
FIA0				*e*SG	Sg	10 22 24.7	-6.0
FIA0				*e*RG		10 22 43.2	
FIA0	**FINESS Array S**	**2.20**	**347**	Pn	Pn	10 21 55.1	-0.6
baz=164,slow=18							
FIA0				Lg		10 22 25.5	
baz=182,slow=37							
FIA0				Rg		10 22 38.0	
baz=160,slow=37							
HFS	**Hagfors**	**6.84**	**283**	Pn	Pn	10 22 57.4	-4.1
baz=104,slow=12							
HFS				Sn	Sn	10 24 14.8	-6.2
baz=93,slow=28							
HFS				Lg		10 24 47.6	
baz=91,slow=37							
HFS	**Hagfors**	**6.84**	**283**	*e*P	Pn	10 22 57.4	-4.1
HFS				*e*S	Sn	10 24 14.8	-6.2
HFS				*e*SG	Sg	10 24 47.6	-18
ARA0	**ARCESS Array S**	**10.29**	**357**	Pn	P	10 23 44.1	-5.1
baz=174,slow=16							
ARA0				Sn	S	10 25 35.8	-11
baz=176,slow=28							
ARA0	**ARCESS Array S**	**10.29**	**357**	*e*P	P	10 23 44.1	-5.1
ARA0				*e*S	S	10 25 35.8	-11

*IDC **26** 10:30:13.0±1.7,33.69N×138.44E,mb3.4/2,mb1 3.6/3,*
mb1mx3.4/22,mbtmp3.3/3,ML3.0/1,Error ellipse:
s-maj=34.2km s-min=21.7km az=60.0
*JMA **26** 10:30:13.9±0.2,34.42N×140.41E,h62km±2km,M2.9*
ISC 26 10:30:13.7±0.8,34.41N±0.04×140.40E±0.06,h66km±8km,
n16,σ0§72/24,mb3.6/1,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO3	**Boso 3**	**0.40**	**13**	P	**P**	**10 30 25.0**	**-0.3**
BSO2	**Boso 2**	**0.45**	**41**	S	**S**	**10 30 35.1**	**+0.5**
BSO1	**Boso 1**	**0.53**	**63**	P	**P**	**10 30 26.0**	**-0.7**
BSO4	**Boso 4**	**0.58**	**355**	P	**P**	**10 30 27.1**	**-0.1**
KTR	**Katsuura**	**0.74**	**355**	P	**P**	**10 30 28.7**	**-0.2**
KTR				*e*S	**S**	**10 30 39.5**	**-0.7**
TATJ	**Tateyama 2**	**0.75**	**326**	P	**P**	**10 30 29.6**	**+0.6**
TATJ				S	**S**	**10 30 41.2**	**+0.8**
JIM2	**Oshima 3**	**0.86**	**291**	P	**P**	**10 30 30.3**	**-0.1**
JIM2				S	**S**	**10 30 41.8**	**-0.9**
KTJJ	**Kamata 2**	**1.21**	**295**	P	**P**	**10 30 34.8**	**-0.3**
KTJJ				S	**S**	**10 30 49.4**	**-1.7**
JIZS	**Izushimoda**	**1.29**	**284**	P	**P**	**10 30 36.4**	**+0.1**
JIZS				S	**S**	**10 30 53.4**	**+0.5**
JOD2	**Odawara 2**	**1.37**	**309**	P	**P**	**10 30 37.2**	**-0.2**
JOD2				S	**S**	**10 30 54.0**	**-0.9**
JHJ2	**Mitsune**	**1.39**	**201**	P	**P**	**10 30 38.2**	**+0.6**
JHJ	**Hachijo jima 2**	**1.39**	**202**	Pn	**P**	**10 30 38.6**	**+1.0**
16nm,0.3s,baz=94,slow=23,SNR=11							
JHJ				Sn	**S**	**10 30 55.5**	**+0.2**
90nm,0.3s,baz=89,slow=22,SNR=19							
MJAR	**Matsushiro Arr**	**2.78**	**321**	Pn	**P**	**10 30 57.8**	**+0.8**
2.5nm,0.3s,baz=140,slow=14,SNR=18							
MJAR				Sn	**S**	**10 31 30.3**	**+1.0**
2.0nm,0.3s,baz=136,slow=24,SNR=7.8							
MAT	**Matsushiro**	**2.78**	**321**	P	**P**	**10 30 57.4**	**+0.5**
MAT				*e*S	**S**	**10 31 30.2**	**+0.8**
ILAR	**Eielson Array**	**52.15**	**31**	P	pP	10 39 36.3	+0.1
0.3nm,0.7s,baz=252,slow=6.0,SNR=4.6							
WRA	**Warramunga Arr**	**54.36**	**187**	P	**P**	**10 39 34.8**	**-1.3**
0.6nm,0.9s,mb3.6,baz=5.7,slow=7.8,SNR=5.1							

*NIED **26** 10:34:00,38.60N×143.30E,h11km,Mw4.1 Best double couple: Mo1.75×10^15 NP1:φs3°,δ71°,λ61°. NP2:φs243°,δ34°,λ146°.*
*BJI **26** 10:34:28.1,38.78N×143.38E,h9km,mB4.8,mb4.7,Ms3.8,Msz3.6*
*IDC **26** 10:34:29.9±0.8,38.59N×143.25E,mb4.2/16,mb1 4.3/19,mb1mx4.3/25,mbtmp4.2/19,ML3.9/3,MS3.0/3,Ms1 3.0/3,ms1mx2.7/35,Error ellipse: s-maj=20.4km s-min=16.7km az=123.0*
*JMA **26** 10:34:30.0±0.2,38.57N×143.25E,h6km±3km,M4.5*
*NEIC **26** 10:34:31.3±0.4,38.59N×143.29E,h10km,mb4.6/16,MW4.1(NIED),Error ellipse: s-maj=10.5km s-min=6.5km az=143.0*
*MOS **26** 10:34:33.5±0.9,38.65N×143.17E,h33km,mb4.6/17,Error ellipse: s-maj=10.6km s-min=7.8km az=101.2*
ISC 26 10:34:29.0±1.5,38.63N±0.04×143.32E±0.04,h5km±9km,
n93,σ0§93/95,mb4.4/40,MS3.4/3,5C-1D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.36**	**290**	P	**Pb**	**10 34 54.9**	**+0.2**
OFUJ				*e*S	**Sb**	**10 35 12.6**	**+0.3**
MIYJ	**Miyakonagasawa**	**1.50**	**309**	P	**Pn**	**10 34 57.2**	**+0.5**
JIO	**Ouri**	**1.55**	**264**	P	**Pn**	**10 34 57.2**	**-0.3**
JIO				S	**Sb**	**10 35 17.1**	**-0.7**
JMK	**Ichinoseki**	**1.67**	**282**	P	**Pn**	**10 34 59.5**	**+0.3**
JMK				*e*S	**Sn**	**10 35 21.0**	**-0.2**
JOM	**Ohasama**	**1.79**	**299**	P	**Pn**	**10 35 01.8**	**+1.0**
JOM				*e*S	**Sn**	**10 35 25.2**	**+1.0**
JOU	**Okura**	**2.10**	**264**	P	**Pn**	**10 35 06.0**	**+0.7**
JMM	**Marumori**	**2.13**	**250**	P	**Pn**	**10 35 05.4**	**-0.4**
JFK	**Kawauchi**	**2.31**	**238**	P	**Pn**	**10 35 07.6**	**-0.7**
JYK	**Kaneyama**	**2.33**	**278**	P	**Pn**	**10 35 09.3**	**+0.7**
JYS	**Shiratake**	**2.58**	**262**	P	**Pn**	**10 35 13.0**	**+0.7**
JFT	**Otama**	**2.60**	**246**	P	**Pn**	**10 35 12.6**	**+0.1**
JYA	**Atsumi**	**2.82**	**270**	P	**Pn**	**10 35 16.4**	**+0.7**
MJAR	**Matsushiro Arr**	**4.56**	**244**	Pn	**Pn**	**10 35 41.1**	**+0.7**
4.6nm,0.3s,baz=62,slow=12,SNR=39							
MJAR				Sn	**Sn**	**10 36 35.2**	**+0.6**
0.8nm,0.3s,baz=64,slow=22,SNR=4.1							
MJAR				LR	LR	10 37 32.6	
comp=Z,237nm,20.1s,baz=45,slow=41							
MAJO	**Matsushiro**	**4.56**	**244**	*e*Pn	**Pn**	**10 35 41.2**	**+0.8**
MAT	**Matsushiro**	**4.56**	**244**	P	**Pn**	**10 35 40.8**	**+0.4**
MAT				*e*S	**Sn**	**10 36 35.8**	**+1.2**
MAT	**Matsushiro**	**4.56**	**244**	*e*P	**Pn**	**10 35 41.0**	**+0.6**
MAT				S	**Sn**	**10 36 36.0**	**+1.4**
ASAJ	**Asahikawa**	**5.51**	**355**	Pn	**Pn**	**10 35 53.5**	**-0.3**
2.9nm,0.3s,baz=250,slow=20,SNR=24							
ASAJ				Sn	**Sn**	**10 36 56.7**	**-1.6**
3.0nm,0.3s,baz=256,slow=31,SNR=3.7							
ASAJ				LR	LR	10 38 32.3	
comp=Z,86nm,21.3s,baz=164,slow=44							
ASAJ	**Asahikawa**	**5.51**	**355**	P	**Pn**	**10 35 53.5**	**-0.2**
ASAJ						10 36 56.7	
ASAJ				pmax	pmax		
comp=Z,3.0nm,0.3s							
ASAJ				MLR	MLR		
comp=Z,86nm,21.3s							
YUK	**Yuzh-Kuril'sk**	**5.73**	**19**	*e*P	**Pn**	**10 35 54.5**	**-2.4**
YUK				*i* S	**Sn**	**10 36 56.2**	**-7.7**
YUK				pmax	pmax		
comp=Z,320nm,0.5s							
YUK				pmax	pmax		
comp=N,190nm,0.5s							
YUK				smax			
comp=N,810nm,0.5s							
YUK				smax			
comp=E,770nm,0.5s							
YUK				smax			
comp=N,2μm,1.0s							
JHJ	**Hachijo jima 2**	**6.20**	**209**	Pn	**Pn**	**10 36 01.1**	**-2.4**
comp=N,10nm,0.3s,baz=255,slow=24,SNR=5.3							
JHJ				Sn	**Sn**	**10 37 05.2**	**-11**
comp=N,12nm,0.3s,baz=79,slow=21,SNR=2.7							
YSS	**Yuzh-Sakhalins**	**8.33**	**357**	*e*P	**P**	**10 36 27.0**	**-6.4**
YSS				MLR	MLR		
comp=Z,300nm,18.0s							
MDJ	**Mudanjiang**	**11.88**	**305**	P	**P**	**10 37 22.0**	**-0.1**
MDJ				AMB	AMB		
comp=Z,9.0nm,1.3s							
MDJ				AMB	AMB		
comp=Z,103nm,5.3s							
MDJ				LR	LR		
comp=N,71nm,17.8s							
MDJ				LR	LR		
comp=E,47nm,19.3s							
MDJ				LR	LR		
comp=Z,129nm,16.3s							
MA2	**Magadan**	**21.50**	**10**	*e*P	**P**	**10 39 20.9**	**+0.3**
comp=Z,5.5nm,0.6s,mb4.1							
MA2	**Magadan**	**21.50**	**10**	*e*P	**P**	**10 39 20.9**	**+0.3**
MA2				pmax	pmax		
comp=Z,6.0nm,0.6s,mb4.1							
HHC	**Hu-ho-hao-te**	**24.45**	**285**	*e*P	**P**	**10 39 47.0**	**-2.8**
HHC				AP		10 39 55.0	
HHC				XP		10 39 57.3	
HHC				AMB	AMB		
comp=Z,14nm,1.2s,mb4.3							
CIT	**Chita**	**24.64**	**313**	*e*P	**P**	**10 39 51.8**	**+0.4**
CIT				pmax	pmax		
comp=Z,35nm,1.7s,mb4.6							
YAK	**Yakutsk**	**24.88**	**345**	*e*P	**P**	**10 39 54.0**	**+0.3**
comp=Z,20nm,0.7s,mb4.8							
YAK	**Yakutsk**	**24.88**	**345**	*d i*P	**P**	**10 39 54.1**	**+0.4**
YAK				pmax	pmax		
comp=Z,3.0nm,0.4s,mb4.2							
YAK				MLR	MLR		
comp=Z,100nm,13.0s,MS3.5							
SEY	**Seymchan**	**24.95**	**10**	||*e*P	**P**	**10 39 56.8**	**+2.5**
BOD	**Bodaibo**	**27.04**	**325**	*e*P	**P**	**10 40 13.0**	**-0.8**
BOD				pmax	pmax		
comp=Z,8.0nm,0.8s,mb4.3							
ULN	**Ulaanbaatar**	**27.76**	**301**	*e*P	**P**	**10 40 20.6**	**+0.1**
comp=Z,3.6nm,0.6s,mb4.2							
ULN	**Ulaanbaatar**	**27.76**	**301**	||*e*P	**P**	**10 40 20.1**	**-0.4**
SONM	**Songino Array**	**28.20**	**301**	P	**P**	**10 40 24.6**	**+0.1**
comp=Z,4.2nm,0.9s,mb4.0,baz=97,slow=7.5,SNR=20							
SONM				LR	LR	10 51 50.9	
comp=Z,44nm,20.2s,MS3.0,baz=109,slow=37							
ENH	**Enshi**	**28.99**	**264**	*e*P	**P**	**10 40 30.2**	**-1.6**
comp=Z,21nm,1.0s,mb4.8							
ZAK	**Zakamensk**	**30.51**	**306

KKN Kakani 49.03 275 *eP* **P 10 43 18.9 0.0**
KKN pmax pmax
comp=Z,14nm,1.0s,mb5.0
PKI Pulchoki 49.03 275 *eP* **P 10 43 18.5 -0.4**
DMN Daman 49.25 275 *eP* **P 10 43 20.7 +0.1**
GKN Gorkha 49.43 276 *eP* **P 10 43 21.5 -0.5**
comp=Z,40nm,1.0s,mb5.4
KOLN Koldanda 50.35 276 *eP* **P 10 43 29.0 0.0**
comp=Z,24nm,1.1s,mb5.1
BVAR Borovoye Array 50.62 312 P **P 10 43 31.1 +0.3**
comp=Z,1.5nm,0.6s,mb4.1,baz=90,slow=5.9,SNR=9.1
INK Inuvik 52.28 28 P **P 10 43 44.0 +0.8**
comp=Z,1.5nm,0.7s,mb4.0,baz=271,slow=4.8,SNR=3.2
INK Inuvik 52.28 28 P **P 10 43 43.6 +0.5**
comp=Z,2.9nm,0.9s,mb4.2
INK Inuvik 52.28 28 P **P 10 43 43.6 +0.5**
INK pmax pmax
comp=Z,3.0nm,0.9s
WRAB Tennant Creek 58.86 190 *eP* **P 10 44 30.6 -0.6**
comp=Z,4.5nm,0.7s,mb4.6
WRAB Tennant Creek 58.86 190 *eP* **P 10 44 30.6 -0.6**
WRAB pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
WRA Warramunga Arr 58.87 190 P **P 10 44 29.5 -1.8**
comp=Z,4.2nm,0.8s,mb4.5,baz=7.4,slow=6.9,SNR=34
ARCES ARCESS Array B 63.03 340 P **P 10 44 57.5 -1.3**
comp=Z,1.7nm,0.6s,mb4.3,baz=45,slow=6.9,SNR=7.0
OBN Obninsk 67.72 324 *eP* **P 10 45 28.7 -0.5**
OBN pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
NEW Newport 67.94 45 *eP* **P 10 45 31.6 +0.9**
comp=Z,3.0nm,0.9s,mb4.3
NEW Newport 67.94 45 *eP* **P 10 45 31.6 +0.9**
NEW pmax pmax
comp=Z,3.0nm,0.9s
FINES FINESS Array B 68.10 333 P **P 10 45 31.2 -0.3**
comp=Z,2.9nm,0.7s,mb4.4,baz=63,slow=8.5,SNR=7.2
SUMG Summit 69.08 1 *eP* **P 10 45 38.3 +0.9**
comp=Z,3.0nm,0.5s,mb4.5
KIV Kislovodsk 70.99 311 *eP* **P 10 45 50.3 +0.8**
KIV pmax pmax
comp=Z,14nm,1.1s,mb4.8
BOZ Bozeman (W) 72.52 45 *eP* **P 10 45 59.7 +1.1**
comp=Z,3.4nm,1.3s,mb4.1
BOZ Bozeman (W) 72.52 45 *eP* **P 10 45 59.7 +1.1**
BOZ pmax pmax
comp=Z,3.0nm,1.3s,mb4.1
NB2 NORSAR Subarra 73.29 338 P **P 10 46 02.4 -0.3**
comp=Z,1.6nm,0.7s,mb4.1,baz=37,slow=6.2
NB2 NORSAR Subarra 73.29 338 P **P 10 46 02.4 -0.3**
NB2 pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
NOA NORSAR Array B 73.29 338 P **P 10 46 02.7 0.0**
comp=Z,2.3nm,0.7s,mb4.2,baz=38,slow=6.0,SNR=7.4
AKASG Malin Array Be 73.95 323 P **P 10 46 06.5 -0.3**
comp=Z,1.5nm,0.5s,mb4.2,baz=42,slow=6.0,SNR=7.8
PDAR Pinedale Array 75.48 47 P **P 10 46 16.8 +1.0**
comp=Z,0.5nm,0.5s,mb3.7,slow=3.0,SNR=6.7
PV10 Paradox Valley 78.59 50 *eP* **P 10 46 34.9 +1.7**
BRTR Keskin Array B 78.91 312 P **P 10 46 34.8 -0.1**
comp=Z,2.2nm,1.1s,mb4.0,baz=63,slow=2.8,SNR=4.5
MLR Muntele Rosu 79.13 320 P **P 10 46 35.8 -0.2**
comp=Z,1.0nm,0.5s,mb4.0,baz=93,slow=4.5,SNR=3.7
MORC Moravsky Berou 79.83 328 *eP* **P 10 46 40.4 +0.7**
comp=Z,3.1nm,0.8s,mb4.3
MORC Moravsky Berou 79.83 328 *eP* **P 10 46 40.4 +0.7**
MORC pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
KHC Kasperske Hory 81.96 329 *eP* **P 10 46 49.5 -1.4**
KHC pP pP 10 46 51.5 -0.8
KHC sP sP 10 46 59.0 +6.2
KHC Kasperske Hory 81.96 329 *eP* **P 10 46 49.5 -1.4**
KHC *e* 10 46 59.0
GERES GERESS Array B 82.13 329 P **P 10 46 52.8 +1.0**
comp=Z,0.4nm,0.4s,mb3.7,baz=45,slow=1.9,SNR=3.6
TXAR Lajitas Array 87.96 54 P **P 10 47 22.7 +1.4**
comp=Z,0.3nm,0.5s,mb3.8,baz=277,slow=2.2,SNR=6.6
VNA2 Neumayer--Watz 144.27 196 *e* PKPbc 10 54 07.0 +2.6
VNA2 Neumayer--Watz 144.27 196 *e* PKPbc 10 54 11.4 +7.0
VNA2 Neumayer--Watz 144.27 196⇑*iP* PKPbc 10 54 04.1 -0.3
VNA2 *e* 10 54 07.0
VNA2 *e* 10 54 11.4
VNA3 Neumayer Olymp 144.49 195 *e* PKPbc 10 54 07.3 +2.3
VNA3 Neumayer Olymp 144.49 195 *e* PKPbc 10 54 11.8 +6.8
VNA3 Neumayer Olymp 144.49 195⇑*iP* PKPbc 10 54 04.5 -0.5
VNA3 *e* 10 54 07.3
VNA3 *e* 10 54 11.8
VNA1 Neumayer--Stat 144.66 196 *e* PKPbc 10 54 08.2 +2.7
VNA1 Neumayer--Stat 144.66 196 *e* PKPbc 10 54 12.9 +7.4
VNA1 Neumayer--Stat 144.66 196⇑*iP* PKPbc 10 54 05.4 -0.1
VNA1 *e* 10 54 08.2
VNA1 *e* 10 54 12.9

IDC ***26*** *10:46:51.5±1.0, 10.27N×138.61E, mb3.8/7, mb1 4.0/7, mb1mx3.9/19, mbtmp3.8/7, Error ellipse: s-maj=44.4km s-min=22.4km az=81.0*
NEIC ***26*** *10:46:56.8±0.7, 10.26N×138.51E, h35km, mb4.2/1, Error ellipse: s-maj=31.4km s-min=14.7km az=79.0*
ISC 26 10:46:54.8±0.8, 10.2N±0.1×138.4E±0.3, h33km, n9, σ0 93/9, mb3.8/8, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**30.24**	**188**	P	**P**	**10 53 04.7**	**-0.3**
	0.5nm,0.7s,mb3.3,baz=1.7,slow=3.9,SNR=5.3						
STKA	**Stephens Creek**	**41.98**	**176**	P	**P**	**10 54 44.6**	**0.0**
	2.7nm,0.9s,mb3.9,baz=328,slow=14,SNR=3.7						
STKA	**Stephens Creek**	**41.98**	**176**	P	**P**	**10 54 45.1**	**+0.5**
SONM	**Songino Array**	**46.14**	**330**	P	**P**	**10 55 19.6**	**+1.6**
	0.8nm,1.0s,mb3.6,baz=129,slow=6.6,SNR=5.7						
MKAR	**Makanchi Array**	**59.63**	**319**	P	**P**	**10 56 57.8**	**-0.2**
	0.8nm,0.9s,mb3.7,baz=90,slow=11,SNR=4.3						
KURK	**Kurchatov**	**63.17**	**322**	*eP*	**P**	**10 57 20.9**	**-1.0**
	1.7nm,0.8s,mb4.2						
BVAR	**Borovoye Array**	**68.69**	**323**	P	**P**	**10 57 56.9**	**0.0**
	0.8nm,0.6s,mb3.9,baz=108,slow=9.4,SNR=5.1						
ILAR	**Eielson Array**	**74.31**	**25**	P	**P**	**10 58 28.9**	**-1.5**
	0.4nm,0.7s,mb3.5,baz=245,slow=5.8,SNR=6.2						
NVAR	**Mina Array Bea**	**93.96**	**50**	P	**P**	**11 00 11.9**	**+1.1**
	0.5nm,0.7s,mb4.0,baz=262,slow=8.7,SNR=6.4						

BJI ***26*** *11:00:44.5, 37.01N×79.19E, h10km, mB4.6, mb4.7, ML5.0, Ms4.2, Msz3.9*
IDC ***26*** *11:00:45.3±0.9, 37.17N×79.20E, mb4.3/18, mb1 4.4/21, mb1mx4.3/28, mbtmp4.2/21, ML3.6/2, MS3.7/13, Ms1 3.7/13, ms1mx3.5/27, Error ellipse: s-maj=20.6km s-min=17.1km az=156.0*
NEIC ***26*** *11:00:45.8±0.2, 36.99N×79.24E, h10km, mb4.8/48, Error ellipse: s-maj=5.9km s-min=4.1km az=58.0*
MOS ***26*** *11:00:47.0±0.9, 36.96N×79.24E, h33km, mb4.9/47, Error ellipse: s-maj=10.8km s-min=4.4km az=125.9*
NNC ***26*** *11:00:57.6±10.0, 37.63N×79.08E, h73km±134km, mpv4.5, Error ellipse: s-maj=87.8km s-min=46.4km az=164.0*
ISC 26 11:00:45.1±0.2, 36.95N±0.03×79.21E±0.04, h18km, h18km±1.6km: pP-P, n202, σ1 s07/210, mb4.6/69, MS3.8/20, 59C-12D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**3.61**	**316**	P	**Pn**	**11 01 45.0**	**+3.5**
KSH				S	**Sn**	**11 02 25.8**	**+1.6**
KSH				Smax			
	comp=N,3μm,0.6s						
KSH				Smax			
	comp=E,4μm,0.4s						
CHCP	**Chirah Chowk**	**5.86**	**238**	P	**Pn**	**11 02 16.6**	**+3.3**
CEP	**Cherat**	**6.72**	**245**	P	**Pn**	**11 02 26.3**	**+0.8**
AAK	**Ala-Archa**	**6.74**	**329**	⇑Pn	**Pn**	**11 02 27.3**	**+1.6**
	comp=E,78nm,0.8s						
AAK				⇑Lg		11 04 16.8	
	comp=E,573nm,1.8s						
AAK	**Ala-Archa**	**6.74**	**329**	⇑Pn	**Pn**	**11 02 27.2**	**+1.6**
	comp=E,78nm,0.8s						
AAK				Lg		11 04 16.8	
AAK	**Ala-Archa**	**6.74**	**329**	*i P*	**Pn**	**11 02 26.8**	**+1.1**
AAK				pmax	pmax		
	comp=Z,78nm,0.8s						
FRU	**Bishkek**	**6.86**	**330**	*eP*	**Pn**	**11 02 29.0**	**+1.7**
FRU				pmax	pmax		
	comp=Z,210nm,1.5s						
SARP	**Sargodha**	**7.37**	**229**	P	**Pn**	**11 02 35.1**	**+0.6**

THW Thamme Wali 7.40 238 ⇑P **Pn 11 02 35.4 +0.4**
THW S **Sn 11 03 58.0 -1.3**
SBDP Sheikh Budin 8.33 239 P **P 11 02 45.5 -2.4**
KK31 Karatay Array 9.07 315 Pn **P 11 03 01.3 +3.1**
comp=Z,5.5nm,0.5s,baz=134,slow=13,SNR=30
KK31 ⇑Sn **Sn 11 04 35.2 -5.6**
comp=Z,15nm,0.5s,baz=145,slow=24,SNR=5.1
KK31 Karatay Array 9.07 315 Pn **P 11 03 01.2 +3.1**
comp=Z,5.5nm,0.5s
KK31 Sn **Sn 11 04 35.2 -5.6**
KKAR Karatay Array 9.07 315 *i P* **P 11 02 56.7 -1.5**
KKAR pmax pmax
comp=Z,5.0nm,0.3s
WMQ Urumqi 9.43 41 *eP* **P 11 03 01.5 -1.7**
WMQ S **Sn 11 04 42.5 -7.4**
WMQ Smax
comp=N,124nm,1.0s
WMQ Smax
comp=E,139nm,1.0s
KOLN Koldanda 9.88 157 *eP* **P 11 03 08.5 -0.8**
comp=E,32nm,0.7s
GKN Gorkha 10.03 151 *eP* **P 11 03 10.8 -0.6**
MKAR Makanchi Array 10.10 12 Pn **P 11 03 09.7 -2.7**
comp=E,0.4nm,0.3s,baz=112,slow=14,SNR=12
MKAR Sn **S 11 04 59.1 -7.1**
comp=E,7.5nm,0.3s,baz=201,slow=21,SNR=13
MKAR LR LR 11 06 43.9
comp=E,70nm,20.2s,baz=265,slow=36
MK31 Makanchi Array 10.10 12 ⇑Pn **P 11 03 09.5 -2.9**
comp=E,31nm,0.8s,baz=190,slow=13,SNR=40
MK31 Sn **S 11 04 58.8 -7.5**
comp=E,70nm,0.8s,baz=201,slow=25,SNR=10
MK31 Makanchi Array 10.10 12 ⇑Pn **P 11 03 09.5 -2.9**
comp=E,31nm,0.8s
MK31 Sn **S 11 04 58.8 -7.5**
KKN Kakani 10.47 149 *eP* **P 11 03 17.6 +0.1**
comp=E,25nm,0.5s
KKN Kakani 10.47 149 *eP* **P 11 03 17.6 +0.1**
KKN pmax pmax
comp=Z,13nm,0.5s
DMN Daman 10.56 150 *eP* **P 11 03 18.1 -0.6**
comp=Z,40nm,0.7s
PKI Pulchoki 10.72 149 *eP* **P 11 03 20.8 -0.1**
comp=Z,39nm,0.5s
PKI Pulchoki 10.72 149 *eP* **P 11 03 20.8 -0.1**
PKI pmax pmax
comp=Z,19nm,0.5s
AJM Ajmer 11.13 202 *i P* **P 11 03 26.0 -0.6**
AJM *i* S **S 11 05 28.0 -3.6**
KURK Kurchatov 13.77 358 Pn **P 11 04 00.4 -1.3**
KURK Kurchatov 13.77 358 *eP* **P 11 03 58.3 -3.4**
GTA Gaotai 16.39 75 P **P 11 04 40.5 +4.7**
GTA AMB AMB
comp=Z,9.0nm,1.2s
GTA AMB AMB
comp=Z,83nm,11.8s
GTA LR LR
comp=N,252nm,14.1s
GTA LR LR
comp=E,431nm,18.4s
GTA LR LR
comp=Z,420nm,16.4s
BVA0 Borovoye Array 17.22 342 ⇓P **P 11 04 48.1 +2.0**
comp=Z,1.5nm,0.8s,baz=149,slow=11,SNR=32
BVA0 Borovoye Array 17.22 342 ⇓P **P 11 04 48.1 +2.0**
comp=Z,1.5nm,0.8s
BVA0 Borovoye Array 17.22 342 ⇓P **P 11 04 48.1 +1.9**
BVA0 pmax pmax
comp=Z,2.0nm,0.8s
BVAR Borovoye Array 17.22 342 P **P 11 04 45.3 -0.9**
comp=Z,0.2nm,0.3s,baz=150,slow=12,SNR=13
BRVK Borovoye 17.28 342 *eP* **P 11 04 49.1 +2.2**
comp=Z,6.8nm,0.6s
BRVK Borovoye 17.28 342 *eP* **P 11 04 49.1 +2.2**
BRVK pmax pmax
comp=Z,7.0nm,0.6s
ZAL Zalesovo 17.43 11 P **P 11 04 45.7 -3.0**
comp=Z,0.6nm,0.3s,baz=268,slow=12,SNR=13
NVS Novosibirsk 18.11 8 *i P* **P 11 04 56.4 -0.8**
NVS *i* S **S 11 08 06.4 -9.5**
NVS pmax pmax
comp=Z,32nm,1.2s
NVS pmax pmax
comp=N,35nm,1.5s
NVS pmax pmax
comp=E,10.0nm,1.0s
NVS smax
comp=N,46nm,1.8s
NVS smax
comp=E,14nm,1.6s
AB31 Akbulak array 18.62 317 ⇑P **P 11 05 02.1 -1.5**
comp=E,6.8nm,0.8s,baz=128,slow=17,SNR=5.6
AB31 Akbulak array 18.62 317 ⇑P **P 11 05 02.1 -1.5**
AB31 pmax pmax
comp=Z,7.0nm,0.8s
POO Poona 18.94 196 *ex* **P 11 05 09.0 +1.3**
AKTK Aktyubinsk 20.31 318 ⇓P **P 11 05 21.8 -0.9**
AKTO Aktyubinsk 20.31 318 ⇓P **P 11 05 21.8 -0.9**
comp=Z,2.7nm,1.3s
AKTO Aktyubinsk 20.31 318 P **P 11 05 21.8 -0.9**
AKTO pmax pmax
comp=Z,2.0nm,0.8s
ZAK Zakamensk 21.87 45 ⇓*iP* **P 11 05 38.9 +0.3**
ZAK pmax pmax
comp=Z,4.0nm,1.1s,mb3.8
SONM Songino Array 22.72 53 P **P 11 05 48.4 +1.4**
comp=Z,4.2nm,1.1s,mb3.8,baz=247,slow=9.2,SNR=22
SONM LR LR 11 15 56.3
comp=Z,610nm,18.7s,MS4.1,baz=244,slow=40
ULN Ulaanbaatar 23.15 53 *eP* **P 11 05 51.6 +0.4**
comp=Z,6.0nm,0.9s,mb4.0
ULN Ulaanbaatar 23.15 53⇑*eP* **P 11 05 53.1 +1.9**
SVE Sverdlovsk 23.45 334 *eP* **P 11 06 00.0 +6.1**
SVE *e*PPP PPP 11 06 23.3 -13
SVE MLR MLR
comp=N,300nm,11.0s,MS4.1
SVE MLR MLR
comp=E,200nm,11.0s,MS4.1
SVE MLR MLR
comp=Z,500nm,11.0s,MS4.2
ARU Arti 23.92 331 ⇓*iP* **P 11 05 59.3 +0.8**
ARU *e* 11 06 26.3
ARU *e*S **S 11 10 13.6 +2.8**
ARU *e*SS SS 11 10 53.8 -7.8
ARU pmax pmax
comp=Z,10.0nm,0.8s,mb4.3
ARU MLR MLR
comp=Z,200nm,16.0s,MS3.7
ARU MLR MLR
comp=N,100nm,18.5s,MS3.7
ARU MLR MLR
comp=E,200nm,17.0s,MS3.7
HHC Hu-ho-hao-te 25.40 71 *eP* **P 11 06 14.0 +1.0**
HHC AP pP 11 06 19.0 +0.7
HHC XP sP 11 06 21.3 +0.6
HHC PP PP 11 06 54.0 +2.0
HHC PCP PcP 11 09 48.8 +2.9
HHC S **S 11 10 41.5 +5.4**
HHC XS 11 10 47.5
HHC SS SS 11 11 42.5 +4.2
HHC SCP 11 13 25.5
HHC SCS ScS 11 17 11.3 +0.8
HHC AMB AMB
comp=Z,10.0nm,0.8s,mb4.4
HHC AMB AMB
comp=Z,59nm,5.0s
HHC LR LR
comp=N,210nm,12.0s,MS4.1
HHC LR LR
comp=E,224nm,11.0s,MS4.1
HHC LR LR
comp=Z,204nm,11.0s,MS3.9
GYA Guiyang 25.51 106 P **P 11 06 16.0 +1.8**
GYA AMB AMB
comp=Z,10.0nm,0.6s,mb4.5
GNI Garni 27.04 287 P **P 11 06 28.5 +0.4**
comp=Z,42nm,1.4s,mb4.8
GNI Garni 27.04 287 P **P 11 06 28.5 +0.4**
GNI pmax pmax
comp=Z,42nm,1.4s
ZEI Tsey 27.58 293 *eP* **P 11 06 36.0 +3.0**
ZEI pmax pmax
comp=Z,3.0nm,0.5s,mb4.2
KIV Kislovodsk 28.48 296 *eP* **P 11 06 46.1 +4.9**
KIV pmax pmax
comp=Z,10.0nm,1.0s,mb4.4

MALT Malatya 32.14 285 *eP* **P 11 07 14.9 +1.3**
comp=Z,6.2nm,0.9s,mb4.4
MALT Malatya 32.14 285 *eP* **P 11 07 14.9 +1.2**
MALT pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
NJ2 Nanjing 32.87 87 *eP* **P 11 07 23.3 +3.2**
NJ2 PP PP 11 08 33.3 +3.1
NJ2 S **S 11 12 39.0 +3.4**
NJ2 AMB AMB
comp=Z,20nm,0.9s,mb5.0
NJ2 AMB AMB
comp=Z,60nm,11.7s
NJ2 LR LR
comp=N,260nm,13.9s,MS4.2
NJ2 LR LR
comp=E,250nm,13.4s,MS4.2
NJ2 LR LR
comp=Z,90nm,10.4s,MS3.8
OBN Obninsk 34.06 316 *eP* **P 11 07 30.4 +0.3**
OBN *e* pP 11 07 36.1 +0.5
OBN *e*S **S 11 12 53.6 -0.2**
OBN pmax pmax
comp=Z,8.0nm,1.4s,mb4.5
OBN MLR MLR
comp=Z,300nm,20.0s,MS4.0
ASF Jabal al Asfar 34.96 275 P **P 11 07 39.4 +1.3**
comp=Z,1.5nm,0.3s,mb4.4,baz=96,slow=6.0,SNR=3.1
SSE Sheshan 35.07 87 P **P 11 07 39.5 +0.4**
SSE XP sP 11 07 52.3 +5.5
SSE PP PP 11 08 59.0 +1.3
SSE PCP PcP 11 10 11.5 +0.5
SSE S **S 11 13 10.8 +1.1**
SSE XS 11 13 25.0
SSE AMB AMB
comp=Z,28nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,66nm,5.0s
SSE LR LR
comp=N,50nm,19.6s,MS3.4
SSE LR LR
comp=E,44nm,19.9s,MS3.4
SSE Sheshan 35.07 87 P **P 11 07 39.6 +0.5**
comp=E,28nm,0.7s,mb5.3
SSE sP sP 11 07 52.2 +5.4
SSE PP PP 11 08 59.1 +1.4
SSE PcP PcP 11 10 11.6 +0.6
SSE S **S 11 13 10.8 +1.1**
SSE sS 11 13 24.9
SSE SS SS 11 15 43.0 +18
SSE LR LR
comp=Z,70nm,16.1s,MS3.5
BR131 Keskin Array S 35.56 289 *eP* **P 11 07 43.5 +0.3**
comp=Z,2.9nm,0.7s,mb4.3
BRTR Keskin Array B 35.56 289 P **P 11 07 44.0 +0.8**
comp=Z,4.8nm,0.8s,mb4.5,baz=90,slow=7.4,SNR=26
AKASG Malin Array Be 37.86 307 P **P 11 08 02.3 -0.1**
comp=Z,4.9nm,0.4s,mb4.6,baz=74,slow=7.9,SNR=22
AKASG PcP PcP 11 10 17.1 -2.1
comp=Z,1.1nm,0.6s,baz=74,slow=5.1,SNR=4.6
MLR Muntele Rosu 40.32 299 P **P 11 08 24.7 +1.8**
comp=Z,9.5nm,0.7s,mb4.6,baz=114,slow=13,SNR=17
MLR LR LR 11 29 05.8
comp=Z,98nm,19.9s,MS3.7,baz=244,slow=42
MLR Muntele Rosu 40.32 299 ⇑P **P 11 08 24.8 +1.9**
MLR Muntele Rosu 40.32 299 ⇑P **P 11 08 24.8 +1.9**
MLR Muntele Rosu 40.32 299 P **P 11 08 24.7 +1.8**
MLR pmax pmax
comp=Z,10.0nm,0.7s
MLR MLR MLR
comp=Z,98nm,19.9s
BURAR Bucovina Array 40.59 303 ⇑P **P 11 08 26.0 +0.9**
BURAR Bucovina Array 40.59 303 ⇑P **P 11 08 26.0 +0.9**
FINES FINESS Array B 40.90 324 P **P 11 08 27.9 +0.3**
comp=Z,2.0nm,0.5s,mb4.0,baz=103,slow=8.4,SNR=11
FINES LR LR 11 27 15.4
comp=Z,40nm,18.9s,MS3.3,baz=180,slow=39
VOIR 40.95 299 ⇓P **P 11 08 29.0 +0.9**
VOIR 40.95 299 ⇓P **P 11 08 29.1 +1.0**
LVV L'vov 41.21 306 *eP* **P 11 08 30.7 +0.5**
SUW Suwalki 41.64 313 *eP* **P 11 08 41.6 +8.1**
SUW Suwalki 41.64 313 *eP* **P 11 08 41.7 +8.1**
KWP Kalwaria 42.08 306 *eP* **P 11 08 38.3 +1.1**
KWP Kalwaria 42.08 306 *eP* **P 11 08 38.3 +1.0**
JOW Kunigami 42.47 89 LR LR 11 29 18.9
comp=Z,67nm,18.9s,MS3.5,baz=299,slow=40
ARCES ARCESS Array B 43.36 336 P **P 11 08 47.5 +0.1**
comp=Z,2.0nm,0.7s,mb4.0,baz=117,slow=4.0,SNR=4.6
ARCES LR LR 11 26 11.3
comp=Z,39nm,18.3s,MS3.3,baz=246,slow=35
NIE Niedzica 43.65 306 *eP* **P 11 08 51.8 +1.7**
OJC Ojcow 43.90 307 *eP* **P 11 08 51.1 -1.0**
MORC Moravsky Berou 45.40 307 *eP* **P 11 09 04.6 +0.5**
comp=Z,6.0nm,1.0s,mb4.4
MORC Moravsky Berou 45.40 307 *eP* **P 11 09 04.6 +0.5**
MORC pmax pmax
comp=Z,6.0nm,1.0s,mb4.4
DPC Dobruska-Polom 46.09 308 *eP* **P 11 09 10.7 +1.1**
DPC *ep*P pP 11 09 15.3 +0.2
UPC Upice 46.27 308 *eP* **P 11 09 11.8 +0.8**
UPC *ep*P pP 11 09 16.7 +0.2
HFS Hagfors 46.82 321 P **P 11 09 15.5 +0.3**
comp=Z,4.5nm,0.7s,mb4.5,baz=98,slow=10,SNR=15
PVCC Panska Ves 47.17 308 *eP* **P 11 09 18.8 +0.6**
PRU Pruhonice 47.28 307 *eP* **P 11 09 19.8 +0.8**
BRG Berggiesshubel 47.51 309 *i P* **P 11 09 21.3 +0.5**
comp=Z,9.6nm,0.8s,mb4.9
BRG *e* pP 11 09 27.9 +1.6
BRG Berggiesshubel 47.51 309 *i P* **P 11 09 21.3 +0.5**
BRG *e* pP 11 09 27.9 +1.5
BRG pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
NB2 NORSAR Subarra 48.01 323 P **P 11 09 24.2 -0.4**
comp=Z,2.9nm,0.6s,mb4.5,baz=89,slow=7.4
NB2 NORSAR Subarra 48.01 323 P **P 11 09 24.2 -0.4**
NB2 pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
NOA NORSAR Array B 48.01 323 P **P 11 09 25.3 +0.7**
comp=Z,3.2nm,0.6s,mb4.5,baz=89,slow=7.6,SNR=12
NOA LR LR 11 30 51.3
comp=Z,68nm,18.5s,MS3.7,baz=100,slow=38
CLL Collm 48.02 309 ⇓P **P 11 09 25.2 +0.4**
comp=Z,logA/T=1.1,mb4.9
CLL *i* *SP sP 11 09 32.4 -0.2
CLL Collm 48.02 309 ⇓*iP* **P 11 09 25.2 +0.4**
comp=Z,8.0nm,0.6s,mb4.9
CLL *i* pP 11 09 32.4 +2.0
CLL Collm 48.02 309 ⇓*iP* **P 11 09 25.2 +0.4**
CLL *i* pP 11 09 32.4 +2.0
CLL pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
GEC2 GERESS Array S 48.03 306 *eP* **P 11 09 25.5 +0.6**
comp=Z,10.0nm,0.9s,mb4.8
GEC2 GERESS Array S 48.03 306 *eP* **P 11 09 25.5 +0.6**
GEC2 pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
GERES GERESS Array B 48.03 306 P **P 11 09 25.9 +1.0**
comp=Z,5.3nm,0.8s,mb4.6,baz=68,slow=7.2,SNR=24
GERES LR LR 11 33 13.9
comp=Z,94nm,18.3s,MS3.8,baz=72,slow=41
KHC Kasperske Hory 48.05 306 *eP* **P 11 09 25.7 +0.6**
KHC *ep*P pP 11 09 30.1 -0.5
TIP Timpagrande 48.35 293 *eP* **P 11 09 26.4 -1.2**
WET Wettzell 48.50 307 *eP* **P 11 09 29.2 +0.7**
comp=Z,5.0nm,0.8s,mb4.6
WET Wettzell 48.50 307 *eP* **P 11 09 29.2 +0.7**
WET pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
MOX Moxa 49.01 309 *i P* **P 11 09 32.8 +0.4**
MOX Moxa 49.01 309 *eP* **P 11 09 32.8 +0.4**
BSEG Bad Segeberg 49.21 313 *eP* **P 11 09 34.9 +1.0**
GRA1 Grafenberg Arr 49.45 308 *eP* **P 11 09 37.2 +1.4**
comp=Z,18nm,0.9s,mb5.1
GRF Grafenberg Arr 49.45 308 *eP* **P 11 09 37.2 +1.4**
GRF pmax pmax
comp=Z,18nm,0.9s,mb5.1
DAVOX Davos 51.01 304 P **P 11 09 47.2 -0.6**
comp=Z,6.9nm,0.5s,mb4.8,baz=116,slow=7.5,SNR=9.5
CDF Champ du Feu 52.27 307⇑*iP* **P 11 09 57.1 -0.2**
comp=Z,16nm,1.0s,mb4.6
CDF Champ du Feu 52.27 307⇑*iP* **P 11 09 57.1 -0.2**
CDF pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
HINF Hinteralfeld 52.71 306⇑*iP* **P 11 10 00.2 -0.4**
comp=Z,16nm,0.8s,mb4.7
HINF Hinteralfeld 52.71 306⇑*iP* **P 11 10 00.2 -0.4**

HINF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
PGF Pioggiola 52.87 299 *eP* **P 11 10 01.3 -0.5**
comp=Z,37nm,1.1s,mb4.9
PGF Pioggiola 52.87 299 *eP* **P 11 10 01.3 -0.5**
PGF pmax pmax
comp=Z,19nm,1.1s,mb4.9
HAU Haudompre 52.98 307 *eP* **P 11 10 02.3 -0.4**
HAU *eR*
comp=Z,154nm,17.2s
GIVF Givet 53.36 309 *eP* **P 11 10 05.5 +0.1**
LPG La Plagne 53.47 303⇑*iP* **P 11 10 06.6 +0.4**
comp=Z,35nm,0.8s,mb5.0
LPG La Plagne 53.47 303⇑*iP* **P 11 10 06.6 +0.4**
LPG pmax pmax
comp=Z,17nm,0.8s,mb5.0
LPL La Plagne 53.47 303⇑*iP* **P 11 10 06.6 +0.3**
comp=Z,39nm,0.8s,mb5.1
LPL La Plagne 53.47 303⇑*iP* **P 11 10 06.6 +0.3**
LPL pmax pmax
comp=Z,20nm,0.8s,mb5.1
SBF Sospel 53.52 301 *eP* **P 11 10 06.4 -0.2**
comp=Z,47nm,1.0s,mb5.1
SBF Sospel 53.52 301 *eP* **P 11 10 06.4 -0.2**
SBF pmax pmax
comp=Z,24nm,1.0s,mb5.1
CABF La Chapelle 53.56 305 *eP* **P 11 10 06.6 -0.3**
comp=Z,17nm,0.9s,mb4.7
CABF La Chapelle 53.56 305 *eP* **P 11 10 06.6 -0.3**
CABF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
BNI Bardonecchia 53.65 303 *eP* **P 11 10 06.1 -1.5**
comp=Z,2.5nm,0.4s,mb4.5
BNI Bardonecchia 53.65 303 *eP* **P 11 10 06.1 -1.5**
BNI pmax pmax
comp=Z,3.0nm,0.4s,mb4.6
MEZF Maizieres J'vi 53.67 307⇑*iP* **P 11 10 07.7 0.0**
comp=Z,29nm,0.8s,mb5.0
MBDF Montbardon 53.70 303⇑*iP* **P 11 10 07.2 -0.7**
comp=Z,17nm,0.9s,mb4.7
MBDF Montbardon 53.70 303⇑*iP* **P 11 10 07.2 -0.7**
MBDF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
BAIF Baives 53.75 309 *eP* **P 11 10 08.3 +0.1**
FRF La Foret Royal 54.16 301 *eP* **P 11 10 10.6 -0.7**
ORIF Oris-en-Rattie 54.23 303⇑*iP* **P 11 10 11.9 +0.1**
comp=Z,6.4nm,0.6s,mb4.4
ORIF *eR*
comp=Z,110nm,17.8s
KMBO Kilima Mbogo 54.27 235 P **P 11 10 14.2 +1.7**
comp=Z,3.6nm,0.9s,mb4.3,baz=37,slow=11,SNR=8.3
LMR La Mourre 54.33 301 *eP* **P 11 10 11.8 -0.8**
SMRF Simiane la Rot 54.75 302 *eP* **P 11 10 15.5 -0.2**
LOR Lormes 54.81 306⇑*iP* **P 11 10 15.0 -1.1**
comp=Z,12nm,0.8s,mb4.7
LOR *eR*
comp=Z,87nm,22.8s
LOR Lormes 54.81 306⇑*iP* **P 11 10 15.0 -1.1**
LOR pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
LOR MLR MLR
comp=Z,90nm,22.8s,MS3.8
SMF Signal de Mont 55.02 306⇑*iP* **P 11 10 16.8 -0.8**
comp=Z,30nm,1.1s,mb5.0
SMF Signal de Mont 55.02 306⇑*iP* **P 11 10 16.8 -0.8**
SMF pmax pmax
comp=Z,15nm,1.1s,mb4.9
VIVF Saint-Julien-l 55.06 303⇑*iP* **P 11 10 17.6 -0.4**
comp=Z,12nm,0.8s,mb4.7
VIVF Saint-Julien-l 55.06 303⇑*iP* **P 11 10 17.6 -0.4**
VIVF pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
SSF Saint Saulge 55.11 306⇑*iP* **P 11 10 17.3 -0.9**
comp=Z,21nm,1.2s,mb5.0
SSF Saint Saulge 55.11 306⇑*iP* **P 11 10 17.3 -0.9**
SSF pmax pmax
comp=Z,21nm,1.2s,mb5.0
AVF Avril sur Loir 55.29 306⇑*iP* **P 11 10 18.8 -0.8**
comp=Z,27nm,0.9s,mb5.0
AVF Avril sur Loir 55.29 306⇑*iP* **P 11 10 18.8 -0.8**
AVF pmax pmax
comp=Z,14nm,0.9s,mb5.0
BGF Bois d'Agland 55.70 306 *eP* **P 11 10 21.6 -0.9**
comp=Z,29nm,1.3s,mb4.8
BGF Bois d'Agland 55.70 306 *eP* **P 11 10 21.6 -0.9**
BGF pmax pmax
comp=Z,15nm,1.3s,mb4.9
LASF Ste Croix 55.88 303⇑*iP* **P 11 10 23.6 -0.3**
comp=Z,12nm,0.7s,mb4.7
TCF Toulx Ste Croi 56.20 306⇑*iP* **P 11 10 25.7 -0.5**
comp=Z,30nm,1.1s,mb4.9
TCF Toulx Ste Croi 56.20 306⇑*iP* **P 11 10 25.7 -0.5**
TCF pmax pmax
comp=Z,15nm,1.1s,mb4.9
EKA Eskdalemuir Ar 56.50 317 P **P 11 10 27.4 -0.7**
comp=Z,1.3nm,0.6s,mb4.2,baz=90,slow=5.8,SNR=5.5
CAF Calviac 56.78 304⇑*iP* **P 11 10 30.0 -0.3**
comp=Z,18nm,0.9s,mb4.8
CAF Calviac 56.78 304⇑*iP* **P 11 10 30.0 -0.3**
CAF pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
LDF La Druitiere 56.90 309⇑*iP* **P 11 10 30.2 -0.9**
comp=Z,13nm,0.7s,mb4.8
LDF La Druitiere 56.90 309⇑*iP* **P 11 10 30.2 -0.9**
LDF pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
RJF Les Rejaudoux 57.01 305⇑*iP* **P 11 10 31.7 -0.2**
comp=Z,9.4nm,0.7s,mb4.6
RJF *eR*
comp=Z,80nm,17.8s
RJF Les Rejaudoux 57.01 305⇑*iP* **P 11 10 31.7 -0.2**
RJF pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
RJF MLR MLR
comp=Z,80nm,17.8s,MS3.9
FLN La Foliniere 57.07 309 *eP* **P 11 10 31.1 -1.2**
FLN *eR*
comp=Z,102nm,19.8s
MTLF Montolieu 57.26 302⇑*iP* **P 11 10 33.1 -0.6**
comp=Z,9.3nm,0.7s,mb4.6
MTLF Montolieu 57.26 302⇑*iP* **P 11 10 33.1 -0.6**
MTLF pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
GRR Gorron 57.43 309⇑*iP* **P 11 10 33.9 -1.0**
comp=Z,26nm,0.8s,mb5.0
GRR Gorron 57.43 309⇑*iP* **P 11 10 33.9 -1.0**
GRR pmax pmax
comp=Z,13nm,0.8s,mb5.0
MFF Saint Martin d 57.62 307⇑*iP* **P 11 10 35.2 -1.0**
comp=Z,9.6nm,0.6s,mb4.7
MFF Saint Martin d 57.62 307⇑*iP* **P 11 10 35.2 -1.0**
MFF pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
LFF La Frestale 57.65 305 *eP* **P 11 10 36.1 -0.4**
comp=Z,13nm,0.6s,mb4.8
LFF La Frestale 57.65 305 *eP* **P 11 10 36.1 -0.4**
LFF pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
MBAR Mbarara 58.34 242 *eP* **P 11 10 40.5 -1.2**
comp=Z,3.9nm,0.7s,mb4.5
MBAR Mbarara 58.34 242 *eP* **P 11 10 40.5 -1.2**
MBAR pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
SGMF Saint Gilles 58.54 309 *eP* **P 11 10 41.9 -0.7**
comp=Z,35nm,1.1s,mb5.0
SGMF Saint Gilles 58.54 309 *eP* **P 11 10 41.9 -0.7**
SGMF pmax pmax
comp=Z,18nm,1.1s,mb5.0
EPF Esparros 58.64 303⇑*iP* **P 11 10 41.9 -1.5**
comp=Z,5.8nm,0.6s,mb4.5
EPF Esparros 58.64 303⇑*iP* **P 11 10 41.9 -1.5**
EPF pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
ROSF Rostrenen 58.95 309 *eP* **P 11 10 44.7 -0.8**
comp=Z,30nm,1.0s,mb5.0
ROSF Rostrenen 58.95 309 *eP* **P 11 10 44.7 -0.8**
ROSF pmax pmax
comp=Z,15nm,1.0s,mb5.0
QUIF Quistinic 59.04 309⇑*iP* **P 11 10 45.3 -0.8**
comp=Z,18nm,0.8s,mb4.9
QUIF Quistinic 59.04 309⇑*iP* **P 11 10 45.3 -0.8**
QUIF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
ETSF Etsaut 59.30 303⇑*iP* **P 11 10 47.7 -0.3**
comp=Z,9.8nm,0.5s,mb4.8
ETSF Etsaut 59.30 303⇑*iP* **P 11 10 47.7 -0.3**
ETSF pmax pmax
comp=Z,5.0nm,0.5s,mb4.8
SJPF Ste Jean 59.66 303 *eP* **P 11 10 49.6 -0.9**
ESDC Sonseca Array 62.99 301 P **P 11 11 11.9 -1.1**
comp=Z,1.7nm,0.6s,mb4.4,baz=58,slow=7.5,SNR=38
MDT Midelt 66.71 294 P **P 11 11 37.1 0.0**
comp=Z,1.2nm,0.6s,mb4.1,baz=74,slow=7.8,SNR=3.6
INK Inuvik 72.24 12 P **P 11 12 09.5 -1.0**
comp=Z,1.4nm,0.6s,mb4.1,baz=356,slow=3.2,SNR=7.0
INK Inuvik 72.24 12 *eP* **P 11 12 10.3 -0.2**
comp=Z,3.1nm,0.9s,mb4.2
INK Inuvik 72.24 12 P **P 11 12 09.5 -1.0**
INK pmax pmax
comp=Z,1.0nm,0.6s
INK Inuvik 72.24 12 *eP* **P 11 12 10.4 -0.1**
INK pmax pmax
comp=Z,3.0nm,0.9s
ILAR Eielson Array 72.39 19 LR LR 11 48 23.0
comp=Z,48nm,21.0s,MS3.7,baz=358,slow=40
WRA Warramunga Arr 76.82 128 P **P 11 12 41.1 +3.3**
comp=Z,1.4nm,0.9s,mb3.9,baz=330,slow=5.5,SNR=5.4
LBTB Lobatse 79.66 228 *eP* **P 11 12 53.8 +0.7**
comp=Z,10nm,1.0s,mb4.7
LBTB Lobatse 79.66 228 *eP* **P 11 12 53.8 +0.6**
LBTB pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
YKW3 Yellowknife Ar 80.21 6 P **P 11 12 55.2 -0.1**
YKA Yellowknife Ar 80.28 6 P **P 11 12 55.7 0.0**
comp=Z,1.4nm,0.5s,mb4.1,baz=339,slow=5.7,SNR=10
YKA LR LR 11 49 56.1
comp=Z,26nm,18.4s,MS3.6,baz=290,slow=37
YKA Yellowknife Ar 80.28 6 P **P 11 12 55.7 0.0**
YKA LR LR 11 49 56.1
DLBC Dease Lake 81.88 15 LR LR 11 56 23.4
comp=Z,55nm,18.4s,MS4.0,baz=103,slow=41
BOSA Boshof 82.57 226 LR LR 11 51 19.4
comp=Z,87nm,18.0s,MS4.2,baz=194,slow=37
BOSA Boshof 82.57 226 *eP* **P 11 13 08.3 -0.1**
comp=Z,5.8nm,0.7s,mb4.7
BOSA Boshof 82.57 226 *eP* **P 11 13 08.3 -0.1**
BOSA pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
YBH Yreka Blue Hor 99.17 16 LR LR 12 02 47.6
comp=Z,48nm,18.4s,MS4.0,baz=120,slow=38
VNA2 Neumayer--Watz 123.34 203⇑*iPKPdf* PKPdf 11 19 39.6 -4.7
VNA2 *e* 11 19 49.3
VNA3 Neumayer Olymp 124.14 203 *e* PKPdf 11 19 43.0 -2.9
VNA3 Neumayer Olymp 124.14 203⇑*iPKPdf* PKPdf 11 19 34.3 -12
VNA3 *e* 11 19 43.0

NNC 26 11:07:21.8±6.5, 37.18N×71.26E, h217km±98km, mpv4.0, 3C, Error ellipse: s-maj=68.4km s-min=42.4km az=34.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.95**	**355**	P	P	11 08 48.6	-0.7
	11nm,0.4s,baz=184,slow=14,SNR=122						
KK31				S	S	11 09 58.4	+0.8
	13nm,0.8s,baz=183,slow=23,SNR=7.8						
AAK	**Ala-Archa**	**5.99**	**24**	⇑P	P	11 08 48.0	-1.9
	4.0nm,0.4s						
AAK				⇑S	S	11 09 59.5	+1.0
	8.9nm,0.7s						
AB31	**Akbulak array**	**14.60**	**329**	⇑P	P	11 10 41.7	+2.4
	2.0nm,0.6s,baz=140,slow=13,SNR=30						
AB31				S	S	11 13 17.2	+1.4
	1.4nm,0.6s,baz=149,slow=22,SNR=4.0						

*NNC **26** 12:11:51.8±3.7, 37.71N×79.64E, mpv3.5, Error ellipse: s-maj=39.5km s-min=27.4km az=115.0*

BJI 26 12:11:50.2, 37.14N×79.44E, h33km, ML3.7, 1C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**3.61**	**312**	*e*PG	P	12 12 55.0	+10
KSH				*e*S	S	12 13 28.3	+1.0
KSH				Smax			
	comp=N,120nm,0.4s						
KSH				Smax			
	comp=E,170nm,0.3s						
AAK	**Ala-Archa**	**6.67**	**327**	⇓Pg	P	12 13 46.7	+18
	comp=E,1.7nm,0.5s						
AAK				Lg		12 15 13.3	
	comp=E,14nm,0.8s						
WMQ	**Urumqi**	**9.17**	**41**	*e*P	P	12 14 05.0	+1.9
WMQ				S	S	12 15 45.0	-1.2
WMQ				Smax			
	comp=N,95nm,1.0s						
WMQ				Smax			
	comp=E,88nm,0.9s						
MK31	**Makanchi Array**	**9.88**	**11**	⇓Pn	P	12 14 09.6	-3.2
	comp=E,1.4nm,0.6s,baz=203,slow=14,SNR=4.9						
MK31				⇑Sn	Sn	12 15 58.6	-5.2
	comp=E,2.5nm,0.8s,baz=197,slow=23,SNR=4.7						

*BJI **26** 12:15:49.4, 21.60N×143.35E, h310km, mB4.5, mb4.4*
*MOS **26** 12:15:49.3±1.1, 21.66N×143.14E, h295km, mb4.7/27, Error ellipse: s-maj=13.0km s-min=6.1km az=108.6*
*NEIC **26** 12:15:51.0±0.1, 21.63N×143.15E, mb4.7/66, Error ellipse: s-maj=4.1km s-min=3.8km az=94.0*
*JMA **26** 12:15:51.6±0.3, 21.72N×143.30E, h325km±3km, M4.7*
*IDC **26** 12:15:52.0±0.8, 21.62N×143.20E, h311km±7km, mb4.3/21, mb1 4.4/27, mb1mx4.4/31, mbtmp5.0/27, Error ellipse: s-maj=11.4km s-min=6.3km az=73.0*

ISC 26 12:15:51.0±0.5, 21.59N±0.03×143.12E±0.03, h310km±4km, h293km±4.5km; pP-P, n251, σ0=88/261, mb4.5/103, 11C-5D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**5.09**	**350**	P	**P**	**12 17 10.7**	**+0.2**
JHHJ				*e*S	**S**	**12 18 12.5**	**-0.3**
SARN	**Sarigan**	**5.47**	**152**	*e*P	**P**	**12 17 15.5**	**+0.6**
CBIJ	**Chichi jima**	**5.55**	**351**	P	**P**	**12 17 15.2**	**-0.6**
	54nm,0.3s,baz=121,slow=7.1,SNR=20						
CBIJ				S	**S**	**12 18 23.1**	**+0.7**
	77nm,0.3s,baz=105,slow=23,SNR=9.5						
CBIJ	**Chichi jima**	**5.55**	**351**	P	**P**	**12 17 15.6**	**-0.2**
CBIJ				*e*S	**S**	**12 18 21.3**	**-1.1**
SAPN	**Saipan**	**6.81**	**158**	*e*P	**P**	**12 17 31.5**	**+0.5**
GUMO	**Guam**	**8.13**	**168**	P	**P**	**12 17 48.3**	**+1.3**
	52nm,0.3s,baz=271,slow=0.8,SNR=22						
GUMO				S	**S**	**12 19 36.5**	**+18**
	9.1nm,0.3s,baz=356,slow=23,SNR=2.8						
JMZ	**Minamidaito 2**	**11.69**	**293**	P	**P**	**12 18 31.9**	**+1.2**
JHJ2	**Mitsune**	**11.85**	**346**	P	**P**	**12 18 32.3**	**-0.3**
JHJ	**Hachijo jima 2**	**11.86**	**346**	P	**P**	**12 18 31.6**	**-1.2**
	46nm,0.3s,baz=228,slow=19,SNR=12						
JHJ				S	**S**	**12 20 43.4**	**+2.7**
	8.7nm,0.3s,baz=275,slow=16,SNR=2.3						
BSO1	**Boso 1**	**13.15**	**352**	P	**P**	**12 18 47.7**	**-0.8**
JWZ	**Kozaga**	**13.58**	**333**	P	**P**	**12 18 54.1**	**+0.4**
JIE	**Ise**	**13.95**	**337**	P	**P**	**12 18 58.1**	**0.0**
JTO	**Tosashimizu**	**14.49**	**323**	P	**P**	**12 19 05.4**	**+1.1**
JOW	**Kunigami**	**14.51**	**294**	P	**P**	**12 19 04.6**	**0.0**
	2.0nm,0.3s,baz=124,slow=10,SNR=18						
JSU	**Suzuyama**	**15.02**	**314**	P	**P**	**12 19 10.5**	**+0.2**
JIU2	**Izumi 2**	**15.45**	**317**	P	**P**	**12 19 15.6**	**+0.5**
MJAR	**Matsushiro Arr**	**15.50**	**345**	P	**P**	**12 19 13.6**	**-2.0**
	5.6nm,0.3s,baz=160,slow=9.4,SNR=110						
MJAR				S	**S**	**12 21 51.4**	**-7.9**
	0.5nm,0.3s,baz=152,slow=11,SNR=5.3						
MJAR				ScP		12 26 59.9	
	0.1nm,0.3s,baz=175,slow=3.5,SNR=4.5						
MAJO	**Matsushiro**	**15.50**	**345**	*e*P	**P**	**12 19 13.2**	**-2.4**
	102nm,0.8s						
MAJO	**Matsushiro**	**15.50**	**345**	*e*P	**P**	**12 19 13.2**	**-2.4**
MAJO				pmax	pmax		
	comp=Z,102nm,0.8s						
MAT	**Matsushiro**	**15.50**	**345**	P	**P**	**12 19 13.8**	**-1.8**
MAT				*e*S	**S**	**12 21 57.9**	**-1.4**
MAT	**Matsushiro**	**15.50**	**345**	P	**P**	**12 19 14.0**	**-1.6**
MAT				*e*S	**S**	**12 21 58.4**	**-0.9**
MAT	**Matsushiro**	**15.50**	**345**	*e*P	**P**	**12 19 14.0**	**-1.6**
	comp=Z,307nm,1.4s						
MAT				S	**S**	**12 21 58.0**	**-1.3**
MAT	**Matsushiro**	**15.50**	**345**	*e*P	**P**	**12 19 14.0**	**-1.6**
MAT				S	**S**	**12 21 58.0**	**-1.3**
MAT				pmax	pmax		
	comp=Z,307nm,1.4s						
JSJ	**Shimokoshiki**	**15.62**	**313**	P	**P**	**12 19 17.7**	**+0.7**
JKE	**Kume jima 2**	**15.66**	**291**	P	**P**	**12 19 18.7**	**+1.3**
JNU	**Nakatsue**	**15.80**	**319**	P	**P**	**12 19 19.0**	**+0.1**
	comp=Z,2.0nm,0.3s,baz=107,slow=9.6,SNR=24						
JHS	**Saijyo**	**15.99**	**329**	P	**P**	**12 19 20.9**	**0.0**
JMK	**Ichinoseki**	**17.38**	**355**	P	**P**	**12 19 35.2**	**-0.2**
YHNB	**Yeheng**	**20.23**	**283**	*e*P	**P**	**12 20 05.7**	**+1.6**
KS15	**Wonju Array Si**	**20.58**	**323**	*e*P	**P**	**12 20 07.7**	**+0.3**
SSE	**Sheshan**	**21.79**	**300**	P	**P**	**12 20 19.8**	**+0.7**
SSE				S	**S**	**12 23 59.8**	**+4.6**
SSE				PCP	PcP	12 24 09.5	+0.8
SSE				SCP		12 27 18.0	
SSE				AMB	AMB		
	comp=Z,53nm,0.7s,mb5.0						
SSE				AMB	AMB		
	comp=Z,62nm,5.3s						
SSE				LR	LR		
	comp=N,25nm,18.0s						
SSE				LR	LR		
	comp=E,21nm,17.8s						
SSE				LR	LR		
	comp=Z,46nm,15.4s						
SSE	**Sheshan**	**21.79**	**300**	P	**P**	**12 20 19.7**	**+0.6**
	comp=Z,53nm,0.7s,mb5.0						
ASAJ	**Asahikawa**	**22.47**	**359**	P	**P**	**12 20 25.2**	**-0.2**
	comp=Z,5.8nm,0.5s,mb4.2,baz=200,slow=12,SNR=9.4						
NJ2	**Nanjing**	**23.98**	**301**	*e*P	**P**	**12 20 40.0**	**+0.3**
NJ2				PCP	PcP	12 24 15.0	+1.7
NJ2				S	**S**	**12 24 33.0**	**+1.0**
NJ2				AMB	AMB		
	comp=Z,30nm,0.8s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,80nm,7.4s						
NJ2				LR	LR		
	comp=N,210nm,10.9s						
NJ2				LR	LR		
	comp=E,250nm,16.1s						
NJ2				LR	LR		
	comp=Z,110nm,15.6s						
MDJ	**Mudanjiang**	**25.54**	**337**	P	**P**	**12 20 54.0**	**+0.3**
MDJ				AP		12 21 50.5	
MDJ				XP	sP	12 22 26.5	-0.9
MDJ				S	**S**	**12 25 00.5**	**+3.5**
MDJ				SCP		12 27 25.3	
MDJ				SCS	ScS	12 31 15.0	+1.9
MDJ				AMB	AMB		
	comp=Z,24nm,1.1s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,118nm,4.3s						
SNY	**Shenyang**	**26.03**	**325**	⇓P	**P**	**12 20 57.5**	**-0.7**
SNY				S	**S**	**12 25 08.5**	**+3.5**
SNY				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.7						
CN2	**Changchun**	**26.57**	**331**	*e*P	**P**	**12 21 02.8**	**-0.3**
CN2				*e*XP	sP	12 22 33.3	-3.9
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.2						
CN2				LR	LR		
	comp=N,200nm,13.0s						
CN2				LR	LR		
	comp=E,200nm,13.0s						
CN2				LR	LR		
	comp=Z,200nm,16.0s						
TIA	**Tai'an**	**26.91**	**308**	*e*P	**P**	**12 21 06.3**	**0.0**
KKM	**Kota Kinabalu**	**30.27**	**243**	*e*P	**P**	**12 21 36.5**	**+0.4**
PMG	**Port Moresby**	**31.06**	**172**	*e*P	**P**	**12 21 42.0**	**-1.0**
	comp=Z,16nm,0.5s,mb4.8						
PMG	**Port Moresby**	**31.06**	**172**	*e*P	**P**	**12 21 42.0**	**-0.9**
PMG				pmax	pmax		
	comp=Z,15nm,0.5s						
QIZ	**Qiongzhong**	**31.28**	**271**	*e*P	**P**	**12 21 45.8**	**+1.0**
QIZ				S	**S**	**12 26 30.5**	**+2.5**
QIZ				AMB	AMB		
	comp=Z,8.0nm,1.7s,mb4.0						
ENH	**Enshi**	**31.37**	**293**	*e*P	**P**	**12 21 44.8**	**-0.7**
	comp=Z,5.6nm,0.5s,mb4.3						
HIA	**Hailar**	**33.28**	**332**	*e*P	**P**	**12 22 01.4**	**-0.2**
	comp=Z,32nm,0.8s,mb4.9						
HIA	**Hailar**	**33.28**	**332**	*e*P	**P**	**12 22 01.4**	**-0.2**
HIA				pmax	pmax		
	comp=Z,32nm,0.8s						
GYA	**Guiyang**	**33.58**	**286**	P	**P**	**12 22 05.3**	**+0.9**
GYA				AP	pP	12 23 02.5	-2.9
GYA				S	**S**	**12 27 05.3**	**+1.9**
GYA				SCS	ScS	12 31 54.8	+3.1
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
GYA				AMB	AMB		
	comp=Z,70nm,2.6s,mb4.7						
KAKA	**Kakadu**	**35.66**	**198**	*e*P	**P**	**12 22 35.3**	**+13**
	comp=Z,22nm,0.6s,mb4.9						
CD2	**Chengdu**	**36.35**	**293**	P	**P**	**12 22 28.5**	**+0.8**
CD2				PP	PP	12 24 01.3	+3.4
CD2				S	**S**	**12 27 43.3**	**-2.3**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.6						
CD2				LR	LR		
	comp=N,90nm,7.2s						
CD2				LR	LR		
	comp=Z,130nm,6.1s						
LZH	**Lanzhou**	**37.05**	**302**	*e*P	**P**	**12 22 35.0**	**+1.5**
LZH				AP	pP	12 23 36.5	+1.1
LZH				PP	PP	12 24 10.5	+4.2
LZH				AMB	AMB		
	comp=Z,31nm,1.5s,mb4.5						
LZH				AMB	AMB		
	comp=Z,136nm,4.2s						
LZH	**Lanzhou**	**37.05**	**302**	*e*P	**P**	**12 22 35.0**	**+1.5**
	comp=Z,31nm,1.5s,mb4.5						
LZH				pP	pP	12 23 36.5	+1.1
LZH				sP	sP	12 24 04.5	-6.0
LZH				PP	PP	12 24 10.4	+4.1
LZH	**Lanzhou**	**37.05**	**302**	*e*P	**P**	**12 22 35.0**	**+1.5**
LZH				*PP	pP	12 23 36.5	+1.1
LZH				*SP	sP	12 24 04.5	-6.0
LZH						12 24 10.4	
LZH				pmax	pmax		
	comp=Z,31nm,1.5s,mb4.5						
KMI	**Kunming**	**37.15**	**283**	P	**P**	**12 22 35.3**	**+0.9**
KMI				AP	pP	12 23 37.0	+0.7
KMI				XP	sP	12 24 07.3	-4.1
KMI				S	**S**	**12 27 59.3**	**+1.6**
KMI				AMB	AMB		
	comp=Z,9.0nm,0.6s,mb4.4						
KMI				AMB	AMB		
	comp=Z,80nm,3.3s						
KMI				LR	LR		
	comp=N,129nm,11.3s						
KMI				LR	LR		
	comp=E,107nm,18.8s						
KMI				LR	LR		
	comp=Z,90nm,15.0s						
KMI	**Kunming**	**37.15**	**283**	P	**P**	**12 22 35.2**	**+0.8**
	comp=Z,9.0nm,0.6s,mb4.4						
KMI				pP	pP	12 23 37.0	+0.7
KMI				sP	sP	12 24 07.3	-4.1
KMI				S	**S**	**12 27 59.2**	**+1.5**
KMI				LR	LR		
	comp=Z,90nm,15.0s						
KMI	**Kunming**	**37.15**	**283**	P	**P**	**12 22 35.2**	**+0.8**
KMI				*PP	pP	12 23 37.0	+0.7
KMI				*SP	sP	12 24 07.3	-4.1
KMI				S	**S**	**12 27 59.2**	**+1.5**
KMI				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.4						
KMI				MLR	MLR		
	comp=Z,90nm,15.0s						
KSM	**Kuching**	**37.70**	**242**	*e*P	**P**	**12 22 39.0**	**-0.1**
CIT	**Chita**	**38.02**	**330**	*e*P	**P**	**12 22 42.3**	**+1.0**
CIT				*e*		12 24 50.1	
ULN	**Ulaanbaatar**	**39.01**	**321**	*e*P	**P**	**12 22 50.1**	**+0.5**
	comp=Z,15nm,0.9s,mb4.4						
ULN	**Ulaanbaatar**	**39.01**	**321**	*e*P	**P**	**12 22 50.1**	**+0.6**
ULN				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.4						
SONM	**Songino Array**	**39.38**	**321**	P	**P**	**12 22 53.3**	**+0.7**
	comp=Z,6.9nm,0.5s,mb4.3,baz=128,slow=6.4,SNR=48						
SONM				PcP	PcP	12 24 54.3	-0.4
	comp=Z,1.5nm,0.7s,baz=138,slow=4.8,SNR=3.8						
SONM				ScP		12 28 12.9	
	comp=Z,2.9nm,0.8s,baz=130,slow=3.6,SNR=11						
SONM				PKiKP		12 32 04.3	
	comp=Z,0.2nm,0.4s,baz=140,slow=2.2,SNR=3.6						
YAK	**Yakutsk**	**41.46**	**350**	*e*P	**P**	**12 23 07.7**	**-1.7**

comp=Z,44nm,0.8s,mb4.7
YAK Yakutsk 41.46 350 *e*P **P 12 23 07.0 -2.4**
YAK *e* 12 24 53.7
YAK *e*S **S 12 28 57.7 -3.5**
YAK pmax pmax
comp=Z,21nm,0.9s,mb4.4
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK pmax pmax
comp=E,2.0nm,0.9s
YAK pmax pmax
comp=Z,4.0nm,0.8s,mb3.7
YAK pmax pmax
comp=N,2.0nm,0.9s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK smax
comp=N,10.0nm,1.0s
YAK smax
comp=E,4.0nm,0.9s
YAK smax
comp=Z,4.0nm,0.9s
CTA Charters Tower 41.54 176⇑ *i*P **P 12 23 10.9 +0.4**
comp=Z,14nm,0.4s,mb4.5
CTA Charters Tower 41.54 176⇑ *i*P **P 12 23 10.9 +0.4**
CTA pmax pmax
comp=Z,14nm,0.4s
CTAO Charters Tower 41.54 176 *e*P **P 12 23 10.6 +0.1**
comp=Z,22nm,0.6s,mb4.6
CTAO Charters Tower 41.54 176 *e*P **P 12 23 10.6 +0.1**
CTAO pmax pmax
comp=Z,22nm,0.6s,mb4.6
SEY Seymchan 41.80 6⇓ *e*P **P 12 23 13.2 +1.2**
BOD Bodaibo 41.91 337 *e*P **P 12 23 11.1 -1.9**
BOD pmax pmax
comp=Z,3.0nm,1.3s,mb3.4
WRAB Tennant Creek 42.15 192 *e*P **P 12 23 14.4 -1.0**
comp=Z,149nm,0.7s,mb5.3
WRAB Tennant Creek 42.15 192 *c i*P **P 12 23 14.6 -0.9**
WRA Warramunga Arr 42.16 192 P **P 12 23 14.7 -0.8**
comp=Z,43nm,0.3s,mb5.1,baz=17,slow=9.2,SNR=528
WRA PcP PcP 12 25 03.4 -0.8
comp=Z,6.7nm,0.8s,baz=360,slow=3.2,SNR=7.6
WRA ScP 12 28 23.8
comp=Z,2.4nm,0.8s,baz=13,slow=4.3,SNR=7.3
WRA S **S 12 29 09.6 -2.3**
comp=Z,0.9nm,0.7s,baz=2.5,slow=16,SNR=4.6
WRA PKIKP 12 32 06.7
comp=Z,0.6nm,0.4s,baz=326,slow=1.5,SNR=8.3
WRA Warramunga Arr 42.16 192 P **P 12 23 14.7 -0.9**
WRA 12 25 03.4
WRA S **S 12 29 09.6 -2.3**
ZAK Zakamensk 42.39 323 *e*P **P 12 23 17.4 +0.4**
ZAK *e* 12 24 56.9
ZAK pmax pmax
comp=Z,14nm,0.8s,mb4.2
ZAK pmax pmax
comp=Z,2.0nm,0.9s,mb3.4
ZAK pmax pmax
comp=Z,1.0nm,0.8s,mb3.1
FITZ Fitzroy Crossi 43.00 205 *e*P **P 12 23 21.7 -0.6**
comp=Z,47nm,0.6s,mb4.9
KULM Kulim 44.19 255 *e*P **P 12 23 31.4 -0.5**
LSA Lhasa 47.22 291 *e*P **P 12 23 57.0 +1.7**
comp=Z,9.4nm,0.8s,mb4.2
LSA Lhasa 47.22 291 *e*P **P 12 23 57.0 +1.7**
LSA pmax pmax
comp=Z,9.0nm,0.8s,mb4.2
MBWA Marble Bar 48.24 210 *e*P **P 12 24 02.9 -0.4**
comp=Z,33nm,1.3s,mb4.5
BILL Bilibino 48.63 11 *e*P **P 12 24 05.6 0.0**
BILL pmax pmax
comp=Z,6.0nm,0.8s,mb4.0
DZM Mont Dzumac 49.00 151 P **P 12 24 07.9 -1.1**
comp=Z,9.0nm,0.5s,mb4.4,baz=331,slow=12,SNR=12
WMQ Urumqi 50.60 310 *e*P **P 12 24 22.0 +1.3**
WMQ AP pP 12 25 24.0 -2.3
WMQ XP sP 12 25 55.0 -5.7
WMQ PP PP 12 26 22.0 +1.4
WMQ SCP 12 29 02.0
WMQ S **S 12 31 14.0 +3.8**
WMQ SCS ScS 12 33 40.0 +4.3
WMQ SS SS 12 34 51.0 +2.8
WMQ AMB AMB
comp=Z,15nm,1.0s,mb4.3
WMQ AMB AMB
comp=Z,127nm,5.0s
WMQ LR LR
comp=N,54nm,16.0s
WMQ LR LR
comp=E,52nm,16.0s
WMQ LR LR
comp=Z,48nm,16.0s
PKI Pulchoki 52.43 289 *e*P **P 12 24 33.2 -1.2**
KKN Kakani 52.52 289 *e*P **P 12 24 35.2 +0.2**
DMN Daman 52.69 289 *e*P **P 12 24 35.8 -0.5**
GKN Gorkha 53.06 289 *e*P **P 12 24 39.0 0.0**
comp=Z,12nm,0.3s,mb4.7
STKA Stephens Creek 53.18 182 *i*P **P 12 24 38.3 -1.5**
comp=Z,50nm,0.4s,mb5.2
STKA Stephens Creek 53.18 182 P **P 12 24 38.8 -1.0**
comp=Z,67nm,0.5s,mb5.2,baz=358,slow=7.5,SNR=282
KOLN Koldanda 54.00 289 *e*P **P 12 24 45.3 -0.4**
comp=Z,12nm,0.6s,mb4.4
FORT Forrest 54.04 196⇑ *i*P **P 12 24 45.5 -0.5**
comp=Z,61nm,0.8s,mb5.0
ZAL Zalesovo 54.27 322 P **P 12 24 46.5 -0.8**
comp=Z,7.7nm,0.6s,mb4.2,baz=7.8,slow=7.0,SNR=38
ZAL PcP PcP 12 25 46.1 -1.4
comp=Z,5.7nm,0.5s,baz=0.1,slow=3.2,SNR=6.2
ZAL ScP 12 29 14.3
comp=Z,3.0nm,0.3s,baz=116,slow=1.5,SNR=4.9
ZAL S **S 12 31 59.6 +0.3**
comp=Z,1.8nm,0.3s,baz=232,slow=20,SNR=10
ZAL Zalesovo 54.27 322 P **P 12 24 46.5 -0.8**
ZAL PcP PcP 12 25 46.1 -1.4
ZAL ScP 12 29 14.3
ZAL S **S 12 31 59.6 +0.3**
ZAL Zalesovo 54.27 322 P **P 12 24 46.5 -0.8**
ZAL 12 25 46.1
ZAL S **S 12 31 59.7 +0.4**
MKAR Makanchi Array 54.73 313 P **P 12 24 50.6 -0.1**
comp=Z,10.0nm,0.5s,mb4.5,baz=90,slow=9.0,SNR=92
MKAR PcP PcP 12 25 48.2 -1.1
comp=Z,4.8nm,0.6s,baz=76,slow=4.9,SNR=7.4
MKAR ScP 12 29 16.7
comp=Z,2.9nm,0.8s,baz=90,slow=6.1,SNR=9.1
MKAR S **S 12 32 06.7 +1.2**
comp=Z,1.5nm,0.7s,baz=94,slow=17,SNR=9.2
MKAR Makanchi Array 54.73 313 P **P 12 24 50.6 -0.1**
MKAR PcP PcP 12 25 48.2 -1.1
MKAR ScP 12 29 16.7
MKAR S **S 12 32 06.7 +1.2**
MKAR Makanchi Array 54.73 313 P **P 12 24 50.6 -0.1**
MKAR 12 25 48.2
MKAR S **S 12 32 06.7 +1.2**
CHGN Chignik 54.90 36 *e*P **P 12 24 50.2 -1.5**
NVS Novosibirsk 55.35 323 *e*P **P 12 24 53.9 -1.1**
NVS pmax pmax
comp=Z,13nm,1.0s,mb4.3
NVS pmax pmax
comp=E,8.0nm,1.0s
KURK Kurchatov 57.51 317 *e*P **P 12 25 09.3 -0.9**
comp=E,16nm,0.7s,mb4.5
KURK Kurchatov 57.51 317 *i*P **P 12 25 09.5 -0.7**
KURK pmax pmax
comp=Z,8.0nm,0.7s,mb4.3
SVW2 Sparrevohn 57.53 30 *e*P **P 12 25 10.1 -0.1**
KLBR Kellerberrin 58.20 205 *e*P **P 12 25 14.5 -0.8**
comp=Z,18nm,0.7s,mb4.6
KDAK Kodiak Island 58.32 35 *e*P **P 12 25 15.3 -0.4**
RSO Redoubt South 58.73 31 *e*P **P 12 25 18.1 -0.4**
TOO Toolangi 58.89 178⇑ *i*P **P 12 25 19.9 0.0**
comp=Z,23nm,0.8s,mb4.7
TOO Toolangi 58.89 178⇑ *i*P **P 12 25 19.9 0.0**
TOO pmax pmax
comp=Z,23nm,0.8s,mb4.7
MUN Mundaring 59.17 207 *e*P **P 12 25 21.4 -0.6**
IMA Indian Mountai 59.66 25 *e*P **P 12 25 25.2 +0.4**
comp=Z,7.5nm,0.8s,mb4.3
IMA Indian Mountai 59.66 25 *e*P **P 12 25 25.2 +0.4**
IMA pmax pmax
comp=Z,8.0nm,0.8s,mb4.3
AAK Ala-Archa 60.19 308 *e*P **P 12 25 27.5 -1.2**
comp=Z,3.5nm,0.8s,mb3.9
AAK Ala-Archa 60.19 308⇓ *e*P **P 12 25 28.0 -0.6**
AAK pmax pmax
comp=Z,9.0nm,1.5s,mb4.1
PMR Palmer 60.67 31 *e*P **P 12 25 30.2 -1.4**
comp=Z,17nm,0.6s,mb4.8
PMR Palmer 60.67 31 *e*P **P 12 25 30.2 -1.4**
PMR pmax pmax
comp=Z,17nm,0.6s,mb4.8
SML Sawmill 61.08 30 *e*P **P 12 25 33.6 -0.6**
SML *e*PcP PcP 12 26 13.6 -0.6
MCK McKinley 61.11 28 *e*P **P 12 25 33.4 -1.1**
comp=Z,9.9nm,0.9s,mb4.3
MCK McKinley 61.11 28 *e*P **P 12 25 33.4 -1.1**
MCK pmax pmax
comp=Z,10.0nm,0.9s,mb4.3
ILAR Eielson Array 62.16 27 P **P 12 25 39.1 -2.2**
comp=Z,12nm,0.6s,mb4.7,baz=258,slow=5.2,SNR=174
ILAR S **S 12 33 38.2 -2.6**
comp=Z,0.4nm,0.9s,baz=288,slow=4.5,SNR=4.1
BVA0 Borovoye Array 62.72 320 *i*P **P 12 25 44.7 -0.4**
BVA0 pmax pmax
comp=Z,1.0nm,0.6s,mb3.6
BRVK Borovoye 62.78 320 *e*P **P 12 25 44.8 -0.8**
comp=Z,11nm,0.8s,mb4.5
BRVK Borovoye 62.78 320 *e*P **P 12 25 44.8 -0.8**
BRVK pmax pmax
comp=Z,11nm,0.8s,mb4.5
KKAR Karatay Array 63.08 308 *i*P **P 12 25 47.7 +0.1**
KKAR pmax pmax
comp=Z,3.0nm,0.4s,mb4.3
MENT Mentasta 63.34 29 *e*P **P 12 25 49.3 +0.2**
DAWY Dawson 65.34 28 *e*P **P 12 26 01.6 -0.1**
URZ Urewera 67.55 152 P **P 12 26 14.8 -1.3**
comp=Z,9.9nm,0.4s,mb4.9,baz=194,slow=1.5,SNR=22
INK Inuvik 67.69 24 P **P 12 26 15.7 -0.8**
comp=Z,6.7nm,0.5s,mb4.6,baz=273,slow=4.5
INK S S 12 34 45.6 -2.2
comp=Z,1.7nm,0.8s,baz=190,slow=32,SNR=5.8
INK Inuvik 67.69 24 *e*P **P 12 26 15.7 -0.8**
comp=Z,6.8nm,0.5s,mb4.6
INK *e*pP pP 12 27 24.1 -2.8
INK Inuvik 67.69 24 *e*P **P 12 26 15.7 -0.7**
INK *e*PP pP 12 27 24.1 -2.8
INK pmax pmax
comp=Z,7.0nm,0.5s
ARU Arti 69.32 324⇓ *i*P **P 12 26 25.5 -1.1**
ARU *e* 12 26 47.1
ARU *e* 12 29 00.5
ARU *e*S S 12 35 16.0 +8.9
ARU *e*SS SS 12 39 45.4 +3.1
ARU pmax pmax
comp=Z,2.0nm,0.9s,mb3.9
AB31 Akbulak array 69.59 316 *i*P **P 12 26 27.5 -0.8**
AB31 pmax pmax
comp=Z,1.0nm,0.3s,mb4.0
RPZ Rata Peaks 69.86 159 P **P 12 26 28.5 -1.6**
comp=Z,23nm,0.6s,mb5.1,baz=348,slow=1.5,SNR=20
DLBC Dease Lake 70.24 34 *e*P **P 12 26 32.9 +0.7**
YKW3 Yellowknife Ar 76.55 28 *e*P **P 12 27 07.8 -0.8**
YKA Yellowknife Ar 76.58 28 P **P 12 27 07.8 -1.0**
comp=Z,22nm,0.6s,mb5.1,baz=291,slow=5.8,SNR=115
RES Resolute Bay 77.19 13 *e*P **P 12 27 12.0 0.0**
comp=Z,14nm,0.8s,mb4.7
RES Resolute Bay 77.19 13 *e*P **P 12 27 12.0 +0.1**
RES pmax pmax
comp=Z,14nm,0.8s,mb4.7
KEBM Edson Butte 77.43 49 *e*P **P 12 27 14.8 +0.9**
APA Apatity 77.45 338⇓ *i*P **P 12 27 12.0 -1.4**
APA pmax pmax
comp=Z,20nm,0.6s,mb5.0
BROR Big Rock Looko 78.30 47 P **P 12 27 19.1 +0.6**
KTRM Thompson Ridge 78.40 50 P **P 12 27 20.2 +1.1**
TDH Tom, Dick, Har 78.41 46 P **P 12 27 19.8 +0.7**
VLL Laurance Lake 78.43 46 P **P 12 27 20.2 +1.0**
KEV Kevo 78.44 341 *e*p **P 12 27 18.1 -0.7**
comp=Z,15nm,0.6s,mb4.9
KEV Kevo 78.44 341 *e*P **P 12 27 18.1 -0.7**
KEV pmax pmax
comp=Z,15nm,0.6s,mb4.9
HUMO Hull Mountain 78.48 49 *e*P **P 12 27 19.8 +0.3**
comp=Z,9.0nm,0.6s,mb4.7
KHMM Horse Mountain 78.48 51 *e*P **P 12 27 20.5 +1.0**
LTY Liberty 78.50 44 P **P 12 27 19.8 +0.3**
HBO Huckleberry Mo 78.52 47 P **P 12 27 20.4 +0.8**
YBH Yreka Blue Hor 78.93 50 *e*P **P 12 27 22.3 +0.4**
comp=Z,11nm,0.8s,mb4.6
KCPM Cahto Peak 78.97 52 *e*P **P 12 27 22.9 +0.8**
ARCES ARCESS Array B 79.00 341 P **P 12 27 21.5 -0.2**
comp=Z,15nm,0.6s,mb4.9,baz=71,slow=7.9,SNR=60
ARCES PKKPbc 12 46 10.2
comp=Z,0.8nm,0.5s,baz=270,slow=1.2,SNR=7.5
ARCES ARCESS Array B 79.00 341 P **P 12 27 21.5 -0.2**
ARCES PKKPbc 12 46 10.2
ARE0 ARCESS Array S 79.00 341 *e*P **P 12 27 21.3 -0.4**
BUOR Burton Butte 79.08 49 P **P 12 27 23.7 +1.0**
LHEM Herd Peak 79.31 49 P **P 12 27 24.9 +0.9**
WDC Whiskeytown Da 79.43 51 *e*P **P 12 27 24.6 0.0**
comp=Z,9.1nm,0.9s,mb4.5
VIPM Ingram Point 79.46 46 P **P 12 27 25.6 +0.9**
HAWA Hanford 79.53 44 *e*P **P 12 27 25.3 +0.3**
comp=Z,12nm,0.8s,mb3.7
LBCM Butte Creek Ri 80.20 50 P **P 12 27 29.3 +0.7**
JOF Joensuu 80.39 334 *e*p **P 12 27 28.2 -0.9**
comp=Z,9.1nm,0.3s,mb5.0
NEW Newport 80.40 42 *e*P **P 12 27 30.0 +0.5**
comp=Z,17nm,0.6s,mb5.0
NEW *e*pP pP 12 28 38.8 -3.2
NEW Newport 80.40 42 *e*P **P 12 27 30.0 +0.5**
NEW *e*PP pP 12 28 38.8 -3.2
NEW pmax pmax
comp=Z,17nm,0.6s
OHCM Honcut 80.61 51 *e*P **P 12 27 30.2 -0.6**
EDM Edmonton 80.71 36 *e*P **P 12 27 31.4 +0.4**
BEKR Beckwourth 81.24 51 *e*P **P 12 27 33.5 -0.5**
comp=Z,16nm,0.8s,mb4.8
WVOR Wild Horse Val 81.54 48 *e*P **P 12 27 35.5 0.0**
comp=Z,7.9nm,0.8s,mb4.5
OBN Obninsk 81.54 326 *i*P **P 12 27 34.7 -0.6**
OBN *e*PP pP 12 28 41.0 -7.0
OBN *e*S S 12 37 23.3 +3.7
OBN pmax pmax
comp=Z,9.0nm,0.4s,mb4.8
BMO Blue Mountains 81.54 45 *e*P **P 12 27 35.2 -0.3**
comp=Z,12nm,0.7s,mb4.8
CMB Columbia Colle 81.87 52 *e*P **P 12 27 37.4 0.0**
comp=Z,22nm,0.7s,mb5.0
CMB *e*pP pP 12 28 46.3 -3.9
LRV Little Rabbit 81.97 54 *e*P **P 12 27 38.4 +0.5**
WALA Waterton Lakes 82.06 40 *e*P **P 12 27 38.7 +0.6**
comp=Z,15nm,0.7s,mb4.8
KIV Kislovodsk 82.46 314 *e*P **P 12 27 41.4 +1.1**
KIV *e*PP pP 12 28 46.9 -6.2
KIV pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
KAF Kangasniemi 82.79 335 *e*p **P 12 27 40.5 -1.1**
comp=Z,12nm,1.0s,mb4.7,baz=54,slow=4.8
KAF Kangasniemi 82.79 335 *e*P **P 12 27 40.5 -1.1**
KAF pmax pmax
comp=Z,12nm,1.0s,mb4.7
PTRM Twissleman Ran 82.86 55 *e*P **P 12 27 42.5 +0.1**
MSO Missoula 82.94 42 *e*P **P 12 27 42.3 -0.3**
comp=Z,1.0nm,0.4s,mb4.0
FINES FINESS Array B 83.25 334 P **P 12 27 42.8 -1.1**
comp=Z,3.2nm,0.5s,mb4.4,baz=58,slow=5.9,SNR=24
FINES FINESS Array B 83.25 334 P **P 12 27 42.8 -1.1**
BMN Battle Mountai 83.27 49 *e*P **P 12 27 44.7 +0.2**
comp=Z,10.0nm,0.6s,mb4.8
MTUM Tungsten Hills 83.47 53 *e*P **P 12 27 45.6 +0.1**
TPH Tonopah 84.18 51 *e*P **P 12 27 49.5 +0.4**
comp=Z,13nm,0.9s,mb4.8
DLMT Dillon 84.40 43 *e*P **P 12 27 50.4 +0.4**
ELK Elko 84.54 48 *e*P **P 12 27 50.7 -0.1**
comp=Z,19nm,0.9s,mb4.9
SOC Sochi 84.58 315 *e*P **P 12 27 49.0 -1.9**
SOC *e* 12 31 10.1
SOC *e*S S 12 37 53.7 +3.9
SOC *e*SSS SSS 12 47 08.3 +5.8
SOC pmax pmax
comp=N,24nm,0.8s
SOC pmax pmax
comp=E,15nm,0.8s
SOC pmax pmax
comp=Z,11nm,0.8s,mb4.7
BOZ Bozeman (W) 84.89 43 *e*P **P 12 27 52.7 +0.3**
comp=Z,13nm,0.6s,mb4.9
ANN Anapa 85.54 317 *e*P **P 12 27 46.3 -9.3**
ANN pmax pmax
comp=Z,35nm,1.0s,mb5.1
YMR Madison River 85.74 43 *e*P **P 12 27 57.7 +1.1**
HVU Hansel Valley 85.80 47 *e*P **P 12 27 57.4 +0.5**
YNR Norris Junctio 85.91 43 *e*P **P 12 27 58.6 +1.3**
YFT Old Faithful 85.92 44 *e*P **P 12 27 59.4 +2.0**
SUMG Summit 86.07 0 *e*P **P 12 27 58.6 +1.1**
comp=Z,4.0nm,0.6s,mb4.4
RRI2 Red Ridge 86.09 45 *e*P **P 12 27 59.2 +0.9**
comp=Z,6.6nm,0.8s,mb4.5
IMW Indian Meadow 86.10 44 *e*P **P 12 27 59.3 +1.0**
comp=Z,16nm,0.9s,mb4.8
FLWY Flagg Ranch 86.17 44 *e*P **P 12 27 59.8 +1.1**
TPAW Teton Pass 86.27 45 *e*P **P 12 28 00.1 +0.9**
comp=Z,7.8nm,0.9s,mb4.5
LOHW Long Hollow 86.44 44 *e*P **P 12 28 00.4 +0.4**
comp=Z,6.0nm,1.0s,mb4.4
DUG Dugway 86.45 48 *e*P **P 12 28 00.3 +0.2**
comp=Z,13nm,0.7s,mb4.9
PFO Pinyon Flat Ob 86.50 55 *e*P **P 12 28 00.4 -0.1**
comp=Z,12nm,0.8s,mb4.8
HWUT Hardware Ranch 86.69 46 *e*P **P 12 28 01.3 +0.1**
comp=Z,12nm,0.9s,mb4.7
NEN Nelson 86.89 53 *e*P **P 12 28 02.3 0.0**
LDFC Landfair 86.93 54 *e*P **P 12 28 02.9 +0.4**
TCUT Toone Canyon 87.01 47 *e*P **P 12 28 02.5 -0.2**
NLU North Lily Min 87.06 48 *e*P **P 12 28 03.3 +0.3**
FCC Fort Churchill 87.16 26 *e*P **P 12 28 02.9 -0.1**
comp=Z,23nm,0.7s,mb5.1
JLU Jordanelle 87.21 47 *e*P **P 12 28 03.8 0.0**
DAU Daniels Canyon 87.43 47 *e*P **P 12 28 05.1 +0.3**
BW06 Boulder Array 87.51 45 *e*P **P 12 28 04.5 -0.6**
comp=Z,1.9nm,0.4s,mb4.3
PDAR Pinedale Array 87.51 45 P **P 12 28 05.2 +0.1**
comp=Z,2.1nm,0.5s,mb4.2,baz=172,slow=1.7,SNR=29
AKASG Malin Array Be 87.56 324 P **P 12 28 03.7 -1.4**
comp=Z,1.6nm,0.6s,mb4.0,baz=45,slow=4.6,SNR=11
MSU Marysvale 87.62 49 *e*P **P 12 28 06.3 +0.6**
LAO LASA Array 87.74 40 *e*P **P 12 28 06.4 +0.3**
comp=Z,13nm,0.8s,mb4.8
LAO *e*pP pP 12 29 16.7 -3.1
SRU San Rafael 88.51 48 *e*P **P 12 28 10.0 0.0**
SUW Suwalki 88.79 329 *e*P **P 12 28 10.4 -0.4**
comp=Z,33nm,0.8s,mb5.2
NB2 NORSAR Subarra 89.02 339 P **P 12 28 11.1 -0.6**
comp=Z,2.9nm,0.7s,mb4.2,baz=54,slow=4.8
NB2 NORSAR Subarra 89.02 339 P **P 12 28 11.1 -0.6**
NB2 pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
NOA NORSAR Array B 89.02 339 P **P 12 28 10.4 -1.3**
comp=Z,4.5nm,0.8s,mb4.4,baz=48,slow=4.3,SNR=11
PV10 Paradox Valley 89.88 48 *e*P **P 12 28 16.6 +0.3**
PV01 Paradox Valley 90.32 48 *e*P **P 12 28 17.9 -0.4**
BR131 Keskin Array S 90.37 313 *e*P **P 12 28 18.4 -0.2**
comp=Z,2.3nm,0.7s,mb4.1
BRTR Keskin Array B 90.37 313 P **P 12 28 17.2 -1.3**
comp=Z,2.6nm,0.8s,mb4.1,baz=91,slow=3.7,SNR=11
PHWY Pilot Hill 90.89 45 *e*P **P 12 28 21.9 +0.9**
TUC Tucson 91.37 54 *e*P **P 12 28 23.8 +0.5**
comp=Z,1.1nm,0.5s,mb3.9
ISCO Idaho Springs 91.53 46 *e*P **P 12 28 24.7 +0.7**
comp=Z,5.7nm,0.8s,mb4.5
ULM Lac du Bonnet 91.56 33 P **P 12 28 23.6 -0.2**
comp=Z,1.0nm,0.5s,mb4.0,baz=356,slow=3.4,SNR=3.0
SDCO Great Sand Dun 92.63 48 *e*P **P 12 28 29.6 +0.4**
comp=Z,3.0nm,0.7s,mb4.3
ANMO Albuquerque 93.33 50 *e*P **P 12 28 32.9 +0.6**
comp=Z,2.3nm,0.8s,mb4.2
ANMO Albuquerque 93.33 50 *i*P **P 12 28 33.6 +1.2**
CLL Collm 95.26 331 P **P 12 28 42.0 +1.3**
CLL Collm 95.26 331 *e*P **P 12 28 42.0 +1.3**
MNTX Cornudas Mount 95.70 53 *e*P **P 12 28 43.3 0.0**
comp=Z,2.1nm,0.8s,mb4.3
GERES GERESS Array B 96.65 329 P **P 12 28 45.7 -1.5**
comp=Z,0.6nm,0.6s,mb4.0,baz=22,slow=5.3,SNR=3.7
TXAR Lajitas Array 98.16 54 P **P 12 28 54.7 +0.3**
comp=Z,0.6nm,0.5s,mb4.2,baz=288,slow=4.0,SNR=4.8
TXAR Lajitas Array 98.16 54 P **P 12 28 54.7 +0.3**
MATP Matopo 119.38 258 PKP PKPdf 12 34 05.5 +1.2
comp=Z,3.1nm,0.6s,baz=327,slow=0.5,SNR=12
SNAA Sanae 126.23 193⇑ *i* PKPdf 12 34 17.8 +1.6
VNA2 Neumayer--Watz 127.72 192⇑ *i* PKPdf 12 34 22.8 +3.7
VNA3 Neumayer Olymp 127.87 191⇑ *i* PKPdf 12 34 22.7 +3.3
VNA1 Neumayer--Stat 128.12 192⇑ *i* PKPdf 12 34 24.1 +4.2
SDV Santo Domingo 135.11 51 *e*PKPdf PKPdf 12 34 35.8 +1.2
DBIC Dimbokro 137.87 308 PKhKP 12 34 32.7
comp=Z,1.7nm,0.5s,baz=353,slow=2.6,SNR=4.5
DBIC PKP PKPdf 12 34 41.4 +1.8
comp=Z,5.4nm,0.7s,baz=63,slow=0.8,SNR=9.6
DBIC SKP 12 37 44.8
comp=Z,5.8nm,0.6s,baz=20,slow=3.8,SNR=13
DBIC Dimbokro 137.87 308 PKP PKPdf 12 34 32.7 -6.9
DBIC PKP PKPdf 12 34 41.4 +1.8
DBIC SKP 12 37 44.8
PLCA Paso Flores 145.73 132 PKPbc PKPbc 12 34 55.0 +1.2
comp=Z,35nm,0.6s,baz=235,slow=3.6,SNR=85
PLCA Paso Flores 145.73 132 *e*PKPbc PKPbc 12 34 55.5 +1.7
LPAZ La Paz 150.00 85 PKP PKPdf 12 35 03.0 +2.8
comp=Z,25nm,0.5s,baz=272,slow=2.1,SNR=28
LPAZ PKPbc PKPdf 12 35 07.9 +7.7
comp=Z,25nm,0.5s,baz=9.7,slow=6.2,SNR=110
LPAZ PKPab PKPab 12 35 14.7 -0.1
comp=Z,19nm,0.6s,baz=255,slow=2.7,SNR=16
LPAZ La Paz 150.00 85 *e*PKPdf PKPdf 12 35 02.9 +2.7
LPAZ *e*PKPbc PKPdf 12 35 08.3 +8.1
LPAZ *e*PKPab PKPab 12 35 15.8 +1.0
CFAA Coronel Fontan 150.33 116 PKPbc PKPdf 12 35 07.0 +6.6
comp=Z,3.1nm,0.6s,baz=259,slow=3.1,SNR=42
CFAA Coronel Fontan 150.33 116 PKPbc PKPdf 12 35 07.0 +6.6
LVC Limon Verde 150.33 98 PKPbc PKPdf 12 35 08.6 +8.1
comp=Z,17nm,0.7s,baz=267,slow=3.6,SNR=23
LVC PKPab PKPab 12 35 16.3 +0.3
comp=Z,11nm,0.5s,baz=277,slow=7.0,SNR=12
LVC Limon Verde 150.33 98 *e*PKPbc PKPdf 12 35 08.4 +7.8
LVC *e*PKPab PKPab 12 35 17.2 +1.2
SAML Samuel 151.74 68 *e*PKPdf PKPdf 12 35 04.1 +1.1
SAML *e*PKPbc PKPdf 12 35 10.5 +7.5
SAML *e*PKPab PKPab 12 35 19.3 -2.8
TRQA Tornquist 152.86 133 *e*PKPbc PKPdf 12 35 12.7 +8.9
SIV San Ignacio 156.44 80 PKP PKPdf 12 35 10.7 +1.5
comp=Z,2.6nm,0.8s,baz=245,slow=0.7,SNR=18
SIV PKPab PKPab 12 35 40.3 -1.7
comp=Z,2.6nm,0.6s,baz=282,slow=6.7,SNR=9.5
CPUP Villa Florida 160.73 108 PKP PKPdf 12 35 15.8 +1.8
comp=Z,0.9nm,0.6s,baz=288,slow=3.2,SNR=3.0
CPUP PKPab PKPab 12 35 58.5 -1.6
comp=Z,0.8nm,0.4s,baz=270,slow=3.1,SNR=3.1
BDFB Brasilia 167.90 63 PKP PKPdf 12 35 21.0 +0.3
comp=Z,1.1nm,0.3s,baz=66,slow=5.9,SNR=3.3
BDFB PKPab PKPab 12 36 28.6 -3.0
comp=Z,2.7nm,0.5s,baz=328,slow=4.5,SNR=3.2

IDC 26 12:45:15.1±1.3, 12.21N×143.80E, mb4.0/4, mb1 4.3/4, mb1mx3.8/20, mbtmp4.0/4, Error ellipse: s-maj=47.7km s-min=26.7km az=116.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.72**	**37**	Pn	Pn	12 45 46.0	-0.6
comp=57nm,0.3s,baz=210,slow=8.1,SNR=13							
GUMO				Sn	Sn	12 46 06.5	-3.0
comp=124nm,0.3s,baz=52,slow=21,SNR=26							
WRA	**Warramunga Arr**	**33.28**	**196**	P	P	12 51 54.4	-2.3
comp=1.0nm,0.9s,baz=19,slow=9.7,SNR=5.4							
BVAR	**Borovoye Array**	**70.36**	**322**	P	P	12 56 31.5	-1.2
comp=0.7nm,0.5s,baz=115,slow=8.0,SNR=7.1							
NVAR	**Mina Array Bea**	**88.59**	**51**	P	P	12 58 11.4	-0.1
comp=0.3nm,0.6s,baz=260,slow=5.5,SNR=4.1							
FINES	**FINESS Array B**	**91.96**	**335**	P	P	12 58 23.7	-2.9
comp=4.5nm,1.2s,baz=45,slow=2.7,SNR=3.4							

MAN 26 12:48:05.8, 12.44N×122.04E, h32km, mb4.0, ML2.8, MS2.4, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTRP	**Odiongan**	**0.08**	**195**	*e*P	Pn	12 48 08.0	-2.7
OTRP				*e*S	Sn	12 48 10.3	-3.2
OTRP	**Odiongan**	**0.08**	**195**	*e*P	Pn	12 48 08.0	-2.8
OTRP				*e*S	Sn	12 48 10.1	-3.5
SJMP	**San Jose**	**0.90**	**271**	*e*P	Pn	12 48 22.4	0.0
SJMP	**San Jose**	**0.90**	**271**	*e*P	Pn	12 48 22.5	+0.1
BOAC	**Boac**	**1.03**	**349**	*e*P	Pn	12 48 23.9	-0.3
BOAC				*e*S	Sn	12 48 37.1	-0.5

AUQP	San Andres	1.07	35	*e*P	Pn	12 48 24.6	-0.3
RCP	Roxas	1.11	142⇓	*e*P	Pn	12 48 24.5	-1.0
RCP				*e*S	Sn	12 48 39.5	-0.3
BUSP	Coron	1.85	257	*e*P	Pn	12 48 36.1	+0.1
BUSP	Coron	1.85	257	*e*P	Pn	12 48 35.6	-0.4
CUYO	Cuyo Island	1.88	212	*e*P	Pn	12 48 36.2	-0.1
CUYO	Cuyo Island	1.88	212	*e*P	Pn	12 48 36.2	-0.1
GUIM	Jordan	1.88	163	*e*P	Pn	12 48 37.2	+0.8
LUBP	Lubang	2.17	306	*e*P	Pn	12 48 41.6	+1.1
PVCP	Virac	2.35	61	*e*P	Pn	12 48 43.4	+0.2
ENPP	El Nido	2.84	245	*e*P	Pn	12 48 56.9	+6.7
ENPP	El Nido	2.84	245	*e*P	Pn	12 48 49.9	-0.3

*NEIC **26** 13:12:25.0±0.9, 17.38S×178.79W, h533km±21km, mb3.9/2, Error ellipse: s-maj=26.7km s-min=19.3km az=152.0*
*IDC **26** 13:12:25.0±2.0, 17.38S×178.82W, h531km±26km, mb3.3/6, mb1 3.5/8, mb1mx3.2/18, mbtmp4.3/8, Error ellipse: s-maj=29.8km s-min=17.6km az=151.0*

ISC 26 13:12:24.3±1.3, 17.4S±0.2×178.8W±0.2, h537km±23km, n15, σ0§77/12, mb3.9/7, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.60	64	P	P	13 14 18.2	-0.4
	2.6nm,0.3s,baz=60,slow=14,SNR=4.2						
DZM	Mont Dzumac	14.65	249	P	P	13 15 31.7	+1.4
	0.2nm,0.3s,baz=52,slow=19,SNR=2.7						
URZ	Urewera	21.09	189	P	P	13 16 31.9	0.0
	6.2nm,0.9s,mb4.2,baz=356,slow=19,SNR=3.4						
CTA	Charters Tower	33.17	260	P	P	13 18 18.0	+0.2
	6.7nm,1.0s,mb4.1,baz=135,slow=11,SNR=3.6						
CTA	Charters Tower	33.17	260	P	P	13 18 18.0	+0.2
STKA	Stephens Creek	38.55	240	⇓*i*P	P	13 19 02.4	+0.3
	2.6nm,0.6s,mb3.9						
STKA	Stephens Creek	38.55	240	P	P	13 19 02.1	+0.1
	4.2nm,0.7s,mb4.0,baz=95,slow=9.8,SNR=11						
WRAB	Tennant Creek	44.35	259	*e*P	P	13 19 47.6	-0.9
	1.8nm,0.5s,mb3.9						
WRA	Warramunga Arr	44.36	259	P	P	13 19 47.6	-1.0
	1.9nm,0.5s,mb3.9,baz=98,slow=7.0,SNR=45						
FITZ	Fitzroy Crossi	52.75	260	P	P	13 20 50.3	-1.0
	2.7nm,0.5s,mb3.9,baz=203,slow=2.4,SNR=5.9						
KSM	Kuching	72.25	277	*e*P	P	13 22 57.9	+0.9
PDAR	Pinedale Array	87.24	44	P	P	13 24 15.3	+0.7
	0.3nm,0.5s,mb3.1,baz=223,slow=3.2,SNR=3.8						
BRTR	Keskin Array B	144.16	315	PKP	PKPdf	13 31 00.1	+1.3
	1.6nm,0.8s,baz=90,slow=2.9,SNR=5.9						
CLL	Collm	144.88	347	*e*PKIKP	PKIKPdf	13 31 02.0	+2.3
GERES	GERESS Array B	147.02	345	PKPbc	PKPdf	13 31 07.7	+4.4
	0.6nm,0.4s,baz=18,slow=4.2,SNR=5.4						

IDC 26 13:15:13.3±3.2, 14.15N×142.84E, mb3.9/3, mb1 4.1/4, mb1mx3.7/20, mbtmp3.9/4, ML3.5/1, Error ellipse: s-maj=101.3km s-min=29.6km az=25.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	2.05	106	Pn	Pn	13 15 49.2	-0.2
	17nm,0.3s,baz=316,slow=4.7,SNR=14						
GUMO				Sn	Sn	13 16 21.1	+5.1
	31nm,0.3s,baz=165,slow=23,SNR=12						
MKAR	Makanchi Array	59.72	316	P	P	13 25 20.6	-1.6
	0.3nm,0.5s,baz=90,slow=7.2,SNR=4.8						
ILAR	Eielson Array	68.91	26	P	P	13 26 20.1	-1.8
	0.7nm,0.5s,baz=246,slow=5.9,SNR=11						
ARCES	ARCESS Array B	85.94	342	P	P	13 27 54.1	-2.1
	2.2nm,0.9s,baz=68,slow=6.5,SNR=5.4						

*BJI **26** 13:29:14.7, 10.30N×92.33E, h14km, mB4.6, mb4.3, Ms3.8, Msz3.5*
*IDC **26** 13:29:16.5±0.6, 10.60N×91.73E, h30km±3km, mb3.8/15, mb1 3.9/15, mb1mx3.8/22, mbtmp3.9/15, MS3.4/2, Ms1 3.4/2, ms1mx2.9/29, Error ellipse: s-maj=31.0km s-min=11.0km az=55.0*
*NEIC **26** 13:29:16.1±0.4, 10.42N×91.52E, mb4.3/5, Error ellipse: s-maj=15.5km s-min=6.0km az=56.0*

ISC 26 13:29:14.4±0.6, 10.50N±0.08×91.7E±0.1, h31km, h31km±.9km:pP-P, n36, σ0§86/36, mb4.0/20, MS3.5/3, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	Kunming	17.92	34	P	P	13 33 26.5	+3.3
KMI				AMB	AMB		
	comp=Z,6.0nm,0.8s						
KMI				LR	LR		
	comp=N,142nm,11.8s						
KMI				LR	LR		
	comp=E,187nm,14.4s						
KMI	Kunming	17.92	34	P	P	13 33 26.5	+3.3
	comp=E,6.0nm,0.8s						
PKI	Pulchoki	17.98	342	*e*P	P	13 33 25.2	+1.3
DMN	Daman	18.11	341	*e*P	P	13 33 26.4	+0.8
KKN	Kakani	18.23	342	*e*P	P	13 33 26.9	-0.1
GKN	Gorkha	18.63	340	*e*P	P	13 33 31.7	-0.2
KOLN	Koldanda	18.79	337	*e*P	P	13 33 33.7	-0.1
QIZ	Qiongzhong	19.47	62	P	P	13 33 40.9	-0.9
QIZ				LR	LR		
	comp=E,111nm,17.0s						
QIZ				LR	LR		
	comp=Z,149nm,17.8s						
KSM	Kuching	20.55	115	*e*P	P	13 33 54.0	+0.7
ENH	Enshi	25.71	38	*e*P	P	13 34 41.5	-2.4
	comp=Z,7.3nm,0.6s,mb4.4						
WMQ	Urumqi	33.38	355	*e*P	P	13 35 53.0	+0.8
WMQ				AP	pP	13 36 03.0	+1.7
WMQ				S	S	13 41 09.0	-1.0
WMQ				AMB	AMB		
	comp=Z,12nm,0.8s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,124nm,4.0s						
WMQ				LR	LR		
	comp=N,38nm,13.0s,MS3.6						
WMQ				LR	LR		
	comp=E,72nm,14.0s,MS3.6						
WMQ				LR	LR		
	comp=Z,42nm,13.0s,MS3.3						
AAK	Ala-Archa	35.36	338	*e*P	P	13 36 10.6	+1.3
	comp=Z,1.5nm,0.5s,mb4.2						
AAK				*e*pP	pP	13 36 18.7	+0.3
MKAR	Makanchi Array	37.04	349	P	P	13 36 23.5	+0.1
	comp=Z,0.7nm,0.5s,mb3.7,baz=172,slow=8.6,SNR=6.3						
MKAR				pP	pP	13 36 31.6	-1.0
	comp=Z,4.9nm,0.6s,baz=168,slow=8.3,SNR=22						
MKAR	Makanchi Array	37.04	349	P	P	13 36 23.5	+0.1
MKAR				pP	pP	13 36 31.6	-0.9
SONM	Songino Array	39.22	16	P	P	13 36 41.7	+0.1
	comp=Z,0.2nm,0.4s,mb3.2,baz=207,slow=6.4,SNR=5.1						
SONM				pP	pP	13 36 49.6	-1.2
	comp=Z,2.0nm,0.9s,baz=204,slow=7.4,SNR=12						
SONM				PcP	PcP	13 38 52.1	+1.1
	comp=Z,0.7nm,1.0s,baz=207,slow=3.2,SNR=2.7						
SONM	Songino Array	39.22	16	P	P	13 36 41.7	+0.1
SONM				pP	pP	13 36 49.6	-1.2
SONM				PcP	PcP	13 38 52.1	+1.1
KURK	Kurchatov	41.51	347	*e*P	P	13 37 00.8	+0.4
	comp=Z,7.2nm,1.0s,mb4.3						
KURK				*e*pP	pP	13 37 09.4	-0.3
ZAL	Zalesovo	43.67	354	P	P	13 37 16.9	-1.2
	comp=Z,0.6nm,0.4s,mb3.7,baz=355,slow=11,SNR=2.9						
ZAL				pP	pP	13 37 26.9	-0.3
	comp=Z,1.3nm,0.7s,baz=287,slow=7.5,SNR=3.9						
ZAL				LR	LR	13 59 34.1	
	comp=Z,55nm,18.8s,MS3.5,baz=126,slow=42						
FITZ	Fitzroy Crossi	43.94	130	P	P	13 37 20.7	0.0
	comp=Z,7.3nm,0.7s,mb4.5,baz=341,slow=7.0,SNR=12						
FITZ				pP	pP	13 37 30.4	+0.5
	comp=Z,8.9nm,0.9s,baz=274,slow=5.7,SNR=3.8						
BVAR	Borovoye Array	45.75	342	P	P	13 37 34.1	-0.6
	comp=Z,0.4nm,0.4s,mb3.7,baz=135,slow=10,SNR=3.0						
NWAO	Narrogin (SRO)	49.58	152	P	P	13 38 04.9	-0.1
	comp=Z,7.1nm,1.1s,mb4.6,baz=239,slow=5.9,SNR=3.2						
WRA	Warramunga Arr	51.74	126	P	P	13 38 21.4	-0.2
	comp=Z,0.9nm,0.4s,mb4.0,baz=300,slow=10,SNR=34						
WRA				pP	pP	13 38 30.8	-0.2
	comp=Z,3.1nm,0.5s,baz=306,slow=8.4,SNR=14						
WRAB	Tennant Creek	51.75	126	*e*P	P	13 38 21.7	+0.1
	comp=Z,2.8nm,0.5s,mb4.5						
WRAB				*e*pP	pP	13 38 31.0	0.0
BRTR	Keskin Array B	58.90	310	P	P	13 39 12.2	-0.8
	comp=Z,0.6nm,0.5s,mb3.9,baz=127,slow=7.2,SNR=3.6						
BRTR				pP	pP	13 39 22.6	-0.1
	comp=Z,1.1nm,0.7s,baz=112,slow=6.7,SNR=3.3						
STKA	Stephens Creek	63.65	133	P	P	13 39 46.0	+0.7
	comp=Z,0.7nm,0.4s,mb4.0,baz=310,slow=10,SNR=4.4						
STKA				pP	pP	13 39 55.7	+0.7
	comp=Z,1.7nm,0.6s,baz=305,slow=10,SNR=3.4						
STKA	Stephens Creek	63.65	133	P	P	13 39 46.0	+0.7
STKA				pP	pP	13 39 55.7	+0.7
AKASG	Malin Array Be	64.61	321	P	P	13 39 50.6	-0.7
	comp=Z,0.2nm,0.3s,mb3.6,baz=126,slow=5.8,SNR=3.2						
AKASG				pP	pP	13 40 00.3	-0.5
	comp=Z,0.3nm,0.3s,baz=104,slow=3.5,SNR=2.5						
AKASG	Malin Array Be	64.61	321	P	P	13 39 50.6	-0.7
AKASG				pP	pP	13 40 00.3	-0.5
FINES	FINESS Array B	69.27	332	P	P	13 40 20.0	-0.6
	comp=Z,4.3nm,1.2s,mb4.3,baz=108,slow=13,SNR=3.6						
ARCES	ARCESS Array B	71.99	340	P	P	13 40 37.1	+0.2
	comp=Z,4.3nm,1.1s,mb4.3,baz=90,slow=6.1,SNR=6.5						
VRAC	Vranov	72.40	318	LR	LR	14 14 04.7	
	comp=Z,22nm,18.4s,MS3.5,baz=202,slow=37						
GERES	GERESS Array B	74.27	318	P	P	13 40 50.9	+0.4
	comp=Z,0.1nm,0.3s,mb3.2,baz=76,slow=5.5,SNR=4.1						
GERES				pP	pP	13 41 01.0	+0.8
	comp=Z,0.4nm,0.4s,baz=108,slow=8.4,SNR=3.0						
NB2	NORSAR Subarra	76.27	330	P	P	13 41 11.8	+10
	comp=Z,0.9nm,0.6s,mb3.9,baz=96,slow=5.3						
NOA	NORSAR Array B	76.27	330	P	P	13 41 00.3	-1.4
	comp=Z,1.2nm,1.0s,mb3.8,baz=92,slow=18,SNR=2.9						
NOA				pP	pP	13 41 11.6	+0.2
	comp=Z,0.9nm,0.6s,baz=94,slow=5.7,SNR=3.3						
NOA	NORSAR Array B	76.27	330	P	P	13 41 00.3	-1.4
NOA				pP	pP	13 41 11.6	+0.2
ILAR	Eielson Array	93.21	21	P	P	13 42 27.4	+0.7
	comp=Z,0.4nm,1.0s,mb3.8,baz=307,slow=4.5,SNR=2.8						
ILAR				pP	pP	13 42 36.0	-0.6
	comp=Z,0.5nm,0.8s,baz=296,slow=5.3,SNR=4.5						

*ISK **26** 13:30:19.3, 40.23N×27.22E, h7km, MD2.9*
*CSEM **26** 13:30:21.0±0.2, 40.36N×27.23E, h8km, MD2.9, Error ellipse: s-maj=6.0km s-min=3.2km az=151.0*
*ATH **26** 13:30:22.2, 40.41N×27.33E, h46km, MD2.9/3*

ISC 26 13:30:21.7±0.9, 40.38N±0.05×27.21E±0.05, h9km±7km, n13, σ0§73/17, 2D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPK	Lapseki	0.34	269	PG	Pg	13 30 27.9	-0.9
MRMT	Marmara Adasi	0.37	53	PG	Pg	13 30 28.7	-0.6
MRMT				SG	Sg	13 30 36.0	+1.6
MFT	Murefte	0.41	8	PG	Pg	13 30 30.3	+0.3
EZN	Ezine	0.88	231	PG	Pg	13 30 34.7	-4.6
SLVT	Silivri	1.14	42	*e*PN	Pn	13 30 44.1	+0.3
CTT	Catalca	1.20	50	*e*PN	Pn	13 30 45.3	+0.6
PRK	Paraskevi	1.34	213	⇓*i*P	Pb	13 30 46.7	+0.1
PRK				*e*S	Sb	13 31 04.6	+0.8
BGKT	Bogazkoy	1.43	56	*e*PN	Pn	13 30 46.6	-1.3
RDO	Rodhopi	1.48	302	*e*P	Pn	13 30 48.9	+0.2
RDO				*e*S	Sb	13 31 07.5	-0.2
EDRB	Edirne	1.50	347	*e*PN	Pn	13 30 49.3	+0.3
ISK	Istanbul-Kandi	1.56	64	*e*PN	Pn	13 30 49.2	-0.6
LIA	Limnos Island	1.62	253	⇓*i*P	Pn	13 30 50.4	-0.3
LIA				*e*S	Sn	13 31 12.6	+0.7
YLV	Yalova	1.66	83	*e*PN	Pn	13 30 50.5	-0.8

*IDC **26** 13:45:16.4±1.4, 4.72S×103.63E, mb4.0/7, mb1 4.1/7, mb1mx3.9/17, mbtmp4.0/7, Error ellipse: s-maj=71.2km s-min=17.8km az=51.0*

ISC 26 13:45:19.9±1.4, 4.6S±0.3×103.8E±0.4, h33km, n9, σ0§94/8, mb3.9/7, 1C, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	25.26	124	P	P	13 50 45.3	+0.4
	5.3nm,1.0s,mb4.0,baz=273,slow=4.6,SNR=4.2						
WRA	Warramunga Arr	33.46	120	P	P	13 51 58.1	-0.1
	0.7nm,0.5s,mb3.8,baz=305,slow=9.3,SNR=16						
STKA	Stephens Creek	44.63	132	⇑*i*P	P	13 53 31.0	-0.3
	3.1nm,0.4s,mb4.5						
STKA	Stephens Creek	44.63	132	P	P	13 53 30.6	-0.7
	4.2nm,0.6s,mb4.5,baz=317,slow=9.2,SNR=24						
SONM	Songino Array	52.27	2	P	P	13 54 31.5	+1.3
	0.6nm,0.7s,mb3.7,baz=185,slow=9.1,SNR=5.2						
MKAR	Makanchi Array	54.59	342	P	P	13 54 45.6	-1.8
	0.4nm,0.5s,mb3.7,baz=170,slow=8.8,SNR=3.6						
ZAL	Zalesovo	60.46	347	P	P	13 55 28.2	-0.5
	0.7nm,0.4s,mb4.0,baz=326,slow=15,SNR=1.5						
BRTR	Keskin Array B	77.83	312	P	P	13 57 17.0	+1.0
	0.3nm,0.3s,mb3.7,baz=143,slow=7.2,SNR=2.1						
TXAR	Lajitas Array	144.25	43	PKP	PKPdf	14 04 52.7	-0.4
	2.0nm,0.6s,baz=280,slow=1.4,SNR=15						

*MOS **26** 13:47:29.0±0.8, 50.30N×155.98E, h117km, mb4.0/1, Error ellipse: s-maj=53.9km s-min=22.8km az=61.0*
*KRSC **26** 13:47:33.1±1.9, 50.22N×156.96E, h56km±24km, ML4.0*
*IDC **26** 13:47:36.1±5.7, 51.01N×156.07E, h141km±48km, mb3.5/6, mb1 3.8/7, mb1mx3.4/22, mbtmp4.0/7, Error ellipse: s-maj=73.5km s-min=26.5km az=175.0*

ISC 26 13:47:31.3±1.0, 50.19N±0.09×156.8E±0.1, h108km±10km, n31, σ1§32/48, mb3.8/6, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.67	317	*i*P	P	13 47 46.9	-2.4
SKR				*e*S	S	13 47 59.3	-3.6
SKR	Severo-Kuril's	0.67	317	⇓*i*PN	P	13 47 46.9	-2.4
SKR				*e*S	S	13 47 59.3	-3.6
SKR				pmax	pmax		
	comp=N,660nm,0.5s						
SKR				pmax	pmax		
	comp=E,760nm,0.5s						
SKR				pmax	pmax		
	comp=Z,2μm,0.5s						
SKR				smax			
	comp=N,3μm,0.4s						
SKR				smax			
	comp=E,2μm,0.4s						
SKR				smax			
	comp=Z,690nm,0.5s						
ALID	Alaid	1.06	310	*e*P	P	13 47 52.8	-0.4
ALID				*e*S	S	13 48 08.0	-1.7
PAU	Pauzhetka	1.28	359	*e*P	P	13 47 56.3	+0.6
PAU				*i*S	S	13 48 14.3	+0.2
PAU				Smax			
	comp=Z,2μm,0.1s						
MIPR	Malaya Ipel'ka	2.09	359	*e*P	P	13 48 06.0	+0.2
MIPR				*e*S	S	13 48 31.1	-0.5
RUS	Russkaya	2.48	25	*e*P	P	13 48 11.1	0.0
RUS				*e*S	S	13 48 40.0	-1.0
GRL	Gorelyy	2.49	18	*e*P	P	13 48 12.7	+1.5
GRL				*e*S	S	13 48 41.5	+0.3
APC	Apacha	2.74	4	*e*P	P	13 48 17.5	+2.8
APC				*e*S	S	13 48 47.5	+0.1
APC				Smax			
	comp=Z,50nm,1.1s						
KRMR	Karymshinskiy	2.76	17	*e*S	S	13 48 48.8	+0.9
PET	Petropavlovsk	3.05	21	*e*P	P	13 48 19.9	+1.0
PET				*e*S	S	13 48 53.8	-1.1
PET	Petropavlovsk	3.05	21	*e*PN	P	13 48 19.7	+0.8
PET				*e*S	S	13 48 54.7	-0.2
PET				smax			
	comp=N,78nm,0.5s						
PET				smax			
	comp=E,36nm,0.5s						
PET				MLR	MLR		
	comp=Z,40nm,19.0s						
UGLR	Uglovaya	3.27	22	*e*P	P	13 48 23.1	+1.3
AVH	Avacha	3.30	20	*e*P	P	13 48 24.4	+2.2
KOK	Koryaka	3.30	19	*e*P	P	13 48 24.5	+2.2
KOK				*e*S	S	13 49 00.0	-0.9
SMAR	Somma	3.31	21	*e*P	P	13 48 25.8	+3.4
SMAR				*e*S	S	13 49 02.0	+0.9
SDLR	Sedlovina	3.34	22	*e*P	P	13 48 24.0	+1.1
SDLR				*e*S	S	13 48 59.4	-2.5
NLC	Nalytchevo	3.37	27	*e*P	P	13 48 23.3	+0.1
NLC				*e*S	S	13 48 59.0	-3.5
SPN	Mys Shipunski	3.52	33	*e*P	P	13 48 25.9	+0.6
SPN				*e*S	S	13 49 03.4	-2.9
GNL	Ganaly	3.57	11	*e*P	P	13 48 26.6	+0.6
MKZ	Mys Kozlova	5.30	33	*e*P	P	13 48 50.2	+0.8
MKZ				*e*S	S	13 49 44.8	-5.0
KBTR	Krutoberegovo	7.01	29	*e*P	P	13 49 13.2	+0.3
BKI	Bering	7.48	44	*e*S	S	13 50 34.7	-8.4
FX1	Attu Island--F	10.53	69	P	P	13 50 03.9	+3.8
	comp=Z,2.2nm,0.3s,baz=242,slow=17,SNR=3.7						
FX1				S	S	13 51 54.7	-1.7
	comp=Z,5.7nm,0.3s,baz=340,slow=17,SNR=7.0						
BILL	Bilibino	18.50	11	*i*P	P	13 51 52.4	+11
ILAR	Eielson Array	32.32	42	P	P	13 53 50.0	-1.7
	comp=Z,0.8nm,0.7s,mb3.6,baz=268,slow=7.5,SNR=12						
INK	Inuvik	37.41	35	P	P	13 54 32.8	-2.1
	comp=Z,0.6nm,0.5s,mb3.8,baz=290,slow=8.2,SNR=4.5						
INK	Inuvik	37.41	35	P	P	13 54 32.8	-2.1
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	Makanchi Array	47.60	296	P	P	13 55 51.8	-5.9
	comp=Z,0.3nm,0.4s,mb3.5,baz=51,slow=7.5,SNR=4.4						
PDAR	Pinedale Array	60.76	57	P	P	13 57 33.5	-0.2
	comp=Z,0.8nm,0.7s,mb3.8,slow=3.0,SNR=7.3						
SCHQ	Schefferville	69.16	25	P	P	13 58 21.6	-5.8
	comp=Z,2.3nm,0.4s,mb4.4,baz=288,slow=14,SNR=14						
TXAR	Lajitas Array	73.70	64	P	P	13 58 54.9	0.0
	comp=Z,0.3nm,0.3s,mb3.5,baz=326,slow=4.5,SNR=3.6						

*ISK **26** 13:54:47.2, 35.53N×27.31E, h25km, MD3.2*
*ATH **26** 13:54:48.1, 35.47N×27.54E, h24km±6km, MD3.3/4*
*NEIC **26** 13:54:48.1, 35.47N×27.54E, h24km, MD3.3(ATH), After ATH.*
*CSEM **26** 13:54:49.5±0.3, 35.65N×27.40E, h25km, MD3.3, Error ellipse: s-maj=14.2km s-min=4.5km az=136.0*

ISC 26 13:54:49.6±1.1, 35.6N±0.1×27.4E±0.1, h29km±10km, n7, σ0§88/12, 1C-1D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.21	260	⇑*i*PB	Pb	13 54 55.5	-0.2
KARP				*e*SB	Sb	13 55 00.8	+0.9
ARG	Arkhangelos	0.86	42	⇓*i*PN	Pn	13 55 05.8	+0.1
ARG				*e*SN	Sn	13 55 17.6	+0.3
BODT	Bodrum	1.48	357	PN	Pn	13 55 13.8	-0.8
BODT				SN	Sn	13 55 32.8	-0.3
NPS	Neapolis	1.50	258	*e*PN	Pn	13 55 16.7	+1.7
DALT	Dalyan (Mudla)	1.54	40	PN	Pn	13 55 15.1	-0.4
DALT				SN	Sn	13 55 35.7	+0.9
XRY	Khrisi	1.57	244	*e*PB	Pb	13 55 16.5	-1.4
YER	Yerkesik	1.70	24	*e*PN	Pn	13 55 16.5	-1.3
YER				*e*SN	Sn	13 55 39.3	+0.6

*JMA **26** 14:19:50.7±0.3, 33.20N×138.20E, h335km, M2.7*
*IDC **26** 14:19:51.4±1.4, 33.33N×138.34E, h319km±22km, mb3.1/2, mb1 3.1/3, mb1mx2.8/22, mbtmp3.5/3, Error ellipse: s-maj=102.1km s-min=23.9km az=80.0*

ISC 26 14:19:52.0±0.8, 33.50N±0.09×138.2E±0.1, h340km±8km, n15, σ1§00/21, mb3.5/2, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK02	Tokai 2	0.58	321	P	P	14 20 35.1	-0.4
JHJ	Hachijo jima 2	1.38	105	S	S	14 21 16.1	+0.7
	12nm,0.3s,baz=80,slow=23,SNR=5.9						
HMMJ	Hamamatsu 2	1.41	344	P	P	14 20 39.0	0.0
JKN2	Miekihoku	1.77	295	P	P	14 20 39.8	-1.3
JNY	Yasuok	1.88	351	P	P	14 20 42.5	+0.6
JAO	Obara	1.93	336	P	P	14 20 42.7	+0.5
BSO4	Boso 4	2.31	49	P	P	14 20 45.5	+0.4
BSO4				*e*S	S	14 21 27.5	+0.8
JHU	Hanno	2.51	20	P	P	14 20 47.1	+0.3
JHU				*e*S	S	14 21 28.2	-1.4
JRY	Ryogami san	2.58	13	P	P	14 20 48.8	+1.5
JRY				*e*S	S	14 21 32.0	+1.4
MJAR	Matsushiro Arr	3.04	0	P	P	14 20 50.9	-0.5
	0.4nm,0.3s,baz=172,slow=10,SNR=6.0						
MJAR				S	S	14 21 37.7	-0.1
	0.2nm,0.3s,baz=180,slow=17,SNR=2.7						
MAT	Matsushiro	3.04	0	P	P	14 20 52.1	+0.7
JAG	Ashikaga	3.10	19	P	P	14 20 52.2	+0.3
JAG				*e*S	S	14 21 37.7	-1.1
JYT	Yasato	3.18	30	P	P	14 20 52.4	-0.3
JYT				*e*S	S	14 21 38.1	-2.1
WRA	Warramunga Arr	53.27	185	P	P	14 28 36.8	-1.9
	0.2nm,0.3s,mb2.9,baz=360,slow=7.5,SNR=12						
FINES	FINESS Array B	70.70	332	P	P	14 30 34.0	+1.3
	5.9nm,1.1s,mb4.2,baz=108,slow=4.4,SNR=4.9						

MAN 26 14:21:17.8, 11.16N×124.63E, h3km, mb4.2, ML3.0, MS2.7, 3D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	Palo	0.34	89	*e*P	Pg	14 21 25.0	+0.4
PLP				*i*S	Sg	14 21 30.5	+1.4
LLP	Lapu-Lapu	1.06	218	⇓*e*P	Pb	14 21 37.6	-0.9
LLP				*e*S	Sb	14 21 52.9	+0.3
SCPH	Surigao	1.60	148	⇓*e*P	Pn	14 21 48.2	+1.0
TBP	Tagbilaran	1.64	208	*e*P	Pn	14 21 47.6	-0.2
TBP				*e*S	Sb	14 22 08.3	-1.2
GUIM	Jordan	2.08	255	*e*P	Pn	14 21 54.6	+0.6
GUIM				*e*S	Sn	14 22 23.0	+2.3
SNPH	Sibulan	2.27	217	⇓*e*P	Pn	14 21 56.4	-0.4

IDC 26 14:43:47.9±4.3, 1.22N×97.41E, mb3.7/4, mb1 3.8/4, mb1mx3.7/17, mbtmp3.7/4, Error ellipse: s-maj=164.7km s-min=29.1km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	41.86	122	P	P	14 51 40.0	-1.8
	0.7nm,0.8s,baz=300,slow=9.1,SNR=5.6						
SONM	Songino Array	47.08	8	P	P	14 52 22.0	-1.3
	0.8nm,0.8s,baz=190,slow=9.0

MS2.7, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	**Virac**	**0.73**	**292**	*e*P	Pb	14 46 48.2	-0.4
AUQP	**San Andres**	**2.11**	**270**	*e*P	Pn	14 47 09.5	-0.6
PLP	**Palo**	**2.14**	**177**	*e*P	Pn	14 47 10.2	-0.3
PLP				*e*S	Sn	14 47 35.2	-1.9
BOAC	**Boac**	**2.92**	**273**	*e*P	Pn	14 47 22.4	+0.7
BOAC				*e*S	Sn	14 47 57.0	+0.1

*ATH **26** 14:55:42.5, 38.98N×23.37E, h4km, MD2.7/6*
*THE **26** 14:55:42.1, 38.98N×23.34E, h2km, ML2.5*
*NEIC **26** 14:55:42.5, 38.98N×23.37E, h4km, MD2.7(ATH), After ATH.*
*CSEM **26** 14:55:42.6±0.1, 38.98N×23.32E, h5km, MD2.7, Error ellipse: s-maj=3.7km s-min=1.6km az=90.0*

ISC 26 14:55:41.5±0.7, 38.98N±0.03×23.38E±0.06, h1km±10km, n13, σ0§76/20, 2C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.35**	**340**	⇑*i*PG	**Pg**	**14 55 48.9**	**+0.5**
NEO				*e*SG	**Sg**	**14 55 54.0**	**+1.0**
XOR	**Xorichti**	**0.41**	**339**	*e*Pg	**Pg**	**14 55 50.1**	**+0.4**
XOR				*e*Sg	**Sg**	**14 55 55.6**	**+0.5**
LKR	**Lokris**	**0.44**	**222**	⇑*i*PG	**Pg**	**14 55 50.4**	**+0.1**
LKR				*e*SG	**Sg**	**14 55 56.3**	**0.0**
AGG	**Agios Georgios**	**0.82**	**273**	*e*Pg	**Pg**	**14 55 56.5**	**-1.3**
	comp=Z,5.0nm,0.5s						
AGG				*e*Sg	**Sg**	**14 56 08.7**	**0.0**
MPAR	**Parnis Oros**	**0.88**	**161**	*e*PG	**Pg**	**14 55 59.0**	**+0.1**
PAIG	**Paliouri**	**0.97**	**14**	*e*Pg	**Pg**	**14 56 00.7**	**-0.2**
PAIG				*e*Sg	**Sg**	**14 56 14.7**	**+0.8**
PAIG	**Paliouri**	**0.97**	**14**	*e*Pg	**Pg**	**14 56 00.7**	**-0.2**
PAIG				*e*Sg	**Sg**	**14 56 14.6**	**+0.8**
NSAL	**Nisos Salamina**	**1.08**	**176**	*e*PG	**Pg**	**14 56 03.2**	**+0.3**
NAIG	**Nisos Aigina**	**1.23**	**176**	*e*PB	**Pb**	**14 56 06.0**	**+0.9**
EVR	**Evrytania**	**1.23**	**267**	*e*PN	**Pn**	**14 56 06.0**	**+0.3**
LIT	**Litokhoron**	**1.31**	**329**	*e*Pg	**Pg**	**14 56 06.3**	**-1.4**
LIT				*e*Sg	**Sg**	**14 56 25.4**	**+0.3**
OUR	**Ouranopolis**	**1.43**	**19**	*e*Pg	**Pg**	**14 56 08.1**	**-1.8**
SOH	**Sokhos**	**1.84**	**359**	*e*Sb	**Sb**	**14 56 38.4**	**-0.7**

CASC 26 14:59:37.6±3.5, 12.48N×89.23W, h35km±126km, MD3.9, ML4.0, 1C-13D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFRS	**El Faro**	**1.15**	**8**	⇓*e*P	P	14 59 59.8	+2.3
LFRS				*e*S	S	15 00 16.5	+4.2
SNVI	**San Vicente**	**1.19**	**19**	⇓*e*P	P	14 59 59.8	+1.8
SNVI				⇓*e*S	S	15 00 16.4	+3.1
LCBS	**La Ceiba**	**1.20**	**12**	⇓*i*P	P	15 00 00.1	+2.0
LCBS				*e*S	S	15 00 17.0	+3.6
SNET	**Serv Nac Est T**	**1.20**	**0**	*e*P	P	15 00 01.0	+2.8
SNET				*i*		15 00 16.1	
	comp=Z,4μm,0.2s						
SNET				*e*S	S	15 00 17.2	+3.7
BOQS	**Boqueron**	**1.25**	**358**	⇓*e*P	P	15 00 02.3	+3.5
BOQS				*e*S	S	15 00 18.9	+4.1
LBRS	**Las Brisas**	**1.27**	**8**	⇓*e*P	P	15 00 01.5	+2.5
LBRS				*e*S	S	15 00 19.7	+4.5
LFU	**La Fuente**	**1.27**	**5**	*e*P	P	15 00 01.8	+2.7
LFU				*e*S	S	15 00 19.1	+3.9
VSM	**San Miguel**	**1.33**	**45**	⇓*e*P	P	15 00 02.5	+2.5
VSM				*e*S	S	15 00 21.4	+4.6
BLLM	**Bellamira**	**1.36**	**45**	⇓*e*P	P	15 00 02.7	+2.1
BLLM				*e*S	S	15 00 20.6	+3.0
SBLS	**San Blas**	**1.41**	**344**	*e*P	P	15 00 05.7	+4.5
SBLS				*e*S	S	15 00 25.3	+6.5
SNJE	**San Jose**	**1.43**	**345**	⇓*e*P	P	15 00 05.8	+4.4
SNJE				*e*S	S	15 00 26.6	+7.3
RTR	**El Retiro**	**1.47**	**344**	⇓*e*P	P	15 00 06.9	+4.9
RTR				*e*S	S	15 00 27.7	+7.4
CNCH	**Conchagua**	**1.58**	**60**	⇓*e*P	P	15 00 06.7	+3.1
CNCH				*e*S	S	15 00 27.0	+3.9
IXG	**Ixpaco**	**2.06**	**325**	⇑*e*P	P	15 00 09.9	-0.7
IXG				*e*S	S	15 00 32.0	-3.3
CRIN	**San Cristobal**	**2.14**	**84**	*e*P	P	15 00 11.1	-0.5
LEON	**Leon**	**2.29**	**91**	*e*P	P	15 00 12.3	-1.4
LEON				*e*S	S	15 00 40.4	-0.5
TEL3	**Telica 3**	**2.33**	**87**	*e*P	P	15 00 13.1	-1.2
TEL3				*e*S	S	15 00 42.3	+0.1
TELN	**Telica**	**2.35**	**87**	⇓*e*P	P	15 00 13.2	-1.3
MIRN	**Miramar**	**2.46**	**91**	⇓*e*P	P	15 00 15.3	-0.9
CNGN	**Cerro Negro**	**2.47**	**89**	*e*P	P	15 00 15.5	-0.9
FUG	**Fuego 3**	**2.51**	**322**	*e*P	P	15 00 16.8	-0.1
COPN	**Copaltepe**	**2.60**	**96**	*e*P	P	15 00 17.2	-1.0
COPN				*e*S	S	15 00 47.4	-1.4
MRL	**Marmol**	**2.61**	**350**	*e*P	P	15 00 18.1	-0.3
MRL				*e*S	S	15 00 49.9	+0.7
MOMJ	**Momotombo**	**2.63**	**91**	*e*P	P	15 00 17.4	-1.3
MOMJ				*e*S	S	15 00 50.4	+0.8
TP2	**Tecpan 2**	**2.88**	**323**	*e*P	P	15 00 22.7	+0.5
TP2				*e*S	S	15 00 56.1	+0.1
MGAN	**Managua**	**2.94**	**96**	*e*P	P	15 00 21.3	-1.7
TICN	**Ticuantepe**	**2.97**	**98**	*e*P	P	15 00 24.1	+0.7
APON	**Apoyo**	**3.14**	**100**	*e*P	P	15 00 24.9	-1.0
SSNN	**San Juan del S**	**3.52**	**109**	*e*P	P	15 00 31.8	+0.6
CONN	**Concepcion**	**3.64**	**104**	*e*P	P	15 00 31.2	-1.8

IDC 26 15:19:52.3±4.1, 2.60N×96.03E, mb3.8/4, mb1 4.0/4, mb1mx3.7/18, mbtmp3.8/4, Error ellipse: s-maj=156.8km s-min=28.0km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.76**	**123**	P	P	15 27 59.9	-1.8
	1.0nm,1.1s,baz=301,slow=9.4,SNR=3.0						
MKAR	**Makanchi Array**	**45.62**	**347**	P	P	15 28 14.3	-1.8
	0.8nm,0.6s,baz=161,slow=8.4,SNR=7.7						
SONM	**Songino Array**	**45.95**	**10**	P	P	15 28 17.2	-1.6
	0.9nm,0.7s,baz=187,slow=8.6,SNR=7.2						
ZAL	**Zalesovo**	**52.00**	**352**	P	P	15 29 02.9	-2.6
	0.8nm,0.3s,baz=278,slow=7.4,SNR=3.2						

*IDC **26** 15:37:44.9±8.1, 16.52N×94.98W, mb4.4/3, mb1 4.6/4, mb1mx3.9/21, mbtmp4.2/4, ML4.3/1, Error ellipse: s-maj=210.4km s-min=102.4km az=27.0*
*NEIC **26** 15:37:46.9, 15.81N×95.50W, h7km, mb3.8/4, MD4.3(MEX), After MEX.*
*MEX **26** 15:37:46.7±0.7, 15.74N×95.45W, h13km±10km, MD4.3*

ISC 26 15:37:44.1±1.0, 15.88N±0.05×95.49W±0.03, h13km±6km, n37, σ1§12/58, mb3.9/6, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.61**	**260**	*i*P	**Pb**	**15 37 57.3**	**+1.2**
HUIG				*i*S	**Sg**	**15 38 05.4**	**+0.7**
HUIG	**Huatulco**	**0.61**	**260**	*i*P	**Pb**	**15 37 57.3**	**+1.2**
HUIG				*i*S	**Sg**	**15 38 05.7**	**+1.0**
CMIG	**Matias Romero**	**1.34**	**25**	*i*P	**Pb**	**15 38 09.1**	**+0.5**
CMIG				*i*S	**Sb**	**15 38 26.2**	**+0.7**
CMIG	**Matias Romero**	**1.34**	**25**	*i*P	**Pb**	**15 38 09.1**	**+0.5**
CMIG				*i*S	**Sb**	**15 38 26.6**	**+1.1**
OXX	**Oaxaca**	**1.69**	**315**	*i*P	**Pn**	**15 38 15.0**	**+1.4**
OXX				*i*S	**Sn**	**15 38 34.0**	**-1.2**
OXX	**Oaxaca**	**1.69**	**315**	*i*P	**Pn**	**15 38 15.2**	**+1.6**
OXX				*i*S	**Sn**	**15 38 33.5**	**-1.7**
VHO	**Vista Hermosa**	**1.69**	**315**	*e*P	**Pn**	**15 38 14.3**	**+0.8**
VHO				*i*S	**Sn**	**15 38 36.8**	**+1.6**
VHO	**Vista Hermosa**	**1.69**	**315**	*e*P	**Pn**	**15 38 14.3**	**+0.8**
VHO				*i*S	**Sn**	**15 38 34.7**	**-0.5**
TUIG	**Tuzandepetl**	**2.38**	**25**	*i*P	**Pn**	**15 38 23.4**	**0.0**
TUIG				*i*S	**Sn**	**15 38 53.2**	**+0.5**
EVV	**El Vigia**	**2.57**	**3**	*e*P	**Pn**	**15 38 27.0**	**+0.8**
EVV				*i*S	**Sn**	**15 38 58.0**	**+0.4**
EVV	**El Vigia**	**2.57**	**3**	*e*P	**Pg**	**15 38 34.5**	**-1.0**
PNIG	**Pinotepa**	**2.59**	**282**	*e*P	**Pn**	**15 38 25.6**	**-0.9**
PNIG				*i*S	**Sn**	**15 38 52.9**	**-5.2**
PNIG	**Pinotepa**	**2.59**	**282**	*e*P	**Pn**	**15 38 25.7**	**-0.8**
PNIG				*i*S	**Sn**	**15 38 52.2**	**-5.9**
SCX	**San Cristobal**	**2.87**	**72**	*i*P	**Pn**	**15 38 31.0**	**+0.5**
SCX				*i*S	**Sn**	**15 39 05.0**	**-0.2**
SCX	**San Cristobal**	**2.87**	**72**	*i*P	**Pn**	**15 38 35.3**	**+4.8**
CCIG	**Comitan**	**3.24**	**82**	*e*P	**Pn**	**15 38 36.1**	**+0.3**
CCIG				*i*S	**Sn**	**15 39 11.8**	**-2.9**
CCIG	**Comitan**	**3.24**	**82**	*e*P	**Pn**	**15 38 36.1**	**+0.3**
CCIG				*i*S	**Sn**	**15 39 14.6**	**-0.1**
LVIG	**Laguna Verde**	**3.93**	**347**	*i*P	**Pn**	**15 38 53.0**	**+7.5**
LVIG				*i*S	**Sn**	**15 39 33.3**	**+1.3**
LVIG	**Laguna Verde**	**3.93**	**347**	*i*P	**Pg**	**15 39 00.6**	**-2.0**
LVIG				*i*S	**Sn**	**15 39 28.9**	**-3.0**
PPM	**Popocatepetl**	**4.37**	**317**	*e*P	**Pn**	**15 38 55.0**	**+3.3**
PPM	**Popocatepetl**	**4.37**	**317**	*e*P	**Pn**	**15 39 00.5**	**+8.8**
ACX	**Acapulco**	**4.37**	**284**	*e*P	**Pn**	**15 38 50.0**	**-1.8**
YAIG	**Yautepec**	**4.53**	**311**	*e*P	**Pn**	**15 38 54.7**	**+0.6**
YAIG				*i*S	**Sn**	**15 39 44.7**	**-2.5**
YAIG	**Yautepec**	**4.53**	**311**	*e*P	**Pn**	**15 38 58.5**	**+4.4**
YAIG				*i*S	**Sn**	**15 39 58.1**	**+11**
PLIG	**Platanillo**	**4.58**	**304**	*e*P	**Pn**	**15 38 58.5**	**+3.7**
PLIG				*i*S	**Sn**	**15 39 44.8**	**-3.8**
PLIG	**Platanillo**	**4.58**	**304**	*e*P	**Pg**	**15 39 08.5**	**-7.2**
PLIG				*i*S	**Sn**	**15 39 58.4**	**+10**
UNM	**Universidad Na**	**4.92**	**315**	*e*P	**Pn**	**15 39 00.0**	**+0.4**
SFJM	**Santa Fe**	**8.52**	**304**	*e*P	**P**	**15 39 50.0**	**-0.1**
TXAR	**Lajitas Array**	**15.37**	**332**	Pn	**P**	**15 41 22.5**	**0.0**
	0.3nm,0.3s,baz=158,slow=14,SNR=6.8						
WMOK	**Wichita Mounta**	**19.02**	**352**	*e*P	**P**	**15 42 07.8**	**-0.3**
	1.2nm,0.3s						
TUC	**Tucson**	**21.47**	**322**	*e*P	**P**	**15 42 35.0**	**+0.5**
	3.3nm,0.9s,mb3.7						
SDCO	**Great Sand Dun**	**23.51**	**340**	*e*P	**P**	**15 42 55.3**	**+0.6**
	6.6nm,1.0s,mb4.0						
PV01	**Paradox Valley**	**25.00**	**335**	*e*P	**P**	**15 43 10.4**	**+1.3**
NVAR	**Mina Array Bea**	**30.12**	**323**	P	**P**	**15 43 54.6**	**-1.2**
	1.6nm,0.8s,mb3.8,baz=135,slow=6.4,SNR=6.7						
ELK	**Elko**	**30.13**	**329**	*e*P	**P**	**15 43 55.5**	**-0.4**
	1.2nm,0.8s,mb3.7						
INK	**Inuvik**	**57.71**	**344**	P	**P**	**15 47 33.4**	**-3.3**
	2.2nm,0.6s,mb4.3,baz=134,slow=7.6,SNR=6.7						
ILAR	**Eielson Array**	**59.81**	**337**	P	**P**	**15 47 49.1**	**-2.1**
	1.1nm,0.8s,mb4.0,baz=123,slow=4.7,SNR=7.7						

*NEIC **26** 15:47:26.5±0.4, 51.57N×16.12E, h5km, ML3.0(VIE), ML2.3(CLL), Error ellipse: s-maj=5.5km s-min=4.4km az=101.0*
*CSEM **26** 15:47:27.5±0.1, 51.53N×16.12E, ML2.9/4, Error ellipse: s-maj=2.3km s-min=2.2km az=150.0*
*IDC **26** 15:47:28.2±0.7, 51.47N×16.01E, mb1 3.3/7, mb1mx3.3/24, mbtmp3.2/7, ML2.8/7, Error ellipse: s-maj=13.4km s-min=6.7km az=106.0*
*IPEC **26** 15:47:28.0±0.4, 51.51N×16.17E, h6km±1km, ML1.9/3, Error ellipse: s-maj=2.4km s-min=0.8km az=27.0*
*PRU **26** 15:47:26.1, 51.46N×16.08E*
*WAR **26** 15:47:29, 51.49N×16.06E, h1km, ML2.6, Mining Induced*

ISC 26 15:47:24.7±0.5, 51.54N±0.03×16.10E±0.03, n38, σ1§41/66, 1C-3D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.71**	**170**	⇓*i*PG	**Pg**	**15 47 41.1**	**+2.1**
KSP				⇓*e*SG	**Sg**	**15 47 48.1**	**-0.4**
KSP	**Ksiaz**	**0.71**	**170**	*e*Pg	**Pg**	**15 47 41.0**	**+2.0**
KSP				*e*Sg	**Sg**	**15 47 48.9**	**+0.4**
KSP	**Ksiaz**	**0.71**	**170**	*e*Pg	**Pg**	**15 47 41.0**	**+2.0**
KSP				*e*Sg	**Sg**	**15 47 48.5**	**0.0**
KSP	**Ksiaz**	**0.71**	**170**	⇓*i*Pg	**Pg**	**15 47 41.1**	**+2.1**
KSP				*e*Sg	**Sg**	**15 47 48.5**	**0.0**
UPC	**Upice**	**1.04**	**183**	*e*PG	**Pg**	**15 47 46.9**	**+1.4**
UPC	**Upice**	**1.04**	**183**	*e*Pg	**Pg**	**15 47 47.1**	**+1.6**
DPC	**Dobruska-Polom**	**1.20**	**173**	*e*PG	**Pg**	**15 47 49.6**	**+0.8**
DPC				*e*SG	**Sg**	**15 48 04.6**	**-0.2**
	10nm,0.2s						
DPC	**Dobruska-Polom**	**1.20**	**173**	*e*Pg	**Pg**	**15 47 49.8**	**+1.0**
DPC				Sg	**Sg**	**15 48 04.6**	**-0.2**
	10nm,0.2s						
PVCC	**Panska Ves**	**1.40**	**224**	*e*PG	**Pg**	**15 47 53.7**	**+0.9**
PVCC	**Panska Ves**	**1.40**	**224**	*e*Pn	**Pn**	**15 47 54.1**	**+2.5**
PVCC				*e*Sg	**Sg**	**15 48 12.3**	**+0.8**
BRG	**Berggiesshubel**	**1.52**	**245**	*e*Pn	**Pn**	**15 47 55.4**	**+2.2**
BRG	**Berggiesshubel**	**1.52**	**245**	Pg	**Pg**	**15 47 55.7**	**+0.7**
BRG				*e*Sg	**Sg**	**15 48 15.2**	**0.0**
BRG	**Berggiesshubel**	**1.52**	**245**	Pg	**Pg**	**15 47 55.7**	**+0.7**
BRG				Sg	**Sg**	**15 48 15.2**	**0.0**
PRU	**Pruhonice**	**1.85**	**213**	*e*PG	**Pg**	**15 48 00.9**	**-0.7**
PRU				*e*SG	**Sg**	**15 48 25.4**	**-0.8**
CLL	**Collm**	**1.95**	**264**	*e*PN	**Pn**	**15 48 01.0**	**+1.5**
CLL				*i* PG	**Pg**	**15 48 03.6**	**-0.2**
CLL				*i* SG	**Sg**	**15 48 29.7**	**-0.1**
MORC	**Moravsky Berou**	**1.99**	**152**	*e*Pn	**Pn**	**15 48 01.7**	**+1.7**
MORC				*e*Sg	**Sg**	**15 48 31.4**	**+0.3**
MORC	**Moravsky Berou**	**1.99**	**152**	*e*Pn	**Pn**	**15 48 01.8**	**+1.8**
MORC				*e*Sg	**Sg**	**15 48 31.4**	**+0.3**
OKC	**Ostrava-Krasne**	**2.15**	**142**	*e*PG	**Pg**	**15 48 07.3**	**-0.3**
OKC				*e*SG	**Sg**	**15 48 34.6**	**-1.6**
VRAC	**Vranov**	**2.26**	**172**	Pn	**Pn**	**15 48 05.4**	**+1.5**
	0.8nm,0.3s,baz=321,slow=18,SNR=5.7						
VRAC				Lg		15 48 38.0	
	1.9nm,0.3s,baz=84,slow=22,SNR=6.3						
VRAC	**Vranov**	**2.26**	**172**	*e*Pn	**Pn**	**15 48 05.1**	**+1.2**
VRAC				*e*Sg	**Sg**	**15 48 37.3**	**-2.7**
	6.5nm,0.2s						
KRUC	**Moravsky**	**2.49**	**176**	*e*Pn	**Pn**	**15 48 09.6**	**+2.4**
KRUC				*e*Sg	**Sg**	**15 48 45.0**	**-2.7**
	4.8nm,0.3s						
NKC	**Novy Kostel**	**2.66**	**242**	*e*PN	**Pn**	**15 48 10.1**	**+0.5**
NKC				*e*SG	**Sg**	**15 48 52.7**	**-0.6**
NKC	**Novy Kostel**	**2.66**	**242**	Pn	**Pn**	**15 48 10.1**	**+0.5**
NKC				*e*Sg	**Sg**	**15 48 52.6**	**-0.7**
OJC	**Ojcow**	**2.69**	**118**	*e*PG	**Pg**	**15 48 19.0**	**+0.5**
OJC				*e*SG	**Sg**	**15 48 55.0**	**+0.7**
KHC	**Kasperske Hory**	**2.91**	**215**	*e*PN	**Pn**	**15 48 14.2**	**+1.1**
KHC				*e*PG	**Pg**	**15 48 20.1**	**-2.7**
KHC				*e*SN	**Sn**	**15 48 48.0**	**-1.3**
KHC				*e*SG	**Sg**	**15 48 57.2**	**-4.3**
KHC	**Kasperske Hory**	**2.91**	**215**	*e*Pn	**Pn**	**15 48 14.0**	**+0.9**
MOX	**Moxa**	**2.97**	**254**	*e*Pg	**Pg**	**15 48 23.2**	**-0.8**
MOX				*e*Sg	**Sg**	**15 49 02.5**	**-1.1**
MOX	**Moxa**	**2.97**	**254**	*e*Pg	**Pg**	**15 48 23.2**	**-0.8**
MOX				*e*Sg	**Sg**	**15 49 02.9**	**-0.7**
GERES	**GERESS Array B**	**3.11**	**211**	Pn	**Pn**	**15 48 17.2**	**+1.2**
	0.6nm,0.3s,baz=26,slow=12,SNR=15						
GERES				Pg	**Pg**	**15 48 23.7**	**-3.2**
	1.4nm,0.3s,baz=31,slow=17,SNR=18						
GERES				Sn	**Sn**	**15 48 53.8**	**-0.6**
	1.1nm,0.3s,baz=29,slow=28,SNR=4.9						
GERES				Lg		15 49 01.5	
	1.6nm,0.3s,baz=31,slow=28,SNR=8.6						
GERES	**GERESS Array B**	**3.11**	**211**	Pg	**Pg**	**15 48 23.7**	**-3.1**
WET	**Wettzell**	**3.17**	**222**	*e*Pn	**Pn**	**15 48 17.9**	**+1.1**
MOA	**Molln**	**3.89**	**199**	⇑*i*PN	**Pn**	**15 48 27.9**	**+0.9**
MOA				*i* SG	**Sg**	**15 49 31.4**	**-2.7**
	3.8nm,0.3s						
AKASG	**Malin Array Be**	**8.30**	**91**	Pn	**P**	**15 49 26.4**	**-2.8**
	0.8nm,0.3s,baz=282,slow=12,SNR=6.1						
AKASG	**Malin Array Be**	**8.30**	**91**	Pn	**P**	**15 49 26.5**	**-2.7**
HFS	**Hagfors**	**8.71**	**352**	Pn	**P**	**15 49 34.1**	**-0.9**
	0.0nm,0.3s,baz=151,slow=15,SNR=2.9						
NOA	**NORSAR Array B**	**9.89**	**346**	Pn	**P**	**15 49 48.4**	**-2.8**
	0.1nm,0.3s,baz=138,slow=12,SNR=2.5						
FINES	**FINESS Array B**	**11.33**	**25**	Pn	**P**	**15 50 09.3**	**-1.5**
	0.1nm,0.3s,baz=210,slow=11,SNR=2.9						
ARCES	**ARCESS Array B**	**18.59**	**10**	Pn	**P**	**15 51 42.4**	**-2.5**
	0.1nm,0.3s,baz=188,slow=13,SNR=4.1						

*PRU **26** 15:52:27.5, 44.97N×17.33E*
*CSEM **26** 15:52:28.3±0.3, 44.78N×17.18E, h40km, ML3.0, Error ellipse: s-maj=7.2km s-min=4.8km az=15.0*
*NEIC **26** 15:52:30.7±4.0, 45.13N×17.16E, h10km, ML3.0(SZGRF), Error ellipse: s-maj=46.9km s-min=10.0km az=156.0*
*IPEC **26** 15:52:30.2±0.5, 44.94N×17.12E, h26km±3km, ML2.2/2, Error ellipse: s-maj=3.1km s-min=2.4km az=13.0*

ISC 26 15:52:27.1±0.4, 44.97N±0.03×17.21E±0.03, h10km, n41, σ1§11/70, 4C-10D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RHK3	**Tenkes**	**1.17**	**38**	⇓*i*P	**Pb**	**15 52 49.7**	**+0.7**
RHK3				*e*S	**Sb**	**15 53 06.1**	**+2.1**
	37nm,0.2s						
RHK1	**Bakonya**	**1.27**	**28**	⇑*i*P	**Pb**	**15 52 51.5**	**+0.8**
RHK1				*e*S	**Sb**	**15 53 08.9**	**+1.9**
BOJS	**Bojanci**	**1.48**	**292**	*i* Pn	**Pn**	**15 52 54.1**	**+0.1**
BOJS				*i* Sn	**Sn**	**15 53 13.5**	**0.0**
CRES	**Cresnjev**	**1.50**	**305**	*i* Pn	**Pn**	**15 52 54.6**	**+0.3**
CRES				*i* Sn	**Sn**	**15 53 15.8**	**+1.7**
CRES	**Cresnjev**	**1.50**	**305**	*i* Pn	**Pn**	**15 52 54.6**	**+0.3**
CRES				*i* Sn	**Sn**	**15 53 15.8**	**+1.8**
CRES				*e*Sg	**Sg**	**15 53 17.4**	**+0.2**
PKSM	**Moragy**	**1.59**	**38**	⇓*i*P	**Pn**	**15 52 55.4**	**-0.2**
PKSM	**Moragy**	**1.59**	**38**	Pg	**Pg**	**15 52 58.2**	**-0.8**
PKSM				*e*S	**Sb**	**15 53 18.3**	**+2.0**
NVLJ	**Novalja**	**1.72**	**257**	*i* Pn	**Pn**	**15 52 57.9**	**+0.6**
NVLJ				*i* Sn	**Sn**	**15 53 20.4**	**+0.9**
NVLJ	**Novalja**	**1.72**	**257**	⇑*i*Pn	**Pn**	**15 52 57.9**	**+0.6**
NVLJ				*i* Sn	**Sn**	**15 53 20.4**	**+0.9**
PKS9	**Tamasi**	**1.78**	**24**	⇓*i*P	**Pn**	**15 52 58.5**	**+0.3**
PKS9				*e*S	**Sn**	**15 53 22.0**	**+1.0**
CEY	**Cerknica**	**2.11**	**292**	*e*Sg	**Sg**	**15 53 33.5**	**-3.9**
STON	**Ston**	**2.13**	**170**	*i* Pn	**Pn**	**15 53 02.8**	**-0.5**
STON				*i* Sn	**Sn**	**15 53 29.3**	**-0.7**
STON	**Ston**	**2.13**	**170**	*i* Pn	**Pn**	**15 53 02.7**	**-0.6**
PKS8	**Sarbogard**	**2.16**	**28**	⇓*i*P	**Pn**	**15 53 03.4**	**-0.3**
PKS8				*e*S	**Sn**	**15 53 29.1**	**-1.7**
	1.4nm,0.2s						
DIVS	**Divcibare**	**2.17**	**113**	⇓*i*P	**Pn**	**15 53 02.3**	**-1.5**
PERS	**Pernice**	**2.22**	**319**	*i* Pn	**Pn**	**15 53 04.8**	**+0.3**
PERS				*i* Sn	**Sn**	**15 53 31.1**	**-1.1**
NVSS	**Nova Varos 2**	**2.31**	**128**	⇓*i*P	**Pn**	**15 53 06.3**	**+0.5**
OBKA	**Obir**	**2.42**	**310**	⇓*i*Pn	**Pn**	**15 53 07.9**	**+0.6**
OBKA				*i* Sn	**Sn**	**15 53 38.2**	**+0.9**
OBKA				*e*Sg	**Sg**	**15 53 45.0**	**-2.6**
PKSG		**2.55**	**18**	⇓*e*P	**Pn**	**15 53 10.2**	**+0.9**
ARSA	**Arzberg**	**2.56**	**335**	⇓*i*PN	**Pn**	**15 53 10.1**	**+0.7**
ARSA				*i* SN	**Sn**	**15 53 41.7**	**+0.7**
VOY	**Vojsko**	**2.56**	**296**	*e*Pn	**Pn**	**15 53 13.3**	**+3.9**
VOY				*e*		15 53 15.8	
VOY				*e*Sn	**Sn**	**15 53 43.1**	**+2.1**
GORS	**Gorjuse**	**2.63**	**302**	*e*Pn	**Pn**	**15 53 10.3**	**0.0**
GORS				*i* Sn	**Sn**	**15 53 52.1**	**+9.5**
ZST	**Bratislava**	**3.23**	**359**	*i* PN	**Pn**	**15 53 19.2**	**+0.3**
MOA	**Molln**	**3.53**	**326**	⇑*i*PN	**Pn**	**15 53 23.7**	**+0.6**
MOA				*i* SN	**Sn**	**15 54 05.5**	**+0.1**
MOA	**Molln**	**3.53**	**326**	*e*Pn	**Pn**	**15 53 24.0**	**+0.9**
MOA				*i* Sn	**Sn**	**15 54 05.5**	**+0.1**
SMOL	**Smolenice**	**3.54**	**2**	*e*PN	**Pn**	**15 53 23.4**	**0.0**
VYHS	**Vyhne**	**3.69**	**17**	*i* PN	**Pn**	**15 53 25.7**	**+0.2**
VYHS				*e*SN	**Sn**	**15 54 07.2**	**-2.4**
KOLL	**Kolacno**	**3.70**	**12**	*e*Pn	**Pn**	**15 53 25.5**	**-0.1**
JAVC	**Velka Javorina**	**3.90**	**4**	*e*Pn	**Pn**	**15 53 29.1**	**+0.7**
BARS	**Barje**	**3.97**	**121**	⇓*i*P	**Pn**	**15 53 27.5**	**-1.9**
KRUC	**Moravsky**	**4.13**	**353**	*e*Pn	**Pn**	**15 53 31.2**	**-0.5**
KRUC				*e*Sn	**Sn**	**15 54 19.7**	**-0.9**
	3.1nm,0.3s						
VRAC	**Vranov**	**4.36**	**355**	*e*Pn	**Pn**	**15 53 34.3**	**-0.7**
WTTA	**Wattenberg**	**4.50**	**303**	⇑*i*PN	**Pn**	**15 53 36.7**	**-0.3**
WTTA				*i* SN	**Sn**	**15 54 30.7**	**+0.6**
GEC2	**GERESS Array S**	**4.56**	**329**	*e*Pn	**Pn**	**15 53 38.1**	**+0.3**
GEC2				*e*Sn	**Sn**	**15 54 29.3**	**-2.2**
MORC	**Moravsky Berou**	**4.81**	**3**	*e*Pn	**Pn**	**15 53 41.3**	**-0.1**
MORC				*e*Sn	**Sn**	**15 54 34.4**	**-3.5**
MORC	**Moravsky Berou**	**4.81**	**3**	*e*Pn	**Pn**	**15 53 41.3**	**-0.1**
MORC				*e*Sn	**Sn**	**15 54 36

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
JUA2				S	Sn	16 02 49.0	+1.7
VC1	**Cotopaxi 1**	**2.46**	**72**	⇑P	Pn	16 02 20.8	+2.6
TERV	**Terraza Guagua**	**2.46**	**60**	⇓P	Pn	16 02 19.8	+1.6
TERV				S	Sn	16 02 47.9	+0.1
PINO	**Pino**	**2.47**	**60**	P	Pn	16 02 18.9	+0.7
GGP	**Refugio Guagua**	**2.47**	**60**	P	Pn	16 02 19.1	+0.8
TAMB	**Tambo**	**2.48**	**73**	P	Pn	16 02 21.1	+2.7
YANA	**Yana**	**2.52**	**59**	P	Pn	16 02 20.0	+1.0
YANA				S	Sn	16 02 49.0	-0.3
JOR1	**San Jorge 1**	**2.52**	**56**	⇑P	Pn	16 02 17.7	-1.4
JOR1				S	Sn	16 02 44.8	-4.6
ANTI	**Antisana**	**2.75**	**70**	P	Pn	16 02 25.1	+2.8
ANTI				S	Sn	16 02 56.4	+1.3
COTA	**Cotacachi**	**2.96**	**54**	P	Pn	16 02 27.1	+1.8
COTA				S	Sn	16 03 02.6	+2.1
CAYR	**Refugio Cayambi**	**3.08**	**63**	P	Pn	16 02 30.4	+3.5
CAYR				S	Sn	16 03 06.9	+3.5
CAYA	**Cayambe**	**3.12**	**62**	P	Pn	16 02 30.5	+3.0
CAYA				S	Sn	16 03 07.0	+2.6
LORE	**San Lorenzo**	**3.29**	**35**	P	Pn	16 02 30.8	+0.9
CONE	**Cono NE Rev Vo**	**3.37**	**67**	P	Pn	16 02 36.0	+4.9
ECOPE	**Copete-Rev Vol**	**3.38**	**68**	P	Pn	16 02 34.6	+3.4
ECEN	**Cerro Negro**	**3.55**	**51**	P	Pn	16 02 35.6	+2.0

*BJI **26** 16:09:26.2,51.90N×175.80E,h29km,mB4.9,mb4.8, Ms4.1,Msz3.7*
*MOS **26** 16:09:27.3±1.0,51.84N×176.34E,h50km,mb5.0/26,Error ellipse: s-maj=11.1km s-min=6.8km az=105.5*
*NEIC **26** 16:09:28.5±0.5,51.76N×176.24E,h48km±4km,mb4.7/39, ML4.7(AEIC),Error ellipse: s-maj=7.6km s-min=3.6km az=185.0*
*IDC **26** 16:09:29.4±2.0,51.77N×176.39E,h58km±16km,mb4.1/20, mb1 4.3/21,mb1mx4.3/25,mbtmp4.4/21,MS3.8/16, Ms1 3.8/16,ms1mx3.7/25,Error ellipse: s-maj=19.3km s-min=10.4km az=179.0*

ISC 26 16:09:25.8±0.3,51.69N±0.06×176.25E±0.04,h39km, h39km±2.6km:pP-P,n181,σ1§07/182,mb4.6/72,MS3.8/21, 6C-5D,Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMY	**Shemya**	**1.68**	**309**	P	**P**	**16 09 55.0**	**+1.7**
SMY				S	**S**	**16 10 16.0**	**+2.2**
FX1	**Attu Island--F**	**2.24**	**303**	P	**P**	**16 10 02.6**	**+1.4**
	286nm,0.3s,baz=211,slow=7.0,SNR=261						
FX1				S	**S**	**16 10 32.6**	**+4.8**
	539nm,0.3s,baz=269,slow=21,SNR=14						
FX1	**Attu Island--F**	**2.24**	**303**	P	**P**	**16 10 02.9**	**+1.7**
KIMD	**Kanaga Island**	**4.05**	**86**	P	**P**	**16 10 28.3**	**+1.3**
KIKV	**Kanaga Island**	**4.09**	**85**	P	**P**	**16 10 28.7**	**+1.0**
KIWB	**Kanaga Island**	**4.11**	**85**	*e*P	**P**	**16 10 25.8**	**-2.0**
GSTD	**Great Sitkin T**	**4.73**	**83**	P	**P**	**16 10 38.2**	**+1.6**
GSTR	**Great Sitkin T**	**4.78**	**82**	*e*P	**P**	**16 10 37.5**	**+0.1**
GSMY	**Great Sitkin M**	**4.79**	**83**	P	**P**	**16 10 38.7**	**+1.2**
ATKA	**Atka Island**	**5.94**	**81**	P	**P**	**16 10 53.9**	**+0.4**
NIKO	**Nikolski**	**9.22**	**76**	*e*P	**P**	**16 11 38.9**	**-0.3**
PET	**Petropavlovsk**	**10.84**	**284**	*e*P	**P**	**16 11 57.8**	**-3.6**
PET				*e*S	**S**	**16 13 56.5**	**-6.0**
PET				pmax	pmax		
	comp=Z,200nm,3.1s						
PET				pmax	pmax		
	comp=Z,27nm,1.1s						
PET				smax			
	comp=E,38nm,0.6s						
PET				MLR	MLR		
	comp=Z,200nm,15.0s						
MA2	**Magadan**	**16.32**	**309**	P	**P**	**16 13 12.1**	**-1.3**
	comp=Z,15nm,0.9s						
MA2	**Magadan**	**16.32**	**309**	*ce*P	**P**	**16 13 19.5**	**+6.2**
MA2				*e*S	**S**	**16 16 19.5**	**+6.8**
MA2				pmax	pmax		
	comp=Z,20nm,0.9s						
MA2				MLR	MLR		
	comp=Z,60nm,18.0s						
SEY	**Seymchan**	**16.99**	**321**	⇑*e*P	**P**	**16 13 23.7**	**+2.0**
BILL	**Bilibino**	**17.11**	**347**	*e*P	**P**	**16 13 24.1**	**+1.0**
	comp=Z,18nm,1.0s						
BILL	**Bilibino**	**17.11**	**347**	*d i*P	**P**	**16 13 25.9**	**+2.8**
KDAK	**Kodiak Island**	**18.88**	**59**	*e*P	**P**	**16 13 41.8**	**-3.4**
	comp=Z,27nm,0.8s						
RSO	**Redoubt South**	**19.23**	**51**	*e*P	**P**	**16 13 49.2**	**+0.1**
SPU	**Mount Spurr**	**19.74**	**49**	*e*P	**P**	**16 13 54.6**	**-0.1**
SLKM	**Skilak Lake**	**20.47**	**51**	*e*P	**P**	**16 14 01.9**	**-0.5**
IMA	**Indian Mountai**	**20.89**	**35**	*e*P	**P**	**16 14 06.0**	**-0.7**
	comp=Z,136nm,1.0s						
IMA	**Indian Mountai**	**20.89**	**35**	*e*P	**P**	**16 14 06.0**	**-0.7**
IMA				pmax	pmax		
	comp=Z,136nm,1.0s						
SML	**Sawmill**	**21.62**	**48**	*e*P	**P**	**16 14 12.8**	**-1.3**
MCK	**McKinley**	**21.83**	**43**	*e*P	**P**	**16 14 15.8**	**-0.4**
	comp=Z,12nm,1.1s,mb4.2						
MCK	**McKinley**	**21.83**	**43**	*e*P	**P**	**16 14 15.8**	**-0.4**
MCK				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.2						
YSS	**Yuzh-Sakhalins**	**22.21**	**271**	*e*P	**P**	**16 14 22.1**	**+2.0**
YSS				*e*		16 14 38.8	
YSS				pmax	pmax		
	comp=Z,20nm,0.9s,mb4.5						
EYAK	**Cordova Ski Ar**	**22.66**	**52**	*e*P	**P**	**16 14 25.4**	**+1.1**
DIV	**Divide**	**22.72**	**51**	*e*P	**P**	**16 14 25.5**	**+0.6**
	comp=Z,48nm,0.5s,mb5.2						
ILAR	**Eielson Array**	**22.99**	**41**	P	**P**	**16 14 25.9**	**-1.6**
	comp=Z,3.4nm,0.7s,mb3.9,baz=239,slow=9.8,SNR=26						
ILAR				LR	LR	16 23 15.9	
	comp=Z,155nm,19.5s,MS3.5,baz=26,slow=36						
ASAJ	**Asahikawa**	**23.63**	**265**	P	**P**	**16 14 36.9**	**+3.0**
	comp=Z,17nm,0.7s,mb4.6,baz=74,slow=5.6,SNR=11						
ASAJ				LR	LR	16 24 38.8	
	comp=Z,64nm,18.8s,MS3.1,baz=350,slow=38						
ASAJ	**Asahikawa**	**23.63**	**265**	P	**P**	**16 14 36.9**	**+3.0**
ASAJ				pmax	pmax		
	comp=Z,17nm,0.7s						
ASAJ				MLR	MLR		
	comp=Z,64nm,18.8s						
DAWY	**Dawson**	**26.03**	**44**	*e*P	**P**	**16 14 55.8**	**-0.8**
YAK	**Yakutsk**	**26.88**	**311**	*i* P	**P**	**16 15 03.3**	**-1.1**
YAK				pmax	pmax		
	comp=Z,48nm,0.9s,mb5.0						
INK	**Inuvik**	**29.01**	**36**	P	**P**	**16 15 23.4**	**-0.1**
	comp=Z,1.3nm,0.5s,mb3.9,baz=258,slow=15,SNR=9.5						
INK				LR	LR	16 27 27.9	
	comp=Z,113nm,20.9s,MS3.5,baz=76,slow=37						
INK	**Inuvik**	**29.01**	**36**	*e*P	**P**	**16 15 22.8**	**-0.7**
	comp=Z,5.3nm,0.8s,mb4.3						
INK	**Inuvik**	**29.01**	**36**	*e*P	**P**	**16 15 22.8**	**-0.8**
INK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
DLBC	**Dease Lake**	**30.76**	**56**	P	**P**	**16 15 40.1**	**+0.8**
MJAR	**Matsushiro Arr**	**30.82**	**256**	LR	LR	16 26 12.4	
	comp=Z,90nm,19.4s,MS3.4,baz=35,slow=32						
MDJ	**Mudanjiang**	**31.46**	**276**	P	**P**	**16 15 43.5**	**-2.1**
MDJ				XP	sP	16 16 00.0	-1.6
MDJ				PCP	PcP	16 18 36.5	-1.7
MDJ				S	**S**	**16 20 47.5**	**-2.1**
MDJ				XS		16 21 06.5	
MDJ				PCS		16 22 21.0	
MDJ				AMB	AMB		
	comp=Z,95nm,3.6s						
MDJ				LR	LR		
	comp=N,99nm,31.6s,MS3.3						
MDJ				LR	LR		
	comp=E,43nm,32.1s,MS3.3						
MDJ				LR	LR		
	comp=Z,90nm,35.8s,MS3.2						
CN2	**Changchun**	**34.44**	**277**	*e*P	**P**	**16 16 11.0**	**-0.5**
BOD	**Bodaibo**	**35.29**	**305**	*e*P	**P**	**16 16 17.3**	**-1.2**
BOD				pmax	pmax		
	comp=Z,21nm,0.8s,mb5.1						
YKA	**Yellowknife Ar**	**37.25**	**46**	P	**P**	**16 16 34.9**	**-0.1**
	comp=Z,7.0nm,0.7s,mb4.6,baz=288,slow=8.5,SNR=14						
YKA	**Yellowknife Ar**	**37.25**	**46**	P	**P**	**16 16 34.9**	**-0.1**
CIT	**Chita**	**37.65**	**296**	*e*P	**P**	**16 16 38.8**	**+0.3**
CIT				*e*		16 16 56.5	
CIT				pmax	pmax		
	comp=Z,37nm,1.9s,mb4.8						
EDM	**Edmonton**	**41.34**	**59**	*e*P	**P**	**16 17 08.9**	**-0.1**
NEW	**Newport**	**41.65**	**67**	P	**P**	**16 17 12.5**	**+0.9**
ULN	**Ulaanbaatar**	**43.32**	**293**	*e*P	**P**	**16 17 26.0**	**+0.7**
	comp=Z,4.8nm,0.8s,mb4.3						
ULN	**Ulaanbaatar**	**43.32**	**293**	⇑*e*P	**P**	**16 17 25.9**	**+0.6**
BMO	**Blue Mountains**	**43.36**	**72**	P	**P**	**16 17 25.8**	**+0.2**
	comp=Z,1.1nm,0.6s,mb3.8						
SONM	**Songino Array**	**43.71**	**294**	P	**P**	**16 17 29.2**	**+0.8**
	comp=Z,5.7nm,0.6s,mb4.5,baz=58,slow=8.6,SNR=63						
SONM				ScP		16 23 02.6	
	comp=Z,1.6nm,1.0s,baz=66,slow=3.4,SNR=8.4						
SONM				LR	LR	16 36 32.2	
	comp=Z,98nm,19.3s,MS3.7,baz=60,slow=37						
SONM	**Songino Array**	**43.71**	**294**	P	**P**	**16 17 29.2**	**+0.8**
SONM				ScP		16 23 02.6	
SONM				LR	LR	16 36 32.2	
WVOR	**Wild Horse Val**	**43.94**	**75**	*e*P	**P**	**16 17 31.1**	**+0.7**
	comp=Z,3.5nm,0.8s,mb4.1						
ZAK	**Zakamensk**	**44.11**	**298**	⇑*e*P	**P**	**16 17 25.2**	**-6.4**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.3s,mb3.4						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb3.7						
MOY	**Mondy**	**44.68**	**301**	*e*P	**P**	**16 17 34.9**	**-1.3**
SSE	**Sheshan**	**44.92**	**265**	P	**P**	**16 17 36.8**	**-1.6**
SSE				XP	sP	16 17 53.0	-1.4
SSE				PP	PP	16 19 21.8	-2.6
SSE				SCP		16 23 07.3	
SSE				S	**S**	**16 24 11.8**	**-1.3**
SSE				XS		16 24 31.0	
SSE				SCS	ScS	16 27 30.8	+1.0
SSE				AMB	AMB		
	comp=Z,24nm,0.6s,mb5.2						
SSE				AMB	AMB		
	comp=Z,64nm,5.0s						
SSE				LR	LR		
	comp=N,28nm,25.9s,MS3.2						
SSE				LR	LR		
	comp=E,31nm,26.1s,MS3.2						
SSE				LR	LR		
	comp=Z,38nm,23.4s,MS3.2						
SSE	**Sheshan**	**44.92**	**265**	P	**P**	**16 17 36.8**	**-1.6**
	comp=Z,24nm,0.6s,mb5.2						
SSE				sP	sP	16 17 53.0	-1.4
SSE				PP	PP	16 19 21.8	-2.6
SSE				ScP		16 23 07.2	
SSE				S	**S**	**16 24 11.8**	**-1.3**
SSE				sS		16 24 30.9	
SSE				ScS	ScS	16 27 30.8	+1.0
SSE				LR	LR		
	comp=Z,40nm,23.4s,MS3.3						
HRY	**Holter Researc**	**45.51**	**66**	*e*P	**P**	**16 17 43.7**	**+0.8**
NJ2	**Nanjing**	**45.72**	**268**	*e*P	**P**	**16 17 45.0**	**+0.3**
NJ2				AP	pP	16 17 56.3	+0.4
NJ2				XP	sP	16 18 01.8	+1.1
NJ2				PP	PP	16 19 29.8	-2.5
NJ2				S	**S**	**16 24 23.0**	**-1.5**
NJ2				XS		16 24 42.0	
NJ2				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,70nm,4.7s						
NJ2				LR	LR		
	comp=N,260nm,20.2s,MS4.3						
NJ2				LR	LR		
	comp=E,260nm,23.8s,MS4.3						
NJ2				LR	LR		
	comp=Z,140nm,17.6s						
BOZ	**Bozeman (W)**	**46.23**	**68**	*e*P	**P**	**16 17 45.7**	**-2.9**
	comp=Z,2.6nm,0.6s,mb4.3						
NVAR	**Mina Array Bea**	**46.56**	**80**	P	**P**	**16 17 51.5**	**+0.3**
	comp=Z,1.6nm,0.7s,mb4.1,baz=298,slow=7.7,SNR=14						
ELK	**Elko**	**47.00**	**75**	*e*P	**P**	**16 17 54.2**	**-0.4**
LKWY	**Lake**	**47.56**	**68**	*e*P	**P**	**16 18 00.6**	**+1.5**
IMW	**Indian Meadow**	**47.65**	**69**	P	**P**	**16 18 01.6**	**+1.9**
DUG	**Dugway**	**48.79**	**74**	P	**P**	**16 18 07.0**	**-1.7**
	comp=Z,3.2nm,0.8s,mb4.4						
DUG	**Dugway**	**48.79**	**74**	P	**P**	**16 18 07.0**	**-1.7**
DUG				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
BW06	**Boulder Array**	**49.13**	**70**	*e*P	**P**	**16 18 11.3**	**+0.1**
	comp=Z,2.1nm,0.8s,mb4.2						
PDAR	**Pinedale Array**	**49.13**	**70**	P	**P**	**16 18 09.7**	**-1.6**
	comp=Z,1.8nm,0.7s,mb4.2,baz=319,slow=3.3,SNR=15						
MSU	**Marysvale**	**50.23**	**76**	*e*P	**P**	**16 18 19.1**	**-0.7**
TMUT	**Trail Mountain**	**50.32**	**74**	P	**P**	**16 18 22.0**	**+1.6**
LDFC	**Landfair**	**50.68**	**81**	*e*P	**P**	**16 18 22.6**	**-0.6**
SRU	**San Rafael**	**50.84**	**74**	P	**P**	**16 18 25.1**	**+0.7**
ZAL	**Zalesovo**	**51.55**	**311**	P	**P**	**16 18 28.3**	**-1.2**
	comp=Z,1.3nm,0.4s,mb4.2,baz=38,slow=8.0,SNR=6.4						
ZAL				LR	LR	16 43 44.3	
	comp=Z,134nm,18.6s,MS4.0,baz=318,slow=40						
NVS	**Novosibirsk**	**51.72**	**313**	*i* P	**P**	**16 18 29.3**	**-1.5**
NVS				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
NVS				pmax	pmax		
	comp=N,9.0nm,1.5s						
NVS				pmax	pmax		
	comp=E,11nm,1.5s						
ULM	**Lac du Bonnet**	**52.06**	**54**	P	**P**	**16 18 32.0**	**-1.4**
	comp=E,1.5nm,0.4s,mb4.3,baz=314,slow=7.4,SNR=6.0						
ULM				LR	LR	16 41 45.6	
	comp=E,68nm,18.4s,MS3.7,baz=340,slow=37						
LZH	**Lanzhou**	**52.31**	**283**	*e*P	**P**	**16 18 36.5**	**+1.1**
LZH				AP	pP	16 18 46.5	-0.3
LZH				XP	sP	16 18 50.0	-1.5
LZH				AMB	AMB		
	comp=Z,23nm,1.0s,mb5.1						
LZH	**Lanzhou**	**52.31**	**283**	*e*P	**P**	**16 18 36.5**	**+1.1**
	comp=Z,23nm,1.0s,mb5.1						
LZH				pP	pP	16 18 46.5	-0.3
LZH				sP	sP	16 18 50.0	-1.5
LZH	**Lanzhou**	**52.31**	**283**	*e*P	**P**	**16 18 36.5**	**+1.1**
LZH				*SP	sP	16 18 50.0	-1.5
LZH				pmax	pmax		
	comp=Z,23nm,1.0s,mb5.1						
GTA	**Gaotai**	**52.55**	**288**	P	**P**	**16 18 37.5**	**+0.3**
GTA				AP	pP	16 18 49.0	+0.4
GTA				XP	sP	16 18 54.0	+0.8
GTA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
GTA				AMB	AMB		
	comp=Z,65nm,13.0s						
GTA				LR	LR		
	comp=N,122nm,22.2s,MS4.1						
GTA				LR	LR		
	comp=E,159nm,22.9s,MS4.1						
GTA				LR	LR		
	comp=Z,109nm,23.7s,MS3.8						
SUMG	**Summit**	**53.70**	**12**	*e*P	**P**	**16 18 44.0**	**-1.3**
	comp=Z,11nm,0.6s,mb5.0						
SDCO	**Great Sand Dun**	**54.72**	**72**	*e*P	**P**	**16 18 53.0**	**-0.2**
ANMO	**Albuquerque**	**56.03**	**75**	LR	LR	16 39 41.3	
	comp=Z,64nm,21.8s,MS3.7,slow=32						
KURK	**Kurchatov**	**56.52**	**311**	*e*P	**P**	**16 19 04.6**	**-1.5**
	comp=Z,42nm,0.9s,mb5.5						
KURK	**Kurchatov**	**56.52**	**311**	*e*P	**P**	**16 19 04.6**	**-1.5**
KURK				pmax	pmax		
	comp=Z,42nm,0.9s,mb5.5						
WMQ	**Urumqi**	**56.54**	**300**	P	**P**	**16 19 07.0**	**+0.7**
WMQ				AP	pP	16 19 20.0	+2.2
WMQ				PP	PP	16 21 14.0	+0.3
WMQ				S	**S**	**16 26 53.0**	**-0.3**
WMQ				SCS	ScS	16 28 49.0	+0.5
WMQ				SS	SS	16 30 41.0	-0.5
WMQ				AMB	AMB		
	comp=Z,18nm,1.0s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,142nm,6.0s						
WMQ				LR	LR		
	comp=N,148nm,16.0s,MS4.3						
WMQ				LR	LR		
	comp=E,121nm,15.0s,MS4.3						
WMQ				LR	LR		
	comp=Z,178nm,16.0s,MS4.3						
KEV	**Kevo**	**56.80**	**348**	*ep*	**P**	**16 19 05.3**	**-2.5**
	comp=Z,7.3nm,0.9s,mb4.7						
KEV	**Kevo**	**56.80**	**348**	*e*P	**P**	**16 19 05.3**	**-2.5**
KEV				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
ARCES	**ARCESS Array B**	**57.20**	**348**	P	**P**	**16 19 09.1**	**-1.6**
	comp=Z,7.9nm,0.8s,mb4.8,baz=26,slow=7.9,SNR=28						
ARCES				LR	LR	16 44 17.0	
	comp=Z,110nm,19.3s,MS4.0,baz=184,slow=36						
ARCES	**ARCESS Array B**	**57.20**	**348**	P	**P**	**16 19 09.1**	**-1.6**
ARCES				LR	LR	16 44 17.0	
MKAR	**Makanchi Array**	**57.37**	**306**	P	**P**	**16 19 10.6**	**-1.6**
	comp=Z,5.6nm,0.7s,mb4.7,baz=51,slow=5.9,SNR=36						
MKAR				LR	LR	16 44 45.5	
	comp=Z,189nm,19.9s,MS4.2,baz=0.8,slow=37						
MKAR	**Makanchi Array**	**57.37**	**306**	P	**P**	**16 19 10.6**	**-1.6**
MKAR				LR	LR	16 44 45.5	
MKAR	**Makanchi Array**	**57.37**	**306**	*i* P	**P**	**16 19 10.7**	**-1.5**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.5s						
BVA0	**Borovoye Array**	**58.60**	**317**	*i* P	**P**	**16 19 19.9**	**-0.8**
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
BRVK	**Borovoye**	**58.62**	**317**	*e*P	**P**	**16 19 19.7**	**-1.1**
	comp=Z,14nm,0.7s,mb5.1						
BRVK	**Borovoye**	**58.62**	**317**	*e*P	**P**	**16 19 19.7**	**-1.1**
BRVK				pmax	pmax		
	comp=Z,14nm,0.7s,mb5.1						
MNTX	**Cornudas Mount**	**58.92**	**77**	*e*P	**P**	**16 19 22.2**	**-1.1**
	comp=Z,2.1nm,0.9s,mb4.2						
SVE	**Sverdlovsk**	**59.61**	**325**	*e*P	**P**	**16 19 27.0**	**-0.6**
SVE				*e*	pP	16 19 37.0	-2.1
SVE				pmax	pmax		
	comp=Z,40nm,1.5s,mb5.2						
KMI	**Kunming**	**60.62**	**274**	P	**P**	**16 19 36.0**	**+1.1**
KMI				AMB	AMB		
	comp=Z,4.0nm,1.1s,mb4.5						
KMI	**Kunming**	**60.62**	**274**	P	**P**	**16 19 36.0**	**+1.1**
	comp=Z,4.0nm,1.1s,mb4.5						
ARU	**Arti**	**60.65**	**326**	⇑*i* P	**P**	**16 19 34.2**	**-0.5**
ARU				*e*		16 20 19.0	
ARU				*e*		16 21 45.6	
ARU				*e*S	**S**	**16 27 45.3**	**-1.3**
ARU				*e*SS	SS	16 31 47.0	+0.3
ARU				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.2						
SCHQ	**Schefferville**	**61.62**	**36**	P	**P**	**16 19 39.4**	**-1.9**
	comp=Z,6.0nm,0.9s,mb4.7,baz=318,slow=5.4,SNR=6.6						
TXAR	**Lajitas Array**	**61.64**	**78**	P	**P**	**16 19 41.2**	**-0.6**
	comp=Z,2.0nm,0.4s,mb4.6,baz=302,slow=4.7,SNR=15						
TXAR				LR	LR	16 43 43.0	
	comp=Z,49nm,20.0s,MS3.7,baz=260,slow=33						
JOF	**Joensuu**	**62.44**	**343**	*ep*	**P**	**16 19 44.7**	**-2.0**
	comp=Z,9.3nm,0.5s,mb5.2						
KAF	**Kangasniemi**	**64.06**	**345**	*ep*	**P**	**16 19 55.0**	**-2.2**
	comp=Z,7.6nm,0.7s,mb4.8,baz=17,slow=5.9						
KAF	**Kangasniemi**	**64.06**	**345**	*e*P	**P**	**16 19 55.0**	**-2.2**
KAF				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.9						
AAK	**Ala-Archa**	**64.24**	**307**	*e*P	**P**	**16 19 57.6**	**-1.1**
	comp=Z,5.1nm,0.8s,mb4.6						
AAK	**Ala-Archa**	**64.24**	**307**	*e*P	**P**	**16 19 57.6**	**-1.1**
AAK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
LSA	**Lhasa**	**64.40**	**286**	P	**P**	**16 20 01.0**	**+1.1**
FINES	**FINESS Array B**	**64.73**	**345**	P	**P**	**16 20 00.2**	**-1.3**
	comp=Z,3.9nm,0.6s,mb4.6,baz=14,slow=8.8,SNR=20						
FINES				LR	LR	16 49 26.6	
	comp=Z,67nm,19.8s,MS3.8,baz=6.5,slow=37						
AKTO	**Aktyubinsk**	**65.58**	**322**	P	**P**	**16 20 07.1**	**-0.1**
AKTO				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
AB31	**Akbulak array**	**65.76**	**320**	P	**P**	**16 20 08.1**	**-0.3**
AB31				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
KKAR	**Karatay Array**	**65.84**	**309**	*i* P	**P**	**16 20 08.6**	**-0.4**
KKAR				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
NB2	**NORSAR Subarra**	**66.98**	**352**	P	**P**	**16 20 14.9**	**-1.0**
	comp=Z,8.6nm,0.7s,mb4.9,baz=9.0,slow=6.2						
NB2	**NORSAR Subarra**	**66.98**	**352**	P	**P**	**16 20 14.9**	**-1.0**
NB2				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.9						
NOA	**NORSAR Array B**	**66.98**	**352**	P	**P**	**16 20 14.8**	**-1.1**
	comp=Z,9.3nm,0.8s,mb4.9,baz=11,slow=6.4,SNR=25						
NOA				LR	LR	16 49 15.8	
	comp=Z,39nm,18.5s,MS3.6,baz=355,slow=36						
OBN	**Obninsk**	**68.41**	**336**	⇓*e*P	**P**	**16 20 24.6**	**-0.3**
OBN				*e*PP	pP	16 20 39.7	+3.0
OBN				*e*		16 20 49.7	
OBN				*e*S	S	16 29 18.5	-3.7
OBN				pmax	pmax		
	comp=Z,11nm,0.6s,mb5.1						
KKN	**Kakani**	**69.29**	**289**	*e*P	**P**	**16 20 31.5**	**+0.7**
	comp=Z,24nm,0.6s,mb5.3						
KKN	**Kakani**	**69.29**	**289**	*e*P	**P**	**16 20 31.5**	**+0.7**
KKN				pmax	pmax		
	comp=Z,12nm,0.6s,mb5.0						
PKI	**Pulchoki**	**69.37**	**288**	*e*P	**P**	**16 20 32.0**	**+0.6**
	comp=Z,26nm,0.6s,mb5.3						
PKI	**Pulchoki**	**69.37**	**288**	*e*P	**P**	**16 20 32.0**	**+0.6**
PKI				pmax	pmax		
	comp=Z,13nm,0.6s,mb5.0						
GKN	**Gorkha**	**69.51**	**289**	*e*P	**P**	**16 20 32.4**	**+0.2**
	comp=Z,30nm,0.8s,mb5.3						
DMN	**Daman**	**69.53**	**289**	*e*P	**P**	**16 20 32.9**	**+0.6**
	comp=Z,18nm,0.6s,mb5.1						
KOLN	**Koldanda**	**70.29**	**290**	*e*P	**P**	**16 20 33.4**	**-3.5**
AKASG	**Malin Array Be**	**74.22**	**339**	P	**P**	**16 20 59.2**	**-0.5**
	comp=Z,2.7nm,0.4s,mb4.6,baz=23,slow=6.3,SNR=10						
AKASG	**Malin Array Be**	**74.22**	**339**	P	**P**	**16 20 59.2**	**-0.5**
PPT	**Papeete**	**75.14**	**146**	LR	LR	16 46 46.9	
	comp=Z,198nm,21.2s,MS4.4,baz=328,slow=30						
OJC	**Ojcow**	**76.51**	**345**	*e*P	**P**	**16 21 13.1**	**+0.3**
KWP	**Kalwaria**	**76.57**	**343**	*e*P	**P**	**16 21 14.1**	**+0.9**
KIV	**Kislovodsk**	**76.61**	**327**	*e*P	**P**	**16 21 13.9**	**+0.3**
KIV				*e*	pP	16 21 24.6	-0.8
KIV				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
DPC	**Dobruska-Polom**	**76.92**	**347**	*e*P	**P**	**16 21 15.2**	**+0.1**
STHS	**Stebnicka Huta**	**77.04**

comp=Z,1.7nm,0.6s,mb4.2,baz=29,slow=3.4,SNR=7.7
BRTR Keskin Array B 83.29 332 P **P** **16 21 50.1 +0.7**
BRTR pmax pmax
comp=Z,2.0nm,0.6s
ORIF Oris-en-Rattie 83.41 353 *e*P **P** **16 21 50.2 +0.4**
comp=Z,12nm,0.8s,mb4.7
ORIF *e*R
comp=Z,69nm,21.5s
MBDF Montbardon 83.53 352 *e*P **P** **16 21 51.4 +1.0**
comp=Z,14nm,0.9s,mb4.8
VIVF Saint-Julien-l 83.56 354 *e*P **P** **16 21 51.2 +0.7**
LMR La Mourre 84.94 352 *e*P **P** **16 21 58.4 +0.9**
comp=Z,24nm,0.8s,mb5.1
MTLF Montolieu 85.21 356 *e*P **P** **16 21 59.5 +0.7**
comp=Z,9.9nm,0.9s,mb4.6
PGF Pioggiola 85.49 351 *e*P **P** **16 22 01.0 +0.8**
comp=Z,15nm,0.7s,mb5.0
EPF Esparros 85.59 357 *e*P **P** **16 22 02.2 +1.5**
ETSF Etsaut 85.75 358 *e*P **P** **16 22 02.9 +1.4**
comp=Z,6.1nm,0.7s,mb4.6
STKA Stephens Creek 88.60 209 P **P** **16 22 16.4 +0.8**
comp=Z,2.3nm,0.9s,mb4.5,baz=153,slow=6.8,SNR=2.8
MAW Mawson 144.84 218 PKP PKPdf 16 28 57.8 +0.8
comp=Z,11nm,0.9s,baz=65,slow=4.2,SNR=25
MAW Mawson 144.84 218 PKIKP PKPdf 16 28 57.8 +0.8
MAW pmax pmax
comp=Z,11nm,0.9s
BOSA Boshof 148.37 306 PKPbc PKPdf 16 29 09.8 +5.7
comp=Z,6.6nm,1.0s,baz=207,slow=2.3,SNR=3.7
BOSA Boshof 148.37 306 PKPbc PKPdf 16 29 09.8 +5.7
BOSA Boshof 148.37 306 PKP2 PKPdf 16 29 09.8 +5.7
BOSA pmax pmax
comp=Z,7.0nm,1.0s

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*NEIC **26** 16:30:29.4, 15.77N×95.46W, h16km, MD3.7(MEX), After MEX.*
MEX 26 16:30:29.3±0.5, 15.78N×95.47W, h15km±9km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.61**	**269**	*i* P	Pb	16 30 39.2	-2.0
HUIG				*i* S	Sb	16 30 47.3	-2.0
CMIG	**Matias Romero**	**1.42**	**23**	*i* P	Pn	16 30 51.0	-3.7
CMIG				*i* S	Sb	16 31 07.9	-4.7
OXX	**Oaxaca**	**1.77**	**317**	*i* P	Pn	16 30 58.2	-1.5
OXX				*i* S	Sn	16 31 20.2	-1.7
VHO	**Vista Hermosa**	**1.77**	**317**	*e*P	Pn	16 30 56.3	-3.3
VHO				*i* S	Sn	16 31 16.7	-5.2
VHO	**Vista Hermosa**	**1.77**	**317**	*e*P	Pn	16 30 57.3	-2.3
VHO				*i* S	Sn	16 31 16.7	-5.2
EVV	**El Vigia**	**2.66**	**2**	*e*P	Pn	16 31 10.0	-2.5
PPM	**Popocatepetl**	**4.45**	**318**	*e*P	Pn	16 31 40.0	+2.2

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*IDC **26** 16:30:50.6±1.6, 24.01S×66.90W, h141km±40km, mb1 3.3/6, mb1mx3.2/19, mbtmp3.7/6, Error ellipse: s-maj=29.4km s-min=23.5km az=95.0*
*NEIC **26** 16:30:50.4±1.0, 24.10S×66.86W, h141km±25km, Error ellipse: s-maj=17.6km s-min=13.5km az=107.0*
ISC 26 16:30:49.5±0.8, 24.07S±0.07×66.9W±0.1, h153km±23km, n9, σ0§88/13, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.35**	**308**	P	**P**	**16 31 29.9**	**+0.5**
	5.7nm,0.3s,baz=142,slow=7.9,SNR=110						
LVC				S	**S**	**16 31 59.3**	**-0.8**
	21nm,0.3s,baz=321,slow=22,SNR=87						
LVC	**Limon Verde**	**2.35**	**308**	*e*Pn	**P**	**16 31 29.8**	**+0.4**
LVC				S	**S**	**16 31 59.4**	**-0.8**
LVC				*e*Sn	**S**	**16 32 00.1**	**-0.1**
LPAZ	**La Paz**	**7.83**	**351**	P	**P**	**16 32 43.5**	**+2.0**
	0.4nm,0.3s,baz=180,slow=6.1,SNR=4.6						
LPAZ				S	**S**	**16 34 08.4**	**-0.5**
	0.1nm,0.3s,baz=333,slow=16,SNR=2.3						
LPAZ	**La Paz**	**7.83**	**351**	*e*Pn	**P**	**16 32 43.4**	**+1.8**
CPUP	**Villa Florida**	**8.95**	**107**	P	**P**	**16 32 57.1**	**+0.7**
	0.1nm,0.3s,baz=306,slow=14,SNR=5.0						
SIV	**San Ignacio**	**9.72**	**35**	P	**P**	**16 33 05.7**	**-0.9**
	0.4nm,0.3s,baz=234,slow=14,SNR=7.7						
TRQA	**Tornquist**	**14.56**	**164**	*e*Pn	**P**	**16 34 08.0**	**-1.1**
PLCA	**Paso Flores**	**16.90**	**190**	P	**P**	**16 34 38.6**	**+0.5**
	0.2nm,0.3s,baz=336,slow=11,SNR=3.5						
BDFB	**Brasilia**	**19.62**	**68**	P	**P**	**16 35 08.0**	**-0.2**
	0.5nm,0.3s,baz=243,slow=9.5,SNR=6.9						

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*IDC **26** 16:39:30.6±1.1, 53.77N×160.71E, mb4.0/4, mb1 4.2/6, mb1mx3.8/23, mbtmp4.1/6, ML3.8/2, Error ellipse: s-maj=29.6km s-min=16.3km az=10.0*
*NEIC **26** 16:39:32.8±8.0, 53.71N×160.90E, h18km±56km, mb3.7/2, Error ellipse: s-maj=27.1km s-min=9.4km az=154.0*
*KRSC **26** 16:39:33.6±1.1, 53.48N×161.02E, h26km±5km, ML4.4*
*MOS **26** 16:39:33.0±1.4, 53.48N×161.04E, h33km, mb4.4/5, Error ellipse: s-maj=14.9km s-min=8.5km az=75.0*
ISC 26 16:39:33.5±0.5, 53.44N±0.02×161.13E±0.05, h33km, n58, σ1§11/99, mb4.0/6, 1D, Off east of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.75**	**243**	P	**P**	**16 39 47.6**	**0.0**
SPN				S	**S**	**16 39 57.4**	**-0.5**
SPN	**Mys Shipunski**	**0.75**	**243**	*i* P	**P**	**16 39 47.7**	**+0.1**
SPN				*i* S	**S**	**16 39 57.5**	**-0.4**
NLC	**Nalytchevo**	**1.10**	**257**	P	**P**	**16 39 52.5**	**-0.2**
NLC				S	**S**	**16 40 06.6**	**-0.4**
NLC	**Nalytchevo**	**1.10**	**257**	*i* P	**P**	**16 39 52.6**	**-0.1**
NLC				*i* S	**S**	**16 40 06.7**	**-0.3**
KII	**Karymskiy**	**1.17**	**302**	P	**P**	**16 39 52.9**	**-0.7**
KII	**Karymskiy**	**1.17**	**302**	*i* P	**P**	**16 39 52.7**	**-0.9**
KII				*e*S	**S**	**16 40 07.1**	**-1.5**
MKZ	**Mys Kozlova**	**1.18**	**17**	P	**P**	**16 39 53.6**	**-0.1**
MKZ				S	**S**	**16 40 09.1**	**+0.3**
MKZ	**Mys Kozlova**	**1.18**	**17**	*e*P	**P**	**16 39 52.9**	**-0.8**
MKZ				*e*S	**S**	**16 40 06.4**	**-2.4**
SDLR	**Sedlovina**	**1.36**	**264**	*i* P	**P**	**16 39 56.6**	**+0.3**
SDLR				*i* S	**S**	**16 40 13.8**	**+0.4**
UGLR	**Uglovaya**	**1.40**	**262**	*i* P	**P**	**16 39 57.5**	**+0.5**
UGLR				*e*S	**S**	**16 40 14.8**	**+0.3**
SMAR	**Somma**	**1.41**	**264**	*i* P	**P**	**16 39 57.2**	**+0.1**
SMAR				*e*S	**S**	**16 40 14.3**	**-0.4**
AVH	**Avacha**	**1.45**	**264**	*i* P	**P**	**16 39 58.1**	**+0.5**
AVH				*i* S	**S**	**16 40 16.5**	**+0.9**
KOK	**Koryaka**	**1.50**	**265**	*i* P	**P**	**16 39 58.7**	**+0.3**
KOK				*e*S	**S**	**16 40 16.4**	**-0.7**
PET	**Petropavlovsk**	**1.55**	**255**	P	**P**	**16 39 59.3**	**+0.2**
PET				S	**S**	**16 40 18.3**	**+0.1**
PET	**Petropavlovsk**	**1.55**	**255**	*i* P	**Pn**	**16 39 59.1**	**-0.1**
PET				*e*S	**S**	**16 40 18.0**	**-0.2**
PET	**Petropavlovsk**	**1.55**	**255**	*e*Pn	**Pn**	**16 39 58.8**	**-0.4**
PET				*e*Sn	**Sn**	**16 40 16.7**	**-1.7**
PET	**Petropavlovsk**	**1.55**	**255**	⇓*i*PN	**Pn**	**16 39 59.1**	**-0.1**
PET				*i* S	**S**	**16 40 15.7**	**-2.5**
PET				pmax	pmax		
	comp=Z,273nm,0.5s						
PET				smax			
	comp=N,700nm,3.9s						
PET				smax			
	comp=E,857nm,0.5s						
PET				smax			
	comp=N,522nm,0.5s						
RUS	**Russkaya**	**1.88**	**239**	P	**P**	**16 40 03.7**	**-0.1**
RUS				S	**S**	**16 40 26.2**	**-0.3**
RUS	**Russkaya**	**1.88**	**239**	*e*P	**P**	**16 40 03.5**	**-0.3**
RUS				*e*S	**S**	**16 40 25.6**	**-0.9**
KRMR	**Karymshinskiy**	**1.91**	**253**	*e*P	**P**	**16 40 04.5**	**+0.3**
KRMR				*e*S	**S**	**16 40 27.6**	**+0.3**
GNL	**Ganaly**	**1.92**	**279**	*i* P	**P**	**16 40 04.9**	**+0.5**
GNL				*e*S	**S**	**16 40 28.4**	**+0.8**
GRL	**Gorelyy**	**2.05**	**246**	*e*P	**P**	**16 40 07.0**	**+0.7**
GRL				*e*S	**S**	**16 40 31.0**	**+0.1**
KMNR	**Kamenistaya**	**2.38**	**348**	*e*P	**P**	**16 40 11.7**	**+0.7**
KMNR				*e*S	**S**	**16 40 40.5**	**+1.2**
APC	**Apacha**	**2.45**	**259**	*e*P	**P**	**16 40 13.0**	**+1.1**
APC				*e*S	**S**	**16 40 41.9**	**+0.9**
APC				Smax			
	comp=N,240nm,0.8s						
KPT	**Kopyto**	**2.59**	**349**	*e*P	**P**	**16 40 14.9**	**+0.9**
KPT				*e*S	**S**	**16 40 45.6**	**+1.0**
ZLN	**Zelenaya**	**2.59**	**356**	*e*P	**P**	**16 40 15.5**	**+1.5**
ZLN				*e*S	**S**	**16 40 46.0**	**+1.3**
LGNR	**Loginova**	**2.66**	**355**	*e*P	**P**	**16 40 16.4**	**+1.4**
LGNR				*e*S	**S**	**16 40 46.8**	**+0.3**
CIRR	**Tsirk**	**2.69**	**355**	P	**P**	**16 40 17.2**	**+1.7**
CIRR				*e*S	**S**	**16 40 47.9**	**+0.6**
KOZ	**Kozyrevsk**	**2.73**	**345**	P	**P**	**16 40 16.2**	**+0.3**
KOZ				S	**S**	**16 40 47.7**	**-0.4**
KOZ	**Kozyrevsk**	**2.73**	**345**	*e*P	**P**	**16 40 16.4**	**+0.5**
KOZ				*e*S	**S**	**16 40 47.6**	**-0.5**
KOZR	**Kozyr**	**2.73**	**345**	PN	**Pn**	**16 40 16.2**	**0.0**
KOZR				S	**S**	**16 40 47.7**	**-0.5**
KRSR	**Krestovskiy**	**2.81**	**354**	*e*P	**P**	**16 40 17.7**	**+0.6**
KRSR				*e*S	**S**	**16 40 49.9**	**-0.2**
ESO	**Esso**	**2.87**	**331**	*i* P	**P**	**16 40 17.9**	**0.0**
ESO				*e*S	**S**	**16 40 50.4**	**-1.2**
ESO				Smax			
	comp=N,100nm,1.0s						
KLY	**Klyuchi**	**2.90**	**355**	P	**P**	**16 40 18.0**	**-0.3**
KLY				S	**S**	**16 40 51.6**	**-0.8**
KLY	**Klyuchi**	**2.90**	**355**	*e*P	**P**	**16 40 18.1**	**-0.2**
KLY				*e*S	**S**	**16 40 51.6**	**-0.8**
MIPR	**Malaya Ipel'ka**	**2.90**	**248**	*e*P	**P**	**16 40 19.6**	**+1.3**
KBTR	**Krutoberegovo**	**2.94**	**19**	P	**P**	**16 40 20.3**	**+1.3**
KBTR				S	**S**	**16 40 54.6**	**+1.0**
KBTR	**Krutoberegovo**	**2.94**	**19**	*e*P	**P**	**16 40 19.5**	**+0.5**
KBTR				*e*S	**S**	**16 40 53.5**	**-0.1**
SRDR	**Sredinnyy**	**3.00**	**345**	*e*P	**P**	**16 40 18.6**	**-1.2**
SRDR				*e*S	**S**	**16 40 52.4**	**-2.6**
PAU	**Pauzhetka**	**3.30**	**235**	*e*P	**P**	**16 40 26.1**	**+2.0**
PAU				*e*S	**S**	**16 41 04.4**	**+1.8**
PAU				Smax			
	comp=N,240nm,0.8s						
BKI	**Bering**	**3.34**	**56**	*e*P	**P**	**16 40 24.5**	**-0.2**
BKI				*i* S	**S**	**16 40 59.9**	**-3.8**
BKI				Smax			
	comp=N,70nm,0.4s						
SKR	**Severo-Kuril's**	**4.14**	**230**	*e*P	**P**	**16 40 34.0**	**-2.1**
SKR				*e*S	**S**	**16 41 21.2**	**-2.9**
SKR	**Severo-Kuril's**	**4.14**	**230**	*e*PN	**P**	**16 40 34.0**	**-2.1**
SKR				pmax	pmax		
	comp=E,30nm,0.5s						
SKR				pmax	pmax		
	comp=Z,40nm,0.5s						
FX1	**Attu Island--F**	**7.26**	**90**	Pn	**Pn**	**16 41 20.3**	**+0.2**
	comp=Z,7.6nm,0.3s,baz=277,slow=4.1,SNR=16						
FX1				Sn	**Sn**	**16 42 36.2**	**-6.0**
	comp=Z,2.4nm,0.3s,baz=235,slow=22,SNR=4.2						
FX1	**Attu Island--F**	**7.26**	**90**	*e*Pn	**Pn**	**16 41 19.7**	**-0.4**
ASAJ	**Asahikawa**	**15.33**	**240**	Pn	**P**	**16 43 07.2**	**-1.6**
	comp=Z,0.5nm,0.3s,baz=62,slow=12,SNR=5.1						
ASAJ	**Asahikawa**	**15.33**	**240**	P	**P**	**16 43 07.2**	**-1.6**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MAJO	**Matsushiro**	**23.25**	**233**	*e*P	**P**	**16 44 39.7**	**+1.2**
	comp=Z,4.0nm,0.5s,mb4.1						
MAJO	**Matsushiro**	**23.25**	**233**	*e*P	**P**	**16 44 39.7**	**+1.1**
MAJO				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.1						
MJAR	**Matsushiro Arr**	**23.25**	**233**	P	**P**	**16 44 39.5**	**+1.0**
	comp=Z,2.1nm,0.6s,mb3.8,baz=23,slow=11,SNR=5.4						
BOD	**Bodaibo**	**26.53**	**299**	*e*P	**P**	**16 45 05.8**	**-3.8**
BOD				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.0						
ARCES	**ARCESS Array B**	**53.15**	**342**	P	**P**	**16 48 46.5**	**-3.2**
	comp=Z,1.7nm,0.8s,mb4.0,baz=37,slow=9.1,SNR=8.7						
ARCES	**ARCESS Array B**	**53.15**	**342**	P	**P**	**16 48 46.5**	**-3.2**
JOF	**Joensuu**	**57.52**	**335**	*e*p	**P**	**16 49 18.1**	**-3.2**
KAF	**Kangasniemi**	**59.41**	**337**	*e*p	**P**	**16 49 31.6**	**-2.9**
FINES	**FINESS Array B**	**60.05**	**337**	P	**P**	**16 49 36.5**	**-2.4**
	comp=Z,1.3nm,0.4s,mb4.3,baz=33,slow=9.0,SNR=18						
NB2	**NORSAR Subarra**	**63.38**	**344**	P	**P**	**16 49 58.5**	**-2.8**
	comp=Z,0.1nm,0.5s,mb3.2,baz=22,slow=6.5						
NOA	**NORSAR Array B**	**63.38**	**344**	P	**P**	**16 49 57.6**	**-3.7**
	comp=Z,0.7nm,0.6s,mb3.9,baz=18,slow=6.8,SNR=4.0						

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*BJI **26** 16:39:41.7, 8.96N×92.35E, h31km, mB4.8, mb4.8, Ms4.1, Msz3.9*
*MOS **26** 16:39:42.6±0.8, 9.12N×92.50E, h33km, mb4.9/37, Error ellipse: s-maj=15.3km s-min=5.8km az=120.2*
*NEIC **26** 16:39:44.0±0.2, 9.01N×92.34E, mb4.7/47, Error ellipse: s-maj=6.6km s-min=4.1km az=46.0*
*IDC **26** 16:39:44.2±0.4, 9.09N×92.44E, h31km±2km, mb4.4/20, mb1 4.4/20, mb1mx4.3/24, mbtmp4.5/20, MS3.9/9, Ms1 3.9/9, ms1mx3.8/16, Error ellipse: s-maj=19.9km s-min=9.6km az=61.0*
ISC 26 16:39:42.2±0.3, 8.99N±0.04×92.33E±0.03, h31km, h31km±.7km: pP-P, n199, σ1§04/201, mb4.6/77, MS3.9/22, 10C-7D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNT	**Nongplab**	**8.11**	**63**	P	**P**	**16 41 40.0**	**-0.9**
SNG	**Songkhla**	**8.41**	**102**	P	**P**	**16 41 46.0**	**+1.0**
KULM	**Kulim**	**9.04**	**113**	*e*Pn	**P**	**16 41 52.7**	**-1.1**
NST	**Nakhon Sawan**	**10.11**	**48**	P	**P**	**16 42 09.8**	**+1.1**
PALK	**Pallekele**	**11.63**	**262**	*e*Pn	**P**	**16 42 26.9**	**-2.5**
PALK				*e*Sn	**S**	**16 44 26.3**	**-13**
CHG	**Chiang Mai**	**11.69**	**33**	⇓P	**P**	**16 42 31.4**	**+1.3**
	10.0nm,0.8s						
VIS	**Vishakhapatnam**	**12.32**	**316**	*e*P	**P**	**16 42 36.3**	**-2.3**
VIS				*e*S	**S**	**16 44 41.0**	**-15**
VIS				*i* x	x	16 46 27.0	
MDRS	**Chennai**	**12.53**	**290**	*e*x	x	16 46 02.0	
NANT	**Nan**	**12.69**	**39**	P	**P**	**16 42 45.0**	**+1.4**
BWNR	**Bhubaneshwar**	**12.88**	**331**	*e*P	**P**	**16 42 51.2**	**+5.0**
BWNR				*e*S	**S**	**16 45 00.2**	**-9.3**
BWNR				AML	AML	16 45 05.3	
	comp=E,77nm,0.5s						
BWNR				AML	AML	16 45 05.4	
	comp=N,68nm,0.3s						
SALM	**Salem**	**14.15**	**282**	*e*P	**P**	**16 43 06.0**	**+3.1**
SALM				*e*x	x	16 45 26.0	
TRD	**Trivandrum**	**15.20**	**269**	*e*x	x	16 43 24.5	
TRD				*i* x	x	16 46 34.5	
HYB	**Hyderabad**	**15.80**	**303**	*i* P	**P**	**16 43 24.0**	**-0.4**
	comp=N,100nm,1.0s						
HYB				*e*		16 43 29.0	
HYB				*e*S	**S**	**16 46 15.0**	**-3.5**
HYB	**Hyderabad**	**15.80**	**303**	*e*P	**P**	**16 43 24.0**	**-0.4**
	comp=N,100nm,1.0s						
HYB				*e*		16 43 29.0	
HYB				*e*S	**S**	**16 46 15.0**	**-3.5**
BLSP	**Bilaspur**	**16.33**	**324**	*e*P	**P**	**16 43 30.0**	**-1.1**
BLSP				AMb	AMB	16 43 30.5	
	comp=Z,35nm,0.6s						
BLSP				*i* x	x	16 48 07.2	
SHL	**Shillong**	**16.49**	**359**	*e*P	**P**	**16 43 31.5**	**-1.6**
LATR	**Latur**	**17.94**	**303**	*e*P	**P**	**16 43 51.0**	**-0.3**
KMI	**Kunming**	**18.86**	**30**	P	**P**	**16 44 04.0**	**+1.4**
KMI				AP		16 44 12.3	
KMI				XP		16 44 16.3	
KMI				PP	PP	16 44 21.5	+2.7
KMI				PPP	PPP	16 44 32.8	+5.0
KMI				S	**S**	**16 47 32.8**	**+4.5**
KMI				SS	SS	16 47 57.0	+3.5
KMI				AMB	AMB		
	comp=Z,21nm,1.0s						
KMI				AMB	AMB		
	comp=Z,71nm,3.1s						
KMI				LR	LR		
	comp=N,304nm,15.6s						
KMI				LR	LR		
	comp=E,166nm,19.1s						
KMI				LR	LR		
	comp=Z,330nm,19.1s						
KMI	**Kunming**	**18.86**	**30**	P	**P**	**16 44 04.0**	**+1.4**
	comp=Z,21nm,1.0s						
KMI				pP		16 44 12.2	
KMI				sP		16 44 16.2	
KMI				PP	PP	16 44 21.5	+2.7
KMI				PPP	PPP	16 44 32.7	+4.9
KMI				S	**S**	**16 47 32.7**	**+4.4**
KMI				sS		16 47 45.0	
KMI				SS	SS	16 47 56.9	+3.4
KSM	**Kuching**	**19.39**	**112**	*e*P	**P**	**16 44 06.9**	**-1.9**
KAD	**Karad**	**19.49**	**297**	*e*P	**P**	**16 44 11.0**	**+1.1**
PKI	**Pulchoki**	**19.60**	**341**	*e*P	**P**	**16 44 10.6**	**-0.5**
	comp=Z,45nm,0.6s						
QIZ	**Qiongzhong**	**19.69**	**58**	P	**P**	**16 44 11.8**	**-0.3**
QIZ				XP		16 44 24.5	
QIZ				PP	PP	16 44 30.8	+0.4
QIZ				S	**S**	**16 47 48.8**	**+2.0**
QIZ				XS		16 47 56.0	
QIZ				LR	LR		
	comp=N,357nm,17.6s						
QIZ				LR	LR		
	comp=Z,302nm,17.7s						
DMN	**Daman**	**19.74**	**341**	*e*P	**P**	**16 44 12.3**	**-0.3**
	comp=Z,111nm,0.8s						
KKN	**Kakani**	**19.85**	**341**	*e*P	**P**	**16 44 13.3**	**-0.5**
	comp=Z,56nm,0.7s						
BHPL	**Bhopal**	**20.11**	**317**	*e*P	**P**	**16 44 16.8**	**+0.3**
BHPL				AMb	AMB	16 44 20.1	
	comp=Z,29nm,0.9s						
BHPL				*e*x	x	16 47 46.9	
BHPL				*i* x	x	16 51 06.4	
GKN	**Gorkha**	**20.26**	**340**	*e*P	**P**	**16 44 18.1**	**+0.1**
	comp=Z,61nm,0.4s						
POO	**Poona**	**20.28**	**300**	⇑*i*P	**P**	**16 44 18.0**	**-0.3**
	comp=Z,30nm,1.0s						
POO				*i* x	x	16 47 50.0	
KOLN	**Koldanda**	**20.42**	**337**	*e*P	**P**	**16 44 19.0**	**-0.7**
	comp=Z,69nm,0.6s						
LSA	**Lhasa**	**20.63**	**357**	P	**P**	**16 44 22.3**	**+0.4**
LSA	**Lhasa**	**20.63**	**357**	*e*P	**P**	**16 44 22.0**	**+0.1**
	comp=Z,48nm,0.8s						
GYA	**Guiyang**	**22.06**	**36**	P	**P**	**16 44 36.3**	**0.0**
GYA				AP		16 44 45.5	
GYA				XP		16 44 49.5	
GYA				PP	PP	16 45 01.8	-0.7
GYA				S	**S**	**16 48 36.3**	**+3.5**
GYA				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.4						
GYA				AMB	AMB		
	comp=Z,100nm,7.2s						
GYA				LR	LR		
	comp=N,240nm,16.5s,MS3.9						
GYA				LR	LR		
	comp=E,230nm,15.3s,MS3.9						
GYA				LR	LR		
	comp=Z,400nm,14.4s,MS4.0						
SONA	**Sohna**	**23.94**	**325**	AMb	AMB	16 44 58.7	
	comp=Z,64nm,0.7s,mb5.1						
NDI	**New Delhi**	**24.20**	**326**	*e*P	**P**	**16 44 57.0**	**-0.4**
KUDL	**Kundal**	**24.20**	**324**	AMb	AMB	16 44 59.9	
	comp=Z,17nm,0.6s,mb4.6						
CD2	**Chengdu**	**24.28**	**24**	⇓*i*P	**P**	**16 44 57.0**	**-1.1**
CD2				XP		16 45 10.0	
CD2				PP	PP	16 45 35.8	+2.5
CD2				PPP	PPP	16 45 40.5	-3.1
CD2				S	**S**	**16 49 10.3**	**-1.6**
CD2				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.7						
CD2				LR	LR		
	comp=N,190nm,17.6s						
CD2				LR	LR		
	comp=Z,150nm,18.0s,MS3.5						
KHET	**Khetri**	**24.55**	**323**	AMb	AMB	16 45 04.6	
	comp=Z,45nm,1.0s,mb5.0						
ENH	**Enshi**	**26.57**	**35**	*e*P	**P**	**16 45 18.0**	**-1.6**
	comp=Z,32nm,1.0s,mb4.8						
LZH	**Lanzhou**	**28.94**	**20**	*e*P	**P**	**16 45 40.8**	**-0.3**
LZH				AP	pP	16 45 49.5	-0.6
LZH				XP	sP	16 45 52.5	-1.6
LZH				AMB	AMB		
	comp=Z,25nm,1.0s,mb4.9						
LZH				AMB	AMB		
	comp=Z,120nm,4.0s						
LZH				LR	LR		
	comp=N,566nm,16.1s						
LZH				LR	LR		
	comp=Z,859nm,17.0s,MS4.4						
LZH	**Lanzhou**	**28.94**	**20**	*e*P	**P**	**16 45 40.7**	**-0.4**
	comp=Z,25nm,1.0s,mb4.9						
LZH				pP	pP	16 45 49.5	-0.6
LZH				sP	sP	16 45 52.6	-1.5
LZH				LR	LR		
	comp=Z,860nm,17.0s,MS4.4						
XAN	**Xi'an**	**29.23**	**29**	P	**P**	**16 45 41.0**	**-2.7**
XAN				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
GTA	**Gaotai**	**31.02**	**11**	P	**P**	**16 45 59.8**	**+0.3**
GTA				AP	pP	16 46 12.0	+3.4
GTA				PP	PP	16 47 03.8	+1.8
GTA				PPP	PPP	16 47 20.0	+3.0
GTA				PCP	PcP	16 48 53.8	-1.2
GTA				S	**S**	**16 51 02.3**	**+1.0**
GTA				SCP		16 52 31.8	
GTA				PCS		16 52 37.5	
GTA				AMB	AMB		
	comp=Z,27nm,0.8s,mb5.1						
GTA				AMB	AMB		
	comp=Z,82nm,9.9s						
GTA				LR	LR		
	comp=N,112nm,19.1s,MS3.8						
GTA				LR	LR		
	comp=E,158nm,18.3s,MS3.8						
GTA				LR	LR		
	comp=Z,126nm,16.0s,MS3.7						
NJ2	**Nanjing**	**33.64**	**43**	*e*P	**P**	**16 46 23.0**	**+0.6**
NJ2				AP	pP	16 46 32.0	+0.5
NJ2				XP	sP	16 46 35.8	+0.3
NJ2				PP	PP	16 47 34.0	-1.4
NJ2				PPP	PPP	16 47 52.5	-0.2
NJ2				S	**S**	**16 51 49.0**	**+6.9**
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,100nm,6.8s						
NJ2				LR	LR		
	comp=N,350nm,21.8s,MS4.2						
NJ2				LR	LR		
	comp=E,460nm,26.4s,MS4.2						
NJ2				LR	LR		
	comp=Z,280nm,17.7s						
SSE	**Sheshan**	**34.72**	**47**	P	**P**	**16 46 30.8**	**-0.9**
SSE				XP	sP	16 46 43.5	-1.3
SSE				PP	PP	16 47 50.5	+1.4
SSE				PCP	PcP	16 49 02.5	-2.8
SSE				S	**S**	**16 52 00.8**	**+2.0**
SSE				XS		16 52 16.3	
SSE				SCP		16 52 46.0	
SSE				AMB	AMB		
	comp=Z,31nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,28nm,3.1s						
SSE				LR	LR		
	comp=N,66nm,24.4s,MS3.4						
SSE				LR	LR		
	comp=E,55nm,24.7s,MS3.4						
SSE				LR	LR		
	comp=Z,60nm,17.0s						
SSE	**Sheshan**	**34.72**	**47**	P	**P**	**16 46 30.8**	**-0.9**
	comp=Z,31nm,0.7s,mb5.3						
SSE				sP	sP	16 46 43.4	-1.4
SSE				PP	PP	16 47 50.6	+1.5
SSE				PcP	PcP	16 49 02.6	-2.7
SSE				S	**S**	**16 52 00.7**	**+1.9**
SSE				sS		16 52 16.3	
SSE				ScP		16 52 45.9	
SSE				LR	LR		
	comp

HHC SCP 16 52 52.8
HHC SCS ScS 16 56 57.3 +1.5
HHC AMB AMB
comp=Z,15nm,1.0s,mb4.9
HHC AMB AMB
comp=Z,88nm,8.4s
HHC LR LR
comp=N,155nm,15.6s,MS4.1
HHC LR LR
comp=E,200nm,18.0s,MS4.1
HHC LR LR
comp=Z,106nm,13.2s,MS3.8
UCH Uchtor 36.63 338 P **P 16 46 49.7 +1.9**
SNR=11
KBK Karagaybulak 36.84 338 P **P 16 46 51.5 +1.9**
SNR=16
TKM2 Tokmak 2 36.84 339 P **P 16 46 50.9 +1.3**
SNR=8.7
AML Almayashu 36.86 337 P **P 16 46 52.0 +2.3**
SNR=7.9
AAK Ala-Archa 36.99 338 P **P 16 46 52.7 +1.9**
SNR=10
AAK Ala-Archa 36.99 338 *e*P **P 16 46 51.2 +0.4**
comp=Z,12nm,0.9s,mb4.7
EKS2 Erkin-Say 37.28 337 P **P 16 46 55.4 +2.1**
SNR=19
USP Ospenovka 37.53 338 P **P 16 46 56.9 +1.5**
SNR=5.4
MKAR Makanchi Array 38.63 349 P **P 16 47 04.2 -0.4**
comp=Z,17nm,0.7s,mb4.9,baz=165,slow=8.2,SNR=103
MKAR LR LR 17 05 34.7
comp=Z,131nm,21.5s,MS3.7,baz=180,slow=40
MKAR Makanchi Array 38.63 349 *i*P **P 16 47 04.7 +0.1**
MKAR pmax pmax
comp=Z,12nm,0.5s
KKAR Karatay Array 38.98 334 *i*P **P 16 47 08.1 +0.6**
KKAR pmax pmax
comp=Z,7.0nm,0.5s,mb4.7
MBWA Marble Bar 40.28 138 *e*P **P 16 47 18.4 0.0**
comp=Z,3.1nm,0.4s,mb4.4
SONM Songino Array 40.51 15 P **P 16 47 20.4 +0.3**
comp=Z,9.4nm,0.8s,mb4.5,baz=199,slow=7.7,SNR=73
SONM pP pP 16 47 27.9 -1.4
comp=Z,7.1nm,1.0s,baz=208,slow=7.6,SNR=8.2
SONM PcP PcP 16 49 22.9 +0.1
comp=Z,0.7nm,0.7s,baz=227,slow=2.7,SNR=3.0
SONM pPcP 16 49 34.0
comp=Z,3.2nm,0.8s,baz=203,slow=4.6,SNR=4.6
SONM LR LR 17 07 39.2
comp=Z,138nm,18.1s,MS3.9,baz=204,slow=42
ULN Ulaanbaatar 40.70 15 *e*P **P 16 47 21.7 0.0**
comp=Z,7.2nm,0.9s,mb4.3
ULN Ulaanbaatar 40.70 15⇑*e*P **P 16 47 21.9 +0.2**
ZAK Zakamensk 42.25 10 *e*P **P 16 47 32.7 -1.7**
ZAK *e* 16 49 38.4
ZAK pmax pmax
comp=Z,4.0nm,1.0s,mb4.0
ZAK pmax pmax
comp=Z,2.0nm,1.0s,mb3.7
FITZ Fitzroy Crossi 42.50 129 *e*P **P 16 47 35.5 -1.3**
comp=Z,5.3nm,0.8s,mb4.3
FITZ Fitzroy Crossi 42.50 129 P **P 16 47 35.1 -1.7**
comp=Z,5.8nm,0.8s,mb4.4,baz=291,slow=4.7,SNR=13
JNU Nakatsue 42.88 50 LR LR 17 08 09.4
comp=Z,63nm,21.1s,MS3.5,baz=74,slow=40
KURK Kurchatov 43.12 347 *e*P **P 16 47 41.7 +0.3**
comp=Z,15nm,0.8s,mb4.8
KURK *e*pP pP 16 47 51.5 +0.8
KURK Kurchatov 43.12 347 *e*P **P 16 47 41.7 +0.3**
KURK *e**PP pP 16 47 51.5 +0.9
KURK pmax pmax
comp=Z,15nm,0.8s,mb4.8
ZAL Zalesovo 45.23 354 P **P 16 47 58.0 -0.5**
comp=Z,6.1nm,0.5s,mb4.7,baz=297,slow=5.8,SNR=31
HIA Hailar 46.23 25 *e*P **P 16 48 06.3 -0.1**
comp=Z,12nm,1.0s,mb4.8
HIA Hailar 46.23 25 *e*P **P 16 48 06.3 -0.1**
HIA pmax pmax
comp=Z,12nm,1.0s
NVS Novosibirsk 46.30 353 *i*P **P 16 48 05.9 -1.0**
NVS pmax pmax
comp=N,6.0nm,0.8s
NVS pmax pmax
comp=E,3.0nm,0.8s
NVS pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
MUN Mundaring 46.70 152 *e*P **P 16 48 12.2 +1.9**
KLBR Kellerberrin 47.12 150⇓*i*P **P 16 48 15.5 +1.8**
comp=Z,6.5nm,0.4s,mb4.9
BVAR Borovoye Array 47.37 342 P **P 16 48 15.1 -0.3**
comp=Z,3.7nm,0.8s,mb4.4,baz=143,slow=7.4,SNR=30
BVAR pP pP 16 48 24.8 +0.1
comp=Z,4.5nm,0.9s,baz=153,slow=9.9,SNR=10
BRVK Borovoye 47.43 342 *e*P **P 16 48 15.4 -0.4**
comp=Z,4.2nm,0.9s,mb4.4
BRVK Borovoye 47.43 342 *e*P **P 16 48 15.4 -0.5**
BRVK pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
BRVK Borovoye 47.43 342 *e*P **P 16 48 15.4 -0.5**
BRVK pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
MDJ Mudanjiang 47.92 36 P **P 16 48 19.3 -0.5**
MDJ AMB AMB
comp=Z,129nm,3.7s
MDJ LR LR
comp=N,37nm,20.9s,MS3.6
MDJ LR LR
comp=E,56nm,18.4s,MS3.6
MDJ LR LR
comp=Z,51nm,17.8s,MS3.5
NWAO Narrogin (SRO) 47.97 152 P **P 16 48 21.1 +0.8**
comp=Z,8.6nm,0.5s,mb5.1,baz=313,slow=7.8,SNR=34
NWAO pP pP 16 48 30.9 +1.2
comp=Z,8.5nm,0.7s,baz=333,slow=6.9,SNR=3.6
AB31 Akbulak array 48.40 332 P **P 16 48 24.0 +0.6**
AB31 pmax pmax
comp=Z,2.0nm,0.4s,mb4.5
WRA Warramunga Arr 50.37 125 P **P 16 48 37.4 -1.5**
comp=Z,4.9nm,0.6s,mb4.7,baz=301,slow=9.6,SNR=76
WRA PcP PcP 16 49 56.8 -0.6
comp=Z,0.6nm,0.8s,baz=304,slow=3.0,SNR=2.2
WRA pPcP 16 50 06.5
comp=Z,1.5nm,0.6s,baz=308,slow=2.9,SNR=4.6
WRAB Tennant Creek 50.37 125 *e*P **P 16 48 36.8 -2.1**
comp=Z,14nm,0.8s,mb5.0
WRAB Tennant Creek 50.37 125 *i*P **P 16 48 45.1 +6.2**
BOD Bodaibo 51.51 15 *e*P **P 16 48 45.7 -1.4**
BOD *e* pP 16 48 54.3 -2.2
BOD pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
BOD pmax pmax
comp=Z,11nm,1.4s,mb4.6
SVE Sverdlovsk 53.72 339 *e*P **P 16 49 03.5 0.0**
SVE *e* pP 16 49 12.8 -0.1
SVE pmax pmax
comp=Z,40nm,1.5s,mb5.1
SVE MLR MLR
comp=N,100nm,16.0s,MS4.1
SVE MLR MLR
comp=E,100nm,16.0s,MS4.1
SVE MLR MLR
comp=Z,200nm,16.0s,MS4.3
ARU Arti 54.17 338⇓*i*P **P 16 49 06.5 -0.4**
ARU *e*S **S 16 56 40.5 +0.4**
ARU pmax pmax
comp=Z,13nm,0.9s,mb4.9
ARU Arti 54.17 338⇓*i*P **P 16 49 06.5 -0.4**
ARU *e* 16 50 13.2
ARU *e* 16 51 05.6
ARU *e*S **S 16 56 40.5 +0.4**
ARU *e*SS SS 17 00 19.6 -1.9
ARU pmax pmax
comp=Z,13nm,0.9s,mb4.9
KIV Kislovodsk 55.29 318 *i*P **P 16 49 14.9 -0.4**
KIV pmax pmax
comp=Z,9.0nm,0.5s,mb5.1
KMBO Kilima Mbogo 55.77 262 LR LR 17 10 12.1
comp=Z,135nm,19.0s,MS4.0,baz=94,slow=33
MALT Malatya 56.38 310 *e*P **P 16 49 23.1 -0.1**
comp=Z,3.2nm,1.1s,mb4.3
MALT Malatya 56.38 310 *e*P **P 16 49 23.1 0.0**
MALT pmax pmax
comp=Z,3.0nm,1.1s,mb4.2
YSS Yuzh-Sakhalins 57.03 39 *e*P pP 16 49 39.0 +1.8
YSS *e* 16 57 08.0
SOKR Solikamsk 57.12 339⇑*i*P pP 16 49 38.2 +0.5
SOKR pmax pmax
comp=Z,20nm,1.2s,mb5.0
YAK Yakutsk 59.53 19 *e*P **P 16 49 43.0 -2.0**
comp=Z,6.7nm,0.7s,mb4.8
YAK *e*pP pP 16 49 52.2 -2.3
YAK Yakutsk 59.53 19 *e*P **P 16 49 43.0 -1.9**
YAK *e**PP pP 16 49 52.2 -2.3
YAK pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
BR131 Keskin Array S 60.34 311 *e*P **P 16 49 49.5 -1.3**
comp=Z,2.7nm,0.8s,mb4.3
BR131 *e*pP pP 16 49 59.6 -0.9
BRTR Keskin Array B 60.34 311 P **P 16 49 49.1 -1.7**
comp=Z,4.3nm,0.8s,mb4.5,baz=122,slow=7.0,SNR=19
BRTR pP pP 16 50 00.3 -0.1
comp=Z,3.6nm,0.8s,baz=121,slow=7.2,SNR=7.7
CTA Charters Tower 60.42 119 P **P 16 49 49.1 -2.5**
comp=Z,12nm,1.0s,mb4.9,baz=271,slow=12,SNR=3.9
CTAO Charters Tower 60.42 119 *e*P **P 16 49 49.9 -1.7**
comp=Z,16nm,1.1s,mb5.0
CTAO Charters Tower 60.42 119 *e*P **P 16 49 49.9 -1.7**
CTAO pmax pmax
comp=Z,16nm,1.1s,mb5.0
STKA Stephens Creek 62.17 133 *e*P **P 16 50 02.7 -0.6**
comp=Z,2.8nm,0.6s,mb4.6
STKA Stephens Creek 62.17 133 P **P 16 50 02.3 -1.1**
comp=Z,3.2nm,0.7s,mb4.6,baz=309,slow=9.3,SNR=10
STKA pP pP 16 50 11.3 -1.6
comp=Z,2.1nm,0.6s,baz=288,slow=16,SNR=3.6
STKA LR LR 17 18 04.3
comp=Z,160nm,21.0s,MS4.2,baz=202,slow=37
OBN Obninsk 63.48 328⇑*e*P **P 16 50 11.0 -0.6**
OBN *e* 16 50 47.5
OBN pmax pmax
comp=Z,8.0nm,0.5s,mb5.1
OBN MLR MLR
comp=Z,100nm,18.0s,MS4.0
AKASG Malin Array Be 66.17 322 P **P 16 50 26.7 -2.4**
comp=Z,2.0nm,0.5s,mb4.4,baz=88,slow=5.0,SNR=12
AKASG pP pP 16 50 37.1 -1.6
comp=Z,0.3nm,0.4s,baz=86,slow=4.7,SNR=2.7
TIXI Tiksi 66.51 12 *e*P **P 16 50 28.8 -2.1**
TIXI pmax pmax
comp=Z,23nm,0.7s,mb5.3
VRI Vrincioaia 66.66 316⇓P **P 16 50 32.7 +0.4**
VRI Vrincioaia 66.66 316⇓P **P 16 50 32.7 +0.4**
MLR Muntele Rosu 67.12 316⇑P **P 16 50 35.8 +0.6**
MLR Muntele Rosu 67.12 316⇑P **P 16 50 35.8 +0.6**
VOIR 67.73 315⇑P **P 16 50 37.7 -1.4**
VOIR 67.73 315⇑P **P 16 50 37.7 -1.4**
BURAR Bucovina Array 68.02 318⇑P **P 16 50 40.8 0.0**
BURAR Bucovina Array 68.02 318⇑P **P 16 50 40.8 0.0**
JOF Joensuu 69.08 335 *ep* **P 16 50 46.4 -0.7**
comp=Z,6.7nm,0.8s,mb4.6
APA Apatity 70.18 340 *e*P **P 16 50 54.0 +0.2**
CRVS Cervenica-Dubn 70.71 319 *e*P **P 16 50 57.2 -0.1**
FINES FINESS Array B 70.89 332 P **P 16 50 57.2 -1.0**
comp=Z,5.1nm,0.8s,mb4.5,baz=127,slow=9.5,SNR=9.2
FINES pP pP 16 51 07.5 -0.3
comp=Z,9.0nm,1.0s,baz=90,slow=7.6,SNR=4.8
FINES LR LR 17 27 07.2
comp=Z,64nm,19.4s,MS3.9,baz=130,slow=40
STHS Stebnicka Huta 70.93 319 *e*P **P 16 50 58.2 -0.4**
STHS *e*pP pP 16 51 08.4 +0.1
KAF Kangasniemi 70.99 333 *ep* **P 16 50 57.8 -1.0**
comp=Z,4.0nm,0.9s,mb4.3,baz=106,slow=5.8
KAF Kangasniemi 70.99 333 *e*P **P 16 50 57.8 -1.0**
KAF pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
KECS Kecovo 71.29 318 *e*pP pP 16 51 09.8 -0.7
PSZ Piszkesteto 71.61 317 *e*P **P 16 51 02.3 -0.5**
comp=Z,3.5nm,0.7s,mb4.4
PSZ Piszkesteto 71.61 317 *e*P **P 16 51 02.3 -0.5**
PSZ pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
OJC Ojcow 71.97 320 *e*P **P 16 51 04.6 -0.3**
KOLL Kolacno 72.68 318 *e*P **P 16 51 04.8 -4.3**
KEV Kevo 73.20 341 *ep* **P 16 51 10.5 -1.2**
comp=Z,4.4nm,0.7s,mb4.5
KEV Kevo 73.20 341 *e*P **P 16 51 10.5 -1.2**
KEV pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
MORC Moravsky Berou 73.36 319 *e*P **P 16 51 12.8 -0.3**
comp=Z,5.8nm,1.1s,mb4.4
MORC *e*pP pP 16 51 20.8 -1.9
MORC Moravsky Berou 73.36 319 *e*P **P 16 51 12.8 -0.3**
MORC *e**PP pP 16 51 20.8 -1.9
MORC pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
ARCES ARCESS Array B 73.62 340 P **P 16 51 14.2 +0.1**
comp=Z,4.3nm,0.7s,mb4.5,baz=101,slow=6.2,SNR=8.1
ARCES pP pP 16 51 23.4 -0.4
comp=Z,2.9nm,0.7s,baz=96,slow=4.6,SNR=3.6
ARCES LR LR 17 26 00.6
comp=Z,191nm,20.5s,MS4.4,baz=273,slow=38
DPC Dobruska-Polom 74.20 320 *e*P **P 16 51 18.5 +0.6**
DPC *e*pP pP 16 51 26.8 -0.8
UPC Upice 74.41 320 *e*P **P 16 51 19.5 +0.4**
PRU Pruhonice 75.32 319 *e*P **P 16 51 24.8 +0.5**
PVCC Panska Ves 75.33 320 *e*P **P 16 51 24.7 +0.3**
BILL Bilibino 75.72 22 *e*P **P 16 51 29.3 +3.0**
BILL *e* 16 54 16.3
BILL *e*SS SS 17 05 56.6 -2.5
BILL pmax pmax
comp=Z,4.0nm,1.5s,mb4.1
BRG Berggiesshubel 75.75 320 *e*P **P 16 51 26.5 -0.3**
comp=Z,6.3nm,0.9s,mb4.5
BRG Berggiesshubel 75.75 320 *e*P **P 16 51 26.5 -0.3**
BRG pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
GERES GERESS Array B 75.80 318 P **P 16 51 27.5 +0.3**
comp=Z,4.6nm,0.7s,mb4.5,baz=90,slow=5.3,SNR=36
GERES pP pP 16 51 37.1 +0.3
comp=Z,5.0nm,0.9s,baz=90,slow=5.3,SNR=9.0
KHC Kasperske Hory 75.90 318 *e*P **P 16 51 27.8 +0.1**
KHC *e*pP pP 16 51 36.4 -1.0
CLL Collm 76.37 321 P **P 16 51 30.0 -0.3**
CLL *e**PP pP 16 51 39.0 -1.0
CLL Collm 76.37 321 *e*P **P 16 51 30.0 -0.3**
CLL *e*pP pP 16 51 39.0 -1.0
MOX Moxa 77.22 320 *e*P **P 16 51 34.0 -1.0**
GRA1 Grafenberg Arr 77.45 319 *e*P **P 16 51 37.3 +1.0**
comp=Z,10.0nm,0.9s,mb4.8
GRF Grafenberg Arr 77.45 319 *e*P **P 16 51 37.3 +1.0**
GRF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
NB2 NORSAR Subarra 77.88 331 P **P 16 51 37.9 -0.5**
comp=Z,1.7nm,0.6s,mb4.2,baz=97,slow=5.0
NB2 NORSAR Subarra 77.88 331 P **P 16 51 37.9 -0.5**
NB2 pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
NOA NORSAR Array B 77.88 331 P **P 16 51 38.3 -0.2**
comp=Z,3.1nm,0.8s,mb4.3,baz=94,slow=5.6,SNR=6.2
NOA pP pP 16 51 47.3 -0.9
comp=Z,1.0nm,0.6s,baz=95,slow=5.8,SNR=3.2
NOA LR LR 17 28 56.7
comp=Z,54nm,21.0s,MS3.9,baz=80,slow=38
PGF Pioggiola 79.08 312 *e*P **P 16 51 46.6 +1.2**
comp=Z,12nm,0.9s,mb4.5
PGF Pioggiola 79.08 312 *e*P **P 16 51 46.6 +1.2**
PGF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
MAW Mawson 79.27 191 P **P 16 51 47.6 +1.7**
comp=Z,0.8nm,0.9s,mb3.7,baz=55,slow=16,SNR=2.9
MAW pP pP 16 51 56.3 +0.7
comp=Z,1.6nm,0.8s,baz=332,slow=5.2,SNR=3.8
MAW Mawson 79.27 191 P **P 16 51 47.6 +1.7**
MAW pP pP 16 51 56.3 +0.7
CDF Champ du Feu 80.06 318 *e*P **P 16 51 50.3 -0.3**
comp=Z,4.7nm,0.7s,mb4.3
CDF Champ du Feu 80.06 318 *e*P **P 16 51 50.3 -0.3**
CDF pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
SBF Sospel 80.16 313 *e*P **P 16 51 52.1 +0.9**
HINF Hinteralfeld 80.37 317 *e*P **P 16 51 52.2 0.0**
LPG La Plagne 80.56 315 *e*P **P 16 51 54.0 +0.7**
comp=Z,21nm,0.8s,mb4.8
LPG La Plagne 80.56 315 *e*P **P 16 51 54.0 +0.7**
LPG pmax pmax
comp=Z,11nm,0.8s,mb4.8
LPL La Plagne 80.58 315 *e*P **P 16 51 54.0 +0.6**
comp=Z,28nm,0.7s,mb5.0
LPL La Plagne 80.58 315 *e*P **P 16 51 54.0 +0.6**
LPL pmax pmax
comp=Z,14nm,0.7s,mb5.0
MBDF Montbardon 80.59 314 *e*P **P 16 51 54.0 +0.5**
comp=Z,12nm,0.9s,mb4.5
MBDF Montbardon 80.59 314 *e*P **P 16 51 54.0 +0.5**
MBDF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
HAU Haudompre 80.70 317 *e*P **P 16 51 53.8 -0.2**
HAU *e*R
comp=Z,46nm,20.2s
FRF La Foret Royal 80.75 313 *e*P **P 16 51 54.6 +0.3**
comp=Z,16nm,0.9s,mb4.7
FRF La Foret Royal 80.75 313 *e*P **P 16 51 54.6 +0.3**
FRF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
LMR La Mourre 80.87 313 *e*P **P 16 51 55.7 +0.8**
CABF La Chapelle 80.96 316 *e*P **P 16 51 55.8 +0.4**
comp=Z,13nm,0.9s,mb4.6
CABF La Chapelle 80.96 316 *e*P **P 16 51 55.8 +0.4**
CABF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
ORIF Oris-en-Rattie 81.21 314 *e*P **P 16 51 57.4 +0.7**
ORIF *e*R
comp=Z,91nm,22.0s
SMRF Simiane la Rot 81.50 313 *e*P **P 16 51 59.0 +0.8**
VIVF Saint-Julien-l 82.07 314 *e*P **P 16 52 01.6 +0.4**
comp=Z,20nm,1.0s,mb4.7
VIVF Saint-Julien-l 82.07 314 *e*P **P 16 52 01.6 +0.4**
VIVF pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
LOR Lormes 82.43 317 *e*P **P 16 52 03.0 0.0**
comp=Z,20nm,1.0s,mb4.7
LOR *e*R
comp=Z,63nm,19.2s
LOR Lormes 82.43 317 *e*P **P 16 52 03.0 0.0**
LOR pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
LOR MLR MLR
comp=Z,60nm,19.3s,MS4.0
SMF Signal de Mont 82.50 316 *e*P **P 16 52 03.4 0.0**
comp=Z,9.6nm,0.9s,mb4.5
SMF Signal de Mont 82.50 316 *e*P **P 16 52 03.4 0.0**
SMF pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
LASF Ste Croix 82.72 313 *e*P **P 16 52 05.3 +0.7**
AVF Avril sur Loir 82.82 316 *e*P **P 16 52 05.1 +0.1**
comp=Z,12nm,1.0s,mb4.5
AVF Avril sur Loir 82.82 316 *e*P **P 16 52 05.1 +0.1**
AVF pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
BGF Bois d'Agland 83.19 316 *e*P **P 16 52 07.4 +0.5**
MTLF Montolieu 83.98 313 *e*P **P 16 52 11.7 +0.6**
comp=Z,3.4nm,0.6s,mb4.3
MTLF Montolieu 83.98 313 *e*P **P 16 52 11.7 +0.6**
MTLF pmax pmax
comp=Z,2.0nm,0.6s,mb4.4
RJF Les Rejaudoux 84.25 315 *e*P **P 16 52 13.1 +0.7**
comp=Z,8.2nm,0.8s,mb4.6
RJF *e*R
comp=Z,53nm,22.0s
RJF Les Rejaudoux 84.25 315 *e*P **P 16 52 13.1 +0.7**
RJF pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
RJF MLR MLR
comp=Z,50nm,22.0s,MS3.9
LDF La Druitiere 84.95 318 *e*P **P 16 52 15.8 0.0**
comp=Z,24nm,1.1s,mb4.9
LDF La Druitiere 84.95 318 *e*P **P 16 52 15.8 0.0**
LDF pmax pmax
comp=Z,12nm,1.1s,mb4.9
MFF Saint Martin d 85.24 316 *e*P **P 16 52 17.4 +0.2**
comp=Z,6.8nm,0.7s,mb4.6
MFF Saint Martin d 85.24 316 *e*P **P 16 52 17.4 +0.2**
MFF pmax pmax
comp=Z,3.0nm,0.7s,mb4.5
ETSF Etsaut 86.06 313 *e*P **P 16 52 22.2 +0.8**
ESDC Sonseca Array 89.13 310 P **P 16 52 36.1 -0.3**
comp=Z,0.8nm,0.5s,mb4.3,baz=87,slow=3.5,SNR=5.4
VNDA Vanda 94.38 168 LR LR 17 28 15.1
comp=Z,69nm,19.4s,MS4.1,baz=87,slow=31
ILAR Eielson Array 94.39 22 P **P 16 53 00.1 +0.1**
comp=Z,0.7nm,0.7s,mb4.2,baz=296,slow=4.0,SNR=7.1
ILAR pP pP 16 53 11.1 +1.3
comp=Z,1.0nm,0.8s,baz=297,slow=4.4,SNR=5.7
DBIC Dimbokro 96.01 278 P **P 16 53 10.5 +1.8**
comp=Z,2.3nm,0.8s,mb4.6,baz=96,slow=10,SNR=2.8
DBIC pP pP 16 53 20.6 +2.0
comp=Z,3.6nm,0.9s,baz=127,slow=3.4,SNR=3.3
INK Inuvik 96.42 16 P **P 16 53 09.8 +0.6**
comp=Z,0.9nm,0.6s,mb4.3,baz=318,slow=8.1,SNR=4.1
INK pP pP 16 53 20.1 +1.0
comp=Z,1.9nm,0.6s,baz=331,slow=5.4,SNR=3.5
PDAR Pinedale Array 124.75 20 PKP PKPdf 16 58 41.5 -3.1
comp=Z,0.3nm,0.5s,baz=180,slow=1.8,SNR=3.5
PDAR pPKP 16 58 52.1
comp=Z,0.9nm,0.6s,baz=34,slow=2.0,SNR=6.7
NVAR Mina Array Bea 124.86 29 PKP PKPdf 16 58 42.4 -2.5
comp=Z,0.5nm,0.7s,baz=270,slow=4.5,SNR=1.9
TXAR Lajitas Array 138.90 21 PKP PKPdf 16 59 09.4 -2.2
comp=Z,0.2nm,0.4s,slow=1.8,SNR=2.2
TXAR pPKP 16 59 19.0
comp=Z,0.6nm,0.6s,baz=90,slow=1.3,SNR=4.2
PLCA Paso Flores 144.92 203 PKPbc PKPbc 16 59 19.0 +2.3
comp=Z,1.6nm,0.9s,baz=180,slow=3.0,SNR=2.3
CFAA Coronel Fontan 151.14 216 PKPbc PKPdf 16 59 35.9 +3.8
comp=Z,0.5nm,0.8s,baz=253,slow=8.0,SNR=5.3
CFAA PKPab PKPab 16 59 43.2 +0.2
comp=Z,1.1nm,0.8s,baz=138,slow=2.3,SNR=10

MEX 26 17:07:22.7±1.5, 15.83N×95.55W, h12km±24km, MD4.0, 1C, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.55**	**264**	⇑*i*P		Pb	17 07 31.6	-2.1
HUIG				*i*S		Sb	17 07 39.8	-1.3
OXX	**Oaxaca**	**1.68**	**318**	*i*P		Pn	17 07 48.0	-4.1
OXX				*i*S		Sn	17 08 07.0	-6.7
VHO	**Vista Hermosa**	**1.68**	**317**	*i*P		Pn	17 07 49.5	-2.6
VHO				*i*S		Sn	17 08 08.8	-4.9
TUIG	**Tuzandepetl**	**2.44**	**26**	*e*P		Pn	17 08 02.8	-0.2
TUIG				*i*S		Sn	17 08 30.0	-3.0
CCIG	**Comitan**	**3.31**	**82**	*i*P		Pn	17 08 11.2	-4.1
CCIG				*i*S		Sn	17 08 51.4	-3.6
ACX	**Acapulco**	**4.32**	**284**	*e*P		Pn	17 08 35.0	+5.2
PPM	**Popocatepetl**	**4.36**	**318**	*e*P		Pn	17 08 32.0	+1.7
PPM				*i*S		Sn	17 09 24.0	+2.4
PLIG	**Platanillo**	**4.56**	**305**	*i*S		Sn	17 09 22.5	-4.2

MAN 26 17:15:03.8, 5.93N×126.16E, h153km, mb3.7, ML2.4, MS1.9, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.21**	**277**	⇑*e*P		P	17 15 29.2	-1.8
GSPH				*i*S		S	17 15 48.5	-3.4

*BJI **26** 18:16:27.1, 14.35N×51.51E, h10km, mB5.9, mb5.3, Ms6.0, Msz5.7*
*IDC **26** 18:16:31.8±0.5, 14.54N×52.25E, mb4.7/28, mb1 4.8/28, mb1mx4.8/29, mbtmp4.7/28, MS5.9/26, Ms1 5.9/26, ms1mx5.8/30, Error ellipse: s-maj=14.9km s-min=10.6km az=90.0*
*HRVD **26** 18:16:33.6±0.1, 14.57N×51.96E, h14km, MW6.2/75, Centroid moment Tensor Solution. LP body waves: s72,c177;Mantle waves: s75,c327; Half duration: 2s9 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.22±.01; $M_{\theta\theta}$1.62±.01; $M_{\phi\phi}$-1.40±.01; $M_{r\theta}$-0.28±.03; $M_{\theta\phi}$1.35±.01; $M_{\phi r}$0.17±.03; Best double couple: $M_0$2.053×10^{18} NP1: ϕ_s204°, δ81°, λ-177°. NP2:ϕ_s114°, δ87°, λ-9°. Principal axes: T 2.153, Plg5°, Azm159°; N -.195, Plg80°, Azm279°; P -1.954, Plg8°, Azm69°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*PDA **26** 18:16:33.6, 14.42N×52.37E, h10km, mb5.7*
*CSEM **26** 18:16:33.9±0.2, 13.95N×51.87E, h18km, mb5.8/56, Ms5.8, Mw6.2, Error ellipse: s-maj=7.8km s-min=2.9km az=149.0*
*NEIC **26** 18:16:33.6±0.2, 14.42N×52.37E, h10km, mb5.7/158, ME6.4, MS5.9/53, MW6.2, Error ellipse: s-maj=6.9km s-min=4.6km az=31.0 Broadband fault plane solution: P waves. NP1:ϕ_s205°, δ85°, λ-175°. NP2:ϕ_s115°, δ85°, λ-5°.*

Principal axes: T Plg0°, Azm160°; N Plg0°, Azm0°; P Plg7°, Azm70°; Moment Tensor Solution. s23 Moment tensor: Scale 10^18 Nm; Mrr0.00; Mθθ1.71; Mφφ-1.71; Mrθ0.43; Mrφ1.44; Mθφ0.41; Best double couple: M0=2.3×10^18 NP1: φs=116°, δ76°, λ5°. NP2:φs=24°, δ85°, λ166°. Principal axes: T 2.36, Plg13°, Azm339°; N -.1, Plg75°, Azm185°; P -2.26, Plg6°, Azm71°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.

OMAN ***26*** *18:16:34.4±0.1, 14.51N×52.60E, h30km Error ellipse: s-maj=14.2km s-min=10.7km az=295.0*

STR ***26*** *18:16:35.4±0.0, 15.64N×53.70E, Mb5.8, Ms5.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

IPEC ***26*** *18:16:35.3±1.3, 14.40N×52.43E, h12km±6km, Error ellipse: s-maj=33.1km s-min=15.1km az=75.0*

MOS ***26*** *18:16:36.3±1.5, 14.59N×52.33E, h33km, mb5.8/91, MS5.9/52, Error ellipse: s-maj=6.3km s-min=2.8km az=117.5*

IGIL ***26*** *18:16:36.8±49.0, 14.60N×52.50E, h20km, MS6.2*

DHMR ***26*** *18:16:37.5±0.7, 14.50N×51.61E, h10km, mb6.1*

CRAAG ***26*** *18:16:39.1, 14.46N×52.50E, Mb6.2*

ISC 26 18:16:34.1±0.2, 14.43N±0.03×52.35E±0.02, h20km, h20km±1.2km: pP-P, n972, σ1§56/1015, mb5.7/222, MS5.9/120, 59C-35D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABTO	**Aybut**	**3.04**	**17**	⇑P	**Pn**	**18 17 18.5**	**-3.8**
	SNR=39						
ABTO				⇓S	**Sn**	**18 17 53.2**	**-5.4**
MUKL	**Al Mukalla**	**3.21**	**271**	AMb	AMB	18 17 18.0	
	comp=Z,1μm,0.3s						
MUKL				*i* S	**Sn**	**18 17 53.1**	**-10**
RBK	**Rabkut**	**3.54**	**30**	⇓P	**Pn**	**18 17 26.8**	**-2.5**
	SNR=249						
RBK				⇓S	**Sn**	**18 18 08.1**	**-2.9**
WHFO	**Wadi Hawf**	**3.73**	**21**	⇑P	**Pn**	**18 17 28.1**	**-4.0**
	SNR=104						
WHFO				⇑S	**Sn**	**18 18 10.1**	**-5.8**
BDHA	**Al Bayda'**	**6.59**	**267**	⇑*i*P	**Pn**	**18 18 06.5**	**-6.1**
BDHA				*i* S	**Sn**	**18 19 16.7**	**-11**
ADEN	**Aden**	**7.35**	**258**	⇑*i*P	**Pn**	**18 18 16.7**	**-6.5**
ADEN				*i* S	**Sn**	**18 19 34.6**	**-12**
DHBB	**Dhamar BB**	**7.71**	**272**	⇑*e*P	**Pn**	**18 18 21.9**	**-6.3**
DHBB				*i* S	**Sn**	**18 19 43.0**	**-13**
DHBB	**Dhamar BB**	**7.71**	**272**	⇑*e*P	**Pn**	**18 18 21.9**	**-6.3**
DHBB				*i* S	**Sn**	**18 19 43.1**	**-13**
DHBB	**Dhamar BB**	**7.71**	**272**	⇑*e*P	**Pn**	**18 18 21.9**	**-6.3**
DHBB				*i* S	**Sn**	**18 19 43.1**	**-13**
TRBA	**At Turbah**	**8.09**	**263**	*i* P	**P**	**18 18 26.6**	**-6.9**
TRBA				*i* S	**Sn**	**18 19 52.5**	**-13**
UDYN	**Al 'Udayn**	**8.14**	**268**	⇑*e*P	**P**	**18 18 27.2**	**-7.1**
UDYN				*i* S	**Sn**	**18 19 52.7**	**-14**
HAJJ	**Hajjah**	**8.55**	**280**	⇑*e*P	**P**	**18 18 33.1**	**-6.8**
ATD	**Arta Tunnel**	**9.70**	**254**	Pn	**P**	**18 18 54.4**	**-1.5**
	comp=Z,74nm,0.3s,baz=240,slow=22,SNR=79						
ATD				LR	LR	18 21 39.7	
	comp=Z,156μm,21.2s,baz=74,slow=32						
SMDO	**Samad**	**10.13**	**31**	⇑P	**P**	**18 18 55.7**	**-6.1**
	SNR=156						
SMDO				⇑S	**S**	**18 20 46.6**	**-9.4**
HOQ	**Hoqain**	**10.24**	**27**	⇑P	**P**	**18 18 56.3**	**-6.9**
	SNR=108						
HOQ				⇓S	**S**	**18 20 48.2**	**-10**
BIDO	**Bidbid**	**10.56**	**30**	⇓P	**P**	**18 19 01.3**	**-6.4**
	SNR=122						
BIDO				⇑S	**S**	**18 20 57.3**	**-9.2**
QRN	**Al-Qurain**	**14.82**	**345**	*e*P	**P**	**18 19 56.1**	**-8.5**
QRN				AMb	AMB	18 20 04.5	
	comp=Z,274nm,0.3s						
RDF	**Al-Radifah**	**15.09**	**344**	*e*P	**P**	**18 19 59.7**	**-8.5**
RDF				AML	AML	18 20 19.8	
	comp=Z,963nm,0.6s						
RDF				AMb	AMB	18 20 21.7	
	comp=Z,3μm,0.8s						
KBD	**Kabd**	**15.29**	**344**	*e*P	**P**	**18 20 02.9**	**-7.9**
UMR	**Umm Al-Rimmam**	**15.65**	**345**	*e*P	**P**	**18 20 07.3**	**-8.0**
UMR				AML	AML	18 20 22.5	
	comp=Z,263nm,0.5s						
UMR				AMb	AMB	18 20 28.1	
	comp=Z,2μm,1.2s						
MIB	**Mutribah**	**15.98**	**344**	*e*P	**P**	**18 20 11.5**	**-8.2**
MIB				AMb	AMB	18 20 23.7	
	comp=Z,398nm,0.5s						
BHJ	**Bhuj**	**18.56**	**59**	*e*P	**P**	**18 20 53.4**	**+1.3**
BHJ				AMb	AMB	18 21 00.8	
	comp=Z,2μm,1.1s						
BHJ				*e*S	**S**	**18 24 21.8**	**+6.4**
BHJ				AMS	AMS	18 27 32.1	
	comp=Z,22μm,20.1s						
MSEY	**Mahe Island**	**19.23**	**170**	*e*P	**P**	**18 20 59.2**	**-0.9**
MSEY	**Mahe Island**	**19.23**	**170**	*e*P	**P**	**18 20 59.0**	**-1.2**
	comp=Z,4μm,1.9s						
BHV	**Bhavnagar**	**20.16**	**66**	*e*P	**P**	**18 21 13.0**	**+2.7**
GOA	**Goa**	**20.77**	**84**	*ex*	x	18 25 30.0	
POO	**Poona**	**21.01**	**76**	*i* x	x	18 25 37.0	
MNCY	**Minicoy**	**21.17**	**105**	*i* x	**P**	**18 21 26.0**	**+5.2**
MNCY				*i* x	x	18 24 47.0	
KAD	**Karad**	**21.19**	**79**	*e*P	**P**	**18 21 22.4**	**+1.5**
KAD				AMb	AMB	18 21 31.0	
	comp=Z,1μm,1.4s,mb6.0						
KAD				*ex*	x	18 25 32.2	
KAD				AMS	AMS	18 28 27.9	
	comp=Z,47μm,22.3s,MS5.8						
KMBO	**Kilima Mbogo**	**21.50**	**225**	P	**P**	**18 21 21.7**	**-2.4**
	comp=Z,162nm,1.1s,mb5.4,baz=38,slow=12,SNR=50						
KMBO				LR	LR	18 29 22.4	
	comp=Z,63μm,18.4s,MS6.0,baz=46,slow=36						
MNGI	**Mangalore**	**21.88**	**91**	*i* P	**P**	**18 21 29.8**	**+1.9**
MNGI				*i* x	x	18 25 41.1	
EIL	**Elat**	**22.09**	**316**	P	**P**	**18 21 26.5**	**-3.4**
PRNI	**Paran**	**22.50**	**318**	P	**P**	**18 21 31.3**	**-2.6**
ZFRI	**Zfri**	**22.52**	**318**	P	**P**	**18 21 31.6**	**-2.6**
KMTI	**Karmit**	**22.52**	**317**	P	**P**	**18 21 33.1**	**-1.1**
ASF	**Jabal al Asfar**	**22.61**	**324**	P	**P**	**18 21 32.2**	**-2.9**
	comp=Z,11nm,0.9s,baz=16,slow=4.3,SNR=16						
ASF				LR	LR	18 30 15.0	
	comp=Z,36μm,20.8s,MS5.8,baz=14,slow=37						
MKRJ	**Makawir**	**22.90**	**321**	P	**P**	**18 21 35.3**	**-2.7**
MZDA	**Masada**	**22.91**	**320**	P	**P**	**18 21 35.3**	**-2.7**
SALA	**Sala**	**23.10**	**325**	⇑*i*P	**P**	**18 21 42.2**	**+2.3**
KZIT	**Kziot**	**23.25**	**318**	P	**P**	**18 21 38.8**	**-2.6**
LATR	**Latur**	**23.55**	**77**	*e*P	**P**	**18 21 46.0**	**+1.6**
MMLI	**Mount Malkishu**	**23.66**	**322**	P	**P**	**18 21 44.4**	**-0.9**
SLTI	**Sal'it**	**23.75**	**321**	P	**P**	**18 21 46.3**	**+0.1**
KSHT	**Keshet**	**23.82**	**324**	P	**P**	**18 21 46.6**	**-0.3**
BSHR	**Al Beshri**	**23.96**	**334**	⇑*i*P	**P**	**18 21 49.9**	**+1.8**
QASN	**Qassioun**	**23.97**	**325**	⇑*i*P	**P**	**18 21 51.0**	**+2.7**
VAN	**Vannovskaya**	**23.97**	**11**	*e*P	**P**	**18 21 48.0**	**-0.3**
ASH	**Ashkhabad**	**24.02**	**12**	*e*P	**P**	**18 21 53.0**	**+4.2**
AJM	**Ajmer**	**24.04**	**57**	*i* P	**P**	**18 21 50.0**	**+1.0**
OFRI	**'Ofer**	**24.05**	**322**	P	**P**	**18 21 48.8**	**-0.3**
BRBR	**Barbar**	**24.06**	**325**	⇑*i*P	**P**	**18 21 52.3**	**+3.1**
KSDI	**Kefar Szold**	**24.06**	**324**	P	**P**	**18 21 49.1**	**-0.1**
HRI	**Mount Hermon**	**24.07**	**324**	P	**P**	**18 21 49.2**	**-0.1**
MMA0	**Mount Meron ar**	**24.08**	**323**	P	**P**	**18 21 48.1**	**-1.3**
HAF	**Haifa**	**24.14**	**322**	P	**P**	**18 21 50.0**	**0.0**
HNTI	**Hanita**	**24.26**	**323**	P	**P**	**18 21 51.2**	**0.0**
HAKT	**HAKKARI**	**24.28**	**343**	*i* P	**P**	**18 21 50.8**	**-0.5**
AKL	**Akola**	**24.31**	**72**	⇑*i*x	x	18 23 51.6	
AKL				*i* x	x	18 28 19.9	
FKH	**Fakeheh**	**24.43**	**327**	*e*P	**P**	**18 21 52.0**	**-0.8**
FKH	**Fakeheh**	**24.43**	**327**	*e*P	**P**	**18 21 52.0**	**-0.8**
SFNV	**Sufian**	**24.48**	**336**	⇑*i*P	**P**	**18 21 57.5**	**+4.2**
SBDP	**Sheikh Budin**	**24.50**	**40**	P	**P**	**18 22 00.0**	**+6.5**
JHLN	**Al Jahlan**	**24.56**	**332**	⇑*i*P	**P**	**18 21 55.0**	**+0.9**
BHL	**Bhannes**	**24.59**	**325**	*e*P	**P**	**18 21 52.6**	**-1.8**
BHL				Sn	**S**	**18 26 23.9**	**+13**
HWQ	**Hawqa**	**24.71**	**326**	*e*P	**P**	**18 21 57.7**	**+2.2**
MARD	**Mardin**	**25.01**	**338**	*i* P	**P**	**18 21 55.0**	**-3.3**
SLMH	**Al Salmeh**	**25.24**	**332**	⇑*i*P	**P**	**18 22 03.1**	**+2.6**
BHPL	**Bhopal**	**25.26**	**66**	*e*P	**P**	**18 22 02.6**	**+1.7**
BHPL				AMb	AMB	18 22 10.9	
	comp=Z,493nm,1.3s,mb5.9						
BHPL				*e*S	**S**	**18 26 30.2**	**+7.4**
TVAN	**Van**	**25.27**	**343**	*i* P	**P**	**18 22 01.7**	**+0.9**
SALM	**Salem**	**25.33**	**93**	*ex*	**P**	**18 22 09.0**	**+7.5**
BEST	**Besiri**	**25.35**	**339**	*i* P	**P**	**18 22 02.4**	**+0.8**
HYB	**Hyderabad**	**25.36**	**80**	⇓*i*P	**P**	**18 22 03.0**	**+1.2**
	comp=Z,300nm,1.0s,mb5.8						
HYB				*e*	pP	18 22 09.0	+1.4
HYB				*e*S	**S**	**18 26 32.0**	**+7.5**
HYB				LR	LR	18 30 24.0	
	comp=Z,47nm,20.0s						
HYB	**Hyderabad**	**25.36**	**80**	*e*P	**P**	**18 22 03.0**	**+1.2**
	comp=Z,300nm,1.0s,mb5.8						
HYB				*e*	pP	18 22 09.0	+1.4
HYB				*e*S	**S**	**18 26 32.0**	**+7.5**
HYB	**Hyderabad**	**25.36**	**80**	*e*P	**P**	**18 22 03.0**	**+1.2**
HYB				*e*	pP	18 22 09.0	+1.4
HYB				*e*S	**S**	**18 26 32.0**	**+7.5**
HYB				pmax	pmax		
	comp=Z,300nm,1.0s,mb5.8						
WRDH	**Warideh**	**25.41**	**329**	⇑*i*P	**P**	**18 22 05.8**	**+3.7**
THW	**Thamme Wali**	**25.41**	**41**	P	**P**	**18 22 02.5**	**+0.3**
SARP	**Sargodha**	**25.46**	**43**	P	**P**	**18 22 08.4**	**+5.8**
SLNF	**Slenfeh**	**25.57**	**328**	⇑*i*P	**P**	**18 22 07.4**	**+3.7**
BTCH	**Batrach**	**25.80**	**329**	⇑*i*P	**P**	**18 22 09.8**	**+4.0**
MBAR	**Mbarara**	**26.09**	**237**	*e*P	**P**	**18 22 07.0**	**-1.7**
	comp=Z,136nm,1.3s,mb5.3						
MBAR	**Mbarara**	**26.09**	**237**	*e*P	**P**	**18 22 07.0**	**-1.7**
	comp=Z,136nm,1.3s,mb5.3						
MBAR				LR	LR		
	comp=Z,6μm,20.0s,MS5.1						
MBAR	**Mbarara**	**26.09**	**237**	*e*P	**P**	**18 22 07.0**	**-1.7**
MBAR				pmax	pmax		
	comp=Z,136nm,1.3s,mb5.3						
MBAR				MLR	MLR		
	comp=Z,6μm,20.0s,MS5.1						
ATAB	**Bozova**	**26.13**	**334**	*i* P	**P**	**18 22 14.2**	**+5.4**
DRWC	**Darouich**	**26.17**	**330**	⇑*i*P	**P**	**18 22 10.2**	**+1.0**
CEP	**Cherat**	**26.20**	**39**	P	**P**	**18 22 13.2**	**+3.7**
COBT	**Iskenderun**	**26.28**	**330**	*i* P	**P**	**18 22 08.4**	**-1.8**
BNGL	**BINGOL**	**26.35**	**340**	*i* P	**P**	**18 22 13.2**	**+2.4**
GZT	**Gaziantep**	**26.35**	**333**	*i* P	**P**	**18 22 09.5**	**-1.3**
GNI	**Garni**	**26.47**	**347**	P	**P**	**18 22 11.2**	**-0.8**
	comp=Z,57nm,0.8s,mb5.1,baz=179,slow=1.7,SNR=12						
GNI				LR	LR	18 34 53.5	
	comp=Z,67μm,18.2s,MS6.2,baz=337,slow=42						
GNI	**Garni**	**26.47**	**347**	*e*P	**P**	**18 22 11.7**	**-0.2**
	comp=Z,725nm,1.0s,mb6.2						
GNI	**Garni**	**26.47**	**347**	*e*P	**P**	**18 22 11.7**	**-0.2**
	comp=Z,725nm,1.0s,mb6.2						
GNI				LR	LR		
	comp=Z,54μm,20.0s,MS6.1						
GNI	**Garni**	**26.47**	**347**	*c* *i*P	**P**	**18 22 11.5**	**-0.4**
GNI				pmax	pmax		
	comp=Z,68nm,1.1s						
GNI				MLR	MLR		
	comp=Z,78μm,19.0s						
CSS	**Prodhromos**	**26.67**	**323**	*e*P	**P**	**18 22 12.0**	**-1.8**
	comp=Z,106nm,0.9s,mb5.4						
CSS	**Prodhromos**	**26.67**	**323**	*e*P	**P**	**18 22 12.0**	**-1.9**
	comp=Z,106nm,0.9s,mb5.4						
ELZG	**Elazig**	**26.73**	**336**	*i* P	**P**	**18 22 16.1**	**+1.8**
MALT	**Malatya**	**26.79**	**335**	*e*P	**P**	**18 22 14.2**	**-0.7**
	comp=Z,2μm,0.6s,mb6.7						
MALT	**Malatya**	**26.79**	**335**	*e*P	**P**	**18 22 14.2**	**-0.7**
	comp=Z,2μm,0.6s,mb6.7						
MALT	**Malatya**	**26.79**	**335**	*e*P	**P**	**18 22 14.2**	**-0.7**
MALT				pmax	pmax		
	comp=Z,2μm,0.6s,mb6.7						
KAHT	**Ahir Dag**	**26.89**	**332**	*i* P	**P**	**18 22 14.2**	**-1.6**
CHCP	**Chirah Chowk**	**26.94**	**41**	P	**P**	**18 22 21.0**	**+4.7**
DIGO	**Kars**	**27.05**	**345**	*i* P	**P**	**18 22 22.8**	**+5.6**
NDI	**New Delhi**	**27.05**	**54**	*e*P	**P**	**18 22 19.0**	**+1.6**
MDRS	**Chennai**	**27.12**	**89**	*e*P	**P**	**18 22 19.0**	**+0.8**
MDRS				*ex*	x	18 23 06.0	
MDRS				*ex*	**S**	**18 27 06.0**	**+12**
MDRS				*ex*	x	18 28 46.0	
MDRS				*ex*	x	18 30 05.0	
MDRS				AMS	AMS	18 31 44.2	
	comp=Z,26μm,21.2s,MS5.8						
ERZM	**Erzurum**	**27.14**	**341**	*i* P	**P**	**18 22 17.1**	**-1.0**
JBP	**Jabalpur**	**27.52**	**67**	*ex*	**P**	**18 22 25.5**	**+3.8**
JBP				*e*S	**S**	**18 27 03.9**	**+4.0**
MTA	**Mtatsminda**	**27.95**	**348**	P	**P**	**18 22 28.0**	**+2.7**
TBLG	**Delisi**	**27.99**	**348**	P	**P**	**18 22 28.3**	**+2.6**
TI2	**Plekhanov**	**27.99**	**348**	*i* S	**S**	**18 27 16.0**	**+8.7**
	comp=Z,8μm,10.0s						
TI2	**Plekhanov**	**27.99**	**348**	*i* P	**P**	**18 22 22.0**	**-3.8**
TI2				*i*		18 22 30.0	
TI2				*i*		18 22 36.0	
TI2				MLR	MLR		
	comp=E,40μm,15.0s						
TI2				MLR	MLR		
	comp=Z,40μm,15.0s,MS6.1						
KELT	**Kelkit**	**28.07**	**338**	*i* P	**P**	**18 22 24.7**	**-1.8**
ERMK	**Ermenek**	**28.12**	**325**	*i* P	**P**	**18 22 29.5**	**+2.6**
ARTV	**Artvin**	**28.16**	**343**	*i* P	**P**	**18 22 32.4**	**+5.1**
BKR	**Bakuriani**	**28.27**	**346**	P	**P**	**18 22 28.9**	**+0.6**
MACK	**Trabzon**	**28.60**	**340**	*i* P	**P**	**18 22 37.2**	**+5.9**
PALK	**Pallekele**	**28.72**	**101**	*e*P	**P**	**18 22 33.3**	**+0.7**
	comp=Z,64nm,1.1s,mb5.3						
PALK	**Pallekele**	**28.72**	**101**	*e*P	**P**	**18 22 33.3**	**+0.7**
	comp=Z,64nm,1.1s,mb5.3						
PALK				LR	LR		
	comp=Z,4μm,22.0s,MS5.0						
MAK	**Makhachkala**	**28.73**	**353**	*e*P	**P**	**18 22 37.3**	**+4.9**
MAK				*e*		18 23 35.0	
MAK				pmax	pmax		
	comp=Z,8μm,10.0s						
MAK				pmax	pmax		
	comp=Z,2μm,1.7s,mb6.5						
MAK				MLR	MLR		
	comp=N,39μm,12.0s,MS6.6						
MAK				MLR	MLR		
	comp=E,81μm,12.0s,MS6.6						
MAK				MLR	MLR		
	comp=Z,81μm,12.0s,MS6.5						
AVNT	**Avonos**	**28.75**	**331**	*i* P	**P**	**18 22 29.5**	**-3.1**
ONI	**Oni**	**29.08**	**346**	P	**P**	**18 22 36.2**	**+0.6**
ONI				S	**S**	**18 27 44.0**	**+19**
GRSN	**GIRESUNGRSN**	**29.11**	**338**	*i* P	**P**	**18 22 34.3**	**-1.5**
ZEI	**Tsey**	**29.16**	**347**	*e*P	**P**	**18 22 34.2**	**-2.1**
ZEI				*i* *PP	pP	18 22 39.8	-2.4
ZEI				*i*		18 23 24.5	
ZEI				*e*S	**S**	**18 27 28.8**	**+2.7**
ZEI				pmax	pmax		
	comp=Z,37nm,1.1s,mb5.0						
BLSP	**Bilaspur**	**29.26**	**70**	*e*P	**P**	**18 22 38.3**	**+1.0**
BLSP				AMb	AMB	18 22 46.4	
	comp=Z,259nm,1.4s,mb5.8						
BLSP				*ex*	x	18 27 34.8	
DGAR	**Diego Garcia**	**29.47**	**136**	PFAKE		18 22 50.0	+11
DGAR				LR	LR		
	comp=Z,4μm,20.0s,MS5.1						
CDAG	**Cicekdag**	**29.65**	**331**	*i* P	**P**	**18 22 44.9**	**+4.1**
ALBI	**Allahabad**	**29.68**	**64**	*ex*	**P**	**18 22 46.0**	**+4.9**
AKAS	**Kas**	**29.76**	**321**	*i* P	**P**	**18 22 35.3**	**-6.5**
KDHN	**Kadinhani**	**29.93**	**327**	*i* P	**P**	**18 22 42.0**	**-1.2**
VIS	**Vishakhapatnam**	**29.93**	**80**	*i* P	**P**	**18 22 44.0**	**+0.5**
VIS				*i* x	**S**	**18 27 50.4**	**+12**
BR131	**Keskin Array S**	**30.08**	**330**	*e*P	**P**	**18 22 43.2**	**-1.3**
	comp=Z,96nm,1.2s,mb5.4						
BR131	**Keskin Array S**	**30.08**	**330**	*e*P	**P**	**18 22 43.2**	**-1.3**
	comp=Z,96nm,1.2s,mb5.4						
BR131				LR	LR		
	comp=Z,43μm,21.0s,MS6.1						
BRTR	**Keskin Array B**	**30.08**	**330**	P	**P**	**18 22 42.1**	**-2.4**
	comp=Z,7.9nm,1.1s,baz=148,slow=12,SNR=19						
CTKT	**Corum**	**30.27**	**333**	*i* P	**P**	**18 22 49.6**	**+3.5**
ISP	**Isparta**	**30.32**	**324**	*e*P	**P**	**18 22 45.5**	**-1.1**
	comp=Z,262nm,1.4s,mb5.8						
ISP	**Isparta**	**30.32**	**324**	*c* *i*P	**P**	**18 22 47.1**	**+0.5**
GOLH	**Golhisar**	**30.45**	**322**	*i* P	**P**	**18 22 47.7**	**-0.1**
TKTP	**Tekketepe**	**30.56**	**324**	*i* P	**P**	**18 22 47.7**	**-1.1**
KIV	**Kislovodsk**	**30.56**	**346**	*e*P	**P**	**18 22 46.9**	**-1.8**
	comp=Z,1μm,1.1s,mb6.6						
KIV	**Kislovodsk**	**30.56**	**346**	*e*P	**P**	**18 22 46.9**	**-1.8**
	comp=Z,1μm,1.1s,mb6.6						
KIV				LR	LR		
	comp=Z,20μm,19.0s,MS5.8						
KIV	**Kislovodsk**	**30.56**	**346**	*c* *i*P	**P**	**18 22 47.4**	**-1.3**
KIV				pmax	pmax		
	comp=Z,62nm,1.1s,mb5.3						
KIV				MLR	MLR		
	comp=Z,92μm,20.0s,MS6.4						
ELDT	**Eldivan**	**30.78**	**331**	*i* P	**P**	**18 22 47.7**	**-3.0**
BOYT	**Boyabat**	**30.87**	**334**	*i* P	**P**	**18 22 47.7**	**-3.7**
SOC	**Sochi**	**31.00**	**342**	⇑*i*P	**P**	**18 22 53.9**	**+1.3**
DNZL	**Cakiroluk**	**31.05**	**323**	*i* P	**P**	**18 22 53.6**	**+0.4**
ESKT	**Eskisehir**	**31.33**	**327**	*i* P	**P**	**18 22 51.3**	**-4.2**
SGKT	**Sivrigoynuk**	**31.50**	**330**	*i* P	**P**	**18 22 54.4**	**-2.6**
GOF	**Gofitskoye**	**31.53**	**347**	⇓*i*P	**P**	**18 22 57.1**	**-0.2**
GOF				pmax	pmax		
	comp=Z,80nm,1.7s,mb5.3						
BDRM	**Kayabasi**	**31.62**	**320**	*i* P	**P**	**18 22 55.7**	**-2.5**
BALT	**Daday**	**31.63**	**332**	*i* P	**P**	**18 23 01.1**	**+3.0**
GDZ	**Gediz**	**31.76**	**325**	*i* P	**P**	**18 22 58.3**	**-1.1**
BORA	**Eskisehir**	**31.80**	**327**	*i* P	**P**	**18 23 04.0**	**+4.4**
KOLN	**Koldanda**	**31.93**	**60**	*e*P	**P**	**18 23 01.7**	**+0.8**
	comp=Z,1μm,1.4s,mb6.6						
IDI	**Anoyia**	**32.25**	**315**	P	**P**	**18 23 05.1**	**+1.4**
	comp=Z,30nm,0.8s,mb5.2,baz=159,slow=13,SNR=13						
IDI				LR	LR	18 38 18.8	
	comp=Z,27μm,18.1s,MS6.0,baz=113,slow=41						
KSH	**Kashi**	**32.48**	**35**	*e*P	**P**	**18 23 08.5**	**+2.9**
KSH				*e*AP	pP	18 23 12.5	+1.0
KSH				*e*XP	sP	18 23 15.8	+1.8
KSH				*e*PP	PP	18 24 19.3	+5.2
KSH				*e*PPP	PPP	18 24 35.0	+5.4
KSH				*e*PCP	PcP	18 25 52.0	-0.6
KSH				*e*S	**S**	**18 28 24.0**	**+5.7**
KSH				*e*XS		18 28 32.8	
KSH				*e*SCP		18 29 34.0	
KSH				*e*PCS		18 29 36.0	
KSH				AMB	AMB		
	comp=Z,980nm,3.9s						
KSH				LR	LR		
	comp=N,10μm,11.7s						
KSH				LR	LR		
	comp=E,6μm,9.7s						
KKAR	**Karatay Array**	**32.56**	**25**	*i* P	**P**	**18 23 04.9**	**-1.3**
KDAG	**Bornova**	**32.58**	**322**	*i* P	**P**	**18 23 06.8**	**+0.3**
ULDT	**Uludag**	**32.69**	**326**	*i* P	**P**	**18 23 03.1**	**-4.4**
ANN	**Anapa**	**32.81**	**340**	*e*P	**P**	**18 23 05.1**	**-3.4**
ANN				*i* PPP	PPP	18 24 22.4	-12
ANN				*i*		18 25 50.3	
ANN				*e*S	**S**	**18 28 24.4**	**+0.9**
ANN				*e*SSS	SSS	18 30 48.0	+1.8
ANN				pmax	pmax		
	comp=Z,60nm,1.7s,mb5.2						
ANN				pmax	pmax		
	comp=Z,2μm,9.4s						
ANN				MLR	MLR		
	comp=N,45μm,18.0s,MS6.2						
ANN				MLR	MLR		
	comp=E,12μm,18.0s,MS6.2						
ANN				MLR	MLR		
	comp=Z,39μm,18.0s,MS6.2						
APE	**Apeiranthos**	**32.84**	**318**	*i* P	**P**	**18 23 12.9**	**+4.2**
GKN	**Gorkha**	**32.87**	**60**	*e*P	**P**	**18 23 09.5**	**+0.4**
	comp=Z,898nm,1.3s,mb6.5						
URLA	**Izmir**	**32.96**	**321**	*i* P	**P**	**18 23 11.7**	**+1.9**
DMN	**Daman**	**33.15**	**61**	*e*P	**P**	**18 23 12.2**	**+0.6**
	comp=Z,1μm,1.4s,mb6.6						
OPO	**Ambohidratompo**	**33.19**	**189**	P	**P**	**18 23 12.6**	**+0.6**
	comp=Z,29nm,0.9s,mb5.2,baz=4.7,slow=7.0,SNR=20						
AML	**Almayashu**	**33.20**	**30**	P	**P**	**18 23 17.9**	**+6.1**
	SNR=9.2						
KKN	**Kakani**	**33.35**	**61**	*e*P	**P**	**18 23 13.9**	**+0.6**
	comp=Z,2μm,1.6s						
KKN	**Kakani**	**33.35**	**61**	*e*P	**P**	**18 23 13.9**	**+0.6**
KKN				pmax	pmax		
	comp=Z,1μm,1.6s,mb6.5						
PKI	**Pulchoki**	**33.40**	**62**	*e*P	**P**	**18 23 13.9**	**+0.2**
	comp=Z,1μm,1.6s,mb6.6						
PKI	**Pulchoki**	**33.40**	**62**	*e*P	**P**	**18 23 13.9**	**+0.2**
PKI				pmax	pmax		
	comp=Z,681nm,1.6s,mb6.3						
EKS2	**Erkin-Say**	**33.65**	**29**	P	**P**	**18 23 15.6**	**-0.2**
	SNR=21						
UCH	**Uchtor**	**33.67**	**30**	P	**P**	**18 23 16.3**	**+0.3**
	SNR=14						
PRK	**Paraskevi**	**33.72**	**322**	*e*P	**P**	**18 23 20.0**	**+3.6**
KZA	**Kyzart**	**33.92**	**31**	P	**P**	**18 23 20.1**	**+1.9**
	SNR=10						
AAK	**Ala-Archa**	**33.97**	**30**	P	**P**	**18 23 18.7**	**+0.2**
	SNR=9.0						
KYTH	**Kithira**	**34.05**	**315**	*e*P	**P**	**18 23 22.0**	**+2.7**
SIM	**Simferopol'**	**34.13**	**337**	*e*P	**P**	**18 23 17.6**	**-2.3**
SIM	**Simferopol'**	**34.13**	**337**	⇑*e*P	**P**	**18 23 17.5**	**-2.4**
SIM						18 24 28.9	
SIM				S	**S**	**18 28 49.5**	**+5.7**
SIM				pmax	pmax		
	comp=Z,32nm,1.2s,mb5.1						
SIM				MLR	MLR		
	comp=Z,17μm,19.0s,MS5.8						
**F

VTS	**Vitosha**	**37.64 324**	*i* P	**P**	**18 23 51.0 +1.4**
VTS	**Vitosha**	**37.64 324**	P	**P**	**18 23 49.8 +0.2**
VORD	**Divnogorie**	**37.94 347**	*e*P	**P**	**18 23 57.9 +5.8**
VORD			pmax	pmax	
	comp=N,1μm,1.0s				
VORD			pmax	pmax	
	comp=Z,530nm,1.0s,mb6.2				
VORD			pmax	pmax	
	comp=E,280nm,0.9s				
VORD			MLR	MLR	
	comp=Z,28μm,20.0s,MS6.1				
VORD			MLR	MLR	
	comp=N,32μm,22.0s				
VORD			MLR	MLR	
	comp=E,14μm,15.0s				
KIS	**Kishinev**	**37.95 334**	*e*P	**P**	**18 23 50.0 -2.2**
KIS			*i*		18 25 24.0
KIS			*i* PPP	PPP	18 25 46.0 +1.9
KIS			*i* S	**S**	**18 29 48.0 +5.4**
KIS			pmax	pmax	
	comp=N,2μm,10.0s				
KIS			pmax	pmax	
	comp=E,2μm,10.0s				
KIS			pmax	pmax	
	comp=Z,3μm,10.0s				
KIS			pmax	pmax	
	comp=N,4μm,12.0s				
KIS			pmax	pmax	
	comp=E,4μm,12.0s				
KIS			smax		
	comp=E,6μm,17.0s				
KIS			smax		
	comp=N,7μm,15.0s				
KIS			MLR	MLR	
	comp=Z,21μm,15.0s,MS6.1				
KIS			MLR	MLR	
	comp=N,19μm,16.0s,MS6.1				
KIS			MLR	MLR	
	comp=E,15μm,16.0s,MS6.1				
VRI	**Vrincioaia**	**38.04 331**	⇑P	**P**	**18 23 51.1 -1.9**
VRI	**Vrincioaia**	**38.04 331**	⇑P	**P**	**18 23 51.1 -1.9**
KEK	**Kerkira**	**38.04 318**	*e*P	**P**	**18 23 57.5 +4.4**
MLR	**Muntele Rosu**	**38.15 330**	P	**P**	**18 23 52.9 -1.0**
	comp=E,5.5nm,0.8s,baz=111,slow=12,SNR=10				
MLR			LR	LR	18 39 53.5
	comp=E,38μm,21.1s,MS6.2,baz=290,slow=37				
MLR	**Muntele Rosu**	**38.15 330**	⇑P	**P**	**18 23 56.3 +2.4**
VRSR	**Storozhevoye**	**38.20 347**	*d i*P	**P**	**18 23 51.0 -3.2**
VRSR			*e*S	**S**	**18 29 41.4 -4.9**
VRSR			*e*SS	SS	18 32 17.1 -7.7
VRSR			pmax	pmax	
	comp=Z,250nm,1.5s,mb5.7				
VRSR			pmax	pmax	
	comp=N,170nm,1.3s				
VRSR			pmax	pmax	
	comp=E,40nm,1.0s				
VRSR			smax		
	comp=N,750nm,4.6s				
VRSR			smax		
	comp=Z,630nm,7.2s				
VRSR			smax		
	comp=E,370nm,3.7s				
VRSR			MLR	MLR	
	comp=E,16μm,18.0s				
VRSR			MLR	MLR	
	comp=Z,31μm,18.0s,MS6.2				
SKO	**Skopje**	**38.29 322**	*e*P	**P**	**18 23 53.7 -1.4**
SKO			*i*		18 24 03.0
MTUR	**Matau**	**38.40 329**	⇓P	**P**	**18 24 01.4 +5.4**
ZAPS	**Zavoj/Pirot**	**38.42 324**	⇑*i*P	**P**	**18 23 54.6 -1.6**
VOIR		**38.55 329**	⇓P	**P**	**18 24 00.4 +3.1**
VOIR		**38.55 329**	⇓P	**P**	**18 24 00.4 +3.1**
BARS	**Barje**	**38.58 323**	⇓*i*P	**P**	**18 23 54.6 -2.9**
VOR	**Voronezh**	**38.68 347**	P	**P**	**18 23 56.0 -2.3**
VOR			*e**PP	pP	18 24 04.0 -0.2
VOR			*e*S	**S**	**18 29 55.0 +1.4**
VOR			pmax	pmax	
	comp=N,1μm,1.2s				
VOR			pmax	pmax	
	comp=E,830nm,1.2s				
VOR			pmax	pmax	
	comp=Z,1μm,1.2s,mb6.4				
VOR			smax		
	comp=N,170nm,1.4s				
VOR			smax		
	comp=Z,60nm,1.4s				
VOR			smax		
	comp=E,250nm,1.5s				
LSA	**Lhasa**	**38.83 60**	P	**P**	**18 24 05.0 +5.2**
LSA			AP	pP	18 24 12.8 +7.1
LSA			AMB	AMB	
	comp=Z,30nm,1.2s,mb4.9				
LSA			LR	LR	
	comp=N,4μm,12.8s,MS5.7				
LSA			LR	LR	
	comp=E,5μm,10.7s,MS5.7				
LSA			LR	LR	
	comp=Z,7μm,10.7s,MS5.8				
LSA	**Lhasa**	**38.83 60**	*e*P	**P**	**18 23 59.7 -0.1**
	comp=Z,146nm,1.7s,mb5.4				
LSA	**Lhasa**	**38.83 60**	*e*P	**P**	**18 23 59.6 -0.1**
	comp=Z,146nm,1.7s,mb5.4				
LSA	**Lhasa**	**38.83 60**	*e*P	**P**	**18 23 59.7 -0.1**
LSA			pmax	pmax	
	comp=Z,146nm,1.7s,mb5.4				
TIR	**Tirane**	**38.90 320**	P	**P**	**18 24 01.8 +1.6**
SOI	**Samo**	**39.79 313**	P	**P**	**18 24 10.4 +2.7**
TIP	**Timpagrande**	**39.81 315**	*e*P	**P**	**18 24 07.6 -0.2**
TIP	**Timpagrande**	**39.81 315**	*e*P	**P**	**18 24 07.6 -0.2**
GRI	**Girifalco**	**39.88 314**	P	**P**	**18 24 11.2 +2.8**
CEL	**Celeste**	**39.99 313**	P	**P**	**18 24 10.9 +1.6**
BURAR	**Bucovina Array**	**40.03 331**	⇓P	**P**	**18 24 04.5 -5.0**
BURAR	**Bucovina Array**	**40.03 331**	⇓P	**P**	**18 24 04.5 -5.0**
NVSS	**Nova Varos 2**	**40.23 323**	⇓*i*P	**P**	**18 24 12.9 +1.6**
IMP	**Imphal**	**40.36 69**	*ex*	x	18 24 19.0
DIVS	**Divcibare**	**40.41 324**	⇑*i*P	**P**	**18 24 09.8 -3.0**
BEO	**Belgrade**	**40.59 325**	*e*P	**P**	**18 24 16.0 +1.8**
VAE	**Valguarnera**	**40.72 311**	P	**P**	**18 24 20.4 +5.2**
	comp=Z,19nm,0.8s,mb4.8,baz=27,slow=5.6,SNR=7.4				
VAE			LR	LR	18 40 59.9
	comp=Z,9μm,20.1s,MS5.6,baz=315,slow=36				
VAE	**Valguarnera**	**40.72 311**	P	**P**	**18 24 20.5 +5.2**
AKASG	**Malin Array Be**	**40.74 337**	P	**P**	**18 24 12.6 -2.7**
	comp=Z,7.2nm,0.7s,baz=146,slow=7.6,SNR=48				
AKASG			PP	PP	18 25 49.6 -2.9
	comp=Z,12nm,0.9s,baz=146,slow=8.5,SNR=4.9				
AKASG	**Malin Array Be**	**40.74 337**	PP	PP	18 25 49.5 -3.0
MKAR	**Makanchi Array**	**40.82 32**	P	**P**	**18 24 15.3 -0.7**
	comp=Z,5.1nm,0.6s,baz=217,slow=8.7,SNR=74				
MKAR			LR	LR	18 43 37.4
	comp=Z,8μm,18.5s,MS5.6,baz=237,slow=40				
MKAR	**Makanchi Array**	**40.82 32**	P	**P**	**18 24 15.3 -0.7**
MKAR			LR	LR	18 43 37.4
CUC	**Castrocucco**	**40.84 316**	P	**P**	**18 24 18.8 +2.6**
BRVK	**Borovoye**	**41.08 16**	*e*P	**P**	**18 24 16.0 -2.1**
	comp=Z,177nm,1.2s,mb5.6				
BRVK	**Borovoye**	**41.08 16**	*e*P	**P**	**18 24 16.1 -2.0**
	comp=Z,177nm,1.2s,mb5.6				
BRVK			LR	LR	
	comp=Z,3μm,21.0s,MS5.1				
BRVK	**Borovoye**	**41.08 16**	*e*P	**P**	**18 24 16.1 -2.0**
BRVK			pmax	pmax	
	comp=Z,177nm,1.2s,mb5.6				
BRVK			MLR	MLR	
	comp=Z,3μm,21.0s,MS5.1				
BVA0	**Borovoye Array**	**41.08 17**	*i* P	**P**	**18 24 16.6 -1.5**
BVA0			pmax	pmax	
	comp=Z,49nm,1.2s,mb5.0				
BVAR	**Borovoye Array**	**41.08 17**	P	**P**	**18 24 16.7 -1.3**
	comp=Z,7.3nm,0.6s,baz=191,slow=7.8,SNR=59				
STON	**Ston**	**41.08 320**	*i* P	**P**	**18 24 18.9 +0.7**
KURK	**Kurchatov**	**41.97 25**	*e*P	**P**	**18 24 23.9 -1.5**
	comp=Z,257nm,1.0s,mb5.8				
KURK	**Kurchatov**	**41.97 25**	*e*P	**P**	**18 24 23.9 -1.6**
	comp=Z,257nm,1.0s,mb5.8				
KURK			LR	LR	
	comp=Z,3μm,19.0s,MS5.2				
KURK	**Kurchatov**	**41.97 25**	*i* P	**P**	**18 24 24.4 -1.0**
KURK			pmax	pmax	
	comp=Z,164nm,1.2s,mb5.5				
WMQ	**Urumqi**	**42.02 39**	P	**P**	**18 24 26.0 +0.1**
WMQ			AP	pP	18 24 33.0 +1.1
WMQ			PP	PP	18 26 07.0 +0.6
WMQ			SCP		18 30 10.0
WMQ			S	**S**	**18 30 44.0 +0.4**
WMQ			SS	SS	18 33 46.0 +0.5
WMQ			AMB	AMB	
	comp=Z,35nm,1.1s,mb4.9				
WMQ			AMB	AMB	
	comp=Z,245nm,6.0s				
WMQ			LR	LR	
	comp=N,15μm,15.0s,MS6.1				
WMQ			LR	LR	
	comp=E,10μm,14.0s,MS6.1				
WMQ			LR	LR	
	comp=Z,7μm,14.0s,MS5.7				
UZH	**Uzhgorod**	**42.13 330**	*e*P	**P**	**18 24 27.0 +0.2**
LVV	**L'vov**	**42.17 333**	*e*P	**P**	**18 24 26.2 -0.9**
LVV	**L'vov**	**42.17 333**	*e*P	**P**	**18 24 25.5 -1.6**
LVV			*i*		18 26 12.5
LVV			*i*		18 26 28.1
LVV			*i* S	**S**	**18 30 50.7 +4.9**
LVV			*i*		18 34 25.9
LVV			MLR	MLR	
	comp=N,9μm,17.0s,MS5.8				
LVV			MLR	MLR	
	comp=E,6μm,17.0s,MS5.8				
LVV			MLR	MLR	
	comp=Z,10μm,17.0s,MS5.8				
ARU	**Arti**	**42.18 5**	⇓*i*P	**P**	**18 24 25.2 -1.9**
ARU			*e*		18 26 12.9
ARU			*i* S	**S**	**18 30 45.5 -0.3**
ARU			pmax	pmax	
	comp=Z,442nm,1.0s,mb6.0				
ARU			MLR	MLR	
	comp=N,13μm,20.0s,MS5.9				
ARU			MLR	MLR	
	comp=E,8μm,18.0s,MS5.9				
ARU			MLR	MLR	
	comp=Z,13μm,18.0s,MS5.8				
PECR	**Pechory**	**42.28 353**	⇓*i*P	**P**	**18 24 25.0 -2.9**
PECR			*e*		18 26 12.0
PECR			*e*S	**S**	**18 30 47.4 +0.1**
PECR			*e*		18 34 31.0
PECR			pmax	pmax	
	comp=Z,3.0nm,10.0s				
PECR			pmax	pmax	
	comp=N,2μm,7.0s				
PECR			pmax	pmax	
	comp=E,700nm,7.0s				
PECR			pmax	pmax	
	comp=N,3μm,12.0s				
PECR			pmax	pmax	
	comp=E,1μm,12.0s				
PECR			pmax	pmax	
	comp=Z,3μm,12.0s				
PECR			smax		
	comp=N,5μm,11.2s				
PECR			smax		
	comp=E,5μm,8.0s				
PECR			MLR	MLR	
	comp=Z,24μm,17.0s,MS6.2				
PECR			MLR	MLR	
	comp=N,24μm,16.0s,MS6.2				
PECR			MLR	MLR	
	comp=E,6μm,12.0s,MS6.2				
OBN	**Obninsk**	**42.41 347**	*e*P	**P**	**18 24 26.5 -2.5**
	comp=E,814nm,1.3s,mb6.2				
OBN	**Obninsk**	**42.41 347**	*e*P	**P**	**18 24 26.5 -2.5**
	comp=E,814nm,1.3s,mb6.2				
OBN			LR	LR	
	comp=Z,7μm,19.0s,MS5.6				
OBN	**Obninsk**	**42.41 347**	*c i*P	**P**	**18 24 27.3 -1.7**
OBN			*e**PP	pP	18 24 35.5 +0.6
OBN			*e*		18 26 20.0
OBN			pmax	pmax	
	comp=Z,88nm,1.6s,mb5.1				
OBN			MLR	MLR	
	comp=Z,27μm,11.0s,MS6.4				
KWP	**Kalwaria**	**42.64 332**	*e*P	**P**	**18 24 29.4 -1.5**
KWP			*e*pP	pP	18 24 33.4 -3.4
KWP			*e*sP	sP	18 24 36.6 -2.8
KWP			*e*PcP	PcP	18 26 21.0 -2.4
KWP			*e*S	**S**	**18 30 57.3 +4.7**
KWP			*e*sS		18 31 05.0
KWP			MLR	MLR	18 42 57.7
	comp=Z,17μm,22.7s,MS5.9				
KWP	**Kalwaria**	**42.64 332**	*e*P	**P**	**18 24 29.5 -1.4**
KWP			*e*pP	pP	18 24 33.4 -3.5
KWP			*e*sP	sP	18 24 36.6 -2.7
KWP			*e*PcP	PcP	18 26 21.0 -2.5
KWP			*e*S	**S**	**18 30 57.3 +4.7**
KWP			*e*sS		18 31 05.0
KWP	**Kalwaria**	**42.64 332**	*e*P	**P**	**18 24 29.5 -1.4**
KWP			*e**SP	sP	18 24 36.6 -2.7
KWP			*e*		18 26 21.0
KWP			*e*S	**S**	**18 30 57.3 +4.7**
CII	**Carovilli**	**42.66 317**	*e*P	**P**	**18 24 29.8 -1.4**
	comp=Z,182nm,1.4s,mb5.6				
CII	**Carovilli**	**42.66 317**	*e*P	**P**	**18 24 29.8 -1.4**
	comp=Z,182nm,1.4s,mb5.6				
CRVS	**Cervenica-Dubn**	**42.72 330**	*e*P	**P**	**18 24 33.6 +2.0**
CRVS			*e*	pP	18 24 39.4 +1.9
CRVS			*e*S	**S**	**18 30 53.1 -0.7**
MOS	**Moscow**	**42.76 348**	*e*P	**P**	**18 24 30.5 -1.3**
MOS			*e*		18 26 11.8
MOS			*e*PPP	PPP	18 26 41.2 -6.4
MOS			*e*S	**S**	**18 30 54.6 +0.3**
MOS			pmax	pmax	
	comp=Z,973nm,1.3s,mb6.4				
MOS			smax		
	comp=E,2μm,8.0s				
MOS			MLR	MLR	
	comp=Z,31μm,20.6s,MS6.2				
SVE	**Sverdlovsk**	**42.78 7**	*e*P	**P**	**18 24 29.7 -2.3**
SVE			*e*	pP	18 24 37.0 -1.0
SVE			*e*		18 26 30.0
SVE			*e*S	**S**	**18 31 00.0 +5.4**
SVE			pmax	pmax	
	comp=Z,40nm,1.9s,mb4.8				
SVE			MLR	MLR	
	comp=N,13μm,14.0s,MS6.1				
SVE			MLR	MLR	
	comp=E,10μm,14.0s,MS6.1				
SVE			MLR	MLR	
	comp=Z,21μm,14.0s,MS6.2				
PSZ	**Piszkesteto**	**42.85 328**	⇑*e*pP	pP	18 24 37.5 -1.1
PSZ	**Piszkesteto**	**42.85 328**	*e*P	**P**	**18 24 31.2 -1.5**
	comp=Z,155nm,1.5s,mb5.5				
PSZ	**Piszkesteto**	**42.85 328**	*e*P	**P**	**18 24 31.2 -1.5**
	comp=Z,155nm,1.5s,mb5.5				
PSZ	**Piszkesteto**	**42.85 328**	*e*P	**P**	**18 24 31.2 -1.5**
PSZ			pmax	pmax	
	comp=Z,155nm,1.5s,mb5.5				
KECS	**Kecovo**	**42.92 329**	*e*P	**P**	**18 24 32.7 -0.5**
KECS			*e*sP	sP	18 24 37.6 -4.1
BUD	**Budapest**	**43.02 327**	*e*sP	sP	18 24 44.0 +1.5
STHS	**Stebnicka Huta**	**43.17 330**	*e*P	**P**	**18 24 34.7 -0.6**
STHS			*e*sP	sP	18 24 40.2 -3.5
AQU	**L'Aquila**	**43.55 317**	*e*P	**P**	**18 24 37.6 -0.9**
	comp=Z,94nm,1.2s,mb5.4				
AQU	**L'Aquila**	**43.55 317**	*e*P	**P**	**18 24 37.6 -0.9**
	comp=Z,94nm,1.2s,mb5.4				
AQU	**L'Aquila**	**43.55 317**	*e*P	**P**	**18 24 39.0 +0.5**
AQU			pmax	pmax	
	comp=Z,94nm,1.2s,mb5.4				
SRO	**Srobarova**	**43.61 327**	*e*	**P**	**18 24 45.2 +6.4**
SRO1	**Iza**	**43.62 327**	*e*	**P**	**18 24 49.0 +10**
NIE	**Niedzica**	**43.62 330**	*e*P	**P**	**18 24 43.4 +4.5**
NVLJ	**Novalja**	**43.72 321**	*i* P	**P**	**18 24 42.8 +3.0**
VYHS	**Vyhne**	**43.76 328**	*e*P	**P**	**18 24 38.7 -1.3**
VYHS			*e*	pP	18 24 46.1 +0.1
VYHS			*e*PP	PP	18 26 30.8 +7.0
VYHS			*e*S	**S**	**18 31 15.0 +6.1**
MNK	**Minsk**	**44.33 340**	*e*P	**P**	**18 24 41.0 -3.6**
OJC	**Ojcow**	**44.41 330**	*e*P	**P**	**18 24 48.6 +3.3**
OJC			*e*PP	PP	18 26 32.0 +1.8
OJC			*e*S	**S**	**18 31 23.7 +5.4**
OJC			MLR	MLR	18 45 08.0
	comp=Z,20μm,21.4s,MS6.0				
SOP	**Sopron**	**44.47 326**	⇓*e*pP	pP	18 24 50.0 -1.8
SOP			*i* PS	PS	18 31 25.4 -4.1
SOP	**Sopron**	**44.47 326**	P	**P**	**18 24 47.6 +1.7**
ZST	**Bratislava**	**44.48 327**	*e*P	**P**	**18 24 47.1 +1.2**
ZST			*e*S	**S**	**18 31 22.4 +2.9**
ZST			*e*L		18 46 40.4
MURB	**Monte Urbino**	**44.55 318**	P	**P**	**18 24 48.0 +1.5**
JAVC	**Velka Javorina**	**44.59 328**	P	**P**	**18 24 47.1 +0.3**
LJU	**Ljubljana**	**44.70 323**	*e*P	**P**	**18 24 47.0 -0.7**
CHG	**Chiang Mai**	**44.76 78**	⇓P	**P**	**18 24 48.6 0.0**
	comp=Z,54nm,1.0s,mb5.3				
ARSA	**Arzberg**	**44.80 325**	⇑*i*P	**P**	**18 24 50.2 +1.7**
	comp=Z,1μm,3.9s				
OBKA	**Obir**	**44.94 323**	⇑*i*P	**P**	**18 24 51.4 +1.8**
	comp=Z,1μm,3.7s				
VKA	**Vienna**	**44.95 326**	*e*P	**P**	**18 24 50.0 +0.3**
VKA			*i*	pP	18 24 54.2 -1.4
	comp=Z,896nm,3.0s				
VKA	**Vienna**	**44.95 326**	*e*P	**P**	**18 24 50.0 +0.3**
	comp=Z,896nm,3.0s				
VKA			*i*	pP	18 24 54.2 -1.4
OKC	**Ostrava-Krasne**	**44.96 329**	*e*P	**P**	**18 24 47.5 -2.3**
OKC			*e*S	**S**	**18 31 33.4 +7.0**
OKC			AMS	AMS	18 45 40.0
	comp=Z,17μm,15.7s				
OKC	**Ostrava-Krasne**	**44.96 329**	P	**P**	**18 24 51.5 +1.7**
OKC			*e*S	**S**	**18 31 33.4 +7.0**
TRI	**Trieste**	**44.98 322**	P	**P**	**18 24 53.0 +3.0**
VOY	**Vojsko**	**45.07 322**	*e*P	**P**	**18 24 52.0 +1.3**
VOY			*e*	pP	18 24 56.2 -0.4
RAC	**Raciborz**	**45.10 329**	*e*P	**P**	**18 24 52.4 +1.6**
RAC			*e*PP	PP	18 26 38.8 +1.7
RAC			*e*S	**S**	**18 31 31.5 +3.2**
RAC			LME		18 42 35.9
	comp=Z,22μm,22.3s				
RAC			MLR	MLR	18 46 12.7
	comp=Z,26μm,19.7s,MS6.2				
RAC			LMN		18 46 41.7
	comp=Z,15μm,18.2s				
SOKR	**Solikamsk**	**45.18 3**	*c i*P	**P**	**18 24 50.3 -1.0**
SOKR			S	**S**	**18 31 31.7 +2.4**
SOKR			SS	SS	18 34 48.1 +4.6
SOKR			pmax	pmax	
	comp=Z,540nm,1.0s,mb6.3				
SOKR			MLR	MLR	
	comp=Z,22μm,18.0s,MS6.1				
MORC	**Moravsky Berou**	**45.23 329**	*e*P	**P**	**18 24 55.7 +3.8**
MORC			*e*S	**S**	**18 31 33.1 +2.9**
MORC	**Moravsky Berou**	**45.23 329**	*e*P	**P**	**18 24 50.6 -1.2**
	comp=Z,205nm,1.5s,mb5.7				
MORC	**Moravsky Berou**	**45.23 329**	*e*P	**P**	**18 24 50.6 -1.3**
MORC			pmax	pmax	
	comp=Z,205nm,1.5s,mb5.7				
WAR	**Warsaw**	**45.23 333**	*e*P	**P**	**18 24 51.2 -0.6**
WAR			*e*pP	pP	18 24 54.6 -3.2
WAR			*e*sP	sP	18 24 58.1 -2.2
WAR			*e*S	**S**	**18 31 30.7 +0.5**
WAR			*e*sS		18 31 38.5
WAR			MLR	MLR	18 45 34.4
	comp=Z,20μm,20.3s,MS6.0				
WAR	**Warsaw**	**45.23 333**	*e*P	**P**	**18 24 51.2 -0.7**
WAR			*e*pP	pP	18 24 54.6 -3.2
WAR			*e*sP	sP	18 24 58.1 -2.2
WAR			*e*S	**S**	**18 31 30.7 +0.5**
WAR			*e*SS		18 31 38.5
WAR			LR	LR	
	comp=Z,20μm,20.3s,MS6.0				
WAR	**Warsaw**	**45.23 333**	*e*P	**P**	**18 24 51.2 -0.7**
WAR			*e**SP	sP	18 24 58.1 -2.2
WAR			*e*S	**S**	**18 31 30.7 +0.5**
WAR			*e*SS		18 31 38.5
WAR			MLR	MLR	
	comp=Z,20μm,20.3s,MS6.0				
IDID	**Didziasalis**	**45.36 340**	*e*P	**P**	**18 24 52.9 +0.1**
IDID			AMb	AMB	18 25 04.1
	comp=Z,167nm,1.2s,mb5.8				
IDID	**Didziasalis**	**45.36 340**	*e*P	**P**	**18 24 52.9 +0.1**
	comp=Z,167nm,1.2s,mb5.8,SNR=26				
VRAC	**Vranov**	**45.43 328**	P	**P**	**18 24 50.5 -2.9**
	comp=Z,4.4nm,0.9s,baz=86,slow=3.0,SNR=6.6				
VRAC			LR	LR	18 44 43.8
	comp=Z,11μm,22.0s,MS5.8,baz=135,slow=37				
VRAC	**Vranov**	**45.43 328**	*e*P	**P**	**18 24 55.2 +1.8**
VRAC			*e*S	**S**	**18 31 35.3 +2.3**
ABSA	**Djebel Ababsia**	**45.52 307**	P	**P**	**18 25 02.0 +7.7**
IIGN	**Ignalina**	**45.57 339**	*e*P	**P**	**18 24 54.9 +0.5**
SUW	**Suwalki**	**45.64 336**	*e*P	**P**	**18 24 53.3 -1.7**
SUW			*e*pP	pP	18 24 59.9 -1.1
SUW			*e*sP	sP	18 25 03.1 -0.4
SUW			*e*PP	PP	18 26 48.9 +6.5
SUW			*e*S	**S**	**18 31 40.0 +4.1**
SUW			*e*SS		18 31 47.4
SUW			*e*SS	SS	18 35 07.6 +16
SUW			MLR	MLR	18 47 53.2
	comp=Z,19μm,19.0s,MS6.1				
SUW	**Suwalki**	**45.64 336**	*e*pP	pP	18 24 59.9 -1.1
SUW			*e*S	**S**	**18 31 40.0 +4.1**
SUW	**Suwalki**	**45.64 336**	*e*P	**P**	**18 24 53.3 -1.7**
SUW			*e*pP	pP	18 24 59.9 -1.1
SUW			*e*sP	sP	18 25 03.1 -0.4
SUW			*e*PP	PP	18 26 48.9 +6.5
SUW			*e*S	**S**	**18 31 40.0 +4.1**
SUW			*e*SS		18 31 47.4
SUW			*e*SS	SS	18 35 07.6 +16
SUW	**Suwalki**	**45.64 336**	*e*P	**P**	**18 24 53.3 -1.7**
SUW			*e**SP	sP	18 25 03.1 -0.4
SUW			*e*S	**S**	**18 31 40.0 +4.1**
SUW			*e*SS		18 31 47.4
CMAH	**Djebel Manchou**	**45.66 307**	P	**P**	**18 25 01.0 +5.5**
ISAL	**Salakas**	**45.78 339**	*e*P	**P**	**18 24 57.0 +1.0**
ISAL			AMb	AMB	18 25 07.5
	comp=Z,128nm,1.4s,mb5.7				
ISAL	**Salakas**	**45.78 339**	*e*P	**P**	**18 24 57.0 +0.9**
	comp=Z,128nm,1.4s,mb5.7,SNR=26				
MOA	**Molln**	**45.84 325**	⇑*i*P	**P**	**18 24 58.1 +1.4**
	comp=Z,1μm,3.9s				
IZAR	**Zarasai**	**45.88 340**	*e*P	**P**	**18 24 57.3 +0.4**
IZAR			AMb	AMB	18 25 08.3
	comp=Z,160nm,1.3s,mb5.8				
IZAR	**Zarasai**	**45.88 340**	*e*P	**P**	**18 24 57.3 +0.4**
	comp=Z,160nm,1.3s,mb5.8,SNR=26				
KBA	**Koelnbreinsper**	**45.95 323**	⇑*i*P	**P**	**18 24 58.7 +1.1**
	comp=Z,896nm,3.8s				
KBA	**Koelnbreinsper**	**45.95 323**	⇑*i*P	**P**	**18 24 58.7 +1.1**
KBA			pmax	pmax	
	comp=Z,896nm,3.8s				
NNT	**Nongplab**	**46.05 86**	P	**P**	**18 25 04.0 +5.2**
NST	**Nakhon Sawan**	**46.08 82**	P	**P**	**18 25 00.0 +1.0**
CAEH	**'Ain El Ouahch**	**46.15 307**	P	**P**	**18 25 05.0 +5.7**
MAIM		**46.16 318**	P	**P**	**18 24 58.9 -0.4**
MAIM		**46.16 318**	P	**P**	**18 24 58.9 -0.4**
DPC	**Dobruska-Polom**	**46.20 329**	*e*P	**P**	**18 24 57.3 -2.2**
DPC			*e*S	**S**	**18 31 49.8 +5.7**
DPC			AMS	AMS	18 40 50.0
	comp=Z,20μm,22.7s				
CTEI	**Djebel Teioual**	**46.29 306**	P	**P**	**18 25 07.0 +6.6**
SARO	**Sassorosso**	**46.34 318**	P	**P**	**18 25 00.8 +0.1**
SARO	**Sassorosso**	**46.34 318**	P	**P**	**18 25 00.8 +0.1**
NANT	**Nan**	**46.43 78**	⇑P	**P**	**18 25 00.0 -1.7**
	comp=Z,188nm,0.5s,mb6.3				
CTI	**Castel Tesino**	**46.43 321**	P	**P**	**18 25 03.4 +2.0**
UPC	**Upice**	**46.45 329**	*e*P	**P**	**18 24 59.3 -2.2**
UPC			*e*PP	PP	18 26 58.8 +8.1
UPC			*e*S	**S**	**18 31 52.6 +4.9**
UPC	**Upice**	**46.45 329**	*e*P	**P**	**18 24 59.3 -2.2**
UPC			*e*S	**S**	**18 31 52.6 +4.9**
VINC	**Vinca**	**46.48 318**	P	**P**	**18 25 00.8 -1.0**
VINC	**Vinca**	**46.48 318**	P	**P**	**18 25 00.8 -1.0**
VALM		**46.51 318**	P	**P**	**18 25 01.8 -0.3**
VALM		**46.51 318**	P	**P**	**18 25 01.8 -0.2**
KSP	**Ksiaz**	**46.52 329**	*e*P	**P**	**18 25 00.8 -1.3**
KSP			*e*pP	pP	18 25 06.3 -1.8
KSP			*e*sP	sP	18 25 07.8 -2.7
KSP			*e*S	**S**	**18 31 48.8 +0.2**
KSP			*e*sS		18 31 57.0
KSP			*e*SS	SS	18 35 42.9 +36
KSP			MLR	MLR	18 47 05.6
	comp=Z,30μm,20.3s,MS6.2				
KSP	**Ksiaz**	**46.52 329**	*e*P	**P**	**18 24 59.2 -2.8**
KSP			*e*pP	pP	18 25 06.0 -2.1
KSP			*e*ScS	ScS	18 35 05.0 +11
KSP	**Ksiaz**	**46.52 329**	*e*P	**P**	**18 24 59.2 -2.8**
KSP			*e*pP	pP	18 25 06.0 -2.1
KSP			*e*PP	PP	18 26 50.5 -0.8
KSP			*e*S	**S**	**18 31 47.0 -1.6**
KSP			*e*ScS	ScS	18 35 05.0 +11
KSP			*e*SS	SS	18 35 28.0 +21
KSP			LR	LR	
	comp=Z,34μm,20.3s,MS6.3				
KSP	**Ksiaz**	**46.52 329**	*e*P	**P**	**18 24 59.2 -2.8**
KSP			*e**PP	pP	18 25 06.0 -2.1
KSP			*e*		18 26 50.5

KSP *e*S **S** **18 31 47.0 -1.6**
KSP *e* 18 35 05.0
KSP MLR MLR
comp=Z,34µm,20.3s,MS6.3
PGF Pioggiola 46.57 316 *e*P **P** **18 25 00.5 -2.1**
comp=Z,262nm,1.5s,mb5.6
PGF Pioggiola 46.57 316 *e*P **P** **18 25 00.5 -2.1**
PGF pmax pmax
comp=Z,131nm,1.5s,mb5.6
CMER Merouana 46.57 306 P **P** **18 25 06.0 +3.3**
GRAM 46.69 319 P **P** **18 25 03.1 -0.4**
GRAM 46.69 319 P **P** **18 25 03.1 -0.3**
GEC2 GERESS Array S 46.70 325 *e*P **P** **18 25 03.5 0.0**
comp=Z,151nm,1.7s,mb5.7
GEC2 GERESS Array S 46.70 325 *e*P **P** **18 25 03.5 0.0**
GEC2 pmax pmax
comp=Z,151nm,1.7s,mb5.7
GERES GERESS Array B 46.70 325 P **P** **18 25 01.1 -2.4**
comp=Z,0.9nm,0.5s,baz=124,slow=7.1,SNR=9.6
GERES PP PP 18 26 57.5 +4.3
comp=Z,7.6nm,0.9s,baz=146,slow=4.8,SNR=3.6
GERES GERESS Array B 46.70 325 PP PP 18 26 57.5 +4.3
CODM 46.78 318 P **P** **18 25 03.0 -1.2**
CODM 46.78 318 P **P** **18 25 03.0 -1.2**
DFRA Djebel Bou Aff 46.83 307 P **P** **18 25 11.5 +6.8**
APPI Appiano 46.89 321 P **P** **18 25 06.9 +1.8**
PRU Pruhonice 46.90 327 *e*P **P** **18 25 03.3 -1.8**
PRU *e*PP PP 18 27 01.9 +6.7
PRU *e*S **S** **18 31 56.5 +2.4**
PRU AMS AMS 18 41 10.0
comp=Z,14µm,28.7s
PRU Pruhonice 46.90 327 *e*P **P** **18 25 03.3 -1.8**
PRU *e*S **S** **18 31 56.5 +2.4**
PRU MLR MLR
comp=Z,14µm,28.7s,MS5.8
ZAL Zalesovo 46.91 26 P **P** **18 25 03.5 -1.5**
comp=Z,4.4nm,0.6s,mb4.6,baz=245,slow=9.4,SNR=16
ZAL LR LR 18 48 03.6
comp=Z,11µm,18.8s,MS5.8,baz=241,slow=40
ZAL Zalesovo 46.91 26 P **P** **18 25 03.5 -1.6**
NVS Novosibirsk 46.92 24 *i* P **P** **18 25 03.5 -1.7**
NVS *e* 18 26 43.7
NVS *e* 18 26 58.6
NVS *i* S **S** **18 31 52.9 -1.4**
NVS pmax pmax
comp=Z,847nm,1.1s,mb6.6
NVS pmax pmax
comp=N,720nm,1.3s
NVS pmax pmax
comp=E,274nm,1.0s
NVS pmax pmax
comp=Z,138nm,2.0s,mb5.5
NVS pmax pmax
comp=N,108nm,1.8s
NVS pmax pmax
comp=E,112nm,2.5s
NVS smax
comp=N,478nm,2.7s
NVS smax
comp=E,396nm,3.1s
KHC Kasperske Hory 46.93 326 *e*P **P** **18 25 01.9 -3.4**
KHC *e*PP PP 18 27 04.5 +9.0
KHC *e*S **S** **18 31 55.5 +1.0**
KHC AMS AMS 18 49 10.0
comp=E,14µm,17.1s
KHC Kasperske Hory 46.93 326 *e*P **P** **18 25 01.9 -3.4**
KHC *e*S **S** **18 31 55.5 +1.0**
KHC MLR MLR
comp=Z,14µm,17.1s,MS6.0
CKHR Kef el Ahmar 46.98 306 P **P** **18 25 05.5 -0.4**
CKHR P pP 18 25 11.5 -0.4
PRA Prague 47.01 327 P **P** **18 25 08.0 +2.1**
PRA AMS AMS 18 50 00.0
WTTA Wattenberg 47.04 323⇑ *i*P **P** **18 25 06.4 +0.2**
comp=Z,1µm,4.0s
WTTA Wattenberg 47.04 323⇑ *i*P **P** **18 25 06.4 +0.2**
WTTA pmax pmax
comp=Z,1µm,4.0s
LBTB Lobatse 47.09 214 P **P** **18 25 06.7 -0.3**
comp=Z,96nm,0.8s,mb5.8,baz=43,slow=8.8,SNR=42
LBTB Lobatse 47.09 214 *e*P **P** **18 25 06.4 -0.6**
comp=Z,216nm,1.0s,mb6.0
LBTB LR LR
comp=Z,15µm,20.0s,MS5.9
LBTB Lobatse 47.09 214 *e*P **P** **18 25 06.4 -0.6**
LBTB pmax pmax
comp=Z,216nm,1.0s,mb6.0
LBTB MLR MLR
comp=Z,15µm,20.0s,MS5.9
WATA Walderalm 47.11 323⇓ *i*P **P** **18 25 07.9 +1.1**
comp=Z,106nm,1.4s,mb5.6
WATA Walderalm 47.11 323⇓ *i*P **P** **18 25 07.9 +1.1**
WATA pmax pmax
comp=Z,106nm,1.4s,mb5.6
MABI Malga Bissina 47.12 321 P **P** **18 25 08.8 +1.9**
PVCC Panska Ves 47.20 328 *e*P **P** **18 25 05.6 -1.9**
PVCC *e*S **S** **18 32 03.5 +5.2**
PVCC AMS AMS 18 49 50.0
comp=Z,16µm,15.9s
SQTA Sankt Quirin 47.27 322⇑ *i*P **P** **18 25 09.2 +1.2**
comp=Z,516nm,2.2s,mb6.1
SQTA Sankt Quirin 47.27 322⇑ *i*P **P** **18 25 09.2 +1.2**
SQTA pmax pmax
comp=Z,516nm,2.2s,mb6.1
WET Wettzell 47.32 325 *e*P **P** **18 25 07.9 -0.5**
comp=Z,183nm,2.2s,mb5.6
WET *e*S **S** **18 32 04.3 +4.3**
WET Wettzell 47.32 325 *e*P **P** **18 25 07.9 -0.5**
WET *e*S **S** **18 32 04.3 +4.3**
WET pmax pmax
comp=Z,183nm,2.2s,mb5.6
MOTA Moosalm 47.39 322⇑ *i*P **P** **18 25 09.1 +0.1**
comp=Z,172nm,1.5s,mb5.8
MOTA Moosalm 47.39 322⇑ *i*P **P** **18 25 09.1 +0.1**
MOTA pmax pmax
comp=Z,172nm,1.5s,mb5.8
GKP Gorka Klasztor 47.62 332 *e*P **P** **18 25 09.6 -1.2**
GKP *e*pP pP 18 25 16.1 -0.6
GKP *e*sP sP 18 25 18.3 -0.8
GKP *e*PP PP 18 27 05.4 +3.7
GKP *e*S **S** **18 32 02.7 -1.5**
GKP *e*sS 18 32 15.4
GKP MLR MLR 18 46 24.8
comp=Z,13µm,23.1s,MS5.8
GKP Gorka Klasztor 47.62 332 *e*P **P** **18 25 09.5 -1.2**
GKP *e*pP pP 18 25 16.1 -0.7
GKP *e*S **S** **18 32 02.7 -1.5**
GKP Gorka Klasztor 47.62 332 *e*P **P** **18 25 09.5 -1.2**
GKP *e*pP pP 18 25 16.1 -0.7
GKP *e*sP sP 18 25 18.3 -0.9
GKP *e*PP PP 18 27 05.4 +3.7
GKP *e*S **S** **18 32 02.7 -1.5**
GKP *e*SS 18 32 15.4
GKP LR LR
comp=Z,13µm,23.1s,MS5.8
GKP Gorka Klasztor 47.62 332 *e*P **P** **18 25 09.5 -1.2**
GKP *e**SP sP 18 25 18.3 -0.9
GKP *e* 18 27 05.4
GKP *e*S **S** **18 32 02.7 -1.5**
GKP *e*SS 18 32 15.4
GKP MLR MLR
comp=Z,13µm,23.1s,MS5.8
PCP Pian Castagno 47.69 318 P **P** **18 25 11.4 0.0**
PCP Pian Castagno 47.69 318 P **P** **18 25 11.4 0.0**
FUR Furstenfeldbru 47.71 324 *e*P **P** **18 25 11.3 -0.2**
comp=Z,775nm,2.2s,mb6.3
FUR Furstenfeldbru 47.71 324 *e*P **P** **18 25 11.3 -0.2**
FUR pmax pmax
comp=Z,775nm,2.2s,mb6.3
BRG Berggiesshubel 47.73 328 *e*P **P** **18 25 09.2 -2.4**
BRG S **S** **18 32 12.0 +6.3**
BRG Berggiesshubel 47.73 328 *e*P **P** **18 25 09.2 -2.5**
comp=Z,21nm,1.5s,mb4.9
BRG *e* pP 18 25 13.4 -4.3
BRG *i* 18 25 20.9
BRG PP PP 18 27 12.0 +9.3
BRG S **S** **18 32 12.0 +6.3**
BRG SS SS 18 35 49.0 +21
BRG LR LR
comp=Z,13µm,25.9s,MS5.8
BRG Berggiesshubel 47.73 328 *e*P **P** **18 25 09.2 -2.4**
BRG *i* 18 25 20.9
BRG S **S** **18 32 12.0 +6.3**
BRG pmax pmax
comp=Z,21nm,1.5s,mb5.0
BRG MLR MLR
comp=Z,13µm,25.9s,MS5.8
FIN Finale Ligure 47.77 317 P **P** **18 25 12.1 0.0**
FIN Finale Ligure 47.77 317 P **P** **18 25 12.1 +0.1**
TSUM Tsumeb 47.84 227 P **P** **18 25 10.9 -2.0**
comp=Z,22nm,1.2s,mb5.1,baz=17,slow=7.2,SNR=8.8
TSUM Tsumeb 47.84 227 *e*P **P** **18 25 11.8 -1.1**
comp=Z,133nm,1.0s,mb5.9
TSUM Tsumeb 47.84 227 *e*P **P** **18 25 11.8 -1.1**
comp=Z,133nm,1.0s,mb5.9
TSUM LR LR
comp=Z,36µm,21.0s,MS6.3
DAVOX Davos 47.85 321 P **P** **18 25 11.7 -1.0**
comp=Z,25nm,0.7s,mb5.3,baz=132,slow=11,SNR=11
DAVOX LR LR 18 45 19.9
comp=Z,8µm,21.0s,MS5.7,baz=116,slow=36
IMI Imperia 47.86 317 P **P** **18 25 12.7 0.0**
IMI Imperia 47.86 317 P **P** **18 25 12.7 -0.1**
AKF Akfadou 47.87 307 P **P** **18 25 18.8 +5.9**
SNG Songkhla 47.88 93 P **P** **18 25 22.5 +9.2**
ATAF Djebel Tarf 47.91 305 P **P** **18 25 18.5 +5.2**
VSU Vasula 47.94 342 *i* P **P** **18 25 12.5 -0.7**
NEGI Negi 47.96 317 P **P** **18 25 14.6 +1.1**
NEGI Negi 47.96 317 P **P** **18 25 14.6 +1.1**
ROB Roburent 48.03 317 P **P** **18 25 14.3 +0.3**
ROB Roburent 48.03 317 P **P** **18 25 14.3 +0.3**
PUL Pulkovo 48.08 345 *de*P **P** **18 25 21.2 +7.0**
PUL pmax pmax
comp=Z,226nm,1.3s,mb6.0
PUL pmax pmax
comp=N,277nm,0.9s
PUL pmax pmax
comp=E,301nm,1.1s
PUL MLR MLR
comp=N,27µm,17.0s,MS6.4
PUL MLR MLR
comp=E,21µm,16.0s,MS6.4
PUL MLR MLR
comp=Z,40µm,16.0s,MS6.5
DAVA Damuels 48.09 322⇑ *i*P **P** **18 25 13.9 -0.6**
comp=Z,819nm,3.8s
SAOF Saorge 48.11 317 *e*P **P** **18 25 17.6 +2.9**
REVF Revere 48.14 317 *e*P **P** **18 25 18.8 +3.9**
SBF Sospel 48.14 317 *e*P **P** **18 25 13.2 -1.7**
comp=Z,310nm,1.1s,mb5.9
SBF Sospel 48.14 317 *e*P **P** **18 25 13.2 -1.7**
SBF pmax pmax
comp=Z,155nm,1.1s,mb6.0
UBR Uberruh 48.15 322 *e*P **P** **18 25 16.0 +1.1**
NKC Novy Kostel 48.15 326 *e*P **P** **18 25 15.7 +0.8**
NKC *e*PP PP 18 27 12.7 +6.0
NKC *e*S **S** **18 32 18.4 +6.7**
NKC AMS AMS 18 42 40.0
comp=Z,15µm,25.8s
AUTN L'Aution 48.20 317 *e*P **P** **18 25 18.7 +3.3**
AKET Djebel Ketaf 48.27 306 P **P** **18 25 21.6 +5.6**
ENR Entracque 48.30 317 P **P** **18 25 16.4 +0.3**
ENR Entracque 48.30 317 P **P** **18 25 16.4 +0.3**
TOUF Mont Tournerai 48.33 317 *e*P **P** **18 25 19.4 +3.1**
MVIF Mont Vial 48.34 317 *e*P **P** **18 25 19.2 +2.7**
KMI Kunming 48.35 69⇓ P **P** **18 25 17.0 +0.2**
KMI AP pP 18 25 21.5 -1.4
KMI PCP PcP 18 26 43.0 -0.7
KMI PP PP 18 27 10.5 +1.5
KMI PPP PPP 18 28 04.3 +3.6
KMI PCS 18 30 39.0
KMI S **S** **18 32 16.5 +1.6**
KMI AMB AMB
comp=Z,885nm,6.8s
KMI LR LR
comp=N,7µm,18.5s,MS5.8
KMI LR LR
comp=E,6µm,19.8s,MS5.8
KMI LR LR
comp=Z,8µm,19.4s,MS5.7
KMI Kunming 48.35 69⇓ P **P** **18 25 17.1 +0.3**
comp=Z,0.9nm,6.8s
KMI pP pP 18 25 20.5 -2.4
KMI sP sP 18 25 21.4 -3.9
KMI PcP PcP 18 26 43.1 -0.6
KMI PP PP 18 27 10.5 +1.5
KMI PPP PPP 18 28 04.3 +3.6
KMI PcS 18 30 39.1
KMI S **S** **18 32 16.4 +1.5**
KMI sS 18 32 23.0
KMI SS SS 18 35 41.3 +1.6
KMI SSS SSS 18 36 58.7 +0.7
KMI LR LR
comp=Z,8µm,19.4s,MS5.7
KMI Kunming 48.35 69⇓ P **P** **18 25 17.1 +0.3**
KMI 18 26 43.1
KMI 18 27 10.5
KMI PPP PPP 18 28 04.3 +3.6
KMI S **S** **18 32 16.4 +1.5**
KMI *SS 18 32 23.0
KMI SS SS 18 35 41.3 +1.6
KMI SSS SSS 18 36 58.7 +0.7
KMI MLR MLR
comp=Z,8µm,19.4s,MS5.7
KULM Kulim 48.36 96 *e*P **P** **18 25 16.8 -0.2**
KULM Kulim 48.36 96 *e*P **P** **18 25 16.8 -0.2**
STV Sta Anna Valdi 48.37 317 P **P** **18 25 17.7 +1.0**
STV Sta Anna Valdi 48.37 317 P **P** **18 25 17.7 +1.0**
STV2 Anna di Valdie 48.37 317 P **P** **18 25 16.8 +0.2**
STV2 Anna di Valdie 48.37 317 P **P** **18 25 16.8 +0.2**
GTA Gaotai 48.39 50 P **P** **18 25 16.8 -0.1**
GTA AP pP 18 25 25.3 +2.3
GTA PCP PcP 18 26 42.3 -1.3
GTA PP PP 18 27 10.0 +0.8
GTA PPP PPP 18 28 02.0 +1.0
GTA SCP 18 30 34.8
GTA PCS 18 30 37.0
GTA S **S** **18 32 18.5 +3.2**
GTA SCS ScS 18 35 07.5 +1.6
GTA SS SS 18 35 43.8 +3.6
GTA AMB AMB
comp=Z,9.0nm,1.6s
GTA AMB AMB
comp=Z,1µm,11.9s
GTA LR LR
comp=N,5µm,23.3s,MS5.7
GTA LR LR
comp=E,7µm,18.4s,MS5.7
GTA LR LR
comp=Z,11µm,35.5s
LLS Linth-Limmern 48.41 321⇑ P **P** **18 25 17.4 +0.4**
CALN Calern 48.46 316 *e*P **P** **18 25 20.2 +2.8**
CLL Collm 48.47 328 P **P** **18 25 16.0 -1.3**
CLL *e**PP pP 18 25 21.0 -2.3
CLL *e**SP sP 18 25 25.0 -0.7
CLL *e*PP PP 18 27 18.0 +8.2
CLL *e*PPP PPP 18 28 04.0 +2.2
CLL *e*S **S** **18 32 24.0 +7.9**
CLL *e*SCS ScS 18 35 15.0 +8.8
CLL *e*SS SS 18 36 08.0 +27
CLL Collm 48.47 328 *e*P **P** **18 25 16.0 -1.3**
CLL *e* 18 25 25.0
CLL *e*S **S** **18 32 24.0 +7.9**
CLL *e*ScS ScS 18 35 15.0 +8.8
CLL LR LR
comp=Z,18µm,21.1s,MS6.0
CLL Collm 48.47 328 *e*P **P** **18 25 16.0 -1.3**
CLL *e* 18 25 25.0
CLL *e*S **S** **18 32 24.0 +7.9**
CLL MLR MLR
comp=Z,18µm,21.1s,MS6.0
ORX Oropa 48.52 319 P **P** **18 25 16.7 -1.1**
ORX Oropa 48.52 319 P **P** **18 25 16.7 -1.1**
GRA1 Grafenberg Arr 48.53 325 *e*P **P** **18 25 17.2 -0.6**
comp=Z,155nm,1.4s,mb5.8
GRA1 LR LR
comp=Z,8µm,21.4s,MS5.7
GRF Grafenberg Arr 48.53 325 *e*P **P** **18 25 17.2 -0.6**
GRF pmax pmax
comp=Z,155nm,1.4s,mb5.8
GRF MLR MLR
comp=Z,8µm,21.4s,MS5.7
GRFO Grafenberg 48.53 325 *e*P **P** **18 25 17.3 -0.5**
comp=Z,3µm,1.4s
GRFO Grafenberg 48.53 325 *e*P **P** **18 25 17.3 -0.5**
GRFO pmax pmax
comp=Z,3µm,1.4s
HDH Heidenheim 48.53 324 *e*P **P** **18 25 18.4 +0.5**
FRF La Foret Royal 48.55 316 *e*P **P** **18 25 16.3 -1.8**
comp=Z,353nm,1.2s,mb6.0
FRF La Foret Royal 48.55 316 *e*P **P** **18 25 16.3 -1.8**
FRF pmax pmax
comp=Z,177nm,1.2s,mb6.0
LMR La Mourre 48.56 316 *e*P **P** **18 25 16.2 -1.9**
comp=Z,265nm,1.1s,mb5.9
LMR La Mourre 48.56 316 *e*P **P** **18 25 16.2 -1.9**
LMR pmax pmax
comp=Z,132nm,1.1s,mb5.9
KKTK Khon Kaen 48.60 81 P **P** **18 25 22.0 +3.2**
comp=Z,432nm,0.7s,mb6.6
ADJB Djebel Djouab 48.64 306 P **P** **18 25 24.8 +5.9**
BHB Bricherasio 48.65 318 P **P** **18 25 18.3 -0.5**
BHB Bricherasio 48.65 318 P **P** **18 25 18.3 -0.5**
MUO Muotathal 48.70 321⇓ P **P** **18 25 20.1 +1.0**
RUE Ruedersdorf 48.76 330 *e*P **P** **18 25 18.5 -1.0**
comp=Z,204nm,1.2s,mb6.0
RUE Ruedersdorf 48.76 330 *e*P **P** **18 25 18.5 -1.0**
comp=Z,204nm,1.2s,mb6.0
RSP Reno Superiore 48.78 318 P **P** **18 25 18.6 -1.2**
RSP Reno Superiore 48.78 318 P **P** **18 25 18.6 -1.2**
SURF Saint Ours 48.80 317 *e*P **P** **18 25 22.3 +2.3**
MOX Moxa 48.82 326 *i* P **P** **18 25 21.4 +1.3**
comp=Z,logA/T=2.1,mb5.9
MOX PP PP 18 27 19.0 +5.6
MOX S **S** **18 32 29.0 +7.8**
MOX L 18 48 58.0
MOX Moxa 48.82 326 *e*P **P** **18 25 21.4 +1.3**
comp=Z,264nm,2.0s,mb5.9
MOX *e*PP PP 18 27 19.0 +5.6
MOX *e*S **S** **18 32 29.0 +7.8**
MOX LR LR
comp=Z,8µm,21.0s,MS5.7
MOX Moxa 48.82 326 *e*P **P** **18 25 21.4 +1.3**
MOX *e* 18 27 19.0
MOX *e*S **S** **18 32 29.0 +7.8**
MOX pmax pmax
comp=Z,264nm,2.0s,mb5.9
MOX MLR MLR
comp=Z,8µm,21.0s,MS5.7
FENE Fenestrelle 48.85 318 P **P** **18 25 19.3 -1.1**
FENE Fenestrelle 48.85 318 P **P** **18 25 19.3 -1.1**
IPM Ipoh 48.90 97 P **P** **18 25 25.0 +3.8**
ZUR Zurich 48.91 321⇓ P **P** **18 25 21.8 +1.0**
GUT Gutenstein 48.92 322 *e*P **P** **18 25 21.8 +0.9**
MBDF Montbardon 48.92 318 *e*P **P** **18 25 19.7 -1.2**
comp=Z,101nm,1.0s,mb5.5
MBDF Montbardon 48.92 318 *e*P **P** **18 25 19.7 -1.2**
MBDF pmax pmax
comp=Z,50nm,1.0s,mb5.5
LSD Ceresole Reale 48.97 319 P **P** **18 25 20.2 -1.1**
LSD Ceresole Reale 48.97 319 P **P** **18 25 20.2 -1.1**
RRL Cesana Torines 48.99 318 P **P** **18 25 21.1 -0.3**
RRL Cesana Torines 48.99 318 P **P** **18 25 21.1 -0.4**
EMHD Djebel Mahouad 49.03 306 P **P** **18 25 18.0 -3.9**
LKBD Leukerbad 49.06 320⇓ P **P** **18 25 22.7 +0.7**
DIX Grande Dixence 49.07 319⇑ P **P** **18 25 22.7 +0.7**
ABA Alger-Bouzarea 49.11 306 P **P** **18 25 27.8 +5.3**
BNI Bardonecchia 49.11 318 *e*P **P** **18 25 21.1 -1.3**
comp=Z,78nm,1.3s,mb5.6
BNI Bardonecchia 49.11 318 *e*P **P** **18 25 21.1 -1.3**
BNI pmax pmax
comp=Z,79nm,1.3s,mb5.6
SPAK Spaichingen 49.13 322 *e*P **P** **18 25 23.8 +1.3**
SLE Schleitheim 49.15 322⇑ P **P** **18 25 23.0 +0.4**
OG25 Le Caire 49.24 317 *e*P **P** **18 25 26.7 +3.3**
LPG La Plagne 49.25 318 *e*P **P** **18 25 21.3 -2.1**
comp=Z,235nm,1.0s,mb5.9
LPG La Plagne 49.25 318 *e*P **P** **18 25 21.3 -2.1**
LPG pmax pmax
comp=Z,118nm,1.0s,mb5.9
SIND Sindeldorf 49.26 324 *e*P **P** **18 25 24.0 +0.6**
LPL La Plagne 49.27 318 *e*P **P** **18 25 21.4 -2.2**
comp=Z,251nm,1.0s,mb5.9
LPL La Plagne 49.27 318 *e*P **P** **18 25 21.4 -2.2**
LPL pmax pmax
comp=Z,126nm,1.0s,mb5.9
SULZ Sulz-Cheisache 49.27 321⇓ P **P** **18 25 24.7 +1.2**
LBG Lerchenberg 49.39 323 *e*P **P** **18 25 25.5 +1.0**
RSL Roselend 49.40 319 *e*P **P** **18 25 25.0 +0.4**
SMRF Simiane la Rot 49.43 316 *e*P **P** **18 25 23.3 -1.5**
comp=Z,96nm,1.1s,mb5.4
FELD Feldberg 49.49 322⇓ *e*P **P** **18 25 26.3 +1.0**
FELD Feldberg 49.49 322 *e*P **P** **18 25 26.7 +1.4**
BFO Black Forest 49.51 322 *e*P **P** **18 25 25.3 -0.1**
comp=Z,165nm,1.3s,mb5.9
BFO Black Forest 49.51 322 *e*P **P** **18 25 25.3 -0.1**
BFO pmax pmax
comp=Z,165nm,1.3s,mb5.9
KIZ Kirchzarten 49.58 322 *e*P **P** **18 25 26.9 +1.0**
ORIF Oris-en-Rattie 49.58 317 *e*P **P** **18 25 23.9 -2.1**
comp=Z,120nm,1.2s,mb5.5
ORIF *e*R
comp=Z,22µm,22.8s
BBS Basel-Blauen 49.61 321 *e*P **P** **18 25 27.3 +1.2**
BBS Basel-Blauen 49.61 321 *e*P **P** **18 25 27.8 +1.7**
OG01 Vacheresse 49.63 319 *e*P **P** **18 25 26.2 -0.2**
CD2 Chengdu 49.76 62⇑ *i*P **P** **18 25 30.5 +3.0**
CD2 PP PP 18 27 29.0 +6.0
CD2 S **S** **18 32 40.8 +6.3**
CD2 XS 18 32 52.5
CD2 AMB AMB
comp=Z,20nm,1.0s,mb5.1
CD2 AMB AMB
comp=Z,580nm,11.4s
CD2 LR LR
comp=N,3µm,20.4s
CD2 LR LR
comp=Z,3µm,20.4s,MS5.3
OCF Saint Nazaire 49.83 317 *e*P **P** **18 25 28.0 +0.1**
OG26 St.-Nazaire-De 49.83 317 *e*P **P** **18 25 28.0 +0.1**
SWS Schriesheim 49.84 324 *e*P **P** **18 25 28.5 +0.6**
TOD Tromm 49.84 324 *e*P **P** **18 25 28.4 +0.5**
TOD Tromm 49.84 324 *e*P **P** **18 25 29.2 +1.3**
LIBD Limburg 49.86 322 *e*P **P** **18 25 29.8 +1.7**
LIBD Limburg 49.86 322 *e*P **P** **18 25 28.7 +0.6**
STR Strasbourg 49.96 322 *e*P **P** **18 25 30.1 +1.3**
LOMF Lomont 49.97 321 *e*P **P** **18 25 29.9 +0.9**
MOF Molkenrain 50.01 321 *e*P **P** **18 25 30.7 +1.5**
ETOS Mallorca 50.03 310 P **P** **18 25 33.8 +4.3**
comp=Z,83nm,1.7s,mb5.5
ETOS Mallorca 50.03 310 P **P** **18 25 33.8 +4.3**
comp=Z,83nm,1.7s,mb5.5
KTD Kalmit 50.12 323 *e*P **P** **18 25 30.9 +0.9**
LANF Langenberg 50.12 323 *e*P **P** **18 25 30.9 +0.9**
CABF La Chapelle 50.12 320 *e*P **P** **18 25 28.4 -1.7**
comp=Z,184nm,0.9s,mb5.8
CABF La Chapelle 50.12 320 *e*P **P** **18 25 28.4 -1.7**
CABF pmax pmax
comp=Z,92nm,0.9s,mb5.8
WLS Welschbruch 50.12 322 *e*P **P** **18 25 30.9 +0.8**
CLZ Clausthal 50.13 327 *e*P **P** **18 25 30.5 +0.4**
comp=Z,242nm,1.7s,mb6.0
CLZ *e*S **S** **18 32 45.6 +6.3**
CLZ Clausthal 50.13 327 *e*P **P** **18 25 30.5 +0.4**
CLZ *e*S **S** **18 32 45.6 +6.3**
CLZ pmax pmax
comp=Z,242nm,1.7s,mb6.0
ECH Echery 50.15 322 *e*P **P** **18 25 31.4 +1.1**
HINF Hinteralfeld 50.16 321 *e*P **P** **18 25 28.1 -2.3**
comp=Z,126nm,1.2s,mb5.5
HINF Hinteralfeld 50.16 321 *e*P **P** **18 25 28.1 -2.3**
HINF pmax pmax
comp=Z,63nm,1.2s,mb5.5
CDF Champ du Feu 50.17 322 *e*P **P** **18 25 28.7 -1.7**
comp=Z,310nm,1.4s,mb5.8
CDF Champ du Feu 50.17 322 *e*P **P** **18 25 28.7 -1.7**
CDF pmax pmax
comp=Z,155nm,1.4s,mb5.8
EBNR Beni Rached 50.17 305 P **P** **18 25 38.5 +7.8**
ETRT Tiaret 50.18 304 P **P** **18 25 34.0 +3.3**
BOSA Boshof 50.18 211 P **P** **18 25 29.5 -1.3**
comp=Z,89nm,1.2s,mb5.7,baz=57,slow=9.1,SNR=13
BOSA LR LR 18 49 36.0
comp=Z,15µm,18.1s,MS6.0,baz=36,slow=40
BOSA Boshof 50.18 211 *e*P **P** **18 25 29.7 -1.1**
comp=Z,99nm,1.1s,mb5.8
BOSA Boshof 50.18 211 *e*P **P** **18 25 29.7 -1.2**
comp=Z,99nm,1.1s,mb5.8
BOSA LR LR
comp=Z,15µm,21.0s,MS6.0
BOSA Boshof 50.18 211 *e*P **P** **18 25 29.7 -1.1**

BOSA pmax pmax
comp=Z,99nm,1.1s,mb5.8
BOSA MLR MLR
comp=Z,15µm,21.0s,MS6.0
ECHA Ech Chlef 50.28 305 P **P 18 25 38.0 +6.6**
OG05 Jujurieux 50.29 319 *e*P **P 18 25 32.5 +1.1**
TNS Taunus Mts 50.34 325 *e*P **P 18 25 31.3 -0.4**
comp=Z,166nm,2.0s,mb5.7
TNS *e*S **S 18 32 46.1 +3.8**
TNS Taunus Mts 50.34 325 *e*P **P 18 25 31.3 -0.4**
TNS *e*S **S 18 32 46.1 +3.8**
TNS pmax pmax
comp=Z,166nm,2.0s,mb5.7
VIVF Saint-Julien-I 50.35 317 *e*P **P 18 25 29.5 -2.4**
comp=Z,96nm,1.1s,mb5.4
VIVF Saint-Julien-I 50.35 317 *e*P **P 18 25 29.5 -2.4**
VIVF pmax pmax
comp=Z,48nm,1.1s,mb5.4
EANR 'Ain N'Sour 50.45 305 P **P 18 25 36.0 +3.3**
HAU Haudompre 50.55 321 *e*P **P 18 25 30.9 -2.4**
comp=Z,76nm,1.2s,mb5.2
HAU *e*R
comp=Z,13µm,21.0s
HAU Haudompre 50.55 321 *e*P **P 18 25 30.9 -2.4**
HAU pmax pmax
comp=Z,38nm,1.2s,mb5.2
HAU MLR MLR
comp=Z,13µm,21.0s,MS5.9
FINES FINESS Array B 50.61 344 P **P 18 25 30.7 -2.9**
comp=Z,12nm,0.6s,mb5.0,baz=141,slow=8.7,SNR=34
FINES LR LR 18 50 54.5
comp=Z,20µm,18.8s,MS6.2,baz=136,slow=41
FINES FINESS Array B 50.61 344 P **P 18 25 30.7 -2.9**
FINES LR LR 18 50 54.5
LASF Ste Croix 50.62 316 *e*P **P 18 25 31.7 -2.3**
comp=Z,232nm,1.5s,mb5.6
OJGS Djebel Guires 50.64 304 P **P 18 25 35.0 +0.8**
JOF Joensuu 50.65 348 *e*p **P 18 25 30.1 -3.8**
comp=Z,72nm,0.7s,mb5.7
LZH Lanzhou 50.67 55 *e*P **P 18 25 34.8 +0.4**
LZH AP pP 18 25 39.5 -1.0
LZH PP PP 18 27 31.5 +0.2
LZH S **S 18 32 47.3 +0.4**
LZH SS SS 18 36 22.0 +3.1
LZH AMB AMB
comp=Z,243nm,1.6s,mb5.9
LZH AMB AMB
comp=Z,780nm,4.4s
LZH LR LR
comp=N,9µm,14.3s
LZH LR LR
comp=Z,11µm,17.0s,MS6.0
LZH Lanzhou 50.67 55 *e*P **P 18 25 34.8 +0.4**
comp=Z,243nm,1.6s,mb5.9
LZH pP pP 18 25 38.0 -2.5
LZH S **S 18 32 47.2 +0.3**
LZH Lanzhou 50.67 55 *e*P **P 18 25 34.8 +0.4**
comp=Z,243nm,1.6s,mb5.9
LZH pP pP 18 25 38.0 -2.5
LZH sP sP 18 25 39.5 -3.3
LZH PP PP 18 27 31.5 +0.2
LZH S **S 18 32 47.2 +0.3**
LZH sS 18 32 52.3
LZH SS SS 18 36 22.0 +3.1
LZH LR LR
comp=Z,11µm,17.0s,MS6.0
LZH Lanzhou 50.67 55 *e*P **P 18 25 34.8 +0.4**
LZH 18 27 31.5
LZH S **S 18 32 47.2 +0.3**
LZH *SS 18 32 52.3
LZH SS SS 18 36 22.0 +3.1
LZH pmax pmax
comp=Z,243nm,1.6s,mb5.9
LZH MLR MLR
comp=Z,11µm,17.0s,MS6.0
ABH Alteburg 50.69 324 *e*P **P 18 25 35.0 +0.6**
ABH Alteburg 50.69 324 *e*P **P 18 25 35.8 +1.4**
EJON La Jonquera 50.76 313 P **P 18 25 39.1 +4.1**
comp=Z,81nm,2.0s,mb5.3
EJON La Jonquera 50.76 313 P **P 18 25 39.1 +4.1**
comp=Z,81nm,2.0s,mb5.3
OKGL Djebel Kef Gue 50.83 305 P **P 18 25 41.0 +5.4**
THEF They Montfort 50.86 321 *e*P **P 18 25 37.0 +1.3**
RUP Ruppelstein 50.88 324 *e*P **P 18 25 36.9 +1.1**
RUP Ruppelstein 50.88 324 *e*P **P 18 25 36.7 +0.9**
EIBI Ibiza 50.94 309 P **P 18 25 41.3 +4.9**
comp=Z,828nm,2.4s,mb6.2
OJBR Djebel Berber 50.98 304 P **P 18 25 38.0 +1.2**
KAF Kangasniemi 51.11 345 *e*p **P 18 25 34.2 -3.2**
comp=Z,61nm,1.0s,mb5.5,baz=146,slow=7.6
KAF Kangasniemi 51.11 345 *e*P **P 18 25 34.2 -3.2**
KAF pmax pmax
comp=Z,61nm,1.0s,mb5.5
COLF Collangettes 51.24 317 *e*P **P 18 25 39.2 +0.6**
BSEG Bad Segeberg 51.30 330 *e*P **P 18 25 39.1 +0.1**
BSEG *e*S **S 18 33 01.6 +6.2**
COP Copenhagen 51.32 332 ⇑ *i*P **P 18 25 44.4 +5.3**
comp=Z,51nm,1.0s,mb5.4
COP *i* 18 27 44.6
COP *i* S **S 18 33 09.5 +14**
COP *i* 18 36 55.8
comp=Z,10µm,18.0s
COP Copenhagen 51.32 332 ⇑ *e*P **P 18 25 44.4 +5.3**
comp=Z,51nm,1.0s,mb5.4
COP *i* 18 27 44.6
COP *i* S **S 18 33 09.5 +14**
COP *i* 18 36 55.8
COP LR LR
comp=Z,10µm,18.0s,MS5.9
COP Copenhagen 51.32 332 ⇑ *e*P **P 18 25 44.4 +5.3**
COP *i* S **S 18 33 09.5 +14**
COP pmax pmax
comp=Z,51nm,1.0s,mb5.4
COP MLR MLR
comp=Z,10µm,18.0s,MS5.9
ODJA Bouhanifia 51.33 304 P **P 18 25 43.0 +3.5**
VALF Valcebollere 51.36 313 *e*P **P 18 25 43.7 +4.1**
WLF Walferdange 51.39 323 P **P 18 25 41.5 +1.8**
comp=Z,30nm,1.6s,mb5.0
WLF Walferdange 51.39 323 *e*P **P 18 25 38.8 -0.9**
comp=Z,84nm,1.0s,mb5.6
WLF Walferdange 51.39 323 P **P 18 25 41.6 +1.9**
WLF pmax pmax
comp=Z,84nm,1.0s,mb5.6
LBL Lubilhac 51.43 317 *e*P **P 18 25 42.9 +2.8**
PLDF La Plantade 51.45 318 *e*P **P 18 25 41.9 +1.7**
MTLF Montolieu 51.50 314 *e*P **P 18 25 38.2 -2.5**
comp=Z,124nm,1.4s,mb5.4
MTLF Montolieu 51.50 314 *e*P **P 18 25 38.2 -2.5**
MTLF pmax pmax
comp=Z,62nm,1.4s,mb5.3
MEZF Maizieres J'vi 51.54 321 *e*P **P 18 25 39.3 -1.6**
comp=Z,496nm,1.2s,mb6.0
SMF Signal de Mont 51.56 319 *e*P **P 18 25 38.6 -2.4**
comp=Z,168nm,1.3s,mb5.5
SMF Signal de Mont 51.56 319 *e*P **P 18 25 38.6 -2.4**
SMF pmax pmax
comp=Z,84nm,1.3s,mb5.5
EMIR Miracle 51.57 312 P **P 18 25 45.7 +4.6**
comp=Z,244nm,1.9s,mb5.8
USTO Oran 51.72 304 P **P 18 25 49.0 +6.6**
EPOB Poblet 51.73 312 P **P 18 25 46.1 +3.7**
comp=Z,215nm,2.9s,mb5.6
EPOB Poblet 51.73 312 P **P 18 25 46.1 +3.7**
comp=Z,215nm,2.9s,mb5.6
PYM Petit Puy Mans 51.77 317 *e*P **P 18 25 45.3 +2.6**
LOR Lormes 51.78 320 *e*P **P 18 25 40.7 -2.0**
comp=Z,430nm,1.3s,mb5.9
LOR *e*R
comp=Z,9µm,20.5s
LOR Lormes 51.78 320 *e*P **P 18 25 40.7 -2.0**
LOR pmax pmax
comp=Z,215nm,1.3s,mb5.9
LOR MLR MLR
comp=Z,9µm,20.5s,MS5.8
AGO Saint Agoulin 51.80 318 *e*P **P 18 25 45.9 +3.0**
KGM Kluang 51.80 99 P **P 18 25 43.9 +0.6**
MEM Membach 51.90 324 P **P 18 25 44.9 +1.3**
AVF Avril sur Loir 51.92 319 *e*P **P 18 25 41.2 -2.6**
comp=Z,120nm,1.2s,mb5.4
AVF Avril sur Loir 51.92 319 *e*P **P 18 25 41.2 -2.6**
AVF pmax pmax
comp=Z,60nm,1.2s,mb5.4
SSF Saint Saulge 51.93 319 *e*P **P 18 25 41.5 -2.3**
comp=Z,66nm,0.8s,mb5.6
SSF Saint Saulge 51.93 319 *e*P **P 18 25 41.5 -2.3**
SSF pmax pmax
comp=Z,66nm,0.8s,mb5.6
GYA Guiyang 51.95 68 ⇓ *i*P **P 18 25 42.5 -1.7**
GYA AP pP 18 25 49.5 -0.8
GYA PP PP 18 27 47.3 +4.3
GYA S **S 18 33 08.5 +3.8**
GYA AMB AMB
comp=Z,80nm,1.3s,mb5.5
GYA AMB AMB
comp=Z,550nm,5.4s
GYA LR LR
comp=N,4µm,24.5s,MS5.5
GYA LR LR
comp=E,3µm,20.9s,MS5.5
HGN Heimansgroeve 52.01 324 *e*P **P 18 25 42.1 -2.3**
comp=E,100nm,4.0s
HGN *e*S **S 18 33 06.7 +1.3**
EBEN Beniarda 52.05 308 P **P 18 25 49.7 +4.8**
comp=E,115nm,1.3s,mb5.7,SNR=6.1
EBEN Beniarda 52.05 308 P **P 18 25 49.8 +4.8**
comp=E,115nm,1.3s,mb5.7
WTSB Winterswijk 52.10 326 *e*P **P 18 25 46.1 +1.0**
comp=E,145nm,2.2s,mb5.5
VERF Verneugheol 52.12 317 *e*P **P 18 25 46.8 +1.5**
CAF Calviac 52.12 316 *e*P **P 18 25 42.7 -2.6**
comp=E,80nm,1.5s,mb5.1
CAF Calviac 52.12 316 *e*P **P 18 25 42.7 -2.6**
CAF pmax pmax
comp=Z,40nm,1.5s,mb5.1
BGF Bois d'Agland 52.16 318 *e*P **P 18 25 43.5 -2.1**
comp=Z,429nm,1.3s,mb5.9
BGF Bois d'Agland 52.16 318 *e*P **P 18 25 43.5 -2.1**
BGF pmax pmax
comp=Z,215nm,1.3s,mb5.9
ERTA Horta de San J 52.17 311 P **P 18 25 50.2 +4.5**
comp=Z,550nm,4.7s
ERTA Horta de San J 52.17 311 P **P 18 25 50.2 +4.4**
comp=Z,550nm,4.7s
GIVF Givet 52.36 323 *e*P **P 18 25 45.3 -1.7**
comp=Z,266nm,1.5s,mb5.6
GIVF Givet 52.36 323 *e*P **P 18 25 45.3 -1.7**
GIVF pmax pmax
comp=Z,133nm,1.5s,mb5.7
CART Cartagena 52.42 306 *e*P **P 18 25 46.2 -1.5**
comp=Z,145nm,1.2s,mb5.8
CART Cartagena 52.42 306 *e*P **P 18 25 46.2 -1.4**
comp=Z,145nm,1.2s,mb5.8
TCF Toulx Ste Croi 52.48 318 *e*P **P 18 25 45.7 -2.3**
comp=Z,56nm,1.2s,mb5.0
TCF Toulx Ste Croi 52.48 318 *e*P **P 18 25 45.7 -2.3**
TCF pmax pmax
comp=Z,28nm,1.3s,mb5.0
DOU Dourbes 52.49 323 P **P 18 25 49.1 +1.1**
EGRA Graus 52.51 312 P **P 18 25 52.9 +4.6**
comp=Z,49nm,1.1s,mb5.3
EGRA Graus 52.51 312 P **P 18 25 52.9 +4.7**
comp=Z,49nm,1.1s,mb5.3
HYF Humbligny 52.55 319 *e*P **P 18 25 46.6 -1.9**
RJF Les Rejaudoux 52.61 316 *e*P **P 18 25 46.4 -2.5**
comp=Z,76nm,1.3s,mb5.2
RJF *e*R
comp=Z,15µm,22.0s
RJF Les Rejaudoux 52.61 316 *e*P **P 18 25 46.4 -2.5**
RJF pmax pmax
comp=Z,38nm,1.3s,mb5.2
RJF MLR MLR
comp=Z,15µm,22.0s,MS6.0
EMOS Mosqueruela 52.62 310 P **P 18 25 54.4 +5.3**
comp=Z,840nm,3.6s
EMUR La Murta 52.66 307 P **P 18 25 54.2 +4.8**
comp=Z,341nm,1.9s,mb6.0
EMUR La Murta 52.66 307 P **P 18 25 54.2 +4.8**
comp=Z,341nm,1.9s,mb6.0
BAIF Baives 52.70 323 *e*P **P 18 25 47.9 -1.7**
comp=Z,212nm,1.2s,mb5.7
BAIF Baives 52.70 323 *e*P **P 18 25 47.9 -1.7**
BAIF pmax pmax
comp=Z,106nm,1.2s,mb5.7
EPF Esparros 52.72 313 *e*P **P 18 25 47.6 -2.3**
comp=Z,48nm,1.3s,mb5.0
EPF Esparros 52.72 313 *e*P **P 18 25 47.6 -2.3**
EPF pmax pmax
comp=Z,24nm,1.3s,mb5.0
EBIE Bielsa 52.77 313 P **P 18 25 54.7 +4.5**
comp=Z,117nm,1.5s,mb5.6
EBIE Bielsa 52.77 313 P **P 18 25 54.7 +4.5**
comp=Z,117nm,1.5s,mb5.6
ECHE Chera 52.81 309 P **P 18 25 53.1 +2.5**
comp=Z,47nm,0.8s,mb5.5
ECHE Chera 52.81 309 P **P 18 25 53.1 +2.5**
comp=Z,47nm,0.8s,mb5.5
ECHE Chera 52.81 309 P **P 18 25 53.1 +2.5**
ECHE pmax pmax
comp=Z,47nm,0.8s,mb5.5
LABF Labassere 52.92 313 *e*P **P 18 25 55.3 +4.0**
ESAC San Caprasio 52.95 312 P **P 18 25 54.1 +2.5**
comp=Z,218nm,1.7s,mb5.8,SNR=11
ESAC San Caprasio 52.95 312 P **P 18 25 54.1 +2.6**
comp=Z,218nm,1.7s,mb5.8
LFF La Frestale 53.01 316 *e*P **P 18 25 49.6 -2.4**
comp=Z,75nm,0.9s,mb5.3
LFF La Frestale 53.01 316 *e*P **P 18 25 49.6 -2.4**
LFF pmax pmax
comp=Z,38nm,0.9s,mb5.3
ETOB Tobarra 53.05 308 P **P 18 25 55.5 +3.1**
comp=Z,591nm,2.7s,mb6.0
ETOB Tobarra 53.05 308 P **P 18 25 55.5 +3.1**
comp=Z,591nm,2.7s,mb6.0
REYF Montagne du Re 53.25 313 *e*P **P 18 25 57.5 +3.7**
MUD Monsted U'grnd 53.26 332 *i*P **P 18 25 57.4 +3.8**
comp=Z,106nm,1.3s,mb5.6
MUD *i* 18 28 00.2
MUD *i* 18 33 09.1
MUD *i* S SS 18 37 28.9 +28
comp=Z,16µm,19.0s
MUD Monsted U'grnd 53.26 332 *i*P **P 18 25 57.4 +3.8**
MUD *i* 18 28 00.2
MUD pmax pmax
comp=Z,106nm,1.3s,mb5.6
FDAF Les Forges d'A 53.31 313 *e*P **P 18 25 57.4 +3.2**
ETSF Etsaut 53.32 313 *e*P **P 18 25 52.0 -2.3**
comp=Z,231nm,1.4s,mb5.6
ETSF Etsaut 53.32 313 *e*P **P 18 25 52.0 -2.3**
ETSF pmax pmax
comp=Z,116nm,1.4s,mb5.6
HFS Hagfors 53.62 337 P **P 18 25 52.6 -3.6**
comp=Z,3.1nm,0.5s,baz=121,slow=8.6,SNR=15
HFS LR LR 18 51 15.5
comp=Z,21µm,21.4s,baz=137,slow=39
HFA0 Hagfors New Ar 53.63 337 P **P 18 25 56.7 +0.4**
LARF Larrau 53.66 313 *e*P **P 18 26 00.5 +3.7**
MOY Mondy 53.67 35 *e*P **P 18 25 56.6 -0.1**
MOY pmax pmax
comp=Z,527nm,1.9s,mb6.1
EHUE Huescar 53.71 306 P **P 18 26 01.8 +4.6**
comp=Z,2.3nm,0.4s
EHUE Huescar 53.71 306 P **P 18 26 01.8 +4.6**
comp=Z,2.3nm,0.4s
EALB Alboran 53.75 304 P **P 18 26 02.4 +4.9**
comp=Z,1µm,2.2s,mb6.4
EALB Alboran 53.75 304 P **P 18 26 02.4 +4.9**
comp=Z,1µm,2.2s,mb6.4
EBER Berja 53.78 305 P **P 18 26 02.7 +5.0**
comp=Z,262nm,1.5s,mb5.9
EBER Berja 53.78 305 P **P 18 26 02.7 +5.0**
comp=Z,262nm,1.5s,mb5.9
EVIA Vianos 53.79 307 P **P 18 25 59.6 +1.9**
comp=Z,110nm,0.9s,mb5.8,SNR=21
EVIA Vianos 53.79 307 P **P 18 25 59.6 +1.9**
comp=Z,110nm,0.9s,mb5.8
EVIA Vianos 53.79 307 P **P 18 25 59.6 +1.9**
EVIA pmax pmax
comp=Z,110nm,0.9s,mb5.8
SJPF Ste Jean 53.85 313 *e*P **P 18 25 56.0 -2.1**
comp=Z,128nm,0.9s,mb5.5
SJPF Ste Jean 53.85 313 *e*P **P 18 25 56.0 -2.1**
SJPF pmax pmax
comp=Z,64nm,0.9s,mb5.5
OSSF Osses 53.91 313 *e*P **P 18 26 01.9 +3.3**
EARA Aranguren 54.01 313 P **P 18 26 04.2 +4.9**
comp=Z,602nm,2.3s,mb6.1,SNR=7.9
EALK Alkurruntz 54.08 313 P **P 18 26 04.0 +4.2**
comp=Z,413nm,2.8s,mb5.9
EALK Alkurruntz 54.08 313 P **P 18 26 04.0 +4.2**
comp=Z,413nm,2.8s,mb5.9
EQES Quesada 54.08 306 P **P 18 26 00.9 +1.1**
comp=Z,424nm,2.8s,mb5.9,SNR=7.9
EQES Quesada 54.08 306 P **P 18 26 00.9 +1.1**
comp=Z,424nm,2.8s,mb5.9
MFF Saint Martin d 54.12 318 *e*P **P 18 25 57.3 -2.8**
comp=Z,75nm,1.1s,mb5.2
MFF Saint Martin d 54.12 318 *e*P **P 18 25 57.3 -2.8**
MFF pmax pmax
comp=Z,38nm,1.1s,mb5.2
EGUA Guajares 54.31 305 P **P 18 26 05.8 +4.2**
EGUA Guajares 54.31 305 P **P 18 26 05.8 +4.2**
XAN Xi'an 54.46 58 P **P 18 26 06.5 +3.7**
XAN S **S 18 33 44.5 +5.7**
XAN AMB AMB
comp=Z,79nm,1.2s,mb5.5
XAN AMB AMB
comp=Z,798nm,11.5s
XAN LR LR
comp=N,3µm,17.8s,MS5.5
XAN LR LR
comp=E,2µm,17.2s,MS5.5
XAN LR LR
comp=Z,4µm,18.7s,MS5.5
APA Apatity 54.52 351 ⇓ *i*P **P 18 26 03.0 +0.3**
APA *i* S **S 18 33 48.0 +8.9**
APA pmax pmax
comp=Z,79nm,1.2s,mb5.6
ERON Agron 54.53 305 P **P 18 26 02.8 -0.4**
comp=Z,28nm,0.6s,mb5.4,SNR=14
ERON Agron 54.53 305 P **P 18 26 02.8 -0.4**
comp=Z,28nm,0.6s,mb5.5
ENH Enshi 54.62 63 *e*P **P 18 26 02.5 -1.4**
comp=Z,110nm,0.9s,mb5.9
ENH Enshi 54.62 63 *e*P **P 18 26 02.5 -1.5**
comp=Z,110nm,0.9s,mb5.9
EBAN Banos Encina 54.70 307 P **P 18 26 06.9 +2.5**
comp=Z,8.3nm,0.8s,mb4.8
EBAN Banos Encina 54.70 307 P **P 18 26 06.9 +2.5**
comp=Z,8.3nm,0.8s,mb4.8
EBAN Banos Encina 54.70 307 P **P 18 26 06.9 +2.5**
EBAN pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
LDF La Druitiere 54.76 320 *e*P **P 18 26 02.1 -2.6**
comp=Z,137nm,0.9s,mb5.7
LDF La Druitiere 54.76 320 *e*P **P 18 26 02.1 -2.6**
LDF pmax pmax
comp=Z,68nm,0.9s,mb5.7
ELOJ Sierra Loja 54.82 305 P **P 18 26 09.0 +3.6**
comp=Z,18nm,0.9s,mb5.1
ELOJ Sierra Loja 54.82 305 P **P 18 26 09.0 +3.6**
comp=Z,18nm,0.9s,mb5.1
ELOJ Sierra Loja 54.82 305 P **P 18 26 09.0 +3.6**
ELOJ pmax pmax
comp=Z,18nm,0.9s,mb5.1
KONO Kongsberg 54.93 335 *e*P **P 18 26 04.8 -1.1**
KONO *e*S **S 18 33 46.3 +1.7**
KONO Kongsberg 54.93 335 *e*P **P 18 26 02.4 -3.4**
comp=Z,310nm,1.7s,mb6.1
KONO LR LR
comp=Z,18µm,20.0s,MS6.1
KONO Kongsberg 54.93 335 *i*P **P 18 26 04.2 -1.6**
ELUQ Luque 54.97 306 P **P 18 26 06.5 0.0**
comp=Z,80nm,1.4s,mb5.5
ELUQ Luque 54.97 306 P **P 18 26 06.5 0.0**
comp=Z,80nm,1.4s,mb5.5
ELUQ Luque 54.97 306 P **P 18 26 06.5 0.0**
ELUQ pmax pmax
comp=Z,80nm,1.4s,mb5.6
FLN La Foliniere 55.04 320 *e*P **P 18 26 04.2 -2.6**
comp=Z,180nm,0.9s,mb5.8
FLN *e*R
comp=Z,14µm,21.8s
FLN La Foliniere 55.04 320 *e*P **P 18 26 04.2 -2.6**
FLN pmax pmax
comp=Z,90nm,0.9s,mb5.8
FLN MLR MLR
comp=Z,14µm,21.8s,MS6.0
QIZ Qiongzhong 55.05 77 P **P 18 26 06.5 -0.8**
QIZ AP pP 18 26 14.8 +1.4
QIZ S **S 18 33 46.0 -0.8**
QIZ SS SS 18 37 35.8 +5.2
QIZ AMB AMB
comp=Z,27nm,1.6s,mb5.0
QIZ LR LR
comp=N,5µm,21.7s
QIZ LR LR
comp=E,2µm,27.6s
QIZ LR LR
comp=Z,5µm,19.8s,MS5.6
QIZ Qiongzhong 55.05 77 *e*P **P 18 26 06.7 -0.6**
comp=Z,730nm,2.0s,mb6.4
QIZ Qiongzhong 55.05 77 *e*P **P 18 26 06.7 -0.6**
comp=Z,730nm,2.0s,mb6.4
ESDC Sonseca Array 55.10 308 P **P 18 26 03.7 -3.7**
comp=Z,10nm,0.7s,mb5.0,baz=90,slow=6.2,SNR=20
ESDC Sonseca Array 55.10 308 P **P 18 26 06.7 -0.7**
comp=Z,86nm,0.7s,mb5.9
ESDC Sonseca Array 55.10 308 P **P 18 26 06.7 -0.7**
comp=Z,86nm,0.7s,mb5.9
ESLA Sonseca Array 55.10 308 *e*P **P 18 26 04.0 -3.4**
comp=Z,17nm,0.8s,mb5.1
ESLA Sonseca Array 55.10 308 *e*P **P 18 26 04.0 -3.3**
comp=Z,17nm,0.8s,mb5.1
ESLA LR LR
comp=Z,54µm,19.0s,MS6.7
NB2 NORSAR Subarra 55.15 337 P **P 18 26 03.4 -4.0**
comp=Z,20nm,1.0s,mb5.1,baz=122,slow=7.4
NB2 NORSAR Subarra 55.15 337 P **P 18 26 03.4 -4.0**
baz=122,slow=7.9
NB2 NORSAR Subarra 55.15 337 P **P 18 26 07.5 +0.1**
NOA NORSAR Array B 55.15 337 P **P 18 26 05.5 -1.9**
comp=Z,12nm,0.7s,mb5.0,baz=122,slow=7.7,SNR=22
NOA LR LR 18 52 10.4
comp=Z,16µm,21.7s,MS6.1,baz=135,slow=39
NAO01 NORSAR Array S 55.15 337 *e*P **P 18 26 06.2 -1.2**
comp=Z,69nm,1.0s,mb5.6
NAO01 NORSAR Array S 55.15 337 *e*P **P 18 26 06.2 -1.2**
comp=Z,69nm,1.0s,mb5.6
NAO01 LR LR
comp=Z,19µm,19.0s,MS6.2
GRR Gorron 55.15 319 *e*P **P 18 26 04.7 -2.9**
comp=Z,139nm,1.2s,mb5.5
GRR Gorron 55.15 319 *e*P **P 18 26 04.7 -2.9**
GRR pmax pmax
comp=Z,69nm,1.2s,mb5.6
EMIJ Mijas 55.23 305 P **P 18 26 05.7 -2.7**
comp=Z,364nm,1.5s,mb6.2
EMIJ Mijas 55.23 305 P **P 18 26 05.7 -2.7**
comp=Z,364nm,1.5s,mb6.2
EADA Adamuz 55.31 307 P **P 18 26 10.7 +1.8**
comp=Z,256nm,1.7s,mb6.0
EADA Adamuz 55.31 307 P **P 18 26 10.7 +1.8**
comp=Z,256nm,1.7s,mb6.0
ELAN Lanestosa 55.45 313 P **P 18 26 14.4 +4.6**
comp=Z,295nm,1.8s,mb6.0
ELAN Lanestosa 55.45 313 P **P 18 26 14.4 +4.6**
comp=Z,295nm,1.8s,mb6.0
SUR Sutherland 55.48 212 P **P 18 26 08.9 -1.3**
comp=Z,1µm,2.1s,mb6.5
SUR Sutherland 55.48 212 P **P 18 26 08.9 -1.3**
comp=Z,1µm,2.1s,mb6.5
SUR LR LR
comp=Z,4µm,19.0s,MS5.5
SONM Songino Array 55.51 41 P **P 18 26 10.0 -0.2**
comp=Z,9.4nm,1.0s,mb4.8,baz=244,slow=7.7,SNR=58
IRK Irkutsk 55.76 36 *e*P **P 18 26 10.5 -1.4**
IRK pmax pmax
comp=Z,936nm,2.1s,mb6.5
EJIF Jimena Fronter 55.77 304 P **P 18 26 11.3 -0.9**
comp=Z,166nm,1.4s,mb5.9
EJIF Jimena Fronter 55.77 304 P **P 18 26 11.3 -1.0**
comp=Z,166nm,1.4s,mb5.9
EJIF Jimena Fronter 55.77 304 P **P 18 26 11.3 -0.9**
EJIF pmax pmax
comp=Z,166nm,1.4s,mb5.9
ULN Ulaanbaatar 55.94 42 *e*P **P 18 26 12.1 -1.2**
comp=Z,104nm,1.1s,mb5.8
ULN Ulaanbaatar 55.94 42 *e*P **P 18 26 12.1 -1.1**
comp=Z,104nm,1.1s,mb5.8
ULN LR LR
comp=Z,4µm,21.0s,MS5.5
ULN Ulaanbaatar 55.94 42 *d*i P **P 18 26 12.6 -0.7**
ECAB El Cabril 55.95 306 P **P 18 26 14.6 +1.1**
comp=Z,578nm,2.0s,mb6.3
ECAB El Cabril 55.95 306 P **P 18 26 14.6 +1.1**
comp=Z,578nm,2.0s,mb6.3
BLS5 Blasjo 56.11 334 *e*P **P 18 26 17.4 +3.1**
BLS5 AMb AMB 18 26 39.1

comp=Z,56nm,1.0s,mb5.5
BLS5 Blasjo 56.11 334 *e*P **P 18 26 17.4 +3.0**
comp=Z,56nm,1.0s,mb5.5,SNR=22
BLS5 Blasjo 56.11 334 *e*P **P 18 26 17.4 +3.1**
comp=Z,56nm,1.0s,mb5.5
ESPR Espera 56.13 305 P **P 18 26 12.3 -2.5**
comp=Z,303nm,2.0s,mb6.0
ESPR Espera 56.13 305 P **P 18 26 12.3 -2.5**
comp=Z,303nm,2.0s,mb6.0
SGMF Saint Gilles 56.19 319 *e*P **P 18 26 12.0 -3.1**
comp=Z,124nm,0.8s,mb5.7
SGMF Saint Gilles 56.19 319 *e*P **P 18 26 12.0 -3.1**
SGMF pmax pmax
comp=Z,62nm,0.8s,mb5.7
BTO Baotou 56.29 51 *e*P **P 18 26 14.3 -1.6**
BTO S **S 18 34 09.5 +6.5**
BTO SCS ScS 18 35 56.5 -4.0
QUIF Quistinic 56.48 318 *e*P **P 18 26 14.8 -2.4**
comp=Z,78nm,1.2s,mb5.3
QUIF Quistinic 56.48 318 *e*P **P 18 26 14.8 -2.4**
QUIF pmax pmax
comp=Z,39nm,1.2s,mb5.3
DBIC Dimbokro 56.65 269 P **P 18 26 16.8 -2.1**
comp=Z,5.8nm,0.9s,mb4.6,baz=45,slow=7.1,SNR=3.5
DBIC LR LR 18 50 29.1
comp=Z,13μm,18.7s,MS6.1,baz=55,slow=36
DBIC Dimbokro 56.65 269 *e*P **P 18 26 17.0 -1.8**
comp=Z,181nm,1.8s,mb5.8
DBIC Dimbokro 56.65 269 *e*P **P 18 26 17.0 -1.9**
comp=Z,181nm,1.8s,mb5.8
DBIC LR LR
comp=Z,15μm,19.0s,MS6.1
DBIC Dimbokro 56.65 269 *e*P **P 18 26 17.0 -1.8**
DBIC pmax pmax
comp=Z,181nm,1.8s
DBIC MLR MLR
comp=Z,15μm,19.0s
ROSF Rostrenen 56.67 319 *e*P **P 18 26 15.1 -3.4**
comp=Z,78nm,0.8s,mb5.5
ROSF Rostrenen 56.67 319 *e*P **P 18 26 15.1 -3.4**
ROSF pmax pmax
comp=Z,39nm,0.8s,mb5.5
EARI Arriondas 56.73 313 P **P 18 26 23.2 +4.2**
comp=Z,22nm,0.8s,mb5.2
EARI Arriondas 56.73 313 P **P 18 26 23.2 +4.2**
comp=Z,22nm,0.8s,mb5.2
EMIN Mina Concepcio 56.89 306 P **P 18 26 21.4 +1.1**
comp=Z,457nm,1.9s,mb6.2
EMIN Mina Concepcio 56.89 306 P **P 18 26 21.4 +1.1**
comp=Z,457nm,1.9s,mb6.2
LIC Lamto 56.91 268 *e*P **P 18 26 17.5 -3.3**
comp=Z,68nm,1.0s,mb5.7
NSS Namsos 57.15 341 *e*P **P 18 26 25.8 +4.0**
NSS *e*S **S 18 34 15.8 +1.7**
NSS *e*SS SS 18 38 12.0 +7.4
NSS AMS AMS 18 54 39.5
comp=Z,18μm,18.5s,MS6.2
EBAD Badajoz 57.29 307 P **P 18 26 24.6 +1.5**
comp=Z,587nm,2.6s,mb6.2
EBAD Badajoz 57.29 307 P **P 18 26 24.6 +1.5**
comp=Z,587nm,2.6s,mb6.2
HHC Hu-ho-hao-te 57.48 51 *e*P **P 18 26 24.0 -0.4**
HHC AP pP 18 26 31.3 +0.7
HHC PCP PcP 18 27 14.0 -3.8
HHC PP PP 18 28 36.5 +2.9
HHC SCP 18 31 12.5
HHC S **S 18 34 25.5 +6.7**
HHC XS 18 34 35.0
HHC SCS ScS 18 36 08.5 -0.7
HHC AMB AMB
comp=Z,26nm,1.1s,mb5.2
HHC AMB AMB
comp=Z,2μm,8.4s
HHC LR LR
comp=N,5μm,24.0s,MS5.7
HHC LR LR
comp=E,4μm,24.0s,MS5.7
HHC LR LR
comp=Z,3μm,27.6s,MS5.3
EGRO El Granado 57.50 305 P **P 18 26 24.5 -0.1**
comp=Z,432nm,2.5s,mb6.0
EGRO El Granado 57.50 305 P **P 18 26 24.4 -0.2**
comp=Z,432nm,2.5s,mb6.0
KEV Kevo 57.52 350 *e*p **P 18 26 20.0 -4.3**
comp=Z,114nm,1.1s,mb5.8
KEV Kevo 57.52 350 *e*P **P 18 26 20.0 -4.3**
KEV pmax pmax
comp=Z,114nm,1.1s,mb5.8
MOR8 Moi Rana 57.53 343 *e*P **P 18 26 20.8 -3.6**
MOR8 AMb AMB 18 26 48.2
comp=Z,141nm,1.7s,mb5.7
MOR8 Moi Rana 57.53 343 *e*P **P 18 26 20.8 -3.6**
comp=Z,141nm,1.7s,mb5.7
MOR8 Moi Rana 57.53 343 *e*P **P 18 26 20.8 -3.6**
comp=Z,141nm,1.7s,mb5.7
PBRG Braganca 57.55 311 *e*P **P 18 26 23.2 -1.7**
ECAL Calabor 57.57 311 P **P 18 26 29.6 +4.6**
comp=Z,33nm,0.9s,mb5.4
ECAL Calabor 57.57 311 P **P 18 26 29.6 +4.6**
comp=Z,33nm,0.9s,mb5.4
ARCES ARCESS Array B 57.60 349 P **P 18 26 21.3 -3.5**
comp=Z,10nm,0.7s,mb4.9,baz=143,slow=6.1,SNR=18
ARCES LR LR 18 54 53.7
comp=Z,25μm,18.4s,MS6.3,baz=145,slow=40
ARE0 ARCESS Array S 57.60 349 *e*P **P 18 26 24.2 -0.6**
ARE0 ARCESS Array S 57.60 349 *e*P **P 18 26 24.2 -0.6**
TIY Taiyuan 57.72 54 *e*P **P 18 26 24.0 -2.1**
TIY LR LR
comp=E,8μm,21.0s
TIY LR LR
comp=Z,1μm,17.0s,MS5.1
PCBR Castelo Branco 57.80 308 *e*P **P 18 26 25.1 -1.5**
PBEJ Beja 57.86 306 *e*P **P 18 26 25.9 -1.2**
MTE Manteigas 57.93 309 *e*P **P 18 26 25.9 -1.6**
MTE *e*S **S 18 34 25.9 +1.2**
MTE *e*LQ 18 40 48.2
MTE *e*LR LR 18 45 15.2
comp=Z,7μm,21.6s
MTE Manteigas 57.93 309 *e*P **P 18 26 26.5 -1.0**
comp=Z,51nm,1.1s,mb5.5
MTE Manteigas 57.93 309 *e*P **P 18 26 26.5 -1.0**
comp=Z,51nm,1.1s,mb5.5
ERUA La Rua 57.95 311 P **P 18 26 32.4 +4.8**
comp=Z,18nm,0.8s,mb5.1
ERUA La Rua 57.95 311 P **P 18 26 32.4 +4.8**
comp=Z,18nm,0.8s,mb5.1
ERUA La Rua 57.95 311 P **P 18 26 32.4 +4.8**
ERUA pmax pmax
comp=Z,18nm,0.8s,mb5.2
GZH Guangzhou 58.05 72 P **P 18 26 29.8 +1.2**
GZH S **S 18 34 33.5 +7.0**
GZH SS SS 18 38 22.5 +3.0
GZH LR LR
comp=N,4μm,25.3s,MS5.5
GZH LR LR
comp=E,2μm,22.3s,MS5.5
GZH LR LR
comp=Z,6μm,35.8s
EPON Pontenova 58.12 312 P **P 18 26 33.6 +4.8**
comp=Z,35nm,0.9s,mb5.4
EPON Pontenova 58.12 312 P **P 18 26 33.6 +4.8**
comp=Z,35nm,0.9s,mb5.4
PVRL Vila Real 58.19 310 *e*P **P 18 26 27.2 -2.1**
MELSS Ber_school_2 58.23 343 *e*P **P 18 26 25.8 -3.4**
ELOB Lobios 58.53 310 P **P 18 26 37.1 +5.4**
comp=Z,25nm,0.8s,mb5.3
ELOB Lobios 58.53 310 P **P 18 26 37.1 +5.3**
comp=Z,25nm,0.8s,mb5.3
KSM Kuching 58.66 97 *e*P **P 18 26 32.7 -0.3**
KSM Kuching 58.66 97 *e*P **P 18 26 32.7 -0.3**
WHN Wuhan 58.83 63 *e*P **P 18 26 33.0 -0.9**
WHN S **S 18 34 44.0 +7.4**
WHN LR LR
comp=N,3μm,12.8s,MS5.8
WHN LR LR
comp=E,4μm,13.8s,MS5.8
WHN LR LR
comp=Z,12μm,21.3s
HKC Hong Kong 58.86 73 P **P 18 26 40.0 +5.7**
HKC S **S 18 34 40.0 +2.9**
ESK Eskdalemuir 58.91 327 *e*P **P 18 26 31.6 -2.5**
comp=Z,27nm,0.8s,mb5.3
ESK Eskdalemuir 58.91 327 *e*P **P 18 26 31.6 -2.6**
comp=Z,27nm,0.8s,mb5.3
ESK LR LR
comp=Z,2μm,21.0s,MS5.2
ESK Eskdalemuir 58.91 327 *e*P **P 18 26 31.6 -2.5**
ESK pmax pmax
comp=Z,27nm,0.8s,mb5.3
ESK MLR MLR
comp=Z,2μm,21.0s,MS5.2
LIS Lisbon 58.94 307 *e*P **P 18 26 34.8 +0.1**
LIS *e* 18 26 53.4
baz=263,slow=10
LIS *e*S **S 18 34 40.9 +2.9**
LIS *e*S **S 18 34 40.9 +2.9**
LIS AMS AMS 18 49 41.2
comp=N,18μm,21.5s
LIS Lisbon 58.94 307 *e*P **P 18 26 34.8 +0.2**
LIS *e*S **S 18 34 40.9 +2.9**
TRO Tromso 59.00 347 *e*P **P 18 26 37.3 +2.7**
TRO AMb AMB 18 26 48.3
comp=Z,176nm,1.1s,mb6.0
TRO *e*S **S 18 34 40.3 +2.0**
TRO AMS AMS 18 55 45.5
comp=Z,12μm,14.6s,MS6.2
TRO Tromso 59.00 347 *e*P **P 18 26 37.3 +2.7**
comp=Z,176nm,1.1s,mb6.0,SNR=21
TRO *e*S **S 18 34 40.3 +2.0**
SNR=23
EZAM Zamans 59.05 311 P **P 18 26 39.9 +4.6**
EZAM Zamans 59.05 311 P **P 18 26 39.9 +4.6**
STS Santiago 59.05 312 P **P 18 26 39.1 +3.7**
STS Santiago 59.05 312 P **P 18 26 39.1 +3.7**
LOF Lofoten 59.17 344 *e*P **P 18 26 34.5 -1.3**
LOF AMb AMB 18 26 51.7
comp=Z,227nm,1.8s,mb5.9
LOF Lofoten 59.17 344 *e*P **P 18 26 41.3 +5.5**
comp=Z,227nm,1.8s,mb5.9
LOF Lofoten 59.17 344 *e*P **P 18 26 41.3 +5.4**
comp=Z,227nm,1.8s,mb5.9
EMAZ Mazaricos 59.37 312 P **P 18 26 42.4 +4.8**
comp=Z,24nm,1.0s,mb5.2
EMAZ Mazaricos 59.37 312 P **P 18 26 42.4 +4.9**
comp=Z,24nm,1.0s,mb5.2
DSB Dublin 59.99 324 *e*P **P 18 26 40.0 -1.6**
comp=Z,56nm,1.0s,mb5.5
DSB Dublin 59.99 324 *e*P **P 18 26 40.0 -1.6**
comp=Z,56nm,1.0s,mb5.5
DLF Lyons Farm 60.09 324⇑ *i*P **P 18 26 44.0 +1.7**
DCN Croghan 60.53 324⇑ *i*P **P 18 26 47.4 +2.0**
CIT Chita 61.11 38 *e*P **P 18 26 47.9 -1.4**
CIT pmax pmax
comp=Z,334nm,1.9s,mb6.1
TIA Tai'an 61.34 56 *e*P **P 18 26 50.0 -1.1**
TIA S **S 18 35 16.0 +7.2**
TIA LR LR
comp=E,3μm,16.0s
VAL Valentia 61.93 321 *e*P **P 18 26 55.4 +0.5**
NJ2 Nanjing 62.69 61 *e*P **P 18 26 59.8 -0.4**
NJ2 AP pP 18 27 07.0 +0.6
NJ2 PCP PcP 18 27 39.0 +0.3
NJ2 S **S 18 35 28.0 +2.1**
NJ2 AMB AMB
comp=Z,130nm,1.1s,mb6.0
NJ2 AMB AMB
comp=Z,830nm,7.4s
NJ2 LR LR
comp=N,14μm,20.2s,MS6.1
NJ2 LR LR
comp=E,9μm,25.0s,MS6.1
NJ2 LR LR
comp=Z,4μm,23.9s,MS5.5
QZH Quanzhou 62.73 69 *i*PR **P 18 27 02.5 +2.0**
QZH PP PP 18 29 21.5 +1.2
QZH S **S 18 35 30.0 +3.5**
QZH SS SS 18 39 35.8 +2.5
QZH AMB AMB
comp=Z,340nm,1.8s,mb6.2
QZH AMB AMB
comp=Z,1μm,17.8s
QZH LR LR
comp=N,4μm,14.0s,MS5.9
QZH LR LR
comp=E,5μm,16.6s,MS5.9
QZH LR LR
comp=Z,14μm,33.0s
BOD Bodaibo 62.91 32 *e*P **P 18 26 58.7 -2.5**
BOD pmax pmax
comp=Z,101nm,1.6s,mb5.7
KKM Kota Kinabalu 63.23 90 P **P 18 27 04.2 +0.3**
KKM Kota Kinabalu 63.23 90 *e*P **P 18 27 03.3 -0.7**
HIA Hailar 64.46 42 *e*P **P 18 27 10.6 -1.0**
comp=Z,114nm,1.1s,mb5.8
HIA Hailar 64.46 42 *e*P **P 18 27 10.6 -1.0**
HIA pmax pmax
comp=Z,114nm,1.1s
SSE Sheshan 64.70 62 P **P 18 27 10.5 -3.0**
SSE AP pP 18 27 18.3 -1.4
SSE PCP PcP 18 27 43.5 -3.5
SSE PP PP 18 29 33.3 -4.5
SSE S **S 18 35 52.5 +1.5**
SSE SCS ScS 18 37 04.5 +1.3
SSE AMB AMB
comp=Z,91nm,1.1s,mb5.7
SSE AMB AMB
comp=Z,270nm,4.8s
SSE LR LR
comp=N,2μm,17.4s,MS5.7
SSE LR LR
comp=E,3μm,17.9s,MS5.7
SSE LR LR
comp=Z,4μm,17.9s,MS5.7
SSE Sheshan 64.70 62 P **P 18 27 10.6 -2.9**
comp=Z,91nm,1.1s,mb5.7
SSE sP sP 18 27 18.2 -3.7
SSE PcP PcP 18 27 43.5 -3.5
SSE PP PP 18 29 33.2 -4.6
SSE S **S 18 35 52.5 +1.5**
SSE sS 18 36 00.4
SSE ScS ScS 18 37 04.5 +1.3
SSE SS SS 18 40 04.1 +0.2
SSE LR LR
comp=Z,4μm,17.9s,MS5.7
DL2 Dalian 65.01 54 *i*PR **P 18 27 19.5 +4.2**
DL2 XP sP 18 27 27.0 +3.2
DL2 PP PP 18 29 41.5 +1.0
DL2 S S 18 36 04.0 +9.3
DL2 XS 18 36 10.5
DL2 AMB AMB
comp=Z,60nm,1.0s,mb5.6
DL2 AMB AMB
comp=Z,280nm,6.7s
DL2 LR LR
comp=N,2μm,19.7s,MS5.5
DL2 LR LR
comp=E,1μm,17.3s,MS5.5
DL2 LR LR
comp=Z,2μm,17.4s,MS5.3
TSM Tawau 65.24 92 P **P 18 27 18.1 +0.9**
YHNB Yeheng 65.27 69 *e*P **P 18 27 17.4 +0.2**
TATO Taipei 65.35 69 *e*P **P 18 27 17.4 -0.3**
comp=Z,496nm,1.6s,mb6.3
TATO LR LR
comp=Z,3μm,21.0s,MS5.5
NACB Ninganchiao 65.52 70 *e*P **P 18 27 17.4 -1.4**
JMIC Jan Mayen 67.14 342 *e*S S 18 36 22.3 +2.3
JMIC AMS AMS 19 00 06.3
comp=Z,6μm,15.3s,MS5.9
JMIC Jan Mayen 67.14 342 *e*P **P 18 27 38.9 +11**
JMIC LR LR
comp=Z,5826μm,15.3s
KBS Kingsbay 67.32 352 *e*P **P 18 27 31.5 +2.1**
KBS *e*PP PP 18 29 56.4 -3.2
KBS *e*S S 18 36 24.1 +2.0
KBS AMS AMS 19 00 40.1
comp=Z,7μm,20.4s,MS5.9
KBS Kingsbay 67.32 352 *e*P **P 18 27 31.5 +2.1**
KBS LR LR
comp=Z,6811μm,20.4s
CN2 Changchun 67.99 48 *e*P **P 18 27 33.0 -1.2**
CN2 PCP PcP 18 27 59.3 -1.1
CN2 AMB AMB
comp=Z,90nm,1.0s,mb5.8
CN2 AMB AMB
comp=Z,1μm,7.0s
CN2 LR LR
comp=N,5μm,21.0s,MS5.9
CN2 LR LR
comp=E,6μm,21.0s,MS5.9
CN2 LR LR
comp=Z,5μm,21.0s,MS5.7
CLNS Chul'man 68.49 34 *e*P **P 18 27 35.4 -1.7**
CLNS *e* 18 27 53.9
CLNS *e* 18 31 48.2
CLNS *e*S S 18 36 31.4 -5.0
CLNS *e*PS PS 18 37 03.4 -0.7
CLNS *e* 18 37 33.3
CLNS *e*SSS SSS 18 43 54.2 -8.9
CLNS pmax pmax
comp=Z,169nm,1.4s,mb5.9
CLNS pmax pmax
comp=N,38nm,1.0s
CLNS pmax pmax
comp=E,82nm,1.0s
CLNS smax
comp=E,1μm,10.1s
CLNS smax
comp=Z,435nm,11.8s
CLNS smax
comp=N,2μm,13.1s
CLNS MLR MLR
comp=Z,7μm,17.0s,MS6.0
CLNS MLR MLR
comp=N,2μm,13.0s
CLNS MLR MLR
comp=E,8μm,21.0s
INCN Inchon 68.97 55 *e*P **P 18 27 38.6 -1.8**
comp=E,91nm,1.0s,mb5.7
INCN LR LR
comp=Z,4μm,20.0s,MS5.6
KS15 Wonju Array Si 69.97 55 *e*P **P 18 27 45.9 -0.6**
BORG Borgarnes 70.09 334 P **P 18 27 48.0 +1.2**
comp=Z,19nm,0.7s,mb5.2,baz=148,slow=1.5,SNR=6.9
BORG Borgarnes 70.09 334 P **P 18 27 48.0 +1.2**
BORG LR LR
comp=Z,3μm,20.0s,MS5.5
MDJ Mudanjiang 70.96 47 P **P 18 27 50.5 -1.9**
MDJ AP pP 18 27 54.8 -3.8
MDJ PP PP 18 30 27.0 -4.9
MDJ S S 18 37 07.0 +1.2
MDJ AMB AMB
comp=Z,8.0nm,1.9s
MDJ AMB AMB
comp=Z,412nm,7.6s
MDJ LR LR
comp=N,6μm,27.0s,MS5.8
MDJ LR LR
comp=E,3μm,23.4s,MS5.8
MDJ LR LR
comp=Z,4μm,20.9s,MS5.7
MDJ Mudanjiang 70.96 47 *e*P **P 18 27 51.3 -1.1**
comp=Z,18nm,1.1s,mb4.9
JOW Kunigami 71.23 66 LR LR 19 01 45.7
comp=Z,4μm,18.7s,MS5.7,baz=104,slow=38
SCO Scoresbysund 71.25 340 *i* P **P 18 28 03.2 +9.5**
comp=Z,35nm,0.9s,mb5.3
SCO Scoresbysund 71.25 340 *e*P **P 18 28 03.2 +9.5**
YAK Yakutsk 71.42 29 *e*P **P 18 27 54.4 -0.5**
comp=Z,94nm,0.8s,mb5.8
YAK LR LR
comp=Z,6μm,20.0s,MS5.9
YAK Yakutsk 71.42 29 *e*P **P 18 27 57.2 +2.3**
YAK *e**PP pP 18 28 03.9 +2.8
YAK *e* 18 28 09.4
YAK *e* 18 30 41.5
YAK *e*S S 18 37 13.8 +3.1
YAK *e*SS SS 18 41 50.9 +3.4
YAK pmax pmax
comp=Z,36nm,1.1s,mb5.2
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK pmax pmax
comp=E,17nm,1.2s
YAK pmax pmax
comp=Z,17nm,1.3s,mb4.8
YAK pmax pmax
comp=N,7.0nm,1.2s
YAK pmax pmax
comp=E,24nm,1.4s
YAK smax
comp=E,340nm,8.8s
YAK smax
comp=Z,77nm,7.6s
YAK smax
comp=N,1μm,13.1s
YAK MLR MLR
comp=N,2μm,13.0s
YAK MLR MLR
comp=E,3μm,25.0s
DAG Danmarks Havn 71.72 347⇑ *i*P **P 18 28 02.8 +6.3**
comp=E,131nm,1.2s,mb5.7
DAG Danmarks Havn 71.72 347⇑ *i*P **P 18 28 02.8 +6.3**
DAG pmax pmax
comp=Z,131nm,1.2s,mb5.7
PDA Ponta Delgada 71.91 305 *i* S S 18 37 33.0 +16
PDA *e*LQ 18 47 27.0
PDA *e*LR LR 18 51 14.0
PSET Sete Cidades 71.95 305 *e*P **P 18 28 05.5 +7.0**
TIXI Tiksi 72.15 19 PFAKE 18 28 10.0 +11
TIXI LR LR
comp=Z,5μm,19.0s,MS5.8
TIXI Tiksi 72.15 19 *e*P **P 18 27 59.1 0.0**
TIXI *e* 18 32 27.7
TIXI *e*S S 18 37 16.4 -2.6
TIXI *e* 18 38 02.4
TIXI *e*SS SS 18 41 55.3 -3.2
TIXI pmax pmax
comp=Z,95nm,1.3s,mb5.6
JNU Nakatsue 72.76 59 LR LR 19 03 53.8
comp=Z,4μm,19.0s,MS5.7,baz=60,slow=39
PSCM Serra do Cume 72.98 306 *e*P **P 18 28 05.3 +0.8**
ADH Angra Heroismo 73.07 306 *e*LR LR 18 51 00.0
MBWA Marble Bar 74.99 117 *e*P **P 18 28 15.7 -0.8**
comp=Z,25nm,0.7s,mb5.2
MBWA LR LR
comp=Z,3μm,22.0s,MS5.5
MUN Mundaring 76.57 128 *e*P **P 18 28 21.9 -3.4**
MUN *e*S S 18 38 14.7 +5.8
SUMG Summit 76.58 342 *e*P **P 18 28 23.1 -1.5**
comp=Z,149nm,1.2s,mb5.8
KLBR Kellerberrin 77.58 127 *e*P **P 18 28 30.0 -0.9**
comp=Z,20nm,0.9s,mb5.1
NWAO Narrogin (SRO) 77.77 129 P **P 18 28 31.1 -0.8**
comp=Z,3.0nm,0.5s,baz=261,slow=11,SNR=4.4
NWAO Narrogin (SRO) 77.77 129 *e*P **P 18 28 31.7 -0.2**
comp=Z,88nm,1.4s,mb5.5
NWAO LR LR
comp=Z,6μm,20.0s,MS5.9
NWAO Narrogin (SRO) 77.77 129 *e*P **P 18 28 31.7 -0.2**
NWAO pmax pmax
comp=Z,88nm,1.4s
NWAO MLR MLR
comp=Z,6μm,20.0s
MAJO Matsushiro 78.28 55 *e*P **P 18 28 32.9 -1.7**
comp=Z,38nm,1.1s,mb5.2
MAJO LR LR
comp=Z,3μm,19.0s,MS5.6
MAJO Matsushiro 78.28 55 *e*P **P 18 28 32.9 -1.7**
MAJO pmax pmax
comp=Z,38nm,1.1s,mb5.2
MAJO MLR MLR
comp=Z,3μm,19.0s,MS5.6
MAT Matsushiro 78.28 55 P **P 18 28 33.7 -0.9**
MAT S S 18 38 29.0 +1.7
MAT Matsushiro 78.28 55 *e*P **P 18 28 34.0 -0.6**
comp=Z,37nm,1.6s,mb5.1
MAT *e*S S 18 38 29.0 +1.7
MAT LR LR
comp=Z,3μm,19.0s,MS5.6
MAT Matsushiro 78.28 55 *e*P **P 18 28 34.0 -0.6**
MAT *e*S S 18 38 29.0 +1.7
MAT pmax pmax
comp=Z,37nm,1.6s,mb5.1
MAT MLR MLR
comp=Z,3μm,19.0s,MS5.6
MJAR Matsushiro Arr 78.28 55 P **P 18 28 33.6 -1.0**
comp=Z,2.4nm,1.0s,baz=277,slow=6.1,SNR=6.0
FITZ Fitzroy Crossi 79.13 112 *e*S S 18 38 41.5 +4.7
FITZ Fitzroy Crossi 79.13 112 P **P 18 28 38.6 -1.0**
comp=Z,21nm,1.0s,mb5.0,baz=344,slow=6.5,SNR=9.2
FITZ Fitzroy Crossi 79.13 112 *e*P **P 18 28 40.2 +0.6**
comp=Z,123nm,1.0s,mb5.8
FITZ *e*S S 18 38 41.5 +4.7
TRIS Tristan da Cun 79.46 227 PFAKE 18 28 50.0 +8.9
TRIS LR LR
comp=Z,10μm,21.0s,MS6.1

YSS Yuzh-Sakhalins 79.88 44 *eP* **P 18 28 43.4 +0.3**
comp=Z,80nm,1.1s,mb5.6
YSS LR LR
comp=Z,4μm,20.0s,MS5.7
YSS Yuzh-Sakhalins 79.88 44 *eP* **P 18 28 45.1 +2.0**
YSS *e* pP 18 28 49.5 +0.1
YSS *e**SP sP 18 28 53.9 +2.4
YSS *e*S S 18 38 50.0 +6.0
YSS 18 39 06.0
YSS *e*PPS PPS 18 39 56.0 +4.9
YSS *e*SS SS 18 43 58.0 +1.4
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.2
YSS smax
comp=N,1μm,10.0s
SEY Seymchan 81.78 27 *i* P **P 18 28 51.9 -0.9**
SFJD Kangerlussuaq 81.82 337 *i* P pP 18 29 03.0 +3.7
comp=N,46nm,1.0s
SFJD Kangerlussuaq 81.82 337 *i* S S 18 39 07.6 +3.9
SFJD *i* 18 44 29.0
comp=Z,8μm,22.0s
SFJD Kangerlussuaq 81.82 337 *eP* **P 18 28 52.8 -0.2**
SFJD *i* S S 18 39 07.6 +3.9
SFJD *i* 18 44 29.0
SFJD LR LR
comp=Z,8μm,22.0s,MS6.0
MA2 Magadan 81.89 31 *eP* **P 18 28 52.2 -1.2**
comp=Z,92nm,1.3s,mb5.5
MA2 LR LR
comp=Z,5μm,20.0s,MS5.9
MA2 Magadan 81.89 31 *i* P **P 18 28 54.1 +0.7**
MA2 pmax pmax
comp=Z,32nm,1.2s,mb5.1
MA2 MLR MLR
comp=Z,4μm,17.0s,MS5.9
MAW Mawson 82.17 176 *eP* **P 18 28 55.5 +0.8**
comp=Z,12nm,0.8s,mb4.9
MAW Mawson 82.17 176 P **P 18 28 55.7 +1.0**
comp=Z,13nm,1.2s,mb4.7,baz=13,slow=5.9,SNR=8.6
MAW LR LR 19 00 14.1
comp=Z,9μm,19.2s,MS6.2,baz=340,slow=32
MAW Mawson 82.17 176 *eP* **P 18 28 55.5 +0.8**
MAW pmax pmax
comp=Z,12nm,0.8s
CBIJ Chichi jima 83.41 64 LR LR 19 07 57.0
comp=Z,2μm,22.0s,MS5.3,baz=90,slow=37
SYO Syowa Base 83.72 185 ⇑P **P 18 29 02.6 0.0**
SYO Syowa Base 83.72 185 ⇑pP pP 18 29 06.7 -2.3
SYO Syowa Base 83.72 185 ⇑sP sP 18 29 10.4 -0.6
KUR Kuril'sk 83.72 45 *eP* **P 18 29 03.9 +0.7**
KUR pmax pmax
comp=Z,190nm,1.0s,mb6.2
BILL Bilibino 85.31 20 *eP* **P 18 29 09.1 -1.5**
comp=Z,16nm,0.8s,mb5.2
BILL LR LR
comp=Z,10μm,21.0s,MS6.2
BILL Bilibino 85.31 20 *i* P **P 18 29 11.6 +1.0**
FORT Forrest 85.43 123 *eP* **P 18 29 15.1 +3.0**
comp=Z,47nm,0.8s,mb5.7
MIR Mirnyy 86.15 165 *eP* **P 18 29 17.0 +2.2**
MIR pmax pmax
comp=Z,48nm,1.4s,mb5.5
WRA Warramunga Arr 87.53 111 P **P 18 29 22.7 0.0**
comp=Z,5.1nm,0.9s,mb4.7,baz=299,slow=3.5,SNR=29
WRA PKKPbc 18 47 17.5
comp=Z,0.9nm,0.7s,baz=102,slow=2.6,SNR=5.5
WRAB Tennant Creek 87.54 111 *eP* **P 18 29 23.2 +0.5**
comp=Z,123nm,1.0s,mb6.1
WRAB LR LR
comp=Z,1μm,21.0s,MS5.3
WRAB Tennant Creek 87.54 111 P **P 18 29 23.8 +1.1**
WRAB pmax pmax
comp=Z,120nm,1.0s,mb6.1
PET Petropavlovsk 88.10 35 *eP* **P 18 29 24.8 +0.2**
comp=Z,155nm,1.8s,mb5.9
PET LR LR
comp=Z,3μm,20.0s,MS5.7
PET Petropavlovsk 88.10 35 *eP* **P 18 29 29.7 +5.1**
PET *e* 18 32 56.9
PET *e*PPP PPP 18 34 54.2 +2.2
PET *e* 18 39 53.2
PET *e*S S 18 40 07.7 +2.2
PET *e*PS PS 18 41 18.0 +5.1
PET *e*SS SS 18 45 51.7 -6.0
PET *e*SSS SSS 18 49 29.1 -0.8
PET pmax pmax
comp=Z,43nm,1.2s,mb5.5
PET pmax pmax
comp=Z,500nm,6.0s
PET pmax pmax
comp=Z,700nm,9.7s
PET pmax pmax
comp=Z,300nm,12.2s
PET smax
comp=E,2μm,10.2s
PET smax
comp=N,2μm,17.9s
GUMO Guam 89.06 76 LR LR 19 09 15.7
comp=N,2μm,20.1s,MS5.4,baz=85,slow=36
GUMO Guam 89.06 76 PFAKE 18 29 40.0 +10
GUMO LR LR
comp=Z,203nm,22.0s
NVL N'lazarevskaya 89.40 192⇑ *i* P **P 18 29 32.3 +1.9**
NVL *i* *SP sP 18 29 40.6 +1.8
NVL *e* 18 32 58.4
NVL *i* S S 18 40 01.9 -15
NVL *i* SS SS 18 46 19.4 +3.5
NVL pmax pmax
comp=Z,6.0nm,1.2s,mb4.8
MAIT Maitri 89.43 192 *eP* **P 18 29 32.2 +1.7**
RCBR Riachuelo 89.75 264 P **P 18 29 32.0 -1.4**
comp=Z,50nm,1.3s,mb5.7
SNAA Sanae 93.44 195 P **P 18 29 53.9 +4.9**
SNAA Sanae 93.44 195 **P 18 29 57.2 +8.2**
SNAA Sanae 93.44 195 **P 18 30 01.6 +13**
SCHQ Schefferville 94.09 330 LR LR 19 13 30.4
comp=Z,4μm,21.4s,MS5.8,baz=51,slow=36
SCHQ Schefferville 94.09 330 PFAKE 18 30 00.0 +7.7
SCHQ LR LR
comp=Z,6μm,22.0s,MS6.0
VNA2 Neumayer--Watz 94.21 197 P **P 18 29 54.7 +2.2**
VNA2 Neumayer--Watz 94.21 197 **P 18 29 59.8 +7.3**
VNA2 Neumayer--Watz 94.21 197 **P 18 30 05.0 +12**
VNA1 Neumayer--Stat 94.30 197 P **P 18 29 56.9 +3.9**
VNA1 Neumayer--Stat 94.30 197 **P 18 30 01.2 +8.2**
VNA1 Neumayer--Stat 94.30 197 **P 18 30 03.8 +11**
VNA1 Neumayer--Stat 94.30 197 **P 18 30 08.9 +16**
VNA3 Neumayer Olymp 95.01 197 P **P 18 29 55.7 -0.5**
VNA3 Neumayer Olymp 95.01 197 **P 18 29 59.9 +3.7**
VNA3 Neumayer Olymp 95.01 197 **P 18 30 04.3 +8.1**
VNA3 Neumayer Olymp 95.01 197 **P 18 30 06.7 +10**
FX1 Attu Island--F 95.96 32 LR LR 19 16 07.2
comp=Z,122nm,19.4s,baz=156,slow=37
STKA Stephens Creek 96.85 121 P **P 18 30 08.1 +2.6**
comp=Z,2.5nm,1.0s,mb4.6,baz=328,slow=9.5,SNR=2.9
STKA LR LR 19 08 12.5
comp=Z,6μm,20.5s,MS6.1,baz=278,slow=32
INK Inuvik 97.38 2 LR LR 19 21 38.7
comp=Z,5μm,21.1s,MS6.0,baz=270,slow=40
PQI Presque Isle 99.08 323 PFAKE 18 30 30.0 +15
PQI LR LR
comp=Z,28μm,21.0s,MS6.7
ILAR Eielson Array 99.69 8 P **P 18 30 15.0 -2.5**
comp=Z,0.1nm,0.5s,baz=320,slow=7.0,SNR=3.5
ILAR PKKPbc 18 46 42.7
comp=Z,1.0nm,1.0s,baz=196,slow=3.5,SNR=4.3
ILAR LR LR 19 21 09.6
comp=Z,3μm,19.9s,MS5.8,baz=347,slow=39
EMMW East Machias 99.78 321 PFAKE 18 30 30.0 +12
EMMW LR LR
comp=Z,19μm,20.0s,MS6.6
WVL Waterville 101.18 322 PFAKE 18 30 40.0 +15
WVL LR LR
comp=Z,13μm,19.0s,MS6.5
DRV Dumont d'Urvil 102.20 156 Pdif Pdif 18 30 39.0 +10
DRV Dumont d'Urvil 102.20 156 PP PP 18 34 47.0 +3.6
DRV SP SP 18 43 59.0 +14
DRV SS SS 18 49 19.0 +2.2
DRV L 18 59 00.0
YKA Yellowknife Ar 102.64 354 P Pdif 18 30 29.6 -1.3
comp=Z,0.4nm,0.5s,baz=7.1,slow=5.0,SNR=2.9
YKA PP PP 18 34 39.9 -7.1
comp=Z,3.4nm,0.9s,baz=9.8,slow=6.6,SNR=5.5
YKA Yellowknife Ar 102.64 354 P Pdif 18 30 29.6 -1.3
YKA PP PP 18 34 39.9 -7.1

WES Weston 103.39 321 PFAKE 18 30 50.0 +15
WES LR LR
comp=Z,5μm,20.0s,MS6.0
NEW Newport 116.89 352 *e*PKPdf PKPdf 18 35 17.8 -3.9
CHMT Chamberlain Mo 117.58 349 *e*PKPdf PKPdf 18 35 19.3 -3.7
BOZ Bozeman (W) 118.47 347 *e*PKPdf PKPdf 18 35 22.3 -2.5
DLMT Dillon 118.95 348 *e*PKPdf PKPdf 18 35 22.6 -3.2
HAWA Hanford 119.02 354 *e*PKPdf PKPdf 18 35 22.3 -3.6
IMW Indian Meadow 119.98 346 *e*PKPdf PKPdf 18 35 25.9 -1.9
LOHW Long Hollow 120.17 346 *e*PKPdf PKPdf 18 35 24.8 -3.4
BMO Blue Mountains 120.26 351 *e*PKPdf PKPdf 18 35 23.9 -4.3
TPAW Teton Pass 120.37 346 *e*PKPdf PKPdf 18 35 27.2 -1.4
REDW Red Top Meadow 120.47 346 *e*PKPdf PKPdf 18 35 24.2 -4.6
RRI2 Red Ridge 120.59 346 *e*PKPdf PKPdf 18 35 26.8 -2.2
BW06 Boulder Array 120.71 345 *e*PKPdf PKPdf 18 35 27.2 -2.0
PDAR Pinedale Array 120.71 345 PKP PKPdf 18 35 25.4 -3.8
comp=Z,0.9nm,0.6s,baz=93,slow=2.2,SNR=6.7
PDAR PKKPab 18 45 43.8
comp=Z,0.9nm,0.9s,baz=207,slow=3.3,SNR=5.3
ISCO Idaho Springs 122.28 340 *e*Pdif Pdif 18 31 57.1 -0.8
ISCO Idaho Springs 122.28 340 P Pdif 18 32 08.2 +10
TCUT Toone Canyon 122.72 345 *e*PKPdf PKPdf 18 35 29.3 -3.9
LPAZ La Paz 122.75 260 PKP PKPdf 18 35 32.8 -0.9
comp=Z,1.0nm,0.7s,baz=225,slow=4.3,SNR=4.1
LPAZ La Paz 122.75 260 *e*PKPdf PKPdf 18 35 32.4 -1.4
WVOR Wild Horse Val 122.81 352 *e*PKPdf PKPdf 18 35 29.9 -3.3
HUMO Hull Mountain 123.08 356 *e*PKPdf PKPdf 18 35 29.6 -4.2
DAU Daniels Canyon 123.35 345 *e*PKPdf PKPdf 18 35 31.2 -3.2
ELK Elko 123.91 349 *e*PKPdf PKPdf 18 35 31.4 -4.1
DUG Dugway 123.93 346 *e*PKPdf PKPdf 18 35 34.1 -1.5
WMOK Wichita Mounta 123.94 331 *e*PKPdf PKPdf 18 35 31.4 -4.3
SDCO Great Sand Dun 124.08 339 *e*PKPdf PKPdf 18 35 33.0 -2.9
SRU San Rafael 124.39 344 *e*PKPdf PKPdf 18 35 31.1 -5.3
TMUT Trail Mountain 124.39 345 *e*PKPdf PKPdf 18 35 32.2 -4.3
BMN Battle Mountai 124.57 350 *e*PKPdf PKPdf 18 35 34.4 -2.4
PV10 Paradox Valley 124.65 342 PKPdf PKPdf 18 35 34.7 -2.3
WDC Whiskeytown Da 125.07 355 *e*PKPdf PKPdf 18 35 32.4 -5.4
MSU Marysvale 125.38 345 *e*PKPdf PKPdf 18 35 34.4 -4.0
BEKR Beckwourth 125.56 353 *e*PKPdf PKPdf 18 35 33.5 -5.3
KIPM Iron Peak 125.90 356 *e*PKPdf PKPdf 18 35 35.2 -4.1
KCPM Cahto Peak 126.03 356 *e*PKPdf PKPdf 18 35 34.6 -5.0
HOPS Hopland 126.69 356 *e*PKPdf PKPdf 18 35 36.1 -4.7
ANMO Albuquerque 126.93 338 *e*PKPdf PKPdf 18 35 37.2 -4.2
CMB Columbia Colle 127.37 353 *e*PKPdf PKPdf 18 35 39.3 -2.9
MTUM Tungsten Hills 127.79 351 PKPdf PKPdf 18 35 38.3 -4.9
DAC Darwin (Calif) 128.68 350 *e*PKPdf PKPdf 18 35 41.4 -3.4
NEN Nelson 128.74 347 *e*PKPdf PKPdf 18 35 41.6 -3.4
LDFC Landfair 129.35 347 *e*PKPdf PKPdf 18 35 41.2 -4.9
MNTX Cornudas Mount 129.40 335 *e*PKPdf PKPdf 18 35 43.1 -3.3
LTX Lajitas 130.71 332 *e*PKPdf PKPdf 18 35 45.1 -3.8
TXAR Lajitas Array 130.71 332 PKP PKPdf 18 35 45.7 -3.2
comp=Z,0.7nm,0.8s,baz=63,slow=2.8,SNR=4.7
TUC Tucson 130.80 341 *e*PKPdf PKPdf 18 35 45.6 -3.4

*IDC **26** 18:30:28.3±1.5,7.64N×91.86E,mb3.9/7,mb1 4.0/7,*
mb1mx3.8/21,mbtmp3.9/7,Error ellipse: s-maj=56.3km
s-min=26.4km az=54.0
*NEIC **26** 18:30:32.6±1.1,7.53N×91.79E,h30km,mb4.1/1,Error*
ellipse: s-maj=39.6km s-min=18.2km az=60.0
ISC 26 18:30:30.8±1.4,7.5N±0.2×91.8E±0.3,h30km,n11,
σ0$80/11,mb3.9/8,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**22.06**	**358**	*eP*	**P**	**18 35 27.2**	**+2.2**
MKAR	**Makanchi Array**	**39.96**	**350**	P	**P**	**18 38 03.7**	**-0.6**
1.3nm,0.6s,mb3.9,baz=171,slow=9.1,SNR=21							
MKAR	**Makanchi Array**	**39.96**	**350**	P	**P**	**18 38 03.7**	**-0.6**
SONM	**Songino Array**	**42.03**	**15**	P	**P**	**18 38 20.7**	**-0.6**
1.4nm,0.8s,mb3.7,baz=194,slow=7.8,SNR=9.3							
KURK	**Kurchatov**	**44.42**	**348**	*eP*	**P**	**18 38 40.6**	**-0.1**
3.3nm,1.0s,mb4.0							
ZAL	**Zalesovo**	**46.62**	**354**	P	**P**	**18 38 57.5**	**-0.6**
0.8nm,0.3s,mb4.1,baz=300,slow=9.9,SNR=4.3							
ZAL	**Zalesovo**	**46.62**	**354**	P	**P**	**18 38 57.5**	**-0.6**
BVAR	**Borovoye Array**	**48.60**	**343**	P	**P**	**18 39 13.2**	**-0.4**
0.9nm,0.7s,mb3.9,baz=143,slow=7.4,SNR=5.7							
WRA	**Warramunga Arr**	**49.96**	**124**	P	**P**	**18 39 24.7**	**+0.2**
0.9nm,1.0s,mb3.8,baz=306,slow=8.3,SNR=4.5							
GERES	**GERESS Array B**	**76.55**	**318**	P	**P**	**18 42 20.7**	**+0.7**
1.1nm,0.8s,mb3.8,baz=76,slow=5.5,SNR=7.4							
HFS	**Hagfors**	**77.59**	**330**	P	**P**	**18 42 25.3**	**-0.3**
3.0nm,0.8s,mb4.2,baz=109,slow=5.6,SNR=2.7							

*BJI **26** 18:50:44.4,38.57N×143.10E,h10km,mB5.2,mb4.8,*
Ms5.2,Msz4.7
*IDC **26** 18:50:44.6±0.7,38.52N×143.28E,mb4.5/14,mb1 4.5/19,*
mb1mx4.5/24,mbtmp4.4/19,ML4.1/4,MS3.7/1,Ms1 3.7/1,
ms1mx3.2/32,Error ellipse: s-maj=20.3km s-min=15.6km
az=105.0
*JMA **26** 18:50:45.7±0.1,38.53N×143.32E,h24km±5km,M5.0*
JMA Felt I J1.
*NEIC **26** 18:50:46.1±0.2,38.52N×143.31E,h10km,mb4.9/36,Error*
ellipse: s-maj=6.3km s-min=3.9km az=129.0
NEIC Recorded [1 JMA] in Iwate and Miyagi Prefectures.
*MOS **26** 18:50:50.3±0.8,38.79N×142.92E,h33km,mb5.0/32,Error*
ellipse: s-maj=9.8km s-min=5.7km az=109.7
ISC 26 18:50:47.1±0.3,38.54N±0.03×143.23E±0.03,h25km,
h25km±5.3km:pP-P,n200,σ1$02/202,mb4.7/68,MS4.8/5,
28C-14D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.33**	**294**	P	**Pn**	**18 51 10.2**	**-0.3**
OFUJ				*eS*	**Sn**	**18 51 28.2**	**+0.7**
JIO	**Ouri**	**1.48**	**267**	⇓P	**Pn**	**18 51 12.3**	**-0.2**
JIO				*eS*	**Sn**	**18 51 31.5**	**+0.3**
MIYJ	**Miyakonagasawa**	**1.51**	**314**	P	**Pn**	**18 51 12.5**	**-0.5**
JMK	**Ichinoseki**	**1.63**	**285**	P	**Pn**	**18 51 14.6**	**0.0**
JMK				*eS*	**Sn**	**18 51 36.2**	**+1.3**
JTH	**Tanohata**	**1.76**	**323**	⇑P	**Pn**	**18 51 15.7**	**-0.8**
JOM	**Ohasama**	**1.78**	**302**	⇑P	**Pn**	**18 51 16.9**	**+0.1**
JOM				*eS*	**Sn**	**18 51 40.9**	**+2.2**
JOU	**Okura**	**2.02**	**266**	⇑P	**Pn**	**18 51 20.8**	**+0.5**
JMM	**Marumori**	**2.04**	**251**	⇑P	**Pn**	**18 51 20.2**	**-0.3**
JKZ	**Kuzumaki**	**2.06**	**315**	⇑P	**Pn**	**18 51 20.9**	**0.0**
JRG	**Rokugo**	**2.20**	**294**	⇑P	**Pn**	**18 51 23.2**	**+0.4**
JFK	**Kawauchi**	**2.20**	**239**	⇑P	**Pn**	**18 51 22.3**	**-0.5**
JFK				*eS*	**Sn**	**18 51 49.0**	**-0.5**
JANG	**Nango**	**2.26**	**325**	⇑P	**Pn**	**18 51 22.6**	**-1.2**
JANG				*eS*	**Sn**	**18 51 50.5**	**-0.6**
JYK	**Kaneyama**	**2.28**	**280**	⇑P	**Pn**	**18 51 24.3**	**+0.3**
JFT	**Otama**	**2.50**	**247**	⇑P	**Pn**	**18 51 27.6**	**+0.4**
JFT				*eS*	**Sn**	**18 51 58.2**	**+1.0**
JYS	**Shirataka**	**2.51**	**264**	P	**Pn**	**18 51 27.6**	**+0.4**
JYW	**Yuwa**	**2.56**	**294**	P	**Pn**	**18 51 28.5**	**+0.5**
JAW	**Awa shima**	**3.13**	**270**	P	**Pn**	**18 51 36.7**	**+0.7**
JNS	**Sasagawa**	**3.17**	**258**	P	**Pn**	**18 51 37.0**	**+0.4**
JOT	**Ohata**	**3.30**	**330**	P	**Pn**	**18 51 37.9**	**-0.6**
JOT				*eS*	**Sn**	**18 52 17.0**	**-0.3**
JHK	**Hiroka**	**3.57**	**250**	⇑P	**Pn**	**18 51 42.8**	**+0.4**
MJAR	**Matsushiro Arr**	**4.46**	**245**	Pn	**Pn**	**18 51 55.7**	**+0.7**
16nm,0.3s,baz=64,slow=12,SNR=136							
MAJO	**Matsushiro**	**4.46**	**245**	*e*Pn	**Pn**	**18 51 55.4**	**+0.4**
MAT	**Matsushiro**	**4.46**	**245**	P	**Pn**	**18 51 55.6**	**+0.6**
MAT				*eS*	**Sn**	**18 52 46.7**	**-0.1**
MAT	**Matsushiro**	**4.46**	**245**	*e*P	**Pn**	**18 51 56.0**	**+1.0**
MAT				S	**Sn**	**18 52 50.0**	**+3.2**
JIM2	**Oshima 3**	**4.89**	**220**	P	**Pn**	**18 51 58.5**	**-2.5**
JGN	**Niukaw**	**5.25**	**246**	⇑P	**Pn**	**18 52 07.2**	**+1.1**
ASAJ	**Asahikawa**	**5.59**	**355**	Pn	**Pn**	**18 52 08.8**	**-2.2**
5.6nm,0.3s,baz=185,slow=8.0,SNR=44							
ASAJ				Sn	**Sn**	**18 53 12.2**	**-3.0**
8.5nm,0.3s,baz=312,slow=33,SNR=5.7							
ASAJ				LR	LR	18 54 55.5	
comp=Z,787nm,21.8s,baz=228,slow=45							
ASAJ	**Asahikawa**	**5.59**	**355**	P	**Pn**	**18 52 08.8**	**-2.2**
ASAJ						18 53 12.3	
ASAJ				pmax	pmax		
comp=Z,6.0nm,0.3s							
ASAJ				MLR	MLR		
comp=Z,787nm,21.8s							
JAO	**Obara**	**5.79**	**238**	⇓P	**Pn**	**18 52 14.1**	**+0.3**
YUK	**Yuzh-Kuril'sk**	**5.84**	**19**	*e*P	**Pn**	**18 52 09.5**	**-4.9**
YUK				*i* S	**Sn**	**18 53 12.1**	**-9.2**
YUK				pmax	pmax		
comp=Z,710nm,0.4s							
YUK				pmax	pmax		
comp=N,180nm,0.5s							
YUK				pmax	pmax		
comp=E,190nm,0.5s							
YUK				smax			
comp=N,180nm,0.5s							
YUK				smax			
comp=E,120nm,0.5s							
YUK				smax			
comp=N,2μm,2.0s							
YUK				smax			
comp=E,2μm,0.8s							
JHJ	**Hachijo jima 2**	**6.09**	**208**	Pn	**Pn**	**18 52 14.7**	**-3.3**
comp=E,28nm,0.3s,baz=52,slow=15,SNR=14							
JHJ				Sn	**Sn**	**18 53 20.4**	**-7.3**
comp=E,23nm,0.3s,baz=71,slow=23,SNR=4.0							
YSS	**Yuzh-Sakhalins**	**8.42**	**358**	*e*Pn	**P**	**18 52 49.1**	**-1.5**
comp=E,14nm,0.5s							
YSS	**Yuzh-Sakhalins**	**8.42**	**358**	*e*P	**P**	**18 52 49.0**	**-1.6**
YSS				*e*S	**Sn**	**18 54 21.0**	**-4.8**
YSS				smax			
comp=N,60nm,1.0s							
JNU	**Nakatsue**	**11.39**	**245**	Pn	**P**	**18 53 30.2**	**-1.1**
baz=81,slow=12							
CBIJ	**Chichi jima**	**11.44**	**185**	Pn	**P**	**18 53 25.9**	**-6.2**
comp=N,4.4nm,0.3s,baz=251,slow=23,SNR=4.7							
CBIJ				Sn	**S**	**18 55 26.4**	**-14**
comp=N,7.3nm,0.3s,baz=278,slow=22,SNR=5.0							
MDJ	**Mudanjiang**	**11.88**	**305**	P	**P**	**18 53 37.5**	**-0.4**
MDJ				AMB	AMB		
comp=Z,18nm,1.2s							
MDJ				AMB	AMB		
comp=Z,888nm,17.8s							
MDJ	**Mudanjiang**	**11.88**	**305**	*e*Pn	**P**	**18 53 36.9**	**-1.1**
comp=Z,34nm,1.1s							
CN2	**Changchun**	**14.38**	**297**	*eP*	**P**	**18 54 11.0**	**-0.1**
SNY	**Shenyang**	**15.38**	**289**	⇓P	**P**	**18 54 26.3**	**+2.2**
JOW	**Kunigami**	**17.14**	**231**	P	**P**	**18 54 46.8**	**+0.2**
comp=Z,0.6nm,0.3s,baz=36,slow=17,SNR=4.9							
SSE	**Sheshan**	**19.54**	**254**	P	**P**	**18 55 09.5**	**-6.2**
SSE				AMB	AMB		
comp=Z,26nm,0.6s							
SSE				AMB	AMB		
comp=Z,1μm,12.0s							
SSE	**Sheshan**	**19.54**	**254**	P	**P**	**18 55 09.6**	**-6.1**
comp=Z,26nm,0.6s							
HIA	**Hailar**	**19.95**	**310**	*eP*	**P**	**18 55 15.2**	**-5.0**
comp=Z,24nm,0.9s							
HIA				*e*pP		18 55 23.1	
HIA	**Hailar**	**19.95**	**310**	*eP*	**P**	**18 55 15.2**	**-5.0**
HIA				pmax	pmax		
comp=Z,24nm,0.9s							
NJ2	**Nanjing**	**20.89**	**259**	*eP*	**P**	**18 55 28.0**	**-2.0**
NJ2				AP		18 55 37.0	
NJ2				XP		18 55 41.3	
NJ2				PP	PP	18 55 49.5	-3.1
NJ2				PPP	PPP	18 55 58.3	-3.3
NJ2				S	**S**	**18 59 14.0**	**-2.8**
NJ2				XS		18 59 25.0	
NJ2				AMB	AMB		
comp=Z,130nm,1.1s							
NJ2				AMB	AMB		
comp=Z,1μm,12.0s							
NJ2				LR	LR		
comp=N,4μm,14.1s,MS5.0							
NJ2				LR	LR		
comp=E,4μm,15.8s,MS5.0							
NJ2				LR	LR		
comp=Z,2μm,15.2s,MS4.6							
MA2	**Magadan**	**21.60**	**10**	P	**P**	**18 55 35.5**	**-1.4**
comp=Z,12nm,0.9s,mb4.3							
MA2	**Magadan**	**21.60**	**10**	P	**P**	**18 55 35.5**	**-1.4**
MA2				pmax	pmax		
comp=Z,12nm,0.9s,mb4.3							
HHC	**Hu-ho-hao-te**	**24.41**	**285**	⇓P	**P**	**18 56 02.5**	**-2.1**
HHC				AP		18 56 09.0	
HHC				XP		18 56 12.8	
HHC				PP	PP	18 56 39.0	-1.3
HHC				PCP	PcP	18 59 40.0	-4.7
HHC				S	**S**	**19 00 21.0**	**+1.1**
HHC				XS		19 00 31.8	
HHC				AMB	AMB		
comp=Z,22nm,1.1s,mb4.5							
HHC				AMB	AMB		
comp=Z,2μm,8.4s							
HHC				LR	LR		
comp=N,2μm,16.8s,MS4.7							
HHC				LR	LR		
comp=E,1μm,14.4s,MS4.7							
HHC				LR	LR		
comp=Z,1μm,15.6s,MS4.5							
CIT	**Chita**	**24.65**	**313**	*eP*	**P**	**18 56 04.9**	**-1.9**
CIT				pmax	pmax		
comp=Z,76nm,1.7s,mb5.0							
YAK	**Yakutsk**	**24.96**	**345**	*eP*	**P**	**18 56 09.2**	**-0.5**
comp=Z,26nm,0.6s,mb5.0							
YAK	**Yakutsk**	**24.96**	**345**	*d* iP	**P**	**18 56 09.0**	**-0.7**
YAK				pmax	pmax		
comp=Z,24nm,0.7s,mb4.8							
WHN	**Wuhan**	**25.02**	**260**	*eP*	**P**	**18 56 10.5**	**-0.1**
SEY	**Seymchan**	**25.05**	**10**	*d* iP	**P**	**18 56 12.0**	**+1.5**
BOD	**Bodaibo**	**27.08**	**325**	*eP*	**P**	**18 56 27.0**	**-2.4**
BOD				pmax	pmax		
comp=Z,12nm,0.8s,mb4.5							
ULN	**Ulaanbaatar**	**27.75**	**301**	*eP*	**P**	**18 56 34.9**	**-0.7**
comp=Z,20nm,1.1s,mb4.7							
ULN	**Ulaanbaatar**	**27.75**	**301**	*i* P	**P**	**18 56 35.7**	**+0.1**
XAN	**Xi'an**	**27.92**	**271**	P	**P**	**18 56 36.3**	**-1.0**
XAN				AMB	AMB		
comp=Z,23nm,1.3s,mb4.7							
SONM	**Songino Array**	**28.19**	**301**	P	**P**	**18 56 39.5**	**0.0**
comp=Z,2.9nm,0.8s,mb4.0,baz=95,slow=8.5,SNR=3.6							
ENH	**Enshi**	**28.91**	**264**	*eP*	**P**	**18 56 44.2**	**-2.0**
comp=Z,40nm,0.9s,mb5.2							
ZAK	**Zakamensk**	**30.51**	**306**⇑	*eP*	**P**	**18 56 59.1**	**-1.2**
ZAK				pmax	pmax		
comp=Z,8.0nm,0.9s,mb4.5							
LZH	**Lanzhou**	**31.26**	**278**	*eP*	**P**	**18 57 06.8**	**-0.3**
LZH				AP	pP	18 57 15.3	+0.8
LZH				AMB	AMB		
comp=Z,40nm,1.6s,mb5.0							
LZH				AMB	AMB		
comp=Z,160nm,4.5s							
LZH				LR	LR		
comp=N,860nm,14.3s							
LZH				LR	LR		
comp=Z,1μm,15.4s,MS4.7							
LZH	**Lanzhou**	**31.26**	**278**	*eP*	**P**	**18 57 06.8**	**-0.3**
comp=Z,40nm,1.6s,mb5.0							
LZH				pP	pP	18 57 15.2	+0.7
LZH				sP	sP	18 57 22.5	+4.7
LZH				LR	LR		
comp=Z,1μm,15.4s,MS4.7							
LZH	**Lanzhou**	**31.26**	**278**	*eP*	**P**	**18 57 06.8**	**-0.3**
LZH				*PP	pP	18 57 15.2	+0.7
LZH				*SP	sP	18 57 22.5	+4.7
LZH				pmax	pmax		
comp=Z,40nm,1.6s,mb5.0							
LZH				MLR	MLR		
comp=Z,1μm,15.4s,MS4.7							
MOY	**Mondy**	**32.11**	**308**	*eP*	**P**	**18 57 15.7**	**+1.4**
BILL	**Bilibino**	**32.18**	**16**	*i* P	**P**	**18 57 17.5**	**+2.7**
BILL				pmax	pmax		
comp=Z,14nm,2.0s,mb4.5							
GYA	**Guiyang**	**32.90**	**259**	P	**P**	**18 57 18.5**	**-3.0**
GYA				AMB	AMB		
comp=Z,10.0nm,0.6s,mb4.9							
CD2	**Chengdu**	**33.13**	**269**⇓	*i* P	**P**	**18 57 22.3**	**-1.1**
CD2				AMB	AMB		
comp=Z,20nm,0.8s,mb5.1							
GTA	**Gaotai**	**33.53**	**285**	⇓P	**P**	**18 57 26.8**	**0.0**
GTA				AP	pP	18 57 32.0	-2.3
GTA				XP	sP	18 57 34.5	-3.0
GTA				AMB	AMB		
comp=Z,26nm,0.9s,mb5.2							
KMI	**Kunming**	**36.62**	**261**	P	**P**	**18 57 52.8**	**-0.5**
KMI				AMB	AMB		
comp=Z,11nm,1.5s,mb4.5							
KMI	**Kunming**	**36.62**	**261**	P	**P**	**18 57 52.7**	**-0.6**
comp=Z,11nm,1.5s,mb4.5							
KMI				pP	pP	18 58 04.1	+3.3
KMI	**Kunming**	**36.

WMQ SCP 19 04 18.0
WMQ S **S** **19 04 47.0 0.0**
WMQ SS SS 19 07 48.0 +1.2
WMQ AMB AMB
comp=Z,16nm,1.0s,mb4.6
WMQ AMB AMB
comp=Z,142nm,5.0s
WMQ LR LR
comp=N,1μm,14.0s,MS5.1
WMQ LR LR
comp=E,2μm,15.0s,MS5.1
WMQ LR LR
comp=Z,985nm,14.0s,MS4.8
NANT Nan 41.74 254 P P 18 58 26.0 -10
ZAL Zalesovo 42.00 311 P P 18 58 37.8 +0.1
comp=Z,4.2nm,0.4s,mb4.4,baz=26,slow=9.7,SNR=14
ZAL PcP PcP 19 00 32.8 -0.4
comp=Z,3.4nm,0.8s,baz=47,slow=3.6,SNR=4.4
NVS Novosibirsk 42.87 313 *eP* **P 18 58 43.7 -1.0**
LSA Lhasa 43.52 275 P **P 18 58 51.5 +1.2**
MKAR Makanchi Array 44.56 301 P **P 18 58 58.1 -0.4**
comp=Z,3.8nm,0.7s,mb4.3,baz=86,slow=9.6,SNR=24
KURK Kurchatov 46.16 307 *eP* **P 18 59 10.0 -1.2**
comp=Z,23nm,0.8s,mb5.2
KURK Kurchatov 46.16 307 *i* P **P 18 59 10.4 -0.7**
KURK pmax pmax
comp=Z,14nm,1.0s,mb4.8
SML Sawmill 46.93 37 *eP* **P 18 59 16.7 -0.3**
ILAR Eielson Array 47.45 33 P **P 18 59 21.1 -0.1**
comp=Z,3.0nm,0.7s,mb4.3,baz=268,slow=6.7,SNR=19
KSM Kuching 47.63 227 *eP* **P 18 59 23.5 +0.2**
KKN Kakani 48.97 275 *eP* **P 18 59 33.3 -0.2**
comp=Z,28nm,0.6s,mb5.5
KKN Kakani 48.97 275 *eP* **P 18 59 33.3 -0.2**
KKN pmax pmax
comp=Z,14nm,0.6s,mb5.2
PKI Pulchoki 48.97 275 *eP* **P 18 59 32.8 -0.7**
DMN Daman 49.19 275 *eP* **P 18 59 34.7 -0.5**
comp=Z,47nm,1.2s,mb5.4
GKN Gorkha 49.37 276 *eP* **P 18 59 36.2 -0.4**
comp=Z,74nm,1.1s,mb5.7
KOLN Koldanda 50.29 276 *eP* **P 18 59 41.4 -2.2**
comp=Z,50nm,1.0s,mb5.5
BVA0 Borovoye Array 50.64 312 *i* P **P 18 59 45.2 -0.7**
BVA0 pmax pmax
comp=Z,1.0nm,1.0s,mb3.7
KAKA Kakadu 51.97 193⇓ *iP* **P 19 00 10.0 +13**
comp=Z,37nm,0.6s,mb5.5
SVE Sverdlovsk 54.98 318 *eP* **P 19 00 18.3 +0.1**
SVE *e* 19 00 32.3
ARU Arti 56.19 318⇑ *iP* **P 19 00 25.9 -1.1**
ARU *e*PPP PPP 19 03 42.9 -7.3
ARU *e*S **S** **19 08 15.0 +2.0**
ARU *e* 19 10 12.2
ARU *e*SS SS 19 12 02.1 +2.2
ARU pmax pmax
comp=Z,17nm,1.5s,mb4.8
AB31 Akbulak array 58.08 310 *i* P **P 19 00 39.1 -1.3**
AB31 pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
AKTO Aktyubinsk 58.75 312 P **P 19 00 43.7 -1.3**
AKTO pmax pmax
comp=Z,1.0nm,1.0s,mb3.8
WRAB Tennant Creek 58.75 190 *eP* **P 19 00 43.1 -2.4**
comp=Z,26nm,0.8s,mb5.3
WRAB Tennant Creek 58.75 190 *c iP* **P 19 00 43.6 -1.9**
WRA Warramunga Arr 58.77 190 P **P 19 00 43.7 -1.9**
comp=Z,15nm,0.7s,mb5.1,baz=7.4,slow=6.9,SNR=112
KEV Kevo 62.55 339 *ep* **P 19 01 08.7 -2.0**
comp=Z,5.3nm,0.9s,mb4.7
KEV Kevo 62.55 339 *eP* **P 19 01 08.7 -2.0**
KEV pmax pmax
comp=Z,5.0nm,0.9s,mb4.6
ARCES ARCESS Array B 63.10 340 P **P 19 01 13.4 -0.8**
comp=Z,2.4nm,0.6s,mb4.5,baz=51,slow=7.8,SNR=17
JOF Joensuu 65.31 332 *ep* **P 19 01 27.2 -1.5**
comp=Z,4.1nm,0.7s,mb4.6
KAF Kangasniemi 67.63 333 *ep* **P 19 01 42.1 -1.4**
comp=Z,6.2nm,0.7s,mb4.8,baz=47,slow=6.0
KAF Kangasniemi 67.63 333 *eP* **P 19 01 42.1 -1.4**
KAF pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
OBN Obninsk 67.75 324 *d iP* **P 19 01 44.0 -0.3**
OBN *e* 19 02 06.9
OBN pmax pmax
comp=Z,7.0nm,0.5s,mb5.0
NEW Newport 68.05 45 P **P 19 01 49.0 +2.7**
comp=Z,3.3nm,0.7s,mb4.5,baz=299,slow=6.4,SNR=3.3
FINES FINESS Array B 68.15 333 P **P 19 01 46.1 -0.6**
comp=Z,4.9nm,0.6s,mb4.7,baz=45,slow=11,SNR=26
YBH Yreka Blue Hor 68.29 53 P **P 19 01 51.6 +3.7**
comp=Z,2.6nm,0.9s,mb4.3,baz=343,slow=6.9,SNR=3.7
SUMG Summit 69.18 1 *eP* **P 19 01 53.0 +0.1**
comp=Z,4.9nm,0.7s,mb4.5
STKA Stephens Creek 70.07 181 P **P 19 01 58.4 -0.7**
comp=Z,1.6nm,0.6s,mb4.1,baz=345,slow=9.3,SNR=3.9
GOF Gofitskoye 70.17 312⇓ *iP* **P 19 01 58.2 -1.2**
GOF pmax pmax
comp=Z,20nm,1.3s,mb4.9
KIV Kislovodsk 71.00 311 *eP* **P 19 02 03.8 -0.7**
comp=Z,17nm,0.9s,mb5.0
KIV Kislovodsk 71.00 311 *d iP* **P 19 02 05.3 +0.8**
KIV pmax pmax
comp=Z,27nm,0.9s,mb5.2
NB2 NORSAR Subarra 73.35 338 P **P 19 02 17.2 -0.8**
comp=Z,9.0nm,0.8s,mb4.8,baz=39,slow=5.8
NB2 NORSAR Subarra 73.35 338 P **P 19 02 17.2 -0.8**
NB2 pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
NOA NORSAR Array B 73.35 338 P **P 19 02 18.0 0.0**
comp=Z,7.0nm,0.8s,mb4.7,baz=38,slow=5.9,SNR=20
AKASG Malin Array Be 73.98 323 P **P 19 02 21.5 -0.3**
comp=Z,4.8nm,0.5s,mb4.7,baz=45,slow=5.7,SNR=64
AKASG Malin Array Be 73.98 323 P **P 19 02 21.5 -0.4**
SIM Simferopol 75.26 316 *eP* **P 19 02 29.7 +0.3**
SIM pmax pmax
comp=Z,12nm,0.8s,mb4.9
PDAR Pinedale Array 75.59 47 P **P 19 02 31.9 +0.5**
comp=Z,1.0nm,0.5s,mb4.0,baz=270,slow=3.0,SNR=7.0
BURAR Bucovina Array 78.02 322⇑ P **P 19 02 45.3 +0.6**
BURAR Bucovina Array 78.02 322⇑ P **P 19 02 45.3 +0.6**
STHS Stebnicka Huta 78.55 326 *eP* **P 19 02 48.4 +0.8**
OJC Ojcow 78.58 327 *eP* **P 19 02 48.1 +0.3**
TIRR Tirgusor 78.62 318⇑ P **P 19 02 48.0 -0.1**
TIRR Tirgusor 78.62 318⇑ P **P 19 02 48.0 -0.1**
BRTR Keskin Array B 78.92 312 P **P 19 02 50.3 +0.4**
comp=Z,1.2nm,0.5s,mb4.1,baz=56,slow=4.5,SNR=8.5
NIE Niedzica 78.96 326 *eP* **P 19 02 51.1 +1.3**
ISR Istrita 79.12 320⇓ P **P 19 02 50.8 0.0**
ISR Istrita 79.12 320⇓ P **P 19 02 50.8 0.0**
MLR Muntele Rosu 79.16 320⇑ P **P 19 02 52.4 +1.4**
MLR Muntele Rosu 79.16 320⇑ P **P 19 02 52.4 +1.4**
DPC Dobruska-Polom 79.94 329 *eP* **P 19 02 55.9 +0.8**
UPC Upice 79.94 329 *eP* **P 19 02 56.0 +0.8**
VYHS Vyhne 80.30 326 *eP* **P 19 02 56.7 -0.4**
BRG Berggiesshubel 80.48 330 *eP* **P 19 02 58.4 +0.4**
comp=Z,5.6nm,0.9s,mb4.5
BRG LR LR
comp=Z,550nm,35.5s,MS4.7
BRG Berggiesshubel 80.48 330 *eP* **P 19 02 58.4 +0.4**
BRG pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
BRG MLR MLR
comp=Z,550nm,35.5s,MS4.7
CLL Collm 80.50 331⇑ P **P 19 02 58.2 +0.1**
comp=Z,logA/T=1.0,mb4.7
CLL *i* *PP pP 19 03 01.6 -4.5
CLL Collm 80.50 331⇑ *iP* **P 19 02 58.2 +0.1**
comp=Z,10.0nm,0.9s,mb4.8
CLL *i* 19 03 01.6
CLL Collm 80.50 331⇑ *iP* **P 19 02 58.2 +0.1**
CLL pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
PVCC Panska Ves 80.51 330 *eP* **P 19 02 59.0 +0.9**
PRU Pruhonice 80.94 329 *eP* **P 19 03 01.1 +0.7**
PRU *ep*P pP 19 03 09.8 +1.3
NKC Novy Kostel 81.57 331 *eP* **P 19 03 04.6 +0.9**
KHC Kasperske Hory 82.00 329 *eP* **P 19 03 06.6 +0.6**
GERES GERESS Array B 82.18 329 P **P 19 03 07.3 +0.4**
comp=Z,1.1nm,0.5s,mb4.1,baz=29,slow=5.4,SNR=12
GRA1 Grafenberg Arr 82.47 331 *eP* **P 19 03 09.3 +0.9**
comp=Z,10.0nm,0.9s,mb4.8
GRF Grafenberg Arr 82.47 331 *eP* **P 19 03 09.3 +0.9**
GRF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
CDF Champ du Feu 85.00 332 *eP* **P 19 03 22.0 +0.8**
comp=Z,15nm,1.1s,mb4.8
CDF Champ du Feu 85.00 332 *eP* **P 19 03 22.0 +0.8**
CDF pmax pmax
comp=Z,8.0nm,1.1s,mb4.8
HINF Hinteralfeld 85.66 332 *eP* **P 19 03 24.9 +0.4**
HAU Haudompre 85.68 333 *eP* **P 19 03 24.9 +0.3**
MEZF Maizieres J'vi 85.72 334 *eP* **P 19 03 25.6 +0.8**
comp=Z,38nm,1.1s,mb5.2
LOR Lormes 87.19 334 *eP* **P 19 03 32.6 +0.5**
comp=Z,32nm,1.1s,mb5.2
LOR Lormes 87.19 334 *eP* **P 19 03 32.6 +0.5**
LOR pmax pmax
comp=Z,16nm,1.1s,mb5.2
FLN La Foliniere 87.31 337 *eP* **P 19 03 32.9 +0.3**
LDF La Druitiere 87.35 337 *eP* **P 19 03 33.1 +0.3**
SSF Saint Saulge 87.49 334 *eP* **P 19 03 34.1 +0.6**
comp=Z,6.8nm,1.1s,mb4.8
SSF Saint Saulge 87.49 334 *eP* **P 19 03 34.1 +0.6**
SSF pmax pmax
comp=Z,7.0nm,1.1s,mb4.8
LPL La Plagne 87.64 331 *eP* **P 19 03 35.2 +1.0**
LPG La Plagne 87.64 331 *eP* **P 19 03 35.4 +1.1**
comp=Z,17nm,1.0s,mb4.9
LPG La Plagne 87.64 331 *eP* **P 19 03 35.4 +1.1**
LPG pmax pmax
comp=Z,8.0nm,1.0s,mb4.9
GRR Gorron 87.76 337 *eP* **P 19 03 35.4 +0.6**
comp=Z,11nm,0.7s,mb4.9
GRR Gorron 87.76 337 *eP* **P 19 03 35.4 +0.6**
GRR pmax pmax
comp=Z,6.0nm,0.7s,mb4.9
AVF Avril sur Loir 87.78 334 *eP* **P 19 03 35.5 +0.6**
comp=Z,9.5nm,0.7s,mb4.8
AVF Avril sur Loir 87.78 334 *eP* **P 19 03 35.5 +0.6**
AVF pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
TXAR Lajitas Array 88.07 53 P **P 19 03 37.5 +0.8**
comp=Z,0.3nm,0.3s,mb4.0,baz=292,slow=3.6,SNR=5.0
BGF Bois d'Agland 88.16 334 *eP* **P 19 03 37.6 +0.9**
MBDF Montbardon 88.29 331 *eP* **P 19 03 38.3 +0.9**
ORIF Oris-en-Rattie 88.47 331 *eP* **P 19 03 39.1 +0.9**
comp=Z,3.1nm,0.7s,mb4.4
ORIF Oris-en-Rattie 88.47 331 *eP* **P 19 03 39.1 +0.9**
ORIF pmax pmax
comp=Z,2.0nm,0.6s,mb4.5
TCF Toulx Ste Croi 88.61 334 *eP* **P 19 03 39.7 +0.8**
comp=Z,9.9nm,1.1s,mb4.8
TCF Toulx Ste Croi 88.61 334 *eP* **P 19 03 39.7 +0.8**
TCF pmax pmax
comp=Z,5.0nm,1.1s,mb4.8
MFF Saint Martin d 89.12 336 *eP* **P 19 03 42.0 +0.7**
comp=Z,12nm,0.9s,mb4.9
MFF Saint Martin d 89.12 336 *eP* **P 19 03 42.0 +0.7**
MFF pmax pmax
comp=Z,6.0nm,0.9s,mb4.9
FRF La Foret Royal 89.32 330 *eP* **P 19 03 43.3 +1.0**
comp=Z,24nm,1.0s,mb5.2
FRF La Foret Royal 89.32 330 *eP* **P 19 03 43.3 +1.0**
FRF pmax pmax
comp=Z,12nm,1.0s,mb5.2
RJF Les Rejaudoux 89.70 334 *eP* **P 19 03 45.0 +0.9**
comp=Z,13nm,1.1s,mb4.9
RJF Les Rejaudoux 89.70 334 *eP* **P 19 03 45.0 +0.9**
RJF pmax pmax
comp=Z,7.0nm,1.1s,mb4.9
CAF Calviac 89.85 334 *eP* **P 19 03 46.0 +1.2**
comp=Z,6.4nm,0.7s,mb4.7
CAF Calviac 89.85 334 *eP* **P 19 03 46.0 +1.2**
CAF pmax pmax
comp=Z,3.0nm,0.7s,mb4.7
LFF La Frestale 90.29 334 *eP* **P 19 03 47.9 +1.1**
comp=Z,10nm,0.8s,mb4.9
LFF La Frestale 90.29 334 *eP* **P 19 03 47.9 +1.1**
LFF pmax pmax
comp=Z,5.0nm,0.8s,mb4.9
ETSF Etsaut 92.53 334 *eP* **P 19 03 58.3 +1.1**
SJPF Ste Jean 92.57 335 *eP* **P 19 03 58.4 +1.1**
DBIC Dimbokro 126.13 319 PKP PKPdf 19 09 48.6 -4.0
comp=Z,4.2nm,1.1s,baz=97,slow=3.6,SNR=4.0
SNAA Sanae 142.60 197⇑ *iP* PKPdf 19 10 14.0 -7.4
SNAA Sanae 142.60 197 PKPdf 19 10 16.1 -5.3
SNAA Sanae 142.60 197 PKPdf 19 10 19.7 -1.7
VNA2 Neumayer--Watz 144.16 196⇑ *iP* PKPbc 19 10 20.0 +1.2
VNA2 Neumayer--Watz 144.16 196 PKPbc 19 10 23.8 +5.0
VNA2 Neumayer--Watz 144.16 196 PKPbc 19 10 28.4 +10
VNA2 Neumayer--Watz 144.16 196 PKPbc 19 10 34.2 +15
VNA3 Neumayer Olymp 144.38 195⇑ *iP* PKPbc 19 10 20.6 +1.1
VNA3 Neumayer Olymp 144.38 195 PKPbc 19 10 23.0 +3.5
VNA3 Neumayer Olymp 144.38 195 PKPbc 19 10 27.2 +7.7
VNA3 Neumayer Olymp 144.38 195 PKPbc 19 10 31.7 +12
VNA1 Neumayer--Stat 144.56 196⇑ *iP* PKPbc 19 10 21.4 +1.4
VNA1 Neumayer--Stat 144.56 196 PKPbc 19 10 24.6 +4.6
VNA1 Neumayer--Stat 144.56 196 PKPbc 19 10 29.7 +10
VNA1 Neumayer--Stat 144.56 196 PKPbc 19 10 33.4 +13
LPAZ La Paz 144.69 60 PKP PKPdf 19 10 23.8 -2.8
comp=Z,0.5nm,0.4s,baz=100,slow=4.1,SNR=4.1

NEIC ***26*** *19:19:56.3, 45.01S×168.08E, h12km, ML3.8(WEL), After WEL.*
WEL 26 19:19:54.7±0.8, 44.99S×167.51E, h62km±8km, ML3.6/8, 2C-3D, Error ellipse: s-maj=8.9km s-min=4.0km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.43**	**43**	⇑PN	P	19 20 06.3	-0.1
MSZ				SN	S	19 20 14.6	-0.2
MLZ	**Mavora Lakes**	**0.59**	**128**	⇓PN	P	19 20 07.8	-0.2
MLZ				SN	S	19 20 17.1	-0.6
WHZ	**Wether Hill Ro**	**0.96**	**161**	PN	P	19 20 12.4	-0.1
WHZ				SN	S	19 20 25.4	-0.3
WKZ	**Wanaka**	**1.08**	**82**	⇑PN	P	19 20 14.2	-0.1
WKZ				SN	S	19 20 28.5	-0.2
TUZ	**Tuapeka**	**1.78**	**124**	*e*PN	P	19 20 23.1	-0.8
LBZ	**Lake Benmore**	**2.00**	**73**	⇓PN	P	19 20 25.2	-1.6
LBZ				SN	S	19 20 47.9	-2.8
FOZ	**Fox Glacier**	**2.12**	**48**	*e*PN	P	19 20 28.0	-0.6
FOZ				SN	S	19 20 52.5	-1.1
ODZ	**Otahua Downs**	**2.22**	**93**	⇓PN	P	19 20 28.4	-1.7
ODZ				SN	S	19 20 52.1	-4.2
RPZ	**Rata Peaks**	**2.84**	**65**	PN	P	19 20 35.9	-3.0
RPZ				SN	S	19 21 05.6	-6.4
RPZ	**Rata Peaks**	**2.84**	**65**	*e*P	P	19 20 36.0	-2.9
WVZ	**Waitaha Valley**	**3.01**	**52**	*e*PN	P	19 20 38.7	-2.6
WVZ				SN	S	19 21 10.3	-6.0
WVZ	**Waitaha Valley**	**3.01**	**52**	*e*P	P	19 20 38.8	-2.4
WVZ				S	S	19 21 10.3	-6.0
MQZ	**McQueen's Vall**	**3.91**	**73**	*e*PN	P	19 20 49.7	-4.0
MQZ				SN	S	19 21 30.6	-8.1
MQZ	**McQueen's Vall**	**3.91**	**73**	*e*P	P	19 20 49.7	-4.0
MQZ				S	S	19 21 30.6	-8.1
LTZ	**Lake Taylor**	**4.09**	**59**	*e*PN	P	19 20 52.6	-3.7
LTZ	**Lake Taylor**	**4.09**	**59**	*e*P	P	19 20 52.5	-3.8
DSZ	**Denniston Nort**	**4.51**	**45**	PN	P	19 20 59.3	-2.9
DSZ				*e*SN	S	19 21 45.1	-8.7
DSZ	**Denniston Nort**	**4.51**	**45**	*e*P	P	19 20 59.4	-2.8
DSZ				S	S	19 21 45.1	-8.7
THZ	**Tophouse**	**5.08**	**53**	*e*PN	P	19 21 07.5	-2.7
THZ	**Tophouse**	**5.08**	**53**	*e*P	P	19 21 08.2	-2.0
QRZ	**Quartz Range**	**5.56**	**43**	*e*PN	P	19 21 13.8	-2.9
QRZ				*e*SN	S	19 22 11.9	-8.2
QRZ	**Quartz Range**	**5.56**	**43**	*e*P	P	19 21 13.8	-2.9
QRZ				S	S	19 22 12.0	-8.1
NNZ	**Nelson**	**5.71**	**51**	PN	P	19 21 17.1	-1.8
NNZ	**Nelson**	**5.71**	**51**	P	P	19 21 17.1	-1.8
NNZ				S	S	19 22 17.8	-6.2

NEIC ***26*** *19:28:36.3±2.2, 19.22N×146.44E, h117km±11km, mb4.2/3, Error ellipse: s-maj=81.0km s-min=9.9km az=86.0*
IDC ***26*** *19:28:40.5±9.2, 19.23N×146.06E, h146km±81km, mb3.5/4, mb1 3.6/5, mb1mx3.4/19, mbtmp3.9/5, MS4.4/1, Ms1 4.4/1, ms1mx3.6/25, Error ellipse: s-maj=109.6km s-min=19.9km az=83.0*
ISC 26 19:28:35.2±2.7, 19.3N±0.1×146.3E±0.8, h117km±16km, n11, σ0°48/10, mb4.0/6, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARN	**Sarigan**	**2.58**	**191**	*e*P	P	**19 29 17.2**	**+0.4**
SAPN	**Saipan**	**4.05**	**187**	*e*P	P	**19 29 36.0**	**-0.5**
MJAR	**Matsushiro Arr**	**18.63**	**339**	P	P	**19 32 45.4**	**-0.9**
	0.4nm,0.3s,baz=164,slow=9.7,SNR=7.8						
MAJO	**Matsushiro**	**18.63**	**339**	*e*P	P	**19 32 47.2**	**+0.9**
	3.5nm,0.4s						
JNU	**Nakatsue**	**19.51**	**318**	LR	LR	19 39 47.9	
	comp=Z,991nm,18.9s,baz=132,slow=34						
WRAB	**Tennant Creek**	**40.66**	**197**	*e*P	P	**19 36 05.7**	**+0.1**
	2.3nm,0.6s,mb4.2						
WRA	**Warramunga Arr**	**40.67**	**197**	P	P	**19 36 05.8**	**+0.1**
	2.1nm,0.5s,mb4.3,baz=14,slow=8.7,SNR=56						
FITZ	**Fitzroy Crossi**	**42.30**	**210**	*e*P	P	**19 36 19.1**	**-0.1**
	6.5nm,1.1s,mb4.3						
SONM	**Songino Array**	**43.07**	**321**	P	P	**19 36 25.4**	**+0.3**
	0.7nm,0.5s,mb3.7,baz=137,slow=8.1,SNR=6.2						
MKAR	**Makanchi Array**	**58.49**	**314**	P	P	**19 38 20.9**	**-0.5**
	0.2nm,0.6s,mb3.4,baz=92,slow=9.9,SNR=4.3						
FINES	**FINESS Array B**	**86.62**	**335**	P	P	**19 41 06.3**	**0.0**
	0.7nm,0.4s,mb3.9,baz=72,slow=7.4,SNR=12						

CASC 26 19:34:11.7±3.9, 12.09N×87.95W, h26km±43km, MD3.7, 8C-8D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**1.07**	**55**⇑	*e*P	Pn	19 34 31.6	+0.5
LEON	**Leon**	**1.08**	**72**⇑	*e*P	Pn	19 34 30.9	-0.4
TEL3	**Telica 3**	**1.18**	**66**⇑	*e*P	Pn	19 34 32.3	-0.4
CNCH	**Conchagua**	**1.19**	**5**⇑	*e*P	Pn	19 34 41.5	+8.7
CNCH				*e*S	Sn	19 34 56.9	+8.7
TELN	**Telica**	**1.20**	**65**⇓	*e*P	Pn	19 34 32.8	-0.3
MIRN	**Miramar**	**1.26**	**74**⇑	*e*P	Pn	19 34 33.4	-0.5
MIRN				*e*S	Sn	19 34 50.0	0.0
CNGN	**Cerro Negro**	**1.29**	**71**⇓	*e*P	Pn	19 34 34.0	-0.3
COPN	**Copaltepe**	**1.33**	**86**⇓	*e*P	Pn	19 34 34.2	-0.7
BLLM	**Bellamira**	**1.38**	**348**⇑	*e*P	Pn	19 34 43.4	+7.8
BLLM				*e*S	Sn	19 35 02.7	+10
MOMJ	**Momotombo**	**1.41**	**77**⇓	*e*P	Pn	19 34 35.5	-0.6
APYN	**Apoyeque**	**1.57**	**84**⇑	*e*P	Pn	19 34 37.6	-0.7
XAVN	**Gruta Xavier**	**1.58**	**88**⇓	*e*P	Pn	19 34 37.6	-0.9
CRUN	**El Crucero**	**1.61**	**93**⇓	*e*P	Pn	19 34 39.0	+0.1
MGAN	**Managua**	**1.66**	**88**	*e*S	Sn	19 35 00.8	+0.5
TICN	**Ticuantepe**	**1.68**	**92**⇓	*e*P	Pn	19 34 39.0	-0.8
WILN	**Americas 2**	**1.72**	**87**	*e*P	Pn	19 34 40.3	-0.2
WILN				*e*S	Sn	19 35 02.6	+0.7
SNVI	**San Vicente**	**1.75**	**330**	*e*P	Pn	19 34 47.8	+6.9
SNVI				*e*S	Sn	19 35 12.0	+10
LCBS	**La Ceiba**	**1.85**	**327**⇑	*e*P	Pn	19 34 48.7	+6.3
LCBS				*e*S	Sn	19 35 07.1	+1.9
LFRS	**El Faro**	**1.88**	**325**	*e*P	Pn	19 34 48.7	+6.0
LFRS				*e*S	Sn	19 35 13.9	+8.2
SNJE	**San Jose**	**2.40**	**318**	*e*P	Pn	19 34 56.1	+5.9
SNJE				*e*S	Sn	19 35 27.5	+8.5
RTR	**El Retiro**	**2.45**	**318**⇓	*e*P	Pn	19 34 57.1	+6.3
RTR				*e*S	Sn	19 35 28.1	+7.8

IDC ***26*** *19:34:43.2±2.1, 1.08N×97.14E, mb4.0/7, mb1 4.1/7, mb1mx3.8/19, mbtmp4.0/7, Error ellipse: s-maj=103.4km s-min=19.9km az=57.0*
BJI ***26*** *19:34:44.9, 1.10N×97.20E, h30km, mb4.5*
NEIC ***26*** *19:34:48.0±0.7, 1.12N×97.22E, h30km, mb4.1/3, Error ellipse: s-maj=19.4km s-min=10.1km az=60.0*
ISC 26 19:34:46.0±0.9, 1.1N±0.1×97.2E±0.2, h30km, n13, σ0°44/13, mb4.0/12, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.37**	**40**	*e*Pn	**Pn**	**19 36 06.1**	**-0.1**
GYA	**Guiyang**	**26.77**	**19**	*e*P	**P**	**19 40 21.0**	**-4.4**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
GTA	**Gaotai**	**38.17**	**3**	P	**P**	**19 42 04.8**	**+0.1**
GTA				AP	pP	19 42 15.0	+1.4
GTA				XP	sP	19 42 19.5	+2.1
GTA				AMB	AMB		
	comp=Z,5.0nm,0.7s,mb4.3						
WRA	**Warramunga Arr**	**41.99**	**122**	P	**P**	**19 42 36.0**	**-0.5**
	comp=Z,1.6nm,0.8s,mb3.7,baz=300,slow=9.1,SNR=8.7						
WRAB	**Tennant Creek**	**42.00**	**122**	P	**P**	**19 42 36.7**	**+0.1**
	comp=Z,1.5nm,0.6s,mb3.8						
SONM	**Songino Array**	**47.19**	**8**	P	**P**	**19 43 18.2**	**+0.3**
	comp=Z,1.4nm,0.8s,mb3.9,baz=193,slow=7.9,SNR=7.8						
MKAR	**Makanchi Array**	**47.31**	**346**	P	**P**	**19 43 19.1**	**+0.3**
	comp=Z,1.6nm,0.7s,mb4.1,baz=159,slow=7.8,SNR=14						
ULN	**Ulaanbaatar**	**47.32**	**9**	*e*P	**P**	**19 43 19.2**	**+0.3**
	comp=Z,1.0nm,0.5s,mb4.0						
KURK	**Kurchatov**	**51.86**	**345**	*e*P	**P**	**19 43 53.5**	**-0.3**
	comp=Z,2.3nm,0.9s,mb4.1						
STKA	**Stephens Creek**	**53.30**	**132**	P	**P**	**19 44 05.2**	**+0.3**
	comp=Z,0.8nm,0.7s,mb3.8,baz=309,slow=13,SNR=2.3						
ZAL	**Zalesovo**	**53.62**	**351**	P	**P**	**19 44 07.0**	**+0.2**
	comp=Z,2.1nm,0.8s,mb4.1,baz=299,slow=6.4,SNR=12						
BVAR	**Borovoye Array**	**56.31**	**341**	P	**P**	**19 44 25.3**	**-1.1**
	comp=Z,1.4nm,0.8s,mb4.0,baz=143,slow=7.4,SNR=7.2						
ARCES	**ARCESS Array B**	**82.60**	**340**	P	**P**	**19 47 07.8**	**+0.4**
	comp=Z,1.8nm,0.9s,mb4.1,baz=101,slow=6.2,SNR=4.4						

ISK ***26*** *19:37:45.3, 39.13N×36.14E, h5km, MD3.7*
CSEM ***26*** *19:37:45.3, 39.13N×36.14E, h5km, MD3.7, After ISK*
ISC 26 19:37:46.7±0.3, 39.13N±0.03×36.11E±0.03, h5km, n44, σ0°89/51, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNN	**Bunyan**	**0.34**	**216**	*i* PG	**Pg**	**19 37 52.9**	**-0.6**
YOZ	**Yozgat**	**0.80**	**310**	*i* PG	**Pg**	**19 38 01.4**	**-1.2**
SVST	**Sivas**	**0.92**	**45**	*i* P	**Pb**	**19 38 04.1**	**-0.6**
SVST				*i* S	**Sb**	**19 38 19.5**	**+2.5**
AVNT	**Avonos**	**1.03**	**251**	*i* P	**Pb**	**19 38 05.3**	**-1.4**
SVSK	**Karacayir**	**1.05**	**41**	*i* PG	**Pg**	**19 38 06.1**	**-1.5**
SVSK				*i* SG	**Sg**	**19 38 21.2**	**-0.4**
CDAG	**Cicekdag**	**1.43**	**291**	*i* P	**Pn**	**19 38 11.2**	**-2.2**
CDAG				*i* S	**Sb**	**19 38 31.2**	**-0.7**
CORM	**Corum**	**1.55**	**313**	PN	**Pn**	**19 38 14.6**	**-0.5**
NIG	**Nigde**	**1.55**	**230**	*i* PN	**Pn**	**19 38 15.6**	**+0.5**
KAHT	**Ahir Dag**	**1.61**	**158**	*i* P	**Pn**	**19 38 17.0**	**+1.0**
KOZT	**Kozan**	**1.66**	**188**	*i* PN	**Pn**	**19 38 16.3**	**-0.3**
CTKT	**Corum**	**1.80**	**326**	*i* P	**Pn**	**19 38 19.5**	**+0.8**
CTKT				*i* S	**Sn**	**19 38 45.3**	**+3.0**
KAMT	**Kaman**	**1.87**	**278**	*i* PN	**Pn**	**19 38 19.9**	**+0.2**
KVT	**Kavak**	**1.95**	**359**	PN	**Pn**	**19 38 20.9**	**+0.1**
MYA	**Malataya**	**1.98**	**113**	PN	**Pn**	**19 38 20.9**	**-0.4**
KARA	**Karaisali**	**2.04**	**204**	*i* PN	**Pn**	**19 38 23.0**	**+0.9**
GZT	**Gaziantep**	**2.11**	**147**	*i* P	**Pn**	**19 38 23.3**	**+0.3**
CEYT	**Ceyhan**	**2.13**	**188**	PN	**Pn**	**19 38 24.0**	**+0.6**
GAZ	**Gaziantep**	**2.14**	**156**	PN	**Pn**	**19 38 23.7**	**+0.2**
ELZG	**Elazig**	**2.34**	**105**	*i* P	**Pn**	**19 38 26.6**	**+0.2**
ELZG				*i* S	**Sn**	**19 39 03.2**	**+7.5**
ATAB	**Bozova**	**2.39**	**133**	*i* P	**Pn**	**19 38 35.5**	**+8.4**
CANT	**Cankiri**	**2.42**	**308**	PN	**Pn**	**19 38 27.8**	**+0.3**
GRSN	**GIRESUNGRSN**	**2.44**	**42**	*i* P	**Pn**	**19 38 27.7**	**-0.2**
BOYT	**Boyabat**	**2.47**	**339**	*i* P	**Pn**	**19 38 32.1**	**+3.9**
BOYT				*i* S	**Sn**	**19 39 04.4

*NEIC **26** 20:05:08.2±1.1, 30.18S×177.38W, mb4.4/2, Error ellipse: s-maj=28.0km s-min=12.7km az=90.0*
ISC 26 20:05:06.8±2.1, 30.20S±0.07×177.5W±0.4, h33km, n13, σ0§84/12, mb4.3/5, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.01 339**		**Pn**	**Pn**	**20 05 25.8**	**+1.0**
	279nm,0.3s,baz=79,slow=20,SNR=19						
RAO				Sn	**Sn**	**20 05 37.0**	**-0.9**
	796nm,0.3s,baz=174,slow=22,SNR=10						
RAO	**Raoul Island**	**1.01 339**		*e*Pn	**Pn**	**20 05 26.0**	**+1.2**
RAO				Sn	**Sn**	**20 05 37.0**	**-0.9**
URZ	**Urewera**	**9.20 208**		Sn	**Sn**	**20 08 56.3**	**-7.3**
	3.0nm,0.3s,baz=296,slow=22,SNR=8.4						
RPZ	**Rata Peaks**	**16.28 211**		Pn	**P**	**20 08 54.1**	**-0.3**
	0.9nm,0.3s,baz=317,slow=19,SNR=6.5						
STKA	**Stephens Creek**	**34.94 257**		P	**P**	**20 11 59.0**	**+1.3**
	1.7nm,0.4s,mb4.3,baz=91,slow=14,SNR=13						
STKA				pP	pP	20 12 08.1	+0.7
	2.6nm,0.8s,baz=105,slow=12,SNR=3.2						
STKA	**Stephens Creek**	**34.94 257**		P	**P**	**20 11 59.0**	**+1.3**
STKA				pP	pP	20 12 08.1	+0.7
WRAB	**Tennant Creek**	**44.51 272**		*e*P	**P**	**20 13 17.3**	**+0.1**
	4.7nm,0.7s,mb4.4						
WRA	**Warramunga Arr**	**44.52 272**		P	**P**	**20 13 16.8**	**-0.5**
	3.7nm,0.3s,mb4.7,baz=110,slow=8.1,SNR=49						
WRA				pP	pP	20 13 28.6	+1.5
	1.5nm,0.7s,baz=110,slow=8.1,SNR=3.0						
CASY	**Casey**	**55.52 208**		*e*P	**P**	**20 14 39.4**	**-1.2**
	1.5nm,0.4s,mb4.4						
MAW	**Mawson**	**72.65 200**		P	**P**	**20 16 32.7**	**+0.4**
	0.4nm,0.3s,mb3.8,baz=139,slow=11,SNR=4.4						
FINES	**FINESS Array B**	**145.10**	**340**	PKPbc	PKPbc	20 24 40.5	+0.1
	2.4nm,0.5s,baz=46,slow=5.0,SNR=34						
FINES				pPKPbc		20 24 49.5	
	1.9nm,0.6s,baz=52,slow=3.1,SNR=13						
AKASG	**Malin Array Be**	**151.40**	**323**	PKPbc	PKPdf	20 24 57.7	+7.2
	0.8nm,0.6s,baz=60,slow=1.9,SNR=4.1						
AKASG				pPKPbc		20 25 07.6	
	0.8nm,0.3s,baz=46,slow=3.3,SNR=6.3						
AKASG	**Malin Array Be**	**151.40**	**323**	PKPbc	PKPdf	20 24 57.7	+7.2
AKASG				pPKPbc		20 25 07.6	

MAN 26 20:23:07.0, 9.80N×126.22E, h20km, mb4.2, ML3.0, MS2.7, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.72**	**268**	⇓*e*P	Pb	20 23 21.0	+0.3
SCPH				*e*S	Sb	20 23 33.5	+3.3
BUTP	**Butuan**	**1.02**	**216**	*e*P	Pb	20 23 24.4	-1.4
BUTP				*e*S	Sb	20 23 40.1	+1.4
MSLP	**Maasin**	**1.38**	**284**	*e*P	Pn	20 23 34.3	+2.9
MATI	**Mati**	**2.84**	**179**	*e*P	Pn	20 23 52.4	+0.1
DCPH	**Dipolog City**	**3.08**	**247**	⇑*i*P	Pn	20 23 55.3	-0.4
DCPH				*e*S	Sn	20 24 30.3	-2.1
CNP	**Catarman**	**3.09**	**331**	*e*P	Pn	20 23 55.1	-0.8

MEX 26 20:24:40.6±0.5, 16.10N×98.88W, h23km±19km, MD4.1, 1C, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.78**	**68**	⇑*i*P	Pb	20 24 53.0	-2.3
PNIG				*i*S	Sb	20 25 02.8	-2.7
ACX	**Acapulco**	**1.25**	**308**	*i*P	Pn	20 25 00.0	-3.0
ACX				*i*S	Sb	20 25 15.0	-4.2
VHO	**Vista Hermosa**	**2.27**	**65**	*e*P	Pn	20 25 15.1	-2.4
VHO				*i*S	Sn	20 25 41.2	-3.9
OXX	**Oaxaca**	**2.28**	**64**	*e*P	Pn	20 25 16.0	-1.7
OXX				*i*S	Sn	20 25 42.0	-3.4
PLIG	**Platanillo**	**2.36**	**345**	*i*P	Pn	20 25 15.3	-3.5
PLIG				*i*S	Sn	20 25 42.9	-4.4
PPM	**Popocatepetl**	**2.96**	**5**	*e*P	Pn	20 25 25.0	-2.4
CMIG	**Matias Romero**	**3.95**	**75**	*e*P	Pn	20 25 36.8	-4.7
CMIG				*i*S	Sn	20 26 23.6	-4.1

*NNC **26** 20:36:08.0±10.0, 38.05N×78.97E, h33km±85km, mpv3.3, Error ellipse: s-maj=112.8km s-min=41.5km az=166.0*
BJI 26 20:35:57.2, 37.34N×79.39E, h15km, ML3.8, 3C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**3.45**	**310**	*e*P	Pn	20 36 52.0	+0.4
KSH				S	Sn	20 37 34.5	+1.9
KSH				Smax			
	comp=N,270nm,0.6s						
KSH				Smax			
	comp=E,480nm,0.3s						
AAK	**Ala-Archa**	**6.49**	**326**	⇓Pg	Pg	20 37 53.8	-13
	comp=E,6.9nm,0.6s						
AAK				⇑Lg		20 39 11.2	
	comp=E,20nm,0.9s						
KK31	**Karatay Array**	**8.90**	**313**	⇓Pn	P	20 38 08.8	+0.5
	comp=E,0.1nm,0.2s,baz=130,slow=12,SNR=5.4						
KK31				⇑Sn	Sn	20 39 40.2	-9.0
	comp=E,0.5nm,0.3s,baz=88,slow=49,SNR=5.0						
MK31	**Makanchi Array**	**9.69**	**12**	Pn	P	20 38 17.1	-2.0
	comp=E,0.8nm,0.5s,baz=180,slow=12,SNR=5.5						
MK31				⇑Sn	Sn	20 40 04.5	-4.2
	comp=E,4.1nm,0.7s,baz=202,slow=25,SNR=7.3						

*NEIC **26** 20:41:16.1±1.3, 6.04S×149.19E, h35km, mb4.5/3, Error ellipse: s-maj=26.6km s-min=13.7km az=172.0*
*IDC **26** 20:41:18.0±6.8, 6.20S×149.20E, h42km±51km, mb4.1/4, mb1 4.3/6, mb1mx3.8/15, mbtmp4.3/6, ML3.4/1, MS3.5/1, Ms1 3.5/1, ms1mx3.0/22, Error ellipse: s-maj=51.0km s-min=27.8km az=177.0*
ISC 26 20:41:16.9±4.6, 6.1S±0.2×149.1E±0.1, h55km±33km, n12, σ0§53/13, mb4.1/5, 1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.77**	**210**	P	**P**	**20 42 14.4**	**+0.4**
	21nm,0.3s,baz=18,slow=4.3,SNR=26						
PMG				S	**S**	**20 42 57.2**	**-0.4**
	30nm,0.3s,baz=29,slow=3.9,SNR=11						
PMG				LR	LR	20 44 02.6	
	comp=Z,550nm,18.1s,baz=62,slow=44						
PMG	**Port Moresby**	**3.77**	**210**	*e*Pn	**P**	**20 42 14.1**	**+0.1**
PMG				*e*Sn	**S**	**20 42 57.9**	**+0.4**
PMG				LR	LR	20 44 02.6	
WRAB	**Tennant Creek**	**19.83**	**225**	*e*P	**P**	**20 45 45.1**	**-0.8**
	6.1nm,0.4s						
WRA	**Warramunga Arr**	**19.84**	**225**	P	**P**	**20 45 45.4**	**-0.7**
	1.1nm,0.3s,baz=51,slow=11,SNR=56						
DZM	**Mont Dzumac**	**23.08**	**135**	P	**P**	**20 46 18.3**	**-0.4**
	6.7nm,0.7s,mb4.2,baz=315,slow=20,SNR=6.4						
FITZ	**Fitzroy Crossi**	**25.78**	**240**	⇓*i*P	**P**	**20 46 45.3**	**+0.6**
	12nm,0.8s,mb4.5						
FITZ	**Fitzroy Crossi**	**25.78**	**240**	P	**P**	**20 46 45.6**	**+0.9**
	14nm,0.6s,mb4.7,baz=82,slow=4.6,SNR=25						
STKA	**Stephens Creek**	**26.55**	**194**	P	**P**	**20 46 52.3**	**+0.6**
	1.7nm,0.6s,mb3.7,baz=10,slow=11,SNR=3.6						
MBWA	**Marble Bar**	**32.10**	**239**	*e*P	**P**	**20 47 41.2**	**-0.1**
	4.5nm,0.7s,mb4.4						
VNDA	**Vanda**	**71.67**	**177**	P	**P**	**20 52 34.7**	**+0.4**
	0.4nm,0.7s,mb3.5,baz=325,slow=5.6,SNR=3.9						
VNDA	**Vanda**	**71.67**	**177**	P	**P**	**20 52 34.7**	**+0.4**
BDFB	**Brasilia**	**152.53**	**142**	PKPbc	PKPdf	21 01 10.5	+10
	2.9nm,0.7s,baz=183,slow=3.9,SNR=4.8						

*NEIC **26** 20:43:52.5, 16.05N×99.13W, h16km, MD3.5(MEX), After MEX.*
MEX 26 20:43:51.7±0.9, 15.98N×99.13W, h22km±77km, MD3.5, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**1.05**	**67**	*i*P	Pb	20 44 08.7	-2.4
PNIG				*i*S	Sb	20 44 20.3	-4.1
ACX	**Acapulco**	**1.16**	**320**	*i*P	Pn	20 44 09.2	-3.6
ACX				*i*S	Sb	20 44 23.2	-4.3
PLIG	**Platanillo**	**2.42**	**352**	*e*P	Pn	20 44 29.1	-1.8
PLIG				*e*S	Sn	20 44 56.4	-3.8
OXX	**Oaxaca**	**2.56**	**64**	*e*P	Pn	20 44 31.0	-1.8
PPM	**Popocatepetl**	**3.10**	**9**	*e*P	Pn	20 44 39.0	-1.6
CMIG	**Matias Romero**	**4.22**	**74**	*i*P	Pn	20 44 52.7	-3.8
CMIG				*i*S	Sn	20 45 38.4	-7.4
CMIG	**Matias Romero**	**4.22**	**74**	*i*P	Pn	20 44 52.7	-3.8
CMIG				*i*S	Sn	20 45 38.2	-7.6

*MOS **26** 21:02:40.9±2.2, 47.79N×154.08E, h32km, mb4.1/3, Error ellipse: s-maj=35.0km s-min=14.9km az=47.4*
*IDC **26** 21:02:44.5±3.2, 47.62N×154.26E, h43km±36km, mb3.7/4, mb1 4.0/7, mb1mx3.6/22, mbtmp4.0/7, ML3.6/3, MS3.0/1, Ms1 3.0/1, ms1mx2.5/23, Error ellipse: s-maj=55.1km s-min=25.5km az=162.0*
ISC 26 21:02:41.4±0.8, 47.7N±0.1×154.2E±0.1, h32km, n14, σ0§56/15, mb3.9/4, MS3.0/1, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.25**	**22**	*e*PN	**Pn**	**21 03 27.5**	**-4.0**
SKR				*e*S	**Sn**	**21 04 10.0**	**+0.5**
SKR				pmax	pmax		
	comp=N,60nm,0.5s						
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				pmax	pmax		
	comp=E,60nm,0.4s						
SKR				smax			
	comp=N,80nm,0.5s						
SKR				smax			
	comp=E,80nm,0.5s						
SKR				smax			
	comp=Z,40nm,0.5s						
KUR	**Kuril'sk**	**5.01**	**243**	*e*PN	**Pn**	**21 03 51.6**	**-4.8**
KUR				pmax	pmax		
	comp=Z,190nm,1.0s						
YSS	**Yuzh-Sakhalins**	**7.80**	**269**	*e*PN	**Pn**	**21 04 35.1**	**-0.5**
ASAJ	**Asahikawa**	**8.83**	**250**	P	**P**	**21 04 49.8**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=56,slow=11,SNR=3.1						
FX1	**Attu Island--F**	**13.19**	**60**	P	**P**	**21 05 48.3**	**-0.7**
	comp=Z,3.1nm,0.3s,baz=250,slow=15,SNR=7.9						
FX1				S	**S**	**21 08 04.7**	**-11**
	comp=Z,0.8nm,0.3s,baz=144,slow=14,SNR=2.9						
MJAR	**Matsushiro Arr**	**16.23**	**232**	P	**P**	**21 06 29.4**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=32,slow=7.7,SNR=4.4						
GUMO	**Guam**	**34.88**	**196**	LR	LR	21 23 04.1	
	comp=Z,24nm,18.3s,MS3.0,baz=86,slow=35						
ILAR	**Eielson Array**	**35.36**	**39**	P	**P**	**21 09 35.9**	**+0.3**
	comp=Z,0.6nm,0.8s,mb3.6,baz=270,slow=8.1,SNR=4.9						
ILAR	**Eielson Array**	**35.36**	**39**	P	**P**	**21 09 35.9**	**+0.4**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FINES	**FINESS Array B**	**63.50**	**335**	P	**P**	**21 13 10.1**	**-0.1**
	comp=Z,1.4nm,0.8s,mb4.1,baz=45,slow=7.9,SNR=2.9						
FINES	**FINESS Array B**	**63.50**	**335**	P	**P**	**21 13 10.1**	**-0.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
PDAR	**Pinedale Array**	**63.61**	**55**	P	**P**	**21 13 11.1**	**0.0**
	comp=Z,1.1nm,0.8s,mb3.9,baz=333,slow=3.3,SNR=5.8						
TXAR	**Lajitas Array**	**76.40**	**61**	P	**P**	**21 14 29.2**	**0.0**
	comp=Z,1.4nm,0.7s,mb4.0,baz=292,slow=4.1,SNR=9.6						
TXAR	**Lajitas Array**	**76.40**	**61**	P	**P**	**21 14 29.3**	**+0.1**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						

IDC 26 21:03:07.5±1.6, 6.00S×130.50E, mb3.9/2, mb1 4.0/4, mb1mx3.7/13, mbtmp3.9/4, ML3.8/2, Error ellipse: s-maj=76.2km s-min=25.1km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.93**	**201**	Pn	P	21 06 12.8	-2.5
	1.0nm,0.3s,baz=349,slow=12,SNR=25						
FITZ				Sn	S	21 08 21.4	-20
	2.4nm,0.3s,baz=198,slow=7.4,SNR=8.8						
WRA	**Warramunga Arr**	**14.35**	**165**	Pn	P	21 06 32.6	-1.6
	0.2nm,0.3s,baz=348,slow=13,SNR=25						
WRA				Sn	S	21 08 59.5	-16
	0.7nm,0.3s,baz=332,slow=23,SNR=9.4						
STKA	**Stephens Creek**	**27.75**	**159**	P	P	21 08 57.8	-2.2
	0.8nm,0.6s,baz=358,slow=7.0,SNR=1.4						
MKAR	**Makanchi Array**	**67.67**	**326**	P	P	21 14 06.6	-2.1
	0.5nm,0.3s,baz=113,slow=8.1,SNR=14						

*MOS **26** 21:18:31.0±0.7, 56.01N×163.94E, h14km, mb4.2/1, Error ellipse: s-maj=31.8km s-min=22.7km az=56.9*
KRSC 26 21:18:28.3±1.1, 56.09N×164.28E, h10km±4km, ML4.1, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.83**	**279**	P	Pb	21 18 43.9	-0.4
KBTR				S	Sb	21 18 55.1	-0.1
KBTR	**Krutoberegovo**	**0.83**	**279**	*i*P	Pb	21 18 43.6	-0.7
KBTR				*e*S	Sb	21 18 55.2	0.0
BKI	**Bering**	**1.31**	**132**	*i*P	Pb	21 18 51.1	-1.4
BKI				*i*S	Sb	21 19 07.9	-1.3
BKI				Smax			
	1μm,0.6s						
ZLN	**Zelenaya**	**1.95**	**269**	*i*P	Pn	21 19 02.8	+0.9
ZLN				*e*S	Sn	21 19 28.5	+1.9
CIRR	**Tsirk**	**1.98**	**272**	*i*P	Pn	21 19 03.0	+0.7
CIRR				*e*S	Sn	21 19 29.6	+2.3
LGNR	**Loginova**	**2.01**	**271**	*e*P	Pn	21 19 03.7	+0.9
LGNR				*e*S	Sn	21 19 30.1	+1.9
KLY	**Klyuchi**	**2.04**	**278**	P	Pn	21 19 01.7	-1.4
KLY				S	Sn	21 19 26.7	-2.2
KLY	**Klyuchi**	**2.04**	**278**	*e*P	Pn	21 19 01.4	-1.7
KLY				*e*S	Sn	21 19 26.8	-2.1
KRSR	**Krestovskiy**	**2.08**	**275**	*i*P	Pn	21 19 03.8	0.0
KRSR				*e*S	Sn	21 19 29.9	-0.1
MKZ	**Mys Kozlova**	**2.12**	**225**	P	Pn	21 19 03.9	-0.4
MKZ				S	Sn	21 19 30.3	-0.6
MKZ	**Mys Kozlova**	**2.12**	**225**	*i*P	Pn	21 19 04.0	-0.3
MKZ				*e*S	Sn	21 19 29.8	-1.1
KPT	**Kopyto**	**2.28**	**269**	*i*P	Pn	21 19 07.6	+1.0
KPT				*e*S	Sn	21 19 35.1	+0.1
KMNR	**Kamenistaya**	**2.30**	**263**	*e*P	Pn	21 19 07.8	+0.9
KOZR	**Kozyr**	**2.46**	**271**	PN	Pn	21 19 10.2	+1.1
KOZR				S	Sn	21 19 40.5	+1.0
KOZ	**Kozyrevsk**	**2.47**	**271**	P	Pn	21 19 10.2	+0.9
KOZ				S	Sn	21 19 40.5	+0.7
KOZ	**Kozyrevsk**	**2.47**	**271**	*e*P	Pn	21 19 10.4	+1.1
KOZ				*e*S	Sn	21 19 40.5	+0.7
SRDR	**Sredinnyy**	**2.56**	**277**	*i*P	Pn	21 19 11.3	+0.7
SRDR				*e*S	Sn	21 19 43.4	+1.3
ESO	**Esso**	**3.14**	**269**	*e*P	Pn	21 19 19.0	+0.2
ESO				Smax			
	60nm,0.7s						
KII	**Karymskiy**	**3.46**	**235**	P	Pn	21 19 23.1	-0.3
SPN	**Mys Shipunski**	**3.89**	**221**	P	Pn	21 19 29.5	0.0
SPN				S	Sn	21 20 12.1	-3.6
SPN	**Mys Shipunski**	**3.89**	**221**	*e*P	Pn	21 19 28.7	-0.8
SPN				*e*S	Sn	21 20 11.5	-4.2
SDLR	**Sedlovina**	**4.21**	**230**	*e*P	Pn	21 19 34.5	+0.4
SDLR				*e*S	Sn	21 20 23.6	-0.3
SMAR	**Somma**	**4.26**	**231**	*e*P	Pn	21 19 34.5	-0.2
SMAR				*e*S	Sn	21 20 22.6	-2.5
AVH	**Avacha**	**4.28**	**231**	*e*P	Pn	21 19 35.9	+0.8
AVH				*e*S	Sn	21 20 25.6	-0.2
KOK	**Koryaka**	**4.31**	**232**	*e*P	Pn	21 19 36.2	+0.7
KOK				*e*S	Sn	21 20 25.3	-1.1
GNL	**Ganaly**	**4.38**	**239**	*e*P	Pn	21 19 37.1	+0.7
PET	**Petropavlovsk**	**4.49**	**229**	P	Pn	21 19 39.6	+1.6
PET				*e*S	Sn	21 20 28.7	-2.3
KRMR	**Karymshinskiy**	**4.85**	**230**	*e*S	Sn	21 20 38.9	-1.2
RUS	**Russkaya**	**4.98**	**225**	P	Pn	21 19 44.8	-0.2
RUS				S	Sn	21 20 40.2	-3.2
RUS	**Russkaya**	**4.98**	**225**	*e*P	Pn	21 19 44.7	-0.3
RUS				*e*S	Sn	21 20 40.2	-3.2
GRL	**Gorelyy**	**5.08**	**228**	*e*P	Pn	21 19 47.7	+1.4
GRL				*e*S	Sn	21 20 44.9	-0.8
APC	**Apacha**	**5.22**	**236**	P	Pn	21 19 50.3	+1.9
MIPR	**Malaya Ipel'ka**	**5.84**	**232**	P	Pn	21 19 57.6	+0.5

JMA 26 21:21:01.3±0.2, 31.37N×140.67E, h10km, M3.8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.88**	**338**	*e*S	Sn	21 21 58.3	+0.5
BSO1	**Boso 1**	**3.29**	**4**	*e*S	Sn	21 22 32.6	-0.9
BSO2	**Boso 2**	**3.37**	**1**	*e*S	Sn	21 22 36.2	+0.5
BSO3	**Boso 3**	**3.42**	**358**	*e*S	Sn	21 22 36.1	-0.9
JIM2	**Oshima 3**	**3.50**	**343**	*e*S	Sn	21 22 40.0	+1.2
BSO4	**Boso 4**	**3.62**	**356**	P	Pn	21 21 59.7	+1.0
BSO4				*e*S	Sn	21 22 42.5	+0.5
JHU	**Hanno**	**4.62**	**346**	*e*S	Sn	21 23 05.8	-1.4

*BJI **26** 21:42:04.5, 59.50S×28.40W, h272km, mB4.8*
*IDC **26** 21:42:05.2±0.8, 59.47S×28.46W, h254km±6km, mb4.3/15, mb1 4.4/16, mb1mx4.4/17, mbtmp4.9/16, Error ellipse: s-maj=11.6km s-min=7.3km az=23.0*
*NEIC **26** 21:42:06.6±0.9, 59.51S×28.38W, h272km±9km, mb4.8/16, Error ellipse: s-maj=8.0km s-min=4.7km az=217.0*
ISC 26 21:42:03.9±1.8, 59.45S±0.07×28.5W±0.1, h252km±18km, n120, σ0§94/66, mb4.5/25, 2C-6D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.99**	**152**		**P**	**21 45 12.0**	**-0.6**
VNA1	**Neumayer--Stat**	**13.99**	**152**		**P**	**21 45 14.8**	**+2.2**
VNA1	**Neumayer--Stat**	**13.99**	**152**		**P**	**21 45 19.8**	**+7.2**
VNA1	**Neumayer--Stat**	**13.99**	**152**		**P**	**21 45 28.1**	**+16**
VNA3	**Neumayer Olymp**	**14.09**	**155**		**P**	**21 45 13.2**	**-0.6**
VNA3	**Neumayer Olymp**	**14.09**	**155**		**P**	**21 45 15.8**	**+2.0**
VNA3	**Neumayer Olymp**	**14.09**	**155**		**P**	**21 45 21.2**	**+7.4**
VNA3	**Neumayer Olymp**	**14.09**	**155**		**P**	**21 45 28.1**	**+14**
VNA2	**Neumayer--Watz**	**14.39**	**152**		**P**	**21 45 16.6**	**-1.0**
VNA2	**Neumayer--Watz**	**14.39**	**152**		**P**	**21 45 18.7**	**+1.1**
VNA2	**Neumayer--Watz**	**14.39**	**152**		**P**	**21 45 24.2**	**+6.6**
VNA2	**Neumayer--Watz**	**14.39**	**152**		**P**	**21 45 32.0**	**+14**
SNAA	**Sanae**	**16.00**	**150**		**P**	**21 45 34.1**	**-2.5**
SNAA	**Sanae**	**16.00**	**150**		**P**	**21 45 34.1**	**-2.5**
SNAA	**Sanae**	**16.00**	**150**		**P**	**21 45 38.1**	**+1.5**
SNAA	**Sanae**	**16.00**	**150**		**P**	**21 45 44.5**	**+7.9**
SNAA	**Sanae**	**16.00**	**150**		**P**	**21 45 49.4**	**+13**
SNAA	**Sanae**	**16.00**	**150**	P	**P**	**21 45 33.9**	**-2.7**
	0.8nm,0.3s,baz=305,slow=10,SNR=108						
SNAA				S	**S**	**21 48 29.7**	**+3.0**
	0.1nm,0.3s,baz=184,slow=11,SNR=5.6						
SNAA				PcP	PcP	21 50 16.1	-1.6
	0.3nm,0.3s,baz=228,slow=6.1,SNR=8.0						
SNAA				ScP		21 53 26.8	
	0.4nm,0.3s,baz=275,slow=3.6,SNR=27						
SNAA	**Sanae**	**16.00**	**150**	P	**P**	**21 45 34.1**	**-2.5**
PMSA	**Palmer Station**	**17.30**	**237**	*e*P	**P**	**21 45 50.2**	**-0.6**
	66nm,0.9s						
EFI	**East Falkland**	**18.33**	**282**	⇑*i*P	**P**	**21 46 01.0**	**-0.6**
	782nm,1.0s						
MAIT	**Maitri**	**19.88**	**141**	*e*P	**P**	**21 46 16.3**	**-0.8**
USHA	**Ushuaia**	**21.93**	**265**	P	**P**	**21 46 38.1**	**+0.9**
	130nm,0.8s,mb5.5,baz=103,slow=11,SNR=69						
USHA				ScP		21 53 37.5	
	2.6nm,0.6s,baz=108,slow=9.6,SNR=3.7						
SYO	**Syowa Base**	**29.46**	**137**	⇓P	**P**	**21 47 42.3**	**-3.6**
SYO	**Syowa Base**	**29.46**	**137**	⇑PcP	PcP	21 50 42.0	-3.0
TRQA	**Tornquist**	**30.24**	**300**	⇓*e*P	**P**	**21 47 53.3**	**+0.2**
	15nm,0.7s,mb4.7						
QSPA	**South Pole Qui**	**30.79**	**180**	⇓*i*P	**P**	**21 47 57.5**	**0.0**
	14nm,1.0s,mb4.5						
PLCA	**Paso Flores**	**32.13**	**287**	P	**P**	**21 48 08.7**	**-0.8**
	17nm,0.7s,mb4.7,baz=144,slow=7.5,SNR=25						
PLCA				ScP		21 54 08.0	
	1.7nm,0.8s,baz=225,slow=2.9,SNR=3.1						
PLCA	**Paso Flores**	**32.13**	**287**	*e*P	**P**	**21 48 08.0**	**-1.4**
	42nm,1.2s,mb4.8						
MAW	**Mawson**	**37.86**	**141**	P	**P**	**21 48 56.8**	**-0.8**
	4.6nm,0.7s,mb4.1,baz=225,slow=7.8,SNR=15						
MAW				PcP	PcP	21 51 08.1	-0.7
	6.4nm,0.7s,baz=239,slow=3.3,SNR=8.3						
MAW				ScP		21 54 31.9	
	5.0nm,0.7s,baz=256,slow=4.4,SNR=13						
CFAA	**Coronel Fontan**	**38.44**	**299**	P	**P**	**21 49 02.2**	**-0.5**
	1.5nm,0.6s,mb3.7,baz=162,slow=7.5,SNR=30						
CFAA				PcP	PcP	21 51 09.6	-1.4
	0.5nm,0.6s,baz=84,slow=1.1,SNR=3.9						
CFAA				ScP		21 54 32.1	
	1.4nm,0.7s,baz=158,slow=4.2,SNR=20						
CFAA				S	**S**	**21 54 37.9**	**-0.8**
	1.1nm,1.0s,baz=275,slow=19,SNR=13						
CFAA	**Coronel Fontan**	**38.44**	**299**	P	**P**	**21 49 02.2**	**-0.5**
CFAA				PcP	PcP	21 51 09.6	-1.4
CFAA				ScP		21 54 32.1	
CFAA				S	**S**	**21 54 37.9**	**-0.8**
CPUP	**Villa Florida**	**38.67**	**316**	P	**P**	**21 49 05.0**	**+0.2**
	19nm,0.8s,mb4.7,baz=176,slow=8.7,SNR=44						
CPUP				PcP	PcP	21 51 10.3	-1.5
	3.8nm,0.9s,baz=196,slow=7.1,SNR=3.1						
CPUP				ScP		21 54 33.6	
	13nm,0.9s,baz=154,slow=3.5,SNR=19						
CPUP	**Villa Florida**	**38.67**	**316**	*e*P	**P**	**21 49 05.0**	**+0.2**
	20nm,0.8s,mb4.7						
SUR	**Sutherland**	**42.25**	**72**	P	**P**	**21 49 34.7**	**+0.9**
	34nm,0.9s,mb4.8,baz=85,slow=13,SNR=10						
SUR	**Sutherland**	**42.25**	**72**	*e*P	**P**	**21 49 33.3**	**-0.5**
	27nm,0.6s,mb4.8						
VNDA	**Vanda**	**43.13**	**183**	P	**P**	**21 49 41.2**	**+0.8**
	1.8nm,0.6s,mb3.7,baz=197,slow=4.2,SNR=13						
VNDA				PcP	PcP	21 51 25.2	-0.4
	1.8nm,0.8s,baz=205,slow=5.9,SNR=3.1						

STKA	**Stephens Creek**	**88.64**	**172**	P	**P**	**21 54 29.0**	**0.0**
3.9nm,0.7s,mb4.3,baz=156,slow=6.0,SNR=8.1							
STKA	**Stephens Creek**	**88.64**	**172**	*e*P	**P**	**21 54 28.4**	**-0.6**
WRA	**Warramunga Arr**	**99.65**	**164**	PKiKP		21 59 45.6	
0.5nm,0.9s,baz=224,slow=1.5,SNR=4.8							
WRA				PKKP	PKKP	22 11 38.4	+24
0.9nm,0.7s,baz=353,slow=3.0,SNR=13							
BRTR	**Keskin Array B**	**111.28**	**47**	PP	PP	22 00 39.0	-15
0.4nm,0.5s,baz=191,slow=6.3,SNR=8.6							
GERES	**GERESS Array B**	**113.28**	**29**	PKiKP		22 00 10.4	
0.4nm,0.5s,baz=198,slow=4.2,SNR=4.1							
KULM	**Kulim**	**113.55**	**123**	*e*PKP	PKPdf	22 00 11.9	0.0
SCHQ	**Schefferville**	**118.00**	**336**	PKP	PKPdf	22 00 18.9	-0.5
2.3nm,0.5s,baz=109,slow=1.6,SNR=6.7							
SCHQ				SKP		22 03 29.8	
1.8nm,0.8s,baz=162,slow=3.2,SNR=3.6							
SCHQ	**Schefferville**	**118.00**	**336**	PKP	PKPdf	22 00 18.9	-0.5
SCHQ				SKP		22 03 29.8	
AKASG	**Malin Array Be**	**119.33**	**38**	PKP	PKPdf	22 00 21.7	-0.5
1.2nm,0.5s,baz=241,slow=1.5,SNR=13							
AKASG				PP	PP	22 01 44.0	-6.8
0.2nm,0.3s,baz=212,slow=6.9,SNR=6.2							
AKASG				SKP		22 03 33.1	
2.1nm,0.7s,baz=241,slow=1.6,SNR=8.2							
DUG	**Dugway**	**120.94**	**297**	*e*PKPdf	PKPdf	22 00 26.0	+0.3
HWUT	**Hardware Ranch**	**121.51**	**299**	*e*PKPdf	PKPdf	22 00 26.5	-0.2
PDAR	**Pinedale Array**	**121.56**	**301**	PKP	PKPdf	22 00 26.9	+0.1
0.5nm,0.4s,baz=129,slow=5.8,SNR=6.5							
ULM	**Lac du Bonnet**	**122.22**	**316**	PKP	PKPdf	22 00 27.0	-0.8
2.2nm,0.5s,baz=134,slow=1.9,SNR=6.1							
LOHW	**Long Hollow**	**122.70**	**301**	*e*PKPdf	PKPdf	22 00 29.1	+0.3
TPAW	**Teton Pass**	**122.75**	**301**	*e*PKPdf	PKPdf	22 00 29.9	+1.0
RRI2	**Red Ridge**	**122.80**	**301**	*e*PKPdf	PKPdf	22 00 29.9	+0.9
HFS	**Hagfors**	**123.69**	**24**	PKP	PKPdf	22 00 29.3	-1.2
2.1nm,0.4s,baz=180,slow=3.0,SNR=16							
HFS				PP	PP	22 02 07.9	-12
2.7nm,0.7s,baz=214,slow=10,SNR=3.2							
NB2	**NORSAR Subarra**	**124.03**	**22**	PKPdf	PKPdf	22 00 31.3	+0.2
3.6nm,0.9s,baz=202,slow=1.9							
NOA	**NORSAR Array B**	**124.03**	**22**	PKP	PKPdf	22 00 31.0	-0.1
3.4nm,0.8s,baz=197,slow=1.7,SNR=7.6							
NOA	**NORSAR Array B**	**124.03**	**22**	PKP	PKPdf	22 00 31.0	-0.1
KOLN	**Koldanda**	**124.64**	**93**	*e*P	PKPdf	22 00 32.7	-0.3
3.1nm,0.3s							
DMN	**Daman**	**125.28**	**95**	*e*P	PKPdf	22 00 32.5	-1.7
7.6nm,0.7s							
GKN	**Gorkha**	**125.36**	**94**	*e*P	PKPdf	22 00 32.5	-1.9
PKI	**Pulchoki**	**125.40**	**95**	*e*P	PKPdf	22 00 34.1	-0.3
10nm,0.7s							
OBN	**Obninsk**	**125.43**	**40**	*e*PKPdf	PKPdf	22 00 32.7	-1.0
KKN	**Kakani**	**125.51**	**95**	*e*P	PKPdf	22 00 34.4	-0.3
7.0nm,0.6s							
FINES	**FINESS Array B**	**127.70**	**30**	PKP	PKPdf	22 00 38.0	0.0
7.1nm,0.6s,baz=124,slow=1.7,SNR=55							
FINES				SKPbc		22 03 31.4	
1.0nm,0.3s,baz=174,slow=2.8,SNR=15							
FINES	**FINESS Array B**	**127.70**	**30**	PKP	PKPdf	22 00 38.0	0.0
FINES				SKPbc		22 03 31.4	
KAF	**Kangasniemi**	**128.33**	**29**	*e*p	PKPdf	22 00 38.7	-0.4
LSA	**Lhasa**	**130.04**	**99**	*e*PKPdf	PKPdf	22 00 44.2	+0.9
JOF	**Joensuu**	**130.29**	**31**	*e*p	PKPdf	22 00 42.3	-0.5
KMI	**Kunming**	**131.91**	**114**	PKP	PKPdf	22 00 47.3	+0.3
ARCES	**ARCESS Array B**	**134.35**	**23**	PKhKP		22 00 34.1	
0.8nm,0.5s,baz=238,slow=2.2,SNR=5.5							
ARCES				PKP	PKPdf	22 00 50.1	-0.1
7.0nm,0.5s,baz=197,slow=2.4,SNR=5.3							
ARCES				PP	PP	22 03 22.8	-6.2
1.6nm,0.6s,baz=219,slow=5.8,SNR=4.6							
ARCES				SKPbc		22 03 55.7	
4.4nm,0.6s,baz=213,slow=3.5,SNR=10							
ARCES	**ARCESS Array B**	**134.35**	**23**	PKP		22 00 34.1	
ARCES				PKP	PKPdf	22 00 50.1	-0.1
ARCES				PP	PP	22 03 22.8	-6.2
ARCES				SKPbc		22 03 55.7	
ARE0	**ARCESS Array S**	**134.35**	**23**	*e*PKPdf	PKPdf	22 00 50.3	+0.1
BRVK	**Borovoye**	**137.08**	**61**	*e*PKPdf	PKPdf	22 00 54.7	-1.0
BRVK				*e*SKPbc		22 04 03.8	
BVAR	**Borovoye Array**	**137.10**	**61**	PKhKP		22 00 45.3	
0.6nm,0.6s,baz=193,slow=3.4,SNR=6.4							
BVAR				PKP	PKPdf	22 00 57.2	+1.4
3.2nm,0.4s,baz=201,slow=1.8,SNR=21							
BVAR				PP	PP	22 03 42.0	-3.9
1.2nm,1.0s,baz=198,slow=4.7,SNR=4.2							
BVAR				SKPbc		22 04 04.7	
11nm,0.7s,baz=235,slow=3.2,SNR=45							
YKA	**Yellowknife Ar**	**138.20**	**316**	PKP	PKPdf	22 00 57.3	-0.2
3.1nm,0.4s,baz=132,slow=2.2,SNR=12							
YKA				SKPbc		22 04 06.8	
4.8nm,0.9s,baz=120,slow=2.2,SNR=6.9							
YKA				SKPab		22 04 15.7	
6.0nm,0.6s,baz=119,slow=4.6,SNR=9.6							
YKA	**Yellowknife Ar**	**138.20**	**316**	PKP	PKPdf	22 00 57.3	-0.2
YKA				SKPbc		22 04 06.8	
YKA				SKPab		22 04 15.7	
YKW3	**Yellowknife Ar**	**138.25**	**316**	*e*PKPdf	PKPdf	22 00 57.2	-0.3
MKAR	**Makanchi Array**	**138.50**	**76**	PKhKP		22 00 48.0	
0.7nm,0.6s,baz=244,slow=5.2,SNR=8.3							
MKAR				PKP	PKPdf	22 01 00.5	+2.1
1.6nm,0.6s,baz=223,slow=2.1,SNR=7.2							
MKAR				SKPbc		22 04 08.6	
2.9nm,0.6s,baz=231,slow=1.8,SNR=21							
MKAR	**Makanchi Array**	**138.50**	**76**	PKP		22 00 48.0	
MKAR				PKP	PKPdf	22 01 00.5	+2.0
MKAR				SKPbc		22 04 08.6	
WMQ	**Urumqi**	**139.12**	**83**	*e*PKP	PKPdf	22 00 58.0	-1.7
GTA	**Gaotai**	**142.07**	**98**	PKP	PKPdf	22 01 02.0	-2.9
XAN	**Xi'an**	**142.29**	**113**	PKP	PKPdf	22 01 02.3	-3.1
JOW	**Kunigami**	**143.64**	**143**	PKP	PKPdf	22 01 07.3	-0.7
5.3nm,0.5s,baz=180,slow=4.0,SNR=4.2							
JOW				SKPbc		22 04 24.2	
4.6nm,0.9s,baz=169,slow=3.9,SNR=4.2							
ZAL	**Zalesovo**	**144.35**	**69**	PKP	PKPdf	22 01 08.0	-0.3
14nm,0.5s,baz=238,slow=3.0,SNR=59							
ZAL				SKPbc		22 04 22.4	
1.2nm,0.5s,baz=154,slow=5.1,SNR=3.7							
ZAL	**Zalesovo**	**144.35**	**69**	PKP	PKPdf	22 01 08.0	-0.3
ZAL				SKPbc		22 04 22.4	
NJ2	**Nanjing**	**144.99**	**127**	*e*PKP	PKPdf	22 01 11.5	+1.3
INK	**Inuvik**	**147.93**	**317**	PKPbc	PKPdf	22 01 17.3	+3.3
22nm,0.6s,baz=108,slow=2.1,SNR=6.6							
INK	**Inuvik**	**147.93**	**317**	PKPbc	PKPdf	22 01 17.3	+3.3
EYAK	**Cordova Ski Ar**	**149.67**	**300**	*e*PKPbc	PKPdf	22 01 23.3	+6.4
JNU	**Nakatsue**	**150.30**	**143**	PKPbc	PKPdf	22 01 25.1	+6.4
7.0nm,0.6s,baz=96,slow=6.7,SNR=7.8							
SML	**Sawmill**	**151.33**	**301**	*e*PKPbc	PKPdf	22 01 26.4	+7.1
SONM	**Songino Array**	**151.40**	**94**	PKP	PKPdf	22 01 21.4	+1.5
9.2nm,0.5s,baz=191,slow=1.0,SNR=5.9							
SONM				PKPbc	PKPdf	22 01 27.4	+7.5
9.3nm,0.4s,baz=216,slow=3.2,SNR=100							
SONM				PKPab	PKPab	22 01 36.7	-1.3
5.2nm,0.6s,baz=225,slow=5.0,SNR=13							
ILAR	**Eielson Array**	**151.76**	**307**	PKPbc	PKPdf	22 01 27.2	+7.3
9.3nm,0.7s,baz=157,slow=1.2,SNR=68							
ILAR				PKPab	PKPab	22 01 38.0	-0.9
1.8nm,0.8s,baz=80,slow=5.5,SNR=7.4							
ILAR	**Eielson Array**	**151.76**	**307**	PKPbc	PKPdf	22 01 27.2	+7.3
ILAR				PKPab	PKPab	22 01 38.0	-0.9
ULN	**Ulaanbaatar**	**151.76**	**94**	*e*PKPbc	PKPdf	22 01 27.8	+7.3
ULN				*e*PKPab	PKPab	22 01 37.7	-1.7
COLA	**College**	**152.18**	**307**	*e*PKPab	PKPab	22 01 37.2	-3.4
MCK	**McKinley**	**152.27**	**304**	*e*PKPbc	PKPdf	22 01 28.7	+8.0

CSEM ***26*** *22:21:55.1±0.7, 38.80N×29.25W, ML1.7, Error ellipse: s-maj=16.2km s-min=8.2km az=39.0, After PDA*
PDA ***26*** *22:21:55.1±0.7, 38.80N×29.25W, MD3.1, ML1.7, Error ellipse: s-maj=16.2km s-min=8.2km az=39.0*
SVSA 26 22:21:55.1±0.7, 38.80N×29.25W, MD3.1, ML1.7, Error ellipse: s-maj=16.2km s-min=8.2km az=39.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.46**	**111**	*e*P	Pg	22 22 03.4	-0.9
PCED				*e*S	Sg	22 22 09.9	-0.6
18nm,0.2s							
CALA	**Caldeira**	**0.48**	**116**	*e*P	Pg	22 22 04.4	-0.3
CALA				*e*S	Sg	22 22 10.7	-0.4
PICO	**Pico**	**0.71**	**114**	*i* P	Pg	22 22 07.6	-1.7
PICO				*e*S	Sg	22 22 17.1	-1.7
PMAN	**Manadas**	**0.93**	**100**	*e*S	Sg	22 22 22.0	-3.9
6.8nm,0.2s							

PNSN ***26*** *22:34:38.8, 48.23N×121.67W, h9km, MD2.5, Fault plane solution: NP1:φ=30°, δ75°, NP2:φ=276°, δ33°, Principal axes: T Plg51°, Azm266°; P Plg24°, Azm143°;*
PGC 26 22:34:38.9, 48.22N×121.67W, h1km, ML2.0/18, MD2.5(SEA), 6D, Near Darrington, Washington., Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCW	**Jim Creek**	**0.18**	**261**	⇓P	Pg	22 34 42.5	0.0
RPW	**Rockport**	**0.25**	**24**	⇑P	Pg	22 34 43.5	-0.4
CMW	**Cultus Mountai**	**0.36**	**304**	P	Pg	22 34 45.5	-0.6
CMW				S	Sg	22 34 51.0	0.0
HTW	**Haystack Looko**	**0.43**	**189**	⇑P	Pg	22 34 46.7	-0.7
BLH	**Bald Hill**	**0.46**	**213**	⇓P	Pg	22 34 47.7	-0.4
TTW	**Tolt Reservoir**	**0.53**	**182**	⇓P	Pg	22 34 48.4	-1.1
TTW				S	Sg	22 34 55.3	-1.2
MBW	**Mount Baker**	**0.58**	**345**	⇓P	Pg	22 34 49.1	-1.4
WRW	**Wenatchee Ridg**	**0.64**	**125**	⇓P	Pg	22 34 50.4	-1.3
RMW	**Rattlesnake Mo**	**0.77**	**187**	⇓P	Pg	22 34 52.9	-1.4
VDB	**Vedder Mountai**	**0.85**	**340**	P	Pg	22 34 54.1	-1.8
VDB				S	Sg	22 35 05.5	-1.8
VDB				Trac		22 35 06.6	
comp=Z,15nm,0.2s							
MCW	**Mount Constitu**	**0.90**	**301**	P	Pg	22 34 55.4	-1.4
BLN	**Blyn Mountain**	**0.90**	**257**	⇑P	Pg	22 34 55.0	-1.9
NLW	**Nelson Butte**	**0.90**	**99**	P	Pg	22 34 55.2	-1.6
GNW	**Green Mountain**	**1.02**	**230**	⇑P	Pg	22 34 56.7	-2.3
GNW				S	Sb	22 35 10.5	-2.3
GSM	**Grass Mountain**	**1.02**	**185**	P	Pb	22 34 57.3	-1.8
ETW	**Entiat**	**1.09**	**124**	P	Pb	22 34 58.2	-2.0
HDW	**Hoodsport**	**1.10**	**239**	⇑P	Pb	22 34 57.8	-2.5
VGZ	**Gonzales**	**1.12**	**280**	P	Pb	22 34 58.8	-2.0
VGZ				S	Sb	22 35 13.0	-2.7
VGZ				Trac		22 35 14.5	
comp=Z,40nm,0.3s							
SNB	**Saturna Island**	**1.14**	**299**	P	Pb	22 34 59.2	-1.9
SNB				S	Sb	22 35 14.9	-1.4
SNB				Trac		22 35 17.4	
comp=Z,16nm,0.2s							
CBSW	**Chelan Butte S**	**1.17**	**110**	P	Pb	22 34 59.8	-1.8
HNB	**Haney**	**1.21**	**330**	P	Pb	22 34 59.5	-2.8
HNB				S	Sb	22 35 15.4	-2.9
HNB				Trac		22 35 18.2	
comp=Z,20nm,0.3s							
PGC	**Sidney**	**1.26**	**290**	P	Pb	22 35 01.6	-1.5
PGC				S	Sb	22 35 16.7	-3.1
PGC				Trac		22 35 19.3	
comp=Z,20nm,0.1s							
WTV	**Waterville**	**1.27**	**114**	P	Pb	22 35 01.7	-1.5
TBM	**Table Mountain**	**1.28**	**145**	P	Pb	22 35 02.1	-1.4
GOBB	**Galiano Island**	**1.42**	**301**	P	Pb	22 35 04.0	-2.0
GOBB				S	Sb	22 35 22.1	-2.3
GOBB				Trac		22 35 24.2	
comp=Z,21nm,0.2s							
LZB	**Mount Lazard**	**1.49**	**286**	P	Pn	22 35 04.2	-2.6
LZB				S	Sb	22 35 23.1	-3.3
LZB				Trac		22 35 24.7	
comp=Z,10.0nm,0.2s							
BIB	**Bowen Island**	**1.60**	**318**	P	Pn	22 35 06.3	-2.2
BIB				S	Sb	22 35 27.1	-2.7
BIB				Trac		22 35 28.1	
comp=Z,5.0nm,0.1s							
PNT	**Penticton**	**1.74**	**50**	P	Pn	22 35 10.2	-0.3
PNT				S	Sn	22 35 32.6	-1.0
PNT				Trac		22 35 35.2	
comp=Z,11nm,0.2s							
NLLB	**Nanaimo Lost L**	**1.84**	**304**	P	Pn	22 35 10.2	-1.7
NLLB				S	Sn	22 35 33.3	-2.7
NLLB				Trac		22 35 34.7	
comp=Z,12nm,0.2s							
PFB	**Port Renfrew**	**1.88**	**282**	P	Pn	22 35 10.0	-2.4
PFB				S	Sn	22 35 32.7	-4.4
PFB				Trac		22 35 36.9	
comp=Z,7.0nm,0.3s							
SHB	**Sechelt**	**2.00**	**314**	P	Pn	22 35 11.8	-2.4
SHB				S	Sn	22 35 37.5	-2.8
SHB				Trac		22 35 38.5	
comp=Z,11nm,0.1s							
MGB	**Mount Grey**	**2.15**	**292**	P	Pn	22 35 15.0	-1.3
MGB				S	Sn	22 35 42.2	-1.9
MGB				Trac		22 35 45.9	
comp=Z,10.0nm,0.2s							
ALB	**Alberni**	**2.34**	**298**	P	Pn	22 35 17.7	-1.3
ALB				Trac		22 35 54.7	
comp=Z,4.0nm,0.2s							
TXB	**Texada**	**2.35**	**310**	P	Pn	22 35 17.2	-1.9
TXB				S	Sn	22 35 48.1	-0.9
TXB				Trac		22 35 51.5	
comp=Z,9.9nm,0.3s							
LLLB	**Lillooet**	**2.39**	**357**	P	Pn	22 35 20.3	+0.5
LLLB				S	Sn	22 35 51.5	+1.3
LLLB				Trac		22 35 54.8	
comp=Z,3.0nm,0.2s							
OZB	**Mount Ozzard**	**2.65**	**288**	Trac		22 36 00.6	
comp=Z,22nm,0.6s							
OZB	**Mount Ozzard**	**2.65**	**288**	Sg	Sg	22 35 59.0	-7.9
BTB	**Buttle Lake**	**2.83**	**298**	P	Pn	22 35 26.4	+0.3
BTB				Sg	Sg	22 36 02.7	-11
BTB				Trac		22 36 09.7	
comp=Z,7.0nm,0.3s							
DOWB	**Downie Slide**	**3.88**	**31**	Pg	Pg	22 35 48.8	-7.5
DOWB				Sg	Sg	22 36 39.2	-8.8
MNB	**Mounoet Dainar**	**4.50**	**27**	Sg	Sg	22 36 59.7	-9.1

NEIC ***26*** *23:10:27.3±1.2, 22.91S×66.81W, h203km±11km, Error ellipse: s-maj=25.9km s-min=15.9km az=185.0*
IDC ***26*** *23:10:32.3±9.4, 22.47S×66.59W, h230km±63km, mb3.6/1, mb1 3.5/3, mb1mx3.2/14, mbtmp4. 1/3, MS3.2/1, Ms1 3.1/1, ms1mx2.5/17, Error ellipse: s-maj=108.3km s-min=33.7km az=25.0*
ISC 26 23:10:26.7±1.4, 22.9S±0.1×67.0W±0.4, h228km±35km, n8, σ0§49/8, mb3.7/1, 1C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.83**	**279**	⇑*i* Pn	**P**	**23 11 06.0**	**-0.2**
LPAZ	**La Paz**	**6.67**	**350**	P	**P**	**23 12 04.4**	**+0.8**
0.8nm,0.3s,baz=165,slow=6.3,SNR=22							
LPAZ				S	**S**	**23 13 19.0**	**-0.4**
baz=35,slow=19,SNR=4.2							
LPAZ	**La Paz**	**6.67**	**350**	*e*Pn	**P**	**23 12 04.3**	**+0.7**
LPAZ				S	**S**	**23 13 19.0**	**-0.4**
BDFB	**Brasilia**	**19.27**	**71**	P	**P**	**23 14 36.0**	**+0.1**
1.0nm,0.3s,baz=254,slow=11,SNR=21							
BDFB				LR	LR	23 22 24.5	
comp=Z,71nm,19.7s,baz=61,slow=38							
BAO	**Brasilia Array**	**19.29**	**71**	P	**P**	**23 14 36.0**	**-0.2**
DBIC	**Dimbokro**	**67.42**	**72**	P	**P**	**23 20 59.8**	**-0.1**
1.5nm,0.7s,mb3.7,baz=222,slow=11,SNR=5.5							
MKAR	**Makanchi Array**	**145.65**	**39**	PKPbc	PKPbc	23 29 42.2	+3.8
0.8nm,0.6s,baz=290,slow=3.9,SNR=4.8							
MKAR	**Makanchi Array**	**145.65**	**39**	PKPbc	PKPbc	23 29 42.2	+3.8

BJI ***26*** *23:16:50.6, 38.67N×19.73E, h21km, Ms4.5, Msz4.2*
MOS ***26*** *23:16:50.3±1.4, 38.29N×20.21E, h10km, mb4.0/1, Error ellipse: s-maj=8.5km s-min=5.4km az=93.0*
ATH ***26*** *23:16:51.2, 38.24N×20.35E, h13km±1km, MD3.9/17, ML4.0*
THE ***26*** *23:16:51.1, 38.12N×20.20E, h7km, ML3.7*
NEIC ***26*** *23:16:51.2, 38.24N×20.35E, h14km, mb3.7/2, MD3.6(PDG), ML4.0(ATH), After ATH.*
CSEM ***26*** *23:16:51.4±0.1, 38.17N×20.30E, h2km, ML4.0, Error ellipse: s-maj=2.6km s-min=1.4km az=29.0*
HLW ***26*** *23:16:52.0, 37.90N×19.92E, h33km, Mb3.9*
PDG ***26*** *23:16:54.5±0.2, 38.50N×19.78E, h11km±1km*
IDC ***26*** *23:16:55.8±1.7, 38.19N×20.13E, h63km±23km, mb3.7/7, mb1 3.7/14, mb1mx3.6/29, mbtmp3.8/14, ML3.6/6, MS2.8/1, Ms1 2.8/1, ms1mx2.2/28, Error ellipse: s-maj=24.8km s-min=13.6km az=3.0*
ISC 26 23:16:50.4±0.4, 38.27N±0.03×20.21E±0.03, h10km, n113, σ1§47/144, mb3.8/7, MS3.9/2, 14C-9D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.32**	**106**	⇓*i* PG	**Pg**	**23 16 56.0**	**-1.0**
VLS				*e*SG	**Sg**	**23 16 59.2**	**-2.2**
LKD	**Levkas**	**0.56**	**38**	*e*Sg	**Sg**	**23 17 14.1**	**+4.7**
RLS	**Riolos of Patr**	**1.02**	**101**	*e*PG	**Pg**	**23 17 07.9**	**-2.9**
RLS				*e*SB	**Sb**	**23 17 21.4**	**-1.5**
EVR	**Evrytania**	**1.42**	**62**	*e*PG	**Pg**	**23 17 16.0**	**-2.7**
EVR				*e*SB	**Sb**	**23 17 34.6**	**+0.1**
JAN	**Janina**	**1.48**	**20**	*e*PB	**Pb**	**23 17 19.3**	**+1.7**
JAN				*e*SB	**Sb**	**23 17 38.4**	**+2.1**
KEK	**Kerkira**	**1.48**	**348**	*e*PG	**Pg**	**23 17 19.7**	**-0.3**
SRN	**Sarande**	**1.62**	**354**	*i* Pn	**Pn**	**23 17 21.5**	**+2.2**
SRN				*i* Sn	**Sn**	**23 17 46.8**	**+6.4**
ITM	**Ithomi**	**1.74**	**128**	*e*PB	**Pb**	**23 17 22.0**	**-0.1**
LKR	**Lokris**	**2.23**	**79**	⇑*i*PN	**Pn**	**23 17 28.5**	**+0.5**
MGER	**Gerania Oros**	**2.42**	**96**	*e*PB	**Pb**	**23 17 30.5**	**-3.3**
LIT	**Litokhoron**	**2.55**	**43**	*e*Pn	**Pn**	**23 17 34.4**	**+1.8**
comp=Z,12nm,0.5s							
LIT				*e*Sn	**Sn**	**23 18 07.4**	**+3.4**
NEO	**Neokhori**	**2.58**	**65**	⇑*e*PB	**Pb**	**23 17 33.3**	**-3.1**
XOR	**Xorichti**	**2.58**	**64**	*e*Pn	**Pn**	**23 17 34.2**	**+1.2**
XOR				*e*Sn	**Sn**	**23 18 06.8**	**+2.1**
NSAL	**Nisos Salamina**	**2.60**	**97**	*e*PB	**Pb**	**23 17 33.0**	**-3.7**
NAIG	**Nisos Aigina**	**2.64**	**100**	*e*PN	**Pn**	**23 17 35.0**	**+1.1**
NAIG	**Nisos Aigina**	**2.64**	**100**	*e*Pn	**Pn**	**23 17 35.5**	**+1.6**
VLI	**Veliai**	**2.67**	**125**	*e*PN	**Pn**	**23 17 35.7**	**+1.5**
FNA	**Florina**	**2.67**	**19**	*e*Pn	**Pn**	**23 17 36.2**	**+1.8**
comp=Z,3.0nm,0.5s							
FNA				*e*Sn	**Sn**	**23 18 10.9**	**+3.7**
MPAR	**Parnis Oros**	**2.78**	**91**	*e*PB	**Pb**	**23 17 35.5**	**-4.4**
ATH	**Athens Observa**	**2.79**	**95**	⇓*i*PN	**Pn**	**23 17 35.6**	**-0.3**
TIP	**Timpagrande**	**2.85**	**290**	*e*Pn	**Pn**	**23 17 39.4**	**+2.6**
TIP	**Timpagrande**	**2.85**	**290**	*e*Pn	**Pn**	**23 17 39.4**	**+2.6**
KYTH	**Kithira**	**3.00**	**130**	*e*PB	**Pb**	**23 17 40.0**	**-3.7**
KYTH	**Kithira**	**3.00**	**130**	*e*Pb	**Pb**	**23 17 40.8**	**-2.9**
AOS	**Alonnisos**	**3.01**	**71**	*e*Pn	**Pn**	**23 17 39.3**	**+0.1**
TIR	**Tirane**	**3.09**	**355**	*e*Pn	**Pn**	**23 17 40.0**	**-0.3**
TIR				*i* Sn	**Sg**	**23 18 34.0**	**+0.6**
PAIG	**Paliouri**	**3.17**	**57**	*e*Pn	**Pn**	**23 17 42.5**	**+1.1**
GRG	**Griva**	**3.18**	**32**	*e*Pn	**Pn**	**23 17 43.0**	**+1.5**
THE	**Thessaloniki**	**3.19**	**41**	*e*Pn	**Pn**	**23 17 42.7**	**+1.0**
QSH	**Qafa e Shtames**	**3.26**	**356**	*i* Pn	**Pn**	**23 17 44.6**	**+1.9**
PLG	**Polygyros**	**3.28**	**49**	*e*PN	**Pn**	**23 17 43.3**	**+0.3**
PE1	**Pezze di Greco**	**3.33**	**321**	*e*Pn	**Pn**	**23 17 45.1**	**+1.5**
KNT	**Kendrikon**	**3.56**	**35**	*e*Pn	**Pn**	**23 17 47.8**	**+0.8**
SG1	**Sgolgore (BA)**	**3.75**	**314**	*e*Pn	**Pn**	**23 17 51.8**	**+2.2**
ULC	**Ulcinj**	**3.77**	**349**	⇑*i*Pn	**Pn**	**23 17 50.1**	**+0.3**
ULC				*e*Sn	**Sn**	**23 18 32.2**	**-2.6**
SKO	**Skopje**	**3.82**	**14**	*e*Pn	**Pn**	**23 17 50.0**	**-0.7**
BAI	**Bari**	**3.83**	**319**	*e*Pn	**Pn**	**23 17 53.0**	**+2.3**
CDT	**Castel del Mon**	**4.14**	**314**	*e*Pn	**Pn**	**23 17 56.6**	**+1.4**
BUM	**Brajici-Budva**	**4.15**	**346**	⇑*i*Pn	**Pn**	**23 17 55.2**	**-0.2**
BUM				*e*Sn	**Sn**	**23 18 41.4**	**-3.2**
KKB	**Krupnik**	**4.22**	**31**	*i* P	**Pn**	**23 17 58.0**	**+1.6**
TTG	**Podgorica**	**4.22**	**350**	⇑*i*Pn	**Pn**	**23 17 56.2**	**-0.1**
TTG				*e*Sn	**Sn**	**23 18 43.6**	**-2.7**
TTG	**Podgorica**	**4.22**	**350**	⇑*i*Pn	**Pn**	**23 17 56.2**	**-0.2**
TTG				*e*Sn	**Sn**	**23 18 43.6**	**-2.7**
MMB	**Musomiste**	**4.28**	**38**	*i* P	**Pn**	**23 17 58.0**	**+0.7**
VAM	**Vamos**	**4.29**	**130**	*e*PN	**Pn**	**23 17 58.0**	**+0.7**
PVY	**Plav**	**4.33**	**358**	⇑*i*Pn	**Pn**	**23 17 58.5**	**+0.6**
PVY				*e*Sn	**Sn**	**23 18 47.0**	**-2.1**
HCY	**Herceg Novi**	**4.38**	**343**	⇑*i*Pn	**Pn**	**23 17 57.9**	**-0.7**
HCY				*e*Sn	**Sn**	**23 18 45.6**	**-4.7**
APE	**Apeiranthos**	**4.39**	**104**	*i* P	**Pn**	**23 17 58.1**	**-0.7**
IVA	**Berane**	**4.61**	**357**	⇑*i*Pn	**Pn**	**23 18 02.1**	**+0.2**
IVA				*e*Sn	**Sn**	**23 18 53.5**	**-2.6**
NKY	**Niksic**	**4.63**	**349**	⇑*i*Pn	**Pn**	**23 18 01.3**	**-0.9**
NKY				*e*Sn	**Sn**	**23 18 53.1**	**-3.6**
VAE	**

NOA	**NORSAR Array B**	**23.48**	**349**	P	**P**	**23 22 00.2**	**-0.6**
	comp=Z,2.2nm,0.8s,mb3.6,baz=161,slow=9.5,SNR=3.9						
FINES	**FINESS Array B**	**23.49**	**7**	P	**P**	**23 21 59.5**	**-1.3**
	comp=Z,1.5nm,0.8s,mb3.5,baz=158,slow=10,SNR=6.4						
FINES	**FINESS Array B**	**23.49**	**7**	*e*P	**P**	**23 22 00.5**	**-0.3**
ARCES	**ARCESS Array B**	**31.46**	**4**	P	**P**	**23 23 11.8**	**-2.1**
	comp=Z,2.0nm,0.8s,mb4.0,baz=194,slow=10.0,SNR=6.1						
MKAR	**Makanchi Array**	**45.47**	**58**	P	**P**	**23 25 08.7**	**-2.6**
	comp=Z,0.8nm,0.5s,mb3.8,baz=278,slow=6.9,SNR=6.4						
MKAR	**Makanchi Array**	**45.47**	**58**	*e*P	**P**	**23 25 12.0**	**+0.7**
ZAL	**Zalesovo**	**45.81**	**48**	P	**P**	**23 25 11.8**	**-2.0**
	comp=Z,2.2nm,0.6s,mb4.3,baz=195,slow=7.8,SNR=11						
ZAL	**Zalesovo**	**45.81**	**48**	P	**P**	**23 25 11.8**	**-2.0**
WMQ	**Urumqi**	**49.93**	**61**	*e*P	**P**	**23 25 47.0**	**+0.8**
WMQ				XP	sP	23 25 54.0	+3.5
WMQ				PP	PP	23 27 42.0	-0.1
WMQ				S	**S**	**23 32 54.0**	**-1.2**
WMQ				SS	SS	23 36 22.0	-2.7
WMQ				LR	LR		
	comp=N,28nm,14.0s,MS3.6						
WMQ				LR	LR		
	comp=E,32nm,14.0s,MS3.6						
WMQ				LR	LR		
	comp=Z,18nm,14.0s,MS3.2						
HHC	**Hu-ho-hao-te**	**67.19**	**55**	*e*P	**P**	**23 27 46.8**	**+0.1**
HHC				AP	pP	23 27 51.8	+2.0
HHC				XP	sP	23 27 54.0	+3.1
HHC				PCP	PcP	23 28 15.5	+0.8
HHC				PP	PP	23 30 16.8	+0.3
HHC				SCP		23 32 15.5	
HHC				S	S	23 36 38.0	-1.7
HHC				SCS	ScS	23 37 41.5	+0.6
HHC				SS	SS	23 40 58.0	-2.7
HHC				LR	LR		
	comp=N,143nm,13.2s,MS4.4						
HHC				LR	LR		
	comp=E,73nm,13.2s,MS4.4						
HHC				LR	LR		
	comp=Z,89nm,13.2s,MS4.2						

*LJU **26** 23:18:11.5, 46.39N×15.07E, h0km Rockburst*
ISC 26 23:18:11.7±1.1, 46.42N±0.09×15.09E±0.09, h9km±21km, n5, σ0§53/7, 2C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PERS	**Pernice**	**0.22**	**5**	*i* Pg	**Pg**	**23 18 16.9**	**+0.6**
GROS	**Grobnik**	**0.29**	**81**	*i* Pg	**Pg**	**23 18 17.6**	**0.0**
OBKA	**Obir**	**0.39**	**284**	⇑*i*PG	**Pg**	**23 18 19.3**	**-0.2**
OBKA				*i* SG	**Sg**	**23 18 24.8**	**+0.1**
	13nm,0.4s						
ARSA	**Arzberg**	**0.89**	**19**	⇑*i*PG	**Pg**	**23 18 28.7**	**-0.7**
ARSA				*i* SG	**Sg**	**23 18 41.5**	**+0.2**
	3.0nm,0.4s						
BOJS	**Bojanci**	**0.92**	**173**	*i* Pn	**Pn**	**23 18 30.8**	**+0.2**

MEX 26 23:18:40.3±0.9, 16.10N×97.20W, h26km±44km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VHO	**Vista Hermosa**	**1.06**	**25**	*i* P	Pn	23 18 56.7	-3.0
VHO				*i* S	Sb	23 19 10.4	-3.1
OXX	**Oaxaca**	**1.08**	**25**	*i* P	Pn	23 18 57.5	-2.4
OXX				*e*S	Sb	23 19 10.0	-3.8
HUIG	**Huatulco**	**1.10**	**107**	*i* P	Pn	23 18 57.5	-2.8
HUIG				*i* S	Sb	23 19 11.0	-3.7
CMIG	**Matias Romero**	**2.43**	**66**	*e*P	Pn	23 19 17.7	-1.5
CMIG				*i* S	Sn	23 19 44.1	-4.3
PPM	**Popocatepetl**	**3.25**	**335**	*e*P	Pn	23 19 38.0	+7.2

*IDC **26** 23:29:49.6±1.6, 26.42S×179.28E, h525km±21km, mb3.5/4, mb1 3.9/7, mb1mx3.5/16, mbtmp4.5/7, Error ellipse: s-maj=34.7km s-min=15.9km az=172.0*
*NEIC **26** 23:29:49.7±0.8, 26.51S×179.26E, h532km±10km, mb4.2/2, Error ellipse: s-maj=21.6km s-min=11.2km az=187.0*
ISC 26 23:29:48.9±1.1, 26.4S±0.1×179.2E±0.1, h526km±15km, n15, σ0§58/15, mb4.0/5, 1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.81**	**139**	P	**P**	**23 31 08.6**	**+0.4**
	171nm,0.3s,baz=60,slow=23,SNR=7.4						
RAO	**Raoul Island**	**3.81**	**139**	*e*Pn	**P**	**23 31 08.1**	**0.0**
URZ	**Urewera**	**11.96**	**188**	P	**P**	**23 32 26.3**	**-1.2**
	1.1nm,0.3s,baz=349,slow=5.2,SNR=9.6						
URZ				S	**S**	**23 34 36.0**	**+0.7**
	0.8nm,0.3s,baz=281,slow=4.4,SNR=3.4						
DZM	**Mont Dzumac**	**12.43**	**288**	P	**P**	**23 32 32.9**	**+0.5**
	0.8nm,0.3s,baz=88,slow=16,SNR=6.7						
CTA	**Charters Tower**	**30.88**	**275**	P	**P**	**23 35 24.0**	**+0.4**
	4.8nm,0.4s,mb4.4,baz=101,slow=11,SNR=15						
CTA	**Charters Tower**	**30.88**	**275**	P	**P**	**23 35 24.0**	**+0.4**
CTAO	**Charters Tower**	**30.88**	**275**	*e*P	**P**	**23 35 23.7**	**+0.1**
	4.6nm,0.4s,mb4.4						
WB2	**Warramunga Arr**	**41.59**	**269**	⇓*i*P	**P**	**23 36 51.6**	**-0.3**
WRAB	**Tennant Creek**	**41.59**	**269**	*e*P	**P**	**23 36 51.4**	**-0.6**
	2.7nm,0.4s,mb4.1						
WRA	**Warramunga Arr**	**41.60**	**269**	P	**P**	**23 36 51.7**	**-0.3**
	2.8nm,0.4s,mb4.2,baz=102,slow=7.6,SNR=57						
WRA				S	**S**	**23 42 31.5**	**+0.6**
	0.5nm,0.8s,baz=106,slow=15,SNR=3.3						
NVAR	**Mina Array Bea**	**87.03**	**44**	P	**P**	**23 41 39.0**	**-0.1**
	1.1nm,0.7s,mb3.6,baz=229,slow=8.3,SNR=7.6						
NVAR	**Mina Array Bea**	**87.03**	**44**	P	**P**	**23 41 39.0**	**-0.1**
TXAR	**Lajitas Array**	**92.34**	**58**	P	**P**	**23 42 04.4**	**+0.5**
	0.8nm,0.9s,mb3.8,baz=213,slow=7.5,SNR=7.8						
NB2	**NORSAR Subarra**	**144.42**	**350**	PKPabc	PKPdf	23 48 24.3	+0.3
	5.1nm,0.9s,baz=23,slow=4.0						
NOA	**NORSAR Array B**	**144.42**	**350**	PKP	PKPdf	23 48 24.4	+0.4
	2.6nm,0.8s,baz=23,slow=2.6,SNR=7.1						

*CNRM **26** 23:37:45.8, 35.13N×2.25W, h3km, MD3.7*
*MDD **26** 23:37:49.9±1.0, 34.87N±2.37W, h16km±5km, mbLg2.1/18, Error ellipse: s-maj=7.1km s-min=5.3km az=114.0, PRXIMO*
*NEIC **26** 23:37:51.0, 34.95N×2.31W, h16km, MG3.8(MDD), After MDD.*
*SFS **26** 23:37:50.0, 34.90N×2.28W, h14km*
*CSEM **26** 23:37:50.2±0.3, 34.93N×2.40W, h40km, MD3.7, Error ellipse: s-maj=6.6km s-min=3.4km az=113.0*
ISC 26 23:37:47.1±0.6, 34.92N±0.02×2.28W±0.04, h10km, n49, σ1§32/88, 1D, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAI	**Zaio**	**0.38**	**277**	S	**Sg**	**23 37 59.5**	**-0.7**
MELI	**Melilla**	**0.65**	**305**	P	**Pb**	**23 38 01.7**	**+1.6**
MELI				S	**Sb**	**23 38 10.7**	**+1.7**
MELI	**Melilla**	**0.65**	**305**	*i* S	**Sb**	**23 38 10.7**	**+1.8**
EMLI	**Melilla**	**0.66**	**305**	P	**Pb**	**23 38 02.3**	**+2.0**
	258nm,0.1s,SNR=18						
EMLI				S	**Sb**	**23 38 11.5**	**+2.2**
	992nm,0.2s,SNR=12						
EMEL	**Melilla**	**0.67**	**304**	⇓P	**Pb**	**23 38 02.3**	**+1.9**
	258nm,0.1s,SNR=18						
EMEL				S	**Sb**	**23 38 11.5**	**+2.1**
	992nm,0.2s,SNR=12						
EALB	**Alboran**	**1.19**	**329**	P	**Pb**	**23 38 10.0**	**+0.7**
	2.7nm,0.1s,SNR=7.9						
EALB				S	**Sb**	**23 38 25.7**	**+1.2**
	61nm,0.4s,SNR=7.9						
EALB	**Alboran**	**1.19**	**329**	P	**Pb**	**23 38 11.0**	**+1.7**
	2.7nm,0.1s,SNR=7.9						
EALB				S	**Sb**	**23 38 25.7**	**+1.2**
	61nm,0.4s,SNR=7.9						
EALB	**Alboran**	**1.19**	**329**	P	**Pb**	**23 38 11.1**	**+1.8**
EALB				S	**Sb**	**23 38 25.7**	**+1.2**
TOU	**Touzarine**	**1.21**	**272**	*e*P	**Pb**	**23 38 08.0**	**-1.7**
TOU				*i* S	**Sb**	**23 38 26.0**	**+0.8**
TZK	**Tazeka**	**1.78**	**243**	*e*P	**Pn**	**23 38 18.0**	**-0.2**
TZK				*i* S	**Sn**	**23 38 40.0**	**-1.0**
EBER	**Berja**	**2.03**	**346**	P	**Pn**	**23 38 22.9**	**+1.0**
	6.2nm,0.5s,SNR=5.4						
EBER				S	**Sn**	**23 38 46.0**	**-1.5**
	12nm,0.3s,SNR=10						
EBER	**Berja**	**2.03**	**346**	P	**Pn**	**23 38 23.0**	**+1.1**
	6.2nm,0.5s,SNR=5.4						
EBER				S	**Sn**	**23 38 43.9**	**-3.6**
	12nm,0.3s,SNR=10						
EBER	**Berja**	**2.03**	**346**	P	**Pn**	**23 38 23.0**	**+1.1**
EBER				S	**Sn**	**23 38 43.9**	**-3.6**
ENIJ	**Nijar**	**2.05**	**2**	P	**Pn**	**23 38 23.3**	**+1.2**
	0.9nm,0.6s,SNR=7.9						
ENIJ				S	**Sn**	**23 38 48.3**	**+0.5**
	9.5nm,3.7s,SNR=7.9						
EGUA	**Guajares**	**2.17**	**332**	P	**Pn**	**23 38 25.0**	**+1.1**
	0.8nm,0.2s,SNR=7.9						
EGUA				S	**Sn**	**23 38 50.7**	**-0.4**
	6.1nm,1.5s,SNR=7.9						
ERON	**Agron**	**2.43**	**330**	P	**Pn**	**23 38 28.2**	**+0.7**
	2.9nm,0.3s,SNR=7.9						
EQUE	**Quentar**	**2.46**	**338**	P	**Pn**	**23 38 28.5**	**+0.5**
	3.0nm,0.4s,SNR=7.9						
EQUE				S	**Sn**	**23 38 56.7**	**-1.7**
	6.5nm,1.0s,SNR=7.9						
EMIJ	**Mijas**	**2.60**	**310**	P	**Pn**	**23 38 29.4**	**-0.6**
	0.6nm,0.4s,SNR=6.4						
EMIJ				S	**Sn**	**23 39 00.1**	**-2.0**
	5.7nm,0.6s,SNR=6.1						
EMIJ	**Mijas**	**2.60**	**310**	P	**Pn**	**23 38 29.5**	**-0.6**
EMIJ				S	**Sn**	**23 39 00.1**	**-2.0**
	5.7nm,0.6s,SNR=6.1						
ELOJ	**Sierra Loja**	**2.69**	**326**	P	**Pn**	**23 38 32.4**	**+1.1**
	0.3nm,0.2s,SNR=4.0						
ELOJ				S	**Sn**	**23 39 02.9**	**-1.3**
	2.5nm,0.6s,SNR=7.9						
MIF	**Mishlifen**	**2.87**	**239**	*e*P	**Pn**	**23 38 33.0**	**-0.9**
MIF				*e*S	**Sn**	**23 39 07.0**	**-1.8**
EHUE	**Huescar**	**2.90**	**355**	P	**Pn**	**23 38 35.4**	**+1.2**
	0.6nm,0.2s,SNR=14						
EHUE				S	**Sn**	**23 39 08.1**	**-1.4**
	2.0nm,0.4s,SNR=6.2						
EQES	**Quesada**	**2.94**	**348**	P	**Pn**	**23 38 36.2**	**+1.3**
	0.2nm,0.1s,SNR=17						
EQES				S	**Sn**	**23 39 09.3**	**-1.4**
	4.2nm,0.3s,SNR=9.2						
EQES	**Quesada**	**2.94**	**348**	P	**Pn**	**23 38 36.2**	**+1.3**
	0.2nm,0.1s,SNR=17						
EQES				S	**Sn**	**23 39 09.3**	**-1.4**
	4.2nm,0.3s,SNR=9.2						
CZD	**Col de Zad**	**2.97**	**231**	*e*P	**Pn**	**23 38 35.0**	**-0.2**
CZD				*i* S	**Sn**	**23 39 11.0**	**-0.3**
EJIF	**Jimena Fronter**	**3.01**	**301**	P	**Pn**	**23 38 38.6**	**+2.8**
	1.5nm,0.4s,SNR=4.0						
EJIF				S	**Sn**	**23 39 10.3**	**-2.0**
	3.3nm,0.9s,SNR=4.0						
EMUR	**La Murta**	**3.03**	**16**	P	**Pn**	**23 38 36.8**	**+0.6**
	2.5nm,0.4s,SNR=6.7						
EMUR				S	**Sn**	**23 39 11.1**	**-1.8**
	3.1nm,0.5s,SNR=4.5						
EMUR	**La Murta**	**3.03**	**16**	P	**Pn**	**23 38 36.8**	**+0.6**
	2.5nm,0.4s,SNR=6.7						
EMUR				S	**Sn**	**23 39 11.1**	**-1.8**
	3.1nm,0.5s,SNR=4.5						
ZFT	**Errachidia**	**3.36**	**212**	*e*P	**Pn**	**23 38 41.0**	**+0.2**
ZFT				*i* S	**Sn**	**23 39 21.0**	**-0.2**
EBAN	**Banos Encina**	**3.45**	**340**	P	**Pn**	**23 38 43.3**	**+1.1**
	0.8nm,0.6s,SNR=7.9						
EBAN				S	**Sn**	**23 39 21.3**	**-2.3**
	3.4nm,0.7s,SNR=7.9						
EBAN	**Banos Encina**	**3.45**	**340**	P	**Pn**	**23 38 43.3**	**+1.2**
	0.8nm,0.6s,SNR=7.9						
EBAN				S	**Sn**	**23 39 25.0**	**+1.4**
	3.4nm,0.7s,SNR=7.9						
EBAN	**Banos Encina**	**3.45**	**340**	P	**Pn**	**23 38 43.3**	**+1.1**
EBAN				S	**Sn**	**23 39 25.0**	**+1.5**
EVIA	**Vianos**	**3.71**	**357**	S	**Sn**	**23 39 27.6**	**-2.6**
	14nm,1.1s,SNR=7.9						
EADA	**Adamuz**	**3.73**	**331**	P	**Pn**	**23 38 45.8**	**-0.3**
	0.1nm,0.1s,SNR=6.3						
EADA				S	**Sn**	**23 39 27.6**	**-2.9**
	9.7nm,1.0s,SNR=7.9						
EADA	**Adamuz**	**3.73**	**331**	P	**Pn**	**23 38 45.8**	**-0.2**
	0.1nm,0.1s,SNR=6.3						
EADA				S	**Sn**	**23 39 27.6**	**-2.9**
	9.7nm,1.0s,SNR=7.9						
ETOB	**Tobarra**	**3.76**	**9**	P	**Pn**	**23 38 47.5**	**+1.0**
	0.2nm,0.1s,SNR=18						
ETOB				S	**Sn**	**23 39 29.0**	**-2.4**
	13nm,1.7s,SNR=4.9						
ETOB	**Tobarra**	**3.76**	**9**	P	**Pn**	**23 38 47.5**	**+1.0**
	0.2nm,0.1s,SNR=18						
ETOB				S	**Sn**	**23 39 29.0**	**-2.4**
	13nm,1.7s,SNR=4.9						
EMIN	**Mina Concepcio**	**4.54**	**310**	P	**Pn**	**23 38 58.0**	**+0.4**
	3.7nm,1.2s,SNR=6.6						
EMIN				S	**Sn**	**23 39 46.8**	**-4.3**
	6.5nm,1.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.54**	**310**	P	**Pn**	**23 38 58.0**	**+0.4**
	3.7nm,1.2s,SNR=6.6						
EMIN				S	**Sn**	**23 39 46.8**	**-4.3**
	6.5nm,1.1s,SNR=7.9						
ESDC	**Sonseca Array**	**4.93**	**345**	P	**Pn**	**23 39 03.6**	**+0.5**
	0.2nm,0.1s,baz=165,slow=12,SNR=7.1						
ESDC	**Sonseca Array**	**4.93**	**345**	P	**Pn**	**23 39 03.6**	**+0.5**
	0.2nm,0.1s,SNR=7.1						
EGRO	**El Granado**	**4.95**	**303**	P	**Pn**	**23 39 02.6**	**-0.8**
	0.2nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**23 39 56.6**	**-4.7**
	14nm,1.2s,SNR=7.9						
EGRO	**El Granado**	**4.95**	**303**	P	**Pn**	**23 39 02.6**	**-0.7**
	0.2nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**23 39 56.6**	**-4.7**
	14nm,1.2s,SNR=7.9						
EIBI	**Ibiza**	**5.02**	**34**	P	**Pn**	**23 39 03.8**	**-0.5**
	1.5nm,1.1s,SNR=7.9						
EIBI	**Ibiza**	**5.02**	**34**	P	**Pn**	**23 39 03.8**	**-0.6**
	1.5nm,1.1s,SNR=7.9						
EBAD	**Badajoz**	**5.39**	**317**	P	**Pn**	**23 39 08.7**	**-0.9**
	0.1nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**23 40 06.5**	**-5.9**
	15nm,1.7s,SNR=4.9						
EBAD	**Badajoz**	**5.39**	**317**	P	**Pn**	**23 39 08.6**	**-0.9**
	0.1nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**23 40 06.5**	**-5.9**
	15nm,1.7s,SNR=4.9						
EMOS	**Mosqueruela**	**5.62**	**14**	P	**Pn**	**23 39 13.1**	**+0.3**
	0.1nm,0.2s,SNR=4.0						
EMOS	**Mosqueruela**	**5.62**	**14**	P	**Pn**	**23 39 13.1**	**+0.3**

*IDC **27** 00:06:12.4±0.7, 6.78N×72.95W, h160km±7km, mb3.7/9, mb1 4.0/12, mb1mx3.7/23, mbtmp4.3/12, Error ellipse: s-maj=15.7km s-min=7.4km az=130.0*
*NEIC **27** 00:06:12.6±0.6, 6.80N×72.96W, h164km±6km, mb4.0/4, Error ellipse: s-maj=9.5km s-min=7.1km az=101.0*
ISC 27 00:06:11.9±0.6, 6.78N±0.05×72.94W±0.07, h172km±6km, n29, σ0§77/29, mb4.0/11, 3D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.36**	**216**	P	**P**	**00 06 53.0**	**0.0**
	176nm,0.3s,baz=4.7,slow=2.9,SNR=902						
ROSC				S	**S**	**00 07 24.1**	**-0.5**
	260nm,0.3s,baz=82,slow=24,SNR=8.9						
SDV	**Santo Domingo**	**3.10**	**47**	P	**P**	**00 07 02.9**	**+0.9**
	baz=259,slow=13						
SDV				S	**S**	**00 07 40.1**	**-0.4**
	138nm,0.3s,baz=76,slow=22,SNR=36						
PCJ	**Portland Cotta**	**11.65**	**340**	*i* P	**P**	**00 08 54.6**	**+0.7**
PCJ				*e*S	**S**	**00 10 51.1**	**-10**
STH	**Stony Hill**	**11.85**	**342**	⇓*e*P	**P**	**00 08 57.6**	**+1.1**
STH				*e*S	**S**	**00 10 55.5**	**-10**
TRN	**Trinidad (W)**	**12.03**	**71**	*e*P	**P**	**00 09 07.0**	**+8.2**
BNJ	**Bonny Gate**	**12.12**	**342**	⇓*e*P	**P**	**00 09 00.9**	**+0.9**
BBJ	**Bamboo Saint A**	**12.28**	**340**	⇓*e*P	**P**	**00 09 00.9**	**-1.1**
TBH	**Brigand Hill**	**12.30**	**72**	*e*P	**P**	**00 09 09.4**	**+7.2**
GRW	**Mount Saint Ca**	**12.34**	**63**	*e*P	**P**	**00 09 10.7**	**+8.0**
SJG	**San Juan**	**13.06**	**30**	P	**P**	**00 09 11.0**	**-1.0**
	4.2nm,0.3s,baz=212,slow=13,SNR=8.5						
MTP	**Monte Pirata**	**13.35**	**32**	*e*P	**P**	**00 09 15.5**	**-0.1**
SAML	**Samuel**	**18.40**	**148**	*e*P	**P**	**00 10 16.1**	**-0.4**
	4.5nm,0.6s						
LPAZ	**La Paz**	**23.40**	**168**	P	**P**	**00 11 07.8**	**+1.3**
	0.6nm,0.4s,mb3.4,baz=336,slow=8.4,SNR=5.2						
TXAR	**Lajitas Array**	**36.63**	**312**	P	**P**	**00 13 03.4**	**-0.1**
	2.2nm,0.6s,mb3.9,baz=127,slow=9.1,SNR=34						
TXAR				PcP	PcP	00 15 24.6	+1.4
	0.4nm,0.5s,baz=146,slow=6.5,SNR=4.7						
ANMO	**Albuquerque**	**41.67**	**317**	P	**P**	**00 13 46.8**	**+1.5**
	0.7nm,0.5s,mb3.5,baz=121,slow=5.7,SNR=4.6						
ANMO	**Albuquerque**	**41.67**	**317**	*e*P	**P**	**00 13 46.6**	**+1.4**
	0.9nm,0.5s,mb3.7						
ULM	**Lac du Bonnet**	**47.39**	**340**	P	**P**	**00 14 29.5**	**-1.0**
	5.0nm,0.5s,mb4.4,baz=140,slow=7.7,SNR=16						
SCHQ	**Schefferville**	**48.17**	**5**	P	**P**	**00 14 36.9**	**+0.4**
	5.7nm,0.7s,mb4.3,baz=174,slow=4.0,SNR=9.9						
PDAR	**Pinedale Array**	**48.22**	**324**	P	**P**	**00 14 36.6**	**-0.4**
	1.4nm,0.6s,mb3.7,baz=126,slow=10,SNR=11						
TPAW	**Teton Pass**	**49.47**	**324**	*e*P	**P**	**00 14 46.0**	**-0.6**
	2.0nm,0.5s,mb4.0						
RRI2	**Red Ridge**	**49.60**	**324**	*e*P	**P**	**00 14 47.0**	**-0.6**
	6.1nm,0.6s,mb4.4						
NVAR	**Mina Array Bea**	**51.65**	**315**	P	**P**	**00 15 02.9**	**-0.2**
	baz=118,slow=8.0,SNR=9.6						
YKA	**Yellowknife Ar**	**63.37**	**340**	P	**P**	**00 16 24.0**	**-0.8**
	2.9nm,0.5s,mb4.3,baz=133,slow=6.5,SNR=17						
DBIC	**Dimbokro**	**67.55**	**86**	P	**P**	**00 16 52.1**	**-0.2**
	3.6nm,0.9s,mb4.1,baz=243,slow=9.0,SNR=6.9						
ARCES	**ARCESS Array B**	**86.65**	**20**	P	**P**	**00 18 37.6**	**+0.9**
	1.2nm,0.8s,mb3.8,baz=304,slow=4.4,SNR=4.3						
MKAR	**Makanchi Array**	**122.30**	**20**	PKP	PKPdf	00 24 48.2	+1.7
	0.2nm,0.4s,baz=268,slow=2.7,SNR=6.9						
MKAR	**Makanchi Array**	**122.30**	**20**	PKP	PKPdf	00 24 48.2	+1.7
WRAB	**Tennant Creek**	**150.47**	**241**	*e*PKPbc	PKPdf	00 25 45.2	+6.9
WRA	**Warramunga Arr**	**150.48**	**241**	PKPbc	PKPdf	00 25 45.3	+7.0
	1.3nm,0.4s,baz=108,slow=2.7,SNR=57						

*IDC **27** 00:07:46.6±1.0, 8.09S×147.17E, mb4.0/7, mb1 4.2/9, mb1mx4.1/13, mbtmp4.0/9, ML4.1/2, MS3.3/8, Ms1 3.3/8, ms1mx3.2/21, Error ellipse: s-maj=40.4km s-min=12.4km az=88.0*
*NEIC **27** 00:07:48.9±0.8, 8.18S×147.19E, h15km, mb4.3/3, Error ellipse: s-maj=27.2km s-min=10.2km az=93.0*
ISC 27 00:07:50.0±0.8, 8.18S±0.08×147.2E±0.2, h33km, n19, σ1§05/16, mb4.0/8, MS3.2/6, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**1.22**	**182**	Pg	**P**	**00 08 10.4**	**-0.3**
	405nm,0.3s,baz=26,slow=8.2,SNR=461						
PMG				Lg		00 08 29.0	
	265nm,0.3s,baz=26,slow=11,SNR=3.5						
CTA	**Charters Tower**	**11.88**	**184**	*e*P	**P**	**00 10 39.1**	**-0.9**
	3.2nm,0.3s						
CTA	**Charters Tower**	**11.88**	**184**	Pn	**P**	**00 10 39.1**	**-0.8**
	1.1nm,0.3s,baz=356,slow=13,SNR=10						
CTA				LR	LR	00 13 51.3	
	comp=Z,113nm,20.5s,baz=230,slow=30						
HNR	**Honiara**	**12.67**	**97**	LR	LR	00 14 56.0	
	comp=Z,161nm,21.0s,baz=283,slow=34						
KAKA	**Kakadu**	**15.19**	**252**	*e*P	**P**	**00 11 38.5**	**+15**
	77nm,1.5s						
WRAB	**Tennant Creek**	**17.06**	**225**	*e*P	**P**	**00 11 46.5**	**-1.2**
	12nm,0.8s						
WRA	**Warramunga Arr**	**17.08**	**225**	P	**P**	**00 11 48.6**	**+0.7**
	0.6nm,0.3s,baz=50,slow=11,SNR=24						
WRA				S	**S**	**00 14 50.5**	**-4.8**
	0.2nm,0.3s,baz=44,slow=25,SNR=4.8						
FITZ	**Fitzroy Crossi**	**23.16**	**243**	*e*P	**P**	**00 12 57.4**	**+2.7**
	10nm,1.2s,mb4.1						
FITZ	**Fitzroy Crossi**	**23.16**	**243**	P	**P**	**00 12 55.8**	**+1.1**
	5.9nm,0.8s,mb4.1,baz=71,slow=4.4,SNR=4.3						
FITZ				LR	LR	00 22 39.9	
	comp=Z,101nm,20.6s,MS3.2,baz=77,slow=38						
STKA	**Stephens Creek**	**24.15**	**192**	P	**P**	**00 13 04.2**	**0.0**
	1.7nm,0.6s,mb3.7,baz=12,slow=10,SNR=4.1						
STKA				LR	LR	00 23 09.8	
	comp=Z,42nm,21.7s,MS2.9,baz=205,slow=38						
JOW	**Kunigami**	**39.34**	**333**	LR	LR	00 31 40.0	
	comp=Z,55nm,18.6s,MS3.4,baz=311,slow=36						
JNU	**Nakatsue**	**43.91**	**340**	LR	LR	00 30 30.3	
	comp=Z,36nm,20.1s,MS3.3,baz=228,slow=31						
MJAR	**Matsushiro Arr**	**45.27**	**350**	P	**P**	**00 16 05.2**	**-1.2**
	0.8nm,0.3s,mb4.0,baz=178,slow=10.0,SNR=3.5						
MJAR				LR	LR	00 31 31.7	
	comp=Z,56nm,20.4s,MS3.5,baz=240,slow=32						
ASAJ	**Asahikawa**	**52.21**	**356**	LR	LR	00 39 24.1	
	comp=Z,20nm,18.2s,MS3.2,baz=335,slow=36						
SONM	**Songino Array**	**66.39**	**331**	P	**P**	**00 18 36.3**	**-1.5**
	1.0nm,0.9s,mb3.8,baz=141,slow=9.2,SNR=3.3						
VNDA	**Vanda**	**69.74**	**177**	P	**P**	**00 18 59.3**	**+1.0**
	0.6nm,0.6s,mb3.7,baz=322,slow=9.0,SNR=6.0						
MKAR	**Makanchi Array**	**79.29**	**321**	P	**P**	**00 19 53.8**	**-0.1**
	2.7nm,0.9s,mb4.2,baz=127,slow=6.1,SNR=9.1						
KURK	**Kurchatov**	**83.06**	**323**	*e*P	**P**	**00 20 14.6**	**+1.1**
	3.3nm,1.0s,mb4.3						
ILAR	**Eielson Array**	**87.40**	**23**	P	**P**	**00 20 35.9**	**+1.1**
	0.5nm,0.7s,mb3.9,baz=253,slow=5.0,SNR=5.4						

*NIED **27** 00:29:00, 37.00N×141.80E, h68km, Mw3.9 Best double couple: M0 6.76×10^14 NP1:φs190°, δ75°, λ

comp=Z,0.4nm,0.4s,baz=117,slow=9.8,SNR=4.2
AKTO Aktyubinsk 19.91 317 ⇑P P **00 35 16.6 -3.8**
comp=Z,0.9nm,1.4s
SONM Songino Array 22.31 54 P P **00 35 43.1 -1.8**
comp=Z,1.0nm,0.7s,mb3.4,baz=255,slow=8.6,SNR=6.9
BRTR Keskin Array B 35.43 288 P P **00 37 43.7 -0.3**
comp=Z,0.4nm,0.7s,mb3.4,baz=81,slow=9.2,SNR=3.1
FINES FINESS Array B 40.45 324 P P **00 38 28.0 +2.2**
comp=Z,2.5nm,1.0s,mb3.9,baz=112,slow=10,SNR=5.3
ARCES ARCESS Array B 42.84 335 P P **00 38 46.6 +1.4**
comp=Z,1.8nm,0.7s,mb3.9,baz=90,slow=9.0,SNR=3.2
NOA NORSAR Array B 47.58 322 P P **00 39 23.6 +0.4**
comp=Z,0.7nm,0.7s,mb3.8,baz=98,slow=9.0,SNR=2.4
GERES GERESS Array B 47.73 306 P P **00 39 24.6 +0.1**
comp=Z,0.2nm,0.4s,mb3.5,baz=72,slow=8.4,SNR=4.5

*IDC **27** 01:05:07.5±8.0, 39.66N×104.37E, mb3.6/1, mb1 3.7/4, mb1mx3.5/20, mbtmp3.6/4, ML3.5/3, Error ellipse: s-maj=114.9km s-min=34.6km az=128.0*
BJI 27 01:05:03.4, 39.40N×104.59E, h17km, mb4.6, ML4.3, Ms3.9, Msz3.6, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LZH	**Lanzhou**	**3.36**	**190**	P	Pn	01 05 57.8	+1.5
LZH				PG	Pn	01 06 05.0	+8.7
LZH				S	Sn	01 06 37.0	+0.8
LZH				SG	Sn	01 06 47.5	+11
LZH				Smax			
	comp=N,1μm,0.6s						
LZH				Smax			
	comp=E,1μm,0.6s						
LZH				LR	LR		
	comp=E,2μm,4.0s						
LZH				LR	LR		
	comp=Z,2μm,6.2s						
GTA	**Gaotai**	**3.70**	**272**	P	Pn	01 06 01.0	-0.2
GTA				PG	Pn	01 06 09.3	+8.1
GTA				S	Sn	01 06 46.0	+1.2
GTA				SG	Sn	01 06 58.0	+13
GTA				Smax			
	comp=N,462nm,0.7s						
GTA				Smax			
	comp=E,345nm,0.7s						
GTA				LR	LR		
	comp=N,947nm,9.9s						
GTA				LR	LR		
	comp=E,551nm,8.7s						
GTA				LR	LR		
	comp=Z,291nm,9.9s						
BTO	**Baotou**	**4.34**	**72**	*e*P	Pn	01 06 12.5	+2.2
BTO				PG	Pn	01 06 20.8	+11
BTO				SG	Sn	01 07 18.0	+17
BTO				Smax			
	comp=E,191nm,0.5s						
BTO				Smax			
	comp=N,267nm,0.5s						
XAN	**Xi'an**	**6.38**	**146**	P	Pn	01 06 38.5	-0.6
XAN				PG	Pn	01 06 56.5	+17
XAN				S	Sn	01 07 48.5	-3.8
XAN				SG	Sn	01 08 19.5	+27
XAN				Smax			
	comp=N,145nm,0.7s						
XAN				Smax			
	comp=E,97nm,1.0s						
SONM	**Songino Array**	**8.53**	**8**	Pn	P	01 07 08.3	-0.8
	comp=E,1.0nm,0.3s,baz=190,slow=14,SNR=28						
SONM				Pg	P	01 07 38.4	+29
	comp=E,3.2nm,0.3s,baz=195,slow=19,SNR=13						
SONM				Lg		01 09 32.0	
	comp=E,3.2nm,0.3s,baz=201,slow=29,SNR=5.0						
GYA	**Guiyang**	**13.02**	**172**	P	P	01 08 11.0	+0.6
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s						
MKAR	**Makanchi Array**	**17.85**	**302**	P	P	01 09 12.1	-0.4
	comp=Z,0.1nm,0.3s,baz=101,slow=12,SNR=6.7						
ZAL	**Zalesovo**	**19.80**	**324**	P	P	01 09 37.1	+1.4
	comp=Z,0.3nm,0.3s,baz=17,slow=7.0,SNR=4.4						
BVAR	**Borovoye Array**	**27.01**	**312**	P	P	01 10 48.6	+2.4
	comp=Z,0.5nm,0.5s,baz=90,slow=10,SNR=4.4						

*MOS **27** 01:39:03.5±0.8, 52.64N×107.44E, h10km, mb4.2/1, Error ellipse: s-maj=23.6km s-min=15.2km az=46.0*
BYKL 27 01:39:04.9±0.2, 52.70N×107.30E, h22km±3km, 5C-2D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZRHB	**Zarechye**	**0.17**	**212**	*e*Pg	Pb	01 39 10.1	+0.2
ZRHB				⇑*i*		01 39 10.5	
ZRHB				*i* Sg	Sb	01 39 13.8	+0.6
ZRHB				Smax			
	7μm,0.8s						
TRTB	**Turuntaevo**	**0.51**	**157**	⇑*i*Pg	Pb	01 39 14.6	-0.5
TRTB				*i* Sg	Sb	01 39 21.3	-0.8
TRTB				Pmax			
	116nm,0.1s						
TRTB				Smax			
	1μm,0.4s						
TRG	**Tyrgan**	**0.58**	**276**	⇑*i*Pg	Pb	01 39 16.5	+0.2
TRG				*e*Pb	Pb	01 39 18.3	+2.0
TRG				*e*Sg	Sb	01 39 25.2	+1.1
TRG				*e*		01 39 27.5	
TRG				max			
	406nm,0.2s						
TRG				max			
	2μm,0.2s						
TRG	**Tyrgan**	**0.58**	**276**	*e*PG	Pb	01 39 16.6	+0.3
TRG				*e*		01 39 25.2	
TRG				pmax	pmax		
	comp=Z,407nm,0.2s						
TRG				smax			
	comp=E,2μm,0.2s						
FFNB	**Fofonovo**	**0.73**	**207**	⇑*i*Pg	Pb	01 39 18.7	-0.2
FFNB				*e*Sg	Sb	01 39 28.6	+0.2
FFNB				Pmax			
	comp=E,2μm,0.1s						
FFNB				Smax			
	comp=E,2μm,0.3s						
KAB	**Kabansk**	**0.76**	**212**	*e*Pg	Pb	01 39 19.2	-0.2
KAB				*e*Sg	Sb	01 39 30.1	+0.8
KAB				Pmax			
	comp=E,236nm,0.4s						
KAB				Smax			
	comp=E,953nm,0.4s						
KAB	**Kabansk**	**0.76**	**212**	*e*PG	Pb	01 39 18.8	-0.6
KAB				*e*		01 39 30.0	
KAB				pmax	pmax		
	comp=Z,135nm,0.2s						
KAB				smax			
	comp=N,589nm,0.5s						
OGRR	**Ongureny**	**0.96**	**11**	⇑*i*Pg	Pb	01 39 22.6	-0.1
OGRR				*e*		01 39 23.6	
OGRR				*e*Sg	Sb	01 39 35.4	+0.4
OGRR				max			
	comp=N,79nm,0.1s						
OGRR				Smax			
	comp=N,631nm,0.3s						
OGRR	**Ongureny**	**0.96**	**11**	*e*PG	Pb	01 39 22.8	+0.1
OGRR				*e*		01 39 35.7	
OGRR				pmax	pmax		
	comp=Z,85nm,0.2s						
OGRR				smax			
	comp=E,614nm,0.6s						
MXMB	**Maximikha**	**1.04**	**57**	⇓*i*Pg	Pb	01 39 24.0	-0.1
MXMB				*e*Sg	Sb	01 39 38.6	+1.3
MXMB				Pmax			
	comp=E,169nm,0.1s						
MXMB				Smax			
	comp=E,2μm,0.3s						
HRMR	**Khuramsha**	**1.09**	**191**	⇓*i*Pg	Pb	01 39 24.8	-0.2
HRMR				*i* Sg	Sb	01 39 39.3	+0.4
BTMB	**Babushkin**	**1.35**	**223**	*e*Pg	Pn	01 39 29.5	+0.8
BTMB				*e*Sg	Sn	01 39 47.5	+1.4
BTMB				Pmax			
	comp=E,26nm,0.1s						
BTMB				Smax			
	comp=E,435nm,0.7s						
LSTR	**Listvyanka**	**1.73**	**242**	*e*Pg	Pn	01 39 35.8	+1.6
LSTR				*e*Sg	Sn	01 39 58.1	+2.4
LSTR				Pmax			
	comp=E,21nm,0.2s						
LSTR				Smax			
	comp=E,265nm,0.3s						
LSTR	**Listvyanka**	**1.73**	**242**	*e*PN	Pn	01 39 35.9	+1.7
LSTR				*e*		01 39 58.3	
LSTR				pmax	pmax		
	comp=Z,13nm,0.2s						
LSTR				smax			
	comp=N,265nm,0.3s						
SYVR	**Suvo**	**1.89**	**58**	*e*Pn	Pn	01 39 36.4	0.0
SYVR				*e*Pg	Pn	01 39 38.4	+2.0
SYVR				*e*Sg	Sn	01 40 03.6	+3.9
SYVR				Pmax			
	comp=N,41nm,0.4s						
SYVR				Smax			
	comp=N,183nm,0.2s						
IRK	**Irkutsk**	**1.91**	**257**	*e*	Pn	01 39 43.8	+7.1
IRK				*e*Sg	Sn	01 40 04.8	+4.5
IRK				Smax			
	comp=N,2μm,0.4s						
IRK	**Irkutsk**	**1.91**	**257**	*e*PN	Pn	01 39 39.0	+2.3
IRK				*e*		01 40 03.9	
IRK				pmax	pmax		
	comp=Z,149nm,0.1s						
IRK				smax			
	comp=N,2μm,0.5s						
TLY	**Talaya**	**2.47**	**247**	*e*Pn	Pn	01 39 46.4	+1.6
TLY				*e*Pg	Pn	01 39 49.3	+4.5
TLY				*e*		01 40 19.8	
TLY				*e*Sg	Sn	01 40 21.3	+6.7
TLY				Pmax			
	comp=N,15nm,0.3s						
TLY				Smax			
	comp=N,139nm,0.3s						
TLY	**Talaya**	**2.47**	**247**	*e*PN	Pn	01 39 45.3	+0.5
TLY				*e*		01 39 48.4	
TLY				*e*		01 40 20.6	
TLY				pmax	pmax		
	comp=Z,7.0nm,0.2s						
TLY				smax			
	comp=E,139nm,0.4s						
ARS	**Arshan**	**3.09**	**257**	*e*Pg	Pn	01 40 00.1	+6.5
ARS				*e*Sg	Sn	01 40 39.8	+9.5
ARS				Pmax			
	comp=E,61nm,0.8s						
ARS				Smax			
	comp=E,334nm,0.6s						
ARS	**Arshan**	**3.09**	**257**	*e*PN	Pn	01 39 59.1	+5.5
ARS				*e*		01 40 39.7	
ARS				pmax	pmax		
	comp=Z,51nm,0.3s						
ARS				smax			
	comp=E,317nm,0.5s						
YLYR	**Ulyunkhan**	**3.16**	**45**	*e*Pg	Pn	01 40 01.1	+6.5
YLYR				*e*Sg	Sn	01 40 42.4	+10
YLYR				Pmax			
	comp=E,9.0nm,0.4s						
YLYR				Smax			
	comp=E,56nm,0.8s						
NIZ	**Nizh Angarsk**	**3.35**	**22**	*e*Pn	Pn	01 39 57.0	-0.3
NIZ				*e*Pg	Pn	01 40 05.1	+7.8
NIZ				*e*Sg	Sn	01 40 48.5	+12
NIZ				Pmax			
	comp=E,25nm,0.8s						
NIZ				Smax			
	comp=E,131nm,0.6s						
NIZ	**Nizh Angarsk**	**3.35**	**22**	*e*PN	Pn	01 40 04.9	+7.6
NIZ				*e*S	Sn	01 40 34.9	-1.9
NIZ				*e*		01 40 47.3	
NIZ				pmax	pmax		
	comp=Z,18nm,0.7s						
NIZ				smax			
	comp=N,118nm,0.6s						
ZAK	**Zakamensk**	**3.42**	**229**	*e*Pn	Pn	01 39 58.5	+0.3
ZAK				*e*Pg	Pn	01 40 07.1	+8.9
ZAK				*e*Sg	Sn	01 40 52.0	+13
ZAK				Pmax			
	comp=N,4.0nm,0.6s						
ZAK				Smax			
	comp=N,54nm,0.3s						
CIT	**Chita**	**3.89**	**98**	*e*Pg	Pn	01 40 13.9	+8.9
CIT				*e*Sg	Sn	01 41 04.4	+14
CIT				Pmax			
	comp=N,22nm,0.5s						
CIT				Smax			
	comp=N,169nm,0.8s						
CIT	**Chita**	**3.89**	**98**	*e*PN	Pn	01 40 02.9	-2.1
CIT				*e*		01 40 14.2	
KMO	**Kumora**	**3.93**	**34**	*e*Pn	Pn	01 40 04.7	-0.7
KMO				*e*Pg	Pn	01 40 15.0	+10
KMO				*e*Sg	Sn	01 41 06.0	+15
KMO				Pmax			
	comp=N,7.0nm,0.5s						
KMO				Smax			
	comp=N,50nm,1.2s						
MOY	**Mondy**	**4.02**	**258**	*e*Pn	Pn	01 40 06.4	-0.3
MOY				*e*Pg	Pn	01 40 15.5	+8.8
MOY				*e*		01 40 56.2	
MOY				*e*Sg	Sn	01 41 08.0	+14
MOY				Pmax			
	comp=N,9.0nm,0.5s						
MOY				Smax			
	comp=N,106nm,0.8s						
ORL	**Orlik**	**4.57**	**271**	*e*Pn	Pn	01 40 14.4	-0.2
ORL				*e*Pg	Pn	01 40 25.3	+11
ORL				*e*		01 41 08.2	
ORL				*e*Sg	Sn	01 41 25.3	+18
ORL				Pmax			
	comp=N,6.0nm,0.8s						
ORL				Smax			
	comp=N,34nm,0.8s						
UKT	**Uakit**	**4.66**	**51**	*e*Pn	Pn	01 40 14.5	-1.3
UKT				*e*Pg	Pn	01 40 28.0	+12
UKT				*e*Sg	Sn	01 41 29.6	+20
UKT				Pmax			
	comp=N,2.0nm,0.8s						
UKT				Smax			
	comp=N,25nm,1.9s						
NLYR	**Nelyaty**	**6.18**	**49**	*e*Pg	Pn	01 40 57.3	+20
NLYR				*e*Sg	Sn	01 42 18.2	+30
NLYR				Pmax			
	comp=N,2.0nm,0.7s						
NLYR				Smax			
	comp=N,41nm,1.0s						
NLYR	**Nelyaty**	**6.18**	**49**	*e*PN	Pn	01 40 54.5	+17
NLYR				*e*		01 42 16.2	
NLYR				pmax	pmax		
	comp=Z,5.0nm,1.4s						
NLYR				smax			
	comp=N,40nm,1.4s						
TUP	**Tupik**	**7.73**	**72**	*e*Pg	Pn	01 41 23.7	+25
TUP				*e*Sg	Sn	01 43 03.6	+37
TUP				Pmax			
	comp=N,1.0nm,0.4s						
TUP				Smax			
	comp=N,49nm,1.0s						
TUP	**Tupik**	**7.73**	**72**	*e*PN	Pn	01 40 58.9	-0.2
TUP				*e*		01 41 23.5	
TUP				*e*		01 43 01.8	
TUP				pmax	pmax		
	comp=Z,1.0nm,0.3s						
TUP				smax			
	comp=N,45nm,1.0s						

WEL 27 01:54:42.1±0.4, 38.25S×178.39E, h17km±3km, ML3.6/6, 2C-1D, Error ellipse: s-maj=3.5km s-min=2.5km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**0.20**	**329**	⇓P*	Pb	01 54 46.4	-0.6
PUZ				S*	Sb	01 54 49.9	-0.5
PUZ				S*	Sb	01 54 50.1	-0.3
MWZ	**Matawai**	**0.68**	**262**	⇑P*	Pb	01 54 55.2	+0.1
MWZ				S*	Sb	01 55 05.0	+0.9
MXZ	**Matakaoa Point**	**0.68**	**354**	P*	Pb	01 54 55.4	+0.3
MXZ				*e*S*	Sb	01 55 03.7	-0.4
KNZ	**Kokohu**	**0.96**	**216**	*e*P*	Pb	01 54 59.3	-0.5
URZ	**Urewera**	**1.01**	**269**	⇑P*	Pb	01 55 00.3	-0.4
URZ				S*	Sb	01 55 14.4	+1.0
WIZ	**White Island**	**1.19**	**307**	*e*PN	Pn	01 55 02.5	-1.5
EDRZ	**Edgecumbe**	**1.31**	**276**	*e*PN	Pn	01 55 05.1	-0.6
TAZ	**Tarawera**	**1.48**	**270**	*e*PN	Pn	01 55 07.1	-1.1
BKZ	**Black Stump Fm**	**1.75**	**238**	PN	Pn	01 55 10.7	-1.2
MRZ	**Mangatainoka R**	**3.25**	**221**	*e*PN	Pn	01 55 29.4	-4.0

*CRAAG **27** 01:56:08.4, 36.19N×7.69E, Ml2.6*
*MDD **27** 01:56:16.4±1.2, 36.55N×7.39E, h22km±10km, mbLg2.0/1, Error ellipse: s-maj=14.1km s-min=7.5km az=66.0*
ISC 27 01:56:14.7±1.2, 36.7N±0.1×7.3E±0.1, h22km, n7, σ1°20/8, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAH	**Djebel Manchou**	**0.13**	**132**	P	Pb	**01 56 20.0**	**+0.8**
CAEH	**'Ain El Ouahch**	**0.37**	**281**	P	Pb	**01 56 27.0**	**+4.3**
ABSA	**Djebel Ababsia**	**0.46**	**162**	P	Pb	**01 56 23.0**	**-1.1**
CABS	**Djebel Ababsia**	**0.46**	**162**	P	Pb	**01 56 23.0**	**-1.1**
CKFL	**Kef-Lekhel**	**0.56**	**237**	P	Pb	**01 56 26.0**	**+0.2**
ETOS	**Mallorca**	**4.67**	**312**	P	Pn	**01 57 25.3**	**-0.5**
	0.6nm,0.2s,SNR=7.9						
ETOS				S	Sn	**01 58 17.6**	**-2.4**
	0.6nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**5.25**	**298**	P	Pn	**01 57 35.5**	**+1.5**
	1.1nm,0.2s,SNR=7.9						

*ISK **27** 02:01:26.0, 37.04N×35.96E, h22km, MD3.6*
*CSEM **27** 02:01:26.1±0.1, 37.01N×35.98E, h19km±1km, MD3.6, Error ellipse: s-maj=3.8km s-min=1.6km az=92.0*
ISC 27 02:01:25.7±0.5, 37.01N±0.02×36.01E±0.03, h5km±5km, n22, σ1°08/32, 2D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEYT	**Ceyhan**	**0.21**	**271**	*i* PG	**Pg**	**02 01 31.1**	**+1.1**
CEYT				*i* SG	**Sg**	**02 01 35.6**	**+2.7**
KOZT	**Kozan**	**0.50**	**343**	*i* PG	**Pg**	**02 01 35.5**	**-0.1**
KOZT				*i* SG	**Sg**	**02 01 42.9**	**+0.6**
COBT	**Iskenderun**	**0.52**	**158**	*i* P	**Pg**	**02 01 35.5**	**-0.7**
COBT				*i* S	**Sg**	**02 01 42.7**	**-0.4**
DRWC	**Darouich**	**0.65**	**126**	⇑*i*P	**Pg**	**02 01 38.9**	**+0.2**
DRWC				⇑*i*S	**Sg**	**02 01 47.9**	**+0.5**
KARA	**Karaisali**	**0.81**	**289**	PG	**Pg**	**02 01 40.4**	**-1.4**
HTY	**Hatay**	**0.89**	**173**	PG	**Pg**	**02 01 43.8**	**+0.4**
KAHT	**Ahir Dag**	**0.93**	**47**	*i* P	**Pb**	**02 01 43.8**	**-0.1**
KAHT				*i* S	**Sb**	**02 01 57.5**	**+1.1**
GAZ	**Gaziantep**	**0.97**	**80**	PG	**Pg**	**02 01 44.7**	**-0.4**
BTCH	**Batrach**	**1.03**	**159**	⇓*i*P	**Pb**	**02 01 46.2**	**+0.5**
BTCH				⇑*i*S	**Sb**	**02 02 00.0**	**+0.7**
MERS	**Mersin**	**1.20**	**264**	PN	**Pn**	**02 01 47.3**	**-1.9**
GZT	**Gaziantep**	**1.29**	**74**	*i* P	**Pb**	**02 01 49.6**	**-0.5**
GZT				*i* S	**Sb**	**02 02 06.7**	**0.0**
SLNF	**Slenfeh**	**1.42**	**173**	⇑*i*S	**Sb**	**02 02 10.9**	**+0.3**
WRDH	**Warideh**	**1.53**	**168**	⇓*i*S	**Sb**	**02 02 13.2**	**-0.6**
MEST	**Erdemli**	**1.56**	**255**	*i* P	**Pn**	**02 01 53.5**	**-0.7**
MEST				*i* S	**Sb**	**02 02 16.6**	**+2.0**
BNN	**Bunyan**	**1.85**	**356**	PN	**Pn**	**02 01 57.6**	**-0.8**
ATAB	**Bozova**	**1.88**	**75**	*i* P	**Pn**	**02 02 00.4**	**+1.6**
ATAB				*i* S	**Sn**	**02 02 25.2**	**+2.0**
IKL	**Isikli**	**2.02**	**248**	PN	**Pn**	**02 01 59.6**	**-1.3**
URFA	**Urfa**	**2.28**	**78**	*e*PN	**Pn**	**02 02 04.5**	**-0.1**
MYA	**Malataya**	**2.32**	**55**	PN	**Pn**	**02 02 05.2**	**0.0**
ELZG	**Elazig**	**2.79**	**57**	*i* P	**Pn**	**02 02 17.9**	**+6.1**
ELZG				*i* S	**Sn**	**02 02 55.6**	**+9.3**
PTK	**Pertek**	**3.27**	**54**	*e*PN	**Pn**	**02 02 17.0**	**-1.7**
BTMT	**Batman**	**4.51**	**73**	*e*PN	**Pn**	**02 02 33.7**	**-2.6**

NEIC 27 02:06:16.0, 38.53S×176.77E, h60km, ML3.7(WEL), After WEL., North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAZ	**Tarawera**	**0.36**	**325**	P	P	02 06 26.7	0.0
URZ	**Urewera**	**0.38**	**45**	P	P	02 06 26.5	-0.4
EDRZ	**Edgecumbe**	**0.42**	**357**	P	P	02 06 26.8	-0.5
MWZ	**Matawai**	**0.63**	**72**	P	P	02 06 29.3	-0.1
MWZ				S	S	02 06 40.1	+0.7
BKZ	**Black Stump Fm**	**0.67**	**199**	P	P	02 06 30.0	0.0
KNZ	**Kokohu**	**0.86**	**125**	P	P	02 06 31.8	-0.6
TUVZ	**Tukino**	**1.14**	**229**	P	P	02 06 36.2	0.0
TWVZ	**Taurewa**	**1.17**	**242**	P	P	02 06 36.3	-0.3
MOVZ	**Moawhango**	**1.18**	**222**	P	P	02 06 36.4	-0.3
WNVZ	**Wahianoa**	**1.21**	**229**	P	P	02 06 37.0	-0.2
PUZ	**Puketiti**	**1.26**	**69**	*e*P	P	02 06 37.3	-0.5
MXZ	**Matakaoa Point**	**1.55**	**52**	*e*P	P	02 06 41.9	0.0
TSZ	**Takapari Road**	**1.65**	**202**	*e*P	P	02 06 39.5	-3.8
WAZ	**Wanganui**	**1.85**	**228**	*e*P	P	02 06 46.3	+0.3
MRZ	**Mangatainoka R**	**2.32**	**203**	*e*P	P	02 06 47.4	-5.3

IDC 27 02:58:47.5±2.4, 7.68N×93.50E, mb3.8/4, mb1 4.0/4, mb1mx3.6/19, mbtmp3.8/4, Error ellipse: s-maj=96.3km s-min=26.7km az=59.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**40.14**	**348**	P	P	03 06 25.0	-1.9
	0.7nm,0.5s,baz=161,slow=7.5,SNR=8.7						
SONM	**Songino Array**	**41.49**	**13**	P	P	03 06 36.4	-1.5
	0.3nm,0.5s,baz=200,slow=9.6,SNR=3.5						
WRA	**Warramunga Arr**	**48.67**	**125**	P	P	03 07 33.8	-2.0
	1.4nm,0.5s,baz=304,slow=8.7,SNR=51						
ARCES	**ARCESS Array B**	**75.23**	**340**	P	P	03 10 31.9	-1.6
	1.6nm,0.7s,baz=90,slow=6.1,SNR=6.3						

*LDG **27** 03:14:47.9±0.6, 15.00S×167.03E, h10km, Mb4.8/3, Ms4.2/5, Error ellipse: s-maj=65.4km s-min=36.4km az=8.0*
*CSEM **27** 03:14:51.2, 14.46S×167.64E, h33km, mb5.5*
*MOS **27** 03:15:06.2±1.1, 14.26S×167.33E, h153km, mb4.6/10, Error ellipse: s-maj=12.6km s-min=10.2km az=61.2*
*IDC **27** 03:15:10.1±1.4, 14.28S×167.36E, h175km±11km, mb4.2/15, mb1 4.4/16, mb1mx4.4/18, mbtmp4.7/16, MS3.5/1, Ms1 3.5/1, ms1mx2.9/20, Error ellipse: s-maj=14.9km s-min=11.5km az=97.0*
*NEIC **27** 03:15:11.9±0.1, 14.33S×167.35E, mb4.7/28, Error ellipse: s-maj=6.0km s-min=4.0km az=121.0*
*BJI **27** 03:15:11.2, 13.93S×167.62E, h194km, mB4.7, mb4.6*
ISC 27 03:15:11.7±1.5, 14.35S±0.06×167.29E±0.06, h204km±14km, h194km±1.7km: pP-P, n204, σ0°89/109, mb4.5/47, 22C-4D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.73**	**186**	*e*P	**P**	**03 17 02.0**	**-0.2**
DZM				*e*S	**S**	**03 18 28.9**	**+0.3**
DZM	**Mont Dzumac**	**7.73**	**186**	P	**P**	**03 17 02.4**	**+0.2**
	8.6nm,0.3s,baz=35,slow=16,SNR=24						
DZM				S	**S**	**03 18 28.5**	**-0.1**
	8.4nm,0.3s,baz=314,slow=20,SNR=7.2						
DZM				LR	LR	03 19 48.8	
	comp=Z,350nm,20.7s,baz=24,slow=36						
DZM	**Mont Dzumac**	**7.73**	**186**	*e*P	**P**	**03 17 02.0**	**-0.2**
DZM				*e*S	**S**	**03 18 28.9**	**+0.3**
NOUC	**Port Laguerre**	**7.77**	**187**	*e*P	**P**	**03 17 03.2**	**+0.4**
NOUC				*e*S	**S**	**03 18 29.4**	**-0.2**
NOUC	**Port Laguerre**	**7.77**	**187**	*e*P	**P**	**03 17 03.1**	**+0.4**
NOUC				*e*S	**S**	**03 18 29.4**	**-0.2**
PMG	**Port Moresby**	**20.29**	**282**	P	**P**	**03 19 33.5**	**+0.3**
	56nm,0.8s,baz=71,slow=8.5,SNR=10.0						
PMG	**Port Moresby**	**20.29**	**282**	*e*P	**P**	**03 19 35.3**	**+2.1**
	46nm,0.8s						
PMG	**Port Moresby**	**20.29**	**282**	*i* P	**P**	**03 19 36.0**	**+2.7**
CTA	**Charters Tower**	**20.88**	**251**	⇑*i*P	**P**	**03 19 39.9**	**+0.9**
	33nm,0.8s						
CTA	**Charters Tower**	**20.88**	**251**	P	**P**	**03 19 40.0**	**+1.0**
	46nm,0.8s,baz=78,slow=12,SNR=22						
CTAO	**Charters Tower**	**20.88**	**251**	*e*P	**P**	**03 19 39.8**	**+0.7**
	69nm,1.0s						
CTAO	**Charters Tower**	**20.88**	**251**	*e*P	**P**	**03 19 39.8**	**+0.8**
CTAO				pmax	pmax		
	comp=Z,69nm,1.0s						
RIV	**Riverview**	**24.29**	**214**	⇑*i*P	**P**	**03 20 13.2**	**+1.4**
URZ	**Urewera**	**25.36**	**162**	P	**P**	**03 20 21.0**	**-0.8**
	comp=Z,4.9nm,0.8s,mb4.2,baz=301,slow=12,SNR=2.8						
CNB	**Canberra Magne**	**26.38**	**214**	⇑*i*P	**P**	**03 20 31.8**	**+0.7**
	comp=Z,35nm,0.8s,mb5.0						
STKA	**Stephens Creek**	**29.25**	**229**	⇑*i*P	**P**	**03 20 57.5**	**+0.5**
	comp=Z,157nm,0.5s						
STKA	**Stephens Creek**	**29.25**	**229**	P	**P**	**03 20 57.4**	**+0.5**
	comp=Z,175nm,0.6s,baz=48,slow=8.1,SNR=551						
STKA				ScP		03 27 23.1	
	comp=Z,4.0nm,0.8s,baz=3.7,slow=5.0,SNR=4.1						
RPZ	**Rata Peaks**	**29.45**	**174**	P	**P**	**03 20 58.3**	**-0.3**
	comp=Z,18nm,0.8s,mb4.7,baz=228,slow=2.8,SN

TOO Toolangi 30.17 216⇑ *i*P P 03 21 05.3 +0.4
comp=Z,26nm,0.6s,mb5.0
TOO Toolangi 30.17 216⇑ *i*P P 03 21 05.3 +0.4
TOO pmax pmax
comp=Z,26nm,0.6s,mb5.0
WRAB Tennant Creek 31.92 255 *e*P P 03 21 18.4 -2.1
comp=Z,80nm,0.6s,mb5.4
WRAB Tennant Creek 31.92 255⇑ *i*P P 03 21 18.6 -1.8
WRA Warramunga Arr 31.93 255 P P 03 21 18.6 -1.9
comp=Z,57nm,0.6s,mb5.3,baz=86,slow=9.4,SNR=331
WRA ScP 03 27 32.6
comp=Z,3.7nm,1.0s,baz=84,slow=3.4,SNR=8.9
KAKA Kakadu 33.90 268⇑ *i*P P 03 21 51.1 +14
comp=Z,46nm,0.6s,mb5.2
FITZ Fitzroy Crossi 40.10 259⇑ *i*P P 03 22 28.8 -0.4
comp=Z,121nm,0.6s,mb5.5
MBWA Marble Bar 45.66 254 *e*P P 03 23 13.8 -0.2
comp=Z,64nm,0.8s,mb5.0
KLBR Kellerberrin 48.30 240⇑ *i*P P 03 23 33.1 -1.3
comp=Z,33nm,0.9s,mb4.7
NWAO Narrogin (SRO) 48.96 239 *e*P P 03 23 38.4 -0.9
comp=Z,60nm,0.9s,mb4.9
NWAO Narrogin (SRO) 48.96 239 *e*P P 03 23 38.4 -1.0
NWAO pmax pmax
comp=Z,60nm,0.9s
MUN Mundaring 49.66 240⇓ *i*P P 03 23 44.1 -0.7
MJAR Matsushiro Arr 57.57 332 P P 03 24 40.9 -1.5
comp=Z,9.0nm,0.9s,mb4.4,baz=165,slow=7.2,SNR=15
MAJO Matsushiro 57.57 332 *e*P P 03 24 41.3 -1.0
comp=Z,6.9nm,0.8s,mb4.3
MAJO Matsushiro 57.57 332 *e*P P 03 24 41.3 -1.1
MAJO pmax pmax
comp=Z,7.0nm,0.8s,mb4.3
MAT Matsushiro 57.57 332 P P 03 24 40.9 -1.5
MAT Matsushiro 57.57 332 *e*P P 03 24 41.0 -1.4
comp=Z,9.0nm,1.0s,mb4.3
MAT Matsushiro 57.57 332 *e*P P 03 24 41.0 -1.4
MAT pmax pmax
comp=Z,9.0nm,1.0s,mb4.3
VNDA Vanda 63.24 181 P P 03 25 19.5 -0.7
comp=Z,3.0nm,0.6s,mb4.1,baz=355,slow=6.0,SNR=33
SSE Sheshan 63.26 316 P P 03 25 20.5 -0.3
SSE AMB AMB
comp=Z,20nm,0.8s,mb4.8
SSE AMB AMB
comp=Z,43nm,4.5s
SSE Sheshan 63.26 316 P P 03 25 20.4 -0.4
comp=Z,20nm,0.8s,mb4.8
CASY Casey 63.89 202⇑ *i*P P 03 25 23.8 -0.6
YSS Yuzh-Sakhalins 64.87 342 *e*P P 03 25 30.8 -0.2
NJ2 Nanjing 65.41 316 *e*P P 03 25 35.3 +0.5
NJ2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.5
MDJ Mudanjiang 67.95 332 *e*P P 03 25 50.7 +0.2
comp=Z,11nm,0.8s,mb4.5
CN2 Changchun 69.33 329 *e*P P 03 26 02.3 +3.4
GYA Guiyang 71.51 305⇑ *i*P P 03 26 12.5 +0.1
GYA AP pP 03 26 58.3 -2.7
GYA XP sP 03 27 17.8 -4.8
GYA PP PP 03 28 55.5 +0.5
GYA S S 03 35 13.8 +0.8
GYA SKS SKS 03 35 53.0 +1.7
GYA AMB AMB
comp=Z,10.0nm,0.6s,mb4.6
KMI Kunming 74.12 302 P P 03 26 33.0 +5.2
KMI AMB AMB
comp=Z,12nm,0.7s,mb4.6
MA2 Magadan 74.87 351 *i*P P 03 26 30.8 -0.6
MA2 pmax pmax
comp=Z,15nm,0.9s,mb4.6
QSPA South Pole Qui 75.68 180 *e*P P 03 26 35.9 +0.3
comp=Z,12nm,0.7s,mb4.6
SEY Seymchan 77.90 353*c* *i*P P 03 26 48.4 +0.3
LZH Lanzhou 78.07 312 *e*P P 03 26 52.0 +2.4
LZH AP pP 03 27 35.3 -3.7
LZH XP sP 03 27 55.5 -5.0
LZH AMB AMB
comp=Z,25nm,1.0s,mb4.8
LZH AMB AMB
comp=Z,120nm,4.0s
LZH Lanzhou 78.07 312 *e*P P 03 26 51.9 +2.3
comp=Z,25nm,1.0s,mb4.8
LZH pP pP 03 27 35.2 -3.8
LZH sP sP 03 27 55.5 -5.0
LZH Lanzhou 78.07 312 *e*P P 03 26 51.9 +2.3
LZH pmax pmax
comp=Z,25nm,1.0s,mb4.8
YAK Yakutsk 81.67 343⇑ *e*P P 03 27 08.6 +0.4
YAK pmax pmax
comp=Z,31nm,0.6s,mb5.1
ULN Ulaanbaatar 81.84 324 *e*P P 03 27 10.3 +1.0
comp=Z,5.8nm,1.0s,mb4.2
ULN Ulaanbaatar 81.84 324⇑ *e*P P 03 27 10.6 +1.3
BILL Bilibino 82.16 360α *i*P P 03 27 10.9 +0.4
BILL SS SS 03 42 39.0 +4.4
BILL *e* 03 45 57.4
BILL pmax pmax
comp=Z,33nm,1.2s,mb4.8
SONM Songino Array 82.20 324 P P 03 27 12.5 +1.3
comp=Z,1.7nm,0.5s,mb3.9,baz=133,slow=5.3,SNR=22
SONM pP pP 03 28 00.6 -0.5
comp=Z,1.0nm,0.8s,baz=143,slow=5.4,SNR=4.3
MAW Mawson 82.24 202⇑ *i*P P 03 27 11.6 +0.6
comp=Z,14nm,0.7s,mb4.7
MAW Mawson 82.24 202 P P 03 27 11.6 +0.6
comp=Z,18nm,0.7s,mb4.8,baz=104,slow=6.1,SNR=60
GTA Gaotai 82.41 314 P P 03 27 14.5 +2.1
GTA AMB AMB
comp=Z,6.0nm,1.4s,mb4.0
KIPM Iron Peak 83.82 46 *e*P P 03 27 20.0 +0.3
DIV Divide 83.92 21 *e*P P 03 27 19.1 -0.5
comp=Z,18nm,0.8s,mb4.8
BOD Bodaibo 84.14 334 *e*P P 03 27 18.6 -2.2
MCK McKinley 84.78 18 *e*P P 03 27 23.4 -0.5
comp=Z,4.9nm,0.8s,mb4.3
MCK McKinley 84.78 18 *e*P P 03 27 23.4 -0.5
MCK pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
WDC Whiskeytown Da 84.79 46 *e*P P 03 27 24.2 -0.2
comp=Z,3.5nm,0.7s,mb4.2
WDC Whiskeytown Da 84.79 46 *e*P P 03 27 24.2 -0.3
WDC pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
YBH Yreka Blue Hor 85.14 45 P P 03 27 26.8 +0.7
comp=Z,4.7nm,0.8s,mb4.3,baz=64,slow=0.5,SNR=17
YBH pP pP 03 28 15.0 -1.3
comp=Z,2.7nm,0.9s,baz=241,slow=6.9,SNR=3.9
YBH Yreka Blue Hor 85.14 45 *e*P P 03 27 26.3 +0.1
comp=Z,5.4nm,0.9s,mb4.3
YBH *e*pP pP 03 28 14.4 -1.8
ZAK Zakamensk 85.25 325⇓ *i*P P 03 27 26.7 +0.2
ZAK pmax pmax
comp=Z,5.0nm,1.0s,mb4.2
ZAK pmax pmax
comp=Z,2.0nm,1.2s,mb3.7
ZAK pmax pmax
comp=Z,1.0nm,1.1s,mb3.5
HUMO Hull Mountain 85.32 44 *e*P P 03 27 27.2 +0.2
comp=Z,6.8nm,0.8s,mb4.4
HUMO *e*pP pP 03 28 14.9 -2.3
CMB Columbia Colle 85.34 49 *e*P P 03 27 26.9 -0.4
comp=Z,5.8nm,0.8s,mb4.4
CMB *e*pP pP 03 28 15.4 -2.0
CMB Columbia Colle 85.34 49 *e*P P 03 27 26.9 -0.3
CMB pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
BEKR Beckwourth 86.05 47 *e*P P 03 27 30.2 -0.5
comp=Z,3.0nm,1.0s,mb4.0
BEKR *e*pP pP 03 28 17.7 -3.2
ILAR Eielson Array 86.16 18 P P 03 27 29.3 -1.3
comp=Z,12nm,0.7s,mb4.8,baz=240,slow=5.1,SNR=108
MTUM Tungsten Hills 86.43 50 *e*P P 03 27 32.8 +0.2
MOD Modoc 86.86 45 *e*P P 03 27 34.5 0.0
comp=Z,2.3nm,0.8s,mb4.0
NVAR Mina Array Bea 87.01 49 P P 03 27 35.7 +0.4
comp=Z,2.2nm,0.8s,mb4.0,baz=229,slow=8.3,SNR=5.7
PGC Sidney 87.52 38 P P 03 27 37.3 -0.2
LDFC Landfair 88.29 53 *e*P P 03 27 42.0 +0.6
NEN Nelson 88.68 53 *e*P P 03 27 43.6 +0.4
HAWA Hanford 89.06 42 *e*P P 03 27 44.8 +0.1
comp=Z,0.4nm,0.7s
SYO Syowa Base 89.08 197 ‖P P 03 27 43.0 -1.3
SYO Syowa Base 89.08 197 ‖PcP PcP 03 27 44.3 -1.6
BMO Blue Mountains 89.96 44 *e*P P 03 27 48.9 -0.1
comp=Z,4.2nm,0.9s,mb4.3
ARUT Antelope Range 90.42 51 *e*P P 03 27 51.6 +0.3
NEW Newport 91.26 40 *e*P P 03 27 54.2 -0.7
comp=Z,4.1nm,0.9s,mb4.4
NEW Newport 91.26 40 *e*P P 03 27 54.2 -0.8
NEW pmax pmax
comp=Z,4.0nm,0.9s
MSU Marysvale 91.58 51 *e*P P 03 27 57.6 +0.8
MSU *e*pP pP 03 28 45.8 -1.6
WMQ Urumqi 92.47 315 *e*P P 03 28 01.0 +0.3
WMQ AP pP 03 28 50.0 -1.4
WMQ AMB AMB
comp=Z,11nm,1.0s,mb4.7
PV10 Paradox Valley 93.92 52 *e*P P 03 28 07.5 +0.1
SNAA Sanae 93.93 183 *e* P 03 28 09.0 +2.3
SNAA Sanae 93.93 183 *e* pP 03 28 54.8 -2.6
SNAA Sanae 93.93 183⇑ *i*P P 03 28 06.2 -0.5
SNAA *e* 03 28 09.0
SNAA *e* pP 03 28 54.8 -2.6
SNAA *e* 03 29 17.7
VNA3 Neumayer Olymp 94.60 181 *e* P 03 28 11.6 +1.8
VNA3 Neumayer Olymp 94.60 181 *e* pP 03 28 57.8 -2.6
VNA3 Neumayer Olymp 94.60 181⇑ *i*P P 03 28 09.3 -0.5
VNA3 *e* 03 28 11.6
VNA3 *e* pP 03 28 57.8 -2.6
VNA3 *e* 03 29 19.3
PDAR Pinedale Array 94.68 47 P P 03 28 09.6 -1.2
comp=Z,0.3nm,0.5s,mb3.7,baz=243,slow=6.6,SNR=3.6
VNA2 Neumayer--Watz 94.86 182⇑ *i*P P 03 28 10.9 -0.1
VNA2 *e* pP 03 28 58.8 -2.9
VNA2 *e* 03 29 20.8
VNA1 Neumayer--Stat 95.16 181 *e* P 03 28 14.7 +2.3
VNA1 Neumayer--Stat 95.16 181 *e* pP 03 29 01.2 -1.9
VNA1 Neumayer--Stat 95.16 181⇑ *i*P P 03 28 12.3 -0.1
VNA1 *e* 03 28 14.7
VNA1 *e* pP 03 29 01.2 -1.9
VNA1 *e* 03 29 22.1
TXAR Lajitas Array 96.08 61 P P 03 28 17.8 +0.3
comp=Z,0.6nm,0.8s,mb3.9,baz=223,slow=5.6,SNR=7.9
TXAR Lajitas Array 96.08 61 P P 03 28 17.8 +0.3
MKAR Makanchi Array 96.94 316 P P 03 28 22.0 +1.0
comp=Z,2.0nm,0.6s,mb4.5,baz=91,slow=6.0,SNR=12
MKAR Makanchi Array 96.94 316 P P 03 28 22.0 +1.0
MKAR Makanchi Array 96.94 316 P P 03 28 22.1 +1.1
ZAL Zalesovo 97.10 324 P P 03 28 21.9 +0.3
comp=Z,1.5nm,0.6s,mb4.4,baz=348,slow=7.4,SNR=8.2
ARCES ARCESS Array B 119.89 345 PKP PKPdf 03 33 38.4 +1.2
comp=Z,2.8nm,0.5s,baz=84,slow=1.7,SNR=15
ARCES ARCESS Array B 119.89 345 PKP PKPdf 03 33 38.4 +1.2
JOF Joensuu 122.54 338 *e*pkp PKPdf 03 33 43.8 +1.3
BOSA Boshof 123.67 221 PKP PKPdf 03 33 46.7 +1.1
comp=Z,4.4nm,1.0s,baz=72,slow=9.6,SNR=3.0
KAF Kangasniemi 124.84 339 *e*pkp PKPdf 03 33 44.0 -3.0
FINES FINESS Array B 125.37 338 PKP PKPdf 03 33 49.6 +1.6
comp=Z,2.2nm,0.9s,baz=120,slow=4.2,SNR=6.8
SOC Sochi 126.77 314 *e*PKIKP PKPdf 03 33 49.3 -1.9
SOC pmax pmax
comp=Z,13nm,1.1s
NB2 NORSAR Subarra 130.26 345 PKPdf PKPdf 03 33 58.5 +1.1
comp=Z,0.6nm,0.7s,baz=31,slow=1.9
NOA NORSAR Array B 130.26 345 PKP PKPdf 03 33 58.6 +1.2
comp=Z,1.1nm,0.7s,baz=29,slow=1.9,SNR=4.2
NOA SKPbc 03 37 05.9
comp=Z,6.4nm,0.7s,baz=32,slow=3.0,SNR=17
AKASG Malin Array Be 130.43 326 PKP PKPdf 03 33 59.4 +1.4
comp=Z,1.1nm,0.6s,baz=48,slow=2.3,SNR=4.0
AKASG SKPbc 03 37 05.0
comp=Z,3.1nm,0.6s,baz=44,slow=4.5,SNR=15
AKASG Malin Array Be 130.43 326 PKP PKPdf 03 33 59.4 +1.4
AKASG SKPbc 03 37 05.0
ASF Jabal al Asfar 131.53 300 SKPbc 03 37 12.6
comp=Z,1.5nm,0.3s,baz=278,slow=5.2,SNR=6.9
BRTR Keskin Array B 132.27 311 PKP PKPdf 03 34 02.9 +1.1
comp=Z,1.0nm,0.5s,baz=131,slow=4.1,SNR=6.1
BRTR SKPbc 03 37 13.7
comp=Z,1.4nm,0.8s,baz=90,slow=4.9,SNR=8.0
BDFB Brasilia 134.12 129 SKPbc 03 37 19.7
comp=Z,3.6nm,0.8s,baz=251,slow=4.6,SNR=4.8
DPC Dobruska-Polom 137.05 333 *e*SKP 03 37 29.6
UPC Upice 137.07 333 *e*SKP 03 37 29.8
PVCC Panska Ves 137.67 334 *e*SKP 03 37 31.1
CLL Collm 137.71 336 *e*PKIKP PKPdf 03 34 15.0 +3.5
CLL *i* 03 37 31.2
PRU Pruhonice 138.09 334 *e*SKP 03 37 32.5
NKC Novy Kostel 138.77 336 *e*SKP 03 37 34.7
KHC Kasperske Hory 139.15 334 *e*PKPdf PKPdf 03 34 18.5 +4.3
KHC *e*SKP 03 37 35.5
GERES GERESS Array B 139.31 333 PKhKP 03 34 10.6
comp=Z,0.2nm,0.5s,baz=45,slow=6.9,SNR=2.8
GERES PKP PKPdf 03 34 16.4 +1.9
comp=Z,0.9nm,0.7s,baz=90,slow=1.3,SNR=9.2
GERES SKPbc 03 37 35.5
comp=Z,3.6nm,0.8s,baz=45,slow=1.9,SNR=24
CDF Champ du Feu 142.23 338 *e*PKP1 PKPdf 03 34 16.4 -3.2
comp=Z,6.3nm,0.8s
HAU Haudompre 142.90 339 *e*PKP1 PKPdf 03 34 18.7 -2.0
comp=Z,7.7nm,0.8s
HAU *e*R
comp=Z,84nm,22.5s
CII Carovilli 144.06 325 *e*PKP PKPdf 03 34 24.2 +1.2
AQU L'Aquila 144.13 326 *e*PKP PKPdf 03 34 24.0 +0.9
TIP Timpagrande 144.17 319 *e*PKP PKPdf 03 34 23.9 +0.6
CABF La Chapelle 144.18 338 *e*PKP1 PKPbc 03 34 24.0 +1.4
FLN La Foliniere 144.23 346 *e*PKP1 PKPbc 03 34 22.7 0.0
comp=Z,16nm,0.8s
FLN *e*R
comp=Z,85nm,20.8s
GRAM 144.24 332 P PKPbc 03 34 23.7 +0.8
ORX Oropa 144.25 335 P PKPbc 03 34 23.2 +0.4
VALM 144.27 331 P PKPbc 03 34 24.1 +1.2
LDF La Druitiere 144.30 346 *e*PKP1 PKPbc 03 34 23.9 +1.0
comp=Z,17nm,0.8s
SARO Sassorosso 144.32 331 P PKPbc 03 34 23.9 +0.7
LOR Lormes 144.38 341 *e*PKP1 PKPbc 03 34 24.2 +1.0
comp=Z,32nm,1.1s
LOR *e*R
comp=Z,78nm,18.5s
CODM 144.42 332 P PKPbc 03 34 24.3 +0.9
VINC Vinca 144.47 331 P PKPbc 03 34 23.9 +0.3
MAIM 144.48 331 P PKPbc 03 34 23.5 -0.1
GRR Gorron 144.67 346 *e*PKP1 PKPbc 03 34 24.7 +0.8
comp=Z,61nm,0.7s
SSF Saint Saulge 144.68 341 *e*PKP1 PKPbc 03 34 25.2 +1.2
comp=Z,68nm,0.8s
LSD Ceresole Reale 144.73 336 P PKPdf 03 34 26.2 +2.2
HYF Humbligny 144.76 342 *e*PKP1 PKPbc 03 34 25.7 +1.5
LPL La Plagne 144.85 336 *e*PKP1 PKPbc 03 34 26.4 +1.9
comp=Z,32nm,0.6s
LPG La Plagne 144.86 336 *e*PKP1 PKPbc 03 34 26.6 +2.0
comp=Z,48nm,0.7s
PCP Pian Castagno 144.89 333 P PKPdf 03 34 25.2 +0.9
SMF Signal de Mont 144.94 340 *e*PKP1 PKPbc 03 34 25.9 +1.2
comp=Z,60nm,0.9s
RSP Reno Superiore 144.94 335 P PKPdf 03 34 25.4 +1.0
AVF Avril sur Loir 144.97 341 *e*PKP1 PKPbc 03 34 25.8 +1.0
comp=Z,52nm,0.8s
FENE Fenestrelle 145.12 335 P PKPdf 03 34 26.5 +1.8
SGMF Saint Gilles 145.16 348 *e*PKP1 PKPbc 03 34 26.3 +1.0
comp=Z,111nm,0.9s
BHB Bricherasio 145.19 335 P PKPdf 03 34 25.8 +0.9
ROSF Rostrenen 145.22 349 *e*PKP1 PKPbc 03 34 26.5 +1.1
comp=Z,83nm,1.0s
BNI Bardonecchia 145.26 336 *e*PKP PKPdf 03 34 27.5 +2.6
FIN Finale Ligure 145.30 333 P PKPdf 03 34 26.3 +1.2
RRL Cesana Torines 145.32 335 P PKPdf 03 34 27.5 +2.4
BGF Bois d'Agland 145.34 341 *e*PKP1 PKPbc 03 34 27.2 +1.4
comp=Z,56nm,0.9s
ROB Roburent 145.38 334 P PKPdf 03 34 26.6 +1.4
MBDF Montbardon 145.49 335 *e*PKP1 PKPbc 03 34 27.8 +1.6
comp=Z,31nm,0.8s
PZZ Prazzo 145.53 335 P PKPdf 03 34 26.8 +1.4
QUIF Quistinic 145.60 349 *e*PKP1 PKPbc 03 34 26.7 +0.3
IMI Imperia 145.68 333 P PKPdf 03 34 27.6 +1.9
ORIF Oris-en-Rattie 145.68 336 *e*PKP1 PKPbc 03 34 28.8 +2.1
comp=Z,57nm,0.7s
ORIF *e*R
comp=Z,102nm,22.5s
TCF Toulx Ste Croi 145.77 341 *e*PKP1 PKPbc 03 34 28.5 +1.6
comp=Z,24nm,0.7s
SBF Sospel 145.91 334 *e*PKP1 PKPbc 03 34 28.6 +1.3
comp=Z,53nm,0.7s
MFF Saint Martin d 146.16 344 *e*PKP1 PKPbc 03 34 29.5 +1.7
comp=Z,66nm,0.7s
VIVF Saint-Julien-l 146.19 338 *e*PKP1 PKPbc 03 34 30.1 +2.2
comp=Z,30nm,1.0s
PGF Pioggiola 146.23 331 *e*PKP1 PKPbc 03 34 29.7 +1.6
comp=Z,53nm,0.9s
FRF La Foret Royal 146.49 334 *e*PKP1 PKPbc 03 34 30.7 +2.0
comp=Z,60nm,0.8s
SMRF Simiane la Rot 146.59 336 *e*PKP1 PKPbc 03 34 31.2 +2.3
comp=Z,28nm,0.7s
LMR La Mourre 146.73 334 *e*PKP1 PKPbc 03 34 31.5 +2.3
comp=Z,34nm,0.7s
RJF Les Rejaudoux 146.87 341 *e*PKP1 PKPbc 03 34 31.8 +2.3
comp=Z,25nm,0.8s
RJF *e*R
comp=Z,117nm,21.2s
CAF Calviac 147.04 341 *e*PKP1 PKPdf 03 34 32.5 +4.6
comp=Z,20nm,0.9s
LASF Ste Croix 147.16 338 *e*PKP1 PKPdf 03 34 32.9 +4.7
comp=Z,29nm,0.8s
LFF La Frestale 147.44 342 *e*PKP1 PKPdf 03 34 33.3 +4.7
comp=Z,34nm,0.7s
MTLF Montolieu 148.39 339 *e*PKP1 PKPdf 03 34 36.1 +5.9
comp=Z,36nm,0.7s
EPF Esparros 149.29 341 *e*PKP1 PKPdf 03 34 38.5 +6.9
comp=Z,12nm,0.8s
EALK Alkurruntz 149.66 344 PKP PKPdf 03 34 39.8 +7.6
EBIE Bielsa 149.66 341 PKP PKPdf 03 34 40.5 +8.2
SJPF Ste Jean 149.68 343 *e*PKP1 PKPdf 03 34 39.8 +7.5
ETSF Etsaut 149.68 342 *e*PKP1 PKPdf 03 34 40.0 +7.7
comp=Z,18nm,0.7s
EGRA Graus 150.05 340 PKP PKPdf 03 34 41.4 +8.5
ELAN Lanestosa 150.13 346 PKP PKPdf 03 34 41.0 +8.1
EPOB Poblet 150.54 339 PKP PKPdf 03 34 42.0 +8.4
EPON Pontenova 150.73 352 PKP PKPdf 03 34 42.4 +8.5
ESAC San Caprasio 150.73 341 PKP PKPdf 03 34 42.8 +8.8
ERTA Horta de San J 151.15 339 PKP PKPdf 03 34 43.2 +8.7
ETOS Mallorca 151.24 335 PKP PKPdf 03 34 44.4 +10
STS Santiago 151.33 354 PKP PKPdf 03 34 43.5 +8.8
EMOS Mosqueruela 151.95 340 PKP PKPdf 03 34 46.1 +10
ECAL Calabor 152.02 350 PKP PKPdf 03 34 45.0 +9.2
EIBI Ibiza 152.47 336 PKP PKPdf 03 34 45.2 +8.6
ECHE Chera 152.81 340 PKP PKPdf 03 34 47.5 +11
EBEN Beniarda 153.34 338 PKP PKPdf 03 34 45.9 +8.2
ESDC Sonseca Array 153.62 345 PKPbc PKPdf 03 34 48.5 +10
comp=Z,0.4nm,0.5s,baz=0.8,slow=5.0,SNR=5.3
ESDC PKPab PKPab 03 35 02.0 0.0
comp=Z,3.9nm,0.8s,baz=13,slow=3.8,SNR=14
ESDC Sonseca Array 153.62 345 PKP PKPdf 03 34 46.7 +8.6
EGRO El Granado 156.44 350 PKP PKPdf 03 34 50.8 +8.8

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*IDC **27** 03:28:17.8±1.0,24.26S×111.74W,mb4.1/8,mb1 4.4/8, mb1mx4.1/17,mbtmp4.1/8,MS4.1/12,Ms1 4.0/12, ms1mx3.8/21,Error ellipse: s-maj=35.0km s-min=26.0km az=66.0*

*NEIC **27** 03:28:18.3±0.3,24.45S×111.65W,h10km,mb4.8/22, MS3.9/3,Error ellipse: s-maj=13.8km s-min=6.5km az=71.0*

*BJI **27** 03:28:18.2,24.50S×111.70W,h10km,mB5.1,Msz4.5*

ISC 27 03:28:17.0±0.5,24.32S±0.08×111.7W±0.1,h10km, (h16km±.2km:pP-P),n97,σ0976/69,mb4.5/30,MS4.0/16, 7C-1D,Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**3.50**	**144**	Pn	**Pn**	**03 29 10.7**	**-2.0**
	6.4nm,0.3s,baz=322,slow=16,SNR=18						
RPN				LR	LR	03 30 19.1	
	comp=Z,2μm,18.4s,baz=11,slow=34						
RPN	**Rapa Nui**	**3.50**	**144**	P	**Pn**	**03 29 08.1**	**-4.5**
PPT	**Papeete**	**35.95**	**273**	LR	LR	03 46 33.8	
	comp=Z,181nm,20.5s,MS3.8,baz=142,slow=30						
PLCA	**Paso Flores**	**37.96**	**126**	LR	LR	03 48 00.0	
	comp=Z,330nm,18.6s,MS4.2,baz=237,slow=31						
CFAA	**Coronel Fontan**	**38.84**	**111**	LR	LR	03 46 28.4	
	comp=Z,5.8nm,20.4s,MS2.4,baz=260,slow=28						
LPAZ	**La Paz**	**41.47**	**87**	P	**P**	**03 36 08.5**	**+2.6**
	0.8nm,0.9s,mb3.3,baz=275,slow=12,SNR=5.6						
LPAZ				LR	LR	03 49 15.0	
	comp=Z,202nm,18.4s,MS4.0,baz=299,slow=30						
LPAZ	**La Paz**	**41.47**	**87**	P	**P**	**03 36 08.5**	**+2.6**
LPAZ				LR	LR	03 49 15.0	
ROSC	**El Rosal**	**46.50**	**56**	LR	LR	03 53 04.4	
	comp=Z,334nm,18.2s,MS4.3,baz=172,slow=32						
SIV	**San Ignacio**	**48.00**	**90**	P	**P**	**03 36 58.8**	**+0.4**
	0.5nm,0.4s,mb3.9,baz=264,slow=9.2,SNR=4.7						
SAML	**Samuel**	**48.65**	**80**	*e*P	**P**	**03 37 03.0**	**-0.4**
	6.6nm,1.3s,mb4.5						
CPUP	**Villa Florida**	**48.86**	**104**	LR	LR	03 53 36.0	
	comp=Z,220nm,18.9s,MS4.2,baz=284,slow=31						
SDV	**Santo Domingo**	**51.89**	**56**	P	**P**	**03 37 28.3**	**+0.1**
TXAR	**Lajitas Array**	**53.89**	**9**	P	**P**	**03 37 43.4**	**+0.5**
	0.4nm,0.7s,mb3.5,baz=190,slow=7.6,SNR=6.7						
TXAR				PcP	PcP	03 38 49.5	+1.1
	1.5nm,1.2s,baz=239,slow=5.3,SNR=3.6						
TXAR	**Lajitas Array**	**53.89**	**9**	P	**P**	**03 37 43.4**	**+0.5**
TXAR				PcP	PcP	03 38 49.5	+1.1
ANMO	**Albuquerque**	**59.15**	**5**	*e*P	**P**	**03 38 20.1**	**-0.3**
	3.2nm,1.3s,mb4.2						
LDFC	**Landfair**	**59.16**	**357**	*e*P	**P**	**03 38 21.3**	**+0.8**
NEN	**Nelson**	**59.72**	**357**	*e*P	**P**	**03 38 24.4**	**+0.2**
BDFB	**Brasilia**	**60.02**	**95**	LR	LR	04 00 34.0	
	comp=Z,300nm,21.1s,MS4.4,baz=266,slow=32						
SDCO	**Great Sand Dun**	**62.00**	**6**	*e*P	**P**	**03 38 39.6**	**-0.2**
	7.6nm,1.2s,mb4.7						
SDCO				LR	LR		
	comp=Z,94nm,21.0s,MS3.9						
PV01	**Paradox Valley**	**62.19**	**3**	*e*P	**P**	**03 38 41.5**	**+0.5**
TPH	**Tonopah**	**62.28**	**355**	*e*P	**P**	**03 38 42.4**	**+0.8**
	comp=Z,17nm,1.1s,mb5.1						
MSU	**Marysvale**	**62.50**	**360**	*e*P	**P**	**03 38 44.1**	**+1.0**
CMB	**Columbia Colle**	**62.56**	**352**	*e*P	**P**	**03 38 43.6**	**+0.1**
	comp=Z,8.2nm,1.2s,mb4.7						
CMB				LR	LR		
	comp=Z,105nm,20.0s,MS4.0						
NVAR	**Mina Array Bea**	**62.73**	**354**	P	**P**	**03 38 45.3**	**+0.8**
	comp=Z,14nm,1.1s,mb5.0,baz=185,slow=10.0,SNR=40						
PLAL	**Pickwick Lake**	**63.08**	**22**	*e*P	**P**	**03 38 45.5**	**-1.4**
	comp=Z,12nm,1.4s,mb4.8						
SRU	**San Rafael**	**63.10**	**1**	*e*P	**P**	**03 38 47.1**	**+0.1**
NLU	**North Lily Min**	**63.94**	**360**	*e*P	**P**	**03 38 52.8**	**+0.2**
OHCM	**Honcut**	**63.98**	**352**	*e*P	**P**	**03 38 52.5**	**-0.4**
MPU	**Maple Canyon**	**64.00**	**0**	*e*P	**P**	**03 38 52.5**	**-0.5**
ISCO	**Idaho Springs**	**64.03**	**5**	P	**P**	**03 38 53.9**	**+0.7**
	comp=Z,2.6nm,0.4s,mb4.6						
DAU	**Daniels Canyon**	**64.40**	**0**	*e*P	**P**	**03 38 56.1**	**+0.6**
JLU	**Jordanelle**	**64.58**	**0**	*e*P	**P**	**03 38 56.7**	**-0.1**
BMN	**Battle Mountai**	**64.62**	**355**	*e*P	**P**	**03 38 57.7**	**+0.7**
	comp=Z,9.7nm,1.2s,mb4.7						
CTU	**Camp Tracy**	**64.67**	**360**	*e*P	**P**	**03 38 57.5**	**+0.1**
BGU	**Big Grassy Mou**	**64.92**	**359**	*e*P	**P**	**03 38 59.3**	**+0.3**
CCM	**Cathedral Cave**	**64.94**	**18**	*e*P	**P**	**03 38 57.5**	**-1.6**
	comp=Z,7.0nm,1.0s,mb4.7						
TCUT	**Toone Canyon**	**65.10**	**0**	*e*P	**P**	**03 39 00.2**	**+0.1**
SPUT	**South Promonto**	**65.29**	**359**	*e*P	**P**	**03 39 01.4**	**+0.1**
HWUT	**Hardware Ranch**	**65.59**	**0**	*e*P	**P**	**03 39 01.6**	**-1.6**
	comp=Z,9.2nm,1.4s,mb4.6						
VNDA	**Vanda**	**65.68**	**194**	P	**P**	**03 39 03.7**	**+0.5**
	comp=Z,0.3nm,0.7s,mb3.4,baz=83,slow=9.2,SNR=2.0						
VNDA				LR	LR	04 02 20.3	
	comp=Z,86nm,21.8s,MS3.9,baz=114,slow=31						
VNDA	**Vanda**	**65.68**	**194**	P	**P**	**03 39 01.2**	**-2.0**
KHMM	**Horse Mountain**	**65.82**	**350**	*e*P	**P**	**03 39 06.2**	**+1.5**
MOD	**Modoc**	**66.37**	**353**	*e*P	**P**	**03 39 08.6**	**+0.4**
	comp=Z,16nm,1.1s,mb5.0						
BW06	**Boulder Array**	**66.78**	**2**	*e*P	**P**	**03 39 09.7**	**-1.1**
	comp=Z,12nm,1.3s,mb4.8						
PDAR	**Pinedale Array**	**66.78**	**2**	P	**P**	**03 39 10.2**	**-0.6**
	comp=Z,2.0nm,0.6s,mb4.3,baz=177,slow=5.5,SNR=22						
RRI2	**Red Ridge**	**67.33**	**0**	*e*P	**P**	**03 39 14.3**	**+0.1**
	comp=Z,27nm,1.4s,mb5.1						
HUMO	**Hull Mountain**	**67.40**	**351**	*e*P	**P**	**03 39 15.2**	**+0.5**
	comp=Z,7.1nm,1.2s,mb4.6						
TPAW	**Teton Pass**	**67.47**	**1**	*e*P	**P**	**03 39 14.5**	**-0.7**
	comp=Z,17nm,1.3s,mb4.9						
LOHW	**Long Hollow**	**67.60**	**1**	*e*P	**P**	**03 39 15.2**	**-0.8**
	comp=Z,14nm,1.3s,mb4.8						
IMW	**Indian Meadow**	**67.88**	**1**	*e*P	**P**	**03 39 17.6**	**-0.2**
	comp=Z,22nm,1.3s,mb5.0						
FLWY	**Flagg Ranch**	**68.07**	**1**	*e*P	**P**	**03 39 18.4**	**-0.5**
QLMT	**Earthquake Lak**

LAO	LASA Array	70.84	4	eP	P	03 39 36.0	+0.1
	comp=Z,7.8nm,1.0s,mb4.6						
CHMT	Chamberlain Mo	70.91	359	eP	P	03 39 35.6	-0.6
VNA3	Neumayer Olymp	70.97	160	e	P	03 39 42.1	+5.9
VNA3	Neumayer Olymp	70.97	160	⇑iP	P	03 39 37.3	+1.1
VNA3				e	pP	03 39 42.1	+2.7
VNA1	Neumayer--Stat	71.61	160	e	P	03 39 46.3	+6.2
VNA1	Neumayer--Stat	71.61	160	⇑iP	P	03 39 41.4	+1.3
VNA1				e	pP	03 39 46.3	+3.1
VNA2	Neumayer--Watz	71.77	160	e	P	03 39 45.7	+4.6
VNA2	Neumayer--Watz	71.77	160	⇑iP	P	03 39 40.9	-0.2
VNA2				e	pP	03 39 45.7	+1.5
NEW	Newport	72.41	356	eP	P	03 39 44.5	-0.8
	comp=Z,13nm,1.1s,mb4.8						
NEW				LR	LR		
	comp=Z,53nm,21.0s,MS3.8						
SNAA	Sanae	72.83	162	⇑i	P	03 39 48.0	+0.8
SNAA	Sanae	72.83	162	e	P	03 39 52.3	+5.1
SNAA	Sanae	72.83	162	eP	P	03 39 47.2	0.0
SNAA				⇑iP		03 39 48.0	
SNAA				e	pP	03 39 52.3	+2.0
ULM	Lac du Bonnet	75.55	10	P	P	03 40 02.4	-0.9
	comp=Z,3.1nm,0.9s,mb4.2,baz=205,slow=8.7,SNR=4.9						
EDM	Edmonton	77.22	359	eP	P	03 40 12.2	-0.5
DLBC	Dease Lake	83.85	350	LR	LR	04 11 45.7	
	comp=Z,48nm,20.2s,MS3.9,baz=238,slow=31						
DLBC	Dease Lake	83.85	350	eP	P	03 40 48.6	+0.9
CASY	Casey	84.20	196	eP	P	03 40 49.1	-0.2
SYO	Syowa Base	84.62	170	⇓pP	pP	03 40 51.5	-3.1
SYO	Syowa Base	84.62	170	⇑PcP	PcP	03 40 53.5	-1.9
YKA	Yellowknife Ar	86.54	359	P	P	03 41 01.9	+0.8
	comp=Z,3.6nm,0.9s,mb4.6,baz=163,slow=5.0,SNR=7.4						
YKA	Yellowknife Ar	86.54	359	P	P	03 41 01.9	+0.8
SCHQ	Schefferville	87.69	24	LR	LR	04 15 05.8	
	comp=Z,58nm,19.8s,MS4.0,baz=107,slow=32						
MAW	Mawson	88.27	178	LR	LR	04 16 12.7	
	comp=Z,86nm,21.1s,MS4.1,baz=218,slow=32						
STKA	Stephens Creek	90.48	235	LR	LR	04 16 38.3	
	comp=Z,129nm,20.6s,MS4.3,baz=154,slow=32						
CN2	Changchun	129.87	308	ePKP	PKPdf	03 47 30.5	+0.4
NJ2	Nanjing	135.14	292	ePKP	PKPdf	03 47 34.5	-5.8
AKASG	Malin Array Be	140.01	39	PKP	PKPdf	03 47 47.5	-1.2
SONM	Songino Array	141.86	318	PKhKP		03 47 47.4	
	comp=Z,1.1nm,0.9s,baz=131,slow=2.6,SNR=8.4						
SONM				PKP	PKPdf	03 47 51.9	-0.1
	comp=Z,2.9nm,1.0s,baz=90,slow=1.4,SNR=14						
GYA	Guiyang	145.39	282	⇑iPKP	PKPdf	03 47 58.0	-0.7
GYA				PP	PP	03 51 21.0	+1.6
GYA				PKS	PKS	03 51 31.3	+1.3
GYA				SKS	SKS	03 55 05.5	-1.6
GYA				SKKS		03 58 09.5	
GYA				SS	SS	04 10 09.5	+1.4
GYA				PP	PP		
	comp=Z,100nm,6.7s						
BR131	Keskin Array S	147.05	54	ePKPbc	PKPdf	03 48 02.7	+1.6
BRTR	Keskin Array B	147.05	54	PKPbc	PKPdf	03 48 02.5	+1.3
	comp=Z,2.6nm,0.8s,baz=245,slow=2.4,SNR=16						
LZH	Lanzhou	147.31	299	PKP	PKPdf	03 48 03.5	+1.8
ZAL	Zalesovo	147.95	342	PKPbc	PKPdf	03 48 04.2	+2.1
	comp=Z,2.7nm,0.6s,baz=101,slow=3.9,SNR=13						
ZAL	Zalesovo	147.95	342	PKPbc	PKPdf	03 48 04.2	+2.1
KMI	Kunming	148.78	279	PKP	PKPdf	03 48 04.0	-0.4
KMI				LR	LR		
	comp=Z,54nm,27.8s,MS4.2						
MALT	Malatya	151.04	54	ePKPbc	PKPdf	03 48 11.8	+4.3
BRVK	Borovoye	151.26	358	ePKPdf	PKPdf	03 48 06.2	-1.2
BRVK				ePKPbc	PKPdf	03 48 12.8	+5.5
KURK	Kurchatov	152.47	346	ePKPdf	PKPdf	03 48 08.1	-1.1
KURK				ePKPbc	PKPdf	03 48 14.9	+5.7
WMQ	Urumqi	154.90	326	ePKP	PKPdf	03 48 13.0	+0.3
MKAR	Makanchi Array	154.94	337	PKPbc	PKPdf	03 48 20.6	+7.9
	comp=Z,1.8nm,0.8s,baz=27,slow=2.7,SNR=8.2						

*MOS **27** 03:59:30.5±1.0, 47.77N×153.79E, h42km, mb4.7/9, Error ellipse: s-maj=14.8km s-min=8.3km az=89.0*
*NEIC **27** 03:59:33.3±1.6, 47.66N×153.73E, h58km±12km, mb4.5/17, Error ellipse: s-maj=10.9km s-min=5.3km az=179.0*
*IDC **27** 03:59:37.7±3.6, 47.82N×153.70E, h94km±33km, mb3.7/18, mb1 3.9/19, mb1mx3.8/24, mbtmp4.1/19, MS3.4/5, Ms1 3.4/5, ms1mx3.1/29, Error ellipse: s-maj=19.8km s-min=12.5km az=172.0*

ISC 27 03:59:30.5±1.1, 47.81N±0.07×153.84E±0.07, h41km±9km, n90, σ0°96/86, mb4.3/39, MS3.4/4, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	3.24	27	ePN	P	04 00 19.5	-0.7
SKR				eS	S	04 00 56.5	-1.5
SKR				pmax	pmax		
	comp=N,80nm,0.5s						
SKR				pmax	pmax		
	comp=E,80nm,0.5s						
SKR				pmax	pmax		
	comp=Z,160nm,0.5s						
SKR				smax			
	comp=N,500nm,0.5s						
SKR				smax			
	comp=E,390nm,0.5s						
SKR				smax			
	comp=Z,150nm,0.5s						
KUR	Kuril'sk	4.86	240	ePN	P	04 00 44.0	+0.9
KUR				eS	S	04 01 39.5	+0.7
KUR				pmax	pmax		
	comp=E,50nm,0.5s						
KUR				pmax	pmax		
	comp=Z,150nm,0.5s						
KUR				smax			
	comp=N,2μm,2.0s						
KUR				smax			
	comp=N,170nm,0.6s						
KUR				smax			
	comp=E,150nm,0.6s						
PET	Petropavlovsk	6.06	29	ePN	P	04 01 08.6	+8.7
PET				MLR	MLR		
	comp=Z,100nm,11.0s						
YSS	Yuzh-Sakhalins	7.57	268	⇑iPN	P	04 01 26.0	+5.0
YSS				S	S	04 02 47.0	+0.5
YSS				smax			
	comp=N,70nm,0.8s						
ASAJ	Asahikawa	8.66	249	P	P	04 01 38.9	+2.9
	comp=N,0.8nm,0.3s,baz=79,slow=10,SNR=11						
ASAJ				LR	LR	04 04 34.4	
	comp=N,157nm,21.6s,baz=6.9,slow=35						
ASAJ	Asahikawa	8.66	249	PN	P	04 01 38.9	+2.9
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,157nm,21.6s						
MA2	Magadan	11.93	352	eP	P	04 02 22.2	+1.6
	comp=Z,8.2nm,0.4s						
MA2	Magadan	11.93	352	ePN	P	04 02 22.2	+1.6
MA2				pmax	pmax		
	comp=Z,8.0nm,0.4s						
MJAR	Matsushiro Arr	16.12	231	P	P	04 03 13.9	-1.5
	comp=Z,0.4nm,0.3s,baz=30,slow=13,SNR=4.0						
GSTR	Great Sitkin T	19.76	66	P	P	04 04 06.2	+6.7
BILL	Bilibino	21.25	13	P	P	04 04 12.0	-2.9
KS15	Wonju Array Si	21.63	251	eP	P	04 04 15.0	-3.8
JNU	Nakatsue	22.69	238	LR	LR	04 14 52.5	
	comp=Z,88nm,19.0s,MS3.2,baz=36,slow=40						
SONM	Songino Array	31.46	288	P	P	04 05 49.5	-0.6
	comp=Z,0.4nm,0.6s,mb3.5,baz=65,slow=8.6,SNR=3.8						
SONM				LR	LR	04 19 40.8	
	comp=Z,63nm,19.3s,MS3.3,baz=102,slow=38						
ILAR	Eielson Array	35.42	39	P	P	04 06 23.5	-0.6
	comp=Z,0.4nm,0.4s,mb3.7,baz=260,slow=9.1,SNR=12						
INK	Inuvik	40.50	33	P	P	04 07 06.5	0.0
	comp=Z,2.5nm,0.7s,mb4.0,baz=259,slow=5.2,SNR=3.3						
ZAL	Zalesovo	42.42	305	P	P	04 07 23.4	+1.1
	comp=Z,1.7nm,0.5s,mb3.9,baz=75,slow=7.4,SNR=5.7						
DLBC	Dease Lake	44.51	47	P	P	04 07 41.0	+1.8
	comp=Z,2.8nm,0.7s,mb4.2,baz=284,slow=5.2,SNR=6.8						
DLBC	Dease Lake	44.51	47	P	P	04 07 41.0	+1.8
MKAR	Makanchi Array	46.90	297	P	P	04 07 57.5	-0.8
	comp=Z,2.3nm,0.8s,mb4.2,baz=64,slow=8.1,SNR=14						
MKAR				LR	LR	04 28 28.1	
	comp=Z,26nm,20.1s,MS3.2,baz=180,slow=37						
KURK	Kurchatov	47.20	303	eP	P	04 07 59.6	-1.0
	comp=Z,6.1nm,0.7s,mb4.6						
KURK	Kurchatov	47.20	303	eP	P	04 07 59.6	-1.0
KURK				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						

BVAR	Borovoye Array	50.58	309	P	P	04 08 25.4	-1.3
	comp=Z,0.9nm,0.3s,mb4.2,baz=56,slow=7.5,SNR=8.1						
KKN	Kakani	55.88	275	eP	P	04 09 04.5	-1.8
	comp=Z,6.5nm,0.3s,mb5.1						
PKI	Pulchoki	55.94	275	eP	P	04 09 04.9	-1.8
DMN	Daman	56.12	275	eP	P	04 09 05.4	-2.6
GKN	Gorkha	56.18	276	eP	P	04 09 07.7	-0.7
	comp=Z,9.4nm,0.3s,mb5.4						
YBH	Yreka Blue Hor	56.81	63	P	P	04 09 13.4	+0.6
	comp=Z,1.6nm,0.6s,mb4.2,baz=326,slow=6.3,SNR=7.1						
KOLN	Kolanda	57.02	276	eP	P	04 09 13.3	-1.2
	comp=Z,4.5nm,0.3s,mb4.9						
BMO	Blue Mountains	58.08	57	eP	P	04 09 21.2	-0.5
	comp=Z,3.3nm,1.1s,mb4.3						
MOD	Modoc	58.14	61	eP	P	04 09 22.0	-0.1
	comp=Z,2.5nm,0.6s,mb4.4						
BOZ	Bozeman (W)	60.72	53	eP	P	04 09 39.4	-0.5
	comp=Z,1.6nm,0.5s,mb4.4						
BOZ	Bozeman (W)	60.72	53	eP	P	04 09 39.4	-0.5
BOZ				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.5						
NVAR	Mina Array Bea	61.51	63	P	P	04 09 45.3	0.0
	baz=291,slow=7.7,SNR=19						
NVAR	Mina Array Bea	61.51	63	P	P	04 09 45.3	0.0
ELK	Elko	61.84	60	P	P	04 09 47.4	0.0
	comp=Z,1.6nm,0.8s,mb4.2,baz=312,slow=7.9,SNR=8.7						
RRI2	Red Ridge	62.38	55	eP	P	04 09 51.4	+0.4
	comp=Z,7.8nm,0.8s,mb4.9						
TPAW	Teton Pass	62.49	55	eP	P	04 09 52.4	+0.7
	comp=Z,15nm,1.7s,mb4.8						
FINES	FINESS Array B	63.30	335	P	P	04 09 54.8	-2.1
	comp=Z,1.1nm,0.3s,mb4.4,baz=34,slow=8.7,SNR=26						
FINES				LR	LR	04 37 24.8	
	comp=Z,64nm,20.7s,MS3.8,baz=170,slow=36						
BW06	Boulder Array	63.73	55	eP	P	04 09 59.6	-0.2
	comp=Z,4.1nm,1.0s,mb4.4						
PDAR	Pinedale Array	63.73	55	P	P	04 09 60.0	+0.1
	comp=Z,2.4nm,0.8s,mb4.3,baz=315,slow=3.0,SNR=24						
OBN	Obninsk	64.72	326	P	P	04 10 14.0	+7.9
ULM	Lac du Bonnet	65.40	41	P	P	04 10 10.1	-0.4
	comp=Z,0.5nm,0.4s,mb3.9,baz=310,slow=8.0,SNR=4.4						
SRU	San Rafael	65.64	58	eP	P	04 10 11.6	-0.7
NB2	NORSAR Subarra	67.39	341	P	P	04 10 22.3	-0.6
	comp=Z,1.0nm,0.8s,mb3.9,baz=26,slow=6.5						
NB2	NORSAR Subarra	67.39	341	P	P	04 10 22.3	-0.6
NB2				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.9						
NOA	NORSAR Array B	67.39	341	P	P	04 10 22.2	-0.7
	comp=Z,0.7nm,0.5s,mb3.9,baz=25,slow=6.4,SNR=3.8						
NOA	NORSAR Array B	67.39	341	P	P	04 10 22.2	-0.8
ISCO	Idaho Springs	67.92	55	eP	P	04 10 27.1	+0.4
	comp=Z,2.1nm,0.6s,mb4.3						
ISCO	Idaho Springs	67.92	55	eP	P	04 10 27.1	+0.4
ISCO				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
WRA	Warramunga Arr	69.67	200	P	P	04 10 36.6	-1.2
	comp=Z,0.9nm,0.7s,mb3.8,baz=18,slow=6.4,SNR=9.3						
AKASG	Malin Array Be	70.94	326	P	P	04 10 44.6	-0.4
	comp=Z,1.3nm,0.4s,mb4.2,baz=33,slow=6.0,SNR=5.6						
SCHQ	Schefferville	72.14	23	P	P	04 10 52.6	+0.5
	comp=Z,2.1nm,0.9s,mb4.1,baz=328,slow=9.5,SNR=3.1						
CLL	Collm	75.71	336	P	P	04 11 12.5	-0.2
	comp=Z,logA/T=0.9,mb4.6						
CLL				i *PP	pP	04 11 28.5	+3.5
TXAR	Lajitas Array	76.55	61	P	P	04 11 18.3	+0.3
	comp=Z,4.3nm,0.5s,mb4.6,baz=299,slow=4.8,SNR=115						
KHC	Kasperske Hory	77.50	335	eP	P	04 11 23.5	+0.6
GRA1	Grafenberg Arr	77.66	336	eP	P	04 11 24.7	+0.9
	comp=Z,6.0nm,0.9s,mb4.5						
GRF	Grafenberg Arr	77.66	336	eP	P	04 11 24.7	+0.9
GRF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
GERES	GERESS Array B	77.72	334	P	P	04 11 23.5	-0.6
	comp=Z,1.2nm,0.7s,mb4.0,baz=37,slow=6.7,SNR=9.2						
BRTR	Keskin Array B	77.96	317	P	P	04 11 25.6	0.0
	comp=Z,0.7nm,0.7s,mb3.7,baz=90,slow=2.5,SNR=4.3						
CDF	Champ du Feu	79.86	338	eP	P	04 11 35.9	+0.1
MEZF	Maizieres J'vi	80.32	340	eP	P	04 11 38.7	+0.4
GRR	Gorron	81.70	343	eP	P	04 11 46.0	+0.5
LOR	Lormes	81.76	340	eP	P	04 11 46.0	+0.2
	comp=Z,4.6nm,0.8s,mb4.2						
LOR	Lormes	81.76	340	eP	P	04 11 46.0	+0.2
LOR				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
SSF	Saint Saulge	82.04	340	eP	P	04 11 47.4	+0.1
AVF	Avril sur Loir	82.33	340	eP	P	04 11 49.2	+0.4
	comp=Z,5.7nm,0.9s,mb4.2						
AVF	Avril sur Loir	82.33	340	eP	P	04 11 49.2	+0.4
AVF				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
SMF	Signal de Mont	82.35	340	eP	P	04 11 49.2	+0.3
BGF	Bois d'Agland	82.66	340	eP	P	04 11 51.1	+0.6
LPL	La Plagne	82.69	337	eP	P	04 11 51.9	+1.2
	comp=Z,12nm,1.0s,mb4.6						
LPL	La Plagne	82.69	337	eP	P	04 11 51.9	+1.2
LPL				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
LPG	La Plagne	82.70	337	eP	P	04 11 52.1	+1.4
	comp=Z,7.1nm,0.7s,mb4.5						
LPG	La Plagne	82.70	337	eP	P	04 11 52.1	+1.4
LPG				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
MFF	Saint Martin d	83.27	342	eP	P	04 11 54.3	+0.7
MBDF	Montbardon	83.42	337	eP	P	04 11 55.0	+0.6
ORIF	Oris-en-Rattie	83.47	338	eP	P	04 11 55.7	+1.1
	comp=Z,8.5nm,0.9s,mb4.5						
ORIF	Oris-en-Rattie	83.47	338	eP	P	04 11 55.7	+1.1
ORIF				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
SBF	Sospel	84.04	336	eP	P	04 11 58.1	+0.6
	comp=Z,63nm,1.3s,mb5.3						
SBF	Sospel	84.04	336	eP	P	04 11 58.1	+0.6
SBF				pmax	pmax		
	comp=Z,32nm,1.3s,mb5.3						
SMRF	Simiane la Rot	84.43	338	eP	P	04 11 59.5	+0.1
	comp=Z,4.2nm,0.8s,mb4.3						
FRF	La Foret Royal	84.53	337	eP	P	04 12 00.9	+1.0
LASF	Ste Croix	84.76	339	eP	P	04 12 01.5	+0.4
EPF	Esparros	86.57	341	eP	P	04 12 10.9	+0.9
DBIC	Dimbokro	122.59	335	PKP	PKPdf	04 18 22.5	+0.5
	comp=Z,3.2nm,1.1s,baz=16,slow=1.9,SNR=2.5						
VNDA	Vanda	125.15	178	PKP	PKPdf	04 18 25.3	0.0
	comp=Z,0.7nm,0.9s,baz=314,slow=6.1,SNR=3.5						
VNDA	Vanda	125.15	178	PKP	PKPdf	04 18 25.3	0.0
CFAA	Coronel Fontan	144.31	79	PKP	PKPdf	04 19 00.8	-0.9
	comp=Z,0.5nm,0.7s,baz=282,slow=3.1,SNR=12						
CFAA	Coronel Fontan	144.31	79	PKP	PKPdf	04 19 00.8	-0.9
PLCA	Paso Flores	147.80	94	PKPbc	PKPdf	04 19 11.4	+4.1
	comp=Z,3.9nm,0.9s,baz=324,slow=4.3,SNR=4.7						

*KRSC **27** 04:03:13.9±0.7, 52.01N×158.97E, h6km±2km, ML4.1*
*IDC **27** 04:03:18.1±20.0, 52.06N×159.95E, mb3.6/3, mb1 4.1/3, mb1mx3.5/21, mbtmp3.6/3, Error ellipse: s-maj=550.0km s-min=115.1km az=96.0*

ISC 27 04:03:13.1±1.0, 51.93N±0.03×159.08E±0.05, h3km±6km, n25, σ0°76/44, mb3.5/3, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	Russkaya	0.61	325	i P	Pg	04 03 25.5	+0.2
RUS				eS	Sg	04 03 33.0	-0.4
GRL	Gorelyy	0.88	315	eP	Pg	04 03 30.6	0.0
GRL				eS	Sg	04 03 42.1	-0.1
KRMR	Karymshinskiy	1.07	327	eP	Pb	04 03 33.4	-0.5
KRMR				eS	Sb	04 03 47.0	-1.1
PET	Petropavlovsk	1.12	347	eP	Pb	04 03 34.0	-0.8
PET				eS	Sb	04 03 48.8	-0.9
NLC	Nalytchevo	1.25	7	eP	Pb	04 03 36.0	-1.0
NLC				eS	Sb	04 03 52.3	-1.1
UGLR	Uglovaya	1.29	353	eP	Pb	04 03 37.8	+0.2
UGLR				eS	Sb	04 03 54.7	+0.2
SPN	Mys Shipunski	1.30	26	i P	Pb	04 03 38.3	+0.4
SPN				i S	Sb	04 03 56.2	+1.3
SMAR	Somma	1.34	353	eP	Pb	04 03 38.4	-0.2
SMAR				eS	Sb	04 03 56.5	+0.4
AVH	Avacha	1.35	351	eP	Pb	04 03 38.8	+0.1
AVH				eS	Sb	04 03 57.7	+1.4
SDLR	Sedlovina	1.35	355	eP	Pb	04 03 38.3	-0.5
SDLR				eS	Sb	04 03 55.2	-1.2
KOK	Koryaka	1.39	349	i P	Pb	04 03 39.6	+0.2
KOK				eS	Sb	04 03 58.7	+1.3
MIPR	Malaya Ipel'ka	1.47	284	eP	Pn	04 03 40.8	+0.2
MIPR				eS	Sb	04 04 01.0	+1.2
PAU	Pauzhetka	1.49	253	eP	Pn	04 03 40.6	-0.2
PAU				eS	Sb	04 04 00.2	0.0
PAU				Smax			
	1μm,0.5s						
APC	Apacha	1.54	311	eP	Pn	04 03 41.7	+0.1
APC				eS	Sb	04 04 01.8	0.0
APC				Smax			
	360nm,1.2s						
GNL	Ganaly	1.89	339	eP	Pn	04 03 47.0	+0.3
GNL				eS	Sn	04 04 11.7	+0.3
KII	Karymskiy	2.12	6	eP	Pn	04 03 50.8	+0.9
KII				eS	Sn	04 04 17.7	+0.6
ALID	Alaid	2.45	246	eP	Pn	04 03 54.6	-0.1
ALID				eS	Sn	04 04 25.1	-0.5
MKZ	Mys Kozlova	3.07	30	eP	Pn	04 04 04.0	+0.5
MKZ				eS	Sn	04 04 41.0	-0.3
KMNR	Kamenistaya	3.89	10	eP	Pn	04 04 16.5	+1.3
ESO	Esso	4.01	357	eP	Pn	04 04 16.9	+0.1
KBTR	Krutoberegovo	4.82	26	eP	Pn	04 04 28.3	0.0
KBTR				eS	Sn	04 05 22.6	-2.8
BKI	Bering	5.25	49	eS	Sn	04 05 32.0	-4.5
ILAR	Eielson Array	30.08	44	P	P	04 09 24.1	-1.2
	0.6nm,0.7s,mb3.4,baz=258,slow=8.1,SNR=6.0						
PDAR	Pinedale Array	58.64	60	P	P	04 13 14.2	+0.6
	0.2nm,0.5s,mb3.4,baz=27,slow=2.0,SNR=2.7						
TXAR	Lajitas Array	71.67	66	P	P	04 14 38.0	0.0
	0.6nm,0.5s,mb3.8,baz=293,slow=5.1,SNR=9.9						

*MOS **27** 04:41:06.9±0.5, 52.01N×159.06E, h5km, mb4.2/1, Error ellipse: s-maj=59.4km s-min=17.8km az=89.3*

KRSC 27 04:41:06.9±0.6, 52.02N×158.99E, h7km±2km, ML4.0, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	Russkaya	0.51	325	i P	Pg	04 41 18.3	+1.2
RUS				eS	Sg	04 41 25.9	+2.0
GRL	Gorelyy	0.78	314	eP	Pb	04 41 23.5	+1.2
GRL				eS	Sb	04 41 35.0	+2.2
KRMR	Karymshinskiy	0.97	327	eP	Pb	04 41 26.3	+0.7
KRMR				eS	Sb	04 41 40.0	+1.6
PET	Petropavlovsk	1.03	349	P	Pb	04 41 27.0	+0.4
PET				S	Sb	04 41 41.6	+1.5
PET	Petropavlovsk	1.03	349	eP	Pb	04 41 27.0	+0.4
PET				i S	Sb	04 41 41.7	+1.6
NLC	Nalytchevo	1.17	10	P	Pb	04 41 28.9	-0.2
NLC				S	Sb	04 41 45.2	+0.9
NLC	Nalytchevo	1.17	10	eP	Pb	04 41 28.9	-0.2
NLC				eS	Sb	04 41 45.1	+0.8
UGLR	Uglovaya	1.20	355	i P	Pb	04 41 30.4	+0.9
UGLR				eS	Sb	04 41 47.7	+2.7
SMAR	Somma	1.25	355	eP	Pb	04 41 31.3	+0.9
SMAR				eS	Sb	04 41 49.3	+2.7
SPN	Mys Shipunski	1.25	30	P	Pb	04 41 31.2	+0.8
SPN				S	Sb	04 41 49.0	+2.4
SPN	Mys Shipunski	1.25	30	eP	Pb	04 41 30.9	+0.5
SPN				eS	Sb	04 41 49.0	+2.4
AVH	Avacha	1.26	353	eP	Pb	04 41 31.9	+1.4
AVH				eS	Sb	04 41 50.5	+3.7
SDLR	Sedlovina	1.26	357	eP	Pb	04 41 30.9	+0.3
SDLR				eS	Sb	04 41 48.1	+1.2
KOK	Koryaka	1.29	351	eP	Pb	04 41 32.3	+1.2
KOK				eS	Sb	04 41 51.6	+3.8
MIPR	Malaya Ipel'ka	1.40	281	eP	Pn	04 41 33.8	+0.9
MIPR				eS	Sb	04 41 53.5	+2.6
APC	Apacha	1.44	310	i P	Pn	04 41 34.6	+1.1
APC				eS	Sb	04 41 55.0	+2.9
APC				Smax			
	310nm,1.3s						
PAU	Pauzhetka	1.46	249	eP	Pn	04 41 33.7	-0.1
PAU				eS	Sb	04 41 52.7	-0.1
PAU				Smax			
	1μm,0.5s						
GNL	Ganaly	1.79	340	i P	Pn	04 41 39.9	+1.3
GNL				eS	Sn	04 42 04.8	+3.0
KII	Karymskiy	2.04	8	P	Pn	04 41 44.4	+2.3
KII				eS	Sn	04 42 11.0	+3.0
SKR	Severo-Kuril's	2.24	235	eP	Pn	04 41 42.5	-2.5
ALID	Alaid	2.44	243	eP	Pn	04 41 48.6	+0.8
ALID				eS	Sn	04 42 18.4	+0.1
MKZ	Mys Kozlova	3.03	32	P	Pn	04 41 57.6	+1.4
MKZ				S	Sn	04 42 33.8	+0.7
MKZ	Mys Kozlova	3.03	32	eP	Pn	04 41 56.8	+0.6
MKZ				eS	Sn	04 42 33.9	+0.8
KMNR	Kamenistaya	3.82	11	P	Pn	04 42 07.2	-0.2
ESO	Esso	3.92	358	eP	Pn	04 42 10.1	+1.3
KBTR	Krutoberegovo	4.76	27	eP	Pn	04 42 22.2	+1.4
BKI	Bering	5.24	50	S	Sn	04 43 22.5	-6.5

*IDC **27** 04:43:30.2±0.5, 8.04S×125.17E, mb4.7/12, mb1 4.8/13, mb1mx4.7/18, mbtmp4.8/13, ML5.2/1, MS3.7/7, Ms1 3.7/7, ms1mx3.4/23, Error ellipse: s-maj=25.4km s-min=13.8km az=75.0*
*MOS **27** 04:43:33.5±1.1, 8.04S×125.25E, h33km, mb5.2/19, Error ellipse: s-maj=15.2

comp=Z,150nm,21.2s,MS3.5,baz=249,slow=38
NWAO Narrogin (SRO) 25.78 196 *e*P **P 04 49 02.3 -0.7**
comp=Z,35nm,1.1s,mb4.8
NWAO Narrogin (SRO) 25.78 196 *e*P **P 04 49 02.3 -0.8**
NWAO pmax pmax
comp=Z,35nm,1.1s
STKA Stephens Creek 28.13 149⇑*i*P **P 04 49 24.6 0.0**
comp=Z,9.9nm,0.6s,mb4.6
STKA Stephens Creek 28.13 149 P **P 04 49 24.6 0.0**
comp=Z,12nm,0.6s,mb4.7,baz=324,slow=9.2,SNR=23
STKA LR LR 05 02 18.4
comp=Z,297nm,19.1s,MS3.9,baz=222,slow=40
TOO Toolangi 34.60 151⇑*i*P **P 04 50 23.4 +1.9**
comp=Z,10nm,0.6s,mb4.9
TOO Toolangi 34.60 151*i*P **P 04 50 23.4 +1.9**
TOO pmax pmax
comp=Z,11nm,0.6s,mb5.0
JOW Kunigami 34.86 5 LR LR 05 02 28.8
comp=Z,77nm,20.4s,MS3.4,baz=132,slow=33
CNB Canberra Magne 34.95 144⇓*i*P **P 04 50 26.0 +1.5**
comp=Z,18nm,0.9s,mb5.0
GYA Guiyang 38.80 333 P **P 04 50 58.0 +1.0**
GYA AP pP 04 51 05.8 +0.4
GYA XP sP 04 51 09.5 +0.7
GYA PP PP 04 52 31.0 +1.2
GYA S **S 04 56 54.0 +1.5**
GYA SCS ScS 05 01 04.5 +1.6
GYA AMB AMB
comp=Z,20nm,0.9s,mb4.8
GYA AMB AMB
comp=Z,120nm,3.8s
GYA LR LR
comp=N,290nm,17.8s,MS4.4
GYA LR LR
comp=E,370nm,18.0s,MS4.4
GYA LR LR
comp=Z,350nm,18.4s,MS4.2
SSE Sheshan 39.18 355 P **P 04 51 02.0 +1.9**
SSE AP pP 04 51 10.8 +2.4
SSE PP PP 04 52 32.8 -1.1
SSE S **S 04 57 03.0 +4.9**
SSE XS 04 57 18.3
SSE AMB AMB
comp=Z,25nm,0.7s,mb5.0
SSE AMB AMB
comp=Z,45nm,7.1s
SSE Sheshan 39.18 355 P **P 04 51 02.0 +1.9**
comp=Z,25nm,0.7s,mb5.0
SSE pP pP 04 51 10.8 +2.4
SSE PP PP 04 52 32.8 -1.1
SSE S **S 04 57 03.1 +5.0**
SSE sS 04 57 18.3
SSE LR LR
comp=Z,100nm,13.4s,MS3.8
KMI Kunming 39.63 327 P **P 04 51 05.8 +1.8**
KMI AMB AMB
comp=Z,14nm,1.2s,mb4.6
KMI Kunming 39.63 327 P **P 04 51 05.7 +1.7**
comp=Z,14nm,1.2s,mb4.6
KMI Kunming 39.63 327 P **P 04 51 05.7 +1.7**
KMI pmax pmax
comp=Z,14nm,1.2s,mb4.6
WHN Wuhan 39.83 345 ⇑P **P 04 51 07.5 +2.0**
NJ2 Nanjing 40.40 352 *e*P **P 04 51 10.3 +0.1**
NJ2 AP pP 04 51 18.0 -0.5
NJ2 XP sP 04 51 21.0 -1.0
NJ2 PP PP 04 52 47.5 +0.9
NJ2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.7
NJ2 LR LR
comp=N,250nm,28.0s
NJ2 LR LR
comp=E,230nm,34.1s
NJ2 LR LR
comp=Z,410nm,34.0s
ENH Enshi 41.05 339 *e*P **P 04 51 15.4 -0.1**
comp=Z,7.8nm,0.6s,mb4.5
ENH *e* pP 04 51 23.9 0.0
JNU Nakatsue 41.36 7 LR LR 05 06 45.8
comp=Z,60nm,18.6s,MS3.5,baz=238,slow=34
CD2 Chengdu 43.92 333 P **P 04 51 39.5 +0.5**
XAN Xi'an 44.68 341 P **P 04 51 44.5 -0.7**
XAN AP pP 04 51 52.3 -1.2
XAN AMB AMB
comp=Z,9.0nm,0.8s,mb4.7
MJAR Matsushiro Arr 46.06 15 P **P 04 51 55.9 -0.2**
comp=Z,8.1nm,0.8s,mb4.7,baz=188,slow=9.0,SNR=12
MJAR LR LR 05 08 41.5
comp=Z,80nm,19.0s,MS3.7,baz=185,slow=33
MAJO Matsushiro 46.06 15 *e*P **P 04 51 55.0 -1.0**
comp=Z,36nm,1.1s,mb5.2
MAJO Matsushiro 46.06 15 *e*P **P 04 51 55.0 -1.1**
MAJO pmax pmax
comp=Z,36nm,1.1s,mb5.2
MAT Matsushiro 46.06 15 P **P 04 51 54.9 -1.2**
MAT Matsushiro 46.06 15 P **P 04 51 55.0 -1.1**
comp=Z,13nm,1.1s,mb4.8
MAT Matsushiro 46.06 15 P **P 04 51 55.0 -1.1**
MAT pmax pmax
comp=Z,13nm,1.1s,mb4.8
LZH Lanzhou 48.35 337 *e*P **P 04 52 15.5 +1.5**
LZH AP pP 04 52 23.5 +1.0
LZH XP sP 04 52 28.5 +2.7
LZH PP PP 04 54 08.5 +2.4
LZH *e*S **S 04 59 15.3 +3.9**
LZH XS 04 59 29.0
LZH SS SS 05 02 40.0 +3.9
LZH AMB AMB
comp=Z,33nm,1.0s,mb5.3
LZH AMB AMB
comp=Z,210nm,4.3s
LZH LR LR
comp=E,1μm,12.7s
LZH LR LR
comp=Z,2μm,13.6s,MS5.2
LZH Lanzhou 48.35 337 *e*P **P 04 52 15.5 +1.5**
comp=Z,33nm,1.0s,mb5.3
LZH pP pP 04 52 23.5 +1.0
LZH sP sP 04 52 28.5 +2.7
LZH PP PP 04 54 08.5 +2.4
LZH *e*S **S 04 59 15.2 +3.8**
LZH sS 04 59 29.0
LZH SS SS 05 02 40.0 +3.9
LZH LR LR
comp=Z,2μm,13.6s,MS5.2
LZH Lanzhou 48.35 337 *e*P **P 04 52 15.5 +1.5**
LZH *PP pP 04 52 23.5 +1.0
LZH *SP sP 04 52 28.5 +2.7
LZH 04 54 08.5
LZH *e*S **S 04 59 15.2 +3.8**
LZH *SS 04 59 29.0
LZH SS SS 05 02 40.0 +3.9
LZH pmax pmax
comp=Z,33nm,1.0s,mb5.3
LZH MLR MLR
comp=Z,2μm,13.6s,MS5.2
LSA Lhasa 49.87 320 P **P 04 52 28.0 +2.1**
LSA Lhasa 49.87 320 *e*P **P 04 52 26.9 +1.1**
comp=Z,20nm,0.8s,mb5.2
LSA Lhasa 49.87 320 *e*P **P 04 52 26.9 +1.0**
LSA pmax pmax
comp=Z,20nm,0.8s,mb5.2
CN2 Changchun 51.67 0 *e*P **P 04 52 43.5 +4.2**
GUN Gumba 52.24 315 *e*P **P 04 52 44.1 +0.2**
comp=Z,119nm,0.7s,mb5.9
PKI Pulchoki 52.37 314 *e*P **P 04 52 44.4 -0.4**
comp=Z,42nm,0.7s,mb5.5
PKI Pulchoki 52.37 314 *e*P **P 04 52 44.4 -0.4**
PKI pmax pmax
comp=Z,21nm,0.7s,mb5.2
KKN Kakani 52.59 314 *e*P **P 04 52 46.1 -0.4**
comp=Z,84nm,1.0s,mb5.6
KKN Kakani 52.59 314 *e*P **P 04 52 46.1 -0.4**
KKN pmax pmax
comp=Z,42nm,1.0s,mb5.3
DMN Daman 52.61 314 *e*P **P 04 52 45.9 -0.7**
comp=Z,71nm,0.9s,mb5.6
MDJ Mudanjiang 52.63 4 P **P 04 52 45.8 -0.8**
MDJ AMB AMB
comp=Z,20nm,1.2s,mb4.9
MDJ AMB AMB
comp=Z,62nm,4.3s
MDJ Mudanjiang 52.63 4 *e*P **P 04 52 46.3 -0.2**
comp=Z,37nm,0.9s,mb5.3
GTA Gaotai 52.83 335 P **P 04 52 48.0 -0.1**

GTA AP pP 04 52 56.3 -0.3
GTA XP sP 04 53 00.0 +0.1
GTA PCP PcP 04 53 56.3 -0.8
GTA PP PP 04 54 50.5 +1.6
GTA PPP PPP 04 55 57.0 +2.6
GTA SCP 04 57 48.5
GTA PCS 04 57 51.3
GTA S **S 05 00 16.3 +3.1**
GTA XS 05 00 33.0
GTA SCS ScS 05 02 32.0 -0.4
GTA SS SS 05 03 55.8 +4.6
GTA AMB AMB
comp=Z,8.0nm,1.1s,mb4.6
GTA AMB AMB
comp=Z,131nm,12.2s
GTA LR LR
comp=N,218nm,9.6s
GTA LR LR
comp=E,369nm,11.5s
GTA LR LR
comp=Z,187nm,17.2s
GKN Gorkha 53.17 314 *e*P **P 04 52 50.4 -0.4**
comp=Z,72nm,0.9s,mb5.6
KOLN Koldanda 53.78 313 *e*P **P 04 52 54.8 -0.4**
comp=Z,47nm,1.0s,mb5.4
HIA Hailar 57.34 356 *e*P **P 04 53 20.3 -0.4**
comp=Z,14nm,1.0s,mb5.0
HIA Hailar 57.34 356 *e*P **P 04 53 20.3 -0.4**
HIA pmax pmax
comp=Z,14nm,1.0s
ULN Ulaanbaatar 58.01 346 *e*P **P 04 53 24.5 -0.9**
comp=Z,7.4nm,0.9s,mb4.7
ULN Ulaanbaatar 58.01 346⇓*e*P **P 04 53 25.1 -0.3**
SONM Songino Array 58.14 345 P **P 04 53 25.6 -0.7**
comp=Z,4.0nm,0.8s,mb4.5,baz=164,slow=8.6,SNR=27
CASY Casey 58.96 187 *e*P **P 04 53 31.5 -0.3**
ZAK Zakamensk 61.30 344⇑*i*P **P 04 53 46.8 -1.2**
ZAK pmax pmax
comp=Z,3.0nm,0.9s,mb4.4
WMQ Urumqi 61.86 330 P **P 04 53 52.0 +0.1**
WMQ AP pP 04 54 02.0 +1.4
WMQ XP sP 04 54 06.0 +2.3
WMQ PP PP 04 56 11.0 +0.7
WMQ SCP 04 58 30.0
WMQ S **S 05 02 13.0 +1.1**
WMQ AMB AMB
comp=Z,18nm,0.9s,mb5.2
WMQ AMB AMB
comp=Z,122nm,7.0s
WMQ LR LR
comp=N,53nm,15.0s,MS4.0
WMQ LR LR
comp=E,64nm,15.0s,MS4.0
BOD Bodaibo 66.34 353 *e*P **P 04 54 20.2 -0.7**
BOD pmax pmax
comp=Z,23nm,1.0s,mb5.2
MKAR Makanchi Array 66.66 329 P **P 04 54 22.5 -0.6**
comp=Z,13nm,0.6s,mb5.2,baz=129,slow=7.8,SNR=107
TKM2 Tokmak 2 67.91 323 P **P 04 54 31.0 -0.1**
SNR=8.8
UCH Uchtor 68.17 322 P **P 04 54 33.5 +0.7**
SNR=7.7
AAK Ala-Archa 68.41 322 P **P 04 54 34.5 +0.2**
SNR=13
AAK Ala-Archa 68.41 322 *e*P **P 04 54 33.0 -1.3**
comp=Z,15nm,0.6s,mb5.2
AML Almayashu 68.62 321 P **P 04 54 36.2 +0.6**
SNR=6.9
USP Ospenovka 68.77 323 P **P 04 54 36.0 -0.4**
SNR=14
EKS2 Erkin-Say 68.87 322 P **P 04 54 37.6 +0.5**
SNR=11
YAK Yakutsk 70.02 2 P **P 04 54 43.2 -0.5**
comp=Z,48nm,0.8s,mb5.5
YAK Yakutsk 70.02 2 P **P 04 54 43.2 -0.5**
YAK pmax pmax
comp=Z,48nm,0.8s,mb5.5
MA2 Magadan 70.49 13*c i*P **P 04 54 46.5 -0.1**
MA2 pmax pmax
comp=Z,14nm,1.0s,mb4.8
KURK Kurchatov 71.08 331 *e*P **P 04 54 49.1 -1.3**
comp=Z,28nm,0.8s,mb5.2
KURK *e*pP pP 04 54 58.2 -0.8
KURK Kurchatov 71.08 331 *e*P **P 04 54 49.1 -1.3**
KURK *e*PP pP 04 54 58.2 -0.9
KURK pmax pmax
comp=Z,28nm,0.8s,mb5.2
NVS Novosibirsk 71.86 336 *i* P **P 04 54 52.9 -2.1**
NVS pmax pmax
comp=Z,20nm,1.0s,mb5.0
NVS pmax pmax
comp=N,14nm,1.4s
NVS pmax pmax
comp=E,17nm,1.2s
VNDA Vanda 71.96 172 P **P 04 54 55.6 +0.4**
comp=E,3.9nm,0.6s,mb4.5,baz=318,slow=7.4,SNR=30
VNDA LR LR 05 26 09.9
comp=E,112nm,20.7s,MS4.1,baz=302,slow=36
MAW Mawson 72.21 201 *e*P **P 04 54 57.2 +0.4**
comp=E,9.5nm,0.6s,mb4.9
MAW Mawson 72.21 201 P **P 04 54 57.9 +1.0**
comp=E,12nm,0.7s,mb4.9,baz=75,slow=6.6,SNR=38
MAW Mawson 72.21 201 *e*P **P 04 54 57.2 +0.4**
MAW pmax pmax
comp=Z,10.0nm,0.6s
SEY Seymchan 73.84 13⇓*e*P **P 04 55 06.5 +0.1**
BVAR Borovoye Array 76.54 329 P **P 04 55 21.4 -0.7**
comp=Z,5.0nm,0.7s,mb4.5,baz=135,slow=8.4,SNR=30
BRVK Borovoye 76.61 329 *e*P **P 04 55 21.4 -1.0**
comp=Z,6.3nm,1.0s,mb4.5
BRVK Borovoye 76.61 329 *e*P **P 04 55 21.5 -1.0**
BRVK pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
TIXI Tiksi 79.63 1 *e*P **P 04 55 36.7 -2.0**
TIXI pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
SYO Syowa Base 80.91 201⇓P **P 04 55 44.8 -0.7**
BILL Bilibino 81.32 14 P **P 04 55 48.0 +0.3**
BILL *e* 04 56 02.4
BILL pmax pmax
comp=Z,4.0nm,1.2s,mb4.2
QSPA South Pole Qui 81.87 180⇑*i*P **P 04 55 51.6 +1.3**
comp=Z,11nm,0.7s,mb4.9
ARU Arti 84.18 329⇓*i*P **P 04 56 02.4 -0.2**
ARU *e* 04 59 18.7
ARU *e*S S 05 06 23.1 -1.2
ARU pmax pmax
comp=Z,7.0nm,1.5s,mb4.6
SNAA Sanae 93.45 194⇑*i*P **P 04 56 47.8 +1.4**
SNAA Sanae 93.45 194⇑*i*P **P 04 56 47.8 +1.4**
SNAA Sanae 93.45 194 *e* **P 04 56 50.4 +4.0**
SNAA Sanae 93.45 194 *e* **P 04 56 58.7 +12**
SNAA Sanae 93.45 194 *e* **P 04 57 05.0 +19**
SNAA Sanae 93.45 194 *e*P **P 04 56 47.3 +0.9**
comp=Z,2.4nm,0.6s,mb4.8
SNAA ⇑*i*P 04 56 47.8
SNAA *e* 04 56 50.4
SNAA *e* 04 56 58.7
SNAA *e* 04 57 05.0
SNAA Sanae 93.45 194 *e*P **P 04 56 47.3 +0.9**
SNAA *e* 04 56 58.7
SNAA *e* 04 57 05.0
SNAA pmax pmax
comp=Z,2.0nm,0.6s
VNA2 Neumayer--Watz 95.05 194 *e* **P 04 56 57.6 +3.8**
VNA2 Neumayer--Watz 95.05 194 *e* **P 04 57 07.1 +13**
VNA2 Neumayer--Watz 95.05 194 *e* **P 04 57 12.6 +19**
VNA2 Neumayer--Watz 95.05 194⇑*i*P **P 04 56 55.1 +1.3**
VNA2 *e* 04 56 57.6
VNA2 *e* 04 57 07.1
VNA2 *e* 04 57 12.6
VNA3 Neumayer Olymp 95.36 193 *e* **P 04 56 59.2 +4.0**
VNA3 Neumayer Olymp 95.36 193 *e* **P 04 57 08.9 +14**
VNA3 Neumayer Olymp 95.36 193 *e* **P 04 57 13.7 +18**
VNA3 Neumayer Olymp 95.36 193⇑*i*P **P 04 56 56.2 +1.0**
VNA3 *e* 04 56 59.2
VNA3 *e* 04 57 08.9
VNA3 *e* 04 57 13.7
VNA1 Neumayer--Stat 95.45 194 *e* **P 04 57 00.3 +4.7**
VNA1 Neumayer--Stat 95.45 194 *e* **P 04 57 09.4 +14**
VNA1 Neumayer--Stat 95.45 194 *e* **P 04 57 14.3 +19**
VNA1 Neumayer--Stat 95.45 194 P **P 04 56 57.1 +1.5**
VNA1 *e* 04 57 00.3
VNA1 *e* 04 57 09.4

VNA1 *e* 04 57 14.3
BRTR Keskin Array B 96.34 309 P **P 04 56 59.7 -0.7**
comp=Z,0.9nm,0.5s,mb4.4,baz=121,slow=7.2,SNR=4.6
ILAR Eielson Array 96.38 26 P **P 04 57 00.4 +0.4**
comp=Z,0.4nm,0.8s,mb3.9,baz=254,slow=4.1,SNR=4.3
PDAR Pinedale Array 121.02 45 PKP PKPdf 05 02 23.4 -4.6
comp=Z,0.4nm,0.8s,baz=63,slow=3.3,SNR=3.6
DBIC Dimbokro 130.50 272 PKP PKPdf 05 02 43.0 -4.0
comp=Z,1.3nm,0.6s,baz=260,slow=23,SNR=4.3
CPUP Villa Florida 145.67 176 PKPbc PKPbc 05 03 11.2 +1.2
comp=Z,6.9nm,0.6s,baz=202,slow=2.6,SNR=34
CPUP Villa Florida 145.67 176 *e*PKP PKPdf 05 03 10.6 -3.6
LVC Limon Verde 146.47 156 *e*PKP PKPdf 05 03 12.8 -2.8
LPAZ La Paz 152.39 151 PKP PKPdf 05 03 22.9 -2.2
comp=Z,1.2nm,0.9s,baz=223,slow=4.3,SNR=5.0
LPAZ PKPbc PKPdf 05 03 29.9 +4.9
comp=Z,3.9nm,0.6s,baz=202,slow=2.1,SNR=17
LPAZ PKPab PKPab 05 03 40.6 +1.1
comp=Z,6.8nm,0.6s,baz=214,slow=4.2,SNR=17
LPAZ La Paz 152.39 151 *e*PKPdf PKPdf 05 03 22.6 -2.4
LPAZ *e*PKPbc PKPdf 05 03 29.3 +4.3
LPAZ *e*PKPab PKPab 05 03 40.0 +0.5

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*IDC **27** 04:58:05.3±1.1, 13.72N×144.99E, h129km±5km, mb3.6/4, mb1 3.7/4, mb1mx3.4/19, mbtmp4.0/4, Error ellipse: s-maj=37.6km s-min=23.7km az=80.0*
ISC 27 04:58:04.4±1.0, 13.7N±0.2×144.9E±0.3, h139km±8km, n6, σ1§56/7, mb3.7/4, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.13**	**190**	P	**P**	**04 58 24.2**	**+0.6**
	256nm,0.3s,baz=120,slow=2.3,SNR=103						
GUMO				S	**S**	**04 58 37.5**	**-0.6**
	3μm,0.3s,baz=135,slow=22,SNR=147						
JOW	**Kunigami**	**20.29**	**313**	P	**P**	**05 02 32.5**	**+1.4**
	7.2nm,0.5s,baz=134,slow=13,SNR=7.5						
WRA	**Warramunga Arr**	**35.02**	**197**	P	**P**	**05 04 45.9**	**+0.3**
	1.2nm,0.7s,mb3.6,baz=24,slow=9.1,SNR=16						
MKAR	**Makanchi Array**	**61.41**	**316**	P	**P**	**05 08 07.3**	**-0.8**
	0.8nm,0.5s,mb3.8,baz=95,slow=7.9,SNR=5.1						
NVAR	**Mina Array Bea**	**86.82**	**51**	P	**P**	**05 10 35.3**	**+0.9**
	0.6nm,0.7s,mb3.5,baz=254,slow=6.6,SNR=5.5						
FINES	**FINESS Array B**	**91.05**	**335**	P	**P**	**05 10 51.6**	**-2.3**
	0.3nm,0.4s,mb3.7,baz=63,slow=4.3,SNR=5.8						

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*MOS **27** 05:05:18.1±0.9, 36.41N×70.73E, h212km, mb4.7/73, Error ellipse: s-maj=5.7km s-min=3.1km az=129.5*
*BJI **27** 05:05:18.1, 36.60N×70.65E, h212km, mB4.8, mb5.0*
*BGS **27** 05:05:19.2±2.8, 36.37N×70.75E, h215km, mb4.7*
*HRVD **27** 05:05:19.5±0.4, 36.38N×70.62E, h218km±3km, MW5.0/58, Centroid moment Tensor Solution. LP body waves: s18,c20;Mantle waves: s58,c94; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.91±.14; $M_{\theta\theta}$-3.45±.17; $M_{\phi\phi}$0.53±.15; $M_{r\theta}$2.00±.14; $M_{\theta\phi}$0.69±.16; $M_{r\phi}$-0.06±.13; Best double couple: $M_0$3.809×10^{16} NP1:φs286°, δ30°, λ100°. NP2:φs95°, δ61°, λ85°. Principal axes: T 3.493, Plg73°, Azm351°; N .631, Plg5°, Azm97°; P -4.126, Plg16°, Azm189°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **27** 05:05:19.5±0.1, 36.37N×70.75E, mb4.8/156 Error ellipse: s-maj=3.9km s-min=2.3km az=199.0*
NEIC Felt at Kabul and Paghman. Also felt at Chitral, Islamabad and Peshawar, Pakistan.
*IDC **27** 05:05:20.2±0.5, 36.41N×70.79E, h218km±4km, mb4.6/34, mb1 4.7/36, mb1mx4.7/36, mbtmp5.2/36, Error ellipse: s-maj=8.7km s-min=6.5km az=174.0*
*NNC **27** 05:05:24.7±2.3, 36.91N×70.57E, h204km±18km, mpv5.9, Error ellipse: s-maj=22.3km s-min=17.3km az=9.0*
ISC 27 05:05:18.2±0.1, 36.39N±0.02×70.74E±0.02, h215km, h215km±1.4km; pP-P, n628, σ0§95/646, mb4.8/206, 98C-44D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.73**	**159**	⇑P	**P**	**05 06 06.5**	**+0.5**
CHCP	**Chirah Chowk**	**3.42**	**142**	⇑P	**P**	**05 06 14.7**	**+0.7**
THW	**Thamme Wali**	**3.68**	**167**	⇑P	**P**	**05 06 17.3**	**+0.1**
SBDP	**Sheikh Budin**	**4.08**	**179**	⇑P	**P**	**05 06 20.6**	**-1.5**
DRP	**Derazinda**	**4.65**	**186**	⇓P	**P**	**05 06 28.9**	**-0.3**
SARP	**Sargodha**	**4.73**	**160**	⇓P	**P**	**05 06 29.7**	**-0.5**
KSH	**Kashi**	**5.18**	**51**	*i* PR	**P**	**05 06 37.0**	**+1.1**
KSH				XP		05 07 17.0	
KSH				S	**S**	**05 07 35.5**	**-0.8**
AML	**Almayashu**	**6.18**	**21**	P	**P**	**05 06 48.4**	**-0.2**
	SNR=2197						
UCH	**Uchtor**	**6.52**	**25**	P	**P**	**05 06 53.1**	**0.0**
	SNR=3634						
EKS2	**Erkin-Say**	**6.69**	**20**	P	**P**	**05 06 54.9**	**-0.3**
	SNR=743						
KK31	**Karatay Array**	**6.71**	**359**	⇓P	**P**	**05 06 54.8**	**-0.8**
	330nm,0.4s,baz=193,slow=14,SNR=7964						
KK31				⇑S	**S**	**05 08 06.0**	**-5.5**
	343nm,0.5s,baz=186,slow=20,SNR=6.6						
KK31	**Karatay Array**	**6.71**	**359**	⇓P	**P**	**05 06 54.8**	**-0.8**
	330nm,0.4s						
KK31				S	**S**	**05 08 06.0**	**-5.5**
KKAR	**Karatay Array**	**6.71**	**359**	*i* PN	**P**	**05 06 54.7**	**-0.8**
KKAR				pmax	pmax		
	comp=Z,330nm,0.4s						
AAK	**Ala-Archa**	**6.88**	**24**	P	**P**	**05 06 57.0**	**-0.7**
	SNR=75						
AAK	**Ala-Archa**	**6.88**	**24**	⇓P	**P**	**05 06 57.6**	**0.0**
	comp=Z,1μm,0.8s						
AAK				⇑S	**S**	**05 08 13.6**	**-1.7**
	comp=Z,1μm,1.0s						
AAK	**Ala-Archa**	**6.88**	**24**	⇓P	**P**	**05 06 57.6**	**0.0**
	comp=Z,1μm,0.8s						
AAK				S	**S**	**05 08 13.6**	**-1.7**
AAK	**Ala-Archa**	**6.88**	**24**	⇓PN	**P**	**05 06 57.6**	**-0.1**
AAK				S	**S**	**05 08 13.6**	**-1.8**
AAK				pmax	pmax		
	comp=Z,1μm,0.8s						
KBK	**Karagaybulak**	**7.05**	**26**	P	**P**	**05 07 00.1**	**+0.2**
	SNR=182						
FRU	**Bishkek**	**7.10**	**24**	⇓*i*PN	**P**	**05 06 59.0**	**-1.5**
FRU				pmax	pmax		
	comp=Z,665nm,1.5s						
FRU				MLR	MLR		
	comp=Z,2μm,20.0s						
ULHL	**Ulahol**	**7.24**	**34**	P	**P**	**05 07 04.0**	**+1.7**
	SNR=6.2						
CHMS	**Chumysh**	**7.29**	**24**	P	**P**	**05 07 02.3**	**-0.7**
	SNR=208						
USP	**Ospenovka**	**7.45**	**22**	P	**P**	**05 07 03.8**	**-1.4**
	SNR=355						
SMLA	**Simla**	**7.49**	**133**	*i* P	**P**	**05 07 02.4**	**-3.2**
SMLA				*i* S	**S**	**05 08 23.7**	**-5.8**
TKM2	**Tokmak 2**	**7.52**	**28**	P	**P**	**05 07 05.8**	**-0.2**
	SNR=368						
KKR	**Kurukshetra**	**8.18**	**140**	*e*P	**P**	**05 07 12.5**	**-2.1**
BHGR	**Bahadurgarh**	**9.29**	**144**	*i* P	**P**	**05 07 27.9**	**-0.9**
BHGR				*e*S	**S**	**05 09 06.0**	**-5.1**
KHET	**Khetri**	**9.33**	**151**	*i* P	**P**	**05 07 27.8**	**-1.6**
KHET				*e*S	**S**	**05 09 05.0**	**-7.1**
KHET				AML	AML	05 09 07.9	
	comp=N,793nm,0.3s						
KHET				AML	AML	05 09 08.1	
	comp=E,1μm,0.2s						
NDI	**New Delhi**	**9.42**	**143**	*e*P	**P**	**05 07 29.7**	**-0.9**
NDI				*e*S	**S**	**05 09 06.0**	**-8.2**
JASL	**Jaisalmer**	**9.44**	**179**	*i* P	**P**	**05 07 29.6**	**-1.2**
KUDL	**Kundal**	**9.55**	**148**	*e*P	**P**	**05 07 30.7**	**-1.5**
KUDL				*e*S	**S**	**05 09 10.8**	**-6.3**
AYAN	**Aya Nagar**	**9.55**	**144**	*e*S	**S**	**05 09 10.5**	**-6.6**
BISR	**Bishrakh**	**9.63**	**142**	*i* P	**P**	**05 07 32.4**	**-0.9**
SONA	**Sohna**	**9.72**	**145**	*e*P	**P**	**05 07 33.6**	**-0.8**
SONA				*e*S	**S**	**05 09 15.2**	**-6.0**
VAN	**Vannovskaya**	**10.20**	**283**	*e*P	**P**	**05 07 38.8**	**-1.8**
VAN				S	**S**	**05 09 29.3**	**-3.0**
AJM	**Ajmer**	**10.42**	**160**	*i* P	**P**	**05 07 42.3**	**-1.1**
AJM				*e*S	**S**	**05 09 30.9**	**-6.4**
AGRA	**Agra**	**10.99**	**144**	*i* P	**P**	**05 07 49.9**	**-0.8**
AGRA				*e*S	**S**	**05 09 43.4**	**-7.0**
JHNI	**Jhansi**	**12.77**	**146**	*ex*	x	05 08 06.0	
JHNI				*e*S	**S**	**05 10 25.0**	**-6.3**
BHJ	**Bhuj**	**13.12**	**184**	*i* P	**P**	**05 08 18.4**	**+0.8**
BHJ				*e*S	**S**	**05 10 33.8**	**-5.5**
MK02	**Makanchi Array**	**13.49**	**36**	⇓P	**P**	**05 08 21.2**	**-1.0**

MK02 S **S** **05 10 54.9 +7.3**
MK02 pmax pmax
comp=Z,140nm,0.8s
MK31 Makanchi Array 13.50 36 ⇓P **P** **05 08 21.2 -1.0**
comp=Z,140nm,0.8s,baz=209,slow=13,SNR=495
MK31 ⇑S **S** **05 10 54.9 +7.2**
comp=Z,19nm,0.7s,baz=239,slow=21,SNR=4.7
MK31 Makanchi Array 13.50 36 ⇓P **P** **05 08 21.2 -1.0**
comp=Z,140nm,0.8s
MK31 S **S** **05 10 54.9 +7.2**
MKAR Makanchi Array 13.50 36 P **P** **05 08 21.1 -1.1**
comp=Z,3.9nm,0.3s,baz=221,slow=11,SNR=105
MKAR S **S** **05 10 50.5 +2.8**
comp=Z,0.0nm,0.3s,baz=207,slow=19,SNR=2.1
MKAR PKiKP 05 21 26.6
comp=Z,0.2nm,0.3s,baz=214,slow=4.4,SNR=4.7
MKAR Makanchi Array 13.50 36 P **P** **05 08 21.1 -1.1**
MKAR S **S** **05 10 50.5 +2.8**
KOLN Koldanda 13.87 125 *e*P **P** **05 08 25.9 -1.0**
comp=Z,156nm,0.3s
VLK Valmikinagar 14.35 125 *i* P **P** **05 08 31.0 -1.8**
VLK *e*x x 05 08 33.0
VLK *i* x x 05 11 01.0
VLK *e*x x 05 11 05.0
GKN Gorkha 14.42 121 *e*P **P** **05 08 32.7 -1.0**
GKN *e*S **S** **05 11 03.7 -4.7**
ALBI Allahabad 14.55 136 *e*P **P** **05 08 33.0 -2.4**
WMQ Urumqi 14.93 55 P **P** **05 08 40.0 +0.1**
WMQ XP 05 09 32.5
WMQ S **S** **05 11 19.0 -0.7**
WMQ PCP PcP 05 13 36.0 +1.0
WMQ AMB AMB
comp=Z,156nm,0.6s
WMQ LR LR
comp=N,65nm,6.0s
WMQ LR LR
comp=E,124nm,6.0s
WMQ LR LR
comp=Z,54nm,6.0s
DMN Daman 14.99 122 *e*P **P** **05 08 40.5 -0.2**
comp=Z,368nm,0.5s
KKN Kakani 15.00 121 *e*P **P** **05 08 40.2 -0.6**
comp=Z,619nm,0.5s
KKN Kakani 15.00 121 *e*P **P** **05 08 40.2 -0.6**
KKN pmax pmax
comp=Z,310nm,0.5s
AB31 Akbulak array 15.08 332 ⇑P **P** **05 08 40.6 -1.1**
comp=Z,130nm,0.7s,baz=143,slow=13,SNR=1465
AB31 ⇓S **S** **05 11 18.1 -5.0**
comp=Z,37nm,0.8s,baz=142,slow=23,SNR=3.6
AB31 Akbulak array 15.08 332 ⇑P **P** **05 08 40.6 -1.1**
comp=Z,130nm,0.6s
AB31 S **S** **05 11 18.1 -5.0**
AB31 Akbulak array 15.08 332 ⇑P **P** **05 08 40.6 -1.1**
AB31 S **S** **05 11 18.1 -5.0**
AB31 pmax pmax
comp=Z,130nm,0.6s
PKI Pulchoki 15.22 121 *e*P **P** **05 08 43.3 -0.3**
comp=Z,761nm,0.7s
PKI *e*S **S** **05 11 22.5 -3.8**
PKI Pulchoki 15.22 121 *e*P **P** **05 08 43.3 -0.3**
PKI *e*S **S** **05 11 22.5 -3.8**
PKI pmax pmax
comp=Z,381nm,0.7s
GUN Gumba 15.34 119 *e*P **P** **05 08 44.9 -0.2**
comp=Z,310nm,0.5s
KURK Kurchatov 15.40 19 ⇓P **P** **05 08 43.6 -2.1**
comp=Z,27nm,0.8s
KURK ⇑S **S** **05 11 34.5 +4.2**
comp=Z,59nm,1.1s
KURK Kurchatov 15.40 19 ⇓P **P** **05 08 43.6 -2.1**
KURK S **S** **05 11 34.5 +4.2**
JBP Jabalpur 15.41 146 *e*x x 05 08 48.4
JBP *i* x x 05 11 28.8
VOSK Vostochnaya 16.34 1 ⇓P **P** **05 08 55.9 -1.0**
comp=Z,64nm,0.5s
VOSK ⇑S **S** **05 11 52.3 +1.4**
comp=Z,330nm,2.0s
VOSK Vostochnaya 16.34 1 ⇓P **P** **05 08 55.9 -1.0**
comp=Z,64nm,0.5s
VOSK S **S** **05 11 52.3 +1.4**
VOSK Vostochnaya 16.34 1 ⇓P **P** **05 08 55.9 -1.0**
VOSK S **S** **05 11 52.3 +1.4**
VOSK pmax pmax
comp=Z,64nm,0.5s
AKL Akola 16.56 159 ⇓*i*x x 05 10 58.0
AKL *i* x x 05 13 52.9
BVA0 Borovoye Array 16.64 359 ⇓P **P** **05 08 59.8 -0.6**
comp=Z,20nm,1.0s,baz=158,slow=10,SNR=600
BVA0 ⇑S **S** **05 11 55.5 -2.0**
comp=Z,25nm,1.2s,baz=173,slow=20,SNR=7.7
BVA0 Borovoye Array 16.64 359 ⇓P **P** **05 08 59.8 -0.6**
BVA0 S **S** **05 11 55.5 -2.1**
BVA0 pmax pmax
comp=Z,21nm,1.0s
BVAR Borovoye Array 16.64 359 P **P** **05 08 59.9 -0.6**
comp=Z,28nm,0.3s,baz=153,slow=11,SNR=174
BVAR S **S** **05 11 57.4 -0.2**
baz=190,slow=18,SNR=2.7
BVAR PKiKP 05 21 28.0
comp=Z,0.3nm,0.3s,baz=225,slow=2.1,SNR=4.9
BRVK Borovoye 16.67 359 *e*P **P** **05 09 00.3 -0.6**
comp=Z,87nm,0.8s
BRVK Borovoye 16.67 359 *e*P **P** **05 09 00.3 -0.5**
BRVK pmax pmax
comp=Z,87nm,0.8s
AKTK Aktyubinsk 16.78 331 ⇑P **P** **05 09 01.8 -0.2**
AKTK S **S** **05 12 01.0 +0.5**
AKTO Aktyubinsk 16.78 331 ⇑P **P** **05 09 01.8 -0.2**
comp=Z,39nm,0.6s
AKTO ⇑S **S** **05 12 01.0 +0.5**
comp=Z,21nm,1.3s
NGP Nagpur 16.82 152 *e*P **P** **05 09 03.2 +0.4**
BIDO Bidbid 16.83 224 ⇑P **P** **05 09 02.8 0.0**
SNR=12
SMDO Samad 17.24 223 ⇑P **P** **05 09 07.7 +0.4**
SNR=32
HOQ Hoqain 17.24 226 ⇓P **P** **05 09 06.5 -0.9**
SNR=11
BLSP Bilaspur 17.32 142 *e*P **P** **05 09 07.0 -1.1**
BLSP *i* x x 05 12 10.0
POO Poona 18.00 170 *e*P **P** **05 09 16.4 +1.0**
POO AMb AMB 05 09 18.2
comp=Z,151nm,1.0s
LSA Lhasa 18.35 105 P **P** **05 09 22.5 +3.7**
LSA Lhasa 18.35 105 *e*P **P** **05 09 21.4 +2.6**
comp=Z,61nm,0.6s
LSA Lhasa 18.35 105 *e*P **P** **05 09 21.4 +2.6**
LSA pmax pmax
comp=Z,61nm,0.6s
LATR Latur 18.62 162 *e*P **P** **05 09 22.2 +0.5**
KAD Karad 19.25 170 *e*P **P** **05 09 29.3 +1.1**
KAD AMb AMB 05 09 33.3
comp=Z,157nm,0.7s
ZAL Zalesovo 20.09 25 P **P** **05 09 36.9 +0.5**
comp=Z,185nm,0.4s,baz=255,slow=6.3,SNR=388
ZAL S **S** **05 13 09.0 +4.0**
comp=Z,20nm,0.5s,baz=21,slow=23,SNR=8.9
ZAL PKiKP 05 21 28.9
comp=Z,1.3nm,0.3s,baz=314,slow=4.8,SNR=2.6
ZAL Zalesovo 20.09 25 P **P** **05 09 36.9 +0.5**
ZAL S **S** **05 13 09.0 +4.0**
HYB Hyderabad 20.12 158 *i*P **P** **05 09 38.0 +1.0**
comp=Z,181nm,0.5s
HYB *e* 05 09 40.0
HYB *e* 05 09 57.0
HYB *e*sP 05 10 39.0
HYB *e*S **S** **05 13 12.0 +6.1**
HYB Hyderabad 20.12 158 ⇓*e*P **P** **05 09 38.0 +1.0**
comp=Z,181nm,0.5s
HYB *e* 05 09 40.0
HYB *e*S **S** **05 13 12.0 +6.1**
HYB Hyderabad 20.12 158 ⇓*e*P **P** **05 09 38.0 +1.0**
HYB *e*S **S** **05 13 12.0 +6.1**
HYB pmax pmax
comp=Z,181nm,0.5s
DGRG David-gareji 20.35 292 P **P** **05 09 39.9 +0.8**
NVS Novosibirsk 20.36 21 ⇑*i*P **P** **05 09 39.3 +0.1**
NVS *e*PPP PPP 05 10 39.9 +13
NVS *i* S **S** **05 13 14.2 +4.2**
NVS pmax pmax
comp=Z,250nm,0.7s
NVS pmax pmax
comp=N,211nm,0.7s
NVS pmax pmax
comp=E,67nm,0.7s
NVS smax
comp=N,143nm,1.0s
NVS smax
comp=E,380nm,1.3s
UMR Umm Al-Rimmam 20.46 257 *e*P **P** **05 09 42.0 +1.7**
UMR AMb AMB 05 09 46.0
comp=Z,244nm,0.4s
KBD Kabd 20.64 256 *e*P **P** **05 09 43.8 +1.7**
KBD AMb AMB 05 09 46.8
comp=Z,947nm,0.4s
MIB Mutribah 20.65 258 *e*P **P** **05 09 44.1 +1.8**
MIB AMb AMB 05 09 47.2
comp=Z,330nm,0.6s
QRN Al-Qurain 20.66 255 *e*P **P** **05 09 43.3 +1.0**
QRN AMb AMB 05 09 49.0
comp=Z,217nm,0.3s
GNI Garni 20.73 288 P **P** **05 09 46.0 +3.0**
comp=Z,26nm,0.6s,baz=160,slow=0.7,SNR=14
GNI Garni 20.73 288 *e*P **P** **05 09 45.1 +2.2**
comp=Z,97nm,1.1s
GNI Garni 20.73 288*c i*P **P** **05 09 45.7 +2.8**
GNI pmax pmax
comp=Z,73nm,1.3s
BWNR Bhubaneshwar 20.76 137 *e*x x 05 12 58.0
BWNR *e*x x 05 14 12.0
TI2 Plekhanov 20.84 293 ⇓*i*P **P** **05 09 43.0 -1.0**
TBLG Delisi 20.85 293 P **P** **05 09 46.8 +2.7**
RDF Al-Radifah 20.87 256 *e*P **P** **05 09 45.5 +1.2**
RDF AMb AMB 05 09 47.8
comp=Z,167nm,0.4s
GOA Goa 20.99 172 *e*P **P** **05 09 46.0 +0.4**
GOA *e*x x 05 14 16.0
SHL Shillong 21.05 115 *e*P **P** **05 09 47.5 +1.3**
SHL *e*S **S** **05 13 28.0 +5.5**
HASS Wahat al Ahsa' 21.20 244 P **P** **05 09 48.0 +0.3**
SVE Sverdlovsk 21.55 345 ⇑*i*P **P** **05 09 52.0 +1.2**
SVE *e*PPP PPP 05 10 28.5 -14
SVE *e* 05 10 53.0
SVE *e*S **S** **05 13 42.0 +11**
SVE pmax pmax
comp=Z,280nm,1.4s,mb5.6
SVE MLR MLR
comp=N,200nm,8.0s
SVE MLR MLR
comp=E,100nm,8.0s
SVE MLR MLR
comp=Z,400nm,8.0s
ZEI Tsey 21.60 295 *e*P **P** **05 09 52.8 +1.4**
ZEI *i* *PP 05 10 29.0
ZEI pmax pmax
comp=Z,17nm,0.7s,mb4.7
VIS Vishakhapatnam 21.67 146 *i* x x 05 09 49.0
VIS *i* S **S** **05 13 40.0 +6.4**
ARU Arti 21.67 341 ⇑*i*P **P** **05 09 53.6 +1.6**
ARU *e* 05 10 25.4
ARU *e*PPP PPP 05 10 34.3 -10
ARU *e*S **S** **05 13 37.7 +4.4**
ARU pmax pmax
comp=Z,299nm,0.7s
AKH Akhalkalaki 21.75 292 P **P** **05 09 55.8 +3.0**
BKR Bakuriani 21.77 293 P **P** **05 09 52.2 -0.9**
ONI Oni 21.90 295 P **P** **05 09 57.2 +2.9**
GOF Gofitskoye 22.63 301 ⇓*i*P **P** **05 10 02.2 +0.8**
GOF *i* 05 10 41.5
GOF pmax pmax
comp=Z,40nm,1.0s,mb4.9
KIV Kislovodsk 22.66 298 *e*P **P** **05 10 02.2 +0.6**
comp=Z,44nm,0.6s,mb5.2
KIV Kislovodsk 22.66 298 *i* P **P** **05 10 02.7 +1.0**
KIV pmax pmax
comp=Z,14nm,0.7s,mb4.6
KIV MLR MLR
comp=Z,100nm,18.0s
IMP Imphal 23.01 114 *ex* **P** **05 10 09.0 +3.8**
GTA Gaotai 23.10 74 ⇑*i*P **P** **05 10 08.5 +2.6**
GTA AP 05 10 53.0
GTA XP 05 11 17.3
GTA PCP PcP 05 13 49.3 -0.1
GTA S **S** **05 14 04.0 +6.2**
GTA SS SS 05 15 14.5 +8.4
GTA SCP 05 17 06.0
GTA PCS 05 17 29.0
GTA SCS ScS 05 20 50.5 +0.2
GTA AMB AMB
comp=Z,139nm,0.8s,mb5.5
GTA AMB AMB
comp=Z,256nm,8.4s
GTA LR LR
comp=N,94nm,14.1s
GTA LR LR
comp=E,147nm,14.1s
GTA LR LR
comp=Z,143nm,14.8s
MNGI Mangalore 23.63 170 *i* P **P** **05 10 13.2 +2.0**
WHFO Wadi Hawf 23.73 224 ⇓P **P** **05 10 12.4 +0.3**
SNR=45
RBK Rabkut 23.83 222 ⇑P **P** **05 10 13.4 +0.4**
SNR=10
RYDS Riyadh 24.03 246 P **P** **05 10 13.2 -1.6**
ABTO Aybut 24.45 224 ⇓P **P** **05 10 20.6 +1.7**
SNR=39
SOKR Solikamsk 24.90 343*c i*P **P** **05 10 24.1 +1.5**
SOKR pmax pmax
comp=Z,150nm,0.9s,mb5.6
MZLS Mizel 25.19 248 P **P** **05 10 26.9 +1.2**
MALT Malatya 25.69 284 *e*P **P** **05 10 31.6 +1.4**
comp=Z,20nm,1.4s,mb4.6
MALT Malatya 25.69 284 *e*P **P** **05 10 31.6 +1.4**
MALT pmax pmax
comp=Z,20nm,1.4s,mb4.5
HILS Ha'il 26.09 258 P **P** **05 10 34.6 +0.7**
ANN Anapa 26.51 299 *e*P **P** **05 10 37.2 -0.3**
ANN *e**PP pP 05 11 21.8 +1.9
ANN *e*S **S** **05 14 55.1 +1.2**
ANN pmax pmax
comp=Z,24nm,0.6s,mb5.0
LZH Lanzhou 26.63 81 *e*P **P** **05 10 40.5 +1.8**
LZH AP pP 05 11 20.8 -0.4
LZH PP PP 05 11 35.0 +3.3
LZH XP sP 05 11 44.5 -2.2
LZH PCP PcP 05 13 57.5 +0.4
LZH *e*S **S** **05 14 57.0 +1.0**
LZH *e*XS 05 16 08.0
LZH SS SS 05 16 29.0 -0.3
LZH SCP 05 17 16.5
LZH AMB AMB
comp=Z,54nm,1.4s,mb5.0
LZH AMB AMB
comp=Z,290nm,4.5s
LZH Lanzhou 26.63 81 *e*P **P** **05 10 40.5 +1.8**
comp=Z,54nm,1.4s,mb5.0
LZH pP pP 05 11 20.8 -0.4
LZH PP PP 05 11 35.0 +3.3
LZH sP sP 05 11 44.5 -2.2
LZH PcP PcP 05 13 57.5 +0.4
LZH *e*S **S** **05 14 57.0 +1.0**
LZH *e*sS 05 16 08.0
LZH SS SS 05 16 29.0 -0.3
LZH ScP 05 17 16.6
LZH Lanzhou 26.63 81 *e*P **P** **05 10 40.5 +1.8**
LZH *PP pP 05 11 20.8 -0.4
LZH 05 11 35.0
LZH *SP sP 05 11 44.5 -2.2
LZH 05 13 57.5
LZH *e*S **S** **05 14 57.0 +1.0**
LZH *e**SS 05 16 08.0
LZH SS SS 05 16 29.0 -0.3
LZH pmax pmax
comp=Z,54nm,1.4s,mb5.0
AFFS 'Afif 26.91 250 P **P** **05 10 41.7 +0.4**
VOR Voronezh 27.10 314 *e*P **P** **05 10 42.7 -0.1**
VOR *e**PP pP 05 11 25.5 +0.1
VOR pmax pmax
comp=N,70nm,1.4s
VOR pmax pmax
comp=E,110nm,1.4s
VOR pmax pmax
comp=Z,90nm,1.4s,mb5.2
ZAK Zakamensk 27.22 49 ⇑*i*P **P** **05 10 45.0 +1.1**
ZAK *e* pP 05 11 30.5 +3.9
ZAK *e* 05 13 57.1
ZAK pmax pmax
comp=Z,8.0nm,1.0s,mb4.3
ZAK pmax pmax
comp=Z,24nm,1.0s,mb4.8
ZAK pmax pmax
comp=Z,4.0nm,0.9s,mb4.0
CD2 Chengdu 27.94 92 ⇑*i*P **P** **05 10 52.3 +1.7**
CD2 PP PP 05 11 47.8 -1.2
CD2 XP sP 05 11 56.0 -2.8
CD2 S **S** **05 15 21.5 +4.5**
CD2 XS 05 16 36.0
CD2 SS SS 05 17 01.0 +1.3
CD2 AMB AMB
comp=Z,50nm,0.7s,mb5.2
CD2 LR LR
comp=N,160nm,13.8s
CD2 LR LR
comp=Z,80nm,10.8s
ASF Jabal al Asfar 28.20 271 P **P** **05 10 54.4 +1.5**
comp=Z,3.0nm,0.7s,mb4.0,baz=284,slow=7.5,SNR=4.2
SONM Songino Array 28.57 55 P **P** **05 10 57.0 +1.0**
comp=Z,8.6nm,0.5s,mb4.6,baz=269,slow=9.1,SNR=98
SONM PcP PcP 05 14 01.0 -0.7
comp=Z,1.4nm,0.6s,baz=239,slow=4.4,SNR=4.0
SONM ScP 05 17 21.7
comp=Z,1.2nm,0.8s,SNR=3.7
KBRS Khaybar 28.84 257 P **P** **05 11 00.3 +1.7**
ULN Ulaanbaatar 29.01 55 *e*P **P** **05 11 00.3 +0.4**
comp=Z,11nm,0.6s,mb4.7
ULN Ulaanbaatar 29.01 55*c i*P **P** **05 11 00.5 +0.5**
BR131 Keskin Array S 29.27 288 *e*P **P** **05 11 02.7 +0.3**
comp=Z,5.6nm,0.6s,mb4.4
BRTR Keskin Array B 29.27 288 P **P** **05 11 02.8 +0.4**
comp=Z,5.8nm,0.7s,mb4.3,baz=106,slow=8.9,SNR=32
BRTR pP pP 05 11 46.8 +1.1
comp=Z,4.1nm,0.8s,baz=102,slow=8.7,SNR=2.1
BRTR PcP PcP 05 14 03.2 -0.3
comp=Z,3.2nm,0.7s,baz=131,slow=3.6,SNR=3.9
KMI Kunming 29.57 103 P **P** **05 11 06.0 +0.8**
KMI AP pP 05 11 49.3 +0.7
KMI PP PP 05 12 12.0 +1.8
KMI XP sP 05 12 14.0 +0.3
KMI PPP PPP 05 12 32.0 +4.3
KMI PCP PcP 05 14 05.3 +0.8
KMI S **S** **05 15 44.0 +1.0**
KMI XS 05 17 01.3
KMI SCP 05 17 25.5
KMI SS SS 05 17 36.8 +0.1
KMI PCS 05 17 47.5
KMI SSS SSS 05 18 06.0 -7.5
KMI SCS ScS 05 21 19.3 +1.0
KMI AMB AMB
comp=Z,13nm,0.6s,mb4.7
KMI Kunming 29.57 103 P **P** **05 11 05.9 +0.7**
comp=Z,13nm,0.6s,mb4.7
KMI pP pP 05 11 49.3 +0.7
KMI PP PP 05 12 12.0 +1.8
KMI sP sP 05 12 14.0 +0.3
KMI PPP PPP 05 12 32.0 +4.3
KMI PcP PcP 05 14 05.3 +0.8
KMI S **S** **05 15 44.0 +1.0**
KMI sS 05 17 01.2
KMI ScP 05 17 25.6
KMI SS SS 05 17 36.8 +0.1
KMI PcS 05 17 47.4
KMI SSS SSS 05 18 06.0 -7.5
KMI ScS ScS 05 21 19.3 +1.0
KMI Kunming 29.57 103 P **P** **05 11 05.9 +0.7**
KMI *PP pP 05 11 49.3 +0.7
KMI 05 12 12.0
KMI *SP sP 05 12 14.0 +0.3
KMI 05 14 05.3
KMI S **S** **05 15 44.0 +1.0**
KMI *SS 05 17 01.2
KMI SS SS 05 17 36.8 +0.1
KMI 05 21 19.3
KMI pmax pmax
comp=Z,13nm,0.6s,mb4.7
MOS Moscow 29.62 321 ⇓*i*P **P** **05 11 04.4 -0.8**
MOS *e* 05 12 11.4
MOS pmax pmax
comp=Z,300nm,1.4s,mb5.7
MOS pmax pmax
comp=Z,184nm,1.2s,mb5.6
OBN Obninsk 29.89 320 *e*P **P** **05 11 07.3 -0.3**
comp=Z,127nm,0.4s
OBN Obninsk 29.89 320*c i*P **P** **05 11 07.4 -0.2**
OBN *e* 05 12 18.3
OBN pmax pmax
comp=Z,113nm,0.6s,mb5.7
OBN MLR MLR
comp=Z,100nm,22.0s
JMQS Jabal Moqyreh 30.18 266 P **P** **05 11 11.4 +0.9**
BLJS Baljurashi 30.35 245 P **P** **05 11 13.2 +1.2**
DJNS Zahran al Janu 30.38 239 P **P** **05 11 13.1 +0.8**
UMJS Umm Lajj 30.65 258 P **P** **05 11 16.3 +1.8**
BTO Baotou 30.85 70 *e*P **P** **05 11 16.0 -0.2**
HAQS Haql 30.88 267 P **P** **05 11 17.2 +0.7**
BDAS Al Bad' **30.98 265** P **P** **05 11 18.4 +1.0**
LTHS Al Lith 30.98 247 P **P** **05 11 18.9 +1.4**
TAYS Tayyib Ism 31.12 266 P **P** **05 11 19.4 +0.7**
XAN Xi'an 31.15 83 P **P** **05 11 19.0 +0.2**
XAN AMB AMB
comp=Z,57nm,1.0s,mb5.2
HHC Hu-ho-hao-te 32.00 69 *e*P **P** **05 11 26.8 +0.7**
HHC AP pP 05 12 09.3 -0.9
HHC XP sP 05 12 33.3 -1.9
HHC PP PP 05 12 42.8 +2.3
HHC PCP PcP 05 14 08.0 -2.7
HHC S **S** **05 16 25.8 +5.1**
HHC SCP 05 17 33.0
HHC XS 05 17 39.0
HHC PCS 05 17 53.3
HHC SCS ScS 05 21 29.0 -1.1
HHC AMB AMB
comp=Z,15nm,1.1s,mb4.4
HHC AMB AMB
comp=Z,97nm,8.4s
HHC LR LR
comp=N,124nm,14.4s
HHC LR LR
comp=E,195nm,14.4s
HHC LR LR
comp=Z,158nm,13.2s
GYA Guiyang 32.05 98 ⇑*i*P **P** **05 11 27.8 +1.0**
GYA AP pP 05 12 10.0 -0.9
GYA XP sP 05 12 33.5 -2.3
GYA PCP PcP 05 14 10.8 -0.2
GYA S **S** **05 16 21.5 -0.2**
GYA SCP 05 17 33.0
GYA PCS 05 17 54.3
GYA SCS ScS 05 21 30.0 -0.5
GYA AMB AMB
comp=Z,50nm,0.9s,mb5.0
GYA AMB AMB
comp=Z,110nm,3.1s
ENH Enshi 32.78 89 *e*P **P** **05 11 33.7 +0.7**
comp=Z,80nm,1.0s,mb5.2
AKASG Malin Array Be 32.85 309 P **P** **05 11 32.9 -0.5**
comp=Z,28nm,0.5s,mb5.1,baz=80,slow=7.0,SNR=213
AKASG pP pP 05 12 18.0 +0.3
comp=Z,8.2nm,0.8s,baz=89,slow=7.8,SNR=2.2
AKASG PP PP 05 12 51.4 -0.2
comp=Z,22nm,0.9s,baz=96,slow=9.5,SNR=10.0
AKASG ScP 05 17 34.8
comp=Z,2.6nm,0.7s,baz=76,slow=3.6,SNR=6.8
CFR Carcaliu 33.11 299 ⇓P **P** **05 11 34.9 -0.8**
CFR Carcaliu 33.11 299 ⇓P **P** **05 11 34.9 -0.8**
CIT Chita 33.88 49 *e*P **P** **05 11 42.4 +0.3**
CIT *e* pP 05 12 28.7 +2.1
CIT *e* 05 12 48.8
CIT pmax pmax
comp=Z,106nm,1.3s,mb5.2
VRI Vrincioaia 34.10 300 ⇑P **P** **05 11 45.3 +1.2**
VRI Vrincioaia 34.10 300 ⇑P **P** **05 11 45.2 +1.2**
VRI Vrincioaia 34.10 300 P **P** **05 11 45.6 +1.5**
MLR Muntele Rosu 34.66 299 P **P** **05 11 50.7 +1.9**
comp=Z,63nm,0.8s,mb5.2,baz=104,slow=0.9,SNR=95
MLR Muntele Rosu 34.66 299 ⇓P **P** **05 11 51.0 +2.2**
BURAR Bucovina Array 35.17 303 ⇑P **P** **05 11 53.6 +0.5**
BURAR Bucovina Array 35.17 303 ⇑P **P** **05 11 53.6 +0.5**
VOIR 35.29 299 ⇓P **P** **05 11 54.8 +0.7**
VOIR 35.29 299 ⇓P **P** **05 11 54.8 +0.7**
BOD Bodaibo 35.57 39 *e*P **P** **05 11 50.4 -6.0**
BOD pmax pmax

comp=Z,25nm,1.1s,mb4.7
JOF Joensuu 35.86 330 *e*p **P 05 11 58.5 -0.3**
comp=Z,74nm,0.4s,mb5.6
APE Apeiranthos 35.98 285 *i* P **P 05 12 00.3 +0.2**
LVV L'vov 36.06 307 *e*P **P 05 12 00.0 -0.6**
LVV *e* 05 13 29.4
VSU Vasula 36.15 322⇑*e*P **P 05 12 01.1 -0.1**
NPS Neapolis 36.36 282 *e*P **P 05 12 03.0 -0.2**
XRY Khrisi 36.40 281 *e*P **P 05 12 03.0 -0.6**
WHN Wuhan 36.61 86 ⇓P **P 05 12 07.0 +1.6**
WHN AMB AMB
comp=Z,38nm,1.0s,mb4.9
VTS Vitosha 36.81 295 P **P 05 12 08.2 +1.2**
DRGR 36.88 302 ⇑P **P 05 12 07.4 -0.1**
DRGR 36.88 302 ⇑P **P 05 12 07.5 0.0**
DRGR 36.88 302 P **P 05 12 08.0 +0.5**
KWP Kalwaria 36.91 306 *e*P **P 05 12 08.8 +1.1**
KWP *e*PP PP 05 13 40.6 +2.5
KWP Kalwaria 36.91 306 *e*P **P 05 12 08.8 +1.1**
KWP *e*PP PP 05 13 40.6 +2.5
IDI Anoyia 36.92 282 P **P 05 12 07.7 -0.3**
comp=Z,22nm,0.3s,mb5.1,baz=43,slow=9.7,SNR=55
SUW Suwalki 37.04 314 *e*P **P 05 12 09.1 +0.3**
SUW *e*PP PP 05 13 38.5 -1.1
SUW Suwalki 37.04 314 *e*P **P 05 12 09.1 +0.3**
SUW *e*PP PP 05 13 38.5 -1.1
VAM Vamos 37.43 283 *e*P **P 05 12 12.0 -0.2**
FINES FINESS Array B 37.46 326 P **P 05 12 12.6 +0.4**
comp=Z,26nm,0.4s,mb5.1,baz=112,slow=10,SNR=429
HIA Hailar 37.53 54 *e*P **P 05 12 13.9 +1.0**
comp=Z,5.9nm,0.6s,mb4.3
HIA Hailar 37.53 54 *e*P **P 05 12 13.9 +1.0**
HIA pmax pmax
comp=Z,6.0nm,0.6s
KAF Kangasniemi 37.61 327 *e*p **P 05 12 13.8 +0.4**
comp=Z,17nm,0.4s,mb4.9,baz=112,slow=8.4
KAF Kangasniemi 37.61 327 *e*P **P 05 12 13.8 +0.4**
KAF pmax pmax
comp=Z,17nm,0.4s,mb4.9
APA Apatity 37.66 338⇑*i*P **P 05 12 14.4 +0.6**
APA pmax pmax
comp=Z,30nm,0.6s,mb5.0
CRVS Cervenica-Dubn 37.71 305 *e*P **P 05 12 15.4 +1.1**
CRVS *e*PP PP 05 13 44.0 -2.6
STHS Stebnicka Huta 37.86 306 *i* P **P 05 12 16.0 +0.4**
STHS *e*PP PP 05 13 44.2 -4.0
VLI Veliai 38.09 285 *e*P **P 05 12 16.0 -1.6**
KYTH Kithira 38.12 284 *e*P **P 05 12 16.0 -1.9**
KECS Kecovo 38.35 304 *i* P **P 05 12 20.6 +0.9**
KECS *e* 05 13 49.7
QIZ Qiongzhong 38.39 106 P **P 05 12 20.3 0.0**
QIZ Qiongzhong 38.39 106 *e*P **P 05 12 21.0 +0.7**
EVR Evrytania 38.46 289 *e*P **P 05 12 23.7 +3.0**
NIE Niedzica 38.47 306⇑*e*P **P 05 12 22.1 +1.4**
ITM Ithomi 38.76 286 *e*P **P 05 12 22.0 -1.2**
PSZ Piszkesteto 38.76 304⇑*i*P **P 05 12 24.3 +1.2**
PSZ Piszkesteto 38.76 304 *e*P **P 05 12 24.0 +0.9**
comp=Z,9.5nm,0.6s,mb4.5
PSZ Piszkesteto 38.76 304 P **P 05 12 24.5 +1.4**
OJC Ojcow 38.81 307⇑*i*P **P 05 12 23.8 +0.3**
OJC *e*PP PP 05 13 55.3 -3.6
RLS Riolos of Patr 38.91 288 *e*P **P 05 12 23.5 -0.9**
DIVS Divcibare 38.97 297⇓*i*P **P 05 12 25.3 +0.3**
GZH Guangzhou 38.99 98 P **P 05 12 26.3 +1.0**
GZH S **S 05 18 06.0 -1.6**
GZH LR LR
comp=N,228nm,18.0s
GZH LR LR
comp=E,188nm,20.2s
VYHS Vyhne 39.45 305 *e*P **P 05 12 29.6 +0.8**
VLS Valsamata 39.55 288 *e*P **P 05 12 28.5 -1.2**
NJ2 Nanjing 39.70 82 *e*P **P 05 12 32.5 +1.5**
NJ2 AP pP 05 13 17.0 +0.5
NJ2 XP sP 05 13 40.3 -1.3
NJ2 PP PP 05 14 12.5 +3.8
NJ2 S **S 05 18 23.0 +4.9**
NJ2 XS 05 19 39.0
NJ2 AMB AMB
comp=Z,20nm,0.8s,mb4.6
NJ2 LR LR
comp=N,370nm,19.1s
NJ2 LR LR
comp=E,190nm,13.6s
NJ2 LR LR
comp=Z,150nm,18.0s
PKSM Moragy 39.72 301 P **P 05 12 31.7 +0.7**
SRO Srobarova 39.83 303 *e*P **P 05 12 33.7 +1.8**
OKC Ostrava-Krasne 39.87 307 *e*P **P 05 12 33.2 +1.0**
OKC *e*PP PP 05 14 10.3 0.0
SRO1 Iza 39.89 303 *e*P **P 05 12 33.1 +0.7**
DL2 Dalian 39.95 71 P **P 05 12 34.5 +1.5**
DL2 AMB AMB
comp=Z,20nm,0.7s,mb4.7
MORC Moravsky Berou 40.26 307 *e*P **P 05 12 36.2 +0.7**
comp=Z,24nm,0.6s,mb4.8
MORC Moravsky Berou 40.26 307 *e*P **P 05 12 36.2 +0.7**
MORC pmax pmax
comp=Z,24nm,0.6s,mb4.8
SMOL Smolenice 40.38 305 *e*P **P 05 12 37.2 +0.7**
GKP Gorka Klasztor 40.49 312 *e*P **P 05 12 38.0 +0.7**
GKP Gorka Klasztor 40.49 312 *e*P **P 05 12 38.0 +0.7**
ZST Bratislava 40.62 304 *e*P **P 05 12 39.0 +0.6**
ZST *e*PP PP 05 14 18.4 +0.6
SNY Shenyang 40.82 66 ⇑P **P 05 12 40.3 +0.2**
SNY AP pP 05 13 27.0 +1.2
SNY PCP PcP 05 14 37.0 -0.2
SNY AMB AMB
comp=Z,20nm,0.5s,mb4.8
SNY LR LR
comp=N,140nm,12.7s
SNY LR LR
comp=Z,130nm,12.6s
KEV Kevo 40.83 338 *e*P **P 05 12 40.3 +0.4**
comp=Z,95nm,0.8s,mb5.3
KEV Kevo 40.83 338 *e*P **P 05 12 40.3 +0.4**
KEV pmax pmax
comp=Z,95nm,0.8s,mb5.3
VRAC Vranov 40.90 306 P **P 05 12 41.8 +1.1**
comp=Z,20nm,0.7s,mb4.7,baz=91,slow=8.8,SNR=28
VRAC PP PP 05 14 21.6 +1.1
comp=Z,3.8nm,0.6s,baz=91,slow=9.1,SNR=3.4
VRAC Vranov 40.90 306 P **P 05 12 41.8 +1.1**
DPC Dobruska-Polom 41.04 307 *e*P **P 05 12 42.8 +1.0**
DPC *e*PP PP 05 14 23.5 +1.6
KSP Ksiaz 41.04 308 *e*P **P 05 12 42.8 +1.0**
KSP Ksiaz 41.04 308 *e*P **P 05 12 42.5 +0.7**
KSP *e*PP PP 05 14 20.0 -1.9
CLNS Chul'man 41.13 43 *e*P **P 05 12 43.0 +0.5**
CLNS *e* 05 14 19.3
CLNS *e*SS ScS 05 22 23.3 +2.5
CLNS *e* 05 22 39.5
CLNS pmax pmax
comp=N,7.0nm,0.9s
CLNS pmax pmax
comp=Z,29nm,0.9s,mb4.7
CLNS pmax pmax
comp=E,23nm,1.1s
CLNS pmax pmax
comp=N,8.0nm,0.8s
CLNS pmax pmax
comp=Z,13nm,0.8s,mb4.4
CLNS pmax pmax
comp=E,4.0nm,1.1s
CLNS MLR MLR
comp=Z,300nm,23.0s
CLNS MLR MLR
comp=N,100nm,16.0s
CLNS MLR MLR
comp=E,200nm,14.0s
ARCES ARCESS Array B 41.17 338 P **P 05 12 43.5 +0.9**
comp=E,126nm,0.7s,mb5.4,baz=110,slow=7.6,SNR=280
ARCES PP PP 05 14 24.7 +1.5
comp=E,22nm,0.9s,baz=117,slow=8.1,SNR=4.5
ARCES ARCESS Array B 41.17 338 P **P 05 12 43.5 +0.9**
ARCES PP PP 05 14 24.7 +1.5
ARE0 ARCESS Array S 41.17 338 *e*P **P 05 12 43.2 +0.5**
UPC Upice 41.23 308 *e*P **P 05 12 44.1 +0.8**
KTK1 Kautokeino 41.64 336⇑*i*P **P 05 12 47.8 +1.5**
KTK1 AMb AMB 05 12 49.4
comp=Z,152nm,0.8s,mb5.5
KTK1 Kautokeino 41.64 336⇑*i*P **P 05 12 47.8 +1.5**
comp=Z,152nm,0.8s,mb5.5
ARSA Arzberg 41.76 303⇑*i*P **P 05 12 48.3 +0.7**
comp=Z,7.1nm,0.9s,mb4.1
GROS Grobnik 41.86 302 *i* P **P 05 12 49.1 +0.7**
SSE Sheshan 41.90 82 P **P 05 12 49.3 +0.3**
SSE XP sP 05 13 55.3 -4.4
SSE S **S 05 18 52.3 +1.9**
SSE XS 05 20 11.0
SSE SCS ScS 05 22 28.5 +2.8
SSE AMB AMB
comp=Z,38nm,0.7s,mb4.9
SSE AMB AMB
comp=Z,66nm,6.6s
SSE LR LR
comp=N,129nm,12.8s
SSE LR LR
comp=E,113nm,12.8s
SSE LR LR
comp=Z,172nm,14.1s
SSE Sheshan 41.90 82 P **P 05 12 49.2 +0.2**
comp=Z,38nm,0.7s,mb4.9
SSE sP sP 05 13 55.3 -4.4
SSE S **S 05 18 52.2 +1.8**
SSE sS 05 20 11.1
SSE ScS ScS 05 22 28.5 +2.8
SSE LR LR
comp=Z,170nm,14.1s
PERS Pernice 42.10 302⇑*i*P **P 05 12 51.2 +0.8**
PERS *e*pP PcP 05 14 40.4 -1.0
PVCC Panska Ves 42.15 308 *e*P **P 05 12 51.6 +0.9**
PRU Pruhonice 42.20 307 *e*P **P 05 12 52.1 +1.0**
PRU *e*PP PP 05 14 31.5 -2.7
TIP Timpagrande 42.23 291 *e*P **P 05 12 50.9 -0.7**
QZH Quanzhou 42.33 92 P **P 05 12 53.3 +0.7**
QZH AMB AMB
comp=Z,50nm,0.7s,mb5.0
OBKA Obir 42.51 302⇑*i*P **P 05 12 54.7 +1.0**
comp=Z,14nm,0.9s,mb4.4
BRG Berggiesshubel 42.53 308 *i* P **P 05 12 54.6 +0.8**
comp=Z,28nm,0.6s,mb4.9
BRG *e*pP pP 05 13 40.5 +0.7
BRG *e* 05 14 47.9
BRG Berggiesshubel 42.53 308 *i* P **P 05 12 54.7 +0.9**
BRG *e**PP pP 05 13 40.5 +0.7
BRG *e* 05 14 47.9
BRG pmax pmax
comp=Z,28nm,0.6s,mb4.9
MOA Molln 42.55 304⇑*i*P **P 05 12 54.3 +0.3**
comp=Z,21nm,0.7s,mb4.7
RUE Ruedersdorf 42.58 311 *e*P **P 05 12 54.2 0.0**
comp=Z,28nm,0.8s,mb4.7
LJU Ljubljana 42.58 301⇑*i*P **P 05 12 55.3 +1.0**
GEC2 GERESS Array S 42.83 305 *e*P **P 05 12 56.5 +0.2**
comp=Z,9.0nm,1.0s,mb4.2
GEC2 GERESS Array S 42.83 305 *e*P **P 05 12 56.5 +0.2**
GEC2 pmax pmax
comp=Z,9.0nm,1.0s,mb4.2
GERES GERESS Array B 42.83 305 P **P 05 12 56.8 +0.5**
comp=Z,3.1nm,0.5s,mb4.0,baz=72,slow=7.4,SNR=33
GERES PcP PcP 05 14 43.6 -0.2
comp=Z,5.1nm,0.8s,baz=80,slow=6.0,SNR=7.1
KHC Kasperske Hory 42.88 306 *e*P **P 05 12 56.9 +0.2**
KHC *e*PP PP 05 14 39.2 -1.7
HFS Hagfors 43.03 322 P **P 05 12 57.8 +0.1**
comp=Z,81nm,0.4s,mb5.5,baz=98,slow=10,SNR=461
HFS pP pP 05 13 43.9 +0.2
comp=Z,15nm,0.6s,baz=90,slow=10,SNR=2.1
HFS PcP PcP 05 14 42.8 -1.4
comp=Z,13nm,0.7s,baz=63,slow=9.7,SNR=3.7
CLL Collm 43.10 309 ⇑P **P 05 12 58.6 +0.2**
comp=Z,logA/T=1.3,mb4.5
CLL *e* 05 13 08.0
CLL *e**PP pP 05 13 44.0 -0.5
CLL *e**SP sP 05 14 08.0 -1.3
CLL *e*PP PP 05 14 46.0 +2.9
CLL *e*SS SS 05 22 30.0 +9.4
CLL Collm 43.10 309⇑*i*P **P 05 12 58.6 +0.2**
comp=Z,13nm,0.7s,mb4.5
CLL *e*pP pP 05 13 44.0 -0.5
CLL Collm 43.10 309⇑*i*P **P 05 12 58.6 +0.2**
CLL *e**PP pP 05 13 44.0 -0.5
CLL pmax pmax
comp=Z,13nm,0.7s,mb4.5
ROBS Robic 43.25 302⇑*e*P **P 05 12 59.9 +0.1**
KBA Koelnbreinsper 43.26 303⇑*i*P **P 05 13 00.3 +0.6**
comp=Z,11nm,0.5s,mb4.6
KBA Koelnbreinsper 43.26 303⇑*i*P **P 05 13 00.3 +0.6**
KBA pmax pmax
comp=Z,11nm,0.5s,mb4.5
TRO Tromso 43.29 336 *e*P **P 05 12 59.0 -0.7**
TRO AMb AMB 05 13 01.3
comp=Z,108nm,1.1s,mb5.2
TRO Tromso 43.29 336 *e*P **P 05 12 59.0 -0.7**
comp=Z,108nm,1.1s,mb5.2
NKC Novy Kostel 43.52 307 *e*P **P 05 13 02.7 +0.9**
MOR8 Moi Rana 43.81 331⇑*i*P **P 05 13 03.6 -0.3**
MOR8 AMb AMB 05 13 05.3
comp=Z,206nm,0.6s,mb5.6
MOR8 Moi Rana 43.81 331⇑*i*P **P 05 13 03.6 -0.3**
comp=Z,206nm,0.6s,mb5.6
MOX Moxa 44.02 308 *i* P **P 05 13 06.4 +0.6**
comp=Z,logA/T=1.4,mb4.5
MOX Moxa 44.02 308 *e*P **P 05 13 06.4 +0.6**
comp=Z,29nm,1.1s,mb4.5
MOX Moxa 44.02 308 *e*P **P 05 13 06.4 +0.6**
MOX pmax pmax
comp=Z,29nm,1.1s,mb4.5
YAK Yakutsk 44.18 35 *e*P **P 05 13 06.6 -0.3**
comp=Z,100nm,0.8s,mb5.2
YAK Yakutsk 44.18 35*c* *i*P **P 05 13 06.9 0.0**
YAK pmax pmax
comp=Z,71nm,0.8s,mb5.0
MELSS Ber_school_2 44.26 332 *e*P **P 05 13 07.8 +0.3**
NB2 NORSAR Subarra 44.35 323 P **P 05 13 08.0 -0.2**
comp=Z,43nm,0.5s,mb5.0,baz=97,slow=7.9
NB2 NORSAR Subarra 44.35 323 P **P 05 13 08.0 -0.2**
baz=96,slow=7.9
NB2 NORSAR Subarra 44.35 323 P **P 05 13 08.0 -0.2**
NB2 pmax pmax
comp=Z,43nm,0.5s,mb5.0
NOA NORSAR Array B 44.35 323 P **P 05 13 07.9 -0.3**
comp=Z,49nm,0.5s,mb5.1,baz=97,slow=7.7,SNR=254
NOA PP PP 05 14 51.5 -3.6
comp=Z,18nm,0.9s,baz=95,slow=9.4,SNR=4.7
GRA1 Grafenberg Arr 44.36 307 *e*P **P 05 13 09.9 +1.4**
comp=Z,20nm,0.7s,mb4.6
GRA1 *e*pP pP 05 14 05.2 +10
GRF Grafenberg Arr 44.36 307 *e*P **P 05 13 09.9 +1.4**
GRF pmax pmax
comp=Z,20nm,0.7s,mb4.6
WTTA Wattenberg 44.38 303⇑*i*P **P 05 13 08.6 -0.1**
comp=Z,14nm,0.6s,mb4.5
WTTA Wattenberg 44.38 303⇑*i*P **P 05 13 08.6 -0.1**
WTTA pmax pmax
comp=Z,14nm,0.6s,mb4.5
STOK Stokkvaagen 44.41 331⇑*i*P **P 05 13 08.8 +0.1**
VAE Valguarnera 44.46 289 P **P 05 13 11.1 +1.7**
comp=Z,14nm,0.8s,mb4.4,baz=319,slow=1.3,SNR=6.1
NSS Namsos 44.48 328 *e*P **P 05 13 08.3 -1.0**
NSS AMb AMB 05 13 09.9
comp=Z,64nm,2.3s,mb4.5
NSS Namsos 44.48 328 *e*P **P 05 13 08.3 -1.0**
comp=Z,64nm,2.3s,mb4.5
NAO01 NORSAR Array S 44.49 323 *e*P **P 05 13 08.3 -1.0**
comp=Z,28nm,0.6s,mb4.8
FUR Furstenfeldbru 44.50 305 *e*P **P 05 13 10.3 +0.7**
comp=Z,22nm,0.6s,mb4.7
FUR Furstenfeldbru 44.50 305 *e*P **P 05 13 10.3 +0.7**
FUR pmax pmax
comp=Z,22nm,0.6s,mb4.7
BSEG Bad Segeberg 44.62 313 *e*P **P 05 13 11.0 +0.5**
LOF Lofoten 44.65 333 *e*P **P 05 13 12.3 +1.8**
LOF AMb AMB 05 13 25.2
comp=Z,79nm,1.3s,mb4.9
LOF Lofoten 44.65 333 *e*P **P 05 13 12.3 +1.8**
comp=Z,79nm,1.3s,mb4.9
SQTA Sankt Quirin 44.68 303⇑*i*P **P 05 13 10.9 -0.2**
comp=Z,17nm,0.5s,mb4.6
SQTA Sankt Quirin 44.68 303⇑*i*P **P 05 13 10.9 -0.2**
SQTA pmax pmax
comp=Z,17nm,0.5s,mb4.6
YHNB Yeheng 44.70 90 *e*P **P 05 13 13.1 +1.6**
CLZ Clausthal 44.70 310 *e*P **P 05 13 11.8 +0.6**
comp=Z,14nm,0.8s,mb4.3
CLZ Clausthal 44.70 310 *e*P **P 05 13 11.8 +0.6**
CLZ pmax pmax
comp=Z,14nm,0.8s,mb4.3
MOTA Moosalm 44.73 304⇑*i*P **P 05 13 10.8 -0.7**
comp=Z,12nm,0.5s,mb4.5
MOTA Moosalm 44.73 304⇑*i*P **P 05 13 10.8 -0.7**
MOTA pmax pmax
comp=Z,12nm,0.5s,mb4.5
KONO Kongsberg 45.04 321 *i* P **P 05 13 13.4 -0.4**
KS15 Wonju Array Si 45.09 71 *e*P **P 05 13 14.8 +0.3**
DOMB Dombas 45.46 324 *e*P **P 05 13 17.0 -0.1**
DOMB AMb AMB 05 13 19.3
comp=Z,56nm,1.2s,mb4.8
DOMB Dombas 45.46 324 *e*P **P 05 13 17.0 -0.1**
comp=Z,56nm,1.2s,mb4.8
DAVA Damuels 45.56 304⇑*i*P **P 05 13 17.9 -0.2**
comp=Z,63nm,0.5s,mb5.2
DAVOX Davos 45.65 303 P **P 05 13 18.4 -0.3**
comp=Z,16nm,0.5s,mb4.6,baz=97,slow=5.7,SNR=39
DAVOX PcP PcP 05 14 53.1 -0.4
comp=Z,10.0nm,0.6s,baz=105,slow=2.9,SNR=6.1
MAIM 45.77 299 P **P 05 13 18.8 -0.9**
SARO Sassorosso 45.77 299 P **P 05 13 19.8 0.0**
VALM 45.85 300 P **P 05 13 20.8 +0.4**
TOD Tromm 45.93 307 *e*P **P 05 13 21.2 +0.3**
TIXI Tiksi 45.96 22 *e*P **P 05 13 17.2 -3.6**
TIXI pmax pmax
comp=Z,124nm,0.7s,mb5.3
VINC Vinca 45.96 299 P **P 05 13 20.9 -0.3**
TNS Taunus Mts 46.08 308 *e*P **P 05 13 22.4 +0.3**
comp=Z,10.0nm,1.1s,mb4.1
TNS Taunus Mts 46.08 308 *e*P **P 05 13 22.4 +0.3**
TNS pmax pmax
comp=Z,10.0nm,1.1s,mb4.1
CODM 46.12 300 P **P 05 13 22.1 -0.3**
MOL Molde 46.21 325 *e*P **P 05 13 23.8 +0.9**
BFO Black Forest 46.43 305 *e*P **P 05 13 24.5 -0.3**
comp=Z,5.0nm,0.6s,mb4.0
BFO Black Forest 46.43 305 *e*P **P 05 13 24.5 -0.3**
BFO pmax pmax
comp=Z,5.0nm,0.6s,mb4.0
BLS5 Blasjo 46.64 321 *e*P **P 05 13 28.4 +2.2**
BLS5 AMb AMB 05 13 41.4
comp=Z,42nm,1.4s,mb4.6
BLS5 Blasjo 46.64 321 *e*P **P 05 13 28.4 +2.2**
comp=Z,42nm,1.4s,mb4.6
LANF Langenberg 46.67 306 *e*P **P 05 13 26.9 +0.3**
FELD Feldberg 46.72 305 *e*P **P 05 13 26.7 -0.3**
PCP Pian Castagno 47.00 300 P **P 05 13 28.3 -1.0**
WLS Welschbruch 47.06 306 *e*P **P 05 13 29.5 -0.1**
CDF Champ du Feu 47.11 306 *e*P **P 05 13 29.4 -0.6**
BBS Basel-Blauen 47.12 304 *e*P **P 05 13 29.6 -0.5**
PGF Pioggiola 47.14 297 *e*P **P 05 13 29.9 -0.4**
comp=Z,34nm,0.6s,mb4.6
PGF Pioggiola 47.14 297 *e*P **P 05 13 29.9 -0.4**
PGF pmax pmax
comp=Z,17nm,0.6s,mb4.5
ORX Oropa 47.16 302 P **P 05 13 28.7 -1.8**
BER Bergen 47.20 322 *e*P **P 05 13 31.1 +0.5**
BER AMb AMB 05 13 32.6
comp=Z,103nm,1.2s,mb5.0
BER Bergen 47.20 322 *e*P **P 05 13 31.1 +0.5**
comp=Z,103nm,1.2s,mb5.0
ECH Echery 47.22 305 *e*P **P 05 13 32.1 +1.2**
EGD Espegrend 47.26 322 *e*P **P 05 13 31.5 +0.5**
ASK Askoy 47.27 322 *e*P **P 05 13 31.2 +0.1**
ASK AMb AMB 05 13 40.0
comp=Z,167nm,1.9s,mb5.0
ASK Askoy 47.27 322 *e*P **P 05 13 31.2 +0.1**
comp=Z,167nm,1.9s,mb5.0
MOF Molkenrain 47.30 305 *e*P **P 05 13 31.4 -0.1**
FIN Finale Ligure 47.31 300 P **P 05 13 29.8 -1.8**
HINF Hinteralfeld 47.49 305 *e*P **P 05 13 32.4 -0.7**
comp=Z,26nm,0.8s,mb4.3
HINF Hinteralfeld 47.49 305 *e*P **P 05 13 32.4 -0.7**
HINF pmax pmax
comp=Z,13nm,0.8s,mb4.3
ROB Roburent 47.52 300 P **P 05 13 32.5 -0.8**
LOMF Lomont 47.60 304 *e*P **P 05 13 34.5 +0.6**
IMI Imperia 47.60 299 P **P 05 13 33.1 -0.8**
MONE Monesi 47.66 300 P **P 05 13 33.4 -1.0**
NEGI Negi 47.74 299 P **P 05 13 34.3 -0.7**
RSP Reno Superiore 47.76 301 P **P 05 13 32.9 -2.2**
LSD Ceresole Reale 47.76 302 P **P 05 13 34.9 -0.3**
HAU Haudompre 47.79 305 *e*P **P 05 13 34.8 -0.6**
comp=Z,21nm,0.5s,mb4.4
HAU Haudompre 47.79 305 *e*P **P 05 13 34.8 -0.6**
HAU pmax pmax
comp=Z,10.0nm,0.5s,mb4.4
SAOF Saorge 47.82 300 *e*P **P 05 13 35.7 +0.1**
BHB Bricherasio 47.82 301 P **P 05 13 33.4 -2.2**
ENR Entracque 47.85 300 P **P 05 13 34.4 -1.5**
AUTN L'Aution 47.91 300 *e*P **P 05 13 37.0 +0.7**
STV2 Anna di Valdie 47.92 300 P **P 05 13 34.0 -2.4**
STV Sta Anna Valdi 47.92 300 P **P 05 13 34.8 -1.7**
SBF Sospel 47.93 299 *e*P **P 05 13 36.5 0.0**
comp=Z,58nm,0.7s,mb4.7
SBF Sospel 47.93 299 *e*P **P 05 13 36.5 0.0**
SBF pmax pmax
comp=Z,29nm,0.7s,mb4.7
TOUF Mont Tournerai 48.03 300 *e*P **P 05 13 37.4 +0.2**
LPG La Plagne 48.03 302 *e*P **P 05 13 37.4 +0.1**
comp=Z,62nm,0.7s,mb4.7
LPG La Plagne 48.03 302 *e*P **P 05 13 37.4 +0.1**
LPG pmax pmax
comp=Z,31nm,0.7s,mb4.8
LPL La Plagne 48.04 302 *e*P **P 05 13 37.6 +0.3**
comp=Z,36nm,0.6s,mb4.6
LPL La Plagne 48.04 302 *e*P **P 05 13 37.6 +0.3**
LPL pmax pmax
comp=Z,18nm,0.6s,mb4.6
MVIF Mont Vial 48.12 300 *e*P **P 05 13 37.9 -0.1**
RRL Cesana Torines 48.14 301 P **P 05 13 36.5 -1.6**
BNI Bardonecchia 48.18 301 *e*P **P 05 13 37.2 -1.2**
comp=Z,34nm,1.3s,mb4.5
BNI Bardonecchia 48.18 301 *e*P **P 05 13 37.2 -1.2**
BNI pmax pmax
comp=Z,34nm,1.3s,mb4.5
MBDF Montbardon 48.19 301 *e*P **P 05 13 38.1 -0.4**
comp=Z,51nm,0.5s,mb4.8
MBDF Montbardon 48.19 301 *e*P **P 05 13 38.1 -0.4**
MBDF pmax pmax
comp=Z,26nm,0.5s,mb4.8
SURF Saint Ours 48.22 300 *e*P **P 05 13 39.1 +0.4**
CABF La Chapelle 48.24 303 *e*P **P 05 13 38.7 -0.1**
comp=Z,58nm,0.9s,mb4.6
CABF La Chapelle 48.24 303 *e*P **P 05 13 38.7 -0.1**
CABF pmax pmax
comp=Z,29nm,0.9s,mb4.6
CALN Calern 48.34 299 *e*P **P 05 13 39.7 +0.1**
GIVF Givet 48.40 308 *e*P **P 05 13 39.4 -0.6**
MEZF Maizieres J'vi 48.55 306 *e*P **P 05 13 41.1 0.0**
comp=Z,34nm,0.7s,mb4.5
FRF La Foret Royal 48.56 299 *e*P **P 05 13 40.6 -0.7**
comp=Z,23nm,0.6s,mb4.4
FRF La Foret Royal 48.56 299 *e*P **P 05 13 40.6 -0.7**
FRF pmax pmax
comp=Z,12nm,0.6s,mb4.4
KMBO Kilima Mbogo 48.60 227 P **P 05 13 44.0 +1.9**
comp=Z,11nm,0.6s,mb4.4,baz=36,slow=12,SNR=39
KBS Kingsbay 48.68 347 *e*P **P 05 13 42.7 +0.9**
KBS AMb AMB 05 13 45.1
comp=Z,136nm,1.3s,mb5.1
KBS Kingsbay 48.68 347 *e*P **P 05 13 42.7 +0.9**
comp=Z,136nm,1.3s,mb5.1
LMR La Mourre 48.71 299 *e*P **P 05 13 41.7 -0.8**
comp=Z,7.2nm,0.6s,mb3.9
LMR La Mourre 48.71 299 *e*P **P 05 13 41.7 -0.8**
LMR pmax pmax
comp=Z,4.0nm,0.6s,mb3.9
ORIF Oris-en-Rattie 48.76 301 *e*P **P 05 13 42.0 -0.8**
comp=Z,17nm,0.7s,mb4.2
ORIF Oris-en-Rattie 48.76 301 *e*P **P 05 13 42.0 -0.8**
ORIF pmax pmax
comp=Z,9.0nm,0.7s,mb4.2
GRN Grenoble 48.78 302 *e*P **P 05 13 42.9 -0.1**
OG05 Jujurieux 48.79 303 *e*P **P 05 13 43.0 0.0**
BAIF Baives 48.80 308 *e*P **P 05 13 42.4 -0.6**
comp=Z,35nm,0.9s,mb4.4
BAIF Baives 48.80 308 *e*P **P 05 13 42.4 -0.6**
BAIF pmax pmax
comp=Z,18nm,0.9s,mb4.4
JNU Nakatsue 48.82 75 P **P 05 13 44.1 +0.6**
comp=Z,20nm,0.7s,mb4.6,baz=293,slow=3.9,SNR=16
SMRF Simiane la Rot 49.21 300 *e*P **P 05 13 45.9 -0.3**
comp=Z,7.3nm,0.4s,mb4.0
JOW Kunigami 49.29 84 P **P 05 13 47.0 0.0**
comp=Z,29nm,0.6s,mb4.8,baz=305,slow=4.6,SNR=24
LOR Lormes 49.59 305 *e*P **P 05 13 48.0 -1.1**

comp=Z,5.2nm,0.5s,mb3.9
LOR Lormes 49.59 305 *e*P P 05 13 48.0 -1.1
LOR pmax pmax
comp=Z,3.0nm,0.5s,mb3.9
VIVF Saint-Julien-I 49.61 301 *e*P P 05 13 49.3 0.0
comp=Z,47nm,0.6s,mb4.7
VIVF Saint-Julien-I 49.61 301 *e*P P 05 13 49.3 0.0
VIVF pmax pmax
comp=Z,23nm,0.6s,mb4.7
SMF Signal de Mont 49.74 304 *e*P P 05 13 49.3 -1.0
comp=Z,38nm,0.7s,mb4.5
SMF Signal de Mont 49.74 304 *e*P P 05 13 49.3 -1.0
SMF pmax pmax
comp=Z,19nm,0.7s,mb4.5
SSF Saint Saulge 49.87 304 *e*P P 05 13 50.3 -0.9
SSF *e*pP pP 05 14 38.6 0.0
AVF Avril sur Loir 50.04 304 *e*P P 05 13 51.7 -0.8
comp=Z,28nm,0.7s,mb4.4
AVF *e*pP pP 05 14 39.9 0.0
AVF Avril sur Loir 50.04 304 *e*P P 05 13 51.7 -0.8
AVF *e**PP pP 05 14 39.9 0.0
AVF pmax pmax
comp=Z,14nm,0.7s,mb4.4
PLDF La Plantade 50.05 303 *e*P P 05 13 53.4 +0.8
COLF Collangettes 50.12 302 *e*P P 05 13 53.1 0.0
AGO Saint Agoulin 50.36 303 *e*P P 05 13 56.0 +1.0
LASF Ste Croix 50.38 301 *e*P P 05 13 55.3 +0.2
HYF Humbligny 50.40 305 *e*P P 05 13 54.8 -0.4
BGF Bois d'Agland 50.43 304 *e*P P 05 13 54.6 -0.9
comp=Z,13nm,0.5s,mb4.2
BGF Bois d'Agland 50.43 304 *e*P P 05 13 54.6 -0.9
BGF pmax pmax
comp=Z,6.0nm,0.5s,mb4.2
LBL Lubilhac 50.49 302 *e*P P 05 13 57.4 +1.4
TCF Toulx Ste Croi 50.92 304 *e*P P 05 13 58.7 -0.5
comp=Z,32nm,0.8s,mb4.5
TCF *e*pP pP 05 14 47.1 +0.4
TCF Toulx Ste Croi 50.92 304 *e*P P 05 13 58.7 -0.5
TCF *e**PP pP 05 14 47.1 +0.4
TCF pmax pmax
comp=Z,16nm,0.8s,mb4.5
KKM Kota Kinabalu 51.35 115 *e*P P 05 14 03.6 +0.8
KKM *e*pP pP 05 14 49.6 -0.8
CAF Calviac 51.38 302 *e*P P 05 14 02.4 -0.2
comp=Z,20nm,0.7s,mb4.4
CAF *e*pP pP 05 14 50.7 +0.4
CAF Calviac 51.38 302 *e*P P 05 14 02.4 -0.2
CAF *e**PP pP 05 14 50.7 +0.4
CAF pmax pmax
comp=Z,10.0nm,0.7s,mb4.3
EJON La Jonquera 51.51 299 P **P 05 14 02.7 -0.9**
comp=Z,5.9nm,0.7s,mb4.1
RJF Les Rejaudoux 51.65 303 *e*P P 05 14 04.2 -0.4
comp=Z,16nm,0.7s,mb4.3
RJF Les Rejaudoux 51.65 303 *e*P P 05 14 04.2 -0.4
RJF pmax pmax
comp=Z,8.0nm,0.7s,mb4.3
MTLF Montolieu 51.72 300 *e*P P 05 14 05.1 0.0
comp=Z,18nm,0.6s,mb4.4
MTLF Montolieu 51.72 300 *e*P P 05 14 05.1 0.0
MTLF pmax pmax
comp=Z,9.0nm,0.6s,mb4.4
LDF La Druitiere 51.88 307 *e*P P 05 14 05.0 -1.2
FLN La Foliniere 52.07 307 *e*P P 05 14 06.8 -0.8
comp=Z,13nm,0.4s,mb4.4
FLN *e*pP pP 05 14 54.8 -0.6
FLN La Foliniere 52.07 307 *e*P P 05 14 06.8 -0.8
FLN *e**PP pP 05 14 54.8 -0.6
FLN pmax pmax
comp=Z,6.0nm,0.4s,mb4.4
EKA Eskdalemuir Ar 52.22 316 P **P 05 14 08.0 -0.7**
comp=Z,21nm,0.9s,mb4.6,baz=76,slow=6.9,SNR=33
EKA pP pP 05 14 55.3 -1.2
comp=Z,7.5nm,0.9s,baz=79,slow=8.5,SNR=3.9
EKA PcP PcP 05 15 16.8 -0.5
comp=Z,2.4nm,0.5s,baz=90,slow=3.4,SNR=6.2
EKA PP PP 05 16 09.4 -0.5
comp=Z,4.3nm,0.7s,baz=79,slow=9.1,SNR=3.4
MBAR Mbarara 52.27 234 *e*P P 05 14 09.2 -0.4
comp=Z,18nm,0.6s,mb4.7
MBAR Mbarara 52.27 234⇑*e*P P 05 14 14.2 +4.6
LFF La Frestale 52.28 302 *e*P P 05 14 09.2 0.0
comp=Z,28nm,0.6s,mb4.6
LFF La Frestale 52.28 302 *e*P P 05 14 09.2 0.0
LFF pmax pmax
comp=Z,14nm,0.6s,mb4.6
GRR Gorron 52.41 307 *e*P P 05 14 09.0 -1.1
comp=Z,8.6nm,0.4s,mb4.2
GRR Gorron 52.41 307 *e*P P 05 14 09.0 -1.1
GRR pmax pmax
comp=Z,4.0nm,0.4s,mb4.2
ETOS Mallorca 52.41 296 ⇑P P 05 14 10.0 -0.2
comp=Z,22nm,0.6s,mb4.8
MFF Saint Martin d 52.41 305 *e*P P 05 14 09.3 -0.9
comp=Z,12nm,0.6s,mb4.2
MFF Saint Martin d 52.41 305 *e*P P 05 14 09.3 -0.9
MFF pmax pmax
comp=Z,6.0nm,0.6s,mb4.2
EMIR Miracle 52.64 299 P **P 05 14 11.9 0.0**
comp=Z,25nm,0.6s,mb4.8
KAC Achnashellach 52.97 319⇑*e*P P 05 14 13.4 -0.8
KAC AMb AMB 05 14 15.2
comp=Z,102nm,1.3s,mb5.1
YSS Yuzh-Sakhalins 53.06 55 *e*P P 05 14 13.3 -1.7
YSS pmax pmax
comp=Z,60nm,1.0s,mb5.0
KSB Sheil Bridge 53.09 319⇑*e*P P 05 14 14.2 -0.9
KSB AMb AMB 05 14 19.8
comp=Z,44nm,1.8s,mb4.6
EPF Esparros 53.13 300 *e*P P 05 14 14.2 -1.3
comp=Z,16nm,0.6s,mb4.3
EPF Esparros 53.13 300 *e*P P 05 14 14.2 -1.3
EPF pmax pmax
comp=Z,8.0nm,0.6s,mb4.3
EPOB Poblet 53.14 298 ⇑P P 05 14 14.8 -0.9
comp=Z,7.0nm,0.4s,mb4.4
MAJO Matsushiro 53.19 68 *e*P P 05 14 14.6 -1.5
comp=Z,9.3nm,0.6s,mb4.4
MAJO Matsushiro 53.19 68 *e*P P 05 14 14.6 -1.5
MAJO pmax pmax
comp=Z,9.0nm,0.6s,mb4.4
MAT Matsushiro 53.19 68 P **P 05 14 14.9 -1.2**
MAT Matsushiro 53.19 68 *e*P P 05 14 15.0 -1.1
comp=Z,10nm,0.8s,mb4.3
MAT Matsushiro 53.19 68 *e*P P 05 14 15.0 -1.1
MAT pmax pmax
comp=Z,10.0nm,0.8s,mb4.3
KPL Plockton 53.19 319⇑*e*P P 05 14 14.7 -1.1
KPL AMb AMB 05 14 15.7
comp=Z,28nm,0.8s,mb4.7
MJAR Matsushiro Arr 53.19 68 P **P 05 14 16.0 -0.1**
comp=Z,9.3nm,0.8s,mb4.3,baz=289,slow=9.5,SNR=16
MJAR pP pP 05 15 05.1 +1.0
comp=Z,3.7nm,0.8s,baz=289,slow=8.8,SNR=2.7
MJAR Matsushiro Arr 53.19 68 P **P 05 14 16.0 -0.1**
MJAR pP pP 05 15 05.1 +1.0
RESF Ens 53.20 300 *e*P P 05 14 16.1 +0.1
LABF Labassere 53.31 300 *e*P P 05 14 17.0 +0.2
KAR1 Arisaig 53.37 318⇑*e*P P 05 14 16.6 -0.5
KAR1 AMb AMB 05 14 17.9
comp=Z,41nm,1.3s,mb4.7
EBIE Bielsa 53.37 300 ⇑P P 05 14 16.9 -0.4
comp=Z,15nm,0.6s,mb4.6
VIEF Viey 53.39 300 *e*P P 05 14 17.4 -0.1
EGRA Graus 53.41 299 P **P 05 14 17.2 -0.4**
comp=Z,7.2nm,0.5s,mb4.4
SGMF Saint Gilles 53.53 307 *e*P P 05 14 17.4 -1.0
comp=Z,19nm,0.6s,mb4.5
SGMF Saint Gilles 53.53 307 *e*P P 05 14 17.4 -1.0
SGMF pmax pmax
comp=Z,9.0nm,0.6s,mb4.5
EIBI Ibiza 53.73 295 ⇑P P 05 14 20.3 +0.3
comp=Z,48nm,0.8s,mb5.1
ETSF Etsaut 53.79 300 *e*P P 05 14 20.3 -0.1
comp=Z,59nm,0.5s,mb5.1
ETSF Etsaut 53.79 300 *e*P P 05 14 20.3 -0.1
ETSF pmax pmax
comp=Z,30nm,0.5s,mb5.1
ERTA Horta de San J 53.80 298 P **P 05 14 19.8 -0.7**
comp=Z,45nm,1.0s,mb5.0
FDAF Les Forges d'A 53.83 300 *e*P P 05 14 20.6 0.0
ROSF Rostrenen 53.97 308 *e*P P 05 14 20.6 -1.0
comp=Z,18nm,0.5s,mb4.5
ROSF Rostrenen 53.97 308 *e*P P 05 14 20.6 -1.0
ROSF pmax pmax
comp=Z,9.0nm,0.5s,mb4.6

QUIF Quistinic 54.02 307 *e*P P 05 14 21.1 -0.9
comp=Z,17nm,0.7s,mb4.4
QUIF Quistinic 54.02 307 *e*P P 05 14 21.1 -0.9
QUIF pmax pmax
comp=Z,9.0nm,0.7s,mb4.4
ESAC San Caprasio 54.12 299 P **P 05 14 22.2 -0.5**
comp=Z,23nm,0.5s,mb5.0
SJPF Ste Jean 54.19 301 *e*P P 05 14 23.1 -0.2
comp=Z,5.6nm,0.4s,mb4.1
SJPF Ste Jean 54.19 301 *e*P P 05 14 23.1 -0.2
SJPF pmax pmax
comp=Z,3.0nm,0.4s,mb4.2
EALK Alkurruntz 54.35 301 P **P 05 14 24.4 -0.1**
comp=Z,10nm,0.8s,mb4.4
EMOS Mosqueruela 54.58 297 ⇑P P 05 14 26.3 +0.2
comp=Z,25nm,0.7s,mb4.8
MA2 Magadan 54.58 38 *e*P P 05 14 25.3 -0.5
comp=Z,35nm,1.3s,mb4.7
MA2 Magadan 54.58 38*c i*P P 05 14 25.5 -0.4
MA2 pmax pmax
comp=Z,36nm,1.3s,mb4.7
DLF Lyons Farm 54.61 314 *e*P P 05 14 24.7 -1.5
SEY Seymchan 54.63 34⇑*e*P P 05 14 26.5 +0.3
EBEN Beniarda 54.99 295 P **P 05 14 28.9 -0.2**
comp=Z,8.1nm,0.6s,mb4.4
DCN Croghan 55.03 314 *e*P P 05 14 28.1 -1.1
ECHE Chera 55.21 297 ⇑P P 05 14 30.7 0.0
comp=Z,11nm,0.5s,mb4.6
ECHE Chera 55.21 297 ⇑P P 05 14 30.7 0.0
ECHE pmax pmax
comp=Z,11nm,0.5s,mb4.6
ELAN Lanestosa 55.67 302 P **P 05 14 34.0 +0.1**
comp=Z,72nm,1.0s,mb5.2
CART Cartagena 55.98 294 *e*P P 05 14 35.0 -1.1
comp=Z,34nm,0.8s,mb4.9
ETOB Tobarra 55.98 296 ⇑P P 05 14 36.3 +0.2
comp=Z,24nm,0.7s,mb4.8
EMUR La Murta 56.05 295 ⇑P P 05 14 36.0 -0.7
comp=Z,30nm,0.9s,mb4.8
EVIA Vianos 56.67 296 ⇑P P 05 14 40.7 -0.4
comp=Z,18nm,0.6s,mb4.9
EVIA Vianos 56.67 296 ⇑P P 05 14 40.7 -0.3
EVIA pmax pmax
comp=Z,18nm,0.6s,mb4.9
EHUE Huescar 57.05 295 ⇑P P 05 14 43.4 -0.3
comp=Z,11nm,0.3s,mb5.0
EHUE Huescar 57.05 295 ⇑P P 05 14 43.4 -0.4
EHUE pmax pmax
comp=Z,11nm,0.3s,mb5.0
ENIJ Nijar 57.10 294 P **P 05 14 43.8 -0.3**
comp=Z,0.4nm,0.6s
ESDC Sonseca Array 57.33 298 P **P 05 14 45.0 -0.7**
comp=Z,11nm,0.6s,mb4.7,baz=55,slow=7.7,SNR=79
ESDC Sonseca Array 57.33 298 ⇑P P 05 14 45.0 -0.7
comp=Z,11nm,0.4s,mb4.8
ESLA Sonseca Array 57.33 298 *e*P P 05 14 44.6 -1.1
comp=Z,2.8nm,0.7s,mb4.0
EQES Quesada 57.41 295 P **P 05 14 45.8 -0.4**
comp=Z,35nm,0.5s,mb5.2
EBER Berja 57.63 294 P **P 05 14 47.6 -0.2**
comp=Z,4.0nm,0.6s,mb4.2
EBAN Banos Encina 57.78 296 P **P 05 14 48.2 -0.6**
comp=Z,28nm,0.6s,mb5.1
EBAN Banos Encina 57.78 296 P **P 05 14 48.2 -0.7**
EBAN pmax pmax
comp=Z,28nm,0.6s,mb5.1
ECOG Cogollos-Vega 57.98 295 P **P 05 14 49.1 -1.1**
comp=Z,5.1nm,0.3s,mb4.6
ECOG Cogollos-Vega 57.98 295 P **P 05 14 49.1 -1.1**
ECOG pmax pmax
comp=Z,5.0nm,0.3s,mb4.6
EALB Alboran 58.12 293 P **P 05 14 50.1 -1.2**
comp=Z,8.3nm,0.6s,mb4.5
EPON Pontenova 58.17 303 P **P 05 14 50.9 -0.6**
comp=Z,8.5nm,0.4s,mb4.7
ERON Agron 58.25 295 P **P 05 14 51.0 -1.2**
comp=Z,27nm,0.7s,mb5.0
EADA Adamuz 58.35 296 ⇑P P 05 14 52.0 -0.9
comp=Z,20nm,0.4s,mb5.1
ECAL Calabor 58.41 301 P **P 05 14 52.8 -0.4**
comp=Z,12nm,0.5s,mb4.8
ELOJ Sierra Loja 58.46 295 P **P 05 14 52.0 -1.6**
comp=Z,11nm,0.8s,mb4.5
ELOJ Sierra Loja 58.46 295 P **P 05 14 52.0 -1.6**
ELOJ pmax pmax
comp=Z,11nm,0.8s,mb4.5
PBRG Braganca 58.47 301 *e*P P 05 14 53.0 -0.6
comp=Z,18nm,1.6s,mb4.4
ERUA La Rua 58.52 302 P **P 05 14 51.9 -2.0**
comp=Z,9.1nm,0.5s,mb4.7
ERUA La Rua 58.52 302 P **P 05 14 51.9 -2.0**
ERUA pmax pmax
comp=Z,9.0nm,0.5s,mb4.7
BORG Borgarnes 58.60 330 P **P 05 14 54.5 +0.3**
comp=Z,21nm,0.7s,mb4.9,baz=99,slow=5.1,SNR=13
BILL Bilibino 58.80 26 *e*P P 05 14 55.6 +0.1
comp=Z,61nm,1.0s,mb5.2
BILL Bilibino 58.80 26*c i*P P 05 14 56.1 +0.6
BILL *e**PP pP 05 15 45.9 +1.4
BILL 05 16 12.0
BILL *e* 05 17 07.5
BILL pmax pmax
comp=Z,68nm,1.2s,mb5.2
BILL MLR MLR
comp=Z,100nm,20.0s
EMIJ Mijas 59.15 295 ⇑P P 05 14 55.9 -2.4
comp=Z,21nm,0.6s,mb4.9
PVRL Vila Real 59.35 301 *e*P P 05 14 59.1 -0.5
comp=Z,23nm,1.3s,mb4.7
ELOB Lobios 59.35 302 P **P 05 14 59.5 -0.2**
comp=Z,17nm,0.5s,mb4.9
EMAZ Mazaricos 59.55 303 P **P 05 15 00.6 -0.4**
comp=Z,6.2nm,0.3s,mb4.7
MTE Manteigas 59.58 300 *e*P P 05 15 01.1 -0.1
comp=Z,49nm,1.1s,mb5.0
MTE Manteigas 59.58 300 *e*P P 05 14 58.9 -2.3
comp=Z,36nm,1.0s,mb5.0
EJIF Jimena Fronter 59.70 295 P **P 05 15 00.8 -1.3**
comp=Z,3.4nm,0.4s,mb4.3
EJIF Jimena Fronter 59.70 295 P **P 05 15 00.8 -1.3**
EJIF pmax pmax
comp=Z,3.0nm,0.4s,mb4.3
PCBR Castelo Branco 59.75 299 *e*P P 05 15 02.3 -0.1
comp=Z,16nm,2.2s,mb4.3
ESPR Espera 59.81 296 ⇑P P 05 15 01.3 -1.6
comp=Z,22nm,0.5s,mb5.0
EBAD Badajoz 59.87 298 ⇑P P 05 15 02.7 -0.5
comp=Z,55nm,0.6s,mb5.4
EMIN Mina Concepcio 60.03 297 ⇑P P 05 15 03.3 -1.0
comp=Z,25nm,0.8s,mb4.9
PTOM Tomar 60.50 299 *e*P P 05 15 07.0 -0.4
comp=Z,40nm,0.9s,mb5.0
MDT Midelt 60.64 291 P **P 05 15 08.2 -0.3**
comp=Z,9.5nm,0.7s,mb4.5,baz=72,slow=7.8,SNR=27
EGRO El Granado 60.71 297 ⇑P P 05 15 08.2 -0.7
comp=Z,25nm,0.6s,mb5.0
PBEJ Beja 60.78 297 *e*P P 05 15 08.9 -0.4
comp=Z,33nm,1.3s,mb4.8
SUMG Summit 61.10 341 *e*P P 05 15 11.5 +0.5
comp=Z,82nm,0.8s,mb5.4
PTEO Sao Teotonio 61.60 297 *e*P P 05 15 14.4 -0.4
SFJD Kangerlussuaq 67.79 339⇑*i*P P 05 15 53.8 -0.3
comp=Z,24nm,0.6s,mb5.0
SFJD *i* 05 41 22.6
SFJD Kangerlussuaq 67.79 339⇑*i*P P 05 15 53.8 -0.3
SFJD pmax pmax
comp=Z,24nm,0.6s,mb5.0
RES Resolute Bay 68.80 356 *e*P P 05 16 00.3 +0.1
comp=Z,11nm,0.8s,mb4.5
RES Resolute Bay 68.80 356 *e*P P 05 16 00.3 +0.1
RES pmax pmax
comp=Z,11nm,0.8s,mb4.5
IMA Indian Mountai 72.29 17 *e*P P 05 16 22.0 +0.6
comp=Z,32nm,0.8s,mb5.0
IMA Indian Mountai 72.29 17 *e*P P 05 16 22.0 +0.6
IMA pmax pmax
comp=Z,32nm,0.8s,mb5.0
MBWA Marble Bar 73.60 133 *e*P P 05 16 29.3 -0.5
comp=Z,9.9nm,0.9s,mb4.4
INK Inuvik 74.05 9 P **P 05 16 32.3 +0.8**
comp=Z,81nm,0.9s,mb5.4,baz=1.7,slow=6.9,SNR=75
INK Inuvik 74.05 9 *e*P P 05 16 32.0 +0.6
comp=Z,94nm,0.9s,mb5.4
INK Inuvik 74.05 9 P **P 05 16 32.3 +0.8**
INK pmax pmax
comp=Z,81nm,0.9s
LBTB Lobatse 74.45 222 *e*P P 05 16 35.3 +0.6

comp=Z,24nm,0.6s,mb5.0
LBTB *e*pP pP 05 17 25.3 -0.6
LBTB Lobatse 74.45 222 *e*P P 05 16 35.3 +0.6
LBTB *e**PP pP 05 17 25.3 -0.5
LBTB pmax pmax
comp=Z,24nm,0.6s,mb5.0
DBIC Dimbokro 74.48 267 P **P 05 16 33.8 -1.3**
comp=Z,14nm,0.6s,mb4.7,baz=33,slow=6.0,SNR=29
DBIC Dimbokro 74.48 267 *e*P P 05 16 33.6 -1.4
comp=Z,14nm,0.8s,mb4.7
DBIC Dimbokro 74.48 267 P **P 05 16 33.8 -1.2**
DBIC pmax pmax
comp=Z,14nm,0.6s
TSUM Tsumeb 74.68 232 *e*P P 05 16 36.1 +0.1
comp=Z,29nm,1.1s,mb4.8
LIC Lamto 74.88 267 *e*P P 05 16 35.9 -1.4
comp=Z,12nm,0.3s,mb4.7
ILAR Eielson Array 74.94 16 P **P 05 16 36.3 -0.3**
comp=Z,29nm,0.8s,mb4.9,baz=318,slow=4.5,SNR=233
ILAR pP pP 05 17 27.9 0.0
comp=Z,4.3nm,0.9s,baz=313,slow=6.3,SNR=2.6
ILAR PP PP 05 19 26.8 -2.0
comp=Z,5.2nm,1.0s,baz=318,slow=7.0,SNR=8.0
FITZ Fitzroy Crossi 74.99 126⇓*i*P P 05 16 37.8 0.0
comp=Z,14nm,0.6s,mb4.8
MCK McKinley 75.37 17 *e*P P 05 16 38.6 -0.5
comp=Z,16nm,0.6s,mb4.8
MCK McKinley 75.37 17 *e*P P 05 16 38.6 -0.4
MCK pmax pmax
comp=Z,16nm,0.6s,mb4.8
SVW2 Sparrevohn 75.79 21 *e*P P 05 16 42.2 +0.8
KAKA Kakadu 75.86 118⇑*i*P P 05 16 56.6 +14
comp=Z,28nm,0.6s,mb5.1
DAWY Dawson 77.08 13 *e*P P 05 16 49.0 +0.5
RSO Redoubt South 77.12 20 *e*P P 05 16 49.4 +0.6
PMR Palmer 77.14 18 *e*P P 05 16 49.2 +0.3
comp=Z,54nm,0.9s,mb5.2
PMR Palmer 77.14 18 *e*P P 05 16 49.2 +0.3
PMR pmax pmax
comp=Z,54nm,0.9s,mb5.2
SML Sawmill 77.16 18 *e*P P 05 16 49.1 +0.1
BOSA Boshof 77.53 220 P **P 05 16 52.4 +0.7**
comp=Z,36nm,0.7s,mb5.1,baz=34,slow=6.4,SNR=36
BOSA Boshof 77.53 220 *e*P P 05 16 52.0 +0.3
comp=Z,36nm,0.8s,mb5.1
BOSA Boshof 77.53 220 *e*P P 05 16 52.0 +0.3
BOSA pmax pmax
comp=Z,36nm,0.8s,mb5.0
BOSA Boshof 77.53 220 P **P 05 16 52.4 +0.7**
BOSA pmax pmax
comp=Z,36nm,0.7s,mb5.1
SLKM Skilak Lake 77.78 19 *e*P P 05 16 51.8 -0.6
DIV Divide 78.37 17 *e*P P 05 16 56.2 +0.6
comp=Z,177nm,0.7s,mb5.8
EYAK Cordova Ski Ar 78.88 17 *e*P P 05 16 59.1 +0.8
KDAK Kodiak Island 79.38 22 *e*P P 05 17 01.9 +0.8
KLBR Kellerberrin 80.70 141 *e*P P 05 17 07.4 -1.3
comp=Z,7.2nm,0.8s,mb4.3
YKW3 Yellowknife Ar 81.30 3 *e*P P 05 17 11.1 0.0
YKA Yellowknife Ar 81.37 3 P **P 05 17 12.2 +0.7**
comp=Z,38nm,0.5s,mb5.3,baz=350,slow=5.4,SNR=157
YKA PP PP 05 20 19.5 -2.6
comp=Z,7.2nm,0.9s,baz=356,slow=8.5,SNR=6.4
YKA Yellowknife Ar 81.37 3 P **P 05 17 12.2 +0.7**
YKA PP PP 05 20 19.6 -2.6
WRA Warramunga Arr 82.11 122 P **P 05 17 15.6 -0.5**
comp=Z,22nm,0.7s,mb4.9,baz=326,slow=5.0,SNR=318
WRA pP pP 05 18 08.4 0.0
comp=Z,4.2nm,0.7s,baz=322,slow=4.9,SNR=2.8
WRA PKKPbc 05 35 44.1
comp=Z,0.6nm,0.4s,baz=125,slow=2.3,SNR=26
WRAB Tennant Creek 82.11 122 *e*P P 05 17 14.8 -1.3
comp=Z,51nm,0.9s,mb5.2
WRAB Tennant Creek 82.11 122 *e*P P 05 17 14.8 -1.3
WRAB pmax pmax
comp=Z,51nm,0.9s,mb5.2
SCHQ Schefferville 82.12 337 P **P 05 17 15.9 +0.5**
comp=Z,7.3nm,0.6s,mb4.5,baz=30,slow=5.6,SNR=27
SCHQ PP PP 05 20 24.8 -3.5
comp=Z,3.9nm,0.7s,baz=19,slow=3.3,SNR=3.9
SCHQ Schefferville 82.12 337 *e*P P 05 17 15.3 -0.2
comp=Z,6.3nm,0.5s,mb4.5
DLBC Dease Lake 83.95 11 *e*P P 05 17 25.9 +1.3
FORT Forrest 85.74 133 *e*P P 05 17 34.0 -0.2
comp=Z,26nm,0.6s,mb5.1
CTA Charters Tower 90.68 114⇓*i*P P 05 17 57.7 -0.1
comp=Z,15nm,0.6s,mb5.1
CTA Charters Tower 90.68 114⇓*i*P P 05 17 57.7 -0.1
CTA pmax pmax
comp=Z,15nm,0.6s
EDM Edmonton 90.69 2 *e*P P 05 17 58.2 +1.2
ULM Lac du Bonnet 92.93 351 P **P 05 18 07.5 +0.1**
comp=Z,6.0nm,0.9s,mb4.6,baz=358,slow=4.7,SNR=6.0
ULM pP pP 05 19 00.4 -0.1
comp=Z,1.4nm,0.7s,baz=351,slow=3.2,SNR=2.3
WALA Waterton Lakes 94.83 3 *e*P P 05 18 16.7 +0.6
comp=Z,13nm,0.9s,mb5.1
STKA Stephens Creek 94.89 126 P **P 05 18 17.1 +0.3**
comp=Z,1.0nm,0.3s,mb4.4,baz=348,slow=18,SNR=3.0
NEW Newport 95.43 5 P **P 05 18 20.2 +1.3**
comp=Z,8.4nm,0.9s,mb4.8,baz=345,slow=4.7,SNR=11
NEW PP PP 05 22 07.5 -6.6
comp=Z,3.4nm,0.8s,baz=333,slow=6.5,SNR=5.7
NEW Newport 95.43 5 *e*P P 05 18 19.8 +0.9
comp=Z,5.6nm,0.8s,mb4.8
NEW *e*pP pP 05 19 11.1 -0.9
NEW Newport 95.43 5 P **P 05 18 20.2 +1.3**
NEW 05 22 07.6
NEW pmax pmax
comp=Z,8.0nm,0.9s
NEW pmax pmax
comp=Z,3.0nm,0.8s
CHMT Chamberlain Mo 97.00 3 *e*P P 05 18 26.7 +0.6
CHMT *e*pP pP 05 19 17.7 -1.4
MSO Missoula 97.06 3 *e*P P 05 18 27.0 +0.6
comp=Z,2.7nm,1.1s,mb4.4
DLMT Dillon 98.57 2 *e*P P 05 18 33.9 +0.6
MCMT McKenzie Canyo 99.10 3 P **P 05 18 36.0 +0.3**
PDAR Pinedale Array 101.22 0 P P 05 18 46.3 +1.0
comp=Z,0.8nm,0.8s,baz=22,slow=3.8,SNR=6.2
PDAR PP PP 05 22 53.2 -6.0
comp=Z,0.9nm,0.8s,baz=345,slow=2.2,SNR=5.0
NVAR Mina Array Bea 105.09 7 Pdiff Pdif 05 19 03.6 +1.2
comp=Z,0.8nm,0.8s,baz=351,slow=2.9,SNR=6.9
SYO Syowa Base 107.58 191 ⇑P Pdif 05 19 25.4 +13
TXAR Lajitas Array 114.42 355 PKP PKPdf 05 23 33.9 +1.5
comp=Z,0.2nm,0.4s,baz=42,slow=2.3,SNR=8.1
TXAR PKKPbc 05 34 13.5
comp=Z,0.4nm,0.7s,baz=185,slow=6.0,SNR=6.6
SNAA Sanae 119.22 200⇓*i*P PKPdf 05 23 41.4 +0.7
SNAA Sanae 119.22 200 *e* PKPdf 05 23 43.4 +2.7
SNAA Sanae 119.22 200 *e* 05 24 36.7
SNAA Sanae 119.22 200 *e* 05 24 53.4
SNAA Sanae 119.22 200 *e*PKP PKPdf 05 23 41.0 +0.3
SNAA ⇓*i*PKPdf PKPdf 05 23 41.4 +0.7
SNAA *e* 05 23 43.4
SNAA *e* 05 24 36.7
SNAA *e* 05 24 53.4
SNAA *e* 05 25 06.3
SNAA *e* 05 33 55.2
SNAA Sanae 119.22 200 *e*PKIKP PKPdf 05 23 41.0 +0.3
SNAA *e* 05 24 36.7
SNAA *e* 05 24 53.4
SNAA *e* 05 25 06.3
VNA2 Neumayer--Watz 120.22 202 *e* PKPdf 05 23 45.8 +3.2
VNA2 Neumayer--Watz 120.22 202 *e* 05 24 39.1
VNA2 Neumayer--Watz 120.22 202 *e* 05 24 41.6
VNA2 Neumayer--Watz 120.22 202 *e* 05 24 55.8
VNA2 Neumayer--Watz 120.22 202⇓*i*PKPdf PKPdf 05 23 43.9 +1.3
VNA2 *e* 05 23 45.8
VNA2 *e* 05 24 39.1
VNA2 *e* 05 24 41.6
VNA2 *e* 05 24 55.8
VNA2 *e* 05 25 12.6
VNA2 *e* 05 33 51.6
VNA1 Neumayer--Stat 120.37 202 *e* PKPdf 05 23 46.3 +3.4
VNA1 Neumayer--Stat 120.37 202 *e* 05 24 43.4
VNA1 Neumayer--Stat 120.37 202 *e* 05 24 46.3
VNA1 Neumayer--Stat 120.37 202 *e* 05 25 02.2
VNA1 Neumayer--Stat 120.37 202⇓*i*PKPdf PKPdf 05 23 44.1 +1.2
VNA1 *e* 05 23 46.3
VNA1 *e* 05 24 43.4
VNA1 *e* 05 24 46.3
VNA1 *e* 05 25 02.2
VNA1 *e* 05 33 52.1

VNA3	**Neumayer Olymp**	**121.02 202**	*e*		PKPdf	05 23 47.0	+2.8
VNA3	**Neumayer Olymp**	**121.02 202**	*e*			05 24 41.2	
VNA3	**Neumayer Olymp**	**121.02 202**	*e*			05 24 44.4	
VNA3	**Neumayer Olymp**	**121.02 202**	*e*			05 24 58.8	
VNA3	**Neumayer Olymp**	**121.02 202**	⇓*i*	PKPdf	PKPdf	05 23 45.1	+0.9
VNA3			*e*			05 23 47.0	
VNA3			*e*			05 24 41.2	
VNA3			*e*			05 24 44.4	
VNA3			*e*			05 24 58.8	
VNA3			*e*			05 25 13.9	
VNA3			*e*			05 33 48.9	
BDFB	**Brasilia**	**122.16 274**	PKP		PKPdf	05 23 48.2	+0.5
	comp=Z,3.6nm,0.9s,baz=154,slow=4.2,SNR=3.6						
BDFB			PP		PP	05 25 27.9	-1.7
	comp=Z,3.7nm,0.8s,baz=145,slow=0.8,SNR=5.3						
BDFB			PKKPbc			05 33 46.6	
	comp=Z,4.7nm,1.1s,baz=92,slow=4.9,SNR=4.5						
SDV	**Santo Domingo**	**122.16 313**	PKP		PKPdf	05 23 48.3	+0.6
	comp=Z,1.9nm,0.3s,baz=66,slow=4.6,SNR=6.2						
VNDA	**Vanda**	**125.44 165**	PKP		PKPdf	05 23 52.8	+0.3
	comp=Z,2.4nm,0.7s,baz=288,slow=4.7,SNR=17						
QSPA	**South Pole Qui**	**126.18 180**	*e*P		PKPdf	05 23 54.3	+0.5
ROSC	**El Rosal**	**127.56 314**	PKP		PKPdf	05 24 00.8	+2.6
	comp=Z,16nm,0.9s,baz=117,slow=6.6,SNR=13						
SAML	**Samuel**	**130.12 291**	*e*PKP		PKPdf	05 24 03.9	+0.8
SIV	**San Ignacio**	**132.78 282**	PKP		PKPdf	05 24 09.2	+1.1
	comp=Z,1.5nm,0.5s,baz=129,slow=3.2,SNR=17						
SIV			PP		PP	05 26 35.4	-3.5
	comp=Z,1.2nm,0.9s,baz=58,slow=7.8,SNR=4.1						
SIV			SKPbc			05 27 15.1	
	comp=Z,1.2nm,0.7s,baz=82,slow=5.4,SNR=4.0						
CPUP	**Villa Florida**	**135.00 268**	PKP		PKPdf	05 24 12.8	+1.0
	comp=Z,6.1nm,0.6s,baz=87,slow=2.2,SNR=30						
CPUP			SKPbc			05 27 22.7	
	comp=Z,1.5nm,0.8s,baz=63,slow=9.0,SNR=3.7						
LPAZ	**La Paz**	**138.45 288**	PKP		PKPdf	05 24 20.1	+1.6
	comp=Z,1.3nm,0.7s,baz=278,slow=0.8,SNR=8.6						
LVC	**Limon Verde**	**142.57 280**	PKhKP			05 24 23.3	
	comp=Z,4.0nm,0.7s,baz=77,slow=3.8,SNR=9.8						
TRQA	**Tornquist**	**142.63 253**	*e*PKP		PKPdf	05 24 22.9	-2.3
CFAA	**Coronel Fontan**	**145.84 266**	PKPbc		PKPbc	05 24 33.1	+0.9
	comp=Z,3.2nm,0.7s,baz=57,slow=2.3,SNR=83						
USHA	**Ushuaia**	**146.62 223**	PKPbc		PKPbc	05 24 35.8	+2.6
	comp=Z,12nm,0.6s,baz=100,slow=6.2,SNR=29						
USHA			pPKPbc			05 25 30.8	
	comp=Z,10nm,0.9s,baz=132,slow=2.8,SNR=2.8						
PLCA	**Paso Flores**	**149.59 250**	PKPbc		PKPdf	05 24 43.5	+6.7
	comp=Z,14nm,0.8s,baz=152,slow=2.7,SNR=3.7						
PLCA	**Paso Flores**	**149.59 250**	*e*PKPbc		PKPdf	05 24 43.3	+6.5
PLCA	**Paso Flores**	**149.59 250**	PKP2		PKPab	05 24 43.5	-6.3
PLCA			pmax		pmax		
	comp=Z,14nm,0.8s						

*NEIC **27** 05:29:12.6, 41.08S×174.52E, h48km, ML3.9(WEL), After WEL.*

WEL 27 05:29:12.2±0.1, 41.02S×174.52E, h49km, ML3.9/17, 11C-2D, Error ellipse: s-maj=0.5km s-min=0.4km az=0.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MRW	**Makara Radio**	**0.25**	**147**	⇑P	N	P	05 29 20.6	-0.2
MRW				S	N	S	05 29 26.6	-0.3
MRW	**Makara Radio**	**0.25**	**147**	P		P	05 29 20.6	-0.2
MRW				S		S	05 29 26.7	-0.3
TCW	**Tory Channel**	**0.27**	**224**	⇓P	N	P	05 29 20.5	-0.5
TCW				S	N	S	05 29 26.2	-1.0
TCW	**Tory Channel**	**0.27**	**224**	P		P	05 29 20.5	-0.5
TCW				S		S	05 29 26.2	-1.0
SNZO	**South Karori**	**0.32**	**154**	*e*PN		P	05 29 21.1	-0.4
SNZO				S	N	S	05 29 28.0	-0.1
SNZO	**South Karori**	**0.32**	**154**	*e*P		P	05 29 20.7	-0.8
SNZO				*e*P			05 29 21.2	
WEL	**Wellington**	**0.32**	**145**	⇑PN		P	05 29 21.3	-0.2
WEL				S	N	S	05 29 28.3	+0.1
WEL	**Wellington**	**0.32**	**145**	P		P	05 29 21.3	-0.3
KIW	**Kapiti Island**	**0.33**	**62**	⇑PN		P	05 29 21.5	-0.1
KIW				S	N	S	05 29 28.3	0.0
KIW	**Kapiti Island**	**0.33**	**62**	P		P	05 29 21.5	-0.1
CAW	**Cannon Point**	**0.42**	**102**	⇑PN		P	05 29 22.4	-0.2
CAW				S	N	S	05 29 30.3	+0.4
CAW	**Cannon Point**	**0.42**	**102**	P		P	05 29 22.4	-0.2
BHW	**Baring Head**	**0.47**	**146**	⇑PN		P	05 29 22.6	-0.5
BHW				S	N	S	05 29 30.6	-0.3
BHW	**Baring Head**	**0.47**	**146**	P		P	05 29 22.6	-0.5
DUWZ	**D'Urville Isla**	**0.50**	**295**	⇑PN		P	05 29 23.3	-0.2
DUWZ				S	N	S	05 29 31.6	0.0
TUWZ	**Tuamarina**	**0.60**	**227**	⇓PN		P	05 29 24.2	-0.4
TUWZ				S	N	S	05 29 33.3	-0.4
MSWZ	**Moikau Station**	**0.68**	**126**	⇑PN		P	05 29 25.2	-0.5
MSWZ	**Moikau Station**	**0.68**	**126**	P		P	05 29 25.2	-0.4
MTW	**Mount Morrison**	**0.75**	**101**	⇑PN		P	05 29 26.1	-0.6
MTW				S	N	S	05 29 37.1	-0.2
MTW	**Mount Morrison**	**0.75**	**101**	P		P	05 29 26.1	-0.6
CMWZ	**Cape Campbell**	**0.76**	**198**	PN		P	05 29 27.0	+0.2
CMWZ	**Cape Campbell**	**0.76**	**198**	P		P	05 29 27.4	+0.6
PAWZ	**Paruwai Farm**	**0.77**	**118**	PN		P	05 29 26.3	-0.7
BSWZ	**Blackbirch Sta**	**0.85**	**215**	PN		P	05 29 27.7	-0.3
MRZ	**Mangatainoka R**	**0.88**	**66**	⇑PN		P	05 29 28.2	-0.2
MRZ	**Mangatainoka R**	**0.88**	**66**	P		P	05 29 28.2	-0.2
NNZ	**Nelson**	**0.89**	**257**	⇑PN		P	05 29 28.1	-0.4
NNZ	**Nelson**	**0.89**	**257**	P		P	05 29 28.1	-0.4
TRWZ	**Traveller**	**0.96**	**114**	⇑PN		P	05 29 28.6	-1.0
WAZ	**Wanganui**	**1.31**	**16**	PN		P	05 29 35.5	+0.9
WAZ	**Wanganui**	**1.31**	**16**	P		P	05 29 35.7	+1.0
BFZ	**Birch Farm**	**1.35**	**76**	*e*PN		P	05 29 33.6	-1.6
BFZ	**Birch Farm**	**1.35**	**76**	*e*P		P	05 29 33.7	-1.5
THZ	**Tophouse**	**1.43**	**238**	*e*PN		P	05 29 35.2	-1.0
THZ	**Tophouse**	**1.43**	**238**	*e*P		P	05 29 35.4	-0.8
TSZ	**Takapari Road**	**1.46**	**49**	PN		P	05 29 35.7	-1.0
TSZ	**Takapari Road**	**1.46**	**49**	P		P	05 29 35.7	-1.0
KHZ	**Kahutara**	**1.58**	**207**	*e*PN		P	05 29 36.9	-1.4
KHZ	**Kahutara**	**1.58**	**207**	*e*P		P	05 29 36.9	-1.4
DFE	**Dawson Falls**	**1.72**	**349**	PN		P	05 29 41.4	+1.1
DFE	**Dawson Falls**	**1.72**	**349**	P		P	05 29 41.4	+1.1
RAEZ	**Rainy Point**	**1.73**	**357**	PN		P	05 29 41.4	+0.9
RAEZ	**Rainy Point**	**1.73**	**357**	P		P	05 29 41.5	+1.0
NRZ	**Ngariki Road**	**1.74**	**345**	*e*PN		P	05 29 41.3	+0.7
NRZ	**Ngariki Road**	**1.74**	**345**	P		P	05 29 41.1	+0.5
NEZ	**North Egmont**	**1.78**	**349**	PN		P	05 29 42.6	+1.5
NEZ	**North Egmont**	**1.78**	**349**	P		P	05 29 42.6	+1.5
PKVZ	**Pokaka**	**1.84**	**20**	*e*PN		P	05 29 42.5	+0.5
MOVZ	**Moawhango**	**1.87**	**31**	PN		P	05 29 41.5	-0.8
MOVZ	**Moawhango**	**1.87**	**31**	P		P	05 29 41.5	-0.9
PKE	**Pukeiti**	**1.87**	**347**	PN		P	05 29 43.0	+0.6
PKE	**Pukeiti**	**1.87**	**347**	P		P	05 29 43.3	+0.9
WNVZ	**Wahianoa**	**1.88**	**26**	PN		P	05 29 42.6	+0.1
WNVZ	**Wahianoa**	**1.88**	**26**	P		P	05 29 42.7	+0.1
VRZ	**Vera Road**	**1.90**	**6**	PN		P	05 29 43.7	+0.8
VRZ	**Vera Road**	**1.90**	**6**	P		P	05 29 43.7	+0.8
TUVZ	**Tukino**	**1.95**	**27**	PN		P	05 29 43.6	0.0
TUVZ	**Tukino**	**1.95**	**27**	P		P	05 29 43.6	0.0
CNZ	**Chateau**	**1.98**	**24**	P		P	05 29 47.2	+3.2
NGZ	**Ngauruhoe**	**2.02**	**25**	PN		P	05 29 44.6	+0.1
NGZ	**Ngauruhoe**	**2.02**	**25**	P		P	05 29 44.6	+0.1
PXZ	**Pawanui**	**2.04**	**62**	*e*PN		P	05 29 42.8	-0.5
OTVZ	**Oturere**	**2.05**	**26**	PN		P	05 29 45.0	0.0
WTVZ	**West Tongariro**	**2.07**	**24**	PN		P	05 29 45.2	-0.1
WTVZ	**West Tongariro**	**2.07**	**24**	P		P	05 29 45.2	-0.1
KATZ	**Kakaramea**	**2.23**	**24**	P		P	05 29 48.1	+0.5
BKZ	**Black Stump Fm**	**2.39**	**40**	*e*P		P	05 29 47.8	-2.0
HIZ	**Hauiti**	**2.52**	**6**	*e*P		P	05 29 52.0	+0.4
MQZ	**McQueen's Vall**	**3.02**	**207**	*e*P		P	05 29 54.5	-4.3
KNZ	**Kokohu**	**3.14**	**51**	*e*P		P	05 30 00.7	+0.2
URZ	**Urewera**	**3.41**	**37**	*e*P		P	05 30 00.2	-4.0
WVZ	**Waitaha Valley**	**3.49**	**233**	*e*P		P	05 30 02.7	-2.7
RPZ	**Rata Peaks**	**3.72**	**223**	*e*P		P	05 30 05.2	-3.5
FOZ	**Fox Glacier**	**4.39**	**233**	*e*P		P	05 30 16.9	-1.3
ODZ	**Otahua Downs**	**4.92**	**214**	*e*P		P	05 30 20.8	-4.8
JCZ	**Jackson Bay**	**5.24**	**232**	*e*P		P	05 30 25.7	-4.3

*IDC **27** 05:35:40.7±1.6, 32.05S×178.52W, mb4.5/3, mb1 4.6/4, mb1mx4.1/14, mbtmp4.5/4, ML4.1/1, MS3.6/1, Ms1 3.6/1, ms1mx3.0/17, Error ellipse: s-maj=42.9km s-min=34.0km az=92.0*

*NEIC **27** 05:35:42.2±0.8, 32.19S×178.64W, h10km, mb4.4/2, Error ellipse: s-maj=19.9km s-min=11.6km az=95.0*

ISC 27 05:35:49.6±1.8, 32.62S±0.09×179.4W±0.2, h45km±15km, n42, σ1$46/45, mb4.4/5, MS3.5/1, 2C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.28**	**200**	*e*PN		**P**	**05 37 10.7**	**+2.7**
MXZ	**Matakaoa Point**	**5.28**	**200**	*e*P		**P**	**05 37 13.5**	**+5.5**
PUZ	**Puketiti**	**5.77**	**199**	*e*PN		**P**	**05 37 16.2**	**+1.4**
PUZ				*e*SN		**S**	**05 38 25.8**	**+5.2**
PUZ	**Puketiti**	**5.77**	**199**	*e*P		**P**	**05 37 16.8**	**+2.0**
PUZ				S		**S**	**05 38 23.0**	**+2.4**
MWZ	**Matawai**	**6.23**	**203**	*e*PN		**P**	**05 37 22.6**	**+1.4**
MWZ				SN		**S**	**05 38 38.5**	**+6.4**
MWZ	**Matawai**	**6.23**	**203**	*e*P		**P**	**05 37 22.8**	**+1.5**
URZ	**Urewera**	**6.31**	**206**	Pn		**P**	**05 37 26.5**	**+4.1**
	3.5nm,0.3s,baz=331,slow=2.7,SNR=38							
URZ				Sn		**S**	**05 38 40.7**	**+6.7**
	7.1nm,0.3s,baz=108,slow=21,SNR=9.8							
URZ	**Urewera**	**6.31**	**206**	*e*PN		**P**	**05 37 24.1**	**+1.7**
URZ				*e*SN		**S**	**05 38 40.2**	**+6.2**
URZ	**Urewera**	**6.31**	**206**	P		**P**	**05 37 25.1**	**+2.7**
OUZ	**Omahuta**	**6.38**	**244**	PN		**P**	**05 37 33.3**	**+10**
BKZ	**Black Stump Fm**	**7.33**	**206**	*e*PN		**P**	**05 37 37.1**	**+0.4**
BKZ	**Black Stump Fm**	**7.33**	**206**	*e*P		**P**	**05 37 38.0**	**+1.3**
PXZ	**Pawanui**	**7.99**	**201**	*e*PN		**P**	**05 37 45.5**	**-0.2**
MRZ	**Mangatainoka R**	**8.98**	**205**	*e*PN		**P**	**05 37 57.6**	**-2.0**
MRZ				*e*SN		**S**	**05 39 39.5**	**-0.9**
MRZ	**Mangatainoka R**	**8.98**	**205**	*e*P		**P**	**05 37 57.8**	**-1.7**
KIW	**Kapiti Island**	**9.41**	**207**	*e*PN		**P**	**05 38 03.5**	**-1.8**
TUWZ	**Tuamarina**	**10.28**	**209**	*e*PN		**P**	**05 38 15.4**	**-1.9**
NNZ	**Nelson**	**10.34**	**212**	*e*PN		**P**	**05 38 16.4**	**-1.8**
NNZ				*e*SN		**S**	**05 40 14.8**	**+1.0**
THZ	**Tophouse**	**10.99**	**212**	PN		**P**	**05 38 25.1**	**-2.0**
THZ				SN		**S**	**05 40 30.6**	**+1.0**
KHZ	**Kahutara**	**11.27**	**208**	*e*PN		**P**	**05 38 26.8**	**-3.9**
KHZ				*e*SN		**S**	**05 40 33.4**	**-2.9**
KHZ	**Kahutara**	**11.27**	**208**	*e*P		**P**	**05 38 26.8**	**-4.0**
MQZ	**McQueen's Vall**	**12.71**	**207**	*e*SN		**S**	**05 41 03.7**	**-7.2**
CTA	**Charters Tower**	**33.07**	**284**	P		**P**	**05 42 24.4**	**+1.1**
	4.3nm,0.6s,mb4.6,baz=135,slow=8.3,SNR=5.7							
PMG	**Port Moresby**	**38.56**	**299**	LR		LR	05 56 36.8	
	comp=Z,81nm,21.7s,MS3.5,baz=13,slow=32							
WRAB	**Tennant Creek**	**43.05**	**275**	*e*P		**P**	**05 43 46.8**	**-0.1**
	5.4nm,0.5s,mb4.5							
WRA	**Warramunga Arr**	**43.05**	**275**	P		**P**	**05 43 47.2**	**+0.3**
	4.4nm,0.3s,mb4.6,baz=112,slow=8.0,SNR=180							
CASY	**Casey**	**52.62**	**209**	*e*P		**P**	**05 44 59.4**	**-1.4**
	1.4nm,0.5s,mb4.2							
MAW	**Mawson**	**69.81**	**201**	P		**P**	**05 46 57.4**	**+0.7**
	3.6nm,1.1s,mb4.2,baz=106,slow=9.0,SNR=4.3							
SNAA	**Sanae**	**75.97**	**179**	*e*		**P**	**05 47 33.6**	**+0.8**
SNAA	**Sanae**	**75.97**	**179**	*e*		**P**	**05 47 35.9**	**+3.1**
SNAA	**Sanae**	**75.97**	**179**	P		**P**	**05 47 31.5**	**-1.3**
SNAA				*e*			05 47 33.6	
SNAA				*e*			05 47 35.9	
VNA3	**Neumayer Olymp**	**76.17**	**177**	*e*		**P**	**05 47 35.0**	**+1.0**
VNA3	**Neumayer Olymp**	**76.17**	**177**	*e*		**P**	**05 47 37.5**	**+3.5**
VNA3	**Neumayer Olymp**	**76.17**	**177**	⇑*i*P		**P**	**05 47 32.9**	**-1.1**
VNA3				*e*			05 47 35.0	
VNA3				*e*			05 47 37.5	
VNA2	**Neumayer--Watz**	**76.59**	**177**	*e*		**P**	**05 47 37.6**	**+1.2**
VNA2	**Neumayer--Watz**	**76.59**	**177**	*e*		**P**	**05 47 40.2**	**+3.8**
VNA2	**Neumayer--Watz**	**76.59**	**177**	⇑*i*P		**P**	**05 47 35.4**	**-1.0**
VNA2				*e*			05 47 37.6	
VNA2				*e*			05 47 40.2	
JOF	**Joensuu**	**144.01**	**337**	*e*p		PKPbc	05 55 12.9	-5.6
KAF	**Kangasniemi**	**146.21**	**338**	*e*p		PKPdf	05 55 17.8	-5.3
FINES	**FINESS Array B**	**146.78**	**338**	PKPbc		PKPbc	05 55 22.4	-3.2
	0.8nm,0.3s,baz=47,slow=4.8,SNR=12							
NB2	**NORSAR Subarra**	**150.74**	**349**	PKPabc		PKPdf	05 55 32.6	+2.2
	0.8nm,0.5s,baz=21,slow=2.7							
NOA	**NORSAR Array B**	**150.74**	**349**	PKPbc		PKPdf	05 55 32.9	+2.5
	0.8nm,0.5s,baz=19,slow=4.2,SNR=4.2							

*NEIC **27** 06:04:43.5, 16.41N×98.47W, h11km, MD3.8(MEX), After MEX.*

MEX 27 06:04:43.2±0.6, 16.30N×98.46W, h31km±6km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.33**	**75**	*i*P		Pb	06 04 49.7	-1.4
PNIG				*i*S		Sb	06 04 55.0	-1.6
ACX	**Acapulco**	**1.50**	**292**	*e*P		Pn	06 05 06.0	-2.5
ACX				*i*S		Sn	06 05 24.0	-3.2
VHO	**Vista Hermosa**	**1.82**	**65**	*i*P		Pn	06 05 10.6	-2.5
VHO				*i*S		Sn	06 05 32.6	-2.7
OXX	**Oaxaca**	**1.84**	**65**	*e*P		Pn	06 05 10.0	-3.2
OXX				*i*S		Sn	06 05 33.0	-2.6
CAIG	**El Cayaco**	**1.88**	**293**	*e*P		Pn	06 05 12.0	-1.9
CAIG				*i*S		Sn	06 05 34.4	-2.4
PLIG	**Platanillo**	**2.30**	**335**	*i*P		Pn	06 05 18.5	-1.4
PLIG				*i*S		Sn	06 05 43.0	-4.4
PLIG	**Platanillo**	**2.30**	**335**	*i*P		Pn	06 05 18.5	-1.4
PLIG				*i*S		Sn	06 05 45.0	-2.4
PPM	**Popocatepetl**	**2.75**	**357**	*e*P		Pn	06 05 25.0	-1.3
CMIG	**Matias Romero**	**3.52**	**77**	*i*P		Pn	06 05 33.8	-3.4
CMIG				*i*S		Sn	06 06 12.8	-5.4

*ATH **27** 06:32:10.3, 36.66N×26.48E, h27km, MD3.5/10*
*ISK **27** 06:32:11.3, 36.72N×26.51E, h27km, MD3.4*
*CSEM **27** 06:32:11.5±0.1, 36.69N×26.53E, h25km, MD3.5, Error ellipse: s-maj=2.0km s-min=1.4km az=157.0*

ISC 27 06:32:11.5±0.6, 36.67N±0.03×26.51E±0.03, h26km±6km, n27, σ0$84/39, 2D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NISR	**Nisiros**	**0.50**	**96**	*e*PN		**Pn**	**06 32 21.0**	**-1.9**
NISR				*e*SN		**Sn**	**06 32 29.5**	**-1.2**
BODT	**Bodrum**	**0.75**	**58**	PG		**Pb**	**06 32 24.4**	**-1.5**
BDRM	**Kayabasi**	**0.85**	**62**	*i*P		**Pb**	**06 32 26.6**	**-0.9**
BDRM				*i*S		**Sb**	**06 32 39.4**	**+0.9**
APE	**Apeiranthos**	**0.88**	**297**	PG		**Pb**	**06 32 27.6**	**-0.5**
APE				SG		**Sb**	**06 32 40.3**	**+0.8**
APE	**Apeiranthos**	**0.88**	**297**	*e*PN		**Pb**	**06 32 27.6**	**-0.5**
APE				*e*SN		**Sn**	**06 32 39.0**	**-1.4**
THR1	**Thera Island**	**0.90**	**251**	*e*P		**Pb**	**06 32 28.1**	**-0.2**
THR4	**Thira Island,**	**0.92**	**257**	*e*P		**Pb**	**06 32 29.4**	**+0.7**
THR5	**Thira Island,**	**0.97**	**255**	*e*P		**Pb**	**06 32 30.0**	**+0.5**
SMG	**Samos**	**1.07**	**14**	*e*PN		**Pn**	**06 32 30.9**	**-0.2**
SMG				*e*SN		**Sn**	**06 32 46.4**	**+1.2**
MLSB	**Milas**	**1.19**	**58**	PN		**Pn**	**06 32 32.9**	**+0.1**
KARP	**Karpathos**	**1.23**	**155**	⇓*i*PN		**Pn**	**06 32 33.6**	**+0.2**
KARP				*e*SN		**Sn**	**06 32 50.4**	**+1.1**
ARG	**Arkhangelos**	**1.38**	**109**	*e*PN		**Pn**	**06 32 36.1**	**+0.7**
AYDN	**Tasoluk**	**1.48**	**47**	*i*P		**Pn**	**06 32 38.2**	**+1.4**
AYDN				*i*S		**Sn**	**06 33 00.2**	**+4.8**
YER	**Yerkesik**	**1.50**	**71**	PN		**Pn**	**06 32 37.3**	**+0.2**
NPS	**Neapolis**	**1.58**	**208**	*e*PN		**Pn**	**06 32 38.3**	**0.0**
NPS				*e*SN		**Sn**	**06 32 58.0**	**-0.1**
URLA	**Izmir**	**1.69**	**2**	*i*P		**Pn**	**06 32 40.9**	**+0.9**
URLA				*i*S		**Sn**	**06 33 05.3**	**+4.4**
DALT	**Dalyan (Mudla)**	**1.71**	**86**	*e*PN		**Pn**	**06 32 40.8**	**+0.6**
BLCB	**Balcova**	**1.77**	**14**	*e*PN		**Pn**	**06 32 40.3**	**-0.7**
IZM	**Izmir**	**1.83**	**19**	*e*PN		**Pn**	**06 32 41.8**	**-0.1**
KDAG	**Bornova**	**1.83**	**19**	*i*P		**Pn**	**06 32 41.2**	**-0.7**
KDAG				*i*S		**Sn**	**06 33 12.8**	**+8.2**
XRY	**Khrisi**	**1.91**	**201**	*e*PN		**Pn**	**06 32 43.3**	**+0.3**
VAM	**Vamos**	**2.25**	**237**	*e*PN		**Pn**	**06 32 47.6**	**-0.4**
DNZL	**Cakiroluk**	**2.27**	**62**	*i*P		**Pn**	**06 32 53.0**	**+4.8**
DNZL				*i*S		**Sn**	**06 33 27.2**	**+12**
MANT	**Manisa**	**2.44**	**41**	*i*P		**Pn**	**06 32 56.6**	**+6.0**
MANT				*i*S		**Sn**	**06 33 29.8**	**+10**
KYTH	**Kithira**	**2.83**	**263**	*e*PN		**Pn**	**06 32 56.0**	**-0.1**
VLI	**Veliai**	**2.87**	**272**	⇓*e*PN		**Pn**	**06 32 56.4**	**-0.4**
XOR	**Xorichti**	**3.76**	**317**	*e*P		**Pn**	**06 33 09.4**	**0.0**

*NIED **27** 06:46:00, 43.40N×146.90E, h47km, Mw4.7 Best double couple: M0 1.11×10^16 NP1:φs163°, δ53°, λ51°. NP2:φs37°, δ51°, λ130°.*

*BJI **27** 06:46:42.2, 43.96N×146.87E, h36km, mB4.8, mb4.8, Ms3.9, MszG.7*

*HRVD **27** 06:46:43.1±0.9, 43.47N×146.93E, h40km±1km, MW4.8/39, Centroid moment Tensor Solution. LP body waves: s18,c20;Mantle waves: s39,c51; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr 1.59±.25; Mθθ 0.10±.16; Mφφ -1.69±.14; Mθφ 0.78±.12; Mθr -0.51±.09; Mφr -0.12±.09; Best double couple: M0 1.888×10^16 NP1:φs172°, δ49°, λ56°. NP2:φs37°, δ51°, λ122°. Principal axes: T 1.951, Plg65°, Azm12°; N -.123, Plg25°, Azm196°; P -1.825, Plg1°, Azm105°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*JMA **27** 06:46:43.1±0.2, 43.36N×146.85E, h48km±3km, M4.7*
JMA Felt II J1.

*NEIC **27** 06:46:43.1±0.1, 43.47N×146.81E, mb5.0/89, MS4.1/5, Error ellipse: s-maj=4.5km s-min=2.7km az=158.0*

NEIC Felt [III] at Yuzhno-Kuril'sk, Kunashir and [II] on Shikotan. Recorded [2 JMA] in eastern Hokkaido.

*MOS **27** 06:46:45.0±0.8, 43.87N×146.74E, h53km, mb5.2/65, Error ellipse: s-maj=9.5km s-min=4.8km az=106.4*

MOS Felt (III) at Yuzhno-Kuril'sk; (II) at Malokurilsk.

*IDC **27** 06:46:46.8±2.8, 43.48N×146.73E, h73km±25km, mb4.4/22, mb1 4.6/24, mb1mx4.6/25, mbtmp4.7/24, MS3.9/13, Ms1 3.9/13, ms1mx3.6/38, Error ellipse: s-maj=15.6km s-min=11.9km az=146.0*

ISC 27 06:46:42.6±0.6, 43.48N±0.04×146.86E±0.04, h50km±4km, h45km±3.5km; pP-P, n354, σ0$93/337, mb4.9/127, MS3.9/26, 88C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.82**	**262**	P		**P**	**06 46 58.3**	**+0.2**
NEM2				*e*S		**S**	**06 47 10.0**	**+0.5**
YUK	**Yuzh-Kuril'sk**	**0.91**	**308**	⇓*i*PN		**P**	**06 46 59.9**	**+0.6**
YUK				*i*S		**S**	**06 47 12.0**	**+0.3**
YUK				pmax		pmax		
	comp=N,10μm,0.3s							
YUK				pmax		pmax		
	comp=E,9μm,0.3s							
YUK				pmax		pmax		
	comp=Z,20μm,0.3s							
YUK				pmax		pmax		
	comp=N,18μm,0.5s							
YUK				pmax		pmax		
	comp=E,22μm,0.5s							
YUK				smax				
	comp=N,225μm,0.8s							
YUK				smax				
	comp=E,150μm,0.8s							
JRA	**Rausu**	**1.34**	**290**	P		**P**	**06 47 06.5**	**+1.0**
JRA				*e*S		**S**	**06 47 22.7**	**+0.3**
JNK	**Nakash**	**1.56**	**275**	P		**P**	**06 47 08.9**	**+0.4**
JNK				*e*S		**S**	**06 47 28.0**	**+0.3**
JAK	**Akkeshi**	**1.66**	**254**	P		**P**	**06 47 09.6**	**-0.2**
JAK				*e*S		**S**	**06 47 29.2**	**-0.8**
KUR	**Kuril'sk**	**1.90**	**22**	⇑*i*PN		**P**	**06 47 11.6**	**-1.6**
KUR				*i*S		**S**	**06 47 35.0**	**-0.9**
KUR				pmax		pmax		
	comp=N,380nm,0.5s							
KUR				pmax		pmax		
	comp=E,230nm,0.5s							
KUR				pmax		pmax		
	comp=Z,410nm,0.5s							
KUR				smax				
	comp=N,3μm,0.5s							
KUR				smax				
	comp=E,2μm,0.5s							
KUR				smax				
	comp=N,12μm,1.0s							
KUR				smax				
	comp=E,5μm,1.0s							
JTKR	**Abashiri--Toko**	**2.20**	**284**	P		**P**	**06 47 19.2**	**+1.7**
JAR	**Ashorobuto**	**2.26**	**266**	P		**P**	**06 47 19.0**	**+0.6**
JAR				*e*S		**S**	**06 47 45

SNY LR LR
comp=Z,220nm,19.6s
CLNS Chul'man 19.29 322 *e*P **P 06 51 08.5 +2.7**
CLNS pmax pmax
comp=Z,13nm,0.6s
CLNS pmax pmax
comp=N,5.0nm,0.8s
CLNS pmax pmax
comp=E,10.0nm,1.4s
CLNS MLR MLR
comp=Z,200nm,15.0s
CLNS MLR MLR
comp=N,100nm,14.0s
SEY Seymchan 19.75 7⇑ *e*P **P 06 51 07.2 -3.6**
FX1 Attu Island--F 19.80 52 P **P 06 51 12.5 +1.1**
baz=280,slow=6.6,SNR=1.4
YAK Yakutsk 21.16 337 P **P 06 51 23.5 -1.9**
YAK Yakutsk 21.16 337 *i* P **P 06 51 24.6 -0.8**
YAK pmax pmax
comp=Z,15nm,0.6s,mb4.5
YAK MLR MLR
comp=Z,100nm,17.0s,MS3.3
JOW Kunigami 22.43 228 P **P 06 51 38.9 +0.6**
comp=Z,22nm,0.9s,mb4.6,baz=34,slow=7.9,SNR=9.8
JOW LR LR 07 01 30.9
comp=Z,189nm,19.8s,MS3.5,baz=61,slow=40
SSE Sheshan 23.77 247 P **P 06 51 47.2 -4.0**
comp=Z,48nm,0.7s,mb5.0
SSE pP 06 51 53.3
SSE sP 06 51 56.0
SSE S **S 06 56 04.4 +4.3**
SSE sS 06 56 14.6
SSE LR LR
comp=Z,150nm,19.5s,MS3.5
TIA Tai'an 23.87 262 *e*P **P 06 51 53.0 +0.8**
NJ2 Nanjing 24.79 252 *e*P **P 06 52 01.5 +0.3**
NJ2 PP PP 06 52 38.3 -0.8
NJ2 S **S 06 56 22.0 +4.6**
NJ2 AMB AMB
comp=Z,30nm,0.6s,mb5.0
NJ2 LR LR
comp=N,570nm,23.0s,MS4.1
NJ2 LR LR
comp=E,310nm,20.8s,MS4.1
NJ2 LR LR
comp=Z,240nm,20.9s,MS3.7
BOD Bodaibo 24.98 317 *e*P **P 06 51 57.5 -5.2**
BOD *e* 06 52 20.2
HHC Hu-ho-hao-te 26.18 276 *e*P **P 06 52 20.0 +5.9**
HHC XP sP 06 52 31.3 -1.4
HHC PCP PcP 06 55 42.5 +1.9
HHC S **S 06 56 50.5 +10**
HHC SCP 06 59 15.3
HHC PCS 06 59 23.5
HHC AMB AMB
comp=Z,24nm,0.6s,mb4.9
HHC AMB AMB
comp=Z,106nm,6.0s
HHC LR LR
comp=N,118nm,14.3s,MS3.7
HHC LR LR
comp=E,144nm,17.9s,MS3.7
HHC LR LR
comp=Z,149nm,15.5s,MS3.6
BILL Bilibino 26.68 16⇑ *e*P **P 06 52 17.2 -1.2**
BILL *e* pP 06 52 29.9 -1.1
BILL *e* 06 55 40.0
BILL pmax pmax
comp=Z,4.0nm,0.4s,mb4.3
BILL MLR MLR
comp=Z,200nm,24.0s,MS3.6
ULN Ulaanbaatar 27.94 293 *e*P **P 06 52 28.9 -1.2**
comp=Z,22nm,1.1s,mb4.7
ULN Ulaanbaatar 27.94 293 *i* P **P 06 52 30.2 +0.1**
SONM Songino Array 28.38 293 P **P 06 52 33.5 -0.6**
comp=Z,15nm,1.0s,mb4.6,baz=88,slow=8.5,SNR=51
SONM LR LR 07 05 07.2
comp=Z,393nm,18.3s,MS4.0,baz=87,slow=39
TIXI Tiksi 29.58 349 *e*P **P 06 52 42.9 -1.6**
TIXI pmax pmax
comp=Z,6.0nm,0.7s,mb4.4
TIXI MLR MLR
comp=Z,41nm,12.0s,MS3.3
GUMO Guam 29.84 184 LR LR 07 02 40.5
comp=Z,121nm,19.9s,MS3.5,baz=62,slow=32
ZAK Zakamensk 30.20 299 *e*P **P 06 52 46.2 -4.0**
ZAK pmax pmax
comp=Z,3.0nm,0.9s,mb4.0
XAN Xi'an 30.82 265 P **P 06 53 00.8 +4.9**
XAN AMB AMB
comp=Z,7.0nm,1.4s,mb4.3
ENH Enshi 32.40 259 P **P 06 53 08.8 -0.9**
comp=Z,9.8nm,0.8s,mb4.7
LZH Lanzhou 33.57 272 *e*P **P 06 53 20.5 +0.6**
LZH AP pP 06 53 32.5 -0.5
LZH XP sP 06 53 39.0 -0.2
LZH AMB AMB
comp=Z,25nm,1.0s,mb5.1
LZH AMB AMB
comp=Z,120nm,4.2s
LZH Lanzhou 33.57 272 *e*P **P 06 53 20.5 +0.6**
comp=Z,25nm,1.0s,mb5.1
LZH pP pP 06 53 32.4 -0.6
LZH sP sP 06 53 39.0 -0.2
LZH Lanzhou 33.57 272 *e*P **P 06 53 20.5 +0.6**
LZH *PP pP 06 53 32.4 -0.6
LZH *SP sP 06 53 39.0 -0.2
LZH pmax pmax
comp=Z,25nm,1.0s,mb5.1
IMA Indian Mountai 39.02 34 *e*P **P 06 54 06.3 +0.7**
comp=Z,505nm,0.8s
IMA Indian Mountai 39.02 34 *e*P **P 06 54 06.3 +0.8**
IMA pmax pmax
comp=Z,505nm,0.8s
RSO Redoubt South 39.30 43 *e*P **P 06 54 08.5 +0.6**
SPU Mount Spurr 39.62 42 *e*P **P 06 54 11.3 +0.8**
KMI Kunming 40.25 258 P **P 06 54 17.8 +1.6**
KMI AP pP 06 54 28.8 -0.7
KMI XP sP 06 54 35.0 -0.5
KMI S **S 07 00 23.3 +3.6**
KMI XS 07 00 43.0
KMI SS SS 07 03 16.0 +2.0
KMI AMB AMB
comp=Z,9.0nm,1.1s,mb4.4
KMI AMB AMB
comp=Z,61nm,5.7s
KMI LR LR
comp=N,141nm,14.5s,MS4.0
KMI LR LR
comp=E,106nm,16.1s,MS4.0
KMI LR LR
comp=Z,104nm,24.2s
KMI Kunming 40.25 258 P **P 06 54 17.8 +1.6**
KMI pP pP 06 54 28.7 -0.8
KMI sP sP 06 54 35.1 -0.4
KMI S **S 07 00 23.2 +3.5**
KMI sS 07 00 42.9
KMI SS SS 07 03 16.1 +2.1
KMI LR LR
comp=Z,100nm,24.2s,MS3.6
KMI Kunming 40.25 258 P **P 06 54 17.8 +1.6**
KMI *SP sP 06 54 35.1 -0.4
KMI S **S 07 00 23.2 +3.5**
KMI *SS 07 00 42.9
KMI SS SS 07 03 16.1 +2.1
KMI pmax pmax
comp=Z,9.0nm,1.1s,mb4.4
KMI MLR MLR
comp=Z,100nm,24.2s,MS3.6
MCK McKinley 40.98 38 *e*P **P 06 54 21.8 +0.1**
comp=Z,9.3nm,1.0s,mb4.4
MCK McKinley 40.98 38 *e*P **P 06 54 21.8 +0.1**
MCK pmax pmax
comp=Z,9.0nm,1.0s,mb4.3
ZAL Zalesovo 41.01 307 P **P 06 54 22.0 -0.1**
comp=Z,1.1nm,0.5s,baz=54,slow=7.6,SNR=3.1
ZAL PcP PcP 06 56 21.6 -0.5
comp=Z,2.9nm,0.7s,baz=11,slow=4.8,SNR=7.5
SML Sawmill 41.36 41 *e*P **P 06 54 25.0 +0.1**
NVS Novosibirsk 41.73 309 *e*P **P 06 54 28.8 +0.9**
ILAR Eielson Array 41.83 36 P **P 06 54 28.6 0.0**
comp=Z,11nm,0.8s,mb4.5,baz=257,slow=6.2,SNR=66
WMQ Urumqi 42.00 292 P **P 06 54 30.0 -0.3**
WMQ AP pP 06 54 42.0 -1.6
WMQ XP sP 06 54 48.0 -1.6
WMQ PP PP 06 56 11.0 -0.1
WMQ SCP 07 00 11.0
WMQ S **S 07 00 45.0 -0.4**
WMQ AMB AMB
comp=Z,15nm,0.8s,mb4.7
WMQ AMB AMB
comp=Z,102nm,5.0s
WMQ LR LR
comp=N,143nm,16.0s,MS4.2
WMQ LR LR
comp=E,241nm,16.0s,MS4.2
WMQ LR LR
comp=Z,189nm,15.0s,MS4.1
DIV Divide 42.65 41 *e*P **P 06 54 35.5 0.0**
comp=Z,44nm,0.9s,mb5.2
MKAR Makanchi Array 44.52 298 P **P 06 54 50.3 -0.5**
comp=Z,6.7nm,0.6s,mb4.6,baz=81,slow=8.9,SNR=66
MKAR LR LR 07 14 40.5
comp=Z,94nm,19.0s,MS3.7,baz=0.5,slow=38
MKAR Makanchi Array 44.52 298 *i* P **P 06 54 49.8 -1.0**
MKAR pmax pmax
comp=Z,8.0nm,0.6s
DAWY Dawson 45.14 37 *e*P **P 06 54 55.3 -0.1**
KURK Kurchatov 45.51 304 *e*P **P 06 54 57.2 -1.4**
comp=Z,3.9nm,0.4s,mb4.7
KURK Kurchatov 45.51 304 *e*P **P 06 54 57.2 -1.4**
KURK pmax pmax
comp=Z,4.0nm,0.4s,mb4.7
INK Inuvik 46.74 30 P **P 06 55 08.5 +0.4**
comp=Z,12nm,0.3s,mb5.3,baz=286,slow=6.6,SNR=88
INK Inuvik 46.74 30 *e*P **P 06 55 08.1 0.0**
comp=Z,25nm,0.7s,mb5.2
INK Inuvik 46.74 30 *e*P **P 06 55 08.1 0.0**
INK pmax pmax
comp=Z,25nm,0.7s
VOSK Vostochnaya 49.29 309 P **P 06 55 26.8 -1.3**
VOSK pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
GUN Gumba 50.82 273 *e*P **P 06 55 43.0 +2.8**
comp=Z,63nm,0.7s,mb5.6
DLBC Dease Lake 51.02 42 P **P 06 55 42.7 +1.5**
comp=Z,6.2nm,0.8s,mb4.6,baz=292,slow=6.6,SNR=18
DLBC Dease Lake 51.02 42 *e*P **P 06 55 41.5 +0.2**
AAK Ala-Archa 51.29 296 *e*P **P 06 55 41.8 -1.7**
comp=Z,11nm,1.0s,mb4.7
AAK Ala-Archa 51.29 296⇑ *e*P **P 06 55 42.1 -1.4**
AAK pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
AAK MLR MLR
comp=Z,100nm,20.0s,MS3.8
KKN Kakani 51.33 274 *e*P **P 06 55 44.1 +0.1**
comp=Z,21nm,0.6s,mb5.2
KKN Kakani 51.33 274 *e*P **P 06 55 44.1 +0.1**
KKN pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
PKI Pulchoki 51.36 273 *e*P **P 06 55 42.2 -2.0**
DMN Daman 51.55 273 *e*P **P 06 55 44.4 -1.3**
comp=Z,20nm,0.6s,mb5.2
GKN Gorkha 51.67 274 *e*P **P 06 55 48.5 +1.9**
comp=Z,24nm,0.4s,mb5.4
KOLN Koldanda 52.56 275 *e*P **P 06 55 52.8 -0.4**
comp=Z,25nm,0.8s,mb5.2
KKAR Karatay Array 53.66 298 *i* P **P 06 55 59.7 -1.5**
KKAR pmax pmax
comp=Z,11nm,0.8s,mb4.8
HNR Honiara 53.99 164 LR LR 07 14 56.8
comp=Z,116nm,21.6s,MS3.9,baz=340,slow=31
ARU Arti 54.40 317⇑ *i*P **P 06 56 05.0 -1.4**
ARU *e* 06 57 06.4
ARU *e* 06 58 07.5
ARU *e*S **S 07 03 46.6 +7.2**
ARU pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
ARU MLR MLR
comp=N,100nm,18.0s,MS4.1
ARU MLR MLR
comp=Z,100nm,18.0s,MS3.9
ARU MLR MLR
comp=E,100nm,19.0s,MS4.1
RES Resolute Bay 55.29 17 *e*P **P 06 56 10.6 -2.1**
comp=E,18nm,0.8s,mb5.1
RES Resolute Bay 55.29 17 *e*P **P 06 56 10.6 -2.1**
RES pmax pmax
comp=Z,18nm,0.8s,mb5.2
YKA Yellowknife Ar 56.14 34 P **P 06 56 18.4 -0.5**
comp=Z,8.1nm,0.7s,mb4.9,baz=298,slow=6.7,SNR=18
YKA Yellowknife Ar 56.14 34 P **P 06 56 18.4 -0.5**
AB31 Akbulak array 57.07 309 *e*P **P 06 56 24.3 -1.5**
AKTO Aktyubinsk 57.55 311 P **P 06 56 28.3 -0.9**
AKTO pmax pmax
comp=Z,21nm,2.5s,mb4.7
KEV Kevo 58.89 339 *e*p **P 06 56 36.4 -1.8**
comp=Z,20nm,0.9s,mb5.1
KEV Kevo 58.89 339 *e*P **P 06 56 36.4 -1.8**
KEV pmax pmax
comp=Z,20nm,0.9s,mb5.2
ARCES ARCESS Array B 59.43 340 P **P 06 56 40.9 -1.0**
comp=Z,4.7nm,0.6s,mb4.7,baz=50,slow=6.9,SNR=22
ARE0 ARCESS Array S 59.43 340 *e*P **P 06 56 40.6 -1.3**
KTK1 Kautokeino 60.37 340 *e*P **P 06 56 48.3 -0.1**
TRO Tromso 60.95 342 *e*P **P 06 56 49.9 -2.5**
EDM Edmonton 61.74 42 *e*P **P 06 56 56.7 -1.2**
JOF Joensuu 62.23 332 *e*p **P 06 56 58.8 -2.2**
comp=Z,9.9nm,0.5s,mb5.2
NEW Newport 62.67 48 *e*P **P 06 57 03.5 -0.6**
comp=Z,10nm,1.0s,mb4.9
NEW Newport 62.67 48 *e*P **P 06 57 03.5 -0.6**
NEW pmax pmax
comp=Z,10.0nm,1.0s
LOF Lofoten 63.34 342 *e*P **P 06 57 08.9 +0.5**
LOF AMb AMB 06 57 16.8
comp=Z,82nm,1.4s,mb5.7
WALA Waterton Lakes 63.92 46 *e*P **P 06 57 11.9 -0.3**
comp=Z,10nm,1.0s,mb4.8
WRAB Tennant Creek 64.14 193 P **P 06 57 13.0 -1.1**
WRA Warramunga Arr 64.15 193 P **P 06 57 12.2 -2.0**
comp=Z,3.9nm,0.8s,mb4.5,baz=8.3,slow=6.8,SNR=35
SUMG Summit 64.19 2 *e*P **P 06 57 12.4 -1.2**
comp=Z,52nm,1.0s,mb5.5
KAF Kangasniemi 64.46 333 *e*p **P 06 57 13.6 -1.9**
comp=Z,14nm,0.8s,mb5.1,baz=42,slow=6.2
KAF Kangasniemi 64.46 333 *e*P **P 06 57 13.6 -1.9**
KAF pmax pmax
comp=Z,14nm,0.8s,mb5.0
MOD Modoc 64.57 56 *e*P **P 06 57 16.1 -0.5**
comp=Z,6.9nm,1.2s,mb4.6
BMO Blue Mountains 64.58 52 *e*P **P 06 57 16.2 -0.4**
comp=Z,11nm,1.7s,mb4.6
MOR8 Moi Rana 64.72 341 *e*P **P 06 57 14.6 -2.5**
MOR8 AMb AMB 06 57 15.4
comp=Z,87nm,0.5s,mb6.0
MOR8 Moi Rana 64.72 341 *e*P **P 06 57 14.6 -2.5**
comp=Z,87nm,0.5s,mb6.0
FINES FINESS Array B 65.02 333 P **P 06 57 18.1 -1.1**
comp=Z,15nm,0.6s,mb5.2,baz=45,slow=8.1,SNR=67
FINES FINESS Array B 65.02 333 *e*P **P 06 57 17.7 -1.5**
MSO Missoula 65.25 48 *e*P **P 06 57 20.4 -0.5**
comp=Z,9.0nm,1.2s,mb4.7
OBN Obninsk 65.41 324 P **P 06 57 22.0 +0.2**
OBN 06 57 52.1
OBN pmax pmax
comp=Z,31nm,2.5s,mb4.9
OBN MLR MLR
comp=Z,100nm,20.0s,MS4.0
BEKR Beckwourth 65.76 57 *e*P **P 06 57 24.0 -0.3**
comp=Z,3.3nm,0.7s,mb4.5
NSS Namsos 66.67 341 *e*P **P 06 57 27.5 -2.1**
DLMT Dillon 66.90 49 *e*P **P 06 57 31.1 -0.3**
VSU Vasula 66.97 330 *i* P **P 06 57 30.8 -0.8**
MCMT McKenzie Canyo 67.09 49 *e*P **P 06 57 32.3 -0.3**
BOZ Bozeman (W) 67.25 48 *e*P **P 06 57 33.8 +0.2**
comp=Z,11nm,0.7s,mb5.0
DZM Mont Dzumac 67.67 160 LR LR 07 26 32.3
comp=Z,205nm,18.4s,MS4.4,baz=20,slow=35
QLMT Earthquake Lak 67.87 49 *e*P **P 06 57 37.7 +0.1**
NVAR Mina Array Bea 67.90 58 P **P 06 57 38.5 +0.7**
comp=Z,5.2nm,0.8s,mb4.6,baz=303,slow=5.4,SNR=13
NVAR pP pP 06 57 57.9 +5.9
comp=Z,3.4nm,0.8s,baz=273,slow=8.9,SNR=5.0
NVAR Mina Array Bea 67.90 58 P **P 06 57 38.5 +0.7**
NVAR pP pP 06 57 57.9 +5.9
GCMT Greycliff 68.21 47 P **P 06 57 39.9 +0.3**
YMR Madison River 68.23 49 *e*P **P 06 57 40.1 +0.4**
IMW Indian Meadow 68.74 49 *e*P **P 06 57 43.7 +0.8**
comp=Z,14nm,1.2s,mb4.8
FLWY Flagg Ranch 68.75 49 *e*P **P 06 57 44.0 +0.9**
GOF Gofitskoye 68.88 312 *e*P **P 06 57 42.6 -1.2**
RRI2 Red Ridge 68.89 50 *e*P **P 06 57 44.2 +0.3**
comp=Z,14nm,0.9s,mb4.9
TPAW Teton Pass 69.00 50 *e*P **P 06 57 45.7 +1.1**
comp=Z,20nm,1.2s,mb4.9
LOHW Long Hollow 69.11 49 *e*P **P 06 57 45.5 +0.3**
comp=Z,11nm,1.4s,mb4.6
SNOW Snow King Moun 69.13 50 *e*P **P 06 57 46.1 +0.8**
comp=Z,7.6nm,1.1s,mb4.5
DGMT Dagmar 69.24 42 *e*P **P 06 57 45.0 -0.9**
comp=Z,23nm,0.8s,mb5.2
MOL Molde 69.39 341 *e*P **P 06 57 47.5 +1.0**
MOL AMb AMB 06 57 49.7
comp=Z,71nm,1.5s,mb5.4
LAO LASA Array 69.42 45 *e*P **P 06 57 47.0 -0.1**
comp=Z,17nm,1.0s,mb4.9
NB2 NORSAR Subarra 69.78 339 P **P 06 57 48.2 -0.8**
comp=Z,53nm,1.0s,mb5.4,baz=34,slow=6.2
NB2 NORSAR Subarra 69.78 339 P **P 06 57 48.2 -0.8**
baz=34,slow=6.5
NB2 NORSAR Subarra 69.78 339 P **P 06 57 48.2 -0.8**
NB2 pmax pmax
comp=Z,53nm,1.0s,mb5.4
NOA NORSAR Array B 69.78 339 P **P 06 57 48.2 -0.8**
comp=Z,27nm,0.8s,mb5.2,baz=33,slow=6.2,SNR=82
NOA LR LR 07 31 56.8
comp=Z,42nm,20.0s,MS3.7,baz=355,slow=39
KIV Kislovodsk 69.79 312 *e*P **P 06 57 49.6 +0.2**
comp=Z,18nm,0.7s,mb5.1
KIV Kislovodsk 69.79 312 *e*P **P 06 57 49.6 +0.2**
KIV pmax pmax
comp=Z,18nm,0.7s,mb5.1
ZEI Tsey 69.90 310 *e*P **P 06 57 45.1 -5.0**
ZEI *i* 06 58 07.3
ZEI pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
TI2 Plekhanov 70.10 309 *e*P **P 06 57 49.2 -2.1**
BW06 Boulder Array 70.24 50 *e*P **P 06 57 51.6 -0.6**
comp=Z,7.5nm,1.2s,mb4.5
PDAR Pinedale Array 70.24 50 P **P 06 57 52.3 +0.2**
comp=Z,3.3nm,0.8s,mb4.3,baz=289,slow=2.3,SNR=27
DAU Daniels Canyon 70.83 52 *e*P **P 06 57 56.5 +0.7**
GNI Garni 71.14 308 *i* P **P 06 57 58.1 +0.5**
GNI pmax pmax
comp=Z,14nm,1.7s
GNI MLR MLR
comp=Z,100nm,20.0s
MSU Marysvale 71.54 54 *e*P **P 06 58 00.6 +0.5**
TMUT Trail Mountain 71.59 53 P **P 06 58 00.9 +0.6**
SUW Suwalki 71.62 329 *e*P **P 06 57 59.3 -0.9**
SUW Suwalki 71.62 329 *e*P **P 06 57 59.3 -0.9**
SOC Sochi 71.63 313 *e*P **P 06 58 00.7 +0.2**
SOC *e*S S 07 07 17.8 +2.9
SOC pmax pmax
comp=N,8.0nm,0.8s
SOC pmax pmax
comp=E,8.0nm,0.8s
SOC pmax pmax
comp=Z,12nm,0.8s,mb4.9
SOC MLR MLR
comp=Z,124nm,14.0s,MS4.3
SOC MLR MLR
comp=N,70nm,17.0s
AKASG Malin Array Be 71.67 324 P **P 06 57 59.8 -0.8**
comp=N,13nm,0.7s,mb5.0,baz=38,slow=6.1,SNR=56
ULM Lac du Bonnet 71.84 37 P **P 06 58 01.0 -0.6**
comp=N,2.4nm,0.6s,mb4.3,baz=316,slow=6.4,SNR=7.1
ANN Anapa 71.99 315 *e*P **P 06 57 58.2 -4.4**
ANN pmax pmax
comp=Z,81nm,6.0s
SRU San Rafael 72.11 53 *e*P **P 06 58 03.6 +0.1**
PV10 Paradox Valley 73.47 53 *e*P **P 06 58 12.1 +0.7**
PV01 Paradox Valley 73.90 53 *e*P **P 06 58 14.2 +0.2**
ISCO Idaho Springs 74.44 50 *e*P **P 06 58 17.1 +0.1**
comp=Z,14nm,1.4s,mb4.7
ISCO Idaho Springs 74.44 50 *e*P **P 06 58 17.1 +0.1**
ISCO pmax pmax
comp=Z,14nm,1.4s,mb4.7
STKA Stephens Creek 75.15 185 P **P 06 58 21.1 -0.1**
comp=Z,0.7nm,0.3s,mb4.0,baz=0.2,slow=12,SNR=3.4
STKA Stephens Creek 75.15 185 *e*P **P 06 58 19.6 -1.6**
KWP Kalwaria 75.22 326 *e*P **P 06 58 21.8 +0.6**
KWP Kalwaria 75.22 326 *e*P **P 06 58 21.8 +0.6**
BURAR Bucovina Array 75.73 324 ⇑P **P 06 58 24.4 +0.2**
BURAR Bucovina Array 75.73 324 ⇑P **P 06 58 24.4 +0.2**
OJC Ojcow 75.90 328 *e*P **P 06 58 25.3 +0.2**
SDCO Great Sand Dun 75.93 51 *e*P **P 06 58 25.8 +0.3**
comp=Z,6.5nm,1.4s,mb4.4
STHS Stebnicka Huta 75.97 327 *e*P **P 06 58 26.3 +0.8**
STHS *es*P sP 06 58 43.9 -1.4
MALT Malatya 75.98 310 P **P 06 58 26.6 +0.7**
comp=Z,6.7nm,1.1s,mb4.5
MALT Malatya 75.98 310 P **P 06 58 26.6 +0.8**
MALT pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
BSEG Bad Segeberg 76.08 335 *e*P **P 06 58 26.4 +0.3**
CFR Carcaliu 76.28 320 ⇑P **P 06 58 26.8 -0.6**
CFR Carcaliu 76.28 320 ⇑P **P 06 58 26.8 -0.5**
CRVS Cervenica-Dubn 76.29 326 *e*P **P 06 58 28.2 +0.8**
NIE Niedzica 76.34 327 *e*P **P 06 58 28.7 +1.1**
KSP Ksiaz 76.70 330 *e*P **P 06 58 30.1 +0.5**
KSP Ksiaz 76.70 330 *e*P **P 06 58 29.9 +0.3**
OKC Ostrava-Krasne 76.84 329 ⇑*i*P **P 06 58 30.3 -0.1**
KECS Kecovo 77.02 327 *e*P **P 06 58 31.4 -0.1**
MLR Muntele Rosu 77.04 322 ⇑P **P 06 58 32.8 +1.1**
MLR Muntele Rosu 77.04 322 ⇑P **P 06 58 32.8 +1.1**
UPC Upice 77.08 330 ⇑*i*P **P 06 58 32.0 +0.2**
DPC Dobruska-Polom 77.09 330 ⇑*i*P **P 06 58 32.2 +0.3**
MORC Moravsky Berou 77.11 329 *e*P **P 06 58 31.9 -0.1**
comp=Z,20nm,1.0s,mb5.0
MORC Moravsky Berou 77.11 329 *e*P **P 06 58 31.9 -0.1**
MORC pmax pmax
comp=Z,20nm,1.0s,mb5.0
ANMO Albuquerque 77.33 54 *e*P **P 06 58 33.9 +0.4**
comp=Z,2.5nm,1.0s,mb4.1
ANMO Albuquerque 77.33 54 *e*P **P 06 58 33.9 +0.4**
ANMO pmax pmax
comp=Z,2.0nm,1.0s
CLL Collm 77.46 332 ⇑P **P 06 58 33.6 -0.3**
comp=Z,logA/T=1.7,mb5.4
CLL Collm 77.46 332 ⇑*i*PKP **P 06 58 33.6 -0.3**
comp=Z,42nm,0.8s,mb5.4
CLL Collm 77.46 332 ⇑*i*P **P 06 58 33.6 -0.3**
CLL pmax pmax
comp=Z,42nm,0.8s,mb5.4
VOIR 77.48 322 ⇑P **P 06 58 34.5 +0.4**
VOIR 77.48 322 ⇑P **P 06 58 34.5 +0.4**
BRG Berggiesshubel 77.50 332 *e*P **P 06 58 33.8 -0.3**
BRG pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
PVCC Panska Ves 77.57 331 ⇑*e*P **P 06 58 34.7 +0.2**
BR131 Keskin Array S 77.58 313 P **P 06 58 34.0 -0.8**
BRTR Keskin Array B 77.58 313 P **P 06 58 34.2 -0.6**
comp=Z,1.4nm,0.8s,mb4.0,baz=90,slow=3.7,SNR=6.7
VYHS Vyhne 77.66 328 *e*P **P 06 58 35.1 +0.1**
PSZ Piszkesteto 77.71 327 *e*P **P 06 58 35.0 -0.3**
comp=Z,13nm,0.9s,mb4.9
PSZ Piszkesteto 77.71 327 *e*P **P 06 58 35.0 -0.3**
PSZ pmax pmax
comp=Z,13nm,0.9s,mb4.9
CLZ Clausthal 77.86 334 *e*P **P 06 58 36.5 +0.4**
comp=Z,26nm,0.8s,mb5.2
CLZ Clausthal 77.86 334 *e*P **P 06 58 36.5 +0.4**
CLZ pmax pmax
comp=Z,26nm,0.8s,mb5.2
SCHQ Schefferville 77.94 19 P **P 06 58 36.5 0.0**
comp=Z,6.6nm,0.7s,mb4.7,baz=7.7,slow=4.7,SNR=13
SCHQ LR LR 07 34 06.6
comp=Z,80nm,19.7s,MS4.0,baz=27,slow=36
SCHQ Schefferville 77.94 19 *e*P **P 06 58 35.7 -0.7**
comp=Z,5.5nm,0.8s,mb4.5
PRU Pruhonice 78.03 331 ⇑*i*P **P 06 58 37.4 +0.4**
PRU AMS AMS 07 34 20.0
comp=Z,100nm,28.0s
SMOL Smolenice 78.19 328 *e*P **P 06 58 39.0 +1.1**
SRO Srobarova 78.42 327 *e*P **P 06 58 38.6 -0.6**
MOX Moxa 78.48 333 *i* P **P 06 58 39.2 -0.3**
MOX Moxa 78.48 333 *e*P **P 06 58 39.2 -0.3**
NKC Novy Kostel 78.56 332 ⇑*e*P **P 06 58 39.8 -0.1**
ZST Bratislava 78.58 328 *e*P **P 06 58 41.0 +0.9**
KHC Kasperske Hory 79.09 331 ⇑*i*P **P 06 58 43.3 +0.4**
KHC pP pP 06 58 56.5 -0.8
KHC Kasperske Hory 79.09 331 ⇑*i*P **P 06 58 43.3 +0.4**
KHC *e* pP 06 58 56.5 -0.8

GEC2 GERESS Array S 79.29 331 *eP* **P 06 58 44.1 +0.1**
comp=Z,5.0nm,0.8s,mb4.5
GEC2 GERESS Array S 79.29 331 *eP* **P 06 58 44.1 +0.1**
GEC2 pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
GERES GERESS Array B 79.29 331 P **P 06 58 44.0 0.0**
comp=Z,3.7nm,0.7s,mb4.4,baz=34,slow=4.8,SNR=28
GERES LR LR 07 35 43.4
comp=Z,83nm,19.0s,MS4.1,baz=199,slow=37
WET Wettzell 79.33 331 *eP* **P 06 58 44.7 +0.5**
comp=Z,17nm,1.0s,mb4.9
WET Wettzell 79.33 331 *eP* **P 06 58 44.7 +0.5**
WET pmax pmax
comp=Z,17nm,1.0s,mb4.9
GRA1 Grafenberg Arr 79.43 332 *eP* **P 06 58 45.2 +0.5**
comp=Z,36nm,1.0s,mb5.3
GRF Grafenberg Arr 79.43 332 *eP* **P 06 58 45.2 +0.5**
GRF pmax pmax
comp=Z,36nm,1.0s,mb5.3
TNS Taunus Mts 79.88 334 *eP* **P 06 58 47.3 +0.2**
comp=Z,11nm,0.7s,mb4.9
TNS Taunus Mts 79.88 334 *eP* **P 06 58 47.3 +0.2**
TNS pmax pmax
comp=Z,11nm,0.7s,mb4.9
GROS Grobnik 80.62 328 *i* P **P 06 58 51.2 +0.1**
FUR Furstenfeldbru 80.72 332 *eP* **P 06 58 52.1 +0.5**
comp=Z,33nm,1.2s,mb5.1
FUR Furstenfeldbru 80.72 332 *eP* **P 06 58 52.1 +0.5**
FUR pmax pmax
comp=Z,33nm,1.2s,mb5.1
KBA Koelnbreinsper 80.91 330⇑ *iP* **P 06 58 53.6 +0.9**
comp=Z,17nm,0.7s,mb5.1
KBA Koelnbreinsper 80.91 330⇑ *iP* **P 06 58 53.6 +0.9**
KBA pmax pmax
comp=Z,17nm,0.7s,mb5.1
DLF Lyons Farm 80.93 344⇑ *iP* **P 06 58 52.8 +0.2**
GOLS Golise 80.95 328 *i* P **P 06 58 52.9 0.0**
DCN Croghan 81.03 345⇑ *iP* **P 06 58 53.4 +0.3**
GIVF Givet 81.08 336⇑ *iP* **P 06 58 53.2 -0.3**
BAIF Baives 81.30 337 *eP* **P 06 58 54.5 -0.1**
comp=Z,4.9nm,0.6s,mb4.3
BAIF Baives 81.30 337 *eP* **P 06 58 54.5 -0.1**
BAIF pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
MOTA Moosalm 81.48 331⇑ *iP* **P 06 58 56.2 +0.5**
comp=Z,13nm,0.7s,mb5.0
MOTA Moosalm 81.48 331⇑ *iP* **P 06 58 56.2 +0.5**
MOTA pmax pmax
comp=Z,13nm,0.7s,mb5.0
SQTA Sankt Quirin 81.56 331⇑ *iP* **P 06 58 56.6 +0.6**
comp=Z,10.0nm,0.7s,mb4.8
SQTA Sankt Quirin 81.56 331⇑ *iP* **P 06 58 56.6 +0.6**
SQTA pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
BFO Black Forest 81.57 333 *eP* **P 06 58 56.2 +0.1**
comp=Z,10.0nm,0.9s,mb4.8
BFO Black Forest 81.57 333 *eP* **P 06 58 56.2 +0.1**
BFO pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
CDF Champ du Feu 81.83 334 *eP* **P 06 58 57.5 +0.1**
comp=Z,23nm,0.8s,mb4.8
CDF Champ du Feu 81.83 334 *eP* **P 06 58 57.5 +0.1**
CDF pmax pmax
comp=Z,11nm,0.8s,mb4.8
DAVA Damuels 81.96 332⇑ *iP* **P 06 58 58.5 +0.4**
comp=Z,8.2nm,0.7s,mb4.8
MEZF Maizieres J'vi 82.44 335 *eP* **P 06 59 01.0 +0.4**
comp=Z,20nm,0.8s,mb4.8
HAU Haudompre 82.48 334⇑ *iP* **P 06 59 00.7 -0.1**
comp=Z,11nm,0.7s,mb4.6
HAU *eR*
comp=Z,121nm,19.5s
HAU Haudompre 82.48 334⇑ *iP* **P 06 59 00.7 -0.1**
HAU pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
HAU MLR MLR
comp=Z,120nm,19.5s,MS4.3
HINF Hinteralfeld 82.49 334 *eP* **P 06 59 00.9 +0.1**
TXAR Lajitas Array 82.97 56 P **P 06 59 04.5 +0.9**
comp=Z,4.6nm,0.6s,mb4.7,baz=298,slow=3.8,SNR=77
FLN La Foliniere 83.77 339⇑ *iP* **P 06 59 07.5 +0.3**
comp=Z,18nm,0.7s,mb5.0
FLN *eR*
comp=Z,58nm,21.1s
FLN La Foliniere 83.77 339⇑ *iP* **P 06 59 07.5 +0.3**
FLN pmax pmax
comp=Z,9.0nm,0.7s,mb5.0
FLN MLR MLR
comp=Z,60nm,21.1s,MS4.0
CABF La Chapelle 83.80 334 *eP* **P 06 59 08.1 +0.7**
comp=Z,13nm,0.8s,mb4.8
CABF La Chapelle 83.80 334 *eP* **P 06 59 08.1 +0.7**
CABF pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
LDF La Druitiere 83.83 339⇑ *iP* **P 06 59 07.7 +0.2**
comp=Z,25nm,0.9s,mb5.1
LDF La Druitiere 83.83 339⇑ *iP* **P 06 59 07.7 +0.2**
LDF pmax pmax
comp=Z,12nm,0.9s,mb5.0
LOR Lormes 83.91 336⇑ *iP* **P 06 59 08.1 +0.2**
comp=Z,25nm,0.8s,mb5.1
LOR *eR*
comp=Z,93nm,20.0s
LOR Lormes 83.91 336⇑ *iP* **P 06 59 08.1 +0.2**
LOR pmax pmax
comp=Z,13nm,0.8s,mb5.1
LOR MLR MLR
comp=Z,90nm,20.0s,MS4.2
PPT Papeete 84.06 121 LR LR 07 37 32.8
comp=Z,106nm,18.6s,MS4.2,baz=320,slow=36
SSF Saint Saulge 84.20 336⇑ *iP* **P 06 59 09.6 +0.2**
comp=Z,6.3nm,0.7s,mb4.8
SSF Saint Saulge 84.20 336⇑ *iP* **P 06 59 09.6 +0.2**
SSF pmax pmax
comp=Z,6.0nm,0.7s,mb4.8
GRR Gorron 84.21 339⇑ *iP* **P 06 59 10.0 +0.6**
comp=Z,24nm,0.7s,mb5.2
GRR Gorron 84.21 339⇑ *iP* **P 06 59 10.0 +0.6**
GRR pmax pmax
comp=Z,12nm,0.7s,mb5.1
SMF Signal de Mont 84.47 335⇑ *iP* **P 06 59 11.2 +0.4**
comp=Z,32nm,0.8s,mb5.2
SMF Signal de Mont 84.47 335⇑ *iP* **P 06 59 11.2 +0.4**
SMF pmax pmax
comp=Z,16nm,0.8s,mb5.2
AVF Avril sur Loir 84.49 336⇑ *iP* **P 06 59 11.3 +0.4**
comp=Z,26nm,0.7s,mb5.2
AVF Avril sur Loir 84.49 336⇑ *iP* **P 06 59 11.3 +0.4**
AVF pmax pmax
comp=Z,13nm,0.7s,mb5.2
LPL La Plagne 84.56 333⇑ *iP* **P 06 59 12.2 +0.9**
comp=Z,14nm,0.8s,mb4.9
LPL La Plagne 84.56 333⇑ *iP* **P 06 59 12.2 +0.9**
LPL pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
LPG La Plagne 84.57 333⇑ *iP* **P 06 59 12.4 +1.1**
comp=Z,19nm,0.8s,mb5.0
LPG La Plagne 84.57 333⇑ *iP* **P 06 59 12.4 +1.1**
LPG pmax pmax
comp=Z,10.0nm,0.8s,mb5.0
SGMF Saint Gilles 84.77 340⇑ *iP* **P 06 59 13.0 +0.8**
comp=Z,63nm,0.9s,mb5.5
SGMF Saint Gilles 84.77 340⇑ *iP* **P 06 59 13.0 +0.8**
SGMF pmax pmax
comp=Z,31nm,0.9s,mb5.4
BGF Bois d'Agland 84.85 336 *eP* **P 06 59 13.7 +1.0**
comp=Z,8.9nm,0.6s,mb4.8
BGF Bois d'Agland 84.85 336 *eP* **P 06 59 13.7 +1.0**
BGF pmax pmax
comp=Z,4.0nm,0.6s,mb4.7
ROSF Rostrenen 84.86 341⇑ *iP* **P 06 59 13.6 +0.9**
comp=Z,69nm,0.8s,mb5.5
ROSF Rostrenen 84.86 341⇑ *iP* **P 06 59 13.6 +0.9**
ROSF pmax pmax
comp=Z,35nm,0.8s,mb5.5
BNI Bardonecchia 84.99 333 *eP* **P 06 59 13.7 +0.2**
comp=Z,27nm,1.6s,mb5.1
BNI Bardonecchia 84.99 333 *eP* **P 06 59 13.7 +0.3**
BNI pmax pmax
comp=Z,27nm,1.6s,mb5.1
QUIF Quistinic 85.23 340⇑ *iP* **P 06 59 15.3 +0.8**
comp=Z,34nm,0.8s,mb5.2
QUIF Quistinic 85.23 340⇑ *iP* **P 06 59 15.3 +0.8**
QUIF pmax pmax
comp=Z,17nm,0.8s,mb5.2
MBDF Montbardon 85.25 333⇑ *iP* **P 06 59 14.9 +0.2**
comp=Z,3.4nm,0.5s,mb4.5
MBDF Montbardon 85.25 333⇑ *iP* **P 06 59 14.9 +0.2**
MBDF pmax pmax
comp=Z,2.0nm,0.5s,mb4.5
TCF Toulx Ste Croi 85.28 336 *eP* **P 06 59 15.6 +0.8**
comp=Z,16nm,0.8s,mb4.9
TCF Toulx Ste Croi 85.28 336 *eP* **P 06 59 15.6 +0.8**
TCF pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
ORIF Oris-en-Rattie 85.37 333⇑ *iP* **P 06 59 16.2 +0.9**
comp=Z,12nm,0.8s,mb4.8
ORIF *eR*
comp=Z,116nm,20.8s
MFF Saint Martin d 85.66 338⇑ *iP* **P 06 59 17.7 +1.0**
comp=Z,37nm,0.9s,mb5.3
MFF Saint Martin d 85.66 338⇑ *iP* **P 06 59 17.7 +1.0**
MFF pmax pmax
comp=Z,18nm,0.9s,mb5.3
SBF Sospel 85.78 332⇑ *iP* **P 06 59 18.1 +0.7**
comp=Z,19nm,0.6s,mb5.2
SBF Sospel 85.78 332⇑ *iP* **P 06 59 18.1 +0.7**
SBF pmax pmax
comp=Z,10.0nm,0.6s,mb5.2
VIVF Saint-Julien-l 85.82 334 *eP* **P 06 59 17.8 +0.3**
comp=Z,24nm,1.0s,mb5.1
VIVF Saint-Julien-l 85.82 334 *eP* **P 06 59 17.8 +0.3**
VIVF pmax pmax
comp=Z,12nm,1.0s,mb5.1
TIP Timpagrande 86.16 323 *eP* **P 06 59 19.0 -0.3**
SMRF Simiane la Rot 86.31 333 *eP* **P 06 59 20.7 +0.8**
comp=Z,8.0nm,0.8s,mb4.7
FRF La Foret Royal 86.32 332⇑ *iP* **P 06 59 20.0 0.0**
RJF Les Rejaudoux 86.38 336⇑ *iP* **P 06 59 21.1 +0.9**
comp=Z,20nm,0.9s,mb5.1
RJF *eR*
comp=Z,106nm,21.2s
RJF Les Rejaudoux 86.38 336⇑ *iP* **P 06 59 21.1 +0.9**
RJF pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
RJF MLR MLR
comp=Z,110nm,21.3s,MS4.2
PGF Pioggiola 86.38 330⇑ *iP* **P 06 59 20.9 +0.6**
comp=Z,16nm,0.9s,mb4.9
PGF Pioggiola 86.38 330⇑ *iP* **P 06 59 20.9 +0.6**
PGF pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
CAF Calviac 86.56 336⇑ *iP* **P 06 59 22.5 +1.4**
comp=Z,52nm,1.1s,mb5.4
CAF Calviac 86.56 336⇑ *iP* **P 06 59 22.5 +1.4**
CAF pmax pmax
comp=Z,26nm,1.1s,mb5.4
LMR La Mourre 86.57 332⇑ *iP* **P 06 59 21.5 +0.3**
comp=Z,21nm,0.7s,mb5.2
LMR La Mourre 86.57 332⇑ *iP* **P 06 59 21.5 +0.3**
LMR pmax pmax
comp=Z,11nm,0.7s,mb5.2
LASF Ste Croix 86.78 334⇑ *iP* **P 06 59 23.2 +1.0**
comp=Z,20nm,1.1s,mb5.0
LFF La Frestale 86.94 337 *eP* **P 06 59 23.9 +0.9**
comp=Z,19nm,0.7s,mb5.2
LFF La Frestale 86.94 337 *eP* **P 06 59 23.9 +0.9**
LFF pmax pmax
comp=Z,10.0nm,0.6s,mb5.2
MTLF Montolieu 87.95 335 *eP* **P 06 59 29.1 +1.2**
comp=Z,9.3nm,0.8s,mb4.8
MTLF Montolieu 87.95 335 *eP* **P 06 59 29.1 +1.2**
MTLF pmax pmax
comp=Z,5.0nm,0.8s,mb4.8
SWET Sewanee 88.10 41 *eP* **P 06 59 27.3 -1.5**
EPF Esparros 88.80 336⇑ *iP* **P 06 59 32.2 +0.3**
comp=Z,7.5nm,0.8s,mb4.8
EPF Esparros 88.80 336⇑ *iP* **P 06 59 32.2 +0.3**
EPF pmax pmax
comp=Z,4.0nm,0.8s,mb4.8
ETSF Etsaut 89.18 337⇑ *iP* **P 06 59 34.7 +0.9**
comp=Z,11nm,0.6s,mb5.0
ETSF Etsaut 89.18 337⇑ *iP* **P 06 59 34.7 +0.9**
ETSF pmax pmax
comp=Z,6.0nm,0.6s,mb5.1
ESDC Sonseca Array 93.13 338 P **P 06 59 52.3 +0.2**
comp=Z,2.1nm,0.6s,mb4.7,baz=19,slow=3.8,SNR=8.0
VNDA Vanda 121.08 176 PKhKP 07 05 24.8
comp=Z,0.7nm,0.7s,baz=328,slow=6.0,SNR=5.2
MAW Mawson 127.17 209 PKP PKPdf 07 05 41.8 +1.2
comp=Z,1.6nm,0.8s,baz=9.4,slow=2.6,SNR=3.5
LPAZ La Paz 139.80 59 PKP PKPdf 07 06 08.2 +2.8
comp=Z,1.9nm,0.9s,baz=1.8,slow=6.5,SNR=8.6
MAIT Maitri 144.87 204 *e*PKP PKPdf 07 06 14.2 +1.5
SNAA Sanae 148.13 198⇑ *iP* PKPdf 07 06 22.9 +4.8
SNAA Sanae 148.13 198 *e* PKPdf 07 06 28.3 +10
SNAA Sanae 148.13 198 *e* PKPdf 07 06 34.4 +16
SNAA Sanae 148.13 198 *e* PKPdf 07 06 39.9 +22
SNAA Sanae 148.13 198 *e* PKPdf 07 06 41.2 +23
SNAA Sanae 148.13 198 PKPbc PKPdf 07 06 22.9 +4.8
comp=Z,2.3nm,0.9s,baz=112,slow=1.7,SNR=17
SNAA Sanae 148.13 198 *e*PKPbc PKPdf 07 06 22.5 +4.3
SNAA ⇑*i*PKPdf PKPdf 07 06 22.9 +4.8
SNAA *e* 07 06 28.3
SNAA *e* 07 06 34.4
SNAA *e* 07 06 39.9
SNAA *e* 07 06 41.2
SNAA Sanae 148.13 198 *e*PKIKP PKPdf 07 06 22.5 +4.4
SNAA *e* 07 06 28.3
SNAA *e* 07 06 39.9
SNAA *e* 07 06 41.2
BDFB Brasilia 149.49 29 PKPbc PKPdf 07 06 28.3 +6.4
comp=Z,8.8nm,0.7s,baz=239,slow=2.5,SNR=19
BAO Brasilia Array 149.49 29 PKPdf PKPdf 07 06 28.0 +6.1
VNA2 Neumayer--Watz 149.67 196 *e* PKPdf 07 06 32.8 +12
VNA2 Neumayer--Watz 149.67 196 *e* PKPdf 07 06 41.7 +21
VNA2 Neumayer--Watz 149.67 196 *e* PKPdf 07 06 49.4 +29
VNA2 Neumayer--Watz 149.67 196 *e* PKPdf 07 06 50.4 +30
VNA2 Neumayer--Watz 149.67 196⇑ *iP*PKPdf PKPdf 07 06 27.4 +6.8
VNA2 *e* 07 06 32.8
VNA2 *e* 07 06 41.7
VNA2 *e* 07 06 49.4
VNA2 *e* 07 06 50.4
VNA3 Neumayer Olymp 149.86 195 *e* PKPdf 07 06 33.4 +12
VNA3 Neumayer Olymp 149.86 195 *e* PKPdf 07 06 42.0 +21
VNA3 Neumayer Olymp 149.86 195 *e* PKPdf 07 06 49.5 +29
VNA3 Neumayer Olymp 149.86 195 *e* PKPdf 07 06 50.6 +30
VNA3 Neumayer Olymp 149.86 195⇑ *iP*PKPdf PKPdf 07 06 27.5 +6.6
VNA3 *e* 07 06 33.4
VNA3 *e* 07 06 42.0
VNA3 *e* 07 06 49.5
VNA3 *e* 07 06 50.6
VNA1 Neumayer--Stat 150.06 196 *e* PKPdf 07 06 34.5 +13
VNA1 Neumayer--Stat 150.06 196 *e* PKPdf 07 06 42.9 +22
VNA1 Neumayer--Stat 150.06 196 *e* PKPdf 07 06 50.4 +29
VNA1 Neumayer--Stat 150.06 196 *e* PKPdf 07 06 51.5 +30
VNA1 Neumayer--Stat 150.06 196⇑ *iP*PKPdf PKPdf 07 06 28.4 +7.1
VNA1 *e* 07 06 34.5
VNA1 *e* 07 06 42.9
VNA1 *e* 07 06 50.4
VNA1 *e* 07 06 51.5
CPUP Villa Florida 153.94 57 PKPbc PKPdf 07 06 37.8 +10
comp=Z,1.7nm,0.7s,baz=0.1,slow=4.0,SNR=4.6
CPUP PKPab PKPab 07 06 51.4 -0.7
comp=Z,2.5nm,0.8s,baz=292,slow=6.3,SNR=5.4
CPUP Villa Florida 153.94 57 PKP2 PKPab 07 06 51.4 -0.7
CPUP pmax pmax
comp=Z,3.0nm,0.9s

IDC 27 07:00:20.3±1.1, 85.88N×28.46E, mb3.5/6, mb1 3.7/7, mb1mx3.5/20, mbtmp3.5/7, ML3.3/1, MS3.4/10, Ms1 3.4/10, ms1mx3.2/21, Error ellipse: s-maj=34.6km s-min=20.1km az=70.0, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARCES	**ARCESS Array B**	**16.45**	**184**	Pn		P 07 04 09.4	-4.1
	0.1nm,0.3s,baz=355,slow=11,SNR=3.0						
ARCES				LR	LR	07 10 28.0	
	comp=Z,94nm,19.0s,baz=71,slow=37						
FINES	**FINESS Array B**	**24.57**	**183**	LR	LR	07 14 37.4	
	comp=Z,88nm,21.5s,baz=109,slow=35						
NOA	**NORSAR Array B**	**25.19**	**200**	LR	LR	07 14 30.4	
	comp=Z,34nm,21.2s,baz=185,slow=34						
HFS	**Hagfors**	**26.04**	**197**	LR	LR	07 15 35.2	
	comp=Z,44nm,20.1s,baz=28,slow=35						
ILAR	**Eielson Array**	**29.52**	**356**	P	P	07 06 25.4	-2.3
	0.4nm,0.9s,slow=9.9,SNR=3.8						
YKA	**Yellowknife Ar**	**31.07**	**327**	LR	LR	07 19 48.6	
	comp=Z,111nm,18.2s,baz=15,slow=38						
ZAL	**Zalesovo**	**34.10**	**119**	LR	LR	07 22 17.9	
	comp=Z,68nm,18.4s,baz=220,slow=39						
AKASG	**Malin Array Be**	**35.34**	**179**	P	P	07 07 15.9	-2.7
	0.1nm,0.3s,baz=1.7,slow=9.2,SNR=3.1						
MKAR	**Makanchi Array**	**41.06**	**122**	P	P	07 08 04.2	-2.3
	0.4nm,0.7s,baz=338,slow=7.8,SNR=4.0						
MKAR				LR	LR	07 28 19.1	
	comp=Z,66nm,18.6s,baz=12,slow=41						
SONM	**Songino Array**	**41.65**	**98**	P	P	07 08 10.3	-0.9
	1.2nm,0.9s,baz=351,slow=8.9,SNR=7.9						
SONM				LR	LR	07 27 02.7	
	comp=Z,71nm,18.9s,baz=99,slow=38						
ULM	**Lac du Bonnet**	**42.40**	**308**	LR	LR	07 25 31.0	
	comp=Z,45nm,18.3s,baz=312,slow=36						
BRTR	**Keskin Array B**	**46.33**	**174**	P	P	07 08 47.8	-1.3
	0.6nm,0.5s,baz=34,slow=4.5,SNR=3.6						
PDAR	**Pinedale Array**	**50.57**	**320**	P	P	07 09 20.4	-1.6
	0.1nm,0.3s,baz=39,slow=5.8,SNR=3.3						
TXAR	**Lajitas Array**	**63.66**	**314**	LR	LR	07 39 09.7	
	comp=Z,46nm,20.3s,baz=305,slow=37						

CSEM 27 07:08:40.4±0.2, 35.06N×33.21E, h60km, Mw2.7, Error ellipse: s-maj=5.5km s-min=4.4km az=116.0
NIC 27 07:08:42.1±0.1, 35.10N×33.26E, h56km, ML2.8, MW2.7
ISK 27 07:08:45.2, 35.43N×33.13E, h18km, MD3.0
ISC 27 07:08:42.3±1.7, 35.1N±0.1×33.25E±0.10, h59km±13km, n8, σ0:33/13, 1C-2D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAMC	**Mammari**	**0.11**	**348**	⇑P	P	**07 08 50.8**	**-0.4**
CSS	**Prodhromos**	**0.12**	**146⇓**	*e*P	P	**07 08 50.8**	**-0.4**
	4.7nm,0.2s						
CSS				S	S	**07 08 57.6**	**-0.2**
LEF	**Lefka**	**0.30**	**281**	*i* PG	P	**07 08 52.4**	**+0.1**
LEF				*i* SG	S	**07 09 00.0**	**+0.4**
SZAC	**Souni-Zanaja**	**0.43**	**224**	P	P	**07 08 53.7**	**+0.2**
SZAC				S	S	**07 09 02.1**	**+0.4**
ALFC	**Alevga**	**0.54**	**280⇓**	*i*P	P	**07 08 54.5**	**-0.1**
	13nm,0.2s						
ALFC				S	S	**07 09 03.6**	**-0.1**
IKL	**Isikli**	**1.23**	**17**	PG	P	**07 09 03.6**	**0.0**
HDMB	**Hadim**	**1.99**	**342**	*e*PN	P	**07 09 13.7**	**-0.6**
MERS	**Mersin**	**2.08**	**30**	*e*PN	P	**07 09 16.0**	**+0.5**
MERS				*e*SN	S	**07 09 40.4**	**+0.3**

IDC 27 07:10:22.8±3.8, 4.51S×150.31E, h178km±40km, mb3.5/4, mb1 3.7/5, mb1mx3.5/13, mbtmp4.0/5, Error ellipse: s-maj=95.3km s-min=26.3km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.78**	**213**	P	P	07 11 45.6	-2.1
	1.7nm,0.3s,baz=188,slow=9.9,SNR=4.9						
PMG				S	S	07 12 54.8	+1.2
	5.3nm,0.3s,baz=300,slow=15,SNR=9.3						
WRA	**Warramunga Arr**	**21.84**	**224**	P	P	07 15 00.2	-1.4
	2.7nm,0.4s,baz=50,slow=10,SNR=51						
FITZ	**Fitzroy Crossi**	**27.65**	**239**	P	P	07 15 55.5	-0.7
	3.6nm,0.3s,baz=45,slow=3.6,SNR=27						
SONM	**Songino Array**	**64.78**	**329**	P	P	07 20 43.0	-1.4
	0.3nm,0.4s,baz=135,slow=3.6,SNR=4.9						
MKAR	**Makanchi Array**	**78.48**	**319**	P	P	07 22 02.7	-2.9
	0.4nm,0.7s,baz=100,slow=7.4,SNR=3.6						

CSEM 27 07:18:04.7±0.1, 37.79N×48.46E, h2km, ML3.0, Error ellipse: s-maj=3.4km s-min=1.9km az=31.0
THR 27 07:18:06.0±0.3, 37.82N×48.51E, h14km±7km, ML2.7
TEH 27 07:18:07.0, 37.77N×48.36E, h10km, Mn3.0
ISC 27 07:18:05.5±0.6, 37.86N±0.08×48.41E±0.07, h10km, n17, σ0:95/16, Northwestern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ISRB	**Sarab**	**0.59**	**267**	Pg	**Pg**	**07 18 17.2**	**-0.2**
IHSH	**Hashtroud**	**1.01**	**297**	Pg	**Pg**	**07 18 25.2**	**-0.6**
GRMI	**Germi**	**1.03**	**337**	*e*PG	**Pg**	**07 18 26.6**	**+0.4**
IBST	**Bostanabad**	**1.22**	**263**	Pg	**Pg**	**07 18 27.7**	**-2.1**
THKV	**Tehran--Karaj**	**2.77**	**134**	*e*PN	**Pn**	**07 18 51.0**	**+0.2**
IMHD	**Mahdasht**	**2.83**	**139**	Pn	**Pn**	**07 18 53.2**	**+1.7**
SNGE	**Sanandaj**	**2.89**	**198**	*e*PN	**Pn**	**07 18 53.6**	**+1.1**
SNGE				AML	AML	07 19 38.7	
	comp=E,33nm,0.4s						
MAKU	**Maku**	**3.28**	**298**	*e*PN	**Pn**	**07 19 00.4**	**+2.3**
IPRN	**Paran-Amol**	**3.46**	**117**	Pn	**Pn**	**07 19 00.1**	**-0.5**
ASAO	**Ashtian**	**3.55**	**158**	*e*PN	**Pn**	**07 19 01.9**	**0.0**
ASAO				AML	AML	07 19 56.5	
	comp=E,12nm,0.6s						
DAMV	**Damavand**	**3.62**	**127**	*e*PN	**Pn**	**07 19 02.7**	**-0.2**
DAMV				AML	AML	07 20 05.5	
	comp=N,16nm,0.4s						
IDMV	**Damavand**	**3.69**	**127**	Pn	**Pn**	**07 19 03.9**	**0.0**
IVRN	**Varamin**	**3.91**	**136**	Pn	**Pn**	**07 19 06.7**	**-0.3**
IVRN	**Varamin**	**3.91**	**136**	Lg		07 20 09.7	
IFIR	**Firoozkooh**	**4.13**	**121**	Pn	**Pn**	**07 19 09.9**	**-0.2**
IGLO	**Galoogah**	**4.35**	**109**	Pn	**Pn**	**07 19 12.9**	**-0.3**
IKIA	**Kiasar**	**4.53**	**110**	Pn	**Pn**	**07 19 14.6**	**-1.1**

CASC 27 07:46:27.3±1.6, 11.71N×87.85W, h30km±10km, MD3.9, ML3.4, 8C-9D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LEON	**Leon**	**1.17**	**53⇑**	*e*P	Pn	07 46 47.9	0.0
CRIN	**San Cristobal**	**1.26**	**38⇑**	*e*P	Pn	07 46 49.5	+0.3
TEL3	**Telica 3**	**1.31**	**49⇑**	*e*P	Pn	07 46 49.7	-0.2
COPN	**Copaltepe**	**1.32**	**69⇓**	*e*P	Pn	07 46 49.7	-0.3
MIRN	**Miramar**	**1.33**	**57⇓**	*e*P	Pn	07 46 49.8	-0.4
TELN	**Telica**	**1.34**	**48⇑**	*e*P	Pn	07 46 50.0	-0.3
CNGN	**Cerro Negro**	**1.38**	**55⇑**	*e*P	Pn	07 46 50.4	-0.4
MOMJ	**Momotombo**	**1.46**	**61⇓**	*e*P	Pn	07 46 51.5	-0.5
CRUN	**El Crucero**	**1.54**	**80⇓**	*e*P	Pn	07 46 52.4	-0.8
XAVN	**Gruta Xavier**	**1.55**	**73⇓**	*e*P	Pn	07 46 52.9	-0.4
APYN	**Apoyeque**	**1.56**	**70⇓**	*e*P	Pn	07 46 52.9	-0.5
CNCH	**Conchagua**	**1.56**	**1**	*e*P	Pn	07 47 07.4	+14
CNCH				*e*S	Sn	07 47 28.6	+16
TICN	**Ticuantepe**	**1.62**	**78⇓**	*e*P	Pn	07 46 54.3	+0.1
MGAN	**Managua**	**1.63**	**74⇑**	*e*P	Pn	07 46 53.6	-0.8
MGAN				*e*S	Sn	07 47 14.8	+0.2
MGAN				*i*		07 47 15.5	
	comp=N,462nm,0.4s						
WILN	**Americas 2**	**1.69**	**74⇑**	*e*P	Pn	07 46 54.5	-0.8
WILN				*e*S	Sn	07 47 16.1	0.0
APON	**Apoyo**	**1.76**	**83⇓**	*e*P	Pn	07 46 55.4	-0.9
SSNN	**San Juan del S**	**2.00**	**102**	*e*P	Pn	07 46 59.5	-0.3
CONN	**Concepcion**	**2.18**	**94⇓**	*e*P	Pn	07 47 01.1	-1.3
LCBS	**La Ceiba**	**2.23**	**330**	*e*P	Pn	07 47 16.7	+14
LCBS				*e*S	Sn	07 47 43.3	+14
LFRS	**El Faro**	**2.24**	**328**	*e*P	Pn	07 47 17.0	+14
LFRS				*e*S	Sn	07 47 44.0	+14
MADN	**Villa Maderas**	**2.29**	**97**	*e*P	Pn	07 47 01.7	-2.2
BOQS	**Boqueron**	**2.45**	**325**	*e*P	Pn	07 47 20.6	+14
BOQS				*e*S	Sn	07 47 50.4	+15
RTR	**El Retiro**	**2.79**	**321**	*e*P	Pn	07 47 24.2	+13
RTR				*e*S	Sn	07 47 57.4	+13
RBDL	**Robledal**	**2.99**	**323**	*e*P	Pn	07 47 26.1	+12
RBDL				*e*S	Sn	07 48 02.9	+14
PRS1	**Puriscal**	**3.88**	**116**	*e*S	Sn	07 48 10.2	-1.3
BUS	**Buena Vista**	**4.55**	**118⇑**	*e*P	Pn	07 47 37.2	+1.1
BUS				*e*S	Sn	07 48 29.1	+0.4

IDC 27 08:13:51.0±1.8, 0.16N×127.11E, mb3.8/3, mb1 4.1/3, mb1mx3.6/14, mbtmp3.9/3, Error ellipse: s-maj=167.0km s-min=25.6km az=64.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.20**	**161**	P	P	08 18 39.3	-1.4
	3.5nm,0.5s,baz=339,slow=11,SNR=59						
STKA	**Stephens Creek**	**34.69**	**158**	P	P	08 20 41.8	-2.9
	1.5nm,0.6s,baz=341,slow=11,SNR=5.4						
MKAR	**Makanchi Array**	**60.70**	**326**	P	P	08 24 04.4	-2.2
	0.2nm,0.4s,baz=120,slow=7.3,SNR=7.6						

LDG 27 08:50:45.3±0.1, 50.28N×6.24E, h2km, Md2.6/2, Ml2.5/19, Error ellipse: s-maj=2.3km s-min=1.5km az=21.0
BNS 27 08:50:45.3±0.6, 50.39N×6.34E, h26km±1km, ML1.9

*NEIC **27** 08:50:45.3, 50.28N×6.24E, h2km, ML2.5(LDG), After LDG.*

BGR 27 08:50:44.3±0.6, 50.40N×6.41E, h10km, ML1.7/3, 3C-3D, Error ellipse: s-maj=10.0km s-min=4.4km az=115.0, Germany

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KLL	**Kalltalsperre**	**0.26**	**345**	⇑*i*Pg			Pg	08 50 51.6	+1.9
KLL				*i* Sg			Sg	08 50 56.0	+2.7
	111nm,0.3s								
MEM	**Membach**	**0.33**	**309**	⇓*i*Pg			Pg	08 50 52.3	+1.1
MEM				*i* Sg			Sg	08 50 57.1	+1.3
STB	**Steinbach**	**0.34**	**54**	⇓*e*Pg			Pg	08 50 53.5	+2.3
STB				*i* Sg			Sg	08 50 58.8	+2.9
	64nm,0.1s								
HGN	**Heimansgroeve**	**0.48**	**320**	⇑*i*Pg			Pg	08 50 54.6	+0.6
	44nm,0.1s,baz=180								
HGN				*i* Sg			Sg	08 51 01.1	+0.7
BGG	**Burgeitz**	**0.62**	**108**	⇓*e*Pg			Pg	08 50 58.0	+1.1
BGG				*i* Sg			Sg	08 51 06.6	+1.3
	44nm,0.2s								
BNS	**Bensberg**	**0.74**	**40**	*e*Sg			Sg	08 51 09.5	+0.3
	52nm,0.4s								
WLF	**Walferdange**	**0.76**	**193**	⇑Pg			Pg	08 50 59.1	-0.4
WLF				Sg			Sg	08 51 08.3	-1.3
WLF	**Walferdange**	**0.76**	**193**	*e*P			Pb	08 50 59.0	-0.1
GIVF	**Givet**	**1.06**	**254**	*e*Pg			Pg	08 51 03.3	-2.3
GIVF				*e*Sn			Sn	08 51 16.6	-3.5
	59nm,0.3s								
BUG	**Bochum--Univer**	**1.18**	**27**	*e*Sg			Sg	08 51 21.5	-2.0
DOU	**Dourbes**	**1.21**	**256**	Pg			Pg	08 51 05.6	-2.9
DOU				Sg			Sg	08 51 20.5	-4.1
TNS	**Taunus Mts**	**1.32**	**97**	*e*Pg			Pg	08 51 08.0	-2.6
TNS				*e*Pn			Pn	08 51 08.4	-0.4
	SNR=1.6								
TNS				*e*Sg			Sg	08 51 27.5	-0.7
BAIF	**Baives**	**1.46**	**257**	*e*Pn			Pn	08 51 09.1	-1.7
BAIF				*e*Pg			Pg	08 51 10.5	-2.9
BAIF				*e*Sg			Sg	08 51 27.1	-5.8
	20nm,0.2s								
RFYF	**Reffroy**	**1.88**	**199**	*e*Sg			Sg	08 51 38.9	-7.9
	9.7nm,0.2s								
CDF	**Champ du Feu**	**2.07**	**164**	*e*Pn			Pn	08 51 18.6	-1.0
CDF				*e*Sg			Sg	08 51 47.7	-5.5
	2.4nm,0.2s								
MEZF	**Maizieres J'vi**	**2.10**	**206**	*e*Sg			Sg	08 51 47.4	-6.8
	2.7nm,0.2s								
SFTF	**Sexfontaines**	**2.37**	**203**	*e*Sg			Sg	08 51 56.0	-7.4
	3.6nm,0.2s								
HAU	**Haudompre**	**2.40**	**181**	*e*Pn			Pn	08 51 22.2	-2.1
BFO	**Black Forest**	**2.42**	**148**	*e*Sg			Sg	08 51 60.0	-5.0
HINF	**Hinteralfeld**	**2.60**	**173**	*e*Pn			Pn	08 51 25.6	-1.6
HINF				*e*Pg			Pg	08 51 31.7	-4.6
HINF				*e*Sg			Sg	08 52 03.9	-7.1
	1.7nm,0.2s								
CLZ	**Clausthal**	**2.88**	**58**	*e*Sn			Sn	08 52 01.9	-4.3
CLZ				*e*Sg			Sg	08 52 14.8	-5.5
LOR	**Lormes**	**3.56**	**209**	*e*Pn			Pn	08 51 37.1	-3.7
LOR				*e*Sg			Sg	08 52 31.2	-12
	2.3nm,0.2s								
CABF	**La Chapelle**	**3.80**	**183**	*e*Pn			Pn	08 51 41.0	-3.2
CABF				*e*Sg			Sg	08 52 40.8	-10
	0.7nm,0.2s								
SSF	**Saint Saulge**	**3.85**	**211**	*e*Pn			Pn	08 51 41.2	-3.8
SSF				*e*Sg			Sg	08 52 41.5	-11
	2.3nm,0.3s								
SMF	**Signal de Mont**	**4.13**	**205**	*e*Pn			Pn	08 51 45.0	-3.9
SMF				*e*Sg			Sg	08 52 49.6	-12
	1.3nm,0.2s								
AVF	**Avril sur Loir**	**4.14**	**211**	*e*Pn			Pn	08 51 44.6	-4.5
AVF				*e*Sg			Sg	08 52 49.8	-12
	0.5nm,0.2s								
BGF	**Bois d'Agland**	**4.52**	**213**	*e*Sg			Sg	08 53 01.7	-13
	2.3nm,0.3s								
LDF	**La Druitiere**	**4.63**	**250**	*e*Sg			Sg	08 53 05.0	-13
	2.9nm,0.3s								
FLN	**La Foliniere**	**4.78**	**253**	*e*Sn			Sn	08 52 44.9	-9.3
FLN				*e*Sg			Sg	08 53 10.9	-12
	2.0nm,0.2s								
TCF	**Toulx Ste Croi**	**4.98**	**216**	*e*Pn			Pn	08 51 56.6	-4.3
TCF				*e*Sg			Sg	08 53 16.1	-14
	1.8nm,0.4s								

CASC 27 09:26:05.4±1.5, 8.46N×83.29W, h16km±10km, MD3.5, MW4.1, 3C-1D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.23**	**31**	⇓*e*P			Pb	09 26 10.6	-0.1
ACR				*e*S			Sb	09 26 15.1	+0.8
BRU2	**Volcan**	**0.68**	**60**	⇑*i*P			Pb	09 26 18.3	-0.1
BRU2				*e*S			Sb	09 26 28.7	+1.5
SJS	**Escuela Geolog**	**1.66**	**333**	*e*S			Sn	09 26 55.7	+0.6
PRS1	**Puriscal**	**1.82**	**326**	⇑*e*P			Pn	09 26 35.9	-0.6
PRS1				⇑*i*P				09 26 35.9	
PRS1				*e*S			Sn	09 26 59.3	0.0
CGA2	**Cerro Gallo 2**	**1.94**	**323**	*e*P			Pn	09 26 37.9	-0.2
CGA2				*e*P				09 26 38.0	
CGA2				*e*S			Sn	09 27 01.6	-0.6
CGA2				*e*S			Sn	09 27 02.9	+0.7

MEX 27 09:39:24.6±0.6, 17.16N×100.80W, h5km, MD3.6, 1D, Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.52**	**103**	⇓*i*P			Pg	09 39 33.9	-1.2
CAIG				*i* S			Sg	09 39 42.0	0.0
ACX	**Acapulco**	**0.90**	**109**	*i* P			Pb	09 39 40.0	-2.2
ACX				*i* S			Sb	09 39 52.0	-2.3
PLIG	**Platanillo**	**1.74**	**45**	*e*P			Pn	09 39 53.4	-2.3
PLIG				*i* S			Sn	09 40 13.3	-5.2

*IDC **27** 10:15:42.3±1.1, 33.23N×142.43E, mb3.5/4, mb1 3.8/6, mb1mx3.6/20, mbtmp3.7/6, ML3.9/2, Error ellipse: s-maj=28.6km s-min=23.3km az=32.0*
*JMA **27** 10:15:43.5±0.3, 33.35N×142.54E, h72km, M3.3*

ISC 27 10:15:42.9±0.7, 33.36N±0.04×142.58E±0.06, h33km, n22, σ1°15/36, mb3.5/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.85**	**314**	P			**P**	**10 16 13.4**	**+0.5**
BSO1				*e*S			**S**	**10 16 36.3**	**+1.0**
BSO2	**Boso 2**	**2.06**	**313**	*e*S			**S**	**10 16 42.0**	**+1.5**
BSO3	**Boso 3**	**2.24**	**310**	P			**P**	**10 16 18.9**	**+0.5**
BSO3				*e*S			**S**	**10 16 45.8**	**+0.6**
JHJ2	**Mitsune**	**2.33**	**265**	P			**P**	**10 16 20.4**	**+0.7**
JHJ2				*e*S			**S**	**10 16 47.1**	**-0.4**
JHJ	**Hachijo jima 2**	**2.36**	**265**	Pn			**Pn**	**10 16 20.6**	**+0.3**
	47nm,0.3s,baz=220,slow=17,SNR=64								
JHJ				Sn			**Sn**	**10 16 48.0**	**-0.4**
	48nm,0.3s,baz=252,slow=24,SNR=6.5								
BSO4	**Boso 4**	**2.47**	**312**	P			**P**	**10 16 22.8**	**+1.1**
BSO4				*e*S			**S**	**10 16 51.1**	**+0.1**
JIM2	**Oshima 3**	**2.95**	**298**	P			**P**	**10 16 27.5**	**-1.0**
JIM2				*e*S			**S**	**10 17 02.1**	**-1.0**
JYN	**Shimob**	**3.96**	**304**	P			**P**	**10 16 43.4**	**+0.5**
JYN				*e*S			**S**	**10 17 28.3**	**-0.5**
JAG	**Ashikaga**	**4.00**	**321**	P			**P**	**10 16 43.2**	**-0.2**
JAG				*e*S			**S**	**10 17 26.0**	**-3.7**
JRY	**Ryogami san**	**4.03**	**312**	P			**P**	**10 16 44.7**	**+0.9**
JRY				S			**S**	**10 17 29.4**	**-1.1**
JMM	**Marumori**	**4.72**	**343**	P			**P**	**10 16 52.8**	**-0.9**
JMM				*e*S			**S**	**10 17 42.5**	**-5.6**
MAT	**Matsushiro**	**4.79**	**313**	P			**P**	**10 16 54.7**	**0.0**
MAT				S			**S**	**10 17 46.1**	**-3.8**
MAT	**Matsushiro**	**4.79**	**313**	P			**P**	**10 16 54.8**	**+0.1**
MAT				*e*S			**S**	**10 17 48.1**	**-1.8**
JMK	**Ichinoseki**	**5.69**	**349**	P			**P**	**10 17 05.2**	**-2.0**
JMK				*e*S			**S**	**10 18 05.3**	**-7.0**
JYK	**Kaneyama**	**5.83**	**343**	P			**P**	**10 17 09.0**	**-0.2**
JYK				*e*S			**S**	**10 18 12.3**	**-3.6**
CBIJ	**Chichi jima**	**6.25**	**183**	Pn			**Pn**	**10 17 13.6**	**-1.8**
	9.1nm,0.3s,baz=346,slow=22,SNR=6.6								
CBIJ				Sn			**Sn**	**10 18 21.6**	**-4.9**
	12nm,0.3s,baz=285,slow=20,SNR=4.1								
CBIJ	**Chichi jima**	**6.25**	**183**	P			**P**	**10 17 14.3**	**-0.9**
SONM	**Songino Array**	**30.73**	**309**	P			**P**	**10 21 59.0**	**+2.0**
	0.2nm,0.3s,mb3.4,baz=113,slow=11,SNR=2.8								
MKAR	**Makanchi Array**	**46.95**	**305**	P			**P**	**10 24 14.3**	**+2.1**
	0.3nm,0.6s,mb3.4,baz=101,slow=7.3,SNR=2.4								
WRA	**Warramunga Arr**	**53.59**	**190**	P			**P**	**10 25 03.9**	**+0.7**
	0.8nm,0.9s,mb3.6,baz=6.6,slow=7.5,SNR=6.6								
TXAR	**Lajitas Array**	**91.58**	**53**	P			**P**	**10 28 51.2**	**+3.3**
	0.2nm,0.6s,mb3.6,baz=295,slow=3.5,SNR=4.3								
LPAZ	**La Paz**	**147.52**	**66**	PKPbc			PKPdf	10 35 30.6	+9.1
	0.4nm,0.7s,baz=224,slow=4.1,SNR=4.6								

*NEIC **27** 10:35:47.3±2.5, 21.57N×143.34E, h280km±25km, mb4.4/4, Error ellipse: s-maj=19.0km s-min=9.5km az=95.0*
*IDC **27** 10:35:49.0±1.7, 21.59N×143.11E, h292km±16km, mb3.6/10, mb1 3.6/14, mb1mx3.5/26, mbtmp4.3/14, Error ellipse: s-maj=21.2km s-min=10.7km az=88.0*

ISC 27 10:35:47.8±1.4, 21.56N±0.08×143.2E±0.1, h303km±12km, n41, σ0°72/26, mb3.9/12, 3C, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.59**	**350**	P			**P**	**10 37 13.4**	**+0.5**
	14nm,0.3s,baz=271,slow=18,SNR=17								
CBIJ				S			**S**	**10 38 19.6**	**0.0**
	32nm,0.3s,baz=304,slow=22,SNR=11								
JHJ	**Hachijo jima 2**	**11.91**	**346**	P			**P**	**10 38 29.7**	**-0.6**
	14nm,0.3s,baz=205,slow=21,SNR=16								
JHJ				S			**S**	**10 40 42.1**	**+3.3**
	3.1nm,0.3s,baz=248,slow=19,SNR=2.7								
JOW	**Kunigami**	**14.61**	**294**	P			**P**	**10 39 02.7**	**-0.1**
	0.5nm,0.3s,baz=116,slow=13,SNR=4.5								
MAJO	**Matsushiro**	**15.56**	**345**	*e*P			**P**	**10 39 11.8**	**-1.6**
	6.5nm,0.3s								
MAT	**Matsushiro**	**15.56**	**345**	P			**P**	**10 39 11.7**	**-1.6**
MAT	**Matsushiro**	**15.56**	**345**	*e*P			**P**	**10 39 12.0**	**-1.3**
JNU	**Nakatsue**	**15.89**	**319**	P			**P**	**10 39 17.1**	**+0.1**
	0.7nm,0.3s,baz=88,slow=14,SNR=5.9								
KS15	**Wonju Array Si**	**20.66**	**323**	*e*P			**P**	**10 40 05.6**	**+0.2**
ASAJ	**Asahikawa**	**22.50**	**359**	P			**P**	**10 40 24.1**	**+1.0**
	5.1nm,0.8s,mb3.9,baz=172,slow=25,SNR=4.0								
SONM	**Songino Array**	**39.47**	**321**	P			**P**	**10 42 50.8**	**+0.1**
	0.5nm,0.5s,mb3.2,baz=142,slow=10,SNR=4.9								
WRAB	**Tennant Creek**	**42.14**	**192**	*e*P			**P**	**10 43 12.4**	**-0.4**
	12nm,0.5s,mb4.4								
WRA	**Warramunga Arr**	**42.15**	**192**	P			**P**	**10 43 13.3**	**+0.4**
	9.9nm,0.6s,mb4.2,baz=16,slow=9.8,SNR=172								
FITZ	**Fitzroy Crossi**	**43.01**	**205**	*e*P			**P**	**10 43 19.9**	**+0.1**
	10nm,0.6s,mb4.2								
FITZ	**Fitzroy Crossi**	**43.01**	**205**	P			**P**	**10 43 19.9**	**+0.2**
	14nm,0.6s,mb4.4,baz=14,slow=8.2,SNR=18								
STKA	**Stephens Creek**	**53.15**	**182**	P			**P**	**10 44 37.0**	**0.0**
	4.0nm,0.6s,mb4.0,baz=349,slow=6.9,SNR=8.7								
STKA	**Stephens Creek**	**53.15**	**182**	P			**P**	**10 44 37.0**	**0.0**
ZAL	**Zalesovo**	**54.35**	**322**	PcP			PcP	10 45 44.2	-1.1
	0.9nm,0.5s,baz=20,slow=2.3,SNR=4.0								
MKAR	**Makanchi Array**	**54.82**	**313**	P			**P**	**10 44 49.3**	**+0.5**
	0.2nm,0.4s,mb2.9,baz=101,slow=7.5,SNR=2.6								
MKAR				PcP			PcP	10 45 47.0	-0.2
	0.9nm,0.6s,baz=73,slow=4.6,SNR=5.9								
ILAR	**Eielson Array**	**62.15**	**27**	P			**P**	**10 45 38.4**	**-0.4**
	0.4nm,0.6s,mb3.2,baz=252,slow=5.6,SNR=6.9								
BVAR	**Borovoye Array**	**62.80**	**320**	P			**P**	**10 45 43.1**	**0.0**
	2.1nm,0.3s,mb4.2,baz=100,slow=7.8,SNR=20								
ARCES	**ARCESS Array B**	**79.06**	**342**	P			**P**	**10 47 20.1**	**+0.6**
	5.9nm,1.1s,mb4.2,baz=70,slow=8.1,SNR=6.0								
JOF	**Joensuu**	**80.45**	**334**	*e*p			**P**	**10 47 26.7**	**-0.3**
CMB	**Columbia Colle**	**81.82**	**52**	*e*P			**P**	**10 47 35.6**	**+0.9**
	1.2nm,0.7s,mb3.7								
FINES	**FINESS Array B**	**83.32**	**334**	P			**P**	**10 47 41.5**	**-0.3**
	0.8nm,0.4s,mb3.9,baz=62,slow=5.6,SNR=14								
BGU	**Big Grassy Mou**	**85.94**	**48**	*e*P			**P**	**10 47 54.6**	**-0.6**
VNA2	**Neumayer--Watz**	**127.71**	**192**	*e*			PKPdf	10 54 21.3	+4.6
VNA2	**Neumayer--Watz**	**127.71**	**192**	*e*			PKPdf	10 54 40.3	+24
VNA2	**Neumayer--Watz**	**127.71**	**192**	⇑*i*P			PKPdf	10 54 19.2	+2.5
VNA2				*e*				10 54 21.3	
VNA2				*e*				10 54 40.3	
VNA3	**Neumayer Olymp**	**127.86**	**191**	*e*			PKPdf	10 54 20.8	+3.8
VNA3	**Neumayer Olymp**	**127.86**	**191**	*e*			PKPdf	10 54 40.0	+23
VNA3	**Neumayer Olymp**	**127.86**	**191**	*e*			PKPdf	10 54 52.5	+36
VNA3	**Neumayer Olymp**	**127.86**	**191**	⇑*i*P			PKPdf	10 54 19.3	+2.3
VNA3				*e*				10 54 20.8	
VNA3				*e*				10 54 40.0	
VNA3				*e*				10 54 52.5	
VNA1	**Neumayer--Stat**	**128.10**	**192**	*e*			PKPdf	10 54 22.1	+4.6
VNA1	**Neumayer--Stat**	**128.10**	**192**	*e*			PKPdf	10 54 41.5	+24
VNA1	**Neumayer--Stat**	**128.10**	**192**	*e*			PKPdf	10 54 53.4	+36
VNA1	**Neumayer--Stat**	**128.10**	**192**	⇑*i*P			PKPdf	10 54 20.3	+2.8
VNA1				*e*				10 54 22.1	
VNA1				*e*				10 54 41.5	
VNA1				*e*				10 54 53.4	
PLCA	**Paso Flores**	**145.64**	**132**	PKPbc			PKPbc	10 54 54.2	+3.1
	6.6nm,0.6s,baz=253,slow=2.0,SNR=12								
LPAZ	**La Paz**	**149.92**	**85**	PKPbc			PKPdf	10 55 07.0	+9.3
	3.5nm,0.5s,baz=288,slow=2.5,SNR=20								
LPAZ	**La Paz**	**149.92**	**85**	*e*PKPbc			PKPdf	10 55 06.2	+8.5
LPAZ				*e*PKPab			PKPab	10 55 13.0	+1.1
CFAA	**Coronel Fontan**	**150.23**	**116**	PKPbc			PKPdf	10 55 05.7	+7.9
	0.6nm,0.8s,baz=258,slow=3.4,SNR=9.2								
LVC	**Limon Verde**	**150.24**	**98**	PKPbc			PKPdf	10 55 07.4	+9.4
	2.6nm,0.8s,baz=274,slow=6.8,SNR=5.9								

*MOS **27** 10:57:44.9±1.0, 5.74N×125.48E, h33km, mb5.8/42, Error ellipse: s-maj=12.4km s-min=5.7km az=109.3*
*CSEM **27** 10:57:45.8, 5.78N×125.55E, h33km, mb5.8*
*BJI **27** 10:57:56.1, 5.22N×125.99E, h170km, mB5.1, mb5.3*
*MAN **27** 10:57:57.1, 5.35N×125.99E, h142km, mb5.5, ML4.5, MS4.8*
MAN GENERAL SANTOS CITY - INTENSITY II.
*IDC **27** 10:58:00.6±1.4, 5.68N×125.68E, h159km±12km, mb4.9/27, mb1 5.0/27, mb1mx5.0/28, mbtmp5.4/27, MS4.2/7, Ms1 4.2/7, ms1mx3.9/21, Error ellipse: s-maj=14.3km s-min=8.1km az=73.0*
*HRVD **27** 10:58:01.9±0.2, 5.69N×126.04E, h162km, MW5.4/73, Centroid moment Tensor Solution. LP body waves: s65,c117; Mantle waves: s73,c151; Half duration: 1s2 Moment tensor: Scale 10^{17}Nm; M_{rr}0.95±.02; $M_{\theta\theta}$-1.41±.02; $M_{\phi\phi}$0.46±.03; $M_{r\theta}$0.01±.02; $M_{r\phi}$-0.53±.02; $M_{\theta\phi}$0.65±.02; Best double couple: $M_0$1.493×10^{17} NP1: ϕ_s287°, δ52°, λ139°. NP2: ϕ_s45°, δ59°, λ46°. Principal axes: T 1.425, Plg53°, Azm260°; N .135, Plg37°, Azm71°; P -1.561, Plg4°, Azm164°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **27** 10:58:01.9±0.1, 5.69N×125.72E, mb5.4/54 Error ellipse: s-maj=5.4km s-min=3.7km az=66.0*
NEIC Felt [II PIVS] at General Santos.

ISC 27 10:58:00.5±0.2, 5.63N±0.02×125.77E±0.03, h175km, h175km±1.5km: pP-P, n404, σ1°10/328, mb5.3/115, 57C-27D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.44**	**352**	*e*P			**P**	**10 58 31.8**	**-0.1**
KCP	**Kidapawan**	**1.53**	**334**	⇓*i*P			**P**	**10 58 39.4**	**+6.7**
KCP				*i* S			**S**	**10 59 03.4**	**+5.9**
BIPH	**Bislig**	**2.60**	**13**	⇓*e*P			**P**	**10 58 43.0**	**-1.7**
BIPH				*e*S			**S**	**10 59 14.8**	**-3.9**
CGP	**Cagayan de Oro**	**3.00**	**339**	⇑*e*P			**P**	**10 58 50.3**	**+0.7**
CGP				*e*S			**S**	**10 59 29.5**	**+2.2**
DCPH	**Dipolog City**	**3.79**	**321**	⇓*i*P			**P**	**10 59 03.1**	**+3.6**
SCPH	**Surigao**	**4.13**	**356**	⇓*e*P			**P**	**10 59 02.9**	**-1.1**
TBP	**Tagbilaran**	**4.46**	**335**	⇑*e*P			**P**	**10 59 08.6**	**+0.5**
TBP				*i* S			**S**	**11 00 08.8**	**+8.5**
SNPH	**Sibulan**	**4.46**	**326**	⇓*i*P			**P**	**10 59 09.7**	**+1.5**
LLP	**Lapu-Lapu**	**4.99**	**339**	⇓*e*P			**P**	**10 59 15.9**	**+0.9**
	4113μm,1.6s								
LLP				*e*S			**S**	**11 00 17.1**	**+4.4**
PLP	**Palo**	**5.55**	**352**	*e*P			**P**	**10 59 23.2**	**+0.7**
RCP	**Roxas**	**6.61**	**333**	⇓*e*P			**P**	**10 59 38.0**	**+1.6**
KALP	**Kalibo**	**6.90**	**331**	⇑*e*P			**P**	**10 59 43.0**	**+2.8**
CUYO	**Cuyo Island**	**7.00**	**318**	*e*P			**P**	**10 59 42.2**	**+0.6**
OTRP	**Odiongan**	**7.65**	**331**	*e*P			**P**	**10 59 50.9**	**+0.9**
TSM	**Tawau**	**7.98**	**261**	P			**P**	**10 59 57.8**	**+3.3**
PPR	**Puerto Princes**	**8.10**	**301**	⇑*e*P			**P**	**10 59 58.6**	**+2.5**
ENPP	**El Nido**	**8.37**	**312**	*e*P			**P**	**11 00 01.4**	**+1.8**
BUSP	**Coron**	**8.39**	**319**	*e*P			**P**	**11 00 00.5**	**+0.6**
GQP	**Guinayangan**	**8.85**	**339**	⇑*e*P			**P**	**11 00 08.9**	**+3.0**
KKM	**Kota Kinabalu**	**9.52**	**273**	P			**P**	**11 00 17.9**	**+3.1**
KKM	**Kota Kinabalu**	**9.52**	**273**	⇑*i*P			**P**	**11 00 17.6**	**+2.8**
LUBP	**Lubang**	**9.72**	**326**	*e*P			**P**	**11 00 19.6**	**+2.2**
BALP	**Baler**	**10.86**	**338**	*e*P			**P**	**11 00 32.5**	**+0.2**
PCPH	**Palayan**	**10.89**	**335**	⇑*e*P			**P**	**11 00 34.5**	**+1.9**
BCPH	**Baguio City Da**	**11.84**	**335**	⇓*e*P			**P**	**11 00 50.1**	**+5.3**
CVP	**Callao Caves**	**12.61**	**342**	⇓*e*P			**P**	**11 00 56.0**	**+1.3**
	23μm,1.0s								
KSM	**Kuching**	**15.97**	**256**	⇑*e*P			**P**	**11 01 39.7**	**+2.5**
NACB	**Ninganchiao**	**18.87**	**348**	*e*P			**P**	**11 02 07.6**	**-2.2**
KAKA	**Kakadu**	**19.39**	**160**	⇓*i*P			**P**	**11 02 29.3**	**+14**
	693nm,0.7s								
KAKA				*e*S			S	11 06 02.6	+22
KAKA				*i* PCS				11 10 04.6	
YHNB	**Yeheng**	**19.40**	**348**	*e*P			**P**	**11 02 14.2**	**-1.1**
QZH	**Quanzhou**	**20.40**	**341**	P			**P**	**11 02 25.3**	**-0.2**
QZH				S			**S**	**11 05 54.3**	**-4.7**
QZH				AMB			AMB		
	comp=Z,70nm,0.7s								
QZH				AMB			AMB		
	comp=Z,1μm,4.2s								
QZH				LR			LR		
	comp=Z,1μm,17.4s								
QIZ	**Qiongzhong**	**20.45**	**312**	⇑*i*P			**P**	**11 02 26.5**	**+0.4**
QIZ				PP			PP	11 02 55.5	+2.8
QIZ				XP				11 03 14.3	
QIZ				S			**S**	**11 06 02.3**	**+2.3**
QIZ				AMB			AMB		
	comp=Z,69nm,1.1s								
QIZ				AMB			AMB		
	comp=Z,238nm,6.5s								
QIZ	**Qiongzhong**	**20.45**	**312**	*e*P			**P**	**11 02 26.5**	**+0.5**
	comp=Z,60nm,1.0s								
GZH	**Guangzhou**	**21.09**	**327**	P			**P**	**11 02 36.0**	**+3.6**
GZH				S			**S**	**11 06 16.5**	**+4.9**
GZH				AMB			AMB		
	comp=Z,102nm,1.0s,mb5.1								
GZH				LR			LR		
	comp=N,808nm,20.8s								
GZH				LR			LR		
	comp=E,924nm,11.1s								
GZH				LR			LR		
	comp=Z,820nm,17.7s								
JOW	**Kunigami**	**21.22**	**6**	P			**P**	**11 02 34.8**	**+1.2**
	comp=Z,177nm,0.9s,mb5.4,baz=180,slow=7.8,SNR=110								
JOW				S			**S**	**11 06 18.2**	**+4.4**
	comp=Z,5.5nm,0.6s,baz=245,slow=28,SNR=9.2								
JOW				ScP				11 09 54.3	
	comp=Z,12nm,0.9s,baz=165,slow=4.1,SNR=5.4								
KGM	**Kluang**	**22.69**	**262**	P			**P**	**11 02 51.0**	**+2.9**
FITZ	**Fitzroy Crossi**	**23.58**	**180**	⇓*i*P			**P**	**11 02 57.3**	**+0.7**
	comp=Z,96nm,0.6s,mb5.5								
FITZ				*e*S			**S**	**11 06 57.4**	**+2.6**
FITZ				*i* SCS			ScS	11 13 45.1	+1.4
FITZ	**Fitzroy Crossi**	**23.58**	**180**	P			**P**	**11 02 57.4**	**+0.7**
	comp=Z,130nm,0.6s,mb5.6,baz=6.3,slow=8.2,SNR=120								
FITZ				S			**S**	**11 06 56.9**	**+2.1**
	comp=Z,92nm,0.9s,baz=183,slow=13,SNR=6.0								
IPM	**Ipoh**	**24.67**	**269**	P			**P**	**11 03 08.4**	**+1.4**
KULM	**Kulim**	**25.01**	**270**	⇑*e*P			**P**	**11 03 10.6**	**+0.4**
SSE	**Sheshan**	**25.70**	**351**	P			**P**	**11 03 16.5**	**+0.1**
SSE				AP			pP	11 03 51.3	-0.2
SSE				XP			sP	11 04 11.5	-0.6
SSE				S			**S**	**11 07 33.0**	**+3.1**
SSE				XS				11 08 35.8	
SSE				AMB			AMB		
	comp=Z,112nm,1.0s,mb5.5								
SSE				AMB			AMB		
	comp=Z,245nm,4.3s								
SSE				LR			LR		
	comp=N,246nm,15.4s								
SSE				LR			LR		
	comp=E,515nm,15.4s								
SSE				LR			LR		
	comp=Z,349nm,17.1s					

KMI sP sP 11 04 46.3 +0.2
KMI PP PP 11 04 53.2 +1.1
KMI PPP PPP 11 05 11.4 +4.0
KMI PcP PcP 11 06 52.8 +1.4
KMI S **S** **11 08 30.0 +0.9**
KMI sS 11 09 32.9
KMI SS SS 11 10 16.2 -0.4
KMI ScP 11 10 17.1
KMI PcS 11 10 34.6
KMI SSS SSS 11 10 44.3 -1.6
KMI ScS ScS 11 14 10.3 +1.7
KMI LR LR
comp=Z,560nm,16.2s
KMI Kunming 29.38 314 P **P** **11 03 50.7 +1.0**
KMI *SP sP 11 04 46.3 +0.2
KMI 11 04 53.2
KMI 11 06 52.8
KMI S **S** **11 08 30.0 +0.9**
KMI 11 10 17.1
KMI pmax pmax
comp=Z,65nm,0.9s,mb5.4
KMI MLR MLR
comp=Z,560nm,16.2s
TIA Tai'an 31.45 347 *e*P **P** **11 04 06.5 -1.3**
TIA AMB AMB
comp=Z,37nm,1.0s,mb5.1
KS15 Wonju Array Si 31.72 3 *e*P **P** **11 04 10.0 -0.1**
XAN Xi'an 32.30 333 P **P** **11 04 14.3 -0.9**
XAN S **S** **11 09 11.8 -2.9**
XAN AMB AMB
comp=Z,75nm,0.9s,mb5.4
XAN AMB AMB
comp=Z,54nm,14.7s
XAN LR LR
comp=N,241nm,14.8s
XAN LR LR
comp=E,272nm,20.1s
XAN LR LR
comp=Z,511nm,17.7s
CTA Charters Tower 32.54 142⇓ *i*P **P** **11 04 17.7 +0.4**
comp=Z,18nm,0.6s,mb5.0
CTA Charters Tower 32.54 142⇓ *i*P **P** **11 04 17.7 +0.4**
CTA pmax pmax
comp=Z,18nm,0.6s
CTAO Charters Tower 32.54 142 *e*P **P** **11 04 17.4 +0.1**
comp=Z,17nm,0.6s,mb5.0
CTAO Charters Tower 32.54 142 *e*P **P** **11 04 17.4 +0.1**
CTAO pmax pmax
comp=Z,17nm,0.6s,mb5.0
CD2 Chengdu 32.56 323⇑ *i*P **P** **11 04 17.5 +0.1**
CD2 AP pP 11 04 54.0 -0.2
CD2 XP sP 11 05 12.5 -2.0
CD2 PP PP 11 05 29.3 -3.1
CD2 S **S** **11 09 16.5 -2.2**
CD2 XS 11 10 25.0
CD2 AMB AMB
comp=Z,80nm,1.0s,mb5.4
CD2 LR LR
comp=N,790nm,8.3s
CD2 LR LR
comp=Z,380nm,15.6s
MAJO Matsushiro 32.81 19 *e*P **P** **11 04 18.1 -1.4**
comp=Z,3.7nm,2.0s
MAJO Matsushiro 32.81 19 *e*P **P** **11 04 18.1 -1.4**
MAJO pmax pmax
comp=Z,4.0nm,2.0s
MAT Matsushiro 32.81 19 P **P** **11 04 18.1 -1.4**
MAT S **S** **11 09 19.4 -3.2**
MAT Matsushiro 32.81 19 *e*P **P** **11 04 18.0 -1.5**
comp=Z,18nm,0.9s,mb4.8
MAT *e*S **S** **11 09 19.0 -3.6**
MAT LR LR
comp=Z,350nm,20.0s
MAT Matsushiro 32.81 19 *e*P **P** **11 04 18.0 -1.5**
MAT pmax pmax
comp=Z,18nm,0.9s,mb4.8
MAT MLR MLR
comp=Z,350nm,20.0s
DL2 Dalian 33.34 354 P **P** **11 04 24.5 +0.5**
DL2 XP sP 11 05 21.5 +0.3
DL2 S **S** **11 09 30.8 +0.1**
DL2 AMB AMB
comp=Z,90nm,0.7s,mb5.6
IMP Imphal 35.99 305⇓ *e*P **P** **11 04 47.0 +0.4**
SNY Shenyang 36.10 357⇑ *i*P **P** **11 04 48.0 +0.7**
SNY AP pP 11 05 24.0 -0.8
SNY XP sP 11 05 44.5 -0.6
SNY S **S** **11 10 14.3 +1.2**
SNY AMB AMB
comp=Z,150nm,0.8s,mb5.7
SNY LR LR
comp=N,350nm,22.6s
SNY LR LR
comp=Z,400nm,21.8s
LZH Lanzhou 36.39 329⇑P **P** **11 04 50.8 +0.9**
LZH AP pP 11 05 27.0 -0.3
LZH XP sP 11 05 46.5 -1.3
LZH PP PP 11 06 19.5 +1.4
LZH PCP PcP 11 07 11.8 +1.1
LZH S **S** **11 10 17.5 -0.1**
LZH XS 11 11 25.0
LZH SCS ScS 11 14 47.0 +2.3
LZH AMB AMB
comp=Z,268nm,1.4s,mb5.7
LZH AMB AMB
comp=Z,670nm,4.0s
LZH Lanzhou 36.39 329⇑P **P** **11 04 50.7 +0.8**
comp=Z,268nm,1.4s,mb5.7
LZH pP pP 11 05 27.0 -0.3
LZH sP sP 11 05 46.6 -1.2
LZH PP PP 11 06 19.5 +1.4
LZH PcP PcP 11 07 11.7 +1.0
LZH S **S** **11 10 17.5 -0.1**
LZH sS 11 11 25.0
LZH SS SS 11 12 51.2 -3.8
LZH ScS ScS 11 14 47.0 +2.3
LZH Lanzhou 36.39 329⇑P **P** **11 04 50.7 +0.8**
LZH 11 07 11.7
LZH S **S** **11 10 17.5 -0.1**
LZH SS SS 11 12 51.2 -3.8
LZH pmax pmax
comp=Z,268nm,1.4s,mb5.7
HNR Honiara 37.20 114 P **P** **11 04 56.5 -0.3**
comp=Z,77nm,0.5s,mb5.6,baz=233,slow=1.3,SNR=9.0
HHC Hu-ho-hao-te 37.31 342 *e*P **P** **11 04 57.8 +0.3**
HHC AP pP 11 05 33.0 -2.1
HHC XP sP 11 05 51.0 -4.6
HHC PP PP 11 06 29.0 +0.7
HHC PCP PcP 11 07 13.5 0.0
HHC S **S** **11 10 31.8 +0.3**
HHC SCP 11 10 45.0
HHC PCS 11 11 03.0
HHC SCS ScS 11 14 53.5 +3.7
HHC AMB AMB
comp=Z,42nm,1.1s,mb5.0
HHC AMB AMB
comp=Z,114nm,7.2s
HHC LR LR
comp=E,264nm,17.9s
HHC LR LR
comp=Z,540nm,17.3s
KLBR Kellerberrin 37.80 191⇑ *i*P **P** **11 05 02.0 +0.3**
comp=Z,34nm,0.4s,mb5.3
KLBR *i*PCP PcP 11 07 14.6 -0.5
KLBR *e*S **S** **11 10 37.9 -1.1**
SHL Shillong 38.00 305 *e*P **P** **11 05 03.8 +0.4**
SHL AMb AMB 11 05 05.9
comp=Z,2μm,1.1s
SHL *e*S **S** **11 10 43.0 +0.9**
CN2 Changchun 38.02 360 *e*P **P** **11 05 03.5 +0.1**
CN2 *e*AP pP 11 05 41.5 +0.4
CN2 *e*XP sP 11 06 02.0 +0.4
CN2 *e*S **S** **11 10 44.0 +1.8**
CN2 AMB AMB
comp=Z,20nm,0.9s,mb4.8
CN2 AMB AMB
comp=Z,200nm,4.0s
MUN Mundaring 38.49 193⇑ *i*P **P** **11 05 08.0 +0.5**
MUN *e*S **S** **11 10 49.7 +0.3**
MDJ Mudanjiang 38.98 4 P **P** **11 05 12.3 +1.0**
MDJ AP pP 11 05 48.8 -0.4
MDJ XP sP 11 06 08.5 -1.2
MDJ PP PP 11 06 45.8 -0.9
MDJ S **S** **11 11 00.0 +3.5**
MDJ PCS 11 11 08.0
MDJ XS 11 12 04.5
MDJ SCS ScS 11 15 01.0 +1.7
MDJ AMB AMB
comp=Z,28nm,0.9s,mb4.9
MDJ AMB AMB
comp=Z,75nm,4.1s
MDJ LR LR
comp=N,195nm,14.5s
MDJ LR LR
comp=E,109nm,13.8s
MDJ LR LR
comp=Z,162nm,13.4s
MDJ Mudanjiang 38.98 4 *e*P **P** **11 05 12.2 +0.9**
comp=Z,48nm,1.1s,mb5.0
MDJ *e* pP 11 05 48.2 -0.9
NWAO Narrogin (SRO) 39.19 191 *e*P **P** **11 05 14.3 +1.1**
comp=Z,103nm,0.9s,mb5.5
NWAO Narrogin (SRO) 39.19 191 *e*P **P** **11 05 14.3 +1.1**
NWAO pmax pmax
comp=Z,103nm,0.9s
STKA Stephens Creek 40.23 159⇓ *i*P **P** **11 05 22.6 +0.8**
comp=Z,65nm,0.6s,mb5.4
STKA *e*PP PP 11 06 57.0 -2.9
STKA *i*S **S** **11 11 15.7 +0.3**
STKA Stephens Creek 40.23 159 P **P** **11 05 22.7 +0.9**
comp=Z,92nm,0.7s,mb5.5,baz=334,slow=8.1,SNR=187
STKA S **S** **11 11 15.6 +0.2**
comp=Z,39nm,1.0s,baz=118,slow=18,SNR=13
LSA Lhasa 40.48 310 P **P** **11 05 22.0 -1.9**
LSA Lhasa 40.48 310 *e*P **P** **11 05 25.7 +1.9**
comp=Z,191nm,1.3s,mb5.6
LSA *e*PcP PcP 11 07 25.3 +1.7
LSA Lhasa 40.48 310 *e*P **P** **11 05 25.7 +1.8**
LSA *e* 11 07 25.3
LSA pmax pmax
comp=Z,191nm,1.3s,mb5.6
GTA Gaotai 40.99 329 P **P** **11 05 28.5 +0.6**
GTA AP pP 11 06 05.8 -0.1
GTA XP sP 11 06 27.3 +0.8
GTA PP PP 11 07 08.0 +0.6
GTA PCP PcP 11 07 26.3 +1.2
GTA PPP PPP 11 07 42.5 +0.5
GTA SCP 11 11 00.0
GTA PCS 11 11 15.5
GTA S **S** **11 11 23.0 -3.5**
GTA XS 11 12 30.5
GTA SCS ScS 11 15 13.0 +1.8
GTA AMB AMB
comp=Z,60nm,1.1s,mb5.1
GTA AMB AMB
comp=Z,239nm,8.8s
GTA LR LR
comp=N,354nm,16.4s
GTA LR LR
comp=E,475nm,19.1s
GTA LR LR
comp=Z,610nm,18.3s
ASAJ Asahikawa 41.08 18 P **P** **11 05 30.2 +1.6**
comp=Z,23nm,0.8s,mb4.9,baz=238,slow=12,SNR=24
ASAJ S **S** **11 11 30.8 +3.0**
comp=Z,12nm,1.0s,baz=232,slow=19,SNR=3.6
ADE Adelaide 42.18 164⇓ *i*P **P** **11 05 39.6 +1.9**
VIS Vishakhapatnam 43.16 290 *e*P **P** **11 05 45.0 -0.9**
VIS AMb AMB 11 05 52.0
comp=Z,53nm,1.1s,mb5.1
YSS Yuzh-Sakhalins 43.69 17 *e*P **P** **11 05 49.7 -0.1**
YSS *e* 11 07 33.5
YSS *e*SSS SSS 11 15 22.0 -62
YSS MLR MLR
comp=Z,200nm,20.0s
HIA Hailar 43.78 354 *e*P **P** **11 05 51.0 +0.6**
comp=Z,73nm,1.0s,mb5.3
HIA *e*PcP PcP 11 07 35.1 +0.7
HIA Hailar 43.78 354 *e*P **P** **11 05 51.0 +0.6**
HIA *e* 11 07 35.1
HIA pmax pmax
comp=Z,73nm,1.0s
PKI Pulchoki 44.11 304 *e*P **P** **11 05 53.2 -0.1**
comp=Z,175nm,1.0s,mb5.7
PKI Pulchoki 44.11 304 *e*P **P** **11 05 53.2 -0.1**
PKI pmax pmax
comp=Z,88nm,1.0s,mb5.3
KKN Kakani 44.30 305 *e*P **P** **11 05 54.6 -0.2**
comp=Z,272nm,0.9s,mb5.9
KKN Kakani 44.30 305 *e*P **P** **11 05 54.6 -0.2**
KKN pmax pmax
comp=Z,136nm,0.9s,mb5.6
DMN Daman 44.37 304 *e*P **P** **11 05 55.2 -0.2**
comp=Z,267nm,1.0s,mb5.8
GKN Gorkha 44.90 305 *e*P **P** **11 05 59.1 -0.6**
comp=Z,288nm,1.1s,mb5.8
ULN Ulaanbaatar 45.03 342⇑ *e*P **P** **11 06 00.2 -0.2**
comp=Z,62nm,1.3s,mb5.1
ULN Ulaanbaatar 45.03 342⇑ *e*P **P** **11 06 00.2 -0.2**
ULN pmax pmax
comp=Z,62nm,1.3s,mb5.1
SONM Songino Array 45.20 342 P **P** **11 06 01.6 -0.2**
comp=Z,10nm,0.8s,mb4.5,baz=158,slow=7.3,SNR=52
SONM PcP PcP 11 07 39.8 +0.4
comp=Z,38nm,0.8s,baz=159,slow=3.4,SNR=20
SONM ScP 11 11 16.4
comp=Z,5.7nm,0.9s,baz=164,slow=4.2,SNR=6.6
SONM LR LR 11 27 12.8
comp=Z,247nm,19.0s,baz=155,slow=39
BLSP Bilaspur 45.23 296 *e*P **P** **11 06 02.7 +0.3**
BLSP AMb AMB 11 06 05.3
comp=Z,72nm,1.1s,mb5.2
BLSP *e*x x 11 12 25.7
KOLN Koldanda 45.67 304 *e*P **P** **11 06 05.7 -0.1**
comp=Z,234nm,0.5s,mb6.1
CNB Canberra Magne 46.38 153 *e*P **P** **11 06 12.8 +1.6**
comp=Z,47nm,1.0s,mb5.1
TOO Toolangi 46.74 158⇑ *i*P **P** **11 06 16.0 +2.0**
comp=Z,25nm,0.6s,mb5.0
TOO *i*pP pP 11 06 54.7 +1.9
TOO Toolangi 46.74 158⇑ *i*P **P** **11 06 16.0 +2.0**
TOO pmax pmax
comp=Z,25nm,0.6s,mb5.0
CIT Chita 47.34 350 *e*P **P** **11 06 18.7 +0.3**
CIT *e* 11 06 36.5
CIT *e* 11 07 46.1
CIT pmax pmax
comp=Z,72nm,1.3s,mb5.1
HYB Hyderabad 47.60 288 *i*P **P** **11 06 20.0 -0.9**
HYB Hyderabad 47.60 288 *e*P **P** **11 06 20.0 -0.9**
NGP Nagpur 47.79 293 *e*P **P** **11 06 22.5 +0.1**
NGP AMb AMB 11 06 28.2
comp=Z,38nm,1.1s,mb4.9
NOUC Port Laguerre 48.31 126 *e*P **P** **11 06 26.1 -0.3**
NOUC Port Laguerre 48.31 126 *e*P **P** **11 06 26.1 -0.3**
DZM Mont Dzumac 48.41 126 *e*P **P** **11 06 27.9 +0.8**
BHPL Bhopal 49.71 296 *e*P **P** **11 06 37.4 +0.3**
BHPL AMb AMB 11 06 39.4
comp=Z,33nm,0.7s,mb5.1
IRK Irkutsk 49.74 343 *e*P **P** **11 06 36.8 -0.1**
IRK *e* 11 07 52.9
IRK pmax pmax
comp=Z,80nm,1.8s,mb5.0
MOY Mondy 50.28 340 *e*P **P** **11 06 41.4 +0.4**
MOY pmax pmax
comp=Z,107nm,2.0s,mb5.1
WMQ Urumqi 50.63 325⇑ *i*P **P** **11 06 44.0 +0.2**
WMQ AP pP 11 07 23.5 +0.3
WMQ XP sP 11 07 43.0 +0.4
WMQ PP PP 11 08 43.0 +1.0
WMQ SCP 11 11 38.0
WMQ S **S** **11 13 43.0 -0.5**
WMQ SCS ScS 11 16 14.0 +0.8
WMQ AMB AMB
comp=Z,102nm,1.0s,mb5.4
WMQ AMB AMB
comp=Z,236nm,5.0s
WMQ LR LR
comp=N,964nm,16.0s
WMQ LR LR
comp=E,687nm,15.0s
WMQ LR LR
comp=Z,455nm,15.0s
CLNS Chul'man 51.07 359 *c i*P **P** **11 06 47.6 +0.7**
CLNS *e**PP pP 11 07 02.7 -24
CLNS *e* 11 07 59.5
CLNS *e* 11 08 39.0
CLNS *e**SS 11 14 11.5
CLNS pmax pmax
comp=Z,87nm,0.9s,mb5.4
CLNS pmax pmax
comp=N,49nm,1.1s
CLNS pmax pmax
comp=E,21nm,1.0s
CLNS pmax pmax
comp=Z,30nm,1.2s,mb4.8
CLNS pmax pmax
comp=N,14nm,1.3s
CLNS pmax pmax
comp=E,8.0nm,0.8s
NDI New Delhi 51.30 302 *e*P **P** **11 06 47.8 -1.1**
NDI AMb AMB 11 06 49.0
comp=Z,49nm,0.7s,mb5.2
NDI *e*S **S** **11 13 51.0 -1.8**
KAD Karad 51.72 288 *e*P **P** **11 06 52.3 0.0**
KAD AMb AMB 11 06 54.0
comp=Z,43nm,1.1s,mb5.0
POO Poona 52.18 289 *e*P **P** **11 06 54.2 -1.6**
POO AMb AMB 11 06 56.3
comp=Z,38nm,0.9s,mb5.0
BOD Bodaibo 52.86 352 *e*P **P** **11 06 59.2 -1.0**
BOD pmax pmax
comp=Z,39nm,1.0s,mb5.1
AJM Ajmer 52.91 299 *e*P **P** **11 07 00.7 -0.4**
AJM AMb AMB 11 07 02.9
comp=Z,39nm,1.4s,mb5.0
PET Petropavlovsk 54.37 24 *e*P **P** **11 07 10.9 -0.4**
comp=Z,98nm,1.4s,mb5.3
PET Petropavlovsk 54.37 24 *e*P **P** **11 07 10.9 -0.4**
PET pmax pmax
comp=Z,98nm,1.4s,mb5.3
MKAR Makanchi Array 55.46 325 P **P** **11 07 18.5 -0.7**
comp=Z,70nm,0.7s,mb5.5,baz=121,slow=7.9,SNR=158
MKAR PcP PcP 11 08 16.1 -0.9
comp=Z,27nm,0.8s,baz=117,slow=5.4,SNR=6.7
MKAR ScP 11 11 58.9
comp=Z,8.2nm,0.8s,baz=117,slow=5.4,SNR=6.2
MKAR S **S** **11 14 48.1 -0.4**
comp=Z,0.7nm,0.9s,baz=108,slow=18,SNR=3.4
MKAR PKPPKP 11 37 16.6
comp=Z,1.2nm,0.9s,baz=288,slow=4.6,SNR=4.9
MKAR PKP2bc 11 37 31.8
comp=Z,1.2nm,0.8s,baz=259,slow=6.2,SNR=4.4
MKAR Makanchi Array 55.46 325 P **P** **11 07 18.5 -0.7**
MKAR PcP PcP 11 08 16.1 -0.9
MKAR ScP 11 11 58.9
MKAR S **S** **11 14 48.1 -0.4**
MKAR P'P' 11 37 16.6
MKAR ⇑ *e* 11 37 31.8
KSH Kashi 56.04 315⇑ *i*P **P** **11 07 24.0 +0.5**
KSH *e*AP pP 11 08 04.0 +0.4
KSH *e*PCP PcP 11 08 20.0 +0.5
KSH *e*XP sP 11 08 23.5 +0.7
KSH *e*PP PP 11 09 32.3 +0.6
KSH *e*PPP PPP 11 10 52.0 +1.7
KSH *e*SCP 11 12 01.0
KSH *e*PCS 11 12 19.3
KSH *e*S **S** **11 14 53.5 -2.8**
KSH *e*XS 11 16 05.0
KSH *e*SCS ScS 11 16 50.3 -0.9
KSH AMB AMB
comp=Z,420nm,1.4s,mb6.1
KSH LR LR
comp=N,150nm,4.2s
KSH LR LR
comp=E,200nm,4.2s
YAK Yakutsk 56.35 2 *e*P **P** **11 07 25.4 -0.1**
comp=E,245nm,0.9s,mb6.0
YAK *e* pP 11 08 05.1 -0.5
YAK *e*S **S** **11 15 03.6 +3.5**
YAK Yakutsk 56.35 2 *c i*P **P** **11 07 25.2 -0.2**
YAK *i* 11 08 25.7
YAK *i* 11 09 31.2
YAK *i*S **S** **11 15 01.1 +0.9**
YAK pmax pmax
comp=Z,124nm,0.9s,mb5.7
YAK pmax pmax
comp=N,59nm,1.1s
YAK pmax pmax
comp=E,18nm,1.1s
YAK pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
YAK smax
comp=N,56nm,1.2s
YAK smax
comp=Z,15nm,1.0s
YAK smax
comp=E,17nm,1.2s
BHJ Bhuj 56.73 294 *e*P **P** **11 07 28.9 +0.3**
BHJ AMb AMB 11 07 29.8
comp=Z,139nm,1.1s,mb5.7
MA2 Magadan 57.11 15 *e*P **P** **11 07 29.5 -1.3**
comp=Z,28nm,0.8s,mb5.1
MA2 *e*ScP 11 12 07.7
MA2 Magadan 57.11 15 *e*P **P** **11 07 29.5 -1.3**
MA2 pmax pmax
comp=Z,27nm,0.8s,mb5.1
TKM2 Tokmak 2 57.70 318 P **P** **11 07 35.0 -0.1**
SNR=24
KBK Karagaybulak 58.02 318 P **P** **11 07 37.2 -0.2**
SNR=33
UCH Uchtor 58.14 317 P **P** **11 07 38.9 +0.7**
SNR=69
CHMS Chumysh 58.30 318 P **P** **11 07 38.5 -0.8**
SNR=32
AAK Ala-Archa 58.32 317 P **P** **11 07 39.6 +0.1**
SNR=16
AAK Ala-Archa 58.32 317 *e*P **P** **11 07 38.4 -1.1**
comp=Z,89nm,1.4s,mb5.4
AAK *e* 11 08 27.7
AAK Ala-Archa 58.32 317 *e*P **P** **11 07 38.4 -1.1**
AAK *e* 11 08 27.7
AAK pmax pmax
comp=Z,89nm,1.4s,mb5.4
ZAL Zalesovo 58.48 333 P **P** **11 07 38.5 -1.9**
comp=Z,12nm,0.8s,mb4.7,baz=347,slow=5.8,SNR=57
ZAL S **S** **11 15 26.2 -1.8**
comp=Z,0.8nm,0.7s,baz=218,slow=20,SNR=6.5
ZAL PKP2bc 11 37 25.2
comp=Z,1.8nm,0.3s,baz=348,slow=2.4,SNR=3.4
ZAL Zalesovo 58.48 333 P **P** **11 07 38.5 -1.9**
ZAL S **S** **11 15 26.2 -1.8**
ZAL ⇑ *e* 11 37 25.2
USP Ospenovka 58.58 318 P **P** **11 07 40.7 -0.5**
SNR=79
AML Almayashu 58.66 317 P **P** **11 07 42.0 +0.1**
SNR=67
EKS2 Erkin-Say 58.81 317 P **P** **11 07 43.0 +0.1**
SNR=48
KURK Kurchatov 59.64 327 *e*P **P** **11 07 47.4 -1.0**
comp=Z,178nm,0.9s,mb5.9
KURK Kurchatov 59.64 327 *e*P **P** **11 07 47.4 -1.0**
KURK pmax pmax
comp=Z,178nm,0.9s,mb5.9
NVS Novosibirsk 59.76 333⇑ *i*P **P** **11 07 47.0 -2.2**
NVS *e* 11 08 04.0
NVS *i* pP 11 08 30.1 +0.2
NVS pmax pmax
comp=N,65nm,1.5s
NVS pmax pmax
comp=E,62nm,1.5s
NVS pmax pmax
comp=Z,91nm,1.5s,mb5.4
SEY Seymchan 60.41 14⇑ *e*P **P** **11 07 54.6 +1.1**
BVAR Borovoye Array 65.22 327 P **P** **11 08 24.2 -1.1**
comp=Z,51nm,0.8s,mb5.4,baz=129,slow=9.5,SNR=272
BVAR S S 11 16 51.1 -1.6
comp=Z,0.8nm,0.8s,baz=235,slow=42,SNR=2.9
BVAR PKPPKP 11 37 05.8
comp=Z,1.4nm,0.9s,baz=270,slow=4.3,SNR=6.6
BRVK Borovoye 65.29 327 *e*P **P** **11 08 24.9 -0.9**
comp=Z,64nm,0.8s,mb5.5
BRVK Borovoye 65.29 327 *e*P **P** **11 08 24.9 -0.9**
BRVK pmax pmax
comp=Z,64nm,0.8s,mb5.5
TIXI Tiksi 65.97 1 *e*P **P** **11 08 25.6 -4.2**
TIXI *e*SS SS 11 21 23.3 +1.8
TIXI pmax pmax
comp=Z,69nm,1.0s,mb5.4
TIXI MLR MLR
comp=Z,193nm,19.0s
BIDO Bidbid 67.29 293 P **P** **11 08 38.0 -1.0**
SNR=9.9
SMDO Samad 67.33 293⇑P **P** **11 08 37.9 -1.3**

SNR=5.9
BILL Bilibino 67.98 15*c i*P P 11 08 42.3 -0.1
BILL pmax pmax
comp=Z,31nm,1.5s,mb4.8
BILL MLR MLR
comp=Z,100nm,17.0s
HOQ Hoqain 68.04 293 ⇑P P 11 08 42.2 -1.4
RBK Rabkut 70.77 286 ⇑P P 11 08 58.1 -2.1
NIKO Nikolski 70.83 36 *e*P P 11 08 59.8 -0.2
NIKO *e*PcP PcP 11 09 18.8 -0.9
NIKO *e* pP 11 09 42.3 +0.4
WHFO Wadi Hawf 71.18 287 ⇓P P 11 09 01.1 -1.6
SNR=15
ABTO Aybut 71.64 286 ⇑P P 11 09 04.2 -1.2
SVE Sverdlovsk 71.85 328 *i* P P 11 09 05.2 -0.8
SVE *e* 11 18 49.0
SVE *e* 11 23 04.0
SVE pmax pmax
comp=Z,200nm,1.0s,mb5.8
SVE MLR MLR
comp=N,100nm,13.0s
SVE MLR MLR
comp=E,100nm,13.0s
SVE MLR MLR
comp=Z,200nm,13.0s
CASY Casey 72.58 186 ⇑*i*P P 11 09 10.8 +0.7
ARU Arti 72.83 328 ⇑*i*P P 11 09 10.4 -1.4
ARU *e* 11 09 28.9
ARU *e* 11 11 50.5
ARU pmax pmax
comp=Z,104nm,0.8s,mb5.6
SOKR Solikamsk 74.60 330*c i*P P 11 09 20.7 -1.2
SOKR pmax pmax
comp=Z,60nm,0.9s,mb5.2
KIP Kipapa 75.14 69 *e*P P 11 09 27.1 +1.3
comp=Z,40nm,1.0s,mb5.0
MIR Mirnyy 75.78 193*c i*P P 11 09 29.8 +1.3
MIR pmax pmax
comp=Z,211nm,1.2s,mb5.7
SDPT Sand Point 76.17 34 *e*P P 11 09 31.3 +0.5
comp=Z,159nm,0.7s,mb5.8
QRN Al-Qurain 76.67 298 *e*P P 11 09 33.2 -1.0
QRN AMb AMB 11 09 35.8
comp=Z,43nm,0.4s,mb5.5
KBD Kabd 76.88 299 *e*P P 11 09 34.7 -0.7
KBD AMb AMB 11 09 40.7
comp=Z,96nm,0.9s,mb5.4
RDF Al-Radifah 77.00 298 *e*P P 11 09 34.1 -1.9
RDF AMb AMB 11 09 38.6
comp=Z,106nm,1.4s,mb5.3
CHGN Chignik 77.47 34 *e*P P 11 09 38.1 0.0
DGRG David-gareji 79.10 311 P P 11 09 47.0 -0.3
MZLS Mizel 79.13 293 P P 11 09 47.4 -0.4
GNI Garni 79.54 310 P P 11 09 51.2 +1.6
comp=Z,3.7nm,0.3s,mb4.5,baz=164,slow=12,SNR=7.7
GNI Garni 79.54 310 *e*P P 11 09 50.8 +1.1
comp=Z,88nm,1.6s,mb5.1
GNI Garni 79.54 310*c i*P P 11 09 49.7 +0.1
GNI pmax pmax
comp=Z,77nm,1.7s
TI2 Plekhanov 79.58 311 ⇑*i*P P 11 09 47.0 -2.8
SVW2 Sparrevohn 79.61 29 *e*P P 11 09 50.8 +1.3
TTA Tatalina 79.65 27 *e*P P 11 09 51.2 +1.5
BHD Baghdad 79.75 303 *e*P P 11 09 42.0 -8.9
ZEI Tsey 80.24 312 *e*P P 11 09 51.5 -1.8
ZEI *i* 11 09 57.9
ZEI *i* 11 12 59.7
ZEI pmax pmax
comp=Z,21nm,0.8s,mb4.8
MSL Mosul 80.80 306 *e*P P 11 10 11.0 +15
KDAK Kodiak Island 80.81 32 *e*P P 11 09 56.8 +0.8
GOF Gofitskoye 80.92 315 *e*P P 11 09 54.4 -2.4
GOF pmax pmax
comp=Z,30nm,1.3s,mb4.8
RSO Redoubt South 80.92 30 *e*P P 11 09 57.5 +1.0
RSO *e* 11 10 11.0
IMA Indian Mountai 81.05 24 *e*P P 11 09 58.9 +1.8
comp=Z,69nm,1.1s,mb5.2
IMA Indian Mountai 81.05 24 *e*P P 11 09 58.9 +1.8
IMA pmax pmax
comp=Z,69nm,1.1s,mb5.2
KIV Kislovodsk 81.15 313 *e*P P 11 09 58.6 +0.5
comp=Z,18nm,0.7s,mb4.8
KIV Kislovodsk 81.15 313*c i*P P 11 09 57.5 -0.6
KIV pmax pmax
comp=Z,27nm,1.0s,mb4.8
SPU Mount Spurr 81.32 29 *e*P P 11 09 59.5 +0.9
SPU *e*PP PP 11 13 05.7 -2.8
VRHR Novokhopersk 81.97 321 *e*P P 11 10 00.8 -1.4
VRHR pmax pmax
comp=Z,60nm,0.7s,mb5.3
VRHR pmax pmax
comp=N,6.0nm,0.5s
VRHR pmax pmax
comp=E,50nm,1.0s
HILS Ha'il 82.10 297 P P 11 10 03.9 +0.5
SLKM Skilak Lake 82.18 30 *e*P P 11 10 03.5 +0.5
SLKM *e*pP pP 11 10 42.1 -4.1
PMR Palmer 82.75 29 *e*P P 11 10 06.6 +0.7
comp=E,136nm,1.1s,mb5.6
PMR Palmer 82.75 29 *e*P P 11 10 06.6 +0.7
PMR pmax pmax
comp=Z,136nm,1.1s,mb5.6
MCK McKinley 82.90 27 *e*P P 11 10 07.4 +0.7
comp=Z,71nm,1.0s,mb5.3
MCK *e* pP 11 10 51.1 +1.2
MCK McKinley 82.90 27 *e*P P 11 10 07.4 +0.7
MCK pmax pmax
comp=Z,71nm,1.0s,mb5.3
SML Sawmill 83.13 28 *e*P P 11 10 09.0 +1.1
SML *e* pP 11 10 54.0 +2.8
SOC Sochi 83.30 313*c i*P P 11 10 07.5 -1.6
SOC *e* 11 13 14.3
SOC pmax pmax
comp=Z,12nm,0.6s,mb4.8
SOC pmax pmax
comp=N,9.0nm,0.5s
SOC pmax pmax
comp=E,5.0nm,0.5s
VRSR Storozhevoye 83.51 321 *e*P P 11 10 09.1 -0.9
VRSR pmax pmax
comp=Z,20nm,0.8s,mb4.9
VRSR pmax pmax
comp=N,20nm,1.5s
VRSR pmax pmax
comp=E,30nm,1.1s
ILAR Eielson Array 83.81 26 P P 11 10 10.8 -0.4
comp=E,27nm,0.8s,mb5.0,baz=240,slow=4.5,SNR=162
MOS Moscow 84.34 325 ⇓*i*P P 11 10 12.9 -1.2
MOS pmax pmax
comp=Z,356nm,1.4s,mb5.9
MOS pmax pmax
comp=Z,228nm,1.1s,mb5.8
DIV Divide 84.36 29 *e*P P 11 10 15.5 +1.5
comp=Z,433nm,1.2s,mb6.1
DIV *e* pP 11 11 00.9 +3.4
EYAK Cordova Ski Ar 84.39 30 *e*P P 11 10 15.0 +0.8
EYAK *e* pP 11 11 01.1 +3.5
ANN Anapa 84.90 314*c i*P P 11 10 15.7 -1.4
ANN *e* 11 13 32.4
ANN pmax pmax
comp=Z,102nm,1.0s,mb5.5
OBN Obninsk 84.97 325 *e*P P 11 10 16.6 -0.6
comp=Z,272nm,1.2s,mb5.9
OBN Obninsk 84.97 325*α i*P P 11 10 16.7 -0.5
OBN 11 13 38.0
OBN *e*PS PS 11 21 31.2 -20
OBN *e* 11 22 04.3
OBN pmax pmax
comp=Z,223nm,1.2s,mb5.8
MAW Mawson 85.20 200 ⇑*i*P P 11 10 19.0 +0.9
comp=Z,37nm,0.9s,mb5.1
MAW Mawson 85.20 200 P P 11 10 19.1 +1.0
comp=Z,41nm,0.9s,mb5.2,baz=59,slow=5.7,SNR=94
MAW PKKPbc 11 28 23.8
comp=Z,2.6nm,0.7s,baz=300,slow=12,SNR=9.1
MAW PKPPKP 11 36 26.5
comp=Z,1.9nm,0.8s,baz=346,slow=3.0,SNR=4.7
MAW Mawson 85.20 200 ⇑*i*P P 11 10 19.0 +0.9
MAW pmax pmax
comp=Z,37nm,0.9s
MENT Mentasta 85.26 27 *e*P P 11 10 19.8 +1.3
VNDA Vanda 85.42 173 P P 11 10 19.9 +0.8
comp=Z,12nm,0.8s,mb4.7,baz=316,slow=5.9,SNR=87
VNDA PKKPbc 11 28 23.9
comp=Z,1.4nm,0.9s,baz=276,slow=1.8,SNR=7.0
APA Apatity 85.75 337 ⇑*i*P P 11 10 20.6 -0.1
APA pmax pmax
comp=Z,1.0nm,12.0s
UMJS Umm Lajj 86.24 295 P P 11 10 24.9 +0.7
SBA Scott Base 86.34 172 *e*P P 11 10 25.2 +1.8
comp=Z,10nm,1.3s,mb4.4
SBA Scott Base 86.34 172 *e*P P 11 10 25.3 +1.8
SBA pmax pmax
comp=Z,10.0nm,1.3s,mb4.4
PPT Papeete 86.60 108 LR LR 11 42 54.8
comp=Z,107nm,21.3s,baz=287,slow=31
JOF Joensuu 87.06 333 *ep* P 11 10 26.0 -1.2
comp=Z,89nm,1.0s,mb5.5
JMQS Jabal Moqyreh 87.22 299 P P 11 10 29.0 +0.2
KEV Kevo 87.79 340 *ep* P 11 10 28.9 -1.6
comp=Z,9.6nm,0.8s,mb4.7
KEV Kevo 87.79 340 *e*P P 11 10 28.9 -1.6
KEV pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
JMOS Jabal al Moall 87.87 299 P P 11 10 32.2 +0.3
BR131 Keskin Array S 88.08 310 *e*P P 11 10 31.2 -1.4
comp=Z,4.6nm,0.8s,mb4.4
BR131 *e* 11 11 04.6
BR131 *e* pP 11 11 15.5 -0.8
BR131 *e*PP PP 11 14 03.5 -0.5
BRTR Keskin Array B 88.08 310 P P 11 10 31.3 -1.3
comp=Z,6.0nm,0.9s,mb4.4,baz=114,slow=4.5,SNR=13
ARCES ARCESS Array B 88.35 340 P P 11 10 32.9 -0.3
comp=Z,59nm,0.8s,mb5.5,baz=76,slow=5.0,SNR=67
ARCES LR LR 11 53 52.7
comp=Z,187nm,20.1s,baz=103,slow=38
ARE0 ARCESS Array S 88.35 340 *e*P P 11 10 32.5 -0.7
KMBO Kilima Mbogo 88.64 269 P P 11 10 36.1 +0.3
comp=Z,8.7nm,0.9s,mb4.7,baz=42,slow=7.9,SNR=17
INK Inuvik 88.75 21 P P 11 10 35.5 +0.4
comp=Z,26nm,1.0s,mb5.1,baz=314,slow=3.8,SNR=8.0
INK Inuvik 88.75 21 *e*P P 11 10 35.6 +0.5
comp=Z,34nm,1.0s,mb5.2
INK Inuvik 88.75 21 *e*P P 11 10 35.6 +0.5
INK pmax pmax
comp=Z,34nm,1.0s
KAF Kangasniemi 89.48 332 *ep* P 11 10 37.2 -1.4
comp=Z,52nm,0.9s,mb5.5,baz=75,slow=4.3
KAF Kangasniemi 89.48 332 *e*P P 11 10 37.2 -1.4
KAF pmax pmax
comp=Z,52nm,0.9s,mb5.5
FINES FINESS Array B 89.72 332 P P 11 10 39.1 -0.6
comp=Z,25nm,0.8s,mb5.2,baz=108,slow=6.0,SNR=64
AKASG Malin Array Be 89.83 321 P P 11 10 38.9 -1.6
comp=Z,1.8nm,0.4s,mb4.3,baz=68,slow=4.1,SNR=26
VSU Vasula 89.96 329 *i* P P 11 10 40.5 -0.5
VRI Vrincioaia 92.27 316 ⇓P P 11 10 51.1 -0.9
VRI Vrincioaia 92.27 316 ⇓P P 11 10 51.1 -0.9
DLBC Dease Lake 92.61 31 P P 11 10 55.0 +1.7
comp=Z,12nm,1.0s,mb5.0,baz=295,slow=6.9,SNR=20
DLBC Dease Lake 92.61 31 *e*P P 11 10 54.4 +1.2
SUW Suwalki 92.83 325 *e*P P 11 10 53.8 -0.6
SUW Suwalki 92.83 325 *e*P P 11 10 53.8 -0.6
MLR Muntele Rosu 92.88 316 ⇑P P 11 10 54.6 -0.2
MLR Muntele Rosu 92.88 316 ⇑P P 11 10 54.6 -0.2
BURAR Bucovina Array 92.96 318 ⇑P P 11 10 55.1 0.0
BURAR Bucovina Array 92.96 318 ⇑P P 11 10 55.1 0.0
SYO Syowa Base 93.84 201 ⇓P P 11 10 58.3 -0.3
SYO Syowa Base 93.84 201 ⇑pP pP 11 11 42.4 -0.2
KWP Kalwaria 94.14 321 *e*P P 11 11 00.5 0.0
KWP Kalwaria 94.14 321 *e*P P 11 11 00.5 +0.1
CRVS Cervenica-Dubn 95.11 320 *e*P P 11 11 05.7 +0.8
STHS Stebnicka Huta 95.12 321 *e*P P 11 11 04.1 -0.8
QSPA South Pole Qui 95.52 180 *e*P P 11 11 07.1 +1.0
comp=Z,30nm,1.2s,mb5.5
NIE Niedzica 95.71 321 *e*P P 11 11 08.8 +1.2
OJC Ojcow 95.81 322 *e*P P 11 11 07.7 -0.3
KECS Kecovo 95.84 320 *e*P P 11 11 06.3 -1.9
KECS *e*PP PP 11 15 06.4 +2.0
HFS Hagfors 95.91 332 P P 11 11 07.3 -0.9
comp=Z,30nm,1.0s,mb5.6,baz=45,slow=2.1,SNR=17
NB2 NORSAR Subarra 96.67 334 P P 11 11 10.6 -1.1
comp=Z,36nm,0.9s,mb5.7,baz=66,slow=4.6
NB2 NORSAR Subarra 96.67 334 P P 11 11 10.6 -1.1
baz=66,slow=4.6
NB2 NORSAR Subarra 96.67 334 P P 11 11 10.6 -1.1
NB2 pmax pmax
comp=Z,36nm,0.9s,mb5.7
NOA NORSAR Array B 96.67 334 P P 11 11 10.6 -1.1
comp=Z,23nm,0.8s,mb5.5,baz=66,slow=4.6,SNR=48
NOA LR LR 11 59 38.7
comp=Z,138nm,19.0s,baz=35,slow=38
NOA NORSAR Array B 96.67 334 P P 11 11 10.6 -1.1
NOA LR LR 11 59 38.7
VYHS Vyhne 96.90 320 *e*P P 11 11 12.9 -0.1
VYHS *e*PP PP 11 15 11.8 -0.9
NAO01 NORSAR Array S 96.90 333 *e*P P 11 11 11.9 -0.8
comp=Z,24nm,0.9s,mb5.5
KSP Ksiaz 97.76 323 *e*P P 11 11 17.3 +0.4
KSP Ksiaz 97.76 323 *e*P P 11 11 16.8 -0.1
KONO Kongsberg 97.99 333 *e*P P 11 11 16.6 -1.0
comp=Z,45nm,1.4s,mb5.7
YKA Yellowknife Ar 98.17 24 P P 11 11 18.9 +0.5
comp=Z,11nm,0.8s,mb5.3,baz=302,slow=4.8,SNR=27
YKA PKKPbc 11 27 49.9
comp=Z,4.1nm,0.8s,baz=124,slow=2.5,SNR=9.0
RUE Ruedersdorf 98.68 325 *e*PcP PcP 11 11 21.2 +0.1
comp=Z,59nm,1.1s
BRG Berggiesshubel 99.16 323 *e*P P 11 11 23.1 -0.1
comp=Z,22nm,1.3s,mb5.4
BRG *e* 11 14 55.5
BRG Berggiesshubel 99.16 323 *e*P P 11 11 23.1 -0.1
BRG pmax pmax
comp=Z,22nm,1.3s,mb5.4
CLL Collm 99.55 324 ⇓*i*PDIF P 11 11 24.9 -0.1
CLL *e*PP PP 11 15 27.0 -5.7
CLL Collm 99.55 324 ⇓*i*P P 11 11 24.9 -0.1
comp=Z,17nm,1.3s,mb5.3
CLL Collm 99.55 324 ⇓*i*P P 11 11 24.9 -0.1
CLL pmax pmax
comp=Z,17nm,1.3s,mb5.3
KHC Kasperske Hory 99.99 322 *e*P P 11 11 26.5 -0.5
KHC *e*pP pP 11 12 10.0 -1.0
GERES GERESS Array B 100.02 322 P P 11 11 26.9 -0.3
comp=Z,2.7nm,0.9s,baz=56,slow=4.8,SNR=12
GERES PP PP 11 15 37.8 +1.4
comp=Z,3.3nm,1.1s,baz=79,slow=6.8,SNR=7.8
GERES LR LR 11 57 03.1
comp=Z,110nm,21.2s,baz=178,slow=36
BSEG Bad Segeberg 100.04 327 *e*Pdif P 11 11 27.2 +0.1
WET Wettzell 100.42 322 *e*Pdif P 11 11 29.3 +0.4
MOX Moxa 100.61 324 *i* P P 11 11 30.0 +0.2
comp=Z,logA/T=1.1
MOX QM 11 55 20.0
MOX RM 12 01 48.0
MOX Moxa 100.61 324 *e*P P 11 11 30.0 +0.2
comp=Z,23nm,1.7s
MOX LR LR
comp=Z,100nm,18.0s
MOX Moxa 100.61 324 *e*P P 11 11 30.0 +0.2
MOX pmax pmax
comp=Z,23nm,1.7s
MOX MLR MLR
comp=Z,100nm,18.0s
CLZ Clausthal 100.86 325 *e*Pdif P 11 11 30.8 -0.1
GRA1 Grafenberg Arr 101.21 323 *e*Pdif P 11 11 32.3 -0.2
GRF Grafenberg Arr 101.21 323 *e*P P 11 11 32.3 -0.2
YBH Yreka Blue Hor 102.04 45 P Pdif 11 11 36.9 +0.5
comp=Z,2.0nm,0.9s,baz=147,slow=3.9,SNR=4.7
YBH PP PP 11 15 56.1 +4.3
comp=Z,1.8nm,0.9s,baz=200,slow=4.2,SNR=3.8
DAVOX Davos 103.17 321 Pdiff Pdif 11 11 41.2 0.0
comp=Z,1.0nm,0.4s,baz=177,slow=15,SNR=3.4
DAVOX PP PP 11 15 57.7 -2.8
comp=Z,7.1nm,0.9s,baz=81,slow=22,SNR=3.1
DAVOX Davos 103.17 321 Pdif Pdif 11 11 41.2 0.0
DAVOX PP PP 11 15 57.7 -2.8
NEW Newport 103.33 38 Pdiff Pdif 11 11 43.3 +1.4
comp=Z,2.8nm,0.7s,baz=321,slow=2.6,SNR=7.6
NEW Newport 103.33 38 *e*Pdif Pdif 11 11 42.0 +0.2
comp=Z,3.1nm,1.0s
BAIF Baives 105.15 325 *e*PKIKP 11 16 03.7
PGF Pioggiola 105.41 317 *e*PKIKP 11 16 04.4
CABF La Chapelle 105.62 322 *e*PKIKP 11 16 04.8
comp=Z,8.1nm,0.8s
LPG La Plagne 105.68 320 *e*PKIKP 11 16 05.3
LPL La Plagne 105.69 320 *e*PKIKP 11 16 05.4
MBDF Montbardon 106.00 320 *e*PKIKP 11 16 05.7
ORIF Oris-en-Rattie 106.49 320 *e*PKIKP 11 16 06.1
ORIF *e*R
comp=Z,218nm,22.5s
FRF La Foret Royal 106.57 319 *e*PKIKP 11 16 06.6
comp=Z,17nm,1.1s
LOR Lormes 106.68 323 *e*PKIKP 11 16 06.7
LOR *e*R
comp=Z,116nm,21.2s
LMR La Mourre 106.76 318 *e*PKIKP 11 16 07.1
comp=Z,22nm,1.2s
SNAA Sanae 106.80 195 P 11 15 59.2
SNAA Sanae 106.80 195 *e* 11 16 24.3
SSF Saint Saulge 106.99 323 *e*PKIKP 11 16 07.6
comp=Z,17nm,1.2s
SMRF Simiane la Rot 107.10 319 *e*PKIKP 11 16 07.9
VIVF Saint-Julien-l 107.29 320 *e*PKIKP 11 16 08.1
MCMT McKenzie Canyo 107.47 40 *e*PKPdf 11 16 10.1
BGF Bois d'Agland 107.62 323 *e*PKIKP 11 16 08.8
comp=Z,14nm,0.8s
ELK Elko 107.64 44 *e*PKPdf 11 16 10.2
ELK *e* 11 16 30.3
LASF Ste Croix 108.16 320 *e*PKIKP 11 16 10.1
comp=Z,12nm,1.1s
VNA2 Neumayer--Watz 108.41 195 ⇑*i*PKPdf 11 16 09.8
VNA2 *e* 11 16 34.8
VNA2 *e* 11 27 33.5
VNA3 Neumayer Olymp 108.76 194 ⇑*i*PKPdf 11 16 09.0
VNA3 *e* 11 16 37.1
VNA3 *e* 11 27 31.9
VNA1 Neumayer--Stat 108.81 195 PKPdf 11 16 09.5
VNA1 *e* 11 16 39.8
VNA1 *e* 11 27 33.3
CAF Calviac 108.89 321 *e*PKIKP 11 16 11.4
GCMT Greycliff 108.99 38 *e*PKPdf 11 16 11.6
BGU Big Grassy Mou 109.09 43 *e*PKPdf 11 16 12.6
RRI2 Red Ridge 109.13 40 *e*PKPdf 11 16 12.8
RRI2 *e*PP PP 11 16 43.2 -2.0
MFF Saint Martin d 109.39 324 *e*PKIKP 11 16 12.0
comp=Z,19nm,1.2s
SNOW Snow King Moun 109.44 40 *e*PKPdf 11 16 13.8
LOHW Long Hollow 109.47 40 *e*PKPdf 11 16 13.5
MTLF Montolieu 109.56 320 *e*PKIKP 11 16 12.1
comp=Z,11nm,0.9s
NEN Nelson 109.95 49 *e*PKPdf 11 16 13.7
NEN *e* 11 16 46.7
PDAR Pinedale Array 110.55 40 PKiKP 11 16 14.8
comp=Z,1.3nm,0.8s,baz=333,slow=2.0,SNR=8.9
PDAR PKKPbc 11 27 13.2
comp=Z,2.8nm,0.9s,baz=117,slow=3.3,SNR=19
PDAR PKKPab 11 27 24.0
comp=Z,5.6nm,0.8s,baz=114,slow=5.3,SNR=22
LAO LASA Array 110.56 35 *e*PKPdf PKPdf 11 16 15.4 +3.3
LAO *e*PP PP 11 16 52.4 -2.6
TMUT Trail Mountain 111.06 44 *e*PKPdf PKPdf 11 16 16.9 +3.7
ETSF Etsaut 111.54 320 *e*PKIKP PKPdf 11 16 17.1 +3.0
comp=Z,16nm,1.0s
SJPF Ste Jean 111.85 321 *e*PKIKP PKPdf 11 16 17.1 +2.4
RWWY Rawlins 112.59 40 *e*PKPdf PKPdf 11 16 19.1 +2.9
PV10 Paradox Valley 112.99 44 *e*PKPdf PKPdf 11 16 20.4 +3.3
PV01 Paradox Valley 113.43 44 *e*PKPdf PKPdf 11 16 21.4 +3.5
ULM Lac du Bonnet 113.75 28 PKiKP 11 16 19.9
comp=Z,6.8nm,0.7s,baz=308,slow=3.1,SNR=16
ULM PKKPbc 11 27 02.4
comp=Z,3.2nm,1.0s,baz=85,slow=5.4,SNR=3.9
ULM PKKPab 11 27 08.7
comp=Z,6.2nm,1.0s,baz=118,slow=3.7,SNR=6.0
TUC Tucson 114.37 51 *e*PKPdf PKPdf 11 16 23.0 +3.1
TUC *e* 11 17 19.4
ISCO Idaho Springs 114.61 41 *e*PKPdf PKPdf 11 16 22.8 +2.6
ESDC Sonseca Array 115.41 319 PKP PKPdf 11 16 22.8 +1.0
comp=Z,0.6nm,0.6s,baz=23,slow=3.8,SNR=6.0
ESDC PP PP 11 17 26.9 -3.2
comp=Z,0.6nm,0.5s,baz=46,slow=8.1,SNR=4.3
ESDC PKKPbc 11 26 58.5
comp=Z,1.3nm,0.7s,baz=258,slow=3.5,SNR=5.7
ANMO Albuquerque 116.43 46 PKP PKPdf 11 16 27.1 +3.3
comp=Z,9.4nm,0.9s,baz=223,slow=2.9,SNR=44
ANMO Albuquerque 116.43 46 *e*PKPdf PKPdf 11 16 27.2 +3.3
ANMO Albuquerque 116.43 46 *i* PKIKP PKPdf 11 16 26.3 +2.4
PVRL Vila Real 116.89 322 *e*PKPdf PKPdf 11 16 27.9 +3.3
MTE Manteigas 117.29 321 *e*PKPdf PKPdf 11 16 28.5 +3.1
MTE Manteigas 117.29 321 *e*PKPdf PKPdf 11 16 28.1 +2.7
PCBR Castelo Branco 117.57 321 *e*PKPdf PKPdf 11 16 29.1 +3.2
PTOM Tomar 118.29 321 *e*PKPdf PKPdf 11 16 30.2 +2.9
SCHQ Schefferville 118.85 8 PKP PKPdf 11 16 30.1 +2.1
comp=Z,5.8nm,0.3s,baz=0.6,slow=2.6,SNR=20
PBEJ Beja 118.86 319 *e*PKPdf PKPdf 11 16 31.6 +3.1
CBKS Cedar Bluff 118.95 40 *e*PKPdf PKPdf 11 16 30.9 +2.2
CBKS *e*PP PP 11 17 50.3 -4.7
PMSA Palmer Station 120.55 175 *e*PKPdf PKPdf 11 16 32.8 +1.7
KSU1 Kansas State U 120.72 38 *e*PKPdf PKPdf 11 16 34.2 +2.1
KSU1 *e* 11 17 16.0
LTX Lajitas 121.17 51 *e*PKPdf PKPdf 11 16 36.0 +2.8
TXAR Lajitas Array 121.17 51 PKP PKPdf 11 16 35.6 +2.4
comp=Z,8.4nm,0.7s,baz=227,slow=1.0,SNR=116
TXAR SKP 11 19 55.7
comp=Z,0.8nm,0.7s,baz=314,slow=1.5,SNR=3.9
TXAR PKKPbc 11 26 37.5
comp=Z,3.8nm,0.9s,baz=133,slow=5.5,SNR=27
WMOK Wichita Mounta 121.92 43 *e*PKPdf PKPdf 11 16 36.5 +2.0
CCM Cathedral Cave 124.58 35 *e*PKPdf PKPdf 11 16 40.4 +0.7
FVM French Village 125.09 35 *e*PKPdf PKPdf 11 16 42.2 +1.6
UALR University of 126.10 39 *e*PKPdf PKPdf 11 16 43.7 +1.1
BLO Bloomington 126.35 31 *e*PKPdf PKPdf 11 16 45.2 +2.2
PARMO Parma 126.40 35 *e*PKPdf PKPdf 11 16 45.5 +2.4
FRNY Flat Rock 126.84 17 *e*PKPdf PKPdf 11 16 45.4 +1.7
WCI Wyandotte Cave 127.17 32 *e*PKPdf PKPdf 11 16 46.8 +2.2
NCB Newcomb 127.43 18 *e*PKPdf PKPdf 11 16 46.3 +1.3
MIV Mineville/With 127.55 17 *e*PKPdf PKPdf 11 16 46.2 +1.0
WVT Waverly 127.87 35 *e*PKPdf PKPdf 11 16 47.9 +1.8
WVT *e*pPKPdf 11 17 29.1
OXF Oxford 128.08 37 *e*PKPdf PKPdf 11 16 48.9 +2.4
ACCN Adirondack Com 128.14 18 *e*PKPdf PKPdf 11 16 48.2 +1.9
WVL Waterville 128.14 14 *e*PKPdf PKPdf 11 16 48.5 +2.2
HNH Hanover 128.25 17 *e*PKPdf PKPdf 11 16 49.1 +2.6
BINY Binghamton 128.43 21 *e*PKPdf PKPdf 11 16 49.2 +2.3
PLAL Pickwick Lake 128.54 36 *e*PKPdf PKPdf 11 16 48.4 +1.1
DBIC Dimbokro 129.24 283 PKP PKPdf 11 16 51.2 +2.0
comp=Z,57nm,1.0s,baz=52,slow=2.8,SNR=32
HRV Harvard--Oak R 129.56 17 *e*PKPdf PKPdf 11 16 51.1 +2.0
WES Weston 129.74 16 *e*PKPdf PKPdf 11 16 51.4 +2.0
TZTN Tazewell 129.87 31 *e*PKPdf PKPdf 11 16 51.5 +1.7
CPCT Cooper Cave 130.19 33 *e*PKPdf PKPdf 11 16 52.5 +2.0
FWV Forest Hill 130.38 28 *e*PKPdf PKPdf 11 16 52.3 +1.6
LRAL Lakeview Retre 130.55 37 *e*PKPdf PKPdf 11 16 52.1 +0.9
ELN Prospectdale 130.70 28 *e*PKPdf PKPdf 11 16 53.0 +1.6
GOGA Godfrey 132.30 34 *e*PKPdf PKPdf 11 16 55.5 +1.0
JSC Jenkinsville 132.80 31 *e*PKPdf PKPdf 11 16 57.5 +2.0
PLCA Paso Flores 142.11 160 PKhKP 11 17 11.0
comp=Z,12nm,1.0s,baz=216,slow=4.2,SNR=10
PLCA SKPbc 11 20 37.5
comp=Z,3.8nm,0.8s,baz=93,slow=2.0,SNR=4.1
PLCA Paso Flores 142.11 160 *e*PKPdf PKPdf 11 17 09.9 -2.2
HLGC Holguin 146.03 38 *e*P PKPdf 11 17 22.6 +3.1
LMGC Las Mercedes 146.03 41 *e*P PKPdf 11 17 23.1 +3.6
MOAC Moa 146.88 37 *e*P PKPdf 11 17 24.3 +3.4
TRQA Tornquist 146.96 169 *e*PKPdf PKPdf 11 17 23.2 +2.7
TRQA *e*pPKPdf 11 18 06.3
MASC Masc 147.68 37 *e*P PKPdf 11 17 28.7 +6.5
PEL Peldehue 148.63 153 ⇓*e*P PKPdf 11 17 30.0 +6.6
TLL Tololo Astrono 151.02 149 ⇓*e*P PKPdf 11 17 30.1 +2.9
SJG San Juan 153.64 26 PKP PKPdf 11 17 31.1 -0.1
comp=Z,17nm,0.2s,baz=351,slow=18,SNR=4.9
SJG PKPbc PKPdf 11 17 42.1 +11
comp=Z,20nm,0.5s,baz=309,slow=2,0,SNR=8.4
SJG PKPab PKPab 11 17 53.9 -1.1
comp=Z,28nm,0.6s,baz=58,slow=4.1,SNR=7.1
SJG San Juan 153.64 26 PKP PKPdf 11 17 31.1 -0.1
SJG *e*PKPbc PKPdf 11 17 41.0 +10
SJG PKPbc PKPdf 11 17 42.1 +11
SJG PKPab PKPab 11 17 53.9 -1.1
SJG *e*PKPab PKPab 11 17 55.2 +0.2
MTP Monte Pirata 153.91 25 *e*PKPdf PKPdf 11 17 34.2 +2.6
MTP *e*PKPbc PKPdf 11 17 42.0 +10
MTP *e*PKPab PKPab 11 17 55.8 -0.3
ROSC El Rosal 157.38 63 PKP PKPdf 11 17 38.6 +2.2
comp=Z,25nm,0.8s,baz=116,slow=20,SNR=18
ROSC PKPab PKPab 11 18 13.0 +1.8
comp=Z,7.4nm,0.6s,baz=103,slow=19,SNR=5.4
LVC Limon Verde 157.95 141 *e*PKPdf PKPdf 11 17 41.3 +4.5
LVC *e*PKPab PKPab 11 18 16.1 +2.7
LVC *e*PP PP 11 21 48.7 -5.9
SDV Santo Domingo 158.19 49 PKP PKPdf 11 17 40.0 +2.6
comp=Z,35nm,0.9s,baz=7.3,slow=0.8,SNR=40

SDV PKPab PKPab 11 18 14.2 -0.4
comp=Z,18nm,0.8s,baz=333,slow=2.2,SNR=6.1
SDV Santo Domingo 158.19 49 *e*PKPdf PKPdf 11 17 39.9 +2.5
SDV *e*PKPab PKPab 11 18 14.3 -0.3
CPUP Villa Florida 159.20 172 PKP PKPdf 11 17 41.3 +3.0
comp=Z,8.9nm,0.8s,baz=253,slow=1.8,SNR=25
CPUP PKPab PKPab 11 18 19.1 +0.5
comp=Z,22nm,0.9s,baz=213,slow=5.7,SNR=14
CPUP Villa Florida 159.20 172 *e*PKPdf PKPdf 11 17 40.4 +2.2
CAM3 Guarapari 159.94 220 *e*P PKPdf 11 18 14.9 +36
CAM3 *i* 11 18 14.8
CAM3 *i* 11 18 15.0
CAM3 *i* 11 18 21.7
LPAZ La Paz 162.74 129 PKP PKPdf 11 17 46.5 +4.4
comp=Z,15nm,0.9s,baz=351,slow=1.9,SNR=37
LPAZ PKPab PKPab 11 18 36.8 +2.6
comp=Z,14nm,0.8s,baz=230,slow=3.1,SNR=11
LPAZ La Paz 162.74 129 *e*PKPdf PKPdf 11 17 46.2 +4.1
LPAZ *e*PKPab PKPab 11 18 36.9 +2.7
SIV San Ignacio 167.71 147 PKP PKPdf 11 17 49.1 +2.8
comp=Z,17nm,0.9s,baz=249,slow=2.1,SNR=89
SIV PKPab PKPab 11 18 56.7 +1.0
baz=212,slow=5.5
BAO Brasilia Array 168.32 211 PKPdf PKPdf 11 17 49.0 +2.3
BDFB Brasilia 168.33 211 PKP PKPdf 11 17 48.9 +2.1
comp=Z,8.9nm,0.9s,baz=23,slow=2.0,SNR=8.3
BDFB PKPab PKPab 11 18 59.3 +0.8
comp=Z,32nm,1.0s,baz=122,slow=2.4,SNR=13
SAML Samuel 170.52 111 *e*PKPdf PKPdf 11 17 50.5 +2.3
SAML *e*pPKPdf 11 18 34.9
SAML *e*PKPab PKPab 11 19 09.4 +1.1

CASC 27 11:00:19.6±2.1, 12.33N×87.80W, h47km±92km, MD3.5, ML3.7, 10C-5D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.82**	**63**	⇑*e*P	P	11 00 35.8	+0.8
CRIN				*e*S	S	11 00 45.7	-0.6
LEON	**Leon**	**0.90**	**84**	⇓*e*P	P	11 00 35.8	-0.2
CNCH	**Conchagua**	**0.94**	**358**	⇑*e*P	P	11 00 51.1	+14
CNCH				*e*S	S	11 01 04.1	+15
TEL3	**Telica 3**	**0.97**	**75**	⇓*e*P	P	11 00 36.9	-0.1
TELN	**Telica**	**0.99**	**74**	*e*P	P	11 00 36.7	-0.6
MIRN	**Miramar**	**1.07**	**84**	⇓*e*P	P	11 00 38.3	-0.1
CNGN	**Cerro Negro**	**1.09**	**81**	⇑*e*P	P	11 00 38.6	-0.1
BLLM	**Bellamira**	**1.19**	**339**	⇓*e*P	P	11 00 54.6	+15
BLLM				*e*S	S	11 01 09.3	+14
VSM	**San Miguel**	**1.19**	**337**	*e*P	P	11 00 55.1	+15
VSM				*e*S	S	11 01 11.1	+16
COPN	**Copaltepe**	**1.19**	**97**	⇑*e*P	P	11 00 40.0	-0.1
MOMJ	**Momotombo**	**1.24**	**86**	⇓*e*P	P	11 00 40.5	-0.3
XAVN	**Gruta Xavier**	**1.46**	**97**	⇑*e*P	P	11 00 43.9	-0.1
CRUN	**El Crucero**	**1.51**	**103**	⇑*e*P	P	11 00 45.0	+0.2
MGAN	**Managua**	**1.53**	**97**	⇑*e*P	P	11 00 44.9	-0.2
MGAN				*e*S	S	11 01 03.2	-0.7
MGAN				*i*		11 01 04.4	
comp=N,1μm,0.3s							
WILN	**Americas 2**	**1.59**	**96**	*e*S	S	11 01 04.9	-0.4
SNVI	**San Vicente**	**1.63**	**322**	*e*P	P	11 01 00.6	+14
SNVI				*e*S	S	11 01 20.5	+14
PYTN	**Playitas**	**1.72**	**83**	*e*P	P	11 00 47.5	-0.2
LCBS	**La Ceiba**	**1.75**	**319**	⇑*e*P	P	11 01 02.4	+14
LCBS				*e*S	S	11 01 23.2	+14
APON	**Apoyo**	**1.75**	**103**	*e*P	P	11 00 48.0	-0.1
LFRS	**El Faro**	**1.78**	**317**	⇑*e*P	P	11 01 02.9	+14
LFRS				*e*S	S	11 01 24.6	+15
LBRS	**Las Brisas**	**1.85**	**319**	*e*P	P	11 01 04.2	+15
LBRS				*e*S	S	11 01 25.9	+14
SNET	**Serv Nac Est T**	**1.94**	**314**	*e*P	P	11 00 49.5	-1.3
SNET				*e*S	S	11 01 12.6	-1.3
BOQS	**Boqueron**	**2.01**	**314**	*e*P	P	11 01 06.3	+15
BOQS				*e*S	S	11 01 31.1	+16
SSNN	**San Juan del S**	**2.17**	**118**	*e*P	P	11 00 53.4	-0.8
SSNN				*e*S	S	11 01 19.5	-0.4
CONN	**Concepcion**	**2.26**	**109**	*e*P	P	11 00 54.8	-0.6
MADN	**Villa Maderas**	**2.40**	**112**	⇑*e*P	P	11 00 56.4	-1.0
RBDL	**Robledal**	**2.55**	**314**	*e*P	P	11 01 14.0	+14

*NEIC **27** 11:05:06.0, 18.67N×68.04W, h7km, MD3.6(RSPR), After RSPR.*

RSPR 27 11:05:06.0, 18.67N×68.04W, h7km±12km, MD3.6/3, MD3.6/3, 3C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRPR	**Cabo Rojo, PR**	**1.10**	**127**	⇑*e*P	Pb	11 05 24.4	-2.6
CRPR				*e*S	Sb	11 05 39.2	-2.2
CBYP	**Canovanas**	**2.11**	**101**	⇑*e*P	Pn	11 05 38.8	-3.4
CBYP				*e*S	Sn	11 06 04.2	-4.8
CPD	**Cerro la Pandu**	**2.11**	**107**	P	Pn	11 05 42.1	-0.1
MTP	**Monte Pirata**	**2.43**	**103**	⇑*e*P	Pn	11 05 43.6	-3.1
MTP				*e*S	Sn	11 06 12.6	-4.4

*IDC **27** 11:11:23.2±1.6, 2.39N×95.71E, mb4.1/7, mb1 4.2/7, mb1mx4.0/18, mbtmp4.1/7, Error ellipse: s-maj=69.2km s-min=21.6km az=57.0*

*NEIC **27** 11:11:28.0±0.7, 2.49N×95.82E, h30km, mb4.6/5, Error ellipse: s-maj=16.8km s-min=9.3km az=214.0*

ISC 27 11:11:27.6±4.4, 2.6N±0.1×96.0E±0.1, h39km±38km, n16, σ0§74/17, mb4.3/12, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.41**	**60**	*e*P	**P**	**11 12 48.6**	**+0.6**
KULM				*e*Sn	**S**	**11 13 49.0**	**-0.8**
KKM	**Kota Kinabalu**	**20.50**	**80**	P	**P**	**11 16 05.7**	**+0.6**
QIZ	**Qiongzhong**	**21.27**	**39**	*e*P	**P**	**11 16 13.3**	**+0.3**
2.7nm,0.4s,mb3.9							
PKI	**Pulchoki**	**26.82**	**339**	*e*P	**P**	**11 17 05.3**	**-1.2**
DMN	**Daman**	**26.96**	**338**	*e*P	**P**	**11 17 07.4**	**-0.4**
16nm,0.9s,mb4.6							
KKN	**Kakani**	**27.07**	**339**	*e*P	**P**	**11 17 07.2**	**-1.6**
LSA	**Lhasa**	**27.36**	**351**	P	**P**	**11 17 12.9**	**+1.6**
9.2nm,0.5s,mb4.6							
GKN	**Gorkha**	**27.50**	**338**	*e*P	**P**	**11 17 12.6**	**-0.1**
38nm,0.9s,mb4.9							
KOLN	**Koldanda**	**27.69**	**336**	*e*P	**P**	**11 17 15.3**	**+0.8**
17nm,0.7s,mb4.8							
WRA	**Warramunga Arr**	**43.82**	**122**	P	**P**	**11 19 32.1**	**0.0**
2.5nm,1.0s,mb3.9,baz=299,slow=9.4,SNR=5.8							
MKAR	**Makanchi Array**	**45.62**	**347**	P	**P**	**11 19 46.4**	**+0.3**
2.9nm,0.7s,mb4.3,baz=162,slow=8.2,SNR=20							
SONM	**Songino Array**	**45.98**	**10**	P	**P**	**11 19 49.3**	**+0.4**
2.2nm,0.5s,mb4.4,baz=191,slow=9.0,SNR=22							
ZAL	**Zalesovo**	**52.01**	**352**	P	**P**	**11 20 35.8**	**+0.5**
2.0nm,0.6s,mb4.2,baz=270,slow=6.1,SNR=8.2							
BVAR	**Borovoye Array**	**54.55**	**341**	P	**P**	**11 20 54.0**	**-0.2**
1.2nm,0.6s,mb4.1,baz=141,slow=9.5,SNR=9.7							
STKA	**Stephens Creek**	**55.20**	**132**	P	**P**	**11 20 58.6**	**-0.5**
2.4nm,1.0s,mb4.2,baz=279,slow=14,SNR=3.2							
GERES	**GERESS Array B**	**82.96**	**319**	P	**P**	**11 23 49.8**	**-0.3**
0.1nm,0.3s,mb3.4,baz=121,slow=5.7,SNR=2.8							

CASC 27 11:17:20.3±2.7, 13.84N×88.17W, h35km±29km, MD3.5, ML3.4, 8C-4D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAHU	**Cacacuatique**	**0.08**	**210**	⇑*e*P	P	11 17 50.1	+24
CAHU				*e*S	S	11 17 55.0	+25
BLLM	**Bellamira**	**0.40**	**189**	⇑*e*P	P	11 17 46.7	+17
BLLM				*e*S	S	11 17 53.1	+17
VSM	**San Miguel**	**0.42**	**194**	⇑*e*P	P	11 17 46.6	+17
VSM				*e*S	S	11 17 54.7	+18
CNCH	**Conchagua**	**0.65**	**149**	⇑*e*P	P	11 17 50.5	+18
CNCH				*e*S	S	11 18 00.1	+18
SNVI	**San Vicente**	**0.69**	**251**	⇓*e*P	P	11 17 44.6	+11
SNVI				*e*S	S	11 17 55.9	+13
LCBS	**La Ceiba**	**0.80**	**257**	⇓*i*P	P	11 17 44.6	+9.4
LCBS				⇓*e*S	S	11 17 56.5	+10
LBRS	**Las Brisas**	**0.85**	**263**	⇑*e*P	P	11 17 46.2	+10
LBRS				*e*S	S	11 17 57.6	+10
LFRS	**El Faro**	**0.89**	**256**	⇓*i*P	P	11 17 44.4	+8.0
LFRS				*e*S	S	11 17 57.5	+9.2
LFU	**La Fuente**	**0.92**	**265**	⇑*e*P	P	11 17 46.3	+10
LFU				*e*S	S	11 17 58.5	+9.5
SNET	**Serv Nac Est T**	**1.04**	**262**	*e*P	P	11 17 45.6	+7.0
SNET				*e*S	S	11 18 00.2	+8.1
SNET				*i*		11 18 05.4	
comp=Z,839nm,0.4s							
BOQS	**Boqueron**	**1.08**	**265**	⇑*e*P	P	11 17 46.6	+7.4
BOQS				*e*S	S	11 18 00.6	+7.5
SNJE	**San Jose**	**1.39**	**271**	*e*P	P	11 17 50.3	+6.7
SNJE				*e*S	S	11 18 08.6	+7.5
SBLS	**San Blas**	**1.41**	**270**	*e*P	P	11 17 49.6	+5.8
SBLS				*e*S	S	11 18 08.3	+6.9
RBDL	**Robledal**	**1.50**	**281**	⇑*e*P	P	11 17 54.1	+9.0
RBDL				*e*S	S	11 18 13.1	+9.5
LEON	**Leon**	**1.89**	**138**	*e*P	P	11 17 49.7	-0.9
LEON				*e*S	S	11 18 12.5	-0.9
MIRN	**Miramar**	**1.99**	**134**	*e*P	P	11 17 52.8	+0.7
MIRN				*e*S	S	11 18 17.4	+1.4
COPN	**Copaltepe**	**2.26**	**137**	*e*P	P	11 17 54.1	-1.9
COPN				*e*S	S	11 18 20.6	-2.2
MGAN	**Managua**	**2.52**	**132**	*e*S	S	11 18 29.6	0.0

*NEIC **27** 11:20:16.2, 35.18N×23.09E, h4km, MD3.1(ATH), After ATH.*

*CSEM **27** 11:20:16.2, 35.18N×23.09E, h4km, MD3.1/3, After ATH*

ATH 27 11:20:16.2, 35.18N×23.09E, h4km, MD3.1/3, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAM	**Vamos**	**0.94**	**76**	*e*PG	Pg	11 20 34.0	-0.9
VAM				*e*SG	Sg	11 20 47.0	-0.4
KYTH	**Kithira**	**1.10**	**358**	*e*PB	Pb	11 20 36.5	-0.9
VLI	**Veliai**	**1.54**	**355**	*e*PB	Pb	11 20 45.5	+0.6

*CASC **27** 11:35:54.9±2.2, 12.40N×89.50W, h32km±44km, MD4.0, ML3.7, mb4.0(NEIC)*

*NEIC **27** 11:36:02.1±4.8, 13.06N×88.98W, h95km±51km, mb4.0/6, Error ellipse: s-maj=31.5km s-min=11.6km az=223.0*

*IDC **27** 11:36:04.5±8.9, 13.12N×88.89W, h117km±94km, mb3.6/6, mb1 3.8/7, mb1mx3.5/21, mbtmp4.0/7, ML3.9/1, Error ellipse: s-maj=44.1km s-min=16.5km az=47.0*

ISC 27 11:35:57.1±1.5, 12.8N±0.1×89.3W±0.1, h71km±15km, n44, σ1§03/30, mb4.0/11, 7C-10D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFRS	**El Faro**	**0.83**	**13**	⇑*e*P	Px	11 36 28.2	
LFRS				*e*S	Sx	11 36 45.6	
SNET	**Serv Nac Est T**	**0.87**	**1**	*e*P	Px	11 36 28.3	
SNET				*e*S	Sx	11 36 45.1	
SNET				*i*		11 36 50.0	
comp=Z,2μm,0.4s							
LCBS	**La Ceiba**	**0.88**	**18**	⇑*e*P	Px	11 36 28.9	
LCBS				*e*S	Sx	11 36 46.7	
SNVI	**San Vicente**	**0.89**	**27**	⇑*e*P	Px	11 36 29.4	
SNVI				*e*S	Sx	11 36 46.1	
BOQS	**Boqueron**	**0.92**	**358**	⇑*e*P	Px	11 36 29.1	
BOQS				*e*S	Sx	11 36 46.8	
LFU	**La Fuente**	**0.94**	**8**	*e*P	Px	11 36 30.2	
LFU				*e*S	Sx	11 36 49.6	
LBRS	**Las Brisas**	**0.94**	**12**	⇓*e*P	Px	11 36 30.3	
LBRS				*e*S	Sx	11 36 48.7	
SBLS	**San Blas**	**1.08**	**341**	⇑*e*P	Px	11 36 30.3	
SBLS				*e*S	Sx	11 36 49.3	
SNJE	**San Jose**	**1.11**	**342**	⇓*e*P	Px	11 36 30.7	
SNJE				*e*S	Sx	11 36 49.5	
VSM	**San Miguel**	**1.13**	**57**	⇓*e*P	Px	11 36 33.7	
VSM				*e*S	Sx	11 36 54.2	
RTR	**El Retiro**	**1.15**	**341**	⇑*e*P	Px	11 36 31.1	
RTR				*e*S	Sx	11 36 50.0	
BLLM	**Bellamira**	**1.17**	**57**	⇑*e*P	Px	11 36 34.6	
BLLM				*e*S	Sx	11 36 54.8	
RBDL	**Robledal**	**1.36**	**342**	⇓*e*P	Px	11 36 34.4	
RBDL				*e*S	Sx	11 36 56.6	
CNCH	**Conchagua**	**1.46**	**71**	⇓*e*P	Px	11 36 37.2	
CNCH				*e*S	Sx	11 37 02.2	
CRIN	**San Cristobal**	**2.15**	**93**	⇓*e*P	**P**	**11 36 32.5**	**+1.0**
LEON	**Leon**	**2.34**	**99**	*e*P	**P**	**11 36 33.6**	**-0.5**
TEL3	**Telica 3**	**2.36**	**95**	*e*P	**P**	**11 36 34.5**	**0.0**
TELN	**Telica**	**2.37**	**95**	*e*P	**P**	**11 36 34.9**	**+0.2**
MIRN	**Miramar**	**2.51**	**98**	*e*P	**P**	**11 36 36.4**	**-0.2**
CNGN	**Cerro Negro**	**2.51**	**97**	⇓*e*P	**P**	**11 36 36.4**	**-0.2**
COPN	**Copaltepe**	**2.67**	**103**	⇓*e*P	**P**	**11 36 38.5**	**-0.4**
MOMJ	**Momotombo**	**2.68**	**98**	*e*P	**P**	**11 36 38.8**	**-0.2**
XAVN	**Gruta Xavier**	**2.93**	**103**	*e*P	**P**	**11 36 43.4**	**+0.9**
CRUN	**El Crucero**	**3.00**	**106**	*e*P	**P**	**11 36 44.1**	**+0.7**
MGAN	**Managua**	**3.01**	**102**	*e*S	**S**	**11 37 19.8**	**+1.2**
MGAN				*i*		11 37 32.5	
comp=E,268nm,0.6s							
WILN	**Americas 2**	**3.06**	**102**	*e*S	**S**	**11 37 21.4**	**+1.4**
SSNN	**San Juan del S**	**3.66**	**114**	*e*P	**P**	**11 36 50.9**	**-1.7**
CONN	**Concepcion**	**3.76**	**109**	⇓*e*P	**P**	**11 36 53.1**	**-1.0**
MADN	**Villa Maderas**	**3.90**	**111**	*e*P	**P**	**11 36 54.3**	**-1.7**
SDV	**Santo Domingo**	**18.70**	**100**	P	**P**	**11 40 12.2**	**-0.2**
comp=E,0.4nm,0.3s,baz=306,slow=6.5,SNR=9.6							
SDV	**Santo Domingo**	**18.70**	**100**	*e*P	**P**	**11 40 11.5**	**-0.9**
comp=E,4.0nm,0.6s							
LTX	**Lajitas**	**21.20**	**323**	*e*P	**P**	**11 40 38.9**	**0.0**
comp=E,3.3nm,0.8s,mb3.7							
TXAR	**Lajitas Array**	**21.20**	**323**	P	**P**	**11 40 39.7**	**+0.8**
comp=E,2.6nm,0.7s,mb3.7,baz=138,slow=11,SNR=39							
UALR	**University of**	**22.05**	**353**	*e*P	**P**	**11 40 47.5**	**+0.3**
comp=E,14nm,0.8s,mb4.3							
WMOK	**Wichita Mounta**	**23.48**	**340**	⇓*i*P	**P**	**11 41 00.5**	**-0.7**
comp=E,3.5nm,0.6s,mb3.9							
CCM	**Cathedral Cave**	**25.20**	**356**	*e*P	**P**	**11 41 16.9**	**-0.9**
comp=E,5.5nm,0.8s,mb4.0							
PDAR	**Pinedale Array**	**34.64**	**333**	P	**P**	**11 42 43.1**	**+1.4**
comp=E,0.5nm,1.0s,mb3.3,baz=131,slow=8.3,SNR=3.0							
NVAR	**Mina Array Bea**	**36.28**	**320**	P	**P**	**11 42 57.4**	**+1.8**
comp=E,1.5nm,0.8s,mb4.0,baz=123,slow=9.1,SNR=14							
DGMT	**Dagmar**	**37.66**	**344**	*e*P	**P**	**11 43 07.2**	**+0.2**
comp=E,8.4nm,0.6s,mb4.8							
ULM	**Lac du Bonnet**	**37.73**	**353**	P	**P**	**11 43 05.5**	**-2.1**
comp=E,2.9nm,0.6s,mb4.3,baz=166,slow=8.3,SNR=7.3							
ULM	**Lac du Bonnet**	**37.73**	**353**	P	**P**	**11 43 05.5**	**-2.1**
MCMT	**McKenzie Canyo**	**37.73**	**332**	*e*P	**P**	**11 43 08.8**	**+1.2**
SIV	**San Ignacio**	**39.95**	**135**	P	**P**	**11 43 26.9**	**+0.5**
comp=E,1.0nm,0.5s,mb3.9,baz=334,slow=9.8,SNR=9.0							
SCHQ	**Schefferville**	**45.46**	**18**	P	**P**	**11 44 08.5**	**-2.3**
comp=E,2.7nm,0.6s,mb4.1,baz=201,slow=9.4,SNR=6.0							

*ATH **27** 11:50:11.0, 38.15N×20.22E, h5km±2km, MD3.6/8*

*NEIC **27** 11:50:11.1, 38.13N×20.17E, h9km, MD3.6(ATH), After ATH.*

*CSEM **27** 11:50:12.6±0.3, 38.13N×20.17E, h1km±3km, MD3.6, Error ellipse: s-maj=3.8km s-min=2.2km az=23.0*

ISC 27 11:50:11.4±0.8, 38.18N±0.07×20.21E±0.05, h1km, n15, σ1§20/25, 2C-2D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.30**	**89**	⇓*i*PG	**Pg**	**11 50 17.3**	**-0.1**
VLS				*e*SG	**Sg**	**11 50 20.5**	**-0.9**
VLS	**Valsamata**	**0.30**	**89**	⇓*i*Pg	**Pg**	**11 50 17.3**	**-0.1**
VLS				*e*Sb	**Sb**	**11 50 23.5**	**-0.9**
RLS	**Riolos of Patr**	**1.00**	**96**	*e*PG	**Pb**	**11 50 29.4**	**-1.8**
RLS				*e*SB	**Sb**	**11 50 42.8**	**-1.9**
RLS	**Riolos of Patr**	**1.00**	**96**	*e*Pb	**Pb**	**11 50 29.4**	**-1.8**
RLS				*e*Sb	**Sb**	**11 50 44.1**	**-0.6**
EVR	**Evrytania**	**1.46**	**59**	*e*PB	**Pb**	**11 50 39.0**	**0.0**
EVR				*e*SB	**Sb**	**11 50 59.1**	**+1.1**
EVR	**Evrytania**	**1.46**	**59**	*e*Pb	**Pb**	**11 50 39.9**	**+0.9**
EVR				*e*Sb	**Sb**	**11 51 00.1**	**+2.1**
KEK	**Kerkira**	**1.57**	**348**	*e*PB	**Pb**	**11 50 41.0**	**+0.1**
KEK	**Kerkira**	**1.57**	**348**	*e*Pb	**Pb**	**11 50 41.2**	**+0.3**
ITM	**Ithomi**	**1.69**	**126**	*e*Pb	**Pb**	**11 50 42.8**	**-0.1**
ITM				*e*Sb	**Sb**	**11 51 06.4**	**+1.8**
LKR	**Lokris**	**2.24**	**77**	*e*PN	**Pn**	**11 50 50.1**	**-0.1**
LKR				*e*SN	**Sn**	**11 51 19.9**	**+1.0**
LKR	**Lokris**	**2.24**	**77**	*e*Pb	**Pb**	**11 50 49.8**	**-2.6**
MGER	**Gerania Oros**	**2.42**	**94**	*e*PN	**Pn**	**11 50 53.5**	**+0.9**
NSAL	**Nisos Salamina**	**2.58**	**95**	*e*PN	**Pn**	**11 50 56.0**	**+1.0**
TIP	**Timpagrande**	**2.88**	**291**	⇑*i*P	**Pn**	**11 51 00.7**	**+1.5**
TIP				*e*S	**Sn**	**11 51 33.5**	**-1.5**
TIP	**Timpagrande**	**2.88**	**291**	⇑*i*P	**Pn**	**11 51 00.7**	**+1.4**
TIP				*e*S	**Sn**	**11 51 33.5**	**-1.6**

*LDG **27** 12:08:37.9±0.1, 36.87N×79.11E, h10km, Mb4.3/10, Ms3.4/1, Error ellipse: s-maj=8.5km s-min=4.6km az=48.0*

*IDC **27** 12:08:38.6±1.1, 36.92N×79.26E, mb3.8/11, mb1 4.0/13, mb1mx4.0/19, mbtmp3.8/13, ML4.0/2, MS3.5/2, Ms1 3.5/2, ms1mx3.0/20, Error ellipse: s-maj=28.9km s-min=20.1km az=16.0*

*NEIC **27** 12:08:39.4±8.0, 36.98N×79.24E, h4km±46km, mb4.3/10, Error ellipse: s-maj=25.2km s-min=9.6km az=185.0*

*BJI **27** 12:08:40.1, 36.94N×79.23E, h21km, mb4.6, ML4.6, Ms3.8*

*MOS **27** 12:08:42.6±1.1, 37.11N×79.16E, h33km, mb4.5/10, Error ellipse: s-maj=14.2km s-min=7.1km az=110.4*

*NNC **27** 12:08:50.0±9.8, 37.57N×78.88E, h19km±42km, mpv3.7, Error ellipse: s-maj=69.1km s-min=47.9km az=16.0*

ISC 27 12:08:38.8±0.4, 37.03N±0.04×79.20E±0.07, h10km, n75, σ1§10/85, mb4.1/21, MS3.4/1, 9C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**3.55**	**315**	P	**Pn**	**12 09 40.0**	**+4.8**
KSH				S	**Sn**	**12 10 23.0**	**+5.4**
KSH				Smax			
comp=N,1μm,0.8s							
KSH				Smax			
comp=E,2μm,0.6s							
KLP	**Kalpa**	**5.54**	**188**	*e*P	**Pn**	**12 10 06.4**	**+2.9**
KLP				*e*x	x	12 11 24.3	
CHCP	**Chirah Chowk**	**5.90**	**237**	⇑P	**Pn**	**12 10 11.1**	**+2.6**
AAK	**Ala-Archa**	**6.66**	**329**	⇓Pg	**Pg**	**12 10 42.8**	**-9.0**
AAK				⇑Lg		12 12 08.7	
comp=E,130nm,0.8s							
AAK	**Ala-Archa**	**6.66**	**329**	*e*Pn	**Pn**	**12 10 20.6**	**+1.4**
comp=E,31nm,0.7s							
AAK				*e*Sg	**Sg**	**12 12 11.8**	**-8.8**
AAK	**Ala-Archa**	**6.66**	**329**	*e*P	**Pn**	**12 10 20.6**	**+1.4**
AAK				pmax	pmax		
comp=Z,31nm,0.7s							
CEP	**Cherat**	**6.76**	**244**	P	**Pn**	**12 10 20.2**	**-0.4**
CEP				S	**Sn**	**12 11 38.0**	**-0.4**
KKR	**Kurukshetra**	**7.33**	**196**	*e*P	**Pn**	**12 10 31.2**	**+2.7**
SARP	**Sargodha**	**7.42**	**228**	P	**Pn**	**12 10 30.1**	**+0.3**
THW	**Thamme Wali**	**7.44**	**238**	P	**Pn**	**12 10 29.9**	**-0.3**
SBDP	**Sheikh Budin**	**8.37**	**238**	P	**P**	**12 10 41.7**	**-1.4**
NDI	**New Delhi**	**8.49**	**192**	*i* P	**P**	**12 10 45.2**	**+0.4**
NDI				*e*S	**Sn**	**12 12 16.0**	**-5.7**
SONA	**Sohna**	**8.94**	**192**	*e*P	**P**	**12 10 51.4**	**+0.4**
SONA				*e*x	x	12 12 29.2	
SONA				AML	AML	12 12 39.4	
comp=N,18nm,0.2s							
SONA				AML	AML	12 12 41.7	
comp=E,22nm,0.4s							
KK31	**Karatay Array**	**9.00**	**315**	⇑Pn	**P**	**12 10 51.6**	**-0.3**
comp=E,1.0nm,0.3s,baz=132,slow=13,SNR=16							
KK31				⇑Sn	**Sn**	**12 12 28.2**	**-6.1**
comp=E,4.8nm,0.5s,baz=140,slow=22,SNR=2.9							
KK31				⇑Lg		12 13 24.7	
comp=E,12nm,0.7s							
WMQ	**Urumqi**	**9.37**	**41**	P	**P**	**12 10 56.0**	**-1.0**
WMQ				S	**Sn**	**12 12 37.0**	**-6.5**
WMQ				Smax			
comp=N,31nm,0.8s							
WMQ				Smax			
comp=E,29nm,0.8s							
KHET	**Khetri**	**9.38**	**199**	*e*P	**P**	**12 10 56.9**	**-0.2**
KHET				*e*S	**Sn**	**12 12 35.8**	**-7.9**
KHET				AML	AML	12 12 42.3	
comp=E,18nm,0.2s							
KHET				AML	AML	12 12 42.4	
comp=N,23nm,0.3s							
MK31	**Makanchi Array**	**10.02**	**12**	⇓Pn	**P**	**12 11 04.5**	**-1.4**
comp=N,9.7nm,0.6s,baz=194,slow=12,SNR=37							
MK31				⇑Sn	**S**	**12 12 52.7**	**-6.7**
comp=N,16nm,0.6s,baz=195,slow=22,SNR=8.1							
MKAR	**Makanchi Array**	**10.02**	**12**	Pn	**P**	**12 11 04.3**	**-1.5**
comp=N,1.4nm,0.3s,baz=193,slow=13,SNR=28							
MKAR				Sn	**S**	**12 12 54.0**	**-5.4**
comp=N,4.0nm,0.3s,baz=199,slow=22,SNR=10							
MKAR	**Makanchi Array**	**10.02**	**12**	Pn	**P**	**12 11 04.3**	**-1.5**
MKAR				Sn	**S**	**12 12 54.0**	**-5.4**
JASL	**Jaisalmer**	**12.29**	**217**	*e*P	**P**	**12 11 34.7**	**-2.1**
KURK	**Kurchatov**	**13.68**	**358**	⇑Pn	**P**	**12 12 02.4**	**+7.2**
comp=N,4.9nm,1.0s							
KURK	**Kurchatov**	**13.68**	**358**	Pn	**P**	**12 11 53.5**	**-1.7**
comp=N,4.0nm,0.8s							
KURK	**Kurchatov**	**13.68**	**358**	P	**P**	**12 11 53.5**	**-1.7**
KURK				pmax	pmax		
comp=Z,4.0nm,0.8s							
GTA	**Gaotai**	**16.37**	**75**	P	**P**	**12 12 35.3**	**+5.0**
GTA				AP		12 12 42.5	
GTA				XP		12 12 46.3	
GTA				AMB	AMB		
comp=Z,5.0nm,0.8s							
GTA				LR	LR		
comp=N,68nm,12.2s							
GTA				LR	LR		
comp=E,118nm,13.8s							
VOSK	**Vostochnaya**	**16.71**	**342**	⇓P	**P**	**12 12 34.6**	**+0.1**
comp=E,4.0nm,0.8s							
BVA0	**Borovoye Array**	**17.14**	**342**	⇓P	**P**	**12 12 42.3**	**+2.5**
comp=E,0.6nm,0.8s,baz=156

MBDF	**Montbardon**	**53.64**	**302**	*e*P		**P**	**12 18 01.9**	**-0.6**
ORIF	**Oris-en-Rattie**	**54.18**	**303**	*e*P		**P**	**12 18 05.8**	**-0.6**
LOR	**Lormes**	**54.76**	**306**	*e*P		**P**	**12 18 09.8**	**-0.8**
VIVF	**Saint-Julien-l**	**55.01**	**303**	*e*P		**P**	**12 18 12.4**	**-0.2**
SSF	**Saint Saulge**	**55.05**	**306**	*e*P		**P**	**12 18 12.1**	**-0.7**
	comp=Z,1.0nm,0.5s,mb4.1							
SSF	**Saint Saulge**	**55.05**	**306**	*e*P		**P**	**12 18 12.1**	**-0.7**
SSF				pmax	pmax			
	comp=Z,1.0nm,0.5s,mb4.1							
AVF	**Avril sur Loir**	**55.24**	**306**	*e*P		**P**	**12 18 13.6**	**-0.6**
LASF	**Ste Croix**	**55.83**	**303**	*e*P		**P**	**12 18 18.4**	**-0.1**
	comp=Z,8.6nm,1.0s,mb4.5							
CAF	**Calviac**	**56.73**	**304**	*e*P		**P**	**12 18 24.9**	**0.0**
	comp=Z,2.4nm,0.5s,mb4.2							
CAF	**Calviac**	**56.73**	**304**	*e*P		**P**	**12 18 24.9**	**0.0**
CAF				pmax	pmax			
	comp=Z,1.0nm,0.5s,mb4.1							
LDF	**La Druitiere**	**56.84**	**309**	*e*P		**P**	**12 18 25.0**	**-0.7**
	comp=Z,6.9nm,0.7s,mb4.5							
LDF	**La Druitiere**	**56.84**	**309**	*e*P		**P**	**12 18 25.0**	**-0.7**
LDF				pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.4							
RJF	**Les Rejaudoux**	**56.95**	**305**	*e*P		**P**	**12 18 26.4**	**-0.1**
GRR	**Gorron**	**57.38**	**309**	*e*P		**P**	**12 18 28.8**	**-0.7**
MFF	**Saint Martin d**	**57.56**	**307**	*e*P		**P**	**12 18 29.9**	**-0.9**
ETSF	**Etsaut**	**59.25**	**303**	*e*P		**P**	**12 18 42.4**	**-0.2**
	comp=Z,4.9nm,0.6s,mb4.4							
ETSF	**Etsaut**	**59.25**	**303**	*e*P		**P**	**12 18 42.4**	**-0.2**
ETSF				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.3							
ESDC	**Sonseca Array**	**62.94**	**301**	P		**P**	**12 19 06.6**	**-1.1**
	comp=Z,0.3nm,0.4s,mb3.8,baz=53,slow=7.2,SNR=5.3							
ILAR	**Eielson Array**	**72.31**	**19**	P		**P**	**12 20 06.0**	**0.0**
	comp=Z,0.4nm,0.8s,mb3.4,baz=333,slow=5.4,SNR=5.8							
WRA	**Warramunga Arr**	**76.88**	**128**	P		**P**	**12 20 32.1**	**-1.0**
	comp=Z,0.6nm,1.0s,mb3.5,baz=332,slow=5.6,SNR=4.2							
YKA	**Yellowknife Ar**	**80.19**	**6**	P		**P**	**12 20 50.5**	**+0.2**
	comp=Z,0.3nm,0.4s,mb3.5,baz=338,slow=5.7,SNR=2.9							
YKA	**Yellowknife Ar**	**80.19**	**6**	P		**P**	**12 20 50.5**	**+0.2**

*IDC **27** 12:55:03.2±0.8, 18.84N×121.32E, mb4.0/10, mb1 4.2/11, mb1mx4.0/19, mbtmp4.1/11, ML4.1/1, MS3.3/4, Ms1 3.3/4, ms1mx2.9/26, Error ellipse: s-maj=35.7km s-min=19.8km az=66.0*
*BJI **27** 12:55:04.4, 18.64N×120.91E, h17km, mB4.4, mb4.5, ML4.0*
*NEIC **27** 12:55:06.5±2.9, 18.76N×121.15E, h24km±20km, mb4.5/8, Error ellipse: s-maj=11.8km s-min=10.7km az=134.0*
NEIC Felt [III PIVS] at Sanchez Mira.
*MAN **27** 12:55:08.9, 18.93N×121.15E, h2km, mb5.3, ML4.3, MS4.5*
MAN SANCHEZ MIRA CAGAYAN - INTENSITY III.

ISC 27 12:55:09.5±0.6, 19.03N±0.04×120.99E±0.08, h46km±8km, n38, σ1§12/45, mb4.2/18, MS3.2/2, 1C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**1.19**	**168**	*e*P		**12 55 29.8**	**-0.2**
APYP				*e*S		**12 55 44.8**	**-0.5**
SGCP	**Mt. Cagua**	**1.28**	**128**	*e*P		**12 55 30.0**	**-1.3**
CVP	**Callao Caves**	**1.54**	**149**	⇓*i*P		**12 55 35.0**	**-0.1**
CVP				*i*S		**12 55 54.0**	**-0.1**
BCPH	**Baguio City Da**	**2.67**	**188**	⇑*e*P		**12 55 52.1**	**+1.1**
BCPH				*e*S		**12 56 29.7**	**+7.4**
SCZP	**Santa Cruz**	**3.40**	**198**	*e*P		**12 56 03.6**	**+2.2**
NACB	**Ninganchiao**	**5.15**	**6**	*e*P		**12 56 25.3**	**-0.8**
GQP	**Guinayangan**	**5.29**	**164**	⇓*e*P		**12 56 28.8**	**+0.8**
YHNB	**Yeheng**	**5.62**	**4**	*e*P		**12 56 33.2**	**+0.5**
YHNB				*e*S		**12 57 38.8**	**+1.9**
TATO	**Taipei**	**5.93**	**4**	*e*P		**12 56 36.8**	**-0.2**
	29nm,0.4s						
GZH	**Guangzhou**	**8.20**	**301**	P		**12 57 07.0**	**-1.6**
GZH				S		**12 58 33.3**	**-7.5**
GZH				Smax			
	comp=N,38nm,0.8s						
GZH				Smax			
	comp=E,29nm,0.8s						
JOW	**Kunigami**	**10.26**	**40**	Pn		**12 57 32.0**	**-5.0**
	comp=E,3.7nm,0.3s,baz=227,slow=13,SNR=22						
JOW				Sn		**12 59 23.4**	**-8.4**
	comp=E,0.4nm,0.3s,baz=122,slow=19,SNR=2.6						
JOW				LR		13 01 34.7	
	comp=E,151nm,19.8s,baz=217,slow=38						
QIZ	**Qiongzhong**	**10.54**	**272**	P		**12 57 38.5**	**-2.4**
QIZ				S		**12 59 34.0**	**-4.6**
QIZ	**Qiongzhong**	**10.54**	**272**	*e*P		**12 57 38.5**	**-2.4**
	comp=E,16nm,0.3s						
JNU	**Nakatsue**	**16.59**	**30**	Pn		**12 59 01.4**	**+1.0**
	comp=E,0.2nm,0.3s,baz=132,slow=10,SNR=3.8						
JNU				LR		13 04 32.5	
	comp=E,98nm,21.2s,baz=88,slow=34						
KS15	**Wonju Array Si**	**19.31**	**17**	*e*P		**12 59 31.6**	**-1.8**
LZH	**Lanzhou**	**22.73**	**322**	*e*P		**13 00 08.5**	**-0.1**
LZH				AMB			
	comp=Z,25nm,1.0s,mb4.6						
LZH				AMB			
	comp=Z,120nm,4.0s						
LZH	**Lanzhou**	**22.73**	**322**	*e*P		**13 00 08.5**	**-0.1**
	comp=Z,25nm,1.0s,mb4.6						
LZH				pP		13 00 30.0	
LZH				sP		13 00 40.0	
MAJO	**Matsushiro**	**23.09**	**37**	P		**13 00 13.6**	**+1.5**
	comp=Z,17nm,1.5s,mb4.2						
HIA	**Hailar**	**30.18**	**358**	*e*P		**13 01 16.4**	**-1.1**
	comp=Z,4.5nm,0.3s,mb4.7						
ULN	**Ulaanbaatar**	**30.92**	**342**	P		**13 01 23.4**	**-0.6**
	comp=Z,1.0nm,0.5s,mb3.9						
SONM	**Songino Array**	**31.09**	**341**	P		**13 01 26.0**	**+0.4**
	comp=Z,2.2nm,0.9s,mb4.0,baz=154,slow=9.7,SNR=12						
SONM				LR		13 15 28.2	
	comp=Z,48nm,18.5s,MS3.2,baz=90,slow=39						
WRAB	**Tennant Creek**	**40.88**	**161**	*e*P		**13 02 44.3**	**-4.6**
	comp=Z,82nm,2.1s,mb5.0						
WRAB				*e*PcP	PcP	13 04 53.5	+4.0
WRA	**Warramunga Arr**	**40.89**	**161**	P		**13 02 44.5**	**-4.4**
	comp=Z,0.2nm,0.3s,mb3.2,baz=334,slow=10,SNR=13						
WRA				PcP	PcP	13 04 48.0	-1.6
	comp=Z,0.5nm,0.5s,baz=345,slow=3.2,SNR=6.9						
MKAR	**Makanchi Array**	**42.03**	**320**	P		**13 02 59.7**	**+1.7**
	comp=Z,2.2nm,0.7s,mb3.9,baz=112,slow=9.4,SNR=14						
MKAR				PcP	PcP	13 04 52.7	-0.4
	comp=Z,1.7nm,0.7s,baz=108,slow=3.8,SNR=7.7						
MKAR	**Makanchi Array**	**42.03**	**320**	P		**13 02 59.7**	**+1.7**
MKAR				PcP	PcP	13 04 52.7	-0.4
YAK	**Yakutsk**	**43.39**	**6**	*e*P		**13 03 07.4**	**-1.5**
	comp=Z,5.8nm,0.5s,mb4.6						
ZAL	**Zalesovo**	**44.53**	**330**	P		**13 03 19.5**	**+1.2**
	comp=Z,0.7nm,0.7s,mb3.6,baz=334,slow=10,SNR=4.1						
ZAL				LR	LR	13 24 20.2	
	comp=Z,32nm,18.8s,MS3.3,baz=139,slow=39						
ZAL	**Zalesovo**	**44.53**	**330**	P		**13 03 19.5**	**+1.2**
ZAL				LR	LR	13 24 20.2	
KURK	**Kurchatov**	**46.01**	**323**	*e*P		**13 03 30.3**	**+0.2**
	comp=Z,5.1nm,0.9s,mb4.5						
BVAR	**Borovoye Array**	**51.61**	**323**	P		**13 04 14.2**	**+0.9**
	comp=Z,1.6nm,0.7s,mb4.1,baz=108,slow=9.4,SNR=9.2						
BVAR				PcP	PcP	13 05 26.0	-0.7
	comp=Z,3.1nm,0.6s,baz=110,slow=3.8,SNR=17						
BRVK	**Borovoye**	**51.68**	**323**	*e*P		**13 04 14.2**	**+0.4**
	comp=Z,4.0nm,0.9s,mb4.3						
BRVK				*e*PcP	PcP	13 05 25.3	-1.7
ILAR	**Eielson Array**	**73.87**	**26**	P		**13 06 39.0**	**-1.9**
	comp=Z,0.8nm,0.9s,mb3.7,baz=262,slow=5.2,SNR=7.5						
ARCES	**ARCESS Array B**	**74.24**	**339**	P		**13 06 43.0**	**0.0**
	comp=Z,3.3nm,0.9s,mb4.3,baz=63,slow=8.1,SNR=9.2						
ARCES	**ARCESS Array B**	**74.24**	**339**	P		**13 06 43.0**	**0.0**
FINES	**FINESS Array B**	**75.80**	**330**	P		**13 06 53.0**	**+1.0**
	comp=Z,1.4nm,0.7s,mb4.0,baz=108,slow=8.8,SNR=4.0						
AKASG	**Malin Array Be**	**76.61**	**319**	P		**13 06 55.8**	**-1.0**
	comp=Z,1.5nm,0.7s,mb4.0,baz=62,slow=6.3,SNR=5.8						
YKA	**Yellowknife Ar**	**87.77**	**23**	P		**13 07 54.5**	**+0.1**
	comp=Z,2.6nm,0.8s,mb4.5,baz=309,slow=4.2,SNR=6.6						
YKA	**Yellowknife Ar**	**87.77**	**23**	P		**13 07 54.5**	**+0.1**

*CSEM **27** 12:58:13.2±0.7, 12.03N×44.01E, h13km, ML3.9, Error ellipse: s-maj=15.3km s-min=11.2km az=49.0, After DHMR*

DHMR 27 12:58:13.2±1.2, 12.03N×44.01E, h13km±5km, ML3.9, 1C-5D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.20**	**5**	⇓*e*P	Pb	12 58 36.0	+0.7
TRBA				*i*S	Sb	12 58 52.1	+1.7
TRBA				AML	AML	12 58 58.5	
	comp=N,2μm,0.3s						
ADEN	**Aden**	**1.21**	**52**	⇓*e*P	Pb	12 58 35.9	+0.5
ADEN				*i*S	Sb	12 58 52.3	+1.6
ADEN				AML	AML	12 59 00.8	
	comp=N,5μm,0.5s						
ADEN	**Aden**	**1.21**	**52**	⇓*e*P	Pb	12 58 35.9	+0.5
ADEN				*i*S	Sb	12 58 52.3	+1.6
	comp=N,3μm,0.5s						
UDYN	**Al 'Udayn**	**1.93**	**359**	⇓*i*P	Pn	12 58 46.8	+0.8
UDYN				*i*S	Sn	12 59 13.7	+3.4
UDYN				AML	AML	12 59 23.5	
	comp=N,1μm,0.5s						
UDYN	**Al 'Udayn**	**1.93**	**359**	⇓*i*P	Pn	12 58 46.8	+0.7
UDYN				*i*S	Sn	12 59 13.7	+3.4
	comp=N,686nm,0.5s						
LBOS		**2.19**	**33**	⇑*e*P	Pn	12 58 50.8	+0.9
LBOS				*i*S	Sn	12 59 21.3	+4.2
BDHA	**Al Bayda'**	**2.46**	**38**	*i*P	Pn	12 58 55.0	+1.3
BDHA				*i*S	Sn	12 59 29.1	+5.3
BDHA				AML	AML	12 59 45.5	
	comp=Z,352nm,0.6s						
BDHA	**Al Bayda'**	**2.46**	**38**	*i*P	Pn	12 58 55.0	+1.3
BDHA				*i*S	Sn	12 59 29.1	+5.3
	comp=Z,176nm,0.6s						
DHBB	**Dhamar BB**	**2.55**	**8**	*i*P	Pn	12 58 57.4	+2.3
DHBB				*i*S	Sn	12 59 31.4	+5.2
HAJJ	**Hajjah**	**3.67**	**354**	*i*P	Pn	12 59 12.3	+1.4
HAJJ				*i*S	Sn	12 59 58.7	+4.3

MEX 27 13:34:07.6±0.7, 17.33N×101.09W, h20km±624km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.84**	**109**	*e*P	Pb	13 34 20.4	-2.9
CAIG				*i*S	Sb	13 34 31.6	-2.5
ACX	**Acapulco**	**1.22**	**112**	*e*P	Pn	13 34 27.0	-2.7
ACX				*i*S	Sb	13 34 40.0	-5.0

*CSEM **27** 13:45:46.6±0.1, 35.00N×3.96W, h2km, MD3.0, Error ellipse: s-maj=3.8km s-min=2.0km az=105.0*
*MDD **27** 13:45:47.5±0.4, 35.09N×3.96W, mbLg1.7/4, Error ellipse: s-maj=5.3km s-min=2.8km az=76.0, PRXIMO*
*CNRM **27** 13:45:47.3, 35.11N×3.92W, h5km, MD3.0*

ISC 27 13:45:46.6±0.8, 35.11N±0.02×4.08W±0.04, h5km±5km, n30, σ1§25/49, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAL	**Palemas**	**0.17**	**44**	P	**Pg**	**13 45 49.0**	**-1.1**
MPAL				S	**Sg**	**13 45 51.5**	**-0.9**
TOU	**Touzarine**	**0.31**	**118**	P	**Pg**	**13 45 50.5**	**-2.3**
TOU				S	**Sg**	**13 45 54.5**	**-2.5**
TOU	**Touzarine**	**0.31**	**118**	*i*P	**Pg**	**13 45 50.5**	**-2.3**
EMEL	**Melilla**	**0.94**	**78**	P	**Pb**	**13 46 06.4**	**+1.4**
	SNR=7.9						
EMEL				S	**Sb**	**13 46 18.3**	**+0.6**
	67nm,0.2s,SNR=7.9						
EMLI	**Melilla**	**0.95**	**78**	P	**Pb**	**13 46 06.4**	**+1.3**
	SNR=7.9						
EMLI				S	**Sb**	**13 46 18.3**	**+0.5**
	67nm,0.2s,SNR=7.9						
TZK	**Tazeka**	**1.02**	**185**	*i*P	**Pb**	**13 46 06.5**	**+0.2**
TZK				*i*S	**Sb**	**13 46 20.5**	**+0.7**
EALB	**Alboran**	**1.19**	**46**	P	**Pb**	**13 46 09.3**	**-0.1**
	11nm,0.2s,SNR=7.9						
EALB				S	**Sb**	**13 46 24.4**	**-0.5**
	9.1nm,0.3s,SNR=7.9						
EALB	**Alboran**	**1.19**	**46**	P	**Pb**	**13 46 10.5**	**+1.2**
	11nm,0.2s,SNR=7.9						
EALB				S	**Sb**	**13 46 24.4**	**-0.5**
	9.1nm,0.3s,SNR=7.9						
EMIJ	**Mijas**	**1.56**	**339**	P	**Pn**	**13 46 16.9**	**+1.7**
	0.4nm,0.2s,SNR=4.0						
EMIJ				S	**Sb**	**13 46 35.3**	**-0.2**
	1.8nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**1.56**	**339**	P	**Pn**	**13 46 18.0**	**+2.9**
	0.4nm,0.2s,SNR=4.0						
EGUA	**Guajares**	**1.77**	**14**	S	**Sn**	**13 46 40.9**	**-0.5**
	0.5nm,0.2s,SNR=7.9						
MIF	**Mishlifen**	**1.94**	**210**	*i*P	**Pn**	**13 46 21.0**	**+0.4**
MIF				*i*S	**Sn**	**13 46 44.0**	**-1.6**
EBER	**Berja**	**2.03**	**28**	P	**Pn**	**13 46 23.0**	**+1.1**
	0.5nm,0.2s,SNR=7.9						
EBER				S	**Sn**	**13 46 47.3**	**-0.6**
	1.4nm,0.2s,SNR=7.9						
EBER	**Berja**	**2.03**	**28**	P	**Pn**	**13 46 23.0**	**+1.1**
	0.5nm,0.2s,SNR=7.9						
EBER				S	**Sn**	**13 46 45.4**	**-2.5**
	SNR=7.9						
EQUE	**Quentar**	**2.16**	**14**	P	**Pn**	**13 46 24.8**	**+1.1**
	0.3nm,0.2s,SNR=7.9						
EQUE				S	**Sn**	**13 46 50.6**	**-0.5**
	0.5nm,0.2s,SNR=7.9						
CZD	**Col de Zad**	**2.21**	**201**	*i*P	**Pn**	**13 46 24.5**	**0.0**
CZD				*i*S	**Sn**	**13 46 51.5**	**-1.1**
ESPR	**Espera**	**2.27**	**321**	S	**Sn**	**13 46 54.3**	**+0.3**
	0.3nm,0.2s,SNR=7.9						
ESPR	**Espera**	**2.27**	**321**	S	**Sn**	**13 46 54.3**	**+0.3**
	0.3nm,0.2s,SNR=7.9						
EQES	**Quesada**	**2.81**	**17**	P	**Pn**	**13 46 35.7**	**+2.7**
	0.5nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**13 47 05.5**	**-2.3**
	0.3nm,0.1s,SNR=7.9						
EQES	**Quesada**	**2.81**	**17**	P	**Pn**	**13 46 35.7**	**+2.7**
	0.5nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**13 47 05.5**	**-2.2**
	0.3nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**3.08**	**353**	P	**Pn**	**13 46 37.5**	**+0.7**
	0.1nm,0.1s,SNR=4.0						
EADA				S	**Sn**	**13 47 14.3**	**-0.2**
	0.3nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**3.08**	**353**	P	**Pn**	**13 46 39.2**	**+2.3**
	0.1nm,0.1s,SNR=4.0						
EADA				S	**Sn**	**13 47 14.3**	**-0.2**
	0.3nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**3.15**	**340**	S	**Sn**	**13 47 15.5**	**-0.8**
	0.4nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.38**	**323**	P	**Pn**	**13 46 42.6**	**+1.5**
	0.1nm,0.2s,SNR=7.9						
EMIN				S	**Sn**	**13 47 21.2**	**-0.8**
	0.2nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.38**	**323**	P	**Pn**	**13 46 42.6**	**+1.5**
	0.1nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**3.66**	**312**	P	**Pn**	**13 46 45.9**	**+0.8**
	0.4nm,0.2s,SNR=7.9						
EGRO				S	**Sn**	**13 47 28.0**	**-1.2**
	0.1nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**3.66**	**312**	P	**Pn**	**13 46 47.2**	**+2.1**
	0.4nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**4.08**	**29**	P	**Pn**	**13 46 51.9**	**+0.9**
	0.2nm,0.2s,SNR=4.0						
ETOB	**Tobarra**	**4.08**	**29**	P	**Pn**	**13 46 52.4**	**+1.4**
	0.2nm,0.2s,SNR=4.0						
EBAD	**Badajoz**	**4.33**	**328**	S	**Sn**	**13 47 42.9**	**-3.3**
	0.9nm,0.2s,SNR=7.9						

*GUC **27** 13:49:09.8±0.6, 29.12S×67.34W, h140km, MD3.6, ML4.2*
*NEIC **27** 13:49:29.8±1.0, 30.13S×68.75W, h134km±25km, mb3.9/1, Error ellipse: s-maj=21.7km s-min=13.2km az=81.0*

ISC 27 13:49:10.4±1.4, 29.11S±0.07×67.4W±0.1, h150km, n14, σ1§05/19, 2C-2D, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZON	**Zonda**	**2.66**	**204**	*e*P	**P**	**13 49 57.6**	**+3.5**
ZON				*e*S	**S**	**13 50 32.9**	**+5.4**
TLL	**Tololo Astrono**	**3.12**	**249**	*e*P	**P**	**13 50 00.7**	**+0.7**
TLL				*i*S	**S**	**13 50 39.1**	**+1.1**
TLL				AMP		13 50 43.6	
	comp=N,334nm,0.4s						
TLL	**Tololo Astrono**	**3.12**	**249**	⇓*i*P	**P**	**13 50 01.1**	**+1.0**
CMCH	**Combarbala**	**3.72**	**235**	*e*P	**P**	**13 50 07.4**	**-0.4**
CMCH				*i*S	**S**	**13 50 51.5**	**-0.3**
CMCH	**Combarbala**	**3.72**	**235**	*e*P	**P**	**13 50 07.4**	**-0.4**
MDZ	**Mendoza**	**3.96**	**198**	*e*P	**P**	**13 50 12.8**	**+1.9**
FCH	**Farellones**	**4.87**	**210**	*e*P	**P**	**13 50 23.7**	**+0.7**
CPN1	**Cerro Paranal**	**5.20**	**329**	*i*P	**P**	**13 50 26.5**	**-0.8**
RCDM	**Rinconada Maip**	**5.24**	**213**	*i*P	**P**	**13 50 27.3**	**-0.5**
RCDM				*i*S	**S**	**13 51 27.3**	**-0.4**
RCDM	**Rinconada Maip**	**5.24**	**213**	⇓*i*P	**P**	**13 50 27.5**	**-0.3**
CHCH	**Chadas Angostu**	**5.54**	**209**	*i*P	**P**	**13 50 31.7**	**-0.1**
CHCH				*i*S	**S**	**13 51 34.1**	**-0.9**
CHCH	**Chadas Angostu**	**5.54**	**209**	⇑*i*P	**P**	**13 50 31.8**	**-0.1**
CICH	**Cipreses**	**5.79**	**205**	*i*P	**P**	**13 50 35.2**	**+0.1**
LNV	**Longovilo**	**5.91**	**214**	⇑*i*P	**P**	**13 50 34.4**	**-2.4**

*ATH **27** 13:53:47.6, 35.37N×22.31E, h31km±4km, MD3.5/8*
*NEIC **27** 13:53:47.6, 35.37N×22.31E, h31km, MD3.5(ATH), After ATH.*
*CSEM **27** 13:53:47.4±0.1, 35.31N×22.24E, h20km, MD3.5, Error ellipse: s-maj=4.5km s-min=2.1km az=61.0*
*HLW **27** 13:53:50.6, 35.28N×22.04E, h30km, Mb3.4*

ISC 27 13:53:46.2±0.8, 35.34N±0.04×22.28E±0.08, h10km, n13, σ0§68/19, 3D, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**1.12**	**33**	*e*PN	**Pn**	**13 54 07.8**	**-0.1**
KYTH				*e*SN	**Sn**	**13 54 22.8**	**-0.7**
VLI	**Veliai**	**1.48**	**21**	*e*PN	**Pn**	**13 54 14.0**	**+1.0**
VLI				*e*SN	**Sn**	**13 54 32.9**	**+0.5**
GVD	**Gavdhos**	**1.57**	**108**	*e*Pn	**Pn**	**13 54 12.7**	**-1.6**
GVD	**Gavdhos**	**1.57**	**108**	*e*Pn	**Pn**	**13 54 12.7**	**-1.5**
VAM	**Vamos**	**1.57**	**87**	*e*PN	**Pn**	**13 54 15.0**	**+0.6**
VAM				*e*SN	**Sn**	**13 54 34.9**	**0.0**
ITM	**Ithomi**	**1.86**	**351**	*e*PB	**Pb**	**13 54 19.4**	**-0.4**
ITM				*e*SN	**Sn**	**13 54 41.3**	**-0.8**
NAIG	**Nisos Aigina**	**2.60**	**22**	*e*PN	**Pn**	**13 54 29.0**	**-0.1**
NSAL	**Nisos Salamina**	**2.73**	**20**	*e*PN	**Pn**	**13 54 32.0**	**+1.0**
VLS	**Valsamata**	**3.14**	**335**	⇓*i*PN	**Pn**	**13 54 36.6**	**-0.1**
EVR	**Evrytania**	**3.59**	**354**	*e*PN	**Pn**	**13 54 43.5**	**+0.4**
SLUM		**4.55**	**147**	⇓P	**Pn**	**13 54 57.6**	**+0.8**
SWA2		**6.65**	**155**	P	**Pn**	**13 55 25.8**	**-0.5**
SWA2				S	**Sn**	**13 56 36.1**	**-6.8**
SWA1		**6.72**	**153**	⇓P	**Pn**	**13 55 27.4**	**+0.1**
SWA1				S	**Sn**	**13 56 38.0**	**-6.8**

BJI 27 14:00:25.4, 24.97N×98.78E, h20km, ML4.0, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**3.59**	**87**	PG	Pn	14 01 29.3	+7.9
GYA	**Guiyang**	**7.26**	**77**	P	Pn	14 02 11.5	-1.7

*IDC **27** 14:13:05.0±1.0, 10.09S×124.01E, mb4.1/5, mb1 4.2/7, mb1mx4.1/14, mbtmp4.1/7, ML3.9/2, Error ellipse: s-maj=99.6km s-min=20.4km az=63.0*
*NEIC **27** 14:13:07.8±0.4, 10.16S×124.08E, h20km, mb4.8/3, Error ellipse: s-maj=16.1km s-min=6.9km az=69.0*

ISC 27 14:13:07.1±0.6, 10.31S±0.07×124.0E±0.1, h33km, n13, σ0§97/16, mb4.3/8, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**7.91**	**169**	Pn	**Pn**	**14 15 03.6**	**+0.9**
	2.9nm,0.3s,baz=355,slow=12,SNR=110						
FITZ				Sn	**Sn**	**14 16 29.4**	**-2.6**
	15nm,0.3s,baz=142,slow=4.9,SNR=17						
MBWA	**Marble Bar**	**11.56**	**200**	Pn	**P**	**14 15 53.8**	**+1.0**
	1.3nm,0.4s						
MBWA				*e*S	**S**	**14 17 56.0**	**-5.8**
WRA	**Warramunga Arr**	**13.81**	**135**	Pn	**P**	**14 16 22.7**	**-0.2**
	0.3nm,0.3s,baz=314,slow=13,SNR=30						
WRA				Sn	**Sn**	**14 18 51.3**	**-4.8**
	1.1nm,0.3s,baz=318,slow=24,SNR=8.5						
WRAB	**Tennant Creek**	**13.81**	**135**	*e*P	**P**	**14 16 23.4**	**+0.5**
	6.7nm,0.8s						
STKA	**Stephens Creek**	**26.93**	**145**	P	**P**	**14 18 50.6**	**+3.2**
	1.6nm,0.7s,mb3.6,baz=309,slow=12,SNR=3.9						
STKA	**Stephens Creek**	**26.93**	**145**	*e*P	**P**	**14 18 49.5**	**+2.1**
MDJ	**Mudanjiang**	**54.89**	**5**	*e*P	**P**	**14 22 36.5**	**-0.4**
	8.7nm,0.8s,mb4.8						
SONM	**Songino Array**	**59.96**	**346**	P	**P**	**14 23 12.0**	**-0.6**
	0.7nm,0.7s,mb3.8,baz=159,slow=8.7,SNR=6.4						
MKAR	**Makanchi Array**	**67.95**	**330**	P	**P**	**14 24 05.3**	**+0.5**
	3.3nm,0.8s,mb4.4,baz=136,slow=7.9,SNR=24						
ZAL	**Zalesovo**	**72.10**	**337**	P	**P**	**14 24 29.6**	**-0.2**
	2.1nm,0.5s,mb4.4,baz=335,slow=3.1,SNR=15						
YAK	**Yakutsk**	**72.24**	**3**	*e*P	**P**	**14 24 30.8**	**+0.2**
	6.6nm,0.6s,mb4.7						
YAK				*e*		14 24 45.3	
KURK	**Kurchatov**	**72.42**	**332**	*e*P	**P**	**14 24 31.5**	**-0.4**
	5.3nm,0.9s,mb4.5						
KURK				*e*	pP	14 24 42.2	+0.1
BVAR	**Borovoye Array**	**77.83**	**330**	P	**P**	**14 25 02.3**	**-0.6**
	0.9nm,0.7s,mb3.8,baz=143,slow=7.2,SNR=7.3					

RCBR					*e*PKPab	PKPab	14 39 25.6	+0.6
ETSF	**Etsaut**		**150.16**	**342**	*e*PKP1	PKPdf	14 39 22.1	+8.0
	8.0nm,0.8s							

PRU ***27*** *14:44:14.8, 49.41N×19.94E*
WAR 27 14:44:13, 49.36N×19.92E, ML2.6, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIE	**Niedzica**	**0.26**	**77**	*e*PG	Pg	14 44 19.0	+0.7
NIE				*e*SG	Sg	14 44 23.0	+1.2
OJC	**Ojcow**	**0.86**	**355**	*e*PG	Pg	14 44 30.0	-0.2
OJC				*e*SG	Sg	14 44 42.0	+0.2
STHS	**Stebnicka Huta**	**0.87**	**86**	*e*PG	Pg	14 44 32.5	+2.2
STHS				*e*SG	Sg	14 44 45.7	+3.8
KECS	**Kecovo**	**0.95**	**157**	*e*PG	Pg	14 44 32.5	+0.5
KECS				*e*SG	Sg	14 44 43.4	-1.3
CRVS	**Cervenica-Dubn**	**1.11**	**114**	*e*PN	Pn	14 44 35.8	+0.1
CRVS				*e*SN	Sn	14 44 50.6	-1.3
VYHS	**Vyhne**	**1.12**	**220**	*e*PG	Pg	14 44 37.1	+1.7
VYHS				*e*SG	Sg	14 44 50.5	+0.1
OKC	**Ostrava-Krasne**	**1.25**	**293**	*e*PG	Pg	14 44 38.3	+0.4
OKC				*e*SG	Sg	14 44 55.0	+0.4
KOLL	**Kolacno**	**1.27**	**233**	*e*SN	Sn	14 44 56.8	+0.9
DPC	**Dobruska-Polom**	**2.53**	**294**	*e*PG	Pg	14 45 00.0	-3.5
DPC				*e*SG	Sg	14 45 32.0	-5.2
PRU	**Pruhonice**	**3.55**	**282**	*e*SG	Sg	14 46 04.3	-6.9
KHC	**Kasperske Hory**	**4.16**	**269**	*e*SN	Sn	14 46 07.0	-2.3
KHC				*e*SG	Sg	14 46 27.7	-3.8

HLW ***27*** *14:52:17.3, 34.97N×28.85E, h30km, Mb3.5*
ISC 27 14:52:14.4±0.5, 35.06N±0.05×28.82E±0.07, h69km±36km, n26, σ0°66/35, 7D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAS	**Kas**	**1.34**	**28**	*i* P	**P**	**14 52 37.6**	**-0.1**
AKAS				*i* S	**S**	**14 52 54.5**	**-0.5**
ELL	**Elmali**	**1.91**	**27**	PN	**P**	**14 52 46.9**	**+1.5**
YER	**Yerkesik**	**2.12**	**348**	PN	**P**	**14 52 48.8**	**+0.5**
GOLH	**Golhisar**	**2.26**	**15**	*i* P	**P**	**14 52 50.8**	**+0.5**
GOLH				*i* S	**S**	**14 53 16.9**	**0.0**
BODT	**Bodrum**	**2.35**	**329**	PN	**P**	**14 52 48.1**	**-3.4**
DNZL	**Cakiroluk**	**2.64**	**4**	*i* P	**P**	**14 52 55.4**	**-0.3**
DNZL				*i* S	**S**	**14 53 25.4**	**-1.0**
LEF	**Lefka**	**3.34**	**88**	PN	**P**	**14 53 01.7**	**-3.8**
HDMB	**Hadim**	**3.53**	**56**	*e*PN	**P**	**14 53 08.9**	**+0.7**
ERMK	**Ermenek**	**3.68**	**63**	*i* P	**P**	**14 53 11.2**	**+1.0**
ERMK				*i* S	**S**	**14 53 52.6**	**-0.2**
IKL	**Isikli**	**4.13**	**72**	*e*P	**P**	**14 53 16.8**	**+0.2**
HBRG	**Burj al 'Arab**	**4.55**	**169**	P	**P**	**14 53 22.2**	**-0.2**
MEST	**Erdemli**	**4.59**	**69**	*i* P	**P**	**14 53 23.5**	**+0.6**
MEST				*i* S	**S**	**14 54 14.6**	**-0.8**
SLUM		**4.66**	**221**	⇓P	**P**	**14 53 24.5**	**+0.5**
SLUM				S	**S**	**14 54 13.2**	**-4.1**
SLUM		**4.66**	**221**	P	**P**	**14 53 24.5**	**+0.5**
SLUM				S	**S**	**14 54 13.2**	**-4.1**
HMYD	**Mayadein**	**5.50**	**162**	⇓P	**P**	**14 53 35.3**	**-0.2**
HNAT	**Natroun**	**5.62**	**164**	P	**P**	**14 53 36.9**	**-0.2**
AYT	**Al 'Ayyat**	**5.69**	**159**	P	**P**	**14 53 38.3**	**+0.2**
AMAG	**Maghara**	**5.74**	**139**	P	**P**	**14 53 38.3**	**-0.6**
HRSH	**Kfar Ka'horesh**	**5.80**	**133**	⇓P	**P**	**14 53 39.5**	**-0.1**
RSH		**5.80**	**133**	P	**P**	**14 53 39.5**	**-0.1**
HSAF	**As Saff**	**5.89**	**156**	⇓P	**P**	**14 53 40.8**	**-0.2**
GLL	**Jalalah**	**5.98**	**155**	⇓P	**P**	**14 53 42.0**	**-0.2**
SWA1		**6.35**	**205**	⇓P	**P**	**14 53 47.4**	**+0.1**
SWA1				S	**S**	**14 54 53.1**	**-6.0**
SWA2		**6.46**	**207**	⇓P	**P**	**14 53 48.9**	**0.0**
HNKL	**Nakhl**	**6.72**	**138**	P	**P**	**14 53 52.5**	**+0.1**
HNKL				S	**S**	**14 55 02.1**	**-6.2**
HKAT	**Jabal Katrina**	**7.86**	**145**	P	**P**	**14 54 08.4**	**+0.2**

MAN 27 15:37:22.7, 11.22N×125.54E, h24km, mb3.7, ML2.4, MS1.9, 1C, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.39**	**345**	*e*P	Pb	15 37 31.4	+0.4
PLP	**Palo**	**0.56**	**264**	*e*P	Pb	15 37 35.4	+1.7
PLP				*e*S	Sb	15 37 44.2	+2.9
MSLP	**Maasin**	**1.27**	**212**	*e*P	Pn	15 37 45.6	+0.3
SCPH	**Surigao**	**1.43**	**182**	⇑*e*P	Pn	15 37 46.5	-1.1
SCPH				*e*S	Sn	15 38 06.4	+0.6
CNP	**Cataman**	**1.54**	**326**	*e*P	Pn	15 37 49.3	+0.3

IDC 27 16:08:54.0±4.2, 17.83S×176.88W, mb3.9/3, mb1 4.2/3, mb1mx3.9/12, mbtmp3.9/3, Error ellipse: s-maj=184.4km s-min=36.6km az=138.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.95**	**241**	P	P	16 16 30.9	-0.9
	0.8nm,0.4s,baz=110,slow=9.7,SNR=8.1						
WRA	**Warramunga Arr**	**46.08**	**259**	P	P	16 17 19.2	-2.6
	1.4nm,0.3s,baz=98,slow=6.9,SNR=107						
ILAR	**Eielson Array**	**85.49**	**12**	P	P	16 21 33.4	-1.2
	0.2nm,0.5s,baz=212,slow=6.2,SNR=4.7						

CNRM ***27*** *16:21:27.5, 35.53N×3.90W, h6km, MD2.9*
CSEM ***27*** *16:21:28.4±0.1, 35.37N×3.79W, h15km, MD2.9, Error ellipse: s-maj=4.0km s-min=2.2km az=93.0*
MDD ***27*** *16:21:30.3±0.5, 35.40N×3.85W, h9km±5km, mbLg1.9/8, Error ellipse: s-maj=4.9km s-min=4.1km az=138.0, PRXIMO*
ISC 27 16:21:29.4±0.5, 35.41N±0.02×3.90W±0.04, h16km±6km, n26, σ0°88/50, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAL	**Palemas**	**0.19**	**190**	P	**Pb**	**16 21 33.0**	**-1.1**
MPAL				S	**Sb**	**16 21 37.5**	**+0.3**
MPAL	**Palemas**	**0.19**	**190**	*i* P	**Pb**	**16 21 33.0**	**-1.1**
TOU	**Touzarine**	**0.46**	**165**	*i* P	**Pb**	**16 21 38.0**	**-0.7**
TOU				*i* S	**Sb**	**16 21 46.0**	**+0.9**
EMEL	**Melilla**	**0.78**	**98**	P	**Pb**	**16 21 44.9**	**+0.7**
	169nm,0.1s,SNR=18						
EMEL				S	**Sb**	**16 21 54.1**	**-0.1**
	108nm,0.1s,SNR=7.9						
EMLI	**Melilla**	**0.79**	**98**	P	**Pb**	**16 21 44.9**	**+0.7**
	169nm,0.1s,SNR=18						
EMLI				S	**Sb**	**16 21 54.1**	**-0.3**
	108nm,0.1s,SNR=7.9						
EALB	**Alboran**	**0.88**	**53**	P	**Pb**	**16 21 45.3**	**-0.5**
	21nm,0.1s,SNR=24						
EALB				S	**Sb**	**16 21 55.9**	**-1.3**
	8.6nm,0.1s,SNR=7.9						
EALB	**Alboran**	**0.88**	**53**	P	**Pb**	**16 21 45.3**	**-0.6**
	21nm,0.1s,SNR=24						
EALB				S	**Sb**	**16 21 55.6**	**-1.6**
	8.6nm,0.1s,SNR=7.9						
TZK	**Tazeka**	**1.34**	**190**	*i* P	**Pn**	**16 21 53.0**	**-0.5**
TZK				*i* S	**Sb**	**16 22 11.0**	**+0.6**
EMIJ	**Mijas**	**1.35**	**329**	P	**Pn**	**16 21 54.3**	**+0.6**
	0.5nm,0.1s,SNR=8.0						
EMIJ				S	**Sb**	**16 22 10.2**	**-0.6**
	1.9nm,0.1s,SNR=7.9						
EMIJ	**Mijas**	**1.35**	**329**	P	**Pn**	**16 21 54.3**	**+0.6**
	0.5nm,0.1s,SNR=8.0						
EMIJ				S	**Sb**	**16 22 09.3**	**-1.5**
	1.9nm,0.1s,SNR=7.9						
EGUA	**Guajares**	**1.45**	**11**	P	**Pn**	**16 21 56.0**	**+0.9**
	0.3nm,0.2s,SNR=7.9						
EGUA				S	**Sb**	**16 22 13.8**	**+0.2**
	3.7nm,0.2s,SNR=7.9						
ERON	**Agron**	**1.61**	**3**	P	**Pn**	**16 21 57.9**	**+0.5**
	0.6nm,0.1s,SNR=4.0						
ERON				S	**Sn**	**16 22 17.7**	**-0.2**
	1.7nm,0.2s,SNR=7.9						
EBER	**Berja**	**1.70**	**29**	P	**Pn**	**16 21 58.6**	**-0.1**
	0.2nm,0.1s,SNR=4.0						
EBER				S	**Sn**	**16 22 18.5**	**-1.6**
	1.4nm,0.1s,SNR=7.9						
EBER	**Berja**	**1.70**	**29**	P	**Pn**	**16 21 58.6**	**-0.1**
	SNR=4.0						
EBER				S	**Sn**	**16 22 18.3**	**-1.8**
	1.4nm,0.1s,SNR=7.9						
EQUE	**Quentar**	**1.83**	**12**	P	**Pn**	**16 22 01.5**	**+0.9**
	0.2nm,0.1s,SNR=7.9						
EQUE				S	**Sn**	**16 22 23.0**	**-0.5**
	0.8nm,0.1s,SNR=7.9						
EQES	**Quesada**	**2.48**	**15**	P	**Pn**	**16 22 11.3**	**+1.4**
	0.4nm,0.1s,SNR=6.4						
EQES				S	**Sn**	**16 22 39.9**	**-0.1**
	0.7nm,0.1s,SNR=7.9						
EQES	**Quesada**	**2.48**	**15**	P	**Pn**	**16 22 11.6**	**+1.7**
	0.4nm,0.1s,SNR=6.4						
EQES				S	**Sn**	**16 22 39.9**	**-0.2**
	0.7nm,0.1s,SNR=7.9						
CZD	**Col de Zad**	**2.55**	**202**	*e*P	**Pn**	**16 22 10.0**	**-0.9**
CZD				*i* S	**Sn**	**16 22 41.0**	**-0.9**
EADA	**Adamuz**	**2.81**	**349**	P	**Pn**	**16 22 15.7**	**+1.2**
	0.2nm,0.1s,SNR=4.0						
EADA				S	**Sn**	**16 22 48.4**	**+0.1**
	0.3nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**2.81**	**349**	P	**Pn**	**16 22 16.4**	**+1.9**
	0.2nm,0.1s,SNR=4.0						
EADA				S	**Sn**	**16 22 48.6**	**+0.3**
	0.3nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**2.93**	**336**	P	**Pn**	**16 22 17.1**	**+0.9**
	SNR=7.9						
ECAB				S	**Sn**	**16 22 52.5**	**+1.2**
	SNR=7.9						
ECAB	**El Cabril**	**2.93**	**336**	P	**Pn**	**16 22 17.1**	**+0.8**
	SNR=7.9						
ECAB				S	**Sn**	**16 22 52.5**	**+1.1**
	SNR=7.9						
EMIN	**Mina Concepcio**	**3.24**	**317**	P	**Pn**	**16 22 21.4**	**+0.6**
	0.2nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**16 22 58.1**	**-1.2**
	0.2nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.24**	**317**	P	**Pn**	**16 22 21.4**	**+0.7**
	0.2nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**16 22 57.9**	**-1.4**
	0.2nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**3.58**	**307**	P	**Pn**	**16 22 26.3**	**+0.7**
	0.5nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**16 23 06.5**	**-1.4**
	0.3nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**3.58**	**307**	P	**Pn**	**16 22 26.3**	**+0.7**
	SNR=7.9						

IDC 27 17:14:34.6±5.6, 28.87N×141.94E, h53km±36km, mb3.2/4, mb1 3.4/4, mb1mx3.2/19, mbtmp3.5/4, Error ellipse: s-maj=164.4km s-min=22.1km az=73.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.78**	**173**	P	P	17 15 02.8	-0.8
	6.7nm,0.3s,baz=288,slow=19,SNR=12						
CBIJ				S	S	17 15 24.6	-0.4
	30nm,0.3s,baz=102,slow=23,SNR=7.5						
SONM	**Songino Array**	**33.30**	**314**	P	P	17 21 08.1	-1.1
	0.3nm,0.5s,baz=116,slow=5.6,SNR=2.4						
WRA	**Warramunga Arr**	**49.08**	**189**	P	P	17 23 16.7	-2.0
	0.5nm,0.5s,baz=7.7,slow=7.9,SNR=12						
MKAR	**Makanchi Array**	**49.19**	**308**	P	P	17 23 16.9	-2.4
	0.3nm,0.7s,baz=100,slow=8.8,SNR=3.8						
BVAR	**Borovoye Array**	**56.60**	**317**	P	P	17 24 11.2	-2.9
	0.5nm,0.5s,baz=76,slow=5.9,SNR=4.9						

MOS ***27*** *17:40:10.0±0.7, 30.56S×59.94E, h10km, mb5.2/32, MS4.5/7, Error ellipse: s-maj=15.6km s-min=7.9km az=100.8*
IDC ***27*** *17:40:10.5±0.5, 30.53S×60.08E, mb4.4/20, mb1 4.5/21, mb1mx4.4/28, mbtmp4.3/21, ML3.6/1, MS4.3/10, Ms1 4.3/10, ms1mx4.2/18, Error ellipse: s-maj=16.0km s-min=14.6km az=57.0*
BJI ***27*** *17:40:11.9, 30.86S×60.20E, h32km, mB5.3, mb5.0, Ms4.8, Msz4.5*
HRVD ***27*** *17:40:14.6±0.4, 30.55S×59.84E, h12km, MW5.0/53, Centroid moment Tensor Solution. LP body waves: s40,c61;Mantle waves: s53,c107; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.34±.14; $M_{\theta\theta}$4.34±.12; $M_{\phi\phi}$0.00±.14; $M_{r\theta}$-0.41±.36; $M_{\phi\phi}$0.10±.12; $M_{\phi r}$1.18±.45; Best double couple: M_0=4.51×10^{16} NP1: ϕ_s=255°, δ44°, λ-111°. NP2:ϕ_s=103°, δ49°, λ-71°. Principal axes: T 4.359, Plg3°, Azm179°; N .298, Plg14°, Azm270°; P -4.66, Plg75°, Azm79°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***27*** *17:40:14.6±3.7, 30.47S×60.01E, h26km±25km, mb5.1/32, MS5.2/1 Error ellipse: s-maj=8.2km s-min=6.9km az=82.0*
ISC 27 17:40:10.1±0.3, 30.55S±0.05×60.05E±0.07, h10km, (h25km±2.9km:pP-P), n164, σ0°84/140, mb4.8/70, MS4.5/24, 7C-6D, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**16.69**	**313**	Pn	**P**	**17 44 07.3**	**+1.5**
	0.2nm,0.3s,baz=122,slow=9.5,SNR=2.6						
OPO				Sn	**S**	**17 46 58.3**	**-12**
	1.0nm,0.3s,baz=50,slow=3.2,SNR=7.7						
BOSA	**Boshof**	**30.25**	**265**	P	**P**	**17 46 22.4**	**-1.0**
	12nm,1.1s,mb4.5,baz=124,slow=13,SNR=5.5						
BOSA				LR	LR	17 55 52.5	
	comp=Z,368nm,21.4s,MS4.0,baz=120,slow=31						
LBTB	**Lobatse**	**30.90**	**272**	P	**P**	**17 46 28.3**	**-0.8**
	5.4nm,1.0s,mb4.3,baz=79,slow=20,SNR=5.0						
SUR	**Sutherland**	**33.40**	**257**	P	**P**	**17 46 51.0**	**+0.1**
	14nm,0.9s,mb4.9,baz=78,slow=11,SNR=6.1						
SUR	**Sutherland**	**33.40**	**257**	P	**P**	**17 46 49.6**	**-1.3**
KMBO	**Kilima Mbogo**	**36.39**	**319**	LR	LR	17 59 12.0	
	comp=Z,661nm,20.0s,MS4.4,baz=272,slow=31						
MAW	**Mawson**	**37.12**	**178**	P	**P**	**17 47 23.2**	**+1.0**
	3.3nm,0.8s,mb4.2,baz=338,slow=10.0,SNR=8.7						
MAW				LR	LR	17 59 19.0	
	comp=Z,1μm,19.1s,MS4.7,baz=28,slow=31						
TSUM	**Tsumeb**	**39.94**	**276**	P	**P**	**17 47 47.2**	**+0.8**
	7.2nm,1.0s,mb4.3,baz=121,slow=6.9,SNR=3.4						
SYO	**Syowa Base**	**40.27**	**191**	⇑P	**P**	**17 47 48.0**	**-0.5**
SYO	**Syowa Base**	**40.27**	**191**	⇓sP	sP	17 47 55.1	+2.3
MBAR	**Mbarara**	**40.76**	**311**	*i* P	**P**	**17 47 52.5**	**-0.6**
MIR	**Mirnyy**	**41.14**	**161**	*e*P	**P**	**17 47 56.0**	**+0.3**
MIR				pmax	pmax		
	comp=Z,46nm,2.0s,mb4.8						
MIR				MLR	MLR		
	comp=N,990nm,20.0s,MS4.7						
MIR				MLR	MLR		
	comp=E,550nm,20.0s,MS4.7						
MIR				MLR	MLR		
	comp=Z,2μm,20.0s,MS4.9						
ATD	**Arta Tunnel**	**44.99**	**336**	P	**P**	**17 48 28.9**	**+1.3**
	comp=Z,2.3nm,0.3s,mb4.4,baz=206,slow=22,SNR=3.6						
NVL	**N'lazarevskaya**	**48.11**	**199**	⇑*i*P	**P**	**17 48 58.3**	**+6.7**
NVL				*i*		17 50 12.3	
NVL				*i* S	**S**	**17 55 45.1**	**-4.0**
NVL				*i*		17 58 45.6	
NVL				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb4.0						
NVL				MLR	MLR		
	comp=Z,80nm,17.1s,MS3.8						
HYB	**Hyderabad**	**50.91**	**23**	*i* P	**P**	**17 49 15.0**	**+1.3**
HYB	**Hyderabad**	**50.91**	**23**	*e*P	**P**	**17 49 15.0**	**+1.3**
SNAA	**Sanae**	**52.83**	**201**		pP	17 49 34.8	+4.2
SNAA	**Sanae**	**52.83**	**201**	P	**P**	**17 49 27.3**	**-0.2**
	comp=Z,2.9nm,1.0s,mb4.2,baz=88,slow=6.0,SNR=27						
SNAA	**Sanae**	**52.83**	**201**	P	**P**	**17 49 27.4**	**-0.1**
	comp=Z,0.7nm,1.0s,mb3.5						
SNAA	**Sanae**	**52.83**	**201**	*i* P	**P**	**17 49 25.7**	**-1.8**
VNA2	**Neumayer--Watz**	**54.09**	**202**	P	**P**	**17 49 38.1**	**+1.3**
VNA2	**Neumayer--Watz**	**54.09**	**202**		**P**	**17 49 42.2**	**+5.4**
VNA2	**Neumayer--Watz**	**54.09**	**202**		pP	17 49 45.6	+5.8
VNA3	**Neumayer Olymp**	**54.88**	**202**	P	**P**	**17 49 43.8**	**+1.2**
VNA3	**Neumayer Olymp**	**54.88**	**202**		**P**	**17 49 47.8**	**+5.2**
VNA3	**Neumayer Olymp**	**54.88**	**202**		pP	17 49 51.2	+5.6
DRV	**Dumont d'Urvil**	**58.41**	**153**	S	**S**	**17 58 21.0**	**+12**
DRV				SS	SS	18 02 05.0	+2.2
QSPA	**South Pole Qui**	**59.61**	**180**	*e*P	**P**	**17 50 15.8**	**-0.2**
	comp=Z,21nm,1.0s,mb5.1						
FITZ	**Fitzroy Crossi**	**60.31**	**94**	P	**P**	**17 50 20.7**	**-0.8**
	comp=Z,12nm,0.9s,mb4.9,baz=258,slow=1.8,SNR=6.0						
FITZ				LR	LR	18 12 22.0	
	comp=Z,117nm,18.2s,MS4.1,baz=282,slow=32						
KOLN	**Koldanda**	**62.20**	**24**	*e*P	**P**	**17 50 33.4**	**-0.9**
	comp=Z,90nm,1.3s,mb5.7						
DMN	**Daman**	**62.59**	**25**	*e*P	**P**	**17 50 36.0**	**-0.8**
	comp=Z,45nm,1.1s,mb5.5						
PKI	**Pulchoki**	**62.67**	**25**	*e*P	**P**	**17 50 36.7**	**-0.7**
	comp=Z,33nm,1.2s,mb5.3						
PKI	**Pulchoki**	**62.67**	**25**	*e*P	**P**	**17 50 36.7**	**-0.7**
PKI				pmax	pmax		
	comp=Z,16nm,1.2s,mb5.0						
GKN	**Gorkha**	**62.78**	**24**	*e*P	**P**	**17 50 37.0**	**-1.1**
	comp=Z,60nm,1.0s,mb5.7						
KKN	**Kakani**	**62.82**	**25**	*e*P	**P**	**17 50 37.7**	**-0.6**
	comp=Z,60nm,1.2s,mb5.6						
KKN	**Kakani**	**62.82**	**25**	*e*P	**P**	**17 50 37.7**	**-0.6**
KKN				pmax	pmax		
	comp=Z,30nm,1.2s,mb5.3						
VNDA	**Vanda**	**62.92**	**166**	P	**P**	**17 50 38.5**	**+0.1**
	comp=Z,3.3nm,1.0s,mb4.4,baz=267,slow=8.0,SNR=12						
VNDA				LR	LR	18 16 02.0	
	comp=Z,410nm,21.4s,MS4.6,baz=255,slow=34						
VNDA	**Vanda**	**62.92**	**166**	P	**P**	**17 50 38.5**	**+0.1**
VNDA				LR	LR	18 16 02.0	
SBA	**Scott Base**	**63.78**	**167**	*e*P	**P**	**17 50 45.1**	**+1.1**
	comp=Z,31nm,1.6s,mb5.1						
SBA	**Scott Base**	**63.78**	**167**	*e*P	**P**	**17 50 45.1**	**+1.1**
SBA				pmax	pmax		
	comp=Z,31nm,1.6s,mb5.1						
LSA	**Lhasa**	**66.83**	**29**	P	**P**	**17 51 05.5**	**+1.1**
WRA	**Warramunga Arr**	**66.97**	**100**	P	**P**	**17 51 04.9**	**-0.5**
	comp=Z,5.3nm,0.9s,mb4.6,baz=243,slow=5.8,SNR=43						
WRAB	**Tennant Creek**	**66.98**	**100**	*e*P	**P**	**17 51 04.8**	**-0.7**
	comp=Z,40nm,1.3s,mb5.3						
WRAB	**Tennant Creek**	**66.98**	**100**	*e*P	**P**	**17 51 04.8**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,40nm,1.3s,mb5.3						
STKA	**Stephens Creek**	**68.05**	**115**	P	**P**	**17 51 11.9**	**-0.1**
	comp=Z,2.1nm,0.6s,mb4.3,baz=219,slow=13,SNR=4.2						
STKA				LR	LR	18 13 20.3	
	comp=Z,171nm,20.9s,MS4.3,baz=205,slow=29						
KMI	**Kunming**	**68.82**	**41**	P	**P**	**17 51 17.0**	**+0.1**
KMI				AMB	AMB		
	comp=Z,10.0nm,2.0s,mb4.4						
KMI	**Kunming**	**68.82**	**41**	P	**P**	**17 51 17.1**	**+0.2**
	comp=Z,10.0nm,2.0s,mb4.4						
MALT	**Malatya**	**71.42**	**342**	P	**P**	**17 51 30.8**	**-1.7**
	comp=Z,21nm,1.8s,mb4.8						
GNI	**Garni**	**71.76**	**348**	P	**P**	**17 51 33.3**	**-1.2**
GNI	**Garni**	**71.76**	**348**	*i* P	**P**	**17 51 33.6**	**-0.9**
GNI				pmax	pmax		
	comp=Z,600nm,26.0s						
GYA	**Guiyang**	**72.11**	**43**	⇓*i*P	**P**	**17 51 36.8**	**-0.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
DBIC	**Dimbokro**	**72.24**	**289**	LR	LR	18 20 57.3	
	comp=Z,197nm,21.8s,MS4.3,baz=110,slow=34						
CD2	**Chengdu**	**73.89**	**38**	P	**P**	**17 51 46.5**	**-0.7**
CD2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.2						
CD2				LR	LR		
	comp=N,150nm,19.6s						
CD2				LR	LR		
	comp=Z,140nm,15.6s,MS4.3						
AAK	**Ala-Archa**	**74.03**	**11**	*e*P	**P**	**17 51 47.4**	**-0.3**
	comp=Z,15nm,1.1s,mb4.8						
AAK	**Ala-Archa**	**74.03**	**11**	*i* P	**P**	**17 51 47.5**	**-0.2**
AAK				pmax	pmax		
	comp=Z,11nm,1.7s,mb4.5						
BR131	**Keskin Array S**	**74.10**	**339**	P	**P**	**17 51 48.0**	**-0.3**
BRTR	**Keskin Array B**	**74.10**	**339**	P	**P**	**17 51 48.1**	**-0.1**
	comp=Z,1.4nm,0.8s,mb4.0,baz=164,slow=7.9,SNR=9.1						
KIV	**Kislovodsk**	**75.83**	**347**	*i* P	**P**	**17 51 58.0**	**-0.1**
KIV				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.4						
KIV				MLR	MLR		
	comp=Z,500nm,22.0s,MS4.8						
SOC	**Sochi**	**76.09**	**345**	*e*P	**P**	**17 51 59.0**	**-0.6**
SOC				*e*S	S	18 01 39.7	-2.0
SOC				*e*		18 02 10.8	
SOC				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
SOC				pmax	pmax		
	comp=N,11nm,0.8s						
SOC				pmax	pmax		
	comp=E,11nm,0.9s						
SOC				MLR	MLR		
	comp=Z,189nm,17.0s,MS4.5						
SOC				MLR	MLR		
	comp=N,247nm,19.0s,MS4.6						
SOC				MLR	MLR		
	comp=E,80nm,15.0s,MS4.6						
ENH	**Enshi**	**76.61**	**42**	*e*P	**P**	**17 52 02.6**	**-0.1**
	comp=E,26nm,1.0s,mb5.1						
ANN	**Anapa**	**77.77**	**344**	*e*P	**P**	**17 52 07.8**	**-1.1**
ANN				*e*S	S	18 01 59.3	-0.7
ANN				pmax	pmax		
	comp=Z,154nm,8.5s						
ANN				MLR	MLR		
	comp=N,220nm,17.0s,MS4.6						
ANN				MLR	MLR		
	comp=E,125nm,17.0s,MS4.6						
ANN				MLR	MLR		
	comp=Z,219nm,17.0s,MS4.5						
LZH	**Lanzhou**	**78.00**	**35**	*e*P	**P**	**17 52 11.3**	**+1.0**
LZH				XP	sP	17 52 21.0	+6.4
LZH				AMB	AMB		
	comp=Z,51nm,1.7s,mb5.2						
LZH				AMB	AMB		
	comp=Z,230nm,5.3s						
LZH				LR	LR		
	comp=N,800nm,17.9s						
LZH				LR	LR		
	comp=Z,1μm,18.9s,MS5.2						
LZH	**Lanzhou**	**78.00**	**35**	*e*P	**P**	**17 52 11.2**	**+0.9**
	comp=Z,51nm,1.7s,mb5.2						
LZH				sP	sP	17 52 21.0	+6.4
LZH				LR	LR		
	comp=Z,1μm,18.9s,MS5.2						
LZH	**Lanzhou

VRHR Novokhopersk 82.90 348 *eP* **P 17 52 37.2 +1.1**
VRHR pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
VRHR pmax pmax
comp=N,20nm,1.4s
VRHR pmax pmax
comp=E,10.0nm,1.1s
VRSR Storozhevoye 83.46 347 *eP* **P 17 52 39.7 +0.8**
VRSR pmax pmax
comp=Z,10.0nm,2.2s,mb4.5
VRSR pmax pmax
comp=N,2.0nm,0.6s
VRSR pmax pmax
comp=E,10.0nm,1.7s
VRSR MLR MLR
comp=Z,12µm,98.0s
VRSR MLR MLR
comp=N,1µm,23.0s,MS5.4
VRSR MLR MLR
comp=E,1µm,21.0s,MS5.4
NJ2 Nanjing 83.55 47 *eP* **P 17 52 36.5 -3.3**
NJ2 AP pP 17 52 47.0 +4.0
NJ2 XP sP 17 52 51.0 +6.9
NJ2 PP PP 17 55 49.5 -4.6
NJ2 S S 18 02 53.0 -7.3
NJ2 AMB AMB
comp=Z,30nm,0.6s,mb5.6
NJ2 LR LR
comp=N,570nm,23.0s,MS4.9
NJ2 LR LR
comp=E,310nm,26.8s,MS4.9
NJ2 LR LR
comp=Z,240nm,20.9s
BVAR Borovoye Array 83.71 6 P **P 17 52 40.9 +0.8**
comp=Z,1.6nm,0.7s,mb4.3,baz=168,slow=5.9,SNR=14
BRVK Borovoye 83.73 6 P **P 17 52 37.4 -2.8**
comp=Z,6.8nm,1.1s,mb4.7
BRVK Borovoye 83.73 6 P **P 17 52 37.4 -2.8**
BRVK pmax pmax
comp=Z,7.0nm,1.1s,mb4.7
TIA Tai'an 85.31 43 *eP* **P 17 52 49.0 +0.4**
AKASG Malin Array Be 85.37 341 P **P 17 52 48.4 -0.1**
comp=Z,0.6nm,0.5s,mb4.0,baz=169,slow=4.4,SNR=7.6
AKASG Malin Array Be 85.37 341 P **P 17 52 48.4 -0.1**
HHC Hu-ho-hao-te 85.54 37 ⇓*P* **P 17 52 50.5 +0.9**
HHC AP pP 17 52 55.8 +3.0
HHC PP PP 17 56 13.0 +3.1
HHC SKS SKS 18 03 13.5 -3.0
HHC S S 18 03 23.3 +3.6
HHC SS SS 18 09 01.5 +2.8
HHC AMB AMB
comp=Z,26nm,1.0s,mb5.4
HHC AMB AMB
comp=Z,172nm,6.0s
HHC LR LR
comp=N,88nm,13.2s,MS4.5
HHC LR LR
comp=E,111nm,15.5s,MS4.5
HHC LR LR
comp=Z,70nm,15.5s,MS4.2
PDKS Podkum 86.48 330 *eP* **P 17 52 55.8 +1.6**
PGF Pioggiola 86.56 325 *eP* **P 17 52 53.1 -1.5**
comp=Z,20nm,1.1s,mb5.0
PGF Pioggiola 86.56 325 *eP* **P 17 52 53.1 -1.5**
PGF pmax pmax
comp=Z,10.0nm,1.1s,mb5.0
ARU Arti 86.64 359 ⇓*iP* **P 17 52 55.4 +0.7**
ARU *e* 17 56 19.1
ARU *e*S S 18 03 17.9 -12
ARU *e*SS SS 18 09 20.2 +6.0
ARU pmax pmax
comp=Z,19nm,1.5s,mb5.1
ARU MLR MLR
comp=N,100nm,18.0s,MS4.4
ARU MLR MLR
comp=Z,100nm,18.0s,MS4.3
ARU MLR MLR
comp=E,100nm,19.0s,MS4.4
ZAL Zalesovo 86.83 14 P **P 17 52 55.5 -0.1**
comp=E,3.2nm,0.8s,mb4.6,baz=285,slow=5.1,SNR=18
ZAL LR LR 18 29 54.9
comp=E,179nm,20.7s,MS4.5,baz=270,slow=34
VYHS Vyhne 86.90 334 *eP* **P 17 52 56.8 +0.7**
SVE Sverdlovsk 87.03 0 *eP* **P 17 52 58.0 +1.5**
SVE *e* 17 56 20.0
SVE MLR MLR
comp=N,200nm,13.0s,MS4.8
SVE MLR MLR
comp=E,100nm,13.0s,MS4.8
SVE MLR MLR
comp=Z,200nm,13.0s,MS4.7
GORS Gorjuse 87.11 330 *eP* **P 17 52 57.8 +0.6**
NVS Novosibirsk 87.35 13 *eP* **P 17 52 57.5 -0.6**
NVS pmax pmax
comp=Z,16nm,1.5s,mb5.0
NVS pmax pmax
comp=N,11nm,1.6s
OBN Obninsk 87.67 347 ⇑*eP* **P 17 53 00.6 +0.9**
OBN *e* 17 53 08.9
OBN 18 03 38.0
OBN pmax pmax
comp=Z,12nm,1.9s,mb4.8
OBN MLR MLR
comp=Z,200nm,19.0s,MS4.5
MOS Moscow 88.06 348 *eP* **P 17 52 59.9 -1.6**
LMR La Mourre 88.38 324 *eP* **P 17 53 02.6 -0.8**
comp=Z,6.4nm,0.8s,mb4.6
LMR La Mourre 88.38 324 *eP* **P 17 53 02.6 -0.8**
LMR pmax pmax
comp=Z,3.0nm,0.8s,mb4.6
SONM Songino Array 88.42 29 P **P 17 53 04.3 +0.8**
comp=Z,1.4nm,0.8s,mb4.3,baz=229,slow=4.6,SNR=12
SONM LR LR 18 30 36.6
comp=Z,349nm,19.2s,MS4.8,baz=218,slow=34
FRF La Foret Royal 88.48 324 *eP* **P 17 53 03.5 -0.3**
comp=Z,23nm,1.2s,mb5.0
FRF La Foret Royal 88.48 324 *eP* **P 17 53 03.5 -0.3**
FRF pmax pmax
comp=Z,12nm,1.2s,mb5.0
ULN Ulaanbaatar 88.72 30 *eP* **P 17 53 05.2 +0.3**
comp=Z,42nm,2.1s,mb5.4
ULN Ulaanbaatar 88.72 30 *eP* **P 17 53 05.2 +0.3**
ULN pmax pmax
comp=Z,42nm,2.1s,mb5.4
ZAK Zakamensk 89.20 26 *eP* **P 17 53 07.2 +0.1**
ZAK pmax pmax
comp=Z,2.0nm,1.0s,mb4.4
GERES GERESS Array B 89.22 331 P **P 17 53 08.0 +0.8**
comp=Z,0.4nm,0.6s,mb3.9,baz=149,slow=7.8,SNR=4.7
MBDF Montbardon 89.26 325 *eP* **P 17 53 07.2 -0.3**
comp=Z,22nm,1.0s,mb5.2
MBDF Montbardon 89.26 325 *eP* **P 17 53 07.2 -0.3**
MBDF pmax pmax
comp=Z,11nm,1.0s,mb5.1
KHC Kasperske Hory 89.49 332 *eP* **P 17 53 08.5 0.0**
KHC pP pP 17 53 15.5 +3.8
KHC Kasperske Hory 89.49 332 *eP* **P 17 53 08.5 0.0**
KHC *e* 17 53 15.5
PRU Pruhonice 89.77 333 *eP* **P 17 53 09.0 -0.8**
LPG La Plagne 89.82 326 *eP* **P 17 53 10.0 -0.1**
ORIF Oris-en-Rattie 89.84 325 *eP* **P 17 53 09.7 -0.5**
ORIF *e*R
comp=Z,131nm,20.5s
LPL La Plagne 89.85 326 *eP* **P 17 53 10.2 0.0**
comp=Z,4.5nm,0.9s,mb4.5
LPL La Plagne 89.85 326 *eP* **P 17 53 10.2 0.0**
LPL pmax pmax
comp=Z,2.0nm,0.9s,mb4.5
LASF Ste Croix 90.27 323 *eP* **P 17 53 11.8 -0.4**
comp=Z,26nm,1.4s,mb5.1
VIVF Saint-Julien-I 90.40 324 *eP* **P 17 53 12.7 -0.1**
comp=Z,7.2nm,0.8s,mb4.7
VIVF Saint-Julien-I 90.40 324 *eP* **P 17 53 12.7 -0.1**
VIVF pmax pmax
comp=Z,4.0nm,0.8s,mb4.8
MTLF Montolieu 90.62 322 *eP* **P 17 53 13.5 -0.4**
comp=Z,8.4nm,1.0s,mb4.7
MTLF Montolieu 90.62 322 *eP* **P 17 53 13.5 -0.4**
MTLF pmax pmax
comp=Z,4.0nm,1.0s,mb4.7
BRG Berggiesshubel 90.71 333 *eP* **P 17 53 15.2 +1.1**
comp=Z,13nm,1.6s,mb5.0
BRG Berggiesshubel 90.71 333 *eP* **P 17 53 15.2 +1.1**
BRG pmax pmax
comp=Z,13nm,1.6s,mb5.0
GRA1 Grafenberg Arr 90.91 331 *eP* **P 17 53 16.0 +1.0**
comp=Z,24nm,1.9s,mb5.2
GRF Grafenberg Arr 90.91 331 *eP* **P 17 53 16.0 +1.0**
GRF pmax pmax
comp=Z,24nm,1.9s,mb5.2
CABF La Chapelle 90.95 326 *eP* **P 17 53 15.0 -0.3**
comp=Z,14nm,1.1s,mb4.9
CABF La Chapelle 90.95 326 *eP* **P 17 53 15.0 -0.3**
CABF pmax pmax
comp=Z,7.0nm,1.1s,mb4.9
IRK Irkutsk 91.07 25 *eP* **P 17 53 15.8 +0.1**
CLL Collm 91.42 333 P **P 17 53 18.0 +0.7**
comp=Z,logA/T=1.0,mb5.1
CLL Collm 91.42 333 *eP* **P 17 53 18.0 +0.7**
comp=Z,20nm,1.8s,mb5.2
CLL *e* 17 54 01.0
CLL Collm 91.42 333 *eP* **P 17 53 18.0 +0.7**
CLL pmax pmax
comp=Z,20nm,1.8s,mb5.2
EPF Esparros 91.42 321 *eP* **P 17 53 17.1 -0.5**
comp=Z,8.0nm,1.0s,mb4.7
EPF Esparros 91.42 321 *eP* **P 17 53 17.1 -0.5**
EPF pmax pmax
comp=Z,4.0nm,1.0s,mb4.7
HINF Hinteralfeld 91.45 327 *eP* **P 17 53 17.2 -0.4**
comp=Z,4.1nm,0.6s,mb4.6
HINF Hinteralfeld 91.45 327 *eP* **P 17 53 17.2 -0.4**
HINF pmax pmax
comp=Z,2.0nm,0.6s,mb4.6
CDF Champ du Feu 91.69 328 *eP* **P 17 53 18.3 -0.4**
ESDC Sonseca Array 91.71 316 P **P 17 53 20.7 +1.7**
comp=Z,0.9nm,0.6s,mb4.3,baz=108,slow=3.9,SNR=5.3
ETSF Etsaut 91.83 320 *eP* **P 17 53 19.0 -0.5**
comp=Z,7.4nm,0.9s,mb4.7
ETSF Etsaut 91.83 320 *eP* **P 17 53 19.0 -0.5**
ETSF pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
SJPF Ste Jean 92.34 320 *eP* **P 17 53 20.9 -0.9**
comp=Z,22nm,1.1s,mb5.1
SJPF Ste Jean 92.34 320 *eP* **P 17 53 20.9 -0.9**
SJPF pmax pmax
comp=Z,11nm,1.1s,mb5.1
BAIF Baives 94.27 328 *eP* **P 17 53 30.0 -0.5**
ILAR Eielson Array 141.87 18 PKP PKPdf 17 59 45.0 +0.6
comp=Z,1.0nm,0.8s,baz=285,slow=3.8,SNR=6.9
DIV Divide 144.99 22 *e*PKPdf PKPdf 17 59 48.9 -1.0
SADO Sadowa 145.09 306 PKPbc PKPbc 17 59 48.5 +0.7
comp=Z,15nm,0.8s,baz=96,slow=3.2,SNR=5.9
ALLY Alegheny Colle 146.26 300 PKP PKPdf 17 59 52.9 +0.2
BLA Blacksburg 146.70 292 *e*PKPdf PKPdf 17 59 52.7 -0.8
JSC Jenkinsville 147.26 287 PKP PKPdf 17 59 54.4 -0.2
YKA Yellowknife Ar 147.86 355 PKPbc PKPdf 17 59 55.9 +1.3
comp=Z,7.2nm,0.7s,baz=356,slow=3.3,SNR=18
YKA Yellowknife Ar 147.86 355 PKPbc PKPdf 17 59 55.9 +1.3
DLBC Dease Lake 151.27 11 PKPbc PKPdf 18 00 05.8 +5.7
comp=Z,2.8nm,0.9s,baz=303,slow=7.5,SNR=6.2
DLBC PKPab PKPab 18 00 13.2 -0.2
comp=Z,6.0nm,0.9s,baz=346,slow=9.3,SNR=8.5
DLBC Dease Lake 151.27 11 *e*PKPbc PKPdf 18 00 05.2 +5.1
WVT Waverly 152.67 290 PKPbc PKPdf 18 00 07.5 +4.6
WVT *e*PKPab PKPab 18 00 18.4 -1.6
ULM Lac du Bonnet 153.31 324 PKPbc PKPdf 18 00 09.0 +5.7
comp=Z,5.9nm,0.7s,baz=1,8,slow=2.9,SNR=8.7
NEW Newport 162.18 354 PKPab PKPab 18 00 59.6 -0.7
comp=Z,1.9nm,0.7s,baz=11,slow=5.2,SNR=4.5
PDAR Pinedale Array 165.25 329 PKP PKPdf 18 00 16.6 -0.7
comp=Z,1.3nm,0.9s,baz=72,slow=4.7,SNR=4.7
TXAR Lajitas Array 165.83 269 PKP PKPdf 18 00 17.7 -0.6
comp=Z,0.2nm,0.7s,baz=146,slow=4.5,SNR=3.7
TXAR PKPab PKPab 18 01 17.5 +0.7
comp=Z,1.9nm,0.8s,baz=119,slow=6.7,SNR=17
TXAR Lajitas Array 165.83 269 PKP PKPdf 18 00 17.7 -0.6
TXAR PKPab PKPab 18 01 17.5 +0.7
ELK Elko 169.13 341 PKP PKPdf 18 00 20.5 +0.5
comp=Z,0.4nm,0.3s,baz=112,slow=3.6,SNR=6.8
ELK PKPab PKPab 18 01 32.1 +1.2
comp=Z,0.4nm,0.4s,baz=352,slow=21,SNR=3.3
ELK Elko 169.13 341 *e*PKPdf PKPdf 18 00 20.3 +0.3
MSU Marysvale 169.80 323 PKPdf PKPdf 18 00 22.2 +1.7
NEN Nelson 173.35 321 PKPdf PKPdf 18 00 23.6 +1.0

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*NEIC **27** 18:03:56.0±0.6, 43.82N×105.24W, ML3.4, Error ellipse: s-maj=9.4km s-min=7.2km az=99.0, Suspected Mining explosion.*
NEIC 0.0 [ ], 55 km [35 miles] SSE of Gillette.
*IDC **27** 18:04:00.1±3.3, 44.00N×105.72W, h23km±20km, mb3.9/2, mb1 3.9/5, mb1mx3.5/22, mbtmp3.8/5, ML3.5/3, MS2.6/1, Ms1 2.6/1, ms1mx2.2/31, Error ellipse: s-maj=59.5km s-min=9.0km az=145.0*

ISC 27 18:03:54.4±0.5, 43.81N±0.04×105.21W±0.06, n42, σ0°93/40, mb4.4/2, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHWY	**Pilot Hill**	**2.52**	**184**	*eP*	**Pn**	**18 04 38.0**	**+0.8**
RWWY	**Rawlins**	**2.59**	**215**	*eP*	**Pn**	**18 04 39.4**	**+1.1**
LAO	**LASA Array**	**2.96**	**346**	P	**Pn**	**18 04 43.6**	**0.0**
BW06	**Boulder Array**	**3.34**	**253**	*eP*	**Pn**	**18 04 49.6**	**+0.6**
PDAR	**Pinedale Array**	**3.34**	**253**	Pn	**Pn**	**18 04 49.8**	**+0.7**
	3.2nm,0.3s,baz=70,slow=16,SNR=54						
PDAR				Lg		18 05 35.5	
	21nm,0.3s,baz=70,slow=32,SNR=11						
LKWY	**Lake**	**3.81**	**283**	P	**Pn**	**18 04 56.1**	**+0.5**
LOHW	**Long Hollow**	**3.92**	**269**	*eP*	**Pn**	**18 04 57.9**	**+0.8**
FLWY	**Flagg Ranch**	**3.98**	**276**	P	**Pn**	**18 04 58.1**	**+0.1**
ISCO	**Idaho Springs**	**4.02**	**184**	*eP*	**Pn**	**18 04 58.4**	**-0.2**
SNOW	**Snow King Moun**	**4.04**	**267**	P	**Pn**	**18 04 59.9**	**+1.0**
YFT	**Old Faithful**	**4.10**	**281**	P	**Pn**	**18 05 02.7**	**+2.9**
REDW	**Red Top Meadow**	**4.13**	**266**	P	**Pn**	**18 05 01.9**	**+1.7**
IMW	**Indian Meadow**	**4.15**	**273**	P	**Pn**	**18 05 00.2**	**-0.2**
TPAW	**Teton Pass**	**4.18**	**268**	P	**Pn**	**18 05 00.9**	**-0.1**
YMR	**Madison River**	**4.22**	**284**	P	**Pn**	**18 05 06.1**	**+4.6**
RRI2	**Red Ridge**	**4.47**	**266**	*eP*	**Pn**	**18 05 05.0**	**+0.1**
QLMT	**Earthquake Lak**	**4.58**	**285**	P	**Pn**	**18 05 07.7**	**+1.2**
DGMT	**Dagmar**	**4.71**	**8**	*eP*	**Pn**	**18 05 08.8**	**+0.4**
BOZ	**Bozeman (W)**	**4.93**	**294**	*eP*	**Pn**	**18 05 10.3**	**-1.2**
HWUT	**Hardware Ranch**	**5.18**	**247**	*eP*	**Pn**	**18 05 14.5**	**-0.5**
TCUT	**Toone Canyon**	**5.32**	**242**	*eP*	**Pn**	**18 05 15.5**	**-1.6**
HRY	**Holter Researc**	**5.50**	**304**	P	**Pn**	**18 05 19.0**	**-0.6**
DLMT	**Dillon**	**5.50**	**289**	P	**Pn**	**18 05 18.7**	**-0.9**
MCMT	**McKenzie Canyo**	**5.58**	**283**	P	**Pn**	**18 05 21.5**	**+0.8**
DAU	**Daniels Canyon**	**5.64**	**235**	*eP*	**Pn**	**18 05 21.2**	**-0.3**
SPUT	**South Promonto**	**5.91**	**247**	*eP*	**Pn**	**18 05 24.4**	**-0.9**
HVU	**Hansel Valley**	**5.93**	**253**	*eP*	**Pn**	**18 05 24.6**	**-1.0**
MPU	**Maple Canyon**	**6.11**	**234**	P	**Pn**	**18 05 29.0**	**+0.8**
PV10	**Paradox Valley**	**6.16**	**209**	P	**Pn**	**18 05 27.8**	**-1.0**
SRU	**San Rafael**	**6.17**	**222**	*eP*	**Pn**	**18 05 27.4**	**-1.5**
PV01	**Paradox Valley**	**6.22**	**205**	*eP*	**Pn**	**18 05 28.6**	**-1.1**
CHMT	**Chamberlain Mo**	**6.46**	**301**	P	**Pn**	**18 05 31.9**	**-1.2**
CBKS	**Cedar Bluff**	**6.47**	**139**	P	**Pn**	**18 05 35.0**	**+1.7**
MSU	**Marysvale**	**7.46**	**227**	*eP*	**Pn**	**18 05 47.3**	**+0.1**
KSU1	**Kansas State U**	**7.99**	**123**	*eP*	**Pn**	**18 05 54.4**	**-0.2**
ELK	**Elko**	**8.05**	**251**	Pn	**P**	**18 05 55.0**	**-0.4**
	0.2nm,0.3s,baz=34,slow=11,SNR=3.2						
ELK				Lg		18 08 04.4	
	0.2nm,0.3s,baz=169,slow=18,SNR=2.8						
ULM	**Lac du Bonnet**	**9.05**	**41**	Pn	**P**	**18 06 08.7**	**-0.7**
	2.3nm,0.3s,baz=234,slow=10,SNR=17						
ULM				Lg		18 08 42.0	
	0.5nm,0.3s,baz=126,slow=19,SNR=2.5						
TXAR	**Lajitas Array**	**14.50**	**175**	Pg	Px	18 08 26.1	
	0.1nm,0.3s,baz=10,slow=14,SNR=4.0						
TXAR				Lg		18 11 41.6	
	0.0nm,0.3s,baz=9.0,slow=24,SNR=6.4						
BBB	**Bella Bella**	**17.41**	**307**	LR	LR	18 14 27.0	
	comp=Z,24nm,21.0s,baz=183,slow=37						
ARCES	**ARCESS Array B**	**61.33**	**18**	P	**P**	**18 14 12.6**	**-1.0**
	2.1nm,0.8s,mb4.3,baz=326,slow=7.1,SNR=8.6						
ARCES	**ARCESS Array B**	**61.33**	**18**	P	**P**	**18 14 12.6**	**-1.0**
FINES	**FINESS Array B**	**67.94**	**23**	P	**P**	**18 14 57.2**	**+0.7**
	2.8nm,1.1s,mb4.4,baz=323,slow=6.9,SNR=4.4						

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*GUC **27** 18:20:42.3±0.7, 32.38S×71.82W, h27km±2km, MD4.3, ML4.1*
*NEIC **27** 18:20:42.3, 32.38S×71.82W, h27km, mb4.0/4, ML4.1(GUC), After GUC.*
NEIC Felt [II] at Valparaiso.
*IDC **27** 18:20:43.3±6.9, 32.35S×71.72W, h31km±48km, mb4.0/6, mb1 4.0/10, mb1mx3.9/18, mbtmp4.1/10, ML4.2/3, MS3.6/2, Ms1 3.6/2, ms1mx3.1/29, Error ellipse: s-maj=36.4km s-min=19.2km az=98.0*

ISC 27 18:20:41.3±0.7, 32.35S±0.02×71.95W±0.05, h31km±5km, n47, σ1°01/65, mb4.0/7, MS3.6/1, 16C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.60**	**39**	⇓*iP*	**Pb**	**18 20 53.5**	**+0.2**
CHNG				*i* S	**Sb**	**18 21 01.8**	**+0.2**
CHNG				AMP		18 21 04.7	
	comp=E,7µm,0.3s						
IHA	**Instituto Hidr**	**0.72**	**159**	⇑*iP*	**Pb**	**18 20 54.6**	**-0.7**
IHA				*i* S	**Sb**	**18 21 03.9**	**-0.9**
ILCH	**Illapel**	**0.97**	**43**	⇑*iP*	**Pn**	**18 20 59.2**	**+0.3**
ILCH				*i* S	**Sb**	**18 21 11.5**	**-0.5**
ILCH				AMP		18 21 14.0	
	comp=E,5µm,0.3s						
ROCH	**El Roble**	**1.00**	**128**	⇑*iP*	**Pn**	**18 20 58.8**	**-0.5**
ROCH				*i* S	**Sn**	**18 21 10.7**	**-1.8**
LCCH	**Las Cruces**	**1.16**	**164**	⇓*iP*	**Pn**	**18 21 01.9**	**+0.2**
LCCH				*i* S	**Sn**	**18 21 16.2**	**-0.3**
JACH	**Jahuel**	**1.19**	**106**	⇑*iP*	**Pn**	**18 21 01.4**	**-0.6**
JACH				*i* S	**Sn**	**18 21 15.8**	**-1.4**
PEL	**Peldehue**	**1.32**	**127**	⇑*iP*	**Pn**	**18 21 04.1**	**+0.1**
PEL				*i* S	**Sn**	**18 21 20.4**	**-0.2**
CMCH	**Combarbala**	**1.42**	**35**	⇑*iP*	**Pn**	**18 21 06.1**	**+0.8**
CMCH				*i* S	**Sn**	**18 21 25.1**	**+1.9**
CMCH				AMP		18 21 28.5	
	comp=E,28µm,0.6s						
RCDM	**Rinconada Maip**	**1.48**	**140**	*eP*	**Pn**	**18 21 06.5**	**+0.2**
RCDM				*i* S	**Sn**	**18 21 24.3**	**-0.4**
RCDM				AMP		18 21 31.7	
	comp=E,6µm,0.5s						
SAN	**Santiago**	**1.54**	**136**	*eP*	**Pn**	**18 21 07.0**	**0.0**
SAN				*i* S	**Sn**	**18 21 26.2**	**+0.1**
SAN				AMP		18 21 30.8	
	comp=E,7µm,0.4s						
STL	**Santa Lucia**	**1.54**	**135**	⇑*iP*	**Pn**	**18 21 05.5**	**-1.5**
STL				*i* S	**Sn**	**18 21 24.2**	**-1.9**
STL				AMP		18 21 28.5	
	comp=N,2µm,0.4s						
TACH	**Talagante**	**1.55**	**147**	⇑*iP*	**Pn**	**18 21 07.7**	**+0.5**
TACH				*i* S	**Sn**	**18 21 26.8**	**+0.4**
DSCH	**Colegio Aleman**	**1.56**	**132**	⇑*iP*	**Pn**	**18 21 07.5**	**+0.3**
DSCH				*i* S	**Sn**	**18 21 26.7**	**+0.1**
DSCH				AMP		18 21 31.3	
	comp=E,9µm,0.7s						
CLCH	**Cerro Calan**	**1.58**	**132**	⇓*iP*	**Pn**	**18 21 07.8**	**+0.2**
CLCH				*i* S	**Sn**	**18 21 27.4**	**+0.3**
CLCH				AMP		18 21 34.5	
	comp=N,8µm,0.5s						
CLCH				AMP		18 21 36.8	
	comp=N,7µm,0.5s						
FSR	**Penalolen**	**1.64**	**134**	*i* P	**Pn**	**18 21 08.8**	**+0.4**
FSR				*i* S	**Sn**	**18 21 28.9**	**+0.3**
FSR				AMP		18 21 36.2	
	comp=N,4µm,0.4s						
ANTU	**Antumapu**	**1.64**	**138**	⇑*iP*	**Pn**	**18 21 08.9**	**+0.5**
ANTU				*i* S	**Sn**	**18 21 29.1**	**+0.5**
ANTU				AMP		18 21 33.9	
	comp=N,7µm,0.7s						
LNV	**Longovilo**	**1.66**	**164**	*eP*	**Pn**	**18 21 08.5**	**-0.2**
LNV				*i* S	**Sn**	**18 21 29.2**	**0.0**
FCH	**Farellones**	**1.70**	**125**	⇓*iP*	**Pn**	**18 21 09.6**	**+0.3**
FCH				*i* S	**Sn**	**18 21 30.6**	**+0.5**
FCH				AMP		18 21 32.8	
	comp=E,5µm,0.2s						
PCH	**Pirque**	**1.75**	**137**	⇑*iP*	**Pn**	**18 21 10.7**	**+0.7**
PCH				*i* S	**Sn**	**18 21 32.2**	**+0.8**
CHCH	**Chadas Angostu**	**1.91**	**146**	⇑*iP*	**Pn**	**18 21 13.4**	**+1.1**
LMEL	**Las Melosas**	**2.09**	**136**	⇑*iP*	**Pn**	**18 21 15.9**	**+1.0**
LMEL				*i* S	**Sn**	**18 21 41.2**	**+1.1**
CACH	**El Canelo**	**2.09**	**148**	⇓*iP*	**Pn**	**18 21 16.7**	**+1.8**
CICH	**Cipreses**	**2.34**	**147**	⇑*iP*	**Pn**	**18 21 19.8**	**+1.3**
CICH				*i* S	**Sn**	**18 21 48.2**	**+1.8**
SFDO	**San Fernando**	**2.39**	**161**	⇑*iP*	**Pn**	**18 21 20.0**	**+0.9**
NICH	**Los Niches**	**2.71**	**167**	*i* P	**Pn**	**18 21 24.7**	**+0.9**
CFAA	**Coronel Fontan**	**3.24**	**78**	Pn	**Pn**	**18 21 33.2**	**+2.0**
	comp=E,7.6nm,0.3s,baz=250,slow=12,SNR=294						
CFAA				Lg		18 22 18.6	
	comp=E,8.4nm,0.3s,baz=340,slow=22,SNR=8.1						
PLCA	**Paso Flores**	**8.44**	**173**	Pn	**P**	**18 22 42.8**	**-1.7**
	comp=E,0.7nm,0.3s,baz=345,slow=12,SNR=9.9						
PLCA	**Paso Flores**	**8.44**	**173**	*e*Pn	**P**	**18 22 42.3**	**-2.2**
	comp=E,1.4nm,0.3s						
TRQA	**Tornquist**	**9.94**	**128**	*eP*	**P**	**18 23 03.2**	**-2.0**
	comp=E,8.4nm,0.8s						
LVC	**Limon Verde**	**10.07**	**16**	Pn	**P**	**18 23 02.4**	**-4.6**
	comp=E,0.4nm,0.3s,baz=175,slow=11,SNR=6.2						
LVC				LR	LR	18 27 02.7	
	comp=E,288nm,18.4s,baz=34,slow=38						
CPUP	**Villa Florida**	**14.08**	**69**	Pn	**P**	**18 23 58.8**	**-2.1**
	comp=E,0.2nm,0.3s,baz=238,slow=9.1,SNR=2.7						
LPAZ	**La Paz**	**16.36**	**13**	Pn	**P**	**18 24 31.5**	**+1.0**
	comp=E,0.6nm,0.3s,baz=178,slow=7.1,SNR=25						
LPAZ	**La Paz**	**16.36**	**13**	*eP*	**P**	**18 24 31.5**	**+1.0**
	comp=E,9.2nm,0.9s						
SIV	**San Ignacio**	**19.05**	**34**	P	**P**	**18 25 01.2**	**-2.5**
	comp=E,0.2nm,0.3s,baz=232,slow=13,SNR=16						
SAML	**Samuel**	**24.66**	**21**	*eP*	**P**	**18 26 00.7**	**-0.1**
	comp=E,3.0nm,0.7s,mb3.9						
BDFB	**Brasilia**	**27.37**	**58**	P	**P**	**18 26 24.1**	**-1.8**
	comp=E,6.3nm,0.6s,mb4.3,baz=240,slow=5.9,SNR=9.9						
BDFB				LR	LR	18 38 01.2	
	comp=E,153nm,20.5s,MS3.6,baz=87,slow=38						
SNAA	**Sanae**	**53.08**	**158**	P	**P**	**18 29 57.3**	**-0.2**
	comp=E,0.4nm,0.5s,mb3.6,baz=272,slow=6.5,SNR=26						
SNAA	**Sanae**	**53.08**	**158**	*eP*	**P**	**18 29 56.9**	**-0.6**
	comp=E,0.7nm,0.4s,mb3.9						
SYO	**Syowa Base**	**67.37**	**159**	⇑P	**P**	**18 31 33.0**	**-2.1**
TXAR	**Lajitas Array**	**68.34**	**330**	P	**P**	**18 31 42.6**	**+0.7**
	comp=E,0.3nm,0.8s,mb3.4,baz=166,slow=3.7,SNR=2.7						
DBIC	**Dimbokro**	**74.58**	**72**	P	**P**	**18 32 18.8**	**-0.7**
	comp=E,2.5nm,0.5s,mb4.4,baz=223,slow=9.9,SNR=5.8						
DBIC	**Dimbokro**	**74.58**	**72**	*eP*	**P**	**18 32 18.1**	**-1.4**
	comp=E,1.7nm,0.5s,mb4.2						
MAW	**Mawson**	**74.73**	**164**	P	**P**	**18 32 19.2**	**-0.2**
	comp=E,1.7nm,0.8s,mb4.0,baz=216,slow=8.2,SNR=5.9						
BOSA	**Boshof**	**80.77**	**118**	P	**P**	**18 32 53.1**	**-0.3**
	comp=E,5.2nm,1.0s,mb4.4,baz=207,slow=11,SNR=3.0						
WRA	**Warramunga Arr**	**122.23**	**210**	PKP	PKPdf	18 39 34.7	-4.1
	comp=E,0.7nm,0.5s,baz=161,slow=1.4,SNR=20						
ZAL	**Zalesovo**	**152.78**	**31**	PKPbc	PKPdf	18 40 36.5	+4.1
	comp=E,2.4nm,0.6s,baz=166,slow=3.2,SNR=8.5						
MKAR	**Makanchi Array**	**155.60**	**46**	PKPab	PKPab	18 40 59.3	-0.4
	comp=E,1.2nm,0.8s,baz=276,slow=2.9,SNR=8.3						

CASC 27 18:30:45.5±2.3, 12.05N×87.15W, h61km±44km, MD3.9, ML4.1, 6C-9D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEON	**Leon**	**0.44**	**35**	⇓*iP*	P	18 30 57.3	+0.2
COPN	**Copaltepe**	**0.56**	**77**	⇑*iP*	P	18 30 58.4	+0.1
MIRN	**Miramar**	**0.58**	**48**	⇑*iP*	P	18 30 58.7	+0.2
TEL3	**Telica 3**	**0.60**	**30**	⇓*eP*	P	18 30 59.2	+0.5
CNGN	**Cerro Negro**	**0.63**	**45**	⇓*eP*	P	18 30 59.3	+0.2
TELN	**Telica**	**0.63**	**30**	⇓*eP*	P	18 30 59.5	+0.4
CRIN	**San Cristobal**	**0.65**	**9**	⇓*eP*	P	18 31 00.2	+0.8
MOMJ	**Momotombo**	**0.69**	**59**	⇓*eP*	P	18 30 59.8	0.0
APYN	**Apoyeque**	**0.80**	**77**	⇑*iP*	P	18 31 01.4	+0.2
XAVN	**Gruta Xavier**	**0.81**	**83**	⇓*eP*	P	18 31 01.5	+0.2
CRUN	**El Crucero**	**0.83**	**95**	*eP*	P	18 31 01.9	+0.3
MGAN	**Managua**	**0.89**	**84**	⇓*eP*	P	18 31 02.4	+0.1
MGAN				*e*S	S	18 31 13.8	-1.1
MGAN				*e*S	S	18

ms1mx5.4/26, Error ellipse: s-maj=19.8km s-min=9.6km az=54.0

MOS **27** *18:38:18.9±1.2, 6.78N×82.42W, h10km, mb5.9/48, MS5.6/40, Error ellipse: s-maj=10.2km s-min=5.0km az=108.1*

CRAAG **27** *18:38:19.2, 6.87N×82.52W, Mb5.6*

CASC **27** *18:38:19.8±2.5, 6.85N×82.31W, h13km±12km, MD4.5, ML5.0, MW5.8, mb5.6(NEIC)*

BGS **27** *18:38:20.2, 6.82N×82.43W, h10km, mb5.4*

HRVD **27** *18:38:20.9±0.1, 6.77N×82.36W, h20km, MW6.1/76, Centroid moment Tensor Solution. LP body waves: s73,c178; Mantle waves: s76,c305; Half duration: 2s6 Moment tensor: Scale 10^18 Nm; Mrr=0.11±.01; Mθθ=0.31±.01; Mφφ=-0.20±.01; Mrθ=0.23±.02; Mrφ=1.48±.01; Mθφ=0.06±.02; Best double couple: M0=1.519×10^18 NP1:φs5°, δ82°, λ178°. NP2:φs95°, δ88°, λ8°. Principal axes: T 1.581, Plg7°, Azm320°; N -.126, Plg82°, Azm110°; P -1.456, Plg4°, Azm230°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC **27** *18:38:20.9±0.2, 6.82N×82.43W, h10km, mb5.6/185, ME6.3, MS5.6/127, MW6.1 Error ellipse: s-maj=5.9km s-min=3.3km az=206.0 Broadband fault plane solution: P waves. NP1:φs5°, δ85°, λ170°. NP2:φs96°, δ80°, λ5°. Principal axes: T Plg11°, Azm320°; N Plg0°, Azm0°; P Plg3°, Azm51°; Moment Tensor Solution. s37 Moment tensor: Scale 10^18 Nm; Mrr=0.04; Mθθ=0.47; Mφφ=-0.52; Mrθ=0.15; Mθφ=1.78; Mφr=0.55; Best double couple: M0=1.9×10^18 NP1:φs98°, δ73°, λ3°. NP2:φs7°, δ88°, λ163°. Principal axes: T 1.93, Plg14°, Azm321°; N 0, Plg73°, Azm179°; P -1.93, Plg10°, Azm54°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC *Felt at Bocas del Toro, David and San Miguel. Also felt at Turrialba, Costa Rica.*

BJI **27** *18:38:20.9, 6.80N×82.40W, h10km, mB5.8, Ms6.2, Msz5.8*

ISC 27 18:38:19.8±0.2, 6.88N±0.03×82.43W±0.02, h10km, (h14km±1.2km: pP-P), n771, σ1s26/661, mb5.5/222, MS5.6/161, 68C-40D, South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**1.91**	**338**	↑	e	P	**Pn**	**18 38 51.5**	**-1.3**
ACR					e	P		18 38 51.5	
ACR	**Cerro Adams**	**1.91**	**338**		e	P	**Pn**	**18 38 51.5**	**-1.2**
BRU2	**Volcan**	**1.92**	**352**	↑	i	P	**Pn**	**18 38 53.8**	**+0.8**
BRU2					e	S	**Sn**	**18 39 19.1**	**+1.8**
BRU2	**Volcan**	**1.92**	**352**	↑	i	P	**Pn**	**18 38 53.6**	**+0.7**
BRU2					e	S	**Sn**	**18 39 22.4**	**+5.0**
CTCR	**Cotoan**	**2.03**	**351**	↑	i	P	**Pn**	**18 38 53.6**	**-0.9**
AZU2	**Pedas**	**2.48**	**75**		e	P	**Pn**	**18 38 57.2**	**-3.7**
AZU2				↑	i	P		18 38 57.9	
AZU2					e	S	**Sn**	**18 39 26.8**	**-4.7**
AZU2	**Pedas**	**2.48**	**75**		e	P	**Pn**	**18 38 55.9**	**-5.0**
BUS	**Buena Vista**	**2.96**	**334**		e	P	**Pn**	**18 39 07.6**	**-0.2**
BUS				↑	e	P		18 39 07.7	
BUS	**Buena Vista**	**2.96**	**334**	↑	i	P	**Pn**	**18 39 07.8**	**-0.1**
OCM	**Ochomogo**	**3.36**	**333**	↑	e	P	**Pn**	**18 39 12.6**	**-0.8**
OCM					e	S	**Sn**	**18 39 55.7**	**+2.0**
VTU	**Volcan Turrial**	**3.39**	**337**	↓	e	P	**Pn**	**18 39 14.1**	**+0.2**
IRZ2	**Volcan Irazu 2**	**3.40**	**335**	↑	e	P	**Pn**	**18 39 12.9**	**-1.1**
PICA	**Picada**	**3.40**	**337**	↑	e	P	**Pn**	**18 39 14.4**	**+0.3**
SJS	**Escuela Geolog**	**3.44**	**332**	↓	e	P	**Pn**	**18 39 14.7**	**+0.1**
SJS					e	S	**Sn**	**18 39 58.6**	**+2.8**
SJS	**Escuela Geolog**	**3.44**	**332**	↓	i	P	**Pn**	**18 39 14.5**	**-0.1**
SJS					e	S	**Sn**	**18 39 58.1**	**+2.3**
UPA	**Univ. de Panam**	**3.55**	**54**		e	P	**Pn**	**18 39 14.0**	**-2.2**
UPA					e	S	**Sn**	**18 39 53.7**	**-5.0**
PRS1	**Puriscal**	**3.60**	**329**		e	P	**Pn**	**18 39 14.3**	**-2.6**
PRS1	**Puriscal**	**3.60**	**329**		e	P	**Pn**	**18 39 14.2**	**-2.7**
ACLA	**Agua Clara, Si**	**3.66**	**47**	↑	i	P	**Pn**	**18 39 15.9**	**-1.8**
CGA2	**Cerro Gallo 2**	**3.71**	**327**		e	P	**Pn**	**18 39 17.5**	**-0.9**
CGA2				↑	e	P		18 39 17.6	
CGA2	**Cerro Gallo 2**	**3.71**	**327**	↑	e	P	**Pn**	**18 39 17.5**	**-0.9**
POA2	**Poas 2**	**3.74**	**331**	↑	e	P	**Pn**	**18 39 18.7**	**-0.1**
VPS2	**Volcan Poas 2**	**3.74**	**332**		e	P	**Pn**	**18 39 18.9**	**0.0**
VPS2	**Volcan Poas 2**	**3.74**	**332**		e	P	**Pn**	**18 39 19.1**	**+0.2**
EPA	**Esparza**	**3.76**	**325**	↓	i	P	**Pn**	**18 39 18.6**	**-0.5**
CAO	**Cobano**	**3.85**	**317**	↑	i	P	**Pn**	**18 39 17.3**	**-3.2**
JCR	**Jicaral**	**3.97**	**318**		e	P	**Pn**	**18 39 19.4**	**-2.7**
VACR	**Volcan Arenal**	**4.20**	**328**	↓	e	P	**Pn**	**18 39 25.5**	**0.0**
MADN	**Villa Maderas**	**5.44**	**326**	↓	e	P	**Pn**	**18 39 42.1**	**-0.9**
SSNN	**San Juan del S**	**5.53**	**323**	↓	e	P	**Pn**	**18 39 44.0**	**-0.2**
CONN	**Concepcion**	**5.62**	**326**	↓	e	P	**Pn**	**18 39 44.1**	**-1.4**
APON	**Apoyo**	**6.16**	**325**	↓	e	P	**Pn**	**18 39 53.2**	**+0.1**
MASN	**Masaya**	**6.26**	**324**	↓	e	P	**Pn**	**18 39 54.5**	**-0.1**
CRUN	**El Crucero**	**6.35**	**323**	↑	e	P	**Pn**	**18 39 56.4**	**+0.7**
TICN	**Ticuantepe**	**6.35**	**324**	↓	e	P	**Pn**	**18 39 56.0**	**+0.2**
WILN	**Americas 2**	**6.42**	**325**	↓	e	P	**Pn**	**18 39 56.5**	**-0.3**
MGAN	**Managua**	**6.45**	**325**	↓	e	P	**Pn**	**18 39 56.8**	**-0.4**
MGAN					i			18 40 09.5	
	comp=Z,1μm,0.5s								
XAVN	**Gruta Xavier**	**6.49**	**324**	↓	e	P	**Pn**	**18 39 57.9**	**+0.1**
XAVN					i			18 40 12.8	
	comp=Z,2μm,0.7s								
APYN	**Apoyeque**	**6.58**	**324**	↓	e	P	**Pn**	**18 39 58.9**	**-0.1**
PYTN	**Playitas**	**6.66**	**328**	↑	e	P	**Pn**	**18 39 59.4**	**-0.8**
COPN	**Copaltepe**	**6.67**	**322**	↓	e	P	**Pn**	**18 40 00.1**	**-0.3**
MOMJ	**Momotombo**	**6.83**	**324**	↑	e	P	**Pn**	**18 40 01.6**	**-0.9**
MOMJ					i			18 40 08.1	
	comp=Z,593nm,0.6s								
MIRN	**Miramar**	**6.95**	**323**	↓	e	P	**Pn**	**18 40 04.0**	**-0.3**
CNGN	**Cerro Negro**	**6.99**	**323**	↑	e	P	**Pn**	**18 40 04.2**	**-0.6**
CNGN					i			18 40 09.0	
	comp=Z,1μm,0.6s								
LEON	**Leon**	**7.04**	**322**	↑	e	P	**Pn**	**18 40 04.9**	**-0.6**
TEL3	**Telica 3**	**7.13**	**323**	↑	e	P	**Pn**	**18 40 06.6**	**-0.2**
TELN	**Telica**	**7.15**	**323**	↓	e	P	**Pn**	**18 40 07.2**	**+0.1**
CRIN	**San Cristobal**	**7.36**	**322**	↑	e	P	**Pn**	**18 40 09.5**	**-0.5**
CRIN					i			18 40 19.6	
	comp=Z,758nm,0.6s								
CNCH	**Conchagua**	**8.29**	**321**	↓	e	P	**P**	**18 40 40.8**	**+18**
CNCH					eS		Sn	18 42 19.0	+21
ROSC	**El Rosal**	**8.31**	**104**		Pn		**P**	**18 40 20.8**	**-2.4**
	comp=Z,1.0nm,0.3s,baz=276,slow=12,SNR=2.8								
ROSC					Sn		**Sn**	**18 41 50.0**	**-8.1**
	comp=Z,3.4nm,0.3s,baz=75,slow=20,SNR=2.3								
ROSC					LR		LR	18 42 55.5	
	comp=Z,26μm,21.6s,baz=313,slow=34								
BLLM	**Bellamira**	**8.67**	**319**	↓	e	P	**P**	**18 40 46.0**	**+18**
BLLM					eS		**Sn**	**18 42 24.8**	**+18**
VSM	**San Miguel**	**8.68**	**319**	↑	e	P	**P**	**18 40 45.6**	**+17**
VSM					eS		**Sn**	**18 42 25.8**	**+18**
OCAC	**Ocana**	**9.14**	**81**		e	P	**P**	**18 40 31.3**	**-3.4**
SNVI	**San Vicente**	**9.19**	**317**	↓	e	P	**P**	**18 40 53.6**	**+18**
SNVI					eS		**Sn**	**18 42 38.6**	**+19**
BARC	**Barichara**	**9.20**	**91**	↓	e	P	**P**	**18 40 33.8**	**-1.7**
LCBS	**La Ceiba**	**9.32**	**317**	↓	e	P	**P**	**18 40 53.7**	**+17**
LCBS					eS		**Sn**	**18 42 41.3**	**+18**
RUSC	**La Rusia**	**9.35**	**95**	↑	e	P	**P**	**18 40 34.5**	**-3.1**
LFRS	**El Faro**	**9.35**	**316**	↑	e	P	**P**	**18 40 54.5**	**+17**
LFRS					eS		**Sn**	**18 42 40.6**	**+17**
LBRS	**Las Brisas**	**9.42**	**317**	↓	e	P	**P**	**18 40 56.8**	**+18**
LBRS					eS		**Sn**	**18 42 45.3**	**+20**
SNET	**Serv Nac Est T**	**9.51**	**316**		e	P	**P**	**18 40 38.3**	**-1.8**
BOQS	**Boqueron**	**9.58**	**316**	↓	e	P	**P**	**18 40 59.2**	**+18**
BOQS					eS		**Sn**	**18 42 47.5**	**+18**
SBLS	**San Blas**	**9.89**	**315**	↓	e	P	**P**	**18 41 03.8**	**+19**
SBLS					eS		**Sn**	**18 42 57.6**	**+20**
SNJE	**San Jose**	**9.90**	**315**	↑	e	P	**P**	**18 41 03.0**	**+18**
SNJE					eS		**Sn**	**18 42 55.4**	**+18**
RTR	**El Retiro**	**9.95**	**315**	↓	e	P	**P**	**18 41 04.5**	**+18**
RTR					eS		**Sn**	**18 42 57.7**	**+19**
IXG	**Ixpaco**	**10.71**	**313**		e	P	**P**	**18 40 57.7**	**+1.2**
PAYG	**Puerto Ayora**	**10.85**	**227**	↓	e	P	**P**	**18 40 56.1**	**-2.3**
	comp=Z,633nm,1.6s								
PCG	**Pacaya**	**10.96**	**314**		e	P	**P**	**18 41 02.3**	**+2.3**
FUG	**Fuego 3**	**11.17**	**313**		e	P	**P**	**18 41 04.2**	**+1.4**
SDV	**Santo Domingo**	**11.86**	**80**		Pn		**P**	**18 41 08.5**	**-3.6**
	comp=Z,2.4nm,0.3s,baz=278,slow=9.5,SNR=70								
SDV					Sn		**S**	**18 43 17.3**	**-8.2**
	comp=Z,10nm,0.3s,baz=330,slow=20,SNR=6.1								
SDV	**Santo Domingo**	**11.86**	**80**	↓	e	P	**P**	**18 41 08.3**	**-3.8**
	comp=Z,316nm,0.9s								
PCJ	**Portland Cotta**	**11.96**	**25**	↑	e	P	**P**	**18 41 10.5**	**-3.0**
STH	**Stony Hill**	**12.41**	**26**	↑	e	P	**P**	**18 41 16.2**	**-3.3**
GWJ	**Greenwich**	**12.44**	**26**	↑	e	P	**P**	**18 41 17.9**	**-2.0**
BNJ	**Bonny Gate**	**12.56**	**25**	↑	e	P	**P**	**18 41 19.2**	**-2.4**
LMGC	**Las Mercedes**	**14.13**	**21**		e	P	**P**	**18 41 41.7**	**-0.7**
LMGC					eS		**S**	**18 44 28.4**	**+8.3**
	comp=N,8.7nm,13.5s								
	comp=E,8.6nm,9.8s								
RCC	**Rio Carpintero**	**14.59**	**26**		e	P	**P**	**18 41 48.3**	**-0.1**
RCC					eS		**S**	**18 44 39.8**	**+8.8**
	comp=N,11μm,22.5s								
	comp=E,38μm,23.0s								
HLGC	**Holguin**	**15.23**	**23**		e	P	**P**	**18 41 55.3**	**-1.5**
MGV	**Manicaragua**	**15.33**	**9**		e	P	**P**	**18 41 54.3**	**-3.8**
MASC	**Masc**	**15.43**	**30**		e	P	**P**	**18 42 00.7**	**+1.3**
MASC					eS		**S**	**18 45 02.6**	**+12**
	comp=N,9.2nm,9.1s								
	comp=E,12nm,11.8s								
MOAC	**Moa**	**15.50**	**27**		e	P	**P**	**18 42 00.8**	**+0.5**
MOAC					eS		**S**	**18 44 55.6**	**+3.1**
	comp=N,17nm,1.3s								
	comp=E,18nm,8.2s								
SOR	**Soroa**	**15.83**	**358**		e	P	**P**	**18 42 10.6**	**+6.0**
EVV	**El Vigia**	**17.05**	**314**		e	P	**P**	**18 42 22.3**	**+2.2**
OXX	**Oaxaca**	**17.25**	**307**		i	P	**P**	**18 42 25.3**	**+2.6**
SJG	**San Juan**	**19.41**	**53**		P		**P**	**18 42 45.7**	**-3.3**
	comp=E,9.7nm,0.3s,baz=240,slow=7.1,SNR=95								
SJG					LR		LR	18 49 56.7	
	comp=E,10μm,21.3s,baz=241,slow=36								
SJG	**San Juan**	**19.41**	**53**	↓	e	P	**P**	**18 42 45.7**	**-3.3**
	comp=E,4μm,1.7s								
NNA	**Nana**	**19.55**	**163**		e	P	**P**	**18 42 43.0**	**-7.7**
	comp=E,273nm,1.4s								
CPD	**Cerro la Pandu**	**19.55**	**54**	↓	e	P	**P**	**18 42 47.3**	**-3.4**
ACX	**Acapulco**	**19.76**	**302**		e	P	**P**	**18 42 53.6**	**+0.6**
PPM	**Popocatepetl**	**19.87**	**309**		i	P	**P**	**18 42 56.4**	**+2.2**
MTP	**Monte Pirata**	**19.87**	**54**	↓	e	P	**P**	**18 42 49.9**	**-4.3**
YAIG	**Yautepec**	**20.09**	**308**		e	P	**P**	**18 42 57.0**	**+0.4**
UNM	**Universidad Na**	**20.45**	**309**		i	P	**P**	**18 43 02.5**	**+2.2**
TPP	**Pointe-a-Pierr**	**21.02**	**79**		e	P	**P**	**18 43 04.7**	**-1.6**
TRN	**Trinidad (W)**	**21.12**	**78**		e	P	**P**	**18 43 07.2**	**0.0**
DWPF	**Disney**	**21.14**	**2**		e	P	**P**	**18 43 06.3**	**-1.1**
	comp=E,367nm,0.8s,mb5.8								
DWPF					LR		LR		
	comp=Z,11μm,20.0s,MS5.2								
GRSS	**Sisters**	**21.22**	**74**		e	P	**P**	**18 43 08.2**	**-0.1**
TBH	**Brigand Hill**	**21.42**	**79**		e	P	**P**	**18 43 06.2**	**-4.1**
SABS	**Saba**	**21.55**	**59**		e	P	**P**	**18 43 12.9**	**+1.3**
SABT	**Saba**	**21.55**	**59**		e	P	**P**	**18 43 12.9**	**+1.3**
BSK	**Brimstone Hill**	**21.77**	**60**		e	P	**P**	**18 43 13.8**	**-0.1**
SVB	**Belmont**	**21.79**	**71**	↑	i	P	**P**	**18 43 14.2**	**+0.2**
TPR	**Prospect**	**21.81**	**77**		e	P	**P**	**18 43 12.8**	**-1.3**
SKDB	**Saint Kitts 2**	**21.82**	**60**		e	P	**P**	**18 43 15.9**	**+1.6**
SKI	**Saint Kitts**	**21.86**	**60**		e	P	**P**	**18 43 15.2**	**+0.5**
SSV	**Crater Summit**	**21.86**	**71**		e	P	**P**	**18 43 15.6**	**+0.9**
STMA	**St. Maarten, A**	**21.86**	**58**		e	P	**P**	**18 43 15.4**	**+0.7**
SKTB	**Turtle Beach**	**21.91**	**60**		e	P	**P**	**18 43 16.2**	**+1.0**
NVRH	**Round Hill, Ne**	**21.91**	**60**		e	P	**P**	**18 43 16.6**	**+1.4**
LZG	**Guadaloupe-1**	**22.22**	**64**		e	P	**P**	**18 43 16.2**	**-2.1**
TBG	**Guadaloupe-3**	**22.23**	**65**		e	P	**P**	**18 43 16.6**	**-1.8**
MDN	**Morne-Daniel**	**22.27**	**66**		e	P	**P**	**18 43 17.9**	**-0.9**
BBL	**Barber's Block**	**22.27**	**66**		e	P	**P**	**18 43 17.9**	**-0.8**
MVM	**Montagne Vaucl**	**22.48**	**68**		e	P	Px	18 43 48.7	
BPA	**Boggy Peak**	**22.50**	**61**		e	P	**P**	**18 43 20.6**	**-0.4**
CRM	**Caraverlle**	**22.52**	**68**		e	P	Px	18 43 45.6	
MGG	**Marie-Galante**	**22.54**	**65**		e	P	**P**	**18 43 20.7**	**-0.9**
SEG	**Port Louis**	**22.55**	**63**		e	P	**P**	**18 43 21.6**	**-0.2**
CPB	**Codrington**	**22.77**	**60**		e	P	**P**	**18 43 21.6**	**-2.2**
DEG	**La Desirade**	**22.92**	**64**		e	P	**P**	**18 43 25.0**	**-0.3**
SFJM	**Santa Fe**	**24.12**	**306**		i	P	**P**	**18 43 39.6**	**+2.7**
SAML	**Samuel**	**24.80**	**129**		e	P	**P**	**18 43 37.1**	**-6.5**
	comp=Z,1.7nm,0.6s								
SAML					LR		LR		
	comp=Z,7μm,19.0s,MS5.2								
ARE	**Arequipa**	**25.59**	**155**		e	P	**P**	**18 43 50.0**	**-1.1**
RGRS	**Roger Stewart**	**25.98**	**4**		e	P	**P**	**18 43 53.4**	**-1.2**
NHSC	**New Hope**	**26.18**	**4**	↑	e	P	**P**	**18 43 57.3**	**+0.9**
	comp=Z,582nm,1.1s,mb6.0								
NHSC					LR		LR		
	comp=Z,13μm,19.0s,MS5.5								
LRAL	**Lakeview Retre**	**26.37**	**351**		e	P	**P**	**18 43 58.0**	**-0.1**
	comp=Z,1μm,1.1s,mb6.4								
LRAL					LR		LR		
	comp=Z,8μm,20.0s,MS5.3								
GOGA	**Godfrey**	**26.42**	**358**		e	P	**P**	**18 43 58.1**	**-0.5**
	comp=Z,773nm,1.4s,mb6.0								
GOGA					LR		LR		
	comp=Z,12μm,21.0s,MS5.4								
GOGA	**Godfrey**	**26.42**	**358**		P		**P**	**18 43 58.2**	**-0.4**
GOGA					pmax		pmax		
	comp=Z,770nm,1.3s,mb6.1								
GOGA					MLR		MLR		
	comp=Z,12μm,21.0s,MS5.4								
LPAZ	**La Paz**	**27.02**	**149**		P		**P**	**18 44 00.8**	**-3.5**
	comp=Z,9.8nm,1.0s,baz=343,slow=10.0,SNR=17								
LPAZ					LR		LR	18 56 08.1	
	comp=Z,16μm,20.0s,MS5.6,baz=310,slow=40								
LPAZ	**La Paz**	**27.02**	**149**	↑	e	P	**P**	**18 44 00.3**	**-3.9**
	comp=Z,76nm,1.4s,mb5.0								
LPAZ					LR		LR		
	comp=Z,21μm,21.0s,MS5.7								
LPAZ	**La Paz**	**27.02**	**149**	↑	e	P	**P**	**18 44 00.4**	**-3.9**
LPAZ					pmax		pmax		
	comp=Z,76nm,1.4s								
LPAZ					MLR		MLR		
	comp=Z,21μm,21.0s								
NATX	**Nacogdoches**	**27.26**	**337**		e	P	**P**	**18 44 06.3**	**0.0**
	comp=Z,776nm,1.5s,mb6.0								
NATX					LR		LR		
	comp=Z,8μm,22.0s,MS5.2								
JSC	**Jenkinsville**	**27.29**	**2**		e	P	**P**	**18 44 05.9**	**-0.6**
JSC	**Jenkinsville**	**27.29**	**2**		P		**P**	**18 44 06.1**	**-0.5**
MYNC	**Murphy**	**28.10**	**357**		e	P	**P**	**18 44 13.3**	**-0.7**
	comp=Z,80nm,0.9s,mb5.3								
MYNC					LR		LR		
	comp=Z,10μm,20.0s,MS5.4								
MYNC	**Murphy**	**28.10**	**357**		e	P	**P**	**18 44 13.3**	**-0.6**
MYNC					pmax		pmax		
	comp=Z,80nm,0.9s,mb5.3								
MYNC					MLR		MLR		
	comp=Z,10μm,20.0s,MS5.4								
OXF	**Oxford**	**28.24**	**348**		e	P	**P**	**18 44 13.6**	**-1.6**
	comp=Z,474nm,1.1s,mb6.0								
OXF					LR		LR		
	comp=Z,10μm,22.0s,MS5.4								
OXF	**Oxford**	**28.24**	**348**		e	P	**P**	**18 44 13.6**	**-1.6**
OXF					pmax		pmax		
	comp=Z,474nm,1.1s,mb6.0								
OXF					MLR		MLR		
	comp=Z,10μm,22.0s,MS5.4								
SWET	**Sewanee**	**28.39**	**354**		e	P	**P**	**18 44 14.1**	**-2.3**
PLAL	**Pickwick Lake**	**28.45**	**350**		PFAKE			18 44 30.0	+13
PLAL					LR		LR		
	comp=Z,9μm,20.0s,MS5.3								
CPCT	**Cooper Cave**	**28.50**	**356**		e	P	**P**	**18 44 16.7**	**-0.8**
MET	**Memphis--Engin**	**28.94**	**347**		e	P	**P**	**18 44 21.2**	**-0.3**
UALR	**University of**	**29.23**	**343**		e	P	**P**	**18 44 22.1**	**-1.9**
	comp=Z,147nm,0.7s,mb5.8								
HBAR	**Harrisburg**	**29.52**	**346**		e	P	**P**	**18 44 25.2**	**-1.5**
WVT	**Waverly**	**29.53**	**351**		e	P	**P**	**18 44 24.6**	**-2.2**
	comp=Z,158nm,1.0s,mb5.7								
WVT					LR		LR		
	comp=Z,6μm,22.0s,MS5.2								
WVT	**Waverly**	**29.53**	**351**		e	P	**P**	**18 44 24.2**	**-2.6**
WVT					pmax		pmax		
	comp=Z,160nm,1.0s,mb5.7								
TZTN	**Tazewell**	**29.54**	**358**		e	P	**P**	**18 44 26.2**	**-0.7**
GNAR	**Gosnell**	**29.77**	**348**		e	P	**P**	**18 44 28.3**	**-0.7**
UTMT	**University of**	**29.91**	**350**		e	P	**P**	**18 44 29.6**	**-0.6**
	comp=Z,476nm,1.0s,mb6.2								
GLAT	**Glass**	**29.92**	**349**	↑	e	P	**P**	**18 44 29.4**	**-0.8**
LTX	**Lajitas**	**29.99**	**321**	↑	i	P	**P**	**18 44 32.0**	**+1.0**
	comp=Z,74nm,1.0s,mb5.4								
LTX					LR		LR		
	comp=Z,8μm,22.0s,MS5.3								
LTX	**Lajitas**	**29.99**	**321**	↑	i	P	**P**	**18 44 32.0**	**+1.0**
LTX					pmax		pmax		
	comp=Z,74nm,1.0s,mb5.4								
LTX					MLR		MLR		
	comp=Z,8μm,22.0s,MS5.3								
TXAR	**Lajitas Array**	**29.99**	**321**		P		**P**	**18 44 30.0**	**-0.9**
	comp=Z,27nm,0.9s,mb5.0,baz=140,slow=9.8,SNR=58								
TXAR					PcP		PcP	18 47 30.4	-2.9
	comp=Z,3.1nm,1.0s,baz=156,slow=5.2,SNR=2.4								
TXAR					LR		LR	18 57 46.5	
	comp=Z,7μm,21.7s,MS5.3,baz=135,slow=39								
TXAR	**Lajitas Array**	**29.99**	**321**		P		**P**	**18 44 30.0**	**-1.0**
TXAR					PcP		PcP	18 47 30.4	-2.9
TXAR					LR		LR	18 57 46.5	
BLA	**Blacksburg**	**30.25**	**3**	↑	e	P	**P**	**18 44 32.8**	**-0.4**
	comp=Z,206nm,1.0s,mb5.8								
BLA					LR		LR		
	comp=Z,9μm,21.0s,MS5.4								
BLA	**Blacksburg**	**30.25**	**3**	↑	e	P	**P**	**18 44 32.8**	**-0.4**
BLA					pmax		pmax		
	comp=Z,206nm,1.0s,mb5.8								
BLA					MLR		MLR		
	comp=Z,9μm,21.0s,MS5.4								
ELN	**Prospectdale**	**30.25**	**3**		e	P	**P**	**18 44 32.8**	**-0.4**
BBSR	**BB Station**	**30.27**	**31**		P		**P**	**18 44 32.6**	**-0.8**
	comp=Z,92nm,1.1s,mb5.4								
BBSR					LR		LR		
	comp=Z,10μm,19.0s,MS5.5								
PARMO	**Parma**	**30.39**	**348**	↑	i	P	**P**	**18 44 33.3**	**-1.2**
FWV	**Forest Hill**	**30.60**	**3**		e	P	**P**	**18 44 35.7**	**-0.5**
SIV	**San Ignacio**	**31.04**	**137**		P		**P**	**18 44 36.6**	**-3.8**
	comp=Z,15nm,1.0s,mb4.8,baz=310,slow=8.8,SNR=32								
WCI	**Wyandotte Cave**	**31.40**	**354**		e	P	**P**	**18 44 41.8**	**-1.5**
	comp=Z,538nm,1.1s,mb6.3								
WCI	**Wyandotte Cave**	**31.40**	**354**		e	P	**P**	**18 44 41.8**	**-1.5**
WCI					pmax		pmax		
	comp=Z,538nm,1.1s,mb6.3								
CBN	**Corbin**	**31.52**	**8**		e	P	**P**	**18 44 44.5**	**+0.1**
	comp=Z,155nm,1.1s,mb5.8								
CBN					LR		LR		
	comp=Z,16μm,21.0s,MS5.7								
WMOK	**Wichita Mounta**	**31.55**	**334**		e	P	**P**	**18 44 43.0**	**-1.7**
	comp=Z,67nm,1.0s,mb5.4								
WMOK	**Wichita Mounta**	**31.55**	**334**		e	P	**P**	**18 44 43.0**	**-1.7**
WMOK					pmax		pmax		
	comp=Z,67nm,1.0s,mb5.4								
FVM	**French Village**	**31.80**	**348**		e	P	**P**	**18 44 45.2**	**-1.7**
	comp=Z,128nm,1.1s,mb5.7								
FVM					PP		PP	18 46 01.1	+8.9
FVM	**French Village**	**31.80**	**348**		P		**P**	**18 44 45.2**	**-1.6**
FVM					pmax		pmax		
	comp=Z,130nm,1.1s,mb5.7								
CCM	**Cathedral Cave**	**32.05**	**347**		e	P	**P**	**18 44 46.1**	**-2.8**
	comp=Z,207nm,0.8s,mb6.0								
CCM					LR		LR		
	comp=Z,1μm,20.0s								
CCM	**Cathedral Cave**	**32.05**	**347**		P		**P**	**18 44 46.5**	**-2.5**
CCM					pmax		pmax		
	comp=Z,210nm,0.9s,mb6.0								
CCM					MLR		MLR		
	comp=Z,1μm,20.0s								
LVC	**Limon Verde**	**32.16**	**156**		LR		LR	18 58 45.1	
	comp=Z,7μm,20.3s,MS5.3,baz=332,slow=38								
LVC	**Limon Verde**	**32.16**	**156**		PFAKE			18 45 00.0	+10
LVC					LR		LR		
	comp=Z,14μm,19.0s,MS5.7								
BLO	**Bloomington**	**32.36**	**354**		e	P	**P**	**18 44 49.8**	**-1.8**
	comp=Z,276nm,0.8s,mb6.1								
BLO	**Bloomington**	**32.36**	**354**		P		**P**	**18 44 50.3**	**-1.4**
BLO					pmax		pmax		
	comp=Z,280nm,0.8s,mb6.1								
SLM	**Saint Louis**	**32.39**	**349**		e	P	**P**	**18 44 50.2**	**-1.7**
	comp=Z,234nm,0.8s,mb6.1								
SLM					PP		P

PV01 Paradox Valley 39.10 327 *eP* **P 18 45 50.2 +1.1**
WVL Waterville 39.16 14 *eP* **P 18 45 51.2 +1.7**
comp=Z,294nm,0.9s,mb6.0
PV10 Paradox Valley 39.53 326 *eP* **P 18 45 52.8 +0.1**
EMMW East Machias 39.88 17 *eP* **P 18 45 56.4 +0.9**
comp=Z,309nm,0.9s,mb6.0
EMMW LR LR
comp=Z,28μm,21.0s,MS6.1
PHWY Pilot Hill 39.94 333⇑ *iP* **P 18 45 56.9 +0.9**
CFAA Coronel Fontan 40.60 161 P **P 18 45 58.2 -3.3**
comp=Z,1.2nm,0.9s,baz=341,slow=9.2,SNR=7.4
CFAA Coronel Fontan 40.60 161 P **P 18 45 58.2 -3.3**
BDFB Brasilia 40.78 124 P **P 18 46 01.1 -2.0**
comp=Z,20nm,0.9s,mb4.7,baz=291,slow=10.0,SNR=18
BDFB LR LR 19 04 10.4
comp=Z,13μm,18.2s,MS5.8,baz=305,slow=38
BAO Brasilia Array 40.79 123 P **P 18 45 59.0 -4.2**
SRU San Rafael 40.87 326 *eP* **P 18 46 04.0 +0.4**
SRU San Rafael 40.87 326 *eP* **P 18 46 04.6 +1.0**
BAR Barrett 40.87 314 *eP* **P 18 46 05.0 +1.3**
CPUP Villa Florida 41.03 145 P **P 18 46 01.4 -3.7**
comp=Z,6.8nm,0.9s,baz=344,slow=12,SNR=9.2
CPUP LR LR 19 05 47.9
comp=Z,8μm,18.3s,MS5.6,baz=338,slow=40
CPUP Villa Florida 41.03 145 *eP* **P 18 46 01.6 -3.5**
comp=Z,42nm,1.4s,mb4.9
CPUP LR LR
comp=Z,7μm,19.0s,MS5.6
CPUP Villa Florida 41.03 145 *eP* **P 18 46 01.6 -3.5**
CPUP pmax pmax
comp=Z,42nm,1.4s
CPUP MLR MLR
comp=Z,7μm,19.0s
RWWY Rawlins 41.06 331 *eP* **P 18 46 05.9 +0.7**
comp=Z,389nm,1.5s,mb5.8
LDFC Landfair 41.10 318 *eP* **P 18 46 07.9 +2.3**
PFO Pinyon Flat Ob 41.21 315 *eP* **P 18 46 07.0 +0.5**
comp=Z,88nm,1.3s,mb5.2
PFO LR LR
comp=Z,2μm,20.0s,MS4.9
PFO Pinyon Flat Ob 41.21 315 *eP* **P 18 46 07.0 +0.5**
PFO pmax pmax
comp=Z,88nm,1.3s,mb5.2
PFO MLR MLR
comp=Z,2μm,20.0s,MS4.9
NEN Nelson 41.26 319 *eP* **P 18 46 08.0 +1.1**
TMUT Trail Mountain 41.38 326 *eP* **P 18 46 08.6 +0.7**
MSU Marysvale 41.40 324 *eP* **P 18 46 09.3 +1.3**
MSU Marysvale 41.40 324 *eP* **P 18 46 09.1 +1.1**
PQI Presque Isle 41.54 15 PFAKE 18 46 20.0 +11
PQI LR LR
comp=Z,35μm,19.0s,MS6.2
FCH Farellones 41.61 165 *eP* **P 18 46 00.2 -10**
ARUT Antelope Range 41.68 322 *eP* **P 18 46 11.2 +0.8**
ARUT Antelope Range 41.68 322 P **P 18 46 11.9 +1.5**
MPU Maple Canyon 42.11 326 *eP* **P 18 46 14.2 +0.3**
DAU Daniels Canyon 42.18 327 *eP* **P 18 46 15.4 +1.0**
DAU Daniels Canyon 42.18 327 *eP* **P 18 46 15.3 +0.8**
NLU North Lily Min 42.32 326 *eP* **P 18 46 16.8 +1.2**
JLU Jordanelle 42.42 327 *eP* **P 18 46 16.6 +0.2**
CTU Camp Tracy 42.65 327 *eP* **P 18 46 18.2 -0.1**
RPN Rapa Nui 42.68 217 LR LR 18 59 42.5
comp=Z,4μm,18.2s,MS5.3,baz=39,slow=30
RPN Rapa Nui 42.68 217 PFAKE 18 46 30.0 +11
RPN LR LR
comp=Z,2μm,19.0s,MS5.0
TCUT Toone Canyon 42.76 327 *eP* **P 18 46 19.5 +0.3**
NOQ North Oquirrh 42.82 326 *eP* **P 18 46 19.8 +0.1**
BW06 Boulder Array 43.01 331 *eP* **P 18 46 20.2 -1.0**
comp=Z,1μm,2.3s,mb6.2
BW06 LR LR
comp=Z,6μm,21.0s,MS5.5
PDAR Pinedale Array 43.01 331 P **P 18 46 20.6 -0.5**
comp=Z,47nm,1.2s,mb5.1,baz=140,slow=12,SNR=55
PDAR PP PP 18 47 59.9 -3.7
comp=Z,4.4nm,0.9s,baz=117,slow=12,SNR=1.6
PDAR LR LR 19 07 52.5
comp=Z,4μm,18.6s,MS5.4,baz=328,slow=41
HWUT Hardware Ranch 43.19 328 *eP* **P 18 46 22.6 -0.1**
comp=Z,287nm,1.1s,mb5.9
HWUT LR LR
comp=Z,10μm,19.0s,MS5.7
DAC Darwin (Calif) 43.45 317 *eP* **P 18 46 25.1 +0.3**
comp=Z,40nm,1.1s,mb5.1
DAC LR LR
comp=Z,8μm,20.0s,MS5.7
DAC Darwin (Calif) 43.45 317 *eP* **P 18 46 25.1 +0.3**
DAC pmax pmax
comp=Z,40nm,1.1s,mb5.1
DAC MLR MLR
comp=Z,8μm,20.0s,MS5.7
SPUT South Promonto 43.45 327 *eP* **P 18 46 25.0 +0.2**
BGU Big Grassy Mou 43.51 326 *eP* **P 18 46 25.6 +0.3**
ISA Isabella 43.71 316 PFAKE 18 46 40.0 +13
ISA LR LR
comp=Z,1μm,19.0s,MS4.9
AHID Auburn Hatcher 43.78 329 *eP* **P 18 46 27.4 0.0**
comp=Z,89nm,0.6s,mb5.7
HVU Hansel Valley 43.96 327 *eP* **P 18 46 29.1 +0.2**
HVU Hansel Valley 43.96 327 *eP* **P 18 46 28.9 0.0**
SNOW Snow King Moun 44.11 330 *eP* **P 18 46 29.9 -0.3**
comp=Z,344nm,1.3s,mb5.9
LOHW Long Hollow 44.15 331 *eP* **P 18 46 30.3 -0.2**
comp=Z,939nm,2.4s,mb6.1
TPH Tonopah 44.23 320 *eP* **P 18 46 31.4 +0.2**
comp=Z,173nm,1.2s,mb5.7
TPH LR LR
comp=Z,9μm,19.0s,MS5.7
TPH Tonopah 44.23 320 P **P 18 46 32.1 +1.0**
TPH pmax pmax
comp=Z,170nm,1.2s,mb5.7
TPAW Teton Pass 44.23 330⇑ *eP* **P 18 46 32.1 +1.0**
comp=Z,874nm,2.0s,mb6.1
RRI2 Red Ridge 44.31 330 *eP* **P 18 46 31.4 -0.3**
comp=Z,645nm,1.3s,mb6.2
IMW Indian Meadow 44.52 331 *eP* **P 18 46 33.2 -0.2**
comp=Z,56nm,0.8s,mb5.4
FLWY Flagg Ranch 44.54 331 *eP* **P 18 46 33.3 -0.4**
LAO LASA Array 44.62 337⇑ *eP* **P 18 46 33.8 -0.4**
comp=Z,552nm,1.6s,mb6.1
LAO *e* 18 48 11.7
LAO LR LR
comp=Z,9μm,21.0s,MS5.7
ELK Elko 44.65 324 P **P 18 46 34.3 -0.2**
comp=Z,45nm,1.0s,mb5.3,baz=125,slow=5.8,SNR=78
ELK PP PP 18 48 21.9 +1.9
comp=Z,11nm,0.9s,baz=73,slow=5.9,SNR=3.7
ELK Elko 44.65 324 *eP* **P 18 46 34.6 +0.1**
comp=Z,1μm,2.2s,mb6.3
ELK *e* 18 48 13.4
ELK LR LR
comp=Z,7μm,20.0s,MS5.6
ELK Elko 44.65 324 *eP* **P 18 46 34.6 +0.1**
ELK *e* 18 48 13.4
ELK pmax pmax
comp=Z,1μm,2.2s
ELK MLR MLR
comp=Z,7μm,20.0s
ULM Lac du Bonnet 44.67 348 P **P 18 46 31.4 -3.1**
comp=Z,129nm,0.9s,mb5.8,baz=159,slow=7.7,SNR=59
ULM PP PP 18 48 19.8 -0.2
comp=Z,49nm,1.0s,baz=183,slow=9.9,SNR=4.3
ULM Lac du Bonnet 44.67 348 *eP* **P 18 46 31.5 -3.0**
comp=Z,131nm,1.1s,mb5.7
ULM LR LR
comp=Z,11μm,21.0s,MS5.8
MTUM Tungsten Hills 44.69 318 *eP* **P 18 46 35.9 +0.9**
LKWY Lake 44.76 332 *eP* **P 18 46 37.2 +1.9**
comp=Z,138nm,1.4s,mb5.6
LKWY LR LR
comp=Z,18μm,21.0s,MS6.0
LKWY Lake 44.76 332 P **P 18 46 37.7 +2.3**
LKWY pmax pmax
comp=Z,140nm,1.4s,mb5.6
YFT Old Faithful 44.88 331⇑ *eP* **P 18 46 38.2 +1.8**
PTRM Twissleman Ran 44.91 315 *eP* **P 18 46 37.6 +0.9**
YNR Norris Junctio 45.01 332⇑ *eP* **P 18 46 38.3 +1.0**
YMR Madison River 45.11 331 *eP* **P 18 46 38.7 +0.6**
NVAR Mina Array Bea 45.12 320 P **P 18 46 39.1 +0.8**
comp=Z,75nm,0.9s,mb5.5,baz=122,slow=6.5,SNR=158
NVAR LR LR 19 06 17.8
comp=Z,8μm,19.0s,MS5.7,baz=125,slow=37
DGMT Dagmar 45.37 340 *eP* **P 18 46 38.8 -1.4**
comp=Z,165nm,0.9s,mb5.9
DGMT LR LR
comp=Z,5μm,19.0s,MS5.5

QLMT Earthquake Lak 45.45 331 *eP* **P 18 46 42.1 +1.3**
BMN Battle Mountai 45.63 322 *eP* **P 18 46 42.2 -0.1**
comp=Z,4.2nm,0.6s,mb4.5
BMN LR LR
comp=Z,6μm,21.0s,MS5.5
BMN Battle Mountai 45.63 322 *eP* **P 18 46 42.2 -0.1**
BMN pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
BMN MLR MLR
comp=Z,6μm,21.0s,MS5.5
LRV Little Rabbit 45.87 316 *eP* **P 18 46 44.5 +0.3**
MCMT McKenzie Canyo 46.14 330 *eP* **P 18 46 47.2 +0.9**
BOZ Bozeman (W) 46.15 332 *eP* **P 18 46 45.4 -1.0**
comp=Z,236nm,1.4s,mb5.9
BOZ LR LR
comp=Z,10μm,22.0s,MS5.7
BOZ Bozeman (W) 46.15 332 *eP* **P 18 46 45.4 -0.9**
BOZ pmax pmax
comp=Z,236nm,1.4s,mb5.9
BOZ MLR MLR
comp=Z,10μm,22.0s,MS5.7
CMB Columbia Colle 46.27 318 *eP* **P 18 46 46.2 -1.2**
comp=Z,105nm,1.5s,mb5.5
CMB LR LR
comp=Z,5μm,20.0s,MS5.4
CMB Columbia Colle 46.27 318 *eP* **P 18 46 46.2 -1.2**
CMB pmax pmax
comp=Z,105nm,1.5s,mb5.5
CMB MLR MLR
comp=Z,5μm,20.0s,MS5.4
SAO San Andreas Ge 46.34 316 *eP* **P 18 46 47.8 -0.1**
comp=Z,52nm,1.2s,mb5.3
SAO LR LR
comp=Z,5μm,19.0s,MS5.5
SAO San Andreas Ge 46.34 316 P **P 18 46 49.6 +1.6**
SAO pmax pmax
comp=Z,52nm,1.2s,mb5.3
SAO MLR MLR
comp=Z,5μm,19.0s,MS5.5
PAHR Pah Rah Range 46.54 320 *eP* **P 18 46 50.1 +0.6**
comp=Z,561nm,0.9s,mb6.5
HRY Holter Researc 47.03 333 *eP* **P 18 46 53.0 -0.4**
BEKR Beckwourth 47.25 320 *eP* **P 18 46 55.8 +0.6**
comp=Z,9.3nm,0.3s,mb5.2
SAC San Andreas 47.42 316 *eP* **P 18 46 57.6 +1.1**
LPA La Plata 47.56 152 *ceP* **P 18 46 57.0 -0.7**
LPA *e*PP PP 18 48 51.0 +2.4
LPA *e*S **S 18 53 50.0 -1.8**
comp=Z,15μm,18.0s
WVOR Wild Horse Val 47.69 324 *eP* **P 18 46 58.1 -0.5**
comp=Z,251nm,1.1s,mb6.2
WVOR LR LR
comp=Z,7μm,20.0s,MS5.7
WVOR Wild Horse Val 47.69 324 P **P 18 46 58.3 -0.3**
WVOR pmax pmax
comp=Z,250nm,1.1s,mb6.2
OHCM Honcut 47.69 319 *eP* **P 18 46 58.3 -0.3**
CHMT Chamberlain Mo 47.84 332 *eP* **P 18 46 58.8 -0.9**
MSO Missoula 48.11 331 *eP* **P 18 47 00.9 -0.9**
comp=Z,123nm,1.4s,mb5.7
MSO LR LR
comp=Z,8μm,21.0s,MS5.7
RCBR Riachuelo 48.12 104 PFAKE 18 47 10.0 +7.7
RCBR LR LR
comp=Z,12μm,20.0s,MS5.9
MOD Modoc 48.37 322⇑ *eP* **P 18 47 03.3 -0.6**
comp=Z,44nm,1.1s,mb5.4
MOD LR LR
comp=Z,9μm,19.0s,MS5.8
BMO Blue Mountains 48.47 327 *eP* **P 18 47 03.0 -1.6**
comp=Z,71nm,1.2s,mb5.6
BMO LR LR
comp=Z,8μm,19.0s,MS5.7
HOPS Hopland 48.57 317 *eP* **P 18 47 07.0 +1.5**
comp=Z,48nm,1.1s,mb5.4
HOPS LR LR
comp=Z,6μm,19.0s,MS5.6
TRQA Tornquist 48.60 158 *eP* **P 18 47 03.3 -2.4**
comp=Z,42nm,1.1s,mb5.4
TRQA LR LR
comp=Z,6μm,19.0s,MS5.6
PLCA Paso Flores 48.62 168 P **P 18 47 01.2 -4.6**
comp=Z,9.3nm,0.8s,mb4.9,baz=331,slow=8.5,SNR=7.0
WDC Whiskeytown Da 49.04 319 *eP* **P 18 47 07.8 -1.3**
comp=Z,27nm,1.1s,mb5.2
WDC LR LR
comp=Z,4μm,20.0s,MS5.4
WDC Whiskeytown Da 49.04 319 P **P 18 47 08.0 -1.1**
WDC pmax pmax
comp=Z,27nm,1.1s,mb5.2
WDC MLR MLR
comp=Z,4μm,20.0s,MS5.4
KCPM Cahto Peak 49.26 318 *eP* **P 18 47 12.1 +1.3**
SCHQ Schefferville 49.43 12 P **P 18 47 10.9 -0.9**
comp=Z,32nm,0.9s,mb5.4,baz=192,slow=5.6,SNR=23
SCHQ LR LR 19 08 56.9
comp=Z,6μm,19.3s,MS5.6,baz=203,slow=37
SCHQ Schefferville 49.43 12 *eP* **P 18 47 10.8 -1.1**
comp=Z,131nm,1.1s,mb5.9
SCHQ LR LR
comp=Z,10μm,19.0s,MS5.8
WALA Waterton Lakes 49.71 333 *eP* **P 18 47 13.3 -0.8**
comp=Z,64nm,1.3s,mb5.5
YBH Yreka Blue Hor 49.77 321 P **P 18 47 14.0 -0.7**
comp=Z,27nm,1.0s,mb5.2,baz=128,slow=5.0,SNR=37
YBH LR LR 19 10 00.9
comp=Z,8μm,20.1s,MS5.7,baz=133,slow=38
YBH Yreka Blue Hor 49.77 321 *eP* **P 18 47 12.3 -2.3**
comp=Z,31nm,1.1s,mb5.2
YBH LR LR
comp=Z,7μm,20.0s,MS5.7
YBH Yreka Blue Hor 49.77 321 P **P 18 47 12.4 -2.2**
YBH pmax pmax
comp=Z,31nm,1.1s
YBH MLR MLR
comp=Z,7μm,20.0s
HUMO Hull Mountain 50.40 321 P **P 18 47 19.0 -0.5**
comp=Z,26nm,1.2s,mb5.1
HUMO LR LR
comp=Z,6μm,20.0s,MS5.6
NEW Newport 50.65 331 P **P 18 47 19.6 -1.7**
comp=Z,60nm,1.1s,mb5.4,baz=142,slow=6.9,SNR=60
NEW Newport 50.65 331 *eP* **P 18 47 19.8 -1.5**
comp=Z,136nm,1.4s,mb5.7
NEW LR LR
comp=Z,11μm,20.0s,MS5.9
NEW Newport 50.65 331 P **P 18 47 19.9 -1.4**
NEW pmax pmax
comp=Z,140nm,1.3s
NEW MLR MLR
comp=Z,11μm,20.0s
HAWA Hanford 50.65 327 *eP* **P 18 47 19.6 -1.7**
comp=Z,10nm,1.4s,mb4.6
KEBM Edson Butte 51.40 321⇑ *eP* **P 18 47 27.6 +0.6**
COR Corvallis 51.70 323 *eP* **P 18 47 28.6 -0.7**
comp=Z,169nm,1.2s,mb5.8
COR LR LR
comp=Z,2μm,22.0s,MS5.0
COR Corvallis 51.70 323 P **P 18 47 29.2 -0.1**
COR pmax pmax
comp=Z,170nm,1.2s,mb5.8
COR MLR MLR
comp=Z,2μm,22.0s,MS5.0
FCC Fort Churchill 52.53 352 *eP* **P 18 47 33.5 -1.9**
comp=Z,199nm,1.4s,mb5.8
FCC Fort Churchill 52.53 352 P **P 18 47 34.2 -1.2**
FCC pmax pmax
comp=Z,200nm,1.4s,mb5.8
OCWA Octopus Mounta 54.00 326 *eP* **P 18 47 45.7 -0.6**
comp=Z,137nm,1.3s,mb5.7
OCWA LR LR
comp=Z,17μm,19.0s,MS6.1
PGC Sidney 54.14 328 *eP* **P 18 47 46.3 -1.0**
comp=Z,308nm,1.5s,mb6.0
PTCN Pitcairn Islan 56.20 234 PFAKE 18 48 10.0 +7.3
PTCN LR LR
comp=Z,8μm,21.0s,MS5.8
BBB Bella Bella 58.61 329 P **P 18 48 17.2 -2.1**
comp=Z,34nm,0.9s,mb5.4,baz=126,slow=7.9,SNR=4.2
BBB Bella Bella 58.61 329 P **P 18 48 17.2 -2.1**
ADH Angra Heroismo 58.82 49 *e*LR LR 19 05 50.0
PDA Ponta Delgada 59.74 50 *e*S **S 18 56 46.0 +9.4**
PDA *i* LR LR 19 06 25.0
CMLA Cha da Macela 59.86 50 PFAKE 18 48 40.0 +12
CMLA LR LR
comp=Z,4μm,21.0s,MS5.5
YKA Yellowknife Ar 60.29 343 P **P 18 48 28.1 -2.7**
comp=Z,39nm,0.9s,mb5.4,baz=136,slow=6.6,SNR=39
YKA LR LR 19 16 55.0
comp=Z,3μm,21.7s,MS5.5,baz=100,slow=38
YKA Yellowknife Ar 60.29 343 P **P 18 48 28.1 -2.7**
YKA LR LR 19 16 55.0
EFI East Falkland 61.96 163 PFAKE 18 48 50.0 +7.7
EFI LR LR
comp=Z,1μm,21.0s,MS5.1
DLBC Dease Lake 63.04 334 P **P 18 48 47.5 -1.7**
comp=Z,41nm,0.9s,mb5.5,baz=126,slow=5.4,SNR=57
SFJD Kangerlussuaq 63.83 13 *i* P **P 18 48 58.2 +3.8**
comp=Z,19nm,0.8s,mb5.2
SFJD *i* S **S 18 57 22.4 -5.5**
SFJD *i* 18 58 36.2
comp=Z,6μm,21.0s
SFJD Kangerlussuaq 63.83 13 P **P 18 48 54.1 -0.3**
EGOM La Gomera 64.96 62 P **P 18 49 05.5 +3.1**
comp=Z,63nm,0.9s,mb5.6
RES Resolute Bay 68.14 356 P **P 18 49 20.6 -1.3**
RES pmax pmax
comp=Z,50nm,1.2s,mb5.4
INK Inuvik 69.98 342 P **P 18 49 32.2 -1.1**
comp=Z,48nm,1.1s,mb5.3,baz=117,slow=6.6,SNR=31
INK Inuvik 69.98 342 *eP* **P 18 49 32.5 -0.8**
comp=Z,104nm,1.0s,mb5.7
INK Inuvik 69.98 342 P **P 18 49 32.7 -0.5**
INK pmax pmax
comp=Z,100nm,1.0s
PPT Papeete 70.60 249 LR LR 19 12 51.4
comp=Z,2μm,20.4s,MS5.4,baz=74,slow=29
SUMG Summit 70.81 13 *eP* **P 18 49 37.2 -1.1**
comp=Z,150nm,1.3s,mb5.8
MENT Mentasta 71.10 335 *eP* **P 18 49 41.0 +0.9**
EYAK Cordova Ski Ar 71.11 332 *eP* **P 18 49 40.5 +0.3**
DIV Divide 71.32 333 *eP* **P 18 49 39.7 -1.8**
comp=Z,139nm,1.0s,mb5.8
DIV LR LR
comp=Z,15μm,19.0s,MS6.3
BORG Borgarnes 71.74 23 PFAKE 18 50 00.0 +16
BORG LR LR
comp=Z,1μm,21.0s,MS5.2
POHA Pohakuloa 71.83 288 PFAKE 18 50 00.0 +15
POHA LR LR
comp=Z,62μm,20.0s
PLOU Loures 72.70 52 *eP* **P 18 49 50.3 +0.1**
comp=Z,56nm,1.4s,mb5.3
SML Sawmill 72.71 333 *eP* **P 18 49 48.6 -1.1**
SML Sawmill 72.71 333 P **P 18 49 49.2 -0.5**
PMSA Palmer Station 72.77 172 PFAKE 18 50 00.0 +10
PMSA LR LR
comp=Z,2μm,21.0s,MS5.3
PTEO Sao Teotonio 72.93 53 *eP* **P 18 49 53.7 +2.2**
comp=Z,85nm,1.3s,mb5.5
PMR Palmer 73.00 333 *eP* **P 18 49 52.1 +0.7**
comp=Z,94nm,1.4s,mb5.5
PMR LR LR
comp=Z,4μm,17.0s,MS5.8
PMR Palmer 73.00 333 P **P 18 49 58.9 +7.5**
PMR pmax pmax
comp=Z,48nm,1.2s,mb5.3
ILAR Eielson Array 73.08 336 P **P 18 49 50.4 -1.4**
comp=Z,46nm,1.1s,mb5.3,baz=120,slow=4.2,SNR=103
ILAR LR LR 19 28 32.3
comp=Z,2μm,19.7s,MS5.4,baz=120,slow=41
SLKM Skilak Lake 73.19 331 *eP* **P 18 49 51.7 -0.8**
SLKM Skilak Lake 73.19 331 P **P 18 49 52.0 -0.6**
PTOM Tomar 73.34 51 *eP* **P 18 49 54.5 +0.6**
comp=Z,90nm,1.6s,mb5.5
FIB Fire Island 73.36 332 PFAKE 18 50 00.0 +6.5
FIB LR LR
comp=Z,3μm,21.0s,MS5.5
EZAM Zamans 73.36 48 P **P 18 49 56.4 +2.4**
comp=Z,22nm,0.8s,mb5.1
STS Santiago 73.55 47 P **P 18 49 55.4 +0.4**
comp=Z,78nm,1.4s,mb5.5
MCK McKinley 73.58 335 *eP* **P 18 49 53.2 -1.5**
comp=Z,32nm,1.0s,mb5.2
MCK LR LR
comp=Z,2μm,20.0s,MS5.4
MCK McKinley 73.58 335 *eP* **P 18 49 53.8 -0.9**
MCK pmax pmax
comp=Z,32nm,1.0s,mb5.2
PBEJ Beja 73.64 53 *eP* **P 18 49 55.9 +0.2**
comp=Z,53nm,1.3s,mb5.3
VAL Valentia 73.65 38 *eP* **P 18 49 58.6 +3.2**
KDAK Kodiak Island 73.68 328 PFAKE 18 50 10.0 +15
KDAK LR LR
comp=Z,706nm,20.0s,MS5.0
ELOB Lobios 73.81 49 P **P 18 49 57.2 +0.7**
comp=Z,70nm,2.3s,mb5.2
EGRO El Granado 73.91 53 P **P 18 49 59.7 +2.5**
comp=Z,72nm,1.2s,mb5.5
PVRL Vila Real 74.01 49 *eP* **P 18 49 58.9 +1.2**
comp=Z,65nm,1.6s,mb5.3
MTE Manteigas 74.07 50 *eP* **P 18 49 56.6 -1.5**
comp=Z,57nm,1.7s,mb5.2
MTE *e*S S 18 59 30.9 +1.4
MTE *e*LQ 19 09 38.3
MTE *e*LR LR 19 12 55.9
comp=Z,5μm,22.0s
MTE Manteigas 74.07 50 *eP* **P 18 49 56.5 -1.6**
comp=Z,44nm,1.3s,mb5.2
PCBR Castelo Branco 74.08 51 *eP* **P 18 49 58.8 +0.7**
comp=Z,66nm,1.8s,mb5.3
KIP Kipapa 74.12 290 PFAKE 18 50 10.0 +11
KIP LR LR
comp=Z,6μm,20.0s,MS5.8
SPU Mount Spurr 74.24 332 *eP* **P 18 49 57.0 -1.6**
EBAD Badajoz 74.36 52 P **P 18 50 02.0 +2.2**
comp=Z,6.9nm,0.9s,mb4.6
RSO Redoubt South 74.39 331 *eP* **P 18 49 58.4 -1.1**
ERUA La Rua 74.53 48 P **P 18 50 03.4 +2.6**
comp=Z,10nm,0.8s,mb4.8
EMIN Mina Concepcio 74.57 53 P **P 18 50 03.4 +2.4**
comp=Z,12nm,1.0s,mb4.8
EPON Pontenova 74.61 47 P **P 18 50 04.3 +3.2**
comp=Z,14nm,0.9s,mb4.9
PBRG Braganca 74.78 49 *eP* **P 18 50 02.3 +0.1**
comp=Z,46nm,1.6s,mb5.2
ECAL Calabor 74.80 49 P **P 18 50 02.6 +0.4**
comp=Z,77nm,1.4s,mb5.4
ESPR Espera 75.17 54 P **P 18 50 06.1 +1.5**
comp=Z,65nm,1.8s,mb5.3
EJIF Jimena Fronter 75.47 54 P **P 18 50 07.4 +1.1**
comp=Z,3.5nm,0.6s,mb4.5
ECAB El Cabril 75.57 53 P **P 18 50 07.2 +0.4**
comp=Z,9.3nm,0.8s,mb4.8
DCN Croghan 75.66 37 *eP* **P 18 50 09.0 +2.1**
SVW2 Sparrevohn 75.89 331 *eP* **P 18 50 06.1 -2.0**
EARI Arriondas 76.02 47 P **P 18 50 10.3 +1.1**
comp=Z,80nm,1.6s,mb5.4
EMIJ Mijas 76.03 54 P **P 18 50 10.5 +1.1**
comp=Z,9.6nm,0.7s,mb4.8
MDT Midelt 76.08 58 P **P 18 50 09.2 -0.6**
comp=Z,7.3nm,0.8s,mb4.7,baz=289,slow=8.1,SNR=5.8
DLF Lyons Farm 76.09 37 *eP* **P 18 50 07.0 -2.4**
IMA Indian Mountai 76.18 337 *eP* **P 18 50 09.3 -0.4**
comp=Z,66nm,1.3s,mb5.4
IMA Indian Mountai 76.18 337 P **P 18 50 08.8 -0.9**
IMA pmax pmax
comp=Z,200nm,1.1s,mb6.0
EADA Adamuz 76.24 52 P **P 18 50 13.2 +2.6**
comp=Z,43nm,1.8s,mb5.1
TTA Tatalina 76.45 333 *eP* **P 18 50 10.2 -1.1**
ELUQ Luque 76.47 53 P **P 18 50 14.6 +2.8**
comp=Z,4.7nm,1.9s
CHGN Chignik 76.53 326 *eP* **P 18 50 12.1 +0.3**
ELOJ Sierra Loja 76.55 54 P **P 18 50 12.5 +0.2**
comp=Z,49nm,1.1s,mb5.3
ESDC Sonseca Array 76.77 51 P **P 18 50 11.7 -1.8**
comp=Z,13nm,0.7s,mb5.0,baz=275,slow=4.6,SNR=35
ESDC Sonseca Array 76.77 51 P **P 18 50 13.7 +0.2**
comp=Z,22nm,0.8s,mb5.1
ESLA Sonseca Array 76.77 51 PFAKE 18 50 20.0 +6.5
ESLA LR LR
comp=Z,14μm,21.0s,MS6.2
LIC Lamto 76.82 85 *eP* **P 18 50 12.0 -2.3**
comp=Z,126nm,1.1s,mb5.5
ERON Agron 76.82 54 P **P 18 50 14.8 +1.0**
comp=Z,10nm,0.6s,mb4.9
EBAN Banos Encina 76.86 53 P **P 18 50 15.0 +0.9**
comp=Z,10nm,0.7s,mb4.9
DBIC Dimbokro 76.94 85 P **P 18 50 13.2 -1.8**
comp=Z,8.5nm,1.0s,mb4.6,baz=279,slow=8.0,SNR=3.7
DBIC LR LR 19 22 18.8
comp=Z,3μm,21.3s,MS5.5,baz=256,slow=34
DBIC Dimbokro 76.94 85 P **P 18 50 13.2 -1.8**

DBIC LR LR 19 22 18.8
DBIC Dimbokro 76.94 85 P P 18 50 17.6 +2.6
DBIC pmax pmax
comp=Z,86nm,1.3s
ELAN Lanestosa 77.31 47 P P 18 50 17.7 +1.3
comp=Z,25nm,1.2s,mb5.0
HSA Swansea 77.37 39 *eP* **P 18 50 15.4 -1.2**
HSA AMb AMB 18 50 22.1
comp=Z,69nm,1.3s,mb5.4
EQES Quesada 77.42 53 P **P 18 50 16.7 -0.5**
comp=Z,61nm,1.4s,mb5.3
HEX Exmoor 77.54 39 *eP* **P 18 50 16.6 -0.9**
HEX AMb AMB 18 50 23.0
comp=Z,62nm,1.4s,mb5.4
EBER Berja 77.55 54 P **P 18 50 18.2 +0.3**
comp=Z,136nm,1.1s,mb5.8
ROSF Rostrenen 77.69 42 *eP* **P 18 50 17.3 -1.1**
comp=Z,157nm,1.1s,mb5.5
QUIF Quistinic 77.74 43 *eP* **P 18 50 17.5 -1.2**
comp=Z,172nm,1.2s,mb5.6
EHUE Huescar 77.80 53 P **P 18 50 20.4 +1.2**
comp=Z,125nm,1.3s,mb5.7
EVIA Vianos 77.88 52 P **P 18 50 20.8 +1.1**
comp=Z,22nm,0.8s,mb5.1
SGMF Saint Gilles 78.16 42 *eP* **P 18 50 19.7 -1.3**
comp=Z,178nm,1.2s,mb5.6
ESK Eskdalemuir 78.25 35 PFAKE 18 50 30.0 +8.7
ESK LR LR
comp=Z,774nm,19.0s,MS5.0
ECK Cauldkaine Hil 78.28 35 *eP* **P 18 50 21.2 -0.3**
ECK AMb AMB 18 50 31.6
comp=Z,63nm,1.4s,mb5.4
JMIC Jan Mayen 78.31 19 *eP* **P 18 50 35.6 +14**
JMIC *eS* S 19 00 11.3 -4.0
TRIS Tristan da Cun 78.54 130 PFAKE 18 50 30.0 +6.7
TRIS LR LR
comp=Z,4μm,19.0s,MS5.8
ETOB Tobarra 78.63 52 P **P 18 50 24.3 +0.6**
comp=Z,115nm,1.4s,mb5.6
EALK Alkurruntz 78.72 47 P **P 18 50 24.2 +0.1**
comp=Z,58nm,1.6s,mb5.3
EMUR La Murta 78.87 53 P **P 18 50 26.9 +1.8**
comp=Z,15nm,0.9s,mb4.9
KWE Weaver Farm 78.88 37 *eP* **P 18 50 24.4 -0.4**
OSSF Osses 78.90 47 *eP* **P 18 50 27.1 +2.0**
LHO Holmfirth 78.90 37 *eP* **P 18 50 24.3 -0.6**
LHO AMb AMB 18 50 31.7
comp=Z,39nm,1.0s,mb5.3
SJPF Ste Jean 78.92 48 *eP* **P 18 50 24.8 -0.5**
comp=Z,98nm,0.9s,mb5.4
KBI1 Birley Grange 79.08 37 *eP* **P 18 50 25.2 -0.7**
ECHE Chera 79.08 51 P **P 18 50 28.8 +2.5**
comp=Z,7.1nm,0.9s,mb4.6
LARF Larrau 79.09 48 *eP* **P 18 50 29.6 +3.4**
GRR Gorron 79.30 42 *eP* **P 18 50 26.1 -1.1**
comp=Z,205nm,1.0s,mb5.7
LCHF La Chataignera 79.33 44 *eP* **P 18 50 30.0 +2.6**
FDAF Les Forges d'A 79.40 48 *eP* **P 18 50 30.5 +2.6**
ETSF Etsaut 79.41 48 *eP* **P 18 50 28.9 +1.0**
comp=Z,60nm,1.1s,mb5.1
EMOS Mosqueruela 79.47 50 P **P 18 50 30.2 +1.9**
comp=Z,52nm,2.0s,mb5.1
ESAC San Caprasio 79.47 49 P **P 18 50 28.5 +0.2**
comp=Z,31nm,1.1s,mb5.2
REYF Montagne du Re 79.53 48 *eP* **P 18 50 32.0 +3.4**
FLN La Foliniere 79.56 42 *eP* **P 18 50 27.6 -1.0**
comp=Z,313nm,1.2s,mb5.8
FLN *eR*
comp=Z,3μm,21.8s
EBEN Beniarda 79.67 52 P **P 18 50 29.8 +0.4**
comp=Z,116nm,1.6s,mb5.6
MFF Saint Martin d 79.74 44 *eP* **P 18 50 28.5 -1.2**
comp=Z,179nm,1.2s,mb5.6
LDF La Druitiere 79.80 42 *eP* **P 18 50 28.7 -1.2**
comp=Z,190nm,1.0s,mb5.7
VIEF Viey 79.84 48 *eP* **P 18 50 33.6 +3.4**
LABF Labassere 79.87 48 *eP* **P 18 50 33.7 +3.3**
EBIE Bielsa 79.92 48 P **P 18 50 32.2 +1.5**
comp=Z,56nm,1.8s,mb5.2
EGRA Graus 80.05 48 P **P 18 50 32.4 +1.0**
comp=Z,34nm,1.0s,mb5.2
EPF Esparros 80.07 48 *eP* **P 18 50 30.9 -0.6**
comp=Z,209nm,1.4s,mb5.6
RESF Ens 80.07 48 *eP* **P 18 50 34.3 +2.8**
ERTA Horta de San J 80.08 50 P **P 18 50 31.5 -0.1**
comp=Z,50nm,1.9s,mb5.1
LFF La Frestale 80.35 46 *eP* **P 18 50 31.9 -1.0**
comp=Z,204nm,1.4s,mb5.6
SALF Salau 80.69 48 *eP* **P 18 50 38.6 +3.8**
EANR 'Ain N'Sour 80.78 55 P **P 18 50 39.0 +3.6**
RAR Rarotonga 80.78 247 PFAKE 18 50 50.0 +14
RAR LR LR
comp=Z,3μm,20.0s,MS5.7
EIBI Ibiza 80.88 52 P **P 18 50 36.7 +0.8**
comp=Z,34nm,1.8s,mb5.0
RJF Les Rejaudoux 80.90 45 *eP* **P 18 50 34.6 -1.2**
comp=Z,186nm,1.3s,mb5.5
RJF *eR*
comp=Z,3μm,22.5s
EMIR Miracle 80.96 49 P **P 18 50 38.5 +2.3**
comp=Z,152nm,2.0s,mb5.6
ETRT Tiaret 80.96 55 P **P 18 50 40.0 +3.6**
ECHA Ech Chlef 80.99 55 P **P 18 50 38.0 +1.5**
EBNR Beni Rached 81.11 54 P **P 18 50 40.0 +2.9**
CAF Calviac 81.29 46 *eP* **P 18 50 36.8 -1.1**
comp=Z,113nm,1.1s,mb5.4
VALF Valcebollere 81.31 48 *eP* **P 18 50 41.6 +3.5**
TCF Toulx Ste Croi 81.37 44 *eP* **P 18 50 36.9 -1.4**
comp=Z,93nm,1.1s,mb5.3
MTLF Montolieu 81.44 47 *eP* **P 18 50 37.8 -0.9**
comp=Z,208nm,1.3s,mb5.6
VERF Verneugheol 81.57 45 *eP* **P 18 50 40.0 +0.7**
HYF Humbligny 81.65 43 *eP* **P 18 50 38.2 -1.5**
FILF Fillols 81.71 48 *eP* **P 18 50 42.7 +2.6**
BGF Bois d'Agland 81.81 44 *eP* **P 18 50 39.3 -1.2**
comp=Z,133nm,1.2s,mb5.5
TNA Tin City 81.91 335 *eP* **P 18 50 40.6 -0.1**
comp=Z,70nm,1.4s,mb5.4
TNA LR LR
comp=Z,2μm,19.0s,MS5.5
EJON La Jonquera 81.96 48 P **P 18 50 42.9 +1.5**
comp=Z,53nm,1.6s,mb5.2
ETOS Mallorca 82.00 51 P **P 18 50 43.3 +1.6**
comp=Z,19nm,1.1s,mb5.3
AVF Avril sur Loir 82.15 44 *eP* **P 18 50 40.7 -1.6**
comp=Z,86nm,1.2s,mb5.2
SSF Saint Saulge 82.25 43 *eP* **P 18 50 41.1 -1.7**
comp=Z,58nm,1.1s,mb5.1
EMHD Djebel Mahouad 82.27 54 P **P 18 50 48.0 +4.9**
COLF Collangettes 82.43 45 *eP* **P 18 50 43.9 +0.1**
LOR Lormes 82.48 43 *eP* **P 18 50 42.4 -1.6**
comp=Z,85nm,1.2s,mb5.2
LOR *eR*
comp=Z,3μm,18.0s
SMF Signal de Mont 82.49 44 *eP* **P 18 50 42.6 -1.5**
comp=Z,221nm,1.5s,mb5.6
LASF Ste Croix 82.60 46 *eP* **P 18 50 44.2 -0.5**
comp=Z,246nm,1.6s,mb5.7
BAIF Baives 82.62 40 *eP* **P 18 50 43.1 -1.6**
comp=Z,32nm,1.1s,mb5.0
ADJB Djebel Djouab 82.66 54 P **P 18 50 48.3 +3.1**
BER Bergen 82.97 30 *eP* **P 18 50 53.9 +7.6**
BER *eS* S 19 01 05.0 +1.1
BER AMS AMS 19 20 49.4
comp=Z,2μm,23.5s,MS5.3
BER Bergen 82.97 30 *eP* **P 18 50 53.9 +7.6**
BER LR LR
comp=Z,1685μm,23.5s
GIVF Givet 83.02 40 *eP* **P 18 50 45.4 -1.3**
comp=Z,91nm,1.1s,mb5.4
AKET Djebel Ketaf 83.03 55 P **P 18 50 49.1 +2.0**
VIVF Saint-Julien-l 83.15 46 *eP* **P 18 50 47.3 -0.2**
comp=Z,122nm,1.0s,mb5.6
MEZF Maizieres J'vi 83.23 42 *eP* **P 18 50 46.8 -1.1**
comp=Z,140nm,1.1s,mb5.6
ATAF Djebel Tarf 83.36 55 P **P 18 50 51.5 +2.7**
BLS5 Blasjo 83.56 31 *eP* **P 18 50 53.3 +4.0**
BLS5 AMb AMB 18 50 58.0
comp=Z,33nm,0.9s,mb5.5
BLS5 Blasjo 83.56 31 *eP* **P 18 50 53.3 +4.0**
comp=Z,33nm,0.9s,mb5.5
ODD1 Odda 83.63 30 *eP* **P 18 50 52.4 +2.7**
ODD1 AMb AMB 18 51 06.9
comp=Z,78nm,2.4s,mb5.4
ODD1 Odda 83.63 30 *eP* **P 18 50 52.4 +2.7**
comp=Z,78nm,2.4s,mb5.4

OG05 Jujurieux 83.64 44 *eP* **P 18 50 51.4 +1.4**
HGN Heimansgroeve 83.69 40 *eP* **P 18 50 48.5 -1.7**
comp=Z,42nm,1.9s,mb5.2
HGN *ePP* PP 18 53 25.8 -39
HGN *eS* S 19 01 11.1 -0.3
HGN *eSS* SS 19 06 31.6 -10
SMRF Simiane la Rot 83.84 47 *eP* **P 18 50 50.9 -0.2**
comp=Z,127nm,1.6s,mb5.5
THEF They Montfort 83.87 42 *eP* **P 18 50 52.7 +1.6**
ORIF Oris-en-Rattie 84.00 46 *eP* **P 18 50 51.8 -0.1**
comp=Z,261nm,1.4s,mb5.8
ORIF *eR*
comp=Z,3μm,23.0s
CABF La Chapelle 84.04 44 *eP* **P 18 50 51.2 -0.8**
comp=Z,86nm,1.0s,mb5.5
HAU Haudompre 84.13 42 *eP* **P 18 50 51.1 -1.3**
HAU *eR*
comp=Z,3μm,18.5s
KBS Kingsbay 84.14 11 *eP* **P 18 51 01.5 +10**
KBS AMS AMS 19 31 24.8
comp=Z,3μm,18.9s,MS5.7
WTSB Winterswijk 84.16 38 *eP* **P 18 50 52.2 -0.3**
comp=Z,83nm,1.6s,mb5.6
OG25 Le Caire 84.18 46 *eP* **P 18 50 56.1 +3.3**
SET Setif 84.24 54 P **P 18 51 03.0 +10**
HINF Hinteralfeld 84.48 43 *eP* **P 18 50 52.7 -1.5**
comp=Z,57nm,1.1s,mb5.3
RUP Ruppelstein 84.48 41⇓ *eP* **P 18 50 56.6 +2.4**
RUP Ruppelstein 84.48 41 *eP* **P 18 50 54.7 +0.5**
LOMF Lomont 84.50 43 *eP* **P 18 50 55.1 +0.8**
LPL La Plagne 84.56 45 *eP* **P 18 50 54.5 -0.2**
comp=Z,93nm,1.3s,mb5.5
LMR La Mourre 84.56 47 *eP* **P 18 50 53.8 -1.0**
comp=Z,156nm,1.4s,mb5.6
LPG La Plagne 84.58 45 *eP* **P 18 50 54.8 0.0**
comp=Z,110nm,1.3s,mb5.5
DFRA Djebel Bou Aff 84.60 54 P sP 18 51 08.0 +8.6
RRL Cesana Torines 84.64 46 P **P 18 50 56.2 +1.1**
FRF La Foret Royal 84.65 47 *eP* **P 18 50 54.2 -1.0**
comp=Z,186nm,1.5s,mb5.7
MBDF Montbardon 84.65 46 *eP* **P 18 50 54.9 -0.2**
comp=Z,145nm,1.4s,mb5.6
ECH Echery 84.65 42 *eP* **P 18 50 56.1 +1.0**
MOF Molkenrain 84.66 43 *eP* **P 18 50 55.8 +0.7**
SURF Saint Ours 84.70 46 *eP* **P 18 50 58.0 +2.6**
CDF Champ du Feu 84.72 42 *eP* **P 18 50 54.2 -1.2**
comp=Z,93nm,1.2s,mb5.5
WLS Welschbruch 84.77 42 *eP* **P 18 50 56.0 +0.4**
ABH Alteburg 84.78 41⇓ *eP* **P 18 50 57.6 +1.9**
ABH Alteburg 84.78 41 *eP* **P 18 50 56.2 +0.5**
CALN Calern 84.81 47 *eP* **P 18 50 59.1 +3.1**
FENE Fenestrelle 84.83 45 P **P 18 50 55.7 -0.4**
LSD Ceresole Reale 84.86 45 P **P 18 50 57.0 +0.8**
BBS Basel-Blauen 84.95 43⇓ *eP* **P 18 50 58.3 +1.7**
BBS Basel-Blauen 84.95 43 *eP* **P 18 50 57.9 +1.3**
LIBD Limburg 84.95 42 *eP* **P 18 50 58.3 +1.7**
RSP Reno Superiore 84.96 45 P **P 18 50 57.4 +0.8**
MVIF Mont Vial 84.99 47 *eP* **P 18 51 00.3 +3.5**
BHB Bricherasio 84.99 46 P **P 18 50 56.8 0.0**
TOUF Mont Tournerai 85.05 46 *eP* **P 18 51 00.7 +3.6**
STV Sta Anna Valdi 85.08 46 P **P 18 50 57.1 -0.2**
CASM Ain Smara 85.12 54 P sP 18 51 12.0 +10
KONO Kongsberg 85.15 31 *eP* **P 18 51 01.5 +4.3**
KONO *eSKSa* 19 01 23.9
KONO *eSS* SS 19 07 02.7 +0.3
KONO Kongsberg 85.15 31 *eP* **P 18 51 01.5 +4.3**
KONO LR LR
comp=Z,2μm,19.0s,MS5.5
ENR Entracque 85.15 46 P **P 18 50 58.1 +0.4**
AUTN L'Aution 85.18 46 *eP* **P 18 51 00.9 +3.1**
KIZ Kirchzarten 85.18 42 *eP* **P 18 51 01.5 +3.8**
SBF Sospel 85.19 47 *eP* **P 18 50 56.9 -1.0**
comp=Z,171nm,1.3s,mb5.7
MUD Monsted U'grnd 85.21 34 *i* P **P 18 51 03.7 +6.1**
comp=Z,42nm,1.1s,mb5.5
MUD *i* 18 53 57.0
MUD *i* S S 19 01 29.5 +3.3
comp=Z,3μm,18.0s
MUD Monsted U'grnd 85.21 34 *i* P **P 18 51 03.7 +6.1**
MUD *i* S S 19 01 29.5 +3.3
MUD pmax pmax
comp=Z,42nm,1.1s,mb5.5
MUD MLR MLR
comp=Z,3μm,18.0s,MS5.7
FELD Feldberg 85.25 42 *eP* **P 18 51 02.5 +4.5**
FELD Feldberg 85.25 42 *eP* **P 18 50 58.9 +0.9**
SAOF Saorge 85.27 46 *eP* **P 18 51 01.2 +2.9**
CKFL Kef-Lekhel 85.29 54 P sP 18 51 10.0 +7.2
TNS Taunus Mts 85.33 40 *eP* **P 18 50 58.0 -0.4**
comp=Z,68nm,1.4s,mb5.6
TNS Taunus Mts 85.33 40 *eP* **P 18 50 58.0 -0.4**
TNS pmax pmax
comp=Z,68nm,1.4s,mb5.6
NEGI Negi 85.39 47 P **P 18 50 59.5 +0.7**
BFO Black Forest 85.42 42 *eP* **P 18 50 58.0 -0.9**
comp=Z,50nm,1.1s,mb5.6
BFO *eS* S 19 01 29.2 +0.7
BFO Black Forest 85.42 42 *eP* **P 18 50 58.0 -0.9**
BFO *eS* S 19 01 29.2 +0.7
BFO pmax pmax
comp=Z,50nm,1.1s,mb5.6
ORX Oropa 85.43 45 P **P 18 50 59.8 +0.8**
ROB Roburent 85.47 46 P **P 18 50 59.5 +0.3**
IMI Imperia 85.52 46 P **P 18 51 00.3 +0.8**
TOD Tromm 85.62 41 *eP* **P 18 51 05.8 +5.9**
TOD Tromm 85.62 41 *eP* **P 18 51 00.6 +0.7**
NAO01 NORSAR Array S 85.67 29 PFAKE 18 51 10.0 +10
NAO01 LR LR
comp=Z,2μm,20.0s,MS5.6
LBG Lerchenberg 85.70 42⇓ *eP* **P 18 51 04.6 +4.3**
FIN Finale Ligure 85.72 46 P **P 18 51 00.2 -0.2**
NSS Namsos 85.74 26 AMS AMS 19 25 51.8
comp=Z,3μm,15.9s,MS5.7
NB2 NORSAR Subarra 85.80 29 P **P 18 50 58.6 -1.9**
comp=Z,1.5nm,0.7s,baz=277,slow=4.6
NB2 NORSAR Subarra 85.80 29 P **P 18 50 58.6 -1.9**
baz=277,slow=4.8
NOA NORSAR Array B 85.80 29 P **P 18 50 59.2 -1.3**
comp=Z,9.8nm,0.9s,mb5.0,baz=276,slow=4.7,SNR=14
NOA LR LR 19 27 45.7
comp=Z,2μm,20.1s,MS5.4,baz=275,slow=34
PCP Pian Castagno 85.93 46 P **P 18 51 01.3 -0.2**
GUT Gutenstein 85.97 42 *eP* **P 18 51 05.8 +4.1**
BSEG Bad Segeberg 86.11 36 *eP* **P 18 51 01.8 -0.4**
BSEG *eS* S 19 01 38.0 +3.0
BSEG pmax pmax
comp=Z,43nm,1.4s,mb5.5
SIND Sindeldorf 86.16 41⇓ *eP* **P 18 51 07.0 +4.4**
CLZ Clausthal 86.38 38 *eP* **P 18 51 03.4 -0.2**
comp=Z,72nm,1.1s,mb5.8
CLZ *eS* S 19 01 41.1 +3.5
CLZ Clausthal 86.38 38 *eP* **P 18 51 03.4 -0.2**
CLZ *eS* S 19 01 41.1 +3.5
CLZ pmax pmax
comp=Z,72nm,1.1s,mb5.8
PGF Pioggiola 86.46 48 *eP* **P 18 51 03.2 -1.0**
comp=Z,124nm,1.1s,mb5.7
DAVA Damuels 86.57 43⇑ *iP* **P 18 51 05.1 +0.5**
comp=Z,80nm,1.2s,mb5.8
HDH Heidenheim 86.64 42⇓ *eP* **P 18 51 11.3 +6.4**
UBR Uberruh 86.68 43 *eP* **P 18 51 11.7 +6.6**
CODM 86.87 46 P **P 18 51 05.7 -0.5**
GRAM 87.01 46 P **P 18 51 07.3 +0.4**
BACM 87.04 46 P **P 18 51 07.3 +0.3**
VINC Vinca 87.12 46 P **P 18 51 08.1 +0.8**
GRA1 Grafenberg Arr 87.17 40 *eP* **P 18 51 07.3 -0.2**
comp=Z,47nm,1.0s,mb5.7
GRA1 LR LR
comp=Z,5μm,21.6s,MS5.9
GRF Grafenberg Arr 87.17 40 *eP* **P 18 51 07.3 -0.2**
GRF pmax pmax
comp=Z,47nm,1.0s,mb5.7
GRF MLR MLR
comp=Z,5μm,21.6s,MS5.9
SARO Sassorosso 87.29 46 P **P 18 51 09.5 +1.3**
MOX Moxa 87.30 39 *i* P **P 18 51 08.2 +0.1**
comp=Z,logA/T=1.5,mb5.5
MOX S S 19 01 40.0 -6.5
MOX L 19 30 14.0
MOX Moxa 87.30 39 *eP* **P 18 51 08.2 +0.1**
comp=Z,44nm,1.4s,mb5.5
MOX *eS* S 19 01 40.0 -6.5
MOX LR LR
comp=Z,2μm,19.0s,MS5.6

MOX Moxa 87.30 39 *eP* **P 18 51 08.2 +0.1**
MOX pmax pmax
comp=Z,44nm,1.4s,mb5.5
MOX MLR MLR
comp=Z,2μm,19.0s,MS5.6
MOTA Moosalm 87.39 43⇑ *iP* **P 18 51 07.9 -0.7**
comp=Z,39nm,1.3s,mb5.5
FUR Furstenfeldbru 87.40 42 *eP* **P 18 51 08.4 -0.2**
comp=Z,296nm,2.3s,mb6.1
FUR Furstenfeldbru 87.40 42 *eP* **P 18 51 08.4 -0.2**
FUR pmax pmax
comp=Z,296nm,2.3s,mb6.1
SQTA Sankt Quirin 87.47 43⇓ *iP* **P 18 51 09.5 +0.5**
comp=Z,46nm,1.1s,mb5.6
TRO Tromso 87.54 20 *eP* **P 18 51 14.1 +5.3**
TRO *eS* S 19 01 48.6 +0.3
TRO *eSS* SS 19 07 31.7 -5.4
TRO AMS AMS 19 31 14.7
comp=Z,1μm,20.3s,MS5.3
TRO Tromso 87.54 20 *eP* **P 18 51 14.1 +5.3**
TRO LR LR
comp=Z,1276μm,20.3s
WTTA Wattenberg 87.76 43⇑ *iP* **P 18 51 09.9 -0.5**
comp=Z,56nm,1.2s,mb5.7
NKC Novy Kostel 87.88 40 *eP* **P 18 51 11.2 +0.3**
NKC *eSKS* SKS 19 01 40.3 -1.5
NKC AMS AMS 19 24 10.0
comp=Z,5μm,22.5s
CLL Collm 88.08 39 P **P 18 51 11.5 -0.3**
comp=Z,logA/T=1.6,mb5.6
CLL *i* *PP pP 18 51 16.1 +1.1
CLL *e*SP sP 18 51 19.0 +3.0
CLL *e* 18 52 22.0
CLL *e* 18 53 39.0
CLL *ePP PP 18 54 38.0 -3.0
CLL *e* 19 01 40.0
CLL *eS S 19 01 57.0 +3.3
CLL *e* 19 02 24.0
CLL *ePS PS 19 02 53.0 -6.6
CLL *ePPS PPS 19 03 19.0 -7.7
CLL *eSS SS 19 07 46.0 +0.5
CLL *eSSS SSS 19 11 22.0 +4.3
CLL Collm 88.08 39 *i* P **P 18 51 11.5 -0.3**
comp=Z,58nm,1.4s,mb5.6
CLL *i* pP pP 18 51 16.1 +1.1
CLL *eSKS SKS 19 01 40.0 -3.0
CLL *eS S 19 01 57.0 +3.3
CLL LR LR
comp=Z,3μm,18.4s,MS5.8
CLL Collm 88.08 39 *i* P **P 18 51 11.5 -0.3**
CLL *i* *PP pP 18 51 16.1 +1.1
CLL *e* 19 01 40.0
CLL *eS S 19 01 57.0 +3.3
CLL pmax pmax
comp=Z,58nm,1.4s,mb5.6
CLL MLR MLR
comp=Z,3μm,18.4s,MS5.8
WET Wettzell 88.32 41 *eP* **P 18 51 12.9 -0.1**
comp=Z,58nm,1.1s,mb5.7
WET Wettzell 88.32 41 *eP* **P 18 51 12.9 -0.1**
WET pmax pmax
comp=Z,58nm,1.1s,mb5.7
BRG Berggiesshubel 88.73 39 *eP* **P 18 51 15.3 +0.4**
comp=Z,7.0nm,1.0s,mb5.0
BRG *i* pP 18 51 19.9 +1.8
BRG *e* 18 51 46.4
BRG SKS SKS 19 01 43.0 -4.0
BRG S S 19 02 04.0 +4.2
BRG PS PS 19 03 02.0 -5.4
BRG SS SS 19 07 53.0 -1.7
BRG LR LR
comp=Z,4μm,22.3s,MS5.7
BRG Berggiesshubel 88.73 39 *eP* **P 18 51 15.3 +0.4**
BRG *i* pP 18 51 20.0 +1.9
BRG 19 01 43.0
BRG S S 19 02 04.0 +4.2
BRG SS SS 19 07 53.0 -1.7
BRG pmax pmax
comp=Z,7.0nm,1.1s,mb4.9
BRG pmax pmax
comp=Z,15nm,1.0s,mb5.3
BRG MLR MLR
comp=N,3μm,22.5s,MS5.7
BRG MLR MLR
comp=E,2μm,22.0s,MS5.7
BRG MLR MLR
comp=Z,4μm,22.3s,MS5.7
KHC Kasperske Hory 88.77 41 *eP* **P 18 51 14.2 -1.0**
KHC pP pP 18 51 18.0 -0.4
KHC sP sP 18 51 22.5 +3.1
KHC *eSKS SKS 19 01 42.0 -5.4
KHC AMS AMS 19 22 10.0
comp=Z,5μm,26.6s
KHC Kasperske Hory 88.77 41 *eP* **P 18 51 14.2 -1.0**
KHC *e* pP 18 51 18.0 -0.4
KHC *e* 18 51 22.5
KHC *eSKS SKS 19 01 42.0 -5.4
KHC LR LR
comp=Z,5μm,26.6s,MS5.8
KHC Kasperske Hory 88.77 41 *eP* **P 18 51 14.2 -1.0**
KHC *e* pP 18 51 18.0 -0.4
KHC *e* 19 01 42.0
KHC MLR MLR
comp=Z,5μm,26.6s,MS5.8
GEC2 GERESS Array S 88.90 41 *eP* **P 18 51 15.5 -0.3**
comp=Z,26nm,1.0s,mb5.5
GEC2 *eS* S 19 02 05.4 +4.0
GEC2 GERESS Array S 88.90 41 *eP* **P 18 51 15.5 -0.3**
GEC2 *eS* S 19 02 05.4 +4.0
GEC2 pmax pmax
comp=Z,26nm,1.0s,mb5.5
GERES GERESS Array B 88.90 41 P **P 18 51 15.6 -0.2**
comp=Z,7.5nm,0.9s,mb5.0,baz=297,slow=3.0,SNR=28
GERES LR LR 19 24 02.0
comp=Z,3μm,21.3s,MS5.7,baz=276,slow=31
KBA Koelnbreinsper 88.94 43⇑ *iP* **P 18 51 19.0 +3.0**
comp=Z,72nm,1.1s,mb5.9
PVCC Panska Ves 89.18 39 *eP* **P 18 51 21.2 +4.1**
PVCC *eS* S 19 02 07.0 +3.0
PVCC AMS AMS 19 24 20.0
comp=Z,4μm,22.6s
PRU Pruhonice 89.25 40 *eP* **P 18 51 17.5 +0.1**
PRU *eSKS SKS 19 01 47.9 -2.4
PRU AMS AMS 19 24 40.0
comp=Z,6μm,23.3s
CADS Cadrg 89.34 44 *eP* **P 18 51 18.3 +0.4**
MOA Molln 89.43 42⇑ *iP* **P 18 51 18.1 -0.2**
comp=Z,16nm,1.0s,mb5.3
VOY Vojsko 89.48 44 *eP* **P 18 51 20.5 +1.9**
VOY *e* 18 51 28.2
ARCES ARCESS Array B 89.78 20 P **P 18 51 19.8 +0.3**
comp=Z,7.4nm,0.6s,mb5.2,baz=289,slow=4.0,SNR=13
ARCES LR LR 19 30 31.5
comp=Z,1μm,21.3s,MS5.4,baz=64,slow=35
LJU Ljubljana 89.91 44 *eP* **P 18 51 22.1 +1.5**
LJU *eS* S 19 01 52.6 -18
LJU *e* 19 03 23.0
LJU *e* 19 07 49.3
UPC Upice 90.09 39 *eP* **P 18 51 21.2 -0.1**
KEV Kevo 90.20 19 *eP* **P 18 51 21.1 -0.3**
KEV LR LR
comp=Z,3μm,22.0s,MS5.7
KSP Ksiaz 90.20 39 *eP* **P 18 51 22.2 +0.3**
KSP *ePP PP 18 54 51.5 -6.5
KSP *eSKS SKS 19 01 50.0 -6.0
KSP *eSP SP 19 03 20.0 -2.6
KSP LR LR
comp=Z,6μm,20.5s,MS6.0
DPC Dobruska-Polom 90.31 39 *eP* **P 18 51 22.6 +0.2**
DPC *eSKS SKS 19 01 53.3 -3.4
DPC AMS AMS 19 24 50.0
comp=Z,4μm,22.4s
NVLJ Novalja 90.40 45 *i* P **P 18 51 23.9 +1.0**
CII Carovilli 90.48 48 *eP* **P 18 51 22.7 -0.6**
comp=Z,120nm,2.1s,mb5.9
AFI Afiamalu 91.00 256 LR LR 19 21 52.2
comp=Z,2μm,21.9s,MS5.4,baz=58,slow=29
AFI Afiamalu 91.00 256 PFAKE 18 51 40.0 +14
AFI LR LR
comp=Z,2μm,20.0s,MS5.6
VNA3 Neumayer Olymp 91.00 162 P **P 18 51 25.0 -0.1**
VNA3 Neumayer Olymp 91.00 162 **P 18 51 28.7 +3.6**
VNA3 Neumayer Olymp 91.00 162 **P 18 51 31.6 +6.5**
VNA3 Neumayer Olymp 91.00 162 sP 18 51 38.0 +8.7

MIDW Midway 91.11 298 PFAKE 18 51 40.0 +13
MIDW LR LR
comp=Z,2μm,20.0s,MS5.6
MORC Moravsky Berou 91.20 40 *e*P **P** **18 51 26.5 0.0**
comp=Z,39nm,1.5s,mb5.5
MORC Moravsky Berou 91.20 40 P **P** **18 51 27.7 +1.2**
MORC pmax pmax
comp=Z,39nm,1.5s,mb5.5
ZST Bratislava 91.24 41 *e*P **P** **18 51 27.1 +0.4**
ZST *e*S 19 01 58.9
VNA1 Neumayer--Stat 91.25 161 P **P** **18 51 26.5 +0.2**
VNA1 Neumayer--Stat 91.25 161 **P** **18 51 29.4 +3.1**
VNA1 Neumayer--Stat 91.25 161 **P** **18 51 30.4 +4.1**
VNA1 Neumayer--Stat 91.25 161 **P** **18 51 33.5 +7.2**
VNA1 Neumayer--Stat 91.25 161 sP 18 51 39.7 +9.2
BILL Bilibino 91.46 339⇑ *i*P **P** **18 51 27.0 -0.2**
BILL LR LR
comp=Z,4μm,20.0s,MS5.8
BILL Bilibino 91.46 339*c* *i*P **P** **18 51 28.0 +0.8**
BILL *i* 18 55 06.3
BILL *e* 19 02 27.0
BILL *e*PS PS 19 03 37.8 -1.0
BILL *e* 19 08 45.9
BILL pmax pmax
comp=Z,139nm,2.5s,mb5.8
BILL MLR MLR
comp=Z,5μm,24.0s,MS5.8
OKC Ostrava-Krasne 91.57 40 *e*P **P** **18 51 30.7 +2.5**
OKC *e*SKS SKS 19 02 05.3 +1.3
OKC AMS AMS 19 26 00.0
comp=Z,5μm,23.4s
VNA2 Neumayer--Watz 91.61 161 P **P** **18 51 25.1 -2.8**
VNA2 Neumayer--Watz 91.61 161 **P** **18 51 27.9 0.0**
VNA2 Neumayer--Watz 91.61 161 **P** **18 51 29.0 +1.1**
VNA2 Neumayer--Watz 91.61 161 **P** **18 51 30.4 +2.5**
VNA2 Neumayer--Watz 91.61 161 **P** **18 51 34.7 +6.8**
VYHS Vyhne 92.31 41 *e*P **P** **18 51 32.2 +0.6**
VYHS *e*S 19 02 03.6
OJC Ojcow 92.52 39 *e*P **P** **18 51 31.8 -0.7**
OJC *e*PP PP 18 55 13.5 -3.0
OJC *e*SKS SKS 19 02 08.0 -1.4
OJC *e*S S 19 02 37.5 +3.6
OJC *e*SS SS 19 08 56.7 +7.4
OJC MLR MLR 19 32 03.8
comp=Z,3μm,19.8s,MS5.7
KAF Kangasniemi 92.58 26 *e*p **P** **18 51 26.8 -5.7**
SMY Shemya 92.65 324 PFAKE 18 51 40.0 +6.9
SMY LR LR
comp=Z,3μm,20.0s,MS5.8
FINES FINESS Array B 92.70 27 P **P** **18 51 31.6 -1.5**
comp=Z,2.0nm,0.8s,mb4.6,baz=333,slow=3.1,SNR=3.0
FINES LR LR 19 31 15.5
comp=Z,2μm,20.6s,MS5.5,baz=279,slow=34
FINES FINESS Array B 92.70 27 *e*P **P** **18 51 35.3 +2.2**
NIE Niedzica 93.04 40 *e*P **P** **18 51 40.6 +5.7**
PSZ Piszkesteto 93.13 41⇑ *e* **P** **18 51 43.2 +7.8**
SNAA Sanae 93.22 162 P **P** **18 51 33.6 -1.7**
SNAA Sanae 93.22 162 **P** **18 51 36.9 +1.6**
SNAA Sanae 93.22 162 **P** **18 51 40.9 +5.6**
SNAA Sanae 93.22 162 **P** **18 51 42.3 +7.0**
SNAA Sanae 93.22 162 sP 18 51 46.8 +7.3
SNAA Sanae 93.22 162 P **P** **18 51 34.0 -1.3**
comp=Z,1.6nm,0.9s,mb4.4,baz=274,slow=2.8,SNR=8.8
APA Apatity 93.22 20 *e*P **P** **18 51 32.5 -2.9**
APA *i*PPP PP 18 55 28.0 +6.2
APA *i* 19 02 12.0
APA *i*S S 19 02 42.0 +2.5
APA *i*PS PS 19 03 54.0 -4.7
APA *i*SSS SSS 19 12 32.0 -6.6
APA MLR MLR
comp=Z,2μm,18.0s,MS5.6
KECS Kecovo 93.38 41 *es*P sP 18 51 42.1 +1.3
KECS *e* 18 51 52.9
STHS Stebnicka Huta 93.62 39 *e*pP pP 18 51 41.4 +0.6
STHS *e* 18 52 01.7
STHS *e*PP PP 18 55 22.9 -2.5
STHS Stebnicka Huta 93.62 39 *e*P **P** **18 51 41.4 +3.8**
STHS *e* 18 55 22.9
CRVS Cervenica-Dubn 93.90 40 *e* **P** **18 51 46.8 +7.9**
CRVS *e* 18 52 07.2
CRVS *e*PP PP 18 55 23.0 -4.6
CRVS Cervenica-Dubn 93.90 40 *e*P **P** **18 51 46.8 +7.9**
CRVS *e* 18 55 23.0
VSU Vasula 94.02 30⇑ *e*P **P** **18 51 41.9 +2.7**
NVSS Nova Varos 2 94.03 45⇓ *i*P **P** **18 51 45.1 +5.5**
DIVS Divcibare 94.10 45 *e*P **P** **18 51 40.4 +0.5**
JOF Joensuu 94.43 25 *e*p **P** **18 51 37.5 -3.5**
UZH Uzhgorod 94.50 40 *e*P **P** **18 51 48.0 +6.3**
LVV L'vov 95.26 39 *e*P **P** **18 51 43.0 -2.1**
LVV *e* 18 55 32.2
LVV *e*S S 19 02 52.2 -5.2
LVV *e* 19 13 15.8
LVV MLR MLR
comp=N,630nm,19.0s,MS5.3
LVV MLR MLR
comp=E,840nm,19.0s,MS5.3
LVV MLR MLR
comp=Z,1μm,19.0s,MS5.4
PUL Pulkovo 95.26 28*ce*P **P** **18 51 52.1 +7.2**
PUL *e* 19 02 21.8
PUL *e*PS PS 19 04 18.0 -3.3
PUL pmax pmax
comp=Z,18nm,0.3s,mb6.0
PUL pmax pmax
comp=N,34nm,0.6s
PUL pmax pmax
comp=E,64nm,0.8s
SKO Skopje 95.64 47 *e*P **P** **18 51 48.0 +0.9**
QSPA South Pole Qui 96.88 180 *e*P **P** **18 51 54.3 +2.4**
comp=E,24nm,1.3s,mb5.5
QSPA LR LR
comp=Z,2μm,20.0s,MS5.5
RAO Raoul Island 98.09 241 PFAKE 18 52 10.0 +12
RAO LR LR
comp=Z,2μm,19.0s,MS5.6
AKASG Malin Array Be 98.12 37 P **P** **18 51 55.3 -2.8**
comp=Z,0.1nm,0.3s,baz=22,slow=23,SNR=2.7
TIXI Tiksi 98.97 350 PFAKE 18 52 10.0 +8.6
TIXI LR LR
comp=Z,3μm,20.0s,MS5.8
TIXI Tiksi 98.97 350 *e*P **P** **18 51 59.9 -1.5**
TIXI *e* 19 03 20.8
TIXI *e*SP SP 19 05 01.9 +2.5
TIXI *e*SS SS 19 10 15.1 -4.5
TIXI *e*SSS SSS 19 14 04.0 -4.5
TIXI pmax pmax
comp=Z,13nm,1.0s,mb5.4
SEY Seymchan 98.97 338 *i*P **P** **18 52 03.4 +1.8**
KIS Kishinev 99.18 40 *e*P **P** **18 52 06.0 +3.0**
KIS *e* 18 56 06.0
KIS *e* 19 02 40.0
KIS *e*S S 19 03 36.0 +5.4
KIS *e*PS PS 19 04 58.0 -5.4
OBN Obninsk 100.32 31 *i*P P 18 52 07.7 -0.3
OBN LR LR
comp=Z,2μm,25.0s,MS5.6
OBN Obninsk 100.32 31 P P 18 52 11.3 +3.3
OBN *e* 18 56 12.4
OBN *e* 19 02 43.5
OBN *e* 19 03 41.3
OBN *e*PS PS 19 05 08.0 -6.8
OBN *e*SS SS 19 10 32.3 -6.6
OBN pmax pmax
comp=Z,17nm,1.2s
OBN MLR MLR
comp=Z,2μm,20.0s,MS5.6
SBA Scott Base 101.01 192 PFAKE 18 52 20.0 +9.4
SBA LR LR
comp=Z,906nm,21.0s,MS5.3
PET Petropavlovsk 101.25 327 PFAKE 18 52 20.0 +7.8
PET LR LR
comp=Z,2μm,21.0s,MS5.5
MA2 Magadan 101.55 335 PFAKE 18 52 20.0 +6.6
MA2 LR LR
comp=Z,2μm,20.0s,MS5.7
TSUM Tsumeb 101.66 108 PFAKE 18 52 30.0 +15
TSUM LR LR
comp=Z,5μm,22.0s,MS6.0
SNZO South Karori 104.17 229 PFAKE 18 52 40.0 +15
SNZO LR LR
comp=Z,3μm,20.0s,MS5.8
SUR Sutherland 104.83 122 PFAKE 18 52 40.0 +11
SUR LR LR
comp=Z,2μm,21.0s,MS5.7
BR131 Keskin Array S 105.12 46 PFAKE 18 57 00.0
BR131 LR LR
comp=Z,804nm,20.0s,MS5.3
YAK Yakutsk 106.95 345 PFAKE 18 57 00.0
YAK LR LR
comp=Z,3μm,19.0s,MS5.9
WAKE Wake Island 107.20 293 PFAKE 18 57 00.0
WAKE LR LR
comp=Z,3μm,21.0s,MS5.8
SYO Syowa Base 107.50 161 ⇑Pdiff Pdif 18 52 37.8 -1.7
KWAJ Kwajalein Atol 108.47 282 PFAKE 18 57 00.0
KWAJ LR LR
comp=Z,698nm,21.0s,MS5.2
BOSA Boshof 108.78 118 PFAKE 18 57 00.0
BOSA LR LR
comp=Z,5μm,19.0s,MS6.1
KIV Kislovodsk 109.28 39 PFAKE 18 57 00.0
KIV LR LR
comp=Z,529nm,22.0s,MS5.1
GNI Garni 112.55 41 PFAKE 18 57 10.0 +10
GNI LR LR
comp=Z,978nm,22.0s,MS5.3
MBAR Mbarara 113.07 88 PFAKE 18 57 10.0 +8.6
MBAR LR LR
comp=Z,467nm,20.0s,MS5.1
BRVK Borovoye 115.96 18 *i*PKP PKPdf 18 57 05.8 -0.3
BRVK LR LR
comp=Z,373nm,21.0s,MS5.0
HNR Honiara 118.26 263 PFAKE 18 57 20.0 +8.6
HNR LR LR
comp=Z,1μm,19.0s,MS5.5
ZAL Zalesovo 118.46 9 PKP PKPdf 18 57 09.2 -1.7
comp=Z,0.7nm,0.3s,baz=90,slow=2.0,SNR=2.3
ZAL PP PP 18 58 27.3 -2.3
comp=Z,2.0nm,0.8s,baz=134,slow=7.8,SNR=4.9
ZAL Zalesovo 118.46 9 PKP PKPdf 18 57 09.2 -1.7
ZAL PP PP 18 58 27.3 -2.3
CASY Casey 120.02 186 PFAKE 18 57 20.0 +6.5
CASY LR LR
comp=Z,2μm,19.0s,MS5.8
KURK Kurchatov 120.34 14 *e*PKPdf PKPdf 18 57 08.4 -6.2
KURK LR LR
comp=Z,894nm,20.0s,MS5.4
MDJ Mudanjiang 121.19 334 PKP PKPdf 18 57 13.0 -3.4
MDJ XPKP 18 57 18.5
MDJ PKS PKS 19 00 49.8 +0.8
MDJ SKS SKS 19 04 25.0 +8.9
MDJ SS SS 19 15 18.8 +0.7
MDJ PP PP
comp=Z,353nm,10.5s
MDJ LR LR
comp=N,2μm,29.2s,MS5.8
MDJ LR LR
comp=E,3μm,33.9s,MS5.8
MDJ LR LR
comp=Z,2μm,25.7s
MAJO Matsushiro 122.43 322 *e*PKPdf PKPdf 18 57 15.8 -3.2
MAJO LR LR
comp=Z,1μm,21.0s,MS5.5
MAT Matsushiro 122.43 322 PKP PKPdf 18 57 15.8 -3.1
MAT Matsushiro 122.43 322 *e*PKP PKPdf 18 57 16.0 -2.9
MAT LR LR
comp=Z,1μm,22.0s,MS5.5
ZAK Zakamensk 122.76 356 *e*PKIKP PKPdf 18 57 20.3 +1.1
ZAK pmax pmax
comp=Z,2.0nm,1.1s
ZAK pmax pmax
comp=Z,3.0nm,1.7s
CN2 Changchun 123.60 336 *e*PKP PKPdf 18 57 14.3 -6.8
CN2 PP PP 18 59 01.8 -3.0
CN2 PP PP
comp=Z,200nm,9.0s
CN2 LR LR
comp=N,2μm,22.0s,MS5.9
CN2 LR LR
comp=E,2μm,22.0s,MS5.9
CN2 LR LR
comp=Z,2μm,21.0s,MS5.8
ULN Ulaanbaatar 124.85 352 PFAKE 18 57 30.0 +6.6
ULN LR LR
comp=Z,3μm,20.0s,MS5.9
ULN Ulaanbaatar 124.85 352 *e*PKIKP PKPdf 18 57 16.9 -6.5
MKAR Makanchi Array 124.87 13 PKP PKPdf 18 57 20.5 -3.0
comp=Z,1.2nm,0.9s,baz=297,slow=2.6,SNR=6.7
MKAR PP PP 18 59 09.1 -3.6
comp=Z,1.7nm,0.9s,slow=4.3,SNR=3.7
SONM Songino Array 124.97 353 PKP PKPdf 18 57 20.3 -3.4
comp=Z,1.3nm,0.8s,baz=339,slow=2.0,SNR=11
SONM PP PP 18 59 08.8 -4.5
comp=Z,4.7nm,1.1s,baz=358,slow=6.4,SNR=6.1
SNY Shenyang 126.01 336 ⇓PKP PKPdf 18 57 28.5 +2.7
SNY PP PP 18 59 17.5 -3.2
SNY SKKS 19 06 09.0
SNY PP PP
comp=Z,240nm,7.8s
SNY LR LR
comp=N,2μm,22.5s,MS5.9
SNY LR LR
comp=E,2μm,18.6s,MS5.9
SNY LR LR
comp=Z,2μm,22.5s,MS5.7
AAK Ala-Archa 126.43 21 *e*PKPdf PKPdf 18 57 23.0 -3.5
AAK LR LR
comp=Z,653nm,21.0s,MS5.3
KS15 Wonju Array Si 127.60 330 *e*PKPdf PKPdf 18 57 23.0 -6.0
INCN Inchon 128.19 331 PFAKE 18 57 40.0 +10
INCN LR LR
comp=Z,2μm,21.0s,MS5.7
WMQ Urumqi 128.75 9 *e*PKP PKPdf 18 57 30.0 -1.1
WMQ PP PP 18 59 42.0 +3.1
WMQ PKS PKS 19 01 05.0 +1.7
WMQ SKS SKS 19 04 40.0 +1.2
WMQ SKKS 19 06 32.0
WMQ SS SS 19 16 59.0 +5.5
WMQ PP PP
comp=Z,251nm,7.0s
WMQ LR LR
comp=N,2μm,20.0s,MS6.1
WMQ LR LR
comp=E,3μm,20.0s,MS6.1
WMQ LR LR
comp=Z,3μm,20.0s,MS6.0
GUMO Guam 128.82 293 PFAKE 18 57 40.0 +8.1
GUMO LR LR
comp=Z,241nm,19.0s,MS4.9
DL2 Dalian 129.27 336 *e*PKP PKPdf 18 57 27.8 -4.4
DL2 PP PP 18 59 39.3 -3.1
DL2 SS SS 19 17 02.5 +2.4
DL2 PP PP
comp=Z,340nm,9.2s
DL2 LR LR
comp=N,410nm,17.4s,MS5.7
DL2 LR LR
comp=E,1μm,19.3s,MS5.7
DL2 LR LR
comp=Z,1μm,18.8s,MS5.7
KSH Kashi 129.70 22 *e*PKP PKPdf 18 57 28.0 -5.0
KSH *e*PKS PKS 19 01 03.3 -1.9
KSH *e*PPP PPP 19 02 40.3 +8.0
KSH *e*SKKS 19 06 38.0
KSH PP PP
comp=Z,180nm,4.2s
KSH LR LR
comp=N,2μm,16.7s,MS5.9
KSH LR LR
comp=E,2μm,17.2s,MS5.9
HHC Hu-ho-hao-te 130.79 346 *e*PKP PKPdf 18 57 26.8 -8.2
HHC XPKP 18 57 40.5
HHC PKS PKS 19 01 02.5 -4.7
HHC PP PP
comp=Z,315nm,8.4s
HHC LR LR
comp=N,2μm,21.5s,MS6.0
HHC LR LR
comp=E,2μm,20.3s,MS6.0
HHC LR LR
comp=Z,2μm,21.5s,MS5.8
PMG Port Moresby 130.87 264 PFAKE 18 57 50.0 +14
PMG LR LR
comp=Z,1μm,21.0s,MS5.6
CTAO Charters Tower 131.05 249 PFAKE 18 57 50.0 +14
CTAO LR LR
comp=Z,1μm,19.0s,MS5.6
STKA Stephens Creek 132.06 233 *e*PKP PKPdf 18 57 37.4 -0.3
comp=Z,3.6nm,0.7s
GTA Gaotai 133.90 358 PKP PKPdf 18 57 41.8 +1.0
GTA PP PP 19 00 10.0 -2.0
GTA PKS PKS 19 01 17.0 +4.1
GTA PPP PPP 19 03 04.5 -2.4
GTA SKS SKS 19 04 48.0 -3.2
GTA SKKS 19 06 57.5
GTA PP PP
comp=Z,846nm,9.9s
GTA LR LR
comp=N,1μm,27.5s,MS5.6
GTA LR LR
comp=E,1μm,23.7s,MS5.6
GTA LR LR
comp=Z,3μm,28.3s,MS5.8
SSE Sheshan 135.99 330 PKP PKPdf 18 57 42.0 -3.0
SSE SS SS 19 18 24.0 +2.2
SSE LR LR
comp=N,812nm,26.9s,MS5.9
SSE LR LR
comp=E,3μm,26.8s,MS5.9
SSE LR LR
comp=Z,2μm,19.5s
SSE Sheshan 135.99 330 PKP PKPdf 18 57 42.7 -2.3
SSE SS SS 19 18 23.9 +2.1
SSE LR LR
comp=Z,2μm,19.5s,MS5.9
NJ2 Nanjing 136.28 334 *e*PKP PKPdf 18 57 38.0 -7.4
NJ2 XPKP 18 57 52.5
NJ2 PP PP 19 00 22.0 -4.6
NJ2 PP PP
comp=Z,170nm,10.8s
NJ2 LR LR
comp=N,4μm,31.7s,MS6.2
NJ2 LR LR
comp=E,6μm,31.7s,MS6.2
NJ2 LR LR
comp=Z,2μm,36.8s
LZH Lanzhou 136.86 353 *e*PKP PKPdf 18 57 35.5 -11
LZH sPKP 18 57 43.0
LZH PP PP 19 00 25.0 -5.0
LZH *e*SKS SKS 19 04 39.0 -17
LZH SKKS 19 07 08.0
LZH SS SS 19 18 15.0 -17
LZH LR LR
comp=Z,5μm,21.0s,MS6.2
KLP Kalpa 137.58 25 *e*P PKPdf 18 57 46.3 -1.5
XAN Xi'an 137.91 346 PKP PKPdf 18 57 45.8 -2.6
XAN PP PP
comp=Z,211nm,7.7s
XAN LR LR
comp=N,685nm,20.6s,MS5.7
XAN LR LR
comp=E,1μm,21.5s,MS5.7
XAN LR LR
comp=Z,2μm,21.8s,MS5.9
BHGR Bahadurgarh 139.43 28 *e*P PKPdf 18 57 48.0 -3.3
SONA Sohna 139.87 29 *e*P PKPdf 18 57 50.6 -1.5
TATO Taipei 140.69 324 PFAKE 18 58 00.0 +6.2
TATO LR LR
comp=Z,2μm,21.0s,MS5.8
AGRA Agra 141.13 28 *e*P PKPdf 18 57 49.2 -5.3
WRA Warramunga Arr 142.05 246 PKhKP 18 57 49.5
comp=Z,4.1nm,0.8s,baz=102,slow=4.3,SNR=21
WRA PKP PKPdf 18 57 52.4 -3.9
comp=Z,4.8nm,0.9s,baz=57,slow=0.1,SNR=22
QZH Quanzhou 142.32 328 *e*PKP PKPdf 18 57 53.3 -3.3
QZH PP PP 19 01 00.8 -3.3
QZH SKKS 19 07 49.8
QZH SS SS 19 19 40.0 +3.5
QZH LR LR
comp=N,3μm,25.7s
QZH LR LR
comp=E,2μm,16.6s
QZH LR LR
comp=Z,3μm,20.9s,MS6.0
KOLN Koldanda 143.00 21 *e*P PKPbc 18 57 51.3 -1.3
comp=Z,39nm,1.1s
LSA Lhasa 143.11 9 PKP PKPdf 18 57 55.5 -2.3
GKN Gorkha 143.14 19 *e*P PKPbc 18 57 52.8 -0.2
comp=Z,79nm,1.0s
KKN Kakani 143.55 18 *e*P PKPbc 18 57 53.7 -0.5
comp=Z,103nm,1.1s
DMN Daman 143.66 19 *e*P PKPbc 18 57 54.0 -0.5
comp=Z,44nm,0.7s
PKI Pulchoki 143.79 18 *e*P PKPbc 18 57 54.1 -0.8
comp=Z,86nm,1.0s
BHPL Bhopal 144.17 33 *e*P PKPbc 18 57 54.6 -1.5
BHPL AMb AMB 18 58 15.4
comp=Z,51nm,1.2s
GTK Gangtok 144.91 14 *ex* PKPdf 18 58 03.0 +2.0
KAKA Kakadu 145.18 258 *e*PKP PKPdf 18 58 15.4 +14
comp=Z,59nm,0.8s
POO Poona 145.58 42 *e*P PKPbc 18 57 56.7 -3.3
GYA Guiyang 145.71 345⇑ *i*PKP PKPdf 18 57 59.8 -2.6
GYA PP PP 19 01 25.0 +0.6
GYA PKS PKS 19 01 33.8 +0.2
GYA SKS SKS 19 05 08.3 -2.4
GYA SKKS 19 08 14.0
GYA SS SS 19 20 16.5 +1.8
GYA PP PP
comp=Z,370nm,9.9s
GYA LR LR
comp=N,1μm,25.1s,MS6.0
GYA LR LR
comp=E,3μm,23.6s,MS6.0
GYA LR LR
comp=Z,1μm,24.2s,MS5.6
CVP Callao Caves 145.79 316 *e*P PKPbc 18 58 02.0 +1.4
AKL Akola 145.96 36⇑ *i*x x 19 00 00.1
AKL *i*x x 19 03 15.1
CAUP Cauayan 146.30 315⇑ *e*P PKPbc 18 58 07.6 +5.8
ABRA Dolores 146.58 317 *e*P PKPbc 18 58 04.6 +2.2
KAD Karad 146.66 44 *e*P PKPbc 18 58 02.8 +0.2
KAD AMb AMB 18 58 35.9
comp=Z,83nm,1.4s
NGP Nagpur 146.74 33 *e*P PKPbc 18 58 03.1 +0.4
BLSP Bilaspur 147.44 27 *e*P PKPdf 18 58 03.2 -2.2
BLSP AMb AMB 18 58 24.5
comp=Z,96nm,1.1s
KMI Kunming 147.80 351 PKP PKPdf 18 58 03.3 -2.6
KMI PKP PKPdf 18 58 03.9 -2.0
KMI PKPab PKPab 18 58 09.4 -0.9
KMI pPKP 18 58 14.3
KMI sPKP 18 58 18.2
KMI PKS PKS 19 01 37.1 +0.3
KMI PPP PPP 19 04 53.2 -3.4
KMI SKS SKS 19 05 06.7 -6.9
KMI PcPP' 19 06 20.1
KMI SKKS 19 08 19.3
KMI SS SS 19 20 30.7 -8.0
KMI SSS SSS 19 26 03.9 -10
KMI LR LR
comp=Z,2μm,25.9s,MS5.8
KMI Kunming 147.80 351 PKIKP PKPdf 18 58 03.3 -2.6
KMI 18 58 03.9
KMI 18 58 09.4
KMI 19 01 37.1
KMI PPP PPP 19 04 53.2 -3.4
KMI 19 05 06.7
KMI SS SS 19 20 30.7 -8.0
KMI MLR MLR
comp=Z,2μm,25.9s,MS5.8
NWAO Narrogin (SRO) 148.29 213 *e*PKPbc PKPdf 18 58 06.9 +0.4
NWAO LR LR
comp=Z,1μm,21.0s,MS5.7
IMP Imphal 148.33 6 *ex* PKPdf 18 58 09.0 +2.2
KLBR Kellerberrin 149.01 215 *e*PKP PKPdf 18 58 09.1 +1.4
comp=Z,49nm,0.9s
CAL Calcutta 149.40 17 *ex* PKPab 18 58 15.1 -1.9
HYB Hyderabad 149.41 38 *i*PKP PKPdf 18 58 09.0 +0.3
HYB *e* 18 58 14.0
HYB Hyderabad 149.41 38 *e*P PKPdf 18 58 14.0 +5.3
MUN Mundaring 149.57 212 *e*PKP PKPdf 18 58 10.9 +2.3
MNGI Mangalore 150.03 49 *i*x x 18 58 19.3
FITZ Fitzroy Crossi 150.46 245 *e*PKP PKPdf 18 58 10.4 +0.1
comp=Z,69nm,0.9s
QIZ Qiongzhong 151.56 335 PKP PKPdf 18 58 04.0 -7.9
QIZ LR LR
comp=N,622nm,22.2s,MS5.8
QIZ LR LR
comp=E,1μm,21.8s,MS5.8
QIZ LR LR
comp=Z,2μm,22.1s,MS5.8

QIZ	**Qiongzhong**	**151.56**	**335**	PKPbc	PKPdf	18 58 16.3	+4.4
VIS	**Vishakhapatnam**	**151.80**	**30**	*i* P	PKPdf	18 58 06.5	-5.8
MDRS	**Chennai**	**153.76**	**41**	*ex*	x	18 58 37.0	
MDRS				*ex*	x	19 06 41.0	
MDRS				*ex*	x	19 11 05.0	
MBWA	**Marble Bar**	**154.29**	**234**	PKPbc	PKPdf	18 58 21.6	+5.9
MBWA				LR	LR		
	comp=Z,2μm,22.0s,MS5.9						
DGAR	**Diego Garcia**	**155.08**	**93**	PFAKE		18 58 30.0	+13
DGAR				LR	LR		
	comp=Z,538nm,21.0s,MS5.3						
PALK	**Pallekele**	**158.08**	**50**	PFAKE		18 58 30.0	+9.1
PALK				LR	LR		
	comp=Z,429nm,20.0s,MS5.3						

CASC 27 18:50:44.1±2.0, 6.90N×82.69W, h35km±999km, MD4.1, 2C-1D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**1.81**	**345**	*eS*	S	18 51 34.1	-1.2
ACR				*eS*	S	18 51 34.2	-1.1
BRU2	**Volcan**	**1.88**	**360**	*eS*	S	18 51 38.0	+0.9
AZU2	**Pedas**	**2.72**	**76**	*eP*	P	18 51 24.9	-1.5
AZU2				*eS*	S	18 51 57.8	-0.5
BUS	**Buena Vista**	**2.84**	**338⇓**	*eP*	P	18 51 27.2	-1.0
BUS				*eS*	S	18 52 01.0	-0.6
SJS	**Escuela Geolog**	**3.31**	**336**	*eP*	P	18 51 34.9	+0.1
SJS				*eS*	S	18 52 13.4	0.0
PRS1	**Puriscal**	**3.46**	**332⇑**	*eP*	P	18 51 34.7	-2.2
PRS1				*eS*	S	18 52 15.0	-2.2
CGA2	**Cerro Gallo 2**	**3.56**	**331⇑**	*eP*	P	18 51 37.7	-0.7
CGA2				*eS*	S	18 52 18.8	-1.0
JCR	**Jicaral**	**3.79**	**321**	*eP*	P	18 51 39.3	-2.3
FORC	**Fortuna**	**4.05**	**331**	*eP*	P	18 51 44.6	-0.7
FORC				*eS*	S	18 52 32.2	-0.1
LIM1	**Limonal**	**4.55**	**326**	*i* P	P	18 51 51.7	-0.6
LIM1				*i* S	S	18 52 42.8	-1.9

*CASC **27** 18:56:14.1±2.0, 6.76N×82.63W, h36km±999km, MD4.5, MW4.8*
*IDC **27** 18:56:16.1±4.8, 7.33N×82.58W, mb3.7/3, mb1 4.0/5, mb1mx3.7/22, mbtmp3.9/5, ML3.0/2, Error ellipse: s-maj=164.0km s-min=25.9km az=23.0*
ISC 27 18:56:14.4±1.2, 6.75N±0.09×82.7W±0.1, h33km, n11, σ1§32/16, mb3.6/3, 3D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRU2	**Volcan**	**2.03**	**1**	*eS*	**S**	**18 57 11.9**	**+0.7**
BUS	**Buena Vista**	**2.97**	**340**	*eP*	**P**	**18 56 60.0**	**-0.3**
BUS				*eS*	**S**	**18 57 36.0**	**+0.9**
SJS	**Escuela Geolog**	**3.43**	**338**	*eP*	**P**	**18 57 07.1**	**+0.3**
SJS				*eS*	**S**	**18 57 47.8**	**+0.9**
PRS1	**Puriscal**	**3.57**	**334⇓**	*eP*	**P**	**18 57 07.0**	**-1.8**
PRS1				*eS*	**S**	**18 57 48.2**	**-2.3**
CGA2	**Cerro Gallo 2**	**3.67**	**332⇓**	*eP*	**P**	**18 57 09.4**	**-0.8**
CGA2				*eS*	**S**	**18 57 53.2**	**+0.2**
JCR	**Jicaral**	**3.88**	**323⇓**	*eP*	**P**	**18 57 11.4**	**-1.8**
ROSC	**El Rosal**	**8.56**	**102**	Pn	**P**	**18 58 22.3**	**+3.3**
	1.4nm,0.3s,baz=318,slow=13,SNR=2.2						
SDV	**Santo Domingo**	**12.17**	**79**	Pn	**P**	**18 59 07.3**	**-1.1**
	0.4nm,0.3s,baz=266,slow=12,SNR=9.8						
SDV				Sn	**S**	**19 01 15.6**	**-8.3**
	0.5nm,0.3s,baz=222,slow=12,SNR=4.7						
TXAR	**Lajitas Array**	**29.90**	**321**	P	**P**	**19 02 21.7**	**+0.2**
	0.3nm,0.8s,mb3.1,baz=146,slow=9.8,SNR=4.3						
ANMO	**Albuquerque**	**35.57**	**325**	P	**P**	**19 03 12.9**	**+2.2**
	2.1nm,0.7s,mb4.2,baz=137,slow=9.6,SNR=9.1						
NVAR	**Mina Array Bea**	**45.03**	**320**	P	**P**	**19 04 31.0**	**+2.1**
	0.9nm,0.8s,mb3.7,baz=123,slow=8.3,SNR=8.4						

*CASC **27** 19:10:00.4±2.7, 13.62N×91.18W, h12km±20km, MD4.0, ML5.3*
*IDC **27** 19:10:08.4±8.4, 14.03N×90.65W, h107km±83km, mb3.7/6, mb1 3.9/7, mb1mx3.5/21, mbtmp4.0/7, ML4.3/1, Error ellipse: s-maj=40.2km s-min=21.3km az=55.0*
ISC 27 19:09:58.9±1.0, 13.52N±0.09×91.32W±0.07, h33km, n24, σ1§17/16, mb4.0/6, 5C-7D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**1.03**	**26⇑**	*eP*	**P**	**19 10 17.4**	**+0.3**
IXG	**Ixpaco**	**1.06**	**52⇑**	*eP*	**P**	**19 10 17.9**	**+0.4**
IXG				*eS*	**S**	**19 10 29.8**	**-1.5**
IXG				AML	AML	19 10 35.4	
	comp=E,120μm,0.4s						
PCG	**Pacaya**	**1.11**	**38**	*eP*	**P**	**19 10 18.9**	**+0.7**
PCG				*eS*	**S**	**19 10 31.1**	**-1.4**
RTR	**El Retiro**	**1.67**	**77⇑**	*eP*	Px	19 10 46.3	
RTR				*eS*	Sx	19 11 07.6	
SBLS	**San Blas**	**1.68**	**79⇓**	*iP*	Px	19 10 46.3	
SBLS				*eS*	Sx	19 11 06.8	
SNJE	**San Jose**	**1.70**	**78⇑**	*eP*	Px	19 10 46.6	
SNJE				*eS*	Sx	19 11 08.9	
BOQS	**Boqueron**	**1.99**	**84⇓**	*eP*	Px	19 10 51.0	
BOQS				*eS*	Sx	19 11 15.3	
SNET	**Serv Nac Est T**	**2.03**	**85**	*eP*	**P**	**19 10 31.6**	**+0.2**
SNET				*eP*		19 10 52.0	
SNET				*eS*	**S**	**19 11 15.4**	**+20**
LFRS	**El Faro**	**2.19**	**87⇓**	*eP*	Px	19 10 53.9	
LFRS				*eS*	Sx	19 11 22.0	
MRL	**Marmol**	**2.20**	**45⇑**	*eP*	**P**	**19 10 34.6**	**+0.8**
MRL				*eS*	**S**	**19 11 02.9**	**+2.7**
LBRS	**Las Brisas**	**2.22**	**84⇓**	*eP*	Px	19 10 54.4	
LBRS				*eS*	Sx	19 11 21.8	
LCBS	**La Ceiba**	**2.28**	**86⇓**	*eP*	Px	19 10 54.9	
LCBS				*eS*	Sx	19 11 23.6	
SNVI	**San Vicente**	**2.41**	**87**	*eP*	Px	19 10 57.2	
SNVI				*eS*	Sx	19 11 24.9	
VSM	**San Miguel**	**2.96**	**91⇓**	*eP*	Px	19 11 05.6	
VSM				*eS*	Sx	19 11 40.7	
BLLM	**Bellamira**	**3.00**	**91**	*eP*	Px	19 11 09.2	
BLLM				*eS*	Sx	19 11 44.2	
CNCH	**Conchagua**	**3.40**	**94⇓**	*eP*	Px	19 11 10.9	
CNCH				*eS*	Sx	19 11 51.4	
TXAR	**Lajitas Array**	**19.46**	**326**	P	**P**	**19 14 25.5**	**-0.3**
	comp=E,0.2nm,0.3s,baz=153,slow=12,SNR=28						
SADO	**Sadowa**	**32.83**	**16**	P	**P**	**19 16 26.1**	**-5.6**
	comp=E,3.7nm,0.6s,mb4.5,baz=234,slow=8.7,SNR=5.0						
PDAR	**Pinedale Array**	**33.13**	**335**	P	**P**	**19 16 32.5**	**-1.7**
	comp=E,0.3nm,0.8s,mb3.3,baz=127,slow=9.0,SNR=3.3						
NVAR	**Mina Array Bea**	**34.46**	**321**	P	**P**	**19 16 47.2**	**+1.4**
	comp=E,2.1nm,0.7s,mb4.2,baz=129,slow=9.3,SNR=23						
SIV	**San Ignacio**	**41.88**	**133**	P	**P**	**19 17 47.4**	**-0.6**
	comp=E,1.7nm,0.8s,mb3.7,baz=304,slow=12,SNR=8.4						
SCHQ	**Schefferville**	**45.45**	**20**	P	**P**	**19 18 11.2**	**-5.3**
	comp=E,2.5nm,0.7s,mb4.2,baz=237,slow=11,SNR=7.0						
ARCES	**ARCESS Array B**	**86.39**	**18**	P	**P**	**19 22 34.4**	**-4.2**
	comp=E,2.7nm,0.9s,mb4.5,baz=292,slow=4.9,SNR=4.0						
WRA	**Warramunga Arr**	**135.92**	**255**	PKP	PKPdf	19 29 18.2	+0.7
	comp=E,0.9nm,1.1s,baz=85,slow=2.7,SNR=6.5						

MAN 27 19:22:34.0, 15.24N×122.25E, h1km, mb4.2, ML3.1, MS2.8, 3D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POLP	**Polilio Island**	**0.59**	**211**	*eP*	Pg	19 22 45.1	-0.7
POLP				*eS*	Sg	19 22 53.2	-0.6
PCPH	**Palayan**	**1.16**	**286⇓**	*iP*	Pb	19 23 11.7	+15
GQP	**Guinayangan**	**1.34**	**172⇓**	*eP*	Pb	19 22 59.3	-0.3
GQP				*eS*	Sb	19 23 16.9	-0.3
CAUP	**Cauayan**	**1.74**	**346**	*eP*	Pn	19 23 04.9	-0.7
BOAC	**Boac**	**1.82**	**193**	*eP*	Pn	19 23 07.9	+1.3
BOAC				*eS*	Sn	19 23 31.0	+0.4
AUQP	**San Andres**	**1.95**	**168**	*eP*	Pn	19 23 15.4	+6.8
BCPH	**Baguio City Da**	**1.97**	**305⇓**	*eP*	Pn	19 23 09.1	+0.3
BCPH				*eS*	Sn	19 23 35.2	+0.8
PVCP	**Virac**	**2.46**	**131**	*eP*	Pn	19 23 16.5	+0.6
ABRA	**Dolores**	**2.81**	**329**	*eP*	Pn	19 23 21.3	+0.4
SJMP	**San Jose**	**2.98**	**202**	*eP*	Pn	19 23 27.0	+3.7

*NEIC **27** 19:46:51.1, 19.10N×66.79W, h32km, MD3.7(RSPR), After RSPR.*
RSPR 27 19:46:51.1, 19.10N×66.79W, h32km±14km, MD3.7/9, MD3.7/9, 4C-4D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LRS	**Lares**	**0.80**	**184⇓**	*iP*	Pn	19 47 04.4	-1.8
LRS				*eS*	Sb	19 47 18.3	+1.2
MPR	**Mayaguez**	**0.94**	**201**	*eS*	Sn	19 47 18.3	-2.3
LSP	**Las Mesas**	**0.96**	**197⇓**	*iP*	Pn	19 47 06.8	-1.7
PORP	**Portuguez**	**1.05**	**172⇓**	*iP*	Pn	19 47 08.3	-1.5
PORP				*eS*	Sn	19 47 21.2	-2.2
MGP	**Maguayo**	**1.12**	**195⇑**	*iP*	Pn	19 47 09.2	-1.6
CRPR	**Cabo Rojo, PR**	**1.13**	**196⇓**	*iP*	Pn	19 47 09.2	-1.7
CRPR				*eS*	Sn	19 47 23.4	-2.0
SJG	**San Juan**	**1.16**	**148⇑**	*eP*	Pn	19 47 09.4	-1.9
SJG				*eS*	Sn	19 47 23.4	-2.7
CBYP	**Canovanas**	**1.21**	**133⇑**	*eP*	Pn	19 47 10.1	-2.0
CBYP				*eS*	Sn	19 47 25.8	-1.8
CPD	**Cerro la Pandu**	**1.34**	**142⇑**	*eP*	Pn	19 47 12.7	-1.3
CPD				*eS*	Sn	19 47 29.5	-1.3
MTP	**Monte Pirata**	**1.54**	**130⇑**	*iP*	Pn	19 47 14.8	-2.0
MTP				*eS*	Sn	19 47 33.5	-2.4

*IDC **27** 19:51:52.0±1.7, 31.63N×140.19E, mb3.9/3, mb1 4.0/4, mb1mx3.7/19, mbtmp4.0/4, ML3.7/1, MS4.3/1, Ms1 4.3/1, ms1mx3.6/27, Error ellipse: s-maj=66.2km s-min=16.7km az=73.0*
*NEIC **27** 19:51:51.8±1.2, 32.11N×140.79E, h20km, mb4.0/2, Error ellipse: s-maj=38.7km s-min=11.2km az=71.0*
ISC 27 19:51:47.7±3.4, 32.4N±0.1×141.8E±0.2, h28km±28km, n12, σ1§11/16, mb4.0/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**1.86**	**295**	Pn	**Pn**	**19 52 20.8**	**+2.5**
	28nm,0.3s,baz=243,slow=22,SNR=6.1						
JHJ				Sn	**Sn**	**19 52 40.5**	**-0.6**
	22nm,0.3s,baz=43,slow=23,SNR=4.3						
MAJO	**Matsushiro**	**5.12**	**326**	*ePn*	**Pn**	**19 53 04.5**	**-0.2**
MAJO				Sn	**Sn**	**19 54 10.5**	**+6.8**
MAT	**Matsushiro**	**5.12**	**326**	P	**Pn**	**19 53 04.1**	**-0.6**
MAT				S	**Sn**	**19 54 00.5**	**-3.2**
MAT	**Matsushiro**	**5.12**	**326**	*eP*	**Pn**	**19 53 04.0**	**-0.7**
MAT				*eS*	**Sn**	**19 54 01.0**	**-2.7**
CBIJ	**Chichi jima**	**5.25**	**176**	Pn	**Pn**	**19 53 06.0**	**-0.5**
	7.0nm,0.3s,baz=288,slow=21,SNR=7.1						
CBIJ				Sn	**Sn**	**19 54 01.8**	**-5.2**
	3.8nm,0.3s,baz=288,slow=20,SNR=2.0						
ASAJ	**Asahikawa**	**11.76**	**3**	LR	LR	19 59 50.9	
	comp=Z,1μm,20.0s,baz=270,slow=38						
KS15	**Wonju Array Si**	**12.49**	**298**	*ePn*	**P**	**19 54 39.5**	**-7.1**
KS15				*epPn*		19 54 41.9	
SONM	**Songino Array**	**30.86**	**310**	P	**P**	**19 58 06.1**	**+2.3**
	1.1nm,0.8s,mb3.8,baz=112,slow=8.0,SNR=12						
MKAR	**Makanchi Array**	**46.99**	**306**	P	**P**	**20 00 18.4**	**+0.2**
	0.8nm,0.7s,mb3.8,baz=89,slow=8.4,SNR=7.2						
KURK	**Kurchatov**	**49.16**	**311**	P	**P**	**20 00 34.7**	**-0.3**
	1.5nm,0.7s,mb4.1						
WRAB	**Tennant Creek**	**52.48**	**189**	*eP*	**P**	**20 01 00.7**	**+0.1**
	0.9nm,0.5s,mb4.0						
WRA	**Warramunga Arr**	**52.49**	**189**	P	**P**	**20 01 00.3**	**-0.4**
	1.9nm,0.7s,mb4.1,baz=4.8,slow=7.6,SNR=18						

WEL 27 20:16:38.3±0.2, 38.28S×178.41E, h5km, ML3.6/5, 3C-1D, Error ellipse: s-maj=2.1km s-min=0.9km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**0.24**	**331**	⇓PG	Pg	20 16 43.5	+0.3
PUZ				SG	Sg	20 16 47.0	+0.6
MWZ	**Matawai**	**0.69**	**265**	⇑P*	Pb	20 16 52.4	-0.1
MWZ				SG	Sg	20 17 01.9	+0.4
MXZ	**Matakaoa Point**	**0.72**	**354**	⇑P*	Pb	20 16 52.4	-0.5
MXZ				S*	Sb	20 17 03.1	+0.2
KNZ	**Kokohu**	**0.94**	**218**	P*	Pb	20 16 56.5	-0.2
KNZ				S*	Sb	20 17 09.6	+0.4
URZ	**Urewera**	**1.02**	**271**	⇑P*	Pb	20 16 57.5	-0.6
URZ				S*	Sb	20 17 11.7	+0.1
EDRZ	**Edgecumbe**	**1.32**	**277**	P*	Pb	20 17 02.2	-1.1
MARZ	**Manawahe**	**1.40**	**282**	PN	Pn	20 17 03.4	-1.2
TAZ	**Tarawera**	**1.49**	**271**	PN	Pn	20 17 05.3	-0.7
PATZ	**Paeroa**	**1.69**	**266**	*e*PN	Pn	20 17 07.7	-1.1
BKZ	**Black Stump Fm**	**1.74**	**239**	PN	Pn	20 17 07.9	-1.5
WNVZ	**Wahianoa**	**2.43**	**244**	PN	Pn	20 17 17.6	-1.7
TSZ	**Takapari Road**	**2.60**	**226**	PN	Pn	20 17 18.1	-3.7
TSZ				SN	Sn	20 17 49.6	-4.5
KUZ	**Kuaotunu**	**2.63**	**305**	PN	Pn	20 17 18.5	-3.7
WAZ	**Wanganui**	**3.04**	**240**	PN	Pn	20 17 26.0	-2.0
MRZ	**Mangatainoka R**	**3.23**	**222**	*e*PN	Pn	20 17 26.0	-4.7
MRZ				SN	Sn	20 18 03.1	-7.0
KIW	**Kapiti Island**	**3.73**	**225**	*e*PN	Pn	20 17 32.1	-5.8
TCW	**Tory Channel**	**4.33**	**226**	*e*SN	Sn	20 18 29.0	-8.8

*NEIC **27** 20:31:25.7±0.4, 51.56N×16.18E, h5km, ML2.8(VIE), Error ellipse: s-maj=6.0km s-min=4.6km az=83.0*
*IPEC **27** 20:31:25.7±0.3, 51.55N×16.13E, ML2.1/3, Error ellipse: s-maj=1.9km s-min=1.5km az=39.0*
*CSEM **27** 20:31:26.5±0.1, 51.52N×16.10E, h1km, ML3.1/4, Error ellipse: s-maj=2.1km s-min=1.6km az=63.0*
*IDC **27** 20:31:27.6±0.8, 51.49N×15.97E, mb1 3.5/6, mb1mx3.4/22, mbtmp3.4/6, ML2.8/6, Error ellipse: s-maj=18.4km s-min=7.4km az=101.0*
*PRU **27** 20:31:27.5, 51.46N×16.05E*
*WAR **27** 20:31:28.0, 51.48N×16.03E, h1km, ML2.7, Mining Induced*
ISC 27 20:31:24.6±0.6, 51.48N±0.03×16.05E±0.03, n33, σ1§51/65, 1C-3D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.66**	**166⇓**	*iPG*	**Pg**	**20 31 40.0**	**+2.3**
KSP				⇓*e*SG	**Sg**	**20 31 49.0**	**+2.5**
KSP	**Ksiaz**	**0.66**	**166**	*e*Pg	**Pg**	**20 31 40.0**	**+2.3**
KSP				*e*Sg	**Sg**	**20 31 49.7**	**+3.2**
KSP	**Ksiaz**	**0.66**	**166**	*e*Pg	**Pg**	**20 31 39.7**	**+2.0**
KSP				*e*Sg	**Sg**	**20 31 47.7**	**+1.2**
KSP	**Ksiaz**	**0.66**	**166⇓**	*iPg*	**Pg**	**20 31 40.0**	**+2.3**
KSP				*e*Sg	**Sg**	**20 31 48.7**	**+2.2**
UPC	**Upice**	**0.97**	**181**	*e*PG	**Pg**	**20 31 45.7**	**+1.6**
DPC	**Dobruska-Polom**	**1.14**	**171**	*e*PG	**Pg**	**20 31 48.6**	**+1.1**
DPC				*e*SG	**Sg**	**20 32 03.2**	**+0.5**
	52nm,0.3s						
PVCC	**Panska Ves**	**1.33**	**225**	*e*PG	**Pg**	**20 31 52.5**	**+1.2**
PVCC	**Panska Ves**	**1.33**	**225**	*e*Pg	**Pg**	**20 31 52.5**	**+1.2**
PVCC				*e*Sg	**Sg**	**20 32 10.6**	**+1.5**
BRG	**Berggiesshubel**	**1.46**	**246**	Pg	**Pg**	**20 31 54.8**	**+1.1**
BRG	**Berggiesshubel**	**1.46**	**246**	Pn	**Pn**	**20 31 54.2**	**+1.9**
BRG				Pg	**Pg**	**20 31 54.8**	**+1.1**
BRG				Sg	**Sg**	**20 32 14.6**	**+1.4**
PRU	**Pruhonice**	**1.77**	**213**	*e*PN	**Pn**	**20 31 58.1**	**+1.3**
PRU				*e*PG	**Pg**	**20 32 00.1**	**+0.1**
PRU				*e*SG	**Sg**	**20 32 23.1**	**-0.6**
PRU	**Pruhonice**	**1.77**	**213**	Pg	**Pg**	**20 32 00.1**	**+0.1**
PRU				Sg	**Sg**	**20 32 23.1**	**-0.6**
CLL	**Collm**	**1.92**	**266**	*e*PN	**Pn**	**20 32 00.0**	**+1.2**
CLL				*i* PG	**Pg**	**20 32 02.2**	**-0.7**
CLL				*i* SG	**Sg**	**20 32 28.3**	**-0.1**
CLL				*i*		20 32 37.2	
MORC	**Moravsky Berou**	**1.95**	**150**	*e*Pg	**Pg**	**20 32 03.7**	**+0.1**
MORC				*e*Sg	**Sg**	**20 32 28.4**	**-1.2**
	9.8nm,0.3s						
MORC	**Moravsky Berou**	**1.95**	**150**	*e*Pb	**Pb**	**20 32 00.7**	**-0.1**
MORC				*e*Pg	**Pg**	**20 32 03.7**	**+0.1**
MORC				*e*Sg	**Sg**	**20 32 28.4**	**-1.3**
OKC	**Ostrava-Krasne**	**2.12**	**140**	*e*PG	**Pg**	**20 32 06.7**	**-0.2**
OKC				*e*SG	**Sg**	**20 32 33.2**	**-1.9**
VRAC	**Vranov**	**2.20**	**171**	Pn	**Pn**	**20 32 05.4**	**+2.5**
	1.2nm,0.3s,baz=341,slow=14,SNR=19						
VRAC				Lg		20 32 37.7	
	4.2nm,0.3s,baz=75,slow=19,SNR=11						
VRAC	**Vranov**	**2.20**	**171**	*e*Pn	**Pn**	**20 32 04.8**	**+1.9**
VRAC				*e*Sg	**Sg**	**20 32 36.9**	**-1.0**
	11nm,0.3s						
KRUC	**Moravsky**	**2.43**	**175**	*e*Pn	**Pn**	**20 32 07.6**	**+1.4**
KRUC				*e*Sg	**Sg**	**20 32 43.9**	**-1.7**
	6.9nm,0.4s						
NKC	**Novy Kostel**	**2.60**	**243**	*e*PN	**Pn**	**20 32 10.4**	**+1.8**
NKC				*e*SG	**Sg**	**20 32 50.0**	**-1.2**
OJC	**Ojcow**	**2.69**	**117**	*e*PG	**Pg**	**20 32 19.0**	**+0.7**
OJC				*e*SG	**Sg**	**20 32 54.0**	**-0.2**
KHC	**Kasperske Hory**	**2.83**	**215**	*e*PN	**Pn**	**20 32 13.1**	**+1.1**
KHC				*e*PG	**Pg**	**20 32 19.0**	**-2.2**
KHC				*e*SN	**Sn**	**20 32 45.5**	**-1.9**
KHC				*e*SG	**Sg**	**20 32 56.8**	**-2.2**
MOX	**Moxa**	**2.92**	**255**	*i* P	**Pn**	**20 32 14.2**	**+1.0**
MOX				Pg	**Pg**	**20 32 22.0**	**-0.9**
MOX				Sg	**Sg**	**20 33 00.0**	**-1.8**
MOX	**Moxa**	**2.92**	**255**	*e*Pn	**Pn**	**20 32 14.2**	**+1.0**
MOX				*e*Pg	**Pg**	**20 32 22.4**	**-0.5**
MOX				*e*Sg	**Sg**	**20 33 00.4**	**-1.4**
GERES	**GERESS Array B**	**3.04**	**211**	Pn	**Pn**	**20 32 16.3**	**+1.5**
	0.4nm,0.3s,baz=25,slow=13,SNR=16						
GERES				Pg	**Pg**	**20 32 22.8**	**-2.5**
	1.6nm,0.3s,baz=32,slow=17,SNR=30						
GERES				Sn	**Sn**	**20 32 49.9**	**-2.6**
	0.7nm,0.3s,baz=45,slow=19,SNR=5.0						
GERES				Lg		20 33 03.9	
	1.8nm,0.3s,baz=35,slow=28,SNR=10						
GERES	**GERESS Array B**	**3.04**	**211**	Pg	**Pg**	**20 32 22.8**	**-2.5**
MOA	**Molln**	**3.81**	**198⇑**	*i*PN	**Pn**	**20 32 27.3**	**+1.4**
MOA				*i* SG	**Sg**	**20 33 30.5**	**-1.1**
	4.2nm,0.5s						
STHS	**Stebnicka Huta**	**3.91**	**120**	*e*PG	**Pg**	**20 32 40.7**	**-2.0**
STHS				*e*SG	**Sg**	**20 33 37.9**	**+3.1**
HFS	**Hagfors**	**8.78**	**352**	Pn	**P**	**20 33 33.0**	**-2.7**
	0.0nm,0.3s,baz=168,slow=13,SNR=4.5						
NOA	**NORSAR Array B**	**9.95**	**346**	Pn	**P**	**20 33 49.0**	**-2.8**
	0.1nm,0.3s,baz=151,slow=5.6,SNR=2.4						
FINES	**FINESS Array B**	**11.41**	**25**	Pn	**P**	**20 34 07.3**	**-4.4**
	0.2nm,0.3s,baz=217,slow=11,SNR=9.3						
FINES	**FINESS Array B**	**11.41**	**25**	Pn	**P**	**20 34 07.3**	**-4.4**
ARCES	**ARCESS Array B**	**18.66**	**10**	Pn	**P**	**20 35 41.5**	**-4.2**
	0.1nm,0.3s,baz=194,slow=11,SNR=4.5						

MAN 27 21:58:12.7, 9.07N×122.87E, h30km, mb4.5, ML3.4, MS3.3, 2C, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.46**	**53⇑**	*iP*	Pb	21 58 23.6	+1.2
SNPH				*i* S	Sb	21 58 32.0	+3.0
DCPH	**Dipolog City**	**0.68**	**135⇑**	*iP*	Pb	21 58 26.9	+1.0
DCPH				*i* S	Sb	21 58 36.6	+1.5
IPIL	**Ipil**	**1.30**	**193**	*eP*	Pn	21 58 34.3	-0.8
IPIL				*eS*	Sn	21 58 52.6	+0.9
PAGZ	**Pagadian**	**1.31**	**157**	*eP*	Pn	21 58 35.5	+0.2
GUIM	**Jordan**	**1.57**	**350**	*eP*	Pn	21 58 38.8	-0.2
GUIM				*eS*	Sn	21 58 58.6	+0.1

*NEIC **27** 22:03:00.3±0.7, 53.28N×2.19E, h10km, ML3.2(LDG), Error ellipse: s-maj=8.8km s-min=5.6km az=174.0*
*CSEM **27** 22:03:01.5±0.1, 53.29N×2.12E, h10km, ML3.2/21, Error ellipse: s-maj=2.1km s-min=1.6km az=44.0*
*LDG **27** 22:03:03.5±0.3, 53.14N×2.13E, h2km, Ml3.2/25, Error ellipse: s-maj=5.3km s-min=4.2km az=154.0*
BGS 27 22:03:00.6±0.4, 53.47N×2.40E, h6km±10km, ML2.8, 1D, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AWI1	**Witton**	**0.86**	**222**	*eP*	Pb	22 03 16.2	-1.4
ABA1	**Baconsthorpe**	**0.96**	**233**	*eP*	Pb	22 03 18.1	-1.1
ABA1	**Baconsthorpe**	**0.96**	**233**	*eP*	Pb	22 03 18.1	-1.1
AEU	**East Anglia Un**	**1.11**	**220**	*eP*	Pb	22 03 20.6	-1.2
AEU				*eS*	Sb	22 03 35.3	-1.1
AEU				AML	AML	22 03 37.9	
	comp=N,221nm,0.2s						
AEU				AML	AML	22 03 41.2	
	comp=E,194nm,0.2s						
AWH	**Whinburgh**	**1.22**	**227⇓**	*eP*	Pb	22 03 22.4	-1.3
APAE	**Packway**	**1.30**	**206**	*eP*	Pb	22 03 23.8	-1.3
LMK	**Market Rasen**	**1.63**	**271**	*eP*	Pn	22 03 28.5	-1.6
LWH	**Whinny Nab**	**2.01**	**297**	*eP*	Pn	22 03 34.8	-0.7
KBI1	**Birley Grange**	**2.36**	**266**	*eP*	Pn	22 03 38.0	-2.6
LHO	**Holmfirth**	**2.54**	**273**	*eP*	Pn	22 03 40.6	-2.6
KWE	**Weaver Farm**	**2.59**	**262**	*eP*	Pn	22 03 41.6	-2.3
WTSB	**Winterswijk**	**3.07**	**118**	*e*Pn	Pn	22 03 49.0	-1.7
	comp=E,19nm,0.4s						
WTSB				*e*Sn	Sn	22 04 23.4	-4.8
IBBN	**Ibbenburen**	**3.45**	**108**	*e*Pn	Pn	22 03 54.5	-1.5
HGN	**Heimansgroeve**	**3.48**	**140**	*e*Pn	Pn	22 03 54.4	-2.0
	comp=E,5.3nm,0.3s						
BAIF	**Baives**	**3.60**	**161**	*e*Pn	Pn	22 03 55.8	-2.4
BAIF				*e*Sg	Sn	22 04 48.0	+6.5
	comp=E,18nm,0.5s				

LPL	**La Plagne**	**8.45 159**	*e*Pn	P	22 05 01.8	-4.7
LPG	**La Plagne**	**8.47 159**	*e*Pn	P	22 05 02.5	-4.3
CAF	**Calviac**	**8.56 182**	*e*Pn	P	22 04 59.4	-8.6
CAF			*e*Sn	Sn	22 06 29.2	-17
	comp=E,1.6nm,0.2s					
LFF	**La Frestale**	**8.61 188**	*e*Pn	P	22 05 01.0	-7.7
LFF			*e*Sn	Sn	22 06 30.2	-17
	comp=E,6.3nm,0.5s					
VIVF	**Saint-Julien-l**	**8.75 169**	*e*Pn	P	22 05 04.1	-6.6
VIVF			*e*Sn	Sn	22 06 34.0	-17
	comp=E,1.6nm,0.4s					
ORIF	**Oris-en-Rattie**	**8.86 164**	*e*Pn	P	22 05 06.6	-5.6
ORIF			*e*Sn	Sn	22 06 37.3	-16
	comp=E,1.8nm,0.4s					
LASF	**Ste Croix**	**9.45 174**	*e*Pn	P	22 05 14.0	-6.4
MTLF	**Montolieu**	**10.14 181**	*e*Pn	P	22 05 22.1	-7.7
FRF	**La Foret Royal**	**10.31 162**	*e*Pn	P	22 05 25.3	-6.8
EPF	**Esparros**	**10.54 188**	*e*Pn	P	22 05 27.4	-7.8
EPF			*e*Sn	S	22 07 16.3	-18
	comp=E,3.4nm,0.6s					
SJPF	**Ste Jean**	**10.64 195**	*e*Pn	P	22 05 27.5	-9.2
ETSF	**Etsaut**	**10.76 192**	*e*Pn	P	22 05 30.1	-8.2

*IDC **27** 22:08:42.2±0.6, 1.61S×99.52E, mb4.2/14, mb1 4.3/14, mb1mx4.2/17, mbtmp4.2/14, MS3.5/5, Ms1 3.5/5, ms1mx3.3/21, Error ellipse: s-maj=34.8km s-min=14.4km az=62.0*
*BJI **27** 22:08:43.4, 1.98S×99.84E, h39km, mB5.2, mb4.6, Ms4.2, Msz4.2*
*NEIC **27** 22:08:46.9±0.3, 1.59S×99.54E, h30km, mb4.4/8, Error ellipse: s-maj=15.6km s-min=7.3km az=71.0*
ISC 27 22:08:46.1±3.1, **1.53S**±0.08×**99.7E**±0.2, **h38**km±27km, **n37**, σ0§**99**/32, **mb4.2**/25, **MS3.5**/5, **Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.85**	**8**	*e*P	**P**	**22 10 27.1**	**+0.4**
MBWA	**Marble Bar**	**27.64**	**136**	*e*P	**P**	**22 14 32.8**	**+0.1**
	0.7nm,0.6s,mb3.5						
FITZ	**Fitzroy Crossi**	**30.36**	**124**	P	**P**	**22 14 56.2**	**-0.7**
	6.3nm,0.9s,mb4.3,baz=332,slow=6.0,SNR=2.9						
FITZ				LR	LR	22 28 31.4	
	comp=Z,115nm,18.8s,MS3.5,baz=280,slow=39						
LSA	**Lhasa**	**32.10**	**346**	P	**P**	**22 15 13.5**	**+1.3**
LSA	**Lhasa**	**32.10**	**346**	*e*P	**P**	**22 15 13.6**	**+1.4**
	5.4nm,0.6s,mb4.5						
NWAO	**Narrogin (SRO)**	**35.33**	**154**	P	**P**	**22 15 39.4**	**-0.6**
	12nm,1.0s,mb4.8,baz=315,slow=10.0,SNR=3.2						
NWAO	**Narrogin (SRO)**	**35.33**	**154**	P	**P**	**22 15 39.4**	**-0.6**
XAN	**Xi'an**	**36.44**	**13**	P	**P**	**22 15 48.5**	**-0.9**
XAN				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.5						
WRA	**Warramunga Arr**	**38.53**	**121**	P	**P**	**22 16 06.4**	**-0.6**
	comp=Z,2.5nm,0.7s,mb4.0,baz=299,slow=9.8,SNR=32						
WRA				PcP	PcP	22 18 20.2	+0.4
	comp=Z,0.5nm,0.6s,baz=316,slow=2.7,SNR=4.9						
JOW	**Kunigami**	**39.46**	**42**	LR	LR	22 33 07.7	
	comp=Z,50nm,18.3s,MS3.4,baz=152,slow=37						
GTA	**Gaotai**	**40.74**	**0**	P	**P**	**22 16 25.5**	**+0.3**
GTA				AP	pP	22 16 36.3	+0.3
GTA				XP	sP	22 16 39.0	-1.8
GTA				AMB	AMB		
	comp=Z,4.0nm,1.1s,mb4.0						
JNU	**Nakatsue**	**45.34**	**38**	LR	LR	22 36 34.5	
	comp=Z,53nm,20.7s,MS3.5,baz=40,slow=37						
WMQ	**Urumqi**	**46.41**	**348**	*e*P	**P**	**22 17 12.5**	**+1.6**
WMQ				AP	pP	22 17 22.5	+0.6
WMQ				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.8						
SONM	**Songino Array**	**49.52**	**6**	P	**P**	**22 17 35.3**	**+0.2**
	comp=Z,1.8nm,0.7s,mb4.2,baz=189,slow=8.9,SNR=15						
SONM				PcP	PcP	22 18 57.6	+0.7
	comp=Z,0.9nm,0.7s,baz=187,slow=4.8,SNR=3.0						
ULN	**Ulaanbaatar**	**49.62**	**7**	*e*P	**P**	**22 17 35.6**	**-0.3**
	comp=Z,7.7nm,1.8s,mb4.4						
STKA	**Stephens Creek**	**49.72**	**132**	P	**P**	**22 17 37.4**	**+0.5**
	comp=Z,1.9nm,0.6s,mb4.3,baz=310,slow=7.5,SNR=9.9						
STKA	**Stephens Creek**	**49.72**	**132**	*e*P	**P**	**22 17 37.4**	**+0.5**
MKAR	**Makanchi Array**	**50.49**	**345**	P	**P**	**22 17 42.6**	**+0.1**
	comp=Z,3.0nm,0.6s,mb4.5,baz=153,slow=8.4,SNR=34						
KURK	**Kurchatov**	**55.06**	**344**	*e*P	**P**	**22 18 16.2**	**-0.3**
	comp=Z,6.7nm,1.0s,mb4.6						
ZAL	**Zalesovo**	**56.64**	**350**	P	**P**	**22 18 27.5**	**-0.4**
	comp=Z,3.1nm,0.4s,mb4.7,baz=308,slow=4.5,SNR=14						
BRVK	**Borovoye**	**59.69**	**340**	*e*P	**P**	**22 18 47.6**	**-1.6**
	comp=Z,1.5nm,0.9s,mb4.0						
GNI	**Garni**	**64.95**	**316**	*e*P	**P**	**22 19 23.6**	**-0.9**
	comp=Z,1.0nm,0.4s,mb4.2						
YAK	**Yakutsk**	**67.38**	**15**	*e*P	**P**	**22 19 38.7**	**-0.8**
	comp=Z,16nm,0.8s,mb5.1						
MAW	**Mawson**	**70.65**	**194**	P	**P**	**22 19 59.4**	**-0.1**
	comp=Z,1.0nm,0.6s,mb3.9,baz=18,slow=6.4,SNR=5.7						
MAW				LR	LR	22 46 55.5	
	comp=Z,59nm,18.9s,MS3.9,baz=244,slow=32						
BRTR	**Keskin Array B**	**72.75**	**312**	P	**P**	**22 20 11.2**	**-1.4**
	comp=Z,0.6nm,0.6s,mb3.7,baz=129,slow=9.2,SNR=3.4						
AKASG	**Malin Array Be**	**78.90**	**322**	P	**P**	**22 20 46.5**	**-0.8**
	comp=Z,0.1nm,0.3s,mb3.2,baz=82,slow=5.5,SNR=2.9						
SUR	**Sutherland**	**79.75**	**238**	P	**P**	**22 20 50.4**	**-1.9**
VNDA	**Vanda**	**82.68**	**169**	P	**P**	**22 21 06.4**	**-0.3**
	comp=Z,0.4nm,0.6s,mb3.6,baz=306,slow=5.1,SNR=6.8						
FINES	**FINESS Array B**	**83.54**	**332**	P	**P**	**22 21 11.6**	**+0.3**
	comp=Z,0.7nm,0.6s,mb4.0,baz=108,slow=6.0,SNR=6.1						
SBA	**Scott Base**	**83.78**	**169**	*e*P	**P**	**22 21 14.1**	**+1.8**
ARCES	**ARCESS Array B**	**85.92**	**340**	P	**P**	**22 21 23.9**	**+0.8**
	comp=Z,3.0nm,0.8s,mb4.6,baz=97,slow=7.3,SNR=2.9						
QSPA	**South Pole Qui**	**88.42**	**180**	*e*P	**P**	**22 21 35.4**	**+0.5**
	comp=Z,1.3nm,0.6s,mb4.3						
GERES	**GERESS Array B**	**88.47**	**319**	P	**P**	**22 21 38.0**	**+2.2**
	comp=Z,0.2nm,0.3s,mb3.8,baz=124,slow=4.8,SNR=4.5						
NOA	**NORSAR Array B**	**90.57**	**331**	LR	LR	23 06 48.1	
	comp=Z,18nm,18.9s,MS3.5,baz=285,slow=38						
SNAA	**Sanae**	**92.47**	**198**	*e*P	**P**	**22 21 56.0**	**+1.9**
CPUP	**Villa Florida**	**144.48**	**217**	PKP	PKPdf	22 28 18.9	-0.4
	comp=Z,1.0nm,0.6s,baz=63,slow=6.8,SNR=5.0						
TXAR	**Lajitas Array**	**144.54**	**37**	PKP	PKPdf	22 28 21.4	+2.0
	comp=Z,2.9nm,0.6s,baz=230,slow=1.1,SNR=34						

*MOS **27** 22:27:19.3±1.0, 48.04N×148.14E, h371km, mb4.2/18, Error ellipse: s-maj=13.3km s-min=7.7km az=74.2*
*BJI **27** 22:27:19.8, 47.98N×147.95E, h359km, mB4.6, mb4.2*
*IDC **27** 22:27:20.7±1.1, 47.95N×148.09E, h376km±11km, mb3.6/18, mb1 3.8/20, mb1mx3.7/25, mbtmp4.3/20, Error ellipse: s-maj=12.7km s-min=9.0km az=161.0*
*NEIC **27** 22:27:21.7±1.1, 48.02N×148.13E, h383km±12km, mb4.2/36, Error ellipse: s-maj=8.7km s-min=5.0km az=153.0*
ISC 27 22:27:18.2±0.3, **47.87N**±0.05×**148.21E**±0.06, **h364**km±5km, **n149**, σ1§**29**/169, **mb4.0**/52, **1C, Northwest of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**3.82**	**258**	⇑*i*PN	**P**	**22 28 30.0**	**+3.3**
YSS				*e*S	**S**	**22 29 21.9**	**+1.5**
YSS				pmax	pmax		
	comp=Z,120nm,0.8s						
YSS				smax			
	comp=N,140nm,1.1s						
YUK	**Yuzh-Kuril'sk**	**4.17**	**204**	*e*PN	**P**	**22 28 30.7**	**+0.4**
YUK				*e*S	**S**	**22 29 26.9**	**+0.1**
YUK				pmax	pmax		
	comp=Z,710nm,0.4s						
YUK				pmax	pmax		
	comp=N,210nm,0.4s						
YUK				pmax	pmax		
	comp=E,250nm,0.4s						
YUK				smax			
	comp=N,2μm,1.0s						
YUK				smax			
	comp=E,2μm,1.0s						
YUK				smax			
	comp=N,350nm,0.4s						
YUK				smax			
	comp=E,950nm,0.6s						
JRA	**Rausu**	**4.48**	**210**	P	**P**	**22 28 34.8**	**+1.3**
NEM2	**Nemuro 2**	**4.83**	**202**	P	**P**	**22 28 35.4**	**-1.8**
NEM2				*e*S	**S**	**22 29 35.3**	**-3.7**
JSE	**Soyaes**	**4.86**	**235**	P	**P**	**22 28 40.7**	**+3.2**
JTKR	**Abashiri--Toko**	**4.92**	**219**	P	**P**	**22 28 40.0**	**+1.8**
JTKR				*e*S	**S**	**22 29 43.7**	**+2.8**
JNK	**Nakash**	**4.93**	**211**	P	**P**	**22 28 38.7**	**+0.4**
JWK2	**Keihoku**	**5.04**	**242**	P	**P**	**22 28 43.8**	**+4.3**
JMP	**Maruseppu**	**5.13**	**223**	P	**P**	**22 28 43.1**	**+2.6**
ASAJ	**Asahikawa**	**5.42**	**228**	P	**P**	**22 28 46.7**	**+3.1**
	comp=E,30nm,0.3s,baz=62,slow=8.6,SNR=230						
ASAJ				S	**S**	**22 29 54.1**	**+3.5**
	baz=319,slow=19,SNR=2.3						
ASAJ	**Asahikawa**	**5.42**	**228**	P	**P**	**22 28 46.9**	**+3.3**
ASAJ				*e*S	**S**	**22 29 55.3**	**+4.7**
ASAJ	**Asahikawa**	**5.42**	**228**	PN	**P**	**22 28 46.7**	**+3.1**
ASAJ				S	**S**	**22 29 54.2**	**+3.6**
ASAJ				pmax	pmax		
	comp=Z,30nm,0.3s						
JAK	**Akkeshi**	**5.46**	**208**	P	**P**	**22 28 43.1**	**-1.0**
JAK				*e*S	**S**	**22 29 48.6**	**-2.9**
JKK2	**Kamakawa 2**	**5.52**	**226**	P	**P**	**22 28 47.8**	**+3.0**
JAR	**Ashorobuto**	**5.53**	**216**	P	**P**	**22 28 45.8**	**+0.9**
JSS	**Shosan**	**5.62**	**234**	P	**P**	**22 28 49.8**	**+4.0**
JOB	**Onbets**	**5.84**	**213**	P	**P**	**22 28 48.1**	**-0.2**
JOB				*e*S	**S**	**22 29 57.5**	**-1.6**
SKR	**Severo-Kuril's**	**5.89**	**58**	*e*PN	**P**	**22 28 45.9**	**-3.0**
SKR				*e*S	**S**	**22 29 57.4**	**-2.7**
SKR				pmax	pmax		
	comp=N,40nm,0.5s						
SKR				pmax	pmax		
	comp=E,40nm,0.5s						
SKR				pmax	pmax		
	comp=Z,140nm,0.5s						
SKR				smax			
	comp=N,80nm,0.5s						
SKR				smax			
	comp=E,40nm,0.5s						
SKR				smax			
	comp=Z,40nm,0.5s						
JAB	**Ashibetsu**	**6.05**	**226**	P	**P**	**22 28 54.2**	**+3.5**
JHR	**Hokuryu**	**6.13**	**230**	P	**P**	**22 28 55.0**	**+3.4**
JFR	**Furan**	**6.14**	**222**	P	**P**	**22 28 53.5**	**+1.8**
JCH	**Churui**	**6.27**	**215**	P	**P**	**22 28 52.3**	**-0.9**
JCH				*e*S	**S**	**22 30 04.5**	**-3.4**
JBT2	**Biratori 2**	**6.55**	**221**	P	**P**	**22 28 57.1**	**+0.7**
JBT2				*e*S	**S**	**22 30 13.5**	**-0.1**
JNBK	**Urakawa-nobuka**	**6.79**	**217**	P	**P**	**22 28 57.9**	**-1.4**
JNBK				*e*S	**S**	**22 30 15.5**	**-3.2**
JEM	**Erimo**	**6.86**	**213**	P	**P**	**22 28 59.6**	**-0.5**
JEW	**Eniwo**	**6.92**	**226**	P	**P**	**22 29 02.0**	**+1.2**
JEW				*e*S	**S**	**22 30 20.8**	**-0.7**
JSH	**Shimam**	**7.78**	**231**	P	**P**	**22 29 12.5**	**+1.7**
JSH				*e*S	**S**	**22 30 38.1**	**-1.3**
JKB	**Kayabe**	**7.86**	**223**	P	**P**	**22 29 10.6**	**-1.1**
JKB				*e*S	**S**	**22 30 37.3**	**-3.8**
JYM2	**Yakumo 2**	**7.99**	**227**	P	**P**	**22 29 14.0**	**+0.7**
JYM2				*e*S	**S**	**22 30 43.6**	**-0.4**
JSR	**Shiriuchi**	**8.42**	**224**	P	**P**	**22 29 17.4**	**-1.0**
JSR				*e*S	**S**	**22 30 49.1**	**-4.0**
JOSM	**Okushiri--Mats**	**8.47**	**230**	P	**P**	**22 29 20.7**	**+1.8**
JTM	**Tenmabayashi**	**8.73**	**218**	P	**P**	**22 29 20.1**	**-1.9**
JTM				*e*S	**S**	**22 30 53.6**	**-6.1**
JANG	**Nango**	**8.90**	**215**	P	**P**	**22 29 22.1**	**-2.0**
JANG				*e*S	**S**	**22 30 56.9**	**-6.5**
JTH	**Tanohata**	**9.15**	**212**	P	**P**	**22 29 26.6**	**-0.4**
JTH				*e*S	**S**	**22 31 00.1**	**-8.6**
OFUJ	**Ofunato**	**9.98**	**211**	P	**P**	**22 29 36.8**	**-0.1**
OFUJ				*e*S	**S**	**22 31 23.6**	**-3.0**
JRG	**Rokugo**	**10.09**	**216**	P	**P**	**22 29 37.5**	**-0.6**
JRG				*e*S	**S**	**22 31 26.0**	**-2.8**
JIO	**Ouri**	**10.65**	**210**	P	**P**	**22 29 44.5**	**-0.4**
JIO				*e*S	**S**	**22 31 38.8**	**-2.2**
JYA	**Atsumi**	**11.14**	**217**	P	**P**	**22 29 50.2**	**-0.5**
JYA				*e*S	**S**	**22 31 51.8**	**+0.3**
JFK	**Kawauchi**	**11.80**	**210**	*e*S	**S**	**22 32 06.0**	**+0.4**
MA2	**Magadan**	**11.83**	**6**	*e*P	**P**	**22 29 57.8**	**-0.9**
MDJ	**Mudanjiang**	**13.29**	**263**	P	**P**	**22 30 15.5**	**-0.4**
MDJ				AMB	AMB		
	comp=Z,15nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,47nm,4.3s						
MDJ	**Mudanjiang**	**13.29**	**263**	*e*P	**P**	**22 30 14.0**	**-1.9**
	comp=Z,5.4nm,0.6s						
MAJO	**Matsushiro**	**13.52**	**217**	*e*P	**P**	**22 30 20.3**	**+1.9**
	comp=Z,7.1nm,0.4s						
MAJO	**Matsushiro**	**13.52**	**217**	*e*P	**P**	**22 30 20.3**	**+1.9**
MAJO				pmax	pmax		
	comp=Z,7.0nm,0.4s						
MAT	**Matsushiro**	**13.52**	**217**	P	**P**	**22 30 20.4**	**+2.0**
MAT	**Matsushiro**	**13.52**	**217**	*e*P	**P**	**22 30 20.0**	**+1.6**
	comp=Z,8.0nm,1.0s						
MAT	**Matsushiro**	**13.52**	**217**	*e*P	**P**	**22 30 20.0**	**+1.6**
MAT				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KS15	**Wonju Array Si**	**18.17**	**242**	*e*P	**P**	**22 31 09.4**	**+2.3**
INCN	**Inchon**	**18.90**	**245**	*e*P	**P**	**22 31 15.2**	**+1.0**
	comp=Z,32nm,1.8s						
JNU	**Nakatsue**	**19.70**	**228**	P	**P**	**22 31 24.1**	**+2.0**
	comp=Z,0.5nm,0.3s,baz=93,slow=3.5,SNR=4.8						
BILL	**Bilibino**	**22.20**	**18**	P	**P**	**22 31 45.2**	**-0.8**
BILL				pmax	pmax		
	comp=Z,17nm,1.6s,mb4.0						
BOD	**Bodaibo**	**22.70**	**309**	*e*P	**P**	**22 31 48.6**	**-1.9**
BOD				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb3.9						
SONM	**Songino Array**	**27.82**	**286**	P	**P**	**22 32 36.2**	**-0.7**
	comp=Z,0.7nm,0.4s,mb3.2,baz=79,slow=8.3,SNR=8.6						
SONM				ScP		22 38 46.6	
	comp=Z,1.1nm,0.8s,baz=91,slow=2.0,SNR=8.9						
ZAK	**Zakamensk**	**29.17**	**292**	*e*P	**P**	**22 32 48.8**	**0.0**
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.4						
XAN	**Xi'an**	**32.36**	**259**	P	**P**	**22 33 17.3**	**+0.9**
XAN				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb3.8						
LZH	**Lanzhou**	**34.57**	**267**	*e*P	**P**	**22 33 37.5**	**+2.4**
LZH				AMB	AMB		
	comp=Z,35nm,1.4s,mb4.4						
LZH				AMB	AMB		
	comp=Z,145nm,4.5s						
LZH	**Lanzhou**	**34.57**	**267**	*e*P	**P**	**22 33 37.4**	**+2.3**
LZH				pmax	pmax		
	comp=Z,35nm,1.4s,mb4.4						
MCK	**McKinley**	**36.98**	**41**	*e*P	**P**	**22 33 55.5**	**+0.5**
	comp=Z,4.4nm,0.6s,mb3.9						
MCK	**McKinley**	**36.98**	**41**	*e*P	**P**	**22 33 55.5**	**+0.5**
MCK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb3.8						
PMR	**Palmer**	**37.13**	**45**	P	**P**	**22 33 58.4**	**+2.1**
	comp=Z,12nm,0.8s,mb4.2						
PMR	**Palmer**	**37.13**	**45**	P	**P**	**22 33 58.4**	**+2.1**
PMR				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.2						
SML	**Sawmill**	**37.48**	**44**	*e*P	**P**	**22 33 59.4**	**+0.2**
ILAR	**Eielson Array**	**37.78**	**39**	P	**P**	**22 34 01.0**	**-0.6**
	comp=Z,12nm,0.6s,mb4.3,baz=268,slow=7.7,SNR=110						
ZAL	**Zalesovo**	**39.24**	**303**	PcP	PcP	22 36 12.2	-3.0
	comp=Z,1.0nm,0.3s,baz=28,slow=7.3,SNR=4.8						
ZAL				ScP		22 39 25.5	
	comp=Z,0.5nm,0.3s,baz=46,slow=6.8,SNR=4.2						
INK	**Inuvik**	**42.50**	**33**	P	**P**	**22 34 39.0**	**-0.9**
	comp=Z,3.8nm,0.3s,mb4.0,baz=311,slow=7.2,SNR=16						
INK	**Inuvik**	**42.50**	**33**	*e*P	**P**	**22 34 39.3**	**-0.6**
	comp=Z,3.6nm,0.3s,mb4.0						
INK	**Inuvik**	**42.50**	**33**	*e*P	**P**	**22 34 39.3**	**-0.5**
INK				pmax	pmax		
	comp=Z,4.0nm,0.3s						
MKAR	**Makanchi Array**	**43.45**	**294**	P	**P**	**22 34 47.7**	**0.0**
	comp=Z,1.3nm,0.6s,mb3.3,baz=64,slow=6.5,SNR=21						
MKAR				ScP		22 39 42.4	
	comp=Z,0.4nm,0.6s,baz=53,slow=6.1,SNR=3.9						
MKAR	**Makanchi Array**	**43.45**	**294**	P	**P**	**22 34 47.7**	**0.0**
MKAR				ScP		22 39 42.4	
LSA	**Lhasa**	**46.92**	**269**	P	**P**	**22 35 18.0**	**+2.9**
LSA	**Lhasa**	**46.92**	**269**	*e*P	**P**	**22 35 17.6**	**+2.5**
	comp=Z,13nm,0.6s,mb4.3						
LSA	**Lhasa**	**46.92**	**269**	*e*P	**P**	**22 35 17.6**	**+2.5**
LSA				pmax	pmax		
	comp=Z,13nm,0.6s,mb4.3						
DLBC	**Dease Lake**	**47.19**	**45**	P	**P**	**22 35 18.3**	**+1.5**
	comp=Z,4.4nm,0.6s,mb3.9,baz=280,slow=6.6,SNR=12						
DLBC	**Dease Lake**	**47.19**	**45**	*e*P	**P**	**22 35 18.2**	**+1.4**
BVAR	**Borovoye Array**	**47.55**	**307**	P	**P**	**22 35 19.0**	**-0.6**
	comp=Z,0.6nm,0.4s,mb3.1,baz=53,slow=7.4,SNR=6.4						
BVAR				PcP	PcP	22 36 40.6	-2.9
	comp=Z,0.3nm,0.3s,baz=77,slow=3.6,SNR=4.8						
BVAR				ScP		22 39 57.8	
	comp=Z,0.3nm,0.4s,baz=63,slow=3.2,SNR=2.9						
BVAR				S	**S**	**22 41 42.8**	**-3.2**
	comp=Z,0.4nm,0.7s,baz=63,slow=9.7,SNR=2.4						
BVAR	**Borovoye Array**	**47.55**	**307**	P	**P**	**22 35 19.0**	**-0.6**
BVAR						22 36 40.6	
BVAR				S	**S**	**22 41 42.8**	**-3.3**
RES	**Resolute Bay**	**50.81**	**18**	*e*P	**P**	**22 35 42.4**	**-1.5**
	comp=Z,16nm,0.8s,mb4.3						
RES	**Resolute Bay**	**50.81**	**18**	*e*P	**P**	**22 35 42.4**	**-1.6**
RES				pmax	pmax		
	comp=Z,16nm,0.8s,mb4.3						
YKW3	**Yellowknife Ar**	**51.95**	**36**	*e*P	**P**	**22 35 51.2**	**-1.3**
YKA	**Yellowknife Ar**	**52.00**	**36**	P	**P**	**22 35 51.7**	**-1.1**
	comp=Z,6.3nm,0.6s,mb4.1,baz=304,slow=7.2,SNR=12						
YKA	**Yellowknife Ar**	**52.00**	**36**	P	**P**	**22 35 51.7**	**-1.1**
KKN	**Kakani**	**52.09**	**271**	*e*P	**P**	**22 35 55.8**	**+1.8**
	comp=Z,10nm,0.5s,mb4.5						
KKN	**Kakani**	**52.09**	**271**	*e*P	**P**	**22 35 55.8**	**+1.8**
KKN				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.1						
PKI	**Pulchoki**	**52.15**	**271**	*e*P	**P**	**22 35 55.1**	**+0.7**
DMN	**Daman**	**52.33**	**271**	*e*P	**P**	**22 35 53.9**	**-1.9**
	comp=Z,17nm,0.6s,mb4.5						
GKN	**Gorkha**	**52.39**	**272**	*e*P	**P**	**22 35 57.0**	**+0.8**
	comp=Z,36nm,0.8s,mb4.8						
KOLN	**Koldanda**	**53.24**	**272**	*e*P	**P**	**22 36 03.3**	**+0.9**
	comp=Z,17nm,0.8s,mb4.4						
ARCES	**ARCESS Array B**	**55.66**	**339**	P	**P**	**22 36 17.8**	**-1.3**
	comp=Z,5.3nm,1.1s,mb3.8,baz=29,slow=8.3,SNR=8.1						
ARCES	**ARCESS Array B**	**55.66**	**339**	P	**P**	**22 36 17.8**	**-1.3**
JOF	**Joensuu**	**58.81**	**331**	*e*p	**P**	**22 36 39.6**	**-1.2**
NEW	**Newport**	**59.11**	**51**	*e*P	**P**	**22 36 42.3**	**-0.7**
	comp=Z,3.3nm,1.0s,mb3.7						
NEW	**Newport**	**59.11**	**51**	*e*P	**P**	**22 36 42.3**	**-0.8**
NEW				pmax	pmax		
	comp=Z,3.0nm,1.0s						
SUMM	**Summit**	**59.77**	**2**	*e*P	**P**	**22 36 47.1**	**-0.1**
	comp=Z,5.3nm,0.6s,mb4.2						
WALA	**Waterton Lakes**	**60.25**	**49**	*e*P	**P**	**22 36 50.6**	**-0.1**
	comp=Z,10.0nm,1.1s,mb4.2						
KAF	**Kangasniemi**	**60.98**	**333**	*e*p	**P**	**22 36 53.6**	**-1.7**
BMO	**Blue Mountains**	**61.17**	**54**	*e*P	**P**	**22 36 57.6**	**+0.7**
	comp=Z,8.8nm,1.6s,mb3.9						
FINES	**FINESS Array B**	**61.55**	**332**	P	**P**	**22 36 58.1**	**-1.0**
	comp=Z,2.5nm,0.6s,mb3.9,baz=34,slow=8.3,SNR=26						
MSO	**Missoula**	**61.68**	**51**	*e*P	**P**	**22 36 58.6**	**-1.5**
	comp=Z,4.9nm,1.1s,mb4.0						
CHMT	**Chamberlain Mo**	**61.98**	**50**	*e*P	**P**	**22 37 02.1**	**0.0**
FCC	**Fort Churchill**	**62.10**	**31**	*e*P	**P**	**22 37 01.8**	**-1.0**
	comp=Z,7.0nm,0.5s,mb4.5						
FCC	**Fort Churchill**	**62.10**	**31**	*e*P	**P**	**22 37 01.8**	**-1.0**
FCC				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.5						
HRY	**Holter Researc**	**62.85**	**50**	*e*P	**P**	**22 37 08.4**	**+0.6**
BOZ	**Bozeman (W)**	**63.67**	**50**	*e*P	**P**	**22 37 13.6**	**+0.6**
	comp=Z,9.8nm,0.6s,mb4.6						
BOZ	**Bozeman (W)**	**63.67**	**50**	*e*P	**P**	**22 37 13.6**	**+0.6**
BOZ				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.6						
CMB	**Columbia Colle**	**63.86**	**62**	*e*P	**P**	**22 37 13.8**	**-0.5**
	comp=Z,2.7nm,0.8s,mb3.9						
CMB	**Columbia Colle**	**63.86**	**62**	*e*P	**P**	**22 37 13.8**	**-0.5**
CMB				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.0						
QLMT	**Earthquake Lak**	**64.32**	**51**	*e*P	**P**	**22 37 16.7**	**-0.4**
NVAR	**Mina Array Bea**	**64.82**	**60**	P	**P**	**22 37 21.2**	**+0.7**
	comp=Z,2.7nm,0.6s,mb4.0,baz=294,slow=7.2,SNR=17						
ELK	**Elko**	**65.02**	**56**	*e*P	**P**	**22 37 21.9**	**+0.2**
	comp=Z,1.6nm,0.8s,mb3.7						
ELK	**Elko**	**65.02**	**56**	*e*P	**P**	**22 37 21.9**	**+0.2**
ELK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FLWY	**Flagg Ranch**	**65.21**	**51**	*e*P	**P**	**22 37 24.9**	**+2.0**
RRI2	**Red Ridge**	**65.39**	**52**	*e*P	**P**	**22 37 25.2**	**+1.2**
	comp=Z,24nm,0.8s,mb4.9						
TPAW	**Teton Pass**	**65.49**	**52**	*e*P	**P**	**22 37 26.2**	**+1.5**
	comp=Z,5.6nm,0.8s,mb4.2						
LOHW	**Long Hollow**	**65.59**	**51**	*e*P	**P**	**22 37 25.6**	**+0.3**
	comp=Z,8.7nm,1.1s,mb4.4						
NB2	**NOR

n70,σ1$01/75, mb4.4/30, 2D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.63**	**343**	P	**P**	**00 20 40.6**	**+0.5**
JHJ2				S	**S**	**00 21 00.4**	**-0.7**
JHJ	**Hachijo jima 2**	**1.64**	**342**	P	**P**	**00 20 40.8**	**+0.4**
	195nm,0.3s,baz=271,slow=24,SNR=117						
JHJ				S	**S**	**00 21 00.1**	**-1.3**
	191nm,0.3s,baz=261,slow=23,SNR=10						
NJJJ	**Nii jima 2**	**2.99**	**342**	P	**P**	**00 21 00.6**	**+2.1**
BSO1	**Boso 1**	**3.13**	**9**	P	**P**	**00 20 59.4**	**-1.0**
BSO3	**Boso 3**	**3.24**	**2**	P	**P**	**00 21 01.5**	**-0.4**
JIM2	**Oshima 3**	**3.26**	**346**	P	**P**	**00 21 02.7**	**+0.6**
JIE	**Ise**	**4.20**	**313**	P	**P**	**00 21 15.9**	**+0.9**
JYN	**Shimob**	**4.22**	**339**	P	**P**	**00 21 17.1**	**+1.7**
JRY	**Ryogami san**	**4.62**	**345**	P	**P**	**00 21 21.4**	**+0.6**
CBIJ	**Chichi jima**	**4.71**	**160**	P	**P**	**00 21 21.6**	**-0.4**
	5.0nm,0.3s,baz=102,slow=22,SNR=13						
CBIJ				S	**S**	**00 22 13.9**	**-1.9**
	27nm,0.3s,baz=283,slow=22,SNR=6.1						
CBIJ	**Chichi jima**	**4.71**	**160**	P	**P**	**00 21 21.6**	**-0.4**
CBIJ				S	**S**	**00 22 16.3**	**+0.5**
JWY	**Kouya**	**4.83**	**305**	P	**P**	**00 21 25.2**	**+1.5**
JWY				S	**S**	**00 22 18.4**	**-0.5**
JAG	**Ashikaga**	**4.92**	**351**	P	**P**	**00 21 23.6**	**-1.3**
JGM	**Miyama**	**5.15**	**324**	P	**P**	**00 21 29.9**	**+2.0**
MAJO	**Matsushiro**	**5.30**	**341**	*eP*	**P**	**00 21 28.4**	**-1.6**
	22nm,0.6s						
MAT	**Matsushiro**	**5.30**	**341**	P	**P**	**00 21 30.0**	**0.0**
MAT				S	**S**	**00 22 28.3**	**-2.0**
MAT	**Matsushiro**	**5.30**	**341**	*eP*	**P**	**00 21 30.0**	**0.0**
MAT				*eS*	**S**	**00 22 28.0**	**-2.3**
JAI	**Aioi**	**5.48**	**296**	P	**P**	**00 21 34.3**	**+1.8**
JAI				*eS*	**S**	**00 22 34.7**	**-0.2**
JWT	**Wachi**	**5.59**	**313**	P	**P**	**00 21 35.7**	**+1.8**
JWT				S	**S**	**00 22 37.4**	**-0.1**
JNU	**Nakatsue**	**8.20**	**283**	P	**P**	**00 22 08.9**	**-0.8**
	0.3nm,0.3s,baz=114,slow=32,SNR=2.3						
JOW	**Kunigami**	**11.58**	**249**	LR	LR	00 26 57.4	
	comp=Z,30nm,20.0s,baz=90,slow=36						
ASAJ	**Asahikawa**	**12.66**	**7**	P	**P**	**00 23 05.8**	**-3.6**
	0.3nm,0.3s,baz=213,slow=22,SNR=2.6						
SONM	**Songino Array**	**30.49**	**312**	P	**P**	**00 26 16.0**	**-1.5**
	0.8nm,0.6s,mb3.5,baz=121,slow=9.1,SNR=6.6						
SONM				PcP	PcP	00 29 13.7	-0.6
	0.2nm,0.4s,baz=94,slow=1.8,SNR=3.2						
SONM				LR	LR	00 37 52.9	
	comp=Z,31nm,20.0s,baz=9.5,slow=35						
YAK	**Yakutsk**	**31.27**	**350**	P	**P**	**00 26 24.9**	**+0.7**
HNR	**Honiara**	**44.85**	**152**	LR	LR	00 46 34.0	
	comp=Z,47nm,19.7s,baz=310,slow=35						
MKAR	**Makanchi Array**	**46.50**	**306**	P	**P**	**00 28 29.5**	**-1.2**
	2.3nm,0.6s,mb4.1,baz=86,slow=10.0,SNR=28						
KURK	**Kurchatov**	**48.80**	**312**	*eP*	**P**	**00 28 46.4**	**-2.2**
	2.8nm,0.7s,mb4.3						
WRA	**Warramunga Arr**	**51.53**	**187**	P	**P**	**00 29 08.1**	**-1.7**
	1.3nm,0.4s,mb4.3,baz=4.8,slow=7.7,SNR=60						
WRA				PcP	PcP	00 30 23.5	+0.8
	1.0nm,0.5s,baz=358,slow=4.2,SNR=5.8						
BVAR	**Borovoye Array**	**53.75**	**315**	P	**P**	**00 29 24.3**	**-1.6**
	0.9nm,0.3s,mb4.2,baz=94,slow=7.5,SNR=13						
BVAR				PcP	PcP	00 30 30.3	-0.1
	3.0nm,0.6s,baz=94,slow=3.4,SNR=12						
ILAR	**Eielson Array**	**54.61**	**30**	P	**P**	**00 29 31.8**	**-0.2**
	0.6nm,0.8s,mb3.7,baz=258,slow=6.0,SNR=4.5						
ILAR				pP	pP	00 29 53.5	-2.8
	1.4nm,0.8s,baz=263,slow=6.3,SNR=6.2						
ARCES	**ARCESS Array B**	**68.83**	**340**	P	**P**	**00 31 06.7**	**-0.3**
	5.7nm,0.9s,mb4.4,baz=75,slow=8.7,SNR=16						
JOF	**Joensuu**	**70.41**	**333**	*ep*	**P**	**00 31 15.9**	**-0.8**
	3.5nm,0.5s,mb4.5						
KAF	**Kangasniemi**	**72.80**	**333**	*ep*	**P**	**00 31 30.2**	**-0.6**
	5.5nm,0.6s,mb4.6,baz=53,slow=5.6						
FINES	**FINESS Array B**	**73.28**	**333**	P	**P**	**00 31 33.6**	**+0.1**
	2.7nm,0.4s,mb4.4,baz=64,slow=5.7,SNR=62						
YBH	**Yreka Blue Hor**	**74.42**	**50**	P	**P**	**00 31 43.2**	**+2.5**
	0.4nm,0.4s,mb3.5,baz=265,slow=9.7,SNR=3.8						
AKASG	**Malin Array Be**	**78.12**	**323**	P	**P**	**00 32 00.9**	**-0.3**
	3.0nm,0.4s,mb4.3,baz=48,slow=5.7,SNR=35						
NB2	**NORSAR Subarra**	**78.91**	**337**	P	**P**	**00 32 05.4**	**+0.1**
	3.9nm,0.6s,mb4.4,baz=43,slow=5.3						
NOA	**NORSAR Array B**	**78.91**	**337**	P	**P**	**00 32 05.7**	**+0.4**
	5.2nm,0.8s,mb4.4,baz=42,slow=5.4,SNR=16						
BR131	**Keskin Array S**	**81.85**	**312**	*eP*	**P**	**00 32 21.8**	**+0.3**
	2.5nm,0.7s,mb4.2						
BRTR	**Keskin Array B**	**81.85**	**312**	P	**P**	**00 32 21.4**	**-0.1**
	3.3nm,0.8s,mb4.2,baz=107,slow=4.4,SNR=17						
PDAR	**Pinedale Array**	**82.14**	**44**	pP	pP	00 32 49.8	+0.8
	0.5nm,0.6s,baz=315,slow=3.8,SNR=3.8						
STHS	**Stebnicka Huta**	**82.95**	**325**	*eP*	**P**	**00 32 28.1**	**+1.3**
DPC	**Dobruska-Polom**	**84.64**	**328**	*eP*	**P**	**00 32 35.5**	**+0.3**
UPC	**Upice**	**84.67**	**328**	*eP*	**P**	**00 32 36.4**	**+1.0**
VYHS	**Vyhne**	**84.74**	**325**	*eP*	**P**	**00 32 35.9**	**+0.1**
PV10	**Paradox Valley**	**85.06**	**48**	*eP*	**P**	**00 32 41.4**	**+3.8**
PVCC	**Panska Ves**	**85.30**	**329**	*eP*	**P**	**00 32 37.5**	**-1.0**
BRG	**Berggiesshubel**	**85.32**	**329**	*i* P	**P**	**00 32 39.5**	**+0.9**
	4.0nm,0.7s,mb4.5						
CLL	**Collm**	**85.41**	**330**	⇓P	**P**	**00 32 39.4**	**+0.4**
	logA/T=1.0,mb4.7						
CLL				*i*		00 32 51.6	
CLL	**Collm**	**85.41**	**330**	⇓*i* P	**P**	**00 32 39.4**	**+0.4**
	14nm,1.4s,mb4.7						
CLL				*i*		00 32 51.6	
GERES	**GERESS Array B**	**86.91**	**328**	P	**P**	**00 32 46.6**	**+0.2**
	0.6nm,0.5s,mb3.8,baz=42,slow=5.9,SNR=12						
CDF	**Champ du Feu**	**90.03**	**331**	*eP*	**P**	**00 33 01.2**	**0.0**
	3.0nm,0.8s,mb4.2						
LOR	**Lormes**	**92.33**	**332**	*eP*	**P**	**00 33 11.8**	**-0.1**
	2.0nm,0.5s,mb4.3						
LPL	**La Plagne**	**92.53**	**329**	*eP*	**P**	**00 33 13.0**	**+0.1**
	5.0nm,0.7s,mb4.7						
LPG	**La Plagne**	**92.53**	**329**	*eP*	**P**	**00 33 13.2**	**+0.3**
	4.8nm,0.6s,mb4.7						
SSF	**Saint Saulge**	**92.64**	**332**	*eP*	**P**	**00 33 13.4**	**+0.1**
	4.4nm,0.8s,mb4.5						
FLN	**La Foliniere**	**92.74**	**335**	*eP*	**P**	**00 33 13.6**	**-0.2**
	5.6nm,0.8s,mb4.7						
LDF	**La Drutiere**	**92.75**	**335**	*eP*	**P**	**00 33 13.7**	**-0.1**
	4.3nm,0.6s,mb4.6						
SMF	**Signal de Mont**	**92.84**	**332**	*eP*	**P**	**00 33 14.2**	**-0.1**
	17nm,1.1s,mb5.0						
AVF	**Avril sur Loir**	**92.92**	**332**	*eP*	**P**	**00 33 14.7**	**+0.1**
	13nm,0.8s,mb5.0						
MBDF	**Montbardon**	**93.13**	**329**	*eP*	**P**	**00 33 15.0**	**-0.7**
	2.0nm,0.6s,mb4.3						
GRR	**Gorron**	**93.19**	**335**	*eP*	**P**	**00 33 16.0**	**+0.2**
BGF	**Bois d'Agland**	**93.31**	**332**	*eP*	**P**	**00 33 16.5**	**+0.1**
	5.6nm,0.7s,mb4.7						
TCF	**Toulx Ste Croi**	**93.79**	**332**	*eP*	**P**	**00 33 18.8**	**+0.2**
VIVF	**Saint-Julien-l**	**93.94**	**330**	*eP*	**P**	**00 33 19.2**	**-0.1**
TXAR	**Lajitas Array**	**94.15**	**52**	P	**P**	**00 33 23.2**	**+2.6**
	0.6nm,0.7s,mb4.0,baz=310,slow=3.9,SNR=7.7						
TXAR				pP	pP	00 33 46.6	-0.7
	0.4nm,0.6s,baz=288,slow=2.9,SNR=3.2						
LASF	**Ste Croix**	**94.91**	**330**	*eP*	**P**	**00 33 24.5**	**+0.7**
	9.0nm,1.1s,mb4.8						
LFF	**La Frestale**	**95.48**	**332**	*eP*	**P**	**00 33 26.0**	**-0.3**
MTLF	**Montolieu**	**96.20**	**331**	*eP*	**P**	**00 33 29.3**	**-0.3**
LPAZ	**La Paz**	**149.94**	**66**	PKPbc	PKPdf	00 39 55.0	+9.0
	0.5nm,0.5s,baz=309,slow=2.0,SNR=5.4						
LPAZ				pPKPbc		00 40 20.9	
	1.3nm,0.6s,baz=267,slow=1.6,SNR=4.9						

*IDC **28** 00:43:58.9±2.2, 19.87S×177.92W, h549km±26km, mb3.2/8, mb1 3.5/10, mb1mx3.4/15, mbtmp4.2/10, Error ellipse: s-maj=36.6km s-min=14.2km az=146.0*
*NEIC **28** 00:43:58.4±0.9, 19.94S×177.86W, h547km±11km, mb4.3/7, Error ellipse: s-maj=19.5km s-min=8.0km az=150.0*

ISC 28 00:43:57.6±1.5, 20.0S±0.2×177.9W±0.1, h549km±19km, n22, σ0$75/23, mb3.8/14, 1C-2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.41**	**45**	P	**P**	**00 45 59.6**	**-0.6**
	4.3nm,0.3s,baz=190,slow=11,SNR=5.0						
AFI				S	**S**	**00 47 31.2**	**-6.7**
	10.0nm,0.3s,baz=174,slow=21,SNR=8.3						
AFI	**Afiamalu**	**8.41**	**45**	*eP*	**P**	**00 45 59.4**	**-0.8**
AFI				*eS*	**S**	**00 47 32.0**	**-5.9**
DZM	**Mont Dzumac**	**14.80**	**259**	P	**P**	**00 47 06.4**	**+1.6**
	1.6nm,0.3s,baz=77,slow=16,SNR=16						
CTA	**Charters Tower**	**33.67**	**264**	⇓*i* P	**P**	**00 49 55.2**	**+0.6**
	10nm,0.4s,mb4.7						
CTAO	**Charters Tower**	**33.67**	**264**	*eP*	**P**	**00 49 55.0**	**+0.3**
	14nm,0.5s,mb4.7						
STKA	**Stephens Creek**	**38.12**	**244**	⇓*i* P	**P**	**00 50 31.7**	**+0.6**
	2.6nm,0.4s,mb4.1						
STKA	**Stephens Creek**	**38.12**	**244**	P	**P**	**00 50 31.8**	**+0.7**
	4.0nm,0.6s,mb4.2,baz=88,slow=9.7,SNR=17						
STKA	**Stephens Creek**	**38.12**	**244**	*eP*	**P**	**00 50 31.5**	**+0.4**
WRAB	**Tennant Creek**	**44.79**	**262**	*eP*	**P**	**00 51 23.5**	**-0.9**
	9.2nm,0.6s,mb4.5						
WRA	**Warramunga Arr**	**44.80**	**262**	P	**P**	**00 51 23.8**	**-0.7**
	6.9nm,0.4s,mb4.5,baz=97,slow=7.9,SNR=162						
FITZ	**Fitzroy Crossi**	**53.23**	**262**	⇑*i* P	**P**	**00 52 26.8**	**-0.2**
	5.6nm,0.4s,mb4.2						
KLBR	**Kellerberrin**	**58.38**	**245**	*eP*	**P**	**00 53 01.6**	**-0.9**
	24nm,1.4s,mb4.2						
VNDA	**Vanda**	**58.40**	**185**	P	**P**	**00 53 01.8**	**-0.3**
	0.5nm,1.0s,mb2.7,baz=358,slow=4.9,SNR=3.4						
QSPA	**South Pole Qui**	**70.05**	**180**	*eP*	**P**	**00 54 15.3**	**-0.1**
	1.0nm,0.6s,mb3.5						
YBH	**Yreka Blue Hor**	**79.83**	**39**	P	**P**	**00 55 11.1**	**+0.9**
	1.3nm,0.6s,mb3.4,baz=143,slow=10,SNR=6.3						
NVAR	**Mina Array Bea**	**80.58**	**43**	P	**P**	**00 55 14.9**	**+0.7**
	0.9nm,0.8s,mb3.2,baz=225,slow=10						
TXAR	**Lajitas Array**	**86.68**	**57**	P	**P**	**00 55 45.4**	**+0.9**
	0.5nm,0.6s,mb3.3,baz=208,slow=6.7,SNR=7.1						
TXAR	**Lajitas Array**	**86.68**	**57**	P	**P**	**00 55 45.4**	**+0.9**
ILAR	**Eielson Array**	**87.81**	**13**	P	**P**	**00 55 47.9**	**-1.1**
	0.7nm,0.7s,mb3.5,baz=232,slow=4.6,SNR=4.9						
BW06	**Boulder Array**	**88.52**	**43**	*eP*	**P**	**00 55 52.9**	**+0.1**
	0.7nm,0.6s,mb3.7						
PDAR	**Pinedale Array**	**88.52**	**43**	P	**P**	**00 55 52.6**	**-0.2**
	0.6nm,0.6s,mb3.6,baz=186,slow=4.3,SNR=5.3						
GERES	**GERESS Array B**	**149.77**	**345**	PKPbc	PKPdf	01 02 45.6	+5.9
	0.2nm,0.5s,baz=27,slow=3.0,SNR=4.2						

*IDC **28** 00:58:40.7±1.0, 4.63S×36.05E, mb4.0/7, mb1 4.1/8, mb1mx3.9/20, mbtmp4.1/8, ML3.9/1, MS3.4/2, Ms1 3.4/2, ms1mx2.9/26, Error ellipse: s-maj=69.3km s-min=17.1km az=110.0*
*NEIC **28** 00:58:42.2±0.8, 4.55S×35.77E, h10km, mb4.3/1, Error ellipse: s-maj=22.2km s-min=13.0km az=110.0*

ISC 28 00:58:40.5±0.8, 4.52S±0.08×35.7E±0.1, h10km, n14, σ0$96/17, mb3.9/7, MS4.2/1, Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**3.69**	**24**	Pn	**Pn**	**00 59 38.5**	**-0.4**
	8.7nm,0.3s,baz=199,slow=16,SNR=75						
KMBO				Pg	**Pg**	**00 59 46.0**	**-8.3**
	35nm,0.3s,baz=200,slow=20,SNR=23						
KMBO				Sn	**Sn**	**01 00 23.0**	**-0.1**
	30nm,0.3s,baz=61,slow=23,SNR=3.7						
KMBO				Lg		01 00 31.6	
	43nm,0.3s,baz=274,slow=22,SNR=13						
KMBO	**Kilima Mbogo**	**3.69**	**24**	Pn	**Pn**	**00 59 38.5**	**-0.4**
KMBO				Pg	**Pg**	**00 59 46.0**	**-8.3**
KMBO				Sn	**Sn**	**01 00 23.0**	**-0.1**
KMBO				Lg		01 00 31.6	
MBAR	**Mbarara**	**6.33**	**308**	*eP*	**Pn**	**01 00 15.8**	**-0.5**
	16nm,0.5s						
MBAR				*eS*	**Sn**	**01 01 16.3**	**-13**
ATD	**Arta Tunnel**	**17.44**	**24**	LR	LR	01 09 20.5	
	comp=Z,28nm,20.0s,baz=203,slow=37						
LBTB	**Lobatse**	**22.59**	**205**	P	**P**	**01 03 41.8**	**-0.9**
	8.0nm,1.1s,mb4.1,baz=27,slow=10,SNR=5.4						
LBTB	**Lobatse**	**22.59**	**205**	*eP*	**P**	**01 03 41.9**	**-0.9**
	10nm,1.0s,mb4.2						
BOSA	**Boshof**	**25.95**	**201**	P	**P**	**01 04 15.8**	**+0.7**
	5.3nm,0.9s,mb4.0,baz=11,slow=11,SNR=4.4						
BOSA	**Boshof**	**25.95**	**201**	*eP*	**P**	**01 04 15.8**	**+0.8**
BRTR	**Keskin Array B**	**44.07**	**358**	P	**P**	**01 06 52.8**	**+2.2**
	0.7nm,0.9s,mb3.4,baz=190,slow=8.8,SNR=2.6						
AKASG	**Malin Array Be**	**55.29**	**355**	P	**P**	**01 08 16.6**	**+0.2**
	1.9nm,0.7s,mb4.2,baz=177,slow=6.1,SNR=9.3						
MKAR	**Makanchi Array**	**65.53**	**33**	P	**P**	**01 09 25.1**	**-1.3**
	1.6nm,1.0s,mb4.0,baz=220,slow=7.2,SNR=5.2						
ZAL	**Zalesovo**	**71.15**	**28**	P	**P**	**01 10 00.7**	**-0.6**
	0.6nm,0.7s,mb3.7,baz=216,slow=8.6,SNR=3.4						
SONM	**Songino Array**	**80.52**	**40**	P	**P**	**01 10 55.7**	**+1.2**
	0.7nm,0.9s,mb3.6,baz=270,slow=3.0,SNR=4.0						
PLCA	**Paso Flores**	**99.30**	**228**	LR	LR	01 54 45.1	
	comp=Z,73nm,20.6s,MS4.2,baz=183,slow=34						

*LDG **28** 01:03:04.5±0.4, 51.69N×16.45E, h1km, Ml3.6/2, Error ellipse: s-maj=13.0km s-min=5.8km az=176.0, Suspected Mining induced.*
*NEIC **28** 01:03:04.9±0.3, 51.56N×16.24E, h5km, ML3.6(LDG), ML3.3(SZGRF), ML3.3(VIE), ML2.9(CLL), Error ellipse: s-maj=3.5km s-min=3.5km az=114.0*
*BGR **28** 01:03:05.8±0.7, 51.46N×16.24E, h1km, ML3.3, Error ellipse: s-maj=14.5km s-min=5.6km az=178.0*
*IPEC **28** 01:03:05.3±0.2, 51.51N×16.29E, ML2.4/3, Error ellipse: s-maj=1.9km s-min=1.5km az=73.0*
*IDC **28** 01:03:06.7±0.7, 51.47N×16.05E, mb1 3.3/8, mb1mx3.3/23, mbtmp3.2/8, ML3.2/8, Error ellipse: s-maj=12.2km s-min=6.3km az=104.0*
*CSEM **28** 01:03:06.4±0.1, 51.46N×16.19E, h1km, ML3.5/4, Error ellipse: s-maj=2.7km s-min=1.6km az=16.0*
*PRU **28** 01:03:06.8, 51.44N×16.17E*
*WAR **28** 01:03:07.3, 51.45N×16.17E, h1km, ML3.1, Mining Induced*

ISC 28 01:03:04.9±0.4, 51.38N±0.02×16.14E±0.03, n79, σ1$27/137, 3C-3D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.54**	**170**	⇓*i* PG	**Pg**	**01 03 18.5**	**+2.7**
KSP				⇓*e* SG	**Sg**	**01 03 27.5**	**+4.5**
KSP	**Ksiaz**	**0.54**	**170**	*e*Pg	**Pg**	**01 03 18.5**	**+2.7**
KSP				*e*Sg	**Sg**	**01 03 25.4**	**+2.4**
KSP	**Ksiaz**	**0.54**	**170**	*e*Pg	**Pg**	**01 03 18.5**	**+2.7**
KSP				*e*Sg	**Sg**	**01 03 26.8**	**+3.8**
KSP	**Ksiaz**	**0.54**	**170**	⇓*i* Pg	**Pg**	**01 03 18.5**	**+2.7**
KSP				*e*		01 03 25.4	
KSP				*e*Sg	**Sg**	**01 03 26.8**	**+3.8**
UPC	**Upice**	**0.88**	**185**	*e*PG	**Pg**	**01 03 24.6**	**+2.2**
DPC	**Dobruska-Polom**	**1.03**	**174**	*e*PG	**Pg**	**01 03 27.3**	**+1.7**
DPC				*e*SG	**Sg**	**01 03 41.7**	**+2.3**
	64nm,0.3s						
DPC	**Dobruska-Polom**	**1.03**	**174**	Pg	**Pg**	**01 03 27.3**	**+1.7**
DPC				*e*Sg	**Sg**	**01 03 41.8**	**+2.4**
PVCC	**Panska Ves**	**1.31**	**230**	*e*PG	**Pg**	**01 03 32.2**	**+1.2**
BRG	**Berggiesshubel**	**1.48**	**251**	*e*Pn	**Pn**	**01 03 33.6**	**+0.8**
BRG				*e*Sg	**Sg**	**01 03 54.7**	**+0.7**
BRG	**Berggiesshubel**	**1.48**	**251**	Pg	**Pg**	**01 03 35.2**	**+0.8**
BRG				Sg	**Sg**	**01 03 54.7**	**+0.7**
BRG	**Berggiesshubel**	**1.48**	**251**	Pn	**Pn**	**01 03 33.4**	**+0.6**
BRG				Pg	**Pg**	**01 03 35.2**	**+0.8**
BRG				Sg	**Sg**	**01 03 55.5**	**+1.5**
PRU	**Pruhonice**	**1.72**	**217**	*e*PN	**Pn**	**01 03 37.6**	**+1.2**
PRU				*e*PG	**Pg**	**01 03 39.6**	**+0.3**
PRU				*e*SG	**Sg**	**01 04 03.3**	**+1.0**
PRU	**Pruhonice**	**1.72**	**217**	Pg	**Pg**	**01 03 39.6**	**+0.3**
PRU				Sg	**Sg**	**01 04 03.3**	**+1.0**
FBE	**Freiberg**	**1.81**	**256**	Pg	**Pg**	**01 03 41.0**	**-0.1**
FBE				Sg	**Sg**	**01 04 05.4**	**+0.1**
RUE	**Ruedersdorf**	**1.83**	**308**	*e*P	**Pn**	**01 03 37.2**	**-0.7**
RUE				*e*S	**Sn**	**01 04 01.6**	**-0.6**
RUE	**Ruedersdorf**	**1.83**	**308**	*e*P	**Pn**	**01 03 37.2**	**-0.7**
RUE				*e*S	**Sn**	**01 04 01.6**	**-0.5**
MORC	**Moravsky Berou**	**1.83**	**150**	*e*P	**Pn**	**01 03 38.9**	**+0.9**
MORC	**Moravsky Berou**	**1.83**	**150**	*e*Pn	**Pn**	**01 03 39.1**	**+1.1**
MORC				*e*Sg	**Sg**	**01 04 05.1**	**-0.9**
	28nm,0.4s						
MORC	**Moravsky Berou**	**1.83**	**150**	*e*P	**Pn**	**01 03 38.9**	**+0.9**
RAC	**Raciborz**	**1.84**	**134**	*e*PN	**Pn**	**01 03 38.0**	**0.0**
RAC				*e*PN	**Pg**	**01 03 42.0**	**+0.4**
RAC				*e*S	**Sg**	**01 04 07.0**	**+0.9**
RAC	**Raciborz**	**1.84**	**134**	*e*Pg	**Pg**	**01 03 42.0**	**+0.4**
RAC				*e*Sg	**Sg**	**01 04 07.0**	**+0.9**
CLL	**Collm**	**1.97**	**269**	*e*Pn	**Pn**	**01 03 40.1**	**+0.2**
CLL				*e*Pg	**Pg**	**01 03 43.0**	**-1.2**
CLL				*e*Sg	**Sg**	**01 04 10.1**	**-0.4**
CLL	**Collm**	**1.97**	**269**	*i* PN	**Pn**	**01 03 40.2**	**+0.3**
CLL				*e*PG	**Pg**	**01 03 43.0**	**-1.2**
CLL				*e*		01 03 47.0	
CLL				*i* SG	**Sg**	**01 04 11.1**	**+0.6**
CLL	**Collm**	**1.97**	**269**	Pg	**Pg**	**01 03 43.0**	**-1.2**
CLL				Sg	**Sg**	**01 04 10.1**	**-0.4**
CLL	**Collm**	**1.97**	**269**	*i* Pn	**Pn**	**01 03 40.2**	**+0.3**
CLL				*e*Pg	**Pg**	**01 03 43.0**	**-1.2**
CLL				*i* Sg	**Sg**	**01 04 11.1**	**+0.6**
OKC	**Ostrava-Krasne**	**2.00**	**140**	*e*PN	**Pn**	**01 03 40.6**	**+0.2**
OKC				*e*PG	**Pg**	**01 03 44.6**	**-0.3**
OKC				*e*SG	**Sg**	**01 04 09.9**	**-1.7**
OKC	**Ostrava-Krasne**	**2.00**	**140**	Pg	**Pg**	**01 03 44.6**	**-0.3**
OKC				*e*Sg	**Sg**	**01 04 10.0**	**-1.6**
GKP	**Gorka Klasztor**	**2.01**	**19**	*e*Pn	**Pn**	**01 03 43.5**	**+3.0**
GKP				*e*Pg	**Pg**	**01 03 46.8**	**+1.7**
GKP	**Gorka Klasztor**	**2.01**	**19**	*e*Pn	**Pn**	**01 03 43.4**	**+2.9**
GKP				*e*Pg	**Pg**	**01 03 46.8**	**+1.7**
VRAC	**Vranov**	**2.09**	**172**	Pn	**Pn**	**01 03 43.8**	**+2.2**
	5.1nm,0.3s,baz=341,slow=12,SNR=50						
VRAC				Lg		01 04 14.4	
	7.4nm,0.3s,baz=82,slow=23,SNR=6.7						
VRAC	**Vranov**	**2.09**	**172**	*e*Pn	**Pn**	**01 03 43.3**	**+1.7**
VRAC				*e*Sg	**Sg**	**01 04 14.4**	**-0.2**
	20nm,0.3s						
KRUC	**Moravsky**	**2.32**	**176**	*e*Pn	**Pn**	**01 03 47.2**	**+2.2**
KRUC				*e*Sg	**Sg**	**01 04 22.2**	**-0.1**
	18nm,0.4s						
TANN	**Tannenbergstha**	**2.52**	**249**	*e*Pn	**Pn**	**01 03 48.9**	**+1.1**
TANN				*e*Sg	**Sg**	**01 04 28.2**	**-0.6**
OJC	**Ojcow**	**2.59**	**115**	*e*PG	**Pg**	**01 03 55.0**	**-1.7**
OJC				*e*SG	**Sg**	**01 04 30.0**	**-1.3**
OJC	**Ojcow**	**2.59**	**115**	*e*Pn	**Pn**	**01 03 47.8**	**-1.0**
OJC	**Ojcow**	**2.59**	**115**	*e*Pg	**Pg**	**01 03 55.5**	**-1.2**
OJC				*e*Sg	**Sg**	**01 04 29.7**	**-1.6**
WERD	**Werda**	**2.60**	**251**	*e*Pn	**Pn**	**01 03 49.9**	**+1.0**
NKC	**Novy Kostel**	**2.61**	**245**	*e*PN	**Pn**	**01 03 50.1**	**+1.1**
NKC				*e*SG	**Sg**	**01 04 31.6**	**-0.2**
	78nm,0.3s						
GUNZ	**Gunzen**	**2.62**	**249**	*e*Pn	**Pn**	**01 03 50.3**	**+1.1**
NEUB	**Neuenburg**	**2.75**	**268**	*e*Sg	**Sg**	**01 04 36.0**	**-0.3**
KHC	**Kasperske Hory**	**2.79**	**217**	*e*PN	**Pn**	**01 03 52.5**	**+0.9**
KHC				*e*PG	**Pg**	**01 03 58.9**	**-1.6**
KHC				*e*SN	**Sn**	**01 04 25.5**	**-0.9**
KHC				*e*SG	**Sg**	**01 04 36.1**	**-1.6**
MOX	**Moxa**	**2.95**	**257**	*e*Pn	**Pn**	**01 03 54.6**	**+0.7**
MOX				*e*Pg	**Pg**	**01 04 03.6**	**-0.2**
MOX				*e*Sg	**Sg**	**01 04 42.6**	**-0.6**
MOX	**Moxa**	**2.95**	**257**	*i* P	**Pn**	**01 03 54.8**	**+0.9**
MOX				Pg	**Pg**	**01 04 04.0**	**+0.2**
MOX				Sg	**Sg**	**01 04 43.0**	**-0.2**
MOX	**Moxa**	**2.95**	**257**	Pg	**Pg**	**01 04 03.6**	**-0.2**
MOX				Sg	**Sg**	**01 04 42.6**	**-0.6**
MOX	**Moxa**	**2.95**	**257**	*e*Pn	**Pn**	**01 03 54.8**	**+0.9**
MOX				*e*Pg	**Pg**	**01 04 03.6**	**-0.2**
MOX				*e*Sg	**Sg**	**01 04 43.0**	**-0.2**
GEC2	**GERESS Array S**	**2.98**	**213**	*e*Pn	**Pn**	**01 03 56.0**	**+1.7**
GEC2	**GERESS Array S**	**2.98**	**213**	*e*Pn	**Pn**	**01 03 56.0**	**+1.6**
GERES	**GERESS Array B**	**2.98**	**213**	Pn	**Pn**	**01 03 56.6**	**+2.2**
	1.0nm,0.3s,baz=28,slow=13,SNR=48						
GERES				Pg

KUR pmax pmax
comp=Z,5μm,0.8s
KUR smax
comp=N,17μm,1.0s
KUR smax
comp=E,16μm,1.0s
KUR smax
comp=N,7μm,0.5s
KUR smax
comp=E,3μm,0.5s
YUK Yuzh-Kuril'sk 2.08 251 ⇓*i*PN **P 01 18 16.0 +1.2**
YUK *i* S **S 01 18 39.5 +0.1**
YUK pmax pmax
comp=Z,2μm,0.2s
YUK pmax pmax
comp=N,600nm,0.2s
YUK pmax pmax
comp=E,620nm,0.2s
YUK smax
comp=N,4μm,0.8s
YUK smax
comp=N,2μm,0.3s
YUK smax
comp=E,2μm,0.5s
NEM2 Nemuro 2 2.47 237 P **P 01 18 20.2 -0.1**
NEM2 *e*S **S 01 18 47.6 -1.7**
JRA Rausu 2.61 253 P **P 01 18 24.2 +1.8**
JRA *e*S **S 01 18 54.4 +1.5**
JNK Nakash 3.01 249 *e*S **S 01 19 02.8 -0.3**
JAK Akkeshi 3.31 240 P **P 01 18 32.1 -0.1**
JAK *e*S **S 01 19 08.5 -2.1**
JTKR Abashiri--Toko 3.44 259 P **P 01 18 35.5 +1.4**
JAR Ashorobuto 3.76 249 P **P 01 18 40.4 +1.8**
JSE Soyaes 4.27 275 P **P 01 18 47.3 +1.5**
JKK2 Kamakawa 2 4.28 260 P **P 01 18 48.0 +2.2**
ASAJ Asahikawa 4.33 264 P **P 01 18 48.9 +2.2**
comp=E,4.6nm,0.3s,baz=74,slow=9.9,SNR=30
ASAJ S **S 01 19 43.5 +7.1**
comp=E,2.4nm,0.3s,baz=216,slow=34,SNR=1.5
ASAJ LR LR 01 20 30.9
comp=E,110nm,20.6s,baz=67,slow=38
ASAJ Asahikawa 4.33 264 PN **P 01 18 48.9 +2.3**
ASAJ S **S 01 19 43.5 +7.1**
ASAJ pmax pmax
comp=Z,5.0nm,0.3s
ASAJ MLR MLR
comp=Z,110nm,20.6s
JCH Churui 4.34 243 P **P 01 18 47.1 +0.3**
JCH *e*S **S 01 19 34.5 -2.1**
JFR Furan 4.60 252 P **P 01 18 53.1 +2.7**
JWK2 Keihoku 4.78 279 P **P 01 18 56.4 +3.6**
JNBK Urakawa-nobuka 4.90 242 P **P 01 18 55.0 +0.4**
JNBK *e*S **S 01 19 47.7 -2.9**
JEW Eniwo 5.50 252 P **P 01 19 04.8 +1.9**
JKB Kayabe 6.20 245 P **P 01 19 12.8 +0.1**
JKB *e*S **S 01 20 18.4 -4.6**
JOT Ohata 6.46 241 P **P 01 19 15.6 -0.7**
JOT *e*S **S 01 20 23.7 -5.7**
JANG Nango 6.80 233 P **P 01 19 18.7 -2.4**
JANG *e*S **S 01 20 29.9 -8.0**
JOSM Okushiri--Mats 7.14 251 P **P 01 19 26.4 +0.6**
SONM Songino Array 29.06 291 P **P 01 23 38.3 0.0**
comp=Z,0.2nm,0.3s,mb3.3,baz=104,slow=5.9,SNR=3.1
SONM LR LR 01 34 57.2
comp=Z,35nm,18.2s,baz=57,slow=36
ILAR Eielson Array 40.08 37 P **P 01 25 13.4 +0.9**
comp=Z,0.6nm,0.8s,mb3.4,baz=275,slow=9.1,SNR=3.1
ILAR pP pP 01 25 29.6 +2.3
comp=Z,0.9nm,0.9s,baz=270,slow=10.0,SNR=4.1
INK Inuvik 45.03 31 P **P 01 25 53.0 +0.4**
comp=Z,3.7nm,1.0s,mb4.2,baz=291,slow=4.3,SNR=5.2
KURK Kurchatov 45.84 304 *e*P **P 01 25 59.5 +0.3**
comp=Z,0.6nm,0.5s,mb3.8
KURK Kurchatov 45.84 304 *e*P **P 01 25 59.5 +0.2**
KURK pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
BVAR Borovoye Array 49.68 309 PcP PcP 01 27 48.9 -1.1
comp=Z,0.4nm,0.5s,baz=63,slow=3.3,SNR=3.6
ARCES ARCESS Array B 58.68 340 P **P 01 27 34.4 -0.4**
comp=Z,2.5nm,0.9s,mb4.3,baz=40,slow=7.0,SNR=5.3
ARCES ARCESS Array B 58.68 340 P **P 01 27 34.4 -0.4**
FINES FINESS Array B 64.46 333 P **P 01 28 12.2 -1.3**
comp=Z,1.6nm,0.5s,mb4.3,baz=58,slow=6.0,SNR=16
WRA Warramunga Arr 65.67 195 P **P 01 28 21.1 -1.0**
comp=Z,0.4nm,0.5s,mb3.7,baz=11,slow=6.6,SNR=4.6
PDAR Pinedale Array 68.48 51 P **P 01 28 40.2 +0.8**
comp=Z,0.6nm,0.6s,mb3.8,baz=315,slow=2.1,SNR=6.1
PDAR pP pP 01 28 55.5 +0.1
comp=Z,0.4nm,0.6s,baz=289,slow=2.3,SNR=4.0
NB2 NORSAR Subarra 69.05 339 P **P 01 28 41.9 -0.7**
comp=Z,0.6nm,0.4s,mb3.9,baz=28,slow=6.5
NOA NORSAR Array B 69.05 339 P **P 01 28 41.4 -1.1**
comp=Z,0.7nm,0.3s,mb4.1,baz=29,slow=6.4,SNR=3.3
NOA NORSAR Array B 69.05 339 P **P 01 28 41.4 -1.1**
PV10 Paradox Valley 71.72 54 *e*P **P 01 29 01.2 +2.1**
CLL Collm 76.91 333 ⇓P **P 01 29 28.6 -0.2**
comp=Z,logA/T=1.1,mb4.8
CLL Collm 76.91 333 ⇓*i*P **P 01 29 28.6 -0.2**
comp=Z,7.0nm,0.6s,mb4.8
CLL Collm 76.91 333 ⇓*i*P **P 01 29 28.6 -0.2**
CLL pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
EKA Eskdalemuir Ar 77.47 344 P **P 01 29 31.9 0.0**
comp=Z,1.3nm,0.4s,mb4.2,baz=19,slow=5.1,SNR=13
KHC Kasperske Hory 78.59 332 *e*P **P 01 29 38.0 -0.1**
GERES GERESS Array B 78.79 331 P **P 01 29 39.3 +0.1**
comp=Z,1.1nm,0.3s,mb4.2,baz=39,slow=5.4,SNR=26
GRA1 Grafenberg Arr 78.88 333 *e*P **P 01 29 40.2 +0.5**
comp=Z,2.0nm,0.9s,mb4.0
GRF Grafenberg Arr 78.88 333 *e*P **P 01 29 40.2 +0.5**
GRF pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
GIVF Givet 80.42 337 *e*P **P 01 29 46.2 -1.8**
BAIF Baives 80.62 338 *e*P **P 01 29 48.0 -1.1**
comp=Z,3.1nm,0.6s,mb4.1
BAIF Baives 80.62 338 *e*P **P 01 29 48.0 -1.1**
BAIF pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
CDF Champ du Feu 81.23 335 *e*P **P 01 29 51.4 -0.9**
TXAR Lajitas Array 81.25 57 P **P 01 29 54.3 +1.5**
comp=Z,0.6nm,0.5s,mb3.8,baz=298,slow=3.8,SNR=11
TXAR pP pP 01 30 10.2 +1.1
comp=Z,0.9nm,0.7s,baz=302,slow=3.0,SNR=9.1
MEZF Maizieres L'vl 81.80 336 *e*P **P 01 29 54.4 -0.9**
comp=Z,2.4nm,0.4s,mb4.2
DAVOX Davos 81.86 333 P **P 01 29 55.7 +0.1**
comp=Z,1.8nm,0.5s,mb4.2,baz=342,slow=6.4,SNR=4.3
HAU Haudompre 81.87 335 *e*P **P 01 29 55.1 -0.5**
HINF Hinteralfeld 81.89 335 *e*P **P 01 29 54.6 -1.1**
comp=Z,3.0nm,0.6s,mb4.1
HINF Hinteralfeld 81.89 335 *e*P **P 01 29 54.6 -1.1**
HINF pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
FLN La Foliniere 83.02 340 *e*P **P 01 30 00.7 -0.8**
comp=Z,3.2nm,0.5s,mb4.3
LDF La Druitiere 83.09 340 *e*P **P 01 30 01.6 -0.3**
CABF La Chapelle 83.20 335 *e*P **P 01 30 02.3 -0.2**
LOR Lormes 83.26 337 *e*P **P 01 30 01.8 -0.9**
comp=Z,2.0nm,0.4s,mb4.2
GRR Gorron 83.46 340 *e*P **P 01 30 03.3 -0.4**
SSF Saint Saulge 83.54 337 *e*P **P 01 30 04.2 +0.1**
comp=Z,3.9nm,0.8s,mb4.3
SMF Signal de Mont 83.83 336 *e*P **P 01 30 04.9 -0.6**
comp=Z,14nm,1.0s,mb4.8
AVF Avril sur Loir 83.83 337 *e*P **P 01 30 06.0 +0.4**
comp=Z,9.1nm,0.9s,mb4.6
LPL La Plagne 83.99 334 *e*P **P 01 30 06.5 +0.1**
LPG La Plagne 84.00 334 *e*P **P 01 30 06.7 +0.3**
comp=Z,4.2nm,0.6s,mb4.4
BGF Bois d'Agland 84.19 337 *e*P **P 01 30 07.5 +0.1**
comp=Z,3.3nm,0.6s,mb4.3
TCF Toulx Ste Croi 84.61 337 *e*P **P 01 30 09.2 -0.3**
MBDF Montbardon 84.68 334 *e*P **P 01 30 09.1 -0.8**
comp=Z,2.7nm,0.4s,mb4.5
ORIF Oris-en-Rattie 84.79 334 *e*P **P 01 30 11.0 +0.6**
comp=Z,6.8nm,0.7s,mb4.6
MFF Saint Martin d 84.95 339 *e*P **P 01 30 11.0 -0.1**
VIVF Saint-Julien-l 85.21 335 *e*P **P 01 30 12.4 -0.1**
comp=Z,3.5nm,0.6s,mb4.4
SBF Sospel 85.24 333 *e*P **P 01 30 12.5 -0.2**
comp=Z,6.7nm,0.5s,mb4.7
CAF Calviac 85.90 337 *e*P **P 01 30 16.4 +0.5**
comp=Z,3.9nm,0.5s,mb4.6
LFF La Frestale 86.26 338 *e*P **P 01 30 18.0 +0.4**
comp=Z,8.4nm,0.7s,mb4.8
ETSF Etsaut 88.50 338 *e*P **P 01 30 28.1 -0.4**
comp=Z,3.2nm,0.6s,mb4.4
CFAA Coronel Fontan 148.50 78 PKPbc PKPdf 01 37 23.4 +5.6
comp=Z,0.2nm,0.6s,baz=276,slow=0.6,SNR=5.1
CFAA Coronel Fontan 148.50 78 PKPbc PKPdf 01 37 23.4 +5.6
VNA2 Neumayer--Watz 151.22 196 ⇑*i* PKPdf 01 37 28.7 +7.8
VNA3 Neumayer Olymp 151.39 194 ⇑*i* PKPdf 01 37 28.9 +7.8

*IDC **28** 02:06:23.9±3.2, 0.24N×98.04E, mb4.4/5, mb1 4.6/5, mb1mx4.0/16, mbtmp4.4/5, Error ellipse: s-maj=133.3km s-min=21.1km az=57.0*
*NEIC **28** 02:06:28.6±5.1, 0.12N×97.87E, h40km±37km, mb4.3/3, Error ellipse: s-maj=58.0km s-min=10.9km az=60.0*
ISC 28 02:06:26.1±1.2,**0.1N**±0.1×**97.9E**±0.2,**h33**km,**n11**, σ0°**50**/10,**mb4.4**/8,**Northern Sumatera**
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s ISC Res
KULM Kulim 5.83 29 *e*P **P 02 07 52.5 +0.1**
ENH Enshi 31.95 19 P **P 02 12 50.4 -0.9**
6.9nm,0.6s,mb4.7
FITZ Fitzroy Crossi 32.79 125 P **P 02 12 58.0 -0.8**
3.8nm,0.9s,mb4.3,baz=285,slow=3.5,SNR=4.0
WRA Warramunga Arr 40.93 121 P **P 02 14 07.8 +0.5**
2.0nm,0.6s,mb3.9,baz=304,slow=8.8,SNR=19
WRAB Tennant Creek 40.94 121 *e*P **P 02 14 07.7 +0.3**
2.7nm,0.5s,mb4.1
SONM Songino Array 48.08 8 P **P 02 15 05.1 +0.6**
2.0nm,0.7s,mb4.3,baz=190,slow=8.2,SNR=16
ULN Ulaanbaatar 48.20 8 *e*P **P 02 15 06.0 +0.5**
MAKAR Makanchi Array 48.42 346 P **P 02 15 07.3 +0.2**
3.4nm,0.5s,mb4.6,baz=156,slow=8.3,SNR=23
KURK Kurchatov 52.98 345 *e*P **P 02 15 41.3 -0.4**
2.5nm,0.9s,mb4.1
ZAL Zalesovo 54.69 351 P **P 02 15 54.1 -0.2**
3.9nm,0.4s,mb4.8,baz=328,slow=6.1,SNR=15
TXAR Lajitas Array 144.21 33 PKP PKPdf 02 25 60.0 +0.7
0.4nm,0.6s,baz=273,slow=1.0,SNR=8.1

*IDC **28** 02:35:25.4±0.6, 6.85N×73.08W, h151km±8km, mb3.7/9, mb1 4.0/12, mb1mx3.7/22, mbtmp4.2/12, Error ellipse: s-maj=19.4km s-min=7.1km az=129.0*
*FUNV **28** 02:35:26.1, 6.81N×73.12W, h166km, MW3.6*
*NEIC **28** 02:35:26.1±0.6, 6.82N×73.00W, h162km±6km, mb4.2/13, Error ellipse: s-maj=10.8km s-min=7.9km az=112.0*
ISC 28 02:35:25.7±0.6,**6.92N**±0.06×**72.97W**±0.06,**h167**km±5km, **n49**, σ0°**98**/58,**mb4.0**/20,**1C-4D**,**Northern Colombia**
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s ISC Res
CAPV Capacho 1.14 35 ⇑*i*P **P 02 35 54.7 +1.2**
CAPV *e*S **S 02 36 15.9 +1.0**
ROSC El Rosal 2.46 214 P **P 02 36 06.5 -1.2**
93nm,0.3s,baz=94,slow=23,SNR=242
ROSC S **S 02 36 35.9 -4.2**
328nm,0.3s,baz=94,slow=19,SNR=17
SOCV Socops 2.49 57 *i* P **P 02 36 09.6 +1.5**
SOCV *e*S **S 02 36 40.7 0.0**
SDV Santo Domingo 3.02 50 P **P 02 36 16.2 +1.5**
119nm,0.3s,baz=222,slow=4.1,SNR=538
SDV S **S 02 36 53.3 +1.0**
164nm,0.3s,baz=272,slow=22,SNR=20
SDV Santo Domingo 3.02 50 *e*P **P 02 36 16.0 +1.4**
SDV *e*S **S 02 36 52.7 +0.4**
SDV S **S 02 36 53.3 +1.0**
VIRV Villa del Rosa 3.60 9 ⇓*i*P **P 02 36 21.5 -0.5**
VIRV *e*S **S 02 37 03.1 -2.2**
QARV Quebrada Arrib 4.06 36 ⇓*i*P **P 02 36 29.2 +1.3**
QARV *e*S **S 02 37 15.0 -0.8**
SANV Sanarito 4.25 53 *e*P **P 02 36 31.2 +0.8**
SANV *e*S **S 02 37 18.9 -1.5**
CURV Curarigua 4.27 44 *e*P **P 02 36 31.5 +0.9**
DABV Dabajuro 4.59 30 *e*P **P 02 36 35.8 +1.0**
TEPV Terepaima 4.80 51 *e*P **P 02 36 38.4 +0.8**
TEPV *e*S **S 02 37 31.5 -1.7**
SIQV Siquisique 4.84 40 ⇓*i*P **P 02 36 38.5 +0.5**
SIQV *e*S **S 02 37 32.0 -2.1**
MONV Montecano 5.81 30 ⇓*i*P **P 02 36 51.0 +0.3**
CAOV Caicara del Or 6.60 86 *e*P **P 02 37 00.1 -1.2**
CAOV *e*S **S 02 38 11.4 -4.4**
MERV Las Mercedes 7.00 70 *e*P **P 02 37 05.7 -0.8**
BIRV Birongo 7.50 61 *e*P **P 02 37 12.6 -0.7**
CUPV Cœpira 7.75 66 *e*P **P 02 37 16.1 -0.5**
SJG San Juan 12.95 30 P **P 02 38 25.2 +0.7**
2.6nm,0.3s,baz=86,slow=23,SNR=5.4
SJG San Juan 12.95 30 *e*P **P 02 38 24.8 +0.3**
LPAZ La Paz 23.55 168 P **P 02 40 23.3 +1.2**
0.7nm,0.9s,mb3.2,baz=332,slow=12,SNR=3.4
LPAZ pP 02 40 53.8
1.8nm,0.8s,baz=347,slow=14,SNR=5.4
LPAZ La Paz 23.55 168 *e*P **P 02 40 22.2 +0.1**
LPAZ pP 02 40 53.8
SIV San Ignacio 25.63 153 pP pP 02 41 11.7 -3.8
1.8nm,0.8s,baz=334,slow=9.7,SNR=5.8
LVC Limon Verde 29.62 172 *e*P **P 02 41 09.9 -7.7**
3.2nm,0.4s,mb4.4
WVT Waverly 32.10 337 *e*P **P 02 41 39.3 +0.1**
3.8nm,0.3s,mb4.6
CCM Cathedral Cave 35.15 335 *e*P **P 02 42 04.5 -0.6**
13nm,0.8s,mb4.6
TXAR Lajitas Array 36.51 311 P **P 02 42 16.4 -0.3**
1.9nm,0.6s,mb3.9,baz=128,slow=9.3,SNR=31
TXAR PcP PcP 02 44 38.0 +0.9
0.9nm,0.8s,baz=137,slow=5.5,SNR=6.2
MNTX Cornudas Mount 39.01 313 *e*P **P 02 42 37.2 -0.4**
4.1nm,0.7s,mb4.2
SDCO Great Sand Dun 42.57 321 *e*P **P 02 43 07.4 +0.7**
3.1nm,0.9s,mb3.9
PV01 Paradox Valley 44.75 319 *e*P **P 02 43 25.2 +1.1**
ULM Lac du Bonnet 47.24 340 P **P 02 43 43.0 -0.5**
3.6nm,0.4s,mb4.4,baz=140,slow=7.5,SNR=21
ULM Lac du Bonnet 47.24 340 *e*P **P 02 43 42.5 -1.0**
1.9nm,0.5s,mb4.0
MSU Marysvale 47.33 318 *e*P **P 02 43 45.2 +0.8**
SCHQ Schefferville 48.03 5 P **P 02 43 50.4 +0.8**
4.8nm,0.5s,mb4.4,baz=191,slow=6.5,SNR=18
SCHQ Schefferville 48.03 5 *e*P **P 02 43 50.4 +0.8**
5.5nm,0.5s,mb4.4
PDAR Pinedale Array 48.09 324 P **P 02 43 50.1 -0.1**
1.1nm,0.5s,mb3.7,baz=123,slow=8.2,SNR=11
BW06 Boulder Array 48.09 324 *e*P **P 02 43 49.9 -0.3**
2.3nm,1.0s,mb3.8
HWUT Hardware Ranch 48.62 321 *e*P **P 02 43 52.7 -1.6**
2.1nm,0.6s,mb3.9
TPAW Teton Pass 49.34 324 *e*P **P 02 43 59.7 -0.1**
2.4nm,0.6s,mb4.0
RRI2 Red Ridge 49.47 323 *e*P **P 02 44 00.9 +0.1**
5.9nm,0.6s,mb4.4
IMW Indian Meadow 49.57 324 *e*P **P 02 44 01.6 0.0**
1.8nm,0.4s,mb4.0
WVOR Wild Horse Val 53.55 319 *e*P **P 02 44 31.0 -0.3**
3.4nm,0.9s,mb4.1
YKA Yellowknife Ar 63.22 340 P **P 02 45 37.5 -0.7**
3.1nm,0.6s,mb4.3,baz=130,slow=7.1,SNR=10
YKA Yellowknife Ar 63.22 340 P **P 02 45 37.5 -0.7**
ILAR Eielson Array 76.94 335 P **P 02 47 00.8 0.0**
1.2nm,1.1s,mb3.5,baz=115,slow=4.1,SNR=6.6
NOA NORSAR Array B 81.16 29 P **P 02 47 24.7 +1.0**
0.4nm,0.7s,mb3.1,baz=261,slow=5.9,SNR=2.2
ARCES ARCESS Array B 86.52 20 P **P 02 47 51.2 +0.8**
3.8nm,1.1s,mb4.2,baz=280,slow=4.1,SNR=6.2
ARCES ARCESS Array B 86.52 20 P **P 02 47 51.2 +0.8**
WRAB Tennant Creek 150.51 241 *e*PKPbc PKPdf 02 54 58.6 +5.9
WRA Warramunga Arr 150.52 241 PKP PKPdf 02 54 53.3 +0.7
0.4nm,0.9s,baz=105,slow=3.0,SNR=4.2
WRA PKPbc PKPdf 02 54 58.8 +6.2
1.8nm,0.4s,baz=108,slow=2.7,SNR=71

*NEIC **28** 02:43:11.4±2.9, 36.40N×70.76E, h146km±33km, mb4.2/6, Error ellipse: s-maj=32.9km s-min=8.9km az=62.0*
*IDC **28** 02:43:16.4±14.0, 36.25N×71.10E, h221km±114km, mb3.2/5, mb1 3.2/7, mb1mx3.0/19, mbtmp3.7/7, Error ellipse: s-maj=180.8km s-min=53.6km az=159.0*
*NNC **28** 02:43:18.1±3.3, 37.12N×70.86E, mpv3.8, Error ellipse: s-maj=36.0km s-min=28.4km az=46.0*
ISC 28 02:43:13.5±0.6,**36.56N**±0.05×**71.0E**±0.1,**h182**km±9km, **n23**, σ0°**82**/28,**mb3.6**/4,**4C-3D**,**Afghanistan-Tajikistan border region**
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s ISC Res
CEP Cherat 2.83 165 ⇓P **P 02 44 01.7 +1.0**
CEP S **S 02 44 37.0 0.0**
CHCP Chirah Chowk 3.43 147 P **P 02 44 08.9 +0.7**
THW Thamme Wali 3.80 171 ⇓P **P 02 44 13.2 +0.4**
SBDP Sheikh Budin 4.25 182 ⇓P **P 02 44 17.4 -1.1**
SARP Sargodha 4.83 163 P **P 02 44 25.8 -0.2**
DRP Derazinda 4.85 188 ⇑P **P 02 44 25.9 -0.3**
DRP S **S 02 45 16.0 -6.6**
KK31 Karatay Array 6.55 357 P **P 02 44 48.2 -0.3**
9.9nm,0.6s,baz=172,slow=13,SNR=116
KK31 ⇑S **S 02 45 58.0 -4.5**
4.0nm,0.3s,baz=184,slow=23,SNR=14
AAK Ala-Archa 6.64 23 ⇑P **P 02 44 50.7 +1.0**
3.2nm,0.7s
AAK ⇑S **S 02 46 03.9 -0.6**
7.6nm,0.5s
AAK Ala-Archa 6.64 23 *e*P **P 02 44 49.4 -0.3**
2.3nm,0.4s
AAK *e*S **S 02 46 02.8 -1.8**
MKAR Makanchi Array 13.24 36 P **P 02 46 19.9 +4.6**
0.1nm,0.3s,baz=214,slow=9.4,SNR=2.9
KOLN Koldanda 13.79 126 *e*P **P 02 46 21.3 -1.1**
7.2nm,0.3s
GKN Gorkha 14.33 123 *e*P **P 02 46 30.2 +1.1**
17nm,0.5s
DMN Daman 14.90 123 *e*P **P 02 46 35.3 -0.9**
KKN Kakani 14.90 122 *e*P **P 02 46 36.7 +0.4**
13nm,0.6s
PKI Pulchoki 15.13 122 *e*P **P 02 46 38.6 -0.5**
20nm,0.5s
BVAR Borovoye Array 16.47 359 P **P 02 46 57.0 +1.5**
0.3nm,0.3s,baz=162,slow=9.1,SNR=3.3
ZAL Zalesovo 19.84 25 P **P 02 47 32.6 +0.7**
1.7nm,0.4s,baz=258,slow=7.4,SNR=6.1
AKASG Malin Array Be 32.91 309 P **P 02 49 31.3 -1.0**
0.2nm,0.3s,mb3.4,baz=85,slow=5.4,SNR=5.0
FINES FINESS Array B 37.44 326 P **P 02 50 10.9 +0.5**
0.4nm,0.3s,mb3.5,baz=117,slow=9.3,SNR=4.4
ARCES ARCESS Array B 41.09 338 P **P 02 50 40.9 +0.4**
0.9nm,0.5s,mb3.6,baz=117,slow=8.1,SNR=5.6
NB2 NORSAR Subarra 44.34 323 P **P 02 51 05.3 -1.4**
1.0nm,0.5s,mb3.7,baz=96,slow=7.9
NOA NORSAR Array B 44.34 323 P **P 02 51 06.6 -0.1**
1.3nm,0.5s,mb3.8,baz=97,slow=7.8,SNR=5.1
NOA NORSAR Array B 44.34 323 P **P 02 51 06.6 -0.1**

*CSEM **28** 02:43:21.4±0.4, 43.19N×45.18E, h15km, mb4.3, Error ellipse: s-maj=11.3km s-min=6.4km az=164.0*
*TIF **28** 02:43:22.4, 43.11N×45.23E, h15km±2km*
*MOS **28** 02:43:23.9±2.0, 42.87N×45.17E, h12km, mb4.3/1, Error ellipse: s-maj=16.3km s-min=9.7km az=13.5*
*NNC **28** 02:43:35.0±5.2, 43.83N×46.02E, Error ellipse: s-maj=155.6km s-min=41.4km az=144.0*
ISC 28 02:43:21.4±0.5,**43.16N**±0.03×**45.27E**±0.03,**h2**km±5km, **n25**, σ1°**20**/46,**3C-1D**,**Eastern Caucasus**
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s ISC Res
ARNR Ardon 0.73 273 *i* PG **Pg 02 43 38.7 +2.7**
ARNR *i* S **Sg 02 43 46.9 +1.2**
LACR Lac 0.79 245 *e*PG **Pg 02 43 36.8 -0.4**
LACR *e*S **Sg 02 43 43.6 -4.1**
ZEI Tsey 1.08 249 *e*Pg **Pg 02 43 41.8 -1.2**
ZEI *e*Sg **Sg 02 43 52.4 -5.0**
DBC Dubki 1.15 96 Pg **Pg 02 43 44.3 -0.1**
DBC Sg **Sg 02 44 02.8 +3.1**
UNCR Uncukul 1.20 111 *i* Pg **Pg 02 43 44.3 -1.2**
UNCR *e*Sg **Sg 02 44 01.3 -0.2**
KRNR Karanay 1.24 105 *i* Pg **Pg 02 43 45.3 -1.0**
KRNR *i* Sg **Sg 02 44 05.3 +2.4**
DIGR Digorskoe uzhe 1.27 259 *i* PG **Pg 02 43 45.7 -1.0**
DIGR *i* S **Sb 02 43 59.1 -3.2**
GOR Gori 1.45 217 P **Pn 02 43 48.1 -0.7**
GOR S **Sb 02 44 08.2 +0.5**
ONI Oni 1.46 247 P **Pn 02 43 48.8 -0.1**
ONI S **Sb 02 44 07.6 -0.3**
TI2 Plekhanov 1.48 195 *i* P **Pn 02 43 48.3 -0.8**
TI2 *i* S **Sb 02 44 08.4 0.0**
TI2 Plekhanov 1.48 195 *i* PG **Pg 02 43 48.4 -2.5**
TI2 *i* S **Sb 02 44 08.6 +0.2**
TBLG Delisi 1.48 196 P **Pn 02 43 48.7 -0.5**
TBLG S **Sb 02 44 09.0 +0.5**
MTA Mtatsminda 1.51 194 P **Pn 02 43 49.1 -0.5**
MTA S **Sb 02 44 09.0 -0.2**
MAK Makhachkala 1.65 96 *e*Pn **Pg 02 43 59.2 +4.8**
MAK *e*Sg **Sg 02 44 22.2 +5.9**
DGRG David-gareji 1.71 177 P **Pn 02 43 52.8 +0.4**
DGRG S **Sb 02 44 16.8 +1.6**
BKR Bakuriani 1.93 223 P **Pn 02 43 54.5 -1.1**
BKR S **Sn 02 44 21.7 +0.8**
KIV Kislovodsk 2.04 294 *i* Pn **Pn 02 43 57.5 +0.3**
AKH Akhalkalaki 2.19 218 P **Pn 02 43 59.9 +0.6**
AKH S **Sn 02 44 29.2 +1.8**
GOF Gofitskoye 2.49 320 *i* Pn **Pg 02 44 13.7 +2.5**
GOF *i* Sn **Sg 02 44 45.4 +1.0**
ANN Anapa 5.89 289 *e*P **Pn 02 44 52.2 +0.3**
AKTO Aktyubinsk 11.36 46 ⇑P **P 02 46 06.8 -0.9**
0.5nm,0.7s
AKTO ⇑S **S 02 48 06.5 -10**
0.5nm,0.6s
AKTO Aktyubinsk 11.36 46 P **P 02 46 06.8 -0.9**
0.5nm,0.7s
AKTO S **S 02 48 06.5 -10**
0.5nm,0.6s
AB31 Akbulak array 11.85 54 ⇓P **P 02 46 12.7 -1.6**
1.4nm,0.5s,baz=237,slow=12,SNR=12
AB31 ⇑S **S 02 48 18.6 -10**
2.0nm,0.5s,baz=252,slow=22
OBN Obninsk 13.24 338 *e*P **P 02 46 24.6 -8.4**
BVA0 Borovoye Array 19.37 51 P **P 02 47 50.4 -0.5**
0.2nm,0.6s,baz=234,slow=10,SNR=6.1

*IGQ **28** 03:04:18.8, 1.57S×77.96W, h198km±2km, mb4.2, Error ellipse: s-maj=3.6km s-min=2.2km az=56.9*
*IDC **28** 03:04:19.6±3.1, 1.32S×77.68W, h203km±29km, mb3.2/8, mb1 3.3/10, mb1mx3.2/23, mbtmp3.7/10, MS2.8/1, Ms1 2.8/1, ms1mx2.3/10, Error ellipse: s-maj=30.6km s-min=12.7km az=67.0*
*NEIC **28** 03:04:20.1±1.8, 1.34S×77.63W, h209km±19km, mb3.8/5, Error ellipse: s-maj=22.4km s-min=7.5km az=69.0*
ISC 28 03:04:18.3±0.4,**1.58S**±0.06×**77.96W**±0.09,**h205**km±3km, **n46**, σ1°**14**/48,**mb3.4**/10,**3C-17D**,**Ecuador**
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s ISC Res
ULBA Ulba 0.47 286 ⇓P **P 03 04 46.1 0.0**
ULBA S **S 03 05 05.1 -2.6**
RUN5 Runtun 0.50 290 P **P 03 04 46.3 0.0**
RUN5 S **S 03 05 06.2 -1.7**
ARRY Arrayan 0.50 279 ⇑P **P 03 04 46.1 -0.2**
ARRY S **S 03 05 04.9 -3.0**
JUIV Juive 0.53 287 P **P 03 04 46.5 +0.1**
JUIV S **S 03 05 06.3 -1.8**
PISA Pisayambo 0.68 321 ⇓P **P 03 04 47.3 +0.3**
TAMB Tambo 0.97 335 ⇓P **P 03 04 49.2 +0.7**
VC1 Cotopaxi 1 1.04 334 ⇓P **P 03 04 49.7 +0.8**
CAMI Rancho Maria 1.05 329 ⇓P **P 03 04 50.0 +0.9**
NAS1 Nasa 1.08 331 ⇑P **P 03 04 50.4 +1.1**
ANTI Antisana 1.15 350 ⇓P **P 03 04 50.4 +0.6**
ECOPE Copete-Rev Vol 1.50 13 ⇓P **P 03 04 52.9 +0.1**
JUA2 San Juan 2 1.51 335 ⇓P **P 03 04 53.2 +0.4**
LAV3 Lava3-Reventad 1.51 12 ⇓P **P 03 04 53.0 +0.1**
CONE Cono NE Rev Vo 1.54 12 ⇓P **P 03 04 53.4 +0.3**
PINO Pino 1.56 335 ⇓P **P 03 04 53.9 +0.6**
YANA Yana 1.58 337 ⇓P **P 03 04 53.9 +0.4**
CAYR Refugio Cayamb 1.59 358 ⇓P **P 03 04 54.6 +1.0**
CAYA Cayambe 1.64 359 ⇓P **P 03 04 55.1 +1.1**
JOR1 San Jorge 1 1.71 337 ⇓P **P 03 04 53.2 -1.5**
COTA Cotacachi 1.94 349 ⇓P **P 03 04 58.0 +1.1**
MAG1 Magdalena 2.36 310 ⇑P **P 03 05 01.4 0.0**
ECEN Cerro Negro 2.39 360 ⇓P **P 03 05 03.0 +1.3**
JAMA Jama 2.60 300 P **P 03 05 03.9 -0.1**
LORE San Lorenzo 3.00 343 P **P 03 05 08.8 +0.3**
ROSC El Rosal 7.35 30 P **P 03 06 00.9 -2.9**
0.6nm,0.3s,baz=94,slow=21,SNR=2.7
SDV Santo Domingo 12.71 35 LR LR 03 12 23.3
comp=Z,36nm,18.1s,baz=216,slow=39
SDV Santo Domingo 12.71 35 *e*P **P 03 07 09.0 -3.8**
3.0nm,0.4s
LPAZ La Paz 17.53 147 P **P 03 08 11.1 -0.2**

0.6nm,0.3s,baz=329,slow=10,SNR=25
LPAZ La Paz 17.53 147 *e*P **P 03 08 10.9 -0.4**
SIV San Ignacio 21.95 132 P **P 03 08 56.6 +0.6**
2.4nm,0.6s,mb3.9,baz=302,slow=9.8,SNR=12
LVC Limon Verde 22.68 158 P **P 03 09 06.2 +3.1**
1.9nm,0.5s,mb3.9,baz=325,slow=7.0,SNR=6.4
LVC Limon Verde 22.68 158 *e*P **P 03 09 06.1 +3.0**
1.5nm,0.5s,mb3.8
CFAA Coronel Fontan 31.24 164 P **P 03 10 21.7 +0.8**
0.1nm,0.4s,mb2.8,baz=360,slow=8.3,SNR=3.1
CFAA Coronel Fontan 31.24 164 P **P 03 10 21.7 +0.8**
CPUP Villa Florida 31.60 143 *e*P **P 03 10 22.2 -1.9**
TXAR Lajitas Array 39.37 323 P **P 03 11 29.6 +0.1**
0.2nm,0.7s,mb2.7,baz=163,slow=9.4,SNR=3.2
PLCA Paso Flores 39.54 171 *e*P **P 03 11 32.1 +1.2**
WMOK Wichita Mounta 41.07 334 *e*P **P 03 11 42.4 -1.0**
0.9nm,0.7s,mb3.3
ANMO Albuquerque 45.09 326 *e*P **P 03 12 16.3 +0.4**
1.6nm,0.6s,mb3.5
ULM Lac du Bonnet 53.87 346 P **P 03 13 19.5 -2.8**
1.5nm,0.5s,mb3.8,baz=159,slow=8.8,SNR=7.2
DBIC Dimbokro 73.41 83 P **P 03 15 28.8 -1.7**
1.2nm,0.3s,mb4.0,baz=251,slow=5.6,SNR=16
DBIC Dimbokro 73.41 83 *e*P **P 03 15 28.6 -1.9**
1.5nm,0.3s,mb4.1
ILAR Eielson Array 82.58 336 P **P 03 16 18.7 -0.6**
0.3nm,0.5s,mb3.3,baz=142,slow=4.4,SNR=5.4
SNAA Sanae 83.84 162 P **P 03 16 26.4 +0.9**
0.3nm,0.8s,mb3.1,baz=17,SNR=5.4
SNAA Sanae 83.84 162 *e*P **P 03 16 26.3 +0.8**
WRA Warramunga Arr 141.78 234 PKP PKPdf 03 23 29.7 +3.5
0.3nm,0.9s,baz=113,slow=2.5,SNR=7.3

NIED ***28*** *03:37:00,37.20N×135.80E,h360km,Mw4.5 Best double couple: M₀6.94×10¹⁵ NP1:φs188°,δ86°,λ72°. NP2:φs85°, δ19°,λ166°.*
MOS ***28*** *03:37:22.9±0.7,37.60N×135.46E,h323km,mb4.4/31, Error ellipse: s-maj=9.4km s-min=6.2km az=109.2*
JMA ***28*** *03:37:23.5±0.1,37.20N×135.75E,h346km±2km,M4.5 Broadband fault plane solution: P waves. NP1:φs80°,δ69°, λ-174°. NP2:φs348°,δ85°,λ-22°. Principal axes: T Plg11°, Azm36°; N Plg68°, Azm154°; P Plg19°, Azm302°;*
BJI ***28*** *03:37:23.5,37.34N×135.61E,h363km,mB4.5,mb4.9*
IDC ***28*** *03:37:23.9±1.0,37.21N×135.51E,h339km±11km, mb4.0/19,mb1 4.1/22,mb1mx4.1/26,mbtmp4.7/22,Error ellipse: s-maj=12.8km s-min=9.6km az=8.0*
NEIC ***28*** *03:37:24.6±0.4,37.25N×135.53E,h345km±3km,mb4.4/53, Error ellipse: s-maj=6.4km s-min=3.6km az=168.0*
ISC 28 03:37:22.9±0.2,37.34N±0.04×135.57E±0.03,h337km±2km, n218,σ0§94/245,mb4.3/85,8C-22D,Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JHG	**Hegura jima**	**1.19**	**64**		⇓P		**P**	**03 38 09.8**	**+1.5**
JHG					S		**S**	**03 38 45.5**	**+1.6**
JKG	**Kaga**	**1.23**	**150**		⇓P		**P**	**03 38 08.8**	**+0.3**
JKG					S		**S**	**03 38 44.3**	**0.0**
JSZ	**Suzu**	**1.44**	**85**		⇓P		**P**	**03 38 10.5**	**+0.8**
JSZ					S		**S**	**03 38 47.3**	**+1.0**
JGM	**Miyama**	**1.88**	**150**		⇓P		**P**	**03 38 12.4**	**-0.1**
JGM					S		**S**	**03 38 50.3**	**-1.0**
JWT	**Wachi**	**2.06**	**184**		⇑P		**P**	**03 38 14.3**	**+0.5**
JWT					S		**S**	**03 38 52.9**	**-0.6**
SAI	**Saigo**	**2.12**	**238**		⇑P		**P**	**03 38 15.9**	**+1.7**
JSD	**Sado**	**2.25**	**71**		⇓P		**P**	**03 38 15.6**	**+0.4**
JSD					S		**S**	**03 38 55.8**	**-0.4**
MAT	**Matsushiro**	**2.26**	**110**		⇓P		**P**	**03 38 15.4**	**+0.1**
MAT					S		**S**	**03 38 55.8**	**-0.5**
MAT	**Matsushiro**	**2.26**	**110**		P		**P**	**03 38 15.3**	**0.0**
MAT					S		**S**	**03 38 56.7**	**+0.4**
MAT	**Matsushiro**	**2.26**	**110**		⇓*i*P		**P**	**03 38 15.4**	**+0.1**
MAT					*e*S		**S**	**03 38 56.0**	**-0.3**
JRY	**Ryogami san**	**2.99**	**115**		⇓P		**P**	**03 38 20.4**	**-1.2**
JNS	**Sasagawa**	**3.02**	**80**		⇓P		**P**	**03 38 21.7**	**-0.1**
JYN	**Shimob**	**3.02**	**127**		⇓P		**P**	**03 38 20.9**	**-1.0**
JHS	**Saijyo**	**3.06**	**221**		⇑P		**P**	**03 38 23.3**	**+1.0**
JIE	**Ise**	**3.08**	**162**		⇓P		**P**	**03 38 22.7**	**+0.2**
JIE					S		**S**	**03 39 08.1**	**-1.0**
JWY	**Kouya**	**3.12**	**180**		⇑P		**P**	**03 38 22.9**	**+0.1**
JWY					S		**S**	**03 39 08.1**	**-1.5**
JAW	**Awa shima**	**3.12**	**68**		⇓P		**P**	**03 38 23.0**	**+0.2**
JGT	**Gotsu**	**3.49**	**230**		⇑P		**P**	**03 38 27.8**	**+1.4**
JOD2	**Odawara 2**	**3.52**	**125**		⇓P		**P**	**03 38 25.6**	**-1.1**
JWZ	**Kozaga**	**3.80**	**178**		⇑P		**P**	**03 38 29.1**	**-0.5**
JMK	**Ichinoseki**	**4.74**	**68**		P		**P**	**03 38 38.9**	**-0.6**
JHJ	**Hachijo jima 2**	**5.45**	**139**		P		**P**	**03 38 46.5**	**-1.0**
	76nm,0.3s,baz=253,slow=23,SNR=28								
JHJ					S		**S**	**03 39 54.5**	**+0.6**
	68nm,0.3s,baz=78,slow=23,SNR=3.7								
JNU	**Nakatsue**	**5.70**	**224**		P		**P**	**03 38 51.3**	**+0.9**
	43nm,0.3s,baz=56,slow=7.1,SNR=362								
JNU					S		**S**	**03 39 59.0**	**0.0**
KS15	**Wonju Array Si**	**6.12**	**273**		*e*P		**P**	**03 38 57.0**	**+1.7**
INCN	**Inchon**	**7.11**	**274**		*e*P		**P**	**03 39 09.4**	**+2.3**
	112nm,1.0s								
MDJ	**Mudanjiang**	**8.55**	**330**		P		**P**	**03 39 26.0**	**+1.7**
MDJ					S		**S**	**03 41 04.0**	**+4.0**
MDJ					PCP		PcP	03 45 18.8	+4.0
MDJ					SCP			03 48 15.0	
MDJ					PCS			03 48 53.0	
MDJ					SCS		ScS	03 51 50.3	+0.5
MDJ					AMB		AMB		
	comp=Z,178nm,0.9s								
MDJ					AMB		AMB		
	comp=Z,119nm,5.8s								
MDJ	**Mudanjiang**	**8.55**	**330**		*e*P		**P**	**03 39 26.5**	**+2.2**
	comp=Z,129nm,0.8s								
ASAJ	**Asahikawa**	**8.62**	**36**		P		**P**	**03 39 23.8**	**-1.3**
	comp=Z,166nm,0.3s,baz=204,slow=7.9,SNR=543								
ASAJ					S		**S**	**03 40 57.0**	**-4.3**
	comp=Z,3.8nm,0.3s,baz=354,slow=30,SNR=8.2								
ASAJ	**Asahikawa**	**8.62**	**36**		P		**P**	**03 39 23.8**	**-1.2**
ASAJ					S		**S**	**03 40 57.0**	**-4.3**
ASAJ					pmax		pmax		
	comp=Z,166nm,0.3s								
CN2	**Changchun**	**10.04**	**313**		*e*P		**P**	**03 39 44.3**	**+2.1**
CN2					*e*XP			03 40 57.5	
CN2					*e*S		**S**	**03 41 30.8**	**-1.5**
CN2					AMB		AMB		
	comp=Z,10.0nm,0.7s								
SNY	**Shenyang**	**10.28**	**300**		⇓P		**P**	**03 39 48.0**	**+2.9**
SNY					AMB		AMB		
	comp=Z,90nm,1.1s								
YUK	**Yuzh-Kuril'sk**	**10.28**	**46**		*e*P		**P**	**03 39 43.2**	**-1.9**
YUK					*i* S		**S**	**03 41 32.9**	**-4.7**
YUK					pmax		pmax		
	comp=Z,2μm,1.0s								
YUK					pmax		pmax		
	comp=Z,460nm,0.5s								
YUK					pmax		pmax		
	comp=N,330nm,0.5s								
YUK					smax				
	comp=N,3μm,0.8s								
YUK					smax				
	comp=N,800nm,0.5s								
YUK					smax				
	comp=E,2μm,0.6s								
YSS	**Yuzh-Sakhalins**	**10.98**	**27**		⇓*i*P		**P**	**03 39 52.0**	**-1.6**
YSS					*e*S		**S**	**03 41 48.0**	**-4.8**
YSS					pmax		pmax		
	comp=Z,120nm,0.8s								
YSS					smax				
	comp=N,130nm,1.4s								
DL2	**Dalian**	**11.09**	**282**		PR			03 39 57.5	
DL2					XP			03 41 09.3	
DL2					S		**S**	**03 41 59.3**	**+4.1**
DL2					AMB		AMB		
	comp=Z,160nm,0.6s								
CBIJ	**Chichi jima**	**11.65**	**149**		P		**P**	**03 39 53.5**	**-8.2**
	comp=Z,16nm,0.3s,baz=61,slow=15,SNR=29								
CBIJ					S		**S**	**03 41 53.1**	**-14**
	comp=Z,98nm,0.3s,baz=268,slow=23,SNR=16								
KUR	**Kuril'sk**	**12.14**	**46**		⇓*i*P		**P**	**03 40 03.8**	**-3.9**
KUR					*e*S		**S**	**03 42 16.0**	**-2.1**
KUR					pmax		pmax		
	comp=N,60nm,0.8s								
KUR					pmax		pmax		
	comp=E,90nm,0.8s								
KUR					pmax		pmax		
	comp=Z,320nm,0.8s								
KUR					pmax		pmax		
	comp=Z,2μm,1.0s								
KUR					smax				
	comp=N,90nm,0.7s								
KUR					smax				
	comp=E,40nm,0.7s								
JOW	**Kunigami**	**12.16**	**213**		P		**P**	**03 40 05.5**	**-2.3**
	baz=60,slow=8.4								
TIA	**Tai'an**	**14.83**	**271**		*e*P		**P**	**03 40 38.0**	**-0.7**
TIA					AMB		AMB		
	comp=Z,31nm,1.0s								
HIA	**Hailar**	**16.54**	**321**		*e*P		**P**	**03 40 55.9**	**-0.9**
	comp=Z,78nm,0.7s								
HIA	**Hailar**	**16.54**	**321**		*e*P		**P**	**03 40 55.9**	**-0.9**
HIA					pmax		pmax		
	comp=Z,78nm,0.7s								
HHC	**Hu-ho-hao-te**	**18.94**	**288**		⇓P		**P**	**03 41 20.3**	**-1.0**
HHC					S		**S**	**03 44 24.0**	**-10**
HHC					AMB		AMB		
	comp=Z,42nm,1.1s								
HHC					AMB		AMB		
	comp=Z,97nm,4.0s								
HHC					LR		LR		
	comp=N,86nm,9.0s								
HHC					LR		LR		
	comp=E,128nm,9.0s								
HHC					LR		LR		
	comp=Z,64nm,6.6s								
SKR	**Severo-Kuril's**	**19.82**	**41**		*e*P		**P**	**03 41 27.0**	**-2.8**
SKR					pmax		pmax		
	comp=N,80nm,0.9s								
SKR					pmax		pmax		
	comp=E,30nm,0.9s								
SKR					pmax		pmax		
	comp=Z,130nm,0.9s								
BTO	**Baotou**	**20.11**	**287**		*e*P		**P**	**03 41 30.5**	**-2.2**
CLNS	**Chul'man**	**20.77**	**343**		*e*P		**P**	**03 41 38.5**	**-0.5**
CLNS					pmax		pmax		
	comp=N,16nm,0.7s								
CLNS					pmax		pmax		
	comp=Z,32nm,0.7s								
CLNS					pmax		pmax		
	comp=E,7.0nm,0.6s								
CIT	**Chita**	**21.34**	**320**		*e*P		**P**	**03 41 44.0**	**-0.6**
CIT					*e*			03 45 20.8	
CIT					pmax		pmax		
	comp=Z,56nm,1.5s,mb4.6								
XAN	**Xi'an**	**21.86**	**269**		P		**P**	**03 41 48.8**	**-1.0**
XAN					AMB		AMB		
	comp=Z,54nm,0.5s,mb5.0								
PET	**Petropavlovsk**	**22.45**	**38**		⇑*i*P		**P**	**03 41 55.3**	**+0.2**
PET					pmax		pmax		
	comp=Z,52nm,0.7s,mb4.9								
ENH	**Enshi**	**22.75**	**260**		*e*P		**P**	**03 41 57.3**	**-0.8**
	comp=Z,49nm,0.7s,mb4.8								
ULN	**Ulaanbaatar**	**23.35**	**306**		*e*P		**P**	**03 42 03.4**	**-0.1**
	comp=Z,25nm,0.8s,mb4.5								
ULN	**Ulaanbaatar**	**23.35**	**306**		*e*P		**P**	**03 42 03.4**	**-0.1**
ULN					pmax		pmax		
	comp=Z,25nm,0.8s,mb4.5								
SONM	**Songino Array**	**23.77**	**305**		P		**P**	**03 42 06.9**	**-0.4**
	comp=Z,9.6nm,0.5s,mb4.3,baz=109,slow=9.0,SNR=68								
MA2	**Magadan**	**24.31**	**19**		*e*P		**P**	**03 42 12.0**	**-0.1**
BOD	**Bodaibo**	**24.92**	**332**		*e*P		**P**	**03 42 15.6**	**-2.0**
BOD					pmax		pmax		
	comp=Z,16nm,1.0s,mb4.2								
YAK	**Yakutsk**	**24.99**	**353**		*e*P		**P**	**03 42 20.8**	**+2.6**
YAK					*e*S		**S**	**03 46 12.0**	**-4.0**
YAK					pmax		pmax		
	comp=Z,10.0nm,0.8s,mb4.1								
YAK					pmax		pmax		
	comp=N,5.0nm,1.1s								
YAK					smax				
	comp=E,9.0nm,1.1s								
YAK					smax				
	comp=N,7.0nm,0.8s								
LZH	**Lanzhou**	**25.40**	**277**		*e*P		**P**	**03 42 22.0**	**-0.3**
LZH					AP			03 43 25.0	
LZH					XP		sP	03 44 06.0	+3.0
LZH					PCP		PcP	03 45 45.0	0.0
LZH					*e*S		**S**	**03 46 21.0**	**-2.0**
LZH					PCS			03 49 25.0	
LZH					AMB		AMB		
	comp=Z,50nm,1.3s,mb4.6								
LZH					AMB		AMB		
	comp=Z,145nm,4.0s								
LZH	**Lanzhou**	**25.40**	**277**		*e*P		**P**	**03 42 22.1**	**-0.2**
	comp=Z,50nm,1.3s,mb4.6								
LZH					pP			03 43 25.0	
LZH					sP		sP	03 44 06.0	+3.0
LZH					PcP		PcP	03 45 45.0	0.0
LZH					*e*S		**S**	**03 46 21.0**	**-2.0**
LZH					*i*			03 48 22.0	
LZH					PcS			03 49 25.0	
LZH					*e*SS		ScS	03 52 33.0	-6.0
LZH	**Lanzhou**	**25.40**	**277**		*e*P		**P**	**03 42 22.1**	**-0.2**
LZH					*PP			03 43 25.0	
LZH								03 45 45.0	
LZH					*e*S		**S**	**03 46 21.0**	**-2.0**
LZH					pmax		pmax		
	comp=Z,50nm,1.3s,mb4.6								
ZAK	**Zakamensk**	**26.45**	**310**		⇓*e*P		**P**	**03 42 30.6**	**-1.0**
ZAK					pmax		pmax		
	comp=Z,5.0nm,0.7s,mb3.9								
GYA	**Guiyang**	**26.73**	**254**		⇓*i*P		**P**	**03 42 32.8**	**-1.6**
GYA					AP			03 43 35.8	
GYA					XP		sP	03 44 17.3	+1.7
GYA					PCP		PcP	03 45 48.3	+0.1
GYA					S		**S**	**03 46 39.0**	**-5.3**
GYA					SCP			03 48 53.5	
GYA					SCS		ScS	03 52 37.8	-7.0
GYA					AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.1								
GYA					AMB		AMB		
	comp=Z,60nm,2.6s,mb4.4								
SEY	**Seymchan**	**27.61**	**17**		*i* P		**P**	**03 42 41.2**	**-0.7**
GTA	**Gaotai**	**27.99**	**285**		P		**P**	**03 42 44.5**	**-1.1**
GTA					AP			03 43 49.3	
GTA					XP		sP	03 44 30.3	+3.0
GTA					PCP		PcP	03 45 51.0	-0.1
GTA					S		**S**	**03 47 01.5**	**-2.6**
GTA					SCP			03 48 58.0	
GTA					PCS			03 49 32.0	
GTA					SCS		ScS	03 52 50.0	-0.3
GTA					AMB		AMB		
	comp=Z,29nm,0.7s,mb4.6								
GTA					AMB		AMB		
	comp=Z,81nm,6.9s								
GTA					LR		LR		
	comp=N,76nm,21.4s								
GTA					LR		LR		
	comp=E,146nm,15.7s								
GTA					LR		LR		
	comp=Z,57nm,14.5s								
MOY	**Mondy**	**28.21**	**312**		*e*P		**P**	**03 42 45.8**	**-1.5**
KMI	**Kunming**	**30.44**	**256**		P		**P**	**03 43 08.0**	**+0.9**
KMI					AMB		AMB		
	comp=Z,13nm,0.7s,mb4.3								
KMI	**Kunming**	**30.44**	**256**		P		**P**	**03 43 08.0**	**+0.9**
	comp=Z,13nm,0.7s,mb4.3								
TIXI	**Tiksi**	**34.55**	**356**		*e*P		**P**	**03 43 39.3**	**-2.4**
TIXI					pmax		pmax		
	comp=Z,3.0nm,0.6s,mb3.7								
BILL	**Bilibino**	**35.18**	**19**		*i* P		**P**	**03 43 43.4**	**-3.5**
BILL					pmax		pmax		
	comp=Z,5.0nm,0.4s,mb4.1								
BILL					MLR		MLR		
	comp=Z,200nm,20.0s								
WMQ	**Urumqi**	**36.51**	**296**		*e*P		**P**	**03 44 00.0**	**+1.6**
WMQ					AP		pP	03 45 08.0	+3.3
WMQ					SCS		ScS	03 53 34.0	+0.1
WMQ					AMB		AMB		
	comp=Z,19nm,0.8s,mb4.4								
WMQ					AMB		AMB		
	comp=Z,75nm,4.0s								
WMQ					LR		LR		
	comp=N,48nm,12.0s								
WMQ					LR		LR		
	comp=E,154nm,20.0s								
WMQ					LR		LR		
	comp=Z,16nm,12.0s								
LSA	**Lhasa**	**37.53**	**272**		*e*P		**P**	**03 44 08.1**	**+1.2**
	comp=Z,14nm,0.7s,mb4.3								
LSA	**Lhasa**	**37.53**	**272**		*e*P		**P**	**03 44 08.1**	**+1.1**
LSA					pmax		pmax		
	comp=Z,14nm,0.7s,mb4.3								
ZAL	**Zalesovo**	**38.27**	**312**		P		**P**	**03 44 12.9**	**+0.1**
	comp=Z,13nm,0.3s,mb4.6,baz=350,slow=6.3,SNR=27								
ZAL					ScP			03 49 32.1	
	comp=Z,1.0nm,0.4s,baz=66,slow=5.4,SNR=3.3								
ZAL					S		**S**	**03 49 40.6**	**-1.2**
	comp=Z,0.9nm,0.4s,baz=98,slow=5.5,SNR=3.3								
ZAL	**Zalesovo**	**38.27**	**312**		P		**P**	**03 44 12.9**	**+0.1**
ZAL					S		**S**	**03 49 40.6**	**-1.2**
NVS	**Novosibirsk**	**39.25**	**314**		*e*P		**P**	**03 44 19.3**	**-1.6**
NVS					pmax		pmax		
	comp=N,2.0nm,0.5s								
NVS					pmax		pmax		
	comp=E,12nm,0.5s								
NVS					pmax		pmax		
	comp=Z,15nm,0.5s,mb4.5								
MKAR	**Makanchi Array**	**39.98**	**301**		P		**P**	**03 44 26.8**	**-0.1**
	comp=Z,6.9nm,0.5s,mb4.1,baz=88,slow=9.9,SNR=50								
MKAR					ScP			03 49 39.4	
	comp=Z,1.5nm,0.7s,baz=87,slow=4.8,SNR=5.4								
MKAR	**Makanchi Array**	**39.98**	**301**		P		**P**	**03 44 26.8**	**-0.1**
MKAR					ScP			03 49 39.4	
KURK	**Kurchatov**	**42.05**	**307**		*e*P		**P**	**03 44 43.0**	**-0.6**
	comp=Z,50nm,0.7s,mb4.8								
KURK	**Kurchatov**	**42.05**	**307**		*e*P		**P**	**03 44 43.0**	**-0.6**
KURK					pmax		pmax		
	comp=Z,50nm,0.7s,mb4.8								
GUN	**Gumba**	**42.48**	**272**		*e*P		**P**	**03 44 47.8**	**+0.5**
	comp=Z,97nm,0.6s,mb5.1								
PKI	**Pulchoki**	**43.00**	**272**		*e*P		**P**	**03 44 51.2**	**-0.3**
	comp=Z,22nm,0.6s,mb4.5								
PKI	**Pulchoki**	**43.00**	**272**		*e*P		**P**	**03 44 51.2**	**-0.3**
PKI					pmax		pmax		
	comp=Z,11nm,0.6s,mb4.2								
KKN	**Kakani**	**43.01**	**272**		*e*P		**P**	**03 44 51.8**	**+0.2**
	comp=Z,53nm,0.7s,mb4.8								
KKN	**Kakani**	**43.01**	**272**		*e*P		**P**	**03 44 51.8**	**+0.2**
KKN					pmax		pmax		
	comp=Z,27nm,0.7s,mb4.5								
DMN	**Daman**	**43.22**	**272**		*e*P		**P**	**03 44 53.1**	**-0.2**
	comp=Z,23nm,0.7s,mb4.4								
GKN	**Gorkha**	**43.43**	**273**		*e*P		**P**	**03 44 55.0**	**+0.1**
	comp=Z,115nm,0.6s,mb5.2								
KOLN	**Koldanda**	**44.35**	**273**		*e*P		**P**	**03 45 02.5**	**+0.2**
	comp=Z,14nm,0.3s,mb4.6								
TKM2	**Tokmak 2**	**45.35**	**297**		P		**P**	**03 45 11.1**	**+1.2**
	SNR=11								
KBK	**Karagaybulak**	**45.88**	**296**		P		**P**	**03 45 15.0**	**+1.0**
	SNR=31								
CHMS	**Chumysh**	**45.93**	**297**		P		**P**	**03 45 14.9**	**+0.4**
	SNR=13								
USP	**Ospenovka**	**46.04**	**297**		P		**P**	**03 45 15.7**	**+0.3**
	SNR=14								
AAK	**Ala-Archa**	**46.20**	**297**		P		**P**	**03 45 17.2**	**+0.6**
	SNR=16								
AAK	**Ala-Archa**	**46.20**	**297**		*e*P		**P**	**03 45 15.8**	**-0.8**
	comp=Z,21nm,0.6s,mb4.4								
AAK	**Ala-Archa**	**46.20**	**297**		*d i*P		**P**	**03 45 15.9**	**-0.7**
AAK					pmax		pmax		
	comp=Z,12nm,0.7s,mb4.1								
UCH	**Uchtor**	**46.30**	**296**		P		**P**	**03 45 18.8**	**+1.5**
	SNR=14								
VOSK	**Vostochnaya**	**46.57**	**311**		P		**P**	**03 45 18.5**	**-0.8**
VOSK					pmax		pmax		
	comp=Z,16nm,0.8s,mb4.3								
EKS2	**Erkin-Say**	**46.71**	**297**		P		**P**	**03 45 20.9**	**+0.4**
	SNR=13								
AML	**Almayashu**	**46.91**	**296**		P		**P**	**03 45 23.6**	**+1.6**
	SNR=48								
BRVK	**Borovoye**	**46.95**	**311**		*e*P		**P**	**03 45 21.6**	**-0.6**
	comp=Z,5.3nm,0.3s,mb4.2								
BRVK	**Borovoye**	**46.95**	**311**		*e*P		**P**	**03 45 21.6**	**-0.6**
BRVK					pmax		pmax		
	comp=Z,5.0nm,0.3s,mb4.2								
IMA	**Indian Mountai**	**48.81**	**31**		*e*P		**P**	**03 45 36.8**	**+0.5**
	comp=Z,43nm,1.0s,mb4.6								
IMA	**Indian Mountai**	**48.81**	**31**		*e*P		**P**	**03 45 36.8**	**+0.5**
IMA					pmax		pmax		
	comp=Z,43nm,1.0s,mb4.6								
KKAR	**Karatay Array**	**48.90**	**298**		P		**P**	**03 45 37.0**	**-0.3**
KKAR					pmax		pmax		
	comp=Z,2.0nm,0.4s,mb3.7								
RSO	**Redoubt South**	**49.55**	**38**		*e*P		**P**	**03 45 42.1**	**+0.2**
SPU	**Mount Spurr**	**49.82**	**37**		*e*P		**P**	**03 45 44.2**	**+0.2**
MCK	**McKinley**	**50.97**	**34**		*e*P		**P**	**03 45 52.0**	**-0.4**
	comp=Z,1.9nm,0.4s,mb3.7								
MCK	**McKinley**	**50.97**	**34**		*e*P		**P**	**03 45 52.0**	**-0.5**
MCK					pmax		pmax		
	comp=Z,2.0nm,0.4s,mb3.7								
SML	**Sawmill**	**51.51**	**36**		*e*P		**P**	**03 45 56.1**	**-0.4**
ILAR	**Eielson Array**	**51.73**	**32**		P		**P**	**03 45 57.5**	**-0.6**
	comp=Z,5.3nm,0.5s,mb4.1,baz=263,slow=5.9,SNR=106								
SVE	**Sverdlovsk**	**51.80**	**318**		*e*P		**P**	**03 45 58.6**	**0.0**
SVE					pmax		pmax		
	comp=Z,40nm,1.3s,mb4.6								
DIV	**Divide**	**52.84**	**37**		*e*P		**P**	**03 46 06.6**	**+0.4**
	comp=Z,20nm,0.6s,mb4.6								
ARU	**Arti**	**53.00**	**317**		⇓*i*P		**P**	**03 46 06.9**	**-0.6**
ARU					*e*			03 47 06.2	
ARU					*e*			03 48 05.2	
ARU					pmax		pmax		
	comp=Z,37nm,0.7s,mb4.8								
HYB	**Hyderabad**	**53.56**	**265**		*i* P		**P**	**03 46 11.5**	**-0.5**
HYB	**Hyderabad**	**53.56**	**265**		*e*P		**P**	**03 46 11.5**	**-0.5**
AB31	**Akbulak array**	**54.13**	**308**		*e*P		**P**	**03 46 15.1**	**-0.6**
AB31					pmax		pmax		
	comp=Z,5.0nm,0.3s,mb4.3								
DAWY	**Dawson**	**55.06**	**32**		*e*P		**P**	**03 46 21.5**	**-0.6**
INK	**Inuvik**	**56.22**	**27**		P		**P**	**03 46 30.2**	**0.0**
	comp=Z,10.0nm,0.4s,mb4.5,baz=284,slow=5.7,SNR=48								
INK	**Inuvik**	**56.22**	**27**		*e*P		**P**	**03 46 30.0**	**-0.3**
WRA	**Warramunga Arr**	**56.99**	**181**		P		**P**	**03 46 34.0**	**-2.1**
	comp=Z,2.0nm,0.4s,mb3.8,baz=359,slow=7.5,SNR=57								
WRA					pP		pP	03 47 46.5	-2.2
	comp=Z,1.6nm,0.8s,baz=354,slow=7.6,SNR=2.2								
DLBC	**Dease Lake**	**61.22**	**37**		P		**P**	**03 47 04.8**	**+0.5**
	comp=Z,2.8nm,0.6s,mb3.9,baz=310,slow=7.4,SNR=9.8								
DLBC	**Dease Lake**	**61.22**	**37**		*e*P		**P**

BMO Blue Mountains 75.07 45 *e*P **P 03 48 30.1 +0.4**
comp=Z,3.6nm,0.7s,mb4.2
KWP Kalwaria 75.08 322 *e*P **P 03 48 29.9 +0.3**
KWP Kalwaria 75.08 322 *e*P **P 03 48 29.9 +0.4**
BR131 Keskin Array S 75.08 309 *e*P **P 03 48 30.3 +0.5**
comp=Z,2.4nm,0.8s,mb4.0
BRTR Keskin Array B 75.08 309 P **P 03 48 30.4 +0.6**
comp=Z,4.6nm,0.9s,mb4.2,baz=90,slow=4.9,SNR=19
STHS Stebnicka Huta 75.94 322 *e*P **P 03 48 34.6 +0.2**
OJC Ojcow 76.10 323 *e*P **P 03 48 35.5 +0.3**
CRVS Cervenica-Dubn 76.17 322 *e*P **P 03 48 35.1 -0.6**
NIE Niedzica 76.39 323 *e*P **P 03 48 38.0 +1.1**
DLMT Dillon 77.33 42 *e*P **P 03 48 42.8 +0.7**
CMB Columbia Colle 77.42 52 *e*P **P 03 48 43.1 +0.3**
comp=Z,2.5nm,0.6s,mb4.1
CMB Columbia Colle 77.42 52 *e*P **P 03 48 43.1 +0.4**
CMB pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
MORC Moravsky Berou 77.46 324 *e*P **P 03 48 43.4 +0.6**
comp=Z,12nm,1.4s,mb4.5
MORC Moravsky Berou 77.46 324 *e*P **P 03 48 43.4 +0.7**
MORC pmax pmax
comp=Z,12nm,1.4s,mb4.4
DPC Dobruska-Polom 77.62 325 *e*P **P 03 48 44.4 +0.8**
UPC Upice 77.66 325 *e*P **P 03 48 44.3 +0.6**
BOZ Bozeman (W) 77.66 41 *e*P **P 03 48 44.6 +0.7**
comp=Z,5.9nm,0.8s,mb4.4
BOZ Bozeman (W) 77.66 41 *e*P **P 03 48 44.6 +0.7**
BOZ pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
VYHS Vyhne 77.73 323 *e*P **P 03 48 45.0 +0.8**
PVCC Panska Ves 78.29 326 *e*P **P 03 48 48.0 +0.9**
QLMT Earthquake Lak 78.30 42 *e*P **P 03 48 48.8 +1.4**
BRG Berggiesshubel 78.32 327 *e*P **P 03 48 47.8 +0.5**
comp=Z,3.4nm,0.9s,mb4.1
BRG Berggiesshubel 78.32 327 *e*P **P 03 48 47.8 +0.5**
BRG pmax pmax
comp=Z,3.0nm,0.9s,mb4.0
SMOL Smolenice 78.39 323 *e*P **P 03 48 46.9 -0.8**
CLL Collm 78.41 327 P **P 03 48 48.0 +0.2**
comp=Z,logA/T=1.0,mb4.5
CLL *e*PP PP 03 51 56.0 +4.8
CLL Collm 78.41 327 *e*P **P 03 48 48.0 +0.2**
comp=Z,8.0nm,0.8s,mb4.5
CLL *e* 03 49 03.0
CLL Collm 78.41 327 *e*P **P 03 48 48.0 +0.2**
CLL *e* 03 49 03.0
CLL pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
PRU Pruhonice 78.69 326 *e*P **P 03 48 49.7 +0.4**
PTRM Twissleman Ran 78.99 54 *e*P **P 03 48 52.5 +1.3**
IMW Indian Meadow 79.19 42 *e*P **P 03 48 53.8 +1.7**
comp=Z,6.0nm,0.8s,mb4.4
FLWY Flagg Ranch 79.19 42 *e*P **P 03 48 53.9 +1.8**
RRI2 Red Ridge 79.35 43 *e*P **P 03 48 54.3 +1.4**
comp=Z,7.1nm,0.9s,mb4.4
TPAW Teton Pass 79.45 43 *e*P **P 03 48 54.6 +1.1**
comp=Z,14nm,1.3s,mb4.5
LAO LASA Array 79.70 38 *e*P **P 03 48 55.3 +0.6**
comp=Z,9.7nm,1.0s,mb4.5
KHC Kasperske Hory 79.74 326 *e*P **P 03 48 55.3 +0.4**
GERES GERESS Array B 79.89 325 P **P 03 48 56.0 +0.3**
comp=Z,2.0nm,0.7s,mb4.0,baz=40,slow=5.3,SNR=17
GRA1 Grafenberg Arr 80.37 327 *e*P **P 03 48 59.1 +0.9**
comp=Z,5.0nm,0.9s,mb4.2
GRF Grafenberg Arr 80.37 327 *e*P **P 03 48 59.1 +0.9**
GRF pmax pmax
comp=Z,5.0nm,0.9s,mb4.2
HWUT Hardware Ranch 80.37 44 *e*P **P 03 48 59.5 +1.1**
comp=Z,9.1nm,1.1s,mb4.4
BW06 Boulder Array 80.69 43 *e*P **P 03 49 00.3 +0.3**
comp=Z,4.1nm,0.8s,mb4.2
PDAR Pinedale Array 80.69 43 P **P 03 49 00.6 +0.6**
comp=Z,4.0nm,0.7s,mb4.2,baz=317,slow=1.9,SNR=44
ULM Lac du Bonnet 81.71 30 P **P 03 49 05.2 +0.1**
comp=Z,6.5nm,0.8s,mb4.5,baz=311,slow=6.5,SNR=8.1
SRU San Rafael 82.64 46 *e*P **P 03 49 11.0 +0.9**
BAIF Baives 82.97 331 *e*P **P 03 49 10.9 -0.6**
CDF Champ du Feu 83.03 328 *e*P **P 03 49 11.6 -0.2**
comp=Z,11nm,1.1s,mb4.3
HINF Hinteralfeld 83.67 328 *e*P **P 03 49 14.6 -0.4**
comp=Z,2.9nm,0.6s,mb4.0
HAU Haudompre 83.74 328 *e*P **P 03 49 14.8 -0.6**
PV10 Paradox Valley 83.99 46 *e*P **P 03 49 18.0 +1.1**
PV01 Paradox Valley 84.42 45 *e*P **P 03 49 19.7 +0.7**
CABF La Chapelle 84.94 328 *e*P **P 03 49 21.1 -0.3**
comp=Z,2.3nm,0.7s,mb3.8
LOR Lormes 85.35 329 *e*P **P 03 49 22.8 -0.5**
LPL La Plagne 85.52 327 *e*P **P 03 49 24.4 +0.2**
comp=Z,6.1nm,0.8s,mb4.2
LPG La Plagne 85.53 327 *e*P **P 03 49 24.6 +0.4**
comp=Z,9.6nm,0.8s,mb4.4
SSF Saint Saulge 85.66 329 *e*P **P 03 49 24.4 -0.4**
FLN La Foliniere 85.80 333 *e*P **P 03 49 24.8 -0.7**
comp=Z,5.1nm,0.7s,mb4.2
LDF La Druitiere 85.81 332 *e*P **P 03 49 25.0 -0.5**
comp=Z,4.7nm,0.6s,mb4.2
AVF Avril sur Loir 85.94 329 *e*P **P 03 49 25.8 -0.4**
MBDF Montbardon 86.12 326 *e*P **P 03 49 27.1 0.0**
comp=Z,8.3nm,0.8s,mb4.3
SCHQ Schefferville 86.20 13 P **P 03 49 28.1 +0.9**
comp=Z,2.7nm,0.7s,mb4.2,baz=54,slow=5.0,SNR=4.7
GRR Gorron 86.25 333 *e*P **P 03 49 27.5 -0.1**
comp=Z,1.9nm,0.4s,mb4.0
ORIF Oris-en-Rattie 86.36 327 *e*P **P 03 49 27.9 -0.4**
SBF Sospel 86.50 325 *e*P **P 03 49 28.8 -0.1**
comp=Z,23nm,0.8s,mb4.8
PGF Pioggiola 86.79 324 *e*P **P 03 49 31.3 +0.9**
TCF Toulx Ste Croi 86.81 330 *e*P **P 03 49 30.1 -0.3**
VIVF Saint-Julien-l 86.94 327 *e*P **P 03 49 30.7 -0.3**
comp=Z,5.6nm,0.8s,mb4.1
SMRF Simiane la Rot 87.24 326 *e*P **P 03 49 32.3 -0.2**
LMR La Mourre 87.33 325 *e*P **P 03 49 32.2 -0.8**
comp=Z,12nm,0.8s,mb4.4
MFF Saint Martin d 87.47 331 *e*P **P 03 49 33.3 -0.3**
RJF Les Rejaudoux 87.89 329 *e*P **P 03 49 35.5 -0.1**
LASF Ste Croix 87.91 327 *e*P **P 03 49 35.7 0.0**
CAF Calviac 87.98 329 *e*P **P 03 49 36.2 +0.2**
LFF La Frestale 88.50 330 *e*P **P 03 49 38.1 -0.4**
comp=Z,7.1nm,0.7s,mb4.3
MTLF Montolieu 89.20 328 *e*P **P 03 49 41.7 0.0**
TXAR Lajitas Array 93.53 49 P **P 03 50 03.2 +1.1**
comp=Z,2.3nm,0.6s,mb4.4,baz=295,slow=3.0,SNR=41
LPAZ La Paz 150.37 51 PKPbc PKPdf 03 56 37.1 +7.9
comp=Z,0.8nm,0.5s,baz=360,slow=4.6,SNR=4.0
LPAZ PKPab PKPab 03 56 43.8 -1.1
comp=Z,1.5nm,0.6s,baz=349,slow=5.2,SNR=3.7
LPAZ La Paz 150.37 51 PKIKP PKPab 03 56 43.8 -1.0
LPAZ pmax pmax
comp=Z,2.0nm,0.6s
SIV San Ignacio 154.13 39 PKPab PKPab 03 56 59.9 -0.8
comp=Z,1.9nm,0.5s,baz=12,slow=1.1,SNR=5.6

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*HRVD **28** 03:44:02.8±0.4,56.68S×26.90W,h128km±3km,MW5.1/59, Centroid moment Tensor Solution. LP body waves: s29,c31;Mantle waves: s59,c91; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.16±.30; $M_{\theta\theta}$2.53±.32; $M_{\phi\phi}$-2.68±.29; $M_{r\theta}$1.46±.21; $M_{\theta\phi}$-2.59±.25; $M_{\phi r}$-4.30±.16; Best double couple: $M_0$5.836×10^{16} NP1:ϕ_s68°,δ39°,λ179°. NP2:ϕ_s159°,δ89°,λ51°. Principal axes: T 5.683, Plg34°, Azm37°; N .313, Plg39°, Azm160°; P -5.99, Plg33°, Azm281°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **28** 03:44:02.8±1.3,56.81S×27.19W,h138km±11km,mb5.1/16 Error ellipse: s-maj=8.4km s-min=5.8km az=217.0*
*BJI **28** 03:44:02.7,56.80S×27.20W,h137km,mB4.9*
*IDC **28** 03:44:04.5±1.2,56.81S×27.41W,h150km±9km,mb4.6/14, mb1 4.6/15,mb1mx4.6/16,mbtmp4.9/15,MS3.9/7, Ms1 3.9/7,ms1mx3.6/17,Error ellipse: s-maj=13.0km s-min=9.9km az=38.0*
ISC 28 03:44:01.3±1.9,56.80S±0.06×27.2W±0.1,h133km±18km, n125,σ1$07/53,mb4.8/23,10C-3D,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**16.11**	**157**	*e*	**P**	**03 47 44.3**	**+3.4**
VNA1	**Neumayer--Stat**	**16.11**	**157**	*e*	**P**	**03 47 47.8**	**+6.9**
VNA1	**Neumayer--Stat**	**16.11**	**157**	*e*		03 48 02.0	
VNA1	**Neumayer--Stat**	**16.11**	**157**	⇑*iP*		03 55 48.9	
VNA1	**Neumayer--Stat**	**16.11**	**157**	*e*		03 55 50.6	
VNA1	**Neumayer--Stat**	**16.11**	**157**	*e*		03 55 52.6	
VNA1	**Neumayer--Stat**	**16.11**	**157**	⇑*iP*	**P**	**03 47 39.9**	**-1.0**
VNA1				*e*		03 47 44.3	
VNA1				*e*		03 47 47.8	
VNA1				*e*		03 48 02.0	
VNA1				*e*		03 50 21.1	
VNA1				*e*		03 50 35.3	
VNA3	**Neumayer Olymp**	**16.29**	**160**	*e*	**P**	**03 47 46.8**	**+3.6**
VNA3	**Neumayer Olymp**	**16.29**	**160**	*e*	**P**	**03 47 49.4**	**+6.2**
VNA3	**Neumayer Olymp**	**16.29**	**160**	*e*		03 48 05.1	
VNA3	**Neumayer Olymp**	**16.29**	**160**	⇑*iP*		03 55 48.7	
VNA3	**Neumayer Olymp**	**16.29**	**160**	*e*		03 55 50.2	
VNA3	**Neumayer Olymp**	**16.29**	**160**	*e*		03 55 52.5	
VNA3	**Neumayer Olymp**	**16.29**	**160**	⇑*iP*	**P**	**03 47 42.5**	**-0.7**
VNA3				*e*		03 47 46.8	
VNA3				*e*		03 47 49.4	
VNA3				*e*		03 48 05.1	
VNA3				*e*		03 50 25.2	
VNA3				*e*		03 50 39.2	
VNA2	**Neumayer--Watz**	**16.51**	**157**	*e*	**P**	**03 47 49.6**	**+3.7**
VNA2	**Neumayer--Watz**	**16.51**	**157**	*e*		03 48 07.9	
VNA2	**Neumayer--Watz**	**16.51**	**157**	⇑*iP*		03 55 48.8	
VNA2	**Neumayer--Watz**	**16.51**	**157**	*e*		03 55 50.5	
VNA2	**Neumayer--Watz**	**16.51**	**157**	*e*		03 55 53.1	
VNA2	**Neumayer--Watz**	**16.51**	**157**	⇑*iP*	**P**	**03 47 44.3**	**-1.6**
VNA2				*e*		03 47 49.6	
VNA2				*e*		03 48 07.9	
VNA2				*e*		03 50 28.7	
VNA2				*e*		03 50 45.1	
SNAA	**Sanae**	**18.07**	**155**	*e*	**P**	**03 48 08.1**	**+3.5**
SNAA	**Sanae**	**18.07**	**155**	*e*	**P**	**03 48 12.1**	**+7.5**
SNAA	**Sanae**	**18.07**	**155**	*e*		03 48 29.5	
SNAA	**Sanae**	**18.07**	**155**	⇑*iP*		03 55 51.8	
SNAA	**Sanae**	**18.07**	**155**	*e*		03 55 53.4	
SNAA	**Sanae**	**18.07**	**155**	*e*		03 55 55.3	
SNAA	**Sanae**	**18.07**	**155**	P	**P**	**03 48 03.1**	**-1.4**
0.5nm,0.3s,baz=303,slow=10,SNR=103
SNAA S **S** **03 51 17.9** **-0.8**
0.1nm,0.3s,baz=350,slow=24,SNR=3.6
SNAA PcP PcP 03 52 31.5 -1.2
0.1nm,0.3s,baz=204,slow=4.9,SNR=2.3
SNAA ScP 03 55 51.6
0.2nm,0.3s,baz=278,slow=1.1,SNR=23
SNAA Sanae 18.07 155 ⇑*iP* **P 03 48 02.8 -1.8**
SNAA *e* 03 48 08.1
SNAA *e* 03 48 12.1
SNAA *e* 03 48 29.5
SNAA *e* 03 51 10.2
SNAA *e* 03 51 21.1
EFI East Falkland 18.64 273 ⇓*e*P **P 03 48 10.5 -0.4**
677nm,0.9s
PMSA Palmer Station 19.40 231 ⇓*e*P **P 03 48 19.2 +0.4**
103nm,0.9s
USHA Ushuaia 22.99 257 P **P 03 48 55.4 +0.9**
51nm,0.8s,mb5.0,baz=77,slow=7.5,SNR=22
USHA S **S** **03 52 52.4** **+1.2**
7.3nm,1.0s,baz=185,slow=15,SNR=2.0
SYO Syowa Base 31.02 140 ⇓P **P 03 50 04.5 -3.4**
SYO Syowa Base 31.02 140 ⇑pP pP 03 50 31.8 -4.9
PLCA Paso Flores 32.12 281 P **P 03 50 15.7 -2.1**
14nm,1.0s,mb4.6,baz=141,slow=9.0,SNR=15
PLCA PcP PcP 03 53 02.1 -1.8
2.7nm,0.7s,baz=307,slow=2.3,SNR=3.4
PLCA ScP 03 56 29.6
4.7nm,0.7s,baz=56,slow=2.8,SNR=8.8
PLCA LR LR 04 03 08.7
comp=Z,153nm,18.3s,baz=42,slow=36
PLCA Paso Flores 32.12 281 *e*P **P 03 50 15.5 -2.3**
17nm,1.3s,mb4.6
QSPA South Pole Qui 33.45 180 *e*P **P 03 50 28.9 0.0**
19nm,0.7s,mb4.9
CAM4 Nova Friburgo 36.20 336 *e*P **P 03 50 53.4 +0.6**
CAM4 *i* 03 50 54.2
CAM4 *i* 03 50 54.9
CAM4 *i* 03 50 55.7
CAM4 *i* 03 51 04.2
CPUP Villa Florida 37.29 312 P **P 03 51 01.1 -0.8**
21nm,0.5s,mb5.0,baz=169,slow=7.2,SNR=100
CPUP PcP PcP 03 53 17.3 -1.6
3.5nm,0.5s,baz=183,slow=2.1,SNR=7.4
CPUP ScP 03 56 48.3
1.7nm,0.6s,baz=179,slow=3.1,SNR=6.0
CPUP Villa Florida 37.29 312 *e*P **P 03 51 00.7 -1.1**
48nm,0.9s,mb5.1
CAM3 Guarapari 37.34 339 *e*P **P 03 51 03.1 +0.8**
CAM3 *i* 03 51 06.3
CFAA Coronel Fontan 37.84 294 PcP PcP 03 53 17.8 -2.8
CFAA S **S** **03 56 39.2** **-8.0**
0.1nm,0.3s,baz=49,slow=12,SNR=4.6
CFAA ScP 03 56 50.0
0.2nm,0.4s,baz=191,slow=5.1,SNR=3.8
MAW Mawson 39.56 143 ⇑*iP* **P 03 51 19.6 -0.7**
11nm,0.7s,mb4.6
MAW Mawson 39.56 143 P **P 03 51 19.6 -0.7**
10nm,0.6s,mb4.6,baz=233,slow=7.8,SNR=44
MAW PcP PcP 03 53 25.0 -0.7
5.7nm,0.7s,baz=266,slow=7.7,SNR=3.8
MAW ScP 03 56 59.6
7.9nm,0.8s,baz=256,slow=5.4,SNR=15
SUR Sutherland 40.86 74 P **P 03 51 32.4 +1.0**
54nm,0.7s,mb5.3,baz=206,slow=7.3,SNR=38
SUR Sutherland 40.86 74 *e*P **P 03 51 32.1 +0.8**
43nm,0.7s,mb5.2
BAO Brasilia Array 44.01 331 P **P 03 51 57.5 +0.5**
BDFB Brasilia 44.01 331 P **P 03 51 57.5 +0.5**
9.5nm,0.6s,mb4.6,baz=168,slow=4.0,SNR=29
SBA Scott Base 45.33 184 *e*P **P 03 52 07.7 +0.9**
11nm,0.8s,mb4.5
LVC Limon Verde 45.66 301 PcP PcP 03 53 45.7 -0.8
5.2nm,0.6s,baz=99,slow=1.4,SNR=2.5
LVC ScP 03 57 23.3
3.8nm,0.8s,baz=302,slow=7.7,SNR=4.0
LVC S **S** **03 58 38.0** **-3.9**
1.4nm,0.7s,baz=17,slow=18,SNR=1.8
LVC Limon Verde 45.66 301 *e*P **P 03 52 09.8 -0.3**
19nm,0.6s,mb4.9
VNDA Vanda 45.82 183 P **P 03 52 11.6 +0.9**
16nm,0.7s,mb4.8,baz=186,slow=6.2,SNR=108
VNDA ScP 03 57 24.2
3.9nm,0.9s,baz=216,slow=4.0,SNR=6.9
SIV San Ignacio 48.08 314 ScP 03 57 32.6
4.8nm,0.8s,baz=204,slow=4.4,SNR=10
LBTB Lobatse 49.25 73 *e*P **P 03 52 37.1 -0.9**
120nm,0.7s,mb5.6
TSUM Tsumeb 50.07 60 *e*P **P 03 52 43.4 -0.9**
52nm,0.8s,mb5.2
LPAZ La Paz 50.80 306 P **P 03 52 50.2 +0.3**
20nm,0.5s,mb5.0,baz=134,slow=5.4,SNR=262
LPAZ ScP 03 57 44.6
1.8nm,0.9s,baz=283,slow=2.4,SNR=3.2
LPAZ S **S** **03 59 53.3** **-0.5**
1.3nm,1.0s,baz=239,slow=22,SNR=4.4
LPAZ LR LR 04 16 04.8
comp=Z,54nm,18.1s,baz=124,slow=38
LPAZ La Paz 50.80 306 *e*P **P 03 52 50.0 +0.1**
53nm,1.0s,mb5.1
ARE Arequipa 52.18 302 *e*P **P 03 53 00.0 -0.3**
CASY Casey 53.21 160 *e*P **P 03 53 06.9 -0.4**
9.8nm,0.9s,mb4.5
DBIC Dimbokro 65.86 24 P **P 03 54 33.6 -1.2**
27nm,0.7s,mb5.2,baz=162,slow=7.8,SNR=46
DBIC LR LR 04 17 19.8
comp=Z,109nm,18.0s,baz=169,slow=30
DBIC Dimbokro 65.86 24 *e*P **P 03 54 33.3 -1.5**
42nm,1.1s,mb5.2
ROSC El Rosal 72.36 310 P **P 03 55 14.4 -0.1**
14nm,0.9s,mb4.7,baz=126,slow=3.2,SNR=20
MBAR Mbarara 72.51 63 *e*P **P 03 55 15.9 +0.6**
42nm,1.4s,mb5.0
SDV Santo Domingo 74.53 315 LR LR 04 26 58.6
comp=Z,93nm,18.9s,baz=184,slow=35
SDV Santo Domingo 74.53 315 *e*P **P 03 55 25.9 -1.1**
44nm,0.9s,mb5.1
KMBO Kilima Mbogo 75.33 69 P **P 03 55 34.5 +2.9**
6.8nm,1.0s,mb4.2,baz=204,slow=5.3,SNR=11
KMBO LR LR 04 24 10.3
comp=Z,67nm,20.3s,baz=101,slow=32
RPZ Rata Peaks 78.68 193 P **P 03 55 50.0 +0.4**
16nm,1.0s,mb4.6,baz=118,slow=4.2,SNR=4.1
URZ Urewera 83.09 199 P **P 03 56 12.5 -0.3**
12nm,1.0s,mb4.6,baz=286,slow=2.2,SNR=5.7
ATD Arta Tunnel 88.97 67 LR LR 04 35 04.7
comp=Z,101nm,18.8s,baz=210,slow=34
STKA Stephens Creek 91.17 171 P **P 03 56 52.5 +0.7**
1.8nm,0.6s,mb4.2,baz=153,slow=9.0,SNR=7.8
PPT Papeete 91.73 234 LR LR 04 28 38.4
comp=Z,90nm,21.9s,baz=143,slow=29
ESDC Sonseca Array 98.10 18 P **P 03 57 24.8 +1.5**
0.4nm,0.6s,mb4.0,baz=184,slow=4.8,SNR=5.5
WRA Warramunga Arr 102.00 162 P 03 57 40.6
1.0nm,0.7s,baz=195,slow=4.6,SNR=7.0
WRA PKiKP 04 02 05.0
0.5nm,0.9s,baz=228,slow=1.4,SNR=5.7
WRA PKKPbc 04 13 43.9
0.5nm,0.7s,baz=359,slow=2.9,SNR=4.9
BRTR Keskin Array B 108.97 45 PP PP 04 02 46.3 -2.1
1.4nm,0.9s,baz=180,slow=7.4,SNR=5.7
GERES GERESS Array B 110.63 28 PKiKP 04 02 17.5
0.3nm,0.6s,baz=207,slow=2.2,SNR=3.9
GERES PP PP 04 02 54.6 -5.2
1.0nm,1.0s,baz=194,slow=5.5,SNR=4.9
ANMO Albuquerque 113.06 299 PKKPbc 04 13 10.4
0.5nm,0.5s,baz=360,slow=4.0,SNR=4.4
SCHQ Schefferville 115.84 336 SKP 04 05 47.8
3.3nm,0.7s,baz=219,slow=5.2,SNR=5.4
AKASG Malin Array Be 116.82 36 PKP PKPdf 04 02 28.4 -0.6
1.3nm,0.6s,baz=239,slow=1.5,SNR=7.5
AKASG PP PP 04 03 43.2 -0.9
0.1nm,0.3s,baz=214,slow=6.9,SNR=4.7
AKASG SKP 04 05 50.7
0.2nm,0.3s,baz=237,slow=1.8,SNR=4.3
AKASG PKKPbc 04 12 57.6
0.1nm,0.3s,baz=34,slow=3.4,SNR=4.1
AKASG Malin Array Be 116.82 36 PKP PKPdf 04 02 28.4 -0.6
AKASG PP PP 04 03 43.2 -0.9
AKASG SKP 04 05 50.7
AKASG PKKPbc 04 12 57.6
MSU Marysvale 118.67 297 *e*PKPdf PKPdf 04 02 34.4 +1.4
PDAR Pinedale Array 120.72 302 PKP PKPdf 04 02 36.5 -0.3
0.6nm,0.7s,baz=141,slow=5.0,SNR=6.7
PDAR PP PP 04 04 07.4 -3.2
0.9nm,1.0s,baz=108,slow=4.7,SNR=4.3
PDAR PKKPbc 04 12 42.4
0.5nm,0.6s,baz=44,slow=1.3,SNR=5.6
ULM Lac du Bonnet 120.77 316 PKP PKPdf 04 02 36.0 -0.7
1.5nm,0.5s,baz=349,slow=1.7,SNR=3.0
HWUT Hardware Ranch 120.78 300 *e*PKPdf PKPdf 04 02 37.5 +0.5
NB2 NORSAR Subarra121.32 21 PKPdf PKPdf 04 02 37.8 +0.2
1.6nm,0.8s,baz=202,slow=1.9
NOA NORSAR Array B121.32 21 PKP PKPdf 04 02 37.8 +0.2
1.5nm,0.6s,baz=203,slow=2.0,SNR=6.1
NOA PKKPbc 04 12 40.0
1.2nm,0.7s,baz=23,slow=3.4,SNR=4.2
LOHW Long Hollow 121.86 302 *e*PKPdf PKPdf 04 02 39.5 +0.5
TPAW Teton Pass 121.93 302 *e*PKPdf PKPdf 04 02 40.0 +0.9
RRI2 Red Ridge 121.99 301 *e*PKPdf PKPdf 04 02 40.7 +1.4
IMW Indian Meadow 122.23 302 *e*PKPdf PKPdf 04 02 39.7 0.0
WVOR Wild Horse Val 124.85 296 *e*PKPdf PKPdf 04 02 46.2 +1.5
FINES FINESS Array B 125.06 28 PKP PKPdf 04 02 44.6 +0.1
7.7nm,0.5s,baz=135,slow=2.0,SNR=79
CHMT Chamberlain Mo 125.58 303 *e*PKPdf PKPdf 04 02 46.9 +0.9
KAF Kangasniemi 125.68 28 *e*p PKPdf 04 02 45.8 +0.1
11nm,0.6s
MSO Missoula 125.83 302 *e*PKPdf PKPdf 04 02 47.2 +0.8
YBH Yreka Blue Hor 126.38 292 PKP PKPdf 04 02 48.2 +0.5
1.2nm,0.6s,baz=102,slow=3.0,SNR=5.6
JOF Joensuu 127.67 30 *e*p PKPdf 04 02 50.2 +0.6
7.2nm,0.7s
ARCES ARCESS Array B 131.65 22 PKP PKPdf 04 02 57.3 +0.3
4.6nm,0.6s,baz=185,slow=2.0,SNR=47
ARCES PP PP 04 05 14.9 -7.6
3.3nm,0.8s,baz=315,slow=1.7,SNR=6.0
ARCES SKPbc 04 06 10.4
5.1nm,0.8s,baz=225,slow=3.4,SNR=8.5
ARE0 ARCESS Array S 131.65 22 *e*PKPdf PKPdf 04 02 56.8 -0.2
KMI Kunming 132.29 110 PKP PKPdf 04 03 01.5 +2.0
YKA Yellowknife Ar 136.71 317 PKP PKPdf 04 03 06.2 -0.3
2.3nm,0.5s,baz=127,slow=2.4,SNR=11
YKA PP PP 04 05 48.8 -4.7
1.4nm,0.9s,baz=114,slow=6.1,SNR=3.4
YKA SKPbc 04 06 23.9
2.9nm,0.7s,baz=130,slow=2.3,SNR=6.8
YKA Yellowknife Ar 136.71 317 PKP PKPdf 04 03 06.2 -0.3
YKA PP PP 04 05 48.8 -4.7
YKA SKPbc 04 06 23.9
MKAR Makanchi Array 137.14 72 PKhKP 04 02 57.7
0.6nm,0.6s,baz=243,slow=5.4,SNR=4.1
MKAR PKP PKPdf 04 03 07.5 -0.2
1.4nm,0.8s,baz=243,slow=8.1,SNR=6.5
MKAR PP PP 04 06 02.6 +6.0
1.1nm,0.8s,baz=252,slow=7.7,SNR=4.4
MKAR SKPbc 04 06 26.2
8.6nm,1.1s,baz=252,slow=3.8,SNR=13
MKAR Makanchi Array 137.14 72 PKP PKPdf 04 02 57.7 -10
MKAR PKP PKPdf 04 03 07.5 -0.2
MKAR PP PP 04 06 02.6 +6.0
MKAR SKPbc 04 06 26.2
WMQ Urumqi 138.07 79 *e*PKP PKPdf 04 03 09.0 -0.6
WMQ PP PP 04 06 04.0 +0.9
WMQ SKS SKS 04 10 02.0 -2.9
WMQ SKKS 04 12 36.0
WMQ SS SS 04 23 58.0 -2.9
WMQ PP PP
comp=Z,123nm,7.0s
WMQ LR LR
comp=N,121nm,20.0s
WMQ LR LR
comp=E,153nm,20.0s
WMQ LR LR
comp=Z,184nm,20.0s
GTA Gaotai 141.70 94 PKP PKPdf 04 03 12.3 -3.8
GTA XPKP 04 04 03.5
GTA PPP PPP 04 09 27.5 -7.1
GTA PP PP
comp=Z,62nm,13.4s
GTA LR LR
comp=N,182nm,24.1s
GTA LR LR
comp=E,160nm,24.8s
GTA LR LR
comp=Z,174nm,23.3s
ZAL Zalesovo 142.70 65 PKhKP 04 03 13.8
comp=Z,1.2nm,0.6s,baz=257,slow=3.1,SNR=6.3
ZAL SKPbc 04 06 40.9
comp=Z,2.2nm,0.8s,baz=244,slow=3.7,SNR=8.2
ZAL Zalesovo 142.70 65 PKP PKPdf 04 03 13.8 -3.5
ZAL SKPbc 04 06 40.9
INK Inuvik 146.37 320 *e*PKPdf PKPdf 04 03 25.4 +2.2
BTO Baotou 148.10 102 *e*PKP PKPdf 04 03 30.5 +3.6
TIA Tai'an 148.51 116 *e*PKP PKPdf 04 03 32.0 +4.2
EYAK Cordova Ski Ar 148.84 303 *e*PKPbc PKPdf 04 03 33.0 +5.5
DIV Divide 149.06 304 *e*PKPbc PKPdf 04 03 33.6 +5.8
HHC Hu-ho-hao-te 149.10 103 *e*PKP PKPdf 04 03 33.5 +5.0
HHC PKS PKS 04 07 08.8 +6.5
HHC PP PP
comp=Z,62nm,9.6s
HHC LR LR
comp=N,100nm,35.9s
HHC LR LR
comp=Z,75nm,14.3s
SML Sawmill 150.44 304 *e*PKPbc PKPdf 04 03 36.5 +6.6
ILAR Eielson Array 150.59 311 PKPbc PKPdf 04 03 36.7 +6.7
comp=Z,24nm,0.9s,baz=96,slow=0.7,SNR=97
PMR Palmer 150.74 304 *e*PKPab PKPab 04 03 43.0 -2.9
SONM Songino Array 150.79 88 PKP PKPdf 04 03 31.4 +0.5
comp=Z,0.9nm,0.7s,baz=193,slow=3.7,SNR=6.8
SONM PKPbc PKPdf 04 03 37.2 +6.4
comp=Z,17nm,0.6s,baz=225,slow=3.2,SNR=98
SLKM Skilak Lake 150.91 301 *e*PKPbc PKPdf 04 03 37.9 +7.2
KDAK Kodiak Island 151.12 295 *e*PKPbc PKPdf 04 03 38.2 +7.2
ULN Ulaanbaatar 151.17 88 *e*PKPbc PKPdf 04 03 38.3 +6.9
MCK McKinley 151.22 308 *e*PKPbc PKPdf 04 03 38.4 +7.4
SPU Mount Spurr 151.97 302 PKPbc PKPdf 04 03 39.6 +7.4
RSO Redoubt South 152.10 300 *e*PKPbc PKPdf 04 03 40.1 +7.7
IMA Indian Mountai 153.61 312 *e*PKPbc PKPdf 04 03 43.9 +10
IMA *e*PKPab PKPab 04 03 56.9 -0.9
CN2 Changchun 158.41 115 *e*PKP PKPdf 04 03 42.8 +1.4
CN2 PP PP 04 08 02.3 +1.9
CN2 PP PP
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,200nm,21.0s
MDJ Mudanjiang 161.03 120 PKP PKPdf 04 03 47.0 +2.8

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*ATH **28** 03:44:55.4,39.13N×23.29E,h31km±1km,MD2.8/9,ML2.9*
*THE **28** 03:44:55.5,39.07N×23.51E,h9km,ML2.8*
*NEIC **28** 03:44:55.4,39.13N×23.29E,h31km,ML2.9(ATH),After ATH.*
*CSEM **28** 03:44:55.7±0.1,39.07N×23.51E,h7km,ML2.9,Error*

ellipse: s-maj=1.8km s-min=1.4km az=66.0

ISC 28 03:44:55.2±0.6,**39.12N**±0.03×**23.49E**±0.04,**h10**km±4km, **n16**,σ0§95/24,**1C-1D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.28**	**312**	*e*PB	**Pb**	**03 45 02.0**	**+0.1**
NEO				*e*SB	**Sb**	**03 45 06.4**	**0.0**
AOS	**Alonnisos**	**0.30**	**79**	*e*Pg	**Pg**	**03 45 01.3**	**-0.3**
AOS				*e*Sg	**Sg**	**03 45 06.0**	**+0.1**
XOR	**Xorichti**	**0.34**	**317**	*e*Pg	**Pg**	**03 45 03.1**	**+0.8**
XOR				*e*Sg	**Sg**	**03 45 08.7**	**+1.6**
LKR	**Lokris**	**0.60**	**220**	⇓*i*PN	**Pn**	**03 45 06.7**	**-2.8**
LKR				*e*SN	**Sn**	**03 45 14.5**	**-4.8**
AGG	**Agios Georgios**	**0.91**	**265**	*e*Pg	**Pg**	**03 45 12.6**	**-0.9**
AGG				*e*Sg	**Sg**	**03 45 26.4**	**+0.6**
MPAR	**Parnis Oros**	**0.98**	**169**	*e*PN	**Pn**	**03 45 14.5**	**-0.4**
MGER	**Gerania Oros**	**1.14**	**189**	*e*PN	**Pn**	**03 45 17.5**	**+0.3**
ATH	**Athens Observa**	**1.15**	**171**	*e*PN	**Pn**	**03 45 17.5**	**+0.1**
NSAL	**Nisos Salamina**	**1.21**	**181**	*e*PN	**Pn**	**03 45 18.5**	**+0.3**
LIT	**Litokhoron**	**1.25**	**322**	*e*Pg	**Pg**	**03 45 19.2**	**-1.2**
LIT				*e*Sg	**Sg**	**03 45 36.6**	**-0.4**
PLG	**Polygyros**	**1.26**	**358**	⇑*i*PN	**Pn**	**03 45 18.6**	**-0.3**
PLG				*e*SN	**Sn**	**03 45 34.3**	**-1.6**
OUR	**Ouranopolis**	**1.27**	**17**	*e*Pg	**Pg**	**03 45 19.1**	**-1.7**
NAIG	**Nisos Aigina**	**1.35**	**180**	*e*PN	**Pn**	**03 45 21.0**	**+0.7**
LIA	**Limnos Island**	**1.52**	**59**	*e*PB	**Pb**	**03 45 24.2**	**+1.1**
KNT	**Kendrikon**	**2.10**	**348**	*e*Pn	**Pn**	**03 45 31.2**	**+0.4**
KNT				*e*Sn	**Sn**	**03 45 58.3**	**+1.1**
ANN	**Anapa**	**11.82**	**57**	*e*P	**P**	**03 47 48.1**	**+1.2**
ANN				pmax	pmax		

comp=Z,43nm,1.4s

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*LDG **28** 03:45:17.6±0.5,15.01S×168.35E,h10km,Mb4.7/2,Error ellipse: s-maj=64.8km s-min=11.5km az=95.0*
*IDC **28** 03:45:35.9±2.8,16.05S×168.07E,h176km±22km, mb4.1/13,mb1 4.2/14,mb1mx4.1/18,mbtmp4.5/14,Error ellipse: s-maj=23.3km s-min=15.7km az=51.0*
*NEIC **28** 03:45:36.5±1.9,16.05S×168.07E,h184km±16km,mb4.5/9, Error ellipse: s-maj=14.2km s-min=9.3km az=46.0*

ISC 28 03:45:37.1±2.5,**16.2S**±0.1×**168.0E**±0.1,**h199**km±19km, **n64**,σ0§74/35,**mb4.2**/19,**2C-1D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.07**	**194**	*e*P	**P**	**03 47 06.1**	**+0.1**
DZM	**Mont Dzumac**	**6.07**	**194**	P	**P**	**03 47 06.8**	**+0.8**
	10nm,0.3s,baz=66,slow=17,SNR=60						
DZM				S	**S**	**03 48 14.7**	**-0.4**
	baz=320,slow=23,SNR=3.4						
CTA	**Charters Tower**	**21.02**	**256**	*e*P	**P**	**03 50 07.7**	**+1.4**
	8.7nm,0.6s,mb4.5						
CTA	**Charters Tower**	**21.02**	**256**	P	**P**	**03 50 07.0**	**+0.7**
	12nm,0.6s,mb4.6,baz=92,slow=11,SNR=15						
CTAO	**Charters Tower**	**21.02**	**256**	*e*P	**P**	**03 50 07.5**	**+1.3**
	10.0nm,0.6s,mb4.5						
URZ	**Urewera**	**23.44**	**162**	P	**P**	**03 50 30.3**	**+0.7**
	10nm,0.4s,mb4.7,baz=314,slow=6.2,SNR=11						
SNZO	**South Karori**	**25.73**	**168**	*e*P	**P**	**03 50 50.0**	**-1.0**
RPZ	**Rata Peaks**	**27.60**	**175**	P	**P**	**03 51 07.7**	**-0.2**
	11nm,0.6s,mb4.6,baz=6.7,slow=4.2,SNR=7.8						
STKA	**Stephens Creek**	**28.64**	**232**	*e*P	**P**	**03 51 17.4**	**0.0**
	4.4nm,0.9s,mb4.1						
STKA	**Stephens Creek**	**28.64**	**232**	P	**P**	**03 51 17.5**	**+0.1**
	4.8nm,0.8s,mb4.2,baz=39,slow=4.7,SNR=8.5						
STKA				PcP	PcP	03 54 22.7	-0.4
	0.6nm,0.6s,baz=52,slow=3.0,SNR=3.7						
STKA	**Stephens Creek**	**28.64**	**232**	*e*P	**P**	**03 51 16.8**	**-0.6**
WRAB	**Tennant Creek**	**32.18**	**258**	*e*P	**P**	**03 51 47.4**	**-1.1**
	5.9nm,0.6s,mb4.3						
WRA	**Warramunga Arr**	**32.19**	**258**	P	**P**	**03 51 47.5**	**-1.1**
	1.5nm,0.6s,mb3.7,baz=98,slow=8.1,SNR=45						
WRA				ScP		03 57 59.3	
	2.1nm,1.0s,baz=86,slow=3.4,SNR=6.8						
FITZ	**Fitzroy Crossi**	**40.46**	**261**	*e*P	**P**	**03 52 58.7**	**+0.7**
	19nm,0.8s,mb4.6						
FITZ	**Fitzroy Crossi**	**40.46**	**261**	P	**P**	**03 52 58.5**	**+0.5**
	24nm,0.7s,mb4.7,baz=119,slow=4.1,SNR=33						
MBWA	**Marble Bar**	**45.86**	**256**	*e*P	**P**	**03 53 41.5**	**0.0**
	13nm,0.8s,mb4.3						
KLBR	**Kellerberrin**	**48.04**	**242**	⇑*i*P	**P**	**03 53 57.5**	**-0.7**
	6.5nm,0.6s,mb4.1						
VNDA	**Vanda**	**61.46**	**182**	P	**P**	**03 55 34.1**	**-0.1**
	2.6nm,0.6s,mb4.0,baz=12,slow=4.0,SNR=6.0						
SBA	**Scott Base**	**61.72**	**180**	*e*P	**P**	**03 55 36.4**	**+0.4**
	8.0nm,0.7s,mb4.5						
QSPA	**South Pole Qui**	**73.88**	**180**	⇑*i*P	**P**	**03 56 52.2**	**+0.9**
	12nm,0.6s,mb4.7						
MAW	**Mawson**	**80.83**	**202**	P	**P**	**03 57 30.9**	**+1.2**
	1.6nm,0.6s,mb3.8,baz=122,slow=9.5,SNR=3.7						
ULN	**Ulaanbaatar**	**83.69**	**324**	*e*P	**P**	**03 57 44.9**	**+0.1**
	7.9nm,0.9s,mb4.4						
SONM	**Songino Array**	**84.05**	**323**	P	**P**	**03 57 47.3**	**+0.8**
	3.1nm,0.9s,mb4.1,baz=145,slow=6.5,SNR=17						
SYO	**Syowa Base**	**87.55**	**196**	⇓P	**P**	**03 58 02.4**	**-0.7**
ILAR	**Eielson Array**	**87.66**	**18**	P	**P**	**03 58 01.9**	**-1.8**
	0.2nm,0.6s,mb3.1,baz=242,slow=4.5,SNR=4.9						
ILAR				pP	pP	03 58 48.9	-4.0
	0.7nm,0.9s,baz=222,slow=6.4,SNR=4.5						
SNAA	**Sanae**	**92.17**	**183**	*e*	**P**	**03 58 24.6**	**-0.1**
SNAA	**Sanae**	**92.17**	**183**	*e*	pP	03 59 13.8	-0.3
SNAA	**Sanae**	**92.17**	**183**	*e*	sP	03 59 32.5	-2.6
SNAA	**Sanae**	**92.17**	**183**	P	**P**	**03 58 24.5**	**-0.2**
	0.5nm,0.5s,mb3.7,baz=236,slow=1.6,SNR=9.3						
VNA3	**Neumayer Olymp**	**92.81**	**181**	*e*	**P**	**03 58 27.4**	**-0.2**
VNA3	**Neumayer Olymp**	**92.81**	**181**	*e*	pP	03 59 11.2	-5.9
VNA3	**Neumayer Olymp**	**92.81**	**181**	*e*	sP	03 59 28.0	-10
VNA2	**Neumayer--Watz**	**93.09**	**182**	*e*	**P**	**03 58 29.0**	**+0.1**
VNA2	**Neumayer--Watz**	**93.09**	**182**	*e*	pP	03 59 17.4	-1.0
VNA2	**Neumayer--Watz**	**93.09**	**182**	*e*	sP	03 59 33.1	-6.2
VNA1	**Neumayer--Stat**	**93.38**	**181**	*e*	**P**	**03 58 30.3**	**+0.1**
VNA1	**Neumayer--Stat**	**93.38**	**181**	*e*	pP	03 59 13.4	-6.3
VNA1	**Neumayer--Stat**	**93.38**	**181**	*e*	sP	03 59 30.2	-10
MKAR	**Makanchi Array**	**98.71**	**316**	P	**P**	**03 58 56.0**	**+1.1**
	0.6nm,0.5s,mb4.2,baz=98,slow=6.6,SNR=4.0						
MKAR	**Makanchi Array**	**98.71**	**316**	P	**P**	**03 58 56.0**	**+1.1**
ZAL	**Zalesovo**	**98.95**	**324**	P	**P**	**03 58 55.7**	**-0.2**
	0.5nm,0.5s,mb4.1,baz=330,slow=12,SNR=3.5						
ZAL	**Zalesovo**	**98.95**	**324**	P	**P**	**03 58 55.7**	**-0.3**
GERES	**GERESS Array B**	**141.22**	**333**	PKhKP		04 04 41.5	
	0.5nm,0.6s,slow=2.7,SNR=4.1						
CDF	**Champ du Feu**	**144.15**	**338**	*e*PKP1	PKPbc	04 04 48.7	+0.2
	3.6nm,0.5s						
HINF	**Hinteralfeld**	**144.81**	**338**	*e*PKP1	PKPbc	04 04 50.7	+0.4
	3.8nm,0.5s						
HAU	**Haudompre**	**144.82**	**338**	*e*PKP1	PKPbc	04 04 51.0	+0.6
	6.8nm,0.6s						
MEZF	**Maizieres J'vi**	**144.84**	**340**	*e*PKP1	PKPbc	04 04 51.3	+0.9
	6.4nm,0.7s						
CABF	**La Chapelle**	**146.10**	**337**	*e*PKP1	PKPbc	04 04 55.5	+1.9
	6.3nm,0.7s						
FLN	**La Foliniere**	**146.14**	**346**	*e*PKP1	PKPbc	04 04 54.5	+0.9
	7.8nm,0.6s						
LDF	**La Druitiere**	**146.21**	**346**	*e*PKP1	PKPbc	04 04 54.8	+1.0
	6.5nm,0.7s						
LOR	**Lormes**	**146.31**	**340**	*e*PKP1	PKPbc	04 04 55.6	+1.5
	16nm,1.1s						
GRR	**Gorron**	**146.57**	**346**	*e*PKP1	PKPbc	04 04 56.1	+1.4
	8.4nm,0.7s						
SSF	**Saint Saulge**	**146.60**	**341**	*e*PKP1	PKPbc	04 04 56.6	+1.8
	15nm,1.1s						
LPL	**La Plagne**	**146.77**	**336**	*e*PKP1	PKPbc	04 04 57.5	+2.3
	4.6nm,0.8s						
LPG	**La Plagne**	**146.78**	**336**	*e*PKP1	PKPbc	04 04 57.7	+2.5
	2.4nm,0.5s						
AVF	**Avril sur Loir**	**146.89**	**341**	*e*PKP1	PKPbc	04 04 56.8	+1.4
BGF	**Bois d'Agland**	**147.26**	**341**	*e*PKP1	PKPdf	04 04 58.1	+3.9
	7.6nm,0.7s						
MBDF	**Montbardon**	**147.40**	**335**	*e*PKP1	PKPdf	04 04 59.9	+5.4
ORIF	**Oris-en-Rattie**	**147.60**	**336**	*e*PKP1	PKPdf	04 04 59.0	+4.2
TCF	**Toulx Ste Croi**	**147.70**	**341**	*e*PKP1	PKPdf	04 05 00.4	+5.5
MFF	**Saint Martin d**	**148.07**	**344**	*e*PKP1	PKPdf	04 05 00.2	+4.7
	4.6nm,0.8s						
RJF	**Les Rejaudoux**	**148.79**	**341**	*e*PKP1	PKPdf	04 05 01.7	+5.0
LASF	**Ste Croix**	**149.09**	**337**	*e*PKP1	PKPdf	04 05 03.3	+6.0
MTLF	**Montolieu**	**150.31**	**339**	*e*PKP1	PKPdf	04 05 06.1	+6.9

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*NNC **28** 04:00:45.0±5.3,43.31N×77.00E,mpv2.6,Error ellipse: s-maj=122.1km s-min=41.7km az=163.0*

KNET 28 04:00:44.7±0.6,**42.91N**×**77.04E**,**h9**km±2km,**ml2.1,6C-6D, Error ellipse: s-maj=9.2km s-min=3.2km az=15.0,Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**1.06**	**271**	⇓P	Pb	04 01 05.0	+0.3
	4.7nm,0.1s,SNR=8.8						
TKM2				⇓S	Sb	04 01 21.4	+2.9
	31nm,0.1s						
CHMS	**Chumysh**	**1.68**	**274**	⇓P	Pn	04 01 15.8	+1.3
	4.4nm,0.1s,SNR=10.0						
CHMS				⇑S	Sn	04 01 40.0	+3.7
	14nm,0.2s						
USP	**Ospenovka**	**1.89**	**282**	P	Pn	04 01 19.6	+2.0
	9.4nm,0.2s,SNR=25						
USP				⇓S	Sn	04 01 46.4	+4.7
	14nm,0.2s						
AAK	**Ala-Archa**	**1.90**	**262**	⇓P	Pn	04 01 19.7	+2.1
	5.7nm,0.2s,SNR=7.4						
AAK	**Ala-Archa**	**1.90**	**262**	⇑P	Pn	04 01 19.7	+2.2
	3.4nm,0.3s						
AAK				⇑S	Sn	04 01 45.8	+4.1
	8.3nm,0.5s						
UCH	**Uchtor**	**1.99**	**251**	⇓P	Pn	04 01 21.2	+2.4
	2.0nm,0.2s						
EKS2	**Erkin-Say**	**2.42**	**265**	⇑P	Pn	04 01 28.4	+3.5
	4.0nm,0.2s,SNR=11						
KK31	**Karatay Array**	**4.79**	**275**	⇑Pg	Pn	04 02 09.8	+11
	0.2nm,0.4s,baz=87,slow=16,SNR=9.2						
KK31				⇑Lg		04 03 15.9	
	0.5nm,0.3s						

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*NEIC **28** 04:18:38.1,32.48S×71.82W,h15km,ML2.5(GUC),After GUC.*

GUC 28 04:18:38.1±0.9,**32.48S**×**71.82W**,**h15**km±8km,**MD3.5, ML2.5,1C-3D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**0.84**	**126**	⇓*i*P	Pb	04 18 53.6	-0.2
ROCH				*i* S	Sb	04 19 05.3	+0.7
LCCH	**Las Cruces**	**1.02**	**168**	*e*P	Pb	04 18 56.1	-0.8
LCCH				*i* S	Sb	04 19 09.4	-0.4
JACH	**Jahuel**	**1.05**	**102**	⇓*i*P	Pb	04 18 57.0	-0.5
JACH				*i* S	Sb	04 19 11.4	+0.5
RCDM	**Rinconada Maip**	**1.32**	**140**	⇑*i*P	Pb	04 19 01.4	-0.7
RCDM				*i* S	Sb	04 19 18.7	+0.1
RCDM				AMP		04 19 19.5	
	comp=E,79nm,0.1s						
RCDM				AMP		04 19 19.8	
	comp=N,67nm,0.1s						
CMCH	**Combarbala**	**1.47**	**28**	⇓*i*P	Pn	04 19 03.4	-0.9
CMCH				*i* S	Sb	04 19 22.6	-0.5
CMCH				AMP		04 19 25.9	
	comp=E,327nm,0.5s						
CMCH				AMP		04 19 26.4	
	comp=N,193nm,0.5s						
LNV	**Longovilo**	**1.51**	**167**	*e*P	Pn	04 19 03.5	-1.4
LNV				*i* S	Sb	04 19 22.6	-1.7
FCH	**Farellones**	**1.54**	**124**	*e*P	Pn	04 19 04.6	-0.6
FCH				*i* S	Sn	04 19 24.9	-0.1
CHCH	**Chadas Angostu**	**1.75**	**146**	*i* S	Sn	04 19 30.1	-0.2

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*NEIC **28** 04:26:32.3,31.31S×69.44W,h151km,MD3.7(GUC),After GUC.*

GUC 28 04:26:32.3±0.8,**31.31S**×**69.44W**,**h151**km±11km,**MD3.7, ML3.7,5C-9D,San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZON	**Zonda**	**0.69**	**110**	⇓*i*P	P	04 26 54.9	-0.3
ZON				*e*S	S	04 26 58.6	-14
CMCH	**Combarbala**	**1.34**	**275**	⇓*i*P	P	04 27 00.7	+0.1
CMCH				*i* S	S	04 27 22.5	0.0
CMCH				AMP		04 27 23.7	
	comp=E,2μm,0.5s						
TLL	**Tololo Astrono**	**1.64**	**314**	⇑*i*P	P	04 27 04.4	+0.7
TLL				*i* S	S	04 27 28.4	+0.5
TLL				AMP		04 27 30.0	
	comp=N,658nm,0.6s						
MDZ	**Mendoza**	**1.65**	**162**	⇓*i*P	P	04 27 01.0	-2.8
MDZ				*i* S	S	04 27 28.0	-0.2
JACH	**Jahuel**	**1.68**	**215**	⇑*i*P	P	04 27 04.5	+0.3
JACH				*i* S	S	04 27 28.6	-0.2
CHNG	**Los Chungos**	**1.85**	**251**	⇓*i*P	P	04 27 07.0	+0.9
CHNG				*i* S	S	04 27 31.4	-0.6
CHNG				AMP		04 27 43.1	
	comp=E,153nm,0.2s						
LSCH	**La Serena**	**2.09**	**311**	⇓*i*P	P	04 27 09.3	+0.4
LSCH				*i* S	S	04 27 36.5	-0.6
LSCH				AMP		04 27 37.0	
	comp=N,945nm,0.5s						
ROCH	**El Roble**	**2.13**	**218**	⇓*i*P	P	04 27 09.5	+0.1
ROCH				*i* S	S	04 27 38.2	+0.3
FCH	**Farellones**	**2.14**	**199**	*e*P	P	04 27 10.2	+0.7
FCH				*i* S	S	04 27 39.5	+1.4
CLCH	**Cerro Calan**	**2.28**	**204**	⇑*i*P	P	04 27 11.2	0.0
CLCH				*i* S	S	04 27 41.3	+0.2
CLCH				AMP		04 27 50.6	
	comp=E,278nm,0.3s						
DSCH	**Colegio Aleman**	**2.29**	**204**	*e*P	P	04 27 11.5	+0.1
DSCH				*i* S	S	04 27 41.3	-0.1
DSCH				AMP		04 27 43.3	
	comp=N,489nm,0.3s						
RCDM	**Rinconada Maip**	**2.46**	**208**	*e*P	P	04 27 13.5	-0.1
RCDM				*i* S	S	04 27 45.1	0.0
RCDM				AMP		04 27 46.1	
	comp=E,451nm,0.2s						
ANTU	**Antumapu**	**2.47**	**204**	⇓*i*P	P	04 27 13.8	+0.2
ANTU				*i* S	S	04 27 45.4	0.0
ANTU				AMP		04 27 47.2	
	comp=E,254nm,0.3s						
PCH	**Pirque**	**2.48**	**201**	⇑*i*P	P	04 27 13.9	+0.1
PCH				*i* S	S	04 27 45.8	+0.3
TACH	**Talagante**	**2.66**	**208**	*e*P	P	04 27 15.2	-0.9
CHCH	**Chadas Angostu**	**2.81**	**201**	⇑*i*P	P	04 27 17.7	-0.2
CHCH				*i* S	S	04 27 52.7	-0.1
LCCH	**Las Cruces**	**2.81**	**219**	⇓*i*P	P	04 27 17.9	-0.1
CICH	**Cipreses**	**3.11**	**195**	⇓*i*P	P	04 27 22.3	+0.4

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*NEIC **28** 04:34:26.1,34.42S×72.58W,h37km,MD3.6(GUC),After GUC.*

GUC 28 04:34:26.1±0.6,**34.42S**×**72.58W**,**h37**km±2km,**MD3.6, ML2.5,5C-3D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**1.07**	**65**	⇓*i*P	P	04 34 45.4	+0.6
LNV				*i* S	S	04 35 00.1	+1.4
LCCH	**Las Cruces**	**1.26**	**42**	⇑*i*P	P	04 34 48.3	+0.8
LCCH				*i* S	S	04 35 04.6	+1.1
SFDO	**San Fernando**	**1.30**	**99**	⇓*i*P	P	04 34 48.8	+0.6
SFDO				*i* S	S	04 35 06.2	+1.6
TACH	**Talagante**	**1.56**	**61**	*e*P	P	04 34 52.3	+0.4
CACH	**El Canelo**	**1.66**	**80**	*e*P	P	04 34 54.8	+1.5
CACH				*i* S	S	04 35 17.0	+3.3
CHCH	**Chadas Angostu**	**1.67**	**74**	⇑*i*P	P	04 34 54.4	+1.1
CHCH				*i* S	S	04 35 15.9	+2.2
RCDM	**Rinconada Maip**	**1.74**	**58**	⇑*i*P	P	04 34 54.9	+0.5
RCDM				*i* S	S	04 35 16.6	+1.1
RCDM				AMP		04 35 18.0	
	comp=E,84nm,0.2s						
CICH	**Cipreses**	**1.79**	**87**	⇑*i*P	P	04 34 56.3	+1.2
CICH				*i* S	S	04 35 18.4	+1.7
PCH	**Pirque**	**1.89**	**66**	⇓*i*P	P	04 34 57.5	+1.0
PCH				*i* S	S	04 35 21.3	+2.0
FCH	**Farellones**	**2.19**	**61**	⇑*i*P	P	04 35 01.8	+1.0

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*CSEM **28** 04:43:36.6,6.27N×94.54E,h10km,mb5.5*
*CRAAG **28** 04:43:36.5,6.27N×94.54E,Mb5.5*
*MOS **28** 04:43:37.4±0.9,5.63N×94.58E,h33km,mb5.6/64, MS4.4/18,Error ellipse: s-maj=9.3km s-min=4.2km az=120.0*
*BJI **28** 04:43:38.7,5.29N×94.47E,h69km,mB5.3,mb5.5,Ms4.9, Msz4.8*
*IDC **28** 04:43:40.6±0.5,5.54N×94.61E,h49km±4km,mb4.7/21, mb1 4.8/21,mb1mx4.7/22,mbtmp5.0/21,MS4.4/12, Ms1 4.4/12,ms1mx4.4/15,Error ellipse: s-maj=14.2km s-min=9.3km az=56.0*
*NEIC **28** 04:43:41.0±0.1,5.55N×94.58E,mb5.4/127,MS4.8/59, MW5.3,Error ellipse: s-maj=4.3km s-min=3.0km az=205.0, Moment Tensor Solution. s23 Moment tensor: Scale 10^{17} Nm; M_{rr}1.38; $M_{\theta\theta}$-0.39; $M_{\phi\phi}$-0.99; $M_{r\theta}$0.21; $M_{\theta\phi}$0.04; $M_{\phi r}$-0.42; Best double couple: $M_0$1.3×10^{17} NP1:ϕ_s359°, δ35°,λ98°. NP2:ϕ_s169°,δ55°,λ84°. Principal axes: T 1.47, Plg79°, Azm57°; N -.41, Plg5°, Azm172°; P -1.07, Plg10°, Azm263°;*

NEIC Felt [III] at Banda Aceh.

*HRVD **28** 04:43:41.0±0.2,5.30N×94.57E,h43km,MW5.3/65, Centroid moment Tensor Solution. LP body waves: s53,c99;Mantle waves: s65,c129; Half duration: 1§1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.76±.03; $M_{\theta\theta}$-0.37±.02; $M_{\phi\phi}$-0.38±.03; $M_{r\theta}$0.52±.02; $M_{\theta\phi}$0.60±.02; $M_{\phi r}$-0.40±.02; Best double couple: $M_0$1.093×10^{17} NP1: ϕ_s323°,δ27°,λ102°. NP2:ϕ_s130°,δ64°,λ84°. Principal axes: T .986, Plg71°, Azm26°; N .214, Plg6°, Azm132°; P -1.199, Plg19°, Azm224°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 28 04:43:39.3±0.2,**5.51N**±0.03×**94.57E**±0.02,**h51**km, **h51**km±.8km:**pP-P,n658**,σ1§07/588,**mb5.4**/189,**MS4.7**/97, **127C-18D,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKT	**Phuket**	**4.41**	**54**	P	**P**	**04 44 52.0**	**+6.6**
KULM	**Kulim**	**6.05**	**92**	*e*P	**P**	**04 45 08.0**	**-0.4**
SNG	**Songkhla**	**6.23**	**74**	P	**P**	**04 45 12.0**	**+1.1**
	806nm,1.0s						
NNT	**Nongplab**	**8.69**	**36**	P	**P**	**04 45 46.0**	**+1.1**
NST	**Nakhon Sawan**	**11.48**	**28**	P	**P**	**04 46 26.0**	**+2.8**
BDT	**Bhumibol Dam**	**12.44**	**20**	P	**P**	**04 46 29.5**	**-6.6**
KKTK	**Khon Kaen**	**13.46**	**36**	P	**P**	**04 46 51.5**	**+1.9**
	926nm,0.5s						
CHG	**Chiang Mai**	**13.89**	**17**	⇑P	**P**	**04 46 57.3**	**+2.0**
	59nm,1.0s						
PALK	**Pallekele**	**13.90**	**278**	*e*P	**P**	**04 46 54.2**	**-1.2**
	36nm,0.6s						
PALK				*e*S	**S**	**04 49 15.0**	**-14**
NANT	**Nan**	**14.50**	**24**	⇑P	**P**	**04 47 05.0**	**+1.8**
	562nm,0.9s						
CHRT	**Chiangrai**	**15.15**	**19**	⇑P	**P**	**04 47 14.5**	**+2.8**
	505nm,0.9s						
MDRS	**Chennai**	**16.00**	**299**	*ex*	x	04 47 49.0	
MDRS				*ex*	x	04 49 07.0	
MDRS				*ex*	x	04 50 39.0	
KSM	**Kuching**	**16.21**	**104**	*e*P	**P**	**04 47 27.8**	**+2.6**
KSM				Sn	**S**	**04 50 33.0**	**+10**
VIS	**Vishakhapatnam**	**16.38**	**319**	*e*P	**P**	**04 47 26.2**	**-1.1**
VIS				AMb	AMB	04 47 33.7	
	comp=Z,331nm,1.4s						
VIS				*ex*	x	04 50 16.2	
VIS				*i* x	x	04 52 44.3	
TRD	**Trivandrum**	**17.73**	**281**	*e*P	**P**	**04 47 44.7**	**+0.3**
TRD				*i* x	x	04 50 53.0	
CAL	**Calcutta**	**17.97**	**341**	*ex*	x	04 47 28.3	
CAL				*ex*	x	04 50 37.7	
CAL				*ex*	x	04 50 55.1	
IMP	**Imphal**	**19.17**	**358**	*e*P	**P**	**04 47 59.0**	**-2.5**
IMP				*e*S	**S**	**04 51 35.0**	**+5.1**
HYB	**Hyderabad**	**19.64**	**308**	⇑*i*P	**P**	**04 48 07.0**	**+0.4**
	comp=Z,120nm,1.0s						
HYB				*e*		04 51 31.0	
HYB				*e*S	**S**	**04 51 45.0**	**+5.0**
HYB	**Hyderabad**	**19.64**	**308**	⇑*e*P	**P**	**04 48 07.0**	**+0.4**
	comp=Z,120nm,1.0s						
HYB				*e*S	**S**	**04 51 31.0**	**-9.0**
HYB	**Hyderabad**	**19.64**	**308**	⇑*e*P	**P**	**04 48 07.0**	**+0.4**
HYB				*e*S	**S**	**04 51 31.0**	**-9.0**
HYB				pmax	pmax		
	comp=Z,120nm,1.0s						
BOK	**Bokaro**	**20.01**	**336**	*e*P	**P**	**04 48 10.4**	**-0.1**
BOK				AMb	AMB	04 48 14.2	
	comp=Z,569nm,1.3s						
BOK				*e*S	**S**	**04 51 47.3**	**-0.4**
BOK				*i* x	x	04 54 01.9	
QIZ	**Qiongzhong**	**20.05**	**47**	P	**P**	**04 48 12.0**	**+1.0**
QIZ				AP		04 48 24.3	
QIZ				S	**S**	**04 51 58.5**	**+10**
QIZ				SS	SS	04 52 23.8	+4.9
QIZ				AMB	AMB		
	comp=Z,70nm,1.3s						
QIZ				LR	LR		
	comp=N,3μm,16.9s,MS4.8						
QIZ				LR	LR		
	comp=E,2μm,16.5s,MS4.8						
QIZ				LR	LR		
	comp=Z,4μm,18.9s,MS4.8						
QIZ	**Qiongzhong**	**20.05**	**47**	*e*P	**P**	**04 48 11.5**	**+0.5**
	comp=Z,257nm,1.4s						
QIZ				*e*		04 48 25.2	
SHL	**Shillong**	**20.11**	**353**	*e*P	**P**	**04 48 08.0**	**-3.6**
SHL				*e*S	**S**	**04 51 51.0**	**+1.3**
BLSP	**Bilaspur**	**20.44**	**325**	*e*P	**P**	**04 48 15.8**	**+0.8**
BLSP				AMb	AMB	04 48 21.8	
	comp=Z,348nm,1.4s						
BLSP				*e*S	**S**	**04 51 55.1**	**-1.0**
SHBG	**Sah

PKI	**Pulchoki**	**23.61**	**339**	*e*P	**P**	**04 48 46.4**	**-0.1**
PKI				pmax	pmax		
comp=Z,75nm,0.6s,mb5.3							
DMN	**Daman**	**23.75**	**339**	*e*P	**P**	**04 48 48.4**	**+0.5**
GYA	**Guiyang**	**23.82**	**28**	⇑*i*P	**P**	**04 48 49.0**	**+0.4**
GYA				AP		04 49 01.3	
GYA				PP	PP	04 49 26.5	+3.3
GYA				XS		04 53 25.0	
GYA				AMB	AMB		
comp=Z,40nm,1.0s,mb4.8							
GYA				AMB	AMB		
comp=Z,400nm,6.0s							
GYA				LR	LR		
comp=N,2μm,20.3s,MS4.7							
GYA				LR	LR		
comp=E,2μm,18.5s,MS4.7							
GYA				LR	LR		
comp=Z,2μm,20.6s,MS4.6							
KKN	**Kakani**	**23.85**	**339**	*e*P	**P**	**04 48 48.6**	**-0.3**
comp=Z,499nm,1.0s,mb5.9							
KKN	**Kakani**	**23.85**	**339**	*e*P	**P**	**04 48 48.6**	**-0.3**
KKN				pmax	pmax		
comp=Z,249nm,1.0s,mb5.6							
POO	**Poona**	**24.01**	**304**	*i*S	**S**	**04 53 13.0**	**+12**
BHPL	**Bhopal**	**24.17**	**319**	*e*P	**P**	**04 48 54.1**	**+2.1**
BHPL				AMb	AMB	04 48 57.3	
comp=Z,201nm,0.8s,mb5.6							
BHPL				*ex*	x	04 53 19.2	
BHPL				*i* x	x	04 57 26.4	
LSA	**Lhasa**	**24.28**	**353**	P	**P**	**04 48 51.0**	**-2.0**
LSA				AP		04 49 07.0	
LSA				PP	PP	04 49 27.0	-2.3
LSA				PPP	PPP	04 49 39.0	-0.9
LSA				PCP	PcP	04 52 31.0	-2.4
LSA				S	**S**	**04 53 08.0**	**+2.5**
LSA				AMB	AMB		
comp=Z,40nm,1.5s,mb4.6							
LSA				LR	LR		
comp=N,800nm,30.9s,MS4.2							
LSA				LR	LR		
comp=E,980nm,27.7s,MS4.2							
LSA				LR	LR		
comp=Z,2μm,27.7s,MS4.4							
LSA	**Lhasa**	**24.28**	**353**	*e*P	**P**	**04 48 53.2**	**+0.2**
comp=Z,113nm,0.6s,mb5.5							
LSA	**Lhasa**	**24.28**	**353**	*e*P	**P**	**04 48 53.2**	**+0.2**
LSA				pmax	pmax		
comp=Z,113nm,0.6s,mb5.5							
GKN	**Gorkha**	**24.28**	**338**	*e*P	**P**	**04 48 53.2**	**+0.1**
comp=Z,353nm,0.7s,mb5.9							
PPR	**Puerto Princes**	**24.31**	**78**	*e*P	**P**	**04 48 51.0**	**-2.5**
KOLN	**Koldanda**	**24.47**	**336**	*e*P	**P**	**04 48 55.6**	**+0.6**
comp=Z,477nm,0.6s,mb6.1							
GZH	**Guangzhou**	**25.16**	**44**	P	**P**	**04 49 06.5**	**+4.9**
GZH				LR	LR		
comp=N,2μm,17.1s,MS4.8							
GZH				LR	LR		
comp=E,1μm,16.5s,MS4.8							
GZH				LR	LR		
comp=Z,3μm,17.1s,MS4.9							
DGAR	**Diego Garcia**	**25.53**	**240**	PFAKE		04 49 20.0	+15
DGAR				LR	LR		
comp=Z,611nm,19.0s,MS4.1							
CD2	**Chengdu**	**26.70**	**18**	⇑*i*P	**P**	**04 49 15.3**	**-0.6**
CD2				AP	pP	04 49 28.0	-0.7
CD2				PP	PP	04 50 01.8	+0.3
CD2				S	**S**	**04 53 45.5**	**-0.2**
CD2				AMB	AMB		
comp=Z,100nm,0.6s,mb5.5							
CD2				AMB	AMB		
comp=Z,140nm,9.3s							
CD2				LR	LR		
comp=E,770nm,15.6s							
CD2				LR	LR		
comp=Z,580nm,16.8s,MS4.2							
AJM	**Ajmer**	**28.23**	**320**	*i* P	**P**	**04 49 29.0**	**-0.8**
ENH	**Enshi**	**28.36**	**28**	*e*P	**P**	**04 49 29.4**	**-1.5**
comp=Z,46nm,0.6s,mb5.3							
ENH				*e*S	**S**	**04 54 15.2**	**+2.8**
SNPH	**Sibulan**	**28.67**	**81**	⇓*e*P	**P**	**04 49 34.6**	**+0.8**
BHJ	**Bhuj**	**29.80**	**309**	*ex*	x	04 49 58.3	
BHJ				*ex*	x	04 55 05.5	
QZH	**Quanzhou**	**30.07**	**48**	⇑*i*P	**P**	**04 49 46.5**	**+0.3**
QZH				AP	pP	04 50 04.3	+5.0
QZH				S	**S**	**04 54 44.5**	**+4.8**
QZH				AMB	AMB		
comp=Z,50nm,0.9s,mb5.2							
QZH				LR	LR		
comp=N,2μm,16.2s,MS5.1							
QZH				LR	LR		
comp=E,2μm,13.8s,MS5.1							
QZH				LR	LR		
comp=Z,4μm,20.3s							
WHN	**Wuhan**	**31.09**	**34**	*e*P	**P**	**04 49 55.5**	**+0.4**
WHN				LR	LR		
comp=N,2μm,16.0s,MS5.1							
WHN				LR	LR		
comp=E,3μm,15.2s,MS5.1							
WHN				LR	LR		
comp=Z,5μm,17.7s,MS5.2							
XAN	**Xi'an**	**31.35**	**23**	P	**P**	**04 49 56.0**	**-1.4**
XAN				S	**S**	**04 54 55.0**	**-4.8**
XAN				AMB	AMB		
comp=Z,166nm,1.2s,mb5.7							
XAN				LR	LR		
comp=N,853nm,18.8s,MS4.6							
XAN				LR	LR		
comp=E,831nm,16.3s,MS4.6							
XAN				LR	LR		
comp=Z,2μm,19.1s,MS4.8							
LZH	**Lanzhou**	**31.60**	**14**	⇑P	**P**	**04 49 58.5**	**-1.1**
LZH				AP	pP	04 50 12.0	-0.8
LZH				PP	PP	04 51 04.3	-0.9
LZH				S	**S**	**04 55 03.3**	**-0.4**
LZH				SCP		04 56 26.5	
LZH				PCS		04 56 30.3	
LZH				SS	SS	04 56 55.0	-0.3
LZH				SCS	ScS	05 00 25.5	+0.3
LZH				AMB	AMB		
comp=Z,97nm,1.5s,mb5.4							
LZH				AMB	AMB		
comp=Z,250nm,4.0s							
LZH				LR	LR		
comp=N,2μm,16.0s							
LZH				LR	LR		
comp=Z,2μm,16.9s,MS4.9							
LZH	**Lanzhou**	**31.60**	**14**	⇑P	**P**	**04 49 58.6**	**-1.0**
comp=Z,97nm,1.5s,mb5.4							
LZH				pP	pP	04 50 12.0	-0.8
LZH				sP	sP	04 50 16.5	-2.6
LZH				PP	PP	04 51 04.2	-1.0
LZH				S	**S**	**04 55 03.3**	**-0.4**
LZH				sS		04 55 25.0	
LZH				ScP		04 56 26.5	
LZH				PcS		04 56 30.3	
LZH				SS	SS	04 56 55.0	-0.3
LZH				ScS	ScS	05 00 25.5	+0.3
LZH				LR	LR		
comp=Z,2μm,16.9s,MS4.9							
LZH	**Lanzhou**	**31.60**	**14**	⇑P	**P**	**04 49 58.6**	**-1.0**
LZH				*PP	pP	04 50 12.0	-0.8
LZH						04 51 04.2	
LZH				S	**S**	**04 55 03.3**	**-0.4**
LZH				SS	SS	04 56 55.0	-0.3
LZH						05 00 25.5	
LZH				pmax	pmax		
comp=Z,97nm,1.5s,mb5.4							
LZH				MLR	MLR		
comp=Z,2μm,16.9s,MS4.9							
NACB	**Ninganchiao**	**31.92**	**52**	P	**P**	**04 50 01.9**	**-0.7**
YHNB	**Yeheng**	**32.01**	**51**	*e*P	**P**	**04 50 04.0**	**+0.7**
TATO	**Taipei**	**32.26**	**50**	PFAKE		04 50 20.0	+15
TATO				LR	LR		
comp=Z,2μm,20.0s,MS4.7							
GTA	**Gaotai**	**34.08**	**7**	⇑*i*P	**P**	**04 50 20.5**	**-0.5**
GTA				AP	pP	04 50 33.5	-0.8
GTA				PP	PP	04 51 36.0	-0.3
GTA				PPP	PPP	04 51 53.8	-0.7
GTA				PCP	PcP	04 52 58.3	+0.5
GTA				S	**S**	**04 55 42.3**	**+0.1**
GTA				SCP		04 56 38.3	
GTA				PCS		04 56 43.3	
GTA				SS	SS	04 57 51.0	-1.6
GTA				SCS	ScS	05 00 38.0	+0.1
GTA				AMB	AMB		
comp=Z,90nm,1.1s,mb5.6							
GTA				AMB	AMB		
comp=Z,437nm,12.2s							
GTA				LR	LR		
comp=N,639nm,22.9s,MS4.4							
GTA				LR	LR		
comp=E,532nm,25.2s,MS4.4							
GTA				LR	LR		
comp=Z,983nm,25.2s,MS4.4							
NJ2	**Nanjing**	**34.83**	**38**	*e*P	**P**	**04 50 28.0**	**+0.5**
NJ2				AP	pP	04 50 40.5	-0.3
NJ2				PP	PP	04 51 46.8	+0.7
NJ2				S	**S**	**04 55 56.0**	**+2.2**
NJ2				AMB	AMB		
comp=Z,100nm,0.9s,mb5.8							
NJ2				AMB	AMB		
comp=Z,120nm,10.8s							
NJ2				LR	LR		
comp=N,420nm,16.8s,MS4.5							
NJ2				LR	LR		
comp=E,570nm,15.2s,MS4.5							
NJ2				LR	LR		
comp=Z,320nm,17.0s,MS4.1							
SSE	**Sheshan**	**35.66**	**41**	P	**P**	**04 50 34.8**	**+0.2**
SSE				AP	pP	04 50 47.8	-0.2
SSE				S	**S**	**04 56 09.8**	**+3.1**
SSE				XS		04 56 32.3	
SSE				PCS		04 56 48.5	
SSE				AMB	AMB		
comp=Z,33nm,0.6s,mb5.4							
SSE				AMB	AMB		
comp=Z,161nm,8.0s							
SSE				LR	LR		
comp=N,651nm,21.5s,MS4.6							
SSE				LR	LR		
comp=E,856nm,21.5s,MS4.6							
SSE				LR	LR		
comp=Z,1μm,21.3s,MS4.6							
SSE	**Sheshan**	**35.66**	**41**	P	**P**	**04 50 34.8**	**+0.2**
comp=Z,33nm,0.6s,mb5.4							
SSE				pP	pP	04 50 47.8	-0.2
SSE				sP	sP	04 50 54.0	-0.4
SSE				S	**S**	**04 56 09.8**	**+3.1**
SSE				sS		04 56 32.3	
SSE				PcS		04 56 48.5	
SSE				LR	LR		
comp=Z,1μm,21.3s,MS4.6							
TIY	**Taiyuan**	**35.95**	**24**	⇑P	**P**	**04 50 34.0**	**-3.0**
TIY				S	**S**	**04 56 10.0**	**-1.1**
TIY				LR	LR		
comp=N,2μm,17.0s							
MBWA	**Marble Bar**	**36.22**	**138**	*e*P	**P**	**04 50 37.9**	**-1.6**
comp=N,27nm,1.3s,mb5.0							
MBWA				LR	LR		
comp=Z,615nm,21.0s,MS4.3							
TIA	**Tai'an**	**36.91**	**31**	*e*P	**P**	**04 50 44.5**	**-0.6**
TIA				AMB	AMB		
comp=Z,94nm,1.3s,mb5.5							
TIA				LR	LR		
comp=E,1μm,17.5s							
BTO	**Baotou**	**37.59**	**19**	*e*P	**P**	**04 50 50.0**	**-0.8**
BTO				AMB	AMB		
comp=Z,53nm,1.0s,mb5.2							
KSH	**Kashi**	**37.79**	**336**	⇑*i*P	**P**	**04 50 52.8**	**+0.4**
KSH				*e*AP	pP	04 51 04.0	-1.9
KSH				*e*PP	PP	04 52 21.0	-1.3
KSH				*e*PPP	PPP	04 52 42.0	-2.5
KSH				*e*PCP	PcP	04 53 09.3	+0.4
KSH				*e*S	**S**	**04 56 37.3**	**-1.9**
KSH				*e*SCP		04 56 51.3	
KSH				*e*PCS		04 56 56.3	
KSH				*e*SS	SS	04 59 13.0	-3.7
KSH				AMB	AMB		
comp=Z,390nm,3.7s							
KSH				LR	LR		
comp=N,220nm,6.9s							
KSH				LR	LR		
comp=E,220nm,4.9s							
HHC	**Hu-ho-hao-te**	**38.34**	**21**	⇑*i*P	**P**	**04 50 57.5**	**+0.5**
HHC				AP	pP	04 51 12.0	+1.6
HHC				PP	PP	04 52 31.0	+2.3
HHC				S	**S**	**04 56 43.0**	**-4.5**
HHC				AMB	AMB		
comp=Z,87nm,1.2s,mb5.4							
HHC				AMB	AMB		
comp=Z,310nm,7.2s							
HHC				LR	LR		
comp=N,2μm,20.3s,MS5.0							
HHC				LR	LR		
comp=E,1μm,15.5s,MS5.0							
HHC				LR	LR		
comp=Z,1μm,20.3s,MS4.8							
JOW	**Kunigami**	**38.48**	**53**	P	**P**	**04 50 59.0**	**+0.8**
comp=Z,37nm,0.7s,mb5.2,baz=237,slow=7.7,SNR=20							
FITZ	**Fitzroy Crossi**	**38.60**	**128**	⇑*i*P	**P**	**04 50 57.7**	**-1.6**
comp=Z,37nm,0.7s,mb5.2							
FITZ	**Fitzroy Crossi**	**38.60**	**128**	P	**P**	**04 50 57.8**	**-1.5**
comp=Z,24nm,0.6s,mb5.1,baz=328,slow=3.9,SNR=43							
WMQ	**Urumqi**	**38.63**	**352**	P	**P**	**04 51 00.0**	**+0.6**
WMQ				AP	pP	04 51 12.0	-0.8
WMQ				PP	PP	04 52 33.0	+0.9
WMQ				S	**S**	**04 56 53.0**	**+1.1**
WMQ				SS	SS	04 59 36.0	+0.7
WMQ				AMB	AMB		
comp=Z,116nm,0.8s,mb5.7							
WMQ				AMB	AMB		
comp=Z,654nm,4.0s							
WMQ				LR	LR		
comp=N,625nm,14.0s,MS4.9							
WMQ				LR	LR		
comp=E,1μm,15.0s,MS4.9							
WMQ				LR	LR		
comp=Z,784nm,14.0s,MS4.7							
SMDO	**Samad**	**39.29**	**300**	P	**P**	**04 51 07.9**	**+2.8**
SNR=7.7							
BIDO	**Bidbid**	**39.39**	**301**	P	**P**	**04 51 08.7**	**+2.8**
SNR=14							
ULHL	**Ulahol**	**40.05**	**339**	P	**P**	**04 51 12.2**	**+1.1**
SNR=8.9							
HOQ	**Hoqain**	**40.11**	**300**	P	**P**	**04 51 14.8**	**+2.9**
SNR=13							
KZA	**Kyzart**	**40.27**	**338**	P	**P**	**04 51 14.3**	**+1.3**
SNR=27							
MSEY	**Mahe Island**	**40.33**	**256**	PFAKE		04 51 30.0	+16
MSEY				LR	LR		
comp=Z,370nm,22.0s,MS4.2							
UCH	**Uchtor**	**40.68**	**337**	P	**P**	**04 51 17.7**	**+1.3**
SNR=119							
AAA	**Alma-Ata**	**40.70**	**340**	*i* P	**P**	**04 51 17.6**	**+1.0**
AAA				*i* S	**S**	**04 57 24.8**	**+1.9**
AAA				pmax	pmax		
comp=Z,1μm,4.2s							
AAA				smax			
comp=N,800nm,12.9s							
AAA				MLR	MLR		
comp=Z,600nm,21.4s,MS4.4							
TKM2	**Tokmak 2**	**40.87**	**339**	P	**P**	**04 51 18.9**	**+1.0**
SNR=67							
KBK	**Karagaybulak**	**40.88**	**338**	P	**P**	**04 51 19.6**	**+1.6**
SNR=155							
AML	**Almayashu**	**40.92**	**336**	P	**P**	**04 51 19.7**	**+1.3**
SNR=110							
AAK	**Ala-Archa**	**41.03**	**337**	P	**P**	**04 51 20.4**	**+1.1**
SNR=51							
AAK	**Ala-Archa**	**41.03**	**337**	*e*P	**P**	**04 51 19.2**	**-0.1**
comp=Z,112nm,1.1s,mb5.4							
AAK				*e*S	**S**	**04 57 27.4**	**-0.5**
AAK				LR	LR		
comp=Z,108nm,20.0s,MS3.7							
FRU	**Bishkek**	**41.16**	**338**	*i* P	**P**	**04 51 20.0**	**-0.3**
FRU				*i*	pP	04 51 35.0	+1.2
FRU				pmax	pmax		
comp=Z,220nm,2.0s,mb5.4							
CHMS	**Chumysh**	**41.25**	**338**	P	**P**	**04 51 21.8**	**+0.7**
SNR=27							
DL2	**Dalian**	**41.29**	**33**	P	**P**	**04 51 22.3**	**+0.9**
DL2				S	**S**	**04 57 33.0**	**+1.3**
DL2				AMB	AMB		
comp=Z,90nm,0.9s,mb5.4							
DL2				AMB	AMB		
comp=Z,270nm,4.4s							
DL2				LR	LR		
comp=N,560nm,19.2s,MS4.5							
DL2				LR	LR		
comp=E,360nm,19.2s,MS4.5							
DL2				LR	LR		
comp=Z,730nm,19.1s,MS4.6							
EKS2	**Erkin-Say**	**41.34**	**337**	P	**P**	**04 51 23.0**	**+1.2**
SNR=37							
USP	**Ospenovka**	**41.57**	**338**	P	**P**	**04 51 24.5**	**+0.7**
SNR=154							
WHFO	**Wadi Hawf**	**41.70**	**291**	⇑P	**P**	**04 51 27.0**	**+1.8**
KAKA	**Kakadu**	**41.76**	**116**	*e*P	**P**	**04 51 39.0**	**+13**
comp=Z,22nm,0.8s,mb4.8							
ABTO	**Aybut**	**42.03**	**290**	⇑P	**P**	**04 51 30.3**	**+2.5**
MKAR	**Makanchi Array**	**42.47**	**347**	P	**P**	**04 51 31.2**	**+0.1**
comp=Z,112nm,0.7s,mb5.6,baz=166,slow=8.1,SNR=412							
MKAR				S	**S**	**04 57 49.3**	**+0.2**
comp=Z,0.5nm,0.7s,baz=88,slow=32,SNR=2.0							
MKAR				LR	LR	05 12 03.0	
comp=Z,346nm,21.9s,MS4.2,baz=178,slow=40							
MKAR	**Makanchi Array**	**42.47**	**347**	P	**P**	**04 51 31.2**	**+0.1**
MKAR				S	**S**	**04 57 49.3**	**+0.2**
MKAR				LR	LR	05 12 03.0	
MUN	**Mundaring**	**42.60**	**152**	*e*P	**P**	**04 51 32.6**	**+0.3**
KLBR	**Kellerberrin**	**43.02**	**150**	*e*P	**P**	**04 51 35.7**	**0.0**
comp=Z,24nm,1.1s,mb4.8							
KKAR	**Karatay Array**	**43.06**	**334**	*i* P	**P**	**04 51 36.0**	**+0.1**
KKAR				pmax	pmax		
comp=Z,6.0nm,0.4s,mb4.7							
INCN	**Inchon**	**43.20**	**38**	*e*P	**P**	**04 51 36.2**	**-1.0**
comp=Z,27nm,0.8s,mb5.0							
INCN				LR	LR		
comp=Z,2μm,19.0s,MS5.0							
SONM	**Songino Array**	**43.37**	**12**	P	**P**	**04 51 38.1**	**-0.3**
comp=Z,45nm,0.7s,mb5.3,baz=194,slow=8.5,SNR=202							
SONM				PcP	PcP	04 53 26.4	-0.4
comp=Z,7.7nm,0.5s,baz=199,slow=3.6,SNR=9.2							
SONM				pPcP		04 53 41.3	
comp=Z,8.2nm,0.7s,baz=227,slow=1.8,SNR=4.4							
SONM				ScP		04 57 12.5	
comp=Z,1.6nm,0.9s,baz=199,slow=3.9,SNR=4.8							
SONM				S	**S**	**04 58 03.5**	**+1.4**
comp=Z,0.3nm,0.7s,baz=281,slow=23,SNR=2.0							
SONM				LR	LR	05 11 51.7	
comp=Z,856nm,20.4s,MS4.6,baz=197,slow=39							
SONM	**Songino Array**	**43.37**	**12**	P	**P**	**04 51 38.1**	**-0.3**
SONM				PcP	PcP	04 53 26.4	-0.4
SONM				pPcP		04 53 41.3	
SONM				ScP		04 57 12.4	
SONM				S	**S**	**04 58 03.5**	**+1.4**
SONM				LR	LR	05 11 51.7	
SONM	**Songino Array**	**43.37**	**12**	P	**P**	**04 51 38.1**	**-0.3**
SONM						04 53 26.4	
SONM				S	**S**	**04 58 03.5**	**+1.4**
JNU	**Nakatsue**	**43.52**	**46**	P	**P**	**04 51 39.9**	**0.0**
comp=Z,32nm,0.9s,mb5.1,baz=122,slow=6.9,SNR=21							
ULN	**Ulaanbaatar**	**43.53**	**12**	⇑*i*P	**P**	**04 51 39.2**	**-0.5**
ULN				*e*PP	PP	04 53 24.0	+0.7
ULN				*e*		04 53 41.6	
ULN				*e*ScP		04 57 12.2	
NWAO	**Narrogin (SRO)**	**43.87**	**152**	P	**P**	**04 51 42.8**	**+0.1**
comp=Z,9.1nm,0.9s,mb4.5,baz=323,slow=7.7,SNR=4.8							
NWAO	**Narrogin (SRO)**	**43.87**	**152**	P	**P**	**04 51 43.1**	**+0.5**
NWAO				LR	LR		
comp=Z,230nm,19.0s,MS4.1							
KS15	**Wonju Array Si**	**43.95**	**39**	*e*P	**P**	**04 51 42.8**	**-0.5**
SNY	**Shenyang**	**44.44**	**31**	⇑P	**P**	**04 51 47.0**	**-0.1**
SNY				AP	pP	04 52 01.0	+0.3
SNY				PP	PP	04 53 31.0	-1.4
SNY				AMB	AMB		
comp=Z,80nm,1.2s,mb5.3							
SNY				AMB	AMB		
comp=Z,200nm,6.8s							
SNY				LR	LR		
comp=N,980nm,19.1s,MS4.8							
SNY				LR	LR		
comp=E,530nm,20.2s,MS4.8							
SNY				LR	LR		
comp=Z,1μm,19.4s,MS4.9							
ZAK	**Zakamensk**	**45.31**	**8**	⇓*i*P	**P**	**04 51 53.0**	**-1.0**
ZAK				*e*		04 53 34.0	
ZAK				pmax	pmax		
comp=Z,15nm,1.3s,mb4.7							
ZAK				pmax	pmax		
comp=Z,5.0nm,1.1s,mb4.3							
ZAK				pmax	pmax		
comp=Z,2.0nm,1.3s							
WRA	**Warramunga Arr**	**46.57**	**124**	P	**P**	**04 52 03.2**	**-1.1**
comp=Z,21nm,0.6s,mb5.2,baz=302,slow=9.4,SNR=288							
WRA				S	**S**	**04 58 49.0**	**+0.5**
comp=Z,3.7nm,1.1s,baz=297,slow=16,SNR=5.0							
WRAB	**Tennant Creek**	**46.57**	**124**	*e*P	**P**	**04 52 03.2**	**-1.1**
comp=Z,56nm,0.6s,mb5.7							
WRAB				*e*S	**S**	**04 58 43.6**	**-4.9**
WRAB	**Tennant Creek**	**46.57**	**124**	*e*P	**P**	**04 52 03.2**	**-1.1**
WRAB				*e*S	**S**	**04 58 43.6**	**-4.9**
WRAB				pmax	pmax		
comp=Z,56nm,0.6s,mb5.7							
CN2	**Changchun**	**46.81**	**31**	*e*P	**P**	**04 52 06.3**	**+0.4**
CN2				PP	PP	04 53 56.8	+0.8
CN2				*e*S	**S**	**04 58 48.3**	**-3.3**
CN2				SS	SS	05 02 11.3	0.0
CN2				AMB	AMB		
comp=Z,60nm,0.6s,mb5.7							
CN2				AMB	AMB		
comp=Z,200nm,4.0s							
CN2				LR	LR		
comp=N,1μm,16.0s,MS5.0							
CN2				LR	LR		
comp=E,1μm,16.0s,MS5.0							
CN2				LR	LR		
comp=Z,2μm,19.0s,MS5.0							
KURK	**Kurchatov**	**46.99**	**346**	⇑*i*P	**P**	**04 52 07.4**	**+0.2**
comp=Z,404nm,1.1s,mb6.3							
KURK				LR	LR		
comp=Z,113nm,20.0s,MS3.8							
HASS	**Wahat al Ahsa'**	**47.20**	**299**	P	**P**	**04 52 10.2**	**+1.0**
IRK	**Irkutsk**	**47.27**	**8**	*e*P	**P**	**04 52 08.8**	**-0.6**
IRK				pmax	pmax		
comp=Z,106nm,2.4s,mb5.3							
HIA	**Hailar**	**48.53**	**22**	*e*P	**P**	**04 52 18.4**	**-0.8**
comp=Z,32nm,0.6s,mb5.5							
HIA				*e*	pP	04 52 32.7	-0.2
HIA	**Hailar**	**48.53**	**22**	*e*P	**P**	**04 52 18.4**	**-0.8**
HIA				*e*	pP	04 52 32.7	-0.2
HIA				pmax	pmax		
comp=Z,32nm,0.6s							
ZAL	**Zalesovo**	**48.93**	**352**	ScP		04 57 35.5	
comp=Z,1.6nm,0.3s,baz=120,slow=6.6,SNR=2.5							
ZAL				S	**S**	**04 59 22.2**	**+0.9**
comp=Z,1.0nm,0.7s,baz=204,slow=21,SNR=3.5							
ZAL				LR	LR	05 18 26.4	
comp=Z,212nm,18.3s,MS4.2,baz=293,slow=43							
CIT	**Chita**	**48.95**	**15**	*e*P	**P**	**04 52 22.0**	**-0.4**
CIT				*e*		04 53 46.7	
CIT				pmax	pmax		
comp=Z,159nm,1.2s,mb5.9							
MDJ	**Mudanjiang**	**49.53**	**33**	P	**P**	**04 52 26.5**	**-0.6**
MDJ				AP	pP	04 52 39.3	-1.5
MDJ				PCP	PcP	04 53 48.0	-0.5
MDJ				PCS		04 57 45.0	
MDJ				S	**S**	**04 59 32.5**	**+2.7**
MDJ				AMB	AMB		
comp=Z,69nm,1.4s,mb5.5							
MDJ				AMB	AMB		
comp=Z,198nm,5.6s							
MDJ				LR	LR		
comp=N,232nm,17.9s,MS4.8							
MDJ				LR	LR		
comp=E,878nm,20.5s,MS4.8							
MDJ				LR	LR		
comp=Z,941nm,18.8s,MS4.8							
MDJ	**Mudanjiang**	**49.53**	**33**	⇑*e*P	**P**	**04 52 26.9**	**-0.1**
comp=Z,69nm,1.0s,mb5.6							
MDJ				LR	LR		
comp=Z,956nm,20.0s,MS4.8							
NVS	**Novosibirsk**	**50.03**	**351**	*i* P	**P**	**04 52 29.2**	**-1.5**
NVS				*i*	pP	04 52 43.1	-1.3
NVS				*i*		04 54 18.2	
NVS				pmax	pmax		
comp=N,71nm,0.7s							
NVS				pmax	pmax		
comp=E,52nm,0.7s							
NVS				pmax	pmax		
comp=Z,88nm,0.7s,mb5.9							
KBD	**Kabd**	**50.11**	**304**	*e*P	**P**	**04 52 32.2**	**+0.5**
KBD				AMb	AMB	04 52 33.5	
comp=Z,224nm,0.8s,mb6.3							
RDF	**Al-Radifah**	**50.15**	**303**	*e*P	**P**	**04 52 32.3**	**+0.3**

RDF AMb AMB 04 52 33.7
comp=Z,107nm,0.6s,mb6.0
GUMO Guam 50.16 77 PFAKE 04 52 40.0 +7.8
GUMO LR LR
comp=Z,243nm,21.0s,MS4.2
UMR Umm Al-Rimmam 50.21 304 *e*P **P 04 52 33.1 +0.6**
UMR AMb AMB 04 52 34.4
comp=Z,83nm,0.9s,mb5.8
MAJO Matsushiro 50.45 46 *e*P **P 04 52 34.0 -0.2**
comp=Z,23nm,1.1s,mb5.1
MAJO LR LR
comp=Z,1μm,21.0s,MS4.9
MAJO Matsushiro 50.45 46 *e*P **P 04 52 34.0 -0.2**
MAJO pmax pmax
comp=Z,23nm,1.1s,mb5.1
MAJO MLR MLR
comp=Z,1μm,21.0s,MS4.9
MAT Matsushiro 50.45 46 P **P 04 52 32.1 -2.1**
MAT S **S 04 59 45.0 +2.4**
MAT Matsushiro 50.45 46 *e*P **P 04 52 32.0 -2.2**
comp=Z,90nm,1.6s,mb5.5
MAT *e*S **S 04 59 43.0 +0.4**
MAT LR LR
comp=Z,1μm,20.0s,MS4.8
MAT Matsushiro 50.45 46 *e*P **P 04 52 32.0 -2.2**
MAT *e*S **S 04 59 43.0 +0.4**
MAT pmax pmax
comp=Z,90nm,1.6s,mb5.5
MAT MLR MLR
comp=Z,1μm,20.0s,MS4.8
MIB Mutribah 50.61 304 *e*P **P 04 52 36.1 +0.7**
MIB AMb AMB 04 52 37.6
comp=Z,206nm,0.8s,mb6.1
MZLS Mizel 50.85 297 P **P 04 52 38.4 +1.0**
VOSK Vostochnaya 50.91 342 P **P 04 52 36.9 -0.5**
VOSK pmax pmax
comp=Z,231nm,1.2s,mb6.0
DJNS Zahran al Janu 51.27 288 P **P 04 52 42.0 +1.4**
BVA0 Borovoye Array 51.35 342 *i* P **P 04 52 40.2 -0.6**
BVA0 pmax pmax
comp=Z,22nm,1.1s,mb5.0
BRVK Borovoye 51.41 341⇑ *i*P **P 04 52 40.5 -0.7**
comp=Z,72nm,0.9s,mb5.6
BRVK *e*S **S 04 59 48.6 -7.1**
BRVK LR LR
comp=Z,61nm,19.0s,MS3.6
OPO Ambohidratompo 52.47 242 P **P 04 52 49.7 +0.1**
comp=Z,3.4nm,0.9s,mb4.3,baz=24,slow=9.7,SNR=2.6
AB31 Akbulak array 52.50 332 P **P 04 52 48.9 -0.5**
AB31 pmax pmax
comp=Z,65nm,0.9s,mb5.6
AFFS 'Afif 52.80 296 P **P 04 52 53.1 +1.0**
BLJS Baljurashi 53.39 291 P **P 04 52 57.7 +1.2**
BHD Baghdad 54.13 307 *e*P **P 04 52 57.5 -4.2**
BOD Bodaibo 54.34 13 *e*P **P 04 53 01.1 -1.8**
PMG Port Moresby 54.46 106 *e*P **P 04 53 03.0 -1.3**
PMG *e*pP pP 04 53 12.4 -5.9
LTHS Al Lith 54.55 291 P **P 04 53 06.0 +1.1**
HILS Ha'il 54.62 300 P **P 04 53 06.6 +1.2**
HAKT HAKKARI 56.14 312 *i* P **P 04 53 11.7 -4.5**
ERM Erimo 56.34 42 PFAKE 04 53 30.0 +12
ERM LR LR
comp=Z,1.0nm,19.0s
GNI Garni 56.40 315 *e*P **P 04 53 17.9 -0.2**
comp=Z,49nm,1.1s,mb5.5
GNI LR LR
comp=Z,188nm,21.0s,MS4.2
GNI Garni 56.40 315*c i*P **P 04 53 16.8 -1.2**
GNI pmax pmax
comp=Z,82nm,1.7s
KBRS Khaybar 56.49 297 P **P 04 53 20.3 +1.4**
CLNS Chul'man 56.50 19*c i*P **P 04 53 17.8 -0.7**
CLNS *e**PP pP 04 53 29.6 -2.9
CLNS *e* 04 54 08.0
CLNS *e* 04 55 23.0
CLNS *e*S **S 05 01 09.7 +5.5**
CLNS *e*SS SS 05 04 45.2 -7.4
CLNS pmax pmax
comp=Z,20nm,0.9s,mb5.2
CLNS pmax pmax
comp=N,10.0nm,0.8s
CLNS pmax pmax
comp=E,7.0nm,0.8s
CLNS pmax pmax
comp=Z,9.0nm,1.3s,mb4.6
CLNS pmax pmax
comp=N,7.0nm,1.0s
CLNS pmax pmax
comp=E,8.0nm,0.8s
CLNS smax
comp=N,77nm,12.0s
CLNS smax
comp=Z,31nm,12.2s
CLNS smax
comp=E,81nm,12.6s
CLNS MLR MLR
comp=N,500nm,21.0s
CLNS MLR MLR
comp=Z,1μm,21.0s,MS5.0
CLNS MLR MLR
comp=E,200nm,13.0s
DGRG David-gareji 56.51 317 P **P 04 53 17.4 -1.4**
CTAO Charters Tower 56.80 118 PFAKE 04 53 30.0 +8.8
CTAO LR LR
comp=Z,625nm,22.0s,MS4.7
TI2 Plekhanov 57.05 317⇑ *i*P **P 04 53 18.6 -4.1**
TI2 *i* pP 04 53 34.8 -1.9
TBLG Delisi 57.05 317 P **P 04 53 21.1 -1.6**
KMBO Kilima Mbogo 57.62 265 P **P 04 53 28.5 +1.4**
comp=Z,2.9nm,0.7s,mb4.4,baz=49,slow=11,SNR=5.8
KMBO LR LR 05 14 08.6
comp=Z,863nm,21.5s,MS4.8,baz=82,slow=32
SVE Sverdlovsk 57.74 339⇑ *e*P **P 04 53 26.2 -1.1**
SVE *e* pP 04 53 41.7 +0.3
SVE *e* 04 54 19.0
SVE *e* 04 55 37.0
SVE *e*S **S 05 01 19.0 -1.6**
SVE *e*PS PS 05 01 40.0 -1.2
SVE *e*SS SS 05 05 12.0 -1.0
SVE pmax pmax
comp=Z,320nm,1.8s,mb6.0
SVE MLR MLR
comp=N,300nm,16.0s,MS4.5
SVE MLR MLR
comp=E,100nm,16.0s,MS4.5
SVE MLR MLR
comp=Z,300nm,16.0s,MS4.5
ZEI Tsey 58.06 318 *e*P **P 04 53 26.9 -2.8**
ZEI *i **PP pP 04 53 35.0 -8.8
ZEI *i* 04 54 15.8
ZEI pmax pmax
comp=Z,18nm,1.0s,mb5.1
UMJS Umm Lajj 58.13 296 P **P 04 53 32.1 +1.7**
STKA Stephens Creek 58.18 133⇑ *i*P **P 04 53 29.1 -1.6**
comp=Z,16nm,1.1s,mb5.0
STKA Stephens Creek 58.18 133 P **P 04 53 29.6 -1.2**
comp=Z,12nm,0.9s,mb4.9,baz=310,slow=5.9,SNR=11
STKA pP pP 04 53 44.3 -0.5
comp=Z,16nm,0.9s,baz=314,slow=8.6,SNR=7.5
STKA LR LR 05 22 20.8
comp=Z,320nm,19.4s,MS4.5,baz=46,slow=40
ARU Arti 58.22 337⇑ *i*P **P 04 53 29.3 -1.3**
ARU *e* 04 54 17.8
ARU *e* 04 55 36.7
ARU *e*S **S 05 01 30.0 +3.2**
ARU *e* 05 03 12.1
ARU *e*SS SS 05 05 18.0 -2.7
ARU pmax pmax
comp=Z,72nm,1.1s,mb5.6
ONI Oni 58.28 317 P **P 04 53 28.4 -2.8**
YSS Yuzh-Sakhalins 58.39 37α *i*P **P 04 53 30.7 -1.2**
YSS *e* 04 54 20.8
YSS pmax pmax
comp=Z,90nm,1.2s,mb5.7
YSS MLR MLR
comp=Z,400nm,18.0s,MS4.6
YSS MLR MLR
comp=E,400nm,17.0s
TBKS Tabuk 59.33 300 P **P 04 53 40.0 +1.2**
QURS Qurayyt al Mil 59.34 303 P **P 04 53 39.7 +0.9**
KIV Kislovodsk 59.36 319 *e*P **P 04 53 37.8 -0.9**
comp=E,75nm,1.1s,mb5.6
KIV LR LR
comp=Z,32nm,22.0s
KIV Kislovodsk 59.36 319*c i*P **P 04 53 37.0 -1.7**
KIV pmax pmax
comp=Z,70nm,1.0s,mb5.7
GOF Gofitskoye 59.59 320⇓ *i*P **P 04 53 39.1 -1.2**
GOF *e*S **S 05 01 48.0 +3.1**
GOF pmax pmax
comp=Z,43nm,0.8s,mb5.5
ASF Jabal al Asfar 59.87 304 P **P 04 53 43.1 +0.7**
comp=Z,29nm,1.0s,mb5.2,baz=14,slow=1.6,SNR=23
ELZG Elazig 59.96 312 *i* P **P 04 53 39.5 -3.5**
MALT Malatya 60.32 311 *e*P **P 04 53 44.9 -0.6**
comp=Z,47nm,1.5s,mb5.3
MALT Malatya 60.32 311 *e*P **P 04 53 44.9 -0.5**
MALT pmax pmax
comp=Z,47nm,1.5s,mb5.3
BDAS Al Bad' **60.63 299** P **P 04 53 48.1 +0.5**
GZT Gaziantep 60.69 310 *i* P **P 04 53 44.3 -3.7**
JMOS Jabal al Moall 60.75 300 P **P 04 53 48.8 +0.3**
MKRJ Makawir 60.78 303 P **P 04 53 49.2 +0.6**
ALWS Ilw as Safayha 60.82 300 P **P 04 53 49.4 +0.5**
HAQS Haql 60.89 300 P **P 04 53 49.9 +0.5**
GAZ Gaziantep 60.91 310 P **P 04 53 48.8 -0.6**
KSHT Keshet 60.95 305 P **P 04 53 50.7 +0.9**
ZFRI Zfri 60.96 302 P **P 04 53 50.3 +0.4**
EIL Elat 60.98 301 P **P 04 53 50.2 +0.2**
PRNI Paran 61.07 302 P **P 04 53 51.1 +0.5**
KSDI Kefar Szold 61.12 305 P **P 04 53 51.6 +0.7**
SOKR Solikamsk 61.15 339*c i*P **P 04 53 49.5 -1.2**
SOKR pmax pmax
comp=Z,60nm,1.0s,mb5.7
SOKR MLR MLR
comp=Z,230nm,18.0s,MS4.4
MMLI Mount Malkishu 61.15 304 P **P 04 53 52.0 +0.9**
SOC Sochi 61.19 317*c i*P **P 04 53 48.2 -3.0**
SOC *e* 04 54 27.0
SOC *e*PPP PPP 04 57 34.2 -2.7
SOC *e*S **S 05 02 08.6 +3.3**
SOC *e* 05 03 34.4
SOC *e*SS SS 05 06 12.9 +5.5
SOC pmax pmax
comp=Z,50nm,1.2s,mb5.5
SOC pmax pmax
comp=N,14nm,0.9s
SOC pmax pmax
comp=E,39nm,1.0s
SOC MLR MLR
comp=Z,163nm,20.0s,MS4.2
SOC MLR MLR
comp=N,126nm,21.0s,MS4.2
SOC MLR MLR
comp=E,118nm,21.0s,MS4.2
GRSN GIRESUNGRSN 61.27 314 *i* P **P 04 53 51.0 -0.8**
OFRI 'Ofer 61.55 304 P **P 04 53 54.4 +0.6**
CEYT Ceyhan 61.99 309 P **P 04 53 56.6 -0.1**
KOZT Kozan 62.05 310 P **P 04 53 56.2 -0.8**
YAK Yakutsk 62.09 18 *e*P **P 04 53 55.0 -2.0**
comp=E,32nm,0.6s,mb5.6
YAK Yakutsk 62.09 18*c i*P **P 04 53 54.9 -2.1**
YAK pmax pmax
comp=Z,114nm,1.3s,mb5.8
BNN Bunyan 62.41 311 *e*P **P 04 53 57.6 -1.9**
KARA Karaisali 62.59 309 P **P 04 53 59.8 -0.9**
VRHR Novokhopersk 63.11 326*c i*P **P 04 54 01.8 -2.2**
VRHR pmax pmax
comp=Z,130nm,1.1s,mb6.0
VRHR pmax pmax
comp=N,40nm,0.8s
VRHR pmax pmax
comp=E,50nm,0.7s
MEST Erdemli 63.13 308 *i* P **P 04 53 57.7 -6.6**
AVNT Avonos 63.14 311 *i* P **P 04 54 00.6 -3.8**
ANN Anapa 63.16 318 *e*P **P 04 54 01.2 -3.2**
ANN *e*S **S 05 02 26.1 -4.0**
ANN pmax pmax
comp=Z,46nm,1.2s,mb5.5
CSS Prodhromos 63.40 306 *e*P **P 04 54 06.2 +0.1**
comp=Z,122nm,1.3s,mb5.9
IKL Isikli 63.41 308 P **P 04 54 04.9 -1.3**
CORM Corum 63.69 312 P **P 04 54 05.1 -2.8**
LEF Lefka 63.79 306 P **P 04 54 08.1 -0.6**
BOYT Boyabat 63.84 314 *i* P **P 04 54 05.4 -3.5**
TOO Toolangi 63.85 137 *e*P **P 04 54 09.2 +0.2**
comp=Z,16nm,1.1s,mb5.0
TOO Toolangi 63.85 137 *e*P **P 04 54 09.2 +0.2**
TOO pmax pmax
comp=Z,16nm,1.1s,mb5.0
MBAR Mbarara 64.03 267 *e*P **P 04 54 10.3 -0.3**
comp=Z,44nm,1.4s,mb5.3
MBAR *e*pP pP 04 54 22.0 -2.9
MBAR Mbarara 64.03 267⇑ *i*P **P 04 54 11.2 +0.6**
ERMK Ermenek 64.10 308 *i* P **P 04 54 03.5 -7.3**
KAMT Kaman 64.15 311 P **P 04 54 09.5 -1.5**
BRTR Keskin Array B 64.30 312 P **P 04 54 10.4 -1.5**
comp=Z,20nm,0.8s,mb5.2,baz=121,slow=7.2,SNR=78
BRTR pP pP 04 54 25.1 -1.2
comp=Z,11nm,0.8s,baz=135,slow=7.0,SNR=6.4
BR131 Keskin Array S 64.30 312 *e*P **P 04 54 10.3 -1.6**
comp=Z,24nm,0.9s,mb5.2
BR131 LR LR
comp=Z,219nm,22.0s,MS4.3
TOS Tosya 64.37 313 *e*P **P 04 54 11.3 -1.0**
VORD Divnogorie 64.38 325 *e*P **P 04 54 09.0 -3.2**
VORD pmax pmax
comp=Z,50nm,0.7s,mb5.7
VORD pmax pmax
comp=N,20nm,0.6s
VORD pmax pmax
comp=E,60nm,0.9s
HDMB Hadim 64.51 308 *e*P **P 04 54 12.3 -1.1**
VRSR Storozhevoye 64.54 325*c i*P **P 04 54 10.9 -2.4**
CANT Cankiri 64.55 313 *e*P **P 04 54 12.5 -1.0**
BZK Bozkurt 64.64 314 *e*P **P 04 54 13.0 -1.1**
ELDT Eldivan 64.66 312 *i* P **P 04 54 12.1 -2.1**
ANTO Ankara 64.97 312 *e*P **P 04 54 14.3 -1.9**
SAFT Safranbolu 65.39 313 P **P 04 54 18.1 -0.9**
KIZT Kizilcal 65.41 310 P **P 04 54 17.4 -1.8**
SIM Simferopol' 65.44 317 *e*P **P 04 54 18.3 -0.9**
SIM S S 05 02 59.3 +1.1
SIM pmax pmax
comp=Z,47nm,0.8s,mb5.6
SIM MLR MLR
comp=Z,200nm,21.0s,MS4.3
SGKT Sivrigoynuk 65.69 312 *i* P **P 04 54 13.0 -7.8**
ISP Isparta 66.24 309 *e*P **P 04 54 22.5 -1.9**
ISP Isparta 66.24 309 *e*P **P 04 54 22.5 -1.9**
comp=Z,148nm,1.3s,mb5.9
ISP Isparta 66.24 309*c i*P **P 04 54 22.7 -1.7**
MDU Mudurnu 66.28 312 *e*P **P 04 54 23.5 -1.2**
ESKT Eskisehir 66.34 311 *e*P **P 04 54 23.6 -1.5**
ESKT Eskisehir 66.34 311 *i* P **P 04 54 21.7 -3.4**
TKTP Tekketepe 66.42 309 *i* P **P 04 54 24.5 -1.0**
HENT Hendek 66.60 312 *i* P **P 04 54 19.7 -6.9**
GOLH Golhisar 66.85 308 *i* P **P 04 54 24.5 -3.8**
MOS Moscow 67.31 329⇓ *i*P **P 04 54 28.8 -2.0**
MOS *i* pP 04 54 43.7 -1.5
MOS *e*S S 05 03 16.0 -4.8
MOS pmax pmax
comp=Z,400nm,1.7s,mb6.2
MOS pmax pmax
comp=Z,212nm,1.4s,mb6.0
DNZL Cakiroluk 67.34 309 *i* P **P 04 54 28.4 -3.0**
OBN Obninsk 67.60 328 *e*P **P 04 54 30.7 -1.9**
comp=Z,195nm,1.4s,mb5.9
OBN *e*pP pP 04 54 45.3 -1.8
OBN LR LR
comp=Z,59nm,20.0s,MS3.8
OBN Obninsk 67.60 328*c i*P **P 04 54 31.1 -1.5**
OBN *i* pP 04 54 45.6 -1.5
OBN *e* 04 57 01.9
OBN *i* S S 05 03 21.1 -3.1
OBN *e*SS SS 05 07 49.5 +2.4
OBN pmax pmax
comp=Z,138nm,1.2s,mb5.9
OBN MLR MLR
comp=Z,200nm,24.0s,MS4.3
ULDT Uludag 67.76 311 *i* P **P 04 54 32.2 -1.7**
ARG Arkhangelos 67.80 307 *e*P **P 04 54 34.2 -0.1**
BDRM Kayabasi 68.49 308 *i* P **P 04 54 33.2 -5.4**
BTOK Tokmak 68.52 311 *i* P **P 04 54 36.0 -2.6**
MA2 Magadan 68.66 27 *e*P **P 04 54 37.4 -1.8**
comp=Z,18nm,0.6s,mb5.2
MA2 *e*pP pP 04 54 49.8 -3.8
MA2 LR LR
comp=Z,393nm,20.0s,MS4.6
KDAG Bornova 68.85 309 *i* P **P 04 54 38.0 -2.8**
SMG Samos 69.07 308 *e*P **P 04 54 34.2 -7.9**
TIRR Tirgusor 69.22 316⇓ P **P 04 54 41.6 -1.3**
TIRR Tirgusor 69.22 316⇓ P **P 04 54 41.6 -1.3**
TIRR Tirgusor 69.22 316 *e*P **P 04 54 41.4 -1.5**
TIRR *e**PP pP 04 54 55.0 -2.4
URLA Izmir 69.37 309 *i* P **P 04 54 37.0 -6.9**
TIXI Tiksi 69.45 11 PFAKE 04 55 00.0 +16
TIXI LR LR
comp=Z,865nm,21.0s,MS5.0
TIXI Tiksi 69.45 11 *e*P **P 04 54 37.0 -6.9**
TIXI *e*S S 05 03 37.7 -8.3
TIXI pmax pmax
comp=Z,78nm,0.9s,mb5.6
TIXI MLR MLR
comp=Z,420nm,17.0s,MS4.8
AYVA Ayvalik 69.45 310 *i* P **P 04 54 43.7 -0.7**
KIS Kishinev 69.55 318*ce*P **P 04 54 43.0 -1.9**
KIS *e* pP 04 54 55.0 -4.4
KIS *e* 04 57 24.0
KIS *e*S S 05 03 50.0 +2.4
KIS pmax pmax
comp=Z,200nm,1.0s,mb6.0
KIS MLR MLR
comp=Z,200nm,15.0s,MS4.5
KIS MLR MLR
comp=Z,200nm,16.0s
XRY Khrisi 69.56 305 *e*P **P 04 54 45.0 -0.2**
HARR Harsova 69.61 316⇑ P **P 04 54 44.5 -0.8**
HARR Harsova 69.61 316⇑ P **P 04 54 44.5 -0.8**
NPS Neapolis 69.68 305 *e*P **P 04 54 46.0 +0.1**
PET Petropavlovsk 70.19 35 *i* P **P 04 54 47.5 -1.2**
PET LR LR
comp=Z,625nm,22.0s,MS4.8
PET Petropavlovsk 70.19 35 *e*P **P 04 54 47.6 -1.1**
PET *e* 04 57 24.0
PET *e*S S 05 03 48.4 -6.6
PET pmax pmax
comp=Z,200nm,14.2s
PET MLR MLR
comp=Z,500nm,18.0s,MS4.8
ALN Alexandroupoli 70.22 311 *e*P **P 04 54 47.9 -1.2**
AKASG Malin Array Be 70.27 322 P **P 04 54 47.3 -1.9**
comp=Z,19nm,0.6s,mb5.2,baz=90,slow=4.7,SNR=92
AKASG pP pP 04 55 01.8 -1.9
comp=Z,18nm,0.9s,baz=90,slow=4.7,SNR=9.1
AKASG Malin Array Be 70.27 322 P **P 04 54 47.3 -1.9**
AKASG pP pP 04 55 01.8 -1.9
RDO Rodhopi 70.64 312 *e*P **P 04 54 51.5 -0.1**
VRI Vrincioaia 70.70 317⇓ P **P 04 54 51.5 -0.4**
VRI Vrincioaia 70.70 317⇓ P **P 04 54 51.5 -0.3**
VAM Vamos 70.84 305 *e*P **P 04 54 53.5 +0.6**
BUC1 Bucharest 70.87 315 P **P 04 54 53.6 +0.6**
SEY Seymchan 70.89 24⇑ *e*P **P 04 54 51.7 -1.0**
PVL Pavlikeni 71.15 314 *i* P **P 04 54 55.0 +0.3**
MLR Muntele Rosu 71.16 316⇓ P **P 04 54 55.1 +0.5**
MLR Muntele Rosu 71.16 316⇓ P **P 04 54 55.1 +0.4**
RZN Rozhen 71.34 312 *i* P **P 04 54 54.8 -1.0**
OUR Ouranopolis 71.68 311 *e*P **P 04 54 57.3 -0.5**
VOIR 71.77 316⇓ P **P 04 54 58.0 -0.3**
PGB Panagyurishte 71.88 313 *i* P **P 04 54 58.5 -0.5**
MIR Mirnyy 71.89 181 *e*P pP 04 55 15.0 +1.8
MIR pmax pmax
comp=Z,26nm,1.2s,mb5.0
VLI Velias 72.02 307 *e*P **P 04 54 57.0 -2.9**
MMB Musomiste 72.06 312 *i* P **P 04 54 59.0 -1.1**
BURAR Bucovina Array 72.08 318⇑ P **P 04 55 00.8 +0.7**
BURAR Bucovina Array 72.08 318⇑ P **P 04 55 00.8 +0.8**
PLG Polygyros 72.09 311 *e*P **P 04 55 00.5 +0.2**
XOR Xorichti 72.14 309 *e*P **P 04 54 59.1 -1.5**
CASY Casey 72.55 173 P **P 04 55 03.8 +1.3**
comp=Z,42nm,1.3s,mb5.2
CASY LR LR
comp=Z,1μm,22.0s,MS5.1
KKB Krupnik 72.57 312 *i* P **P 04 55 02.0 -1.2**
VTS Vitosha 72.59 313 P **P 04 55 02.7 -0.6**
AGG Agios Georgios 72.77 309 *e*P **P 04 55 02.3 -2.1**
LIT Litokhoron 72.78 310 *e*P **P 04 55 02.6 -1.7**
ITM Ithomi 72.87 307 *e*P **P 04 55 03.5 -1.5**
JOF Joensuu 73.15 335 *e*p **P 04 55 04.8 -1.3**
comp=Z,13nm,0.6s,mb5.0
EVR Evrytania 73.16 309 *e*P **P 04 55 05.0 -1.7**
LVV L'vov 73.29 320 *i* P **P 04 55 06.1 -1.1**
LVV *e* pP 04 55 21.3 -0.5
LVV *e*S S 05 04 28.7 -1.9
LVV *e* 05 05 00.7
LVV MLR MLR
comp=E,340nm,19.0s,MS4.8
LVV MLR MLR
comp=N,260nm,18.0s,MS4.8
LVV MLR MLR
comp=Z,40nm,19.0s,MS3.7
LBTB Lobatse 73.51 242 *e*P **P 04 55 09.5 +0.5**
comp=Z,41nm,1.1s,mb5.3
LBTB *e*pP pP 04 55 20.2 -3.4
LBTB LR LR
comp=Z,1μm,22.0s,MS5.2
DRGR 73.61 317⇓ P **P 04 55 07.9 -1.2**
SKO Skopje 73.80 312 *e*P **P 04 55 07.5 -2.9**
VSU Vasula 73.83 330 *i* P **P 04 55 09.2 -1.0**
JAN Janina 73.98 310 *e*P **P 04 55 10.5 -0.9**
VLS Valsamata 74.03 308 *e*P **P 04 55 10.0 -1.8**
LKD Levkas 74.03 309 *e*P **P 04 55 10.7 -1.1**
KWP Kalwaria 74.10 320 *e*P **P 04 55 11.8 -0.1**
KWP *e*PcP PcP 04 55 27.3 +0.1
KWP *e*S S 05 04 42.7 +3.1
KWP Kalwaria 74.10 320 *e*P **P 04 55 11.8 -0.1**
KWP *e*PcP PcP 04 55 27.3 +0.1
KWP *e*S S 05 04 42.7 +3.1
UZH Uzhgorod 74.19 319 *e*P **P 04 55 12.0 -0.5**
UZH *e*S S 05 04 40.0 -0.7
APA Apatity 74.20 340⇓ *i*P **P 04 55 11.2 -0.9**
APA *i **PP pP 04 55 26.0 -0.7
APA *e*S S 05 04 40.0 -0.3
APA pmax pmax
comp=Z,32nm,0.8s,mb5.3
SUW Suwalki 74.67 325 *e*P **P 04 55 14.0 -1.1**
SUW *e*PcP PcP 04 55 29.3 -0.2
SUW *e*S S 05 04 44.1 -1.7
SUW MLR MLR 05 29 36.8
comp=Z,200nm,26.7s,MS4.3
SUW Suwalki 74.67 325 *e*P **P 04 55 14.0 -1.1**
SUW *e*PcP PcP 04 55 29.3 -0.2
SUW *e*S S 05 04 44.1 -1.7
CRVS Cervenica-Dubn 74.78 319 *e*P **P 04 55 16.0 +0.1**
FINES FINESS Array B 74.99 332 P **P 04 55 15.9 -0.9**
comp=Z,6.6nm,0.6s,mb4.8,baz=90,slow=5.9,SNR=60
FINES LR LR 05 32 14.0
comp=Z,179nm,20.6s,MS4.3,baz=116,slow=39
STHS Stebnicka Huta 75.01 320 *e*P **P 04 55 17.2 +0.1**
KAF Kangasniemi 75.08 333 *e*p **P 04 55 16.1 -1.2**
comp=Z,14nm,0.6s,mb5.1
KAF Kangasniemi 75.08 333 *e*P **P 04 55 16.1 -1.2**
KAF pmax pmax
comp=Z,14nm,0.6s,mb5.1
DIVS Divcibare 75.12 314⇓ *i*P **P 04 55 17.1 -0.8**
KECS Kecovo 75.36 319 *i* P **P 04 55 19.0 -0.2**
KECS *e*pP pP 04 55 34.3 +0.5
NIE Niedzica 75.61 320⇑ *e*P **P 04 55 20.9 +0.3**
WAR Warsaw 75.61 322 *e*P **P 04 55 20.4 -0.1**
WAR *e*pP pP 04 55 35.6 +0.5
WAR *e*S S 05 04 57.9 +1.6
WAR *e*SKS SKS 05 05 23.4 +2.3
WAR Warsaw 75.61 322 *e*P **P 04 55 20.4 -0.1**
WAR *e*pP pP 04 55 35.6 +0.5
WAR *e*S S 05 04 57.9 +1.6
WAR *e*SKS SKS 05 05 23.4 +2.3
PSZ Piszkesteto 75.67 318⇑ *i*P **P 04 55 20.8 -0.2**
PSZ Piszkesteto 75.67 318 *e*P **P 04 55 20.2 -0.7**
comp=Z,30nm,0.8s,mb5.3
PSZ Piszkesteto 75.67 318 *e*P **P 04 55 20.2 -0.8**
PSZ pmax pmax
comp=Z,30nm,0.8s,mb5.3
OJC Ojcow 76.05 320⇑ *i*P **P 04 55 22.9 -0.2**
OJC *i* PcP PcP 04 55 37.8 +2.3
PKSM Moragy 76.31 316 P **P 04 55 24.2 -0.5**
MAW Mawson 76.32 192 P **P 04 55 24.4 +0.1**
comp=Z,1.6nm,0.5s,baz=15,slow=7.7,SNR=5.0
MAW LR LR 05 22 49.5
comp=Z,339nm,18.4s,baz=37,slow=31
VYHS Vyhne 76.45 318 *i* P **P 04 55 25.0 -0.4**
VYHS *e*pP pP 04 55 40.3 +0.3
SRO Srobarova 76.71 318 *e*P **P 04 55 27.5 +0.6**

SRO epP pP 04 55 42.4 +0.9
SRO1 Iza 76.76 318 eP **P 04 55 27.1 -0.1**
SRO1 epP pP 04 55 41.6 -0.2
OKC Ostrava-Krasne 77.06 320⇑ iP **P 04 55 28.9 +0.1**
OKC epP pP 04 55 43.8 +0.4
RAC Raciborz 77.06 320 eP **P 04 55 29.4 +0.6**
TIP Timpagrande 77.10 309 eP **P 04 55 29.0 -0.3**
KEV Kevo 77.19 341 ep **P 04 55 28.4 -0.8**
comp=Z,24nm,0.7s,mb5.2
KEV Kevo 77.19 341 eP **P 04 55 28.4 -0.8**
KEV pmax pmax
comp=Z,24nm,0.7s,mb5.2
SMOL Smolenice 77.38 318 eP **P 04 55 31.3 +0.7**
SMOL e pP 04 55 43.6 -1.6
MORC Moravsky Berou 77.44 320 eP **P 04 55 30.8 -0.1**
comp=Z,84nm,1.3s,mb5.5
MORC epP pP 04 55 45.5 0.0
MORC Moravsky Berou 77.44 320 eP **P 04 55 30.8 -0.1**
MORC e*PP pP 04 55 45.5 0.0
MORC pmax pmax
comp=Z,84nm,1.3s,mb5.5
ZST Bratislava 77.56 318 i P **P 04 55 31.9 +0.3**
ZST epP pP 04 55 46.9 +0.7
ARCES ARCESS Array B 77.62 340 P **P 04 55 31.2 -0.3**
comp=Z,17nm,0.6s,mb5.2,baz=88,slow=5.6,SNR=95
ARCES pP pP 04 55 45.7 -0.5
comp=Z,39nm,0.9s,baz=90,slow=6.1,SNR=13
ARCES LR LR 05 35 41.1
comp=Z,239nm,19.1s,MS4.5,baz=241,slow=40
ARCES ARCESS Array B 77.62 340 P **P 04 55 31.2 -0.3**
ARCES pP pP 04 55 45.7 -0.5
ARCES LR LR 05 35 41.1
ARE0 ARCESS Array S 77.62 340 eP **P 04 55 31.0 -0.5**
ARE0 epP pP 04 55 45.5 -0.6
VRAC Vranov 78.01 319 P **P 04 55 34.1 +0.1**
GKP Gorka Klasztor 78.03 323 eP **P 04 55 33.9 -0.2**
GKP epP pP 04 55 49.0 +0.3
GKP eS S 05 05 21.0 -1.5
GKP MLR MLR 05 27 15.7
comp=Z,200nm,30.6s,MS4.3
GKP Gorka Klasztor 78.03 323 eP **P 04 55 33.9 -0.2**
GKP epP pP 04 55 49.0 +0.3
GKP eS S 05 05 21.0 -1.6
GKP LR LR
comp=Z,200nm,30.6s,MS4.3
BILL Bilibino 78.11 21 i P **P 04 55 33.9 -0.3**
BILL LR LR
comp=Z,2µm,20.0s,MS5.3
DPC Dobruska-Polom 78.28 320⇑ iP **P 04 55 36.1 +0.6**
DPC epP pP 04 55 51.4 +1.2
KSP Ksiaz 78.35 321 eP **P 04 55 36.3 +0.4**
KSP epP pP 04 55 51.8 +1.3
KSP MLR MLR 05 33 47.7
comp=Z,200nm,24.9s,MS4.3
KSP Ksiaz 78.35 321⇑ eP **P 04 55 36.1 +0.2**
KSP epP pP 04 55 50.7 +0.2
KSP eS S 05 05 24.0 -2.0
UPC Upice 78.49 320⇑ iP **P 04 55 37.0 +0.3**
UPC epP pP 04 55 50.8 -0.5
ARSA Arzberg 78.54 317⇑ iP **P 04 55 37.3 +0.3**
comp=Z,176nm,1.7s,mb5.7
BOJS Bojanci 78.61 315 eP **P 04 55 37.0 -0.4**
BOJS i pP 04 55 52.4 +0.4
PERS Pernice 78.78 316 eP **P 04 55 38.5 +0.2**
PERS e pP 04 55 53.2 +0.2
CII Carovilli 79.09 311 eP **P 04 55 38.7 -1.5**
comp=Z,28nm,1.6s,mb5.0
LJU Ljubljana 79.15 316 eP **P 04 55 40.6 +0.2**
LJU i pP 04 55 56.0 +1.0
LJU e 04 56 14.0
OBKA Obir 79.16 316⇑ iP **P 04 55 40.7 +0.3**
comp=Z,189nm,1.8s,mb5.7
CEY Cerknica 79.20 315 eP **P 04 55 39.6 -1.1**
CEY e pP 04 55 55.5 +0.2
PRU Pruhonice 79.39 320⇑ iP **P 04 55 41.8 +0.2**
PRU epP pP 04 55 57.0 +0.7
PVCC Panska Ves 79.41 320⇑ iP **P 04 55 42.0 +0.3**
MOA Molln 79.43 318⇑ iP **P 04 55 41.5 -0.4**
comp=Z,133nm,2.6s,mb5.4
VOY Vojsko 79.59 316 eP **P 04 55 42.4 -0.4**
VOY e pP 04 55 57.2 -0.2
AQU L'Aquila 79.79 312 eP **P 04 55 43.4 -0.6**
comp=Z,56nm,1.0s,mb5.5
AQU L'Aquila 79.79 312 eP **P 04 55 43.4 -0.5**
AQU pmax pmax
comp=Z,56nm,1.0s,mb5.5
BRG Berggiesshubel 79.83 321 i P **P 04 55 44.2 +0.2**
comp=Z,48nm,1.3s,mb5.3
BRG i pP pP 04 55 59.1 +0.5
BRG Berggiesshubel 79.83 321 i P **P 04 55 44.2 +0.2**
BRG i *PP pP 04 55 59.1 +0.4
BRG pmax pmax
comp=Z,48nm,1.3s,mb5.3
GEC2 GERESS Array S 79.87 319 eP **P 04 55 44.2 0.0**
comp=Z,84nm,1.0s,mb5.6
GEC2 epP pP 04 55 59.3 +0.4
GEC2 GERESS Array S 79.87 319 eP **P 04 55 44.2 0.0**
GEC2 e*PP pP 04 55 59.3 +0.4
GEC2 pmax pmax
comp=Z,84nm,1.0s,mb5.6
GERES GERESS Array B 79.87 319 P **P 04 55 44.4 +0.2**
comp=Z,31nm,0.7s,mb5.3,baz=90,slow=5.3,SNR=221
GERES pP pP 04 55 58.8 -0.1
comp=Z,24nm,0.8s,baz=90,slow=5.3,SNR=11
GERES LR LR 05 36 23.0
comp=Z,102nm,21.4s,MS4.1,baz=301,slow=40
KHC Kasperske Hory 79.96 319⇑ iP **P 04 55 44.5 -0.2**
KHC epP pP 04 55 59.3 -0.1
KBA Koelnbreinsper 80.02 317⇑ iP **P 04 55 44.7 -0.3**
comp=Z,57nm,1.4s,mb5.3
KBA Koelnbreinsper 80.02 317⇑ iP **P 04 55 44.7 -0.3**
KBA pmax pmax
comp=Z,57nm,1.4s,mb5.3
RUE Ruedersdorf 80.05 322 eP **P 04 55 44.8 -0.3**
comp=Z,70nm,1.0s,mb5.5
WET Wettzell 80.42 319 eP **P 04 55 47.1 -0.1**
comp=Z,49nm,1.1s,mb5.3
WET Wettzell 80.42 319 eP **P 04 55 47.1 -0.1**
WET pmax pmax
comp=Z,49nm,1.1s,mb5.3
CLL Collm 80.45 321 ⇑P **P 04 55 46.8 -0.5**
comp=Z,logA/T=1.4,mb5.1
CLL i *PP pP 04 56 01.7 -0.3
CLL i pP 04 56 05.9 +3.9
CLL ePP PP 04 58 42.0 -10
CLL eS S 05 05 45.0 -3.2
CLL eSS SS 05 11 06.0 +2.2
CLL Collm 80.45 321⇑ iP **P 04 55 46.8 -0.5**
comp=Z,39nm,1.4s,mb5.1
CLL i pP pP 04 56 01.7 -0.3
CLL eS S 05 05 45.0 -3.2
CLL Collm 80.45 321⇑ iP **P 04 55 46.8 -0.5**
CLL i *PP pP 04 56 01.7 -0.3
CLL eS S 05 05 45.0 -3.2
CLL pmax pmax
comp=Z,39nm,1.4s,mb5.1
NKC Novy Kostel 80.75 320⇑ eP **P 04 55 49.0 +0.1**
NKC epP pP 04 56 03.8 +0.2
NKC Novy Kostel 80.75 320 eP **P 04 55 49.0 +0.1**
NKC epP pP 04 56 03.8 +0.2
WTTA Wattenberg 81.19 317⇑ iP **P 04 55 50.8 -0.4**
comp=Z,98nm,1.3s,mb5.6
WTTA Wattenberg 81.19 317⇑ iP **P 04 55 50.8 -0.4**
WTTA pmax pmax
comp=Z,99nm,1.3s,mb5.6
WATA Walderalm 81.23 317⇓ iP **P 04 55 50.8 -0.6**
comp=Z,37nm,1.1s,mb5.2
WATA Walderalm 81.23 317⇓ iP **P 04 55 50.8 -0.6**
WATA pmax pmax
comp=Z,37nm,1.1s,mb5.2
MOX Moxa 81.30 320⇑ iP **P 04 55 51.6 -0.1**
comp=Z,logA/T=1.5,mb5.2
MOX pP pP 04 56 07.0 +0.5
MOX L 05 37 38.0
MOX Moxa 81.30 320 eP **P 04 55 51.6 -0.1**
comp=Z,54nm,1.6s,mb5.2
MOX epP pP 04 56 07.1 +0.6
MOX LR LR
comp=Z,100nm,21.0s,MS4.2
MOX Moxa 81.30 320 eP **P 04 55 51.6 -0.1**
MOX e*PP pP 04 56 07.1 +0.6
MOX pmax pmax
comp=Z,54nm,1.6s,mb5.2
MOX MLR MLR
comp=Z,100nm,21.0s,MS4.2
FUR Furstenfeldbru 81.45 318 eP **P 04 55 52.0 -0.6**
comp=Z,72nm,1.3s,mb5.4
FUR Furstenfeldbru 81.45 318 eP **P 04 55 52.0 -0.6**
FUR pmax pmax
comp=Z,72nm,1.3s,mb5.4
SQTA Sankt Quirin 81.48 317⇑ iP **P 04 55 52.4 -0.3**
comp=Z,26nm,0.9s,mb5.2
SQTA Sankt Quirin 81.48 317⇑ iP **P 04 55 52.4 -0.3**
SQTA pmax pmax
comp=Z,26nm,0.9s,mb5.2
GRA1 Grafenberg Arr 81.53 319 eP **P 04 55 53.2 +0.3**
comp=Z,62nm,1.1s,mb5.5
GRA1 epP pP 04 56 08.6 +0.9
GRF Grafenberg Arr 81.53 319 eP **P 04 55 53.2 +0.3**
GRF e*PP pP 04 56 08.6 +0.9
GRF pmax pmax
comp=Z,62nm,1.1s,mb5.5
MOTA Moosalm 81.55 317⇓ iP **P 04 55 52.6 -0.5**
comp=Z,39nm,1.0s,mb5.3
MOTA Moosalm 81.55 317⇓ iP **P 04 55 52.6 -0.5**
MOTA pmax pmax
comp=Z,39nm,1.0s,mb5.3
NB2 NORSAR Subarra 81.99 331 P **P 04 55 54.0 -1.1**
comp=Z,26nm,1.4s,mb5.0,baz=94,slow=5.6
NB2 NORSAR Subarra 81.99 331 P **P 04 55 54.0 -1.1**
baz=94,slow=5.9
NB2 NORSAR Subarra 81.99 331 P **P 04 55 54.0 -1.1**
NB2 pmax pmax
comp=Z,27nm,1.4s,mb5.0
NOA NORSAR Array B 81.99 331 P **P 04 55 53.8 -1.3**
comp=Z,4.5nm,0.9s,mb4.4,baz=95,slow=5.2,SNR=6.5
NOA pP pP 04 56 08.8 -1.0
comp=Z,7.1nm,0.9s,baz=94,slow=5.5,SNR=8.3
NOA PP PP 04 59 02.8 -2.3
comp=Z,1.9nm,0.9s,baz=90,slow=8.9,SNR=3.3
NOA LR LR 05 38 07.6
comp=Z,196nm,20.4s,MS4.5,baz=90,slow=40
NOA NORSAR Array B 81.99 331 P **P 04 55 53.8 -1.3**
NOA pP pP 04 56 08.8 -1.0
NOA PP PP 04 59 02.8 -2.3
NOA LR LR 05 38 07.6
CLZ Clausthal 82.11 321 eP **P 04 55 55.8 -0.1**
comp=Z,56nm,1.3s,mb5.3
CLZ Clausthal 82.11 321 eP **P 04 55 55.8 -0.1**
CLZ pmax pmax
comp=Z,56nm,1.3s,mb5.3
BSEG Bad Segeberg 82.19 324 eP **P 04 55 56.5 +0.2**
BERNI Berninapass 82.28 316⇑ iP **P 04 55 57.7 +0.8**
DAVA Damuels 82.38 317⇑ iP **P 04 55 57.5 +0.1**
comp=Z,114nm,1.5s,mb5.6
DAVOX Davos 82.38 316⇑ iP **P 04 55 58.1 +0.7**
LIENZ Alp Oberkamor 82.65 317⇑ iP **P 04 55 59.1 +0.3**
VDL Val di Lei 82.67 316⇑ iP **P 04 55 59.1 +0.2**
PLONS Plons 82.72 317⇑ iP **P 04 55 59.4 +0.2**
KONO Kongsberg 82.74 329⇑ eP **P 04 55 59.1 +0.2**
KONO LR LR
comp=Z,335nm,19.0s,MS4.7
STU Stuttgart 82.84 318 eP **P 04 55 59.2 -0.5**
comp=Z,18nm,0.9s,mb5.1
STU Stuttgart 82.84 318 eP **P 04 55 59.2 -0.5**
STU pmax pmax
comp=Z,18nm,0.9s,mb5.1
MUGIO Muggio 82.97 315⇑ iP **P 04 55 59.6 -0.8**
LLS Linth-Limmern 82.98 316⇑ iP **P 04 56 00.8 +0.3**
WILA Wila 83.04 317⇑ iP **P 04 56 00.8 0.0**
PGF Pioggiola 83.05 312⇑ iP **P 04 56 01.1 +0.2**
comp=Z,58nm,1.0s,mb5.2
STEIN Stein am Rhein 83.07 317⇑ iP **P 04 56 00.7 -0.2**
FUSIO Fusio 83.22 316⇑ iP **P 04 56 01.5 -0.2**
MUO Muotathal 83.23 317⇑ iP **P 04 56 02.2 +0.5**
SYO Syowa Base 83.29 197 ⇑P **P 04 56 01.9 +0.3**
SLE Schleitheim 83.32 317⇑ iP **P 04 56 01.8 -0.4**
SLE Schleitheim 83.32 317⇑ iP **P 04 56 01.9 -0.3**
TNS Taunus Mts 83.32 320 eP **P 04 56 02.2 +0.1**
comp=Z,28nm,1.0s,mb5.2
TNS Taunus Mts 83.32 320 eP **P 04 56 02.2 +0.1**
TNS pmax pmax
comp=Z,28nm,1.0s,mb5.2
BFO Black Forest 83.42 318 eP **P 04 56 02.1 -0.6**
comp=Z,25nm,0.9s,mb5.2
BFO Black Forest 83.42 318 eP **P 04 56 02.1 -0.6**
BFO pmax pmax
comp=Z,25nm,0.9s,mb5.2
HASLI Hasliberg 83.57 316⇑ iP **P 04 56 03.6 +0.1**
SULZ Sulz-Cheisache 83.58 317⇑ iP **P 04 56 03.3 -0.2**
MMK Mattmark 83.72 316⇑ iP **P 04 56 04.1 -0.1**
LANF Langenberg 83.76 319 eP **P 04 56 04.5 +0.1**
LKBD Leukerbad 83.94 316⇑ iP **P 04 56 05.7 +0.3**
SAOF Saorge 84.06 314 eP **P 04 56 05.8 -0.2**
WLS Welschbruch 84.07 318 eP **P 04 56 05.5 -0.5**
DIX Grande Dixence 84.10 316⇑ iP **P 04 56 07.1 +0.9**
CDF Champ du Feu 84.12 318⇑ iP **P 04 56 06.0 -0.2**
comp=Z,32nm,1.0s,mb5.1
SBF Sospel 84.16 313⇑ iP **P 04 56 06.6 +0.1**
comp=Z,169nm,1.0s,mb5.8
AUTN L'Aution 84.16 314 eP **P 04 56 06.8 +0.3**
SENIN Lac Senin 84.17 316⇑ iP **P 04 56 06.9 +0.4**
ECH Echery 84.21 318 eP **P 04 56 06.2 -0.4**
REVF Revere 84.21 313 eP **P 04 56 06.8 0.0**
MOF Molkenrain 84.23 317 eP **P 04 56 06.7 -0.1**
TOUF Mont Tournerai 84.29 314 eP **P 04 56 07.6 +0.4**
GRYON Gryon 84.30 316⇑ iP **P 04 56 07.5 +0.3**
WTSB Wintersvijk 84.33 322⇑ eP **P 04 56 07.0 -0.1**
comp=Z,37nm,1.1s,mb5.4
WTSB epP pP 04 56 22.3 +0.3
MVIF Mont Vial 84.36 313 eP **P 04 56 08.1 +0.6**
TORNY Torny 84.39 316⇑ iP **P 04 56 07.9 +0.3**
HINF Hinteralfeld 84.42 317⇑ iP **P 04 56 07.1 -0.6**
comp=Z,7.5nm,0.6s,mb4.7
EMV Vieux Emosson 84.46 316⇑ iP **P 04 56 08.5 +0.5**
LOMF Lomont 84.46 317 eP **P 04 56 07.8 -0.1**
CALN Calern 84.56 313 eP **P 04 56 09.1 +0.6**
LPG La Plagne 84.58 315⇑ iP **P 04 56 09.1 +0.5**
comp=Z,92nm,1.0s,mb5.5
LPL La Plagne 84.59 315⇑ iP **P 04 56 09.1 +0.4**
comp=Z,78nm,0.8s,mb5.6
MBDF Montbardon 84.60 314⇑ iP **P 04 56 08.3 -0.4**
comp=Z,37nm,1.0s,mb5.2
BNI Bardonecchia 84.65 315 eP **P 04 56 08.6 -0.4**
comp=Z,38nm,1.1s,mb5.4
BNI Bardonecchia 84.65 315 eP **P 04 56 08.6 -0.4**
BNI pmax pmax
comp=Z,38nm,1.1s,mb5.4
FRF La Foret Royal 84.74 313⇑ iP **P 04 56 09.8 +0.4**
comp=Z,145nm,1.1s,mb5.7
HAU Haudompre 84.76 318⇑ iP **P 04 56 09.1 -0.3**
comp=Z,105nm,1.1s,mb5.6
HAU eR
comp=Z,110nm,20.5s
WLF Walferdange 84.82 319 eP **P 04 56 09.9 +0.3**
comp=Z,83nm,1.7s,mb5.6
WLF epP pP 04 56 23.6 -0.8
WLF Walferdange 84.82 319 eP **P 04 56 09.9 +0.2**
WLF e*PP pP 04 56 23.7 -0.8
WLF pmax pmax
comp=Z,83nm,1.7s,mb5.6
LMR La Mourre 84.85 313⇑ iP **P 04 56 10.2 +0.2**
comp=Z,115nm,1.3s,mb5.6
HGN Heimansgroeve 84.91 320 eP **P 04 56 08.5 -1.7**
comp=Z,36nm,1.5s,mb5.3
HGN epP pP 04 56 24.5 -0.4
HGN Heimansgroeve 84.91 320 eS S 05 06 25.8 -7.5
THEF They Montfort 84.99 318 eP **P 04 56 10.2 -0.4**
CABF La Chapelle 85.00 316⇑ iP **P 04 56 11.0 +0.4**
comp=Z,64nm,1.1s,mb5.4
CKFL Kef-Lekhel 85.04 306 P **P 04 56 13.0 +1.9**
ORIF Oris-en-Rattie 85.22 315 eP **P 04 56 12.3 +0.5**
comp=Z,29nm,0.9s,mb5.1
ORIF eR
comp=Z,197nm,22.5s
CASM Ain Smara 85.23 306 P **P 04 56 14.0 +1.9**
SMRF Simiane la Rot 85.49 314⇑ iP **P 04 56 14.0 +0.8**
comp=Z,61nm,1.1s,mb5.3
MEZF Maizieres J'vi 85.60 318⇑ iP **P 04 56 13.5 0.0**
comp=Z,39nm,1.1s,mb5.2
GIVF Givet 85.65 320⇑ iP **P 04 56 14.0 +0.2**
comp=Z,26nm,1.1s,mb5.1
DFRA Djebel Bou Aff 85.71 306 P **P 04 56 17.0 +2.6**
BAIF Baives 86.05 320⇑ iP **P 04 56 16.1 +0.4**
comp=Z,67nm,1.2s,mb5.4
VIVF Saint-Julien-l 86.08 315⇑ iP **P 04 56 16.3 +0.3**
comp=Z,59nm,1.1s,mb5.5
SET Setif 86.12 306 P **P 04 56 14.0 -2.4**
LOR Lormes 86.48 317⇑ iP **P 04 56 17.9 0.0**
comp=Z,80nm,1.1s,mb5.6
LOR eR
comp=Z,179nm,21.8s
SMF Signal de Mont 86.54 316⇑ iP **P 04 56 18.2 0.0**
comp=Z,84nm,1.1s,mb5.6
LASF Ste Croix 86.72 314⇑ iP **P 04 56 19.8 +0.6**
comp=Z,42nm,1.1s,mb5.3
SSF Saint Saulge 86.74 317⇑ iP **P 04 56 19.3 +0.1**
comp=Z,59nm,1.3s,mb5.4
PLDF La Plantade 86.74 316 eP **P 04 56 20.6 +1.4**
AVF Avril sur Loir 86.86 317⇑ iP **P 04 56 19.7 -0.1**
comp=Z,46nm,1.1s,mb5.3
LBL Lubilhac 87.06 315 eP **P 04 56 22.2 +1.4**
AGO Saint Agoulin 87.08 316 eP **P 04 56 22.0 +1.2**
BGF Bois d'Agland 87.23 316⇑ iP **P 04 56 22.0 +0.4**
comp=Z,93nm,1.2s,mb5.6
HYF Humbligny 87.31 317 eP **P 04 56 22.4 +0.5**
AKET Djebel Ketaf 87.36 306 P **P 04 56 25.0 +2.6**
TCF Toulx Ste Croi 87.69 316⇑ iP **P 04 56 24.2 +0.4**
comp=Z,98nm,1.7s,mb5.5
ADJB Djebel Djouab 87.70 306 P **P 04 56 27.0 +2.9**
LRDF Laroque-de-Fa 87.78 313 eP **P 04 56 24.6 +0.3**
FILF Fillols 87.80 312 eP **P 04 56 25.4 +1.0**
CAF Calviac 87.93 315⇑ iP **P 04 56 25.7 +0.7**
comp=Z,37nm,1.1s,mb5.2
MTLF Montolieu 87.97 313⇑ iP **P 04 56 25.8 +0.6**
comp=Z,41nm,1.0s,mb5.3
EMHD Djebel Mahouad 88.09 306 P **P 04 56 28.0 +2.0**
TNA Tin City 88.13 24 PFAKE 04 56 40.0 +15
TNA LR LR
comp=Z,387nm,19.0s,MS4.8
RJF Les Rejaudoux 88.27 315⇑ iP **P 04 56 27.4 +0.8**
comp=Z,74nm,1.3s,mb5.5
RJF eR
comp=Z,92nm,22.8s
EMIR Miracle 88.63 312 P **P 04 56 30.4 +2.1**
comp=Z,27nm,0.8s,mb5.6
LFF La Frestale 88.86 315 eP **P 04 56 30.2 +0.8**
comp=Z,153nm,1.6s,mb5.8
LDF La Druitiere 89.01 319⇑ iP **P 04 56 30.3 +0.3**
comp=Z,50nm,1.0s,mb5.5
EPOB Poblet 89.02 311 P **P 04 56 31.0 +0.7**
comp=Z,51nm,1.1s,mb5.8
EIBI Ibiza 89.08 309 P **P 04 56 31.9 +1.4**
comp=Z,25nm,0.8s,mb5.6
EBNR Beni Rached 89.23 306 P **P 04 56 34.0 +2.6**
FLN La Foliniere 89.23 319⇑ iP **P 04 56 31.3 +0.3**
comp=Z,53nm,1.0s,mb5.5
FLN eR
comp=Z,209nm,21.8s
MFF Saint Martin d 89.28 317⇑ iP **P 04 56 31.7 +0.4**
comp=Z,59nm,1.2s,mb5.5
EPF Esparros 89.37 313 eP **P 04 56 31.8 -0.1**
ECHA Ech Chlef 89.37 306 P **P 04 56 34.0 +2.0**
RESF Ens 89.40 313 eP **P 04 56 33.2 +1.2**
EGRA Graus 89.49 312 P **P 04 56 33.9 +1.5**
comp=Z,7.1nm,0.7s,mb5.1
ETRT Tiaret 89.51 305 P **P 04 56 34.0 +1.3**
GRR Gorron 89.53 318⇑ iP **P 04 56 32.8 +0.4**
comp=Z,43nm,1.1s,mb5.4
EBIE Bielsa 89.56 313 P **P 04 56 33.8 +1.1**
comp=Z,7.8nm,0.9s,mb5.0
EANR 'Ain N'Sour 89.61 306 P **P 04 56 35.0 +1.8**
ERTA Horta de San J 89.62 311 P **P 04 56 34.4 +1.3**
comp=Z,21nm,1.0s,mb5.4
ETSF Etsaut 90.04 313 eP **P 04 56 36.0 +1.0**
comp=Z,32nm,1.0s,mb5.3
ESAC San Caprasio 90.13 312 P **P 04 56 35.9 +0.5**
comp=Z,14nm,0.6s,mb5.5
EMOS Mosqueruela 90.31 310 P **P 04 56 38.4 +2.0**
comp=Z,37nm,0.9s,mb5.7
LARF Larrau 90.34 313 eP **P 04 56 37.5 +1.1**
SJPF Ste Jean 90.50 313⇑ iP **P 04 56 38.2 +1.0**
comp=Z,34nm,1.1s,mb5.3
VNDA Vanda 90.54 168 P **P 04 56 36.7 +0.1**
comp=Z,1.3nm,0.9s,mb4.3,baz=328,slow=2.7,SNR=5.5
VNDA LR LR 05 33 24.2
comp=Z,416nm,18.9s,MS4.9,baz=301,slow=33
SGMF Saint Gilles 90.67 318⇑ iP **P 04 56 38.2 +0.4**
comp=Z,138nm,1.6s,mb5.7
EALK Alkurruntz 90.69 313 P **P 04 56 39.4 +1.3**
comp=Z,9.8nm,0.8s,mb5.2
ECHE Chera 90.79 310 P **P 04 56 40.1 +1.6**
comp=Z,10nm,0.8s,mb5.2
QUIF Quistinic 91.12 318 eP **P 04 56 40.1 +0.1**
ROSF Rostrenen 91.12 319⇑ iP **P 04 56 40.3 +0.3**
comp=Z,81nm,1.3s,mb5.6
ETOB Tobarra 91.36 309 P **P 04 56 43.3 +2.0**
comp=Z,10nm,1.0s,mb5.1
SBA Scott Base 91.64 168 PFAKE 04 56 50.0 +8.2
SBA LR LR
comp=Z,397nm,19.0s,MS4.9
ELAN Lanestosa 92.08 314 P **P 04 56 45.3 +0.9**
comp=Z,10nm,0.9s,mb5.2
EVIA Vianos 92.10 309 P **P 04 56 46.5 +1.8**
comp=Z,16nm,1.1s,mb5.3
EHUE Huescar 92.30 308 P **P 04 56 47.1 +1.4**
comp=Z,13nm,1.0s,mb5.2
EBER Berja 92.67 307 P **P 04 56 48.6 +1.3**
comp=Z,22nm,1.1s,mb5.5
EQES Quesada 92.67 308 P **P 04 56 47.9 +0.5**
comp=Z,7.1nm,0.9s,mb5.1
EALB Alboran 92.94 306 P **P 04 56 49.9 +1.3**
comp=Z,30nm,1.0s,mb5.7
ESDC Sonseca Array 93.06 310 P **P 04 56 49.9 +0.8**
comp=Z,7.1nm,0.9s,mb5.1,baz=59,slow=4.4,SNR=27
ESDC Sonseca Array 93.06 310 P **P 04 56 49.9 +0.8**
comp=Z,6.1nm,0.7s,mb5.1
ESLA Sonseca Array 93.06 310 eP **P 04 56 49.5 +0.4**
comp=Z,7.9nm,1.4s,mb5.0
ESLA ePP PP 05 00 30.9 -4.2
ESLA LR LR
comp=Z,876nm,20.0s,MS5.2
EBAN Banos Encina 93.17 309 P **P 04 56 50.8 +1.1**
comp=Z,4.2nm,0.8s,mb4.9
EGUA Guajares 93.22 307 P **P 04 56 50.7 +0.9**
comp=Z,3.7nm,1.0s,mb4.8
IMA Indian Mountai 93.63 22 eP **P 04 56 52.0 +1.0**
comp=Z,206nm,1.1s
IMA Indian Mountai 93.63 22 eP **P 04 56 52.0 +1.0**
IMA pmax pmax
comp=Z,210nm,1.1s
EADA Adamuz 93.79 309 P **P 04 56 53.2 +0.8**
comp=Z,9.3nm,1.0s,mb5.2
ECAL Calabor 94.71 313 P **P 04 56 57.7 +1.2**
comp=Z,9.3nm,1.2s,mb5.1
SPU Mount Spurr 96.19 27 eP **P 04 57 02.4 -0.4**
COLA College 96.34 22 PFAKE 04 57 20.0 +17
COLA LR LR
comp=Z,34nm,21.0s,MS3.8
MCK McKinley 96.44 24 eP **P 04 57 03.1 -0.7**
comp=Z,8.2nm,1.3s,mb5.0
MCK LR LR
comp=Z,287nm,22.0s,MS4.7
SUMG Summit 96.53 347 eP **P 04 57 03.8 -0.3**
comp=Z,17nm,1.1s,mb5.4
ILAR Eielson Array 96.76 22 P **P 04 57 05.6 +0.3**
comp=Z,1.2nm,0.6s,mb4.5,baz=323,slow=5.1,SNR=18
ILAR PP PP 05 00 53.2 -10
comp=Z,0.5nm,0.7s,baz=298,slow=7.0,SNR=4.2
FIB Fire Island 97.03 26 PFAKE 04 57 20.0 +13
FIB LR LR
comp=Z,1µm,19.0s,MS5.4
SML Sawmill 97.55 25 eP **P 04 57 08.6 -0.3**
DBIC Dimbokro 98.69 278 LR LR 05 38 45.2
comp=Z,235nm,21.9s,MS4.6,baz=66,slow=34
DBIC Dimbokro 98.69 278 PFAKE 04 57 30.0 +15
DBIC LR LR
comp=Z,495nm,22.0s,MS5.0
DIV Divide 98.95 25 PFAKE 04 57 30.0 +15
DIV LR LR
comp=Z,1µm,22.0s,MS5.4
VNA2 Neumayer--Watz 99.09 199 P **P 04 57 29.5 +14**
INK Inuvik 99.13 16 eP **P 04 57 15.5 -0.4**
VNA3 Neumayer Olymp 99.76 199 P **P 04 57 27.0 +8.2**
YKA Yellowknife Ar 108.61 14 PP PP 05 02 26.8 -6.1
comp=Z,2.0nm,0.7s,baz=335,slow=7.9,SNR=4.4
EDM Edmonton 116.92 18 ePKPdf PKPdf 05 02 19.5 +1.2
SCHQ Schefferville 117.91 348 PKP PKPdf 05 02 21.5 +1.3
comp=Z,1.9nm,0.3s,baz=58,slow=8.7,SNR=9.7
COR Corvallis 119.65 30 PFAKE 05 02 40.0 +16
COR LR LR
comp=Z,255nm,20.0s,MS4.8
NEW Newport 119.67 24 ePKP PKPdf 05 02 24.3 +0.5
NEW LR LR
comp=Z,358nm,20.0s,MS5.0
NEW Newport 119.67 24 PKIKP PKPdf 05 02 24.8 +0.9

HAWA	**Hanford**	**120.11**	**27**	*e*PKPdf	PKPdf	05 02 26.1	+1.3
HAWA				LR	LR		
comp=Z,22nm,21.0s,MS3.8							
WALA	**Waterton Lakes**	**120.24**	**21**	*e*PKP	PKPdf	05 02 24.9	-0.1
HUMO	**Hull Mountain**	**121.23**	**32**	PFAKE		05 02 40.0	+13
HUMO				LR	LR		
comp=Z,253nm,20.0s,MS4.9							
MSO	**Missoula**	**122.09**	**23**	*e*PKPdf	PKPdf	05 02 29.4	+0.9
MSO				*e*PP	PP	05 04 05.4	-2.7
CHMT	**Chamberlain Mo**	**122.28**	**22**	*e*PKPdf	PKPdf	05 02 29.9	+1.0
BMO	**Blue Mountains**	**122.29**	**26**	*e*PKPdf	PKPdf	05 02 30.0	+1.0
BMO	**Blue Mountains**	**122.29**	**26**	PKIKP	PKPdf	05 02 30.3	+1.3
WDC	**Whiskeytown Da**	**122.87**	**33**	*e*PKPdf	PKPdf	05 02 31.2	+0.9
WDC	**Whiskeytown Da**	**122.87**	**33**	PKIKP	PKPdf	05 02 31.4	+1.1
MOD	**Modoc**	**123.11**	**31**	*e*PKPdf	PKPdf	05 02 32.0	+1.3
MOD				LR	LR		
comp=Z,207nm,20.0s,MS4.8							
WVOR	**Wild Horse Val**	**123.53**	**29**	*e*PKPdf	PKPdf	05 02 33.5	+2.0
WVOR	**Wild Horse Val**	**123.53**	**29**	PKIKP	PKPdf	05 02 33.7	+2.2
HOPS	**Hopland**	**123.67**	**35**	*e*P	PKPdf	05 02 33.8	+1.9
HOPS				LR	LR		
comp=Z,206nm,22.0s,MS4.7							
ULM	**Lac du Bonnet**	**123.73**	**8**	PKP	PKPdf	05 02 32.1	+0.5
comp=Z,12nm,0.6s,baz=350,slow=2.9,SNR=25							
DGMT	**Dagmar**	**123.78**	**15**	*e*PKPdf	PKPdf	05 02 33.5	+1.6
DLMT	**Dillon**	**123.83**	**23**	*e*PKPdf	PKPdf	05 02 33.6	+1.6
DLMT				*e*PP	PP	05 04 11.7	-8.6
BOZ	**Bozeman (W)**	**123.95**	**22**	*e*PKPdf	PKPdf	05 02 33.8	+1.5
BOZ				*e*PP	PP	05 04 11.4	-10
MCMT	**McKenzie Canyo**	**124.18**	**23**	*e*PKPdf	PKPdf	05 02 34.6	+2.0
GCMT	**Greycliff**	**124.54**	**20**	*e*PKPdf	PKPdf	05 02 34.9	+1.5
BEKR	**Beckwourth**	**124.56**	**32**	*e*PKPdf	PKPdf	05 02 34.9	+1.3
QLMT	**Earthquake Lak**	**124.72**	**22**	*e*PKPdf	PKPdf	05 02 36.2	+2.4
LAO	**LASA Array**	**124.85**	**17**	*e*PKPdf	PKPdf	05 02 36.2	+2.2
YFT	**Old Faithful**	**125.27**	**22**	*e*PKPdf	PKPdf	05 02 38.1	+3.3
LKWY	**Lake**	**125.33**	**22**	*e*PKPdf	PKPdf	05 02 38.6	+3.7
LKWY				*e*PP	PP	05 04 28.4	-1.5
FLWY	**Flagg Ranch**	**125.63**	**22**	*e*PKPdf	PKPdf	05 02 37.9	+2.4
IMW	**Indian Meadow**	**125.70**	**23**	*e*P	PKPdf	05 02 38.0	+2.4
IMW				*e*PP	PP	05 04 31.0	-1.5
PQI	**Presque Isle**	**125.80**	**345**	PFAKE		05 02 50.0	+14
PQI				LR	LR		
comp=Z,11μm,22.0s							
CMB	**Columbia Colle**	**125.85**	**34**	*e*PKPdf	PKPdf	05 02 37.5	+1.4
CMB				LR	LR		
comp=Z,187nm,21.0s,MS4.7							
CMB	**Columbia Colle**	**125.85**	**34**	PKIKP	PKPdf	05 02 37.7	+1.6
RRI2	**Red Ridge**	**126.02**	**23**	*e*PKPdf	PKPdf	05 02 38.2	+1.9
RRI2				*e*PP	PP	05 04 28.2	-6.5
TPAW	**Teton Pass**	**126.04**	**23**	*e*PKPdf	PKPdf	05 02 38.7	+2.4
LOHW	**Long Hollow**	**126.07**	**22**	*e*PKPdf	PKPdf	05 02 37.9	+1.5
LOHW				*e*PP	PP	05 04 33.3	-1.8
SAO	**San Andreas Ge**	**126.14**	**36**	PFAKE		05 02 50.0	+13
SAO				LR	LR		
comp=Z,201nm,21.0s,MS4.8							
SNOW	**Snow King Moun**	**126.14**	**23**	*e*PKPdf	PKPdf	05 02 38.9	+2.4
REDW	**Red Top Meadow**	**126.19**	**23**	*e*PKPdf	PKPdf	05 02 51.3	+15
ELK	**Elko**	**126.46**	**28**	*e*PKPdf	PKPdf	05 02 39.6	+2.4
PDAR	**Pinedale Array**	**127.19**	**22**	PKP	PKPdf	05 02 39.7	+1.1
comp=Z,8.8nm,0.9s,SNR=52							
MTUM	**Tungsten Hills**	**127.34**	**33**	*e*PKPdf	PKPdf	05 02 40.6	+1.6
HWUT	**Hardware Ranch**	**127.38**	**25**	*e*PKPdf	PKPdf	05 02 40.7	+1.7
EMMW	**East Machias**	**127.47**	**344**	PFAKE		05 02 50.0	+11
EMMW				LR	LR		
comp=Z,2μm,22.0s,MS5.7							
TCUT	**Toone Canyon**	**127.85**	**25**	*e*PKPdf	PKPdf	05 02 40.5	+0.5
WVL	**Waterville**	**128.18**	**346**	*e*PKPdf	PKPdf	05 02 41.6	+1.2
DAU	**Daniels Canyon**	**128.50**	**25**	*e*PKPdf	PKPdf	05 02 43.7	+2.5
NLU	**North Lily Min**	**128.53**	**26**	*e*PKPdf	PKPdf	05 02 43.5	+2.3
ISA	**Isabella**	**128.62**	**35**	PFAKE		05 02 50.0	+8.5
ISA				LR	LR		
comp=Z,66nm,22.0s,MS4.3							
RWWY	**Rawlins**	**128.99**	**21**	*e*PKPdf	PKPdf	05 02 43.5	+1.5
TMUT	**Trail Mountain**	**129.45**	**26**	*e*PKPdf	PKPdf	05 02 45.9	+2.9
MIV	**Mineville/With**	**129.49**	**349**	*e*PKPdf	PKPdf	05 02 44.4	+1.4
MSU	**Marysvale**	**129.66**	**27**	*e*PKPdf	PKPdf	05 02 45.9	+2.4
MSU	**Marysvale**	**129.66**	**27**	PKIKP	PKPdf	05 02 45.8	+2.4
NCB	**Newcomb**	**129.72**	**349**	PKPdf	PKPdf	05 02 45.0	+1.6
HRV	**Harvard--Oak R**	**130.57**	**347**	PFAKE		05 03 00.0	+15
HRV				LR	LR		
comp=Z,239nm,19.0s,MS4.9							
NEN	**Nelson**	**130.61**	**32**	*e*PKPdf	PKPdf	05 02 47.9	+2.6
NEN				*e*SKP		05 06 02.4	
WES	**Weston**	**130.63**	**346**	P	Pdif	04 59 42.6	+7.0
PV10	**Paradox Valley**	**131.14**	**25**	*e*PKPdf	PKPdf	05 02 48.6	+2.3
PV10				*e*SKP		05 06 07.8	
ISCO	**Idaho Springs**	**131.22**	**21**	PFAKE		05 03 00.0	+14
ISCO				LR	LR		
comp=Z,442nm,19.0s,MS5.2							
ISCO	**Idaho Springs**	**131.22**	**21**	PKIKP	PKPdf	05 02 48.0	+1.6
PFO	**Pinyon Flat Ob**	**131.25**	**35**	PFAKE		05 03 00.0	+13
PFO				LR	LR		
comp=Z,87nm,22.0s,MS4.4							
PV01	**Paradox Valley**	**131.54**	**24**	*e*PKPdf	PKPdf	05 02 49.3	+2.2
KSU1	**Kansas State U**	**134.42**	**12**	*e*PKPpre		05 02 49.9	
ANMO	**Albuquerque**	**135.14**	**25**	*e*PKPdf	PKPdf	05 02 55.7	+1.9
ANMO				LR	LR		
comp=Z,254nm,21.0s,MS4.9							
ANMO	**Albuquerque**	**135.14**	**25**	PKIKP	PKPdf	05 02 56.3	+2.5
TUC	**Tucson**	**135.31**	**31**	*e*PKPdf	PKPdf	05 02 56.8	+2.5
TUC				LR	LR		
comp=Z,200nm,19.0s,MS4.9							
TUC	**Tucson**	**135.31**	**31**	PKIKP	PKPdf	05 02 56.7	+2.5
CCM	**Cathedral Cave**	**136.32**	**7**	*e*PKPdf	PKPdf	05 02 57.4	+1.5
CCM				LR	LR		
comp=Z,483nm,19.0s,MS5.2							
CCM	**Cathedral Cave**	**136.32**	**7**	PKIKP	PKPdf	05 02 57.5	+1.6
PARMO	**Parma**	**137.85**	**5**	*e*PKPdf	PKPdf	05 03 01.0	+2.2
WMOK	**Wichita Mounta**	**138.03**	**17**	*e*PKPpre		05 02 48.2	
WMOK				*e*PKPdf	PKPdf	05 03 00.5	+1.3
WMOK				*e*PP	PP	05 05 42.6	-9.3
WMOK	**Wichita Mounta**	**138.03**	**17**	PKHKP		05 02 48.9	
TZTN	**Tazewell**	**138.13**	**358**	*e*PKPdf	PKPdf	05 03 01.6	+2.3
MNTX	**Cornudas Mount**	**138.39**	**26**	*e*PKPpre		05 02 53.8	
MNTX				*e*PKPdf	PKPdf	05 03 01.9	+2.0
MNTX				*e*PP	PP	05 05 50.3	-3.8
WVT	**Waverly**	**138.52**	**3**	PKHKP		05 02 52.2	
UALR	**University of**	**139.40**	**9**	*e*PKPdf	PKPdf	05 03 03.4	+1.8
MIAR	**Mount Ida**	**139.43**	**10**	PFAKE		05 03 10.0	+8.3
MIAR				LR	LR		
comp=Z,39nm,22.0s,MS4.1							
PLAL	**Pickwick Lake**	**139.65**	**3**	*e*PKPdf	PKPdf	05 03 01.3	-0.8
PLAL				LR	LR		
comp=Z,387nm,20.0s,MS5.2							
LTX	**Lajitas**	**141.17**	**26**	PKPdf	PKPdf	05 03 06.5	+1.5
LTX	**Lajitas**	**141.17**	**26**	PKIKP	PKPdf	05 03 07.7	+2.7
TXAR	**Lajitas Array**	**141.17**	**26**	PKhKP		05 02 59.5	
comp=Z,2.5nm,0.7s,baz=192,slow=1.4,SNR=18							
TXAR				PKP	PKPdf	05 03 06.8	+1.8
comp=Z,4.6nm,0.6s,baz=152,slow=1.2,SNR=25							
TXAR				PP	PP	05 06 03.4	-7.5
comp=Z,0.9nm,0.9s,baz=45,slow=1.8,SNR=4.6							
TXAR	**Lajitas Array**	**141.17**	**26**	PKP	PKPdf	05 02 59.5	-5.5
TXAR				PKP	PKPdf	05 03 06.8	+1.8
TXAR				PP	PP	05 06 03.4	-7.5
GOGA	**Godfrey**	**141.25**	**357**	PFAKE		05 03 20.0	+15
GOGA				LR	LR		
comp=Z,428nm,19.0s,MS5.2							
LRAL	**Lakeview Retre**	**141.64**	**2**	*e*PKPdf	PKPdf	05 03 06.7	+1.0
BDFB	**Brasilia**	**141.94**	**252**	PKP	PKPdf	05 03 08.7	+2.1
comp=Z,2.1nm,0.7s,baz=129,slow=2.8,SNR=4.0							
PLCA	**Paso Flores**	**142.48**	**199**	PKhKP		05 03 03.2	
comp=Z,3.2nm,1.0s,baz=177,slow=6.7,SNR=2.8							
PLCA	**Paso Flores**	**142.48**	**199**	PKP	PKPdf	05 03 03.2	-3.7
PLCA				LR	LR		
comp=Z,488nm,21.0s,MS5.2							
CPUP	**Villa Florida**	**146.11**	**229**	PKPbc	PKPbc	05 03 15.8	+1.1
comp=Z,8.7nm,0.9s,baz=147,slow=2.8,SNR=16							
CPUP	**Villa Florida**	**146.11**	**229**	*e*PKP	PKPdf	05 03 14.8	+1.2
CPUP				LR	LR		
comp=Z,544nm,19.0s,MS5.3							
MTP	**Monte Pirata**	**149.43**	**321**	*e*PKPdf	PKPdf	05 03 20.9	+1.7
MTP				*e*PKPbc	PKPdf	05 03 24.8	+5.6
CPD	**Cerro la Pandu**	**149.70**	**321**	*e*PKPdf	PKPdf	05 03 21.9	+2.3
CPD				*e*PKPbc	PKPdf	05 03 25.7	+6.1
SJG	**San Juan**	**149.79**	**321**	*e*PKPbc	PKPdf	05 03 25.6	+5.9
SJG				LR	LR		
comp=Z,203nm,20.0s,MS4.9							
MOIG	**Morelia**	**150.55**	**31**	*i* P	PKPdf	05 03 28.0	+7.1
HLGC	**Holguin**	**152.20**	**341**	*e*P	PKPdf	05 03 32.6	+9.3
YAIG	**Yautepec**	**152.30**	**29**	*i* P	PKPdf	05 03 31.5	+8.0
PLIG	**Platanillo**	**152.49**	**30**	*i* P	PKPdf	05 03 32.6	+8.9
SDV	**Santo Domingo**	**159.46**	**314**	PFAKE		05 03 50.0	+17
SDV				LR	LR		
comp=Z,360nm,22.0s,MS5.2							
LPAZ	**La Paz**	**159.94**	**236**	PKP	PKPdf	05 03 36.0	+2.6
comp=Z,11nm,1.4s,baz=38,slow=3.1,SNR=11							
LPAZ				PKPab	PKPab	05 04 16.2	+0.8
comp=Z,3.1nm,0.7s,baz=80,slow=10.0,SNR=9.0							
LPAZ	**La Paz**	**159.94**	**236**	*e*PKP	PKPdf	05 03 35.9	+2.5
LPAZ				*e*PP	PP	05 08 06.2	+8.4
LPAZ				LR	LR		
comp=Z,293nm,19.0s,MS5.2							
ROSC	**El Rosal**	**164.87**	**313**	PKP	PKPdf	05 03 40.8	+2.3
comp=Z,9.0nm,0.9s,baz=132,slow=2.5,SNR=12							
NNA	**Nana**	**169.35**	**232**	PFAKE		05 03 50.0	+8.4
NNA				LR	LR		
comp=Z,72nm,19.0s							

IDC 28 05:20:56.1±8.3, 21.33S×179.28W, h647km±101km, mb2.8/4, mb1 3.1/4, mb1mx2.9/11, mbtmp3.7/4, Error ellipse: s-maj=46.8km s-min=31.5km az=55.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.31**	**263**	P	P	05 28 03.9	-1.6
0.5nm,0.3s,baz=96,slow=6.3,SNR=39							
VNDA	**Vanda**	**56.98**	**185**	P	P	05 29 41.8	-2.1
0.4nm,0.6s,baz=10,slow=6.3,SNR=5.8							
TXAR	**Lajitas Array**	**88.51**	**58**	P	P	05 32 42.6	-0.6
0.4nm,0.9s,baz=198,slow=2.9,SNR=3.7							
ILAR	**Eielson Array**	**89.39**	**13**	P	P	05 32 44.5	-1.9
0.3nm,0.5s,baz=219,slow=5.1,SNR=4.9							
ARCES	**ARCESS Array B**	**129.51**	**349**	PKP	PKPdf	05 38 53.0	+0.4
2.5nm,0.9s,baz=20,slow=1.2,SNR=8.4							
AKASG	**Malin Array Be**	**143.14**	**330**	PKP	PKPdf	05 39 16.1	-1.7
1.0nm,0.5s,baz=42,slow=4.1,SNR=8.4							
GERES	**GERESS Array B**	**150.65**	**342**	PKPbc	PKPdf	05 39 37.3	+7.2
0.7nm,0.6s,baz=45,slow=1.9,SNR=6.5							

*IDC **28** 05:34:35.7±0.5, 1.48N×97.07E, mb4.7/17, mb1 4.8/17, mb1mx4.7/20, mbtmp4.7/17, MS4.5/10, Ms1 4.5/10, ms1mx4.4/19, Error ellipse: s-maj=19.5km s-min=13.8km az=55.0*

*MOS **28** 05:34:38.7±0.9, 1.51N×97.19E, h33km, mb5.3/33, Error ellipse: s-maj=11.9km s-min=5.5km az=115.1*

*BJI **28** 05:34:38.3, 1.30N×97.30E, h39km, mB5.2, mb5.1, Ms5.2, Msz5.1*

*HRVD **28** 05:34:40.0±0.7, 1.40N×97.08E, h23km, MW5.0/45, Centroid moment Tensor Solution. LP body waves: s28,c41;Mantle waves: s45,c71; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.78±.25; $M_{\theta\theta}$-1.30±.13; $M_{\phi\phi}$-1.49±.21; $M_{r\theta}$1.91±.26; $M_{\theta\phi}$2.30±.12; $M_{\phi r}$-1.86±.33; Best double couple: $M_0$4.195×10^{16} NP1:ϕ_s319°, δ25°, λ94°, NP2:ϕ_s135°, δ65°, λ88°. Principal axes: T 3.738, Plg70°, Azm41°; N .905, Plg2°, Azm135°; P -4.652, Plg20°, Azm226°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **28** 05:34:40.0±0.2, 1.47N×97.14E, h30km, mb5.1/47, MS4.5/3 Error ellipse: s-maj=6.0km s-min=4.4km az=22.0*

ISC 28 05:34:39.0±0.3, 1.47N±0.04×97.19E±0.03, h35km, h35km±2.3km:pP-P, n229, σ0:89/243, mb5.0/96, MS4.8/42, 21C-5D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**4.92**	**51**	P	**P**	**05 35 53.7**	**+1.1**
IPM	**Ipoh**	**4.92**	**51**	P	**P**	**05 35 53.6**	**+1.0**
KULM	**Kulim**	**5.14**	**42**	⇑*i*P	**P**	**05 35 56.2**	**+0.6**
KGM	**Kluang**	**6.15**	**85**	P	**P**	**05 36 11.7**	**+1.8**
SNG	**Songkhla**	**6.62**	**31**	P	**P**	**05 36 16.0**	**-0.5**
810nm,1.0s							
NNT	**Nongplab**	**11.34**	**13**	P	**P**	**05 37 19.5**	**-2.2**
KSM	**Kuching**	**13.12**	**90**	*e*P	**P**	**05 37 46.9**	**+1.3**
KSM				*e*		05 37 57.3	
NST	**Nakhon Sawan**	**14.41**	**11**	P	**P**	**05 38 02.4**	**-0.3**
KKTK	**Khon Kaen**	**15.79**	**20**	P	**P**	**05 38 21.5**	**+1.0**
370nm,0.6s							
CHG	**Chiang Mai**	**17.33**	**6**	⇑P	**P**	**05 38 38.5**	**-1.4**
17nm,0.8s							
PALK	**Palikele**	**17.41**	**290**	*e*P	**P**	**05 38 40.3**	**-0.7**
95nm,1.6s							
NANT	**Nan**	**17.57**	**11**	⇑P	**P**	**05 38 42.0**	**-0.9**
175nm,1.0s							
KKM	**Kota Kinabalu**	**19.52**	**76**	*e*P	**P**	**05 39 06.4**	**0.0**
MDRS	**Chennai**	**20.35**	**305**	*ex*	x	05 40 11.0	
MDRS				*ex*	x	05 44 31.0	
MDRS				*ex*	x	05 46 09.0	
MDRS				*ex*	x	05 50 25.0	
VIS	**Vishakhapatnam**	**21.13**	**321**	*e*P	**P**	**05 39 24.1**	**+0.9**
VIS				AMb	AMB	05 39 27.4	
comp=Z,116nm,2.9s,mb4.7							
VIS				*e*S	**S**	**05 43 15.6**	**+4.2**
VIS				*i* x	x	05 47 20.7	
QIZ	**Qiongzhong**	**21.41**	**35**	P	**P**	**05 39 26.3**	**+0.2**
QIZ				AP		05 39 36.0	
QIZ				XP		05 39 38.8	
QIZ				PP	PP	05 39 53.8	+3.3
QIZ				S	**S**	**05 43 20.3**	**+3.6**
QIZ				AMB	AMB		
comp=Z,30nm,1.6s,mb4.4							
QIZ				AMB	AMB		
comp=Z,288nm,13.6s							
QIZ				LR	LR		
comp=N,2μm,15.2s,MS4.8							
QIZ				LR	LR		
comp=E,2μm,14.8s,MS4.8							
QIZ				LR	LR		
comp=Z,2μm,14.8s,MS4.6							
QIZ	**Qiongzhong**	**21.41**	**35**	*e*P	**P**	**05 39 25.8**	**-0.3**
comp=Z,26nm,0.8s,mb4.6							
CAL	**Calcutta**	**22.65**	**338**	*ex*	x	05 42 01.6	
CAL				*ex*	x	05 43 33.7	
IMP	**Imphal**	**23.39**	**353**	*e*P	**P**	**05 39 47.0**	**+1.3**
KMI	**Kunming**	**24.12**	**12**	P	**P**	**05 39 54.5**	**+1.7**
KMI				AP		05 40 04.3	
KMI				XP		05 40 08.5	
KMI				PP	PP	05 40 26.0	-1.8
KMI				PPP	PPP	05 40 36.3	-1.7
KMI				S	**S**	**05 44 00.0**	**-5.4**
KMI				AMB	AMB		
comp=Z,92nm,1.6s,mb5.0							
KMI				AMB	AMB		
comp=Z,720nm,4.0s							
KMI				LR	LR		
comp=N,5μm,16.1s,MS5.2							
KMI				LR	LR		
comp=E,4μm,13.6s,MS5.2							
KMI				LR	LR		
comp=Z,6μm,15.1s,MS5.2							
KMI	**Kunming**	**24.12**	**12**	P	**P**	**05 39 54.4**	**+1.6**
comp=Z,92nm,1.6s,mb5.0							
KMI				pP		05 40 04.3	
KMI				sP		05 40 08.5	
KMI				PP	PP	05 40 25.9	-1.9
KMI				PPP	PPP	05 40 36.2	-1.8
KMI				PcP	PcP	05 43 43.2	+8.3
KMI				S	**S**	**05 43 59.9**	**-5.5**
KMI				sS		05 44 16.8	
KMI				SS	SS	05 44 47.1	-11
KMI				SSS	SSS	05 45 02.7	-12
KMI				ScP		05 47 16.9	
KMI				PcS		05 47 21.1	
KMI				LR	LR		
comp=Z,6μm,15.1s,MS5.2							
KMI	**Kunming**	**24.12**	**12**	P	**P**	**05 39 54.4**	**+1.6**
KMI				*e*		05 40 04.3	
KMI				*e*		05 40 36.2	
HYB	**Hyderabad**	**24.22**	**312**	*i* P	**P**	**05 39 55.0**	**+1.1**
HYB	**Hyderabad**	**24.22**	**312**	*e*P	**P**	**05 39 55.0**	**+1.1**
BOK	**Bokaro**	**24.75**	**335**	*e*P	**P**	**05 39 59.1**	**+0.2**
BOK				AMb	AMB	05 40 01.7	
comp=Z,161nm,0.0s							
BOK				*e*S	**S**	**05 44 17.6**	**+1.6**
BLSP	**Bilaspur**	**25.23**	**326**	*e*P	**P**	**05 40 03.0**	**-0.5**
BLSP				AMb	AMB	05 40 05.7	
comp=Z,72nm,0.6s,mb5.4							
BLSP				*e*S	**S**	**05 44 24.0**	**0.0**
BLSP				*i* x	x	05 48 23.7	
GYA	**Guiyang**	**26.47**	**19**	⇑*i*P	**P**	**05 40 15.0**	**0.0**
GYA				AP	pP	05 40 24.3	-0.6
GYA				XP	sP	05 40 28.3	-0.8
GYA				AMB	AMB		
comp=Z,60nm,1.2s,mb5.0							
GYA				AMB	AMB		
comp=Z,250nm,6.0s							
GYA				LR	LR		
comp=N,6μm,16.4s,MS5.3							
GYA				LR	LR		
comp=E,2μm,14.7s,MS5.3							
GYA				LR	LR		
comp=Z,6μm,15.0s,MS5.3							
JBP	**Jabalpur**	**27.28**	**324**	*e*S	**S**	**05 45 04.5**	**+6.9**
KAD	**Karad**	**27.56**	**306**	*ex*	x	05 40 47.5	
KAD				AMb	AMB	05 40 49.2	
comp=Z,45nm,2.3s,mb4.7							
PKI	**Pulchoki**	**28.30**	**338**	*e*P	**P**	**05 40 31.6**	**-0.1**
comp=Z,136nm,1.2s,mb5.5							
GUN	**Gumba**	**28.43**	**339**	*e*P	**P**	**05 40 33.7**	**+0.8**
comp=Z,172nm,0.8s,mb5.8							
DMN	**Daman**	**28.45**	**337**	*e*P	**P**	**05 40 33.5**	**+0.5**
comp=Z,161nm,1.2s,mb5.5							
POO	**Poona**	**28.49**	**308**	*e*P	**P**	**05 40 33.0**	**-0.4**
KKN	**Kakani**	**28.55**	**338**	*e*P	**P**	**05 40 34.3**	**+0.4**
comp=Z,186nm,1.1s,mb5.7							
LSA	**Lhasa**	**28.66**	**349**	P	**P**	**05 40 35.5**	**+0.7**
LSA	**Lhasa**	**28.66**	**349**	*e*P	**P**	**05 40 35.0**	**+0.2**
comp=Z,19nm,0.6s,mb5.0							
BHPL	**Bhopal**	**28.92**	**320**	*e*P	**P**	**05 40 37.5**	**+0.3**
BHPL				AMb	AMB	05 40 39.5	
comp=Z,41nm,0.3s,mb5.7							
GKN	**Gorkha**	**28.99**	**337**	*e*P	**P**	**05 40 38.3**	**+0.5**
comp=Z,148nm,1.0s,mb5.7							
KOLN	**Koldanda**	**29.21**	**335**	*e*P	**P**	**05 40 40.2**	**+0.4**
comp=Z,324nm,1.3s,mb5.9							
CD2	**Chengdu**	**29.94**	**11**	P	**P**	**05 40 44.8**	**-1.4**
CD2				PP	PP	05 41 46.5	+2.1
CD2				PPP	PPP	05 42 00.3	+2.0
CD2				S	**S**	**05 45 44.0**	**+3.9**
CD2				AMB	AMB		
comp=Z,30nm,1.2s,mb4.9							
CD2				AMB	AMB		
comp=Z,140nm,11.8s							
CD2				LR	LR		
comp=E,2μm,14.4s							
CD2				LR	LR		
comp=Z,2μm,18.0s,MS4.7							
ENH	**Enshi**	**30.94**	**21**	*e*P	**P**	**05 40 53.8**	**-1.3**
comp=Z,96nm,0.8s,mb5.7							
QZH	**Quanzhou**	**31.18**	**40**	*e*P	**P**	**05 40 57.0**	**-0.3**
QZH				S	**S**	**05 46 07.0**	**+7.4**
QZH				LR	LR		
comp=N,6μm,15.7s,MS5.4							
QZH				LR	LR		
comp=E,3μm,16.5s,MS5.4							
QZH				LR	LR		
comp=Z,5μm,15.7s,MS5.3							
MBWA	**Marble Bar**	**31.50**	**137**	*e*P	**P**	**05 41 00.3**	**+0.2**
comp=Z,48nm,1.6s,mb5.1							
WHN	**Wuhan**	**33.19**	**28**	*e*P	**P**	**05 41 14.0**	**-0.8**
WHN				LR	LR		
comp=N,3μm,14.5s,MS5.3							
WHN				LR	LR		
comp=E,2μm,12.3s,MS5.3							
WHN				LR	LR		
comp=Z,6μm,14.1s,MS5.5							
FITZ	**Fitzroy Crossi**	**34.09**	**126**	P	**P**	**05 41 21.8**	**-0.9**
comp=Z,12nm,0.8s,mb4.9,baz=205,slow=4.7,SNR=4.0							
XAN	**Xi'an**	**34.22**	**17**	P	**P**	**05 41 22.3**	**-1.3**
XAN				S	**S**	**05 46 47.0**	**+0.1**
XAN				AMB	AMB		
comp=Z,88nm,1.1s,mb5.6							
XAN				AMB	AMB		
comp=Z,165nm,12.3s							
XAN				LR	LR		
comp=N,2μm,14.8s,MS5.1							
XAN				LR	LR		
comp=E,1μm,13.2s,MS5.1							
XAN				LR	LR		
comp=Z,4μm,14.3s,MS5.3							
LZH	**Lanzhou**	**35.00**	**9**	⇑P	**P**	**05 41 30.0**	**-0.3**
LZH				AP	pP	05 41 38.5	-1.9
LZH				XP	sP	05 41 41.5	-3.5
LZH				PCP	PcP	05 43 57.5	-4.7
LZH				S	**S**	**05 46 59.3**	**+0.3**
LZH				XS		05 47 14.5	
LZH				SS	SS	05 49 16.0	+1.1
LZH				AMB	AMB		
comp=Z,111nm,1.5s,mb5.6							
LZH				AMB	AMB		
comp=Z,300nm,4.3s							
LZH				LR	LR		
comp=E,5μm,14.7s							
LZH				LR	LR		
comp=Z,6μm,15.8s,MS5.5							
LZH	**Lanzhou**	**35.00**	**9**	⇑P	**P**	**05 41 30.1**	**-0.2**
comp=Z,111nm,1.5s,mb5.6							
LZH				pP	pP	05 41 38.5	-1.9
LZH				sP	sP	05 41 41.6	-3.4
LZH				PP	PP	05 43 08.0	+19
LZH				PcP	PcP	05 43 57.5	-4.7

GTA LR LR
comp=E,1µm,13.4s,MS5.1
GTA LR LR
comp=Z,2µm,13.4s,MS5.0
TIY Taiyuan 38.70 19 *e*P **P 05 42 00.0 -1.4**
TIY LR LR
comp=N,4µm,15.0s
TIY LR LR
comp=Z,952nm,14.0s,MS4.8
JOW Kunigami 39.07 47 P **P 05 42 05.5 +0.9**
comp=Z,67nm,0.6s,mb5.5,baz=241,slow=7.1,SNR=46
TIA Tai'an 39.20 26 *e*P **P 05 42 04.8 -0.7**
TIA LR LR
comp=N,3µm,14.5s,MS5.3
TIA LR LR
comp=E,2µm,14.5s,MS5.3
BTO Baotou 40.66 15 *e*P **P 05 42 16.8 -0.8**
HHC Hu-ho-hao-te 41.31 17 *e*P **P 05 42 23.8 +0.8**
HHC AP pP 05 42 33.3 0.0
HHC XP sP 05 42 38.0 +0.3
HHC PP PP 05 44 04.0 +2.6
HHC PCP PcP 05 44 18.5 -3.2
HHC SCP 05 48 05.5
HHC PCS 05 48 11.5
HHC S **S 05 48 39.0 +4.4**
HHC XS 05 48 54.5
HHC SCS ScS 05 52 22.5 +0.6
HHC AMB AMB
comp=Z,40nm,1.6s,mb4.8
HHC AMB AMB
comp=Z,268nm,8.4s
HHC LR LR
comp=N,3µm,14.3s,MS5.4
HHC LR LR
comp=E,2µm,16.7s,MS5.4
HHC LR LR
comp=Z,3µm,14.9s,MS5.2
WRA Warramunga Arr 42.19 122 P **P 05 42 30.1 -0.4**
comp=Z,5.1nm,0.6s,mb4.3,baz=301,slow=9.1,SNR=22
WRAB Tennant Creek 42.19 122 *e*P **P 05 42 29.8 -0.7**
comp=Z,21nm,0.8s,mb4.8
WRAB Tennant Creek 42.19 122 *i* P **P 05 42 30.7 +0.2**
KSH Kashi 42.52 336⇑ *i*P **P 05 42 33.5 +0.5**
KSH *e*AP pP 05 42 42.0 -1.3
KSH *e*XP sP 05 42 46.0 -1.7
KSH PP PP 05 44 14.0 -0.3
KSH *e*PCP PcP 05 44 25.0 -0.8
KSH PPP PPP 05 44 48.3 +0.4
KSH *e*SCP 05 48 12.3
KSH *e*PCS 05 48 16.3
KSH S **S 05 48 53.0 +0.4**
KSH XS 05 49 09.0
KSH SS SS 05 51 57.3 +0.5
KSH *e*SCS ScS 05 52 29.0 -0.3
KSH LR LR
comp=N,440nm,14.1s,MS4.7
KSH LR LR
comp=E,530nm,14.5s,MS4.7
WMQ Urumqi 43.01 350⇑ *i*P **P 05 42 37.0 +0.1**
WMQ AP pP 05 42 47.0 -0.3
WMQ XP sP 05 42 51.0 -0.6
WMQ PP PP 05 44 19.0 -0.1
WMQ SCP 05 48 15.0
WMQ S **S 05 49 00.0 +0.4**
WMQ SS SS 05 52 05.0 -0.8
WMQ AMB AMB
comp=Z,49nm,1.0s,mb5.2
WMQ AMB AMB
comp=Z,315nm,4.0s
WMQ LR LR
comp=N,492nm,14.0s,MS4.8
WMQ LR LR
comp=E,868nm,15.0s,MS4.8
WMQ LR LR
comp=Z,467nm,14.0s,MS4.5
DL2 Dalian 43.45 28 P **P 05 42 41.5 +0.9**
DL2 S **S 05 49 14.8 +8.7**
DL2 AMB AMB
comp=Z,190nm,2.2s,mb5.4
DL2 LR LR
comp=N,520nm,17.7s,MS4.7
DL2 LR LR
comp=E,580nm,15.6s,MS4.7
DL2 LR LR
comp=Z,550nm,15.7s,MS4.6
JNU Nakatsue 44.62 42 P **P 05 42 50.5 +0.5**
comp=Z,35nm,0.9s,mb5.2
ULHL Ulahol 44.74 338 P **P 05 42 52.2 +1.3**
SNR=5.9
UCH Uchtor 45.40 336 P **P 05 42 57.6 +1.4**
SNR=13
TKM2 Tokmak 2 45.57 338 P **P 05 42 58.5 +1.0**
SNR=14
KBK Karagaybulak 45.59 337 P **P 05 42 59.2 +1.5**
SNR=12
KS15 Wonju Array Si 45.61 35 *e*P **P 05 42 57.8 -0.1**
AAK Ala-Archa 45.75 337 *e*P **P 05 42 58.9 -0.1**
comp=Z,142nm,1.8s,mb5.6
AAK Ala-Archa 45.75 337*c i*P **P 05 42 59.1 +0.1**
AAK pmax pmax
comp=Z,37nm,2.1s,mb5.0
AAK MLR MLR
comp=Z,500nm,21.0s,MS4.4
FRU Bishkek 45.87 337 *e*P **P 05 43 00.0 +0.1**
FRU *e* pP 05 43 09.0 -1.3
FRU pmax pmax
comp=Z,60nm,2.0s,mb5.2
EKS2 Erkin-Say 46.06 336 P **P 05 43 02.8 +1.3**
SNR=6.2
USP Ospenovka 46.28 337 P **P 05 43 03.9 +0.7**
SNR=22
SNY Shenyang 46.67 27 ⇑P **P 05 43 05.8 -0.4**
SNY PP PP 05 44 54.5 -1.3
SNY S **S 05 49 57.3 +4.9**
SNY AMB AMB
comp=Z,20nm,1.4s,mb4.8
SNY LR LR
comp=N,1µm,17.0s,MS5.2
SNY LR LR
comp=E,2µm,15.0s,MS5.2
SNY LR LR
comp=Z,2µm,15.8s,MS5.2
SONM Songino Array 46.87 8 P **P 05 43 08.3 +0.6**
comp=Z,32nm,0.9s,mb5.3,baz=191,slow=8.8,SNR=171
MKAR Makanchi Array 46.98 346 P **P 05 43 08.8 +0.3**
comp=Z,28nm,0.8s,mb5.3,baz=162,slow=7.7,SNR=166
MKAR LR LR 06 06 41.5
comp=Z,518nm,21.7s,MS4.5,baz=0.2,slow=41
MKAR Makanchi Array 46.98 346 P **P 05 43 08.8 +0.3**
MKAR LR LR 06 06 41.5
MKAR Makanchi Array 46.98 346 *i* P **P 05 43 08.9 +0.3**
MKAR pmax pmax
comp=Z,57nm,0.9s
ULN Ulaanbaatar 47.00 9 *e*P **P 05 43 07.0 -1.7**
comp=Z,23nm,0.9s,mb5.1
ULN Ulaanbaatar 47.00 9⇑*i*P **P 05 43 09.3 +0.6**
KKAR Karatay Array 47.81 334 *i* P **P 05 43 15.1 -0.1**
ZAK Zakamensk 49.01 5 *e*P **P 05 43 23.9 -0.4**
ZAK pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
ZAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
CN2 Changchun 49.07 27 *e*P **P 05 43 24.3 -0.6**
CN2 *e*S **S 05 50 27.0 +0.8**
CN2 AMB AMB
comp=Z,30nm,1.0s,mb5.3
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,1µm,16.0s,MS5.2
CN2 LR LR
comp=E,1µm,16.0s,MS5.2
CN2 LR LR
comp=Z,2µm,16.0s,MS5.1
MOY Mondy 50.12 3 *e*P **P 05 43 33.4 +0.5**
MOY pmax pmax
comp=Z,41nm,3.1s
PMG Port Moresby 50.93 103 *i* P **P 05 43 39.1 -0.4**
IRK Irkutsk 50.95 6 *e*P **P 05 43 38.9 -0.2**
IRK *e* 05 45 37.3
IRK pmax pmax
comp=Z,60nm,2.3s,mb5.1
MAT Matsushiro 51.50 42 P **P 05 43 41.7 -1.8**
MAT S **S 05 51 02.0 +2.1**
MAT Matsushiro 51.50 42 *e*P **P 05 43 42.0 -1.5**
MAT *e*S **S 05 51 10.0 +10**
KURK Kurchatov 51.53 345 *e*P **P 05 43 43.2 -0.3**
comp=Z,139nm,1.8s,mb5.6
KURK Kurchatov 51.53 345 *e*P **P 05 43 43.2 -0.4**
KURK pmax pmax
comp=Z,139nm,1.8s,mb5.6
MDJ Mudanjiang 51.64 29 P **P 05 43 45.0 +0.5**
MDJ XP sP 05 43 58.3 -0.9
MDJ PCP PcP 05 44 57.5 -0.5
MDJ PP PP 05 45 42.5 -0.2
MDJ SCP 05 48 52.3
MDJ PCS 05 48 55.0
MDJ S **S 05 51 03.3 +1.6**
MDJ AMB AMB
comp=Z,26nm,0.8s,mb5.2
MDJ AMB AMB
comp=Z,165nm,4.8s
MDJ LR LR
comp=N,570nm,15.5s,MS4.9
MDJ LR LR
comp=E,865nm,18.4s,MS4.9
MDJ LR LR
comp=Z,2µm,17.9s,MS5.1
MDJ Mudanjiang 51.64 29 *e*P **P 05 43 42.5 -1.9**
comp=Z,16nm,0.7s,mb5.1
CIT Chita 52.22 13 *e*P **P 05 43 49.4 +0.8**
CIT pmax pmax
comp=Z,110nm,1.5s,mb5.6
CTA Charters Tower 52.63 117 P **P 05 43 54.4 +2.1**
comp=Z,5.9nm,0.8s,mb4.5,baz=296,slow=17,SNR=3.2
CTA LR LR 06 10 33.3
comp=Z,844nm,18.0s,MS4.8,baz=280,slow=41
CTAO Charters Tower 52.63 117 P **P 05 43 50.9 -1.3**
OPO Ambohidratompo 53.02 245 P **P 05 43 55.5 +0.4**
comp=Z,6.6nm,1.1s,mb4.5,baz=88,slow=17,SNR=2.8
ZAL Zalesovo 53.29 351 P **P 05 43 56.6 0.0**
comp=Z,12nm,0.5s,mb5.1,baz=308,slow=5.6,SNR=61
ZAL LR LR 06 12 45.1
comp=Z,555nm,18.1s,MS4.7,baz=298,slow=43
STKA Stephens Creek 53.54 132⇑*i*P **P 05 43 59.2 +0.3**
comp=Z,6.9nm,0.8s,mb4.6
STKA Stephens Creek 53.54 132 P **P 05 43 59.3 +0.4**
comp=Z,7.4nm,0.7s,mb4.7,baz=306,slow=7.7,SNR=14
STKA LR LR 06 08 47.8
comp=Z,775nm,21.9s,MS4.7,baz=250,slow=38
NVS Novosibirsk 54.41 350 *e*P **P 05 44 02.2 -2.7**
NVS *e*S **S 05 51 40.4 +1.2**
NVS pmax pmax
comp=N,38nm,1.6s
NVS pmax pmax
comp=Z,53nm,1.6s,mb5.2
NVS pmax pmax
comp=E,31nm,1.5s
NVS smax
comp=N,41nm,2.3s
NVS smax
comp=E,73nm,2.3s
VOSK Vostochnaya 55.55 341 *i* P **P 05 44 12.1 -1.1**
BVA0 Borovoye Array 55.99 341 *i* P **P 05 44 15.3 -1.1**
BVA0 pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
BRVK Borovoye 56.06 341 *e*P **P 05 44 15.6 -1.2**
comp=Z,9.1nm,0.8s,mb4.9
BRVK Borovoye 56.06 341 *e*P **P 05 44 15.6 -1.2**
BRVK pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
AB31 Akbulak array 57.27 332 *i* P **P 05 44 24.5 -1.1**
BOD Bodaibo 57.75 11 *e*P **P 05 44 27.1 -1.7**
BOD pmax pmax
comp=Z,24nm,1.4s,mb5.0
CLNS Chul'man 59.49 17*c i*P **P 05 44 41.1 +0.2**
CLNS *e**PP pP 05 44 53.4 +1.8
CLNS *e*PS PS 05 53 02.9 -2.9
CLNS *e* 05 54 31.5
CLNS pmax pmax
comp=Z,24nm,0.8s,mb5.3
CLNS pmax pmax
comp=N,14nm,0.9s
CLNS pmax pmax
comp=E,6.0nm,0.7s
CLNS pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
CLNS pmax pmax
comp=N,5.0nm,0.8s
CLNS MLR MLR
comp=Z,3µm,16.0s,MS5.5
CLNS MLR MLR
comp=N,800nm,15.0s,MS5.3
CLNS MLR MLR
comp=E,2µm,15.0s,MS5.3
KMBO Kilima Mbogo 59.98 268 P **P 05 44 49.7 +4.8**
comp=E,3.4nm,1.1s,mb4.3,baz=46,slow=22,SNR=4.6
KMBO LR LR 06 05 56.4
comp=E,419nm,19.1s,MS4.6,baz=94,slow=31
KMBO Kilima Mbogo 59.98 268 P **P 05 44 49.7 +4.8**
KMBO LR LR 06 05 56.4
YSS Yuzh-Sakhalins 60.14 34⇑*e*P **P 05 44 45.0 -0.5**
YSS *e* pP 05 44 57.0 +0.9
YSS pmax pmax
comp=Z,60nm,1.0s,mb5.6
YSS MLR MLR
comp=E,800nm,16.0s
YSS MLR MLR
comp=Z,700nm,16.0s,MS4.9
GNI Garni 61.09 316⇓*e*P **P 05 44 52.0 -0.1**
TI2 Plekhanov 61.77 318 *i* P **P 05 44 53.2 -3.4**
TI2 pmax pmax
comp=Z,20nm,0.6s,mb5.4
TBLG Delisi 61.78 318 P **P 05 44 56.0 -0.7**
SVE Sverdlovsk 62.44 338 *e*P **P 05 45 00.0 -0.9**
SVE *e* 05 45 06.0
SVE *e* 05 45 16.5
SVE *e* 05 47 14.0
SVE *e*S **S 05 53 20.0 -3.7**
SVE *e*PS PS 05 53 40.0 -5.8
SVE *e* 05 54 48.0
SVE MLR MLR
comp=N,300nm,15.0s,MS4.6
SVE MLR MLR
comp=E,100nm,15.0s,MS4.6
SVE MLR MLR
comp=Z,300nm,15.0s,MS4.6
ZEI Tsey 62.79 318 *e*P **P 05 45 01.2 -2.2**
ZEI *i **PP pP 05 45 11.0 -3.1
ZEI *i* 05 45 38.3
ZEI pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
ARU Arti 62.93 337⇑*i*P **P 05 45 02.7 -1.5**
ARU *e* 05 45 36.8
ARU *e* 05 47 20.4
ARU *e*PPP PPP 05 48 50.1 -5.1
ARU *e*S **S 05 53 31.8 +1.9**
ARU *e*SS SS 05 57 38.2 +0.6
ARU pmax pmax
comp=Z,22nm,1.3s,mb5.1
ARU MLR MLR
comp=Z,400nm,18.0s,MS4.6
ARU MLR MLR
comp=N,100nm,21.0s,MS4.5
ARU MLR MLR
comp=E,300nm,18.0s,MS4.5
KIV Kislovodsk 64.10 319 *e*P **P 05 45 10.8 -1.2**
comp=E,18nm,1.0s,mb5.1
KIV Kislovodsk 64.10 319⇑*e*P **P 05 45 11.2 -0.8**
KIV pmax pmax
comp=Z,32nm,1.5s,mb5.1
KIV MLR MLR
comp=Z,100nm,19.0s,MS4.0
MALT Malatya 64.94 312 *e*P **P 05 45 14.5 -3.1**
comp=Z,7.7nm,1.0s,mb4.7
MALT Malatya 64.94 312 *e*P **P 05 45 14.5 -3.1**
MALT pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
YAK Yakutsk 65.17 16 *e*P **P 05 45 17.6 -1.1**
comp=Z,92nm,0.9s,mb5.8
YAK Yakutsk 65.17 16 *e*P **P 05 45 17.2 -1.4**
YAK *e**PP pP 05 45 27.4 -2.1
YAK *e* 05 45 49.5
YAK *e* 05 47 40.7
YAK *e*PPP PPP 05 49 13.5 -4.9
YAK *e*S S 05 53 58.3 +0.8
YAK *e* 05 55 09.6
YAK *e*SS SS 05 58 12.2 +0.1
YAK pmax pmax
comp=Z,42nm,0.8s,mb5.5
YAK pmax pmax
comp=N,16nm,1.1s
YAK pmax pmax
comp=E,12nm,1.1s
YAK pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
YAK pmax pmax
comp=N,2.0nm,1.0s
YAK smax
comp=N,3.0nm,1.3s
YAK smax
comp=E,2.0nm,1.6s
YAK MLR MLR
comp=N,556nm,14.0s,MS5.0
YAK MLR MLR
comp=E,445nm,14.0s,MS5.0
YAK MLR MLR
comp=Z,794nm,14.0s,MS5.1
SOKR Solikamsk 65.83 339*d i*P **P 05 45 22.7 -0.2**
SOKR pmax pmax
comp=Z,30nm,1.0s,mb5.3
SOKR MLR MLR
comp=Z,430nm,18.0s,MS4.7
SOC Sochi 65.91 318*c i*P **P 05 45 21.0 -2.7**
SOC *e* 05 45 52.9
SOC *e* 05 47 50.3
SOC *e*PPP PPP 05 49 23.1 -3.1
SOC *i* S S 05 54 06.7 -0.2
SOC *e*SS SS 05 58 21.7 -1.9
SOC pmax pmax
comp=Z,24nm,0.8s,mb5.3
SOC pmax pmax
comp=N,22nm,1.2s
SOC pmax pmax
comp=E,20nm,1.0s
SOC MLR MLR
comp=N,99nm,16.0s,MS4.2
SOC MLR MLR
comp=E,66nm,16.0s,MS4.2
SOC MLR MLR
comp=Z,132nm,16.0s,MS4.2
MBAR Mbarara 66.47 269 *i* P **P 05 45 27.9 +0.1**
ANN Anapa 67.89 318 *e*P **P 05 45 37.4 +1.2**
ANN *e*S S 05 54 36.5 +5.7
ANN pmax pmax
comp=Z,64nm,1.3s,mb5.5
CSS Prodhromos 67.90 307 *e*P **P 05 45 36.8 +0.4**
comp=Z,19nm,1.0s,mb5.1
VRHR Novokhopersk 67.90 326 *e*P **P 05 45 34.4 -1.7**
VRHR pmax pmax
comp=Z,20nm,0.7s,mb5.3
VRHR pmax pmax
comp=N,7.0nm,0.8s
VRHR pmax pmax
comp=E,7.0nm,0.5s
BR131 Keskin Array S 68.92 312 *e*P **P 05 45 40.9 -1.7**
comp=E,0.9nm,0.4s,mb4.0
BRTR Keskin Array B 68.92 312 P **P 05 45 41.3 -1.4**
comp=E,2.5nm,0.8s,mb4.2,baz=127,slow=6.2,SNR=9.3
SIM Simferopol' 70.16 318 *e*P **P 05 45 49.8 -0.3**
SIM S S 05 54 57.2 -0.4
SIM pmax pmax
comp=Z,12nm,1.0s,mb4.8
SIM MLR MLR
comp=Z,200nm,22.0s,MS4.3
MA2 Magadan 71.10 26 *i* P **P 05 45 55.8 +0.2**
PET Petropavlovsk 72.02 34 *i* P **P 05 46 01.6 +0.5**
PET Petropavlovsk 72.02 34 *e*P **P 05 46 01.1 0.0**
PET *e*S S 05 55 23.4 +4.4
PET *e*PS PS 05 56 00.6 +6.4
PET pmax pmax
comp=Z,37nm,0.7s,mb5.4
PET pmax pmax
comp=Z,100nm,18.0s
MOS Moscow 72.10 329 *e*P **P 05 46 00.2 -1.3**
OBN Obninsk 72.39 328⇑*e*P **P 05 46 02.4 -0.9**
OBN LR LR
comp=Z,200nm,20.0s,MS4.4
OBN Obninsk 72.39 328⇑*e*P **P 05 46 02.4 -0.9**
OBN *e**PP pP 05 46 18.8 +4.7
OBN *i* S S 05 55 21.1 -2.1
OBN pmax pmax
comp=Z,32nm,1.4s,mb5.1
OBN MLR MLR
comp=Z,200nm,20.0s,MS4.4
TIXI Tiksi 72.93 10 *e*P **P 05 46 02.0 -4.2**
TIXI *e*S S 05 55 24.0 -5.0
TIXI *e*SS SS 06 00 04.7 -7.5
TIXI pmax pmax
comp=Z,19nm,1.0s,mb5.0
TIXI MLR MLR
comp=Z,1µm,15.0s,MS5.3
TIXI MLR MLR
comp=Z,97nm,14.0s
MAW Mawson 72.97 193 P **P 05 46 06.2 -0.3**
comp=Z,1.1nm,0.6s,mb4.0,slow=9.9,SNR=3.2
MAW LR LR 06 11 47.4
comp=Z,291nm,21.9s,MS4.5,baz=55,slow=31
SEY Seymchan 73.52 23⇑*e*P **P 05 46 09.9 0.0**
AKASG Malin Array Be 75.04 322 P **P 05 46 17.7 -1.2**
comp=Z,4.4nm,0.7s,mb4.5,baz=89,slow=4.6,SNR=26
AKASG Malin Array Be 75.04 322 P **P 05 46 17.7 -1.2**
VRI Vrincioaia 75.41 317⇓P **P 05 46 21.7 +0.6**
VRI Vrincioaia 75.41 317⇓P **P 05 46 21.7 +0.6**
MLR Muntele Rosu 75.87 317⇑P **P 05 46 23.8 +0.1**
MLR Muntele Rosu 75.87 317⇑P **P 05 46 23.8 +0.1**
PUL Pulkovo 77.25 332 *i* P **P 05 46 31.9 +0.6**
JOF Joensuu 77.90 335 *e*p **P 05 46 34.2 -0.6**
comp=Z,7.3nm,0.8s,mb4.7
DRGR 78.33 317⇓P **P 05 46 37.0 -0.4**
KWP Kalwaria 78.86 320 *e*P **P 05 46 40.8 +0.5**
KWP Kalwaria 78.86 320 *e*P **P 05 46 40.8 +0.5**
APA Apatity 78.87 339⇑*i*P **P 05 46 40.0 0.0**
SUW Suwalki 79.45 325 *e*P **P 05 46 43.1 -0.3**
SUW Suwalki 79.45 325 *e*P **P 05 46 43.1 -0.3**
CRVS Cervenica-Dubn 79.53 319 *e* **P 05 46 51.9 +7.9**
STHS Stebnicka Huta 79.76 320 *e*P **P 05 46 45.9 +0.7**
STHS *e*sP sP 05 46 59.7 -0.3
FINES FINESS Array B 79.76 332 P **P 05 46 44.8 -0.1**
comp=Z,4.0nm,0.7s,mb4.5,baz=94,slow=6.3,SNR=18
FINES LR LR 06 25 19.6
comp=Z,146nm,20.6s,MS4.3,baz=113,slow=38
KAF Kangasniemi 79.84 333 *e*p **P 05 46 44.8 -0.6**
comp=Z,9.8nm,0.7s,mb4.8
KAF Kangasniemi 79.84 333 *e*P **P 05 46 44.8 -0.6**
KAF pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
KECS Kecovo 80.10 319 *e*P **P 05 46 46.4 -0.6**
KECS *e*sP sP 05 46 59.9 -1.9
PSZ Piszkesteto 80.40 318 *e*P **P 05 46 48.4 -0.3**
comp=Z,25nm,1.3s,mb5.0
PSZ Piszkesteto 80.40 318 *e*P **P 05 46 48.4 -0.3**
PSZ pmax pmax
comp=Z,25nm,1.3s,mb5.0
OJC Ojcow 80.81 321 *e*P **P 05 46 50.8 0.0**
VYHS Vyhne 81.18 319 *e*P **P 05 46 52.7 -0.1**
VYHS *e*sP sP 05 47 05.6 -2.0
SMOL Smolenice 82.11 319 *e*sP sP 05 47 10.8 -1.6
MORC Moravsky Berou 82.19 320 *e*P **P 05 46 58.0 0.0**
comp=Z,7.8nm,1.0s,mb4.6
MORC Moravsky Berou 82.19 320 *e*P **P 05 46 58.0 0.0**
MORC pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
ARCES ARCESS Array B 82.28 340 P **P 05 46 58.4 +0.4**
comp=Z,4.3nm,0.6s,mb4.5,baz=104,slow=4.7,SNR=37
ARCES LR LR 06 27 38.7
comp=Z,390nm,20.4s,MS4.8,baz=271,slow=39
ARCES ARCESS Array B 82.28 340 P **P 05 46 58.4 +0.4**
ARCES LR LR 06 27 38.7
ZST Bratislava 82.30 318 *e*P **P 05 46 58.8 +0.3**
ZST *e*sP sP 05 47 11.1 -2.2
DPC Dobruska-Polom 83.04 320 *e*P **P 05 47 03.0 +0.7**
DPC *e*pP pP 05 47 16.0 +2.7
KSP Ksiaz 83.11 321 *e*P **P 05 47 02.8 +0.2**
UPC Upice 83.25 321 *e*P **P 05 47 03.9 +0.6**
UPC *e*pP pP 05 47 17.2 +2.8
BOJS Bojanci 83.30 315 *i* P **P 05 47 04.0 +0.3**
PERS Pernice 83.48 317 *i* P **P 05 47 05.0 +0.3**
PRU Pruhonice 84.14 320 *e*P **P 05 47 08.8 +0.9**
PRU *e*pP pP 05 47 21.1 +2.2
PVCC Panska Ves 84.17 320 *e*P **P 05 47 09.0 +1.0**
PVCC *e*pP pP 05 47 21.6 +2.5
ROBS Robic 84.57 316 *e*P **P 05 47 08.2 -1.9**
BRG Berggiesshubel 84.60 321 *e*P **P 05 47 11.0 +0.8**
comp=Z,4.7nm,0.8s,mb4.7

BRG	Berggiesshubel	84.60	321	eP	P	05 47 11.0	+0.9
BRG				pmax	pmax		
comp=Z,5.0nm,0.8s,mb4.7							
GEC2	GERESS Array S	84.61	319	eP	P	05 47 10.7	+0.5
comp=Z,15nm,1.3s,mb5.0							
GEC2	GERESS Array S	84.61	319	eP	P	05 47 10.7	+0.5
GEC2				pmax	pmax		
comp=Z,15nm,1.3s,mb5.0							
GERES	GERESS Array B	84.61	319	P	P	05 47 10.7	+0.4
comp=Z,4.6nm,1.0s,mb4.6,baz=104,slow=5.5,SNR=26							
KHC	Kasperske Hory	84.71	319	eP	P	05 47 10.8	+0.1
KHC				epP	pP	05 47 19.1	-2.7
WET	Wettzell	85.17	319	eP	P	05 47 13.2	+0.2
comp=Z,10.0nm,1.2s,mb4.8							
WET	Wettzell	85.17	319	eP	P	05 47 13.2	+0.2
WET				pmax	pmax		
comp=Z,10.0nm,1.2s,mb4.8							
CLL	Collm	85.22	321	P	P	05 47 13.1	-0.1
comp=Z,logA/T=0.8,mb4.7							
CLL				i *SP	sP	05 47 26.8	-1.2
CLL				e		05 47 35.0	
CLL	Collm	85.22	321	i P	P	05 47 13.1	-0.1
comp=Z,8.0nm,1.3s,mb4.7							
CLL				i	pP	05 47 26.8	+2.5
CLL				e		05 47 35.0	
CLL	Collm	85.22	321	i P	P	05 47 13.1	-0.1
CLL				i	pP	05 47 26.8	+2.5
CLL				pmax	pmax		
comp=Z,8.0nm,1.3s,mb4.7							
NKC	Novy Kostel	85.51	320	eP	P	05 47 15.5	+0.8
MOX	Moxa	86.06	320	i P	P	05 47 17.6	+0.3
MOX	Moxa	86.06	320	eP	P	05 47 17.6	+0.3
VNDA	Vanda	86.09	169	LR	LR	06 20 32.9	
comp=Z,271nm,18.3s,MS4.7,baz=314,slow=32							
GRA1	Grafenberg Arr	86.27	320	eP	P	05 47 19.2	+0.8
comp=Z,22nm,1.4s,mb5.2							
GRF	Grafenberg Arr	86.27	320	eP	P	05 47 19.2	+0.8
GRF				pmax	pmax		
comp=Z,22nm,1.4s,mb5.2							
NB2	NORSAR Subarra	86.77	331	P	P	05 47 20.4	-0.2
comp=Z,7.2nm,0.9s,mb4.9,baz=96,slow=4.6							
NB2	NORSAR Subarra	86.77	331	P	P	05 47 20.4	-0.2
baz=96,slow=4.6							
NB2	NORSAR Subarra	86.77	331	P	P	05 47 20.4	-0.2
NB2				pmax	pmax		
comp=Z,7.0nm,0.9s,mb4.9							
NOA	NORSAR Array B	86.77	331	P	P	05 47 21.0	+0.4
comp=Z,3.3nm,0.7s,mb4.7,baz=95,slow=4.9,SNR=9.9							
NOA				LR	LR	06 32 05.2	
comp=Z,174nm,21.4s,MS4.4,baz=45,slow=40							
BSEG	Bad Segeberg	86.97	324	eP	P	05 47 22.7	+0.9
PGF	Pioggiola	87.68	312	eP	P	05 47 26.0	+0.6
comp=Z,42nm,1.1s,mb5.3							
TNS	Taunus Mts	88.07	320	eP	P	05 47 28.0	+0.9
comp=Z,20nm,1.7s,mb5.1							
TNS	Taunus Mts	88.07	320	eP	P	05 47 28.0	+0.9
TNS				pmax	pmax		
comp=Z,20nm,1.7s,mb5.1							
CDF	Champ du Feu	88.85	318	eP	P	05 47 31.4	+0.5
LPG	La Plagne	89.27	315	eP	P	05 47 33.7	+0.7
comp=Z,17nm,1.2s,mb5.0							
MBDF	Montbardon	89.27	315	eP	P	05 47 31.8	-1.2
comp=Z,12nm,1.1s,mb4.8							
LPL	La Plagne	89.28	315	eP	P	05 47 33.8	+0.8
comp=Z,38nm,1.2s,mb5.3							
FRF	La Foret Royal	89.39	313	eP	P	05 47 33.9	+0.3
HAU	Haudompre	89.48	318	eP	P	05 47 34.1	+0.2
HAU				eR			
comp=Z,219nm,20.2s							
CABF	La Chapelle	89.70	316	eP	P	05 47 34.7	-0.3
comp=Z,25nm,1.3s,mb5.1							
ORIF	Oris-en-Rattie	89.90	315	eP	P	05 47 35.4	-0.6
ORIF				eR			
comp=Z,180nm,20.0s							
GIVF	Givet	90.41	320	eP	P	05 47 39.0	+0.8
BAIF	Baives	90.81	320	eP	P	05 47 40.9	+0.8
comp=Z,27nm,1.0s,mb5.2							
LOR	Lormes	91.20	317	eP	P	05 47 42.5	+0.5
comp=Z,41nm,1.2s,mb5.3							
LOR				eR			
comp=Z,187nm,19.5s							
SMF	Signal de Mont	91.25	317	eP	P	05 47 42.6	+0.4
comp=Z,32nm,1.2s,mb5.2							
AVF	Avril sur Loir	91.57	317	eP	P	05 47 44.2	+0.5
comp=Z,22nm,1.2s,mb5.1							
BGF	Bois d'Agland	91.94	316	eP	P	05 47 46.3	+0.9
comp=Z,53nm,1.4s,mb5.4							
MTLF	Montolieu	92.62	313	eP	P	05 47 49.5	+0.9
comp=Z,22nm,1.3s,mb5.1							
PDAR	Pinedale Array	129.81	26	PKP	PKPdf	05 53 47.1	+1.8
comp=Z,0.5nm,0.7s,baz=266,slow=2.2,SNR=5.5							
PDAR				PP	PP	05 55 56.6	-4.3
comp=Z,1.5nm,1.2s,baz=342,slow=4.7,SNR=5.6							
TXAR	Lajitas Array	143.45	31	PKhKP		05 54 09.9	
comp=Z,1.1nm,0.8s,baz=304,slow=4.5,SNR=11							
NATX	Nacogdoches	145.10	18	ePKP	PKPdf	05 54 14.3	+0.9
CPUP	Villa Florida	145.19	223	PKPbc	PKPbc	05 54 15.7	+1.5
comp=Z,4.3nm,0.9s,baz=98,slow=5.4,SNR=10							
CPUP	Villa Florida	145.19	223	ePKP	PKPdf	05 54 15.7	+1.9
LRAL	Lakeview Retre	145.46	6	ePKP	PKPdf	05 54 14.6	+0.6
NHSC	New Hope	145.52	356	ePKP	PKPdf	05 54 15.8	+1.7
LPAZ	La Paz	159.36	224	PKP	PKPdf	05 54 38.8	+4.3
comp=Z,0.5nm,0.7s,baz=13,slow=23,SNR=3.0							

IDC ***28*** *05:35:19.9±4.6, 5.70S×147.32E, h48km±39km, mb4.0/4, mb1 4.2/6, mb1mx3.9/12, mbtmp4.2/6, ML3.7/2, MS3.1/1, Ms1 3.1/1, ms1mx2.4/20, Error ellipse: s-maj=38.0km s-min=31.6km az=113.0*

NEIC ***28*** *05:35:20.7±2.9, 5.69S×147.33E, h57km±23km, mb4.6/2, Error ellipse: s-maj=30.1km s-min=19.7km az=146.0*

ISC 28 05:35:20.6±3.8, 5.8S±0.2×147.3E±0.2, h68km±32km, n11, σ0°34/11, mb3.9/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.60	182	P	P	05 36 15.6	+0.3
8.8nm,0.3s,baz=4.1,slow=14,SNR=19							
PMG				S	S	05 36 56.7	-0.1
9.8nm,0.3s,baz=239,slow=22,SNR=3.6							
PMG	Port Moresby	3.60	182	eP	P	05 36 15.4	+0.1
PMG				S	S	05 36 56.7	-0.1
CTA	Charters Tower	14.25	184	LR	LR	05 43 20.4	
comp=Z,88nm,21.7s,baz=47,slow=34							
WRAB	Tennant Creek	18.87	221	eP	P	05 39 37.8	-0.2
12nm,0.6s							
WRA	Warramunga Arr	18.88	221	P	P	05 39 38.1	-0.1
0.8nm,0.3s,baz=38,slow=12,SNR=31							
FITZ	Fitzroy Crossi	24.42	238	P	P	05 40 34.6	+0.3
31nm,0.6s,mb4.8,baz=36,slow=7.2,SNR=46							
STKA	Stephens Creek	26.50	191	P	P	05 40 53.1	-0.5
0.8nm,0.4s,mb3.5,slow=11,SNR=3.0							
STKA	Stephens Creek	26.50	191	eP	P	05 40 53.2	-0.4
VNDA	Vanda	72.11	177	P	P	05 46 39.8	+0.6
1.0nm,0.6s,mb3.8,baz=338,slow=8.6,SNR=13							
ILAR	Eielson Array	85.17	23	P	P	05 47 50.0	-0.3
0.6nm,0.7s,mb3.6,baz=251,slow=4.7,SNR=8.2							
BDFB	Brasilia	153.87	145	PKPbc	PKPdf	05 55 14.8	+10
2.8nm,0.9s,baz=205,slow=3.7,SNR=4.7							

NEIC ***28*** *06:02:02.7±0.3, 32.50S×178.72W, mb5.0/11, MS4.9/1, Error ellipse: s-maj=12.1km s-min=9.2km az=117.0*

BJI ***28*** *06:02:02.7, 32.50S×178.70W, h15km, mB5.5, mb4.9, Ms5.0, Msz4.7*

IDC ***28*** *06:02:04.7±4.0, 32.57S×178.66W, h29km±26km, mb4.3/10, mb1 4.4/11, mb1mx4.4/13, mbtmp4.4/11, MS4.0/6, Ms1 4.0/6, ms1mx3.7/25, Error ellipse: s-maj=20.0km s-min=18.5km az=90.0*

ISC 28 06:02:00.7±0.3, 32.73S±0.04×178.83W±0.09, h10km, n113, σ1°30/94, mb4.7/20, MS4.2/6, 1C-5D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	3.55	13	Pn	Pn	06 02 54.6	-2.5
155nm,0.3s,baz=78,slow=21,SNR=10							
RAO				Sn	Sn	06 03 31.7	-8.0
310nm,0.3s,baz=100,slow=23,SNR=8.1							
RAO	Raoul Island	3.55	13	eP	Pn	06 02 52.9	-4.3
RAO				S	Sn	06 03 29.4	-10
MXZ	Matakaoa Point	5.36	205	ePN	Pn	06 03 24.0	+1.2
MXZ				SN	Sn	06 04 26.3	+0.9
MXZ	Matakaoa Point	5.36	205	eP	Pn	06 03 24.0	+1.2
MXZ				S	Sn	06 04 26.7	+1.3
PUZ	Puketiti	5.84	203	ePN	Pn	06 03 29.1	-0.4
PUZ				SN	Sn	06 04 37.7	+0.4
PUZ	Puketiti	5.84	203	eP	Pn	06 03 30.3	+0.8
PUZ				S	Sn	06 04 37.7	+0.4
KUZ	Kuaotunu	6.01	227	ePN	Pn	06 03 37.2	+5.1
KUZ	Kuaotunu	6.01	227	eP	Pn	06 03 37.6	+5.6
MWZ	Matawai	6.33	207	ePN	Pn	06 03 36.9	+0.4
MWZ				SN	Sn	06 04 50.4	+0.8
MWZ	Matawai	6.33	207	eP	Pn	06 03 37.2	+0.7
MWZ				S	Sn	06 04 49.4	-0.3
URZ	Urewera	6.43	210	Pn	Pn	06 03 38.4	+0.4
13nm,0.3s,baz=310,slow=4.1,SNR=40							
URZ				Sn	Sn	06 04 54.7	+2.5
19nm,0.3s,baz=150,slow=23,SNR=8.5							
URZ				LR	LR	06 06 03.6	
comp=Z,385nm,21.6s,baz=51,slow=36							
URZ	Urewera	6.43	210	ePN	Pn	06 03 37.8	-0.2
URZ				SN	Sn	06 04 54.0	+1.7
URZ	Urewera	6.43	210	eP	Pn	06 03 38.5	+0.6
WCZ	Waipu Caves	6.49	239	ePN	Pn	06 03 44.5	+5.8
WCZ	Waipu Caves	6.49	239	eP	Pn	06 03 44.5	+5.8
OUZ	Omahuta	6.76	246	PN	Pn	06 03 48.3	+5.7
OUZ	Omahuta	6.76	246	P	Pn	06 03 48.3	+5.7
KNZ	Kokohu	6.89	203	PN	Pn	06 03 43.7	-0.7
KNZ				SN	Sn	06 05 03.0	-0.6
BKZ	Black Stump Fm	7.46	209	ePN	Pn	06 03 51.7	-0.7
BKZ				SN	Sn	06 05 17.1	-0.8
BKZ	Black Stump Fm	7.46	209	eP	Pn	06 03 52.3	0.0
CNZ	Chateau	7.90	214	PN	Pn	06 04 00.8	+2.3
CNZ	Chateau	7.90	214	P	Pn	06 04 01.3	+2.8
TUVZ	Tukino	7.91	213	PN	Pn	06 03 58.8	+0.2
MOVZ	Moawhango	7.98	212	PN	Pn	06 04 00.5	+1.0
WNVZ	Wahianoa	7.98	213	PN	Pn	06 04 00.6	+1.0
TSZ	Takapari Road	8.43	208	PN	P	06 04 04.5	-1.4
BFZ	Birch Farm	8.87	205	PN	P	06 04 09.8	-2.1
BFZ	Birch Farm	8.87	205	P	P	06 04 09.8	-2.1
MRZ	Mangatainoka R	9.10	208	ePN	P	06 04 12.3	-2.9
MRZ	Mangatainoka R	9.10	208	eP	P	06 04 12.3	-2.8
KIW	Kapiti Island	9.54	210	PN	P	06 04 18.3	-3.0
KIW	Kapiti Island	9.54	210	P	P	06 04 18.3	-2.9
MTW	Mount Morrison	9.56	207	PN	P	06 04 18.5	-2.9
CAW	Cannon Point	9.68	209	PN	P	06 04 20.8	-2.4
CAW	Cannon Point	9.68	209	P	P	06 04 20.8	-2.4
PAWZ	Paruwai Farm	9.78	206	PN	P	06 04 20.7	-3.8
NNZ	Nelson	10.51	214	ePN	P	06 04 30.7	-3.9
THZ	Tophouse	11.16	214	ePN	P	06 04 39.8	-3.6
THZ	Tophouse	11.16	214	eP	P	06 04 39.9	-3.5
KHZ	Kahutara	11.40	210	ePN	P	06 04 42.7	-4.1
KHZ	Kahutara	11.40	210	eP	P	06 04 42.3	-4.4
LTZ	Lake Taylor	12.25	212	PN	P	06 04 52.6	-5.6
RPZ	Rata Peaks	13.54	213	Sn	S	06 07 39.6	-7.1
2.5nm,0.3s,baz=341,slow=22,SNR=4.0							
ODZ	Otahua Downs	14.76	211	ePN	P	06 05 27.5	-3.9
JCZ	Jackson Bay	14.91	217	ePN	P	06 05 31.9	-1.4
JCZ	Jackson Bay	14.91	217	eP	P	06 05 31.9	-1.4
DZM	Mont Dzumac	16.82	305	Pn	P	06 06 01.9	+3.9
0.5nm,0.3s,baz=101,slow=14,SNR=8.3							
DZM				LR	LR	06 11 13.4	
comp=Z,1μm,18.1s,baz=52,slow=32							
PPT	Papeete	30.35	67	LR	LR	06 17 21.8	
comp=Z,190nm,18.4s,MS3.8,baz=129,slow=30							
STKA	Stephens Creek	33.33	261	P	P	06 08 41.1	+0.2
1.3nm,0.5s,mb4.1,baz=143,slow=14,SNR=3.2							
STKA				LR	LR	06 20 48.9	
comp=Z,433nm,19.2s,MS4.2,baz=21,slow=34							
CTA	Charters Tower	33.55	283	eP	P	06 08 44.8	+1.8
8.8nm,0.5s,mb5.0							
CTA	Charters Tower	33.55	283	P	P	06 08 44.6	+1.6
10nm,0.5s,mb5.0,baz=97,slow=10,SNR=15							
CTAO	Charters Tower	33.55	283	eP	P	06 08 44.3	+1.3
8.8nm,0.5s,mb5.0							
PMG	Port Moresby	39.03	299	P	P	06 09 30.9	+1.4
20nm,0.8s,mb4.9,baz=158,slow=7.3,SNR=3.8							
WRAB	Tennant Creek	43.53	275	eP	P	06 10 05.7	-0.7
14nm,0.6s,mb4.9							
WRA	Warramunga Arr	43.53	275	P	P	06 10 06.2	-0.2
11nm,0.5s,mb4.8,baz=115,slow=7.9,SNR=164							
WRA				S	S	06 16 31.1	-3.9
1.6nm,0.9s,baz=113,slow=14,SNR=4.4							
SBA	Scott Base	45.67	184	eP	P	06 10 27.0	+4.1
26nm,1.4s,mb5.0							
VNDA	Vanda	45.71	186	P	P	06 10 24.5	+1.3
1.1nm,0.9s,mb3.8,baz=13,slow=6.5,SNR=4.2							
VNDA				ScP		06 15 51.5	
0.8nm,0.7s,baz=14,slow=5.3,SNR=5.7							
VNDA	Vanda	45.71	186	eP	P	06 10 26.1	+2.9
KAKA	Kakadu	48.69	282	eP	sP	06 11 01.2	+10
13nm,0.6s							
FITZ	Fitzroy Crossi	51.69	272	eP	P	06 11 09.2	-1.1
8.1nm,1.1s,mb4.6							
QSPA	South Pole Qui	57.39	180	⇓iP	P	06 11 53.2	+2.0
37nm,0.9s,mb5.4							
MAW	Mawson	69.89	201	P	P	06 13 13.3	0.0
4.1nm,1.1s,mb4.3,baz=112,slow=10,SNR=5.5							
MAW				LR	LR	06 40 27.0	
comp=Z,136nm,20.0s,MS4.2,baz=68,slow=33							
SYO	Syowa Base	74.69	193	⇑P	P	06 13 39.8	-1.9
SNAA	Sanae	75.85	179	e	pP	06 13 53.9	+2.4
SNAA	Sanae	75.85	179	LR	LR	06 45 34.1	
comp=Z,74nm,18.3s,MS4.0,baz=205,slow=34							
SNAA	Sanae	75.85	179	⇓iP	P	06 13 48.7	+0.4
SNAA				e		06 13 53.9	
VNA3	Neumayer Olymp	76.03	176	e	pP	06 13 55.5	+3.0
VNA3	Neumayer Olymp	76.03	176	e	sP	06 14 03.6	+10
VNA3	Neumayer Olymp	76.03	176	⇓iP	P	06 13 49.7	+0.4
VNA3				e		06 13 55.5	
VNA3				e		06 14 03.6	
VNA2	Neumayer--Watz	76.46	177	e	pP	06 13 58.0	+3.1
VNA2	Neumayer--Watz	76.46	177	e	sP	06 14 05.8	+10
VNA2	Neumayer--Watz	76.46	177	⇓iP	P	06 13 52.4	+0.7
VNA2				e		06 13 58.0	
VNA2				e		06 14 05.8	
VNA1	Neumayer--Stat	76.69	177	e	pP	06 14 00.1	+3.9
VNA1	Neumayer--Stat	76.69	177	e	sP	06 14 07.9	+11
VNA1	Neumayer--Stat	76.69	177	⇓iP	P	06 13 53.9	+0.9
VNA1				e		06 14 00.1	
VNA1				e		06 14 07.9	
PLCA	Paso Flores	81.44	133	P	P	06 14 20.1	+0.8
11nm,1.1s,mb4.7,baz=231,slow=5.0,SNR=11							
ISA	Isabella	88.44	45	eP	P	06 14 54.4	-0.1
2.6nm,0.3s,mb4.9							
CMB	Columbia Colle	88.96	42	eP	P	06 14 56.0	-0.9
8.3nm,1.3s,mb4.9							
MTUM	Tungsten Hills	89.54	44	eP	P	06 14 58.9	-0.8
LDFC	Landfair	90.10	47	eP	P	06 15 03.0	+0.7
LDFC				e		06 15 16.6	
MDJ	Mudanjiang	90.14	326	P	P	06 15 03.8	+1.5
MDJ				AMB	AMB		
comp=Z,4.0nm,1.1s,mb4.7							
MDJ				AMB	AMB		
comp=Z,232nm,12.1s							
NEN	Nelson	90.64	47	eP	P	06 15 04.8	+0.1
NEN				e		06 15 19.0	
TUC	Tucson	91.11	52	eP	P	06 15 06.7	-0.3
comp=Z,5.6nm,1.3s,mb4.7							
CN2	Changchun	91.57	323	eP	P	06 15 10.8	+1.9
TXAR	Lajitas Array	94.23	58	P	P	06 15 20.3	-1.2
comp=Z,0.8nm,1.1s,mb4.1,baz=214,slow=4.5,SNR=4.7							
KMI	Kunming	94.24	297	P	P	06 15 19.8	-1.8
KMI				AP	pP	06 15 26.3	+1.5
KMI				XP	sP	06 15 29.0	+3.2
KMI				AMB	AMB		
comp=Z,9.0nm,1.1s,mb5.1							
KMI				AMB	AMB		
comp=Z,123nm,6.0s							
KMI				LR	LR		
comp=Z,67nm,29.2s,MS3.9							
KMI	Kunming	94.24	297	P	P	06 15 19.8	-1.8
comp=Z,9.0nm,1.1s,mb5.1							
KMI				pP	pP	06 15 26.3	+1.5
KMI				sP	sP	06 15 29.1	+3.3
KMI				LR	LR		
comp=Z,70nm,29.2s,MS4.0							
LPAZ	La Paz	97.83	115	P	P	06 15 39.2	+1.2
comp=Z,0.6nm,0.8s,mb4.2,baz=259,slow=6.5,SNR=3.6							
PDAR	Pinedale Array	98.30	44	P	P	06 15 38.6	-1.0
comp=Z,0.4nm,0.9s,mb3.9,baz=252,slow=5.7,SNR=3.0							
LZH	Lanzhou	99.54	307	eP	P	06 15 46.5	+1.1
LZH				AP	pP	06 15 50.0	+1.4
LZH				PP	PP	06 19 53.0	+1.4
LZH				eSKS	SKS	06 26 22.0	-5.6
LZH				eS	S	06 27 15.5	+1.1
LZH				eSS	SS	06 34 10.0	+1.1
LZH				AMB	AMB		
comp=Z,13nm,1.0s,mb5.3							
LZH				AMB	AMB		
comp=Z,140nm,8.0s							
LZH				LR	LR		
comp=E,275nm,18.0s							
LZH				LR	LR		
comp=Z,389nm,19.2s,MS4.9							
LZH	Lanzhou	99.54	307	eP	P	06 15 46.5	+1.1
comp=Z,13nm,1.0s,mb5.3							
LZH				pP	pP	06 15 50.0	+1.4
LZH				sP	sP	06 15 52.0	+2.4
LZH				PP	PP	06 19 53.0	+1.4
LZH				eSKS	SKS	06 26 22.0	-5.6
LZH				eS	S	06 27 15.5	+1.1
LZH				sS		06 27 21.0	
LZH				eSS	SS	06 34 10.0	+1.1
LZH				LR	LR		
comp=Z,390nm,19.2s,MS4.9							
MKAR	Makanchi Array	118.71	309	PKP	PKPdf	06 20 47.6	-4.4
comp=Z,0.3nm,0.5s,baz=63,slow=2.7,SNR=4.0							
ZAL	Zalesovo	119.29	318	PKP	PKPdf	06 20 50.5	-2.4
comp=Z,1.2nm,0.3s,baz=337,slow=2.1,SNR=3.3							
ARCES	ARCESS Array B	140.70	347	PKhKP		06 21 24.0	
comp=Z,3.4nm,1.0s,baz=18,slow=2.9,SNR=4.2							
ARCES				PKP	PKPdf	06 21 29.1	-3.8
comp=Z,2.8nm,0.8s,baz=34,slow=4.4,SNR=4.6							
JOF	Joensuu	144.29	337	ep	PKPbc	06 21 33.9	-1.8
comp=Z,0.6nm,0.4s							
KAF	Kangasniemi	146.48	339	ep	PKPbc	06 21 39.6	-1.7
comp=Z,3.3nm,0.6s							
FINES	FINESS Array B	147.06	338	PKPbc	PKPdf	06 21 42.1	-1.9
comp=Z,7.5nm,0.7s,baz=58,slow=4.5,SNR=38							
NB2	NORSAR Subarra	150.93	350	PKPabc	PKPdf	06 21 52.2	+2.1
comp=Z,7.8nm,0.8s,baz=18,slow=2.6							
NOA	NORSAR Array B	150.93	350	PKPbc	PKPdf	06 21 52.5	+2.3
comp=Z,5.9nm,0.8s,baz=13,slow=4.1,SNR=14							
NAO01	NORSAR Array S	151.16	350	ePKPbc	PKPdf	06 21 53.1	+2.6
AKASG	Malin Array Be	152.66	319	PKP	PKPdf	06 21 49.5	-3.4
comp=Z,0.3nm,0.3s,baz=16,slow=1.3,SNR=3.1							
AKASG				PKPbc	PKPdf	06 21 56.8	+3.8
comp=Z,0.3nm,0.3s,baz=53,slow=2.4,SNR=4.0							
BRTR	Keskin Array B	152.99	294	PKPbc	PKPdf	06 21 59.0	+5.2
comp=Z,1.0nm,0.5s,baz=117,slow=2.8,SNR=4.9							
BRTR				PKPab	PKPab	06 22 12.3	+0.5
comp=Z,0.7nm,0.5s,baz=90,slow=3.7,SNR=4.0							
DBIC	Dimbokro	153.47	167	PKPbc	PKPdf	06 22 01.0	+5.8
comp=Z,7.8nm,1.1s,baz=202,slow=1.7,SNR=3.7							
DBIC				PKPab	PKPab	06 22 13.7	-1.0
comp=Z,3.2nm,0.8s,baz=151,slow=8.0,SNR=3.5							
GERES	GERESS Array B	161.35	333	PKP	PKPdf	06 22 00.6	-3.2
comp=Z,0.1nm,0.2s,baz=90,slow=1.3,SNR=4.0							
GERES				PKPab	PKPab	06 22 47.1	-0.3
comp=Z,1.0nm,0.8s,baz=34,slow=4.8,SNR=4.8							
CDF	Champ du Feu	163.67	345	ePKP2	PKPab	06 22 55.0	-2.4
LOR	Lormes	165.33	353	ePKP2	PKPab	06 23 02.1	-2.6
comp=Z,1.8nm,0.4s							
SSF	Saint Saulge	165.57	354	ePKP2	PKPab	06 23 02.6	-3.2
comp=Z,9.1nm,0.8s							
AVF	Avril sur Loir	165.86	354	ePKP2	PKPab	06 23 03.7	-3.3
SMF	Signal de Mont	165.95	352	ePKP2	PKPab	06 23 04.2	-3.2
comp=Z,24nm,1.2s							
BGF	Bois d'Agland	166.13	355	ePKP2	PKPab	06 23 04.9	-3.3
LPG	La Plagne	166.54	343	ePKP2	PKPab	06 23 07.9	-2.1
ORIF	Oris-en-Rattie	167.29	345	ePKP2	PKPab	06 23 10.7	-2.6
comp=Z,10nm,0.9s							
FRF	La Foret Royal	168.36	340	ePKP2	PKPab	06 23 16.7	-1.3
comp=Z,17nm,0.9s							

NNC ***28*** *06:12:00.6±5.2, 36.95N×70.70E, mpv3.6, Error ellipse: s-maj=55.6km s-min=43.3km az=127.0*

ISC 28 06:11:58.6±2.7, 36.7N±0.1×70.7E±0.3, h100km, n10, σ0°87/12, 1C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	5.96	22	P	P	06 13 26.8	+1.2
SNR=17							
UCH	Uchtor	6.32	27	P	P	06 13 31.2	+0.6
SNR=35							
KK31	Karatay Array	6.45	359	P	P	06 13 33.0	+0.5
0.9nm,0.4s,baz=198,slow=17,SNR=44							
KK31				⇑S	S	06 14 44.4	-0.9
4.9nm,0.3s							
EKS2	Erkin-Say	6.47	21	P	P	06 13 33.6	+0.8
SNR=12							
AAK	Ala-Archa	6.67	25	P	P	06 13 35.7	+0.1
SNR=12							
AAK	Ala-Archa	6.67	25	⇓P	P	06 13 35.6	0.0
5.4nm,0.3s							
AAK				⇓S	S	06 14 51.2	+0.6
6.2nm,0.7s							
KBK	Karagaybulak	6.85	27	P	P	06 13 38.2	+0.1
SNR=5.6							
ULHL	Ulahol	7.06	36	P	P	06 13 38.9	-2.0
SNR=11							
USP	Ospenovka	7.24	23	P	P	06 13 42.9	-0.5
S

FINES	FINESS Array B	70.74	331	P		P	07 00 31.1	-0.6
	1.8nm,0.4s,mb4.4,baz=61,slow=6.5,SNR=32							
NOA	NORSAR Array B	76.94	334	P		P	07 01 07.9	+0.3
	0.5nm,0.5s,mb3.7,baz=49,slow=5.4,SNR=2.8							
PV10	Paradox Valley	91.63	43	eP		P	07 02 25.3	+3.0

*IDC **28** 06:54:08.8±1.4,24.17N×121.88E,mb3.6/4,mb1 3.7/5, mb1mx3.6/19,mbtmp3.6/5,ML3.2/1,Error ellipse: s-maj=44.1km s-min=25.1km az=58.0*
*NEIC **28** 06:54:12.6±1.4,24.31N×121.94E,h23km±11km,Error ellipse: s-maj=15.1km s-min=13.3km az=76.0*

ISC 28 06:54:12.0±1.3,24.36N±0.07×122.0E±0.1,h31km±10km, n8,σ0§79/11,mb3.3/4,2C-1D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	Ninganchiao	0.40	242	⇓eP	Pb	06 54 21.1	+0.2
NACB				eS	Sb	06 54 27.8	+0.8
YHNB	Yeheng	0.63	299	⇑eP	Pb	06 54 24.4	-0.1
YHNB				eS	Sb	06 54 31.8	-1.3
TATO	Taipei	0.76	324	⇑iP	Pn	06 54 26.8	+0.2
TATO				eS	Sb	06 54 36.7	0.0
JOW	Kunigami	6.19	65	Pn	Pn	06 55 44.0	+0.2
	1.1nm,0.3s,baz=152,slow=15,SNR=6.1						
SONM	Songino Array	26.49	336	P	P	06 59 48.7	+0.3
	0.4nm,0.6s,mb3.1,baz=149,slow=8.4,SNR=3.5						
MKAR	Makanchi Array	38.72	315	P	P	07 01 35.2	+0.3
	0.4nm,0.6s,mb3.3,baz=108,slow=8.1,SNR=5.8						
ZAL	Zalesovo	40.50	327	P	P	07 01 50.5	+1.0
	0.8nm,0.6s,mb3.6,baz=229,slow=9.7,SNR=3.3						
WRA	Warramunga Arr	45.65	164	P	P	07 02 29.9	-1.9
	0.2nm,0.5s,mb3.3,baz=344,slow=8.9,SNR=5.6						

IDC 28 07:05:58.1±10.0,19.02S×177.77W,h272km±102km, mb3.1/4,mb1 3.4/5,mb1mx3.2/13,mbtmp3.8/5,Error ellipse: s-maj=45.4km s-min=31.8km az=26.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	19.69	192	P	P	07 10 07.3	-1.0
	0.5nm,0.3s,baz=340,slow=12,SNR=4.8						
STKA	Stephens Creek	38.65	243	P	P	07 12 56.5	-0.7
	3.0nm,0.9s,baz=94,slow=11,SNR=5.1						
WRA	Warramunga Arr	45.04	261	P	P	07 13 46.9	-2.1
	0.5nm,0.3s,baz=96,slow=6.7,SNR=21						
VNDA	Vanda	59.40	185	P	P	07 15 31.4	-2.3
	0.3nm,0.9s,baz=12,slow=5.1,SNR=3.8						
ILAR	Eielson Array	86.83	13	P	P	07 18 11.7	-0.9
	0.2nm,0.7s,baz=220,slow=5.2,SNR=5.4						

*IDC **28** 07:29:40.0±1.0,4.88N×94.69E,mb4.2/11,mb1 4.3/11, mb1mx4.1/21,mbtmp4.2/11,MS3.6/2,Ms1 3.6/2, ms1mx3.1/21,Error ellipse: s-maj=39.5km s-min=18.0km az=46.0*
*BJI **28** 07:29:41.9,4.71N×94.35E,h49km,mb4.4*
*NEIC **28** 07:29:44.2±0.8,4.94N×94.64E,h30km,mb4.4/6,Error ellipse: s-maj=25.6km s-min=11.2km az=41.0*

ISC 28 07:29:44.2±3.7,5.0N±0.1×94.8E±0.1,h39km±31km,n26, σ1§13/25,mb4.3/20,MS3.6/2,1C,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.84	87	eP	P	07 31 12.1	+1.6
KULM				eS	S	07 32 16.0	-1.1
PKI	Pulchoki	24.15	339	eP	P	07 34 54.1	-3.7
GYA	Guiyang	24.15	27	⇑iP	P	07 35 00.3	+2.4
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.3						
DMN	Daman	24.29	339	eP	P	07 34 57.0	-2.2
	comp=Z,12nm,0.9s,mb4.3						
KKN	Kakani	24.39	339	eP	P	07 34 57.8	-2.4
GKN	Gorkha	24.82	338	eP	P	07 35 03.9	-0.4
	comp=Z,11nm,0.5s,mb4.7						
KOLN	Koldanda	25.01	336	eP	P	07 35 07.2	+1.0
	comp=Z,18nm,0.6s,mb4.7						
XAN	Xi'an	31.72	23	P	P	07 36 05.5	-1.2
XAN				AMB	AMB		
	comp=Z,14nm,0.8s,mb4.8						
GTA	Gaotai	34.54	7	P	P	07 36 31.0	-0.1
GTA				AP	pP	07 36 43.3	+1.3
GTA				XP	sP	07 36 49.3	+2.3
GTA				AMB	AMB		
	comp=Z,5.0nm,0.7s,mb4.5						
FITZ	Fitzroy Crossi	38.12	128	P	P	07 37 00.7	-0.8
	comp=Z,3.8nm,0.8s,mb4.2,baz=350,slow=6.7,SNR=2.6						
JOW	Kunigami	38.61	52	P	P	07 37 06.5	+1.1
	comp=Z,5.3nm,0.5s,mb4.5,baz=144,slow=10,SNR=5.3						
MKAR	Makanchi Array	43.00	347	P	P	07 37 42.4	+0.8
	comp=Z,2.7nm,0.6s,mb4.2,baz=164,slow=8.5,SNR=43						
SONM	Songino Array	43.81	11	P	P	07 37 48.4	+0.3
	comp=Z,1.9nm,0.7s,mb4.0,baz=189,slow=9.2,SNR=11						
SONM				PcP	PcP	07 39 34.6	0.0
	comp=Z,0.6nm,0.5s,baz=166,slow=5.4,SNR=4.4						
SONM				LR	LR	07 56 46.0	
	comp=Z,46nm,18.8s,MS3.4,baz=244,slow=37						
ULN	Ulaanbaatar	43.97	12	eP	P	07 37 48.9	-0.5
	comp=Z,1.6nm,0.5s,mb4.0						
WRA	Warramunga Arr	46.11	124	P	P	07 38 06.6	-0.3
	comp=Z,3.3nm,0.7s,mb4.4,baz=302,slow=9.2,SNR=24						
WRAB	Tennant Creek	46.12	124	eP	P	07 38 06.6	-0.3
	comp=Z,12nm,1.0s,mb4.8						
KURK	Kurchatov	47.52	346	eP	P	07 38 17.8	+0.3
	comp=Z,2.2nm,0.6s,mb4.4						
BVAR	Borovoye Array	51.89	342	P	P	07 38 50.7	-0.2
	comp=Z,2.2nm,0.7s,mb4.2,baz=143,slow=7.4,SNR=16						
KMBO	Kilima Mbogo	57.80	266	LR	LR	07 59 29.5	
	comp=Z,72nm,18.5s,MS3.8,baz=102,slow=31						
AKASG	Malin Array Be	70.79	322	P	P	07 40 57.5	-1.1
	comp=Z,0.5nm,0.4s,mb3.8,baz=83,slow=5.9,SNR=4.8						
FINES	FINESS Array B	75.53	332	P	P	07 41 26.1	0.0
	comp=Z,2.3nm,1.0s,mb4.0,baz=90,slow=7.6,SNR=6.4						
ARCES	ARCESS Array B	78.16	340	P	P	07 41 41.9	+1.1
	comp=Z,1.1nm,0.5s,mb4.1,baz=101,slow=6.2,SNR=11						
GERES	GERESS Array B	80.38	319	P	P	07 41 54.4	+1.2
	comp=Z,1.7nm,0.7s,mb4.1,baz=124,slow=4.8,SNR=12						
DAVOX	Davos	82.89	316	P	P	07 42 07.2	+1.0
	comp=Z,2.3nm,0.6s,mb4.4,baz=130,slow=4.1,SNR=5.0						
DAVOX	Davos	82.89	316	P	P	07 42 07.2	+1.0
TXAR	Lajitas Array	141.52	26	PKP	PKPdf	07 49 12.2	+0.2
	comp=Z,0.1nm,0.4s,baz=172,slow=1.4,SNR=3.6						

*NEIC **28** 07:43:50.8,37.51S×176.63E,h182km,MG4.1(WEL), After WEL.*

WEL 28 07:43:50.9±0.3,37.52S×176.59E,h182km±2km,ML4.0/6, Error ellipse: s-maj=2.2km s-min=1.8km az=90.0,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	0.84	151	ePN	P	07 44 17.5	-0.5
URZ				SN	S	07 44 38.3	-0.6
URZ	Urewera	0.84	151	eP	P	07 44 17.6	-0.4
MWZ	Matawai	1.10	138	PN	P	07 44 19.6	-0.2
MWZ				SN	S	07 44 41.2	-0.9
MWZ	Matawai	1.10	138	P	P	07 44 19.6	-0.2
MWZ				S	S	07 44 41.2	-0.9
MKAZ	Moumakai	1.21	289	PN	P	07 44 20.4	-0.4
MKAZ	Moumakai	1.21	289	P	P	07 44 20.4	-0.3
MXZ	Matakaoa Point	1.36	92	ePN	P	07 44 21.6	-0.6
MXZ				SN	S	07 44 46.7	+0.4
MXZ	Matakaoa Point	1.36	92	eP	P	07 44 21.6	-0.6
PUZ	Puketiti	1.43	113	ePN	P	07 44 22.0	-0.8
PUZ				SN	S	07 44 47.0	-0.4
PUZ	Puketiti	1.43	113	eP	P	07 44 22.0	-0.8
OTAZ	Otara	1.45	293	PN	P	07 44 22.4	-0.5
OTAZ	Otara	1.45	293	P	P	07 44 22.4	-0.5
RITZ	Rihia Road	1.56	201	PN	P	07 44 24.3	+0.3
RITZ	Rihia Road	1.56	201	P	P	07 44 24.3	+0.3
BKZ	Black Stump Fm	1.64	183	ePN	P	07 44 24.1	-0.7
BKZ				SN	S	07 44 50.4	-0.6
BKZ	Black Stump Fm	1.64	183	eP	P	07 44 24.1	-0.7
KAAZ	Kauri Point	1.66	294	PN	P	07 44 24.2	-0.8
WTAZ	Waiatarua	1.71	289	PN	P	07 44 24.8	-0.7
WTAZ	Waiatarua	1.71	289	P	P	07 44 24.8	-0.7
KNZ	Kokohu	1.72	151	PN	P	07 44 25.4	-0.2
KNZ	Kokohu	1.72	151	P	P	07 44 25.4	-0.2
KRVZ	Karewarewa	1.74	205	PN	P	07 44 25.6	-0.2
WTVZ	West Tongariro	1.78	206	PN	P	07 44 26.0	-0.2
WTVZ	West Tongariro	1.78	206	P	P	07 44 26.0	-0.1
TWVZ	Taurewa	1.79	210	PN	P	07 44 26.2	-0.1
TWVZ	Taurewa	1.79	210	P	P	07 44 26.2	-0.1
OTVZ	Oturere	1.79	204	PN	P	07 44 26.5	+0.2
NGZ	Ngauruhoe	1.83	205	PN	P	07 44 26.7	+0.1
NGZ	Ngauruhoe	1.83	205	P	P	07 44 26.8	+0.2
CNZ	Chateau	1.86	206	PN	P	07 44 27.0	-0.1
CNZ	Chateau	1.86	206	P	P	07 44 27.0	0.0
WPVZ	Whakapapa	1.87	206	PN	P	07 44 27.0	-0.1
WPVZ	Whakapapa	1.87	206	P	P	07 44 27.0	-0.1
TUVZ	Tukino	1.89	203	PN	P	07 44 27.2	-0.2
TUVZ	Tukino	1.89	203	P	P	07 44 27.2	-0.1
FWVZ	Far West T-bar	1.91	205	ePN	P	07 44 27.6	+0.1
FWVZ	Far West T-bar	1.91	205	eP	P	07 44 27.6	+0.1
WNVZ	Wahianoa	1.96	203	PN	P	07 44 27.7	-0.3
WNVZ	Wahianoa	1.96	203	P	P	07 44 27.7	-0.4
MOVZ	Moawhango	1.99	199	PN	P	07 44 27.4	-1.0
MOVZ				SN	S	07 44 56.3	-1.0
MOVZ	Moawhango	1.99	199	P	P	07 44 27.4	-1.0
PKVZ	Pokaka	2.02	209	PN	P	07 44 28.4	-0.3
MTVZ	Mangateitei	2.06	205	PN	P	07 44 28.8	-0.3
RAEZ	Rainy Point	2.47	224	PN	P	07 44 34.4	+0.6
RAEZ	Rainy Point	2.47	224	P	P	07 44 34.4	+0.6
PXZ	Pawanui	2.52	175	PN	P	07 44 33.0	-1.4
WAZ	Wanganui	2.56	209	PN	P	07 44 33.8	-1.1
TSZ	Takapari Road	2.58	191	PN	P	07 44 33.5	-1.6
TSZ	Takapari Road	2.58	191	P	P	07 44 33.5	-1.7
NEZ	North Egmont	2.62	228	PN	P	07 44 36.4	+0.7
NEZ	North Egmont	2.62	228	P	P	07 44 36.4	+0.7
PKE	Pukeiti	2.64	230	PN	P	07 44 36.0	+0.1
PKE	Pukeiti	2.64	230	P	P	07 44 36.0	+0.1
BFZ	Birch Farm	3.17	185	PN	P	07 44 39.9	-2.4
BFZ	Birch Farm	3.17	185	P	P	07 44 39.9	-2.4
MRZ	Mangatainoka R	3.23	194	PN	P	07 44 40.2	-2.9
MRZ	Mangatainoka R	3.23	194	P	P	07 44 40.2	-2.9
KIW	Kapiti Island	3.58	201	PN	P	07 44 44.2	-3.3
KIW	Kapiti Island	3.58	201	P	P	07 44 44.2	-3.3
MTW	Mount Morrison	3.73	193	PN	P	07 44 45.5	-3.8
MTW	Mount Morrison	3.73	193	P	P	07 44 45.5	-3.8
CAW	Cannon Point	3.77	198	PN	P	07 44 46.2	-3.6
CAW	Cannon Point	3.77	198	P	P	07 44 46.2	-3.7
DUWZ	D'Urville Isla	3.88	212	PN	P	07 44 47.4	-3.8
TRWZ	Traveller	3.93	190	PN	P	07 44 48.1	-3.8
PAWZ	Paruwai Farm	3.96	193	PN	P	07 44 48.1	-4.2
MRW	Makara Radio	3.98	201	PN	P	07 44 48.6	-3.9
WEL	Wellington	4.01	200	PN	P	07 44 49.2	-3.8
WEL	Wellington	4.01	200	P	P	07 44 49.2	-3.8
MSWZ	Moikau Station	4.02	195	PN	P	07 44 48.8	-4.2
MSWZ	Moikau Station	4.02	195	P	P	07 44 48.8	-4.3
SNZO	South Karori	4.05	201	PN	P	07 44 49.5	-4.0
SNZO	South Karori	4.05	201	P	P	07 44 49.5	-4.0
TCW	Tory Channel	4.10	205	PN	P	07 44 50.3	-3.7
BHW	Baring Head	4.10	198	PN	P	07 44 49.9	-4.2
BHW	Baring Head	4.10	198	P	P	07 44 49.9	-4.2
TUWZ	Tuamarina	4.41	207	PN	P	07 44 53.7	-4.3
NNZ	Nelson	4.45	213	ePN	P	07 44 53.9	-4.6
NNZ	Nelson	4.45	213	eP	P	07 44 53.9	-4.7
QRZ	Quartz Range	4.57	222	ePN	P	07 44 55.5	-4.6
QRZ	Quartz Range	4.57	222	eP	P	07 44 55.5	-4.5
BSWZ	Blackbirch Sta	4.68	206	PN	P	07 44 57.2	-4.4
THZ	Tophouse	5.10	213	ePN	P	07 45 02.6	-4.4
THZ	Tophouse	5.10	213	eP	P	07 45 02.6	-4.4
KHZ	Kahutara	5.42	205	ePN	P	07 45 06.1	-5.0
KHZ	Kahutara	5.42	205	eP	P	07 45 06.1	-5.0
DSZ	Denniston Nort	5.61	220	ePN	P	07 45 08.5	-5.1
DSZ	Denniston Nort	5.61	220	eP	P	07 45 08.5	-5.1
LTZ	Lake Taylor	6.21	211	ePN	P	07 45 15.8	-5.7
LTZ	Lake Taylor	6.21	211	eP	P	07 45 15.8	-5.6
MQZ	McQueen's Vall	6.87	205	ePN	P	07 45 23.2	-6.9
MQZ	McQueen's Vall	6.87	205	eP	P	07 45 23.2	-6.9
WVZ	Waitaha Valley	7.12	217	PN	P	07 45 28.1	-5.4
RPZ	Rata Peaks	7.48	212	ePN	P	07 45 32.2	-6.1
RPZ	Rata Peaks	7.48	212	eP	P	07 45 32.2	-6.0
FOZ	Fox Glacier	8.00	219	PN	P	07 45 37.8	-7.2
LBZ	Lake Benmore	8.39	213	PN	P	07 45 43.4	-6.8
ODZ	Otahua Downs	8.74	209	ePN	P	07 45 49.1	-5.7
JCZ	Jackson Bay	8.84	220	ePN	P	07 45 49.8	-6.2
JCZ	Jackson Bay	8.84	220	eP	P	07 45 49.8	-6.2

NNC 28 08:14:09.3±7.3,37.13N×70.27E,h103km±181km,mpv3.3, 2C-2D,Error ellipse: s-maj=63.7km s-min=57.7km az=153.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	5.97	2	P	P	08 15 36.2	-0.4
	0.8nm,0.3s,baz=185,slow=13,SNR=24						
KK31				⇓S	S	08 16 42.8	-1.4
	1.1nm,0.4s,baz=192,slow=15,SNR=11						
AAK	Ala-Archa	6.39	29	P	P	08 15 39.6	-2.7
	2.4nm,0.7s						
AAK				⇑S	S	08 16 53.4	-1.0
	5.3nm,0.6s						
AB31	Akbulak array	14.25	332	⇓P	P	08 17 27.2	+0.1
	0.3nm,0.3s,baz=160,slow=12,SNR=14						
AB31				⇑S	S	08 20 01.0	-2.0
	0.3nm,0.5s						

IDC 28 08:40:09.8±19.0,18.74S×169.34E,h256km±178km, mb3.3/4,mb1 3.5/4,mb1mx3.3/10,mbtmp3.9/4,Error ellipse: s-maj=85.6km s-min=63.5km az=106.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	28.19	237	P	P	08 45 39.6	-1.5
	1.0nm,0.5s,baz=64,slow=10,SNR=8.4						
WRA	Warramunga Arr	33.01	262	P	P	08 46 20.8	-2.4
	0.9nm,0.3s,baz=89,slow=7.0,SNR=73						
SONM	Songino Array	86.88	323	P	P	08 52 27.1	+0.4
	0.1nm,0.4s,baz=137,slow=3.6,SNR=4.9						
ILAR	Eielson Array	89.73	17	P	P	08 52 38.2	-1.4
	0.3nm,0.7s,baz=238,slow=4.9,SNR=5.2						
ARCES	ARCESS Array B	124.61	345	PKP	PKPdf	08 58 37.3	-0.9
	2.7nm,0.9s,baz=56,slow=3.3,SNR=5.7						
GERES	GERESS Array B	144.10	332	PKP	PKPdf	08 59 14.0	-0.7
	0.6nm,0.7s,baz=18,slow=3.1,SNR=4.8						

*IDC **28** 09:02:12.1±1.5,31.00N×41.32W,mb3.6/5,mb1 4.0/5, mb1mx3.6/24,mbtmp3.6/5,Error ellipse: s-maj=40.4km s-min=30.8km az=136.0*

NEIC 28 09:02:13.5±1.0,31.02N×41.34W,h10km,mb4.2/1,Error ellipse: s-maj=27.9km s-min=21.3km az=147.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GERES	GERESS Array B	44.77	50	P	P	09 10 27.2	-1.7
	0.3nm,0.7s,baz=270,slow=7.8,SNR=4.0						
TXAR	Lajitas Array	53.27	285	P	P	09 11 33.4	-1.4
	0.4nm,0.9s,baz=106,slow=6.6,SNR=2.8						
LPAZ	La Paz	53.63	213	P	P	09 11 36.0	-1.6
	1.0nm,0.9s,baz=40,slow=9.9,SNR=5.7						
BW06	Boulder Array	54.44	303	eP	P	09 11 40.7	-2.5
	2.3nm,1.0s						
PDAR	Pinedale Array	54.44	303	P	P	09 11 40.9	-2.3
	1.2nm,1.0s,baz=82,slow=6.4,SNR=8.0						
ILAR	Eielson Array	68.61	334	P	P	09 13 17.1	-1.2
	1.0nm,0.9s,baz=43,slow=4.5,SNR=9.5						

*IDC **28** 09:02:44.3±1.3,13.40N×120.65E,mb3.6/4,mb1 3.8/4, mb1mx3.6/17,mbtmp3.6/4,Error ellipse: s-maj=184.8km s-min=22.5km az=66.0*

ISC 28 09:02:58.9±0.6,13.52N±0.06×120.75E±0.10,h145km±5km, n16,σ0§83/17,mb3.6/5,1C-1D,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	Puerto Galera	0.20	96	eP	P	09 03 18.2	-0.8
LUBP	Lubang	0.54	293	eP	P	09 03 19.4	-1.0
TGY	Tagaytay City	0.60	17	⇑iP	P	09 03 20.5	-0.2
BOAC	Boac	1.06	93	eS	S	09 03 42.2	-1.1
SJMP	San Jose	1.11	161	eP	P	09 03 25.1	+0.6
SJMP				eS	S	09 03 43.6	-0.5
BUSP	Coron	1.61	200	eP	P	09 03 30.2	+0.6
POLP	Polilio Island	1.66	44	eP	P	09 03 31.4	+1.2
GQP	Guinayangan	1.69	77	⇓iP	P	09 03 31.4	+0.9
OTRP	Odiongan	1.69	133	eP	P	09 03 31.4	+0.8
SCZP	Santa Cruz	2.38	340	eP	P	09 03 38.5	-0.4
CUYO	Cuyo Island	2.67	174	eP	P	09 03 44.0	+1.5
WRA	Warramunga Arr	35.84	158	P	P	09 09 45.5	-1.0
	0.8nm,0.4s,mb3.7,baz=336,slow=9.6,SNR=24						
SONM	Songino Array	36.24	344	P	P	09 09 49.7	+0.2
	0.2nm,0.5s,mb3.0,baz=157,slow=11,SNR=2.2						
KLBR	Kellerberrin	44.95	184	eP	P	09 11 00.9	-0.3
	53nm,1.7s,mb4.9						
MKAR	Makanchi Array	46.20	324	P	P	09 11 11.5	+0.6
	0.4nm,0.5s,mb3.3,baz=141,slow=9.2,SNR=4.0						
STKA	Stephens Creek	49.37	156	P	P	09 11 34.6	-1.0
	0.2nm,0.3s,mb3.2,baz=322,slow=12,SNR=4.9						

*IDC **28** 09:24:35.2±0.9,31.04N×41.32W,mb3.8/8,mb1 4.1/8, mb1mx3.8/25,mbtmp3.8/8,MS3.7/17,Ms1 3.7/17, ms1mx3.6/27,Error ellipse: s-maj=30.2km s-min=20.8km az=114.0*
*NEIC **28** 09:24:36.8±0.5,31.04N×41.31W,h10km,mb4.4/1,Error ellipse: s-maj=15.9km s-min=12.2km az=110.0*

ISC 28 09:24:34.9±0.7,31.1N±0.1×41.3W±0.2,h10km,n23, σ0§37/11,mb3.9/9,MS3.7/17,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	Schefferville	29.91	330	LR	LR	09 41 50.4	
	comp=Z,173nm,19.1s,MS3.7,baz=23,slow=35						
MDT	Midelt	31.11	77	LR	LR	09 40 35.7	
	comp=Z,126nm,19.6s,MS3.6,baz=336,slow=31						
DBIC	Dimbokro	41.86	118	LR	LR	09 47 02.2	
	comp=Z,149nm,21.8s,MS3.8,baz=217,slow=32						
ULM	Lac du Bonnet	44.51	312	LR	LR	09 48 58.6	
	comp=Z,77nm,21.1s,MS3.6,baz=69,slow=33						
GERES	GERESS Array B	44.74	50	P	P	09 32 49.8	-0.2
	0.6nm,0.6s,mb3.6,baz=263,slow=7.9,SNR=6.1						
GERES				LR	LR	09 48 58.1	
	comp=Z,22nm,20.8s,MS3.1,baz=287,slow=33						
NOA	NORSAR Array B	45.38	33	LR	LR	09 50 41.2	
	comp=Z,19nm,18.5s,MS3.0,baz=200,slow=34						
BDFB	Brasilia	46.87	189	P	P	09 33 07.9	+0.6
	0.5nm,0.3s,mb3.9,baz=10,slow=6.6,SNR=3.7						
BDFB				LR	LR	09 50 05.2	
	comp=Z,56nm,21.7s,MS3.5,baz=305,slow=33						
SIV	San Ignacio	50.48	205	P	P	09 33 34.9	-0.4
	0.7nm,0.7s,mb3.8,baz=49,slow=9.1,SNR=5.2						
FINES	FINESS Array B	52.51	34	P	P	09 33 49.9	-0.2
	3.1nm,1.0s,mb4.2,baz=270,slow=6.9,SNR=3.9						
TXAR	Lajitas Array	53.27	285	P	P	09 33 55.9	-0.3
	0.4nm,0.9s,mb3.3,baz=98,slow=6.4,SNR=2.8						
TXAR				LR	LR	09 54 08.2	
	comp=Z,68nm,18.6s,MS3.7,baz=115,slow=33						
LPAZ	La Paz	53.66	213	P	P	09 33 59.0	-0.2
	2.1nm,0.8s,mb4.1,baz=22,slow=8.8,SNR=9.1						
LPAZ	La Paz	53.66	213	P	P	09 33 59.0	-0.2
PDAR	Pinedale Array	54.44	303	P	P	09 34 04.5	0.0
	1.7nm,1.0s,mb3.9,baz=79,slow=7.6,SNR=12						
PDAR				LR	LR	09 56 19.2	
	comp=Z,192nm,19.0s,MS4.2,baz=117,slow=35						
BW06	Boulder Array	54.44	303	eP	P	09 34 04.2	-0.3
	5.3nm,1.3s,mb4.3						
YKA	Yellowknife Ar	55.30	327	LR	LR	09 56 54.2	
	comp=Z,121nm,20.1s,MS4.0,baz=75,slow=35						
MSU	Marysvale	57.38	299	eP	P	09 34 26.2	+0.4
CPUP	Villa Florida	59.08	197	LR	LR	09 56 41.7	
	comp=Z,60nm,20.5s,MS3.7,baz=123,slow=33						
INK	Inuvik	62.34	335	LR	LR	09 59 57.1	
	comp=Z,97nm,20.1s,MS4.0,baz=334,slow=34						
CFAA	Coronel Fontan	67.34	205	LR	LR	10 03 35.1	
	comp=Z,9.7nm,19.1s,MS3.0,baz=161,slow=35						
ILAR	Eielson Array	68.59	334	P	P	09 35 40.2	+0.6
	1.0nm,0.9s,mb3.8,baz=62,slow=3.9,SNR=4.8						
ILAR				LR	LR	10 06 05.3	
	comp=Z,86nm,18.2s,MS4.0,baz=180,slow=36						
PLCA	Paso Flores	76.38	202	LR	LR	10 07 51.4	
	comp=Z,57nm,18.8s,MS3.9,baz=33,slow=34						
BOSA	Boshof	86.83	126	LR	LR	10 08 53.2	
	comp=Z,126nm,20.1s,MS4.3,baz=155,slow=31						
MKAR	Makanchi Array	87.33	35	LR	LR	10 13 34.0	
	comp=Z,40nm,18.3s,MS3.9,baz=2.9,slow=34						

*NEIC **28** 10:01:03.2±1.2,15.10S×72.10W,h112km±13km,mb4.4/2, Error ellipse: s-maj=20.1km s-min=12.3km az=220.0*
*IDC **28** 10:01:06.4±3.9,15.10S×72.02W,h139km±37km,mb3.2/3, mb1 3.4/5,mb1mx3.3/18,mbtmp3.6/5,Error ellipse: s-maj=36.4km s-min=27.5km az=79.0*

ISC 28 10:01:01.9±0.9,15.14S±0.10×72.24W±0.08, h122km±14km,n13,σ1§55/16,mb3.4/3,Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	4.12	107	P	P	10 02 06.0	+1.9
	4.5nm,0.3s,baz=291,slow=11,SNR=90						
LPAZ				S	S	10 02 53.0	+1.2
	1.3nm,0.3s,baz=176,slow=21,SNR=6.4						
LPAZ	La Paz	4.12	107	P	P	10 02 06.0	+1.9
LPAZ				S	S	10 02 53.0	+1.2
NNA	Nana	5.46	304	eP	P	10 02 23.2	+1.0
	63nm,0.4s						

CDF	**Champ du Feu**	**40.40**	**50**	*e*P	**P**	**10 09 14.1**	**-0.1**
	18nm,1.3s,mb4.3						
DBIC	**Dimbokro**	**41.85**	**118**	LR	LR	10 24 13.3	
	comp=Z,113nm,19.1s,MS3.8,baz=20,slow=32						
ULM	**Lac du Bonnet**	**44.51**	**312**	LR	LR	10 25 58.0	
	comp=Z,67nm,19.6s,MS3.6,baz=322,slow=33						
GERES	**GERESS Array B**	**44.68**	**50**	P	**P**	**10 09 49.7**	**+0.5**
	0.8nm,0.8s,mb3.6,baz=270,slow=6.7,SNR=7.8						
BDFB	**Brasilia**	**46.92**	**189**	P	**P**	**10 10 06.7**	**-0.6**
	2.5nm,0.8s,mb4.2,baz=330,slow=8.1,SNR=2.5						
BDFB				LR	LR	10 27 04.8	
	comp=Z,62nm,19.8s,MS3.6,baz=90,slow=33						
TXAR	**Lajitas Array**	**53.29**	**285**	P	**P**	**10 10 56.6**	**+0.7**
	0.3nm,0.8s,mb3.3,baz=90,slow=2.5,SNR=3.4						
TXAR				LR	LR	10 34 44.0	
	comp=Z,48nm,18.1s,MS3.6,baz=70,slow=37						
LPAZ	**La Paz**	**53.72**	**213**	P	**P**	**10 10 59.0**	**-0.1**
	1.0nm,0.8s,mb3.8,baz=26,slow=8.9,SNR=6.0						
LPAZ				LR	LR	10 32 55.9	
	comp=Z,43nm,18.8s,MS3.5,baz=90,slow=35						
PDAR	**Pinedale Array**	**54.44**	**303**	P	**P**	**10 11 03.8**	**-0.3**
	0.7nm,0.7s,mb3.7,baz=84,slow=9.1,SNR=6.8						
PDAR				LR	LR	10 33 19.0	
	comp=Z,163nm,18.7s,MS4.1,baz=115,slow=35						
BW06	**Boulder Array**	**54.44**	**303**	P	**P**	**10 11 03.3**	**-0.8**
	3.6nm,1.3s,mb4.1						
AKASG	**Malin Array Be**	**54.64**	**47**	P	**P**	**10 11 04.9**	**-0.5**
	0.3nm,0.3s,mb3.7,baz=271,slow=7.1,SNR=7.2						
YKA	**Yellowknife Ar**	**55.28**	**327**	LR	LR	10 34 03.6	
	comp=Z,111nm,20.0s,MS3.9,baz=80,slow=35						
CPUP	**Villa Florida**	**59.13**	**197**	LR	LR	10 37 48.2	
	comp=Z,46nm,18.3s,MS3.6,baz=133,slow=37						
BRTR	**Keskin Array B**	**60.05**	**59**	P	**P**	**10 11 44.5**	**+0.6**
	0.6nm,0.4s,mb4.0,baz=270,slow=7.4,SNR=3.5						
ILAR	**Eielson Array**	**68.56**	**334**	P	**P**	**10 12 39.5**	**+0.5**
	1.6nm,0.9s,mb3.9,baz=44,slow=4.1,SNR=8.9						
BVAR	**Borovoye Array**	**77.39**	**35**	P	**P**	**10 13 31.6**	**+0.6**
	1.4nm,0.8s,mb4.0,baz=288,slow=4.7,SNR=7.7						
KMBO	**Kilima Mbogo**	**80.77**	**97**	LR	LR	10 49 11.8	
	comp=Z,119nm,21.2s,MS4.2,baz=102,slow=35						

PRE 28 10:50:21.6±1.9, 26.98S×26.80E, h2km, ML3.5, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SWZ	**Schweizer**	**1.32**	**261**	*e*P		Pb	10 50 47.9	+1.1
SWZ				*e*S		Sb	10 51 04.8	+0.7
SWZ				AML		AML	10 51 08.5	
	comp=Z,1μm,0.4s							
SEK	**Senekal**	**1.53**	**151**	*e*S		Sb	10 51 10.9	+0.8
SEK				AML		AML	10 51 16.1	
	comp=Z,650nm,0.2s							
SLR	**Silverton**	**1.82**	**47**	*e*P		Pn	10 50 55.6	+1.5
SLR				*e*S		Sn	10 51 17.0	-1.1
SLR				AML		AML	10 51 21.9	
	comp=Z,246nm,0.3s							
LBTB	**Lobatse**	**2.23**	**331**	*e*P		Pn	10 51 00.8	+0.7
LBTB				*e*S		Sn	10 51 28.1	-0.6
NWL	**Newcastle**	**2.90**	**106**	*e*P		Pn	10 51 09.9	+0.2
NWL				*e*S		Sn	10 51 45.0	-0.6
NWL				AML		AML	10 51 57.9	
	comp=Z,152nm,0.6s							
POGA	**Pongola**	**4.31**	**96**	*e*P		Pn	10 51 29.8	+0.1
PKA	**Prieska**	**4.46**	**232**	*e*P		Pn	10 51 31.3	-0.5
PKA				*e*S		Sn	10 52 21.4	-3.6
PKA				AML		AML	10 52 44.1	
	comp=Z,29nm,0.7s							
CVNA	**Calvinia**	**7.61**	**232**	*e*P		Pn	10 52 14.4	-1.8

KRSC 28 11:00:46.2±0.7, 53.31N×160.49E, h26km±5km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NLC	**Nalytchevo**	**0.70**	**259**	*i* P		Pb	11 01 00.2	+0.5
NLC				*i* S		Sb	11 01 10.4	+1.4
KII	**Karymskiy**	**0.95**	**320**	*e*P		Pb	11 01 03.4	-0.6
KII				*i* S		Sb	11 01 16.2	0.0
SDLR	**Sedlovina**	**0.96**	**269**	*i* P		Pb	11 01 04.3	+0.1
SDLR				*i* S		Sb	11 01 17.4	+0.9
UGLR	**Uglovaya**	**1.01**	**265**	*i* P		Pn	11 01 05.1	+0.3
UGLR				*e*S		Sb	11 01 18.3	+0.6
SMAR	**Somma**	**1.01**	**268**	*i* P		Pn	11 01 05.0	+0.1
SMAR				*e*S		Sb	11 01 18.4	+0.4
AVH	**Avacha**	**1.05**	**268**	*i* P		Pn	11 01 05.8	+0.4
AVH				*i* S		Sb	11 01 20.4	+1.3
KOK	**Koryaka**	**1.11**	**270**	*i* P		Pn	11 01 06.4	+0.1
KOK				*e*S		Sb	11 01 20.5	-0.3
PET	**Petropavlovsk**	**1.14**	**256**	*e*P		Pn	11 01 06.4	-0.3
PET				*e*S		Sn	11 01 20.9	-0.7
MKZ	**Mys Kozlova**	**1.45**	**30**	*e*P		Pn	11 01 09.0	-2.1
MKZ				*e*S		Sn	11 01 26.2	-3.2
RUS	**Russkaya**	**1.49**	**235**	*e*P		Pn	11 01 10.7	-0.9
RUS				*e*S		Sn	11 01 29.0	-1.3
KRMR	**Karymshinskiy**	**1.50**	**252**	*e*P		Pn	11 01 12.1	+0.2
KRMR				*e*S		Sn	11 01 30.4	-0.4
GNL	**Ganaly**	**1.57**	**285**	*e*P		Pn	11 01 13.2	+0.4
GNL				*e*S		Sn	11 01 33.9	+1.4
GRL	**Gorelyy**	**1.65**	**244**	*e*P		Pn	11 01 14.1	+0.2
GRL				*e*S		Sn	11 01 35.5	+1.0
TUMR	**Tumrok**	**1.99**	**354**	*e*P		Pn	11 01 18.9	+0.1
TUMR				*e*S		Sn	11 01 43.1	0.0
APC	**Apacha**	**2.04**	**260**	*e*P		Pn	11 01 20.7	+1.1
APC				*e*S		Sn	11 01 46.1	+1.5
APC				Smax				
	60nm,0.6s							
KMNR	**Kamenistaya**	**2.46**	**357**	*e*P		Pn	11 01 26.0	+0.5
KMNR				*e*S		Sn	11 01 55.8	+0.8
MIPR	**Malaya Ipel'ka**	**2.49**	**247**	*e*P		Pn	11 01 27.0	+1.0
MIPR				*e*S		Sn	11 01 57.2	+1.3
KPT	**Kopyto**	**2.67**	**357**	*e*P		Pn	11 01 29.7	+1.2
KPT				*e*S		Sn	11 02 00.9	+0.6
ZLN	**Zelenaya**	**2.72**	**4**	*e*P		Pn	11 01 30.2	+0.9
ZLN				*e*S		Sn	11 02 02.3	+0.6
KOZ	**Kozyrevsk**	**2.78**	**353**	*e*P		Pn	11 01 30.2	+0.1
KOZ				*e*S		Sn	11 02 01.9	-1.2
LGNR	**Loginova**	**2.78**	**2**	*e*P		Pn	11 01 31.4	+1.3
LGNR				*e*S		Sn	11 02 03.7	+0.5
CIRR	**Tsirk**	**2.82**	**3**	*e*P		Pn	11 01 32.3	+1.7
CIRR				*e*S		Sn	11 02 04.8	+0.7
ESO	**Esso**	**2.82**	**339**	*e*P		Pn	11 01 30.3	-0.4
ESO				*e*S		Sn	11 02 03.2	-1.0
ESO				Smax				
	20nm,1.0s							
KRSR	**Krestovskiy**	**2.91**	**1**	*e*P		Pn	11 01 32.0	0.0
KRSR				*e*S		Sn	11 02 05.3	-1.3
PAU	**Pauzhetka**	**2.91**	**232**	*e*P		Pn	11 01 34.0	+2.0
PAU				*e*S		Sn	11 02 07.5	+0.9
KLY	**Klyuchi**	**3.01**	**2**	P		Pn	11 01 34.8	+1.4
KLY				*e*S		Sn	11 02 09.4	+0.4
SRDR	**Sredinnyy**	**3.05**	**352**	*e*P		Pn	11 01 33.1	-0.8
SRDR				*e*S		Sn	11 02 07.4	-2.5
KBTR	**Krutoberegovo**	**3.20**	**24**	*e*P		Pn	11 01 35.5	-0.6
KBTR				*e*S		Sn	11 02 11.5	-2.4
BKI	**Bering**	**3.73**	**57**	*e*S		Sn	11 02 20.0	-7.3
BKI				Smax				
	40nm,0.3s							
SKR	**Severo-Kuril's**	**3.77**	**228**	*e*S		Sn	11 02 24.0	-4.3

JMA ***28*** *11:06:55.5±0.2, 30.20N×131.22E, h33km±1km, M3.2*
IDC ***28*** *11:06:57.5±2.2, 30.25N×130.96E, h41km±19km, mb3.5/5, mb1 3.5/7, mb1mx3.4/22, mbtmp3.6/7, ML2.8/2, Error ellipse: s-maj=35.6km s-min=9.6km az=102.0*

ISC 28 11:06:55.3±1.0, 30.19N±0.05×131.22E±0.09, h45km±9km, n16, σ0§80/22, mb3.7/5, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**0.51**	**336**	P		**P**	**11 07 05.8**	**-0.6**
JTN				S		**S**	**11 07 13.1**	**-1.1**
JKC	**Kuchinoerabu**	**0.92**	**287**	P		**P**	**11 07 12.4**	**+0.4**
JKC				*e*S		**S**	**11 07 24.5**	**+0.1**
JTSR	**Tashiro 2**	**1.01**	**345**	P		**P**	**11 07 13.5**	**+0.3**
JNN	**Nakanoshima**	**1.21**	**254**	P		**P**	**11 07 17.2**	**+1.1**
JNN				*e*S		**S**	**11 07 32.8**	**+1.2**
JNAR	**Kushima--Naru**	**1.33**	**2**	P		**P**	**11 07 18.6**	**+0.7**
JSU	**Suzuyama**	**1.47**	**334**	P		**P**	**11 07 19.9**	**+0.1**
JSU				*e*S		**S**	**11 07 38.6**	**+0.6**
JTZ	**Takazaki**	**1.71**	**356**	P		**P**	**11 07 23.7**	**+0.5**
JSJ	**Shimokoshiki**	**1.97**	**319**	P		**P**	**11 07 26.5**	**-0.3**
JZO	**Okuchi**	**2.02**	**345**	P		**P**	**11 07 28.0**	**+0.5**
JNU	**Nakatsue**	**2.94**	**354**	P		**P**	**11 07 40.9**	**+0.2**
	1.4nm,0.3s,baz=172,slow=2.3,SNR=5.5							
JNU				S		**S**	**11 08 14.3**	**-0.7**
	2.4nm,0.3s,baz=69,slow=17,SNR=4.1							
JOW	**Kunigami**	**4.23**	**218**	P		**P**	**11 07 57.9**	**-1.1**
	2.1nm,0.3s,baz=96,slow=21,SNR=14							
JOW				S		**S**	**11 08 46.0**	**-1.7**
	2.8nm,0.3s,baz=164,slow=29,SNR=7.4							
SONM	**Songino Array**	**25.95**	**320**	P		**P**	**11 12 23.5**	**-1.6**
	0.3nm,0.5s,mb3.1,baz=146,slow=11,SNR=4.1							
BVAR	**Borovoye Array**	**49.18**	**316**	P		**P**	**11 15 40.0**	**-0.5**
	0.4nm,0.4s,mb3.8,baz=93,slow=8.0,SNR=3.2							
WRA	**Warramunga Arr**	**49.93**	**176**	P		**P**	**11 15 47.5**	**+0.8**
	0.4nm,1.0s,mb3.4,baz=355,slow=7.9,SNR=4.7							
STKA	**Stephens Creek**	**62.51**	**170**	P		**P**	**11 17 17.5**	**+0.9**
	0.8nm,0.6s,mb4.0,baz=335,slow=13,SNR=3.5							
FINES	**FINESS Array B**	**70.72**	**331**	P		**P**	**11 18 08.1**	**0.0**
	0.9nm,0.4s,mb4.0,baz=56,slow=6.9,SNR=11							

IDC 28 11:49:24.7±1.8, 8.75S×130.55E, mb3.5/2, mb1 3.6/3, mb1mx3.5/10, mbtmp3.5/3, ML3.5/1, Error ellipse: s-maj=93.4km s-min=29.3km az=70.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**11.72**	**162**	Pn		P	11 52 14.1	-2.1
	0.3nm,0.3s,baz=346,slow=13,SNR=21							
WRA				Sn		S	11 54 24.0	-5.0
	0.4nm,0.3s,baz=339,slow=22,SNR=5.9							
SONM	**Songino Array**	**60.26**	**341**	P		P	11 59 35.1	-2.1
	0.2nm,0.3s,baz=166,slow=5.9,SNR=3.5							
MKAR	**Makanchi Array**	**69.98**	**327**	P		P	12 00 37.9	-2.2
	0.2nm,0.3s,baz=112,slow=7.8,SNR=3.4							

NIED ***28*** *12:04:00, 26.50N×129.70E, h5km, Mw4.4 Best double couple: M0:5.27×10¹⁵ NP1:φs37°, δ58°, λ-85°. NP2:φs208°, δ33°, λ-98°.*
BJI ***28*** *12:04:10.0, 26.20N×129.76E, h29km, mB4.4, mb4.6, Ms4.2, Msz4.0*
JMA ***28*** *12:04:12.0±0.1, 26.49N×129.74E, h45km, M4.3*
NEIC ***28*** *12:04:12.0±0.3, 26.53N×129.64E, h10km, mb4.6/23, MW4.4(NIED), Error ellipse: s-maj=7.3km s-min=6.1km az=178.0*
MOS ***28*** *12:04:14.1±1.0, 26.58N×129.76E, h33km, mb4.8/18, MS4.4/4, Error ellipse: s-maj=14.5km s-min=7.3km az=113.4*
IDC ***28*** *12:04:14.1±6.2, 26.51N×129.71E, h26km±40km, mb4.3/20, mb1 4.4/22, mb1mx4.3/27, mbtmp4.4/22, ML4.5/1, MS3.7/9, Ms1 3.7/9, ms1mx3.5/25, Error ellipse: s-maj=18.6km s-min=16.5km az=36.0*

ISC 28 12:04:10.1±1.1, 26.51N±0.03×129.64E±0.03, h8km±7km, n136, σ1§18/161, mb4.6/49, MS4.0/18, 8C-1D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**1.26**	**285**	Pn		**Pn**	**12 04 35.5**	**+1.6**
	737nm,0.3s,baz=112,slow=17,SNR=3525							
JOW				Sn		**Sn**	**12 04 50.2**	**-1.0**
	1μm,0.3s,baz=121,slow=26,SNR=40							
JOW				LR		LR	12 05 14.0	
	comp=Z,2μm,19.5s,baz=261,slow=46							
JOW	**Kunigami**	**1.26**	**285**	P		**Pb**	**12 04 35.1**	**+1.4**
JOW				S		**Sb**	**12 04 50.9**	**+1.0**
JTK	**Tokunoshima**	**1.41**	**334**	P		**Pn**	**12 04 36.9**	**+0.8**
JTK				S		**Sb**	**12 04 53.8**	**-0.4**
JIH	**Iheya**	**1.58**	**290**	P		**Pn**	**12 04 39.9**	**+1.3**
JIH				S		**Sb**	**12 04 59.5**	**+0.3**
JMZ	**Minamidaito 2**	**1.58**	**116**	P		**Pn**	**12 04 36.8**	**-1.8**
JMZ				S		**Sb**	**12 04 54.4**	**-4.9**
JJT2	**Tamagusuku 2**	**1.73**	**258**	P		**Pn**	**12 04 42.0**	**+1.2**
JJT2				S		**Sn**	**12 05 03.2**	**-0.1**
NAH1	**Naha**	**1.77**	**260**	P		**Pn**	**12 04 42.4**	**+1.1**
NAH1				S		**Sn**	**12 05 04.2**	**-0.1**
JZK	**Kikaishima**	**1.82**	**9**	P		**Pn**	**12 04 42.1**	**+0.1**
JZK				S		**Sn**	**12 05 04.7**	**-0.8**
JAM	**Amami Oshima**	**1.89**	**359**	P		**Pn**	**12 04 43.0**	**0.0**
JAM				S		**Sn**	**12 05 04.4**	**-2.9**
JAGN	**Aguni-jima**	**2.15**	**273**	P		**Pn**	**12 04 47.8**	**+1.1**
JAGN				S		**Sn**	**12 05 13.3**	**-0.5**
JKE	**Kume jima 2**	**2.56**	**266**	P		**Pn**	**12 04 52.7**	**+0.1**
JKE				S		**Sn**	**12 05 23.3**	**-1.0**
JNN	**Nakanoshima**	**3.32**	**4**	P		**Pn**	**12 05 02.5**	**-1.0**
JNN				S		**Sn**	**12 05 39.4**	**-4.2**
JKC	**Kuchinoerabu**	**3.96**	**7**	P		**Pn**	**12 05 11.3**	**-1.3**
JOGS	**Gusukube**	**4.20**	**246**	P		**Pn**	**12 05 15.5**	**-0.4**
JOGS				*e*S		**Sn**	**12 06 01.5**	**-4.3**
JMJ	**Miyako jima 2**	**4.27**	**248**	P		**Pn**	**12 05 16.4**	**-0.5**
JTN	**Tanegashima 3**	**4.29**	**16**	P		**Pn**	**12 05 15.6**	**-1.6**
JTN				S		**Sn**	**12 06 02.5**	**-5.7**
JTJ	**Tarama**	**4.83**	**248**	P		**Pn**	**12 05 23.3**	**-1.6**
JTJ				S		**Sn**	**12 06 16.6**	**-5.1**
JIJ	**Ishigaki jima**	**5.41**	**248**	P		**Pn**	**12 05 30.4**	**-2.6**
JKRS	**Kuro-shima**	**5.57**	**247**	P		**Pn**	**12 05 33.1**	**-2.2**
IRIF	**Iriomote-Funau**	**5.76**	**249**	P		**Pn**	**12 05 35.3**	**-2.7**
YOJ	**Yonaguni jima**	**6.33**	**253**	P		**Pn**	**12 05 43.2**	**-2.8**
JNU	**Nakatsue**	**6.67**	**9**	Pn		**Pn**	**12 05 50.0**	**-0.9**
JNU				Sn		**Sn**	**12 06 58.9**	**-9.1**
	1.0nm,0.3s,baz=326,slow=25,SNR=2.0							
JNU				LR		LR	12 08 37.9	
	comp=Z,219nm,20.1s,baz=204,slow=40							
NACB	**Ninganchiao**	**7.64**	**254**	*e*P		**Pn**	**12 06 00.7**	**-3.7**
YHNB	**Yeheng**	**7.68**	**258**	*e*P		**Pn**	**12 06 03.3**	**-1.7**
SSE	**Sheshan**	**8.70**	**304**	P		**P**	**12 06 18.0**	**-1.2**
SSE				S		**Sn**	**12 07 56.3**	**-2.3**
SSE				AMB		AMB		
	comp=Z,36nm,0.6s							
SSE				AMB		AMB		
	comp=Z,67nm,8.7s							
SSE				LR		LR		
	comp=N,372nm,11.7s							
SSE				LR		LR		
	comp=E,301nm,11.5s							
SSE				LR		LR		
	comp=Z,542nm,12.2s							
SSE	**Sheshan**	**8.70**	**304**	P		**P**	**12 06 18.1**	**-1.1**
	comp=Z,36nm,0.6s							
SSE				S		**Sn**	**12 07 56.3**	**-2.3**
NJ2	**Nanjing**	**10.91**	**303**	*e*P		**P**	**12 06 52.3**	**+2.7**
NJ2				AP			12 06 59.5	
NJ2				PP		PP	12 07 01.0	+3.1
NJ2				XP			12 07 04.5	
NJ2				S		**S**	**12 08 56.0**	**+3.0**
NJ2				XS			12 09 07.0	
NJ2				AMB		AMB		
	comp=Z,20nm,0.6s							
NJ2				AMB		AMB		
	comp=Z,30nm,6.6s							
NJ2				LR		LR		
	comp=N,950nm,11.1s							
NJ2				LR		LR		
	comp=E,1μm,11.5s							
NJ2				LR		LR		
	comp=Z,680nm,12.0s							
JHJ	**Hachijo jima 2**	**10.99**	**51**	Pn		**P**	**12 06 49.5**	**-1.4**
	comp=Z,14nm,0.3s,baz=201,slow=22,SNR=12							
SNY	**Shenyang**	**16.07**	**343**	⇑P		**P**	**12 07 59.5**	**+1.5**
SNY				S		**S**	**12 11 01.3**	**+4.9**
SNY				AMB		AMB		
	comp=Z,80nm,1.2s							
SNY				AMB		AMB		
	comp=Z,80nm,8.8s							
SNY				LR		LR		
	comp=N,440nm,11.4s							
SNY				LR		LR		
	comp=E,190nm,11.8s							
SNY				LR		LR		
	comp=Z,440nm,11.3s							
CN2	**Changchun**	**17.58**	**350**	*e*P		**P**	**12 08 20.3**	**+3.3**
MDJ	**Mudanjiang**	**18.06**	**360**	P		**P**	**12 08 25.0**	**+1.9**
MDJ				AP			12 08 32.8	
MDJ				XP			12 08 37.0	
MDJ				S		**S**	**12 11 46.0**	**+3.9**
MDJ				PCP		PcP	12 12 58.0	-0.4
MDJ				SCP			12 16 30.0	
MDJ				PCS			12 16 34.8	
MDJ				SCS		ScS	12 20 09.3	-2.7
MDJ				AMB		AMB		
	comp=Z,4.0nm,0.8s							
MDJ				AMB		AMB		
	comp=Z,27nm,5.6s							
ENH	**Enshi**	**18.12**	**287**	P		**P**	**12 08 24.0**	**+0.2**
GUMO	**Guam**	**19.21**	**129**	LR		LR	12 14 10.3	
	comp=Z,231nm,19.5s,baz=84,slow=31							
XAN	**Xi'an**	**19.38**	**298**	P		**P**	**12 08 37.8**	**-1.3**
XAN				AMB		AMB		
	comp=Z,41nm,1.1s							
ASAJ	**Asahikawa**	**20.46**	**28**	P		**P**	**12 08 50.9**	**+0.1**
	comp=Z,3.9nm,0.6s,baz=206,slow=7.1,SNR=7.0							
GYA	**Guiyang**	**20.56**	**275**	P		**P**	**12 08 52.0**	**+0.1**
GYA				AP			12 09 01.3	
GYA				XP			12 09 05.3	
GYA				AMB		AMB		
	comp=Z,10.0nm,0.9s							
GYA				AMB		AMB		
	comp=Z,220nm,6.0s							
GYA				LR		LR		
	comp=N,390nm,13.7s,MS4.2							
GYA				LR		LR		
	comp=E,470nm,11.7s,MS4.2							
GYA				LR		LR		
	comp=Z,820nm,11.7s,MS4.3							
HHC	**Hu-ho-hao-te**	**20.69**	**318**	*e*P		**P**	**12 08 55.8**	**+2.6**
HHC				AP			12 09 06.8	
HHC				XP			12 09 11.8	
HHC				PP		PP	12 09 20.5	+5.7
HHC				S		**S**	**12 12 45.8**	**+6.3**
HHC				PCP		PcP	12 12 57.8	-5.3
HHC				AMB		AMB		
	comp=Z,20nm,1.0s							
HHC				AMB		AMB		
	comp=Z,87nm,6.0s							
HHC				LR		LR		
	comp=N,436nm,13.0s,MS4.1							
HHC				LR		LR		
	comp=E,274nm,12.0s,MS4.1							
HHC				LR		LR		
	comp=Z,395nm,11.9s,MS4.0							
BTO	**Baotou**	**21.49**	**316**	*e*P		**P**	**12 08 59.3**	**-2.1**
YSS	**Yuzh-Sakhalins**	**22.89**	**24**	⇑*i*P		**P**	**12 09 15.0**	**-0.2**
YSS				*e*			12 09 30.5	
YSS				pmax		pmax		
	comp=N,30nm,1.0s							
YSS				pmax		pmax		
	comp=Z,30nm,1.0s,mb4.7							
CD2	**Chengdu**	**23.09**	**287**	*e*P		**P**	**12 09 16.5**	**-0.9**
CD2				S		**S**	**12 13 18.8**	**-5.5**
CD2				LR		LR		
	comp=E,170nm,13.2s							
CD2				LR		LR		
	comp=Z,160nm,14.4s,MS3.6							
LZH	**Lanzhou**	**23.96**	**300**	*e*P		**P**	**12 09 25.5**	**-0.2**
LZH				AP			12 09 35.5	
LZH				XP			12 09 39.5	
LZH				PP		PP	12 09 59.0	-0.6
LZH				*e*S		**S**	**12 13 33.0**	**-6.3**
LZH				AMB		AMB		
	comp=Z,15nm,1.0s,mb4.4							
LZH				AMB		AMB		
	comp=Z,73nm,4.0s							
LZH				LR		LR		
	comp=N,649nm,15.0s							
LZH				LR		LR		
	comp=Z,936nm,16.2s,MS4.3							
LZH	**Lanzhou**	**23.96**	**300**	*e*P		**P**	**12 09 25.6**	**-0.1**
	comp=Z,15nm,1.0s,mb4.4							
LZH				pP			12 09 35.4	
LZH				sP			12 09 39.6	
LZH				PP		PP	12 09 59.0	-0.6
LZH				*e*S		**S**	**12 13 33.0**	**-6.3**
LZH				sS			12 13 46.1	
LZH				*e*SS		SS	12 14 21.0	-8.7
LZH				LR		LR		
	comp=Z,940nm,16.2s,MS4.3							
LZH	**Lanzhou**	**23.96**	**300**	*e*P		**P**	**12 09 25.6**	**-0.1**
LZH				*PP			12 09 35.4	
LZH				*SP			12 09 39.6	
LZH							12 09 59.0	
LZH				*e*S		**S**	**12 13 33.0**	**-6.3**
LZH				*SS			12 13 46.1	
LZH				pmax		pmax		
	comp=Z,15nm,1.0s,mb4.4							
LZH				MLR		MLR		
	comp=Z,940nm,16.2s,MS4.3							
HIA	**Hailar**	**23.98**	**344**	*e*P		**P**	**12 09 26.4**	**+0.7**
KMI	**Kunming**	**24.24**	**273**	P		**P**	**12 09 30.8**	**+2.2**
KMI				AP			12 09 34.8	
KMI				XP			12 09 36.5	
KMI				S		**S**	**12 13 40.3**	**-3.9**
KMI				SS		SS	12 14 32.8	-4.0
KMI				AMB		AMB		
	comp=Z,13nm,0.8s,mb4.4							
KMI				AMB		AMB		
	comp=Z,52nm,4.8s							
KMI				LR		LR		
	comp=N,417nm,14.2s,MS4.2							
KMI				LR		LR		
	comp=E,457nm,13.1s,MS4.2							
KMI				LR		LR		
	comp=Z,412nm,10.9s,MS4.2							
KMI	**Kunming**	**24.24**	**273**	P		**P**	**12 09 30.8**	**+2.2**
	comp=Z,13nm,0.8s,mb4.4							
KMI				pP			12 09 34.8	
KMI				sP			12 09 36.4	
KMI				S		**S**	**12 13 40.3**	**-3.9**
KMI				sS			12 13 51.2	
KMI				SS		SS	12 14 32.8	-4.0
KMI				LR		LR		
	comp=Z,410nm,10.9s,MS4.2							
KMI	**Kunming**	**24.24**	**273**	P		**P**	**12 09 30.8**	**+2.2**
KMI				*SP			12 09 36.4	
KMI				S		**S**	**12 13 40.3**	**-3.9**
KMI				*SS			12 13 51.2	
KMI				SS		SS	12 14 32.8	-4.0
KMI				pmax		pmax		
	comp=Z,13nm,0.8s,mb4.4							
KMI				MLR		MLR		
	comp=Z,410nm,10.9s,MS4.2							
ULN	**Ulaanbaatar**	**27.71**	**326**	⇑*e*P		**P**	**12 10 01.8**	**+1.1**
GTA	**Gaotai**	**28.00**	**305**	P		**P**	**12 10 01.8**	**-1.6**
GTA				AP	

WMQ LR LR
comp=Z,139nm,14.0s,MS3.9
KKN Kakani 39.33 282 *eP* **P 12 11 42.3 +0.7**
comp=Z,19nm,0.8s,mb4.9
KKN Kakani 39.33 282 *eP* **P 12 11 42.3 +0.7**
KKN pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
SEY Seymchan 39.39 16 *i P* **P 12 11 40.4 -1.3**
DMN Daman 39.51 282 *eP* **P 12 11 43.5 +0.4**
comp=Z,9.6nm,0.7s,mb4.6
GKN Gorkha 39.86 283 *eP* **P 12 11 45.8 -0.2**
comp=Z,30nm,0.8s,mb5.1
KOLN Koldanda 40.80 283 *eP* **P 12 11 53.6 -0.1**
comp=Z,17nm,0.8s,mb4.7
MKAR Makanchi Array 42.29 311 P **P 12 12 05.0 -0.7**
comp=Z,2.5nm,0.6s,mb4.0,baz=99,slow=9.2,SNR=20
MKAR PcP PcP 12 13 56.5 -3.7
comp=Z,1.1nm,0.8s,baz=76,slow=5.0,SNR=3.9
MKAR LR LR 12 31 28.8
comp=Z,63nm,18.4s,MS3.5,baz=181,slow=39
ZAL Zalesovo 42.80 322 P **P 12 12 11.3 +1.5**
comp=Z,1.9nm,0.7s,mb3.9,baz=10.0,slow=7.9,SNR=10
ZAL PcP PcP 12 14 00.4 -1.3
comp=Z,1.0nm,0.6s,baz=335,slow=1.8,SNR=4.9
ZAL LR LR 12 32 38.5
comp=Z,177nm,18.3s,MS4.0,baz=182,slow=40
ZAL Zalesovo 42.80 322 P **P 12 12 11.3 +1.5**
ZAL PcP PcP 12 14 00.4 -1.3
ZAL LR LR 12 32 38.5
KURK Kurchatov 45.48 316 *eP* **P 12 12 29.2 -2.3**
comp=Z,3.2nm,0.8s,mb4.2
KURK Kurchatov 45.48 316 *eP* **P 12 12 29.2 -2.3**
KURK pmax pmax
comp=Z,3.0nm,0.8s,mb4.2
WRAB Tennant Creek 46.40 174 *eP* **P 12 12 38.0 -1.1**
comp=Z,16nm,1.0s,mb4.9
WRAB Tennant Creek 46.40 174⇑ *eP* **P 12 12 40.4 +1.3**
WRA Warramunga Arr 46.40 174 P **P 12 12 38.3 -0.8**
comp=Z,4.3nm,0.6s,mb4.6,baz=353,slow=8.3,SNR=69
BILL Bilibino 47.01 18 *i P* **P 12 12 42.5 -0.8**
BILL pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
BILL MLR MLR
comp=Z,100nm,21.0s,MS3.8
CTAO Charters Tower 49.05 159 *eP* **P 12 13 00.4 +0.6**
BVAR Borovoye Array 50.91 318 P **P 12 13 13.0 -0.6**
comp=Z,4.3nm,0.7s,mb4.5,baz=82,slow=8.5,SNR=29
BVAR PcP PcP 12 14 29.4 -0.9
comp=Z,3.6nm,0.8s,baz=108,slow=2.7,SNR=8.7
BRVK Borovoye 50.97 318 *eP* **P 12 13 13.2 -0.9**
comp=Z,4.2nm,0.8s,mb4.4
BRVK Borovoye 50.97 318 *eP* **P 12 13 13.2 -0.9**
BRVK pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
SVE Sverdlovsk 56.81 322 *eP* **P 12 13 56.5 -0.6**
SVE *e* 12 14 05.0
SVE pmax pmax
comp=Z,32nm,1.3s,mb5.2
SVE MLR MLR
comp=N,100nm,12.0s,MS4.5
SVE MLR MLR
comp=E,200nm,12.0s,MS4.5
SVE MLR MLR
comp=Z,400nm,12.0s,MS4.7
ARU Arti 57.95 322⇓ *i P* **P 12 14 04.2 -0.9**
ARU *e* 12 14 54.1
ARU *e* 12 16 14.7
ARU *eS* **S 12 22 03.4 -0.3**
ARU *eSS* SS 12 25 52.4 -3.8
ARU pmax pmax
comp=Z,13nm,0.9s,mb5.0
STKA Stephens Creek 59.17 168 P **P 12 14 12.9 -1.1**
comp=Z,1.4nm,0.5s,mb4.3,baz=351,slow=14,SNR=3.2
STKA LR LR 12 41 16.7
comp=Z,71nm,19.4s,MS3.8,baz=206,slow=38
ILAR Eielson Array 63.59 28 P **P 12 14 41.4 -1.9**
comp=Z,1.0nm,0.7s,mb3.9,baz=264,slow=5.2,SNR=13
ILAR PcP PcP 12 15 17.1 -2.4
comp=Z,0.6nm,0.7s,baz=295,slow=5.4,SNR=5.6
KIV Kislovodsk 70.03 310 *eP* **P 12 15 20.3 -4.1**
KIV pmax pmax
comp=Z,34nm,1.5s,mb5.1
ARCES ARCESS Array B 70.20 339 P **P 12 15 23.6 -1.4**
comp=Z,2.0nm,0.7s,mb4.2,baz=53,slow=6.1,SNR=7.9
ARCES LR LR 12 49 22.4
comp=Z,64nm,19.2s,MS3.9,baz=268,slow=39
OBN Obninsk 70.38 322⇑ *eP* **P 12 15 26.1 -0.2**
OBN *e* 12 18 00.4
OBN pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
OBN MLR MLR
comp=Z,200nm,17.0s,MS4.4
FINES FINESS Array B 73.23 331 P **P 12 15 42.8 -0.4**
comp=Z,3.5nm,0.4s,mb4.6,baz=64,slow=6.5,SNR=49
FINES LR LR 12 51 46.8
comp=Z,100nm,19.9s,MS4.1,baz=10,slow=39
VSU Vasula 74.18 328 *i P* **P 12 15 49.0 +0.3**
MALT Malatya 74.97 305 *eP* **P 12 15 54.9 +1.1**
comp=Z,3.0nm,0.6s,mb4.4
MALT Malatya 74.97 305 *eP* **P 12 15 54.9 +1.1**
MALT pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
AKASG Malin Array Be 76.13 320 P **P 12 15 59.5 -0.6**
comp=Z,4.9nm,0.6s,mb4.6,baz=55,slow=6.5,SNR=16
BR131 Keskin Array S 77.85 308 *eP* **P 12 16 10.1 +0.2**
comp=Z,2.1nm,0.6s,mb4.2
BRTR Keskin Array B 77.85 308 P **P 12 16 10.5 +0.6**
comp=Z,4.5nm,0.8s,mb4.4,baz=90,slow=4.9,SNR=17
SUW Suwalki 77.96 325 *eP* **P 12 16 10.3 +0.1**
SUW Suwalki 77.96 325 *eP* **P 12 16 10.3 +0.2**
ASF Jabal al Asfar 78.52 300 P **P 12 16 14.8 +1.1**
comp=Z,2.4nm,0.4s,mb4.4,baz=250,slow=2.3,SNR=5.3
HFS Hagfors 79.15 333 P **P 12 16 16.2 -0.4**
comp=Z,7.3nm,0.8s,mb4.6,baz=135,slow=4.2,SNR=7.6
NB2 NORSAR Subarra 79.61 334 P **P 12 16 18.4 -0.6**
comp=Z,13nm,1.1s,mb4.8,baz=51,slow=5.3
NB2 NORSAR Subarra 79.61 334 P **P 12 16 18.4 -0.6**
NB2 pmax pmax
comp=Z,13nm,1.1s,mb4.8
NOA NORSAR Array B 79.61 334 P **P 12 16 18.6 -0.4**
comp=Z,5.4nm,0.8s,mb4.5,baz=50,slow=5.3,SNR=12
NOA LR LR 12 54 15.0
comp=Z,34nm,18.2s,MS3.7,baz=145,slow=38
KWP Kalwaria 80.35 321 *eP* **P 12 16 22.6 -0.6**
KWP Kalwaria 80.35 321 *eP* **P 12 16 22.6 -0.6**
MLR Muntele Rosu 80.42 316 P **P 12 16 24.1 +0.4**
comp=Z,1.6nm,0.4s,mb4.3,baz=106,slow=8.7,SNR=4.1
SUMG Summit 80.84 356 *eP* **P 12 16 26.2 +0.8**
comp=Z,14nm,1.0s,mb4.8
OJC Ojcow 81.67 322 *eP* **P 12 16 30.6 +0.5**
NIE Niedzica 81.80 321 *eP* **P 12 16 32.5 +1.7**
KECS Kecovo 82.19 321 *eP* **P 12 16 32.4 -0.5**
VYHS Vyhne 83.11 321 *eP* **P 12 16 38.6 +0.9**
KSP Ksiaz 83.21 324 *eP* **P 12 16 39.7 +1.6**
KSP Ksiaz 83.21 324 *eP* **P 12 16 39.3 +1.2**
DPC Dobruska-Polom 83.47 324 *eP* **P 12 16 40.9 +1.5**
UPC Upice 83.54 324 *eP* **P 12 16 40.9 +1.1**
VRAC Vranov 83.91 323 P **P 12 16 43.1 +1.4**
comp=Z,6.5nm,0.8s,mb4.8,baz=70,slow=3.2,SNR=7.8
BRG Berggiesshubel 84.41 325 *eP* **P 12 16 45.5 +1.3**
comp=Z,5.3nm,1.0s,mb4.6
BRG Berggiesshubel 84.41 325 *eP* **P 12 16 45.5 +1.3**
BRG pmax pmax
comp=Z,5.0nm,1.0s,mb4.6
NEW Newport 84.60 38 *eP* **P 12 16 45.6 +0.5**
comp=Z,8.4nm,1.5s,mb4.7
NEW Newport 84.60 38 *eP* **P 12 16 45.6 +0.4**
NEW pmax pmax
comp=Z,8.0nm,1.5s
PRU Pruhonice 84.62 324 *eP* **P 12 16 46.7 +1.5**
CLL Collm 84.63 326 ⇑P **P 12 16 46.3 +1.0**
comp=Z,logA/T=1.0,mb4.9
CLL Collm 84.63 326⇑ *i*PKP **P 12 16 46.3 +1.0**
comp=Z,11nm,1.0s,mb4.9
CLL Collm 84.63 326⇑ *i P* **P 12 16 46.3 +1.0**
CLL pmax pmax
comp=Z,11nm,1.0s,mb4.9
KHC Kasperske Hory 85.63 324 *eP* **P 12 16 51.2 +0.9**
GERES GERESS Array B 85.73 323 P **P 12 16 51.7 +0.9**
comp=Z,2.0nm,0.7s,mb4.5,baz=45,slow=3.8,SNR=9.8
MOD Modoc 86.22 45 *eP* **P 12 16 53.0 -0.4**
comp=Z,11nm,1.3s,mb4.9
BMO Blue Mountains 86.42 41 *eP* **P 12 16 54.6 +0.3**
comp=Z,5.7nm,1.4s,mb4.6
GRA1 Grafenberg Arr 86.52 325 *eP* **P 12 16 55.4 +0.7**
comp=Z,5.0nm,1.3s,mb4.6
GRF Grafenberg Arr 86.52 325 *eP* **P 12 16 55.4 +0.7**
GRF pmax pmax
comp=Z,5.0nm,1.3s,mb4.6
WVOR Wild Horse Val 86.97 44 *eP* **P 12 16 57.5 +0.4**
comp=Z,4.9nm,1.0s,mb4.7
WVOR Wild Horse Val 86.97 44 *eP* **P 12 16 57.5 +0.4**
WVOR pmax pmax
comp=Z,5.0nm,1.0s,mb4.7
CMB Columbia Colle 88.24 48 *eP* **P 12 17 03.2 -0.1**
comp=Z,3.1nm,1.0s,mb4.5
CMB Columbia Colle 88.24 48 *eP* **P 12 17 03.2 -0.1**
CMB pmax pmax
comp=Z,3.0nm,1.0s,mb4.5
DLMT Dillon 88.82 39 *eP* **P 12 17 06.7 +0.8**
DAVOX Davos 89.03 323 P **P 12 17 06.9 +0.1**
comp=Z,2.3nm,0.6s,mb4.7,baz=148,slow=13,SNR=4.4
BOZ Bozeman (W) 89.18 38 *eP* **P 12 17 08.4 +0.8**
comp=Z,3.2nm,1.3s,mb4.5
HWUT Hardware Ranch 91.72 41 *eP* **P 12 17 20.9 +1.5**
comp=Z,2.6nm,0.9s,mb4.6
BW06 Boulder Array 92.15 39 *eP* **P 12 17 21.7 +0.3**
PDAR Pinedale Array 92.15 39 P **P 12 17 22.1 +0.7**
comp=Z,1.3nm,0.9s,mb4.3,baz=326,slow=3.0,SNR=11
SNAA Sanae 127.78 197 PKPdf 12 23 18.9 +0.4
VNA2 Neumayer--Watz 129.41 197 PKPdf 12 23 21.9 +0.2
VNA2 Neumayer--Watz 129.41 197 PKPdf 12 23 33.7 +12
VNA2 Neumayer--Watz 129.41 197 PKPdf 12 23 39.5 +18
LPAZ La Paz 160.60 62 PKPab PKPab 12 24 54.0 -0.9
comp=Z,0.7nm,0.9s,baz=279,slow=3.8,SNR=3.9
SIV San Ignacio 165.54 46 PKPab PKPab 12 25 14.6 -1.8
comp=Z,0.5nm,0.5s,baz=226,slow=16,SNR=3.0

MEX 28 12:08:57.0±0.6, 15.10N×93.44W, h27km±34km, MD4.1, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**1.72**	**47**	*eP*	Pn	12 09 23.2	-2.5
CCIG				*i* S	Sn	12 09 43.2	-3.8
SCX	**San Cristobal**	**1.80**	**25**	*i P*	Pn	12 09 26.0	-0.9
CMIG	**Matias Romero**	**2.42**	**325**	*eP*	Pn	12 09 32.2	-3.5
CMIG				*i* S	Sn	12 10 00.6	-4.1
VHO	**Vista Hermosa**	**3.72**	**302**	*i P*	Pn	12 09 50.4	-3.9
VHO				*i* S	Sn	12 10 34.1	-3.7

NIED ***28*** *12:08:00, 26.50N×129.70E, h5km, Mw4.2 Best double couple: M0=2.19×10^15 NP1:φs=43°, δ60°, λ-92°. NP2:φs=227°, δ30°, λ-87°.*
IDC ***28*** *12:08:55.6±0.9, 26.47N×129.71E, mb4.1/15, mb1 4.3/17, mb1mx4.2/23, mbtmp4.2/17, ML4.0/2, Error ellipse: s-maj=22.0km s-min=20.8km az=26.0*
JMA ***28*** *12:08:57.6, 26.49N×129.75E, h47km, M4.0*
BJI ***28*** *12:08:59.4, 26.37N×129.53E, h46km, mB4.2, mb4.4, Ms3.7, Msz3.6*
NEIC ***28*** *12:09:00.8±0.6, 26.45N×129.53E, h35km, mb4.4/4, Error ellipse: s-maj=13.2km s-min=11.1km az=127.0*
ISC 28 12:08:58.0±0.4, 26.49N±0.03×129.70E±0.03, h33km, n48, σ1§15/65, mb4.1/19, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**1.32**	**285**	Pn	**Pn**	**12 09 20.9**	**+0.4**
	428nm,0.3s,baz=112,slow=17,SNR=102						
JOW				Sn	**Sn**	**12 09 36.8**	**-0.3**
	368nm,0.3s,baz=105,slow=27,SNR=26						
JOW	**Kunigami**	**1.32**	**285**	P	**P**	**12 09 20.9**	**+0.6**
JOW				S	**S**	**12 09 37.2**	**+0.3**
JTK	**Tokunoshima**	**1.45**	**333**	P	**P**	**12 09 22.4**	**+0.3**
JTK				*eS*	**S**	**12 09 40.0**	**-0.2**
JMZ	**Minamidaito 2**	**1.52**	**116**	P	**P**	**12 09 22.4**	**-0.8**
JMZ				S	**S**	**12 09 40.3**	**-1.7**
JIH	**Iheya**	**1.64**	**290**	P	**P**	**12 09 25.6**	**+0.7**
JIH				S	**S**	**12 09 45.2**	**+0.2**
JJT2	**Tamagusuku 2**	**1.79**	**259**	P	**P**	**12 09 27.6**	**+0.7**
JJT2				S	**S**	**12 09 48.9**	**+0.2**
NAH1	**Naha**	**1.83**	**261**	P	**P**	**12 09 28.1**	**+0.6**
NAH1				S	**S**	**12 09 49.7**	**0.0**
JZK	**Kikaishima**	**1.83**	**8**	P	**P**	**12 09 27.8**	**+0.2**
JZK				S	**S**	**12 09 50.1**	**+0.3**
JAM	**Amami Oshima**	**1.91**	**358**	P	**P**	**12 09 28.4**	**-0.4**
JAM				S	**S**	**12 09 49.9**	**-2.0**
JAGN	**Aguni-jima**	**2.20**	**273**	P	**P**	**12 09 33.3**	**+0.4**
JAGN				S	**S**	**12 09 59.1**	**-0.2**
JKE	**Kume jima 2**	**2.62**	**267**	P	**P**	**12 09 38.3**	**-0.5**
JKE				*eS*	**S**	**12 10 09.4**	**-0.4**
JNN	**Nakanoshima**	**3.34**	**3**	P	**P**	**12 09 48.2**	**-0.9**
JNN				S	**S**	**12 10 25.0**	**-3.1**
JKC	**Kuchinoerabu**	**3.98**	**6**	P	**P**	**12 09 56.9**	**-1.3**
JKC				S	**S**	**12 10 39.6**	**-4.8**
JOGS	**Gusukube**	**4.24**	**247**	P	**P**	**12 10 01.2**	**-0.8**
JOGS				*eS*	**S**	**12 10 49.3**	**-1.7**
JTN	**Tanegashima 3**	**4.30**	**15**	P	**P**	**12 10 02.3**	**-0.4**
JTN				S	**S**	**12 10 48.3**	**-4.1**
JMJ	**Miyako jima 2**	**4.31**	**248**	P	**P**	**12 10 01.9**	**-1.1**
JTJ	**Tarama**	**4.88**	**249**	P	**P**	**12 10 08.8**	**-2.1**
JIJ	**Ishigaki jima**	**5.45**	**248**	P	**P**	**12 10 16.0**	**-3.0**
JKRS	**Kuro-shima**	**5.62**	**248**	P	**P**	**12 10 20.0**	**-1.3**
JNU	**Nakatsue**	**6.69**	**9**	Pn	**Pn**	**12 10 35.5**	**-1.1**
	3.0nm,0.3s,baz=5.9,slow=5.3,SNR=17						
JNU				Sn	**Sn**	**12 11 44.6**	**-7.8**
	0.1nm,0.3s,baz=94,slow=26,SNR=2.2						
NACB	**Ninganchiao**	**7.69**	**254**	*eP*	**P**	**12 10 46.3**	**-4.1**
NACB				*eS*	**S**	**12 12 08.6**	**-8.6**
YHNB	**Yeheng**	**7.73**	**258**	*eP*	**P**	**12 10 47.9**	**-3.1**
JHJ	**Hachijo jima 2**	**10.96**	**51**	Pn	**P**	**12 11 34.7**	**-0.9**
	3.3nm,0.3s,baz=88,slow=12,SNR=4.2						
XAN	**Xi'an**	**19.44**	**298**	P	**P**	**12 13 23.3**	**-1.2**
XAN				AMB	AMB		
	comp=Z,23nm,1.1s						
ASAJ	**Asahikawa**	**20.45**	**27**	P	**P**	**12 13 36.5**	**+1.3**
	comp=Z,6.6nm,0.8s,baz=127,slow=33,SNR=4.0						
GYA	**Guiyang**	**20.62**	**275**	P	**P**	**12 13 38.0**	**+0.9**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s						
GTA	**Gaotai**	**28.05**	**305**	P	**P**	**12 14 48.0**	**-0.4**
GTA				AP	pP	12 15 01.5	+3.6
GTA				XP	sP	12 15 07.5	+5.4
GTA				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.5						
SONM	**Songino Array**	**28.07**	**325**	P	**P**	**12 14 50.4**	**+2.0**
	comp=Z,0.9nm,0.8s,mb3.4,baz=134,slow=11,SNR=5.3						
MKAR	**Makanchi Array**	**42.35**	**311**	P	**P**	**12 16 51.6**	**+1.1**
	comp=Z,1.2nm,0.6s,mb3.7,baz=101,slow=10,SNR=8.9						
MKAR				PcP	PcP	12 18 45.5	+1.3
	comp=Z,0.3nm,0.5s,baz=90,slow=3.6,SNR=3.9						
ZAL	**Zalesovo**	**42.85**	**322**	P	**P**	**12 16 55.7**	**+1.2**
	comp=Z,1.0nm,0.6s,mb3.8,baz=359,slow=6.4,SNR=4.6						
ZAL	**Zalesovo**	**42.85**	**322**	P	**P**	**12 16 55.7**	**+1.2**
KURK	**Kurchatov**	**45.54**	**316**	*eP*	**P**	**12 17 15.8**	**-0.4**
	comp=Z,1.1nm,0.6s,mb4.0						
WRAB	**Tennant Creek**	**46.37**	**174**	*eP*	**P**	**12 17 23.8**	**+0.6**
	comp=Z,3.9nm,0.5s,mb4.6						
WRA	**Warramunga Arr**	**46.38**	**174**	P	**P**	**12 17 23.9**	**+0.6**
	comp=Z,2.5nm,0.4s,mb4.5,baz=352,slow=8.3,SNR=44						
BVAR	**Borovoye Array**	**50.96**	**318**	P	**P**	**12 17 59.4**	**+1.2**
	comp=Z,2.0nm,0.6s,mb4.2,baz=81,slow=8.3,SNR=12						
BVAR				PcP	PcP	12 19 15.0	+0.6
	comp=Z,1.4nm,0.7s,baz=90,slow=4.4,SNR=5.7						
BRVK	**Borovoye**	**51.03**	**318**	*eP*	**P**	**12 17 57.4**	**-1.3**
	comp=Z,3.0nm,1.0s,mb4.2						
ILAR	**Eielson Array**	**63.58**	**28**	P	**P**	**12 19 26.7**	**-0.6**
	comp=Z,0.5nm,0.8s,mb3.6,baz=278,slow=9.8,SNR=5.4						
ARCES	**ARCESS Array B**	**70.24**	**339**	P	**P**	**12 20 09.7**	**+0.4**
	comp=Z,1.3nm,0.8s,mb3.9,baz=45,slow=10,SNR=4.1						
FINES	**FINESS Array B**	**73.28**	**331**	P	**P**	**12 20 28.3**	**+0.9**
	comp=Z,1.6nm,0.4s,mb4.3,baz=59,slow=6.3,SNR=19						
AKASG	**Malin Array Be**	**76.19**	**320**	P	**P**	**12 20 45.2**	**+0.8**
	comp=Z,2.8nm,0.7s,mb4.3,baz=51,slow=6.0,SNR=6.9						
BRTR	**Keskin Array B**	**77.91**	**308**	P	**P**	**12 20 56.1**	**+1.9**
	comp=Z,2.4nm,0.8s,mb4.2,baz=90,slow=6.2,SNR=7.5						
NB2	**NORSAR Subarra**	**79.66**	**334**	P	**P**	**12 21 03.9**	**+0.5**
	comp=Z,6.8nm,1.2s,mb4.5,baz=49,slow=5.6						
NOA	**NORSAR Array B**	**79.66**	**334**	P	**P**	**12 21 04.2**	**+0.9**
	comp=Z,2.7nm,0.8s,mb4.2,baz=51,slow=5.5,SNR=5.5						
NOA	**NORSAR Array B**	**79.66**	**334**	P	**P**	**12 21 04.2**	**+0.8**
VRAC	**Vranov**	**83.96**	**323**	P	**P**	**12 21 27.9**	**+1.9**
	comp=Z,6.0nm,1.1s,mb4.6,baz=52,slow=8.4,SNR=4.7						
CLL	**Collm**	**84.68**	**326**	P	**P**	**12 21 31.5**	**+2.0**
	comp=Z,logA/T=0.8,mb4.7						
GERES	**GERESS Array B**	**85.78**	**323**	P	**P**	**12 21 37.0**	**+2.0**
	comp=Z,1.0nm,0.8s,mb4.1,baz=45,slow=3.8,SNR=7.1						
PDAR	**Pinedale Array**	**92.13**	**39**	P	**P**	**12 22 07.7**	**+2.3**
	comp=Z,0.3nm,0.6s,mb3.8,baz=342,slow=4.7,SNR=4.5						

CSEM ***28*** *12:25:11.1±0.1, 34.91N×3.89W, h2km, MD3.8, Error ellipse: s-maj=2.3km s-min=1.5km az=106.0*
CNRM ***28*** *12:25:12.2, 35.03N×3.85W, h5km, MD3.8*
SFS ***28*** *12:25:12.0, 35.01N×3.92W*
MDD ***28*** *12:25:13.6±0.5, 34.92N×3.81W, h3km±4km, mbLg2.7/24, Error ellipse: s-maj=6.2km s-min=3.1km az=113.0, PRXIMO*
INMG ***28*** *12:25:15.4±1.3, 34.90N×3.87W, h21km±14km, ML2.8, Error ellipse: s-maj=14.9km s-min=4.8km az=154.0*
NEIC ***28*** *12:25:15.2, 35.01N×3.92W, MG3.8(MDD), After MDD.*
ISC 28 12:25:12.0±0.3, 34.97N±0.02×3.98W±0.03, h3km, n99, σ1§32/178, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOU	**Touzarine**	**0.18**	**93**	P	**Pg**	**12 25 14.0**	**-1.6**
TOU				S	**Sg**	**12 25 16.0**	**-2.1**
TOU	**Touzarine**	**0.18**	**93**	*i P*	**Pg**	**12 25 14.0**	**-1.6**
MPAL	**Palemas**	**0.26**	**6**	*i P*	**Pg**	**12 25 15.5**	**-1.6**
TZK	**Tazeka**	**0.90**	**191**	*i P*	**Pb**	**12 25 30.5**	**+0.7**
TZK				*i* S	**Sg**	**12 25 43.5**	**+1.7**
EMLI	**Melilla**	**0.90**	**68**	P	**Pb**	**12 25 30.7**	**+0.8**
	363nm,0.1s,SNR=38						
EMLI				S	**Sg**	**12 25 43.0**	**+1.0**
	1μm,0.2s,SNR=8.0						
MELI	**Melilla**	**0.91**	**69**	*i* P	**Pb**	**12 25 31.0**	**+1.0**
MELI				*eS*	**Sg**	**12 25 44.3**	**+2.0**
ZAI	**Zaio**	**1.01**	**90**	P	**Pb**	**12 25 29.5**	**-2.2**
ZAI				S	**Sb**	**12 25 41.5**	**-3.7**
ZAI	**Zaio**	**1.01**	**90**	*i P*	**Pb**	**12 25 29.5**	**-2.2**
EALB	**Alboran**	**1.23**	**38**	P	**Pb**	**12 25 36.2**	**+0.7**
	7.4nm,0.1s,SNR=25						
EALB				S	**Sb**	**12 25 51.4**	**-0.4**
	43nm,0.1s						
EALB	**Alboran**	**1.23**	**38**	P	**Pb**	**12 25 36.2**	**+0.6**
	7.4nm,0.1s,SNR=25						
EALB				S	**Sb**	**12 25 51.5**	**-0.3**
	43nm,0.1s						
EALB	**Alboran**	**1.23**	**38**	P	**Pb**	**12 25 36.2**	**+0.7**
EALB				S	**Sb**	**12 25 51.5**	**-0.3**
EMIJ	**Mijas**	**1.72**	**338**	P	**Pn**	**12 25 43.0**	**+0.1**
	14nm,0.3s,SNR=7.9						
EMIJ				S	**Sn**	**12 26 04.1**	**-1.6**
	13nm,0.1s,SNR=7.9						
EMIJ	**Mijas**	**1.72**	**338**	P	**Pn**	**12 25 43.5**	**+0.5**
	14nm,0.3s,SNR=7.9						
EMIJ				S	**Sn**	**12 26 03.4**	**-2.3**
	13nm,0.1s,SNR=7.9						
EMIJ	**Mijas**	**1.72**	**338**	P	**Pn**	**12 25 43.5**	**+0.5**
EMIJ				S	**Sn**	**12 26 03.4**	**-2.3**
MIF	**Mishlifen**	**1.87**	**214**	*i P*	**Pn**	**12 25 44.5**	**-0.7**
MIF				*i* S	**Sn**	**12 26 09.0**	**-0.6**
EGUA	**Guajares**	**1.89**	**10**	P	**Pn**	**12 25 44.8**	**-0.6**
	0.9nm,0.2s,SNR=7.9						
EGUA				S	**Sn**	**12 26 10.0**	**0.0**
	4.5nm,0.2s,SNR=7.9						
EGUA	**Guajares**	**1.89**	**10**	P	**Pn**	**12 25 45.4**	**0.0**
	0.9nm,0.2s,SNR=7.9						
EGUA				S	**Sn**	**12 26 09.6**	**-0.4**
	4.5nm,0.2s,SNR=7.9						
EGUA	**Guajares**	**1.89**	**10**	P	**Pn**	**12 25 45.4**	**0.0**
EGUA				S	**Sn**	**12 26 09.6**	**-0.5**
EJIF	**Jimena Fronter**	**1.91**	**321**	P	**Pn**	**12 25 47.6**	**+1.8**
	11nm,0.3s,SNR=15						
EJIF				S	**Sn**	**12 26 13.8**	**+3.2**
	14nm,0.3s,SNR=8.7						
EJIF	**Jimena Fronter**	**1.91**	**321**	P	**Pn**	**12 25 47.6**	**+1.8**
	11nm,0.3s,SNR=15						
EJIF				S	**Sn**	**12 26 13.0**	**+2.3**
	14nm,0.3s,SNR=8.7						
EJIF	**Jimena Fronter**	**1.91**	**321**	P	**Pn**	**12 25 47.6**	**+1.8**
EJIF				S	**Sn**	**12 26 13.0**	**+2.3**
ERON	**Agron**	**2.05**	**4**	P	**Pn**	**12 25 48.4**	**+0.7**
	5.3nm,0.3s,SNR=27						
ERON				S	**Sn**	**12 26 12.8**	**-1.3**
	3.4nm,0.2s,SNR=4.6						
EBER	**Berja**	**2.12**	**24**	P	**Pn**	**12 25 49.0**	**+0.3**
	4.4nm,0.3s,SNR=7.9						
EBER				S	**Sn**	**12 26 14.1**	**-1.7**
	47nm,0.3s,SNR=7.9						
EBER	**Berja**	**2.12**	**24**	P	**Pn**	**12 25 49.0**	**+0.3**
	4.4nm,0.3s,SNR=7.9						
EBER				S	**Sn**	**12 26 14.1**	**-1.7**
	47nm,0.3s,SNR=7.9						
CZD	**Col de Zad**	**2.13**	**205**	*i* P	**Pn**	**12 25 49.0**	**+0.2**
CZD				*i* S	**Sn**	**12 26 16.0**	**-0.1**
ELOJ	**Sierra Loja**	**2.18**	**356**	P	**Pn**	**12 25 50.2**	**+0.6**
	2.3nm,0.2s,SNR=4.0						
ELOJ				S	**Sn**	**12 26 16.3**	**-1.1**
	6.6nm,0.3s,SNR=7.3						
ELOJ	**Sierra Loja**	**2.18**	**356**	P	**Pn**	**12 25 50.2**	**+0.6**
	2.3nm,0.2s,SNR=4.0						
ELOJ				S	**Sn**	**12 26 18.3**	**+0.9**
	6.6nm,0.3s,SNR=7.3						
ELOJ	**Sierra Loja**	**2.18**	**356**	P	**Pn**	**12 25 50.2**	**+0.6**
ELOJ				S	**Sn**	**12 26 18.2**	**+0.9**
LIJA	**Lijar**	**2.25**	**329**	P	**Pn**	**12 25 53.8**	**+3.1**
LIJA				S	**Sn**	**12 26 22.0**	**+2.7**
LIJA	**Lijar**	**2.25**	**329**	*i P*	**Pn**	**12 25 53.8**	**+3.2**
LIJA				*eS*	**Sn**	**12 26 22.0**	**+2.7**
EQUE	**Quentar**	**2.27**	**11**	P	**Pn**	**12 25 51.8**	**+0.9**
	3.3nm,0.2s,SNR=7.9						
EQUE				S	**Sn**	**12 26 18.8**	**-1.0**
	22nm,0.5s,SNR=7.9						
ECOG	**Cogollos-Vega**	**2.33**	**8**	P	**Pn**	**12 25 52.7**	**+1.0**
	2.4nm,0.2s,SNR=15						
ECOG				S	**Sn**	**12 26 20.7**	**-0.4**
	5.1nm,0.2s,SNR=5.8						
ECOG	**Cogollos-Vega**	**2.33**	**8**	P	**Pn**	**12 25 53.2**	**+1.5**
	2.4nm,0.2s,SNR=15						
ECOG				S	**Sn**	**12 26 21.7**	**+0.6**
	5.1nm,0.2s,SNR=5.8						
ECOG	**Cogollos-Vega**	**2.33**	**8**	P	**Pn**	**12 25 53.2**	**+1.5**
ECOG				S	**Sn**	**12 26 21.7**	**+0.5**
ESPR	**Espera**	**2.43**	**322**	P	**Pn**	**12 25 55.4**	**+2.2**
	0.9nm,0.1s,SNR=7.9						
ESPR				S	**Sn**	**12 26 24.8**	**+0.9**
	43nm,0.6s,SNR=7.9						
ESPR	**Espera**	**2.43**	**322**	P	**Pn**	**12 25 55.6**	**+2.4**
	0.9nm,0.1s,SNR=7.9						
ESPR				S	**Sn**	**12 26 25.9**	**+2.0**
	43nm,0.6s,S

EADA				S	Sn	12 26 44.1	+0.1
	7.1nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**3.23**	**352**	P	**Pn**	**12 26 05.8**	**+1.3**
EADA				S	**Sn**	**12 26 44.1**	**+0.1**
ECAB	**El Cabril**	**3.31**	**340**	P	**Pn**	**12 26 06.9**	**+1.2**
	0.7nm,0.1s,SNR=21						
ECAB				S	**Sn**	**12 26 44.6**	**-1.5**
	21nm,0.4s,SNR=7.9						
ECAB	**El Cabril**	**3.31**	**340**	P	**Pn**	**12 26 06.9**	**+1.2**
	0.7nm,0.1s,SNR=21						
ECAB				S	**Sn**	**12 26 44.6**	**-1.5**
	21nm,0.4s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.54**	**323**	P	**Pn**	**12 26 09.3**	**+0.3**
	2.3nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**12 26 49.5**	**-2.5**
	1.7nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.54**	**323**	P	**Pn**	**12 26 09.3**	**+0.3**
	2.3nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**12 26 49.5**	**-2.4**
	1.7nm,0.1s,SNR=7.9						
EMUR	**La Murta**	**3.62**	**37**	P	**Pn**	**12 26 09.5**	**-0.6**
	2.4nm,0.6s,SNR=7.9						
EMUR				S	**Sn**	**12 26 48.8**	**-5.0**
	5.9nm,0.4s,SNR=7.9						
EMUR	**La Murta**	**3.62**	**37**	P	**Pn**	**12 26 09.5**	**-0.6**
	2.4nm,0.6s,SNR=7.9						
EMUR	**La Murta**	**3.62**	**37**	P	**Pn**	**12 26 09.5**	**-0.6**
EMUR				S	**Sn**	**12 26 48.2**	**-5.6**
EGRO	**El Granado**	**3.82**	**313**	P	**Pn**	**12 26 13.3**	**+0.4**
	1.4nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**12 26 56.1**	**-2.9**
	0.0nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**3.82**	**313**	P	**Pn**	**12 26 13.3**	**+0.4**
	1.4nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**3.82**	**313**	P	**Pn**	**12 26 13.3**	**+0.4**
EGRO				S	**Sn**	**12 26 55.5**	**-3.4**
ETOB	**Tobarra**	**4.15**	**27**	P	**Pn**	**12 26 17.4**	**-0.2**
	3.3nm,0.2s,SNR=7.9						
ETOB				S	**Sn**	**12 27 03.8**	**-3.6**
	3.1nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**4.15**	**27**	P	**Pn**	**12 26 19.1**	**+1.4**
	3.3nm,0.2s,SNR=7.9						
ETOB				S	**Sn**	**12 27 05.5**	**-1.9**
	3.1nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**4.15**	**27**	P	**Pn**	**12 26 19.1**	**+1.5**
ETOB				S	**Sn**	**12 27 05.5**	**-1.9**
PBEJ	**Beja**	**4.37**	**315**	*e*Pn	**Pn**	**12 26 21.7**	**+0.9**
PBEJ				*e*Sn	**Sn**	**12 27 10.7**	**-2.3**
	7.6nm,0.4s						
PBEJ	**Beja**	**4.37**	**315**	*e*Pn	**Pn**	**12 26 21.7**	**+0.9**
PBEJ				*e*Sn	**Sn**	**12 27 10.7**	**-2.3**
	7.6nm,0.4s						
EBAD	**Badajoz**	**4.50**	**328**	P	**Pn**	**12 26 23.0**	**+0.5**
	3.2nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**12 27 12.7**	**-3.4**
	13nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**4.50**	**328**	P	**Pn**	**12 26 23.0**	**+0.4**
	3.2nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**12 27 12.7**	**-3.4**
	13nm,0.2s,SNR=7.9						
PTEO	**Sao Teotonio**	**4.62**	**305**	*e*Pn	**Pn**	**12 26 24.8**	**+0.5**
PTEO				*e*Sn	**Sn**	**12 27 17.1**	**-2.1**
	12nm,0.7s						
PTEO	**Sao Teotonio**	**4.62**	**305**	*e*Pn	**Pn**	**12 26 24.8**	**+0.5**
PTEO				*e*Sn	**Sn**	**12 27 17.1**	**-2.1**
	12nm,0.7s						
ESDC	**Sonseca Array**	**4.70**	**0**	P	**Pn**	**12 26 25.9**	**+0.5**
	1.4nm,0.3s,baz=180,slow=12,SNR=25						
ESDC				S	**Sn**	**12 27 16.3**	**-4.9**
	0.5nm,0.3s,baz=183,slow=23,SNR=5.0						
ESDC	**Sonseca Array**	**4.70**	**0**	P	**Pn**	**12 26 25.9**	**+0.5**
	1.4nm,0.3s,SNR=25						
ESDC				S	**Sn**	**12 27 18.1**	**-3.1**
	0.5nm,0.3s,SNR=5.0						
ESDC	**Sonseca Array**	**4.70**	**0**	P	**Pn**	**12 26 25.9**	**+0.5**
ESDC				S	**Sn**	**12 27 18.1**	**-3.1**
ESLA	**Sonseca Array**	**4.70**	**0**	*e*P	**Pn**	**12 26 25.6**	**+0.2**
ESLA	**Sonseca Array**	**4.70**	**0**	*e*P	**Pn**	**12 26 25.6**	**+0.2**
CIA	**Chichaoua**	**5.25**	**231**	P	**Pn**	**12 26 32.0**	**-1.3**
CIA				S	**Sn**	**12 27 30.0**	**-5.2**
CIA	**Chichaoua**	**5.25**	**231**	*i* P	**Pn**	**12 26 32.0**	**-1.3**
PCBR	**Castelo Branco**	**5.60**	**331**	*e*Pn	**Pn**	**12 26 39.0**	**+0.8**
PCBR				*e*Sn	**Sn**	**12 27 39.2**	**-4.8**
	5.8nm,0.5s						
PCBR	**Castelo Branco**	**5.60**	**331**	P	**Pn**	**12 26 39.0**	**+0.8**
PCBR				S	**Sn**	**12 27 39.2**	**-4.8**
	2.9nm,0.5s						
PLOU	**Loures**	**5.70**	**315**	*e*Sn	**Sn**	**12 27 43.0**	**-3.4**
	5.1nm,0.3s						
PLOU	**Loures**	**5.70**	**315**	S	**Sn**	**12 27 43.0**	**-3.4**
	2.5nm,0.3s						
PTOM	**Tomar**	**5.83**	**324**	*e*Pn	**Pn**	**12 26 41.9**	**+0.5**
PTOM				*e*Sn	**Sn**	**12 27 44.5**	**-5.2**
	7.0nm,0.2s						
PTOM	**Tomar**	**5.83**	**324**	P	**Pn**	**12 26 41.9**	**+0.5**
PTOM				S	**Sn**	**12 27 44.5**	**-5.2**
	3.5nm,0.2s						
EIBI	**Ibiza**	**5.87**	**45**	P	**Pn**	**12 26 40.6**	**-1.4**
	1.2nm,0.1s,SNR=7.9						
MTE	**Manteigas**	**6.11**	**333**	*e*Pn	**Pn**	**12 26 45.7**	**+0.3**
MTE				*e*Sn	**Sn**	**12 27 51.5**	**-5.3**
	8.6nm,0.4s						
MTE	**Manteigas**	**6.11**	**333**	P	**Pn**	**12 26 45.7**	**+0.3**
MTE				S	**Sn**	**12 27 51.5**	**-5.3**
	4.3nm,0.4s						
ERTA	**Horta de San J**	**6.88**	**28**	P	**Pn**	**12 26 56.2**	**0.0**
	2.7nm,0.5s,SNR=5.8						
PVRL	**Vila Real**	**6.95**	**336**	*e*Pn	**Pn**	**12 26 57.0**	**-0.2**
PVRL				*e*Sn	**Sn**	**12 28 12.4**	**-5.3**
	6.1nm,0.3s						
PVRL	**Vila Real**	**6.95**	**336**	P	**Pn**	**12 26 57.0**	**-0.2**
PVRL				S	**Sn**	**12 28 12.4**	**-5.3**
	3.0nm,0.3s						
PBRG	**Braganca**	**7.16**	**343**	*e*Pn	**Pn**	**12 26 59.9**	**-0.3**
PBRG				*e*Sn	**Sn**	**12 28 17.7**	**-5.3**
	4.2nm,0.4s						
PBRG	**Braganca**	**7.16**	**343**	P	**Pn**	**12 26 59.9**	**-0.3**
PBRG				S	**Sn**	**12 28 17.7**	**-5.3**
	2.1nm,0.4s						
ECAL	**Calabor**	**7.29**	**344**	P	**Pn**	**12 27 02.1**	**+0.2**
	0.9nm,0.1s,SNR=7.9						
ECAL				S	**Sn**	**12 28 19.4**	**-6.7**
	6.6nm,0.5s						
ECAL	**Calabor**	**7.29**	**344**	P	**Pn**	**12 27 02.2**	**+0.2**
ECAL	**Calabor**	**7.29**	**344**	P	**Pn**	**12 27 02.1**	**+0.2**
ECAL				S	**Sn**	**12 28 19.4**	**-6.7**
PCAB	**Cabril**	**7.44**	**336**	*e*Pn	**Pn**	**12 27 02.3**	**-1.8**
PCAB				*e*Sn	**Sn**	**12 28 21.9**	**-8.1**
	7.5nm,0.2s						
PCAB	**Cabril**	**7.44**	**336**	P	**Pn**	**12 27 02.3**	**-1.8**
PCAB				S	**Sn**	**12 28 21.9**	**-8.1**
	3.8nm,0.2s						
ELOB	**Lobios**	**7.59**	**336**	P	**Pn**	**12 27 05.5**	**-0.7**
	0.7nm,0.1s,SNR=7.9						
ERUA	**La Rua**	**7.81**	**342**	P	**Pn**	**12 27 08.9**	**-0.4**
	2.4nm,0.2s,SNR=7.9						

*LDG **28** 13:14:02.2±0.2,27.69N×87.29E,h10km,Mb5.0/23, Ms3.6/6,Error ellipse: s-maj=11.1km s-min=4.6km az=163.0*
*DMN **28** 13:14:03.2±0.8,27.31N×87.22E,h10km,Ml5.5/4,Error ellipse: s-maj=60.5km s-min=15.5km az=12.0*
*NDI **28** 13:14:03.8±6.1,27.66N×87.29E,h10km,ML4.5, mb4.8(NEIC)*
*MOS **28** 13:14:05.8±0.9,27.62N×87.36E,h33km,mb5.0/29,Error ellipse: s-maj=9.2km s-min=5.2km az=122.6*
*IDC **28** 13:14:05.9±3.4,27.58N×87.34E,h21km±20km,mb4.3/16, mb1 4.5/17,mb1mx4.4/20,mbtmp4.4/17,ML4.5/1,MS3.8/11, Ms1 3.8/11,ms1mx3.7/26,Error ellipse: s-maj=19.6km s-min=15.6km az=65.0*
*BJI **28** 13:14:06.9,27.77N×87.43E,h38km,mB4.6,mb4.5,Ms4.5, Msz4.3*
*NEIC **28** 13:14:08.3±0.6,27.64N×87.42E,h39km±5km,mb4.8/37, Error ellipse: s-maj=6.5km s-min=4.2km az=186.0*
ISC 28 13:14:06.9±0.5,**27.57N**±0.03×**87.39E**±0.03,**h46**km±5km, **h29**km±2.3km:**pP-P,n215**,σ1§**05**/226,**mb4.7**/68,**MS3.9**/20, **10C-8D,Nepal**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
GTK	**Gangtok**	**1.12**	**102**	*ex*	x	13 14 22.0		
SLGI	**Shiliguri**	**1.26**	**133**	*e*P	**P**	**13 14 28.4**		**-0.1**
SLGI				*e*S	**S**	**13 14 48.5**		**+4.0**
PKI	**Pulchoki**	**1.75**	**271**	*e*Sn	**S**	**13 15 01.8**		**+5.1**
	14μm,0.7s							
PKI	**Pulchoki**	**1.75**	**271**	⇑*i*P	**P**	**13 14 36.6**		**+1.1**
PKI				*e*S	**S**	**13 15 01.8**		**+5.1**
KKN	**Kakani**	**1.88**	**277**	*e*Sn	**S**	**13 15 05.3**		**+5.5**
	15μm,0.4s							
KKN	**Kakani**	**1.88**	**277**	*i* Pn	**P**	**13 14 38.6**		**+1.4**
KKN				*e*Sn	**S**	**13 15 05.3**		**+5.5**
DMN	**Daman**	**2.02**	**272**	*i* Pn	**P**	**13 14 40.7**		**+1.4**
DMN				*e*Sn	**S**	**13 15 07.7**		**+4.3**
SHBG	**Sahibganj**	**2.35**	**174**	*e*S	**S**	**13 15 11.5**		**-0.3**
GKN	**Gorkha**	**2.47**	**281**	*e*Sn	**S**	**13 15 19.1**		**+4.3**
	9μm,0.4s							
GKN	**Gorkha**	**2.47**	**281**	*e*Pn	**P**	**13 14 46.7**		**+1.0**
GKN				*e*Sn	**S**	**13 15 19.1**		**+4.3**
KOLN	**Koldanda**	**3.36**	**274**	*e*Sn	**S**	**13 15 39.2**		**+1.8**
	6μm,0.7s							
KOLN	**Koldanda**	**3.36**	**274**	*e*Pn	**P**	**13 14 58.2**		**-0.1**
KOLN				*e*Sn	**S**	**13 15 39.2**		**+1.8**
LSA	**Lhasa**	**3.93**	**56**	P	**P**	**13 15 08.3**		**+1.9**
LSA				S	**S**	**13 15 56.0**		**+4.2**
LSA	**Lhasa**	**3.93**	**56**	*e*P	**P**	**13 15 07.5**		**+1.1**
SHL	**Shillong**	**4.49**	**115**	*e*P	**P**	**13 15 13.5**		**-0.8**
SHL				*ex*	x	13 16 22.0		
CAL	**Calcutta**	**5.08**	**170**	*e*P	**P**	**13 15 21.6**		**-0.9**
CAL				*e*S	**S**	**13 16 20.3**		**-0.4**
IMP	**Imphal**	**6.50**	**114**	*e*P	**P**	**13 15 43.0**		**+0.5**
IMP				*ex*	x	13 17 00.0		
BLSP	**Bilaspur**	**7.22**	**223**	*e*P	**P**	**13 15 51.1**		**-1.3**
BLSP				*e*S	**S**	**13 17 07.9**		**-6.0**
BLSP				AML	AML	13 17 15.7		
	comp=N,459nm,0.5s							
BLSP				AML	AML	13 17 16.1		
	comp=E,458nm,0.4s							
JBP	**Jabalpur**	**8.00**	**238**	*ex*	**P**	**13 16 04.6**		**+1.3**
JBP				*ex*	**S**	**13 17 34.0**		**+0.6**
JHNI	**Jhansi**	**8.20**	**257**	*i* P	**P**	**13 16 00.0**		**-6.0**
JHNI				*i* S	**S**	**13 17 29.0**		**-9.2**
NDI	**New Delhi**	**9.05**	**279**	*e*P	**P**	**13 16 12.0**		**-5.7**
NDI				*e*S	**S**	**13 17 49.0**		**-10**
BHPL	**Bhopal**	**9.98**	**247**	*e*P	**P**	**13 16 26.2**		**-4.4**
BHPL				*e*S	**S**	**13 18 09.7**		**-13**
BHPL				AML	AML	13 18 20.6		
	comp=E,140nm,0.2s							
BHPL				AML	AML	13 19 34.1		
	comp=N,254nm,0.5s							
VIS	**Vishakhapatnam**	**10.49**	**202**	*e*P	**P**	**13 16 35.5**		**-2.1**
VIS				*e*S	**S**	**13 18 22.5**		**-12**
AJM	**Ajmer**	**11.41**	**267**	*e*P	**P**	**13 16 43.2**		**-6.9**
AJM				*e*S	**S**	**13 18 41.3**		**-16**
AJM				AML	AML	13 18 50.2		
	comp=N,159nm,0.4s							
AJM				AML	AML	13 18 51.2		
	comp=E,136nm,0.3s							
HYB	**Hyderabad**	**12.98**	**221**	*i* P	**P**	**13 17 06.5**		**-4.6**
HYB				*e*S	**S**	**13 19 35.0**		**+0.1**
HYB	**Hyderabad**	**12.98**	**221**	*e*P	**P**	**13 17 06.5**		**-4.6**
HYB				*e*S	**S**	**13 19 26.0**		**-8.9**
LATR	**Latur**	**13.49**	**230**	*e*P	**P**	**13 17 13.3**		**-4.5**
CHCP	**Chirah Chowk**	**13.59**	**300**	P	**P**	**13 17 13.1**		**-5.9**
CHG	**Chiang Mai**	**13.73**	**127**	P	**P**	**13 17 27.6**		**+6.6**
KMI	**Kunming**	**13.98**	**97**	P	**P**	**13 17 22.8**		**-1.4**
KMI				AMB	AMB			
	comp=Z,7.0nm,1.0s							
KMI				LR	LR			
	comp=N,255nm,9.4s							
KMI				LR	LR			
	comp=E,365nm,12.4s							
KMI				LR	LR			
	comp=Z,392nm,15.4s							
KMI	**Kunming**	**13.98**	**97**	P	**P**	**13 17 22.7**		**-1.5**
	comp=Z,7.0nm,1.0s							
THW	**Thamme Wali**	**14.49**	**295**	P	**P**	**13 17 25.3**		**-5.6**
CD2	**Chengdu**	**14.68**	**73**	P	**P**	**13 17 33.5**		**+0.2**
CD2				S	**S**	**13 20 14.3**		**-1.0**
CD2				LR	LR			
	comp=E,710nm,8.4s							
CD2				LR	LR			
	comp=Z,760nm,9.6s							
CEP	**Cherat**	**14.70**	**299**	P	**P**	**13 17 27.1**		**-6.4**
CEP				S	**S**	**13 20 04.0**		**-12**
POO	**Poona**	**15.36**	**237**	*e*P	**P**	**13 17 39.0**		**-3.1**
POO				*ex*	x	13 20 24.7		
GTA	**Gaotai**	**15.70**	**38**	P	**P**	**13 17 42.5**		**-3.9**
GTA				AP		13 17 54.0		
GTA				PP	PP	13 17 56.3		-3.0
GTA				S	**S**	**13 20 29.5**		**-9.5**
GTA				XS		13 20 45.3		
GTA				PCP	PcP	13 22 47.3		+1.4
GTA				SCP		13 26 20.3		
GTA				SCS	ScS	13 29 57.8		+5.6
GTA				AMB	AMB			
	comp=Z,8.0nm,1.5s							
GTA				AMB	AMB			
	comp=Z,88nm,9.2s							
GTA				LR	LR			
	comp=N,475nm,16.4s							
GTA				LR	LR			
	comp=E,789nm,11.9s							
GTA				LR	LR			
	comp=Z,847nm,13.0s							
KAD	**Karad**	**15.90**	**233**	*e*P	**P**	**13 17 45.4**		**-3.7**
KAD				*ex*	**S**	**13 20 39.1**		**-4.6**
BOM	**Bombay**	**15.92**	**240**	*ex*	x	13 18 30.0		
BOM				*ex*	x	13 21 03.3		
WMQ	**Urumqi**	**16.22**	**1**	P	**P**	**13 17 52.0**		**-1.0**
WMQ				XP		13 18 03.0		
WMQ				S	**S**	**13 20 47.0**		**-4.1**
WMQ				SS	SS	13 21 08.0		-3.3
WMQ				AMB	AMB			
	comp=Z,16nm,0.8s							
WMQ				AMB	AMB			
	comp=Z,112nm,4.0s							
WMQ				LR	LR			
	comp=N,221nm,7.0s							
WMQ				LR	LR			
	comp=E,279nm,7.0s							
WMQ				LR	LR			
	comp=Z,216nm,7.0s							
LZH	**Lanzhou**	**16.35**	**55**	*e*P	**P**	**13 17 53.5**		**-1.2**
LZH				AP		13 18 04.0		
LZH				PP	PP	13 18 06.0		-2.4
LZH				AMB	AMB			
	comp=Z,44nm,1.2s							
LZH				AMB	AMB			
	comp=Z,130nm,4.0s							
LZH				LR	LR			
	comp=E,1μm,7.8s							
LZH				LR	LR			
	comp=Z,2μm,9.5s							
NST	**Nakhon Sawan**	**16.73**	**132**	P	**P**	**13 18 02.0**		**+2.4**
GYA	**Guiyang**	**17.22**	**89**	⇓*i*P	**P**	**13 18 04.0**		**-1.7**
GYA				AP		13 18 15.0		
GYA				S	**S**	**13 21 17.3**		**+3.3**
GYA				AMB	AMB			
	comp=Z,10.0nm,1.2s							
GYA				AMB	AMB			
	comp=Z,90nm,2.9s							
GYA				LR	LR			
	comp=N,340nm,14.3s							
GYA				LR	LR			
	comp=E,380nm,12.0s							
GYA				LR	LR			
	comp=Z,330nm,11.9s							
ULHL	**Ulahol**	**17.24**	**331**	P	**P**	**13 18 09.7**		**+3.9**
	SNR=51							
GOA	**Goa**	**17.40**	**229**	*ex*	x	13 18 03.0		
GOA				*ex*	x	13 21 05.0		
UCH	**Uchtor**	**18.00**	**328**	P	**P**	**13 18 14.1**		**-1.3**
	SNR=13							
TKM2	**Tokmak 2**	**18.06**	**331**	P	**P**	**13 18 17.7**		**+1.6**
	SNR=25							
KBK	**Karagaybulak**	**18.14**	**329**	P	**P**	**13 18 18.9**		**+1.9**
	SNR=12							
AAK	**Ala-Archa**	**18.33**	**328**	P	**P**	**13 18 22.4**		**+3.0**
	SNR=14							
AAK	**Ala-Archa**	**18.33**	**328**	*e*P	**P**	**13 18 19.8**		**+0.4**
	comp=Z,23nm,1.0s							
AAK	**Ala-Archa**	**18.33**	**328**	*c i*P	**P**	**13 18 19.9**		**+0.5**
AAK				pmax	pmax			
	comp=Z,27nm,1.1s							
AAK				MLR	MLR			
	comp=Z,500nm,16.0s							
AML	**Almayashu**	**18.33**	**326**	P	**P**	**13 18 20.3**		**+0.8**
	SNR=7.5							
EKS2	**Erkin-Say**	**18.69**	**327**	P	**P**	**13 18 23.6**		**-0.1**
	SNR=26							
MNGI	**Mangalore**	**18.70**	**221**	*ex*	x	13 21 57.8		
MNGI				*i* x	x	13 23 43.5		
USP	**Ospenovka**	**18.82**	**330**	P	**P**	**13 18 24.4**		**-0.9**
	SNR=9.0							
ENH	**Enshi**	**19.53**	**77**	*e*P	**P**	**13 18 32.4**		**-0.9**
	comp=Z,37nm,1.0s							
XAN	**Xi'an**	**19.57**	**65**	P	**P**	**13 18 33.5**		**-0.3**
XAN				AMB	AMB			
	comp=Z,15nm,1.1s							
MKAR	**Makanchi Array**	**19.61**	**350**	P	**P**	**13 18 32.8**		**-1.2**
	comp=Z,1.4nm,0.3s,baz=180,slow=8.5,SNR=40							
MKAR				ScP		13 26 26.5		
	comp=Z,0.0nm,0.3s,baz=180,slow=2.4,SNR=4.7							
MKAR				LR	LR	13 27 31.3		
	comp=Z,545nm,18.4s,baz=180,slow=41							
MKAR	**Makanchi Array**	**19.61**	**350**	*i* P	**P**	**13 18 32.9**		**-1.1**
MKAR				pmax	pmax			
	comp=Z,11nm,0.5s							
KKAR	**Karatay Array**	**20.67**	**323**	*i* P	**P**	**13 18 44.4**		**-0.9**
KKAR				pmax	pmax			
	comp=Z,6.0nm,0.9s							
PALK	**Pallekele**	**21.16**	**199**	*e*P	**P**	**13 18 54.4**		**+3.9**
	comp=Z,21nm,1.0s,mb4.4							
TRD	**Trivandrum**	**21.37**	**209**	*ex*	x	13 19 52.5		
TRD				*i* x	x	13 24 00.5		
QIZ	**Qiongzhong**	**22.28**	**108**	P	**P**	**13 19 02.8**		**+1.2**
QIZ				S	**S**	**13 23 03.3**		**+4.5**
QIZ				AMB	AMB			
	comp=Z,16nm,1.1s,mb4.4							
QIZ				LR	LR			
	comp=N,134nm,13.3s							
QIZ				LR	LR			
	comp=Z,221nm,13.4s,MS3.8							
BTO	**Baotou**	**22.74**	**49**	*e*P	**P**	**13 19 06.3**		**+0.4**
BTO				AMB	AMB			
	comp=Z,34nm,1.4s,mb4.6							
BTO				LR	LR			
	comp=E,409nm,11.4s							
BTO				LR	LR			
	comp=N,429nm,8.2s							
WHN	**Wuhan**	**23.74**	**76**	*e*P	**P**	**13 19 16.3**		**+0.6**
HHC	**Hu-ho-hao-te**	**23.89**	**50**	*e*P	**P**	**13 19 19.0**		**+1.9**
HHC				PCP	PcP	13 23 01.0		+0.4
HHC				S	**S**	**13 23 31.0**		**+3.8**
HHC				AMB	AMB			
	comp=Z,25nm,1.5s,mb4.4							
HHC				LR	LR			
	comp=N,428nm,9.6s							
HHC				LR	LR			
	comp=E,588nm,11.9s							
HHC				LR	LR			
	comp=Z,821nm,11.3s,MS4.5							
KURK	**Kurchatov**	**24.06**	**346**	*e*P	**P**	**13 19 17.9**		**-0.7**
	comp=Z,40nm,1.3s,mb4.7							
KURK	**Kurchatov**	**24.06**	**346**	*e*P	**P**	**13 19 17.9**		**-0.8**
KURK				pmax	pmax			
	comp=Z,40nm,1.3s,mb4.7							
SONM	**Songino Array**	**25.09**	**31**	P	**P**	**13 19 29.1**		**+0.4**
	comp=Z,17nm,0.9s,mb4.6,baz=218,slow=9.5,SNR=65							
SONM				PcP	PcP	13 23 03.3		+0.2
	comp=Z,3.1nm,1.0s,baz=196,slow=2.6,SNR=5.6							
SONM				ScP		13 26 41.2		
	comp=Z,2.3nm,1.0s,baz=215,slow=2.8,SNR=9.8							
SONM				LR	LR	13 31 21.6		
	comp=Z,56nm,18.6s,MS3.1,baz=220,slow=41							
ULN	**Ulaanbaatar**	**25.41**	**32**	*e*P	**P**	**13 19 31.8**		**0.0**
	comp=Z,40nm,1.0s,mb4.9							
ULN	**Ulaanbaatar**	**25.41**	**32**	⇑*e*P	**P**	**13 19 32.1**		**+0.4**
KULM	**Kulim**	**25.50**	**148**	*e*P	**P**	**13 19 34.4**		**+1.5**
MOY	**Mondy**	**26.16**	**19**	*e*P	**P**	**13 19 40.1**		**+1.4**
MOY				pmax	pmax			
	comp=Z,41μm,2.3s							
ZAL	**Zalesovo**	**26.41**	**357**	P	**P**	**13 19 41.1**		**+0.2**
	comp=Z,4.8nm,0.8s,mb4.1,baz=284,slow=7.9,SNR=24							
ZAL				LR	LR	13 32 23.3		
	comp=Z,454nm,19.6s,MS4.0,baz=294,slow=42							
NVS	**Novosibirsk**	**27.42**	**355**	*e*P	**P**	**13 19 50.0**		**-0.1**
NVS				pmax	pmax			
	comp=Z,23nm,1.1s,mb4.6							
NVS				pmax	pmax			
	comp=N,17nm,1.3s							
NJ2	**Nanjing**	**27.61**	**73**	*e*P	**P**	**13 19 52.0**		**-0.2**
NJ2				AP	pP	13 20 01.5		-2.7
NJ2				XP	sP	13 20 05.5		-4.3
NJ2				PP	PP	13 20 40.5		-0.9
NJ2				S	**S**	**13 24 30.0**		**+1.1**
NJ2				XS		13 24 46.0		
NJ2				AMB	AMB			
	comp=Z,20nm,1.1s,mb4.7							
NJ2				AMB	AMB			
	comp=Z,110nm,6.2s							
NJ2				LR	LR			
	comp=N,750nm,19.8s							
NJ2				LR	LR			
	comp=E,820nm,12.9s							
NJ2				LR	LR			
	comp=Z,380nm,15.0s,MS4.1							
BVAR	**Borovoye Array**	**28.39**	**338**	P	**P**	**13 19 58.5**		**-0.4**
	comp=Z,0.9nm,0.5s,mb3.7,baz=141,slow=9.5,SNR=8.0							
BRVK	**Borovoye**	**28.46**	**338**	*e*P	**P**	**13 19 59.1**		**-0.4**
	comp=Z,4.0nm,1.2s,mb3.9							
BRVK	**Borovoye**	**28.46**	**338**	*e*P	**P**	**13 19 59.1**		**-0.4**
BRVK				pmax	pmax			
	comp=Z,4.0nm,1.2s,mb3.9							
SSE	**Sheshan**	**29.61**	**75**	P	**P**	**13 20 06.6**		**-3.4**
	comp=Z,24nm,0.7s,mb5.0							
SSE				pP	pP	13 20 15.3		-6.8
SSE				sP	sP	13 20 19.1		-8.8
SSE				PP	PP	13 21 13.1		+5.7
SSE				S	**S**	**13 24 59.4**		**-1.4**
SSE				sS		13 25 14.3		
SSE				LR	LR			
	comp=Z,200nm,11.2s,MS4.0							
AB31	**Akbulak array**	**30.23**	**323**	*i* P	**P**	**13 20 15.1**		**-0.3**
AB31				pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.2							
SNY	**Shenyang**	**32.72**	**55**	⇑P	**P**	**13 20 38.3**		**+1.0**
SNY				AMB	AMB			
	comp=Z,10.0nm,1.9s,mb4.4							
SNY				LR	LR			
	comp=N,260nm,14.5s							
SNY				LR	LR			

MDJ PCP PcP 13 23 35.0 -1.5
MDJ S **S** **13 27 04.3 -1.0**
MDJ PCS 13 27 23.8
MDJ AMB AMB
comp=Z,5.0nm,1.1s,mb4.2
MDJ AMB AMB
comp=Z,49nm,6.2s
MDJ LR LR
comp=N,91nm,19.1s,MS3.6
MDJ LR LR
comp=E,39nm,21.2s,MS3.6
MDJ LR LR
comp=Z,115nm,21.7s,MS3.6
VRHR Novokhopersk 41.60 317 *e*P **P** **13 21 51.4 -0.4**
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=Z,10.0nm,0.6s,mb4.6
VRHR pmax pmax
comp=E,20nm,1.2s
MALT Malatya 42.03 298 *e*P **P** **13 21 56.8 +1.2**
comp=E,7.6nm,1.3s,mb4.2
MALT Malatya 42.03 298 *e*P **P** **13 21 56.8 +1.2**
MALT pmax pmax
comp=Z,8.0nm,1.3s,mb4.2
YAK Yakutsk 44.31 27 *e*P **P** **13 22 11.8 -1.9**
YAK Yakutsk 44.31 27 *i* P **P** **13 22 13.7 -0.1**
YAK pmax pmax
comp=Z,15nm,1.4s,mb4.5
YAK MLR MLR
comp=Z,300nm,23.0s,MS4.2
MOS Moscow 45.25 323 *e*P **P** **13 22 19.7 -1.7**
MOS pmax pmax
comp=Z,47nm,0.8s,mb5.4
OBN Obninsk 45.65 321⇓*e*P **P** **13 22 25.7 +1.1**
OBN *e* 13 24 02.8
OBN *e*S **S** **13 29 06.9 +3.6**
OBN *e*SS SS 13 32 25.5 +6.1
OBN pmax pmax
comp=Z,54nm,1.4s,mb5.3
OBN MLR MLR
comp=Z,100nm,12.0s,MS4.0
BRTR Keskin Array B 45.74 300 P **P** **13 22 25.9 +0.3**
comp=Z,1.1nm,0.6s,mb3.9,baz=121,slow=7.2,SNR=6.2
ASAJ Asahikawa 46.83 54 LR LR 13 43 19.3
comp=Z,146nm,18.0s,MS4.0,baz=360,slow=37
YSS Yuzh-Sakhalins 47.08 50⇑*i*P **P** **13 22 36.7 +0.8**
YSS pmax pmax
comp=Z,40nm,1.0s,mb5.3
AKASG Malin Array Be 49.23 314 P **P** **13 22 51.5 -1.0**
comp=Z,3.8nm,0.7s,mb4.5,baz=76,slow=7.3,SNR=12
AKASG PP PP 13 24 47.8 +0.9
comp=Z,0.2nm,0.2s,baz=85,slow=8.6,SNR=4.1
JOF Joensuu 50.50 331 *e*p **P** **13 23 01.6 -0.6**
comp=Z,5.8nm,0.5s,mb4.9
VRI Vrincioaia 50.71 308⇑P **P** **13 23 05.0 +1.0**
VRI Vrincioaia 50.71 308⇑P **P** **13 23 05.0 +1.0**
MLR Muntele Rosu 51.26 308⇓P **P** **13 23 08.9 +0.7**
MLR Muntele Rosu 51.26 308⇓P **P** **13 23 08.9 +0.8**
VSU Vasula 51.66 324 *i* P **P** **13 23 09.2 -1.8**
BURAR Bucovina Array 51.73 310⇑P **P** **13 23 11.7 +0.1**
BURAR Bucovina Array 51.73 310⇑P **P** **13 23 11.7 +0.1**
FINES FINESS Array B 52.52 328 P **P** **13 23 16.6 -0.8**
comp=Z,3.3nm,0.6s,mb4.4,baz=98,slow=7.6,SNR=13
FINES LR LR 13 46 05.0
comp=Z,95nm,21.3s,MS3.8,baz=67,slow=37
KWP Kalwaria 53.37 313 *e*P **P** **13 23 23.1 -0.8**
comp=Z,32nm,1.1s,mb5.2
KWP Kalwaria 53.37 313 *e*P **P** **13 23 23.1 -0.8**
KWP pmax pmax
comp=Z,32nm,1.1s,mb5.2
DRGR 53.46 309⇓P **P** **13 23 24.0 -0.6**
DRGR 53.46 309⇓P **P** **13 23 24.1 -0.5**
STHS Stebnicka Huta 54.33 313 *e*P **P** **13 23 27.4 -3.5**
SEY Seymchan 54.48 31⇑*e*P **P** **13 23 32.0 +0.2**
ARCES ARCESS Array B 54.68 338 P **P** **13 23 32.9 -0.4**
comp=Z,5.0nm,0.7s,mb4.7,baz=103,slow=7.4,SNR=16
ARCES LR LR 13 48 02.5
comp=Z,85nm,19.3s,MS3.8,baz=85,slow=37
KMBO Kilima Mbogo 55.95 248 P **P** **13 23 43.6 +0.5**
comp=Z,4.0nm,0.9s,mb4.5,baz=41,slow=12,SNR=8.0
VYHS Vyhne 55.97 312 *e*P **P** **13 23 42.9 +0.1**
OKC Ostrava-Krasne 56.32 313 *e*P **P** **13 23 45.7 +0.4**
MORC Moravsky Berou 56.71 313 *e*P **P** **13 23 47.9 -0.2**
comp=Z,9.0nm,1.1s,mb4.7
MORC Moravsky Berou 56.71 313 *e*P **P** **13 23 47.9 -0.2**
MORC pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
DPC Dobruska-Polom 57.45 314 *e*P **P** **13 23 53.2 -0.2**
UPC Upice 57.63 314 *e*P **P** **13 23 55.0 +0.4**
MBWA Marble Bar 57.67 144 *e*P **P** **13 23 55.4 +0.2**
comp=Z,10nm,1.0s,mb4.8
FITZ Fitzroy Crossi 58.61 136 LR LR 13 50 32.2
comp=Z,140nm,19.2s,MS4.1,baz=274,slow=37
PRU Pruhonice 58.62 314 *e*P **P** **13 24 01.2 -0.4**
TIP Timpagrande 58.77 301 *e*P **P** **13 24 01.9 -0.8**
BRG Berggiesshubel 58.91 315 *e*P **P** **13 24 05.7 +2.2**
comp=Z,11nm,1.3s,mb4.7
BRG Berggiesshubel 58.91 315 *e*P **P** **13 24 05.7 +2.2**
BRG pmax pmax
comp=Z,11nm,1.3s,mb4.7
GERES GERESS Array B 59.31 313 P **P** **13 24 06.5 +0.1**
comp=Z,4.0nm,1.0s,mb4.4,baz=76,slow=5.5,SNR=18
GERES LR LR 13 53 36.8
comp=Z,50nm,18.2s,MS3.7,baz=43,slow=40
KHC Kasperske Hory 59.35 313 *e*P **P** **13 24 06.2 -0.4**
KHC *x* *x* 13 24 12.5
KHC Kasperske Hory 59.35 313 *e*P **P** **13 24 06.2 -0.4**
KHC *e* 13 24 12.5
CLL Collm 59.44 315 P **P** **13 24 09.0 +1.8**
CLL Collm 59.44 315 *e*P **P** **13 24 09.0 +1.8**
NB2 NORSAR Subarra 59.64 327 P **P** **13 24 07.9 -0.5**
comp=Z,20nm,1.4s,mb5.0,baz=85,slow=7.4
NB2 NORSAR Subarra 59.64 327 P **P** **13 24 07.9 -0.5**
NB2 pmax pmax
comp=Z,20nm,1.4s,mb5.0
NOA NORSAR Array B 59.64 327 P **P** **13 24 08.3 -0.1**
comp=Z,11nm,1.2s,mb4.8,baz=87,slow=6.9,SNR=5.7
NOA LR LR 13 51 19.9
comp=Z,45nm,18.6s,MS3.6,baz=90,slow=38
NOA NORSAR Array B 59.64 327 P **P** **13 24 08.3 -0.1**
NOA LR LR 13 51 19.9
NKC Novy Kostel 59.93 314 *e*P **P** **13 24 10.9 +0.3**
MOX Moxa 60.40 315 *i* P **P** **13 24 15.5 +1.7**
comp=Z,logA/T=1.0,mb4.8
MOX Moxa 60.40 315 *e*P **P** **13 24 15.5 +1.7**
comp=Z,15nm,1.6s,mb4.8
MOX Moxa 60.40 315 *e*P **P** **13 24 15.5 +1.7**
MOX pmax pmax
comp=Z,15nm,1.6s,mb4.8
GRA1 Grafenberg Arr 60.80 314 *e*P **P** **13 24 16.8 +0.3**
comp=Z,7.0nm,1.1s,mb4.7
GRF Grafenberg Arr 60.80 314 *e*P **P** **13 24 16.8 +0.3**
GRF pmax pmax
comp=Z,7.0nm,1.1s,mb4.7
CDF Champ du Feu 63.58 313 *e*P **P** **13 24 34.3 -0.8**
comp=Z,18nm,1.3s,mb4.6
CDF Champ du Feu 63.58 313 *e*P **P** **13 24 34.3 -0.8**
CDF pmax pmax
comp=Z,9.0nm,1.3s,mb4.6
PGF Pioggiola 63.75 306 *e*P **P** **13 24 36.6 +0.3**
comp=Z,130nm,1.6s,mb5.4
PGF Pioggiola 63.75 306 *e*P **P** **13 24 36.6 +0.3**
PGF pmax pmax
comp=Z,65nm,1.6s,mb5.4
HINF Hinteralfeld 63.99 312 *e*P **P** **13 24 36.7 -1.0**
HAU Haudompre 64.28 313 *e*P **P** **13 24 38.7 -0.9**
HAU *e*R
comp=Z,76nm,20.0s
LPG La Plagne 64.61 310 *e*P **P** **13 24 41.8 0.0**
comp=Z,20nm,1.0s,mb4.8
LPG La Plagne 64.61 310 *e*P **P** **13 24 41.8 0.0**
LPG pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
LPL La Plagne 64.61 310 *e*P **P** **13 24 41.7 -0.1**
comp=Z,25nm,1.1s,mb4.9
LPL La Plagne 64.61 310 *e*P **P** **13 24 41.7 -0.1**
LPL pmax pmax
comp=Z,13nm,1.1s,mb4.9
GIVF Givet 64.77 315 *e*P **P** **13 24 42.2 -0.6**
CABF La Chapelle 64.78 311 *e*P **P** **13 24 42.6 -0.3**
comp=Z,28nm,1.3s,mb4.8
CABF La Chapelle 64.78 311 *e*P **P** **13 24 42.6 -0.3**
CABF pmax pmax
comp=Z,14nm,1.3s,mb4.8

MBDF Montbardon 64.78 309 *e*P **P** **13 24 43.4 +0.5**
comp=Z,15nm,1.0s,mb4.7
MBDF Montbardon 64.78 309 *e*P **P** **13 24 43.4 +0.5**
MBDF pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
MEZF Maizieres J'vi 65.00 313 *e*P **P** **13 24 43.7 -0.6**
FRF La Foret Royal 65.17 308 *e*P **P** **13 24 45.3 -0.1**
LMR La Mourre 65.32 308 *e*P **P** **13 24 45.8 -0.7**
comp=Z,39nm,1.2s,mb5.0
LMR La Mourre 65.32 308 *e*P **P** **13 24 45.8 -0.7**
LMR pmax pmax
comp=Z,20nm,1.2s,mb5.0
ORIF Oris-en-Rattie 65.35 309 *e*P **P** **13 24 46.5 -0.1**
ORIF *e*R
comp=Z,92nm,19.8s
WRA Warramunga Arr 65.54 131 P **P** **13 24 49.1 +0.8**
comp=Z,6.4nm,0.9s,mb4.7,baz=325,slow=6.5,SNR=109
WRAB Tennant Creek 65.55 131 *e*P **P** **13 24 48.9 +0.6**
comp=Z,10nm,0.7s,mb5.0
WRAB Tennant Creek 65.55 131⇓*e*P **P** **13 24 49.0 +0.7**
SMRF Simiane la Rot 65.81 308 *e*P **P** **13 24 49.1 -0.4**
comp=Z,62nm,1.3s,mb5.2
LOR Lormes 66.09 312 *e*P **P** **13 24 50.2 -1.1**
comp=Z,19nm,1.3s,mb4.7
LOR *e*R
comp=Z,64nm,18.5s
LOR Lormes 66.09 312 *e*P **P** **13 24 50.2 -1.1**
LOR pmax pmax
comp=Z,9.0nm,1.3s,mb4.6
LOR MLR MLR
comp=Z,60nm,18.5s,MS3.8
VIVF Saint-Julien-l 66.19 310 *e*P **P** **13 24 51.5 -0.5**
SMF Signal de Mont 66.27 312 *e*P **P** **13 24 51.5 -0.9**
comp=Z,33nm,1.4s,mb4.9
SMF Signal de Mont 66.27 312 *e*P **P** **13 24 51.5 -0.9**
SMF pmax pmax
comp=Z,16nm,1.4s,mb4.9
SSF Saint Saulge 66.38 312 *e*P **P** **13 24 52.3 -0.8**
comp=Z,5.6nm,1.0s,mb4.5
SSF Saint Saulge 66.38 312 *e*P **P** **13 24 52.3 -0.8**
SSF pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
AVF Avril sur Loir 66.55 312 *e*P **P** **13 24 53.2 -1.0**
comp=Z,13nm,1.0s,mb4.6
AVF Avril sur Loir 66.55 312 *e*P **P** **13 24 53.2 -1.0**
AVF pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
LASF Ste Croix 66.97 309 *e*P **P** **13 24 57.5 +0.6**
comp=Z,14nm,1.0s,mb4.7
TCF Toulx Ste Croi 67.45 312 *e*P **P** **13 24 59.5 -0.4**
comp=Z,86nm,1.6s,mb5.2
TCF Toulx Ste Croi 67.45 312 *e*P **P** **13 24 59.5 -0.4**
TCF pmax pmax
comp=Z,43nm,1.6s,mb5.2
RJF Les Rejaudoux 68.20 311 *e*P **P** **13 25 04.7 +0.1**
RJF *e*R
comp=Z,60nm,22.2s
LDF La Druitiere 68.29 314 *e*P **P** **13 25 04.4 -0.7**
comp=Z,31nm,1.3s,mb4.9
MTLF Montolieu 68.32 309 *e*P **P** **13 25 05.1 -0.2**
FLN La Foliniere 68.47 315 *e*P **P** **13 25 05.6 -0.6**
FLN *e*R
comp=Z,90nm,22.8s
GRR Gorron 68.82 314 *e*P **P** **13 25 07.7 -0.6**
LFF La Frestale 68.84 311 *e*P **P** **13 25 08.5 0.0**
MFF Saint Martin d 68.91 312 *e*P **P** **13 25 08.2 -0.8**
comp=Z,19nm,1.1s,mb4.6
EPF Esparros 69.72 309 *e*P **P** **13 25 14.6 +0.6**
SGMF Saint Gilles 69.94 315 *e*P **P** **13 25 14.8 -0.4**
comp=Z,22nm,1.1s,mb4.7
ROSF Rostrenen 70.36 315 *e*P **P** **13 25 17.4 -0.4**
ETSF Etsaut 70.39 309 *e*P **P** **13 25 18.3 +0.3**
SJPF Ste Jean 70.78 309 *e*P **P** **13 25 20.6 +0.2**
comp=Z,25nm,1.4s,mb4.6
ESDC Sonseca Array 73.94 307 P **P** **13 25 39.2 0.0**
comp=Z,4.1nm,0.9s,mb4.3,baz=62,slow=6.4,SNR=17
ESLA Sonseca Array 73.94 307 *e*P **P** **13 25 39.1 -0.1**
comp=Z,2.3nm,1.2s,mb4.0
STKA Stephens Creek 78.48 135 P **P** **13 26 05.1 +0.1**
comp=Z,4.1nm,1.0s,mb4.3,baz=337,slow=4.8,SNR=4.9
STKA LR LR 14 03 45.5
comp=Z,87nm,18.5s,MS4.1,baz=23,slow=38
STKA Stephens Creek 78.48 135 P **P** **13 26 05.1 +0.1**
STKA LR LR 14 03 45.5
ILAR Eielson Array 78.83 21 P **P** **13 26 06.7 +0.5**
comp=Z,5.5nm,0.9s,mb4.5,baz=290,slow=4.2,SNR=21
ILAR PP PP 13 29 03.5 -3.2
comp=Z,1.3nm,1.0s,baz=310,slow=7.0,SNR=5.4
LBTB Lobatse 79.21 234 *e*P **P** **13 26 09.7 +0.6**
comp=Z,17nm,0.9s,mb5.0
SPU Mount Spurr 79.40 25 *e*P **P** **13 26 11.0 +1.6**
SML Sawmill 80.35 23 *e*P **P** **13 26 16.0 +1.6**
BOSA Boshof 81.63 232 P **P** **13 26 22.9 +1.0**
comp=Z,8.1nm,0.9s,mb4.7,baz=53,slow=7.0,SNR=9.1
YKA Yellowknife Ar 88.54 10 P **P** **13 26 58.5 +3.2**
comp=Z,1.9nm,0.8s,mb4.5,baz=350,slow=4.3,SNR=4.1
YKA LR LR 14 15 39.5
comp=Z,50nm,18.0s,MS4.0,baz=25,slow=42
YKA Yellowknife Ar 88.54 10 P **P** **13 26 58.5 +3.2**
YKA LR LR 14 15 39.5
SNAA Sanae 115.96 201 PKP PKPdf 13 32 44.8 +0.6
comp=Z,0.7nm,1.2s,baz=205,slow=7.7,SNR=3.6
VNA2 Neumayer--Watz 117.33 202 PKPdf 13 32 50.6 +3.9
VNA2 Neumayer--Watz 117.33 202 PKPdf 13 32 54.0 +7.3
VNA2 Neumayer--Watz 117.33 202 PKPdf 13 32 58.6 +12
VNA3 Neumayer Olymp 118.09 201 PKPdf 13 32 51.4 +3.2
VNA3 Neumayer Olymp 118.09 201 PKPdf 13 32 55.7 +7.5
VNA3 Neumayer Olymp 118.09 201 PKPdf 13 33 00.3 +12
MNTX Cornudas Mount 119.82 13 *e*PKPdf PKPdf 13 32 54.4 +1.8
TXAR Lajitas Array 122.44 11 PKP PKPdf 13 32 59.1 +1.4
comp=Z,1.3nm,1.0s,baz=270,slow=1.3,SNR=6.2
CPUP Villa Florida 148.58 264 PKPbc PKPdf 13 33 50.2 +4.7
comp=Z,8.5nm,0.9s,baz=77,slow=3.6,SNR=6.3
CPUP Villa Florida 148.58 264 *e*PKPdf PKPdf 13 33 47.7 +2.2
CPUP *e*PKPbc PKPdf 13 33 51.4 +5.9
CPUP Villa Florida 148.58 264 *e*PKIKP PKPdf 13 33 47.8 +2.3
SIV San Ignacio 148.62 285 PKPbc PKPdf 13 33 51.6 +5.8
comp=Z,6.6nm,0.9s,baz=95,slow=6.3,SNR=5.1

NIED ***28*** *13:15:00,38.50N×143.30E,h5km,Mw3.8 Best double couple: M0:5.3×10¹⁴ NP1:φs:123°,δ84°,λ-86°. NP2:φs:266°, δ7°,λ-126°.*
JMA ***28*** *13:15:01.6±0.2,38.51N×143.25E,h16km±4km,M3.5*
ISC 28 13:15:02.5±1.8,38.47N±0.10×143.2E±0.2,h16km,n13, σ0§49/14,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.35**	**297**	P		**Pn**		**13 15 26.0**	**-0.8**
JIO	**Ouri**	**1.46**	**270**	P		**Pn**		**13 15 27.8**	**-0.6**
JIO				*e*S		**Sb**		**13 15 47.1**	**+0.2**
JMK	**Ichinoseki**	**1.63**	**288**	P		**Pn**		**13 15 30.3**	**-0.5**
JOM	**Ohasama**	**1.79**	**304**	P		**Pn**		**13 15 32.7**	**-0.5**
JMM	**Marumori**	**2.00**	**253**	P		**Pn**		**13 15 35.8**	**-0.3**
JOU	**Okura**	**2.00**	**268**	P		**Pn**		**13 15 36.2**	**+0.1**
JFK	**Kawauchi**	**2.15**	**240**	P		**Pn**		**13 15 37.8**	**-0.5**
JYK	**Kaneyama**	**2.27**	**282**	P		**Pn**		**13 15 40.6**	**+0.6**
JANG	**Nango**	**2.31**	**326**	P		**Pn**		**13 15 41.1**	**+0.6**
JFT	**Otama**	**2.46**	**248**	P		**Pn**		**13 15 43.5**	**+0.8**
JYS	**Shirataka**	**2.48**	**265**	P		**Pn**		**13 15 43.5**	**+0.5**
JAH	**Hinai**	**2.63**	**311**	P		**Pn**		**13 15 45.5**	**+0.4**
MAT	**Matsushiro**	**4.42**	**246**	P		**Pn**		**13 16 10.7**	**+0.1**

IDC ***28*** *13:29:12.4±0.9,21.22S×67.16W,h168km±8km,mb3.4/4, mb1 3.6/8,mb1mx3.5/17,mbtmp3.9/8,Error ellipse: s-maj=18.8km s-min=10.2km az=112.0*
NEIC ***28*** *13:29:12.7±0.7,21.18S×67.32W,h171km±8km,Error ellipse: s-maj=14.1km s-min=10.5km az=74.0*
ISC 28 13:29:12.3±0.6,21.26S±0.05×67.3W±0.1,h189km±8km, n17,σ1§33/22,mb3.5/4,2C,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.00**	**227**	P		P		**13 29 51.6**	**+1.2**
	14nm,0.3s,baz=34,slow=9.3,SNR=247								
LVC				S		**S**		**13 30 20.3**	**+0.5**
	29nm,0.3s,baz=211,slow=20,SNR=48								
LVC	**Limon Verde**	**2.00**	**227**⇑	*e*P		P		**13 29 51.2**	**+0.8**
LVC				*e*S		**S**		**13 30 20.4**	**+0.7**
LPAZ	**La Paz**	**5.00**	**351**	P		P		**13 30 28.2**	**+1.0**
	7.7nm,0.3s,baz=152,slow=7.8,SNR=194								
LPAZ				S		**S**		**13 31 25.5**	**+0.3**
	baz=15,slow=19,SNR=1.4								
LPAZ	**La Paz**	**5.00**	**351**⇑	*i*P		P		**13 30 28.0**	**+0.8**
LPAZ				S		**S**		**13 31 25.5**	**+0.3**
ARE	**Arequipa**	**6.19**	**320**	*e*P		P		**13 30 40.0**	**-2.7**
ARE				*e*S		**S**		**13 31 46.0**	**-7.1**
SIV	**San Ignacio**	**7.90**	**50**	P		P		**13 31 03.2**	**-1.9**
	3.7nm,0.3s,baz=234,slow=11,SNR=103								
SIV				S		**S**		**13 32 27.2**	**-6.0**
	1.6nm,0.3s,baz=134,slow=22,SNR=7.3								
CFAA	**Coronel Fontan**	**10.34**	**184**	P		P		**13 31 36.5**	**-0.5**
	0.2nm,0.3s,baz=7.3,slow=15,SNR=22								
CFAA				S		**S**		**13 33 28.4**	**-1.8**
	0.1nm,0.3s,baz=184,slow=14,SNR=3.3								
CFAA	**Coronel Fontan**	**10.34**	**184**	P		P		**13 31 36.5**	**-0.5**
CFAA				S		**S**		**13 33 28.4**	**-1.8**
CPUP	**Villa Florida**	**10.44**	**121**	P		P		**13 31 40.5**	**+2.2**
	0.1nm,0.3s,baz=312,slow=15,SNR=3.0								
CPUP	**Villa Florida**	**10.44**	**121**	P		P		**13 31 38.9**	**+0.5**
TXAR	**Lajitas Array**	**61.29**	**324**	P		P		**13 39 09.1**	**-0.9**
	0.2nm,0.4s,mb3.3,baz=126,slow=7.8,SNR=4.0								
PDAR	**Pinedale Array**	**74.65**	**329**	P		P		**13 40 33.7**	**+1.0**
	0.3nm,0.4s,mb3.2,baz=117,slow=8.1,SNR=3.2								
ULM	**Lac du Bonnet**	**75.54**	**342**	P		P		**13 40 37.4**	**-0.1**
	1.9nm,0.5s,mb4.0,baz=153,slow=9.9,SNR=5.3								
BOSA	**Boshof**	**82.25**	**118**	P		P		**13 41 16.1**	**+2.1**
	1.0nm,0.5s,mb3.7,baz=156,slow=14,SNR=4.3								
WRA	**Warramunga Arr**	**133.90**	**209**	PKP		PKPdf		13 48 10.9	+3.3
	0.3nm,0.4s,baz=155,slow=1.8,SNR=8.8								
MKAR	**Makanchi Array**	**144.56**	**37**	PKP		PKPdf		13 48 28.3	+2.3
	2.0nm,0.4s,baz=348,slow=2.7,SNR=28								
SONM	**Songino Array**	**153.00**	**9**	PKPbc		PKPdf		13 48 50.2	+11
	0.7nm,0.5s,baz=289,slow=1.2,SNR=5.7								
SONM				PKPab		PKPab		13 49 02.3	+1.0
	0.6nm,0.9s,baz=333,slow=6.4,SNR=3.0								

NEIC ***28*** *13:30:30.3±2.0,6.15S×128.69E,h330km±23km,mb4.4/3, Error ellipse: s-maj=25.5km s-min=10.1km az=64.0*
IDC ***28*** *13:30:32.7±5.7,6.17S×128.82E,h357km±62km,mb3.0/4, mb1 3.4/6,mb1mx3.3/13,mbtmp4.0/6,Error ellipse: s-maj=53.7km s-min=18.1km az=71.0*
ISC 28 13:30:37.3±1.6,6.4S±0.1×128.3E±0.2,h428km±20km,n13, σ1§49/17,mb3.2/4,1C,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**7.52**	**147**⇑	*i*P		P		**13 32 31.8**	**+3.6**
	13nm,0.6s								
KAKA				*e*S		**S**		**13 33 56.8**	**+0.9**
FITZ	**Fitzroy Crossi**	**11.92**	**192**	*e*P		P		**13 33 15.8**	**-2.0**
	9.4nm,0.6s								
FITZ				*e*S		**S**		**13 35 31.6**	**+5.6**
FITZ	**Fitzroy Crossi**	**11.92**	**192**	P		P		**13 33 16.0**	**-1.8**
	3.4nm,0.3s,baz=14,slow=10,SNR=50								
FITZ				S		**S**		**13 35 32.1**	**+6.1**
	0.6nm,0.3s,baz=341,slow=16,SNR=2.6								
WRAB	**Tennant Creek**	**14.71**	**157**	*e*P		P		**13 33 43.1**	**-4.6**
	20nm,0.4s								
WRA	**Warramunga Arr**	**14.72**	**157**	P		P		**13 33 43.2**	**-4.6**
	2.8nm,0.3s,baz=340,slow=12,SNR=71								
WRA				S		**S**		**13 36 19.1**	**-1.9**
	0.5nm,0.3s,baz=337,slow=20,SNR=10								
MBWA	**Marble Bar**	**16.85**	**209**	*e*P		P		**13 34 09.8**	**+0.4**
	8.2nm,0.9s								
KKM	**Kota Kinabalu**	**17.23**	**316**	*e*P		P		**13 34 11.6**	**-1.7**
STKA	**Stephens Creek**	**28.26**	**156**	P		P		**13 35 54.6**	**-0.9**
	1.3nm,0.7s,mb3.4,baz=330,slow=13,SNR=3.3								
NWAO	**Narrogin (SRO)**	**28.33**	**200**	P		P		**13 35 58.7**	**+2.5**
SONM	**Songino Array**	**57.33**	**343**	P		P		**13 39 44.7**	**0.0**
	0.2nm,0.5s,mb2.7,baz=168,slow=8.5,SNR=2.8								
MKAR	**Makanchi Array**	**66.77**	**327**	P		P		**13 40 46.9**	**+0.6**
	0.8nm,0.6s,mb3.5,baz=124,slow=6.6,SNR=6.2								
VNDA	**Vanda**	**73.27**	**173**	P		P		**13 41 26.2**	**+1.7**
	0.5nm,0.8s,mb3.1,baz=313,slow=8.4,SNR=5.1								
VNDA	**Vanda**	**73.27**	**173**	P		P		**13 41 26.2**	**+1.7**

IDC ***28*** *13:40:27.0±1.5,26.51N×129.61E,mb3.6/3,mb1 3.7/4, mb1mx3.5/19,mbtmp3.6/4,ML3.3/1,MS2.7/1,Ms1 2.7/1, ms1mx2.5/29,Error ellipse: s-maj=33.2km s-min=23.0km az=40.0*
JMA ***28*** *13:40:28.6,26.50N×129.75E,h47km,M3.1*
ISC 28 13:40:28.8±0.6,26.55N±0.04×129.75E±0.04,h47km,n18, σ1§12/28,mb3.6/3,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**1.35**	**282**	Pn		P		**13 40 51.9**	**+0.1**
	65nm,0.3s,baz=111,slow=18,SNR=365								
JOW				Sn		**S**		**13 41 07.8**	**-1.0**
	53nm,0.3s,baz=115,slow=26,SNR=17								
JOW	**Kunigami**	**1.35**	**282**	P		P		**13 40 51.8**	**+0.1**
JOW				S		**S**		**13 41 07.9**	**-0.8**
JTK	**Tokunoshima**	**1.42**	**330**	P		P		**13 40 53.2**	**+0.5**
JTK				*e*S		**S**		**13 41 11.0**	**+0.6**
JMZ	**Minamidaito 2**	**1.51**	**119**	P		P		**13 40 53.4**	**-0.5**
JMZ				S		**S**		**13 41 11.2**	**-1.4**
JIH	**Iheya**	**1.67**	**287**	P		P		**13 40 56.4**	**+0.3**
JIH				S		**S**		**13 41 16.5**	**+0.1**
JZK	**Kikaishima**	**1.77**	**6**	P		P		**13 40 58.3**	**+0.8**
JZK				S		**S**		**13 41 21.0**	**+2.1**
JJT2	**Tamagusuku 2**	**1.84**	**258**	S		**S**		**13 41 20.4**	**-0.4**
JAM	**Amami Oshima**	**1.86**	**356**	P		P		**13 40 59.3**	**+0.5**
JAM				S		**S**		**13 41 21.2**	**+0.1**
NAH1	**Naha**	**1.88**	**260**	P		P		**13 40 59.1**	**0.0**
NAH1				S		**S**		**13 41 22.1**	**+0.4**
JAGN	**Aguni-jima**	**2.25**	**271**	P		P		**13 41 04.5**	**+0.1**
JAGN				S		**S**		**13 41 30.5**	**-0.5**
JKE	**Kume jima 2**	**2.67**	**266**	P		P		**13 41 09.4**	**-1.0**
JKE				S		**S**		**13 41 40.5**	**-1.2**
JNN	**Nakanoshima**	**3.28**	**2**	S		**S**		**13 41 55.9**	**-1.2**
JKC	**Kuchinoerabu**	**3.92**	**6**	*e*S		**S**		**13 42 11.7**	**-1.5**
JTN	**Tanegashima 3**	**4.23**	**15**	*e*S		**S**		**13 42 18.8**	**-2.3**
JNU	**Nakatsue**	**6.62**	**8**	Pn		P		**13 42 06.1**	**+0.2**
	0.6nm,0.3s,baz=30,slow=14,SNR=4.2								
JNU				LR		LR		13 44 53.6	
	comp=Z,56nm,18.8s,baz=282,slow=40								
MKAR	**Makanchi Array**	**42.34**	**311**	P		P		**13 48 22.7**	**+2.9**
	0.2nm,0.4s,mb3.1,baz=90,slow=10,SNR=6.7								
WRA	**Warramunga Arr**	**46.43**	**174**	P		P		**13 48 55.2**	**+2.2**
	0.5nm,0.6s,mb3.6,baz=355,slow=8.7,SNR=6.3								
FINES	**FINESS Array B**	**73.25**	**331**	P		P		**13 51 59.3**	**+2.9**
	2.0nm,1.0s,mb4.0,baz=45,slow=3.9,SNR=4.2								

WEL 28 13:58:12.7±0.5,35.82S×177.50E,h5km,ML3.6/3,Error ellipse: s-maj=5.5km s-min=3.7km az=90.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**2.33**	**165**	PN		Pn		13 58 51.1	-1.2
PUZ				SN		Sn		13 59 19.3	-2.4
URZ	**Urewera**	**2.46**	**187**	P*		Pb		13 58 52.5	-4.6
URZ				S*		Sb		13 59 21.5	-6.2
MWZ	**Matawai**	**2.51**	**179**	*e*P*		Pb		13 58 52.9	-5.2
MWZ				S*		Sb		13 59 22.9	-6.4

IDC ***28*** *14:09:13.3±0.4,4.43N×95.23E,mb4.8/23,mb1 4.9/23, mb1mx4.8/25,mbtmp4.8/23,MS4.0/17,Ms1 4.1/17, ms1mx4.0/24,Error ellipse: s-maj=14.9km s-min=10.5km az=66.0*
BJI ***28*** *14:09:15.4,4.14N×95.07E,h40km,mB4.9,mb5.2,Ms4.6, Msz4.4*
MOS ***28*** *14:09:16.8±0.9,4.47N×95.35E,h33km,mb5.2/43,Error ellipse: s-maj=10.8km s-min=5.3km az=116.0*
HRVD ***28*** *14:09:17.5±0.5,4.31N×95.17E,h14km±2km,MW4.8/46, Centroid moment Tensor Solution. LP body waves: s10,c11;Mantle waves: s46,c70; Half duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-1.88±.24; Mθθ0.70±.13; Mφφ1.18±.16; Mrθ0.38±.28; Mrφ1.00±.08; Mθr1.

h27km$_\mu$2.1km**:pP-P,n292,**σ**1$01**/274**,mb5.0**/119**,MS4.2**/40**,**
23C-27D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKT	**Phuket**	**4.75**	**38**	P	**Pn**	**14 10 34.5**	**+6.7**
KULM	**Kulim**	**5.49**	**80**	⇓*i*P	**Pn**	**14 10 38.8**	**+0.5**
KULM				*e*S	**Sn**	**14 11 42.0**	**+0.8**
IPM	**Ipoh**	**5.79**	**87**	P	**Pn**	**14 10 42.8**	**+0.4**
SNG	**Songkhla**	**6.07**	**62**	P	**Pn**	**14 10 47.5**	**+1.2**
	704nm,1.0s						
PBA	**Port Blair**	**7.68**	**342**	*e*P	**Pn**	**14 11 10.1**	**+1.1**
KGM	**Kluang**	**8.40**	**106**	P	**P**	**14 11 20.7**	**+1.6**
NNT	**Nongplab**	**9.34**	**28**	P	**P**	**14 11 33.5**	**+1.5**
NST	**Nakhon Sawan**	**12.26**	**23**	P	**P**	**14 12 14.5**	**+2.6**
KKTK	**Khon Kaen**	**14.07**	**31**	P	**P**	**14 12 39.5**	**+3.5**
	494nm,0.6s						
PALK	**Pallekele**	**14.74**	**282**	*e*P	**P**	**14 12 44.2**	**-0.5**
	21nm,0.7s						
CHG	**Chiang Mai**	**14.85**	**14**	⇓P	**P**	**14 12 51.8**	**+5.7**
	30nm,0.8s						
KSM	**Kuching**	**15.33**	**100**	*e*P	**P**	**14 12 53.8**	**+1.3**
NANT	**Nan**	**15.34**	**20**	⇑P	**P**	**14 12 57.0**	**+4.4**
	88nm,1.0s						
CHRT	**Chiangrai**	**16.07**	**16**	PG	**P**	**14 13 04.0**	**+2.0**
MDRS	**Chennai**	**17.15**	**301**	*ex*	x	14 20 02.0	
VIS	**Vishakhapatnam**	**17.68**	**320**	*e*P	**P**	**14 13 23.7**	**+1.4**
VIS				AMb	AMB	14 13 36.8	
	comp=Z,84nm,1.6s						
VIS				*e*S	**S**	**14 16 27.9**	**-8.2**
VIS				*i* x	x	14 16 28.0	
QIZ	**Qiongzhong**	**20.43**	**43**	P	**P**	**14 13 54.5**	**+0.5**
QIZ				XS		14 17 59.0	
QIZ				AMB	AMB		
	comp=Z,24nm,1.7s						
QIZ				LR	LR		
	comp=N,1μm,15.3s,MS4.4						
QIZ				LR	LR		
	comp=E,657nm,15.9s,MS4.4						
QIZ				LR	LR		
	comp=Z,421nm,16.0s,MS3.9						
HYB	**Hyderabad**	**20.88**	**310**	*i* P	**P**	**14 14 01.0**	**+2.3**
HYB				*e*S	**S**	**14 17 52.0**	**+6.8**
HYB	**Hyderabad**	**20.88**	**310**	*e*P	**P**	**14 14 01.0**	**+2.3**
HYB				*e*S	**S**	**14 17 52.0**	**+6.8**
KKM	**Kota Kinabalu**	**20.98**	**84**	P	**P**	**14 14 02.2**	**+2.5**
KKM	**Kota Kinabalu**	**20.98**	**84**	*e*P	**P**	**14 13 57.4**	**-2.3**
BLSP	**Bilaspur**	**21.77**	**326**	*e*P	**P**	**14 14 07.8**	**+0.1**
BLSP				AMb	AMB	14 14 18.6	
	comp=Z,109nm,1.4s,mb5.1						
KMI	**Kunming**	**21.90**	**19**	P	**P**	**14 14 10.5**	**+1.5**
KMI				AP		14 14 17.3	
KMI				XP		14 14 20.0	
KMI				PP	PP	14 14 36.3	+1.7
KMI				PPP	PPP	14 14 45.8	+1.3
KMI				S	**S**	**14 18 05.0**	**+0.7**
KMI				PCP	PcP	14 18 11.0	+2.6
KMI				SS	SS	14 18 42.3	-0.4
KMI				PCS		14 21 48.3	
KMI				AMB	AMB		
	comp=Z,60nm,1.0s,mb5.0						
KMI				AMB	AMB		
	comp=Z,139nm,3.1s						
KMI				LR	LR		
	comp=N,1μm,12.4s,MS4.7						
KMI				LR	LR		
	comp=E,1μm,13.0s,MS4.7						
KMI	**Kunming**	**21.90**	**19**	P	**P**	**14 14 10.4**	**+1.4**
	comp=E,60nm,1.0s,mb5.0						
KMI				pP		14 14 17.2	
KMI				sP		14 14 20.0	
KMI				PP	PP	14 14 36.2	+1.6
KMI				PPP	PPP	14 14 45.7	+1.2
KMI				S	**S**	**14 18 05.1**	**+0.8**
KMI				PcP	PcP	14 18 11.0	+2.6
KMI				sS		14 18 16.0	
KMI				SS	SS	14 18 42.2	-0.5
KMI				SSS	SSS	14 18 56.8	-0.6
KMI				ScP		14 21 45.4	
KMI				PcS		14 21 48.2	
KMI	**Kunming**	**21.90**	**19**	P	**P**	**14 14 10.4**	**+1.4**
KMI				*SP		14 14 20.0	
KMI						14 14 36.2	
KMI				PPP	PPP	14 14 45.7	+1.2
KMI				S	**S**	**14 18 05.1**	**+0.8**
KMI						14 18 11.0	
KMI				*SS		14 18 16.0	
KMI				SS	SS	14 18 42.2	-0.5
KMI				SSS	SSS	14 18 56.8	-0.6
KMI				pmax	pmax		
	comp=Z,60nm,1.0s,mb5.0						
TSM	**Tawau**	**22.59**	**89**	P	**P**	**14 14 16.8**	**+0.8**
NGP	**Nagpur**	**22.94**	**318**	*e*P	**P**	**14 14 21.4**	**+2.0**
NGP				AMb	AMB	14 14 34.3	
	comp=Z,63nm,1.6s,mb4.8						
LATR	**Latur**	**23.00**	**309**	*ex*	x	14 18 32.5	
GOA	**Goa**	**23.79**	**299**	*ex*	x	14 14 17.0	
KAD	**Karad**	**24.32**	**304**	*e*P	**P**	**14 14 34.9**	**+2.1**
KAD				AMb	AMB	14 14 37.9	
	comp=Z,23nm,0.9s,mb4.6						
KAD				*ex*	x	14 19 02.8	
GYA	**Guiyang**	**24.58**	**25**	⇓*i*P	**P**	**14 14 35.8**	**+0.6**
GYA				AP		14 14 43.8	
GYA				XP		14 14 46.0	
GYA				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.6						
GYA				AMB	AMB		
	comp=Z,200nm,4.5s						
GYA				LR	LR		
	comp=N,700nm,12.3s,MS4.4						
GYA				LR	LR		
	comp=E,360nm,12.9s,MS4.4						
GYA				LR	LR		
	comp=Z,970nm,13.5s,MS4.5						
PKI	**Pulchoki**	**24.93**	**339**	*e*P	**P**	**14 14 38.8**	**+0.2**
	comp=Z,20nm,0.6s,mb4.9						
PKI	**Pulchoki**	**24.93**	**339**	*e*P	**P**	**14 14 38.8**	**+0.2**
PKI				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.5						
DMN	**Daman**	**25.08**	**338**	*e*P	**P**	**14 14 40.7**	**+0.7**
	comp=Z,61nm,0.9s,mb5.2						
KKN	**Kakani**	**25.18**	**339**	*e*P	**P**	**14 14 40.4**	**-0.6**
	comp=Z,41nm,0.8s,mb5.0						
KKN	**Kakani**	**25.18**	**339**	*e*P	**P**	**14 14 40.4**	**-0.6**
KKN				pmax	pmax		
	comp=Z,21nm,0.8s,mb4.7						
POO	**Poona**	**25.21**	**306**	*i* P	**P**	**14 14 42.5**	**+1.2**
	comp=Z,50nm,1.0s,mb5.0						
POO				*i* x	x	14 19 24.5	
BHPL	**Bhopal**	**25.48**	**319**	*e*P	**P**	**14 14 44.8**	**+1.0**
BHPL				AMb	AMB	14 14 50.6	
	comp=Z,33nm,1.1s,mb4.8						
BHPL				*ex*	x	14 19 20.0	
LSA	**Lhasa**	**25.52**	**352**	P	**P**	**14 14 43.8**	**-0.4**
	comp=Z,33nm,0.6s,mb5.0						
LSA	**Lhasa**	**25.52**	**352**	P	**P**	**14 14 43.8**	**-0.4**
LSA				pmax	pmax		
	comp=Z,33nm,0.6s,mb5.0						
GZH	**Guangzhou**	**25.58**	**42**	P	**P**	**14 14 49.5**	**+4.7**
GZH				LR	LR		
	comp=N,588nm,13.1s,MS4.4						
GZH				LR	LR		
	comp=E,532nm,14.9s,MS4.4						
GZH				LR	LR		
	comp=Z,791nm,11.4s,MS4.5						
GKN	**Gorkha**	**25.61**	**338**	*e*P	**P**	**14 14 44.5**	**-0.5**
	comp=Z,58nm,0.6s,mb5.3						
KOLN	**Koldanda**	**25.81**	**336**	*e*P	**P**	**14 14 46.9**	**+0.1**
	comp=Z,91nm,0.8s,mb5.4						
CD2	**Chengdu**	**27.63**	**16**	P	**P**	**14 15 02.5**	**-1.1**
CD2				PP	PP	14 15 51.5	-0.7
CD2				PPP	PPP	14 16 04.5	+0.3
CD2				S	**S**	**14 19 42.8**	**+0.9**
CD2				SS	SS	14 21 03.0	+1.5
CD2				AMB	AMB		
	comp=Z,60nm,0.8s,mb5.3						
CD2				AMB	AMB		
	comp=Z,60nm,13.2s						
CD2				LR	LR		
	comp=E,510nm,15.6s						
CD2				LR	LR		
	comp=Z,220nm,9.6s						
ENH	**Enshi**	**29.11**	**26**	*e*P	**P**	**14 15 15.5**	**-1.4**
	comp=Z,50nm,1.2s,mb5.1						
QZH	**Quanzhou**	**30.41**	**45**	P	**P**	**14 15 29.0**	**+0.5**
QZH				*e*S	**S**	**14 20 29.0**	**+2.7**
QZH				AMB	AMB		
	comp=Z,90nm,1.1s,mb5.4						
QZH				LR	LR		
	comp=N,940nm,10.3s,MS4.7						
QZH				LR	LR		
	comp=E,770nm,15.0s,MS4.7						
QZH				LR	LR		
	comp=Z,600nm,12.2s,MS4.5						
XAN	**Xi'an**	**32.19**	**22**	P	**P**	**14 15 42.5**	**-1.5**
XAN				S	**S**	**14 20 50.5**	**-3.6**
XAN				AMB	AMB		
	comp=Z,142nm,0.8s,mb5.8						
XAN				AMB	AMB		
	comp=Z,48nm,6.3s						
XAN				LR	LR		
	comp=E,416nm,11.8s						
XAN				LR	LR		
	comp=Z,512nm,14.0s,MS4.4						
LZH	**Lanzhou**	**32.59**	**13**	*e*P	**P**	**14 15 46.0**	**-1.5**
LZH				AP	pP	14 15 53.5	-2.1
LZH				AMB	AMB		
	comp=Z,26nm,1.0s,mb5.1						
LZH				AMB	AMB		
	comp=Z,110nm,4.0s						
LZH				LR	LR		
	comp=E,745nm,13.2s						
LZH				LR	LR		
	comp=Z,998nm,14.5s,MS4.7						
LZH	**Lanzhou**	**32.59**	**13**	*e*P	**P**	**14 15 46.0**	**-1.5**
	comp=Z,26nm,1.0s,mb5.1						
LZH				pP	pP	14 15 53.5	-2.1
LZH				sP	sP	14 15 56.7	-2.4
LZH				LR	LR		
	comp=Z,1μm,14.5s,MS4.7						
LZH	**Lanzhou**	**32.59**	**13**	*e*P	**P**	**14 15 46.0**	**-1.5**
LZH				*SP	sP	14 15 56.7	-2.4
LZH				pmax	pmax		
	comp=Z,26nm,1.0s,mb5.1						
LZH				MLR	MLR		
	comp=Z,1μm,14.5s,MS4.7						
MBWA	**Marble Bar**	**34.92**	**137**	*e*P	**P**	**14 16 06.4**	**-1.4**
	comp=Z,36nm,1.6s,mb5.0						
MBWA				LR	LR		
	comp=Z,292nm,19.0s,MS4.0						
GTA	**Gaotai**	**35.17**	**6**	P	**P**	**14 16 08.5**	**-1.2**
GTA				AP	pP	14 16 16.5	-1.4
GTA				PP	PP	14 17 26.5	-2.3
GTA				PCP	PcP	14 18 41.5	+0.6
GTA				S	**S**	**14 21 37.0**	**-3.2**
GTA				SCS	ScS	14 26 28.3	+2.4
GTA				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
GTA				AMB	AMB		
	comp=Z,55nm,11.9s						
GTA				LR	LR		
	comp=N,255nm,13.8s,MS4.2						
GTA				LR	LR		
	comp=E,137nm,14.5s,MS4.2						
GTA				LR	LR		
	comp=Z,324nm,11.8s,MS4.3						
NJ2	**Nanjing**	**35.37**	**36**	*e*P	**P**	**14 16 12.0**	**+0.4**
NJ2				AP	pP	14 16 18.8	-0.9
NJ2				XP	sP	14 16 22.5	-0.7
NJ2				PP	PP	14 17 30.8	-0.6
NJ2				S	**S**	**14 21 38.0**	**-5.5**
NJ2				AMB	AMB		
	comp=Z,50nm,0.9s,mb5.4						
NJ2				LR	LR		
	comp=N,1μm,13.1s,MS5.0						
NJ2				LR	LR		
	comp=E,1μm,13.3s,MS5.0						
NJ2				LR	LR		
	comp=Z,750nm,12.3s,MS4.7						
SSE	**Sheshan**	**36.13**	**40**	P	**P**	**14 16 15.8**	**-2.2**
SSE				AP	pP	14 16 24.5	-1.7
SSE				XP	sP	14 16 28.5	-1.1
SSE				S	**S**	**14 21 53.3**	**-1.9**
SSE				AMB	AMB		
	comp=Z,27nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,71nm,8.6s						
SSE				LR	LR		
	comp=N,389nm,15.0s,MS4.4						
SSE				LR	LR		
	comp=E,222nm,15.0s,MS4.4						
SSE				LR	LR		
	comp=Z,407nm,11.6s,MS4.4						
SSE	**Sheshan**	**36.13**	**40**	P	**P**	**14 16 15.7**	**-2.3**
	comp=Z,27nm,0.7s,mb5.3						
SSE				pP	pP	14 16 24.5	-1.7
SSE				sP	sP	14 16 28.4	-1.2
SSE				S	**S**	**14 21 53.3**	**-1.9**
SSE				sS		14 22 08.3	
SSE				SS	SS	14 24 30.2	+11
SSE				LR	LR		
	comp=Z,410nm,11.6s,MS4.4						
FITZ	**Fitzroy Crossi**	**37.37**	**127**	⇓*i*P	**P**	**14 16 27.5**	**-1.0**
	comp=Z,30nm,0.7s,mb5.2						
FITZ	**Fitzroy Crossi**	**37.37**	**127**	P	**P**	**14 16 27.5**	**-1.0**
	comp=Z,39nm,0.7s,mb5.3,baz=331,slow=4.0,SNR=46						
TIA	**Tai'an**	**37.59**	**30**	⇑P	**P**	**14 16 31.5**	**+1.3**
TIA				AMB	AMB		
	comp=Z,26nm,1.1s,mb4.9						
BTO	**Baotou**	**38.49**	**18**	*e*P	**P**	**14 16 36.5**	**-1.2**
JOW	**Kunigami**	**38.69**	**51**	P	**P**	**14 16 40.4**	**+0.8**
	comp=Z,40nm,0.8s,mb5.2,baz=253,slow=6.7,SNR=14						
KSH	**Kashi**	**39.12**	**336**	⇑*i*P	**P**	**14 16 43.5**	**+0.5**
KSH				*e*AP	pP	14 16 51.0	-0.2
KSH				*e*XP	sP	14 16 55.3	+0.6
KSH				*e*PP	PP	14 18 16.3	-0.4
KSH				*e*PPP	PPP	14 18 39.5	-1.0
KSH				*e*PCP	PcP	14 18 52.0	-0.9
KSH				*e*SCP		14 22 36.0	
KSH				*e*S	**S**	**14 22 41.0**	**+0.3**
KSH				XS		14 22 54.0	
KSH				*e*SS	SS	14 25 23.3	-2.6
KSH				*e*SCS	ScS	14 26 46.3	-1.8
KSH				AMB	AMB		
	comp=Z,170nm,2.3s,mb5.4						
KSH				LR	LR		
	comp=N,200nm,4.7s						
KSH				LR	LR		
	comp=E,170nm,5.3s						
HHC	**Hu-ho-hao-te**	**39.21**	**20**	⇓P	**P**	**14 16 44.3**	**+0.5**
HHC				AP	pP	14 16 56.3	+4.3
HHC				XP	sP	14 17 01.0	+5.6
HHC				PP	PP	14 18 21.0	+3.3
HHC				PCP	PcP	14 18 51.0	-2.1
HHC				SCP		14 22 34.5	
HHC				PCS		14 22 38.0	
HHC				S	**S**	**14 22 46.5**	**+4.5**
HHC				XS		14 23 05.5	
HHC				SCS	ScS	14 26 45.5	-3.1
HHC				AMB	AMB		
	comp=Z,34nm,1.4s,mb4.9						
HHC				AMB	AMB		
	comp=Z,134nm,8.4s						
HHC				LR	LR		
	comp=N,500nm,14.3s,MS4.7						
HHC				LR	LR		
	comp=E,805nm,17.9s,MS4.7						
HHC				LR	LR		
	comp=Z,584nm,14.3s,MS4.6						
WMQ	**Urumqi**	**39.88**	**351**	⇑*i*P	**P**	**14 16 49.0**	**-0.3**
WMQ				AP	pP	14 16 59.0	+1.5
WMQ				XP	sP	14 17 03.0	+2.1
WMQ				PP	PP	14 18 25.0	+0.2
WMQ				SCP		14 22 40.0	
WMQ				S	**S**	**14 22 51.0**	**-1.1**
WMQ				SS	SS	14 25 41.0	-1.6
WMQ				AMB	AMB		
	comp=Z,16nm,1.0s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,78nm,4.0s						
WMQ				LR	LR		
	comp=N,98nm,14.0s,MS4.1						
WMQ				LR	LR		
	comp=E,185nm,15.0s,MS4.1						
WMQ				LR	LR		
	comp=Z,123nm,14.0s,MS3.9						
MUN	**Mundaring**	**41.26**	**153**	*e*P	**P**	**14 17 02.0**	**+1.3**
ULHL	**Ulahol**	**41.37**	**339**	P	**P**	**14 17 03.0**	**+1.5**
	SNR=9.2						
KLBR	**Kellerberrin**	**41.68**	**151**	*e*P	**P**	**14 17 04.4**	**+0.2**
	comp=Z,56nm,1.7s,mb4.9						
DL2	**Dalian**	**41.95**	**31**	P	**P**	**14 17 07.0**	**+0.7**
DL2				*e*S	**S**	**14 23 21.5**	**-1.3**
DL2				AMB	AMB		
	comp=Z,70nm,0.7s,mb5.4						
DL2				LR	LR		
	comp=N,80nm,13.4s,MS4.0						
DL2				LR	LR		
	comp=E,130nm,13.3s,MS4.0						
DL2				LR	LR		
	comp=Z,280nm,12.8s,MS4.3						
UCH	**Uchtor**	**42.01**	**337**	P	**P**	**14 17 08.1**	**+1.3**
	SNR=42						
TKM2	**Tokmak 2**	**42.20**	**338**	P	**P**	**14 17 09.7**	**+1.5**
	SNR=31						
KBK	**Karagaybulak**	**42.21**	**338**	P	**P**	**14 17 10.0**	**+1.6**
	SNR=45						
AML	**Almayashu**	**42.26**	**336**	P	**P**	**14 17 10.5**	**+1.7**
	SNR=17						
AAK	**Ala-Archa**	**42.36**	**337**	P	**P**	**14 17 11.1**	**+1.4**
	SNR=18						
AAK	**Ala-Archa**	**42.36**	**337**	*e*P	**P**	**14 17 09.6**	**0.0**
	comp=Z,59nm,1.1s,mb5.1						
AAK	**Ala-Archa**	**42.36**	**337**	*d i*P	**P**	**14 17 09.8**	**+0.1**
AAK				pmax	pmax		
	comp=Z,38nm,0.8s,mb5.1						
AAK				MLR	MLR		
	comp=Z,400nm,26.0s,MS4.2						
FRU	**Bishkek**	**42.49**	**337**	*i* P	pP	14 17 21.0	+2.1
FRU				pmax	pmax		
	comp=Z,180nm,2.0s,mb5.3						
NWAO	**Narrogin (SRO)**	**42.53**	**152**	P	**P**	**14 17 10.0**	**-1.2**
	comp=Z,18nm,1.0s,mb4.8,baz=326,slow=9.1,SNR=3.8						
NWAO	**Narrogin (SRO)**	**42.53**	**152**	*e*P	**P**	**14 17 11.3**	**+0.1**
	comp=Z,22nm,1.0s,mb4.8						
NWAO	**Narrogin (SRO)**	**42.53**	**152**	*e*P	**P**	**14 17 11.3**	**+0.1**
NWAO				pmax	pmax		
	comp=Z,22nm,1.0s						
CHMS	**Chumysh**	**42.58**	**338**	P	**P**	**14 17 12.4**	**+1.0**
	SNR=17						
EKS2	**Erkin-Say**	**42.67**	**337**	P	**P**	**14 17 13.3**	**+1.2**
	SNR=15						
USP	**Ospenovka**	**42.90**	**338**	P	**P**	**14 17 14.9**	**+0.8**
	SNR=52						
MKAR	**Makanchi Array**	**43.76**	**347**	P	**P**	**14 17 20.5**	**-0.4**
	comp=Z,19nm,0.6s,mb5.0,baz=166,slow=7.7,SNR=152						
MKAR				PcP	PcP	14 19 07.5	-0.5
	comp=Z,4.6nm,0.8s,baz=163,slow=4.9,SNR=2.9						
MKAR				S	**S**	**14 23 50.5**	**+1.4**
	comp=Z,0.5nm,0.8s,baz=185,slow=17,SNR=2.8						
MKAR				LR	LR	14 38 13.3	
	comp=Z,160nm,21.0s,MS3.9,baz=175,slow=40						
JNU	**Nakatsue**	**43.88**	**45**	P	**P**	**14 17 22.4**	**+0.2**
	comp=Z,28nm,0.8s,mb5.0,baz=229,slow=5.5,SNR=23						
SONM	**Songino Array**	**44.39**	**11**	P	**P**	**14 17 24.7**	**-1.4**
	comp=Z,4.7nm,0.6s,mb4.4,baz=191,slow=8.5,SNR=41						
SONM				PcP	PcP	14 19 09.9	-0.2
	comp=Z,6.1nm,0.6s,baz=193,slow=3.7,SNR=21						
SONM				ScP		14 23 02.2	
	comp=Z,1.4nm,0.8s,baz=190,slow=4.1,SNR=6.5						
SONM				LR	LR	14 38 31.4	
	comp=Z,184nm,19.2s,MS4.0,baz=187,slow=40						
KKAR	**Karatay Array**	**44.39**	**334**	*i* P	**P**	**14 17 26.4**	**+0.2**
KKAR				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.7						
KS15	**Wonju Array Si**	**44.47**	**38**	*e*P	**P**	**14 17 26.6**	**-0.3**
ULN	**Ulaanbaatar**	**44.55**	**11**	*e*P	**P**	**14 17 26.3**	**-1.0**
	comp=Z,2.9nm,0.7s,mb4.2						
ULN				LR	LR		
	comp=Z,167nm,19.0s,MS4.0						
ULN	**Ulaanbaatar**	**44.55**	**11**	⇓*e*P	**P**	**14 17 26.0**	**-1.3**
SNY	**Shenyang**	**45.11**	**30**	⇓P	**P**	**14 17 31.8**	**-0.2**
SNY				AMB	AMB		
	comp=Z,80nm,0.7s,mb5.7						
SNY				LR	LR		
	comp=N,370nm,17.1s,MS4.5						
SNY				LR	LR		
	comp=E,280nm,12.4s,MS4.5						
SNY				LR	LR		
	comp=Z,290nm,14.1s,MS4.4						
WRA	**Warramunga Arr**	**45.38**	**124**	P	**P**	**14 17 33.8**	**-0.5**
	comp=Z,53nm,0.7s,mb5.5,baz=301,slow=9.2,SNR=333						
WRAB	**Tennant Creek**	**45.38**	**123**	*e*P	**P**	**14 17 33.9**	**-0.5**
	comp=Z,94nm,0.8s,mb5.7						
WRAB	**Tennant Creek**	**45.38**	**123**	⇓*e*P	**P**	**14 17 34.5**	**+0.1**
ZAK	**Zakamensk**	**46.39**	**7**	⇓*i*P	**P**	**14 17 40.7**	**-1.2**
ZAK				*e*		14 19 16.9	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.4s,mb3.9						
ZAK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
CN2	**Changchun**	**47.50**	**30**	*e*P	**P**	**14 17 50.3**	**-0.5**
CN2				*e*S	**S**	**14 24 46.5**	**+3.7**
CN2				AMB	AMB		
	comp=Z,70nm,0.9s,mb5.6						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,200nm,15.0s,MS4.4						
CN2				LR	LR		
	comp=E,200nm,15.0s,MS4.4						
CN2				LR	LR		
	comp=Z,400nm,16.0s,MS4.5						
KURK	**Kurchatov**	**48.29**	**346**	*e*P	**P**	**14 17 55.9**	**-0.9**
	comp=Z,28nm,1.0s,mb5.2						
KURK	**Kurchatov**	**48.29**	**346**	*e*P	**P**	**14 17 55.9**	**-0.9**
KURK				pmax	pmax		
	comp=Z,28nm,1.0s,mb5.2						
HIA	**Hailar**	**49.38**	**21**	*e*P	**P**	**14 18 04.9**	**-0.4**
	comp=Z,53nm,0.9s,mb5.6						
HIA	**Hailar**	**49.38**	**21**	*e*P	**P**	**14 18 04.9**	**-0.4**
HIA				pmax	pmax		
	comp=Z,53nm,0.9s						
CIT	**Chita**	**49.91**	**15**	*e*P	**P**	**14 18 08.3**	**-1.0**
ZAL	**Zalesovo**	**50.18**	**352**	P	**P**	**14 18 10.8**	**-0.5**
	comp=Z,10nm,0.6s,mb5.0,baz=305,slow=5.9,SNR=40						
ZAL				S	**S**	**14 25 20.8**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=200,slow=21,SNR=13						
ZAL				LR	LR	14 45 08.2	
	comp=Z,138nm,18.3s,MS4.0,baz=189,slow=43						
ZAL	**Zalesovo**	**50.18**	**352**	P	**P**	**14 18 10.8**	**-0.5**
ZAL				S	**S**	**14 25 20.8**	**+0.6**
ZAL				LR	LR	14 45 08.2	
MDJ	**Mudanjiang**	**50.18**	**32**	P	**P**	**14 18 11.8**	**+0.3**
MDJ				AP	pP	14 18 18.0	-1.9
MDJ				PCP	PcP	14 19 30.8	+0.1
MDJ				PP	PP	14 20 06.0	-1.6
MDJ				SCP		14 23 25.0	
MDJ				PCS		14 23 27.5	
MDJ				S	**S**	**14 25 22.5**	**+2.2**
MDJ				AMB	AMB		
	comp=Z,35nm,1.3s,mb5.2						
MDJ				AMB	AMB		
	comp=Z,64nm,6.8s						
MDJ				LR	LR		
	comp=N,111nm,21.6s,MS4.1						
MDJ				LR	LR		
	comp=E,151nm,19.9s,MS4.1						
MDJ				LR	LR		
	comp=Z,81nm,19.0s,MS3.8						
MDJ	**Mudanjiang**	**50.18**	**32**	*e*P	**P**	**14 18 11.6**	**+0.2**
	comp=Z,33nm,1.0s,mb5.3						
MAJO	**Matsushiro**	**50.81**	**45**	*e*P	**P**	**14 18 14.8**	**-1.5**
	comp=Z,11nm,0.8s,mb4.8						
MAJO				*e*PcP	PcP	14 19 32.7	-0.4
MAJO	**Matsushiro**	**50.81**	**45**	*e*P	**P**	**14 18 14.8**	**-1.5**
MAJO				*e*		14 19 32.7	
MAJO				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
MAT	**Matsushiro**	**50.81**	**45**	P	**P**	**14 18 15.0**	**-1.3**
MAT	**Matsushiro**	**50.81**	**45**	*e*P	**P**	**14 18 15.0**	**-1.3**
	comp=Z,22nm,1.2s,mb5.0						
MAT	**Matsushiro**	**50.81**	**45**	*e*P	**P**	**14 18 15.0**	**-1.3**
MAT				pmax	pmax		
	comp=Z,22nm,1.2s,mb5.0						
NVS	**Novosibirsk**	**51.29**	**351**	⇓*i*P	**P**	**14 18 17.3**	**-2.4**
N

VOSK Vostochnaya 52.22 342 P P 14 18 25.6 -1.2
VOSK pmax pmax
comp=Z,19nm,0.7s,mb5.1
OPO Ambohidratompo 52.50 243 P P 14 18 29.4 +0.1
comp=Z,0.9nm,0.3s,mb4.2,baz=101,slow=12,SNR=3.8
BVA0 Borovoye Array 52.67 341 *i P* **P 14 18 29.0 -1.2**
BVA0 pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
BRVK Borovoye 52.73 341 *eP* **P 14 18 28.8 -1.8**
comp=Z,25nm,1.0s,mb5.1
BRVK Borovoye 52.73 341 *eP* **P 14 18 28.8 -1.8**
BRVK pmax pmax
comp=Z,25nm,1.0s,mb5.1
PMG Port Moresby 53.53 105 P P 14 18 36.5 -0.5
comp=Z,33nm,0.8s,mb5.3,baz=318,slow=4.8,SNR=7.7
PMG Port Moresby 53.53 105 *i P* **P 14 18 36.4 -0.6**
AB31 Akbulak array 53.84 332 *i P* **P 14 18 38.1 -0.7**
AB31 pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
BOD Bodaibo 55.35 12 *eP* **P 14 18 46.9 -2.9**
BOD pmax pmax
comp=Z,14nm,0.9s,mb5.0
CTAO Charters Tower 55.68 118 *eP* **P 14 18 52.7 0.0**
CTAO LR LR
comp=Z,406nm,22.0s,MS4.5
STKA Stephens Creek 56.91 133 ⇓*iP* **P 14 19 00.5 -0.9**
comp=Z,5.4nm,0.9s,mb4.6
STKA Stephens Creek 56.91 133 P P 14 19 00.4 -1.0
comp=Z,6.3nm,0.8s,mb4.7,baz=305,slow=9.4,SNR=12
STKA LR LR 14 43 05.7
comp=Z,131nm,19.4s,MS4.0,baz=26,slow=36
GNI Garni 57.69 316 LR LR 14 46 38.5
comp=Z,68nm,19.1s,MS3.8,baz=289,slow=39
GNI Garni 57.69 316 *i P* **P 14 19 06.2 -0.5**
KMBO Kilima Mbogo 58.18 266 P P 14 19 11.1 +0.6
comp=Z,5.9nm,1.0s,mb4.6,baz=56,slow=9.6,SNR=9.4
KMBO LR LR 14 40 11.2
comp=Z,189nm,18.9s,MS4.2,baz=94,slow=32
TI2 Plekhanov 58.35 317 *i P* **P 14 19 07.2 -4.1**
YSS Yuzh-Sakhalins 58.94 36 ⇑*iP* **P 14 19 15.0 -0.4**
YSS pmax pmax
comp=Z,100nm,1.4s,mb5.7
SVE Sverdlovsk 59.07 339 ⇓*iP* **P 14 19 14.6 -1.5**
SVE *e* 14 19 30.3
SVE *e* 14 20 09.0
SVE *eS* **S 14 27 16.0 -3.5**
SVE pmax pmax
comp=Z,60nm,1.5s,mb5.4
SVE MLR MLR
comp=E,100nm,18.0s
SVE MLR MLR
comp=Z,200nm,18.0s,MS4.3
ARU Arti 59.55 337 ⇓*iP* **P 14 19 17.9 -1.5**
ARU *e* 14 20 02.0
ARU *e* 14 21 25.7
ARU *eS* **S 14 27 26.4 +0.7**
ARU *eSS* SS 14 31 21.0 -1.6
ARU pmax pmax
comp=Z,28nm,1.5s,mb5.1
KIV Kislovodsk 60.66 319 ⇓*eP* **P 14 19 34.1 +6.9**
KIV *e* 14 21 44.4
KIV *eS* S 14 28 13.3 +33
KIV pmax pmax
comp=Z,15nm,0.8s,mb5.2
KIV MLR MLR
comp=Z,100nm,24.0s,MS3.9
ASF Jabal al Asfar 61.06 304 LR LR 14 48 27.5
comp=Z,232nm,18.6s,MS4.4,baz=143,slow=39
SOKR Solikamsk 62.47 339*d iP* **P 14 19 38.5 -0.7**
SOKR pmax pmax
comp=Z,30nm,1.3s,mb5.3
SOC Sochi 62.49 318 *eP* **P 14 19 37.2 -2.3**
SOC *e* 14 20 15.9
SOC *e* 14 21 58.3
SOC *eS* **S 14 28 04.2 +0.9**
SOC *e* 14 29 30.3
SOC *eSS* SS 14 32 00.6 -8.7
SOC *eSSS* SSS 14 34 50.5 -2.1
SOC pmax pmax
comp=Z,45nm,1.2s,mb5.5
SOC pmax pmax
comp=N,33nm,1.4s
SOC pmax pmax
comp=E,14nm,1.2s
YAK Yakutsk 63.01 17 *eP* **P 14 19 38.2 -4.5**
comp=E,32nm,0.8s,mb5.5
YAK Yakutsk 63.01 17*d iP* **P 14 19 40.6 -2.1**
YAK pmax pmax
comp=Z,24nm,0.5s,mb5.6
VRHR Novokhopersk 64.44 326 *eP* **P 14 19 50.5 -1.8**
VRHR pmax pmax
comp=N,10.0nm,0.5s
VRHR pmax pmax
comp=Z,20nm,0.5s,mb5.4
VRHR pmax pmax
comp=E,20nm,0.6s
MBAR Mbarara 64.61 267⇑*eP* **P 14 19 54.2 +0.2**
MBAR Mbarara 64.61 267⇑*eP* **P 14 19 54.1 +0.1**
BR131 Keskin Array S 65.56 312 *eP* **P 14 19 58.7 -1.0**
comp=E,24nm,0.6s,mb4.4
BRTR Keskin Array B 65.56 312 P P 14 19 58.4 -1.3
comp=E,2.8nm,0.6s,mb4.5,baz=130,slow=7.7,SNR=12
SKR Severo-Kuril's 68.50 37 *eP* **P 14 20 14.8 -3.3**
SKR pmax pmax
comp=Z,60nm,0.7s,mb5.6
MOS Moscow 68.65 329 *eP* **P 14 20 17.4 -1.5**
OBN Obninsk 68.93 328⇑*iP* **P 14 20 19.6 -1.1**
OBN Obninsk 68.93 328*c iP* **P 14 20 19.6 -1.1**
OBN *e* 14 23 01.6
OBN *i S* S 14 29 23.5 +1.7
OBN pmax pmax
comp=Z,24nm,1.0s,mb5.1
OBN MLR MLR
comp=Z,100nm,17.0s,MS4.1
MA2 Magadan 69.41 27 *eP* **P 14 20 23.0 -0.5**
comp=Z,16nm,0.8s,mb5.0
MA2 Magadan 69.41 27*d iP* **P 14 20 22.9 -0.6**
MA2 pmax pmax
comp=Z,43nm,1.1s,mb5.3
TIRR Tirgusor 70.52 316 ⇑*iP* **P 14 20 29.7 -0.8**
PET Petropavlovsk 70.78 35 *eP* **P 14 20 30.7 -1.3**
comp=Z,28nm,0.9s,mb5.2
PET Petropavlovsk 70.78 35*d iP* **P 14 20 30.6 -1.4**
PET pmax pmax
comp=Z,28nm,0.9s,mb5.2
AKASG Malin Array Be 71.59 322 P P 14 20 35.3 -1.6
comp=Z,2.9nm,0.5s,mb4.5,baz=86,slow=5.3,SNR=13
SEY Seymchan 71.69 24⇑*eP* **P 14 20 37.5 +0.2**
VRI Vrincioaia 72.00 317 ⇓*iP* **P 14 20 40.3 +0.9**
VRI Vrincioaia 72.00 317 ⇓*iP* **P 14 20 40.3 +0.9**
MLR Muntele Rosu 72.45 316 ⇓*iP* **P 14 20 42.2 +0.1**
MLR Muntele Rosu 72.45 316 ⇓*iP* **P 14 20 42.2 +0.1**
BURAR Bucovina Array 73.39 318 ⇓*iP* **P 14 20 47.7 +0.1**
BURAR Bucovina Array 73.39 318 ⇓*iP* **P 14 20 47.6 +0.1**
JOF Joensuu 74.49 335 *ep* **P 14 20 52.3 -1.3**
comp=Z,5.9nm,0.9s,mb4.5
BOSA Boshof 74.66 239 P P 14 20 55.4 +0.1
comp=Z,4.9nm,0.9s,mb4.4,baz=80,slow=11,SNR=4.1
KWP Kalwaria 75.42 320 *eP* **P 14 20 59.5 +0.3**
KWP Kalwaria 75.42 320 *eP* **P 14 20 59.5 +0.3**
APA Apatity 75.52 340 ⇓*iP* **P 14 20 59.5 0.0**
APA pmax pmax
comp=Z,22nm,0.8s,mb5.1
SUW Suwalki 75.99 325 *eP* **P 14 21 01.9 -0.5**
SUW Suwalki 75.99 325 *eP* **P 14 21 01.9 -0.5**
CRVS Cervenica-Dubn 76.09 319 *eP* **P 14 21 04.8 +1.7**
STHS Stebnicka Huta 76.32 320 *eP* **P 14 21 05.2 +0.9**
FINES FINESS Array B 76.33 332 P P 14 21 03.6 -0.5
comp=Z,5.9nm,0.6s,mb4.7,baz=90,slow=6.0,SNR=47
FINES LR LR 14 59 14.2
comp=Z,93nm,19.3s,MS4.1,baz=158,slow=39
KAF Kangasniemi 76.42 333 *ep* **P 14 21 03.1 -1.5**
comp=Z,6.1nm,0.6s,mb4.7,baz=104,slow=5.3
KAF Kangasniemi 76.42 333 *eP* **P 14 21 03.1 -1.5**
KAF pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
KECS Kecovo 76.66 319 *i P* **P 14 21 06.2 -0.1**
NIE Niedzica 76.92 320 *eP* **P 14 21 08.6 +0.9**
OJC Ojcow 77.37 320 *eP* **P 14 21 09.7 -0.5**
VYHS Vyhne 77.75 319 *eP* **P 14 21 11.8 -0.5**
OKC Ostrava-Krasne 78.37 320 *eP* **P 14 21 16.1 +0.4**
KEV Kevo 78.51 341 *ep* **P 14 21 15.2 -0.9**
comp=Z,12nm,0.7s,mb5.0
KEV Kevo 78.51 341 *eP* **P 14 21 15.2 -0.9**
KEV pmax pmax
comp=Z,13nm,0.7s,mb5.0
MORC Moravsky Berou 78.75 320 *eP* **P 14 21 17.8 0.0**
comp=Z,13nm,1.3s,mb4.7
MORC Moravsky Berou 78.75 320 *eP* **P 14 21 17.8 0.0**
MORC pmax pmax
comp=Z,13nm,1.3s,mb4.7
ZST Bratislava 78.87 318 *eP* **P 14 21 18.8 +0.4**
ARCES ARCESS Array B 78.94 340 P P 14 21 18.7 +0.2
comp=Z,6.8nm,0.5s,mb4.8,baz=91,slow=5.4,SNR=123
ARCES LR LR 14 58 53.7
comp=Z,147nm,22.0s,MS4.3,baz=99,slow=38
ARCES ARCESS Array B 78.94 340 P P 14 21 18.7 +0.2
ARCES LR LR 14 58 53.7
ARE0 ARCESS Array S 78.94 340 *eP* **P 14 21 18.1 -0.3**
BILL Bilibino 78.97 21 *eP* **P 14 21 18.2 -0.4**
comp=Z,7.3nm,0.4s,mb5.0
BILL Bilibino 78.97 21*d iP* **P 14 21 18.0 -0.6**
BILL pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
VRAC Vranov 79.32 319 LR LR 15 01 21.6
comp=Z,62nm,20.6s,MS3.9,baz=70,slow=40
DPC Dobruska-Polom 79.60 320 *eP* **P 14 21 23.0 +0.7**
KSP Ksiaz 79.66 321 *eP* **P 14 21 23.9 +1.2**
KSP Ksiaz 79.66 321 *eP* **P 14 21 22.6 -0.1**
UPC Upice 79.81 320 *eP* **P 14 21 23.4 -0.1**
ARSA Arzberg 79.84 317⇑*iP* **P 14 21 24.6 +0.9**
comp=Z,13nm,1.2s,mb4.7
PRU Pruhonice 80.70 320 *eP* **P 14 21 28.4 +0.1**
PVCC Panska Ves 80.73 320 *eP* **P 14 21 28.8 +0.4**
MOA Molln 80.73 318⇑*iP* **P 14 21 28.7 +0.2**
comp=Z,8.3nm,1.4s,mb4.5
BRG Berggiesshubel 81.15 321 *eP* **P 14 21 31.3 +0.7**
comp=Z,7.5nm,0.8s,mb4.7
BRG Berggiesshubel 81.15 321 *eP* **P 14 21 31.3 +0.7**
BRG pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
GEC2 GERESS Array S 81.17 319 *eP* **P 14 21 30.7 0.0**
comp=Z,15nm,0.9s,mb4.9
GEC2 GERESS Array S 81.17 319 *eP* **P 14 21 30.7 0.0**
GEC2 pmax pmax
comp=Z,15nm,0.9s,mb4.9
GERES GERESS Array B 81.17 319 P P 14 21 31.2 +0.5
comp=Z,8.2nm,0.8s,mb4.7,baz=90,slow=5.3,SNR=59
GERES LR LR 14 57 30.2
comp=Z,40nm,20.4s,MS3.8,baz=351,slow=36
KHC Kasperske Hory 81.27 319 *eP* **P 14 21 31.2 0.0**
WET Wettzell 81.73 319 *eP* **P 14 21 34.2 +0.6**
comp=Z,7.0nm,1.0s,mb4.5
WET Wettzell 81.73 319 *eP* **P 14 21 34.2 +0.6**
WET pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
CLL Collm 81.77 321 P P 14 21 34.1 +0.3
NKC Novy Kostel 82.06 320 *eP* **P 14 21 36.0 +0.7**
SYO Syowa Base 82.36 197 ⇑*iP* **P 14 21 38.5 +2.0**
SYO Syowa Base 82.36 197 ⇑*PcP* PcP 14 21 40.5 -1.7
WTTA Wattenberg 82.48 317⇑*iP* **P 14 21 37.5 -0.1**
comp=Z,12nm,0.7s,mb4.9
WTTA Wattenberg 82.48 317⇑*iP* **P 14 21 37.5 -0.1**
WTTA pmax pmax
comp=Z,12nm,0.7s,mb4.9
WATA Walderalm 82.53 317⇑*iP* **P 14 21 37.6 -0.2**
comp=Z,6.6nm,1.1s,mb4.6
WATA Walderalm 82.53 317⇑*iP* **P 14 21 37.6 -0.2**
WATA pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
MOX Moxa 82.61 320 *eP* **P 14 21 38.0 -0.2**
SQTA Sankt Quirin 82.77 317⇑*iP* **P 14 21 39.3 +0.2**
comp=Z,6.4nm,1.0s,mb4.6
SQTA Sankt Quirin 82.77 317⇑*iP* **P 14 21 39.3 +0.2**
SQTA pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
RPZ Rata Peaks 82.80 135 P P 14 21 39.8 +0.5
comp=Z,9.6nm,1.0s,mb4.8,baz=60,slow=22,SNR=2.6
GRA1 Grafenberg Arr 82.83 319 *eP* **P 14 21 40.1 +0.8**
comp=Z,14nm,0.9s,mb5.0
GRF Grafenberg Arr 82.83 319 *eP* **P 14 21 40.1 +0.8**
GRF pmax pmax
comp=Z,14nm,0.9s,mb5.0
MOTA Moosalm 82.85 317⇑*iP* **P 14 21 39.4 -0.1**
comp=Z,9.6nm,1.1s,mb4.7
MOTA Moosalm 82.85 317⇑*iP* **P 14 21 39.4 -0.1**
MOTA pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
NB2 NORSAR Subarra 83.33 331 P P 14 21 39.1 -2.5
comp=Z,12nm,1.2s,mb4.8,baz=98,slow=4.8
NB2 NORSAR Subarra 83.33 331 P P 14 21 39.1 -2.5
NB2 pmax pmax
comp=Z,13nm,1.2s,mb4.8
NOA NORSAR Array B 83.33 331 P P 14 21 39.7 -1.9
comp=Z,5.2nm,0.9s,mb4.6,baz=94,slow=5.4,SNR=10
NOA LR LR 15 01 47.3
comp=Z,70nm,19.9s,MS4.0,baz=75,slow=38
CLZ Clausthal 83.43 322 *eP* **P 14 21 42.8 +0.4**
comp=Z,9.0nm,0.8s,mb4.8
CLZ Clausthal 83.43 322 *eP* **P 14 21 42.8 +0.4**
CLZ pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
BSEG Bad Segeberg 83.52 324 *eP* **P 14 21 43.0 +0.2**
DAVA Damuels 83.68 317⇑*iP* **P 14 21 44.5 +0.7**
comp=Z,13nm,1.1s,mb5.0
TNS Taunus Mts 84.63 320 *eP* **P 14 21 48.9 +0.4**
comp=Z,5.0nm,0.8s,mb4.7
TNS Taunus Mts 84.63 320 *eP* **P 14 21 48.9 +0.4**
TNS pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
BFO Black Forest 84.72 318 *eP* **P 14 21 49.1 +0.1**
comp=Z,7.0nm,1.0s,mb4.8
BFO Black Forest 84.72 318 *eP* **P 14 21 49.1 +0.1**
BFO pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
CDF Champ du Feu 85.43 318 *eP* **P 14 21 52.3 -0.2**
comp=Z,8.3nm,0.9s,mb4.6
HINF Hinteralfeld 85.72 318 *eP* **P 14 21 53.6 -0.4**
comp=Z,2.9nm,0.6s,mb4.4
LPG La Plagne 85.87 315 *eP* **P 14 21 54.6 -0.2**
comp=Z,12nm,0.8s,mb4.9
MBDF Montbardon 85.88 314 *eP* **P 14 21 55.4 +0.6**
comp=Z,12nm,0.9s,mb4.8
FRF La Foret Royal 86.01 313 *eP* **P 14 21 55.1 -0.4**
comp=Z,32nm,1.0s,mb5.2
HAU Haudompre 86.06 318 *eP* **P 14 21 54.8 -0.8**
comp=Z,25nm,1.0s,mb5.1
HAU *eR*
comp=Z,70nm,20.8s
CABF La Chapelle 86.29 316 *eP* **P 14 21 56.5 -0.3**
comp=Z,13nm,0.9s,mb4.8
ORIF Oris-en-Rattie 86.51 315 *eP* **P 14 21 57.6 -0.3**
comp=Z,6.9nm,0.7s,mb4.7
ORIF *eR*
comp=Z,119nm,23.0s
SMRF Simiane la Rot 86.77 314 *eP* **P 14 21 59.3 +0.1**
MEZF Maizieres J'vi 86.90 318 *eP* **P 14 22 00.2 +0.4**
GIVF Givet 86.97 320 *eP* **P 14 22 00.4 +0.4**
BAIF Baives 87.36 320 *eP* **P 14 22 01.8 -0.2**
comp=Z,13nm,0.9s,mb4.9
LOR Lormes 87.78 317 *eP* **P 14 22 03.5 -0.5**
comp=Z,7.1nm,0.6s,mb4.7
LOR *eR*
comp=Z,67nm,21.5s
SMF Signal de Mont 87.83 316 *eP* **P 14 22 03.6 -0.7**
comp=Z,12nm,0.8s,mb4.8
SSF Saint Saulge 88.03 317 *eP* **P 14 22 05.8 +0.6**
comp=Z,4.6nm,0.7s,mb4.5
AVF Avril sur Loir 88.16 317 *eP* **P 14 22 05.3 -0.5**
BGF Bois d'Agland 88.52 316 *eP* **P 14 22 07.4 -0.2**
TCF Toulx Ste Croi 88.98 316 *eP* **P 14 22 09.5 -0.3**
VNDA Vanda 89.27 168 P P 14 22 11.1 +0.6
comp=Z,2.6nm,1.1s,mb4.5,baz=304,slow=5.9,SNR=7.6
VNDA LR LR 14 59 15.2
comp=Z,97nm,19.5s,MS4.2,baz=266,slow=34
RJF Les Rejaudoux 89.56 315 *eP* **P 14 22 12.6 0.0**
comp=Z,18nm,1.2s,mb5.0
RJF *eR*
comp=Z,59nm,22.0s
LDF La Druitiere 90.32 319 *eP* **P 14 22 15.8 -0.2**
comp=Z,12nm,0.8s,mb5.0
SBA Scott Base 90.37 168 *eP* **P 14 22 17.3 +1.6**
comp=Z,22nm,1.6s,mb5.2
FLN La Foliniere 90.53 319 *eP* **P 14 22 16.7 -0.3**
comp=Z,24nm,1.0s,mb5.2
FLN *eR*
comp=Z,78nm,19.5s
EPF Esparros 90.64 313 *eP* **P 14 22 16.8 -0.8**
GRR Gorron 90.83 318 *eP* **P 14 22 18.3 0.0**
comp=Z,26nm,1.2s,mb5.1
ETSF Etsaut 91.31 313 *eP* **P 14 22 21.5 +0.8**
comp=Z,4.7nm,0.7s,mb4.6
ESDC Sonseca Array 94.31 310 P P 14 22 35.9 +1.3
comp=Z,0.8nm,0.6s,mb4.3,baz=65,slow=4.2,SNR=8.4
MDT Midelt 95.91 303 LR LR 15 07 15.1
comp=Z,163nm,19.2s,MS4.5,baz=136,slow=36
BORG Borgarnes 97.09 337 LR LR 15 08 33.5
comp=Z,97nm,18.1s,MS4.3,baz=289,slow=37
ILAR Eielson Array 97.59 22 P P 14 22 48.0 -0.9
comp=Z,0.6nm,0.7s,mb4.2,baz=296,slow=3.9,SNR=7.2
ILAR PP PP 14 26 36.1 -13
comp=Z,0.5nm,0.9s,baz=292,slow=8.2,SNR=4.7
ILAR LR LR 15 08 34.4
comp=Z,53nm,19.6s,MS4.0,baz=32,slow=36
DBIC Dimbokro 99.48 277 LR LR 15 07 01.3
comp=Z,100nm,19.4s,MS4.3,baz=81,slow=35
INK Inuvik 100.07 16 *e*Pdif P 14 23 00.3 +0.2
EDM Edmonton 117.82 19 *e*PKPdf PKPdf 14 28 01.6 -3.3
SCHQ Schefferville 119.19 348 PKP PKPdf 14 28 04.5 -3.0
comp=Z,5.8nm,0.7s,baz=18,slow=2.7,SNR=6.6
SCHQ Schefferville 119.19 348 PKP PKPdf 14 28 04.5 -3.0
MSO Missoula 122.91 23 *e*PKPdf PKPdf 14 28 11.3 -3.5
ULM Lac du Bonnet 124.80 9 PKP PKPdf 14 28 14.9 -3.6
comp=Z,6.2nm,0.7s,baz=12,slow=2.2,SNR=13
MCMT McKenzie Canyo 124.99 24 *e*PKPdf PKPdf 14 28 16.5 -2.5
RRI2 Red Ridge 126.83 24 *e*PKPdf PKPdf 14 28 19.9 -2.6
PDAR Pinedale Array 128.02 23 PKP PKPdf 14 28 21.4 -3.6
comp=Z,1.5nm,0.8s,baz=39,slow=1.6,SNR=15
HWUT Hardware Ranch 128.17 25 *e*PKPdf PKPdf 14 28 22.3 -3.0
MSU Marysvale 130.39 28 *e*PKPdf PKPdf 14 28 27.4 -2.2
PV10 Paradox Valley 131.93 26 *e*PKPdf PKPdf 14 28 30.8 -1.7
ANMO Albuquerque 135.92 26 *e*PKPdf PKPdf 14 28 37.9 -2.1
WCI Wyandotte Cave 137.63 2 *e*PKPdf PKPdf 14 28 39.7 -3.4
ELN Prospectdale 138.49 355 *e*PKPdf PKPdf 14 28 40.0 -4.7
MNTX Cornudas Mount 139.15 27 *e*PKPpre 14 28 41.2
WVT Waverly 139.65 4 *e*PKPpre 14 28 35.3
PLCA Paso Flores 141.56 197 PKhKP 14 28 41.7
comp=Z,1.5nm,0.8s,baz=182,slow=3.2,SNR=3.1
TXAR Lajitas Array 141.93 27 PKhKP 14 28 42.9
comp=Z,0.4nm,0.5s,baz=315,slow=1.8,SNR=3.6
TXAR PKP PKPdf 14 28 48.0 -3.0
comp=Z,2.1nm,0.8s,baz=202,slow=1.6,SNR=8.1
BDFB Brasília 142.16 250 PKP PKPdf 14 28 49.4 -2.4
comp=Z,3.3nm,0.9s,baz=227,slow=5.7,SNR=3.3
LRAL Lakeview Retre 142.78 3 *e*PKPdf PKPdf 14 28 49.2 -3.2
CPUP Villa Florida 145.82 227 PKPbc PKPbc 14 28 55.1 +1.3
comp=Z,10nm,0.7s,baz=161,slow=3.8,SNR=29
CPUP Villa Florida 145.82 227 *e*PKPdf PKPdf 14 28 54.8 -3.0
CFAA Coronel Fontan 148.73 208 PKPbc PKPdf 14 29 03.3 +0.8
comp=Z,0.8nm,0.6s,baz=165,slow=1.9,SNR=7.9
LZG Guadaloupe-1 149.48 312 *e*P PKPdf 14 29 05.3 +1.2
MTP Monte Pirata 150.75 320 *e*PKPbc PKPdf 14 29 08.8 +2.8
CPD Cerro la Pandu 151.01 321 *e*PKPbc PKPdf 14 29 09.4 +3.0
SJG San Juan 151.11 321 PKPbc PKPdf 14 29 09.1 +2.6
comp=Z,25nm,0.7s,baz=11,slow=19,SNR=11
SJG San Juan 151.11 321 *e*PKPbc PKPdf 14 29 08.5 +2.0
SIV San Ignacio 153.99 242 PKPbc PKPdf 14 29 14.9 +4.2
comp=Z,1.6nm,0.6s,baz=102,slow=6.9,SNR=8.0
SIV PKPab PKPab 14 29 29.3 -0.3
comp=Z,0.8nm,0.5s,baz=88,slow=14,SNR=4.3
LPAZ La Paz 159.79 233 PKP PKPdf 14 29 16.6 -1.4
comp=Z,0.4nm,0.3s,baz=60,slow=4.9,SNR=4.6
LPAZ PKPab PKPab 14 29 55.2 +0.7
comp=Z,1.5nm,0.8s,baz=96,slow=8.0,SNR=4.6
LPAZ La Paz 159.79 233 *e*PKPdf PKPdf 14 29 16.4 -1.6
SDV Santo Domingo 160.73 313 PKP PKPdf 14 29 16.0 -3.1
comp=Z,7.1nm,0.2s,baz=210,slow=3.9,SNR=3.8
ROSC El Rosal 166.14 311 PKP PKPdf 14 29 22.4 -2.0
comp=Z,4.4nm,0.3s,baz=87,slow=19,SNR=6.7

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*NNC **28** 14:22:01.8±15.0, 37.21N×70.60E, h92km±445km, mpv3.5, Error ellipse: s-maj=141.1km s-min=122.7km az=143.0*

ISC 28 14:21:53.1±1.2, 36.53N±0.06×71.3E±0.2, h100km, n14, σ0$88/17, 1C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.90**	**18**	P	**P**	**14 23 20.2**	**+0.8**
	SNR=29						
UCH	**Uchtor**	**6.22**	**23**	P	**P**	**14 23 24.5**	**+0.7**
	SNR=18						
EKS2	**Erkin-Say**	**6.42**	**17**	P	**P**	**14 23 27.2**	**+0.6**
	SNR=6.2						
AAK	**Ala-Archa**	**6.58**	**21**	⇓P	**P**	**14 23 29.1**	**+0.2**
	2.6nm,0.3s						
AAK				⇑S	**S**	**14 24 41.0**	**-2.0**
	11nm,0.9s						
KK31	**Karatay Array**	**6.60**	**355**	P	**P**	**14 23 27.5**	**-1.6**
	0.8nm,0.2s,baz=176,slow=11,SNR=58						
KK31				⇓S	**S**	**14 24 33.2**	**-10**
	12nm,0.4s						
KBK	**Karagaybulak**	**6.74**	**24**	P	**P**	**14 23 32.3**	**+1.3**
	SNR=5.8						
ULHL	**Ulahol**	**6.88**	**32**	P	**P**	**14 23 33.2**	**+0.3**
	SNR=5.4						
TKM2	**Tokmak 2**	**7.20**	**26**	P	**P**	**14 23 37.4**	**+0.2**
	SNR=9.3						
KOLN	**Koldanda**	**13.59**	**126**	*e*P	**P**	**14 25 01.1**	**-1.5**
	4.3nm,0.3s						
GKN	**Gorkha**	**14.12**	**123**	*e*P	**P**	**14 25 09.3**	**-0.2**
	9.7nm,0.3s						
DMN	**Daman**	**14.69**	**123**	*e*P	**P**	**14 25 16.9**	**0.0**
	5.0nm,0.3s						
KKN	**Kakani**	**14.69**	**122**	*e*P	**P**	**14 25 17.2**	**+0.3**
	4.5nm,0.2s						
PKI	**Pulchoki**	**14.92**	**123**	*e*P	**P**	**14 25 20.2**	**+0.4**
	13nm,0.5s						
AB31	**Akbulak array**	**15.18**	**330**	P	**P**	**14 25 22.8**	**-0.1**
	0.1nm,0.2s,baz=85,slow=22,SNR=4.8						
AB31				S	**S**	**14 27 54.6**	**-14**

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*NEIC **28** 14:37:08.8, 15.55N×94.75W, h9km, MD3.8(MEX), After MEX.*

MEX 28 14:37:08.8±0.8, 15.51N×94.73W, h20km±45km, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.36**	**281**	*e*P	Pn	14 37 29.2	-3.7
HUIG				*i* S	Sb	14 37 46.1	-4.2
CMIG	**Matias Romero**	**1.58**	**355**	*e*P	Pn	14 37 32.3	-3.7
CMIG				*i* S	Sn	14 37 51.5	-4.5
SCX	**San Cristobal**	**2.35**	**59**	*e*P	Pn	14 37 45.0	-2.1
SCX				*i* S	Sn	14 38 13.0	-2.7
SCX	**San Cristobal**	**2.35**	**59**	*e*P	Pn	14 37 45.8	-1.3
SCX				*i* S	Sn	14 38 13.7	-2.0
OXX	**Oaxaca**	**2.47**	**309**	*i* P	Pn	14 37 45.0	-3.9
OXX				*i* S	Sn	14 38 15.3	-3.5
OXX	**Oaxaca**	**2.47**	**309**	*i* P	Pn	14 37 48.0	-0.9
OXX				*i* S	Sn	14 38 15.3	-3.5
VHO	**Vista Hermosa**	**2.48**	**309**	*e*P	Pn	14 37 46.2	-2.6
VHO				*i* S	Sn	14 38 14.1	-4.8
VHO	**Vista Hermosa**	**2.48**	**309**	*i* P	Pn	14 37 47.8	-1.1
VHO				*i* S	Sn	14 38 14.1	-4.8
TUIG	**Tuzandepetl**	**2.53**	**7**	*e*P	Pn	14 37 42.2	-7.4

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*IDC **28** 14:37:12.1±2.1, 15.70S×168.34E, mb4.0/3, mb1 4.2/3, mb1mx3.8/12, mbtmp4.0/3, Error ellipse: s-maj=51.1km s-min=45.2km az=3.0*

ISC 28 14:37:13.0±6.0, 15.6S±0.8×168.7E±0.5, h33km, n6, σ1$70/5, mb4.2/5, 1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**21.80**	**255**	*e*P	**P**	**14 42 06.5**	**+2.3**
	5.6nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**29.52**	**232**	P	**P**	**14 43 15.8**	**-0.8**
	0.8nm,0.4s,mb3.8,baz=69,slow=9.7,SNR=6.5						
WRA	**Warramunga Arr**	**32.95**	**257**	P	**P**	**14 43 45.6**	**-1.4**
	1.7nm,0.3s,mb4.4,baz=88,slow=8.8,SNR=68						
FITZ	**Fitzroy Crossi**	**41.20**	**260**	⇓*iP*	**P**	**14 44 56.6**	**+0.1**
	19nm,0.4s,mb5.1						
VNDA	**Vanda**	**62.08**	**182**	P	**P**	**14 47 32.9**	**+0.4**
	0.5nm,0.6s,mb3.8,baz=358,slow=6.7,SNR=6.4						
ARCES	**ARCESS Array B**	**121.38**	**346**	PKP	PKPdf	14 56 07.0	+4.4
	2.8nm,0.9s,baz=48,slow=2.3,SNR=5.0						

MAN 28 14:44:45.9, 10.24N×125.76E, h33km, mb4.0, ML2.8, MS2.4, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.53**	**211**	*e*P	P	14 44 56.8	+0.1

SCPH				*e*S	S	14 45 06.6	+1.9
PLP	**Palo**	**1.20**	**320**	*e*P	P	14 45 06.2	-0.1
PLP				*i* S	S	14 45 22.2	+0.5
CNP	**Catarman**	**2.50**	**335**	*e*P	P	14 45 24.7	-0.3
GUIM	**Jordan**	**3.15**	**277**	*e*P	P	14 45 34.0	-0.3
PVCP	**Virac**	**3.69**	**335**	*e*P	P	14 45 42.0	+0.1

*IDC **28** 14:57:23.1±1.6, 35.87N×70.83E, mb3.9/6, mb1 4.1/8, mb1mx3.8/20, mbtmp4.0/8, ML3.8/2, Error ellipse: s-maj=34.8km s-min=25.8km az=39.0*
*NEIC **28** 14:57:35.8±1.4, 36.28N×70.98E, h93km±14km, mb3.7/6, Error ellipse: s-maj=17.0km s-min=6.0km az=56.0*
*NNC **28** 14:57:45.5±7.9, 36.97N×70.70E, h163km±80km, mpv4.6, Error ellipse: s-maj=67.8km s-min=41.2km az=29.0*

ISC 28 14:57:37.3±0.5, 36.38N±0.03×71.10E±0.08, h123km±8km, n44, σ1§00/53, mb3.6/5, 7C-9D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.64**	**165**	⇓P	**P**	**14 58 21.2**	**+1.5**
CEP				S	**S**	**14 58 52.0**	**+0.2**
CHCP	**Chirah Chowk**	**3.25**	**146**	P	**P**	**14 58 29.4**	**+1.6**
THW	**Thamme Wali**	**3.62**	**171**	P	**P**	**14 58 33.4**	**+0.6**
SBDP	**Sheikh Budin**	**4.08**	**183**	P	**P**	**14 58 38.6**	**-0.4**
SARP	**Sargodha**	**4.63**	**163**	P	**P**	**14 58 46.2**	**-0.3**
SARP				S	**S**	**14 59 37.0**	**-2.7**
DRP	**Derazinda**	**4.68**	**189**	⇑P	**P**	**14 58 47.1**	**-0.1**
AML	**Almayashu**	**6.08**	**19**	P	**P**	**14 59 06.3**	**+0.3**
	SNR=189						
UCH	**Uchtor**	**6.41**	**23**	P	**P**	**14 59 11.0**	**+0.5**
	SNR=27						
EKS2	**Erkin-Say**	**6.61**	**17**	P	**P**	**14 59 13.2**	**+0.1**
	SNR=31						
KK31	**Karatay Array**	**6.73**	**356**	⇓P	**P**	**14 59 13.7**	**-1.2**
	24nm,0.3s,baz=177,slow=11,SNR=904						
KK31				⇓S	**S**	**15 00 25.2**	**-5.4**
	19nm,0.4s						
KK31	**Karatay Array**	**6.73**	**356**	⇓P	**P**	**14 59 13.7**	**-1.2**
	24nm,0.3s						
KK31				S	**S**	**15 00 25.2**	**-5.4**
AAK	**Ala-Archa**	**6.77**	**22**	P	**P**	**14 59 15.8**	**+0.3**
	SNR=25						
AAK	**Ala-Archa**	**6.77**	**22**	⇑P	**P**	**14 59 15.6**	**+0.1**
	9.5nm,0.3s						
AAK				S	**S**	**15 00 30.0**	**-1.6**
	88nm,0.9s						
AAK	**Ala-Archa**	**6.77**	**22**	⇑P	**P**	**14 59 15.6**	**+0.1**
	9.5nm,0.3s						
AAK				S	**S**	**15 00 30.0**	**-1.7**
ULHL	**Ulahol**	**7.08**	**33**	P	**P**	**14 59 21.9**	**+2.2**
	SNR=9.8						
CHMS	**Chumysh**	**7.18**	**22**	P	**P**	**14 59 22.1**	**+1.0**
	SNR=26						
USP	**Ospenovka**	**7.36**	**20**	P	**P**	**14 59 23.1**	**-0.3**
	SNR=26						
TKM2	**Tokmak 2**	**7.39**	**27**	P	**P**	**14 59 24.1**	**+0.2**
	SNR=5.1						
MK31	**Makanchi Array**	**13.34**	**35**	⇓P	**P**	**15 00 42.1**	**-0.5**
	1.4nm,0.7s,baz=219,slow=14,SNR=4.1						
MKAR	**Makanchi Array**	**13.34**	**35**	Pn	**P**	**15 00 42.0**	**-0.7**
	0.1nm,0.3s,baz=217,slow=12,SNR=5.0						
MKAR	**Makanchi Array**	**13.34**	**35**	Pn	**P**	**15 00 42.0**	**-0.7**
KOLN	**Koldanda**	**13.63**	**126**	*e*P	**P**	**15 00 45.9**	**-0.5**
	6.4nm,0.5s						
GKN	**Gorkha**	**14.17**	**122**	*e*P	**P**	**15 00 52.9**	**-0.5**
	10nm,0.3s						
DMN	**Daman**	**14.74**	**122**	*e*P	**P**	**15 01 00.5**	**-0.2**
	7.5nm,0.4s						
KKN	**Kakani**	**14.75**	**122**	*e*P	**P**	**15 00 59.9**	**-0.9**
	8.2nm,0.4s						
PKI	**Pulchoki**	**14.97**	**122**	*e*P	**P**	**15 01 03.2**	**-0.4**
	11nm,0.6s						
AB31	**Akbulak array**	**15.23**	**331**	⇑P	**P**	**15 01 05.4**	**-1.3**
	1.5nm,0.3s,baz=164,slow=11,SNR=140						
AB31				⇓S	**S**	**15 03 40.0**	**-12**
	2.8nm,0.6s,baz=144,slow=24,SNR=14						
KURK	**Kurchatov**	**15.32**	**18**	⇑P	**P**	**15 01 10.1**	**+2.3**
	2.8nm,0.9s						
VOSK	**Vostochnaya**	**16.34**	**360**	⇓P	**P**	**15 01 18.6**	**-2.0**
	2.5nm,0.7s						
VOSK	**Vostochnaya**	**16.34**	**360**	⇓P	**P**	**15 01 18.6**	**-2.0**
	2.5nm,0.6s						
BVA0	**Borovoye Array**	**16.65**	**358**	P	**P**	**15 01 24.6**	**+0.2**
	0.7nm,0.8s,baz=167,slow=14,SNR=22						
BVA0	**Borovoye Array**	**16.65**	**358**	P	**P**	**15 01 24.6**	**+0.2**
	0.7nm,0.8s						
BVAR	**Borovoye Array**	**16.65**	**358**	P	**P**	**15 01 24.6**	**+0.2**
	1.1nm,0.3s,baz=168,slow=12,SNR=22						
BRVK	**Borovoye**	**16.69**	**358**	*e*P	**P**	**15 01 23.3**	**-1.5**
	3.7nm,0.6s						
AKTK	**Aktyubinsk**	**16.92**	**330**	⇑P	**P**	**15 01 27.7**	**0.0**
AKTK				S	**S**	**15 04 21.7**	**-8.8**
AKTO	**Aktyubinsk**	**16.92**	**330**	⇑P	**P**	**15 01 27.7**	**0.0**
	1.7nm,0.8s						
AKTO				⇓S	**S**	**15 04 21.7**	**-8.7**
	0.7nm,0.6s						
ZAL	**Zalesovo**	**19.97**	**24**	P	**P**	**15 02 02.2**	**+0.4**
	12nm,0.5s,baz=252,slow=8.5,SNR=42						
ZAL	**Zalesovo**	**19.97**	**24**	P	**P**	**15 02 02.2**	**+0.3**
SONM	**Songino Array**	**28.34**	**55**	P	**P**	**15 03 23.6**	**+2.1**
	0.5nm,0.8s,mb3.1,baz=247,slow=11,SNR=3.6						
FINES	**FINESS Array B**	**37.63**	**326**	P	**P**	**15 04 42.2**	**+0.7**
	4.2nm,0.9s,mb4.2,baz=107,slow=8.8,SNR=6.6						
ARCES	**ARCESS Array B**	**41.29**	**338**	P	**P**	**15 05 12.8**	**+1.2**
	2.0nm,0.7s,mb4.1,baz=112,slow=6.1,SNR=15						
NB2	**NORSAR Subarra**	**44.52**	**323**	P	**P**	**15 05 38.0**	**+0.1**
	0.9nm,0.4s,mb3.9,baz=97,slow=7.9						
NOA	**NORSAR Array B**	**44.52**	**323**	P	**P**	**15 05 38.1**	**+0.3**
	0.7nm,0.4s,mb3.8,baz=100,slow=7.7,SNR=4.3						
WRA	**Warramunga Arr**	**81.86**	**122**	P	**P**	**15 09 44.0**	**-0.5**
	0.1nm,0.4s,mb3.0,baz=324,slow=4.9,SNR=8.1						

MOS 28 15:16:38.1±1.5, 47.90N×102.99E, h7km, mb4.5/2, Error ellipse: s-maj=73.8km s-min=23.9km az=87.3, Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAK	**Zakamensk**	**2.49**	**4**	*e*P	Pn	15 17 20.1	+0.3
ZAK				*e*S	Sn	15 17 55.6	+4.9
ZAK				pmax	pmax		
	comp=Z,81nm,0.2s						
ZAK				smax			
	comp=E,311nm,0.1s						
TLY	**Talaya**	**3.81**	**6**	*e*P	Pn	15 17 36.0	-2.5
TLY				pmax	pmax		
	comp=Z,32nm,0.4s						
MOY	**Mondy**	**3.99**	**342**	*e*P	Pn	15 17 41.2	+0.2
MOY				pmax	pmax		
	comp=Z,18nm,0.7s						
LSTR	**Listvyanka**	**4.15**	**16**	*e*P	Pn	15 17 52.4	+9.1
LSTR				pmax	pmax		
	comp=Z,5.0nm,0.2s						
KAB	**Kabansk**	**4.78**	**28**	*e*P	Pn	15 18 03.3	+11
KAB				pmax	pmax		
	comp=Z,74nm,0.8s						
OGRR	**Ongureny**	**6.45**	**25**	*e*P	Pn	15 18 15.1	-0.7
OGRR				pmax	pmax		
	comp=Z,8.0nm,0.8s						

*CSEM **28** 15:19:39.7±0.1, 28.34N×51.97E, h8km, mb4.2/15, ML4.6/3, Error ellipse: s-maj=3.0km s-min=1.7km az=177.0*
*TEH **28** 15:19:40.7, 28.19N×51.79E, h10km, Mn3.7*
*THR **28** 15:19:40.4±0.4, 28.27N×51.97E, h16km±3km, ML3.9*
*IDC **28** 15:19:40.5±1.6, 28.36N×52.08E, mb4.2/14, mb1 4.3/16, mb1mx4.2/23, mbtmp4.2/16, ML3.9/2, Error ellipse: s-maj=35.2km s-min=17.5km az=171.0*
*NEIC **28** 15:19:45.7±4.3, 28.47N×52.03E, h30km±28km, mb4.2/15, Error ellipse: s-maj=20.3km s-min=7.4km az=167.0*

ISC 28 15:19:40.0±1.0, 28.34N±0.04×51.97E±0.04, h6km±7km, n105, σ1§01/110, mb4.1/29, 8D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**0.90**	**93**	*e*PG	**Pg**	**15 19 57.5**	**-0.5**
GHIR				*e*SG	**Sg**	**15 20 09.7**	**-0.4**
GHIR				AML	AML	15 20 19.8	
	comp=N,5μm,0.4s						
GHIR	**Ghir-Karzin**	**0.90**	**93**	*e*Pg	**Pg**	**15 19 57.5**	**-0.5**
	SNR=91						
GHIR				*e*Sg	**Sg**	**15 20 09.7**	**-0.4**
	comp=N,5μm,0.4s,SNR=91						
IMOK	**Mook**	**0.96**	**43**	Pg	**Pg**	**15 19 59.0**	**-0.3**
SHI	**Shiraz**	**1.39**	**20**	Pn	**Pn**	**15 20 07.8**	**+1.9**
ISRV	**Sarvestan**	**1.45**	**44**	Pn	**Pn**	**15 20 08.0**	**+1.2**
IPAR	**Pars**	**1.77**	**32**	Pn	**Pn**	**15 20 13.8**	**+2.4**
IMEH	**Mehriz**	**3.81**	**36**	Pn	**Pn**	**15 20 42.3**	**+1.8**
BNDS	**Bandar-Abbas**	**3.84**	**103**	*e*Pn	**Pn**	**15 20 40.8**	**-0.1**
BNDS				AML	AML	15 22 07.0	
	comp=N,153nm,0.6s						
ISAD	**Sadrabad**	**3.86**	**22**	Pn	**Pn**	**15 20 43.0**	**+1.8**
IGAR	**Garneh**	**3.90**	**3**	Pn	**Pn**	**15 20 42.4**	**+0.7**
ICHK	**Chekchek**	**4.43**	**28**	Pn	**Pn**	**15 20 50.3**	**+1.0**
IBAF	**Bafgh**	**4.50**	**43**	Pn	**Pn**	**15 20 51.5**	**+1.2**
KRBR	**Kerman**	**4.50**	**68**	*e*Pn	**Pn**	**15 20 50.9**	**+0.6**
KRBR				SN	**Sn**	**15 21 42.2**	**-1.5**
KRBR				AML	AML	15 22 14.7	
	comp=E,114nm,0.8s						
KRBR	**Kerman**	**4.50**	**68**	*e*Pn	**Pn**	**15 20 50.9**	**+0.6**
	SNR=52						
KRBR				Sn	**Sn**	**15 21 42.2**	**-1.5**
	comp=E,114nm,0.8s,SNR=52						
NASN	**Na'in**	**4.50**	**9**	*e*PN	**Pn**	**15 20 51.4**	**+1.1**
IZEF	**Zefreh**	**4.55**	**4**	Pn	**Pn**	**15 20 49.0**	**-2.0**
SHGR	**Shooshtar-Gavs**	**4.65**	**325**	*e*PN	**Pn**	**15 20 52.8**	**+0.4**
SHGR				SN	**Sn**	**15 21 45.8**	**-1.6**
SHGR				AML	AML	15 22 45.4	
	comp=E,110nm,0.6s						
SHGR	**Shooshtar-Gavs**	**4.65**	**325**	*e*Pn	**Pn**	**15 20 52.8**	**+0.4**
	SNR=52						
SHGR				Sn	**Sn**	**15 21 45.8**	**-1.6**
	comp=E,110nm,0.6s,SNR=52						
IKLH	**Kalahroud**	**4.98**	**356**	Pn	**Pn**	**15 20 55.4**	**-1.6**
IVRN	**Varamin**	**6.64**	**358**	Pn	**Pn**	**15 21 19.4**	**-1.1**
IVRN	**Varamin**	**6.64**	**358**	Sn	**Sn**	**15 22 32.7**	**-4.7**
IDMV	**Damavand**	**7.22**	**0**	Pn	**Pn**	**15 21 27.2**	**-1.4**
IRAZ	**Razeghan**	**7.25**	**347**	Pn	**Pn**	**15 21 38.7**	**+10**
IFIR	**Firoozkooh**	**7.31**	**5**	Pn	**Pn**	**15 21 28.9**	**-1.0**
MZLS	**Mizel**	**7.43**	**236**	P	**Pn**	**15 21 32.3**	**+0.6**
IAFJ	**Afjeh**	**7.50**	**358**	Pn	**Pn**	**15 21 28.5**	**-4.0**
ZHSF	**Zahedan**	**7.82**	**79**	*e*PN	**Pn**	**15 21 36.4**	**-0.7**
ZHSF	**Zahedan**	**7.82**	**79**	*e*Pn	**Pn**	**15 21 36.3**	**-0.7**
	SNR=52						
IDHR	**Dehrash**	**7.93**	**325**	Pn	**Pn**	**15 21 35.7**	**-2.9**
HILS	**Ha'il**	**9.05**	**266**	P	**P**	**15 21 53.3**	**-0.9**
AFFS	**'Afif**	**9.17**	**243**	P	**P**	**15 21 55.8**	**-0.1**
KBRS	**Khaybar**	**11.60**	**260**	P	**P**	**15 22 28.2**	**-1.0**
QURS	**Qurayyt al Mil**	**13.06**	**287**	P	**P**	**15 22 47.6**	**-1.2**
DJNS	**Zahran al Janu**	**13.11**	**218**	P	**P**	**15 22 48.4**	**-1.1**
ASF	**Jabal al Asfar**	**13.57**	**290**	Pn	**P**	**15 22 55.8**	**+0.2**
	comp=E,0.4nm,0.3s,baz=139,slow=6.7,SNR=1.5						
MALT	**Malatya**	**15.05**	**315**	*e*P	**P**	**15 23 21.7**	**+6.8**
	comp=E,6.9nm,1.0s						
BR131	**Keskin Array S**	**18.93**	**312**	P	**P**	**15 24 02.8**	**-1.0**
	comp=E,2.2nm,0.5s						
BR131	**Keskin Array S**	**18.93**	**312**	P	**P**	**15 24 02.8**	**-1.0**
	comp=E,2.2nm,0.5s						
BRTR	**Keskin Array B**	**18.93**	**312**	P	**P**	**15 24 04.4**	**+0.6**
	comp=E,0.5nm,0.3s,baz=132,slow=12,SNR=13						
IDI	**Anoyia**	**23.98**	**294**	P	**P**	**15 24 59.0**	**+2.9**
	comp=E,8.3nm,0.7s,mb4.3,baz=123,slow=6.4,SNR=5.6						
TIRR	**Tirgusor**	**24.73**	**317**	⇓P	**P**	**15 25 04.8**	**+1.5**
CFR	**Carcaliu**	**25.29**	**318**	⇓P	**P**	**15 25 07.9**	**-0.7**
CFR	**Carcaliu**	**25.29**	**318**	⇓P	**P**	**15 25 07.9**	**-0.7**
VRI	**Vrincioaia**	**26.50**	**318**	⇓P	**P**	**15 25 20.6**	**+0.8**
MLR	**Muntele Rosu**	**26.77**	**317**	P	**P**	**15 25 24.3**	**+2.0**
	comp=E,9.4nm,0.8s,mb4.4,baz=356,slow=9.8,SNR=16						
MLR	**Muntele Rosu**	**26.77**	**317**	⇓P	**P**	**15 25 24.5**	**+2.2**
MLR	**Muntele Rosu**	**26.77**	**317**	⇓P	**P**	**15 25 24.5**	**+2.2**
BVAR	**Borovoye Array**	**28.18**	**24**	P	**P**	**15 25 34.2**	**-0.8**
	comp=E,0.8nm,0.3s,mb3.8,baz=220,slow=7.9,SNR=9.9						
BVAR				PcP	PcP	15 28 47.7	-1.4
	comp=E,0.6nm,0.5s,baz=225,slow=2.1,SNR=5.3						
BVAR	**Borovoye Array**	**28.18**	**24**	PcP	PcP	15 28 47.7	-1.5
BVAR	**Borovoye Array**	**28.18**	**24**	P	**P**	**15 25 34.2**	**-0.8**
BVAR				PcP	PcP	15 28 47.7	-1.4
AKASG	**Malin Array Be**	**28.19**	**329**	P	**P**	**15 25 34.4**	**-0.7**
	comp=E,2.6nm,0.6s,mb4.1,baz=129,slow=7.4,SNR=19						
BURAR	**Bucovina Array**	**28.32**	**320**	⇓P	**P**	**15 25 37.6**	**+1.2**
BURAR	**Bucovina Array**	**28.32**	**320**	⇓P	**P**	**15 25 37.6**	**+1.2**
MKAR	**Makanchi Array**	**30.02**	**44**	P	**P**	**15 25 50.5**	**-1.1**
	comp=E,0.4nm,0.3s,mb3.6,baz=250,slow=5.6,SNR=13						
KURK	**Kurchatov**	**30.08**	**35**	*e*P	**P**	**15 25 51.3**	**-0.8**
	comp=E,2.5nm,0.9s,mb3.9						
KURK	**Kurchatov**	**30.08**	**35**	*e*P	**P**	**15 25 51.3**	**-0.8**
	comp=E,2.5nm,0.9s,mb3.9						
TIP	**Timpagrande**	**31.03**	**300**	*e*P	**P**	**15 26 01.2**	**+0.6**
TIP	**Timpagrande**	**31.03**	**300**	*e*P	**P**	**15 26 01.2**	**+0.6**
KECS	**Kecovo**	**31.50**	**318**	*e*P	**P**	**15 26 04.9**	**+0.3**
DPC	**Dobruska-Polom**	**34.77**	**319**	*e*P	**P**	**15 26 32.8**	**-0.2**
ZAL	**Zalesovo**	**35.04**	**34**	P	**P**	**15 26 34.5**	**-0.8**
	comp=E,2.2nm,0.3s,mb4.5,baz=216,slow=4.5,SNR=8.8						
GERES	**GERESS Array B**	**35.74**	**316**	P	**P**	**15 26 40.9**	**-0.4**
	comp=E,0.6nm,0.6s,mb3.7,baz=106,slow=9.7,SNR=6.8						
KHC	**Kasperske Hory**	**35.91**	**316**	*e*P	**P**	**15 26 43.1**	**+0.3**
JOF	**Joensuu**	**37.12**	**344**	*e*p	**P**	**15 26 52.0**	**-0.8**
	comp=E,1.8nm,0.3s,mb4.4						
FINES	**FINESS Array B**	**37.33**	**340**	P	**P**	**15 26 53.9**	**-0.6**
	comp=E,2.4nm,0.5s,mb4.3,baz=138,slow=9.4,SNR=27						
KAF	**Kangasniemi**	**37.78**	**341**	*e*p	**P**	**15 26 58.2**	**-0.2**
MBDF	**Montbardon**	**39.29**	**307**	*e*P	**P**	**15 27 11.8**	**+0.6**
	comp=E,5.6nm,0.8s,mb4.1						
MBDF	**Montbardon**	**39.29**	**307**	*e*P	**P**	**15 27 11.8**	**+0.6**
MBDF				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
BNI	**Bardonecchia**	**39.41**	**307**	*e*P	**P**	**15 27 12.0**	**-0.2**
LPG	**La Plagne**	**39.43**	**308**	*e*P	**P**	**15 27 13.2**	**+0.9**
	comp=Z,5.2nm,0.8s,mb4.0						
LPG	**La Plagne**	**39.43**	**308**	*e*P	**P**	**15 27 13.2**	**+0.9**
LPG				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
LPL	**La Plagne**	**39.45**	**308**	*e*P	**P**	**15 27 13.0**	**+0.5**
HINF	**Hinteralfeld**	**39.82**	**312**	*e*P	**P**	**15 27 15.0**	**-0.5**
	comp=Z,3.3nm,0.7s,mb3.9						
CABF	**La Chapelle**	**40.08**	**310**	*e*P	**P**	**15 27 17.8**	**+0.1**
	comp=Z,4.5nm,0.6s,mb4.1						
SMF	**Signal de Mont**	**41.61**	**309**	*e*P	**P**	**15 27 30.0**	**-0.3**
	comp=Z,5.4nm,0.5s,mb4.1						
LOR	**Lormes**	**41.70**	**310**	*e*P	**P**	**15 27 30.4**	**-0.6**
	comp=Z,3.6nm,0.6s,mb3.9						
SSF	**Saint Saulge**	**41.91**	**310**	*e*P	**P**	**15 27 32.5**	**-0.2**
	comp=Z,1.6nm,0.6s,mb3.8						
AVF	**Avril sur Loir**	**41.97**	**310**	*e*P	**P**	**15 27 33.2**	**0.0**
BGF	**Bois d'Agland**	**42.28**	**309**	*e*P	**P**	**15 27 36.6**	**+0.9**
MTLF	**Montolieu**	**42.40**	**304**	*e*P	**P**	**15 27 38.5**	**+1.7**
KONO	**Kongsberg**	**42.48**	**330**	*e*P	**P**	**15 27 36.6**	**-0.6**
	comp=Z,8.7nm,0.7s,mb4.5						
KONO	**Kongsberg**	**42.48**	**330**	*e*P	**P**	**15 27 36.6**	**-0.6**
	comp=Z,8.7nm,0.7s,mb4.5						
NB2	**NORSAR Subarra**	**42.48**	**332**	P	**P**	**15 27 36.4**	**-0.8**
	comp=Z,4.0nm,0.6s,mb4.2,baz=121,slow=7.9						
NOA	**NORSAR Array B**	**42.48**	**332**	P	**P**	**15 27 36.5**	**-0.7**
	comp=Z,4.0nm,0.6s,mb4.2,baz=122,slow=8.3,SNR=17						
NAO01	**NORSAR Array S**	**42.52**	**332**	*e*P	**P**	**15 27 37.3**	**-0.2**
	comp=Z,2.1nm,0.4s,mb4.2						
NAO01	**NORSAR Array S**	**42.52**	**332**	*e*P	**P**	**15 27 37.3**	**-0.2**
	comp=Z,2.1nm,0.4s,mb4.2						
TCF	**Toulx Ste Croi**	**42.68**	**309**	*e*P	**P**	**15 27 39.1**	**+0.1**
RJF	**Les Rejaudoux**	**43.06**	**307**	*e*P	**P**	**15 27 42.7**	**+0.6**
LFF	**La Frestale**	**43.57**	**307**	*e*P	**P**	**15 27 46.9**	**+0.6**
	comp=Z,8.7nm,0.7s,mb4.3						
EPF	**Esparros**	**43.75**	**304**	*e*P	**P**	**15 27 49.9**	**+2.1**
ARCES	**ARCESS Array B**	**43.98**	**347**	P	**P**	**15 27 49.0**	**-0.3**
	comp=Z,0.7nm,0.4s,mb3.8,baz=141,slow=8.2,SNR=15						
MFF	**Saint Martin d**	**44.34**	**309**	*e*P	**P**	**15 27 52.1**	**-0.4**
ETSF	**Etsaut**	**44.41**	**304**	*e*P	**P**	**15 27 54.9**	**+1.8**
LDF	**La Druitiere**	**44.54**	**312**	*e*P	**P**	**15 27 53.4**	**-0.7**
	comp=Z,3.5nm,0.5s,mb4.1						
FLN	**La Foliniere**	**44.80**	**312**	*e*P	**P**	**15 27 55.5**	**-0.7**
	comp=Z,4.2nm,0.5s,mb4.2						
SJPF	**Ste Jean**	**44.90**	**304**	*e*P	**P**	**15 27 58.7**	**+1.6**
SONM	**Songino Array**	**46.02**	**50**	P	**P**	**15 28 05.7**	**-0.2**
	comp=Z,0.9nm,0.8s,mb3.7,baz=261,slow=10,SNR=8.7						
SGMF	**Saint Gilles**	**46.12**	**311**	*e*P	**P**	**15 28 06.2**	**-0.4**
QUIF	**Quistinic**	**46.50**	**310**	*e*P	**P**	**15 28 09.1**	**-0.5**
ROSF	**Rostrenen**	**46.60**	**311**	*e*P	**P**	**15 28 10.0**	**-0.5**
	comp=Z,8.4nm,0.7s,mb4.5						
DBIC	**Dimbokro**	**57.75**	**259**	P	**P**	**15 29 34.0**	**-0.4**
	comp=Z,6.0nm,0.9s,mb4.6,baz=24,slow=8.1,SNR=4.1						
DBIC	**Dimbokro**	**57.75**	**259**	P	**P**	**15 29 34.0**	**-0.4**
DBIC	**Dimbokro**	**57.75**	**259**	P	**P**	**15 29 34.0**	**-0.4**
SCHQ	**Schefferville**	**81.98**	**329**	P	**P**	**15 32 02.3**	**+0.5**
	comp=Z,1.9nm,0.5s,mb4.2,baz=41,slow=6.5,SNR=7.9						
ILAR	**Eielson Array**	**86.04**	**8**	P	**P**	**15 32 21.9**	**-0.2**
	comp=Z,0.5nm,0.7s,mb3.9,baz=318,slow=4.3,SNR=7.1						

*NNC **28** 15:25:10.3±8.8, 37.85N×79.80E, mpv3.7, Error ellipse: s-maj=75.2km s-min=52.1km az=13.0*

BJI 28 15:25:05.8, 37.20N×79.47E, h29km, ML3.6, 3C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**3.59**	**311**	P	Pn	15 26 01.3	+0.3
KSH				S	Sn	15 26 43.8	+0.8
KSH				Smax			
	comp=N,140nm,0.4s						
KSH				Smax			
	comp=E,120nm,0.4s						
AAK	**Ala-Archa**	**6.64**	**326**	⇓Pg	Pn	15 27 02.1	+18
	comp=E,2.9nm,0.5s						
AAK				⇑Lg		15 28 30.2	
	comp=E,15nm,0.8s						
WMQ	**Urumqi**	**9.11**	**41**	P	P	15 27 18.0	-0.4
WMQ				S	Sn	15 28 58.0	-3.0
WMQ				Smax			
	comp=N,30nm,0.8s						
WMQ				Smax			
	comp=E,28nm,0.8s						
MK31	**Makanchi Array**	**9.81**	**11**	⇑Pn	P	15 27 26.2	-1.9
	comp=E,0.3nm,0.4s,baz=184,slow=14,SNR=23						
MK31				⇑Sn	Sn	15 29 12.9	-5.5
	comp=E,1.5nm,0.6s,baz=190,slow=26,SNR=3.9						

*IDC **28** 15:29:20.3±0.5, 16.57S×172.84W, mb4.3/16, mb1 4.4/16, mb1mx4.4/22, mbtmp4.3/16, MS4.2/15, Ms1 4.2/15, ms1mx4.1/20, Error ellipse: s-maj=25.2km s-min=14.3km az=126.0*
*NEIC **28** 15:29:21.9±0.3, 16.46S×172.85W, h10km, mb4.8/13, Error ellipse: s-maj=16.2km s-min=8.1km az=130.0*
*BJI **28** 15:29:21.9, 16.50S×172.90W, h10km, mB5.0, mb4.9, Ms4.9, Msz4.5*

ISC 28 15:29:20.3±0.3, 16.63S±0.07×172.77W±0.09, h10km, (h13km±1.0km:pP-P), n100, σ1§10/56, mb4.6/33, MS4.2/17, 1D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.87**	**20**	Pn	**Pn**	**15 30 00.9**	**-6.1**
	51nm,0.3s,baz=340,slow=1.3,SNR=49						
AFI				Sn	**Sn**	**15 30 30.8**	**-11**
	74nm,0.3s,baz=205,slow=20,SNR=8.7						
AFI				LR	LR	15 30 33.0	
	comp=Z,2μm,19.9s,baz=49,slow=26						
AFI	**Afiamalu**	**2.87**	**20**	*e*P	**Pn**	**15 30 00.5**	**-6.5**
AFI				*e*S	**Sn**	**15 30 30.2**	**-12**
RAR	**Rarotonga**	**13.11**	**112**	*e*P	**P**	**15 32 22.6**	**-6.8**
DZM	**Mont Dzumac**	**20.34**	**251**	LR	LR	15 40 17.7	
	comp=Z,858nm,21.8s,MS4.1,baz=248,slow=32						
PPT	**Papeete**	**22.19**	**96**	LR	LR	15 41 27.3	
	comp=Z,591nm,18.4s,MS4.0,baz=288,slow=33						
URZ	**Urewera**	**23.31**	**200**	P	**P**	**15 34 30.0**	**+0.6**
	30nm,0.9s,mb4.7,baz=358,slow=6.5,SNR=15						
URZ				S	**S**	**15 38 36.8**	**-1.0**
	2.2nm,0.6s,baz=126,slow=19,SNR=2.1						
SNZO	**South Karori**	**26.86**	**201**	*e*P	**P**	**15 35 07.4**	**+4.3**
HNR	**Honiara**	**27.50**	**282**	LR	LR	15 44 36.8	
	comp=Z,2μm,18.7s,MS4.7,baz=148,slow=33						
RPZ	**Rata Peaks**	**30.29**	**204**	P	**P**	**15 35 35.0**	**+1.1**
	6.8nm,0.7s,mb4.5,baz=85,slow=5.4,SNR=6.2						
RPZ	**Rata Peaks**	**30.29**	**204**	P	**P**	**15 35 35.0**	**+1.1**
CTAO	**Charters Tower**	**38.98**	**258**	P	**P**	**15 36 46.4**	**-2.3**
STKA	**Stephens Creek**	**43.96**	**241**	*e*P	**P**	**15 37 28.7**	**-0.8**
	7.5nm,0.8s,mb4.5						
**

GYA AMB AMB
comp=Z,20nm,0.9s,mb5.5
GYA AMB AMB
comp=Z,90nm,3.6s
GYA LR LR
comp=N,280nm,18.9s,MS4.8
GYA LR LR
comp=E,240nm,18.6s,MS4.8
GYA LR LR
comp=Z,230nm,18.4s,MS4.6
XAN Xi'an 89.84 306 P **P 15 42 22.3 +1.3**
XAN AMB AMB
comp=Z,8.0nm,1.8s,mb4.8
HHC Hu-ho-hao-te 90.30 313 *e*P **P 15 42 25.0 +2.0**
HHC AP pP 15 42 29.3 +3.1
HHC XP sP 15 42 32.0 +4.7
HHC PP PP 15 46 00.3 +0.8
HHC SKS SKS 15 52 56.3 -1.0
HHC S S 15 53 21.3 +6.4
HHC XS 15 53 29.5
HHC AMB AMB
comp=Z,18nm,0.9s,mb5.4
HHC AMB AMB
comp=Z,126nm,9.6s
HHC LR LR
comp=N,126nm,15.5s,MS4.7
HHC LR LR
comp=E,161nm,15.5s,MS4.7
HHC LR LR
comp=Z,86nm,14.3s,MS4.3
YKA Yellowknife Ar 90.98 23 LR LR 16 19 47.9
comp=Z,90nm,18.0s,MS4.2,baz=215,slow=33
KMI Kunming 92.10 295 P **P 15 42 34.8 +3.2**
KMI AMB AMB
comp=Z,14nm,0.9s,mb5.3
LZH Lanzhou 94.44 306 *e*P **P 15 42 44.5 +2.4**
LZH AP pP 15 42 47.8 +2.4
LZH XP sP 15 42 50.0 +3.6
LZH PP PP 15 46 33.5 +1.3
LZH AMB AMB
comp=Z,13nm,1.0s,mb5.3
LZH Lanzhou 94.44 306 *e*P **P 15 42 44.5 +2.4**
comp=Z,13nm,1.0s,mb5.3
LZH pP pP 15 42 47.8 +2.4
LZH sP sP 15 42 49.9 +3.5
LZH PP PP 15 46 33.5 +1.3
ULM Lac du Bonnet 94.50 39 LR LR 16 22 57.6
comp=Z,264nm,18.3s,MS4.7,baz=228,slow=34
SONM Songino Array 96.16 318 P **P 15 42 50.5 +0.8**
comp=Z,0.2nm,0.4s,mb3.9,baz=127,slow=7.2,SNR=2.8
SONM LR LR 16 18 44.3
comp=Z,47nm,20.7s,MS4.0,baz=107,slow=31
GTA Gaotai 98.42 309 P **P 15 43 01.0 +0.9**
GTA AMB AMB
comp=Z,2.0nm,1.0s,mb4.6
LPAZ La Paz 98.82 110 LR LR 16 18 54.0
comp=Z,65nm,19.9s,MS4.1,baz=198,slow=30
MKAR Makanchi Array 112.12 314 PKiKP 15 47 56.9
comp=Z,0.5nm,0.6s,baz=39,slow=0.9,SNR=7.0
MKAR Makanchi Array 112.12 314 PKPdf PKPdf 15 47 56.9 -2.1
BVAR Borovoye Array 119.22 322 PKP PKPdf 15 48 10.9 -1.9
comp=Z,0.7nm,0.6s,baz=45,slow=2.1,SNR=4.4
ARCES ARCESS Array B 125.91 352 PKP PKPdf 15 48 23.5 -1.8
comp=Z,3.0nm,1.0s,baz=351,slow=31,SNR=2.7
KWP Kalwaria 144.77 342 *e*PKPdf PKPdf 15 48 58.1 -2.3
CLL Collm 145.10 354 P PKPbc 15 49 05.0 +6.8
CLL *e* 15 49 13.0
CLL Collm 145.10 354 *e*P PKPbc 15 49 13.0 +15
MALT Malatya 145.16 315 *e*PKPdf PKPdf 15 49 00.6 -1.0
STHS Stebnicka Huta 145.38 344 *e*PKP PKPdf 15 49 01.1 -0.4
STHS *e* 15 49 10.1
UPC Upice 145.48 350 *e*PKP PKPdf 15 49 00.4 -1.2
KMBO Kilima Mbogo 145.52 242 PKPbc PKPbc 15 49 02.9 +2.5
comp=Z,4.2nm,0.9s,baz=64,slow=2.0,SNR=7.7
KMBO Kilima Mbogo 145.52 242 PKPbc PKPbc 15 49 02.9 +2.5
DPC Dobruska-Polom 145.58 350 *e*PKP PKPdf 15 49 00.8 -1.0
PVCC Panska Ves 145.68 352 *e*PKP PKPdf 15 49 01.5 -0.5
OKC Ostrava-Krasne 145.72 347 *e*PKP PKPdf 15 49 02.1 0.0
CRVS Cervenica-Dubn 145.78 343 *e*PKP PKPdf 15 49 08.1 +5.9
MOX Moxa 145.89 355 *i* P PKPbc 15 49 01.2 +1.0
comp=Z,logA/T=1.2
MOX Moxa 145.89 355 *e*PKP PKPdf 15 49 01.2 -1.1
MORC Moravsky Berou 145.90 348 *e*PKPbc PKPbc 15 49 01.6 +1.3
PRU Pruhonice 146.21 352 *e*PKP PKPdf 15 49 02.5 -0.4
NKC Novy Kostel 146.22 354 *e*PKP PKPdf 15 49 02.2 -0.7
KECS Kecovo 146.43 344 *e*PKP PKPdf 15 49 05.9 +2.6
KECS *e* 15 49 12.8
VRAC Vranov 146.53 349 PKPbc PKPbc 15 49 03.3 +1.5
comp=Z,1.2nm,0.6s,baz=16,slow=15,SNR=4.2
VYHS Vyhne 146.83 346 *e*PKP PKPdf 15 49 05.6 +1.6
GRA1 Grafenberg Arr 146.87 355 *e*PKP PKPdf 15 49 04.6 +0.6
KHC Kasperske Hory 147.18 352 *e*PKP PKPdf 15 49 06.0 +1.4
KHC pPKP 15 49 10.5
KHC Kasperske Hory 147.18 352 *e*P PKPdf 15 49 06.0 +1.4
KHC *e* 15 49 10.5
MLR Muntele Rosu 147.24 335 PKPbc PKPdf 15 49 05.1 +0.3
comp=Z,1.0nm,0.4s,baz=77,slow=4.0,SNR=4.5
FLN La Foliniere 147.34 9 *e*PKP1 PKPdf 15 49 05.8 +1.0
GERES GERESS Array B 147.44 352 PKPbc PKPdf 15 49 05.9 +0.9
comp=Z,1.3nm,0.7s,slow=2.7,SNR=12
BRTR Keskin Array B 147.49 320 PKPbc PKPdf 15 49 06.7 +1.3
comp=Z,2.9nm,0.6s,baz=135,slow=1.7,SNR=13
ZST Bratislava 147.50 348 *e* PKPdf 15 49 20.2 +15
LDF La Druitiere 147.56 9 *e*PKP1 PKPdf 15 49 05.9 +0.7
GRR Gorron 147.64 10 *e*PKP1 PKPdf 15 49 06.2 +0.9
CDF Champ du Feu 148.31 360 *e*PKP1 PKPdf 15 49 09.1 +2.7
comp=Z,8.6nm,0.9s
HAU Haudompre 148.71 1 *e*PKP1 PKPdf 15 49 10.1 +3.1
HINF Hinteralfeld 148.90 0 *e*PKP1 PKPdf 15 49 09.3 +1.9
SSF Saint Saulge 149.50 5 *e*PKP1 PKPdf 15 49 12.2 +3.8
DAVOX Davos 149.86 356 PKPbc PKPdf 15 49 13.1 +4.2
comp=Z,2.1nm,0.7s,baz=161,slow=7.1,SNR=3.8

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*NIED **28** 15:31:00, 42.00N×143.90E, h17km, Mw3.8 Best double couple: M0 6.47×10^14 NP1:φs 111°, δ 87°, λ -23°. NP2: φs 202°, δ 67°, λ -177°.*
*IDC **28** 15:31:33.9±2.3, 42.00N×144.20E, mb3.7/6, mb1 3.8/7, mb1mx3.6/22, mbtmp3.7/7, ML3.6/1, Error ellipse: s-maj=48.2km s-min=26.1km az=176.0*
*JMA **28** 15:31:37.3±0.1, 42.03N×143.85E, h33km±3km, M4.0*
ISC 28 15:31:34.9±1.3, 41.93N±0.06×143.97E±0.08, h21km±8km, n16, σ1§03/22, mb3.6/6, 4C-2D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**0.61**	**279**	⇓P	**Pb**	**15 31 47.4**	**+0.6**
JCH	**Churui**	**0.82**	**327**	⇑P	**Pb**	**15 31 50.6**	**+0.2**
JCH				*e*S	**Sb**	**15 32 01.0**	**0.0**
JNBK	**Urakawa-nobuka**	**0.97**	**292**	⇑P	**Pb**	**15 31 53.4**	**+0.5**
JNBK				*e*S	**Sb**	**15 32 04.5**	**-0.8**
JOB	**Onbets**	**0.98**	**354**	⇑P	**Pb**	**15 31 53.9**	**+0.8**
JAK	**Akkeshi**	**1.20**	**26**	⇓P	**Pn**	**15 31 57.0**	**+0.4**
JAK				*e*S	**Sb**	**15 32 11.1**	**-0.7**
JAR	**Ashorobuto**	**1.38**	**354**	⇑P	**Pn**	**15 31 59.0**	**-0.2**
JAR				*e*S	**Sn**	**15 32 15.8**	**-1.1**
JBT2	**Biratori 2**	**1.46**	**306**	P	**Pn**	**15 31 59.2**	**-1.2**
JFR	**Furan**	**1.60**	**321**	P	**Pn**	**15 32 01.2**	**-1.2**
ASAJ	**Asahikawa**	**2.41**	**336**	Pn	**Pn**	**15 32 14.7**	**+0.8**
8.3nm,0.3s,baz=194,slow=12,SNR=6.7							
ASAJ				Sn	**Sn**	**15 32 46.8**	**+3.7**
16nm,0.3s,baz=161,slow=29,SNR=7.3							
MAT	**Matsushiro**	**6.99**	**222**	P	**Pn**	**15 33 18.6**	**-0.2**
MAT				*e*S	**Sn**	**15 34 37.3**	**-1.2**
SONM	**Songino Array**	**27.08**	**295**	P	**P**	**15 37 19.6**	**+1.9**
0.2nm,0.4s,mb3.0,baz=92,slow=8.4,SNR=3.6							
MKAR	**Makanchi Array**	**43.37**	**298**	P	**P**	**15 39 39.2**	**+2.1**
0.1nm,0.4s,mb2.9,baz=90,slow=8.6,SNR=2.8							
ILAR	**Eielson Array**	**44.33**	**35**	P	**P**	**15 39 44.6**	**-0.1**
0.5nm,0.6s,mb3.4,baz=266,slow=5.7,SNR=11							
BVAR	**Borovoye Array**	**48.86**	**310**	P	**P**	**15 40 22.2**	**+1.7**
0.3nm,0.4s,mb3.7,baz=72,slow=9.1,SNR=3.2							
INK	**Inuvik**	**49.15**	**29**	P	**P**	**15 40 21.8**	**-0.7**
2.0nm,0.9s,mb4.2,baz=23,slow=2.6,SNR=6.2							
FINES	**FINESS Array B**	**65.41**	**332**	P	**P**	**15 42 16.2**	**-1.4**
4.7nm,1.1s,mb4.5,baz=56,slow=6.9,SNR=9.8							

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*CSEM **28** 15:59:28.8±0.7, 38.67N×29.02W, ML2.1, Error ellipse: s-maj=18.5km s-min=12.0km az=163.0, After PDA*
*PDA **28** 15:59:28.8±0.7, 38.67N×29.02W, MD2.6, ML2.1, Error ellipse: s-maj=18.5km s-min=12.0km az=163.0*

SVSA 28 15:59:28.8±0.7, 38.67N×29.02W, MD2.6, ML2.1, Error ellipse: s-maj=18.5km s-min=12.0km az=163.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.26**	**98**	*e*P	Pg	15 59 33.7	-0.2
PCED				*e*S	Sg	15 59 37.4	+0.1
53nm,0.1s							
CALA	**Caldeira**	**0.27**	**108**	*e*P	Pg	15 59 33.9	-0.2
CALA				*e*S	Sg	15 59 37.6	0.0
PICO	**Pico**	**0.50**	**109**	*e*P	Pg	15 59 38.0	-0.7
PICO				*e*S	Sg	15 59 45.1	-0.2
PMAN	**Manadas**	**0.73**	**92**	*e*rx		15 59 37.2	

MAN 28 16:10:02.4, 10.01N×125.94E, h23km, mb4.2, ML3.0, MS2.7, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.49**	**243**	*e*P	Pb	16 10 13.4	+1.0
SCPH				*e*S	Sb	16 10 22.6	+3.4
MSLP	**Maasin**	**1.07**	**277**	*e*P	Pb	16 10 22.8	+0.7
MSLP				*e*S	Sb	16 10 38.7	+3.1
BESP	**Borongan**	**1.66**	**343**	*e*P	Pn	16 10 29.6	-0.9

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*STR **28** 16:19:25.4±0.1, 43.01N×0.16E, h5km±1km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **28** 16:19:25.0±0.1, 43.07N×0.16E, h12km, Md2.7/2, Ml2.8/14, Error ellipse: s-maj=1.3km s-min=1.0km az=160.0*
*NEIC **28** 16:19:25.0, 43.07N×0.16E, h12km, ML2.8(LDG), ML2.5(STR), MN2.1(MDD), After LDG.*
*MDD **28** 16:19:25.6±0.3, 43.04N×0.16E, h10km±1km, mb2.7/1, mbLg2.1/15, Error ellipse: s-maj=2.7km s-min=1.4km az=10.0, PRXIMO*
*CSEM **28** 16:19:25.1±0.1, 43.07N×0.16E, h10km, ML2.8/14, Error ellipse: s-maj=1.0km s-min=0.8km az=156.0*
ISC 28 16:19:22.8±0.2, 43.19N±0.01×0.20E±0.02, h12km, n64, σ1§23/94, 1C, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.17**	**212**	Pg	**Pg**	**16 19 27.9**	**+1.1**
LABF				Sg	**Sg**	**16 19 30.1**	**+0.6**
LABF	**Labassere**	**0.17**	**212**	Pg	**Pg**	**16 19 27.9**	**+1.2**
LABF				Lg		16 19 30.0	
EPF	**Esparros**	**0.19**	**147**	*e*Pg	**Pg**	**16 19 28.6**	**+1.4**
EPF				*e*Sg	**Sg**	**16 19 30.7**	**+0.6**
304nm,0.2s							
VIEF	**Viey**	**0.33**	**202**	Pg	**Pg**	**16 19 29.5**	**-0.3**
VIEF				Lg		16 19 32.5	
RESF	**Ens**	**0.40**	**165**	Pg	**Pg**	**16 19 31.0**	**0.0**
RESF				Sg	**Sg**	**16 19 34.5**	**-2.0**
RESF	**Ens**	**0.40**	**165**	Pg	**Pg**	**16 19 31.1**	**+0.1**
RESF				Lg		16 19 34.5	
REYF	**Montagne du Re**	**0.45**	**254**	Pg	**Pg**	**16 19 32.6**	**+0.6**
REYF				Sg	**Sg**	**16 19 39.3**	**+1.2**
REYF	**Montagne du Re**	**0.45**	**254**	Pg	**Pg**	**16 19 32.8**	**+0.8**
REYF				Lg		16 19 38.9	
EBIE	**Bielsa**	**0.51**	**184**	⇑Pg	**Pg**	**16 19 32.3**	**-0.8**
1.8nm,0.0s,SNR=18							
EBIE				Lg		16 19 37.6	
18nm,0.1s,SNR=5.0							
EBIE	**Bielsa**	**0.51**	**184**	Pg	**Pg**	**16 19 32.3**	**-0.8**
1.8nm,0.0s,SNR=18							
EBIE				Lg		16 19 37.6	
18nm,0.1s,SNR=5.0							
MELF	**Melles**	**0.52**	**128**	Pg	**Pg**	**16 19 34.0**	**+0.6**
MELF				Sg	**Sg**	**16 19 40.6**	**+0.1**
MELF	**Melles**	**0.52**	**128**	Pg	**Pg**	**16 19 33.8**	**+0.4**
MELF				Lg		16 19 41.0	
ETSF	**Etsaut**	**0.63**	**242**	*e*Pg	**Pg**	**16 19 35.5**	**0.0**
ETSF				*e*Sg	**Sg**	**16 19 42.8**	**-1.1**
155nm,0.4s							
ATE	**Arette**	**0.67**	**261**	Pg	**Pg**	**16 19 37.2**	**+1.0**
ATE				Lg		16 19 45.6	
FDAF	**Les Forges d'A**	**0.67**	**237**	Pg	**Pg**	**16 19 36.0**	**-0.4**
FDAF				Sg	**Sg**	**16 19 43.9**	**-1.6**
FDAF	**Les Forges d'A**	**0.67**	**237**	Pg	**Pg**	**16 19 36.1**	**-0.3**
FDAF				Lg		16 19 44.0	
MLS	**Moulis**	**0.70**	**109**	Pg	**Pg**	**16 19 38.2**	**+1.3**
MLS				Sg	**Sg**	**16 19 47.4**	**+1.1**
MLS	**Moulis**	**0.70**	**109**	Pg	**Pg**	**16 19 38.2**	**+1.4**
MLS				Lg		16 19 48.2	
SALF	**Salau**	**0.85**	**120**	Pg	**Pg**	**16 19 40.5**	**+0.7**
SALF				Sg	**Sg**	**16 19 50.9**	**-0.3**
SALF	**Salau**	**0.85**	**120**	Pg	**Pg**	**16 19 40.5**	**+0.6**
SALF				Lg		16 19 51.0	
LARF	**Larrau**	**0.88**	**260**	Pg	**Pg**	**16 19 41.4**	**+0.9**
LARF				Sg	**Sg**	**16 19 52.7**	**+0.4**
LARF	**Larrau**	**0.88**	**260**	Pg	**Pg**	**16 19 41.5**	**+1.0**
LARF				Lg		16 19 52.9	
EGRA	**Graus**	**1.00**	**175**	Pg	**Pg**	**16 19 41.6**	**-1.3**
1.0nm,0.1s,SNR=8.5							
EGRA				Lg		16 19 54.1	
1.9nm,0.1s							
EGRA	**Graus**	**1.00**	**175**	Pg	**Pg**	**16 19 41.5**	**-1.4**
SJPF	**Ste Jean**	**1.04**	**266**	*e*Pg	**Pg**	**16 19 44.1**	**+0.4**
SJPF				*e*Sg	**Sg**	**16 19 57.0**	**-0.7**
8.1nm,0.2s							
CSOR	**Sort**	**1.07**	**140**	Pg	**Pg**	**16 19 43.7**	**-0.5**
CSOR				Lg		16 19 57.7	
8.2nm,0.1s							
EALK	**Alkurruntz**	**1.25**	**272**	Pg	**Pg**	**16 19 48.9**	**+1.2**
0.6nm,0.1s,SNR=7.1							
EALK				Lg		16 20 05.4	
6.9nm,0.2s,SNR=6.8							
EALK	**Alkurruntz**	**1.25**	**272**	Pg	**Pg**	**16 19 48.9**	**+1.2**
EALK				Lg		16 20 06.3	
CORG	**Organya**	**1.27**	**139**	Pg	**Pg**	**16 19 47.7**	**-0.5**
CORG				Lg		16 20 03.5	
7.2nm,0.2s							
EARA	**Aranguren**	**1.37**	**253**	Lg		16 20 08.9	
5.4nm,0.1s,SNR=7.9							
CAVN	**Les Avellanes**	**1.37**	**162**	Pg	**Pg**	**16 19 48.6**	**-1.6**
CAVN				Lg		16 20 05.4	
15nm,0.1s							
CARF	**Carcanieres**	**1.48**	**108**	Pg	**Pg**	**16 19 53.6**	**+1.2**
CARF				Sg	**Sg**	**16 20 13.2**	**+1.0**
CARF	**Carcanieres**	**1.48**	**108**	Pg	**Pg**	**16 19 53.3**	**+0.9**
CARF				Lg		16 20 11.7	
MTLF	**Montolieu**	**1.48**	**84**	*e*Pg	**Pg**	**16 19 53.6**	**+1.2**
MTLF				*e*Sg	**Sg**	**16 20 13.6**	**+1.3**
18nm,0.3s							
CLLI	**Llivia**	**1.49**	**118**	Pg	**Pg**	**16 19 52.3**	**-0.3**
CLLI				Lg		16 20 12.7	
4.1nm,0.1s							
ESAC	**San Caprasio**	**1.55**	**199**	Pg	**Pg**	**16 19 52.3**	**-1.4**
17nm,0.2s,SNR=17							
ESAC				Lg		16 20 11.3	
164nm,0.3s							
ESAC	**San Caprasio**	**1.55**	**199**	Pg	**Pg**	**16 19 52.3**	**-1.5**
17nm,0.2s,SNR=17							
VALF	**Valcebollere**	**1.56**	**120**	Pg	**Pg**	**16 19 54.3**	**+0.4**
VALF				Sg	**Sg**	**16 20 15.1**	**+0.4**
EMIR	**Miracle**	**1.61**	**142**	Pg	**Pg**	**16 19 54.0**	**-1.0**
2.2nm,0.1s,SNR=6.2							
EMIR				Lg		16 20 13.0	
2.8nm,0.1s,SNR=9.7							
EMIR	**Miracle**	**1.61**	**142**	Pg	**Pg**	**16 19 54.0**	**-1.0**
2.2nm,0.1s,SNR=6.2							
LFF	**La Frestale**	**1.79**	**12**	*e*Pg	**Pg**	**16 20 01.0**	**+2.5**
LFF				*e*Sg	**Sg**	**16 20 25.7**	**+3.3**
20nm,0.3s							
EPOB	**Poblet**	**1.95**	**160**	Pg	**Pg**	**16 19 58.5**	**-3.2**
1.1nm,0.1s,SNR=8.4							
EPOB				Lg		16 20 22.3	
17nm,0.2s,SNR=6.0							
EPOB	**Poblet**	**1.95**	**160**	Pg	**Pg**	**16 19 58.5**	**-3.3**
1.1nm,0.1s,SNR=8.4							
EJON	**La Jonquera**	**2.12**	**110**	Pn	**Pn**	**16 20 00.7**	**+2.3**
0.3nm,0.1s,SNR=7.8							
EJON				Sn	**Sn**	**16 20 25.8**	**+1.0**
0.7nm,0.2s,SNR=7.9							
EJON				Lg		16 20 31.8	
0.5nm,0.1s							
EJON	**La Jonquera**	**2.12**	**110**	Pg	**Pg**	**16 20 01.5**	**-3.5**
EJON	**La Jonquera**	**2.12**	**110**	Pg	**Pg**	**16 20 01.4**	**-3.6**
EJON				Lg		16 20 31.8	
CAF	**Calviac**	**2.19**	**37**	*e*Pg	**Pg**	**16 20 08.2**	**+1.6**
ERTA	**Horta de San J**	**2.24**	**177**	Pg	**Pg**	**16 20 03.2**	**-4.2**
0.3nm,0.1s,SNR=12							
ERTA				Lg		16 20 32.2	
12nm,0.2s							
ERTA	**Horta de San J**	**2.24**	**177**	Pg	**Pg**	**16 20 03.2**	**-4.3**
0.3nm,0.1s,SNR=12							
RJF	**Les Rejaudoux**	**2.31**	**24**	*e*Pg	**Pg**	**16 20 10.2**	**+1.2**
RJF				*e*Sg	**Sg**	**16 20 41.2**	**+1.3**
12nm,0.2s							
LASF	**Ste Croix**	**2.80**	**70**	*e*Pn	**Pn**	**16 20 08.4**	**+0.2**
LASF				*e*Pg	**Pg**	**16 20 18.8**	**+0.1**
LASF				*e*Sg	**Sg**	**16 20 54.6**	**-1.4**
4.4nm,0.3s							
EMOS	**Mosqueruela**	**2.87**	**190**	Pn	**Pn**	**16 20 07.4**	**-1.9**
0.3nm,0.1s,SNR=6.3							
EMOS				Sn	**Sn**	**16 20 40.9**	**-3.2**
0.5nm,0.1s,SNR=7.9							
EMOS				Lg		16 20 54.1	
SNR=7.9							
EMOS	**Mosqueruela**	**2.87**	**190**	Pn	**Pn**	**16 20 10.2**	**+0.9**
0.3nm,0.1s,SNR=6.3							
EMOS				Sn	**Sn**	**16 20 40.9**	**-3.1**
0.5nm,0.1s,SNR=7.9							
EMOS	**Mosqueruela**	**2.87**	**190**	Pn	**Pn**	**16 20 10.2**	**+1.0**
EMOS				Sn	**Sn**	**16 20 40.9**	**-3.2**
EMOS				Lg		16 20 50.6	
TCF	**Toulx Ste Croi**	**3.41**	**24**	*e*Pg	**Pg**	**16 20 30.7**	**-0.2**
TCF				*e*Sg	**Sg**	**16 21 15.8**	**-0.6**
6.3nm,0.3s							
MFF	**Saint Martin d**	**3.42**	**356**	*e*Pn	**Pn**	**16 20 18.1**	**+1.1**
MFF				*e*Pg	**Pg**	**16 20 30.8**	**-0.2**
MFF				*e*Sg	**Sg**	**16 21 15.5**	**-1.1**
3.8nm,0.3s							
VIVF	**Saint-Julien-l**	**3.63**	**61**	*e*Pn	**Pn**	**16 20 21.8**	**+1.8**
VIVF				*e*Pg	**Pg**	**16 20 34.1**	**-1.2**
VIVF				*e*Sg	**Sg**	**16 21 21.1**	**-2.6**
4.1nm,0.4s							
BGF	**Bois d'Agland**	**3.86**	**28**	*e*Pn	**Pn**	**16 20 24.0**	**+0.8**
BGF				*e*Pg	**Pg**	**16 20 38.9**	**-0.8**
BGF				*e*Sg	**Sg**	**16 21 30.0**	**-1.2**
19nm,0.3s							
SMRF	**Simiane la Rot**	**3.98**	**77**	*e*Pg	**Pg**	**16 20 40.0**	**-2.3**
AVF	**Avril sur Loir**	**4.24**	**31**	*e*Sg	**Sg**	**16 21 41.0**	**-2.8**
3.2nm,0.4s							
SMF	**Signal de Mont**	**4.31**	**36**	*e*Sg	**Sg**	**16 21 44.4**	**-2.0**
2.0nm,0.3s							
SSF	**Saint Saulge**	**4.52**	**30**	*e*Pn	**Pn**	**16 20 32.7**	**0.0**
SSF				*e*Pg	**Pg**	**16 20 51.2**	**-1.8**
SSF				*e*Sg	**Sg**	**16 21 50.8**	**-2.5**
2.2nm,0.3s							
LOR	**Lormes**	**4.83**	**31**	*e*Sg	**Sg**	**16 21 58.9**	**-4.6**
3.3nm,0.4s							
GRR	**Gorron**	**5.25**	**352**	*e*Pn	**Pn**	**16 20 42.8**	**-0.2**

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*IDC **28** 18:11:17.1±1.7, 40.65S×75.15W, mb3.4/3, mb1 3.6/5, mb1mx3.5/16, mbtmp3.3/5, ML3.3/1, Error ellipse: s-maj=30.2km s-min=29.3km az=76.0*
*NEIC **28** 18:11:18.3±1.4, 40.69S×75.08W, h10km, Error ellipse: s-maj=24.7km s-min=21.0km az=94.0*
ISC 28 18:11:15.7±4.0, 40.50S±0.10×75.2W±0.1, h3km±27km, n8, σ1§04/11, mb3.4/2, Off coast of southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.52**	**95**	Pn	**Pn**	**18 12 13.1**	**+0.7**
0.6nm,0.3s,baz=269,slow=11,SNR=12							
PLCA				Sn	**Sn**	**18 12 55.5**	**+0.4**
1.3nm,0.3s,baz=165,slow=15,SNR=3.8							
PLCA	**Paso Flores**	**3.52**	**95**	*e*P	**Pn**	**18 12 11.9**	**-0.5**
PLCA				Sn	**Sn**	**18 12 55.5**	**+0.4**
CFAA	**Coronel Fontan**	**10.49**	**34**	Pn	**P**	**18 13 49.2**	**-0.8**
0.1nm,0.3s,baz=216,slow=9.5,SNR=5.7							
CFAA				Sn	**S**	**18 15 48.6**	**-0.7**
0.0nm,0.3s,baz=315,slow=18,SNR=4.2							
CPUP	**Villa Florida**	**20.47**	**52**	P	**P**	**18 15 58.7**	**+1.6**
1.9nm,0.9s,baz=270,slow=13,SNR=3.6							
CPUP	**Villa Florida**	**20.47**	**52**	*e*P	**P**	**18 15 58.5**	**+1.3**
SNAA	**Sanae**	**46.62**	**155**	P	**P**	**18 19 45.0**	**-1.2**
0.5nm,0.8s,mb3.5,baz=284,slow=6.1,SNR=4.0							
SNAA	**Sanae**	**46.62**	**155**	*e*P	**P**	**18 19 44.2**	**-2.0**
TXAR	**Lajitas Array**	**74.34**	**334**	P	**P**	**18 22 57.4**	**+1.1**
0.2nm,0.6s,mb3.2,baz=160,slow=7.9,SNR=4.6							

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*MEX **28** 18:35:42.3±0.7, 16.22N×98.26W, h6km±4km, MD3.7*
*NEIC **28** 18:35:43.7, 16.25N×98.22W, h10km, MD3.7(MEX), After MEX.*
ISC 28 18:35:39.8±1.7, 16.2N±0.1×98.26W±0.04, h22km±7km, n11, σ1§02/21, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.25**	**30**	*i* P	**Pb**	**18 35 46.6**	**+0.8**
PNIG				*i* S	**Sb**	**18 35 49.2**	**-0.7**
VHO	**Vista Hermosa**	**1.71**	**58**	*i* P	**Pn**	**18 36 08.9**	**0.0**
VHO				*i* S	**Sn**	**18 36 30.0**	**-0.3**
OXX	**Oaxaca**	**1.73**	**58**	*i* P	**Pn**	**18 36 09.7**	**+0.7**
OXX				*i* S	**Sn**	**18 36 30.7**	**+0.1**
ACX	**Acapulco**	**1.73**	**294**	*e*P	**Pn**	**18 36 08.0**	**-1.1**
ACX				*i* S	**Sn**	**18 36 31.0**	**+0.3**
PLIG	**Platanillo**	**2.51**	**332**	*i* P	**Pn**	**18 36 20.4**	**+0.2**
PLIG				*i* S	**Sn**	**18 36 49.7**	**-0.7**
PLIG	**Platanillo**	**2.51**	**332**	*i* P	**Pn**	**18 36 25.4**	**+5.2**
PLIG				*i* S	**Sn**	**18 36 54.7**	**+4.3**
YAIG	**Yautepec**	**2.78**	**344**	*e*P	**Pn**	**18 36 23.8**	**-0.4**
YAIG				*i* S	**Sn**	**18 36 56.5**	**-0.9**
YAIG	**Yautepec**	**2.78**	**344**	*i* P	**Pn**	**18 36 28.1**	**+3.9**
YAIG				*i* S	**Sn**	**18 37 03.1**	**+5.6**
PPM	**Popocatepetl**	**2.90**	**353**	*e*P	**Pn**	**18 36 28.0**	**+2.2**
CMIG	**Matias Romero**	**3.36**	**74**	*e*P	**Pn**	**18 36 31.7**	**-0.7**
CMIG				*i* S	**Sn**	**18 37 10.6**	**-1.5**
CMIG	**Matias Romero**	**3.36**	**74**	*e*P	**Pn**	**18 36 30.7**	**-1.6**
CMIG				*i* S	**Sn**	**18 37 14.4**	**+2.3**

IDC 28 18:47:18.4±1.9, 24.90S×69.91E, mb3.8/3, mb1 4.0/3, mb1mx3.6/17, mbtmp3.8/3, MS3.9/1, Ms1 3.9/1, ms1mx3.1/30, Error ellipse: s-maj=75.3km s-min=34.6km az=79.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBTB	**Lobatse**	**40.04**	**260**	LR	LR	19 08 25.5	
comp=Z,159nm,18.9s,baz=304,slow=32							
WRA	**Warramunga Arr**	**59.29**	**99**	P	P	18 57 22.3	-2.2
0.9nm,0.9s,baz=254,slow=6.9,SNR=4.6							
VNDA	**Vanda**	**66.30**	**166**	P	P	18 58 08.1	-2.1
0.5nm,0.8s,baz=280,slow=6.1,SNR=3.

JOW	**Kunigami**	**1.36 284**	P	**Pn**	**18 51 19.4**	**+0.7**
JOW			S	**Sn**	**18 51 36.1**	**-0.1**
JTK	**Tokunoshima**	**1.46 331**	P	**Pn**	**18 51 20.7**	**+0.6**
JTK			S	**Sn**	**18 51 38.3**	**-0.4**
JMZ	**Minamidaito 2**	**1.49 117**	P	**Pn**	**18 51 20.5**	**-0.1**
JMZ			S	**Sn**	**18 51 38.2**	**-1.4**
JIH	**Iheya**	**1.68 289**	P	**Pn**	**18 51 24.1**	**+0.9**
JIH			S	**Sn**	**18 51 43.6**	**-0.7**
JZK	**Kikaishima**	**1.81 6**	P	**Pn**	**18 51 26.0**	**+0.8**
JZK			S	**Sn**	**18 51 47.9**	**+0.2**
JJT2	**Tamagusuku 2**	**1.83 259**	P	**Pn**	**18 51 26.5**	**+1.0**
JJT2			S	**Sn**	**18 51 47.6**	**-0.6**
NAH1	**Naha**	**1.87 261**	P	**Pn**	**18 51 26.9**	**+0.9**
JAM	**Amami Oshima**	**1.90 356**	P	**Pn**	**18 51 26.6**	**+0.1**
JAGN	**Aguni-jima**	**2.25 273**	P	**Pn**	**18 51 31.9**	**+0.5**
JKE	**Kume jima 2**	**2.66 267**	P	**Pn**	**18 51 37.1**	**-0.2**
JKE			*e*S	**Sn**	**18 52 08.1**	**-1.2**
JNN	**Nakanoshima**	**3.32 2**	P	**Pn**	**18 51 46.7**	**0.0**
JNN			*e*S	**Sn**	**18 52 22.8**	**-3.3**
JKC	**Kuchinoerabu**	**3.96 6**	*e*S	**Sn**	**18 52 37.6**	**-4.6**
JTN	**Tanegashima 3**	**4.27 14**	P	**Pn**	**18 52 00.0**	**-0.2**
JTN			*e*S	**Sn**	**18 52 47.0**	**-3.1**
JOGS	**Gusukube**	**4.29 247**	P	**Pn**	**18 52 00.1**	**-0.3**
JMJ	**Miyako jima 2**	**4.36 248**	P	**Pn**	**18 52 03.2**	**+1.7**
JTJ	**Tarama**	**4.92 249**	P	**Pn**	**18 52 06.7**	**-2.7**
JIJ	**Ishigaki jima**	**5.50 248**	P	**Pn**	**18 52 15.2**	**-2.4**
JNU	**Nakatsue**	**6.66 8**	Pn	**Pn**	**18 52 33.9**	**-0.1**
1.2nm,0.3s,baz=184,slow=25,SNR=4.9						
YHNB	**Yeheng**	**7.78 258**	*e*P	**Pn**	**18 52 47.9**	**-1.7**
ASAJ	**Asahikawa**	**20.42 27**	P	**P**	**18 55 33.2**	**+0.1**
6.2nm,1.0s,baz=208,slow=15,SNR=2.7						
SONM	**Songino Array**	**28.08 325**	P	**P**	**18 56 48.2**	**+1.4**
0.3nm,0.6s,mb3.1,baz=135,slow=9.5,SNR=3.5						
WRAB	**Tennant Creek**	**46.38 174**	*e*P	**P**	**18 59 21.9**	**+0.3**
WRA	**Warramunga Arr**	**46.39 174**	P	**P**	**18 59 22.2**	**+0.5**
1.1nm,0.4s,mb4.2,baz=353,slow=8.3,SNR=33						
BVAR	**Borovoye Array**	**50.98 318**	P	**P**	**18 59 57.5**	**+0.8**
0.8nm,0.6s,mb3.8,baz=80,slow=6.4,SNR=3.7						
FINES	**FINESS Array B**	**73.29 331**	P	**P**	**19 02 26.8**	**+0.7**
1.3nm,0.7s,mb4.0,baz=72,slow=6.0,SNR=7.4						
FINES	**FINESS Array B**	**73.29 331**	P	**P**	**19 02 26.8**	**+0.7**
AKASG	**Malin Array Be**	**76.20 320**	P	**P**	**19 02 43.4**	**+0.4**
1.2nm,0.7s,mb3.9,baz=51,slow=6.1,SNR=7.3						
AKASG	**Malin Array Be**	**76.20 320**	P	**P**	**19 02 43.4**	**+0.4**
BRTR	**Keskin Array B**	**77.93 308**	P	**P**	**19 02 54.0**	**+1.1**
1.2nm,0.8s,mb3.9,baz=90,slow=6.2,SNR=6.5						

IDC ***28*** *18:51:17.5±0.6,26.55N×129.74E,mb4.5/20,mb1 4.7/21, mb1mx4.6/24,mbtmp4.5/21,ML3.9/1,MS3.5/2,Ms1 3.5/2, ms1mx3.2/16,Error ellipse: s-maj=19.5km s-min=14.9km az=66.0*

BJI ***28*** *18:51:17.5,26.50N×129.59E,h6km,mB4.7,mb4.6,Ms4.4, Msz4.2*

HRVD ***28*** *18:51:19.2±0.8,26.50N×129.91E,h12km±2km,MW4.7/39, Centroid moment Tensor Solution. LP body waves: s2,c2; Mantle waves: s39,c62; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.09±.20; $M_{\theta\theta}$0.69±.12; $M_{\phi\phi}$0.40±.10; $M_{r\theta}$-0.12±.33; $M_{\theta\phi}$0.52±.05; $M_{\phi r}$-0.53±.34; Best double couple: $M_0$1.213×10^{16} NP1:ϕ_s247°,δ36°,λ-65°. NP2: ϕ_s37°,δ57°,λ-107°. Principal axes: T 1.166, Plg11°, Azm139°; N .097, Plg14°, Azm47°; P -1.26, Plg72°, Azm265°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

JMA ***28*** *18:51:19.8±0.1,26.46N×129.76E,h45km,M4.8*

NEIC ***28*** *18:51:19.2±2.2,26.49N×129.62E,h7km±13km,mb4.9/34, Error ellipse: s-maj=6.4km s-min=5.3km az=121.0*

MOS ***28*** *18:51:21.7±1.1,26.58N×129.72E,h33km,mb5.1/21, MS4.5/9,Error ellipse: s-maj=11.4km s-min=6.0km az=116.9*

ISC 28 18:51:18.2±0.9,26.50N±0.03×129.64E±0.02,h11km±6km, n181,σ1§10/208,mb4.8/65,MS4.4/15,16C-12D,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**1.27**	**285**	Pn	**Pn**	**18 51 42.9**	**+1.0**
483nm,0.3s,baz=126,slow=15,SNR=16							
JOW				Sn	**Sn**	**18 51 58.8**	**-0.1**
556nm,0.3s,baz=294,slow=30,SNR=23							
JOW	**Kunigami**	**1.27**	**285**	P	**Pb**	**18 51 43.1**	**+1.5**
JOW				S	**Sb**	**18 51 58.9**	**+1.1**
JTK	**Tokunoshima**	**1.42**	**334**	P	**Pn**	**18 51 45.2**	**+1.1**
JTK				S	**Sb**	**18 52 03.0**	**+0.8**
JMZ	**Minamidaito 2**	**1.57**	**115**	P	**Pn**	**18 51 44.3**	**-1.9**
JMZ				S	**Sb**	**18 52 01.9**	**-4.7**
JIH	**Iheya**	**1.59**	**290**	P	**Pn**	**18 51 48.0**	**+1.5**
JIH				S	**Sn**	**18 52 07.3**	**+0.2**
JJT2	**Tamagusuku 2**	**1.74**	**258**	P	**Pn**	**18 51 50.0**	**+1.4**
JJT2				S	**Sn**	**18 52 11.3**	**+0.5**
NAH1	**Naha**	**1.78**	**261**	P	**Pn**	**18 51 50.4**	**+1.3**
NAH1				S	**Sn**	**18 52 12.2**	**+0.4**
JZK	**Kikaishima**	**1.83**	**9**	S	**Sn**	**18 52 11.9**	**-1.4**
JAM	**Amami Oshima**	**1.91**	**359**	P	**Pn**	**18 51 51.2**	**+0.2**
JAM				S	**Sn**	**18 52 11.9**	**-3.2**
JAGN	**Aguni-jima**	**2.15**	**273**	P	**Pn**	**18 51 55.8**	**+1.3**
JAGN				S	**Sn**	**18 52 20.7**	**-0.7**
JKE	**Kume jima 2**	**2.57**	**267**	P	**Pn**	**18 52 00.5**	**0.0**
JKE				S	**Sn**	**18 52 30.1**	**-1.8**
JNN	**Nakanoshima**	**3.34**	**3**	P	**Pn**	**18 52 10.4**	**-1.0**
JNN				S	**Sn**	**18 52 46.1**	**-5.3**
JKC	**Kuchinoerabu**	**3.98**	**7**	P	**Pn**	**18 52 20.4**	**-0.1**
JKC				S	**Sn**	**18 53 00.2**	**-7.5**
JOGS	**Gusukube**	**4.20**	**247**	P	**Pn**	**18 52 23.5**	**-0.1**
JOGS				*e*S	**Sn**	**18 53 12.0**	**-1.2**
JMJ	**Miyako jima 2**	**4.27**	**248**	P	**Pn**	**18 52 24.3**	**-0.3**
JTN	**Tanegashima 3**	**4.30**	**16**	P	**Pn**	**18 52 24.4**	**-0.7**
JTN				S	**Sn**	**18 53 10.1**	**-5.8**
JTJ	**Tarama**	**4.83**	**249**	P	**Pn**	**18 52 31.1**	**-1.5**
JKRS	**Kuro-shima**	**5.57**	**247**	P	**Pn**	**18 52 44.6**	**+1.5**
IRIF	**Iriomote-Funau**	**5.76**	**249**	P	**Pn**	**18 52 44.0**	**-1.8**
YOJ	**Yonaguni jima**	**6.33**	**253**	P	**Pn**	**18 52 51.2**	**-2.5**
JNU	**Nakatsue**	**6.69**	**9**	Pn	**Pn**	**18 52 57.0**	**-1.8**
2.4nm,0.3s,baz=155,slow=6.2,SNR=4.4							
JNU				LR	LR	18 55 44.4	
comp=Z,501nm,19.8s,baz=197,slow=40							
TATO	**Taipei**	**7.51**	**260**	*e*P	**Pn**	**18 53 08.7**	**-1.6**
NACB	**Ninganchiao**	**7.64**	**254**	*e*P	**Pn**	**18 53 07.8**	**-4.3**
YHNB	**Yeheng**	**7.68**	**258**	*e*P	**Pn**	**18 53 11.5**	**-1.3**
SSE	**Sheshan**	**8.72**	**304**	P	**P**	**18 53 26.3**	**-0.8**
SSE				S	**Sn**	**18 55 06.8**	**+0.4**
SSE				AMB	AMB		
comp=Z,22nm,0.8s							
SSE				AMB	AMB		
comp=Z,70nm,7.7s							
SSE				LR	LR		
comp=N,875nm,11.6s							
SSE				LR	LR		
comp=E,639nm,11.6s							
SSE				LR	LR		
comp=Z,1μm,11.8s							
SSE	**Sheshan**	**8.72**	**304**	P	**P**	**18 53 26.2**	**-0.9**
comp=Z,22nm,0.8s							
SSE				S	**Sn**	**18 55 06.7**	**+0.3**
QZH	**Quanzhou**	**10.08**	**264**	*e*P	**P**	**18 53 46.5**	**+0.4**
QZH				*e*S	**S**	**18 55 38.3**	**-2.0**
QZH				LG1		18 56 19.5	
QZH				LR	LR		
comp=N,2μm,16.5s							
QZH				LR	LR		
comp=E,1μm,10.6s							
QZH				LR	LR		
comp=Z,1μm,10.8s							
NJ2	**Nanjing**	**10.92**	**303**	*e*P	**P**	**18 53 57.5**	**0.0**
NJ2				AP		18 54 04.5	
NJ2				PP	PP	18 54 06.5	+0.7
NJ2				XP		18 54 09.8	
NJ2				S	**S**	**18 56 03.0**	**+2.3**
NJ2				AMB	AMB		
comp=Z,10.0nm,0.6s							
NJ2				AMB	AMB		
comp=Z,120nm,7.5s							
NJ2				LR	LR		
comp=N,3μm,14.7s							
NJ2				LR	LR		
comp=E,2μm,17.1s							
NJ2				LR	LR		
comp=Z,810nm,18.0s							
JHJ	**Hachijo jima 2**	**11.00**	**51**	LR	LR	18 56 56.6	
comp=Z,238nm,21.0s,baz=272,slow=31							

KS15	**Wonju Array Si**	**11.01**	**353**	*e*P	**P**	**18 53 58.9**	**+0.1**
MAJO	**Matsushiro**	**12.39**	**34**	*e*P	**P**	**18 54 18.2**	**+0.9**
comp=Z,9.6nm,1.2s							
MAJO	**Matsushiro**	**12.39**	**34**	*e*P	**P**	**18 54 18.3**	**+0.9**
MAJO				pmax	pmax		
comp=Z,10.0nm,1.2s							
MAT	**Matsushiro**	**12.39**	**34**	P	**P**	**18 54 17.1**	**-0.3**
SNY	**Shenyang**	**16.08**	**343**	⇑P	**P**	**18 55 07.0**	**+1.1**
SNY				PP	PP	18 55 21.0	+2.0
SNY				AMB	AMB		
comp=Z,30nm,0.9s							
SNY				LR	LR		
comp=N,910nm,11.5s							
SNY				LR	LR		
comp=E,580nm,11.3s							
SNY				LR	LR		
comp=Z,970nm,11.4s							
CN2	**Changchun**	**17.59**	**350**	*e*P	**P**	**18 55 24.5**	**-0.4**
CN2				AMB	AMB		
comp=Z,10.0nm,0.7s							
MDJ	**Mudanjiang**	**18.08**	**360**	P	**P**	**18 55 31.8**	**+0.9**
MDJ				AP		18 55 37.8	
MDJ				XP		18 55 40.5	
MDJ				S	**S**	**18 58 53.5**	**+3.7**
MDJ				PCP	PcP	19 00 04.8	-1.2
MDJ				SCP		19 03 38.5	
MDJ				PCS		19 03 40.8	
MDJ				SCS	ScS	19 07 19.8	+0.6
MDJ				AMB	AMB		
comp=Z,7.0nm,1.0s							
MDJ				AMB	AMB		
comp=Z,48nm,6.7s							
ENH	**Enshi**	**18.13**	**287**	*e*P	**P**	**18 55 31.4**	**-0.2**
comp=Z,33nm,1.0s							
TIY	**Taiyuan**	**18.34**	**312**	*e*P	**P**	**18 55 33.0**	**-1.3**
TIY				LR	LR		
comp=N,898nm,12.0s							
XAN	**Xi'an**	**19.39**	**298**	P	**P**	**18 55 45.3**	**-1.6**
XAN				AMB	AMB		
comp=Z,80nm,1.2s							
XAN				AMB	AMB		
comp=Z,146nm,10.0s							
XAN				LR	LR		
comp=N,335nm,16.4s							
XAN				LR	LR		
comp=E,477nm,18.8s							
XAN				LR	LR		
comp=Z,735nm,19.7s							
QIZ	**Qiongzhong**	**19.70**	**252**	*e*P	**P**	**18 55 49.0**	**-1.5**
QIZ				LR	LR		
comp=N,317nm,19.1s							
QIZ				LR	LR		
comp=Z,377nm,18.4s							
ASAJ	**Asahikawa**	**20.47**	**28**	P	**P**	**18 55 59.0**	**+0.5**
comp=Z,7.1nm,0.7s,baz=59,slow=33,SNR=9.0							
GYA	**Guiyang**	**20.57**	**275**	⇓*i*P	**P**	**18 55 59.5**	**-0.1**
GYA				AP		18 56 06.8	
GYA				XP		18 56 09.5	
GYA				PP	PP	18 56 23.0	+2.1
GYA				S	**S**	**18 59 53.0**	**+8.6**
GYA				AMB	AMB		
comp=Z,10.0nm,0.8s							
GYA				AMB	AMB		
comp=Z,230nm,5.4s							
GYA				LR	LR		
comp=N,1μm,11.9s,MS4.6							
GYA				LR	LR		
comp=E,830nm,12.0s,MS4.6							
GYA				LR	LR		
comp=Z,2μm,11.6s,MS4.6							
BTO	**Baotou**	**21.50**	**316**	*e*P	**P**	**18 56 06.8**	**-2.3**
BTO				LR	LR		
comp=N,646nm,14.9s,MS4.3							
BTO				LR	LR		
comp=E,658nm,14.5s,MS4.3							
YSS	**Yuzh-Sakhalins**	**22.90**	**24**	⇑*i*P	**P**	**18 56 22.3**	**-0.6**
YSS				*e*		18 56 38.7	
YSS				pmax	pmax		
comp=N,30nm,1.0s							
YSS				pmax	pmax		
comp=Z,30nm,1.0s,mb4.7							
CD2	**Chengdu**	**23.10**	**287**	P	**P**	**18 56 24.0**	**-1.1**
CD2				PP	PP	18 56 56.0	+0.6
CD2				S	**S**	**19 00 30.8**	**-0.9**
CD2				SS	SS	19 01 17.8	+1.0
CD2				AMB	AMB		
comp=Z,10.0nm,0.7s,mb4.3							
CD2				AMB	AMB		
comp=Z,80nm,8.4s							
CD2				LR	LR		
comp=E,430nm,12.0s							
CD2				LR	LR		
comp=Z,410nm,8.4s							
LZH	**Lanzhou**	**23.97**	**300**	*e*P	**P**	**18 56 34.0**	**+0.6**
LZH				AP		18 56 40.0	
LZH				XP		18 56 42.5	
LZH				PP	PP	18 57 08.0	+0.5
LZH				AMB	AMB		
comp=Z,42nm,1.2s,mb4.7							
LZH				AMB	AMB		
comp=Z,160nm,4.0s							
LZH				LR	LR		
comp=N,1μm,13.8s							
LZH				LR	LR		
comp=Z,1μm,14.5s,MS4.6							
LZH	**Lanzhou**	**23.97**	**300**	*e*P	**P**	**18 56 34.0**	**+0.6**
comp=Z,42nm,1.2s,mb4.7							
LZH				pP		18 56 40.0	
LZH				sP		18 56 42.5	
LZH				PP	PP	18 57 08.0	+0.5
LZH				*e*S	**S**	**19 00 37.0**	**-10**
LZH				sS		19 00 54.0	
LZH				LR	LR		
comp=Z,1μm,14.5s,MS4.6							
LZH	**Lanzhou**	**23.97**	**300**	*e*P	**P**	**18 56 34.0**	**+0.6**
LZH				*SP		18 56 42.5	
LZH						18 57 08.0	
LZH				*e*S	**S**	**19 00 37.0**	**-10**
LZH				*SS		19 00 54.0	
LZH				pmax	pmax		
comp=Z,42nm,1.2s,mb4.7							
LZH				MLR	MLR		
comp=Z,1μm,14.5s,MS4.6							
HIA	**Hailar**	**23.99**	**344**	*e*P	**P**	**18 56 34.6**	**+1.1**
KKM	**Kota Kinabalu**	**24.04**	**215**	P	**P**	**18 56 35.9**	**+1.6**
KMI	**Kunming**	**24.24**	**273**	P	**P**	**18 56 38.5**	**+2.3**
KMI				AP		18 56 45.3	
KMI				XP		18 56 48.0	
KMI				PCP	PcP	19 00 15.3	-2.7
KMI				S	**S**	**19 00 57.5**	**+5.9**
KMI				SCP		19 03 51.3	
KMI				PCS		19 03 54.0	
KMI				AMB	AMB		
comp=Z,23nm,1.1s,mb4.5							
KMI				AMB	AMB		
comp=Z,171nm,3.9s							
KMI				LR	LR		
comp=N,300nm,14.9s,MS4.5							
KMI				LR	LR		
comp=E,1μm,12.1s,MS4.5							
KMI				LR	LR		
comp=Z,1μm,12.1s,MS4.5							
KMI	**Kunming**	**24.24**	**273**	P	**P**	**18 56 38.4**	**+2.2**
comp=Z,23nm,1.1s,mb4.5							
KMI				pP		18 56 45.2	
KMI				sP		18 56 48.0	
KMI				PP	PP	18 57 15.8	+4.6
KMI				PPP	PPP	18 57 26.7	+5.3
KMI				PcP	PcP	19 00 15.3	-2.7
KMI				S	**S**	**19 00 57.6**	**+6.0**
KMI				sS		19 01 08.9	
KMI				SS	SS	19 01 55.3	+11
KMI				SSS	SSS	19 02 11.8	+11
KMI				ScP		19 03 51.2	
KMI				PcS		19 03 54.0	
KMI				LR	LR		
comp=Z,1μm,12.1s,MS4.5							
KMI	**Kunming**	**24.24**	**273**	P	**P**	**18 56 38.4**	**+2.2**
KMI				*SP		18 56 48.0	
KMI						18 57 15.8	
KMI				PPP	PPP	18 57 26.7	+5.3
KMI						19 00 15.3	
KMI				S	**S**	**19 00 57.6**	**+6.0**
KMI				*SS		19 01 08.9	
KMI				SS	SS	19 01 55.3	+11
KMI				pmax	pmax		
comp=Z,23nm,1.1s,mb4.5							
KMI				MLR	MLR		
comp=Z,1μm,12.1s,MS4.5							
KKTK	**Khon Kaen**	**26.89**	**253**	P	**P**	**18 57 02.0**	**+0.9**
ULN	**Ulaanbaatar**	**27.72**	**326**	*e*P	**P**	**18 57 09.3**	**+0.8**
comp=Z,4.9nm,1.0s,mb4.1							
ULN				*e*		18 57 19.4	
ULN	**Ulaanbaatar**	**27.72**	**326**	*e*P	**P**	**18 57 09.3**	**+0.9**
ULN				*e*		18 57 19.4	
ULN				pmax	pmax		
comp=Z,5.0nm,1.0s,mb4.1							
NANT	**Nan**	**27.74**	**260**	P	**P**	**18 57 07.0**	**-1.9**
GTA	**Gaotai**	**28.01**	**305**	P	**P**	**18 57 09.8**	**-1.3**
GTA				PP	PP	18 57 59.5	-1.5
GTA				PPP	PPP	18 58 11.8	-1.2
GTA				PCP	PcP	19 00 26.3	-0.1
GTA				S	**S**	**19 01 52.0**	**-1.6**
GTA				SS	SS	19 03 13.0	-2.4
GTA				SCP		19 04 01.8	
GTA				PCS		19 04 06.5	
GTA				AMB	AMB		
comp=Z,25nm,0.7s,mb5.0							
GTA				AMB	AMB		
comp=Z,116nm,10.7s							
GTA				LR	LR		
comp=N,589nm,16.0s,MS4.4							
GTA				LR	LR		
comp=E,595nm,16.0s,MS4.4							
GTA				LR	LR		
comp=Z,762nm,11.8s,MS4.5							
SONM	**Songino Array**	**28.03**	**326**	P	**P**	**18 57 11.4**	**+0.2**
comp=Z,3.4nm,0.8s,mb4.0,baz=136,slow=10,SNR=17							
SONM				PcP	PcP	19 00 25.4	-0.9
comp=Z,0.4nm,0.8s,baz=82,slow=0.8,SNR=3.5							
CHRT	**Chiangrai**	**28.19**	**263**	⇑P	**P**	**18 57 14.0**	**+1.1**
CHG	**Chiang Mai**	**29.29**	**261**	⇓P	**P**	**18 57 23.5**	**+0.6**
comp=Z,14nm,0.9s,mb4.7							
KSM	**Kuching**	**31.06**	**220**	*e*P	**P**	**18 57 39.2**	**+0.6**
ZAK	**Zakamensk**	**31.24**	**327**	*e*P	**P**	**18 57 39.7**	**-0.2**
ZAK				pmax	pmax		
comp=Z,1.0nm,1.0s,mb3.6							
BOD	**Bodaibo**	**33.20**	**345**	*e*P	**P**	**18 57 54.9**	**-2.0**
LSA	**Lhasa**	**34.00**	**284**	P	**P**	**18 58 05.0**	**+0.8**
LSA	**Lhasa**	**34.00**	**284**	*e*P	**P**	**18 58 04.3**	**+0.2**
PET	**Petropavlovsk**	**34.20**	**31**	*i* P	**P**	**18 58 03.5**	**-2.1**
PET				pmax	pmax		
comp=Z,13nm,1.0s,mb4.8							
PET				MLR	MLR		
comp=Z,200nm,24.0s,MS3.8							
YAK	**Yakutsk**	**35.52**	**0**	*e*P	**P**	**18 58 14.3**	**-2.5**
comp=Z,24nm,0.8s,mb5.2							
YAK	**Yakutsk**	**35.52**	**0**	*c i*P	**P**	**18 58 14.7**	**-2.2**
YAK				pmax	pmax		
comp=Z,34nm,1.0s,mb5.2							
YAK				MLR	MLR		
comp=Z,200nm,20.0s,MS3.9							
WMQ	**Urumqi**	**37.94**	**308**	*e*P	**P**	**18 58 37.0**	**-0.4**
WMQ				XP	sP	18 58 46.0	+3.9
WMQ				PP	PP	19 00 07.0	-0.1
WMQ				S	**S**	**19 04 27.0**	**-1.6**
WMQ				SS	SS	19 07 04.0	-0.8
WMQ				AMB	AMB		
comp=Z,16nm,1.0s,mb4.7							
WMQ				AMB	AMB		
comp=Z,214nm,5.0s							
WMQ				LR	LR		
comp=N,258nm,14.0s,MS4.3							
WMQ				LR	LR		
comp=E,254nm,14.0s,MS4.3							
WMQ				LR	LR		
comp=Z,325nm,16.0s,MS4.2							
PKI	**Pulchoki**	**39.26**	**282**	*e*P	**P**	**18 58 49.2**	**+0.6**
comp=Z,27nm,0.8s,mb5.0							
PKI	**Pulchoki**	**39.26**	**282**	*e*P	**P**	**18 58 49.2**	**+0.6**
PKI				pmax	pmax		
comp=Z,14nm,0.8s,mb4.7							
KKN	**Kakani**	**39.34**	**282**	*e*P	**P**	**18 58 49.8**	**+0.5**
comp=Z,46nm,1.0s,mb5.2							
KKN	**Kakani**	**39.34**	**282**	*e*P	**P**	**18 58 49.8**	**+0.5**
KKN				pmax	pmax		
comp=Z,23nm,1.0s,mb4.9							
SEY	**Seymchan**	**39.40**	**16**	⇑*e*P	**P**	**18 58 49.0**	**-0.4**
DMN	**Daman**	**39.52**	**282**	*e*P	**P**	**18 58 50.9**	**+0.2**
comp=Z,24nm,0.8s,mb5.0							
GKN	**Gorkha**	**39.87**	**283**	*e*P	**P**	**18 58 54.1**	**+0.5**
comp=Z,52nm,0.8s,mb5.3							
KOLN	**Koldanda**	**40.81**	**283**	*e*P	**P**	**18 58 59.5**	**-1.9**
comp=Z,31nm,0.8s,mb5.0							
MKAR	**Makanchi Array**	**42.30**	**311**	P	**P**	**18 59 12.3**	**-1.1**
comp=Z,3.4nm,0.6s,mb4.1,baz=100,slow=10,SNR=19							
MKAR				PcP	PcP	19 01 06.8	-1.0
comp=Z,2.7nm,0.9s,baz=104,slow=5.0,SNR=5.4							
ZAL	**Zalesovo**	**42.81**	**322**	P	**P**	**18 59 16.2**	**-1.3**
comp=Z,2.6nm,0.7s,mb4.1,baz=18,slow=8.1,SNR=15							
ZAL				PcP	PcP	19 01 07.1	-2.2
comp=Z,2.8nm,1.0s,baz=357,slow=3.5,SNR=5.8							
ZAL	**Zalesovo**	**42.81**	**322**	P	**P**	**18 59 16.2**	**-1.3**
ZAL				PcP	PcP	19 01 07.1	-2.2
NVS	**Novosibirsk**	**43.99**	**323**	*e*P	**P**	**18 59 26.4**	**-0.6**
FITZ	**Fitzroy Crossi**	**44.50**	**185**	*e*P	**P**	**18 59 32.1**	**+0.4**
comp=Z,14nm,1.0s,mb4.8							
FITZ	**Fitzroy Crossi**	**44.50**	**185**	P	**P**	**18 59 31.0**	**-0.7**
comp=Z,16nm,0.9s,mb4.9,baz=20,slow=8.9,SNR=8.9							
KURK	**Kurchatov**	**45.50**	**316**	*e*P	**P**	**18 59 37.5**	**-1.7**
comp=Z,5.5nm,0.8s,mb4.4							
KURK	**Kurchatov**	**45.50**	**316**	*e*P	**P**	**18 59 37.5**	**-1.7**
KURK				pmax	pmax		
comp=Z,5.0nm,0.8s,mb4.4							
WRAB	**Tennant Creek**	**46.38**	**174**	*e*P	**P**	**18 59 46.0**	**-0.6**
WRAB	**Tennant Creek**	**46.38**	**174**	⇑*e*P	**P**	**18 59 47.1**	**+0.5**
WRA	**Warramunga Arr**	**46.39**	**174**	P	**P**	**18 59 46.0**	**-0.7**
comp=Z,8.2nm,0.7s,mb4.8,baz=349,slow=8.4,SNR=23							
BILL	**Bilibino**	**47.02**	**18**	⇑*e*P	**P**	**18 59 50.5**	**-0.5**
BILL				pmax	pmax		
comp=Z,13nm,0.8s,mb4.9							
MBWA	**Marble Bar**	**48.34**	**192**	*e*P	**P**	**19 00 00.3**	**-1.6**
comp=Z,5.6nm,0.8s,mb4.7							
CTAO	**Charters Tower**	**49.03**	**159**	*e*P	**P**	**19 00 07.2**	**-0.2**
ASPA	**Alice Springs**	**50.04**	**175**	*e*P	**P**	**19 00 16.0**	**+1.0**
BVAR	**Borovoye Array**	**50.92**	**318**	P	**P**	**19 00 20.4**	**-0.9**
comp=Z,6.0nm,0.7s,mb4.7,baz=82,slow=8.8,SNR=24							
BVAR				PcP	PcP	19 01 37.0	-0.9
comp=Z,5.5nm,0.8s,baz=108,slow=4.7,SNR=7.0							
BRVK	**Borovoye**	**50.99**	**318**	*e*P	**P**	**19 00 21.1**	**-0.7**
comp=Z,16nm,1.2s,mb4.8							
BRVK	**Borovoye**	**50.99**	**318**	*e*P	**P**	**19 00 21.1**	**-0.7**
BRVK				pmax	pmax		
comp=Z,16nm,1.2s,mb4.8							
POO	**Poona**	**51.82**	**273**	*e*P	**P**	**19 00 28.0**	**-0.6**
SVE	**Sverdlovsk**	**56.82**	**322**	*e*P	**P**	**19 01 04.0**	**-0.8**
SVE				*e*SSS		19 09 15.0	
SVE				pmax	pmax		
comp=

comp=Z,2.3nm,0.8s,mb4.2,baz=311,slow=12,SNR=3.1
GOF Gofitskoye 69.47 311 ⇓iP P 19 02 29.3 +0.7
GOF pmax pmax
comp=Z,21nm,1.3s,mb4.9
ZEI Tsey 69.56 308 *eP* **P 19 02 27.6 -1.5**
MOS Moscow 69.63 323 *eP* **P 19 02 26.4 -2.9**
MOS pmax pmax
comp=Z,45nm,0.7s,mb5.5
GNI Garni 69.75 306 P **P 19 02 30.3 -0.1**
comp=Z,2.3nm,0.4s,mb4.4,baz=76,slow=4.2,SNR=4.9
GNI Garni 69.75 306 P **P 19 02 30.9 +0.6**
comp=Z,47nm,1.6s,mb5.2
GNI Garni 69.75 306⇑ *eP* **P 19 02 31.8 +1.5**
GNI pmax pmax
comp=Z,33nm,1.6s
GNI MLR MLR
comp=Z,100nm,20.0s
KIV Kislovodsk 70.04 310 *eP* **P 19 02 32.8 +0.8**
comp=Z,27nm,1.0s,mb5.1
KIV Kislovodsk 70.04 310 *d iP* **P 19 02 32.5 +0.5**
KIV pmax pmax
comp=Z,38nm,1.2s,mb5.2
KIV MLR MLR
comp=Z,100nm,21.0s,MS4.0
VRSR Storozhevoye 70.09 318 *eP* **P 19 02 31.9 -0.3**
VRSR pmax pmax
comp=Z,30nm,1.6s,mb5.0
VRSR pmax pmax
comp=N,10.0nm,0.8s
VRSR pmax pmax
comp=E,10.0nm,1.0s
ARCES ARCESS Array B 70.22 339 P **P 19 02 30.9 -1.8**
comp=E,4.5nm,0.9s,mb4.4,baz=22,slow=6.5,SNR=6.3
OBN Obninsk 70.39 322 *deP* **P 19 02 32.9 -1.0**
OBN *e* 19 05 13.3
OBN *eS* S 19 11 34.3 -11
OBN pmax pmax
comp=Z,21nm,1.4s,mb4.9
OBN MLR MLR
comp=Z,500nm,20.0s,MS4.8
PUL Pulkovo 71.98 328 *eP* **P 19 02 43.8 +0.3**
PUL pmax pmax
comp=Z,67nm,0.9s,mb5.6
PUL pmax pmax
comp=E,132nm,0.8s
PUL MLR MLR
comp=Z,343nm,13.0s,MS4.8
FINES FINESS Array B 73.25 331 P **P 19 02 50.5 -0.3**
comp=Z,7.9nm,0.8s,mb4.7,baz=63,slow=6.1,SNR=28
MALT Malatya 74.99 305 *eP* **P 19 03 01.8 +0.4**
comp=Z,5.7nm,0.7s,mb4.6
MALT Malatya 74.99 305 *eP* **P 19 03 01.8 +0.4**
MALT pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
AKASG Malin Array Be 76.15 320 P **P 19 03 07.2 -0.6**
comp=Z,12nm,0.8s,mb4.8,baz=54,slow=6.4,SNR=33
YKA Yellowknife Ar 77.75 25 P **P 19 03 15.5 -0.9**
comp=Z,2.5nm,0.9s,mb4.2,baz=304,slow=6.2,SNR=4.6
YKA Yellowknife Ar 77.75 25 P **P 19 03 15.5 -0.9**
BR131 Keskin Array S 77.86 308 *eP* **P 19 03 17.8 +0.3**
comp=Z,9.0nm,0.9s,mb4.7
BRTR Keskin Array B 77.86 308 P **P 19 03 18.1 +0.6**
comp=Z,7.9nm,0.9s,mb4.7,baz=104,slow=5.1,SNR=33
SUW Suwalki 77.97 325 *eP* **P 19 03 17.9 +0.1**
comp=Z,59nm,1.0s,mb5.5
SUW Suwalki 77.97 325 *eP* **P 19 03 17.9 +0.1**
SUW pmax pmax
comp=Z,59nm,1.0s,mb5.5
ASF Jabal al Asfar 78.53 300 P **P 19 03 22.3 +1.0**
comp=Z,10nm,0.9s,mb4.7,baz=306,slow=2.0,SNR=10
CFR Carcaliu 79.20 315 ⇓P **P 19 03 23.5 -1.2**
CFR Carcaliu 79.20 315 ⇓P **P 19 03 23.5 -1.3**
NB2 NORSAR Subarra 79.63 334 P **P 19 03 25.9 -0.8**
comp=Z,16nm,1.0s,mb4.9,baz=51,slow=5.6
NB2 NORSAR Subarra 79.63 334 P **P 19 03 25.9 -0.8**
baz=51,slow=5.6
NB2 NORSAR Subarra 79.63 334 P **P 19 03 25.9 -0.8**
NB2 pmax pmax
comp=Z,16nm,1.0s,mb4.9
NOA NORSAR Array B 79.63 334 P **P 19 03 26.2 -0.4**
comp=Z,9.2nm,0.8s,mb4.7,baz=50,slow=5.4,SNR=16
VRI Vrincioaia 79.77 316 ⇓P **P 19 03 29.0 +1.2**
BURAR Bucovina Array 79.88 318 ⇑P **P 19 03 29.2 +0.9**
BURAR Bucovina Array 79.88 318 ⇑P **P 19 03 29.2 +0.9**
KWP Kalwaria 80.36 321 *eP* **P 19 03 31.5 +0.6**
comp=Z,42nm,1.1s,mb5.3
KWP Kalwaria 80.36 321 *eP* **P 19 03 31.5 +0.7**
KWP pmax pmax
comp=Z,42nm,1.1s,mb5.3
MLR Muntele Rosu 80.44 316 ⇓P **P 19 03 32.8 +1.5**
MLR Muntele Rosu 80.44 316 ⇓P **P 19 03 32.8 +1.5**
SUMG Summit 80.85 356 *eP* **P 19 03 32.6 -0.4**
comp=Z,24nm,0.9s,mb5.1
STHS Stebnicka Huta 81.29 321 *eP* **P 19 03 36.7 +0.9**
CRVS Cervenica-Dubn 81.43 321 *eP* **P 19 03 37.7 +1.2**
OJC Ojcow 81.68 322 *eP* **P 19 03 38.4 +0.6**
NIE Niedzica 81.81 321 *eP* **P 19 03 40.0 +1.5**
KECS Kecovo 82.20 321 *eP* **P 19 03 42.5 +2.0**
KECS *e* 19 04 13.8
OKC Ostrava-Krasne 82.78 323 *eP* **P 19 03 44.4 +0.9**
VYHS Vyhne 83.13 321 *eP* **P 19 03 46.0 +0.7**
KSP Ksiaz 83.22 324 *eP* **P 19 03 46.4 +0.7**
DPC Dobruska-Polom 83.48 324 *eP* **P 19 03 48.1 +1.0**
UPC Upice 83.56 324 *eP* **P 19 03 48.3 +0.9**
UPC *ex* x 19 04 03.8
ZST Bratislava 84.26 322 *eP* **P 19 03 52.2 +1.2**
PVCC Panska Ves 84.30 324 *eP* **P 19 03 52.3 +1.1**
BSEG Bad Segeberg 84.35 329 *eP* **P 19 03 52.3 +0.9**
BRG Berggiesshubel 84.43 325 *eP* **P 19 03 52.9 +1.1**
comp=Z,18nm,1.4s,mb5.0
BRG LR LR
comp=Z,310nm,15.5s,MS4.8
BRG Berggiesshubel 84.43 325 *eP* **P 19 03 52.9 +1.1**
BRG pmax pmax
comp=Z,18nm,1.4s,mb5.0
BRG MLR MLR
comp=Z,310nm,15.5s,MS4.8
PRU Pruhonice 84.63 324 *eP* **P 19 03 54.0 +1.2**
PRU *ex* x 19 04 21.2
CLL Collm 84.65 326 ⇑P **P 19 03 53.9 +1.0**
comp=Z,logA/T=1.2,mb5.1
CLL *e* 19 04 23.0
CLL Collm 84.65 326⇑ *iP* **P 19 03 53.9 +1.0**
comp=Z,17nm,1.0s,mb5.1
CLL *e* 19 04 23.0
CLL Collm 84.65 326⇑ *iP* **P 19 03 53.9 +1.0**
CLL pmax pmax
comp=Z,17nm,1.0s,mb5.1
NKC Novy Kostel 85.58 325 *eP* **P 19 03 59.0 +1.5**
KHC Kasperske Hory 85.64 324 *eP* **P 19 03 58.6 +0.7**
KHC *ex* x 19 04 30.4
ARSA Arzberg 85.68 321⇑ *iP* **P 19 03 59.4 +1.3**
comp=Z,11nm,1.4s,mb4.9
GEC2 GERESS Array S 85.75 323 *eP* **P 19 03 59.3 +0.9**
comp=Z,10.0nm,1.2s,mb4.9
GEC2 GERESS Array S 85.75 323 *eP* **P 19 03 59.3 +0.9**
GEC2 pmax pmax
comp=Z,10.0nm,1.2s,mb4.9
GERES GERESS Array B 85.75 323 P **P 19 03 58.8 +0.3**
comp=Z,3.6nm,0.8s,mb4.7,baz=45,slow=3.8,SNR=30
MOA Molln 86.02 322⇑ *iP* **P 19 04 00.4 +0.5**
comp=Z,11nm,0.9s,mb5.1
BMO Blue Mountains 86.43 41 *eP* **P 19 04 02.6 +0.6**
comp=Z,4.6nm,1.0s,mb4.7
GRA1 Grafenberg Arr 86.53 325 *eP* **P 19 04 02.9 +0.6**
comp=Z,14nm,1.3s,mb5.0
GRF Grafenberg Arr 86.53 325 *eP* **P 19 04 02.9 +0.6**
GRF pmax pmax
comp=Z,14nm,1.3s,mb5.0
WVOR Wild Horse Val 86.97 44 *eP* **P 19 04 05.5 +0.8**
comp=Z,8.6nm,1.0s,mb4.9
BEKR Beckwourth 87.28 46 *eP* **P 19 04 06.6 +0.4**
comp=Z,5.7nm,0.8s,mb4.8
CMB Columbia Colle 88.25 48 *eP* **P 19 04 10.9 +0.1**
comp=Z,12nm,1.3s,mb5.0
DLMT Dillon 88.83 39 *eP* **P 19 04 14.3 +0.9**
BOZ Bozeman (W) 89.19 38 *eP* **P 19 04 15.8 +0.6**
comp=Z,4.6nm,1.3s,mb4.7
RRI2 Red Ridge 90.79 40 *eP* **P 19 04 23.8 +1.1**
comp=Z,2.7nm,0.8s,mb4.6
PDAR Pinedale Array 92.16 39 P **P 19 04 29.1 +0.1**
comp=Z,2.0nm,0.9s,mb4.4,slow=1.5,SNR=13
KMBO Kilima Mbogo 92.64 270 P **P 19 04 32.2 +0.4**
comp=Z,1.6nm,0.7s,mb4.5,baz=37,slow=14,SNR=5.8
MSU Marysvale 93.26 44 *eP* **P 19 04 36.0 +1.8**
NEN Nelson 93.26 47 *eP* **P 19 04 35.3 +1.1**

LPAZ La Paz 160.60 62 PKPab PKPab 19 12 00.9 -1.6
comp=Z,0.5nm,0.6s,baz=282,slow=3.4,SNR=4.4

*NIED **28** 19:00:00,26.50N×129.80E,h5km,Mw3.9 Best double couple: M0 7.56×10^14 NP1:φs51°,δ68°,λ-102°. NP2: φs260°,δ24°,λ-63°.*
*BJI **28** 19:00:39.2,26.69N×129.65E,h5km,mb4.1*
*NEIC **28** 19:00:41.1±5.4,26.50N×129.72E,h3km±34km, MG3.5(JMA),Error ellipse: s-maj=17.4km s-min=12.3km az=98.0*
*JMA **28** 19:00:42.5,26.51N×129.77E,h46km,M3.5*
*IDC **28** 19:00:45.5±6.5,26.47N×129.56E,h29km±46km,mb3.5/6, mb1 3.7/7,mb1mx3.5/20,mbtmp3.7/7,ML3.9/1,Error ellipse: s-maj=31.0km s-min=21.0km az=56.0*
ISC 28 19:00:41.6±1.6,26.53N±0.03×129.74E±0.03,h24km±14km, n29,σ1§04/43,mb3.7/7,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**1.35**	**283**	Pn	**Pn**	**19 01 05.8**	**+0.6**
	85nm,0.3s,baz=116,slow=16,SNR=175						
JOW				Sn	**Sn**	**19 01 20.4**	**-2.0**
	77nm,0.3s,baz=113,slow=18,SNR=9.9						
JOW	**Kunigami**	**1.35**	**283**	P	**Pn**	**19 01 05.8**	**+0.7**
JOW				S	**Sn**	**19 01 22.9**	**+0.5**
JTK	**Tokunoshima**	**1.43**	**331**	P	**Pn**	**19 01 07.1**	**+0.7**
JTK				S	**Sn**	**19 01 25.5**	**+0.9**
JMZ	**Minamidaito 2**	**1.51**	**118**	P	**Pn**	**19 01 07.3**	**-0.1**
JMZ				S	**Sn**	**19 01 24.9**	**-1.5**
JIH	**Iheya**	**1.67**	**288**	P	**Pn**	**19 01 10.5**	**+0.8**
JIH				S	**Sn**	**19 01 30.7**	**+0.3**
JZK	**Kikaishima**	**1.79**	**6**	P	**Pn**	**19 01 12.3**	**+0.9**
JZK				S	**Sn**	**19 01 35.0**	**+1.5**
JJT2	**Tamagusuku 2**	**1.83**	**258**	P	**Pn**	**19 01 12.6**	**+0.5**
JJT2				S	**Sn**	**19 01 34.6**	**-0.1**
NAH1	**Naha**	**1.87**	**260**	P	**Pn**	**19 01 13.5**	**+0.9**
NAH1				S	**Sn**	**19 01 35.2**	**-0.5**
JAM	**Amami Oshima**	**1.88**	**356**	P	**Pn**	**19 01 13.0**	**+0.3**
JAM				S	**Sn**	**19 01 34.5**	**-1.3**
JAGN	**Aguni-jima**	**2.24**	**272**	P	**Pn**	**19 01 18.6**	**+0.7**
JAGN				S	**Sn**	**19 01 44.7**	**-0.4**
JKE	**Kume jima 2**	**2.66**	**266**	P	**Pn**	**19 01 23.3**	**-0.6**
JKE				S	**Sn**	**19 01 54.1**	**-1.6**
JNN	**Nakanoshima**	**3.30**	**2**	P	**Pn**	**19 01 33.1**	**+0.1**
JNN				S	**Sn**	**19 02 09.7**	**-2.2**
JKC	**Kuchinoerabu**	**3.94**	**6**	P	**Pn**	**19 01 41.5**	**-0.5**
JKC				*eS*	**Sn**	**19 02 24.2**	**-3.8**
JTN	**Tanegashima 3**	**4.25**	**15**	P	**Pn**	**19 01 45.9**	**-0.6**
JTN				*eS*	**Sn**	**19 02 32.6**	**-3.3**
JOGS	**Gusukube**	**4.29**	**247**	P	**Pn**	**19 01 46.2**	**-0.9**
JTJ	**Tarama**	**4.93**	**249**	*eS*	**Sn**	**19 02 49.1**	**-4.0**
JNU	**Nakatsue**	**6.64**	**8**	Pn	**Pn**	**19 02 20.1**	**-0.2**
	2.2nm,0.3s,baz=351,slow=12,SNR=13						
YHNB	**Yeheng**	**7.78**	**258**	*eP*	**Pn**	**19 02 35.6**	**-0.6**
XAN	**Xi'an**	**19.45**	**298**	P	**P**	**19 05 07.5**	**-1.9**
XAN				AMB	AMB		
	comp=Z,8.0nm,1.1s						
SONM	**Songino Array**	**28.05**	**325**	P	**P**	**19 06 35.5**	**+2.5**
	comp=Z,0.2nm,0.5s,mb3.0,baz=134,slow=12,SNR=3.1						
GTA	**Gaotai**	**28.06**	**305**	P	**P**	**19 06 32.5**	**-0.7**
GTA				AP	pP	19 06 37.5	-2.8
GTA				XP	sP	19 06 40.5	-3.1
GTA				AMB	AMB		
	comp=Z,3.0nm,0.7s,mb4.0						
LSA	**Lhasa**	**34.08**	**284**	P	**P**	**19 07 26.5**	**+0.1**
MKAR	**Makanchi Array**	**42.35**	**311**	P	**P**	**19 08 36.8**	**+1.5**
	comp=Z,0.4nm,0.6s,mb3.2,baz=96,slow=10,SNR=4.8						
WRAB	**Tennant Creek**	**46.40**	**174**	*eP*	**P**	**19 09 08.8**	**+0.6**
WRAB				*e*		19 09 18.4	
WRA	**Warramunga Arr**	**46.41**	**174**	*eP*	**P**	**19 09 09.0**	**+0.7**
	comp=Z,1.0nm,0.4s,mb4.1,baz=353,slow=8.5,SNR=30						
BVAR	**Borovoye Array**	**50.95**	**318**	P	**P**	**19 09 43.9**	**+0.9**
	comp=Z,2.2nm,0.9s,mb4.1,baz=80,slow=8.8,SNR=4.1						
FINES	**FINESS Array B**	**73.27**	**331**	P	**P**	**19 12 13.3**	**+1.0**
	comp=Z,0.8nm,0.5s,mb3.9,baz=72,slow=6.0,SNR=11						
FINES	**FINESS Array B**	**73.27**	**331**	P	**P**	**19 12 13.3**	**+1.0**
AKASG	**Malin Array Be**	**76.18**	**320**	P	**P**	**19 12 29.8**	**+0.5**
	comp=Z,0.6nm,0.6s,mb3.7,baz=52,slow=7.2,SNR=5.2						

*IDC **28** 19:01:58.0±1.1,4.38N×96.25E,mb4.1/9,mb1 4.2/9, mb1mx4.0/18,mbtmp4.1/9,Error ellipse: s-maj=58.8km s-min=17.2km az=54.0*
*NEIC **28** 19:02:02.7±0.6,4.44N×96.33E,h30km,mb4.5/2,Error ellipse: s-maj=18.0km s-min=9.5km az=222.0*
ISC 28 19:02:01.3±4.1,4.45N±0.09×96.41E±0.09,h32km±29km, n25,σ0§68/26,mb4.1/11,1C-1D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.30**	**79**	*eP*	**Pn**	**19 03 06.3**	**0.0**
KULM				*eS*	**Sn**	**19 03 55.7**	**-0.4**
IPM	**Ipoh**	**4.60**	**88**	P	**Pn**	**19 03 10.7**	**+0.1**
SNG	**Songkhla**	**4.98**	**57**	P	**Pn**	**19 03 16.0**	**+0.1**
	462nm,0.9s						
KGM	**Kluang**	**7.31**	**109**	P	**Pn**	**19 03 47.8**	**-0.9**
NNT	**Nongplab**	**8.72**	**22**	P	**P**	**19 04 16.5**	**+8.1**
CHG	**Chiang Mai**	**14.48**	**10**	P	**P**	**19 05 35.8**	**+10**
KKM	**Kota Kinabalu**	**19.78**	**85**	*eP*	**P**	**19 06 33.5**	**+1.4**
TSM	**Tawau**	**21.40**	**90**	P	**P**	**19 06 52.9**	**+4.2**
LSA	**Lhasa**	**25.60**	**349**	*eP*	**P**	**19 07 30.7**	**+1.1**
	4.1nm,0.6s,mb4.1						
FITZ	**Fitzroy Crossi**	**36.51**	**129⇓**	*iP*	**P**	**19 09 05.4**	**-0.5**
	6.3nm,0.5s,mb4.7						
FITZ	**Fitzroy Crossi**	**36.51**	**129**	P	**P**	**19 09 05.4**	**-0.6**
	8.1nm,0.5s,mb4.8,baz=338,slow=5.2,SNR=21						
KS15	**Wonju Array Si**	**43.65**	**37**	P	**P**	**19 10 04.1**	**-0.8**
MKAR	**Makanchi Array**	**43.91**	**346**	P	**P**	**19 10 06.3**	**-0.5**
	0.6nm,0.3s,mb3.8,baz=151,slow=9.3,SNR=16						
MKAR	**Makanchi Array**	**43.91**	**346**	P	**P**	**19 10 06.3**	**-0.5**
SONM	**Songino Array**	**44.06**	**10**	P	**P**	**19 10 08.6**	**+0.5**
	0.6nm,0.6s,mb3.5,baz=189,slow=9.7,SNR=6.4						
SONM				PcP	PcP	19 11 55.3	+1.7
	0.6nm,0.8s,baz=198,slow=4.6,SNR=2.9						
WRA	**Warramunga Arr**	**44.46**	**124**	P	**P**	**19 10 11.9**	**+0.2**
	3.7nm,0.4s,mb4.5,baz=302,slow=9.1,SNR=39						
WRAB	**Tennant Creek**	**44.47**	**124**	*eP*	**P**	**19 10 11.9**	**+0.2**
	10nm,0.5s,mb4.8						
ASPA	**Alice Springs**	**46.01**	**129⇑**	*iP*	**P**	**19 10 24.2**	**+0.3**
ZAL	**Zalesovo**	**50.23**	**351**	P	**P**	**19 10 55.9**	**-0.5**
	1.1nm,0.4s,mb4.2,baz=243,slow=6.8,SNR=2.9						
ZAL	**Zalesovo**	**50.23**	**351**	P	**P**	**19 10 55.9**	**-0.5**
STKA	**Stephens Creek**	**56.13**	**133**	P	**P**	**19 11 40.7**	**+0.4**
	1.6nm,0.7s,mb4.2,baz=328,slow=13,SNR=3.3						
STKA	**Stephens Creek**	**56.13**	**133**	P	**P**	**19 11 40.7**	**+0.4**
BRTR	**Keskin Array B**	**66.37**	**312**	P	**P**	**19 12 48.2**	**-1.2**
	0.4nm,0.4s,mb3.8,baz=129,slow=9.2,SNR=2.3						
ARCES	**ARCESS Array B**	**79.23**	**340**	P	**P**	**19 14 04.3**	**-0.2**
	2.7nm,1.0s,mb4.1,baz=90,slow=4.9,SNR=4.5						
GERES	**GERESS Array B**	**81.87**	**319**	P	**P**	**19 14 19.7**	**+0.8**
	0.4nm,0.6s,mb3.5,baz=104,slow=5.5,SNR=4.5						

*IDC **28** 19:13:03.5±0.8,39.02S×175.80E,h142km±9km,mb3.4/2, mb1 3.7/3,mb1mx3.5/10,mbtmp4.0/3,Error ellipse: s-maj=32.5km s-min=12.8km az=132.0*
*NEIC **28** 19:13:05.4,38.73S×175.75E,h151km,MG4.7(WEL), After WEL.*
*WEL **28** 19:13:05.9±0.1,38.73S×175.75E,h146km±1km,ML4.7/21, Error ellipse: s-maj=1.1km s-min=0.9km az=90.0*
ISC 28 19:13:03.8±0.3,38.83S±0.02×175.73E±0.04,h157km±2km, n163,σ1§09/198,mb3.6/2,1C,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATZ	**Rangitukua**	**0.05**	**136**	PN	**P**	**19 13 25.5**	**+0.6**
RATZ				SN	**S**	**19 13 40.7**	**-0.3**
RATZ	**Rangitukua**	**0.05**	**136**	P	**P**	**19 13 25.5**	**+0.5**
RATZ				S	**S**	**19 13 41.7**	**+0.6**
WATZ	**Wairara**	**0.12**	**2**	PN	**P**	**19 13 25.5**	**+0.4**
WATZ				SN	**S**	**19 13 41.3**	**-0.1**
WATZ	**Wairara**	**0.12**	**2**	P	**P**	**19 13 25.5**	**+0.4**
WATZ				S	**S**	**19 13 41.2**	**-0.2**
KATZ	**Kakaramea**	**0.15**	**190**	PN	**P**	**19 13 25.8**	**+0.7**
KATZ				SN	**S**	**19 13 42.1**	**+0.6**
KATZ	**Kakaramea**	**0.15**	**190**	P	**P**	**19 13 25.8**	**+0.6**
WHTZ	**Whakaora**	**0.24**	**48**	PN	**P**	**19 13 26.0**	**+0.6**
WHTZ	**Whakaora**	**0.24**	**48**	P	**P**	**19 13 26.0**	**+0.6**
KRVZ	**Karewarewa**	**0.27**	**194**	PN	**P**	**19 13 26.3**	**+0.8**
KRVZ				SN	**S**	**19 13 41.0**	**-1.1**

HATZ Hinemaiaia 0.29 102 PN **P 19 13 25.8 +0.3**
HATZ SN **S 19 13 40.3 -1.9**
HATZ Hinemaiaia 0.29 102 P **P 19 13 25.8 +0.2**
HATZ S **S 19 13 40.1 -2.2**
WTVZ West Tongariro 0.30 201 PN **P 19 13 26.5 +0.8**
WTVZ SN **S 19 13 41.7 -0.6**
WTVZ West Tongariro 0.30 201 P **P 19 13 26.5 +0.9**
TWVZ Taurewa 0.33 223 PN **P 19 13 26.3 +0.7**
TWVZ SN **S 19 13 41.6 -0.9**
TWVZ Taurewa 0.33 223 P **P 19 13 26.3 +0.6**
OTVZ Oturere 0.34 188 PN **P 19 13 26.5 +0.8**
OTVZ SN **S 19 13 42.4 -0.1**
NGZ Ngauruhoe 0.36 196 PN **P 19 13 26.6 +0.8**
NGZ SN **S 19 13 42.5 -0.1**
NGZ Ngauruhoe 0.36 196 P **P 19 13 26.6 +0.8**
NGZ S **S 19 13 43.4 +0.7**
CNZ Chateau 0.39 201 PN **P 19 13 26.8 +0.8**
CNZ Chateau 0.39 201 P **P 19 13 26.8 +0.9**
WPVZ Whakapapa 0.40 201 PN **P 19 13 26.8 +0.9**
WPVZ SN **S 19 13 43.3 +0.3**
WPVZ Whakapapa 0.40 201 P **P 19 13 26.8 +0.8**
WPVZ S **S 19 13 42.8 -0.2**
TUVZ Tukino 0.44 187 PN **P 19 13 27.3 +1.2**
TUVZ SN **S 19 13 43.1 -0.2**
TUVZ Tukino 0.44 187 P **P 19 13 27.3 +1.2**
FWVZ Far West T-bar 0.44 198 PN **P 19 13 27.1 +1.0**
FWVZ SN **S 19 13 43.0 -0.3**
FWVZ Far West T-bar 0.44 198 P **P 19 13 27.1 +1.0**
DRZ Dome Shelter 0.46 196 PN **P 19 13 27.6 +1.4**
DRZ SN **S 19 13 42.7 -0.8**
DRZ Dome Shelter 0.46 196 P **P 19 13 27.6 +1.4**
TRVZ Turoa 0.49 197 PN **P 19 13 27.6 +1.3**
TRVZ SN **S 19 13 43.8 +0.2**
WNVZ Wahianoa 0.51 191 PN **P 19 13 27.6 +1.2**
WNVZ SN **S 19 13 43.8 0.0**
WNVZ Wahianoa 0.51 191 P **P 19 13 27.6 +1.2**
PKVZ Pokaka 0.55 213 PN **P 19 13 27.5 +0.9**
PKVZ SN **S 19 13 44.0 -0.1**
MOVZ Moawhango 0.57 178 PN **P 19 13 27.6 +0.9**
MOVZ SN **S 19 13 43.1 -1.2**
MOVZ Moawhango 0.57 178 P **P 19 13 27.6 +0.9**
MTVZ Mangateitei 0.59 200 PN **P 19 13 27.9 +1.1**
MTVZ SN **S 19 13 44.8 +0.3**
BKZ Black Stump Fm 0.68 119 PN **P 19 13 28.2 +0.9**
BKZ SN **S 19 13 44.1 -1.3**
BKZ Black Stump Fm 0.68 119 P **P 19 13 28.2 +0.9**
UTU Utuhina 0.75 29 PN **P 19 13 27.8 +0.2**
UTU Utuhina 0.75 29 P **P 19 13 27.8 +0.1**
HIZ Hauiti 0.75 295 PN **P 19 13 27.8 +0.2**
HIZ SN **S 19 13 44.7 -1.4**
HIZ Hauiti 0.75 295 P **P 19 13 27.8 +0.1**
VRZ Vera Road 0.81 248 PN **P 19 13 28.9 +0.9**
VRZ SN **S 19 13 46.9 +0.1**
VRZ Vera Road 0.81 248 P **P 19 13 28.9 +0.9**
TAZ Tarawera 0.86 46 PN **P 19 13 28.7 +0.4**
TAZ Tarawera 0.86 46 P **P 19 13 28.7 +0.4**
LIRZ Lichensteins R 0.97 32 PN **P 19 13 29.4 +0.2**
LIRZ Lichensteins R 0.97 32 P **P 19 13 29.4 +0.2**
WAZ Wanganui 1.09 212 PN **P 19 13 31.7 +1.6**
WAZ Wanganui 1.09 212 P **P 19 13 31.7 +1.6**
TOZ Tahuroa Road 1.11 351 PN **P 19 13 30.5 +0.1**
TOZ SN **S 19 13 48.9 -2.1**
TOZ Tahuroa Road 1.11 351 P **P 19 13 30.5 +0.1**
MARZ Manawahe 1.13 42 PN **P 19 13 30.6 +0.1**
MARZ Manawahe 1.13 42 P **P 19 13 30.6 +0.1**
RAEZ Rainy Point 1.13 246 PN **P 19 13 32.2 +1.6**
RAEZ Rainy Point 1.13 246 P **P 19 13 32.2 +1.6**
TGRZ Tauranga 1.18 21 PN **P 19 13 30.9 -0.1**
TGRZ SN **S 19 13 50.4 -1.7**
TGRZ Tauranga 1.18 21 P **P 19 13 30.9 -0.1**
URZ Urewera 1.23 63 P **P 19 13 31.2 -0.3**
28nm,0.3s,baz=257,slow=6.4,SNR=157
URZ S **S 19 13 50.2 -2.7**
132nm,0.3s,baz=29,slow=19,SNR=62
URZ Urewera 1.23 63 PN **P 19 13 31.2 -0.3**
URZ SN **S 19 13 49.9 -2.9**
URZ Urewera 1.23 63 P **P 19 13 31.2 -0.3**
TSZ Takapari Road 1.24 172 PN **P 19 13 33.3 +1.7**
TSZ Takapari Road 1.24 172 P **P 19 13 33.3 +1.7**
NEZ North Egmont 1.34 250 PN **P 19 13 34.2 +1.6**
NEZ North Egmont 1.34 250 P **P 19 13 34.2 +1.6**
DFE Dawson Falls 1.36 248 PN **P 19 13 34.2 +1.4**
DFE Dawson Falls 1.36 248 P **P 19 13 34.2 +1.4**
PKE Pukeiti 1.40 254 PN **P 19 13 34.3 +1.1**
PKE SN **S 19 13 55.9 -0.1**
PKE Pukeiti 1.40 254 P **P 19 13 34.3 +1.1**
NRZ Ngariki Road 1.48 250 PN **P 19 13 35.2 +1.1**
NRZ Ngariki Road 1.48 250 P **P 19 13 35.2 +1.2**
PXZ Pawanui 1.49 144 PN **P 19 13 35.8 +1.7**
PXZ SN **S 19 13 57.8 +0.4**
MWZ Matawai 1.50 71 PN **P 19 13 34.6 +0.4**
NWEZ Newall Road 1.51 252 PN **P 19 13 35.4 +1.1**
NWEZ Newall Road 1.51 252 P **P 19 13 35.4 +1.0**
KNZ Kokohu 1.53 98 PN **P 19 13 35.9 +1.3**
KNZ Kokohu 1.53 98 P **P 19 13 35.9 +1.4**
MYRZ Mayor Island 1.60 15 PN **P 19 13 35.4 +0.1**
MKAZ Moumakai 1.77 345 PN **P 19 13 37.0 -0.1**
MKAZ Moumakai 1.77 345 P **P 19 13 37.0 -0.1**
MRZ Mangatainoka R 1.83 184 PN **P 19 13 38.8 +1.1**
MRZ Mangatainoka R 1.83 184 P **P 19 13 38.8 +1.1**
BFZ Birch Farm 1.89 168 PN **P 19 13 39.7 +1.3**
OTAZ Otara 1.98 341 PN **P 19 13 39.0 -0.4**
KUZ Kuaotunu 2.08 360 PN **P 19 13 40.0 -0.6**
KUZ SN **S 19 14 06.8 -2.2**
KUZ Kuaotunu 2.08 360 P **P 19 13 40.0 -0.6**
WTAZ Waiatarua 2.10 334 PN **P 19 13 41.1 +0.2**
WTAZ Waiatarua 2.10 334 P **P 19 13 41.1 +0.2**
KIW Kapiti Island 2.12 197 PN **P 19 13 41.7 +0.6**
KIW Kapiti Island 2.12 197 P **P 19 13 41.7 +0.6**
PUZ Puketiti 2.13 70 PN **P 19 13 41.4 +0.2**
PUZ SN **S 19 14 07.0 -3.0**
PUZ Puketiti 2.13 70 P **P 19 13 41.4 +0.2**
MTAZ Motutapu 2.14 342 PN **P 19 13 41.1 -0.2**
MTAZ Motutapu 2.14 342 P **P 19 13 41.1 -0.3**
CAW Cannon Point 2.33 192 PN **P 19 13 44.1 +0.5**
CAW Cannon Point 2.33 192 P **P 19 13 44.1 +0.4**
MTW Mount Morrison 2.33 184 PN **P 19 13 44.0 +0.3**
MTW Mount Morrison 2.33 184 P **P 19 13 44.0 +0.3**
MXZ Matakaoa Point 2.40 59 PN **P 19 13 44.6 +0.1**
MXZ SN **S 19 14 13.9 -1.8**
DUWZ D'Urville Isla 2.41 215 PN **P 19 13 44.8 +0.1**
DUWZ SN **S 19 14 16.2 +0.1**
MRW Makara Radio 2.52 198 PN **P 19 13 46.2 +0.1**
MRW SN **S 19 14 16.9 -1.6**
MRW Makara Radio 2.52 198 P **P 19 13 46.2 +0.2**
PAWZ Paruwai Farm 2.56 185 PN **P 19 13 46.6 +0.1**
PAWZ SN **S 19 14 17.1 -2.2**
WEL Wellington 2.56 196 PN **P 19 13 46.6 +0.1**
WEL Wellington 2.56 196 P **P 19 13 46.6 +0.1**
TRWZ Traveller 2.56 181 PN **P 19 13 46.9 +0.3**
SNZO South Karori 2.60 197 PN **P 19 13 46.9 -0.1**
SNZO South Karori 2.60 197 P **P 19 13 47.0 0.0**
MSWZ Moikau Station 2.61 188 PN **P 19 13 47.2 0.0**
MSWZ Moikau Station 2.61 188 P **P 19 13 47.2 +0.1**
TCW Tory Channel 2.63 205 PN **P 19 13 47.6 +0.2**
TCW Tory Channel 2.63 205 P **P 19 13 47.6 +0.2**
BHW Baring Head 2.66 194 PN **P 19 13 47.6 -0.1**
BHW Baring Head 2.66 194 P **P 19 13 47.6 -0.1**
TUWZ Tuamarina 2.93 207 PN **P 19 13 50.9 -0.3**
NNZ Nelson 2.99 216 PN **P 19 13 51.3 -0.7**
NNZ Nelson 2.99 216 P **P 19 13 51.3 -0.6**
CMWZ Cape Campbell 3.13 201 PN **P 19 13 54.2

WVZ	**Waitaha Valley**	**5.68**	**220**	*e*PN	**P**	**19 14 24.1**	**-2.9**
WVZ	**Waitaha Valley**	**5.68**	**220**	*e*P	**P**	**19 14 24.1**	**-3.0**
RPZ	**Rata Peaks**	**6.01**	**214**	P	**P**	**19 14 29.0**	**-2.6**
7.3nm,0.3s,baz=71,slow=1.3,SNR=58							
RPZ				S	**S**	**19 15 34.2**	**-5.6**
29nm,0.3s,baz=18,slow=19,SNR=29							
RPZ	**Rata Peaks**	**6.01**	**214**	*e*PN	**P**	**19 14 29.3**	**-2.2**
RPZ				SN	**S**	**19 15 33.9**	**-5.9**
RPZ	**Rata Peaks**	**6.01**	**214**	*e*P	**P**	**19 14 29.3**	**-2.3**
FOZ	**Fox Glacier**	**6.56**	**222**	*e*PN	**P**	**19 14 33.7**	**-5.2**
FOZ	**Fox Glacier**	**6.56**	**222**	*e*P	**P**	**19 14 33.7**	**-5.2**
LBZ	**Lake Benmore**	**6.93**	**215**	*e*PN	**P**	**19 14 40.1**	**-3.7**
LBZ	**Lake Benmore**	**6.93**	**215**	*e*P	**P**	**19 14 40.1**	**-3.7**
ODZ	**Otahua Downs**	**7.27**	**210**	*e*PN	**P**	**19 14 45.8**	**-2.6**
ODZ	**Otahua Downs**	**7.27**	**210**	*e*P	**P**	**19 14 45.8**	**-2.6**
JCZ	**Jackson Bay**	**7.40**	**223**	*e*PN	**P**	**19 14 45.8**	**-4.4**
JCZ	**Jackson Bay**	**7.40**	**223**	*e*P	**P**	**19 14 45.8**	**-4.3**
WKZ	**Wanaka**	**7.81**	**218**	*e*PN	**P**	**19 14 51.1**	**-4.4**
WKZ	**Wanaka**	**7.81**	**218**	*e*P	**P**	**19 14 51.1**	**-4.4**
EAZ	**Earnscleugh**	**7.98**	**215**	*e*PN	**P**	**19 14 54.4**	**-3.4**
EAZ	**Earnscleugh**	**7.98**	**215**	*e*P	**P**	**19 14 54.4**	**-3.4**
MSZ	**Milford Sound**	**8.24**	**222**	*e*PN	**P**	**19 14 58.6**	**-2.7**
MSZ	**Milford Sound**	**8.24**	**222**	*e*P	**P**	**19 14 58.6**	**-2.7**
TUZ	**Tuapeka**	**8.42**	**210**	*e*PN	**P**	**19 15 02.1**	**-1.6**
TUZ	**Tuapeka**	**8.42**	**210**	*e*P	**P**	**19 15 02.1**	**-1.6**
ASPA	**Alice Springs**	**38.47**	**281**	⇑*i*P	**P**	**19 20 13.3**	**+1.3**
WRA	**Warramunga Arr**	**40.27**	**286**	P	**P**	**19 20 27.9**	**+1.0**
0.5nm,0.6s,mb3.3,baz=124,slow=8.1,SNR=14							
FITZ	**Fitzroy Crossi**	**47.97**	**281**	P	**P**	**19 21 29.4**	**+0.9**
2.3nm,0.8s,mb3.9,baz=141,slow=6.5,SNR=3.5							
ARCES	**ARCESS Array B**	**145.39**	**342**	PKPbc	PKPbc	19 32 23.2	+1.1
2.2nm,0.8s,baz=41,slow=2.6,SNR=14							
DBIC	**Dimbokro**	**147.98**	**179**	PKPbc	PKPdf	19 32 32.9	+5.4
3.4nm,1.0s,baz=180,slow=3.4,SNR=5.1							
DBIC	**Dimbokro**	**147.98**	**179**	PKPbc	PKPdf	19 32 32.9	+5.4
FINES	**FINESS Array B**	**150.64**	**330**	PKPbc	PKPdf	19 32 36.2	+6.0
1.2nm,0.7s,baz=63,slow=4.3,SNR=6.2							
FINES	**FINESS Array B**	**150.64**	**330**	PKPbc	PKPbf	19 32 36.2	+6.0
BRTR	**Keskin Array B**	**150.78**	**284**	PKPbc	PKPdf	19 32 38.2	+7.1
0.6nm,0.6s,baz=108,slow=4.6,SNR=2.8							

*ATH **28** 19:18:09.1,36.66N×26.49E,h30km±1km,MD3.1/6*
*ISK **28** 19:18:09.7,36.87N×26.51E,h16km,MD3.2*
*NEIC **28** 19:18:09.1,36.66N×26.49E,h30km,MD3.1(ATH),After ATH.*
*CSEM **28** 19:18:09.9±0.1,36.70N×26.48E,h26km±1km,MD3.1, Error ellipse: s-maj=2.2km s-min=1.6km az=178.0*

ISC 28 19:18:08.4±0.9,36.63N±0.04×26.46E±0.04,h9km±7km, n20,σ1§34/33,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NISR	**Nisiros**	**0.54**	**92**	*e*PN	**Pn**	**19 18 20.0**	**-2.0**
BODT	**Bodrum**	**0.81**	**57**	PG	**Pg**	**19 18 23.0**	**-1.6**
APE	**Apeiranthos**	**0.86**	**301**	PG	**Pg**	**19 18 25.3**	**-0.4**
APE				SG	**Sg**	**19 18 37.7**	**+0.4**
APE	**Apeiranthos**	**0.86**	**301**	*e*PN	**Pn**	**19 18 26.4**	**-0.2**
APE				*e*SN	**Sn**	**19 18 38.9**	**-0.5**
APE	**Apeiranthos**	**0.86**	**301**	*e*Pn	**Pn**	**19 18 26.4**	**-0.2**
APE				*e*Sg	**Sg**	**19 18 37.7**	**+0.4**
APE				*e*Sn	**Sn**	**19 18 38.9**	**-0.5**
BDRM	**Kayabasi**	**0.90**	**61**	*i* P	**Pb**	**19 18 25.9**	**0.0**
BDRM				*i* S	**Sg**	**19 18 40.4**	**+1.9**
SMG	**Samos**	**1.12**	**16**	*e*PN	**Pn**	**19 18 29.2**	**-1.1**
SMG				*e*SN	**Sn**	**19 18 44.5**	**-1.4**
KARP	**Karpathos**	**1.22**	**152**	*e*PN	**Pn**	**19 18 31.8**	**+0.1**
KARP				*e*SN	**Sn**	**19 18 49.0**	**+0.5**
MLSB	**Milas**	**1.25**	**57**	PN	**Pn**	**19 18 31.1**	**-0.9**
MLSB				SN	**Sn**	**19 18 46.8**	**-2.3**
ARG	**Arkhangelos**	**1.41**	**107**	*e*PN	**Pn**	**19 18 34.8**	**+0.4**
NPS	**Neapolis**	**1.53**	**207**	*e*PN	**Pn**	**19 18 36.8**	**+0.7**
NPS				*e*SN	**Sn**	**19 18 56.3**	**0.0**
AYDN	**Tasoluk**	**1.53**	**47**	*i* P	**Pn**	**19 18 38.4**	**+2.3**
AYDN				*i* S	**Sb**	**19 19 00.9**	**+4.9**
YER	**Yerkesik**	**1.55**	**70**	PN	**Pn**	**19 18 36.0**	**-0.4**
URLA	**Izmir**	**1.73**	**4**	*i* P	**Pn**	**19 18 40.1**	**+1.1**
URLA				*i* S	**Sn**	**19 19 05.2**	**+3.8**
BLCB	**Balcova**	**1.81**	**15**	*e*PN	**Pn**	**19 18 37.0**	**-3.2**
IZM	**Izmir**	**1.88**	**20**	*e*PN	**Pn**	**19 18 38.8**	**-2.3**
KDAG	**Bornova**	**1.88**	**20**	*i* P	**Pn**	**19 18 42.7**	**+1.5**
KDAG				*i* S	**Sn**	**19 19 11.5**	**+6.2**
DNZL	**Cakiroluk**	**2.32**	**62**	*i* P	**Pn**	**19 18 52.7**	**+5.2**
MANT	**Manisa**	**2.50**	**41**	*i* P	**Pn**	**19 18 56.9**	**+6.9**
MANT				*i* S	**Sn**	**19 19 33.3**	**+12**
ELL	**Elmali**	**2.77**	**87**	*e*PN	**Pn**	**19 18 54.1**	**+0.2**

*NIED **28** 19:22:00,26.50N×129.70E,h5km,Mw4.2 Best double couple: M0:1.97×10^15 NP1:φs44°,δ63°,λ-92°. NP2:φs227°, δ28°,λ-87°.*
*IDC **28** 19:22:51.0±1.2,26.51N×129.59E,mb3.7/6,mb1 3.9/7, mb1mx3.8/18,mbtmp3.7/7,ML3.7/1,MS3.5/2,Ms1 3.5/2, ms1mx3.1/22,Error ellipse: s-maj=30.7km s-min=21.6km az=46.0*
*BJI **28** 19:22:52.6,26.40N×129.70E,h35km,mb3.8,Ms3.9*
*JMA **28** 19:22:53.0,26.49N×129.74E,h46km,M3.6*
*NEIC **28** 19:22:55.6±0.9,26.44N×129.66E,h35km,MG3.6(JMA), Error ellipse: s-maj=25.6km s-min=16.1km az=75.0*

ISC 28 19:22:52.6±1.7,26.50N±0.04×129.71E±0.03,h30km±14km, n28,σ1§12/39,mb3.6/8,MS3.5/2,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**1.33**	**285**	Pn	**Pn**	**19 23 16.1**	**+0.7**
100nm,0.3s,baz=118,slow=16,SNR=441							
JOW				Sn	**Sn**	**19 23 31.5**	**-0.6**
135nm,0.3s,baz=107,slow=19,SNR=22							
JOW	**Kunigami**	**1.33**	**285**	P	**Pn**	**19 23 16.0**	**+0.7**
JOW				S	**Sn**	**19 23 32.7**	**+0.6**
JTK	**Tokunoshima**	**1.45**	**332**	P	**Pn**	**19 23 17.5**	**+0.4**
JMZ	**Minamidaito 2**	**1.52**	**116**	P	**Pn**	**19 23 18.0**	**0.0**
JMZ				S	**Sn**	**19 23 35.7**	**-1.2**
JIH	**Iheya**	**1.65**	**289**	P	**Pn**	**19 23 20.7**	**+0.8**
JIH				S	**Sn**	**19 23 40.9**	**+0.7**
JJT2	**Tamagusuku 2**	**1.80**	**259**	P	**Pn**	**19 23 22.9**	**+0.9**
JJT2				S	**Sn**	**19 23 44.5**	**+0.5**
JZK	**Kikaishima**	**1.82**	**7**	P	**Pn**	**19 23 23.3**	**+0.8**
JZK				S	**Sn**	**19 23 45.8**	**+1.1**
NAH1	**Naha**	**1.84**	**261**	P	**Pn**	**19 23 23.4**	**+0.8**
NAH1				S	**Sn**	**19 23 44.9**	**-0.1**
JAM	**Amami Oshima**	**1.91**	**357**	P	**Pn**	**19 23 23.7**	**0.0**
JAM				S	**Sn**	**19 23 45.6**	**-1.3**
JAGN	**Aguni-jima**	**2.21**	**273**	P	**Pn**	**19 23 28.8**	**+0.8**
JAGN				S	**Sn**	**19 23 54.0**	**-0.6**
JKE	**Kume jima 2**	**2.63**	**267**	P	**Pn**	**19 23 33.6**	**-0.3**
JKE				S	**Sn**	**19 24 03.0**	**-2.1**
JNN	**Nakanoshima**	**3.33**	**2**	P	**Pn**	**19 23 43.6**	**-0.4**
JNN				S	**Sn**	**19 24 20.6**	**-2.4**
JKC	**Kuchinoerabu**	**3.97**	**6**	*e*S	**Sn**	**19 24 35.4**	**-3.8**
JOGS	**Gusukube**	**4.25**	**247**	P	**Pn**	**19 23 56.5**	**-0.5**
JOGS				*e*S	**Sn**	**19 24 43.9**	**-2.4**
JTN	**Tanegashima 3**	**4.29**	**15**	P	**Pn**	**19 23 56.9**	**-0.7**
JTJ	**Tarama**	**4.89**	**249**	*e*S	**Sn**	**19 24 57.1**	**-5.1**
JNU	**Nakatsue**	**6.68**	**8**	Pn	**Pn**	**19 24 30.9**	**-0.4**
1.3nm,0.3s,baz=34,slow=9.3,SNR=10							
XAN	**Xi'an**	**19.45**	**298**	P	**P**	**19 27 17.0**	**-2.6**
XAN				AMB	AMB		
comp=Z,11nm,1.6s							
GTA	**Gaotai**	**28.06**	**305**	P	**P**	**19 28 43.3**	**0.0**
GTA				AMB	AMB		
comp=Z,2.0nm,1.0s,mb3.7							
SONM	**Songino Array**	**28.07**	**325**	P	**P**	**19 28 46.8**	**+3.4**
comp=Z,0.8nm,0.9s,mb3.3,baz=124,slow=5.3,SNR=4.4							
SONM				LR	LR	19 40 55.5	
comp=Z,81nm,19.2s,MS3.3,baz=209,slow=39							
MKAR	**Makanchi Array**	**42.35**	**311**	P	**P**	**19 30 45.6**	**+0.2**
comp=Z,0.3nm,0.5s,mb3.2,baz=90,slow=9.9,SNR=4.5							
WRAB	**Tennant Creek**	**46.37**	**174**	P	**P**	**19 31 16.8**	**-1.3**
WRA	**Warramunga Arr**	**46.38**	**174**	P	**P**	**19 31 19.2**	**+1.0**
comp=Z,1.1nm,0.6s,mb3.9,baz=353,slow=8.4,SNR=16							
FINES	**FINESS Array B**	**73.28**	**331**	P	**P**	**19 34 23.5**	**+1.0**
comp=Z,0.8nm,0.5s,mb3.9,baz=56,slow=6.9,SNR=10							
AKASG	**Malin Array Be**	**76.19**	**320**	P	**P**	**19 34 40.3**	**+0.9**
comp=Z,0.3nm,0.5s,mb3.5,baz=52,slow=6.5,SNR=4.1							
BRTR	**Keskin Array B**	**77.92**	**308**	P	**P**	**19 34 51.4**	**+2.1**
comp=Z,1.0nm,0.9s,mb3.8,baz=76,slow=5.1,SNR=4.3							
NOA	**NORSAR Array B**	**79.66**	**334**	LR	LR	20 13 18.2	
comp=Z,30nm,21.6s,MS3.6,baz=60,slow=38							
GERES	**GERESS Array B**	**85.78**	**323**	P	**P**	**19 35 31.8**	**+1.7**
comp=Z,0.2nm,0.5s,mb3.6,baz=45,slow=5.7,SNR=5.2							

*IDC **28** 20:05:35.8±1.3,7.07N×126.71E,mb3.6/4,mb1 3.9/4, mb1mx3.6/17,mbtmp3.6/4,Error ellipse: s-maj=80.2km s-min=25.5km az=73.0*
*MAN **28** 20:05:38.2,6.78N×127.17E,h17km,mb4.4,ML3.3,MS3.1*

ISC 28 20:05:40.3±0.9,7.03N±0.08×127.2E±0.1,h33km,n11, σ1§33/13,mb3.5/4,1C,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.92**	**265**	*e*P	**P**	**20 05 55.2**	**-1.5**
BIPH	**Bislig**	**1.41**	**325**	⇑*e*P	**P**	**20 06 03.0**	**-0.7**
BIPH				*e*S	**S**	**20 06 19.7**	**-1.7**
BUKP	**Musuan**	**2.26**	**292**	*e*P	**P**	**20 06 16.3**	**+0.3**
BUTP	**Butuan**	**2.47**	**322**	*e*P	**P**	**20 06 20.5**	**+1.5**
SCPH	**Surigao**	**3.21**	**329**	*e*P	**P**	**20 06 32.0**	**+2.5**
SCPH				*e*S	**S**	**20 07 12.8**	**+5.8**
PAGZ	**Pagadian**	**3.85**	**282**	*e*P	**P**	**20 06 38.5**	**-0.1**
IPIL	**Ipil**	**4.63**	**280**	*e*P	**P**	**20 06 51.6**	**+1.9**
WRA	**Warramunga Arr**	**27.71**	**165**	P	**P**	**20 11 27.3**	**-0.6**
0.2nm,0.4s,mb3.1,baz=339,slow=8.2,SNR=15							
STKA	**Stephens Creek**	**41.06**	**161**	P	**P**	**20 13 23.0**	**+0.5**
2.0nm,1.0s,mb3.7,slow=10,SNR=3.1							
MKAR	**Makanchi Array**	**55.15**	**324**	P	**P**	**20 15 08.6**	**-3.2**
0.4nm,0.6s,mb3.6,baz=116,slow=8.9,SNR=4.2							
ILAR	**Eielson Array**	**81.96**	**26**	P	**P**	**20 17 57.4**	**-0.5**
0.6nm,0.8s,mb3.6,baz=260,slow=4.8,SNR=4.1							

*NEIC **28** 20:23:51.0,49.21N×129.60W,h10km,mb3.6/1, ML4.0(PGC),After PGC.*

PGC 28 20:23:50.5,49.21N×129.60W,h10km,Mw4.0,1D,West of Vancouver Island, British Columbia,Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPBC	**Brooks Peninsu**	**1.52**	**51**	Pn	Pn	20 24 16.1	-1.8
BPBC				Trac		20 24 40.6	
comp=Z,232nm,0.2s							
HOLB	**Holberg**	**1.71**	**33**	Pn	Pn	20 24 18.6	-2.1
HOLB				Trac		20 24 45.1	
comp=Z,68nm,0.1s							
EDB	**Eliza Dome**	**1.75**	**67**	Pn	Pn	20 24 18.8	-2.4
EDB				Sn	Sn	20 24 40.5	-3.1
EDB				Trac		20 24 50.0	
comp=Z,23nm,0.2s							
MAYB	**Maynard**	**1.97**	**52**	Pn	Pn	20 24 22.6	-1.8
MAYB				Trac		20 24 51.9	
comp=Z,29nm,0.2s							
ETB	**Estevan Point**	**2.01**	**84**	⇓Pn	Pn	20 24 22.7	-2.2
GDR	**Gold River**	**2.40**	**75**	Pn	Pn	20 24 28.2	-2.2
BTB	**Buttle Lake**	**2.68**	**83**	Pn	Pn	20 24 32.5	-2.1
OZB	**Mount Ozzard**	**2.71**	**94**	Pn	Pn	20 24 31.9	-3.1
OZB				Sn	Sn	20 25 03.2	-4.9
OZB				Trac		20 25 05.3	
comp=Z,10.0nm,0.1s							
CBB	**Campbell River**	**2.87**	**72**	Pn	Pn	20 24 36.0	-1.4
BBB	**Bella Bella**	**3.12**	**17**	Pn	Pn	20 24 38.8	-2.0
BBB				Sn	Sn	20 25 12.3	-6.2
BBB				Trac		20 25 16.6	
comp=Z,49nm,0.3s							
MGB	**Mount Grey**	**3.23**	**92**	Pn	Pn	20 24 39.7	-2.7
MGB				Sn	Sn	20 25 16.1	-5.2
MGB				Trac		20 25 20.3	
comp=Z,7.0nm,0.2s							
TXB	**Texada**	**3.40**	**80**	Pn	Pn	20 24 43.1	-1.7
PFB	**Port Renfrew**	**3.46**	**99**	Pn	Pn	20 24 43.5	-2.2
PFB				Sn	Sn	20 25 21.6	-5.6
PFB				Trac		20 25 25.6	
comp=Z,2.0nm,0.2s							
NLLB	**Nanaimo Lost L**	**3.68**	**88**	Pn	Pn	20 24 47.8	-1.0
NLLB				Trac		20 25 32.9	
comp=Z,5.0nm,0.2s							
SHB	**Sechelt**	**3.76**	**82**	Pn	Pn	20 24 49.4	-0.5
LZB	**Mount Lazard**	**3.86**	**97**	Pn	Pn	20 24 48.2	-3.0
LZB				Sn	Sn	20 25 31.6	-5.6
LZB				Sn	Sn	20 25 32.3	-4.9
LZB				Trac		20 25 33.2	
comp=Z,1.0nm,0.2s							
PGC	**Sidney**	**4.09**	**96**	P	Pn	20 24 52.6	-2.0
WPB	**Watts Point**	**4.20**	**82**	Pn	Pn	20 24 54.8	-1.3
SNB	**Saturna Island**	**4.26**	**93**	Pn	Pn	20 24 54.7	-2.2
WSLR	**Whistler**	**4.43**	**76**	Pn	Pn	20 24 59.5	+0.1
HNB	**Haney**	**4.60**	**87**	Pn	Pn	20 25 00.3	-1.5
HNB				Trac		20 25 57.6	
comp=Z,3.0nm,0.2s							
VDB	**Vedder Mountai**	**4.93**	**89**	Pn	Pn	20 25 04.7	-1.8
VDB	**Vedder Mountai**	**4.93**	**89**	P	Pn	20 25 04.6	-1.8
CMW	**Cultus Mountai**	**5.01**	**96**	P	Pn	20 25 06.8	-0.8
MBW	**Mount Baker**	**5.09**	**92**	P	Pn	20 25 07.1	-1.6
LLLB	**Lillooet**	**5.18**	**71**	Pn	Pn	20 25 08.8	-1.3
HOPB	**Hope**	**5.36**	**85**	Pn	Pn	20 25 11.1	-1.4
FMW	**Mount Fremont**	**5.78**	**110**	P	Pn	20 25 17.9	-0.7
ASR	**Mount Adams--S**	**6.21**	**117**	P	Pn	20 25 24.1	-0.5
TBM	**Table Mountain**	**6.36**	**105**	P	Pn	20 25 25.6	-1.0
ETW	**Entiat**	**6.38**	**101**	P	Pn	20 25 26.0	-1.0
MNB	**Mounoet Dainar**	**7.72**	**63**	Pn	Pn	20 25 45.0	-0.8
BMBC	**Bull Mountain**	**8.21**	**31**	Pn	P	20 25 52.0	-0.6
YBH	**Yreka Blue Hor**	**8.91**	**145**	*e*P	P	20 26 03.5	+1.2
CHMT	**Chamberlain Mo**	**11.18**	**96**	*e*P	P	20 26 30.9	-2.5
TPAW	**Teton Pass**	**14.08**	**107**	P	P	20 27 10.8	-1.3
LOHW	**Long Hollow**	**14.24**	**106**	P	P	20 27 11.9	-2.3
BW06	**Boulder Array**	**15.33**	**107**	P	P	20 27 28.4	-0.1
PV01	**Paradox Valley**	**18.75**	**118**	*e*P	P	20 28 11.9	+0.3
SDCO	**Great Sand Dun**	**20.81**	**114**	P	P	20 28 33.5	-0.9
3.7nm,1.2s							

*NIED **28** 20:40:00,26.50N×129.80E,h5km,Mw4.4 Best double couple: M0:5.2×10^15 NP1:φs41°,δ56°,λ-81°. NP2:φs205°, δ35°,λ-103°.*
*IDC **28** 20:40:53.3±0.6,26.51N×129.68E,mb4.3/18,mb1 4.5/19, mb1mx4.4/24,mbtmp4.3/19,ML4.1/1,MS3.6/5,Ms1 3.6/5, ms1mx3.4/25,Error ellipse: s-maj=22.2km s-min=14.9km az=60.0*
*JMA **28** 20:40:55.2±0.1,26.49N×129.75E,h45km,M4.1*
*BJI **28** 20:40:55.8,26.32N×129.76E,h40km,mB4.3,mb4.4, Ms4.1,Msz4.0*
*NEIC **28** 20:40:57.6±0.4,26.50N×129.59E,mb4.6/15, MW4.4(NIED),Error ellipse: s-maj=8.1km s-min=7.4km az=99.0*

ISC 28 20:40:56.4±0.3,26.50N±0.03×129.66E±0.03,h33km,n82, σ1§26/102,mb4.4/32,MS4.0/9,4D,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**1.29**	**285**	Pn	**Pn**	**20 41 18.4**	**+0.1**
269nm,0.3s,baz=116,slow=17,SNR=816							
JOW				Sn	**Sn**	**20 41 34.0**	**-0.5**
244nm,0.3s,baz=114,slow=19,SNR=35							
JOW	**Kunigami**	**1.29**	**285**	P	**P**	**20 41 18.4**	**+0.3**
JOW				S	**S**	**20 41 34.5**	**+0.1**
JTK	**Tokunoshima**	**1.43**	**334**	P	**P**	**20 41 20.0**	**-0.2**
JTK				S	**S**	**20 41 38.3**	**+0.2**
JMZ	**Minamidaito 2**	**1.55**	**115**	P	**P**	**20 41 19.9**	**-2.1**
JMZ				S	**S**	**20 41 37.6**	**-3.6**
JIH	**Iheya**	**1.61**	**290**	P	**P**	**20 41 23.2**	**+0.5**
JIH				S	**S**	**20 41 43.4**	**+0.9**
JJT2	**Tamagusuku 2**	**1.75**	**259**	P	**P**	**20 41 25.2**	**+0.4**
JJT2				S	**S**	**20 41 46.7**	**+0.5**
NAH1	**Naha**	**1.79**	**261**	P	**P**	**20 41 26.0**	**+0.6**
NAH1				S	**S**	**20 41 47.4**	**+0.2**
JZK	**Kikaishima**	**1.83**	**9**	P	**P**	**20 41 25.4**	**-0.6**
JZK				S	**S**	**20 41 47.6**	**-0.6**
JAM	**Amami Oshima**	**1.91**	**358**	P	**P**	**20 41 26.0**	**-1.1**
JAM				S	**S**	**20 41 47.3**	**-2.8**
JAGN	**Aguni-jima**	**2.17**	**273**	P	**P**	**20 41 31.1**	**+0.3**
JAGN				S	**S**	**20 41 56.7**	**-0.1**
JKE	**Kume jima 2**	**2.58**	**267**	P	**P**	**20 41 36.2**	**-0.5**
JNN	**Nakanoshima**	**3.34**	**3**	P	**P**	**20 41 46.1**	**-1.4**
JNN				S	**S**	**20 42 22.4**	**-4.1**
JKC	**Kuchinoerabu**	**3.98**	**7**	P	**P**	**20 41 54.5**	**-2.1**
JKC				S	**S**	**20 42 37.1**	**-5.6**
JOGS	**Gusukube**	**4.21**	**247**	P	**P**	**20 41 58.9**	**-1.0**
JOGS				*e*S	**S**	**20 42 46.5**	**-2.1**
JMJ	**Miyako jima 2**	**4.28**	**248**	P	**P**	**20 41 59.7**	**-1.2**
JTN	**Tanegashima 3**	**4.30**	**15**	P	**P**	**20 41 59.5**	**-1.7**
JTN				*e*S	**S**	**20 42 45.5**	**-5.4**
JTJ	**Tarama**	**4.84**	**249**	P	**P**	**20 42 06.5**	**-2.4**
JTJ				*e*S	**S**	**20 42 59.7**	**-4.9**
JIJ	**Ishigaki jima**	**5.42**	**248**	P	**P**	**20 42 13.8**	**-3.2**
IRIF	**Iriomote-Funau**	**5.78**	**249**	P	**P**	**20 42 20.1**	**-1.9**
JNU	**Nakatsue**	**6.69**	**9**	Pn	**Pn**	**20 42 33.1**	**-1.8**
4.2nm,0.3s,baz=0.7,slow=6.6,SNR=30							
JNU				Sn	**Sn**	**20 43 42.9**	**-7.9**
0.7nm,0.3s,baz=68,slow=19,SNR=3.0							
NACB	**Ninganchiao**	**7.66**	**254**	P	**P**	**20 42 44.6**	**-3.7**
YHNB	**Yeheng**	**7.70**	**258**	*e*P	**P**	**20 42 46.7**	**-2.2**
JHJ	**Hachijo jima 2**	**10.99**	**51**	LR	LR	20 47 23.5	
comp=Z,82nm,19.4s,baz=112,slow=36							
KS15	**Wonju Array Si**	**11.02**	**353**	*e*P	**P**	**20 43 32.4**	**-2.3**
CN2	**Changchun**	**17.60**	**350**	*e*P	**P**	**20 45 03.3**	**+2.7**
MDJ	**Mudanjiang**	**18.08**	**360**	P	**P**	**20 45 08.5**	**+1.9**
MDJ				AP		20 45 17.8	
MDJ				XP		20 45 21.5	
MDJ				S	**S**	**20 48 32.0**	**+7.8**
MDJ				PCP	PcP	20 49 40.3	-0.3
MDJ				PCS		20 53 17.0	
MDJ				AMB	AMB		
comp=Z,3.0nm,0.7s							
MDJ				AMB	AMB		
comp=Z,55nm,5.8s							
ENH	**Enshi**	**18.14**	**287**	*e*P	**P**	**20 45 07.4**	**-0.1**
comp=Z,10nm,0.8s							
GUMO	**Guam**	**19.18**	**129**	LR	LR	20 50 28.9	
comp=Z,166nm,21.9s,baz=337,slow=30							
XAN	**Xi'an**	**19.41**	**298**	P	**P**	**20 45 20.8**	**-1.7**
XAN				AMB	AMB		
comp=Z,40nm,1.1s							
XAN				AMB	AMB		
comp=Z,66nm,7.3s							
XAN				LR	LR		
comp=N,163nm,16.5s							
XAN				LR	LR		
comp=E,184nm,18.3s							
XAN				LR	LR		
comp=Z,301nm,12.5s							
ASAJ	**Asahikawa**	**20.46**	**27**	P	**P**	**20 45 34.1**	**+0.4**
comp=Z,5.3nm,0.6s,baz=230,slow=9.1,SNR=8.8							
GYA	**Guiyang**	**20.59**	**275**	P	**P**	**20 45 34.5**	**-0.6**
GYA				AP		20 45 43.5	
GYA				XP		20 45 47.5	
GYA				PP	PP	20 45 54.8	-1.9
GYA				S	**S**	**20 49 16.3**	**-2.2**
GYA				SCP		20 53 18.8	
GYA				AMB	AMB		
comp=Z,10.0nm,1.0s							
GYA				AMB	AMB		
comp=Z,60nm,2.6s							
GYA				LR	LR		
comp=N,240nm,11.4s,MS4.0							
GYA				LR	LR		
comp=E,280nm,12.4s,MS4.0							
GYA				LR	LR		
comp=Z,210nm,12.8s,MS3.7							
HHC	**Hu-ho-hao-te**	**20.72**	**318**	*e*P	**P**	**20 45 40.3**	**+3.9**
HHC				AP		20 45 46.8	
HHC				XP		20 45 49.5	
HHC				XS		20 49 45.3	
HHC				AMB	AMB		
comp=Z,12nm,1.1s							
HHC				AMB	AMB		
comp=Z,129nm,6.3s							
HHC				LR	LR		
comp=N,400nm,12.5s,MS4.1							
HHC				LR	LR		
comp=E,354nm,13.4s,MS4.1							
HHC				LR	LR		
comp=Z,463nm,12.5s,MS4.0							
CD2	**Chengdu**	**23.12**	**287**	*e*P	**P**	**20 46 01.5**	**+1.0**
CD2				PP	PP	20 46 31.5	+0.3
CD2				PPP	PPP	20 46 43.0	+1.8
CD2				S	**S**	**20 50 05.5**	**0.0**
CD2				SS	SS	20 50 50.8	-0.6
CD2				AMB	AMB		
comp=Z,10.0nm,1.0s,mb4.2							
CD2				LR	LR		
comp=N,200nm,12.0s							
CD2				LR	LR		
comp=Z,170nm,18.0s							
LZH	**Lanzhou**	**23.98**	**300**	*e*P	**P**	**20 46 08.0**	**-0.8**
LZH				AP		20 46 15.3	
LZH				AMB	AMB		
comp=Z,40nm,1.5s,mb4.6							
LZH				AMB	AMB		
comp=Z,132nm,4.0s							
LZH				LR	LR		
comp=N,689nm,13.8s							
LZH				LR	LR		
comp=Z,892nm,14.8s,MS4.4							
LZH	**Lanzhou**	**23.98**	**300**

GKN	Gorkha	39.89	283	*e*P		P	20 48 28.0 -0.8
	comp=Z,26nm,0.8s,mb5.0						
KOLN	Koldanda	40.83	283	*e*P		P	20 48 37.6 +1.0
	comp=Z,15nm,0.8s,mb4.7						
MKAR	Makanchi Array	42.32	311	P		P	20 48 48.1 -0.5
	comp=Z,2.0nm,0.6s,mb3.9,baz=96,slow=9.0,SNR=25						
ZAL	Zalesovo	42.83	322	P		P	20 48 52.3 -0.4
	comp=Z,1.5nm,0.6s,mb3.9,baz=3.3,slow=8.5,SNR=10						
KURK	Kurchatov	45.52	316	*e*P		P	20 49 13.4 -1.0
	comp=Z,23nm,1.5s,mb4.9						
WRAB	Tennant Creek	46.38	174	*e*P		P	20 49 21.7 +0.1
WRA	Warramunga Arr	46.38	174	P		P	20 49 21.6 0.0
	comp=Z,5.6nm,0.8s,mb4.5,baz=354,slow=8.5,SNR=62						
MBWA	Marble Bar	48.34	192	P		P	20 49 36.7 -0.3
	comp=Z,2.5nm,0.7s,mb4.3						
BVAR	Borovoye Array	50.93	318	P		P	20 49 57.2 +0.8
	comp=Z,3.8nm,0.7s,mb4.5,baz=94,slow=7.2,SNR=13						
BVAR				PcP		PcP	20 51 13.0 +0.3
	comp=Z,2.6nm,0.8s,baz=117,slow=3.2,SNR=3.1						
STKA	Stephens Creek	59.15	168	P		P	20 50 56.5 +0.1
	comp=Z,1.8nm,0.9s,mb4.1,baz=354,slow=7.6,SNR=4.6						
ILAR	Eielson Array	63.60	28	P		P	20 51 24.6 -1.1
	comp=Z,0.8nm,0.7s,mb3.8,baz=264,slow=5.9,SNR=7.3						
ARCES	ARCESS Array B	70.23	339	P		P	20 52 07.4 -0.1
	comp=Z,3.0nm,0.9s,mb4.2,baz=60,slow=9.8,SNR=8.7						
FINES	FINESS Array B	73.26	331	P		P	20 52 26.0 +0.3
	comp=Z,4.4nm,0.6s,mb4.6,baz=64,slow=6.5,SNR=38						
FINES				LR		LR	21 27 38.3
	comp=Z,97nm,20.3s,MS4.1,baz=237,slow=38						
AKASG	Malin Array Be	76.16	320	P		P	20 52 42.6 0.0
	comp=Z,4.6nm,0.7s,mb4.5,baz=55,slow=6.4,SNR=22						
BR131	Keskin Array S	77.88	308	*e*P		P	20 52 53.4 +0.9
	comp=Z,3.7nm,0.9s,mb4.3						
BRTR	Keskin Array B	77.88	308	P		P	20 52 53.2 +0.7
	comp=Z,3.7nm,0.8s,mb4.3,baz=91,slow=5.7,SNR=16						
URZ	Urewera	78.26	144	P		P	20 52 54.4 -0.2
	comp=Z,4.4nm,0.7s,mb4.5,baz=315,slow=5.7,SNR=3.1						
ASF	Jabal al Asfar	78.55	300	P		P	20 52 58.4 +2.1
	comp=Z,1.6nm,0.6s,mb4.1,baz=153,slow=9.0,SNR=4.6						
NB2	NORSAR Subarra	79.64	334	P		P	20 53 01.5 -0.1
	comp=Z,11nm,1.0s,mb4.7,baz=52,slow=5.3						
NOA	NORSAR Array B	79.64	334	P		P	20 53 01.6 0.0
	comp=Z,5.4nm,0.8s,mb4.5,baz=50,slow=5.3,SNR=12						
NOA				LR		LR	21 31 19.7
	comp=Z,57nm,19.6s,MS3.9,baz=280,slow=38						
VRI	Vrincioaia	79.79	316	⇓P		P	20 53 04.7 +1.9
BURAR	Bucovina Array	79.89	318	⇓P		P	20 53 04.9 +1.6
KWP	Kalwaria	80.38	321	*e*P		P	20 53 07.0 +1.2
	comp=Z,20nm,1.1s,mb5.0						
MLR	Muntele Rosu	80.45	316	P		P	20 53 07.7 +1.4
	comp=Z,4.8nm,1.0s,mb4.4,baz=100,slow=19,SNR=5.3						
MLR	Muntele Rosu	80.45	316	⇓P		P	20 53 08.1 +1.8
MLR	Muntele Rosu	80.45	316	⇓P		P	20 53 08.1 +1.8
STHS	Stebnicka Huta	81.31	321	*e*P		P	20 53 09.7 -1.0
CRVS	Cervenica-Dubn	81.45	321	*e*P		P	20 53 09.6 -1.9
KECS	Kecovo	82.22	321	*e*P		P	20 53 16.8 +1.3
VYHS	Vyhne	83.14	321	*e*P		P	20 53 21.7 +1.5
KSP	Ksiaz	83.24	324	*e*P		P	20 53 22.4 +1.8
CLL	Collm	84.66	326	P		P	20 53 29.3 +1.5
	comp=Z,logA/T=1.0,mb4.9						
CLL	Collm	84.66	326	*i* P		P	20 53 29.3 +1.5
	comp=Z,10.0nm,1.0s,mb4.9						
CLL				*i*			20 54 06.5
KHC	Kasperske Hory	85.66	324	*e*P		P	20 53 34.0 +1.3
GERES	GERESS Array B	85.76	323	P		P	20 53 34.5 +1.3
	comp=Z,2.0nm,0.8s,mb4.4,baz=45,slow=5.7,SNR=15						
PDAR	Pinedale Array	92.15	39	P		P	20 54 05.3 +1.5
	comp=Z,1.1nm,0.9s,mb4.2,baz=346,slow=6.1,SNR=4.5						
MSU	Marysvale	93.25	44	*e*P		P	20 54 10.4 +1.5

BJI ***28*** *20:44:05.7,31.63N×54.99E,h7km,mB5.0,mb4.6,Ms4.5*
CSEM ***28*** *20:44:06.5±0.1,32.00N×54.98E,h2km,mb4.3/5,Error ellipse: s-maj=2.2km s-min=2.0km az=59.0*
IDC ***28*** *20:44:07.4±1.3,31.91N×54.89E,mb3.9/10,mb1 4.1/12, mb1mx3.9/23,mbtmp3.9/12,ML3.7/2,MS3.7/8,Ms1 3.7/8, ms1mx3.5/26,Error ellipse: s-maj=29.4km s-min=18.2km az=164.0*
NEIC ***28*** *20:44:07.9±0.4,31.92N×54.95E,h5km,mb4.5/3, ML4.3(TEH),Error ellipse: s-maj=6.7km s-min=4.8km az=177.0*
TEH ***28*** *20:44:08.3,31.83N×54.97E,h10km,Mn4.3*
THR ***28*** *20:44:08.0±1.0,31.99N×54.96E,h14km±7km,ML3.9*
MOS ***28*** *20:44:11.3±1.6,32.10N×54.94E,h33km,mb4.7/5,Error ellipse: s-maj=10.1km s-min=7.0km az=72.1*
ISC 28 20:44:06.8±0.3,32.04N±0.03×55.00E±0.03,h2km,n86, σ1§27/87,mb4.1/18,MS3.8/10,2D,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ICHK	Chekchek	0.54	293	Pg	Pg	20 44 17.4	-0.2
IBAF	Bafgh	0.66	132	Pg	Pg	20 44 18.4	-1.6
IMEH	Mehriz	0.72	207	Pg	Pg	20 44 20.5	-0.8
ISAD	Sadrabad	1.12	264	Pg	Pg	20 44 28.1	-1.1
NASN	Na'in	2.00	293	*e*Pg	Pg	20 44 43.6	-3.1
NASN				*e*Sg	Sg	20 45 11.0	-2.4
IGAR	Garneh	2.38	276	Pn	Pn	20 44 49.5	+2.0
IZEF	Zefreh	2.41	292	Pn	Pn	20 44 48.0	+0.1
KRBR	Kerman	2.55	143	*e*PN	Pn	20 44 50.7	+0.9
KRBR				*e*SG	Sg	20 45 27.5	-4.1
IPAR	Pars	2.75	218	Pn	Pn	20 44 57.3	+4.5
ISRV	Sarvestan	3.10	212	Pn	Pn	20 44 59.6	+1.8
IKLH	Kalahroud	3.15	295	Pn	Pn	20 44 58.3	-0.2
SHI	Shiraz	3.20	222	Pn	Pn	20 45 02.2	+3.0
QAM	Qamsar	3.27	306	Pn	Pn	20 45 04.0	+3.9
IMOK	Mook	3.57	214	Pn	Pn	20 45 05.8	+1.4
IVRN	Varamin	4.02	318	Pn	Pn	20 45 11.2	+0.4
IFIR	Firoozkooh	4.05	333	Pn	Pn	20 45 11.6	+0.4
IFIR				Lg		20 46 19.5	
GHIR	Ghir-Karzin	4.12	205	*e*PN	Pn	20 45 12.5	+0.2
GHIR				AML	AML	20 46 36.4	
	comp=N,168nm,0.7s						
IDMV	Damavand	4.31	326	Pn	Pn	20 45 15.5	+0.6
DAMV	Damavand	4.38	326	*e*PN	Pn	20 45 16.8	+0.9
IAFJ	Afjeh	4.69	325	Pn	Pn	20 45 21.1	+0.8
BNDS	Bandar-Abbas	4.73	167	*e*PN	Pn	20 45 20.3	-0.6
BNDS				AML	AML	20 46 56.2	
	comp=N,161nm,0.8s						
ASAO	Ashtian	4.86	302	*e*PN	Pn	20 45 23.3	+0.6
ASAO				AML	AML	20 46 58.0	
	comp=N,72nm,0.7s						
THKV	Tehran--Karaj	5.16	320	*e*PN	Pn	20 45 27.8	+0.7
SHGR	Shooshtar-Gavs	5.26	272	*e*PN	Pn	20 45 28.2	-0.1
SHGR				AML	AML	20 47 12.2	
	comp=E,49nm,0.8s						
IMOG	Moghan	5.43	40	Pn	Pn	20 45 31.0	+0.2
IPAY	Payeh	5.51	36	Pn	Pn	20 45 32.0	+0.1
ZHSF	Zahedan	5.53	114	*e*PN	Pn	20 45 32.0	-0.1
IKRD	Kardeh	5.55	31	Pn	Pb	20 45 42.9	-1.5
MHI	Mashhad	5.65	40	Pn	Pn	20 45 34.7	+0.8
IMYA	Miamay	6.03	43	Pn	Pn	20 45 38.3	-0.9
ASH	Ashkhabad	6.51	24	⇓P	Pn	20 45 44.1	-1.9
SNGE	Sanandaj	7.07	298	*e*PN	Pn	20 45 53.9	-0.1
SNGE	Sanandaj	7.07	298	*e*Pn	Pn	20 45 53.8	-0.1
	SNR=52						
GNI	Garni	11.58	317	LR	LR	20 51 38.6	
	comp=E,58nm,21.2s,baz=317,slow=39						
MALT	Malatya	14.92	299	*e*P	P	20 47 41.8	+1.3
	comp=E,4.7nm,1.0s						
MALT	Malatya	14.92	299	*e*P	P	20 47 41.8	+1.3
	comp=E,4.7nm,1.0s						
MALT	Malatya	14.92	299	*e*P	P	20 47 41.8	+1.3
MALT				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KIV	Kislovodsk	15.33	324	*e*P	P	20 47 56.3	+10
KIV				MLR	MLR		
	comp=Z,100nm,17.0s						
ASF	Jabal al Asfar	15.34	275	Pn	P	20 47 43.2	-3.0
	comp=Z,1.2nm,0.3s,baz=307,slow=10,SNR=8.9						
ASF				LR	LR	20 54 55.0	
	comp=Z,209nm,18.7s,baz=74,slow=42						
GOF	Gofitskoye	15.99	328	*e*P	P	20 47 56.0	+1.5
KKAR	Karatay Array	16.50	44	*i* P	P	20 47 59.5	-1.5
	comp=Z,36nm,1.3s						
KKAR	Karatay Array	16.50	44	*i* P	P	20 47 59.5	-1.5
KKAR				pmax	pmax		
	comp=Z,36nm,1.3s						
AB31	Akbulak array	17.60	11	*i* P	P	20 48 15.2	+0.5
	comp=Z,27nm,1.5s						
AB31	Akbulak array	17.60	11	*i* P	P	20 48 15.2	+0.5
AB31				pmax	pmax		
	comp=Z,27nm,1.5s						
KSH	Kashi	18.56	60	*e*P	P	20 48 27.0	+0.2
KSH				*e*AP		20 48 35.0	
KSH				*e*XP		20 48 39.3	
KSH				*e*PP	PP	20 48 45.3	+2.8
KSH				*e*PPP	PPP	20 48 54.3	+2.8
KSH				*e*S	S	20 52 00.0	+8.6
KSH				AMB	AMB		
	comp=Z,240nm,3.6s						
KSH				LR	LR		
	comp=N,370nm,7.4s						
KSH				LR	LR		
	comp=E,670nm,10.5s						
FRU	Bishkek	18.90	50	*e*P	P	20 48 30.0	-0.9
	comp=E,40nm,1.6s						
FRU	Bishkek	18.90	50	*e*P	P	20 48 30.0	-0.9
FRU				pmax	pmax		
	comp=Z,40nm,1.6s						
BRTR	Keskin Array B	18.90	300	P	P	20 48 29.8	-1.1
	comp=Z,0.1nm,0.3s,baz=113,slow=9.4,SNR=5.2						
ISP	Isparta	20.87	293	P	P	20 48 54.0	+1.4
	comp=Z,34nm,1.4s						
ISP	Isparta	20.87	293	P	P	20 48 54.0	+1.4
ISP				pmax	pmax		
	comp=Z,34nm,1.4s						
ATD	Arta Tunnel	23.28	211	LR	LR	20 59 47.4	
	comp=Z,605nm,18.7s,MS4.1,baz=24,slow=41						
VOSK	Vostochnaya	23.70	25	P	P	20 49 21.8	+1.2
	comp=Z,20nm,1.6s,mb4.3						
VOSK	Vostochnaya	23.70	25	P	P	20 49 21.8	+1.2
VOSK				pmax	pmax		
	comp=Z,20nm,1.6s,mb4.3						
BRVK	Borovoye	23.74	23	*e*P	P	20 49 22.4	+1.4
	comp=Z,11nm,1.3s,mb4.1						
BRVK	Borovoye	23.74	23	*e*P	P	20 49 22.4	+1.4
	comp=Z,11nm,1.3s,mb4.1						
BRVK	Borovoye	23.74	23	*e*P	P	20 49 22.4	+1.4
BRVK				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.1						
BVA0	Borovoye Array	23.75	23	*i* P	P	20 49 22.5	+1.5
	comp=Z,7.0nm,1.6s,mb3.8						
BVA0	Borovoye Array	23.75	23	*i* P	P	20 49 22.5	+1.5
BVA0				pmax	pmax		
	comp=Z,7.0nm,1.6s,mb3.8						
BVAR	Borovoye Array	23.75	23	P	P	20 49 21.5	+0.5
	comp=Z,2.1nm,0.6s,mb3.7,baz=211,slow=8.6,SNR=27						
ARU	Arti	24.52	5	*e*P	P	20 49 30.9	+2.4
ARU				*e*		20 50 02.2	
ARU				*e*PPP	PPP	20 50 11.1	-3.5
ARU				*e*S	S	20 53 50.9	+4.1
ARU				*e*SS	SS	20 54 37.9	-3.3
ARU				*e*SSS	SSS	20 54 53.6	-3.6
ARU				MLR	MLR		
	comp=Z,100nm,20.0s,MS3.3						
ARU				MLR	MLR		
	comp=N,100nm,19.0s,MS3.4						
ARU				MLR	MLR		
	comp=E,30nm,15.0s,MS3.4						
SVE	Sverdlovsk	25.09	7	*e*P	P	20 49 31.6	-2.4
SVE				*e*S	PcP	20 53 14.0	+4.5
SVE				MLR	MLR		
	comp=N,300nm,10.0s,MS4.1						
SVE				MLR	MLR		
	comp=E,100nm,10.0s,MS4.1						
SVE				MLR	MLR		
	comp=Z,500nm,10.0s,MS4.3						
IDI	Anoyia	25.22	286	P	P	20 49 34.7	-0.7
	comp=Z,10.0nm,1.1s,mb4.2,baz=84,slow=10,SNR=4.3						
KURK	Kurchatov	25.55	36	*e*P	P	20 49 37.8	-0.7
KURK	Kurchatov	25.55	36	*e*P	P	20 49 37.8	-0.7
MKAR	Makanchi Array	25.56	47	P	P	20 49 38.8	+0.3
	comp=Z,2.6nm,0.9s,mb3.8,baz=233,slow=6.1,SNR=10						
MKAR				LR	LR	21 01 20.3	
	comp=Z,307nm,18.2s,MS3.9,baz=343,slow=40						
MLR	Muntele Rosu	26.17	309	P	P	20 49 44.7	+0.4
	comp=Z,2.1nm,0.7s,mb3.8,baz=52,slow=3.7,SNR=4.1						
OBN	Obninsk	26.49	336	*e*P	P	20 49 45.7	-1.4
	comp=Z,10.0nm,1.2s,mb4.2						
OBN	Obninsk	26.49	336	⇓*e*P	P	20 49 45.7	-1.4
OBN				*e*		20 50 24.3	
OBN				*e*SS	SS	20 55 25.6	-3.5
OBN				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.2						
AKASG	Malin Array Be	26.65	322	P	P	20 49 47.2	-1.3
	comp=Z,0.7nm,0.5s,mb3.5,baz=131,slow=9.3,SNR=8.2						
ZAL	Zalesovo	30.52	35	P	P	20 50 23.3	-0.1
	comp=Z,1.1nm,0.4s,mb4.1,baz=203,slow=12,SNR=5.7						
ZAL				LR	LR	21 03 48.1	
	comp=Z,119nm,20.7s,MS3.5,baz=47,slow=38						
ZAL	Zalesovo	30.52	35	P	P	20 50 23.3	-0.1
ZAL				LR	LR	21 03 48.1	
FINES	FINESS Array B	34.90	336	P	P	20 51 01.4	-0.2
	comp=Z,2.0nm,0.9s,mb4.1,baz=100,slow=8.5,SNR=3.8						
GERES	GERESS Array B	35.13	311	P	P	20 51 03.1	-0.6
	comp=Z,0.2nm,0.5s,mb3.3,baz=101,slow=6.8,SNR=3.8						
KHC	Kasperske Hory	35.27	311	*e*P	P	20 51 02.5	-2.4
GTA	Gaotai	36.82	66	P	P	20 51 18.5	+0.5
GTA				AP	pP	20 51 25.8	+7.2
GTA				XP	sP	20 51 30.5	+12
GTA				S	S	20 57 11.3	+8.7
GTA				AMB	AMB		
	comp=Z,11nm,1.4s,mb4.5						
GTA				AMB	AMB		
	comp=Z,67nm,13.4s						
GTA				LR	LR		
	comp=N,161nm,19.1s,MS3.9						
GTA				LR	LR		
	comp=E,85nm,14.9s,MS3.9						
KMBO	Kilima Mbogo	37.02	210	LR	LR	21 07 29.4	
	comp=E,165nm,20.7s,MS3.8,baz=93,slow=38						
LZH	Lanzhou	40.34	70	*e*P	P	20 51 48.5	+1.1
LZH				AMB	AMB		
	comp=Z,28nm,1.5s,mb4.8						
LZH				AMB	AMB		
	comp=Z,136nm,4.5s						
LZH	Lanzhou	40.34	70	*e*P	P	20 51 48.5	+1.1
	comp=Z,28nm,1.5s,mb4.8						
LZH				pP	pP	20 52 05.0	+17
NOA	NORSAR Array B	40.57	329	LR	LR	21 11 22.5	
	comp=Z,37nm,21.8s,MS3.2,baz=270,slow=40						
SONM	Songino Array	41.66	52	P	P	20 52 00.3	+2.1
	comp=Z,1.3nm,1.2s,mb3.5,baz=256,slow=6.1,SNR=6.9						
SONM				LR	LR	21 11 42.9	
	comp=Z,187nm,18.8s,MS4.0,baz=286,slow=40						
ULN	Ulaanbaatar	42.10	52	*i* P	P	20 52 03.1	+1.3
HHC	Hu-ho-hao-te	45.66	62	*e*P	P	20 52 27.5	-3.1
HHC				AP	pP	20 52 31.3	+0.1
HHC				PP	PP	20 54 13.5	-4.6
HHC				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.7						
HHC				AMB	AMB		
	comp=Z,118nm,6.4s						
BOD	Bodaibo	47.16	39	*e*P	P	20 52 39.8	-2.4
BOSA	Boshof	66.62	208	P	P	20 54 58.4	-2.6
	comp=Z,4.0nm,0.9s,mb4.5,baz=62,slow=8.4,SNR=4.2						
BOSA	Boshof	66.62	208	P	P	20 54 58.4	-2.6
BILL	Bilibino	68.09	22	*e*P	P	20 54 58.7	-11
BILL				*e*S	S	21 04 08.9	+0.2
BILL				pmax	pmax		
	comp=Z,14nm,1.7s,mb4.7						
BILL				MLR	MLR		
	comp=Z,100nm,18.0s,MS4.1						

NNC 28 21:02:25.9±7.1,36.87N×70.20E,h106km±115km,mpv3.8, 3C-3D,Error ellipse: s-maj=60.2km s-min=51.8km az=28.0,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	6.23	2	P	P	21 03 55.7	-1.1
	1.8nm,0.3s,baz=183,slow=13,SNR=122						
KK31				⇓S	S	21 05 08.6	+1.3
	25nm,0.7s						
AAK	Ala-Archa	6.64	29	⇑P	P	21 03 59.3	-3.1
	3.5nm,0.4s						
AAK				⇓S	S	21 05 15.1	-2.1
	12nm,0.7s						
AB31	Akbulak array	14.46	332	P	P	21 05 45.7	-0.6
	0.5nm,0.3s,baz=160,slow=12,SNR=24						
AB31				⇑S	S	21 08 23.5	-0.7
	1.7nm,0.5s						
AKTO	Aktyubinsk	16.15	331	⇑P	P	21 06 08.5	+0.8
	0.6nm,1.0s						
AKTO				⇓S	S	21 09 02.5	-0.5
	0.4nm,0.7s						
BVA0	Borovoye Array	16.16	0	P	P	21 06 06.3	-1.5
	0.2nm,0.5s,baz=266,slow=38,SNR=17						

IDC ***28*** *21:12:51.4±0.5,10.34N×138.40E,mb4.4/15,mb1 4.5/16, mb1mx4.5/21,mbtmp4.4/16,ML4.6/1,MS4.0/20,Ms1 4.0/20, ms1mx3.9/29,Error ellipse: s-maj=24.6km s-min=13.6km az=75.0*
MOS ***28*** *21:12:54.0±1.2,10.29N×138.52E,h33km,mb5.1/13, MS4.4/4,Error ellipse: s-maj=15.5km s-min=8.5km az=109.7*
HRVD ***28*** *21:12:56.2±0.5,10.56N×138.44E,h17km±1km,MW4.9/52, Centroid moment Tensor Solution. LP body waves: s23,c27;Mantle waves: s52,c85; Half duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-2.62±.21; Mθθ0.35±.11; Mφφ2.27±.15; Mrθ1.06±.37; Mθφ0.82±.09; Mφr0.47±.35; Best double couple: M0:2.834×10^16^ NP1:φs6°, δ38°, λ-114°. NP2:φs216°, δ56°, λ-72°. Principal axes: T 2.7, Plg9°, Azm293°; N .264, Plg15°, Azm25°; P -2.967, Plg73°, Azm173°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***28*** *21:12:56.1±0.3,10.33N×138.46E,mb4.9/12 Error ellipse: s-maj=10.4km s-min=7.8km az=62.0*
BJI ***28*** *21:12:56.4,10.73N×138.56E,h31km,mB5.0,mb4.7, Ms4.6,Msz4.2*
ISC 28 21:12:53.9±0.4,10.32N±0.05×138.53E±0.06,h31km, h31km±.8km:pP-P,n82,σ1§15/76,mb4.7/46,MS4.1/25, 2C-5D,Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	7.00	62	Pn	Pn	21 14 37.1	+0.1
	11nm,0.3s,baz=212,slow=15,SNR=4.2						
GUMO				Sn	Sn	21 15 53.3	-3.1
	1.1nm,0.3s,slow=20,SNR=2.4						
GUMO				LR	LR	21 16 54.9	
	comp=Z,1μm,19.6s,baz=243,slow=34						
CBIJ	Chichi jima	17.04	11	LR	LR	21 22 23.9	
	comp=Z,174nm,18.0s,baz=112,slow=34						
PMG	Port Moresby	21.39	156	LR	LR	21 24 45.8	
	comp=Z,485nm,19.7s,MS3.9,baz=161,slow=33						
YHNB	Yeheng	21.68	313	*e*P	P	21 17 46.2	+2.1
JHJ	Hachijo jima 2	22.72	3	LR	LR	21 25 19.6	
	comp=Z,218nm,18.5s,MS3.6,baz=259,slow=33						
JNU	Nakatsue	23.77	344	P	P	21 18 04.3	-0.3
	23nm,1.1s,mb4.5,baz=143,slow=7.0,SNR=8.9						
JNU				LR	LR	21 25 26.9	
	comp=Z,312nm,19.6s,MS3.8,baz=313,slow=32						
QZH	Quanzhou	23.88	310	P	P	21 18 06.0	+0.1
QZH				S	S	21 22 17.0	+0.2
QZH				AMB	AMB		
	comp=Z,750nm,4.1s						
MAT	Matsushiro	26.11	359	P	P	21 18 24.8	-2.2
MAT	Matsushiro	26.11	359	*e*P	P	21 18 25.0	-2.0
SSE	Sheshan	26.21	325	P	P	21 18 26.5	-1.4
SSE				AP	pP	21 18 35.3	-1.7
SSE				XP	sP	21 18 39.3	-1.8
SSE				S	S	21 22 58.0	+2.2
SSE				AMB	AMB		
	comp=Z,31nm,0.7s,mb5.0						
SSE				AMB	AMB		
	comp=Z,62nm,4.1s						
SSE				LR	LR		
	comp=N,130nm,18.7s,MS3.7						
SSE				LR	LR		
	comp=E,159nm,18.5s,MS3.7						
SSE				LR	LR		
	comp=Z,256nm,20.0s,MS3.8						
SSE	Sheshan	26.21	325	P	P	21 18 26.6	-1.3
	comp=Z,31nm,0.7s,mb5.0						
SSE				pP	pP	21 18 35.3	-1.7
SSE				sP	sP	21 18 39.2	-1.9
SSE				S	S	21 22 58.1	+2.3
SSE				sS		21 23 12.9	
SSE				LR	LR		
	comp=Z,260nm,20.0s,MS3.8						
NJ2	Nanjing	28.26	323	*e*P	P	21 18 46.0	-0.6
NJ2				AP	pP	21 18 55.3	-0.4
NJ2				XP	sP	21 18 59.0	-0.8
NJ2				PP	PP	21 19 37.5	-0.3
NJ2				S	S	21 23 29.0	-0.1
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
NJ2				LR	LR		
	comp=N,630nm,15.3s,MS4.5						
NJ2				LR	LR		
	comp=E,620nm,15.4s,MS4.5						
NJ2				LR	LR		
	comp=Z,280nm,15.5s,MS4.0						
HNR	Honiara	28.96	132	LR	LR	21 28 37.6	
	comp=Z,193nm,22.0s,MS3.7,baz=307,slow=32						
WHN	Wuhan	30.18	315	*e*P	P	21 19 04.5	+0.7
WRAB	Tennant Creek	30.34	188	*e*P	P	21 19 04.5	-0.7
WRA	Warramunga Arr	30.35	188	P	P	21 19 04.6	-0.8
	comp=Z,2.5nm,0.9s,mb3.9,baz=3.8,slow=9.9,SNR=18						
WRA				PcP	PcP	21 22 06.2	+1.1
	comp=Z,1.3nm,0.8s,baz=358,slow=2.8,SNR=5.0						
FITZ	Fitzroy Crossi	30.97	204	P	P	21 19 09.0	-1.9
	comp=Z,18nm,1.2s,mb4.8,baz=9.5,slow=8.6,SNR=9.0						
XAN	Xi'an	35.95	316	P	P	21 19 53.5	-0.3
XAN				AMB	AMB		
	comp=Z,7.0nm,1.3s,mb4.4						
NANT	Nan	37.51	287	P	P	21 20 06.0	-1.0
HHC	Hu-ho-hao-te	38.63	327	*e*P	P	21 20 17.5	+1.3
HHC				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.5						
CHG	Chiang Mai	39.16	287	P	P	21 20 22.0	+1.1
LZH	Lanzhou	40.56	315	*e*P	P	21 20 32.8	+0.6
LZH				AP	pP	21 20 42.5	+0.9
LZH				XP	sP	21 20 45.5	+0.1
LZH				PP	PP	21 22 09.0	0.0
LZH				*e*S	S	21 26 37.0	-2.3
LZH				*e*XS		21 26 52.0	
LZH				*e*SS	SS	21 29 27.0	-7.5
LZH				AMB	AMB		
	comp=Z,26nm,1.2s,mb4.7						
LZH				AMB	AMB		
	comp=Z,123nm,4.2s						
LZH				LR

comp=Z,13nm,1.3s,mb4.7
ULN Ulaanbaatar 45.84 331 *e*P **P 21 21 15.7 +0.7**
ULN pmax pmax
comp=Z,13nm,1.3s,mb4.7
SONM Songino Array 46.14 330 P **P 21 21 18.8 +1.4**
comp=Z,7.4nm,1.1s,mb4.5,baz=145,slow=5.9,SNR=33
SONM PcP PcP 21 22 53.9 +0.4
comp=Z,1.8nm,1.0s,baz=132,slow=3.9,SNR=3.5
SONM LR LR 21 39 48.6
comp=Z,144nm,18.4s,MS4.0,baz=327,slow=35
CIT Chita 46.28 339 *e*P **P 21 21 19.2 +0.8**
CIT *e* 21 21 25.9
CIT *e* 21 22 54.1
CIT pmax pmax
comp=Z,52nm,2.0s,mb5.1
LSA Lhasa 48.13 301 P **P 21 21 31.5 -1.8**
LSA Lhasa 48.13 301 *e*P **P 21 21 33.4 +0.2**
comp=Z,3.0nm,0.8s,mb4.4
LSA Lhasa 48.13 301 *e*P **P 21 21 33.4 +0.1**
LSA pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
ZAK Zakamensk 49.37 331⇊ *e*P **P 21 21 43.2 +0.7**
ZAK pmax pmax
comp=Z,3.0nm,1.1s,mb4.2
IRK Irkutsk 50.18 333 *e*P **P 21 21 49.7 +1.0**
IRK pmax pmax
comp=Z,35nm,2.9s,mb4.9
BOD Bodaibo 50.99 343 *e*P **P 21 21 52.9 -1.9**
BOD pmax pmax
comp=Z,5.0nm,1.3s,mb4.3
MOY Mondy 51.31 331 *e*P **P 21 21 58.0 +0.8**
MOY pmax pmax
comp=Z,35nm,2.6s,mb4.8
YAK Yakutsk 52.03 355*d i*P **P 21 22 01.4 -1.2**
YAK pmax pmax
comp=Z,42nm,1.4s,mb5.2
KKN Kakani 52.84 297 *e*P **P 21 22 09.5 +0.4**
DMN Daman 52.96 297 *e*P **P 21 22 09.9 -0.2**
comp=Z,21nm,1.0s,mb5.0
GKN Gorkha 53.43 297 *e*P **P 21 22 12.6 -0.9**
comp=Z,22nm,1.1s,mb5.0
SEY Seymchan 53.47 8⇑ *e*P **P 21 22 13.8 +0.5**
KOLN Koldanda 54.31 297 *e*P **P 21 22 19.7 -0.2**
comp=Z,51nm,1.7s,mb5.2
WMQ Urumqi 55.07 317 *e*P **P 21 22 26.8 +1.5**
WMQ AP pP 21 22 36.8 +2.0
WMQ AMB AMB
comp=Z,15nm,1.0s,mb5.0
MKAR Makanchi Array 59.67 319 P **P 21 22 57.8 +0.1**
comp=Z,6.3nm,1.0s,mb4.6,baz=108,slow=7.7,SNR=23
MKAR LR LR 21 47 21.9
comp=Z,111nm,19.4s,MS4.0,baz=180,slow=35
BILL Bilibino 60.50 12⇑ *e*P **P 21 23 02.8 -0.3**
BILL *e* 21 25 20.0
BILL *e*S **S 21 31 11.0 -3.7**
BILL pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
ZAL Zalesovo 60.81 327 P **P 21 23 04.2 -1.2**
comp=Z,1.1nm,0.8s,mb4.0,baz=360,slow=3.7,SNR=7.8
ZAL LR LR 21 49 58.9
comp=Z,155nm,21.1s,MS4.1,baz=10,slow=37
NVS Novosibirsk 62.02 327 *e*P **P 21 23 13.4 -0.2**
NVS *i* 21 23 50.2
NVS pmax pmax
comp=Z,26nm,1.9s,mb5.0
NVS pmax pmax
comp=N,12nm,1.7s
NVS pmax pmax
comp=E,20nm,1.8s
KURK Kurchatov 63.20 322 *e*P **P 21 23 20.5 -0.9**
comp=E,12nm,0.8s,mb5.1
KURK Kurchatov 63.20 322 *e*P **P 21 23 20.5 -0.9**
KURK pmax pmax
comp=Z,12nm,0.8s,mb5.1
BVAR Borovoye Array 68.71 323 P **P 21 23 56.4 -0.3**
comp=Z,4.1nm,0.6s,mb4.5,baz=112,slow=8.0,SNR=24
BRVK Borovoye 68.78 323 *e*P **P 21 23 56.7 -0.4**
comp=Z,19nm,1.4s,mb4.8
BRVK Borovoye 68.78 323 *e*P **P 21 23 56.7 -0.4**
BRVK pmax pmax
comp=Z,19nm,1.4s,mb4.8
MCK McKinley 73.10 26 *e*P **P 21 24 23.0 +0.1**
comp=Z,7.5nm,1.0s,mb4.6
DIV Divide 74.12 29 *e*P **P 21 24 29.8 +1.0**
comp=Z,85nm,1.4s,mb5.5
ILAR Eielson Array 74.17 25 P **P 21 24 28.1 -0.9**
comp=Z,2.5nm,0.8s,mb4.2,baz=253,slow=5.7,SNR=18
ILAR LR LR 21 56 43.4
comp=Z,112nm,18.2s,MS4.2,baz=181,slow=36
SVE Sverdlovsk 74.81 326 *e* **P 21 24 33.0 +0.1**
SVE *e* 21 27 26.0
SVE MLR MLR
comp=N,100nm,14.0s,MS4.4
SVE MLR MLR
comp=E,100nm,14.0s,MS4.4
SVE MLR MLR
comp=Z,200nm,14.0s,MS4.6
ARU Arti 75.93 326⇊ *i*P **P 21 24 38.5 -0.8**
ARU *e* 21 27 29.2
ARU *e*S S 21 34 20.3 +1.8
ARU *e*SS SS 21 39 15.0 +0.9
ARU pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
PPT Papeete 76.21 111 LR LR 21 56 08.0
comp=Z,207nm,19.1s,MS4.5,baz=321,slow=34
KIV Kislovodsk 87.10 314 *e*P **P 21 25 46.3 +8.2**
KIV *e*S 21 36 01.1
KIV pmax pmax
comp=Z,8.0nm,1.1s,mb4.9
KIV MLR MLR
comp=Z,100nm,21.0s,MS4.2
ARCES ARCESS Array B 88.22 341 P **P 21 25 42.8 0.0**
comp=Z,3.1nm,1.0s,mb4.5,baz=80,slow=7.4,SNR=7.0
ARCES LR LR 22 05 16.4
comp=Z,79nm,20.9s,MS4.1,baz=204,slow=36
OBN Obninsk 88.37 326⇊ *e*P **P 21 25 42.7 -1.2**
OBN *e* 21 29 11.1
OBN *e*SS SS 21 42 18.8 +0.3
OBN pmax pmax
comp=Z,20nm,1.3s,mb5.2
OBN MLR MLR
comp=Z,100nm,21.0s,MS4.2
YKA Yellowknife Ar 88.57 26 LR LR 22 06 15.6
comp=Z,78nm,18.3s,MS4.2,baz=270,slow=36
VNDA Vanda 88.69 175 P **P 21 25 46.4 +1.3**
comp=Z,1.6nm,1.0s,mb4.3,baz=323,slow=4.9,SNR=5.6
VNDA LR LR 22 05 28.3
comp=Z,89nm,21.2s,MS4.2,baz=255,slow=36
SOC Sochi 89.28 314 *e*P **P 21 25 46.7 -1.9**
SOC *e* 21 29 16.5
SOC *e*PPP PPP 21 31 27.5 +6.9
SOC *e*S 21 36 13.4
SOC *e* 21 36 37.8
SOC *e*SS SS 21 42 37.3 +5.5
SOC *e*SSS SSS 21 45 57.9 -8.1
SOC pmax pmax
comp=N,22nm,0.7s
SOC pmax pmax
comp=E,17nm,0.7s
SOC pmax pmax
comp=Z,17nm,0.7s,mb5.5
HUMO Hull Mountain 89.28 47 *e*P **P 21 25 50.8 +2.1**
comp=Z,7.1nm,1.3s,mb4.8
ANN Anapa 90.57 316 *e*P **P 21 25 51.9 -2.6**
ANN pmax pmax
comp=Z,64nm,1.6s,mb5.7
FINES FINESS Array B 91.41 334 P **P 21 25 57.3 -0.7**
comp=Z,3.8nm,0.9s,mb4.7,baz=82,slow=9.8,SNR=14
FINES LR LR 22 11 25.8
comp=Z,81nm,18.7s,MS4.2,baz=247,slow=38
ATD Arta Tunnel 93.45 282 LR LR 22 03 28.2
comp=Z,41nm,21.6s,MS3.8,baz=289,slow=32
AKASG Malin Array Be 93.99 323 P **P 21 26 11.8 +1.7**
comp=Z,0.1nm,0.2s,mb3.8,baz=56,slow=3.3,SNR=4.0
AKASG Malin Array Be 93.99 323 P **P 21 26 11.8 +1.7**
MAW Mawson 94.07 202 LR LR 22 09 11.7
comp=Z,93nm,19.1s,MS4.3,baz=51,slow=36
HFS Hagfors 97.32 336 LR LR 22 08 47.9
comp=Z,66nm,21.2s,MS4.1,baz=108,slow=34
NOA NORSAR Array B 97.75 337 LR LR 22 14 17.6
comp=Z,52nm,18.7s,MS4.0,baz=30,slow=38
PDAR Pinedale Array 98.63 44 P **P 21 26 33.0 +1.6**
comp=Z,0.3nm,0.7s,mb4.0,baz=301,slow=5.3,SNR=3.5
ROSC El Rosal 143.97 67 PKP PKPdf 21 32 29.0 -3.5
comp=Z,2.6nm,0.4s,baz=103,slow=19,SNR=4.7
SDV Santo Domingo 145.27 58 PKPbc PKPbc 21 32 32.7 +2.7
comp=Z,12nm,0.2s,baz=294,slow=4.7,SNR=16
CFAA Coronel Fontan 147.40 134 PKPbc PKPdf 21 32 38.3 +0.3
comp=Z,1.1nm,0.8s,baz=245,slow=4.0,SNR=10
LPAZ La Paz 153.40 106 PKPbc PKPdf 21 32 54.1 +6.7
comp=Z,2.3nm,0.8s,baz=65,slow=2.2,SNR=3.9
SIV San Ignacio 160.10 109 PKPab PKPab 21 33 35.7 +2.6
comp=Z,1.1nm,1.0s,baz=264,slow=9.2,SNR=3.4

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*IDC **28** 21:16:31.7±1.4,26.49N×129.60E,mb3.9/3,mb1 4.0/4, mb1mx3.7/18,mbtmp3.9/4,ML3.4/1,Error ellipse: s-maj=31.6km s-min=22.7km az=41.0*
*JMA **28** 21:16:33.9±0.1,26.48N×129.74E,h46km,M3.4*
*NEIC **28** 21:16:35.2±5.3,26.49N×129.59E,h24km±39km, MG3.4(JMA),Error ellipse: s-maj=25.0km s-min=18.8km az=118.0*
ISC 28 21:16:34.2±0.5,**26.52N**±0.04×**129.72E**±0.04,**h46**km,**n18,** σ1§**01**/32,**mb3.8/3,Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**1.33**	**284**	Pn	**P**	**21 16 56.9**	**0.0**
	70nm,0.3s,baz=121,slow=21,SNR=223						
JOW				Sn	**S**	**21 17 12.6**	**-0.9**
	174nm,0.3s,baz=108,slow=19,SNR=36						
JOW	**Kunigami**	**1.33**	**284**	P	**P**	**21 16 57.0**	**+0.2**
JOW				S	**S**	**21 17 13.3**	**-0.2**
JTK	**Tokunoshima**	**1.43**	**332**	P	**P**	**21 16 58.6**	**+0.3**
JTK				S	**S**	**21 17 17.1**	**+1.0**
JMZ	**Minamidaito 2**	**1.52**	**117**	P	**P**	**21 16 58.7**	**-0.9**
JMZ				S	**S**	**21 17 16.9**	**-1.4**
JIH	**Iheya**	**1.64**	**288**	P	**P**	**21 17 01.7**	**+0.4**
JIH				S	**S**	**21 17 21.1**	**-0.2**
JZK	**Kikaishima**	**1.80**	**7**	P	**P**	**21 17 04.3**	**+0.9**
JZK				S	**S**	**21 17 26.3**	**+1.1**
JJT2	**Tamagusuku 2**	**1.81**	**258**	P	**P**	**21 17 03.8**	**+0.3**
JJT2				S	**S**	**21 17 24.8**	**-0.5**
NAH1	**Naha**	**1.84**	**261**	P	**P**	**21 17 04.2**	**+0.1**
NAH1				S	**S**	**21 17 26.2**	**-0.1**
JAM	**Amami Oshima**	**1.89**	**357**	P	**P**	**21 17 04.6**	**0.0**
JAM				S	**S**	**21 17 26.2**	**-1.1**
JAGN	**Aguni-jima**	**2.22**	**272**	P	**P**	**21 17 09.7**	**+0.3**
JAGN				*e*S	**S**	**21 17 35.4**	**-0.2**
JKE	**Kume jima 2**	**2.63**	**266**	P	**P**	**21 17 14.5**	**-0.8**
JKE				*e*S	**S**	**21 17 45.1**	**-1.1**
JNN	**Nakanoshima**	**3.31**	**2**	P	**P**	**21 17 24.6**	**-0.3**
JNN				S	**S**	**21 18 01.8**	**-1.6**
JKC	**Kuchinoerabu**	**3.95**	**6**	S	**S**	**21 18 16.1**	**-3.4**
JNU	**Nakatsue**	**6.65**	**8**	Pn	**P**	**21 18 12.3**	**+0.4**
	0.7nm,0.3s,slow=3.0,SNR=5.3						
JNU				Sn	**S**	**21 19 23.8**	**-3.5**
	0.2nm,0.3s,baz=314,slow=42,SNR=2.2						
JNU	**Nakatsue**	**6.65**	**8**	Pn	**P**	**21 18 12.3**	**+0.4**
JNU				Sn	**S**	**21 19 23.8**	**-3.5**
WRA	**Warramunga Arr**	**46.40**	**174**	P	**P**	**21 24 59.8**	**+1.5**
	0.9nm,0.8s,mb3.8,baz=352,slow=7.8,SNR=8.8						
FINES	**FINESS Array B**	**73.26**	**331**	P	**P**	**21 28 04.5**	**+2.4**
	1.8nm,0.9s,mb4.0,baz=45,slow=7.9,SNR=5.3						
NOA	**NORSAR Array B**	**79.64**	**334**	P	**P**	**21 28 39.9**	**+1.9**
	0.7nm,0.8s,mb3.7,baz=55,slow=5.4,SNR=3.3						

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*TEH **28** 21:24:20.9,31.92N×55.05E,h10km,Mn3.9*
*THR **28** 21:24:21.9±1.0,32.07N×54.98E,h14km±9km,ML3.8*
*CSEM **28** 21:24:22.4±0.1,32.05N×54.96E,h16km,ML3.9,Error ellipse: s-maj=3.9km s-min=2.4km az=44.0*
ISC 28 21:24:21.6±0.6,**31.85N**±0.04×**54.89E**±0.06,**h10**km,**n22,** σ1§**60**/24,**Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMEH	**Mehriz**	**0.51**	**207**	Pg	**Pg**	**21 24 32.5**	**+0.5**
ICHK	**Chekchek**	**0.57**	**314**	Pg	**Pg**	**21 24 30.0**	**-3.1**
IBAF	**Bafgh**	**0.63**	**114**	Pg	**Pg**	**21 24 30.8**	**-3.6**
NASN	**Na'in**	**2.00**	**299**	*e*Pn	**Pn**	**21 24 56.6**	**+0.7**
NASN				*e*Sg	**Sn**	**21 25 24.6**	**+3.4**
IGAR	**Garneh**	**2.32**	**281**	Pn	**Pn**	**21 25 02.1**	**+1.6**
IZEF	**Zefreh**	**2.40**	**296**	Pn	**Pn**	**21 25 01.3**	**-0.4**
KRBR	**Kerman**	**2.46**	**139**	*e*PN	**Pn**	**21 25 05.5**	**+3.0**
KRBR				*e*SG	**Sg**	**21 25 42.7**	**-0.9**
KRBR				AML	AML	21 25 50.3	
	comp=N,1μm,0.5s						
IPAR	**Pars**	**2.55**	**219**	Pn	**Pg**	**21 25 12.7**	**+0.2**
ISRV	**Sarvestan**	**2.90**	**212**	Pn	**Pg**	**21 25 15.5**	**-3.9**
SHI	**Shiraz**	**3.00**	**224**	Pn	**Pg**	**21 25 18.8**	**-2.8**
IKLH	**Kalahroud**	**3.15**	**299**	Pn	**Pn**	**21 25 11.7**	**-0.7**
QAM	**Qamsar**	**3.31**	**309**	Pn	**Pn**	**21 25 20.0**	**+5.4**
IMOK	**Mook**	**3.36**	**214**	Pn	**Pn**	**21 25 21.2**	**+5.8**
GHIR	**Ghir-Karzin**	**3.91**	**205**	*e*PN	**Pn**	**21 25 26.9**	**+3.8**
GHIR				*e*SG	**Sg**	**21 26 30.8**	**-1.2**
GHIR				AML	AML	21 26 38.0	
	comp=E,79nm,0.6s						
IVRN	**Varamin**	**4.10**	**321**	Pn	**Pn**	**21 25 26.0**	**+0.1**
IFIR	**Firoozkooh**	**4.18**	**335**	Pn	**Pn**	**21 25 25.6**	**-1.4**
IFIR	**Firoozkooh**	**4.18**	**335**	Lg		21 26 29.6	
IDMV	**Damavand**	**4.42**	**328**	Pn	**Pn**	**21 25 27.4**	**-2.9**
DAMV	**Damavand**	**4.49**	**328**	*e*Pn	**Pn**	**21 25 30.6**	**-0.8**
DAMV				AML	AML	21 26 60.0	
	comp=N,78nm,0.5s						
BNDS	**Bandar-Abbas**	**4.57**	**166**	*e*PN	**Pn**	**21 25 35.7**	**+3.2**
BNDS				AML	AML	21 26 37.0	
	comp=E,59nm,0.6s						
IRAZ	**Razeghan**	**5.45**	**312**	Pn	**Pn**	**21 25 47.9**	**+3.0**
ZHSF	**Zahedan**	**5.54**	**112**	*e*Pn	**Pn**	**21 25 46.8**	**+0.6**

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*LDG **28** 21:26:49.4±0.5,45.28N×15.69E,h10km,Ml2.8/6,Error ellipse: s-maj=11.1km s-min=7.3km az=118.0*
*LJU **28** 21:26:50.8,45.50N×15.26E,h11km,ML2.3*
*NEIC **28** 21:26:51.0±1.1,45.47N×15.33E,h10km,ML2.7(VIE), ML2.4(LJU),Error ellipse: s-maj=13.4km s-min=4.6km az=133.0*
NEIC Felt [IV] at Crnomelj and Vinica, Slovenia.
*CSEM **28** 21:26:51.0±0.2,45.48N×15.30E,h2km,ML3.1/13,Error ellipse: s-maj=2.9km s-min=1.7km az=138.0*
*PRU **28** 21:26:52.3,45.57N×15.59E*
*ROM **28** 21:27:07.5±0.1,45.79N×13.60E,h9km,Md3.0/4,Ml2.3/4, Error ellipse: s-maj=3.2km s-min=1.4km az=39.0*
ISC 28 21:26:49.8±0.4,**45.46N**±0.02×**15.25E**±0.03,**h10**km,**n76,** σ1§**21**/125,**14C-4D,Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOJS	**Bojanci**	**0.04**	**4**⇑	*i*Pg	**Pg**	**21 26 52.7**	**+0.9**
BOJS				*i* Sg	**Sg**	**21 26 53.8**	**+0.7**
	comp=Z,3μm,0.1s						
BOJS	**Bojanci**	**0.04**	**4**⇑	*i*Pg	**Pg**	**21 26 52.7**	**+0.9**
BOJS				*i* Sg	**Sg**	**21 26 53.8**	**+0.7**
	comp=Z,3μm,0.1s						
CRES	**Cresnjev**	**0.40**	**22**	*i* Pg	**Pg**	**21 26 57.5**	**-0.4**
	comp=Z,77nm,0.1s						
CRES	**Cresnjev**	**0.40**	**22**	*i* Pg	**Pg**	**21 26 57.5**	**-0.4**
	comp=Z,77nm,0.1s						
VISS	**Visnje**	**0.45**	**320**⇑	*i*Pg	**Pg**	**21 26 60.0**	**+1.1**
VISS				*i* Sg	**Sg**	**21 27 06.1**	**+1.1**
	comp=Z,270nm,0.2s						
VISS	**Visnje**	**0.45**	**320**⇑	*i*Pg	**Pg**	**21 27 00.0**	**+1.1**
VISS				*i* Sg	**Sg**	**21 27 06.1**	**+1.1**
	comp=Z,270nm,0.2s						
GCIS	**Gornji Cirnik**	**0.49**	**33**	*e*Pg	**Pg**	**21 26 59.3**	**-0.4**
GCIS				*i* Sg	**Sg**	**21 27 06.4**	**+0.1**
	comp=Z,153nm,0.1s						
GCIS	**Gornji Cirnik**	**0.49**	**33**	*e*Pg	**Pg**	**21 26 59.3**	**-0.4**
GCIS				*i* Sg	**Sg**	**21 27 06.4**	**+0.1**
	comp=Z,153nm,0.1s						
LEGS	**Legarje**	**0.49**	**6**	*i* Pg	**Pg**	**21 26 59.5**	**-0.3**
LEGS				*e*Sg	**Sg**	**21 27 06.7**	**+0.3**
	comp=Z,387nm,0.5s						
LEGS	**Legarje**	**0.49**	**6**	*i* Pg	**Pg**	**21 26 59.5**	**-0.3**
LEGS				*e*Sg	**Sg**	**21 27 06.7**	**+0.3**
	comp=Z,387nm,0.5s						
CESS	**Cesta pri Krsk**	**0.54**	**16**	*i* Pg	**Pg**	**21 27 00.6**	**-0.1**
CESS				*i* Sg	**Sg**	**21 27 08.1**	**+0.2**
	comp=Z,120nm,0.2s						
CESS	**Cesta pri Krsk**	**0.54**	**16**	*i* Pg	**Pg**	**21 27 00.6**	**0.0**
CESS				*i* Sg	**Sg**	**21 27 08.1**	**+0.2**
	comp=Z,120nm,0.2s						
GOLS	**Golise**	**0.61**	**25**⇓	*i*Pg	**Pg**	**21 27 02.2**	**+0.1**
GOLS				*e*Sg	**Sg**	**21 27 11.0**	**+0.6**
	comp=Z,81nm,0.2s						
GOLS	**Golise**	**0.61**	**25**⇓	*i*Pg	**Pg**	**21 27 02.2**	**+0.1**
GOLS				*e*Sg	**Sg**	**21 27 11.0**	**+0.6**
	comp=Z,81nm,0.2s						
KNDS	**Knezji Dol**	**0.61**	**277**	*i* Pg	**Pg**	**21 27 03.5**	**+1.3**
KNDS				*i* Sg	**Sg**	**21 27 12.8**	**+2.3**
	comp=Z,66nm,0.1s						
KNDS	**Knezji Dol**	**0.61**	**277**	*i* Pg	**Pg**	**21 27 03.5**	**+1.3**
KNDS				*i* Sg	**Sg**	**21 27 12.8**	**+2.4**
	comp=Z,66nm,0.1s						
PDKS	**Podkum**	**0.63**	**344**	*i* Pg	**Pg**	**21 27 02.7**	**+0.3**
PDKS				*i* Sg	**Sg**	**21 27 10.8**	**-0.1**
	comp=Z,181nm,0.2s						
CEY	**Cerknica**	**0.64**	**296**⇑	*i*Pg	**Pg**	**21 27 03.8**	**+1.1**
DOBS	**Dobrina**	**0.71**	**13**⇓	*i*Pg	**Pg**	**21 27 04.2**	**+0.2**
LJU	**Ljubljana**	**0.77**	**319**⇑	*i*Pg	**Pg**	**21 27 06.0**	**+0.7**
LJU				*i* Sg	**Sg**	**21 27 16.6**	**+0.9**
	comp=Z,58nm,0.1s						
LJU	**Ljubljana**	**0.77**	**319**⇑	*i*Pg	**Pg**	**21 27 06.0**	**+0.7**
LJU				*i* Sg	**Sg**	**21 27 16.6**	**+0.9**
	comp=Z,58nm,0.1s						
NVLJ	**Novalja**	**0.94**	**197**	*i* Pg	**Pg**	**21 27 09.2**	**+0.7**
NVLJ				*i* Sg	**Sg**	**21 27 23.0**	**+1.9**
JAVS	**Javornik**	**0.94**	**298**	*i* Pg	**Pg**	**21 27 08.8**	**+0.2**
JAVS				*i* Sg	**Sg**	**21 27 21.9**	**+0.8**
	comp=Z,35nm,0.2s						
JAVS	**Javornik**	**0.94**	**298**	*i* Pg	**Pg**	**21 27 08.8**	**+0.2**
JAVS				*i* Sg	**Sg**	**21 27 21.9**	**+0.8**
	comp=Z,35nm,0.2s						
GROS	**Grobnik**	**1.02**	**10**	*e*Pg	**Pg**	**21 27 09.9**	**-0.3**
TRI	**Trieste**	**1.07**	**284**	Pn	**Pn**	**21 27 11.2**	**+0.4**
	comp=Z,49nm,0.5s						
VOJS	**Vojsko**	**1.11**	**301**	*e*Pg	**Pg**	**21 27 11.9**	**-0.2**
VOJS				*i* Sg	**Sg**	**21 27 27.5**	**+0.5**
OBKA	**Obir**	**1.16**	**335**⇓	*i*PG	**Pg**	**21 27 13.0**	**0.0**
OBKA				*i* SG	**Sg**	**21 27 27.9**	**-0.5**
	comp=Z,82nm,0.3s						
PERS	**Pernice**	**1.18**	**356**	*e*Pg	**Pg**	**21 27 13.2**	**-0.2**
PERS				*i* Sg	**Sg**	**21 27 29.1**	**0.0**
	comp=Z,50nm,0.2s						
PERS	**Pernice**	**1.18**	**356**	*e*Pg	**Pg**	**21 27 13.2**	**-0.2**
PERS				*i* Sg	**Sg**	**21 27 29.1**	**-0.1**
	comp=Z,50nm,0.2s						
GORS	**Gorjuse**	**1.23**	**315**	*i* Pg	**Pg**	**21 27 13.8**	**-0.5**
GORS				*e*Sg	**Sg**	**21 27 31.6**	**+0.9**
	comp=Z,36nm,0.1s						
GORS	**Gorjuse**	**1.23**	**315**	*i* Pg	**Pg**	**21 27 13.8**	**-0.5**
GORS				*e*Sg	**Sg**	**21 27 31.6**	**+0.9**
	comp=Z,36nm,0.1s						
CADS	**Cadrg**	**1.31**	**307**	*i* Pg	**Pg**	**21 27 15.2**	**-0.7**
CADS				*i* Sg	**Sg**	**21 27 33.7**	**+0.3**
	comp=Z,83nm,0.3s						
CADS	**Cadrg**	**1.31**	**307**	*i* Pg	**Pg**	**21 27 15.2**	**-0.7**
CADS				*i* Sg	**Sg**	**21 27 33.7**	**+0.3**
	comp=Z,83nm,0.3s						
ROBS	**Robic**	**1.45**	**303**	*e*Pg	**Pg**	**21 27 17.7**	**-1.0**
ROBS				*e*Sg	**Sg**	**21 27 38.6**	**+0.5**
	comp=Z,25nm,0.3s						
ROBS	**Robic**	**1.45**	**303**	*e*Pg	**Pg**	**21 27 17.7**	**-1.0**
ROBS				*e*Sg	**Sg**	**21 27 38.6**	**+0.6**
	comp=Z,25nm,0.3s						
PTCC	**Patocco-Chiusa**	**1.62**	**306**	Pn	**Pn**	**21 27 20.6**	**+1.9**
	comp=Z,27nm,0.3s						
ARSA	**Arzberg**	**1.80**	**6**⇑	*i*PN	**Pn**	**21 27 21.8**	**+0.6**
ARSA				*i* PG	**Pg**	**21 27 24.5**	**-1.3**
ARSA				*i* SG	**Sg**	**21 27 49.2**	**-0.6**
	comp=Z,3.9nm,0.2s						
FVI	**Forni Avoltri**	**2.06**	**304**	Pn	**Pn**	**21 27 27.5**	**+2.6**
	comp=Z,26nm,0.5s						
RHK1	**Bakonya**	**2.08**	**71**	*e*P	**Pn**	**21 27 24.5**	**-0.7**
KBA	**Koelnbreinsper**	**2.09**	**321**⇑	*i*PN	**Pn**	**21 27 25.6**	**+0.3**
KBA				*i* PG	**Pg**	**21 27 29.9**	**-1.6**
KBA				*i* SG	**Sg**	**21 27 57.7**	**-1.7**
	comp=Z,11nm,0.4s						
SEST	**Monte Rota**	**2.47**	**303**	Pn	**Pn**	**21 27 33.8**	**+3.0**
	comp=Z,68μm,21.0s						
MOA	**Molln**	**2.48**	**345**⇑	*i*PN	**Pn**	**21 27 31.2**	**+0.2**
MOA				*i* SN	**Sn**	**21 28 01.4**	**-0.3**
MOA				*i* SG	**Sg**	**21 28 11.4**	**-1.2**
	comp=Z,3.9nm,0.5s						
CTI	**Castel Tesino**	**2.59**	**284**	Pn	**Pn**	**21 27 34.4**	**+1.9**
	comp=Z,38nm,0.4s						
APPI	**Appiano**	**2.98**	**291**	Pn	**Pn**	**21 27 40.3**	**+2.2**
	comp=Z,18nm,0.5s						
ZST	**Bratislava**	**3.02**	**24**	*e*PN	**Pn**	**21 27 40.2**	**+1.6**
WTTA	**Wattenberg**	**3.08**	**307**⇑	*i*PN	**Pn**	**21 27 42.7**	**+3.2**
WTTA				*i* SN	**Sn**	**21 28 23.8**	**+6.9**
SQTA	**Sankt Quirin**	**3.31**	**304**⇑	*i*PN	**Pn**	**21 27 46.1**	**+3.4**
SQTA				*i* SN	**Sn**	**21 28 30.7**	**+8.2**
MABI	**Malga Bissina**	**3.37**	**282**	Pn	**Pn**	**21 27 46.0**	**+2.4**
MOTA	**Moosalm**	**3.43**	**305**⇑	*i*PN	**Pn**	**21 27 47.9**	**+3.4**
MOTA				*i* SN	**Sn**	**21 28 34.5**	**+8.8**
KHC	**Kasperske Hory**	**3.84**	**343**	*e*PN	**Pn**	**21 27 51.4**	**+1.0**
KHC				*e*PG	**Pg**	**21 28 03.6**	**-3.0**
KHC				*e*SN	**Sn**	**21 28 34.0**	**-2.1**
KHC	**Kasperske Hory**	**3.84**	**343**	Pn	**Pn**	**21 27 51.4**	**+1.0**
KHC				Sn	**Sn**	**21 28 34.0**	**-2.1**
DAVA	**Damuels**	**4.14**	**298**⇑	*i*PN	**Pn**	**21 27 57.0**	**+2.4**
DAVA				*i* SN	**Sn**	**21 28 50.1**	**+6.5**
PRU	**Pruhonice**	**4.56**	**354**	*e*SG	**Sg**	**21 29 15.9**	**-5.6**
NKC	**Novy Kostel**	**5.13**	**339**	*e*SG	**Sg**	**21 29 34.2**	**-6.5**
SBF	**Sospel**	**5.80**	**257**	*e*Pn	**Pn**	**21 28 16.6**	**-1.4**
SBF				*e*Sn	**Sn**	**21 29 22.1**	**-3.2**
	comp=Z,0.9nm,0.2s						
LPG	**La Plagne**	**5.97**	**273**	*e*Pn	**Pn**	**21 28 20.9**	**+0.4**
LPL	**La Plagne**	**5.99**	**274**	*e*Pn	**Pn**	**21 28 21.4**	**+0.7**
CLL	**Collm**	**6.04**	**346**	*i* SG	**Sg**	**21 30 04.8**	**-6.1**
MBDF	**Montbardon**	**6.04**	**266**	*e*Pn	**Pn**	**21 28 19.5**	**-2.0**
MBDF				*e*Sn	**Sn**	**21 29 29.2**	**-2.4**
	comp=Z,1.5nm,0.4s						
CDF	**Champ du Feu**	**6.21**	**301**	*e*Pn	**Pn**	**21 28 23.6**	**-0.2**
HINF	**Hinteralfeld**	**6.24**	**295**	*e*Pn	**Pn**	**21 28 23.7**	**-0.6**
FRF	**La Foret Royal**	**6.44**	**256**	*e*Pn	**Pn**	**21 28 25.7**	**-1.3**
FRF				*e*Sn	**Sn**	**21 29 36.4**	**-4.9**
	comp=Z,0.8nm,0.3s						
CABF	**La Chapelle**	**6.48**	**283**	*e*Pn	**Pn**	**21 28 27.9**	**+0.3**
LMR	**La Mourre**	**6.61**	**254**	*e*Pn	**Pn**	**21 28 27.5**	**-2.0**
HAU	**Haudompre**	**6.62**	**296**	*e*Pn	**Pn**	**21 28 29.2**	**-0.5**
ORIF	**Oris-en-Rattie**	**6.64**	**269**	*e*Pn	**Pn**	**21 28 29.6**	**-0.3**
ORIF				*e*Sn	**Sn**	**21 29 44.7**	**-1.8**
	comp=Z,1.6nm,0.4s						
VIVF	**Saint-Julien-l**	**7.50**	**269**	*e*Pn	**Pn**	**21 28 40.6**	**-1.4**
SMF	**Signal de Mont**	**8.02**	**283**	*e*Pn	**P**	**21 28 48.2**	**-1.1**
LOR	**Lormes**	**8.08**	**287**	*e*Pn	**P**	**21 28 49.9**	**-0.2**
LOR				*e*Sn	**Sn**	**21 30 19.2**	**-3.3**
	comp=Z,0.8nm,0.4s						
LASF	**Ste Croix**	**8.22**

σ1°16/31, **1C, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNCR	**Uncukul**	**0.87**	**18**	*e*Pg	**Pg**	**21 56 57.4**	**-0.4**
	29nm,0.2s						
UNCR				*e*Sg	**Sb**	**21 57 07.6**	**-0.4**
UNCR	**Uncukul**	**0.87**	**18**	*e*PG	**Pg**	**21 56 57.4**	**-0.4**
UNCR				*e*S	**Sb**	**21 57 07.6**	**-0.4**
UNCR				pmax	pmax		
	comp=Z,29nm,0.2s						
DGRG	**David-gareji**	**0.90**	**242**	P	**Pb**	**21 56 56.9**	**-0.4**
DGRG				S	**Sb**	**21 57 08.8**	**-0.2**
KRNR	**Karanay**	**1.00**	**20**	*e*Pg	**Pg**	**21 56 58.2**	**-2.3**
	comp=Z,20nm,0.2s						
KRNR				*i* Sg	**Sb**	**21 57 12.6**	**+0.7**
KRNR	**Karanay**	**1.00**	**20**	*e*PG	**Pg**	**21 56 58.2**	**-2.3**
KRNR				*i* S	**Sb**	**21 57 12.6**	**+0.7**
KRNR				pmax	pmax		
	comp=Z,20nm,0.2s						
AKT	**Akhty**	**1.05**	**112**	*e*Pg	**Pg**	**21 57 00.0**	**-1.5**
	comp=Z,38nm,0.2s						
AKT				*e*Sg	**Sg**	**21 57 18.0**	**+2.4**
AKT	**Akhty**	**1.05**	**112**	*e*PG	**Pg**	**21 57 00.0**	**-1.5**
AKT				*e*S	**Sg**	**21 57 18.0**	**+2.4**
AKT				pmax	pmax		
	comp=Z,38nm,0.2s						
BUJR	**Buynaksk**	**1.06**	**28**	*e*Pg	**Pg**	**21 57 01.0**	**-0.6**
BUJR				*i* Sg	**Sg**	**21 57 18.9**	**+3.0**
DBC	**Dubki**	**1.17**	**15**	*e*Pg	**Pg**	**21 57 02.5**	**-1.3**
DBC				*e*Sg	**Sg**	**21 57 20.0**	**+0.6**
MTA	**Mtatsminda**	**1.24**	**262**	P	**Pb**	**21 57 02.5**	**-0.6**
MTA				S	**Sb**	**21 57 18.9**	**+0.1**
TI2	**Plekhanov**	**1.27**	**264**	⇑*i*PG	**Pg**	**21 57 02.4**	**-3.2**
TI2				*i* S	**Sb**	**21 57 18.6**	**-0.9**
TI2				pmax	pmax		
	comp=Z,30nm,0.4s						
TI2				smax			
	comp=E,120nm,0.6s						
TBLG	**Delisi**	**1.27**	**264**	P	**Pb**	**21 57 02.8**	**-0.9**
TBLG				S	**Sb**	**21 57 19.6**	**-0.2**
GOR	**Gori**	**1.73**	**274**	P	**Pn**	**21 57 15.7**	**+5.3**
GOR				S	**Sn**	**21 57 32.3**	**-0.2**
BKR	**Bakuriani**	**2.19**	**267**	P	**Sn**	**21 57 45.6**	**+1.4**
AKH	**Akhalkalaki**	**2.25**	**259**	P	**Pn**	**21 57 18.6**	**+0.8**
AKH				S	**Sn**	**21 57 47.0**	**+1.4**
ONI	**Oni**	**2.32**	**288**	P	**Pn**	**21 57 20.3**	**+1.5**
ONI				S	**Sn**	**21 57 48.2**	**+0.8**

NEIC ***28*** *22:20:28.2±1.6, 2.57N×126.53E, h62km±14km, mb4.5/12, Error ellipse: s-maj=14.8km s-min=5.9km az=67.0*
IDC ***28*** *22:20:30.3±3.6, 2.55N×126.54E, h80km±32km, mb4.0/14, mb1 4.0/14, mb1mx3.9/20, mbtmp4.3/14, Error ellipse: s-maj=37.0km s-min=10.9km az=76.0*
BJI ***28*** *22:20:32.8, 3.48N×126.57E, h62km, mb4.2*

ISC 28 22:20:25.1±2.7, 2.60N±0.07×126.5E±0.1, h45km±24km, n32, σ0°68/31, mb4.4/25, 1D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**10.81**	**289**	P	**P**	**22 23 01.1**	**+0.8**
FITZ	**Fitzroy Crossi**	**20.59**	**182**	⇓*i*P	**P**	**22 25 02.4**	**-0.5**
	5.7nm,0.6s						
FITZ	**Fitzroy Crossi**	**20.59**	**182**	P	**P**	**22 25 02.7**	**-0.3**
	4.3nm,0.4s,baz=356,slow=5.4,SNR=17						
WRAB	**Tennant Creek**	**23.68**	**161**	*e*P	**P**	**22 25 33.5**	**-0.1**
	11nm,0.6s,mb4.5						
WRA	**Warramunga Arr**	**23.69**	**161**	P	**P**	**22 25 32.9**	**-0.8**
	2.0nm,0.3s,mb4.0,baz=335,slow=11,SNR=42						
WRA				S	**S**	**22 29 43.6**	**+1.4**
	0.3nm,0.7s,baz=337,slow=22,SNR=3.5						
JOW	**Kunigami**	**24.15**	**4**	P	**P**	**22 25 39.2**	**+1.1**
	9.5nm,0.7s,mb4.3,baz=156,slow=12						
JNU	**Nakatsue**	**30.64**	**7**	P	**P**	**22 26 36.8**	**-0.7**
	5.4nm,0.6s,mb4.5,baz=219,slow=6.5						
ENH	**Enshi**	**31.89**	**331**	*e*P	**P**	**22 26 47.6**	**-1.0**
	4.6nm,0.5s,mb4.6						
STKA	**Stephens Creek**	**37.16**	**158**	P	**P**	**22 27 33.5**	**-0.2**
	2.8nm,0.5s,mb4.4,baz=329,slow=9.0,SNR=12						
LZH	**Lanzhou**	**39.36**	**331**	*e*P	**P**	**22 27 53.3**	**+1.4**
LZH				AP	pP	22 28 06.5	+2.3
LZH				XP	sP	22 28 12.0	+2.2
LZH				AMB	AMB		
	comp=Z,25nm,1.0s,mb4.9						
LZH	**Lanzhou**	**39.36**	**331**	*e*P	**P**	**22 27 53.2**	**+1.3**
	comp=Z,25nm,1.0s,mb4.9						
LZH				pP	pP	22 28 06.5	+2.3
LZH				sP	sP	22 28 12.0	+2.2
LSA	**Lhasa**	**43.02**	**312**	*e*P	**P**	**22 28 23.2**	**+1.0**
	comp=Z,4.4nm,0.6s,mb4.4						
ASAJ	**Asahikawa**	**43.73**	**17**	P	**P**	**22 28 28.7**	**+1.0**
	comp=Z,3.0nm,0.5s,mb4.3,baz=208,slow=17,SNR=2.8						
GTA	**Gaotai**	**43.95**	**330**	P	**P**	**22 28 29.8**	**+0.2**
GTA				AP	pP	22 28 40.5	-1.5
GTA				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb4.0						
PKI	**Pulchoki**	**46.44**	**306**	*e*P	**P**	**22 28 49.2**	**-0.4**
KKN	**Kakani**	**46.64**	**307**	*e*P	**P**	**22 28 50.9**	**-0.2**
	comp=Z,12nm,0.9s,mb4.8						
DMN	**Daman**	**46.70**	**306**	*e*P	**P**	**22 28 51.0**	**-0.6**
	comp=Z,22nm,1.3s,mb4.9						
HIA	**Hailar**	**46.85**	**354**	P	**P**	**22 28 52.1**	**-0.3**
	comp=Z,3.2nm,0.6s,mb4.4						
GKN	**Gorkha**	**47.24**	**307**	*e*P	**P**	**22 28 56.3**	**+0.4**
	comp=Z,4.0nm,0.4s,mb4.7						
KOLN	**Koldanda**	**47.99**	**306**	*e*P	**P**	**22 29 01.7**	**0.0**
	comp=Z,11nm,0.4s,mb5.2						
ULN	**Ulaanbaatar**	**48.12**	**342**	*e*P	**P**	**22 29 02.7**	**+0.3**
	comp=Z,5.8nm,1.4s,mb4.4						
SONM	**Songino Array**	**48.29**	**342**	P	**P**	**22 29 03.6**	**-0.2**
	comp=Z,1.6nm,0.6s,mb4.2,baz=158,slow=8.9,SNR=9.1						
MKAR	**Makanchi Array**	**58.35**	**326**	P	**P**	**22 30 17.6**	**-0.5**
	comp=Z,1.2nm,0.4s,mb4.3,baz=117,slow=7.6,SNR=10						
ZAL	**Zalesovo**	**61.49**	**333**	P	**P**	**22 30 38.5**	**-1.0**
	comp=Z,1.1nm,0.4s,mb4.3,baz=139,slow=0.3,SNR=4.7						
KURK	**Kurchatov**	**62.57**	**328**	*e*P	**P**	**22 30 46.0**	**-0.8**
	comp=Z,6.3nm,0.6s,mb4.9						
BVAR	**Borovoye Array**	**68.14**	**327**	P	**P**	**22 31 22.5**	**0.0**
	comp=Z,1.0nm,0.4s,mb4.2,baz=79,slow=6.2,SNR=10						
VNDA	**Vanda**	**82.34**	**173**	P	**P**	**22 32 44.3**	**+1.2**
	comp=Z,0.7nm,0.7s,mb3.7,baz=311,slow=6.1,SNR=6.6						
BRTR	**Keskin Array B**	**90.56**	**310**	P	**P**	**22 33 23.8**	**-0.2**
	comp=Z,0.6nm,0.5s,mb4.2,baz=132,slow=3.9,SNR=3.8						
ARCES	**ARCESS Array B**	**91.42**	**340**	P	**P**	**22 33 27.0**	**-0.3**
	comp=Z,1.4nm,0.8s,mb4.4,baz=315,slow=1.7,SNR=5.2						
FINES	**FINESS Array B**	**92.71**	**332**	P	**P**	**22 33 33.5**	**+0.1**
	comp=Z,1.4nm,0.8s,mb4.4,baz=34,slow=6.9,SNR=4.5						
TXAR	**Lajitas Array**	**122.46**	**53**	PKP	PKPdf	22 39 17.2	+0.9
	comp=Z,0.2nm,0.7s,baz=233,slow=4.5,SNR=3.3						
TXAR	**Lajitas Array**	**122.46**	**53**	PKP	PKPdf	22 39 17.2	+0.9

NNC ***28*** *22:26:57.3±16.0, 37.52N×81.67E, mpv3.7, Error ellipse: s-maj=157.6km s-min=103.7km az=121.0*

BJI 28 22:26:55.5, 37.52N×79.73E, h7km, ML3.7, 1C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**3.56**	**305**	*e*P	Pn	22 27 50.0	-2.3
KSH				S	Sn	22 28 32.0	-3.1
KSH				Smax			
	comp=N,180nm,0.6s						
KSH				Smax			
	comp=E,140nm,0.4s						
AAK	**Ala-Archa**	**6.50**	**323**	⇓Pn	Pn	22 28 46.7	+13
	comp=E,2.2nm,0.5s						
AAK				⇑Sn	Sn	22 30 17.5	+28
	comp=E,22nm,0.9s						
MK31	**Makanchi Array**	**9.46**	**11**	Pn	P	22 29 15.0	-0.2
	comp=E,0.7nm,0.4s,baz=192,slow=13,SNR=12						
MK31				⇓Sn	Sn	22 31 03.8	+0.8
	comp=E,2.0nm,0.6s,baz=204,slow=26,SNR=5.4						

IDC ***28*** *22:52:01.7±20.0, 35.40N×22.80E, mb3.9/4, mb1 3.9/4, mb1mx3.6/21, mbtmp3.9/4, Error ellipse: s-maj=401.0km s-min=50.6km az=31.0*
CSEM ***28*** *22:52:02.6±0.1, 35.04N×22.36E, h30km, MD3.5, Error ellipse: s-maj=7.1km s-min=3.1km az=61.0*
HLW ***28*** *22:52:05.1, 35.08N×22.47E, h33km, Mb3.3*
ATH ***28*** *22:52:07.2, 35.42N×22.82E, h23km±14km, MD3.5/5*
NEIC ***28*** *22:52:07.2, 35.42N×22.82E, h23km, MD3.5(ATH), After ATH.*

ISC 28 22:51:60.0±0.8, 35.06N±0.06×22.3E±0.1, h10km, n15, σ1°23/16, mb3.8/4, 1C-1D, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**1.35**	**25**	*e*PN	**Pn**	**22 52 24.2**	**-0.7**
GVD	**Gavdhos**	**1.47**	**98**	*e*PN	**Pg**	**22 52 30.1**	**+0.7**
VAM	**Vamos**	**1.58**	**77**	*e*PN	**Pn**	**22 52 28.7**	**+0.5**
VLI	**Veliai**	**1.73**	**17**	*e*PN	**Pn**	**22 52 32.8**	**+2.5**
ITM	**Ithomi**	**2.14**	**352**	*e*PB	**Pb**	**22 52 39.7**	**+1.3**
SLUM		**4.31**	**145**	⇑P	**Pn**	**22 53 07.7**	**+0.6**
HMAT	**Matruh**	**5.63**	**133**	⇓P	**Pn**	**22 53 25.6**	**-0.2**
TIP	**Timpagrande**	**6.05**	**314**	*e*P	**Pn**	**22 53 33.0**	**+1.3**
TIP	**Timpagrande**	**6.05**	**314**	*e*P	**Pn**	**22 53 33.0**	**+1.2**
SWA2		**6.38**	**155**	P	**Pn**	**22 53 36.5**	**+0.1**
SWA2				S	**Sn**	**22 54 43.6**	**-6.6**
SWA1		**6.46**	**153**	P	**Pn**	**22 53 37.6**	**+0.2**
HFS	**Hagfors**	**25.71**	**350**	P	**P**	**22 57 31.0**	**-0.6**
	6.5nm,1.0s,mb4.1,baz=159,slow=12,SNR=7.0						
FINES	**FINESS Array B**	**26.51**	**4**	P	**P**	**22 57 37.8**	**-1.3**
	3.4nm,1.0s,mb3.8,baz=180,slow=11,SNR=3.8						
ARCES	**ARCESS Array B**	**34.57**	**2**	P	**P**	**22 58 48.2**	**-2.3**
	1.6nm,1.0s,mb3.9,baz=174,slow=8.2,SNR=2.8						
MKAR	**Makanchi Array**	**45.77**	**56**	P	**P**	**23 00 20.7**	**-2.5**
	0.1nm,0.3s,mb3.2,baz=267,slow=7.3,SNR=4.6						

CASC 28 22:53:02.5±2.0, 11.29N×85.91W, h186km±8km, MD3.7, ML3.3, 10C-10D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSNN	**San Juan del S**	**0.06**	**87**	⇓*e*P	P	22 53 28.3	+1.1
MADN	**Villa Maderas**	**0.39**	**72**	⇑*e*P	P	22 53 28.9	+1.0
CONN	**Concepcion**	**0.40**	**45**	⇑*e*P	P	22 53 28.4	+0.4
APON	**Apoyo**	**0.65**	**346**	⇓*e*P	P	22 53 29.4	+0.5
CRUN	**El Crucero**	**0.79**	**331**	⇓*e*P	P	22 53 30.5	+0.8
TICN	**Ticuantepe**	**0.81**	**337**	⇓*e*P	P	22 53 30.3	+0.5
LIM1	**Limonal**	**0.87**	**132**	*i* P	P	22 53 30.5	+0.3
LIM1				*i* S	S	22 53 51.9	+0.3
WILN	**Americas 2**	**0.91**	**343**	⇑*e*P	P	22 53 30.6	+0.2
WILN				*e*P		22 53 31.6	
MGAN	**Managua**	**0.92**	**339**	⇑*e*P	P	22 53 30.6	+0.2
MGAN				*e*S	S	22 53 53.7	+1.6
	comp=E,163nm,0.4s						
XAVN	**Gruta Xavier**	**0.95**	**335**	⇑*e*P	P	22 53 31.0	+0.3
COPN	**Copaltepe**	**1.11**	**323**	⇓*e*P	P	22 53 31.7	-0.2
COPN				*e*S	S	22 53 55.2	+0.6
	comp=Z,293nm,0.1s						
PYTN	**Playitas**	**1.25**	**353**	*e*P	P	22 53 32.8	-0.3
MOMJ	**Momotombo**	**1.27**	**331**	⇑*e*P	P	22 53 33.0	-0.3
MIRN	**Miramar**	**1.39**	**326**	⇓*e*P	P	22 53 34.3	0.0
MIRN				*e*S	S	22 54 00.1	+1.2
	comp=Z,306nm,0.2s						
CNGN	**Cerro Negro**	**1.43**	**328**	⇑*e*P	P	22 53 34.4	-0.3
LEON	**Leon**	**1.48**	**320**	⇑*e*P	P	22 53 34.8	-0.4
LEON				*e*S	S	22 53 58.0	-2.4
	comp=Z,222nm,0.2s						
TEL3	**Telica 3**	**1.57**	**325**	⇑*e*P	P	22 53 36.0	0.0
TEL3				*e*S	S	22 54 02.6	+0.7
	comp=Z,423nm,0.1s						
TELN	**Telica**	**1.59**	**326**	⇓*e*P	P	22 53 36.2	0.0
JCR	**Jicaral**	**1.63**	**151**	⇓*e*P	P	22 53 37.5	+0.9
JCR				*e*S	S	22 54 03.7	+0.8
CRIN	**San Cristobal**	**1.79**	**322**	⇑*e*P	P	22 53 38.1	-0.1
CGA2	**Cerro Gallo 2**	**1.90**	**131**	⇓*e*P	P	22 53 39.9	+0.6
CGA2				*e*S	S	22 54 08.1	+0.4
PRS1	**Puriscal**	**2.04**	**129**	⇓*e*P	P	22 53 42.0	+1.3
SJS	**Escuela Geolog**	**2.26**	**126**	*e*S	S	22 54 15.3	+0.5
BUS	**Buena Vista**	**2.73**	**129**	*e*P	P	22 53 50.0	+1.3
BUS				*e*S	S	22 54 25.8	+1.4

IDC ***28*** *23:03:10.7±0.7, 11.18N×70.42W, h34km±5km, mb3.7/12, mb1 3.9/12, mb1mx3.8/19, mbtmp3.9/12, Error ellipse: s-maj=24.0km s-min=14.4km az=65.0*
FUNV ***28*** *23:03:10.4, 11.42N×70.42W, h25km, MW3.7*
NEIC ***28*** *23:03:10.4, 11.42N×70.42W, h25km, mb4.2/2, MD4.4(CAR), After CAR.*

ISC 28 23:03:08.8±0.3, 11.41N±0.03×70.29W±0.03, h35km, h35km±2.7km: pP-P, n56, σ1°57/71, mb3.9/13, 1C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DABV	**Dabajuro**	**0.59**	**215**	⇑*i*P	**P**	**23 03 20.9**	**+0.3**
DABV				*e*S	**S**	**23 03 28.1**	**-1.1**
MONV	**Montecano**	**0.62**	**30**	*e*P	**P**	**23 03 24.5**	**+3.4**
MONV				*e*S	**S**	**23 03 33.1**	**+3.1**
SIQV	**Siquisique**	**0.89**	**148**	*e*P	**P**	**23 03 28.5**	**+3.6**
SIQV				*e*S	**S**	**23 03 41.8**	**+4.9**
IMOV	**Isla Los Monje**	**1.12**	**328**	*e*P	**P**	**23 03 29.5**	**+1.4**
IMOV				*e*S	**S**	**23 03 42.7**	**+0.1**
QARV	**Quebrada Arrib**	**1.22**	**191**	*e*P	**P**	**23 03 31.1**	**+1.6**
QARV				*e*S	**S**	**23 03 47.1**	**+2.0**
TEPV	**Terepaima**	**1.80**	**143**	*e*P	**P**	**23 03 40.9**	**+3.0**
SANV	**Sanarito**	**2.04**	**159**	*e*P	**P**	**23 03 44.3**	**+3.0**
SANV				*e*S	**S**	**23 04 08.2**	**+2.4**
VIRV	**Villa del Rosa**	**2.27**	**247**	*e*P	**P**	**23 03 43.5**	**-1.0**
VIRV				*e*S	**S**	**23 04 09.5**	**-2.1**
SDV	**Santo Domingo**	**2.53**	**188**	Pn	**P**	**23 03 49.7**	**+1.3**
	27nm,0.3s,baz=59,slow=5.6,SNR=146						
SDV				Sn	**S**	**23 04 17.8**	**-0.5**
	209nm,0.3s,baz=20,slow=19,SNR=11						
SDV	**Santo Domingo**	**2.53**	**188**	*e*P	**P**	**23 03 49.7**	**+1.3**
TURV	**Turiamo**	**2.59**	**111**	*e*P	**P**	**23 03 51.0**	**+1.8**
TURV				*e*S	**S**	**23 04 21.9**	**+2.1**
SOCV	**Socops**	**3.16**	**190**	*e*S	**S**	**23 04 32.4**	**-1.8**
FUNV	**FUNVISIS**	**3.54**	**105**	*e*P	**P**	**23 04 04.2**	**+1.5**
ORCV	**Isla La Orchil**	**4.03**	**84**	*e*P	**P**	**23 04 10.3**	**+0.6**
CAPV	**Capacho**	**4.05**	**210**	*e*P	**P**	**23 04 09.9**	**-0.1**
BIRV	**Birongo**	**4.06**	**103**	*e*P	**P**	**23 04 11.7**	**+1.6**
MERV	**Las Mercedes**	**4.48**	**118**	*e*P	**P**	**23 04 16.4**	**+0.4**
MERV				*e*S	**S**	**23 05 05.8**	**-1.9**
CUPV	**Cepira**	**4.62**	**106**	*e*P	**P**	**23 04 20.3**	**+2.1**
CUPV				*e*S	**S**	**23 05 09.7**	**-1.6**
IBAV	**Isla La Blanqu**	**5.61**	**85**	*e*P	**P**	**23 04 32.3**	**+0.3**
CAOV	**Caicara del Or**	**5.64**	**136**	*e*P	**P**	**23 04 32.5**	**+0.1**
PCRV	**Puerto La Cruz**	**5.69**	**102**	*e*P	**P**	**23 04 34.7**	**+1.7**
PCRV				*e*S	**S**	**23 05 35.2**	**-2.9**
ITEV	**Isla Los Testi**	**7.02**	**90**	*e*P	**P**	**23 04 51.8**	**0.0**
GUNV	**Guanoco**	**7.32**	**99**	*e*P	**P**	**23 04 55.4**	**-0.6**
ROSC	**El Rosal**	**7.64**	**212**	Pn	**P**	**23 05 01.1**	**+0.7**
	7.8nm,0.3s,baz=270,slow=11,SNR=18						
ROSC				Sn	**S**	**23 06 23.3**	**-3.5**
	3.2nm,0.3s,baz=90,slow=20,SNR=1.7						
SJG	**San Juan**	**7.77**	**31**	Pn	**P**	**23 05 01.0**	**-1.2**
	6.0nm,0.3s,baz=210,slow=9.5,SNR=15						
SJG				Sn	**S**	**23 06 22.9**	**-7.1**
	20nm,0.3s,baz=293,slow=23,SNR=6.9						
SJG	**San Juan**	**7.77**	**31**	*e*P	**P**	**23 04 59.8**	**-2.4**
	50nm,0.8s						
SJG				*e*S	**S**	**23 06 17.2**	**-13**
GUIV	**Guiria**	**7.96**	**95**	*e*P	**P**	**23 05 03.6**	**-1.2**
GURV	**El Guri**	**7.98**	**116**	*e*P	**P**	**23 05 04.4**	**-0.7**
MTP	**Monte Pirata**	**8.07**	**34**	*e*P	**P**	**23 05 04.2**	**-2.2**
GRW	**Mount Saint Ca**	**8.48**	**84**	*e*P	**P**	**23 05 12.7**	**+0.6**
GRW				*e*S	**S**	**23 06 45.7**	**-2.0**
GRSS	**Sisters**	**8.54**	**83**	*e*P	**P**	**23 05 13.3**	**+0.4**
GRSS				*e*S	**S**	**23 06 46.4**	**-2.8**
TRN	**Trinidad (W)**	**8.76**	**94**	*e*P	**P**	**23 05 20.8**	**+4.9**
LZG	**Guadaloupe-1**	**9.51**	**59**	*e*P	**P**	**23 05 21.6**	**-4.9**
LZG				*e*S	**S**	**23 07 05.9**	**-7.5**
SCG	**Saint Claude**	**9.54**	**60**	*e*P	**P**	**23 05 24.2**	**-2.7**
SCG				*e*S	**S**	**23 07 08.0**	**-6.0**
DEG	**La Desirade**	**10.20**	**60**	*e*P	**P**	**23 05 32.1**	**-3.9**
LUEV	**Luepa**	**10.33**	**122**	*e*P	**P**	**23 05 34.8**	**-3.0**
LPAZ	**La Paz**	**27.60**	**176**	P	**P**	**23 08 54.8**	**-0.4**
	0.9nm,0.5s,mb3.7,baz=35,slow=2.1,SNR=9.3						
LPAZ	**La Paz**	**27.60**	**176**	*e*P	**P**	**23 08 54.3**	**-0.9**
	1.9nm,0.8s,mb3.8						
SIV	**San Ignacio**	**28.71**	**161**	P	**P**	**23 09 03.9**	**-1.3**
	1.1nm,0.4s,mb4.0,baz=350,slow=9.6,SNR=18						
LVC	**Limon Verde**	**33.84**	**178**	P	**P**	**23 09 47.1**	**-3.1**
	2.3nm,0.5s,mb4.4,baz=350,slow=6.0,SNR=8.5						
BDFB	**Brasilia**	**34.77**	**140**	P	**P**	**23 09 58.3**	**+0.1**
	2.7nm,0.7s,mb4.3,baz=310,slow=10,SNR=4.3						
WMOK	**Wichita Mounta**	**34.80**	**316**	*e*P	**P**	**23 09 58.5**	**+0.2**
	9.4nm,1.5s,mb4.5						
TXAR	**Lajitas Array**	**35.83**	**305**	P	**P**	**23 10 07.0**	**-0.2**
	0.1nm,0.5s,mb3.0,baz=119,slow=9.3,SNR=3.7						
TXAR				pP	pP	23 10 18.2	+0.9
	0.4nm,0.4s,baz=119,slow=9.3,SNR=5.9						
TXAR				pPcP		23 12 46.6	
	0.7nm,1.0s,baz=108,slow=5.7,SNR=3.5						
RCBR	**Riachuelo**	**38.26**	**115**	*e*P	**P**	**23 10 29.4**	**+1.7**
CPUP	**Villa Florida**	**39.58**	**162**	P	**P**	**23 10 36.9**	**-1.6**
	0.7nm,0.4s,mb3.7,baz=15,slow=10,SNR=4.8						
PDAR	**Pinedale Array**	**46.21**	**320**	P	**P**	**23 11 35.3**	**+3.0**
	0.2nm,0.5s,mb3.4,baz=141,slow=5.8,SNR=2.1						
PDAR				pP	pP	23 11 43.1	+0.4
	0.5nm,0.6s,baz=113,slow=11,SNR=3.9						
PLCA	**Paso Flores**	**51.88**	**180**	P	**P**	**23 12 13.5**	**-2.5**
	1.3nm,0.4s,mb4.2,baz=351,slow=9.9,SNR=4.7						
DBIC	**Dimbokro**	**64.69**	**88**	P	**P**	**23 13 46.6**	**+0.6**
	2.7nm,0.6s,mb4.5,baz=232,slow=8.3,SNR=8.9						
DBIC	**Dimbokro**	**64.69**	**88**	*e*P	**P**	**23 13 46.5**	**+0.5**
ILAR	**Eielson Array**	**74.04**	**334**	P	**P**	**23 14 42.1**	**-0.4**
	0.2nm,0.7s,mb3.2,baz=135,slow=2.6,SNR=3.1						
ILAR				pP	pP	23 14 53.9	+0.6
	0.9nm,0.7s,baz=106,slow=4.8,SNR=3.7						
NB2	**NORSAR Subarra**	**75.98**	**30**	P	pP	23 15 06.9	+2.3
	2.8nm,0.8s,baz=268,slow=5.8						
NOA	**NORSAR Array B**	**75.98**	**30**	pP	pP	23 15 05.0	+0.4
	2.0nm,0.8s,baz=267,slow=5.8,SNR=4.3						
GERES	**GERESS Array B**	**77.56**	**42**	pP	pP	23 15 14.0	+0.2
	0.5nm,0.8s,baz=270,slow=5.3,SNR=4.3						
ARCES	**ARCESS Array B**	**81.42**	**21**	P	**P**	**23 15 24.9**	**+1.6**
	1.1nm,0.8s,mb3.9,baz=307,slow=4.5,SNR=3.5						
ARCES				pP	pP	23 15 36.1	+1.9
	1.6nm,0.6s,baz=286,slow=4.5,SNR=2.4						
FINES	**FINESS Array B**	**83.10**	**29**	P	**P**	**23 15 34.4**	**+2.3**
	3.0nm,0.9s,mb4.3,baz=260,slow=8.5,SNR=2.6						
FINES				pP	pP	23 15 45.2	+2.2
	2.3nm,0.7s,baz=270,slow=3.8,SNR=3.1						
WRA	**Warramunga Arr**	**154.84**	**247**	PKPbc	PKPdf	23 23 08.6	+10
	0.2nm,0.4s,baz=97,slow=1.9,SNR=2.9						
WRA				PKPab	PKPab	23 23 23.2	-1.5
	0.5nm,0.7s,baz=102,slow=2.8,SNR=6.5						

NNC ***28*** *23:03:43.1±18.0, 37.58N×81.83E, mpv3.7, Error ellipse: s-maj=170.1km s-min=127.7km az=159.0*

BJI 28 23:03:38.4, 37.10N×79.34E, h31km, ML3.6, 1C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**3.58**	**313**	P	Pn	23 04 33.8	+0.5
KSH				S	Sn	23 05 17.0	+1.9
KSH				Smax			
	comp=N,140nm,0.6s						
KSH				Smax			
	comp=E,110nm,0.4s						
AAK	**Ala-Archa**	**6.66**	**328**	⇓Pn	Pn	23 05 35.4	+19
	comp=E,3.0nm,0.7s						
AAK				⇑Sn	Sn	23 07 03.4	+31
	comp=E,14nm,0.9s						
MK31	**Makanchi Array**	**9.93**	**12**	Pn	P	23 05 59.6	-2.5
	comp=E,0.7nm,0.5s,baz=194,slow=13,SNR=9.6						
MK31				⇓Sn	Sn	23 07 48.2	-5.4
	comp=E,2.0nm,0.6s,baz=204,slow=25,SNR=5.0						

NEIC ***28*** *23:10:47.4, 18.06N×68.48W, h24km, MD3.6(RSPR), After RSPR.*

RSPR 28 23:10:47.4, 18.06N×68.48W, h24km±28km, MD3.6/3, MD3.6/3, 4C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGP	**Maguayo**	**1.33**	**92**	⇑*e*P	Pn	23 11 07.7	-2.9
MGP				*e*S	Sn	23 11 24.0	-3.7
LSP	**Las Mesas**	**1.33**	**85**	⇑*e*P	Pn	23 11 07.9	-2.9
PORP	**Portuguez**	**1.75**	**90**	⇑*e*P	Pn	23 11 14.6	-2.3
PORP				*e*S	Sn	23 11 34.9	-3.7
MTP	**Monte Pirata**	**2.78**	**89**	⇑*e*P	Pn	23 11 29.1	-2.4
MTP				*e*S	Sn	23 12 01.5	-3.2

CSEM ***28*** *23:51

baz=273,slow=37
NB2 NORSAR Subarra 3.33 100 Pg Pg 23 52 07.9 -12
NB2 Sg Sg 23 52 52.5 -12
SNR=91
SNART Snartemo 3.70 157 *e*P Pn 23 52 07.7 -3.2
SNART *e*S Sn 23 52 49.9 -4.7
SNART AML AML 23 53 04.7
comp=Z,15nm,0.3s
SNART Snartemo 3.70 157 *i* P Pn 23 52 14.7 +3.8
NSS Namsos 4.40 48 *e* Pn 23 52 22.0 +1.1
FINU Finntorp 4.61 117 P Pn 23 52 18.5 -5.4
HFS Hagfors 4.79 106 Pn Pn 23 52 22.4 -4.1
baz=289,slow=16
HFS Sn Sn 23 53 14.1 -8.2
baz=293,slow=18
HFS Lg 23 53 38.0
baz=292,slow=37
ROTU Roteberg 5.44 89 P Pn 23 52 31.1 -4.5
NRAU Nora 5.65 108 P Pn 23 52 35.5 -3.1
FALU Falun 5.66 98 P Pn 23 52 34.4 -4.3
IGGU Iggoen 6.26 92 P Pn 23 52 42.9 -4.3
ESKU Eskilstuna 6.42 108 P Pn 23 52 45.5 -3.9
BACU Backbrunna 6.48 102 P Pn 23 52 45.9 -4.4
FLYU Flymyra 6.75 98 P Pn 23 52 49.4 -4.6
NRTU Norrtaelje 7.26 100 P Pn 23 52 56.3 -4.9
NYNU Nynaeshamn 7.26 106 P Pn 23 52 56.7 -4.5
FIA0 FINESS Array S 10.30 82 Pn P 23 53 36.8 -6.3
baz=282,slow=14
FIA0 Sn S 23 55 26.3 -13
baz=289,slow=22
FIA0 Lg 23 56 33.9
baz=276,slow=28
ARA0 ARCESS Array S 11.61 39 Pn P 23 53 54.6 -6.4

CASC 29 00:14:22.2±1.5, 12.05N×87.12W, h52km±23km, MD4.0, ML3.7, 6C-11D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEON	**Leon**	**0.42**	**31**	⇓*i*P	P	00 14 33.1	+0.4
COPN	**Copaltepe**	**0.53**	**76**	⇑*e*P	P	00 14 34.2	+0.2
MIRN	**Miramar**	**0.55**	**46**	⇓*e*P	P	00 14 34.4	+0.1
TEL3	**Telica 3**	**0.58**	**27**	⇓*e*P	P	00 14 35.0	+0.4
CNGN	**Cerro Negro**	**0.60**	**43**	⇓*e*P	P	00 14 35.1	+0.2
CNGN				*e*S	S	00 14 44.0	-0.2
comp=Z,1μm,0.3s							
TELN	**Telica**	**0.61**	**27**	⇓*e*P	P	00 14 35.1	+0.1
CRIN	**San Cristobal**	**0.65**	**6**	⇓*e*P	P	00 14 36.0	+0.6
CRIN				*e*S	S	00 14 45.5	+0.4
comp=Z,843nm,0.4s							
MOMJ	**Momotombo**	**0.67**	**58**	⇓*e*P	P	00 14 35.6	0.0
CRUN	**El Crucero**	**0.80**	**95**	⇓*e*P	P	00 14 37.5	0.0
MGAN	**Managua**	**0.86**	**84**	⇑*e*P	P	00 14 38.3	+0.2
MGAN				*e*P		00 14 39.1	
MGAN				*e*S	S	00 14 49.5	-0.6
comp=E,991nm,0.3s							
MGAN				*e*S	S	00 14 50.0	-0.1
comp=E,5μm,0.2s							
TICN	**Ticuantepe**	**0.87**	**91**	⇓*e*P	P	00 14 38.7	+0.4
WILN	**Americas 2**	**0.92**	**83**	*e*P	P	00 14 39.2	+0.2
WILN				*e*S	S	00 14 51.7	+0.2
comp=E,7μm,0.4s							
APON	**Apoyo**	**1.04**	**97**	⇑*e*P	P	00 14 40.6	-0.1
PYTN	**Playitas**	**1.14**	**65**	⇓*e*P	P	00 14 41.9	-0.2
CNCH	**Conchagua**	**1.40**	**330**	*e*P	P	00 14 45.6	-0.3
SSNN	**San Juan del S**	**1.46**	**121**	⇑*e*P	P	00 14 45.6	-1.1
CONN	**Concepcion**	**1.54**	**108**	⇑*e*P	P	00 14 46.7	-1.1
MADN	**Villa Maderas**	**1.68**	**112**	*e*P	P	00 14 48.6	-1.1
BLLM	**Bellamira**	**1.76**	**322**	*e*P	P	00 14 51.1	+0.2
SNVI	**San Vicente**	**2.29**	**313**	*e*P	P	00 14 58.0	-0.4
SNVI				*e*S	S	00 15 26.9	+1.6
LCBS	**La Ceiba**	**2.41**	**311**	⇑*e*P	P	00 14 59.7	-0.5
LCBS				*e*S	S	00 15 27.8	-0.7
LFRS	**El Faro**	**2.46**	**310**	⇓*e*P	P	00 15 00.1	-0.6
LFRS				*e*S	S	00 15 28.5	-1.2

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*MOS **29** 00:23:48.3±2.9, 48.77N×100.39E, h9km, mb4.5/1, Error ellipse: s-maj=99.1km s-min=22.7km az=71.3*
BYKL 29 00:23:52.9±0.9, 49.00N×100.21E, 1C-4D, Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSC	**Tosontsengel**	**1.31**	**261**	*i* Pg	Pg	00 24 16.0	-3.1
TSC				*e*Sg	Sg	00 24 35.0	-1.6
TTS	**Tsetserleg**	**1.73**	**151**	*i*	Pn	00 24 27.9	+3.5
TTS				*i* Sg	Sg	00 24 49.1	-1.4
ZAK	**Zakamensk**	**2.43**	**54**	⇓*i*Pg	Pg	00 24 33.6	-7.7
14nm,0.4s							
ZAK				⇓*i*Pg	Pg	00 24 33.6	-7.7
48nm,0.4s							
ZAK				⇓*i*Pg	Pg	00 24 33.6	-7.7
28nm,0.4s							
ZAK				*e*		00 24 38.0	
ZAK				*e*Sg	Sg	00 25 07.2	-6.5
ZAK				Pmax			
200nm,0.4s							
ZAK				Smax			
241nm,0.3s							
ZAK	**Zakamensk**	**2.43**	**54**	*e*PN	Pn	00 24 33.4	-1.0
ZAK				*e*S	Sn	00 25 07.2	+1.9
ZAK				pmax	pmax		
comp=Z,195nm,0.2s							
ZAK				smax			
comp=E,235nm,0.5s							
MOY	**Mondy**	**2.72**	**10**	*e*Pn	Pn	00 24 37.4	-1.2
MOY				⇑*i*Pg	Pg	00 24 40.6	-6.5
MOY				*e*Sn	Sn	00 25 10.5	-2.1
MOY				*i* Sg	Sg	00 25 18.3	-5.0
MOY				Pmax			
comp=E,121nm,0.4s							
MOY				Smax			
comp=E,398nm,1.4s							
MOY	**Mondy**	**2.72**	**10**	*e*PN	Pn	00 24 40.9	+2.3
MOY				*e*		00 25 18.8	
MOY				pmax	pmax		
comp=Z,121nm,0.5s							
MOY				smax			
comp=E,398nm,0.9s							
ARS	**Arshan**	**3.25**	**25**	*e*Pn	Pn	00 24 43.2	-2.9
ARS				*e*Pg	Pg	00 24 50.1	-7.6
ARS				*e*Sg	Sg	00 25 35.4	-5.6
ARS				Pmax			
comp=E,68nm,0.6s							
ARS				Smax			
comp=E,265nm,1.0s							
ARS	**Arshan**	**3.25**	**25**	*e*PN	Pn	00 24 50.1	+4.0
ARS				*e*		00 25 35.5	
ARS				pmax	pmax		
comp=Z,68nm,0.6s							
ARS				smax			
comp=N,225nm,0.6s							
TLY	**Talaya**	**3.47**	**38**	*e*	Pn	00 24 47.1	-2.2
TLY				*i* Pg	Pg	00 24 53.0	-9.2
TLY				*e*Sg	Sg	00 25 40.6	-7.8
TLY				Pmax			
comp=N,50nm,0.5s							
TLY				Smax			
comp=N,158nm,0.9s							
TLY	**Talaya**	**3.47**	**38**	*e*PN	Pn	00 24 43.6	-5.7
TLY				*e*		00 24 52.4	
TLY				*e*		00 25 40.6	
TLY				pmax	pmax		
comp=Z,51nm,0.6s							
TLY				smax			
comp=E,158nm,1.3s							
ORL	**Orlik**	**3.55**	**356**	⇓*i*Pg	Pg	00 24 56.6	-7.2
ORL				*e*Sg	Sg	00 25 45.0	-6.2
ORL				Pmax			
comp=E,20nm,0.8s							
ORL				Smax			
comp=E,79nm,1.3s							
ORL	**Orlik**	**3.55**	**356**	*e*PN	Pn	00 24 56.7	+6.3
ORL				*e*		00 25 46.0	
ORL				pmax	pmax		
comp=Z,21nm,0.5s							
ORL				smax			
comp=N,78nm,0.5s							
LSTR	**Listvyanka**	**4.12**	**44**	*e*Pg	Pg	00 25 05.5	-10
LSTR				*e*Sg	Sg	00 26 01.8	-8.2
LSTR				Pmax			
comp=N,18nm,1.1s							
LSTR				Smax			
comp=N,50nm,0.8s							
IRK Irkutsk 4.15 37 *e*Sg Sg 00 26 01.9 -9.2
IRK Smax
comp=N,248nm,0.4s
IRK Irkutsk 4.15 37 *e*PN Pn 00 25 05.0 +6.1
IRK *e* 00 26 00.5
IRK pmax pmax
comp=Z,109nm,0.2s
IRK smax
comp=N,289nm,0.4s
TRG Tyrgan 5.41 44 *e* Pn 00 25 17.0 +0.2
TRG *e*Pg Pg 00 25 27.7 -13
TRG *e*Sg Sg 00 26 39.5 -13
TRG Pmax
comp=N,24nm,1.3s
TRG Smax
comp=N,82nm,0.8s
TRG Tyrgan 5.41 44 *e*PN Pn 00 25 26.8 +10
TRG *e*S Sn 00 26 11.5 -9.2
TRG *e* 00 26 37.4
TRG smax
comp=E,82nm,0.3s
OGRR Ongureny 6.56 42 *e*Pn Pn 00 25 29.6 -3.4
OGRR *e*Pg Pg 00 25 50.0 -14
OGRR *e*Sg Sg 00 27 18.0 -13
OGRR Pmax
comp=E,8.0nm,0.8s
OGRR Smax
comp=E,53nm,1.2s
OGRR Ongureny 6.56 42 *e*PN Pn 00 25 28.1 -4.9
OGRR *e* 00 25 47.1
OGRR *e* 00 27 11.9
OGRR pmax pmax
comp=Z,8.0nm,1.6s
OGRR smax
comp=E,25nm,0.8s
SYVR Suvo 7.70 49 *e*Sg Sg 00 27 53.1 -16
SYVR Smax
comp=E,54nm,1.3s
NIZ Nizh Angarsk 8.86 37 *e* Sn 00 27 54.8 +7.9
NIZ *e*Sg Sg 00 28 28.5 -19
NIZ Smax
comp=E,27nm,0.9s
YLYR Ulyunkhan 8.96 45 *e*Pg P 00 26 34.0 +27
YLYR *e*Sg Sg 00 28 31.5 -20
YLYR Pmax
comp=E,2.0nm,0.8s
YLYR Smax
comp=E,23nm,1.1s
CIT Chita 9.02 65 *e* Sn 00 28 09.8 +19
CIT *e*Sg Sg 00 28 31.1 -22
CIT Smax
comp=E,37nm,0.9s
KMO Kumora 9.61 40 *e*Sg Sg 00 28 51.2 -22
KMO Smax
comp=E,38nm,1.0s

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*TIF **29** 00:39:41.1, 43.06N×45.19E, h7km±9km*
*MOS **29** 00:39:43.1±1.4, 42.81N×45.16E, h33km, mb3.8/1, Error ellipse: s-maj=27.5km s-min=12.3km az=16.2*
*CSEM **29** 00:39:43.1±1.2, 42.81N×45.16E, h33km, mb3.8, Error ellipse: s-maj=37.7km s-min=11.4km az=4.0, After OBN*
ISC 29 00:39:40.6±0.7, 43.18N±0.06×45.27E±0.03, h7km, n22, σ0§87/41, 3C-5D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLKR	**Vladikavkaz**	**0.45**	**254**	*i* Pg	Pg	00 39 50.2	+0.5
VLKR	**Vladikavkaz**	**0.45**	**254**	⇑*i*PG	Pg	00 39 50.2	+0.5
VLKR				*i* S	Sg	00 39 56.4	+0.6
ARNR	**Ardon**	**0.73**	**271**	*i* Pg	Pg	00 39 55.6	+0.5
ARNR				*i* Sg	Sg	00 40 05.9	+1.1
ARNR	**Ardon**	**0.73**	**271**	⇑*i*PG	Pg	00 39 55.6	+0.5
ARNR				*i* S	Sg	00 40 05.9	+1.1
LACR	**Lac**	**0.80**	**244**	*i* Pg	Pg	00 39 56.0	-0.5
LACR	**Lac**	**0.80**	**244**	⇓*i*PG	Pg	00 39 56.0	-0.5
LACR				*i* S	Sb	00 40 06.6	-0.5
ZEI	**Tsey**	**1.09**	**249**	*i* Pg	Pg	00 40 01.0	-1.3
ZEI				*i* Sg	Sb	00 40 15.3	-0.2
ZEI	**Tsey**	**1.09**	**249**	⇑*i*PG	Pg	00 40 01.0	-1.3
ZEI				*i* S	Sb	00 40 15.3	-0.2
DBC	**Dubki**	**1.15**	**97**	*i* Pg	Pg	00 40 03.0	-0.6
DBC				*i* Sg	Sg	00 40 20.0	+1.0
UNCR	**Uncukul**	**1.21**	**112**	*i* Pg	Pg	00 40 04.0	-0.8
72nm,0.2s							
UNCR				*e*Sg	Sg	00 40 25.0	+4.1
UNCR	**Uncukul**	**1.21**	**112**	⇓*i*PG	Pg	00 40 04.0	-0.8
UNCR				*e*S	Sg	00 40 25.0	+4.1
UNCR				pmax	pmax		
comp=Z,72nm,0.2s							
XNZR	**Khunzakh**	**1.23**	**121**	*i* Pg	Pg	00 40 05.8	+0.6
comp=Z,73nm,0.3s							
XNZR				*i* Sg	Sg	00 40 28.8	+7.2
XNZR	**Khunzakh**	**1.23**	**121**	⇓*i*PG	Pg	00 40 05.8	+0.6
XNZR				*i* S	Sg	00 40 28.8	+7.2
XNZR				pmax	pmax		
comp=Z,73nm,0.3s							
KRNR	**Karanay**	**1.25**	**106**	*e*Pg	Pg	00 40 03.0	-2.6
comp=Z,25nm,0.2s							
KRNR				*e*Sg	Sg	00 40 23.0	+0.8
KRNR	**Karanay**	**1.25**	**106**	*e*PG	Pg	00 40 03.0	-2.6
KRNR				*e*S	Sg	00 40 23.0	+0.8
KRNR				pmax	pmax		
comp=Z,25nm,0.2s							
DIGR	**Digorskoe uzhe**	**1.27**	**258**	*i* Pg	Pg	00 40 04.4	-1.6
DIGR	**Digorskoe uzhe**	**1.27**	**258**	⇓*i*PG	Pg	00 40 04.4	-1.6
DIGR				*i* S	Sb	00 40 21.5	+0.6
ONI	**Oni**	**1.47**	**247**	P	Pn	00 40 07.8	+0.2
ONI				S	Sb	00 40 27.1	+0.5
TBLG	**Delisi**	**1.50**	**195**	P	Pn	00 40 07.4	-0.6
TBLG				S	Sb	00 40 27.1	-0.4
DGRG	**David-gareji**	**1.73**	**177**	P	Pn	00 40 12.1	+0.8
DGRG				S	Sn	00 40 34.3	+0.4
GOF	**Gofitskoye**	**2.48**	**320**	*i* Pn	Pn	00 40 29.0	+6.9
comp=Z,8.0nm,0.7s							
GOF				*i* Sn	Sn	00 41 06.5	+14
comp=Z,64nm,1.0s							
GOF	**Gofitskoye**	**2.48**	**320**	⇓*i*PN	Pn	00 40 29.0	+6.9
GOF				*i* S	Sn	00 41 06.5	+14
GOF				pmax	pmax		
comp=Z,8.0nm,0.7s							
GOF				smax			
comp=N,64nm,1.0s							

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*TIF **29** 00:49:42.2, 43.10N×45.21E, h10km±2km*
*MOS **29** 00:49:43.3±1.5, 43.23N×45.18E, h33km, mb3.9/1, Error ellipse: s-maj=25.8km s-min=14.0km az=179.1*
ISC 29 00:49:42.6±0.8, 43.19N±0.06×45.22E±0.03, h10km, n12, σ1§22/24, 2C-1D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLKR	**Vladikavkaz**	**0.42**	**250**	⇑*i*PG	Pg	00 49 51.1	-0.1
VLKR				*i* S	Sg	00 49 56.8	-0.1
ARNR	**Ardon**	**0.69**	**270**	*i* PG	Pg	00 49 57.2	+0.8
ARNR				*i* S	Sb	00 50 07.2	+1.8
LACR	**Lac**	**0.77**	**242**	*i* PG	Pg	00 49 57.1	-0.9
LACR				*i* S	Sb	00 50 06.8	-0.9
ZEI	**Tsey**	**1.05**	**247**	⇑*e*PG	Pg	00 50 02.5	-1.2
ZEI				*i* S	Sb	00 50 16.2	+0.1
DBC	**Dubki**	**1.19**	**98**	*i* PG	Pg	00 50 04.0	-2.5
DBC				*i* S	Sb	00 50 21.0	+0.9
DIGR	**Digorskoe uzhe**	**1.23**	**257**	*i* PG	Pg	00 50 05.9	-1.4
DIGR				*i* S	Sb	00 50 22.4	+1.1
UNCR	**Uncukul**	**1.25**	**112**	*e*PG	Pg	00 50 05.0	-2.7
UNCR				*e*S	Sb	00 50 25.0	+3.2
UNCR				pmax	pmax		
comp=Z,86nm,0.2s							
XNZR	**Khunzakh**	**1.27**	**120**	⇓*i*PG	Pg	00 50 07.2	-0.9
XNZR				*i* S	Sb	00 50 29.2	+6.8
XNZR				pmax	pmax		
comp=Z,80nm,0.2s							
KRNR	**Karanay**	**1.29**	**106**	*e*PG	Pg	00 50 04.8	-3.7
KRNR				*i* S	Sb	00 50 24.2	+1.2
KRNR				pmax	pmax		
comp=Z,25nm,0.2s							
ONI	**Oni**	**1.43**	**245**	P	Pn	00 50 09.1	+0.3
ONI				S	Sb	00 50 27.7	+0.6
TBLG	**Delisi**	**1.50**	**194**	P	Pn	00 50 09.0	-0.6
TBLG				S	Sb	00 50 28.1	-0.8
DGRG	**David-gareji**	**1.74**	**176**	P	Pn	00 50 13.5	+0.4
DGRG				S	Sn	00 50 37.3	+1.8

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*NNC **29** 01:13:40.3±6.7, 37.68N×71.32E, h234km±92km, mpv3.9, Error ellipse: s-maj=73.5km s-min=44.2km az=30.0*
ISC 29 01:13:37.7±2.4, 37.5N±0.1×71.3E±0.2, h200km±43km, n9, σ0§61/12, 3C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.02**	**21**	P	P	01 14 52.6	-0.4
SNR=103							
UCH	**Uchtor**	**5.38**	**27**	P	S	01 16 00.5	+0.8
SNR=6.5							
EKS2	**Erkin-Say**	**5.54**	**20**	P	P	01 14 59.7	0.0
SNR=7.1							
KK31	**Karatay Array**	**5.66**	**355**	⇑P	P	01 15 00.8	-0.4
4.9nm,0.1s,baz=176,slow=12,SNR=108							
KK31				⇓S	S	01 16 06.5	+0.3
2.5nm,0.2s,baz=192,slow=26,SNR=5.5							
AAK	**Ala-Archa**	**5.73**	**25**	P	P	01 15 02.4	+0.2
SNR=6.7							
AAK	**Ala-Archa**	**5.73**	**25**	⇑P	P	01 15 01.6	-0.6
3.4nm,0.4s							
AAK				⇑S	S	01 16 07.5	-0.3
7.5nm,1.0s							
CHMS	**Chumysh**	**6.14**	**25**	P	P	01 15 07.6	+0.1
SNR=5.8							
USP	**Ospenovka**	**6.30**	**22**	P	P	01 15 09.0	-0.6
SNR=9.9							
AB31	**Akbulak array**	**14.35**	**329**	P	P	01 16 54.1	+1.4
0.4nm,0.4s,baz=138,slow=13,SNR=21							
AB31				⇓S	S	01 19 26.3	-0.7
0.3nm,0.5s,baz=159,slow=22,SNR=4.1							

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*NEIC **29** 01:18:36.3, 35.64S×71.87W, h41km, MD3.7(GUC), After GUC.*
GUC 29 01:18:36.3±0.8, 35.64S×71.87W, h41km±2km, MD3.7, ML3.2, 1C-4D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTCH	**Constitucion**	**0.54**	**305**	⇓*i*P	P	01 18 47.8	+0.2
CTCH				*i* S	S	01 18 56.2	+0.5
CTCH				AMP		01 18 58.8	
comp=N,12μm,0.4s							
CNCO	**Chanco**	**0.55**	**260**	⇓*i*P	P	01 18 47.6	-0.1
CNCO				*i* S	S	01 18 56.0	+0.2
CNCO				AMP		01 18 59.0	
comp=N,2μm,0.3s							
NICH	**Los Niches**	**0.83**	**40**	⇓*i*P	P	01 18 52.0	+0.4
NICH				*i* S	S	01 19 03.6	+0.8
CCHI	**Chillan**	**0.97**	**190**	*i* P	P	01 18 54.5	+0.9
CCHI				*i* S	S	01 19 07.0	+0.6
CCHI				AMP		01 19 14.6	
comp=E,429nm,0.4s							
SFDO	**San Fernando**	**1.24**	**35**	⇑*i*P	P	01 18 57.2	-0.3
SFDO				*i* S	S	01 19 13.3	0.0
TACH	**Talagante**	**2.13**	**21**	⇓*i*P	P	01 19 10.2	0.0
TACH				*i* S	S	01 19 36.3	+0.8

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*NDI **29** 01:31:19.1±4.8, 31.69N×71.67E, h33km, ML3.5*
*NEIC **29** 01:31:30.8±2.1, 34.68N×74.39E, h62km±24km, mb3.3/2, Error ellipse: s-maj=31.6km s-min=11.2km az=70.0*
*NNC **29** 01:31:35.9±8.1, 35.21N×72.51E, mpv3.7, Error ellipse: s-maj=113.7km s-min=64.4km az=74.0*
*IDC **29** 01:31:57.6±22.0, 36.08N×74.40E, h233km±141km, mb3.3/3, mb1 3.4/6, mb1mx3.0/20, mbtmp3.9/6, Error ellipse: s-maj=191.5km s-min=39.1km az=2.0*
ISC 29 01:31:28.6±0.7, 34.97N±0.09×74.3E±0.2, h33km, n22, σ1§38/27, mb3.8/3, 3C, Southwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**2.79**	**150**	*e*P	P	01 32 12.0	+0.1
DLH				*e*S	S	01 32 53.0	+8.3
THN	**Thein Dam**	**2.79**	**155**	*e*P	P	01 32 12.9	+1.0
THN				*e*S	S	01 32 51.8	+7.1
SDNR	**Sundarnagar**	**4.12**	**146**	*ex*	x	01 32 30.8	
SDNR				*e*S	S	01 33 14.0	-4.5
KLP	**Kalpa**	**4.76**	**135**	*e*P	P	01 32 54.2	+14
KLP				*e*S	S	01 33 53.2	+18
KLP				AML	AML	01 34 05.8	
comp=E,258nm,0.2s							
KLP				AML	AML	01 34 06.8	
comp=N,181nm,1.3s							
KUDL	**Kundal**	**7.05**	**164**	*ex*	P	01 33 13.3	+1.1
KUDL				*ex*	S	01 34 25.7	-6.3
KK31	**Karatay Array**	**8.64**	**341**	⇑P	P	01 33 33.6	-0.6
comp=N,1.0nm,0.2s,baz=150,slow=11,SNR=97							
KK31				⇑S	S	01 35 07.1	-4.5
comp=N,0.9nm,0.3s,baz=172,slow=25,SNR=5.2							
KOLN	**Koldanda**	**10.70**	**130**	*e*P	P	01 33 58.5	-4.1
comp=N,7.4nm,0.3s							
GKN	**Gorkha**	**11.22**	**125**	*e*P	P	01 34 05.5	-4.2
comp=N,11nm,0.2s							
DMN	**Daman**	**11.79**	**126**	*e*P	P	01 34 13.1	-4.3
comp=N,13nm,0.3s							
KKN	**Kakani**	**11.79**	**124**	*e*P	P	01 34 13.3	-4.1
comp=N,21nm,0.5s							
PKI	**Pulchoki**	**12.02**	**125**	*e*P	P	01 34 16.7	-3.8
comp=N,7.7nm,0.2s							
MKAR	**Makanchi Array**	**13.26**	**25**	P	P	01 34 45.9	+8.9
comp=N,0.2nm,0.3s,baz=196,slow=12,SNR=3.1							
KURK	**Kurchatov**	**16.05**	**10**	*e*P	P	01 35 16.4	+3.2
comp=N,1.9nm,0.8s							
AB31	**Akbulak array**	**17.77**	**328**	P	P	01 35 33.1	-1.7
comp=N,0.3nm,0.4s,baz=145,slow=14,SNR=17							
AB31				⇑S	S	01 38 40.4	-8.9
comp=N,0.5nm,0.5s							
BVAR	**Borovoye Array**	**18.26**	**352**	P	P	01 35 42.0	+0.9
comp=N,0.8nm,0.3s,baz=172,slow=10,SNR=18							
BRVK	**Borovoye**	**18.31**	**352**	*e*P	P	01 35 42.5	+0.9
comp=N,1.8nm,0.7s							
ZAL	**Zalesovo**	**20.35**	**18**	P	P	01 36 04.1	-0.5
comp=N,1.0nm,0.3s,baz=234,slow=6.0,SNR=7.1							
ZAL	**Zalesovo**	**20.35**	**18**	P	P	01 36 04.1	-0.6
FINES	**FINESS Array B**	**40.25**	**326**	P	P	01 39 03.2	-0.4
comp=N,3.8nm,1.0s,mb4.1,baz=117,slow=9.3,SNR=6.7							
FINES	**FINESS Array B**	**40.25**	**326**	P	P	01 39 03.2	-0.4
ARCES	**ARCESS Array B**	**43.59**	**337**	P	P	01 39 31.1	+0.4
comp=N,1.1nm,0.4s,mb4.0,baz=114,slow=8.6,SNR=28							
ILAR	**Eielson Array**	**75.49**	**17**	P	P	01 43 09.6	-1.0
comp=N,0.3nm,0.6s,mb3.4,baz=328,slow=6.4,SNR=4.3							

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*IDC **29** 01:34:58.8±0.6, 16.78S×70.49W, mb4.2/9, mb1 4.3/11, mb1mx4.3/17, mbtmp4.2/11, ML4.9/1, MS4.2/16, Ms1 4.2/16, ms1mx4.1/24, Error ellipse: s-maj=15.4km s-min=14.5km az=48.0*
*NEIC **29** 01:35:03.5±2.1, 16.80S×70.25W, h31km±15km, mb4.8/16, Error ellipse: s-maj=10.0km s-min=5.6km az=72.0*
*BJI **29** 01:35:05.0, 16.80S×70.20W, h31km*
ISC 29 01:35:01.9±0.3, 16.74S±0.04×70.21W±0.07, h33km, n66, σ1§00/54, mb4.4/26, MS4.3/13, 4C, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.04**	**78**	Pg	P	01 35 42.1	+7.6
83nm,0.3s,baz=256,slow=14,SNR=400							
LPAZ				Lg		01 36 13.5	
72nm,0.3s,baz=182,slow=25,SNR=5.0							
LVC	**Limon Verde**	**5.97**	**168**	Pn	Pn	01 36 29.2	-1.2
3.1nm,0.3s,baz=330,slow=9.4,SNR=44							
LVC				Sn	Sn	01 37 39.4	+1.0
5.5nm,0.3s,baz=203,slow=22,SNR=2.0							
LVC				LR	LR	01 38 53.7	
comp=Z,230nm,18.3s,baz=336,slow=39							
LVC	**Limon Verde**	**5.97**	**168**	Pn	Pn	01 36 29.2	-1.2
LVC				Sn	Sn	01 37 39.4	+1.0
LVC				LR	LR	01 38 53.7	
NNA	**Nana**	**7.98**	**305**	*e*Pn	Pn	01 36 58.0	-0.6
56nm,1.0s							
NNA				*e*Sn	Sn	01 38 38.8	+10
SIV	**San Ignacio**	**8.80**	**86**	Pn	P	01 37 10.6	+0.8
2.4nm,0.3s,baz=285,slow=9.3,SNR=15							
SIV				Sn	Sn	01 38 59.1	+10
baz=190,slow=23,SNR=2.0							
SAML	**Samuel**	**10.34**	**42**	*e*Pn	P	01 37 31.2	+0.2
12nm,0.8s							
CFAA	**Coronel Fontan**	**14.91**	**173**	Pn	P	01 38 29.6	-2.4
0.0nm,0.3s,baz=345,slow=13,SNR=6.5							

CFAA				LR	LR	01 44 25.9	
	comp=Z,86nm,19.1s,baz=160,slow=38						
CPUP	**Villa Florida**	**15.30**	**131**	Pn	**P**	**01 38 35.6**	**-1.7**
	0.0nm,0.3s,baz=194,slow=8.3,SNR=3.3						
CPUP				LR	LR	01 45 41.3	
	comp=Z,2μm,18.5s,baz=335,slow=42						
MDZ	**Mendoza**	**16.12**	**176**	*eP*	**P**	**01 38 49.8**	**+2.1**
BDFB	**Brasilia**	**21.34**	**90**	P	**P**	**01 39 48.1**	**-0.4**
	2.4nm,0.9s,mb3.5,baz=64,slow=18,SNR=2.6						
BDFB				LR	LR	01 48 46.0	
	comp=Z,690nm,18.4s,MS4.1,baz=61,slow=38						
ROSC	**El Rosal**	**21.84**	**349**	P	**P**	**01 39 51.2**	**-2.3**
	1.1nm,0.4s,mb3.7,baz=270,slow=20,SNR=2.3						
TRQA	**Tornquist**	**22.43**	**163**	*eP*	**P**	**01 39 58.8**	**-0.4**
	76nm,1.5s,mb4.9						
PLCA	**Paso Flores**	**23.91**	**181**	P	**P**	**01 40 13.2**	**-0.4**
	15nm,1.2s,mb4.3,baz=3.0,slow=11,SNR=8.1						
PLCA				LR	LR	01 49 41.8	
	comp=Z,630nm,19.1s,MS4.1,baz=342,slow=37						
SDV	**Santo Domingo**	**25.46**	**359**	P	**P**	**01 40 28.8**	**0.0**
	1.1nm,0.3s,mb3.8,baz=248,slow=3.3,SNR=2.7						
TXAR	**Lajitas Array**	**56.05**	**325**	P	**P**	**01 44 39.2**	**-1.0**
	1.6nm,0.8s,mb4.1,baz=151,slow=8.2,SNR=18						
TXAR				LR	LR	02 06 32.9	
	comp=Z,249nm,19.0s,MS4.3,baz=50,slow=34						
FVM	**French Village**	**57.65**	**341**	*eP*	**P**	**01 44 50.0**	**-1.5**
	33nm,0.8s,mb5.4						
CCM	**Cathedral Cave**	**57.98**	**340**	*eP*	**P**	**01 44 52.4**	**-1.4**
	11nm,0.9s,mb4.9						
CCM				*e*		01 45 45.4	
MNTX	**Cornudas Mount**	**58.81**	**325**	*eP*	**P**	**01 44 58.1**	**-1.6**
	7.9nm,1.2s,mb4.6						
MNTX				*e*		01 45 48.7	
ANMO	**Albuquerque**	**61.87**	**327**	LR	LR	02 14 44.6	
	comp=Z,148nm,18.4s,MS4.2,baz=143,slow=39						
ANMO	**Albuquerque**	**61.87**	**327**	*eP*	**P**	**01 45 20.1**	**-0.4**
	7.0nm,1.1s,mb4.7						
SDCO	**Great Sand Dun**	**63.55**	**329**	*eP*	**P**	**01 45 31.9**	**+0.2**
	9.3nm,0.8s,mb4.9						
VNA3	**Neumayer Olymp**	**64.96**	**162**	*e*	pP	01 45 47.3	-3.2
VNA3	**Neumayer Olymp**	**64.96**	**162**	⇑*iP*	**P**	**01 45 39.9**	**-0.3**
VNA3				*e*		01 45 47.3	
VNA3				*e*		01 46 10.9	
VNA3				*e*		01 46 43.7	
VNA1	**Neumayer--Stat**	**65.16**	**161**	*e*	pP	01 45 48.6	-3.2
VNA1	**Neumayer--Stat**	**65.16**	**161**	⇑*iP*	**P**	**01 45 41.5**	**0.0**
VNA1				*e*		01 45 48.6	
ISCO	**Idaho Springs**	**65.22**	**331**	*eP*	**P**	**01 45 42.9**	**+0.4**
	7.4nm,1.0s,mb4.7						
PV01	**Paradox Valley**	**65.39**	**327**	*eP*	**P**	**01 45 43.9**	**+0.3**
VNA2	**Neumayer--Watz**	**65.53**	**161**	*e*	pP	01 45 51.0	-3.2
VNA2	**Neumayer--Watz**	**65.53**	**161**	⇑*iP*	**P**	**01 45 43.8**	**-0.1**
VNA2				*e*		01 45 51.0	
VNA2				*e*		01 46 14.7	
VNA2				*e*		01 46 47.1	
PV10	**Paradox Valley**	**65.82**	**327**	*eP*	**P**	**01 45 46.4**	**+0.1**
NEN	**Nelson**	**67.09**	**322**	P	**P**	**01 45 54.7**	**+0.3**
SRU	**San Rafael**	**67.14**	**327**	*eP*	**P**	**01 45 54.8**	**+0.2**
SNAA	**Sanae**	**67.16**	**162**	*e*	pP	01 46 01.2	-3.3
SNAA	**Sanae**	**67.16**	**162**	⇑*iP*	**P**	**01 45 53.9**	**-0.3**
SNAA				*e*		01 46 01.2	
SNAA				*e*		01 46 24.9	
SNAA				*e*		01 46 52.9	
MSU	**Marysvale**	**67.58**	**325**	*eP*	**P**	**01 45 58.0**	**+0.6**
DAU	**Daniels Canyon**	**68.48**	**327**	*eP*	**P**	**01 46 03.9**	**+0.9**
DBIC	**Dimbokro**	**68.66**	**76**	LR	LR	02 14 12.8	
	comp=Z,371nm,20.4s,MS4.6,baz=222,slow=34						
PDAR	**Pinedale Array**	**69.39**	**330**	P	**P**	**01 46 08.8**	**+0.2**
	1.6nm,0.8s,mb4.0,baz=128,slow=8.6,SNR=13						
PDAR				LR	LR	02 19 23.2	
	comp=Z,224nm,19.2s,MS4.4,baz=130,slow=38						
BGU	**Big Grassy Mou**	**69.77**	**327**	*eP*	**P**	**01 46 10.3**	**-0.6**
AHID	**Auburn Hatcher**	**70.14**	**329**	*eP*	**P**	**01 46 13.8**	**+0.6**
	4.8nm,0.7s,mb4.5						
ULM	**Lac du Bonnet**	**70.43**	**343**	P	**P**	**01 46 14.3**	**-0.5**
	8.2nm,0.6s,mb4.8						
ULM				LR	LR	02 20 31.4	
	comp=Z,188nm,19.1s,MS4.4,baz=247,slow=39						
ULM	**Lac du Bonnet**	**70.43**	**343**	P	**P**	**01 46 14.3**	**-0.5**
ULM				LR	LR	02 20 31.4	
LOHW	**Long Hollow**	**70.53**	**330**	*eP*	**P**	**01 46 16.1**	**+0.6**
	3.1nm,0.7s,mb4.3						
RRI2	**Red Ridge**	**70.68**	**329**	*eP*	**P**	**01 46 17.0**	**+0.6**
	12nm,0.8s,mb4.9						
ELK	**Elko**	**70.83**	**325**	LR	LR	02 16 22.4	
	comp=Z,332nm,18.7s,MS4.6,baz=132,slow=35						
IMW	**Indian Meadow**	**70.91**	**330**	*eP*	**P**	**01 46 18.5**	**+0.8**
	5.0nm,0.8s,mb4.5						
FLWY	**Flagg Ranch**	**70.93**	**330**	*eP*	**P**	**01 46 19.6**	**+1.6**
LAO	**LASA Array**	**70.98**	**335**	*eP*	**P**	**01 46 18.7**	**+0.5**
	18nm,1.3s,mb4.8						
BOZ	**Bozeman (W)**	**72.54**	**331**	*eP*	**P**	**01 46 27.7**	**+0.3**
	3.6nm,1.0s,mb4.3						
MOD	**Modoc**	**74.43**	**324**	*eP*	**P**	**01 46 39.8**	**+1.2**
	14nm,1.3s,mb4.7						
MSO	**Missoula**	**74.50**	**330**	*eP*	**P**	**01 46 36.4**	**-2.5**
	6.8nm,1.3s,mb4.4						
BMO	**Blue Mountains**	**74.77**	**327**	*eP*	**P**	**01 46 41.0**	**+0.6**
	3.0nm,0.8s,mb4.3						
PPT	**Papeete**	**75.26**	**256**	LR	LR	02 10 52.6	
	comp=Z,152nm,21.3s,MS4.3,baz=130,slow=29						
EDM	**Edmonton**	**78.95**	**335**	P	**P**	**01 47 03.0**	**-0.8**
VNDA	**Vanda**	**81.30**	**190**	P	**P**	**01 47 17.1**	**+1.2**
	1.3nm,0.9s,mb3.9,baz=148,slow=3.5,SNR=6.6						
VNDA				LR	LR	02 20 54.8	
	comp=Z,106nm,21.5s,MS4.2,baz=20,slow=34						
ESDC	**Sonseca Array**	**83.34**	**45**	P	**P**	**01 47 28.7**	**+1.5**
	0.6nm,0.7s,mb3.8,baz=251,slow=6.2,SNR=3.4						
MAW	**Mawson**	**89.22**	**164**	P	**P**	**01 47 55.4**	**+0.2**
	3.6nm,0.8s,mb4.7,baz=191,slow=7.1,SNR=5.6						
MAW				LR	LR	02 26 01.5	
	comp=Z,147nm,18.4s,MS4.4,baz=139,slow=34						
DLBC	**Dease Lake**	**89.43**	**333**	*eP*	**P**	**01 47 58.3**	**+1.8**
GERES	**GERESS Array B**	**98.50**	**42**	LR	LR	02 27 23.8	
	comp=Z,83nm,20.9s,MS4.2,baz=289,slow=32						
ILAR	**Eielson Array**	**99.44**	**335**	LR	LR	02 35 47.9	
	comp=Z,180nm,18.0s,MS4.6,baz=303,slow=37						
WRA	**Warramunga Arr**	**136.29**	**214**	PKP	PKPdf	01 54 23.3	+2.2
	0.9nm,1.0s,baz=152,slow=1.5,SNR=4.3						
ZAL	**Zalesovo**	**138.10**	**22**	PKP	PKPdf	01 54 25.2	+1.7
	4.6nm,1.0s,baz=177,slow=3.4,SNR=15						
MKAR	**Makanchi Array**	**142.37**	**31**	PKP	PKPdf	01 54 33.1	+1.9
	0.8nm,0.7s,baz=315,slow=1.7,SNR=4.8						
WMQ	**Urumqi**	**147.15**	**30**	*e*PKP	PKPdf	01 54 44.0	+4.4
WMQ				APKP		01 54 55.0	
MJAR	**Matsushiro Arr**	**148.03**	**314**	PKPbc	PKPdf	01 54 46.6	+5.4
	12nm,0.9s,baz=74,slow=2.9,SNR=29						
SONM	**Songino Array**	**148.87**	**4**	PKP	PKPdf	01 54 44.7	+2.5
	6.6nm,0.8s,baz=329,slow=0.6,SNR=6.0						
SONM				PKPbc	PKPdf	01 54 48.4	+6.2
	5.4nm,0.6s,baz=328,slow=1.9,SNR=49						

SKHL 29 01:47:45.6±0.5, 52.54N×142.56E, h10km±1km, mb4.0/5, Sakhalin Island

MEX 29 02:02:51.4±1.2, 17.38N×101.05W, h10km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.82**	**114**	*iP*	Pb	02 03 04.1	-3.2
CAIG				*iS*	Sb	02 03 15.5	-2.6
ACX	**Acapulco**	**1.20**	**115**	*iP*	Pb	02 03 11.8	-2.0
ACX				*iS*	Sb	02 03 26.0	-3.2
PLIG	**Platanillo**	**1.79**	**56**	*eP*	Pn	02 03 19.6	-3.0
PLIG				*iS*	Sn	02 03 40.0	-5.5
PPM	**Popocatepetl**	**2.85**	**54**	*eP*	Pn	02 03 37.0	-0.8

*CSEM **29** 02:32:42.3±0.8, 38.66N×28.59W, h5km, ML1.2, Error ellipse: s-maj=4.2km s-min=2.0km az=174.0, After PDA*
*PDA **29** 02:32:42.3±0.8, 38.66N×28.59W, h5km, MD3.0, ML1.2, Error ellipse: s-maj=4.2km s-min=2.0km az=174.0*
SVSA 29 02:32:42.3±0.8, 38.66N×28.59W, h5km, MD3.0, ML1.2, Error ellipse: s-maj=4.2km s-min=2.0km az=174.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.09**	**251**	*eP*	Pg	02 32 44.1	-0.2
PCED				*eS*	Sg	02 32 45.9	+0.2
	25nm,0.2s						
CALA	**Caldeira**	**0.12**	**229**	*eP*	Pg	02 32 44.5	-0.3
CALA				*eS*	Sg	02 32 46.7	+0.3
HOR	**Horta**	**0.14**	**193**	*eP*	Pg	02 32 44.3	-0.8
PICO	**Pico**	**0.20**	**140**	*eP*	Pg	02 32 46.3	-0.2
PICO				*eS*	Sg	02 32 49.1	-0.1
PMAN	**Manadas**	**0.39**	**94**	*eP*	Pg	02 32 49.1	-1.1
PMAN				*eS*	Sg	02 32 54.9	-0.6
	7.7nm,0.1s						

*ZUR **29** 02:45:58.1, 46.93N×8.70E, h2km, ML2.0/11*
*STR **29** 02:45:59.8±0.7, 46.91N×8.69E, h2km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*PRU **29** 02:45:59.0, 47.13N×8.56E*
*CSEM **29** 02:45:59.2±0.1, 46.87N×8.72E, h5km, ML2.4/15, Error ellipse: s-maj=2.0km s-min=1.3km az=172.0*
*ROM **29** 02:46:00.2±0.4, 46.84N×8.82E, h7km, Md2.5/2, Ml1.3/1, Error ellipse: s-maj=4.1km s-min=2.1km az=140.0*
*LDG **29** 02:46:01.2±0.3, 46.96N×8.61E, h2km, Md2.4/2, Ml2.3/13, Error ellipse: s-maj=6.1km s-min=3.1km az=96.0*
ISC 29 02:45:58.2±0.2, 46.93N±0.02×8.67E±0.02, h9km±3km, n39, σ1§20/79, 4C-7D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUO	**Muotathal**	**0.04**	**329**	⇓*iPg*	**Pg**	**02 45 59.9**	**-0.2**
MUO				*eSg*	**Sg**	**02 46 00.7**	**-0.6**
LLS	**Linth-Limmern**	**0.25**	**109**	*i Sg*	**Sg**	**02 46 07.2**	**+0.3**
HASLI	**Hasliberg**	**0.40**	**244**	⇓*iPg*	**Pg**	**02 46 07.0**	**+0.7**
HASLI				*i Sg*	**Sg**	**02 46 13.1**	**+1.4**
ZUR	**Zurich**	**0.44**	**352**	*ePg*	**Pg**	**02 46 07.9**	**+0.7**
ZUR				*i Sg*	**Sg**	**02 46 14.8**	**+1.6**
FUSIO	**Fusio**	**0.48**	**181**	⇑*iPg*	**Pg**	**02 46 08.5**	**+0.6**
PLONS	**Plons**	**0.50**	**76**	⇑*iPg*	**Pg**	**02 46 08.1**	**-0.3**
PLONS				*eSg*	**Sg**	**02 46 15.2**	**+0.1**
WILA	**Wila**	**0.51**	**18**	⇓*iPg*	**Pg**	**02 46 09.3**	**+0.8**
TUE	**Stuetta**	**0.65**	**134**	Pg	**Pg**	**02 46 11.6**	**+0.2**
TUE				Sg	**Sg**	**02 46 20.2**	**0.0**
	14nm,0.2s						
DAVOX	**Davos**	**0.84**	**100**	Pg	**Pg**	**02 46 15.2**	**+0.1**
DAVOX				Sg	**Sg**	**02 46 26.4**	**0.0**
SLE	**Schleitheim**	**0.84**	**352**	⇓*iP*P*		02 46 15.1	
LKBD	**Leukerbad**	**0.90**	**233**	⇓*iP*P*		02 46 16.5	
DAVA	**Damuels**	**0.90**	**66**	⇑*iPG*	**Pg**	**02 46 16.4**	**+0.1**
DAVA				*i SG*	**Sg**	**02 46 28.3**	**0.0**
	15nm,0.3s						
BBS	**Basel-Blauen**	**0.95**	**304**	Pg	**Pg**	**02 46 17.5**	**+0.2**
BBS				Sg	**Sg**	**02 46 32.2**	**+2.1**
MUGIO	**Muggio**	**1.04**	**166**	Pg	**Pg**	**02 46 18.9**	**-0.2**
MUGIO				Sg	**Sg**	**02 46 33.7**	**+0.7**
FELD	**Feldberg**	**1.05**	**335**	Pg	**Pg**	**02 46 20.0**	**+0.8**
FELD				Sg	**Sg**	**02 46 34.8**	**+1.6**
VAI	**Varese**	**1.06**	**176**	Pg	**Pg**	**02 46 19.8**	**+0.3**
VAI				Sg	**Sg**	**02 46 34.0**	**+0.2**
	9.0nm,0.2s						
LOMF	**Lomont**	**1.33**	**289**	Pg	**Pg**	**02 46 25.2**	**+0.5**
LOMF				Sg	**Sg**	**02 46 43.7**	**+1.3**
MOF	**Molkenrain**	**1.39**	**312**	Pg	**Pg**	**02 46 26.6**	**+0.5**
BRANT	**Les Verrieres**	**1.50**	**271**	⇑*iPn*	**Pn**	**02 46 27.2**	**+1.7**
HINF	**Hinteralfeld**	**1.52**	**306**	*ePg*	**Pg**	**02 46 28.4**	**-0.2**
HINF				*eSg*	**Sg**	**02 46 47.3**	**-1.6**
	8.9nm,0.3s						
ECH	**Echery**	**1.64**	**322**	Pg	**Pg**	**02 46 32.1**	**+1.0**
MOTA	**Moosalm**	**1.71**	**75**	⇓*iPG*	**Pg**	**02 46 31.6**	**-0.8**
MOTA				*i SG*	**Sg**	**02 46 54.7**	**-0.6**
	6.0nm,0.3s						
CDF	**Champ du Feu**	**1.76**	**328**	*e*Pn	**Pn**	**02 46 29.5**	**+0.4**
CDF				*e*Sn	**Sn**	**02 46 49.6**	**-2.1**
CDF				*e*Sg	**Sg**	**02 46 55.0**	**-1.8**
	4.5nm,0.3s						
SQTA	**Sankt Quirin**	**1.76**	**80**	⇓*i*PN	**Pn**	**02 46 29.7**	**+0.6**
SQTA				*i* PG	**Pg**	**02 46 32.4**	**-1.0**
SQTA				*i* SG	**Sg**	**02 46 56.5**	**-0.4**
	5.2nm,0.2s						
CABF	**La Chapelle**	**1.80**	**261**	*e*Pn	**Pn**	**02 46 31.6**	**+1.8**
CABF				*e*Pg	**Pg**	**02 46 33.7**	**-0.6**
CABF				*e*Sg	**Sg**	**02 46 58.0**	**-0.3**
	12nm,0.5s						
HAU	**Haudompre**	**1.91**	**305**	*e*Pn	**Pn**	**02 46 32.0**	**+0.8**
HAU				*e*Pg	**Pg**	**02 46 36.8**	**+0.5**
HAU				*e*Sn	**Sn**	**02 46 52.7**	**-2.9**
HAU				*e*Sg	**Sg**	**02 46 59.0**	**-2.8**
	5.5nm,0.3s						
LPL	**La Plagne**	**1.95**	**224**	*e*Pn	**Pn**	**02 46 34.7**	**+2.8**
LPL				*e*Pg	**Pg**	**02 46 37.1**	**-0.1**
LPL				*e*Sg	**Sg**	**02 47 03.3**	**+0.1**
	3.1nm,0.5s						
LPG	**La Plagne**	**1.96**	**224**	*e*Pn	**Pn**	**02 46 35.2**	**+3.2**
LPG				*e*Pg	**Pg**	**02 46 37.3**	**0.0**
LPG				*e*Sg	**Sg**	**02 47 02.8**	**-0.6**
	5.9nm,0.5s						
MBDF	**Montbardon**	**2.57**	**212**	*e*Pg	**Pg**	**02 46 46.6**	**-3.0**
MBDF				*e*Sg	**Sg**	**02 47 20.8**	**-3.1**
	3.2nm,0.4s						
ORIF	**Oris-en-Rattie**	**2.80**	**225**	*e*Pg	**Pg**	**02 46 52.1**	**-2.0**
LOR	**Lormes**	**3.30**	**278**	*e*Pn	**Pn**	**02 46 51.7**	**+0.5**
LOR				*e*Pg	**Pg**	**02 47 02.1**	**-2.1**
LOR				*e*Sg	**Sg**	**02 47 43.9**	**-4.3**
	2.2nm,0.3s						
SMF	**Signal de Mont**	**3.33**	**267**	*e*Pn	**Pn**	**02 46 53.2**	**+1.7**
SMF				*e*Pg	**Pg**	**02 47 01.4**	**-3.3**
SMF				*e*Sn	**Sn**	**02 47 27.3**	**-4.4**
SMF				*e*Sg	**Sg**	**02 47 44.7**	**-4.4**
	4.4nm,0.4s						
SSF	**Saint Saulge**	**3.54**	**274**	*e*Pn	**Pn**	**02 46 55.5**	**+1.0**
SSF				*e*Pg	**Pg**	**02 47 05.6**	**-3.2**
SSF				*e*Sg	**Sg**	**02 47 49.3**	**-6.7**
	1.3nm,0.4s						
AVF	**Avril sur Loir**	**3.65**	**270**	*e*Pn	**Pn**	**02 46 56.7**	**+0.6**
AVF				*e*Pg	**Pg**	**02 47 07.5**	**-3.6**
AVF				*e*Sg	**Sg**	**02 47 55.8**	**-4.0**
	1.4nm,0.5s						
KHC	**Kasperske Hory**	**3.96**	**54**	*e*PG	**Pg**	**02 47 11.5**	**-5.8**
KHC				*e*SN	**Sn**	**02 47 45.8**	**-1.8**
KHC				*e*SG	**Sg**	**02 48 02.7**	**-7.4**
BGF	**Bois d'Agland**	**4.02**	**267**	*e*Pn	**Pn**	**02 47 01.5**	**+0.1**
BGF				*e*Sn	**Sn**	**02 47 45.8**	**-3.4**
	1.6nm,0.2s						
GIVF	**Givet**	**4.08**	**323**	*e*Pn	**Pn**	**02 47 02.6**	**+0.5**
HYF	**Humbligny**	**4.13**	**277**	*e*Pn	**Pn**	**02 47 03.2**	**+0.2**
HYF				*e*Pg	**Pg**	**02 47 14.6**	**-6.1**
HYF				*e*Sn	**Sn**	**02 47 45.5**	**-6.5**
TCF	**Toulx Ste Croi**	**4.50**	**264**	*e*Pn	**Pn**	**02 47 08.2**	**0.0**

*ISK **29** 03:06:10.2, 36.57N×42.30E, h9km, ML3.5*
ISC 29 03:06:09.9±1.2, 36.51N±0.08×42.39E±0.05, h9km, n14, σ1§21/19, Iraq

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSL	**Mosul**	**0.60**	**111**	*i* Pg	Px	03 06 38.0	
MSL				*i* Sg	Sx	03 06 47.0	
MSL				*i* Sb	Sx	03 06 48.8	
SIRT	**Sirnak**	**0.99**	**2**	PG	**Pg**	**03 06 28.2**	**-1.7**
SIRT				SG	**Sg**	**03 06 42.0**	**-1.2**
HAKT	**HAKKARI**	**1.49**	**45**	*i* P	**Pn**	**03 06 36.6**	**-0.4**
HAKT				*i* S	**Sb**	**03 06 56.8**	**+0.5**
HKR	**Hakkari**	**1.52**	**45**	PN	**Pn**	**03 06 38.5**	**+1.0**
MARD	**Mardin**	**1.52**	**303**	*i* P	**Pn**	**03 06 37.7**	**+0.2**
MARD				*i* S	**Sb**	**03 06 59.4**	**+2.2**
BEST	**Besiri**	**1.65**	**327**	*i* P	**Pn**	**03 06 41.1**	**+1.8**
BEST				*i* S	**Sn**	**03 07 03.8**	**+3.1**
BTMT	**Batman**	**1.83**	**337**	PN	**Pn**	**03 06 41.7**	**-0.2**
VANB	**Van**	**2.23**	**21**	*e*PN	**Pn**	**03 06 47.9**	**+0.2**
URFA	**Urfa**	**3.00**	**289**	*e*PN	**Pn**	**03 06 58.9**	**+0.2**
ELZG	**Elazig**	**3.36**	**307**	*i* P	**Pb**	**03 07 13.1**	**+3.8**
ELZG				*i* S	**Sb**	**03 07 55.5**	**+4.9**
PTK	**Pertek**	**3.37**	**316**	*e*PN	**Pn**	**03 07 02.3**	**-1.5**
MALT	**Malatya**	**3.63**	**301**	*e*PN	**Pn**	**03 07 06.5**	**-1.1**
MYA	**Malataya**	**3.64**	**301**	*e*PN	**Pn**	**03 07 07.2**	**-0.5**
GZT	**Gaziantep**	**3.96**	**284**	*i* P	**Pb**	**03 07 19.8**	**+0.2**
GZT				*i* S	**Sg**	**03 08 20.4**	**-1.3**

*SOF **29** 03:14:19.8, 42.09N×23.88E, h10km, MD2.5*
*CSEM **29** 03:14:20.5±0.1, 42.13N×23.86E, h19km, MD2.5, Error ellipse: s-maj=1.8km s-min=1.6km az=101.0*
*THE **29** 03:14:22.9, 42.03N×23.76E, h10km, ML3.1*
ISC 29 03:14:19.8±0.6, 42.08N±0.04×23.89E±0.04, h5km±8km, n20, σ0§86/25, 5C-2D, Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMB	**Musomiste**	**0.51**	**194**	*i* Pg	**Pg**	**03 14 31.3**	**+1.3**
PGB	**Panagyurishte**	**0.51**	**24**	*i* Pg	**Pg**	**03 14 30.0**	**-0.1**
PLD	**Plovdiv**	**0.61**	**87**	Pg	**Pg**	**03 14 32.5**	**+0.5**
KKB	**Krupnik**	**0.64**	**251**	*i* Pg	**Pg**	**03 14 32.3**	**-0.3**
VTS	**Vitosha**	**0.72**	**316**	*i* Pg	**Pg**	**03 14 34.2**	**0.0**
RZN	**Rozhen**	**0.73**	**122**	*i* Pg	**Pg**	**03 14 35.0**	**+0.5**
SRS	**Serrai**	**0.99**	**193**	*e*Pg	**Pg**	**03 14 39.8**	**+0.2**
SRS				*e*Sg	**Sg**	**03 14 53.8**	**+1.0**
KNT	**Kendrikon**	**1.18**	**219**	*e*Pg	**Pg**	**03 14 42.9**	**-0.5**
KNT				*e*Sg	**Sg**	**03 14 59.0**	**-0.2**
KDZ	**Kurdzhali**	**1.22**	**110**	*i* Pg	**Pg**	**03 14 43.5**	**-0.7**
DIM	**Dimitrovgrad**	**1.23**	**91**	*i* P	**Pb**	**03 14 44.3**	**+1.1**
ZAPS	**Zavoj/Pirot**	**1.53**	**323**	⇑*i*Pn	**Pn**	**03 14 49.2**	**+1.1**
ZAPS				Sn	**Sn**	**03 15 09.1**	**+0.5**
PVL	**Pavlikeni**	**1.56**	**43**	*i* P	**Pn**	**03 14 47.3**	**-1.1**
THE	**Thessaloniki**	**1.60**	**206**	*e*Pg	**Pg**	**03 14 50.8**	**-1.1**
THE				*e*Sg	**Sg**	**03 15 12.1**	**-1.2**
BARS	**Barje**	**1.70**	**297**	⇓*i*Pn	**Pn**	**03 14 51.7**	**+1.3**
BARS				Sn	**Sn**	**03 15 12.0**	**-0.7**
JMB	**Yambol**	**2.04**	**78**	*i* P	**Pn**	**03 14 55.5**	**+0.2**
HARR	**Harsova**	**3.94**	**47**	⇑*i*P	**Pn**	**03 15 21.0**	**-1.3**
VRI	**Vrincioaia**	**4.30**	**27**	⇑P	**Pn**	**03 15 28.5**	**+1.0**
CFR	**Carcaliu**	**4.37**	**43**	⇓*i*P	**Pn**	**03 15 27.1**	**-1.4**
TLCR		**4.74**	**47**	⇑*i*P	**Pn**	**03 15 33.3**	**-0.4**
DRGR		**4.79**	**350**	⇑P	**Pn**	**03 15 39.1**	**+4.7**

*NIED **29** 03:27:00, 36.80N×141.70E, h20km, Mw3.6 Best double couple: M0:2.84×10^14 NP1:φ=22°, δ71°, λ85°. NP2:φ=218°, δ19°, λ105°.*
*JMA **29** 03:27:15.2±0.2, 36.77N×141.74E, h58km±4km, M3.5*
ISC 29 03:27:14.1±1.9, 36.79N±0.07×141.8E±0.1, h17km±10km, n10, σ0§63/16, 1C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.88**	**291**	P	**Pb**	**03 27 30.7**	**+0.2**
JFK	**Kawauchi**	**0.95**	**307**	⇓P	**Pb**	**03 27 31.9**	**+0.2**
JHO	**Hitachi**	**1.02**	**260**	⇓P	**Pb**	**03 27 32.3**	**-0.7**
JHO				*e*S	**Sb**	**03 27 45.4**	**-0.6**
JMM	**Marumori**	**1.35**	**323**	⇓P	**Pn**	**03 27 38.2**	**-0.2**
JFT	**Otama**	**1.39**	**302**	P	**Pn**	**03 27 39.4**	**+0.4**
JFT				*e*S	**Sb**	**03 27 57.0**	**+0.4**
JIO	**Ouri**	**1.70**	**347**	⇓P	**Pn**	**03 27 43.4**	**0.0**
JIO				*e*S	**Sn**	**03 28 03.6**	**-1.3**
JFY	**Yanaizu**	**1.80**	**291**	P	**Pn**	**03 27 45.6**	**+0.8**
JFY				*e*S	**Sn**	**03 28 06.7**	**-0.7**
JOU	**Okura**	**1.82**	**330**	⇑P	**Pn**	**03 27 46.0**	**+0.9**
JOU				*e*S	**Sn**	**03 28 08.2**	**+0.3**
JAG	**Ashikaga**	**1.94**	**260**	P	**Pn**	**03 27 46.0**	**-0.9**
MAT	**Matsushiro**	**2.92**	**266**	P	**Pn**	**03 28 01.1**	**+0.3**
MAT				*e*S	**Sn**	**03 28 36.6**	**+0.8**

NEIC 29 03:38:53.8, 40.51N×126.53W, h6km, mb3.4/1, MD3.4(NCEDC), After NCEDC., Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHMM	**Horse Mountain**	**2.16**	**79**	*e*P	Pn	03 39 28.3	-2.5
KRMB	**Red Mountain**	**2.23**	**62**	*e*P	Pn	03 39 29.0	-2.9
KCPM	**Cahto Peak**	**2.41**	**109**	*e*P	Pn	03 39 31.3	-3.1
KBO	**Bosley Butte**	**2.43**	**45**	*e*P	Pn	03 39 31.7	-3.0
KIPM	**Iron Peak**	**2.44**	**106**	*e*P	Pn	03 39 32.4	-2.5
KEBM	**Edson Butte**	**2.88**	**34**	*e*P	Pn	03 39 37.4	-3.6
WDC	**Whiskeytown Da**	**3.04**	**87**	*e*P	Pn	03 39 40.8	-2.6
WDC				*e*S	Sn	03 40 13.7	-7.0
HOPS	**Hopland**	**3.07**	**119**	*e*P	Pn	03 39 40.8	-3.0
YBH	**Yreka Blue Hor**	**3.13**	**66**	*e*P	Pn	03 39 42.5	-2.2
HUMO	**Hull Mountain**	**3.40**

1.9nm,0.3s,baz=312,slow=11,SNR=6.3
JNU Sn **Sn** 04 16 14.1 -8.8
2.2nm,0.3s,baz=221,slow=40,SNR=3.7
GUMO Guam 19.12 129 LR LR 04 23 25.7
comp=Z,77nm,19.1s,baz=164,slow=32
XAN Xi'an 19.45 298 P **P** 04 17 50.5 -0.7
XAN AMB AMB
comp=Z,8.0nm,1.2s
ASAJ Asahikawa 20.61 27 LR LR 04 26 46.1
comp=Z,49nm,18.9s,MS2.9,baz=313,slow=39
GTA Gaotai 28.08 305 P **P** 04 19 15.0 -0.3
GTA AMB AMB
comp=Z,4.0nm,0.8s,mb4.1
SONM Songino Array 28.15 326 P **P** 04 19 17.4 +1.6
comp=Z,0.4nm,0.7s,mb3.1,baz=135,slow=8.2,SNR=3.1
SONM LR LR 04 31 08.1
comp=Z,51nm,18.0s,MS3.2,baz=48,slow=38
MKAR Makanchi Array 42.39 111 P **P** 04 21 18.0 +0.5
comp=Z,0.4nm,0.3s,mb3.5,baz=95,slow=9.7,SNR=5.1
WRAB Tennant Creek 46.23 174 *e*P **P** 04 21 41.9 -6.8
comp=Z,16nm,1.2s,mb4.8
WRA Warramunga Arr 46.24 174 P **P** 04 21 48.6 -0.2
comp=Z,0.5nm,0.5s,mb3.7,baz=354,slow=8.4,SNR=5.7
ILAR Eielson Array 63.74 28 P **P** 04 23 55.6 +0.6
comp=Z,0.5nm,0.8s,mb3.6,baz=257,slow=7.9,SNR=5.5
ARCES ARCESS Array B 70.35 339 LR LR 04 59 55.2
comp=Z,39nm,20.6s,MS3.6,baz=229,slow=40
FINES FINESS Array B 73.38 331 P **P** 04 24 55.3 +0.7
comp=Z,1.4nm,0.6s,mb4.0,baz=45,slow=3.9,SNR=6.3
BRTR Keskin Array B 77.95 308 P **P** 04 25 22.9 +1.7
comp=Z,2.2nm,0.9s,mb4.1,baz=76,slow=5.9,SNR=6.2
NOA NORSAR Array B 79.76 334 LR LR 05 04 00.9
comp=Z,45nm,19.5s,MS3.8,baz=225,slow=38
GERES GERESS Array B 85.86 323 P **P** 04 26 04.3 +2.3
comp=Z,0.3nm,0.4s,mb3.9,baz=53,slow=4.9,SNR=5.0

*NEIC **29** 04:28:52.3, 62.80N×143.40W, h2km, ML3.7(PMR), ML3.4(AEIC), After AEIC.*
*PGC **29** 04:28:55.1, 62.75N×143.11W, h15km, ML3.7/2, Eastern Alaska.*
ISC 29 04:28:50.0±0.3, 62.86N±0.03×143.02W±0.07, h2km, n38, σ1§24/46, Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MENT	**Mentasta**	**0.33**	**284**	P		**Pg**	04 28 57.2	+0.6
DOT	**Dot Lake**	**0.92**	**330**	P		**Pb**	04 29 10.1	+1.7
DOT				S		**Sg**	04 29 21.8	+1.0
SDG	**Sourdough**	**1.21**	**255**	P		**Pb**	04 29 11.3	-1.9
TZL	**Tazlina**	**1.38**	**235**	P		**Pb**	04 29 14.7	-1.5
GLB	**Gilahina Butte**	**1.47**	**195**	P		**Pn**	04 29 16.7	-0.9
BALM	**Baldy**	**1.86**	**170**	P		**Pn**	04 29 25.1	+2.0
KLU	**Klutina**	**1.93**	**226**	P		**Pn**	04 29 23.3	-0.8
BMRM	**Bremner River**	**2.04**	**202**	P		**Pn**	04 29 24.6	-1.1
CTGM	**Chitina Glacie**	**2.06**	**156**	P		**Pn**	04 29 28.0	+2.0
DIV	**Divide**	**2.17**	**218**	P		**Pn**	04 29 26.7	-0.8
SCM	**Sheep Creek Mo**	**2.26**	**245**	P		**Pn**	04 29 28.4	-0.5
VLZ	**Valdez**	**2.33**	**224**	P		**Pn**	04 29 28.7	-1.2
IL1	**Eielson Array**	**2.57**	**320**	P		**Pn**	04 29 32.8	-0.6
RAGM	**Ragged Mountai**	**2.60**	**198**	P		**Pn**	04 29 35.5	+1.7
EYAK	**Cordova Ski Ar**	**2.66**	**210**	P		**Pn**	04 29 35.9	+1.4
FID	**Port Fidalgo**	**2.68**	**219**	P		**Pn**	04 29 35.8	+1.0
SML	**Sawmill**	**2.69**	**249**	P		**Pn**	04 29 35.5	+0.5
GLI	**Glacier Island**	**2.77**	**226**	P		**Pn**	04 29 35.9	-0.2
WRH	**Wood River Hil**	**2.78**	**308**	P		**Pn**	04 29 36.2	-0.1
CCB	**Clear Creek Bu**	**2.78**	**312**	P		**Pn**	04 29 35.3	-1.0
CFI	**College Fiord**	**2.80**	**235**	P		**Pn**	04 29 36.7	+0.1
MCK	**McKinley**	**2.81**	**291**	P		**Pn**	04 29 38.2	+1.4
COLA	**College**	**2.94**	**316**	P		**Pn**	04 29 37.6	-1.0
GHO	**Glory Hole Cre**	**2.96**	**251**	P		**Pn**	04 29 39.3	+0.4
PCA	**Pinnacle**	**3.07**	**153**	P		**Pn**	04 29 43.0	+2.5
MDM	**Murphy Dome**	**3.12**	**315**	P		**Pn**	04 29 40.0	-1.2
PMR	**Palmer**	**3.13**	**249**	*e*P		**Pn**	04 29 41.4	+0.1
HYT	**Haines Junctio**	**3.32**	**125**	Pn		**Pn**	04 29 45.3	+1.3
HYT				Pg		**Pg**	04 29 54.5	-1.8
HYT				Sg		**Sg**	04 30 37.8	-2.7
HYT				Trac			04 30 43.7	
	comp=Z,86nm,0.3s							
KTH	**Kantishna Hill**	**3.65**	**285**	P		**Pn**	04 29 49.6	+1.0
MLY	**Manley**	**4.04**	**306**	P		**Pn**	04 29 53.1	-1.2
WHY	**Whitehorse**	**4.45**	**116**	Pn		**Pn**	04 30 01.2	+1.1
WHY				Pg		**Pg**	04 30 14.5	-4.4
WHY				Sg		**Sg**	04 31 13.2	-5.0
WHY				Trac			04 31 19.8	
	comp=Z,34nm,0.3s							
BM3	**Burnt Mountain**	**4.63**	**352**	P		**Pn**	04 30 03.6	+1.0
COLD	**Coldfoot**	**5.33**	**328**	P		**Pn**	04 30 12.3	-0.3
TT01	**Tatalina**	**5.95**	**276**	P		**Pn**	04 30 20.7	-0.5
INK	**Inuvik**	**6.73**	**32**	Pn		**Pn**	04 30 33.5	+1.3
INK				Sn		**Sn**	04 31 47.7	-2.8
INK				Trac			04 32 46.1	
	comp=Z,27nm,0.7s							
INK	**Inuvik**	**6.73**	**32**	*e*P		**Pn**	04 30 32.7	+0.4
DLBC	**Dease Lake**	**7.77**	**119**	Pn		**Pn**	04 30 48.0	+1.3
DLBC				Pg		**Pg**	04 31 15.3	-10
DLBC				Sg		**Sg**	04 32 56.7	-12
DLBC				Trac			04 33 11.8	
	comp=Z,19nm,0.7s							
FNBB	**Fort Nelson**	**10.52**	**103**	Pn		**P**	04 31 23.6	-1.0
FNBB				Sg		S	04 34 23.0	+59
FNBB				Trac			04 34 48.4	
	comp=Z,8.0nm,1.1s							

*ATH **29** 04:48:14.6, 39.08N×24.23E, h36km±2km, MD3.5/10, ML3.7*
*THE **29** 04:48:14.9, 39.02N×24.24E, h13km, ML3.6*
*NEIC **29** 04:48:14.6, 39.08N×24.23E, h36km, MD3.5(ATH), After ATH.*
*CSEM **29** 04:48:14.6±0.1, 39.07N×24.28E, h15km, ML3.6, Error ellipse: s-maj=1.8km s-min=1.6km az=116.0*
*SOF **29** 04:48:18.6, 39.59N×24.42E, h2km, MD3.0*
ISC 29 04:48:14.1±0.3, 39.08N±0.03×24.21E±0.04, h13km, n42, σ0§79/46, 2C-3D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AOS	**Alonnisos**	**0.27**	**289**	*e*Pg		**Pg**	04 48 21.4	+1.4
NEO	**Neokhori**	**0.80**	**287**	*e*PN		**Pn**	04 48 30.6	-0.2
NEO				*e*SN		**Sn**	04 48 41.7	-0.8
XOR	**Xorichti**	**0.84**	**290**	*e*Pg		**Pg**	04 48 31.6	+0.6
MPAR	**Parnis Oros**	**1.00**	**202**	*e*PN		**Pn**	04 48 34.0	+0.3
LKR	**Lokris**	**1.04**	**246**	⇓*i*PB		**Pb**	04 48 33.9	+0.5
PTL	**Penteli**	**1.07**	**195**	*e*PN		**Pn**	04 48 35.0	+0.3
LOS	**Limnos**	**1.09**	**38**	*e*Pg		**Pg**	04 48 35.2	-0.7
LIA	**Limnos Island**	**1.11**	**42**	⇓*i*PN		**Pn**	04 48 35.1	-0.2
LIA				*e*SN		**Sn**	04 48 50.8	+0.3
ATH	**Athens Observa**	**1.17**	**199**	*e*PN		**Pn**	04 48 36.6	+0.4
ATH				*e*SN		**Sn**	04 48 51.6	-0.5
NSAL	**Nisos Salamina**	**1.31**	**207**	*e*PB		**Pb**	04 48 37.5	-0.6
MGER	**Gerania Oros**	**1.32**	**214**	*e*PB		**Pb**	04 48 38.0	-0.3
PLG	**Polygyros**	**1.42**	**336**	*e*PB		**Pb**	04 48 39.8	-0.1
NAIG	**Nisos Aigina**	**1.44**	**203**	*e*PN		**Pn**	04 48 40.5	+0.5
PRK	**Paraskevi**	**1.61**	**84**	*e*PN		**Pn**	04 48 42.0	-0.5
PRK				*e*SN		**Sn**	04 49 02.6	-0.6
LIT	**Litokhoron**	**1.67**	**308**	*e*Pb		**Pb**	04 48 43.7	-0.6
THE	**Thessaloniki**	**1.82**	**329**	*e*Pb		**Pb**	04 48 45.9	-0.9
EVR	**Evrytania**	**1.88**	**266**	*e*PB		**Pb**	04 48 47.3	-0.5
SRS	**Serrai**	**2.09**	**347**	*e*Pn		**Pn**	04 48 49.6	+0.3
KZN	**Kozani**	**2.24**	**304**	*e*PN		**Pn**	04 48 52.1	+0.6
APE	**Apeiranthos**	**2.27**	**152**	*e*PN		**Pn**	04 48 51.4	-0.4
NVR	**Nevrokopi**	**2.28**	**353**	⇑*i*PN		**Pn**	04 48 51.9	-0.2
RDO	**Rodhopi**	**2.30**	**26**	*e*PN		**Pn**	04 48 51.7	-0.6
KNT	**Kendrikon**	**2.31**	**335**	*e*Pn		**Pn**	04 48 53.2	+0.8
RLS	**Riolos of Patr**	**2.38**	**245**	*e*PN		**Pn**	04 48 54.4	+0.9
RLS	**Riolos of Patr**	**2.38**	**245**	*e*Pb		**Pb**	04 48 54.5	-1.9
CANB	**Canakkale**	**2.40**	**66**	*e*PN		**Pn**	04 48 57.2	+3.5
IZM	**Izmir**	**2.48**	**105**	*e*PN		**Pn**	04 48 55.2	+0.2
MMB	**Musomiste**	**2.53**	**352**	*i* P		**Pn**	04 48 55.3	-0.3
VLI	**Veliai**	**2.56**	**203**	⇑*i*PN		**Pn**	04 48 55.1	-1.0
ITM	**Ithomi**	**2.62**	**224**	⇓*i*PN		**Pn**	04 48 57.5	+0.7
RZN	**Rozhen**	**2.63**	**8**	*i* P		**Pn**	04 48 57.5	+0.4
KDZ	**Kurdzhali**	**2.73**	**19**	*i* P		**Pn**	04 48 57.0	-1.4
BALB	**Balikesir**	**2.90**	**78**	*e*PN		**Pn**	04 49 03.7	+2.8
KKB	**Krupnik**	**2.91**	**343**	*i* P		**Pn**	04 49 01.0	-0.1
VLS	**Valsamata**	**2.97**	**253**	*e*PN		**Pn**	04 49 02.6	+0.6
MRMT	**Marmara Adasi**	**3.02**	**59**	*e*PN		**Pn**	04 49 06.9	+4.3
BNT	**Bandirma**	**3.13**	**65**	*e*PN		**Pn**	04 49 08.2	+4.0
EDRB	**Edirne**	**3.37**	**34**	*e*PN		**Pn**	04 49 14.1	+6.5
PGB	**Panagyurishte**	**3.46**	**359**	P		**Pn**	04 49 09.0	+0.1
KEK	**Kerkira**	**3.47**	**282**	*e*PN		**Pn**	04 49 09.4	+0.4
VTS	**Vitosha**	**3.59**	**348**	*i* P		**Pn**	04 49 11.0	+0.3
YLV	**Yalova**	**4.24**	**68**	*e*PN		**Pn**	04 49 25.2	+5.2

*NIED **29** 04:50:00, 43.00N×146.00E, h17km, Mw3.9 Best double couple: M0:8.22×10^14 NP1:φs159°, δ77°, λ30°. NP2:φs62°, δ61°, λ165°.*
*IDC **29** 04:50:42.8±1.7, 42.85N×146.18E, mb3.8/5, mb1 3.9/7, mb1mx3.7/20, mbtmp3.8/7, ML3.6/2, MS3.1/2, Ms1 3.1/2, ms1mx2.9/20, Error ellipse: s-maj=43.6km s-min=22.9km az=174.0*
*MOS **29** 04:50:45.4±1.6, 42.81N×146.08E, h33km, mb4.3/1, Error ellipse: s-maj=26.7km s-min=19.0km az=90.0*
*JMA **29** 04:50:46.5±0.1, 43.00N×146.04E, h33km±1km, M4.2*
JMA Felt I J1.
*NEIC **29** 04:50:47.3±1.1, 42.71N×146.18E, h35km, mb4.2/1, Error ellipse: s-maj=33.5km s-min=15.8km az=141.0*
ISC 29 04:50:46.3±1.3, 43.02N±0.06×146.04E±0.07, h29km±6km, n18, σ0§88/26, mb3.8/6, MS3.0/1, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.41**	**328**	P		**Pb**	04 50 55.7	+0.5
NEM2				*e*S		**Sb**	04 51 02.1	+0.9
JAK	**Akkeshi**	**0.99**	**269**	P		**Pn**	04 51 03.9	-0.4
JAK				*e*S		**Sb**	04 51 16.7	-0.6
YUK	**Yuzh-Kuril'sk**	**1.02**	**353**	*e*PN		**Pn**	04 51 04.0	-0.8
YUK				*e*S		**Sb**	04 51 17.0	-1.4
YUK				pmax		pmax		
	comp=Z,350nm,0.4s							
YUK				pmax		pmax		
	comp=N,4μm,0.6s							
YUK				pmax		pmax		
	comp=E,5μm,0.4s							
YUK				smax				
	comp=E,8800μm,0.5s							
YUK				smax				
	comp=N,2μm,0.5s							
YUK				smax				
	comp=E,18μm,0.6s							
YUK				smax				
	comp=N,5μm,1.0s							
JNK	**Nakash**	**1.12**	**301**	P		**Pn**	04 51 06.2	0.0
JNK				*e*S		**Sn**	04 51 20.2	-0.5
JRA	**Rausu**	**1.14**	**324**	P		**Pn**	04 51 06.6	+0.1
JRA				*e*S		**Sn**	04 51 21.5	+0.3
JOB	**Onbets**	**1.62**	**267**	P		**Pn**	04 51 12.9	-0.6
JAR	**Ashorobuto**	**1.69**	**280**	P		**Pn**	04 51 14.1	-0.2
JAR				*e*S		**Sn**	04 51 34.0	-1.1
JTKR	**Abashiri--Toko**	**1.82**	**302**	P		**Pn**	04 51 17.1	+0.9
JTKR				*e*S		**Sn**	04 51 39.5	+1.0
ASAJ	**Asahikawa**	**2.73**	**295**	Pn		**Pn**	04 51 30.8	+1.4
	comp=N,5.7nm,0.3s,baz=137,slow=19,SNR=19							
ASAJ				Sn		**Sn**	04 52 07.4	+5.7
	comp=N,17nm,0.3s,baz=303,slow=19,SNR=7.9							
ASAJ	**Asahikawa**	**2.73**	**295**	PN		**Pn**	04 51 30.8	+1.5
ASAJ							04 52 07.4	
ASAJ				pmax		pmax		
	comp=Z,6.0nm,0.3s							
MJAR	**Matsushiro Arr**	**8.84**	**226**	Pn		**P**	04 52 50.1	-5.2
	comp=Z,0.7nm,0.3s,baz=36,slow=14,SNR=4.3							
MJAR				LR		LR	04 56 46.5	
	comp=Z,111nm,18.1s,baz=50,slow=41							
SONM	**Songino Array**	**28.02**	**294**	P		**P**	04 56 36.8	+0.2
	comp=Z,0.5nm,0.6s,mb3.3,baz=82,slow=7.6,SNR=3.9							
SONM				LR		LR	05 09 42.1	
	comp=Z,42nm,18.7s,MS3.0,baz=59,slow=40							
ILAR	**Eielson Array**	**42.55**	**36**	P		**P**	04 58 40.4	-0.2
	comp=Z,1.4nm,1.0s,mb3.6,baz=273,slow=6.6,SNR=6.8							
MKAR	**Makanchi Array**	**44.21**	**298**	P		**P**	04 58 56.4	+2.0
	comp=Z,0.7nm,0.7s,mb3.5,baz=86,slow=8.9,SNR=3.2							
INK	**Inuvik**	**47.44**	**30**	*e*P		**P**	04 59 19.1	-0.6
	comp=Z,1.6nm,0.6s,mb4.1							
INK	**Inuvik**	**47.44**	**30**	*e*P		**P**	04 59 19.1	-0.6
INK				pmax		pmax		
	comp=Z,2.0nm,0.6s							
FINES	**FINESS Array B**	**65.16**	**333**	P		**P**	05 01 24.9	-1.4
	comp=Z,0.8nm,0.6s,mb4.0,baz=56,slow=6.9,SNR=6.0							
TXAR	**Lajitas Array**	**83.73**	**55**	P		**P**	05 03 14.6	+0.8
	comp=Z,0.7nm,0.7s,mb3.9,baz=297,slow=4.0,SNR=6.5							

*MOS **29** 04:57:09.7±0.9, 52.04N×158.84E, h55km, mb4.2/1, Error ellipse: s-maj=66.3km s-min=13.7km az=79.5*
*KRSC **29** 04:57:11.1±0.5, 52.18N×158.75E, h67km±4km, ML3.9*
ISC 29 04:57:11.5±0.8, 52.16N±0.05×158.76E±0.08, h66km±8km, n29, σ0§91/54, 1C, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.31**	**331**	P		**P**	04 57 22.6	+0.2
RUS				S		**S**	04 57 30.5	+0.1
RUS	**Russkaya**	**0.31**	**331**	*i* P		**P**	04 57 22.6	+0.2
RUS				*i* S		**S**	04 57 30.8	+0.4
GRL	**Gorelyy**	**0.58**	**313**	*e*P		**P**	04 57 25.1	+0.2
GRL				*e*S		**S**	04 57 35.9	+1.2
KRMR	**Karymshinskiy**	**0.78**	**330**	*i* P		**P**	04 57 27.0	-0.1
KRMR				*e*S		**S**	04 57 38.9	+0.1
PET	**Petropavlovsk**	**0.87**	**356**	P		**P**	04 57 27.9	-0.4
PET				S		**S**	04 57 40.4	-0.4
PET	**Petropavlovsk**	**0.87**	**356**	*e*P		**P**	04 57 27.8	-0.5
PET				*e*S		**S**	04 57 40.1	-0.7
PET	**Petropavlovsk**	**0.87**	**356**	⇑*i*PN		**P**	04 57 28.0	-0.3
PET				*e*S		**S**	04 57 40.2	-0.6
PET				pmax		pmax		
	comp=Z,262nm,0.3s							
PET				pmax		pmax		
	comp=N,145nm,0.4s							
PET				pmax		pmax		
	comp=Z,200nm,0.2s							
PET				smax				
	comp=N,700nm,0.5s							
PET				smax				
	comp=N,745nm,0.3s							
PET				smax				
	comp=E,600nm,0.5s							
PET				smax				
	comp=E,562nm,0.4s							
PET				smax				
	comp=N,53nm,0.6s							
UGLR	**Uglovaya**	**1.05**	**2**	*i* P		**P**	04 57 30.9	+0.1
UGLR				*e*S		**S**	04 57 45.2	+0.2
NLC	**Nalytchevo**	**1.07**	**19**	P		**P**	04 57 29.9	-1.1
NLC				S		**S**	04 57 43.5	-2.0
NLC	**Nalytchevo**	**1.07**	**19**	*i* P		**P**	04 57 30.0	-1.0
NLC				*e*S		**S**	04 57 43.6	-1.9
SMAR	**Somma**	**1.11**	**1**	*i* P		**P**	04 57 31.4	-0.1
SMAR				*e*S		**S**	04 57 45.9	-0.3
AVH	**Avacha**	**1.11**	**359**	*i* P		**P**	04 57 31.8	+0.3
AVH				*e*S		**S**	04 57 46.7	+0.4
SDLR	**Sedlovina**	**1.12**	**4**	*i* P		**P**	04 57 31.4	-0.3
SDLR				*e*S		**S**	04 57 45.9	-0.8
KOK	**Koryaka**	**1.14**	**356**	*i* P		**P**	04 57 32.4	+0.5
KOK				*e*S		**S**	04 57 47.3	+0.3
SPN	**Mys Shipunski**	**1.22**	**39**	*i* P		**P**	04 57 33.4	+0.5
SPN				*e*S		**S**	04 57 49.8	+0.9
MIPR	**Malaya Ipel'ka**	**1.24**	**276**	*i* P		**P**	04 57 33.0	-0.2
MIPR				*e*S		**S**	04 57 48.5	-0.9
APC	**Apacha**	**1.24**	**309**	*i* P		**P**	04 57 32.9	-0.4
APC				*i* S		**S**	04 57 49.0	-0.5
APC				Smax				
	comp=N,100nm,1.1s							
PAU	**Pauzhetka**	**1.40**	**241**	*i* P		**P**	04 57 35.7	+0.2
PAU				*e*S		**S**	04 57 53.2	0.0
PAU				Smax				
	comp=N,260nm,0.3s							
GNL	**Ganaly**	**1.62**	**342**	*i* P		**P**	04 57 37.9	-0.6
GNL				*e*S		**S**	04 57 57.6	-0.8
KII	**Karymskiy**	**1.93**	**12**	P		**P**	04 57 43.6	+0.9
KII				S		**S**	04 58 08.0	+2.3
KII	**Karymskiy**	**1.93**	**12**	*e*P		**P**	04 57 43.4	+0.7
KII				*e*S		**S**	04 58 07.5	+1.8
MKZ	**Mys Kozlova**	**2.99**	**35**	P		**P**	04 57 56.5	-1.2
MKZ				S		**S**	04 58 30.3	-2.1
MKZ	**Mys Kozlova**	**2.99**	**35**	*e*P		**P**	04 57 56.5	-1.2
MKZ				*e*S		**S**	04 58 30.8	-1.6
KMNR	**Kamenistaya**	**3.71**	**13**	P		**P**	04 58 09.5	+1.7
KMNR				*e*S		**S**	04 58 52.1	+1.6
KRSR	**Krestovskiy**	**4.20**	**14**	P		**P**	04 58 16.0	+1.3
SRDR	**Sredinnyy**	**4.21**	**7**	*e*P		**P**	04 58 15.7	+1.0
KBTR	**Krutoberegovo**	**4.71**	**29**	P		**P**	04 58 20.9	-0.8
KBTR				S		**S**	04 59 12.3	-3.2
KBTR	**Krutoberegovo**	**4.71**	**29**	*e*P		**P**	04 58 20.9	-0.8
BKI	**Bering**	**5.26**	**52**	*e*S		**S**	04 59 20.7	-8.6

JMA 29 05:18:07.6±0.1, 24.89N×125.68E, h47km±1km, M3.5, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**0.36**	**258**	P		P	05 18 17.0	-0.1
JMJ				S		S	05 18 23.9	+0.1
JTJ	**Tarama**	**0.92**	**255**	P		P	05 18 24.3	-0.1
JTJ				S		S	05 18 36.4	-0.4
JIJ	**Ishigaki jima**	**1.49**	**250**	P		P	05 18 32.3	-0.2
JIJ				S		S	05 18 51.3	+0.3
JKRS	**Kuro-shima**	**1.65**	**247**	P		P	05 18 36.1	+1.3
JKRS				S		S	05 18 57.4	+2.5
JKE	**Kume jima 2**	**1.74**	**35**	P		P	05 18 36.5	+0.5
HATJ	**Hateruma jima**	**1.90**	**244**	P		P	05 18 38.6	+0.4
HATJ				*e*S		S	05 19 01.7	+0.7
JAGN	**Aguni-jima**	**2.20**	**39**	P		P	05 18 45.3	+2.8
JAGN				*e*S		S	05 19 11.3	+2.7
YOJ	**Yonaguni jima**	**2.46**	**261**	P		P	05 18 46.0	-0.3
YOJ				*e*S		S	05 19 13.1	-2.2

*CSEM **29** 06:40:04.8±0.2, 39.22N×28.16W, h17km, ML2.1, Error ellipse: s-maj=6.7km s-min=3.5km az=159.0, After PDA*
*PDA **29** 06:40:04.8±1.0, 39.22N×28.16W, h17km±12km, MD2.9, ML2.1, Error ellipse: s-maj=5.5km s-min=4.1km az=173.0*
SVSA 29 06:40:04.8±1.0, 39.22N×28.16W, h17km±12km, MD2.9, ML2.1, Error ellipse: s-maj=5.5km s-min=4.1km az=173.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
STGR	**Santa Cruz**	**0.18**	**139**	*e*P		Pb	06 40 09.5	0.0
STGR				*e*S		Sb	06 40 12.6	0.0
	144nm,0.2s							
PGRA	**Graciosa**	**0.23**	**144**	*i* P		Pb	06 40 09.2	-1.1
PGRA				*e*S		Sb	06 40 12.7	-1.2
	55nm,0.3s							
PMAN	**Manadas**	**0.59**	**175**	*e*P		Pb	06 40 13.8	-2.4
PMAN				*e*S		Sb	06 40 20.9	-3.1
	55nm,0.2s							
PCED	**Cedros**	**0.73**	**216**	*e*P		Pb	06 40 16.1	-2.5
PCED				*i* S		Sb	06 40 24.9	-3.1
	52nm,0.3s							
PICO	**Pico**	**0.74**	**196**	*e*P		Pb	06 40 16.4	-2.5
PICO				*e*S		Sb	06 40 25.1	-3.5
CALA	**Caldeira**	**0.76**	**214**	*e*P		Pb	06 40 16.9	-2.3
CALA				*e*S		Sb	06 40 25.7	-3.5
ASBA	**Santa Barbara**	**0.82**	**127**	*e*S		Sb	06 40 26.9	-3.8
	24nm,0.1s							
PBIS	**Biscoitos**	**0.84**	**123**	*e*S		Sb	06 40 27.2	-4.1
	16nm,0.2s							
PPAD	**Pico dos Padre**	**0.85**	**127**	*e*S		Sb	06 40 27.6	-4.1
	6.7nm,0.1s							
PVNV	**Vila Nova**	**0.90**	**120**	*e*S		Sb	06 40 28.9	-4.3
	14nm,0.2s							
RIB2	**Ribeirinha**	**0.94**	**125**	*e*S		Sb	06 40 30.2	-4.0
	6.8nm,0.1s							
PSCM	**Serra do Cume**	**0.96**	**122**	*e*S		Sb	06 40 30.4	-4.4
	16nm,0.2s							
PFAV	**Pico das Favas**	**0.98**	**121**	*e*S		Sb	06 40 31.6	-3.7
	7.3nm,0.1s							
PSET	**Sete Cidades**	**2.36**	**125**	*e*rx			06 40 48.4	

*JMA **29** 07:40:47.6, 38.83N×141.58E, h75km±1km, M3.3 Broadband fault plane solution: P waves. NP1:φs3°, δ27°, λ110°. NP2:φs160°, δ64°, λ80°. Principal axes: T Plg69°, Azm50°; N Plg9°, Azm165°; P Plg19°, Azm258°;*
JMA Felt I J1.
*NIED **29** 07:41:00, 38.80N×141.60E, h74km, Mw3.9 Best double couple: M0:7.92×10^14 NP1:φs183°, δ61°, λ91°. NP2:φs360°, δ30°, λ88°.*
ISC 29 07:40:47.4±1.2, 38.80N±0.05×141.6E±0.1, h73km±8km, n12, σ0§29/20, 6C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.28**	**9**	⇑P		**P**	07 40 59.2	+0.2
OFUJ				S		**S**	07 41 07.5	0.0
JMK	**Ichinoseki**	**0.34**	**296**	⇑P		**P**	07 40 59.3	0.0
JMK				S		**S**	07 41 08.0	-0.2
JIO	**Ouri**	**0.41**	**211**	⇑P		**P**	07 41 00.2	+0.4
JIO				S		**S**	07 41 09.3	+0.2
JOM	**Ohasama**	**0.71**	**340**	⇑P		**P**	07 41 02.8	-0.1
JOM				S		**S**	07 41 13.9	-0.5
JOU	**Okura**	**0.86**	**240**	⇑P		**P**	07 41 04.9	+0.3
JOU				S		**S**	07 41 17.8	+0.4
JYK	**Kaneyama**	**0.99**	**277**	P		**P**	07 41 06.2	0.0
JYK				S		**S**	07 41 20.3	+0.1
JMM	**Marumori**	**1.14**	**215**	⇑P		**P**	07 41 07.8	-0.3
JMM				S		**S**	07 41 23.1	-0.4
JYS	**Shirataka**	**1.35**	**245**	P

KURK	Kurchatov	44.96	307	*e*P	P	07 49 48.0	-0.2
	11nm,0.8s,mb4.7						
ILAR	Eielson Array	47.91	33	P	P	07 50 11.4	+0.2
	1.6nm,0.7s,mb4.0,baz=270,slow=6.1,SNR=18						
BVAR	Borovoye Array	49.49	311	P	P	07 50 23.4	-0.2
	0.5nm,0.3s,mb3.9,baz=79,slow=9.0,SNR=8.1						
BRVK	Borovoye	49.55	311	P	P	07 50 23.9	-0.1
	1.2nm,0.6s,mb4.0						
INK	Inuvik	52.73	28	P	P	07 50 48.2	+0.2
	1.1nm,0.7s,mb4.0,baz=291,slow=9.5,SNR=5.3						
INK	Inuvik	52.73	28	P	P	07 50 48.2	+0.2
DLBC	Dease Lake	57.13	39	P	P	07 51 21.7	+1.7
	0.8nm,0.8s,mb3.8,baz=242,slow=9.8,SNR=3.9						
DLBC	Dease Lake	57.13	39	P	P	07 51 21.7	+1.7
WRAB	Tennant Creek	58.84	188	P	P	07 51 30.7	-1.7
	5.4nm,0.8s,mb4.6						
WRA	Warramunga Arr	58.85	188	P	P	07 51 30.9	-1.5
	1.6nm,0.5s,mb4.3,baz=4.9,slow=7.1,SNR=13						
PALK	Palmerston	62.91	257	*e*P	P	07 51 58.1	-1.9
	20nm,1.3s,mb4.9						
PDAR	Pinedale Array	76.31	46	P	P	07 53 22.1	+0.7
	1.0nm,0.6s,mb3.7,baz=283,slow=2.0,SNR=12						
TXAR	Lajitas Array	88.92	52	P	P	07 54 27.8	+1.4
	0.5nm,0.7s,mb3.6,baz=297,slow=3.5,SNR=6.5						
LPAZ	La Paz	145.63	58	PKPbc	PKPbc	08 01 11.7	+1.9
	1.2nm,0.7s,baz=359,slow=2.8,SNR=8.2						

*JMA **29** 07:47:05.6,38.82N×141.58E,h75km±1km,M3.4*
Broadband fault plane solution: P waves. NP1:φs359°, δ25°,λ106°. NP2:φs162°,δ66°,λ83°. Principal axes: T Plg68°, Azm58°; N Plg7°, Azm164°; P Plg21°, Azm257°;
JMA Felt I J1.
*IDC **29** 07:47:08.3±3.9,38.78N×141.49E,h102km±37km,mb3.2/3, mb1 3.4/4,mb1mx3.2/20,mbtmp3.6/4,MS2.8/1,Ms1 2.8/1, ms1mx2.2/12 Error ellipse: s-maj=36.2km s-min=27.9km az=96.0*
*NEIC **29** 07:47:08.0±2.0,38.78N×141.51E,h101km±19km,mb4.1/1, Error ellipse: s-maj=25.9km s-min=21.1km az=87.0*
ISC 29 07:47:04.5±0.7,38.81N±0.04×141.66E±0.08,h79km±4km, n22,σ0°66/32,mb3.7/4,6C,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	0.27	1	⇑P	P	07 47 17.2	+0.6
OFUJ				S	S	07 47 25.5	-0.1
JMK	Ichinoseki	0.37	292	⇑P	P	07 47 17.3	+0.1
JMK				S	S	07 47 25.8	-1.0
JIO	Ouri	0.43	215	⇑P	P	07 47 18.1	+0.4
JIO				S	S	07 47 27.1	-0.5
JOM	Ohasama	0.72	336	⇑P	P	07 47 20.8	+0.3
JOM				S	S	07 47 32.0	-0.4
JOU	Okura	0.90	241	⇑P	P	07 47 22.7	+0.2
JOU				S	S	07 47 35.7	-0.3
JYK	Kaneyama	1.02	276	P	P	07 47 23.9	-0.1
JYK				S	S	07 47 38.3	-0.4
JMM	Marumori	1.17	216	P	P	07 47 25.7	-0.1
JMM				S	S	07 47 40.7	-1.1
JYS	Shiratake	1.39	245	P	P	07 47 29.0	+0.2
JYA	Atsumi	1.54	262	P	P	07 47 30.8	0.0
JYA				S	S	07 47 50.2	0.0
JANG	Nango	1.56	356	P	P	07 47 31.5	+0.4
JFK	Kawauchi	1.57	204	⇑P	P	07 47 31.5	+0.3
JFK				S	S	07 47 50.6	-0.3
JAH	Hinai	1.59	330	P	P	07 47 32.2	+0.8
MAJO	Matsushiro	3.56	232	*e*Pn	P	07 47 59.4	+0.7
MAT	Matsushiro	3.56	232	P	P	07 47 59.7	+1.0
MAT				*e*S	S	07 48 40.5	+0.8
MAT	Matsushiro	3.56	232	*e*P	P	07 48 00.0	+1.3
MAT				S	S	07 48 41.0	+1.3
MJAR	Matsushiro Arr	3.56	231	P	P	07 47 59.7	+1.1
	2.9nm,0.3s,baz=40,slow=13,SNR=26						
MJAR	Matsushiro Arr	3.56	231	P	P	07 47 59.7	+1.1
JHJ	Hachijo jima 2	5.88	196	LR	LR	07 50 45.0	
	comp=Z,103nm,20.9s,baz=129,slow=37						
MKAR	Makanchi Array	43.37	301	P	P	07 54 59.5	-0.8
	1.6nm,0.7s,mb3.9,baz=84,slow=9.9,SNR=13						
KURK	Kurchatov	45.01	307	*e*P	P	07 55 12.4	-1.0
	2.8nm,0.8s,mb4.0						
ILAR	Eielson Array	47.90	33	P	P	07 55 36.2	+0.3
	0.4nm,0.7s,mb3.4,baz=266,slow=7.0,SNR=6.2						
WRA	Warramunga Arr	58.84	188	P	P	07 56 55.7	-1.6
	0.3nm,0.6s,mb3.5,baz=5.0,slow=7.0,SNR=5.3						

*IDC **29** 08:26:42.8±12.0,4.31N×123.21E,h490km±183km, mb3.1/5,mb1 3.2/5,mb1mx3.0/19,mbtmp3.9/5,Error ellipse: s-maj=81.4km s-min=27.1km az=67.0*
*NEIC **29** 08:26:43.1±0.6,4.31N×123.19E,h500km,mb4.2/4,Error ellipse: s-maj=25.4km s-min=10.9km az=68.0*
ISC 29 08:26:45.6±7.0,4.3N±0.1×123.3E±0.3,h559km±112km, n11,σ0°85/11,mb4.0/11,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	22.36	174	P	P	08 31 04.2	+0.3
	2.7nm,0.8s,mb3.9,baz=5.6,slow=12,SNR=4.3						
GUMO	Guam	23.21	65	*e*P	P	08 31 11.5	-0.2
	26nm,0.8s,mb4.9						
WRAB	Tennant Creek	26.40	156	*e*P	P	08 31 39.4	-0.5
	4.5nm,0.3s,mb4.6						
WRA	Warramunga Arr	26.41	156	P	P	08 31 39.3	-0.7
	1.7nm,0.3s,mb4.1,baz=332,slow=10,SNR=84						
PMG	Port Moresby	27.39	120	P	P	08 31 48.5	-0.1
	30nm,1.0s,mb4.9						
STKA	Stephens Creek	39.95	155	P	P	08 33 34.6	+1.2
	0.9nm,0.4s,mb3.7,baz=333,slow=9.0,SNR=5.6						
ULN	Ulaanbaatar	45.61	345	P	P	08 34 18.8	+1.0
	2.3nm,1.4s,mb3.5						
SONM	Songino Array	45.76	344	P	P	08 34 19.1	+0.2
	0.4nm,0.5s,mb3.2,baz=166,slow=5.9,SNR=4.1						
MKAR	Makanchi Array	55.19	327	P	P	08 35 27.9	+0.1
	1.3nm,0.5s,mb3.5,baz=114,slow=8.3,SNR=8.5						
YAK	Yakutsk	57.82	4	P	P	08 35 45.9	+0.3
	13nm,0.5s,mb4.4						
KURK	Kurchatov	59.47	329	*e*P	P	08 35 54.2	-2.6
	3.1nm,0.6s,mb3.7						

IDC 29 08:28:26.3±1.5,6.95S×105.15E,mb3.6/3,mb1 3.8/3, mb1mx3.6/16,mbtmp3.6/3,MS3.8/2,Ms1 3.9/2, ms1mx3.3/18,Error ellipse: s-maj=63.3km s-min=30.2km az=55.0,Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	31.11	117	P	P	08 34 46.8	-2.2
	0.4nm,0.8s,baz=291,slow=10.0,SNR=2.8						
CTA	Charters Tower	41.91	112	LR	LR	08 54 49.4	
	comp=Z,74nm,21.7s,baz=62,slow=38						
SONM	Songino Array	54.56	1	P	P	08 37 57.5	-1.0
	0.6nm,0.5s,baz=179,slow=9.3,SNR=6.5						
MKAR	Makanchi Array	57.24	341	P	P	08 38 14.4	-3.6
	0.5nm,0.4s,baz=157,slow=9.2,SNR=4.2						
VNDA	Vanda	76.36	169	LR	LR	09 11 49.7	
	comp=Z,96nm,18.7s,baz=238,slow=34						
TXAR	Lajitas Array	144.89	47	PKP	PKPdf	08 48 04.7	-3.2
	0.4nm,0.8s,baz=270,slow=1.3,SNR=5.1						
BDFB	Brasilia	145.21	230	PKPbc	PKPbc	08 48 06.4	-0.9
	0.9nm,0.4s,baz=108,slow=3.2,SNR=3.2						

*NEIC **29** 08:30:22.0±0.5,11.78S×166.88E,h35km,mb4.4/7,Error ellipse: s-maj=14.2km s-min=12.1km az=116.0*
*IDC **29** 08:30:35.1±4.8,11.85S×166.63E,h143km±42km,mb3.8/9, mb1 3.9/10,mb1mx3.9/16,mbtmp4.2/10,Error ellipse: s-maj=26.6km s-min=21.3km az=82.0*
ISC 29 08:30:34.6±3.2,11.9S±0.1×166.6E±0.1,h155km±29km, n25,σ1°13/23,mb4.1/15,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	10.17	181	P	P	08 32 58.2	+0.5
	2.7nm,0.3s,baz=41,slow=20,SNR=16						
PMG	Port Moresby	19.24	275	P	P	08 34 45.1	-4.3
CTA	Charters Tower	21.17	245	P	P	08 35 10.2	+1.3
	5.3nm,0.9s,mb3.9,baz=83,slow=15,SNR=4.0						
CTAO	Charters Tower	21.17	245	P	P	08 35 08.9	0.0
	17nm,1.4s,mb4.2						
SNZO	South Karori	30.20	168	*e*P	P	08 36 27.1	-5.6
	13nm,0.8s,mb4.7						
STKA	Stephens Creek	30.44	225	P	P	08 36 34.7	-0.3
	2.1nm,0.7s,mb4.0,baz=42,slow=9.7,SNR=4.9						
STKA	Stephens Creek	30.44	225	P	P	08 36 32.8	-2.2
WRAB	Tennant Creek	31.98	251	*e*P	P	08 36 47.4	-1.0
	8.7nm,1.3s,mb4.3						
WRA	Warramunga Arr	31.99	251	P	P	08 36 47.7	-0.9
	1.3nm,0.7s,mb3.7,baz=80,slow=8.7,SNR=12						
WRA				PcP	PcP	08 39 34.9	+0.1
	1.0nm,0.8s,baz=76,slow=3.1,SNR=7.2						
FITZ	Fitzroy Crossi	39.97	256	P	P	08 37 56.3	+0.5
	5.4nm,0.6s,mb4.3,baz=166,slow=5.9,SNR=6.7						
MBWA	Marble Bar	45.72	252	*e*P	P	08 38 42.8	+0.5
	1.6nm,0.6s,mb3.8						
NWAO	Narrogin (SRO)	49.70	237	P	P	08 39 13.2	+0.2
MJAR	Matsushiro Arr	55.06	332	P	P	08 39 50.4	-2.3
	0.8nm,0.5s,mb3.7,baz=165,slow=8.6,SNR=4.1						
VNDA	Vanda	65.71	181	P	P	08 41 03.4	-1.0
	0.7nm,0.5s,mb3.8,baz=346,slow=7.5,SNR=15						
CASY	Casey	65.94	202	P	P	08 41 05.5	-0.5
	4.0nm,1.0s,mb4.2						
SBA	Scott Base	66.00	180	*e*P	P	08 41 06.2	0.0
	1.6nm,0.6s,mb4.0						
RSO	Redoubt South	79.00	19	P	P	08 42 22.8	+0.2
ULN	Ulaanbaatar	79.43	324	P	P	08 42 25.6	+0.5
	2.5nm,0.6s,mb4.0						
SONM	Songino Array	79.79	324	P	P	08 42 28.5	+1.4
	1.0nm,0.4s,mb3.8,baz=144,slow=5.8,SNR=15						
ILAR	Eielson Array	84.01	18	P	P	08 42 49.0	+0.5
	1.3nm,0.8s,mb3.7,baz=221,slow=6.2,SNR=7.0						
MCMT	McKenzie Canyo	91.67	45	P	P	08 43 23.2	-2.4
MKAR	Makanchi Array	94.66	317	P	P	08 43 40.5	+1.2
	3.5nm,0.7s,mb4.7,baz=96,slow=6.5,SNR=20						
SNAA	Sanae	96.37	183	P	P	08 43 48.7	+2.3
ARCES	ARCESS Array B	117.31	346	PKP	PKPdf	08 49 02.5	+1.3
	1.0nm,0.5s,baz=78,slow=2.6,SNR=8.8						
ESDC	Sonseca Array	151.05	345	PKPbc	PKPdf	08 50 12.0	+8.6
	0.2nm,0.3s,baz=18,slow=2.2,SNR=4.9						

*THR **29** 08:56:26.4±0.3,29.60N×51.05E,h14km±12km,ML3.5*
*CSEM **29** 08:56:28.0±0.4,29.62N×51.09E,h25km,ML3.4,Error ellipse: s-maj=10.4km s-min=2.7km az=34.0*
*TEH **29** 08:56:32.7,29.83N×51.39E,h10km,Mn3.4*
ISC 29 08:56:24.3±1.8,29.4N±0.1×51.0E±0.1,h10km,n18, σ0°98/16,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHI	Shiraz	1.38	81	Pg	Pg	08 56 51.1	-0.8
IMOK	Mook	1.59	104	Pg	Pg	08 56 56.6	+0.4
IPAR	Pars	1.87	77	Pn	Pn	08 56 58.5	+1.8
ISRV	Sarvestan	1.89	91	Pn	Pn	08 57 00.1	+3.1
GHIR	Ghir-Karzin	2.13	122	*e*PG	Pg	08 57 05.3	-1.5
GHIR				AML	AML	08 57 44.6	
	comp=N,274nm,0.6s						
ISAD	Sadrabad	3.41	43	Pn	Pn	08 57 19.7	+1.0
NASN	Na'in	3.71	25	*e*PN	Pn	08 57 23.1	+0.2
IMEH	Mehriz	3.71	58	Pn	Pn	08 57 21.9	-1.1
ICHK	Chekchek	4.08	46	Pn	Pn	08 57 28.0	-0.2
IBAF	Bafgh	4.53	61	Pn	Pn	08 57 33.7	-0.8
BNDS	Bandar-Abbas	5.03	113	AML	AML	08 58 41.5	
	comp=N,42nm,0.3s						
KRBR	Kerman	5.09	82	*e*PN	Pn	08 57 43.2	+0.7
KRBR				AML	AML	08 58 43.1	
	comp=N,29nm,0.4s						
ASAO	Ashtian	5.15	351	*e*PN	Pn	08 57 43.6	+0.3
IVRN	Varamin	5.58	7	Pn	Pn	08 57 49.2	-0.2
IVRN	Varamin	5.58	7	Lg		08 59 13.6	
IDMV	Damavand	6.19	8	Pn	Pn	08 57 57.6	-0.4
IFIR	Firoozkooh	6.37	13	Pn	Pn	08 57 59.4	-1.1
SNGE	Sanandaj	6.41	333	*e*PN	Pn	08 58 01.5	+0.4

*NEIC **29** 09:16:23.9,38.39S×176.00E,h165km,MG3.9(WEL), After WEL.*
WEL 29 09:16:24.8±0.3,38.42S×176.02E,h157km±2km,ML3.8/17, 2C-1D,Error ellipse: s-maj=2.0km s-min=1.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATZ	Paeroa	0.20	78	PN	P	09 16 46.1	-0.2
UTU	Utuhina	0.28	30	PN	P	09 16 46.2	-0.3
TAZ	Tarawera	0.43	64	PN	P	09 16 46.7	-0.4
MARZ	Manawahe	0.68	50	PN	P	09 16 47.9	-0.3
MARZ	Manawahe	0.68	50	P	P	09 16 47.9	-0.4
KRVZ	Karewarewa	0.73	203	PN	P	09 16 48.4	-0.2
WTVZ	West Tongariro	0.77	206	PN	P	09 16 48.7	-0.1
WTVZ				SN	S	09 17 07.0	-0.2
WTVZ	West Tongariro	0.77	206	P	P	09 16 48.7	-0.1
OTVZ	Oturere	0.79	200	PN	P	09 16 49.1	+0.2
OTVZ				SN	S	09 17 07.5	0.0
TWVZ	Taurewa	0.79	215	PN	P	09 16 48.6	-0.3
TWVZ	Taurewa	0.79	215	P	P	09 16 48.6	-0.3
BKZ	Black Stump Fm	0.83	154	PN	P	09 16 49.2	0.0
BKZ				SN	S	09 17 07.3	-0.7
BKZ	Black Stump Fm	0.83	154	P	P	09 16 49.2	0.0
BKZ				S	S	09 17 08.8	+0.8
CNZ	Chateau	0.86	205	PN	P	09 16 49.2	-0.1
CNZ	Chateau	0.86	205	P	P	09 16 49.2	-0.2
WPVZ	Whakapapa	0.86	205	PN	P	09 16 49.3	-0.1
WPVZ				SN	S	09 17 08.5	+0.2
WPVZ	Whakapapa	0.86	205	P	P	09 16 49.3	-0.1
URZ	Urewera	0.88	80	⇑PN	P	09 16 48.8	-0.6
URZ				SN	S	09 17 07.3	-1.2
URZ	Urewera	0.88	80	P	P	09 16 48.8	-0.7
TUVZ	Tukino	0.89	198	PN	P	09 16 49.6	0.0
TUVZ				*e*SN	S	09 17 08.7	0.0
TUVZ	Tukino	0.89	198	P	P	09 16 49.6	0.0
FWVZ	Far West T-bar	0.91	203	*e*PN	P	09 16 50.1	+0.4
WNVZ	Wahianoa	0.96	200	PN	P	09 16 50.1	0.0
WNVZ	Wahianoa	0.96	200	P	P	09 16 50.1	0.0
MOVZ	Moawhango	1.01	192	PN	P	09 16 50.1	-0.3
MOVZ				*e*SN	S	09 17 09.2	-0.9
MOVZ	Moawhango	1.01	192	P	P	09 16 50.1	-0.3
PKVZ	Pokaka	1.01	211	PN	P	09 16 50.3	-0.2
MWZ	Matawai	1.19	86	⇑PN	P	09 16 51.9	-0.3
MWZ				SN	S	09 17 12.2	-1.1
MWZ	Matawai	1.19	86	P	P	09 16 51.9	-0.3
KNZ	Kokohu	1.43	115	*e*PN	P	09 16 54.7	+0.2
KNZ	Kokohu	1.43	115	*e*P	P	09 16 54.7	+0.2
WAZ	Wanganui	1.56	211	*e*PN	P	09 16 55.0	-0.8
TSZ	Takapari Road	1.64	181	⇓PN	P	09 16 56.0	-0.7
TSZ	Takapari Road	1.64	181	P	P	09 16 56.0	-0.6
PXZ	Pawanui	1.74	158	*e*PN	P	09 16 57.5	-0.2
PUZ	Puketiti	1.80	80	PN	P	09 16 57.7	-0.7
PUZ	Puketiti	1.80	80	P	P	09 16 57.7	-0.7
PUZ				S	S	09 17 23.2	-1.1
MXZ	Matakaoa Point	2.00	65	PN	P	09 16 59.9	-0.8
MXZ	Matakaoa Point	2.00	65	P	P	09 17 00.2	-0.5
BFZ	Birch Farm	2.26	176	PN	P	09 17 02.4	-1.5
BFZ	Birch Farm	2.26	176	P	P	09 17 02.4	-1.5
MRZ	Mangatainoka R	2.26	188	PN	P	09 17 01.9	-1.9
MRZ	Mangatainoka R	2.26	188	P	P	09 17 02.0	-1.9
KIW	Kapiti Island	2.58	199	PN	P	09 17 05.1	-2.7
KIW	Kapiti Island	2.58	199	P	P	09 17 05.1	-2.7
MTW	Mount Morrison	2.76	188	PN	P	09 17 07.2	-2.9
MTW	Mount Morrison	2.76	188	P	P	09 17 07.2	-2.9
CAW	Cannon Point	2.78	195	PN	P	09 17 07.5	-2.9
CAW	Cannon Point	2.78	195	P	P	09 17 07.5	-2.8
MRW	Makara Radio	2.98	199	PN	P	09 17 09.5	-3.3
MRW	Makara Radio	2.98	199	P	P	09 17 09.6	-3.3
TRWZ	Traveller	2.98	185	PN	P	09 17 10.1	-2.8
WEL	Wellington	3.02	198	P	P	09 17 09.9	-3.4
MSWZ	Moikau Station	3.05	191	P	P	09 17 10.5	-3.2
SNZO	South Karori	3.06	199	P	P	09 17 10.3	-3.5
NNZ	Nelson	3.45	215	*e*P	P	09 17 14.9	-4.0
QRZ	Quartz Range	3.61	227	*e*P	P	09 17 16.2	-4.7
BSWZ	Blackbirch Sta	3.68	206	P	P	09 17 18.3	-3.5
KHZ	Kahutara	4.42	205	*e*P	P	09 17 26.9	-4.6
LTZ	Lake Taylor	5.21	212	*e*P	P	09 17 36.0	-5.9

IDC 29 09:19:11.7±3.1,12.96S×66.82E,mb3.7/2,mb1 3.9/2, mb1mx3.5/18,mbtmp3.7/2,Error ellipse: s-maj=121.1km s-min=43.2km az=51.0,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	61.08	12	P	P	09 29 27.4	-2.4
	0.8nm,0.9s,baz=207,slow=8.1,SNR=3.6						
WRA	Warramunga Arr	64.78	106	P	P	09 29 52.7	-2.1
	0.8nm,0.7s,baz=271,slow=5.9,SNR=9.7						
PDAR	Pinedale Array	150.13	355	PKPbc	PKPdf	09 39 04.7	+3.3
	0.7nm,0.8s,baz=45,slow=1.3,SNR=8.4						

*LDG **29** 09:38:50.8±0.2,36.39N×11.21W,h10km,Ml5.0/25,Error ellipse: s-maj=6.6km s-min=3.3km az=163.0*
*MOS **29** 09:38:51.6±0.9,36.59N×11.30W,h10km,mb4.9/32,Error ellipse: s-maj=11.7km s-min=4.0km az=53.4*
*BJI **29** 09:38:51.9,36.60N×11.30W,h10km,mB5.0,mb4.8,Ms4.6, Msz4.6*
*IDC **29** 09:38:51.7±0.5,36.63N×11.34W,mb4.5/25,mb1 4.7/28, mb1mx4.6/33,mbtmp4.5/28,ML4.9/3,MS3.9/20,Ms1 3.9/20, ms1mx3.8/28,Error ellipse: s-maj=15.3km s-min=10.8km az=136.0*
*NEIC **29** 09:38:53.0±0.2,36.59N×11.25W,h10km,mb4.7/53,Error ellipse: s-maj=4.4km s-min=2.6km az=154.0*
*CSEM **29** 09:38:54.8,36.53N×11.13W,h35km,mb4.8*
*CNRM **29** 09:38:54.6,36.44N×10.92W,h30km,MD4.4*
*SFS **29** 09:38:55.0,36.89N×11.00W*
*MDD **29** 09:38:56.8±1.2,36.68N×11.22W,h70km,mb5.3/36,Error ellipse: s-maj=10.8km s-min=7.5km az=55.0,PRXIMO*
*IGIL **29** 09:38:58.5±2.4,36.70N×11.20W,h50km,ML5.0*
*INMG **29** 09:38:58.3±0.9,36.69N×11.18W,h31km,ML4.6,Error ellipse: s-maj=4.1km s-min=3.0km az=69.0*
ISC 29 09:38:54.0±0.8,36.73N±0.03×11.11W±0.03,h22km±5km, h25km±.9km:pP-P,n457,σ1°26/593,mb4.6/75,MS3.9/22, 31C-26D,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	Sao Teotonio	2.08	66	*i* Pn	Pn	09 39 30.3	+2.1
PTEO				*e*Sn	Sn	09 39 54.1	+0.5
	4μm,0.5s						
PTEO	Sao Teotonio	2.08	66	⇓P	Pn	09 39 30.3	+2.1
PTEO				S	Sn	09 39 54.1	+0.5
	2μm,0.5s						
PTEO	Sao Teotonio	2.08	66	Pn	Pn	09 39 30.3	+2.1
PTEO				*e*Sn	Sn	09 39 54.1	+0.5
	4μm,0.5s						
PTEO	Sao Teotonio	2.08	66	Pn	Pn	09 39 30.3	+2.1
PTEO				Sn	Sn	09 39 54.0	+0.4
LIS	Lisbon	2.52	37	*e*P	Pn	09 39 36.5	+1.9
LIS				*e*		09 39 36.6	
	baz=230,slow=8.6						
LIS				*e*S	Sn	09 40 04.4	-0.6
LIS				*e*S	Sn	09 40 04.4	-0.5
LIS				AML	AML	09 40 08.6	
	comp=E,4μm,0.5s						
LIS	Lisbon	2.52	37	*e*P	Pn	09 39 36.5	+1.9
LIS				*e*S	Sn	09 40 04.4	-0.6
INMG	Instituto de M	2.58	37	*e*Pn	Pn	09 39 37.5	+2.1
INMG				*e*Sn	Sn	09 40 06.4	0.0
PLOU	Loures	2.66	35	*e*Pn	Pn	09 39 38.2	+1.7
PLOU				*e*Sn	Sn	09 40 08.6	+0.3
	comp=E,1μm,0.2s						
PLOU	Loures	2.66	35	P	Pn	09 39 38.2	+1.7
PLOU				S	Sn	09 40 08.6	+0.3
	comp=E,681nm,0.2s						
PLOU	Loures	2.66	35	Pn	Pn	09 39 38.1	+1.6
PLOU				Sn	Sn	09 40 08.5	+0.2
PBEJ	Beja	2.89	62	*i* Pn	Pn	09 39 41.2	+1.4
PBEJ				*e*Sn	Sn	09 40 13.8	-0.5
	comp=E,925nm,0.2s						
PBEJ	Beja	2.89	62	⇓P	Pn	09 39 41.2	+1.4
PBEJ				S	Sn	09 40 13.8	-0.5
	comp=E,462nm,0.2s						
EGRO	El Granado	3.01	73	⇓P	Pn	09 39 43.1	+1.6
	comp=E,198nm,0.3s,SNR=18						
EGRO				S	Sn	09 40 16.4	-0.8
	comp=E,1μm,0.4s						
EGRO	El Granado	3.01	73	Pn	Pn	09 39 43.1	+1.6
	comp=E,198nm,0.3s,SNR=18						
EGRO				Sn	Sn	09 40 16.4	-0.9
	comp=E,1μm,0.4s						
ALMR	Almeirim	3.15	39	*e*P	Pn	09 39 44.7	+1.3
ALMR				*e*S	Sn	09 40 18.5	-2.2
ALMR				*e*S	Sn	09 40 18.6	-2.1
ALMR				AML	AML	09 40 24.2	
	comp=E,8μm,0.5s						
PTOM	Tomar	3.59	36	*e*Pn	Pn	09 39 51.0	+1.3
PTOM				*e*Sn	Sn	09 40 31.3	-0.6
	comp=E,1μm,0.5s						
PTOM	Tomar	3.59	36	*e*Pn	Pn	09 39 51.0	+1.3
PTOM				*e*Sn	Sn	09 40 31.3	-0.6
	comp=E,1μm,0.5s						
EMIN	Mina Concepcio	3.69	72	⇓P	Pn	09 39 52.2	+1.0
	comp=E,127nm,0.1s,SNR=18						
EMIN				S	Sn	09 40 32.7	-1.9
	comp=E,1μm,0.4s						
EMIN	Mina Concepcio	3.69	72	Pn	Pn	09 39 52.2	+1.0
	comp=E,127nm,0.1s,SNR=18						
EMIN				Sn	Sn	09 40 32.7	-1.8
	comp=E,1μm,0.4s						
EBAD	Badajoz	3.83	57	⇓P	Pn	09 39 53.7	+0.6
	comp=E,72nm,0.1s,SNR=18						
EBAD				S	Sn	09 40 35.9	-2.1
	comp=E,2μm,0.3s,SNR=5.6						
EBAD	Badajoz	3.83	57	Pn	Pn	09 39 53.7	+0.6
	comp=E,72nm,0.1s,SNR=18						
EBAD				Sn	Sn	09 40 35.9	-2.1
	comp=E,2μm,0.3s,SNR=5.6						
SFS	San Fernando	3.96	92	*e*Pn	Pn	09 39 57.5	+2.6
SFS	San Fernando	3.96	92	*i* P	Pn	09 39 58.0	+3.1
SFS				*e*Sn	Sn	09 40 39.8	-1.4
SFS				*e*S	Sn	09 40 42.4	+1.2
SFS	San Fernando	3.96	92	*e*Pn	Pn	09 39 57.5	+2.6
SFS

EADA	**Adamuz**	**5.40**	**73**	⇓P		**Pn**	**09 40 15.3**	**0.0**
	comp=E,213nm,0.2s,SNR=18							
EADA				S		**Sn**	**09 41 13.0**	**-4.5**
	comp=E,746nm,0.3s							
EADA	**Adamuz**	**5.40**	**73**	Pn		**Pn**	**09 40 15.3**	**0.0**
	comp=E,213nm,0.2s,SNR=18							
CIA	**Chichaoua**	**5.50**	**159**	*i* P		**Pn**	**09 40 09.5**	**-7.3**
CIA				*i* S		**Sn**	**09 41 06.0**	**-14**
PCAB	**Cabril**	**5.53**	**25**	*e*Pn		**Pn**	**09 40 15.7**	**-1.4**
PCAB				*e*Sn		**Sn**	**09 41 14.8**	**-5.9**
	comp=E,1µm,0.5s							
PCAB	**Cabril**	**5.53**	**25**	P		**Pn**	**09 40 15.7**	**-1.4**
PCAB				S		**Sn**	**09 41 14.8**	**-5.9**
	comp=E,574nm,0.5s							
PCAB	**Cabril**	**5.53**	**25**	Pn		**Pn**	**09 40 15.4**	**-1.7**
PCAB				Sn		**Sn**	**09 41 13.7**	**-7.0**
ELUQ	**Luque**	**5.53**	**79**	⇓P		**Pn**	**09 40 17.2**	**0.0**
	comp=E,84nm,0.3s,SNR=18							
ELUQ				S		**Sn**	**09 41 17.4**	**-3.6**
	comp=E,121nm,0.2s							
ELOJ	**Sierra Loja**	**5.59**	**84**	⇓P		**Pn**	**09 40 18.6**	**+0.5**
	comp=E,93nm,0.4s,SNR=18							
ELOJ				S		**Sn**	**09 41 18.0**	**-4.4**
	comp=E,264nm,0.4s							
ELOJ	**Sierra Loja**	**5.59**	**84**	Pn		**Pn**	**09 40 18.5**	**+0.5**
	comp=E,93nm,0.4s,SNR=18							
ELOJ				Sn		**Sn**	**09 41 18.0**	**-4.4**
	comp=E,264nm,0.4s							
ELOB	**Lobios**	**5.65**	**24**	⇓P		**Pn**	**09 40 18.3**	**-0.6**
	comp=E,48nm,0.2s,SNR=18							
ELOB				S		**Sn**	**09 41 17.9**	**-6.1**
	comp=E,1µm,0.4s							
ELOB	**Lobios**	**5.65**	**24**	Pn		**Pn**	**09 40 18.3**	**-0.6**
	comp=E,48nm,0.2s,SNR=18							
EZAM	**Zamans**	**5.73**	**18**	Pn		**Pn**	**09 40 18.7**	**-1.3**
	SNR=7.9							
EZAM	**Zamans**	**5.73**	**18**	Pn		**Pn**	**09 40 18.7**	**-1.3**
EZAM				Sn		**Sn**	**09 41 19.5**	**-6.4**
MIF	**Mishlifen**	**5.85**	**123**	*i* P		**Pn**	**09 40 16.0**	**-5.7**
MIF				*i* S		**Sn**	**09 41 15.0**	**-14**
ERON	**Agron**	**5.87**	**85**	⇓P		**Pn**	**09 40 22.4**	**+0.5**
	comp=E,191nm,0.6s,SNR=18							
ERON				S		**Sn**	**09 41 22.9**	**-6.4**
	comp=E,246nm,0.5s,SNR=17							
EBAN	**Banos Encina**	**6.00**	**74**	⇓P		**Pn**	**09 40 23.3**	**-0.5**
	comp=E,179nm,0.2s,SNR=18							
EBAN				S		**Sn**	**09 41 27.2**	**-5.5**
	comp=E,503nm,0.4s							
MPAL	**Palemas**	**6.00**	**102**	*i* P		**Pn**	**09 40 18.0**	**-5.9**
MPAL				*i* S		**Sn**	**09 41 19.0**	**-14**
EGUA	**Guajares**	**6.06**	**87**	P		**Pn**	**09 40 24.5**	**-0.2**
	comp=E,16nm,0.2s,SNR=7.9							
EGUA				S		**Sn**	**09 41 27.8**	**-6.3**
	comp=E,35nm,0.4s,SNR=7.9							
ECOG	**Cogollos-Vega**	**6.07**	**83**	⇑P		**Pn**	**09 40 24.9**	**+0.2**
	comp=E,116nm,0.4s,SNR=18							
ECOG				S		**Sn**	**09 41 31.3**	**-2.9**
	comp=E,339nm,0.6s,SNR=14							
PBRG	**Braganca**	**6.10**	**32**	*e*Pn		**Pn**	**09 40 24.6**	**-0.6**
PBRG				*e*Sn		**Sn**	**09 41 30.7**	**-4.5**
	comp=E,381nm,0.3s							
PBRG	**Braganca**	**6.10**	**32**	P		**Pn**	**09 40 24.6**	**-0.6**
PBRG				S		**Sn**	**09 41 30.7**	**-4.5**
	comp=E,191nm,0.3s							
PBRG	**Braganca**	**6.10**	**32**	Pn		**Pn**	**09 40 24.5**	**-0.7**
PBRG				Sn		**Sn**	**09 41 29.7**	**-5.5**
EQUE	**Quentar**	**6.16**	**83**	⇓P		**Pn**	**09 40 26.2**	**+0.1**
	comp=E,105nm,0.3s,SNR=18							
EQUE				S		**Sn**	**09 41 31.6**	**-5.0**
	comp=E,321nm,0.6s,SNR=7.9							
CZD	**Col de Zad**	**6.20**	**125**	*i* P		**Pn**	**09 40 20.0**	**-6.6**
CZD				*i* S		**Sn**	**09 41 22.5**	**-15**
ECAL	**Calabor**	**6.21**	**32**	⇓P		**Pn**	**09 40 26.3**	**-0.6**
	comp=E,139nm,0.3s,SNR=18							
ECAL				S		**Sn**	**09 41 32.7**	**-5.3**
	comp=E,531nm,0.3s							
ECAL	**Calabor**	**6.21**	**32**	Pn		**Pn**	**09 40 26.3**	**-0.5**
	comp=E,139nm,0.3s,SNR=18							
TOU	**Touzarine**	**6.23**	**104**	*i* P		**Pn**	**09 40 21.0**	**-6.1**
TOU				*i* S		**Sn**	**09 41 26.0**	**-12**
TZK	**Tazeka**	**6.24**	**113**	*i* P		**Pn**	**09 40 21.0**	**-6.2**
TZK				*i* S		**Sn**	**09 41 25.0**	**-14**
ESDC	**Sonseca Array**	**6.35**	**60**	Pn		**Pn**	**09 40 28.2**	**-0.6**
	comp=E,79nm,0.3s,baz=244,slow=13,SNR=218							
ESDC				Sn		**Sn**	**09 41 35.7**	**-5.8**
	comp=E,29nm,0.3s,baz=235,slow=17,SNR=6.2							
ESDC	**Sonseca Array**	**6.35**	**60**	P		**Pn**	**09 40 28.2**	**-0.6**
	comp=E,187nm,0.2s,baz=243,slow=13,SNR=18							
ESDC				S		**Sn**	**09 41 35.5**	**-5.9**
	comp=E,739nm,0.8s,baz=246,slow=23,SNR=4.5							
ESLA	**Sonseca Array**	**6.35**	**60**	*e*Pn		**Pn**	**09 40 28.5**	**-0.3**
	comp=E,8.7nm,0.3s							
ESLA	**Sonseca Array**	**6.35**	**60**	*e*Pn		**Pn**	**09 40 28.5**	**-0.3**
	comp=E,8.7nm,0.3s							
ESLA				*e*Sn		**Sn**	**09 41 36.5**	**-4.9**
EMAZ	**Mazaricos**	**6.43**	**14**	P		**Pn**	**09 40 27.3**	**-2.6**
	comp=E,78nm,0.3s,SNR=33							
EMAZ				S		**Sn**	**09 41 34.2**	**-9.1**
	comp=E,619nm,0.3s							
EMAZ	**Mazaricos**	**6.43**	**14**	Pn		**Pn**	**09 40 27.0**	**-2.9**
	comp=E,78nm,0.3s,SNR=33							
EMAZ	**Mazaricos**	**6.43**	**14**	Pn		**Pn**	**09 40 27.0**	**-2.8**
EMAZ				Sn		**Sn**	**09 41 33.7**	**-10**
ERUA	**La Rua**	**6.44**	**27**	⇑P		**Pn**	**09 40 29.2**	**-0.8**
	comp=E,48nm,0.2s,SNR=18							
ERUA				S		**Sn**	**09 41 37.7**	**-5.9**
	comp=E,109nm,0.3s,SNR=5.9							
STS	**Santiago**	**6.46**	**17**	P		**Pn**	**09 40 29.0**	**-1.3**
	comp=E,39nm,0.3s,SNR=10.0							
STS				S		**Sn**	**09 41 34.8**	**-9.4**
	comp=E,94nm,0.7s,SNR=11							
STS	**Santiago**	**6.46**	**17**	Pn		**Pn**	**09 40 29.0**	**-1.3**
STS				Sn		**Sn**	**09 41 33.9**	**-10**
EQES	**Quesada**	**6.50**	**78**	⇓P		**Pn**	**09 40 30.2**	**-0.7**
	comp=E,55nm,0.3s,SNR=18							
EQES				S		**Sn**	**09 41 39.8**	**-5.4**
	comp=E,336nm,0.4s,SNR=5.8							
EQES	**Quesada**	**6.50**	**78**	Pn		**Pn**	**09 40 30.2**	**-0.7**
	comp=E,55nm,0.3s,SNR=18							
EALB	**Alboran**	**6.57**	**94**	P		**Pn**	**09 40 30.1**	**-1.7**
	comp=E,32nm,0.2s,SNR=11							
EALB				S		**Sn**	**09 41 39.6**	**-7.2**
	comp=E,432nm,0.5s,SNR=5.9							
EALB	**Alboran**	**6.57**	**94**	Pn		**Pn**	**09 40 30.1**	**-1.7**
	comp=E,32nm,0.2s,SNR=11							
EBER	**Berja**	**6.60**	**86**	P		**Pn**	**09 40 32.3**	**0.0**
	comp=E,109nm,0.3s,SNR=88							
EBER				S		**Sn**	**09 41 43.2**	**-4.4**
	comp=E,450nm,0.6s,SNR=5.2							
EBER	**Berja**	**6.60**	**86**	Pn		**Pn**	**09 40 32.3**	**0.0**
	comp=E,109nm,0.3s,SNR=88							
EBER				Sn		**Sn**	**09 41 43.2**	**-4.4**
	comp=E,450nm,0.6s,SNR=5.2							
MDT	**Midelt**	**6.62**	**124**	Pn		**Pn**	**09 40 30.4**	**-2.1**
	comp=E,102nm,0.3s,baz=308,slow=14,SNR=705							
MDT				Sn		**Sn**	**09 41 39.2**	**-8.8**
	comp=E,176nm,0.3s,baz=209,slow=20,SNR=14							
MDT				LR		LR	09 43 19.5	
	comp=E,545nm,18.1s,baz=327,slow=40							
EMEL	**Melilla**	**6.76**	**100**	P		**Pn**	**09 40 32.4**	**-2.1**
	comp=E,275nm,0.4s,SNR=5.0							
EMEL				S		**Sn**	**09 41 44.0**	**-7.7**
	comp=E,820nm,0.4s,SNR=7.9							
EHUE	**Huescar**	**6.88**	**78**	⇓P		**Pn**	**09 40 35.2**	**-1.0**
	comp=E,83nm,0.6s,SNR=18							
EHUE				S		**Sn**	**09 41 49.3**	**-5.3**
	comp=E,116nm,0.5s,SNR=5.0							
EHUE	**Huescar**	**6.88**	**78**	Pn		**Pn**	**09 40 35.2**	**-1.0**
	comp=E,83nm,0.6s,SNR=18							
EHUE				Sn		**Sn**	**09 41 49.5**	**-5.1**
	comp=E,116nm,0.5s,SNR=5.0							
EHUE	**Huescar**	**6.88**	**78**	⇓Pn		**Pn**	**09 40 35.2**	**-1.0**
EHUE				Sn		**Sn**	**09 41 49.5**	**-5.1**
ZAI	**Zaio**	**7.02**	**102**	*i* P		**Pn**	**09 40 32.0**	**-6.1**
ZAI				*i* S		**Sn**	**09 41 44.0**	**-14**
EVIA	**Vianos**	**7.09**	**72**	⇓P		**Pn**	**09 40 37.6**	**-1.5**
	comp=E,233nm,0.5s,SNR=18							
EVIA				S		**Sn**	**09 41 53.2**	**-6.7**
	comp=E,687nm,0.5s,SNR=7.3							
ENIJ	**Nijar**	**7.14**	**85**	P		**Pn**	**09 40 38.8**	**-1.1**
	SNR=7.9							
ENIJ				S		**Sn**	**09 41 54.4**	**-6.9**
	comp=E,0.3nm,0.4s,SNR=4.0							
ENIJ	**Nijar**	**7.14**	**85**	Pn		**Pn**	**09 40 38.8**	**-1.1**
ENIJ				Sn		**Sn**	**09 41 52.8**	**-8.5**
EPON	**Pontenova**	**7.26**	**24**	⇓P		**Pn**	**09 40 39.9**	**-1.6**
	comp=E,205nm,0.3s,SNR=18							
EPON				S		**Sn**	**09 41 55.6**	**-8.5**
	comp=E,180nm,0.3s,SNR=6.4							
EPON	**Pontenova**	**7.26**	**24**	Pn		**Pn**	**09 40 39.9**	**-1.6**
	comp=E,205nm,0.3s,SNR=18							
ZFT	**Errachidia**	**7.29**	**128**	*i* P		**Pn**	**09 40 35.0**	**-6.9**
ZFT				*e*S		**Sn**	**09 41 48.0**	**-17**
ETOB	**Tobarra**	**7.82**	**73**	P		**Pn**	**09 40 47.8**	**-1.5**
	comp=E,90nm,0.4s,SNR=71							
ETOB				S		**Sn**	**09 42 11.0**	**-7.2**
	comp=E,281nm,0.6s,SNR=5.3							
ETOB	**Tobarra**	**7.82**	**73**	Pn		**Pn**	**09 40 47.8**	**-1.6**
	comp=E,90nm,0.4s,SNR=71							
EFAM	**Famara**	**7.84**	**196**	P		**Pn**	**09 40 43.6**	**-6.0**
	comp=E,22nm,0.3s,SNR=7.5							
EFAM				S		**Sn**	**09 42 04.9**	**-14**
	comp=E,234nm,0.7s,SNR=9.4							
EFAM	**Famara**	**7.84**	**196**	Pn		**Pn**	**09 40 43.6**	**-6.1**
	comp=E,22nm,0.3s,SNR=7.5							
EFAM				Sn		**Sn**	**09 42 04.9**	**-14**
	comp=E,234nm,0.7s,SNR=9.4							
EMUR	**La Murta**	**7.95**	**79**	P		**Pn**	**09 40 50.1**	**-1.0**
	comp=E,76nm,0.4s,SNR=20							
EMUR				S		**Sn**	**09 42 14.6**	**-6.7**
	comp=E,259nm,0.6s,SNR=6.0							
EMUR	**La Murta**	**7.95**	**79**	Pn		**Pn**	**09 40 50.1**	**-1.0**
	comp=E,76nm,0.4s,SNR=20							
EMUR	**La Murta**	**7.95**	**79**	Pn		**Pn**	**09 40 50.1**	**-1.0**
EMUR				Sn		**Sn**	**09 42 11.8**	**-10**
EARI	**Arriondas**	**7.98**	**33**	P		**Pn**	**09 40 50.8**	**-0.7**
	comp=E,31nm,0.5s,SNR=21							
EARI				S		**Sn**	**09 42 14.2**	**-7.8**
	comp=E,298nm,0.9s,SNR=6.9							
EARI	**Arriondas**	**7.98**	**33**	Pn		**Pn**	**09 40 50.8**	**-0.7**
	comp=E,31nm,0.5s,SNR=21							
EARI	**Arriondas**	**7.98**	**33**	Pn		**Pn**	**09 40 50.8**	**-0.7**
EARI				Sn		**Sn**	**09 42 11.1**	**-11**
CART	**Cartagena**	**8.12**	**81**	*e*Pn		**P**	**09 40 51.7**	**-1.8**
	comp=E,92nm,0.6s							
CART	**Cartagena**	**8.12**	**81**	*e*Pn		**P**	**09 40 51.7**	**-1.8**
	comp=E,92nm,0.6s							
CART				*e*Sn		**Sn**	**09 42 18.6**	**-7.0**
ECHE	**Chera**	**8.49**	**67**	P		**P**	**09 40 58.0**	**-0.6**
	comp=E,74nm,0.4s,SNR=32							
ECHE				S		**Sn**	**09 42 26.7**	**-8.1**
	comp=E,65nm,0.4s,SNR=5.4							
ECHE	**Chera**	**8.49**	**67**	Pn		**P**	**09 40 58.0**	**-0.6**
ECHE				Sn		**Sn**	**09 42 22.8**	**-12**
CFTV	**Fuerteventura**	**8.66**	**198**	P		**P**	**09 40 53.6**	**-7.3**
	comp=E,13nm,0.5s,SNR=14							
CFTV				S		**Sn**	**09 42 22.7**	**-16**
	comp=E,70nm,0.6s,SNR=8.4							
ELAN	**Lanestosa**	**8.77**	**40**	P		**P**	**09 41 02.3**	**-0.3**
	comp=E,34nm,0.6s,SNR=8.5							
ELAN				S		**Sn**	**09 42 33.3**	**-8.5**
	comp=E,122nm,0.6s,SNR=8.8							
ELAN	**Lanestosa**	**8.77**	**40**	Pn		**P**	**09 41 02.3**	**-0.3**
	comp=E,34nm,0.6s,SNR=8.5							
ELAN	**Lanestosa**	**8.77**	**40**	Pn		**P**	**09 41 02.3**	**-0.3**
ELAN				Sn		**Sn**	**09 42 31.1**	**-11**
EBEN	**Beniarda**	**8.85**	**74**	⇑P		**P**	**09 41 02.5**	**-1.2**
	comp=E,73nm,0.7s,SNR=18							
EBEN				S		**Sn**	**09 42 34.2**	**-10**
	comp=E,209nm,0.8s,SNR=5.0							
EBEN	**Beniarda**	**8.85**	**74**	Pn		**P**	**09 41 02.5**	**-1.2**
	comp=E,73nm,0.7s,SNR=18							
EMOS	**Mosqueruela**	**9.09**	**63**	P		**P**	**09 41 06.5**	**-0.5**
	comp=E,154nm,0.6s,SNR=67							
EMOS				S		**Sn**	**09 42 40.5**	**-9.3**
	comp=E,435nm,1.2s,SNR=6.7							
EMOS	**Mosqueruela**	**9.09**	**63**	Pn		**P**	**09 41 06.5**	**-0.5**
	comp=E,154nm,0.6s,SNR=67							
EOSO	**Osorio**	**9.41**	**205**	P		**P**	**09 41 03.0**	**-8.4**
	comp=E,97nm,0.7s,SNR=4.9							
EOSO				S		**Sn**	**09 42 40.0**	**-18**
	comp=E,104nm,0.4s,SNR=7.3							
EOSO	**Osorio**	**9.41**	**205**	Pn		**P**	**09 41 03.0**	**-8.4**
	comp=E,97nm,0.7s,SNR=4.9							
EOSO				Sn		**Sn**	**09 42 38.4**	**-19**
	comp=E,104nm,0.4s,SNR=7.3							
EOSO	**Osorio**	**9.41**	**205**	Pn		**P**	**09 41 03.0**	**-8.4**
EOSO				Sn		**Sn**	**09 42 38.4**	**-19**
EARA	**Aranguren**	**9.50**	**48**	P		**P**	**09 41 11.4**	**-1.2**
	comp=E,52nm,0.6s,SNR=7.9							
EARA				S		**Sn**	**09 42 51.7**	**-8.1**
	comp=E,156nm,0.7s,SNR=7.9							
CRAJ	**Montana Rajada**	**9.62**	**210**	Sn		**Sn**	**09 42 47.4**	**-15**
	comp=E,412nm,0.3s,SNR=7.9							
ESAC	**San Caprasio**	**9.65**	**56**	⇑P		**P**	**09 41 14.1**	**-0.5**
	comp=E,96nm,0.3s,SNR=18							
ESAC				S		**Sn**	**09 42 54.5**	**-8.9**
	comp=E,617nm,0.4s,SNR=4.0							
ESAC	**San Caprasio**	**9.65**	**56**	⇑Pn		**P**	**09 41 14.1**	**-0.5**
CCAN	**Las Canadas**	**9.66**	**210**	P		**P**	**09 41 07.2**	**-7.7**
	comp=E,4.9nm,0.2s,SNR=7.9							
CCAN				S		Sn	09 42 43.0	-21
	comp=E,21nm,0.6s,SNR=4.5							
CHIO	**Chio**	**9.73**	**211**	Sn		**Sn**	**09 42 46.3**	**-19**
	SNR=4.0							
EALK	**Alkurruntz**	**9.81**	**46**	P		**P**	**09 41 15.8**	**-1.2**
	comp=E,28nm,0.3s,SNR=17							
EALK				S		**Sn**	**09 42 58.5**	**-9.0**
	comp=E,129nm,0.4s,SNR=8.1							
ERTA	**Horta de San J**	**9.88**	**61**	P		**P**	**09 41 18.0**	**+0.2**
	comp=E,23nm,0.3s,SNR=7.3							
ERTA				S		**Sn**	**09 42 59.2**	**-10**
	comp=E,247nm,1.1s,SNR=7.9							
ERTA	**Horta de San J**	**9.88**	**61**	Pn		**P**	**09 41 18.0**	**+0.2**
SJPF	**Ste Jean**	**9.91**	**47**	*e*Pn		**P**	**09 41 17.4**	**-0.9**
SJPF				*e*Sn		**Sn**	**09 43 01.4**	**-8.6**
	comp=E,133nm,0.6s							
EGOM	**La Gomera**	**9.97**	**213**	P		**P**	**09 41 10.7**	**-8.4**
	comp=E,11nm,0.2s,SNR=11							
EGOM				S		Sn	09 42 50.7	-21
	comp=E,104nm,0.3s,SNR=6.2							
EGOM	**La Gomera**	**9.97**	**213**	Pn		**P**	**09 41 10.7**	**-8.4**
OSSF	**Osses**	**9.98**	**46**	*e*P		**P**	**09 41 18.5**	**-0.7**
LARF	**Larrau**	**10.01**	**48**	*e*P		**P**	**09 41 19.8**	**+0.2**
EIBI	**Ibiza**	**10.11**	**73**	P		**P**	**09 41 18.9**	**-2.2**
	comp=E,20nm,0.5s,SNR=5.5							
EIBI				S		**S**	**09 43 05.4**	**-9.4**
	comp=E,175nm,0.9s,SNR=7.4							
EIBI	**Ibiza**	**10.11**	**73**	Pn		**P**	**09 41 18.9**	**-2.1**
	comp=E,20nm,0.5s							
FDAF	**Les Forges d'A**	**10.14**	**50**	*e*P		**P**	**09 41 21.2**	**-0.2**
ORDF	**Ordiarp**	**10.14**	**47**	*e*P		**P**	**09 41 21.6**	**+0.1**
ETSF	**Etsaut**	**10.19**	**50**	*e*Pn		**P**	**09 41 21.0**	**-1.1**
ETSF				*e*Sn		**S**	**09 43 08.9**	**-7.8**
	comp=E,90nm,0.5s							
EGRA	**Graus**	**10.38**	**55**	P		**P**	**09 41 23.8**	**-1.0**
	comp=E,40nm,0.5s,SNR=15							
EGRA				S		**S**	**09 43 12.6**	**-8.9**
	comp=E,95nm,0.5s,SNR=5.3							
EBIE	**Bielsa**	**10.51**	**52**	P		**P**	**09 41 26.1**	**-0.4**
	comp=E,52nm,0.3s,SNR=84							
EBIE				S		**S**	**09 43 15.0**	**-10**
	comp=E,115nm,0.6s,SNR=10							
VIEF	**Viey**	**10.54**	**51**	*e*P		**P**	**09 41 26.3**	**-0.6**
EPOB	**Poblet**	**10.55**	**60**	P		**P**	**09 41 25.0**	**-2.0**
	comp=E,15nm,0.4s,SNR=12							
EPOB				S		**S**	**09 43 14.7**	**-11**
	comp=E,70nm,0.8s,SNR=5.9							
EPOB	**Poblet**	**10.55**	**60**	Pn		**P**	**09 41 25.0**	**-2.0**
	comp=E,15nm,0.4s							
LABF	**Labassere**	**10.66**	**50**	*e*P		**P**	**09 41 28.5**	**0.0**
RESF	**Ens**	**10.70**	**52**	*e*P		**P**	**09 41 29.2**	**+0.1**
EPF	**Esparros**	**10.82**	**51**	*e*Pn		**P**	**09 41 30.6**	**-0.1**
EPF				*e*Sn		**S**	**09 43 23.1**	**-9.0**
	comp=E,277nm,0.6s							
EMIR	**Miracle**	**11.07**	**58**	P		**P**	**09 41 32.9**	**-1.3**
	comp=E,17nm,0.2s,SNR=4.0							
EMIR				S		**S**	**09 43 29.0**	**-9.4**
	comp=E,292nm,0.8s,SNR=7.9							
EMIR	**Miracle**	**11.07**	**58**	Pn		**P**	**09 41 32.9**	**-1.3**
	comp=E,17nm,0.2s							
SALF	**Salau**	**11.22**	**54**	*e*P		**P**	**09 41 35.6**	**-0.6**
ETOS	**Mallorca**	**11.37**	**70**	P		**P**	**09 41 36.5**	**-1.6**
	comp=E,9.7nm,0.3s,SNR=10							
ETOS				S		**S**	**09 43 36.1**	**-9.4**
	comp=E,50nm,1.0s,SNR=7.9							
ETOS	**Mallorca**	**11.37**	**70**	Pn		**P**	**09 41 36.5**	**-1.7**
	comp=E,9.7nm,0.3s							
VALF	**Valcebollere**	**11.61**	**57**	*e*P		**P**	**09 41 40.7**	**-0.7**
LPEF	**Le Peyrat**	**11.78**	**54**	*e*P		**P**	**09 41 43.5**	**-0.2**
LFF	**La Frestale**	**12.15**	**44**	*e*Pn		**P**	**09 41 47.2**	**-1.6**
LFF				*e*Sn		**S**	**09 43 55.2**	**-9.4**
	comp=E,87nm,0.7s							
MTLF	**Montolieu**	**12.16**	**53**	*e*Pn		**P**	**09 41 48.5**	**-0.4**
MTLF				*e*Sn		**S**	**09 43 56.6**	**-8.2**
	comp=E,48nm,0.7s							
LRDF	**Laroque-de-Fa**	**12.19**	**55**	*e*P		**P**	**09 41 48.5**	**-0.7**
EJON	**La Jonquera**	**12.21**	**58**	P		**P**	**09 41 47.8**	**-1.8**
	comp=E,3.2nm,0.2s,SNR=5.7							
EJON				S		**S**	**09 43 55.8**	**-10**
	comp=E,73nm,0.9s,SNR=10							
SJAF	**Saint Jean de**	**12.22**	**58**	*e*P		**P**	**09 41 48.4**	**-1.3**
QUIF	**Quistinic**	**12.63**	**25**	*e*Pn		**P**	**09 41 53.3**	**-1.8**
QUIF				*e*Sn		**S**	**09 44 02.5**	**-14**
	comp=E,61nm,0.4s							
RJF	**Les Rejaudoux**	**12.81**	**44**	*e*Pn		**P**	**09 41 55.5**	**-2.0**
RJF				*e*Sn		**S**	**09 44 10.0**	**-10**
	comp=E,83nm,0.7s							
MFF	**Saint Martin d**	**12.82**	**36**	*e*Pn		**P**	**09 41 57.8**	**+0.2**
MFF				*e*Sn		**S**	**09 44 10.3**	**-10**
	comp=E,72nm,0.6s							
CAF	**Calviac**	**12.90**	**47**	*e*Pn		**P**	**09 41 57.6**	**-1.1**
CAF				*e*Sn		**S**	**09 44 12.2**	**-10**
	comp=E,143nm,1.1s							
ROSF	**Rostrenen**	**12.95**	**24**	*e*Pn		**P**	**09 41 57.5**	**-2.0**
ROSF				*e*Sn		**S**	**09 44 12.6**	**-11**
	comp=E,87nm,0.7s							
SGMF	**Saint Gilles**	**13.13**	**26**	*e*Pn		**P**	**09 42 00.0**	**-1.7**
SGMF				*e*Sn		**S**	**09 44 15.5**	**-13**
	comp=E,48nm,0.6s							
LASF	**Ste Croix**	**13.55**	**53**	*e*Pn		**P**	**09 42 04.1**	**-3.3**
LASF				*e*Sn		**S**	**09 44 28.5**	**-10**
	comp=E,49nm,0.7s							
LBL	**Lubilhac**	**13.77**	**47**	*e*P		**P**	**09 42 11.2**	**+1.1**
TCF	**Toulx Ste Croi**	**13.80**	**42**	*e*Pn		**P**	**09 42 08.7**	**-1.9**
TCF				*e*Sn		**S**	**09 44 33.8**	**-10**
	comp=E,39nm,0.5s							
GRR	**Gorron**	**13.88**	**30**	*e*Pn		**P**	**09 42 10.9**	**-0.6**
GRR				*e*Sn		**S**	**09 44 32.9**	**-13**
	comp=E,19nm,0.3s							
PYM	**Petit Puy Mans**	**13.92**	**45**	*e*P		**P**	**09 42 12.6**	**+0.5**
AGO	**Saint Agoulin**	**14.16**	**44**	*e*P		**P**	**09 42 14.5**	**-0.8**
BGF	**Bois d'Agland**	**14.31**	**42**	*e*Pn		**P**	**09 42 16.6**	**-0.7**
BGF				*e*Sn		**S**	**09 44 44.9**	**-11**
	comp=E,125nm,0.4s							
FLN	**La Foliniere**	**14.32**	**30**	*e*Pn		**P**	**09 42 16.5**	**-0.9**
FLN				*e*Sn		**S**	**09 44 43.7**	**-13**
	comp=E,41nm,0.6s							
LDF	**La Druitiere**	**14.34**	**31**	*e*Pn		**P**	**09 42 16.5**	**-1.1**
LDF				*e*Sn		**S**	**09 44 45.4**	**-11**
	comp=E,21nm,0.5s							
VIVF	**Saint-Julien-l**	**14.44**	**51**	*e*Pn		**P**	**09 42 17.5**	**-1.5**
VIVF				*e*Sn		**S**	**09 44 50.6**	**-8.6**
	comp=E,36nm,0.8s							
SMRF	**Simiane la Rot**	**14.63**	**55**	*e*Pn		**P**	**09 42 21.3**	**-0.1**
HYF	**Humbligny**	**14.66**	**40**	*e*Pn		**P**	**09 42 21.7**	**-0.1**
HYF				*e*Sn		**S**	**09 44 55.2**	**-9.2**
	comp=E,246nm,0.7s							
AVF	**Avril sur Loir**	**14.73**	**42**	*e*Pn		**P**	**09 42 21.7**	**-1.1**
AVF				*e*Sn		**S**	**09 44 53.8**	**-12**
	comp=E,81nm,1.0s							
SMF	**Signal de Mont**	**14.91**	**44**	*e*Pn		**P**	**09 42 25.9**	**+0.8**
SMF				*e*Sn		**S**	**09 44 59.3**	**-11**
	comp=E,59nm,0.9s							
SSF	**Saint Saulge**	**14.98**	**42**	*e*Pn		**P**	**09 42 24.9**	**-1.1**
SSF		

comp=Z,200nm,16.0s,MS3.6
MOX Moxa 21.42 42 *eP* **P 09 43 43.7 +1.3**
MOX pmax pmax
comp=Z,31nm,1.4s,mb4.5
MOX MLR MLR
comp=Z,200nm,16.0s,MS3.6
CLZ Clausthal 21.45 38 *eP* **P 09 43 44.6 +1.9**
comp=Z,41nm,1.3s,mb4.6
CLZ Clausthal 21.45 38 *eP* **P 09 43 44.6 +1.9**
CLZ pmax pmax
comp=Z,41nm,1.3s,mb4.6
OBKA Obir 21.45 55⇑ *iP* **P 09 43 44.6 +1.9**
comp=Z,40nm,1.0s,mb4.7
PDKS Podkum 21.61 56 *eP* **P 09 43 46.0 +1.6**
MOA Molln 21.72 51⇑ *iP* **P 09 43 46.7 +1.3**
comp=Z,35nm,0.8s,mb4.8
GEC2 GERESS Array S 21.76 48 *eP* **P 09 43 47.5 +1.6**
comp=Z,82nm,1.0s,mb5.1
GEC2 GERESS Array S 21.76 48 *eP* **P 09 43 47.5 +1.6**
GEC2 pmax pmax
comp=Z,82nm,1.0s,mb5.1
GERES GERESS Array B 21.76 48 P **P 09 43 48.0 +2.1**
comp=Z,52nm,0.9s,mb5.0,baz=243,slow=9.0,SNR=195
GERES PcP PcP 09 47 45.3 -1.3
comp=Z,1.8nm,0.7s,baz=225,slow=1.9,SNR=5.2
GERES GERESS Array B 21.76 48 PcP PcP
GERES S **S 09 47 45.3 +4.9**
KHC Kasperske Hory 21.81 48 *eP* **P 09 43 48.4 +2.1**
KHC *ex* x 09 44 01.0
TIP Timpagrande 22.08 75 *eP* **P 09 43 50.9 +1.8**
TIP Timpagrande 22.08 75 *eP* **P 09 43 50.9 +1.8**
TIP *e* 09 43 59.0
CLL Collm 22.51 42 P **P 09 43 55.1 +1.8**
comp=Z,logA/T=1.3,mb4.5
CLL *i* *PP 09 44 00.5
CLL *eS* **S 09 48 07.0 +13**
CLL Collm 22.51 42 *i* P **P 09 43 55.1 +1.8**
comp=Z,38nm,1.9s,mb4.5
CLL *i* pP 09 44 00.5
CLL *eS* **S 09 48 07.0 +13**
CLL Collm 22.51 42 *i* P **P 09 43 55.1 +1.8**
CLL *i* *PP 09 44 00.5
CLL *eS* **S 09 48 07.0 +13**
CLL pmax pmax
comp=Z,38nm,1.9s,mb4.5
BSEG Bad Segeberg 22.72 34 *eP* **P 09 43 56.8 +1.5**
PRU Pruhonice 22.75 46 *eP* **P 09 43 57.3 +1.7**
BRG Berggiesshubel 22.81 44 *eP* **P 09 43 57.9 +1.7**
comp=Z,7.9nm,0.9s,mb4.1
BRG Berggiesshubel 22.81 44 *eP* **P 09 43 57.9 +1.7**
comp=Z,7.9nm,0.9s,mb4.1
BRG Berggiesshubel 22.81 44 *eP* **P 09 43 57.9 +1.7**
BRG pmax pmax
comp=Z,8.0nm,0.9s,mb4.2
PVCC Panska Ves 23.00 45 *eP* **P 09 44 00.3 +2.2**
ZST Bratislava 23.63 52 *eP* **P 09 44 06.5 +2.4**
VRAC Vranov 23.69 49 P **P 09 44 06.3 +1.5**
comp=Z,32nm,0.9s,mb4.8,baz=255,slow=9.7,SNR=34
VRAC LR LR 09 54 26.7
comp=Z,208nm,18.2s,MS3.6,baz=354,slow=39
UPC Upice 23.82 46 *eP* **P 09 44 07.8 +1.8**
SMOL Smolenice 23.93 52 *eP* **P 09 44 09.0 +1.9**
DPC Dobruska-Polom 23.94 47 *eP* **P 09 44 08.9 +1.8**
PKSM Moragy 24.11 58⇓ *eP* **P 09 44 11.2 +2.4**
MORC Moravsky Berou 24.44 49 *eP* **P 09 44 13.5 +1.5**
comp=Z,21nm,0.9s,mb4.6
MORC *e* 09 44 22.2
MORC Moravsky Berou 24.44 49 *eP* **P 09 44 13.5 +1.4**
MORC *e* 09 44 22.2
MORC pmax pmax
comp=Z,21nm,0.9s,mb4.6
DIVS Divcibare 24.70 63 *i* P **P 09 44 17.7 +3.1**
VYHS Vyhne 24.82 52 *i* P **P 09 44 16.1 +0.4**
OKC Ostrava-Krasne 24.83 49 *eP* **P 09 44 17.6 +1.8**
GRUS Gruza 25.20 64 *i* P **P 09 44 21.8 +2.4**
PSZ Piszkesteto 25.34 54 *eP* **P 09 44 21.6 +1.0**
comp=Z,48nm,1.5s,mb4.8
PSZ *e* pP 09 44 27.3 +0.2
PSZ Piszkesteto 25.34 54 *eP* **P 09 44 21.6 +0.9**
PSZ *e* pP 09 44 27.3 +0.2
PSZ pmax pmax
comp=Z,48nm,1.5s,mb4.8
KECS Kecovo 25.87 53 *i* P **P 09 44 29.1 +3.5**
OJC Ojcow 25.96 49 *eP* **P 09 44 27.1 +0.7**
NIE Niedzica 26.02 51 *eP* **P 09 44 28.8 +1.8**
CRVS Cervenica-Dubn 26.60 52 *eP* **P 09 44 33.1 +0.7**
DRGR 26.98 57⇑ *iP* **P 09 44 37.2 +1.4**
DRGR 26.98 57⇑ *iP* **P 09 44 37.2 +1.4**
UZH Uzhgorod 27.07 53 *eP* **P 09 44 38.0 +1.4**
UZH *eS* **S 09 49 12.0 +0.5**
NB2 NORSAR Subarra 28.14 23 P **P 09 44 46.5 +0.3**
comp=Z,6.4nm,0.8s,mb4.3,baz=219,slow=8.6
NB2 NORSAR Subarra 28.14 23 P **P 09 44 46.5 +0.3**
NB2 pmax pmax
comp=Z,6.0nm,0.8s,mb4.3
NOA NORSAR Array B 28.14 23 P **P 09 44 46.9 +0.7**
comp=Z,4.1nm,0.8s,mb4.1,baz=220,slow=8.8,SNR=8.4
NOA LR LR 09 56 23.6
comp=Z,72nm,21.1s,MS3.2,baz=220,slow=37
NOA NORSAR Array B 28.14 23 P **P 09 44 46.8 +0.6**
HFS Hagfors 28.30 26 P **P 09 44 48.0 +0.4**
comp=Z,7.2nm,0.9s,mb4.3,baz=211,slow=8.6,SNR=13
HFS PcP PcP 09 47 58.8 -2.0
comp=Z,1.7nm,0.5s,baz=135,slow=6.3,SNR=4.8
HFS LR LR 09 55 55.1
comp=Z,163nm,18.8s,MS3.6,baz=190,slow=36
HFS Hagfors 28.30 26 PcP PcP 09 47 58.8 -1.9
VOIR 28.42 61⇓ *iP* **P 09 44 51.0 +2.1**
VOIR 28.42 61⇑ *iP* **P 09 44 51.0 +2.1**
LVV L'vov 28.46 51 *eP* **P 09 44 49.7 +0.5**
BURAR Bucovina Array 28.79 56⇑ **P 09 44 56.6 +4.4**
BURAR Bucovina Array 28.79 56⇑ *iP* **P 09 44 56.6 +4.4**
MLR Muntele Rosu 29.05 61 P **P 09 44 56.6 +2.0**
comp=Z,5.4nm,1.1s,mb4.2,baz=96,slow=11,SNR=5.0
MLR Muntele Rosu 29.05 61⇑ *iP* **P 09 44 56.5 +1.9**
MLR Muntele Rosu 29.05 61⇑ *iP* **P 09 44 56.5 +2.0**
SUW Suwalki 29.26 43 *eP* **P 09 44 57.1 +0.7**
DBIC Dimbokro 30.46 168 P **P 09 45 05.1 -2.3**
comp=Z,4.1nm,0.6s,mb4.3,baz=331,slow=9.6,SNR=9.4
DBIC LR LR 09 57 19.3
comp=Z,110nm,18.6s,MS3.5,baz=336,slow=36
DBIC Dimbokro 30.46 168 *eP* **P 09 45 04.7 -2.7**
DBIC *e* pP 09 45 12.2 -1.7
AKASG Malin Array Be 31.90 51 P **P 09 45 19.2 -0.6**
comp=Z,1.6nm,0.6s,mb4.0,baz=256,slow=8.3,SNR=5.3
AKASG Malin Array Be 31.90 51 *i* P **P 09 45 20.9 +1.1**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
VSU Vasula 32.86 36 *i* P **P 09 45 27.6 -0.4**
VSU Vasula 32.86 36*c iP* **P 09 45 27.6 -0.4**
FINES FINESS Array B 33.93 31 P **P 09 45 37.7 +0.4**
comp=Z,11nm,0.8s,mb4.8,baz=214,slow=6.9,SNR=25
FINES LR LR 10 01 23.5
comp=Z,150nm,19.5s,MS3.7,baz=211,slow=40
FINES FINESS Array B 33.93 31 *eP* **P 09 45 37.2 -0.1**
KAF Kangasniemi 34.36 30 *ep* **P 09 45 39.2 -1.8**
comp=Z,10nm,0.9s,mb4.8,baz=240,slow=8.6
KAF Kangasniemi 34.36 30 *eP* **P 09 45 39.2 -1.8**
KAF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
JOF Joensuu 36.79 31 *ep* **P 09 46 00.3 -1.3**
comp=Z,2.0nm,0.7s,mb4.1
OBN Obninsk 37.05 45 *i* P **P 09 46 03.9 0.0**
comp=Z,61nm,1.5s,mb5.2
OBN Obninsk 37.05 45⇑ *iP* **P 09 46 03.9 0.0**
OBN *i* 09 46 12.8
OBN *e* 09 47 29.6
OBN *eS* **S 09 51 46.0 -1.9**
OBN pmax pmax
comp=Z,61nm,1.5s,mb5.2
OBN MLR MLR
comp=Z,100nm,19.0s,MS3.6
ARCES ARCESS Array B 38.36 20 P **P 09 46 14.9 +0.2**
comp=Z,19nm,0.8s,mb4.9,baz=227,slow=9.6,SNR=49
ARCES PcP PcP 09 48 27.2 -1.5
comp=Z,2.3nm,0.6s,baz=252,slow=2.2,SNR=7.3
ARCES LR LR 10 01 40.8
comp=Z,111nm,18.8s,MS3.7,baz=248,slow=36
ARCES ARCESS Array B 38.36 20 P **P 09 46 14.9 +0.2**
ARCES ARCESS Array B 38.36 20 PcP PcP 09 48 27.2 -1.5
SUMG Summit 38.49 347 *eP* **P 09 46 17.2 +1.4**
SUMG Summit 38.49 347 *eP* **P 09 46 17.2 +1.4**
comp=Z,6.2nm,0.7s,mb4.5
SUMG *e* pP 09 46 22.6 +0.1

KEV Kevo 38.91 20 *ep* **P 09 46 17.6 -1.7**
comp=Z,17nm,1.1s,mb4.7
KEV Kevo 38.91 20 *eP* **P 09 46 17.6 -1.7**
KEV pmax pmax
comp=Z,17nm,1.1s,mb4.7
SOC Sochi 38.94 64 *eP* **P 09 46 19.7 -0.2**
comp=Z,14nm,0.8s,mb4.7
SOC Sochi 38.94 64 *eP* **P 09 46 19.7 -0.2**
SOC *e* 09 48 21.5
SOC *eS* **S 09 52 14.9 -1.8**
SOC *eSS* SS 09 55 07.1 +6.6
SOC pmax pmax
comp=Z,35nm,0.9s,mb5.1
SOC pmax pmax
comp=N,14nm,0.8s
SOC pmax pmax
comp=E,20nm,0.9s
KIV Kislovodsk 41.02 63 *i* P **P 09 46 37.0 0.0**
comp=E,100nm,17.0s
KIV Kislovodsk 41.02 63⇑ *iP* **P 09 46 37.0 0.0**
KIV pmax pmax
comp=Z,19nm,2.4s,mb4.3
KIV MLR MLR
comp=Z,100nm,17.0s,MS3.8
SCHQ Schefferville 41.63 314 P **P 09 46 40.5 -1.3**
comp=Z,10nm,0.6s,mb4.6,baz=99,slow=6.3,SNR=23
SCHQ LR LR 10 00 08.8
comp=Z,203nm,19.3s,MS4.0,baz=85,slow=31
ZEI Tsey 42.09 64 *eP* **P 09 46 45.5 -0.3**
comp=Z,5.0nm,0.6s,mb4.3
ZEI Tsey 42.09 64 *eP* **P 09 46 45.5 -0.3**
ZEI pmax pmax
comp=Z,5.0nm,0.6s,mb4.3
ARU Arti 49.45 43 *eP* **P 09 47 44.7 +0.6**
comp=Z,14nm,0.8s,mb5.1
ARU *e* pP 09 47 52.6 +1.8
ARU Arti 49.45 43 *eP* **P 09 47 44.7 +0.6**
ARU *e* pP 09 47 52.6 +1.7
ARU pmax pmax
comp=Z,14nm,0.8s,mb5.0
TZTN Tazewell 56.76 293 *eP* **P 09 48 37.6 -1.0**
TZTN *e* pP 09 48 45.0 -0.4
BRVK Borovoye 56.82 45 *eP* **P 09 48 39.0 +0.2**
comp=Z,3.2nm,0.8s,mb4.4
BRVK *e* pP 09 48 46.4 +0.7
BRVK Borovoye 56.82 45 *eP* **P 09 48 39.0 +0.2**
BRVK *e* pP 09 48 46.4 +0.7
BRVK pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
BVAR Borovoye Array 56.89 45 P **P 09 48 39.4 +0.1**
comp=Z,2.6nm,0.7s,mb4.4,baz=284,slow=6.1,SNR=12
BLO Bloomington 57.87 297 *eP* **P 09 48 45.4 -1.0**
comp=Z,11nm,0.6s,mb5.0
BLO *e* pP 09 48 53.9 +0.6
BLO Bloomington 57.87 297 *eP* **P 09 48 45.4 -1.0**
BLO *e* pP 09 48 53.9 +0.7
BLO pmax pmax
comp=Z,11nm,0.6s,mb5.1
KMBO Kilima Mbogo 58.53 119 P **P 09 48 52.1 +0.8**
comp=Z,0.9nm,0.6s,mb4.0,baz=276,slow=9.7,SNR=3.9
KMBO LR LR 10 15 43.4
comp=Z,126nm,20.7s,MS4.0,baz=91,slow=38
ULM Lac du Bonnet 59.76 312 P **P 09 48 57.3 -2.1**
comp=Z,2.2nm,0.6s,mb4.4,baz=83,slow=6.1,SNR=5.0
ULM LR LR 10 11 47.7
comp=Z,143nm,18.2s,MS4.2,baz=87,slow=33
SDV Santo Domingo 60.39 258 *eP* **P 09 49 04.0 -0.1**
comp=Z,27nm,1.0s,mb5.2
SDV Santo Domingo 60.39 258 *eP* **P 09 49 04.0 -0.2**
comp=Z,27nm,1.0s,mb5.2
PLAL Pickwick Lake 60.75 294 *eP* **P 09 49 05.1 -1.2**
comp=Z,47nm,0.8s,mb5.7
PLAL *e* pP 09 49 12.4 -0.8
KURK Kurchatov 62.49 46 *eP* **P 09 49 17.2 -0.6**
comp=Z,9.5nm,0.8s,mb5.0
KURK *e* pP 09 49 26.0 +1.2
KURK Kurchatov 62.49 46 *eP* **P 09 49 17.2 -0.6**
KURK *e* pP 09 49 26.0 +1.3
KURK pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
BDFB Brasilia 62.65 221 P **P 09 49 17.8 -1.5**
comp=Z,3.3nm,0.7s,mb4.6,baz=34,slow=11,SNR=3.6
NVS Novosibirsk 63.23 40 *eP* **P 09 49 22.6 0.0**
comp=Z,23nm,1.6s,mb5.1
NVS Novosibirsk 63.23 40 *eP* **P 09 49 22.6 0.0**
NVS pmax pmax
comp=Z,23nm,1.6s,mb5.1
AAK Ala-Archa 63.44 55 *eP* **P 09 49 23.9 -0.3**
comp=Z,5.9nm,0.8s,mb4.8
AAK *e* pP 09 49 31.4 +0.3
AAK Ala-Archa 63.44 55 *eP* **P 09 49 23.9 -0.3**
AAK *e* pP 09 49 31.4 +0.3
AAK pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
YKA Yellowknife Ar 63.88 330 LR LR 10 13 26.7
comp=Z,117nm,19.1s,MS4.1,baz=10.0,slow=32
ZAL Zalesovo 64.45 41 P **P 09 49 32.2 +1.6**
comp=Z,2.0nm,0.5s,mb4.4,baz=198,slow=6.0,SNR=12
ZAL LR LR 10 19 17.2
comp=Z,102nm,19.0s,MS4.0,baz=318,slow=38
ZAL Zalesovo 64.45 41 P **P 09 49 32.2 +1.6**
ZAL LR LR 10 19 17.2
KSU1 Kansas State U 64.97 301 *eP* **P 09 49 32.5 -1.7**
KSU1 Kansas State U 64.97 301 *eP* **P 09 49 32.5 -1.8**
DGMT Dagmar 65.44 313 *eP* **P 09 49 36.7 -0.4**
DGMT Dagmar 65.44 313 *eP* **P 09 49 36.6 -0.4**
comp=Z,28nm,1.1s,mb5.2
DGMT *e* 09 49 45.8
MKAR Makanchi Array 66.43 48 P **P 09 49 43.1 -0.3**
comp=Z,2.1nm,0.6s,mb4.3,baz=293,slow=5.6,SNR=17
MKAR LR LR 10 23 30.7
comp=Z,46nm,20.2s,MS3.7,slow=40
SAML Samuel 66.68 238 *eP* **P 09 49 43.5 -2.0**
comp=Z,6.9nm,1.1s,mb4.6
SAML Samuel 66.68 238 *eP* **P 09 49 43.5 -2.0**
comp=Z,7.0nm,1.1s,mb4.6
CBKS Cedar Bluff 67.25 302 *eP* **P 09 49 47.3 -1.4**
comp=Z,29nm,1.1s,mb5.2
CBKS *e* 09 49 58.4
CBKS Cedar Bluff 67.25 302 *eP* **P 09 49 47.3 -1.5**
CBKS pmax pmax
comp=Z,29nm,1.1s,mb5.2
LAO LASA Array 67.51 312 *eP* **P 09 49 49.8 -0.5**
LAO LASA Array 67.51 312 *eP* **P 09 49 49.9 -0.4**
comp=Z,6.2nm,0.6s,mb4.8
LAO *e* pP 09 49 58.5 +1.3
EDM Edmonton 68.08 321 *eP* **P 09 49 52.7 -1.0**
EDM *e* pP 09 50 01.5 +0.8
WMOK Wichita Mounta 68.61 298 *eP* **P 09 49 55.6 -1.8**
comp=Z,11nm,1.0s,mb4.7
WMOK *e* pP 09 50 04.0 -0.3
WMOK Wichita Mounta 68.61 298 *eP* **P 09 49 55.6 -1.8**
WMOK *e* pP 09 50 04.0 -0.3
WMOK pmax pmax
comp=Z,11nm,1.0s,mb4.7
PHWY Pilot Hill 69.78 307 *eP* **P 09 50 04.0 -0.4**
PHWY Pilot Hill 69.78 307 *eP* **P 09 50 04.0 -0.4**
PHWY *e* 09 50 13.4
SIV San Ignacio 70.48 231 P **P 09 50 07.9 -1.2**
comp=Z,6.5nm,0.7s,mb4.7,baz=68,slow=6.4,SNR=41
ISCO Idaho Springs 70.67 306 *eP* **P 09 50 10.0 +0.2**
comp=Z,20nm,1.4s,mb4.8
ISCO *e* 09 50 20.2
ISCO Idaho Springs 70.67 306 *eP* **P 09 50 10.0 +0.1**
ISCO pmax pmax
comp=Z,19nm,1.4s,mb4.8
RWWY Rawlins 70.70 308 *eP* **P 09 50 09.9 -0.1**
comp=Z,28nm,1.0s,mb5.1
RWWY Rawlins 70.70 308 *eP* **P 09 50 09.9 0.0**
comp=Z,28nm,1.0s,mb5.1
BOZ Bozeman (W) 71.25 313 *eP* **P 09 50 13.0 -0.2**
comp=Z,8.1nm,1.0s,mb4.6
BOZ *e* 09 50 22.5
BOZ Bozeman (W) 71.25 313 *eP* **P 09 50 13.0 -0.3**
BOZ pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
CHMT Chamberlain Mo 71.48 315 *eP* **P 09 50 14.5 -0.1**
CHMT Chamberlain Mo 71.48 315 *eP* **P 09 50 14.5 -0.2**
FLWY Flagg Ranch 71.56 311 *eP* **P 09 50 15.2 +0.1**
FLWY Flagg Ranch 71.56 311 *eP* **P 09 50 15.2 +0.1**
PDAR Pinedale Array 71.58 310 P **P 09 50 13.9 -1.4**
comp=Z,6.0nm,0.6s,mb4.7,baz=63,slow=6.2,SNR=61
PDAR LR LR 10 18 49.8
comp=Z,201nm,19.0s,MS4.4,baz=91,slow=34
PDAR Pinedale Array 71.58 310 P **P 09 50 13.9 -1.4**

SDCO Great Sand Dun 71.69 304 *eP* **P 09 50 15.8 -0.2**
comp=Z,7.1nm,1.0s,mb4.5
SDCO Great Sand Dun 71.69 304 *eP* **P 09 50 15.8 -0.2**
comp=Z,7.1nm,1.0s,mb4.5
LOHW Long Hollow 71.76 311 *eP* **P 09 50 15.8 -0.6**
comp=Z,1.7nm,0.7s,mb4.1
LOHW Long Hollow 71.76 311 *eP* **P 09 50 15.8 -0.5**
comp=Z,1.7nm,0.7s,mb4.1
IMW Indian Meadow 71.81 311 *eP* **P 09 50 16.7 +0.1**
comp=Z,6.6nm,0.9s,mb4.6
IMW *e* 09 50 29.2
MSO Missoula 71.92 315 *eP* **P 09 50 16.4 -0.8**
comp=Z,6.0nm,1.0s,mb4.5
SNOW Snow King Moun 71.94 311 *eP* **P 09 50 16.7 -0.7**
comp=Z,5.1nm,0.7s,mb4.6
SNOW Snow King Moun 71.94 311 *eP* **P 09 50 16.7 -0.7**
comp=Z,5.1nm,0.7s,mb4.6
DLMT Dillon 71.97 313 *eP* **P 09 50 18.0 +0.4**
DLMT Dillon 71.97 313 *eP* **P 09 50 18.1 +0.5**
TPAW Teton Pass 72.04 311 *eP* **P 09 50 17.6 -0.4**
comp=Z,6.5nm,0.9s,mb4.6
TPAW Teton Pass 72.04 311 *eP* **P 09 50 17.6 -0.4**
comp=Z,6.5nm,0.9s,mb4.6
RRI2 Red Ridge 72.34 311 *eP* **P 09 50 19.4 -0.4**
comp=Z,5.0nm,0.8s,mb4.5
RRI2 *e* pP 09 50 27.9 +1.1
DLBC Dease Lake 72.42 331 *eP* **P 09 50 20.8 +0.8**
DLBC Dease Lake 72.42 331 *eP* **P 09 50 20.8 +0.8**
MCMT McKenzie Canyo 72.42 313 *eP* **P 09 50 20.8 +0.5**
NEW Newport 72.85 318 *eP* **P 09 50 22.1 -0.6**
comp=Z,4.8nm,1.0s,mb4.4
NEW Newport 72.85 318 *eP* **P 09 50 22.1 -0.5**
comp=Z,4.8nm,1.0s,mb4.4
NEW Newport 72.85 318 *eP* **P 09 50 22.1 -0.6**
NEW pmax pmax
comp=Z,5.0nm,1.0s
BOSA Boshof 73.43 147 P **P 09 50 25.8 -0.7**
comp=Z,1.7nm,0.8s,mb4.0,baz=328,slow=15,SNR=3.7
PV01 Paradox Valley 73.51 305 *eP* **P 09 50 26.7 0.0**
PV01 Paradox Valley 73.51 305 *eP* **P 09 50 26.7 0.0**
PV10 Paradox Valley 73.68 306 *eP* **P 09 50 28.0 +0.3**
PV10 Paradox Valley 73.68 306 *eP* **P 09 50 28.0 +0.3**
ANMO Albuquerque 73.86 302 *i* P **P 09 50 29.1 +0.3**
ANMO Albuquerque 73.86 302*c iP* **P 09 50 29.1 +0.3**
MOY Mondy 73.89 37 *eP* **P 09 50 31.0 +2.4**
DAU Daniels Canyon 73.95 309 *eP* **P 09 50 29.8 +0.6**
DAU Daniels Canyon 73.95 309 *eP* **P 09 50 29.8 +0.5**
JLU Jordanelle 73.97 309 *eP* **P 09 50 29.1 -0.2**
JLU Jordanelle 73.97 309 *eP* **P 09 50 29.1 -0.2**
HVU Hansel Valley 74.11 310 *eP* **P 09 50 29.8 -0.3**
HVU Hansel Valley 74.11 310 *eP* **P 09 50 29.8 -0.4**
SRU San Rafael 74.23 307 *eP* **P 09 50 30.2 -0.7**
SRU San Rafael 74.23 307 *eP* **P 09 50 30.2 -0.6**
TMUT Trail Mountain 74.56 308 *eP* **P 09 50 31.9 -0.8**
WTV Waterville 74.71 318 P **P 09 50 33.2 -0.2**
TXAR Lajitas Array 75.00 295 P **P 09 50 35.4 -0.2**
comp=Z,2.3nm,0.6s,mb4.3,baz=71,slow=6.3,SNR=54
TXAR LR LR 10 21 20.0
comp=Z,104nm,19.6s,MS4.1,baz=95,slow=34
BOD Bodaibo 75.19 27 *eP* **P 09 50 35.0 -1.0**
comp=Z,11nm,1.0s,mb4.7
BOD Bodaibo 75.19 27 *eP* **P 09 50 35.0 -1.0**
BOD pmax pmax
comp=Z,11nm,1.0s,mb4.7
EBG Ellensburg 75.53 318 P **P 09 50 38.6 +0.4**
BILL Bilibino 75.54 1 *eP* **P 09 50 38.4 +0.6**
comp=Z,8.0nm,1.1s,mb4.6
BILL Bilibino 75.54 1 *eP* **P 09 50 38.4 +0.6**
BILL *eS* S 10 00 13.8 -2.0
BILL pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
ZAK Zakamensk 75.82 37 *eP* **P 09 50 40.9 +1.1**
comp=Z,1.0nm,1.2s,mb3.6
ZAK Zakamensk 75.82 37 *eP* **P 09 50 40.9 +1.1**
ZAK pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
ZAK pmax pmax
comp=Z,1.0nm,1.2s,mb3.6
EYAK Cordova Ski Ar 76.19 339 *eP* **P 09 50 37.9 -3.7**
CPUP Villa Florida 76.33 222 P **P 09 50 41.6 -1.6**
comp=Z,12nm,0.9s,mb4.8,baz=54,slow=8.7,SNR=22
CPUP LR LR 10 20 49.3
comp=Z,74nm,19.6s,MS4.0,baz=104,slow=33
CPUP Villa Florida 76.33 222 *eP* **P 09 50 41.3 -1.9**
comp=Z,15nm,1.1s,mb4.8
CPUP Villa Florida 76.33 222 *ePcP* PcP 09 50 49.9 -5.5
CPUP Villa Florida 76.33 222 *eP* **P 09 50 41.3 -1.9**
comp=Z,15nm,1.1s,mb4.8
CPUP *e* pP 09 50 49.9 -0.3
CPUP Villa Florida 76.33 222 *eP* **P 09 50 41.3 -1.9**
CPUP *e* pP 09 50 49.9 -0.3
CPUP pmax pmax
comp=Z,15nm,1.1s
WVOR Wild Horse Val 77.22 314 *eP* **P 09 50 48.2 +0.4**
comp=Z,10.0nm,1.0s,mb4.7
WVOR Wild Horse Val 77.22 314 *eP* **P 09 50 48.2 +0.4**
comp=Z,10nm,1.0s,mb4.7
WVOR Wild Horse Val 77.22 314 *eP* **P 09 50 48.2 +0.4**
WVOR pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
KOLN Koldanda 77.44 65 *eP* **P 09 50 49.0 -0.3**
GKN Gorkha 78.06 64 *eP* **P 09 50 52.5 -0.2**
comp=Z,7.6nm,0.6s,mb4.8
MOD Modoc 78.52 314 *eP* **P 09 50 55.4 +0.4**
comp=Z,11nm,1.0s,mb4.7
DMN Daman 78.62 64 *eP* **P 09 50 55.0 -0.8**
comp=Z,31nm,1.0s,mb5.2
KKN Kakani 78.65 64 *eP* **P 09 50 55.6 -0.3**
PKI Pulchoki 78.87 64 *eP* **P 09 50 57.2 +0.1**
comp=Z,7.5nm,0.5s,mb4.9
PKI Pulchoki 78.87 64 *eP* **P 09 50 57.2 +0.1**
PKI pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
SONM Songino Array 79.05 37 P **P 09 50 59.2 +1.5**
comp=Z,4.3nm,0.8s,mb4.5,baz=310,slow=6.4,SNR=32
SONM PP PP 09 53 55.3 -3.4
comp=Z,1.7nm,1.1s,baz=297,slow=6.6,SNR=5.0
SONM LR LR 10 29 48.3
comp=Z,184nm,18.6s,MS4.4,baz=316,slow=39
BBOR Butler Butte 79.24 316 P **P 09 50 58.3 -0.5**
SEY Seymchan 79.80 8⇑ *iP* **P 09 51 02.0 +0.5**
OHCM Honcut 80.85 313 *eP* **P 09 51 07.8 +0.2**
GTA Gaotai 81.13 47 P **P 09 51 10.5 +1.5**
GTA AP pP 09 51 18.0 +1.9
GTA XP sP 09 51 21.5 +3.1
GTA AMB AMB
comp=Z,6.0nm,0.7s,mb4.6
CFAA Coronel Fontan 86.47 226 P **P 09 51 35.2 -1.0**
comp=Z,1.0nm,0.8s,mb4.1,baz=31,slow=4.9,SNR=21
CFAA Coronel Fontan 86.47 226 P **P 09 51 35.2 -1.0**
PLCA Paso Flores 94.39 221 P **P 09 52 12.2 -0.9**
comp=Z,2.2nm,1.1s,mb4.5,baz=149,slow=5.2,SNR=3.6
PLCA LR LR 10 32 37.9
comp=Z,97nm,20.5s,MS4.2,baz=65,slow=34
NJ2 Nanjing 97.11 41 *eP* **P 09 52 26.3 +0.6**
NJ2 PP PP 09 56 25.5 +1.0
NJ2 S S 10 03 41.0 -3.0
NJ2 LR LR
comp=Z,540nm,19.0s,MS5.0
SSE Sheshan 99.08 40 P **P 09 52 33.5 -1.1**
SSE AMB AMB
comp=Z,16nm,5.2s
SSE Sheshan 99.08 40 P **P 09 52 33.4 -1.2**
comp=Z,21nm,0.7s,mb5.8
VNDA Vanda 138.99 178 PKP PKPdf 09 58 18.1 -4.1
comp=Z,0.5nm,0.6s,baz=207,slow=9.0,SNR=3.7
WRA Warramunga Arr 145.53 70 PKPbc PKPbc 09 58 31.8 +0.5
comp=Z,20nm,0.8s,baz=315,slow=2.7,SNR=147
WRAB Tennant Creek 145.53 70 *ePKPdf* PKPdf 09 58 32.1 -3.0
WRAB *e* 09 58 40.1
WB2 Warramunga Arr 145.54 70⇑ *iP* PKPbc 09 58 31.9 +0.5
PMG Port Moresby 146.42 41 PKPbc PKPbc 09 58 34.5 +0.8
comp=Z,32nm,1.0s,baz=267,slow=4.8,SNR=4.5
ASPA Alice Springs 147.27 76⇑ *iP* PKPdf 09 58 37.1 -0.8
STKA Stephens Creek 156.98 86 PKPab PKPab 09 59 18.9 -1.2
comp=Z,1.8nm,0.6s,baz=302,slow=12,SNR=3.2

CSEM ***29*** *09:42:08.4±0.8,36.15N×11.43W,h30km±44km,MD4.2, Error ellipse: s-maj=18.5km s-min=9.9km az=150.0,After CNRM*

CNRM 29 09:42:08.4,36.15N×11.43W,h30km,MD4.2, Azores-Cape St. Vincent Ridge

MAN 29 09:43:28.8, 17.61N×121.09E, h1km, mb3.7, ML2.4, MS1.9, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**0.29**	**30**	*e*P	Pg	09 43 35.4	+0.7
ABRA	**Dolores**	**0.36**	**276**	*e*P	Pg	09 43 35.9	-0.1
ABRA				*e*S	Sg	09 43 48.7	+7.9
CVP	**Callao Caves**	**0.71**	**82**	*e*P	Pg	09 43 41.0	-1.9
CVP				*i* S	Sg	09 43 55.0	+2.7
CAUP	**Cauayan**	**0.96**	**133**	*e*P	Pb	09 43 49.5	+1.5

*IDC **29** 09:49:01.2±0.9, 8.26S×105.90E, mb4.2/8, mb1 4.3/8, mb1mx4.1/18, mbtmp4.2/8, Error ellipse: s-maj=48.2km s-min=16.6km az=57.0*
*NEIC **29** 09:49:05.7±0.4, 8.20S×106.03E, h30km, mb4.5/9, Error ellipse: s-maj=19.2km s-min=6.0km az=52.0*
ISC 29 09:49:04.2±0.7, **8.2S**±0.2×**106.1E**±0.2, **h33**km, **n22**, σ0**66**/20, **mb4.4**/16, **South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**18.44**	**136**	*e*P	**P**	**09 53 18.1**	**-1.1**
	26nm,1.6s						
FITZ	**Fitzroy Crossi**	**21.42**	**119**	P	**P**	**09 53 52.4**	**+0.9**
	5.1nm,0.8s,mb3.9,baz=264,slow=4.4,SNR=6.8						
WRA	**Warramunga Arr**	**29.74**	**116**	P	**P**	**09 55 10.2**	**+0.3**
	2.3nm,0.7s,mb4.0,baz=287,slow=11,SNR=24						
WRA				PcP	PcP	09 58 13.9	+0.4
	0.3nm,0.5s,baz=314,slow=1.6,SNR=5.1						
WRAB	**Tennant Creek**	**29.75**	**116**	*e*P	**P**	**09 55 09.6**	**-0.4**
	8.2nm,1.0s,mb4.4						
LSA	**Lhasa**	**40.31**	**340**	*e*P	**P**	**09 56 41.3**	**+1.0**
STKA	**Stephens Creek**	**40.55**	**131**	P	**P**	**09 56 42.9**	**+0.7**
	4.4nm,0.6s,mb4.3,baz=296,slow=9.0,SNR=7.0						
STKA	**Stephens Creek**	**40.55**	**131**	*e*P	**P**	**09 56 43.0**	**+0.8**
PKI	**Pulchoki**	**40.79**	**331**	*e*P	**P**	**09 56 44.3**	**0.0**
	2.3nm,0.2s,mb4.4						
DMN	**Daman**	**40.97**	**331**	*e*P	**P**	**09 56 46.4**	**+0.7**
	21nm,0.9s,mb4.8						
KKN	**Kakani**	**41.04**	**331**	*e*P	**P**	**09 56 46.0**	**-0.3**
	23nm,1.0s,mb4.8						
GKN	**Gorkha**	**41.52**	**331**	*e*P	**P**	**09 56 50.8**	**+0.4**
	9.9nm,0.3s,mb4.9						
KOLN	**Koldanda**	**41.84**	**329**	*e*P	**P**	**09 56 53.5**	**+0.5**
	10nm,0.5s,mb4.7						
KS15	**Wonju Array Si**	**49.76**	**23**	*e*P	**P**	**09 57 55.5**	**-0.2**
SONM	**Songino Array**	**55.77**	**0**	P	**P**	**09 58 40.4**	**+0.1**
	0.8nm,0.4s,mb4.1,baz=177,slow=9.4,SNR=10						
MKAR	**Makanchi Array**	**58.69**	**341**	P	**P**	**09 59 00.5**	**-0.5**
	1.3nm,0.5s,mb4.2,baz=146,slow=9.0,SNR=10						
KURK	**Kurchatov**	**63.30**	**341**	*e*P	**P**	**09 59 31.0**	**-1.1**
	4.9nm,0.9s,mb4.6						
ZAL	**Zalesovo**	**64.44**	**346**	P	**P**	**09 59 39.8**	**+0.3**
	1.9nm,0.4s,mb4.5,baz=104,slow=2.5,SNR=4.9						
BVAR	**Borovoye Array**	**68.10**	**338**	P	**P**	**10 00 02.5**	**-0.3**
	3.0nm,0.6s,mb4.5,baz=143,slow=8.8,SNR=21						
BRVK	**Borovoye**	**68.17**	**338**	*e*P	**P**	**10 00 01.8**	**-1.4**
	1.2nm,0.5s,mb4.2						
VNDA	**Vanda**	**74.98**	**169**	P	**P**	**10 00 43.7**	**+0.2**
	0.6nm,0.7s,mb3.6,baz=1.9,slow=7.4,SNR=4.1						
TXAR	**Lajitas Array**	**145.02**	**49**	PKPbc	PKPbc	10 08 41.6	+2.5
	0.6nm,0.7s,baz=215,slow=1.4,SNR=8.8						
BDFB	**Brasilia**	**145.09**	**227**	PKP	PKPdf	10 08 41.2	+1.9
	3.0nm,0.5s,baz=139,slow=4.0,SNR=5.0						

*NEIC **29** 09:49:59.3±0.7, 19.93S×68.97W, h101km±7km, mb4.3/4, Error ellipse: s-maj=11.2km s-min=6.9km az=71.0*
*IDC **29** 09:50:00.1±0.9, 19.99S×68.99W, h114km±9km, mb3.9/9, mb1 4.2/12, mb1mx4.0/18, mbtmp4.4/12, MS3.1/2, Ms1 3.2/2, ms1mx2.6/16, Error ellipse: s-maj=19.1km s-min=8.1km az=95.0*
ISC 29 09:49:57.7±0.7, **19.86S**±0.04×**68.96W**±0.07, **h102**km±7km, **h110**km±.2km; **pP-P, n41**, σ1**92**/40, **mb4.2**/10, **1C-4D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.74**	**179**	P	**P**	**09 50 43.1**	**+2.2**
	73nm,0.3s,baz=22,slow=13,SNR=313						
LVC				S	**S**	**09 51 12.8**	**-0.6**
	126nm,0.3s,baz=304,slow=15,SNR=16						
LVC	**Limon Verde**	**2.74**	**179**	*e*Pn	**P**	**09 50 41.1**	**+0.2**
LVC				*e*Sn	**S**	**09 51 16.1**	**+2.7**
LPAZ	**La Paz**	**3.64**	**13**	P	**P**	**09 50 58.4**	**+5.1**
	41nm,0.3s,baz=207,slow=7.1,SNR=156						
LPAZ				S	**S**	**09 51 42.2**	**+6.7**
	5.4nm,0.3s,baz=143,slow=8.4,SNR=1.7						
LPAZ				LR	LR	09 52 28.5	
	comp=Z,162nm,20.1s,baz=16,slow=39						
LPAZ	**La Paz**	**3.64**	**13**	⇑*i*Pn	**P**	**09 50 58.2**	**+5.0**
ARE	**Arequipa**	**4.15**	**324**	*e*P	**P**	**09 50 59.0**	**-1.2**
ARE				*e*S	**S**	**09 51 47.0**	**-1.0**
SIV	**San Ignacio**	**8.43**	**64**	P	**P**	**09 51 58.8**	**+0.1**
	42nm,0.3s,baz=256,slow=12,SNR=654						
NNA	**Nana**	**10.90**	**315**	*e*Pn	**P**	**09 52 33.7**	**+1.9**
NNA				*e*Sn	**S**	**09 54 31.9**	**-0.3**
CFAA	**Coronel Fontan**	**11.71**	**177**	P	**P**	**09 52 43.5**	**+0.8**
	0.1nm,0.3s,baz=356,slow=15,SNR=3.5						
SAML	**Samuel**	**12.20**	**28**	*e*Pn	**P**	**09 52 49.2**	**0.0**
	0.7nm,1.0s						
CPUP	**Villa Florida**	**12.48**	**123**	P	**P**	**09 52 52.4**	**-0.5**
	0.5nm,0.3s,baz=314,slow=12,SNR=20						
CPUP	**Villa Florida**	**12.48**	**123**	*e*Pn	**P**	**09 52 52.7**	**-0.2**
TRQA	**Tornquist**	**19.12**	**163**	*e*Pn	**P**	**09 54 13.2**	**-1.9**
	14nm,1.2s						
BDFB	**Brasilia**	**20.38**	**81**	P	**P**	**09 54 28.6**	**+0.1**
	10nm,0.4s,baz=264,slow=10,SNR=14						
PLCA	**Paso Flores**	**20.85**	**183**	P	**P**	**09 54 32.2**	**-0.9**
	8.1nm,0.7s,baz=15,slow=14,SNR=24						
PLCA	**Paso Flores**	**20.85**	**183**	P	**P**	**09 54 32.2**	**-0.9**
PAYG	**Puerto Ayora**	**28.28**	**310**	*e*P	**P**	**09 55 43.8**	**0.0**
	21nm,0.7s,mb4.8						
SDV	**Santo Domingo**	**28.61**	**357**	P	**P**	**09 55 46.5**	**-0.3**
	2.9nm,0.4s,mb4.2,baz=219,slow=3.9,SNR=7.2						
SDV				LR	LR	10 06 57.4	
	comp=Z,63nm,18.7s,baz=186,slow=35						
SDV	**Santo Domingo**	**28.61**	**357**	*e*P	**P**	**09 55 47.4**	**+0.6**
SDV				LR	LR	10 06 57.4	
TXAR	**Lajitas Array**	**59.27**	**325**	P	**P**	**09 59 50.0**	**-1.0**
	0.9nm,0.9s,mb3.8,baz=154,slow=7.7,SNR=8.9						
TXAR	**Lajitas Array**	**59.27**	**325**	P	**P**	**09 59 50.0**	**-1.0**
VNA3	**Neumayer Olymp**	**61.64**	**162**	⇓*i*P	**P**	**10 00 05.8**	**-0.8**
VNA3				*e*	pP	10 00 33.1	+1.0
VNA3				*e*		10 00 43.1	
VNA1	**Neumayer--Stat**	**61.84**	**161**	⇓*i*	**P**	**10 00 07.6**	**-0.3**
VNA2	**Neumayer--Watz**	**62.21**	**161**	⇓*i*P	**P**	**10 00 09.8**	**-0.6**
VNA2				*e*	pP	10 00 37.0	+1.1
VNA2				*e*		10 00 46.7	
SNAA	**Sanae**	**63.84**	**161**	⇓*i*P	**P**	**10 00 20.2**	**-0.8**
SNAA				*e*	pP	10 00 47.6	+0.9
SNAA				*e*		10 00 57.5	
DBIC	**Dimbokro**	**68.32**	**74**	P	**P**	**10 00 49.5**	**-0.9**
	14nm,0.7s,mb4.9,baz=221,slow=5.4,SNR=20						
MSU	**Marysvale**	**70.81**	**325**	*e*P	**P**	**10 01 06.3**	**+1.1**
ARUT	**Antelope Range**	**70.97**	**324**	*e*P	**P**	**10 01 07.7**	**+1.5**
ISA	**Isabella**	**72.45**	**319**	*e*P	**P**	**10 01 15.8**	**+0.8**
	8.7nm,1.1s,mb4.5						
PDAR	**Pinedale Array**	**72.67**	**330**	P	**P**	**10 01 15.9**	**-0.3**
	0.5nm,0.6s,mb3.5,baz=110,slow=9.9,SNR=6.2						
ULM	**Lac du Bonnet**	**73.75**	**342**	P	**P**	**10 01 20.9**	**-1.4**
	1.7nm,0.6s,mb4.0,baz=174,slow=6.2,SNR=5.6						
FLWY	**Flagg Ranch**	**74.22**	**330**	*e*P	**P**	**10 01 26.6**	**+1.4**
TSUM	**Tsumeb**	**80.56**	**107**	*e*P	**P**	**10 02 01.6**	**+0.8**
	2.9nm,0.8s,mb4.2						
EDM	**Edmonton**	**82.27**	**335**	*e*P	**P**	**10 02 08.5**	**-0.5**
ESDC	**Sonseca Array**	**84.70**	**45**	P	**P**	**10 02 23.7**	**+2.2**
	0.3nm,0.3s,mb3.7,baz=276,slow=38,SNR=2.7						
YKA	**Yellowknife Ar**	**89.63**	**341**	P	**P**	**10 02 45.1**	**+0.4**
	4.6nm,0.7s,mb4.7,baz=134,slow=4.8,SNR=8.7						
WRA	**Warramunga Arr**	**134.33**	**211**	PKP	PKPdf	10 09 05.4	+1.0
	0.9nm,0.6s,baz=153,slow=1.7,SNR=13						
ZAL	**Zalesovo**	**140.49**	**24**	PKP	PKPdf	10 09 14.3	-0.5
	0.9nm,0.5s,baz=127,slow=1.8,SNR=2.6						
MKAR	**Makanchi Array**	**144.33**	**35**	PKP	PKPdf	10 09 22.1	+0.4
	0.2nm,0.4s,baz=310,slow=2.9,SNR=2.7						
MKAR				pPKP		10 09 51.2	
	0.6nm,0.7s,baz=297,slow=2.7,SNR=3.5						
MJAR	**Matsushiro Arr**	**151.00**	**311**	PKPbc	PKPdf	10 09 40.5	+7.6
	3.3nm,0.9s,baz=84,slow=1.4,SNR=10						
MJAR				pPKPbc		10 10 12.5	
	0.5nm,0.6s,baz=135,slow=3.4,SNR=1.2						
MAT	**Matsushiro**	**151.00**	**311**	PKP	PKPdf	10 09 39.9	+7.1
SONM	**Songino Array**	**151.84**	**7**	PKPbc	PKPdf	10 09 42.5	+8.8
	1.1nm,0.4s,baz=312,slow=1.9,SNR=9.4						
SONM				pPKPbc		10 10 12.0	
	1.5nm,0.8s,baz=322,slow=1.8,SNR=4.1						

*NEIC **29** 10:00:17.8±0.9, 34.79S×178.69W, h287km±11km, mb4.2/1, Error ellipse: s-maj=30.3km s-min=9.4km az=116.0*
ISC 29 10:00:17.0±1.0, **34.7S**±0.1×**178.8W**±0.3, **h298**km±11km, **n92**, σ0**98**/98, **mb4.1**/1, **South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.68**	**219**	*e*PN	**P**	**10 01 18.4**	**-1.6**
MXZ				SN	**S**	**10 02 07.9**	**-1.5**
MXZ	**Matakaoa Point**	**3.68**	**219**	*e*P	**P**	**10 01 18.4**	**-1.7**
MXZ				S	**S**	**10 02 07.9**	**-1.5**
PUZ	**Puketiti**	**4.10**	**215**	*e*PN	**P**	**10 01 24.6**	**-0.1**
PUZ				SN	**S**	**10 02 17.8**	**+0.2**
PUZ	**Puketiti**	**4.10**	**215**	*e*P	**P**	**10 01 24.6**	**-0.1**
PUZ				S	**S**	**10 02 17.8**	**+0.2**
WIZ	**White Island**	**4.29**	**228**	PN	**P**	**10 01 26.1**	**-0.7**
MWZ	**Matawai**	**4.66**	**218**	PN	**P**	**10 01 30.6**	**-0.5**
MWZ				SN	**S**	**10 02 30.4**	**+1.3**
MYRZ	**Mayor Island**	**4.77**	**236**	PN	**P**	**10 01 31.0**	**-1.3**
URZ	**Urewera**	**4.83**	**222**	*e*PN	**P**	**10 01 31.2**	**-1.8**
URZ	**Urewera**	**4.83**	**222**	*e*P	**P**	**10 01 31.5**	**-1.5**
MARZ	**Manawahe**	**4.90**	**227**	PN	**P**	**10 01 33.2**	**-0.5**
EDRZ	**Edgecumbe**	**4.94**	**226**	PN	**P**	**10 01 34.1**	**-0.2**
EDRZ	**Edgecumbe**	**4.94**	**226**	P	**P**	**10 01 34.1**	**-0.1**
LIRZ	**Lichensteins R**	**5.08**	**229**	PN	**P**	**10 01 35.8**	**-0.1**
KNZ	**Kokohu**	**5.14**	**212**	*e*PN	**P**	**10 01 38.4**	**+1.8**
KNZ	**Kokohu**	**5.14**	**212**	*e*P	**P**	**10 01 38.4**	**+1.8**
TAZ	**Tarawera**	**5.16**	**226**	PN	**P**	**10 01 38.1**	**+1.3**
TAZ	**Tarawera**	**5.16**	**226**	P	**P**	**10 01 38.1**	**+1.3**
PATZ	**Paeroa**	**5.40**	**226**	PN	**P**	**10 01 40.4**	**+0.7**
PATZ	**Paeroa**	**5.40**	**226**	P	**P**	**10 01 40.4**	**+0.7**
RAO	**Raoul Island**	**5.51**	**8**	Pn	**P**	**10 01 41.6**	**+0.7**
BKZ	**Black Stump Fm**	**5.82**	**219**	*e*PN	**P**	**10 01 43.9**	**-0.8**
BKZ	**Black Stump Fm**	**5.82**	**219**	*e*P	**P**	**10 01 44.1**	**-0.6**
RITZ	**Rihia Road**	**6.03**	**224**	PN	**P**	**10 01 48.0**	**+0.8**
RITZ	**Rihia Road**	**6.03**	**224**	P	**P**	**10 01 48.0**	**+0.8**
KATZ	**Kakaramea**	**6.13**	**225**	PN	**P**	**10 01 49.1**	**+0.7**
KATZ	**Kakaramea**	**6.13**	**225**	P	**P**	**10 01 49.1**	**+0.7**
KRVZ	**Karewarewa**	**6.24**	**224**	PN	**P**	**10 01 49.9**	**+0.2**
OTVZ	**Oturere**	**6.27**	**223**	*e*PN	**P**	**10 01 50.3**	**+0.2**
WTVZ	**West Tongariro**	**6.28**	**224**	PN	**P**	**10 01 50.4**	**+0.1**
WTVZ	**West Tongariro**	**6.28**	**224**	P	**P**	**10 01 50.4**	**+0.2**
NGZ	**Ngauruhoe**	**6.32**	**224**	PN	**P**	**10 01 51.3**	**+0.7**
NGZ	**Ngauruhoe**	**6.32**	**224**	P	**P**	**10 01 51.3**	**+0.6**
PXZ	**Pawanui**	**6.33**	**212**	PN	**P**	**10 01 50.3**	**-0.5**
TUVZ	**Tukino**	**6.35**	**223**	PN	**P**	**10 01 51.0**	**0.0**
TUVZ	**Tukino**	**6.35**	**223**	P	**P**	**10 01 51.0**	**-0.1**
CNZ	**Chateau**	**6.36**	**224**	PN	**P**	**10 01 51.8**	**+0.6**
CNZ	**Chateau**	**6.36**	**224**	P	**P**	**10 01 52.0**	**+0.8**
WPVZ	**Whakapapa**	**6.37**	**224**	PN	**P**	**10 01 52.1**	**+0.8**
MOVZ	**Moawhango**	**6.39**	**221**	PN	**P**	**10 01 51.4**	**-0.2**
MOVZ	**Moawhango**	**6.39**	**221**	P	**P**	**10 01 51.4**	**-0.2**
FWVZ	**Far West T-bar**	**6.40**	**223**	PN	**P**	**10 01 52.1**	**+0.4**
FWVZ	**Far West T-bar**	**6.40**	**223**	P	**P**	**10 01 52.1**	**+0.5**
WNVZ	**Wahianoa**	**6.42**	**223**	PN	**P**	**10 01 52.3**	**+0.4**
WNVZ	**Wahianoa**	**6.42**	**223**	P	**P**	**10 01 52.3**	**+0.4**
PKVZ	**Pokaka**	**6.54**	**224**	PN	**P**	**10 01 53.2**	**-0.1**
TSZ	**Takapari Road**	**6.76**	**217**	*e*PN	**P**	**10 01 55.2**	**-1.0**
TSZ	**Takapari Road**	**6.76**	**217**	*e*P	**P**	**10 01 56.2**	**+0.1**
VRZ	**Vera Road**	**6.78**	**228**	*e*PN	**P**	**10 01 56.2**	**-0.1**
VRZ	**Vera Road**	**6.78**	**228**	*e*P	**P**	**10 01 56.9**	**+0.6**
WAZ	**Wanganui**	**7.06**	**223**	PN	**P**	**10 01 59.1**	**-0.6**
WAZ	**Wanganui**	**7.06**	**223**	P	**P**	**10 01 59.9**	**+0.2**
RAEZ	**Rainy Point**	**7.10**	**228**	PN	**P**	**10 02 01.4**	**+1.2**
RAEZ	**Rainy Point**	**7.10**	**228**	P	**P**	**10 02 01.4**	**+1.1**
BFZ	**Birch Farm**	**7.13**	**212**	*e*PN	**P**	**10 02 02.6**	**+2.0**
BFZ	**Birch Farm**	**7.13**	**212**	*e*P	**P**	**10 02 02.6**	**+2.0**
NEZ	**North Egmont**	**7.28**	**229**	PN	**P**	**10 02 03.6**	**+1.2**
NEZ	**North Egmont**	**7.28**	**229**	P	**P**	**10 02 03.6**	**+1.2**
PKE	**Pukeiti**	**7.30**	**230**	P	**P**	**10 02 03.6**	**+0.9**
MRZ	**Mangatainoka R**	**7.42**	**215**	*e*PN	**P**	**10 02 02.7**	**-1.4**
MRZ	**Mangatainoka R**	**7.42**	**215**	*e*P	**P**	**10 02 03.5**	**-0.6**
MTW	**Mount Morrison**	**7.84**	**213**	PN	**P**	**10 02 09.7**	**+0.4**
MTW	**Mount Morrison**	**7.84**	**213**	P	**P**	**10 02 09.7**	**+0.3**
KIW	**Kapiti Island**	**7.90**	**217**	P	**P**	**10 02 09.6**	**-0.4**
CAW	**Cannon Point**	**8.01**	**216**	P	**P**	**10 02 10.9**	**-0.5**
PAWZ	**Paruwai Farm**	**8.06**	**213**	PN	**P**	**10 02 12.9**	**+0.9**
MSWZ	**Moikau Station**	**8.16**	**213**	PN	**P**	**10 02 14.0**	**+0.7**
MSWZ	**Moikau Station**	**8.16**	**213**	P	**P**	**10 02 14.0**	**+0.7**
MRW	**Makara Radio**	**8.28**	**216**	P	**P**	**10 02 14.7**	**0.0**
WEL	**Wellington**	**8.29**	**216**	PN	**P**	**10 02 15.1**	**+0.3**
WEL	**Wellington**	**8.29**	**216**	P	**P**	**10 02 15.1**	**+0.3**
SNZO	**South Karori**	**8.34**	**216**	PN	**P**	**10 02 14.5**	**-0.9**
SNZO	**South Karori**	**8.34**	**216**	*e*Pn	**P**	**10 02 15.7**	**+0.3**
SNZO				*e*S	**S**	**10 03 49.2**	**+0.7**
DUWZ	**D'Urville Isla**	**8.37**	**221**	PN	**P**	**10 02 14.7**	**-1.1**
TCW	**Tory Channel**	**8.48**	**218**	P	**P**	**10 02 16.6**	**-0.6**
NNZ	**Nelson**	**8.95**	**221**	*e*PN	**P**	**10 02 21.5**	**-1.5**
BSWZ	**Blackbirch Sta**	**9.05**	**217**	PN	**P**	**10 02 24.1**	**-0.1**
QRZ	**Quartz Range**	**9.18**	**226**	*e*PN	**P**	**10 02 23.2**	**-2.6**
QRZ	**Quartz Range**	**9.18**	**226**	*e*P	**P**	**10 02 23.2**	**-2.6**
THZ	**Tophouse**	**9.59**	**220**	*e*PN	**P**	**10 02 29.4**	**-1.4**
THZ	**Tophouse**	**9.59**	**220**	*e*P	**P**	**10 02 29.4**	**-1.4**
KHZ	**Kahutara**	**9.74**	**216**	*e*PN	**P**	**10 02 32.4**	**-0.4**
DSZ	**Denniston Nort**	**10.19**	**224**	*e*PN	**P**	**10 02 36.2**	**-2.0**
DSZ	**Denniston Nort**	**10.19**	**224**	*e*P	**P**	**10 02 36.2**	**-2.0**
LTZ	**Lake Taylor**	**10.64**	**218**	*e*PN	**P**	**10 02 43.2**	**-0.7**
LTZ	**Lake Taylor**	**10.64**	**218**	*e*P	**P**	**10 02 43.2**	**-0.6**
MQZ	**McQueen's Vall**	**11.15**	**214**	PN	**P**	**10 02 50.8**	**+0.7**
MQZ	**McQueen's Vall**	**11.15**	**214**	P	**P**	**10 02 50.8**	**+0.7**
RPZ	**Rata Peaks**	**11.93**	**218**	*e*P	**P**	**10 02 57.0**	**-2.7**
LBZ	**Lake Benmore**	**12.85**	**218**	*e*P	**P**	**10 03 12.1**	**+1.2**
ODZ	**Otahua Downs**	**13.10**	**215**	*e*P	**P**	**10 03 16.3**	**+2.3**
WKZ	**Wanaka**	**13.76**	**219**	*e*P	**P**	**10 03 22.9**	**+1.0**
SBA	**Scott Base**	**43.68**	**184**	P	**P**	**10 07 53.3**	**-0.6**
	25nm,1.9s,mb4.1						

*MDD **29** 10:02:43.9±2.3, 36.68N×11.24W, h67km±93km, mb3.8/8, Error ellipse: s-maj=23.5km s-min=14.9km az=65.0, PRXIMO*
*NEIC **29** 10:02:44.1, 36.81N×10.98W, MG4.0(MDD), After MDD.*
*INMG **29** 10:02:45.4±0.8, 36.67N×11.18W, h31km, ML2.3, Error ellipse: s-maj=5.6km s-min=4.2km az=79.0*
*CSEM **29** 10:02:45.3±0.5, 36.68N×10.91W, h10km, ML3.4/9, Error ellipse: s-maj=8.1km s-min=6.9km az=78.0*
ISC 29 10:02:44.0±1.4, **37.05N**±0.06×**10.97W**±0.09, **h10**km, **n35**, σ1**27**/60, **Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**1.86**	**74**	*e*Pn	**Pn**	**10 03 17.3**	**+1.1**
PTEO				*e*Sn	**Sn**	**10 03 41.6**	**+1.8**
	16nm,0.1s						
PTEO	**Sao Teotonio**	**1.86**	**74**	*e*Pn	**Pn**	**10 03 17.3**	**+1.1**
PTEO				*e*Sn	**Sn**	**10 03 41.6**	**+1.8**
	16nm,0.1s						
PTEO	**Sao Teotonio**	**1.86**	**74**	Pn	**Pn**	**10 03 17.2**	**+1.0**
PTEO				Sn	**Sn**	**10 03 41.5**	**+1.7**
PLOU	**Loures**	**2.33**	**37**	*e*Pn	**Pn**	**10 03 25.2**	**+2.3**
PLOU				*e*Sn	**Sn**	**10 03 55.9**	**+4.0**
	12nm,0.3s						
PLOU	**Loures**	**2.33**	**37**	*e*Pn	**Pn**	**10 03 25.2**	**+2.3**
PLOU				*e*Sn	**Sn**	**10 03 55.9**	**+4.0**
	12nm,0.3s						
PLOU	**Loures**	**2.33**	**37**	Pn	**Pn**	**10 03 25.1**	**+2.2**
PLOU				Sn	**Sn**	**10 03 55.9**	**+4.0**
PBEJ	**Beja**	**2.65**	**67**	*e*Sn	**Sn**	**10 04 00.8**	**+0.8**
	5.7nm,0.1s						
PBEJ	**Beja**	**2.65**	**67**	*e*Sn	**Sn**	**10 04 00.8**	**+0.8**
	5.7nm,0.1s						
EGRO	**El Granado**	**2.82**	**79**	P	**Pn**	**10 03 30.6**	**+0.6**
	1.3nm,0.1s,SNR=4.0						
EGRO				S	**Sn**	**10 04 03.9**	**-0.5**
	0.1nm,0.1s,SNR=8.4						
EGRO	**El Granado**	**2.82**	**79**	Pn	**Pn**	**10 03 30.6**	**+0.6**
	1.3nm,0.1s,SNR=4.0						
EGRO				Sn	**Sn**	**10 04 03.9**	**-0.4**
	0.1nm,0.1s,SNR=8.4						
PTOM	**Tomar**	**3.26**	**37**	Sn	**Sn**	**10 04 18.0**	**+2.5**
EMIN	**Mina Concepcio**	**3.49**	**77**	P	**Pn**	**10 03 39.5**	**0.0**
	0.6nm,0.1s,SNR=7.8						
EMIN				S	**Sn**	**10 04 20.1**	**-1.3**
	3.6nm,0.2s,SNR=24						
EMIN	**Mina Concepcio**	**3.49**	**77**	Pn	**Pn**	**10 03 39.5**	**0.0**
	0.6nm,0.1s,SNR=7.8						
EMIN				Sn	**Sn**	**10 04 20.1**	**-1.3**
	3.6nm,0.2s,SNR=24						
EBAD	**Badajoz**	**3.56**	**60**	P	**Pn**	**10 03 41.7**	**+1.2**
	1.5nm,0.1s,SNR=6.2						
EBAD				S	**Sn**	**10 04 23.7**	**+0.6**
	18nm,0.2s,SNR=8.2						
EBAD	**Badajoz**	**3.56**	**60**	Pn	**Pn**	**10 03 41.7**	**+1.2**
	1.5nm,0.1s,SNR=6.2						
EBAD				Sn	**Sn**	**10 04 23.7**	**+0.6**
	18nm,0.2s,SNR=8.2						
PCBR	**Castelo Branco**	**3.91**	**43**	*e*Sn	**Sn**	**10 04 33.2**	**+1.3**
	2.7nm,0.2s						
PCBR	**Castelo Branco**	**3.91**	**43**	S	**Sn**	**10 04 33.2**	**+1.3**
	1.4nm,0.2s						
PCBR	**Castelo Branco**	**3.91**	**43**	Sn	**Sn**	**10 04 33.0**	**+1.1**
ESPR	**Espera**	**4.10**	**91**	P	**Pn**	**10 03 46.6**	**-1.5**
	3.4nm,0.1s,SNR=7.9						
ESPR				S	**Sn**	**10 04 31.9**	**-4.8**
	2.3nm,0.1s,SNR=7.9						
ESPR	**Espera**	**4.10**	**91**	Pn	**Pn**	**10 03 46.6**	**-1.5**
	3.4nm,0.1s,SNR=7.9						
ESPR				Sn	**Sn**	**10 04 31.9**	**-4.8**
	2.3nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**4.53**	**75**	P	**Pn**	**10 03 53.9**	**-0.3**
	2.2nm,0.2s,SNR=7.4						
ECAB				S	**Sn**	**10 04 44.6**	**-2.9**
	1.6nm,0.2s,SNR=8.4						
ECAB	**El Cabril**	**4.53**	**75**	Pn	**Pn**	**10 03 53.9**	**-0.3**
	2.2nm,0.2s,SNR=7.4						
ECAB				Sn	**Sn**	**10 04 44.6**	**-2.9**
	1.6nm,0.2s,SNR=8.4						
PCAB	**Cabril**	**5.18**	**25**	*e*Pn	**Pn**	**10 04 02.9**	**-0.6**
PCAB				*e*Sn	**Sn**	**10 05 02.6**	**-1.5**
	3.9nm,0.3s						
PCAB	**Cabril**	**5.18**	**25**	P	**Pn**	**10 04 02.9**	**-0.6**
PCAB				S	**Sn**	**10 05 02.6**	**-1.5**
	1.9nm,0.3s						
EADA	**Adamuz**	**5.19**	**76**	P	**Pn**	**10 04 02.8**	**-0.9**
	0.5nm,0.1s,SNR=5.9						
EADA				S	**Sn**	**10 05 00.4**	**-4.0**
	3.3nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**5.19**	**76**	Pn	**Pn**	**10 04 02.8**	**-0.8**
	0.5nm,0.1s,SNR=5.9						
EADA				Sn	**Sn**	**10 05 00.4**	**-4.0**
	3.3nm,0.3s,SNR=7.9						
ELOB	**Lobios**	**5.31**	**24**	P	**Pn**	**10 04 05.4**	**+0.1**
	0.4nm,0.0s,SNR=7.9						
ELOB				S	**Sn**	**10 05 06.5**	**-0.9**
	1.3nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**5.31**	**24**	Pn	**Pn**	**10 04 05.0**	**-0.3**
	0.4nm,0.0s,SNR=7.9				

TWVZ	Taurewa	3.07	45	P	P	10 23 35.3 -2.3
NGZ	Ngauruhoe	3.09	48	P	P	10 23 35.6 -2.2
WTVZ	West Tongariro	3.12	48	P	P	10 23 35.8 -2.4
FOZ	Fox Glacier	3.16	222	*e*P	P	10 23 35.4 -3.3
HIZ	Hauiti	3.24	33	*e*P	P	10 23 36.7 -2.9
KATZ	Kakaramea	3.28	47	P	P	10 23 37.6 -2.5
LBZ	Lake Benmore	3.60	209	*e*P	P	10 23 41.5 -2.5
BKZ	Black Stump Fm	3.63	56	*e*P	P	10 23 41.6 -2.7
JCZ	Jackson Bay	4.00	224	*e*P	P	10 23 46.2 -2.7
ODZ	Otahua Downs	4.05	200	*e*P	P	10 23 47.7 -1.8
WKZ	Wanaka	4.44	215	*e*P	P	10 23 50.8 -3.5
KNZ	Kokohu	4.47	62	*e*P	P	10 23 52.4 -2.3
URZ	Urewera	4.58	50	*e*P	P	10 23 52.4 -3.7
EAZ	Earnscleugh	4.65	210	*e*P	P	10 23 53.5 -3.5
MWZ	Matawai	4.78	54	*e*P	P	10 23 55.5 -3.1
MSZ	Milford Sound	4.85	224	*e*P	P	10 23 56.7 -2.8
TUZ	Tuapeka	5.17	204	*e*P	P	10 24 01.0 -2.6
PUZ	Puketiti	5.39	56	*e*P	P	10 24 03.2 -3.2
MXZ	Matakaoa Point	5.74	52	P	P	10 24 07.5 -3.5

IDC 29 11:01:31.9±5.2, 7.34S×120.97E, h565km±94km, mb3.3/3, mb1 3.1/5, mb1mx2.9/17, mbtmp4.0/5, Error ellipse: s-maj=114.2km s-min=39.0km az=49.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.63	157	P	P	11 04 06.7	-0.4
	0.2nm,0.3s,baz=348,slow=11,SNR=6.8						
WRA	Warramunga Arr	18.03	135	P	P	11 05 09.5	-0.4
	0.1nm,0.3s,baz=313,slow=10,SNR=8.3						
SONM	Songino Array	56.42	348	P	P	11 10 20.4	-1.8
	0.7nm,0.4s,baz=166,slow=7.4,SNR=7.0						
MKAR	Makanchi Array	63.90	331	P	P	11 11 09.9	-1.5
	1.7nm,0.6s,baz=144,slow=7.6,SNR=15						
ZAL	Zalesovo	68.21	338	P	P	11 11 36.1	-1.8
	2.0nm,0.4s,baz=342,slow=5.6,SNR=4.3						

*MOS **29** 11:59:46.5±1.6, 53.52N×110.03E, h20km, mb4.2/1, Error ellipse: s-maj=16.1km s-min=11.0km az=76.2*
MOS Felt (II-III) at Suvo.
BYKL 29 11:59:47.2±0.2, 53.57N×109.99E, h22km±3km, 3C-4D, FELT I=IV MSK at Suvo, III-IV at Uro, Dushelan, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SYVR	Suvo	0.09	3	⇓*i*Pg	Pb	11 59 51.5	+0.2
SYVR				*e*Sg	Sb	11 59 54.6	+0.5
SYVR				Pmax			
	2μm,0.1s						
SYVR				Smax			
	24μm,0.1s						
SYVR	Suvo	0.09	3	*e*PG	Pb	11 59 50.7	-0.6
SYVR				*e*		11 59 54.2	
SYVR				pmax	pmax		
	comp=Z,2μm,0.1s						
SYVR				smax			
	comp=N,3μm,0.1s						
MXMB	Maximikha	0.81	248	⇑*i*Pg	Pb	12 00 02.3	-0.1
MXMB				*e*Sg	Sb	12 00 14.0	+1.2
MXMB				Pmax			
	comp=N,94nm,0.1s						
MXMB				Smax			
	comp=N,2μm,0.6s						
OGRR	Ongureny	1.43	274	⇑*i*Pg	Pn	12 00 13.0	+0.8
	comp=N,11nm,0.5s						
OGRR				⇓*i*Pg	Pn	12 00 13.0	+0.8
	comp=N,64nm,0.5s						
OGRR				⇑*i*Pg	Pn	12 00 13.0	+0.8
	comp=N,45nm,0.5s						
OGRR				*e*Sg	Sn	12 00 31.5	+1.1
OGRR				Pmax			
	comp=N,79nm,0.3s						
OGRR				Smax			
	comp=N,360nm,0.6s						
OGRR	Ongureny	1.43	274	*e*PN	Pn	12 00 12.9	+0.8
OGRR				*e*		12 00 31.7	
OGRR				pmax	pmax		
	comp=Z,79nm,1.9s						
OGRR				smax			
	comp=N,360nm,0.7s						
YLYR	Ulyunkhan	1.48	27	⇓*i*Pg	Pn	12 00 13.8	+0.9
YLYR				*e*Sg	Sn	12 00 34.1	+2.4
YLYR				Pmax			
	comp=N,80nm,0.5s						
YLYR				Smax			
	comp=N,934nm,0.8s						
YLYR	Ulyunkhan	1.48	27	*e*PN	Pn	12 00 13.0	+0.1
YLYR				*e*		12 00 34.0	
YLYR				pmax	pmax		
	comp=Z,77nm,0.3s						
YLYR				smax			
	comp=N,941nm,0.7s						
TRTB	Turuntaevo	1.96	228	*e*Pg	Pn	12 00 22.4	+2.6
TRTB				*e*		12 00 28.4	
TRTB				*e*Sn	Sn	12 00 46.3	+2.4
TRTB				*e*Sg	Sn	12 00 48.3	+4.4
TRTB				*e*		12 00 54.4	
TRTB				max			
	comp=N,62nm,0.5s						
TRTB				max			
	comp=N,199nm,1.1s						
ZRHB	Zarechye	1.99	240	*e*Sg	Sn	12 00 49.7	+5.0
ZRHB				Smax			
	comp=N,1μm,1.2s						
NIZ	Nizh Angarsk	2.23	353	*e*Pg	Pn	12 00 27.1	+3.5
NIZ				*e*Sg	Sn	12 00 56.8	+6.2
NIZ				Pmax			
	comp=N,57nm,0.6s						
NIZ				Smax			
	comp=N,519nm,0.4s						
NIZ	Nizh Angarsk	2.23	353	*e*PN	Pn	12 00 26.9	+3.4
NIZ				*e*		12 00 57.0	
NIZ				pmax	pmax		
	comp=Z,45nm,0.7s						
NIZ				smax			
	comp=N,470nm,0.5s						
TRG	Tyrgan	2.34	251	*e*Pn	Pn	12 00 25.0	-0.2
TRG				*e*Pg	Pn	12 00 29.3	+4.1
TRG				*e*		12 00 52.3	
TRG				*e*Sg	Sn	12 00 59.9	+6.4
TRG				Pmax			
	comp=N,22nm,0.9s						
TRG				Smax			
	comp=N,175nm,0.3s						
KMO	Kumora	2.43	16	*e*Pn	Pn	12 00 26.4	0.0
KMO				*e*Pg	Pn	12 00 31.1	+4.7
KMO				*e*		12 00 36.2	
KMO				*e*Sg	Sn	12 01 02.6	+6.9
KMO				max			
	comp=N,157nm,0.7s						
KMO				Smax			
	comp=N,358nm,1.0s						
KMO	Kumora	2.43	16	*e*PN	Pn	12 00 26.5	+0.1
KMO				*e*		12 00 30.3	
KMO				*e*		12 01 02.5	
KMO				pmax	pmax		
	comp=Z,156nm,0.6s						
KMO				smax			
	comp=E,353nm,0.8s						
CIT	Chita	2.66	124	*e*	Pn	12 00 32.7	+2.9
CIT				*e*Pg	Pn	12 00 35.3	+5.5
CIT				*e*		12 00 58.4	
CIT				*e*Sg	Sn	12 01 09.6	+7.9
CIT				Pmax			
	comp=E,69nm,0.3s						
CIT				Smax			
	comp=E,308nm,0.6s						
CIT	Chita	2.66	124	*e*PN	Pn	12 00 28.2	-1.6
CIT				*e*		12 00 33.0	
CIT				*e*		12 01 07.7	
CIT				pmax	pmax		
	comp=Z,65nm,0.4s						
CIT				smax			
	comp=N,309nm,0.7s						
HRMR	Khuramsha	2.69	225	*e*Pn	Pn	12 00 30.3	+0.2
HRMR				*e*Pg	Pn	12 00 35.6	+5.5
HRMR				*e*Sg	Sn	12 01 11.0	+8.7
HRMR				Pmax			
	comp=N,38nm,0.2s						
HRMR				Smax			
	comp=N,776nm,0.5s						
YOA	Uoyan	2.76	21	*e*	Pn	12 00 45.8	+15
YOA				*e*Sg	Sn	12 01 13.2	+9.1
YOA				Smax			
	comp=N,486nm,1.5s						
UKT	Uakit	2.86	46	*e*Pn	Pn	12 00 32.6	0.0
UKT				*e*Pg	Pn	12 00 38.7	+6.1
UKT				*e*Sg	Sn	12 01 15.5	+8.7
UKT				Pmax			
	comp=N,16nm,1.3s						
UKT				Smax			
	comp=N,76nm,1.0s						
SVKR	Severomuysk	3.28	38	*e*Sg	Sn	12 01 30.5	+13
SVKR				Smax			
	comp=N,278nm,0.6s						
LSTR	Listvyanka	3.57	244	*e*	Pn	12 00 49.6	+6.9
LSTR				*e*Sg	Sn	12 01 36.9	+12
LSTR				Smax			
	comp=N,46nm,1.1s						
IRK	Irkutsk	3.71	251	*e*Sg	Sn	12 01 41.4	+13
IRK				Smax			
	comp=N,148nm,0.3s						
IRK	Irkutsk	3.71	251	*e*PN	Pn	12 00 52.7	+8.0
IRK				*e*		12 01 41.8	
IRK				pmax	pmax		
	comp=Z,64nm,0.1s						
IRK				smax			
	comp=N,153nm,0.4s						
TLY	Talaya	4.30	246	*e*	Pn	12 01 06.1	+13
TLY				*e*Sg	Sn	12 01 58.9	+16
TLY				max			
	comp=N,3.0nm,0.4s						
TLY				Smax			
	comp=N,30nm,0.4s						
NLYR	Nelyaty	4.40	46	*e*Pg	Pn	12 01 07.3	+13
NLYR				*e*Sg	Sn	12 02 05.0	+19
NLYR				Pmax			
	comp=N,18nm,1.9s						
NLYR				Smax			
	comp=N,130nm,1.0s						
NLYR	Nelyaty	4.40	46	*e*PN	Pn	12 01 07.1	+13
NLYR				*e*		12 02 04.0	
NLYR				pmax	pmax		
	comp=Z,5.0nm,0.4s						
NLYR				smax			
	comp=N,127nm,1.0s						
BOD	Bodaibo	4.83	26	*e*Pg	Pn	12 01 13.1	+13
BOD				*e*Sg	Sn	12 02 14.5	+18
BOD				Pmax			
	comp=N,4.0nm,0.6s						
BOD				Smax			
	comp=N,35nm,1.3s						
ARS	Arshan	4.88	253	*e*	Pn	12 01 17.0	+16
ARS				*e*Sg	Sn	12 02 16.4	+18
ARS				Smax			
	comp=N,109nm,1.0s						
ZAK	Zakamensk	5.23	235	*e*	Pn	12 01 27.4	+21
ZAK				*e*Sg	Sn	12 02 28.8	+22
ZAK				max			
	comp=N,4.0nm,0.9s						
ZAK				Smax			
	comp=N,18nm,1.0s						
CRS	Chara	5.79	52	*e*	Pn	12 01 37.4	+23
CRS				*e*Sg	Sn	12 02 47.8	+27
CRS				Smax			
	comp=N,65nm,1.4s						
CRS	Chara	5.79	52	*e*PN	Pn	12 01 31.1	+17
CRS				*e*		12 02 47.5	
CRS				pmax	pmax		
	comp=Z,22nm,1.4s						
CRS				smax			
	comp=E,55nm,1.5s						
TUP	Tupik	5.94	78	*e*	Pn	12 01 20.5	+4.3
TUP				*e*Pg	Pn	12 01 33.0	+17
TUP				*e*Sg	Sn	12 02 48.7	+24
TUP				Pmax			
	comp=E,4.0nm,0.5s						
TUP				Smax			
	comp=E,92nm,1.4s						
TUP	Tupik	5.94	78	*e*PN	Pn	12 01 32.4	+16
TUP				*e*		12 02 49.1	
TUP				pmax	pmax		
	comp=Z,4.0nm,0.5s						
TUP				smax			
	comp=N,87nm,0.6s						
ORL	Orlik	6.23	265	*e*Pn	Pn	12 01 20.2	-0.1
ORL				*e*Pg	Pn	12 01 39.7	+19
ORL				*e*		12 02 30.9	
ORL				*e*Sg	Sn	12 03 00.7	+29
ORL				Pmax			
	comp=N,3.0nm,1.0s						
ORL				Smax			
	comp=N,30nm,2.1s						
ORL	Orlik	6.23	265	*e*PN	Pn	12 01 19.8	-0.5
ORL				*e*		12 01 39.3	
ORL				*e*		12 03 00.1	
ORL				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ORL				smax			
	comp=N,21nm,1.2s						
KRAR	Krasnoyarsk	10.18	291	P	P	12 02 15.0	-0.1
SEY	Seymchan	23.76	50	⇓*i*P	P	12 04 54.7	-3.6

*STR **29** 12:11:46.9±0.1, 42.80N×2.02E, h5km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **29** 12:11:47.2±0.1, 42.80N×2.03E, h2km, Md2.9/3, Ml3.0/20, Error ellipse: s-maj=1.3km s-min=1.0km az=171.0*
*NEIC **29** 12:11:47.2, 42.80N×2.03E, h2km, ML3.0(LDG), After LDG.*
*MDD **29** 12:11:47.3±0.2, 42.81N×2.03E, h5km±3km, mbLg2.3/25, Error ellipse: s-maj=1.5km s-min=1.3km az=35.0, PRXIMO*
*CSEM **29** 12:11:47.3±0.1, 42.81N×2.03E, h5km, ML3.0/20, Error ellipse: s-maj=0.9km s-min=0.8km az=111.0*
ISC 29 12:11:45.0±0.2, 42.88N±0.01×2.06E±0.02, h3km±3km, n90, σ1§19/147, 1D, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPEF	Le Peyrat	0.13	301	Pg	Pg	12 11 50.5	+2.8
LPEF				Sg	Sg	12 11 53.6	+4.1
LPEF	Le Peyrat	0.13	301	Pg	Pg	12 11 50.7	+2.9
LPEF				Lg		12 11 53.6	
CARF	Carcanieres	0.17	169	Pg	Pg	12 11 49.2	+0.8
CARF				Lg		12 11 50.9	
LRDF	Laroque-de-Fa	0.35	80	Pg	Pg	12 11 54.6	+2.5
LRDF				Sg	Sg	12 12 00.7	+3.8
LRDF	Laroque-de-Fa	0.35	80	Pg	Pg	12 11 54.4	+2.2
LRDF				Lg		12 12 00.3	
GRBF	Gourbit	0.39	265	Pg	Pg	12 11 53.8	+1.0
GRBF				Lg		12 11 58.6	
CLLI	Llivia	0.41	189	Pg	Pg	12 11 53.4	+0.3
CLLI				Lg		12 11 58.1	
	24nm,0.0s						
CLLI	Llivia	0.41	189	Pg	Pg	12 11 53.5	+0.4
CLLI				Sg	Sg	12 11 58.1	-0.5
CLLI	Llivia	0.41	189	Pg	Pg	12 11 53.5	+0.3
CLLI				Sg	Sg	12 11 58.1	-0.4
MTLF	Montolieu	0.47	14	*e*Pg	Pg	12 11 57.5	+3.0
MTLF				*e*Pn	Pn	12 12 00.6	+2.3
MTLF				*e*Sg	Sg	12 12 04.9	+4.0
	36nm,0.3s						
MTLF	Montolieu	0.47	14	Pg	Pg	12 11 57.5	+3.0
MTLF				Lg		12 12 04.9	
	18nm,0.3s						
VALF	Valcebollere	0.48	184	Pg	Pg	12 11 54.9	+0.3
VALF				Sg	Sg	12 12 00.4	-0.6
VALF	Valcebollere	0.48	184	Pg	Pg	12 11 54.8	+0.2
VALF				Lg		12 12 00.5	
FILF	Fillols	0.49	131	Pg	Pg	12 11 54.1	-0.6
FILF				Lg		12 11 59.4	
CBRU	Bruguera	0.60	172	Pg	Pg	12 11 57.3	+0.3
CBRU				Lg		12 12 04.6	
	81nm,0.2s						
CBRU	Bruguera	0.60	172	Pg	Pg	12 11 57.3	+0.3
CBRU				Sg	Sg	12 12 04.6	-0.4
CBRU	Bruguera	0.60	172	Pg	Pg	12 11 57.3	+0.3
CBRU				Sg	Sg	12 12 04.6	-0.4
SALF	Salau	0.65	260	Pg	Pg	12 11 58.5	+0.4
SALF				Sg	Sg	12 12 07.6	+0.8
SALF	Salau	0.65	260	Pg	Pg	12 11 58.3	+0.2
SALF				Lg		12 12 06.7	
MLS	Moulis	0.71	277	Pg	Pg	12 12 00.1	+0.8
MLS				Sg	Sg	12 12 10.0	+1.1
MLS	Moulis	0.71	277	Pg	Pg	12 12 00.1	+0.8
MLS				Lg		12 12 09.5	
SJAF	Saint Jean de	0.72	123	Pg	Pg	12 12 00.6	+1.1
SJAF				Sg	Sg	12 12 10.1	+1.0
SJAF	Saint Jean de	0.72	123	Pg	Pg	12 12 00.1	+0.6
SJAF				Lg		12 12 10.1	
EJON	La Jonquera	0.75	125	⇓Pg	Pg	12 12 00.9	+1.0
	6.9nm,0.2s,SNR=18						
EJON				Lg		12 12 10.4	
	12nm,0.1s,SNR=13						
EJON	La Jonquera	0.75	125	Pg	Pg	12 12 00.9	+1.0
	6.9nm,0.2s,SNR=18						
CORG	Organya	0.85	221	Pg	Pg	12 12 02.1	+0.1
CORG				Lg		12 12 13.4	
	4.2nm,0.1s						
CORG	Organya	0.85	221	Pg	Pg	12 12 02.2	+0.2
CORG				Sg	Sg	12 12 13.4	0.0
CORG	Organya	0.85	221	Pg	Pg	12 12 02.2	+0.2
CORG				Sg	Sg	12 12 13.4	+0.1
CSOR	Sort	0.85	234	Pg	Pg	12 12 01.9	-0.1
CSOR				Lg		12 12 12.9	
	16nm,0.2s						
CSOR	Sort	0.85	234	Pg	Pg	12 12 02.0	0.0
CSOR				Sg	Sg	12 12 13.0	-0.4
CSOR	Sort	0.85	234	Pg	Pg	12 12 02.0	0.0
CSOR				Sg	Sg	12 12 13.0	-0.4
MELF	Melles	0.96	270	Pg	Pg	12 12 04.3	+0.1
MELF				Lg		12 12 16.7	
EMIR	Miracle	1.04	203	Pg	Pg	12 12 05.6	-0.3
	6.6nm,0.1s,SNR=21						
EMIR				Lg		12 12 18.6	
	49nm,0.1s,SNR=7.9						
EMIR	Miracle	1.04	203	Pg	Pg	12 12 05.6	-0.3
	6.6nm,0.1s,SNR=21						
CFON	Fontmartina	1.15	166	Pn	Pn	12 12 06.9	-1.1
CFON				Lg		12 12 21.7	
	64nm,0.1s						
CFON	Fontmartina	1.15	166	Pn	Pn	12 12 06.9	-1.1
CFON				Sg	Sg	12 12 21.8	-1.5
CFON	Fontmartina	1.15	166	Pn	Pn	12 12 06.9	-1.1
CFON				Sg	Sg	12 12 21.8	-1.6
RESF	Ens	1.27	267	Pg	Pg	12 12 10.3	-0.1
RESF				Sg	Sg	12 12 27.1	-0.2
RESF	Ens	1.27	267	Pg	Pg	12 12 10.2	-0.2
RESF				Lg		12 12 26.7	
EPF	Esparros	1.27	277	*e*Pn	Pn	12 12 10.5	+0.8
EPF				*e*Pg	Pg	12 12 11.9	+1.4
EPF				*e*Sg	Sg	12 12 27.6	+0.2
	26nm,0.2s						
CAVN	Les Avellanes	1.39	225	Pg	Pg	12 12 12.5	-0.3
CAVN				Lg		12 12 30.5	
	39nm,0.2s						
CAVN	Les Avellanes	1.39	225	Pg	Pg	12 12 12.6	-0.2
CAVN				Sg	Sg	12 12 30.5	-0.9
CAVN	Les Avellanes	1.39	225	Pg	Pg	12 12 12.6	-0.3
CAVN				Sg	Sg	12 12 30.5	-0.8
EBIE	Bielsa	1.43	263	Pg	Pg	12 12 13.1	-0.4
	2.2nm,0.2s,SNR=7.9						
EBIE				Lg		12 12 31.3	
	7.0nm,0.2s,SNR=7.9						
EBIE	Bielsa	1.43	263	Pg	Pg	12 12 13.1	-0.4
	1.5nm,0.1s,SNR=15						
EBIE	Bielsa	1.43	263	Pg	Pg	12 12 13.1	-0.4
EBIE				Lg		12 12 31.1	
EGRA	Graus	1.46	243	Pg	Pg	12 12 13.9	-0.3
	11nm,0.5s,SNR=10						
EGRA				Lg		12 12 33.1	
	6.1nm,0.2s,SNR=13						
EGRA	Graus	1.46	243	Pg	Pg	12 12 14.3	+0.1
	11nm,0.5s,SNR=10						
EGRA	Graus	1.46	243	Pg	Pg	12 12 14.3	+0.1
EGRA				Lg		12 12 33.1	
LABF	Labassere	1.47	277	Pg	Pg	12 12 14.9	+0.5
LABF				Sg	Sg	12 12 34.7	+0.7
LABF	Labassere	1.47	277	Pg	Pg	12 12 14.6	+0.2
LABF				Lg		12 12 34.3	
VIEF	Viey	1.50	271	Pg	Pg	12 12 14.6	-0.4
VIEF				Lg		12 12 33.9	
EPOB	Poblet	1.69	206	Pg	Pg	12 12 17.4	-1.4
	8.7nm,0.1s,SNR=54						
EPOB				Lg		12 12 38.3	
	14nm,0.1s,SNR=13						
EPOB	Poblet	1.69	206	Pg	Pg	12 12 17.4	-1.4
	8.7nm,0.1s,SNR=54						
EPOB	Poblet	1.69	206	Pg	Pg	12 12 17.4	-1.4
EPOB				Lg		12 12 38.5	
CGAR	Garraf	1.73	204	Lg		12 12 35.9	
	19nm,0.2s						
LASF	Ste Croix	1.77	47	*e*Pn	Pn	12 12 18.2	+1.4
LASF				*e*Pg	Pg	12 12 22.1	+1.7
LASF				*e*Sg	Sg	12 12 45.3	+1.3
	13nm,0.2s						
ETSF	Etsaut	1.93	271	*e*Pg	Pg	12 12 22.7	-0.8
ETSF				*e*Sg	Sg	12 12 47.0	-2.2
	19nm,0.2s						
ATE	Arette	2.04	277	Lg		12 12 52.3	
CAF	Calviac	2.05	0	*e*Pn	Pn	12 12 21.8	+1.0
CAF				*e*Pg	Pg	12 12 26.6	+0.7
CAF				*e*Sn	Sn	12 12 47.4	+0.3
CAF				*e*Sg	Sg	12 12 53.9	+0.8
	27nm,0.2s						
ESAC	San Caprasio	2.21	239	Pg	Pg	12 12 25.1	-3.9
	9.2nm,0.2s,SNR=7.9						
ESAC				Sn	Sn	12 12 50.4	-0.8
	24nm,0.2s,SNR=10						
ESAC				Lg		12 12 56.3	
	24nm,0.2s,SNR=7.9						
ESAC	San Caprasio	2.21	239	Pn	Pn	12 12 24.8	+1.7
	3.2nm,0.2s,SNR=6.5						
ESAC	San Caprasio	2.21	239	Pg	Pg	12 12 28.3	-0.8
	9.2nm,0.2s,SNR=7.9						
ESAC				Sn	Sn	12 12 52.2	+1.0
	24nm,0.2s,SNR=10						
ESAC	San Caprasio	2.21	239	Pn	Pn	12 12 24.8	+1.8
ESAC				Pg	Pg	12 12 28.3	-0.7
ESAC				Sn	Sn	12 12 52.2	+1.0
ESAC				Lg		12 12 56.1	
LFF	La Frestale	2.27	336	*e*Pn	Pn	12 12 25.3	+1.3
LFF				*e*Pg	Pg	12 12 30.3	-0.1
LFF				*e*Sn	Sn	12 12 52.6	-0.3
LFF				*e*Sg	Sg	12 12 59.9	-0.7
	54nm,0.3s						
ERTA	Horta de San J	2.31	214	Pn	Pn	12 12 25.0	+0.4
	0.7nm,0.1s,SNR=5.9						
ERTA				Sn	Sn	12 12 51.9	-2.0
	2.8nm,0.2s,SNR=7.9						
ERTA				Lg		12 12 58.0	
	5.2nm,0.2s,SNR=7.9						
ERTA	Horta de San J	2.31	214	Pn	Pn	12 12 26.1	+1.5
	0.7nm,0.1s,SNR=5.9						
ERTA	Horta de San J	2.31	214	Pn	Pn	12 12 26.1	+1.5
ERTA				Lg		12 12 58.9	
SJPF	Ste Jean	2.42	277	*e*Pg	Pg	12 12 29.7	-3.7
SJPF				*e*Sg	Sg	12 13 02.7	-3.0
	5.4nm,0.3s						
RJF	Les Rejaudoux	2.46	351	*e*Pg	Pg	12 12 33.9	-0.2
RJF				*e*Sg	Sg	12 13 06.4	-0.4
	16nm,0.2s						
EALK	Alkurruntz	2.64	279	Pn	Pn	12 12 28.5	-0.8
	0.0nm,0.3s,SNR=7.9						
EALK				Pg	Pg	12 12 34.4	-3.3
	SNR=4.0						
EALK				Sn	Sn	12 13 01.9	-0.3
	3.2nm,0.3s,SNR=7.9						
EALK				Lg		12 13 10.7	
	3.0nm,0.2s,SNR=4.9						
EALK	Alkurruntz	2.64	279	Pn	Pn	12 12 31.6	+2.3
	SNR=4.0						
EALK				Sn	Sn	12 13 04.2	+2.0
	3.2nm,0.3s,SNR=7.9						
EALK	Alkurruntz	2.64	279	Pn	Pn	12 12 31.6	+2.4
EALK				Sn	Sn	12 13 04.2	+1.9
EALK				Lg		12 13 13.4	
VIVF	Saint-Julien-l	2.73	43	*e*Pn	Pn	12 12 30.8	+0.2
VIVF				*e*Pg	Pg	12 12 39.3	-0.3
VIVF				*e*Sg	Sg	12 13 15.7	-0.3
	7.2nm,0.3s						
SMRF	Simiane la Rot	2.78	66	*e*Pg	Pg	12 12 41.1	+0.5
SMRF				*e*Sg	Sg	12 13 16.2	-1.5
	2.8nm,0.3s						
SMRF	Simiane la Rot	2.78	66	Lg		12 13 16.2	
	2.8nm,0.3s						
EMOS	Mosqueruela	3.15	218	Sn	Sn	12 13 09.8	-5.4

	1.6nm,0.3s,SNR=7.9						
EMOS				Lg		12 13 26.3	
	0.3nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**3.15**	**218**	Pn	**Pn**	**12 12 37.9**	**+1.3**
	0.6nm,0.2s,SNR=7.9						
EMOS				Sn	**Sn**	**12 13 14.6**	**-0.6**
	1.6nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**3.15**	**218**	Pn	**Pn**	**12 12 37.9**	**+1.4**
EMOS				Sn	**Sn**	**12 13 14.6**	**-0.6**
EMOS				Lg		12 13 26.3	
LMR	**La Mourre**	**3.29**	**81**	*e*Pn	**Pn**	**12 12 38.8**	**+0.3**
LMR				*e*Sn	**Sn**	**12 13 15.9**	**-2.8**
	4.3nm,0.2s						
LMR				*e*Sg	**Sg**	**12 13 31.0**	**-3.5**
TCF	**Toulx Ste Croi**	**3.41**	**2**	*e*Pg	**Pg**	**12 12 52.2**	**-0.9**
TCF				*e*Sg	**Sg**	**12 13 36.4**	**-2.2**
	12nm,0.3s						
BGF	**Bois d'Agland**	**3.72**	**8**	*e*Pg	**Pg**	**12 12 58.1**	**-1.2**
BGF				*e*Sg	**Sg**	**12 13 46.3**	**-2.6**
	36nm,0.3s						
MBDF	**Montbardon**	**3.88**	**60**	*e*Pn	**Pn**	**12 12 46.7**	**-0.2**
MBDF				*e*Pg	**Pg**	**12 13 02.1**	**-0.3**
SMF	**Signal de Mont**	**3.97**	**18**	*e*Sg	**Sg**	**12 13 52.7**	**-4.6**
	4.2nm,0.3s						
AVF	**Avril sur Loir**	**4.02**	**13**	*e*Sg	**Sg**	**12 13 55.7**	**-3.1**
	2.7nm,0.2s						
MFF	**Saint Martin d**	**4.04**	**338**	*e*Pn	**Pn**	**12 12 50.0**	**+0.8**
MFF				*e*Pg	**Pg**	**12 13 03.3**	**-2.4**
MFF				*e*Sn	**Sn**	**12 13 34.3**	**-3.4**
MFF				*e*Sg	**Sg**	**12 13 55.6**	**-4.0**
	7.8nm,0.3s						
SSF	**Saint Saulge**	**4.30**	**13**	*e*Sg	**Sg**	**12 14 03.6**	**-4.8**
	2.5nm,0.3s						
LOR	**Lormes**	**4.57**	**16**	*e*Pn	**Pn**	**12 12 56.6**	**-0.1**
LOR				*e*Sg	**Sg**	**12 14 13.2**	**-4.0**
	3.7nm,0.3s						
PGF	**Pioggiola**	**5.12**	**91**	*e*Pn	**Pn**	**12 13 03.0**	**-1.5**
PGF				*e*Sn	**Sn**	**12 13 58.5**	**-6.5**
	2.4nm,0.3s						
ROSF	**Rostrenen**	**6.62**	**327**	*e*Pn	**Pn**	**12 13 24.3**	**-1.3**
ROSF				*e*Sn	**Sn**	**12 14 35.9**	**-6.6**
	1.2nm,0.2s						

NNC 29 13:29:38.8±15.0, 36.67N×70.85E, h89km±358km, mpv3.3, 3C, Error ellipse: s-maj=133.5km s-min=96.8km az=54.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.43**	**358**	⇑S	S	13 32 24.1	-1.0
	1.9nm,0.4s						
AAK	**Ala-Archa**	**6.58**	**24**	⇑P	P	13 31 12.7	-2.0
	1.2nm,0.5s						
AAK				⇑S	S	13 32 27.1	-1.8
	6.9nm,0.9s						
AB31	**Akbulak array**	**14.87**	**331**	P	P	13 33 05.8	+0.4
	0.3nm,0.3s,baz=140,slow=13,SNR=21						
AB31				S	S	13 35 45.0	-3.2
	0.9nm,0.6s,baz=148,slow=21,SNR=6.8						

NIED ***29*** *13:29:00, 34.80N×141.20E, h5km, Mw4.1 Best double couple: M0 1.34×10^15 NP1:φs355°, δ80°, λ104°. NP2: φs121°, δ17°, λ37°.*
JMA ***29*** *13:29:43.2±0.2, 34.78N×141.17E, h41km±2km, M3.8*
JMA Felt I J1.
IDC ***29*** *13:29:46.5±5.8, 34.72N×140.93E, h32km±44km, mb3.7/7, mb1 3.9/9, mb1mx3.8/22, mbtmp3.9/9, ML4.0/1, MS3.4/1, Ms1 3.4/1, ms1mx2.7/25, Error ellipse: s-maj=26.6km s-min=17.0km az=74.0*
NEIC ***29*** *13:29:47.0±0.5, 34.73N×140.89E, h35km, mb4.4/1, Error ellipse: s-maj=14.9km s-min=6.9km az=61.0*

ISC 29 13:29:44.8±0.5, 34.76N±0.03×141.03E±0.05, h41km, n31, σ0§88/44, mb4.1/10, 4C-3D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.12**	**202**	⇓P	**P**	**13 29 50.4**	**-1.2**
BSO3	**Boso 3**	**0.43**	**275**	⇓P	**P**	**13 29 54.8**	**+0.1**
BSO3				*e*S	**S**	**13 30 02.0**	**+0.4**
BSO4	**Boso 4**	**0.61**	**292**	⇑P	**P**	**13 29 57.6**	**+0.5**
BSO4				*e*S	**S**	**13 30 07.8**	**+1.8**
KTR	**Katsuura**	**0.70**	**303**	⇑P	**P**	**13 29 58.2**	**-0.1**
KTR				*e*S	**S**	**13 30 08.1**	**-0.1**
JCN	**Nagara**	**0.94**	**314**	⇑P	**P**	**13 30 01.8**	**0.0**
JCN				*e*S	**S**	**13 30 15.1**	**+0.8**
CHOJ	**Chosi**	**0.95**	**352**	⇓P	**P**	**13 30 00.3**	**-1.5**
CHOJ				*e*S	**S**	**13 30 13.4**	**-1.0**
JIM2	**Oshima 3**	**1.32**	**269**	⇑P	**P**	**13 30 06.8**	**-0.4**
JIM2				*e*S	**S**	**13 30 22.8**	**-1.0**
JMY	**Miyakejima3**	**1.43**	**242**	P	**P**	**13 30 09.1**	**+0.3**
JMY				*e*S	**S**	**13 30 26.5**	**-0.1**
JHJ	**Hachijo jima 2**	**1.94**	**213**	Pn	**P**	**13 30 15.8**	**-0.1**
	71nm,0.3s,baz=80,slow=19,SNR=107						
JHJ				Sn	**S**	**13 30 38.4**	**-0.9**
	416nm,0.3s,baz=84,slow=23,SNR=36						
JHJ				LR	LR	13 31 03.9	
	comp=Z,383nm,18.3s,baz=312,slow=42						
MJAR	**Matsushiro Arr**	**2.90**	**309**	Pn	**P**	**13 30 29.5**	**-0.2**
	baz=153,slow=15						
MJAR				Sn	**S**	**13 31 03.5**	**-0.3**
MJAR	**Matsushiro Arr**	**2.90**	**309**	Pn	**P**	**13 30 29.5**	**-0.2**
MJAR				Sn	**S**	**13 31 03.5**	**-0.3**
MAJO	**Matsushiro**	**2.91**	**309**	*e*Pn	**P**	**13 30 29.8**	**0.0**
MAJO				*e*Sn	**S**	**13 31 03.5**	**-0.3**
MAT	**Matsushiro**	**2.91**	**309**	P	**P**	**13 30 29.4**	**-0.4**
MAT				S	**S**	**13 31 02.5**	**-1.3**
MAT	**Matsushiro**	**2.91**	**309**	*e*P	**P**	**13 30 29.0**	**-0.8**
MAT				*e*S	**S**	**13 31 03.0**	**-0.8**
CBIJ	**Chichi jima**	**7.71**	**172**	Pn	**P**	**13 31 36.0**	**-1.2**
	7.4nm,0.3s,baz=276,slow=22,SNR=6.4						
JNU	**Nakatsue**	**8.59**	**262**	Pn	**P**	**13 31 52.9**	**+3.3**
	0.4nm,0.3s,baz=80,slow=12,SNR=5.4						
ASAJ	**Asahikawa**	**9.42**	**7**	Pn	**P**	**13 31 56.0**	**-5.0**
	1.9nm,0.3s,baz=223,slow=9.9,SNR=16						
ASAJ				Sn	**S**	**13 33 43.2**	**-3.5**
	0.2nm,0.3s,baz=139,slow=33,SNR=3.4						
MDJ	**Mudanjiang**	**13.19**	**322**	P	**P**	**13 32 52.8**	**+0.8**
JOW	**Kunigami**	**13.51**	**238**	LR	LR	13 38 08.4	
	comp=Z,148nm,18.2s,baz=353,slow=37						
SONM	**Songino Array**	**28.86**	**307**	P	**P**	**13 35 41.4**	**0.0**
	0.8nm,0.7s,mb3.6,baz=105,slow=8.6,SNR=5.8						
MKAR	**Makanchi Array**	**45.09**	**304**	P	**P**	**13 37 59.1**	**+0.5**
	1.4nm,0.6s,mb3.9,baz=93,slow=9.5,SNR=9.9						
KURK	**Kurchatov**	**47.12**	**310**	*e*P	**P**	**13 38 15.0**	**+0.5**
	2.9nm,0.8s,mb4.3						
ILAR	**Eielson Array**	**51.59**	**31**	P	**P**	**13 38 49.5**	**+0.8**
	0.6nm,0.7s,mb3.6,baz=278,slow=5.4,SNR=8.1						
BVAR	**Borovoye Array**	**51.89**	**314**	P	**P**	**13 38 51.9**	**+0.8**
	1.2nm,0.5s,mb4.1,baz=89,slow=8.1,SNR=9.5						
WRAB	**Tennant Creek**	**54.76**	**188**	*e*P	**P**	**13 39 12.3**	**-0.6**
	3.8nm,0.4s,mb4.8						
WB2	**Warramunga Arr**	**54.77**	**188**	*e*P	**P**	**13 39 12.9**	**0.0**
WRA	**Warramunga Arr**	**54.77**	**188**	P	**P**	**13 39 12.7**	**-0.2**
	1.4nm,0.3s,mb4.5,baz=3.0,slow=7.8,SNR=109						
MBWA	**Marble Bar**	**59.18**	**203**	*e*P	**P**	**13 39 44.3**	**+0.1**
	4.3nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**66.29**	**179**	*e*P	**P**	**13 40 32.2**	**+1.1**
AKASG	**Malin Array Be**	**75.91**	**323**	P	**P**	**13 41 29.4**	**+0.9**
	0.4nm,0.4s,mb3.8,baz=45,slow=6.7,SNR=5.6						
PDAR	**Pinedale Array**	**79.49**	**45**	P	**P**	**13 41 51.1**	**+2.6**
	0.6nm,0.9s,mb3.5,baz=297,slow=6.0,SNR=3.1						

ATH ***29*** *14:40:03.5, 36.96N×28.39E, h36km±2km, MD3.1/3*
ISK ***29*** *14:40:04.5, 36.96N×28.11E, h31km, MD3.1*
CSEM ***29*** *14:40:04.5±0.2, 36.99N×28.15E, h25km, MD3.1, Error ellipse: s-maj=5.3km s-min=4.1km az=29.0*

ISC 29 14:40:05.4±0.5, 36.88N±0.03×28.08E±0.03, h12km±4km, n21, σ1§20/36, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.30**	**32**	*i* PG	**Pg**	**14 40 11.5**	**-0.3**
YER				*i* SG	**Sg**	**14 40 16.3**	**+0.3**
DALT	**Dalyan (Mudla)**	**0.46**	**104**	*i* PG	**Pg**	**14 40 14.9**	**+0.1**
DALT				*i* SG	**Sg**	**14 40 22.7**	**+1.6**
MLSB	**Milas**	**0.48**	**330**	*i* PG	**Pg**	**14 40 14.4**	**-0.8**
MLSB				*i* SG	**Sg**	**14 40 22.2**	**+0.4**
BDRM	**Kayabasi**	**0.54**	**290**	*i* P	**Pg**	**14 40 16.6**	**+0.2**
BDRM				*i* S	**Sg**	**14 40 25.7**	**+1.9**
BODT	**Bodrum**	**0.64**	**287**	*i* PG	**Pg**	**14 40 17.7**	**-0.7**
BODT				*i* SG	**Sg**	**14 40 27.0**	**0.0**
ARG	**Arkhangelos**	**0.66**	**177**	*e*PN	**Pn**	**14 40 18.8**	**-1.5**
ARG				*e*SN	**Sn**	**14 40 30.2**	**-0.4**
AYDN	**Tasoluk**	**0.80**	**349**	*i* P	**Pb**	**14 40 20.8**	**+0.1**
AYDN				*i* S	**Sb**	**14 40 32.0**	**+0.8**
FETY	**Fethiye**	**0.84**	**106**	PG	**Pg**	**14 40 20.9**	**-1.5**
FETY				SG	**Sg**	**14 40 32.5**	**-1.2**
DNZL	**Cakiroluk**	**1.12**	**43**	*i* P	**Pb**	**14 40 25.9**	**-0.2**
DNZL				*i* S	**Sb**	**14 40 41.7**	**+1.2**
DENT	**Denizli**	**1.16**	**41**	*e*PN	**Pn**	**14 40 24.0**	**-3.4**
GOLH	**Golhisar**	**1.24**	**73**	*i* P	**Pg**	**14 40 30.4**	**+0.2**
GOLH				*i* S	**Sg**	**14 40 48.4**	**+1.7**
SMG	**Samos**	**1.29**	**310**	*e*PN	**Pn**	**14 40 28.9**	**-0.4**
AKAS	**Kas**	**1.39**	**117**	*i* P	**Pg**	**14 40 32.8**	**-0.3**
AKAS				*i* S	**Sg**	**14 40 53.9**	**+2.3**
ELL	**Elmali**	**1.47**	**95**	*e*PN	**Pn**	**14 40 29.2**	**-2.7**
KARP	**Karpathos**	**1.52**	**209**	*e*PN	**Pn**	**14 40 33.0**	**+0.4**
KARP				*e*SN	**Sn**	**14 40 54.2**	**+1.8**
IZM	**Izmir**	**1.65**	**337**	*e*PN	**Pn**	**14 40 31.4**	**-3.0**
MANT	**Manisa**	**1.65**	**13**	*i* P	**Pg**	**14 40 37.2**	**-1.2**
MANT				*i* S	**Sg**	**14 41 00.1**	**-0.5**
KHL	**Karahalli**	**1.84**	**38**	*e*PN	**Pn**	**14 40 33.0**	**-4.2**
TKTP	**Tekketepe**	**2.13**	**56**	*i* P	**Pg**	**14 40 44.1**	**-3.8**
TKTP				*i* S	**Sg**	**14 41 15.8**	**-0.5**
GDZ	**Gediz**	**2.47**	**26**	*i* P	**Pn**	**14 40 48.1**	**+2.0**
ULDT	**Uludag**	**3.36**	**14**	*i* P	**Pg**	**14 41 08.1**	**-4.5**
ULDT				*i* S	**Sg**	**14 41 52.0**	**-5.3**

NNC 29 14:44:45.9±9.8, 37.94N×71.75E, h240km±90km, mpv2.8, 3C-1D, Error ellipse: s-maj=92.1km s-min=51.4km az=1.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**5.14**	**23**	S	S	14 47 05.6	+1.3
	2.5nm,0.5s						
KK31	**Karatay Array**	**5.24**	**350**	⇑P	P	14 46 03.7	-1.4
	0.4nm,0.3s,baz=163,slow=12						
KK31				⇑S	S	14 47 07.2	+0.5
	5.8nm,0.5s,baz=169,slow=23						
AB31	**Akbulak array**	**14.16**	**327**	⇑P	P	14 47 57.7	+0.3
	0.1nm,0.3s,baz=173,slow=9.6,SNR=5.0						
AB31				⇓S	S	14 50 32.6	+3.8
	1.4nm,0.8s						

IDC ***29*** *14:44:44.7±3.4, 10.99N×92.21E, h16km±21km, mb4.6/29, mb1 4.7/29, mb1mx4.7/30, mbtmp4.7/29, MS4.6/14, Ms1 4.6/14, ms1mx4.4/29, Error ellipse: s-maj=13.3km s-min=10.7km az=50.0*
CSEM ***29*** *14:44:45.3, 11.05N×92.28E, h30km, mb5.5*
MOS ***29*** *14:44:45.5±1.0, 11.01N×92.25E, h33km, mb5.5/39, MS4.7/15, Error ellipse: s-maj=8.7km s-min=4.9km az=111.7*
BJI ***29*** *14:44:45.6, 10.96N×92.23E, h42km, mB5.2, mb5.3, Ms5.0, Msz4.7*
HRVD ***29*** *14:44:47.8±0.4, 11.04N×91.92E, h21km, MW5.2/51, Centroid moment Tensor Solution. LP body waves: s39,c59;Mantle waves: s51,c93; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.26±.20; Mθθ0.50±.16; Mφφ-3.76±.14; Mrθ-0.06±.33; Mrφ0.92±.12; Mθφ-5.56±.27; Best double couple: M0 6.637×10^16 NP1:φs334°, δ18°, λ66°. NP2:φs179°, δ74°, λ97°. Principal axes: T 6.368, Plg60°, Azm100°; N .539, Plg7°, Azm357°; P -6.907, Plg28°, Azm263°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***29*** *14:44:47.8±0.2, 11.04N×92.25E, mb5.2/80, MS4.7/12 Error ellipse: s-maj=5.3km s-min=3.8km az=219.0*
NEIC Felt at Port Blair.

ISC 29 14:44:46.2±0.2, 10.99N±0.03×92.25E±0.02, h39km, h39km±2.3km: pP-P, n348, σ1§02/362, mb5.2/130, MS4.7/46, 38C-13D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**0.82**	**36**	*e*P	**P**	**14 45 02.9**	**+1.5**
PBA				*e*S	**S**	**14 45 18.0**	**+5.5**
PKT	**Phuket**	**6.54**	**116**	P	**P**	**14 46 29.5**	**+7.1**
NNT	**Nongplab**	**7.50**	**77**	P	**P**	**14 46 36.5**	**+0.7**
NST	**Nakhon Sawan**	**8.98**	**58**	P	**P**	**14 46 56.2**	**-0.1**
	98nm,0.8s						
SNG	**Songkhla**	**9.09**	**114**	P	**P**	**14 46 59.0**	**+1.1**
	190nm,0.9s						
KULM	**Kulim**	**10.06**	**124**	*e*Pn	**P**	**14 47 10.4**	**-1.0**
CHG	**Chiang Mai**	**10.12**	**39**	⇓P	**P**	**14 47 10.6**	**-1.5**
	92nm,1.1s						
IPM	**Ipoh**	**10.78**	**126**	P	**P**	**14 47 21.4**	**+0.2**
VIS	**Vishakhapatnam**	**10.93**	**309**	*e*P	**P**	**14 47 17.8**	**-5.3**
VIS				*e*S	**S**	**14 49 08.0**	**-17**
VIS				AML	AML	14 49 12.0	
	comp=N,428nm,0.6s						
VIS				AML	AML	14 49 12.6	
	comp=E,342nm,0.5s						
NANT	**Nan**	**11.27**	**45**	⇑P	**P**	**14 47 28.0**	**+0.2**
	comp=E,462nm,0.5s						
CHRT	**Chiangrai**	**11.43**	**39**	⇑P	**P**	**14 47 27.0**	**-3.0**
	comp=E,447nm,1.0s						
MDRS	**Chennai**	**11.92**	**281**	*i* P	**P**	**14 47 32.0**	**-4.6**
MDRS				*e*x	x	14 49 30.0	
MDRS				*e*x	x	14 51 18.0	
PALK	**Pallekele**	**11.98**	**253**	*e*Pn	**P**	**14 47 32.8**	**-4.6**
PALK				*e*Sn	**S**	**14 49 37.4**	**-13**
CAL	**Calcutta**	**12.08**	**342**	*e*x	x	14 50 04.0	
UBT	**Ubonrachathani**	**13.14**	**70**	P	**P**	**14 47 56.8**	**+3.9**
IMP	**Imphal**	**13.81**	**6**	*e*P	**P**	**14 48 02.0**	**+0.2**
IMP				*e*S	**S**	**14 50 32.0**	**-2.8**
BOK	**Bokaro**	**14.10**	**335**	*i* P	**P**	**14 48 01.6**	**-3.9**
BOK				*i* x	x	14 50 28.6	
KGM	**Kluang**	**14.15**	**128**	P	**P**	**14 48 06.3**	**0.0**
SHL	**Shillong**	**14.50**	**359**	*e*P	**P**	**14 48 07.0**	**-3.8**
SHL				*e*x	x	14 50 44.0	
BLSP	**Bilaspur**	**14.71**	**320**	*e*P	**P**	**14 48 09.6**	**-3.9**
BLSP				AMb	AMB	14 48 11.4	
	comp=Z,134nm,0.2s						
BLSP				*e*x	x	14 50 42.4	
HYB	**Hyderabad**	**14.73**	**297**	*i* P	**P**	**14 48 09.5**	**-4.3**
	comp=Z,160nm,1.0s						
HYB				*e*		14 48 19.0	
HYB				*e*		14 50 40.0	
HYB				*e*S	**S**	**14 50 53.0**	**-3.5**
HYB				LR	LR	14 56 28.0	
	comp=Z,4.0nm,16.0s						
HYB	**Hyderabad**	**14.73**	**297**	*e*P	**P**	**14 48 09.5**	**-4.3**
	comp=Z,160nm,1.0s						
HYB				*e*		14 48 19.0	
HYB				*e*S	**S**	**14 50 40.0**	**-16**
HYB	**Hyderabad**	**14.73**	**297**	*e*P	**P**	**14 48 09.5**	**-4.3**
HYB				pmax	pmax		
	comp=Z,160nm,1.0s						
TRD	**Trivandrum**	**15.27**	**262**	*e*x	x	14 48 14.3	
TRD				*i* S	**S**	**14 51 05.1**	**-4.0**
GTK	**Gangtok**	**16.61**	**349**	*e*x	x	14 48 47.0	
JBP	**Jabalpur**	**16.84**	**318**	*e*x	x	14 48 42.3	
JBP				*e*x	x	14 51 35.2	
LATR	**Latur**	**16.87**	**298**	*e*P	**P**	**14 48 38.1**	**-3.0**
MNGI	**Mangalore**	**17.16**	**278**	*i* P	**P**	**14 48 43.0**	**-1.7**
MNGI				*i* x	x	14 51 35.2	
KMI	**Kunming**	**17.22**	**34**	P	**P**	**14 48 46.8**	**+1.2**
KMI				AP		14 48 53.3	
KMI				XP		14 48 56.0	
KMI				PP	PP	14 49 02.5	+2.4
KMI				PPP	PPP	14 49 10.8	+2.3
KMI				S	**S**	**14 51 59.3**	**+5.1**
KMI				XS		14 52 08.8	
KMI				AMB	AMB		
	comp=Z,164nm,1.0s						
KMI				AMB	AMB		
	comp=Z,393nm,3.1s						
KMI				LR	LR		
	comp=N,3μm,17.9s						
KMI				LR	LR		
	comp=E,3μm,21.5s						
KMI				LR	LR		
	comp=Z,2μm,14.3s						
KMI	**Kunming**	**17.22**	**34**	P	**P**	**14 48 46.7**	**+1.1**
	comp=Z,164nm,1.0s						
KMI				pP		14 48 53.3	
KMI				sP		14 48 55.9	
KMI				PP	PP	14 49 02.5	+2.4
KMI				PPP	PPP	14 49 10.8	+2.3
KMI				S	**S**	**14 51 59.2**	**+5.0**
KMI				sS		14 52 08.7	
KMI				SS	SS	14 52 21.6	+5.6
KMI				SSS	SSS	14 52 34.2	+4.2
KMI	**Kunming**	**17.22**	**34**	P	**P**	**14 48 46.7**	**+1.1**
KMI				S	**S**	**14 51 59.2**	**+5.0**
KMI				pmax	pmax		
	comp=Z,164nm,1.0s						
AKL	**Akola**	**17.53**	**305**	⇓*i*x	x	14 50 45.8	
AKL				*i* x	x	14 53 45.9	
PKI	**Pulchoki**	**17.70**	**340**	*e*P	**P**	**14 48 48.5**	**-3.1**
	comp=Z,590nm,1.2s						
PKI	**Pulchoki**	**17.70**	**340**	*e*P	**P**	**14 48 48.5**	**-3.1**
PKI				pmax	pmax		
	comp=Z,295nm,1.2s						
DMN	**Daman**	**17.84**	**339**	*e*P	**P**	**14 48 51.0**	**-2.3**
	comp=Z,570nm,0.9s						
KKN	**Kakani**	**17.95**	**340**	*e*P	**P**	**14 48 52.0**	**-2.6**
	comp=Z,439nm,1.2s						
KKN	**Kakani**	**17.95**	**340**	*e*P	**P**	**14 48 52.0**	**-2.6**
KKN				pmax	pmax		
	comp=Z,219nm,1.2s						
GKN	**Gorkha**	**18.37**	**338**	*e*P	**P**	**14 48 56.9**	**-3.0**
	comp=Z,126nm,0.8s						
GKN				*e*S	**S**	**14 52 08.6**	**-12**
GOA	**Goa**	**18.48**	**286**	*e*P	**P**	**14 48 58.0**	**-3.3**
GOA				*e*x	x	14 52 05.0	
KOLN	**Koldanda**	**18.56**	**335**	*e*P	**P**	**14 48 59.8**	**-2.5**
	comp=Z,226nm,0.8s						
KAD	**Karad**	**18.60**	**292**	*e*P	**P**	**14 48 59.1**	**-3.6**
KAD				AMb	AMB	14 49 03.0	
	comp=Z,89nm,1.0s						
LSA	**Lhasa**	**18.64**	**357**	P	**P**	**14 49 03.0**	**-0.2**
LSA				AP		14 49 11.5	
LSA				XP		14 49 16.0	
LSA				PP	PP	14 49 22.0	+2.8
LSA				S	**S**	**14 52 34.0**	**+7.7**
LSA				LR	LR		
	comp=N,1μm,20.6s						
LSA				LR	LR		
	comp=E,1μm,19.8s						
LSA				LR	LR		
	comp=Z,2μm,19.8s						
LSA	**Lhasa**	**18.64**	**357**	*e*P	**P**	**14 49 02.9**	**-0.4**
	comp=Z,92nm,0.6s						
LSA	**Lhasa**	**18.64**	**357**	*e*P	**P**	**14 49 02.9**	**-0.3**
LSA				pmax	pmax		
	comp=Z,92nm,0.6s						
BHPL	**Bhopal**	**18.66**	**313**	*e*P	**P**	**14 49 00.7**	**-2.8**
BHPL				AMb	AMB	14 49 06.2	
	comp=Z,139nm,2.2s						
BHPL				*e*x	x	14 52 14.1	
QIZ	**Qiongzhong**	**18.77**	**63**	⇓P	**P**	**14 49 06.0**	**+1.2**
QIZ				AP		14 49 16.5	
QIZ				S	**S**	**14 52 36.8**	**+7.6**
QIZ				AMB	AMB		
	comp=Z,127nm,1.2s						
QIZ				LR	LR		
	comp=E,2μm,17.4s						
QIZ				LR	LR		
	comp=Z,3μm,17.8s						
QIZ	**Qiongzhong**	**18.77**	**63**	*e*P	**P**	**14 49 04.8**	**0.0**
	comp=Z,254nm,1.4s						
POO	**Poona**	**19.29**	**295**	*i* P	**P**	**14 49 07.0**	**-3.8**
	comp=Z,370nm,1.0s						
POO				*i* x	x	14 52 24.0	
KSM	**Kuching**	**20.27**	**117**	*e*P	**P**	**14 49 20.6**	**-0.8**
GYA	**Guiyang**	**20.54**	**40**	⇑*i*P	**P**	**14 49 23.8**	**-0.3**
GYA				AP		14 49 35.0	
GYA				XP		14 49 41.3	
GYA				PP	PP	14 49 49.0	+3.3
GYA				AMB	AMB		
	comp=Z,230nm,1.8s						
GYA				LR	LR		
	comp=N,2μm,18.0s,MS4.7						
GYA				LR	LR		
	comp=E,3μm,17.7s,MS4.7						
GYA				LR	LR		
	comp=Z,3μm,15.9s,MS4.7						
PTH	**Pithoragarh**	**21.61**	**330**	*e*P	**P**	**14 49 35.0**	**+0.1**
PTH				*e*S	**S**	**14 53 29.0**	**+2.1**
CD2	**Chengdu**	**22.52**	**27**	⇑*i*P	**P**	**14 49 43.8**	**-0.2**
CD2				PP	PP	14 50 13.0	+0.6
CD2				PPP	PPP	14 50 25.0	+2.5
CD2				S	**S**	**14 53 47.8**	**+4.2**
CD2				AMB	AMB		
	comp=Z,220nm,1.0s,mb5.5						
CD2				AMB	AMB		
	comp=Z,300nm,12.0s						
CD2				LR	LR		
	comp=E,1μm,15.6s						
CD2				LR	LR		
	comp=Z,630nm,15.6s,MS4.2						
NDI	**New Delhi**	**22.53**	**324**	*e*x	x	14 45 26.4	
NDI				*e*x	x	14 53 42.5	
AJM	**Ajmer**	**22.65**	**315**	*i* P	**P**	**14 49 45.0**	**-0.3**
KKM	**Kota Kinabalu**	**24.20**	**100**	P	**P**	**14 50 02.1**	**+1.6**
KKM	**Kota Kinabalu**	**24.20**	**100**	*e*P	**P**	**14 50 01.9**	**+1.3**
BHJ	**Bhuj**	**24.75**	**302**	*e*x	x	14 50 20.4	
BHJ				*e*x	x	14 54 46.7	
ENH	**Enshi**	**25.00**	**37**	*e*P	**P**	**14 50 07.4**	**-0.8**
	comp=Z,262nm,0.7s,mb5.9						
ENH				*e*S	**S**	**14 54 26.8**	**0.0**
TSM	**Tawau**	**26.24**	**103**	P	**P**	**14 50 19.5**	**-0.4**
LZH	**Lanzhou**	**27.11**	**21**	⇑P	**P**	**14 50 27.3**	**-0.3**
LZH				AP	pP	14 50 35.5	-2.7
LZH				XP	sP	14 50 41.0	-1.9
LZH				PP	PP	14 51 15.0	+0.5
LZH				S	**S**	**14 55 01.5**	**+0.2**
LZH				XS		14 55 19.0	
LZH				SS	SS	14 56 15.5	-2.0
LZH				AMB	AMB		
	comp=Z,167nm,1.5s,mb5.3						
LZH				AMB	AMB		
	comp=Z,550nm,4.6s						
LZH				LR	LR		
	comp=E,3μm,15.2s						
LZH				LR	LR		
	comp=Z,4μm,16.3s,MS5.1						
LZH	**Lanzhou**	**27.11**	**21**	⇑P	**P**	**14 50 27.2**	**-0.4**
	comp=Z,167nm,1.5s,mb5.3						
LZH				pP	pP	14 50 35.5	-2.7
LZH				sP	sP	14 50 41.0	-1.9
LZH				PP	PP	14 51 15.

QZH				LR	LR		
	comp=N,2μm,17.1s,MS5.0						
QZH				LR	LR		
	comp=E,3μm,15.3s,MS5.0						
QZH				LR	LR		
	comp=Z,4μm,17.0s,MS5.0						
APYP	**Conner**	**28.88**	**73**	*e*P	**P**	**14 50 43.7**	**0.0**
BALP	**Baler**	**28.91**	**77**	*e*P	**P**	**14 50 44.1**	**+0.1**
GTA	**Gaotai**	**29.09**	**12** ⇑	*i*P	**P**	**14 50 45.8**	**+0.4**
GTA				AP	pP	14 50 55.8	-0.3
GTA				XP	sP	14 51 00.0	-1.1
GTA				PP	PP	14 51 42.5	+2.2
GTA				PPP	PPP	14 51 56.3	+2.9
GTA				PCP	PcP	14 53 53.8	+0.8
GTA				S	**S**	**14 55 35.5**	**+2.3**
GTA				XS		14 55 56.5	
GTA				SS	SS	14 57 08.0	+3.8
GTA				SCP		14 57 33.5	
GTA				SCS	ScS	15 01 25.8	+3.1
GTA				AMB	AMB		
	comp=Z,47nm,1.4s,mb5.0						
GTA				AMB	AMB		
	comp=Z,305nm,11.1s						
GTA				LR	LR		
	comp=N,719nm,22.2s,MS4.5						
GTA				LR	LR		
	comp=E,1μm,18.3s,MS4.5						
GTA				LR	LR		
	comp=Z,1μm,20.2s,MS4.5						
CAUP	**Cauayan**	**29.28**	**75**	*e*P	**P**	**14 50 46.5**	**-0.8**
CVP	**Callao Caves**	**29.39**	**73**	*e*P	**P**	**14 50 48.0**	**-0.3**
SGCP	**Mt. Cagua**	**29.69**	**72**	*e*P	**P**	**14 50 50.5**	**-0.5**
YHNB	**Yeheng**	**30.80**	**60**	*e*P	**P**	**14 51 01.3**	**+0.5**
YHNB				*e*pP	pP	14 51 09.5	-2.1
KSH	**Kashi**	**31.88**	**336**	*e*P	**P**	**14 51 11.0**	**+0.9**
KSH				*e*AP	pP	14 51 22.0	+1.1
KSH				*e*XP	sP	14 51 28.0	+2.1
KSH				*e*PP	PP	14 52 17.3	+0.8
KSH				*e*PPP	PPP	14 52 32.3	+0.8
KSH				*e*PCP	PcP	14 54 01.0	+0.8
KSH				*e*S	**S**	**14 56 17.5**	**+0.4**
KSH				*e*XS		14 56 37.0	
KSH				*e*SCP		14 57 39.0	
KSH				*e*PCS		14 57 44.0	
KSH				*e*SS	SS	14 58 09.3	-0.7
KSH				*e*SCS	ScS	15 01 36.3	+0.1
KSH				LR	LR		
	comp=N,970nm,15.3s,MS4.8						
KSH				LR	LR		
	comp=E,1μm,13.5s,MS4.8						
NJ2	**Nanjing**	**32.27**	**45**	*e*P	**P**	**14 51 13.3**	**-0.3**
NJ2				AP	pP	14 51 22.8	-1.6
NJ2				XP	sP	14 51 26.8	-2.6
NJ2				PP	PP	14 52 20.8	-0.8
NJ2				S	**S**	**14 56 24.0**	**+0.7**
NJ2				XS		14 56 39.0	
NJ2				AMB	AMB		
	comp=Z,150nm,1.0s,mb5.8						
NJ2				AMB	AMB		
	comp=Z,450nm,5.9s						
NJ2				LR	LR		
	comp=N,3μm,15.2s,MS5.2						
NJ2				LR	LR		
	comp=E,2μm,13.9s,MS5.2						
NJ2				LR	LR		
	comp=Z,1μm,19.7s						
WMQ	**Urumqi**	**32.95**	**354** ⇑	*i*P	**P**	**14 51 20.0**	**+0.6**
WMQ				AP	pP	14 51 32.0	+1.8
WMQ				XP	sP	14 51 38.0	+2.8
WMQ				PP	PP	14 52 32.0	+1.7
WMQ				S	**S**	**14 56 34.0**	**+0.3**
WMQ				SS	SS	14 58 36.0	+1.4
WMQ				AMB	AMB		
	comp=Z,47nm,1.0s,mb5.4						
WMQ				AMB	AMB		
	comp=Z,214nm,5.0s						
WMQ				LR	LR		
	comp=N,1μm,12.0s,MS5.1						
WMQ				LR	LR		
	comp=E,2μm,14.0s,MS5.1						
WMQ				LR	LR		
	comp=Z,1μm,12.0s,MS4.8						
BTO	**Baotou**	**33.42**	**25**	*e*P	**P**	**14 51 21.5**	**-2.0**
BTO				S	**S**	**14 56 35.5**	**-5.5**
BTO				AMB	AMB		
	comp=Z,62nm,1.0s,mb5.5						
BTO				LR	LR		
	comp=N,691nm,12.6s,MS4.7						
BTO				LR	LR		
	comp=E,839nm,15.3s,MS4.7						
SSE	**Sheshan**	**33.44**	**49**	P	**P**	**14 51 24.0**	**+0.2**
SSE				XP	sP	14 51 39.8	+0.2
SSE				PP	PP	14 52 38.8	+2.4
SSE				S	**S**	**14 56 41.3**	**-0.1**
SSE				XS		14 57 00.8	
SSE				SCS	ScS	15 01 47.5	+3.2
SSE				AMB	AMB		
	comp=Z,54nm,1.2s,mb5.3						
SSE				AMB	AMB		
	comp=Z,108nm,3.4s						
SSE				LR	LR		
	comp=N,689nm,17.3s,MS4.8						
SSE				LR	LR		
	comp=E,1μm,17.3s,MS4.8						
SSE				LR	LR		
	comp=Z,2μm,17.8s,MS4.8						
SSE	**Sheshan**	**33.44**	**49**	P	**P**	**14 51 24.1**	**+0.3**
	comp=Z,54nm,1.2s,mb5.3						
SSE				sP	sP	14 51 39.8	+0.2
SSE				PP	PP	14 52 38.8	+2.4
SSE				S	**S**	**14 56 41.2**	**-0.2**
SSE				sS		14 57 00.7	
SSE				SS	SS	14 59 05.7	+20
SSE				ScS	ScS	15 01 47.6	+3.3
SSE				LR	LR		
	comp=Z,2μm,17.8s,MS4.8						
TIA	**Tai'an**	**33.72**	**38**	*e*P	**P**	**14 51 25.3**	**-0.8**
TIA				AMB	AMB		
	comp=Z,41nm,1.1s,mb5.3						
TIA				LR	LR		
	comp=N,1μm,15.0s,MS4.8						
TIA				LR	LR		
	comp=E,911nm,15.0s,MS4.8						
HHC	**Hu-ho-hao-te**	**34.28**	**26** ⇑	P	**P**	**14 51 30.8**	**0.0**
HHC				AP	pP	14 51 42.5	+0.8
HHC				XP	sP	14 51 48.5	+1.8
HHC				PP	PP	14 52 44.5	-2.1
HHC				PCP	PcP	14 54 07.0	+0.2
HHC				S	**S**	**14 56 51.0**	**-3.3**
HHC				XS		14 57 08.8	
HHC				SCP		14 57 49.5	
HHC				SS	SS	14 58 58.8	-6.3
HHC				SCS	ScS	15 01 49.8	+1.3
HHC				AMB	AMB		
	comp=Z,80nm,1.0s,mb5.6						
HHC				AMB	AMB		
	comp=Z,277nm,6.0s						
HHC				LR	LR		
	comp=N,1μm,17.9s,MS4.8						
HHC				LR	LR		
	comp=E,1μm,14.3s,MS4.8						
HHC				LR	LR		
	comp=Z,1μm,17.9s,MS4.7						
UCH	**Uchtor**	**34.77**	**337**	P	**P**	**14 51 37.1**	**+2.0**
	SNR=11						
TKM2	**Tokmak 2**	**34.96**	**338**	P	**P**	**14 51 39.3**	**+2.6**
	SNR=11						
KBK	**Karagaybulak**	**34.97**	**337**	P	**P**	**14 51 39.0**	**+2.2**
	SNR=19						
AML	**Almayashu**	**35.01**	**336**	P	**P**	**14 51 38.5**	**+1.4**
	SNR=17						
AAK	**Ala-Archa**	**35.12**	**337**	P	**P**	**14 51 40.2**	**+2.1**
	SNR=14						
AAK	**Ala-Archa**	**35.12**	**337**	P	**P**	**14 51 39.0**	**+0.9**
AAK				pmax	pmax		
	comp=Z,79nm,1.3s,mb5.5						
FRU	**Bishkek**	**35.25**	**337**	*e*P	**P**	**14 51 41.0**	**+1.9**
FRU				*e*		14 51 46.0	
FRU				*e*		14 57 17.0	
FRU				*e*		14 57 30.0	
FRU				pmax	pmax		
	comp=Z,100nm,1.9s,mb5.4						
FRU				MLR	MLR		
	comp=Z,2μm,16.0s,MS4.8						
CHMS	**Chumysh**	**35.34**	**338**	P	**P**	**14 51 42.9**	**+2.9**
	SNR=12						
EKS2	**Erkin-Say**	**35.43**	**336**	P	**P**	**14 51 43.0**	**+2.3**
	SNR=35						
USP	**Ospenovka**	**35.66**	**338**	P	**P**	**14 51 43.1**	**+0.5**
	SNR=35						
MKAR	**Makanchi Array**	**36.67**	**349**	P	**P**	**14 51 50.9**	**-0.2**
	comp=Z,26nm,0.8s,mb5.1,baz=164,slow=8.8,SNR=72						
MKAR				PcP	PcP	14 54 14.0	+0.2
	comp=Z,4.0nm,0.8s,baz=160,slow=3.3,SNR=3.8						
MKAR				LR	LR	15 10 31.6	
	comp=Z,521nm,19.9s,MS4.3,baz=178,slow=42						
KKAR	**Karatay Array**	**37.16**	**333**	*i* P	**P**	**14 51 56.1**	**+0.8**
JOW	**Kunigami**	**37.38**	**60**	P	**P**	**14 51 58.0**	**+0.7**
	comp=Z,28nm,0.8s,mb5.1,baz=110,slow=4.2,SNR=3.6						
DL2	**Dalian**	**38.18**	**38**	P	**P**	**14 52 04.5**	**+0.6**
DL2				AP	pP	14 52 13.5	-1.3
DL2				S	**S**	**14 57 59.5**	**+5.2**
DL2				SCS	ScS	15 02 12.0	+1.9
DL2				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.1						
DL2				LR	LR		
	comp=N,700nm,15.0s,MS4.6						
DL2				LR	LR		
	comp=E,360nm,17.2s,MS4.6						
DL2				LR	LR		
	comp=Z,850nm,17.3s,MS4.6						
SONM	**Songino Array**	**38.61**	**15**	P	**P**	**14 52 07.7**	**+0.4**
	comp=Z,28nm,0.9s,mb5.0,baz=199,slow=6.9,SNR=165						
SONM				PcP	PcP	14 54 19.7	0.0
	comp=Z,6.6nm,0.9s,baz=186,slow=3.9,SNR=4.2						
ULN	**Ulaanbaatar**	**38.81**	**16** ⇑	*i*P	**P**	**14 52 08.8**	**-0.2**
ZAK	**Zakamensk**	**40.31**	**11** ⇓	*i*P	**P**	**14 52 21.6**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.6						
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.3						
INCN	**Inchon**	**40.59**	**44**	*e*P	**P**	**14 52 23.5**	**-0.4**
	comp=Z,135nm,1.4s,mb5.4						
INCN				*e*		14 53 57.9	
KURK	**Kurchatov**	**41.16**	**347**	*e*P	**P**	**14 52 28.6**	**+0.2**
	comp=Z,43nm,0.9s,mb5.1						
KURK				*e*pP	pP	14 52 35.9	-3.6
KURK	**Kurchatov**	**41.16**	**347**	*e*P	**P**	**14 52 28.6**	**+0.1**
KURK				*e**PP	pP	14 52 35.9	-3.6
KURK				pmax	pmax		
	comp=Z,43nm,0.9s,mb5.1						
MOY	**Mondy**	**41.18**	**8**	*e*P	**P**	**14 52 29.4**	**+0.8**
MOY				pmax	pmax		
	comp=Z,37nm,2.8s,mb4.5						
KS15	**Wonju Array Si**	**41.43**	**45**	*e*P	**P**	**14 52 30.6**	**-0.2**
JNU	**Nakatsue**	**41.70**	**52**	P	**P**	**14 52 33.6**	**+0.5**
	comp=Z,65nm,0.9s,mb5.3,baz=289,slow=1.6,SNR=53						
MBWA	**Marble Bar**	**41.83**	**140**	*e*P	**P**	**14 52 32.9**	**-1.4**
	comp=Z,86nm,1.3s,mb5.2						
IRK	**Irkutsk**	**42.28**	**11**	*e*P	**P**	**14 52 38.0**	**+0.4**
IRK				*e*		14 54 17.8	
IRK				pmax	pmax		
	comp=Z,60nm,3.0s						
ZAL	**Zalesovo**	**43.25**	**354**	P	**P**	**14 52 46.1**	**+0.6**
	comp=Z,14nm,0.7s,mb4.8,baz=297,slow=7.3,SNR=84						
ZAL				LR	LR	15 15 10.2	
	comp=Z,958nm,18.5s,MS4.7,baz=292,slow=42						
CN2	**Changchun**	**43.49**	**35** ⇑	P	**P**	**14 52 47.5**	**-0.1**
CN2				*e*S	**S**	**14 59 15.5**	**+2.4**
CN2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,1μm,18.0s,MS4.9						
CN2				LR	LR		
	comp=E,600nm,18.0s,MS4.9						
CN2				LR	LR		
	comp=Z,900nm,18.0s,MS4.7						
FITZ	**Fitzroy Crossi**	**43.84**	**131**	*e*P	**P**	**14 52 49.4**	**-1.4**
	comp=Z,308nm,0.9s,mb6.0						
FITZ	**Fitzroy Crossi**	**43.84**	**131**	P	**P**	**14 52 49.8**	**-1.0**
	comp=Z,404nm,0.9s,mb6.2,baz=336,slow=6.1,SNR=194						
NVS	**Novosibirsk**	**44.32**	**353** ⇑	*i*P	**P**	**14 52 52.4**	**-1.7**
NVS				*i* S	**S**	**14 59 22.7**	**-2.3**
NVS				pmax	pmax		
	comp=Z,33nm,1.2s,mb4.9						
NVS				pmax	pmax		
	comp=N,42nm,1.7s						
NVS				pmax	pmax		
	comp=E,16nm,1.3s						
NVS				smax			
	comp=N,36nm,2.2s						
NVS				smax			
	comp=E,38nm,1.8s						
CIT	**Chita**	**44.42**	**19**	*e*P	**P**	**14 52 54.9**	**-0.1**
CIT				pmax	pmax		
	comp=Z,123nm,1.5s,mb5.4						
HIA	**Hailar**	**44.47**	**26**	*e*P	**P**	**14 52 55.4**	**0.0**
	comp=Z,44nm,1.1s,mb5.1						
HIA				*e*PP	PP	14 54 39.1	-1.4
HIA	**Hailar**	**44.47**	**26**	*e*P	**P**	**14 52 55.4**	**0.0**
HIA				*e*		14 54 39.1	
HIA				pmax	pmax		
	comp=Z,44nm,1.1s						
BVA0	**Borovoye Array**	**45.46**	**342**	P	**P**	**14 53 02.1**	**-1.2**
BVA0				pmax	pmax		
	comp=Z,3.0nm,1.1s						
BVAR	**Borovoye Array**	**45.46**	**342**	P	**P**	**14 53 02.6**	**-0.7**
	comp=Z,7.0nm,0.8s,mb4.5,baz=143,slow=7.4,SNR=19						
BRVK	**Borovoye**	**45.52**	**342**	*e*P	**P**	**14 53 03.2**	**-0.6**
	comp=Z,14nm,0.9s,mb4.9						
BRVK				*e*		14 53 10.2	
BRVK	**Borovoye**	**45.52**	**342**	*e*P	**P**	**14 53 03.2**	**-0.6**
BRVK				*e*		14 53 10.2	
BRVK				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.9						
KAKA	**Kakadu**	**46.33**	**119**	*e*P	sP	14 53 24.2	-2.3
	comp=Z,10nm,0.6s						
MDJ	**Mudanjiang**	**46.37**	**37**	P	**P**	**14 53 10.3**	**-0.3**
MDJ				AP	pP	14 53 21.0	-0.6
MDJ				XP	sP	14 53 26.3	-0.1
MDJ				PP	PP	14 54 58.8	-0.7
MDJ				SCP		14 58 33.8	
MDJ				S	**S**	**14 59 55.0**	**+0.6**
MDJ				SCS	ScS	15 03 01.8	+2.0
MDJ				AMB	AMB		
	comp=Z,17nm,1.2s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,86nm,3.3s						
MDJ				LR	LR		
	comp=N,361nm,15.9s,MS4.9						
MDJ				LR	LR		
	comp=E,1μm,16.6s,MS4.9						
MDJ				LR	LR		
	comp=Z,1μm,15.5s,MS4.9						
MDJ	**Mudanjiang**	**46.37**	**37**	*e*P	**P**	**14 53 10.6**	**0.0**
	comp=Z,14nm,1.0s,mb4.8						
MDJ				*e*pP	pP	14 53 26.5	+4.9
MZLS	**Mizel**	**46.48**	**293**	P	**P**	**14 53 12.1**	**+0.3**
AB31	**Akbulak array**	**46.62**	**331**	*i* P	**P**	**14 53 12.5**	**0.0**
VLA	**Vladivostok**	**46.95**	**40**	*i* P	**P**	**14 53 13.6**	**-1.6**
DJNS	**Zahran al Janu**	**47.55**	**284**	P	**P**	**14 53 19.9**	**-0.3**
ATD	**Arta Tunnel**	**48.40**	**276**	P	**P**	**14 53 26.6**	**-0.3**
	comp=Z,13nm,0.7s,mb5.1,slow=8.1,SNR=4.8						
AFFS	**'Afif**	**48.48**	**292**	P	**P**	**14 53 27.9**	**+0.5**
MUN	**Mundaring**	**48.49**	**153**	*e*P	**P**	**14 53 27.7**	**+0.3**
MAJO	**Matsushiro**	**48.55**	**51**	*e*P	**P**	**14 53 27.5**	**-0.3**
	comp=Z,75nm,1.4s,mb5.5						
MAJO				*e*pP	pP	14 53 42.4	+3.6
MAJO				*e*		14 54 53.4	
MAJO	**Matsushiro**	**48.55**	**51**	*e*P	**P**	**14 53 27.5**	**-0.3**
MAJO				*e**PP	pP	14 53 42.4	+3.5
MAJO				*e*		14 54 53.4	
MAJO				pmax	pmax		
	comp=Z,75nm,1.4s,mb5.5						
MAT	**Matsushiro**	**48.55**	**51**	P	**P**	**14 53 27.4**	**-0.4**
MAT				S	**S**	**15 00 32.4**	**+6.9**
MAT	**Matsushiro**	**48.55**	**51**	*e*P	**P**	**14 53 27.0**	**-0.8**
	comp=Z,125nm,1.5s,mb5.7						
MAT				*e*S	**S**	**15 00 32.0**	**+6.5**
MAT				LR	LR		
	comp=Z,1μm,20.0s,MS4.8						
MAT	**Matsushiro**	**48.55**	**51**	*e*P	**P**	**14 53 27.0**	**-0.8**
MAT				*e*S	**S**	**15 00 32.0**	**+6.5**
MAT				pmax	pmax		
	comp=Z,125nm,1.5s,mb5.7						
MAT				MLR	MLR		
	comp=Z,1μm,20.0s,MS4.8						
MJAR	**Matsushiro Arr**	**48.55**	**51**	P	**P**	**14 53 28.0**	**+0.2**
	baz=250,slow=7.1						
MJAR				PcP	PcP	14 54 53.6	+0.1
	baz=237,slow=3.3						
KLBR	**Kellerberrin**	**48.89**	**151** ⇓	*i*P	**P**	**14 53 29.6**	**-0.9**
	comp=Z,74nm,1.0s,mb5.7						
BLJS	**Baljurashi**	**49.46**	**287**	P	**P**	**14 53 34.9**	**-0.1**
BOD	**Bodaibo**	**49.61**	**15**	*e*P	**P**	**14 53 35.0**	**-0.6**
BOD				pmax	pmax		
	comp=Z,63nm,1.0s,mb5.6						
NWAO	**Narrogin (SRO)**	**49.76**	**152**	P	**P**	**14 53 35.9**	**-1.2**
	comp=Z,95nm,1.1s,mb5.7,baz=323,slow=8.9,SNR=9.1						
NWAO	**Narrogin (SRO)**	**49.76**	**152**	*e*P	**P**	**14 53 36.7**	**-0.5**
	comp=Z,138nm,1.4s,mb5.8						
NWAO				LR	LR		
	comp=Z,1μm,21.0s,MS4.9						
NWAO	**Narrogin (SRO)**	**49.76**	**152**	*e*P	**P**	**14 53 36.7**	**-0.4**
NWAO				pmax	pmax		
	comp=Z,138nm,1.4s						
NWAO				MLR	MLR		
	comp=Z,1μm,21.0s						
HILS	**Ha'il**	**50.02**	**297**	P	**P**	**14 53 39.7**	**+0.5**
LTHS	**Al Lith**	**50.59**	**287**	P	**P**	**14 53 43.2**	**-0.5**
GNI	**Garni**	**50.94**	**313**	P	**P**	**14 53 45.5**	**-0.6**
	comp=Z,3.5nm,0.3s,mb4.7,baz=349,slow=11,SNR=5.9						
GNI	**Garni**	**50.94**	**313**	*e*P	**P**	**14 53 46.0**	**0.0**
	comp=Z,72nm,1.2s,mb5.5						
GNI				*e*pP	pP	14 53 53.9	-3.3
GNI	**Garni**	**50.94**	**313**	*e*P	**P**	**14 53 46.0**	**-0.1**
GNI				*e**PP	pP	14 53 53.9	-3.3
GNI				pmax	pmax		
	comp=Z,72nm,1.2s						
DGRG	**David-gareji**	**50.99**	**315**	P	**P**	**14 53 46.4**	**+0.1**
GUMO	**Guam**	**51.41**	**81**	P	**P**	**14 53 48.5**	**-1.3**
	comp=Z,64nm,0.7s,mb5.7,baz=156,slow=21,SNR=5.2						
TI2	**Plekhanov**	**51.53**	**315**	*i* P	**P**	**14 53 52.0**	**+1.6**
TI2				*i*		14 53 58.8	
WRA	**Warramunga Arr**	**51.59**	**126**	P	**P**	**14 53 50.2**	**-1.0**
	comp=Z,72nm,0.8s,mb5.7,baz=304,slow=8.6,SNR=17						
WRAB	**Tennant Creek**	**51.60**	**126**	*e*P	**P**	**14 53 50.4**	**-0.8**
	comp=Z,128nm,0.8s,mb5.9						
WRAB	**Tennant Creek**	**51.60**	**126**	*e*P	**P**	**14 53 50.4**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,128nm,0.8s,mb5.9						
WB2	**Warramunga Arr**	**51.60**	**126** ⇑	*i*P	**P**	**14 53 50.3**	**-1.0**
SVE	**Sverdlovsk**	**51.84**	**339**	*e*P	**P**	**14 53 52.4**	**-0.1**
SVE				*e*		14 55 01.6	
SVE				*e*		15 01 14.0	
SVE				pmax	pmax		
	comp=Z,44nm,1.0s,mb5.3						
CLNS	**Chul'man**	**52.22**	**22**	*e*P	**P**	**14 53 55.3**	**-0.1**
CLNS				pmax	pmax		
	comp=Z,87nm,0.8s,mb5.7						
CLNS				pmax	pmax		
	comp=N,57nm,0.9s						
CLNS				pmax	pmax		
	comp=E,49nm,0.8s						
ARU	**Arti**	**52.31**	**337**	*e*P	**P**	**14 53 55.7**	**-0.4**
	comp=E,34nm,1.0s,mb5.2						
ZEI	**Tsey**	**52.51**	**316**	*e*P	**P**	**14 53 55.9**	**-1.8**
ZEI				*i* *PP	pP	14 54 05.8	-3.2
ZEI				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.6						
OPO	**Ambohidratompo**	**53.27**	**237**	P	**P**	**14 54 04.2**	**+0.4**
	comp=Z,9.6nm,0.3s,mb5.2,baz=156,slow=18,SNR=8.3						
ASPA	**Alice Springs**	**53.34**	**131** ⇑	*i*P	**P**	**14 54 03.2**	**-1.0**
ASPA				*e*S	**S**	**15 01 29.9**	**-1.7**
UMJS	**Umm Lajj**	**53.76**	**293**	P	**P**	**14 54 07.5**	**+0.2**
KIV	**Kislovodsk**	**53.77**	**317**	*e*P	**P**	**14 54 07.1**	**0.0**
	comp=Z,60nm,1.0s,mb5.5						
KIV				*e*	pP	14 54 16.1	-2.4
KIV	**Kislovodsk**	**53.77**	**317**	*e*P	**P**	**14 54 06.4**	**-0.8**
KIV				*e*	pP	14 54 16.1	-2.3
GOF	**Gofitskoye**	**53.97**	**318**	*e*P	**P**	**14 54 15.5**	**+6.9**
TBKS	**Tabuk**	**54.73**	**297**	P	**P**	**14 54 14.8**	**+0.4**
ASF	**Jabal al Asfar**	**54.98**	**302**	P	**P**	**14 54 14.6**	**-1.6**
	comp=Z,3.9nm,0.8s,mb4.5,baz=247,slow=2.5,SNR=4.3						
MALT	**Malatya**	**55.05**	**309**	*e*P	**P**	**14 54 15.8**	**-0.7**
	comp=Z,16nm,0.9s,mb5.0						
MALT				*e*pP	pP	14 54 28.4	+0.6
MALT	**Malatya**	**55.05**	**309**	*e*P	**P**	**14 54 15.8**	**-0.7**
MALT				*e**PP	pP	14 54 28.4	+0.5
MALT				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
SOKR	**Solikamsk**	**55.24**	**339** ⇓	*i*P	**P**	**14 54 18.9**	**+1.3**
SOKR				pmax	pmax		
	comp=Z,30nm,1.1s,mb5.2						
SOKR				MLR	MLR		
	comp=Z,760nm,18.0s,MS4.8						
JMQS	**Jabal Moqyreh**	**55.39**	**297**	P	**P**	**14 54 19.4**	**+0.2**
YSS	**Yuzh-Sakhalins**	**55.55**	**40**	*e*P	**P**	**14 54 19.3**	**-0.7**
	comp=Z,55nm,0.9s,mb5.6						
YSS				*e*pP	pP	14 54 33.3	+1.9
YSS				LR	LR		
	comp=Z,506nm,19.0s,MS4.6						
YSS	**Yuzh-Sakhalins**	**55.55**	**40** α	*e*P	**P**	**14 54 19.0**	**-1.0**
YSS				*e**SP	sP	14 54 32.3	-3.6
YSS				*e*		14 55 14.8	
YSS				*e*S	**S**	**15 02 06.0**	**+5.0**
YSS				*e*PS	PS	15 02 15.0	-2.8
YSS				pmax	pmax		
	comp=Z,70nm,1.0s,mb5.7						
YSS				pmax	pmax		
	comp=N,20nm,0.9s						
YSS				pmax	pmax		
	comp=E,30nm,0.9s						
YSS				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.3						
YSS				pmax	pmax		
	comp=N,20nm,0.8s						
YSS				pmax	pmax		
	comp=E,20nm,0.9s						
YSS				MLR	MLR		
	comp=N,300nm,16.0s,MS4.9						
YSS				MLR	MLR		
	comp=E,700nm,16.0s,MS4.9						
YSS				MLR	MLR		
	comp=Z,500nm,16.0s,MS4.7						
SOC	**Sochi**	**55.65**	**316**	*e*P	**P**	**14 54 18.8**	**-2.0**
SOC				*e*		14 56 25.5	
SOC				*e*PPP	PPP	14 57 45.4	+3.6
SOC				*e*S	**S**	**15 02 01.8**	**-0.7**
SOC				*e*		15 04 00.7	
SOC				*e*SS	SS	15 05 51.3	+3.5
SOC				pmax	pmax		
	comp=Z,24nm,0.9s,mb5.2						
SOC				pmax	pmax		
	comp=N,46nm,1.0s						
SOC				pmax	pmax		
	comp=E,39nm,1.0s						
SOC				MLR	MLR		
	comp=N,269nm,19.0s,MS4.5						
SOC				MLR	MLR		
	comp=E,264nm,19.0s,MS4.5						
SOC				MLR	MLR		
	comp=Z,299nm,19.0s,MS4.4						
KMBO	**Kilima Mbogo**	**55.98**	**261**	P	**P**	**14 54 22.9**	**-0.7**
	comp=Z,5.9nm,1.1s,mb4.5,baz=66,slow=10.0,SNR=6.1						
KMBO				LR	LR	15 15 46.8	
	comp=Z,417nm,19.7s,MS4.5,baz=95,slow=33						
BDAS	**Al Bad'**	**56.02**	**297**	P	**P**	**14 54 23.6**	**-0.1**
TAYS	**Tayyib Ism**	**56.24**	**297**	P	**P**	**14 54 25.0**	**-0.2**
HAQS	**Haql**	**56.24**	**298**	P	**P**	**14 54 25.1**	**-0.2**
VRHR	**Novokhopersk**	**57.33**	**325**	*e*P	**P**	**14 54 33.0**	**+0.3**
VRHR				pmax	pmax		
	comp=N,10.0nm,0.7s						
VRHR				pmax	pmax		
	comp=Z,30nm,0.7s,mb5.4						
VRHR				pmax	pmax		
	comp=E,30nm,0.8s	

comp=Z,58nm,0.9s,mb5.6
YAK pmax pmax
comp=N,22nm,1.2s
YAK pmax pmax
comp=E,16nm,1.1s
YAK pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK pmax pmax
comp=E,5.0nm,0.9s
YAK smax
comp=E,13nm,1.3s
YAK smax
comp=Z,2.0nm,1.0s
YAK smax
comp=N,6.0nm,1.1s
YAK MLR MLR
comp=N,263nm,17.0s,MS4.5
YAK MLR MLR
comp=Z,359nm,17.0s,MS4.5
YAK MLR MLR
comp=E,208nm,18.0s,MS4.5
PMG Port Moresby 58.25 108 *e*P **P 14 54 39.5 -0.2**
comp=E,80nm,0.8s,mb5.8
PMG LR LR
comp=Z,389nm,20.0s,MS4.5
PMG Port Moresby 58.25 108 *c i*P **P 14 54 39.4 -0.3**
VRSR Storozhevoye 58.77 324 *e*P **P 14 54 43.2 +0.4**
VRSR pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
VRSR pmax pmax
comp=N,6.0nm,0.5s
VRSR pmax pmax
comp=E,10.0nm,0.9s
VOR Voronezh 58.97 325 P **P 14 54 44.0 -0.2**
VOR *e**SP sP 14 54 55.0 -5.1
VOR pmax pmax
comp=Z,70nm,1.3s,mb5.5
BR131 Keskin Array S 59.00 310 *e*P **P 14 54 39.8 -4.7**
comp=Z,7.1nm,0.8s,mb4.8
BRTR Keskin Array B 59.00 310 P **P 14 54 42.5 -2.0**
comp=Z,3.4nm,0.9s,mb4.4,baz=127,slow=6.2,SNR=9.5
SIM Simferopol' 59.90 316 *e*P **P 14 54 52.0 +1.3**
SIM *e* 14 55 40.0
SIM *e*S **S 15 02 59.0 +0.9**
SIM pmax pmax
comp=Z,18nm,0.8s,mb5.2
SIM MLR MLR
comp=Z,400nm,22.1s,MS4.5
ISP Isparta 61.07 307 *e*P **P 14 55 01.5 +2.8**
MOS Moscow 61.46 328 *e*P **P 14 54 59.2 -1.9**
MOS *e* pP 14 55 12.7 +0.1
MOS *e*S **S 15 03 17.3 -0.6**
MOS *e* 15 03 29.8
MOS pmax pmax
comp=Z,91nm,0.9s,mb5.9
CTA Charters Tower 61.47 120⇑ *i*P **P 14 55 01.5 -0.1**
comp=Z,41nm,1.2s,mb5.4
CTA Charters Tower 61.47 120⇑ *i*P **P 14 55 01.5 -0.1**
CTA pmax pmax
comp=Z,41nm,1.2s
CTAO Charters Tower 61.47 120 *e*P **P 14 55 01.6 -0.1**
comp=Z,180nm,1.5s,mb6.0
CTAO Charters Tower 61.47 120 *e*P **P 14 55 01.6 0.0**
CTAO pmax pmax
comp=Z,180nm,1.5s,mb6.0
OBN Obninsk 61.76 327 *i*P **P 14 55 02.8 -0.4**
OBN LR LR
comp=Z,300nm,19.0s,MS4.5
OBN Obninsk 61.76 327 *d i*P **P 14 55 02.7 -0.5**
OBN *i* pP 14 55 15.4 +0.8
OBN *e* 14 55 45.0
OBN *e*S **S 15 03 22.8 +1.1**
OBN *e*SS SS 15 07 27.7 +2.3
OBN pmax pmax
comp=Z,66nm,1.7s,mb5.5
OBN MLR MLR
comp=Z,300nm,19.0s,MS4.5
MBAR Mbarara 62.20 263⇑ *i*P **P 14 55 11.5 +4.9**
ADE Adelaide 63.42 138 *e*P **P 14 55 15.0 +0.5**
STKA Stephens Creek 63.60 134⇑ *i*P **P 14 55 15.4 -0.4**
comp=Z,32nm,1.1s,mb5.3
STKA Stephens Creek 63.60 134 P **P 14 55 15.1 -0.7**
comp=Z,37nm,1.0s,mb5.4,baz=308,slow=6.3,SNR=28
STKA LR LR 15 25 16.3
comp=Z,615nm,20.1s,MS4.8,baz=104,slow=38
TIRR Tirgusor 63.75 314⇓ *i*P **P 14 55 15.0 -1.5**
TIRR Tirgusor 63.75 314⇑ *i*P **P 14 55 15.0 -1.5**
CFR Carcaliu 64.08 315⇑ *i*P **P 14 55 16.7 -1.9**
CFR Carcaliu 64.08 315⇑ *i*P **P 14 55 16.7 -1.9**
AKASG Malin Array Be 64.57 321 P **P 14 55 19.7 -2.0**
comp=Z,3.9nm,0.7s,mb4.5,baz=86,slow=5.0,SNR=18
TIXI Tiksi 64.58 12⇑ *i*P **P 14 55 19.8 -1.7**
TIXI Tiksi 64.58 12 *e*P **P 14 55 17.7 -3.8**
TIXI *e*S **S 15 03 51.9 -4.7**
TIXI *e*SS SS 15 08 05.2 -4.0
TIXI *e*SSS SSS 15 10 55.8 -4.0
TIXI pmax pmax
comp=Z,85nm,1.1s,mb5.7
MA2 Magadan 64.91 29 *e*P **P 14 55 23.0 -0.8**
comp=Z,71nm,0.9s,mb5.7
MA2 Magadan 64.91 29 *e*P **P 14 55 23.0 -0.8**
MA2 pmax pmax
comp=Z,71nm,0.9s,mb5.7
VRI Vrincioaia 65.18 316⇓ *i*P **P 14 55 25.5 -0.2**
VRI Vrincioaia 65.18 316⇑ *i*P **P 14 55 25.5 -0.2**
MLR Muntele Rosu 65.66 315⇓ *i*P **P 14 55 28.6 -0.2**
MLR Muntele Rosu 65.66 315⇑ *i*P **P 14 55 28.6 -0.2**
VOIR 66.27 315⇑ *i*P **P 14 55 31.9 -0.8**
VOIR 66.27 315⇑ *i*P **P 14 55 31.9 -0.8**
BURAR Bucovina Array 66.50 317⇑ *i*P **P 14 55 34.5 +0.4**
BURAR Bucovina Array 66.50 317⇑ *i*P **P 14 55 34.5 +0.4**
SEY Seymchan 66.92 26⇑ *i*P **P 14 55 35.5 -1.0**
PET Petropavlovsk 67.15 37 *i*P **P 14 55 36.6 -1.5**
PET Petropavlovsk 67.15 37 *e*P **P 14 55 39.6 +1.5**
PET *e* 14 58 13.4
PET *e*PPP PPP 14 59 45.5 +0.5
PET *e*S S 15 04 37.9 +10
PET pmax pmax
comp=Z,23nm,1.0s,mb5.2
PET pmax pmax
comp=Z,100nm,5.6s
PET MLR MLR
comp=Z,700nm,19.0s,MS4.9
JOF Joensuu 67.25 334 *e*p **P 14 55 38.6 0.0**
comp=Z,15nm,0.6s,mb5.2
VSU Vasula 67.97 329⇑ *i*P **P 14 55 43.5 +0.3**
LVZ Lovozero 68.01 340 *e*P **P 14 55 43.1 -0.2**
LVZ pmax pmax
comp=Z,58nm,1.7s,mb5.3
LVZ MLR MLR
comp=N,693nm,19.0s
LVZ MLR MLR
comp=Z,850nm,19.0s,MS5.0
LVZ MLR MLR
comp=E,474nm,13.0s
APA Apatity 68.29 339⇑ *i*P **P 14 55 43.5 -1.5**
APA pmax pmax
comp=Z,21nm,1.0s,mb5.1
LSZ Lusaka 68.59 249 *e*P **P 14 55 48.2 +0.4**
comp=Z,17nm,1.1s,mb4.9
LSZ LR LR
comp=Z,641nm,20.0s,MS4.8
LSZ Lusaka 68.59 249 *e*P **P 14 55 48.2 +0.4**
LSZ pmax pmax
comp=Z,17nm,1.1s,mb4.9
LSZ MLR MLR
comp=Z,641nm,20.0s,MS4.8
SUW Suwalki 68.90 324 *e*P **P 14 55 49.7 +0.7**
SUW Suwalki 68.90 324 *e*P **P 14 55 49.7 +0.7**
FINES FINESS Array B 69.10 332 P **P 14 55 49.1 -1.0**
comp=Z,5.0nm,0.7s,mb4.6,baz=108,slow=6.0,SNR=13
FINES LR LR 15 31 42.8
comp=Z,413nm,18.7s,MS4.7,baz=117,slow=41
CRVS Cervenica-Dubn 69.17 318 *i*P **P 14 55 51.7 +0.9**
KAF Kangasniemi 69.18 333 *e*p **P 14 55 51.3 +0.7**
comp=Z,12nm,1.0s,mb4.8,baz=107,slow=6.0
KAF Kangasniemi 69.18 333 *e*P **P 14 55 51.3 +0.7**
KAF pmax pmax
comp=Z,12nm,1.0s,mb4.8
STHS Stebnicka Huta 69.38 319 *e*P **P 14 55 53.2 +1.1**
TOO Toolangi 69.40 137 *e*P **P 14 55 53.6 +1.2**
comp=Z,27nm,1.2s,mb5.1
TOO Toolangi 69.40 137 *e*P **P 14 55 53.6 +1.2**
TOO pmax pmax
comp=Z,27nm,1.2s,mb5.0
KECS Kecovo 69.77 318 *e*P **P 14 55 55.8 +1.4**
HNR Honiara 70.32 104 *e*P **P 14 55 58.6 +0.2**
comp=Z,194nm,0.9s,mb6.0
HNR *e*pP pP 14 56 09.5 -0.5
HNR Honiara 70.32 104 *e*P **P 14 55 58.6 +0.2**
HNR *e**PP pP 14 56 09.5 -0.5
HNR pmax pmax
comp=Z,194nm,0.9s,mb6.0
OJC Ojcow 70.41 319 *e*P **P 14 55 59.0 +0.7**
VYHS Vyhne 70.86 318 *i* **P 14 56 05.4 +4.3**
CNB Canberra Magne 70.91 133 *e*P **P 14 56 01.6 -0.1**
comp=Z,26nm,1.0s,mb5.1
KEV Kevo 71.30 341 *e*p **P 14 56 03.4 0.0**
comp=Z,12nm,1.0s,mb4.8
KEV Kevo 71.30 341 *e*P **P 14 56 03.4 0.0**
KEV pmax pmax
comp=Z,12nm,1.0s,mb4.8
OKC Ostrava-Krasne 71.43 319 *e*P **P 14 56 04.8 +0.3**
OKC *e*x x 14 56 27.5
OKC AMS AMS 15 35 50.0
comp=Z,300nm,8.0s
ARCES ARCESS Array B 71.72 340 P **P 14 56 06.6 +0.7**
comp=Z,6.6nm,0.8s,mb4.6,baz=87,slow=5.8,SNR=22
ARCES LR LR 15 30 14.1
comp=Z,591nm,20.6s,MS4.8,baz=286,slow=38
ARCES ARCESS Array B 71.72 340 P **P 14 56 06.6 +0.7**
ARCES LR LR 15 30 14.1
MORC Moravsky Berou 71.81 319 *e*P **P 14 56 06.6 -0.1**
comp=Z,9.4nm,0.9s,mb4.7
MORC Moravsky Berou 71.81 319 *e*P **P 14 56 06.6 -0.1**
MORC pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
ZST Bratislava 71.99 317 *i*P **P 14 56 09.0 +1.2**
DPC Dobruska-Polom 72.64 319 *e*P **P 14 56 12.1 +0.5**
DPC *e*x x 14 56 33.7
DPC AMS AMS 15 32 40.0
comp=Z,400nm,21.7s
KSP Ksiaz 72.69 320 *e*P **P 14 56 11.2 -0.7**
UPC Upice 72.84 320 *e*P **P 14 56 13.9 +1.0**
UPC *e*x x 14 56 34.9
PERS Pernice 73.26 315 *e*P **P 14 56 14.9 -0.5**
PRU Pruhonice 73.76 319 *e*P **P 14 56 20.0 +1.8**
PRU *e*pP pP 14 56 34.1 +4.2
PRU AMS AMS 15 34 50.0
comp=Z,300nm,15.1s
PVCC Panska Ves 73.77 320 *e*P **P 14 56 20.4 +2.1**
PVCC *e*x x 14 56 42.4
PVCC AMS AMS 15 33 40.0
comp=Z,500nm,19.8s
BILL Bilibino 73.91 22 *e*P **P 14 56 16.8 -2.0**
comp=Z,44nm,1.3s,mb5.2
BILL Bilibino 73.91 22 *c i*P **P 14 56 18.1 -0.7**
BILL pmax pmax
comp=Z,45nm,1.3s,mb5.2
VOY Vojsko 74.10 315 *e*P **P 14 56 25.1 +4.8**
VOY *e* 14 56 40.4
LBTB Lobatse 74.13 240 *e*P **P 14 56 21.2 +0.3**
comp=Z,16nm,1.0s,mb4.9
BRG Berggiesshubel 74.18 320 *e*P **P 14 56 22.2 +1.6**
comp=Z,17nm,1.3s,mb4.8
GERES GERESS Array B 74.28 318 P **P 14 56 20.9 -0.3**
comp=Z,3.3nm,0.8s,mb4.3,baz=117,slow=3.0,SNR=20
GERES LR LR 15 34 04.4
comp=Z,212nm,18.5s,MS4.5,baz=274,slow=40
KHC Kasperske Hory 74.36 318 *e*P **P 14 56 22.8 +1.1**
KHC *e*x x 14 56 37.0
KHC x x 14 56 43.0
KHC AMS AMS 15 34 20.0
comp=Z,400nm,17.2s
KHC Kasperske Hory 74.36 318 *e*P **P 14 56 22.8 +1.1**
KHC *e* pP 14 56 37.0 +3.6
KHC *e* 14 56 43.0
KHC LR LR
comp=Z,400nm,17.2s,MS4.8
KHC Kasperske Hory 74.36 318 *e*P **P 14 56 22.8 +1.1**
KHC *e* pP 14 56 37.0 +3.6
KHC MLR MLR
comp=Z,400nm,17.2s,MS4.8
CLL Collm 74.78 320 P **P 14 56 24.4 +0.3**
comp=Z,logA/T=0.9,mb4.6
CLL *i* *PP pP 14 56 34.7 -1.1
CLL *i* *SP sP 14 56 39.0 -1.1
CLL *i* 14 56 48.1
CLL Collm 74.78 320 *i*P **P 14 56 24.4 +0.3**
comp=Z,9.0nm,1.1s,mb4.6
CLL *i* pP pP 14 56 34.7 -1.1
CLL Collm 74.78 320 *i*P **P 14 56 24.4 +0.3**
CLL *i* *PP pP 14 56 34.7 -1.1
CLL pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
HFS Hagfors 74.84 329 P **P 14 56 23.4 -0.9**
comp=Z,3.9nm,0.7s,mb4.5,baz=104,slow=6.1,SNR=7.8
HFS LR LR 15 34 37.0
comp=Z,417nm,19.6s,MS4.7,baz=207,slow=40
NKC Novy Kostel 75.12 319 *e*P **P 14 56 25.2 -0.9**
NKC *e*x x 14 56 46.3
NKC AMS AMS 15 34 20.0
comp=Z,600nm,8.3s
MOX Moxa 75.65 320 *i*P **P 14 56 30.9 +1.8**
comp=Z,logA/T=1.3,mb5.0
MOX L 15 34 48.0
MOX Moxa 75.65 320 *e*P **P 14 56 30.9 +1.8**
comp=Z,29nm,1.6s,mb5.0
MOX LR LR
comp=Z,200nm,18.0s,MS4.5
MOX Moxa 75.65 320 *e*P **P 14 56 30.9 +1.8**
MOX pmax pmax
comp=Z,29nm,1.6s,mb5.0
MOX MLR MLR
comp=Z,200nm,18.0s,MS4.5
BOSA Boshof 75.69 237 P **P 14 56 30.2 +0.4**
comp=Z,16nm,0.9s,mb4.9,baz=76,slow=5.5,SNR=16
BOSA LR LR 15 26 02.1
comp=Z,563nm,19.2s,MS4.9,baz=60,slow=33
BOSA Boshof 75.69 237 *e*P **P 14 56 30.4 +0.7**
comp=Z,21nm,1.0s,mb5.0
GRA1 Grafenberg Arr 75.91 319 *e*P **P 14 56 30.6 0.0**
comp=Z,18nm,1.2s,mb4.9
GRF Grafenberg Arr 75.91 319 *e*P **P 14 56 30.6 0.0**
GRF pmax pmax
comp=Z,18nm,1.2s,mb4.9
NB2 NORSAR Subarra 76.12 330 P **P 14 56 30.4 -1.1**
comp=Z,10nm,1.1s,mb4.7,baz=90,slow=5.3
NOA NORSAR Array B 76.12 330 P **P 14 56 31.3 -0.2**
comp=Z,3.0nm,0.8s,mb4.3,baz=92,slow=5.8,SNR=8.2
NOA LR LR 15 34 04.8
comp=Z,308nm,18.6s,MS4.6,baz=50,slow=39
SMY Shemya 76.41 38 *e*P **P 14 56 33.3 -0.1**
comp=Z,130nm,0.7s,mb6.0
DAVOX Davos 76.87 316 P **P 14 56 36.0 -0.1**
comp=Z,4.7nm,0.7s,mb4.5,baz=358,slow=3.1,SNR=4.6
CASY Casey 78.23 173 *e*P **P 14 56 43.1 -0.1**
CDF Champ du Feu 78.55 317 *e*P **P 14 56 45.1 -0.2**
comp=Z,23nm,1.1s,mb4.7
HINF Hinteralfeld 78.87 317 *e*P **P 14 56 46.7 -0.4**
LPG La Plagne 79.11 314 *e*P **P 14 56 49.0 +0.5**
comp=Z,42nm,0.9s,mb5.1
LPL La Plagne 79.12 314 *e*P **P 14 56 49.1 +0.5**
comp=Z,76nm,0.9s,mb5.3
MBDF Montbardon 79.16 314 *e*P **P 14 56 48.4 -0.4**
comp=Z,49nm,1.1s,mb5.0
HAU Haudompre 79.19 317 *e*P **P 14 56 48.6 -0.3**
comp=Z,40nm,1.0s,mb5.0
HAU *e*R
comp=Z,280nm,18.8s
BNI Bardonecchia 79.20 314 *e*P **P 14 56 50.3 +1.3**
comp=Z,29nm,1.1s,mb5.1
FRF La Foret Royal 79.35 312 *e*P **P 14 56 49.8 0.0**
comp=Z,96nm,1.2s,mb5.3
CABF La Chapelle 79.48 316 *e*P **P 14 56 50.7 +0.2**
comp=Z,73nm,1.4s,mb5.1
MEZF Maizieres J'vi 80.01 318 *e*P **P 14 56 53.3 0.0**
GIVF Givet 80.02 319 *e*P **P 14 56 53.4 +0.1**
SMRF Simiane la Rot 80.08 313 *e*P **P 14 56 54.4 +0.6**
comp=Z,45nm,1.2s,mb5.0
BAIF Baives 80.42 319 *e*P **P 14 56 55.5 +0.1**
comp=Z,30nm,1.1s,mb4.8
VIVF Saint-Julien-l 80.64 314 *e*P **P 14 56 56.9 +0.2**
comp=Z,48nm,1.0s,mb5.1
LOR Lormes 80.94 316 *e*P **P 14 56 58.1 -0.1**
comp=Z,57nm,1.2s,mb5.1
LOR *e*R
comp=Z,277nm,17.5s
SMF Signal de Mont 81.02 316 *e*P **P 14 56 58.4 -0.3**
comp=Z,48nm,1.2s,mb5.0
SSF Saint Saulge 81.20 316 *e*P **P 14 56 59.7 +0.1**
comp=Z,46nm,1.2s,mb5.0
MAW Mawson 81.20 191 P **P 14 56 59.5 +0.3**
comp=Z,4.2nm,0.9s,mb4.4,baz=262,slow=9.5,SNR=4.6
MAW LR LR 15 29 33.0
comp=Z,258nm,19.6s,MS4.6,baz=152,slow=33
LASF Ste Croix 81.31 313 *e*P **P 14 57 00.9 +0.7**
comp=Z,38nm,1.0s,mb5.0
AVF Avril sur Loir 81.34 316 *e*P **P 14 57 00.2 -0.1**
comp=Z,39nm,1.3s,mb4.9
BGF Bois d'Agland 81.71 316 *e*P **P 14 57 02.7 +0.4**
comp=Z,30nm,0.9s,mb4.9
TCF Toulx Ste Croi 82.18 316 *e*P **P 14 57 05.3 +0.6**
comp=Z,35nm,1.1s,mb4.9
CAF Calviac 82.47 314 *e*P **P 14 57 06.9 +0.7**
comp=Z,29nm,1.1s,mb4.8
MTLF Montolieu 82.58 313 *e*P **P 14 57 07.3 +0.5**
comp=Z,55nm,1.3s,mb5.1
RJF Les Rejaudoux 82.80 315 *e*P **P 14 57 08.7 +0.8**
comp=Z,39nm,1.1s,mb5.1
RJF *e*R
comp=Z,231nm,18.5s
LFF La Frestale 83.40 314 *e*P **P 14 57 11.8 +0.9**
comp=Z,32nm,1.0s,mb5.0
LDF La Druitiere 83.41 318 *e*P **P 14 57 11.1 +0.2**
comp=Z,53nm,1.3s,mb5.1
FLN La Foliniere 83.62 318 *e*P **P 14 57 12.2 +0.2**
comp=Z,60nm,1.3s,mb5.2
FLN *e*R
comp=Z,282nm,19.0s
MFF Saint Martin d 83.75 316 *e*P **P 14 57 12.9 +0.2**
comp=Z,42nm,1.1s,mb5.2
EKA Eskdalemuir Ar 84.11 325 P **P 14 57 15.2 +0.8**
comp=Z,3.3nm,0.6s,mb4.6,baz=98,slow=5.6,SNR=17
ETSF Etsaut 84.66 313 *e*P **P 14 57 18.3 +0.9**
comp=Z,19nm,1.0s,mb4.9
ESDC Sonseca Array 87.80 310 P **P 14 57 33.4 +0.6**
comp=Z,0.3nm,0.3s,baz=48,slow=5,2,SNR=4.3
SYO Syowa Base 87.82 197⇑⇑P **P 14 57 32.2 0.0**
SYO Syowa Base 87.82 197⇓⇓pP pP 14 57 44.0 -0.2
IMA Indian Mountai 89.45 22 *e*P **P 14 57 41.3 +1.3**
comp=Z,234nm,0.9s
MDT Midelt 89.81 303 P **P 14 57 43.7 +1.2**
comp=Z,0.9nm,0.3s,mb4.6,baz=23,slow=2.6,SNR=2.0
TTA Tatalina 89.89 25 *e*P **P 14 57 44.0 +1.8**
comp=Z,93nm,1.7s,mb5.8
SUMG Summit 90.71 347 *e*P **P 14 57 45.6 -0.2**
comp=Z,22nm,1.1s,mb5.4
SUMG *e*pP pP 14 57 58.9 +1.0
SPU Mount Spurr 92.33 26 *e*P **P 14 57 54.5 +1.0**
MCK McKinley 92.35 23 *e*P **P 14 57 54.1 +0.5**
comp=Z,27nm,1.1s,mb5.5
MCK *e*pP pP 14 58 06.2 +0.6
ILAR Eielson Array 92.57 22 P **P 14 57 54.4 -0.2**
comp=Z,9.4nm,0.7s,mb5.3,baz=296,slow=4.2,SNR=52
ILAR LR LR 15 43 52.7
comp=Z,196nm,18.1s,MS4.6,baz=138,slow=38
SLKM Skilak Lake 93.44 26 *e*P **P 14 57 59.4 +0.8**
SML Sawmill 93.58 24 *e*P **P 14 58 00.1 +0.9**
SML *e*pP pP 14 58 13.2 +1.9
INK Inuvik 94.52 15 *e*P **P 14 58 04.1 +0.7**
comp=Z,15nm,1.1s,mb5.3
DAWY Dawson 95.62 20 *e*P **P 14 58 09.8 +1.4**
DAWY *e*pP pP 14 58 21.3 +0.8
DBIC Dimbokro 95.67 278 LR LR 15 40 19.3
comp=Z,145nm,18.1s,MS4.5,baz=62,slow=35
VNDA Vanda 96.34 168 P **P 14 58 13.5 +2.0**
comp=Z,1.4nm,0.8s,mb4.4,baz=306,slow=5.9,SNR=6.6
VNDA LR LR 15 36 39.9
comp=Z,359nm,21.7s,MS4.8,baz=293,slow=32
VNDA Vanda 96.34 168 P **P 14 58 13.5 +2.0**
VNDA LR LR 15 36 39.9
ULM Lac du Bonnet 118.61 6 PKP PKPdf 15 03 30.9 +0.7
comp=Z,1.9nm,0.7s,baz=93,slow=13,SNR=3.5
RRI2 Red Ridge 121.81 20 *e*PKPdf PKPdf 15 03 39.5 +2.9
RRI2 *e* 15 05 10.6
LOHW Long Hollow 121.81 19 *e*PKP PKPdf 15 03 37.6 +1.1
LOHW *e* 15 05 10.3
PDAR Pinedale Array 122.90 19 PKP PKPdf 15 03 40.5 +1.7
comp=Z,2.1nm,0.8s,baz=29,slow=1.6,SNR=16
MSU Marysvale 125.73 24 *e*P PKPdf 15 03 47.2 +2.9
NEN Nelson 127.02 28 *e*P PKPdf 15 03 50.0 +3.1
MNTX Cornudas Mount 134.32 21 *e*PKPdf PKPdf 15 04 02.3 +1.4
TXAR Lajitas Array 137.07 21 PKP PKPdf 15 04 08.1 +2.1
comp=Z,2.2nm,0.8s,baz=315,slow=1.8,SNR=12
TXAR PP PP 15 06 49.9 -3.8
comp=Z,0.9nm,0.7s,baz=349,slow=6.4,SNR=4.8
TXAR SKPbc 15 07 39.5
comp=Z,0.5nm,0.5s,baz=270,slow=2.5,SNR=4.2
TXAR Lajitas Array 137.07 21 PKP PKPdf 15 04 08.1 +2.1
TXAR PP PP 15 06 49.9 -3.8
TXAR SKPbc 15 07 39.5
BDFB Brasilia 141.09 259 PKP PKPdf 15 04 15.9 +2.3
comp=Z,4.0nm,0.9s,baz=124,slow=3.2,SNR=3.4
MTP Monte Pirata 143.73 323 *e*PKPdf PKPdf 15 04 17.7 -0.4
CPD Cerro la Pandu 143.99 323 *e*P PKPbc 15 04 18.0 +0.3
PLCA Paso Flores 146.71 204 PKPbc PKPbc 15 04 26.3 +2.3
comp=Z,9.0nm,0.8s,baz=162,slow=4.9,SNR=11
PLCA Paso Flores 146.71 204 *e*PKPdf PKPdf 15 04 25.8 +3.2
CPUP Villa Florida 147.50 238 PKPbc PKPdf 15 04 27.2 +2.8
comp=Z,8.7nm,1.0s,baz=149,slow=3.6,SNR=6.3
CPUP Villa Florida 147.50 238 *e*P PKPdf 15 04 28.7 +4.4
MDZ Mendoza 152.13 216 *e*P PKPdf 15 04 30.6 -0.7
MDZ *e* 15 06 41.5
LPAZ La Paz 160.22 252 PKP PKPdf 15 04 45.0 +2.8
comp=Z,1.6nm,1.1s,baz=70,slow=3.3,SNR=2.9
LPAZ PKPab PKPab 15 05 25.3 +0.3
comp=Z,4.1nm,1.1s,baz=34,slow=6.1,SNR=6.0
LPAZ La Paz 160.22 252 *e*PKPdf PKPdf 15 04 45.5 +3.3
LPAZ *e* 15 05 20.2

GUC 29 15:07:51.7±0.8, 28.13S×70.87W, h50km, ML3.9, 2C-1D, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.45**	**167**	⇓*i*P		P	15 08 03.0	+0.5
VACH				*i* S		S	15 08 10.6	+0.5
CPCH	**Copiapo**	**0.90**	**31**	⇑*i*P		P	15 08 09.9	+1.8
CPCH				*i* S		S	15 08 23.1	+2.7
CPCH				AMP			15 08 25.6	
	comp=E,19μm,0.1s							
TLL	**Tololo Astrono**	**2.03**	**178**	⇑*i*P		P	15 08 25.0	+0.8
TLL				*i* S		S	15 08 49.6	+1.2
TLL				AMP			15 09 06.5	
	comp=E,409nm,0.5s							
CPN1	**Cerro Paranal**	**3.52**	**7**	*i* S		S	15 09 25.4	-0.6

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*MOS **29** 15:14:26.5±2.3, 51.80N×106.30E, h22km, mb4.4/1, Error ellipse: s-maj=12.6km s-min=8.8km az=66.9*

BYKL 29 15:14:26.8±0.3, 51.79N×106.33E, h23km±4km, 7C-5D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
BTMB	**Babushkin**	**0.32**	**254**	⇓*i*Pg		Pb	15 14 33.5	-0.5
BTMB				*e*Sg		Sb	15 14 38.5	-0.4
BTMB				Pmax				
	842nm,0.1s							
BTMB				Smax				
	1μm,0.3s							
KAB	**Kabansk**	**0.33**	**37**	⇓*i*Pg		Pb	15 14 33.7	-0.4
KAB				*e*Sg		Sb	15 14 38.7	-0.4
KAB				Pmax				
	245nm,0.1s							
KAB				Smax				
	4μm,0.4s							
KAB	**Kabansk**	**0.33**	**37**	*e*PG		Pb	15 14 34.3	+0.2
KAB				*e*			15 14 38.7	
KAB				pmax	pmax			
	comp=Z,265nm,0.1s							
KAB				smax				
	comp=E,5μm,0.4s							
STDB	**Stepnoy Dvoret**	**0.38**	**3**	⇑*i*Pg		Pb	15 14 35.7	+0.8
STDB				*i* Sg		Sb	15 14 42.3	+1.9
STDB				Pmax				
	comp=E,740nm,0.1s							
STDB				Smax				
	comp=E,10μm,0.4s							
HRMR	**Khuramsha**	**0.42**	**112**	⇑*i*Pg		Pb	15 14 35.6	0.0
HRMR				*i* Sg		Sb	15 14 42.0	+0.4
HRMR				Pmax				
	comp=E,1μm,0.1s							

HRMR Smax
comp=E,8μm,0.1s
TRTB Turuntaevo 0.92 61 *i* Pg Pb 15 14 43.8 -0.1
TRTB *e*Pb Pb 15 14 45.7 +1.8
TRTB *i* Sg Sb 15 14 55.8 +0.1
TRTB max
comp=E,453nm,0.3s
TRTB Smax
comp=E,1μm,0.3s
ZRHB Zarechye 0.92 33 *e*Pg Pb 15 14 43.8 -0.1
ZRHB *e*Sg Sb 15 14 55.8 +0.1
LSTR Listvyanka 0.93 275 ⇓*i*Pg Pb 15 14 44.4 +0.2
LSTR *i* Sg Sb 15 14 56.8 +0.7
LSTR Pmax
comp=E,108nm,0.1s
LSTR Smax
comp=E,1μm,0.2s
LSTR Listvyanka 0.93 275 *e*PG Pb 15 14 44.4 +0.2
LSTR *e* 15 14 56.8
LSTR pmax pmax
comp=Z,109nm,0.1s
LSTR smax
comp=E,1μm,0.2s
TRG Tyrgan 0.97 1⇑*i*Pg Pb 15 14 44.3 -0.5
TRG *e*Sg Sb 15 14 57.2 0.0
TRG *e* 15 14 58.7
TRG Pmax
comp=E,487nm,0.2s
TRG max
comp=E,4μm,0.2s
TRG Tyrgan 0.97 1⇑*i*PG Pb 15 14 44.3 -0.5
TRG *e* 15 14 57.1
TRG pmax pmax
comp=Z,417nm,0.1s
TRG smax
comp=E,6μm,0.3s
IRK Irkutsk 1.35 290⇑*i*Pg Pn 15 14 51.1 +0.6
IRK *e*Sg Sn 15 15 08.6 +0.7
IRK Pmax
comp=E,161nm,0.1s
IRK Smax
comp=E,2μm,0.3s
IRK Irkutsk 1.35 290 *e*PN Pn 15 14 50.4 -0.1
IRK *e* 15 15 07.8
IRK pmax pmax
comp=Z,173nm,0.1s
IRK smax
comp=N,2μm,0.5s
TLY Talaya 1.67 267 *e*Pn Pn 15 14 55.6 +0.4
TLY *e*Pg Pn 15 14 57.3 +2.1
TLY *e*Sn Sn 15 15 17.2 +1.1
TLY *e*Sg Sn 15 15 19.2 +3.1
TLY Pmax
comp=N,41nm,0.1s
TLY Smax
comp=N,381nm,0.2s
TLY Talaya 1.67 267 *e*PN Pn 15 14 55.5 +0.3
TLY *e* 15 14 56.9
TLY *e* 15 15 19.1
TLY pmax pmax
comp=Z,48nm,0.2s
TLY smax
comp=E,375nm,0.2s
OGRR Ongureny 2.01 22 *e*Pn Pn 15 15 00.5 +0.5
OGRR *e*Pg Pn 15 15 02.0 +2.0
OGRR *e*Sg Sn 15 15 27.4 +2.8
OGRR Pmax
comp=E,19nm,0.2s
OGRR Smax
comp=E,352nm,0.3s
OGRR Ongureny 2.01 22 *e*PN Pn 15 15 00.5 +0.5
OGRR *e* 15 15 02.4
OGRR *e* 15 15 27.8
OGRR pmax pmax
comp=Z,27nm,0.2s
OGRR smax
comp=E,347nm,0.3s
MXMB Maximikha 2.09 44⇑*i*Pg Pn 15 15 04.1 +3.0
MXMB *e*Sg Sn 15 15 31.1 +4.5
MXMB Pmax
comp=E,164nm,0.4s
MXMB Smax
comp=E,1μm,0.7s
ZAK Zakamensk 2.38 235 *e* Pn 15 15 09.3 +4.0
ZAK ⇓*i*Pg Pn 15 15 09.8 +4.5
ZAK *i* 15 15 12.1
ZAK *e*Sg Sn 15 15 41.6 +7.4
ZAK max
comp=E,86nm,0.5s
ZAK Smax
comp=E,481nm,0.5s
ZAK Zakamensk 2.38 235 *e*PN Pn 15 15 09.5 +4.2
ZAK *e*S Sn 15 15 41.3 +7.1
ZAK pmax pmax
comp=Z,86nm,0.3s
ZAK smax
comp=N,477nm,0.4s
ARS Arshan 2.43 275 *e*Pg Pn 15 15 09.6 +3.7
ARS *e*Sg Sn 15 15 40.6 +5.4
ARS Pmax
comp=N,42nm,0.6s
ARS Smax
comp=N,448nm,0.7s
ARS Arshan 2.43 275 *e*PN Pn 15 15 10.3 +4.4
ARS *e* 15 15 41.2
ARS pmax pmax
comp=Z,28nm,0.2s
ARS smax
comp=E,462nm,0.3s
SYVR Suvo 2.91 49 *e*Pn Pn 15 15 13.1 +0.2
SYVR *e*Pg Pn 15 15 18.0 +5.1
SYVR *e*Sg Sn 15 15 56.8 +9.3
SYVR Pmax
SYVR Smax
comp=E,180nm,0.8s
MOY Mondy 3.32 270 *e*Pn Pn 15 15 19.5 +0.8
MOY *e*Pg Pn 15 15 25.8 +7.1
MOY *e* 15 16 03.4
MOY *e*Sg Sn 15 16 08.5 +11
MOY Pmax
comp=E,24nm,0.8s
MOY Smax
comp=E,123nm,1.3s
MOY Mondy 3.32 270 *e*PN Pn 15 15 25.5 +6.8
MOY *e* 15 16 08.5
MOY pmax pmax
comp=Z,16nm,0.7s
MOY smax
comp=N,119nm,0.8s
BLGM Bulgan 3.50 212 *e*Pg Pn 15 15 30.9 +10
BLGM *e*Sg Sn 15 16 17.1 +15
ULN Ulaanbaatar 3.96 173 *c* *i*PN Pn 15 15 27.8 +0.1
ORL Orlik 4.08 283 *e* Pn 15 15 30.3 +0.8
ORL *e*Pg Pn 15 15 39.3 +10
ORL *e* 15 15 43.5
ORL *e*Sg Sn 15 16 32.0 +15
ORL max
comp=N,19nm,0.5s
ORL Smax
comp=N,113nm,1.3s
YLYR Ulyunkhan 4.24 41⇓*i*Pn Pn 15 15 31.1 -0.6
YLYR *e*Pg Pn 15 15 41.8 +10
YLYR *e*Sg Sn 15 16 36.4 +15
YLYR Pmax
comp=N,9.0nm,0.6s
YLYR Smax
comp=N,53nm,0.6s
NIZ Nizh Angarsk 4.42 24 *e*Pg Pn 15 15 45.5 +11
NIZ *e* 15 16 38.0
NIZ *e*Sg Sn 15 16 42.1 +16
NIZ Pmax
comp=N,7.0nm,0.7s
NIZ Smax
comp=N,68nm,0.6s
NIZ Nizh Angarsk 4.42 24 *e*PN Pn 15 15 33.7 -0.6
NIZ *e* 15 15 45.6
CIT Chita 4.48 84 *e*Pn Pn 15 15 33.9 -1.2
CIT *e*Pg Pn 15 15 47.2 +12
CIT *e*Sg Sn 15 16 45.6 +18
CIT Pmax
comp=N,16nm,2.0s
CIT Smax
comp=N,125nm,1.0s
CIT Chita 4.48 84 *e*PN Pn 15 15 33.8 -1.3
CIT *e* 15 15 46.8
CIT *e* 15 16 45.2
CIT pmax pmax
comp=Z,11nm,0.3s
CIT smax
comp=N,125nm,0.7s
KMO Kumora 5.02 33 *e*Pn Pn 15 15 43.2 +0.5
KMO *e*Pg Pn 15 15 56.5 +14
KMO *e*Sg Sn 15 17 01.1 +20
KMO Pmax
comp=N,8.0nm,0.3s
KMO Smax
comp=N,56nm,0.8s
KMO Kumora 5.02 33 *e*PN Pn 15 15 57.1 +14
KMO *e* 15 17 02.1
KMO pmax pmax
comp=Z,10.0nm,0.5s
KMO smax
comp=N,59nm,1.0s
UKT Uakit 5.71 47 *e*Pn Pn 15 15 51.7 -0.7
UKT *e*Pg Pn 15 16 10.0 +18
UKT *e*Sg Sn 15 17 24.7 +27
UKT Pmax
comp=N,4.0nm,0.9s
UKT Smax
comp=N,16nm,0.7s
NLYR Nelyaty 7.24 46 *e*Sg Sn 15 18 13.8 +37
NLYR Smax
comp=N,57nm,1.4s
NLYR Nelyaty 7.24 46 *e*PG Pn 15 16 37.2 +23
NLYR *e* 15 18 11.9
NLYR pmax pmax
comp=Z,2.0nm,0.2s
NLYR smax
comp=E,56nm,1.5s
BOD Bodaibo 7.49 33 *e*Sg Sn 15 18 20.1 +37
BOD Smax
comp=E,11nm,1.2s
TUP Tupik 8.61 67 *e*Pn P 15 16 30.5 -2.6
TUP *e*Sg Sn 15 18 54.4 +44
TUP Smax
comp=E,31nm,0.8s
TUP Tupik 8.61 67 *e*PG P 15 16 59.9 +27
TUP *e* 15 18 51.7
TUP pmax pmax
comp=Z,1.0nm,0.3s
TUP smax
comp=N,30nm,0.8s
CRS Chara 8.65 49 *e*Pg P 15 17 03.5 +30
CRS *e* 15 18 38.0
CRS *e*Sg Sn 15 18 56.3 +45
CRS Pmax
comp=N,2.0nm,0.8s
CRS Smax
comp=N,49nm,2.0s
KRAR Krasnoyarsk 9.00 303 *e*PN P 15 16 36.3 -2.2
KRAR *i* 15 17 11.2
KRAR *e* 15 18 19.0
KRAR *i* 15 19 12.2
KRAR pmax pmax
comp=N,55nm,0.4s
KRAR pmax pmax
comp=N,84nm,0.5s
KRAR smax
comp=N,60nm,0.5s
KRAR smax
comp=N,132nm,1.0s
YAK Yakutsk 16.26 42 *i* P P 15 18 13.1 -2.0

HEL ***29*** *15:33:47.3±0.1, 67.08N×20.95E, ML1.9, ML2.4(UPP), Explosion*
IDC ***29*** *15:33:47.8±0.9, 67.06N×21.25E, mb1 3.2/4, mb1mx3.0/20, mbtmp3.1/4, ML2.4/4, Error ellipse: s-maj=17.5km s-min=7.7km az=118.0*
ISC 29 15:33:45.7±0.3, 67.05N±0.02×21.00E±0.08, n33, σ1§22/44, 1C, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.18**	**293**	⇑*i*P	**Pg**	**15 33 50.0**	**+0.7**
MASU	**Masugnsbyn**	**0.56**	**43**	*i* P	**Pg**	**15 33 57.5**	**+0.6**
ERTU	**Ertsjaerv**	**0.69**	**136**	*i* P	**Pg**	**15 33 59.2**	**-0.1**
PAJU	**Pajala**	**0.83**	**91**	*i* P	**Pg**	**15 34 02.5**	**+0.3**
KUA	**Kurravaara**	**0.94**	**345**	*e*P	**Pg**	**15 34 03.5**	**-1.0**
SALU	**Saltoluokta**	**1.03**	**290**	*e*P	**Pb**	**15 34 05.2**	**-0.7**
LANU	**Lannavaara**	**1.07**	**20**	*e*P	**Pb**	**15 34 06.1**	**-0.7**
NIKU	**Nikkaluokta**	**1.12**	**318**	*e*P	**Pb**	**15 34 06.7**	**-0.8**
SJUU	**Sjulsmark**	**1.57**	**171**	*e*P	**Pn**	**15 34 16.0**	**+1.1**
KIF	**Kilpisjarvi**	**1.96**	**358**	*e*P	**Pn**	**15 34 22.0**	**+1.4**
KIF				*e*SG	**Sg**	**15 34 48.3**	**-2.7**
SGF	**Sodankyl**	**2.18**	**77**	*e*P	**Pn**	**15 34 25.2**	**+1.5**
SGF				*e*SG	**Sg**	**15 34 54.5**	**-3.9**
SGF				MSG		15 34 58.3	
comp=Z,7.2nm,0.2s							
TRO	**Tromso**	**2.71**	**344**	*e*P	**Pn**	**15 34 30.8**	**-0.3**
TRO	**Tromso**	**2.71**	**344**	*e*	**Pn**	**15 34 30.8**	**-0.3**
MOR8	**Moi Rana**	**2.76**	**254**	*e*PB	**Pn**	**15 34 32.3**	**+0.3**
MOR8	**Moi Rana**	**2.76**	**254**	*e*	**Pn**	**15 34 32.3**	**+0.3**
OUL	**Oulu**	**2.81**	**132**	*e*P	**Pn**	**15 34 34.2**	**+1.6**
OUL				*e*SG	**Sg**	**15 35 14.6**	**-4.5**
OUL				MSG		15 35 16.7	
comp=Z,3.3nm,0.2s							
MELSS	**Ber_school_2**	**2.87**	**270**	*e*	**Pn**	**15 34 34.9**	**+1.4**
ARCES	**ARCESS Array B**	**3.00**	**32**	Pn	**Pn**	**15 34 35.6**	**+0.2**
comp=Z,0.7nm,0.3s,baz=210,slow=14,SNR=84							
ARCES				Sn	**Sn**	**15 35 13.4**	**+0.7**
comp=Z,0.8nm,0.3s,baz=211,slow=23,SNR=9.9							
LOF	**Lofoten**	**3.06**	**294**	*e*P	**Pn**	**15 34 37.4**	**+1.2**
LOF	**Lofoten**	**3.06**	**294**	*e*	**Pn**	**15 34 37.4**	**+1.2**
UMAU	**Umeaa**	**3.19**	**183**	*e*P	**Pn**	**15 34 39.0**	**+1.1**
STOK	**Stokkvaagen**	**3.26**	**261**	*e*P	**Pn**	**15 34 39.7**	**+0.7**
STOK	**Stokkvaagen**	**3.26**	**261**	*e*	**Pn**	**15 34 39.7**	**+0.7**
BREU	**Bredtraesk**	**3.33**	**199**	*e*P	**Pn**	**15 34 40.6**	**+0.6**
KEV	**Kevo**	**3.51**	**37**	*e*P	**Pn**	**15 34 42.5**	**0.0**
KEV				*e*S	**Sn**	**15 35 22.9**	**-2.5**
HUSU	**Husum**	**3.80**	**192**	*e*P	**Pn**	**15 34 47.7**	**+1.0**
KJN	**Kajaani**	**4.08**	**134**	*e*SG	**Sg**	**15 35 53.1**	**-8.3**
KJN				MSG		15 35 58.8	
comp=Z,2.3nm,0.2s							
VAF	**Ylistaro**	**4.09**	**169**	*e*P	**Pn**	**15 34 51.8**	**+1.0**
VAF				*e*S	**Sn**	**15 35 39.1**	**-1.0**
VAF				*e*SG	**Sg**	**15 35 53.9**	**-7.9**
SOLU	**Sollefteaa**	**4.13**	**204**	*e*P	**Pn**	**15 34 51.6**	**+0.1**
SOLU				*e*S	**Sn**	**15 35 37.0**	**-4.3**
NOD	**Norderasen**	**4.45**	**218**	*e*P	**Pn**	**15 34 55.1**	**-0.8**
FINES	**FINESS Array B**	**6.05**	**156**	Pn	**Pn**	**15 35 18.8**	**+0.3**
comp=Z,0.1nm,0.3s,baz=338,slow=15,SNR=6.2							
FINES				Sn	**Sn**	**15 36 27.1**	**-2.3**
comp=Z,0.2nm,0.3s,baz=344,slow=26,SNR=5.8							
NOA	**NORSAR Array B**	**7.40**	**220**	Pn	**Pn**	**15 35 36.1**	**-1.5**
comp=Z,0.0nm,0.3s,baz=22,slow=11,SNR=3.0							
NOA				Sn	**Sn**	**15 36 59.8**	**-3.5**
comp=Z,0.1nm,0.3s,baz=176,slow=13,SNR=2.3							
HFS	**Hagfors**	**7.67**	**209**	Pn	**Pn**	**15 35 39.0**	**-2.3**
comp=Z,0.0nm,0.3s,baz=22,slow=13,SNR=5.9							
HFS				Sn	**Sn**	**15 37 04.9**	**-5.0**
comp=Z,0.0nm,0.3s,baz=26,slow=28,SNR=2.6							

WEL 29 15:46:27.9±0.2, 37.07S×177.39E, h143km±2km, ML3.6/12, 1C, Error ellipse: s-maj=1.2km s-min=1.1km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.88**	**124**	PN	P	15 46 50.9	-0.4
MXZ				SN	S	15 47 09.1	-0.1
URZ	**Urewera**	**1.21**	**191**	⇑PN	P	15 46 54.1	-0.2
URZ				SN	S	15 47 13.8	-0.7
PUZ	**Puketiti**	**1.22**	**146**	*e*PN	P	15 46 54.0	-0.4
PUZ				SN	S	15 47 13.6	-1.1
MWZ	**Matawai**	**1.27**	**175**	*e*PN	P	15 46 54.5	-0.4
MWZ				SN	S	15 47 14.7	-0.9
KUZ	**Kuaotunu**	**1.38**	**283**	PN	P	15 46 55.6	-0.5
KNZ	**Kokohu**	**1.96**	**174**	*e*PN	P	15 47 02.2	-0.4
BKZ	**Black Stump Fm**	**2.21**	**198**	*e*PN	P	15 47 05.4	-0.2
NGZ	**Ngauruhoe**	**2.54**	**213**	PN	P	15 47 10.4	+0.7
CNZ	**Chateau**	**2.58**	**214**	PN	P	15 47 11.3	+1.0
WPVZ	**Whakapapa**	**2.58**	**214**	PN	P	15 47 11.5	+1.1

IDC ***29*** *16:03:24.6±2.3, 9.09S×108.67W, mb3.9/6, mb1 4.2/6, mb1mx4.1/13, mbtmp3.9/6, MS4.1/12, Ms1 4.2/12, ms1mx4.0/19, Error ellipse: s-maj=85.7km s-min=22.8km az=58.0*
NEIC ***29*** *16:03:25.7±0.7, 9.19S×108.62W, h10km, mb4.7/2, Error ellipse: s-maj=18.8km s-min=12.3km az=48.0*
ISC 29 16:03:24.5±0.8, 9.1S±0.1×108.6W±0.1, h10km, n24, σ0§82/17, mb4.3/9, MS4.2/12, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAYG	**Puerto Ayora**	**20.05**	**66**	*e*P	**P**	**16 08 00.2**	**-0.7**
20nm,0.8s							
TXAR	**Lajitas Array**	**38.46**	**7**	P	**P**	**16 10 49.4**	**+0.9**
0.3nm,0.3s,mb3.5,baz=187,slow=10,SNR=4.6							
TXAR	**Lajitas Array**	**38.46**	**7**	P	**P**	**16 10 49.4**	**+0.9**
LPAZ	**La Paz**	**40.09**	**104**	P	**P**	**16 11 03.6**	**+1.4**
3.7nm,1.1s,mb4.0,baz=308,slow=9.9,SNR=5.3							
LPAZ				LR	LR	16 23 46.8	
comp=Z,224nm,19.0s,MS4.0,baz=82,slow=30							
LPAZ	**La Paz**	**40.09**	**104**	*e*P	**P**	**16 11 02.5**	**+0.3**
LPAZ				LR	LR	16 23 46.8	
LVC	**Limon Verde**	**40.36**	**114**	*e*P	**P**	**16 11 05.2**	**+0.9**
17nm,0.4s,mb5.1							
PPT	**Papeete**	**40.68**	**254**	LR	LR	16 23 53.2	
comp=Z,439nm,18.7s,MS4.3,baz=320,slow=30							
SAML	**Samuel**	**44.85**	**94**	*e*P	**P**	**16 11 41.2**	**0.0**
13nm,0.9s,mb4.8							
PLCA	**Paso Flores**	**46.17**	**139**	P	**P**	**16 11 51.8**	**+0.5**
2.4nm,1.0s,mb4.1,baz=278,slow=13,SNR=3.3							
PLCA				LR	LR	16 26 23.4	
comp=Z,309nm,18.0s,MS4.3,baz=355,slow=30							
PLCA	**Paso Flores**	**46.17**	**139**	*e*P	**P**	**16 11 47.8**	**-3.5**
24nm,1.7s,mb4.9							
PLCA				LR	LR	16 26 23.4	
RAR	**Rarotonga**	**50.64**	**250**	*e*P	**P**	**16 12 26.1**	**-0.1**
103nm,1.4s,mb5.6							
CPUP	**Villa Florida**	**51.44**	**116**	P	**P**	**16 12 31.0**	**-1.2**
2.6nm,0.8s,mb4.2,baz=294,slow=11,SNR=5.5							
CPUP				LR	LR	16 30 00.3	
comp=Z,318nm,18.7s,MS4.4,baz=95,slow=31							
CPUP	**Villa Florida**	**51.44**	**116**	P	**P**	**16 12 31.0**	**-1.2**
CPUP				LR	LR	16 30 00.3	
PDAR	**Pinedale Array**	**51.57**	**359**	P	**P**	**16 12 32.4**	**-0.7**
0.8nm,0.7s,mb3.8,baz=166,slow=7.4,SNR=5.6							
PDAR				LR	LR	16 30 59.5	
comp=Z,174nm,19.2s,MS4.1,baz=183,slow=32							
FLWY	**Flagg Ranch**	**52.91**	**358**	*e*P	**P**	**16 12 43.2**	**+0.1**
MCMT	**McKenzie Canyo**	**53.76**	**356**	*e*P	**P**	**16 12 50.1**	**+0.8**
NEW	**Newport**	**57.56**	**353**	LR	LR	16 33 23.2	
comp=Z,188nm,19.4s,MS4.2,baz=50,slow=31							
EDM	**Edmonton**	**62.16**	**357**	*e*P	**P**	**16 13 47.0**	**-1.2**
YKA	**Yellowknife Ar**	**71.48**	**357**	LR	LR	16 41 53.4	
comp=Z,124nm,19.3s,MS4.2,baz=260,slow=32							
URZ	**Urewera**	**72.12**	**233**	LR	LR	16 38 04.9	
comp=Z,175nm,21.8s,MS4.3,baz=272,slow=29							
SCHQ	**Schefferville**	**72.62**	**24**	LR	LR	16 45 16.0	
comp=Z,135nm,18.0s,MS4.3,baz=269,slow=35							
ILAR	**Eielson Array**	**78.98**	**344**	P	**P**	**16 15 30.2**	**+0.4**
0.7nm,0.8s,mb3.6,baz=150,slow=3.5,SNR=5.2							
ILAR				LR	LR	16 42 40.9	
comp=Z,81nm,18.1s,MS4.1,baz=6.5,slow=30							
INK	**Inuvik**	**79.17**	**351**	LR	LR	16 46 47.6	
comp=Z,201nm,19.6s,MS4.5,baz=159,slow=33							
SNAA	**Sanae**	**86.37**	**162**	LR	LR	16 45 04.4	
comp=Z,26nm,21.6s,MS3.6,baz=273,slow=29							

NIED ***29*** *16:15:00, 43.10N×144.60E, h71km, Mw4.3 Best double couple: M0 3.04×10^15 NP1:φ0 345°, δ81°, λ-38°. NP2:φ0 82°, δ53°, λ-169°.*
MOS ***29*** *16:15:24.4±1.0, 43.09N×144.55E, h80km, mb4.4/17, Error ellipse: s-maj=10.3km s-min=6.6km az=85.4*
MOS Felt (II) at Yuzhno-Kuril'sk.
BJI ***29*** *16:15:24.6, 43.40N×144.71E, h94km, mB4.7, mb4.4*
NEIC ***29*** *16:15:26.0±0.6, 43.11N×144.52E, h75km±6km, mb4.5/18, MW4.3(NIED), Error ellipse: s-maj=7.7km s-min=4.5km az=135.0*
NEIC Felt [II] at Yuzno-Kuril'sk, Kunashir.
JMA ***29*** *16:15:26.1±0.1, 43.11N×144.59E, h77km±1km, M4.5*
JMA Felt II J1.
SKHL ***29*** *16:15:26.3±0.0, 43.27N×144.46E, h68km±29km, mb4.6/10, msh4.4/1*
SKHL Felt (II) at Yushno-Kurilsk.
IDC ***29*** *16:15:27.6±1.7, 43.13N×144.48E, h89km±12km, mb3.9/18, mb1 4.1/18, mb1mx4.0/25, mbtmp4.2/18, MS3.5/5, Ms1 3.5/5, ms1mx3.2/35, Error ellipse: s-maj=16.9km s-min=13.5km az=177.0*
ISC 29 16:15:24.9±0.3, 43.10N±0.03×144.57E±0.04, h84km±2km, n119, σ1§01/143, mb4.3/45, 11C-6D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAK	**Akkeshi**	**0.14**	**138**	⇓P	**P**	**16 15 37.3**	**+0.3**
JAK				S	**S**	**16 15 45.4**	**-0.6**
JNK	**Nakash**	**0.50**	**12**	P	**P**	**16 15 39.1**	**-0.1**
JNK				*e*S	**S**	**16 15 48.9**	**-1.0**
JOB	**Onbets**	**0.57**	**250**	⇑P	**P**	**16 15 40.6**	**+0.7**
JOB				*e*S	**S**	**16 15 51.1**	**+0.1**
JAR	**Ashorobuto**	**0.62**	**289**	⇑P	**P**	**16 15 40.9**	**+0.5**
JAR				S	**S**	**16 15 51.5**	**-0.2**
NEM2	**Nemuro 2**	**0.90**	**72**	⇓P	**P**	**16 15 43.1**	**-0.1**
NEM2				S	**S**	**16 15 55.7**	**-1.3**
JRA	**Rausu**	**0.93**	**25**	⇑P	**P**	**16 15 44.3**	**+0.7**
JRA				*e*S	**S**	**16 15 58.2**	**+0.5**
JTKR	**Abashiri--Toko**	**1.00**	**331**	⇑P	**P**	**16 15 45.4**	**+1.0**
JTKR				S	**S**	**16 15 59.6**	**+0.5**
JCH	**Churui**	**1.01**	**242**	⇑P	**P**	**16 15 45.4**	**+0.8**
JCH				*e*S	**S**	**16 15 59.2**	**-0.2**
JMP	**Maruseppu**	**1.27**	**316**	P	**P**	**16 15 48.6**	**+0.8**
JMP				*e*S	**S**	**16 16 05.0**	**0.0**
YUK	**Yuzh-Kuril'sk**	**1.32**	**45**	*i* P	**P**	**16 15 49.0**	**+0.3**
YUK				AMB	AMB	16 15 50.0	
5μm,0.8s							
YUK				AMB	AMB	16 15 50.0	
880nm,0.3s							
YUK				AMB	AMB	16 15 50.0	
2μm,0.3s							
YUK				*i* S	**S**	**16 16 06.0**	**-0.2**
YUK				A		16 16 07.4	
32μm,1.0s							
YUK				A		16 16 07.4	
36μm,1.0s							
YUK				A		16 16 07.5	
16μm,0.5s							
YUK				A		16 16 07.5	
20μm,0.5s							
YUK	**Yuzh-Kuril'sk**	**1.32**	**45**	*e*PN	**P**	**16 15 49.0**	**+0.3**
YUK				*e*S	**S**	**16 16 06.0**	**-0.2**
YUK				pmax	pmax		
comp=Z,350nm,0.4s							
YUK				pmax	pmax		
comp=Z,2μm,0.3s							
YUK				pmax	pmax		
comp=N,880nm,0.4s							
YUK				pmax	pmax		
comp=Z,5μm,0.8s							
YUK				smax			
comp=N,32μm,1.0s							
YUK				smax			
comp=E,36μm,1.0s							
YUK				smax			
comp=N,16μm,0.5s							
YUK				smax			
comp=E,20μm,0.5s							
JFR	**Furan**	**1.45**	**273**	⇑P	**P**	**16 15 50.9**	**+0.6**
JFR				*e*S	**S**	**16 16 09.4**	**+0.4**
JEM	**Erimo**	**1.50**	**224**	P	**P**	**16 15 51.5**	**+0.5**
JKK2	**Kamakawa 2**	**1.54**	**301**	⇓P	**P**	**16 15 52.5**	**+1.1**
JKK2				*e*S	**S**	**16 16 10.5**	**-0.4**
JNBK	**Urakawa-nobuka**	**1.57**	**239**	⇑P	**P**	**16 15 51.8**	**0.0**
ASAJ	**Asahikawa**	**1.76**	**306**	P	**P**	**16 15 56.0**	**+1.7**
comp=E,115nm,0.3s,baz=143,slow=7.6,SNR=1281							
ASAJ				S	**S**	**16 16 16.9**	**+1.0**
comp=E,83nm,0.3s,baz=252,slow=20,SNR=27							
ASAJ	**Asahikawa**	**1.76**	**306**	PN	**P**	**16 15 56.0**	**+1.7**
ASAJ				S	**S**	**16 16 17.0**	**+1.1**
ASAJ				pmax	pmax		
comp=Z,115nm,0.3s							
KUR	**Kuril'sk**	**3.19**	**47**	*i* P	**P**	**16 16 12.3**	**-1.8**
KUR				AMB	AMB	16 16 16.0	
comp=Z,106nm,0.5s							
KUR				AMB	AMB	16 16 16.0	

comp=Z,114nm,0.5s
KUR AMB AMB 16 16 16.0
comp=Z,213nm,0.5s
KUR *i* S **S** **16 16 51.4 +0.3**
KUR A 16 16 55.0
comp=Z,3μm,1.6s
KUR A 16 16 55.0
comp=Z,5μm,1.6s
KUR A 16 16 58.5
comp=Z,897nm,0.6s
KUR A 16 16 58.5
comp=Z,988nm,0.6s
KUR Kuril'sk 3.19 47⇑ *i*PN **P** **16 16 12.3 -1.8**
KUR *i* S **S** **16 16 51.4 +0.3**
KUR pmax pmax
comp=N,110nm,0.5s
KUR pmax pmax
comp=E,110nm,0.5s
KUR pmax pmax
comp=Z,210nm,0.5s
KUR smax
comp=N,3μm,1.6s
KUR smax
comp=E,5μm,1.6s
KUR smax
comp=N,900nm,0.6s
KUR smax
comp=E,990nm,0.6s
YSS Yuzh-Sakhalins 4.07 342 *e*P **P** **16 16 26.0 -0.2**
YSS AMB AMB 16 16 28.9
comp=E,30nm,0.9s
YSS *i* S **S** **16 17 11.1 -1.7**
YSS A 16 17 12.0
comp=E,500nm,2.5s
YSS A 16 17 13.8
comp=E,160nm,1.0s
YSS A 16 17 13.8
comp=E,180nm,1.0s
YSS Yuzh-Sakhalins 4.07 342 *e*Pn **P** **16 16 25.9 -0.3**
YSS *e*Sn **S** **16 17 11.0 -1.8**
YSS Yuzh-Sakhalins 4.07 342 *e*PN **P** **16 16 26.0 -0.2**
YSS *i* S **S** **16 17 11.1 -1.7**
YSS pmax pmax
comp=Z,30nm,0.9s
YSS smax
comp=E,500nm,2.5s
YSS smax
comp=N,160nm,1.0s
YSS smax
comp=E,180nm,1.0s
TEY Ternei 6.06 291 *e*P **P** **16 16 53.0 -0.6**
TEY AMB AMB 16 16 55.5
comp=E,60nm,1.0s
TYV Tymovskoe 7.88 351 *e*P **P** **16 17 15.3 -3.4**
TYV AMB AMB 16 17 28.0
comp=E,8.0nm,0.6s
MAJO Matsushiro 8.17 219 *e*Pn **P** **16 17 21.4 -1.3**
comp=E,16nm,0.5s
MAJO Matsushiro 8.17 219 *e*PN **P** **16 17 21.4 -1.4**
MAJO pmax pmax
comp=Z,16nm,0.5s
MAT Matsushiro 8.17 219 P **P** **16 17 21.4 -1.4**
MAT S **S** **16 18 52.6 -1.7**
MAT Matsushiro 8.17 219 *e*P **P** **16 17 21.0 -1.8**
comp=Z,13nm,0.5s
MAT *e*S **S** **16 18 53.0 -1.3**
MAT Matsushiro 8.17 219 *e*PN **P** **16 17 21.0 -1.8**
MAT *e*S **S** **16 18 53.0 -1.3**
MAT pmax pmax
comp=Z,13nm,0.5s
MJAR Matsushiro Arr 8.17 219 P **P** **16 17 21.6 -1.1**
GRNR Gornyy 9.48 327 *e*P **P** **16 17 38.1 -2.4**
GRNR AMB AMB 16 17 39.0
comp=Z,52nm,1.0s
JHJ Hachijo jima 2 10.65 202 S **S** **16 19 43.4 -11**
comp=Z,25nm,0.3s,baz=74,slow=22,SNR=4.0
JHJ LR LR 16 22 08.2
comp=Z,82nm,18.3s,baz=309,slow=38
MDJ Mudanjiang 10.93 283 P **P** **16 18 01.3 +1.4**
MDJ AMB AMB
comp=Z,15nm,1.0s
MDJ AMB AMB
comp=Z,57nm,4.1s
MDJ LR LR
comp=N,79nm,21.9s
MDJ LR LR
comp=Z,66nm,20.6s
SKR Severo-Kuril's 10.94 42 *e*P **P** **16 17 56.4 -3.7**
SKR AMB AMB 16 18 02.5
comp=Z,80nm,0.5s
SKR AMB AMB 16 18 02.5
comp=Z,60nm,0.8s
SKR AMB AMB 16 18 02.5
comp=Z,100nm,0.8s
PAU Pauzhetka 11.78 40 *i* P **P** **16 18 12.7 +1.3**
EKMR Ekimchan 12.63 326 *e*P **P** **16 18 18.3 -4.3**
EKMR AMB AMB 16 18 20.7
comp=Z,5.0nm,0.7s
PET Petropavlovsk 13.66 38 *e*Pn **P** **16 18 35.5 -0.4**
comp=Z,17nm,0.6s
PET Petropavlovsk 13.66 38 *e*P **P** **16 18 39.7 +3.8**
PET MLR MLR
comp=Z,100nm,19.0s
CN2 Changchun 13.91 279 *e*P **P** **16 18 39.0 -0.3**
JNU Nakatsue 14.66 232 LR LR 16 24 07.5
comp=Z,46nm,19.9s,baz=248,slow=36
YASR Yasnyy 15.01 319 *e*P **P** **16 18 48.8 -4.6**
YASR AMB AMB 16 18 56.6
comp=Z,3.0nm,0.6s
ZEA Zeya 15.62 319 *e*P **P** **16 19 00.6 -0.6**
ZEA AMB AMB 16 19 07.9
comp=Z,18nm,1.4s
MA2 Magadan 16.93 11 *e*P **P** **16 19 18.2 +0.7**
comp=Z,8.1nm,0.7s
MA2 Magadan 16.93 11⇓ *i*P **P** **16 19 17.0 -0.5**
MA2 pmax pmax
comp=Z,39nm,1.9s
SEY Seymchan 20.39 10⇑ *i*P **P** **16 19 55.3 -1.5**
YAK Yakutsk 20.91 340 *e*P **P** **16 20 02.0 -0.2**
comp=Z,6.7nm,0.6s
YAK Yakutsk 20.91 340 *e*P **P** **16 20 02.0 -0.2**
YAK pmax pmax
comp=Z,7.0nm,0.6s
FX1 Attu Island--F 21.36 53 P **P** **16 20 08.7 +2.0**
comp=Z,36nm,0.7s,mb4.8,baz=65,slow=3.0,SNR=20
FX1 Attu Island--F 21.36 53 P **P** **16 20 08.7 +2.0**
FX1 pmax pmax
comp=Z,36nm,0.7s
SSE Sheshan 22.09 245 P **P** **16 20 15.3 +1.2**
SSE AMB AMB
comp=Z,22nm,0.7s,mb4.6
SSE AMB AMB
comp=Z,61nm,8.3s
SSE Sheshan 22.09 245 P **P** **16 20 15.2 +1.1**
comp=Z,22nm,0.7s,mb4.6
NJ2 Nanjing 23.09 250 *e*P **P** **16 20 24.8 +1.1**
NJ2 AP 16 20 45.8
NJ2 XP 16 20 57.8
NJ2 PP PP 16 21 00.0 +3.3
NJ2 S **S** **16 24 26.0 +1.3**
NJ2 XS 16 25 02.0
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.4
NJ2 AMB AMB
comp=Z,410nm,9.2s
NJ2 LR LR
comp=N,460nm,21.5s
NJ2 LR LR
comp=E,140nm,22.4s
NJ2 LR LR
comp=Z,500nm,17.0s
HHC Hu-ho-hao-te 24.56 276 *e*P **P** **16 20 42.5 +4.6**
HHC AP 16 20 59.5
HHC XP 16 21 09.3
HHC PP PP 16 21 22.5 +5.9
HHC *e*S **S** **16 24 58.5 +8.7**
HHC XS 16 25 27.0
HHC AMB AMB
comp=Z,101nm,5.0s
BTO Baotou 25.75 276 *e*P **P** **16 20 49.5 +0.3**
ULN Ulaanbaatar 26.55 293 *e*P **P** **16 20 55.9 -0.6**
comp=Z,4.8nm,1.0s,mb4.0
ULN Ulaanbaatar 26.55 293⇑ *i*P **P** **16 20 56.9 +0.4**
SONM Songino Array 27.00 293 P **P** **16 21 00.9 +0.3**
comp=Z,9.9nm,0.7s,mb4.5,baz=84,slow=7.6,SNR=54
SONM LR LR 16 33 15.0
comp=Z,34nm,19.0s,baz=214,slow=40
BILL Bilibino 27.53 18⇓ *i*P **P** **16 21 02.8 -2.4**
BILL pmax pmax
comp=Z,12nm,2.5s,mb4.0
ZAK Zakamensk 28.92 299 *e*P **P** **16 21 17.2 -0.6**
ZAK pmax pmax
comp=Z,3.0nm,1.2s,mb3.8
GTA Gaotai 33.55 279 *e*P **P** **16 21 58.0 -0.6**
GTA AMB AMB
comp=Z,3.0nm,2.1s,mb3.8
KMI Kunming 38.54 256 P **P** **16 22 41.8 +1.0**
KMI AMB AMB
comp=Z,7.0nm,1.0s,mb4.5
KMI Kunming 38.54 256 P **P** **16 22 41.8 +1.0**
comp=Z,7.0nm,1.0s,mb4.5
ZAL Zalesovo 39.91 307 P **P** **16 22 53.1 +1.2**
comp=Z,1.8nm,0.5s,mb4.2,baz=16,slow=9.0,SNR=9.2
ZAL Zalesovo 39.91 307 *i* P **P** **16 22 53.6 +1.7**
ZAL pmax pmax
comp=Z,2.0nm,0.5s
IMA Indian Mountai 40.27 34 *e*P **P** **16 22 55.6 +0.9**
comp=Z,23nm,0.6s,mb5.2
IMA Indian Mountai 40.27 34 *e*P **P** **16 22 55.6 +0.9**
IMA pmax pmax
comp=Z,23nm,0.6s,mb5.2
MCK McKinley 42.30 37 *e*P **P** **16 23 11.8 +0.6**
comp=Z,2.2nm,0.5s,mb4.1
MCK McKinley 42.30 37 *e*P **P** **16 23 11.8 +0.6**
MCK pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
SML Sawmill 42.73 40 *e*P **P** **16 23 15.5 +0.6**
ILAR Eielson Array 43.12 36 P **P** **16 23 18.3 +0.4**
comp=Z,4.4nm,0.6s,mb4.4,baz=256,slow=5.5,SNR=38
MKAR Makanchi Array 43.22 297 P **P** **16 23 19.1 +0.1**
comp=Z,2.9nm,0.6s,mb4.2,baz=84,slow=9.5,SNR=30
LSA Lhasa 44.33 271 *e*PKP **P** **16 23 24.8 -3.5**
KURK Kurchatov 44.34 304 *i* P **P** **16 23 27.3 -0.7**
KURK pmax pmax
comp=Z,3.0nm,1.0s,mb4.0
INK Inuvik 47.91 30 P **P** **16 23 55.3 -0.6**
comp=Z,1.7nm,0.4s,mb4.3,baz=320,slow=10,SNR=9.5
VOSK Vostochnaya 48.22 309 P **P** **16 23 59.0 +0.4**
VOSK pmax pmax
comp=Z,7.0nm,1.3s,mb4.3
BVAR Borovoye Array 48.46 309 P **P** **16 24 00.0 -0.4**
comp=Z,1.2nm,0.4s,mb4.1,baz=80,slow=8.6,SNR=11
KKN Kakani 49.67 272 *e*P **P** **16 24 11.3 +1.2**
comp=Z,6.3nm,0.5s,mb4.8
KKN Kakani 49.67 272 *e*P **P** **16 24 11.3 +1.2**
KKN pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
PKI Pulchoki 49.70 272 *e*P **P** **16 24 10.3 -0.1**
comp=Z,9.4nm,0.6s,mb4.9
PKI Pulchoki 49.70 272 *e*P **P** **16 24 10.3 -0.1**
PKI pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
DMN Daman 49.90 272 *e*P **P** **16 24 11.3 -0.6**
comp=Z,32nm,1.2s,mb5.1
GKN Gorkha 50.03 273 *e*P **P** **16 24 14.3 +1.5**
comp=Z,10nm,0.5s,mb5.0
KOLN Koldanda 50.92 273 *e*P **P** **16 24 19.0 -0.6**
comp=Z,14nm,0.8s,mb5.1
DLBC Dease Lake 52.42 41 P **P** **16 24 31.6 +1.2**
comp=Z,2.0nm,0.9s,mb4.2,baz=332,slow=15,SNR=4.8
ARU Arti 53.53 316 *e*P **P** **16 24 38.0 -0.7**
comp=Z,3.2nm,0.7s,mb4.5
ARU Arti 53.53 316⇓ *i*P **P** **16 24 38.4 -0.3**
ARU *e* 16 26 38.3
ARU *e*S **S** **16 32 06.1 +2.6**
ARU *e*SS SS 16 35 46.2 +2.0
ARU pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
AB31 Akbulak array 56.00 308 *i* P **P** **16 24 56.2 -0.5**
AB31 pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
AKTO Aktyubinsk 56.53 310 P **P** **16 24 59.8 -0.7**
AKTO pmax pmax
comp=Z,1.0nm,1.4s,mb3.6
ARCES ARCESS Array B 59.19 339 P **P** **16 25 17.6 -1.2**
comp=Z,2.2nm,0.8s,mb4.2,baz=39,slow=7.8,SNR=6.3
JOF Joensuu 61.78 331 *e*p **P** **16 25 34.5 -2.0**
comp=Z,2.9nm,0.7s,mb4.4
WRA Warramunga Arr 63.43 191 *i* P **P** **16 25 47.6 -0.5**
comp=Z,0.2nm,0.5s,mb3.3,baz=7.3,slow=7.0,SNR=6.7
WRA Warramunga Arr 63.43 191 *i* P **P** **16 25 47.7 -0.4**
KAF Kangasniemi 64.04 333 *e*p **P** **16 25 50.1 -1.2**
comp=Z,3.6nm,0.7s,mb4.3,baz=45,slow=6.2
KAF Kangasniemi 64.04 333 *e*P **P** **16 25 50.1 -1.2**
KAF pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
FINES FINESS Array B 64.59 332 P **P** **16 25 54.5 -0.4**
comp=Z,2.6nm,0.4s,mb4.4,baz=46,slow=8.4,SNR=32
FINES FINESS Array B 64.59 332 P **P** **16 25 54.5 -0.4**
FINES FINESS Array B 64.59 332 *i* P **P** **16 25 54.3 -0.6**
FINES pmax pmax
comp=Z,3.0nm,0.4s
OBN Obninsk 64.71 323 *e*P **P** **16 25 54.3 -1.5**
OBN *i* *PP pP 16 26 14.0 -3.5
OBN *e*S **S** **16 34 25.9 -2.0**
OBN pmax pmax
comp=Z,6.0nm,0.5s,mb4.7
OBN MLR MLR
comp=Z,100nm,13.0s
YBH Yreka Blue Hor 64.82 56 P **P** **16 25 57.0 +0.3**
comp=Z,1.3nm,0.6s,mb4.0,baz=303,slow=9.1,SNR=4.3
YBH LR LR 16 47 50.1
comp=Z,112nm,20.6s,baz=146,slow=30
BOZ Bozeman (W) 68.74 47 *e*P **P** **16 26 22.4 +1.1**
comp=Z,4.8nm,0.6s,mb4.5
BOZ Bozeman (W) 68.74 47 *e*P **P** **16 26 22.4 +1.0**
BOZ pmax pmax
comp=Z,5.0nm,0.6s,mb4.5
KIV Kislovodsk 68.78 311⇑ *i*P **P** **16 26 22.8 +1.1**
KIV pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
NB2 NORSAR Subarra 69.52 338 P **P** **16 26 25.5 -0.4**
comp=Z,1.6nm,0.5s,mb4.1,baz=34,slow=6.2
NB2 NORSAR Subarra 69.52 338 P **P** **16 26 25.5 -0.4**
NB2 pmax pmax
comp=Z,2.0nm,0.5s,mb4.2
NOA NORSAR Array B 69.52 338 P **P** **16 26 26.2 +0.3**
comp=Z,1.8nm,0.6s,mb4.1,baz=34,slow=6.2,SNR=5.9
NOA NORSAR Array B 69.52 338 P **P** **16 26 26.2 +0.3**
RRI2 Red Ridge 70.40 49 *e*P **P** **16 26 32.4 +0.8**
comp=Z,5.0nm,0.7s,mb4.5
LOHW Long Hollow 70.62 48 *e*P **P** **16 26 34.2 +1.3**
comp=Z,1.3nm,0.6s,mb3.9
AKASG Malin Array Be 70.97 323 P **P** **16 26 34.2 -0.7**
comp=Z,2.6nm,0.7s,mb4.2,baz=40,slow=6.0,SNR=16
AKASG Malin Array Be 70.97 323 P **P** **16 26 34.2 -0.7**
AKASG Malin Array Be 70.97 323 *i* P **P** **16 26 34.3 -0.6**
AKASG pmax pmax
comp=Z,3.0nm,0.7s
PDAR Pinedale Array 71.75 48 P **P** **16 26 40.6 +0.9**
comp=Z,2.8nm,0.6s,mb4.3,baz=240,slow=1.1,SNR=18
OJC Ojcow 75.32 327 *e*P **P** **16 27 00.3 +0.1**
EKA Eskdalemuir Ar 78.18 342 P **P** **16 27 16.8 +0.7**
comp=Z,0.7nm,0.5s,mb3.6,baz=30,slow=5.7,SNR=3.4
GERES GERESS Array B 78.79 329 P **P** **16 27 19.4 -0.2**
comp=Z,0.3nm,0.4s,mb3.5,baz=31,slow=7.8,SNR=4.6
IDI Anoyia 84.56 314 P **P** **16 27 48.0 -1.8**
comp=Z,6.2nm,0.7s,mb4.6,baz=41,slow=11,SNR=3.9
TXAR Lajitas Array 84.57 55 P **P** **16 27 51.8 +1.9**
comp=Z,0.3nm,0.3s,mb3.7,baz=270,slow=2.5,SNR=5.2
RPZ Rata Peaks 89.62 161 LR LR 17 04 23.8
comp=Z,213nm,21.2s,baz=351,slow=33
SNAA Sanae 147.25 198 PKPbc PKPdf 16 34 59.9 +5.2
comp=Z,0.2nm,0.6s,baz=143,slow=5.1,SNR=3.3

IDC 29 16:24:01.3±1.2,28.61N×139.36E,h372km±25km,mb3.2/4, mb1 3.3/6,mb1mx3.0/21,mbtmp4.0/6,Error ellipse: s-maj=64.8km s-min=11.4km az=71.0,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.92**	**120**	P	P	16 25 02.7	+0.7
	22nm,0.3s,baz=291,slow=23,SNR=27						
CBIJ				S	S	16 25 50.2	+0.4
	58nm,0.3s,baz=94,slow=23,SNR=24						
JHJ	**Hachijo jima 2**	**4.51**	**5**	P	P	16 25 18.1	+0.7
	13nm,0.3s,baz=252,slow=20,SNR=4.8						
JHJ				S	S	16 26 18.1	+1.2
	12nm,0.3s,baz=270,slow=20,SNR=2.4						
MKAR	**Makanchi Array**	**47.58**	**309**	P	P	16 32 01.2	-1.4
	0.4nm,0.3s,baz=83,slow=9.4,SNR=9.9						
WRA	**Warramunga Arr**	**48.51**	**186**	P	P	16 32 08.4	-1.6
	0.9nm,0.4s,baz=2.5,slow=8.0,SNR=45						
WRA				PcP	PcP	16 33 27.9	-2.0
	0.3nm,0.5s,baz=360,slow=3.8,SNR=4.7						
BVAR	**Borovoye Array**	**55.23**	**317**	P	P	16 32 56.6	-2.2
	0.5nm,0.4s,baz=83,slow=6.0,SNR=4.9						
FINES	**FINESS Array B**	**75.47**	**333**	P	P	16 35 03.9	-2.6
	2.1nm,0.9s,baz=53,slow=14,SNR=3.7						

NEIC ***29*** *16:49:00.8±1.2,37.73N×72.60E,h91km±14km,mb4.0/3, Error ellipse: s-maj=14.3km s-min=6.4km az=54.0*
BJI ***29*** *16:49:00.8,37.70N×72.60E,h91km,mB4.7,mb4.4*
MOS ***29*** *16:49:02.1±1.6,37.85N×72.71E,h120km,mb4.0/6,Error ellipse: s-maj=12.5km s-min=7.7km az=102.5*
IDC ***29*** *16:49:04.6±6.2,37.84N×72.69E,h126km±54km,mb3.4/7, mb1 3.6/10,mb1mx3.5/21,mbtmp3.8/10,Error ellipse: s-maj=38.3km s-min=18.9km az=10.0*
NNC ***29*** *16:49:12.4±4.3,38.56N×72.45E,h211km±41km,mpv4.3, Error ellipse: s-maj=45.0km s-min=23.4km az=17.0*
ISC 29 16:49:04.5±0.4,37.93N±0.03×72.59E±0.06,h140km±6km, n61,σ1.906/74,mb3.8/13,5C-7D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**3.09**	**58⇓**	*i*P	**P**	**16 49 54.5**	**+1.1**
KSH				S	**S**	**16 50 31.0**	**+0.3**
KSH				Smax			
	comp=N,360nm,1.0s						
KSH				Smax			
	comp=E,370nm,0.4s						
CEP	**Cherat**	**4.13**	**188**	P	**P**	**16 50 08.4**	**+1.3**
AML	**Almayashu**	**4.29**	**11**	P	**P**	**16 50 09.3**	**+0.1**
	SNR=25						
CHCP	**Chirah Chowk**	**4.29**	**172**	P	**P**	**16 50 10.1**	**+0.8**
UCH	**Uchtor**	**4.54**	**18**	P	**P**	**16 50 13.0**	**+0.4**
	SNR=37						
EKS2	**Erkin-Say**	**4.82**	**11**	P	**P**	**16 50 16.5**	**+0.3**
	SNR=21						
AAK	**Ala-Archa**	**4.92**	**17**	P	**P**	**16 50 18.6**	**+0.9**
	SNR=14						
AAK	**Ala-Archa**	**4.92**	**17⇑**	P	**P**	**16 50 18.4**	**+0.7**
	comp=E,9.5nm,0.4s						
AAK				S	**S**	**16 51 12.6**	**-1.5**
	comp=E,190nm,0.8s						
KBK	**Karagaybulak**	**5.06**	**20**	P	**P**	**16 50 20.8**	**+1.3**
	SNR=6.7						
ULHL	**Ulahol**	**5.14**	**32**	P	**P**	**16 50 20.3**	**-0.3**
	SNR=17						
THW	**Thamme Wali**	**5.17**	**188**	P	**P**	**16 50 20.4**	**-0.5**
CHMS	**Chumysh**	**5.33**	**17**	P	**P**	**16 50 23.8**	**+0.7**
	SNR=6.2						
KK31	**Karatay Array**	**5.41**	**344⇓**	P	**P**	**16 50 23.9**	**-0.3**
	comp=E,60nm,0.5s,baz=152,slow=11,SNR=1220						
KK31				S	**S**	**16 51 21.3**	**-4.4**
	comp=E,82nm,0.3s						
KK31	**Karatay Array**	**5.41**	**344⇓**	P	**P**	**16 50 23.9**	**-0.3**
	comp=E,60nm,0.4s						
KK31				S	**S**	**16 51 21.3**	**-4.4**
KKAR	**Karatay Array**	**5.41**	**344**	PN	**P**	**16 50 23.8**	**-0.3**
KKAR				pmax	pmax		
	comp=Z,10.0nm,0.2s						
TKM2	**Tokmak 2**	**5.49**	**24**	P	**P**	**16 50 27.5**	**+2.3**
	SNR=5.2						
USP	**Ospenovka**	**5.53**	**15**	P	**P**	**16 50 25.8**	**+0.1**
	SNR=6.4						
SBDP	**Sheikh Budin**	**5.80**	**195**	P	**P**	**16 50 29.4**	**+0.1**
SBDP				S	**S**	**16 51 30.0**	**-5.2**
SARP	**Sargodha**	**5.99**	**179**	P	**P**	**16 50 30.4**	**-1.5**
SARP				S	**S**	**16 51 35.0**	**-4.8**
DRP	**Derazinda**	**6.47**	**198**	P	**P**	**16 50 38.2**	**-0.2**
MK02	**Makanchi Array**	**11.39**	**36**	P	**P**	**16 51 43.3**	**-0.4**
MK02				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MK31	**Makanchi Array**	**11.40**	**36**	P	**P**	**16 51 43.3**	**-0.5**
	comp=Z,2.5nm,0.7s,baz=223,slow=14,SNR=4.5						
MK31	**Makanchi Array**	**11.40**	**36**	P	**P**	**16 51 43.3**	**-0.5**
	comp=Z,2.5nm,0.7s						
MKAR	**Makanchi Array**	**11.40**	**36**	P	**P**	**16 51 43.0**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=219,slow=16,SNR=8.9						
MKAR	**Makanchi Array**	**11.40**	**36**	*i* P	**P**	**16 51 43.3**	**-0.6**
KURK	**Kurchatov**	**13.49**	**17**	*e*P	**P**	**16 52 08.2**	**-2.9**
	comp=Z,4.5nm,0.9s						
KURK	**Kurchatov**	**13.49**	**17**	*e*P	**P**	**16 52 08.2**	**-2.8**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KOLN	**Koldanda**	**13.71**	**134**	*e*P	**P**	**16 52 09.4**	**-4.5**
	comp=Z,15nm,0.5s						
KOLN				*e*S	**S**	**16 54 35.8**	**-7.3**
GKN	**Gorkha**	**14.14**	**131**	*e*P	**P**	**16 52 15.1**	**-4.3**
	comp=Z,25nm,0.5s						
GKN				*e*S	**S**	**16 54 43.5**	**-10**
AB31	**Akbulak array**	**14.54**	**325⇓**	P	**P**	**16 52 22.2**	**-2.2**
	comp=Z,3.0nm,0.3s,baz=137,slow=12,SNR=198						
AB31				S	**S**	**16 54 52.7**	**-9.4**
	comp=Z,5.7nm,0.5s						
AB31	**Akbulak array**	**14.54**	**325⇓**	P	**P**	**16 52 22.2**	**-2.2**
	comp=Z,3.0nm,0.3s						
AB31				S	**S**	**16 54 52.7**	**-9.4**
KKN	**Kakani**	**14.68**	**130**	*e*P	**P**	**16 52 21.8**	**-4.5**
	comp=Z,18nm,0.6s						
KKN	**Kakani**	**14.68**	**130**	*e*P	**P**	**16 52 21.8**	**-4.5**
KKN				pmax	pmax		
	comp=Z,9.0nm,0.6s						
DMN	**Daman**	**14.71**	**131**	*e*P	**P**	**16 52 22.1**	**-4.5**
	comp=Z,28nm,0.9s						
PKI	**Pulchoki**	**14.92**	**130**	*e*P	**P**	**16 52 24.9**	**-4.4**
BVAR	**Borovoye Array**	**15.18**	**355**	P	**P**	**16 52 32.0**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=150,slow=12,SNR=7.8						
BRVK	**Borovoye**	**15.22**	**355**	*e*Pn	**P**	**16 52 32.6**	**-0.3**
	comp=Z,5.1nm,0.9s						
BRVK	**Borovoye**	**15.22**	**355**	*e*P	**P**	**16 52 32.6**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
AKTK	**Aktyubinsk**	**16.26**	**325⇑**	P	**P**	**16 52 45.0**	**-0.9**
AKTK				S	**S**	**16 55 36.8**	**-4.4**
AKTO	**Aktyubinsk**	**16.26**	**325⇑**	P	**P**	**16 52 45.0**	**-0.9**
	comp=Z,3.0nm,0.8s						
AKTO				S	**S**	**16 55 36.8**	**-4.4**
	comp=Z,2.1nm,1.1s						
LSA	**Lhasa**	**17.45**	**113**	*e*P	**P**	**16 52 59.8**	**-0.9**
	comp=Z,8.2nm,0.8s						
LSA	**Lhasa**	**17.45**	**113**	*e*P	**P**	**16 52 59.8**	**-0.8**
LSA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ZAL	**Zalesovo**	**18.08**	**24**	P	**P**	**16 53 07.0**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=258,slow=9.7,SNR=16						
ARU	**Arti**	**20.75**	**338**	*e*P	**P**	**16 53 35.7**	**+0.3**
	comp=Z,4.0nm,0.4s						
ARU	**Arti**	**20.75**	**338**	*e*P	**P**	**16 53 35.7**	**+0.3**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.4s						
GTA	**Gaotai**	**21.29**	**78**	P	**P**	**16 53 44.0**	**+3.1**
GTA				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.0						
GNI	**Garni**	**21.71**	**285**	P	**P**	**16 53 49.2**	**+4.2**
	comp=Z,9.5nm,0.7s,mb4.3,baz=56,slow=15,SNR=3.2						
GNI	**Garni**	**21.71**	**285**	P	**P**	**16 53 49.2**	**+4.2**
GNI				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ZEI	**Tsey**	**22.34**	**292**	*e*P	**P**	**16 53 52.1**	**+1.0**
ZEI				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.0						
KIV	**Kislovodsk**	**23.30**	**294**	*e*P	**P**	**16 54 16.6**	**+16**
KIV				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb3.9						
KIV				MLR	MLR		
	comp=Z,100nm,18.0s						
ZAK	**Zakamensk**	**25.10**	**50**	*e*P	**P**	**16 54 13.6**	**-3.9**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb3.7						
SONM	**Songino Array**	**26.49**	**57**	P	**P**	**16 54 31.2**	**+0.9**
	comp=Z,1.2nm,0.9s,mb3.5,baz=262,slow=10,SNR=8.3						
HHC	**Hu-ho-hao-te**	**30.10**	**72**	*e*P	**P**	**16 55 04.0**	**+1.1**
HHC				AP	pP	16 55 25.5	-7.2
HHC				XP	sP	16 55 35.8	-13
HHC				PP	PP	16 56 08.5	+1.9
HHC				S	**S**	**16 59 58.8**	**+9.1**
HHC				XS		17 00 36.3	
HHC				SCS	ScS	17 05 26.8	+3.6
HHC				AMB	AMB		
	comp=Z,8.0nm,0.6s,mb4.6						
HHC				AMB	AMB		
	comp=Z,87nm,5.4s						

HHC				LR	LR				
	comp=N,157nm,23.8s								
HHC				LR	LR				
	comp=E,170nm,23.2s								
HHC				LR	LR				
	comp=Z,158nm,21.4s								
BRTR	**Keskin Array B**	**30.24**	**286**	P	**P**		**16 55 05.2**	**+1.1**	
	comp=Z,0.7nm,0.5s,mb3.7,baz=80,slow=7.5,SNR=4.3								
AKASG	**Malin Array Be**	**33.07**	**307**	P	**P**		**16 55 29.0**	**+0.4**	
	comp=Z,0.4nm,0.3s,mb3.6,baz=76,slow=8.0,SNR=4.1								
HIA	**Hailar**	**35.44**	**56**	P	**P**		**16 55 48.8**	**+0.1**	
FINES	**FINESS Array B**	**37.03**	**325**	P	**P**		**16 56 03.1**	**+1.2**	
	comp=Z,2.5nm,1.0s,mb3.8,baz=90,slow=13,SNR=4.5								
NOA	**NORSAR Array B**	**44.02**	**322**	P	**P**		**16 56 59.8**	**+0.6**	
	comp=Z,1.4nm,0.7s,mb3.7,baz=92,slow=7.7,SNR=3.3								
ILAR	**Eielson Array**	**73.06**	**17**	P	**P**		**17 00 20.4**	**+0.1**	
	comp=Z,0.3nm,0.6s,mb3.2,baz=320,slow=5.7,SNR=6.8								
WRA	**Warramunga Arr**	**81.69**	**123**	P	**P**		**17 01 08.1**	**-0.7**	
	comp=Z,0.9nm,0.7s,mb3.5,baz=319,slow=4.9,SNR=8.9								
WRA	**Warramunga Arr**	**81.69**	**123**	P	**P**		**17 01 08.1**	**-0.7**	
WRA				pmax	pmax				
	comp=Z,1.0nm,0.7s								

NEIC ***29*** *16:57:54.5, 36.77N×10.98W, MN2.5(MDD), After MDD.*
INMG ***29*** *16:57:55.9±0.5, 36.76N×11.07W, h10km, ML2.1, Error ellipse: s-maj=4.4km s-min=2.8km az=73.0*
CSEM ***29*** *16:57:55.8±0.7, 36.79N×10.73W, h10km, ML2.1, Error ellipse: s-maj=12.4km s-min=10.6km az=116.0*
MDD 29 16:57:55.0±2.4, 36.76N×10.98W, h3km±77km, mbLg2.4/12, Error ellipse: s-maj=99.0km s-min=16.8km az=53.0, PRXIMO, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTEO	**Sao Teotonio**	**1.97**	**66**	*e*Pn	Pn	16 58 28.3	-1.3
PTEO				*e*Sn	Sn	16 58 52.4	-2.7
	8.0nm,0.3s						
PTEO	**Sao Teotonio**	**1.97**	**66**	P	Pn	16 58 28.3	-1.3
PTEO				S	Sn	16 58 52.4	-2.7
	4.0nm,0.3s						
PTEO	**Sao Teotonio**	**1.97**	**66**	P	Pn	16 58 28.2	-1.4
PTEO				S	Sn	16 58 52.4	-2.7
PLOU	**Loures**	**2.57**	**34**	*e*Pn	Pn	16 58 36.2	-2.1
PLOU				*e*Sn	Sn	16 59 06.7	-3.8
	16nm,0.3s						
PLOU	**Loures**	**2.57**	**34**	*e*Pn	Pn	16 58 36.2	-2.1
PLOU				*e*Sn	Sn	16 59 06.7	-3.8
	16nm,0.3s						
PLOU				S	Sn	16 59 07.2	-3.3
PBEJ	**Beja**	**2.79**	**62**	*e*Pn	Pn	16 58 39.7	-1.6
PBEJ				*e*Sn	Sn	16 59 12.4	-3.5
	2.3nm,0.1s						
PBEJ	**Beja**	**2.79**	**62**	P	Pn	16 58 39.7	-1.6
PBEJ				S	Sn	16 59 12.4	-3.5
	1.1nm,0.1s						
PBEJ	**Beja**	**2.79**	**62**	P	Pn	16 58 38.8	-2.5
PBEJ				S	Sn	16 59 11.6	-4.3
EGRO	**El Granado**	**2.90**	**73**	P	Pn	16 58 40.1	-2.9
	1.3nm,0.1s,SNR=7.9						
EGRO				S	Sn	16 59 15.0	-3.8
	1.2nm,0.1s,SNR=4.5						
EGRO	**El Granado**	**2.90**	**73**	P	Pn	16 58 40.1	-2.9
	1.3nm,0.1s,SNR=7.9						
EGRO				S	Sn	16 59 15.0	-3.8
	1.2nm,0.1s,SNR=4.5						
PTOM	**Tomar**	**3.50**	**35**	*e*Sn	Sn	16 59 30.1	-3.9
	6.2nm,0.2s						
PTOM	**Tomar**	**3.50**	**35**	S	Sn	16 59 30.1	-3.9
	3.1nm,0.2s						
PTOM	**Tomar**	**3.50**	**35**	S	Sn	16 59 30.0	-4.0
EMIN	**Mina Concepcio**	**3.58**	**72**	P	Pn	16 58 50.4	-2.2
	1.3nm,0.2s,SNR=14						
EMIN				S	Sn	16 59 31.3	-4.8
	2.6nm,0.3s,SNR=11						
EMIN	**Mina Concepcio**	**3.58**	**72**	P	Pn	16 58 50.4	-2.2
	1.3nm,0.2s,SNR=14						
EMIN				S	Sn	16 59 31.3	-4.8
	2.6nm,0.3s,SNR=11						
EBAD	**Badajoz**	**3.72**	**56**	P	Pn	16 58 51.4	-3.2
	0.9nm,0.1s,SNR=7.9						
EBAD				S	Sn	16 59 34.4	-5.2
	4.7nm,0.2s,SNR=6.4						
EBAD	**Badajoz**	**3.72**	**56**	P	Pn	16 58 51.4	-3.3
	0.9nm,0.1s,SNR=7.9						
EBAD				S	Sn	16 59 34.4	-5.3
	4.7nm,0.2s,SNR=6.4						
ESPR	**Espera**	**4.11**	**87**	P	Pn	16 58 57.5	-2.7
	6.2nm,0.1s,SNR=11						
ESPR				S	Sn	16 59 43.9	-5.6
	14nm,0.3s,SNR=7.9						
ESPR	**Espera**	**4.11**	**87**	P	Pn	16 58 57.5	-2.7
	6.2nm,0.1s,SNR=11						
ESPR				S	Sn	16 59 44.0	-5.5
ECAB	**El Cabril**	**4.62**	**72**	P	Pn	16 59 04.5	-2.9
	1.1nm,0.2s,SNR=8.8						
ECAB				S	Sn	16 59 55.1	-7.2
	1.0nm,0.3s,SNR=7.9						
ECAB	**El Cabril**	**4.62**	**72**	P	Pn	16 59 04.5	-2.9
	1.1nm,0.2s,SNR=8.8						
ECAB				S	Sn	16 59 55.1	-7.2
	1.0nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**5.29**	**73**	P	Pn	16 59 13.8	-3.0
	0.8nm,0.2s,SNR=5.2						
EADA				S	Sn	17 00 12.0	-7.1
	1.9nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**5.29**	**73**	P	Pn	16 59 13.8	-3.0
	0.8nm,0.2s,SNR=5.2						
EADA				S	Sn	17 00 12.0	-7.1
	1.9nm,0.2s,SNR=7.9						
ELOB	**Lobios**	**5.58**	**23**	P	Pn	16 59 18.7	-2.3
	0.3nm,0.1s,SNR=7.9						
ELOB				S	Sn	17 00 17.8	-8.8
	1.3nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**6.13**	**31**	S	Sn	17 00 30.9	-10
	2.0nm,0.3s,SNR=7.9						
ECAL	**Calabor**	**6.13**	**31**	S	Sn	17 00 30.9	-9.5
	2.0nm,0.3s,SNR=7.9						

MOS ***29*** *17:11:40.4±0.9, 2.66S×139.03E, h33km, mb5.5/30, Error ellipse: s-maj=12.6km s-min=5.8km az=104.3*
BJI ***29*** *17:11:43.6, 2.99S×139.60E, h95km, mB5.3, mb5.3*
HRVD ***29*** *17:11:46.3±0.2, 2.80S×139.21E, h81km±2km, MW5.3/66, Centroid moment Tensor Solution. LP body waves: s60,c106;Mantle waves: s66,c140; Half duration: 1s1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.38±.03; $M_{\theta\theta}$-0.47±.03; $M_{\phi\phi}$0.09±.03; $M_{r\theta}$0.94±.01; $M_{\theta\phi}$0.12±.02; $M_{\phi r}$-0.51±.02; Best double couple: $M_0$1.156×10^{17} NP1: ϕ_s260°,δ13°,λ53°. NP2:ϕ_s118°,δ80°,λ98°. Principal axes: T 1.119, Plg55°, Azm38°; N .075, Plg8°, Azm296°; P -1.193, Plg34°, Azm201°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***29*** *17:11:46.3±0.2, 2.69S×139.17E, mb5.4/41 Error ellipse: s-maj=7.1km s-min=4.1km az=77.0*
IDC ***29*** *17:11:47.7±0.5, 2.73S×139.18E, h84km±4km, mb4.9/14, mb1 4.9/17, mb1mx4.9/20, mbtmp5.3/17, MS4.4/13, Ms1 4.4/13, ms1mx4.3/16, Error ellipse: s-maj=17.3km s-min=9.7km az=70.0*
ISC 29 17:11:44.8±0.2, 2.73S±0.03×139.21E±0.05, h74km, h74km±1.6km:pP-P, n204, σ0.97/199, mb5.2/78, 19C-14D, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**10.32**	**130**	P	**P**	**17 14 12.4**	**+0.2**
	5.6nm,0.3s,baz=328,slow=4.5,SNR=25						
PMG				S	**S**	**17 16 05.9**	**-1.1**
	4.0nm,0.3s,slow=20,SNR=2.0						
PMG	**Port Moresby**	**10.32**	**130**	*e*Pn	**P**	**17 14 12.4**	**+0.2**
	145nm,0.8s						
PMG	**Port Moresby**	**10.32**	**130**	*c i*P	**P**	**17 14 12.3**	**+0.1**
KAKA	**Kakadu**	**11.97**	**214**	⇓*i*P	**P**	**17 14 46.0**	**+12**
	585nm,0.7s						
KAKA				*e*S	**S**	**17 16 54.0**	**+7.3**
GUMO	**Guam**	**17.16**	**19**	P	**P**	**17 15 40.8**	**-0.4**
	4.2nm,0.3s,baz=188,slow=6.9,SNR=8.2						
GUMO				LR	LR	17 21 32.5	
	comp=Z,729nm,21.6s,baz=164,slow=34						
WRAB	**Tennant Creek**	**17.75**	**195**	*e*P	**P**	**17 15 46.2**	**-2.4**
	450nm,0.8s						
WRAB				*e*S	**S**	**17 18 51.2**	**-10**
WRAB	**Tennant Creek**	**17.75**	**195**	*e*P	**P**	**17 15 46.2**	**-2.4**
WRAB				pmax	pmax		
	comp=Z,450nm,0.8s						
WB2	**Warramunga Arr**	**17.76**	**195**	*e*P	**P**	**17 15 45.2**	**-3.5**
WB2				*e*S	**S**	**17 18 51.9**	**-9.3**
WRA	**Warramunga Arr**	**17.76**	**195**	P	**P**	**17 15 44.7**	**-4.0**
	comp=Z,14nm,0.3s,baz=17,slow=11,SNR=214						
WRA				S	**S**	**17 18 50.7**	**-11**
	comp=Z,12nm,0.3s,baz=12,slow=22,SNR=11						
SCPH	**Surigao**	**18.47**	**312**	*e*P	**P**	**17 15 57.1**	**-0.1**
CTA	**Charters Tower**	**18.58**	**159**	*e*P	**P**	**17 15 58.4**	**-0.1**
	comp=Z,33nm,0.6s						
CTA				*i* S	**S**	**17 19 25.8**	**+6.1**
CTA	**Charters Tower**	**18.58**	**159**	P	**P**	**17 15 58.3**	**-0.2**
	comp=Z,4.1nm,0.3s,baz=340,slow=11,SNR=36						
CTA	**Charters Tower**	**18.58**	**159**	*e*P	**P**	**17 15 58.4**	**-0.1**
CTA				*i* S	**S**	**17 19 25.8**	**+6.1**
CTA				pmax	pmax		
	comp=Z,33nm,0.6s						
CTAO	**Charters Tower**	**18.58**	**159**	*e*P	**P**	**17 15 58.3**	**-0.2**
	comp=Z,85nm,0.9s						
CTAO	**Charters Tower**	**18.58**	**159**	*e*P	**P**	**17 15 58.3**	**-0.2**
CTAO				pmax	pmax		
	comp=Z,85nm,0.9s						
SNPH	**Sibulan**	**19.92**	**307**	⇓*e*P	**P**	**17 16 14.2**	**+0.9**
FITZ	**Fitzroy Crossi**	**20.26**	**220**	⇓*i*P	**P**	**17 16 15.1**	**-1.6**
	comp=Z,299nm,0.9s						
FITZ				*e*S	**S**	**17 19 50.3**	**-4.5**
FITZ	**Fitzroy Crossi**	**20.26**	**220**	P	**P**	**17 16 15.4**	**-1.3**
	comp=Z,540nm,1.0s,baz=27,slow=9.6,SNR=165						
FITZ				S	**S**	**17 19 51.2**	**-3.6**
	comp=Z,802nm,1.0s,baz=147,slow=7.9,SNR=19						
FITZ				LR	LR	17 24 33.7	
	comp=Z,2μm,20.9s,baz=55,slow=38						
ASPA	**Alice Springs**	**21.44**	**193**	⇓*i*P	**P**	**17 16 27.6**	**-1.1**
ASPA				*e*S	**S**	**17 20 20.4**	**+3.4**
HNR	**Honiara**	**21.66**	**109**	P	**P**	**17 16 33.5**	**+2.6**
	comp=Z,80nm,0.5s,mb5.3,baz=192,slow=0.9,SNR=8.6						
HNR	**Honiara**	**21.66**	**109**	*e*P	**P**	**17 16 31.3**	**+0.4**
	comp=Z,110nm,0.8s,mb5.2						
PPR	**Puerto Princes**	**23.88**	**302**	⇑*e*P	**P**	**17 16 54.3**	**+1.7**
POLP	**Polillo Island**	**24.36**	**316**	*e*P	**P**	**17 16 58.5**	**+1.3**
KKM	**Kota Kinabalu**	**24.55**	**291**	*e*P	**P**	**17 16 59.6**	**+0.4**
CAUP	**Cauayan**	**26.01**	**319**	*e*P	**P**	**17 17 15.4**	**+2.5**
MBWA	**Marble Bar**	**26.37**	**224**	*e*P	**P**	**17 17 15.5**	**-0.7**
	comp=Z,11nm,0.8s,mb4.3						
MBWA				*e*S		17 22 14.7	
SCZP	**Santa Cruz**	**26.50**	**315**	*e*P	**P**	**17 17 24.9**	**+7.5**
ABRA	**Dolores**	**27.25**	**319**	*e*P	**P**	**17 17 23.2**	**-1.0**
STKA	**Stephens Creek**	**29.08**	**176**	⇑*i*P	**P**	**17 17 39.8**	**-0.8**
	comp=Z,39nm,0.5s,mb5.3						
STKA	**Stephens Creek**	**29.08**	**176**	P	**P**	**17 17 39.9**	**-0.7**
	comp=Z,40nm,0.5s,mb5.3,baz=346,slow=8.5,SNR=181						
STKA				LR	LR	17 30 17.6	
	comp=Z,2μm,18.8s,baz=353,slow=38						
CBIJ	**Chichi jima**	**29.79**	**5**	LR	LR	17 27 34.9	
	comp=Z,304nm,21.4s,baz=156,slow=32						
JOW	**Kunigami**	**31.22**	**341**	P	**P**	**17 17 59.7**	**+0.1**
	comp=Z,37nm,0.9s,mb5.1,baz=156,slow=12,SNR=3.8						
JOW				LR	LR	17 28 30.9	
	comp=Z,214nm,21.9s,baz=63,slow=32						
NACB	**Ninganchiao**	**31.75**	**328**	*e*P	**P**	**17 18 01.2**	**-3.0**
ADE	**Adelaide**	**32.08**	**181**	P	**P**	**17 18 07.6**	**+0.6**
YHNB	**Yeheng**	**32.27**	**329**	*e*P	**P**	**17 18 08.7**	**-0.1**
TATO	**Taipei**	**32.46**	**329**	*e*P	**P**	**17 18 08.3**	**-2.1**
	comp=Z,48nm,0.8s,mb5.3						
DZM	**Mont Dzumac**	**32.71**	**128**	P	**P**	**17 18 12.5**	**0.0**
	comp=Z,17nm,1.0s,mb4.8,baz=217,slow=15,SNR=4.6						
RIV	**Riverview**	**32.90**	**161**	⇑*i*P	**P**	**17 18 15.7**	**+1.6**
CNB	**Canberra Magne**	**33.77**	**165**	⇓*i*P	**P**	**17 18 22.4**	**+0.8**
	comp=Z,267nm,0.8s,mb6.1						
QZH	**Quanzhou**	**34.01**	**325**	P	**P**	**17 18 23.5**	**-0.3**
QZH				S	**S**	**17 23 41.5**	**-1.1**
QZH				AMB	AMB		
	comp=Z,140nm,1.0s,mb5.8						
QZH				AMB	AMB		
	comp=Z,650nm,3.2s						
QZH				LR	LR		
	comp=Z,650nm,16.6s						
KLBR	**Kellerberrin**	**35.12**	**213**	⇑*i*P	**P**	**17 18 32.7**	**-0.4**
	comp=Z,50nm,0.5s,mb5.6						
TOO	**Toolangi**	**35.16**	**171**	*e*P	**P**	**17 18 34.9**	**+1.5**
	comp=Z,90nm,0.7s,mb5.7						
TOO	**Toolangi**	**35.16**	**171**	*e*P	**P**	**17 18 34.9**	**+1.5**
TOO				pmax	pmax		
	comp=Z,90nm,0.7s,mb5.7						
JHJ	**Hachijo jima 2**	**35.65**	**1**	LR	LR	17 30 35.1	
	comp=Z,323nm,20.8s,baz=159,slow=32						
MUN	**Mundaring**	**36.26**	**214**	*e*P	**P**	**17 18 42.8**	**-0.1**
NWAO	**Narrogin (SRO)**	**36.42**	**212**	P	**P**	**17 18 44.0**	**-0.3**
	comp=Z,57nm,0.5s,mb5.7,baz=42,slow=9.2,SNR=37						
NWAO				LR	LR	17 34 38.4	
	comp=Z,4μm,19.8s,baz=1.7,slow=38						
JNU	**Nakatsue**	**36.51**	**348**	P	**P**	**17 18 44.9**	**-0.1**
	comp=Z,49nm,1.0s,mb5.4,baz=146,slow=10.0,SNR=26						
JNU				LR	LR	17 33 06.9	
	comp=Z,380nm,18.4s,baz=164,slow=35						
SSE	**Sheshan**	**37.76**	**334**	P	**P**	**17 18 56.0**	**+0.6**
SSE				AP	pP	17 19 13.3	-0.3
SSE				S	**S**	**17 24 42.0**	**+2.0**
SSE				AMB	AMB		
	comp=Z,63nm,0.8s,mb5.5						
SSE				AMB	AMB		
	comp=Z,106nm,3.3s						
SSE				LR	LR		
	comp=N,391nm,28.6s						
SSE				LR	LR		
	comp=E,369nm,28.5s						
SSE				LR	LR		
	comp=Z,675nm,23.6s						
SSE	**Sheshan**	**37.76**	**334**	P	**P**	**17 18 56.0**	**+0.6**
	comp=Z,63nm,0.8s,mb5.5						
SSE				pP	pP	17 19 13.2	-0.4
SSE				sP	sP	17 19 20.9	-1.5
SSE				S	**S**	**17 24 42.0**	**+2.0**
SSE				sS		17 25 11.1	
SSE				SS	SS	17 27 31.4	+12
SSE				LR	LR		
	comp=Z,680nm,23.6s						
MAJO	**Matsushiro**	**39.08**	**359**	*e*P	**P**	**17 19 04.4**	**-1.9**
	comp=Z,55nm,1.4s,mb5.2						
MAJO				*e*PcP	PcP	17 21 14.8	-0.7
MAJO	**Matsushiro**	**39.08**	**359**	*e*P	**P**	**17 19 04.4**	**-1.9**
MAJO				*e*		17 21 14.8	
MAJO				pmax	pmax		
	comp=Z,55nm,1.4s,mb5.2						
MAT	**Matsushiro**	**39.08**	**359**	P	**P**	**17 19 04.3**	**-2.0**
MAT				S	**S**	**17 24 53.8**	**-6.1**
MAT	**Matsushiro**	**39.08**	**359**	*e*P	**P**	**17 19 04.0**	**-2.3**
	comp=Z,20nm,1.1s,mb4.9						
MAT				*e*S	**S**	**17 24 54.0**	**-5.9**
MAT	**Matsushiro**	**39.08**	**359**	*e*P	**P**	**17 19 04.0**	**-2.3**
MAT				*e*S	**S**	**17 24 54.0**	**-5.9**
MAT				pmax	pmax		
	comp=Z,20nm,1.1s,mb4.9						
KULM	**Kulim**	**39.33**	**282**	*e*P	**P**	**17 19 08.5**	**-0.1**
NJ2	**Nanjing**	**39.62**	**332**	*e*P	**P**	**17 19 12.0**	**+1.2**
NJ2				AP	pP	17 19 34.8	+5.8
NJ2				XP	sP	17 19 46.5	+8.7
NJ2				PP	PP	17 20 49.0	+2.4
NJ2				S	**S**	**17 25 07.0**	**-1.1**
NJ2				XS		17 25 47.0	
NJ2				AMB	AMB		
	comp=Z,50nm,1.0s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,410nm,4.4s						
NJ2				LR	LR		
	comp=N,2μm,22.1s						
NJ2				LR	LR		
	comp=E,3μm,24.4s						
NJ2				LR	LR		
	comp=Z,3μm,22.0s						
SNG	**Songkhla**	**39.75**	**285**	P	**P**	**17 19 12.0**	**-0.1**
WHN	**Wuhan**	**40.70**	**326**	⇓P	**P**	**17 19 21.5**	**+1.7**
KS15	**Wonju Array Si**	**41.32**	**346**	*e*P	**P**	**17 19 24.6**	**-0.2**
KS15				*e*PcP	PcP	17 21 22.5	-0.2
INCN	**Inchon**	**41.67**	**345**	*e*P	**P**	**17 19 28.0**	**+0.3**
	comp=Z,84nm,1.3s,mb5.3						
NST	**Nakhon Sawan**	**42.75**	**297**	P	**P**	**17 19 36.4**	**-0.4**
GYA	**Guiyang**	**42.78**	**315**	⇑*i*P	**P**	**17 19 38.0**	**+1.0**
GYA				AP	pP	17 20 05.3	+10
GYA				PP	PP	17 21 17.8	-2.0
GYA				S	**S**	**17 25 53.5**	**-1.6**
GYA				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.7						
GYA				AMB	AMB		
	comp=Z,220nm,7.2s						
GYA				LR	LR		
	comp=N,940nm,18.0s						
GYA				LR	LR		
	comp=E,840nm,18.2s						
GYA				LR	LR		
	comp=Z,1μm,18.9s						
NANT	**Nan**	**43.50**	**301**	P	**P**	**17 19 44.0**	**+1.1**
TIA	**Tai'an**	**43.88**	**334**	*e*P	**P**	**17 19 45.5**	**-0.3**
TIA				AMB	AMB		
	comp=Z,34nm,1.1s,mb5.0						
DL2	**Dalian**	**44.48**	**340**	P	**P**	**17 19 51.5**	**+0.9**
DL2				S	**S**	**17 26 21.0**	**+1.4**
DL2				SS	SS	17 29 41.0	+9.1
DL2				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.2						
DL2				LR	LR		
	comp=N,100nm,13.9s						
DL2				LR	LR		
	comp=E,140nm,13.0s						
DL2				LR	LR		
	comp=Z,200nm,14.9s						
CHRT	**Chiangrai**	**44.74**	**302**	⇓P	**P**	**17 19 51.0**	**-1.9**
	comp=Z,105nm,0.9s,mb5.6						
KMI	**Kunming**	**44.91**	**310**	P	**P**	**17 19 55.0**	**+0.9**
KMI				AP	pP	17 20 12.5	0.0
KMI				PCP	PcP	17 21 36.0	+1.0
KMI				PP	PP	17 21 39.3	-1.7
KMI				S	**S**	**17 26 24.5**	**-1.3**
KMI				SS	SS	17 29 44.5	+4.5
KMI				AMB	AMB		
	comp=Z,16nm,1.3s,mb4.6						
KMI				AMB	AMB		
	comp=Z,152nm,5.4s						
KMI				LR	LR		
	comp=N,211nm,19.1s						
KMI				LR	LR		
	comp=E,268nm,28.6s						
KMI				LR	LR		
	comp=Z,531nm,31.8s						
KMI	**Kunming**	**44.91**	**310**	P	**P**	**17 19 54.9**	**+0.8**
	comp=Z,16nm,1.3s,mb4.6						
KMI				pP	pP	17 20 12.5	0.0
KMI				sP	sP	17 20 22.0	+0.8
KMI				PcP	PcP	17 21 36.0	+1.0
KMI				PP	PP	17 21 39.3	-1.7
KMI				PPP	PPP	17 22 19.1	-3.3
KMI				S	**S**	**17 26 24.4**	**-1.4**
KMI				sS		17 26 58.0	
KMI				SS	SS	17 29 44.4	+4.4
KMI				SSS	SSS	17 30 44.2	+1.5
KMI				LR	LR		
	comp=Z,530nm,31.8s						
KMI	**Kunming**	**44.91**	**310**	P	**P**	**17 19 54.9**	**+0.8**
KMI				*PP	pP	17 20 12.5	0.0
KMI						17 21 36.0	
KMI						17 21 39.3	
KMI				PPP	PPP	17 22 19.1	-3.3
KMI				S	**S**	**17 26 24.4**	**-1.4**
KMI				SS	SS	17 29 44.4	+4.4
KMI				SSS	SSS	17 30 44.2	+1.5
KMI				pmax	pmax		
	comp=Z,16nm,1.3s,mb4.6						
KMI				MLR	MLR		
	comp=Z,530nm,31.8s						
CHG	**Chiang Mai**	**45.02**	**300**	⇓P	**P**	**17 19 55.3**	**+0.2**
	comp=Z,18nm,0.9s,mb4.8						
XAN	**Xi'an**	**46.37**	**325**	P	**P**	**17 20 05.3**	**-0.4**
XAN				S	**S**	**17 26 43.0**	**-3.7**
XAN				AMB	AMB		
	comp=Z,30nm,1.2s,mb4.9						
XAN				LR	LR		
	comp=N,170nm,31.7s						
XAN				LR	LR		
	comp=E,181nm,35.2s						
XAN				LR	LR		
	comp=Z,449nm,34.6s						
SNY	**Shenyang**	**46.56**	**344**	⇑P	**P**	**17 20 07.3**	**+0.3**
SNY				S	**S**	**17 26 50.8**	**+1.5**
SNY				AMB	AMB		
	comp=Z,30nm,1.1s,mb4.9						
SNY				AMB	AMB		
	comp=Z,210nm,3.7s						
SNY				LR	LR		
	comp=N,270nm,22.6s						
SNY				LR	LR		
	comp=Z,480nm,33.8s						
ASAJ	**Asahikawa**	**46.73**	**3**	P	**P**	**17 20 08.4**	**+0.1**
	comp=Z,22nm,0.9s,mb4.9,baz=236,slow=14,SNR=12						
CD2	**Chengdu**	**47.52**	**317**	P	**P**	**17 20 14.8**	**0.0**
CD2				AP	pP	17 20 34.5	+1.2
CD2				XP	sP	17 20 46.3	+4.6
CD2				PP	PP	17 22 02.3	-4.0
CD2				S	**S**	**17 27 01.8**	**-1.2**
CD2				SS	SS	17 30 31.3	+5.5
CD2				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.1						
CD2				AMB	AMB		
	comp=Z,110nm,9.3s						
CD2				LR	LR		
	comp=N,150nm,16.8s						
CD2				LR	LR		
	comp=Z,240nm,13.7s						
MDJ	**Mudanjiang**	**47.91**	**351**	P	**P**	**17 20 18.0**	**+0.4**
MDJ				AP	pP	17 20 36.5	+0.4
MDJ				XP	sP	17 20 46.3	+1.8
MDJ				PP	PP	17 22 11.0	+1.5
MDJ				S	**S**	**17 27 06.5**	**-1.7**
MDJ				SCS	ScS	17 30 01.5	+0.8
MDJ				SS	SS	17 30 32.5	+0.1
MDJ				AMB	AMB		
	comp=Z,50nm,0.9s,mb5.3						
MDJ				AMB	AMB		
	comp=Z,194nm,3.8s						
MDJ				LR	LR		
	comp=N,396nm,23.4s						
MDJ				LR	LR		
	comp=E,120nm,26.7s						
MDJ				LR	LR		
	comp=Z,527nm,26.7s						
MDJ	**Mudanjiang**	**47.91**	**351**	*e*P	**P**	**17 20 17.1**	**-0.4**
	comp=Z,208nm,1.8s,mb5.7						
CN2	**Changchun**	**47.94**	**347**	⇑P	**P**	**17 20 17.5**	**-0.3**
CN2				*e*S	**S**	**17 27 05.8**	**-2.8**
CN2				AMB	AMB		
	comp=Z,60nm,0.9s,mb5.4						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,400nm,21.0s						
CN2				LR	LR		
	comp=E,300nm,21.0s						
CN2				LR	LR		
	comp=Z,500nm,21.0s						
YSS	**Yuzh-Sakhalins**	**49.57**	**3**	*e*P	**P**	**17 20 29.4**	**-0.9**
	comp=Z,31nm,0.7s,mb5.3			

LZH SS SS 17 31 18.0 -3.4
LZH AMB AMB
comp=Z,79nm,1.0s,mb5.7
LZH AMB AMB
comp=Z,400nm,4.4s
LZH Lanzhou 50.79 323 *e*P **P 17 20 40.5 +0.7**
comp=Z,79nm,1.0s,mb5.7
LZH pP pP 17 20 57.2 -1.3
LZH sP sP 17 21 05.5 -1.4
LZH PcP PcP 17 21 55.0 -0.9
LZH PP PP 17 22 38.0 +0.7
LZH ScP 17 24 45.5
LZH *e*S **S 17 27 51.0 +2.6**
LZH sS 17 28 21.0
LZH SS SS 17 31 18.0 -3.4
LZH Lanzhou 50.79 323 *e*P **P 17 20 40.5 +0.7**
LZH *PP pP 17 20 57.2 -1.3
LZH 17 21 55.0
LZH 17 22 38.0
LZH *e*S **S 17 27 51.0 +2.6**
LZH SS SS 17 31 18.0 -3.4
LZH pmax pmax
comp=Z,79nm,1.0s,mb5.7
HIA Hailar 54.46 344 *e*P **P 17 21 06.6 -0.3**
comp=Z,18nm,0.4s,mb5.4
HIA Hailar 54.46 344 *e*P **P 17 21 06.6 -0.3**
HIA pmax pmax
comp=Z,18nm,0.4s
GTA Gaotai 55.38 323⇑*i*P **P 17 21 14.0 +0.3**
GTA AP pP 17 21 34.0 +1.3
GTA XP sP 17 21 43.5 +2.4
GTA PCP PcP 17 22 13.0 -0.1
GTA PP PP 17 23 20.5 +1.0
GTA PPP PPP 17 24 35.5 +1.0
GTA SCP 17 26 04.5
GTA S **S 17 28 51.8 +1.3**
GTA SCS ScS 17 30 43.8 -8.3
GTA SS SS 17 32 38.5 +2.6
GTA AMB AMB
comp=Z,34nm,0.9s,mb5.4
GTA AMB AMB
comp=Z,175nm,9.6s
GTA LR LR
comp=N,156nm,24.5s
GTA LR LR
comp=E,217nm,23.3s
GTA LR LR
comp=Z,178nm,18.0s
LSA Lhasa 56.11 309 P **P 17 21 20.5 +1.4**
LSA Lhasa 56.11 309 *e*P **P 17 21 19.2 +0.2**
comp=Z,23nm,1.1s,mb5.1
LSA Lhasa 56.11 309 *e*P **P 17 21 19.3 +0.2**
LSA pmax pmax
comp=Z,23nm,1.1s,mb5.1
ULN Ulaanbaatar 57.69 335 *e*P **P 17 21 29.9 -0.1**
comp=Z,16nm,0.9s,mb5.1
ULN LR LR
comp=Z,401nm,20.0s
ULN Ulaanbaatar 57.69 335*c i*P **P 17 21 30.3 +0.3**
PET Petropavlovsk 57.91 14 *e*P **P 17 21 30.4 -1.0**
comp=Z,21nm,0.4s,mb5.5
PET Petropavlovsk 57.91 14 *e*P **P 17 21 27.6 -3.9**
PET *e*S **S 17 29 28.4 +4.7**
PET pmax pmax
comp=Z,100nm,5.7s
PET pmax pmax
comp=Z,52nm,1.2s,mb5.4
PET pmax pmax
comp=Z,400nm,6.2s
PET MLR MLR
comp=Z,100nm,20.0s
SONM Songino Array 57.94 334 P **P 17 21 31.9 0.0**
comp=Z,5.4nm,0.8s,mb4.6,baz=153,slow=7.8,SNR=40
SONM LR LR 17 47 09.2
comp=Z,350nm,20.2s,baz=119,slow=37
CIT Chita 58.72 342 *e*P **P 17 21 37.5 +0.4**
CIT *e* pP 17 21 56.0 -0.3
CIT pmax pmax
comp=Z,177nm,1.9s,mb5.8
PKI Pulchoki 59.87 304 *e*P **P 17 21 44.8 -0.6**
KKN Kakani 60.05 304 *e*P **P 17 21 46.3 -0.4**
comp=Z,44nm,1.0s,mb5.5
KKN Kakani 60.05 304 *e*P **P 17 21 46.3 -0.4**
KKN pmax pmax
comp=Z,22nm,1.0s,mb5.1
DMN Daman 60.13 304 *e*P **P 17 21 47.0 -0.2**
comp=Z,54nm,1.0s,mb5.5
CLNS Chul'man 60.49 351 *e*P **P 17 21 49.6 +0.3**
CLNS pmax pmax
comp=Z,37nm,0.9s,mb5.4
CLNS pmax pmax
comp=N,24nm,1.0s
CLNS pmax pmax
comp=E,13nm,0.8s
GKN Gorkha 60.66 304 *e*P **P 17 21 50.5 -0.3**
comp=E,82nm,1.1s,mb5.7
ZAK Zakamensk 61.21 335⇓*i*P **P 17 21 53.7 -0.5**
ZAK pmax pmax
comp=Z,28nm,1.0s,mb5.2
ZAK pmax pmax
comp=Z,17nm,1.2s,mb5.0
KOLN Koldanda 61.44 304 *e*P **P 17 21 55.9 -0.1**
comp=Z,63nm,1.3s,mb5.5
IRK Irkutsk 62.21 337 *e*P **P 17 21 59.8 -1.0**
IRK pmax pmax
comp=Z,65nm,2.7s,mb5.2
MA2 Magadan 62.78 7 *e*P **P 17 22 04.0 -0.6**
comp=Z,155nm,1.7s,mb5.7
MA2 Magadan 62.78 7 *e*P **P 17 22 04.0 -0.6**
MA2 pmax pmax
comp=Z,155nm,1.7s,mb5.7
MOY Mondy 63.14 334 *e*P **P 17 22 07.0 -0.1**
MOY pmax pmax
comp=Z,85nm,3.1s
BOD Bodaibo 63.65 345 *e*P **P 17 22 09.7 -0.7**
BOD pmax pmax
comp=Z,31nm,1.0s,mb5.1
YAK Yakutsk 64.99 355 *e*P **P 17 22 18.2 -0.7**
comp=Z,98nm,0.8s,mb5.7
YAK *e*pP pP 17 22 36.5 -1.9
YAK Yakutsk 64.99 355*c i*P **P 17 22 18.6 -0.3**
YAK *e* 17 22 49.8
YAK *e* 17 24 41.8
YAK *e*PPP PPP 17 26 14.4 -4.6
YAK *e*S **S 17 30 55.0 +1.6**
YAK *e**SS 17 31 36.4
YAK *e* 17 32 04.9
YAK *e*SS SS 17 35 08.6 +0.3
YAK pmax pmax
comp=Z,50nm,0.9s,mb5.3
YAK pmax pmax
comp=N,23nm,1.1s
YAK pmax pmax
comp=N,2.0nm,0.9s
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK smax
comp=E,4.0nm,1.4s
YAK smax
comp=N,3.0nm,1.1s
WMQ Urumqi 65.33 321⇑*i*P **P 17 22 21.0 -0.4**
WMQ AP pP 17 22 41.0 0.0
WMQ PP PP 17 24 48.0 -0.1
WMQ SCP 17 26 47.0
WMQ S S 17 30 57.0 -0.8
WMQ SCS ScS 17 32 05.0 -1.0
WMQ SS SS 17 35 13.0 -0.8
WMQ AMB AMB
comp=Z,67nm,1.0s,mb5.4
WMQ AMB AMB
comp=Z,214nm,5.0s
WMQ LR LR
comp=N,201nm,15.0s
WMQ LR LR
comp=E,156nm,15.0s
WMQ LR LR
comp=Z,287nm,16.0s
SEY Seymchan 66.24 7*c i*P **P 17 22 26.7 -0.2**
CASY Casey 66.56 192⇓*i*P **P 17 22 28.7 -0.2**
MKAR Makanchi Array 70.10 322 P **P 17 22 51.2 +0.1**
comp=Z,24nm,0.8s,mb5.0,baz=121,slow=7.1,SNR=139
MKAR pP pP 17 23 12.9 +1.9
comp=Z,15nm,0.8s,baz=106,slow=6.4,SNR=5.0
PPT Papeete 71.28 108 LR LR 17 48 46.1
comp=Z,283nm,20.1s,baz=157,slow=31

MIR Mirnyy 71.34 198*c i*P **P 17 22 59.4 +1.2**
MIR *i* pP 17 23 19.0 +0.9
MIR pmax pmax
comp=Z,57nm,1.4s,mb5.2
KSH Kashi 71.45 313 *e*P **P 17 23 00.0 +0.6**
KSH *e*PCP PcP 17 23 19.3 +0.6
KSH *e*PP PP 17 25 41.3 +0.6
KSH *e*S S 17 32 09.5 -1.1
KSH *e*SS SS 17 36 50.5 +1.9
KSH AMB AMB
comp=Z,150nm,3.5s
KSH LR LR
comp=N,990nm,15.0s
KSH LR LR
comp=E,1μm,13.2s
ZAL Zalesovo 72.20 330 P **P 17 23 03.1 -0.4**
comp=E,6.0nm,0.7s,mb4.5,baz=359,slow=6.4,SNR=36
ZAL Zalesovo 72.20 330 *i* P **P 17 23 03.6 0.0**
ZAL pmax pmax
comp=Z,6.0nm,0.7s
KZA Kyzart 72.84 316 P **P 17 23 09.4 +1.8**
SNR=6.5
TKM2 Tokmak 2 72.89 316 P **P 17 23 08.5 +0.7**
SNR=14
BILL Biiibino 73.09 10 *e*P **P 17 23 08.5 0.0**
comp=Z,4.8nm,0.4s,mb4.7
BILL Biiibino 73.09 10*c i*P **P 17 23 08.4 -0.1**
BILL pmax pmax
comp=Z,46nm,2.5s,mb4.9
KBK Karagaybulak 73.25 316 P **P 17 23 10.7 +0.7**
SNR=8.4
UCH Uchtor 73.41 316 P **P 17 23 12.5 +1.6**
SNR=18
NVS Novosibirsk 73.45 330⇑*i*P **P 17 23 09.1 -1.8**
NVS *i* pP 17 23 31.1 +0.3
NVS pmax pmax
comp=N,29nm,1.6s
NVS pmax pmax
comp=Z,53nm,1.6s,mb5.1
NVS pmax pmax
comp=E,29nm,1.4s
CHMS Chumysh 73.50 316 P **P 17 23 11.9 +0.4**
SNR=7.5
FRU Bishkek 73.54 316 *e*P **P 17 23 11.5 -0.2**
AAK Ala-Archa 73.56 316 P **P 17 23 12.6 +0.8**
SNR=6.6
USP Ospenovka 73.77 317 P **P 17 23 13.4 +0.4**
SNR=24
AML Almayashu 73.95 315 P **P 17 23 15.4 +1.4**
SNR=10
KURK Kurchatov 74.01 325 *e*P **P 17 23 13.8 -0.5**
comp=E,27nm,0.9s,mb5.0
KURK Kurchatov 74.01 325 *e*P **P 17 23 13.8 -0.5**
KURK pmax pmax
comp=Z,27nm,0.9s,mb5.0
EKS2 Erkin-Say 74.07 316 P **P 17 23 15.7 +1.0**
SNR=6.9
TIXI Tiksi 74.55 357 *e*P **P 17 23 12.6 -4.3**
TIXI pmax pmax
comp=Z,26nm,1.1s,mb4.9
TIXI MLR MLR
comp=Z,88nm,14.0s
VNDA Vanda 75.72 175 P **P 17 23 24.2 +0.6**
comp=Z,17nm,0.7s,mb4.9,baz=326,slow=6.9,SNR=160
VNDA pP pP 17 23 46.2 +2.6
comp=Z,16nm,0.9s,baz=309,slow=6.4,SNR=6.1
VNDA LR LR 17 57 24.8
comp=Z,281nm,20.2s,baz=322,slow=36
VNDA Vanda 75.72 175 P **P 17 23 24.2 +0.6**
VNDA pP pP 17 23 46.2 +2.5
VNDA LR LR 17 57 24.8
SBA Scott Base 76.48 174 *e*P **P 17 23 29.2 +1.3**
comp=Z,107nm,1.8s,mb5.3
SBA *e*pP pP 17 23 49.8 +1.9
SBA Scott Base 76.48 174 *e*P **P 17 23 29.2 +1.3**
SBA pmax pmax
comp=Z,107nm,1.8s,mb5.3
KKAR Karatay Array 76.49 315 *i* P **P 17 23 28.5 0.0**
KKAR pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
VOSK Vostochnaya 79.17 325 P **P 17 23 42.8 -0.3**
VOSK pmax pmax
comp=Z,20nm,1.0s,mb4.9
BVA0 Borovoye Array 79.61 325 P **P 17 23 45.6 +0.1**
BVA0 pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
BVAR Borovoye Array 79.61 325 P **P 17 23 45.6 +0.1**
comp=Z,15nm,0.5s,mb5.0,baz=117,slow=6.6,SNR=99
BRVK Borovoye 79.68 325 *e*P **P 17 23 45.6 -0.3**
comp=Z,43nm,1.2s,mb5.2
BRVK *e*pP pP 17 24 04.7 -1.4
BRVK Borovoye 79.68 325 *e*P **P 17 23 45.6 -0.3**
BRVK pmax pmax
comp=Z,43nm,1.2s,mb5.2
KDAK Kodiak Island 80.87 30 *e*P **P 17 23 52.1 0.0**
comp=Z,56nm,1.2s,mb5.3
MAW Mawson 82.30 202⇓*i*P **P 17 24 00.0 +0.7**
comp=Z,14nm,0.9s,mb4.8
MAW Mawson 82.30 202 P **P 17 24 00.4 +1.1**
comp=Z,19nm,0.9s,mb4.9,baz=66,slow=5.7,SNR=22
MAW Mawson 82.30 202⇓*i*P **P 17 24 00.0 +0.7**
MAW pmax pmax
comp=Z,14nm,0.9s
SLKM Skilak Lake 82.92 28 *e*P **P 17 24 02.3 -0.3**
SLKM *e*pP pP 17 24 22.8 -0.1
IMA Indian Mountai 83.38 22 *e*P **P 17 24 06.3 +1.4**
comp=Z,104nm,1.3s,mb5.5
IMA pP pP 17 24 24.8 -0.4
IMA Indian Mountai 83.38 22 *e*P **P 17 24 06.3 +1.4**
IMA *PP pP 17 24 24.8 -0.4
IMA pmax pmax
comp=Z,104nm,1.3s,mb5.5
SML Sawmill 84.18 27 *e*P **P 17 24 09.1 +0.1**
SML *e*pP pP 17 24 29.4 +0.1
MCK McKinley 84.49 25 *e*P **P 17 24 09.5 -0.9**
comp=Z,12nm,1.0s,mb4.7
MCK *e*pP pP 17 24 30.0 -0.8
MCK LR LR
comp=Z,105nm,19.0s
MCK McKinley 84.49 25 *e*P **P 17 24 09.5 -0.9**
MCK pmax pmax
comp=Z,12nm,1.0s,mb4.7
MCK MLR MLR
comp=Z,105nm,19.0s
AB31 Akbulak array 85.05 320 P **P 17 24 12.9 -0.7**
AB31 pmax pmax
comp=Z,24nm,1.0s,mb5.1
DIV Divide 85.18 28 *e*P **P 17 24 14.6 +0.6**
comp=Z,120nm,0.7s,mb5.9
DIV *e*pP pP 17 24 33.9 -0.4
DIV *e*sP sP 17 24 39.9 -2.5
DIV LR LR
comp=Z,1μm,21.0s
ILAR Eielson Array 85.64 24 LR LR 17 58 10.5
comp=Z,74nm,20.6s,baz=12,slow=32
SVE Sverdlovsk 86.02 327 *e*P **P 17 24 17.0 -1.1**
SVE *e* pP 17 24 35.5 -3.1
SVE pmax pmax
comp=Z,40nm,2.0s,mb5.0
AKTO Aktyubinsk 86.47 321 P **P 17 24 20.1 -0.4**
AKTO pmax pmax
comp=Z,2.0nm,1.2s
ARU Arti 87.08 327 *e*P **P 17 24 22.2 -1.1**
comp=Z,14nm,2.5s,mb4.5
ARU Arti 87.08 327⇑*i*P **P 17 24 22.3 -1.0**
ARU pmax pmax
comp=Z,20nm,1.0s,mb5.0
QSPA South Pole Qui 87.22 180 *e*P **P 17 24 25.0 +1.4**
comp=Z,16nm,0.7s,mb5.1
SYO Syowa Base 90.92 201 ⇑P **P 17 24 40.8 -0.4**
SYO Syowa Base 90.92 201 ⇓PcP PcP 17 24 42.0 -0.4
SYO Syowa Base 90.92 201 ⇓P sP 17 25 02.7 -6.9
ZEI Tsey 95.74 313 *e*P **P 17 25 01.9 -2.0**
ZEI *i* 17 28 53.9
ZEI pmax pmax
comp=Z,4.0nm,0.6s,mb5.0
KIV Kislovodsk 96.58 314 *e*P **P 17 25 07.1 -0.6**
KIV pmax pmax
comp=Z,4.0nm,0.8s,mb4.9
KIV MLR MLR
comp=Z,200nm,24.0s
HUMO Hull Mountain 97.61 48 *e*P **P 17 25 13.9 +1.5**
comp=Z,2.4nm,0.5s,mb5.0
OBN Obninsk 99.45 325 *e*P **P 17 25 19.5 -0.9**
OBN *e* 17 29 27.3
OBN pmax pmax
comp=Z,21nm,1.7s,mb5.4
OBN MLR MLR
comp=Z,200nm,18.0s
YKA Yellowknife Ar 99.85 27 LR LR 18 05 15.7
comp=Z,238nm,22.0s,baz=10.0,slow=32
ANN Anapa 100.27 315 *e*P P 17 25 23.4 -1.0
ANN pmax pmax
comp=Z,107nm,1.7s
ARCES ARCESS Array B 100.69 341 P P 17 25 24.9 -0.7
comp=Z,9.3nm,0.8s,baz=75,slow=6.5,SNR=21
ARE0 ARCESS Array S 100.69 341 *e*Pdif P 17 25 25.1 -0.6
SNAA Sanae 101.79 191 P PP 17 29 39.3 -5.1
SNAA Sanae 101.79 191 PP 17 29 45.6 +1.2
SNAA Sanae 101.79 191 P P 17 25 32.5 +1.9
comp=Z,0.5nm,1.0s,baz=30,slow=5.8,SNR=5.2
VNA2 Neumayer--Watz 103.27 191 P PP 17 29 45.0 -11
VNA2 Neumayer--Watz 103.27 191 PP 17 30 20.8 +25
FINES FINESS Array B 103.29 333 Pdiff Pdif 17 25 37.2 -0.2
comp=Z,0.9nm,0.5s,baz=135,slow=2.7,SNR=4.7
FINES FINESS Array B 103.29 333 Pdif Pdif 17 25 37.2 -0.2
VNA3 Neumayer Olymp 103.41 190 P PP 17 29 46.0 -11
BRTR Keskin Array B 103.70 310 Pdiff Pdif 17 25 38.5 -1.2
comp=Z,1.3nm,0.9s,baz=90,slow=1.2,SNR=4.3
AKASG Malin Array Be 104.69 322 Pdiff Pdif 17 25 42.9 -0.9
comp=Z,0.2nm,0.2s,baz=57,slow=5.1,SNR=4.6
AKASG PP PP 17 30 04.7 -2.1
comp=Z,0.7nm,0.6s,baz=60,slow=6.9,SNR=4.3
AKASG Malin Array Be 104.69 322 Pdif Pdif 17 25 42.9 -0.9
AKASG PP PP 17 30 04.7 -2.1
GERES GERESS Array B 114.75 324 PKP PKPdf 17 30 18.6 +1.7
comp=Z,0.3nm,0.5s,baz=45,slow=1.9,SNR=4.4
TXAR Lajitas Array 114.88 59 PKKPab 17 41 03.6
comp=Z,0.4nm,0.5s,baz=129,slow=5.8,SNR=4.8
TXAR PKKP PKKP 17 41 26.3 +19
comp=Z,2.2nm,0.9s,baz=120,slow=7.3,SNR=9.2
PLCA Paso Flores 128.93 151 PKP PKPdf 17 30 45.7 +1.2
comp=Z,2.8nm,0.9s,baz=238,slow=2.8,SNR=4.9
PLCA Paso Flores 128.93 151 PKP PKPdf 17 30 45.7 +1.2
CFAA Coronel Fontan 137.03 145 PKP PKPdf 17 31 02.2 +2.2
comp=Z,0.2nm,0.4s,baz=207,slow=4.5,SNR=3.5
CFAA pPKP 17 31 26.4
comp=Z,0.5nm,0.7s,baz=196,slow=1.7,SNR=3.8
CFAA Coronel Fontan 137.03 145 PKP PKPdf 17 31 02.2 +2.2
CFAA pPKP 17 31 26.4
DBIC Dimbokro 143.98 278 PKP PKPdf 17 31 12.6 -0.2
comp=Z,14nm,0.6s,baz=56,slow=4.9,SNR=28
DBIC pPKP 17 31 36.8
comp=Z,24nm,0.7s,baz=99,slow=3.7,SNR=6.2
DBIC Dimbokro 143.98 278 *e*PKPdf PKPdf 17 31 12.1 -0.7
ROSC El Rosal 146.47 85 PKPbc PKPbc 17 31 21.0 +2.5
comp=Z,7.3nm,0.4s,baz=90,slow=20,SNR=7.8
CPUP Villa Florida 146.99 152 PKPbc PKPbc 17 31 20.7 +1.4
comp=Z,9.4nm,1.1s,baz=238,slow=6.0,SNR=9.3
CPUP pPKPbc 17 31 47.1
comp=Z,29nm,1.0s,baz=264,slow=3.6,SNR=12
CPUP Villa Florida 146.99 152 *e*PKPbc PKPbc 17 31 21.6 +2.3
LPAZ La Paz 147.04 126 PKPbc PKPdf 17 31 21.7 +3.7
comp=Z,10nm,1.0s,baz=285,slow=1.5,SNR=28
LPAZ pPKPbc 17 31 46.5
comp=Z,13nm,0.9s,baz=42,slow=2.2,SNR=7.1
LPAZ La Paz 147.04 126 *e*PKPdf PKPdf 17 31 20.5 +2.5
LPAZ *e*PKPbc PKPdf 17 31 23.1 +5.1
SDV Santo Domingo 149.71 77 PKP PKPdf 17 31 23.5 +1.2
comp=Z,7.9nm,1.0s,baz=184,slow=7.0,SNR=5.1
SDV PKPbc PKPdf 17 31 28.5 +6.2
comp=Z,24nm,1.0s,baz=308,slow=3.2,SNR=20
SDV Santo Domingo 149.71 77 *e*PKPdf PKPdf 17 31 23.1 +0.8
SDV *e*PKPbc PKPdf 17 31 28.1 +5.7
SJG San Juan 150.82 57 PKPbc PKPdf 17 31 30.1 +6.2
comp=Z,12nm,0.3s,baz=294,slow=19,SNR=7.0
MTP Monte Pirata 151.32 56 *e*PKPdf PKPdf 17 31 26.5 +1.8
MTP *e*PKPbc PKPdf 17 31 31.8 +7.2
MTP *e*PKPab PKPab 17 31 40.8 -0.6
SIV San Ignacio 152.65 133 PKPbc PKPdf 17 31 34.8 +8.1
comp=Z,4.4nm,1.1s,baz=211,slow=3.8,SNR=8.2
SIV pPKPbc 17 31 57.6
comp=Z,5.5nm,0.9s,baz=226,slow=4.3,SNR=6.0

IDC ***29*** *17:20:52.1±2.5,5.99S×130.22E,mb4.7/1,mb1 5.1/3, mb1mx4.2/11,mbtmp4.9/3,ML4.3/2,Error ellipse: s-maj=115.9km s-min=31.1km az=84.0*
NEIC ***29*** *17:20:56.2±0.5,6.00S×130.34E,h30km,mb4.2/6,Error ellipse: s-maj=16.2km s-min=8.5km az=76.0*
ISC 29 17:20:54.3±0.5,**6.05S**±0.06×**130.2E**±0.1,**h33**km,**n20,** σ0**92**/21,**mb4.6**/8,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.79**	**200**	Pn	**P**	**17 23 56.3**	**-0.3**
1.4nm,0.3s,baz=18,slow=9.5,SNR=9.7							
FITZ				Sn	**S**	**17 26 02.9**	**-16**
4.3nm,0.3s,baz=333,slow=6.8,SNR=3.2							
WRAB	**Tennant Creek**	**14.37**	**164**	*e*Pn	**P**	**17 24 18.7**	**+1.2**
WRAB				*e*Sn	**S**	**17 26 44.2**	**-12**
WRA	**Warramunga Arr**	**14.37**	**164**	Pn	**P**	**17 24 17.3**	**-0.2**
1.4nm,0.3s,baz=338,slow=14,SNR=7.0							
WRA				Sn	**S**	**17 26 42.6**	**-14**
2.7nm,0.3s,baz=339,slow=22,SNR=6.5							
MBWA	**Marble Bar**	**18.15**	**213**	Pn	**P**	**17 25 04.3**	**-1.3**
5.8nm,0.5s							
KKM	**Kota Kinabalu**	**18.45**	**310**	*e*P	**P**	**17 25 14.8**	**+5.4**
CTAO	**Charters Tower**	**20.90**	**133**	P	**P**	**17 25 36.7**	**+0.3**
2.3nm,0.4s							
KSM	**Kuching**	**21.26**	**290**	P	**P**	**17 25 40.5**	**+0.5**
GUMO	**Guam**	**24.32**	**37**	*e*P	**P**	**17 26 10.1**	**-0.2**
12nm,0.3s,mb4.8							
QIZ	**Qiongzhong**	**32.02**	**322**	*e*P	**P**	**17 27 20.9**	**+0.8**
156nm,1.6s,mb5.6							
MDJ	**Mudanjiang**	**50.44**	**359**	*e*P	**P**	**17 29 51.2**	**+0.3**
YSS	**Yuzh-Sakhalins**	**53.93**	**11**	*e*P	**P**	**17 30 14.4**	**-2.5**
SONM	**Songino Array**	**57.62**	**341**	P	**P**	**17 30 43.2**	**-0.3**
0.3nm,0.5s,mb3.6,baz=162,slow=4.6,SNR=3.1							
MKAR	**Makanchi Array**	**67.57**	**326**	P	**P**	**17 31 50.4**	**+0.8**
4.0nm,0.5s,mb4.7,baz=126,slow=7.7,SNR=61							
MKAR	**Makanchi Array**	**67.57**	**326**	P	**P**	**17 31 50.4**	**+0.8**
YAK	**Yakutsk**	**67.88**	**360**	*e*P	**P**	**17 31 50.5**	**-0.8**
2.7nm,0.6s,mb4.5							
KURK	**Kurchatov**	**71.84**	**328**	*e*P	**P**	**17 32 16.1**	**+0.5**
1.5nm,0.7s,mb4.0							
SBA	**Scott Base**	**74.24**	**172**	*e*P	**P**	**17 32 34.2**	**+4.9**
1.9nm,0.9s,mb4.0							
OBN	**Obninsk**	**97.02**	**325**	*e*P	**P**	**17 34 27.7**	**+3.8**
8.3nm,0.5s,mb5.4							
MYNC	**Murphy**	**137.16**	**43**	*e*PKPdf	PKPdf	17 40 16.8	+2.0
JSC	**Jenkinsville**	**139.54**	**42**	*e*PKPdf	PKPdf	17 40 20.7	+1.6

BJI ***29*** *17:40:16.0,0.06N×97.83E,h37km,mB5.6,mb5.1,Ms5.5, Msz5.3*
MOS ***29*** *17:40:17.5±1.1,0.40N×97.80E,h33km,mb5.4/41, MS5.1/14,Error ellipse: s-maj=11.0km s-min=5.5km az=111.6*
HRVD ***29*** *17:40:18.2±0.3,0.16N×97.48E,h23km,MW5.3/57, Centroid moment Tensor Solution. LP body waves: s50,c82;Mantle waves: s57,c110; Half duration: 1s2 Moment tensor: Scale 1017Nm; Mrr0.73±.03; Mθθ-0.38±.02; Mφφ-0.35±.02; Mrθ0.69±.03; Mrφ0.39±.01; Mθφ-0.75±.04; Best double couple: M0 1.26×1017 NP1: φs312°,δ18°,λ85° NP2:φs137°,δ72°,λ92°. Principal axes: T 1.249, Plg63°, Azm49°; N .023, Plg2°, Azm316°; P -1.271, Plg27°, Azm225°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***29*** *17:40:18.2±0.6,0.39N×97.77E,h24km±3km,mb4.6/23, mb1 4.7/23,mb1mx4.6/24,mbtmp4.7/23,MS4.9/11, Ms1 4.9/11,ms1mx4.8/14 Error ellipse: s-maj=18.0km s-min=11.3km az=56.0*
NEIC ***29*** *17:40:18.2±0.2,0.32N×97.74E,mb5.2/41,MS5.0/7,Error ellipse: s-maj=6.3km s-min=4.9km az=217.0*
NEIC Felt [III] at Gunungsitoli.
ISC 29 17:40:16.7±0.2,**0.33N**±0.03×**97.76E**±0.03,**h28**km, **h28**km±.7km:**pP-P,n248,**σ1**9**04/263,**mb5.1**/102,**MS5.2**/46, **44C-8D,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.71**	**30**⇑	*e*P	**Pn**	**17 41 42.6**	**+0.6**
SNG	**Songkhla**	**7.38**	**23**	P	**Pn**	**17 42 04.0**	**-1.4**
540nm,0.8s							
PKT	**Phuket**	**7.71**	**3**	P	**Pn**	**17 42 11.5**	**+1.4**
NNT	**Nongplab**	**12.34**	**9**	P	**P**	**17 43 13.0**	**-0.7**
KSM	**Kuching**	**12.60**	**85**	*e*P	**P**	**17 43 18.0**	**+0.9**

NST	Nakhon Sawan	15.42	9	P	P	17 43 57.0 +2.6
	48nm,0.7s					
KKTK	Khon Kaen	16.67	17	P	P	17 44 10.0 -0.3
	370nm,0.7s					
PALK	Pallekele	18.36	292	P	P	17 44 30.7 -0.7
CHG	Chiang Mai	18.41	4	⇓P	P	17 44 31.0 -1.0
	40nm,0.8s					
NANT	Nan	18.58	9	P	P	17 44 34.0 -0.1
	225nm,0.6s					
KKM	Kota Kinabalu	19.27	73	⇑*i*P	P	17 44 42.0 -0.4
CHRT	Chiangrai	19.52	6	⇑P	P	17 44 42.0 -3.1
	158nm,0.7s					
MDRS	Chennai	21.48	307	*e*P	P	17 45 10.0 +4.4
MDRS				*ex*	x	17 45 18.0
MDRS				*ex*	x	17 45 28.0
MDRS				*ex*	x	17 49 02.0
MDRS				*ex*	x	17 51 26.0
BATP	Bataraza	21.66	67	*e*P	P	17 45 07.4 +0.1
QIZ	Qiongzhong	22.04	32	P	P	17 45 12.3 +1.2
QIZ				XP		17 45 22.3
QIZ				XS		17 49 27.5
QIZ				LR	LR	
	comp=N,3μm,13.5s,MS5.2					
QIZ				LR	LR	
	comp=E,6μm,13.5s,MS5.2					
QIZ				LR	LR	
	comp=Z,4μm,14.4s,MS4.9					
TRD	Trivandrum	22.26	292	*e*P	P	17 45 08.0 -5.3
TRD				*i* S	S	17 49 12.0 +0.3
VIS	Vishakhapatnam	22.37	321	*e*P	P	17 45 15.2 +0.9
VIS				AMb	AMB	17 45 25.7
	comp=Z,93nm,1.2s,mb5.1					
VIS				*e*S	S	17 49 19.0 +5.4
PPR	Puerto Princes	22.88	65	⇑*i*P	P	17 45 18.5 -1.1
CAL	Calcutta	23.91	338	*e*P	P	17 45 30.1 +0.7
CAL				*ex*	x	17 47 52.4
CAL				*ex*	x	17 49 56.9
ENPP	El Nido	24.08	63	*e*P	P	17 45 32.4 +1.1
IMP	Imphal	24.59	352	*ex*	x	17 45 37.0
BUSP	Coron	25.11	62	*e*P	P	17 45 42.8 +1.6
KMI	Kunming	25.11	11	P	P	17 45 42.8 +1.7
KMI				AP	pP	17 45 50.0 +0.9
KMI				XP	sP	17 45 53.0 +0.2
KMI				PP	PP	17 46 23.3 +4.1
KMI				PPP	PPP	17 46 32.5 +2.2
KMI				S	S	17 50 08.0 +6.7
KMI				XS		17 50 21.3
KMI				AMB	AMB	
	comp=Z,119nm,1.3s,mb5.3					
KMI				AMB	AMB	
	comp=Z,1μm,5.3s					
KMI				LR	LR	
	comp=N,9μm,15.0s,MS5.4					
KMI				LR	LR	
	comp=E,5μm,18.7s,MS5.4					
KMI				LR	LR	
	comp=Z,11μm,15.0s,MS5.5					
KMI	Kunming	25.11	11	P	P	17 45 42.7 +1.6
	comp=Z,119nm,1.3s,mb5.3					
KMI				pP	pP	17 45 50.0 +0.9
KMI				sP	sP	17 45 52.9 +0.1
KMI				PP	PP	17 46 23.3 +4.1
KMI				PPP	PPP	17 46 32.4 +2.1
KMI				S	S	17 50 08.0 +6.7
KMI				sS		17 50 21.3
KMI				SS	SS	17 51 12.5 +11
KMI				SSS	SSS	17 51 29.6 +11
KMI				LR	LR	
	comp=Z,11μm,15.0s,MS5.5					
KMI	Kunming	25.11	11	P	P	17 45 42.7 +1.6
KMI				*SP	sP	17 45 52.9 +0.1
KMI						17 46 23.3
KMI				PPP	PPP	17 46 32.4 +2.1
KMI				S	S	17 50 08.0 +6.7
KMI				*SS		17 50 21.3
KMI				SS	SS	17 51 12.5 +11
KMI				pmax	pmax	
	comp=Z,119nm,1.3s,mb5.3					
KMI				MLR	MLR	
	comp=Z,11μm,15.0s,MS5.5					
CUYO	Cuyo Island	25.37	65	*e*P	P	17 45 44.5 +1.0
HYB	Hyderabad	25.41	313	*i* P	P	17 45 45.0 +1.1
HYB				*e*S	S	17 50 10.0 +3.7
HYB	Hyderabad	25.41	313	*e*P	P	17 45 45.0 +1.1
SHL	Shillong	25.72	348	*e*P	P	17 45 47.0 +0.2
	comp=Z,180nm,1.0s,mb5.6					
SHL				*e*S	S	17 50 15.0 +3.5
IPIL	Ipil	25.82	73	*e*P	P	17 45 48.0 +0.3
SJMP	San Jose	26.12	62	*e*P	P	17 45 50.6 +0.1
BLSP	Bilaspur	26.48	326	*e*P	P	17 45 54.2 +0.4
BLSP				AMb	AMB	17 45 55.7
	comp=Z,40nm,1.3s,mb4.8					
BLSP				*e*S	S	17 50 28.6 +4.6
PAGZ	Pagadian	26.61	73	*e*P	P	17 45 55.7 +0.7
OTRP	Odiongan	26.87	63	*e*P	P	17 45 57.5 0.0
GYA	Guiyang	27.36	18	⇑*i*P	P	17 46 01.5 -0.3
GYA				AP	pP	17 46 09.0 -0.8
GYA				XP	sP	17 46 11.8 -1.7
GYA				PP	PP	17 46 46.8 -2.5
GYA				S	S	17 50 38.0 -0.2
GYA				AMB	AMB	
	comp=Z,40nm,1.0s,mb4.9					
GYA				AMB	AMB	
	comp=Z,750nm,9.0s					
GYA				LR	LR	
	comp=N,3μm,18.3s,MS5.2					
GYA				LR	LR	
	comp=E,4μm,13.8s,MS5.2					
GYA				LR	LR	
	comp=Z,7μm,14.7s,MS5.3					
BUKP	Musuan	28.23	74	*e*P	P	17 46 09.9 +0.2
JBP	Jabalpur	28.53	324	*e*P	P	17 46 16.2 +3.8
JBP				*e*S	S	17 51 00.1 +3.0
KAD	Karad	28.69	307	*e*P	P	17 46 13.6 -0.3
PKI	Pulchoki	29.57	337	*e*P	P	17 46 21.8 +0.1
	comp=Z,236nm,1.7s,mb5.7					
PKI	Pulchoki	29.57	337	*e*P	P	17 46 21.8 +0.1
PKI				pmax	pmax	
	comp=Z,118nm,1.7s,mb5.3					
POO	Poona	29.64	309	*e*P	P	17 46 24.0 +1.5
POO				AMb	AMB	17 46 27.2
	comp=Z,6.1nm,0.7s,mb4.4					
DMN	Daman	29.72	337	*e*P	P	17 46 22.1 -1.0
	comp=Z,51nm,1.1s,mb5.2					
KKN	Kakani	29.81	337	*e*P	P	17 46 23.8 -0.1
	comp=Z,51nm,0.8s,mb5.3					
KKN	Kakani	29.81	337	*e*P	P	17 46 23.8 -0.1
KKN				pmax	pmax	
	comp=Z,25nm,0.8s,mb5.0					
LSA	Lhasa	29.88	348	P	P	17 46 25.0 +0.5
LSA				AP	pP	17 46 34.5 +1.9
LSA				XP	sP	17 46 38.5 +2.3
LSA				PP	PP	17 47 18.5 -3.6
LSA				AMB	AMB	
	comp=Z,30nm,1.7s,mb4.8					
LSA				LR	LR	
	comp=N,2μm,22.2s					
LSA				LR	LR	
	comp=E,2μm,30.5s					
LSA				LR	LR	
	comp=Z,2μm,24.9s,MS4.7					
LSA	Lhasa	29.88	348	⇑*i*P	P	17 46 25.3 +0.8
	comp=Z,41nm,0.9s,mb5.2					
LSA	Lhasa	29.88	348	⇑*i*P	P	17 46 25.3 +0.8
LSA				pmax	pmax	
	comp=Z,41nm,0.9s,mb5.2					
BHPL	Bhopal	30.15	320	*e*P	P	17 46 27.4 +0.5
GKN	Gorkha	30.26	337	*e*P	P	17 46 27.9 +0.1
	comp=Z,66nm,0.9s,mb5.3					
MBWA	Marble Bar	30.28	136	*e*P	P	17 46 27.8 -0.4
MBWA				LR	LR	
	comp=Z,4μm,21.0s,MS5.1					
KOLN	Koldanda	30.48	335	*e*P	P	17 46 30.0 +0.2
CD2	Chengdu	30.94	10	⇑*i*P	P	17 46 33.0 -0.8
CD2				PP	PP	17 47 36.3 +0.4
CD2				PPP	PPP	17 47 51.5 +0.7
CD2				S	S	17 51 34.3 -1.0
CD2				SS	SS	17 53 19.8 +0.2
CD2				AMB	AMB	
	comp=Z,20nm,1.0s,mb4.9					
CD2				AMB	AMB	
	comp=Z,240nm,13.7s					
CD2				LR	LR	
	comp=E,4μm,13.2s					
CD2				LR	LR	
	comp=Z,4μm,14.4s,MS5.2					
QZH	Quanzhou	31.70	38	⇑*i*P	P	17 46 40.3 -0.2
QZH				AMB	AMB	
	comp=Z,100nm,1.2s,mb5.5					
QZH				AMB	AMB	
	comp=Z,640nm,3.4s					
QZH				LR	LR	
	comp=N,5μm,10.5s,MS5.7					
QZH				LR	LR	
	comp=E,7μm,12.8s,MS5.7					
QZH				LR	LR	
	comp=Z,11μm,15.6s,MS5.6					
ENH	Enshi	31.80	19	*e*P	P	17 46 40.2 -1.2
	comp=Z,75nm,1.0s,mb5.5					
ENH				*e*pP	pP	17 46 47.1 -2.4
FITZ	Fitzroy Crossi	32.97	125	⇑*i*P	P	17 46 50.4 -1.3
	comp=Z,38nm,0.8s,mb5.4					
FITZ	Fitzroy Crossi	32.97	125	P	P	17 46 50.6 -1.1
	comp=Z,51nm,0.8s,mb5.5,baz=320,slow=3.8,SNR=38					
YHNB	Yeheng	33.28	42	*e*P	P	17 46 54.2 -0.2
PTH	Pithoragarh	33.53	332	*ex*	x	17 47 05.0
PTH				*ex*	x	17 52 00.0
WHN	Wuhan	33.93	26	⇓P	P	17 47 00.5 +0.6
WHN				AP	pP	17 47 08.3 +0.2
WHN				S	S	17 52 27.0 +5.1
WHN				AMB	AMB	
	comp=Z,1μm,4.3s					
WHN				LR	LR	
	comp=N,2μm,10.9s,MS5.5					
WHN				LR	LR	
	comp=E,5μm,12.7s,MS5.5					
WHN				LR	LR	
	comp=Z,7μm,13.2s,MS5.5					
AJM	Ajmer	34.23	321	*i* P	P	17 47 02.0 -0.5
XAN	Xi'an	35.13	16	P	P	17 47 09.5 -0.7
XAN				AP	pP	17 47 18.8 +0.4
XAN				PP	PP	17 48 25.5 -3.7
XAN				S	S	17 52 38.0 -2.4
XAN				AMB	AMB	
	comp=Z,125nm,1.1s,mb5.8					
XAN				LR	LR	
	comp=N,2μm,13.7s,MS5.3					
XAN				LR	LR	
	comp=E,3μm,14.8s,MS5.3					
XAN				LR	LR	
	comp=Z,7μm,16.1s,MS5.5					
BHJ	Bhuj	35.56	312	*ex*	x	17 48 12.3
BHJ				*ex*	x	17 52 15.4
LZH	Lanzhou	36.02	8	⇑P	P	17 47 18.0 +0.3
LZH				AP	pP	17 47 26.0 +0.1
LZH				XP	sP	17 47 29.5 +0.1
LZH				PP	PP	17 48 41.3 +1.4
LZH				*e*S	S	17 52 55.5 +1.3
LZH				SS	SS	17 55 17.0 -0.4
LZH				AMB	AMB	
	comp=Z,99nm,1.6s,mb5.5					
LZH				AMB	AMB	
	comp=Z,510nm,4.8s					
LZH				LR	LR	
	comp=E,5μm,13.7s					
LZH				LR	LR	
	comp=Z,6μm,16.0s,MS5.5					
LZH	Lanzhou	36.02	8	⇑P	P	17 47 17.9 +0.2
	comp=Z,99nm,1.6s,mb5.5					
LZH				pP	pP	17 47 25.9 0.0
LZH				sP	sP	17 47 29.5 +0.1
LZH				PP	PP	17 48 41.2 +1.3
LZH				*e*S	S	17 52 55.4 +1.2
LZH				sS		17 53 07.5
LZH				SS	SS	17 55 17.0 -0.4
LZH				LR	LR	
	comp=Z,6μm,16.0s,MS5.5					
LZH	Lanzhou	36.02	8	⇑P	P	17 47 17.9 +0.2
LZH				*SP	sP	17 47 29.5 +0.1
LZH						17 48 41.2
LZH				*e*S	S	17 52 55.4 +1.2
LZH				*SS		17 53 07.5
LZH				SS	SS	17 55 17.0 -0.4
LZH				pmax	pmax	
	comp=Z,99nm,1.6s,mb5.5					
LZH				MLR	MLR	
	comp=Z,6μm,16.0s,MS5.5					
NJ2	Nanjing	37.32	30	*e*P	P	17 47 29.0 +0.3
NJ2				AP	pP	17 47 39.0 +2.1
NJ2				XP	sP	17 47 42.8 +2.5
NJ2				PP	PP	17 48 58.0 +1.5
NJ2				AMB	AMB	
	comp=Z,120nm,1.0s,mb5.7					
NJ2				AMB	AMB	
	comp=Z,430nm,5.3s					
NJ2				LR	LR	
	comp=N,2μm,17.8s,MS5.0					
NJ2				LR	LR	
	comp=E,2μm,22.6s,MS5.0					
SSE	Sheshan	37.81	34	P	P	17 47 33.8 +1.0
SSE				AP	pP	17 47 43.0 +2.0
SSE				PP	PP	17 49 01.0 -1.4
SSE				S	S	17 53 25.3 +3.7
SSE				XS		17 53 38.5
SSE				SCS	ScS	17 57 43.5 +2.2
SSE				AMB	AMB	
	comp=Z,61nm,1.0s,mb5.3					
SSE				AMB	AMB	
	comp=Z,297nm,7.1s					
SSE				LR	LR	
	comp=N,3μm,16.8s,MS5.3					
SSE				LR	LR	
	comp=E,3μm,16.8s,MS5.3					
SSE	Sheshan	37.81	34	P	P	17 47 33.7 +0.9
	comp=E,61nm,1.0s,mb5.3					
SSE				pP	pP	17 47 42.9 +1.9
SSE				PP	PP	17 49 01.0 -1.4
SSE				S	S	17 53 25.2 +3.6
SSE				sS		17 53 38.6
SSE				SS	SS	17 56 12.9 +15
SSE				ScS	ScS	17 57 43.5 +2.2
SSE				LR	LR	
	comp=Z,7μm,15.6s,MS5.5					
GTA	Gaotai	38.94	3	P	P	17 47 42.5 +0.3
GTA				AP	pP	17 47 51.8 +1.4
GTA				XP	sP	17 47 56.0 +2.1
GTA				PP	PP	17 49 16.8 +1.4
GTA				PPP	PPP	17 49 40.5 +1.7
GTA				PCP	PcP	17 49 53.8 +0.8
GTA				S	S	17 53 39.3 +0.7
GTA				PCS		17 53 42.0
GTA				SS	SS	17 56 24.0 +1.4
GTA				SCS	ScS	17 57 48.5 +0.7
GTA				AMB	AMB	
	comp=Z,21nm,1.3s,mb4.7					
GTA				AMB	AMB	
	comp=Z,466nm,13.0s					
GTA				LR	LR	
	comp=N,1μm,22.6s,MS5.1					
GTA				LR	LR	
	comp=E,3μm,20.3s,MS5.1					
GTA				LR	LR	
	comp=Z,2μm,18.7s,MS5.0					
TIY	Taiyuan	39.59	18	⇑P	P	17 47 45.0 -2.6
TIY				S	S	17 53 50.0 +1.6
TIY				LR	LR	
	comp=N,6μm,15.0s					
TIA	Tai'an	39.97	25	*e*P	P	17 47 50.8 0.0
TIA				AMB	AMB	
	comp=Z,43nm,1.3s,mb5.0					
TIA				LR	LR	
	comp=N,5μm,14.0s,MS5.7					
TIA				LR	LR	
	comp=E,5μm,14.0s,MS5.7					
WRA	Warramunga Arr	41.10	121	P	P	17 47 59.7 -0.5
	comp=E,16nm,0.5s,mb4.9,baz=302,slow=9.0,SNR=146					
WRA	Warramunga Arr	41.10	121	*i* P	P	17 47 59.7 -0.5
WRA				pmax	pmax	
	comp=Z,16nm,0.5s					
WRAB	Tennant Creek	41.11	121	⇑*e*P	P	17 47 59.8 -0.4
	comp=Z,37nm,0.8s,mb5.1					
WRAB	Tennant Creek	41.11	121	*c i*P	P	17 48 00.0 -0.2
WB2	Warramunga Arr	41.11	121	*e*P	P	17 47 59.5 -0.8
BTO	Baotou	41.61	14	*e*P	P	17 48 04.5 +0.3
BTO				LR	LR	
	comp=N,1μm,13.7s,MS5.4					
BTO				LR	LR	
	comp=E,3μm,13.3s,MS5.4					
HHC	Hu-ho-hao-te	42.23	16	⇑*i*P	P	17 48 11.0 +1.7
HHC				AP	pP	17 48 18.5 +0.9
HHC				XP	sP	17 48 22.0 +1.0
HHC				PP	PP	17 49 54.0 +3.9
HHC				PCP	PcP	17 50 01.3 -2.4
HHC				S	S	17 54 33.8 +6.1
HHC				XS		17 54 47.0
HHC				SS	SS	17 57 37.8 +7.2
HHC				SCS	ScS	17 58 07.8 +0.5
HHC				AMB	AMB	
	comp=Z,52nm,1.2s,mb5.0					
HHC				AMB	AMB	
	comp=Z,481nm,9.6s					
HHC				LR	LR	
	comp=N,4μm,14.3s,MS5.6					
HHC				LR	LR	
	comp=E,3μm,16.7s,MS5.6					
HHC				LR	LR	
	comp=Z,4μm,14.3s,MS5.5					
ASPA	Alice Springs	42.42	127	*e*P	P	17 48 11.3 +0.2
KSH	Kashi	43.79	335	P	P	17 48 21.3 -0.7
KSH				*e*AP	pP	17 48 31.0 +0.7
KSH				*e*PP	PP	17 50 04.5 -1.2
KSH				*e*PCP	PcP	17 50 09.3 +0.4
KSH				*e*SCP		17 53 58.0
KSH				*e*PCS		17 54 01.0
KSH				*e*S	S	17 54 47.8 -2.6
KSH				*e*SCS	ScS	17 58 16.5 -0.4
KSH				AMB	AMB	
	comp=Z,270nm,3.8s					
KSH				LR	LR	
	comp=N,880nm,11.4s					
KSH				LR	LR	
	comp=E,610nm,7.7s					
DL2	Dalian	44.19	27	P	P	17 48 25.8 +0.5
DL2				S	S	17 55 01.8 +5.6
DL2				AMB	AMB	
	comp=Z,30nm,1.1s,mb4.9					
DL2				AMB	AMB	
	comp=Z,400nm,4.9s					
DL2				LR	LR	
	comp=N,2μm,14.4s					
DL2				LR	LR	
	comp=Z,2μm,14.1s,MS5.1					
WMQ	Urumqi	44.22	350	⇑*i*P	P	17 48 27.0 +1.5
WMQ				AP	pP	17 48 35.0 +1.2
WMQ				XP	sP	17 48 38.0 +0.8
WMQ				PP	PP	17 50 11.0 +1.0
WMQ				SCP		17 54 00.0
WMQ				S	S	17 54 59.0 +2.3
WMQ				SS	SS	17 58 10.0 +3.3
WMQ				AMB	AMB	
	comp=Z,42nm,1.0s,mb5.1					
WMQ				AMB	AMB	
	comp=Z,384nm,5.0s					
WMQ				LR	LR	
	comp=N,1μm,14.0s,MS5.1					
WMQ				LR	LR	
	comp=E,1μm,14.0s,MS5.1					
WMQ				LR	LR	
	comp=Z,1μm,14.0s,MS5.0					
JNU	Nakatsue	45.09	40	P	P	17 48 32.3 -0.3
	comp=Z,46nm,0.9s,mb5.3,baz=129,slow=4.6,SNR=28					
KS15	Wonju Array Si	46.22	34	⇑*i*P	P	17 48 41.1 -0.3
AAA	Alma-Ata	46.64	339	*i* P	P	17 48 54.2 +10
AAA				*i* S	S	17 55 34.2 +2.9
AAA				pmax	pmax	
	comp=Z,610nm,5.2s					
AAA				smax		
	comp=E,1μm,10.0s					
AAA				MLR	MLR	
	comp=Z,1μm,20.2s,MS4.9					
UCH	Uchtor	46.67	336	P	P	17 48 46.3 +1.4
	SNR=16					
TKM2	Tokmak 2	46.83	338	P	P	17 48 47.0 +0.8
	SNR=21					
KBK	Karagaybulak	46.86	337	P	P	17 48 47.8 +1.4
	SNR=19					
AML	Almayashu	46.92	335	P	P	17 48 48.2 +1.2
	SNR=5.3					
FRU	Bishkek	47.14	337	⇑*e*P	P	17 48 49.0 +0.4
FRU				*e*		17 49 08.0
FRU				*e*		17 55 40.0
FRU				*e*		17 55 50.0
FRU				pmax	pmax	
	comp=Z,170nm,2.5s,mb5.5					
FRU				MLR	MLR	
	comp=Z,1μm,18.0s,MS5.0					
CHMS	Chumysh	47.22	337	P	P	17 48 49.2 -0.2
	SNR=6.4					
EKS2	Erkin-Say	47.33	336	P	P	17 48 51.2 +1.0
	SNR=15					
SNY	Shenyang	47.42	26	⇑P	P	17 48 50.5 -0.4
SNY				S	S	17 55 45.5 +3.1
SNY				AMB	AMB	
	comp=Z,20nm,0.9s,mb5.0					
SNY				AMB	AMB	
	comp=Z,500nm,6.5s					
SNY				LR	LR	
	comp=E,3μm,14.7s					
SNY				LR	LR	
	comp=Z,4μm,15.1s,MS5.5					
USP	Ospenovka	47.55	337	P	P	17 48 52.4 +0.5
	SNR=41					
SONM	Songino Array	47.91	8	P	P	17 48 55.4 +0.8
	comp=Z,14nm,0.5s,mb5.3,baz=191,slow=9.6,SNR=144					
SONM				PcP	PcP	17 50 23.4 +0.2
	comp=Z,4.2nm,0.8s,baz=185,slow=3.2,SNR=6.1					
SONM				LR	LR	18 12 05.7
	comp=Z,3μm,18.2s,MS5.3,baz=189,slow=40					
ULN	Ulaanbaatar	48.03	8	⇑*i*P	P	17 48 56.3 +0.7
	comp=Z,36nm,1.0s,mb5.4					
ULN	Ulaanbaatar	48.03	8	⇑*i*P	P	17 48 56.3 +0.7
ULN				pmax	pmax	
	comp=Z,36nm,1.0s,mb5.4					
MKAR	Makanchi Array	48.22	346	P	P	17 48 57.1 +0.1
	comp=Z,16nm,0.6s,mb5.3,baz=158,slow=8.3,SNR=187					
MKAR				LR	LR	18 12 28.8
	comp=Z,696nm,20.4s,MS4.6,baz=174,slow=40					
KKAR	Karatay Array	49.08	334	*i* P	P	17 49 03.4 -0.3
KKAR				pmax	pmax	
	comp=Z,44nm,1.4s,mb5.3					
CN2	Changchun	49.83	26	*e*P	P	17 49 09.0 -0.5
CN2				*e*S	S	17 56 14.3 -1.8
CN2				AMB	AMB	
	comp=Z,30nm,1.1s,mb5.2					
CN2				AMB	AMB	
	comp=Z,500nm,4.0s					
CN2				LR	LR	
	comp=N,3μm,16.0s,MS5.5					
CN2				LR	LR	
	comp=E,2μm,16.0s,MS5.5					
CN2				LR	LR	
	comp=Z,6μm,17.0s,MS5.7					
ZAK	Zakamensk	50.09	5	⇓*i*P	P	17 49 10.8 -0.6
ZAK				pmax	pmax	
	comp=Z,9.0nm,1.1s,mb4.7					
ZAK				pmax	pmax	
	comp=Z,4.0nm,1.0s,mb4.4					
ZAK				pmax	pmax	
	comp=Z,4.0nm,1.6s,mb4.2					
PMG	Port Moresby	50.12	102	⇑*i*P	P	17 49 11.7 -0.4
	comp=Z,99nm,0.8s,mb5.9					
PMG				LR	LR	
	comp=Z,1μm,20.0s,MS4.8					
PMG	Port Moresby	50.12	102	*c i*P	P	17 49 11.8 -0.3
MOY	Mondy	51.22	3	*e*P	P	17 49 20.7 +0.7
MOY				pmax	pmax	
	comp=Z,51nm,2.9s,mb5.0					
CTA	Charters Tower	51.62	116	*e*P	P	17 49 21.8 -1.6
	comp=Z,11nm,1.0s,mb4.7					
CTA	Charters Tower	51.62	116	P	P	17 49 21.8 -1.6
	comp=Z,17nm,1.1s,mb4.9,baz=300,slow=6.9,SNR=6.2					
CTA	Charters Tower	51.62	116	*e*P	P	17 49 21.8 -1.6
CTA				pmax	pmax	
	comp=Z,11nm,1.0s					
CTAO	Charters Tower	51.62	116	*e*P	P	17 49 22.6 -0.8
	comp=Z,20nm,1.1s,mb5.0					
CTAO				*e*pP	pP	17 49 30.4 -1.4
CTAO				LR	LR	
	comp=Z,2μm,19.0s,MS5.2					
CTAO	Charters Tower	51.62	116	*e*P	P	17 49 22.6 -0.8
CTAO				*e*PP	pP	17 49 30.4 -1.4
CTAO				pmax	pmax	
	comp=Z,20nm,1.1s,mb5.0					
CTAO				MLR	MLR	
	comp=Z,2μm,19.0s,MS5.2					

MAJO	**Matsushiro**	**51.96**	**42**	*e*P	**P**	**17 49 23.8**	**-2.0**
	comp=Z,16nm,1.1s,mb4.8						
MAJO	**Matsushiro**	**51.96**	**42**	*e*P	**P**	**17 49 23.8**	**-2.0**
MAJO				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.9						
MAT	**Matsushiro**	**51.96**	**42**	P	**P**	**17 49 24.2**	**-1.6**
MAT				S	**S**	**17 57 01.0**	**+15**
MAT	**Matsushiro**	**51.96**	**42**	*e*P	**P**	**17 49 24.0**	**-1.8**
	comp=Z,20nm,1.2s,mb4.9						
MAT				*e*S	**S**	**17 57 02.0**	**+16**
MAT				LR	LR		
	comp=Z,1μm,20.0s,MS4.9						
MAT	**Matsushiro**	**51.96**	**42**	*e*P	**P**	**17 49 24.0**	**-1.8**
MAT				*e*S	**S**	**17 57 02.0**	**+16**
MAT				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.9						
MAT				MLR	MLR		
	comp=Z,1μm,20.0s,MS4.9						
IRK	**Irkutsk**	**52.02**	**5**	*e*P	**P**	**17 49 26.0**	**0.0**
IRK				pmax	pmax		
	comp=Z,79nm,3.5s						
HIA	**Hailar**	**52.28**	**18**	*e*P	**P**	**17 49 27.8**	**-0.2**
	comp=Z,38nm,1.2s,mb5.2						
HIA	**Hailar**	**52.28**	**18**	*e*P	**P**	**17 49 27.8**	**-0.2**
HIA				pmax	pmax		
	comp=Z,38nm,1.2s						
MDJ	**Mudanjiang**	**52.35**	**28**	P	**P**	**17 49 29.0**	**+0.3**
MDJ				AP	pP	17 49 35.8	-1.3
MDJ				XP	sP	17 49 38.5	-1.8
MDJ				PP	PP	17 51 28.8	+0.5
MDJ				SCP		17 54 35.0	
MDJ				S	**S**	**17 56 53.0**	**+2.1**
MDJ				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,462nm,4.4s						
MDJ				LR	LR		
	comp=N,5μm,16.0s,MS5.7						
MDJ				LR	LR		
	comp=E,2μm,17.0s,MS5.7						
MDJ				LR	LR		
	comp=Z,7μm,16.0s,MS5.8						
MDJ	**Mudanjiang**	**52.35**	**28**	*e*P	**P**	**17 49 28.6**	**-0.1**
	comp=Z,35nm,1.3s,mb5.1						
STKA	**Stephens Creek**	**52.36**	**132**	*e*P	**P**	**17 49 29.3**	**+0.4**
	comp=Z,13nm,0.8s,mb4.9						
STKA	**Stephens Creek**	**52.36**	**132**	P	**P**	**17 49 29.9**	**+1.0**
	comp=Z,24nm,1.2s,mb5.0,baz=289,slow=5.4,SNR=17						
STKA				LR	LR	18 13 59.6	
	comp=Z,2μm,21.9s,MS5.2,baz=290,slow=39						
KURK	**Kurchatov**	**52.77**	**345**⇑	*i*P	**P**	**17 49 31.2**	**-0.5**
	comp=Z,45nm,1.0s,mb5.4						
KURK	**Kurchatov**	**52.77**	**345**⇑	*i*P	**P**	**17 49 31.2**	**-0.5**
KURK				pmax	pmax		
	comp=Z,45nm,1.0s,mb5.3						
OPO	**Ambohidratompo**	**53.09**	**246**	P	**P**	**17 49 33.7**	**-0.8**
	comp=Z,5.1nm,0.9s,mb4.4,baz=15,slow=6.3,SNR=3.7						
OPO				pP	pP	17 49 41.6	-1.2
	comp=Z,5.4nm,0.9s,baz=65,slow=12,SNR=3.8						
CIT	**Chita**	**53.19**	**12**	*e*P	**P**	**17 49 35.9**	**+1.1**
CIT				*e*		17 57 08.8	
CIT				pmax	pmax		
	comp=Z,148nm,2.6s,mb5.5						
ZAL	**Zalesovo**	**54.49**	**351**	P	**P**	**17 49 44.8**	**+0.5**
	comp=Z,27nm,0.5s,mb5.5,baz=307,slow=5.4,SNR=118						
ZAL				LR	LR	18 17 04.7	
	comp=Z,928nm,19.2s,MS4.9,baz=298,slow=40						
NVS	**Novosibirsk**	**55.62**	**350**⇑	*i*P	**P**	**17 49 50.9**	**-1.6**
NVS				*i* S	**S**	**17 57 31.1**	**-3.8**
NVS				pmax	pmax		
	comp=Z,50nm,1.2s,mb5.4						
NVS				pmax	pmax		
	comp=N,40nm,1.3s						
NVS				pmax	pmax		
	comp=E,20nm,1.2s						
NVS				smax			
	comp=N,12nm,1.8s						
NVS				smax			
	comp=E,104nm,3.2s						
RDF	**Al-Radifah**	**55.69**	**305**	*e*P	**P**	**17 49 52.1**	**-1.2**
RDF				AMb	AMB	17 49 54.1	
	comp=Z,92nm,1.0s,mb5.8						
UMR	**Umm Al-Rimmam**	**55.78**	**306**	*e*P	**P**	**17 49 53.6**	**-0.4**
UMR				AMb	AMB	17 49 55.2	
	comp=Z,74nm,0.9s,mb5.7						
MIB	**Mutribah**	**56.18**	**306**	*e*P	**P**	**17 49 56.8**	**0.0**
MIB				AMb	AMB	17 49 58.3	
	comp=Z,80nm,0.7s,mb5.9						
VOSK	**Vostochnaya**	**56.80**	**341**	P	**P**	**17 49 59.1**	**-1.9**
VOSK				pmax	pmax		
	comp=Z,21nm,1.0s,mb5.1						
BVA0	**Borovoye Array**	**57.25**	**341**	*i* P	**P**	**17 50 02.4**	**-1.8**
BVA0				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
BVAR	**Borovoye Array**	**57.25**	**341**	P	**P**	**17 50 02.8**	**-1.3**
	comp=Z,11nm,0.7s,mb5.0,baz=144,slow=9.0,SNR=82						
BRVK	**Borovoye**	**57.31**	**341**	*e*P	**P**	**17 50 03.2**	**-1.4**
	comp=Z,18nm,1.0s,mb5.1						
BRVK	**Borovoye**	**57.31**	**341**	*e*P	**P**	**17 50 03.2**	**-1.4**
BRVK				pmax	pmax		
	comp=Z,18nm,1.0s,mb5.1						
AB31	**Akbulak array**	**58.54**	**332**	P	**P**	**17 50 11.5**	**-1.7**
AB31				pmax	pmax		
	comp=Z,14nm,0.8s,mb5.0						
BOD	**Bodaibo**	**58.76**	**10**	*e*P	**P**	**17 50 14.2**	**-0.4**
BOD				pmax	pmax		
	comp=Z,33nm,1.1s,mb5.3						
CLNS	**Chul'man**	**60.40**	**17**	*e*P	**P**	**17 50 25.8**	**-0.2**
CLNS				pmax	pmax		
	comp=N,11nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.2						
CLNS				pmax	pmax		
	comp=E,14nm,1.0s						
KMBO	**Kilima Mbogo**	**60.52**	**269**	pP	pP	17 50 34.6	-1.4
	comp=E,2.5nm,0.9s,baz=54,slow=7.6,SNR=4.4						
KMBO				LR	LR	18 14 05.6	
	comp=E,1μm,18.7s,MS5.0,baz=94,slow=34						
YSS	**Yuzh-Sakhalins**	**60.75**	**34**⇑	*i*P	**P**	**17 50 28.1**	**-0.4**
	comp=E,90nm,1.0s,mb5.8						
YSS	**Yuzh-Sakhalins**	**60.75**	**34**	*oe*P	**P**	**17 50 28.0**	**-0.5**
YSS				*e**PP	pP	17 50 37.0	-0.1
YSS				*e**SP	sP	17 50 43.2	+3.0
YSS				*e*S	**S**	**17 58 48.0**	**+6.0**
YSS				*e*PS	PS	17 58 56.0	-5.0
YSS				pmax	pmax		
	comp=N,30nm,1.0s						
YSS				pmax	pmax		
	comp=E,20nm,1.0s						
YSS				pmax	pmax		
	comp=Z,90nm,1.0s,mb5.8						
YSS				MLR	MLR		
	comp=N,700nm,16.0s,MS5.3						
YSS				MLR	MLR		
	comp=Z,900nm,16.0s,MS5.0						
YSS				MLR	MLR		
	comp=E,1μm,15.0s,MS5.3						
GNI	**Garni**	**62.30**	**316**	P	**P**	**17 50 37.4**	**-1.7**
	comp=E,1.7nm,0.3s,mb4.6,baz=147,slow=14,SNR=3.4						
GNI				pP	pP	17 50 45.7	-2.0
	comp=E,9.8nm,0.8s,baz=102,slow=9.8,SNR=3.2						
TBLG	**Delisi**	**63.00**	**318**	P	**P**	**17 50 43.5**	**-0.1**
SVE	**Sverdlovsk**	**63.70**	**338**⇑	*e*P	**P**	**17 50 47.0**	**-1.0**
SVE				*e*		17 51 20.0	
SVE				*e*		18 06 16.0	
SVE				pmax	pmax		
	comp=Z,80nm,1.5s,mb5.5						
ZEI	**Tsey**	**64.02**	**319**	*i* P	**P**	**17 50 46.1**	**-4.3**
ZEI				*i* *PP	pP	17 50 57.2	-1.7
ZEI				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
ARU	**Arti**	**64.20**	**337**	*e*P	**P**	**17 50 49.7**	**-1.6**
	comp=Z,13nm,0.8s,mb5.0						
ARU				*e*pP	pP	17 50 57.8	-2.1
ARU	**Arti**	**64.20**	**337**⇓	*i*P	**P**	**17 50 49.4**	**-1.9**
ARU				*e*		17 51 21.5	
ARU				*e*		17 53 13.4	
ARU				*e*S	**S**	**17 59 26.7**	**+1.5**
ARU				*e*SS	SS	18 03 35.8	-0.4
ARU				pmax	pmax		
	comp=Z,21nm,1.3s,mb5.0						
ARU				MLR	MLR		
	comp=Z,1μm,19.0s,MS5.1						
ARU				MLR	MLR		
	comp=N,300nm,18.0s,MS5.1						
ARU				MLR	MLR		
	comp=E,1μm,19.0s,MS5.1						
KIV	**Kislovodsk**	**65.33**	**319**	*e*P	**P**	**17 50 57.9**	**-0.9**
	comp=E,24nm,1.0s,mb5.2						
KIV				pP	pP	17 51 06.5	-0.9
KIV	**Kislovodsk**	**65.33**	**319**	*e*P	**P**	**17 50 57.9**	**-0.9**
KIV				*PP	pP	17 51 06.5	-0.9
KIV				pmax	pmax		
	comp=Z,24nm,1.0s,mb5.2						
ASF	**Jabal al Asfar**	**65.42**	**305**	P	**P**	**17 51 00.0**	**+0.4**
	comp=Z,4.9nm,0.9s,mb4.5,baz=319,slow=2.8,SNR=5.9						
ASF				pP	pP	17 51 07.8	-0.4
	comp=Z,5.5nm,1.0s,baz=90,slow=6.1,SNR=3.3						
YAK	**Yakutsk**	**66.10**	**16**⇑	*i*P	**P**	**17 51 02.2**	**-1.2**
	comp=Z,130nm,1.1s,mb5.9						
YAK				LR	LR		
	comp=Z,2μm,19.0s,MS5.2						
YAK	**Yakutsk**	**66.10**	**16**	*c i*P	**P**	**17 51 02.4**	**-1.0**
YAK				*e**PP	pP	17 51 12.0	0.0
YAK				*e*		17 51 33.2	
YAK				*e*		17 53 26.1	
YAK				*e*PPP	PPP	17 55 03.1	-3.3
YAK				*e*S	S	17 59 48.5	+0.1
YAK				*e*		18 00 55.3	
YAK				*e*SS	SS	18 04 00.9	-4.6
YAK				pmax	pmax		
	comp=Z,52nm,1.0s,mb5.5						
YAK				pmax	pmax		
	comp=N,16nm,0.9s						
YAK				pmax	pmax		
	comp=E,14nm,1.2s						
YAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
YAK				pmax	pmax		
	comp=N,3.0nm,1.1s						
YAK				smax			
	comp=N,16nm,5.4s						
YAK				smax			
	comp=E,3.0nm,3.9s						
YAK				MLR	MLR		
	comp=N,890nm,15.0s,MS5.2						
YAK				MLR	MLR		
	comp=Z,1μm,15.0s,MS5.3						
YAK				MLR	MLR		
	comp=E,911nm,16.0s,MS5.2						
MALT	**Malatya**	**66.12**	**312**⇑	*i*P	**P**	**17 51 03.6**	**-0.4**
	comp=E,14nm,1.1s,mb4.9						
MALT	**Malatya**	**66.12**	**312**⇑	*i*P	**P**	**17 51 03.6**	**-0.4**
MALT				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.9						
CASY	**Casey**	**67.09**	**174**	*e*P	**P**	**17 51 16.7**	**+7.0**
CASY	**Casey**	**67.09**	**174**	P	**P**	**17 51 09.2**	**-0.5**
	comp=Z,32nm,1.5s,mb5.1						
CASY				*e*pP	pP	17 51 15.8	-2.4
SOKR	**Solikamsk**	**67.09**	**339**⇓	*i*P	**P**	**17 51 09.7**	**-0.1**
SOKR				S	S	17 59 49.2	-11
SOKR				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.1						
SOKR				MLR	MLR		
	comp=Z,1μm,19.0s,MS5.1						
SOC	**Sochi**	**67.14**	**318**	*e*P	**P**	**17 51 07.9**	**-2.5**
SOC				*e*PPP	PPP	17 55 09.9	-7.1
SOC				*e*S	S	17 59 57.2	-4.1
SOC				*e*SS	SS	18 04 23.7	+1.4
SOC				pmax	pmax		
	comp=N,30nm,1.1s						
SOC				pmax	pmax		
	comp=E,22nm,1.1s						
SOC				pmax	pmax		
	comp=Z,32nm,1.1s,mb5.3						
ANN	**Anapa**	**69.12**	**319**	*e*P	**P**	**17 51 17.2**	**-5.5**
ANN				*e*S	S	18 00 20.0	-4.9
ANN				pmax	pmax		
	comp=Z,49nm,1.3s,mb5.3						
VRHR	**Novokhopersk**	**69.16**	**326**	*e*P	**P**	**17 51 21.2**	**-1.6**
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
VRHR				pmax	pmax		
	comp=N,10.0nm,0.6s						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.9s						
BR131	**Keskin Array S**	**70.11**	**312**	*e*P	**P**	**17 51 26.8**	**-2.0**
	comp=E,2.4nm,0.6s,mb4.3						
BRTR	**Keskin Array B**	**70.11**	**312**	P	**P**	**17 51 27.6**	**-1.3**
	comp=E,2.0nm,0.6s,mb4.2,baz=127,slow=6.2,SNR=13						
SKR	**Severo-Kuril's**	**70.23**	**35**	P	**P**	**17 51 16.0**	**-13**
SKR				*e*	pP	17 51 26.4	-12
SKR				*e*		17 51 30.0	
SKR				*e*		17 54 08.0	
SKR				*e*PPP	PPP	17 55 40.0	-7.0
SKR				*e*S	S	18 00 44.0	+6.1
SKR				*e*		18 01 20.0	
SKR				*e*PS	PS	18 01 23.0	+14
SKR				pmax	pmax		
	comp=Z,90nm,0.9s,mb5.7						
SKR				smax			
	comp=E,1μm,14.0s						
SKR				MLR	MLR		
	comp=N,1μm,18.0s,MS5.4						
SKR				MLR	MLR		
	comp=E,1μm,18.0s,MS5.4						
SKR				MLR	MLR		
	comp=Z,2μm,18.0s,MS5.4						
LSZ	**Lusaka**	**70.41**	**254**	P	**P**	**17 51 30.5**	**-0.5**
	comp=Z,14nm,1.4s,mb4.7						
LSZ				*e*pP	pP	17 51 38.5	-1.1
LSZ	**Lusaka**	**70.41**	**254**	P	**P**	**17 51 30.5**	**-0.5**
LSZ				*e**PP	pP	17 51 38.5	-1.1
LSZ				pmax	pmax		
	comp=Z,14nm,1.4s,mb4.7						
VRSR	**Storozhevoye**	**70.59**	**325**	*e*P	**P**	**17 51 29.9**	**-1.6**
VRSR				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
VRSR				pmax	pmax		
	comp=N,8.0nm,0.6s						
VRSR				pmax	pmax		
	comp=E,10.0nm,1.1s						
SIM	**Simferopol'**	**71.38**	**318**	*e*P	**P**	**17 51 36.0**	**-0.5**
SIM				*e*SS	SS	18 05 33.0	+5.0
SIM				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.9						
MA2	**Magadan**	**71.87**	**25**	*e*P	**P**	**17 51 38.7**	**-0.4**
	comp=Z,23nm,1.1s,mb5.0						
MA2	**Magadan**	**71.87**	**25**	*d i*P	**P**	**17 51 38.8**	**-0.3**
MAW	**Mawson**	**72.00**	**193**	P	**P**	**17 51 41.5**	**+1.7**
	comp=Z,2.0nm,0.7s,mb4.2,baz=69,slow=14,SNR=4.7						
MAW				LR	LR	18 20 40.9	
	comp=Z,841nm,18.1s,MS5.0,baz=52,slow=34						
PET	**Petropavlovsk**	**72.64**	**34**	*e*P	**P**	**17 51 43.4**	**-0.4**
	comp=Z,29nm,0.4s,mb5.5						
PET				LR	LR		
	comp=Z,578nm,19.0s,MS4.9						
PET	**Petropavlovsk**	**72.64**	**34**⇑	*i*P	**P**	**17 51 43.8**	**0.0**
PET				*e*S	S	18 01 10.0	+4.4
PET				pmax	pmax		
	comp=Z,62nm,0.8s,mb5.6						
PET				pmax	pmax		
	comp=Z,500nm,4.2s						
PET				pmax	pmax		
	comp=Z,400nm,15.1s						
PET				MLR	MLR		
	comp=Z,900nm,18.0s,MS5.1						
PET				MLR	MLR		
	comp=Z,800nm,17.0s						
DRV	**Dumont d'Urvil**	**73.16**	**164**	S	S	18 01 22.0	+11
DRV				L		18 11 00.0	
MOS	**Moscow**	**73.36**	**329**	*e*P	**P**	**17 51 45.1**	**-2.9**
MOS				pmax	pmax		
	comp=Z,53nm,0.9s,mb5.5						
OBN	**Obninsk**	**73.65**	**328**⇑	*i*P	**P**	**17 51 48.5**	**-1.1**
OBN				*e*		17 52 03.1	
OBN				*e*		17 54 32.5	
OBN				*e*SS	SS	18 06 03.2	+0.4
OBN				pmax	pmax		
	comp=Z,30nm,1.3s,mb5.1						
TIXI	**Tiksi**	**73.94**	**10**	*e*P	**P**	**17 51 46.9**	**-4.1**
TIXI				*e*S	S	18 01 15.2	-4.7
TIXI				pmax	pmax		
	comp=Z,45nm,1.0s,mb5.3						
TIXI				MLR	MLR		
	comp=Z,1μm,16.0s,MS5.4						
SEY	**Seymchan**	**74.34**	**23**	*c i*P	**P**	**17 51 53.3**	**-0.2**
BOSA	**Boshof**	**74.84**	**240**	P	**P**	**17 51 58.4**	**+1.3**
	comp=Z,1.6nm,0.8s,mb4.0,baz=92,slow=11,SNR=2.4						
BOSA				LR	LR	18 20 35.5	
	comp=Z,779nm,18.0s,MS5.0,baz=84,slow=32						
AKASG	**Malin Array Be**	**76.28**	**322**	P	**P**	**17 52 03.8**	**-1.0**
	comp=Z,4.9nm,0.8s,mb4.5,baz=86,slow=4.6,SNR=19						
AKASG				pP	pP	17 52 11.4	-2.1
	comp=Z,2.0nm,0.5s,baz=85,slow=4.9,SNR=3.6						
VRI	**Vrincioaia**	**76.63**	**317**⇑	P	**P**	**17 52 07.4**	**+0.5**
VRI	**Vrincioaia**	**76.63**	**317**⇑	*i*P	**P**	**17 52 07.4**	**+0.5**
MLR	**Muntele Rosu**	**77.08**	**317**⇑	P	**P**	**17 52 09.7**	**+0.3**
MLR	**Muntele Rosu**	**77.08**	**317**⇑	*i*P	**P**	**17 52 09.7**	**+0.3**
BURAR	**Bucovina Array**	**78.04**	**319**⇓	P	**P**	**17 52 15.8**	**+1.2**
BURAR	**Bucovina Array**	**78.04**	**319**⇑	*i*P	**P**	**17 52 15.8**	**+1.2**
JOF	**Joensuu**	**79.17**	**335**	*ep*	**P**	**17 52 17.8**	**-2.7**
	comp=Z,11nm,1.1s,mb4.7						
LVV	**L'vov**	**79.29**	**321**	*e*P	**P**	**17 52 20.9**	**-0.5**
LVV				*e*	pP	17 52 27.7	-2.5
LVV				*e*S	S	18 02 15.5	-3.1
SYO	**Syowa Base**	**79.36**	**198**⇓	P	**P**	**17 52 24.5**	**+3.1**
SYO	**Syowa Base**	**79.36**	**198**⇑	PcP	PcP	17 52 29.0	-0.9
APA	**Apatity**	**80.13**	**339**⇑	*i*P	**P**	**17 52 26.0**	**+0.4**
APA				*e*S	S	18 02 40.0	+13
APA				MLR	MLR		
	comp=Z,1μm,24.0s,MS5.2						
UZH	**Uzhgorod**	**80.17**	**319**	*e*P	**P**	**17 52 25.0**	**-1.2**
UZH				*e*S	S	18 02 24.0	-3.8
SUW	**Suwalki**	**80.70**	**325**	*e*P	**P**	**17 52 29.0**	**+0.1**
SUW	**Suwalki**	**80.70**	**325**	*e*P	**P**	**17 52 29.0**	**+0.1**
CRVS	**Cervenica-Dubn**	**80.76**	**319**	*i* P	**P**	**17 52 30.1**	**+0.8**
TSUM	**Tsumeb**	**80.83**	**251**	*e*P	**P**	**17 52 32.2**	**+2.0**
	comp=Z,9.3nm,1.1s,mb4.6						
FX1	**Attu Island--F**	**80.95**	**36**	*e*P	**P**	**17 52 30.6**	**+0.3**
STHS	**Stebnicka Huta**	**80.99**	**320**	*i* P	**P**	**17 52 31.8**	**+1.3**
FINES	**FINESS Array B**	**81.03**	**332**	P	**P**	**17 52 30.6**	**+0.2**
	comp=Z,4.1nm,0.8s,mb4.4,baz=108,slow=6.6,SNR=9.2						
FINES				LR	LR	18 35 27.0	
	comp=Z,513nm,18.9s,MS4.9,baz=302,slow=41						
FINES	**FINESS Array B**	**81.03**	**332**	*i* P	**P**	**17 52 30.1**	**-0.3**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KAF	**Kangasniemi**	**81.11**	**333**	*ep*	**P**	**17 52 28.2**	**-2.6**
	comp=Z,15nm,1.1s,mb4.8,baz=104,slow=4.9						
KAF	**Kangasniemi**	**81.11**	**333**	*e*P	**P**	**17 52 28.2**	**-2.6**
KAF				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.8						
KECS	**Kecovo**	**81.33**	**319**	*i* P	**P**	**17 52 32.8**	**+0.5**
BILL	**Bilibino**	**81.77**	**21**	*e*P	**P**	**17 52 33.1**	**-1.1**
BILL				*e*		17 52 43.9	
BILL				*e*		17 55 41.7	
BILL				*e*S	S	18 02 45.4	+1.4
BILL				*e*SS	SS	18 08 05.4	0.0
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
OJC	**Ojcow**	**82.05**	**321**	*e*P	**P**	**17 52 36.1**	**+0.1**
VYHS	**Vyhne**	**82.41**	**319**	*i* P	**P**	**17 52 38.3**	**+0.4**
TIP	**Timpagrande**	**82.81**	**309**	P	**P**	**17 52 39.5**	**-0.7**
OKC	**Ostrava-Krasne**	**83.05**	**320**	*e*P	**P**	**17 52 40.3**	**-0.8**
OKC				*ep*P	pP	17 52 48.7	-1.3
OKC				*e*SKS	SKS	18 03 01.5	-3.5
MORC	**Moravsky Berou**	**83.43**	**320**	*e*P	**P**	**17 52 43.0**	**-0.1**
	comp=Z,8.4nm,1.2s,mb4.7						
MORC	**Moravsky Berou**	**83.43**	**320**	*e*P	**P**	**17 52 43.0**	**-0.1**
MORC				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.6						
ZST	**Bratislava**	**83.52**	**318**	*e*P	**P**	**17 52 44.4**	**+0.8**
ARCES	**ARCESS Array B**	**83.54**	**340**	P	**P**	**17 52 44.0**	**+0.8**
	comp=Z,6.5nm,0.9s,mb4.8,baz=102,slow=5.0,SNR=28						
ARCES				LR	LR	18 36 12.3	
	comp=Z,507nm,20.9s,MS4.9,baz=102,slow=40						
DPC	**Dobruska-Polom**	**84.28**	**320**	*e*P	**P**	**17 52 48.4**	**+1.0**
DPC				*e*SKS	SKS	18 03 06.3	-7.0
GROS	**Grobnik**	**84.42**	**317**	*e*P	**P**	**17 52 48.6**	**+0.4**
UPC	**Upice**	**84.49**	**321**	*e*P	**P**	**17 52 49.1**	**+0.6**
BOJS	**Bojanci**	**84.51**	**316**	*e*P	**P**	**17 52 49.0**	**+0.3**
VNDA	**Vanda**	**84.87**	**169**	P	**P**	**17 52 51.4**	**+1.6**
	comp=Z,0.7nm,1.0s,mb3.7,baz=310,slow=4.4,SNR=4.9						
VNDA				pP	pP	17 52 59.3	+0.6
	comp=Z,2.6nm,1.0s,baz=333,slow=6.6,SNR=6.6						
VNDA				LR	LR	18 30 21.6	
	comp=Z,784nm,18.1s,MS5.1,baz=310,slow=35						
LJU	**Ljubljana**	**85.06**	**316**	*e*P	**P**	**17 52 52.2**	**+0.8**
PRU	**Pruhonice**	**85.38**	**320**	*e*P	**P**	**17 52 52.5**	**-0.4**
PRU				*ep*P	pP	17 53 01.4	-0.4
PRU				*e*S	S	18 03 23.6	+3.2
PVCC	**Panska Ves**	**85.41**	**321**	*e*S	S	18 03 26.9	+6.2
BRG	**Berggiesshubel**	**85.83**	**321**	*e*P	**P**	**17 52 55.7**	**+0.5**
	comp=Z,9.0nm,1.3s,mb4.8						
BRG	**Berggiesshubel**	**85.83**	**321**	*e*P	**P**	**17 52 55.7**	**+0.5**
BRG				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.8						
GERES	**GERESS Array B**	**85.83**	**319**	P	**P**	**17 52 55.6**	**+0.4**
	comp=Z,3.8nm,1.0s,mb4.6,baz=90,slow=5.3,SNR=28						
KHC	**Kasperske Hory**	**85.94**	**319**	*e*P	**P**	**17 52 52.5**	**-3.2**
KHC				*ep*P	pP	17 53 04.0	-0.6
KHC				*e*S	S	18 03 26.5	+0.7
SBA	**Scott Base**	**85.97**	**169**	*e*P	**P**	**17 52 57.1**	**+1.8**
	comp=Z,53nm,1.8s,mb5.5						
SBA				LR	LR		
	comp=Z,682nm,22.0s,MS5.0						
SBA	**Scott Base**	**85.97**	**169**	*e*P	**P**	**17 52 57.1**	**+1.8**
SBA				pmax	pmax		
	comp=Z,53nm,1.8s,mb5.5						
SBA				MLR	MLR		
	comp=Z,682nm,22.0s,MS5.0						
NKC	**Novy Kostel**	**86.74**	**320**	*e*SKS	SKS	18 03 27.2	-2.6
HFS	**Hagfors**	**86.75**	**330**	P	**P**	**17 53 00.1**	**+0.7**
	comp=Z,9.6nm,1.0s,mb5.0,baz=127,slow=7.4,SNR=9.2						
HFS				pP	pP	17 53 08.6	+0.3
	comp=Z,3.6nm,0.8s,baz=146,slow=10,SNR=2.2						
MOX	**Moxa**	**87.30**	**321**	*i* P	**P**	**17 53 03.3**	**+1.0**
MOX	**Moxa**	**87.30**	**321**	*e*P	**P**	**17 53 03.3**	**+1.0**
GRA1	**Grafenberg Arr**	**87.50**	**320**	*e*P	**P**	**17 53 04.1**	**+0.8**
	comp=Z,10.0nm,1.2s,mb4.9						
GRF	**Grafenberg Arr**	**87.50**	**320**	*e*P	**P**	**17 53 04.1**	**+0.8**
GRF				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.9						
NB2	**NORSAR Subarra**	**88.03**	**331**	P	**P**	**17 53 05.7**	**+0.1**
	comp=Z,21nm,1.4s,mb5.2,baz=90,slow=5.8						
NB2	**NORSAR Subarra**	**88.03**	**331**	P	**P**	**17 53 05.7**	**+0.1**
NB2				pmax	pmax		
	comp=Z,21nm,1.4s,mb5.2						
NOA	**NORSAR Array B**	**88.03**	**331**	P	**P**	**17 53 05.6

TICN				*e*S	Sn	17 57 07.0	-0.4
LCBS	**La Ceiba**	**1.99**	**328**⇓	*e*P	Pn	17 56 51.2	-0.6
LCBS				*e*S	Sn	17 57 15.7	-0.8
LFRS	**El Faro**	**2.01**	**326**⇓	*e*P	Pn	17 56 51.8	-0.3
LFRS				*e*S	Sn	17 57 14.9	-2.0
CONN	**Concepcion**	**2.26**	**100**	*e*P	Pn	17 56 54.7	-1.1
CONN				*e*S	Sn	17 57 23.4	0.0

GUC 29 18:01:57.8±0.6, 28.78S×70.01W, h99km±11km, ML3.7, 4C, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.69**	**287**	⇑*i*P	P	18 02 15.4	+0.2
VACH				*i* S	S	18 02 28.5	+0.3
VACH				AMP		18 02 29.0	
	comp=E,8μm,0.2s						
CPCH	**Copiapo**	**1.45**	**348**	⇑*i*P	P	18 02 23.5	-0.2
CPCH				*i* S	S	18 02 43.0	0.0
CPCH				AMP		18 02 45.3	
	comp=E,4μm,0.1s						
TLL	**Tololo Astrono**	**1.55**	**206**	⇑*i*P	P	18 02 25.7	+0.6
TLL				*i* S	S	18 02 46.5	+1.2
TLL				AMP		18 02 49.8	
	comp=N,680nm,0.3s						
LSCH	**La Serena**	**1.56**	**223**	⇑*i*P	P	18 02 25.1	-0.1
LSCH				*i* S	S	18 02 45.5	0.0
LSCH				AMP		18 02 46.7	
	comp=E,430nm,0.5s						
CHNG	**Los Chungos**	**3.36**	**202**	*e*P	P	18 02 48.9	-0.5
CHNG				*i* S	S	18 03 27.1	-1.3
CHNG				AMP		18 03 40.2	
	comp=N,128nm,0.6s						

MEX 29 18:06:46.0±0.9, 16.40N×99.86W, h5km±5km, MD4.1, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.47**	**353**	*i* P	Pg	18 06 54.8	-0.6
ACX				*i* S	Sg	18 07 01.3	-0.4
CAIG	**El Cayaco**	**0.76**	**329**	*e*P	Pg	18 06 59.4	-1.7
CAIG				*i* S	Sg	18 07 09.2	-2.0
PLIG	**Platanillo**	**2.01**	**10**	*e*P	Pn	18 07 16.5	-4.5
PLIG				*i* S	Sn	18 07 40.8	-6.1
YAIG	**Yautepec**	**2.56**	**17**	*e*P	Pn	18 07 26.9	-2.0
YAIG				*i* S	Sn	18 07 56.3	-4.6
PPM	**Popocatepetl**	**2.90**	**24**	*e*P	Pn	18 07 31.0	-2.7
PPM				*i* S	Sn	18 08 05.0	-4.4
UNM	**Universidad Na**	**2.99**	**12**	*e*P	Pn	18 07 35.0	+0.1
VHO	**Vista Hermosa**	**3.07**	**77**	*i* S	Sn	18 08 09.4	-4.3
OXX	**Oaxaca**	**3.08**	**77**	*e*P	Pn	18 07 32.0	-4.3
OXX				*i* S	Sn	18 08 13.0	-1.0
MOIG	**Morelia**	**3.50**	**339**	*i* S	Sn	18 08 22.2	-2.4

WEL 29 19:12:04.0±0.3, 38.83S×175.25E, h217km±2km, ML3.7/15, Error ellipse: s-maj=3.7km s-min=2.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWVZ	**Taurewa**	**0.28**	**149**	PN	P	19 12 32.5	-0.3
TWVZ				SN	S	19 12 54.5	-0.6
CNZ	**Chateau**	**0.44**	**148**	PN	P	19 12 33.1	-0.1
HIZ	**Hauiti**	**0.44**	**315**	*e*PN	P	19 12 32.4	-0.8
HIZ				SN	S	19 12 55.2	-0.6
WPVZ	**Whakapapa**	**0.44**	**149**	PN	P	19 12 33.2	-0.1
WPVZ				SN	S	19 12 55.4	-0.4
PKVZ	**Pokaka**	**0.47**	**171**	PN	P	19 12 32.9	-0.4
PKVZ				*e*SN	S	19 12 55.6	-0.4
VRZ	**Vera Road**	**0.48**	**232**	PN	P	19 12 32.2	-1.2
FWVZ	**Far West T-bar**	**0.49**	**151**	*e*PN	P	19 12 33.3	0.0
TUVZ	**Tukino**	**0.54**	**144**	PN	P	19 12 33.5	-0.1
WNVZ	**Wahianoa**	**0.57**	**152**	PN	P	19 12 33.7	0.0
WNVZ				*e*SN	S	19 12 56.2	-0.5
MOVZ	**Moawhango**	**0.70**	**146**	PN	P	19 12 33.7	-0.4
MOVZ				SN	S	19 12 55.8	-1.8
WAZ	**Wanganui**	**0.95**	**192**	PN	P	19 12 35.0	-0.4
WAZ				SN	S	19 12 58.7	-1.1
BKZ	**Black Stump Fm**	**1.03**	**110**	*e*PN	P	19 12 35.9	0.0
BKZ				SN	S	19 12 59.7	-1.0
TSZ	**Takapari Road**	**1.35**	**156**	*e*PN	P	19 12 38.0	-0.4
TSZ				SN	S	19 13 03.9	-1.1
URZ	**Urewera**	**1.57**	**69**	PN	P	19 12 39.1	-1.1
PXZ	**Pawanui**	**1.73**	**134**	*e*PN	P	19 12 41.4	-0.3
MRZ	**Mangatainoka R**	**1.85**	**172**	PN	P	19 12 41.3	-1.4
MWZ	**Matawai**	**1.85**	**75**	*e*PN	P	19 12 42.0	-0.7
KNZ	**Kokohu**	**1.90**	**97**	*e*PN	P	19 12 43.1	-0.2
KIW	**Kapiti Island**	**2.05**	**187**	PN	P	19 12 42.7	-1.9
DUWZ	**D'Urville Isla**	**2.22**	**207**	PN	P	19 12 43.9	-2.5

*IDC **29** 19:48:58.8±5.3, 36.50N×11.21W, mb3.7/2, mb1 4.2/5, mb1mx3.6/26, mbtmp4.0/5, ML4.7/2, Error ellipse: s-maj=85.9km s-min=36.9km az=58.0*
*IGIL **29** 19:49:02.6±8.8, 36.63N×11.22W, h17km, ML4.0*
*NEIC **29** 19:49:02.6, 36.83N×11.09W, MG4.6(MDD), After MDD.*
*MDD **29** 19:49:02.9±1.4, 36.72N×11.29W, h27km±45km, mbLg3.3/44, Error ellipse: s-maj=44.7km s-min=8.5km az=55.0, PRXIMO*
*SFS **29** 19:49:02.0, 36.75N×11.20W, h19km*
*CNRM **29** 19:49:02.2, 36.37N×11.01W, h30km, MD4.1*
*LDG **29** 19:49:03.5±0.2, 36.84N×11.15W, h2km, Ml3.8/19, Error ellipse: s-maj=3.3km s-min=2.3km az=57.0*
*CSEM **29** 19:49:03.3±0.2, 36.65N×11.20W, h40km, ML3.9/36, Error ellipse: s-maj=3.9km s-min=2.4km az=55.0*

INMG 29 19:49:04.1±0.9, 36.75N×11.11W, h10km, ML3.6, 9C-6D, Error ellipse: s-maj=4.3km s-min=2.6km az=71.0, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**2.06**	**67**	*i* Pn	Pg	19 49 37.2	-8.2
PTEO				*e*Sn	Sg	19 50 01.5	-11
	587nm,0.3s						
PTEO	**Sao Teotonio**	**2.06**	**67**	Pn	Pg	19 49 37.2	-8.2
PTEO				Sn	Sg	19 50 01.1	-12
LIS	**Lisbon**	**2.50**	**38**	*e*P	Pb	19 49 43.2	-5.6
LIS				*e*S	Sg	19 50 12.6	-15
LIS				*e*S	Sg	19 50 12.6	-15
INMG	**Instituto de M**	**2.56**	**37**	*e*Pn	Pn	19 49 44.4	-2.0
INMG				*e*Sn	Sn	19 50 14.7	-3.2
PLOU	**Loures**	**2.64**	**35**	*e*Pn	Pn	19 49 45.0	-2.5
PLOU				*e*Sn	Sn	19 50 15.8	-4.0
	269nm,0.1s						
PLOU	**Loures**	**2.64**	**35**	Pn	Pn	19 49 44.9	-2.6
PLOU				Sn	Sn	19 50 15.7	-4.1
PBEJ	**Beja**	**2.88**	**63**	*e*Pn	Pn	19 49 48.1	-2.9
PBEJ				*e*Sn	Sn	19 50 20.8	-5.2
	198nm,0.3s						
PBEJ	**Beja**	**2.88**	**63**	Pn	Pn	19 49 48.0	-3.0
PBEJ				Sn	Sn	19 50 20.7	-5.3
EGRO	**El Granado**	**3.00**	**74**	⇑P	Pn	19 49 50.0	-2.7
	3.0nm,0.1s,SNR=18						
EGRO				S	Sn	19 50 23.7	-5.4
	1.0nm,0.1s,SNR=26						
EGRO	**El Granado**	**3.00**	**74**	Pn	Pn	19 49 50.0	-2.7
	3.0nm,0.1s,SNR=18						
EGRO				Sn	Sn	19 50 23.7	-5.4
	1.0nm,0.1s,SNR=26						
EVO	**Evora**	**3.03**	**53**	*e*Pn	Pn	19 49 49.2	-4.0
EVO				*e*Sn	Sn	19 50 23.0	-6.9
	256nm,0.2s						
EVO				*e*Sg	Sg	19 50 35.2	-10
ALMR	**Almeirim**	**3.13**	**39**	*e*P	Pn	19 49 51.4	-3.0
ALMR				*e*		19 49 51.8	
	baz=178,slow=3.7						
ALMR				*e*S	Sn	19 50 27.2	-5.0
ALMR				*e*S	Sn	19 50 27.2	-5.0
ALMR				AML	AML	19 50 32.4	
	comp=E,503nm,0.5s						
ALMR	**Almeirim**	**3.13**	**39**	*e*P	Pn	19 49 51.4	-3.1
ALMR				*e*S	Sn	19 50 27.2	-5.1
PTOM	**Tomar**	**3.57**	**36**	*e*Pn	Pn	19 49 57.5	-3.2
PTOM				*e*Sn	Sn	19 50 38.4	-5.0
	comp=E,144nm,0.1s						
PTOM	**Tomar**	**3.57**	**36**	Pn	Pn	19 49 57.3	-3.4
PTOM				Sn	Sn	19 50 38.3	-5.1
EMIN	**Mina Concepcio**	**3.68**	**73**	⇑P	Pn	19 49 59.1	-3.3
	comp=E,2.3nm,0.1s,SNR=18						
EMIN				S	Sn	19 50 40.4	-5.9
	comp=E,87nm,0.2s,SNR=27						
EMIN	**Mina Concepcio**	**3.68**	**73**	Pn	Pn	19 49 59.1	-3.3
	comp=E,2.3nm,0.1s,SNR=18						
EMIN				Sn	Sn	19 50 40.4	-5.9
	comp=E,87nm,0.2s,SNR=27						
EBAD	**Badajoz**	**3.81**	**57**	⇑P	Pn	19 50 00.6	-3.6
	comp=E,7.5nm,0.1s,SNR=18						
EBAD				S	Sn	19 50 43.0	-6.7
	comp=E,272nm,0.2s,SNR=21						
EBAD	**Badajoz**	**3.81**	**57**	Pn	Pn	19 50 00.6	-3.6
	comp=E,7.5nm,0.1s,SNR=18						
EBAD				Sn	Sn	19 50 43.0	-6.7
	comp=E,272nm,0.2s,SNR=21						
CNIL	**Conil**	**4.09**	**94**	*i* P	Pn	19 50 06.2	-1.9
GIBL	**Gibalbin**	**4.13**	**87**	*e*P	Pn	19 50 06.2	-2.5
PCBR	**Castelo Branco**	**4.21**	**42**	*e*Pn	Pn	19 50 06.3	-3.5
PCBR				*e*Sn	Sn	19 50 52.9	-6.7
	comp=E,58nm,0.3s						
PCBR	**Castelo Branco**	**4.21**	**42**	Pn	Pn	19 50 06.2	-3.6
PCBR				Sn	Sn	19 50 52.8	-6.8
ESPR	**Espera**	**4.22**	**87**	⇓P	Pn	19 50 06.5	-3.4
	comp=E,96nm,0.2s,SNR=18						
ESPR				S	Sn	19 50 52.2	-7.6
	comp=E,43nm,0.2s,SNR=14						
ESPR	**Espera**	**4.22**	**87**	Pn	Pn	19 50 06.5	-3.5
	comp=E,96nm,0.2s,SNR=18						
ESPR				Sn	Sn	19 50 52.2	-7.7
	comp=E,43nm,0.2s,SNR=14						
EJIF	**Jimena Fronter**	**4.55**	**92**	⇑P	Pn	19 50 11.8	-2.8
	comp=E,7.0nm,0.2s,SNR=18						
EJIF				S	Sn	19 51 00.8	-7.4
	comp=E,3.7nm,0.2s,SNR=7.3						
LIJA	**Lijar**	**4.58**	**86**	*i* P	Pn	19 50 12.4	-2.7
MTE	**Manteigas**	**4.59**	**36**	*e*Pn	Pn	19 50 11.3	-4.0
MTE				*e*Sn	Sn	19 51 01.8	-7.5
	comp=E,60nm,0.4s						
MTE	**Manteigas**	**4.59**	**36**	*e*Pn	Pn	19 50 11.3	-4.0
MTE				*e*Sn	Sn	19 51 01.8	-7.5
	comp=E,60nm,0.4s						
MTE	**Manteigas**	**4.59**	**36**	*e*Pn	Pn	19 50 11.4	-3.9
MTE				*e*Sn	Sn	19 51 03.6	-5.7
REAL	**Reales**	**4.75**	**91**	*e*P	Pn	19 50 15.2	-2.4
REAL				*e*S	Sn	19 51 06.5	-7.0
EMIJ	**Mijas**	**5.10**	**90**	⇓P	Pn	19 50 18.1	-4.4
	comp=E,1.3nm,0.2s,SNR=18						
EMIJ				S	Sn	19 51 14.3	-7.8
	comp=E,11nm,0.2s,SNR=7.3						
PVRL	**Vila Real**	**5.24**	**29**	*e*Pn	Pn	19 50 19.9	-4.5
PVRL				*e*Sn	Sn	19 51 17.0	-8.5
	comp=E,122nm,0.1s						
EADA	**Adamuz**	**5.39**	**73**	P	Pn	19 50 22.3	-4.2
	comp=E,3.2nm,0.1s,SNR=264						
EADA				S	Sn	19 51 21.2	-8.1
	comp=E,41nm,0.2s,SNR=23						
EADA	**Adamuz**	**5.39**	**73**	Pn	Pn	19 50 22.3	-4.2
	comp=E,3.2nm,0.1s,SNR=264						
EADA				Sn	Sn	19 51 21.2	-8.1
	comp=E,41nm,0.2s,SNR=23						
PCAB	**Cabril**	**5.50**	**25**	*e*Pn	Pn	19 50 22.5	-5.6
PCAB				*e*Sn	Sn	19 51 22.0	-10
	comp=E,47nm,0.1s						
ELUQ	**Luque**	**5.53**	**80**	P	Pn	19 50 24.7	-3.8
	comp=E,3.3nm,0.2s,SNR=17						
ELUQ				S	Sn	19 51 25.0	-7.8
	comp=E,7.5nm,0.2s,SNR=8.3						
CIA	**Chichaoua**	**5.53**	**159**	*i* P	Pn	19 50 17.0	-11
CIA				*i* S	Sn	19 51 11.0	-22
ELOJ	**Sierra Loja**	**5.59**	**84**	P	Pn	19 50 25.3	-4.0
	comp=E,1.9nm,0.2s,SNR=11						
ELOJ				S	Sn	19 51 27.1	-7.3
	comp=E,3.8nm,0.2s,SNR=10						
ELOB	**Lobios**	**5.63**	**24**	⇑P	Pn	19 50 25.1	-4.9
	comp=E,3.2nm,0.1s,SNR=18						
ELOB				S	Sn	19 51 25.6	-10
	comp=E,14nm,0.1s,SNR=11						
ELOB	**Lobios**	**5.63**	**24**	Pn	Pn	19 50 25.1	-4.8
	comp=E,3.2nm,0.1s,SNR=18						
ELOB				Sn	Sn	19 51 27.2	-8.3
	comp=E,14nm,0.1s,SNR=11						
ELOB	**Lobios**	**5.63**	**24**	⇑Pn	Pn	19 50 25.1	-4.9
ELOB				Sn	Sn	19 51 27.2	-8.2
EZAM	**Zamans**	**5.71**	**18**	⇓P	Pn	19 50 25.6	-5.4
	comp=E,14nm,0.2s,SNR=18						
EZAM				S	Sn	19 51 27.1	-10
	comp=E,75nm,0.1s,SNR=22						
EZAM	**Zamans**	**5.71**	**18**	Pn	Pn	19 50 25.6	-5.4
	comp=E,14nm,0.2s,SNR=18						
EZAM				Sn	Sn	19 51 28.7	-8.7
	comp=E,75nm,0.1s,SNR=22						
EZAM	**Zamans**	**5.71**	**18**	⇓Pn	Pn	19 50 25.6	-5.4
EZAM				Sn	Sn	19 51 28.7	-8.7
ERON	**Agron**	**5.86**	**85**	P	Pn	19 50 29.6	-3.6
	comp=E,3.8nm,0.2s,SNR=20						
ERON				S	Sn	19 51 31.3	-10
	comp=E,3.1nm,0.1s,SNR=9.6						
ERON	**Agron**	**5.86**	**85**	Pn	Pn	19 50 29.6	-3.6
	comp=E,3.8nm,0.2s,SNR=20						
ERON				Sn	Sn	19 51 34.4	-6.8
	comp=E,3.1nm,0.1s,SNR=9.6						
ERON	**Agron**	**5.86**	**85**	Pn	Pn	19 50 29.6	-3.6
ERON				Sn	Sn	19 51 34.4	-6.8
MIF	**Mishlifen**	**5.86**	**123**	*i* P	Pn	19 50 23.5	-10
MIF				*i* S	Sn	19 51 23.0	-18
EBAN	**Banos Encina**	**6.00**	**74**	P	Pn	19 50 30.6	-4.5
	comp=E,1.8nm,0.1s,SNR=40						
EBAN				S	Sn	19 51 34.4	-10
	comp=E,16nm,0.2s,SNR=12						
EBAN	**Banos Encina**	**6.00**	**74**	Pn	Pn	19 50 30.6	-4.5
	comp=E,1.8nm,0.1s,SNR=40						
EBAN				Sn	Sn	19 51 36.2	-8.4
	comp=E,16nm,0.2s,SNR=12						
EBAN	**Banos Encina**	**6.00**	**74**	Pn	Pn	19 50 30.6	-4.5
EBAN				Sn	Sn	19 51 36.2	-8.4
EGUA	**Guajares**	**6.05**	**87**	P	Pn	19 50 32.2	-3.8
	comp=E,0.2nm,0.1s,SNR=7.9						
EGUA				S	Sn	19 51 38.2	-7.9
	comp=E,1.5nm,0.2s,SNR=7.9						
ECOG	**Cogollos-Vega**	**6.06**	**83**	P	Pn	19 50 32.1	-3.9
	comp=E,0.9nm,0.1s,SNR=7.9						
ECOG				S	Sn	19 51 37.5	-8.7
	comp=E,4.8nm,0.2s,SNR=13						
ECOG	**Cogollos-Vega**	**6.06**	**83**	Pn	Pn	19 50 32.1	-3.9
	comp=E,0.9nm,0.1s,SNR=7.9						
ECOG				Sn	Sn	19 51 38.9	-7.3
	comp=E,4.8nm,0.2s,SNR=13						
ECOG	**Cogollos-Vega**	**6.06**	**83**	Pn	Pn	19 50 32.1	-3.9
ECOG				Sn	Sn	19 51 38.9	-7.3
PBRG	**Braganca**	**6.08**	**33**	*e*Pn	Pn	19 50 31.2	-5.1
PBRG				*e*Sn	Sn	19 51 37.1	-10
	comp=E,48nm,0.2s						
EQUE	**Quentar**	**6.16**	**83**	P	Pn	19 50 33.5	-3.9
	comp=E,0.3nm,0.1s,SNR=7.9						
EQUE				S	Sn	19 51 40.6	-8.1
	comp=E,5.8nm,0.3s,SNR=7.9						
ECAL	**Calabor**	**6.19**	**32**	⇑P	Pn	19 50 33.0	-4.9
	comp=E,11nm,0.3s,SNR=18						
ECAL				S	Sn	19 51 39.6	-10
	comp=E,3.0nm,0.1s,SNR=8.1						
ECAL	**Calabor**	**6.19**	**32**	Pn	Pn	19 50 33.0	-4.9
	comp=E,11nm,0.3s,SNR=18						
ECAL				Sn	Sn	19 51 39.6	-10
	comp=E,3.0nm,0.1s,SNR=8.1						
CZD	**Col de Zad**	**6.21**	**125**	*i* P	Pn	19 50 28.0	-10
CZD				*i* S	Sn	19 51 32.0	-18
TZK	**Tazeka**	**6.25**	**113**	*i* P	Pn	19 50 27.5	-11
TZK				*i* S	Sn	19 51 33.0	-18
ESDC	**Sonseca Array**	**6.34**	**60**	Pn	Pn	19 50 35.1	-4.8
	comp=E,37nm,0.3s,baz=246,slow=13,SNR=244						
ESDC				Sn	Sn	19 51 41.8	-11
	comp=E,14nm,0.3s,baz=241,slow=19,SNR=5.6						
ESDC	**Sonseca Array**	**6.34**	**60**	⇓P	Pn	19 50 35.1	-4.8
	comp=E,25nm,0.2s,baz=247,slow=13,SNR=18						
ESDC				S	Sn	19 51 43.2	-10
	comp=E,25nm,0.3s,baz=246,slow=23,SNR=20						
ESDC	**Sonseca Array**	**6.34**	**60**	Pn	Pn	19 50 35.1	-4.8
	comp=E,25nm,0.2s,SNR=18						
ESDC				Sn	Sn	19 51 43.2	-10
	comp=E,25nm,0.3s,SNR=20						
ESLA	**Sonseca Array**	**6.34**	**60**	*e*Pn	Pn	19 50 35.2	-4.7
	comp=E,2.1nm,0.3s						
ESLA				*e*Sn	Sn	19 51 44.2	-9.0
ESLA	**Sonseca Array**	**6.34**	**60**	*e*Pn	Pn	19 50 35.2	-4.8
	comp=E,2.1nm,0.3s						
ESLA				*e*Sn	Sn	19 51 44.2	-9.0
EMAZ	**Mazaricos**	**6.41**	**14**	P	Pn	19 50 34.1	-6.8
	comp=E,3.0nm,0.1s,SNR=43						
EMAZ				S	Sn	19 51 42.0	-13
	comp=E,7.3nm,0.1s,SNR=12						
EMAZ	**Mazaricos**	**6.41**	**14**	Pn	Pn	19 50 34.1	-6.8
	comp=E,3.0nm,0.1s,SNR=43						
EMAZ				Sn	Sn	19 51 42.0	-13
	comp=E,7.3nm,0.1s,SNR=12						
ERUA	**La Rua**	**6.41**	**27**	P	Pn	19 50 36.2	-4.8
	comp=E,21nm,0.3s,SNR=29						
ERUA				S	Sn	19 51 45.4	-10
	comp=E,4.0nm,0.2s						
STS	**Santiago**	**6.44**	**17**	P	Pn	19 50 35.0	-6.3
	comp=E,3.3nm,0.1s,SNR=12						
STS				S	Sn	19 51 44.5	-11
	comp=E,15nm,0.1s						
EQES	**Quesada**	**6.50**	**78**	P	Pn	19 50 37.9	-4.3
	comp=E,1.9nm,0.2s,SNR=46						
EQES				S	Sn	19 51 47.3	-10
	comp=E,8.5nm,0.2s,SNR=14						
EQES	**Quesada**	**6.50**	**78**	Pn	Pn	19 50 37.9	-4.3
	comp=E,1.9nm,0.2s,SNR=46						
EQES				Sn	Sn	19 51 48.3	-8.8
	comp=E,8.5nm,0.2s,SNR=14						
EQES	**Quesada**	**6.50**	**78**	Pn	Pn	19 50 37.9	-4.3
EQES				Sn	Sn	19 51 48.3	-8.8
EALB	**Alboran**	**6.57**	**95**	S	Sn	19 51 48.3	-11
	comp=E,5.0nm,0.1s,SNR=7.9						
EALB	**Alboran**	**6.57**	**95**	Sn	Sn	19 51 48.3	-11
	comp=E,5.0nm,0.1s,SNR=7.9						
EBER	**Berja**	**6.60**	**86**	P	Pn	19 50 38.4	-5.2
	comp=E,0.3nm,0.1s,SNR=14						
EBER				S	Sn	19 51 50.1	-10
	comp=E,0.6nm,0.1s,SNR=6.4						
EBER	**Berja**	**6.60**	**86**	Pn	Pn	19 50 38.4	-5.2
	comp=E,0.3nm,0.1s,SNR=14						
EBER				Sn	Sn	19 51 52.8	-6.8
	comp=E,0.6nm,0.1s,SNR=6.4						
EBER	**Berja**	**6.60**	**86**	Pn	Pn	19 50 38.4	-5.2
EBER				Sn	Sn	19 51 52.8	-6.8
MDT	**Midelt**	**6.63**	**124**	Pn	Pn	19 50 37.0	-7.1
	comp=E,18nm,0.3s,baz=313,slow=15,SNR=442						
MDT				Sn	Sn	19 51 46.2	-14
	comp=E,20nm,0.3s,baz=197,slow=18,SNR=9.5						
EHUE	**Huescar**	**6.87**	**79**	P	Pn	19 50 43.8	-3.7
	comp=E,0.4nm,0.1s,SNR=21						
EHUE				S	Sn	19 51 56.3	-10
	comp=E,1.0nm,0.2s,SNR=8.5						
EVIA	**Vianos**	**7.08**	**72**	P	Pn	19 50 45.3	-5.1
	comp=E,1.7nm,0.1s,SNR=13						
EVIA				S	Sn	19 52 01.7	-10
	comp=E,6.5nm,0.2s,SNR=6.4						
ENIJ	**Nijar**	**7.14**	**86**	P	Pn	19 50 47.2	-4.1
	comp=E,0.1nm,0.1s,SNR=7.9						
EPON	**Pontenova**	**7.24**	**24**	⇓P	Pn	19 50 46.9	-5.7
	comp=E,13nm,0.2s,SNR=18						
EPON				S	Sn	19 52 04.2	-11
	comp=E,4.7nm,0.2s,SNR=7.1						
EPON	**Pontenova**	**7.24**	**24**	Pn	Pn	19 50 46.9	-5.7
	comp=E,13nm,0.2s,SNR=18						
EPON				Sn	Sn	19 52 04.2	-11
	comp=E,4.7nm,0.2s,SNR=7.1						
ZFT	**Errachidia**	**7.30**	**128**	*i* P	Pn	19 50 43.0	-10
ZFT				*i* S	Sn	19 51 56.0	-21
ETOB	**Tobarra**	**7.81**	**73**	P	Pn	19 50 55.1	-5.6
	comp=E,1.8nm,0.2s,SNR=48						
ETOB				S	Sn	19 52 18.3	-12
	comp=E,2.4nm,0.2s,SNR=6.0						
ETOB	**Tobarra**	**7.81**	**73**	Pn	Pn	19 50 55.1	-5.5
	comp=E,1.8nm,0.2s,SNR=48						
ETOB				Sn	Sn	19 52 18.3	-12
	comp=E,2.4nm,0.2s,SNR=6.0						
EMUR	**La Murta**	**7.94**	**79**	P	Pn	19 50 57.9	-4.6
	comp=E,3.8nm,0.3s,SNR=4.0						
EMUR				S	Sn	19 52 21.9	-11
	comp=E,5.7nm,0.3s,SNR=8.6						
EMUR	**La Murta**	**7.94**	**79**	Pn	Pn	19 50 57.9	-4.5
	comp=E,3.8nm,0.3s,SNR=4.0						
EMUR				Sn	Sn	19 52 23.0	-10
	comp=E,5.7nm,0.3s,SNR=8.6						
EMUR	**La Murta**	**7.94**	**79**	Pn	Pn	19 50 57.9	-4.6
EMUR				Sn	Sn	19 52 23.0	-10
EARI	**Arriondas**	**7.95**	**33**	P	Pn	19 50 58.2	-4.4
	comp=E,1.4nm,0.2s,SNR=21						
EARI				S	Sn	19 52 22.1	-11
	comp=E,0.2nm,0.1s,SNR=7.9						
EARI	**Arriondas**	**7.95**	**33**	Pn	Pn	19 50 58.2	-4.4
	comp=E,1.4nm,0.2s,SNR=21						
EARI				Sn	Sn	19 52 22.1	-11
	comp=E,0.2nm,0.1s,SNR=7.9						
ECHE	**Chera**	**8.48**	**67**	P	P	19 51 05.7	-4.1
	comp=E,0.6nm,0.1s,SNR=16						
ECHE				S	Sn	19 52 33.1	-13
	comp=E,0.5nm,0.1s,SNR=5.4						
ELAN	**Lanestosa**	**8.75**	**40**	P	P	19 51 09.1	-4.5
	comp=E,0.8nm,0.1s,SNR=14						
ELAN				S	Sn	19 52 39.9	-14
	comp=E,0.5nm,0.1s,SNR=7.9						
ELAN	**Lanestosa**	**8.75**	**40**	Pn	P	19 51 09.1	-4.6
	comp=E,0.8nm,0.1s,SNR=14						
ELAN				Sn	Sn	19 52 41.9	-11
	comp=E,0.5nm,0.1s,SNR=7.9						
ELAN	**Lanestosa**	**8.75**	**40**	Pn	P	19 51 09.1	-4.5
ELAN				Sn	Sn	19 52 41.9	-12
EBEN	**Beniarda**	**8.

VIEF	**Viey**	**10.52**	**51**	*e*P	P	19 51 33.5	-4.6
EPOB	**Poblet**	**10.53**	**60**	P	P	19 51 32.4	-5.7
	comp=E,3.6nm,0.4s,SNR=16						
EPOB				S	S	19 53 22.8	-14
	comp=E,0.5nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**10.53**	**60**	Pn	P	19 51 32.4	-5.8
	comp=E,3.6nm,0.4s,SNR=16						
EPOB				Sn	S	19 53 22.8	-14
	comp=E,0.5nm,0.2s,SNR=7.9						
LABF	**Labassere**	**10.64**	**50**	*e*P	P	19 51 35.3	-4.4
RESF	**Ens**	**10.68**	**52**	*e*P	P	19 51 35.6	-4.6
EPF	**Esparros**	**10.80**	**51**	*e*Pn	P	19 51 36.8	-5.0
EPF				*e*Sn	S	19 53 30.2	-14
	comp=E,6.4nm,0.2s						
EMIR	**Miracle**	**11.06**	**58**	P	P	19 51 40.0	-5.4
	comp=E,0.4nm,0.0s,SNR=7.9						
EMIR				S	S	19 53 35.3	-15
	comp=E,0.7nm,0.0s,SNR=7.9						
EMIR	**Miracle**	**11.06**	**58**	Pn	P	19 51 40.0	-5.4
	comp=E,0.4nm,0.0s,SNR=7.9						
EMIR				Sn	S	19 53 35.3	-15
	comp=E,0.7nm,0.0s,SNR=7.9						
SALF	**Salau**	**11.20**	**54**	*e*P	P	19 51 42.8	-4.6
ETOS	**Mallorca**	**11.36**	**70**	P	P	19 51 44.2	-5.2
	comp=E,0.2nm,0.0s,SNR=7.9						
ETOS				S	S	19 53 43.8	-14
	comp=E,0.2nm,0.1s,SNR=7.9						
ETOS	**Mallorca**	**11.36**	**70**	Pn	P	19 51 44.2	-5.2
	comp=E,0.2nm,0.0s,SNR=7.9						
ETOS				Sn	S	19 53 45.4	-12
ETOS	**Mallorca**	**11.36**	**70**	Pn	P	19 51 44.2	-5.2
ETOS				Sn	S	19 53 45.4	-12
VALF	**Valcebollere**	**11.59**	**57**	*e*P	P	19 51 47.8	-4.8
LFF	**La Frestale**	**12.13**	**44**	*e*Pn	P	19 51 54.0	-5.9
MTLF	**Montolieu**	**12.14**	**53**	*e*Pn	P	19 51 54.7	-5.4
MTLF				*e*Sn	S	19 54 02.4	-14
	comp=E,2.1nm,0.3s						
EJON	**La Jonquera**	**12.20**	**58**	P	P	19 51 55.6	-5.3
	comp=E,0.2nm,0.1s,SNR=7.9						
QUIF	**Quistinic**	**12.60**	**25**	*e*Pn	P	19 52 00.0	-6.2
QUIF				*e*Sn	S	19 54 12.3	-15
	comp=E,4.4nm,0.3s						
RJF	**Les Rejaudoux**	**12.79**	**44**	*e*Pn	P	19 52 02.1	-6.6
RJF				*e*Sn	S	19 54 18.0	-14
	comp=E,1.8nm,0.2s						
MFF	**Saint Martin d**	**12.79**	**36**	*e*Pn	P	19 52 02.2	-6.6
MFF				*e*Sn	S	19 54 17.8	-15
	comp=E,1.0nm,0.2s						
CAF	**Calviac**	**12.88**	**47**	*e*Pn	P	19 52 03.7	-6.2
CAF				*e*Sn	S	19 54 20.2	-14
	comp=E,1.3nm,0.2s						
ROSF	**Rostrenen**	**12.93**	**24**	*e*Pn	P	19 52 04.5	-6.1
ROSF				*e*Sn	S	19 54 20.0	-16
	comp=E,1.5nm,0.2s						
SGMF	**Saint Gilles**	**13.10**	**26**	*e*Pn	P	19 52 06.9	-6.0
SGMF				*e*Sn	S	19 54 23.9	-16
	comp=E,2.1nm,0.3s						
LASF	**Ste Croix**	**13.54**	**53**	*e*Pn	P	19 52 13.2	-5.4
LASF				*e*Sn	S	19 54 35.6	-15
	comp=E,0.9nm,0.2s						
TCF	**Toulx Ste Croi**	**13.78**	**42**	*e*Pn	P	19 52 15.9	-5.9
TCF				*e*Sn	S	19 54 41.1	-15
	comp=E,1.5nm,0.3s						
GRR	**Gorron**	**13.85**	**30**	*e*Pn	P	19 52 17.3	-5.4
GRR				*e*Sn	S	19 54 42.2	-15
	comp=E,2.2nm,0.3s						
BGF	**Bois d'Agland**	**14.29**	**42**	*e*Pn	P	19 52 23.0	-5.5
BGF				*e*Sn	S	19 54 53.8	-14
	comp=E,4.5nm,0.3s						
FLN	**La Foliniere**	**14.30**	**30**	*e*Pn	P	19 52 23.2	-5.4
LDF	**La Druitiere**	**14.31**	**31**	*e*Pn	P	19 52 23.5	-5.3
LDF				*e*Sn	S	19 54 53.5	-15
	comp=E,1.5nm,0.3s						
VIVF	**Saint-Julien-l**	**14.42**	**51**	*e*Pn	P	19 52 25.4	-4.8
SMRF	**Simiane la Rot**	**14.61**	**55**	*e*Pn	P	19 52 28.1	-4.6
SMRF				*e*Sn	S	19 55 01.6	-14
	comp=E,0.3nm,0.3s						
HYF	**Humbligny**	**14.64**	**40**	*e*Pn	P	19 52 28.3	-4.7
AVF	**Avril sur Loir**	**14.71**	**43**	*e*Pn	P	19 52 28.5	-5.5
AVF				*e*Sn	S	19 55 03.5	-14
	comp=E,0.6nm,0.3s						
SMF	**Signal de Mont**	**14.89**	**44**	*e*Pn	P	19 52 30.8	-5.5
SSF	**Saint Saulge**	**14.96**	**42**	*e*Pn	P	19 52 31.7	-5.5
LMR	**La Mourre**	**15.00**	**59**	*e*Pn	P	19 52 33.8	-4.0
FRF	**La Foret Royal**	**15.17**	**58**	*e*Pn	P	19 52 36.2	-3.9
ORIF	**Oris-en-Rattie**	**15.21**	**52**	*e*Pn	P	19 52 36.4	-4.1
LOR	**Lormes**	**15.28**	**42**	*e*Pn	P	19 52 36.1	-5.3
SBF	**Sospel**	**15.81**	**58**	*e*Pn	P	19 52 44.4	-4.0
PGF	**Piogiola**	**16.52**	**63**	*e*Pn	P	19 52 54.7	-2.7
EKA	**Eskdalemuir Ar**	**19.36**	**14**	P	P	19 53 30.6	-1.8
	comp=E,0.2nm,0.3s,baz=196,slow=12,SNR=5.5						
GERES	**GERESS Array B**	**21.74**	**48**	P	P	19 53 54.9	-2.6
	comp=E,1.2nm,0.8s,baz=247,slow=13,SNR=11						
ARCES	**ARCESS Array B**	**38.33**	**20**	P	P	19 56 21.8	-4.6
	comp=E,1.8nm,0.9s,baz=236,slow=8.7,SNR=3.9						

IDC ***29*** *19:53:50.4±0.5,2.35S×138.12E,mb5.0/14,mb1 5.0/19, mb1mx5.0/20,mbtmp5.0/19,ML4.6/5,MS4.9/14,Ms1 4.9/14, ms1mx4.8/22,Error ellipse: s-maj=21.5km s-min=12.2km az=75.0*

MOS ***29*** *19:53:52.9±1.1,2.35S×138.23E,h33km,mb5.6/30, MS4.8/6,Error ellipse: s-maj=11.7km s-min=5.7km az=107.4*

BJI ***29*** *19:53:53.4,2.39S×138.52E,h44km,mB5.5,mb5.1,Ms4.9, Msz4.7*

HRVD ***29*** *19:53:54.4±0.2,2.21S×138.35E,h15km,MW5.6/66, Centroid moment Tensor Solution. LP body waves: s56,c96;Mantle waves: s66,c124; Half duration: 1s7 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.20±.03; $M_{\theta\theta}$-0.15±.02; $M_{\phi\phi}$0.34±.03; $M_{r\theta}$1.46±.08; $M_{\theta\phi}$-0.62±.02; $M_{r\phi}$-3.14±.07; Best double couple: $M_0$3.5×10^{17} NP1: ϕ_s112°, δ5°, λ-134°. NP2:ϕ_s336°, δ86°, λ-86°. Principal axes: T 3.767, Plg41°, Azm62°; N -.534, Plg4°, Azm155°; P -3.233, Plg49°, Azm250°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***29*** *19:53:54.4±1.7,2.35S×138.22E,h31km±11km,mb5.3/40, MS4.9/5 Error ellipse: s-maj=6.5km s-min=4.1km az=78.0*

ISC 29 19:53:53.2±0.2,2.37S±0.03×138.30E±0.04,h36km, h36km±2.1km:pP-P,n254,σ1°09/239,mb5.3/86,MS4.8/32, 15C-19D,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**11.24**	**129**	Pn	**P**	**19 56 36.0**	**+1.4**
	3.7nm,0.3s,baz=327,slow=6.9,SNR=11						
PMG				Sn	**S**	**19 58 40.0**	**0.0**
	1.2nm,0.3s,baz=300,slow=20,SNR=2.7						
PMG	**Port Moresby**	**11.24**	**129**	*e*Pn	**P**	**19 56 35.4**	**+0.8**
	287nm,0.9s						
PMG	**Port Moresby**	**11.24**	**129**	*e*P	**P**	**19 56 36.1**	**+1.5**
KAKA	**Kakadu**	**11.80**	**209**	⇓*i*P	**P**	**19 56 54.6**	**+12**
	199nm,0.4s						
KAKA				*e*S	**S**	**19 59 03.4**	**+10**
COEN	**Coen**	**12.47**	**158**	*e*P	**P**	**19 56 50.0**	**-1.2**
	86nm,0.6s						
MATI	**Mati**	**15.18**	**308**	*e*P	**P**	**19 57 27.2**	**+0.3**
MATI				*e*S		19 57 49.5	
BUKP	**Musuan**	**16.68**	**308**	*e*P	**P**	**19 57 47.6**	**+1.6**
BUTP	**Butuan**	**16.93**	**312**	*e*P	**P**	**19 57 50.6**	**+1.4**
GUMO	**Guam**	**17.14**	**22**	P	**P**	**19 57 53.7**	**+1.9**
	2.1nm,0.3s,baz=232,slow=12,SNR=3.3						
GUMO				LR	LR	20 03 49.0	
	comp=Z,2μm,21.0s,baz=208,slow=35						
WRAB	**Tennant Creek**	**17.88**	**192**	*e*P	**P**	**19 57 59.2**	**-1.8**
	320nm,0.9s						
WRAB				*e*Sn	**S**	**20 01 10.0**	**-6.3**
WRAB	**Tennant Creek**	**17.88**	**192**	*e*P	**P**	**19 57 59.2**	**-1.8**
WRAB				*e*		20 01 10.0	
WRAB				pmax	pmax		
	comp=Z,320nm,0.9s						
WB2	**Warramunga Arr**	**17.88**	**192**	⇑*i*P	**P**	**19 57 58.8**	**-2.3**
WB2				*e*S	**S**	**20 01 11.8**	**-4.7**
WRA	**Warramunga Arr**	**17.89**	**192**	P	**P**	**19 57 58.7**	**-2.4**
	comp=Z,3.4nm,0.3s,baz=13,slow=12,SNR=103						
WRA				S	**S**	**20 01 10.0**	**-6.6**
	comp=Z,3.8nm,0.3s,baz=10,slow=22,SNR=8.4						
PAGZ	**Pagadian**	**18.02**	**304**	*e*P	**P**	**19 58 05.2**	**+2.4**
IPIL	**Ipil**	**18.66**	**303**	*e*P	**P**	**19 58 11.9**	**+1.1**
CTA	**Charters Tower**	**19.24**	**157**	⇓*i*P	**P**	**19 58 16.9**	**-0.6**
	comp=Z,61nm,0.9s						
CTA				*e*S	**S**	**20 01 52.4**	**+5.1**
CTA	**Charters Tower**	**19.24**	**157**	P	**P**	**19 58 16.9**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=336,slow=14,SNR=11						
CTA				LR	LR	20 06 21.9	
	comp=Z,8μm,19.4s,baz=340,slow=39						
CTA	**Charters Tower**	**19.24**	**157**	⇓*i*P	**P**	**19 58 16.9**	**-0.6**
CTA				*e*S	**S**	**20 01 52.4**	**+5.1**
CTA				pmax	pmax		
	comp=Z,61nm,0.9s						
CTAO	**Charters Tower**	**19.24**	**157**	*e*P	**P**	**19 58 16.7**	**-0.8**
	comp=Z,103nm,0.9s						
CTAO	**Charters Tower**	**19.24**	**157**	*e*P	**P**	**19 58 16.7**	**-0.8**
CTAO				pmax	pmax		
	comp=Z,103nm,0.9s						
FITZ	**Fitzroy Crossi**	**19.97**	**218**	⇑*i*P	**P**	**19 58 24.2**	**-1.2**
	comp=Z,42nm,0.5s						
FITZ				*e*S	**S**	**20 01 55.8**	**-7.2**
FITZ	**Fitzroy Crossi**	**19.97**	**218**	P	**P**	**19 58 23.9**	**-1.5**
	comp=Z,4.2nm,0.3s,baz=33,slow=6.7,SNR=32						
FITZ				S	**S**	**20 01 55.7**	**-7.3**
	comp=Z,38nm,0.3s,baz=186,slow=15,SNR=12						
CNP	**Catarman**	**20.05**	**318**	*e*P	**P**	**19 58 25.7**	**-0.7**
GUIM	**Jordan**	**20.28**	**310**	*e*P	**P**	**19 58 29.2**	**+0.4**
PVCP	**Virac**	**21.18**	**319**	*e*P	**P**	**19 58 37.4**	**-0.6**
TSM	**Tawau**	**21.46**	**288**	P	**P**	**19 58 41.4**	**+0.6**
CUYO	**Cuyo Island**	**21.64**	**308**	*e*P	**P**	**19 58 42.6**	**0.0**
OTRP	**Odiongan**	**21.82**	**313**	*e*P	**P**	**19 58 45.7**	**+1.4**
AUQP	**San Andres**	**21.99**	**316**	*e*P	**P**	**19 58 50.3**	**+4.2**
SJMP	**San Jose**	**22.55**	**311**	*e*P	**P**	**19 58 53.8**	**+2.1**
HNR	**Honiara**	**22.63**	**109**	P	**P**	**19 58 55.2**	**+2.7**
	comp=Z,51nm,0.5s,mb5.3,slow=2.0,SNR=3.5						
HNR	**Honiara**	**22.63**	**109**	P	**P**	**19 58 54.3**	**+1.8**
	comp=Z,122nm,0.8s,mb5.4						
HNR	**Honiara**	**22.63**	**109**	P	**P**	**19 58 54.3**	**+1.8**
HNR				pmax	pmax		
	comp=Z,122nm,0.8s,mb5.4						
BOAC	**Boac**	**22.67**	**314**	*e*P	**P**	**19 58 54.0**	**+1.0**
PPR	**Puerto Princes**	**22.93**	**302**	*e*P	**P**	**19 58 56.7**	**+1.2**
BUSP	**Coron**	**22.97**	**309**	*e*P	**P**	**19 58 56.4**	**+0.5**
ENPP	**El Nido**	**23.12**	**306**	*e*P	**P**	**19 58 58.5**	**+1.2**
BATP	**Bataraza**	**23.26**	**299**	*e*P	**P**	**19 58 59.8**	**+1.1**
KKM	**Kota Kinabalu**	**23.59**	**291**	P	**P**	**19 59 03.0**	**+1.1**
KKM	**Kota Kinabalu**	**23.59**	**291**	*e*P	**P**	**19 59 01.8**	**-0.1**
BALP	**Baler**	**24.45**	**318**	*e*P	**P**	**19 59 10.7**	**+0.5**
CAUP	**Cauayan**	**25.16**	**320**	*e*P	**P**	**19 59 17.4**	**+0.4**
CVP	**Callao Caves**	**25.73**	**321**	⇑*e*P	**P**	**19 59 21.0**	**-1.4**
MBWA	**Marble Bar**	**26.00**	**223**	*e*P	**P**	**19 59 24.3**	**-0.6**
	comp=Z,233nm,1.2s,mb5.6						
ABRA	**Dolores**	**26.39**	**320**	*e*P	**P**	**19 59 39.6**	**+11**
KSM	**Kuching**	**28.25**	**278**	*e*P	**P**	**19 59 45.6**	**+0.1**
STKA	**Stephens Creek**	**29.51**	**174**	*e*P	**P**	**19 59 55.9**	**-0.7**
	comp=Z,12nm,0.6s,mb4.8						
STKA	**Stephens Creek**	**29.51**	**174**	P	**P**	**19 59 56.1**	**-0.5**
	comp=Z,14nm,0.6s,mb4.9,baz=345,slow=9.0,SNR=45						
STKA				LR	LR	20 13 57.7	
	comp=Z,2μm,19.4s,MS4.8,baz=149,slow=41						
CBIJ	**Chichi jima**	**29.54**	**7**	LR	LR	20 10 46.7	
	comp=Z,1μm,20.3s,MS4.6,baz=11,slow=34						
JOW	**Kunigami**	**30.61**	**342**	LR	LR	20 10 17.3	
	comp=Z,2μm,20.3s,MS4.8,baz=170,slow=32						
NACB	**Ninganchiao**	**30.99**	**329**	*e*P	**P**	**20 00 08.0**	**-1.8**
YHNB	**Yeheng**	**31.51**	**330**	*e*P	**P**	**20 00 13.1**	**-1.3**
ADE	**Adelaide**	**32.43**	**179**	P	**P**	**20 00 23.0**	**+0.7**
DZM	**Mont Dzumac**	**33.63**	**128**	P	**P**	**20 00 34.3**	**+1.5**
	comp=Z,14nm,0.9s,mb4.9,baz=354,slow=16,SNR=5.6						
CNB	**Canberra Magne**	**34.35**	**164**	*e*P	**P**	**20 00 40.4**	**+1.5**
	comp=Z,27nm,0.7s,mb5.3						
KLBR	**Kellerberrin**	**34.93**	**212**	⇓*i*P	**P**	**20 00 43.4**	**-0.5**
	comp=Z,20nm,0.5s,mb5.3						
QIZ	**Qiongzhong**	**35.15**	**308**	*e*P	**P**	**20 00 45.5**	**-0.4**
QIZ				S	**S**	**20 06 15.5**	**-0.1**
QIZ				LR	LR		
	comp=Z,1μm,24.6s,MS4.6						
KGM	**Kluang**	**35.25**	**277**	P	**P**	**20 00 47.3**	**+0.5**
TOO	**Toolangi**	**35.65**	**170**	*e*P	**P**	**20 00 52.0**	**+2.1**
	comp=Z,10nm,0.7s,mb4.9						
TOO	**Toolangi**	**35.65**	**170**	*e*P	**P**	**20 00 52.0**	**+2.1**
TOO				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.9						
JNU	**Nakatsue**	**35.99**	**349**	P	**P**	**20 00 52.5**	**-0.4**
	comp=Z,20nm,0.9s,mb5.0,baz=144,slow=6.9						
NWAO	**Narrogin (SRO)**	**36.26**	**211**	P	**P**	**20 00 55.4**	**+0.2**
	comp=Z,41nm,1.1s,mb5.3,baz=34,slow=10,SNR=9.7						
NWAO				LR	LR	20 17 37.4	
	comp=Z,6μm,19.2s,MS5.4,baz=276,slow=39						
SSE	**Sheshan**	**37.06**	**335**	P	**P**	**20 01 02.0**	**+0.1**
SSE				AP	pP	20 01 13.0	+0.8
SSE				XP	sP	20 01 18.0	+1.2
SSE				PP	PP	20 02 26.5	-2.5
SSE				S	**S**	**20 06 44.3**	**-0.6**
SSE				XS		20 07 04.8	
SSE				AMB	AMB		
	comp=Z,33nm,1.2s,mb5.0						
SSE				AMB	AMB		
	comp=Z,228nm,6.1s						
SSE				LR	LR		
	comp=N,725nm,19.1s,MS4.5						
SSE				LR	LR		
	comp=E,251nm,19.1s,MS4.5						
SSE				LR	LR		
	comp=Z,1μm,18.5s,MS4.7						
SSE	**Sheshan**	**37.06**	**335**	P	**P**	**20 01 01.9**	**0.0**
	comp=Z,33nm,1.2s,mb5.0						
SSE				pP	pP	20 01 13.0	+0.8
SSE				sP	sP	20 01 18.1	+1.3
SSE				PP	PP	20 02 26.5	-2.5
SSE				S	**S**	**20 06 44.3**	**-0.6**
SSE				sS		20 07 04.7	
SSE				SS	SS	20 09 26.4	+11
SSE				LR	LR		
	comp=Z,1μm,18.5s,MS4.7						
IPM	**Ipoh**	**37.88**	**280**	P	**P**	**20 01 09.5**	**+0.5**
KULM	**Kulim**	**38.38**	**282**	*e*P	**P**	**20 01 13.0**	**-0.1**
MAJO	**Matsushiro**	**38.72**	**360**	*e*P	**P**	**20 01 16.3**	**+0.7**
	comp=Z,11nm,1.3s,mb4.4						
MAJO	**Matsushiro**	**38.72**	**360**	*e*P	**P**	**20 01 16.3**	**+0.6**
MAJO				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.4						
MAT	**Matsushiro**	**38.72**	**360**	P	**P**	**20 01 13.5**	**-2.2**
MAT				S	**S**	**20 07 03.0**	**-7.0**
MAT	**Matsushiro**	**38.72**	**360**	*e*P	**P**	**20 01 14.0**	**-1.7**
	comp=Z,7.0nm,1.0s,mb4.3						
MAT				*e*S	**S**	**20 07 04.0**	**-6.0**
MAT				LR	LR		
	comp=Z,1μm,20.0s,MS4.7						
MAT	**Matsushiro**	**38.72**	**360**	*e*P	**P**	**20 01 14.0**	**-1.7**
MAT				*e*S	**S**	**20 07 04.0**	**-6.0**
MAT				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.3						
MAT				MLR	MLR		
	comp=Z,1μm,20.0s,MS4.7						
SNG	**Songkhla**	**38.79**	**284**	P	**P**	**20 01 17.0**	**+0.5**
	comp=Z,440nm,0.8s,mb6.2						
NJ2	**Nanjing**	**38.89**	**333**	*e*P	**P**	**20 01 16.0**	**-1.2**
NJ2				AP	pP	20 01 26.0	-1.6
NJ2				XP	sP	20 01 29.8	-2.3
NJ2				PP	PP	20 02 46.5	-4.0
NJ2				S	**S**	**20 07 13.0**	**+0.3**
NJ2				XS		20 07 28.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,460nm,4.6s						
NJ2				LR	LR		
	comp=N,2μm,18.0s,MS5.3						
NJ2				LR	LR		
	comp=E,4μm,21.5s,MS5.3						
NJ2				LR	LR		
	comp=Z,3μm,20.7s,MS5.1						
KKTK	**Khon Kaen**	**39.67**	**299**	P	**P**	**20 01 23.0**	**-0.8**
	comp=Z,432nm,0.8s,mb6.2						
WHN	**Wuhan**	**39.92**	**327**	⇓P	**P**	**20 01 27.3**	**+1.6**
WHN				AP	pP	20 01 38.3	+2.2
WHN				S	**S**	**20 07 30.8**	**+2.7**
WHN				AMB	AMB		
	comp=Z,670nm,5.3s						
WHN				LR	LR		
	comp=Z,1μm,19.0s,MS4.8						
KS15	**Wonju Array Si**	**40.78**	**347**	*e*P	**P**	**20 01 33.1**	**+0.3**
NNT	**Nongplab**	**41.09**	**292**	P	**P**	**20 01 36.0**	**+0.5**
INCN	**Inchon**	**41.11**	**346**	*e*P	**P**	**20 01 35.3**	**-0.2**
	comp=Z,113nm,1.4s,mb5.3						
NST	**Nakhon Sawan**	**41.79**	**297**	P	**P**	**20 01 41.0**	**-0.4**
	comp=Z,71nm,0.8s,mb5.3						
GYA	**Guiyang**	**41.90**	**315**	⇓*i*P	**P**	**20 01 43.3**	**+1.1**
GYA				AP	pP	20 01 52.8	+0.2
GYA				XP	sP	20 01 57.5	+0.4
GYA				S	**S**	**20 07 56.8**	**-0.9**
GYA				SS	SS	20 10 57.5	-2.0
GYA				AMB	AMB		
	comp=Z,30nm,1.4s,mb4.7						
GYA				AMB	AMB		
	comp=Z,300nm,6.5s						
GYA				LR	LR		
	comp=N,550nm,19.8s,MS4.6						
GYA				LR	LR		
	comp=E,570nm,19.8s,MS4.6						
GYA				LR	LR		
	comp=Z,840nm,20.4s,MS4.6						
ENH	**Enshi**	**42.55**	**322**	*e*P	**P**	**20 01 47.2**	**-0.2**
	comp=Z,235nm,2.1s,mb5.5						
NANT	**Nan**	**42.55**	**301**	⇓P	**P**	**20 01 48.0**	**+0.4**
	comp=Z,175nm,0.6s,mb6.0						
TIA	**Tai'an**	**43.17**	**335**	*e*P	**P**	**20 01 52.0**	**-0.5**
TIA				AMB	AMB		
	comp=Z,28nm,1.2s,mb4.9						
DL2	**Dalian**	**43.86**	**341**	P	**P**	**20 01 59.8**	**+1.8**
DL2				AP	pP	20 02 09.3	+0.8
DL2				S	**S**	**20 08 27.8**	**+1.6**
DL2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.4						
DL2				AMB	AMB		
	comp=Z,150nm,6.7s						
DL2				LR	LR		
	comp=N,330nm,17.9s,MS4.4						
DL2				LR	LR		
	comp=E,310nm,17.1s,MS4.4						
DL2				LR	LR		
	comp=Z,570nm,16.9s,MS4.5						
KMI	**Kunming**	**43.99**	**311**	P	**P**	**20 02 00.3**	**+1.0**
KMI				AP	pP	20 02 12.8	+3.0
KMI				XP	sP	20 02 16.8	+2.6
KMI				PP	PP	20 03 41.0	-2.4
KMI				PCP	PcP	20 03 45.3	+0.2
KMI				PPP	PPP	20 04 21.8	+0.4
KMI				SCP		20 07 35.3	
KMI				S	**S**	**20 08 27.5**	**-0.8**
KMI				XS		20 08 48.3	
KMI				AMB	AMB		
	comp=Z,36nm,1.4s,mb4.9						
KMI				AMB	AMB		
	comp=Z,376nm,4.8s						
KMI				LR	LR		
	comp=N,561nm,25.2s						
KMI				LR	LR		
	comp=E,400nm,19.6s						
KMI				LR	LR		
	comp=Z,691nm,24.5s,MS4.5						
KMI	**Kunming**	**43.99**	**311**	P	**P**	**20 02 00.3**	**+1.0**
	comp=Z,36nm,1.4s,mb4.9						
KMI				pP	pP	20 02 12.8	+3.0
KMI				sP	sP	20 02 16.8	+2.6
KMI				PP	PP	20 03 41.0	-2.4
KMI				PcP	PcP	20 03 45.3	+0.2
KMI				PPP	PPP	20 04 21.8	+0.4
KMI				ScP		20 07 35.2	
KMI				S	**S**	**20 08 27.5**	**-0.8**
KMI				sS		20 08 48.2	
KMI				SS	SS	20 11 44.3	+6.8
KMI				SSS	SSS	20 12 28.6	-3.7
KMI				LR	LR		
	comp=Z,690nm,24.5s,MS4.5						
KMI	**Kunming**	**43.99**	**311**	P	**P**	**20 02 00.3**	**+1.0**
KMI				*PP	pP	20 02 12.8	+3.0
KMI						20 03 41.0	
KMI						20 03 45.3	
KMI				PPP	PPP	20 04 21.8	+0.4
KMI				S	**S**	**20 08 27.5**	**-0.8**
KMI				*SS		20 08 48.2	
KMI				SSS	SSS	20 12 28.6	-3.7
KMI				pmax	pmax		
	comp=Z,36nm,1.4s,mb4.9						
KMI				MLR	MLR		
	comp=Z,690nm,24.5s,MS4.5						
CHG	**Chiang Mai**	**44.06**	**300**	⇓P	**P**	**20 02 00.2**	**+0.3**
	comp=Z,42nm,1.6s,mb4.9						
XAN	**Xi'an**	**45.57**	**325**	P	**P**	**20 02 11.3**	**-0.5**
XAN				AP	pP	20 02 22.0	-0.3
XAN				S	**S**	**20 08 49.3**	**-1.6**
XAN				SS	SS	20 12 02.5	-3.8
XAN				AMB	AMB		
	comp=Z,57nm,1.6s,mb5.2						
XAN				LR	LR		
	comp=N,254nm,20.9s,MS4.3						
XAN				LR	LR		
	comp=E,325nm,22.6s,MS4.3						
XAN				LR	LR		
	comp=Z,770nm,23.7s,MS4.6						
VLA	**Vladivostok**	**45.65**	**353**	*e*P	**P**	**20 02 11.1**	**-1.2**
SNY	**Shenyang**	**45.98**	**345**	⇓P	**P**	**20 02 15.3**	**+0.3**
SNY				S	**S**	**20 08 55.8**	**-0.8**
SNY				SS	SS	20 12 08.3	-5.3
SNY				AMB	AMB		
	comp=Z,30nm,1.9s,mb4.9						
SNY				AMB	AMB		
	comp=Z,360nm,8.4s						
SNY				LR	LR		
	comp=N,720nm,22.4s						
SNY				LR	LR		
	comp=Z,1μm,19.4s,MS4.8						
ASAJ	**Asahikawa**	**46.44**	**4**	P	**P**	**20 02 18.9**	**+0.3**
	comp=Z,7.9nm,0.9s,mb4.6,baz=203,slow=16,SNR=3.6						
CD2	**Chengdu**	**46.66**	**318**	⇓*i*P	**P**	**20 02 20.8**	**+0.4**
CD2				PP	PP	20 04 07.8	-2.1
CD2				PPP	PPP	20 04 56.5	+0.5
CD2				S	**S**	**20 09 05.0**	**-1.4**
CD2				SS	SS	20 12 26.5	+1.2
CD2				AMB	AMB		
	comp=Z,30nm,1.2s,mb5.1						
CD2				AMB	AMB

HHC	**Hu-ho-hao-te**	**49.45 333**	⇓P	**P**	**20 02 42.0**	**0.0**
HHC			AP	pP	20 02 54.0	+1.5
HHC			XP	sP	20 02 59.3	+2.4
HHC			PCP	PcP	20 04 05.8	+1.7
HHC			PP	PP	20 04 37.0	+0.3
HHC			SCP		20 07 51.8	
HHC			S	**S**	**20 09 44.0**	**-1.6**
HHC			XS		20 10 05.5	
HHC			SCS	ScS	20 12 24.3	-3.5
HHC			SS	SS	20 13 09.5	-4.1
HHC			AMB	AMB		
	comp=Z,28nm,1.5s,mb5.1					
HHC			AMB	AMB		
	comp=Z,294nm,3.6s					
HHC			LR	LR		
	comp=N,756nm,21.5s,MS4.8					
HHC			LR	LR		
	comp=E,583nm,19.1s,MS4.8					
HHC			LR	LR		
	comp=Z,1μm,19.1s,MS4.8					
BTO	**Baotou**	**49.97 332**	*e*P	**P**	**20 02 44.5**	**-1.5**
BTO			AMB	AMB		
	comp=Z,30nm,2.0s,mb5.0					
LZH	**Lanzhou**	**49.97 323**	*e*P	**P**	**20 02 47.0**	**+0.9**
LZH			AP	pP	20 02 56.0	-0.6
LZH			XP	sP	20 03 02.8	+1.8
LZH			PP	PP	20 04 42.3	+0.4
LZH			*e*S	**S**	**20 09 55.0**	**+2.1**
LZH			XS		20 10 12.5	
LZH			SS	SS	20 13 24.0	+1.5
LZH			AMB	AMB		
	comp=Z,192nm,1.5s,mb5.9					
LZH			AMB	AMB		
	comp=Z,670nm,4.7s					
LZH			LR	LR		
	comp=N,1μm,16.0s					
LZH			LR	LR		
	comp=Z,2μm,17.3s,MS5.1					
LZH	**Lanzhou**	**49.97 323**	*e*P	**P**	**20 02 47.1**	**+1.0**
	comp=Z,192nm,1.5s,mb5.9					
LZH			pP	pP	20 02 56.0	-0.6
LZH			sP	sP	20 03 02.7	+1.7
LZH			PP	PP	20 04 42.3	+0.4
LZH			*e*S	**S**	**20 09 55.0**	**+2.1**
LZH			sS		20 10 12.5	
LZH			SS	SS	20 13 24.0	+1.5
LZH			LR	LR		
	comp=Z,2μm,17.3s,MS5.1					
LZH	**Lanzhou**	**49.97 323**	*e*P	**P**	**20 02 47.1**	**+1.0**
LZH			*PP	pP	20 02 56.0	-0.6
LZH			*SP	sP	20 03 02.7	+1.7
LZH					20 04 42.3	
LZH			*e*S	**S**	**20 09 55.0**	**+2.1**
LZH			*SS		20 10 12.5	
LZH			SS	SS	20 13 24.0	+1.5
LZH			pmax	pmax		
	comp=Z,192nm,1.5s,mb5.9					
LZH			MLR	MLR		
	comp=Z,2μm,17.3s,MS5.1					
AFI	**Afiamalu**	**50.62 106**	LR	LR	20 21 12.8	
	comp=Z,881nm,21.0s,MS4.8,baz=264,slow=32					
SHL	**Shillong**	**52.81 305**	*e*P	**P**	**20 03 07.4**	**-0.2**
HIA	**Hailar**	**53.89 345**	*e*P	**P**	**20 03 14.1**	**-1.2**
	comp=Z,95nm,1.6s,mb5.5					
HIA	**Hailar**	**53.89 345**	*e*P	**P**	**20 03 14.1**	**-1.2**
HIA			pmax	pmax		
	comp=Z,95nm,1.6s					
GTA	**Gaotai**	**54.56 324**	⇓*i*P	**P**	**20 03 21.0**	**+0.6**
GTA			AP	pP	20 03 30.5	-0.5
GTA			XP	sP	20 03 35.0	-0.3
GTA			PCP	PcP	20 04 22.8	-0.3
GTA			PP	PP	20 05 24.8	+0.6
GTA			PPP	PPP	20 06 36.5	+0.5
GTA			SCP		20 08 19.8	
GTA			PCS		20 08 21.5	
GTA			S	**S**	**20 10 56.3**	**+0.8**
GTA			XS		20 11 13.8	
GTA			SCS	ScS	20 13 06.8	+3.6
GTA			SS	SS	20 14 39.3	+1.4
GTA			AMB	AMB		
	comp=Z,50nm,1.2s,mb5.4					
GTA			AMB	AMB		
	comp=Z,224nm,9.9s					
GTA			LR	LR		
	comp=N,287nm,22.5s,MS4.5					
GTA			LR	LR		
	comp=E,357nm,21.0s,MS4.5					
GTA			LR	LR		
	comp=Z,490nm,22.2s,MS4.5					
LSA	**Lhasa**	**55.19 309**	*e*P	**P**	**20 03 25.8**	**+0.8**
	comp=Z,15nm,0.7s,mb5.1					
LSA	**Lhasa**	**55.19 309**	*e*P	**P**	**20 03 25.8**	**+0.8**
LSA			pmax	pmax		
	comp=Z,15nm,0.7s,mb5.1					
ULN	**Ulaanbaatar**	**56.99 335**	*e*P	**P**	**20 03 37.3**	**-0.4**
	comp=Z,53nm,1.5s,mb5.3					
ULN	**Ulaanbaatar**	**56.99 335**	*d*iP	**P**	**20 03 37.8**	**0.0**
SONM	**Songino Array**	**57.24 335**	P	**P**	**20 03 39.5**	**0.0**
	comp=Z,5.7nm,1.0s,mb4.6,baz=149,slow=8.2,SNR=24					
SONM			LR	LR	20 28 36.3	
	comp=Z,1μm,18.6s,MS5.0,baz=141,slow=36					
VIS	**Vishakhapatnam**	**57.72 293**	*e*P	**P**	**20 03 41.6**	**-1.7**
VIS			AMb	AMB	20 03 45.8	
	comp=Z,92nm,2.1s,mb5.4					
VIS			*ex*	x	20 11 43.5	
PET	**Petropavlovsk**	**57.78 14**	*e*P	**P**	**20 03 44.0**	**+0.7**
PET	**Petropavlovsk**	**57.78 14**	*e*P	**P**	**20 03 40.9**	**-2.4**
PET			*e*S	**S**	**20 11 40.8**	**+2.7**
PET			*e*SS	SS	20 15 35.0	+4.7
PET			pmax	pmax		
	comp=Z,100nm,10.6s					
PET			smax			
	comp=N,300nm,7.3s					
PET			smax			
	comp=E,500nm,15.5s					
CIT	**Chita**	**58.10 342**	*e*P	**P**	**20 03 46.1**	**+0.6**
CIT			*e*		20 04 29.3	
CIT			pmax	pmax		
	comp=Z,161nm,1.7s,mb5.8					
PALK	**Pallekele**	**58.27 280**	*e*P	**P**	**20 03 46.6**	**-0.6**
	comp=Z,28nm,0.9s,mb5.3					
PKI	**Pulchoki**	**58.92 304**	*e*P	**P**	**20 03 51.3**	**-0.3**
	comp=Z,194nm,1.6s,mb5.9					
PKI	**Pulchoki**	**58.92 304**	*e*P	**P**	**20 03 51.3**	**-0.3**
PKI			pmax	pmax		
	comp=Z,97nm,1.6s,mb5.6					
KKN	**Kakani**	**59.11 304**	*e*P	**P**	**20 03 52.7**	**-0.2**
	comp=Z,166nm,1.0s,mb6.0					
KKN	**Kakani**	**59.11 304**	*e*P	**P**	**20 03 52.7**	**-0.2**
KKN			pmax	pmax		
	comp=Z,83nm,1.0s,mb5.7					
DMN	**Daman**	**59.19 304**	*e*P	**P**	**20 03 53.3**	**-0.1**
	comp=Z,174nm,1.1s,mb6.0					
GKN	**Gorkha**	**59.72 304**	*e*P	**P**	**20 03 56.9**	**-0.2**
	comp=Z,246nm,1.1s,mb6.2					
BLSP	**Bilaspur**	**59.98 297**	*e*P	**P**	**20 03 57.9**	**-1.1**
BLSP			AML	AML	20 04 00.9	
	comp=Z,124nm,1.4s					
BLSP			*ex*	x	20 12 13.2	
CLNS	**Chul'man**	**60.01 352**	*e*P	**P**	**20 03 58.1**	**-0.6**
CLNS			pmax	pmax		
	comp=Z,29nm,1.0s,mb5.3					
CLNS			pmax	pmax		
	comp=N,23nm,1.1s					
CLNS			pmax	pmax		
	comp=E,10.0nm,1.1s					
KOLN	**Koldanda**	**60.49 304**	*e*P	**P**	**20 04 02.3**	**-0.1**
	comp=E,272nm,1.4s,mb6.1					
ZAK	**Zakamensk**	**60.51 335**	⇑*i*P	**P**	**20 04 01.7**	**-0.5**
ZAK			pmax	pmax		
	comp=Z,22nm,1.3s,mb5.1					
ZAK			pmax	pmax		
	comp=Z,15nm,1.0s,mb5.1					
IRK	**Irkutsk**	**61.53 337**	*e*P	**P**	**20 04 08.7**	**-0.3**
IRK			*e*		20 04 51.9	
IRK			pmax	pmax		
	comp=Z,91nm,2.0s,mb5.6					
HYB	**Hyderabad**	**62.08 291**	⇓*i*P	**P**	**20 04 12.5**	**-0.6**
HYB	**Hyderabad**	**62.08 291**	⇓*e*P	**P**	**20 04 12.5**	**-0.6**
TRD	**Trivandrum**	**62.10 281**	*ex*	x	19 59 01.5	
MOY	**Mondy**	**62.44 335**	*e*P	**P**	**20 04 15.4**	**+0.3**
MOY			pmax	pmax		
	comp=Z,134nm,1.8s,mb5.8					
NGP	**Nagpur**	**62.48 295**	*e*P	**P**	**20 04 15.2**	**-0.6**
NGP			AMb	AMB	20 04 17.9	
	comp=Z,110nm,1.6s,mb5.7					
MAG	**Magadan**	**62.54 7**	*e*P	**P**	**20 04 13.8**	**-1.9**
BOD	**Bodaibo**	**63.09 346**	*e*P	**P**	**20 04 18.7**	**-0.7**
BOD			pmax	pmax		
	comp=Z,25nm,1.9s,mb5.0					
BHPL	**Bhopal**	**64.46 297**	*e*P	**P**	**20 04 28.4**	**-0.5**
BHPL			AMb	AMB	20 04 30.4	
	comp=Z,55nm,1.4s,mb5.4					
BHPL			*ex*	x	20 13 09.3	
WMQ	**Urumqi**	**64.50 322**	P	**P**	**20 04 29.0**	**+0.3**
WMQ			AP	pP	20 04 39.0	-0.7
WMQ			XP	sP	20 04 43.0	-0.7
WMQ			PP	PP	20 06 53.0	+0.4
WMQ			SCP		20 09 02.0	
WMQ			S	**S**	**20 13 04.0**	**+0.3**
WMQ			SCS	ScS	20 14 17.0	+0.6
WMQ			SS	SS	20 17 15.0	-0.9
WMQ			AMB	AMB		
	comp=Z,68nm,1.0s,mb5.6					
WMQ			AMB	AMB		
	comp=Z,324nm,5.0s					
WMQ			LR	LR		
	comp=N,453nm,16.0s,MS4.9					
WMQ			LR	LR		
	comp=E,352nm,16.0s,MS4.9					
WMQ			LR	LR		
	comp=Z,405nm,16.0s,MS4.7					
YAK	**Yakutsk**	**64.57 356**	*e*P	**P**	**20 04 27.4**	**-1.5**
	comp=Z,42nm,0.8s,mb5.5					
YAK	**Yakutsk**	**64.57 356**	*e*P	**P**	**20 04 28.2**	**-0.7**
YAK			*e*PP	pP	20 04 37.0	-2.8
YAK			*e*		20 05 03.0	
YAK			*e*		20 06 45.6	
YAK			*e*S	**S**	**20 13 05.3**	**+1.1**
YAK			*e*		20 14 18.4	
YAK			*e*SS	SS	20 17 15.0	-1.7
YAK			*e*SSS	SSS	20 20 13.0	+5.8
YAK			pmax	pmax		
	comp=N,11nm,0.9s					
YAK			pmax	pmax		
	comp=Z,27nm,0.9s,mb5.3					
YAK			pmax	pmax		
	comp=N,3.0nm,1.0s					
YAK			smax			
	comp=E,2.0nm,0.9s					
SEY	**Seymchan**	**66.00 7**	*i* P	**P**	**20 04 38.1**	**0.0**
SEY	**Seymchan**	**66.00 7**	*d i*P	**P**	**20 04 38.0**	**-0.1**
NDI	**New Delhi**	**66.12 303**	*e*P	**P**	**20 04 36.8**	**-2.7**
NDI			AMb	AMB	20 04 42.4	
	comp=Z,58nm,2.1s,mb5.2					
KAD	**Karad**	**66.14 290**	*e*P	**P**	**20 04 37.3**	**-2.5**
CASY	**Casey**	**66.72 192**	⇓*i*P	**P**	**20 04 43.0**	**+0.4**
AJM	**Ajmer**	**67.72 300**	*i* P	**P**	**20 04 48.0**	**-1.6**
MKAR	**Makanchi Array**	**69.28 322**	P	**P**	**20 04 59.0**	**+0.1**
	comp=Z,32nm,0.9s,mb5.2,baz=121,slow=7.1,SNR=123					
MKAR	**Makanchi Array**	**69.28 322**	*i* P	**P**	**20 04 58.9**	**0.0**
MKAR			pmax	pmax		
	comp=Z,180nm,1.5s					
KSH	**Kashi**	**70.56 313**	*i* PR		20 05 08.8	
KSH			*e*AP	pP	20 05 17.8	0.0
KSH			*e*XP	sP	20 05 21.8	+0.1
KSH			*e*PCP	PcP	20 05 24.5	-3.5
KSH			*e*S	S	20 14 17.5	+1.0
KSH			*e*PS	PS	20 15 04.5	+16
KSH			*e*SKS	SKS	20 15 06.0	+4.6
KSH			LR	LR		
	comp=N,420nm,7.4s					
KSH			LR	LR		
	comp=E,610nm,6.8s					
MIR	**Mirnyy**	**71.40 197**	*c i*P	**P**	**20 05 13.2**	**+1.8**
MIR			*i*	pP	20 05 26.0	+3.6
MIR			pmax	pmax		
	comp=Z,288nm,2.0s,mb5.9					
BHJ	**Bhuj**	**71.43 295**	*e*P	**P**	**20 05 10.4**	**-2.0**
BHJ			*e*S	S	20 14 30.6	+3.7
ZAL	**Zalesovo**	**71.45 330**	P	**P**	**20 05 11.3**	**-0.5**
	comp=Z,4.6nm,0.6s,mb4.6,baz=359,slow=6.3,SNR=29					
KZA	**Kyzart**	**71.96 316**	P	**P**	**20 05 17.1**	**+1.9**
	SNR=14					
TKM2	**Tokmak 2**	**72.02 317**	P	**P**	**20 05 16.3**	**+0.8**
	SNR=21					
PPT	**Papeete**	**72.24 108**	LR	LR	20 31 32.7	
	comp=Z,781nm,21.4s,MS5.0,baz=267,slow=31					
KBK	**Karagaybulak**	**72.38 316**	P	**P**	**20 05 18.7**	**+1.1**
	SNR=9.7					
UCH	**Uchtor**	**72.53 316**	P	**P**	**20 05 20.3**	**+1.7**
	SNR=49					
CHMS	**Chumysh**	**72.63 317**	P	**P**	**20 05 19.8**	**+0.7**
	SNR=12					
FRU	**Bishkek**	**72.67 316**	⇓*i*P	**P**	**20 05 20.0**	**+0.6**
FRU			*e*	pP	20 05 33.0	+2.7
FRU			pmax	pmax		
	comp=Z,140nm,2.1s,mb5.5					
AAK	**Ala-Archa**	**72.68 316**	P	**P**	**20 05 20.6**	**+1.1**
	SNR=13					
AAK	**Ala-Archa**	**72.68 316**	*i* P	**P**	**20 05 19.9**	**+0.4**
NVS	**Novosibirsk**	**72.70 330**	⇑*i*P	**P**	**20 05 17.6**	**-1.7**
NVS			*i*		20 05 35.2	
NVS			*i* S	S	20 14 37.8	-3.1
NVS			pmax	pmax		
	comp=Z,65nm,1.7s,mb5.3					
NVS			pmax	pmax		
	comp=N,24nm,1.5s					
NVS			pmax	pmax		
	comp=E,32nm,1.4s					
NVS			smax			
	comp=N,40nm,2.3s					
NVS			smax			
	comp=E,15nm,2.0s					
USP	**Ospenovka**	**72.90 317**	P	**P**	**20 05 21.1**	**+0.3**
	SNR=42					
BILL	**Bilibino**	**72.91 11**	⇑*i*P	**P**	**20 05 20.6**	**+0.3**
AML	**Almayashu**	**73.07 315**	P	**P**	**20 05 23.3**	**+1.5**
	SNR=36					
EKS2	**Erkin-Say**	**73.19 316**	P	**P**	**20 05 23.5**	**+1.0**
	SNR=39					
KURK	**Kurchatov**	**73.21 325**	*e*P	**P**	**20 05 22.0**	**-0.4**
	comp=E,23nm,0.8s,mb5.2					
KURK	**Kurchatov**	**73.21 325**	*e*P	**P**	**20 05 22.0**	**-0.4**
KURK			pmax	pmax		
	comp=Z,23nm,0.8s,mb5.2					
VNDA	**Vanda**	**76.15 175**	P	**P**	**20 05 40.0**	**+1.1**
	comp=Z,5.5nm,0.6s,mb4.7,baz=327,slow=6.6,SNR=62					
VNDA			LR	LR	20 41 32.4	
	comp=Z,2μm,18.7s,MS5.5,baz=343,slow=38					
SBA	**Scott Base**	**76.92 174**	*e*P	**P**	**20 05 45.0**	**+1.7**
	comp=Z,29nm,1.1s,mb5.1					
SBA	**Scott Base**	**76.92 174**	*e*P	**P**	**20 05 45.0**	**+1.7**
SBA			pmax	pmax		
	comp=Z,29nm,1.1s,mb5.1					
VOSK	**Vostochnaya**	**78.37 325**	*i* P	**P**	**20 05 50.5**	**-1.2**
BVA0	**Borovoye Array**	**78.81 325**	*i* P	**P**	**20 05 54.0**	**-0.1**
BVA0			pmax	pmax		
	comp=Z,13nm,1.2s,mb4.7					
BVAR	**Borovoye Array**	**78.81 325**	P	**P**	**20 05 54.4**	**+0.3**
	comp=Z,20nm,0.5s,mb5.3,baz=111,slow=7.7,SNR=204					
BRVK	**Borovoye**	**78.88 325**	*e*P	**P**	**20 05 54.8**	**+0.3**
	comp=Z,24nm,0.8s,mb5.2					
BRVK	**Borovoye**	**78.88 325**	*e*P	**P**	**20 05 54.8**	**+0.3**
BRVK			pmax	pmax		
	comp=Z,24nm,0.8s,mb5.2					
MAW	**Mawson**	**82.28 202**	⇑*i*P	**P**	**20 06 14.2**	**+2.0**
	comp=Z,13nm,0.9s,mb4.9					
MAW	**Mawson**	**82.28 202**	P	**P**	**20 06 13.7**	**+1.5**
	comp=Z,18nm,1.0s,mb4.9,baz=80,slow=5.9,SNR=18					
MAW			LR	LR	20 40 28.6	
	comp=Z,1μm,20.3s,MS5.3,baz=64,slow=34					
MAW	**Mawson**	**82.28 202**	⇑*i*P	**P**	**20 06 14.2**	**+2.0**
MAW			pmax	pmax		
	comp=Z,13nm,0.9s					
SLKM	**Skilak Lake**	**83.03 28**	*e*P	**P**	**20 06 16.3**	**+0.1**
IMA	**Indian Mountai**	**83.39 22**	*e*P	**P**	**20 06 18.8**	**+0.9**
	comp=Z,52nm,1.1s,mb5.5					
IMA	**Indian Mountai**	**83.39 22**	*e*P	**P**	**20 06 18.8**	**+0.9**
IMA			pmax	pmax		
	comp=Z,52nm,1.1s,mb5.5					
AB31	**Akbulak array**	**84.20 320**	*i* P	**P**	**20 06 22.9**	**+0.5**
SML	**Sawmill**	**84.28 27**	*e*P	**P**	**20 06 22.5**	**+0.1**
MCK	**McKinley**	**84.55 25**	*e*P	**P**	**20 06 23.9**	**+0.1**
	comp=Z,20nm,1.3s,mb5.1					
MCK	**McKinley**	**84.55 25**	*e*P	**P**	**20 06 23.9**	**+0.1**
MCK			pmax	pmax		
	comp=Z,20nm,1.3s,mb5.1					
SVE	**Sverdlovsk**	**85.24 327**	*e*P	**P**	**20 06 27.5**	**+0.2**
SVE			*e*PPP	PPP	20 11 48.0	+4.9
SVE			*e*S	S	20 17 00.0	+6.6
SVE			pmax	pmax		
	comp=Z,180nm,2.4s,mb5.8					
DIV	**Divide**	**85.30 28**	*e*P	**P**	**20 06 28.6**	**+1.1**
	comp=Z,131nm,1.0s,mb6.0					
AKTO	**Aktyubinsk**	**85.63 321**	P	**P**	**20 06 29.1**	**-0.3**
AKTO			pmax	pmax		
	comp=Z,70nm,2.0s,mb5.5					
ILAR	**Eielson Array**	**85.70 25**	P	**P**	**20 06 28.6**	**-0.8**
	comp=Z,10nm,0.9s,mb5.1,baz=263,slow=4.8,SNR=56					
ILAR			LR	LR	20 38 58.6	
	comp=Z,395nm,21.9s,MS4.8,baz=252,slow=32					
ARU	**Arti**	**86.29 327**	*e*P	**P**	**20 06 32.2**	**-0.3**
	comp=Z,15nm,1.0s,mb5.2					
ARU	**Arti**	**86.29 327**	⇑*i*P	**P**	**20 06 31.8**	**-0.7**
ARU			*e*		20 09 53.1	
ARU			*e*S	S	20 16 54.5	-9.1
ARU			*e*SS	SS	20 22 41.6	-5.2
ARU			pmax	pmax		
	comp=Z,15nm,1.0s,mb5.2					
QSPA	**South Pole Qui**	**87.57 180**	*e*P	**P**	**20 06 39.9**	**+1.6**
	comp=Z,60nm,1.2s,mb5.7					
SOKR	**Solikamsk**	**87.73 330**	⇑*i*P	**P**	**20 06 40.0**	**+0.6**
SOKR			pmax	pmax		
	comp=Z,10.0nm,0.9s,mb5.0					
OPO	**Ambohidratompo**	**90.31 252**	P	**P**	**20 06 53.8**	**+1.2**
	comp=Z,10nm,1.1s,mb5.1,baz=82,slow=6.2,SNR=5.2					
SYO	**Syowa Base**	**90.93 201**	⇑P	**P**	**20 06 54.0**	**-0.3**
SYO	**Syowa Base**	**90.93 201**	⇑pP	pP	20 07 09.0	+3.4
INK	**Inuvik**	**91.51 22**	*e*P	**P**	**20 06 55.9**	**-1.2**
	comp=Z,15nm,1.5s,mb5.1					
INK	**Inuvik**	**91.51 22**	*e*P	**P**	**20 06 55.9**	**-1.2**
INK			pmax	pmax		
	comp=Z,15nm,1.5s					
TI2	**Plekhanov**	**94.22 311**	*i* P	**P**	**20 07 11.2**	**+1.2**
GNI	**Garni**	**94.24 310**	*i* P	**P**	**20 07 08.5**	**-1.7**
ZEI	**Tsey**	**94.84 313**	*e*P	**P**	**20 07 10.6**	**-2.3**
ZEI			*i* *PP	pP	20 07 18.8	-5.4
ZEI			*i*		20 10 56.3	
ZEI			pmax	pmax		
	comp=Z,12nm,0.9s,mb5.3					
GOF	**Gofitskoye**	**95.40 315**	*e*P	**P**	**20 07 12.0**	**-3.3**
GOF			pmax	pmax		
	comp=Z,20nm,1.3s,mb5.4					
KIV	**Kislovodsk**	**95.69 314**	⇓*i*P	**P**	**20 07 15.0**	**-1.7**
VRHR	**Novokhopersk**	**96.04 321**	*e*P	**P**	**20 07 16.9**	**-1.2**
VRHR			pmax	pmax		
	comp=Z,20nm,0.9s,mb5.5					
VRHR			pmax	pmax		
	comp=N,10.0nm,0.5s					
VRHR			pmax	pmax		
	comp=E,10.0nm,1.0s					
VRSR	**Storozhevoye**	**97.56 321**	*e*P	**P**	**20 07 24.0**	**-1.0**
VRSR			pmax	pmax		
	comp=Z,10.0nm,1.3s,mb5.2					
VRSR			pmax	pmax		
	comp=N,6.0nm,0.5s					
MOS	**Moscow**	**97.97 326**	*e*P	**P**	**20 07 25.0**	**-1.7**
MOS			*e*		20 11 25.6	
MOS			MLR	MLR		
	comp=Z,1μm,22.5s,MS5.2					
OBN	**Obninsk**	**98.65 325**	⇑*i*P	**P**	**20 07 29.4**	**-0.4**
OBN			LR	LR		
	comp=Z,500nm,22.0s,MS5.0					
OBN	**Obninsk**	**98.65 325**	⇑*i*P	**P**	**20 07 29.4**	**-0.4**
OBN			*e*	pP	20 07 40.3	-0.8
OBN			*e*		20 11 28.0	
OBN			*e*S		20 18 05.4	
OBN			pmax	pmax		
	comp=Z,63nm,2.5s,mb5.7					
OBN			MLR	MLR		
	comp=Z,500nm,22.0s,MS5.0					
MALT	**Malatya**	**99.22 308**	*e*Pdif	**P**	**20 07 32.1**	**-0.7**
	comp=Z,7.9nm,1.3s,mb5.1					
ARCES	**ARCESS Array B**	**100.06 341**	P	P	20 07 36.1	+0.2
	comp=Z,4.0nm,0.9s,baz=80,slow=10,SNR=6.1					
ARCES			LR	LR	20 55 09.6	
	comp=Z,395nm,20.0s,MS4.9,baz=76,slow=37					
FINES	**FINESS Array B**	**102.57 333**	*i* P	Pdif	20 07 48.7	+1.3
FINES			pmax	pmax		
	comp=Z,3.0nm,1.0s					
BRTR	**Keskin Array B**	**102.78 310**	Pdiff	Pdif	20 07 47.6	-1.2
	comp=Z,1.7nm,0.9s,baz=124,slow=4.5,SNR=7.0					
AKASG	**Malin Array Be**	**103.85 322**	Pdiff	Pdif	20 07 52.6	-0.7
	comp=Z,0.2nm,0.2s,baz=64,slow=4.2,SNR=10					
GERES	**GERESS Array B**	**113.94 323**	PKiKP		20 12 30.4	
	comp=Z,0.3nm,0.5s,baz=180,slow=1.3,SNR=6.2					
HINF	**Hinteralfeld**	**118.44 325**	*e*PKIKP	PKPdf	20 12 38.4	+1.1
	comp=Z,7.1nm,0.8s					
HAU	**Haudompre**	**118.62 325**	*e*PKIKP	PKPdf	20 12 38.7	+1.0
HAU			*e*R			
	comp=Z,619nm,19.5s					
CABF	**La Chapelle**	**119.51 324**	*e*PKIKP	PKPdf	20 12 41.3	+1.8
	comp=Z,8.2nm,0.8s					
LPG	**La Plagne**	**119.69 323**	*e*PKIKP	PKPdf	20 12 41.7	+1.8
	comp=Z,3.4nm,0.8s					
LPL	**La Plagne**	**119.70 323**	*e*PKIKP	PKPdf	20 12 41.6	+1.7
MBDF	**Montbardon**	**120.07 322**	*e*PKIKP	PKPdf	20 12 41.8	+1.1
	comp=Z,12nm,1.3s					
SBF	**Sospel**	**120.08 321**	*e*PKIKP	PKPdf	20 12 42.7	+2.0
	comp=Z,43nm,1.2s					
LOR	**Lormes**	**120.44 326**	*e*PKIKP	PKPdf	20 12 42.6	+1.3
LOR			*e*R			
	comp=Z,655nm,22.2s					
ORIF	**Oris-en-Rattie**	**120.52 322**	*e*PKIKP	PKPdf	20 12 42.9	+1.4
	comp=Z,4.0nm,0.8s					
ORIF			*e*R			
	comp=Z,765nm,19.8s					
FRF	**La Foret Royal**	**120.73 321**	*e*PKIKP	PKPdf	20 12 43.3	+1.3
	comp=Z,35nm,1.4s					
SSF	**Saint Saulge**	**120.75 326**	*e*PKIKP	PKPdf	20 12 43.3	+1.4
SMF	**Signal de Mont**	**120.80 325**	*e*PKIKP	PKPdf	20 12 43.1	+1.1
LMR	**La Mourre**	**120.93 321**	*e*PKIKP	PKPdf	20 12 43.9	+1.6
AVF	**Avril sur Loir**	**120.99 325**	*e*PKIKP	PKPdf	20 12 43.2	+0.8
	comp=Z,5.5nm,0.9s					
SMRF	**Simiane la Rot**	**121.19 322**	*e*PKIKP	PKPdf	20 12 44.7	+1.9
	comp=Z,40nm,1.5s					
VIVF	**Saint-Julien-l**	**121.28 323**	*e*PKIKP	PKPdf	20 12 44.5	+1.5
	comp=Z,13nm,1.1s					
BGF	**Bois d'Agland**	**121.41 325**	*e*PKIKP	PKPdf	20 12 43.8	+0.6
FLN	**La Foliniere**	**121.88 329**	*e*PKIKP	PKPdf	20 12 45.2	+1.2
	comp=Z,27nm,1.3s					
FLN			*e*R			
	comp=Z,836nm,23.0s					
TCF	**Toulx Ste Croi**	**121.93 325**	*e*PKIKP	PKPdf	20 12 45.7	+1.5
	comp=Z,18nm,1.0s					
LASF	**Ste Croix**	**122.19 323**	*e*PKIKP	PKPdf	20 12 46.4	+1.7
	comp=Z,6.1nm,0.9s					
CAF	**Calviac**	**122.79 324**	*e*PKIKP	PKPdf	20 12 47.8	+1.9
RJF	**Les Rejaudoux**	**122.89 325**	*e*PKIKP	PKPdf	20 12 47.8	+1.7
RJF			*e*R			
	comp=Z,516nm,21.8s					
MFF	**Saint Martin d**	**123.05 327**	*e*PKIKP	PKPdf	20 12 47.6	+1.2
	comp=Z,12nm,1.1s					
LFF	**La Frestale**	**123.55 325**	*e*PKIKP	PKPdf	20 12 49.1	+1.7
	comp=Z,21nm,1.1s					
ROSF	**Rostrenen**	**123.57 330**	*e*PKIKP	PKPdf	20 12 48.4	+1.1
	comp=Z,37nm,1.4s					
MTLF	**Montolieu**	**123.59 323**	*e*PKIKP	PKPdf	20 12 49.0	+1.5
	comp=Z,5.9nm,0.9s					
EPF	**Esparros**	**124.90 323**	*e*PKIKP	PKP

LPAZ	**La Paz**	**147.97 126**	PKP	PKPdf	20 13 36.7	+3.9
LPAZ			PKPbc	PKPdf	20 13 39.6	+6.8

*IDC **29** 20:08:03.2±1.1, 2.29S×138.48E, mb4.0/6, mb1 4.2/7, mb1mx4.1/12, mbtmp4.0/7, ML4.2/1, Error ellipse: s-maj=50.7km s-min=21.2km az=87.0*
*NEIC **29** 20:08:07.5±0.7, 2.36S×138.46E, h30km, mb4.3/4, Error ellipse: s-maj=30.0km s-min=10.1km az=96.0*
ISC 29 20:08:07.7±0.8, 2.50S±0.07×138.0E±0.2, h33km, n13, σ1§19/15, mb4.0/8, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**17.70**	**191**	*e*Pn	**P**	**20 12 14.0**	**+0.6**
	5.3nm,0.4s						
WB2	**Warramunga Arr**	**17.70**	**191**	*e*P	**P**	**20 12 14.6**	**+1.1**
WRA	**Warramunga Arr**	**17.71**	**191**	P	**P**	**20 12 13.6**	**+0.1**
	0.8nm,0.3s,baz=15,slow=11,SNR=23						
WRA				S	**S**	**20 15 24.9**	**-2.4**
	0.2nm,0.3s,baz=9.2,slow=22,SNR=4.0						
FITZ	**Fitzroy Crossi**	**19.69**	**217**	P	**P**	**20 12 38.1**	**+1.0**
	14nm,1.0s,baz=13,slow=13,SNR=5.5						
FITZ				S	**S**	**20 16 10.5**	**-1.6**
	7.8nm,0.7s,baz=189,slow=11,SNR=3.8						
ASPA	**Alice Springs**	**21.42**	**190**	*e*P	**P**	**20 12 55.5**	**+0.5**
MBWA	**Marble Bar**	**25.71**	**222**	*e*P	**P**	**20 13 39.4**	**+2.5**
	14nm,1.1s,mb4.4						
STKA	**Stephens Creek**	**29.42**	**174**	P	**P**	**20 14 10.6**	**+0.2**
	2.7nm,0.7s,mb4.1,baz=356,slow=7.2,SNR=4.0						
YSS	**Yuzh-Sakhalins**	**49.42**	**4**	*e*P	**P**	**20 16 51.3**	**-5.1**
	4.2nm,0.3s,mb5.0						
MKAR	**Makanchi Array**	**69.20**	**323**	P	**P**	**20 19 13.2**	**0.0**
	0.2nm,0.5s,mb3.3,baz=116,slow=8.2,SNR=4.0						
VNDA	**Vanda**	**76.05**	**175**	P	**P**	**20 19 53.0**	**-0.1**
	0.6nm,0.7s,mb3.6,baz=321,slow=7.2,SNR=5.4						
BVAR	**Borovoye Array**	**78.74**	**325**	P	**P**	**20 20 08.1**	**-0.4**
	1.5nm,0.5s,mb4.2,baz=114,slow=7.1,SNR=23						
BRVK	**Borovoye**	**78.81**	**325**	*e*P	**P**	**20 20 08.9**	**0.0**
	0.8nm,0.5s,mb3.9						
ILAR	**Eielson Array**	**85.93**	**25**	P	**P**	**20 20 42.8**	**-2.6**
	0.4nm,0.6s,mb3.8,baz=256,slow=5.5,SNR=4.2						

*CSEM **29** 20:10:16.2±0.6, 38.70N×29.06W, h5km, ML2.2, Error ellipse: s-maj=18.5km s-min=5.7km az=24.0, After PDA*
*PDA **29** 20:10:16.2±0.6, 38.70N×29.06W, h5km, MD3.1, ML2.2, Error ellipse: s-maj=18.5km s-min=5.7km az=24.0*
SVSA 29 20:10:16.2±0.6, 38.70N×29.06W, h5km, MD3.1, ML2.2, Error ellipse: s-maj=18.5km s-min=5.7km az=24.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.29**	**104**	*i* P	Pg	20 10 21.4	-0.6
PCED				*e*S	Sg	20 10 25.4	-0.5
	59nm,0.1s						
PCED	**Cedros**	**0.29**	**104**	*e*S	Sg	20 10 25.4	-0.5
CALA	**Caldeira**	**0.30**	**113**	*e*P	Pg	20 10 21.7	-0.6
CALA				*e*S	Sg	20 10 25.8	-0.5
PICO	**Pico**	**0.53**	**112**	*i* P	Pg	20 10 25.6	-1.3
PICO				*e*S	Sg	20 10 32.7	-1.3
PICO	**Pico**	**0.53**	**112**	*e*S	Sg	20 10 32.7	-1.3

*IDC **29** 20:32:45.2±1.0, 17.22N×95.79E, mb4.0/12, mb1 4.1/12, mb1mx4.1/18, mbtmp4.0/12, Error ellipse: s-maj=36.0km s-min=22.9km az=60.0*
*BJI **29** 20:32:50.1, 17.22N×95.42E, h46km, mB4.9, mb4.5, Ms4.4, Msz4.1*
*NEIC **29** 20:32:52.9±1.0, 17.27N×95.26E, h35km, mb4.7/3, Error ellipse: s-maj=16.6km s-min=13.4km az=177.0*
ISC 29 20:32:44.7±0.6, 17.19N±0.08×95.75E±0.07, h10km, n35, σ1§19/42, mb4.1/15, MS4.5/2, 1D, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHG	**Chiang Mai**	**3.44**	**62**	⇓P	**Pn**	**20 33 38.8**	**-0.7**
	150nm,0.7s						
NST	**Nakhon Sawan**	**4.47**	**109**	PN	**Pn**	**20 33 53.7**	**-0.4**
NST				PG	**Pg**	**20 34 12.0**	**-2.0**
NST				SG	**Sn**	**20 34 53.0**	**+6.1**
CHRT	**Chiangrai**	**4.66**	**55**	PG	**Pn**	**20 33 54.0**	**-2.9**
CHRT				SG	**Sn**	**20 35 04.0**	**+12**
NNT	**Nongplab**	**5.98**	**139**	P	**Pn**	**20 34 15.0**	**-0.5**
KKTK	**Khon Kaen**	**6.83**	**96**	P	**Pg**	**20 34 49.0**	**-12**
	2μm,0.7s						
IMP	**Imphal**	**7.74**	**348**	*e*P	**Pn**	**20 34 42.0**	**+1.8**
IMP				*e*S	**Sn**	**20 36 12.0**	**+3.2**
KMI	**Kunming**	**10.23**	**38**	P	**P**	**20 35 21.3**	**+6.5**
KMI				AP		20 35 30.0	
KMI				XP		20 35 33.3	
KMI				AMB	AMB		
	comp=Z,11nm,1.1s						
KMI				AMB	AMB		
	comp=Z,179nm,5.9s						
KMI				LR	LR		
	comp=N,1μm,12.4s						
KMI				LR	LR		
	comp=E,1μm,12.4s						
KMI				LR	LR		
	comp=Z,392nm,13.8s						
KMI	**Kunming**	**10.23**	**38**	P	**P**	**20 35 21.2**	**+6.4**
	comp=Z,11nm,1.1s						
KMI				pP		20 35 30.1	
KMI				sP		20 35 33.2	
KMI				S	**S**	**20 37 03.8**	**-6.9**
KMI				sS		20 37 13.9	
KMI				SS	SS	20 37 16.4	-7.7
LSA	**Lhasa**	**13.14**	**342**	P	**P**	**20 35 54.5**	**+0.4**
LSA	**Lhasa**	**13.14**	**342**	*e*Pn	**P**	**20 35 54.5**	**+0.4**
LSA				*e*Sn	**S**	**20 38 02.0**	**-19**
PKI	**Pulchoki**	**14.06**	**319**	*e*P	**P**	**20 36 04.9**	**-1.5**
	comp=Z,70nm,0.5s						
DMN	**Daman**	**14.28**	**318**	*e*P	**P**	**20 36 07.9**	**-1.3**
	comp=Z,37nm,0.4s						
KKN	**Kakani**	**14.30**	**319**	*e*P	**P**	**20 36 08.7**	**-0.7**
	comp=Z,37nm,0.5s						
GKN	**Gorkha**	**14.85**	**318**	*e*P	**P**	**20 36 15.5**	**-1.2**
	comp=Z,93nm,0.4s						
GKN				*e*S	**S**	**20 38 54.6**	**-7.6**
KOLN	**Koldanda**	**15.38**	**315**	*e*P	**P**	**20 36 22.7**	**-0.8**
	comp=Z,118nm,0.5s						
HYB	**Hyderabad**	**16.42**	**273**	*e*P	**P**	**20 36 45.0**	**+8.0**
LZH	**Lanzhou**	**20.14**	**19**	*e*P	**P**	**20 37 26.5**	**+4.6**
LZH				AP		20 37 37.0	
LZH				XP		20 37 40.5	
LZH				AMB	AMB		
	comp=Z,53nm,1.5s						
LZH				AMB	AMB		
	comp=Z,240nm,4.5s						
LZH				LR	LR		
	comp=E,2μm,12.6s						
LZH				LR	LR		
	comp=Z,3μm,13.5s,MS4.8						
XAN	**Xi'an**	**20.52**	**33**	P	**P**	**20 37 28.0**	**+2.2**
XAN				AMB	AMB		
	comp=Z,32nm,1.3s						
POO	**Poona**	**20.89**	**277**	*e*P	**P**	**20 37 33.0**	**+3.3**
GTA	**Gaotai**	**22.42**	**8**	P	**P**	**20 37 45.5**	**+0.5**
GTA				AP		20 37 53.5	
GTA				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb3.9						
HHC	**Hu-ho-hao-te**	**27.24**	**27**	*e*P	**P**	**20 38 29.8**	**-1.1**
HHC				SS	SS	20 44 31.3	+7.6
HHC				AMB	AMB		
	comp=Z,139nm,4.8s						
HHC				LR	LR		
	comp=N,365nm,13.1s,MS4.3						
HHC				LR	LR		
	comp=E,382nm,13.2s,MS4.3						
HHC				LR	LR		
	comp=Z,289nm,13.1s,MS4.0						
MKAR	**Makanchi Array**	**31.55**	**342**	P	**P**	**20 39 09.0**	**-0.3**
	comp=Z,3.7nm,0.7s,mb4.3,baz=157,slow=9.2,SNR=24						
SONM	**Songino Array**	**31.79**	**14**	P	**P**	**20 39 10.8**	**-0.6**
	comp=Z,0.2nm,0.5s,mb3.2,baz=207,slow=9.7,SNR=3.1						
KURK	**Kurchatov**	**36.15**	**341**	*e*P	**P**	**20 39 49.2**	**+0.2**
	comp=Z,5.8nm,0.6s,mb4.7						
ZAL	**Zalesovo**	**37.64**	**349**	P	**P**	**20 40 02.1**	**+0.6**
	comp=Z,1.7nm,0.4s,mb4.2,baz=317,slow=6.0,SNR=5.6						
KIV	**Kislovodsk**	**51.83**	**313**	*e*P	**P**	**20 41 57.3**	**+2.2**
	comp=Z,10.0nm,0.9s,mb4.8						
WRA	**Warramunga Arr**	**52.90**	**133**	P	**P**	**20 42 03.4**	**0.0**
	comp=Z,1.0nm,0.7s,mb3.9,baz=317,slow=7.3,SNR=8.6						
BRTR	**Keskin Array B**	**57.87**	**306**	P	**P**	**20 42 39.9**	**+0.8**
	comp=Z,1.1nm,0.7s,mb4.0,baz=104,slow=10,SNR=4.2						
AKASG	**Malin Array Be**	**62.04**	**319**	P	**P**	**20 43 06.9**	**-0.7**
	comp=Z,0.9nm,0.5s,mb4.2,baz=80,slow=6.2,SNR=6.2						
FINES	**FINESS Array B**	**65.34**	**330**	P	**P**	**20 43 27.6**	**-1.5**
	comp=Z,1.9nm,0.9s,mb4.1,baz=135,slow=2.0,SNR=3.4						
ARCES	**ARCESS Array B**	**67.13**	**339**	P	**P**	**20 43 41.0**	**+0.6**
	comp=Z,1.2nm,0.6s,mb4.1,baz=98,slow=6.6,SNR=12						
GERES	**GERESS Array B**	**72.07**	**317**	P	**P**	**20 44 12.1**	**+1.1**
	comp=Z,1.4nm,0.7s,mb4.0,baz=76,slow=5.5,SNR=8.0						
NOA	**NORSAR Array B**	**72.48**	**329**	P	**P**	**20 44 13.3**	**+0.1**
	comp=Z,0.8nm,0.7s,mb3.8,baz=86,slow=6.2,SNR=2.6						
BOSA	**Boshof**	**81.91**	**237**	P	**P**	**20 45 07.1**	**+0.9**
	comp=Z,1.3nm,0.7s,mb4.0,baz=45,slow=4.7,SNR=2.6						
ILAR	**Eielson Array**	**85.58**	**22**	P	**P**	**20 45 24.7**	**+0.6**
	comp=Z,0.6nm,0.7s,mb3.9,baz=301,slow=4.3,SNR=6.6						

*CSEM **29** 21:19:31.6±0.3, 35.77N×16.44E, h40km, ML4.2/5, Error ellipse: s-maj=7.1km s-min=5.0km az=172.0*
*ROM **29** 21:19:33.7±0.4, 36.20N×16.14E, h9km, Md3.1/10, Ml3.0/12, Error ellipse: s-maj=5.9km s-min=3.3km az=13.0*
ISC 29 21:19:30.8±1.4, 35.94N±0.09×16.36E±0.09, h10km, n20, σ0§80/26, 2C-1D, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PZI	**Palazzolo**	**1.59**	**315**	Pg	**Pn**	**21 19 58.8**	**-0.4**
	147nm,0.1s						
SSY	**Sortino**	**1.59**	**320**	Pn	**Pn**	**21 19 58.7**	**-0.5**
	253nm,0.4s						
AGST	**Augusta-Monte**	**1.60**	**326**	Pg	**Pn**	**21 19 58.4**	**-0.9**
AGST				Sg	**Sn**	**21 20 17.8**	**-2.3**
	56nm,0.2s						
HMDC	**Modica**	**1.63**	**309**	⇓*i*Pn	**Pn**	**21 19 59.4**	**-0.3**
HMDC				Sn	**Sn**	**21 20 21.0**	**+0.2**
	206nm,0.3s						
HVZN	**Vizzini**	**1.81**	**313**	Pn	**Pn**	**21 20 02.4**	**+0.1**
HVZN				Sn	**Sn**	**21 20 25.5**	**0.0**
	297nm,0.4s						
SOI	**Samo**	**2.14**	**354**	Pn	**Pn**	**21 20 08.0**	**+1.0**
	24nm,0.3s						
MMME	**Mongiuffi-Meli**	**2.18**	**336**	Pn	**Pn**	**21 20 07.4**	**-0.2**
CEL	**Celeste**	**2.34**	**351**	Pn	**Pn**	**21 20 10.6**	**+0.7**
CEL				Sn	**Sn**	**21 20 39.7**	**+0.7**
	67nm,0.4s						
MSRU	**Castanea**	**2.41**	**344**	⇑*i*Pg	**Pn**	**21 20 11.4**	**+0.4**
MSRU				Sn	**Sn**	**21 20 41.6**	**+0.8**
	127nm,0.3s						
VPL	**Vulcano Piano**	**2.67**	**336**	Pn	**Pn**	**21 20 15.3**	**+0.7**
VPL				Sn	**Sn**	**21 20 47.2**	**-0.1**
	240nm,0.4s						
PLLN	**Pollina**	**2.71**	**320**	Pn	**Pn**	**21 20 16.1**	**+0.9**
LLI	**Lipari**	**2.74**	**336**	Pn	**Pn**	**21 20 16.6**	**+1.0**
	203nm,0.7s						
GIB	**Gibilmanna**	**2.77**	**318**	⇑*i*Pn	**Pn**	**21 20 17.1**	**+1.1**
	281μm,49.0s						
SLNA	**Salina**	**2.89**	**335**	Pn	**Pn**	**21 20 18.1**	**+0.4**
	35nm,0.3s						
TIP	**Timpagrande**	**3.25**	**5**	Pn	**Pn**	**21 20 22.7**	**-0.1**
	9.0nm,1.2s						
CUC	**Castrocucco**	**4.07**	**354**	Pn	**Pn**	**21 20 33.3**	**-1.2**
	31nm,0.3s						
MGR	**Morigerati**	**4.24**	**352**	Pn	**Pn**	**21 20 36.0**	**-0.9**
	28nm,0.3s						
SGO	**Sicignano**	**4.68**	**350**	Pn	**Pn**	**21 20 42.9**	**-0.3**
	5.0nm,0.3s						
MRLC	**Muro Lucano**	**4.86**	**352**	Pn	**Pn**	**21 20 45.9**	**+0.2**
	3.0nm,0.3s						
SG1	**Sgolgore (BA)**	**4.90**	**3**	*e*Pn	**Pn**	**21 20 44.6**	**-1.6**

*CSEM **29** 21:27:03.3±0.1, 35.78N×52.28E, h18km, ML3.1, Error ellipse: s-maj=2.2km s-min=1.9km az=179.0*
*TEH **29** 21:27:04.1, 35.78N×52.27E, h6km, Mn3.1*
*THR **29** 21:27:04.4±0.9, 35.67N×52.17E, h16km±4km, ML3.1*
ISC 29 21:27:03.1±0.6, 35.78N±0.04×52.24E±0.05, h6km, n17, σ0§84/23, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDMV	**Damavand**	**0.26**	**220**	Pg	**Pg**	**21 27 09.1**	**+0.7**
DAMV	**Damavand**	**0.26**	**236**	*e*PG	**Pg**	**21 27 09.0**	**+0.5**
DAMV				*e*SG	**Sg**	**21 27 12.4**	**+0.4**
DAMV				AML	AML	21 27 13.7	
	comp=N,4μm,0.1s						
DAMV	**Damavand**	**0.26**	**236**	*e*Pg	**Pg**	**21 27 09.0**	**+0.6**
	SNR=130						
DAMV				*e*Sg	**Sg**	**21 27 12.4**	**+0.4**
	comp=N,4μm,0.1s,SNR=130						
IAFJ	**Afjeh**	**0.43**	**281**	Pg	**Pg**	**21 27 12.2**	**+0.4**
IFIR	**Firoozkooh**	**0.44**	**108**	Pg	**Pg**	**21 27 11.6**	**-0.4**
IPRN	**Paran-Amol**	**0.46**	**1**	Pg	**Pg**	**21 27 12.9**	**+0.4**
IVRN	**Varamin**	**0.88**	**208**	Pg	**Pg**	**21 27 20.3**	**-0.5**
IVRN				Sg	**Sg**	**21 27 32.2**	**-0.4**
THKV	**Tehran--Karaj**	**1.11**	**278**	*e*PG	**Pg**	**21 27 24.6**	**-0.7**
IGLO	**Galoogah**	**1.15**	**62**	Pn	**Pn**	**21 27 30.9**	**+5.1**
IKIA	**Kiasar**	**1.25**	**70**	Pn	**Pn**	**21 27 26.1**	**-1.1**
IMHD	**Mahdasht**	**1.28**	**266**	Pg	**Pg**	**21 27 27.2**	**-1.5**
IMHD				Sg	**Sg**	**21 27 44.7**	**-1.1**
QAM	**Qamsar**	**1.91**	**191**	Pn	**Pn**	**21 27 40.0**	**+3.4**
IRAZ	**Razeghan**	**1.92**	**259**	Pn	**Pn**	**21 27 37.6**	**+0.9**
ASAO	**Ashtian**	**2.19**	**237**	*e*Pg	**Pg**	**21 27 41.6**	**-5.2**
ASAO				*e*SG	**Sg**	**21 28 10.4**	**-5.6**
ASAO				AML	AML	21 28 14.7	
	comp=N,93nm,0.4s						
NASN	**Na'in**	**3.01**	**171**	*e*PN	**Pn**	**21 27 52.6**	**+0.3**
NASN				*e*SG	**Sg**	**21 28 35.7**	**-7.6**
NASN				AML	AML	21 28 38.8	
	comp=N,75nm,0.4s						
SNGE	**Sanandaj**	**4.05**	**262**	*e*PN	**Pn**	**21 28 07.2**	**+0.1**
GRMI	**Germi**	**4.60**	**312**	*e*PN	**Pn**	**21 28 16.1**	**+1.2**

IDC 29 21:41:03.1±2.2, 8.09S×126.88E, mb3.5/2, mb1 3.5/3, mb1mx3.5/12, mbtmp3.4/3, ML3.1/1, Error ellipse: s-maj=200.8km s-min=41.6km az=62.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.82**	**149**	Pn	P	21 44 20.4	-2.4
	0.1nm,0.3s,baz=326,slow=14,SNR=6.1						
WRA				Sn	S	21 46 38.4	-20
	0.3nm,0.3s,baz=331,slow=22,SNR=10						
SONM	**Songino Array**	**58.56**	**344**	P	P	21 51 01.4	-2.5
	0.2nm,0.7s,baz=162,slow=4.6,SNR=4.0						
MKAR	**Makanchi Array**	**67.49**	**329**	P	P	21 52 01.1	-2.0
	0.4nm,0.4s,baz=135,slow=8.2,SNR=8.7						

*IDC **29** 21:51:21.5±3.1, 33.32N×97.76E, mb3.7/7, mb1 4.0/9, mb1mx3.9/21, mbtmp3.8/9, ML3.5/2, MS3.7/3, Ms1 3.7/3, ms1mx3.4/28, Error ellipse: s-maj=61.9km s-min=37.8km az=161.0*
*NEIC **29** 21:51:24.9±0.4, 33.56N×97.64E, h10km, mb4.3/6, Error ellipse: s-maj=8.9km s-min=6.7km az=139.0*
*BJI **29** 21:51:25.0, 33.57N×97.84E, h10km, mB4.3, mb4.3, ML4.1, Ms4.0, Msz3.8*
ISC 29 21:51:22.4±0.3, 33.48N±0.04×97.70E±0.04, h10km, n46, σ0§95/52, mb4.1/20, MS3.7/1, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LZH	**Lanzhou**	**5.69**	**61**	P	**Pn**	**21 52 51.5**	**+2.4**
LZH				S	**Sn**	**21 53 54.0**	**-1.2**
LZH				SG	**Sg**	**21 54 25.3**	**-6.5**
LZH				Smax			
	comp=N,144nm,1.1s						
LZH				Smax			
	comp=E,179nm,1.0s						
LZH				LR	LR		
	comp=E,2μm,7.4s						
LZH				LR	LR		
	comp=Z,2μm,7.9s						
CD2	**Chengdu**	**5.74**	**115**	*e*PG	**Pg**	**21 53 03.3**	**-14**
CD2				SG	**Sg**	**21 54 32.5**	**-1.1**
CD2				Smax			
	comp=N,159nm,1.6s						
CD2				Smax			
	comp=E,130nm,1.8s						
CD2				LR	LR		
	comp=N,990nm,6.0s						
CD2				LR	LR		
	comp=Z,780nm,7.8s						
GTA	**Gaotai**	**6.16**	**15**	P	**Pn**	**21 52 56.0**	**+0.3**
GTA				PG	**Pg**	**21 53 17.3**	**-8.1**
GTA				S	**Sn**	**21 54 10.5**	**+3.5**
GTA				SG	**Sg**	**21 54 39.5**	**-8.0**
GTA				Smax			
	comp=N,17nm,1.7s						
GTA				Smax			
	comp=E,27nm,1.4s						
GTA				LR	LR		
	comp=N,562nm,8.8s						
GTA				LR	LR		
	comp=E,2μm,8.8s						
GTA				LR	LR		
	comp=Z,651nm,9.2s						
LSA	**Lhasa**	**6.74**	**238**	*e*Pn	**Pn**	**21 53 03.9**	**+0.1**
LSA				*e*Sn	**Sn**	**21 54 21.7**	**+0.3**
KMI	**Kunming**	**9.42**	**151**	P	**P**	**21 53 42.5**	**+1.3**
KMI				AP		21 53 52.5	
KMI				XP		21 53 56.5	
KMI				AMB	AMB		
	comp=Z,9.0nm,0.8s						
KMI				AMB	AMB		
	comp=Z,39nm,3.5s						
KMI				LR	LR		
	comp=N,809nm,8.3s						
KMI				LR	LR		
	comp=E,1μm,9.8s						
KMI				LR	LR		
	comp=Z,481nm,9.8s						
KMI	**Kunming**	**9.42**	**151**	P	**P**	**21 53 42.6**	**+1.4**
	comp=Z,9.0nm,0.8s						
KMI				pP		21 53 52.4	
KMI				sP		21 53 56.6	
KMI				S	**Sn**	**21 55 21.0**	**-7.3**
KMI				SS	SS	21 55 33.4	-8.0
GYA	**Guiyang**	**10.46**	**130**	P	**P**	**21 53 56.5**	**+0.9**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.4s						
ENH	**Enshi**	**10.52**	**105**	*e*Pn	**P**	**21 53 56.4**	**-0.1**
	comp=Z,24nm,1.1s						
KKN	**Kakani**	**12.10**	**245**	*e*P	**P**	**21 54 17.4**	**-0.5**
	comp=Z,22nm,0.7s						
PKI	**Pulchoki**	**12.12**	**244**	*e*P	**P**	**21 54 17.2**	**-0.9**
	comp=Z,24nm,0.6s						
DMN	**Daman**	**12.32**	**245**	*e*P	**P**	**21 54 20.7**	**-0.2**
	comp=Z,25nm,0.7s						
GKN	**Gorkha**	**12.48**	**248**	*e*P	**P**	**21 54 24.3**	**+1.2**
	comp=Z,19nm,0.5s						
HHC	**Hu-ho-hao-te**	**13.27**	**52**	*e*P	**P**	**21 54 31.5**	**-2.0**
HHC				AP		21 54 37.5	
HHC				XP		21 54 39.8	
HHC				AMB	AMB		
	comp=Z,15nm,1.1s						
KOLN	**Koldanda**	**13.40**	**249**	*e*P	**P**	**21 54 34.9**	**-0.3**
	comp=Z,19nm,0.8s						
SONM	**Songino Array**	**15.77**	**22**	Pn	**P**	**21 55 05.2**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=203,slow=13,SNR=20						
SONM				LR	LR	22 01 37.4	
	comp=Z,174nm,19.0s,baz=216,slow=39						
MKAR	**Makanchi Array**	**17.72**	**323**	P	**P**	**21 55 30.3**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=135,slow=13,SNR=24						
MKAR				LR	LR	22 03 09.7	
	comp=Z,285nm,20.2s,baz=155,slow=40						
KURK	**Kurchatov**	**22.18**	**327**	*e*P	**P**	**21 56 20.4**	**+0.2**
	comp=Z,5.8nm,0.8s,mb4.1						
ZAL	**Zalesovo**	**22.41**	**340**	P	**P**	**21 56 23.0**	**+0.6**
	comp=Z,2.0nm,0.8s,mb3.6,baz=334,slow=9.6,SNR=6.5						
HIA	**Hailar**	**22.73**	**40**	*e*P	**P**	**21 56 26.5**	**+0.9**
	comp=Z,2.4nm,0.3s,mb4.1						
CN2	**Changchun**	**23.90**	**56**	*e*P	**P**	**21 56 38.3**	**+1.3**
JOW	**Kunigami**	**27.19**	**96**	LR	LR	22 07 55.6	
	comp=Z,229nm,20.6s,MS3.7,baz=168,slow=37						
BVAR	**Borovoye Array**	**27.61**	**323**	P	**P**	**21 57 12.8**	**+1.1**
	comp=Z,0.4nm,0.5s,mb3.3,baz=272,slow=40,SNR=2.9						
BRVK	**Borovoye**	**27.68**	**323**	P	**P**	**21 57 13.6**	**+1.3**
	comp=Z,0.5nm,0.3s,mb3.6						
YAK	**Yakutsk**	**35.07**	**26**	*e*P	**P**	**21 58 19.0**	**+1.7**
	comp=Z,12nm,0.4s,mb5.2						
KIV	**Kislovodsk**	**43.46**	**301**	*e*P	**P**	**21 59 25.1**	**-2.0**
	comp=Z,6.3nm,1.2s,mb4.2						
BRTR	**Keskin Array B**	**50.84**	**297**	P	**P**	**22 00 23.0**	**-2.2**
	comp=Z,0.5nm,0.7s,mb3.5,baz=94,slow=12,SNR=2.4						
ARCES	**ARCESS Array B**	**52.85**	**335**	P	**P**	**22 00 39.9**	**-0.1**
	comp=Z,1.9nm,0.7s,mb4.1,baz=84,slow=8.2,SNR=6.9						
MLR	**Muntele Rosu**	**54.95**	**305**	P	**P**	**22 00 56.3**	**+0.6**
	comp=Z,2.0nm,0.9s,mb4.2,baz=72,slow=9.6,SNR=4.9						
GERES	**GERESS Array B**	**61.97**	**312**	P	**P**	**22 01 44.7**	**0.0**
	comp=Z,0.6nm,0.7s,mb3.8,baz=79,slow=6.8,SNR=7.0						
PGF	**Pioggiola**	**67.42**	**307**	*e*P	**P**	**22 02 19.5**	**-0.7**
	comp=Z,19nm,0.9s,mb4.8						
CABF	**La Chapelle**	**67.57**	**312**	*e*P	**P**	**22 02 20.7**	**-0.3**
LPG	**La Plagne**	**67.63**	**310**	*e*P	**P**	**22 02 21.2**	**-0.2**
	comp=Z,12nm,1.0s,mb4.5						
LPL	**La Plagne**	**67.63**	**311**	*e*P	**P**	**22 02 21.3**	**-0.2**
	comp=Z,8.9nm,0.9s,mb4.5						
MBDF	**Montbardon**	**67.95**	**310**	*e*P	**P**	**22 02 23.0**	**-0.4**
	comp=Z,4.1nm,0.8s,mb4.2						
ORIF	**Oris-en-Rattie**	**68.44**	**310**	*e*P	**P**	**22 02 26.0**	**-0.5**
	comp=Z,3.2nm,0.7s,mb4.1						
LOR	**Lormes**	**68.66**	**313**	*e*P	**P**	**22 02 27.3**	**-0.5**
	comp=Z,3.8nm,0.7s,mb4.1						
SMF	**Signal de Mont**	**68.95**	**313**	*e*P	**P**	**22 02 29.1**	**-0.5**
SSF	**Saint Saulge**	**68.96**	**313**	*e*P	**P**	**22 02 29.2**	**-0.5**
AVF	**Avril sur Loir**	**69.18**	**313**	*e*P	**P**	**22 02 30.6**	**-0.4**
ILAR	**Eielson Array**	**69.98**	**24**	P	**P**	**22 02 35.1**	**-0.5**
	comp=Z,0.5nm,0.8s,mb3.5,baz=296,slow=5.8,SNR=4.2						
LASF	**Ste Croix**	**70.11**	**310**	*e*P	**P**	**22 02 37.1**	**+0.4**
	comp=Z,22nm,1.4s,mb4.6						
TCF	**Toulx Ste Croi**	**70.11**	**313**	*e*P	**P**	**22 02 36.6**	**-0.1**
LDF	**La Druitiere**	**70.42**	**316**	*e*P	**P**	**22 02 38.8**	**+0.2**
GRR	**Gorron**	**70.95**	**316**	*e*P	**P**	**22 02 42.2**	**+0.4**
EVO	**Evora**	**80.61**	**310**	*e*P	**P**	**22 03 38.3**	**+1.6**
	comp=Z,8.6nm,1.1s,mb4.3						
SBA	**Scott Base**	**118.25**	**167**

HUIG				*i* S	Sb	21 56 05.2	-2.2
VHO	**Vista Hermosa**	**1.42**	**1**	*e*P	Pn	21 56 08.0	-3.7
VHO				*i* S	Sb	21 56 25.1	-4.9
OXX	**Oaxaca**	**1.43**	**1**	*i* P	Pn	21 56 08.8	-3.1
OXX				*i* S	Sb	21 56 25.8	-4.4
PNIG	**Pinotepa**	**1.51**	**300**	*e*P	Pn	21 56 10.0	-3.0
PNIG				*i* S	Sn	21 56 26.0	-6.4
CMIG	**Matias Romero**	**2.31**	**51**	*e*P	Pn	21 56 22.1	-2.3
CMIG				*i* S	Sn	21 56 48.6	-4.0

NEIC 29 22:04:24.2, 53.63N×164.78W, h6km, ML3.7(AEIC), After AEIC., Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKA	**Akutan**	**0.77**	**311**	P	Pb	22 04 39.3	-0.4
AKA				S	Sg	22 04 50.2	+0.1
AKUT	**Akutan**	**0.77**	**311**	P	Pb	22 04 39.0	-0.7
AKUT				S	Sg	22 04 50.4	+0.3
AHB	**Akutan Harbor**	**0.78**	**309**	P	Pb	22 04 39.6	-0.2
WESE	**West Dahl East**	**0.85**	**8**	P	Pb	22 04 39.9	-1.1
WESS	**West Dahl Sout**	**0.85**	**2**	P	Pb	22 04 40.1	-0.8
WESS				S	Sb	22 04 53.0	+0.5
AKLV	**Akutan Long Va**	**0.88**	**308**	P	Pb	22 04 41.0	-0.5
WFAR	**Faris Peak**	**0.91**	**0**	P	Pb	22 04 41.0	-0.9
LVA	**Lava Point**	**0.91**	**306**	P	Pb	22 04 41.7	-0.4
AKGG	**Akutan Green G**	**0.92**	**309**	P	Pb	22 04 41.6	-0.5
AKGG				S	Sb	22 04 54.8	+0.5
WESN	**West Dahl Nort**	**0.95**	**7**	P	Pb	22 04 41.7	-0.9
MNAT	**Makushin Natee**	**1.16**	**283**	P	Pb	22 04 44.2	-2.0
MTBL	**Makushin Table**	**1.18**	**287**	P	Pb	22 04 45.0	-1.6
SSLW	**Shishaldin Wes**	**1.21**	**18**	P	Pb	22 04 45.1	-2.0
MCIR	**Makushin Cirqu**	**1.29**	**285**	P	Pb	22 04 46.9	-1.7
BALA	**Baldy Mountain**	**1.95**	**36**	P	Pn	22 04 57.1	-1.1
OKCD	**Okmok Cone D**	**2.00**	**266**	P	Pn	22 04 57.0	-1.9
DTNA	**Dutton South F**	**2.12**	**43**	P	Pn	22 04 58.2	-2.5
DOL	**Dolgoi Island**	**2.28**	**47**	P	Pn	22 04 59.9	-3.1
HAG	**Hague Volcano**	**2.38**	**44**	P	Pn	22 05 02.3	-2.1
PN7A	**Pavlof North-7**	**2.42**	**41**	P	Pn	22 05 03.6	-1.5
PVV	**Pavlof Volcano**	**2.47**	**44**	P	Pn	22 05 04.0	-1.6
NIKO	**Nikolski**	**2.53**	**257**	P	Pn	22 05 04.3	-2.3
BLHA	**Black Hill**	**2.60**	**36**	P	Pn	22 05 06.6	-1.0
SDPT	**Sand Point**	**3.04**	**54**	P	Pn	22 05 11.1	-2.8
ATKA	**Atka Island**	**5.87**	**260**	P	Pn	22 05 50.5	-3.5

JMA 29 22:13:13.7±0.5, 45.98N×146.10E, h346km, M3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JRA	**Rausu**	**2.16**	**199**	P	P	22 14 06.3	+0.2
JTKR	**Abashiri--Toko**	**2.54**	**219**	P	P	22 14 09.4	+0.2
NEM2	**Nemuro 2**	**2.63**	**186**	P	P	22 14 08.5	-1.4
NEM2				*e*S	S	22 14 52.3	-1.6
JSE	**Soyaes**	**2.68**	**249**	P	P	22 14 09.1	-1.2
JWK2	**Keihoku**	**3.02**	**259**	P	P	22 14 13.1	-0.2
JAK	**Akkeshi**	**3.15**	**199**	P	P	22 14 13.9	-0.6
JAK				*e*S	S	22 15 01.5	-0.7
JAR	**Ashorobuto**	**3.16**	**213**	P	P	22 14 15.0	+0.4
JKK2	**Kamakawa 2**	**3.18**	**230**	P	P	22 14 15.5	+0.7
JCH	**Churui**	**3.90**	**211**	P	P	22 14 21.2	-0.6
JCH				*e*S	S	22 15 14.4	-0.9
JNBK	**Urakawa-nobuka**	**4.41**	**214**	P	P	22 14 26.8	-0.5
JNBK				*e*S	S	22 15 24.5	-0.5
JEW	**Eniwo**	**4.58**	**228**	P	P	22 14 28.1	-0.9
JKB	**Kayabe**	**5.49**	**224**	P	P	22 14 38.9	-0.2
JKB				*e*S	S	22 15 45.8	-0.4
JOT	**Ohata**	**5.88**	**220**	P	P	22 14 42.5	-1.0
JOT				*e*S	S	22 15 52.2	-1.9
JOSM	**Okushiri--Mats**	**6.16**	**233**	P	P	22 14 47.3	+0.4
JANG	**Nango**	**6.53**	**212**	P	P	22 14 49.8	-1.4
JANG				*e*S	S	22 16 06.6	-1.1
JMK	**Ichinoseki**	**7.89**	**209**	P	P	22 15 07.9	+0.6

*NEIC **29** 22:13:50.5, 17.77N×101.56W, h38km, MD3.6(MEX), After MEX.*

MEX 29 22:13:50.2±1.2, 17.78N×101.57W, h39km±15km, MD3.7, 1D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.20**	**151**	⇓*i*P	P	22 13 55.5	-1.8
ZIIG				*i* S	S	22 14 01.1	-1.2
CAIG	**El Cayaco**	**1.44**	**120**	*i* P	P	22 14 11.4	-2.8
CAIG				*i* S	S	22 14 30.1	-2.1
ACX	**Acapulco**	**1.82**	**120**	*e*P	P	22 14 18.3	-1.3
ACX				*e*S	S	22 14 37.8	-3.9
MOIG	**Morelia**	**1.92**	**11**	*i* P	P	22 14 20.3	-0.7
MOIG				*i* S	S	22 14 41.0	-3.2
PLIG	**Platanillo**	**2.06**	**73**	*i* P	P	22 14 21.1	-1.9
PLIG				*i* S	S	22 14 44.0	-3.6
PPM	**Popocatepetl**	**3.07**	**65**	*e*P	P	22 14 36.0	-1.5
PPM				*i* S	S	22 15 12.0	-1.4

*NEIC **29** 22:28:47.2±1.2, 7.33N×123.69E, h615km±17km, mb4.3/10, Error ellipse: s-maj=18.0km s-min=6.1km az=66.0*
*IDC **29** 22:28:48.1±2.0, 7.29N×123.73E, h630km±29km, mb3.5/16, mb1 3.6/17, mb1mx3.5/25, mbtmp4.5/17, Error ellipse: s-maj=27.5km s-min=8.0km az=67.0*

ISC 29 22:28:44.5±0.4, 7.36N±0.07×123.8E±0.1, h597km±5km, n50, σ0∓74/51, mb4.2/28, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**1.36**	**68**	*e*P	P	22 29 56.7	+0.1
BUTP	**Butuan**	**2.42**	**48**	*e*P	P	22 30 00.3	-0.5
MATI	**Mati**	**2.48**	**99**	*e*P	P	22 30 00.5	-0.6
CUYO	**Cuyo Island**	**4.42**	**322**	*e*P	P	22 30 12.9	-0.3
PPR	**Puerto Princes**	**5.55**	**296**	*e*P	P	22 30 22.3	+0.2
SJMP	**San Jose**	**5.71**	**333**	*e*P	P	22 30 23.9	+0.4
ENPP	**El Nido**	**5.76**	**312**	*e*P	P	22 30 23.9	0.0
BUSP	**Coron**	**5.82**	**323**	*e*P	P	22 30 24.2	-0.2
BATP	**Bataraza**	**6.10**	**284**	*e*P	P	22 30 27.1	+0.2
LUBP	**Lubang**	**7.23**	**332**	*e*P	P	22 30 36.7	-0.3
NACB	**Ninganchiao**	**16.85**	**353**	P	P	22 32 14.8	+4.5
YHNB	**Yeheng**	**17.37**	**353**	*e*P	P	22 32 15.8	+0.6
JOW	**Kunigami**	**19.83**	**12**	P	P	22 32 38.9	+0.7
	2.3nm,0.3s,baz=155,slow=18,SNR=3.2						
FITZ	**Fitzroy Crossi**	**25.36**	**176**	P	P	22 33 27.4	-0.5
	1.4nm,0.3s,mb4.1,baz=342,slow=21,SNR=17						
ENH	**Enshi**	**26.45**	**331**	*e*P	P	22 33 37.6	+0.2
	7.8nm,0.7s,mb4.5						
MBWA	**Marble Bar**	**28.62**	**188**	*e*P	P	22 33 54.8	-1.3
	10nm,1.1s,mb4.4						
WRAB	**Tennant Creek**	**29.04**	**159**	*e*P	P	22 33 59.7	-0.1
	26nm,1.1s,mb4.8						
WRA	**Warramunga Arr**	**29.05**	**159**	P	P	22 33 59.6	-0.2
	7.1nm,0.4s,mb4.6,baz=331,slow=11,SNR=40						
WRA				S	S	22 38 05.1	-6.5
	1.0nm,0.6s,baz=333,slow=15,SNR=7.1						
WB2	**Warramunga Arr**	**29.05**	**159**	⇑*i*P	P	22 33 59.6	-0.3
WB2				*e*S	S	22 38 07.3	-4.4
ASPA	**Alice Springs**	**32.38**	**163**	⇓*i*P	P	22 34 29.0	+1.0
ASPA				*e*S	S	22 39 01.5	-1.2
CTA	**Charters Tower**	**35.11**	**141**	P	P	22 34 52.1	+1.4
	2.9nm,0.5s,mb4.2,baz=332,slow=9.0,SNR=4.3						
CTAO	**Charters Tower**	**35.11**	**141**	*e*P	P	22 34 52.5	+1.7
	10nm,1.1s,mb4.4						
LSA	**Lhasa**	**37.87**	**310**	*e*P	P	22 35 15.6	+2.3
	3.7nm,0.6s,mb4.1						
PKI	**Pulchoki**	**41.51**	**304**	*e*P	P	22 35 42.7	0.0
	5.9nm,0.5s,mb4.3						
KKN	**Kakani**	**41.70**	**304**	*e*P	P	22 35 44.3	+0.1
	6.6nm,0.4s,mb4.5						
DMN	**Daman**	**41.78**	**304**	*e*P	P	22 35 45.2	+0.4
	16nm,0.8s,mb4.6						
GKN	**Gorkha**	**42.31**	**304**	*e*P	P	22 35 49.0	+0.1
	8.8nm,0.4s,mb4.6						
STKA	**Stephens Creek**	**42.56**	**157**	P	P	22 35 51.6	+0.7
	2.9nm,0.4s,mb4.2,baz=328,slow=6.7,SNR=12						
STKA	**Stephens Creek**	**42.56**	**157**	*e*P	P	22 35 51.5	+0.7
ULN	**Ulaanbaatar**	**42.81**	**343**	*e*P	P	22 35 52.6	+0.1
	2.9nm,0.8s,mb3.9						
SONM	**Songino Array**	**42.97**	**343**	P	P	22 35 54.0	+0.2
	2.4nm,0.7s,mb3.9,baz=161,slow=7.4,SNR=16						
KOLN	**Koldanda**	**43.08**	**303**	*e*P	P	22 35 55.5	+0.5
	20nm,0.3s,mb5.2						
DZM	**Mont Dzumac**	**51.02**	**126**	P	P	22 36 55.8	+1.0
	8.2nm,0.9s,mb4.2,baz=310,slow=18,SNR=4.0						
MKAR	**Makanchi Array**	**52.92**	**325**	P	P	22 37 08.0	-0.1
	5.6nm,0.4s,mb4.2,baz=117,slow=7.6,SNR=105						
MKAR	**Makanchi Array**	**52.92**	**325**	P	P	22 37 08.0	-0.1
ZAL	**Zalesovo**	**56.05**	**333**	P	P	22 37 28.8	-1.0
	2.5nm,0.4s,mb3.8,baz=345,slow=5.3,SNR=6.4						
KURK	**Kurchatov**	**57.13**	**328**	*e*P	P	22 37 37.0	-0.1
	14nm,0.5s,mb4.4						
BVAR	**Borovoye Array**	**62.70**	**327**	P	P	22 38 13.5	-0.4
	4.7nm,0.6s,mb4.0,baz=148,slow=9.4,SNR=39						
BRVK	**Borovoye**	**62.77**	**327**	*e*P	P	22 38 13.9	-0.4
	7.3nm,0.8s,mb4.1						
ATD	**Arta Tunnel**	**79.73**	**280**	P	P	22 39 54.5	+1.3
	7.3nm,0.9s,mb4.0,baz=168,slow=19,SNR=4.2						
ASF	**Jabal al Asfar**	**83.51**	**302**	P	P	22 40 13.0	+0.9
	4.0nm,0.6s,mb4.1,baz=123,slow=6.6,SNR=4.6						
JOF	**Joensuu**	**84.64**	**333**	*e*p	P	22 40 15.7	-1.1
BRTR	**Keskin Array B**	**85.47**	**309**	P	P	22 40 20.1	-1.3
	1.0nm,0.6s,mb3.6,baz=125,slow=4.0,SNR=5.9						
ARCES	**ARCESS Array B**	**86.05**	**340**	P	P	22 40 23.0	-0.6
	2.4nm,0.8s,mb3.9,baz=76,slow=4.8,SNR=6.7						
KAF	**Kangasniemi**	**87.05**	**332**	*e*p	P	22 40 27.0	-1.3
FINES	**FINESS Array B**	**87.27**	**332**	P	P	22 40 28.5	-0.9
	1.3nm,0.5s,mb4.0,baz=45,slow=5.4,SNR=8.5						
VNDA	**Vanda**	**87.38**	**172**	P	P	22 40 30.0	+0.4
	1.1nm,0.9s,mb3.6,baz=308,slow=5.2,SNR=4.2						
MLR	**Muntele Rosu**	**90.28**	**316**	P	P	22 40 43.8	0.0
	1.7nm,0.8s,mb3.9,baz=149,slow=5.9,SNR=3.3						
PLCA	**Paso Flores**	**144.39**	**161**	PKP	PKPdf	22 47 16.3	+2.7
	2.4nm,0.8s,baz=285,slow=2.4,SNR=4.5						
PLCA	**Paso Flores**	**144.39**	**161**	PKP	PKPdf	22 47 16.3	+2.7

*NNC **29** 22:31:59.1±131.0, 37.23N×70.04E, mpv4.0, Error ellipse: s-maj=1248.4km s-min=1128.9km az=93.0*

ISC 29 22:31:58.6±5.2, 37.0N±0.3×71.2E±0.4, h100km, n9, σ0∓45/10, 1C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.46**	**20**	P	P	22 33 19.2	+0.4
	SNR=28						
UCH	**Uchtor**	**5.80**	**25**	P	P	22 33 23.7	+0.2
	SNR=15						
EKS2	**Erkin-Say**	**5.97**	**19**	P	P	22 33 26.3	+0.4
	SNR=19						
KK31	**Karatay Array**	**6.10**	**355**	⇑P	P	22 33 27.4	-0.3
	4.5nm,0.3s,baz=174,slow=12						
KK31				⇓S	S	22 34 36.7	-0.1
	6.2nm,0.3s,baz=187,slow=21						
AAK	**Ala-Archa**	**6.15**	**23**	P	P	22 33 28.6	+0.2
	SNR=12						
KBK	**Karagaybulak**	**6.33**	**26**	P	P	22 33 31.6	+0.8
	SNR=6.4						
ULHL	**Ulahol**	**6.51**	**35**	P	P	22 33 32.5	-0.8
	SNR=8.2						
USP	**Ospenovka**	**6.73**	**21**	P	P	22 33 36.1	-0.4
	SNR=6.4						
TKM2	**Tokmak 2**	**6.79**	**28**	P	P	22 33 36.9	-0.4
	SNR=17						

*ISK **29** 22:33:48.4, 40.52N×36.82E, h5km, ML4.2*
*NEIC **29** 22:33:48.0, 40.51N×36.81E, h5km, mb4.1/20, ML4.2(ISK), After ISK.*
*CSEM **29** 22:33:48.7±0.0, 40.59N×36.87E, h10km, mb4.1/17, Error ellipse: s-maj=1.3km s-min=1.2km az=131.0*
*MOS **29** 22:33:49.6±1.0, 40.70N×36.81E, h10km, mb4.3/18, Error ellipse: s-maj=6.1km s-min=4.5km az=125.6*
*IDC **29** 22:33:50.3±1.0, 40.80N×36.80E, mb3.9/9, mb1 3.9/15, mb1mx3.8/25, mbtmp3.8/15, ML3.6/6, MS3.5/7, Ms1 3.5/7, ms1mx3.2/29, Error ellipse: s-maj=15.7km s-min=11.6km az=170.0*

ISC 29 22:33:49.1±0.2, 40.62N±0.02×36.88E±0.02, h10km, n206, σ1∓14/253, mb4.0/25, MS3.6/6, 27C-9D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVSK	**Karacayir**	**0.71**	**173**	*i* PG	Pg	22 34 00.8	-2.6
KVT	**Kavak**	**0.78**	**306**	PG	Pg	22 34 04.5	-0.4
KVT				SG	Sg	22 34 17.1	+1.7
SVST	**Sivas**	**0.85**	**176**	*i* P	Pb	22 34 03.1	-2.4
SVST				*i* S	Sb	22 34 15.6	-1.1
GRSN	**GIRESUNGRSN**	**1.09**	**73**	*i* P	Pb	22 34 08.9	-0.8
GRSN				*i* S	Sb	22 34 24.0	+0.2
YOZ	**Yozgat**	**1.55**	**231**	PN	Pn	22 34 16.8	-0.1
CTKT	**Corum**	**1.59**	**271**	*i* P	Pn	22 34 17.3	-0.2
CTKT				*i* S	Sb	22 34 41.7	+3.4
BOYT	**Boyabat**	**1.70**	**299**	*i* P	Pn	22 34 19.7	+0.6
BOYT				*i* S	Sn	22 34 41.6	+0.7
CORM	**Corum**	**1.78**	**256**	PN	Pn	22 34 19.9	-0.3
CORM				SN	Sn	22 34 44.4	+1.4
BYBT	**Boyabat**	**1.81**	**299**	PN	Pn	22 34 22.8	+2.1
KELT	**Kelkit**	**1.87**	**104**	*i* P	Pn	22 34 21.2	-0.3
KELT				*i* S	Sn	22 34 45.9	+0.5
BNN	**Bunyan**	**1.94**	**205**	PN	Pn	22 34 22.9	+0.4
BNN				SN	Sn	22 34 46.7	-0.4
GUMT	**Gumushane**	**1.98**	**94**	PN	Pn	22 34 25.0	+1.8
CDAG	**Cicekdag**	**2.17**	**243**	*i* P	Pn	22 34 26.0	+0.2
CDAG				*i* S	Sn	22 34 54.6	+1.7
TOS	**Tosya**	**2.21**	**282**	PN	Pn	22 34 28.0	+1.6
MACK	**Trabzon**	**2.21**	**81**	*i* P	Pn	22 34 29.0	+2.5
MACK				*i* S	Sn	22 34 59.4	+5.3
AVNT	**Avonos**	**2.42**	**221**	*i* P	Pn	22 34 29.7	+0.4
AVNT				*i* S	Sn	22 35 07.2	+8.0
BZK	**Bozkurt**	**2.55**	**303**	*e*PN	Pn	22 34 32.7	+1.5
MYA	**Malataya**	**2.58**	**152**	PN	Pn	22 34 32.0	+0.3
PTK	**Pertek**	**2.59**	**131**	*e*PN	Pn	22 34 33.4	+1.5
MALT	**Malatya**	**2.60**	**152**	*e*Pn	Pn	22 34 32.8	+0.9
MALT				*e*Sn	Sn	22 35 08.9	+5.1
BR131	**Keskin Array S**	**2.64**	**251**	*e*Pn	Pn	22 34 32.6	0.0
BR131	**Keskin Array S**	**2.64**	**251**	*e*Pn	Pn	22 34 32.6	+0.1
BR131				*e*Sn	Sb	22 35 13.9	+5.2
BRTR	**Keskin Array B**	**2.64**	**251**	Pn	Pn	22 34 32.6	+0.1
	9.9nm,0.3s,baz=76,slow=14,SNR=308						
BRTR				Pg	Pg	22 34 40.0	-1.9
	17nm,0.3s,baz=84,slow=14,SNR=44						
BRTR				Lg		22 35 15.3	
	9.5nm,0.3s,baz=70,slow=17,SNR=4.0						
BRTR	**Keskin Array B**	**2.64**	**251**	Pg	Pg	22 34 40.0	-1.9
ELZG	**Elazig**	**2.67**	**142**	*i* P	Pn	22 34 32.9	-0.1
ELZG				*i* S	Sn	22 35 13.1	+7.4
KAMT	**Kaman**	**2.74**	**244**	*e*PN	Pn	22 34 34.1	+0.2
BALT	**Daday**	**2.80**	**290**	*i* P	Pn	22 34 35.5	+0.7
BALT				*i* S	Sn	22 35 03.4	-5.5
KAHT	**Ahir Dag**	**2.99**	**180**	*i* P	Pb	22 34 41.7	-0.4
KAHT				*i* S	Sg	22 35 28.7	+0.1
NIG	**Nigde**	**3.06**	**216**	*e*PN	Pn	22 34 39.0	+0.4
ANTO	**Ankara**	**3.22**	**258**	*e*PN	Pn	22 34 40.4	-0.4
LOD	**Lodumlu**	**3.24**	**258**	*e*PN	Pn	22 34 40.4	-0.6
SAFT	**Safranbolu**	**3.24**	**282**	*e*PN	Pn	22 34 41.1	0.0
KOZT	**Kozan**	**3.24**	**195**	*e*PN	Pn	22 34 41.1	0.0
GZT	**Gaziantep**	**3.30**	**171**	*i* P	Pn	22 34 40.3	-1.7
GZT				*i* S	Sg	22 35 44.1	+5.0
ATAB	**Bozova**	**3.33**	**160**	*i* P	Pn	22 34 43.0	+0.7
ATAB				*i* S	Sb	22 35 32.3	+3.5
GAZ	**Gaziantep**	**3.45**	**176**	*e*PN	Pn	22 34 44.6	+0.5
ERZM	**Erzurum**	**3.50**	**100**	*i* P	Pn	22 34 52.5	+7.7
ERZM				*i* S	Sg	22 35 44.6	-1.2
URFA	**Urfa**	**3.52**	**154**	*e*PN	Pn	22 34 44.6	-0.4
SOC	**Sochi**	**3.63**	**35**	*i* P	Pn	22 34 46.7	0.0
	279nm,0.8s						
SOC				*i* S	Sn	22 35 30.7	+0.6
SOC	**Sochi**	**3.63**	**35**	*c* *i* P	Pn	22 34 46.7	0.0
SOC				*i*		22 35 30.7	
SOC				pmax	pmax		
	comp=Z,327nm,0.9s						
SOC				pmax	pmax		
	comp=N,279nm,0.8s						
SOC				pmax	pmax		
	comp=E,387nm,0.9s						
SOC				smax			
	comp=E,557nm,0.8s						
SOC				MLR	MLR		
	comp=N,573nm,13.0s						
SOC				MLR	MLR		
	comp=E,384nm,13.0s						
SOC				MLR	MLR		
	comp=Z,494nm,13.0s						
KARA	**Karaisali**	**3.65**	**204**	*e*PN	Pn	22 34 46.7	-0.1
BNGL	**BINGOL**	**3.69**	**116**	*i* P	Pg	22 34 58.3	-4.4
BNGL				*i* S	Sg	22 35 49.5	-2.4
CEYT	**Ceyhan**	**3.71**	**194**	*e*PN	Pn	22 34 48.1	+0.3
ARTV	**Artvin**	**3.86**	**80**	*i* P	Pn	22 34 52.6	+2.7
ARTV				*i* S	Sn	22 35 33.5	-2.5
MERS	**Mersin**	**4.18**	**207**	*e*PN	Pn	22 34 54.3	-0.1
ANN	**Anapa**	**4.20**	**5**	*e*P	Pn	22 34 57.0	+2.3
	comp=Z,11nm,0.8s						
ANN	**Anapa**	**4.20**	**5**	*e*P	Pn	22 34 57.0	+2.3
ANN				*e*S	Sn	22 35 50.4	+6.1
ANN				pmax	pmax		
	comp=Z,11nm,0.8s						
KIZT	**Kizilcal**	**4.23**	**247**	*e*PN	Pn	22 34 55.0	-0.1
KDHN	**Kadinhani**	**4.24**	**242**	*i* P	Pb	22 35 02.2	-1.3
KDHN				*i* S	Sb	22 35 56.9	+1.8
BTMT	**Batman**	**4.31**	**123**	*e*PN	Pn	22 34 55.7	-0.6
MDU	**Mudurnu**	**4.32**	**270**	*e*PN	Pn	22 34 56.8	+0.3
BEST	**Besiri**	**4.36**	**127**	*i* P	Pg	22 35 08.1	-8.1
BEST				*i* S	Sg	22 36 04.5	-10
KONT	**Konya--Tatoy**	**4.41**	**234**	*e*PN	Pn	22 34 57.1	-0.6
SLMH	**Al Salmeh**	**4.48**	**169**	⇑*i*P	Pn	22 34 51.8	-6.9
MARD	**Mardin**	**4.49**	**136**	*i* P	Pn	22 34 59.5	+0.7
MARD				*i* S	Sg	22 36 10.8	-7.6
HTY	**Hatay**	**4.53**	**188**	*e*PN	Pn	22 34 58.5	-0.9
KARS	**Kars**	**4.72**	**88**	*e*PN	Pn	22 35 04.1	+1.9
ESKT	**Eskisehir**	**4.76**	**259**	*i* P	Pn	22 35 00.1	-2.6
ESKT				*i* S	Sg	22 36 24.2	-3.3
ESKT	**Eskisehir**	**4.76**	**259**	*e*Pn	Pn	22 35 03.4	+0.8
SIM	**Simferopol'**	**4.78**	**336**	*e*P	Pn	22 35 03.4	+0.4
	comp=Z,24nm,0.8s						
SIM				*e*S	Sn	22 35 59.0	-0.1
	comp=Z,64nm,1.0s						
SIM	**Simferopol'**	**4.78**	**336**	*e*P	Pn	22 35 03.4	+0.4
SIM				*e*S	Sn	22 35 59.0	-0.1
SIM				pmax	pmax		
	comp=Z,24nm,0.8s						
SIM				smax			
	comp=N,64nm,1.0s						
SIM				smax			
	comp=E,69nm,0.9s						
HDMB	**Hadim**	**5.01**	**225**	*e*PN	Pn	22 35 06.2	0.0
IKL	**Isikli**	**5.04**	**211**	*e*PN	Pn	22 35 06.2	-0.5
ERMK	**Ermenek**	**5.04**	**219**	*i* P	Pn	22 35 10.9	+4.2
ERMK				*i* S	Sg	22 36 28.3	-8.8
AKH	**Akhalkalaki**	**5.06**	**79**	P	Pn	22 35 12.1	+5.1
BKR	**Bakuriani**	**5.12**	**75**	P	Pn	22 35 09.6	+1.9
ONI	**Oni**	**5.30**	**66**	P	Pn	22 35 10.4	+0.2
ONI				S	Sn	22 36 13.0	+0.9
KIV	**Kislovodsk**	**5.44**	**50**	*e*P	Pn	22 35 12.7	+0.4
	comp=E,37nm,0.5s						
KIV				*e*S	Sn	22 36 16.6	+0.9
KIV	**Kislovodsk**	**5.44**	**50**	*e*Pn	Pn	22 35 12.7	+0.4
	comp=E,37nm,0.5s						
KIV				*e*Sn	Sn	22 36 16.6	+0.9
KIV	**Kislovodsk**	**5.44**	**50**	*e*P	Pn	22 35 12.7	+0.4
KIV				*e*		22 36 16.6	
KIV				pmax	pmax		
	comp=Z,37nm,0.5s						
CLDR	**Caldiran**	**5.61**	**103**	*e*PN	Pn	22 35 16.7	+2.1
ISP	**Isparta**	**5.67**	**243**	*e*PN	Pn	22 35 16.0	+0.5
ISP	**Isparta**	**5.67**	**243**	*e*P	Pn	22 35 23.9	+8.3
ZEI	**Tsey**	**5.67**	**65**	*e*P	Pn	22 35 13.5	-2.0
	comp=Z,20nm,0.1s						
ZEI	**Tsey**	**5.67**	**65**	*e*P	Pn	22 35 13.5	-2.0
ZEI				*e*		22 36 18.3	
ZEI				pmax	pmax		
	comp=Z,16nm,0.1s						
ZEI				pmax	pmax		
	comp=Z,20nm,0.1s						
ZEI				smax			
	comp=E,25nm,0.1s						
ZEI				smax			
	comp=E,32nm,0.2s						
GDZ	**Gediz**	**5.90**	**257**	*i* P	Pn	22 35 29.0	+10
GDZ				*i* S	Sg	22 37 12.1	+6.6
GNI	**Garni**	**6.02**	**92**	Lg		22 37 07.0	
	baz=262,slow=15,SNR=2.3						
GNI				LR	LR	22 38 30.8	
	comp=E,113nm,20.7s,baz=300,slow=46						
GNI	**Garni**	**6.02**	**92**	*e*Pn	Pn	22 35 21.6	+1.2
GNI				*e*Sn	Sn	22 36 27.3	-2.9
TBLG	**Delisi**	**6.03**	**77**	P	Pn	22 35 24.2	+3.6
TBLG				S	Sg	22 37 04.4	-5.4
TI2	**Plekhanov**	**6.04**	**77**	*i* P	Pn	22 35 25.6	+4.9
TI2				MLR	MLR		
	comp=E,1μm,6.0s						
TI2				MLR	MLR		
	comp=Z,1μm,6.0s						
HAKT	**HAKKARI**	**6.12**	**118**	*i* P	Pg	22 35 40.3	-11
HAKT				*i* S	Sg	22 37 16.2	+3.2
CSS	**Prodhromos**	**6.31**	**208**	Pn	Pn	22 35 16.2	-8.3

comp=Z,10.0nm,1.0s
AKASG **Malin Array Be** 11.41 335 Pn P 22 36 29.8 -5.3
comp=Z,1.4nm,0.3s,baz=148,slow=13,SNR=5.5
AKASG Sn S 22 38 31.9 -12
comp=Z,0.3nm,0.3s,baz=150,slow=24,SNR=4.4
GVD **Gavdhos** 11.66 244 *e*Pn P 22 36 26.9 -12
GVD *e*Sn S 22 38 35.6 -14
DRGR 11.96 306 ⇑P P 22 36 34.1 -8.5
DRGR 11.96 306 ⇑*i*P P 22 36 34.1 -8.5
KWP **Kalwaria** 13.45 317 *e*Pn P 22 37 05.5 +3.0
PSZ **Piszkesteto** 14.17 307 *e*Pn P 22 37 10.1 -1.8
PSZ **Piszkesteto** 14.17 307 *e*Pn P 22 37 10.1 -1.8
OBN **Obninsk** 14.50 359 *i* P P 22 37 17.4 +1.2
comp=Z,11nm,1.2s
OBN *e*S S 22 39 56.2 -1.8
comp=Z,200nm,20.0s
OBN **Obninsk** 14.50 359 *e*Pn P 22 37 15.8 -0.4
OBN **Obninsk** 14.50 359 ⇑*i*P P 22 37 17.4 +1.2
OBN *e*S S 22 39 56.2 -1.8
OBN pmax pmax
comp=Z,11nm,1.2s
OBN MLR MLR
comp=Z,200nm,20.0s
TIP **Timpagrande** 15.52 271 *e*Pn P 22 37 30.2 +0.7
TIP **Timpagrande** 15.52 271 *e*Pn P 22 37 30.2 +0.7
MORC **Moravsky Berou** 16.38 310 *e*Pn P 22 37 37.1 -3.5
MORC **Moravsky Berou** 16.38 310 *e*Pn P 22 37 37.1 -3.4
VRAC **Vranov** 16.74 308 Pn P 22 37 44.1 -1.1
comp=Z,0.1nm,0.3s,baz=92,slow=4.4,SNR=2.8
MOA **Molln** 17.71 302 ⇑*i*P P 22 37 56.7 -0.5
comp=Z,9.6nm,1.6s
GERES **GERESS Array B** 18.36 304 P P 22 38 05.8 +0.4
comp=Z,0.1nm,0.3s,baz=111,slow=11,SNR=8.2
CLL **Collm** 19.65 311 ⇓P P 22 38 19.4 -1.3
comp=Z,logA/T=1.0
CLL **Collm** 19.65 311 ⇓*i*P P 22 38 19.4 -1.3
comp=Z,16nm,1.7s
CLL **Collm** 19.65 311 ⇓*i*P P 22 38 19.4 -1.3
CLL pmax pmax
comp=Z,16nm,1.7s
MOTA **Moosalm** 19.68 299 ⇑*i*P P 22 38 20.6 -0.4
comp=Z,5.3nm,1.0s
MOTA **Moosalm** 19.68 299 ⇑*i*P P 22 38 20.6 -0.4
MOTA pmax pmax
comp=Z,5.0nm,1.0s
MOX **Moxa** 20.22 308 *e*P P 22 38 26.0 -0.9
MOX *e* 22 38 32.0
DAVOX **Davos** 20.41 297 P P 22 38 27.6 -1.3
comp=Z,2.8nm,0.7s,baz=128,slow=5.1,SNR=4.0
DAVOX LR LR 22 46 29.6
comp=Z,53nm,19.8s,MS2.9,baz=185,slow=37
DAVA **Damuels** 20.49 298 ⇑*i*P P 22 38 29.1 -0.6
comp=Z,15nm,1.1s
PGF **Pioggiola** 20.91 284 *e*P P 22 38 34.9 +0.8
comp=Z,78nm,1.4s
PGF **Pioggiola** 20.91 284 *e*P P 22 38 34.9 +0.8
PGF pmax pmax
comp=Z,39nm,1.4s
ARU **Arti** 21.22 35 *i* P P 22 38 37.7 +0.6
comp=Z,10.0nm,0.8s,mb4.2
ARU **Arti** 21.22 35 ⇑*i*P P 22 38 37.7 +0.6
ARU *e* 22 38 59.4
ARU *e*S S 22 42 36.1 +8.1
ARU *e*SS SS 22 42 57.3 -4.3
ARU pmax pmax
comp=Z,10.0nm,0.8s,mb4.2
ARU MLR MLR
comp=Z,100nm,18.0s,MS3.2
ARU MLR MLR
comp=N,50nm,14.0s
ARU MLR MLR
comp=E,100nm,21.0s
FINES **FINESS Array B** 21.87 346 P P 22 38 43.8 +0.1
comp=E,4.7nm,0.9s,mb3.9,baz=135,slow=8.1,SNR=9.3
FINES **FINESS Array B** 21.87 346 *i* P P 22 38 44.2 +0.6
FINES pmax pmax
comp=Z,5.0nm,0.9s
SBF **Sospel** 21.99 288 *e*P P 22 38 45.1 +0.2
comp=Z,43nm,1.2s,mb4.4
SBF **Sospel** 21.99 288 *e*P P 22 38 45.1 +0.2
SBF pmax pmax
comp=Z,21nm,1.3s,mb4.4
CDF **Champ du Feu** 22.40 300 *e*P P 22 38 49.2 +0.2
MBDF **Montbardon** 22.45 291 *e*P P 22 38 50.1 +0.6
comp=Z,6.1nm,0.8s,mb3.8
MBDF **Montbardon** 22.45 291 *e*P P 22 38 50.1 +0.6
MBDF pmax pmax
comp=Z,3.0nm,0.8s,mb3.8
KAF **Kangasniemi** 22.45 347 *e*p P 22 38 50.5 +1.1
LPG **La Plagne** 22.48 293 *e*P P 22 38 50.3 +0.5
comp=Z,5.2nm,0.8s,mb3.7
LPG **La Plagne** 22.48 293 *e*P P 22 38 50.3 +0.5
LPG pmax pmax
comp=Z,3.0nm,0.8s,mb3.8
LPL **La Plagne** 22.49 293 *e*P P 22 38 50.0 +0.1
comp=Z,2.4nm,0.6s,mb3.5
LPL **La Plagne** 22.49 293 *e*P P 22 38 50.0 +0.1
LPL pmax pmax
comp=Z,1.0nm,0.6s,mb3.4
JOF **Joensuu** 22.58 353 *e*p P 22 38 51.7 +1.2
HINF **Hinteralfeld** 22.59 299 *e*P P 22 38 50.5 -0.3
LMR **La Mourre** 22.68 287 *e*P P 22 38 52.4 +0.6
comp=Z,4.7nm,0.8s,mb3.7
LMR **La Mourre** 22.68 287 *e*P P 22 38 52.4 +0.6
LMR pmax pmax
comp=Z,2.0nm,0.8s,mb3.6
HAU **Haudompre** 22.95 299 *e*P P 22 38 54.1 -0.3
CABF **La Chapelle** 22.99 295 *e*P P 22 38 54.8 0.0
comp=Z,16nm,1.1s,mb4.1
CABF **La Chapelle** 22.99 295 *e*P P 22 38 54.8 0.0
CABF pmax pmax
comp=Z,8.0nm,1.1s,mb4.1
ORIF **Oris-en-Rattie** 23.09 291 *e*P P 22 38 55.8 +0.1
comp=Z,17nm,1.1s,mb4.1
ORIF **Oris-en-Rattie** 23.09 291 *e*P P 22 38 55.8 +0.1
ORIF pmax pmax
comp=Z,9.0nm,1.1s,mb4.1
VIVF **Saint-Julien-l** 23.94 291 *e*P P 22 39 04.1 +0.1
HFS **Hagfors** 24.27 331 P P 22 39 08.4 +1.4
comp=Z,6.6nm,0.9s,mb4.0,baz=131,slow=13,SNR=4.1
SMF **Signal de Mont** 24.54 295 *e*P P 22 39 09.9 +0.1
LASF **Ste Croix** 24.56 289 *e*P P 22 39 10.5 +0.5
LOR **Lormes** 24.56 297 *e*P P 22 39 10.1 +0.1
comp=Z,6.2nm,0.9s,mb3.9
LOR **Lormes** 24.56 297 *e*P P 22 39 10.1 +0.1
LOR pmax pmax
comp=Z,3.0nm,0.9s,mb3.8
SSF **Saint Saulge** 24.79 296 *e*P P 22 39 12.3 +0.1
AVF **Avril sur Loir** 24.88 296 *e*P P 22 39 13.0 -0.1
comp=Z,20nm,1.2s,mb4.2
AVF **Avril sur Loir** 24.88 296 *e*P P 22 39 13.0 -0.1
AVF pmax pmax
comp=Z,10.0nm,1.2s,mb4.2
BGF **Bois d'Agland** 25.22 295 *e*P P 22 39 16.7 +0.3
TCF **Toulx Ste Croi** 25.66 294 *e*P P 22 39 20.5 0.0
comp=Z,9.1nm,1.0s,mb4.0
TCF **Toulx Ste Croi** 25.66 294 *e*P P 22 39 20.5 0.0
TCF pmax pmax
comp=Z,5.0nm,1.0s,mb4.0
BRVK **Borovoye** 25.76 50 *e*P P 22 39 22.0 +0.7
BRVK **Borovoye** 25.76 50 *e*P P 22 39 22.0 +0.7
NB2 **NORSAR Subarra** 25.78 331 P P 22 39 23.6 +2.1
comp=Z,8.4nm,1.2s,mb4.2,baz=135,slow=9.3
NB2 **NORSAR Subarra** 25.78 331 P P 22 39 23.6 +2.1
NB2 pmax pmax
comp=Z,8.0nm,1.2s,mb4.1
NOA **NORSAR Array B** 25.78 331 P P 22 39 20.6 -0.9
comp=Z,0.9nm,0.7s,mb3.4,baz=125,slow=10,SNR=2.6
MTLF **Montolieu** 25.80 288 *e*P P 22 39 22.4 +0.6
comp=Z,1.6nm,0.7s,mb3.4
MTLF **Montolieu** 25.80 288 *e*P P 22 39 22.4 +0.6
MTLF pmax pmax
comp=Z,1.0nm,0.7s,mb3.5
BVAR **Borovoye Array** 25.81 50 P P 22 39 23.0 +1.2
comp=Z,2.2nm,0.9s,mb3.7,baz=259,slow=7.6,SNR=6.9
EPF **Esparros** 27.20 287 *e*P P 22 39 35.9 +1.2
MFF **Saint Martin d** 27.29 295 *e*P P 22 39 33.3 -2.2
comp=Z,12nm,1.0s,mb4.1
MFF **Saint Martin d** 27.29 295 *e*P P 22 39 33.3 -2.2
MFF pmax pmax
comp=Z,6.0nm,1.0s,mb4.1
LDF **La Druitiere** 27.31 299 *e*P P 22 39 35.8 +0.2
GRR **Gorron** 27.79 299 *e*P P 22 39 37.7 -2.3
comp=Z,12nm,1.0s,mb4.2
GRR **Gorron** 27.79 299 *e*P P 22 39 37.7 -2.3
GRR pmax pmax
comp=Z,6.0nm,1.0s,mb4.2
ETSF **Etsaut** 27.88 287 *e*P P 22 39 41.6 +0.8
SGMF **Saint Gilles** 28.92 299 *e*P P 22 39 50.4 +0.2
comp=Z,8.0nm,0.8s,mb4.2
SGMF **Saint Gilles** 28.92 299 *e*P P 22 39 50.4 +0.2
SGMF pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
ARCES **ARCESS Array B** 29.59 352 P P 22 39 56.1 0.0
comp=Z,2.1nm,0.7s,mb4.0,baz=172,slow=8.6,SNR=6.8
ARCES LR LR 22 53 53.5
comp=Z,128nm,18.6s,MS3.6,baz=71,slow=41
KURK **Kurchatov** 30.49 57 *e*P P 22 40 04.2 0.0
KURK **Kurchatov** 30.49 57 *e*P P 22 40 04.2 0.0
MKAR **Makanchi Array** 33.03 64 P P 22 40 26.6 +0.1
comp=Z,2.4nm,1.0s,mb4.1,baz=297,slow=8.1,SNR=5.7
NVS **Novosibirsk** 33.60 49 *e*P P 22 40 30.6 -0.7
ZAL **Zalesovo** 34.45 51 P P 22 40 38.5 -0.1
comp=Z,1.0nm,0.5s,mb4.0,baz=200,slow=6.3,SNR=4.8
ZAK **Zakamensk** 46.11 54 *e*P P 22 42 13.8 -1.1
comp=Z,1.0nm,0.9s,mb3.8
ZAK **Zakamensk** 46.11 54 *e*P P 22 42 13.8 -1.1
ZAK pmax pmax
comp=Z,1.0nm,0.9s,mb3.8
SONM **Songino Array** 48.80 57 P P 22 42 36.3 +0.3
comp=Z,0.9nm,0.6s,mb4.0,baz=285,slow=8.6,SNR=8.8
SONM LR LR 23 05 23.3
comp=Z,64nm,19.4s,MS3.6,baz=0.9,slow=39
BOD **Bodaibo** 50.31 43 *e*P P 22 42 46.9 -0.6
comp=Z,4.0nm,0.9s,mb4.5
BOD **Bodaibo** 50.31 43 *e*P P 22 42 46.9 -0.6
BOD pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
BOSA **Boshof** 69.72 191 LR LR 23 14 48.2
comp=Z,142nm,18.7s,MS4.2,baz=262,slow=35
YKA **Yellowknife Ar** 74.70 347 LR LR 23 19 52.8
comp=Z,57nm,18.7s,MS3.9,baz=120,slow=37

*CASC **29** 22:47:24.0±2.5, 12.71N×88.49W, h71km±47km, MD4.1, ML4.0, mb3.9(NEIC)*
*IDC **29** 22:47:29.2±5.6, 13.18N×88.03W, h113km±52km, mb3.8/10, mb1 4.0/11, mb1mx3.8/23, mbtmp4.2/11, MS3.1/2, Ms1 3.1/2, ms1mx2.8/28, Error ellipse: s-maj=40.2km s-min=15.7km az=52.0*
*NEIC **29** 22:47:31.2±0.5, 13.18N×87.96W, h135km, mb3.9/5, Error ellipse: s-maj=22.6km s-min=9.0km az=54.0*
ISC 29 22:47:24.4±0.5, 12.89N±0.10×88.35W±0.06, h96km±4km, n57, σ1§03/47, mb4.1/14, 9C-19D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSM	**San Miguel**	**0.54**	**8**	⇓*i*P	Px	22 47 47.3	
VSM				*e*S	Sx	22 48 00.4	
BLLM	**Bellamira**	**0.56**	**11**	⇓*e*P	Px	22 47 47.1	
BLLM				*e*S	Sx	22 47 59.9	
CNCH	**Conchagua**	**0.63**	**53**	⇓*e*P	Px	22 47 47.9	
CNCH				*e*S	Sx	22 48 00.9	
SNVI	**San Vicente**	**0.86**	**327**	⇑*e*P	Px	22 47 49.4	
SNVI				*e*S	Sx	22 48 02.4	
CAHU	**Cacacuatique**	**0.89**	**9**	⇑*e*P	Px	22 47 51.8	
CAHU				*e*S	Sx	22 48 08.1	
LCBS	**La Ceiba**	**0.97**	**321**	⇓*e*P	Px	22 47 50.5	
LCBS				*e*S	Sx	22 48 04.8	
LFRS	**El Faro**	**1.00**	**317**	⇑*i*P	Px	22 47 50.5	
LFRS				*e*S	Sx	22 48 07.6	
LBRS	**Las Brisas**	**1.08**	**321**	⇓*e*P	Px	22 47 52.2	
LBRS				*e*S	Sx	22 48 07.4	
LFU	**La Fuente**	**1.13**	**319**	⇓*e*P	Px	22 47 52.7	
LFU				*e*S	Sx	22 48 09.9	
SNET	**Serv Nac Est T**	**1.17**	**313**	⇓*e*P	Px	22 47 52.8	
SNET				*e*S	Sx	22 48 08.0	
SNET				*e*		22 48 10.6	
	comp=Z,7μm,0.3s						
PICS	**Picacho**	**1.22**	**314**	⇓*e*P	**P**	**22 47 47.5**	**0.0**
PICS				*e*S	**S**	**22 48 05.3**	**+0.7**
BOQS	**Boqueron**	**1.23**	**313**	⇑*e*P	Px	22 47 53.7	
BOQS				*e*S	Sx	22 48 10.4	
CRIN	**San Cristobal**	**1.28**	**98**	⇓*e*P	**P**	**22 47 48.7**	**+0.4**
CRIN				*e*S	**S**	**22 48 06.8**	**+0.8**
LEON	**Leon**	**1.50**	**108**	⇓*e*P	**P**	**22 47 49.8**	**-1.0**
TEL3	**Telica 3**	**1.50**	**102**	⇓*e*P	**P**	**22 47 50.8**	**-0.1**
TEL3				*e*S	**S**	**22 48 11.7**	**+1.2**
TELN	**Telica**	**1.51**	**101**	⇓*e*P	**P**	**22 47 50.9**	**0.0**
SBLS	**San Blas**	**1.56**	**307**	⇓*e*P	Px	22 47 58.6	
SBLS				*e*S	Sx	22 48 19.6	
SNJE	**San Jose**	**1.56**	**309**	⇑*e*P	Px	22 47 58.1	
SNJE				*e*S	Sx	22 48 19.3	
RTR	**El Retiro**	**1.61**	**309**	⇓*e*P	Px	22 47 59.4	
RTR				*e*S	Sx	22 48 19.1	
CNGN	**Cerro Negro**	**1.66**	**103**	⇓*e*P	**P**	**22 47 52.6**	**-0.2**
MIRN	**Miramar**	**1.66**	**105**	⇓*e*P	**P**	**22 47 52.8**	**-0.1**
MOMJ	**Momotombo**	**1.83**	**105**	⇓*e*P	**P**	**22 47 55.0**	**-0.1**
COPN	**Copaltepe**	**1.86**	**112**	⇑*e*P	**P**	**22 47 54.8**	**-0.6**
COPN				*e*S	**S**	**22 48 17.9**	**-0.4**
XAVN	**Gruta Xavier**	**2.11**	**110**	⇓*e*P	**P**	**22 47 58.9**	**+0.1**
MGAN	**Managua**	**2.18**	**110**	⇑*e*P	**P**	**22 47 59.8**	**0.0**
MGAN				*e*S	**S**	**22 48 25.9**	**-0.2**
MGAN				*e*S	**S**	**22 48 25.9**	**-0.1**
	comp=E,996nm,0.3s						
MGAN				*i*		22 48 32.4	
	comp=N,866nm,0.5s						
WILN	**Americas 2**	**2.23**	**109**	*e*S	**S**	**22 48 27.1**	**-0.2**
TICN	**Ticuantepe**	**2.24**	**112**	⇓*e*P	**P**	**22 48 00.8**	**+0.2**
PYTN	**Playitas**	**2.27**	**99**	⇑*e*P	**P**	**22 48 01.3**	**+0.4**
IXG	**Ixpaco**	**2.41**	**302**	*e*P	**P**	**22 48 00.3**	**-2.6**
MRL	**Marmol**	**2.52**	**329**	⇑*e*P	**P**	**22 48 04.0**	**-0.4**
FUG	**Fuego 3**	**2.87**	**303**	*e*P	**P**	**22 48 07.2**	**-2.1**
SSNN	**San Juan del S**	**2.92**	**123**	*e*P	**P**	**22 48 09.9**	**0.0**
CONN	**Concepcion**	**2.97**	**116**	*e*P	**P**	**22 48 10.2**	**-0.5**
TP2	**Tecpan 2**	**3.20**	**306**	*e*P	**P**	**22 48 13.3**	**-0.6**
TP2				*e*S	**S**	**22 48 52.7**	**+1.6**
ROSC	**El Rosal**	**15.98**	**119**	LR	LR	22 57 59.3	
	comp=N,21nm,19.2s,baz=358,slow=40						
SDV	**Santo Domingo**	**17.85**	**101**	P	**P**	**22 51 28.6**	**+0.6**
	comp=N,0.4nm,0.3s,baz=292,slow=5.4,SNR=5.6						
SDV	**Santo Domingo**	**17.85**	**101**	*e*Pn	**P**	**22 51 28.7**	**+0.7**
	comp=N,3.4nm,0.8s						
TXAR	**Lajitas Array**	**21.68**	**321**	P	**P**	**22 52 10.1**	**+1.5**
	comp=N,2.2nm,0.5s,mb3.8,baz=136,slow=11,SNR=14						
WMOK	**Wichita Mounta**	**23.72**	**338**	*e*P	**P**	**22 52 30.1**	**+1.8**
	comp=N,4.3nm,0.9s,mb3.8						
NNA	**Nana**	**27.23**	**155**	P	**P**	**22 53 03.9**	**+2.3**
SDCO	**Great Sand Dun**	**29.10**	**331**	*e*P	**P**	**22 53 20.1**	**+1.9**
	comp=N,2.4nm,0.8s,mb3.9						
SAML	**Samuel**	**33.10**	**130**	*e*P	**P**	**22 53 53.2**	**-0.2**
	comp=N,1.4nm,0.9s,mb3.8						
PDAR	**Pinedale Array**	**34.97**	**332**	P	**P**	**22 54 10.4**	**+1.2**
	comp=N,1.1nm,0.5s,mb3.9,baz=132,slow=13,SNR=9.4						
PDAR				PcP	PcP	22 56 40.2	+0.4
	comp=N,0.4nm,0.6s,baz=135,slow=4.2,SNR=4.0						
ULM	**Lac du Bonnet**	**37.76**	**352**	P	**P**	**22 54 32.0**	**-0.5**
	comp=N,6.8nm,0.5s,mb4.7,baz=166,slow=9.2,SNR=14						
ULM				LR	LR	23 11 41.3	
	comp=N,80nm,18.5s,baz=307,slow=39						
SIV	**San Ignacio**	**39.39**	**136**	P	**P**	**22 54 47.5**	**+1.1**
	comp=N,1.5nm,0.7s,mb3.9,baz=312,slow=9.0,SNR=8.8						
SIV				PcP	PcP	22 56 54.6	+1.1
	comp=N,0.4nm,0.5s,baz=353,slow=8.1,SNR=3.8						
SCHQ	**Schefferville**	**45.12**	**17**	P	**P**	**22 55 31.9**	**-0.7**
	comp=N,5.0nm,0.8s,mb4.3,baz=208,slow=6.2,SNR=7.0						
FCC	**Fort Churchill**	**45.99**	**356**	*e*P	**P**	**22 55 39.5**	**+0.1**
	comp=N,7.0nm,0.4s,mb4.7						
CPUP	**Villa Florida**	**49.30**	**142**	*e*P	**P**	**22 56 05.1**	**-0.6**
YKA	**Yellowknife Ar**	**52.96**	**345**	P	**P**	**22 56 30.5**	**-2.5**
	comp=N,2.7nm,0.7s,mb4.4,baz=138,slow=8.3,SNR=7.5						
DLBC	**Dease Lake**	**55.14**	**335**	P	**P**	**22 56 50.5**	**+1.6**
	comp=N,5.4nm,0.7s,mb4.7,baz=150,slow=6.7,SNR=8.1						
DLBC	**Dease Lake**	**55.14**	**335**	*e*P	**P**	**22 56 47.9**	**-1.0**
INK	**Inuvik**	**62.52**	**343**	P	**P**	**22 57 39.5**	**-0.4**
	comp=N,2.5nm,0.6s,mb4.3,baz=114,slow=9.7						
ILAR	**Eielson Array**	**65.27**	**336**	P	**P**	**22 57 57.5**	**-0.3**
	comp=N,2.1nm,0.9s,mb4.0,baz=110,slow=4.4,SNR=11						
EKA	**Eskdalemuir Ar**	**76.78**	**36**	P	**P**	**22 59 04.9**	**-2.0**
	comp=N,1.2nm,1.0s,mb3.6,baz=259,slow=4.3,SNR=3.7						
ESLA	**Sonseca Array**	**77.61**	**52**	*e*P	**P**	**22 59 08.5**	**-3.4**
WRAB	**Tennant Creek**	**138.53**	**254**	PKPdf	PKPdf	23 06 43.1	+3.4
WRA	**Warramunga Arr**	**138.54**	**254**	PKP	PKPdf	23 06 45.0	+5.2
	comp=N,1.0nm,0.4s,baz=90,slow=2.5,SNR=11						

*CSEM **29** 23:05:51.5±0.7, 39.09N×28.84W, h5km, ML1.5, Error ellipse: s-maj=7.6km s-min=5.5km az=101.0, After PDA*
*PDA **29** 23:05:51.5±0.7, 39.09N×28.84W, h5km, MD3.5, ML1.5, Error ellipse: s-maj=7.6km s-min=5.5km az=101.0*
SVSA 29 23:05:51.5±0.7, 39.09N×28.84W, h5km, MD3.5, ML1.5, Error ellipse: s-maj=7.6km s-min=5.5km az=101.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.47**	**167**	*e*P	Pg	23 05 59.7	-1.2
PCED				*e*S	Sg	23 06 05.7	-1.6
	16nm,0.1s						
CALA	**Caldeira**	**0.52**	**168**	*e*P	Pg	23 06 00.8	-1.1
CALA				*e*S	Sg	23 06 07.3	-1.5
PICO	**Pico**	**0.67**	**151**	*e*P	Pg	23 06 02.5	-2.4
PICO				*e*S	Sg	23 06 11.3	-2.5
PMAN	**Manadas**	**0.74**	**128**	*e*S	Sg	23 06 12.9	-3.3
	6.3nm,0.2s						

*MOS **29** 23:15:03.0±1.3, 52.61N×160.24E, h32km, mb4.4/1, Error ellipse: s-maj=25.2km s-min=11.9km az=86.5*
*KRSC **29** 23:15:04.5±0.9, 52.74N×160.12E, h22km±3km, ML4.3*
ISC 29 23:15:04.2±0.8, 52.71N±0.03×160.19E±0.05, h28km±4km, n40, σ0§99/79, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.40**	**345**	P	**Pb**	**23 15 12.7**	**-0.2**
SPN				S	**Sb**	**23 15 18.9**	**+0.1**
SPN	**Mys Shipunski**	**0.40**	**345**	*i* P	**Pb**	**23 15 12.9**	**0.0**
SPN				*e*S	**Sb**	**23 15 19.0**	**+0.2**
NLC	**Nalytchevo**	**0.69**	**312**	P	**Pb**	**23 15 17.1**	**-0.5**
NLC				S	**Sb**	**23 15 26.5**	**-0.3**
NLC	**Nalytchevo**	**0.69**	**312**	*i* P	**Pb**	**23 15 17.1**	**-0.5**
NLC				*e*S	**Sb**	**23 15 26.8**	**0.0**
UGLR	**Uglovaya**	**0.97**	**301**	*i* P	**Pn**	**23 15 21.9**	**-0.2**
UGLR				*e*S	**Sb**	**23 15 35.3**	**+0.7**
SDLR	**Sedlovina**	**0.97**	**306**	*i* P	**Pn**	**23 15 21.8**	**-0.4**
SDLR				*e*S	**Sb**	**23 15 34.0**	**-0.9**
PET	**Petropavlovsk**	**0.98**	**289**	P	**Pn**	**23 15 21.9**	**-0.4**
PET				S	**Sb**	**23 15 34.8**	**-0.4**
PET	**Petropavlovsk**	**0.98**	**289**	*e*P	**Pn**	**23 15 21.9**	**-0.4**
PET				*e*S	**Sb**	**23 15 34.7**	**-0.5**
SMAR	**Somma**	**1.01**	**304**	*e*P	**Pn**	**23 15 22.2**	**-0.4**
SMAR				*e*S	**Sb**	**23 15 36.1**	**+0.3**
AVH	**Avacha**	**1.04**	**303**	*e*P	**Pn**	**23 15 23.0**	**-0.1**
AVH				*e*S	**Sb**	**23 15 36.3**	**-0.5**
RUS	**Russkaya**	**1.06**	**255**	P	**Pn**	**23 15 23.1**	**-0.4**
RUS				S	**Sb**	**23 15 37.4**	**-0.1**
RUS	**Russkaya**	**1.06**	**255**	*e*P	**Pn**	**23 15 22.8**	**-0.7**
RUS				*e*S	**Sb**	**23 15 37.4**	**-0.1**
KOK	**Koryaka**	**1.10**	**302**	*e*P	**Pn**	**23 15 23.8**	**-0.3**
KOK				*e*S	**Sn**	**23 15 38.7**	**+0.2**
KRMR	**Karymshinskiy**	**1.26**	**276**	*e*P	**Pn**	**23 15 25.8**	**-0.5**
KRMR				*i* S	**Sn**	**23 15 41.7**	**-0.7**
GRL	**Gorelyy**	**1.30**	**264**	*i* P	**Pn**	**23 15 27.4**	**+0.5**
GRL				*e*S	**Sn**	**23 15 43.6**	**+0.1**
KII	**Karymskiy**	**1.40**	**342**	*e*P	**Pn**	**23 15 28.8**	**+0.6**
KII				*i* S	**Sn**	**23 15 45.6**	**-0.3**
GNL	**Ganaly**	**1.67**	**307**	*e*P	**Pn**	**23 15 32.9**	**+0.7**
GNL				*e*S	**Sn**	**23 15 53.0**	**+0.1**
APC	**Apacha**	**1.85**	**278**	*e*P	**Pn**	**23 15 35.6**	**+0.8**
APC				*e*S	**Sn**	**23 15 58.5**	**+1.0**
APC				Smax			
	450nm,0.7s						
MKZ	**Mys Kozlova**	**2.06**	**26**	P	**Pn**	**23 15 36.7**	**-1.0**
MKZ				S	**Sn**	**23 16 00.0**	**-2.7**
MKZ	**Mys Kozlova**	**2.06**	**26**	*e*P	**Pn**	**23 15 35.6**	**-2.1**
MKZ				*e*S	**Sn**	**23 16 00.3**	**-2.4**
MIPR	**Malaya Ipel'ka**	**2.15**	**260**	*e*P	**Pn**	**23 15 39.8**	**+0.8**
MIPR				*e*S	**Sn**	**23 16 05.1**	**+0.2**
PAU	**Pauzhetka**	**2.43**	**240**	*i* P	**Pn**	**23 15 44.1**	**+1.0**
PAU				*e*S	**Sn**	**23 16 12.7**	**+0.5**
PAU				Smax			
	390nm,0.3s						
TUMR	**Tumrok**	**2.57**	**359**	*e*P	**Pn**	**23 15 45.5**	**+0.4**
TUMR				*e*S	**Sn**	**23 16 15.5**	**-0.3**
KMNR	**Kamenistaya**	**3.05**	**0**	*e*P	**Pn**	**23 15 52.6**	**+0.8**
KMNR				*e*S	**Sn**	**23 16 28.7**	**+0.9**
SKR	**Severo-Kuril's**	**3.25**	**233**	*e*PN	**Pn**	**23 15 52.0**	**-2.7**
SKR				*e*S	**Sn**	**23 16 30.0**	**-2.9**
SKR				pmax	pmax		
	comp=Z,40nm,0.4s						
SKR				smax			
	comp=N,80nm,0.5s						
SKR				smax			
	comp=E,150nm,0.5s						
SKR				smax			
	comp=Z,40nm,0.5s						
KPT	**Kopyto**	**3.26**	**0**	*e*P	**Pn**	**23 15 55.3**	**+0.5**
KPT				*e*S	**Sn**	**23 16 32.4**	**-0.7**
ZLN	**Zelenaya**	**3.33**	**6**	*e*P	**Pn**	**23 15 57.2**	**+1.4**
ZLN				*e*S	**Sn**	**23 16 34.9**	**0.0**
ESO	**Esso**	**3.33**	**345**	*e*P	**Pn**	**23 15 56.4**	**+0.5**
ESO				*e*S	**Sn**	**23 16 33.6**	**-1.4**
ESO				Smax			
	comp=Z,100nm,0.6s						
KOZ	**Kozyrevsk**	**3.36**	**357**	P	**Pn**	**23 15 56.1**	**-0.1**
KOZ				S	**Sn**	**23 16 33.6**	**-2.0**
KOZ	**Kozyrevsk**	**3.36**	**357**	*e*P	**Pn**	**23 15 56.2**	**0.0**
KOZ				*e*S	**Sn**	**23 16 34.2**	**-1.4**
KOZR	**Kozyr**	**3.36**	**357**	PN	**Pn**	**23 15 56.1**	**-0.2**
LGNR	**Logínova**	**3.39**	**5**	*e*P	**Pn**	**23 15 58.8**	**+2.2**
LGNR				*e*S	**Sn**	**23 16 38.0**	**+1.6**
CIRR	**Tsirk**	**3.42**	**5**	*e*P	**Pn**	**23 15 58.7**	**+1.6**
CIRR				*e*S	**Sn**	**23 16 38.4**	**+1.1**
KRSR	**Krestovskiy**	**3.52**	**3**	*e*P	**Pn**	**23 15 59.7**	**+1.2**
KRSR				*e*S	**Sn**	**23 16 41.2**	**+1.5**
KLY	**Klyuchi**	**3.62**	**4**	P	**Pn**	**23 16 01.4**	**+1.5**
KLY				S	**Sn**	**23 16 42.5**	**+0.3**
KLY	**Klyuchi**	**3.62**	**4**	*e*P	**Pn**	**23 16 01.2**	**+1.3**
KLY				*e*S	**Sn**	**23 16 41.5**	**-0.7**
SRDR	**Sredinnyy**	**3.62**	**356**	*e*P	**Pn**	**23 15 59.5**	**-0.5**
SRDR				*e*S	**Sn**	**23 16 40.5**	**-1.8**
KBTR	**Krutoberegovo**	**3.82**	**23**	P	**Pn**	**23 16 02.7**	**-0.1**
KBTR				S	**Sn**	**23 16 45.8**	**-1.6**
KBTR	**Krutoberegovo**	**3.82**	**23**	*e*P	**Pn**	**23 16 02.5**	**-0.3**
KBTR				*e*S	**Sn**	**23 16 45.7**	**-1.7**
BKI	**Bering**	**4.23**	**52**	*e*P	**Pn**	**23 16 05.7**	**-2.9**
BKI				*e*S	**Sn**	**23 16 50.8**	**-6.8**

*NIED **29** 23:29:00, 43.20N×144.60E, h74km, Mw3.6 Best double couple: M0:2.46×10^14 NP1:φs339°, δ74°, λ-33°. NP2:φs79°, δ58°, λ-161°.*
JMA 29 23:29:53.3±0.1, 43.16N×144.64E, h82km±1km, M3.5, 7C-3D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**0.17**	**166**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.02**	**140**	*e*PN	P	23 40 29.1	-0.2
URZ				SN	S	23 40 58.2	-0.5
MWZ	**Matawai**	**1.31**	**131**	PN	P	23 40 30.9	-0.1
MWZ				SN	S	23 41 01.3	-0.4
MXZ	**Matakaoa Point**	**1.61**	**94**	*e*PN	P	23 40 32.7	-0.3
MXZ				SN	S	23 41 05.1	-0.4
PUZ	**Puketiti**	**1.68**	**112**	*e*PN	P	23 40 33.3	-0.2
PUZ				SN	S	23 41 05.3	-0.9
BKZ	**Black Stump Fm**	**1.70**	**174**	⇑PN	P	23 40 33.6	-0.2
BKZ				SN	S	23 41 06.2	-0.3
TUVZ	**Tukino**	**1.86**	**195**	*e*PN	P	23 40 35.3	+0.3
KNZ	**Kokohu**	**1.90**	**145**	*e*PN	P	23 40 34.8	-0.4
WNVZ	**Wahianoa**	**1.93**	**196**	PN	P	23 40 35.6	+0.1
MOVZ	**Moawhango**	**1.98**	**192**	PN	P	23 40 35.5	-0.4
MRZ	**Mangataitoka R**	**3.23**	**189**	PN	P	23 40 46.1	-2.2
KIW	**Kapiti Island**	**3.55**	**197**	PN	P	23 40 49.4	-2.3
KIW				SN	S	23 41 37.1	-1.5
MTW	**Mount Morrison**	**3.73**	**189**	PN	P	23 40 51.0	-2.8
TCW	**Tory Channel**	**4.04**	**202**	PN	P	23 40 55.0	-2.4
QRZ	**Quartz Range**	**4.44**	**220**	*e*PN	P	23 40 58.2	-3.7
THZ	**Tophouse**	**5.01**	**210**	*e*PN	P	23 41 05.7	-3.0
KHZ	**Kahutara**	**5.37**	**202**	*e*PN	P	23 41 09.5	-3.5
MQZ	**McQueen's Vall**	**6.81**	**203**	*e*SN	S	23 42 41.8	-6.8

*IDC **29** 23:43:17.6±1.9, 34.95N×31.01E, mb3.9/5, mb1 3.9/9, mb1mx3.7/22, mbtmp3.7/9, ML3.6/5, Error ellipse: s-maj=33.0km s-min=20.8km az=27.0*
*HLW **29** 23:43:18.7, 34.85N×30.90E, h33km, Mb3.5*
*ISK **29** 23:43:18.6, 34.65N×31.00E, h33km, MD3.7*
*CSEM **29** 23:43:18.9±0.1, 34.68N×30.94E, h30km, mb3.9/10, Mw3.3, Error ellipse: s-maj=1.6km s-min=1.3km az=62.0*
*NIC **29** 23:43:21.2±0.2, 34.78N×30.92E, h25km, mb4.1, ML3.7, MW3.3*
*NEIC **29** 23:43:21.2, 34.78N×30.92E, h25km, mb4.0/11, ML3.7(NIC), After NIC.*
ISC 29 23:43:19.1±0.2, 34.67N±0.02×30.91E±0.02, h33km, n87, σ0=91/100, mb3.8/15, 4C-11D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPCY	**Paphos**	**1.20**	**80**	⇓*e*P	P	23 43 40.5	+0.9
ALFC	**Alevga**	**1.47**	**70**	⇓*e*P	P	23 43 43.8	+0.3
ALFC	53nm,0.2s			S	S	23 44 01.9	+0.2
SZAC	**Souni-Zanaja**	**1.63**	**87**	P	P	23 43 46.8	+1.0
SZAC	26nm,0.2s			S	S	23 44 06.4	+0.6
LEF	**Lefka**	**1.69**	**74**	*i* PN	Pn	23 43 45.8	-1.0
LEF				*i* SN	Sn	23 44 04.8	-2.6
MAMC	**Mammari**	**1.96**	**75**	⇓*e*P	P	23 43 51.3	+0.8
CSS	**Prodhromos**	**2.01**	**81**	⇓*e*P	P	23 43 51.6	+0.3
CSS	6.3nm,0.4s			S	S	23 44 15.8	+0.3
PHNC	**Paralimni**	**2.59**	**82**	P	P	23 44 00.3	+0.8
HDMB	**Hadim**	**2.62**	**29**	PN	Pn	23 43 59.8	-0.3
IKL	**Isikli**	**2.75**	**55**	*e*PN	Pn	23 44 01.9	-0.1
BCK	**Bucak**	**2.79**	**355**	PN	Pn	23 44 02.5	-0.1
ISP	**Isparta**	**3.18**	**354**	PN	Pn	23 44 08.3	+0.2
ISP	**Isparta**	**3.18**	**354**	*e*Pn	Pn	23 44 10.8	+2.7
ISP				*e*Sn	Sn	23 44 42.5	-2.8
YER	**Yerkesik**	**3.25**	**320**	PN	Pn	23 44 10.2	+1.1
DENT	**Denizli**	**3.43**	**334**	*e*PN	Pn	23 44 11.5	-0.1
KONT	**Konya--Tatoy**	**3.47**	**19**	*e*PN	Pn	23 44 12.2	0.0
MLSB	**Milas**	**3.65**	**317**	*e*PN	Pn	23 44 15.0	+0.3
MERS	**Mersin**	**3.66**	**52**	*e*PN	Pn	23 44 14.3	-0.7
BODT	**Bodrum**	**3.77**	**310**	*e*PN	Pn	23 44 15.5	-1.0
KHL	**Karahalli**	**3.81**	**343**	*e*PN	Pn	23 44 17.8	+0.8
KARA	**Karaisali**	**4.24**	**51**	*e*PN	Pn	23 44 22.6	-0.5
KIZT	**Kizilcal**	**4.27**	**10**	*e*PN	Pn	23 44 23.3	-0.3
AANS		**4.39**	**174**	⇑P	P	23 44 25.5	+0.3
AANS				S	S	23 45 13.9	-1.9
HRSH	**Kfar Ka'horesh**	**4.39**	**147**	P	P	23 44 25.6	+0.4
RSH		**4.39**	**147**	P	P	23 44 25.6	+0.4
ALT	**Altintas**	**4.42**	**352**	*e*PN	Pn	23 44 25.4	-0.3
AMAG	**Maghara**	**4.46**	**154**	⇓P	P	23 44 26.1	-0.1
HTY	**Hatay**	**4.51**	**70**	*e*PN	Pn	23 44 26.8	-0.2
CEYT	**Ceyhan**	**4.57**	**58**	*e*PN	Pn	23 44 26.8	-1.0
IZM	**Izmir**	**4.74**	**323**	*e*PN	Pn	23 44 29.1	-1.1
KOT	**Kottamia**	**4.80**	**170**	P	P	23 44 31.2	+0.3
HMAT	**Matruh**	**4.80**	**223**	P	P	23 44 30.6	-0.4
HHAG	**Hagoal**	**4.81**	**168**	P	P	23 44 31.6	+0.4
ESKT	**Eskisehir**	**4.84**	**359**	*e*PN	Pn	23 44 31.6	0.0
BLCB	**Balcova**	**4.84**	**321**	*e*PN	Pn	23 44 32.0	+0.3
KOZT	**Kozan**	**4.87**	**53**	*e*PN	Pn	23 44 31.6	-0.5
FYM	**Al Fayyum**	**4.97**	**179**	P	P	23 44 34.9	+1.5
IDI	**Anoyia**	**4.98**	**279**	Pn	Pn	23 44 34.2	+0.6
IDI	2.4nm,0.3s,baz=112,slow=11,SNR=22			Sn	Sn	23 45 28.8	-2.1
HSAF	**As Saff**	**5.07**	**174**	P	P	23 44 34.9	+0.1
SUZ		**5.09**	**161**	P	P	23 44 35.0	0.0
GLL	**Jalalah**	**5.13**	**172**	⇑P	P	23 44 35.9	+0.3
KAMT	**Kaman**	**5.19**	**25**	*e*PN	Pn	23 44 36.5	-0.1
HNKL	**Nakhl**	**5.40**	**150**	⇑P	P	23 44 39.2	-0.2
BR131	**Keskin Array S**	**5.49**	**23**	*e*Pn	Pn	23 44 41.9	+1.1
BR131	0.9nm,0.3s			*e*Sn	Sn	23 45 40.1	-3.5
BR131	**Keskin Array S**	**5.49**	**23**	*e*Pn	Pn	23 44 41.9	+1.0
BR131	0.9nm,0.3s			*e*Sn	Sn	23 45 40.1	-3.6
BRTR	**Keskin Array B**	**5.49**	**23**	Pn	Pn	23 44 36.5	-4.4
BRTR	0.1nm,0.3s,baz=201,slow=17,SNR=4.2			Sn	Sn	23 45 37.4	-6.3
ZAF		**5.55**	**165**	⇓P	P	23 44 41.7	+0.2
ASF	**Jabal al Asfar**	**5.59**	**115**	Pn	Pn	23 44 43.2	+0.9
ASF	1.0nm,0.3s,baz=46,slow=0.8,SNR=11			Sn	Sn	23 45 47.3	+1.1
GVD	**Gavdhos**	**5.62**	**274**	*e*Pn	Pn	23 44 43.9	+1.3
SLUM		**5.74**	**238**	⇓P	P	23 44 42.9	-1.2
SLUM				S	S	23 45 44.9	-4.9
BNN	**Bunyan**	**5.75**	**42**	*e*PN	Pn	23 44 44.8	+0.3
NUB		**6.46**	**150**	P	P	23 44 54.0	-0.4
AWBH		**6.56**	**196**	⇓P	P	23 44 54.9	-0.9
AWBH		**6.56**	**196**	P	P	23 44 54.8	-0.9
HKAT	**Jabal Katrina**	**6.67**	**156**	⇓P	P	23 44 56.6	-0.7
TR2		**6.71**	**158**	⇑P	P	23 44 57.2	-0.7
SWA1		**6.97**	**221**	⇓P	P	23 45 00.4	-1.1
SWA1				S	S	23 46 15.3	-5.2
SWA2		**7.13**	**222**	P	P	23 45 02.4	-1.2
TR1		**7.14**	**158**	⇓P	P	23 45 02.9	-0.9
KIV	**Kislovodsk**	**12.99**	**41**	Pn	P	23 46 18.9	-5.0
KIV	**Kislovodsk**	**12.99**	**41**	Pn	P	23 46 18.9	-5.0
AKASG	**Malin Array Be**	**16.07**	**356**	Pn	P	23 47 02.5	-1.4
GERES	**GERESS Array B**	**19.05**	**323**	P	P	23 47 39.9	-1.2
KHC	**Kasperske Hory**	**19.30**	**324**	*e*P	P	23 47 43.5	-0.4
BRG	**Berggiesshubel**	**20.35**	**328**	*e*P	P	23 47 54.4	-0.7
BRG	**Berggiesshubel**	**20.35**	**328**	*e*P	P	23 47 54.4	-0.8
LMR	**La Mourre**	**20.79**	**302**	*e*P	P	23 48 00.8	+1.0
MBDF	**Montbardon**	**21.04**	**306**	*e*P	P	23 48 03.4	+1.0
CLL	**Collm**	**21.07**	**328**	*e*P	P	23 48 02.0	-0.6
LPG	**La Plagne**	**21.33**	**308**	*e*P	P	23 48 06.6	+1.3
LPL	**La Plagne**	**21.35**	**308**	*e*P	P	23 48 06.8	+1.3
SMRF	**Simiane la Rot**	**21.62**	**303**	*e*P	P	23 48 09.1	+0.9
ORIF	**Oris-en-Rattie**	**21.70**	**306**	*e*P	P	23 48 09.9	+0.9
CABF	**La Chapelle**	**22.19**	**310**	*e*P	P	23 48 15.0	+1.2
LASF	**Ste Croix**	**22.84**	**302**	*e*P	P	23 48 21.0	+0.8
SMF	**Signal de Mont**	**23.64**	**309**	*e*P	P	23 48 28.6	+0.6
LOR	**Lormes**	**23.85**	**310**	*e*P	P	23 48 30.4	+0.3
SSF	**Saint Saulge**	**24.00**	**309**	*e*P	P	23 48 32.3	+0.8
TCF	**Toulx Ste Croi**	**24.58**	**307**	*e*P	P	23 48 38.0	+0.8
BAIF	**Baives**	**24.83**	**316**	*e*P	P	23 48 39.8	+0.3
ETSF	**Etsaut**	**25.75**	**298**	*e*P	P	23 48 50.1	+1.8
MFF	**Saint Martin d**	**26.23**	**306**	*e*P	P	23 48 53.2	+0.4
FINES	**FINESS Array B**	**26.97**	**355**	P	P	23 48 58.2	-1.1
BVAR	**Borovoye Array**	**33.32**	**44**	P	P	23 49 54.8	-1.0
ARCES	**ARCESS Array B**	**35.04**	**357**	P	P	23 50 08.0	-2.5
ARCES	**ARCESS Array B**	**35.04**	**357**	P	P	23 50 08.0	-2.5
MKAR	**Makanchi Array**	**40.10**	**56**	P	P	23 50 53.6	+0.6
ZAL	**Zalesovo**	**41.93**	**46**	P	P	23 51 07.4	-0.6

10nm,0.9s,mb4.0
1.1nm,0.5s,mb3.7,baz=164,slow=14,SNR=5.5
0.3nm,0.3s,mb3.6,baz=270,slow=9.2,SNR=4.2
1.3nm,0.8s,mb3.9,baz=175,slow=10.0,SNR=7.3
0.5nm,0.4s,mb3.6,baz=270,slow=7.6,SNR=8.7
1.0nm,0.3s,mb3.9,baz=202,slow=6.2,SNR=4.2

*NEIC **29** 23:45:07.5, 37.11N×10.59W, MN2.7(MDD), After MDD.*
*MDD **29** 23:45:07.4±2.2, 36.90N×10.82W, h70km±63km, mb3.2/5, Error ellipse: s-maj=20.6km s-min=13.2km az=63.0, PRXIMO*
*IGIL **29** 23:45:08.9±19.0, 36.98N×10.57W, h2km, ML2.6*
INMG 29 23:45:08.1±0.8, 36.95N×10.64W, h10km, ML2.1, Error ellipse: s-maj=6.3km s-min=3.7km az=77.0, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**1.64**	**68**	*e*Pn	Pn	23 45 35.5	-1.8
PTEO	4.8nm,0.1s			*e*Sn	Sn	23 45 55.8	-2.8
PTEO	**Sao Teotonio**	**1.64**	**68**	*e*Pn	Pn	23 45 35.5	-1.8
PTEO	4.8nm,0.1s			*e*Sn	Sn	23 45 55.8	-2.8
PTEO	**Sao Teotonio**	**1.64**	**68**	P	Pn	23 45 35.5	-1.8
PTEO	2.4nm,0.1s			S	Sn	23 45 55.8	-2.8
PLOU	**Loures**	**2.26**	**31**	*e*Pn	Pn	23 45 43.4	-2.7
PLOU	20nm,0.1s			*e*Sn	Sn	23 46 10.7	-3.6
PLOU	**Loures**	**2.26**	**31**	*e*Pn	Pn	23 45 43.4	-2.7
PLOU	20nm,0.1s			*e*Sn	Sn	23 46 10.7	-3.6
PLOU	**Loures**	**2.26**	**31**	P	Pn	23 45 43.4	-2.7
PLOU	9.8nm,0.1s			S	Sn	23 46 10.7	-3.6
PBEJ	**Beja**	**2.46**	**63**	*e*Sn	Sn	23 46 14.9	-4.3
PBEJ	**Beja**	**2.46**	**63**	*e*Sn	Sn	23 46 14.9	-4.3
PBEJ	**Beja**	**2.46**	**63**	S	Sn	23 46 14.9	-4.3
EGRO	**El Granado**	**2.59**	**76**	P	Pn	23 45 48.2	-2.6
EGRO	0.5nm,0.1s,SNR=7.9			S	Sn	23 46 18.3	-4.4
ALMR	**Almeirim**	**2.74**	**36**	*e*	Pn	23 45 45.4	-7.5
ALMR	baz=141,slow=9.3			*e*P		23 45 51.3	
ALMR				*e*S	Sn	23 46 22.0	-4.4
ALMR				*e*S	Sn	23 46 22.0	-4.4
ALMR				AML	AML	23 46 24.0	
ALMR	**Almeirim**	**2.74**	**36**	*e*P	Pn	23 45 51.3	-1.6
ALMR				*e*S	Sn	23 46 22.0	-4.4
ALMR	**Almeirim**	**2.74**	**36**	*e*P	Pn	23 45 51.3	-1.6
ALMR				*e*S	Sn	23 46 22.0	-4.4
PTOM	**Tomar**	**3.19**	**33**	*e*Sn	Sn	23 46 32.9	-4.9
PTOM	**Tomar**	**3.19**	**33**	*e*Sn	Sn	23 46 32.9	-4.9
PTOM	**Tomar**	**3.19**	**33**	S	Sn	23 46 32.9	-4.9
EMIN	**Mina Concepcio**	**3.27**	**74**	P	Pn	23 45 57.6	-2.8
EMIN	comp=E,0.2nm,0.1s,SNR=6.6			S	Sn	23 46 34.0	-5.8
EBAD	**Badajoz**	**3.39**	**57**	P	Pn	23 45 59.3	-2.9
EBAD	comp=E,0.5nm,0.1s,SNR=7.0			S	Sn	23 46 37.1	-5.8
PCBR	**Castelo Branco**	**3.81**	**40**	*e*Pn	Pn	23 46 04.8	-3.3
PCBR				*e*Sn	Sn	23 46 47.4	-6.1
PCBR	**Castelo Branco**	**3.81**	**40**	*e*Pn	Pn	23 46 04.8	-3.3
PCBR				*e*Sn	Sn	23 46 47.4	-6.1
MTE	**Manteigas**	**4.21**	**34**	*e*Sn	Sn	23 46 57.4	-6.3
MTE	**Manteigas**	**4.21**	**34**	*e*Sn	Sn	23 46 57.4	-6.3
MTE	**Manteigas**	**4.21**	**34**	S	Sn	23 46 57.4	-6.3
EMIJ	**Mijas**	**4.73**	**93**	S	Sn	23 47 09.9	-7.0
PVRL	**Vila Real**	**4.88**	**27**	*e*Sn	Sn	23 47 12.2	-8.4
PVRL	**Vila Real**	**4.88**	**27**	*e*Sn	Sn	23 47 12.2	-8.4
PVRL	**Vila Real**	**4.88**	**27**	S	Sn	23 47 12.2	-8.4
EADA	**Adamuz**	**4.97**	**74**	P	Pn	23 46 20.8	-3.8
EADA	comp=E,0.3nm,0.1s,SNR=7.9			S	Sn	23 47 15.1	-7.8
EADA	**Adamuz**	**4.97**	**74**	P	Pn	23 46 20.8	-3.8
EADA				S	Sn	23 47 15.7	-7.2
PCAB	**Cabril**	**5.17**	**22**	*e*Pn	Pn	23 46 21.6	-5.8
PCAB				*e*Sn	Sn	23 47 18.2	-10
PCAB	**Cabril**	**5.17**	**22**	*e*Pn	Pn	23 46 21.6	-5.8
PCAB				*e*Sn	Sn	23 47 18.2	-10
PCAB	**Cabril**	**5.17**	**22**	P	Pn	23 46 21.6	-5.8
PCAB				S	Sn	23 47 18.2	-10
ELOB	**Lobios**	**5.30**	**21**	P	Pn	23 46 24.5	-4.8
ELOB	comp=E,0.4nm,0.1s,SNR=8.6			S	Sn	23 47 21.1	-10
ELOB	**Lobios**	**5.30**	**21**	P	Pn	23 46 24.5	-4.8
ELOB				S	Sn	23 47 21.1	-10
PBRG	**Braganca**	**5.71**	**31**	*e*Sn	Sn	23 47 32.3	-9.2
PBRG	**Braganca**	**5.71**	**31**	*e*Sn	Sn	23 47 32.3	-9.2
PBRG	**Braganca**	**5.71**	**31**	S	Sn	23 47 32.3	-9.2
ECAL	**Calabor**	**5.83**	**30**	S	Sn	23 47 33.6	-11
EQES	**Quesada**	**6.09**	**80**	S	Sn	23 47 42.4	-8.6
EMAZ	**Mazaricos**	**6.12**	**12**	S	Sn	23 47 39.4	-12

*NIED **29** 23:50:00, 24.70N×121.70E, h83km, Mw4.0 Best double couple: M0=1.15×10^15 NP1:φs=130°, δ=87°, λ=-127°. NP2: φs=37°, δ=37°, λ=-5°.*
*BJI **29** 23:50:52.7, 24.56N×121.68E, h33km, mB4.5, mb4.5, ML3.5, Ms3.6, Msz3.4*
*NEIC **29** 23:50:54.8, 24.53N×121.68E, h47km, mb4.5/1, After TAP.*
NEIC Recorded [2 TAP] in Hua-lien and I-lan; [1 TAP] in T'ai-chung, T'ai-pei and T'ao-yuan Counties.
ISC 29 23:50:52.7±0.7, 24.53N±0.06×121.61E±0.09, h61km±5km, n10, σ=11/15, mb4.5/3, 1C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YHNB	**Yeheng**	**0.25**	**304**	*e*Pn	P	23 51 03.7	+1.1
YHNB				*e*Sn	S	23 51 10.1	+0.2
NACB	**Ninganchiao**	**0.35**	**182**	⇑*i*Pn	P	23 51 03.4	0.0
NACB				*e*Sn	S	23 51 10.4	-0.8
TATO	**Taipei**	**0.46**	**346**	*e*Pn	P	23 51 05.2	+0.8
TATO				*e*Sn	S	23 51 12.8	-0.2
QZH	**Quanzhou**	**2.77**	**279**	P	P	23 51 36.8	+1.0
QZH				S	S	23 52 07.0	-1.2
QZH	comp=N,160nm,0.6s			Smax			
QZH	comp=E,130nm,0.6s			Smax			
NJ2	**Nanjing**	**7.88**	**343**	*e*P	P	23 52 46.0	-1.0
NJ2				XP		23 53 00.5	
NJ2				S	S	23 54 14.0	-1.6
NJ2	comp=Z,10.0nm,0.5s			AMB	AMB		
NJ2	comp=Z,560nm,5.6s			AMB	AMB		
NJ2	comp=N,90nm,0.6s			Smax			
NJ2	comp=E,70nm,0.7s			Smax			
HHC	**Hu-ho-hao-te**	**18.32**	**335**	*e*P	P	23 55 10.8	+6.7
HHC				XP		23 55 19.8	
HHC	comp=Z,8.0nm,1.0s			AMB	AMB		
HHC	comp=Z,107nm,6.0s			AMB	AMB		
HHC	comp=N,130nm,10.0s			LR	LR		
HHC	comp=E,131nm,9.0s			LR	LR		
HHC	comp=Z,96nm,10.0s			LR	LR		
MDJ	**Mudanjiang**	**21.07**	**16**	P	P	23 55 33.8	-0.1
MDJ				XP		23 55 49.5	
MDJ	comp=Z,6.0nm,1.1s,mb3.8			AMB	AMB		
MDJ	comp=Z,33nm,3.4s			AMB	AMB		
WMQ	**Urumqi**	**33.70**	**313**	*e*P	P	23 57 33.0	+2.9
WMQ				AP	pP	23 57 45.0	-0.3
WMQ				XP	sP	23 57 51.0	-1.9
WMQ				PP	PP	23 58 47.0	+2.6
WMQ	comp=Z,16nm,0.8s,mb5.0			AMB	AMB		
WMQ	comp=Z,203nm,4.0s			AMB	AMB		
WMQ	comp=N,19nm,14.0s			LR	LR		
WMQ	comp=E,32nm,14.0s			LR	LR		
WMQ	comp=Z,39nm,14.0s			LR	LR		
KURK	**Kurchatov**	**42.08**	**320**	P	P	23 58 41.3	+1.3
WRAB	**Tennant Creek**	**45.90**	**163**	*e*Pn	P	23 59 09.9	-1.4
	comp=Z,7.2nm,1.1s,mb4.5						

*IDC **30** 00:27:15.6±0.9, 16.18N×92.56E, mb4.1/12, mb1 4.3/12, mb1mx4.1/20, mbtmp4.1/12, MS3.6/1, Ms1 3.5/1, ms1mx3.1/21, Error ellipse: s-maj=39.7km s-min=18.5km az=53.0*
*NEIC **30** 00:27:17.2±0.7, 16.24N×92.52E, h10km, mb4.0/3, Error ellipse: s-maj=21.3km s-min=9.8km az=47.0*
ISC 30 00:27:15.9±0.8, 16.3N±0.1×92.37E±0.05, h10km, n23, σ0=94/26, mb4.0/14, MS3.5/1, Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDT	**Bhumibol Dam**	**6.42**	**80**	SG	Sg	00 30 50.5	+0.7
VIS	**Vishakhapatnam**	**8.77**	**281**	*i* P	P	00 29 25.4	-0.4
VIS				*i* S	Sn	00 30 58.9	-6.9
PKI	**Pulchoki**	**12.96**	**331**	*e*P	P	00 30 22.0	-1.0
PKI	23nm,0.4s			*e*S	S	00 32 37.9	-10
DMN	**Daman**	**13.14**	**330**	*e*P	P	00 30 24.5	-0.8
KKN	**Kakani**	**13.21**	**331**	*e*P	P	00 30 26.1	-0.1
LSA	**Lhasa**	**13.41**	**355**	P	P	00 30 25.4	-3.5
GKN	**Gorkha**	**13.69**	**330**	*e*P	P	00 30 32.8	+0.1
KOLN	**Koldanda**	**14.03**	**326**	*e*P	P	00 30 37.5	+0.4
KOLN				*e*S	S	00 33 02.3	-12
ENH	**Enshi**	**20.97**	**45**	*e*P	P	00 31 59.8	-1.9
MKAR	**Makanchi Array**	**31.57**	**347**	P	P	00 33 41.6	+0.9
SONM	**Songino Array**	**33.53**	**17**	P	P	00 33 57.2	-0.6
KURK	**Kurchatov**	**36.09**	**345**	*e*P	P	00 34 21.2	+1.5
ZAL	**Zalesovo**	**38.05**	**353**	P	P	00 34 37.4	+1.3
BRVK	**Borovoye**	**40.61**	**340**	*e*P	P	00 34 58.2	+0.8
FITZ	**Fitzroy Crossi**	**47.33**	**135**	P	P	00 35 51.6	-0.5
WRA	**Warramunga Arr**	**54.73**	**130**	P	P	00 36 44.3	-3.9
BRTR	**Keskin Array B**	**55.83**	**307**	P	P	00 36 56.0	+0.2
MLR	**Muntele Rosu**	**62.09**	**313**	P	P	00 37 40.1	+0.8
FINES	**FINESS Array B**	**64.55**	**331**	P	P	00 37 55.5	+0.3
ARCES	**ARCESS Array B**	**66.83**	**339**	P	P	00 38 10.1	+0.4
GERES	**GERESS Array B**	**70.51**	**317**	P	P	00 38 33.7	+0.9
NOA	**NORSAR Array B**	**71.63**	**330**	P	P	00 38 38.8	-0.6
ILAR	**Eielson Array**	**87.64**	**22**	P	P	00 40 04.0	-1.4

4.2nm,0.4s,mb4.5
0.9nm,0.8s,mb3.9,baz=313,slow=7.7,SNR=5.7
1.6nm,0.6s,mb4.1,baz=199,slow=8.5,SNR=10
3.0nm,0.8s,mb4.2,baz=170,slow=8.0,SNR=25
1.2nm,0.6s,mb4.1,baz=90,slow=5.7,SNR=8.5
1.9nm,0.6s,mb4.3,baz=91,slow=7.2,SNR=16
0.9nm,0.6s,mb3.9,baz=76,slow=5.5,SNR=11
0.6nm,0.6s,mb3.7,baz=91,slow=4.1,SNR=2.5
0.3nm,0.8s,mb3.6,baz=293,slow=5.2,SNR=4.2

*NEIC **30** 00:51:14.4±2.1, 51.64N×16.07E, h5km, ML2.5(VIE), ML2.2(CLL), ML2.1(BRG), Error ellipse: s-maj=24.0km s-min=6.9km az=215.0*
*IPEC **30** 00:51:14.9±0.3, 51.62N×16.29E, ML1.9/3, Error ellipse: s-maj=4.0km s-min=1.8km az=85.0*
*CSEM **30** 00:51:15.5±0.2, 51.58N×16.00E, h2km, ML2.9/8, Error ellipse: s-maj=3.3km s-min=1.8km az=35.0*
*PRU **30** 00:51:16.0, 51.55N×16.02E*
WAR 30 00:51:16, 51.58N×15.99E, h1km, ML2.7, 2C, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.76**	**165**	*e*PG	Pg	00 51 30.0	-1.2
KSP				*e*SG	Sg	00 51 40.0	-1.4
KSP	**Ksiaz**	**0.76**	**165**	*e*Pg	Pg	00 51 30.0	-1.2
KSP				*e*Sg	Sg	00 51 39.9	-1.5
KSP	**Ksiaz**	**0.76**	**165**	*e*Pg	Pg	00 51 30.1	-1.1
KSP				*e*		00 51 31.8	
KSP				*e*Sg	Sg	00 51 40.1	-1.3
UPC	**Upice**	**1.07**	**179**	*e*PG	Pg	00 51 35.8	-1.6
DPC	**Dobruska-Polom**	**1.25**	**170**	*e*PG	Pg	00 51 38.7	-2.2
DPC	16nm,0.2s			*e*SG	Sg	00 51 55.3	-2.3
DPC	**Dobruska-Polom**	**1.25**	**170**	Pg	Pg	00 51 38.7	-2.2
DPC				*e*Sg	Sg	00 51 54.6	-3.0
BRG	**Berggiesshubel**	**1.47**	**242**	Pn	Pn	00 51 42.5	-1.2
BRG	**Berggiesshubel**	**1.47**	**242**	Pg	Pg	00 51 43.3	-2.0
BRG	**Berggiesshubel**	**1.47**	**242**	Pn	Pn	00 51 42.5	-1.1
BRG				Pg	Pg	00 51 43.3	-2.0
BRG				Sg	Sg	00 52 03.0	-1.9
PRU	**Pruhonice**	**1.84**	**211**	*e*PN	Pn	00 51 47.5	-1.5
PRU				*e*PG	Pg	00 51 49.4	-3.3
PRU				*ex*	x	00 51 53.7	
PRU				*ex*	x	00 52 08.6	
PRU	7.1nm,0.2s			*e*SG	Sg	00 52 14.4	-2.9
CLL	**Collm**	**1.89**	**263**	*i* PN	Pn	00 51 47.7	-2.0
CLL	logA/T=1.2			*i* PG	Pg	00 51 50.4	-3.3
CLL				*i*		00 51 54.5	
CLL				*i* SG	Sg	00 52 16.5	-2.4
CLL	**Collm**	**1.89**	**263**	*i* Pn	Pn	00 51 47.7	-2.0
CLL				*i* Pg	Pg	00 51 50.4	-3.3
CLL				*i* Sg	Sg	00 52 16.5	-2.4
MORC	**Moravsky Berou**	**2.06**	**151**	*e*P	Pn	00 51 49.9	-2.2
MORC	**Moravsky Berou**	**2.06**	**151**	*e*Pn	Pn	00 51 50.4	-1.7
MORC	8.5nm,0.3s			*e*Sg	Sg	00 52 17.9	-6.6
MORC	**Moravsky Berou**	**2.06**	**151**	*e*P	Pn	00 51 49.9	-2.2
OKC	**Ostrava-Krasne**	**2.22**	**141**	*e*PG	Pg	00 51 56.8	-3.5
OKC	15nm,0.4s			*e*SG	Sg	00 52 25.5	-4.4
VRAC	**Vranov**	**2.31**	**170**	*e*Pn	Pn	00 51 54.7	-1.0
VRAC	5.4nm,0.3s			*e*Sg	Sg	00 52 27.2	-5.6
KRUC	**Moravsky**	**2.54**	**174**	*e*Pn	Pn	00 51 57.7	-1.2

KRUC	**Moravsky**	**2.54 174**	*e*Pg	Pg	00 52 01.7	-4.9
KRUC			*e*Sg	Sg	00 52 35.5	-4.9
4.9nm,0.3s						
NKC	**Novy Kostel**	**2.62 240**	*e*PN	Pn	00 51 58.8	-1.3
NKC			*e*Pg	Pg	00 52 04.8	-3.4
NKC			*e*SG	Sg	00 52 39.4	-3.7
12nm,0.2s						
OJC	**Ojcow**	**2.77 118**	*e*PG	Pg	00 52 08.0	-3.3
OJC			*e*SG	Sg	00 52 44.0	-4.2
KHC	**Kasperske Hory**	**2.90 213**	*e*PN	Pn	00 52 03.0	-1.1
KHC			*e*PG	Pg	00 52 08.2	-5.7
KHC			*e*SN	Sn	00 52 37.0	-3.1
KHC			*e*SG	Sg	00 52 46.9	-5.6
MOX	**Moxa**	**2.91 253**	*e*Pg	Pg	00 52 10.7	-3.4
MOX			*e*Sg	Sg	00 52 49.9	-3.0
MOA	**Molln**	**3.90 197**⇑	*i*PN	Pn	00 52 16.5	-1.8
MOA			*i* SG	Sg	00 53 20.0	-5.8
2.2nm,0.4s						
KBA	**Koelnbreinsper**	**4.83 202**⇑	*i*PN	Pn	00 52 29.7	-1.8
KBA			*i* SG	Sg	00 53 50.3	-6.4
1.5nm,0.6s						

NEIC ***30*** *01:04:36.9, 36.98N×3.89W, ML2.8(LDG), MN2.5(MDD), After MDD.*
MDD ***30*** *01:04:36.9±0.2, 36.97N×3.89W, mbLg2.4/21, Error ellipse: s-maj=1.8km s-min=1.1km az=16.0, PRXIMO*
SFS ***30*** *01:04:36.0, 36.98N×3.90W*
INMG ***30*** *01:04:37.1±1.1, 36.96N×3.92W, h1^{km}±3^{km}, ML2.4, Error ellipse: s-maj=1.7km s-min=1.5km az=25.0*
CSEM ***30*** *01:04:37.1±0.1, 36.98N×3.91W, h0^{km}, ML2.9/9, Error ellipse: s-maj=2.0km s-min=1.3km az=164.0*
LDG ***30*** *01:04:39.2±0.4, 36.93N×3.91W, h10^{km}, Ml2.8/3, Error ellipse: s-maj=9.5km s-min=3.1km az=166.0*

ISC 30 01:04:36.3±0.4, 37.14N±0.03×3.93W±0.02, h6^{km}±3^{km}, n79, σ1§41/120, 6C-3D, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERON	**Agron**	**0.15**	**139**	⇑Pg	**Pg**	**01 04 38.6**	**-0.9**
113nm,0.1s,SNR=18							
ERON				Lg		01 04 40.3	
196nm,0.4s,SNR=7.9							
ELOJ	**Sierra Loja**	**0.18**	**274**	⇓Pg	**Pg**	**01 04 41.9**	**+1.9**
41nm,0.2s,SNR=18							
ELOJ				Lg		01 04 46.2	
141nm,0.1s,SNR=7.9							
ECOG	**Cogollos-Vega**	**0.33**	**64**	⇓Pg	**Pg**	**01 04 43.6**	**+0.8**
37nm,0.1s,SNR=18							
ECOG				Lg		01 04 49.3	
67nm,0.2s,SNR=7.9							
EQUE	**Quentar**	**0.40**	**80**	⇑Pg	**Pg**	**01 04 44.0**	**-0.4**
12nm,0.1s,SNR=18							
EQUE				Lg		01 04 50.5	
85nm,0.3s,SNR=7.9							
EGUA	**Guajares**	**0.42**	**135**	⇑Pg	**Pg**	**01 04 42.2**	**-2.5**
7.3nm,0.1s,SNR=18							
EGUA				Lg		01 04 46.8	
68nm,0.2s,SNR=7.9							
EBER	**Berja**	**0.87**	**105**	Pg	**Pg**	**01 04 52.4**	**-1.2**
38nm,0.2s,SNR=45							
EBER				Lg		01 05 03.3	
189nm,0.4s,SNR=11							
EBER	**Berja**	**0.87**	**105**	Pg	**Pg**	**01 04 52.4**	**-1.2**
38nm,0.2s,SNR=45							
EMIJ	**Mijas**	**0.88**	**230**	Pg	**Pg**	**01 04 51.4**	**-2.5**
10nm,0.1s,SNR=90							
EMIJ				Lg		01 05 02.4	
213nm,0.3s,SNR=7.9							
EQES	**Quesada**	**0.96**	**46**	⇑Pg	**Pg**	**01 04 56.7**	**+1.3**
68nm,0.5s,SNR=18							
EQES				Lg		01 05 11.5	
136nm,0.3s,SNR=7.9							
EQES	**Quesada**	**0.96**	**46**	Pg	**Pg**	**01 04 56.7**	**+1.3**
68nm,0.5s,SNR=18							
EQES				Sn	**Sn**	**01 05 13.4**	**+3.2**
136nm,0.3s,SNR=7.9							
EQES	**Quesada**	**0.96**	**46**	⇑Pg	**Pg**	**01 04 56.7**	**+1.3**
EQES				Sn	**Sn**	**01 05 13.4**	**+3.2**
EBAN	**Banos Encina**	**1.03**	**6**	⇓Pg	**Pg**	**01 04 58.8**	**+1.9**
39nm,0.3s,SNR=18							
EBAN				Lg		01 05 16.0	
30nm,0.1s,SNR=11							
EADA	**Adamuz**	**1.15**	**334**	⇑Pg	**Pg**	**01 05 00.9**	**+1.7**
17nm,0.1s,SNR=18							
EADA				Lg		01 05 18.7	
61nm,0.3s,SNR=7.9							
EADA	**Adamuz**	**1.15**	**334**	Pg	**Pg**	**01 05 00.9**	**+1.6**
17nm,0.1s,SNR=18							
LIJA	**Lijar**	**1.20**	**259**	*e*P	**Pb**	**01 05 02.6**	**+3.5**
LIJA				*e*S	**Sb**	**01 05 23.1**	**+8.4**
REAL	**Reales**	**1.21**	**238**	Lg		01 05 14.4	
REAL	**Reales**	**1.21**	**238**	*e*P	**Pb**	**01 05 00.9**	**+1.6**
REAL				*e*S	**Sb**	**01 05 14.4**	**-0.6**
EHUE	**Huescar**	**1.26**	**57**	Pg	**Pg**	**01 05 01.9**	**+0.4**
8.1nm,0.3s,SNR=44							
EHUE				Lg		01 05 19.0	
22nm,0.3s,SNR=7.9							
ENIJ	**Nijar**	**1.39**	**96**	Pg	**Pg**	**01 05 01.7**	**-2.4**
0.3nm,0.3s,SNR=7.9							
ENIJ				Lg		01 05 20.5	
0.5nm,0.2s,SNR=7.9							
ENIJ	**Nijar**	**1.39**	**96**	Pg	**Pg**	**01 05 03.2**	**-0.9**
0.3nm,0.3s,SNR=7.9							
ENIJ	**Nijar**	**1.39**	**96**	Pg	**Pg**	**01 05 03.2**	**-0.9**
ENIJ				Lg		01 05 20.4	
EJIF	**Jimena Fronter**	**1.41**	**242**	Pg	**Pg**	**01 05 01.9**	**-2.6**
10nm,0.3s,SNR=7.9							
ESPR	**Espera**	**1.56**	**261**	Pg	**Pg**	**01 05 07.7**	**+0.2**
2.1nm,0.4s,SNR=7.9							
ESPR				Lg		01 05 32.1	
9.5nm,0.2s,SNR=7.9							
ESPR	**Espera**	**1.56**	**261**	Pg	**Pg**	**01 05 09.1**	**+1.6**
ESPR				Lg		01 05 32.1	
EVIA	**Vianos**	**1.88**	**37**	Pg	**Pg**	**01 05 13.0**	**-0.9**
20nm,0.3s,SNR=7.9							
EVIA				Lg		01 05 41.1	
33nm,0.4s,SNR=7.9							
EMUR	**La Murta**	**2.25**	**71**	Pn	**Pn**	**01 05 15.4**	**+0.7**
6.0nm,0.4s,SNR=5.4							
EMUR				Sn	**Sn**	**01 05 42.7**	**-0.5**
1.4nm,0.2s,SNR=7.9							
EMUR	**La Murta**	**2.25**	**71**	Pn	**Pn**	**01 05 16.0**	**+1.3**
6.0nm,0.4s,SNR=5.4							
EMUR				Sn	**Sn**	**01 05 44.1**	**+0.9**
SNR=7.9							
EMUR	**La Murta**	**2.25**	**71**	Pn	**Pn**	**01 05 16.0**	**+1.3**
EMUR				Sn	**Sn**	**01 05 44.1**	**+0.9**
EMIN	**Mina Concepcio**	**2.27**	**287**	Pn	**Pn**	**01 05 15.6**	**+0.7**
2.0nm,0.2s,SNR=14							
EMIN				Sn	**Sn**	**01 05 43.7**	**+0.1**
2.0nm,0.2s,SNR=7.9							
EMIN				Lg		01 05 52.5	
11nm,0.3s,SNR=6.3							
EMIN	**Mina Concepcio**	**2.27**	**287**	Pn	**Pn**	**01 05 15.6**	**+0.7**
2.0nm,0.2s,SNR=14							
EMIN				Sn	**Sn**	**01 05 43.7**	**+0.1**
SNR=7.9							
ETOB	**Tobarra**	**2.42**	**51**	Pn	**Pn**	**01 05 18.4**	**+1.4**
6.8nm,0.3s,SNR=14							
ETOB				Pg	**Pg**	**01 05 23.1**	**-1.4**
5.4nm,0.2s,SNR=7.9							
ETOB				Sn	**Sn**	**01 05 48.2**	**+0.9**
1.3nm,0.2s,SNR=7.9							
ETOB				Lg		01 05 56.1	
34nm,0.4s,SNR=7.9							
ETOB	**Tobarra**	**2.42**	**51**	Pn	**Pn**	**01 05 18.4**	**+1.4**
6.8nm,0.3s,SNR=14							
ETOB	**Tobarra**	**2.42**	**51**	Pg	**Pg**	**01 05 23.1**	**-1.4**
5.4nm,0.2s,SNR=7.9							
ETOB				Sn	**Sn**	**01 05 49.9**	**+2.7**
SNR=7.9							
ETOB	**Tobarra**	**2.42**	**51**	Pn	**Pn**	**01 05 18.4**	**+1.4**
ETOB				Pg	**Pg**	**01 05 23.1**	**-1.4**
ETOB				Sn	**Sn**	**01 05 49.9**	**+2.7**
ETOB				Lg		01 05 57.3	
ESDC	**Sonseca Array**	**2.54**	**359**	Pn	**Pn**	**01 05 21.0**	**+2.2**
4.5nm,0.1s,baz=181,slow=12,SNR=25							
ESDC				Pg	**Pg**	**01 05 26.4**	**-0.5**
4.4nm,0.1s,baz=174,slow=17,SNR=7.9							
ESDC				Lg		01 06 03.3	
20nm,0.5s,baz=182,slow=27,SNR=7.9							
ESDC	**Sonseca Array**	**2.54**	**359**	Pn	**Pn**	**01 05 21.0**	**+2.3**
4.5nm,0.1s,SNR=25							
ESDC	**Sonseca Array**	**2.54**	**359**	Pg	**Pg**	**01 05 26.4**	**-0.5**
4.4nm,0.1s,SNR=7.9							
ESLA	**Sonseca Array**	**2.54**	**359**	*e*P	**Pn**	**01 05 21.1**	**+2.4**
ESLA	**Sonseca Array**	**2.54**	**359**	*e*P	**Pn**	**01 05 21.1**	**+2.4**
EGRO	**El Granado**	**2.86**	**279**	Pn	**Pn**	**01 05 23.2**	**-0.1**
1.8nm,0.3s,SNR=4.0							
EGRO				Sn	**Sn**	**01 05 58.1**	**-0.3**
1.9nm,0.2s,SNR=4.0							
EGRO				Lg		01 06 10.2	
3.7nm,0.2s,SNR=7.9							
EGRO	**El Granado**	**2.86**	**279**	Pn	**Pn**	**01 05 23.2**	**-0.1**
1.8nm,0.3s,SNR=4.0							
EGRO				Sn	**Sn**	**01 05 56.5**	**-2.0**
SNR=4.0							
EGRO	**El Granado**	**2.86**	**279**	Pn	**Pn**	**01 05 23.2**	**-0.1**
EGRO				Sn	**Sn**	**01 05 56.5**	**-1.9**
EGRO				Lg		01 06 11.6	
EBAD	**Badajoz**	**2.92**	**305**	Pn	**Pn**	**01 05 24.8**	**+0.5**
1.0nm,0.3s,SNR=6.8							
EBAD				Sn	**Sn**	**01 06 00.2**	**+0.1**
2.6nm,0.3s,SNR=5.1							
EBAD				Lg		01 06 14.2	
13nm,0.6s,SNR=7.9							
EBAD	**Badajoz**	**2.92**	**305**	Pn	**Pn**	**01 05 24.8**	**+0.5**
1.0nm,0.3s,SNR=6.8							
EBAD				Sn	**Sn**	**01 05 59.5**	**-0.7**
2.6nm,0.3s,SNR=5.1							
EBAD	**Badajoz**	**2.92**	**305**	Pn	**Pn**	**01 05 24.8**	**+0.5**
EBAD				Sn	**Sn**	**01 05 59.5**	**-0.6**
EBAD				Lg		01 06 13.4	
PBEJ	**Beja**	**3.25**	**287**	*e*Sg	**Sg**	**01 06 22.7**	**-1.8**
5.9nm,0.4s							
PBEJ	**Beja**	**3.25**	**287**	*e*Sg	**Sg**	**01 06 22.7**	**-1.8**
5.9nm,0.4s							
EBEN	**Beniarda**	**3.32**	**61**	Pn	**Pn**	**01 05 30.2**	**+0.3**
0.9nm,0.3s,SNR=7.9							
EBEN				Sn	**Sn**	**01 06 08.4**	**-1.9**
0.9nm,0.2s,SNR=7.9							
ECHE	**Chera**	**3.38**	**43**	Pg	**Pg**	**01 05 41.8**	**-2.0**
0.9nm,0.2s,SNR=7.9							
ECHE				Sn	**Sn**	**01 06 10.8**	**-0.9**
2.9nm,0.4s,SNR=7.9							
ECHE				Lg		01 06 27.9	
0.6nm,0.2s,SNR=7.9							
ECHE	**Chera**	**3.38**	**43**	Pn	**Pn**	**01 05 32.7**	**+1.9**
SNR=4.0							
ECHE	**Chera**	**3.38**	**43**	Pg	**Pg**	**01 05 42.0**	**-1.8**
SNR=7.9							
ECHE				Sn	**Sn**	**01 06 10.8**	**-1.0**
2.9nm,0.4s,SNR=7.9							
ECHE	**Chera**	**3.38**	**43**	Pn	**Pn**	**01 05 32.6**	**+1.9**
ECHE				Pg	**Pg**	**01 05 42.0**	**-1.8**
ECHE				Sn	**Sn**	**01 06 10.8**	**-0.9**
ECHE				Lg		01 06 27.9	
EVO	**Evora**	**3.52**	**295**	*e*Pn	**Pn**	**01 05 34.5**	**+1.8**
EVO				*e*Sn	**Sn**	**01 06 16.1**	**+0.9**
EVO				*e*Sg	**Sg**	**01 06 34.8**	**+1.4**
18nm,0.4s							
PTEO	**Sao Teotonio**	**3.84**	**278**	*e*Sn	**Sn**	**01 06 22.9**	**-0.4**
PTEO				*e*Sg	**Sg**	**01 06 44.8**	**+0.7**
7.9nm,0.7s							
PTEO	**Sao Teotonio**	**3.84**	**278**	Sn	**Sn**	**01 06 22.9**	**-0.4**
PTEO				Lg		01 06 44.8	
4.0nm,0.7s							
PCBR	**Castelo Branco**	**3.88**	**315**	*e*Pn	**Pn**	**01 05 39.2**	**+1.4**
PCBR				*e*Sn	**Sn**	**01 06 22.7**	**-1.6**
4.6nm,0.6s							
PCBR	**Castelo Branco**	**3.88**	**315**	*e*Pn	**Pn**	**01 05 39.2**	**+1.4**
PCBR				*e*Sn	**Sn**	**01 06 22.7**	**-1.6**
4.6nm,0.6s							
PTOM	**Tomar**	**4.30**	**307**	*e*Pn	**Pn**	**01 05 44.5**	**+0.6**
PTOM				*e*Sn	**Sn**	**01 06 34.3**	**-0.8**
MTE	**Manteigas**	**4.31**	**320**	*e*Pn	**Pn**	**01 05 45.0**	**+1.0**
MTE				*e*Sn	**Sn**	**01 06 32.5**	**-2.8**
8.1nm,0.5s							
MTE	**Manteigas**	**4.31**	**320**	*e*Pn	**Pn**	**01 05 45.0**	**+1.0**
MTE				*e*Sn	**Sn**	**01 06 32.5**	**-2.8**
8.1nm,0.5s							
EIBI	**Ibiza**	**4.57**	**64**	Pn	**Pn**	**01 05 47.1**	**-0.6**
0.6nm,0.1s,SNR=7.9							
PVRL	**Vila Real**	**5.07**	**326**	*e*Sn	**Sn**	**01 06 52.2**	**-2.3**
3.7nm,0.6s							
PVRL	**Vila Real**	**5.07**	**326**	*e*Sn	**Sn**	**01 06 52.2**	**-2.3**
3.7nm,0.6s							
PBRG	**Braganca**	**5.14**	**336**	*e*Pn	**Pn**	**01 05 57.0**	**+1.2**
PBRG				*e*Sg	**Sg**	**01 07 25.0**	**-2.6**
3.3nm,0.5s							
PBRG	**Braganca**	**5.14**	**336**	Pn	**Pn**	**01 05 57.0**	**+1.2**
PBRG				Lg		01 07 25.0	
1.6nm,0.5s							
ECAL	**Calabor**	**5.27**	**337**	Pn	**Pn**	**01 05 58.9**	**+1.4**
0.4nm,0.1s,SNR=7.9							
ECAL				Sn	**Sn**	**01 06 57.1**	**-2.3**
0.4nm,0.2s,SNR=4.0							
ECAL				Lg		01 07 30.1	
8.4nm,0.7s,SNR=7.9							
ECAL	**Calabor**	**5.27**	**337**	Sn	**Sn**	**01 06 59.4**	**0.0**
SNR=4.0							
PCAB	**Cabril**	**5.56**	**327**	*e*Pn	**Pn**	**01 06 01.8**	**+0.2**
PCAB				*e*Sg	**Sg**	**01 07 39.1**	**-2.3**
5.2nm,0.7s							
PCAB	**Cabril**	**5.56**	**327**	Pn	**Pn**	**01 06 01.8**	**+0.2**
PCAB				Lg		01 07 39.1	
2.6nm,0.7s							
ELOB	**Lobios**	**5.70**	**327**	Pn	**Pn**	**01 06 04.8**	**+1.2**
0.3nm,0.1s,SNR=7.9							
ELOB				Sn	**Sn**	**01 07 07.4**	**-2.9**
0.9nm,0.3s,SNR=7.9							
ELOB	**Lobios**	**5.70**	**327**	Pn	**Pn**	**01 06 04.8**	**+1.1**
ELOB				Sn	**Sn**	**01 07 07.4**	**-2.9**
ELOB	**Lobios**	**5.70**	**327**	Pn	**Pn**	**01 06 04.8**	**+1.2**
ELOB				Sn	**Sn**	**01 07 07.5**	**-2.9**
ELOB				Lg		01 07 41.1	
ELAN	**Lanestosa**	**6.10**	**3**	Pn	**Pn**	**01 06 09.5**	**+0.2**
0.3nm,0.2s,SNR=7.9							
ELAN	**Lanestosa**	**6.10**	**3**	Pn	**Pn**	**01 06 09.5**	**+0.2**
ETSF	**Etsaut**	**6.31**	**23**	*e*Pn	**Pn**	**01 06 12.5**	**+0.3**
ETSF				*e*Sn	**Sn**	**01 07 22.2**	**-3.4**
1.1nm,0.5s							
SJPF	**Ste Jean**	**6.32**	**18**	*e*Pn	**Pn**	**01 06 13.1**	**+0.7**
SJPF				*e*Sn	**Sn**	**01 07 23.1**	**-2.7**
0.8nm,0.4s							
EALK	**Alkurruntz**	**6.36**	**16**	Pn	**Pn**	**01 06 13.3**	**+0.4**
0.5nm,0.1s,SNR=7.9							
EPF	**Esparros**	**6.74**	**28**	*e*Pn	**Pn**	**01 06 17.4**	**-0.9**
LFF	**La Frestale**	**8.56**	**23**	*e*Pn	**P**	**01 06 43.0**	**-0.7**

NEIC ***30*** *01:07:58.1, 32.44S×71.75W, h15^{km}, ML2.7(GUC), After GUC.*

GUC 30 01:07:58.1±0.8, 32.44S×71.75W, h15^{km}±4^{km}, MD3.5, ML2.7, 6C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.59**	**21**	⇓*i*P	Pb	01 08 09.3	-0.3
CHNG				*i* S	Sb	01 08 17.9	+0.3
CHNG				AMP		01 08 21.3	
comp=E,249nm,0.6s							
ROCH	**El Roble**	**0.82**	**131**	⇑*i*P	Pb	01 08 13.1	-0.3
ROCH				*i* S	Sb	01 08 24.3	+0.3
JACH	**Jahuel**	**1.00**	**104**	⇑*i*P	Pb	01 08 15.8	-0.8
JACH				*i* S	Sb	01 08 30.0	+0.5
LCCH	**Las Cruces**	**1.04**	**172**	*e*P	Pb	01 08 16.3	-1.1
LCCH				*i* S	Sb	01 08 29.9	-0.7
PEL	**Peldehue**	**1.14**	**128**	⇑*i*P	Pb	01 08 18.2	-0.7
PEL				*i* S	Sb	01 08 33.5	+0.2
RCDM	**Rinconada Maip**	**1.31**	**143**	*e*P	Pb	01 08 20.6	-1.3
RCDM				*i* S	Sb	01 08 37.6	-0.7
RCDM				AMP		01 08 39.5	
comp=N,510nm,0.2s							
TACH	**Talagante**	**1.39**	**151**	*e*P	Pn	01 08 22.1	-1.0
TACH				*i* S	Sb	01 08 39.5	-1.1
CLCH	**Cerro Calan**	**1.40**	**133**	⇑*i*P	Pn	01 08 22.5	-0.6
CLCH				*i* S	Sb	01 08 40.6	-0.2
CLCH				AMP		01 08 41.8	
comp=E,212nm,0.2s							
CMCH	**Combarbala**	**1.42**	**27**	⇑*i*P	Pn	01 08 22.1	-1.3
CMCH				*i* S	Sb	01 08 40.7	-0.6
CMCH				AMP		01 08 42.6	
comp=E,446nm,0.5s							
ANTU	**Antumapu**	**1.46**	**141**	*i* S	Sb	01 08 41.9	-0.9
ANTU				AMP		01 08 47.7	
comp=N,199nm,0.4s							
FCH	**Farellones**	**1.51**	**126**	⇓*i*P	Pn	01 08 23.7	-1.1
FCH				*i* S	Sb	01 08 44.1	-0.1
FCH				AMP		01 08 45.3	
comp=E,126nm,0.2s							
LNV	**Longovilo**	**1.54**	**169**	*e*P	Pn	01 08 24.3	-0.8
PCH	**Pirque**	**1.57**	**139**	⇑*i*P	Pn	01 08 25.5	-0.1
PCH				*i* S	Sn	01 08 45.4	-0.3
CHCH	**Chadas Angostu**	**1.75**	**149**	*e*P	Pn	01 08 28.1	-0.1
CHCH				*i* S	Sn	01 08 50.3	-0.1
LMEL	**Las Melosas**	**1.91**	**138**	*e*P	Pn	01 08 30.4	-0.2
LMEL				*i* S	Sn	01 08 55.5	+1.1
LMEL				AMP		01 08 58.8	
comp=N,154nm,0.2s							
CICH	**Cipreses**	**2.18**	**150**	*i* P	Pn	01 08 34.7	+0.3
SFDO	**San Fernando**	**2.25**	**164**	*i* S	Sn	01 09 04.7	+1.6
TLL	**Tololo Astrono**	**2.41**	**20**	*i* P	Pn	01 08 39.2	+1.6
TLL				*i* S	Sn	01 09 09.9	+2.8
TLL				AMP		01 09 16.0	
comp=E,99nm,0.6s							

MAN 30 01:24:37.6, 17.29N×119.92E, h12^{km}, mb4.3, ML3.2, MS3.0, 2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.84**	**65**	*e*P	Pb	01 24 53.8	+0.2
ABRA				*e*S	Sb	01 25 07.1	+2.5
BCPH	**Baguio City Da**	**1.11**	**145**	⇓*e*P	Pb	01 24 56.1	-2.1
BCPH				*e*S	Sb	01 25 11.8	-0.6
APYP	**Conner**	**1.39**	**66**	*e*P	Pn	01 25 01.8	-1.1
APYP				*e*S	Sb	01 25 20.5	-0.1
SCZP	**Santa Cruz**	**1.51**	**180**	*e*P	Pn	01 25 02.1	-2.5
CAUP	**Cauayan**	**1.86**	**100**	*e*P	Pn	01 25 11.4	+1.8
CVP	**Callao Caves**	**1.86**	**77**	⇓*e*P	Pn	01 25 09.0	-0.7
CVP				*i* S	Sn	01 25 38.0	+4.7
BALP	**Baler**	**2.22**	**134**	*e*P	Pn	01 25 14.7	0.0
SGCP	**Mt. Cagua**	**2.24**	**65**	*e*P	Pn	01 25 15.5	+0.4
POLP	**Polillo Island**	**3.21**	**142**	*e*P	Pn	01 25 29.7	+0.8
LUBP	**Lubang**	**3.55**	**175**	*e*P	Pn	01 25 36.3	+2.5

NIED ***30*** *02:46:00, 26.50N×144.40E, h17^{km}, Mw4.2 Best double couple: M0=2.06×10^{15} NP1:φs=298°, δ60°, λ-74°. NP2:φs=87°, δ34°, λ-116°.*
JMA ***30*** *02:46:52.6±0.1, 26.50N×144.39E, M4.8*
IDC ***30*** *02:46:53.6±0.6, 26.10N×144.11E, mb4.3/17, mb1 4.5/19, mb1mx4.4/23, mbtmp4.3/19, ML4.1/2, MS3.3/3, Ms1 3.3/3, ms1mx3.0/29, Error ellipse: s-maj=20.5km s-min=16.1km az=62.0*
NEIC ***30*** *02:46:54.9±0.3, 26.07N×144.07E, h10^{km}, mb4.5/9, MW4.1(NIED), Error ellipse: s-maj=10.1km s-min=7.0km az=72.0*

ISC 30 02:46:55.0±0.6, 26.43N±0.07×144.21E±0.07, h10^{km}, n56, σ1§01/56, mb4.3/26, MS3.4/1, 2C, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**1.83**	**277**	P	**Pn**	**02 47 28.2**	**+1.3**
JHHJ				*e*S	**Sn**	**02 47 54.1**	**+3.8**
CBIJ	**Chichi jima**	**1.93**	**291**	Pn	**Pn**	**02 47 29.2**	**+0.9**
35nm,0.3s,baz=279,slow=21,SNR=16							
CBIJ				Sn	**Sn**	**02 47 53.3**	**+0.5**
217nm,0.3s,baz=303,slow=23,SNR=11							
JHJ	**Hachijo jima 2**	**7.70**	**331**	Pn	**Pn**	**02 48 50.2**	**+0.3**
12nm,0.3s,baz=72,slow=23,SNR=4.4							
JHJ				Sn	**Sn**	**02 50 15.2**	**-2.8**
23nm,0.3s,baz=81,slow=18,SNR=7.8							
BSO1	**Boso 1**	**8.66**	**342**	P	**P**	**02 49 02.3**	**-1.0**
BSO1				S	**Sn**	**02 50 38.1**	**-3.9**
BSO3	**Boso 3**	**8.93**	**340**	P	**P**	**02 49 07.3**	**+0.2**
BSO3				*e*S	**Sn**	**02 50 48.7**	**-0.1**
BSO4	**Boso 4**	**9.16**	**340**	P	**P**	**02 49 09.7**	**-0.5**
BSO4				*e*S	**Sn**	**02 50 52.6**	**-1.9**
JHU	**Hanno**	**10.29**	**337**	P	**P**	**02 49 25.8**	**-0.1**
JHU				*e*S	**S**	**02 51 17.2**	**-5.3**
JRY	**Ryogami san**	**10.58**	**336**	P	**P**	**02 49 30.9**	**+1.1**
MAJO	**Matsushiro**	**11.30**	**335**	*e*P	**P**	**02 49 40.3**	**+0.6**
16nm,0.7s							
MAT	**Matsushiro**	**11.30**	**335**	P	**P**	**02 49 39.6**	**-0.1**
MAT				S	**S**	**02 51 42.0**	**-5.2**
MAT	**Matsushiro**	**11.30**	**335**	*e*P	**P**	**02 49 40.0**	**+0.3**
5.5nm,0.7s							
MAT				*e*S	**S**	**02 51 42.0**	**-5.2**
JNU	**Nakatsue**	**13.36**	**303**	LR	LR	02 54 53.0	
comp=Z,62nm,20.1s,baz=54,slow=36							
ASAJ	**Asahikawa**	**17.70**	**356**	P	**P**	**02 51 05.0**	**+1.8**
1.0nm,0.3s,baz=215,slow=29,SNR=3.6							
ASAJ				LR	LR	02 57 29.5	
comp=Z,132nm,18.1s,baz=254,slow=35							
ENH	**Enshi**	**30.73**	**285**	P	**P**	**02 53 08.5**	**-4.0**
ULN	**Ulaanbaatar**	**36.05**	**316**	P	**P**	**02 53 59.5**	**+1.0**
2.1nm,0.8s,mb4.1							
SONM	**Songino Array**	**36.45**	**316**	P	**P**	**02 54 02.6**	**+0.8**
2.8nm,1.0s,mb4.2,baz=115,slow=8.3,SNR=11							
SONM				LR	LR	03 08 38.6	
comp=Z,56nm,18.6s,MS3.4,baz=97,slow=36							
WRAB	**Tennant Creek**	**47.07**	**193**	*e*P	**P**	**02 55 23.7**	**-5.3**
10nm,0.6s,mb4.9							
WB2	**Warramunga Arr**	**47.08**	**193**	*e*P	**P**	**02 55 23.6**	**-5.5**
WRA	**Warramunga Arr**	**47.08**	**193**	P	**P**	**02 55 23.8**	**-5.3**
1.8nm,0.5s,mb4.3,baz=14,slow=8.8

PLCA	**Paso Flores**	**147.95 125**	PKPbc	PKPdf	03 06 41.2	+0.6
LPAZ	**La Paz**	**148.32 78**	PKPbc	PKPdf	03 06 44.1	+2.3
	3.6nm,0.8s,baz=302,slow=3.5,SNR=14					
SAML	**Samuel**	**148.76 61**	*e*PKPbc	PKPdf	03 06 43.8	+1.2

CSEM ***30*** *03:08:41.5±1.7,37.50N×24.87W,h10km, ML2.0, Error ellipse: s-maj=44.9km s-min=4.1km az=84.0, After PDA*
PDA ***30*** *03:08:41.5±0.7,37.50N×24.87W,h10km, MD2.5, ML2.0, Error ellipse: s-maj=8.2km s-min=3.8km az=44.0*

SVSA 30 03:08:41.5±0.7,37.50N×24.87W,h10km,MD2.5, ML2.0, Error ellipse: s-maj=8.2km s-min=3.8km az=44.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIRA	**Miradouro**	**0.43**	**311**	*i* P	Pg	03 08 50.3	0.0
MIRA				*i* S	Sg	03 08 56.3	+0.1
MIRA	**Miradouro**	**0.43**	**311**	*i* S	Sg	03 08 56.3	+0.1
FRA1	**Furnas**	**0.46**	**302**	*e*P	Pg	03 08 49.2	-1.6
FRA1				*i* S	Sg	03 08 55.0	-2.0
PFAD	**Fenais da Ajud**	**0.49**	**313**	*e*P	Pg	03 08 49.9	-1.6
PCNG	**Congro**	**0.50**	**302**	*e*P	Pg	03 08 50.0	-1.6
PCNG				*e*S	Sg	03 08 55.8	-2.5
	36nm,0.2s						
VIF	**Vila Franca**	**0.52**	**298**	*e*P	Pg	03 08 50.5	-1.4
PSMN	**Pico do Norte,**	**0.52**	**198**	*e*P	Pg	03 08 47.3	-4.8
PSMN				*i* S	Sg	03 08 53.9	-5.3
MESC	**Monte Escuro**	**0.54**	**302**	*e*P	Pg	03 08 50.7	-1.8
MESC				*e*S	Sg	03 08 57.8	-2.0
LFA	**Lagoa do Fogo**	**0.56**	**299**	*e*P	Pg	03 08 50.9	-1.9
PVER	**Pico Vermelho**	**0.59**	**300**	*e*P	Pg	03 08 52.7	-0.7
CML	**Cha da Macela**	**0.60**	**297**	*e*P	Pb	03 08 52.8	-0.8
CML				*e*S	Sg	03 09 00.3	-1.5
FAC	**Faja de Cima**	**0.68**	**294**	*e*P	Pb	03 08 54.0	-0.9
FAC				*e*S	Sb	03 09 02.1	-2.0
PSAN	**Santo Antonio**	**0.77**	**297**	*e*P	Pb	03 08 55.1	-1.3
PFET	**Feteiras**	**0.80**	**294**	*e*P	Pb	03 08 55.6	-1.4
SET2	**Ginetes**	**0.82**	**295**	*e*P	Pb	03 08 56.0	-1.4
SET4	**Mosteiros**	**0.83**	**297**	*e*P	Pb	03 08 55.9	-1.6
RIB2	**Ribeirinha**	**2.16**	**303**	*e*P	Pn	03 09 13.6	-4.5
PVNV	**Vila Nova**	**2.20**	**306**	*e*P	Pn	03 09 13.7	-4.9
PPAD	**Pico dos Padre**	**2.25**	**303**	*e*P	Pn	03 09 15.0	-4.4
PBIS	**Biscoitos**	**2.26**	**304**	*e*P	Pn	03 09 15.4	-4.1
ASBA	**Santa Barbara**	**2.29**	**303**	*e*P	Pn	03 09 15.8	-4.1

IDC ***30*** *03:42:47.0±0.8,21.88N×121.70E,mb4.2/9,mb1 4.3/9, mb1mx4.1/17,mbtmp4.2/9,MS3.5/3,Ms1 3.5/3, ms1mx3.1/26,Error ellipse: s-maj=56.0km s-min=15.8km az=70.0*
BJI ***30*** *03:42:47.0,21.65N×121.03E,h27km,mb4.6,ML4.2, Ms4.0*
JMA ***30*** *03:42:51.4±0.3,21.83N×121.24E,M4.8*
MAN ***30*** *03:42:53.6,21.47N×120.76E,h13km,mb4.9,ML3.9, MS3.9*
NEIC ***30*** *03:42:53.2±1.6,21.84N×121.67E,h46km±15km,mb4.4/1, Error ellipse: s-maj=36.0km s-min=11.6km az=73.0*
NEIC Recorded [3 TAP] in P'ing-tung and [1 TAP] in Kao-hsiung and T'ai-tung Counties.

ISC 30 03:42:50.8±0.4,21.77N±0.03×120.94E±0.05,h33km,n32, σ1$45/39,mb4.1/11,MS3.4/3,1C-1D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBP	**Basco**	**1.63**	**144**	*e*P	**P**	**03 43 19.4**	**+1.9**
BBP				*e*S	**S**	**03 43 41.3**	**+3.9**
NACB	**Ninganchiao**	**2.47**	**14**	*e*P	**P**	**03 43 28.2**	**-1.3**
YHNB	**Yeheng**	**2.92**	**8**	*e*P	**P**	**03 43 36.2**	**+0.3**
TATO	**Taipei**	**3.23**	**9**	*e*P	**P**	**03 43 41.1**	**+0.8**
YOJ	**Yonaguni jima**	**3.29**	**35**	P	**P**	**03 43 42.7**	**+1.5**
YOJ				*e*S	**S**	**03 44 21.6**	**+1.9**
HATJ	**Hateruma jima**	**3.49**	**49**	S	**S**	**03 44 24.7**	**0.0**
JKRS	**Kuro-shima**	**3.75**	**48**	P	**P**	**03 43 48.9**	**+1.2**
JKRS				*e*S	**S**	**03 44 31.3**	**+0.1**
QZH	**Quanzhou**	**3.83**	**326**	P	**P**	**03 43 46.3**	**-2.5**
QZH				S	**S**	**03 44 25.5**	**-7.9**
QZH				Smax			
	comp=N,510nm,0.9s						
QZH				Smax			
	comp=E,660nm,1.0s						
APYP	**Conner**	**3.89**	**176**	*e*P	**P**	**03 43 51.7**	**+2.0**
JIJ	**Ishigaki jima**	**3.92**	**48**	P	**P**	**03 43 51.3**	**+1.2**
JIJ				S	**S**	**03 44 34.6**	**-1.1**
ABRA	**Dolores**	**4.10**	**183**	*e*P	**P**	**03 43 52.5**	**-0.3**
CVP	**Callao Caves**	**4.12**	**168**	⇑*i*P	**P**	**03 43 54.0**	**+0.9**
CVP				*i* S	**S**	**03 44 41.0**	**+0.2**
JTJ	**Tarama**	**4.49**	**50**	P	**P**	**03 43 59.1**	**+0.9**
JTJ				*e*S	**S**	**03 44 49.5**	**-0.5**
CAUP	**Cauayan**	**4.87**	**170**	*e*P	**P**	**03 44 08.3**	**+4.7**
JMJ	**Miyako jima 2**	**5.02**	**52**	*e*S	**S**	**03 45 02.1**	**-1.3**
JKE	**Kume jima 2**	**7.01**	**48**	P	**P**	**03 44 32.3**	**-1.4**
NJ2	**Nanjing**	**10.41**	**350**	*e*P	**P**	**03 45 22.0**	**+1.1**
NJ2				PP	PP	03 45 32.0	+3.4
NJ2				S	**S**	**03 47 18.0**	**+0.5**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
NJ2				LR	LR		
	comp=N,380nm,11.5s						
NJ2				LR	LR		
	comp=E,520nm,11.2s						
MDJ	**Mudanjiang**	**23.88**	**15**	P	**P**	**03 48 01.0**	**-1.2**
MDJ				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,23nm,3.3s						
SONM	**Songino Array**	**28.52**	**339**	P	**P**	**03 48 43.7**	**-1.6**
	comp=Z,1.3nm,0.8s,mb3.7,baz=154,slow=11,SNR=9.7						
SONM				LR	LR	04 01 29.5	
	comp=Z,113nm,19.4s,MS3.5,baz=98,slow=39						
ASAJ	**Asahikawa**	**28.60**	**34**	LR	LR	04 00 06.0	
	comp=Z,70nm,19.2s,MS3.3,baz=103,slow=37						
FITZ	**Fitzroy Crossi**	**39.89**	**173**	P	**P**	**03 50 22.2**	**-1.1**
	comp=Z,5.7nm,0.9s,mb4.3,baz=5.6,slow=9.7,SNR=4.7						
FITZ	**Fitzroy Crossi**	**39.89**	**173**	P	**P**	**03 50 22.2**	**-1.1**
MKAR	**Makanchi Array**	**39.95**	**318**	P	**P**	**03 50 26.7**	**+3.1**
	comp=Z,0.9nm,0.6s,mb3.7,baz=105,slow=10.0,SNR=5.1						
ZAL	**Zalesovo**	**42.17**	**329**	P	**P**	**03 50 43.0**	**+1.2**
	comp=Z,1.3nm,0.3s,mb4.1,baz=341,slow=4.8,SNR=5.7						
ZAL				LR	LR	04 10 17.4	
	comp=Z,82nm,22.0s,MS3.6,baz=88,slow=39						
WRA	**Warramunga Arr**	**43.47**	**162**	P	**P**	**03 50 50.8**	**-2.0**
	comp=Z,6.0nm,0.6s,mb4.5,baz=343,slow=9.0,SNR=39						
WB2	**Warramunga Arr**	**43.48**	**162**	‖*i*P	**P**	**03 50 50.7**	**-2.2**
STKA	**Stephens Creek**	**56.89**	**159**	P	**P**	**03 52 33.3**	**-1.7**
	comp=Z,7.1nm,0.8s,mb4.8,baz=342,slow=7.6,SNR=8.8						
STKA	**Stephens Creek**	**56.89**	**159**	*e*P	**P**	**03 52 32.7**	**-2.3**
ILAR	**Eielson Array**	**71.46**	**27**	P	**P**	**03 54 06.7**	**-2.8**
	comp=Z,0.6nm,1.0s,mb3.5,baz=282,slow=7.1,SNR=4.8						
ARCES	**ARCESS Array B**	**71.69**	**338**	P	**P**	**03 54 11.7**	**+0.9**
	comp=Z,1.5nm,0.7s,mb4.0,baz=61,slow=9.3,SNR=3.8						
FINES	**FINESS Array B**	**73.42**	**330**	P	**P**	**03 54 23.9**	**+2.8**
	comp=Z,2.6nm,0.9s,mb4.1,baz=31,slow=8.1,SNR=5.7						
INK	**Inuvik**	**75.54**	**22**	*e*P	**P**	**03 54 30.0**	**-3.2**
	comp=Z,5.5nm,1.0s,mb4.4						

BJI ***30*** *04:24:01.8,63.10N×143.60W,h6km,mB4.9,mb4.7,Ms4.6, Msz4.3*
HRVD ***30*** *04:24:03.8±0.4,63.20N×143.65W,h17km±1km,MW4.8/45, Centroid moment Tensor Solution. LP body waves: s12,c18;Mantle waves: s45,c78; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.18±.22; $M_{\theta\theta}$-0.58±.12; $M_{\phi\phi}$-1.60±.13; $M_{r\theta}$-0.61±.39; $M_{\theta\phi}$0.73±.06; $M_{\phi r}$-0.48±.30; Best double couple: $M_0$2.197×10^{16} NP1:ϕ_s317°,δ45°,λ67° NP2:ϕ_s169°,δ49°,λ112°. Principal axes: T 2.411, Plg74°, Azm146°; N -.425, Plg16°, Azm334°; P -1.983, Plg2°, Azm244°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS ***30*** *04:24:03.6±0.8,63.19N×143.59W,h10km,mb5.3/49 Error ellipse: s-maj=13.6km s-min=4.9km az=89.8*
NEIC ***30*** *04:24:03.8,63.10N×143.58W,h6km,mb5.0/139,MS4.3/4, ML5.0(PMR),ML4.6(AEIC),After AEIC.*
NEIC Felt [IV] at Tok. Felt as far as Eagle and Paxon.
IDC ***30*** *04:24:04.6±1.7,63.13N×143.49W,h66km±10km,mb4.5/20, mb1 4.6/25,mb1mx4.6/27,mbtmp4.5/25,ML4.2/5,MS4.0/16, Ms1 4.0/16,ms1mx3.9/28,Error ellipse: s-maj=17.1km s-min=7.2km az=44.0*

PGC ***30*** *04:24:05.3,63.17N×143.17W,h1km,ML4.9/2,Eastern Alaska.*

ISC 30 04:24:03.2±0.1,63.14N±0.01×143.43W±0.03,h6km, (h26km±3.0km:pP-P),n411,σ0$98/421,mb4.9/165, MS4.1/22,70C-9D,Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MENT	**Mentasta**	**0.24**	**213**	*e*P	**Pg**	**04 24 06.7**	**-1.5**
DOT	**Dot Lake**	**0.58**	**331**	P	**Pg**	**04 24 15.6**	**+0.8**
DOT				S	**Sg**	**04 24 23.7**	**+1.0**
PAX	**Paxson**	**0.94**	**260**	P	**Pb**	**04 24 20.4**	**-1.2**
SDG	**Sourdough**	**1.15**	**238**	P	**Pb**	**04 24 23.8**	**-1.3**
WACK	**Wrangell Chich**	**1.23**	**200**	P	**Pb**	**04 24 24.9**	**-1.7**
DDM	**Donnelly Dome**	**1.27**	**302**	P	**Pb**	**04 24 27.8**	**+0.7**
GLB	**Gilahina Butte**	**1.72**	**186**	P	**Pn**	**04 24 33.1**	**-0.8**
GLB				S	**Sn**	**04 24 55.4**	**-1.0**
HDA	**Harding Lake**	**2.01**	**311**	P	**Pn**	**04 24 37.5**	**-0.6**
KLU	**Klutina**	**2.02**	**216**	P	**Pn**	**04 24 37.8**	**-0.4**
BALM	**Baldy**	**2.18**	**166**	P	**Pn**	**04 24 40.2**	**-0.2**
IL1	**Eielson Array**	**2.24**	**319**	P	**Pn**	**04 24 40.4**	**-0.9**
ILAR	**Eielson Array**	**2.24**	**319**	Pn	**Pn**	**04 24 40.4**	**-0.9**
	73nm,0.3s,baz=142,slow=12,SNR=3449						
ILAR				Pg	**Pg**	**04 24 45.5**	**-2.3**
	298nm,0.3s,baz=136,slow=16,SNR=188						
ILAR				Lg		04 25 15.7	
	1μm,0.3s,baz=132,slow=28,SNR=25						
ILAR	**Eielson Array**	**2.24**	**319**	P	**Pn**	**04 24 40.4**	**-0.9**
ILAR						04 25 15.7	
SCM	**Sheep Creek Mo**	**2.24**	**236**	P	**Pn**	**04 24 41.4**	**0.0**
BMRM	**Bremner River**	**2.25**	**195**	P	**Pn**	**04 24 40.9**	**-0.6**
BMRM				S	**Sn**	**04 25 10.9**	**+1.0**
DIV	**Divide**	**2.30**	**210**	P	**Pn**	**04 24 41.8**	**-0.4**
DIV				S	**Sn**	**04 25 11.9**	**+0.7**
CTGM	**Chitina Glacie**	**2.40**	**155**	P	**Pn**	**04 24 43.3**	**-0.3**
CRQM	**Cirque**	**2.40**	**177**	P	**Pn**	**04 24 44.7**	**+1.1**
VLZ	**Valdez**	**2.44**	**215**	P	**Pn**	**04 24 43.8**	**-0.4**
CCB	**Clear Creek Bu**	**2.45**	**310**	P	**Pn**	**04 24 42.8**	**-1.6**
WRH	**Wood River Hil**	**2.46**	**305**	P	**Pn**	**04 24 43.2**	**-1.3**
RND	**Reindeer**	**2.47**	**279**	P	**Pn**	**04 24 46.0**	**+1.4**
MCK	**McKinley**	**2.54**	**286**	P	**Pn**	**04 24 46.2**	**+0.5**
MCK				S	**Sn**	**04 25 19.6**	**+2.2**
PRP	**Porcupine Dome**	**2.55**	**340**	P	**Pn**	**04 24 46.5**	**+0.7**
COLA	**College**	**2.61**	**314**	P	**Pn**	**04 24 45.2**	**-1.4**
SML	**Sawmill**	**2.64**	**242**	P	**Pn**	**04 24 47.2**	**+0.1**
SML				S	**Sn**	**04 25 20.9**	**+1.1**
SGAM	**Sherman Glacie**	**2.78**	**198**	P	**Pn**	**04 24 50.0**	**+0.9**
MDM	**Murphy Dome**	**2.79**	**313**	P	**Pn**	**04 24 47.6**	**-1.6**
FID	**Port Fidalgo**	**2.80**	**212**	P	**Pn**	**04 24 50.6**	**+1.2**
EYAK	**Cordova Ski Ar**	**2.83**	**204**	P	**Pn**	**04 24 50.7**	**+1.0**
CFI	**College Fiord**	**2.83**	**228**	P	**Pn**	**04 24 50.3**	**+0.5**
HUR	**Hurricane**	**2.83**	**269**	P	**Pn**	**04 24 50.9**	**+1.1**
GLI	**Glacier Island**	**2.85**	**219**	P	**Pn**	**04 24 50.2**	**+0.1**
BWN	**Browne**	**2.88**	**294**	P	**Pn**	**04 24 46.4**	**-4.2**
GHO	**Glory Hole Cre**	**2.90**	**244**	P	**Pn**	**04 24 52.2**	**+1.4**
YAH	**Yahtse**	**2.90**	**163**	P	**Pn**	**04 24 51.3**	**+0.5**
PMR	**Palmer**	**3.08**	**242**	P	**Pn**	**04 24 54.3**	**+1.0**
HIN	**Hinchinbrook I**	**3.12**	**209**	P	**Pn**	**04 24 54.5**	**+0.6**
PWL	**Port Wells**	**3.26**	**227**	P	**Pn**	**04 24 57.3**	**+1.5**
KTH	**Kantishna Hill**	**3.40**	**280**	P	**Pn**	**04 24 57.9**	**0.0**
FYU	**Fort Yukon**	**3.52**	**348**	P	**Pn**	**04 24 59.9**	**+0.3**
RC01	**Rabbit Creek A**	**3.61**	**238**	P	**Pn**	**04 25 01.8**	**+0.9**
HYT	**Haines Junctio**	**3.64**	**127**	Pn	**Pn**	**04 24 59.4**	**-1.8**
HYT				Pg	**Pg**	**04 25 09.1**	**-6.8**
HYT				Sg	**Sg**	**04 25 57.7**	**-6.6**
HYT				Trac		04 26 04.0	
	comp=Z,783nm,0.3s						
FIB	**Fire Island**	**3.73**	**241**	P	**Pn**	**04 25 01.1**	**-1.6**
LTI	**Latouche**	**3.76**	**216**	P	**Pn**	**04 25 03.2**	**+0.1**
MPA	**Moose Pass**	**3.87**	**229**	P	**Pn**	**04 25 06.2**	**+1.6**
MID	**Middleton Isla**	**3.98**	**202**	*e*P	**Pn**	**04 25 06.7**	**+0.5**
PNL	**Peninsula**	**3.99**	**149**	P	**Pn**	**04 25 05.5**	**-0.8**
SLKM	**Skilak Lake**	**4.17**	**234**	*e*P	**Pn**	**04 25 09.0**	**+0.2**
SEW	**Seward**	**4.19**	**226**	P	**Pn**	**04 25 10.0**	**+0.9**
STLK	**Strandline Lak**	**4.25**	**251**	P	**Pn**	**04 25 11.4**	**+1.4**
BM3	**Burnt Mountain**	**4.32**	**354**	P	**Pn**	**04 25 10.9**	**-0.1**
SPU	**Mount Spurr**	**4.50**	**248**	P	**Pn**	**04 25 15.0**	**+1.5**
WHY	**Whitehorse**	**4.75**	**118**	Pn	**Pn**	**04 25 15.0**	**-2.0**
WHY				Sn	**Sn**	**04 26 10.6**	**-2.5**
WHY				Sg	**Sg**	**04 26 30.1**	**-11**
WHY				Trac		04 26 34.0	
	comp=Z,574nm,0.5s						
WHY	**Whitehorse**	**4.75**	**118**	P	**Pn**	**04 25 15.3**	**-1.7**
COLD	**Coldfoot**	**4.99**	**328**	P	**Pn**	**04 25 19.6**	**-1.0**
RDN	**Redoubt North**	**5.15**	**243**	P	**Pn**	**04 25 23.7**	**+1.0**
RSO	**Redoubt South**	**5.18**	**243**	*e*P	**Pn**	**04 25 22.6**	**-0.5**
IM3	**Indian Mountai**	**5.28**	**307**	P	**Pn**	**04 25 22.4**	**-2.2**
IMA	**Indian Mountai**	**5.30**	**308**	*e*P	**Pn**	**04 25 23.9**	**-0.9**
XLV	**Seldovia**	**5.45**	**231**	P	**Pn**	**04 25 26.3**	**-0.6**
ILIM	**Iliamna**	**5.49**	**240**	P	**Pn**	**04 25 27.2**	**-0.2**
ILW	**Iliamna West**	**5.57**	**241**	P	**Pn**	**04 25 28.7**	**+0.1**
TTA	**Tatalina**	**5.73**	**273**	*e*P	**Pn**	**04 25 30.3**	**-0.6**
TT01	**Tatalina**	**5.74**	**273**	P	**Pn**	**04 25 30.8**	**-0.3**
OPT	**Oil Point**	**5.87**	**238**	P	**Pn**	**04 25 32.9**	**+0.1**
SVW2	**Sparrevohn**	**6.06**	**256**	*e*P	**Pn**	**04 25 34.5**	**-1.0**
INK	**Inuvik**	**6.59**	**34**	Pn	**Pn**	**04 25 40.8**	**-2.3**
	4.6nm,0.3s,baz=223,slow=16,SNR=68						
INK				Pg	**Pg**	**04 26 05.4**	**-9.4**
	10nm,0.3s,baz=206,slow=14,SNR=7.1						
INK				Lg		04 27 35.5	
	20nm,0.3s,baz=120,slow=25,SNR=5.3						
INK				LR	LR	04 28 33.9	
	comp=Z,2μm,18.4s,baz=222,slow=41						
INK	**Inuvik**	**6.59**	**34**	Pn	**Pn**	**04 25 40.6**	**-2.4**
INK				Sn	**Sn**	**04 26 55.9**	**-3.6**
INK				Sg	**Sg**	**04 27 34.7**	**-8.0**
INK				Trac		04 27 50.7	
	comp=Z,489nm,1.0s						
INK	**Inuvik**	**6.59**	**34**	*e*P	**Pn**	**04 25 39.9**	**-3.2**
KDAK	**Kodiak Island**	**7.02**	**224**	P	**Pn**	**04 25 48.0**	**-1.1**
DLBC	**Dease Lake**	**8.07**	**120**	Pn	**P**	**04 26 01.4**	**-2.4**
	2.5nm,0.3s,baz=315,slow=13,SNR=29						
DLBC				Lg		04 28 11.9	
	5.6nm,0.3s,baz=231,slow=24,SNR=18						
DLBC				LR	LR	04 29 40.5	
	comp=Z,332nm,19.4s,baz=314,slow=42						
DLBC	**Dease Lake**	**8.07**	**120**	⇑Pn	**P**	**04 26 01.2**	**-2.5**
DLBC				Pg	P	04 26 34.0	+30
DLBC				Sg	Sg	04 28 11.7	-20
DLBC				Trac		04 28 40.6	
	comp=Z,326nm,0.8s						
DLBC	**Dease Lake**	**8.07**	**120**	*e*P	**P**	**04 26 00.8**	**-3.0**
FNBB	**Fort Nelson**	**10.76**	**104**	Pn	**P**	**04 26 36.9**	**-3.8**
FNBB				Sn	**S**	**04 28 34.3**	**-8.4**
FNBB				Sg	S	04 29 37.4	+55
FNBB				Trac		04 30 04.9	
	comp=Z,166nm,1.0s						
RUBB	**Prince Rupert**	**11.16**	**136**	Pn	**P**	**04 26 43.4**	**-2.8**
RUBB				Sg	S	04 29 54.2	+62
BMBC	**Bull Mountain**	**12.87**	**114**	Pn	**P**	**04 27 08.8**	**-0.4**
BMBC				S		04 30 46.7	
BMBC				Trac		04 31 15.5	
	comp=Z,154nm,1.2s						
YKW3	**Yellowknife Ar**	**13.12**	**80**	Pn	**P**	**04 27 09.7**	**-2.9**
YKW3				Pn	**P**	**04 27 11.2**	**-1.3**
YKW3				S		04 31 06.8	
YKW3				Trac		04 31 40.7	
	comp=Z,41nm,1.1s						
YKW3				Trac		04 31 40.9	
	comp=Z,135nm,1.3s						
YKW3	**Yellowknife Ar**	**13.12**	**80**	*e*P	**P**	**04 27 09.4**	**-3.1**
YKA	**Yellowknife Ar**	**13.14**	**80**	Pn	**P**	**04 27 09.6**	**-3.2**
	0.6nm,0.3s,baz=285,slow=13,SNR=7.0						
YKA				Lg		04 30 47.6	
	0.1nm,0.3s,baz=293,slow=26,SNR=4.3						
YKA				LR	LR	04 32 53.9	
	comp=Z,513nm,18.2s,baz=275,slow=40						
BBB	**Bella Bella**	**13.66**	**136**	Pn	**P**	**04 27 19.0**	**-0.5**
	0.4nm,0.3s,baz=277,slow=9.8,SNR=5.2						
BBB				Lg		04 31 07.9	
	0.1nm,0.3s,baz=25,slow=14,SNR=3.1						
BBB				LR	LR	04 33 05.5	
	comp=Z,208nm,18.2s,baz=339,slow=40						
BBB	**Bella Bella**	**13.66**	**136**	Pn	**P**	**04 27 18.2**	**-1.3**
MAYB	**Maynard**	**15.50**	**138**	Pn	**P**	**04 27 48.0**	**+4.3**
PGC	**Sidney**	**18.21**	**134**	*e*P	**P**	**04 28 18.4**	**+0.4**
	94nm,1.1s						
EDM	**Edmonton**	**18.53**	**108**	*e*P	**P**	**04 28 19.9**	**-1.9**
OCWA	**Octopus Mounta**	**18.77**	**136**	P	**P**	**04 28 22.7**	**-2.1**
	67nm,1.1s						
OOW	**Octopus West**	**18.78**	**136**	P	**P**	**04 28 27.0**	**+2.1**
OSD	**Olympics--Snow**	**18.86**	**135**	P	**P**	**04 28 27.7**	**+1.8**
LON	**Longmire**	**20.41**	**133**	P	**P**	**04 28 43.9**	**+0.5**
RVW	**Rose Valley**	**20.64**	**136**	P	**P**	**04 28 46.9**	**+1.1**
NEW	**Newport**	**20.79**	**123**	P	**P**	**04 28 47.7**	**+0.4**
	11nm,0.9s,baz=333,slow=10,SNR=15						
NEW				LR	LR	04 37 40.8	
	comp=Z,372nm,18.0s,MS3.8,baz=320,slow=39						
NEW	**Newport**	**20.79**	**123**	*e*P	**P**	**04 28 47.0**	**-0.3**
	17nm,1.1s						
NEW	**Newport**	**20.79**	**123**	*e*P	**P**	**04 28 47.0**	**-0.3**
NEW				pmax	pmax		
	comp=Z,17nm,1.1s						
BILL	**Bilibino**	**20.84**	**306**	*e*P	**P**	**04 28 45.3**	**-2.3**
	comp=Z,40nm,0.9s						
BILL	**Bilibino**	**20.84**	**306**	*e*P	**P**	**04 28 45.3**	**-2.3**
BILL				pmax	pmax		
	comp=Z,40nm,0.9s						
OD2	**Odessa Site #2**	**20.93**	**127**	P	**P**	**04 28 48.8**	**+0.1**
WRD	**Warden**	**21.28**	**129**	P	**P**	**04 28 51.6**	**-0.7**
WALA	**Waterton Lakes**	**21.41**	**117**	*e*P	**P**	**04 28 53.1**	**-0.5**
	comp=Z,58nm,1.0s,mb4.9						
VLMM	**Larch Mountain**	**21.41**	**135**	P	**P**	**04 28 54.8**	**+1.2**
VLL	**Laurance Lake**	**21.59**	**135**	P	**P**	**04 28 56.8**	**+1.3**
CROR	**Criterion Ridg**	**22.25**	**134**	P	**P**	**04 29 03.5**	**+1.5**
MSO	**Missoula**	**23.20**	**121**	*e*P	**P**	**04 29 11.0**	**-0.2**
	comp=Z,10nm,1.2s,mb4.1						
CHMT	**Chamberlain Mo**	**23.40**	**120**	*e*P	**P**	**04 29 13.7**	**+0.6**
BMO	**Blue Mountains**	**23.61**	**129**	*e*P	**P**	**04 29 15.9**	**+0.6**
	comp=Z,9.8nm,1.2s,mb4.1						
HUMO	**Hull Mountain**	**23.79**	**140**	*e*P	**P**	**04 29 16.5**	**-0.5**
	comp=Z,47nm,1.7s,mb4.6						
KRMB	**Red Mountain**	**24.52**	**143**	P	**P**	**04 29 21.1**	**-3.0**
YBH	**Yreka Blue Hor**	**24.66**	**141**	P	**P**	**04 29 27.1**	**+1.6**
	comp=Z,9.5nm,1.0s,mb4.3,baz=36,slow=4.0,SNR=12						
YBH				LR	LR	04 39 28.7	
	comp=Z,217nm,18.4s,MS3.7,baz=339,slow=38						
YBH	**Yreka Blue Hor**	**24.66**	**141**	*e*P	**P**	**04 29 22.7**	**-2.8**
	comp=Z,9.3nm,1.1s,mb4.2						
YBH				P		04 29 27.1	
YBH				LR	LR	04 39 28.7	
DLMT	**Dillon**	**24.94**	**121**	*e*P	**P**	**04 29 27.6**	**-0.5**
BOZ	**Bozeman (W)**	**25.08**	**119**	*e*P	**P**	**04 29 30.0**	**+0.6**
	comp=Z,13nm,1.0s,mb4.4						
MOD	**Modoc**	**25.23**	**137**	*e*P	**P**	**04 29 31.4**	**+0.4**
	comp=Z,32nm,1.0s,mb4.8						
MCMT	**McKenzie Canyo**	**25.29**	**122**	*e*P	**P**	**04 29 31.4**	**0.0**
GCMT	**Greycliff**	**25.75**	**116**	*e*P	**P**	**04 29 35.8**	**0.0**
HLID	**Hailey**	**25.77**	**126**	*e*P	**P**	**04 29 35.9**	**-0.1**
	comp=Z,24nm,1.1s,mb4.7						
WDC	**Whiskeytown Da**	**25.78**	**141**	*e*P	**P**	**04 29 36.0**	**-0.1**
	comp=Z,37nm,1.4s,mb4.7						
QLMT	**Earthquake Lak**	**25.84**	**120**	*e*P	**P**	**04 29 36.7**	**+0.1**
YNR	**Norris Junctio**	**26.23**	**119**	*e*P	**P**	**04 29 41.0**	**+0.8**
YFT	**Old Faithful**	**26.39**	**120**	*e*P	**P**	**04 29 40.7**	**-1.0**
LAO	**LASA Array**	**26.46**	**111**	*e*P	**P**	**04 29 41.4**	**-0.9**
	comp=Z,29nm,1.1s,mb4.7						
LKWY	**Lake**	**26.46**	**119**	*e*P	**P**	**04 29 43.8**	**+1.4**
	comp=Z,18nm,1.1s,mb4.5						
FLWY	**Flagg Ranch**	**26.75**	**120**	*e*P	**P**	**04 29 46.0**	**+1.0**
IMW	**Indian Meadow**	**26.81**	**121**	*e*P	**P**	**04 29 46.8**	**+1.3**
	comp=Z,50nm,1.0s,mb5.0						
RRI2	**Red Ridge**	**27.13**	**122**	*e*P	**P**	**04 29 48.8**	**+0.3**
	comp=Z,20nm,1.1s,mb4.6						
TPAW	**Teton Pass**	**27.15**	**121**	*e*P	**P**	**04 29 49.0**	**+0.3**
	comp=Z,28nm,1.1s,mb4.7						
LOHW	**Long Hollow**	**27.18**	**120**	*e*P	**P**	**04 29 49.6**	**+0.7**
	comp=Z,13nm,1.1s,mb4.4						
SNOW	**Snow King Moun**	**27.25**	**121**	*e*P	**P**

comp=Z,14nm,1.0s,mb4.8
ARCES **ARCESS Array B 47.37 5 P P 04 32 38.9 -0.2**
comp=Z,10nm,0.9s,mb4.8,baz=352,slow=8.6,SNR=14
MDJ **Mudanjiang 50.16 292 P P 04 32 59.0 -1.9**
MDJ AP pP 04 33 04.0 +1.2
MDJ XP sP 04 33 06.8 +3.3
MDJ S **S 04 40 08.5 -3.3**
MDJ SS SS 04 43 44.3 +2.5
MDJ AMB AMB
comp=Z,9.0nm,0.9s,mb4.8
MDJ AMB AMB
comp=Z,21nm,4.0s
MDJ LR LR
comp=N,109nm,21.9s,MS4.0
MDJ LR LR
comp=E,107nm,21.9s,MS4.0
MDJ LR LR
comp=Z,112nm,17.5s,MS3.9
CN2 **Changchun 52.55 294** *e*P **P 04 33 17.8 -1.3**
CN2 AMB AMB
comp=Z,20nm,1.1s,mb5.0
MAJO **Matsushiro 52.99 279** *e*P **P 04 33 21.2 -1.2**
comp=Z,7.6nm,0.8s,mb4.7
MAJO **Matsushiro 52.99 279** *e*P **P 04 33 21.2 -1.3**
MAJO pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
MAT **Matsushiro 52.99 279** P **P 04 33 20.8 -1.7**
MAT **Matsushiro 52.99 279** *e*P **P 04 33 21.0 -1.5**
comp=Z,11nm,1.0s,mb4.7
MAT **Matsushiro 52.99 279** *e*P **P 04 33 21.0 -1.5**
MAT pmax pmax
comp=Z,11nm,1.0s,mb4.7
JOF **Joensuu 54.19 3** *e*p **P 04 33 29.1 -1.7**
NB2 **NORSAR Subarra 54.65 15** P **P 04 33 33.7 -0.6**
comp=Z,21nm,1.0s,mb5.1,baz=347,slow=7.0
NB2 **NORSAR Subarra 54.65 15** P **P 04 33 33.7 -0.6**
baz=347,slow=7.4
NB2 **NORSAR Subarra 54.65 15** P **P 04 33 33.7 -0.6**
NB2 pmax pmax
comp=Z,21nm,1.0s,mb5.1
NOA **NORSAR Array B 54.65 15** P **P 04 33 33.5 -0.8**
comp=Z,14nm,0.9s,mb5.0,baz=346,slow=7.3,SNR=14
NOA LR LR 04 57 29.0
comp=Z,128nm,18.2s,MS4.0,baz=330,slow=37
NOA **NORSAR Array B 54.65 15** P **P 04 33 33.5 -0.8**
NOA LR LR 04 57 29.0
KAF **Kangasniemi 54.82 6** *e*p **P 04 33 32.1 -3.4**
FINES **FINESS Array B 55.48 6** P **P 04 33 39.2 -1.1**
comp=Z,6.4nm,0.9s,mb4.7,slow=7.6,SNR=9.3
FINES LR LR 04 55 49.4
comp=Z,158nm,20.6s,MS4.1,baz=334,slow=34
FINES **FINESS Array B 55.48 6** P **P 04 33 39.2 -1.1**
FINES LR LR 04 55 49.4
SONM **Songino Array 56.44 311** P **P 04 33 46.5 -0.9**
comp=Z,2.0nm,0.9s,mb4.2,baz=18,slow=6.6,SNR=10
SOKR **Solikamsk 56.64 348**⇓*i*P **P 04 33 48.5 -0.2**
SOKR pmax pmax
comp=Z,60nm,1.1s,mb5.5
ZAL **Zalesovo 57.34 328** P **P 04 33 52.0 -1.8**
comp=Z,2.6nm,0.8s,mb4.3,baz=77,slow=5.8,SNR=17
ESK **Eskdalemuir 57.90 26** *e*P **P 04 33 56.4 -1.2**
comp=Z,15nm,1.0s,mb5.0
SVE **Sverdlovsk 58.92 345** *e*P **P 04 34 03.2 -1.6**
SVE *e* 04 37 38.0
SVE *e* 04 46 10.0
SVE pmax pmax
comp=Z,92nm,1.4s,mb5.6
ARU **Arti 59.55 346** *e*P **P 04 34 07.9 -1.2**
comp=Z,48nm,1.0s,mb5.5
ARU **Arti 59.55 346**⇓*i*P **P 04 34 08.2 -0.9**
ARU *e* 04 36 18.1
ARU *e*S **S 04 42 13.0 -4.6**
ARU *e*SS SS 04 46 08.8 -5.4
ARU pmax pmax
comp=Z,38nm,0.9s,mb5.4
HHC **Hu-ho-hao-te 60.58 303** *e*P **P 04 34 16.8 +0.4**
HHC SCP 04 39 03.5
HHC AMB AMB
comp=Z,18nm,1.1s,mb5.1
HHC AMB AMB
comp=Z,191nm,8.4s
HHC LR LR
comp=N,232nm,14.3s,MS4.7
HHC LR LR
comp=E,298nm,14.4s,MS4.7
HHC LR LR
comp=Z,141nm,13.2s,MS4.3
BRVK **Borovoye 61.17 338** *e*P **P 04 34 18.6 -1.6**
comp=Z,15nm,1.1s,mb5.0
BRVK **Borovoye 61.17 338** *e*P **P 04 34 18.6 -1.6**
BRVK pmax pmax
comp=Z,15nm,1.1s,mb5.0
BSEG **Bad Segeberg 61.47 17** *e*P **P 04 34 22.2 0.0**
KURK **Kurchatov 61.75 331** *e*P **P 04 34 21.6 -2.7**
comp=Z,25nm,1.6s,mb5.1
KURK **Kurchatov 61.75 331** *e*P **P 04 34 21.6 -2.6**
KURK pmax pmax
comp=Z,25nm,1.6s,mb5.1
OBN **Obninsk 62.08 0***c i*P **P 04 34 25.4 -1.0**
OBN *e* 04 36 41.2
OBN *e*S **S 04 42 51.0 +1.1**
OBN pmax pmax
comp=Z,57nm,1.2s,mb5.6
OBN MLR MLR
comp=Z,100nm,16.0s,MS4.1
SUW **Suwalki 62.72 9** *e*P **P 04 34 29.8 -0.8**
SUW **Suwalki 62.72 9** *e*P **P 04 34 29.8 -0.8**
CLZ **Clausthal 63.52 18** *e*P **P 04 34 36.3 +0.5**
comp=Z,49nm,1.0s,mb5.5
CLZ **Clausthal 63.52 18** *e*P **P 04 34 36.3 +0.5**
CLZ pmax pmax
comp=Z,49nm,1.0s,mb5.5
BAIF **Baives 64.28 23**⇑*i*P **P 04 34 40.9 +0.1**
comp=Z,47nm,1.0s,mb5.2
BAIF **Baives 64.28 23**⇑*i*P **P 04 34 40.9 +0.1**
BAIF pmax pmax
comp=Z,23nm,1.0s,mb5.2
GIVF **Givet 64.35 22** *e*P **P 04 34 41.2 0.0**
comp=Z,60nm,1.1s,mb5.2
GIVF **Givet 64.35 22** *e*P **P 04 34 41.2 0.0**
GIVF pmax pmax
comp=Z,30nm,1.1s,mb5.2
CLL **Collm 64.39 16** ⇑P **P 04 34 41.2 -0.3**
comp=Z,logA/T=1.4,mb5.2
CLL **Collm 64.39 16**⇑*i*P **P 04 34 41.2 -0.3**
comp=Z,24nm,1.0s,mb5.2
CLL **Collm 64.39 16**⇑*i*P **P 04 34 41.2 -0.3**
CLL pmax pmax
comp=Z,24nm,1.0s,mb5.2
ROSF **Rostrenen 64.48 28**⇑*i*P **P 04 34 42.1 0.0**
comp=Z,42nm,1.1s,mb5.1
ROSF **Rostrenen 64.48 28**⇑*i*P **P 04 34 42.1 0.0**
ROSF pmax pmax
comp=Z,21nm,1.1s,mb5.1
MKAR **Makanchi Array 64.57 327** P **P 04 34 40.6 -2.1**
comp=Z,4.0nm,0.9s,mb4.5,baz=45,slow=5.1,SNR=13
FLN **La Foliniere 64.65 26**⇑*i*P **P 04 34 42.9 -0.3**
comp=Z,46nm,1.1s,mb5.1
FLN *e*R
comp=Z,275nm,22.0s
FLN **La Foliniere 64.65 26**⇑*i*P **P 04 34 42.9 -0.3**
FLN pmax pmax
comp=Z,23nm,1.1s,mb5.1
FLN MLR MLR
comp=Z,280nm,22.0s,MS4.4
SGMF **Saint Gilles 64.71 28**⇑*i*P **P 04 34 43.5 -0.1**
comp=Z,50nm,1.1s,mb5.2
SGMF **Saint Gilles 64.71 28**⇑*i*P **P 04 34 43.5 -0.1**
SGMF pmax pmax
comp=Z,25nm,1.1s,mb5.2
TNS **Taunus Mts 64.82 20** *e*P **P 04 34 44.4 +0.1**
comp=Z,22nm,1.2s,mb5.1
TNS **Taunus Mts 64.82 20** *e*P **P 04 34 44.4 +0.1**
TNS pmax pmax
comp=Z,22nm,1.2s,mb5.1
MOX **Moxa 64.86 17** *i*P **P 04 34 44.6 +0.1**
comp=Z,logA/T=1.5,mb5.3
MOX *e* 04 35 26.0
MOX **Moxa 64.86 17** *e*P **P 04 34 44.6 +0.1**
comp=Z,34nm,1.1s,mb5.3
MOX **Moxa 64.86 17** *e*P **P 04 34 44.6 +0.1**
MOX pmax pmax
comp=Z,34nm,1.1s,mb5.3
LDF **La Druitiere 64.88 26**⇑*i*P **P 04 34 44.4 -0.3**
comp=Z,37nm,1.0s,mb5.1
LDF **La Druitiere 64.88 26**⇑*i*P **P 04 34 44.4 -0.3**
LDF pmax pmax
comp=Z,19nm,1.0s,mb5.1
QUIF **Quistinic 64.90 28**⇑*i*P **P 04 34 44.6 -0.2**
comp=Z,58nm,1.4s,mb5.1
QUIF **Quistinic 64.90 28**⇑*i*P **P 04 34 44.6 -0.2**
QUIF pmax pmax
comp=Z,29nm,1.4s,mb5.1
GRR **Gorron 64.93 27**⇑*i*P **P 04 34 44.9 -0.1**
comp=Z,38nm,1.0s,mb5.1
GRR **Gorron 64.93 27**⇑*i*P **P 04 34 44.9 -0.1**
GRR pmax pmax
comp=Z,19nm,1.0s,mb5.1
BRG **Berggiesshubel 64.94 16** *e*P **P 04 34 35.5 -9.5**
comp=Z,2.5nm,0.6s,mb4.4
BRG *i* 04 34 45.3
BRG **Berggiesshubel 64.94 16** *e*P **P 04 34 35.6 -9.4**
BRG pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
WLF **Walferdange 65.00 21** *e*P **P 04 34 45.1 -0.4**
comp=Z,29nm,1.2s,mb5.2
WLF **Walferdange 65.00 21** *e*P **P 04 34 45.1 -0.3**
WLF pmax pmax
comp=Z,29nm,1.2s,mb5.2
SSE **Sheshan 65.08 290** P **P 04 34 46.5 +0.2**
SSE XP sP 04 34 51.0 +2.0
SSE S S 04 43 27.3 -0.3
SSE XS 04 43 33.3
SSE SCS ScS 04 44 42.0 +3.9
SSE SS SS 04 47 39.0 -2.5
SSE AMB AMB
comp=Z,17nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,167nm,6.2s
SSE LR LR
comp=N,22nm,17.6s,MS3.9
SSE LR LR
comp=E,69nm,17.6s,MS3.9
SSE LR LR
comp=Z,70nm,18.2s,MS3.9
SSE **Sheshan 65.08 290** P **P 04 34 46.5 +0.2**
comp=Z,17nm,0.7s,mb5.2
SSE sP sP 04 34 51.0 +2.0
SSE S S 04 43 27.3 -0.3
SSE sS 04 43 33.2
SSE ScS ScS 04 44 41.9 +3.8
SSE SS SS 04 47 39.1 -2.4
SSE LR LR
comp=Z,70nm,18.2s,MS3.9
KSP **Ksiaz 65.24 14** *e*P **P 04 34 47.6 +0.6**
KSP **Ksiaz 65.24 14** *e*P **P 04 34 47.3 +0.3**
PVCC **Panska Ves 65.35 15** *e*P **P 04 34 48.2 +0.5**
NKC **Novy Kostel 65.37 17** *e*P **P 04 34 48.6 +0.7**
TOD **Tromm 65.47 19** *e*P **P 04 34 48.7 +0.2**
UPC **Upice 65.54 14** *e*P **P 04 34 49.1 +0.2**
DPC **Dobruska-Polom 65.73 14** *e*P **P 04 34 50.7 +0.6**
GRA1 **Grafenberg Arr 65.74 18** *e*P **P 04 34 50.6 +0.4**
comp=Z,22nm,1.3s,mb5.0
GRF **Grafenberg Arr 65.74 18** *e*P **P 04 34 50.6 +0.4**
comp=Z,22nm,1.3s,mb5.0
GRF **Grafenberg Arr 65.74 18** *e*P **P 04 34 50.6 +0.4**
GRF pmax pmax
comp=Z,22nm,1.3s,mb5.0
GRF **Grafenberg Arr 65.74 18** *e*P **P 04 34 50.6 +0.4**
GRF pmax pmax
comp=Z,22nm,1.3s,mb5.0
PRU **Pruhonice 65.88 15** *e*P **P 04 34 51.7 +0.6**
WMQ **Urumqi 65.90 322** *e*P **P 04 34 50.0 -1.3**
WMQ PCP PcP 04 35 21.0 -1.1
WMQ PP PP 04 37 17.0 -1.7
WMQ SCP 04 39 23.0
WMQ S S 04 43 37.0 -0.4
WMQ SS SS 04 47 53.0 -0.5
WMQ AMB AMB
comp=Z,12nm,1.2s,mb4.8
WMQ AMB AMB
comp=Z,148nm,8.0s
WMQ LR LR
comp=N,114nm,16.0s,MS4.4
WMQ LR LR
comp=E,156nm,16.0s,MS4.4
WMQ LR LR
comp=Z,87nm,15.0s,MS4.1
LANF **Langenberg 65.93 20** *e*P **P 04 34 51.3 -0.1**
MEZF **Maizieres J'vi 65.94 22** *e*P **P 04 34 51.7 +0.2**
GTA **Gaotai 66.11 311** *e*P **P 04 34 52.0 -0.8**
GTA AP pP 04 35 01.0 +6.3
GTA XP sP 04 35 05.8 +10
GTA AMB AMB
comp=Z,3.0nm,0.9s,mb4.3
OJC **Ojcow 66.21 12** *e*P **P 04 34 53.2 0.0**
AKASG **Malin Array Be 66.35 5** P **P 04 34 53.3 -0.8**
comp=Z,21nm,0.9s,mb5.2,baz=356,slow=6.2,SNR=22
THEF **They Montfort 66.36 22** *e*P **P 04 34 54.2 0.0**
CDF **Champ du Feu 66.39 21**⇑*i*P **P 04 34 54.6 +0.2**
comp=Z,44nm,1.2s,mb5.1
CDF **Champ du Feu 66.39 21**⇑*i*P **P 04 34 54.6 +0.2**
CDF pmax pmax
comp=Z,22nm,1.2s,mb5.1
MORC **Moravsky Berou 66.42 13** *e*P **P 04 34 53.9 -0.7**
comp=Z,8.3nm,0.9s,mb4.8
MORC **Moravsky Berou 66.42 13** *e*P **P 04 34 53.9 -0.7**
MORC pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
OKC **Ostrava-Krasne 66.43 13** *e*P **P 04 34 54.5 -0.1**
WET **Wettzell 66.50 17** *e*P **P 04 34 55.6 +0.5**
comp=Z,28nm,1.1s,mb5.2
WET **Wettzell 66.50 17** *e*P **P 04 34 55.6 +0.5**
WET pmax pmax
comp=Z,28nm,1.1s,mb5.2
ECH **Echery 66.56 21** *e*P **P 04 34 55.6 +0.1**
KHC **Kasperske Hory 66.60 16** *e*P **P 04 34 56.7 +1.0**
KHC x x 04 35 13.5
KHC **Kasperske Hory 66.60 16** *e*P **P 04 34 56.7 +1.0**
KHC *e* 04 35 13.5
HAU **Haudompre 66.64 22**⇑*i*P **P 04 34 55.9 -0.1**
comp=Z,41nm,1.1s,mb5.1
HAU *e*R
comp=Z,223nm,18.0s
HAU **Haudompre 66.64 22**⇑*i*P **P 04 34 55.9 -0.1**
HAU pmax pmax
comp=Z,21nm,1.1s,mb5.1
HAU MLR MLR
comp=Z,220nm,18.0s,MS4.4
BFO **Black Forest 66.64 20** *e*P **P 04 34 55.9 -0.1**
comp=Z,16nm,1.1s,mb5.0
BFO **Black Forest 66.64 20** *e*P **P 04 34 55.9 -0.1**
BFO pmax pmax
comp=Z,16nm,1.1s,mb5.0
HYF **Humbligny 66.69 24** *e*P **P 04 34 56.6 +0.3**
comp=Z,153nm,0.9s,mb5.7
MFF **Saint Martin d 66.78 27**⇑*i*P **P 04 34 57.1 +0.2**
comp=Z,65nm,1.2s,mb5.2
MFF **Saint Martin d 66.78 27**⇑*i*P **P 04 34 57.1 +0.2**
MFF pmax pmax
comp=Z,32nm,1.2s,mb5.2
GEC2 **GERESS Array S 66.90 16** *e*P **P 04 34 58.0 +0.4**
comp=Z,13nm,1.1s,mb4.9
GEC2 **GERESS Array S 66.90 16** *e*P **P 04 34 58.0 +0.4**
GEC2 pmax pmax
comp=Z,13nm,1.1s,mb4.9
GERES **GERESS Array B 66.90 16** P **P 04 34 57.6 0.0**
comp=Z,4.2nm,0.8s,mb4.5,slow=4.0,SNR=31
GERES LR LR 05 05 25.6
comp=Z,140nm,19.9s,MS4.2,baz=181,slow=37
HINF **Hinteralfeld 66.90 21**⇑*i*P **P 04 34 57.6 -0.1**
comp=Z,16nm,0.8s,mb4.8
HINF **Hinteralfeld 66.90 21**⇑*i*P **P 04 34 57.6 -0.1**
HINF pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
LOR **Lormes 66.91 24**⇑*i*P **P 04 34 57.7 -0.1**
comp=Z,33nm,0.9s,mb5.1
LOR *e*R
comp=Z,147nm,20.2s
LOR **Lormes 66.91 24**⇑*i*P **P 04 34 57.7 -0.1**
LOR pmax pmax
comp=Z,17nm,0.9s,mb5.1
LOR MLR MLR
comp=Z,150nm,20.3s,MS4.2
MOF **Molkenrain 66.92 21** *e*P **P 04 34 57.7 0.0**
FELD **Feldberg 67.03 20** *e*P **P 04 34 58.6 +0.1**
NIE **Niedzica 67.05 11** *e*P **P 04 34 58.5 -0.1**
SSF **Saint Saulge 67.05 24**⇑*i*P **P 04 34 58.6 0.0**
comp=Z,63nm,1.1s,mb5.3
STHS **Stebnicka Huta 67.13 11** *e*P **P 04 34 59.6 +0.5**
AVF **Avril sur Loir 67.28 24**⇑*i*P **P 04 34 59.8 -0.3**
comp=Z,36nm,1.1s,mb5.0
LOMF **Lomont 67.35 21** *e*P **P 04 35 00.5 0.0**
BGF **Bois d'Agland 67.41 25**⇑*i*P **P 04 35 00.7 -0.2**
comp=Z,32nm,0.9s,mb5.0
SMF **Signal de Mont 67.51 24**⇑*i*P **P 04 35 01.2 -0.3**
comp=Z,42nm,1.1s,mb5.1
TCF **Toulx Ste Croi 67.55 25**⇑*i*P **P 04 35 01.6 -0.2**
comp=Z,54nm,1.2s,mb5.2
LZH **Lanzhou 67.65 306** *e*P **P 04 35 03.5 +0.9**
LZH AP pP 04 35 12.0 +7.5
LZH PP PP 04 37 33.5 -0.1
LZH AMB AMB
comp=Z,25nm,1.5s,mb5.0
LZH AMB AMB
comp=Z,123nm,4.6s
LZH **Lanzhou 67.65 306** *e*P **P 04 35 03.5 +0.9**
comp=Z,25nm,1.5s,mb5.0
LZH pP pP 04 35 12.0 +7.5
LZH sP sP 04 35 17.5 +12
LZH PP PP 04 37 33.5 -0.1
SMOL **Smolenice 67.66 14** *e*P **P 04 35 03.2 +0.8**
CRVS **Cervenica-Dubn 67.66 11** *e*sP sP 04 35 06.2 +1.1
VYHS **Vyhne 67.83 13** *e*P **P 04 35 03.6 +0.1**
DAVA **Damuels 67.89 19**⇑*i*P **P 04 35 04.5 +0.6**
comp=Z,13nm,1.3s,mb4.8
ZST **Bratislava 67.94 14** *e*P **P 04 35 03.2 -1.0**
CABF **La Chapelle 67.94 22**⇑*i*P **P 04 35 04.6 +0.3**
comp=Z,44nm,1.0s,mb5.2
MOA **Molln 67.95 16**⇑*i*P **P 04 35 03.9 -0.4**
comp=Z,12nm,1.5s,mb4.7
AGO **Saint Agoulin 67.95 24** *e*P **P 04 35 05.4 +1.1**
KECS **Kecovo 67.99 11** *e*P **P 04 35 04.0 -0.5**
MOTA **Moosalm 68.02 18**⇑*i*P **P 04 35 05.0 +0.3**
comp=Z,9.1nm,0.9s,mb4.8
MOTA **Moosalm 68.02 18**⇑*i*P **P 04 35 05.0 +0.3**
MOTA pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
WATA **Walderalm 68.09 18**⇑*i*P **P 04 35 05.7 +0.5**
comp=Z,17nm,0.9s,mb5.1
WATA **Walderalm 68.09 18**⇑*i*P **P 04 35 05.7 +0.5**
WATA pmax pmax
comp=Z,17nm,0.9s,mb5.1
PLDF **La Plantade 68.12 24** *e*P **P 04 35 06.4 +1.0**
SQTA **Sankt Quirin 68.15 18**⇓*i*P **P 04 35 06.3 +0.7**
comp=Z,20nm,1.0s,mb5.1
SQTA **Sankt Quirin 68.15 18**⇓*i*P **P 04 35 06.3 +0.7**
SQTA pmax pmax
comp=Z,20nm,1.0s,mb5.1
WTTA **Wattenberg 68.17 18**⇑*i*P **P 04 35 06.2 +0.5**
comp=Z,47nm,1.0s,mb5.5
WTTA **Wattenberg 68.17 18**⇑*i*P **P 04 35 06.2 +0.5**
WTTA pmax pmax
comp=Z,47nm,1.0s,mb5.5
PYM **Petit Puy Mans 68.22 25** *e*P **P 04 35 06.9 +0.9**
RJF **Les Rejaudoux 68.36 26**⇑*i*P **P 04 35 06.5 -0.4**
comp=Z,25nm,1.1s,mb4.8
RJF *e*R
comp=Z,252nm,17.2s
PSZ **Piszkesteto 68.50 12** *e*P **P 04 35 07.4 -0.3**
comp=Z,19nm,1.0s,mb5.1
LFF **La Frestale 68.55 27**⇑*i*P **P 04 35 08.2 +0.1**
comp=Z,73nm,1.0s,mb5.3
KBA **Koelnbreinsper 68.59 17**⇑*i*P **P 04 35 09.1 +0.9**
comp=Z,44nm,1.0s,mb5.3
KBA **Koelnbreinsper 68.59 17**⇑*i*P **P 04 35 09.1 +0.9**
KBA pmax pmax
comp=Z,44nm,1.0s,mb5.3
ARSA **Arzberg 68.69 15**⇑*i*P **P 04 35 09.4 +0.5**
comp=Z,16nm,1.1s,mb4.9
LBL **Lubilhac 68.76 25** *e*P **P 04 35 10.8 +1.4**
EARI **Arriondas 68.80 31** P **P 04 35 10.8 +1.1**
comp=Z,21nm,1.0s,mb5.0
CAF **Calviac 68.83 26**⇑*i*P **P 04 35 09.7 -0.1**
comp=Z,42nm,1.0s,mb5.0
CAF **Calviac 68.83 26**⇑*i*P **P 04 35 09.7 -0.1**
CAF pmax pmax
comp=Z,21nm,1.0s,mb5.0
EZAM **Zamans 69.03 34** P **P 04 35 11.2 +0.1**
comp=Z,8.8nm,0.6s,mb4.9
LPL **La Plagne 69.11 22**⇑*i*P **P 04 35 12.6 +1.1**
comp=Z,16nm,1.0s,mb4.6
LPG **La Plagne 69.14 22**⇑*i*P **P 04 35 12.9 +1.2**
comp=Z,34nm,1.2s,mb4.9
BURAR **Bucovina Array 69.22 8** ⇑P **P 04 35 12.0 -0.2**
BURAR **Bucovina Array 69.22 8**⇑*i*P **P 04 35 12.0 -0.2**
PERS **Pernice 69.25 16** *e*P **P 04 35 13.8 +1.5**
ELAN **Lanestosa 69.28 30** P **P 04 35 12.9 +0.3**
comp=Z,19nm,1.0s,mb5.0
OBKA **Obir 69.30 16**⇓*i*P **P 04 35 13.1 +0.4**
comp=Z,63nm,0.9s,mb5.5
VIVF **Saint-Julien-l 69.39 24**⇑*i*P **P 04 35 13.3 +0.1**
comp=Z,27nm,1.0s,mb4.8
ROBS **Robic 69.43 17** *e*P **P 04 35 13.2 -0.2**
ELOB **Lobios 69.45 34** P **P 04 35 14.2 +0.5**
comp=Z,14nm,1.0s,mb4.9
ORIF **Oris-en-Rattie 69.55 23**⇑*i*P **P 04 35 14.5 +0.3**
comp=Z,15nm,0.9s,mb4.6
ORIF *e*R
comp=Z,130nm,18.0s
BNI **Bardonecchia 69.56 22** *e*P **P 04 35 14.3 0.0**
comp=Z,15nm,1.1s,mb4.8
ECAL **Calabor 69.72 33** P **P 04 35 16.2 +1.0**
comp=Z,13nm,1.0s,mb4.8
EALK **Alkurruntz 69.72 29** P **P 04 35 16.0 +0.7**
comp=Z,6.0nm,0.6s,mb4.7
PBRG **Braganca 69.84 33** *e*P **P 04 35 16.9 +0.8**
comp=Z,21nm,1.5s,mb4.8
DRGR **69.86 10** ⇓P **P 04 35 14.8 -1.3**
DRGR **69.86 10**⇑*i*P **P 04 35 14.8 -1.3**
MBDF **Montbardon 69.89 22** *e*P **P 04 35 17.4 +1.1**
comp=Z,34nm,1.1s,mb4.9
LASF **Ste Croix 69.99 24** *e*P **P 04 35 17.3 +0.4**
comp=Z,41nm,1.4s,mb4.9
PVRL **Vila Real 70.10 34** *e*P **P 04 35 18.1 +0.5**
comp=Z,28nm,1.3s,mb5.0
ETSF **Etsaut 70.24 28**⇑*i*P **P 04 35 19.2 +0.8**
comp=Z,28nm,1.0s,mb4.9
EPF **Esparros 70.30 27** *e*P **P 04 35 18.4 -0.4**
comp=Z,15nm,1.0s,mb4.6
AAK **Ala-Archa 70.32 331***c i*P **P 04 35 17.3 -1.6**
AAK pmax pmax
comp=Z,13nm,1.3s,mb4.7
BOJS **Bojanci 70.38 16** *e*P **P 04 35 19.5 +0.3**
MTLF **Montolieu 70.38 26**⇑*i*P **P 04 35 19.4 +0.1**
comp=Z,27nm,1.0s,mb4.8
SMRF **Simiane la Rot 70.41 23** *e*P **P 04 35 20.3 +0.9**
comp=Z,24nm,1.1s,mb4.8
EBIE **Bielsa 70.59 28** P **P 04 35 21.2 +0.6**
comp=Z,8.2nm,0.9s,mb4.7
TOUF **Mont Tournerai 70.66 22** *e*P **P 04 35 21.8 +0.8**
AUTN **L'Aution 70.71 22** *e*P **P 04 35 22.2 +0.9**
SAOF **Saorge 70.74 22** *e*P **P 04 35 21.9 +0.4**
MVIF **Mont Vial 70.76 22** *e*P **P 04 35 23.2 +1.6**
SBF **Sospel 70.84 22**⇑*i*P **P 04 35 22.4 +0.3**
comp=Z,43nm,1.0s,mb5.0
REVF **Revere 70.95 22** *e*P **P 04 35 24.0 +1.3**
MTE **Manteigas 70.97 34** *e*P **P 04 35 22.7 -0.2**
comp=Z,42nm,1.1s,mb5.3
FRF **La Foret Royal 71.00 23**⇑*i*P **P 04 35 23.2 +0.2**
comp=Z,40nm,1.1s,mb5.0
VRI **Vrincioaia 71.06 7** ⇑P **P 04 35 24.1 +0.7**
VRI **Vrincioaia 71.06 7**⇑*i*P **P 04 35 24.1 +0.8**
LMR **La Mourre 71.19 23**⇑*i*P **P 04 35 24.6 +0.4**
comp=Z,33nm,1.0s,mb4.9
ESAC **San Caprasio 71.38 28** P **P 04 35 25.3 -0.1**
comp=Z,24nm,1.0s,mb5.1
MLR **Muntele Rosu 71.38 8** ⇓P **P 04 35 26.2 +0.9**
MLR **Muntele Rosu 71.38 8**⇑*i*P **P 04 35 26.2 +0.9**
PTOM **Tomar 71.48 35** *e*P **P 04 35 26.3 +0.3**
comp=Z,24nm,1.3s,mb5.0
PCBR **Castelo Branco 71.51 34** *e*P **P 04 35 26.1 -0.1**
comp=Z,30nm,1.2s,mb5.1
GOF **Gofitskoye 72.03 355**⇓*i*P **P 04 35 27.4 -1.8**
GOF pmax pmax
comp=Z,50nm,1.3s,mb5.3
EPOB **Poblet 72.06 27** P **P 04 35 30.1 +0.6**
comp=Z,13nm,1.1s,mb4.8
PGF **Pioggiola 72.38 21**⇑*i*P **P 04 35 31.4 +0.1**
comp=Z,46nm,1.1s,mb5.0
ANN **Anapa 72.40 359** *e*P **P 04 35 30.9 -0.5**
ANN pmax pmax
comp=Z,30nm,0.9s,mb5.2
ESDC **Sonseca Array 72.54 32** P **P 04 35 32.9 +0.7**
comp=Z,10nm,0.9s,mb4.8,baz=338,slow=5.6,SNR=43
ESDC **Sonseca Array 72.54 32** P **P 04 35 33.3 +1.1**
comp=Z,12nm,0.9s,mb4.8

ESLA Sonseca Array 72.54 32 *eP* **P 04 35 32.4 +0.2**
comp=Z,11nm,1.3s,mb4.6
EVO Evora 72.60 35⇑*iP* **P 04 35 32.6 0.0**
comp=Z,48nm,1.0s,mb5.1
EVO *eR*
comp=Z,127nm,21.0s
EBAD Badajoz 72.65 34 P **P 04 35 33.5 +0.6**
comp=Z,18nm,0.9s,mb5.0
EMOS Mosqueruela 72.68 29 P **P 04 35 34.2 +1.2**
comp=Z,17nm,0.9s,mb5.0
PBEJ Beja 73.12 35 *eP* **P 04 35 35.3 -0.3**
comp=Z,18nm,1.4s,mb4.8
KIV Kislovodsk 73.14 355 *eP* **P 04 35 35.4 -0.2**
comp=Z,30nm,1.0s,mb5.2
KIV Kislovodsk 73.14 355*c iP* **P 04 35 35.7 +0.1**
KIV pmax pmax
comp=Z,35nm,1.3s,mb5.1
KIV MLR MLR
comp=Z,100nm,17.0s,MS4.2
ECHE Chera 73.31 29 P **P 04 35 38.0 +1.3**
comp=Z,7.6nm,0.8s,mb4.7
PTEO Sao Teotonio 73.34 36 *eP* **P 04 35 37.6 +0.6**
comp=Z,47nm,1.6s,mb5.2
EMIN Mina Concepcio 73.67 34 P **P 04 35 39.8 +1.0**
comp=Z,15nm,1.0s,mb4.9
EADA Adamuz 73.82 33 P **P 04 35 40.8 +1.1**
comp=Z,8.1nm,1.0s,mb4.6
EVIA Vianos 73.87 31 P **P 04 35 41.4 +1.4**
comp=Z,18nm,0.8s,mb5.0
EBAN Banos Encina 74.02 32 P **P 04 35 42.7 +1.9**
comp=Z,11nm,0.9s,mb4.8
SDV Santo Domingo 74.37 101 *eP* **P 04 35 42.1 -1.2**
comp=Z,11nm,0.8s,mb4.8
EQES Quesada 74.53 32 P **P 04 35 45.3 +1.5**
comp=Z,11nm,1.0s,mb4.8
EHUE Huescar 74.63 31 P **P 04 35 46.0 +1.6**
comp=Z,5.0nm,0.9s,mb4.4
ESPR Espera 74.73 34 P **P 04 35 47.1 +2.1**
comp=Z,14nm,1.0s,mb4.8
ELOJ Sierra Loja 74.89 33 P **P 04 35 48.4 +2.4**
comp=Z,1.2nm,0.3s,mb4.3
ERON Agron 75.10 32 P **P 04 35 48.5 +1.3**
comp=Z,7.0nm,0.6s,mb4.8
EJIF Jimena Fronter 75.22 34 P **P 04 35 48.8 +0.9**
EMIJ Mijas 75.29 33 P **P 04 35 50.4 +2.1**
comp=Z,22nm,1.0s,mb5.0
EBER Berja 75.44 32 P **P 04 35 50.1 +1.1**
comp=Z,21nm,0.9s,mb5.1
ROSC El Rosal 76.33 107 P **P 04 35 55.5 +0.9**
comp=Z,17nm,0.9s,mb5.0,baz=124,slow=4.9,SNR=11
BR131 Keskin Array S 77.45 2 *eP* **P 04 36 00.1 -0.2**
comp=Z,11nm,1.1s,mb4.7
BRTR Keskin Array B 77.45 2 P **P 04 36 01.1 +0.8**
comp=Z,7.4nm,1.0s,mb4.6,slow=2.5,SNR=18
KMI Kunming 77.89 302 P **P 04 36 05.5 +2.5**
KMI S S 04 45 57.5 +2.3
KMI AMB AMB
comp=Z,21nm,1.7s,mb4.8
KMI AMB AMB
comp=Z,135nm,3.1s
KMI LR LR
comp=N,178nm,21.5s
KMI LR LR
comp=E,298nm,16.4s
KMI LR LR
comp=Z,164nm,14.3s
KMI Kunming 77.89 302 P **P 04 36 05.6 +2.6**
comp=Z,21nm,1.7s,mb4.8
KMI *pP pP 04 36 15.0 +10
KMI S S 04 45 57.5 +2.3
KMI LR LR
comp=Z,160nm,14.3s,MS4.5
KMI Kunming 77.89 302 P **P 04 36 05.6 +2.6**
KMI *PP pP 04 36 15.0 +10
KMI S S 04 45 57.5 +2.3
KMI pmax pmax
comp=Z,21nm,1.7s,mb4.8
KMI MLR MLR
comp=Z,160nm,14.3s,MS4.5
PPT Papeete 80.59 186 LR LR 05 03 33.1
comp=Z,210nm,20.4s,MS4.5,baz=6.7,slow=29
GKN Gorkha 81.50 318 *eP* **P 04 36 22.3 -0.1**
comp=Z,38nm,1.2s,mb5.2
KKN Kakani 81.51 318 *eP* **P 04 36 22.1 -0.3**
comp=Z,9.0nm,0.6s,mb4.9
PKI Pulchoki 81.67 318 *eP* **P 04 36 22.0 -1.3**
DMN Daman 81.73 318 *eP* **P 04 36 23.6 0.0**
comp=Z,33nm,1.3s,mb5.1
KOLN Koldanda 82.03 319 *eP* **P 04 36 24.2 -0.9**
comp=Z,31nm,1.2s,mb5.1
SAML Samuel 93.53 103 *eP* **P 04 37 18.9 -2.0**
comp=Z,8.0nm,1.1s,mb5.1
PLCA Paso Flores 118.52 124 PKP PKPdf 04 42 50.9 -2.8
comp=Z,2.6nm,0.9s,baz=337,slow=6.7,SNR=5.0
PLCA Paso Flores 118.52 124 PKP PKPdf 04 42 50.9 -2.8
VNDA Vanda 144.34 198 PKP PKPdf 04 43 37.3 -3.3
comp=Z,1.2nm,0.7s,baz=332,slow=3.2,SNR=5.3
BOSA Boshof 144.69 17 PKP PKPdf 04 43 40.1 -2.6
comp=Z,12nm,0.9s,baz=40,slow=2.4,SNR=13
BOSA Boshof 144.69 17 *e*PKP PKPdf 04 43 39.3 -3.3
CASY Casey 149.94 231 *e*PKPbc PKPdf 04 43 52.5 +2.4
QSPA South Pole Qui 152.96 180 *eP* PKPdf 04 44 00.0 +5.7
QSPA ⇓*iP* 04 44 12.2

TIF ***30*** *04:39:16.4, 42.78N×45.26E, h18km±3km*
MOS ***30*** *04:39:16.6±2.4, 42.31N×44.90E, h15km, mb4.4/1, Error ellipse: s-maj=21.3km s-min=14.4km az=43.6*
ISC 30 04:39:17.8±1.1,**42.81N**±0.07×**45.28E**±0.07,**h29**km±12km,
n11,σ1§11/17,1C-4D,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LACR	**Lac**	**0.72**	**272**	⇓*iPG*	**Pb**	**04 39 31.3**	**-0.4**
LACR				*eS*	**Sb**	**04 39 42.0**	**+0.7**
ARNR	**Ardon**	**0.82**	**298**	⇓*ePG*	**Pb**	**04 39 37.5**	**+4.0**
ARNR				*eS*	**Sb**	**04 39 52.8**	**+8.6**
ZEI	**Tsey**	**1.01**	**268**	*ePG*	**Pn**	**04 39 34.4**	**-1.8**
ZEI				*e*		04 39 49.4	
ZEI				pmax	pmax		
comp=Z,55nm,0.2s
ZEI smax
comp=N,349nm,0.2s
XNZR Khunzakh 1.09 104⇑*iPG* **Pn 04 39 40.5 +3.2**
XNZR *i* S **Sn 04 40 00.5 +9.0**
XNZR pmax pmax
comp=Z,47nm,0.3s
UNCR Uncukul 1.12 94⇓*iPG* **Pn 04 39 38.0 +0.2**
UNCR pmax pmax
comp=Z,107nm,0.2s
TBLG Delisi 1.15 201 P **Pn 04 39 37.1 -1.1**
TBLG S **Sn 04 39 54.2 +1.2**
DBC Dubki 1.16 79 *ePG* **Pn 04 39 38.0 -0.4**
MTA Mtatsminda 1.17 198 P **Pn 04 39 37.3 -1.1**
MTA S **Sn 04 39 53.6 0.0**
DIGR Digorskoe uzhe 1.25 275⇓*ePG* **Pn 04 39 39.5 -0.1**
DIGR *i* S **Sn 04 39 56.5 +0.9**
DGRG David-gareji 1.36 177 P **Pn 04 39 31.9 -9.3**
KIV Kislovodsk 2.21 302 *ePN* **Pn 04 39 58.7 +5.4**

PRE ***30*** *04:51:35.5±2.4, 27.01S×26.73E, h2km, ML4.4*
IDC ***30*** *04:51:35.7±1.0, 26.90S×26.63E, mb4.0/7, mb1 4.2/11, mb1mx4.0/25, mbtmp4.1/11, ML4.1/2, Error ellipse: s-maj=19.5km s-min=10.0km az=94.0*
ISC 30 04:51:34.1±1.2,**26.89S**±0.04×**26.70E**±0.04,**h2km**±8km,
n26,σ1§35/39,mb3.9/6,3D,South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWZ	**Schweizer**	**1.25**	**256**	*eP*	**Pb**	**04 52 00.4**	**+2.3**
SWZ				*eS*	**Sb**	**04 52 17.1**	**+2.5**
SWZ				AML	AML	04 52 19.9	
comp=Z,18μm,0.2s
SEK Senekal 1.65 150 *eP* **Pn 04 52 06.3 +2.0**
SEK *eS* **Sb 04 52 26.3 +0.2**
SEK AML AML 04 52 30.6
comp=Z,4μm,0.2s
LBTB Lobatse 2.11 332 Pn **Pn 04 52 13.9 +3.0**
comp=Z,65nm,0.3s,baz=164,slow=18,SNR=380
LBTB Pg **Pg 04 52 15.2 -1.1**
comp=Z,65nm,0.3s,baz=164,slow=17,SNR=382
LBTB Sn **Sn 04 52 39.8 +1.6**
comp=Z,323nm,0.3s,baz=66,slow=19,SNR=45
LBTB Lg 04 52 42.1
comp=Z,342nm,0.3s,baz=258,slow=14,SNR=57
LBTB Rg 04 52 50.5
comp=Z,2μm,1.1s,baz=69,slow=21,SNR=27
LBTB Lobatse 2.11 332 *eP* **Pn 04 52 15.0 +4.1**
LBTB *eS* **Sn 04 52 42.0 +3.8**
BOSA Boshof 2.14 216 Pn **Pn 04 52 12.9 +1.7**
comp=Z,70nm,0.3s,baz=42,slow=15,SNR=394
BOSA Pg **Pg 04 52 15.2 -1.6**
comp=Z,70nm,0.3s,baz=39,slow=18,SNR=179
BOSA Sn **Sn 04 52 38.5 -0.2**
comp=Z,96nm,0.3s,baz=142,slow=19,SNR=9.0
BOSA Lg 04 52 41.6
comp=Z,198nm,0.3s,baz=324,slow=20,SNR=11
NWL Newcastle 3.01 107 *eP* **Pn 04 52 24.7 +0.9**
NWL *eS* **Sn 04 52 58.6 -2.3**
NWL AML AML 04 53 07.3
comp=Z,566nm,0.3s
POGA Pongola 4.41 97 *eP* **Pn 04 52 44.4 +0.8**
POGA *eS* **Sn 04 53 33.7 -2.5**
POGA AML AML 04 53 59.3
comp=Z,341nm,0.4s
PKA Prieska 4.44 231 *eP* **Pn 04 52 44.3 +0.2**
PKA *eS* **Sn 04 53 34.5 -2.6**
PKA AML AML 04 53 55.6
comp=Z,361nm,0.8s
SUR Sutherland 7.49 222 Pn **Pn 04 53 26.3 -0.8**
comp=Z,3.8nm,0.3s,baz=60,slow=15,SNR=42
SUR Sn **Sn 04 54 48.7 -4.9**
comp=Z,10nm,0.3s,baz=353,slow=22,SNR=6.2
SUR Lg 04 55 24.8
comp=Z,13nm,0.3s,baz=326,slow=22,SNR=13
SUR Sutherland 7.49 222 *eP* **Pn 04 53 26.3 -0.8**
SUR *eS* **Sn 04 54 45.9 -7.7**
CVNA Calvinia 7.59 231 *eP* **Pn 04 53 27.5 -1.0**
CVNA *eS* **Sn 04 54 47.8 -8.3**
CVNA AML AML 04 54 58.9
comp=Z,27nm,0.5s
TSUM Tsumeb 11.35 310 Pn **P 04 54 19.2 -1.2**
comp=Z,0.7nm,0.3s,baz=128,slow=9.5,SNR=7.5
TSUM Sn **S 04 56 20.4 -8.7**
comp=Z,1.0nm,0.3s,baz=222,slow=19,SNR=3.8
TSUM Lg 04 57 30.9
comp=Z,1.3nm,0.3s,baz=236,slow=7.4,SNR=4.1
OPO Ambohidratompo 20.61 71 P **P 04 56 18.0 +0.6**
comp=Z,2.3nm,0.8s,baz=269,slow=11,SNR=3.1
DBIC Dimbokro 45.24 313 P **P 04 59 54.7 -0.3**
comp=Z,7.7nm,1.0s,mb4.5,baz=132,slow=5.7,SNR=4.3
SNAA Sanae 47.73 192⇓*i* **P 05 00 14.4 +0.5**
SNAA Sanae 47.73 192 *e* **P 05 00 15.6 +1.7**
SNAA Sanae 47.73 192 P **P 05 00 13.7 -0.3**
comp=Z,1.4nm,0.8s,mb4.0,baz=48,slow=8.3,SNR=19
VNA2 Neumayer--Watz 48.09 194⇓*i* **P 05 00 16.9 +0.2**
VNA2 Neumayer--Watz 48.09 194 *e* **P 05 00 18.3 +1.6**
VNA3 Neumayer Olymp 48.83 195⇓*i* **P 05 00 22.2 -0.2**
VNA3 Neumayer Olymp 48.83 195 *e* **P 05 00 23.3 +0.9**
BDFB Brasilia 69.67 262 P **P 05 02 47.3 -0.3**
comp=Z,2.2nm,0.7s,mb4.2,baz=84,slow=9.2,SNR=4.2
ESDC Sonseca Array 72.13 336 P **P 05 03 00.3 -1.8**
comp=Z,0.2nm,0.3s,mb3.5,baz=154,slow=5.6,SNR=4.4
AKASG Malin Array Be 77.28 2 P **P 05 03 31.2 -0.2**
comp=Z,0.1nm,0.2s,mb3.3,baz=186,slow=5.1,SNR=4.7
LPAZ La Paz 86.95 253 P **P 05 04 23.8 +1.3**
comp=Z,1.3nm,0.9s,mb4.2,baz=102,slow=9.0,SNR=5.3
TXAR Lajitas Array 136.41 285 PKP PKPdf 05 11 00.5 +0.5
comp=Z,0.2nm,0.6s,baz=135,slow=1.3,SNR=3.9

CSEM ***30*** *05:03:18.1±0.6, 38.65N×29.02W, ML1.8, Error ellipse: s-maj=8.6km s-min=4.5km az=48.0, After PDA*
PDA ***30*** *05:03:18.1±0.6, 38.65N×29.02W, MD3.1, ML1.8, Error ellipse: s-maj=8.6km s-min=4.5km az=48.0*
SVSA 30 05:03:18.1±0.6,**38.65N×29.02W,MD3.1,ML1.8,Error ellipse: s-maj=8.6km s-min=4.5km az=48.0,Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.25**	**96**	*eP*	Pg	05 03 22.8	-0.3
PCED				*eS*	Sg	05 03 26.4	0.0
63nm,0.1s
CALA Caldeira 0.26 106 *eP* Pg 05 03 23.1 -0.2
CALA *eS* Sg 05 03 26.8 +0.1
HOR Horta 0.33 113 *eS* Sg 05 03 28.8 -0.3
PICO Pico 0.49 108 *eP* Pg 05 03 27.0 -0.9
PICO *eS* Sg 05 03 34.0 -0.4
PMAN Manadas 0.73 91 *eP* Pg 05 03 30.6 -2.0
PMAN *eS* Sg 05 03 40.2 -2.1
8.5nm,0.1s

CSEM ***30*** *05:14:32.6±0.8, 38.69N×29.01W, h5km, ML2.1, Error ellipse: s-maj=9.8km s-min=5.2km az=38.0, After PDA*
PDA ***30*** *05:14:32.6±0.8, 38.69N×29.01W, h5km, MD3.2, ML2.1, Error ellipse: s-maj=9.8km s-min=5.2km az=38.0*
SVSA 30 05:14:32.6±0.8,**38.69N×29.01W,h5km,MD3.2,ML2.1, Error ellipse: s-maj=9.8km s-min=5.2km az=38.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.25**	**104**	*i P*	Pg	05 14 37.2	-0.4
PCED				*eS*	Sg	05 14 40.6	-0.3
130nm,0.2s
PCED Cedros 0.25 104 *eS* Sg 05 14 40.6 -0.3
CALA Caldeira 0.26 114 *eP* Pg 05 14 37.3 -0.6
CALA *eS* Sg 05 14 40.9 -0.5
HOR Horta 0.34 119 *eP* Pg 05 14 38.5 -0.9
HOR *eS* Sg 05 14 43.2 -0.7
PICO Pico 0.49 112 *eP* Pg 05 14 41.4 -1.1
PICO *eS* Sg 05 14 48.0 -1.0
PMAN Manadas 0.72 94 *eP* Pg 05 14 44.6 -2.4
PMAN *eS* Sg 05 14 53.2 -3.4
16nm,0.1s

CASC 30 05:30:48.9±7.4,**12.04N×88.22W,h56km±564km,MD3.8, ML3.3,7C-9D,Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**1.28**	**17**⇓*eP*	P		05 31 23.8	+13
CNCH				*eS*	S	05 31 41.0	+14
CRIN	**San Cristobal**	**1.32**	**60**⇑*eP*	P		05 31 12.3	+0.7
CRIN				*eS*	S	05 31 30.3	+1.9
LEON	**Leon**	**1.35**	**74**⇑*iP*	P		05 31 11.7	-0.4
LEON				*eS*	S	05 31 28.5	-0.6
VSM	**San Miguel**	**1.38**	**358**⇓*eP*	P		05 31 26.3	+14
VSM				*eS*	S	05 31 46.4	+17
BLLM	**Bellamira**	**1.39**	**359**⇓*eP*	P		05 31 26.0	+13
BLLM				*eS*	S	05 31 46.2	+16
TEL3	**Telica 3**	**1.45**	**69**⇑*eP*	P		05 31 13.1	-0.2
MIRN	**Miramar**	**1.53**	**75**⇑*eP*	P		05 31 14.2	-0.3
MIRN				*eS*	S	05 31 33.7	+0.3
CNGN	**Cerro Negro**	**1.56**	**73**⇓*eP*	P		05 31 14.9	+0.1
COPN	**Copaltepe**	**1.60**	**85**⇓*eP*	P		05 31 15.2	-0.2
SNVI	**San Vicente**	**1.67**	**339** *eP*	P		05 31 30.5	+14
SNVI				*eS*	S	05 31 39.3	+2.5
MOMJ	**Momotombo**	**1.69**	**77**⇓*eP*	P		05 31 16.2	-0.3
MOMJ				*eS*	S	05 31 36.6	-0.5
LCBS	**La Ceiba**	**1.76**	**335**⇓*eP*	P		05 31 31.7	+14
LCBS				*eS*	S	05 31 56.0	+17
LFRS	**El Faro**	**1.77**	**333**⇓*eP*	P		05 31 31.8	+14
LFRS				*eS*	S	05 31 56.5	+17
XAVN	**Gruta Xavier**	**1.86**	**87**⇑*eP*	P		05 31 18.7	-0.3
XAVN				*eS*	S	05 31 40.7	-0.6
MGAN	**Managua**	**1.94**	**87**⇑*eP*	P		05 31 19.7	-0.4
MGAN				*eS*	S	05 31 41.9	-1.2
MGAN				*i*		05 31 48.3	
comp=N,315nm,0.4s
TICN Ticuantepe 1.95 90⇓*eP* P 05 31 20.3 +0.1
TICN *eS* S 05 31 43.6 +0.1
WILN Americas 2 1.99 86⇑*eP* P 05 31 20.4 -0.5
WILN *eS* S 05 31 44.7 +0.1
APON Apoyo 2.11 93 *eP* P 05 31 22.1 -0.5
PYTN Playitas 2.17 77 *eP* P 05 31 23.0 -0.4
SSNN San Juan del S 2.44 108 *eP* P 05 31 26.3 -1.0
MADN Villa Maderas 2.71 103 *eP* P 05 31 29.4 -1.7

NEIC ***30*** *05:37:54.5, 40.32S×176.69E, h11km, ML3.7(WEL), After WEL.*
NEIC Felt at Porangahau.

WEL 30 05:37:52.0±0.3,**40.46S×176.79E,h5km,ML3.8/25,1C-1D, Error ellipse: s-maj=3.5km s-min=1.3km az=90.0,North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PXZ	**Pawanui**	**0.43**	**8**⇑*ePG*	Pg		05 38 01.0	+0.4
PXZ				SG	Sg	05 38 06.2	-0.1
PXZ				SG	Sg	05 38 06.9	+0.6
BFZ	**Birch Farm**	**0.47**	**241**	PG	Pg	05 38 04.5	+3.1
BFZ	**Birch Farm**	**0.47**	**241**	P	Pg	05 38 04.5	+3.1
TSZ	**Takapari Road**	**0.75**	**302**	⇓*PG*	Pg	05 38 06.3	-0.6
TSZ	**Takapari Road**	**0.75**	**302**	P	Pg	05 38 06.3	-0.6
MRZ	**Mangatainoka R**	**0.94**	**257**	P*	Pb	05 38 11.4	+1.0
MTW	**Mount Morrison**	**1.20**	**234**	P*	Pb	05 38 14.9	+0.1
MTW	**Mount Morrison**	**1.20**	**234**	P	Pb	05 38 15.1	+0.3
BKZ	**Black Stump Fm**	**1.31**	**350**	P*	Pb	05 38 15.3	-1.4
BKZ	**Black Stump Fm**	**1.31**	**350**	P	Pb	05 38 15.3	-1.4
MOVZ	**Moawhango**	**1.31**	**323**	P*	Pb	05 38 15.9	-0.8
MOVZ				S*	Sb	05 38 33.0	-0.9
MOVZ	**Moawhango**	**1.31**	**323**	P	Pb	05 38 16.2	-0.6
PAWZ	**Paruwai Farm**	**1.38**	**228**	*eP**	Pb	05 38 17.8	-0.2
WNVZ	**Wahianoa**	**1.45**	**321**	PN	Pn	05 38 19.0	0.0
WNVZ				SN	Sn	05 38 38.3	-0.3
WNVZ	**Wahianoa**	**1.45**	**321**	P	Pn	05 38 19.0	0.0
CAW	**Cannon Point**	**1.46**	**243**	P*	Pb	05 38 18.1	-1.2
CAW	**Cannon Point**	**1.46**	**243**	P	Pn	05 38 18.6	-0.5
TUVZ	**Tukino**	**1.47**	**323**	PN	Pn	05 38 19.4	+0.2
TUVZ	**Tukino**	**1.47**	**323**	P	Pn	05 38 19.1	-0.2
KIW	**Kapiti Island**	**1.48**	**254**	P*	Pb	05 38 18.9	-0.8
KIW	**Kapiti Island**	**1.48**	**254**	P	Pn	05 38 19.1	-0.3
TRVZ	**Turoa**	**1.50**	**320**	PN	Pn	05 38 19.7	+0.1
MSWZ	**Moikau Station**	**1.51**	**230**	P*	Pb	05 38 19.1	-1.0
MSWZ	**Moikau Station**	**1.51**	**230**	P	Pn	05 38 19.4	-0.4
DRZ	**Dome Shelter**	**1.51**	**321**	*ePN*	Pn	05 38 18.7	-1.1
DRZ	**Dome Shelter**	**1.51**	**321**	P	Pn	05 38 20.3	+0.5
FWVZ	**Far West T-bar**	**1.53**	**321**	PN	Pn	05 38 19.3	-0.7
FWVZ	**Far West T-bar**	**1.53**	**321**	P	Pn	05 38 20.1	0.0
WAZ	**Wanganui**	**1.55**	**296**	*ePN*	Pn	05 38 20.6	+0.3
WAZ	**Wanganui**	**1.55**	**296**	*eP*	Pn	05 38 20.8	+0.4
OTVZ	**Oturere**	**1.55**	**326**	*ePN*	Pn	05 38 19.6	-0.8
NGZ	**Ngauruhoe**	**1.57**	**324**	*ePN*	Pn	05 38 20.7	0.0
NGZ	**Ngauruhoe**	**1.57**	**324**	P	Pn	05 38 21.0	+0.3
WPVZ	**Whakapapa**	**1.57**	**322**	PN	Pn	05 38 21.0	+0.3
WPVZ	**Whakapapa**	**1.57**	**322**	P	Pn	05 38 21.0	+0.3
CNZ	**Chateau**	**1.58**	**322**	*ePN*	Pn	05 38 20.2	-0.6
CNZ	**Chateau**	**1.58**	**322**	P	Pn	05 38 21.1	+0.3
KNZ	**Kokohu**	**1.59**	**26**	PN	Pn	05 38 18.4	-2.6
KNZ	**Kokohu**	**1.59**	**26**	P	Pn	05 38 18.6	-2.3
PKVZ	**Pokaka**	**1.61**	**316**	PN	Pn	05 38 21.3	+0.1
PKVZ				SN	Sn	05 38 42.3	-0.2
KRVZ	**Karewarewa**	**1.62**	**327**	*ePN*	Pn	05 38 21.1	-0.3
WTVZ	**West Tongariro**	**1.63**	**325**	*ePN*	Pn	05 38 20.9	-0.5
WTVZ	**West Tongariro**	**1.63**	**325**	P	Pn	05 38 21.7	+0.2
KATZ	**Kakaramea**	**1.70**	**330**	*ePN*	Pn	05 38 22.7	+0.2
KATZ	**Kakaramea**	**1.70**	**330**	P	Pn	05 38 23.3	+0.8
TWVZ	**Taurewa**	**1.73**	**323**	*ePN*	Pn	05 38 22.8	-0.1
TWVZ	**Taurewa**	**1.73**	**323**	P	Pn	05 38 23.0	0.0
MRW	**Makara Radio**	**1.76**	**243**	*ePN*	Pn	05 38 22.1	-1.2
MRW	**Makara Radio**	**1.76**	**243**	P	Pn	05 38 22.3	-1.1
RATZ	**Rangitukua**	**1.77**	**333**	*ePN*	Pn	05 38 23.5	0.0
RATZ	**Rangitukua**	**1.77**	**333**	P	Pn	05 38 24.8	+1.3
RAEZ	**Rainy Point**	**2.18**	**302**	*ePN*	Pn	05 38 30.8	+1.4
RAEZ	**Rainy Point**	**2.18**	**302**	P	Pn	05 38 32.4	+3.0
MWZ	**Matawai**	**2.20**	**15**	PN	Pn	05 38 26.3	-3.3
MWZ	**Matawai**	**2.20**	**15**	P	Pn	05 38 26.6	-3.0
URZ	**Urewera**	**2.21**	**7**	PN	Pn	05 38 27.1	-2.8
URZ	**Urewera**	**2.21**	**7**	P	Pn	05 38 27.1	-2.7
NEZ	**North Egmont**	**2.38**	**299**	*ePN*	Pn	05 38 35.7	+3.4
NEZ	**North Egmont**	**2.38**	**299**	P	Pn	05 38 36.0	+3.7
HIZ	**Hauiti**	**2.45**	**322**	*ePN*	Pn	05 38 34.3	+1.0
HIZ	**Hauiti**	**2.45**	**322**	*eP*	Pn	05 38 35.4	+2.2
NRZ	**Ngariki Road**	**2.46**	**296**	*ePN*	Pn	05 38 36.7	+3.3
NRZ	**Ngariki Road**	**2.46**	**296**	P	Pn	05 38 37.0	+3.6
PKE	**Puketi**	**2.50**	**299**	*ePN*	Pn	05 38 35.4	+1.5
PUZ	**Puketiti**	**2.64**	**26**	PN	Pn	05 38 31.7	-4.3
PUZ				SN	Sn	05 39 03.5	-5.3
PUZ	**Puketiti**	**2.64**	**26**	P	Pn	05 38 32.1	-3.9
MXZ	**Matakaoa Point**	**3.12**	**23**	*ePN*	Pn	05 38 38.6	-4.3
MXZ	**Matakaoa Point**	**3.12**	**23**	P	Pn	05 38 39.3	-3.5
THZ	**Tophouse**	**3.21**	**245**	*ePN*	Pn	05 38 41.5	-2.6
THZ	**Tophouse**	**3.21**	**245**	*eP*	Pn	05 38 41.5	-2.6
QRZ	**Quartz Range**	**3.26**	**262**	*ePN*	Pn	05 38 46.2	+1.4
MQZ	**McQueen's Vall**	**4.47**	**222**	SN	Sn	05 39 47.1	-8.1

CASC ***30*** *06:17:29.3±2.7, 13.06N×89.35W, h54km±26km, MD4.4, ML4.8, mb4.0(NEIC)*
NEIC ***30*** *06:17:37.6±2.4, 13.50N×88.92W, h125km±23km, mb4.0/12, MD4.7(SNET), Error ellipse: s-maj=17.2km s-min=6.4km az=50.0*
NEIC Felt [III] at San Salvador.
IDC ***30*** *06:17:38.8±5.4, 13.57N×88.89W, h133km±53km, mb3.6/11, mb1 3.8/12, mb1mx3.7/22, mbtmp4.0/12, MS3.2/3, Ms1 3.2/3, ms1mx3.0/23, Error ellipse: s-maj=36.4km s-min=13.8km az=55.0*
ISC 30 06:17:29.6±0.5,**13.18N**±0.08×**89.24W**±0.06,**h73km**±5km,
n71,σ1§18/64,mb4.0/20,19C-16D,El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFRS	**El Faro**	**0.48**	**21**⇓*iP*	Px		06 17 54.7	
LFRS				*eS*	Sx	06 18 06.7	
SNET	**Serv Nac Est T**	**0.51**	**1**⇓*eP*	Px		06 17 54.6	
SNET				*eS*	Sx	06 18 04.5	
SNET				*i*		06 18 06.0	
comp=Z,45μm,0.3s
LCBS La Ceiba 0.54 28⇓*iP* Px 06 17 55.4
LCBS *eS* Sx 06 18 05.0
BOQS Boqueron 0.56 356⇑*iP* Px 06 17 55.3
BOQS *eS* Sx 06 18 08.0
LFU La Fuente 0.58 12⇑*iP* Px 06 17 56.1
LFU *eS* Sx 06 18 08.1
SNVI San Vicente 0.58 42⇓*eP* Px 06 17 56.0
SNVI *eS* Sx 06 18 07.4
LBRS Las Brisas 0.59 19⇑*eP* Px 06 17 56.4
LBRS *eS* Sx 06 18 07.3
SBLS San Blas 0.76 331⇑*iP* Px 06 17 57.0
SBLS *eS* Sx 06 18 08.2
SNJE San Jose 0.78 333⇑*iP* Px 06 17 57.2
SNJE *eS* Sx 06 18 10.4
RTR El Retiro 0.82 331⇑*iP* Px 06 17 57.9
RTR *eS* Sx 06 18 12.2
VSM San Miguel 0.97 75⇓*eP* Px 06 18 01.9
VSM *eS* Sx 06 18 17.6
BLLM Bellamira 1.01 75⇓*eP* Px 06 18 02.2
BLLM *eS* Sx 06 18 18.0
RBDL Robledal 1.03 335 *eP* Px 06 18 01.1
RBDL *eS* Sx 06 18 15.8
CAHU Cacacuatique 1.16 59⇑*eP* Px 06 18 04.6
CAHU *eS* Sx 06 18 22.1
MTO2 Montecristo 2 1.22 354⇑*iP* Px 06 18 01.3
MTO2 *eS* Sx 06 18 18.9
CNCH Conchagua 1.37 86⇓*eP* Px 06 18 06.8
CNCH *eS* Sx 06 18 26.3
IXG Ixpaco 1.54 310⇑*eP* **P 06 17 54.6 -1.1**
IXG *eS* **S 06 18 13.4 -1.6**
IXG AML AML 06 18 23.7
comp=E,78μm,0.5s
PCG Pacaya 1.80 313⇑*eP* **P 06 17 58.9 -0.2**
PCG *eS* **S 06 18 20.9 -0.1**
MRL Marmol 1.93 347⇑*iP* **P 06 18 02.2 +1.3**
FUG Fuego 3 2.00 309⇓*eP* **P 06 18 01.2 -0.7**
CRIN San Cristobal 2.19 102⇓*eP* **P 06 18 05.7 +1.1**
CRIN *eS* **S 06 18 33.3 +2.9**
CHIN Chinandega 2.22 104⇑*eP* Px 06 17 49.1
CHIN *eS* Sx 06 18 03.5
LEON Leon 2.41 108⇓*eP* **P 06 18 07.2 -0.5**
TEL3 Telica 3 2.41 104⇓*eP* **P 06 18 08.0 +0.3**
TELN Telica 2.42 103⇓*eP* **P 06 18 08.1 +0.3**
TELN *eS* **S 06 18 37.7 +1.5**
CNGN Cerro Negro 2.57 105⇑*eP* **P 06 18 10.0 +0.1**
MIRN Miramar 2.57 106⇑*eP* **P 06 18 09.7 -0.3**
MOMJ Momotombo 2.74 106⇓*eP* **P 06 18 12.2 -0.1**
COPN Copaltepe 2.77 111⇑*eP* **P 06 18 12.1 -0.6**
XAVN Gruta Xavier 3.02 109⇑*eP* **P 06 18 16.1 -0.2**
XAVN *eS* **S 06 18 51.2 -0.2**
MGAN Managua 3.10 109⇑*eP* **P 06 18 17.1 -0.1**
MGAN *eS* **S 06 18 52.8 -0.4**

MGAN			*i*			06 18 54.0	
	comp=N,882nm,0.4s						
CRUN	**El Crucero**	**3.11 112**	⇓*e*P		**P**	**06 18 17.1**	**-0.4**
WILN	**Americas 2**	**3.15 108**	⇓*e*P		**P**	**06 18 17.9**	**-0.1**
WILN			*e*S		**S**	**06 18 54.5**	**0.0**
PYTN	**Playitas**	**3.17 101**	*e*P		**P**	**06 18 18.4**	**+0.1**
APON	**Apoyo**	**3.34 112**	*e*P		**P**	**06 18 21.4**	**+0.6**
SSNN	**San Juan del S**	**3.81 119**	*e*P		**P**	**06 18 26.8**	**-0.4**
MADN	**Villa Maderas**	**4.03 115**	⇓*e*P		**P**	**06 18 28.9**	**-1.3**
JCR	**Jicaral**	**5.22 129**	⇓*e*P		**P**	**06 18 47.8**	**+0.9**
JCR			*e*S		**S**	**06 19 43.9**	**-2.5**
CGA2	**Cerro Gallo 2**	**5.63 123**	*e*P		**P**	**06 18 54.3**	**+1.8**
CGA2			*e*S		**S**	**06 19 54.6**	**-1.9**
PRS1	**Puriscal**	**5.78 123**	*e*P		**P**	**06 18 56.0**	**+1.6**
PRS1			*e*S		**S**	**06 19 58.6**	**-1.5**
SJS	**Escuela Geolog**	**6.01 122**	*e*P		**P**	**06 18 59.8**	**+2.1**
SJS			*e*S		**S**	**06 20 03.9**	**-2.0**
LCR2	**La Lucha 2**	**6.16 123**	⇑*e*P		**P**	**06 19 01.3**	**+1.5**
LCR2			*e*S		**S**	**06 20 09.5**	**-0.1**
SDV	**Santo Domingo**	**18.75 101**	*e*P		**P**	**06 21 45.5**	**+0.2**
	comp=N,0.5nm,0.3s,baz=36,slow=2.6,SNR=3.7						
SDV			LR		LR	06 28 06.0	
	comp=N,59nm,20.5s,baz=203,slow=34						
SDV	**Santo Domingo**	**18.75 101**	*e*P		**P**	**06 21 45.4**	**+0.1**
	comp=N,4.8nm,0.6s						
LTX	**Lajitas**	**20.92 322**	*e*P		**P**	**06 22 09.6**	**+1.4**
	comp=N,3.4nm,0.5s						
TXAR	**Lajitas Array**	**20.92 322**	P		**P**	**06 22 09.2**	**+1.0**
	comp=N,3.2nm,0.5s,baz=142,slow=10.0,SNR=108						
TXAR			LR		LR	06 32 41.2	
	comp=N,35nm,18.6s,baz=195,slow=43						
MNTX	**Cornudas Mount**	**23.66 324**	*e*P		**P**	**06 22 36.0**	**+0.9**
	comp=N,1.3nm,0.6s,mb3.4						
CCM	**Cathedral Cave**	**24.84 356**	*e*P		**P**	**06 22 46.8**	**+0.2**
	comp=N,4.5nm,0.8s,mb4.0						
ANMO	**Albuquerque**	**26.70 327**	P		**P**	**06 23 06.2**	**+2.4**
	comp=N,0.4nm,0.3s,mb3.4,baz=169,slow=3.8,SNR=3.6						
ANMO	**Albuquerque**	**26.70 327**	P		**P**	**06 23 03.9**	**0.0**
	comp=N,0.6nm,0.5s,mb3.4						
SDCO	**Great Sand Dun**	**28.44 332**	*e*P		**P**	**06 23 20.9**	**+1.3**
	comp=N,1.0nm,0.6s,mb3.5						
SADO	**Sadowa**	**32.65 13**	P		**P**	**06 23 53.5**	**-3.1**
	comp=N,2.1nm,0.4s,mb4.4,baz=227,slow=9.7,SNR=2.8						
SAML	**Samuel**	**33.95 129**	*e*P		**P**	**06 24 07.3**	**-0.8**
	comp=N,1.1nm,0.5s,mb3.9						
PDAR	**Pinedale Array**	**34.32 333**	P		**P**	**06 24 11.1**	**0.0**
	comp=N,0.9nm,0.5s,mb3.8,baz=128,slow=11,SNR=14						
PDAR			PcP		PcP	06 26 44.8	-1.1
	comp=N,0.3nm,0.7s,baz=135,slow=4.2,SNR=4.6						
SNOW	**Snow King Moun**	**35.41 333**	*e*P		**P**	**06 24 20.9**	**+0.5**
	comp=N,17nm,0.5s,mb5.1						
LOHW	**Long Hollow**	**35.46 333**	*e*P		**P**	**06 24 21.8**	**+1.0**
	comp=N,5.9nm,0.6s,mb4.6						
RRI2	**Red Ridge**	**35.58 332**	*e*P		**P**	**06 24 22.4**	**+0.7**
	comp=N,4.4nm,0.6s,mb4.6						
LPAZ	**La Paz**	**35.95 144**	P		**P**	**06 24 28.2**	**+3.0**
	comp=N,0.3nm,0.6s,mb3.4,baz=12,slow=4.0,SNR=3.7						
HLID	**Hailey**	**37.22 329**	*e*P		**P**	**06 24 36.8**	**+1.2**
	comp=N,0.8nm,0.5s,mb3.9						
ULM	**Lac du Bonnet**	**37.37 353**	P		**P**	**06 24 35.0**	**-1.7**
	comp=N,2.6nm,0.6s,mb4.3,baz=166,slow=9.2,SNR=8.0						
ULM			LR		LR	06 42 25.7	
	comp=N,76nm,18.6s,baz=358,slow=40						
BOZ	**Bozeman (W)**	**37.52 334**	*e*P		**P**	**06 24 39.2**	**+1.1**
	comp=N,1.8nm,0.6s,mb4.1						
SIV	**San Ignacio**	**40.20 135**	P		**P**	**06 25 02.7**	**+2.1**
	comp=N,0.4nm,0.5s,mb3.5,baz=286,slow=14,SNR=7.1						
EDM	**Edmonton**	**44.31 339**	*e*P		**P**	**06 25 33.0**	**-0.8**
SCHQ	**Schefferville**	**45.11 18**	P		**P**	**06 25 37.8**	**-2.4**
	comp=N,0.9nm,0.4s,mb3.8,baz=232,slow=9.8,SNR=5.7						
YKA	**Yellowknife Ar**	**52.47 345**	P		**P**	**06 26 35.4**	**-1.4**
	comp=N,3.4nm,0.7s,mb4.5,baz=144,slow=7.6,SNR=15						
YKW3	**Yellowknife Ar**	**52.53 346**	*e*P		**P**	**06 26 35.6**	**-1.6**
INK	**Inuvik**	**62.00 343**	*e*P		**P**	**06 27 42.6**	**-1.5**
	comp=N,4.0nm,0.9s,mb4.5						
ILAR	**Eielson Array**	**64.66 336**	P		**P**	**06 28 00.6**	**-1.0**
	comp=N,1.1nm,0.9s,mb3.7,baz=112,slow=5.0,SNR=9.8						
ARCES	**ARCESS Array B**	**86.07 19**	P		**P**	**06 30 02.1**	**-0.8**
	comp=N,1.6nm,0.8s,mb4.0,baz=333,slow=5.4,SNR=3.3						
WRAB	**Tennant Creek**	**137.77 255**	*e*PKPdf		PKPdf	06 36 49.1	+2.7
WRA	**Warramunga Arr**	**137.78 255**	PKP		PKPdf	06 36 48.7	+2.3
	comp=N,1.1nm,0.8s,baz=90,slow=2.3,SNR=9.2						

NEIC ***30*** *06:18:17.9, 38.45S×175.97E, h165km, MG3.9(WEL), After WEL.*

WEL 30 06:18:18.6±0.3, 38.45S×176.00E, h156km±2km, ML3.8/18, 2C, Error ellipse: s-maj=3.0km s-min=2.3km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KATZ	**Kakaramea**	**0.58**	**204**	PN	P	06 18 41.4	-0.1
KATZ	**Kakaramea**	**0.58**	**204**	P	P	06 18 41.4	-0.1
KRVZ	**Karewarewa**	**0.70**	**203**	PN	P	06 18 41.9	-0.2
KRVZ				SN	S	06 19 00.3	0.0
WTVZ	**West Tongariro**	**0.74**	**206**	PN	P	06 18 42.1	-0.3
WTVZ				SN	S	06 19 00.2	-0.4
WTVZ	**West Tongariro**	**0.74**	**206**	P	P	06 18 42.4	+0.1
OTVZ	**Oturere**	**0.76**	**200**	PN	P	06 18 42.6	+0.1
OTVZ				SN	S	06 19 01.0	+0.2
TWVZ	**Taurewa**	**0.76**	**215**	PN	P	06 18 42.2	-0.3
TWVZ	**Taurewa**	**0.76**	**215**	P	P	06 18 42.2	-0.3
NGZ	**Ngauruhoe**	**0.79**	**203**	PN	P	06 18 42.6	-0.1
NGZ	**Ngauruhoe**	**0.79**	**203**	P	P	06 18 42.8	+0.1
BKZ	**Black Stump Fm**	**0.81**	**152**	PN	P	06 18 42.9	+0.1
BKZ				SN	S	06 19 00.9	-0.6
BKZ	**Black Stump Fm**	**0.81**	**152**	P	P	06 18 43.0	+0.2
BKZ				S	S	06 19 01.2	-0.2
CNZ	**Chateau**	**0.83**	**205**	PN	P	06 18 42.6	-0.3
CNZ	**Chateau**	**0.83**	**205**	P	P	06 18 42.9	0.0
WPVZ	**Whakapapa**	**0.83**	**205**	PN	P	06 18 42.8	-0.2
WPVZ	**Whakapapa**	**0.83**	**205**	P	P	06 18 42.9	0.0
TUVZ	**Tukino**	**0.86**	**198**	PN	P	06 18 43.1	0.0
TUVZ				SN	S	06 19 01.4	-0.6
TUVZ	**Tukino**	**0.86**	**198**	P	P	06 18 43.2	+0.1
FWVZ	**Far West T-bar**	**0.88**	**203**	PN	P	06 18 43.1	-0.1
FWVZ	**Far West T-bar**	**0.88**	**203**	P	P	06 18 43.4	+0.2
URZ	**Urewera**	**0.89**	**78**	PN	P	06 18 42.9	-0.5
URZ				SN	S	06 19 01.4	-1.0
URZ	**Urewera**	**0.89**	**78**	P	P	06 18 43.1	-0.2
WNVZ	**Wahianoa**	**0.93**	**200**	PN	P	06 18 43.5	-0.1
WNVZ	**Wahianoa**	**0.93**	**200**	P	P	06 18 43.7	+0.1
MOVZ	**Moawhango**	**0.98**	**191**	PN	P	06 18 43.6	-0.3
MOVZ				SN	S	06 19 01.8	-1.6
MOVZ	**Moawhango**	**0.98**	**191**	P	P	06 18 43.7	-0.2
PKVZ	**Pokaka**	**0.98**	**211**	PN	P	06 18 43.7	-0.3
PKVZ				SN	S	06 19 03.2	-0.3
VRZ	**Vera Road**	**1.18**	**235**	PN	P	06 18 45.0	-0.8
VRZ				SN	S	06 19 07.0	+0.2
VRZ	**Vera Road**	**1.18**	**235**	P	P	06 18 45.2	-0.6
MWZ	**Matawai**	**1.21**	**85**	PN	P	06 18 45.8	-0.2
MWZ				SN	S	06 19 06.3	-0.9
MWZ	**Matawai**	**1.21**	**85**	P	P	06 18 46.0	0.0
KNZ	**Kokohu**	**1.43**	**114**	PN	P	06 18 48.4	+0.1
KNZ	**Kokohu**	**1.43**	**114**	P	P	06 18 48.4	+0.2
WAZ	**Wanganui**	**1.52**	**211**	PN	P	06 18 48.3	-0.9
WAZ	**Wanganui**	**1.52**	**211**	P	P	06 18 48.4	-0.8
TSZ	**Takapari Road**	**1.61**	**181**	⇑PN	P	06 18 49.5	-0.6
NEZ	**North Egmont**	**1.70**	**240**	PN	P	06 18 50.6	-0.4
PXZ	**Pawanui**	**1.72**	**157**	⇑*e*PN	P	06 18 51.0	-0.2
PUZ	**Puketiti**	**1.82**	**79**	*e*PN	P	06 18 51.7	-0.7
PUZ	**Puketiti**	**1.82**	**79**	*e*P	P	06 18 51.8	-0.5
MXZ	**Matakaoa Point**	**2.03**	**65**	PN	P	06 18 54.3	-0.5
MXZ	**Matakaoa Point**	**2.03**	**65**	P	P	06 18 54.3	-0.4
MRZ	**Mangatainoka R**	**2.23**	**188**	PN	P	06 18 55.4	-1.9
MRZ	**Mangatainoka R**	**2.23**	**188**	P	P	06 18 55.4	-1.9
BFZ	**Birch Farm**	**2.24**	**175**	PN	P	06 18 55.8	-1.5
KIW	**Kapiti Island**	**2.55**	**199**	PN	P	06 18 58.5	-2.7
KIW	**Kapiti Island**	**2.55**	**199**	P	P	06 18 58.5	-2.7
MTW	**Mount Morrison**	**2.73**	**188**	PN	P	06 19 00.5	-3.0
MTW	**Mount Morrison**	**2.73**	**188**	P	P	06 19 00.6	-2.9
CAW	**Cannon Point**	**2.75**	**195**	PN	P	06 19 00.8	-2.9
CAW	**Cannon Point**	**2.75**	**195**	P	P	06 19 00.9	-2.8
DUWZ	**D'Urville Isla**	**2.85**	**214**	PN	P	06 19 01.5	-3.4
MRW	**Makara Radio**	**2.95**	**199**	PN	P	06 19 02.8	-3.4
MRW	**Makara Radio**	**2.95**	**199**	P	P	06 19 03.1	-3.1
TRWZ	**Traveller**	**2.96**	**185**	PN	P	06 19 03.6	-2.7
PAWZ	**Paruwai Farm**	**2.96**	**188**	PN	P	06 19 03.2	-3.2
MSWZ	**Moikau Station**	**3.02**	**191**	PN	P	06 19 03.8	-3.3
MSWZ	**Moikau Station**	**3.02**	**191**	P	P	06 19 03.9	-3.2
SNZO	**South Karori**	**3.02**	**199**	PN	P	06 19 03.6	-3.6
SNZO	**South Karori**	**3.02**	**199**	P	P	06 19 03.7	-3.5
TCW	**Tory Channel**	**3.06**	**205**	PN	P	06 19 04.2	-3.5
TCW	**Tory Channel**	**3.06**	**205**	P	P	06 19 04.3	-3.4
BHW	**Baring Head**	**3.08**	**196**	PN	P	06 19 04.3	-3.6
TUWZ	**Tuamarina**	**3.37**	**207**	PN	P	06 19 07.8	-3.9
NNZ	**Nelson**	**3.42**	**215**	PN	P	06 19 07.9	-4.5
NNZ				SN	S	06 19 48.5	-5.0
NNZ	**Nelson**	**3.42**	**215**	P	P	06 19 08.1	-4.2
QRZ	**Quartz Range**	**3.58**	**227**	PN	P	06 19 09.4	-5.0
BSWZ	**Blackbirch Sta**	**3.65**	**206**	PN	P	06 19 11.3	-3.9
BSWZ	**Blackbirch Sta**	**3.65**	**206**	P	P	06 19 11.5	-3.7
THZ	**Tophouse**	**4.07**	**215**	*e*PN	P	06 19 15.8	-5.0
THZ	**Tophouse**	**4.07**	**215**	*e*P	P	06 19 16.0	-4.8
KHZ	**Kahutara**	**4.38**	**205**	PN	P	06 19 20.1	-4.7
KHZ	**Kahutara**	**4.38**	**205**	P	P	06 19 20.2	-4.7
DSZ	**Denniston Nort**	**4.60**	**223**	*e*PN	P	06 19 21.7	-6.0
DSZ	**Denniston Nort**	**4.60**	**223**	*e*P	P	06 19 21.9	-5.8
LTZ	**Lake Taylor**	**5.17**	**212**	*e*PN	P	06 19 29.0	-6.3
LTZ	**Lake Taylor**	**5.17**	**212**	*e*P	P	06 19 29.5	-5.8
MQZ	**McQueen's Vall**	**5.83**	**205**	PN	P	06 19 37.3	-6.6
MQZ	**McQueen's Vall**	**5.83**	**205**	P	P	06 19 37.4	-6.5
ODZ	**Otahua Downs**	**7.71**	**210**	*e*PN	P	06 20 02.4	-6.7
ODZ	**Otahua Downs**	**7.71**	**210**	*e*P	P	06 20 02.8	-6.2
JCZ	**Jackson Bay**	**7.83**	**222**	*e*PN	P	06 20 03.2	-7.5
JCZ	**Jackson Bay**	**7.83**	**222**	*e*P	P	06 20 04.2	-6.4

IDC ***30*** *06:39:33.6±1.4, 58.79S×149.01E, mb4.5/4, mb1 4.5/5, mb1mx4.2/13, mbtmp4.3/5, ML3.2/1, MS3.7/4, Ms1 3.7/4, ms1mx3.5/13, Error ellipse: s-maj=93.1km s-min=19.4km az=83.0*

NEIC ***30*** *06:39:35.2±0.6, 58.76S×149.12E, h10km, mb4.5/6, Error ellipse: s-maj=24.7km s-min=7.6km az=86.0*

ISC 30 06:39:33.5±0.9, 58.76S±0.08×149.1E±0.4, h10km, n32, σ0§88/26, mb4.5/7, MS3.7/3, 5C, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CASY	**Casey**	**19.03**	**231**	*e*P	**P**	**06 43 57.5**	**-0.2**
	2.5nm,0.6s						
VNDA	**Vanda**	**19.34**	**172**	P	**P**	**06 43 59.5**	**-1.7**
	0.1nm,0.3s,baz=337,slow=12,SNR=5.3						
VNDA				LR	LR	06 50 43.5	
	comp=Z,126nm,21.9s,baz=158,slow=35						
RPZ	**Rata Peaks**	**20.24**	**52**	LR	LR	06 50 29.6	
	comp=Z,200nm,21.7s,MS3.4,baz=32,slow=32						
URZ	**Urewera**	**27.31**	**54**	LR	LR	06 55 36.5	
	comp=Z,201nm,18.4s,MS3.7,baz=220,slow=35						
CTA	**Charters Tower**	**38.68**	**356**	P	**P**	**06 46 60.0**	**+1.0**
	7.5nm,0.8s,mb4.5,baz=177,slow=9.2,SNR=5.1						
CTA	**Charters Tower**	**38.68**	**356**	P	**P**	**06 46 60.0**	**+1.0**
CTAO	**Charters Tower**	**38.68**	**356**	*e*P	**P**	**06 46 59.6**	**+0.6**
	8.1nm,0.8s,mb4.5						
WB2	**Warramunga Arr**	**40.23**	**338**	⇑*i*P	**P**	**06 47 11.3**	**-0.5**
WRA	**Warramunga Arr**	**40.23**	**338**	P	**P**	**06 47 11.5**	**-0.3**
	5.0nm,0.7s,mb4.3,baz=166,slow=7.6,SNR=36						
WRA				PcP	PcP	06 49 14.6	-1.9
	1.1nm,0.8s,baz=169,slow=2.9,SNR=7.6						
WRAB	**Tennant Creek**	**40.24**	**338**	*e*P	**P**	**06 47 11.4**	**-0.5**
	14nm,1.1s,mb4.6						
MBWA	**Marble Bar**	**43.10**	**318**	*e*P	**P**	**06 47 35.2**	**-0.1**
	9.2nm,0.7s,mb4.6						
FITZ	**Fitzroy Crossi**	**44.09**	**327**	*e*P	**P**	**06 47 43.7**	**+0.3**
	8.8nm,1.0s,mb4.4						
FITZ	**Fitzroy Crossi**	**44.09**	**327**	P	**P**	**06 47 43.5**	**+0.1**
	9.4nm,0.9s,mb4.5,baz=174,slow=12,SNR=6.5						
KAKA	**Kakadu**	**47.64**	**338**	*e*P	**P**	**06 48 26.3**	**+15**
	7.5nm,0.6s,mb4.9						
SNAA	**Sanae**	**48.39**	**191**	⇑*i*	**P**	**06 48 16.8**	**+0.1**
SNAA	**Sanae**	**48.39**	**191**	*e*	**P**	**06 48 18.6**	**+1.9**
SNAA	**Sanae**	**48.39**	**191**	*e*	**P**	**06 48 23.8**	**+7.1**
SNAA	**Sanae**	**48.39**	**191**	P	**P**	**06 48 16.9**	**+0.2**
	2.6nm,1.0s,mb4.2,baz=190,slow=9.6,SNR=32						
SNAA				PcP	PcP	06 49 42.2	-1.4
	0.4nm,0.8s,baz=196,slow=4.3,SNR=3.7						
SNAA	**Sanae**	**48.39**	**191**	*e*P	**P**	**06 48 16.7**	**-0.1**
	3.4nm,0.6s,mb4.5						
VNA3	**Neumayer Olymp**	**49.43**	**189**	⇑*i*	**P**	**06 48 24.6**	**-0.2**
VNA3	**Neumayer Olymp**	**49.43**	**189**	*e*	**P**	**06 48 26.3**	**+1.5**
VNA3	**Neumayer Olymp**	**49.43**	**189**	*e*	**P**	**06 48 31.4**	**+6.6**
VNA2	**Neumayer--Watz**	**49.55**	**190**	⇑*i*	**P**	**06 48 25.4**	**-0.3**
VNA2	**Neumayer--Watz**	**49.55**	**190**	*e*	**P**	**06 48 26.9**	**+1.2**
VNA2	**Neumayer--Watz**	**49.55**	**190**	*e*	**P**	**06 48 32.8**	**+7.1**
VNA1	**Neumayer--Stat**	**49.89**	**190**	⇑*i*	**P**	**06 48 29.4**	**+1.1**
VNA1	**Neumayer--Stat**	**49.89**	**190**	*e*	**P**	**06 48 31.3**	**+3.0**
VNA1	**Neumayer--Stat**	**49.89**	**190**	*e*	**P**	**06 48 37.0**	**+8.7**
BOSA	**Boshof**	**81.30**	**228**	LR	LR	07 25 04.8	
	comp=Z,80nm,21.2s,MS4.0,baz=311,slow=34						
AKASG	**Malin Array Be**	**145.47**	**283**	PKPbc	PKPbc	06 59 11.1	-0.1
	1.0nm,0.4s,baz=92,slow=3.2,SNR=17						
FINES	**FINESS Array B**	**152.25**	**300**	PKPbc	PKPdf	06 59 29.7	+5.7
	2.5nm,0.7s,baz=117,slow=3.1,SNR=6.8						
GERES	**GERESS Array B**	**152.36**	**269**	PKPbc	PKPdf	06 59 29.7	+5.2
	1.4nm,0.8s,baz=146,slow=3.5,SNR=6.8						

IDC ***30*** *07:06:02.8±2.1, 20.28S×68.83W, h106km±23km, mb3.5/2, mb1 3.6/6, mb1mx3.4/18, mbtmp3.9/6, Error ellipse: s-maj=41.2km s-min=14.0km az=105.0*

NEIC ***30*** *07:06:02.8±0.7, 20.28S×68.82W, h105km±11km, mb3.8/3, Error ellipse: s-maj=12.3km s-min=8.6km az=95.0*

ISC 30 07:06:01.7±0.8, 20.25S±0.06×68.8W±0.1, h117km±11km, n12, σ0§98/16, mb3.8/1, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.35**	**182**	P	**P**	**07 06 40.1**	**-0.1**
	23nm,0.3s,baz=353,slow=10,SNR=165						
LVC				S	**S**	**07 07 09.1**	**-0.1**
	68nm,0.3s,baz=138,slow=20,SNR=26						
LPAZ	**La Paz**	**4.00**	**10**	P	**P**	**07 07 03.6**	**+1.3**
	1.4nm,0.3s,baz=184,slow=9.1,SNR=33						
LPAZ				S	**S**	**07 07 43.8**	**-4.8**
	1.0nm,0.3s,baz=137,slow=2.8,SNR=4.3						
LPAZ	**La Paz**	**4.00**	**10**	*e*Pn	**P**	**07 07 03.4**	**+1.1**
LPAZ				S	**S**	**07 07 43.8**	**-4.8**
ARE	**Arequipa**	**4.54**	**326**	*e*P	**P**	**07 07 10.0**	**+0.3**
ARE				*e*S	**S**	**07 07 53.0**	**-8.8**
SIV	**San Ignacio**	**8.50**	**61**	P	**P**	**07 08 02.5**	**-0.8**
	1.8nm,0.3s,baz=252,slow=12,SNR=59						
CFAA	**Coronel Fontan**	**11.32**	**177**	P	**P**	**07 08 35.8**	**-5.1**
	0.0nm,0.3s,baz=343,slow=11,SNR=5.5						
CPUP	**Villa Florida**	**12.17**	**122**	P	**P**	**07 08 53.0**	**+0.8**
	0.1nm,0.3s,baz=305,slow=13,SNR=4.0						
TRQA	**Tornquist**	**18.71**	**163**	*e*P	**P**	**07 10 12.9**	**-0.7**
	4.7nm,0.8s						
BDFB	**Brasilia**	**20.32**	**80**	P	**P**	**07 10 31.1**	**+0.6**
	2.0nm,0.4s,baz=248,slow=8.3,SNR=6.9						
PLCA	**Paso Flores**	**20.47**	**184**	P	**P**	**07 10 31.7**	**-0.2**
	3.5nm,0.8s,baz=0.8,slow=13,SNR=9.2						
PLCA	**Paso Flores**	**20.47**	**184**	*e*P	**P**	**07 10 31.6**	**-0.3**
	5.9nm,1.0s						
SNAA	**Sanae**	**63.43**	**161**	*e*P	**P**	**07 16 20.8**	**-0.1**
	0.7nm,0.6s,mb3.8						

CASC 30 07:23:11.7±1.4, 8.92N×82.86W, h13km±4km, MD3.7, MW4.4, 4C-1D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRU2	**Volcan**	**0.21**	**127**	⇑*i*P	Pg	07 23 16.5	+0.1
BRU2				*e*S	Sg	07 23 20.4	+0.8
ACR	**Cerro Adams**	**0.41**	**229**	⇑*e*P	Pg	07 23 19.6	-0.5
ACR				⇑*e*P		07 23 19.6	
ACR				*e*S	Sg	07 23 25.9	+0.1
ACR				*e*S	Sg	07 23 26.1	+0.3
BUS	**Buena Vista**	**1.09**	**305**	*e*P	Pb	07 23 32.1	+0.2
BUS				*e*S	Sb	07 23 47.2	+1.3
LCR2	**La Lucha 2**	**1.40**	**306**	*e*P	Pn	07 23 36.6	-0.4
LCR2				*e*S	Sb	07 23 55.2	+0.5
SJS	**Escuela Geolog**	**1.56**	**311**	⇑*e*P	Pn	07 23 39.5	+0.2
SJS				*e*S	Sb	07 24 00.6	+1.2
PRS1	**Puriscal**	**1.78**	**306**	⇓*e*P	Pn	07 23 42.2	-0.4
PRS1				*e*S	Sn	07 24 05.0	-0.2
CGA2	**Cerro Gallo 2**	**1.93**	**305**	*e*P	Pn	07 23 44.5	-0.1
CGA2				*e*S	Sn	07 24 08.9	+0.1

GRAL ***30*** *07:24:41.7±2.1, 33.37N×35.29E, h26km±999km, MD3.0*
CSEM ***30*** *07:24:42.8±0.1, 33.41N×35.53E, h8km, ML2.7, Error ellipse: s-maj=1.8km s-min=1.2km az=117.0*

GII ***30*** *07:24:43.6±0.3, 33.36N×35.51E, ML2.7/5, Mw2.6/3*

ISC 30 07:24:43.1±0.5, 33.43N±0.03×35.51E±0.04, h4km±6km, n27, σ0§59/35, 3D, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATL	**Matirih**	**0.16**	**293**	*i*Pg	**Pg**	**07 24 46.7**	**+0.3**
KSDI	**Kefar Szold**	**0.27**	**151**	Pg	**Pg**	**07 24 48.7**	**+0.2**
KSDI				Sg	**Sg**	**07 24 53.1**	**+1.0**
BRBR	**Barbar**	**0.37**	**92**	⇓*i*P	**Pg**	**07 24 50.2**	**-0.4**
MMC1	**Mount Meron ar**	**0.40**	**192**	Pg	**Pg**	**07 24 51.1**	**-0.1**
MMB4	**Mount Meron ar**	**0.41**	**192**	Pg	**Pg**	**07 24 51.4**	**0.0**
MMC7	**Mount Meron ar**	**0.41**	**193**	Pg	**Pg**	**07 24 51.2**	**-0.2**
MMA1	**Mount Meron ar**	**0.42**	**192**	Pg	**Pg**	**07 24 51.4**	**0.0**
MMB1	**Mount Meron ar**	**0.42**	**191**	Pg	**Pg**	**07 24 51.3**	**-0.2**
MMA0	**Mount Meron ar**	**0.42**	**192**	Pg	**Pg**	**07 24 51.3**	**-0.2**
MMA4	**Mount Meron ar**	**0.42**	**193**	Pg	**Pg**	**07 24 51.4**	**-0.1**
MMA2	**Mount Meron ar**	**0.42**	**192**	Pg	**Pg**	**07 24 51.5**	**0.0**
MMA3	**Mount Meron ar**	**0.42**	**192**	Pg	**Pg**	**07 24 51.7**	**+0.1**
MMC5	**Mount Meron ar**	**0.42**	**191**	Pg	**Pg**	**07 24 51.5**	**-0.1**
MMC4	**Mount Meron ar**	**0.42**	**190**	Pg	**Pg**	**07 24 51.5**	**-0.1**
MMC6	**Mount Meron ar**	**0.42**	**193**	Pg	**Pg**	**07 24 51.5**	**-0.1**
MMB2	**Mount Meron ar**	**0.43**	**193**	Pg	**Pg**	**07 24 51.9**	**+0.3**
HNTI	**Hanita**	**0.44**	**219**	Pg	**Pg**	**07 24 52.2**	**+0.2**
HNTI				Sg	**Sg**	**07 24 59.1**	**+1.2**
BHL	**Bhannes**	**0.49**	**14**	*i*Pg	**Pg**	**07 24 51.9**	**-1.1**
BHL				*i*Sg	**Sg**	**07 25 00.4**	**+0.9**
QASN	**Qassioun**	**0.65**	**80**	⇓*i*P	**Pg**	**07 24 56.3**	**+0.2**
QASN				⇑*i*S	**Sg**	**07 25 05.2**	**+0.4**
TOTH	**TOTAH**	**0.77**	**95**	⇑*i*P	**Pb**	**07 24 58.3**	**-0.4**
TOTH				⇑*i*S	**Sg**	**07 25 08.4**	**-0.5**
TCHB	**Talchebab**	**0.85**	**153**	⇑*i*P	**Pb**	**07 25 00.6**	**+0.6**
TCHB				⇑*i*S	**Sb**	**07 25 11.4**	**-0.1**
OFRI	**'Ofer**	**0.92**	**209**	Pg	**Pg**	**07 25 00.9**	**-0.5**
HWQ	**Hawqa**	**0.93**	**23**	*i*Pg	**Pg**	**07 25 00.5**	**-1.1**
HWQ				*i*Sg	**Sg**	**07 25 14.8**	**+0.9**
MMLI	**Mount Malkishu**	**0.99**	**184**	Pg	**Pg**	**07 25 01.9**	**-1.0**
SLTI	**Sal'it**	**1.25**	**199**	Pg	**Pg**	**07 25 06.6**	**-1.4**
SALA	**Sala**	**1.25**	**124**	⇑*i*P	**Pb**	**07 25 06.7**	**-0.2**
SALA				⇓*i*S	**Sb**	**07 25 23.4**	**+0.2**
MKRJ	**Makawir**	**1.87**	**177**	Pn	**Pn**	**07 25 17.1**	**+0.9**

CRAAG ***30*** *07:58:54.4, 36.30N×7.48E, Ml2.8*
CSEM ***30*** *07:58:54.4, 36.30N×7.48E, ML2.8, After ALG*

**MDD 30 07:58:58.9±1.1, 36.47N×7.30E, mb3.9/2, Error ellipse: s-maj=15.0

comp=E,138nm,0.5s
WMQ Urumqi 29.14 21 *e*P **P 08 59 20.0 +0.8**
WMQ XP sP 08 59 27.0 +3.6
WMQ PP PP 09 00 15.0 +1.5
WMQ S **S 09 04 11.0 +1.2**
WMQ AMB AMB
comp=Z,12nm,0.8s,mb4.7
WMQ AMB AMB
comp=Z,124nm,4.0s
WMQ LR LR
comp=N,128nm,10.0s,MS4.0
WMQ LR LR
comp=E,126nm,10.0s,MS4.0
WMQ LR LR
comp=Z,68nm,8.0s
ATD Arta Tunnel 30.45 264 LR LR 09 08 53.5
comp=Z,127nm,21.1s,MS3.5,baz=64,slow=31
MKAR Makanchi Array 30.46 12 P **P 08 59 29.9 -1.0**
comp=Z,1.2nm,0.6s,mb3.8,baz=199,slow=9.0,SNR=6.6
GTA Gaotai 31.75 40 P **P 08 59 42.3 0.0**
GTA AP pP 08 59 46.0 +0.7
GTA XP sP 08 59 48.3 +1.7
GTA AMB AMB
comp=Z,2.0nm,0.8s,mb4.0
LZH Lanzhou 32.69 49 *e*P **P 08 59 52.0 +1.5**
LZH AP pP 08 59 55.5 +2.0
LZH XP sP 08 59 57.5 +2.7
LZH PP PP 09 01 03.0 +3.3
LZH AMB AMB
comp=Z,25nm,1.5s,mb4.9
LZH AMB AMB
comp=Z,120nm,4.3s
LZH Lanzhou 32.69 49 *e*P **P 08 59 52.0 +1.5**
comp=Z,25nm,1.5s,mb4.9
LZH pP pP 08 59 55.5 +2.0
LZH sP sP 08 59 57.4 +2.6
LZH PP PP 09 01 03.0 +3.3
LZH Lanzhou 32.69 49 *e*P **P 08 59 52.0 +1.5**
LZH *SP sP 08 59 57.4 +2.6
LZH 09 01 03.0
LZH pmax pmax
comp=Z,25nm,1.5s,mb4.9
KURK Kurchatov 33.78 6 *e*P **P 08 59 59.3 -0.5**
comp=Z,9.2nm,0.8s,mb4.8
KURK Kurchatov 33.78 6 *e*P **P 08 59 59.3 -0.5**
KURK pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
GNI Garni 34.05 318 *i* P **P 09 00 03.8 +1.5**
GNI pmax pmax
comp=Z,12nm,1.7s
GNI MLR MLR
comp=Z,100nm,16.0s
BVAR Borovoye Array 35.96 357 P **P 09 00 18.4 -0.1**
comp=Z,2.8nm,0.7s,mb4.3,baz=153,slow=9.9,SNR=9.7
KIV Kislovodsk 37.49 322 *i* P **P 09 00 33.5 +2.1**
KIV pmax pmax
comp=Z,12nm,1.0s,mb4.7
ZAL Zalesovo 37.77 11 P **P 09 00 34.0 +0.3**
comp=Z,3.0nm,0.7s,mb4.1,baz=272,slow=8.3,SNR=10
SOC Sochi 39.07 320 *e*P **P 09 00 44.3 -0.4**
SOC *e*PPP PPP 09 02 36.7 -4.8
SOC *e* 09 02 50.2
SOC *e*S **S 09 06 43.6 0.0**
SOC *e*SS SS 09 09 32.0 +4.5
SOC *e*PPP SS 09 09 58.6 +31
SOC pmax pmax
comp=Z,19nm,0.9s,mb4.8
SOC pmax pmax
comp=N,9.0nm,0.5s
SOC pmax pmax
comp=E,14nm,0.9s
SONM Songino Array 40.67 34 P **P 09 00 59.2 +1.3**
comp=E,4.1nm,0.8s,mb4.1,baz=223,slow=8.6,SNR=27
SONM PcP PcP 09 02 58.9 -1.4
comp=E,1.2nm,0.9s,baz=223,slow=4.9,SNR=3.6
SONM LR LR 09 19 14.0
comp=E,84nm,21.5s,MS3.6,baz=267,slow=38
ZAK Zakamensk 40.78 29 *e*P **P 09 00 59.0 +0.2**
ZAK pmax pmax
comp=Z,1.0nm,1.1s
ARU Arti 40.93 347 *e*P **P 09 00 60.0 0.0**
comp=Z,4.5nm,0.5s,mb4.3
ARU Arti 40.93 347 *e*P **P 09 01 00.0 +0.1**
ARU pmax pmax
comp=Z,5.0nm,0.5s,mb4.4
ULN Ulaanbaatar 41.04 34 *e*P **P 09 01 00.6 -0.3**
comp=Z,6.1nm,0.9s,mb4.2
ULN Ulaanbaatar 41.04 34 *e*P **P 09 01 00.6 -0.3**
ULN pmax pmax
comp=Z,6.0nm,0.9s,mb4.2
BRTR Keskin Array B 41.43 311 P **P 09 01 06.0 +1.8**
comp=Z,1.4nm,0.8s,mb3.6,baz=135,slow=8.7,SNR=5.7
NJ2 Nanjing 43.31 61 *e*P **P 09 01 18.5 -1.2**
NJ2 AP pP 09 01 24.3 +1.6
NJ2 XP sP 09 01 27.5 +3.5
NJ2 PP PP 09 03 02.0 -0.7
NJ2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.7
NJ2 AMB AMB
comp=Z,260nm,5.5s
NJ2 LR LR
comp=N,590nm,22.2s,MS4.6
NJ2 LR LR
comp=E,540nm,17.5s,MS4.6
NJ2 LR LR
comp=Z,320nm,20.7s,MS4.2
SSE Sheshan 45.15 63 P **P 09 01 33.0 -1.6**
SSE AP pP 09 01 39.3 +1.7
SSE AMB AMB
comp=Z,20nm,0.7s,mb5.1
SSE AMB AMB
comp=Z,124nm,8.0s
SSE LR LR
comp=N,26nm,18.9s,MS3.6
SSE LR LR
comp=E,69nm,18.9s,MS3.6
SSE LR LR
comp=Z,55nm,20.5s,MS3.5
SSE Sheshan 45.15 63 P **P 09 01 33.1 -1.5**
comp=Z,20nm,0.7s,mb5.1
SSE pP pP 09 01 39.3 +1.7
SSE sP sP 09 01 41.1 +2.2
SSE S **S 09 08 08.8 -4.6**
SSE sS 09 08 19.7
SSE SS SS 09 11 29.2 +1.8
SSE LR LR
comp=Z,60nm,20.5s,MS3.5
IDI Anoyia 46.96 303 P **P 09 01 50.0 +1.2**
comp=Z,24nm,1.1s,mb5.0,baz=90,slow=10,SNR=2.7
OBN Obninsk 47.42 332 *e*P **P 09 01 52.6 +0.4**
OBN *e*S **S 09 08 36.3 -9.1**
OBN pmax pmax
comp=Z,11nm,1.1s,mb4.7
CN2 Changchun 50.89 47 *e*P **P 09 02 20.0 +0.9**
MDJ Mudanjiang 53.98 47 P **P 09 02 41.8 -0.3**
MDJ AMB AMB
comp=Z,6.0nm,0.8s,mb4.6
MDJ AMB AMB
comp=Z,44nm,5.2s
LSZ Lusaka 55.28 237 *e*P **P 09 02 51.1 -0.9**
comp=Z,7.2nm,1.3s,mb4.5
LSZ Lusaka 55.28 237 *e*P **P 09 02 51.2 -0.9**
LSZ pmax pmax
comp=Z,7.0nm,1.3s,mb4.5
MORC Moravsky Berou 55.46 319 P **P 09 02 51.4 -1.5**
comp=Z,2.6nm,0.8s,mb4.3
MORC Moravsky Berou 55.46 319 P **P 09 02 51.4 -1.6**
MORC pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
FINES FINESS Array B 55.57 334 P **P 09 02 52.5 -1.0**
comp=Z,3.0nm,0.8s,mb4.4,baz=127,slow=14,SNR=4.4
GERES GERESS Array B 57.69 317 P **P 09 03 07.5 -1.4**
comp=Z,0.3nm,0.2s,mb3.9,baz=101,slow=5.0,SNR=6.7
GERES PcP PcP 09 04 01.4 -0.3
comp=Z,0.4nm,0.5s,baz=124,slow=3.5,SNR=3.8
CLL Collm 58.64 320 P **P 09 03 16.0 +0.6**
CLL Collm 58.64 320 *e*P **P 09 03 16.0 +0.6**
MBWA Marble Bar 58.95 128 *e*P **P 09 03 18.2 +0.1**
comp=Z,5.2nm,0.8s,mb4.6
MJAR Matsushiro Arr 59.64 57 P **P 09 03 21.8 -0.8**
comp=Z,1.2nm,0.6s,mb4.1,baz=272,slow=8.7,SNR=4.8
ARCES ARCESS Array B 60.18 342 P **P 09 03 25.3 -0.6**
comp=Z,4.5nm,0.6s,mb4.7,baz=127,slow=6.1,SNR=13
FITZ Fitzroy Crossi 61.87 122 *e*P **P 09 03 38.2 +0.2**
comp=Z,8.6nm,0.8s,mb4.9
FITZ Fitzroy Crossi 61.87 122 P **P 09 03 38.3 +0.3**
comp=Z,10.0nm,0.7s,mb5.0,baz=298,slow=1.9,SNR=12
BNI Bardonecchia 61.98 312 *e*P **P 09 03 37.0 -1.5**
comp=Z,4.1nm,0.7s,mb4.7
BNI Bardonecchia 61.98 312 *e*P **P 09 03 37.0 -1.4**
BNI pmax pmax
comp=Z,4.0nm,0.7s,mb4.7
NB2 NORSAR Subarra 61.99 331 P **P 09 03 36.6 -1.7**
comp=Z,1.4nm,0.7s,mb4.2,baz=107,slow=6.5
NB2 NORSAR Subarra 61.99 331 P **P 09 03 36.6 -1.7**
NB2 pmax pmax
comp=Z,1.0nm,0.7s,mb4.0
NOA NORSAR Array B 61.99 331 P **P 09 03 36.6 -1.6**
comp=Z,2.0nm,0.7s,mb4.4,baz=107,slow=6.7,SNR=5.1
LBTB Lobatse 62.88 229 *e*P **P 09 03 44.9 +0.2**
comp=Z,5.2nm,0.6s,mb4.8
LBTB Lobatse 62.88 229 *e*P **P 09 03 44.9 +0.3**
LBTB pmax pmax
comp=Z,5.0nm,0.6s,mb4.8
TIXI Tiksi 63.24 17 *e*P **P 09 03 44.5 -1.9**
TIXI pmax pmax
comp=Z,14nm,1.1s,mb5.0
NWAO Narrogin (SRO) 64.79 140 P **P 09 03 56.7 -0.5**
comp=Z,17nm,0.9s,mb5.1,baz=292,slow=5.4,SNR=3.3
BOSA Boshof 65.29 226 P **P 09 04 00.8 +0.3**
comp=Z,2.4nm,0.6s,mb4.4,baz=27,slow=2.9,SNR=5.4
WRA Warramunga Arr 69.93 119 P **P 09 04 29.5 -0.1**
comp=Z,6.5nm,0.6s,mb4.7,baz=306,slow=5.8,SNR=75
WRAB Tennant Creek 69.94 119 *e*P **P 09 04 29.3 -0.4**
comp=Z,9.0nm,0.6s,mb4.9
WRAB Tennant Creek 69.94 119 *e*P **P 09 04 29.3 -0.4**
WRAB pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
WB2 Warramunga Arr 69.94 119 ⇓*i*P **P 09 04 29.7 0.0**
BILL Bilibino 75.24 23 *i* P **P 09 05 00.9 +0.7**
BILL pmax pmax
comp=Z,5.0nm,0.4s,mb4.8
CTA Charters Tower 80.16 115 P **P 09 05 29.1 +0.8**
comp=Z,4.0nm,0.7s,mb4.5,baz=324,slow=8.6,SNR=3.5
CTAO Charters Tower 80.16 115 *e*P **P 09 05 28.9 +0.6**
comp=Z,3.9nm,0.6s,mb4.5
CTAO Charters Tower 80.16 115 *e*P **P 09 05 29.0 +0.7**
CTAO pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
SUMG Summit 80.25 344 *e*P **P 09 05 28.6 +0.8**
comp=Z,3.4nm,0.7s,mb4.4
INK Inuvik 92.58 10 P **P 09 06 29.2 +0.9**
comp=Z,3.2nm,0.9s,mb4.8,baz=315,slow=5.7,SNR=3.2
INK Inuvik 92.58 10 P **P 09 06 28.8 +0.5**
comp=Z,4.4nm,0.9s,mb4.9
INK Inuvik 92.58 10 P **P 09 06 28.8 +0.5**
INK pmax pmax
comp=Z,4.0nm,0.9s
ILAR Eielson Array 92.70 16 P **P 09 06 28.9 0.0**
comp=Z,0.8nm,1.0s,mb4.1,baz=310,slow=3.9,SNR=6.9
DAWY Dawson 95.16 14 *e*P **P 09 06 41.1 +0.8**
HLID Hailey 119.19 7 *e*PKPdf PKPdf 09 12 07.2 -1.2
BW06 Boulder Array 120.37 3 *e*PKPdf PKPdf 09 12 09.0 -1.7
PDAR Pinedale Array 120.37 3 PKP PKPdf 09 12 09.1 -1.6
comp=Z,1.1nm,0.6s,baz=73,slow=2.2,SNR=12
TUC Tucson 130.70 5 *e*PKPdf PKPdf 09 12 30.1 -0.9
MNTX Cornudas Mount 131.49 359 *e*PKPdf PKPdf 09 12 31.9 -0.5

IGQ 30 09:16:53.2, 2.84S×79.46W, h12km±10km, mb4.1, Error ellipse: s-maj=18.0km s-min=5.3km az=52.2, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARRY	**Arrayan**	**1.66**	**37**	P	Pn	09 17 24.5	+2.0
JUIV	**Juive**	**1.72**	**35**	P	Pn	09 17 26.0	+2.7
ULBA	**Ulba**	**1.73**	**37**	P	Pn	09 17 25.5	+2.0
ULBA				S	Sn	09 17 47.8	+2.1
RUN5	**Runtun**	**1.75**	**36**	P	Pn	09 17 25.9	+2.1
CAMI	**Rancho Maria**	**2.35**	**24**	P	Pn	09 17 34.7	+2.4
TAMB	**Tambo**	**2.39**	**27**	P	Pn	09 17 34.9	+2.0
NAS1	**Nasa**	**2.40**	**24**	P	Pn	09 17 35.1	+2.0
VC1	**Cotopaxi 1**	**2.42**	**26**	P	Pn	09 17 36.1	+2.7
VC1				S	Sn	09 18 08.0	+4.8
ANTI	**Antisana**	**2.71**	**29**	P	Pn	09 17 39.6	+2.2
JUA2	**San Juan 2**	**2.75**	**18**	P	Pn	09 17 40.4	+2.4
GGP	**Refugio Guagua**	**2.79**	**18**	P	Pn	09 17 40.0	+1.5
GGP				S	Sn	09 18 14.3	+2.0
PINO	**Pino**	**2.80**	**18**	P	Pn	09 17 40.6	+1.9
PINO				S	Sn	09 18 15.2	+2.5
YANA	**Yana**	**2.85**	**18**	P	Pn	09 17 40.9	+1.5
YANA				S	Sn	09 18 15.8	+1.9
JOR1	**San Jorge 1**	**2.94**	**16**	P	Pn	09 17 38.4	-2.3
CAYR	**Refugio Cayamb**	**3.19**	**27**	P	Pn	09 17 47.2	+3.0
CAYR				S	Sn	09 18 23.6	+1.1
CAYA	**Cayambe**	**3.24**	**27**	P	Pn	09 17 47.3	+2.3
COTA	**Cotacachi**	**3.35**	**20**	P	Pn	09 17 48.7	+2.2
ECEN	**Cerro Negro**	**3.93**	**22**	P	Pn	09 17 58.1	+3.3

*CSEM **30** 09:55:45.4±0.5, 59.10N×26.62E, h2km, ML2.6, Error ellipse: s-maj=10.8km s-min=5.5km az=143.0, Mining explosion.*
*HEL **30** 09:55:47.9±0.2, 59.29N×27.01E, ML2.6(NAO), Explosion*
*FIA0 **30** 09:55:47.8, 59.30N×26.89E, ML2.0, Explosion*
*BER **30** 09:55:48.9±4.1, 59.37N×27.08E, ML2.6(NAO), Suspected explosion*
*NAO **30** 09:55:49.0±2.9, 59.37N×26.83E, ML2.6*
*IDC **30** 09:55:49.1±2.0, 59.38N×27.08E, mb1 3.3/4, mb1mx3.1/21, mbtmp3.2/4, ML3.0/3, Error ellipse: s-maj=16.6km s-min=9.9km az=126.0*

ISC 30 09:55:43.3±1.7, 59.32N±0.09×27.0E±0.2, n16, σ0§94/28, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIA0	**FINESS Array S**	**2.17**	**348**	*e*P	**Pn**	**09 56 25.5**	**+4.3**
FIA0				*e*SG	**Sg**	**09 56 56.0**	**+0.3**
FIA0				*e*RG		09 57 13.2	
FIA0	**FINESS Array S** baz=166,slow=18	**2.17**	**348**	Pn	**Pn**	**09 56 25.6**	**+4.4**
FIA0	baz=171,slow=37			Lg		09 56 56.2	
FIA0	baz=167,slow=56			Rg		09 57 07.0	
FIA0	**FINESS Array S** SNR=50	**2.17**	**348**	Pn	**Pn**	**09 56 25.6**	**+4.4**
FIA0				Sg	**Sg**	**09 56 56.0**	**+0.3**
FINES	**FINESS Array B** 2.9nm,0.3s,baz=162,slow=13,SNR=44	**2.17**	**348**	Pn	**Pn**	**09 56 25.6**	**+4.3**
FINES				Pg	**Pg**	**09 56 27.0**	**+0.2**
FINES	2.9nm,0.3s,baz=160,slow=16,SNR=42			Sn	**Sn**	**09 56 53.1**	**+3.8**
FINES	5.1nm,0.3s,baz=173,slow=24,SNR=26			Lg		09 56 56.8	
HFS	**Hagfors** baz=112,slow=12	**6.77**	**283**	Pn	**Pn**	**09 57 28.2**	**+1.8**
HFS	baz=97,slow=28			Sn	**Sn**	**09 58 44.1**	**-1.0**
HFS	baz=70,slow=37			Lg		09 59 16.2	
HFS	**Hagfors**	**6.77**	**283**	*e*P	**Pn**	**09 57 28.2**	**+1.8**
HFS				*e*S	**Sn**	**09 58 44.1**	**-1.0**
HFS				*e*SG		09 59 16.2	
HFS	**Hagfors** 0.0nm,0.3s,baz=96,slow=13,SNR=3.2	**6.77**	**283**	Pn	**Pn**	**09 57 28.4**	**+2.1**
HFS	0.1nm,0.3s,baz=93,slow=27,SNR=3.3			Sn	**Sn**	**09 58 44.2**	**-1.0**
HFS	0.2nm,0.3s,baz=102,slow=29,SNR=5.1			Lg		09 59 19.7	
HFS	**Hagfors**	**6.77**	**283**	P	**Pn**	**09 57 28.1**	**+1.7**
HFS				S	**Sn**	**09 58 44.1**	**-1.0**
NB2	**NORSAR Subarra**	**8.04**	**289**	*e*P	**P**	**09 57 44.6**	**+0.4**
NB2				*e*SG		09 59 59.6	
NB2	**NORSAR Subarra** baz=89,slow=14	**8.04**	**289**	Pn	**P**	**09 57 44.6**	**+0.4**
NB2				Lg		09 59 59.6	
NOA	**NORSAR Array B** 0.2nm,0.3s,baz=36,slow=17,SNR=2.8	**8.04**	**289**	Pn	**P**	**09 57 43.7**	**-0.5**
NOA	0.2nm,0.3s,baz=239,slow=17,SNR=2.3			Sn	**Sn**	**09 59 12.8**	**-4.3**
NOA	0.4nm,0.3s,baz=133,slow=19,SNR=3.0			Lg		09 59 59.7	
APA0	**Apatity Array** baz=206,slow=12	**8.73**	**15**	Pn	**P**	**09 57 53.8**	**-0.1**
APA0	**Apatity Array**	**8.73**	**15**	*e*P	**P**	**09 57 53.8**	**-0.1**
ARA0	**ARCESS Array S** baz=180,slow=12	**10.28**	**357**	Pn	**P**	**09 58 14.2**	**-0.7**
ARA0	baz=171,slow=28			Sn	**S**	**10 00 04.8**	**-7.3**
ARA0	baz=172,slow=56			Lg		10 01 04.1	
ARA0	**ARCESS Array S**	**10.28**	**357**	*e*P	**P**	**09 58 14.2**	**-0.7**
ARA0				*e*S	**S**	**10 00 04.8**	**-7.3**
ARA0				*e*SG		10 01 04.1	
ARCES	**ARCESS Array B** 0.2nm,0.3s,baz=175,slow=13,SNR=10	**10.28**	**357**	Pn	**P**	**09 58 14.2**	**-0.7**
ARCES	0.2nm,0.3s,baz=174,slow=24,SNR=3.5			Sn	**S**	**10 00 05.2**	**-6.9**
ARCES	0.3nm,0.3s,baz=172,slow=34,SNR=3.8			Lg		10 01 06.1	

*NEIC **30** 10:36:35.3, 39.67S×177.35E, h18km, ML4.2(WEL), After WEL.*
NEIC Felt in the Hawke's Bay area.

WEL 30 10:36:35.4±0.3, 39.66S×177.30E, h17km±1km, ML4.2/36, 1D, Error ellipse: s-maj=2.1km s-min=1.6km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PXZ	**Pawanui**	**0.50**	**222**	P*	Pb	10 36 46.0	+0.6
KNZ	**Kokohu**	**0.70**	**24**	P*	Pb	10 36 49.7	+0.9
KNZ	**Kokohu**	**0.70**	**24**	P	Pb	10 36 49.8	+1.0
BKZ	**Black Stump Fm**	**0.80**	**308**	P*	Pb	10 36 50.3	-0.1
BKZ				S*	Sb	10 37 00.8	0.0
TSZ	**Takapari Road**	**1.11**	**248**	P*	Pb	10 36 54.1	-1.6
TSZ	**Takapari Road**	**1.11**	**248**	P	Pb	10 36 54.1	-1.6
HATZ	**Hinemaiaia**	**1.21**	**309**	PN	Pn	10 36 57.0	-0.7
HATZ	**Hinemaiaia**	**1.21**	**309**	P	Pb	10 36 57.0	-0.5
MOVZ	**Moawhango**	**1.22**	**281**	PN	Pn	10 36 56.6	-1.3
MOVZ	**Moawhango**	**1.22**	**281**	P	Pb	10 36 56.6	-1.1
BFZ	**Birch Farm**	**1.30**	**218**	PN	Pn	10 36 56.5	-2.5
BFZ	**Birch Farm**	**1.30**	**218**	*e*P	Pn	10 36 56.4	-2.6
RITZ	**Rihia Road**	**1.31**	**301**	PN	Pn	10 36 59.1	0.0
RITZ	**Rihia Road**	**1.31**	**301**	P	Pn	10 36 59.2	+0.1
MWZ	**Matawai**	**1.33**	**8**	⇓PN	Pn	10 36 58.1	-1.4
MWZ	**Matawai**	**1.33**	**8**	P	Pn	10 36 58.1	-1.4
TUVZ	**Tukino**	**1.33**	**286**	PN	Pn	10 36 58.9	-0.5
TUVZ	**Tukino**	**1.33**	**286**	P	Pn	10 36 58.9	-0.6
WNVZ	**Wahianoa**	**1.36**	**284**	PN	Pn	10 36 59.2	-0.6
OTVZ	**Oturere**	**1.36**	**291**	PN	Pn	10 36 59.0	-0.8
DRZ	**Dome Shelter**	**1.40**	**285**	PN	Pn	10 37 00.1	-0.3
DRZ	**Dome Shelter**	**1.40**	**285**	P	Pn	10 37 01.1	+0.7
NGZ	**Ngauruhoe**	**1.40**	**290**	PN	Pn	10 36 59.4	-1.1
NGZ	**Ngauruhoe**	**1.40**	**290**	P	Pn	10 36 59.8	-0.6
TRVZ	**Turoa**	**1.40**	**284**	*e*PN	Pn	10 37 00.2	-0.2
KRVZ	**Karewarewa**	**1.41**	**293**	PN	Pn	10 36 59.9	-0.5
URZ	**Urewera**	**1.41**	**354**	PN	Pn	10 36 59.2	-1.3
URZ	**Urewera**	**1.41**	**354**	P	Pn	10 36 59.2	-1.3
FWVZ	**Far West T-bar**	**1.41**	**286**	PN	Pn	10 36 59.6	-0.9
FWVZ	**Far West T-bar**	**1.41**	**286**	P	Pn	10 37 00.0	-0.6
KATZ	**Kakaramea**	**1.42**	**298**	PN	Pn	10 37 00.5	-0.2
KATZ	**Kakaramea**	**1.42**	**298**	P	Pn	10 37 01.8	+0.3
RATZ	**Rangitukua**	**1.43**	**303**	PN	Pn	10 37 00.6	-0.2
RATZ	**Rangitukua**	**1.43**	**303**	P	Pn	10 37 01.2	+0.4
WTVZ	**West Tongariro**	**1.43**	**292**	*e*PN	Pn	10 37 00.5	-0.4
WTVZ	**West Tongariro**	**1.43**	**292**	P	Pn	10 37 00.7	-0.2
CNZ	**Chateau**	**1.43**	**288**	PN	Pn	10 37 00.1	-0.8
CNZ	**Chateau**	**1.43**	**288**	P	Pn	10 37 00.8	-0.1
WPVZ	**Whakapapa**	**1.43**	**288**	PN	Pn	10 36 59.9	-0.9
WPVZ	**Whakapapa**	**1.43**	**288**	P	Pn	10 37 00.2	-0.7
WHTZ	**Whakaora**	**1.44**	**313**	PN	Pn	10 37 00.9	-0.1
WHTZ	**Whakaora**	**1.44**	**313**	P	Pn	10 37 01.5	+0.5
MTVZ	**Mangateitei**	**1.44**	**280**	PN	Pn	10 36 59.9	-1.1
PATZ	**Paeroa**	**1.51**	**327**	PN	Pn	10 37 01.2	-0.8
PATZ	**Paeroa**	**1.51**	**327**	P	Pn	10 37 01.4	-0.6
WATZ	**Wairara**	**1.54**	**307**	*e*PN	Pn	10 37 02.7	+0.2
WATZ	**Wairara**	**1.54**	**307**	P	Pn	10 37 03.2	+0.7
TAZ	**Tarawera**	**1.55**	**336**	*e*PN	Pn	10 37 01.5	-1.1
TAZ	**Tarawera**	**1.55**	**336**	P	Pn	10 37 01.6	-1.0
PKVZ	**Pokaka**	**1.56**	**283**	PN	Pn	10 37 02.2	-0.5
TWVZ	**Taurewa**	**1.56**	**292**	*e*PN	Pn	10 37 01.4	-1.2
TWVZ	**Taurewa**	**1.56**	**292**	P	Pn	10 37 02.1	-0.6
EDRZ	**Edgecumbe**	**1.61**	**344**	P	Pn	10 37 05.3	+1.9
MKRZ	**Makatiti**	**1.65**	**337**	*e*PN	Pn	10 37 04.2	+0.2
MKRZ	**Makatiti**	**1.65**	**337**	P	Pn	10 37 04.5	+0.5
MRZ	**Mangatainoka R**	**1.66**	**232**	PN	Pn	10 37 01.1	-2.9
MRZ	**Mangatainoka R**	**1.66**	**232**	P	Pn	10 37 01.2	-2.9
UTU	**Utuhina**	**1.71**	**329**	P	Pn	10 37 06.8	+1.9
MARZ	**Manawahe**	**1.74**	**343**	P	Pn	10 37 07.5	+2.2
PUZ	**Puketiti**	**1.75**	**26**	*e*PN	Pn	10 37 03.4	-2.0
PUZ	**Puketiti**	**1.75**	**26**	*e*P	Pn	10 37 03.4	-2.0
WAZ	**Wanganui**	**1.79**	**266**	PN	Pn	10 37 05.5	-0.5
WAZ	**Wanganui**	**1.79**	**266**	P	Pn	10 37 05.7	-0.3
MTW	**Mount Morrison**	**2.03**	**222**	PN	Pn	10 37 05.4	-4.1
MTW	**Mount Morrison**	**2.03**	**222**	P	Pn	10 37 05.6	-3.9
VRZ	**Vera Road**	**2.04**	**284**	*e*PN	Pn	10 37 08.2	-1.4
VRZ	**Vera Road**	**2.04**	**284**	*e*P	Pn	10 37 08.5	-1.1
TRWZ	**Traveller**	**2.13**	**215**	*e*PN	Pn	10 37 06.5	-4.4
KIW	**Kapiti Island**	**2.19**	**236**	*e*PN	Pn	10 37 08.5	-3.2
KIW	**Kapiti Island**	**2.19**	**236**	P	Pn	10 37 08.6	-3.1
HIZ	**Hauiti**	**2.22**	**300**	*e*PN	Pn	10 37 10.6	-1.6
HIZ	**Hauiti**	**2.22**	**300**	*e*P	Pn	10 37 11.0	-1.1
MXZ	**Matakaoa Point**	**2.24**	**21**	*e*PN	Pn	10 37 10.1	-2.2
MXZ	**Matakaoa Point**	**2.24**	**21**	P	Pn	10 37 10.4	-2.0
CAW	**Cannon Point**	**2.24**	**229**	PN	Pn	10 37 08.4	-4.0
CAW	**Cannon Point**	**2.24**	**229**	P	Pn	10 37 08.5	-3.9
PAWZ	**Paruwai Farm**	**2.24**	**219**	PN	Pn	10 37 08.2	-4.2
PAWZ				SN	Sn	10 37 34.8	-5.0
RAEZ	**Rainy Point**	**2.28**	**278**	P	Pn	10 37 13.0	0.0
MSWZ	**Moikau Station**	**2.35**	**221**	P	Pn	10 37 09.6	-4.4
NEZ	**North Egmont**	**2.51**	**278**	P	Pn	10 37 17.4	+1.1
MRW	**Makara Radio**	**2.53**	**231**	P	Pn	10 37 13.0	-3.6
SNZO	**South Karori**	**2.58**	**229**	*e*P	Pn	10 37 12.9	-4.3
PKE	**Pukeiti**	**2.61**	**279**	P	Pn	10 37 17.9	+0.2
NRZ	**Ngariki Road**	**2.63**	**276**	P	Pn	10 37 20.8	+2.9
BSWZ	**Blackbirch Sta**	**3.32**	**231**	P	Pn	10 37 23.6	-4.1
NNZ	**Nelson**	**3.37**	**241**	*e*P	Pn	10 37 24.3	-4.3
QRZ	**Quartz Range**	**3.83**	**251**	P	Pn	10 37 30.6	-4.5
THZ	**Tophouse**	**3.95**	**236**	*e*P	Pn	10 37 31.3	-5.4
DSZ	**Denniston Nort**	**4.67**	**242**	*e*P	Pn	10 37 41.5	-5.5
LTZ	**Lake Taylor**	**4.91**	**229**	*e*P	Pn	10 37 43.9	-6.5
RPZ	**Rata Peaks**	**6.19**	**227**	*e*P	Pn	10 38 02.5	-5.9
ODZ	**Otahua Downs**	**7.30**	**220**	*e*P	Pn	10 38 17.1	-6.9

*NEIC **30** 10:47:22.4±0.7, 9.05S×107.67E, mb4.2/5, Error ellipse: s-maj=21.7km s-min=8.4km az=53.0*
*IDC **30** 10:47:23.1±1.5, 8.87S×107.88E, h40km±6km, mb4.0/5, mb1 4.2/6, mb1mx3.8/17, mbtmp4.3/6, ML4.4/1, Error ellipse: s-maj=70.5km s-min=14.3km az=51.0*

ISC 30 10:47:20.0±1.0, 9.1S±0.1×107.6E±0.2, h41km, h41km±.9km: pP-P, n15, σ0§52/15, mb4.2/9, 1C, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**17.30**	**30**	*e*P	**P**	**10 51 20.6**	**+0.3**
FITZ	**Fitzroy Crossi** 15nm,0.7s	**19.66**	**119**	⇑*i*P	**P**	**10 51 48.1**	**-0.3**
FITZ	**Fitzroy Crossi** 0.8nm,0.3s,baz=284,slow=3.5,SNR=22	**19.66**	**119**	P	**P**	**10 51 48.2**	**-0.2**
WRA	**Warramunga Arr** 1.2nm,0.5s,mb3.8,baz=290,slow=11,SNR=8.0	**27.99**	**116**	P	**P**	**10 53 08.6**	**-0.8**
WRA	0.7nm,0.6s,baz=289,slow=11,SNR=2.9			pP	pP	10 53 20.0	-0.4
WRAB	**Tennant Creek** 1.5nm,0.5s,mb3.9	**28.00**	**116**	P	**P**	**10 53 09.8**	**+0.4**
STKA	**Stephens Creek** 3.5nm,0.7s,mb4.2,baz=303,slow=10,SNR=6.6	**38.81**	**131**	P	**P**	**10 54 43.4**	**+0.7**
STKA	5.4nm,0.8s,baz=290,slow=7.6,SNR=3.0			pP	pP	10 54 55.2	+1.1
STKA	**Stephens Creek**	**38.81**	**131**	P	**P**	**10 54 43.4**	**+0.7**
STKA				pP	pP	10 54 55.2	+1.1
SONM	**Songino Array** 2.4nm,0.6s,mb4.4,baz=179,slow=8.9,SNR=18	**56.68**	**359**	P	**P**	**10 57 01.5**	**-0.2**
SONM	1.4nm,0.6s,baz=172,slow=8.0,SNR=6.3			pP	pP	10 57 13.2	-0.4
ULN	**Ulaanbaatar** 1.4nm,0.6s,mb4.2	**56.70**	**360**	*e*P	**P**	**10 57 01.3**	**-0.5**
MKAR	**Makan

4.6nm,1.0s,mb4.5
BVAR Borovoye Array 69.51 337 P **P 10 58 26.5 +0.2**
2.3nm,0.7s,mb4.2,baz=135,slow=7.7,SNR=13
BVAR pP pP 10 58 38.5 0.0
1.1nm,0.5s,baz=141,slow=9.5,SNR=4.6
BRVK Borovoye 69.58 337 *e*P **P 10 58 27.2 +0.4**
1.0nm,0.5s,mb4.0
MOA Molln 98.90 317 *i* P **P 11 00 53.4 -3.8**

*IDC **30** 10:48:53.4±0.5, 6.75N×72.97W, h156km±5km, mb3.6/9, mb1 3.9/12, mb1mx3.7/23, mbtmp4.1/12, Error ellipse: s-maj=12.1km s-min=6.9km az=119.0*
*NEIC **30** 10:48:53.9±0.3, 6.79N×72.96W, mb3.8/9, Error ellipse: s-maj=9.4km s-min=6.7km az=75.0*
ISC 30 10:48:53.0±0.6,**6.76N**±0.06×**72.96W**±0.07,**h170**km±6km, **n30**,σ0=**94**/32,**mb3.9**/17,**Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.33**	**216**	P	**P**	**10 49 35.0**	**+1.4**
	90nm,0.3s,baz=102,slow=23,SNR=156						
ROSC				S	**S**	**10 50 03.2**	**-1.7**
	169nm,0.3s,baz=107,slow=17,SNR=12						
SDV	**Santo Domingo**	**3.13**	**47**	P	**P**	**10 49 44.3**	**+1.0**
	32nm,0.3s,baz=246,slow=2.7,SNR=115						
SDV				S	**S**	**10 50 21.1**	**-1.0**
	16nm,0.3s,baz=294,slow=20,SNR=25						
SDV	**Santo Domingo**	**3.13**	**47**	*e*Pn	**P**	**10 49 44.0**	**+0.6**
SDV				*e*Sn	**S**	**10 50 22.3**	**+0.2**
SJG	**San Juan**	**13.09**	**30**	P	**P**	**10 51 53.7**	**+0.1**
	baz=293,slow=23,SNR=2.7						
SAML	**Samuel**	**18.40**	**148**	*e*P	**P**	**10 52 57.5**	**-0.3**
	7.9nm,0.9s						
LPAZ	**La Paz**	**23.39**	**168**	P	**P**	**10 53 49.1**	**+1.4**
	0.6nm,0.3s,mb3.4,baz=344,slow=16,SNR=6.8						
LPAZ				pP		10 54 19.8	
	1.6nm,0.6s,baz=350,slow=9.2,SNR=4.1						
LPAZ				S	**S**	**10 57 50.9**	**+6.0**
	0.9nm,0.8s,baz=97,slow=19,SNR=3.1						
LPAZ	**La Paz**	**23.39**	**168**	*e*P	**P**	**10 53 49.5**	**+1.8**
	1.3nm,0.6s,mb3.5						
LPAZ				pP		10 54 19.8	
LPAZ				S	**S**	**10 57 50.9**	**+6.0**
SIV	**San Ignacio**	**25.49**	**153**	P	**P**	**10 54 07.7**	**+0.3**
	0.6nm,0.5s,mb3.4,baz=333,slow=10,SNR=5.2						
SIV				pP	pP	10 54 40.7	-1.0
	0.8nm,0.5s,baz=319,slow=13,SNR=2.8						
WCI	**Wyandotte Cave**	**33.58**	**341**	P	**P**	**10 55 19.4**	**+0.4**
	3.8nm,0.6s,mb4.3						
CCM	**Cathedral Cave**	**35.29**	**335**	*e*P	**P**	**10 55 33.7**	**+0.2**
	4.9nm,0.8s,mb4.2						
TXAR	**Lajitas Array**	**36.62**	**312**	P	**P**	**10 55 45.1**	**+0.4**
	0.5nm,0.6s,mb3.3,baz=124,slow=9.0,SNR=10						
TXAR				PcP	PcP	10 58 05.8	+1.2
	0.5nm,0.7s,baz=137,slow=6.2,SNR=6.6						
MNTX	**Cornudas Mount**	**39.13**	**314**	*e*P	**P**	**10 56 06.0**	**+0.3**
	0.8nm,0.6s,mb3.5						
SDCO	**Great Sand Dun**	**42.70**	**321**	*e*P	**P**	**10 56 36.2**	**+1.4**
	1.1nm,0.8s,mb3.5						
ULM	**Lac du Bonnet**	**47.40**	**340**	P	**P**	**10 57 10.2**	**-1.6**
	3.4nm,0.6s,mb4.2,baz=135,slow=6.9,SNR=9.3						
SCHQ	**Schefferville**	**48.19**	**5**	P	**P**	**10 57 18.8**	**+0.8**
	11nm,0.6s,mb4.6,baz=192,slow=6.1,SNR=32						
PDAR	**Pinedale Array**	**48.22**	**324**	P	**P**	**10 57 17.2**	**-1.1**
	0.6nm,0.8s,mb3.2,baz=135,slow=6.3,SNR=4.7						
PDAR				pP	pP	10 57 54.3	-2.1
	0.2nm,0.4s,baz=139,slow=27,SNR=2.3						
PDAR				PcP	PcP	10 58 45.0	+1.8
	0.3nm,0.4s,baz=127,slow=7.2,SNR=3.9						
RRI2	**Red Ridge**	**49.60**	**324**	*e*P	**P**	**10 57 29.6**	**+0.7**
	3.2nm,0.8s,mb4.0						
BOZ	**Bozeman (W)**	**51.15**	**326**	*e*P	**P**	**10 57 40.6**	**0.0**
	0.7nm,0.6s,mb3.5						
WVOR	**Wild Horse Val**	**53.68**	**319**	*e*P	**P**	**10 57 59.3**	**-0.1**
	2.0nm,0.8s,mb3.9						
YKA	**Yellowknife Ar**	**63.38**	**340**	P	**P**	**10 59 05.6**	**-0.6**
	3.0nm,0.6s,mb4.3,baz=132,slow=6.6,SNR=14						
YKA	**Yellowknife Ar**	**63.38**	**340**	P	**P**	**10 59 05.6**	**-0.7**
YKW3	**Yellowknife Ar**	**63.42**	**340**	*e*P	**P**	**10 59 05.7**	**-0.9**
DBIC	**Dimbokro**	**67.58**	**86**	P	**P**	**10 59 33.0**	**-0.9**
	4.3nm,0.7s,mb4.3,baz=238,slow=5.9,SNR=7.2						
DBIC	**Dimbokro**	**67.58**	**86**	P	**P**	**10 59 33.0**	**-0.9**
SUMG	**Summit**	**69.02**	**11**	*e*P	**P**	**10 59 42.4**	**+0.7**
	31nm,1.1s,mb5.0						
ILAR	**Eielson Array**	**77.08**	**335**	P	**P**	**11 00 29.0**	**+0.2**
	0.7nm,0.8s,mb3.3,baz=99,slow=3.4,SNR=7.2						
MOX	**Moxa**	**81.38**	**40**	*e*P	**P**	**11 00 50.0**	**-2.1**
MKAR	**Makanchi Array**	**122.33**	**20**	PKP	PKPdf	11 07 28.9	+1.0
	0.6nm,0.4s,baz=325,slow=3.0,SNR=3.7						
SONM	**Songino Array**	**125.64**	**1**	PKP	PKPdf	11 07 37.0	+2.6
	0.6nm,0.5s,baz=292,slow=1.7,SNR=5.3						
WRA	**Warramunga Arr**	**150.45**	**241**	PKP	PKPdf	11 08 22.1	+2.5
	2.1nm,0.5s,baz=100,slow=2.1,SNR=5.7						
WRA				PKPbc	PKPdf	11 08 26.8	+7.1
	2.1nm,0.5s,baz=109,slow=2.6,SNR=61						
WRA				pPKPbc		11 09 08.1	
	1.1nm,0.7s,baz=109,slow=2.5,SNR=2.6						

IGQ 30 11:04:25.1, 0.76S×78.68W, h22km±2km,**mb4.1, 13C-3D, Error ellipse: s-maj=1.4km s-min=0.9km az=179.8, Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAMI	**Rancho Maria**	**0.20**	**65**	⇓P	Pb	11 04 30.5	+0.2
NAS1	**Nasa**	**0.24**	**58**	⇑P	Pb	11 04 31.6	+0.6
QIL1	**Quilotoa**	**0.26**	**252**	P	Pb	11 04 31.3	0.0
VC1	**Cotopaxi 1**	**0.30**	**67**	⇑P	Pb	11 04 32.7	+0.8
TAMB	**Tambo**	**0.32**	**78**	⇑P	Pb	11 04 32.8	+0.6
PISA	**Pisayambo**	**0.42**	**135**	⇑P	Pb	11 04 34.2	+0.4
JUA2	**San Juan 2**	**0.55**	**8**	⇑P	Pb	11 04 36.0	+0.6
PINO	**Pino**	**0.60**	**7**	⇑P	Pb	11 04 37.6	+0.7
ANTI	**Antisana**	**0.61**	**59**	⇑P	Pb	11 04 37.3	+0.4
YANA	**Yana**	**0.65**	**10**	⇑P	Pb	11 04 38.1	+0.5
YANA				S	Sb	11 04 47.6	+1.4
JUIV	**Juive**	**0.69**	**162**	P	Pb	11 04 38.5	+0.2
RUN5	**Runtun**	**0.70**	**158**	⇑P	Pb	11 04 38.8	+0.4
CUSU	**Cusua**	**0.71**	**163**	P	Pb	11 04 40.5	+1.9
ULBA	**Ulba**	**0.74**	**158**	P	Pb	11 04 39.1	0.0
JOR1	**San Jorge 1**	**0.76**	**3**	⇑P	Pb	11 04 36.1	-3.3
ARRY	**Arrayan**	**0.77**	**163**	⇑P	Pb	11 04 39.9	+0.1
CAYR	**Refugio Cayamb**	**1.03**	**41**	⇑P	Pb	11 04 45.3	+1.3
CAYA	**Cayambe**	**1.08**	**40**	P	Pb	11 04 46.2	+1.3
COTA	**Cotacachi**	**1.14**	**18**	P	Pn	11 04 46.9	+0.9
ECOPE	**Copete-Rev Vol**	**1.25**	**59**	P	Pn	11 04 49.8	+2.4
MAG1	**Magdalena**	**1.29**	**302**	⇑P	Pn	11 04 49.9	+1.9
JAMA	**Jama**	**1.60**	**288**	⇓P	Pn	11 04 53.1	+0.6
ECEN	**Cerro Negro**	**1.73**	**24**	⇓P	Pn	11 04 57.0	+2.7

WEL 30 11:10:38.9±0.3,**39.75S**×**177.40E, h33**km,**MLA.7**/20, **Error ellipse: s-maj=3.0km s-min=2.0km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PXZ	**Pawanui**	**0.50**	**235**	PN	Pn	11 10 49.4	-0.2
PXZ				SN	Sn	11 10 58.2	+1.1
KNZ	**Kokohu**	**0.76**	**17**	PN	Pn	11 10 53.2	-0.1
BKZ	**Black Stump Fm**	**0.91**	**309**	PN	Pn	11 10 53.7	-1.8
BKZ				SN	Sn	11 11 05.4	-2.2
TSZ	**Takapari Road**	**1.15**	**254**	PN	Pn	11 10 57.3	-1.6
BFZ	**Birch Farm**	**1.28**	**223**	*e*PN	Pn	11 10 59.8	-1.0
MOVZ	**Moawhango**	**1.32**	**285**	PN	Pn	11 10 60.0	-1.3
HATZ	**Hinemaiaia**	**1.33**	**310**	PN	Pn	11 11 00.4	-1.1
MWZ	**Matawai**	**1.42**	**4**	PN	Pn	11 11 01.6	-1.2
RITZ	**Rihia Road**	**1.42**	**302**	PN	Pn	11 11 02.8	0.0
TUVZ	**Tukino**	**1.43**	**289**	*e*PN	Pn	11 11 02.5	-0.5
WNVZ	**Wahianoa**	**1.45**	**286**	PN	Pn	11 11 02.6	-0.6
OTVZ	**Oturere**	**1.46**	**293**	PN	Pn	11 11 03.2	-0.2
TRVZ	**Turoa**	**1.50**	**287**	PN	Pn	11 11 03.5	-0.5
NGZ	**Ngauruhoe**	**1.50**	**292**	PN	Pn	11 11 03.9	-0.1
URZ	**Urewera**	**1.50**	**351**	PN	Pn	11 11 02.6	-1.4
KRVZ	**Karewarewa**	**1.51**	**295**	PN	Pn	11 11 03.8	-0.2
FWVZ	**Far West T-bar**	**1.51**	**288**	PN	Pn	11 11 02.6	-1.5
KATZ	**Kakaramea**	**1.53**	**300**	PN	Pn	11 11 04.5	+0.2
WPVZ	**Whakapapa**	**1.53**	**290**	*e*PN	Pn	11 11 03.1	-1.3
CNZ	**Chateau**	**1.53**	**290**	PN	Pn	11 11 03.6	-0.9
MTVZ	**Mangateitei**	**1.53**	**283**	*e*PN	Pn	11 11 04.0	-0.4
WTVZ	**West Tongariro**	**1.54**	**294**	PN	Pn	11 11 04.3	-0.1
RATZ	**Rangitukua**	**1.54**	**304**	*e*PN	Pn	11 11 04.0	-0.5
WHTZ	**Whakaora**	**1.56**	**314**	*e*PN	Pn	11 11 04.6	-0.1

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATZ	**Paeroa**	**1.63**	**327**	PN	Pn	11 11 04.5	-1.2
PKVZ	**Pokaka**	**1.65**	**285**	*e*PN	Pn	11 11 05.2	-0.9
TWVZ	**Taurewa**	**1.66**	**293**	*e*PN	Pn	11 11 06.3	+0.1
MRZ	**Mangatainoka R**	**1.66**	**236**	PN	Pn	11 11 04.6	-1.7
MRZ				*e*SN	Sn	11 11 24.4	-2.3
TAZ	**Tarawera**	**1.67**	**335**	*e*PN	Pn	11 11 05.2	-1.2
PUZ	**Puketiti**	**1.80**	**22**	*e*PN	Pn	11 11 06.8	-1.5
WAZ	**Wanganui**	**1.86**	**269**	*e*PN	Pn	11 11 09.5	+0.4
MTW	**Mount Morrison**	**2.02**	**225**	*e*PN	Pn	11 11 08.9	-2.5
KIW	**Kapiti Island**	**2.20**	**239**	*e*PN	Pn	11 11 11.7	-2.3
CAW	**Cannon Point**	**2.24**	**232**	*e*PN	Pn	11 11 11.6	-2.9
MXZ	**Matakaoa Point**	**2.30**	**18**	*e*PN	Pn	11 11 14.1	-1.3
HIZ	**Hauiti**	**2.33**	**301**	*e*PN	Pn	11 11 14.9	-0.9

*NIED **30** 11:20:00, 26.50N×129.70E, h8km, Mw4.1 Best double couple: Mo1.61×10^15 NP1:φ=267°, δ60°, λ-68°. NP2:φ=47°, δ36°, λ-124°.*
*IDC **30** 11:20:38.2±0.8, 26.47N×129.56E, mb4.0/13, mb1 4.2/14, mb1mx4.1/22, mbtmp4.0/14, ML3.9/1, MS3.4/3, Ms1 3.4/3, ms1mx3.0/20, Error ellipse: s-maj=20.6km s-min=16.8km az=57.0*
*JMA **30** 11:20:39.7±0.1, 26.50N×129.75E, h45km, M3.7*
*BJI **30** 11:20:42.4, 26.50N×129.60E, h45km, mB4.4, mb4.5*
*NEIC **30** 11:20:44.5±0.6, 26.52N×129.56E, h45km, mb4.1/1, Error ellipse: s-maj=13.6km s-min=10.9km az=109.0*
ISC 30 11:20:38.8±1.3,**26.54N**±0.04×**129.69E**±0.04,**h17**km±9km, **n38**,σ0=**99**/52,**mb4.1**/16,**MS3.6**/2,**Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**1.29**	**283**	Pn	**Pn**	**11 21 03.0**	**+0.7**
	178nm,0.3s,baz=112,slow=16,SNR=129						
JOW				Sn	**Sn**	**11 21 18.7**	**-0.5**
JOW				LR	LR	11 21 32.8	
	comp=Z,1μm,20.8s,baz=180,slow=46						
JOW	**Kunigami**	**1.29**	**283**	P	**Pn**	**11 21 02.9**	**+0.6**
JOW				S	**Sb**	**11 21 19.0**	**+0.4**
JTK	**Tokunoshima**	**1.40**	**332**	P	**Pn**	**11 21 04.4**	**+0.6**
JTK				*e*S	**Sb**	**11 21 21.9**	**+0.3**
JMZ	**Minamidaito 2**	**1.56**	**117**	P	**Pn**	**11 21 04.6**	**-1.4**
JMZ				*e*S	**Sn**	**11 21 22.3**	**-3.6**
JIH	**Iheya**	**1.61**	**288**	P	**Pn**	**11 21 07.6**	**+0.8**
JIH				S	**Sn**	**11 21 27.6**	**+0.3**
JZK	**Kikaishima**	**1.78**	**8**	P	**Pn**	**11 21 10.0**	**+0.8**
JZK				*e*S	**Sn**	**11 21 32.0**	**+0.4**
JJT2	**Tamagusuku 2**	**1.79**	**257**	P	**Pn**	**11 21 09.7**	**+0.4**
JJT2				S	**Sn**	**11 21 31.4**	**-0.3**
NAH1	**Naha**	**1.82**	**260**	P	**Pn**	**11 21 10.2**	**+0.4**
NAH1				S	**Sn**	**11 21 31.9**	**-0.7**
JAM	**Amami Oshima**	**1.86**	**358**	P	**Pn**	**11 21 10.3**	**-0.1**
JAM				*e*S	**Sn**	**11 21 31.9**	**-1.7**
JAGN	**Aguni-jima**	**2.19**	**272**	P	**Pn**	**11 21 15.7**	**+0.6**
JAGN				*e*S	**Sn**	**11 21 41.6**	**-0.4**
JKE	**Kume jima 2**	**2.61**	**266**	P	**Pn**	**11 21 20.5**	**-0.6**
JKE				*e*S	**Sn**	**11 21 51.0**	**-1.6**
JNN	**Nakanoshima**	**3.29**	**3**	P	**Pn**	**11 21 30.4**	**-0.4**
JNN				S	**Sn**	**11 22 06.9**	**-3.0**
JKC	**Kuchinoerabu**	**3.93**	**6**	*e*S	**Sn**	**11 22 21.4**	**-4.7**
JTN	**Tanegashima 3**	**4.25**	**15**	P	**Pn**	**11 21 43.3**	**-1.1**
JTN				*e*S	**Sn**	**11 22 29.8**	**-4.4**
JNU	**Nakatsue**	**6.64**	**9**	Pn	**Pn**	**11 22 17.4**	**-0.8**
	2.1nm,0.3s,baz=41,slow=7.8,SNR=14						
JNU				Sn	**Sn**	**11 23 29.8**	**-4.3**
	baz=88,slow=35,SNR=2.3						
JNU				LR	LR	11 25 14.8	
	comp=Z,115nm,18.9s,baz=226,slow=41						
NACB	**Ninganchiao**	**7.69**	**254**	P	**Pn**	**11 22 31.9**	**-1.0**
NACB				*e*		11 23 51.4	
ASAJ	**Asahikawa**	**20.41**	**27**	P	**P**	**11 25 19.8**	**+2.1**
	8.8nm,0.9s,baz=214,slow=11,SNR=3.9						
YSS	**Yuzh-Sakhalins**	**22.85**	**24**	*e*P	**P**	**11 25 45.6**	**+3.4**
YSS				*e*		11 25 53.5	
GTA	**Gaotai**	**28.02**	**305**	P	**P**	**11 26 30.0**	**-1.0**
GTA				AMB	AMB		
	comp=Z,6.0nm,0.6s,mb4.4						
SONM	**Songino Array**	**28.02**	**325**	P	**P**	**11 26 32.3**	**+1.5**
	comp=Z,0.5nm,0.4s,mb3.5,baz=14,slow=41,SNR=4.9						
SONM				LR	LR	11 37 52.6	
	comp=Z,48nm,20.6s,MS3.1,baz=74,slow=37						
LSA	**Lhasa**	**34.03**	**284**	P	**P**	**11 27 26.1**	**+1.9**
	comp=Z,7.7nm,0.2s,mb5.3						
YAK	**Yakutsk**	**35.48**	**360**	P	**P**	**11 27 35.4**	**-0.8**
YAK				*e*		11 27 48.5	
MKAR	**Makanchi Array**	**42.30**	**311**	P	**P**	**11 28 33.5**	**+0.3**
	comp=Z,0.6nm,0.5s,mb3.5,baz=103,slow=10.0,SNR=5.3						
FITZ	**Fitzroy Crossi**	**44.55**	**185**	P	**P**	**11 28 51.7**	**-0.1**
	comp=Z,3.4nm,0.7s,mb4.3,slow=6.1,SNR=4.1						
KURK	**Kurchatov**	**45.50**	**316**	*e*P	**P**	**11 28 58.1**	**-0.7**
	comp=Z,2.3nm,0.8s,mb4.1						
WRAB	**Tennant Creek**	**46.42**	**174**	*e*P	**P**	**11 29 06.3**	**-0.3**
	comp=Z,31nm,1.5s,mb5.0						
WRAB				*e*		11 29 17.4	
WRA	**Warramunga Arr**	**46.43**	**174**	P	**P**	**11 29 06.0**	**-0.6**
	comp=Z,2.3nm,0.6s,mb4.3,baz=354,slow=8.5,SNR=32						
BVAR	**Borovoye Array**	**50.91**	**318**	P	**P**	**11 29 41.6**	**+0.6**
	comp=Z,1.2nm,0.6s,mb4.0,baz=80,slow=9.0,SNR=5.4						
BVAR				PcP	PcP	11 30 56.8	-0.8
	comp=Z,0.5nm,0.7s,baz=90,slow=5.8,SNR=3.5						
BVAR	**Borovoye Array**	**50.91**	**318**	P	**P**	**11 29 41.6**	**+0.6**
BVAR				PcP	PcP	11 30 56.8	-0.8
ILAR	**Eielson Array**	**63.54**	**28**	P	**P**	**11 31 11.6**	**+1.4**
	comp=Z,0.5nm,0.8s,mb3.6,baz=286,slow=8.1,SNR=5.8						
FINES	**FINESS Array B**	**73.23**	**331**	P	**P**	**11 32 10.3**	**-0.1**
	comp=Z,1.4nm,0.5s,mb4.2,baz=72,slow=6.0,SNR=6.9						
FINES				LR	LR	12 05 20.1	
	comp=Z,82nm,18.0s,MS4.1,baz=51,slow=37						
FINES	**FINESS Array B**	**73.23**	**331**	P	**P**	**11 32 10.3**	**-0.1**
FINES				LR	LR	12 05 20.1	
AKASG	**Malin Array Be**	**76.14**	**320**	P	**P**	**11 32 27.1**	**-0.2**
	comp=Z,1.1nm,0.6s,mb4.0,baz=55,slow=6.4,SNR=6.8						
BRTR	**Keskin Array B**	**77.87**	**308**	P	**P**	**11 32 38.0**	**+0.8**
	comp=Z,1.7nm,0.8s,mb4.0,baz=76,slow=5.1,SNR=6.2						
NOA	**NORSAR Array B**	**79.61**	**334**	P	**P**	**11 32 46.3**	**0.0**
	comp=Z,1.8nm,0.8s,mb4.0,baz=55,slow=5.4,SNR=3.4						
GERES	**GERESS Array B**	**85.73**	**323**	P	**P**	**11 33 19.0**	**+1.0**
	comp=Z,0.4nm,0.2s,mb4.3,baz=34,slow=3.5,SNR=3.1						
GERES	**GERESS Array B**	**85.73**	**323**	P	**P**	**11 33 19.0**	**+1.0**
PDAR	**Pinedale Array**	**92.10**	**39**	P	**P**	**11 33 49.6**	**+1.3**
	comp=Z,0.2nm,0.7s,mb3.5,baz=292,slow=4.9,SNR=2.8						

*ROM **30** 11:28:19.4±0.4, 46.13N×14.27E, h4km, Md2.9/3, Ml2.6/1, Error ellipse: s-maj=4.4km s-min=1.7km az=103.0*
*LJU **30** 11:28:19.3, 46.15N×14.38E, h18km, ML2.8*
*NEIC **30** 11:28:19.9±0.4, 46.15N×14.37E, h10km, ML3.1(VIE), ML2.7(LJU), Error ellipse: s-maj=5.2km s-min=3.8km az=211.0*
NEIC Felt [V] at Ljubljana, Medvode and Skofja Loka.
*PRU **30** 11:28:19.6, 46.12N×14.37E*
*CSEM **30** 11:28:19.4±0.4, 46.15N×14.36E, h20km, ML3.6/11, Error ellipse: s-maj=0.8km s-min=0.6km az=10.0*
ISC 30 11:28:19.3±0.2,**46.17N**±0.02×**14.38E**±0.01,**h12**km±4km, **n68**,σ0=**89**/131,**22C-12D,Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LJU	**Ljubljana**	**0.16**	**140**	⇑*i*Pg	**Pg**	**11 28 24.0**	**+0.8**
LJU				*i* Sg	**Sg**	**11 28 26.4**	**+0.6**
	comp=Z,1μm,0.1s						
LJU	**Ljubljana**	**0.16**	**140**	⇑*i*Pg	**Pg**	**11 28 24.0**	**+0.8**
LJU				*i* Sg	**Sg**	**11 28 26.4**	**+0.6**
	comp=Z,1μm,0.1s						
GORS	**Gorjuse**	**0.30**	**299**	⇑*i*Pg	**Pg**	**11 28 26.6**	**+0.8**
GORS				*i* Sg	**Sg**	**11 28 31.2**	**+1.1**
	comp=Z,386nm,0.1s						
GORS	**Gorjuse**	**0.30**	**299**	⇑*i*Pg	**Pg**	**11 28 26.6**	**+0.8**
GORS				*i* Sg	**Sg**	**11 28 31.2**	**+1.1**
	comp=Z,386nm,0.1s						
JAVS	**Javornik**	**0.35**	**219**	⇓*i*Pg	**Pg**	**11 28 26.6**	**0.0**
JAVS				*i* Sg	**Sg**	**11 28 32.0**	**+0.5**
	comp=Z,428nm,0.1s						
JAVS	**Javornik**	**0.35**	**219**	⇓*i*Pg	**Pg**	**11 28 26.6**	**-0.1**
JAVS				*i* Sg	**Sg**	**11 28 32.0**	**+0.5**
	comp=Z,428nm,0.1s						
OBKA	**Obir**	**0.36**	**19**	⇑*i*PG	**Pg**	**11 28 28.0**	**+1.2**
OBKA				*i* SG	**Sg**	**11 28 33.3**	**+1.5**
	comp=Z,242nm,0.1s						
VOJS	**Vojsko**	**0.37**	**249**	⇑*i*Pg	**Pg**	**11 28 27.1**	**+0.1**
VOJS				*i* Sg	**Sg**	**11 28 32.7**	**+0.6**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEY	**Cerknica**	**0.43**	**175**	*i* Pg	**Pg**	**11 28 28.0**	**-0.2**
CEY				*i* Sg	**Sg**	**11 28 33.8**	**-0.3**
PDKS	**Podkum**	**0.44**	**104**	*i* Pg	**Pg**	**11 28 29.1**	**+0.7**
PDKS				*i* Sg	**Sg**	**11 28 35.0**	**+0.5**
	comp=Z,303nm,0.1s						
PDKS	**Podkum**	**0.44**	**104**	*i* Pg	**Pg**	**11 28 29.1**	**+0.7**
PDKS				*i* Sg	**Sg**	**11 28 35.0**	**+0.5**
	comp=Z,303nm,0.1s						
CADS	**Cadrg**	**0.45**	**278**	⇑*i*Pg	**Pg**	**11 28 28.7**	**+0.1**
CADS				*i* Sg	**Sg**	**11 28 35.5**	**+0.8**
	comp=Z,334nm,0.2s						
CADS	**Cadrg**	**0.45**	**278**	⇑*i*Pg	**Pg**	**11 28 28.7**	**+0.2**
CADS				*i* Sg	**Sg**	**11 28 35.5**	**+0.8**
	comp=Z,334nm,0.2s						
VISS	**Visnje**	**0.49**	**138**	*i* Pg	**Pg**	**11 28 29.5**	**+0.2**
VISS				*i* Sg	**Sg**	**11 28 35.5**	**-0.3**
	comp=Z,240nm,0.1s						
VISS	**Visnje**	**0.49**	**138**	*i* Pg	**Pg**	**11 28 29.5**	**+0.2**
VISS				*i* Sg	**Sg**	**11 28 35.5**	**-0.4**
	comp=Z,240nm,0.1s						
DRE	**Drenchia**	**0.51**	**271**	⇑*i*Pg	**Pg**	**11 28 29.5**	**-0.2**
DRE				*i* Sg	**Sg**	**11 28 37.7**	**+1.1**
ROBS	**Robic**	**0.61**	**278**	*i* Pg	**Pg**	**11 28 31.5**	**-0.1**
ROBS				*i* Sg	**Sg**	**11 28 41.2**	**+1.3**
	comp=Z,78nm,0.1s						
ROBS	**Robic**	**0.61**	**278**	*i* Pg	**Pg**	**11 28 31.5**	**-0.1**
ROBS				*i* Sg	**Sg**	**11 28 41.2**	**+1.3**
	comp=Z,78nm,0.1s						
TRI	**Trieste**	**0.63**	**223**	Pg	**Pg**	**11 28 31.3**	**-0.7**
TRI				Sg	**Sg**	**11 28 40.7**	**+0.2**
	comp=Z,372nm,0.4s						
KNDS	**Knezji Dol**	**0.64**	**180**	*i* Pg	**Pg**	**11 28 31.8**	**-0.5**
KNDS				*i* Sg	**Sg**	**11 28 41.0**	**+0.1**
	comp=Z,146nm,0.2s						
KNDS	**Knezji Dol**	**0.64**	**180**	*i* Pg	**Pg**	**11 28 31.8**	**-0.5**
KNDS				*i* Sg	**Sg**	**11 28 41.0**	**+0.1**
	comp=Z,146nm,0.2s						
LSR	**Lussari**	**0.67**	**298**	⇓*i*Pg	**Pg**	**11 28 32.6**	**-0.2**
LSR				*i* Sg	**Sg**	**11 28 42.3**	**+0.5**
LEGS	**Legarje**	**0.69**	**108**	*i* Pg	**Pg**	**11 28 33.3**	**0.0**
LEGS				*e*Sg	**Sg**	**11 28 42.5**	**-0.1**
	comp=Z,234nm,0.2s						
LEGS	**Legarje**	**0.69**	**108**	*i* Pg	**Pg**	**11 28 33.3**	**0.0**
LEGS				*e*Sg	**Sg**	**11 28 42.5**	**-0.1**
	comp=Z,234nm,0.2s						
PERS	**Pernice**	**0.69**	**47**	⇑*i*Pg	**Pg**	**11 28 33.6**	**+0.3**
PERS				*i* Sg	**Sg**	**11 28 42.8**	**+0.2**
	comp=Z,382nm,0.2s						
PERS	**Pernice**	**0.69**	**47**	⇑*i*Pg	**Pg**	**11 28 33.7**	**+0.4**
PERS				*i* Sg	**Sg**	**11 28 42.8**	**+0.1**
	comp=Z,382nm,0.2s						
COLI	**Coloredo**	**0.70**	**267**	⇓*i*Pg	**Pg**	**11 28 33.1**	**-0.3**
COLI				*i* Sg	**Sg**	**11 28 44.2**	**+1.5**
BISS	**Bistriski jare**	**0.71**	**47**	*i* Pg	**Pg**	**11 28 33.8**	**+0.2**
BISS				*i* Sg	**Sg**	**11 28 43.5**	**+0.4**
PTCC	**Patocco-Chiusa**	**0.75**	**289**	Pg	**Pg**	**11 28 33.8**	**-0.6**
PTCC				Sg	**Sg**	**11 28 45.6**	**+1.1**
	comp=Z,90nm,0.2s						
DOBS	**Dobrina**	**0.76**	**91**	*i* Pg	**Pg**	**11 28 34.5**	**-0.1**
DOBS				*i* Sg	**Sg**	**11 28 46.2**	**+1

AGG	**Agios Georgios**	**0.84**	**231**	*e*Pg	**Pg**	**11 49 23.9**	**-0.2**
AGG				*e*Sg	**Sg**	**11 49 35.8**	**+0.5**
PLG	**Polygyros**	**0.85**	**14**	⇑*i*PN	**Pn**	**11 49 25.5**	**+0.2**
PLG				*e*SN	**Sn**	**11 49 38.0**	**0.0**
LKR	**Lokris**	**0.91**	**188**	*e*PN	**Pn**	**11 49 24.9**	**-1.3**
LKR				*e*SN	**Sn**	**11 49 37.2**	**-2.4**
OUR	**Ouranopolis**	**1.00**	**38**	*e*Pg	**Pg**	**11 49 28.8**	**+1.5**
THE	**Thessaloniki**	**1.09**	**352**	*e*Pg	**Pg**	**11 49 29.3**	**+0.2**
EVR	**Evrytania**	**1.23**	**239**	*e*PN	**Pn**	**11 49 31.5**	**+0.6**
EVR				*e*SN	**Sn**	**11 49 48.4**	**+0.5**
SOH	**Sokhos**	**1.27**	**6**	*e*Pg	**Pg**	**11 49 32.5**	**-0.3**
KZN	**Kozani**	**1.31**	**305**	⇑*i*PN	**Pn**	**11 49 33.2**	**+1.2**
MPAR	**Parnis Oros**	**1.47**	**162**	*e*PN	**Pn**	**11 49 35.0**	**+0.8**
MEV	**Metsovon**	**1.52**	**279**	*e*Pg	**Pg**	**11 49 35.8**	**-1.8**
GRG	**Griva**	**1.52**	**337**	*e*Pg	**Pg**	**11 49 35.7**	**-2.0**
GRG				*e*Sg	**Sg**	**11 49 56.4**	**-1.5**
MGER	**Gerania Oros**	**1.57**	**177**	*e*PB	**Pb**	**11 49 35.0**	**-1.1**
SRS	**Serrai**	**1.60**	**12**	*e*Pg	**Pg**	**11 49 37.8**	**-1.3**
KNT	**Kendrikon**	**1.62**	**353**	*e*Pb	**Pb**	**11 49 38.0**	**+0.9**
NSAL	**Nisos Salamina**	**1.66**	**172**	*e*PN	**Pn**	**11 49 37.5**	**+0.6**
NAIG	**Nisos Aigina**	**1.81**	**172**	*e*PN	**Pn**	**11 49 40.0**	**+0.9**
FNA	**Florina**	**1.84**	**312**	*e*Pb	**Pb**	**11 49 40.5**	**-0.4**
FNA				*e*Sb	**Sb**	**11 50 04.6**	**+0.5**
FNA	**Florina**	**1.84**	**312**	*e*Pb	**Pb**	**11 49 40.5**	**-0.4**
FNA				*e*Sb	**Sb**	**11 50 04.6**	**+0.5**

NEIC ***30*** *12:00:26.0, 34.08S×70.34W, h8km±4km,* ***MD3.8, ML2.8, 10C-4D, Chile-Argentina border region***

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CACH	**El Canelo**	**0.22**	**260**	⇑*i*P	Pg	12 00 30.4	-0.3
CACH				*i* S	Sg	12 00 33.4	-0.3
CICH	**Cipreses**	**0.25**	**196**	⇑*i*P	Pg	12 00 31.2	0.0
CICH				*i* S	Sg	12 00 34.5	-0.2
LMEL	**Las Melosas**	**0.26**	**26**	⇓*i*P	Pg	12 00 31.1	-0.2
LMEL				*i* S	Sg	12 00 34.8	0.0
LMEL				AMP		12 00 35.3	
	comp=N,4μm,0.6s						
CHCH	**Chadas Angostu**	**0.30**	**299**	⇑*i*P	Pg	12 00 31.9	-0.2
CHCH				*i* S	Sg	12 00 36.1	-0.1
SJCH	**San Jose de Ma**	**0.43**	**358**	⇓*i*P	Pg	12 00 34.0	-0.8
SJCH				*i* S	Sg	12 00 40.2	-0.5
SJCH				AMP		12 00 40.9	
	comp=N,970nm,0.4s						
PCH	**Pirque**	**0.48**	**342**	⇑*i*P	Pg	12 00 35.2	-0.5
PCH				*i* S	Sg	12 00 42.2	+0.1
ANTU	**Antumapu**	**0.56**	**334**	⇑*i*P	Pg	12 00 36.9	-0.5
ANTU				*i* S	Sg	12 00 44.7	-0.2
ANTU				AMP		12 00 45.3	
	comp=E,948nm,0.4s						
TACH	**Talagante**	**0.65**	**310**	⇑*i*P	Pg	12 00 38.2	-0.9
TACH				*i* S	Sg	12 00 47.2	-0.7
SAN	**Santiago**	**0.68**	**337**	*i* S	Sg	12 00 48.0	-0.7
SAN				AMP		12 00 48.5	
	comp=E,974nm,0.3s						
CLCH	**Cerro Calan**	**0.70**	**346**	⇓*i*P	Pb	12 00 39.2	-0.8
CLCH				*i* S	Sg	12 00 49.0	-0.4
CLCH				AMP		12 00 53.5	
	comp=E,974nm,0.4s						
DSCH	**Colegio Aleman**	**0.70**	**344**	⇑*i*P	Pb	12 00 39.0	-1.1
DSCH				*i* S	Sg	12 00 48.9	-0.7
DSCH				AMP		12 00 53.8	
	comp=N,2μm,0.7s						
RCDM	**Rinconada Maip**	**0.70**	**326**	⇑*i*P	Pb	12 00 39.0	-1.0
RCDM				*i* S	Sg	12 00 48.6	-0.9
RCDM				AMP		12 00 49.0	
	comp=E,479nm,0.3s						
SFDO	**San Fernando**	**0.77**	**226**	*e*P	Pb	12 00 40.6	-0.7
SFDO				*i* S	Sb	12 00 51.4	-0.3
LNV	**Longovilo**	**0.90**	**277**	⇑*i*P	Pb	12 00 42.2	-1.2
PEL	**Peldehue**	**0.97**	**343**	⇑*i*P	Pb	12 00 44.1	-0.6
PEL				*i* S	Sb	12 00 57.5	0.0
LCCH	**Las Cruces**	**1.19**	**300**	⇓*i*P	Pb	12 00 47.5	-0.9
LCCH				*i* S	Sb	12 01 03.4	-0.3
ROCH	**El Roble**	**1.24**	**333**	*e*P	Pb	12 00 48.4	-0.8
JACH	**Jahuel**	**1.41**	**351**	*i* P	Pn	12 00 51.4	-0.6
MDZ	**Mendoza**	**1.72**	**47**	*e*P	Pn	12 00 56.9	+0.4

GUC ***30*** *12:11:31.6±0.7, 31.03S×69.37W, h154km±13km, MD3.6, ML3.5*

NEIC ***30*** *12:11:31.1±1.3, 31.00S×69.12W, h145km±19km, MD3.6(GUC), Error ellipse: s-maj=17.5km s-min=8.8km az=90.0*

ISC 30 12:11:30.8±1.1, 31.00S±0.04×69.2W±0.1, h147km±17km, n10, σ0§68/17, 3C-2D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZON	**Zonda**	**0.72**	**138**	⇓*i*P	**P**	**12 11 52.9**	**-0.6**
ZON				*e*S	**S**	**12 12 03.9**	**-7.0**
TLL	**Tololo Astrono**	**1.58**	**301**	⇑*i*P	**P**	**12 12 02.5**	**+1.1**
TLL				*i* S	**S**	**12 12 25.8**	**+0.9**
TLL				AMP		12 12 28.1	
	comp=N,834nm,0.6s						
JACH	**Jahuel**	**2.03**	**214**	⇑*i*P	**P**	**12 12 07.1**	**+0.7**
JACH				*i* S	**S**	**12 12 34.3**	**+0.5**
LSCH	**La Serena**	**2.05**	**302**	*i* P	**P**	**12 12 07.3**	**+0.6**
LSCH				*i* S	**S**	**12 12 33.8**	**-0.4**
LSCH				AMP		12 12 35.0	
	comp=E,301nm,0.6s						
CHNG	**Los Chungos**	**2.12**	**245**	⇓*i*P	**P**	**12 12 07.5**	**-0.1**
CHNG				*i* S	**S**	**12 12 34.4**	**-1.3**
CHNG				AMP		12 12 43.3	
	comp=E,143nm,0.7s						
CLCH	**Cerro Calan**	**2.62**	**204**	*i* S	**S**	**12 12 46.7**	**-0.2**
CLCH				AMP		12 12 48.7	
	comp=E,188nm,0.3s						
VACH	**Vallenar**	**2.76**	**331**	⇑*i*P	**P**	**12 12 16.0**	**+0.4**
VACH				*i* S	**S**	**12 12 49.0**	**-0.9**
RCDM	**Rinconada Maip**	**2.81**	**208**	*e*P	**P**	**12 12 16.2**	**-0.1**
RCDM				*i* S	**S**	**12 12 50.5**	**-0.6**
RCDM				AMP		12 12 51.4	
	comp=E,226nm,0.4s						
PCH	**Pirque**	**2.82**	**202**	*i* P	**P**	**12 12 17.2**	**+0.7**
LVC	**Limon Verde**	**8.36**	**2**	*e*P	**P**	**12 13 29.4**	**-0.7**

NIED ***30*** *12:23:00, 38.50N×143.30E, h17km, Mw3.7 Best double couple: M₀3.6×10¹⁴ NP1:φ₀=11°, δ=61°, λ=70°. NP2:φ₀=227°, δ=35°, λ=121°.*

IDC ***30*** *12:23:28.1±2.2, 38.57N×143.46E, mb3.7/4, mb1 3.8/6, mb1mx3.6/22, mbtmp3.8/6, ML3.3/2, Error ellipse: s-maj=64.1km s-min=21.4km az=82.0*

NEIC ***30*** *12:23:28.8±1.9, 38.69N×143.60E, h10km, MG3.8(JMA), Error ellipse: s-maj=33.7km s-min=21.6km az=106.0*

JMA ***30*** *12:23:30.1±0.2, 38.52N×143.30E, h23km, M3.8*

ISC 30 12:23:28.0±0.8, 38.55N±0.05×143.35E±0.06, h10km, n20, σ1§15/31, mb3.8/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.41**	**292**	P	**Pn**	**12 23 54.5**	**+0.6**
OFUJ				S	**Sb**	**12 24 12.1**	**+0.1**
JIO	**Ouri**	**1.57**	**267**	P	**Pn**	**12 23 56.6**	**+0.4**
JIO				S	**Sb**	**12 24 16.0**	**-0.5**
JMK	**Ichinoseki**	**1.71**	**284**	P	**Pn**	**12 23 58.9**	**+0.7**
JMK				*e*S	**Sn**	**12 24 20.2**	**0.0**
JTH	**Tanohata**	**1.80**	**321**	P	**Pn**	**12 24 00.1**	**+0.6**
JOM	**Ohasama**	**1.84**	**301**	P	**Pn**	**12 24 01.1**	**+1.0**
JOM				*e*S	**Sn**	**12 24 23.8**	**+0.1**
JOU	**Okura**	**2.11**	**266**	P	**Pn**	**12 24 05.1**	**+1.2**
JOU				*e*S	**Sn**	**12 24 29.8**	**-0.7**
JMM	**Marumori**	**2.12**	**252**	P	**Pn**	**12 24 04.7**	**+0.6**
JMM				*e*S	**Sn**	**12 24 29.6**	**-1.2**
JFK	**Kawauchi**	**2.28**	**240**	P	**Pn**	**12 24 06.8**	**+0.4**
JFK				*e*S	**Sn**	**12 24 32.1**	**-2.7**
JANG	**Nango**	**2.31**	**323**	P	**Pn**	**12 24 06.9**	**+0.2**
JYK	**Kaneyama**	**2.36**	**280**	P	**Pn**	**12 24 08.6**	**+1.1**
MAJO	**Matsushiro**	**4.55**	**245**	*e*P	**Pn**	**12 24 41.0**	**+2.4**
MAT	**Matsushiro**	**4.55**	**245**	P	**Pn**	**12 24 39.8**	**+1.2**
MAT				*e*S	**Sn**	**12 25 30.0**	**-2.2**
MAT	**Matsushiro**	**4.55**	**245**	*e*P	**Pn**	**12 24 41.0**	**+2.4**
MAT				*e*S	**Sn**	**12 25 39.0**	**+6.8**
ASAJ	**Asahikawa**	**5.59**	**354**	Pn	**Pn**	**12 24 51.9**	**-1.4**
	0.6nm,0.3s,baz=187,slow=9.2,SNR=6.9						
ASAJ				Sn	**Sn**	**12 25 56.2**	**-2.1**
	0.5nm,0.3s,baz=288,slow=20,SNR=2.5						
JHJ	**Hachijo jima 2**	**6.14**	**209**	Pn	**Pn**	**12 24 59.8**	**-1.4**
	6.2nm,0.3s,baz=64,slow=23,SNR=9.3						
JHJ				Sn	**Sn**	**12 26 05.9**	**-6.4**
	37nm,0.3s,baz=82,slow=23,SNR=9.4						
SONM	**Songino Array**	**28.26**	**301**	P	**P**	**12 29 23.1**	**-0.1**
	1.1nm,0.8s,mb3.6,baz=93,slow=7.9,SNR=4.5						
MKAR	**Makanchi Array**	**44.63**	**301**	P	**P**	**12 31 42.5**	**+0.4**
	0.3nm,0.3s,mb3.6,baz=79,slow=6.2,SNR=4.1						
KURK	**Kurchatov**	**46.22**	**307**	*e*P	**P**	**12 31 52.1**	**-2.6**
	3.1nm,0.8s,mb4.3						
BVAR	**Borovoye Array**	**50.70**	**312**	P	**P**	**12 32 30.6**	**+1.1**
	0.4nm,0.5s,mb3.6,baz=68,slow=8.0,SNR=3.6						
WRA	**Warramunga Arr**	**58.79**	**190**	P	**P**	**12 33 28.4**	**-0.6**
	0.6nm,0.5s,mb3.9,baz=7.6,slow=6.9,SNR=13						

IDC ***30*** *12:26:09.1±1.4, 31.00S×68.56W, mb3.6/1, mb1 3.7/4, mb1mx3.6/16, mbtmp3.6/4, ML3.9/3, MS3.1/5, Ms1 3.1/5, ms1mx3.1/17, Error ellipse: s-maj=28.7km s-min=11.5km az=73.0*

GUC ***30*** *12:26:13.4±0.7, 30.96S×68.02W, h150km, ML4.6*

NEIC ***30*** *12:26:13.4, 30.96S×68.02W, h150km, mb4.2/3, After GUC.*

ISC 30 12:26:11.7±1.0, 31.05S±0.04×67.98W±0.06, h1km±6km, n29, σ0§96/37, mb3.4/1, MS3.4/1, 3C-1D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**0.59**	**202**	Pg	**Pg**	**12 26 23.1**	**-0.4**
	32nm,0.3s,baz=1.1,slow=16,SNR=1681						
CFAA				Lg		12 26 30.6	
	232nm,0.3s,baz=293,slow=15,SNR=303						
ZON	**Zonda**	**0.78**	**231**	⇓*i*P	**Pg**	**12 26 27.1**	**0.0**
ZON				*e*S	**Sg**	**12 26 37.3**	**-0.2**
TLL	**Tololo Astrono**	**2.59**	**289**	*e*P	**Pn**	**12 26 56.1**	**+0.7**
TLL				*i* S	**Sn**	**12 27 28.3**	**+0.2**
TLL				AMP		12 27 37.8	
	comp=N,2μm,0.5s						
JACH	**Jahuel**	**2.75**	**233**	⇑*i*P	**Pn**	**12 26 59.0**	**+1.2**
JACH				*i* S	**Sn**	**12 27 33.3**	**+1.2**
LSCH	**La Serena**	**3.04**	**291**	*i* P	**Pn**	**12 27 01.4**	**-0.5**
LSCH				*i* S	**Sn**	**12 27 36.9**	**-2.6**
LSCH				AMP		12 27 43.8	
	comp=N,1μm,0.6s						
PEL	**Peldehue**	**3.10**	**227**	*e*P	**Pn**	**12 27 03.6**	**+0.9**
CHNG	**Los Chungos**	**3.12**	**254**	AMP		12 27 43.1	
	comp=N,753nm,0.3s						
CLCH	**Cerro Calan**	**3.19**	**222**	*e*P	**Pn**	**12 27 04.3**	**+0.4**
CLCH				*i* S	**Sn**	**12 27 43.4**	**+0.3**
CLCH				AMP		12 27 50.0	
	comp=E,2μm,0.6s						
DSCH	**Colegio Aleman**	**3.21**	**223**	*e*P	**Pn**	**12 27 04.4**	**+0.2**
DSCH				*i* S	**Sn**	**12 27 43.6**	**0.0**
DSCH				AMP		12 27 53.0	
	comp=N,2μm,0.7s						
PCH	**Pirque**	**3.34**	**219**	*e*P	**Pn**	**12 27 07.2**	**+1.1**
LMEL	**Las Melosas**	**3.36**	**213**	⇑*i*P	**Pn**	**12 27 07.0**	**+0.6**
LMEL				*i* S	**Sn**	**12 27 48.1**	**+0.6**
LMEL				AMP		12 27 58.9	
	comp=N,383nm,0.7s						
ANTU	**Antumapu**	**3.37**	**221**	*i* S	**Sn**	**12 27 47.6**	**-0.1**
ANTU				AMP		12 28 00.4	
	comp=N,709nm,0.8s						
RCDM	**Rinconada Maip**	**3.41**	**224**	*e*P	**Pn**	**12 27 07.2**	**+0.1**
RCDM				*i* S	**Sn**	**12 27 48.0**	**-0.7**
RCDM				AMP		12 27 57.2	
	comp=E,383nm,0.4s						
TACH	**Talagante**	**3.60**	**223**	⇑*i*P	**Pn**	**12 27 09.4**	**-0.5**
CHCH	**Chadas Angostu**	**3.65**	**218**	*e*P	**Pn**	**12 27 10.3**	**-0.2**
CHCH				*i* S	**Sn**	**12 27 54.3**	**-0.6**
CACH	**El Canelo**	**3.77**	**215**	*e*P	**Pn**	**12 27 12.8**	**+0.6**
SFDO	**San Fernando**	**4.38**	**215**	*i* P	**Pn**	**12 27 19.4**	**-1.4**
LVC	**Limon Verde**	**8.45**	**354**	Pn	**P**	**12 28 13.8**	**-4.3**
	comp=E,0.3nm,0.3s,baz=191,slow=12,SNR=2.1						
LVC				LR	LR	12 31 44.7	
	comp=E,153nm,18.3s,baz=335,slow=40						
LVC	**Limon Verde**	**8.45**	**354**	Pn	**P**	**12 28 13.8**	**-4.3**
LVC				*e*Pn	**P**	**12 28 16.7**	**-1.4**
LVC				LR	LR	12 31 44.7	
TRQA	**Tornquist**	**8.56**	**146**	*e*Pn	**P**	**12 28 17.4**	**-2.2**
TRQA				*e*Sg	Sx	12 30 41.1	
PLCA	**Paso Flores**	**9.88**	**191**	Pn	**P**	**12 28 33.8**	**-4.1**
	comp=E,0.1nm,0.3s,baz=13,slow=14,SNR=3.2						
PLCA				Lg		12 31 22.6	
	comp=E,0.5nm,0.3s,baz=273,slow=23,SNR=4.3						
PLCA				LR	LR	12 32 29.4	
	comp=E,110nm,19.9s,baz=341,slow=39						
PLCA	**Paso Flores**	**9.88**	**191**	Pn	**P**	**12 28 33.8**	**-4.1**
PLCA				*e*Pn	**P**	**12 28 36.1**	**-1.8**
PLCA				Lg		12 31 22.6	
PLCA				LR	LR	12 32 29.4	
CPUP	**Villa Florida**	**10.46**	**66**	Pn	**P**	**12 28 47.0**	**+1.1**
	comp=E,0.6nm,0.3s,baz=260,slow=13,SNR=7.5						
CPUP				Lg		12 31 54.0	
	comp=E,1.7nm,0.3s,baz=188,slow=18,SNR=2.7						
CPUP				LR	LR	12 33 22.3	
	comp=E,146nm,18.0s,baz=286,slow=40						
CPUP	**Villa Florida**	**10.46**	**66**	Pn	**P**	**12 28 47.0**	**+1.1**
CPUP				*e*Pn	**P**	**12 28 47.4**	**+1.4**
CPUP				Lg		12 31 54.0	
CPUP				LR	LR	12 33 22.3	
LPAZ	**La Paz**	**14.70**	**359**	LR	LR	12 34 19.9	
	comp=E,16nm,20.9s,baz=134,slow=34						
SAML	**Samuel**	**22.44**	**12**	*e*P	**P**	**12 31 17.1**	**+3.5**
BDFB	**Brasilia**	**23.84**	**54**	LR	LR	12 41 49.4	
	comp=E,122nm,21.1s,MS3.4,baz=106,slow=39						
SNAA	**Sanae**	**53.05**	**159**	P	**P**	**12 35 28.2**	**-3.9**
	comp=E,0.2nm,0.4s,mb3.4,baz=293,slow=8.8,SNR=9.8						
WRA	**Warramunga Arr**	**124.95**	**206**	PKP	PKPdf	12 45 10.6	-5.6
	comp=E,0.2nm,0.4s,baz=163,slow=1.7,SNR=13						

MOS ***30*** *13:08:30.7±1.5, 53.00N×157.18E, h325km, mb3.8/1, Error ellipse: s-maj=79.0km s-min=30.1km az=58.7*

KRSC ***30*** *13:08:32.2±0.9, 53.06N×156.83E, h320km±4km, ML3.8*

ISC 30 13:08:33.6±1.0, 53.1N±0.1×157.1E±0.2, h307km±8km, n26, σ1§09/46, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APC	**Apacha**	**0.15**	**158**	*i* P	**P**	**13 09 11.9**	**-0.8**
APC				*e*S	**S**	**13 09 41.0**	**-2.2**
APC				Smax			
	30nm,0.8s						
KRMR	**Karymshinskiy**	**0.69**	**110**	P	**P**	**13 09 14.3**	**+0.5**
KRMR				*e*S	**S**	**13 09 45.9**	**+0.7**
GRL	**Gorelyy**	**0.80**	**130**	*e*P	**P**	**13 09 15.1**	**+1.0**
MIPR	**Malaya Ipel'ka**	**0.81**	**194**	*i* P	**P**	**13 09 13.8**	**-0.4**
GNL	**Ganaly**	**0.82**	**39**	*i* P	**P**	**13 09 14.2**	**0.0**
GNL				*e*S	**S**	**13 09 44.6**	**-1.4**
PET	**Petropavlovsk**	**0.96**	**92**	*i* P	**P**	**13 09 15.1**	**+0.4**
PET				*e*S	**S**	**13 09 47.0**	**0.0**
KOK	**Koryaka**	**0.97**	**76**	*i* P	**P**	**13 09 15.8**	**+1.0**
KOK				*e*S	**S**	**13 09 48.4**	**+1.3**
AVH	**Avacha**	**1.03**	**78**	*e*P	**P**	**13 09 16.1**	**+1.0**
AVH				*e*S	**S**	**13 09 48.8**	**+1.3**
SMAR	**Somma**	**1.06**	**78**	*i* P	**P**	**13 09 16.5**	**+1.3**
SMAR				*e*S	**S**	**13 09 49.5**	**+1.7**
UGLR	**Uglovaya**	**1.07**	**81**	*i* P	**P**	**13 09 16.7**	**+1.4**
UGLR				*e*S	**S**	**13 09 48.7**	**+0.8**
RUS	**Russkaya**	**1.08**	**125**	P	**P**	**13 09 15.1**	**-0.2**
RUS				S	**S**	**13 09 47.7**	**-0.3**
RUS	**Russkaya**	**1.08**	**125**	*i* P	**P**	**13 09 15.2**	**-0.1**
RUS				*e*S	**S**	**13 09 46.4**	**-1.6**
SDLR	**Sedlovina**	**1.11**	**78**	*e*P	**P**	**13 09 16.1**	**+0.6**
SDLR				*e*S	**S**	**13 09 48.3**	**0.0**
NLC	**Nalytchevo**	**1.38**	**85**	P	**P**	**13 09 16.9**	**-0.1**
NLC				S	**S**	**13 09 51.0**	**0.0**
NLC	**Nalytchevo**	**1.38**	**85**	*e*P	**P**	**13 09 17.6**	**+0.6**
NLC				*e*S	**S**	**13 09 50.6**	**-0.4**
PAU	**Pauzhetka**	**1.61**	**186**	*i* P	**P**	**13 09 18.2**	**-0.3**
SPN	**Mys Shipunski**	**1.78**	**88**	P	**P**	**13 09 19.1**	**-0.6**
SPN				S	**S**	**13 09 53.7**	**-2.0**
SPN	**Mys Shipunski**	**1.78**	**88**	*i* P	**P**	**13 09 19.8**	**+0.1**
SPN				*i* S	**S**	**13 09 53.7**	**-2.0**
ALID	**Alaid**	**2.39**	**204**	*i* P	**P**	**13 09 24.2**	**-0.4**
SKR	**Severo-Kuril's**	**2.46**	**194**	*e*PN	**P**	**13 09 21.0**	**-4.2**
SKR				*e*S	**S**	**13 10 01.9**	**-3.5**
SKR				pmax	pmax		
	comp=Z,40nm,0.5s						
SKR				pmax	pmax		
	comp=E,20nm,0.4s						
SKR				smax			
	comp=N,50nm,0.3s						
SKR				smax			
	comp=E,40nm,0.5s						
SKR				smax			
	comp=Z,40nm,0.5s						
ESO	**Esso**	**3.02**	**18**	*e*P	**P**	**13 09 30.3**	**-0.2**
MKZ	**Mys Kozlova**	**3.14**	**60**	P	**P**	**13 09 30.7**	**-1.0**
MKZ				S	**S**	**13 10 14.2**	**-2.8**
MKZ	**Mys Kozlova**	**3.14**	**60**	*e*P	**P**	**13 09 32.0**	**+0.3**
MKZ				*e*S	**S**	**13 10 14.4**	**-2.6**
SRDR	**Sredinnyy**	**3.60**	**24**	*e*P	**P**	**13 09 36.5**	**+0.1**
KBTR	**Krutoberegovo**	**4.59**	**44**	P	**P**	**13 09 46.9**	**-0.3**
KBTR				S	**S**	**13 10 42.4**	**-2.6**
KBTR	**Krutoberegovo**	**4.59**	**44**	*e*P	**P**	**13 09 47.1**	**-0.1**
KBTR				*e*S	**S**	**13 10 42.5**	**-2.5**

ATH ***30*** *13:39:55.8, 38.94N×21.59E, h14km±1km, MD3.4/13*

THE ***30*** *13:39:56.5, 38.93N×21.59E, h3km, ML3.1*

NEIC ***30*** *13:39:56.1, 38.99N×21.64E, h16km, MD3.4(ATH), After ATH.*

CSEM ***30*** *13:39:56.0±0.2, 38.94N×21.61E, h12km, MD3.4, Error ellipse: s-maj=4.5km s-min=3.5km az=179.0*

ISC 30 13:39:54.9±0.5, 38.93N±0.02×21.62E±0.02, h0km±4km, n35, σ1§14/54, 7C-2D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.15**	**94**	⇑*i*PG	**Pb**	**13 40 00.0**	**-0.3**
EVR				*e*SG	**Sg**	**13 40 03.1**	**+3.1**
EVR	**Evrytania**	**0.15**	**94**	⇑*i*Pb	**Pb**	**13 40 00.0**	**-0.3**
EVR				*e*Sb	**Sb**	**13 40 03.5**	**-0.2**
AGG	**Agios Georgios**	**0.56**	**80**	*e*Pg	**Pg**	**13 40 07.5**	**+1.3**
AGG				*e*Sg	**Sg**	**13 40 16.6**	**+2.8**
AGG	**Agios Georgios**	**0.56**	**80**	*e*Pg	**Pg**	**13 40 07.5**	**+1.3**
AGG				*e*Sg	**Sg**	**13 40 16.5**	**+2.8**
LKD	**Levkas**	**0.79**	**254**	*e*Pg	**Pg**	**13 40 10.8**	**+0.2**
RLS	**Riolos of Patr**	**0.88**	**188**	*e*PB	**Pb**	**13 40 13.0**	**+0.3**
RLS	**Riolos of Patr**	**0.88**	**188**	⇓*i*Pn	**Pn**	**13 40 13.7**	**-0.5**
RLS				*e*Sn	**Sn**	**13 40 27.5**	**-0.3**
MEV	**Metsovon**	**0.91**	**341**	*e*Pg	**Pg**	**13 40 12.7**	**-0.3**
JAN	**Janina**	**0.94**	**321**	*e*PG	**Pg**	**13 40 12.9**	**-0.8**
JAN				*e*SB	**Sb**	**13 40 26.5**	**-0.1**
JAN	**Janina**	**0.94**	**321**	⇑*i*Pn	**Pn**	**13 40 13.2**	**-1.9**
JAN				*e*Sn	**Sb**	**13 40 26.5**	**-0.1**
VLS	**Valsamata**	**1.10**	**227**	⇓*i*PG	**Pg**	**13 40 16.1**	**-0.8**
VLS	**Valsamata**	**1.10**	**227**	*e*Pn	**Pn**	**13 40 16.0**	**-1.4**
VLS				*e*Sn	**Sn**	**13 40 33.6**	**+0.1**
LKR	**Lokris**	**1.12**	**104**	*e*PG	**Pg**	**13 40 17.0**	**-0.2**
LKR				*e*SB	**Sb**	**13 40 33.6**	**+1.9**
LKR	**Lokris**	**1.12**	**104**	*e*Pn	**Pn**	**13 40 17.3**	**-0.4**
LKR				*e*Sn	**Sn**	**13 40 31.7**	**-2.2**
IGT	**Igoumenitsa**	**1.17**	**302**	*e*Pg	**Pg**	**13 40 18.1**	**-0.1**
IGT				*e*Sg	**Sg**	**13 40 34.9**	**+1.2**
XOR	**Xorichti**	**1.30**	**70**	*e*Pg	**Pg**	**13 40 20.7**	**-0.2**
NEO	**Neokhori**	**1.31**	**73**	*e*PB	**Pb**	**13 40 20.7**	**+0.7**
NEO				*e*SB	**Sb**	**13 40 38.2**	**+1.0**
NEO	**Neokhori**	**1.31**	**73**	⇑*i*Pn	**Pn**	**13 40 19.5**	**-0.9**
NEO				*e*Sn	**Sn**	**13 40 37.5**	**-1.3**
LIT	**Litokhoron**	**1.35**	**30**	*e*Pg	**Pg**	**13 40 21.1**	**-0.8**
LIT				*e*Sg	**Sg**	**13 40 40.6**	**+0.6**
KZN	**Kozani**	**1.38**	**5**	*e*PG	**Pg**	**13 40 21.4**	**-1.1**
KZN				*e*SB	**Sb**	**13 40 40.8**	**+1.4**
KZN	**Kozani**	**1.38**	**5**	⇑*i*Pn	**Pn**	**13 40 20.6**	**-0.9**
KZN				*e*Sn	**Sn**	**13 40 39.5**	**-1.2**
KEK	**Kerkira**	**1.61**	**300**	*e*PB	**Pb**	**13 40 25.9**	**+0.6**
KEK				*e*SB	**Sb**	**13 40 47.3**	**+1.2**
KEK	**Kerkira**	**1.61**	**300**	*e*Pn	**Pn**	**13 40 26.1**	**+1.3**
KEK				*e*Sn	**Sn**	**13 40 47.5**	**+0.9**
ITM	**Ithomi**	**1.76**	**172**	*e*PN	**Pn**	**13 40 28.3**	**+1.4**
ITM	**Ithomi**	**1.76**	**172**	⇑*i*Pn	**Pn**	**13 40 29.0**	**+2.1**
NSAL	**Nisos Salamina**	**1.77**	**125**	*e*PG	**Pg**	**13 40 29.0**	**-1.3**
NSAL	**Nisos Salamina**	**1.77**	**125**	*e*Pn	**Pn**	**13 40 29.8**	**+2.7**
MPAR	**Parnis Oros**	**1.83**	**114**	*e*PG	**Pg**	**13 40 30.0**	**-1.6**
FNA	**Florina**	**1.86**	**354**	*e*Pb	**Pb**	**13 40 29.0**	**-0.6**
FNA				*e*Sb	**Sb**	**13 40 53.6**	**+0.2**
PLG	**Polygyros**	**2.02**	**44**	*e*PB	**Pb**	**13 40 30.4**	**-1.9**

BHS Barnard House 1.80 198 *e*P P **14 03 13.2 +0.5**
SVV Soufriere Volc 1.81 201 *e*P P **14 03 13.6 +0.8**
SVB Belmont 1.86 201 *e*P P **14 03 14.5 +1.0**
SVB *e*S S **14 03 33.5 -2.4**
SVB *e*S S **14 03 38.7 +2.8**
SVB Belmont 1.86 201 *e*P P **14 03 14.5 +1.0**
SVB *e*S S **14 03 38.7 +2.8**
FCV Fort Charlotte 1.97 200 *e*P P **14 03 16.1 +1.1**
FCV *e*S S **14 03 39.5 +1.0**
BBSP Saint Philip 2.19 151⇓*i*P P **14 03 20.8 +2.7**
MBRY 2.27 318 *i* P P **14 03 19.4 +0.1**
MRYT 2.27 318 *i* P P **14 03 19.4 +0.1**
MBLG 2.29 318⇓*e*P P **14 03 19.6 0.0**
MBLG *e*S S **14 03 46.4 -0.1**
MLGT Long Ground 2.29 318⇓*e*P P **14 03 19.6 0.0**
MLGT *e*S S **14 03 46.4 -0.1**
MLYT 2.31 317⇓*e*P P **14 03 19.9 +0.2**
MLYT *e*S S **14 03 48.1 +1.2**
MBWH 2.32 318⇓*i*P P **14 03 19.8 -0.2**
MBWH *e*S S **14 03 46.7 -0.7**
MBGB 2.34 317⇓*e*P P **14 03 20.2 0.0**
MBGB *e*S S **14 03 48.2 +0.4**
BPA Boggy Peak 2.37 328 *e*P P **14 03 20.8 +0.1**
BPA *e*S S **14 03 47.8 -0.7**
NVBH Bath Hotel, Ne 2.87 317⇓*i*P P **14 03 29.9 +2.1**
NVBH *e*S S **14 04 02.2 +1.0**
CPB Codrington 2.87 335 *e*P P **14 03 27.5 -0.4**
CPB *e*S S **14 03 58.0 -3.3**
NVRH Round Hill, Ne 2.91 318⇓*i*P P **14 03 30.4 +2.1**
NVRH *e*S S **14 04 03.6 +1.4**
SKTB Turtle Beach 2.94 318⇓*i*P P **14 03 30.4 +1.7**
SKTB *e*S S **14 04 03.3 +0.3**
GRW Mount Saint Ca 3.04 201 *e*P P **14 03 30.9 +0.7**
SKI Saint Kitts 3.11 318⇑*i*P P **14 03 33.3 +2.2**
SKI *e*S S **14 04 08.9 +1.7**
BSK Brimstone Hill 3.19 317 *e*P P **14 03 34.7 +2.6**
BSK *e*S S **14 04 11.7 +2.6**
SKDB Saint Kitts 2 3.20 318⇓*i*P P **14 03 34.8 +2.4**
SKDB *e*S S **14 04 11.8 +2.3**
STAT Sint Eustatius 3.38 317 *e*P P **14 03 35.9 +1.0**
STAT *e*S S **14 04 14.9 +0.8**
SABS Saba 3.65 315 *e*P P **14 03 40.4 +1.7**
SABS *e*S S **14 04 24.5 +3.7**
SABT Saba 3.65 315 *e*P P **14 03 40.4 +1.7**
TPR Prospect 3.82 183 *e*P P **14 03 41.6 +0.5**
BOT Bacolet 3.83 182 *e*P P **14 03 42.1 +0.8**
TRN Trinidad (W) 4.42 191 *e*P P **14 03 50.4 +0.9**
TBH Brigand Hill 4.54 186 *e*P P **14 03 53.9 +2.8**
TPP Pointe-a-Pierr 4.75 191 *e*P P **14 03 57.3 +3.1**
MTP Monte Pirata 5.68 303⇓*i*P P **14 04 06.0 -1.0**
SJG San Juan 6.18 301 P P **14 04 12.8 -1.1**
98nm,0.3s,baz=163,slow=8.5,SNR=156
SJG S **14 05 18.1 -5.9**
130nm,0.3s,baz=92,slow=19,SNR=6.2
SJG San Juan 6.18 301⇓*i*P P **14 04 13.0 -0.9**
297nm,0.6s
SJG *e*S S **14 05 17.7 -6.3**
SDV Santo Domingo 11.59 239 P P **14 05 26.7 -1.4**
26nm,0.3s,baz=197,slow=3.0,SNR=61
SDV S **14 07 26.7 -10**
7.5nm,0.3s,baz=20,slow=14,SNR=3.8
SDV Santo Domingo 11.59 239 *e*P P **14 05 26.7 -1.4**
71nm,0.4s
MASC Masc 14.00 293 *e*P P **14 06 03.4 +3.3**
MASC *e*S S **14 08 28.7 -5.7**
comp=N,509nm,0.4s
comp=E,627nm,0.7s
MOAC Moa 14.81 294 *e*PG P **14 06 11.5 +0.9**
baz=98
MOAC *e*SG S **14 08 43.0 -10**
comp=N,2µm,0.2s
comp=E,1µm,0.7s
RCC Rio Carpintero 15.26 291 *e*P P **14 06 15.4 -1.0**
HLGC Holguin 15.85 294 *e*P P **14 06 28.4 +4.4**
ROSC El Rosal 16.90 235 P P **14 06 37.5 +0.3**
comp=E,14nm,0.3s,baz=77,slow=7.4,SNR=27
ROSC S S **14 09 53.8 +12**
comp=E,2.4nm,0.3s,baz=101,slow=19,SNR=3.2
BBSR BB Station 17.68 348 *e*P P **14 06 42.0 -4.8**
comp=E,71nm,1.0s
SOR Soroa 22.58 293 *e*P P **14 07 38.5 -1.0**
SAML Samuel 23.96 186 *e*P P **14 07 52.7 -0.2**
comp=E,7.7nm,0.4s,mb4.5
JSC Jenkinsville 26.77 319 *e*P P **14 08 18.3 -0.9**
BLA Blacksburg 28.28 325 P P **14 08 32.4 -0.6**
comp=E,39nm,1.2s,mb4.9
ELN Prospectdale 28.48 325 *e*P P **14 08 34.0 -0.7**
ELN *e*pP pP 14 08 47.8 -2.1
ELN *e*sP sP 14 08 53.5 -3.9
CPCT Cooper Cave 29.58 318 *e*P P **14 08 43.6 -1.0**
CPCT *e*pP pP 14 08 57.0 -2.8
CPCT *e*sP sP 14 09 03.3 -4.1
TZTN Tazewell 29.65 321 *e*P P **14 08 43.9 -1.3**
TZTN *e*pP pP 14 08 57.5 -2.9
TZTN *e*sP sP 14 09 04.6 -3.4
BINY Binghamton 30.18 337 P P **14 08 49.7 -0.1**
comp=E,6.7nm,0.6s,mb4.5
LBNH Lisbon 30.69 344 *e*P P **14 08 54.4 +0.1**
comp=E,9.6nm,0.8s,mb4.7
SIV San Ignacio 30.82 181 P P **14 08 55.3 -0.4**
comp=E,28nm,0.8s,mb5.2,baz=13,slow=9.5,SNR=138
MIV Mineville/With 31.00 342 *e*P P **14 08 57.1 +0.1**
LPAZ La Paz 31.99 194 P P **14 09 05.8 -0.2**
comp=E,36nm,0.8s,mb5.3,baz=9.1,slow=8.3,SNR=162
LPAZ LR LR 14 23 15.4
comp=E,183nm,21.7s,baz=86,slow=39
LPAZ La Paz 31.99 194⇓*i*P P **14 09 05.6 -0.4**
comp=E,40nm,0.8s,mb5.3
WVT Waverly 32.17 316 *e*P P **14 09 06.3 -1.0**
comp=E,12nm,0.6s,mb4.9
WCI Wyandotte Cave 32.41 320 *e*P P **14 09 09.1 -0.4**
comp=E,8.0nm,0.6s,mb4.7
WCI *e*pP pP 14 09 22.3 -2.6
BDFB Brasilia 32.89 157 P P **14 09 14.4 +0.6**
comp=E,26nm,0.9s,mb5.2,baz=343,slow=8.7,SNR=24
BAO Brasilia Array 32.89 157 P P **14 09 14.0 +0.2**
SADO Sadowa 33.57 336 P P **14 09 18.5 -0.9**
comp=E,9.4nm,0.8s,mb4.8,baz=168,slow=7.1,SNR=7.1
SADO LR LR 14 21 11.4
comp=E,244nm,20.6s,baz=176,slow=33
SADO Sadowa 33.57 336 P P **14 09 18.5 -0.9**
SADO LR LR 14 21 11.4
SIUC Southern Illin 33.97 317 *e*P P **14 09 22.5 -0.4**
FVM French Village 34.92 317 *e*P P **14 09 30.1 -0.9**
comp=E,22nm,0.6s,mb5.3
CCM Cathedral Cave 35.50 316 *e*P P **14 09 34.6 -1.4**
comp=E,20nm,0.6s,mb5.2
CCM *e*pP pP 14 09 48.2 -3.5
CCM *e*PcP PcP 14 12 04.3 -0.2
LVC Limon Verde 38.28 193 *e*P P **14 09 58.3 -1.1**
comp=E,62nm,0.8s,mb5.4
KSU1 Kansas State U 39.68 314 *e*P P **14 10 09.5 -1.4**
KSU1 *e*pP pP 14 10 23.2 -3.5
SCHQ Schefferville 40.02 354 P P **14 10 14.4 +0.8**
comp=E,15nm,0.5s,mb5.0,baz=175,slow=7.1,SNR=57
SCHQ PcP PcP 14 12 17.0 -1.2
comp=E,3.2nm,0.5s,baz=124,slow=3.6,SNR=4.5
SCHQ LR LR 14 24 27.7
comp=E,160nm,21.9s,baz=358,slow=33
SCHQ Schefferville 40.02 354⇑*i*P P **14 10 14.4 +0.9**
comp=E,47nm,1.0s,mb5.2
CPUP Villa Florida 41.22 176 P P **14 10 22.8 -1.0**
comp=E,21nm,0.8s,mb4.8,baz=15,slow=10,SNR=39
CPUP LR LR 14 28 45.2
comp=E,119nm,18.7s,baz=225,slow=38
CPUP Villa Florida 41.22 176 *e*P P **14 10 22.5 -1.2**
comp=E,44nm,1.1s,mb5.0
CPUP *e*pP pP 14 10 37.3 -2.3
TXAR Lajitas Array 42.14 297 P P **14 10 29.7 -1.6**
comp=E,1.3nm,0.4s,mb3.9,baz=103,slow=9.4,SNR=7.9
TXAR PcP PcP 14 12 25.9 +0.4
comp=E,2.1nm,0.5s,baz=123,slow=5.7,SNR=5.5
TXAR ScP 14 16 10.2
comp=E,0.6nm,0.3s,baz=101,slow=6.4,SNR=4.4
TXAR LR LR 14 29 21.5
comp=E,145nm,21.7s,baz=110,slow=38
MNTX Cornudas Mount 44.04 300 *e*P P **14 10 45.8 -1.0**
comp=E,15nm,0.4s,mb5.1
MNTX *e*sP sP 14 11 05.7 -4.3
MNTX *e*PcP PcP 14 12 31.1 -0.8
ULM Lac du Bonnet 45.28 329 P P **14 10 55.0 -1.4**
comp=E,9.0nm,0.5s,mb4.9,baz=132,slow=8.7,SNR=25
ULM LR LR 14 30 57.4
comp=E,123nm,18.1s,baz=89,slow=37

ULM Lac du Bonnet 45.28 329 *e*P P **14 10 54.7 -1.7**
comp=E,8.1nm,0.7s,mb4.7
ANMO Albuquerque 45.63 304 *e*P P **14 10 59.3 -0.2**
comp=E,2.4nm,0.6s,mb4.3
ANMO Albuquerque 45.63 304*c i*P P **14 10 58.4 -1.1**
SDCO Great Sand Dun 45.64 308 *e*P P **14 10 58.9 -0.6**
comp=E,12nm,0.5s,mb5.1
TLL Tololo Astrono 46.00 192 *i* P P **14 11 01.4 -1.0**
ISCO Idaho Springs 46.36 311 *e*P P **14 11 04.9 -0.3**
comp=E,3.9nm,0.6s,mb4.5
PHWY Pilot Hill 46.76 313 *e*P P **14 11 07.9 -0.3**
PV01 Paradox Valley 48.08 308 *e*P P **14 11 18.7 +0.1**
PV01 *e*sP sP 14 11 38.4 -3.5
PV01 *e*PcP PcP 14 12 46.2 +0.3
PV01 *e*ScP 14 16 36.6
TUC Tucson 48.66 300 *e*P P **14 11 23.1 -0.1**
comp=E,5.7nm,0.8s,mb4.7
TUC *e*pP pP 14 11 37.1 -2.2
TUC *e*sP sP 14 11 42.0 -4.4
DGMT Dagmar 48.88 322 *e*P P **14 11 24.2 -0.4**
comp=E,31nm,0.4s,mb5.7
FCH Farellones 48.97 191 *i* P P **14 11 25.2 -0.3**
SRU San Rafael 49.80 309 *e*P P **14 11 31.5 -0.4**
PDAR Pinedale Array 50.13 314 P P **14 11 33.3 -1.0**
comp=E,28nm,0.8s,mb5.3,baz=118,slow=9.8,SNR=213
PDAR LR LR 14 31 51.2
comp=E,150nm,21.5s,baz=115,slow=35
PDAR Pinedale Array 50.13 314 P P **14 11 33.3 -1.0**
PDAR LR LR 14 31 51.2
TMUT Trail Mountain 50.37 309 *e*P P **14 11 36.3 +0.1**
DAU Daniels Canyon 50.68 310⇓*i*P P **14 11 38.7 +0.1**
JLU Jordanelle 50.87 310 *e*P P **14 11 40.1 +0.1**
MSU Marysvale 50.92 308 *e*P P **14 11 40.3 -0.1**
TCUT Toone Canyon 50.97 311 *e*P P **14 11 40.4 -0.4**
CTU Camp Tracy 51.12 310 *e*P P **14 11 41.6 -0.3**
LOHW Long Hollow 51.12 314 *e*P P **14 11 41.3 -0.6**
comp=E,8.2nm,0.6s,mb4.8
SNOW Snow King Moun 51.17 314 *e*P P **14 11 41.9 -0.4**
AHID Auburn Hatcher 51.21 313 *e*P P **14 11 41.4 -1.2**
comp=E,18nm,0.8s,mb5.0
TPAW Teton Pass 51.32 314 *e*P P **14 11 43.2 -0.2**
comp=E,19nm,0.6s,mb5.2
FLWY Flagg Ranch 51.33 315 *e*P P **14 11 42.8 -0.6**
FLWY *e*pP pP 14 11 58.0 -1.7
IMW Indian Meadow 51.43 315 *e*P P **14 11 43.6 -0.6**
RRI2 Red Ridge 51.53 314 *e*P P **14 11 44.8 -0.2**
comp=E,30nm,1.0s,mb5.2
YMR Madison River 51.69 316 *e*P P **14 11 45.7 -0.4**
ARUT Antelope Range 51.75 306 *e*P P **14 11 46.4 -0.2**
DUG Dugway 51.78 310 *e*P P **14 11 46.6 -0.3**
comp=E,42nm,1.3s,mb5.2
QLMT Earthquake Lak 52.06 316 *e*P P **14 11 49.7 +0.9**
BGU Big Grassy Mou 52.11 310 *e*P P **14 11 48.9 -0.5**
HVU Hansel Valley 52.14 312 *e*P P **14 11 48.8 -0.7**
BOZ Bozeman (W) 52.45 317 *e*P P **14 11 51.0 -0.7**
comp=E,10nm,0.8s,mb4.8
NEN Nelson 52.49 304 *e*P P **14 11 51.7 -0.6**
NEN *e*pP pP 14 12 07.2 -1.4
DLMT Dillon 53.01 316 *e*P P **14 11 55.9 -0.1**
ELK Elko 53.71 310 *e*P P **14 12 00.8 -0.4**
comp=E,10nm,0.8s,mb4.8
HLID Hailey 53.76 313 *e*P P **14 12 01.2 -0.4**
comp=E,11nm,0.6s,mb5.0
CHMT Chamberlain Mo 53.91 318 *e*P P **14 12 01.9 -0.7**
ESDC Sonseca Array 54.95 52 P P **14 12 10.9 +0.6**
comp=E,2.0nm,0.5s,mb4.4,baz=268,slow=7.7,SNR=17
WALA Waterton Lakes 55.01 320 *e*P P **14 12 09.5 -1.1**
comp=E,12nm,1.2s,mb4.8
BMN Battle Mountai 55.13 309 *e*P P **14 12 11.0 -0.6**
comp=E,13nm,0.7s,mb5.1
BMN *e*pP pP 14 12 25.6 -2.4
BMN *e*PcP PcP 14 13 11.8 -0.2
DBIC Dimbokro 55.21 92 P P **14 12 12.2 -0.3**
comp=E,2.8nm,0.6s,mb4.4,baz=298,slow=15,SNR=4.1
BMO Blue Mountains 56.09 314 *e*P P **14 12 16.8 -1.6**
comp=E,7.6nm,0.5s,mb5.0
BMO *e*pP pP 14 12 31.7 -3.3
EDM Edmonton 56.14 325 *e*P P **14 12 17.3 -1.4**
EDM *e*pP pP 14 12 32.3 -2.9
PLCA Paso Flores 56.24 189 P P **14 12 18.5 -1.1**
comp=E,49nm,0.7s,mb5.6,baz=4.8,slow=7.6,SNR=132
PLCA LR LR 14 35 31.6
comp=E,108nm,21.4s,baz=12,slow=35
PLCA Paso Flores 56.24 189 *e*P P **14 12 18.0 -1.6**
comp=E,67nm,0.8s,mb5.7
WVOR Wild Horse Val 56.54 311 *e*P P **14 12 20.0 -1.6**
comp=E,2.9nm,0.6s,mb4.5
NEW Newport 56.81 318 *e*P P **14 12 22.3 -1.3**
comp=E,36nm,0.5s,mb5.7
NEW *e*sP sP 14 12 45.9 -1.4
QUIF Quistinic 57.26 42 *e*P P **14 12 26.4 -0.3**
ROSF Rostrenen 57.30 42 *e*P P **14 12 27.5 +0.5**
BEKR Beckwourth 57.41 308 *e*P P **14 12 26.4 -1.6**
comp=E,6.6nm,0.5s,mb4.9
BEKR *e*PP PP 14 14 34.5 -2.9
SJPF Ste Jean 57.57 48 *e*P P **14 12 30.0 +1.0**
comp=E,32nm,0.7s,mb5.2
SJPF *e*pP pP 14 12 48.7 +3.1
OD2 Odessa Site #2 57.63 317 P P **14 12 28.4 -0.9**
MOD Modoc 57.67 310 *e*P P **14 12 28.3 -1.4**
comp=E,7.5nm,0.5s,mb5.0
SGMF Saint Gilles 57.74 42 *e*P P **14 12 30.5 +0.4**
comp=E,18nm,0.9s,mb4.8
GBL Gable Mountain 57.95 316 P P **14 12 30.8 -0.8**
ETSF Etsaut 58.02 49 *e*P P **14 12 33.1 +1.0**
comp=E,3.3nm,0.6s,mb4.3
FHE Frenchman Hill 58.05 316 P P **14 12 31.7 -0.5**
MXC Moxie City 58.51 316 P P **14 12 35.0 -0.4**
EPF Esparros 58.69 49 *e*P P **14 12 37.8 +1.0**
comp=E,17nm,0.7s,mb4.9
TBM Table Mountain 58.83 316 P P **14 12 37.3 -0.4**
GRR Gorron 58.87 42 *e*P P **14 12 38.3 +0.3**
comp=E,14nm,0.7s,mb4.8
GRR *e*pP pP 14 12 57.0 +2.4
VSP Spence Mountai 58.94 311 P P **14 12 38.5 0.0**
MFF Saint Martin d 58.97 44 *e*P P **14 12 38.9 +0.2**
comp=E,13nm,0.7s,mb4.8
MFF *e*pP pP 14 12 58.1 +2.8
SUMG Summit 58.98 8 *e*P P **14 12 39.0 +0.5**
comp=E,52nm,0.9s,mb5.6
LHEM Herd Peak 59.05 310 P P **14 12 38.9 -0.3**
VBEM Beaver Butte 59.11 314 P P **14 12 39.9 +0.3**
BUOR Burton Butte 59.15 310 P P **14 12 39.4 -0.6**
FLN La Foliniere 59.20 42 *e*P P **14 12 40.7 +0.5**
comp=E,31nm,0.8s,mb5.1
FLN *e*pP pP 14 12 59.4 +2.6
FLN *e*R
comp=E,101nm,20.8s
LFF La Frestale 59.28 46 *e*P P **14 12 40.6 -0.2**
ASR Mount Adams--S 59.30 315 P P **14 12 41.0 +0.1**
FRIS Frissel Point 59.33 313 P P **14 12 40.9 -0.2**
LDF La Druitiere 59.40 42 *e*P P **14 12 41.9 +0.3**
YBH Yreka Blue Hor 59.42 310 *e*P P **14 12 39.7 -2.1**
comp=E,8.8nm,0.4s,mb5.1
BBOR Butler Butte 59.55 311 P P **14 12 40.9 -1.8**
RPW Rockport 59.70 318 P P **14 12 41.8 -1.9**
HUMO Hull Mountain 59.72 311 *e*P P **14 12 41.6 -2.3**
comp=E,4.0nm,0.4s,mb4.8
RJF Les Rejaudoux 59.88 46 *e*P P **14 12 45.1 +0.1**
comp=E,23nm,0.9s,mb4.9
RJF *e*pP pP 14 13 04.1 +2.5
RJF *e*R
comp=E,98nm,22.2s
JCW Jim Creek 59.92 317 P P **14 12 42.8 -2.4**
MTLF Montolieu 60.09 48 *e*P P **14 12 46.7 +0.3**
comp=E,15nm,0.8s,mb4.8
MTLF *e*pP pP 14 13 05.7 +2.6
CAF Calviac 60.21 47 *e*P P **14 12 47.6 +0.4**
comp=E,20nm,0.7s,mb5.0
KRMB Red Mountain 60.29 309 *e*P P **14 12 46.6 -1.2**
TCF Toulx Ste Croi 60.52 45 *e*P P **14 12 49.7 +0.4**
comp=E,10nm,0.7s,mb4.8
TCF *e*pP pP 14 13 08.4 +2.4
YKA Yellowknife Ar 60.56 334 P P **14 12 47.5 -1.8**
comp=E,13nm,0.4s,mb5.5,baz=104,slow=7.4,SNR=55
YKA LR LR 14 37 23.7
comp=E,180nm,21.4s,baz=155,slow=34
YKA Yellowknife Ar 60.56 334 P P **14 12 47.5 -1.8**
YKA LR LR 14 37 23.7
HDW Hoodsport 60.56 316 P P **14 12 47.7 -1.9**
YKW3 Yellowknife Ar 60.59 334 *e*P P **14 12 47.9 -1.6**
KBO Bosley Butte 60.60 310 *e*P P **14 12 50.0 +0.1**
BGF Bois d'Agland 60.99 45 *e*P P **14 12 52.9 +0.4**
comp=E,15nm,0.6s,mb5.0

PGC Sidney 61.00 318 *e*P P **14 12 51.1 -1.4**
comp=E,46nm,0.6s,mb5.8
OSR Olympics--Salm 61.14 316 P P **14 12 53.5 0.0**
OBC Olympics--Boni 61.31 317 P P **14 12 54.9 +0.3**
OCWA Octopus Mounta 61.33 316 *e*P P **14 12 54.6 -0.1**
comp=E,16nm,0.5s,mb5.4
LASF Ste Croix 61.36 48 *e*P P **14 12 55.8 +0.8**
AVF Avril sur Loir 61.38 45 *e*P P **14 12 55.1 0.0**
comp=E,14nm,0.8s,mb4.8
SSF Saint Saulge 61.52 44 *e*P P **14 12 56.0 -0.1**
comp=E,17nm,0.8s,mb4.9
SMF Signal de Mont 61.69 45 *e*P P **14 12 57.3 +0.1**
comp=E,12nm,0.7s,mb4.9
LOR Lormes 61.79 44 *e*P P **14 12 57.7 -0.1**
comp=E,23nm,0.7s,mb5.1
LOR *e*pP pP 14 13 16.7 +2.1
LOR *e*R
comp=E,75nm,18.0s
VIVF Saint-Julien-l 62.03 47 *e*P P **14 13 00.2 +0.7**
comp=E,14nm,0.8s,mb4.8
BAIF Baives 62.46 41 *e*P P **14 13 02.1 -0.2**
SMRF Simiane la Rot 62.59 48 *e*P P **14 13 03.6 +0.4**
MEZF Maizieres J'vi 62.76 43 *e*P P **14 13 04.5 +0.1**
comp=E,56nm,0.5s,mb5.6
GIVF Givet 62.86 41 *e*P P **14 13 04.9 -0.1**
comp=E,16nm,0.7s,mb5.0
ORIF Oris-en-Rattie 62.89 47 *e*P P **14 13 05.7 +0.4**
comp=E,6.4nm,0.6s,mb4.7
ORIF *e*R
comp=E,98nm,19.8s
LMR La Mourre 63.20 49 *e*P P **14 13 07.6 +0.2**
CABF La Chapelle 63.22 45 *e*P P **14 13 07.6 +0.2**
comp=E,10nm,0.7s,mb4.8
FRF La Foret Royal 63.32 49 *e*P P **14 13 08.4 +0.3**
MBDF Montbardon 63.51 47 *e*P P **14 13 09.8 +0.4**
comp=E,11nm,0.7s,mb4.7
LPL La Plagne 63.55 46 *e*P P **14 13 10.7 +1.1**
LPG La Plagne 63.56 46 *e*P P **14 13 10.3 +0.6**
HINF Hinteralfeld 63.87 44 *e*P P **14 13 11.3 -0.3**
comp=E,9.0nm,0.6s,mb4.7
SBF Sospel 63.91 48 *e*P P **14 13 12.3 +0.3**
comp=E,21nm,0.9s,mb4.9
CDF Champ du Feu 64.22 43 *e*P P **14 13 13.8 -0.1**
comp=E,9.5nm,0.7s,mb4.7
PGF Pioggiola 64.98 50 *e*P P **14 13 19.2 +0.2**
comp=E,28nm,1.0s,mb5.0
DAG Danmarks Havn 65.40 10⇑*i*P P **14 13 20.8 -0.3**
comp=E,4.5nm,0.8s,mb4.5
DAG Danmarks Havn 65.40 10⇑*e*P P **14 13 20.8 -0.3**
comp=E,4.5nm,0.8s,mb4.5
DAG Danmarks Havn 65.40 10⇑*e*P P **14 13 20.8 -0.3**
DAG pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
DAVA Damuels 65.87 45⇑*i*P P **14 13 25.4 +0.9**
comp=Z,14nm,0.7s,mb5.1
DLBC Dease Lake 66.59 328 P P **14 13 29.4 +0.5**
comp=Z,20nm,0.6s,mb5.4,baz=98,slow=4.4,SNR=61
DLBC Dease Lake 66.59 328 *e*P P **14 13 28.7 -0.2**
GRA1 Grafenberg Arr 66.92 42 *e*P P **14 13 31.1 0.0**
comp=Z,6.0nm,1.0s,mb4.6
GRF Grafenberg Arr 66.92 42 *e*P P **14 13 31.1 0.0**
comp=Z,6.0nm,1.0s,mb4.6
GRF Grafenberg Arr 66.92 42 *e*P P **14 13 31.1 0.0**
GRF pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
CLL Collm 68.15 40 P P **14 13 38.7 -0.1**
comp=Z,logA/T=0.9,mb4.7
CLL *e**SP sP 14 13 59.0 -3.6
CLL *i* 14 14 09.0
CLL Collm 68.15 40 *i* P P **14 13 38.7 -0.1**
comp=Z,6.0nm,0.8s,mb4.7
CLL *e*pP pP 14 13 59.0 +3.2
CLL *i* sP sP 14 14 09.0 +6.4
CLL Collm 68.15 40 *i* P P **14 13 38.7 -0.1**
CLL *i* *SP sP 14 14 09.0 +6.4
CLL pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
NB2 NORSAR Subarra 68.16 30 P P **14 13 39.4 +0.7**
comp=Z,5.2nm,0.7s,mb4.7,baz=260,slow=6.5
NOA NORSAR Array B 68.16 30 P P **14 13 39.5 +0.8**
comp=Z,3.0nm,0.6s,mb4.5,baz=261,slow=6.3,SNR=8.5
NOA LR LR 14 36 04.7
comp=Z,68nm,21.2s,baz=205,slow=29
NOA NORSAR Array B 68.16 30 P P **14 13 39.5 +0.8**
NOA LR LR 14 36 04.7
KBA Koelnbreinsper 68.22 45⇓*i*P P **14 13 39.8 +0.5**
comp=Z,7.1nm,0.7s,mb4.8
KHC Kasperske Hory 68.43 43 *e*P P **14 13 40.5 -0.1**
GERES GERESS Array B 68.50 43 P P **14 13 40.9 -0.1**
comp=Z,2.3nm,0.6s,mb4.3,baz=256,slow=5.5,SNR=11
GERES LR LR 14 37 55.4
comp=Z,41nm,19.9s,baz=313,slow=31
MOA Molln 68.86 44⇑*i*P P **14 13 43.4 +0.2**
comp=Z,3.0nm,0.7s,mb4.3
PRU Pruhonice 69.08 42 *e*P P **14 13 45.0 +0.4**
ARSA Arzberg 69.70 45⇑*i*P P **14 13 48.6 +0.1**
comp=Z,3.9nm,0.7s,mb4.5
INK Inuvik 69.86 338 *e*P P **14 13 47.9 -1.1**
comp=Z,31nm,0.9s,mb5.2
INK *e*PcP PcP 14 14 07.5 -3.8
VYHS Vyhne 71.91 43 *e*P P **14 13 59.0 -2.7**
ARE0 ARCESS Array S 74.67 21 *e*P P **14 14 18.0 +0.6**
ARCES ARCESS Array B 74.67 21 P P **14 14 17.9 +0.5**
comp=Z,6.6nm,0.7s,mb4.7,baz=256,slow=5.0,SNR=21
ARCES LR LR 14 39 11.7
comp=Z,118nm,21.8s,baz=66,slow=29
ARCES ARCESS Array B 74.67 21 P P **14 14 17.9 +0.5**
ARCES LR LR 14 39 11.7
ILAR Eielson Array 74.97 334 P P **14 14 18.6 -0.7**
comp=Z,8.8nm,0.7s,mb4.8,baz=111,slow=4.1,SNR=67
ILAR LR LR 14 45 33.0
comp=Z,71nm,19.4s,baz=171,slow=34
KEV Kevo 75.18 21 *e*p P **14 14 20.6 +0.2**
comp=Z,5.8nm,0.7s,mb4.6
KEV Kevo 75.18 21 *e*P P **14 14 20.6 +0.2**
KEV pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
FINES FINESS Array B 75.34 30 P P **14 14 21.8 +0.4**
comp=Z,4.6nm,0.5s,mb4.7,baz=282,slow=3.1,SNR=33
FINES LR LR 14 42 29.3
comp=Z,68nm,18.5s,baz=250,slow=32
COLA College 75.38 334 *i* P P **14 14 21.4 -0.2**
KAF Kangasniemi 75.40 29 *e*p P **14 14 22.0 +0.3**
comp=Z,6.6nm,0.5s,mb4.8,baz=274,slow=5.7
KAF Kangasniemi 75.40 29 *e*P P **14 14 22.0 +0.3**
KAF pmax pmax
comp=Z,7.0nm,0.5s,mb4.8
MCK McKinley 75.94 333 *e*P P **14 14 24.6 -0.2**
comp=Z,6.2nm,0.9s,mb4.5
JOF Joensuu 77.61 28 *e*p P **14 14 34.5 +0.3**
comp=Z,1.7nm,0.5s,mb4.2
JOF Joensuu 77.61 28 *e*P P **14 14 34.5 +0.3**
JOF pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
IMA Indian Mountai 77.66 335 *e*P P **14 14 34.5 +0.2**
comp=Z,46nm,0.9s,mb5.4
RSO Redoubt South 78.15 330 *e*P P **14 14 37.4 +0.2**
RSO *e*sP sP 14 14 57.4 -4.0
AKASG Malin Array Be 78.40 40 P P **14 14 39.0 +0.3**
comp=Z,1.3nm,0.4s,mb4.2,baz=286,slow=4.4,SNR=8.2
OBN Obninsk 81.84 35⇑*i*P P **14 14 57.8 +0.8**
OBN *e* 14 18 07.4
OBN *e*S S 14 25 08.7 +4.8
OBN pmax pmax
comp=Z,9.0nm,0.4s,mb5.0
OBN MLR MLR
comp=Z,40nm,15.0s
BRTR Keskin Array B 83.72 51 P P **14 15 07.8 +0.8**
comp=Z,3.1nm,0.7s,mb4.6,baz=261,slow=4.2,SNR=11
SOC Sochi 87.04 46 *e*P P **14 15 19.6 -3.7**
SOC *e* 14 18 46.2
SOC *e*S 14 25 43.1
SOC *e* 14 26 03.3
SOC pmax pmax
comp=N,37nm,0.8s
SOC pmax pmax
comp=Z,22nm,0.8s,mb5.4
SOC pmax pmax
comp=E,12nm,0.7s
KIV Kislovodsk 88.96 45 *i* P P **14 15 34.7 +2.3**
KIV pmax pmax
comp=Z,16nm,1.7s,mb5.1
BILL Bilibino 90.58 344 *i* P P **14 15 40.7 +1.3**
BILL pmax pmax
comp=Z,17nm,1.9s,mb5.0
BILL MLR MLR

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=Z,100nm,23.0s						
VNA1	Neumayer--Stat	92.63	165	P	P	14 15 51.6	+2.7
VNA3	Neumayer Olymp	92.67	165	P	P	14 15 50.7	+1.7
VNA2	Neumayer--Watz	93.03	165	P	P	14 15 53.2	+2.5
BOSA	Boshof	93.48	119	LR	LR	14 52 13.6	
	comp=Z,129nm,19.0s,baz=169,slow=32						
SNAA	Sanae	94.65	164	P	P	14 15 59.5	+1.5
SNAA	Sanae	94.65	164		P	14 16 07.0	+9.0
KMBO	Kilima Mbogo	97.84	89	LR	LR	14 58 01.7	
	comp=Z,100nm,21.1s,baz=92,slow=34						
WMQ	Urumqi	114.65	25	*e*PDIF	Pdif	14 17 31.0	+3.3
WMQ				PP	PP	14 22 23.0	+3.2
WMQ				SS	SS	14 38 11.0	+5.9
WMQ				LR	LR		
	comp=N,64nm,20.0s						
WMQ				LR	LR		
	comp=E,62nm,20.0s						
WMQ				LR	LR		
	comp=Z,54nm,20.0s						
MAW	Mawson	116.22	159	PKP	PKPdf	14 21 20.9	+1.7
	comp=Z,1.5nm,0.5s,baz=332,slow=9.6,SNR=7.4						
CN2	Changchun	121.21	355	*e*PKP	PKPdf	14 21 32.3	+2.9
HHC	Hu-ho-hao-te	123.94	7	*e*PKP	PKPdf	14 21 38.5	+3.7
HHC				PP	PP	14 23 21.5	-2.4
HHC				PKS	PKS	14 25 11.5	+0.9
HHC				SKKS		14 30 12.8	
HHC				SS	SS	14 40 08.0	+3.2
HHC				PP	PP		
	comp=Z,136nm,10.8s						
HHC				LR	LR		
	comp=N,141nm,11.9s						
HHC				LR	LR		
	comp=E,198nm,13.2s						
HHC				LR	LR		
	comp=Z,116nm,11.9s						
LZH	Lanzhou	127.07	16	*e*PKP	PKPdf	14 21 43.0	+2.0
LZH				PP	PP	14 23 45.5	+1.5
LZH				SKKS		14 30 26.5	
LZH				PP	PP		
	comp=Z,90nm,5.6s						
LZH				LR	LR		
	comp=E,270nm,19.5s						
LZH				LR	LR		
	comp=Z,339nm,21.0s						
LZH	Lanzhou	127.07	16	*e*PKP	PKPdf	14 21 43.1	+2.1
LZH				sPKP		14 21 56.2	
LZH				PP	PP	14 23 45.4	+1.4
LZH				SKKS		14 30 26.5	
LZH				*e*SS	SS	14 40 41.0	-3.6
LZH				LR	LR		
	comp=Z,340nm,21.0s						
NJ2	Nanjing	133.19	1	*e*PKP	PKPdf	14 21 56.5	+3.8
NJ2				PP	PP	14 24 28.0	+4.2
NJ2				PKS	PKS	14 25 32.0	+3.9
NJ2				PP	PP		
	comp=Z,150nm,7.8s						
NJ2				LR	LR		
	comp=N,1μm,38.0s						
NJ2				LR	LR		
	comp=E,820nm,32.6s						
NJ2				LR	LR		
	comp=Z,530nm,30.0s						
KMI	Kunming	136.91	22	PKP	PKPdf	14 21 59.0	-0.7
KMI				LR	LR		
	comp=Z,57nm,29.0s						
GYA	Guiyang	136.94	17	*e*PKP	PKPdf	14 22 01.3	+1.5
GYA				PP	PP	14 24 45.3	-1.7
GYA				PKS	PKS	14 25 36.0	+1.0
GYA				SKS	SKS	14 29 06.8	+4.6
GYA				SKKS		14 31 32.0	
GYA				PP	PP		
	comp=Z,110nm,6.8s						
GYA				LR	LR		
	comp=N,310nm,20.8s						
GYA				LR	LR		
	comp=E,320nm,21.0s						
GYA				LR	LR		
	comp=Z,270nm,21.6s						
STKA	Stephens Creek	153.73	226	PKP	PKPdf	14 22 29.6	+2.0
	comp=Z,5.4nm,0.9s,baz=89,slow=2.9,SNR=4.5						
STKA				PKPbc	PKPdf	14 22 37.3	+10
	comp=Z,5.1nm,0.8s,baz=150,slow=15,SNR=6.3						
STKA				PKPab	PKPab	14 22 49.9	-1.1
	comp=Z,6.6nm,0.9s,baz=164,slow=11,SNR=6.9						
WB2	Warramunga Arr	164.96	249	*e*P	PKPab	14 23 38.9	-0.7
WRA	Warramunga Arr	164.97	249	PKP	PKPdf	14 22 41.9	+1.1
	comp=Z,3.0nm,0.7s,baz=72,slow=0.2,SNR=29						
WRA				PKPab	PKPab	14 23 39.1	-0.5
	comp=Z,7.9nm,0.7s,baz=100,slow=4.2,SNR=34						

*IDC **30** 14:10:40.5±3.3,0.10N×97.76E,mb4.1/5,mb1 4.2/5, mb1mx3.9/17,mbtmp4.1/5,Error ellipse: s-maj=135.3km s-min=25.0km az=54.0*
*NEIC **30** 14:10:45.0±1.1,0.13N×97.76E,h30km,mb4.0/1,Error ellipse: s-maj=23.2km s-min=15.4km az=220.0*
ISC 30 14:10:43.5±1.4,0.2N±0.2×97.8E±0.2,h33km,n8,σ0°57/8, mb4.1/6,1D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.84	29	⇓*e*P	P	14 12 09.6	-0.3
KKM	Kota Kinabalu	19.30	72	*e*P	P	14 15 08.8	+0.1
WRA	Warramunga Arr	41.01	121	P	P	14 18 25.3	-0.1
	1.2nm,0.6s,mb3.7,baz=301,slow=8.9,SNR=14						
SONM	Songino Array	48.06	8	P	P	14 19 22.5	+0.7
	0.4nm,0.3s,mb3.9,baz=180,slow=8.6,SNR=4.7						
MKAR	Makanchi Array	48.37	346	P	P	14 19 24.6	+0.4
	2.4nm,0.5s,mb4.5,baz=156,slow=8.2,SNR=30						
KURK	Kurchatov	52.93	345	*e*P	P	14 19 58.2	-0.5
	1.6nm,0.8s,mb4.0						
ZAL	Zalesovo	54.65	351	P	P	14 20 12.1	+0.7
	3.1nm,0.5s,mb4.6,baz=333,slow=3.8,SNR=11						
BVAR	Borovoye Array	57.40	341	P	P	14 20 30.2	-1.0
	1.1nm,0.8s,mb3.9,baz=143,slow=7.4,SNR=5.6						

*NEIC **30** 14:12:38.2,39.77S×173.78E,h244km,MG3.8(WEL), After WEL.*
WEL 30 14:12:42.5±0.3,39.83S×173.87E,h202km±2km,ML3.7/5, 8C-3D,Error ellipse: s-maj=2.4km s-min=1.4km az=90.0, Off west coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRZ	Ngariki Road	0.50	6	PN	P	14 13 10.0	-0.2
NRZ	Ngariki Road	0.50	6	P	P	14 13 10.1	-0.1
DFE	Dawson Falls	0.54	20	PN	P	14 13 10.5	+0.1
DFE	Dawson Falls	0.54	20	P	P	14 13 10.5	+0.2
NEZ	North Egmont	0.59	18	PN	P	14 13 10.6	+0.1
NEZ	North Egmont	0.59	18	P	P	14 13 10.7	+0.2
PKE	Pukeiti	0.64	8	PN	P	14 13 10.3	-0.5
PKE	Pukeiti	0.64	8	P	P	14 13 10.5	-0.3
RAEZ	Rainy Point	0.68	37	PN	P	14 13 10.9	0.0
RAEZ	Rainy Point	0.68	37	P	P	14 13 10.9	0.0
WAZ	Wanganui	0.87	85	PN	P	14 13 12.5	+0.6
WAZ				SN	S	14 13 37.1	+2.5
WAZ	Wanganui	0.87	85	P	P	14 13 12.5	+0.6
WAZ				S	S	14 13 37.1	+2.5
DUWZ	D'Urville Isla	0.97	178	PN	P	14 13 12.6	+0.2
DUWZ				SN	S	14 13 35.1	-0.6
VRZ	Vera Road	0.99	45	PN	P	14 13 11.4	-1.2
VRZ				SN	S	14 13 35.3	-0.6
VRZ	Vera Road	0.99	45	P	P	14 13 11.4	-1.2
PKVZ	Pokaka	1.27	65	PN	P	14 13 14.3	-0.5
KIW	Kapiti Island	1.30	143	PN	P	14 13 14.9	-0.2
KIW				SN	S	14 13 38.7	-1.6
MTVZ	Mangateitei	1.32	71	PN	P	14 13 14.6	-0.6
MTVZ				SN	S	14 13 38.9	-1.5
TRVZ	Turoa	1.41	68	PN	P	14 13 15.6	-0.4
TCW	Tory Channel	1.41	167	PN	P	14 13 16.3	+0.2
TCW				SN	S	14 13 40.6	-1.3
TCW	Tory Channel	1.41	167	P	P	14 13 16.3	+0.3
FWVZ	Far West T-bar	1.43	67	PN	P	14 13 15.7	-0.4
FWVZ	Far West T-bar	1.43	67	P	P	14 13 15.7	-0.4
QRZ	Quartz Range	1.43	225	⇓PN	P	14 13 15.0	-1.2
QRZ				SN	S	14 13 39.4	-2.7
WNVZ	Wahianoa	1.43	70	⇑PN	P	14 13 16.0	-0.2
WNVZ				SN	S	14 13 40.9	-1.3
WNVZ	Wahianoa	1.43	70	P	P	14 13 16.0	-0.2
NNZ	Nelson	1.43	195	⇓PN	P	14 13 15.6	-0.7
NNZ				SN	S	14 13 40.2	-2.0
NNZ	Nelson	1.43	195	P	P	14 13 15.6	-0.6
TWVZ	Taurewa	1.43	59	PN	P	14 13 15.3	-1.0
TWVZ	Taurewa	1.43	59	P	P	14 13 15.3	-0.9
WPVZ	Whakapapa	1.44	65	PN	P	14 13 15.9	-0.4
WPVZ				SN	S	14 13 41.1	-1.2
WPVZ	Whakapapa	1.44	65	P	P	14 13 15.9	-0.4
CNZ	Chateau	1.45	65	PN	P	14 13 15.7	-0.6
CNZ	Chateau	1.45	65	P	P	14 13 15.9	-0.4
TUVZ	Tukino	1.49	68	PN	P	14 13 16.6	-0.1
TUVZ				SN	S	14 13 42.5	-0.7
TUVZ	Tukino	1.49	68	P	P	14 13 16.6	-0.1
NGZ	Ngauruhoe	1.49	65	PN	P	14 13 16.2	-0.5
NGZ				SN	S	14 13 41.5	-1.6
NGZ	Ngauruhoe	1.49	65	P	P	14 13 16.2	-0.5
WTVZ	West Tongariro	1.51	62	PN	P	14 13 16.4	-0.5
WTVZ				SN	S	14 13 41.6	-1.9
WTVZ	West Tongariro	1.51	62	P	P	14 13 16.3	-0.6
MOVZ	Moawhango	1.52	74	⇑PN	P	14 13 16.2	-0.8
MOVZ				*e*SN	S	14 13 40.7	-2.8
HIZ	Hauiti	1.52	31	PN	P	14 13 15.4	-1.7
HIZ				SN	S	14 13 41.8	-1.9
HIZ	Hauiti	1.52	31	P	P	14 13 15.4	-1.6
MRW	Makara Radio	1.53	156	PN	P	14 13 16.6	-0.5
MRW				SN	S	14 13 42.4	-1.3
MRW	Makara Radio	1.53	156	P	P	14 13 16.7	-0.4
OTVZ	Oturere	1.54	65	PN	P	14 13 17.0	-0.2
OTVZ				SN	S	14 13 42.9	-1.0
MRZ	Mangatainoka R	1.55	123	⇑PN	P	14 13 16.8	-0.5
MRZ				SN	S	14 13 43.3	-0.8
MRZ	Mangatainoka R	1.55	123	P	P	14 13 16.8	-0.5
KRVZ	Karewarewa	1.56	62	PN	P	14 13 16.8	-0.5
KRVZ				SN	S	14 13 42.5	-1.7
CAW	Cannon Point	1.57	145	⇑PN	P	14 13 17.0	-0.5
CAW				SN	S	14 13 43.4	-0.9
CAW	Cannon Point	1.57	145	P	P	14 13 17.0	-0.4
TUWZ	Tuamarina	1.60	178	PN	P	14 13 17.5	-0.2
TUWZ				SN	S	14 13 43.1	-1.7
SNZO	South Karori	1.61	157	PN	P	14 13 17.0	-0.8
SNZO				SN	S	14 13 43.5	-1.4
SNZO	South Karori	1.61	157	P	P	14 13 17.2	-0.6
TSZ	Takapari Road	1.63	99	⇑PN	P	14 13 17.6	-0.4
TSZ				SN	S	14 13 44.6	-0.7
TSZ	Takapari Road	1.63	99	P	P	14 13 17.6	-0.3
KATZ	Kakaramea	1.66	59	PN	P	14 13 17.7	-0.5
KATZ	Kakaramea	1.66	59	P	P	14 13 17.7	-0.5
MTW	Mount Morrison	1.82	137	⇑PN	P	14 13 19.0	-0.7
MTW	Mount Morrison	1.82	137	P	P	14 13 19.0	-0.8
BSWZ	Blackbirch Sta	1.88	180	PN	P	14 13 20.0	-0.4
BSWZ	Blackbirch Sta	1.88	180	P	P	14 13 20.0	-0.4
MSWZ	Moikau Station	1.90	147	*e*PN	P	14 13 19.7	-0.8
BFZ	Birch Farm	2.01	116	*e*PN	P	14 13 21.1	-0.5
THZ	Tophouse	2.06	200	⇓PN	P	14 13 21.0	-1.2
THZ	Tophouse	2.06	200	P	P	14 13 21.0	-1.2
TRWZ	Traveller	2.09	139	PN	P	14 13 21.4	-1.1
BKZ	Black Stump Fm	2.14	73	⇑*e*PN	P	14 13 21.9	-1.2
BKZ				SN	S	14 13 51.4	-2.8
BKZ	Black Stump Fm	2.14	73	*e*P	P	14 13 21.9	-1.1
PXZ	Pawanui	2.31	96	⇑PN	P	14 13 24.3	-0.6
DSZ	Denniston Nort	2.47	219	P	P	14 13 24.8	-1.9
KHZ	Kahutara	2.59	185	P	P	14 13 26.1	-2.0
LTZ	Lake Taylor	3.18	202	P	P	14 13 32.6	-2.4
MWZ	Matawai	3.22	63	*e*P	P	14 13 32.9	-2.5
CRLZ	Canterbury Las	3.85	194	*e*P	P	14 13 39.3	-3.9
MQZ	McQueen's Vall	3.98	193	*e*P	P	14 13 40.6	-4.1
WVZ	Waitaha Valley	4.00	215	*e*P	P	14 13 41.3	-3.7
RPZ	Rata Peaks	4.41	208	*e*P	P	14 13 46.5	-3.7
FOZ	Fox Glacier	4.87	219	*e*P	P	14 13 50.6	-5.3
JCZ	Jackson Bay	5.70	220	*e*P	P	14 14 02.2	-4.4
ODZ	Otahua Downs	5.73	204	*e*P	P	14 14 03.2	-3.8
WKZ	Wanaka	6.15	214	*e*P	P	14 14 07.0	-5.5
EAZ	Earnscleugh	6.36	210	*e*P	P	14 14 09.6	-5.6

*NIED **30** 14:30:00,26.50N×129.80E,h8km,Mw4.1 Best double couple: M0:1.68×10^15 NP1:φs=275°,δ67°,λ-66°. NP2:φs=47°, δ33°,λ-133°.*
*IDC **30** 14:30:00.5±1.1,26.56N×129.64E,mb4.0/6,mb1 4.1/7, mb1mx3.9/21,mbtmp4.0/7,ML3.5/1,MS3.5/5,Ms1 3.5/5, ms1mx3.2/28,Error ellipse: s-maj=29.2km s-min=18.9km az=56.0*
*JMA **30** 14:30:02.4,26.52N×129.78E,h44km,M3.7*
*NEIC **30** 14:30:02.5,26.52N×129.78E,h44km,mb4.6/4, MW4.1(NIED),After JMA.*
ISC 30 14:30:02.4±0.6,26.56N±0.03×129.77E±0.03,h38km±7km, n30,σ1°24/39,mb4.2/10,MS3.6/4,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	Kunigami	1.37	282	Pn	P	14 30 25.9	+0.4
	75nm,0.3s,baz=126,slow=14,SNR=61						
JOW				Sn	S	14 30 41.8	-0.8
	55nm,0.3s,baz=289,slow=27,SNR=24						
JOW	Kunigami	1.37	282	P	P	14 30 25.8	+0.4
JOW				S	S	14 30 42.0	-0.6
JTK	Tokunoshima	1.43	329	P	P	14 30 27.1	+0.9
JTK				*e*S	S	14 30 45.5	+1.5
JMZ	Minamidaito 2	1.49	119	P	P	14 30 27.2	0.0
JMZ				*e*S	S	14 30 44.8	-0.9
JIH	Iheya	1.68	287	P	P	14 30 30.5	+0.6
JIH				*e*S	S	14 30 50.3	-0.1
JZK	Kikaishima	1.76	6	P	P	14 30 32.0	+1.1
JZK				*e*S	S	14 30 53.2	+0.9
JAM	Amami Oshima	1.85	355	P	P	14 30 33.0	+0.7
JAM				*e*S	S	14 30 54.9	+0.3
JJT2	Tamagusuku 2	1.86	257	P	P	14 30 33.4	+0.9
JJT2				S	S	14 30 54.6	-0.4
NAH1	Naha	1.90	260	P	P	14 30 33.2	+0.2
NAH1				S	S	14 30 55.2	-0.7
JAGN	Aguni-jima	2.27	271	P	P	14 30 38.5	+0.3
JAGN				*e*S	S	14 31 05.6	+0.4
JKE	Kume jima 2	2.69	266	P	P	14 30 44.3	+0.1
JKE				*e*S	S	14 31 14.0	-1.9
JNN	Nakanoshima	3.27	2	P	P	14 30 53.0	+0.5
JNN				*e*S	S	14 31 29.4	-1.3
JKC	Kuchinoerabu	3.91	5	*e*S	S	14 31 45.0	-1.8
JTN	Tanegashima 3	4.22	14	P	P	14 31 06.6	+0.7
JTN				*e*S	S	14 31 52.1	-2.5
JNU	Nakatsue	6.61	8	Pn	P	14 31 39.4	-0.2
	0.9nm,0.3s,baz=321,slow=31,SNR=5.8						
JNU				LR	LR	14 34 26.6	
	comp=Z,107nm,19.6s,baz=248,slow=40						
NACB	Ninganchiao	7.77	254	Pn	P	14 31 53.4	-2.3
SONM	Songino Array	28.05	325	LR	LR	14 48 13.9	
	comp=Z,52nm,18.7s,MS3.1,baz=250,slow=39						
MA2	Magadan	36.06	18	*e*P	P	14 37 00.1	-1.9
	39nm,1.4s,mb5.1						
PMG	Port Moresby	39.54	152	LR	LR	14 53 08.5	
	comp=Z,77nm,21.5s,MS3.5,baz=19,slow=35						
MKAR	Makanchi Array	42.35	311	P	P	14 37 55.3	+0.9
	0.5nm,0.6s,mb3.3,baz=99,slow=9.2,SNR=5.2						
FITZ	Fitzroy Crossi	44.57	186	P	P	14 38 14.5	+1.8
	12nm,1.1s,mb4.6,baz=353,slow=9.6,SNR=4.0						
KURK	Kurchatov	45.54	316	P	P	14 38 17.8	-2.2
	1.7nm,0.8s,mb4.0						
WRAB	Tennant Creek	46.43	174	*e*P	P	14 38 25.7	-1.7
	19nm,1.3s,mb4.9						
WRA	Warramunga Arr	46.44	174	P	P	14 38 29.0	+1.5
	1.2nm,0.5s,mb4.1,baz=353,slow=8.3,SNR=12						
BVAR	Borovoye Array	50.95	318	P	P	14 39 03.9	+1.9
	0.6nm,0.5s,mb3.8,baz=90,slow=8.6,SNR=3.4						
BVAR				PcP	PcP	14 40 18.6	+0.5
	0.8nm,0.8s,baz=90,slow=3.0,SNR=3.9						
BRVK	Borovoye	51.02	318	*e*P	P	14 39 00.5	-2.1
	2.1nm,0.5s,mb4.3						
FINES	FINESS Array B	73.26	331	P	P	14 41 32.3	+1.2
	6.3nm,1.3s,mb4.4,baz=72,slow=6.0,SNR=4.4						
BRTR	Keskin Array B	77.92	308	P	P	14 42 00.4	+2.3
	0.8nm,0.7s,mb3.8,baz=68,slow=7.8,SNR=2.7						
GERES	GERESS Array B	85.77	323	LR	LR	15 23 16.0	
	comp=Z,73nm,18.7s,MS4.1,baz=325,slow=37						
SCHQ	Schefferville	97.69	10	LR	LR	15 33 20.5	
	comp=Z,32nm,19.3s,MS3.8,baz=92,slow=39						

*IDC **30** 14:46:50.0±3.5,0.04S×123.45E,h81km±31km,mb3.4/3, mb1 3.5/4,mb1mx3.4/16,mbtmp3.7/4,Error ellipse: s-maj=106.7km s-min=19.8km az=68.0*
*NEIC **30** 14:46:50.1±4.2,0.03N×123.62E,h82km±43km,Error ellipse: s-maj=88.1km s-min=13.0km az=65.0*
ISC 30 14:46:48.4±1.1,0.0N±0.2×123.6E±0.3,h82km,n6,σ0°76/6, mb3.7/3,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	Kota Kinabalu	9.47	309	*e*P	P	14 49 04.3	+0.4
FITZ	Fitzroy Crossi	18.13	174	P	P	14 50 56.1	-0.2
	0.2nm,0.3s,baz=354,slow=10,SNR=3.1						
WRA	Warramunga Arr	22.47	153	P	P	14 51 42.2	+0.4
	1.6nm,0.9s,mb3.3,baz=329,slow=10,SNR=16						
WRA				ScP		14 59 04.5	
	0.5nm,0.9s,baz=327,slow=2.7,SNR=5.4						
SONM	Songino Array	49.91	345	P	P	14 55 36.2	+0.4
	0.5nm,0.4s,mb3.8,baz=162,slow=9.1,SNR=2.5						
MKAR	Makanchi Array	58.89	328	P	P	14 56 40.2	-1.0
	0.6nm,0.5s,mb3.9,baz=127,slow=7.2,SNR=8.9						
MKAR	Makanchi Array	58.89	328	P	P	14 56 40.2	-1.0

*CSEM **30** 14:48:52.3±0.6,35.89N×9.85W,h40km,mb3.8/3,Error ellipse: s-maj=12.6km s-min=10.5km az=131.0*
MDD 30 14:48:50.8±2.7,35.95N×9.97W,mb3.8/3,mbLg1.7/1, Error ellipse: s-maj=26.3km s-min=22.7km az=120.0, PRXIMO,West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	Sao Teotonio	1.88	32	*e*P	Pn	14 49 22.7	-1.7
PTEO				*e*S	Sn	14 49 46.3	-2.9
	4.7nm,0.2s						
PTEO	Sao Teotonio	1.88	32	*e*P	Pn	14 49 22.7	-1.7
PTEO				*e*S	Sn	14 49 46.3	-2.9
	4.7nm,0.2s						
EGRO	El Granado	2.54	51	P	Pn	14 49 32.4	-1.6
	1.2nm,0.1s,SNR=6.2						
EGRO				S	Sn	14 50 02.7	-3.4
	3.1nm,0.1s,SNR=5.8						
EGRO	El Granado	2.54	51	P	Pn	14 49 32.4	-1.6
	1.2nm,0.1s,SNR=6.2						
EGRO				S	Sn	14 50 02.7	-3.4
	3.1nm,0.1s,SNR=5.8						
PBEJ	Beja	2.67	38	*e*S	Sn	14 50 05.9	-3.3
EMIN	Mina Concepcio	3.20	55	P	Pn	14 49 41.2	-2.2
	0.4nm,0.1s,SNR=6.7						
EMIN				S	Sn	14 50 17.9	-4.9
	1.5nm,0.1s,SNR=7.3						
EMIN	Mina Concepcio	3.20	55	P	Pn	14 49 41.2	-2.2
	0.4nm,0.1s,SNR=6.7						
EMIN				S	Sn	14 50 17.9	-4.9
	1.5nm,0.1s,SNR=7.3						
ESPR	Espera	3.44	73	P	Pn	14 49 44.1	-2.7
	2.4nm,0.2s,SNR=7.9						
ESPR				S	Sn	14 50 24.4	-4.4
	7.4nm,0.2s,SNR=7.9						
ESPR	Espera	3.44	73	P	Pn	14 49 44.1	-2.6
	2.4nm,0.2s,SNR=7.9						
ESPR				S	Sn	14 50 24.4	-4.4
	7.4nm,0.2s,SNR=7.9						
EBAD	Badajoz	3.66	39	P	Pn	14 49 47.4	-2.4
	0.5nm,0.1s,SNR=7.9						
EBAD				S	Sn	14 50 29.4	-4.9
	0.1nm,0.1s,SNR=7.9						
EBAD	Badajoz	3.66	39	P	Pn	14 49 47.4	-2.4
	0.5nm,0.1s,SNR=7.9						
EBAD				S	Sn	14 50 29.4	-4.9
	0.1nm,0.1s,SNR=7.9						
ECAB	El Cabril	4.21	58	P	Pn	14 49 55.0	-2.8
	1.0nm,0.1s,SNR=8.5						
ECAB				S	Sn	14 50 42.2	-6.1
	0.9nm,0.1s,SNR=6.4						
ECAB	El Cabril	4.21	58	P	Pn	14 49 55.0	-2.7
	1.0nm,0.1s,SNR=8.5						
ECAB				S	Sn	14 50 42.2	-6.2
	0.9nm,0.1s,SNR=6.4						
EADA	Adamuz	4.84	61	P	Pn	14 50 03.7	-3.0
	0.5nm,0.1s,SNR=6.3						
EADA				S	Sn	14 50 57.8	-6.5
	3.8nm,0.1s,SNR=8.0						
EADA	Adamuz	4.84	61	P	Pn	14 50 03.7	-3.0
	0.5nm,0.1s,SNR=6.3						
EADA				S	Sn	14 50 57.8	-6.6
	3.8nm,0.1s,SNR=8.0						

*MOS **30** 15:06:55.4±2.9,49.39N×103.92E,h3km,mb4.4/1,Error ellipse: s-maj=19.0km s-min=9.2km az=92.0*
MOS Felt (II) at Zakamensk.
BYKL 30 15:06:56.5±0.5,49.42N×103.94E,2C,FELT I=II MSK at Zakamensk,Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAK	Zakamensk	1.05	336	⇑*i*Pg	Pg	15 07 15.6	-1.9
ZAK				*e*		15 07 16.5	
ZAK				max		15 07 16.6	
	638nm,0.2s						
ZAK				*i* Sg	Sg	15 07 30.0	-1.6
ZAK				Smax		15 07 31.2	
	4μm,0.4s						
ZAK	Zakamensk	1.05	336	*e*PG	Pg	15 07 15.2	-2.3
ZAK				*e*S	Sb	15 07 29.7	-1.8
ZAK				pmax	pmax		
	comp=Z,632nm,0.2s						
ZAK				smax			
	comp=E,4μm,0.2s						
TLY	Talaya	2.27	355	*e*Pg	Pg	15 07 36.9	-4.9
TLY				Pmax		15 07 39.6	
	comp=E,358nm,0.3s						
TLY				*e*Sg	Sg	15 08 06.9	-5.2
TLY				Smax		15 08 07.6	
	comp=E,805nm,0.3s						
LSTR	Listvyanka	2.52	13	*e*Pg	Pg	15 07 41.2	-5.5
LSTR				Pmax		15 07 43.7	
	comp=E,98nm,0.7s						
LSTR				*e*		15 08 09.0	
LSTR				*e*Sg	Sg	15 08 14.0	-6.3
LSTR				Smax		15 08 19.7	
	comp=E,566nm,0.7s						
LSTR	Listvyanka	2.52	13	*e*PN	Pn	15 07 41.0	+1.7
LSTR				*e*		15 08 14.4	
LSTR				pmax	pmax		
	comp=Z,83nm,0.4s						
LSTR				smax			
	comp=N,477nm,0.6s						
BTMB	Babushkin	2.58	27	*e*Pn	Pn	15 07 37.7	-2.5
BTMB				*e*Pg	Pg	15 07 42.0	-6.0
BTMB				*e*		15 07 43.1	
BTMB				max		15 07 44.8	
	comp=N,95nm,0.1s						
BTMB				*e*Sg	Sg	15 08 16.0	-6.5
BTMB				Smax		15 08 19.6	
	comp=N,2μm,0.7s						
ARS	Arshan	2.68	340	*e*	Pn	15

comp=N,995nm,0.6s
MOY Mondy 2.93 321 *e*PN Pn 15 07 47.5 +2.3
MOY *e* 15 08 28.2
MOY pmax pmax
comp=Z,49nm,0.2s
MOY smax
comp=E,995nm,0.6s
STDB Stepnoy Dvoret 3.15 28 *e*Pg Pg 15 07 54.1 -5.4
STDB Pmax 15 08 04.3
comp=E,196nm,0.3s
STDB *e*Sg Sg 15 08 36.5 -5.0
STDB Smax 15 08 39.7
comp=E,4μm,0.5s
TRTB Turuntaevo 3.66 38 *e*Pn Pn 15 07 53.8 -1.8
TRTB *e*Pg Pg 15 08 01.3 -8.2
TRTB Pmax 15 08 06.3
comp=E,49nm,0.5s
TRTB *e*Sg Sg 15 08 49.0 -9.3
TRTB Smax 15 08 52.6
comp=E,685nm,1.3s
TRG Tyrgan 3.67 23 *e* Pn 15 07 54.1 -1.7
TRG *e*Pg Pg 15 08 02.2 -7.6
TRG Pmax 15 08 09.2
comp=E,27nm,0.2s
TRG *e*Sg Sg 15 08 49.9 -8.9
TRG Smax 15 08 53.0
comp=E,335nm,0.7s
TRG Tyrgan 3.67 23 *e*PN Pn 15 08 01.2 +5.4
ZRHB Zarechye 3.74 32 *e*Pg Pg 15 08 02.9 -8.2
ZRHB *e*Sg Sg 15 08 51.2 -10
ZRHB Smax 15 08 56.6
comp=E,3μm,0.7s
TSC Tosontsengel 3.79 262 *i* Pg Pg 15 08 03.0 -9.3
TSC *i* Sg Sg 15 08 55.0 -7.9
ORL Orlik 4.07 322 *e*Pg Pg 15 08 09.0 -8.7
ORL Pmax 15 08 18.7
comp=E,28nm,1.0s
ORL *e*Sg Sg 15 09 02.0 -10
ORL Smax 15 09 05.8
comp=E,540nm,1.5s
ORL Orlik 4.07 322 *e*PN Pn 15 08 08.1 +6.7
ORL *e* 15 09 02.4
ORL pmax pmax
comp=Z,27nm,0.5s
ORL smax
comp=N,364nm,0.8s
OGRR Ongureny 4.80 27 *e* Pn 15 08 13.2 +1.4
OGRR *e*Pg Pg 15 08 21.4 -11
OGRR Pmax 15 08 35.6
comp=N,11nm,0.3s
OGRR *e*Sg Sg 15 09 23.5 -13
OGRR Smax 15 09 31.3
comp=N,193nm,0.7s
OGRR Ongureny 4.80 27 *e*PN Pn 15 08 09.7 -2.1
OGRR *e* 15 08 23.4
OGRR *e* 15 09 26.1
OGRR pmax pmax
comp=Z,12nm,0.4s
OGRR smax
comp=E,199nm,1.3s
MXMB Maximikha 4.89 36 *e*Pg Pg 15 08 23.5 -11
MXMB Pmax 15 08 31.3
comp=E,44nm,0.6s
MXMB *e*Sg Sg 15 09 26.7 -12
MXMB Smax 15 09 34.0
comp=E,1μm,0.8s
SYVR Suvo 5.68 39 *e* Pn 15 09 02.3 +38
SYVR *e*Sg Sg 15 09 52.4 -13
SYVR Smax 15 09 59.6
comp=E,286nm,2.3s
SYVR Suvo 5.68 39 *e*PN Pn 15 08 37.3 +13
SYVR *e* 15 09 52.2
SYVR pmax pmax
comp=Z,10.0nm,0.3s
SYVR smax
comp=E,170nm,0.8s
EBM Esen Bulak 5.99 242 *e* Pn 15 08 29.0 +0.5
EBM *e*Pg Pg 15 08 44.3 -12
EBM *e*Sg Sg 15 10 03.7 -12
CIT Chita 6.63 63 *e*Pg Pg 15 08 55.8 -13
CIT Pmax 15 09 00.3
comp=E,35nm,1.4s
CIT *e* 15 10 07.5
CIT *e*Sg Sg 15 10 22.4 -15
CIT Smax 15 10 29.8
comp=E,225nm,1.0s
CIT Chita 6.63 63 *e*PG Pg 15 08 55.8 -13
CIT *e* 15 10 23.3
CIT pmax pmax
comp=Z,26nm,0.4s
CIT smax
comp=N,223nm,0.9s
YLYR Ulyunkhan 7.04 36 *e* Pn 15 08 43.8 +0.4
YLYR *e*Pg Pg 15 09 04.1 -13
YLYR Pmax 15 09 11.8
comp=N,5.0nm,0.4s
YLYR *e* 15 10 13.8
YLYR *e*Sg Sg 15 10 36.3 -15
YLYR Smax 15 10 44.2
comp=N,141nm,1.9s
YLYR Ulyunkhan 7.04 36 *e*PG Pg 15 09 02.1 -15
YLYR *e* 15 10 33.8
YLYR pmax pmax
comp=Z,24nm,1.4s
YLYR smax
comp=N,117nm,1.5s
NIZ Nizh Angarsk 7.22 26 *e*Sg Sg 15 10 41.3 -16
NIZ Smax 15 10 57.9
comp=N,76nm,1.1s
KMO Kumora 7.83 31 *e* Pn 15 09 07.9 +13
KMO *e*Pg Pg 15 09 18.8 -14
KMO Pmax 15 09 30.3
comp=N,7.0nm,0.3s
KMO *e*Sg Sg 15 11 01.4 -16
KMO Smax 15 11 15.9
comp=N,98nm,1.2s
UKT Uakit 8.48 41 *e* P 15 09 03.0 -0.4
UKT *e*Pg P 15 09 29.3 +26
UKT Pmax 15 09 37.2
comp=N,3.0nm,0.7s
UKT *e*Sg Sg 15 11 19.8 -19
UKT Smax 15 11 26.6
comp=N,121nm,1.8s
KRAR Krasnoyarsk 9.41 319 *e*P P 15 09 13.9 -2.5
KRAR *e* 15 11 01.2
KRAR pmax pmax
comp=N,47nm,0.5s
KRAR pmax pmax
comp=N,47nm,0.5s
KRAR smax
comp=N,35nm,0.6s
KRAR smax
comp=N,223nm,1.0s
NLYR Nelyaty 10.02 41 *e*Sg S 15 12 08.6 +50
NLYR Smax 15 12 19.0
comp=N,173nm,1.2s
BRVK Borovoye 21.27 293 *i* P P 15 11 54.0 +7.6
AAK Ala-Archa 21.45 263 *i* P P 15 11 59.6 +11

WEL 30 15:58:34.3±0.6, 36.05S×178.67E, h33km, ML3.6/6, Error ellipse: s-maj=8.7km s-min=4.6km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.54**	**191**	*e*P*	Pb	15 58 59.1	-3.0
MXZ				*e*S*	Sb	15 59 17.3	-4.0
MXZ				T		16 00 45.0	
PUZ	**Puketiti**	**2.05**	**189**	*e*PN	Pn	15 59 09.0	+1.8
MWZ	**Matawai**	**2.46**	**201**	*e*P*	Pb	15 59 12.5	-5.1
URZ	**Urewera**	**2.53**	**209**	*e*P*	Pb	15 59 12.9	-6.1
URZ				*e*S*	Sb	15 59 42.8	-7.1
MRZ	**Mangatainoka R**	**5.21**	**207**	*e*PN	Pn	15 59 49.7	-2.3

*ISK **30** 16:00:27.9, 39.01N×35.81E, h5km, MD3.6*
*CSEM **30** 16:00:27.9, 39.01N×35.81E, h5km, MD3.6, After ISK*
ISC 30 16:00:29.3±0.3, 38.98N±0.02×35.76E±0.03, h5km, n36, σ0995/47, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNN	**Bunyan**	**0.15**	**152**	*i* PG	**Pg**	**16 00 31.8**	**-0.6**
AVNT	**Avonos**	**0.73**	**254**	*i* P	**Pg**	**16 00 42.6**	**-1.3**
AVNT				*i* S	**Sg**	**16 00 51.6**	**-2.1**
YOZ	**Yozgat**	**0.74**	**333**	*i* PG	**Pg**	**16 00 43.4**	**-0.6**
YOZ				*i* SG	**Sg**	**16 00 54.0**	**+0.1**
SVST	**Sivas**	**1.22**	**49**	*i* P	**Pb**	**16 00 51.9**	**-0.5**
SVST				*i* S	**Sb**	**16 01 10.0**	**+1.7**
CDAG	**Cicekdag**	**1.25**	**301**	*i* P	**Pb**	**16 00 51.6**	**-1.3**
CDAG				*i* S	**Sb**	**16 01 08.6**	**-0.6**
NIG	**Nigde**	**1.25**	**226**	*i* PN	**Pn**	**16 00 53.7**	**+0.3**
SVSK	**Karacayir**	**1.34**	**45**	*i* PN	**Pn**	**16 00 53.1**	**-1.5**
SVSK				*i* SN	**Sn**	**16 01 12.5**	**-0.5**
TOKT	**Tokat**	**1.47**	**24**	*i* PN	**Pn**	**16 00 55.6**	**-0.9**
CORM	**Corum**	**1.48**	**324**	*i* PN	**Pn**	**16 00 56.4**	**-0.2**
KOZT	**Kozan**	**1.50**	**178**	*i* PN	**Pn**	**16 00 56.8**	**-0.2**
KAHT	**Ahir Dag**	**1.61**	**147**	*i* P	**Pn**	**16 00 59.3**	**+0.8**
KAHT				*i* S	**Sb**	**16 01 20.7**	**+1.0**
KAMT	**Kaman**	**1.64**	**284**	*i* PN	**Pn**	**16 00 59.0**	**+0.1**
CTKT	**Corum**	**1.80**	**336**	*i* P	**Pn**	**16 01 02.3**	**+1.1**
CTKT				*i* S	**Sn**	**16 01 26.4**	**+1.7**
KARA	**Karaisali**	**1.81**	**198**	*i* PN	**Pn**	**16 01 01.8**	**+0.5**
CEYT	**Ceyhan**	**1.97**	**180**	PN	**Pn**	**16 01 04.9**	**+1.2**
KVT	**Kavak**	**2.11**	**6**	PN	**Pn**	**16 01 04.9**	**-0.7**
GAZ	**Gaziantep**	**2.14**	**147**	PN	**Pn**	**16 01 06.6**	**+0.5**
MYA	**Malataya**	**2.19**	**107**	PN	**Pn**	**16 01 06.0**	**-0.8**
MALT	**Malatya**	**2.19**	**107**	PN	**Pn**	**16 01 06.6**	**-0.3**
CANT	**Cankiri**	**2.31**	**315**	PN	**Pn**	**16 01 09.4**	**+0.9**
MERS	**Mersin**	**2.33**	**205**	PN	**Pn**	**16 01 10.0**	**+1.2**
TOS	**Tosya**	**2.44**	**328**	PN	**Pn**	**16 01 11.1**	**+0.6**
ANTO	**Ankara**	**2.46**	**292**	PN	**Pn**	**16 01 11.7**	**+1.0**
LOD	**Lodumlu**	**2.49**	**292**	PN	**Pn**	**16 01 11.8**	**+0.7**
COBT	**Iskenderun**	**2.49**	**171**	*i* P	**Pn**	**16 01 11.4**	**+0.3**
COBT				*i* S	**Sn**	**16 01 40.7**	**-1.6**
BOYT	**Boyabat**	**2.52**	**345**	*i* P	**Pn**	**16 01 11.3**	**-0.2**
BOYT				*i* S	**Sn**	**16 01 50.0**	**+7.0**
ELZG	**Elazig**	**2.57**	**100**	*i* P	**Pn**	**16 01 10.7**	**-1.5**
ELZG				*i* S	**Sn**	**16 01 45.5**	**+1.2**
KONT	**Konya--Tatoy**	**2.86**	**250**	*e*PN	**Pn**	**16 01 16.8**	**+0.4**
URFA	**Urfa**	**2.86**	**122**	PN	**Pn**	**16 01 15.6**	**-0.8**
KDHN	**Kadinhani**	**2.88**	**262**	*i* P	**Pn**	**16 01 21.8**	**+5.1**
KDHN				*i* S	**Sn**	**16 02 01.2**	**+9.0**
KIZT	**Kizilcal**	**3.02**	**269**	PN	**Pn**	**16 01 19.6**	**+0.8**
IKL	**Isikli**	**3.20**	**212**	*e*PN	**Pn**	**16 01 21.8**	**+0.6**
GUMT	**Gumushane**	**3.23**	**62**	*e*PN	**Pn**	**16 01 20.7**	**-0.9**
MAMC	**Mammari**	**4.31**	**209**	P	**Pn**	**16 01 45.4**	**+8.4**
CSS	**Prodhromos**	**4.46**	**207**	P	**Pn**	**16 01 45.1**	**+6.0**
	2.3nm,0.3s						
ALFC	**Alevga**	**4.58**	**214**	P	**Pn**	**16 01 51.0**	**+10**
	1.1nm,0.4s						

IDC 30 16:01:48.7±2.0, 2.93N×92.53E, mb3.9/5, mb1 4.1/5, mb1mx3.8/18, mbtmp3.9/5, Error ellipse: s-maj=72.8km s-min=28.7km az=55.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**44.59**	**350**	P	P	16 10 02.4	-2.0
	2.0nm,0.5s,baz=166,slow=8.5,SNR=14						
SONM	**Songino Array**	**46.31**	**13**	P	P	16 10 16.7	-1.4
	0.4nm,0.7s,baz=191,slow=9.6,SNR=4.8						
WRA	**Warramunga Arr**	**46.91**	**121**	P	P	16 10 21.2	-2.0
	0.5nm,0.6s,baz=304,slow=8.8,SNR=6.4						
ZAL	**Zalesovo**	**51.24**	**354**	P	P	16 10 54.4	-1.8
	1.6nm,0.6s,baz=309,slow=7.3,SNR=7.3						
GERES	**GERESS Array B**	**80.45**	**319**	P	P	16 14 02.2	-1.7
	0.9nm,0.7s,baz=104,slow=5.5,SNR=5.1						

WEL 30 16:04:43.0±1.1, 35.82S×178.38E, h5km, ML3.5/6, Error ellipse: s-maj=12.4km s-min=5.9km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.74**	**182**	P*	Pb	16 05 11.2	-3.8
MXZ				S*	Sb	16 05 31.9	-5.2
MXZ				T		16 06 54.3	
PUZ	**Puketiti**	**2.25**	**182**	*e*PN	Pn	16 05 21.4	+0.1
PUZ				*e*SN	Sn	16 05 48.6	-1.2
MWZ	**Matawai**	**2.60**	**195**	P*	Pb	16 05 25.0	-4.7
URZ	**Urewera**	**2.64**	**202**	P*	Pb	16 05 25.4	-5.0
URZ				S*	Sb	16 05 56.0	-7.2
WCZ	**Waipu Caves**	**3.28**	**267**	*e*PN	Pn	16 05 34.1	-2.0
OUZ	**Omahuta**	**3.95**	**277**	*e*PN	Pn	16 05 42.7	-2.9

WEL 30 16:05:41.4±0.2, 41.28S×172.87E, h134km±2km, ML3.5/13, 9C-1D, Error ellipse: s-maj=1.5km s-min=1.4km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNZ	**Nelson**	**0.39**	**82**	⇑PN	P	16 06 00.2	-0.2
NNZ				SN	S	16 06 14.3	-0.6
THZ	**Tophouse**	**0.49**	**177**	⇑PN	P	16 06 01.1	+0.2
THZ				SN	S	16 06 15.3	-0.5
QRZ	**Quartz Range**	**0.52**	**330**	⇑PN	P	16 06 00.8	-0.4
QRZ				SN	S	16 06 14.3	-1.9
TUWZ	**Tuamarina**	**0.82**	**101**	PN	P	16 06 03.4	+0.2
TUWZ				SN	S	16 06 19.2	-0.7
BSWZ	**Blackbirch Sta**	**0.87**	**121**	PN	P	16 06 03.9	+0.3
DUWZ	**D'Urville Isla**	**0.92**	**60**	PN	P	16 06 04.2	+0.1
DUWZ				SN	S	16 06 21.3	-0.1
DSZ	**Denniston Nort**	**0.93**	**239**	*e*PN	P	16 06 03.7	-0.4
DSZ				SN	S	16 06 19.4	-2.2
TCW	**Tory Channel**	**1.06**	**87**	PN	P	16 06 05.5	+0.1
TCW				SN	S	16 06 22.7	-0.9
KHZ	**Kahutara**	**1.25**	**157**	*e*PN	P	16 06 07.0	-0.4
KHZ				SN	S	16 06 25.0	-2.0
MRW	**Makara Radio**	**1.38**	**89**	⇑PN	P	16 06 08.2	-0.6
MRW				SN	S	16 06 27.7	-2.1
SNZO	**South Karori**	**1.38**	**92**	⇑PN	P	16 06 08.2	-0.7
SNZO				SN	S	16 06 27.9	-2.0
WEL	**Wellington**	**1.43**	**91**	PN	P	16 06 08.7	-0.7
WEL				SN	S	16 06 28.7	-2.1
BHW	**Baring Head**	**1.51**	**96**	⇑PN	P	16 06 09.4	-0.8
LTZ	**Lake Taylor**	**1.57**	**196**	⇓*e*PN	P	16 06 10.5	-0.4
LTZ				SN	S	16 06 31.9	-1.6
KIW	**Kapiti Island**	**1.59**	**76**	⇑PN	P	16 06 10.5	-0.7
KIW				*e*SN	S	16 06 32.3	-1.7
CAW	**Cannon Point**	**1.67**	**85**	PN	P	16 06 11.0	-1.0
CAW				*e*SN	S	16 06 33.0	-2.4
MSWZ	**Moikau Station**	**1.79**	**95**	⇑PN	P	16 06 12.5	-1.0
PAWZ	**Paruwai Farm**	**1.93**	**94**	PN	P	16 06 14.0	-1.1
PAWZ				SN	S	16 06 38.2	-2.5
MTW	**Mount Morrison**	**1.99**	**87**	PN	P	16 06 14.5	-1.3
MTW				*e*SN	S	16 06 40.3	-1.7
TRWZ	**Traveller**	**2.12**	**94**	PN	P	16 06 16.6	-1.0
MRZ	**Mangatainoka R**	**2.14**	**74**	⇑PN	P	16 06 16.1	-1.6
MRZ				SN	S	16 06 43.2	-2.2
DFE	**Dawson Falls**	**2.16**	**26**	*e*PN	P	16 06 18.2	+0.2
NEZ	**North Egmont**	**2.21**	**25**	*e*PN	P	16 06 18.8	+0.1
WAZ	**Wanganui**	**2.21**	**47**	PN	P	16 06 18.5	-0.2
WAZ				*e*SN	S	16 06 46.7	-0.5
PKE	**Pukeiti**	**2.25**	**23**	PN	P	16 06 18.7	-0.4
PKE				*e*SN	S	16 06 44.6	-3.3
CRLZ	**Canterbury Las**	**2.31**	**185**	*e*PN	P	16 06 18.5	-1.4
WVZ	**Waitaha Valley**	**2.40**	**221**	*e*PN	P	16 06 19.6	-1.6
MQZ	**McQueen's Vall**	**2.44**	**184**	PN	P	16 06 19.9	-1.7
VRZ	**Vera Road**	**2.59**	**35**	*e*PN	P	16 06 22.9	-0.7
BFZ	**Birch Farm**	**2.62**	**78**	*e*PN	P	16 06 22.2	-1.8
TSZ	**Takapari Road**	**2.64**	**64**	*e*PN	P	16 06 22.3	-2.0
RPZ	**Rata Peaks**	**2.79**	**208**	*e*PN	P	16 06 24.4	-1.7
WNVZ	**Wahianoa**	**2.85**	**48**	PN	P	16 06 25.9	-1.1
WPVZ	**Whakapapa**	**2.91**	**46**	PN	P	16 06 26.8	-1.0
HIZ	**Hauiti**	**3.15**	**30**	*e*PN	P	16 06 29.5	-1.5
HIZ				*e*SN	S	16 07 04.8	-3.9

*IDC **30** 16:40:00.7±1.9, 54.25N×111.35E, mb3.6/2, mb1 3.5/4, mb1mx3.4/20, mbtmp3.4/4, ML3.1/2, Error ellipse: s-maj=45.4km s-min=22.9km az=128.0*
*MOS **30** 16:40:01.4±2.0, 54.41N×110.72E, h10km, mb4.4/1, Error ellipse: s-maj=15.4km s-min=7.0km az=66.3*
*NEIC **30** 16:40:01.4, 54.41N×110.72E, h10km, After BYKL.*
BYKL 30 16:40:01.6±0.3, 54.46N×110.68E, h12km±12km, 2C-2D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YLYR	**Ulyunkhan**	**0.50**	**34**	⇓*i*Pg	Pg	16 40 10.9	-1.0
YLYR				*e*Sg	Sg	16 40 17.8	-0.9
YLYR				Pmax			
	214nm,0.2s						
YLYR				Smax			
	2μm,0.2s						
YLYR	**Ulyunkhan**	**0.50**	**34**	*e*Pg	Pg	16 40 11.0	-0.9
YLYR				*e*Sg	Sg	16 40 17.5	-1.2
SYVR	**Suvo**	**0.90**	**207**	*e*Pg	Pg	16 40 18.6	-1.1
SYVR				*e*Pb	Pb	16 40 20.2	+1.6
SYVR				*i* Sg	Sg	16 40 31.3	-0.4
SYVR				max			
	196nm,0.5s						
SYVR				Smax			
	2μm,0.7s						
KMO	**Kumora**	**1.46**	**12**	*e*Pg	Pg	16 40 27.9	-2.9
KMO				*e*Sg	Sg	16 40 47.7	-2.7
KMO				Pmax			
	376nm,0.2s						
KMO				Smax			
	4μm,0.7s						
KMO	**Kumora**	**1.46**	**12**	*e*PG	Pg	16 40 28.0	-2.8
KMO				*e*		16 40 48.2	
NIZ	**Nizh Angarsk**	**1.47**	**334**	⇑*i*Pg	Pg	16 40 28.7	-2.4
NIZ				*e*Sg	Sg	16 40 48.8	-1.9
NIZ				Pmax			
	309nm,0.8s						
NIZ				Smax			
	6μm,0.4s						
NIZ	**Nizh Angarsk**	**1.47**	**334**	*e*PG	Pg	16 40 28.6	-2.5
NIZ				*e*		16 40 50.7	
MXMB	**Maximikha**	**1.66**	**224**	*e*Pg	Pg	16 40 32.0	-2.8
MXMB				*e*Sg	Sg	16 40 54.5	-2.4
MXMB				Pmax			
	232nm,0.9s						
MXMB				Smax			
	1μm,0.8s						
YOA	**Uoyan**	**1.78**	**19**	*e*Pg	Pg	16 40 33.7	-3.5
YOA				*e*		16 40 39.4	
YOA				*e*Sg	Sg	16 40 58.2	-2.8
YOA				max			
	561nm,1.2s						
YOA				Smax			
	3μm,0.6s						
YOA	**Uoyan**	**1.78**	**19**	⇑*i*Pg	Pg	16 40 33.7	-3.5
YOA				*i* Sg	Sg	16 40 58.4	-2.6
UKT	**Uakit**	**1.99**	**58**	*e*Pn	Pn	16 40 35.4	-0.1
UKT				*e*Pg	Pg	16 40 37.3	-4.0
UKT				*e*Sg	Sg	16 41 03.3	-4.6
UKT				Pmax			
	102nm,1.0s						
UKT				Smax			
	928nm,0.9s						
UKT	**Uakit**	**1.99**	**58**	*e*PN	Pn	16 40 37.4	+1.9
UKT				*e*		16 41 03.2	
OGRR	**Ongureny**	**1.99**	**247**	*e*Pn	Pn	16 40 36.3	+0.7
OGRR				*e*Pg	Pg	16 40 38.2	-3.3
OGRR				*e*Sg	Sg	16 41 04.4	-3.7
OGRR				Pmax			
	135nm,0.5s						
OGRR				Smax			
	670nm,0.3s						
OGRR	**Ongureny**	**1.99**	**247**	*e*Pn	Pn	16 40 36.2	+0.6
OGRR				*e*Pg	Pg	16 40 38.2	-3.3
OGRR				*e*Sg	Sg	16 41 04.5	-3.6
SVKR	**Severomuysk**	**2.34**	**44**	⇓*i*Pn	Pn	16 40 41.1	+0.6
SVKR				*e*Pg	Pg	16 40 44.6	-3.7
SVKR				*e*Sg	Sg	16 41 14.9	-4.6
SVKR				Pmax			
	253nm,0.3s						
SVKR				Smax			
	2μm,0.5s						
SVKR	**Severomuysk**	**2.34**	**44**	*e*Pn	Pn	16 40 41.1	+0.6
SVKR				*e*Sn	Sn	16 41 09.0	-0.4
SVKR				*e*Sg	Sg	16 41 15.2	-4.3
ZRHB	**Zarechye**	**2.84**	**229**	*e*Sg	Sg	16 41 31.8	-4.5
ZRHB				Smax			
	1μm,1.0s						
TRTB	**Turuntaevo**	**2.89**	**221**	*e*Pn	Pn	16 40 48.2	-0.1
TRTB				*e*Pg	Pg	16 40 53.8	-5.5
TRTB				*e*Sg	Sg	16 41 31.6	-6.2
TRTB				Pmax			
	46nm,1.2s						
TRTB				Smax			
	203nm,0.8s						
CIT	**Chita**	**2.99**	**144**	*e*Pg	Pg	16 40 53.8	-7.6
CIT				*e*Sg	Sg	16 41 32.6	-8.6
CIT				Pmax			
	81nm,1.1s						
CIT				Smax			
	518nm,0.7s						
CIT	**Chita**	**2.99**	**144**	*e*PN	Pn	16 40 54.7	+4.9
CIT				*e*		16 41 32.7	
TRG	**Tyrgan**	**3.09**	**238**	*e*Pn	Pn	16 40 51.1	-0.1
TRG				*e*Pg	Pg	16 40 56.2	-7.2
TRG				*e*Sg	Sg	16 41 36.1	-8.5
TRG				Pmax			
	61nm,2.0s						
TRG				Smax			
	260nm,0.7s						
TRG	**Tyrgan**	**3.09**	**238**	*e*Pn	Pn	16 40 50.9	-0.3
TRG				*e*Pg	Pg	16 40 56.8	-6.6
TRG				*e*Sn	Sn	16 41 27.2	-1.3
TRG				*e*Sg	Sg	16 41 36.2	-8.4
KAB	**Kabansk**	**3.42**	**227**	*e*	Pn	16 41 09.1	+13
KAB				*e*Sg	Sg	16 41 48.9	-6.5
KAB				Smax			
	672nm,0.6s						
KAB	**Kabansk**	**3.42**	**227**	*e*PN	Pn	16 41 03.1	+7.2
KAB				*e*		16 41 46.9	
NLYR	**Nelyaty**	**3.51**	**53**	*e*Pg	Pg	16 41 04.4	-7.3
NLYR				*e*Sg	Sg	16 41 48.9	-10
HRMR	**Khuramsha**	**3.62**	**220**	*e*Pn	Pn	16 40 58.1	-0.6
HRMR				*e*Pg	Pg	16 41 06.4	-7.5
HRMR				*e*Sg	Sg	16 41 54.7	-7.5
HRMR				Pmax			
	80nm,0.5s						
HRMR				Smax			
	683nm,0.8s						
BOD	**Bodaibo**	**3.85**	**28**	*e*Pg	Pg	16 41 09.5	-8.9
BOD				*e*		16 41 15.7	
BOD				*e*Sg	Sg	16 41 59.4	-10
BOD				max			
	20nm,0.7s						
BOD				Smax			
	103nm,1.0s						
LSTR	**Listvyanka**	**4.37**	**236**	*e*	Pn	16 41 24.2	+15
LSTR				*e*Sg	Sg	16 42 15.2	-12
LSTR				Smax			
	164nm,1.2s						
IRK	**Irkutsk**	**4.44**	**243**	*e*	Pn	16 41 56.3	+46
IRK				*e*Sg	Sg	16 42 19.4	-10
IRK				Smax			
	536nm,0.4s						
CRS	**Chara**	**4.94**	**57**	*e*Pn	Pn	16 41 15.5	-2.0
CRS				*e*		16 41 32.6	
CRS				*e*Sg	Sg	16 42 33.6	-13
CRS				Smax			
	253nm,1.7s						
CRS	**Chara**	**4.94**	**57**	*e*PN	Pn	16 41 31.0	+13
CRS				*e*		16 42 33.8	
CRS				pmax	pmax		
	comp=Z,30nm,0.7s						
CRS				smax			
	comp=E,209nm,1.1s						
TLY	**Talaya**	**5.07**	**240**	*e*Pn	Pn	16 41 17.2	-2.2
TLY				*e*Pg	Pg	16 41 31.9	-11
TLY				*e*Sg	Sg	16 42 37.2	-13
TLY				Pmax			
	comp=E,9.0nm,0.6s						
TLY				Smax			
	comp=E,100nm,0.5s						
TLY	**Talaya**	**5.07**	**240**	*e*Pg	Pg	16 41 34.8	-8.1
TLY				*e*Sg	Sg	16 42 37.5	-13
TUP	**Tupik**	**5.41**	**87**	*e*Pn	Pn	16 41 22.0	-2.1
TUP				*e*Pg	Pg	16 41 38.5	-11
TUP				*e*Sg	Sg	16 42 48.9	-13
TUP				Pmax			
	comp=E,24nm,1.6s						
TUP				Smax			
	comp=E,276nm,0.6s						
TUP	**Tupik**	**5.41**	**87**	*e*PN	Pn	16 41 21.4	-2.8
TUP				*e*		16 41 37.7	

TUP			*e*S		Sn	16 42 23.5	-3.6
TUP			*e*			16 42 48.7	
TUP			pmax	pmax			
	comp=Z,16nm,0.5s						
TUP			smax				
	comp=N,276nm,0.9s						
ARS	**Arshan**	**5.58 246**	*e*Pn		Pn	16 41 24.8	-1.7
ARS			*e*Sg		Sg	16 42 52.4	-15
ARS			Smax				
	comp=N,356nm,0.9s						
ZAK	**Zakamensk**	**6.09 231**	*e*P		Pn	16 41 32.6	-1.2
MOY	**Mondy**	**6.47 248**	*e*Pg		Pg	16 41 56.3	-15
MOY			*e*			16 42 51.1	
MOY			*e*Sg		Sg	16 43 20.0	-17
MOY			Pmax				
	comp=N,10.0nm,0.4s						
MOY			Smax				
	comp=N,113nm,1.7s						
MOY	**Mondy**	**6.47 248**	*e*PN		Pn	16 41 57.7	+19
MOY			*e*			16 43 19.6	
ORL	**Orlik**	**6.76 258**	*e*Pn		Pn	16 41 42.5	-0.7
ORL			*e*Sn		Sn	16 42 57.0	-4.0
ORL			*e*Sg		Sg	16 43 30.3	-17
ORL			Smax				
	comp=N,74nm,1.4s						
ORL	**Orlik**	**6.76 258**	*e*PG		Pg	16 42 02.5	-14
ORL			*e*			16 43 29.5	
ULN	**Ulaanbaatar**	**6.99 201**	*e*Pg		Pg	16 42 10.1	-11
ULN			*e*Sg		Sg	16 43 39.9	-14
SONM	**Songino Array**	**7.16 204**	Pn		Pn	16 41 47.0	-1.8
	comp=N,0.5nm,0.3s,baz=20,slow=13,SNR=26						
SONM			Lg			16 43 46.7	
	comp=N,1.7nm,0.3s,baz=17,slow=39,SNR=4.4						
MKAR	**Makanchi Array**	**19.47 258**	P		P	16 44 32.7	+1.9
	comp=N,0.0nm,0.3s,baz=61,slow=9.7,SNR=3.4						
BVAR	**Borovoye Array**	**23.65 283**	P		P	16 45 17.7	+4.6
	comp=N,1.7nm,0.7s,baz=67,slow=11,SNR=12						
ILAR	**Eielson Array**	**47.19 35**	P		P	16 48 33.8	-1.5
	comp=N,0.7nm,0.8s,baz=288,slow=5.7,SNR=5.0						

*IDC **30** 16:57:05.7±1.7,33.05N×142.66E,mb3.5/3,mb1 3.7/5, mb1mx3.6/20,mbtmp3.7/5,ML3.5/2,MS3.0/2,Ms1 3.0/2, ms1mx2.7/28,Error ellipse: s-maj=46.6km s-min=25.3km az=67.0*

*JMA **30** 16:57:09.0±0.5,33.13N×142.62E,h59km,M3.6*

*NEIC **30** 16:57:09.0,33.13N×142.63E,h59km,MG3.6(JMA),After JMA.*

ISC 30 16:57:08.3±1.2,33.16N±0.06×142.69E±0.08,h42km±14km, n23,σ1§08/33,mb3.5/3,MS3.2/1,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**2.06**	**317**	P	**P**	**16 57 41.8**	**+0.6**
BSO1				S	**S**	**16 58 07.6**	**+1.8**
JHJ2	**Mitsune**	**2.41**	**270**	P	**P**	**16 57 46.4**	**+0.2**
JHJ2				S	**S**	**16 58 13.6**	**-1.0**
JHJ	**Hachijo jima 2**	**2.44**	**270**	Pn	**P**	**16 57 45.6**	**-1.0**
	14nm,0.3s,baz=254,slow=21,SNR=8.2						
JHJ				Sn	**S**	**16 58 13.6**	**-1.8**
	55nm,0.3s,baz=90,slow=20,SNR=9.7						
BSO3	**Boso 3**	**2.44**	**313**	P	**P**	**16 57 47.4**	**+0.7**
BSO4	**Boso 4**	**2.67**	**314**	P	**P**	**16 57 51.0**	**+1.0**
JIM2	**Oshima 3**	**3.12**	**301**	P	**P**	**16 57 57.1**	**+0.7**
JOD2	**Odawara 2**	**3.65**	**306**	P	**P**	**16 58 04.5**	**+0.7**
JYT	**Yasato**	**3.69**	**327**	P	**P**	**16 58 04.4**	**0.0**
JHO	**Hitachi**	**3.86**	**334**	P	**P**	**16 58 06.0**	**-0.8**
JHU	**Hanno**	**3.89**	**315**	P	**P**	**16 58 08.6**	**+1.4**
JHU				*e*S	**S**	**16 58 51.9**	**-0.3**
JYN	**Shimob**	**4.15**	**305**	P	**P**	**16 58 11.5**	**+0.6**
JAG	**Ashikaga**	**4.21**	**322**	P	**P**	**16 58 11.7**	**0.0**
JRY	**Ryogami san**	**4.23**	**313**	P	**P**	**16 58 12.5**	**+0.5**
JFK	**Kawauchi**	**4.46**	**341**	P	**P**	**16 58 13.8**	**-1.4**
JFK				*e*S	**S**	**16 59 02.1**	**-4.4**
JNY	**Yasuok**	**4.56**	**300**	P	**P**	**16 58 17.6**	**+0.9**
JNY				*e*S	**S**	**16 59 09.2**	**+0.1**
JMM	**Marumori**	**4.95**	**342**	P	**P**	**16 58 20.7**	**-1.5**
JMM				*e*S	**S**	**16 59 14.7**	**-4.2**
MAJO	**Matsushiro**	**5.00**	**314**	Pn	**P**	**16 58 23.4**	**+0.6**
MAJO				*e*Sn	**S**	**16 59 19.9**	**-0.2**
MAT	**Matsushiro**	**5.00**	**314**	P	**P**	**16 58 23.7**	**+0.8**
MAT				S	**S**	**16 59 18.7**	**-1.4**
MAT	**Matsushiro**	**5.00**	**314**	*e*P	**P**	**16 58 23.0**	**+0.1**
MAT				*e*S	**S**	**16 59 19.0**	**-1.1**
ASAJ	**Asahikawa**	**10.95**	**360**	Pn	**P**	**16 59 43.1**	**-2.1**
	0.6nm,0.3s,baz=206,slow=19,SNR=7.8						
ASAJ				LR	LR	17 03 48.5	
	comp=Z,32nm,18.9s,baz=129,slow=36						
SONM	**Songino Array**	**30.93**	**309**	P	**P**	**17 03 26.0**	**+2.7**
	0.4nm,0.8s,mb3.3,baz=120,slow=8.7,SNR=2.8						
SONM				LR	LR	17 17 13.7	
	comp=Z,56nm,18.7s,MS3.2,baz=265,slow=39						
MKAR	**Makanchi Array**	**47.14**	**305**	P	**P**	**17 05 39.0**	**+0.9**
	0.3nm,0.6s,mb3.4,baz=87,slow=9.5,SNR=4.4						
WRA	**Warramunga Arr**	**53.40**	**190**	P	**P**	**17 06 25.5**	**-0.7**
	1.5nm,1.2s,mb3.8,baz=6.8,slow=7.7,SNR=8.5						
WRA				PcP	PcP	17 07 35.1	+2.1
	0.3nm,0.5s,baz=7.3,slow=4.3,SNR=3.8						

WEL 30 17:04:43.2±0.1,40.73S×175.74E,h26km,ML3.5/28, 5C-6D,Error ellipse: s-maj=0.9km s-min=0.5km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRZ	**Mangatainoka R**	**0.14**	**301**	⇓P*	Pb	17 04 48.1	-0.3
MRZ				S*	Sb	17 04 52.0	+0.1
BFZ	**Birch Farm**	**0.39**	**83**	⇑P*	Pb	17 04 51.6	0.0
BFZ				S*	Sb	17 04 58.4	+1.0
MTW	**Mount Morrison**	**0.46**	**203**	⇑P*	Pb	17 04 53.5	+0.7
MTW				*e*S*	Sb	17 05 01.1	+1.7
CAW	**Cannon Point**	**0.63**	**233**	⇑P*	Pb	17 04 56.0	+0.4
CAW				S*	Sb	17 05 05.3	+1.3
KIW	**Kapiti Island**	**0.64**	**258**	⇑P*	Pb	17 04 56.0	+0.2
KIW				S*	Sb	17 05 05.4	+1.1
TRWZ	**Traveller**	**0.67**	**183**	P*	Pb	17 04 56.3	+0.2
TRWZ				*e*S*	Sb	17 05 06.7	+1.7
PAWZ	**Paruwai Farm**	**0.69**	**200**	P*	Pb	17 04 56.6	+0.1
PAWZ				S*	Sb	17 05 07.1	+1.4
TSZ	**Takapari Road**	**0.69**	**14**	⇑P*	Pb	17 04 55.1	-1.6
TSZ				S*	Sb	17 05 03.8	-2.0
MSWZ	**Moikau Station**	**0.78**	**208**	P*	Pb	17 04 57.9	-0.1
MSWZ				S*	Sb	17 05 09.0	+0.9
WEL	**Wellington**	**0.92**	**233**	P*	Pb	17 04 59.8	-0.5
MRW	**Makara Radio**	**0.93**	**237**	⇓P*	Pb	17 05 00.0	-0.5
MRW				S*	Sb	17 05 12.7	+0.2
BHW	**Baring Head**	**0.94**	**224**	⇓P*	Pb	17 04 60.0	-0.8
BHW				S*	Sb	17 05 13.0	+0.2
SNZO	**South Karori**	**0.97**	**233**	⇓P*	Pb	17 05 00.5	-0.8
SNZO				S*	Sb	17 05 14.1	+0.4
PXZ	**Pawanui**	**1.11**	**51**	⇓P*	Pb	17 05 01.0	-2.6
PXZ				S*	Sb	17 05 16.2	-1.4
WAZ	**Wanganui**	**1.13**	**329**	PN	Pn	17 05 03.1	-0.4
TCW	**Tory Channel**	**1.21**	**246**	P*	Pb	17 05 03.6	-1.6
TCW				S*	Sb	17 05 19.1	-1.4
MOVZ	**Moawhango**	**1.32**	**1**	PN	Pn	17 05 04.9	-1.4
MTVZ	**Mangateitei**	**1.36**	**351**	PN	Pn	17 05 06.2	-0.6
DUWZ	**D'Urville Isla**	**1.38**	**267**	PN	Pn	17 05 06.4	-0.7
DUWZ				S*	Sb	17 05 23.5	-2.0
WNVZ	**Wahianoa**	**1.41**	**356**	PN	Pn	17 05 06.6	-0.8
TRVZ	**Turoa**	**1.44**	**354**	PN	Pn	17 05 07.3	-0.6
DRZ	**Dome Shelter**	**1.46**	**355**	PN	Pn	17 05 07.9	-0.3
TUVZ	**Tukino**	**1.46**	**357**	PN	Pn	17 05 07.7	-0.5
PKVZ	**Pokaka**	**1.47**	**348**	PN	Pn	17 05 07.8	-0.6
FWVZ	**Far West T-bar**	**1.48**	**354**	PN	Pn	17 05 08.0	-0.6
TUWZ	**Tuamarina**	**1.52**	**242**	PN	Pn	17 05 07.5	-1.7
WPVZ	**Whakapapa**	**1.53**	**354**	PN	Pn	17 05 08.4	-0.9
CNZ	**Chateau**	**1.54**	**355**	PN	Pn	17 05 08.6	-0.8
NGZ	**Ngauruhoe**	**1.56**	**356**	PN	Pn	17 05 08.9	-0.7
OTVZ	**Oturere**	**1.57**	**358**	PN	Pn	17 05 09.0	-0.8
WTVZ	**West Tongariro**	**1.62**	**356**	PN	Pn	17 05 09.5	-0.9
KRVZ	**Karewarewa**	**1.64**	**357**	PN	Pn	17 05 09.7	-1.1
BKZ	**Black Stump Fm**	**1.67**	**21**	⇓*e*PN	Pn	17 05 08.7	-2.5
TWVZ	**Taurewa**	**1.68**	**352**	PN	Pn	17 05 10.4	-0.9
BSWZ	**Blackbirch Sta**	**1.71**	**234**	PN	Pn	17 05 10.2	-1.6
KATZ	**Kakaramea**	**1.75**	**359**	*e*PN	Pn	17 05 11.6	-0.8
VRZ	**Vera Road**	**1.77**	**335**	PN	Pn	17 05 12.1	-0.6
RAEZ	**Rainy Point**	**1.77**	**324**	*e*PN	Pn	17 05 13.0	+0.3
NNZ	**Nelson**	**1.85**	**254**	*e*PN	Pn	17 05 12.5	-1.3
NEZ	**North Egmont**	**1.93**	**319**	*e*PN	Pn	17 05 15.2	+0.3
NRZ	**Ngariki Road**	**1.96**	**315**	PN	Pn	17 05 16.0	+0.6
WATZ	**Wairara**	**2.02**	**360**	*e*PN	Pn	17 05 14.1	-2.1
KNZ	**Kokohu**	**2.27**	**42**	*e*PN	Pn	17 05 15.9	-3.9
HIZ	**Hauiti**	**2.32**	**343**	*e*PN	Pn	17 05 19.1	-1.4
KHZ	**Kahutara**	**2.36**	**224**	*e*PN	Pn	17 05 17.9	-3.2

*IDC **30** 17:05:07.5±1.0,33.03N×142.72E,mb3.6/6,mb1 3.8/7, mb1mx3.7/20,mbtmp3.6/7,ML3.8/1,Error ellipse: s-maj=33.3km s-min=24.0km az=85.0*

*JMA **30** 17:05:09.4±0.5,33.07N×142.68E,h55km,M3.5*

*NEIC **30** 17:05:12.9±0.7,33.01N×142.54E,h40km,mb4.3/1,Error ellipse: s-maj=22.4km s-min=12.7km az=57.0*

ISC 30 17:05:08.5±2.0,33.18N±0.07×142.73E±0.09,h22km±16km, n27,σ1§16/34,mb3.7/7,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**2.07**	**316**	P	**Pn**	**17 05 43.3**	**+0.7**
BSO1				S	**Sn**	**17 06 09.4**	**+1.4**
JHJ2	**Mitsune**	**2.45**	**269**	P	**Pn**	**17 05 47.4**	**-0.6**
BSO3	**Boso 3**	**2.45**	**312**	P	**Pn**	**17 05 48.7**	**+0.6**
BSO4	**Boso 4**	**2.68**	**313**	P	**Pn**	**17 05 52.5**	**+1.1**
JIM2	**Oshima 3**	**3.14**	**300**	P	**Pn**	**17 05 58.3**	**+0.4**
JOD2	**Odawara 2**	**3.66**	**305**	P	**Pn**	**17 06 04.8**	**-0.5**
JHO	**Hitachi**	**3.85**	**333**	P	**Pn**	**17 06 07.8**	**-0.2**
JHU	**Hanno**	**3.90**	**314**	P	**Pn**	**17 06 09.5**	**+0.9**
JHU				*e*S	**Sn**	**17 06 53.6**	**-0.7**
JYN	**Shimob**	**4.16**	**305**	P	**Pn**	**17 06 12.8**	**+0.4**
JAG	**Ashikaga**	**4.21**	**321**	P	**Pn**	**17 06 13.7**	**+0.6**
JRY	**Ryogami san**	**4.24**	**313**	P	**Pn**	**17 06 13.2**	**-0.3**
JRY				*e*S	**Sn**	**17 07 02.6**	**-0.4**
JFK	**Kawauchi**	**4.44**	**341**	P	**Pn**	**17 06 15.5**	**-0.9**
JNY	**Yasuok**	**4.58**	**300**	P	**Pn**	**17 06 18.8**	**+0.5**
JMM	**Marumori**	**4.93**	**342**	P	**Pn**	**17 06 21.6**	**-1.7**
JMM				S	**Sn**	**17 07 16.9**	**-3.5**
MAJO	**Matsushiro**	**5.01**	**313**	*e*Pn	**Pn**	**17 06 24.3**	**-0.1**
MAT	**Matsushiro**	**5.01**	**313**	P	**Pn**	**17 06 24.7**	**+0.3**
MAT				S	**Sn**	**17 07 20.3**	**-2.0**
MAT	**Matsushiro**	**5.01**	**313**	P	**Pn**	**17 06 25.6**	**+1.2**
MAT				*e*S	**Sn**	**17 07 20.2**	**-2.1**
MAT	**Matsushiro**	**5.01**	**313**	P	**Pn**	**17 06 25.0**	**+0.6**
MAT				*e*S	**Sn**	**17 07 20.0**	**-2.3**
ASAJ	**Asahikawa**	**10.92**	**359**	Pn	**P**	**17 07 44.8**	**-1.8**
	0.8nm,0.3s,baz=198,slow=5.0,SNR=6.1						
SONM	**Songino Array**	**30.94**	**309**	P	**P**	**17 11 27.6**	**+1.7**
	0.3nm,0.6s,mb3.3,baz=117,slow=6.4,SNR=3.2						
MKAR	**Makanchi Array**	**47.16**	**305**	P	**P**	**17 13 42.1**	**+1.1**
	0.6nm,0.7s,mb3.6,baz=88,slow=11,SNR=6.4						
KURK	**Kurchatov**	**49.21**	**311**	*e*P	**P**	**17 13 56.5**	**-0.4**
	1.7nm,0.6s,mb4.2						
KURK				*e*pP	pP	17 14 05.8	+2.2
ILAR	**Eielson Array**	**52.20**	**31**	P	**P**	**17 14 20.9**	**+1.3**
	0.6nm,0.6s,mb3.7,baz=256,slow=6.7,SNR=7.4						
WRAB	**Tennant Creek**	**53.42**	**190**	*e*P	**P**	**17 14 26.7**	**-2.5**
WRA	**Warramunga Arr**	**53.43**	**190**	P	**P**	**17 14 27.3**	**-2.0**
	0.5nm,0.5s,mb3.7,baz=7.9,slow=7.7,SNR=9.8						
WRA				PcP	PcP	17 15 36.8	+0.6
	0.3nm,0.6s,baz=5.7,slow=4.3,SNR=4.6						
BVAR	**Borovoye Array**	**54.00**	**315**	P	**P**	**17 14 33.5**	**+0.6**
	0.2nm,0.4s,mb3.4,baz=76,slow=5.9,SNR=2.9						
TXAR	**Lajitas Array**	**91.58**	**53**	P	**P**	**17 18 17.1**	**+2.0**
	0.3nm,0.7s,mb3.7,baz=315,slow=3.5,SNR=3.8						

*IDC **30** 17:24:47.9±26.0,35.94N×70.27E,h118km±183km, mb3.7/3,mb1 3.7/5,mb1mx3.2/20,mbtmp4.0/5,ML3.5/1, Error ellipse: s-maj=238.0km s-min=91.9km az=176.0*

*NEIC **30** 17:24:54.4±1.9,36.36N×70.31E,h149km±23km,mb3.9/9, Error ellipse: s-maj=19.8km s-min=6.5km az=61.0*

*NNC **30** 17:24:58.2±19.0,36.54N×70.57E,h176km±200km,mpv4.3, Error ellipse: s-maj=176.5km s-min=151.6km az=167.0*

ISC 30 17:24:56.5±1.6,36.42N±0.08×70.5E±0.1,h198km±17km, n30,σ0§95/35,mb3.5/2,8C-1D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.22**	**23**	P	**P**	**17 26 27.6**	**+0.3**
	SNR=206						
UCH	**Uchtor**	**6.58**	**27**	P	**P**	**17 26 32.6**	**+0.6**
	SNR=30						
EKS2	**Erkin-Say**	**6.73**	**21**	P	**P**	**17 26 34.2**	**+0.3**
	SNR=16						
AAK	**Ala-Archa**	**6.93**	**25**	P	**P**	**17 26 36.8**	**+0.2**
	SNR=16						
AAK	**Ala-Archa**	**6.93**	**25**	⇑P	**P**	**17 26 36.7**	**+0.1**
	13nm,0.6s						
AAK				⇑S	**S**	**17 27 52.5**	**-2.1**
	13nm,0.5s						
AAK	**Ala-Archa**	**6.93**	**25**	*e*P	**P**	**17 26 35.6**	**-1.0**
AAK				*e*S	**S**	**17 27 50.9**	**-3.7**
KBK	**Karagaybulak**	**7.11**	**28**	P	**P**	**17 26 39.6**	**+0.6**
	SNR=12						
ULHL	**Ulahol**	**7.33**	**36**	P	**P**	**17 26 42.0**	**+0.3**
	SNR=23						
CHMS	**Chumysh**	**7.34**	**25**	P	**P**	**17 26 42.0**	**+0.1**
	SNR=11						
USP	**Ospenovka**	**7.50**	**23**	P	**P**	**17 26 43.4**	**-0.6**
	SNR=12						
TKM2	**Tokmak 2**	**7.59**	**30**	P	**P**	**17 26 45.4**	**+0.2**
	SNR=54						
MK31	**Makanchi Array**	**13.60**	**37**	⇑P	**P**	**17 28 02.1**	**-0.1**
	0.9nm,0.6s,baz=213,slow=12						
MK31	**Makanchi Array**	**13.60**	**37**	⇑P	**P**	**17 28 02.1**	**-0.1**
	0.9nm,0.6s						
MKAR	**Makanchi Array**	**13.60**	**37**	P	**P**	**17 28 02.1**	**0.0**
	0.2nm,0.3s,baz=213,slow=11,SNR=13						
KOLN	**Koldanda**	**14.05**	**124**	*e*P	**P**	**17 28 07.0**	**-1.0**
	4.5nm,0.3s						
KOLN				*e*S	**S**	**17 30 36.1**	**-3.2**
GKN	**Gorkha**	**14.60**	**121**	*e*P	**P**	**17 28 15.6**	**+0.7**
	12nm,0.3s						
GKN				*e*S	**S**	**17 30 49.4**	**-2.4**
AB31	**Akbulak array**	**14.96**	**332**	⇑P	**P**	**17 28 17.7**	**-1.6**
	1.6nm,0.3s,baz=147,slow=12,SNR=60						
DMN	**Daman**	**15.17**	**121**	*e*P	**P**	**17 28 22.9**	**+0.9**
	7.7nm,0.3s						
DMN				*e*S	**S**	**17 31 04.4**	**-0.2**
KKN	**Kakani**	**15.18**	**120**	*e*P	**P**	**17 28 22.9**	**+0.8**
	5.6nm,0.2s						
PKI	**Pulchoki**	**15.41**	**121**	*e*P	**P**	**17 28 26.4**	**+1.5**
	7.5nm,0.4s						
KURK	**Kurchatov**	**15.44**	**20**	*e*P	**P**	**17 28 25.5**	**+0.4**
	1.2nm,0.7s						
VOSK	**Vostochnaya**	**16.31**	**1**	⇓P	**P**	**17 28 35.1**	**-0.6**
	3.7nm,1.6s						
BVA0	**Borovoye Array**	**16.61**	**360**	⇑P	**P**	**17 28 40.7**	**+1.5**
	0.2nm,0.5s,baz=156,slow=12,SNR=13						
BVAR	**Borovoye Array**	**16.61**	**360**	P	**P**	**17 28 38.7**	**-0.6**
	0.8nm,0.3s,baz=174,slow=14,SNR=16						
AKTK	**Aktyubinsk**	**16.65**	**331**	⇑P	**P**	**17 28 39.0**	**-0.8**
AKTO	**Aktyubinsk**	**16.65**	**331**	⇑P	**P**	**17 28 39.0**	**-0.8**
	2.2nm,0.8s						
ZAL	**Zalesovo**	**20.14**	**25**	P	**P**	**17 29 18.3**	**+1.7**
	1.1nm,0.3s,baz=314,slow=3.8,SNR=3.4						
ZAL	**Zalesovo**	**20.14**	**25**	P	**P**	**17 29 18.3**	**+1.6**
FINES	**FINESS Array B**	**37.33**	**326**	P	**P**	**17 31 51.0**	**+0.1**
	2.1nm,0.9s,mb3.7,baz=106,slow=10,SNR=4.5						
ARCES	**ARCESS Array B**	**41.07**	**338**	P	**P**	**17 32 22.1**	**+0.3**
	0.8nm,0.6s,mb3.3,baz=121,slow=7.3,SNR=16						

*WEL **30** 17:34:10.2±1.1,35.73S×178.52E,h12km,ML5.0/36,Error ellipse: s-maj=8.6km s-min=7.2km az=90.0*

*HRVD **30** 17:34:12.7±0.4,35.67S×178.58E,h12km,MW5.1/42, Centroid moment Tensor Solution. LP body waves: s23,c33;Mantle waves: s42,c67; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.03±.36; $M_{\theta\theta}$5.35±.37; $M_{\phi\phi}$-2.32±.31; $M_{r\theta}$0.76±.90; $M_{\theta\phi}$4.02±.30; $M_{\phi r}$2.21±.85; Best double couple: $M_0$6.364×10^{16} NP1:ϕ_s107°,δ57°, λ-23°. NP2:ϕ_s210°,δ71°,λ-145°. Principal axes: T 7.314, Plg9°, Azm335°; N -1.899, Plg50°, Azm235°; P -5.415, Plg38°, Azm72°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **30** 17:34:12.7,35.80S×178.47E,h33km,mb5.0/8, ML5.1(WEL),After WEL.*

*IDC **30** 17:34:14.5±0.8,36.11S×178.27E,h16km±3km,mb4.5/7, mb1 4.6/9,mb1mx4.5/14,mbtmp4.5/9,ML4.0/2,MS4.7/9, Ms1 4.7/9,ms1mx4.5/22,Error ellipse: s-maj=23.3km s-min=15.2km az=50.0*

ISC 30 17:34:12.8±0.6,35.99S±0.03×178.20E±0.07,h19km, h19km±.7km:pP-P,n121,σ1§35/98,mb4.8/10,MS4.6/5, 1C-2D,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.57**	**177**	P*	**Pb**	**17 34 39.4**	**-1.6**
MXZ				S*	**Sb**	**17 35 00.7**	**+0.1**
MXZ				T		17 36 14.3	
MXZ	**Matakaoa Point**	**1.57**	**177**	P	**Pn**	**17 34 39.4**	**-0.7**
MXZ				S	**Sn**	**17 35 00.7**	**+0.7**
WIZ	**White Island**	**1.74**	**208**	P*	**Pb**	**17 34 43.7**	**-0.1**
WIZ	**White Island**	**1.74**	**208**	P	**Pn**	**17 34 43.7**	**+1.3**
MYRZ	**Mayor Island**	**2.04**	**230**	P*	**Pb**	**17 34 48.6**	**-0.3**
PUZ	**Puketiti**	**2.08**	**179**	PN	**Pn**	**17 34 49.1**	**+1.8**
PUZ				*e*SN	**Sn**	**17 35 18.0**	**+5.1**
PUZ	**Puketiti**	**2.08**	**179**	P	**Pn**	**17 34 49.2**	**+1.9**
PUZ				S	**Sn**	**17 35 20.1**	**+7.2**
KUZ	**Kuaotunu**	**2.14**	**249**	*e*PN	**Pn**	**17 34 48.8**	**+0.7**
KUZ	**Kuaotunu**	**2.14**	**249**	*e*P	**Pn**	**17 34 48.8**	**+0.6**
TGRZ	**Tauranga**	**2.33**	**221**	*e*P*	**Pb**	**17 34 52.7**	**-1.3**
TGRZ	**Tauranga**	**2.33**	**221**	*e*P	**Pn**	**17 34 52.7**	**+1.8**
MWZ	**Matawai**	**2.40**	**193**	P*	**Pb**	**17 34 52.8**	**-2.4**
URZ	**Urewera**	**2.43**	**201**	Pn	**Pn**	**17 34 53.2**	**+0.9**
	30nm,0.3s,baz=32,slow=6.1,SNR=164						
URZ				Sn	**Sn**	**17 35 22.2**	**+0.4**
	174nm,0.3s,baz=294,slow=23,SNR=14						
URZ				LR	LR	17 36 05.2	
	comp=Z,13μm,18.3s,baz=226,slow=47						
URZ	**Urewera**	**2.43**	**201**	*e*P*	**Pb**	**17 34 53.2**	**-2.4**
URZ				S*	**Sb**	**17 35 24.4**	**-1.0**
URZ	**Urewera**	**2.43**	**201**	*e*P	**Pn**	**17 34 53.2**	**+0.9**
MKRZ	**Makatiti**	**2.56**	**212**	*e*P*	**Pb**	**17 34 56.6**	**-1.2**
MKRZ	**Makatiti**	**2.56**	**212**	P	**Pn**	**17 34 58.6**	**+4.5**
TAZ	**Tarawera**	**2.62**	**211**	*e*P*	**Pb**	**17 34 58.9**	**+0.1**
TAZ	**Tarawera**	**2.62**	**211**	P	**Pn**	**17 34 59.9**	**+4.9**
TOZ	**Tahuroa Road**	**2.78**	**230**	*e*P*	**Pb**	**17 34 59.6**	**-2.0**
TOZ	**Tahuroa Road**	**2.78**	**230**	*e*P	**Pn**	**17 34 59.1**	**+1.9**
PATZ	**Paeroa**	**2.85**	**212**	P*	**Pb**	**17 35 01.1**	**-1.7**
PATZ	**Paeroa**	**2.85**	**212**	P	**Pn**	**17 35 02.5**	**+4.2**
KNZ	**Kokohu**	**3.06**	**188**	PN	**Pn**	**17 35 03.0**	**+1.8**
KNZ	**Kokohu**	**3.06**	**188**	P	**Pn**	**17 35 03.0**	**+1.8**
WCZ	**Waipu Caves**	**3.13**	**270**	*e*PN	**Pn**	**17 35 02.3**	**0.0**
WCZ	**Waipu Caves**	**3.13**	**270**	*e*P	**Pn**	**17 35 02.3**	**0.0**
WHTZ	**Whakaora**	**3.22**	**213**	P	**Pn**	**17 35 10.7**	**+7.2**
BKZ	**Black Stump Fm**	**3.45**	**203**	*e*P*	**Pb**	**17 35 08.2**	**-4.8**
BKZ	**Black Stump Fm**	**3.45**	**203**	*e*P	**Pn**	**17 35 08.7**	**+1.9**
RATZ	**Rangitukua**	**3.46**	**213**	*e*P*	**Pb**	**17 35 09.5**	**-3.8**
RATZ	**Rangitukua**	**3.46**	**213**	P	**Pn**	**17 35 11.1**	**+4.1**
KATZ	**Kakaramea**	**3.59**	**213**	P	**Pn**	**17 35 15.0**	**+6.2**
HIZ	**Hauiti**	**3.67**	**226**	*e*PN	**Pn**	**17 35 12.1**	**+2.2**
HIZ	**Hauiti**	**3.67**	**226**	*e*P	**Pn**	**17 35 12.4**	**+2.4**
KRVZ	**Karewarewa**	**3.71**	**212**	*e*P*	**Pb**	**17 35 13.4**	**-4.0**
WTVZ	**West Tongariro**	**3.75**	**213**	*e*P*	**Pb**	**17 35 14.2**	**-4.0**
WTVZ	**West Tongariro**	**3.75**	**213**	*e*P	**Pn**	**17 35 14.2**	**+3.1**
OTVZ	**Oturere**	**3.76**	**212**	*e*P*	**Pb**	**17 35 14.1**	**-4.2**
TWVZ	**Taurewa**	**3.78**	**215**	*e*P*	**Pb**	**17 35 15.1**	**-3.6**
TWVZ	**Taurewa**	**3.78**	**215**	P	**Pn**	**17 35 15.3**	**+3.8**
NGZ	**Ngauruhoe**	**3.79**	**212**	*e*P*	**Pb**	**17 35 14.8**	**-4.2**
NGZ	**Ngauruhoe**	**3.79**	**212**	P	**Pn**	**17 35 15.5**	**+3.8**
CNZ	**Chateau**	**3.84**	**213**	*e*P	**Pn**	**17 35 15.4**	**+3.1**
WPVZ	**Whakapapa**	**3.84**	**212**	*e*P	**Pn**	**17 35 15.7**	**+3.3**
TUVZ	**Tukino**	**3.85**	**211**	P	**Pn**	**17 35 15.4**	**+2.9**
WNVZ	**Wahianoa**	**3.92**	**211**	P	**Pn**	**17 35 17.3**	**+3.8**
MOVZ	**Moawhango**	**3.93**	**209**	P	**Pn**	**17 35 15.4**	**+1.8**
VRZ	**Vera Road**	**4.16**	**220**	*e*P*	**Pb**	**17 35 19.4**	**-

VNA3	Neumayer Olymp	72.92 177			PcP	17 46 02.5	+3.4
VNA3	Neumayer Olymp	72.92 177	P		P	17 45 41.9	0.0
VNA3			P		pP	17 45 47.8	-0.2
VNA3			P			17 45 53.5	
VNA3			P			17 46 02.5	
VNA2	Neumayer--Watz	73.31 178			pP	17 45 50.5	+0.2
VNA2	Neumayer--Watz	73.31 178			sP	17 45 56.4	+4.0
VNA2	Neumayer--Watz	73.31 178			PcP	17 46 01.3	+0.5
VNA2	Neumayer--Watz	73.31 178	P		P	17 45 44.7	+0.5
VNA2			P		pP	17 45 50.5	+0.2
VNA2			P			17 45 56.4	
VNA2			P			17 46 01.3	
VNA1	Neumayer--Stat	73.56 178			pP	17 45 52.1	+0.4
VNA1	Neumayer--Stat	73.56 178			pP	17 45 52.1	+0.4
VNA1	Neumayer--Stat	73.56 178			sP	17 45 57.7	+3.9
VNA1	Neumayer--Stat	73.56 178			PcP	17 46 03.0	+1.1
VNA1	Neumayer--Stat	73.56 178	P		P	17 45 46.5	+0.8
VNA1			P		pP	17 45 52.1	+0.4
VNA1			P			17 45 57.7	
VNA1			P			17 46 03.0	
PLCA	Paso Flores	80.97 134	P		P	17 46 27.7	+0.2
	4.0nm,1.1s,mb4.3,baz=263,slow=8.1,SNR=3.9						
PLCA			pP		pP	17 46 32.8	-0.8
	5.3nm,0.9s,baz=233,slow=2.2,SNR=8.9						
PLCA	Paso Flores	80.97 134	*e*P		P	17 46 27.0	-0.4
	11nm,1.1s,mb4.7						
PLCA			epP		pP	17 46 32.7	-0.8
SONM	Songino Array	105.17 318	Pdiff		Pdif	17 48 21.4	+0.7
	0.6nm,0.8s,baz=112,slow=3.5,SNR=4.6						
BVAR	Borovoye Array	128.03 313	PKP		PKPdf	17 53 20.5	-0.8
	0.4nm,0.6s,baz=146,slow=5.3,SNR=5.0						
ARCES	ARCESS Array B	143.24 344	PKhKP			17 53 45.8	
	2.4nm,0.8s,baz=18,slow=3.8,SNR=4.4						
ARCES			PKP		PKPdf	17 53 48.4	-0.3
	2.4nm,0.8s,baz=45,slow=3.8,SNR=4.4						
JOF	Joensuu	146.21 333	*e*p		PKPbc	17 53 52.5	+1.4
KAF	Kangasniemi	148.51 335	*e*p		PKPdf	17 53 56.7	-1.1
FINES	FINESS Array B	149.04 334	PKPbc		PKPdf	17 53 59.9	+1.3
	5.4nm,0.9s,baz=27,slow=3.1,SNR=4.7						
FINES	FINESS Array B	149.04 334	PKPbc		PKPdf	17 53 59.9	+1.3
DBIC	Dimbokro	150.69 174	PKPbc		PKPdf	17 54 07.1	+4.4
	10nm,0.8s,baz=173,slow=3.1,SNR=6.6						
DBIC	Dimbokro	150.69 174	PKPbc		PKPdf	17 54 07.1	+4.4
BRTR	Keskin Array B	151.88 288	PKPbc		PKPdf	17 54 09.8	+6.2
	0.7nm,0.7s,baz=164,slow=3.4,SNR=3.4						
BRTR			PKPab		PKPab	17 54 17.4	-0.3
	1.7nm,0.9s,baz=180,slow=1.2,SNR=5.5						

*BJI **30** 17:34:18.8, 81.70N×15.70W, h10km, mB5.0, mb4.5*
*IDC **30** 17:34:19.2±0.7, 81.54N×15.61W, mb4.1/12, mb1 4.2/12, mb1mx4.1/22, mbtmp4.1/12, MS3.3/4, Ms1 3.3/4, ms1mx2.9/34, Error ellipse: s-maj=22.0km s-min=14.9km az=9.0*
*NEIC **30** 17:34:20.9±0.5, 81.67N×15.67W, h10km, mb4.3/16, Error ellipse: s-maj=8.6km s-min=8.4km az=49.0*
ISC 30 17:34:19.1±0.5, 81.66N±0.06×15.5W±0.4, h10km, n54, σ0§95/53, mb4.2/26, MS3.4/3, 2C, Near north coast of Kalaallit Nunaat

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAG	Danmarks Havn	4.96	189	↑*i*P	Pn	17 35 33.5	-2.0
	109nm,0.7s						
DAG	Danmarks Havn	4.96	189	⇑*e*P	Pn	17 35 33.5	-2.0
KBS	Kingsbay	5.33	107	*e*P	Pn	17 35 39.1	-1.6
KBS				AML	AML	17 35 44.2	
	comp=Z,66nm,0.6s						
KBS				*e*S	Sn	17 36 41.4	-1.5
KBS	Kingsbay	5.33	107	*e*P	Pn	17 35 39.1	-1.6
KBS				*e*S	Sn	17 36 41.4	-1.5
SUMG	Summit	10.33	221	*e*Pn	P	17 36 42.4	-7.7
	comp=Z,47nm,0.4s						
SCO	Scoresbysund	11.34	191	*i*	P	17 37 01.8	-2.2
ARCES	ARCESS Array B	15.24	119	Pn	P	17 37 58.9	+3.4
	comp=Z,0.5nm,0.3s,baz=333,slow=8.1,SNR=12						
ARCES				LR	LR	17 44 15.3	
	comp=Z,50nm,18.5s,baz=273,slow=39						
SFJD	Kangerlussuaq	16.95	231	*i* P	P	17 38 09.2	-8.2
	comp=Z,21nm,0.8s						
SFJD				*i* S	x	17 41 00.7	
SFJD				*i*	S	17 41 07.0	-18
NB2	NORSAR Subarra	21.92	144	P	P	17 39 13.4	-0.5
	comp=Z,3.1nm,0.8s,mb3.8,baz=321,slow=7.9						
NOA	NORSAR Array B	21.92	144	P	P	17 39 14.3	+0.4
	comp=Z,7.2nm,0.8s,mb4.1,baz=349,slow=9.5,SNR=8.3						
KAF	Kangasniemi	22.44	125	*e*p	P	17 39 18.3	-0.7
	comp=Z,18nm,0.8s,mb4.5,baz=354,slow=11						
HFS	Hagfors	23.04	141	P	P	17 39 23.7	-1.0
	comp=Z,9.0nm,0.8s,mb4.2,baz=111,slow=7.6,SNR=9.5						
FINES	FINESS Array B	23.06	126	P	P	17 39 24.5	-0.4
	comp=Z,3.9nm,0.5s,mb4.1,baz=356,slow=12,SNR=17						
FINES				PcP	PcP	17 43 12.7	-3.1
	comp=Z,2.8nm,1.0s,baz=48,slow=2.7,SNR=3.8						
INK	Inuvik	26.77	313	P	P	17 40 02.1	+2.0
	comp=Z,2.8nm,0.9s,mb3.8,baz=52,slow=11,SNR=3.5						
INK	Inuvik	26.77	313	P	P	17 40 00.2	+0.1
	comp=Z,3.0nm,0.8s,mb3.9						
YKA	Yellowknife Ar	30.07	294	LR	LR	17 52 35.7	
	comp=Z,70nm,18.6s,MS3.3,baz=305,slow=36						
SCHQ	Schefferville	30.73	242	P	P	17 40 34.1	-1.8
	comp=Z,1.3nm,0.6s,mb4.0,baz=338,slow=8.4,SNR=4.6						
SCHQ				LR	LR	17 52 52.1	
	comp=Z,93nm,20.5s,MS3.4,baz=108,slow=36						
CLL	Collm	31.72	145	P	P	17 40 45.0	+0.4
MOX	Moxa	32.26	147	*e*P	P	17 40 50.0	+0.6
ARU	Arti	32.34	93	*e*P	P	17 40 49.0	-1.0
	comp=Z,8.7nm,0.8s,mb4.6						
GRA1	Grafenberg Arr	33.18	148	*e*P	P	17 40 58.8	+1.4
	comp=Z,4.0nm,0.9s,mb4.3						
GRF	Grafenberg Arr	33.18	148	*e*P	P	17 40 58.8	+1.4
	comp=Z,4.0nm,0.9s,mb4.3						
GRR	Gorron	33.74	162	*e*P	P	17 41 02.9	+0.7
CDF	Champ du Feu	34.16	153	*e*P	P	17 41 06.8	+0.8
GERES	GERESS Array B	34.22	145	P	P	17 41 06.2	-0.3
	comp=Z,1.6nm,0.8s,mb4.0,baz=342,slow=4.2,SNR=11						
STHS	Stebnicka Huta	34.35	136	*e*P	P	17 41 07.2	-0.3
KECS	Kecovo	35.20	137	*e*P	P	17 41 15.2	+0.4
AVF	Avril sur Loir	35.54	158	*e*P	P	17 41 18.1	+0.4
CABF	La Chapelle	35.88	154	*e*P	P	17 41 21.0	+0.4
TCF	Toulx Ste Croi	35.98	159	*e*P	P	17 41 22.1	+0.6
	comp=Z,2.4nm,0.5s,mb4.0						
RJF	Les Rejaudoux	36.93	160	*e*P	P	17 41 30.2	+0.8
LPL	La Plagne	37.01	154	*e*P	P	17 41 31.1	+0.9
	comp=Z,10nm,1.0s,mb4.3						
LPG	La Plagne	37.03	154	*e*P	P	17 41 31.3	+1.0
	comp=Z,8.8nm,0.9s,mb4.3						
BVAR	Borovoye Array	37.36	83	P	P	17 41 33.6	+0.6
	comp=Z,1.0nm,0.7s,mb3.8,baz=346,slow=12,SNR=6.3						
VIVF	Saint-Julien-l	37.55	156	*e*P	P	17 41 35.3	+0.7
ORIF	Oris-en-Rattie	37.55	155	*e*P	P	17 41 35.0	+0.3
LASF	Ste Croix	38.27	157	*e*P	P	17 41 41.4	+0.6
SMRF	Simiane la Rot	38.48	155	*e*P	P	17 41 42.8	+0.3
ZAL	Zalesovo	38.51	69	P	P	17 41 43.5	+0.8
	comp=Z,1.4nm,0.5s,mb3.9,baz=141,slow=7.1,SNR=6.9						
SBF	Sospel	38.70	153	*e*P	P	17 41 44.8	+0.4
	comp=Z,6.9nm,0.6s,mb4.3						
FRF	La Foret Royal	38.96	154	*e*P	P	17 41 46.4	-0.1
	comp=Z,6.9nm,0.8s,mb4.1						
LMR	La Mourre	39.17	154	*e*P	P	17 41 48.8	+0.5
	comp=Z,23nm,1.1s,mb4.5						
ULM	Lac du Bonnet	39.28	271	P	P	17 41 49.9	+0.8
	comp=Z,2.1nm,0.5s,mb4.1,baz=24,slow=8.2,SNR=4.7						
ULM				LR	LR	17 58 27.6	
	comp=Z,58nm,18.8s,MS3.4,baz=352,slow=37						
KURK	Kurchatov	40.79	76	*e*P	P	17 42 01.6	0.0
	comp=Z,12nm,1.1s,mb4.5						
MKAR	Makanchi Array	45.15	74	P	P	17 42 37.0	+0.1
	comp=Z,2.6nm,0.7s,mb4.2,baz=349,slow=7.2,SNR=28						
SONM	Songino Array	47.22	51	P	P	17 42 53.5	+0.2
	comp=Z,3.4nm,0.9s,mb4.3,baz=341,slow=5.9,SNR=18						
ULN	Ulaanbaatar	47.27	51	*e*P	P	17 42 54.1	+0.5
	comp=Z,11nm,0.9s,mb4.8						
AAK	Ala-Archa	48.11	82	*e*P	P	17 43 00.3	0.0
	comp=Z,4.3nm,0.8s,mb4.5						
MDJ	Mudanjiang	52.62	31	P	P	17 43 33.0	-1.8
MDJ				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,36nm,3.2s						
GTA	Gaotai	54.74	59	P	P	17 43 49.8	-0.6
GTA				XP	sP	17 43 57.8	+3.2
GTA				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.6						

TXAR	Lajitas Array	60.91	273	P	P	17 44 32.2	-1.7
	comp=Z,1.1nm,0.5s,mb4.2,baz=48,slow=5.0,SNR=8.7						
VNA2	Neumayer--Watz	152.47	174	P	PKPdf	17 54 14.4	+5.2
VNA2				P		17 54 18.1	
VNA3	Neumayer Olymp	152.76	176		PKPdf	17 54 18.6	+9.0
VNA3	Neumayer Olymp	152.76	176	P	PKPdf	17 54 15.0	+5.4
VNA3				P		17 54 18.6	

*IDC **30** 17:34:54.7±3.0, 34.19N×22.08E, mb3.9/5, mb1 3.9/9, mb1mx3.8/26, mbtmp3.8/9, ML3.5/4, Error ellipse: s-maj=63.6km s-min=19.3km az=3.0*
*HLW **30** 17:34:57.5, 34.43N×22.00E, h33km, Mb3.6*
*CSEM **30** 17:34:58.6±0.1, 34.24N×22.06E, h60km, MD3.7, Error ellipse: s-maj=4.6km s-min=2.5km az=62.0*
*NEIC **30** 17:34:59.5, 34.61N×22.23E, h15km, MD3.7(ATH), After ATH.*
*ATH **30** 17:35:00.3, 34.73N×22.32E, h7km±3km, MD3.7/7*
ISC 30 17:34:55.7±1.6, 34.22N±0.04×22.00E±0.06, h21km±14km, n30, σ1§19/36, mb3.7/5, 3C, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	Gavdhos	1.83	70	*e*Pn	Pn	17 35 27.7	+1.1
GVD	Gavdhos	1.83	70	*e*Pn	Pn	17 35 27.7	+1.1
VAM	Vamos	2.16	56	*e*PB	Pb	17 35 32.1	-1.9
VLI	Veliai	2.60	17	*e*PN	Pn	17 35 37.8	+0.2
VLI	Veliai	2.60	17	*e*Pn	Pn	17 35 38.6	+1.0
IDI	Anoyia	2.61	65	Pn	Pn	17 35 38.5	+0.8
	7.1nm,0.3s,baz=249,slow=7.1,SNR=60						
IDI				Sn	Sn	17 36 09.4	+0.4
	12nm,0.3s,baz=293,slow=22,SNR=11						
ITM	Ithomi	2.95	359	*e*PN	Pn	17 35 42.6	+0.1
NPS	Neapolis	3.15	70	*e*PN	Pn	17 35 46.9	+1.5
SLUM		3.84	134	P	Pn	17 35 56.9	+1.7
SLUM				S	Sn	17 36 39.0	-1.3
RLS	Riolos of Patr	3.85	354	*e*PN	Pn	17 35 56.1	+0.8
RLS				*e*SN	Sn	17 36 37.2	-3.3
LKR	Lokris	4.49	10	*e*PN	Pn	17 36 03.2	-1.2
EVR	Evrytania	4.69	358	*e*PN	Pn	17 36 07.8	+0.6
SWA2		5.77	148	⇑*e*P	Pn	17 36 23.6	+1.0
SWA1		5.87	146	⇑*e*P	Pn	17 36 24.9	+1.0
SWA1				S	Sn	17 37 29.2	-2.2
TIP	Timpagrande	6.49	321	*e*Pn	Pn	17 36 30.6	-2.1
TIP	Timpagrande	6.49	321	*e*Pn	Pn	17 36 30.6	-2.1
TIP				*e*Sn	Sn	17 37 34.5	-12
VAE	Valguarnera	6.96	300	Pn	Pn	17 36 38.6	-0.6
	1.6nm,0.3s,baz=128,slow=7.0,SNR=3.8						
VAE				Sn	Sn	17 37 50.8	-7.8
	2.8nm,0.3s,baz=72,slow=2.6,SNR=4.4						
VAE	Valguarnera	6.96	300	Pn	Pn	17 36 38.7	-0.6
HBRG	Burj al 'Arab	7.56	117	P	Pn	17 36 47.9	+0.1
AWBH		8.34	133	⇑*e*P	P	17 36 57.6	-0.9
BRTR	Keskin Array B	10.81	56	Pn	P	17 37 31.1	-1.3
	0.1nm,0.3s,baz=236,slow=21,SNR=3.7						
STHS	Stebnicka Huta	15.19	358	*e*P	P	17 38 36.4	+5.7
GERES	GERESS Array B	15.86	340	Pn	P	17 38 38.8	-0.5
	0.1nm,0.3s,baz=151,slow=12,SNR=3.1						
KHC	Kasperske Hory	16.15	340	*e*P	P	17 38 44.0	+0.9
KHC				x	x	17 38 47.3	
AKASG	Malin Array Be	17.29	16	P	P	17 38 53.1	-4.4
	0.4nm,0.3s,baz=207,slow=12,SNR=4.5						
ESDC	Sonseca Array	21.41	292	P	P	17 39 45.0	+0.6
	0.2nm,0.3s,mb2.9,baz=91,slow=11,SNR=6.3						
EKA	Eskdalemuir Ar	27.38	328	P	P	17 40 43.4	+2.0
	1.7nm,0.8s,mb3.6,baz=135,slow=9.4,SNR=4.0						
ARCES	ARCESS Array B	35.42	2	P	P	17 41 52.3	+0.3
	0.7nm,0.5s,mb3.9,baz=186,slow=9.1,SNR=4.1						
MKAR	Makanchi Array	46.46	55	P	P	17 43 22.2	-0.7
	1.3nm,0.5s,mb4.1,baz=271,slow=8.1,SNR=7.4						
SONM	Songino Array	62.08	49	P	P	17 45 17.0	-0.2
	0.6nm,0.6s,mb3.9,baz=290,slow=7.8,SNR=3.9						

*IDC **30** 17:39:45.5±1.7, 39.11N×27.85E, mb3.3/1, mb1 3.4/4, mb1mx3.3/22, mbtmp3.4/4, ML3.9/4, MS3.2/5, Ms1 3.2/5, ms1mx3.0/21, Error ellipse: s-maj=20.8km s-min=18.4km az=17.0*
*ATH **30** 17:39:46.4, 39.21N×27.94E, h16km±3km, MD4.0/4*
*ISK **30** 17:39:46.4, 39.14N×27.89E, h18km, ML4.2*
*CSEM **30** 17:39:46.3±0.1, 39.16N×27.97E, h12km, ML4.2, Error ellipse: s-maj=1.5km s-min=1.1km az=29.0*
*NEIC **30** 17:39:46.4, 39.14N×27.90E, h17km, MD4.0(ATH), ML4.2(ISK), After ISK.*
*MOS **30** 17:39:47.6±1.4, 39.16N×28.10E, h33km, mb4.4/1, Error ellipse: s-maj=11.9km s-min=7.4km az=82.8*
ISC 30 17:39:46.4±0.5, 39.16N±0.02×27.95E±0.02, h11km±3km, n126, σ0§90/147, mb3.6/2, MS3.3/3, 9C-6D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKS	Akhisar	0.30	201	*i* PG	Pg	17 39 52.8	0.0
AKS				*i* SG	Sg	17 39 57.4	+0.4
AKS	Akhisar	0.30	201	Pg	Pg	17 39 52.9	+0.1
AKS				*i* Sg	Sg	17 39 57.4	+0.4
AKS	Akhisar	0.30	201	Pg	Pg	17 39 52.9	+0.1
BALB	Balikesir	0.48	353	*i* PG	Pg	17 39 56.8	+0.6
BALB				*i* SG	Sg	17 40 04.3	+1.6
BTOK	Tokmak	0.60	6	*i* P	Pb	17 39 58.7	+0.2
BTOK				*i* S	Sg	17 40 07.2	+0.6
MANT	Manisa	0.82	145	*i* P	Pb	17 40 02.1	-0.1
MANT				*i* S	Sb	17 40 12.6	-0.5
KDAG	Bornova	0.93	215	*i* P	Pb	17 40 02.6	-1.5
KDAG				*i* S	Sb	17 40 18.0	+1.7
IZM	Izmir	0.94	215	*i* PG	Pg	17 40 03.6	-1.6
IZM	Izmir	0.94	215	P	Pb	17 40 06.0	+1.8
BLCB	Balcova	1.05	223	*i* PG	Pg	17 40 06.2	-1.3
BLCB	Balcova	1.05	223	Pg	Pg	17 40 06.2	-1.3
CANB	Canakkale	1.10	321	*i* PN	Pn	17 40 07.4	-0.3
CANB	Canakkale	1.10	321	Pn	Pn	17 40 08.9	+1.2
ORLT	Orhaneli	1.14	39	*i* PN	Pn	17 40 08.7	+0.3
GDZ	Gediz	1.19	93	*i* P	Pb	17 40 08.3	-0.2
GDZ				*i* S	Sb	17 40 23.8	0.0
BNT	Bandirma	1.19	359	*i* PN	Pn	17 40 09.8	+0.7
BNT	Bandirma	1.19	359	Pn	Pn	17 40 09.9	+0.8
PRK	Paraskevi	1.31	274	↓*i*PN	Pn	17 40 11.3	+0.6
PRK				*e*SN	Sn	17 40 28.5	+0.2
URLA	Izmir	1.33	233	*i* P	Pb	17 40 10.3	-0.7
URLA				*i* S	Sb	17 40 29.1	+1.3
ULDT	Uludag	1.34	43	*i* P	Pb	17 40 10.6	-0.5
ULDT				*i* S	Sb	17 40 28.9	+0.8
EZN	Ezine	1.42	298	*i* PN	Pn	17 40 11.6	-0.8
EZN	Ezine	1.42	298	Pn	Pn	17 40 13.1	+0.7
EZN	Ezine	1.42	298	Pn	Pn	17 40 13.1	+0.7
MRMT	Marmara Adasi	1.46	349	*i* PN	Pn	17 40 12.8	-0.2
KHL	Karahalli	1.49	124	*i* PN	Pn	17 40 13.9	+0.6
AYDN	Tasoluk	1.50	182	*i* P	Pn	17 40 13.0	-0.5
AYDN				*i* S	Sb	17 40 35.0	+2.2
LPK	Lapseki	1.52	323	*i* PN	Pn	17 40 13.7	0.0
ARMT	Armutlu	1.56	26	*i* PN	Pn	17 40 14.5	+0.1
SART	Tekirdag	1.64	339	*i* P	Pn	17 40 14.9	-0.5
SART				*i* S	Sn	17 40 36.3	-0.3
DENT	Denizli	1.64	149	*i* PN	Pn	17 40 15.1	-0.4
ALT	Altintas	1.68	93	*i* PN	Pn	17 40 16.7	+0.6
SMG	Samos	1.70	211	*e*PN	Pn	17 40 17.8	+1.5
SMG				*e*SN	Sn	17 40 41.1	+3.0
MFT	Murefte	1.70	343	*e*PN	Pn	17 40 17.0	+0.7
DNZL	Cakiroluk	1.70	149	*i* P	Pn	17 40 16.2	-0.1
DNZL				*i* S	Sn	17 40 42.4	+4.0
YLV	Yalova	1.78	37	*i* PN	Pn	17 40 17.2	-0.2
MLSB	Milas	1.87	184	PN	Pn	17 40 17.3	-1.5
CTT	Catalca	2.02	10	PN	Pn	17 40 20.1	-0.7
CTT	Catalca	2.02	10	Pn	Pn	17 40 20.1	-0.7
YER	Yerkesik	2.04	173	PN	Pn	17 40 20.6	-0.6
YER	Yerkesik	2.04	173	Pn	Pn	17 40 20.7	-0.5
YER	Yerkesik	2.04	173	Pn	Pn	17 40 20.7	-0.5
BORA	Eskisehir	2.06	69	*i* P	Pn	17 40 25.0	+3.5
BORA				*i* S	Sn	17 40 52.9	+5.5
ISK	Istanbul-Kandi	2.08	24	PN	Pn	17 40 22.0	+0.2
HRT	Hereke	2.12	38	PN	Pn	17 40 22.1	-0.2
BDRM	Kayabasi	2.13	191	*i* P	Pn	17 40 26.8	+4.3
GPA	Golpazari	2.14	58	PN	Pn	17 40 22.9	+0.3
BODT	Bodrum	2.16	194	PN	Pn	17 40 21.8	-1.1
TKTP	Tekketepe	2.17	120	*i* P	Pn	17 40 22.3	-0.7
TKTP				*i* S	Sg	17 41 09.5	+11
EYL	Eskiyayla	2.20	50	*e*PN	Pn	17 40 23.0	-0.5
ALN	Alexandroupoli	2.27	320	*e*P	Pn	17 40 24.8	+0.3
ESKT	Eskisehir	2.27	80	PN	Pn	17 40 25.7	+1.2
LOS	Limnos	2.35	290	*e*P	Pn	17 40 26.3	+0.6

ISP	Isparta	2.40	123	PN	Pn	17 40 25.8	-0.5
ISP	Isparta	2.40	123	*e*Pn	Pn	17 40 26.0	-0.3
ISP				*e*Pg	Pg	17 40 32.9	-1.4
ISP	Isparta	2.40	123	*d i* P	Pn	17 40 25.8	-0.5
DALT	Dalyan (Mudla)	2.45	167	PN	Pn	17 40 26.4	-0.7
BCK	Bucak	2.68	129	PN	Pn	17 40 30.7	+0.3
RDO	Rodhopi	2.71	318	*e*PB	Pb	17 40 31.4	-3.2
MDU	Mudurnu	2.83	62	PN	Pn	17 40 33.5	+1.0
APE	Apeiranthos	2.83	223	*i* P	Pn	17 40 30.8	-1.7
EDRB	Edirne	2.83	341	PN	Pn	17 40 32.4	-0.2
ELL	Elmali	2.86	147	PN	Pn	17 40 33.5	+0.5
KIZT	Kizilcal	3.07	94	PN	Pn	17 40 36.2	+0.3
OUR	Ouranopolis	3.28	292	*e*P	Pn	17 40 38.7	-0.2
KONT	Konya--Tatoy	3.66	108	PN	Pn	17 40 44.7	+0.4
PLG	Polygyros	3.68	291	↓*i*PN	Pn	17 40 44.5	0.0
XOR	Xorichti	3.70	275	*e*P	Pn	17 40 45.0	+0.2
NVR	Nevrokopi	3.82	306	*e*PN	Pn	17 40 46.4	-0.1
SRS	Serrai	3.87	302	*e*P	Pn	17 40 46.8	-0.5
SAFT	Safranbolu	4.18	59	PN	Pn	17 40 52.5	+0.9
HDMB	Hadim	4.20	120	PN	Pn	17 40 52.0	+0.1
LIT	Litokhoron	4.32	284	*e*P	Pn	17 40 54.2	+0.6
LIT	Litokhoron	4.32	284	*e*P	Pn	17 40 54.2	+0.5
KNT	Kendrikon	4.36	299	*e*P	Pn	17 40 54.2	+0.1
KNT	Kendrikon	4.36	299	*e*P	Pn	17 40 54.2	0.0
BR131	Keskin Array S	4.44	81	*e*Pn	Pn	17 40 55.5	+0.2
BR131	Keskin Array S	4.44	81	*e*Pg	Pg	17 41 10.6	-4.4
BR131	Keskin Array S	4.44	81	*e*Pn	Pn	17 40 55.5	+0.2
BR131				*e*Pg	Pg	17 41 10.6	-4.4
BRTR	Keskin Array B	4.44	81	Pn	Pn	17 40 55.4	0.0
	1.9nm,0.3s,baz=255,slow=12,SNR=26						
BRTR				Pg	Pg	17 41 09.6	-5.4
	6.3nm,0.3s,baz=248,slow=16,SNR=46						
BRTR				Sn	Sn	17 41 51.7	+4.1
	3.2nm,0.3s,baz=264,slow=24,SNR=2.5						
BRTR				Lg		17 42 08.3	
	2.5nm,0.3s,baz=258,slow=24,SNR=13						
BRTR	Keskin Array B	4.44	81	Pn	Pn	17 40 55.3	0.0
BRTR	Keskin Array B	4.44	81	Pg	Pg	17 41 09.6	-5.4
KAMT	Kaman	4.47	86	PN	Pn	17 40 56.7	+0.8
IDI	Anoyia	4.58	213	Pn	Pn	17 40 55.5	-1.8
	1.1nm,0.3s,baz=34,slow=15,SNR=7.1						
IDI				Sn	Sn	17 41 47.0	-4.1
	2.3nm,0.3s,baz=208,slow=17,SNR=3.3						
IDI				LR	LR	17 42 56.5	
	comp=Z,222nm,21.2s,baz=155,slow=43						
GRG	Griva	4.62	295	*e*P	Pn	17 40 58.3	+0.4
VTS	Vitosha	4.97	315	P	Pn	17 41 03.0	+0.2
TOS	Tosya	5.02	66	*e*PN	Pn	17 41 04.4	+0.9
CORM	Corum	5.25	77	*e*PN	Pn	17 41 07.2	+0.4
TIRR	Tirgusor	5.30	4	↓↓P	Pn	17 41 06.8	-0.7
TIRR	Tirgusor	5.30	4	↑↑P	Pn	17 41 06.8	-0.7
TIRR	Tirgusor	5.30	4	⇑↑P	Pn	17 41 06.8	-0.7
TIRR	Tirgusor	5.30	4	P	Pn	17 41 06.4	-1.1
FNA	Florina	5.31	290	*e*P	Pn	17 41 07.9	+0.3
IKL	Isikli	5.40	121	*e*PN	Pn	17 41 09.4	+0.5
MERS	Mersin	5.67	112	*e*PN	Pn	17 41 13.6	+0.9
SKO	Skopje	5.70	302	*e*Pn	Pn	17 41 13.0	-0.1
BARS	Barje	5.90	310	↑*i*P	Pn	17 41 15.3	-0.7
KOZT	Kozan	6.41	103	*e*PN	Pn	17 41 23.4	+0.2
MLR	Muntele Rosu	6.50	347	Pn	Pn	17 41 24.4	0.0
	3.5nm,0.3s,baz=178,slow=3.8,SNR=37						
MLR				LR	LR	17 43 14.1	
	comp=Z,121nm,20.8s,baz=20,slow=32						
MLR				Lg		17 43 19.9	
	0.9nm,0.3s,baz=225,slow=20,SNR=3.4						

CN2 LR LR
comp=Z,760nm,19.0s

NIED ***30*** *17:48:00,38.40N×143.30E,h14km,Mw4.7 Best double couple: M0 1.41×10^16 NP1:φs36°,δ48°,λ68°. NP2:φs247°, δ46°,λ113°.*
BJI ***30*** *17:48:19.6,38.57N×143.16E,h3km,mB5.1,mb4.9,Ms4.7, Msz4.5*
JMA ***30*** *17:48:21.9±0.1,38.44N×143.34E,h27km,M4.9*
JMA Felt I J1.
IDC ***30*** *17:48:21.2±0.6,38.44N×143.18E,mb4.6/30,mb1 4.7/33, mb1mx4.7/35,mbtmp4.6/33,ML3.9/3,MS4.0/4,Ms1 4.0/4, ms1mx3.6/36,Error ellipse: s-maj=15.9km s-min=13.6km az=164.0*
HRVD ***30*** *17:48:22.8±0.9,38.50N×143.20E,h22km±2km,MW4.8/28, Centroid moment Tensor Solution. LP body waves: s14,c19;Mantle waves: s28,c42; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.17±.27; Mθθ-1.24±.19; Mφφ-0.92±.18; Mrθ1.01±.32; Mθφ-0.75±.09; Mφr0.49±.28; Best double couple: M0 2.299×10^16 NP1:φs227°,δ31°,λ81°. NP2:φs57°,δ60°,λ95°. Principal axes: T 2.47, Plg75°, Azm341°; N -.337, Plg4°, Azm234°; P -2.129, Plg14°, Azm143°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***30*** *17:48:22.8±0.2,38.44N×143.18E,h10km,mb5.0/75, MW4.7(NIED) Error ellipse: s-maj=4.8km s-min=3.1km az=153.0*
MOS ***30*** *17:48:26.1±0.8,38.66N×143.05E,h33km,mb5.2/72,Error ellipse: s-maj=8.5km s-min=4.5km az=110.7*

ISC 30 17:48:23.4±0.2,38.41N±0.03×143.20E±0.03,h25km, h25km±3.8km:pP-P,n334,σ0:91/348,mb4.9/128,MS4.4/11, 26C-5D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.37**	**300**	P	**Pn**	**17 48 47.1**	**-0.2**
OFUJ				S	**Sn**	**17 49 05.7**	**+0.9**
JIO	**Ouri**	**1.45**	**272**	P	**Pn**	**17 48 48.4**	**-0.1**
JIO				S	**Sn**	**17 49 07.5**	**+0.6**
JMK	**Ichinoseki**	**1.64**	**290**	P	**Pn**	**17 48 51.3**	**+0.1**
JMK				*e*S	**Sn**	**17 49 13.4**	**+1.7**
JOM	**Ohasama**	**1.82**	**306**	P	**Pn**	**17 48 53.6**	**-0.2**
JOM				*e*S	**Sn**	**17 49 16.5**	**+0.1**
JMM	**Marumori**	**1.97**	**255**	P	**Pn**	**17 48 56.1**	**+0.1**
JMM				*e*S	**Sn**	**17 49 21.4**	**+1.3**
JOU	**Okura**	**1.99**	**269**	P	**Pn**	**17 48 56.9**	**+0.7**
JOU				*e*S	**Sn**	**17 49 22.3**	**+1.7**
JFK	**Kawauchi**	**2.11**	**241**	P	**Pn**	**17 48 57.8**	**-0.2**
JYK	**Kaneyama**	**2.28**	**284**	P	**Pn**	**17 49 00.7**	**+0.4**
JANG	**Nango**	**2.35**	**327**	P	**Pn**	**17 48 59.9**	**-1.5**
JFT	**Otama**	**2.43**	**249**	P	**Pn**	**17 49 03.4**	**+0.9**
JFT				*e*S	**Sn**	**17 49 33.5**	**+1.7**
JYS	**Shirataka**	**2.47**	**267**	P	**Pn**	**17 49 03.6**	**+0.5**
MAJO	**Matsushiro**	**4.39**	**246**	*e*P	**Pn**	**17 49 30.8**	**+0.5**
MAT	**Matsushiro**	**4.39**	**246**	P	**Pn**	**17 49 31.3**	**+1.0**
MAT				*e*S	**Sn**	**17 50 17.5**	**-3.8**
MAT	**Matsushiro**	**4.39**	**246**	*e*P	**Pn**	**17 49 31.0**	**+0.7**
MAT				S	**Sn**	**17 50 28.0**	**+6.7**
ASAJ	**Asahikawa**	**5.72**	**356**	Pn	**Pn**	**17 49 47.1**	**-2.0**
	2.2nm,0.3s,baz=210,slow=14,SNR=20						
ASAJ				LR	LR	17 52 43.7	
	comp=Z,1μm,18.5s,baz=180,slow=46						
ASAJ	**Asahikawa**	**5.72**	**356**	P	**Pn**	**17 49 47.1**	**-2.0**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,1μm,18.5s						
YUK	**Yuzh-Kuril'sk**	**5.96**	**19**	*e*P	**Pn**	**17 49 47.2**	**-5.4**
YUK				*i* S	**Sn**	**17 50 50.0**	**-11**
YUK				pmax	pmax		
	comp=Z,2μm,1.0s						
YUK				pmax	pmax		
	comp=Z,350nm,0.4s						
YUK				pmax	pmax		
	comp=N,170nm,0.4s						
YUK				pmax	pmax		
	comp=E,340nm,0.4s						
YUK				smax			
	comp=N,380nm,0.5s						
YUK				smax			
	comp=E,210nm,0.5s						
YUK				smax			
	comp=N,5μm,1.0s						
YUK				smax			
	comp=E,2μm,1.0s						
JHJ	**Hachijo jima 2**	**5.97**	**209**	Pn	**Pn**	**17 49 51.0**	**-1.6**
	comp=E,25nm,0.3s,baz=74,slow=19,SNR=13						
JHJ				Sn	**Sn**	**17 50 54.4**	**-6.6**
	comp=E,91nm,0.3s,baz=71,slow=23,SNR=11						
JHJ				LR	LR	17 52 34.9	
	comp=E,665nm,18.5s,baz=216,slow=42						
YSS	**Yuzh-Sakhalins**	**8.54**	**358**	*e*P	**P**	**17 50 25.3**	**-3.4**
	comp=E,55nm,0.9s						
YSS	**Yuzh-Sakhalins**	**8.54**	**358**	*e*P	**P**	**17 50 25.2**	**-3.5**
YSS				*e*S	**Sn**	**17 52 01.2**	**-4.1**
YSS				smax			
	comp=N,110nm,1.2s						
YSS				MLR	MLR		
	comp=Z,1μm,14.0s						
YSS				MLR	MLR		
	comp=N,1μm,13.0s						
JNU	**Nakatsue**	**11.31**	**246**	Pn	**P**	**17 51 05.5**	**-1.3**
	comp=N,0.8nm,0.3s,baz=65,slow=12,SNR=15						
JNU				LR	LR	17 55 55.8	
	comp=N,1μm,18.4s,baz=54,slow=40						
MDJ	**Mudanjiang**	**11.93**	**306**	P	**P**	**17 51 14.5**	**-0.5**
MDJ				AP		17 51 18.8	
MDJ				XP		17 51 21.3	
MDJ				S	**S**	**17 53 27.8**	**-0.5**
MDJ				SS	SS	17 53 42.0	-0.7
MDJ				SCS	ScS	18 04 01.3	-3.6
MDJ				AMB	AMB		
	comp=Z,33nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,114nm,3.7s						
MDJ				LR	LR		
	comp=N,2μm,10.7s						
MDJ				LR	LR		
	comp=E,666nm,13.8s						
MDJ				LR	LR		
	comp=Z,2μm,15.4s						
KS15	**Wonju Array Si**	**12.13**	**270**	*e*P	**P**	**17 51 16.1**	**-1.7**
DL2	**Dalian**	**16.86**	**278**	P	**P**	**17 52 18.8**	**-0.6**
DL2				S	**S**	**17 55 24.5**	**-0.3**
DL2				AMB	AMB		
	comp=Z,50nm,1.2s						
DL2				AMB	AMB		
	comp=Z,210nm,5.5s						
DL2				LR	LR		
	comp=N,280nm,13.0s						
DL2				LR	LR		
	comp=E,550nm,15.4s						
DL2				LR	LR		
	comp=Z,580nm,14.2s						
PET	**Petropavlovsk**	**18.11**	**31**	*e*P	**P**	**17 52 34.6**	**-0.3**
PET				*e*S	**S**	**17 55 54.9**	**+1.8**
PET				pmax	pmax		
	comp=Z,30nm,1.2s						
PET				smax			
	comp=E,300nm,11.6s						
PET				smax			
	comp=E,100nm,15.0s						
PET				MLR	MLR		
	comp=Z,400nm,18.0s						
SSE	**Sheshan**	**19.48**	**255**	P	**P**	**17 52 51.3**	**-0.1**
SSE				AP		17 52 54.3	
SSE				XP		17 52 55.8	
SSE				S	**S**	**17 56 28.3**	**+4.1**
SSE				XS		17 56 34.0	
SSE				AMB	AMB		
	comp=Z,56nm,1.0s						
SSE				AMB	AMB		
	comp=Z,454nm,5.0s						
SSE				LR	LR		
	comp=N,340nm,16.2s						
SSE				LR	LR		
	comp=E,201nm,16.2s						
SSE				LR	LR		
	comp=Z,288nm,16.4s						
SSE	**Sheshan**	**19.48**	**255**	P	**P**	**17 52 51.3**	**-0.1**
	comp=Z,56nm,1.0s						
SSE				pP		17 52 54.3	
SSE				sP		17 52 55.7	
SSE				S	**S**	**17 56 28.3**	**+4.1**
SSE				sS		17 56 34.1	
TIA	**Tai'an**	**20.84**	**272**	P	**P**	**17 53 02.8**	**-3.0**
NJ2	**Nanjing**	**20.84**	**260**	*e*P	**P**	**17 53 06.0**	**+0.1**
NJ2				AP		17 53 10.5	
NJ2				XP		17 53 13.3	
NJ2				PP	PP	17 53 28.3	0.0
NJ2				S	**S**	**17 56 53.0**	**+0.7**
NJ2				XS		17 56 59.0	
NJ2				AMB	AMB		
	comp=Z,40nm,1.1s						
NJ2				LR	LR		
	comp=N,980nm,18.3s,MS4.4						
NJ2				LR	LR		
	comp=E,1μm,16.8s,MS4.4						
NJ2				LR	LR		
	comp=Z,560nm,18.0s,MS4.0						
MA2	**Magadan**	**21.73**	**10**	*e*P	**P**	**17 53 13.6**	**-1.1**
	comp=Z,42nm,1.0s,mb4.8						
MA2	**Magadan**	**21.73**	**10**	*ce*P	**P**	**17 53 13.5**	**-1.1**
MA2				*e*S	**S**	**17 57 06.7**	**-2.0**
MA2				pmax	pmax		
	comp=N,10.0nm,1.1s						
MA2				pmax	pmax		
	comp=Z,30nm,1.1s,mb4.6						
CLNS	**Chul'man**	**22.05**	**333**	*e*P	**P**	**17 53 13.1**	**-4.8**
CLNS				*e*		17 53 26.8	
CLNS				*e*S	**S**	**17 57 03.9**	**-11**
CLNS				*e*		17 57 21.8	
CLNS				pmax	pmax		
	comp=Z,30nm,0.8s,mb4.8						
CLNS				pmax	pmax		
	comp=N,29nm,1.0s						
CLNS				pmax	pmax		
	comp=E,16nm,1.3s						
CLNS				pmax	pmax		
	comp=Z,35nm,0.9s,mb4.8						
CLNS				pmax	pmax		
	comp=N,40nm,1.2s						
CLNS				pmax	pmax		
	comp=E,32nm,0.9s						
CLNS				smax			
	comp=N,19nm,1.1s						
CLNS				smax			
	comp=Z,8.0nm,0.9s						
CLNS				smax			
	comp=E,7.0nm,0.7s						
CLNS				MLR	MLR		
	comp=N,800nm,14.0s,MS4.4						
CLNS				MLR	MLR		
	comp=E,700nm,14.0s,MS4.4						
CLNS				MLR	MLR		
	comp=Z,1μm,14.0s,MS4.4						
YHNB	**Yeheng**	**23.02**	**240**	*e*P	**P**	**17 53 26.4**	**-1.4**
HHC	**Hu-ho-hao-te**	**24.42**	**286**	⇑P	**P**	**17 53 39.0**	**-2.1**
HHC				AP		17 53 43.5	
HHC				XP		17 53 46.5	
HHC				PP	PP	17 54 09.5	-7.3
HHC				S	**S**	**17 58 02.5**	**+6.0**
HHC				AMB	AMB		
	comp=Z,31nm,0.7s,mb4.8						
HHC				AMB	AMB		
	comp=Z,171nm,8.0s						
HHC				LR	LR		
	comp=Z,2μm,14.9s,MS4.6						
CIT	**Chita**	**24.72**	**313**	*e*P	**P**	**17 53 41.9**	**-2.0**
CIT				pmax	pmax		
	comp=Z,49nm,1.6s,mb4.8						
QZH	**Quanzhou**	**24.78**	**244**	⇓*i*P	**P**	**17 53 44.5**	**-0.3**
QZH				*e*S	**S**	**17 58 01.5**	**-1.3**
QZH				AMB	AMB		
	comp=Z,90nm,0.7s,mb5.4						
QZH				LR	LR		
	comp=Z,3μm,7.4s						
YAK	**Yakutsk**	**25.07**	**345**	*e*P	**P**	**17 53 45.4**	**-1.7**
	comp=Z,46nm,0.8s,mb5.1						
YAK	**Yakutsk**	**25.07**	**345**	*c i*P	**P**	**17 53 45.3**	**-1.9**
YAK				*i* *PP	pP	17 53 57.9	+3.6
YAK				*e*		17 54 21.9	
YAK				*i* PPP	PPP	17 54 30.8	-5.4
YAK				*i*		17 57 17.3	
YAK				*e*SS	SS	17 59 14.6	+7.2
YAK				pmax	pmax		
	comp=Z,26nm,0.9s,mb4.8						
YAK				pmax	pmax		
	comp=N,9.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,17nm,0.9s,mb4.6						
YAK				pmax	pmax		
	comp=N,14nm,1.0s						
YAK				pmax	pmax		
	comp=E,21nm,1.2s						
YAK				MLR	MLR		
	comp=N,300nm,14.0s,MS4.1						
YAK				MLR	MLR		
	comp=Z,400nm,14.0s,MS4.1						
YAK				MLR	MLR		
	comp=E,200nm,12.0s,MS4.1						
BTO	**Baotou**	**25.61**	**285**	*e*P	**P**	**17 53 51.3**	**-1.1**
BTO				AMB	AMB		
	comp=Z,9.0nm,0.4s,mb4.7						
BOD	**Bodaibo**	**27.16**	**325**	⇑*i*P	**P**	**17 54 05.5**	**-1.1**
BOD				pmax	pmax		
	comp=Z,21nm,1.0s,mb4.6						
ULN	**Ulaanbaatar**	**27.80**	**302**	*e*P	**P**	**17 54 12.1**	**-0.3**
	comp=Z,41nm,1.3s,mb4.9						
ULN	**Ulaanbaatar**	**27.80**	**302**	*e*P	**P**	**17 54 12.1**	**-0.3**
ULN				pmax	pmax		
	comp=Z,41nm,1.3s,mb4.9						
XAN	**Xi'an**	**27.89**	**272**	P	**P**	**17 54 12.3**	**-1.2**
XAN				AP	pP	17 54 19.5	-1.1
XAN				AMB	AMB		
	comp=Z,36nm,1.1s,mb4.9						
SONM	**Songino Array**	**28.23**	**301**	P	**P**	**17 54 16.3**	**-0.1**
	comp=Z,22nm,1.1s,mb4.7,baz=107,slow=6.7,SNR=53						
SONM				LR	LR	18 05 40.2	
	comp=Z,333nm,20.5s,MS3.9,baz=86,slow=37						
ZAK	**Zakamensk**	**30.56**	**306**	*e*P	**P**	**17 54 36.4**	**-0.8**
ZAK				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.6						
LZH	**Lanzhou**	**31.25**	**278**	*e*P	**P**	**17 54 43.0**	**-0.4**
LZH				PP	PP	17 55 45.5	-1.2
LZH				*e*S	**S**	**17 59 47.0**	**-0.3**
LZH				XS		17 59 53.0	
LZH				SS	SS	18 01 31.0	-3.0
LZH				AMB	AMB		
	comp=Z,42nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,370nm,7.6s						
LZH				LR	LR		
	comp=E,2μm,13.7s						
LZH				LR	LR		
	comp=Z,2μm,14.9s,MS5.0						
LZH	**Lanzhou**	**31.25**	**278**	*e*P	**P**	**17 54 43.0**	**-0.4**
	comp=Z,42nm,1.5s,mb5.0						
LZH				pP	pP	17 54 53.5	+2.9
LZH				sP	sP	17 54 59.0	+5.2
LZH				PP	PP	17 55 45.5	-1.2
LZH				*e*S	**S**	**17 59 47.0**	**-0.3**
LZH				sS		17 59 53.0	
LZH				SS	SS	18 01 31.0	-3.0
LZH				LR	LR		
	comp=Z,2μm,14.9s,MS5.0						
LZH	**Lanzhou**	**31.25**	**278**	*e*P	**P**	**17 54 43.0**	**-0.4**
LZH				*PP	pP	17 54 53.5	+2.9
LZH				*SP	sP	17 54 59.0	+5.2
LZH						17 55 45.5	
LZH				*e*S	**S**	**17 59 47.0**	**-0.3**
LZH				SS	SS	18 01 31.0	-3.0
LZH				pmax	pmax		
	comp=Z,42nm,1.5s,mb5.0						
LZH				MLR	MLR		
	comp=Z,2μm,14.9s,MS5.0						
MOY	**Mondy**	**32.16**	**308**	*e*P	**P**	**17 54 50.7**	**-0.5**
BILL	**Bilibino**	**32.31**	**16**	*e*P	**P**	**17 54 50.5**	**-1.8**
	comp=Z,25nm,1.2s,mb4.9						
BILL	**Bilibino**	**32.31**	**16**	*e*P	**P**	**17 54 50.5**	**-1.8**
BILL				pmax	pmax		
	comp=Z,25nm,1.2s,mb4.9						
GYA	**Guiyang**	**32.85**	**260**	⇑*i*P	**P**	**17 54 58.3**	**+0.8**
GYA				AP	pP	17 55 02.8	-1.9
GYA				XP	sP	17 55 05.5	-2.4
GYA				PP	PP	17 56 07.0	-0.6
GYA				S	**S**	**18 00 13.8**	**+1.5**
GYA				SS	SS	18 02 12.0	+0.3
GYA				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.5						
GYA				AMB	AMB		
	comp=Z,140nm,2.8s,mb5.4						
GYA				LR	LR		
	comp=N,1μm,14.8s,MS5.0						
GYA				LR	LR		
	comp=E,2μm,15.4s,MS5.0						
GYA				LR	LR		
	comp=Z,3μm,16.4s,MS5.1						
GTA	**Gaotai**	**33.53**	**286**	P	**P**	**17 55 03.0**	**-0.3**
GTA				AP	pP	17 55 09.0	-1.5
GTA				XP	sP	17 55 12.3	-1.4
GTA				PP	PP	17 56 16.8	+1.0
GTA				PPP	PPP	17 56 33.0	+0.1
GTA				PCP	PcP	17 57 44.0	+0.2
GTA				S	**S**	**18 00 24.8**	**+2.1**
GTA				XS		18 00 36.0	
GTA				SCP		18 01 26.3	
GTA				PCS		18 01 29.5	
GTA				SCS	ScS	18 05 26.0	+0.7
GTA				AMB	AMB		
	comp=Z,38nm,1.3s,mb5.2						
GTA				AMB	AMB		
	comp=Z,140nm,11.1s						
GTA				LR	LR		
	comp=N,709nm,19.1s,MS4.7						
GTA				LR	LR		
	comp=E,871nm,15.3s,MS4.7						
GTA				LR	LR		
	comp=Z,1μm,16.4s,MS4.7						
TIXI	**Tiksi**	**34.11**	**352**	*e*P	**P**	**17 55 02.0**	**-5.9**
TIXI				*e*S	**S**	**18 00 32.0**	**+0.7**
TIXI				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.8						
TIXI				MLR	MLR		
	comp=Z,278nm,14.0s,MS4.1						
KMI	**Kunming**	**36.57**	**261**	P	**P**	**17 55 27.0**	**-2.3**
KMI				AP	pP	17 55 36.0	-0.6
KMI				XP	sP	17 55 40.5	+0.8
KMI				XS		18 01 15.8	
KMI				AMB	AMB		
	comp=Z,14nm,1.4s,mb4.6						
KMI				AMB	AMB		
	comp=Z,173nm,6.0s						
KMI				LR	LR		
	comp=N,443nm,15.2s,MS4.5						
KMI				LR	LR		
	comp=E,381nm,12.6s,MS4.5						
KMI				LR	LR		
	comp=Z,386nm,13.1s,MS4.4						
KMI	**Kunming**	**36.57**	**261**	P	**P**	**17 55 27.0**	**-2.3**
	comp=Z,14nm,1.4s,mb4.6						
KMI				pP	pP	17 55 36.1	-0.5
KMI				sP	sP	17 55 40.4	+0.7
KMI				PP	PP	17 56 46.4	-7.6
KMI				S	**S**	**18 01 00.6**	**-9.2**
KMI				sS		18 01 15.7	
KMI				SS	SS	18 03 17.5	-19
KMI				LR	LR		
	comp=Z,390nm,13.1s,MS4.4						
KMI	**Kunming**	**36.57**	**261**	P	**P**	**17 55 27.0**	**-2.3**
KMI				*PP	pP	17 55 36.1	-0.5
KMI				*SP	sP	17 55 40.4	+0.7
KMI				S	**S**	**18 01 00.6**	**-9.2**
KMI				*SS		18 01 15.7	
KMI				pmax	pmax		
	comp=Z,14nm,1.4s,mb4.6						
KMI				MLR	MLR		
	comp=Z,390nm,13.1s,MS4.4						
WMQ	**Urumqi**	**41.50**	**296**	P	**P**	**17 56 10.0**	**-0.1**
WMQ				XP	sP	17 56 17.0	-3.5
WMQ				PP	PP	17 57 50.0	+0.9
WMQ				SCP		18 01 57.0	
WMQ				S	**S**	**18 02 24.0**	**+0.1**
WMQ				SS	SS	18 05 23.0	-0.9
WMQ				AMB	AMB		
	comp=Z,32nm,1.0s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,132nm,4.0s						
WMQ				LR	LR		
	comp=N,278nm,14.0s,MS4.3						
WMQ				LR	LR		
	comp=E,169nm,14.0s,MS4.3						
WMQ				LR	LR		
	comp=Z,187nm,14.0s,MS4.1						
ZAL	**Zalesovo**	**42.06**	**311**	P	**P**	**17 56 14.6**	**+0.1**
	comp=Z,3.3nm,0.6s,mb4.1,baz=23,slow=9.2,SNR=21						
ZAL				PcP	PcP	17 58 09.8	0.0
	comp=Z,3.2nm,0.8s,baz=49,slow=3.6,SNR=3.6						
ZAL	**Zalesovo**	**42.06**	**311**	P	**P**	**17 56 14.6**	**+0.1**
ZAL				PcP	PcP	17 58 09.8	0.0
	comp=Z,9.9nm,0.8s,mb4.7,baz=85,slow=9.5,SNR=52						
MKAR	**Makanchi Array**	**44.60**	**301**	P	**P**	**17 56 34.9**	**-0.4**
MKAR	**Makanchi Array**	**44.60**	**301**	*i* P	**P**	**17 56 34.5**	**-0.8**
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
IMA	**Indian Mountai**	**44.78**	**31**	*e*P	**P**	**17 56 36.9**	**+0.4**
	comp=Z,43nm,1.1s,mb5.2						
IMA	**Indian Mountai**	**44.78**	**31**	*e*P	**P**	**17 56 36.9**	**+0.4**
IMA				pmax	pmax		
	comp=Z,43nm,1.1s,mb5.2						
KURK	**Kurchatov**	**46.21**	**307**	*e*P	**P**	**17 56 46.8**	**-1.2**
	comp=Z,41nm,1.1s,mb5.3						
KURK	**Kurchatov**	**46.21**	**307**	*e*P	**P**	**17 56 46.8**	**-1.2**
KURK				pmax	pmax		
	comp=Z,41nm,1.1s,mb5.3						
ILAR	**Eielson Array**	**47.57**	**33**	P	**P**	**17 56 57.9**	**-0.7**
	comp=Z,5.1nm,0.9s,mb4.6,baz=269,slow=6.7,SNR=32						
KKN	**Kakani**	**48.96**	**276**	*e*P	**P**	**17 57 09.6**	**-0.2**
	comp=Z,79nm,0.6s,mb5.9						
KKN	**Kakani**	**48.96**	**276**	*e*P	**P**	**17 57 09.6**	**-0.2**
KKN				pmax	pmax		
	comp=Z,39nm,0.6s,mb5.6						
PKI	**Pulchoki**	**48.96**	**275**	*e*P	**P**	**17 57 09.5**	**-0.3**
	comp=Z,18nm,0.6s,mb5.3						
PKI	**Pulchoki**	**48.96**	**275**	*e*P	**P**	**17 57 09.5**	**-0.3**
PKI				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb5.0						
DMN	**Daman**	**49.18**	**275**	*e*P	**P**	**17 57 11.2**	**-0.3**
	comp=Z,26nm,0.8s,mb5.3						
GKN	**Gorkha**	**49.36**	**276**	*e*P	**P**	**17 57 12.7**	**-0.2**
	comp=Z,123nm,1.3s,mb5.8						
TKM2	**Tokmak 2**	**50.23**	**298**	P	**P**	**17 57 19.8**	**+0.4**
	SNR=37						
KOLN	**Koldanda**	**50.28**	**276**	*e*P	**P**	**17 57 19.8**	**-0.2**
	comp=Z,97nm,1.3s,mb5.7						
VOSK	**Vostochnaya**	**50.43**	**311**	P	**P**	**17 57 19.1**	**-1.6**
VOSK				pmax	pmax		
	comp=Z,28nm,1.4s,mb5.1						
BVAR	**Borovoye Array**	**50.70**	**312**	P	**P**	**17 57 22.1**	**-0.7**
	comp=Z,5.1nm,0.8s,mb4.5,baz=79,slow=7.6,SNR=27						
BVAR				PcP	PcP	17 58 39.6	-0.5
	comp=Z,5.5nm,0.7s,baz=88,slow=2.0,SNR=8.3						
BRVK	**Borovoye**	**50.76**	**312**	*e*P	**P**	**17 57 21.6**	**-1.7**
	comp=Z,3.5nm,0.6s,mb4.5						
BRVK	**Borovoye**	**50.76**	**312**	*e*P	**P**	**17 57 21.6**	**-1.6**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
KBK	**Karagaybulak**	**50.77**	**298**	P	**P**	**17 57 23.7**	**+0.2**
	SNR=22						
CHMS	**Chumysh**	**50.79**	**298**	P	**P**	**17 57 23.2**	**-0.4**
	SNR=5.8						
USP	**Ospenovka**	**50.87**	**299**	P	**P**	**17 57 24.0**	**-0.3**
	SNR=20						
FRU	**Bishkek**	**50.94**	**298**	*e*P	**P**	**17 57 24.2**	**-0.5**
FRU				pmax	pmax		
	comp=Z,66nm,2.0s,mb5.2						
AAK	**Ala-Archa**	**51.09**	**298**	P	**P**	**17 57 25.7**	**-0.2**
	SNR=6.6						
AAK	**Ala-Archa**	**51.09**	**298**	*e*P	**P**	**17 57 24.3**	**-1.6**
	comp=Z,17nm,1.3s,mb4.8						
AAK	**Ala-Archa**	**51.09**	**298**	*c i*P	**P**	**17 57 24.2**	**-1.7**
AAK				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.7						
KSH	**Kashi**	**51.14**	**294**	*e*P	**P**	**17 57 26.0**	**-0.4**
KSH				*e*AP	pP	17 57 30.0	-3.9
KSH				*e*XP	sP	17 57 33.3	-3.5
KSH				*e*PCP	PcP	17 58 42.0	+0.1
KSH				*e*PP	PP	17 59 23.0	-0.9

KSH *e*PPP PPP 18 00 22.0 -2.2
KSH *e*SCP 18 02 36.0
KSH *e*PCS 18 02 38.5
KSH *e*S **S** **18 04 41.0 -0.4**
KSH *e*XS 18 04 48.3
KSH *e*PS PS 18 04 51.0 -2.3
KSH *e*SCS ScS 18 07 13.3 +1.1
KSH *e*SS SS 18 08 14.0 -0.7
KSH AMB AMB
comp=Z,130nm,4.3s
KSH LR LR
comp=N,220nm,5.2s
KSH LR LR
comp=E,190nm,5.6s
UCH Uchtor 51.22 297 P **P** **17 57 27.8 +1.0**
SNR=5.2
EKS2 Erkin-Say 51.58 298 P **P** **17 57 29.4 -0.2**
SNR=16
AML Almayashu 51.82 298 P **P** **17 57 32.0 +0.6**
SNR=23
KAKA Kakadu 51.84 193 *e*P **P** **17 57 47.1 +15**
comp=E,25nm,0.9s,mb5.1
INK Inuvik 52.52 28 P **P** **17 57 36.0 -0.4**
comp=E,3.1nm,0.8s,mb4.3,baz=271,slow=5.2,SNR=3.6
KKAR Karatay Array 53.66 300 *i* P **P** **17 57 43.8 -1.4**
KKAR pmax pmax
comp=Z,21nm,1.0s,mb5.0
SVE Sverdlovsk 55.06 318 *e*P **P** **17 57 54.8 -0.4**
SVE *e* 17 58 06.0
SVE *e* 18 00 06.0
SVE pmax pmax
comp=Z,56nm,1.5s,mb5.4
SOKR Solikamsk 56.11 322⇓ *i*P **P** **17 58 02.2 -0.5**
SOKR pmax pmax
comp=Z,30nm,1.4s,mb5.1
ARU Arti 56.27 318 *e*P **P** **17 58 02.5 -1.4**
comp=Z,33nm,1.0s,mb5.3
ARU Arti 56.27 318⇑ *i*P **P** **17 58 02.6 -1.3**
ARU *e* 17 58 58.1
ARU *e* 18 00 04.9
ARU *e*S **S** **18 05 52.0 +1.5**
ARU pmax pmax
comp=Z,48nm,1.7s,mb5.2
DLBC Dease Lake 56.67 39 P **P** **17 58 05.8 -0.9**
comp=Z,2.1nm,0.8s,mb4.2,baz=276,slow=10,SNR=3.6
AB31 Akbulak array 58.14 310 *i* P **P** **17 58 15.7 -1.5**
AB31 pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
FITZ Fitzroy Crossi 58.58 200 *e*P **P** **17 58 20.3 -0.4**
comp=Z,9.7nm,0.8s,mb4.9
WRAB Tennant Creek 58.63 190 *e*P **P** **17 58 19.2 -1.8**
comp=Z,116nm,1.4s,mb5.7
WRAB Tennant Creek 58.63 190 *e*P **P** **17 58 19.2 -1.8**
WRAB pmax pmax
comp=Z,116nm,1.4s,mb5.7
WB2 Warramunga Arr 58.63 190 *e*P **P** **17 58 19.5 -1.6**
WB2 *i* pP 17 58 28.0 -0.7
WRA Warramunga Arr 58.64 190 P **P** **17 58 19.6 -1.5**
comp=Z,8.7nm,0.7s,mb4.9,baz=7.8,slow=7.1,SNR=132
AKTO Aktyubinsk 58.81 312 P **P** **17 58 19.4 -2.5**
AKTO pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
HYB Hyderabad 59.65 269 *i* P **P** **17 58 27.0 -1.2**
HYB Hyderabad 59.65 269 *e*P **P** **17 58 27.0 -1.2**
YKA Yellowknife Ar 61.91 31 P **P** **17 58 41.3 -1.6**
comp=Z,1.3nm,0.8s,mb4.1,baz=296,slow=6.7,SNR=5.9
APA Apatity 62.01 336⇓ *i*P **P** **17 58 41.0 -2.6**
APA pmax pmax
comp=Z,21nm,1.0s,mb5.2
APA MLR MLR
comp=Z,2μm,9.0s
ASPA Alice Springs 62.36 190 *e*P **P** **17 58 45.6 -0.9**
KEV Kevo 62.66 339 *e*p **P** **17 58 45.0 -2.8**
comp=Z,11nm,1.0s,mb4.9
KEV Kevo 62.66 339 *e*P **P** **17 58 45.0 -2.8**
KEV pmax pmax
comp=Z,11nm,1.0s,mb4.9
ARCES ARCESS Array B 63.20 340 P **P** **17 58 50.4 -1.0**
comp=Z,3.3nm,0.6s,mb4.6,baz=54,slow=8.7,SNR=15
JOF Joensuu 65.41 332 *e*p **P** **17 59 04.2 -1.6**
comp=Z,5.0nm,0.6s,mb4.7
JCW Jim Creek 65.47 47 P **P** **17 59 07.0 +0.6**
TDL Tradedollar La 66.25 49 P **P** **17 59 12.5 +1.1**
ETW Entiat 66.69 47 P **P** **17 59 14.8 +0.5**
EBG Ellensburg 66.92 48 P **P** **17 59 16.6 +0.9**
MOS Moscow 66.98 324 *e*P **P** **17 59 14.4 -1.5**
MOS pmax pmax
comp=Z,63nm,0.8s,mb5.7
EDM Edmonton 67.39 39 *e*P **P** **17 59 17.9 -0.6**
VRHR Novokhopersk 67.61 318 *e*P **P** **17 59 18.1 -1.9**
VRHR pmax pmax
comp=Z,20nm,0.8s,mb5.2
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.9s
KAF Kangasniemi 67.73 333 *e*p **P** **17 59 18.9 -1.6**
comp=E,4.9nm,0.7s,mb4.7,baz=47,slow=6.0
KAF Kangasniemi 67.73 333 *e*P **P** **17 59 18.9 -1.6**
KAF pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
OBN Obninsk 67.84 324 *e*P **P** **17 59 20.2 -1.1**
comp=Z,52nm,1.2s,mb5.4
OBN Obninsk 67.84 324α *i*P **P** **17 59 20.5 -0.8**
OBN *e* 17 59 46.7
OBN *e*S S 18 08 19.2 +2.7
OBN *e* 18 09 07.5
OBN *e*SS SS 18 12 32.0 -7.6
OBN pmax pmax
comp=Z,46nm,1.2s,mb5.4
NEW Newport 68.16 45 P **P** **17 59 23.3 -0.1**
comp=Z,8.4nm,0.9s,mb4.8,baz=321,slow=5.5,SNR=7.9
NEW Newport 68.16 45 *e*P **P** **17 59 23.2 -0.3**
comp=Z,14nm,1.2s,mb4.9
NEW Newport 68.16 45 *e*P **P** **17 59 23.2 -0.2**
NEW pmax pmax
comp=Z,14nm,1.2s
FINES FINESS Array B 68.25 333 P **P** **17 59 22.4 -1.3**
comp=Z,8.4nm,0.8s,mb4.8,baz=45,slow=7.9,SNR=16
YBH Yreka Blue Hor 68.39 53 P **P** **17 59 25.9 +0.9**
comp=Z,4.9nm,1.1s,mb4.5,baz=98,slow=0.1,SNR=3.6
YBH Yreka Blue Hor 68.39 53 *e*P **P** **17 59 25.7 +0.7**
comp=Z,5.9nm,1.0s,mb4.6
YBH Yreka Blue Hor 68.39 53 *e*P **P** **17 59 25.7 +0.7**
YBH pmax pmax
comp=Z,6.0nm,1.0s
VRSR Storozhevoye 68.81 319 *e*P **P** **17 59 27.4 0.0**
VRSR pmax pmax
comp=Z,20nm,0.9s,mb5.0
VRSR pmax pmax
comp=N,20nm,0.7s
WALA Waterton Lakes 69.47 43 *e*P **P** **17 59 30.6 -0.9**
comp=N,18nm,1.3s,mb4.8
STKA Stephens Creek 69.94 181 P **P** **17 59 34.5 -0.2**
comp=N,4.5nm,0.9s,mb4.4,baz=126,slow=16,SNR=2.9
STKA Stephens Creek 69.94 181 P **P** **17 59 34.4 -0.3**
GOF Gofitskoye 70.23 312⇑ *i*P **P** **17 59 34.4 -1.8**
GOF pmax pmax
comp=Z,40nm,1.3s,mb5.2
KIV Kislovodsk 71.07 311 *e*P **P** **17 59 41.4 +0.1**
comp=Z,49nm,1.1s,mb5.3
KIV Kislovodsk 71.07 311c *i*P **P** **17 59 41.6 +0.3**
KIV pmax pmax
comp=Z,59nm,1.3s,mb5.4
CMB Columbia Colle 71.92 56 *e*P **P** **17 59 46.6 +0.1**
HRY Holter Researc 71.98 44 *e*P **P** **17 59 46.9 +0.2**
GNI Garni 72.01 307 *i* P **P** **17 59 48.3 +1.3**
GNI pmax pmax
comp=Z,19nm,1.7s
DLMT Dillon 72.37 46 *e*P **P** **17 59 48.9 -0.2**
BOZ Bozeman (W) 72.74 45 *e*P **P** **17 59 51.4 +0.2**
comp=Z,11nm,1.3s,mb4.6
BOZ Bozeman (W) 72.74 45 *e*P **P** **17 59 51.4 +0.2**
BOZ pmax pmax
comp=Z,11nm,1.3s,mb4.6
NVAR Mina Array Bea 73.03 54 P **P** **17 59 53.8 +0.7**
comp=Z,2.6nm,0.8s,mb4.2,baz=293,slow=4.7,SNR=14
HFS Hagfors 73.41 336 P **P** **17 59 54.4 -0.4**
comp=Z,7.9nm,0.6s,mb4.9,baz=56,slow=5.3,SNR=32
NB2 NORSAR Subarra 73.46 338 P **P** **17 59 54.4 -0.6**
comp=Z,29nm,1.0s,mb5.2,baz=37,slow=5.8
NB2 NORSAR Subarra 73.46 338 P **P** **17 59 54.4 -0.6**
baz=37,slow=6.2
NB2 NORSAR Subarra 73.46 338 P **P** **17 59 54.4 -0.6**
NB2 pmax pmax
comp=Z,29nm,1.0s,mb5.2
NOA NORSAR Array B 73.46 338 P **P** **17 59 54.8 -0.3**
comp=Z,13nm,0.8s,mb4.9,baz=38,slow=5.9,SNR=30
ELK Elko 73.58 51 *e*P **P** **17 59 56.8 +0.6**
comp=Z,14nm,1.8s,mb4.6
ELK Elko 73.58 51 *e*P **P** **17 59 56.8 +0.6**
ELK pmax pmax
comp=Z,14nm,1.8s
AKASG Malin Array Be 74.07 323 P **P** **17 59 58.3 -0.5**
comp=Z,17nm,0.8s,mb5.0,baz=44,slow=6.0,SNR=78
SUW Suwalki 74.48 328 *e*P **P** **18 00 00.8 -0.3**
SUW Suwalki 74.48 328 *e*P **P** **18 00 00.8 -0.3**
ISA Isabella 74.55 57 P **P** **18 00 02.2 +0.3**
comp=Z,4.2nm,0.3s,mb4.8
ISA Isabella 74.55 57 P **P** **18 00 02.2 +0.3**
ISA pmax pmax
comp=Z,4.0nm,0.3s,mb4.8
SIM Simferopol' 75.33 316 *e*P **P** **18 00 06.0 -0.2**
SIM pmax pmax
comp=Z,15nm,0.5s,mb5.2
BW06 Boulder Array 75.69 47 *e*P **P** **18 00 08.0 -0.3**
comp=Z,16nm,1.7s,mb4.7
PDAR Pinedale Array 75.69 47 P **P** **18 00 08.6 +0.2**
comp=Z,2.3nm,0.8s,mb4.2,baz=297,slow=3.3,SNR=16
DAU Daniels Canyon 76.19 49 *e*P **P** **18 00 11.9 +0.7**
UMR Umm Al-Rimmam 76.22 297 *e*P **P** **18 00 11.0 -0.6**
UMR AMb AMB 18 00 12.7
comp=Z,16nm,0.5s,mb5.2
MIB Mutribah 76.33 297 *e*P **P** **18 00 11.8 -0.5**
MIB AMb AMB 18 00 12.9
comp=Z,28nm,1.1s,mb5.1
KBD Kabd 76.46 296 *e*P **P** **18 00 12.8 -0.2**
RDF Al-Radifah 76.71 296 *e*P **P** **18 00 13.9 -0.5**
RDF AMb AMB 18 00 15.1
comp=Z,50nm,0.8s,mb5.5
KIS Kishinev 76.75 320 *e*P **P** **18 00 13.0 -1.2**
MSU Marysvale 76.82 51 *e*P **P** **18 00 15.6 +0.9**
NEN Nelson 76.91 55 *e*P **P** **18 00 15.7 +0.4**
MALT Malatya 77.03 309 *e*P **P** **18 00 16.8 +0.9**
comp=Z,17nm,1.1s,mb4.9
MALT Malatya 77.03 309 *e*P **P** **18 00 16.8 +0.9**
MALT pmax pmax
comp=Z,17nm,1.1s,mb4.9
LVV L'vov 77.09 325 *i* P **P** **18 00 15.5 -0.5**
LVV *e* 18 10 26.9
SRU San Rafael 77.44 50 *e*P **P** **18 00 18.5 +0.3**
ULM Lac du Bonnet 77.57 34 P **P** **18 00 17.8 -0.9**
comp=Z,3.7nm,0.9s,mb4.3,baz=295,slow=7.5,SNR=5.4
KWP Kalwaria 77.83 325 *e*P **P** **18 00 20.9 +0.8**
KWP Kalwaria 77.83 325 *e*P **P** **18 00 20.9 +0.8**
STHS Stebnicka Huta 78.64 326 *e*P **P** **18 00 24.7 +0.2**
OJC Ojcow 78.67 327 *e*P **P** **18 00 24.7 0.0**
CRVS Cervenica-Dubn 78.92 325 *e*P **P** **18 00 28.0 +1.9**
BRTR Keskin Array B 78.99 312 P **P** **18 00 26.9 +0.2**
comp=Z,3.1nm,0.9s,mb4.2,baz=56,slow=4.5,SNR=11
MLR Muntele Rosu 79.24 320 P **P** **18 00 28.2 +0.3**
comp=Z,3.0nm,0.6s,mb4.4,baz=18,slow=1.9,SNR=7.5
BSEG Bad Segeberg 79.46 334 *e*P **P** **18 00 29.3 +0.4**
KECS Kecovo 79.66 325 *e*P **P** **18 00 29.7 -0.4**
KSP Ksiaz 79.67 329 *e*P **P** **18 00 31.1 +1.0**
KSP Ksiaz 79.67 329 *e*P **P** **18 00 30.8 +0.7**
OKC Ostrava-Krasne 79.67 327 *e*P **P** **18 00 30.8 +0.7**
ISCO Idaho Springs 79.88 47 *e*P **P** **18 00 32.1 +0.6**
comp=Z,12nm,0.8s,mb4.9
ISCO Idaho Springs 79.88 47 *e*P **P** **18 00 32.1 +0.6**
ISCO pmax pmax
comp=Z,12nm,0.8s,mb4.9
MORC Moravsky Berou 79.97 328 *e*P **P** **18 00 31.9 +0.2**
comp=Z,23nm,1.3s,mb5.0
MORC Moravsky Berou 79.97 328 *e*P **P** **18 00 31.9 +0.2**
MORC pmax pmax
comp=Z,23nm,1.3s,mb5.0
DPC Dobruska-Polom 80.03 329 *e*P **P** **18 00 33.4 +1.3**
UPC Upice 80.04 329 *e*P **P** **18 00 33.2 +1.1**
PSZ Piszkesteto 80.35 325 *e*P **P** **18 00 34.5 +0.7**
comp=Z,39nm,1.4s,mb5.2
PSZ Piszkesteto 80.35 325 *e*P **P** **18 00 34.5 +0.7**
PSZ pmax pmax
comp=Z,39nm,1.4s,mb5.1
VYHS Vyhne 80.39 326 *e*P **P** **18 00 34.8 +0.8**
BRG Berggiesshubel 80.58 330 *e*P **P** **18 00 35.4 +0.4**
comp=Z,15nm,1.1s,mb4.8
BRG Berggiesshubel 80.58 330 *e*P **P** **18 00 35.4 +0.5**
BRG pmax pmax
comp=Z,15nm,1.1s,mb4.8
CLL Collm 80.60 331⇑ P **P** **18 00 35.1 +0.1**
comp=Z,logA/T=1.4,mb5.1
CLL Collm 80.60 331⇑ *i*P **P** **18 00 35.1 +0.1**
comp=Z,29nm,1.1s,mb5.1
CLL Collm 80.60 331⇑ *i*P **P** **18 00 35.1 +0.1**
CLL pmax pmax
comp=Z,29nm,1.1s,mb5.1
PVCC Panska Ves 80.60 330 *e*P **P** **18 00 36.4 +1.3**
VRAC Vranov 80.72 328 P **P** **18 00 37.1 +1.4**
comp=Z,13nm,0.8s,mb4.9,baz=43,slow=4.3,SNR=17
SMOL Smolenice 80.98 327 *e*P **P** **18 00 38.7 +1.6**
PRU Pruhonice 81.04 329 *e*P **P** **18 00 38.3 +0.9**
CLZ Clausthal 81.14 333 *e*P **P** **18 00 38.6 +0.7**
comp=Z,26nm,1.2s,mb5.0
CLZ Clausthal 81.14 333 *e*P **P** **18 00 38.6 +0.7**
CLZ pmax pmax
comp=Z,26nm,1.2s,mb5.0
MZLS Mizel 81.33 294 P **P** **18 00 39.6 +0.1**
MOX Moxa 81.65 331 *i* P **P** **18 00 40.6 0.0**
comp=Z,logA/T=1.1,mb4.8
MOX Moxa 81.65 331 *e*P **P** **18 00 40.6 0.0**
comp=Z,18nm,1.4s,mb4.8
MOX Moxa 81.65 331 *e*P **P** **18 00 40.6 0.0**
MOX pmax pmax
comp=Z,18nm,1.4s,mb4.8
NKC Novy Kostel 81.67 331 *e*P **P** **18 00 41.5 +0.9**
HILS Ha'il 81.67 298 P **P** **18 00 41.8 +0.6**
ASF Jabal al Asfar 81.90 305 P **P** **18 00 43.0 +0.8**
comp=Z,4.7nm,0.7s,mb4.5,baz=254,slow=3.5,SNR=7.7
KHC Kasperske Hory 82.10 329 *e*P **P** **18 00 43.6 +0.7**
GEC2 GERESS Array S 82.28 329 *e*P **P** **18 00 44.3 +0.5**
comp=Z,10.0nm,1.2s,mb4.6
GEC2 GERESS Array S 82.28 329 *e*P **P** **18 00 44.3 +0.5**
GEC2 pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
GERES GERESS Array B 82.28 329 P **P** **18 00 44.0 +0.1**
comp=Z,3.1nm,0.9s,mb4.2,baz=34,slow=4.8,SNR=20
EKA Eskdalemuir Ar 82.30 341 P **P** **18 00 44.2 +0.4**
comp=Z,3.4nm,0.9s,mb4.3,baz=18,slow=5.3,SNR=7.4
WET Wettzell 82.37 330 *e*P **P** **18 00 45.2 +0.9**
comp=Z,14nm,1.2s,mb4.8
WET Wettzell 82.37 330 *e*P **P** **18 00 45.2 +0.9**
WET pmax pmax
comp=Z,14nm,1.2s,mb4.8
GRA1 Grafenberg Arr 82.57 331 *e*P **P** **18 00 46.3 +0.9**
comp=Z,34nm,1.0s,mb5.3
GRF Grafenberg Arr 82.57 331 *e*P **P** **18 00 46.3 +0.9**
comp=Z,34nm,1.0s,mb5.3
GRF Grafenberg Arr 82.57 331 *e*P **P** **18 00 46.3 +0.9**
GRF pmax pmax
comp=Z,34nm,1.0s,mb5.3
GRF Grafenberg Arr 82.57 331 *e*P **P** **18 00 46.3 +0.9**
GRF pmax pmax
comp=Z,34nm,1.0s,mb5.3
ANMO Albuquerque 82.62 51 P **P** **18 00 47.8 +1.9**
comp=Z,4.6nm,1.0s,mb4.5,baz=298,slow=5.6,SNR=9.0
ANMO Albuquerque 82.62 51 *e*P **P** **18 00 47.0 +1.1**
comp=Z,5.6nm,1.1s,mb4.5
ANMO Albuquerque 82.62 51 P **P** **18 00 47.8 +1.9**
ANMO pmax pmax
comp=Z,5.0nm,1.0s
ARSA Arzberg 82.77 327⇑ *i*P **P** **18 00 47.2 +0.8**
comp=Z,13nm,1.6s,mb4.7
MOA Molln 82.83 328⇑ *i*P **P** **18 00 47.3 +0.6**
comp=Z,12nm,1.2s,mb4.8
AFFS 'Afif 82.98 295 P **P** **18 00 48.4 +0.4**
TNS Taunus Mts 83.17 333 *e*P **P** **18 00 48.9 +0.5**
comp=Z,10.0nm,1.1s,mb4.8
TNS Taunus Mts 83.17 333 *e*P **P** **18 00 48.9 +0.5**
TNS pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
TOD Tromm 83.55 332 *e*P **P** **18 00 50.8 +0.5**
SCHQ Schefferville 83.62 17 P **P** **18 00 50.9 +0.4**
comp=Z,3.6nm,0.8s,mb4.5,baz=325,slow=2.2,SNR=5.4
ABH Alteburg 83.78 333 *e*P **P** **18 00 52.9 +1.4**
FUR Furstenfeldbru 83.79 330 *e*P **P** **18 00 52.4 +0.8**
comp=Z,70nm,1.5s,mb5.6
FUR Furstenfeldbru 83.79 330 *e*P **P** **18 00 52.4 +0.8**
FUR pmax pmax
comp=Z,70nm,1.5s,mb5.6
KBA Koelnbreinsper 83.82 328⇑ *i*P **P** **18 00 53.6 +1.8**
comp=Z,12nm,1.0s,mb5.0
KBA Koelnbreinsper 83.82 328⇑ *i*P **P** **18 00 53.6 +1.8**
KBA pmax pmax
comp=Z,13nm,1.0s,mb5.0
WTTA Wattenberg 84.37 329⇑ *i*P **P** **18 00 55.3 +0.8**
comp=Z,17nm,1.9s,mb4.8
WTTA Wattenberg 84.37 329⇑ *i*P **P** **18 00 55.3 +0.8**
WTTA pmax pmax
comp=Z,17nm,1.9s,mb4.8
KBRS Khaybar 84.42 298 P **P** **18 00 56.5 +1.2**
MOTA Moosalm 84.52 330⇑ *i*P **P** **18 00 55.8 +0.5**
comp=Z,14nm,1.1s,mb5.0
MOTA Moosalm 84.52 330⇑ *i*P **P** **18 00 55.8 +0.5**
MOTA pmax pmax
comp=Z,14nm,1.1s,mb5.0
GIVF Givet 84.54 335 *e*P **P** **18 00 55.4 +0.1**
TBKS Tabuk 84.69 302 P **P** **18 00 57.4 +0.8**
BAIF Baives 84.78 335 *e*P **P** **18 00 56.6 +0.1**
BFO Black Forest 84.78 332 *e*P **P** **18 00 57.1 +0.5**
comp=Z,38nm,1.3s,mb5.4
BFO Black Forest 84.78 332 *e*P **P** **18 00 57.1 +0.5**
BFO pmax pmax
comp=Z,38nm,1.3s,mb5.4
JMOS Jabal al Moall 85.03 303 P **P** **18 00 59.1 +0.9**
DAVA Damuels 85.05 330⇑ *i*P **P** **18 00 58.7 +0.8**
comp=Z,27nm,1.1s,mb5.3
WLS Welschbruch 85.07 332 *e*P **P** **18 00 58.6 +0.6**
CDF Champ du Feu 85.10 332 *e*P **P** **18 00 58.6 +0.5**
comp=Z,64nm,1.3s,mb5.3
CDF Champ du Feu 85.10 332 *e*P **P** **18 00 58.6 +0.5**
CDF pmax pmax
comp=Z,32nm,1.3s,mb5.3
FELD Feldberg 85.28 332 *e*P **P** **18 00 59.3 +0.2**
ECH Echery 85.31 332 *e*P **P** **18 00 58.9 -0.3**
MOF Molkenrain 85.62 332 *e*P **P** **18 01 01.2 +0.4**
THEF They Montfort 85.72 333 *e*P **P** **18 01 01.5 +0.2**
HINF Hinteralfeld 85.76 332 *e*P **P** **18 01 01.3 -0.1**
comp=Z,21nm,1.2s,mb5.0
HINF Hinteralfeld 85.76 332 *e*P **P** **18 01 01.3 -0.1**
HINF pmax pmax
comp=Z,11nm,1.2s,mb5.0
HAU Haudompre 85.78 333 *e*P **P** **18 01 01.6 0.0**
BBS Basel-Blauen 85.81 332 *e*P **P** **18 01 02.2 +0.5**
MEZF Maizieres J'vi 85.82 334 *e*P **P** **18 01 02.3 +0.6**
LOMF Lomont 86.16 332 *e*P **P** **18 01 03.6 +0.2**
CABF La Chapelle 87.05 332 *e*P **P** **18 01 08.2 +0.4**
IDI Anoyia 87.07 314 P **P** **18 01 08.2 0.0**
comp=Z,11nm,1.0s,mb5.0,baz=79,slow=10,SNR=2.9
LOR Lormes 87.29 334 *e*P **P** **18 01 09.2 +0.2**
comp=Z,51nm,1.2s,mb5.3
LOR Lormes 87.29 334 *e*P **P** **18 01 09.2 +0.2**
LOR pmax pmax
comp=Z,26nm,1.2s,mb5.3
FLN La Foliniere 87.42 337 *e*P **P** **18 01 09.6 +0.1**
comp=Z,24nm,0.9s,mb5.1
FLN La Foliniere 87.42 337 *e*P **P** **18 01 09.6 +0.1**
FLN pmax pmax
comp=Z,12nm,0.9s,mb5.1
LDF La Druitiere 87.45 337 *e*P **P** **18 01 09.8 +0.1**
comp=Z,13nm,0.9s,mb4.8
LDF La Druitiere 87.45 337 *e*P **P** **18 01 09.8 +0.1**
LDF pmax pmax
comp=Z,6.0nm,0.9s,mb4.8
SSF Saint Saulge 87.59 334 *e*P **P** **18 01 10.7 +0.3**
comp=Z,14nm,1.2s,mb5.1
SSF Saint Saulge 87.59 334 *e*P **P** **18 01 10.7 +0.3**
SSF pmax pmax
comp=Z,14nm,1.2s,mb5.1
HYF Humbligny 87.71 334 *e*P **P** **18 01 11.4 +0.4**
LPL La Plagne 87.73 331 *e*P **P** **18 01 11.8 +0.7**
comp=Z,15nm,0.9s,mb4.9
LPL La Plagne 87.73 331 *e*P **P** **18 01 11.8 +0.7**
LPL pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
LPG La Plagne 87.74 331 *e*P **P** **18 01 12.0 +0.8**
comp=Z,22nm,1.1s,mb5.0
LPG La Plagne 87.74 331 *e*P **P** **18 01 12.0 +0.8**
LPG pmax pmax
comp=Z,11nm,1.1s,mb5.0
SMF Signal de Mont 87.83 333 *e*P **P** **18 01 12.0 +0.4**
comp=Z,57nm,1.3s,mb5.3
SMF Signal de Mont 87.83 333 *e*P **P** **18 01 12.0 +0.4**
SMF pmax pmax
comp=Z,29nm,1.3s,mb5.3
GRR Gorron 87.86 337 *e*P **P** **18 01 11.9 +0.2**
comp=Z,25nm,1.1s,mb5.1
GRR Gorron 87.86 337 *e*P **P** **18 01 11.9 +0.2**
GRR pmax pmax
comp=Z,13nm,1.1s,mb5.1
AVF Avril sur Loir 87.88 334 *e*P **P** **18 01 12.2 +0.4**
comp=Z,44nm,1.2s,mb5.3
AVF Avril sur Loir 87.88 334 *e*P **P** **18 01 12.2 +0.4**
AVF pmax pmax
comp=Z,22nm,1.2s,mb5.3
TXAR Lajitas Array 88.16 53 P **P** **18 01 14.1 +0.5**
comp=Z,1.2nm,0.6s,mb4.3,baz=288,slow=4.0,SNR=4.1
BGF Bois d'Agland 88.26 334 *e*P **P** **18 01 14.1 +0.5**
MBDF Montbardon 88.38 331 *e*P **P** **18 01 15.0 +0.7**
comp=Z,3.6nm,0.6s,mb4.5
MBDF Montbardon 88.38 331 *e*P **P** **18 01 15.0 +0.7**
MBDF pmax pmax
comp=Z,2.0nm,0.6s,mb4.5
ORIF Oris-en-Rattie 88.56 331 *e*P **P** **18 01 15.6 +0.5**
comp=Z,9.1nm,1.0s,mb4.8
ORIF Oris-en-Rattie 88.56 331 *e*P **P** **18 01 15.6 +0.5**
ORIF pmax pmax
comp=Z,5.0nm,1.0s,mb4.8
ROSF Rostrenen 88.63 338 *e*P **P** **18 01 15.6 +0.2**
comp=Z,20nm,0.9s,mb5.2
ROSF Rostrenen 88.63 338 *e*P **P** **18 01 15.6 +0.2**
ROSF pmax pmax
comp=Z,10.0nm,0.9s,mb5.2
TCF Toulx Ste Croi 88.71 334 *e*P **P** **18 01 16.4 +0.6**
CCM Cathedral Cave 88.90 40 *e*P **P** **18 01 16.2 -0.7**
comp=Z,12nm,1.1s,mb5.1
CCM Cathedral Cave 88.90 40 *e*P **P** **18 01 16.2 -0.7**
CCM pmax pmax
comp=Z,12nm,1.1s,mb5.1
VIVF Saint-Julien-l 89.07 332 *e*P **P** **18 01 17.8 +0.3**
comp=Z,16nm,1.2s,mb4.9
VIVF Saint-Julien-l 89.07 332 *e*P **P** **18 01 17.8 +0.3**
VIVF pmax pmax
comp=Z,8.0nm,1.2s,mb4.9
MFF Saint Martin d 89.22 336 *e*P **P** **18 01 18.7 +0.5**
comp=Z,16nm,0.9s,mb5.0
MFF Saint Martin d 89.22 336 *e*P **P** **18 01 18.7 +0.5**
MFF pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
SMRF Simiane la Rot 89.48 331 *e*P **P** **18 01 19.8 +0.3**
LMR La Mourre 89.66 330 *e*P **P** **18 01 21.2 +0.8**
comp=Z,10.0nm,0.9s,mb4.8
LMR La Mourre 89.66 330 *e*P **P** **18 01 21.2 +0.8**
LMR pmax pmax
comp=Z,5.0nm,0.9s,mb4.8
RJF Les Rejaudoux 89.81 334 *e*P **P** **18 01 21.7 +0.7**
comp=Z,21nm,1.1s,mb5.1
RJF Les Rejaudoux 89.81 334 *e*P **P** **18 01 21.7 +0.7**
RJF pmax pmax
comp=Z,10.0nm,1.1s,mb5.1
CAF Calviac 89.95 334 *e*P **P** **18 01 22.5 +0.8**
comp=Z,14nm,0.9s,mb5.0
CAF Calviac 89.95 334 *e*P **P** **18 01 22.5 +0.8**
CAF pmax pmax
comp=Z,7.0nm,0.9s,mb5.0
LASF Ste Croix 90.04 332 *e*P **P** **18 01 22.3 +0.2**
LFF La Frestale 90.39 334 *e*P **P** **18 01 24.5 +0.8**
comp=Z,35nm,1.0s,mb5.3
LFF La Frestale 90.39 334 *e*P **P** **18 01 24.5 +0.8**
LFF pmax pmax
comp=Z,17nm,1.0s,mb5.3
MTLF Montolieu 91.27 333 *e*P **P** **18 01 28.4 +0.6**
comp=Z,17nm,1.2s,mb4.9
MTLF Montolieu 91.27 333 *e*P **P** **18 01 28.4 +0.6**
MTLF pmax pmax
comp=Z,9.0nm,1.2s,mb5.0
EPF Esparros 92.21 334 *e*P **P** **18 01 32.2 +0.1**
ETSF Etsaut 92.63 334 *e*P **P** **18 01 35.0 +0.9**
SJPF Ste Jean 92.67 335 *e*P **P** **18 01 34.3 +0.1**
MAW Mawson 121.39 206 PKP PKPdf 18 07 14.9 -3.6
comp=Z,1.3nm,0.7s,baz=34,slow=3.6,SNR=3.9
SNAA Sanae 142.48 197 PKPdf 18 07 49.7 -7.9
SNAA Sanae 142.48 197 PKPdf 18 07 51.4 -6.2
SNAA Sanae 142.48 197 PKPdf 18 07 55.4 -2.2
SNAA Sanae 142.48 197 *e*PKHKP 18 07 49.0

SNAA				*e*		18 07 54.1	
VNA2	**Neumayer--Watz**	**144.03 196**			PKPbc	18 08 00.6	+5.7
VNA2	**Neumayer--Watz**	**144.03 196**	⇓	*i*	PKPbc	18 08 04.3	+9.4
VNA2	**Neumayer--Watz**	**144.03 196**			PKPbc	18 08 10.1	+15
VNA2	**Neumayer--Watz**	**144.03 196**	⇑	*i* PKPdf	PKPdf	18 07 55.9	-4.3
VNA2				P		18 08 00.6	
VNA2			⇓	*i* P		18 08 04.3	
VNA2				P		18 08 10.1	
VNA3	**Neumayer Olymp**	**144.26 195**			PKPbc	18 08 01.1	+5.6
VNA3	**Neumayer Olymp**	**144.26 195**			PKPbc	18 08 05.8	+10
VNA3	**Neumayer Olymp**	**144.26 195**			PKPbc	18 08 10.0	+14
VNA3	**Neumayer Olymp**	**144.26 195**	⇑	*i* PKPdf	PKPdf	18 07 56.3	-4.4
VNA3				P		18 08 01.1	
VNA3				P		18 08 05.8	
VNA3				P		18 08 10.0	
VNA1	**Neumayer--Stat**	**144.43 196**			PKPbc	18 08 02.2	+6.2
VNA1	**Neumayer--Stat**	**144.43 196**			PKPbc	18 08 06.8	+11
VNA1	**Neumayer--Stat**	**144.43 196**	⇑	*i* PKPdf	PKPdf	18 07 58.1	-2.9
VNA1				P		18 08 02.2	
VNA1				P		18 08 06.8	
LPAZ	**La Paz**	**144.78 60**		PKP	PKPdf	18 07 59.6	-3.5
	comp=Z,1.0nm,0.5s,baz=24,slow=8.7,SNR=6.3						
LPAZ	**La Paz**	**144.78 60**		PKIKP	PKPdf	18 07 59.6	-3.6
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.5s						
LVC	**Limon Verde**	**148.37 69**		PKPdf	PKPdf	18 08 07.3	-1.7

NIC ***30*** *17:48:50.4±0.3, 36.23N×31.29E, h25km, ML3.5, MW3.1*
ISK ***30*** *17:48:50.6, 35.63N×31.29E, h3km, MD3.5*
NEIC ***30*** *17:48:50.4, 36.23N×31.29E, h25km, ML3.5(NIC), After NIC.*
CSEM ***30*** *17:48:51.2±0.2, 35.73N×31.30E, h2km, Mw3.1, Error ellipse: s-maj=5.2km s-min=2.4km az=39.0*
ISC 30 17:48:52.1±0.6, 35.69N±0.04×31.30E±0.05, h2km, n23, σ1ŝ28/34, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPCY	**Paphos**	**1.17**	**133**	P	**Pb**	**17 49 15.9**	**+1.1**
PPCY				S	**Sb**	**17 49 34.5**	**+4.2**
ALFC	**Alevga**	**1.19**	**116**	P	**Pb**	**17 49 13.8**	**-1.2**
	16nm,0.2s						
ALFC				S	**Sb**	**17 49 33.2**	**+2.5**
LEF	**Lefka**	**1.42**	**113**	PN	**Pn**	**17 49 17.4**	**-1.6**
ELL	**Elmali**	**1.54**	**314**	PN	**Pn**	**17 49 20.0**	**-0.8**
HDMB	**Hadim**	**1.59**	**37**	PN	**Pn**	**17 49 20.9**	**-0.6**
HDMB				SN	**Sn**	**17 49 43.6**	**+0.7**
SZAC	**Souni-Zanaja**	**1.59**	**125**	P	**Pn**	**17 49 21.2**	**-0.3**
SZAC				S	**Sb**	**17 49 44.6**	**+2.0**
ERMK	**Ermenek**	**1.61**	**53**	*i* P	**Pn**	**17 49 20.5**	**-1.3**
ERMK				*i* S	**Sb**	**17 49 44.8**	**+1.7**
MAMC	**Mammari**	**1.65**	**108**	P	**Pn**	**17 49 19.8**	**-2.5**
CSS	**Prodhromos**	**1.81**	**113**	P	**Pn**	**17 49 22.2**	**-2.4**
	2.4nm,0.4s						
CSS				S	**Sn**	**17 49 47.4**	**-1.1**
CSS	**Prodhromos**	**1.81**	**113**	PN	**Pn**	**17 49 23.7**	**-0.9**
CSS	**Prodhromos**	**1.81**	**113**	*e*Pn	**Pn**	**17 49 23.7**	**-0.9**
CSS				S	**Sn**	**17 49 47.4**	**-1.1**
BCK	**Bucak**	**1.86**	**342**	PN	**Pn**	**17 49 25.1**	**-0.2**
IKL	**Isikli**	**2.01**	**73**	PN	**Pn**	**17 49 27.1**	**-0.4**
GOLH	**Golhisar**	**2.09**	**318**	*i* P	**Pn**	**17 49 30.7**	**+2.2**
GOLH				*i* S	**Sn**	**17 49 56.3**	**+0.8**
ISP	**Isparta**	**2.24**	**344**	PN	**Pn**	**17 49 30.7**	**-0.1**
PHNC	**Paralimni**	**2.33**	**106**	P	**Pn**	**17 49 35.4**	**+3.3**
PHNC				S	**Sn**	**17 50 03.0**	**+1.2**
MEST	**Erdemli**	**2.47**	**68**	*i* P	**Pn**	**17 49 34.0**	**-0.1**
MEST				*i* S	**Sn**	**17 50 02.5**	**-2.7**
TKTP	**Tekketepe**	**2.48**	**342**	*i* P	**Pn**	**17 49 34.4**	**+0.3**
TKTP				*i* S	**Sn**	**17 50 06.9**	**+1.6**
DENT	**Denizli**	**2.75**	**319**	*e*PN	**Pn**	**17 49 37.7**	**-0.3**
MERS	**Mersin**	**2.86**	**65**	*e*PN	**Pn**	**17 49 39.1**	**-0.4**
KIZT	**Kizilcal**	**3.22**	**8**	*e*PN	**Pn**	**17 49 44.0**	**-0.7**
ESKT	**Eskisehir**	**3.84**	**355**	*e*PN	**Pn**	**17 49 52.8**	**-0.7**
KOZT	**Kozan**	**4.06**	**63**	*e*PN	**Pn**	**17 49 56.7**	**+0.1**

JMA ***30*** *18:10:40.2±0.1, 38.41N×143.48E, h22km, M6.3*
JMA Felt III J1.
CRAAG ***30*** *18:10:41.1, 38.45N×143.28E, Mb5.9*
IDC ***30*** *18:10:41.8±0.3, 38.49N×143.16E, mb5.4/29, mb1 5.5/32, mb1mx5.5/33, mbtmp5.4/32, ML4.8/3, MS5.8/25, Ms1 5.8/25, ms1mx5.7/38, Error ellipse: s-maj=11.8km s-min=8.1km az=95.0*
BGS ***30*** *18:10:45.4, 38.48N×143.18E, h21km, mb5.8*
NEIC ***30*** *18:10:45.5±0.1, 38.48N×143.18E, mb5.8/173, ME6.0, MS5.7/117, MW6.1, MW5.9(NIED), Error ellipse: s-maj=3.4km s-min=2.5km az=167.0 Broadband fault plane solution: P waves. NP1:φs30°, δ80°, λ90°. NP2: φs210°, δ10°, λ90°. Principal axes: T Plg55°, Azm300°; N Plg0°, Azm0°; P Plg35°, Azm120°; Moment Tensor Solution. s26 Moment tensor: Scale 10^18 Nm; Mrr0.53; Mθθ-0.01; Mφφ-0.52; Mrθ1.03; Mrφ-0.19; Mθφ1.53; Best double couple: M0 1.9×10^18 NP1:φs183°, δ9°, λ60°. NP2: φs33°, δ82°, λ95°. Principal axes: T 1.93, Plg53°, Azm309°; N .01, Plg5°, Azm212°; P -1.93, Plg37°, Azm119°; Two events about 2. Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt at Iwaki, Misawa and Yamoto. Also felt at P'yongt'aek, South Korea. seconds apart.
BJI ***30*** *18:10:45.9, 38.57N×142.69E, h21km, mB6.4, mb5.6, Ms6.4, Msz6.2*
HRVD ***30*** *18:10:45.5±0.1, 38.53N×143.29E, h13km, MW6.0/74, Centroid moment Tensor Solution. LP body waves: s64, c166; Mantle waves: s74, c253; Half duration: 2s5 Moment tensor: Scale 10^18 Nm; Mrr0.46±.01; Mθθ-0.11±.01; Mφφ-0.34±.01; Mrθ0.58±.02; Mrφ-0.29±.01; Mθφ0.78±.01; Best double couple: M0 1.094×10^18 NP1: φs211°, δ14°, λ85°. NP2: φs36°, δ76°, λ91°. Principal axes: T 1.051, Plg59°, Azm308°; N .085, Plg1°, Azm216°; P -1.136, Plg31°, Azm125°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
MOS ***30*** *18:10:46.7±1.1, 38.64N×143.06E, h33km, mb6.0/74, MS6.2/39 Error ellipse: s-maj=6.7km s-min=3.9km az=109.2*
NIED ***30*** *18:11:00, 38.40N×143.50E, h23km, Mw6.0 Best double couple: M0 1.03×10^18 NP1:φs21°, δ56°, λ71°. NP2:φs232°, δ38°, λ116°.*
ISC 30 18:10:42.1±0.1, 38.43N±0.02×143.20E±0.02, h9km, h9km±.7km: pP-P, n1093, σ1ŝ04/1010, mb5.7/256, MS5.9/174, 215C-28D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.36**	**299**	⇑P	**Pb**	**18 11 07.4**	**+0.1**
OFUJ				*e*S	**Sb**	**18 11 27.3**	**+2.6**
JIO	**Ouri**	**1.45**	**271**	P	**Pn**	**18 11 08.9**	**+0.2**
JIO				*e*S	**Sb**	**18 11 29.5**	**+2.1**
MIYJ	**Miyakonagasawa**	**1.57**	**317**	P	**Pn**	**18 11 09.9**	**-0.4**
JMK	**Ichinoseki**	**1.63**	**289**	⇑P	**Pn**	**18 11 11.6**	**+0.4**
JMK				*e*S	**Sn**	**18 11 35.0**	**+2.5**
JOM	**Ohasama**	**1.81**	**305**	⇑P	**Pn**	**18 11 14.0**	**+0.2**
JOM				*e*S	**Sn**	**18 11 38.1**	**+1.0**
JTH	**Tanohata**	**1.83**	**326**	⇑P	**Pn**	**18 11 13.3**	**-0.7**
JMM	**Marumori**	**1.98**	**254**	⇑P	**Pn**	**18 11 16.4**	**+0.2**
JMM				*e*S	**Sn**	**18 11 42.2**	**+0.9**
JOU	**Okura**	**1.99**	**269**	⇑P	**Pn**	**18 11 17.1**	**+0.7**
JOU				*e*S	**Sn**	**18 11 45.8**	**+4.1**
JKZ	**Kuzumaki**	**2.12**	**317**	⇑P	**Pn**	**18 11 18.2**	**-0.1**
JFK	**Kawauchi**	**2.13**	**241**	⇑P	**Pn**	**18 11 18.1**	**-0.2**
JFK				*e*S	**Sn**	**18 11 46.1**	**+1.1**
JRG	**Rokugo**	**2.22**	**296**	⇑P	**Pn**	**18 11 20.2**	**+0.6**
JYK	**Kaneyama**	**2.28**	**283**	P	**Pn**	**18 11 21.0**	**+0.6**
ONAJ	**Iwakimizuishiy**	**2.32**	**236**	⇑P	**Pn**	**18 11 20.6**	**-0.5**
JANG	**Nango**	**2.34**	**327**	⇑P	**Pn**	**18 11 20.2**	**-1.1**
JYS	**Shiratake**	**2.48**	**266**	⇑P	**Pn**	**18 11 23.9**	**+0.6**
JYW	**Yuwa**	**2.58**	**296**	⇑P	**Pn**	**18 11 25.5**	**+0.7**
JYA	**Atsumi**	**2.74**	**274**	⇑P	**Pn**	**18 11 27.7**	**+0.6**
JHO	**Hitachi**	**2.77**	**230**	⇑P	**Pn**	**18 11 26.4**	**-1.1**
JFY	**Yanaizu**	**2.95**	**251**	⇑P	**Pn**	**18 11 30.8**	**+0.8**
JSB	**Shiboa**	**2.98**	**242**	⇑P	**Pn**	**18 11 31.2**	**+0.6**
JAW	**Awa shima**	**3.10**	**272**	P	**Pn**	**18 11 33.0**	**+0.8**
JAW				S	**Sg**	**18 12 24.2**	**-1.2**
JNS	**Sasagawa**	**3.12**	**260**	S	**Sg**	**18 12 22.3**	**-3.8**
JHK	**Hiroka**	**3.52**	**252**	⇑P	**Pn**	**18 11 38.7**	**+0.6**
JKT	**Katashina**	**3.55**	**243**	⇑P	**Pn**	**18 11 39.9**	**+1.3**
JAG	**Ashikaga**	**3.59**	**237**	⇑P	**Pn**	**18 11 38.9**	**-0.3**
JSD	**Sado**	**3.91**	**266**	P	**Pn**	**18 11 43.5**	**-0.2**
JGK	**Kuni**	**4.08**	**244**	P	**Pn**	**18 11 48.1**	**+2.0**
BSO1	**Boso 1**	**4.17**	**206**	⇓P	**Pn**	**18 11 45.8**	**-1.7**
JJN	**Nakama**	**4.21**	**253**	⇑P	**Pn**	**18 11 49.0**	**+1.1**
BSO3	**Boso 3**	**4.22**	**212**	⇓P	**Pn**	**18 11 46.9**	**-1.2**
MAJO	**Matsushiro**	**4.40**	**246**	⇑*e*P	**Pn**	**18 11 51.7**	**+1.1**
MAT	**Matsushiro**	**4.40**	**246**	P	**Pn**	**18 11 51.4**	**+0.8**
MAT				S	**Sn**	**18 12 44.3**	**+1.7**
MAT	**Matsushiro**	**4.40**	**246**	P	**Pn**	**18 11 51.6**	**+1.0**
MAT	**Matsushiro**	**4.40**	**246**	*e*P	**Pn**	**18 11 51.0**	**+0.4**
MAT				*e*S	**Sn**	**18 12 48.0**	**+5.4**
JNG	**Nsakai**	**4.54**	**245**	⇑P	**Pn**	**18 11 53.4**	**+0.8**
JSZ	**Suzu**	**4.72**	**260**	P	**Pn**	**18 11 56.0**	**+0.8**
JYN	**Shimob**	**4.74**	**233**	⇑P	**Pn**	**18 11 55.8**	**+0.3**
JNT	**Takato**	**4.78**	**239**	⇑P	**Pn**	**18 11 56.9**	**+0.8**
JIM2	**Oshima 3**	**4.79**	**220**	P	**Pn**	**18 11 54.0**	**-2.2**
JAR	**Ashorobuto**	**4.88**	**5**	⇑P	**Pn**	**18 11 54.0**	**-3.4**
JGN	**Niukaw**	**5.18**	**247**	⇑P	**Pn**	**18 12 03.1**	**+1.4**
SHZ3	**Shizuoka 3**	**5.23**	**232**	⇑P	**Pn**	**18 12 02.4**	**0.0**
JNY	**Yasuok**	**5.26**	**236**	⇑P	**Pn**	**18 12 03.5**	**+0.6**
JJH	**Hakui**	**5.31**	**255**	P	**Pn**	**18 12 04.2**	**+0.7**
JTKR	**Abashiri--Toko**	**5.56**	**5**	⇑P	**Pn**	**18 12 03.6**	**-3.4**
JYZW	**Yoshizawa**	**5.57**	**234**	P	**Pn**	**18 12 06.8**	**-0.4**
HMMJ	**Hamamatsu 2**	**5.67**	**233**	P	**Pn**	**18 12 08.2**	**-0.4**
ASAJ	**Asahikawa**	**5.70**	**356**	Pn	**Pn**	**18 12 06.2**	**-2.8**
	30nm,0.3s,baz=208,slow=14,SNR=82						
ASAJ				Sn	**Sn**	**18 13 14.8**	**-0.5**
	47nm,0.3s,baz=41,slow=19,SNR=2.9						
ASAJ				LR	LR	18 15 08.4	
	comp=Z,147μm,19.5s,baz=182,slow=47						
ASAJ	**Asahikawa**	**5.70**	**356**	P	**Pn**	**18 12 06.2**	**-2.8**
ASAJ						18 13 14.8	
ASAJ				pmax	pmax		
	comp=Z,30nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,147μm,19.5s						
TK04	**Tokai 4**	**5.90**	**228**	P	**Pn**	**18 12 13.0**	**+1.2**
YUK	**Yuzh-Kuril'sk**	**5.94**	**19**	⇓*i*P	**Pn**	**18 12 07.6**	**-4.9**
YUK				pmax	pmax		
	comp=N,2μm,0.5s						
YUK				pmax	pmax		
	comp=E,1μm,0.5s						
YUK				pmax	pmax		
	comp=Z,5μm,0.5s						
YUK				pmax	pmax		
	comp=Z,18μm,0.8s						
YUK				pmax	pmax		
	comp=N,2μm,1.0s						
YUK				pmax	pmax		
	comp=E,12μm,1.0s						
JHJ2	**Mitsune**	**5.98**	**208**	*e*S	**Sn**	**18 13 16.8**	**-5.6**
JHJ	**Hachijo jima 2**	**5.99**	**209**	Pn	**Pn**	**18 12 10.6**	**-2.5**
	comp=E,168nm,0.3s,baz=58,slow=12,SNR=37						
JHJ				Sn	**Sn**	**18 13 17.9**	**-4.6**
	comp=E,371nm,0.3s,baz=71,slow=22,SNR=7.3						
TK01	**Tokai 1**	**6.50**	**226**	P	**Pn**	**18 12 19.9**	**-0.5**
JWT	**Wachi**	**7.00**	**246**	⇑P	**Pn**	**18 12 27.3**	**0.0**
KUR	**Kuril'sk**	**7.63**	**26**	⇑*i*P	**Pn**	**18 12 30.4**	**-5.8**
KUR				*i* S	**Sn**	**18 13 53.0**	**-11**
KUR				pmax	pmax		
	comp=N,260nm,0.6s						
KUR				pmax	pmax		
	comp=E,430nm,0.6s						
KUR				pmax	pmax		
	comp=Z,500nm,0.6s						
KUR				pmax	pmax		
	comp=N,9μm,2.0s						
KUR				pmax	pmax		
	comp=E,8μm,2.0s						
KUR				pmax	pmax		
	comp=Z,8μm,2.0s						
KUR				smax			
	comp=N,2μm,0.6s						
KUR				smax			
	comp=E,4μm,0.6s						
KUR				MLR	MLR		
	comp=N,68μm,14.0s						
KUR				MLR	MLR		
	comp=E,68μm,14.0s						
KUR				MLR	MLR		
	comp=Z,126μm,14.0s						
YSS	**Yuzh-Sakhalins**	**8.52**	**358**	⇑*e*P	**P**	**18 12 45.4**	**-3.2**
	comp=Z,2μm,1.3s						
YSS	**Yuzh-Sakhalins**	**8.52**	**358**	α *i*P	**P**	**18 12 46.0**	**-2.6**
YSS				*i* S	**Sn**	**18 14 22.0**	**-3.9**
YSS				pmax	pmax		
	comp=N,720nm,1.5s						
YSS				pmax	pmax		
	comp=Z,660nm,1.5s						
YSS				pmax	pmax		
	comp=N,5μm,6.0s						
YSS				pmax	pmax		
	comp=Z,5μm,6.0s						
YSS				smax			
	comp=N,940nm,1.0s						
YSS				smax			
	comp=N,13μm,13.0s						
YSS				MLR	MLR		
	comp=Z,92μm,14.0s						
YSS				MLR	MLR		
	comp=N,67μm,12.0s						
VLA	**Vladivostok**	**9.77**	**302**	*i* P	**P**	**18 13 04.4**	**-1.4**
UGL	**Uglegorsk**	**10.67**	**356**	⇑*i*P	**P**	**18 13 16.0**	**-2.2**
UGL				S	**S**	**18 15 16.0**	**-2.9**
UGL				pmax	pmax		
	comp=Z,316nm,1.2s						
UGL				pmax	pmax		
	comp=N,8μm,12.0s						
UGL				pmax	pmax		
	comp=E,2μm,12.0s						
UGL				pmax	pmax		
	comp=Z,7μm,12.0s						
UGL				smax			
	comp=N,17μm,12.0s						
UGL				smax			
	comp=E,14μm,12.0s						
UGL				smax			
	comp=Z,14μm,12.0s						
UGL				MLR	MLR		
	comp=N,53μm,17.0s						
UGL				MLR	MLR		
	comp=E,132μm,17.0s						
UGL				MLR	MLR		
	comp=Z,113μm,17.0s						
JNU	**Nakatsue**	**11.32**	**246**	Pn	**P**	**18 13 25.4**	**-1.8**
	comp=Z,2.5nm,0.3s,baz=65,slow=17,SNR=22						
JNU				LR	LR	18 17 59.2	
	comp=Z,37μm,21.2s,baz=56,slow=39						
JNU	**Nakatsue**	**11.32**	**246**	P	**P**	**18 13 26.1**	**-1.0**
CBIJ	**Chichi jima**	**11.34**	**185**	Pn	**P**	**18 13 22.4**	**-5.0**
	comp=Z,12nm,0.3s,baz=284,slow=22,SNR=5.3						
CBIJ				Sn	**S**	**18 15 22.8**	**-12**
	comp=Z,22nm,0.3s,baz=90,slow=20,SNR=5.2						
CBIJ				LR	LR	18 17 36.0	
	comp=Z,23μm,19.9s,baz=360,slow=36						
JTA	**Tamana**	**11.65**	**246**	P	**P**	**18 13 30.7**	**-0.9**
JTZ	**Takazaki**	**11.86**	**240**	P	**P**	**18 13 33.7**	**-0.7**
MDJ	**Mudanjiang**	**11.92**	**306**	P	**P**	**18 13 35.5**	**+0.4**
MDJ				AP		18 13 38.8	
MDJ				XP		18 13 42.5	
MDJ				S	**S**	**18 15 47.5**	**-1.8**
MDJ				AMB	AMB		
	comp=Z,440nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,16μm,5.5s						
MDJ				LR	LR		
	comp=N,105μm,11.4s						
MDJ				LR	LR		
	comp=E,66μm,12.4s						
MDJ				LR	LR		
	comp=Z,132μm,14.4s						
MDJ	**Mudanjiang**	**11.92**	**306**	⇑*i*P	**P**	**18 13 33.8**	**-1.4**
	comp=Z,381nm,0.9s						
KS15	**Wonju Array Si**	**12.14**	**270**	⇑*e*P	**P**	**18 13 38.3**	**+0.2**
INCN	**Inchon**	**13.11**	**271**	⇑*e*P	**P**	**18 13 50.0**	**-1.1**
	comp=Z,363nm,1.3s						
CN2	**Changchun**	**14.41**	**297**	⇑P	**P**	**18 14 07.5**	**-0.7**
CN2				AMB	AMB		
	comp=Z,70nm,1.3s						
CN2				AMB	AMB		
	comp=Z,15μm,9.0s						
CN2				LR	LR		
	comp=N,76μm,17.0s						
CN2				LR	LR		
	comp=E,66μm,17.0s						
CN2				LR	LR		
	comp=Z,55μm,19.0s						
SKR	**Severo-Kuril's**	**15.29**	**33**	*e*P	**P**	**18 14 12.7**	**-7.0**
SKR				pmax	pmax		
	comp=N,40nm,0.5s						
SKR				pmax	pmax		
	comp=E,40nm,0.5s						
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				pmax	pmax		
	comp=N,2μm,4.0s						
SKR				pmax	pmax		
	comp=E,1μm,4.0s						
SKR				pmax	pmax		
	comp=Z,2μm,4.0s						
SKR				MLR	MLR		
	comp=N,23μm,18.0s						
SKR				MLR	MLR		
	comp=E,28μm,18.0s						
SKR				MLR	MLR		
	comp=Z,30μm,18.0s						
SNY	**Shenyang**	**15.39**	**289**	⇑P	**P**	**18 14 18.8**	**-2.1**
SNY				LR	LR		
	comp=E,102μm,16.5s						
SNY				LR	LR		
	comp=Z,112μm,17.1s						
DL2	**Dalian**	**16.86**	**278**	⇑*i*P	**P**	**18 14 37.8**	**-2.0**
DL2				S	**S**	**18 17 48.0**	**+1.8**
DL2				AMB	AMB		
	comp=Z,440nm,0.9s						
DL2				AMB	AMB		
	comp=Z,9μm,6.8s						
DL2				LR	LR		
	comp=N,21μm,13.1s						
DL2				LR	LR		
	comp=E,36μm,16.4s						
DL2				LR	LR		
	comp=Z,39μm,14.5s						
JOW	**Kunigami**	**17.06**	**232**	P	**P**	**18 14 44.9**	**+2.4**
	comp=Z,2.8nm,0.3s,baz=43,slow=6.7,SNR=3.8						
PET	**Petropavlovsk**	**18.09**	**31**	*e*P	**P**	**18 14 54.8**	**-0.3**
	comp=Z,711nm,1.4s						
PET	**Petropavlovsk**	**18.09**	**31**	*c i*P	**P**	**18 14 50.1**	**-5.0**
PET				*e*S	**S**	**18 18 12.6**	**-1.6**
PET				pmax	pmax		
	comp=N,157nm,1.4s						
PET				pmax	pmax		
	comp=E,84nm,1.4s						
PET				pmax	pmax		
	comp=Z,236nm,1.5s						
PET				pmax	pmax		
	comp=Z,8μm,5.0s						
PET				pmax	pmax		
	comp=N,5μm,5.1s						
PET				pmax	pmax		
	comp=E,3μm,4.7s						
PET				pmax	pmax		
	comp=N,4μm,17.0s						
PET				pmax	pmax		
	comp=Z,5μm,15.5s						
PET				pmax	pmax		
	comp=E,2μm,18.3s						
PET				smax			
	comp=E,23μm,10.2s						
PET				smax			
	comp=E,28μm,8.4s						
PET				MLR	MLR		
	comp=Z,31μm,15.0s						
PET				MLR	MLR		
	comp=Z,31μm,15.0s						
SSE	**Sheshan**	**19.48**	**255**	P	**P**	**18 15 10.3**	**-1.8**
SSE				AP		18 15 13.0	
SSE				S	**S**	**18 18 46.0**	**0.0**
SSE				AMB	AMB		
	comp=Z,322nm,1.3s						
SSE				AMB	AMB		
	comp=Z,6μm,11.2s						
SSE				LR	LR		
	comp=N,28μm,18.7s						
SSE				LR	LR		
	comp=E,23μm,18.7s						
SSE				LR	LR		
	comp=Z,36μm,17.0s						
SSE	**Sheshan**	**19.48**	**255**	P	**P**	**18 15 10.2**	**-1.9**
	comp=Z,322nm,1.3s						
SSE				pP		18 15 13.0	
SSE				sP		18 15 14.5	
SSE				S	**S**	**18 18 45.9**	**-0.1**
SSE				sS		18 18 54.9	
HIA	**Hailar**	**20.00**	**310**	⇑*e*P	**P**	**18 15 12.1**	**-5.6**
	comp=Z,422nm,0.8s						
HIA	**Hailar**	**20.00**	**310**	⇑*e*P	**P**	**18 15 12.1**	**-5.6**
HIA				pmax	pmax		
	comp=Z,421nm,0.8s						
TIA	**Tai'an**	**20.84**	**272**	⇑P	**P**	**18 15 22.3**	**-4.2**
TIA				S	**S**	**18 19 09.0**	**-5.1**
TIA				PCS		18 23 07.0	
TIA				AMB	AMB		
	comp=Z,96nm,1.0s						
TIA				LR	LR		
	comp=N,20μm,13.2s,MS5.7						
TIA				LR	LR		
	comp=E,11μm,13.8s,MS5.7						
NJ2	**Nanjing**	**20.85**	**260**	*e*P	**P**	**18 15 25.0**	**-1.6**
NJ2				AP		18 15 29.3	
NJ2				XP		18 15 32.0	
NJ2				PP	PP	18 15 47.0	-1.9
NJ2				S	**S**	**18 19 14.0**	**-0.3**
NJ2				XS		18 19 20.0	
NJ2				AMB	AMB		
	comp=Z,170nm,1.0s						
NJ2				AMB	AMB		
	comp=Z,6μm,11.1s						
NJ2				LR	LR		
	comp=N,70μm,16.8s,MS6.2						
NJ2				LR	LR		
	comp=E,65μm,17.4s,MS6.2						
NJ2				LR	LR		
	comp=Z,34μm,18.9s,MS5.7						
MA2	**Magadan**	**21.71**	**10**	⇑*i*P	**P**	**18 15 34.2**	**-1.0**
	comp=Z,2μm,1.5s,mb6.2						
MA2				LR	LR		
	comp=Z,14μm,21.0s,MS5.4						
MA2	**Magadan**	**21.71**	**10**	*c i*P	**P**	**18 15 33.7**	**-1.4**
MA2				*e*		18 16 00.8	
MA2				*e*PPP	PPP	18 16 12.8	+3.1
MA2				*e*S	**S**	**18 19 23.6**	**-6.8**
MA2				*e*SS	SS	18 20 07.6	+0.7
MA2				pmax	pmax		
	comp=N,400nm,1.6s						
MA2				pmax	pmax		
	comp=E,100nm,1.5s						
MA2				pmax	pmax		
	comp=Z,500nm,1.5s,mb5.7						
MA2				MLR	MLR		
	comp=Z,97μm,19.0s,MS6.2						
CLNS	**Chul'man**	**22.04**	**333**	*e*P	**P**	**18 15 37.9**	**-0.6**
CLNS				*e*		18 15 47.5	
CLNS				*e*PPP	PPP	18 15 57.9	-16
CLNS				*e*S	**S**	**18 19 33.6**	**-2.9**
CLNS				*e*		18 20 10.7	
CLNS				pmax	pmax		
	comp=Z,477nm,0.8s,mb6.0						
CLNS				pmax	pmax		
	comp=N,517nm,1.2s						
CLNS				pmax	pmax		
	comp=E,211nm,1.3s						
CLNS				smax			
	comp=N,13μm,9.5s						
CLNS				smax			
	comp=Z,3μm,9.6s						
CLNS				smax			
	comp=E,4μm,10.8s						
CLNS				MLR	MLR		
	comp=Z,62μm,13.0s,MS6.2						
CLNS				MLR	MLR		
	comp=N,52μm,14.0s,MS6.3						
CLNS				MLR	MLR		
	comp=E,47μm,12.0s,MS6.3						
TATO	**Taipei**	**22.76**	**240**	*e*P	**P**	**18 15 42.5**	**-3.3**
	comp=E,693nm,1.3s,mb5.9						
TATO				LR	LR		
	comp=Z,23μm,21.0s,MS5.6

YHNB	Yeheng	23.04 240	*eP*	P	18 15 46.6	-2.0
NACB	Ninganchiao	23.22 239	*eP*	P	18 15 48.4	-2.0
TIY	Taiyuan	24.18 278	PR	P	18 15 56.0	-3.6
TIY			AMB	AMB		
	comp=Z,6μm,7.0s					
TIY			LR	LR		
	comp=E,38μm,13.0s					
TIY			LR	LR		
	comp=Z,19μm,12.0s,MS5.8					
HHC	Hu-ho-hao-te	24.41 286	⇑P	P	18 15 58.8	-3.0
HHC			AP		18 16 05.8	
HHC			XP		18 16 08.3	
HHC			PP	PP	18 16 34.5	-2.8
HHC			S	S	18 20 14.5	-4.1
HHC			XS		18 20 25.3	
HHC			SS	SS	18 21 08.3	-4.4
HHC			AMB	AMB		
	comp=Z,29nm,1.1s					
HHC			AMB	AMB		
	comp=Z,10μm,8.4s					
HHC			LR	LR		
	comp=N,54μm,15.5s,MS6.4					
HHC			LR	LR		
	comp=E,86μm,14.9s,MS6.4					
HHC			LR	LR		
	comp=Z,100μm,14.3s,MS6.5					
CIT	Chita	24.70 313	*eP*	P	18 16 04.2	-0.3
CIT			*eS*	S	18 20 27.3	+3.9
CIT			pmax	pmax		
	comp=Z,924nm,1.5s,mb6.1					
QZH	Quanzhou	24.79 244	⇑*iP*	P	18 16 03.5	-2.2
QZH			S	S	18 20 28.5	+3.3
QZH			AMB	AMB		
	comp=Z,570nm,0.8s,mb6.2					
QZH			AMB	AMB		
	comp=Z,12μm,8.5s					
QZH			LR	LR		
	comp=N,72μm,16.8s,MS6.5					
QZH			LR	LR		
	comp=E,105μm,18.7s,MS6.5					
QZH			LR	LR		
	comp=Z,59μm,14.8s,MS6.2					
WHN	Wuhan	24.98 260	⇑P	P	18 16 06.0	-1.3
WHN			S	S	18 20 27.0	-1.3
WHN			LR	LR		
	comp=N,73μm,16.2s,MS6.4					
WHN			LR	LR		
	comp=E,66μm,19.1s,MS6.4					
WHN			LR	LR		
	comp=Z,103μm,13.4s					
YAK	Yakutsk	25.05 345	⇑*eP*	P	18 16 05.9	-1.8
	comp=Z,738nm,0.8s,mb6.3					
YAK			LR	LR		
	comp=Z,27μm,19.0s,MS5.8					
YAK	Yakutsk	25.05 345	*c iP*	P	18 16 08.1	+0.4
YAK			*i* *PP	pP	18 16 16.9	+6.5
YAK			*i* PPP	PPP	18 16 46.3	-10
YAK			*i*		18 19 45.1	
YAK			*eS*	S	18 20 28.9	-0.3
YAK			*i* SS	SS	18 21 16.5	-12
YAK			*e*SSS	SSS	18 21 32.7	-12
YAK			*e*		18 27 09.0	
YAK			pmax	pmax		
	comp=Z,338nm,0.8s,mb5.9					
YAK			pmax	pmax		
	comp=N,101nm,1.0s					
YAK			pmax	pmax		
	comp=E,63nm,1.0s					
YAK			smax			
	comp=N,135nm,1.2s					
YAK			smax			
	comp=Z,28nm,1.0s					
YAK			smax			
	comp=E,107nm,1.3s					
YAK			MLR	MLR		
	comp=N,25μm,14.0s,MS6.0					
YAK			MLR	MLR		
	comp=E,15μm,14.0s,MS6.0					
YAK			MLR	MLR		
	comp=Z,33μm,14.0s,MS6.0					
SEY	Seymchan	25.16 10	⇑*iP*	P	18 16 09.0	+0.3
FX1	Attu Island--F	25.21 45	P	P	18 16 11.5	+2.2
	comp=Z,112nm,0.8s,mb5.5,baz=280,slow=1.3,SNR=17					
FX1	Attu Island--F	25.21 45	*eP*	P	18 16 09.8	+0.5
BTO	Baotou	25.61 285	*eP*	P	18 16 12.0	-1.2
BTO			AMB	AMB		
	comp=Z,82nm,0.9s,mb5.3					
SMY	Shemya	25.68 46	P	P	18 16 13.8	+0.1
	comp=Z,663nm,1.2s,mb6.0					
SMY			*e*	pP	18 16 16.2	-0.2
SMY			LR	LR		
	comp=Z,10μm,17.0s,MS5.4					
SMY	Shemya	25.68 46	P	P	18 16 13.8	+0.1
SMY			pmax	pmax		
	comp=Z,663nm,1.2s,mb6.0					
SMY			MLR	MLR		
	comp=Z,10μm,17.0s,MS5.4					
BOD	Bodaibo	27.15 325	⇑*iP*	P	18 16 25.8	-1.4
BOD			pmax	pmax		
	comp=Z,284nm,1.4s,mb5.6					
SGCP	Mt. Cagua	27.29 228	*eP*	P	18 16 29.5	+0.6
ULN	Ulaanbaatar	27.79 302	⇑*eP*	P	18 16 32.5	-0.6
	comp=Z,384nm,1.2s,mb5.9					
ULN			LR	LR		
	comp=Z,32μm,19.0s,MS5.9					
ULN	Ulaanbaatar	27.79 302	⇑*eP*	P	18 16 32.6	-0.5
ULN			pmax	pmax		
	comp=Z,384nm,1.2s,mb5.9					
ULN			MLR	MLR		
	comp=Z,32μm,19.0s,MS5.9					
CVP	Callao Caves	27.84 228	*eP*	P	18 16 33.0	-1.0
XAN	Xi'an	27.90 272	P	P	18 16 32.5	-1.8
XAN			AMB	AMB		
	comp=Z,36nm,1.1s,mb4.9					
XAN			AMB	AMB		
	comp=Z,7μm,9.7s					
XAN			LR	LR		
	comp=N,11μm,14.7s,MS6.0					
XAN			LR	LR		
	comp=E,31μm,16.9s,MS6.0					
XAN			LR	LR		
	comp=Z,41μm,14.2s,MS6.2					
WAKE	Wake Island	27.90 127	P	P	18 16 35.4	+0.9
	comp=Z,137nm,1.0s,mb5.5					
WAKE			S	S	18 21 15.6	-0.8
WAKE			LR	LR		
	comp=Z,16μm,19.0s,MS5.6					
APYP	Conner	28.06 229	*eP*	P	18 16 35.0	-0.9
SONM	Songino Array	28.22 301	P	P	18 16 36.3	-0.8
	comp=Z,177nm,0.9s,mb5.7,baz=102,slow=6.6,SNR=218					
SONM			LR	LR	18 28 14.5	
	comp=Z,38μm,18.8s,MS6.0,baz=85,slow=37					
CAUP	Cauayan	28.44 227	*eP*	P	18 16 44.0	+4.6
ABRA	Dolores	28.54 230	*eP*	P	18 16 40.9	+0.6
ENH	Enshi	28.88 264	⇑*iP*	P	18 16 41.3	-1.8
	comp=Z,560nm,0.8s,mb6.3					
ENH			*i*	pP	18 16 43.5	-2.4
ENH			⇓*e*pP	pP	18 16 47.6	+1.8
BALP	Baler	29.55 226	*eP*	P	18 16 50.9	+1.6
HKC	Hong Kong	29.60 245	⇑*iP*	P	18 16 52.0	+2.3
HKC			*i* S	S	18 21 42.0	-1.6
PVCP	Virac	29.95 219	*eP*	P	18 16 57.6	+4.6
IRK	Irkutsk	30.25 310	*eP*	P	18 16 55.7	+0.5
IRK			*e*		18 17 52.5	
IRK			pmax	pmax		
	comp=Z,459nm,3.5s					
ZAK	Zakamensk	30.55 306	⇑*eP*	P	18 16 56.0	-1.9
ZAK			pmax	pmax		
	comp=Z,109nm,0.9s,mb5.7					
LZH	Lanzhou	31.25 278	*eP*	P	18 17 02.8	-1.4
LZH			AP	pP	18 17 06.0	-0.9
LZH			PP	PP	18 18 05.0	-2.2
LZH			S	S	18 22 04.0	-5.6
LZH			SS	SS	18 23 48.0	-7.5
LZH			AMB	AMB		
	comp=Z,542nm,1.5s,mb6.2					
LZH			AMB	AMB		
	comp=Z,2μm,6.8s					
LZH			LR	LR		
	comp=Z,114μm,16.4s,MS6.6					
LZH	Lanzhou	31.25 278	*eP*	P	18 17 02.8	-1.4
	comp=Z,542nm,1.5s,mb6.2					
LZH			pP	pP	18 17 06.0	-0.9
LZH			sP	sP	18 17 08.0	-0.1
LZH			PP	PP	18 18 05.0	-2.2
LZH			S	S	18 22 04.0	-5.6
LZH			sS		18 22 10.0	
LZH			SS	SS	18 23 48.0	-7.5
LZH			LR	LR		
	comp=Z,114μm,16.4s,MS6.6					
LZH	Lanzhou	31.25 278	*eP*	P	18 17 02.8	-1.4
LZH			*SP	sP	18 17 08.0	-0.1
LZH					18 18 05.0	
LZH			S	S	18 22 04.0	-5.6
LZH			SS	SS	18 23 48.0	-7.5
LZH			pmax	pmax		
	comp=Z,542nm,1.5s,mb6.2					
LZH			MLR	MLR		
	comp=Z,114μm,16.4s,MS6.6					
MOY	Mondy	32.15 308	*eP*	P	18 17 11.2	-0.7
MOY			pmax	pmax		
	comp=Z,500nm,3.2s					
BILL	Biiibino	32.29 16	*eP*	P	18 17 10.9	-2.1
	comp=Z,328nm,1.5s,mb5.9					
BILL			*i*	pP	18 17 13.4	-2.3
BILL			LR	LR		
	comp=Z,12μm,20.0s,MS5.6					
BILL	Biiibino	32.29 16	*eP*	P	18 17 10.9	-2.1
BILL			pmax	pmax		
	comp=Z,328nm,1.5s,mb5.9					
GYA	Guiyang	32.86 260	⇑*iP*	P	18 17 15.3	-3.0
GYA			PP	PP	18 18 25.0	-3.2
GYA			PCP	PcP	18 20 00.5	-2.7
GYA			S	S	18 22 31.8	-3.0
GYA			SCP		18 23 44.5	
GYA			SS	SS	18 24 29.0	-4.3
GYA			SCS	ScS	18 27 40.8	-4.0
GYA			AMB	AMB		
	comp=Z,160nm,1.0s,mb5.9					
GYA			AMB	AMB		
	comp=Z,4μm,11.7s					
GYA			LR	LR		
	comp=N,37μm,14.4s,MS6.3					
GYA			LR	LR		
	comp=E,25μm,15.9s,MS6.3					
GYA			LR	LR		
	comp=Z,31μm,17.7s,MS6.1					
CD2	Chengdu	33.10 269	⇑*iP*	P	18 17 18.5	-1.9
CD2			PP	PP	18 18 24.5	-6.7
CD2			S	S	18 22 37.3	-1.2
CD2			XS		18 22 44.8	
CD2			AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8					
CD2			AMB	AMB		
	comp=Z,3μm,6.3s					
CD2			LR	LR		
	comp=N,27μm,15.0s					
CD2			LR	LR		
	comp=Z,29μm,14.9s,MS6.1					
GTA	Gaotai	33.53 286	⇑*iP*	P	18 17 23.3	-0.8
GTA			AP	pP	18 17 27.5	+0.7
GTA			XP	sP	18 17 31.0	+3.1
GTA			PP	PP	18 18 35.8	-0.5
GTA			PPP	PPP	18 18 52.8	-0.5
GTA			PCP	PcP	18 20 03.8	-1.1
GTA			S	S	18 22 44.5	-0.5
GTA			XS		18 22 51.5	
GTA			SCP		18 23 49.0	
GTA			PCS		18 23 51.5	
GTA			SCS	ScS	18 27 49.3	+1.1
GTA			AMB	AMB		
	comp=Z,440nm,0.9s,mb6.4					
GTA			AMB	AMB		
	comp=Z,6μm,8.4s					
GTA			LR	LR		
	comp=N,37μm,18.3s,MS6.5					
GTA			LR	LR		
	comp=E,66μm,16.8s,MS6.5					
GTA			LR	LR		
	comp=Z,87μm,16.4s,MS6.6					
TIXI	Tiksi	34.09 352	P	P	18 17 24.6	-4.0
TIXI			LR	LR		
	comp=Z,25μm,19.0s,MS6.0					
TIXI	Tiksi	34.09 352	*eP*	P	18 17 24.3	-4.3
TIXI			*eS*	S	18 22 45.1	-8.2
TIXI			*e*SS	SS	18 24 56.9	-4.2
TIXI			pmax	pmax		
	comp=Z,86nm,1.3s,mb5.5					
TIXI			MLR	MLR		
	comp=Z,21μm,15.0s,MS6.0					
TIXI			MLR	MLR		
	comp=N,11μm,13.0s,MS5.9					
TIXI			MLR	MLR		
	comp=E,14μm,16.0s,MS5.9					
MIDW	Midway	34.26 95	P	P	18 17 28.1	-2.4
MIDW			S	S	18 22 53.2	-3.2
MIDW			LR	LR		
	comp=Z,14μm,19.0s,MS5.7					
QIZ	Qiongzhong	34.80 246	⇑P	P	18 17 38.0	+2.8
QIZ			AMB	AMB		
	comp=Z,3μm,10.4s					
QIZ			LR	LR		
	comp=N,32μm,18.6s,MS6.2					
QIZ			LR	LR		
	comp=E,32μm,18.0s,MS6.2					
QIZ			LR	LR		
	comp=Z,28μm,16.9s,MS6.1					
KMI	Kunming	36.58 261	P	P	18 17 49.0	-1.2
KMI			AP	pP	18 17 53.5	+0.5
KMI			XP	sP	18 17 55.5	+1.4
KMI			PP	PP	18 19 12.8	-1.8
KMI			PPP	PPP	18 19 30.5	-4.1
KMI			PCP	PcP	18 20 15.0	+1.1
KMI			S	S	18 23 30.5	-1.8
KMI			XS		18 23 38.0	
KMI			AMB	AMB		
	comp=Z,83nm,1.2s,mb5.4					
KMI			AMB	AMB		
	comp=Z,3μm,6.7s					
KMI			LR	LR		
	comp=N,26μm,16.0s,MS6.4					
KMI			LR	LR		
	comp=E,41μm,15.1s,MS6.4					
KMI			LR	LR		
	comp=Z,34μm,15.1s,MS6.2					
KMI	Kunming	36.58 261	P	P	18 17 49.0	-1.2
	comp=Z,83nm,1.2s,mb5.4					
KMI			pP	pP	18 17 53.5	+0.5
KMI			sP	sP	18 17 55.5	+1.4
KMI			PP	PP	18 19 12.7	-1.9
KMI			PPP	PPP	18 19 30.5	-4.1
KMI			PcP	PcP	18 20 15.1	+1.2
KMI			S	S	18 23 30.5	-1.8
KMI			sS		18 23 38.0	
KMI			SS	SS	18 25 56.7	-1.5
KMI			SSS	SSS	18 26 22.4	-5.6
KMI			LR	LR		
	comp=Z,34μm,15.1s,MS6.2					
KMI	Kunming	36.58 261	P	P	18 17 49.0	-1.2
KMI			*SP	sP	18 17 55.5	+1.4
KMI					18 19 12.7	
KMI			PPP	PPP	18 19 30.5	-4.1
KMI					18 20 15.1	
KMI			S	S	18 23 30.5	-1.8
KMI			SS	SS	18 25 56.7	-1.5
KMI			SSS	SSS	18 26 22.4	-5.6
KMI			pmax	pmax		
	comp=Z,83nm,1.2s,mb5.4					
KMI			MLR	MLR		
	comp=Z,34μm,15.1s,MS6.2					
KWAJ	Kwajalein Atol	36.78 137	PFAKE		18 18 00.0	+8.0
KWAJ			LR	LR		
	comp=Z,5μm,20.0s,MS5.3					
TNA	Tin City	38.94 30	*eP*	P	18 18 10.1	+0.4
	comp=Z,134nm,1.4s,mb5.5					
TNA			*e*	pP	18 18 11.7	-0.7
TNA			LR	LR		
	comp=Z,1μm,20.0s					
KKM	Kota Kinabalu	40.47 224	P	P	18 18 24.7	+1.9
KKM	Kota Kinabalu	40.47 224	⇑*eP*	P	18 18 23.2	+0.3
KKM			*e*	pP	18 18 25.4	-0.1
TSM	Tawau	41.07 220	P	P	18 18 28.0	+0.2
WMQ	Urumqi	41.49 296	⇑*iP*	P	18 18 32.0	+1.1
WMQ			XP	sP	18 18 39.0	+4.2
WMQ			PP	PP	18 20 11.0	+1.0
WMQ			SCP		18 24 19.0	
WMQ			S	S	18 24 46.0	-0.2
WMQ			AMB	AMB		
	comp=Z,87nm,1.0s,mb5.3					
WMQ			AMB	AMB		
	comp=Z,5μm,5.0s					
WMQ			LR	LR		
	comp=N,14μm,14.0s,MS6.1					
WMQ			LR	LR		
	comp=E,11μm,14.0s,MS6.1					
WMQ			LR	LR		
	comp=Z,16μm,14.0s,MS6.0					
KKTK	Khon Kaen	41.63 249	P	P	18 18 31.0	-1.3
	comp=Z,802nm,0.7s,mb6.5					
NANT	Nan	41.69 254	⇑P	P	18 18 32.5	-0.3
	comp=Z,1μm,0.4s					
CHRT	Chiangrai	41.75 256	⇑P	P	18 18 31.0	-2.3
	comp=Z,947nm,0.8s,mb6.5					
ZAL	Zalesovo	42.05 311	P	P	18 18 35.4	0.0
	comp=Z,48nm,0.8s,mb5.2,baz=25,slow=9.0,SNR=142					
ZAL			LR	LR	18 36 07.5	
	comp=Z,4μm,21.7s,MS5.3,baz=26,slow=36					
NVS	Novosibirsk	42.92 313	*eP*	P	18 18 40.4	-2.0
NVS			*eS*	S	18 25 04.9	-2.1
NVS			pmax	pmax		
	comp=N,38nm,1.3s					
NVS			pmax	pmax		
	comp=E,236nm,1.3s					
NVS			pmax	pmax		
	comp=Z,207nm,1.3s,mb5.7					
NVS			smax			
	comp=N,77nm,1.7s					
NVS			smax			
	comp=E,154nm,2.0s					
CHG	Chiang Mai	43.01 256	⇑P	P	18 18 42.9	-0.7
	comp=E,98nm,0.9s,mb5.5					
TTA	Tatalina	43.46 35	*eP*	P	18 18 48.3	+1.6
LSA	Lhasa	43.50 275	P	P	18 18 49.0	+1.5
LSA			XP	sP	18 18 59.5	+8.1
LSA			PP	PP	18 20 32.5	+1.7
LSA			PCP	PcP	18 20 36.8	+0.7
LSA			S	S	18 25 18.8	+3.0
LSA			AMB	AMB		
	comp=Z,40nm,1.4s,mb5.0					
LSA			AMB	AMB		
	comp=Z,5μm,6.5s					
LSA			LR	LR		
	comp=N,17μm,11.6s,MS6.4					
LSA			LR	LR		
	comp=E,30μm,14.9s,MS6.4					
LSA			LR	LR		
	comp=Z,44μm,14.9s,MS6.5					
LSA	Lhasa	43.50 275	⇑*eP*	P	18 18 48.2	+0.7
	comp=Z,127nm,0.9s,mb5.7					
LSA			*i*	pP	18 18 50.1	-0.1
LSA			*eS*	S	18 25 14.8	-1.0
LSA	Lhasa	43.50 275	⇑*eP*	P	18 18 48.2	+0.7
LSA			*eS*	S	18 25 14.9	-0.9
LSA			pmax	pmax		
	comp=Z,127nm,0.9s,mb5.7					
SVW2	Sparrevohn	43.55 38	*eP*	P	18 18 48.0	+0.6
NST	Nakhon Sawan	44.04 251	P	P	18 18 57.0	+5.0
	comp=Z,58nm,1.1s,mb5.2					
MKAR	Makanchi Array	44.59 301	P	P	18 18 55.2	-0.9
	comp=Z,88nm,0.8s,mb5.6,baz=83,slow=9.8,SNR=218					
MKAR			LR	LR	18 38 22.3	
	comp=Z,19μm,18.6s,MS6.0,baz=53,slow=37					
MKAR	Makanchi Array	44.59 301	P	P	18 18 55.2	-0.9
MKAR			LR	LR	18 38 22.3	
IMA	Indian Mountai	44.76 31	*eP*	P	18 18 58.2	+1.0
	comp=Z,189nm,2.0s,mb5.6					
IMA	Indian Mountai	44.76 31	*eP*	P	18 18 57.2	0.0
IMA			pmax	pmax		
	comp=Z,680nm,1.2s,mb6.3					
RSO	Redoubt South	44.93 39	*eP*	P	18 18 57.9	-0.7
KDAK	Kodiak Island	45.11 43	P	P	18 18 59.1	-1.0
	comp=Z,108nm,1.1s,mb5.6					
KDAK			*e*	pP	18 19 01.2	-1.7
KDAK			LR	LR		
	comp=Z,10μm,20.0s,MS5.7					
SPU	Mount Spurr	45.26 38	P	P	18 19 01.0	-0.2
FIB	Fire Island	46.17 38	PFAKE		18 19 20.0	+12
FIB			LR	LR		
	comp=Z,2μm,21.0s,MS5.0					
SLKM	Skilak Lake	46.18 39	P	P	18 19 08.3	-0.2
SLKM	Skilak Lake	46.18 39	P	P	18 19 09.5	+1.0
SLKM			*e*		18 19 24.4	
KURK	Kurchatov	46.20 307	⇑*eP*	P	18 19 07.4	-1.4
	comp=Z,465nm,0.9s,mb6.4					
KURK			*i*	pP	18 19 09.6	-2.0
KURK			*e*pP	pP	18 19 13.9	+2.3
KURK			LR	LR		
	comp=Z,6μm,20.0s,MS5.5					
KURK	Kurchatov	46.20 307	⇑*eP*	P	18 19 07.4	-1.4
KURK			*e**PP	pP	18 19 13.9	+2.4
KURK			pmax	pmax		
	comp=Z,465nm,0.9s,mb6.4					
NNT	Nongplab	46.33 248	P	P	18 19 11.2	+0.9
PMR	Palmer	46.66 37	*eP*	P	18 19 12.8	+0.5
	comp=Z,22nm,0.7s,mb5.2					
PMR			LR	LR		
	comp=Z,5μm,17.0s,MS5.6					
PMR	Palmer	46.66 37	*eP*	P	18 19 12.8	+0.5
PMR			pmax	pmax		
	comp=Z,22nm,0.7s,mb5.2					
PMR			MLR	MLR		
	comp=Z,5μm,17.0s,MS5.6					
MCK	McKinley	46.68 35	*eP*	P	18 19 11.7	-0.7
	comp=Z,72nm,1.2s,mb5.5					
MCK			LR	LR		
	comp=Z,686nm,19.0s					
MCK	McKinley	46.68 35	P	P	18 19 12.2	-0.2
MCK			pmax	pmax		
	comp=Z,72nm,1.2s,mb5.5					
SML	Sawmill	47.03 37	*eP*	P	18 19 14.6	-0.6
KSM	Kuching	47.54 227	⇑*eP*	P	18 19 19.9	-0.1
KSM			*e*	pP	18 19 22.0	-0.7
ILAR	Eielson Array	47.55 33	P	P	18 19 17.9	-1.5
	comp=Z,26nm,0.7s,mb5.4,baz=265,slow=6.7,SNR=68					
ILAR			S	S	18 26 13.9	+0.4
	comp=Z,0.8nm,1.0s,baz=194,slow=3.7,SNR=2.0					
PMG	Port Moresby	47.73 175	P	P	18 19 21.1	-0.3
	comp=Z,48nm,1.1s,mb5.4,baz=327,slow=12,SNR=3.2					
PMG			LR	LR	18 35 28.5	
	comp=Z,5μm,19.9s,MS5.5,baz=151,slow=31					
PMG	Port Moresby	47.73 175	*eP*	P	18 19 20.9	-0.5
PMG			*e*	pP	18 19 24.6	+0.4
PMG			LR	LR		
	comp=Z,5μm,22.0s,MS5.4					
PMG	Port Moresby	47.73 175	*eP*	P	18 19 23.7	+2.3
DIV	Divide	48.30 38	⇑*eP*	P	18 19 24.8	-0.4
	comp=Z,577nm,1.5s,mb6.4					
DIV			*e*	pP	18 19 26.9	-1.1
EYAK	Cordova Ski Ar	48.38 39	*eP*	P	18 19 25.5	-0.3
KKN	Kakani	48.96 276	*eP*	P	18 19 30.1	-0.6
	comp=Z,653nm,0.7s,mb6.8					
KKN	Kakani	48.96 276	*eP*	P	18 19 30.1	-0.6
KKN			pmax	pmax		
	comp=Z,326nm,0.7s,mb6.5					
PKI	Pulchoki	48.96 275	*eP*	P	18 19 30.3	-0.4
	comp=Z,207nm,0.8s,mb6.2					
PKI	Pulchoki	48.96 275	*eP*	P	18 19 30.3	-0.4
PKI			pmax	pmax		
	comp=Z,104nm,0.8s,mb5.9					
MENT	Mentasta	49.08 35	*eP*	P	18 19 32.9	+1.8
AAA	Alma-Ata	49.17 298	*i P*	P	18 19 31.2	-0.9
AAA	Alma-Ata	49.17 298	*eP*	P	18 19 32.3	+0.2
AAA			*eS*	S	18 26 43.3	+6.8
AAA			pmax	pmax		
	comp=Z,7μm,14.6s					
AAA			smax			
	comp=E,9μm,18.1s					
AAA			MLR	MLR		
	comp=Z,27μm,16.1s,MS6.3					
CAL	Calcutta	49.18 268	*ex*	x	18 26 10.9	
DMN	Daman	49.18 275	*eP*	P	18 19 31.8	-0.6
	comp=Z,361nm,0.8s,mb6.5					
GKN	Gorkha	49.36 276	*eP*	P	18 19 33.0	-0.8
	comp=Z,2μm,1.3s					
SNG	Songkhla	49.41 242	P	P	18 19 35.0	+0.6
	comp=Z,234nm,0.9s,mb6.2					
ULHL	Ulahol	49.99 297	P	P	18 19 37.9	-0.6
	SNR=26					
HNR	Honiara	50.12 158	P	P	18 19 43.1	+3.3
	comp=Z,82nm,1.0s,mb5.7,baz=270,slow=8.1,SNR=5.3					
HNR			LR	LR	18 38 59.0	
	comp=Z,10μm,21.5s,MS5.8,baz=153,slow=34					
TKM2	Tokmak 2	50.22 298	P	P	18 19 40.0	-0.2
	SNR=364					
KOLN	Koldanda	50.28 276	*eP*	P	18 19 40.2	-0.7

comp=Z,725nm,1.0s,mb6.6
VOSK Vostochnaya 50.41 311 *i* P **P 18 19 40.2 -1.3**
BVAR Borovoye Array 50.69 312 P **P 18 19 42.4 -1.2**
comp=Z,77nm,0.9s,mb5.6,baz=90,slow=5.9,SNR=187
BVAR PcP PcP 18 21 00.6 -0.6
comp=Z,54nm,0.8s,baz=45,slow=2.1,SNR=6.2
BVAR S **S 18 26 57.7 +0.2**
comp=Z,1.1nm,0.8s,baz=355,slow=17,SNR=2.2
KULM Kulim 50.74 240 *e*P **P 18 19 44.1 -0.4**
KULM *e* pP 18 19 46.2 -1.1
BRVK Borovoye 50.74 312⇑*e*P **P 18 19 42.9 -1.2**
comp=Z,93nm,1.0s,mb5.7
BRVK *i* pP 18 19 44.9 -1.9
BRVK *e*PcP PcP 18 21 02.2 +0.8
BRVK *e*PP PP 18 21 41.6 +0.5
BRVK Borovoye 50.74 312⇑*e*P **P 18 19 42.9 -1.1**
BRVK *e* 18 21 02.2
BRVK *e* 18 21 41.6
BRVK pmax pmax
comp=Z,93nm,1.0s,mb5.7
KZA Kyzart 50.74 297 P **P 18 19 47.0 +2.8**
SNR=6.5
KBK Karagaybulak 50.76 298 P **P 18 19 43.8 -0.5**
SNR=212
CHMS Chumysh 50.78 298 P **P 18 19 43.5 -0.9**
SNR=55
USP Ospenovka 50.87 299 P **P 18 19 44.2 -0.9**
SNR=137
FRU Bishkek 50.93 298⇑*i*P **P 18 19 44.5 -1.1**
FRU *i* 18 19 51.0
FRU pmax pmax
comp=Z,370nm,1.8s,mb6.0
IPM Ipoh 51.00 239 P **P 18 19 46.6 +0.1**
AAK Ala-Archa 51.08 298 P **P 18 19 45.9 -0.8**
SNR=67
AAK Ala-Archa 51.08 298⇑*i*P **P 18 19 44.9 -1.8**
comp=Z,86nm,0.9s,mb5.7
AAK *i* pP 18 19 47.0 -2.6
AAK ⇓*e*pP pP 18 19 51.7 +2.1
AAK *e* 18 20 05.3
AAK *e*PP PP 18 21 45.3 +1.0
AAK Ala-Archa 51.08 298⇑*i*P **P 18 19 44.9 -1.8**
AAK *e* 18 19 51.7
AAK *e* 18 21 45.3
AAK pmax pmax
comp=Z,86nm,0.9s,mb5.7
KSH Kashi 51.14 294⇑*i*P **P 18 19 49.0 +1.8**
KSH *e*AP pP 18 19 52.3 +2.3
KSH *e*XP sP 18 19 55.3 +4.2
KSH *e*PCP PcP 18 21 03.0 0.0
KSH *e*PP PP 18 21 45.0 +0.2
KSH *e*PPP PPP 18 22 45.0 +0.3
KSH *e*SCP 18 24 57.0
KSH *e*PCS 18 24 59.0
KSH *e*S **S 18 27 05.0 +1.2**
KSH *e*XS 18 27 12.0
KSH *e*SCS ScS 18 29 35.0 0.0
KSH AMB AMB
comp=Z,2μm,4.3s
UCH Uchtor 51.21 297 P **P 18 19 49.8 +2.1**
SNR=62
KGM Kluang 51.40 235 P **P 18 19 49.6 0.0**
EKS2 Erkin-Say 51.57 298 P **P 18 19 49.5 -0.9**
SNR=195
AML Almayashu 51.81 298 P **P 18 19 52.4 +0.1**
SNR=192
KAKA Kakadu 51.86 193⇑*i*P **P 18 20 07.1 +14**
comp=Z,342nm,0.6s,mb6.5
INK Inuvik 52.49 28 P **P 18 19 56.2 -0.9**
comp=Z,9.3nm,0.6s,mb4.9,baz=285,slow=7.2,SNR=14
INK S **S 18 27 23.4 +1.3**
comp=Z,0.7nm,0.8s,baz=18,slow=20,SNR=1.8
INK Inuvik 52.49 28 P **P 18 19 56.2 -0.9**
INK S **S 18 27 23.4 +1.3**
KLP Kalpa 52.69 283 *e*P **P 18 20 00.7 +1.6**
KIP Kipapa 52.84 91 P **P 18 20 00.6 +0.3**
comp=Z,108nm,1.2s,mb5.7
KIP LR LR
comp=Z,3μm,21.0s,MS5.4
KIP Kipapa 52.84 91 P **P 18 20 00.6 +0.3**
KIP pmax pmax
comp=Z,108nm,1.2s,mb5.7
KIP MLR MLR
comp=Z,3μm,21.0s,MS5.4
KKAR Karatay Array 53.66 300 *i* P **P 18 20 04.6 -1.4**
BLSP Bilaspur 54.26 271 *e*P **P 18 20 08.7 -2.0**
BLSP AMb AMB 18 20 13.1
comp=Z,142nm,1.2s,mb5.8
BLSP *e*S **S 18 27 46.4 -0.2**
SIT Sitka 54.40 42 PFAKE 18 20 20.0 +8.7
SIT LR LR
comp=Z,6μm,20.0s,MS5.7
BHGR Bahadurgarh 55.01 281 *e*P **P 18 20 14.4 -1.8**
BHGR AMb AMB 18 20 18.4
comp=Z,293nm,0.4s,mb6.6
SONA Sohna 55.11 280 *e*P **P 18 20 15.3 -1.6**
JBP Jabalpur 55.40 274⇓*i*x x 18 20 23.2
JBP *i* S **S 18 28 04.4 +2.5**
VIS Vishakhapatnam 55.74 266 *e*P **P 18 20 20.9 -0.7**
VIS *e*S **S 18 28 06.3 -0.1**
SOKR Solikamsk 56.09 322*c i*P **P 18 20 23.8 +0.3**
SOKR 18 22 30.7
SOKR S **S 18 28 12.0 +1.4**
SOKR pmax pmax
comp=Z,180nm,0.9s,mb6.1
SOKR MLR MLR
comp=Z,24μm,15.0s,MS6.4
KHET Khetri 56.18 281 *e*P **P 18 20 23.1 -1.5**
ARU Arti 56.26 318⇑*i*P **P 18 20 23.2 -1.5**
comp=Z,203nm,0.8s,mb6.2
ARU *i* pP 18 20 25.2 -2.4
ARU ⇓*e*pP pP 18 20 29.8 +2.2
ARU LR LR
comp=Z,8μm,20.0s,MS5.8
ARU Arti 56.26 318⇑*i*P **P 18 20 23.2 -1.5**
ARU *e* 18 20 29.8
ARU pmax pmax
comp=Z,203nm,0.8s,mb6.2
BHPL Bhopal 57.37 275 *e*P **P 18 20 31.2 -1.9**
BHPL AMb AMB 18 20 36.1
comp=Z,124nm,1.3s,mb5.8
BHPL *e*S **S 18 28 27.4 -0.6**
AJM Ajmer 57.87 280 *i* P **P 18 20 34.0 -2.6**
AB31 Akbulak array 58.12 310 *i* P **P 18 20 35.0 -3.1**
AB31 Akbulak array 58.12 310 *i* P **P 18 20 35.9 -2.2**
AB31 pmax pmax
comp=Z,27nm,0.6s,mb5.5
CTA Charters Tower 58.28 177 *e*P **P 18 20 40.2 +0.6**
comp=Z,20nm,1.5s,mb4.9
CTA *e*S **S 18 28 34.3 -5.7**
CTA Charters Tower 58.28 177 P **P 18 20 39.8 +0.2**
comp=Z,12nm,0.9s,mb4.9,baz=358,slow=10.0,SNR=5.2
CTA LR LR 18 42 53.6
comp=Z,4μm,20.8s,MS5.5,baz=355,slow=33
CTA Charters Tower 58.28 177 *e*P **P 18 20 40.2 +0.6**
CTA *e*S **S 18 28 34.3 -5.7**
CTA pmax pmax
comp=Z,20nm,1.5s
CTAO Charters Tower 58.28 177 *e*P **P 18 20 39.3 -0.3**
comp=Z,77nm,1.3s,mb5.6
CTAO LR LR
comp=Z,4μm,20.0s,MS5.5
CTAO Charters Tower 58.28 177 *e*P **P 18 20 39.3 -0.3**
CTAO pmax pmax
comp=Z,77nm,1.3s,mb5.6
CTAO MLR MLR
comp=Z,4μm,20.0s,MS5.5
FITZ Fitzroy Crossi 58.60 200 *e*P **P 18 20 40.4 -1.4**
comp=Z,97nm,0.8s,mb5.9
FITZ *i* S **S 18 28 44.3 +0.1**
FITZ Fitzroy Crossi 58.60 200 P **P 18 20 40.4 -1.4**
comp=Z,138nm,0.8s,mb6.0,baz=13,slow=5.8,SNR=17
FITZ S **S 18 28 47.4 +3.2**
comp=Z,3.4nm,0.9s,baz=307,slow=19,SNR=3.3
WRAB Tennant Creek 58.65 190 *e*P **P 18 20 39.9 -2.3**
comp=Z,405nm,0.9s,mb6.5
WRAB *e* pP 18 20 42.7 -2.3
WRAB *e*pP pP 18 20 48.3 +3.4
WRAB LR LR
comp=Z,1μm,20.0s,MS5.1
WRAB Tennant Creek 58.65 190 *e*P **P 18 20 39.9 -2.2**
WRAB *e**PP pP 18 20 48.3 +3.3
WRAB pmax pmax
comp=Z,405nm,0.9s,mb6.5
WRAB MLR MLR
comp=Z,1μm,20.0s,MS5.1
WB2 Warramunga Arr 58.66 190 *e*P **P 18 20 39.8 -2.4**
WB2 *e*S **S 18 28 40.6 -4.3**
WB2 *e*SCS ScS 18 30 30.2 +1.6
WRA Warramunga Arr 58.66 190 P **P 18 20 39.9 -2.3**
comp=Z,142nm,0.7s,mb6.1,baz=7.9,slow=7.1,SNR=41
WRA S **S 18 28 44.5 -0.5**
comp=Z,5.0nm,1.3s,baz=5.7,slow=12,SNR=5.0
WRA PKP2bc 18 50 31.6
comp=Z,5.5nm,1.1s,baz=200,slow=2.2,SNR=8.9
WRA Warramunga Arr 58.66 190 P **P 18 20 39.9 -2.3**
WRA S **S 18 28 44.5 -0.5**
WRA ⇑*e* 18 50 31.6
AKTO Aktyubinsk 58.80 312 P **P 18 20 40.2 -2.6**
AKTO pmax pmax
comp=Z,43nm,1.1s,mb5.4
AKL Akola 59.04 273⇑*i*x x 18 22 42.9
AKL *i* x x 18 30 46.6
comp=Z,201nm,1.2s
KBS Kingsbay 59.52 350⇑*i*P **P 18 20 48.4 +0.9**
KBS AMb AMB 18 21 01.6
comp=Z,122nm,1.6s,mb5.7
KBS *e*S **S 18 28 52.6 -2.8**
KBS *e*SS SS 18 32 53.7 +1.6
KBS AMS AMS 18 50 08.7
comp=Z,5μm,18.7s,MS5.7
HYB Hyderabad 59.65 269⇑*i*P **P 18 20 48.0 -1.1**
comp=Z,140nm,1.0s,mb6.0
HYB *e* pP 18 20 50.0 -2.0
HYB *e*PP PP 18 23 01.0 -1.8
HYB *e*S **S 18 29 00.0 +2.1**
HYB Hyderabad 59.65 269⇑*e*P **P 18 20 48.0 -1.1**
comp=Z,140nm,1.0s,mb6.0
HYB *e* pP 18 20 50.0 -2.0
HYB *e*S **S 18 29 00.0 +2.1**
HYB Hyderabad 59.65 269⇑*e*P **P 18 20 48.0 -1.1**
HYB *e*S **S 18 29 00.0 +2.1**
HYB pmax pmax
comp=Z,140nm,1.0s,mb6.0
JASL Jaisalmer 60.53 282 *e*P **P 18 20 53.5 -1.5**
JASL AMb AMB 18 20 56.1
LATR Latur 60.66 271 *e*P **P 18 20 55.0 -1.0**
MDRS Chennai 60.85 264 *ex* x 18 20 57.0
MDRS *ex* x 18 21 01.0
MDRS *ex* x 18 28 51.0
MDRS *ex* x 18 29 30.0
LVZ Lovozero 61.42 336⇑*i*P **P 18 20 58.8 -1.7**
YKA Yellowknife Ar 61.88 31 P **P 18 21 01.9 -1.8**
comp=Z,4.7nm,0.6s,mb4.8,baz=302,slow=6.1,SNR=19
YKA Yellowknife Ar 61.88 31 P **P 18 21 01.9 -1.8**
APA Apatity 61.99 336⇑*i*P **P 18 21 02.8 -1.6**
APA *i* 18 21 18.5
APA *i* 18 23 20.0
APA *i* PPP PPP 18 24 46.0 -6.2
APA *i* S **S 18 29 28.0 +0.9**
APA *i* 18 30 56.0
APA *i* SS SS 18 33 28.0 -3.3
APA pmax pmax
comp=Z,90nm,0.6s,mb6.1
KEV Kevo 62.63 339 *ep* **P 18 21 06.5 -2.1**
comp=Z,92nm,0.9s,mb5.9
KEV Kevo 62.63 339 *e*P **P 18 21 06.3 -2.4**
comp=Z,86nm,0.8s,mb5.9
KEV *e*P 18 21 06.5
KEV *i* pP 18 21 08.9 -2.6
KEV Kevo 62.63 339 *e*P **P 18 21 06.3 -2.3**
KEV pmax pmax
comp=Z,86nm,0.8s,mb5.9
POO Poona 62.72 273 *e*P **P 18 21 08.7 -1.2**
POO AMb AMB 18 21 11.2
comp=Z,123nm,0.8s,mb6.1
POO *e*S **S 18 29 36.1 -0.9**
KAD Karad 63.15 271 *e*P **P 18 21 10.0 -2.7**
ARCES ARCESS Array B 63.19 340 P **P 18 21 10.7 -1.5**
comp=Z,51nm,0.9s,mb5.7,baz=51,slow=7.8,SNR=56
ARCES LR LR 18 52 06.6
comp=Z,13μm,18.9s,MS6.1,baz=33,slow=39
ARE0 ARCESS Array S 63.19 340 P **P 18 21 10.7 -1.6**
ARE0 *i* pP 18 21 12.6 -2.5
ARE0 *e*pP pP 18 21 20.5 +5.4
MBWA Marble Bar 63.24 205 *e*P **P 18 21 11.1 -2.1**
comp=Z,26nm,1.3s,mb5.2
MBWA *e* pP 18 21 13.7 -2.4
MBWA *e*pP pP 18 21 19.9 +3.8
MBWA LR LR
comp=Z,2μm,20.0s,MS5.3
SALM Salem 63.30 264 *e*P **P 18 21 13.0 -0.7**
BHJ Bhuj 63.41 279 *e*P **P 18 21 13.4 -0.9**
BHJ AMb AMB 18 21 16.8
comp=Z,145nm,0.9s,mb6.1
BHJ *ex* x 18 29 36.5
PECR Pechory 63.60 322 *e*P **P 18 21 14.4 -0.6**
PECR *e* 18 21 48.0
PECR *i* 18 23 29.5
PECR *e*PPP PPP 18 25 01.0 -7.2
PECR *i* S **S 18 29 48.8 +1.5**
PECR *e*PS PS 18 30 04.0 -3.1
PECR *e*PPS PPS 18 30 18.0 +1.9
PECR pmax pmax
comp=N,1μm,7.0s
PECR pmax pmax
comp=E,2μm,7.0s
PECR pmax pmax
comp=Z,4μm,7.0s
PECR pmax pmax
comp=Z,470nm,2.0s,mb6.2
PECR pmax pmax
comp=Z,2μm,10.0s
PECR pmax pmax
comp=N,1μm,8.0s
PECR pmax pmax
comp=E,2μm,8.8s
PECR smax
comp=E,4μm,8.0s
PECR smax
comp=N,2μm,10.0s
PECR MLR MLR
comp=N,10μm,14.0s,MS6.6
PECR MLR MLR
comp=E,27μm,14.0s,MS6.6
PECR MLR MLR
comp=Z,29μm,14.0s,MS6.6
NOUC Port Laguerre 64.00 156 *e*P **P 18 21 18.4 +0.1**
NOUC Port Laguerre 64.00 156 *e*P **P 18 21 18.4 +0.1**
DZM Mont Dzumac 64.02 156 *e*P **P 18 21 21.1 +2.7**
DZM Mont Dzumac 64.02 156 P **P 18 21 21.1 +2.7**
comp=Z,86nm,1.1s,mb5.7,baz=26,slow=8.9,SNR=10
DZM LR LR 18 45 36.3
comp=Z,7μm,21.4s,MS5.8,baz=203,slow=33
PALK Pallekele 64.05 258 P **P 18 21 17.3 -1.5**
comp=Z,39nm,0.8s,mb5.5
PALK *i* pP 18 21 19.6 -2.0
PALK LR LR
comp=Z,1μm,19.0s,MS5.1
KTK1 Kautokeino 64.14 340 *e*P **P 18 21 18.3 -0.1**
KTK1 AMb AMB 18 21 21.0
comp=Z,188nm,0.9s,mb6.1
KTK1 Kautokeino 64.14 340 *e*P **P 18 21 18.3 -0.1**
comp=Z,188nm,0.9s,mb6.1
OCWA Octopus Mounta 64.37 48 P **P 18 21 17.8 -2.5**
comp=Z,72nm,1.3s,mb5.5
OCWA LR LR
comp=Z,3μm,19.0s,MS5.5
GOA Goa 64.47 270 *e*P **P 18 21 18.0 -3.4**
DAG Danmarks Havn 64.50 355⇓*i*P **P 18 21 19.0 -1.7**
comp=Z,50nm,1.0s,mb5.5
comp=Z,5μm,17.0s
DAG Danmarks Havn 64.50 355⇓*e*P **P 18 21 19.0 -1.7**
comp=Z,50nm,1.0s,mb5.5
DAG LR LR
comp=Z,5μm,17.0s,MS5.8
DAG Danmarks Havn 64.50 355⇓*e*P **P 18 21 19.0 -1.7**
DAG pmax pmax
comp=Z,50nm,1.0s,mb5.5
DAG MLR MLR
comp=Z,5μm,17.0s,MS5.8
TRO Tromso 64.85 341 *e*P **P 18 21 21.0 -2.0**
TRO AMb AMB 18 21 38.8
comp=Z,190nm,2.3s,mb5.7
TRO *e*S **S 18 30 03.4 +0.8**
TRO *e*SKSa 18 31 20.1
TRO *e*SS SS 18 34 17.6 +1.7
TRO AMS AMS 18 56 27.4
comp=Z,10μm,18.8s,MS6.0
MNGI Mangalore 65.17 267 *i* x x 18 22 05.3
MNGI *i* x x 18 30 48.9
CMW Cultus Mountai 65.23 47 P **P 18 21 26.1 +0.3**
JOF Joensuu 65.39 332 *ep* **P 18 21 24.7 -1.9**
comp=Z,74nm,0.8s,mb5.8
RPW Rockport 65.56 47 P **P 18 21 27.3 -0.6**
GSM Grass Mountain 66.04 48 P **P 18 21 30.8 -0.2**
TRD Trivandrum 66.17 262 *e*P **P 18 21 31.5 -0.9**
TDL Tradedollar La 66.23 49 P **P 18 21 32.8 +0.5**
FMW Mount Fremont 66.25 48 P **P 18 21 32.3 -0.1**
NLW Nelson Butte 66.43 47 P **P 18 21 33.5 +0.1**
COR Corvallis 66.50 51 P **P 18 21 35.5 +1.5**
comp=Z,108nm,1.0s,mb5.8
COR LR LR
comp=Z,698nm,20.0s,MS4.9
COR Corvallis 66.50 51 P **P 18 21 36.7 +2.7**
COR pmax pmax
comp=Z,110nm,1.0s,mb5.8
ETW Entiat 66.68 47 P **P 18 21 35.0 -0.1**
KEBM Edson Butte 66.75 53 *e*P **P 18 21 37.2 +1.6**
TBM Table Mountain 66.75 48 P **P 18 21 35.1 -0.4**
EBG Ellensburg 66.91 48 P **P 18 21 36.6 0.0**
MOS Moscow 66.97 324 *e*P **P 18 21 32.8 -4.0**
MOS *e* 18 21 59.3
MOS *e* 18 24 01.2
MOS *e*PPP PPP 18 25 39.5 -3.5
MOS *e*S S 18 30 27.9 -0.7
MOS *e*SS SS 18 34 49.7 +0.8
MOS pmax pmax
comp=Z,419nm,1.2s,mb6.3
MOS pmax pmax
comp=Z,2μm,2.8s,mb6.7
MOS smax
comp=E,2μm,5.0s
MOS smax
comp=N,2μm,5.9s
MOS MLR MLR
comp=Z,47μm,14.9s,MS6.8
MOS MLR MLR
comp=N,30μm,15.0s,MS6.7
MOS MLR MLR
comp=E,12μm,14.3s,MS6.7
AFI Afiamalu 66.97 132 LR LR 18 46 35.2
comp=E,6μm,19.8s,MS5.8,baz=320,slow=32
AFI Afiamalu 66.97 132 P **P 18 21 37.9 +0.4**
AFI LR LR
comp=Z,6μm,20.0s,MS5.8
BROR Big Rock Looko 67.18 51 P **P 18 21 40.2 +1.8**
VFP Flag Point 67.22 50 P **P 18 21 38.6 0.0**
EPH Ephrata 67.23 47 P **P 18 21 38.2 -0.5**
LOF Lofoten 67.28 342⇑*i*P **P 18 21 41.5 +2.9**
LOF AMb AMB 18 21 51.7
comp=Z,281nm,1.3s,mb6.1
LOF Lofoten 67.28 342 *e*P **P 18 21 41.7 +3.1**
comp=Z,281nm,1.3s,mb6.1
HBO Huckleberry Mo 67.48 51 P **P 18 21 40.5 +0.2**
VRHR Novokhopersk 67.60 318 *e*P **P 18 21 38.3 -2.6**
VRHR *e**SP sP 18 21 48.3 +3.5
VRHR *e* 18 24 04.5
VRHR *i* S S 18 30 35.0 -1.3
VRHR *e*SS SS 18 34 45.4 -13
VRHR *e*SSS SSS 18 37 44.5 -13
VRHR pmax pmax
comp=E,120nm,0.9s
VRHR pmax pmax
comp=Z,240nm,0.9s,mb6.2
VRHR pmax pmax
comp=N,100nm,1.2s
VRHR pmax pmax
comp=Z,2μm,4.7s
VRHR pmax pmax
comp=N,800nm,3.5s
VRHR pmax pmax
comp=E,2μm,7.7s
VRHR smax
comp=E,1μm,3.9s
VRHR smax
comp=Z,380nm,5.2s
VRHR smax
comp=N,690nm,3.8s
VRHR MLR MLR
comp=Z,44μm,16.0s,MS6.8
VRHR MLR MLR
comp=N,22μm,15.0s,MS6.7
VRHR MLR MLR
comp=E,23μm,15.0s,MS6.7
PUL Pulkovo 67.70 330 *i* P **P 18 21 41.8 +0.4**
PUL Pulkovo 67.70 330⇓*e*P **P 18 21 42.4 +1.0**
PUL *e* 18 24 12.8
PUL *e*PPP PPP 18 25 47.8 -1.8
PUL *e*S S 18 30 33.7 -3.7
PUL *e* 18 31 39.2
PUL *e*SS SS 18 34 48.3 -12
PUL pmax pmax
comp=Z,233nm,0.9s,mb6.2
PUL MLR MLR
comp=Z,18μm,15.0s,MS6.4
PUL MLR MLR
comp=N,5μm,9.0s
PUL MLR MLR
comp=E,13μm,13.0s
KAF Kangasniemi 67.71 333 *ep* **P 18 21 39.5 -1.9**
comp=E,72nm,0.8s,mb5.8,baz=47,slow=6.0
KAF Kangasniemi 67.71 333 *e*P **P 18 21 39.5 -1.9**
KAF pmax pmax
comp=Z,72nm,0.8s,mb5.8
OD2 Odessa Site #2 67.72 47 P **P 18 21 41.2 -0.5**
HUMO Hull Mountain 67.75 53 P **P 18 21 39.8 -2.2**
comp=Z,43nm,1.4s,mb5.3
HUMO LR LR
comp=Z,3μm,20.0s,MS5.5
WRD Warden 67.79 47 P **P 18 21 43.3 +1.1**
OBN Obninsk 67.82 324 *e*P **P 18 21 40.8 -1.4**
comp=Z,24nm,2.0s,mb4.9
OBN *i* pP 18 21 42.8 -2.3
OBN LR LR
comp=Z,2μm,20.0s,MS5.3
OBN Obninsk 67.82 324α *i*P **P 18 21 40.7 -1.5**
OBN *i* 18 22 05.2
OBN *i* 18 24 06.8
OBN *i* PPP PPP 18 25 48.3 -2.4
OBN *i* S S 18 30 37.4 -1.5
OBN pmax pmax
comp=Z,361nm,1.0s,mb6.4
OBN MLR MLR
comp=Z,47μm,16.0s,MS6.8
KTRM Thompson Ridge 67.86 54 P **P 18 21 42.9 +0.2**
NEW Newport 68.14 45 *e*P **P 18 21 43.4 -0.9**
comp=Z,58nm,1.1s,mb5.5
NEW LR LR
comp=Z,3μm,21.0s,MS5.5
NEW Newport 68.14 45 P **P 18 21 43.8 -0.5**
NEW pmax pmax
comp=Z,58nm,1.1s
KHMM Horse Mountain 68.18 55 P **P 18 21 44.1 -0.6**
MELSS Ber_school_2 68.20 341 *e*P **P 18 21 43.4 -1.0**
FINES FINESS Array B 68.23 333 P **P 18 21 43.2 -1.4**
comp=Z,74nm,0.8s,mb5.8,baz=63,slow=4.3,SNR=100
FINES LR LR 18 53 53.9
comp=Z,17μm,19.1s,MS6.3,baz=171,slow=38
FINES FINESS Array B 68.23 333 P **P 18 21 43.2 -1.4**
FINES LR LR 18 53 53.9
YBH Yreka Blue Hor 68.37 53 *e*P **P 18 21 45.4 -0.5**
comp=Z,40nm,1.1s,mb5.4
YBH LR LR
comp=Z,3μm,21.0s,MS5.4
YBH Yreka Blue Hor 68.37 53 *e*P **P 18 21 45.4 -0.5**
YBH pmax pmax
comp=Z,40nm,1.1s
YBH MLR MLR
comp=Z,3μm,21.0s
VOR Voronezh 68.50 320 *e*P **P 18 21 45.0 -1.5**
VOR *e**PP pP 18 21 51.5 +2.2
VOR *e* 18 30 49.0
VOR pmax pmax
comp=N,170nm,1.2s
VOR pmax pmax
comp=E,210nm,1.2s
VOR pmax pmax
comp=Z,470nm,1.2s,mb6.4
MOR8 Moi Rana 68.54 340 *e*P **P 18 21 44.1 -2.4**
MOR8 AMb AMB 18 21 46.7
comp=Z,194nm,1.0s,mb6.0
MOR8 Moi Rana 68.54 340 *e*P **P 18 21 44.1 -2.4**
comp=Z,194nm,1.0s,mb6.0
VRSR Storozhevoye 68.80 319 *e*P **P 18 21 48.7 +0.4**

VRSR e*PP pP 18 21 55.5 +4.3
VRSR e 18 22 14.2
VRSR e 18 24 22.3
VRSR eS S 18 30 47.5 -3.1
VRSR e 18 31 48.0
VRSR eSS SS 18 35 17.6 +0.3
VRSR pmax pmax
comp=Z,360nm,0.9s,mb6.3
VRSR pmax pmax
comp=N,310nm,0.8s
VRSR pmax pmax
comp=E,190nm,0.7s
VRSR smax
comp=N,760nm,3.9s
VRSR smax
comp=E,830nm,4.2s
VRSR smax
comp=Z,470nm,4.2s
VRSR MLR MLR
comp=N,13µm,17.0s,MS6.3
VRSR MLR MLR
comp=E,10µm,17.0s,MS6.3
VRSR MLR MLR
comp=Z,22µm,17.0s,MS6.5
VORD Divnogorie 68.89 319 eP **P 18 21 48.7 -0.2**
VORD pmax pmax
comp=N,110nm,0.8s
VORD pmax pmax
comp=E,140nm,0.9s
VORD pmax pmax
comp=Z,190nm,0.9s,mb6.0
KCPM Cahto Peak 68.92 56 P **P 18 21 52.1 +2.8**
JMIC Jan Mayen 69.01 350 LR LR 18 53 27.4
comp=Z,3µm,19.2s,MS5.6,baz=219,slow=37
JMIC Jan Mayen 69.01 350 eP **P 18 21 50.5 +1.2**
JMIC eS S 18 31 00.2 +7.4
JMIC eSS SS 18 35 20.4 0.0
JMIC AMS AMS 18 57 31.3
comp=Z,4µm,23.1s,MS5.6
JMIC Jan Mayen 69.01 350 eP **P 18 21 50.5 +1.2**
JMIC LR LR
comp=Z,4187µm,22.1s
WDC Whiskeytown Da 69.10 54 eP **P 18 21 50.3 -0.1**
comp=Z,45nm,1.1s,mb5.3
WDC LR LR
comp=Z,3µm,20.0s,MS5.5
WDC Whiskeytown Da 69.10 54 eP **P 18 21 50.3 -0.1**
WDC pmax pmax
comp=Z,45nm,1.1s,mb5.3
WDC MLR MLR
comp=Z,3µm,20.0s,MS5.5
SUMG Summit 69.28 1 eP **P 18 21 50.7 -0.3**
comp=Z,128nm,1.0s,mb5.8
SUMG e pP 18 21 52.8 -1.1
LTIM Timbered Crate 69.44 53 P **P 18 21 52.8 +0.4**
HOPS Hopland 69.63 56 P **P 18 21 57.4 +3.8**
comp=Z,61nm,1.4s,mb5.3
HOPS LR LR
comp=Z,3µm,19.0s,MS5.6
MOD Modoc 69.78 52 eP **P 18 21 54.2 -0.4**
comp=Z,46nm,1.1s,mb5.3
MOD e pP 18 21 56.3 -1.1
MOD LR LR
comp=Z,2µm,20.0s,MS5.4
BMO Blue Mountains 69.94 48 P **P 18 21 54.7 -0.7**
comp=Z,80nm,1.6s,mb5.4
BMO e pP 18 21 57.3 -1.0
BMO LR LR
comp=Z,3µm,20.0s,MS5.5
VSU Vasula 69.96 330⇑ iP **P 18 21 54.3 -1.0**
STKA Stephens Creek 69.97 181 eP **P 18 21 56.5 +0.7**
comp=Z,18nm,0.6s,mb5.2
STKA i S S 18 31 02.4 -2.3
STKA Stephens Creek 69.97 181 P **P 18 21 54.8 -1.1**
comp=Z,26nm,0.8s,mb5.2,baz=340,slow=7.1,SNR=18
STKA LR LR 18 54 10.0
comp=Z,4µm,18.2s,MS5.7,baz=102,slow=37
GOF Gofitskoye 70.22 312⇑ iP **P 18 21 52.7 -4.4**
GOF i 18 22 11.8
GOF i 18 24 27.0
GOF i S S 18 31 05.6 -1.9
GOF i SS SS 18 35 39.0 -0.2
GOF pmax pmax
comp=Z,60nm,1.0s,mb5.5
GOF smax
comp=N,80nm,1.8s
OHCM Honcut 70.47 55 P **P 18 21 58.0 -0.7**
NSS Namsos 70.47 340 eP **P 18 21 57.4 -0.9**
NSS eS S 18 31 10.7 +0.7
NSS AMS AMS 18 58 19.5
comp=Z,14µm,19.1s,MS6.2
WVOR Wild Horse Val 70.51 51 eP **P 18 21 58.7 -0.3**
comp=Z,267nm,1.9s,mb5.8
WVOR e pP 18 22 01.1 -0.8
WVOR LR LR
comp=Z,4µm,20.0s,MS5.6
WVOR Wild Horse Val 70.51 51 eP **P 18 21 58.7 -0.3**
WVOR pmax pmax
comp=Z,267nm,1.9s,mb5.8
WVOR MLR MLR
comp=Z,4µm,20.0s,MS5.6
MSO Missoula 70.73 45 eP **P 18 21 58.8 -1.4**
comp=Z,30nm,1.3s,mb5.1
MSO i pP 18 22 01.2 -1.8
MSO LR LR
comp=Z,2µm,20.0s,MS5.4
SCO Scoresbysund 70.86 355 i P **P 18 22 02.4 +1.8**
comp=Z,11nm,1.1s,mb4.7
SCO Scoresbysund 70.86 355 i P **P 18 22 02.4 +1.8**
SCO pmax pmax
comp=Z,11nm,1.1s,mb4.7
DGRG David-gareji 70.86 308 P **P 18 21 59.0 -2.1**
BEKR Beckwourth 70.89 54 eP **P 18 22 00.7 -0.6**
comp=Z,46nm,1.1s,mb5.3
ZEI Tsey 71.01 310 eP **P 18 22 00.4 -1.6**
ZEI i *PP pP 18 22 08.8 +3.9
ZEI i 18 22 19.2
ZEI i 18 24 36.4
ZEI pmax pmax
comp=Z,74nm,1.1s,mb5.5
KIV Kislovodsk 71.06 311⇑ eP **P 18 22 01.7 -0.6**
comp=Z,350nm,0.9s,mb6.3
KIV i pP 18 22 04.0 -1.2
KIV Kislovodsk 71.06 311⇑ eP **P 18 22 01.7 -0.5**
KIV pmax pmax
comp=Z,350nm,0.9s,mb6.3
CHMT Chamberlain Mo 71.06 45 eP **P 18 22 00.6 -1.6**
SAMG Samebe 71.07 308 P **P 18 22 03.1 +0.7**
MTA Mtatsminda 71.08 308 P **P 18 22 03.2 +0.7**
TI2 Plekhanov 71.09 308 i P **P 18 22 00.8 -1.7**
TI2 eS S 18 31 15.8 -1.9
TI2 MLR MLR
comp=E,10µm,25.0s
TI2 MLR MLR
comp=Z,12µm,25.0s,MS6.0
TBLG Delisi 71.09 309 P **P 18 22 03.4 +0.8**
TBLG S S 18 31 16.4 -1.4
ONI Oni 71.39 310 P **P 18 22 06.0 +1.6**
PAHR Pah Rah Range 71.60 54 P **P 18 22 05.1 -0.4**
comp=Z,38nm,1.2s,mb5.2
BKR Bakuriani 71.85 309 P **P 18 22 08.9 +1.8**
CMB Columbia Colle 71.91 56 eP **P 18 22 06.5 -1.0**
comp=Z,48nm,1.2s,mb5.3
CMB epP pP 18 22 13.4 +3.1
CMB LR LR
comp=Z,4µm,20.0s,MS5.7
CMB Columbia Colle 71.91 56 eP **P 18 22 06.5 -1.0**
CMB e*PP pP 18 22 13.4 +3.1
CMB pmax pmax
comp=Z,48nm,1.2s,mb5.3
CMB MLR MLR
comp=Z,4µm,20.0s,MS5.7
SAO San Andreas Ge 71.94 57 eP **P 18 22 07.0 -0.7**
SAO LR LR
comp=Z,3µm,19.0s,MS5.5
HRY Holter Researc 71.97 44 eP **P 18 22 07.2 -0.4**
HRY i pP 18 22 09.6 -1.0
IZAR Zarasai 71.98 328 eP **P 18 22 06.7 -0.9**
IZAR AMb AMB 18 22 10.1
comp=Z,41nm,1.1s,mb5.3
GNI Garni 72.00 307 LR LR 18 54 11.0
comp=Z,3µm,18.2s,MS5.6,baz=255,slow=36
GNI Garni 72.00 307⇑ eP **P 18 22 07.8 -0.2**
comp=Z,204nm,2.5s,mb5.6
GNI e pP 18 22 10.1 -0.7
GNI LR LR
comp=Z,10µm,19.0s,MS6.1
GNI Garni 72.00 307⇑ eP **P 18 22 07.8 -0.2**
GNI pmax pmax
comp=Z,204nm,2.5s
IDID Didziasalis 72.07 327 eP **P 18 22 07.2 -0.9**
IDID AMb AMB 18 22 10.7
comp=Z,56nm,1.1s,mb5.4
BIDO Bidbid 72.09 286 ⇓P **P 18 22 09.0 +0.2**
SNR=20
BANOM Banah 72.10 289 ⇑P **P 18 22 09.9 +1.1**
SNR=11
MNK Minsk 72.15 326 eP **P 18 22 05.0 -3.6**
ISAL Salakas 72.15 328 eP **P 18 22 07.7 -0.9**
ISAL AMb AMB 18 22 11.3
comp=Z,89nm,0.9s,mb5.7
DLMT Dillon 72.35 46⇑ eP **P 18 22 09.2 -0.8**
DLMT e pP 18 22 12.1 -0.8
HLID Hailey 72.38 48 eP **P 18 22 09.8 -0.4**
comp=Z,16nm,0.9s,mb4.9
HLID LR LR
comp=Z,3µm,20.0s,MS5.5
SMDO Samad 72.41 286 ⇓P **P 18 22 11.0 +0.3**
SNR=21
LCCM Lewis and Clar 72.47 45 P **P 18 22 10.4 -0.3**
MCMT McKenzie Canyo 72.53 46 eP **P 18 22 10.5 -0.5**
BMN Battle Mountai 72.53 52 eP **P 18 22 11.0 -0.1**
comp=Z,53nm,1.2s,mb5.3
BMN e pP 18 22 13.2 -0.8
BMN ⇑epP pP 18 22 17.6 +3.7
BMN LR LR
comp=Z,3µm,19.0s,MS5.6
BMN Battle Mountai 72.53 52 P **P 18 22 11.9 +0.8**
BMN pmax pmax
comp=Z,53nm,1.2s,mb5.3
HOQ Hoqain 72.67 287 P **P 18 22 11.7 -0.5**
SNR=34
BOZ Bozeman (W) 72.72 45⇑ iP **P 18 22 11.9 -0.2**
comp=Z,39nm,1.0s,mb5.3
BOZ e pP 18 22 14.3 -0.7
BOZ LR LR
comp=Z,5µm,20.0s,MS5.8
BOZ Bozeman (W) 72.72 45⇑ iP **P 18 22 11.9 -0.2**
BOZ pmax pmax
comp=Z,39nm,1.0s,mb5.3
BOZ MLR MLR
comp=Z,5µm,20.0s,MS5.8
ASHO Ashiyiah 72.98 288 ⇑P **P 18 22 14.1 +0.1**
SNR=15
SOC Sochi 73.01 312⇑ iP **P 18 22 15.0 +1.2**
SOC Sochi 73.01 312c iP **P 18 22 14.0 +0.2**
SOC e 18 22 28.0
SOC e 18 24 55.0
SOC ePPP PPP 18 26 39.8 -1.8
SOC i S S 18 31 42.0 +2.4
SOC e 18 32 19.3
SOC eSS SS 18 36 24.9 +2.1
SOC pmax pmax
comp=E,26nm,0.9s
SOC pmax pmax
comp=Z,142nm,0.9s,mb5.9
SOC pmax pmax
comp=N,9.0nm,0.7s
SOC pmax pmax
comp=Z,1µm,2.1s,mb6.4
NVAR Mina Array Bea 73.02 54 P **P 18 22 13.0 -1.0**
comp=Z,7.6nm,0.3s,mb5.0,baz=281,slow=9.2,SNR=4.7
ARTV Artvin 73.13 309 i P **P 18 22 15.3 +0.8**
MOL Molde 73.23 340 eP **P 18 22 15.6 +0.9**
BSY Bisya 73.23 286 ⇓P **P 18 22 15.6 0.0**
SNR=20
DOMB Dombas 73.25 339 eP **P 18 22 14.5 -0.3**
QLMT Earthquake Lak 73.33 46 eP **P 18 22 15.3 -0.4**
HFS Hagfors 73.39 336 P **P 18 22 14.7 -0.9**
comp=Z,114nm,0.8s,mb5.9,baz=56,slow=5.3,SNR=92
HFS LR LR 18 57 18.8
comp=Z,21µm,20.2s,MS6.4,baz=30,slow=38
PTRM Twissleman Ran 73.39 58 P **P 18 22 16.7 +0.5**
ARQ Araqi 73.40 287 P **P 18 22 16.2 -0.3**
SNR=63
NB2 NORSAR Subarra 73.44 338 P **P 18 22 15.1 -0.8**
comp=Z,162nm,0.8s,mb6.0,baz=39,slow=6.2
NB2 NORSAR Subarra 73.44 338 P **P 18 22 15.1 -0.8**
baz=39,slow=6.2
NB2 NORSAR Subarra 73.44 338 P **P 18 22 15.1 -0.8**
NB2 pmax pmax
comp=Z,162nm,0.8s,mb6.0
NOA NORSAR Array B 73.44 338 P **P 18 22 15.0 -0.9**
comp=Z,111nm,0.8s,mb5.8,baz=38,slow=6.0,SNR=142
NOA LR LR 18 59 50.8
comp=Z,11µm,18.8s,MS6.2,baz=50,slow=40
MTUM Tungsten Hills 73.48 55 P **P 18 22 16.0 -0.7**
MTUM e pP 18 22 19.0 -0.6
ELK Elko 73.57 51 eP **P 18 22 17.2 +0.1**
comp=Z,126nm,1.8s,mb5.5
ELK LR LR
comp=Z,3µm,20.0s,MS5.5
ELK Elko 73.57 51 eP **P 18 22 17.3 +0.2**
ELK pmax pmax
comp=Z,126nm,1.8s
ELK MLR MLR
comp=Z,3µm,20.0s
ANN Anapa 73.57 314 eP **P 18 22 15.6 -1.5**
KLBR Kellerberrin 73.59 202 eP **P 18 22 18.6 +1.1**
comp=Z,67nm,1.0s,mb5.5
CNB Canberra Magne 73.60 175 eP **P 18 22 18.7 +1.3**
comp=Z,31nm,1.1s,mb5.2
YMR Madison River 73.69 46 P **P 18 22 17.8 0.0**
VANB Van 73.76 306 eP Px 18 21 18.9
YNR Norris Junctio 73.82 45 P **P 18 22 18.4 -0.2**
YFT Old Faithful 73.90 46 P **P 18 22 20.9 +1.9**
TPH Tonopah 73.92 54 eP **P 18 22 18.9 -0.3**
comp=Z,74nm,1.1s,mb5.5
TPH epP pP 18 22 25.7 +3.6
TPH LR LR
comp=Z,2µm,19.0s,MS5.5
TPH Tonopah 73.92 54 P **P 18 22 20.4 +1.2**
TPH pmax pmax
comp=Z,74nm,1.1s,mb5.5
AKASG Malin Array Be 74.05 323 P **P 18 22 18.6 -1.1**
comp=Z,162nm,0.8s,mb6.0,baz=44,slow=5.7,SNR=186
LKWY Lake 74.07 45 P **P 18 22 21.0 +1.0**
LKWY LR LR
comp=Z,7µm,19.0s,MS6.0
HAKT HAKKARI 74.17 305 i P **P 18 22 20.9 +0.2**
IMW Indian Meadow 74.18 46 eP **P 18 22 21.3 +0.7**
comp=Z,106nm,1.4s,mb5.6
FLWY Flagg Ranch 74.20 46 P **P 18 22 20.2 -0.6**
EZM Erzurum 74.24 309 eP Px 18 21 21.4
RRI2 Red Ridge 74.31 47 eP **P 18 22 21.7 +0.3**
comp=Z,19nm,1.0s,mb5.0
SFJD Kangerlussuaq 74.37 6⇑ iP **P 18 22 22.2 +1.0**
comp=Z,37nm,0.9s,mb5.3
SFJD i S S 18 31 56.3 +2.0
comp=Z,8µm,20.0s
SFJD Kangerlussuaq 74.37 6⇑ iP **P 18 22 22.2 +1.0**
SFJD i S S 18 31 56.3 +2.0
SFJD pmax pmax
comp=Z,37nm,0.9s,mb5.3
SFJD MLR MLR
comp=Z,8µm,20.0s,MS6.0
HVU Hansel Valley 74.42 49⇑ eP **P 18 22 22.2 +0.2**
HVU e pP 18 22 24.4 -0.5
HVU Hansel Valley 74.42 49 P **P 18 22 22.6 +0.5**
MUN Mundaring 74.43 204 eP **P 18 22 21.5 -0.8**
TPAW Teton Pass 74.43 47 eP **P 18 22 22.1 0.0**
comp=Z,80nm,1.3s,mb5.5
OSL Oslo 74.47 337 eP Px 18 23 12.7
SUW Suwalki 74.47 328 eP **P 18 22 21.1 -1.0**
SUW epP pP 18 22 23.0 -1.9
SUW ePcP PcP 18 22 37.1 +0.2
SUW eS S 18 31 55.7 +0.1
SUW MLR MLR 18 57 17.3
comp=Z,20µm,19.6s,MS6.4
SUW Suwalki 74.47 328 eP **P 18 22 21.0 -1.0**
SUW epP pP 18 22 23.0 -1.9
SUW ePcP PcP 18 22 37.1 +0.1
SUW eS S 18 31 55.7 0.0
SUW eS S 18 31 55.8 +0.1
SUW Suwalki 74.47 328 eP **P 18 22 21.0 -1.0**
SUW e 18 22 37.1
SUW eS S 18 31 55.7 0.0
ISA Isabella 74.53 57 PFAKE 18 22 30.0 +7.2
ISA LR LR
comp=Z,612nm,21.0s,MS4.9
LOHW Long Hollow 74.55 46 eP **P 18 22 23.0 +0.2**
comp=Z,214nm,2.0s,mb5.7
SNOW Snow King Moun 74.56 47 P **P 18 22 23.6 +0.8**
comp=Z,35nm,0.9s,mb5.3
DAC Darwin (Calif) 74.74 56 eP **P 18 22 23.5 -0.6**
comp=Z,54nm,0.7s,mb5.6
DAC LR LR
comp=Z,2µm,19.0s,MS5.5
DAC Darwin (Calif) 74.74 56 eP **P 18 22 23.5 -0.5**
DAC pmax pmax
comp=Z,54nm,0.7s,mb5.6
DAC MLR MLR
comp=Z,2µm,19.0s,MS5.5
HYA Hoyanger 74.76 340 eP **P 18 22 25.3 +1.7**
HYA AMb AMB 18 22 27.5
comp=Z,169nm,1.2s,mb5.8
HYA Hoyanger 74.76 340 eP **P 18 22 25.3 +1.7**
comp=Z,169nm,1.2s,mb5.8
BGU Big Grassy Mou 74.79 50 eP **P 18 22 23.8 -0.4**
BGU e pP 18 22 26.7 -0.4
AHID Auburn Hatcher 74.79 47 eP **P 18 22 24.1 0.0**
comp=Z,24nm,0.8s,mb5.2
AHID LR LR
comp=Z,3µm,20.0s,MS5.5
DGMT Dagmar 74.86 40 eP **P 18 22 23.5 -1.0**
comp=Z,47nm,0.6s,mb5.6
DGMT LR LR
comp=Z,5µm,21.0s,MS5.8
SPUT South Promonto 74.90 49 P **P 18 22 24.6 -0.3**
BNGL BINGOL 74.95 308 i P **P 18 22 27.3 +2.1**
LAO LASA Array 74.99 42 P **P 18 22 24.1 -1.2**
LAO LR LR
comp=Z,4µm,20.0s,MS5.7
NWAO Narrogin (SRO) 74.99 202 P **P 18 22 24.2 -1.4**
comp=Z,292nm,1.8s,mb5.9
NWAO e pP 18 22 26.8 -1.6
NWAO LR LR
comp=Z,3µm,19.0s,MS5.5
NWAO Narrogin (SRO) 74.99 202 P **P 18 22 24.2 -1.4**
NWAO pmax pmax
comp=Z,292nm,1.8s
NWAO MLR MLR
comp=Z,3µm,19.0s
SIRT Sirnak 75.01 306 eP Px 18 21 24.0
KONO Kongsberg 75.04 338 eP **P 18 22 24.4 -0.8**
KONO eS S 18 32 04.4 +2.5
KONO eSS SS 18 36 51.9 -1.0
KONO Kongsberg 75.04 338⇑ eP **P 18 22 25.8 +0.6**
GUMT Gumushane 75.05 310 eP Px 18 21 28.7
BTMT Batman 75.19 307 eP Px 18 21 28.2
SNCC San Nicolas Is 75.26 59 PFAKE 18 22 40.0 +13
SNCC LR LR
comp=Z,4µm,19.0s,MS5.7
SIM Simferopol' 75.31 316⇑ iP **P 18 22 26.3 -0.8**
SIM Simferopol' 75.31 316c iP **P 18 22 26.0 -1.1**
SIM e 18 25 18.0
SIM ePPP PPP 18 27 06.0 +2.4
SIM eS S 18 32 07.0 +1.7
SIM eSS SS 18 36 54.0 -3.7
SIM pmax pmax
comp=Z,177nm,0.7s,mb6.1
SIM pmax pmax
comp=Z,800nm,10.3s
NOQ North Oquirrh 75.50 49 eP **P 18 22 28.5 +0.2**
NOQ e pP 18 22 30.8 -0.4
BEST Besiri 75.51 307 i P **P 18 22 30.4 +1.9**
ASK Askoy 75.60 340 eP **P 18 22 29.7 +1.3**
ASK AMb AMB 18 22 41.1
comp=Z,314nm,2.1s,mb5.9
ASK Askoy 75.60 340 eP **P 18 22 29.7 +1.3**
comp=Z,314nm,2.1s,mb5.9
TCUT Toone Canyon 75.64 49 P **P 18 22 29.1 0.0**
BER Bergen 75.64 340⇑ iP **P 18 22 30.1 +1.5**
BER eP pP 18 22 31.1 -0.5
BER AMb AMB 18 22 46.8
comp=Z,304nm,1.6s,mb6.0
BER AMb AMB 18 22 47.2
comp=Z,270nm,1.9s,mb5.9
BER eS S 18 32 08.3 -0.3
BER AMS AMS 19 00 59.8
comp=Z,12µm,19.3s,MS6.2
BER Bergen 75.64 340 eP **P 18 22 30.1 +1.5**
BER eP pP 18 22 31.1 -0.5
BER LR LR
comp=Z,12083µm,19.3s
MWC Mount Wilson 75.66 58 eP **P 18 22 29.1 -0.2**
MWC epP pP 18 22 35.2 +3.0
MWC Mount Wilson 75.66 58 P **P 18 22 31.5 +2.1**
BW06 Boulder Array 75.68 47⇑ eP **P 18 22 28.6 -0.6**
comp=Z,31nm,1.0s,mb5.2
BW06 LR LR
comp=Z,3µm,19.0s,MS5.7
PDAR Pinedale Array 75.68 47 P **P 18 22 28.8 -0.5**
comp=Z,14nm,0.6s,mb5.1,baz=276,slow=1.5,SNR=55
ODD1 Odda 75.68 339⇑ iP **P 18 22 29.4 +0.5**
ODD1 AMb AMB 18 22 46.2
comp=Z,221nm,1.8s,mb5.8
ODD1 Odda 75.68 339 eP **P 18 22 29.5 +0.6**
comp=Z,221nm,1.8s,mb5.8
CTU Camp Tracy 75.70 49⇑ eP **P 18 22 29.3 -0.1**
CTU e pP 18 22 31.3 -1.0
CTU epP pP 18 22 35.8 +3.4
EGD Espegrend 75.77 340 eP **P 18 22 31.2 +1.8**
EGD AMb AMB 18 22 48.0
comp=Z,340nm,1.8s,mb6.0
EGD Espegrend 75.77 340 eP **P 18 22 31.2 +1.8**
comp=Z,340nm,1.8s,mb6.0
JLU Jordanelle 75.94 49 eP **P 18 22 30.5 -0.2**
JLU e pP 18 22 33.2 -0.4
NLU North Lily Min 75.97 50 P **P 18 22 30.8 -0.2**
NLU e pP 18 22 33.1 -0.7
BLS5 Blasjo 76.14 339 eP **P 18 22 32.1 +0.6**
BLS5 AMb AMB 18 22 36.0
comp=Z,68nm,1.5s,mb5.4
BLS5 Blasjo 76.14 339 eP **P 18 22 32.1 +0.6**
comp=Z,68nm,1.5s,mb5.3
DAU Daniels Canyon 76.17 49 eP **P 18 22 32.3 +0.2**
DAU Daniels Canyon 76.17 49 P **P 18 22 33.0 +0.9**
MARD Mardin 76.17 307 i P **P 18 22 33.5 +1.3**
MPU Maple Canyon 76.19 50 eP **P 18 22 32.4 +0.2**
MPU e pP 18 22 34.9 -0.2
UMR Umm Al-Rimmam 76.21 297 eP **P 18 22 31.8 -0.8**
UMR AMb AMB 18 22 34.8
comp=Z,160nm,0.7s,mb6.0
BHD Baghdad 76.28 302 i P **P 18 22 31.0 -1.9**
BHD i PcP PcP 18 22 44.0 -1.2
BHD ePP PP 18 25 18.0 -8.0
BHD eS S 18 32 10.0 -6.2
MIB Mutribah 76.33 297 eP **P 18 22 32.4 -0.8**
MIB AMb AMB 18 22 35.4
comp=Z,276nm,0.8s,mb6.2
KBD Kabd 76.45 296 eP **P 18 22 33.1 -0.8**
KBD AMb AMB 18 22 36.5
comp=Z,653nm,1.1s,mb6.5
ARUT Antelope Range 76.47 52 P **P 18 22 34.6 +0.8**
ARUT Antelope Range 76.47 52 P **P 18 22 37.0 +3.2**
ARUT e 18 22 50.9
RAO Raoul Island 76.51 146 PFAKE 18 22 50.0 +16
RAO LR LR
comp=Z,7µm,20.0s,MS6.0
QRN Al-Qurain 76.55 296 eP **P 18 22 33.7 -0.8**
QRN AMb AMB 18 22 37.1
comp=Z,400nm,0.7s,mb6.4
WAR Warsaw 76.64 328 eP **P 18 22 34.0 -0.5**
WAR epP pP 18 22 36.7 -0.7
WAR ePcP PcP 18 22 45.6 -0.7
WAR eS S 18 32 17.6 -2.1
WAR MLR MLR 18 58 36.9
comp=Z,16µm,20.4s,MS6.3
WAR Warsaw 76.64 328 eP **P 18 22 34.0 -0.5**
WAR epP pP 18 22 36.7 -0.7
WAR ePcP PcP 18 22 45.6 -0.8
WAR eS S 18 32 17.6 -2.1
WAR LR LR
comp=Z,16µm,20.4s,MS6.3
WAR Warsaw 76.64 328 eP **P 18 22 34.0 -0.5**
WAR e 18 22 45.6
WAR eS S 18 32 17.6 -2.1
WAR MLR MLR
comp=Z,16µm,20.4s,MS6.3
KVT Kavak 76.70 312 eP Px 18 21 48.1
RDF Al-Radifah 76.70 296 eP **P 18 22 34.1 -1.2**
RDF AMb AMB 18 22 37.5
comp=Z,471nm,0.9s,mb6.4

KIS Kishinev 76.74 320α *i*P **P 18 22 35.0 -0.1**
KIS *i* 18 22 50.0
KIS *i* 18 25 28.0
KIS *i* PPP PPP 18 27 18.0 +0.9
KIS *i* S S 18 32 20.0 -0.9
KIS *i* PS 18 32 43.0
KIS pmax pmax
comp=Z,400nm,1.0s,mb6.3
KIS pmax pmax
comp=Z,3μm,8.0s
KIS pmax pmax
comp=N,1μm,7.0s
KIS pmax pmax
comp=Z,3μm,12.0s
KIS pmax pmax
comp=Z,2μm,8.0s
KIS smax
comp=N,2μm,12.0s
KIS smax
comp=E,3μm,13.0s
KIS MLR MLR
comp=E,14μm,15.0s,MS6.6
KIS MLR MLR
comp=Z,25μm,15.0s,MS6.7
KIS MLR MLR
comp=N,19μm,16.0s,MS6.6
KIS MLR MLR
comp=Z,25μm,16.0s
STAV Stavanger 76.76 339 *e*P **P 18 22 36.3 +1.3**
STAV AMb AMB 18 22 49.6
comp=Z,141nm,1.5s,mb5.7
STAV Stavanger 76.76 339 *e*P **P 18 22 36.3 +1.3**
comp=Z,141nm,1.5s,mb5.7
MSU Marysvale 76.80 51 *e*P **P 18 22 35.9 +0.2**
MSU Marysvale 76.80 51 P **P 18 22 36.7 +1.0**
BSD Bornholm Skovb 76.87 332⇑ *i*P **P 18 22 36.8 +1.1**
comp=Z,143nm,1.0s,mb5.9
BSD Bornholm Skovb 76.87 332⇑ *i*P **P 18 22 36.8 +1.1**
BSD pmax pmax
comp=Z,140nm,1.0s,mb5.8
SVSK Karacayir 76.87 311 *e*P Px 18 21 38.9
TOKT Tokat 76.89 311 *e*P Px 18 21 36.3
NEN Nelson 76.90 55 *e*P **P 18 22 35.8 -0.5**
NEN *e* pP 18 22 38.4 -0.8
TMUT Trail Mountain 76.90 50 *e*P **P 18 22 36.4 +0.2**
MALT Malatya 77.02 309⇑ *e*P **P 18 22 37.2 +0.4**
comp=Z,159nm,1.1s,mb5.9
MALT *i* pP 18 22 39.7 -0.1
LVV L'vov 77.08 325⇑ *i*P **P 18 22 36.6 -0.3**
LVV *i* 18 22 53.1
LVV *e* 18 25 30.9
LVV *e* 18 27 19.9
LVV *i* S S 18 32 26.1 +1.7
LVV *i* 18 32 58.9
LVV *e* 18 37 14.9
LDFC Landfair 77.08 55 *e*P **P 18 22 36.9 -0.4**
LDFC *e* pP 18 22 39.2 -0.9
PFO Pinyon Flat Ob 77.09 57 *e*P **P 18 22 36.9 -0.5**
comp=Z,20nm,0.9s,mb5.0
PFO Pinyon Flat Ob 77.09 57 P **P 18 22 37.3 -0.1**
PFO pmax pmax
comp=Z,170nm,1.9s,mb5.7
BYBT Boyabat 77.19 313 *e*P Px 18 21 40.6
IAS Iasi 77.23 321 P **P 18 22 39.6 +1.7**
COP Copenhagen 77.31 334⇑ *i*P **P 18 22 39.8 +1.7**
comp=Z,151nm,0.9s,mb5.9
COP *i* 18 25 30.8
COP *i* 18 27 22.1
COP *i* S S 18 32 30.3 +3.5
comp=Z,12μm,18.0s
COP Copenhagen 77.31 334⇑ *i*P **P 18 22 39.8 +1.7**
COP *i* 18 25 30.8
COP *i* 18 27 22.1
COP *i* S S 18 32 30.3 +3.5
COP pmax pmax
comp=Z,150nm,0.9s,mb5.9
COP MLR MLR
comp=Z,12μm,18.0s,MS6.3
BZK Bozkurt 77.31 314 *e*P Px 18 21 38.3
URFA Urfa 77.32 308 *e*P Px 18 21 40.6
GKP Gorka Klasztor 77.41 330 *e*P **P 18 22 38.6 -0.1**
GKP *e*pP pP 18 22 40.5 -1.1
GKP *e*PcP PcP 18 22 47.9 -1.8
GKP *e*S S 18 32 28.8 +0.7
GKP MLR MLR 18 58 38.1
comp=Z,11μm,20.8s,MS6.2
GKP Gorka Klasztor 77.41 330 *e*P **P 18 22 38.6 -0.1**
GKP *e*pP pP 18 22 40.5 -1.1
GKP *e*PcP PcP 18 22 47.9 -1.8
GKP *e*S S 18 32 28.8 +0.8
GKP LR LR
comp=Z,11μm,20.8s,MS6.2
GKP Gorka Klasztor 77.41 330 *e*P **P 18 22 38.6 -0.1**
GKP *e* 18 22 47.9
GKP *e*S S 18 32 28.8 +0.8
GKP MLR MLR
comp=Z,11μm,20.8s,MS6.2
SRU San Rafael 77.43 50 *e*P **P 18 22 38.9 -0.2**
SRU San Rafael 77.43 50 P **P 18 22 39.2 +0.1**
BAR Barrett 77.52 58 *e*P **P 18 22 39.4 -0.4**
ULM Lac du Bonnet 77.55 34 P **P 18 22 38.5 -1.1**
comp=Z,14nm,0.8s,mb5.0,baz=311,slow=6.4,SNR=16
ULM Lac du Bonnet 77.55 34 *e*P **P 18 22 37.6 -1.9**
comp=Z,19nm,0.8s,mb5.1
ULM *e* pP 18 22 40.0 -2.4
ULM LR LR
comp=Z,4μm,20.0s,MS5.7
RWWY Rawlins 77.70 46 *e*P **P 18 22 39.9 -0.7**
comp=Z,69nm,1.1s,mb5.5
RWWY *e* pP 18 22 42.1 -1.4
CTKT Corum 77.72 312 *i* P **P 18 22 40.2 -0.5**
MUD Monsted U'grnd 77.77 336⇑ *i*P **P 18 22 42.3 +1.7**
comp=Z,77nm,0.9s,mb5.6
MUD *i* 18 25 38.6
MUD *i* 18 27 33.2
MUD *i* S S 18 32 30.3 -1.5
comp=Z,19μm,19.0s
MUD Monsted U'grnd 77.77 336⇑ *i*P **P 18 22 42.3 +1.7**
MUD *i* 18 25 38.6
MUD *i* 18 27 33.2
MUD *i* S S 18 32 30.3 -1.5
MUD pmax pmax
comp=Z,77nm,0.9s,mb5.6
MUD MLR MLR
comp=Z,19μm,19.0s,MS6.4
KWP Kalwaria 77.81 325 *e*P **P 18 22 41.1 +0.1**
KWP *e*pP pP 18 22 43.3 -0.6
KWP *e*S S 18 32 34.7 +2.3
KWP MLR MLR 18 58 40.0
comp=Z,8μm,21.1s,MS6.0
KWP Kalwaria 77.81 325 *e*P **P 18 22 41.1 +0.1**
KWP *e*pP pP 18 22 43.3 -0.6
KWP *e*S S 18 32 34.7 +2.3
KWP Kalwaria 77.81 325 *e*P **P 18 22 41.1 +0.1**
KWP *e*S S 18 32 34.7 +2.3
KWP MLR MLR
comp=Z,8μm,21.1s,MS6.0
RGN Rugen 77.89 333 *e*P **P 18 22 41.5 +0.1**
comp=Z,429nm,1.4s,mb6.2
RGN *i* pP 18 22 43.3 -0.9
TOS Tosya 77.90 313 *e*P Px 18 21 42.5
TLCR 77.97 319 P **P 18 22 43.9 +1.9**
BURAR Bucovina Array 78.08 322⇓ P **P 18 22 42.8 +0.3**
BURAR Bucovina Array 78.08 322⇑ *i*P **P 18 22 42.8 +0.2**
CORM Corum 78.10 312 *e*P Px 18 21 41.9
GAZ Gaziantep 78.48 308 *e*P Px 18 21 46.5
SAFT Safranbolu 78.52 314 *e*P Px 18 21 45.3
VRI Vrincioaia 78.57 320⇓ P **P 18 22 46.2 +1.0**
VRI Vrincioaia 78.57 320⇑ *i*P **P 18 22 46.2 +1.0**
RBK Rabkut 78.57 283⇓ P **P 18 22 45.0 -0.8**
SNR=16
STHS Stebnicka Huta 78.62 326 *e*P **P 18 22 45.9 +0.5**
STHS *e*S S 18 32 43.8 +2.7
WHFO Wadi Hawf 78.65 284⇑ P **P 18 22 44.9 -1.3**
SNR=31
OJC Ojcow 78.66 327 *e*P **P 18 22 45.7 +0.1**
OJC *e*PP PP 18 25 38.4 -7.2
OJC *e*S S 18 32 40.6 -0.9
OJC MLR MLR 19 01 23.5
comp=Z,22μm,17.7s,MS6.5
TIRR Tirgusor 78.68 318⇑ P **P 18 22 47.3 +1.4**
TIRR Tirgusor 78.68 318⇑ *i*P **P 18 22 47.3 +1.5**
TIRR Tirgusor 78.68 318 P **P 18 22 47.6 +1.7**

UZH Uzhgorod 78.72 325*d i*P **P 18 22 48.0 +2.0**
UZH *e* 18 25 52.0
UZH *e*S S 18 32 38.0 -4.2
PV10 Paradox Valley 78.79 50 *e*P **P 18 22 47.2 +0.6**
PV10 *e* pP 18 22 49.7 +0.2
CRVS Cervenica-Dubn 78.90 325 *e*P **P 18 22 49.1 +2.1**
CRVS *e*S S 18 32 44.2 +0.1
PHWY Pilot Hill 78.95 46 *e*P **P 18 22 47.2 -0.2**
BR131 Keskin Array S 78.97 312 PFAKE 18 23 00.0 +12
BR131 LR LR
comp=Z,5μm,20.0s,MS5.9
BRTR Keskin Array B 78.97 312 P **P 18 22 47.2 -0.4**
comp=Z,25nm,0.8s,mb5.2,baz=79,slow=2.9,SNR=67
BRTR PP PP 18 25 43.6 -4.8
comp=Z,3.8nm,0.8s,baz=49,slow=5.8,SNR=2.9
KOZT Kozan 79.13 309 *e*P Px 18 21 49.1
KAMT Kaman 79.17 312 *e*P Px 18 21 49.6
MLR Muntele Rosu 79.22 320 P **P 18 22 48.9 +0.1**
comp=Z,55nm,1.0s,mb5.4,baz=84,slow=1.3,SNR=36
MLR Muntele Rosu 79.22 320 P **P 18 22 51.0 +2.2**
PV01 Paradox Valley 79.23 50 *e*P **P 18 22 49.0 0.0**
PV01 *e* pP 18 22 52.3 +0.4
PSN Preselentsi 79.33 318 *i* P **P 18 22 50.0 +0.5**
ABTO Aybut 79.35 284⇓ P **P 18 22 49.3 -0.8**
SNR=23
RUE Ruedersdorf 79.36 331 P **P 18 22 48.9 -0.5**
comp=Z,131nm,1.0s,mb5.8
RUE *e* pP 18 22 51.2 -1.1
ANTO Ankara 79.37 313 *e*P Px 18 21 49.7
ANTO Ankara 79.37 313 P **P 18 22 51.7 +2.0**
LOD Lodumlu 79.37 313 *e*P Px 18 21 50.2
BSEG Bad Segeberg 79.44 334 *e*P **P 18 22 49.8 0.0**
BSEG *e*PP PP 18 25 49.1 -2.7
BSEG *e*S S 18 32 52.8 +3.1
RAC Raciborz 79.44 328 *e*P **P 18 22 50.1 +0.2**
RAC *e*S S 18 32 53.5 +3.7
RAC MLR MLR 19 00 48.5
comp=Z,24μm,19.9s,MS6.5
RAC LMN 19 01 57.3
comp=Z,21μm,15.2s
RAC LME 19 02 12.2
comp=Z,28μm,15.0s
NIG Nigde 79.46 310 *e*P Px 18 21 52.2
CEYT Ceyhan 79.49 309 *e*P Px 18 21 53.4
SMCO Snowmass 79.49 48 *e*P **P 18 22 50.5 +0.1**
KECS Kecovo 79.65 325 *e*P **P 18 22 50.7 -0.4**
KECS *e* 18 23 08.7
MLA1 Latheron 79.65 343 *e*P **P 18 22 50.5 -0.3**
KSP Ksiaz 79.65 329 *e*P **P 18 22 51.0 0.0**
KSP *e*pP pP 18 22 52.6 -1.3
KSP *e*PcP PcP 18 22 57.8 -1.5
KSP *e*S S 18 32 55.1 +3.2
KSP MLR MLR 19 00 58.6
comp=Z,31μm,18.6s,MS6.7
KSP Ksiaz 79.65 329⇑ *e*P **P 18 22 50.8 -0.2**
KSP *i* pP pP 18 22 53.0 -0.9
KSP *e*PcP PcP 18 23 00.2 +0.9
KSP *e*PP PP 18 25 51.2 -2.3
KSP *e*PPP PPP 18 27 32.5 -12
KSP *e*S S 18 32 51.0 -0.9
KSP *e*SS SS 18 37 42.0 -21
KSP LR LR
comp=Z,62μm,15.5s
KSP Ksiaz 79.65 329⇑ *e*P **P 18 22 50.8 -0.2**
KSP *e* 18 23 00.2
KSP *e* 18 25 51.2
KSP *e*S S 18 32 51.0 -0.9
KSP MLR MLR
comp=Z,62μm,15.5s
OKC Ostrava-Krasne 79.65 327 *e*P **P 18 22 51.0 0.0**
OKC *e*x x 18 22 53.0
OKC *e*pP pP 18 23 01.1 +7.2
OKC *e*PP PP 18 25 50.9 -2.6
OKC *e*S S 18 32 52.1 +0.1
OKC *e*x x 18 37 50.9
OKC AMS AMS 19 00 40.0
comp=Z,19μm,17.9s
OKC Ostrava-Krasne 79.65 327 *e*P **P 18 22 51.0 0.0**
OKC *e* 18 23 01.1
OKC *e* 18 25 50.9
OKC *e*S S 18 32 52.1 +0.1
KARA Karaisali 79.74 310 *e*P Px 18 21 54.5
DGAR Diego Garcia 79.78 252 PFAKE 18 23 00.0 +7.5
DGAR LR LR
comp=Z,1μm,19.0s,MS5.2
HTY Hatay 79.82 308 *e*P Px 18 21 48.3
RAR Rarotonga 79.85 127 PFAKE 18 23 00.0 +7.3
RAR LR LR
comp=Z,6μm,19.0s,MS6.0
ISCO Idaho Springs 79.86 47 *e*P **P 18 22 52.6 +0.2**
comp=Z,66nm,1.4s,mb5.4
ISCO LR LR
comp=Z,6μm,20.0s,MS5.9
ISCO Idaho Springs 79.86 47 *e*P **P 18 22 52.6 +0.2**
ISCO pmax pmax
comp=Z,66nm,1.4s,mb5.4
ISCO MLR MLR
comp=Z,6μm,20.0s,MS5.9
DRGR 79.86 323⇓ P **P 18 22 52.7 +0.4**
DRGR 79.86 323⇑ *i*P **P 18 22 52.7 +0.4**
MDU Mudurnu 79.87 314 *e*P Px 18 21 51.9
MORC Moravsky Berou 79.95 328⇑ *e*P **P 18 22 52.7 0.0**
comp=Z,13nm,0.6s,mb5.0
MORC *e* pP 18 22 54.7 -0.8
MORC *e*sP sP 18 23 02.6 +6.1
MORC Moravsky Berou 79.95 328⇑ *e*P **P 18 22 52.7 0.0**
MORC *e**SP sP 18 23 02.6 +6.1
MORC pmax pmax
comp=Z,13nm,0.6s,mb5.0
BUC1 Bucharest 79.98 320 P **P 18 22 55.0 +2.0**
DPC Dobruska-Polom 80.02 329 *e*P **P 18 22 53.4 +0.4**
DPC *e*pP pP 18 22 55.4 -0.5
DPC *e*x x 18 23 04.0
DPC *e*PP PP 18 25 52.7 -3.8
DPC *e*S S 18 32 58.1 +2.3
DPC *e*SS SS 18 38 12.7 +4.0
DPC AMS AMS 19 02 30.0
comp=Z,18μm,14.0s
DPC Dobruska-Polom 80.02 329 *e*P **P 18 22 53.4 +0.4**
DPC *e* 18 23 04.0
DPC *e* 18 25 52.7
DPC *e*S S 18 32 58.1 +2.3
DPC MLR MLR
comp=Z,18μm,14.0s,MS6.6
UPC Upice 80.02 329 *e*P **P 18 22 53.2 +0.2**
UPC *e*x x 18 22 55.2
UPC *e*pP pP 18 23 03.0 +7.1
UPC Upice 80.02 329 *e*P **P 18 22 53.2 +0.2**
UPC *e* 18 23 03.0
PRD Provadia 80.08 318 *i* P **P 18 22 55.0 +1.5**
RYDS Riyadh 80.19 293 P **P 18 22 53.2 -1.3**
MEIS Mersin 80.32 310 *e*P Px 18 21 55.8
PSZ Piszkesteto 80.33 325⇑ *i*P **P 18 22 57.1 +2.4**
PSZ Piszkesteto 80.33 325⇑ *e*P **P 18 22 54.8 +0.1**
comp=Z,158nm,1.0s,mb5.9
PSZ *i* pP 18 22 57.0 -0.6
PSZ Piszkesteto 80.33 325⇑ *e*P **P 18 22 54.8 +0.1**
PSZ pmax pmax
comp=Z,158nm,1.0s,mb5.9
VYHS Vyhne 80.37 326 *e*P **P 18 22 55.1 +0.2**
VYHS *e*PP PP 18 25 58.4 -1.3
VYHS *e*S S 18 32 58.8 -0.7
MME1 Meikle Cairn 80.44 342 *e*P **P 18 22 55.0 -0.2**
KOLL Kolacno 80.49 326 *e*P **P 18 22 56.6 +1.0**
KOLL *e*sP sP 18 23 06.2 +6.8
KIZT Kizilcal 80.56 313 *e*P Px 18 21 58.1
BRG Berggiesshubel 80.56 330 *i* P **P 18 22 55.5 -0.3**
comp=Z,16nm,1.1s,mb4.9
BRG *i* pP 18 22 57.1 -1.7
BRG *i* 18 23 06.2
BRG PP PP 18 25 57.0 -4.3
BRG *i* 18 27 45.0
BRG *e* 18 28 15.6
BRG S S 18 33 03.0 +1.6
BRG SS SS 18 38 06.0 -11
BRG LR LR
comp=Z,26μm,15.9s,MS6.7
BRG Berggiesshubel 80.56 330 *i* P **P 18 22 55.5 -0.4**
BRG *i* 18 23 06.2
BRG 18 25 57.0
BRG *i* 18 27 45.0
BRG S S 18 33 03.0 +1.6

BRG SS SS 18 38 06.0 -11
BRG pmax pmax
comp=Z,16nm,1.1s,mb4.9
BRG MLR MLR
comp=Z,26μm,15.9s,MS6.7
CLL Collm 80.58 331⇑ P **P 18 22 55.3 -0.7**
comp=Z,logA/T=1.4,mb5.1
CLL *i* pP 18 22 57.4 -1.5
CLL *i* *SP sP 18 23 05.1 +5.3
CLL *e* 18 25 44.0
CLL *e* 18 25 58.0
CLL *e*PPP PPP 18 27 47.0 -5.5
CLL *e* 18 29 03.0
CLL *e*S S 18 33 03.0 +1.4
CLL *e*PS PS 18 33 47.0 -2.1
CLL *e*PPS PPS 18 34 06.0 -3.1
CLL *e*SS SS 18 38 00.0 -17
CLL *e*SSS SSS 18 41 36.0 -2.7
CLL Collm 80.58 331⇑ *i*P **P 18 22 55.3 -0.7**
comp=Z,25nm,0.9s,mb5.1
CLL ⇑ *i*P pP 18 22 57.4 -1.5
CLL *i* pP pP 18 23 05.1 +6.2
CLL *e*S S 18 33 03.0 +1.4
CLL LR LR
comp=Z,23μm,14.4s,MS6.7
CLL Collm 80.58 331⇑ *i*P **P 18 22 55.3 -0.7**
CLL *i* *PP pP 18 23 05.1 +6.2
CLL *e*S S 18 33 03.0 +1.4
CLL pmax pmax
comp=Z,25nm,0.9s,mb5.1
CLL MLR MLR
comp=Z,23μm,14.4s,MS6.7
PVCC Panska Ves 80.58 330 *e*P **P 18 22 56.1 +0.1**
PVCC *e*x x 18 22 58.2
PVCC *e*pP pP 18 23 06.6 +7.7
PVCC *e*PP PP 18 25 59.5 -2.1
PVCC *e*S S 18 33 04.0 +2.3
PVCC *e*SS SS 18 38 19.3 +2.1
PVCC AMS AMS 19 03 40.0
comp=Z,25μm,14.4s
PVCC Panska Ves 80.58 330 *e*P **P 18 22 56.1 +0.1**
PVCC *e* 18 23 06.6
PVCC *e* 18 25 59.5
PVCC *e*S S 18 33 04.0 +2.3
PVCC *e*SS SS 18 38 19.3 +2.1
PVCC MLR MLR
comp=Z,25μm,14.4s,MS6.7
VRAC Vranov 80.71 328 LR LR 19 01 49.7
comp=Z,26μm,18.9s,MS6.6,baz=14,slow=38
VRAC Vranov 80.71 328 P **P 18 22 57.1 +0.4**
ESKT Eskisehir 80.72 314 *e*P Px 18 21 58.6
KAC Achnashellach 80.82 343 *e*P **P 18 22 56.7 -0.4**
YLV Yalova 80.83 315 *e*P Px 18 21 51.9
SMOL Smolenice 80.96 327 *e*P **P 18 22 58.8 +0.8**
SMOL *e*sP sP 18 23 09.2 +7.3
PRA Prague 81.00 329 P **P 18 22 59.0 +0.8**
PRA AMS AMS 19 03 40.0
PRU Pruhonice 81.02 329 *e*P **P 18 22 58.1 -0.2**
PRU *e*x x 18 23 00.3
PRU *e*pP pP 18 23 08.9 +7.7
PRU *e*PP PP 18 26 02.2 -3.3
PRU *e*S S 18 33 08.8 +2.6
PRU *e*SS SS 18 38 21.9 -1.9
PRU AMS AMS 19 03 30.0
comp=Z,26μm,14.8s
PRU Pruhonice 81.02 329 *e*P **P 18 22 58.1 -0.2**
PRU *e* 18 23 08.9
PRU *e* 18 26 02.2
PRU *e*S S 18 33 08.8 +2.6
PRU *e*SS SS 18 38 21.9 -1.9
PRU MLR MLR
comp=Z,26μm,14.8s,MS6.7
KPL Plockton 81.05 344 *e*P **P 18 22 58.1 -0.2**
BUD Budapest 81.05 325⇑ *e*P **P 18 23 00.6 +2.1**
TAU Tasmania Unive 81.05 177 PFAKE 18 23 10.0 +11
TAU LR LR
comp=Z,1μm,21.0s,MS5.3
KSB Sheil Bridge 81.11 343 *e*P **P 18 22 58.5 -0.1**
SRO Srobarova 81.11 326 *e*P **P 18 23 01.0 +2.2**
SRO *e*sP sP 18 23 09.5 +6.8
CLZ Clausthal 81.13 333 *e*P **P 18 22 58.7 -0.1**
comp=Z,185nm,1.2s,mb5.9
CLZ Clausthal 81.13 333 *e*P **P 18 22 58.7 -0.1**
CLZ pmax pmax
comp=Z,185nm,1.2s,mb5.9
PVL Pavlikeni 81.14 319 *i* P **P 18 23 01.0 +1.9**
EDU Dundee 81.15 342 *e*P **P 18 22 59.1 +0.2**
SRO1 Iza 81.19 326 *e*P **P 18 23 01.5 +2.3**
SRO1 *e*sP sP 18 23 10.3 +7.2
IKL Isikli 81.24 310 *e*P Px 18 21 59.5
SDCO Great Sand Dun 81.30 48⇑ *e*P **P 18 23 00.3 +0.3**
comp=Z,34nm,1.2s,mb5.2
SDCO *e* pP 18 23 02.5 -0.5
SDCO ⇑ *e*pP pP 18 23 06.9 +3.9
SDCO LR LR
comp=Z,4μm,20.0s,MS5.8
MZLS Mizel 81.33 294 P **P 18 22 60.0 -0.5**
ZST Bratislava 81.35 327 *e*P **P 18 23 02.3 +2.2**
ZST *e* pP 18 23 06.8 +3.8
ZST *e*PP PP 18 26 06.2 -1.9
ZST *e*S S 18 33 11.8 +2.2
ZST Bratislava 81.35 327 *e*P **P 18 23 02.3 +2.2**
ZST *e* 18 26 06.2
ZST *e*S S 18 33 11.8 +2.2
EDRB Edirne 81.37 317 *e*P Px 18 21 59.2
ERMK Ermenek 81.44 310 *i* P **P 18 23 01.6 +0.8**
KAR1 Arisaig 81.47 343 *e*P **P 18 23 00.9 +0.4**
EBH Black Hill 81.54 342 *e*P **P 18 23 01.7 +0.8**
BHL Bhannes 81.56 307 *e*P **P 18 23 03.0 +1.5**
WIT Witteveen 81.61 335 *e*P **P 18 23 03.7 +2.4**
comp=Z,687nm,1.2s,mb6.5
TUC Tucson 81.62 55 P **P 18 23 03.2 +1.4**
comp=Z,27nm,1.3s,mb5.0
TUC LR LR
comp=Z,2μm,19.0s,MS5.5
VKA Vienna 81.63 327⇑ *i*P **P 18 23 03.8 +2.3**
comp=Z,2μm,6.0s
VKA LR LR
comp=Z,11μm,13.0s,MS6.4
VKA Vienna 81.63 327⇑ *i*P **P 18 23 03.8 +2.3**
VKA pmax pmax
comp=Z,2μm,6.0s
VKA MLR MLR
comp=Z,11μm,13.0s,MS6.4
MOX Moxa 81.64 331 *i* P **P 18 23 01.3 -0.2**
comp=Z,logA/T=2.0,mb5.7
MOX *e* 18 25 49.0
MOX PP PP 18 26 11.0 +0.6
MOX S S 18 33 16.0 +3.4
MOX LR LR 18 46 30.0
MOX L 19 04 46.0
MOX Moxa 81.64 331 *e*P **P 18 23 01.3 -0.2**
comp=Z,88nm,0.9s,mb5.7
MOX *e* 18 25 49.0
MOX LR LR
comp=Z,20μm,17.0s,MS6.5
MOX Moxa 81.64 331 *e*P **P 18 23 01.3 -0.2**
MOX pmax pmax
comp=Z,88nm,0.9s,mb5.7
MOX MLR MLR
comp=Z,20μm,17.0s,MS6.5
NKC Novy Kostel 81.65 331 *e*P **P 18 23 02.0 +0.4**
NKC *e*x x 18 23 03.5
NKC *e*pP pP 18 23 12.1 +7.6
NKC *e*PP PP 18 26 09.3 -1.2
NKC *e*S S 18 33 14.4 +1.7
NKC *e*x x 18 38 08.1
NKC AMS AMS 19 05 30.0
comp=Z,19μm,14.0s
HILS Ha'il 81.66 298 P **P 18 23 02.0 -0.1**
GDZ Gediz 81.79 314 *i* P **P 18 23 03.4 +0.8**
EAB Aberfoyle 81.79 342 *e*P **P 18 23 01.7 -0.5**
EAB AMb AMB 18 23 05.8
comp=Z,141nm,1.3s,mb5.7
PHNC Paralimni 81.85 308 P **P 18 23 03.0 0.0**
EAU Auchinoon 81.89 342 *e*P **P 18 23 02.2 -0.5**
EAU AMb AMB 18 23 05.7
comp=Z,97nm,1.2s,mb5.6
ASF Jabal al Asfar 81.89 305 P **P 18 23 03.1 -0.1**
comp=Z,57nm,0.8s,mb5.5,baz=294,slow=2.0,SNR=65
ASF PP PP 18 26 10.0 -2.8
comp=Z,18nm,1.0s,baz=74,slow=5.3,SNR=3.9
ASF LR LR 18 59 54.2

comp=Z,3µm,21.2s,MS5.6,baz=282,slow=36
SOP Sopron 81.97 327⇑ iP P 18 23 04.1 +0.8
KSDI Kefar Szold 82.02 306 P **P 18 23 06.1 +2.2**
ISP Isparta 82.05 312 eP Px 18 22 05.2
ISP Isparta 82.05 312 eP **P 18 23 03.1 -0.9**
comp=Z,59nm,1.1s,mb5.4
ISP e pP 18 23 05.2 -1.7
ISP Isparta 82.05 312 eP **P 18 23 03.1 -0.8**
ISP pmax pmax
comp=Z,59nm,1.1s,mb5.4
KHC Kasperske Hory 82.08 329 eP **P 18 23 03.7 -0.2**
KHC ex x 18 23 05.9
KHC epP pP 18 23 14.6 +7.8
KHC ePP PP 18 26 13.3 -0.7
KHC eS S 18 33 19.8 +2.6
KHC eSS SS 18 38 43.3 +3.6
KHC AMS AMS 19 04 00.0
comp=Z,25µm,14.5s
KHC Kasperske Hory 82.08 329 eP **P 18 23 03.7 -0.2**
KHC e 18 23 14.6
KHC e 18 26 13.3
KHC eS S 18 33 19.8 +2.6
KHC MLR MLR
comp=Z,25µm,14.5s,MS6.7
QURS Qurayyt al Mil 82.12 304 P **P 18 23 05.2 +0.7**
PKSM Moragy 82.18 325 P **P 18 23 04.1 -0.3**
PGB Panagyurishte 82.22 319 i P **P 18 23 05.0 +0.3**
MAMC Mammari 82.24 309 P **P 18 23 04.3 -0.7**
GEC2 GERESS Array S 82.26 329 eP **P 18 23 04.7 -0.1**
comp=Z,73nm,1.2s,mb5.5
GEC2 GERESS Array S 82.26 329 eP **P 18 23 04.7 -0.1**
GEC2 pmax pmax
comp=Z,73nm,1.2s,mb5.5
GERES GERESS Array B 82.26 329 P **P 18 23 04.2 -0.6**
comp=Z,28nm,0.9s,mb5.2,baz=34,slow=4.8,SNR=101
GERES PP PP 18 26 06.9 -8.5
comp=Z,2.8nm,0.8s,baz=51,slow=8.5,SNR=3.5
GERES PKKPbc 18 41 33.2
comp=Z,0.5nm,0.8s,baz=270,slow=2.0,SNR=4.3
GERES LR LR 19 02 46.5
comp=Z,16µm,18.9s,MS6.4,baz=13,slow=38
WTSB Winterswijk 82.27 334⇓ eP **P 18 23 05.8 +1.0**
comp=Z,151nm,3.3s
MMA0 Mount Meron ar 82.30 306 P **P 18 23 05.7 +0.4**
ESK Eskdalemuir 82.30 341⇑ eP **P 18 23 04.5 -0.3**
comp=Z,46nm,1.3s,mb5.2
ESK i pP 18 23 06.8 -1.0
ESK Eskdalemuir 82.30 341⇑ eP **P 18 23 04.6 -0.3**
ESK pmax pmax
comp=Z,46nm,1.3s,mb5.2
CSS Prodhromos 82.31 309 ⇑P **P 18 23 03.9 -1.4**
comp=Z,1.1nm,0.8s
CSS Prodhromos 82.31 309⇑ eP **P 18 23 03.9 -1.4**
WET Wettzell 82.35 330 eP **P 18 23 05.3 +0.1**
comp=Z,117nm,1.2s,mb5.7
WET Wettzell 82.35 330 eP **P 18 23 05.3 +0.1**
WET pmax pmax
comp=Z,117nm,1.2s,mb5.7
HNTI Hanita 82.40 306 P **P 18 23 06.0 +0.1**
ECK Cauldkaine Hil 82.40 341 eP **P 18 23 06.1 +0.7**
ECK AMb AMB 18 23 11.0
comp=Z,68nm,2.1s,mb5.2
SVIS Svilajnac 82.41 322⇑ iP **P 18 23 05.8 +0.1**
ALN Alexandroupoli 82.42 317 eP **P 18 23 06.4 +0.6**
URZ Urewera 82.45 154 P **P 18 23 06.2 +0.1**
comp=Z,38nm,1.0s,mb5.3,baz=343,slow=4.4,SNR=16
ZAPS Zavoj/Pirot 82.46 321⇑ iP **P 18 23 05.7 -0.2**
CANB Canakkale 82.49 316 eP Px 18 22 07.4
RDO Rodhopi 82.51 318 eP **P 18 23 08.4 +2.1**
RZN Rozhen 82.55 318 i P **P 18 23 07.0 +0.5**
GRA1 Grafenberg Arr 82.56 331 eP **P 18 23 06.8 +0.5**
comp=Z,269nm,1.1s,mb6.2
GRA1 ePP PP 18 26 17.7 -0.1
GRA1 eS S 18 33 24.5 +2.5
GRA1 LR LR
comp=Z,13µm,19.9s,MS6.3
GRF Grafenberg Arr 82.56 331 eP **P 18 23 06.8 +0.5**
comp=Z,269nm,1.1s,mb6.2
GRF ePP PP 18 26 17.7 -0.1
GRF eS S 18 33 24.5 +2.5
GRF LR LR
comp=Z,13µm,19.9s,MS6.3
GRF Grafenberg Arr 82.56 331 eP **P 18 23 06.8 +0.5**
GRF e 18 26 17.7
GRF eS S 18 33 24.5 +2.5
GRF pmax pmax
comp=Z,269nm,1.1s,mb6.2
GRF MLR MLR
comp=Z,13µm,19.9s,MS6.3
GRF Grafenberg Arr 82.56 331 eP **P 18 23 06.8 +0.5**
GRF e 18 26 17.7
GRF eS S 18 33 24.5 +2.5
GRF pmax pmax
comp=Z,269nm,1.1s,mb6.2
GRF MLR MLR
comp=Z,13µm,19.9s,MS6.3
GRFO Grafenberg 82.56 331 eP **P 18 23 06.8 +0.5**
comp=Z,3µm,1.1s
ANMO Albuquerque 82.60 51 eP **P 18 23 07.2 +0.3**
comp=Z,42nm,1.3s,mb5.3
ANMO e pP 18 23 09.4 -0.4
ANMO LR LR
comp=Z,2µm,19.0s,MS5.5
ANMO Albuquerque 82.60 51 eP **P 18 23 07.2 +0.3**
ANMO pmax pmax
comp=Z,42nm,1.3s
ANMO MLR MLR
comp=Z,2µm,19.0s
ANTB Antalya 82.61 312 eP Px 18 22 05.7
ALFC Alevga 82.62 309 P **P 18 23 06.4 -0.6**
comp=Z,1.4nm,0.7s
MMLI Mount Malkishu 82.67 306 P **P 18 23 07.8 +0.5**
VTS Vitosha 82.67 320 i P **P 18 23 07.5 +0.4**
VTS Vitosha 82.67 320 P **P 18 23 07.6 +0.6**
SZAC Souni-Zanaja 82.72 309 P **P 18 23 07.9 +0.4**
ARSA Arzberg 82.75 327⇑ iP **P 18 23 07.6 +0.2**
comp=Z,1µm,4.2s
MOA Molln 82.81 328⇑ iP **P 18 23 07.9 +0.2**
comp=Z,2µm,5.5s
OFRI 'Ofer 82.82 306 P **P 18 23 08.0 -0.1**
PPCY Paphos 82.96 309 P **P 18 23 08.4 -0.3**
AFFS 'Afif 82.97 295 P **P 18 23 08.7 -0.3**
SLTI Sal'it 83.04 306 P **P 18 23 09.5 +0.3**
MKRJ Makawir 83.11 305 P **P 18 23 09.9 +0.3**
MMB Musomiste 83.14 319 i P **P 18 23 10.0 +0.5**
DIVS Divcibare 83.14 323⇓ iP **P 18 23 08.8 -0.7**
ELL Elmali 83.15 312 eP Px 18 22 09.9
TNS Taunus Mts 83.15 333 eP **P 18 23 09.4 0.0**
comp=Z,86nm,1.3s,mb5.6
TNS Taunus Mts 83.15 333 eP **P 18 23 09.4 0.0**
TNS pmax pmax
comp=Z,86nm,1.3s,mb5.6
BARS Barje 83.20 321⇓ iP **P 18 23 11.2 +1.4**
NVR Nevrokopi 83.24 319 eP **P 18 23 12.1 +2.1**
KKB Krupnik 83.27 319 i P **P 18 23 10.0 -0.2**
PERS Pernice 83.41 327 eP **P 18 23 12.6 +1.8**
PERS e pP 18 23 16.0 +2.3
MZDA Masada 83.44 305 P **P 18 23 11.4 +0.1**
SIND Sindeldorf 83.45 332 eP **P 18 23 10.5 -0.4**
PRK Paraskevi 83.46 316 eP **P 18 23 12.9 +1.7**
IZM Izmir 83.51 315 eP Px 18 22 11.5
TOD Tromm 83.53 332⇑ eP **P 18 23 11.1 -0.2**
TOD Tromm 83.53 332 eP **P 18 23 10.9 -0.4**
LHO Holmfirth 83.54 340 eP **P 18 23 11.0 -0.2**
SRS Serrai 83.55 319 eP **P 18 23 11.7 +0.1**
HGN Heimansgroeve 83.58 334⇑ iP **P 18 23 12.8 +1.3**
comp=Z,138nm,3.1s
HGN ePP PP 18 26 14.3 -12
HGN eS S 18 33 32.7 +0.4
SCHQ Schefferville 83.60 17 P **P 18 23 10.5 -1.0**
comp=Z,12nm,0.7s,mb5.2,baz=354,slow=6.9,SNR=18
SCHQ LR LR 19 04 50.4
comp=Z,3µm,18.7s,MS5.7,baz=346,slow=39
SCHQ Schefferville 83.60 17 eP **P 18 23 09.9 -1.5**
comp=Z,16nm,0.8s,mb5.2
SCHQ e pP 18 23 12.9 -1.5
SCHQ LR LR
comp=Z,5µm,20.0s,MS5.9
BLCB Balcova 83.64 315 eP Px 18 22 10.5
SWS Schriesheim 83.67 332 eP **P 18 23 11.7 -0.3**
AKAS Kas 83.68 312 i P **P 18 23 11.0 -1.3**
KBI1 Birley Grange 83.71 340 eP **P 18 23 11.8 -0.3**
NVSS Nova Varos 2 83.73 322⇓ iP **P 18 23 12.4 0.0**
OBKA Obir 83.75 327⇑ iP **P 18 23 13.0 +0.5**
comp=Z,1µm,3.8s
ABH Alteburg 83.76 333⇑ eP **P 18 23 12.1 -0.3**
FUR Furstenfeldbru 83.77 330 eP **P 18 23 12.9 +0.4**
comp=Z,233nm,1.1s,mb6.2
FUR Furstenfeldbru 83.77 330 eP **P 18 23 12.9 +0.4**
FUR pmax pmax
comp=Z,233nm,1.1s,mb6.2
KBA Koelnbreinsper 83.81 328⇑ iP **P 18 23 12.7 0.0**
comp=Z,1µm,3.4s
KBA Koelnbreinsper 83.81 328⇑ iP **P 18 23 12.7 0.0**
KBA pmax pmax
comp=Z,1µm,3.4s
CBKS Cedar Bluff 83.84 44 PFAKE 18 23 20.0 +6.9
CBKS LR LR
comp=Z,4µm,19.0s,MS5.8
HDH Heidenheim 83.84 331 eP **P 18 23 12.5 -0.4**
DALT Dalyan (Mudla) 83.87 313 eP Px 18 22 14.3
KNT Kendrikon 83.88 319 eP **P 18 23 13.9 +0.6**
OUR Ouranopolis 83.91 318 eP **P 18 23 13.3 -0.1**
MLSB Milas 84.00 314 eP Px 18 22 14.0
PLE Pijevija 84.01 322⇑ iP **P 18 23 14.3 +0.4**
KWE Weaver Farm 84.01 340 eP **P 18 23 13.4 -0.2**
PPT Papeete 84.01 118 ePP PP 18 26 22.0 -8.1
PPT Papeete 84.01 118 eSS SS 18 39 14.1 +5.8
PPT eLR LR 18 48 59.1
comp=Z,9µm,22.2s,baz=319
PPT Papeete 84.01 118 LR LR 18 53 14.0
comp=Z,6µm,21.1s,MS5.9,baz=280,slow=30
SKO Skopje 84.02 320 eP **P 18 23 11.7 -2.3**
SKO i pP 18 23 14.5 -2.4
MASH Mash'abbe Sade 84.02 305 P **P 18 23 14.1 -0.1**
KTD Kalmit 84.03 332 eP **P 18 23 13.8 0.0**
ZFRI Zfri 84.06 304 P **P 18 23 14.6 +0.2**
STU Stuttgart 84.07 331 P **P 18 23 15.8 +1.8**
STU pmax pmax
comp=Z,110nm,1.1s,mb5.9
IVA Berane 84.11 322 eP **P 18 23 14.7 +0.3**
LJU Ljubljana 84.13 327 eP **P 18 23 15.6 +1.2**
LJU e 18 23 21.0
LJU ePP PP 18 26 31.7 +1.3
LJU e 18 28 17.6
LJU eS S 18 33 36.2 -1.6
PLG Polygyros 84.17 318 eP **P 18 23 16.4 +1.7**
THE Thessaloniki 84.23 319 eP **P 18 23 16.1 +1.1**
BOJS Bojanci 84.23 326 eP **P 18 23 16.4 +1.5**
BOJS e 18 23 22.3
BOJS ePP PP 18 26 30.6 -0.6
BOJS eS S 18 33 37.4 -1.5
GRG Griva 84.28 319 eP **P 18 23 16.9 +1.6**
PRNI Paran 84.30 304 P **P 18 23 15.9 +0.2**
LBG Lerchenberg 84.31 332 eP **P 18 23 15.2 0.0**
WME Myndd Eilian 84.31 341 eP **P 18 23 16.0 +0.9**
WATA Walderalm 84.32 329⇑ iP **P 18 23 15.3 0.0**
comp=Z,77nm,1.3s,mb5.7
WATA Walderalm 84.32 329⇑ iP **P 18 23 15.3 0.0**
WATA pmax pmax
comp=Z,77nm,1.3s,mb5.7
KZIT Kziot 84.33 305 P **P 18 23 15.7 -0.1**
UPM Unac-Piva 84.33 323⇑ iP **P 18 23 14.7 -0.8**
WPM1 Penmaenmawr 84.34 341 eP **P 18 23 14.8 -0.5**
WPM1 AMb AMB 18 23 19.1
comp=Z,272nm,1.4s,mb6.2
WTTA Wattenberg 84.36 329⇑ iP **P 18 23 15.7 +0.2**
comp=Z,2µm,5.0s
WTTA Wattenberg 84.36 329⇑ iP **P 18 23 15.7 +0.2**
WTTA pmax pmax
comp=Z,2µm,5.0s
WCB1 Church Bay 84.39 341 eP **P 18 23 16.0 +0.5**
WCB1 AMb AMB 18 23 19.1
comp=Z,88nm,1.7s,mb5.6
VOY Vojsko 84.41 327 eP **P 18 23 16.4 +0.6**
VOY e 18 23 23.7
SNZO South Karori 84.41 157 PFAKE 18 23 30.0 +14
SNZO LR LR
comp=Z,6µm,20.0s,MS5.9
KBRS Khaybar 84.42 298 P **P 18 23 16.7 +0.4**
LANF Langenberg 84.42 332 eP **P 18 23 15.6 -0.2**
BODT Bodrum 84.42 314 eP Px 18 22 16.1
SBD1 Bryn Du 84.49 340 eP **P 18 23 15.5 -0.5**
HRFI Mount Harif 84.49 304 P **P 18 23 16.7 +0.1**
MOTA Moosalm 84.50 330⇓ iP **P 18 23 16.3 +0.1**
comp=Z,278nm,1.6s,mb6.1
MOTA Moosalm 84.50 330⇓ iP **P 18 23 16.3 +0.1**
MOTA pmax pmax
comp=Z,278nm,1.6s,mb6.1
YLL Llanberis 84.51 341 eP **P 18 23 15.9 -0.2**
YLL AMb AMB 18 23 19.8
comp=Z,220nm,1.5s,mb6.1
YRC Rhoscolyn 84.52 341 eP **P 18 23 15.9 -0.3**
GIVF Givet 84.52 335 eP **P 18 23 15.9 -0.3**
comp=Z,363nm,1.8s,mb5.9
GIVF Givet 84.52 335 eP **P 18 23 15.9 -0.3**
GIVF pmax pmax
comp=Z,182nm,1.8s,mb5.9
ARG Arkhangelos 84.55 313 eP **P 18 23 18.6 +1.8**
SQTA Sankt Quirin 84.56 329⇑ iP **P 18 23 16.8 +0.3**
comp=Z,129nm,1.3s,mb5.9
SQTA Sankt Quirin 84.56 329⇑ iP **P 18 23 16.8 +0.3**
SQTA pmax pmax
comp=Z,129nm,1.3s,mb5.9
NKY Niksic 84.59 322⇑ iP **P 18 23 17.2 +0.4**
UBR Uberruh 84.62 330 eP **P 18 23 16.4 -0.4**
KMTI Karmit 84.65 304 P **P 18 23 17.2 -0.2**
GUT Gutenstein 84.68 331 eP **P 18 23 17.1 0.0**
TBKS Tabuk 84.69 302 P **P 18 23 19.9 +2.3**
JMQS Jabal Moqyreh 84.70 303 P **P 18 23 19.6 +1.9**
YRE Yr Eifl 84.72 341 eP **P 18 23 16.8 -0.3**
YRE AMb AMB 18 23 23.8
comp=Z,270nm,1.7s,mb6.1
HLM1 Long Mynd 84.74 340 eP **P 18 23 17.1 -0.1**
BRY Bratogost 84.74 323⇑ iP **P 18 23 16.4 -1.2**
TTG Podgorica 84.75 322⇑ iP **P 18 23 17.2 -0.4**
BAIF Baives 84.76 335 eP **P 18 23 17.1 -0.4**
comp=Z,133nm,1.3s,mb5.6
BAIF Baives 84.76 335 eP **P 18 23 17.1 -0.4**
BAIF pmax pmax
comp=Z,67nm,1.3s,mb5.6
BFO Black Forest 84.76 332 eP **P 18 23 17.4 -0.1**
comp=Z,186nm,1.2s,mb6.1
BFO Black Forest 84.76 332 eP **P 18 23 17.4 -0.1**
BFO pmax pmax
comp=Z,186nm,1.2s,mb6.1
SPAK Spaichingen 84.78 331 eP **P 18 23 17.6 0.0**
EIL Elat 84.79 304 P **P 18 23 18.0 -0.1**
LIT Litokhoron 84.86 319 eP **P 18 23 17.7 -0.5**
SSP1 Stoney Pound 84.89 340 eP **P 18 23 17.1 -0.9**
FNA Florina 84.93 320 eP **P 18 23 20.1 +1.6**
ALWS Ilw as Safayha 84.95 304 P **P 18 23 20.6 +1.7**
DSB Dublin 84.97 342 eP **P 18 23 17.6 -0.8**
comp=Z,76nm,1.1s,mb5.7
DSB e pP 18 23 21.0 -0.3
JMOS Jabal al Moall 85.02 303 P **P 18 23 20.3 +1.1**
BUM Brajici-Budva 85.02 322⇑ iP **P 18 23 19.8 +0.9**
DAVA Damuels 85.03 330⇑ iP **P 18 23 19.0 +0.1**
comp=Z,554nm,1.9s,mb6.4
XOR Xorichti 85.03 318 eP **P 18 23 17.5 -1.6**
WLS Welschbruch 85.06 332 eP **P 18 23 18.7 -0.3**
NEO Neokhori 85.06 318 eP **P 18 23 20.3 +1.1**
HAE Alders End 85.08 340 eP **P 18 23 18.6 -0.4**
HAE AMb AMB 18 23 22.7
comp=Z,184nm,1.8s,mb5.9
CDF Champ du Feu 85.08 332 eP **P 18 23 19.0 -0.1**
comp=Z,328nm,1.2s,mb6.0
KZN Kozani 85.08 319 eP **P 18 23 20.4 +1.1**
HCY Herceg Novi 85.11 322⇑ iP **P 18 23 18.2 -1.1**
STEIN Stein am Rhein 85.11 331⇑ iP **P 18 23 18.9 -0.3**
ULC Ulcinj 85.11 322⇑ iP **P 18 23 19.9 +0.5**
NVLJ Novalja 85.14 326 i P **P 18 23 20.1 +0.6**
TAOE Nuku Hiva Isla 85.15 105 ePP PP 18 26 31.5 -7.8
TAOE Nuku Hiva Isla 85.15 105 eS S 18 33 44.7 -4.0
TAOE eLR LR 18 49 38.8
comp=Z,20µm,21.9s,baz=319
STON Ston 85.16 323 i P **P 18 23 20.1 +0.5**
STON Ston 85.16 323 i P **P 18 23 20.2 +0.5**
SLE Schleitheim 85.17 331⇑ iP **P 18 23 19.2 -0.3**
LIENZ Alp Oberkamor 85.17 330⇑ iP **P 18 23 19.5 -0.1**
LIBD Limburg 85.18 332 eP **P 18 23 20.0 +0.4**
TRULL Truellikon 85.20 331⇑ iP **P 18 23 18.2 -1.5**
KIZ Kirchzarten 85.23 332 eP **P 18 23 19.4 -0.4**
HTR Trewern Hill 85.24 340 eP **P 18 23 19.2 -0.6**
HTR AMb AMB 18 23 23.5
comp=Z,173nm,1.5s,mb6.0
MCH1 Michaelchurch 85.24 340 eP **P 18 23 19.5 -0.3**
MCH1 eP 18 23 19.5
FELD Feldberg 85.26 332⇑ eP **P 18 23 19.7 -0.3**
ECH Echery 85.29 332 eP **P 18 23 20.1 0.0**
FLACH Flaach 85.30 331⇑ iP **P 18 23 19.8 -0.4**
WILA Wila 85.30 331⇑ iP **P 18 23 19.8 -0.4**
KSU1 Kansas State U 85.32 42 eP **P 18 23 19.5 -1.1**
PLONS Plons 85.42 330⇑ iP **P 18 23 20.6 -0.2**
FUORN Ofenpass 85.43 330⇑ iP **P 18 23 21.3 +0.4**
DAVOX Davos 85.45 330 LR LR 19 04 58.9
comp=Z,13µm,18.2s,MS6.3,baz=18,slow=38
DAVOX Davos 85.45 330⇑ iP **P 18 23 21.1 +0.1**
MNTX Cornudas Mount 85.46 53 PFAKE 18 23 30.0 +8.6
MNTX LR LR
comp=Z,3µm,20.0s,MS5.6
ZUR Zurich 85.47 331⇑ iP **P 18 23 20.6 -0.4**
HGH Gray Hill 85.51 340 eP **P 18 23 20.4 -0.7**
HGH AMb AMB 18 23 23.9
comp=Z,124nm,1.1s,mb6.0
BDAS Al Bad' 85.51 303 P **P 18 23 23.2 +1.5**
SULZ Sulz-Cheisache 85.51 331⇑ iP **P 18 23 21.0 -0.3**
RPZ Rata Peaks 85.57 160 P **P 18 23 22.3 +0.6**
comp=Z,14nm,0.7s,mb5.3,baz=358,slow=16,SNR=12
TAYS Tayyib Ism 85.58 303 P **P 18 23 23.7 +1.7**
MOF Molkenrain 85.61 332 eP **P 18 23 21.3 -0.4**
BERNI Berninapass 85.69 330⇑ iP **P 18 23 22.4 +0.2**
THEF They Montfort 85.71 333 eP **P 18 23 22.0 -0.2**
LLS Linth-Limmern 85.73 330⇑ iP **P 18 23 22.2 -0.2**
HINF Hinteralfeld 85.74 332 eP **P 18 23 21.9 -0.5**
comp=Z,164nm,1.3s,mb5.8
AGG Agios Georgios 85.74 318 eP **P 18 23 23.0 +0.4**
HAU Haudompre 85.76 333 eP **P 18 23 22.1 -0.4**
comp=Z,161nm,1.1s,mb5.9
HAU eR
comp=Z,18µm,21.2s
HSA Swansea 85.77 340 eP **P 18 23 22.7 +0.3**
MUO Muotathal 85.78 331⇑ iP **P 18 23 22.5 -0.1**
BBS Basel-Blauen 85.79 332⇑ eP **P 18 23 22.5 -0.2**
BBS Basel-Blauen 85.79 332 eP **P 18 23 21.9 -0.8**
MEZF Maizieres J'vi 85.80 334 eP **P 18 23 22.7 0.0**
comp=Z,368nm,1.2s,mb6.2
BALST Balsthal 85.83 331⇑ iP **P 18 23 22.5 -0.4**
VDL Val di Lei 85.85 330⇑ iP **P 18 23 23.0 0.0**
BOURR Bourrignon 85.95 332⇑ iP **P 18 23 23.3 -0.2**
JAN Janina 86.04 319 eP **P 18 23 26.0 +1.9**
UMJS Umm Lajj 86.12 299 P **P 18 23 25.6 +0.8**
HASLI Hasliberg 86.14 331⇑ iP **P 18 23 24.1 -0.3**
LOMF Lomont 86.14 332 eP **P 18 23 24.3 -0.1**
FUSIO Fusio 86.19 330⇑ iP **P 18 23 24.5 -0.2**
HEX Exmoor 86.29 340 eP **P 18 23 25.1 +0.1**
IGT Igoumenitsa 86.40 319 eP **P 18 23 25.0 -0.9**
WIMIS Wimmis 86.42 331⇑ iP **P 18 23 25.3 -0.5**
DJNS Zahran al Janu 86.47 290 P **P 18 23 27.5 +0.8**
MUGIO Muggio 86.48 330⇑ iP **P 18 23 25.0 -1.1**
BLJS Baljurashi 86.52 293 P **P 18 23 27.5 +0.6**
KEK Kerkira 86.53 320 eP **P 18 23 27.7 +1.2**
LKBD Leukerbad 86.65 331⇑ iP **P 18 23 26.6 -0.3**
SENIN Lac Senin 86.79 331⇑ iP **P 18 23 27.5 -0.1**
MMK Mattmark 86.80 331⇑ iP **P 18 23 27.7 0.0**
RLS Riolos of Patr 86.91 318 eP **P 18 23 30.1 +1.7**
AIGLE Aigle 86.94 331⇑ iP **P 18 23 27.8 -0.5**
GRYON Gryon 86.96 331⇑ iP **P 18 23 28.1 -0.3**
DIX Grande Dixence 86.98 331⇑ iP **P 18 23 28.7 +0.1**
CABF La Chapelle 87.03 332 eP **P 18 23 28.8 0.0**
comp=Z,99nm,1.2s,mb5.6
SALAN Lac Salanfe 87.10 331⇑ iP **P 18 23 28.9 -0.2**
SALAN Lac Salanfe 87.10 331⇑ iP **P 18 23 28.8 -0.3**
ORX Oropa 87.14 330 P **P 18 23 29.6 +0.3**
GRAM 87.25 328 P **P 18 23 30.8 +0.9**
LOR Lormes 87.28 334 eP **P 18 23 29.6 -0.3**
comp=Z,322nm,1.1s,mb6.2
LOR eR
comp=Z,14µm,18.0s
VLS Valsamata 87.28 318 eP **P 18 23 31.3 +1.1**
VALM 87.29 328 P **P 18 23 31.6 +1.5**
ITM Ithomi 87.31 317 eP **P 18 23 30.4 0.0**
SARO Sassorosso 87.36 328 P **P 18 23 31.3 +0.9**
VAM Vamos 87.36 314 eP **P 18 23 33.0 +2.3**
FLN La Foliniere 87.40 337 eP **P 18 23 29.9 -0.6**
comp=Z,123nm,0.9s,mb5.8
FLN eR
comp=Z,15µm,23.0s
CODM 87.42 329 P **P 18 23 31.2 +0.5**
BACM 87.42 328 P **P 18 23 31.8 +1.1**
LDF La Druitiere 87.44 337 eP **P 18 23 30.2 -0.5**
comp=Z,72nm,0.8s,mb5.6
MAIM 87.54 328 P **P 18 23 31.2 -0.1**
SSF Saint Saulge 87.58 334 eP **P 18 23 31.1 -0.3**
comp=Z,167nm,1.1s,mb5.9
LSD Ceresole Reale 87.60 331 P **P 18 23 32.4 +0.9**
HYF Humbligny 87.69 334 eP **P 18 23 32.0 0.0**
LPL La Plagne 87.72 331 eP **P 18 23 32.3 +0.2**
comp=Z,171nm,1.3s,mb5.8
LPG La Plagne 87.72 331 eP **P 18 23 32.4 +0.3**
comp=Z,111nm,1.0s,mb5.8
SMF Signal de Mont 87.82 333 eP **P 18 23 32.3 -0.3**
comp=Z,651nm,1.8s,mb6.3
RSP Reno Superiore 87.82 331 P **P 18 23 33.5 +0.9**
PCP Pian Castagno 87.82 329 P **P 18 23 32.2 -0.4**
GRR Gorron 87.84 337 eP **P 18 23 32.5 -0.1**
comp=Z,312nm,1.2s,mb6.1
AVF Avril sur Loir 87.86 334 eP **P 18 23 32.5 -0.3**
comp=Z,358nm,1.2s,mb6.2
FENE Fenestrelle 88.00 331 P **P 18 23 33.7 +0.3**
TBI Tubuai 88.04 122 eS S 18 34 13.0 -3.1
TBI eLR LR 18 50 56.3
comp=Z,7µm,22.5s,baz=318
BHB Bricherasio 88.08 330 P **P 18 23 34.0 +0.1**
LTX Lajitas 88.15 53 eP **P 18 23 33.9 -0.7**
comp=Z,47nm,1.4s,mb5.5
LTX epP pP 18 23 40.8 +3.2
LTX LR LR
comp=Z,4µm,20.0s,MS5.8
LTX Lajitas 88.15 53 P **P 18 23 34.8 +0.2**
LTX pmax pmax
comp=Z,47nm,1.3s,mb5.6
TXAR Lajitas Array 88.15 53 P **P 18 23 34.2 -0.3**
comp=Z,8.4nm,0.6s,mb5.1,baz=291,slow=3.3,SNR=35
TXAR PKKPbc 18 41 21.2
comp=Z,0.5nm,0.3s,baz=104,slow=5.2,SNR=4.1
RRL Cesana Torines 88.20 331 P **P 18 23 34.6 +0.2**
GDM Grand'Maison 88.21 331 eP **P 18 23 36.7 +2.2**
FIN Finale Ligure 88.23 329 P **P 18 23 34.0 -0.6**
BGF Bois d'Agland 88.24 334 eP **P 18 23 34.6 0.0**
comp=Z,446nm,1.8s,mb6.1
ROB Roburent 88.30 330 P **P 18 23 33.8 -1.1**
GRN Grenoble 88.32 331 eP **P 18 23 36.7 +1.7**
MBDF Montbardon 88.36 331 eP **P 18 23 35.6 +0.4**
PLDF La Plantade 88.47 333 eP **P 18 23 36.9 +1.2**
SGMF Saint Gilles 88.48 338 eP **P 18 23 35.5 -0.2**
comp=Z,61nm,0.8s,mb5.6
ENR Entracque 88.53 330 P **P 18 23 35.0 -1.1**
ORIF Oris-en-Rattie 88.54 331 eP **P 18 23 36.2 +0.1**
comp=Z,44nm,0.8s,mb5.6
ORIF eR
comp=Z,14µm,21.5s
SURF Saint Ours 88.56 330 eP **P 18 23 37.2 +1.0**
AGO Saint Agoulin 88.58 333 eP **P 18 23 37.4 +1.2**
IMI Imperia 88.61 329 P **P 18 23 35.8 -0.6**
ROSF Rostrenen 88.61 338 eP **P 18 23 36.1 -0.2**
comp=Z,302nm,1.5s,mb6.1
SAOF Saorge 88.68 330 eP **P 18 23 37.5 +0.7**
TCF Toulx Ste Croi 88.69 334 eP **P 18 23 36.8 0.0**
comp=Z,176nm,1.3s,mb5.9
AUTN L'Aution 88.72 330 eP **P 18 23 37.9 +0.9**
NEGI Negi 88.74 330 P **P 18 23 37.3 +0.3**
TOUF Mont Tournerai 88.78 330 eP **P 18 23 36.5 -0.7**
SBF Sospel 88.83 330 eP **P 18 23 37.8 +0.3**
comp=Z,38nm,0.8s,mb5.5
COLF Collangettes 88.84 333 eP **P 18 23 37.7 +0.2**
PYM Petit Puy Mans 88.88 333 eP **P 18 23 38.6 +0.9**
CCM Cathedral Cave 88.88 40⇑ eP **P 18 23 37.0 -0.9**
comp=Z,42nm,0.9s,mb5.8
CCM e pP 18 23 39.2 -1.6
CCM epP pP 18 23 43.5 +2.7
CCM LR LR
comp=Z,666nm,20.0s,MS5.1
CCM Cathedral Cave 88.88 40 P **P 18 23 37.4 -0.5**
CCM pmax pmax
comp=Z,42nm,0.9s,mb5.8
MVIF Mont Vial 88.91 330 eP **P 18 23 38.8 +0.9**
QUIF Quistinic 88.96 338 eP **P 18 23 37.4 -0.6**
REVF Revere 88.96 330 eP **P 18 23 38.5 +0.4**
VIVF Saint-Julien-l 89.05 332 eP **P 18 23 38.3 -0.2**

comp=Z,170nm,1.5s,mb5.8
OCF Saint Nazaire 89.05 331 *e*P **P 18 23 38.2 -0.3**
OG26 St.-Nazaire-De 89.05 331 *e*P **P 18 23 38.2 -0.3**
CALN Calern 89.14 330 *e*P **P 18 23 39.8 +0.8**
MFF Saint Martin d 89.20 336 *e*P **P 18 23 39.3 +0.1**
comp=Z,181nm,1.1s,mb6.0
PGF Pioggiola 89.29 328 *e*P **P 18 23 40.4 +0.7**
comp=Z,90nm,1.4s,mb5.6
FVM French Village 89.35 40 *e*P **P 18 23 39.4 -0.7**
comp=Z,60nm,1.4s,mb5.7
FVM French Village 89.35 40 P **P 18 23 41.3 +1.2**
FVM pmax pmax
comp=Z,60nm,1.4s,mb5.7
FRF La Foret Royal 89.39 330 *e*P **P 18 23 40.7 +0.5**
SMRF Simiane la Rot 89.46 331 *e*P **P 18 23 40.4 -0.1**
comp=Z,69nm,1.5s,mb5.5
LMR La Mourre 89.64 330 *e*P **P 18 23 42.2 +0.9**
LRYF La Roche-sur-Y 89.67 337 *e*P **P 18 23 41.2 -0.2**
RJF Les Rejaudoux 89.79 334 *e*P **P 18 23 42.1 +0.1**
comp=Z,156nm,1.1s,mb6.0
RJF *e*R
comp=Z,15μm,21.2s
CAF Calviac 89.93 334 *e*P **P 18 23 43.1 +0.5**
comp=Z,136nm,1.0s,mb5.9
LASF Ste Croix 90.02 332 *e*P **P 18 23 42.9 -0.2**
comp=Z,70nm,1.1s,mb5.6
LFF La Frestale 90.37 334 *e*P **P 18 23 44.9 +0.2**
comp=Z,199nm,1.0s,mb6.1
PQI Presque Isle 90.78 21 PFAKE 18 24 00.0 +13
PQI LR LR
comp=Z,23μm,20.0s,MS6.6
VAE Valguarnera 90.94 322 LR LR 19 06 53.1
comp=Z,7μm,19.7s,MS6.1,baz=49,slow=37
GENY Geneseo 91.01 29 *e*P **P 18 23 50.6 +3.0**
MSEY Mahe Island 91.09 265 PFAKE 18 24 00.0 +11
MSEY LR LR
comp=Z,871nm,20.0s,MS5.2
HBAR Harrisburg 91.11 41 P **P 18 23 49.0 +0.7**
WCI Wyandotte Cave 91.16 37 *e*P **P 18 23 48.0 -0.4**
comp=Z,14nm,0.7s,mb5.4
WCI *e* pP 18 23 50.5 -0.9
WCI LR LR
comp=Z,1μm,19.0s,MS5.3
WCI Wyandotte Cave 91.16 37 P **P 18 23 50.5 +2.0**
WCI pmax pmax
comp=Z,14nm,0.7s,mb5.4
MTLF Montolieu 91.25 333 *e*P **P 18 23 48.8 0.0**
comp=Z,78nm,1.1s,mb5.7
NCB Newcomb 91.26 26 *e*P **P 18 23 48.5 -0.4**
comp=Z,15nm,0.6s,mb5.5
MIV Mineville/With J 91.41 26 P **P 18 23 48.5 -0.9**
LRDF Laroque-de-Fa 91.48 332 *e*P **P 18 23 50.0 +0.2**
LPEF Le Peyrat 91.70 333 *e*P **P 18 23 53.0 +2.1**
SJAF Saint Jean de 91.75 332 *e*P **P 18 23 52.5 +1.4**
EJON La Jonquera 91.78 332 P **P 18 23 51.8 +0.5**
comp=Z,204nm,2.5s,mb6.0
NATX Nacogdoches 91.81 46 PFAKE 18 24 00.0 +8.4
NATX LR LR
comp=Z,3μm,22.0s,MS5.7
MLS Moulis 91.99 333 *e*P **P 18 23 52.2 0.0**
WVT Waverly 92.09 39 *e*P **P 18 23 52.1 -0.7**
comp=Z,49nm,1.5s,mb5.6
WVT *e* pP 18 23 54.3 -1.4
WVT LR LR
comp=Z,2μm,20.0s,MS5.7
WVT Waverly 92.09 39 P **P 18 23 54.3 +1.5**
WVT pmax pmax
comp=Z,49nm,1.5s,mb5.6
SALF Salau 92.13 333 *e*P **P 18 23 54.3 +1.5**
VALF Valcebollere 92.14 332 *e*P **P 18 23 55.2 +2.3**
HNH Hanover 92.15 25 *e*P **P 18 23 53.3 +0.4**
BINY Binghamton 92.18 28 *e*P **P 18 23 53.2 +0.1**
comp=Z,37nm,1.2s,mb5.6
BINY LR LR
comp=Z,5μm,20.0s,MS6.0
EPF Esparros 92.19 334 *e*P **P 18 23 52.8 -0.3**
comp=Z,84nm,1.4s,mb5.6
WVL Waterville 92.22 23 PFAKE 18 24 00.0 +6.8
WVL LR LR
comp=Z,15μm,20.0s,MS6.4
RESF Ens 92.39 334 *e*P **P 18 23 54.9 +0.9**
VIEF Viey 92.43 334 *e*P **P 18 23 56.8 +2.6**
EBIE Bielsa 92.56 334 P **P 18 23 55.9 +1.1**
comp=Z,719nm,4.6s
ETSF Etsaut 92.61 334 *e*P **P 18 23 55.6 +0.6**
LARF Larrau 92.64 335 *e*P **P 18 23 56.4 +1.3**
EALK Alkurruntz 92.65 335 P **P 18 23 55.9 +0.7**
comp=Z,282nm,3.0s
SJPF Ste Jean 92.65 335 *e*P **P 18 23 55.5 +0.3**
EMIR Miracle 92.74 332 P **P 18 23 55.7 0.0**
comp=Z,312nm,3.2s
EGRA Graus 92.93 333 P **P 18 23 58.4 +1.9**
comp=Z,35nm,1.0s,mb5.7
ELAN Lanestosa 93.26 336 P **P 18 23 59.0 +1.0**
comp=Z,183nm,2.3s,mb6.1
EPOB Poblet 93.40 332 P **P 18 23 58.7 0.0**
comp=Z,227nm,2.9s,mb6.1
HRV Harvard--Oak R 93.46 25 PFAKE 18 24 10.0 +11
HRV LR LR
comp=Z,4μm,19.0s,MS5.9
ESAC San Caprasio 93.62 334 P **P 18 24 00.2 +0.5**
comp=Z,556nm,2.5s,mb6.5
WES Weston 93.65 25 PFAKE 18 24 10.0 +10
WES LR LR
comp=Z,5μm,19.0s,MS6.0
ERTA Horta de San J 94.01 333 P **P 18 24 02.0 +0.5**
comp=Z,126nm,2.5s,mb5.9
ETOS Mallorca 94.12 330 P **P 18 24 02.4 +0.3**
comp=Z,189nm,2.5s,mb6.1
ELN Prospectdale 94.50 34 *e*P **P 18 24 03.5 -0.4**
BLA Blacksburg 94.65 34 PFAKE 18 24 20.0 +15
BLA LR LR
comp=Z,5μm,20.0s,MS6.0
MYNC Murphy 94.73 37 *e*P **P 18 24 05.5 +0.5**
comp=Z,12nm,1.2s,mb5.2
MYNC LR LR
comp=Z,4μm,21.0s,MS5.9
EMOS Mosqueruela 94.83 333 P **P 18 24 05.6 +0.3**
comp=Z,252nm,2.9s,mb6.1
CMAH Djebel Manchou 94.88 326 P **P 18 24 06.4 +0.8**
LRAL Lakeview Retre 94.96 40 PFAKE 18 24 20.0 +14
LRAL LR LR
comp=Z,3μm,19.0s,MS5.8
CBN Corbin 95.09 31 PFAKE 18 24 20.0 +13
CBN LR LR
comp=Z,7μm,19.0s,MS6.1
CKFL Kef-Lekhel 95.38 326 P **P 18 24 08.0 +0.1**
PBRG Braganca 95.57 338 *e*P **P 18 24 09.5 +0.8**
DFRA Djebel Bou Aff 95.62 327 P **P 18 24 11.0 +2.0**
SET Setif 96.12 327 P **P 18 24 12.0 +0.7**
PVRL Vila Real 96.34 338 *e*P **P 18 24 13.3 +1.1**
ESDC Sonseca Array 96.64 335 P **P 18 24 13.3 -0.3**
comp=Z,7.1nm,0.9s,mb5.1,baz=17,slow=4.1,SNR=22
ESDC PP PP 18 28 02.0 -8.6
comp=Z,4.0nm,0.8s,baz=23,slow=7.0,SNR=5.3
ESDC PKKPbc 18 40 58.4
comp=Z,0.1nm,0.3s,baz=165,slow=1.1,SNR=4.3
ESDC Sonseca Array 96.64 335 P **P 18 24 14.4 +0.8**
comp=Z,14nm,1.4s,mb5.2
ESLA Sonseca Array 96.64 335 PFAKE 18 24 30.0 +16
ESLA LR LR
comp=Z,67μm,19.0s
ATAF Djebel Tarf 96.87 327 P **P 18 24 16.4 +1.7**
AKET Djebel Ketaf 96.89 328 P **P 18 24 15.4 +0.6**
ADJB Djebel Djouab 96.98 328 P **P 18 24 16.4 +1.2**
EVIA Vianos 97.08 334 P **P 18 24 17.2 +1.6**
comp=Z,24nm,0.9s,mb5.6
MTE Manteigas 97.10 338 *e*P **P 18 24 16.8 +1.2**
MTE *e*PP PP 18 28 14.6 +0.3
MTE *e*SKSac 18 34 54.5
MTE *e*SS SS 18 42 26.9 +11
MTE *e*LQ 18 59 51.1
MTE *e*LR LR 19 08 50.6
comp=Z,10μm,20.0s
EBAN Banos Encina 97.94 334 P **P 18 24 21.0 +1.5**
comp=Z,9.9nm,0.8s,mb5.4
RKT Rikitea 97.98 113 *e*PP PP 18 28 06.8 -15
RKT Rikitea 97.98 113 *e*PS PS 18 37 12.2 -0.7
RKT Rikitea 97.98 113 *e*SKSac 18 34 56.6
RKT *e*SS SS 18 42 26.8 -2.1
RKT *e*LR LR 18 55 36.0
comp=Z,7μm,23.8s,baz=306
EQES Quesada 98.02 334 P **P 18 24 20.8 +0.9**
comp=Z,411nm,3.6s
NHSC New Hope 98.20 36 PFAKE 18 24 30.0 +9.2
NHSC LR LR
comp=Z,4μm,19.0s,MS6.0
EADA Adamuz 98.21 335 P **P 18 24 21.5 +0.8**
comp=Z,240nm,3.0s
DWPF Disney 101.74 39 PFAKE 18 24 50.0 +13
DWPF LR LR
comp=Z,886nm,19.0s,MS5.3
PTCN Pitcairn Islan 102.70 112 PFAKE 18 24 50.0 +8.7
PTCN LR LR
comp=Z,6μm,19.0s,MS6.1
KMBO Kilima Mbogo 103.17 279 PP PP 18 28 57.6 -3.8
comp=Z,6.2nm,1.1s,baz=46,slow=15,SNR=2.7
CMLA Cha da Macela 103.47 351 PFAKE 18 25 00.0 +16
CMLA LR LR
comp=Z,7μm,20.0s,MS6.2
DRV Dumont d'Urvil 104.80 181 PP PP 18 29 14.0 +1.7
DRV SKS SKS 18 35 29.0 -4.0
DRV SP SP 18 38 22.0 +0.2
DRV SS SS 18 44 05.0 +2.8
DRV L 18 54 00.0
BBSR BB Station 104.92 24 PFAKE 18 25 00.0 +9.1
BBSR LR LR
comp=Z,3μm,19.0s,MS5.9
CASY Casey 107.38 193 PKPdf 18 29 08.0
CASY *e*PP PP 18 29 26.0 -5.5
CASY LR LR
comp=Z,2μm,22.0s,MS5.6
MBAR Mbarara 107.85 284 PFAKE 18 29 20.0
MBAR LR LR
comp=Z,811nm,22.0s,MS5.2
MIR Mirnyy 111.47 199 *e*PKIKP PKPdf 18 29 19.0 +0.4
MIR *i* 18 30 03.0
MIR pmax pmax
comp=Z,22nm,1.2s
VNDA Vanda 116.25 176 PKP PKPdf 18 29 25.4 -2.6
comp=Z,5.6nm,0.9s,baz=310,slow=4.1,SNR=14
VNDA PP PP 18 30 33.3 -2.2
comp=Z,3.2nm,1.1s,baz=337,slow=9.1,SNR=2.5
VNDA Vanda 116.25 176 PKIKP PKPdf 18 29 25.4 -2.5
VNDA 18 30 33.3
VNDA pmax pmax
comp=Z,6.0nm,0.9s
VNDA pmax pmax
comp=Z,3.0nm,1.1s
SBA Scott Base 116.90 175 *e*PKPdf PKPdf 18 29 27.3 -1.9
SBA *e* 18 29 29.3
SBA *e*PP PP 18 30 38.2 -1.8
SBA LR LR
comp=Z,1μm,20.0s,MS5.5
SJG San Juan 117.37 32 PFAKE 18 29 40.0 +8.7
SJG LR LR
comp=Z,3μm,20.0s,MS5.9
PAYG Puerto Ayora 118.33 66 PFAKE 18 29 40.0 +6.6
PAYG LR LR
comp=Z,2μm,20.0s,MS5.7
LSZ Lusaka 118.85 273 *e*PKPdf PKPdf 18 29 32.4 -1.9
LSZ *e* 18 29 34.5
LSZ LR LR
comp=Z,3μm,20.0s,MS5.9
RPN Rapa Nui 119.39 103 PFAKE 18 29 50.0 +15
RPN LR LR
comp=Z,1μm,21.0s,MS5.4
MAW Mawson 121.42 206 PKP PKPdf 18 29 35.5 -2.6
comp=Z,10nm,0.7s,baz=357,slow=1.2,SNR=21
SDV Santo Domingo 123.34 41 *e*PKPdf PKPdf 18 29 40.6 -2.4
SDV *e* 18 29 42.5
SDV LR LR
comp=Z,2μm,21.0s,MS5.8
ROSC El Rosal 124.65 48 PKP PKPdf 18 29 45.8 +0.1
comp=Z,6.6nm,0.4s,baz=106,slow=20,SNR=3.4
LBTB Lobatse 126.19 265 *e*PKPdf PKPdf 18 29 47.7 -0.5
LBTB LR LR
comp=Z,3μm,21.0s,MS6.0
DBIC Dimbokro 126.20 319 PKP PKPdf 18 29 47.4 -1.2
comp=Z,9.6nm,0.7s,baz=291,slow=4.6,SNR=9.4
DBIC PP PP 18 31 36.2 -8.2
comp=Z,39nm,1.0s,baz=13,slow=9.9,SNR=7.6
DBIC Dimbokro 126.20 319 *e*PKPdf PKPdf 18 29 46.1 -2.4
DBIC *e*PP PP 18 31 38.0 -6.4
DBIC *e* 18 31 47.6
DBIC LR LR
comp=Z,6μm,20.0s,MS6.3
DBIC Dimbokro 126.20 319 *e*PKIKP PKPdf 18 29 46.2 -2.4
DBIC *e* 18 31 47.6
DBIC MLR MLR
comp=Z,6μm,20.0s
LIC Lamto 126.66 319 *e*PKIKP PKPdf 18 29 50.1 +0.7
comp=Z,109nm,1.4s
QSPA South Pole Qui 128.17 180⇑ *i*P PKPdf 18 29 50.6 -0.2
QSPA LR LR
comp=Z,2μm,22.0s,MS5.8
BOSA Boshof 128.21 261 PKP PKPdf 18 29 50.5 -1.7
comp=Z,16nm,1.1s,baz=90,slow=22,SNR=8.6
BOSA Boshof 128.21 261 *e*PKPdf PKPdf 18 29 50.0 -2.1
BOSA LR LR
comp=Z,2μm,20.0s,MS5.7
BOSA Boshof 128.21 261 PKIKP PKPdf 18 29 50.5 -1.7
BOSA pmax pmax
comp=Z,16nm,1.1s
TSUM Tsumeb 129.39 276 *e*PKPdf PKPdf 18 29 53.3 -1.3
TSUM LR LR
comp=Z,3μm,19.0s,MS6.1
SYO Syowa Base 130.09 207 ⇓P PKPdf 18 29 48.2 -6.4
SYO Syowa Base 130.09 207 ⇓PKPdf PKPdf 18 29 53.2 -1.4
SUR Sutherland 133.31 259 PFAKE 18 30 10.0 +8.3
SUR LR LR
comp=Z,613nm,20.0s,MS5.3
NNA Nana 135.73 64 PKPdf PKPdf 18 30 05.9 -0.7
NNA LR LR
comp=Z,572nm,20.0s,MS5.3
SAML Samuel 142.26 46 *e*PKPpre 18 30 10.4
SAML LR LR
comp=Z,2μm,19.0s,MS5.8
SNAA Sanae 142.50 197 P PKPdf 18 30 12.3 -4.8
SNAA Sanae 142.50 197 PKPdf 18 30 13.8 -3.3
SNAA Sanae 142.50 197 PKPdf 18 30 15.7 -1.4
SNAA Sanae 142.50 197 PKPdf 18 30 19.0 +1.9
SNAA Sanae 142.50 197 PKPdf 18 30 28.5 +11
SNAA Sanae 142.50 197 *e*PKPpre 18 30 09.2
SNAA *e*PKPdf PKPdf 18 30 14.2 -2.9
VNA2 Neumayer--Watz 144.05 196 PKPbc 18 30 22.4 +6.3
VNA2 Neumayer--Watz 144.05 196 PKPbc 18 30 25.6 +9.5
VNA2 Neumayer--Watz 144.05 196 PKPbc 18 30 27.4 +11
VNA2 Neumayer--Watz 144.05 196⇑ *i*PKPdf PKPdf 18 30 16.5 -1.3
VNA2 P 18 30 22.4
VNA2 P 18 30 25.6
VNA2 P 18 30 27.4
VNA3 Neumayer Olymp 144.28 195 PKPbc 18 30 22.8 +6.1
VNA3 Neumayer Olymp 144.28 195 PKPbc 18 30 25.7 +9.0
VNA3 Neumayer Olymp 144.28 195 PKPbc 18 30 29.1 +12
VNA3 Neumayer Olymp 144.28 195⇑ *i*PKPdf PKPdf 18 30 18.9 -1.3
VNA3 P 18 30 22.8
VNA3 P 18 30 25.7
VNA3 P 18 30 29.1
VNA1 Neumayer--Stat 144.45 196 PKPbc 18 30 23.9 +6.7
VNA1 Neumayer--Stat 144.45 196 PKPbc 18 30 27.9 +11
VNA1 Neumayer--Stat 144.45 196 PKPbc 18 30 31.1 +14
VNA1 Neumayer--Stat 144.45 196⇑ *i*PKPdf PKPdf 18 30 20.4 -0.1
VNA1 P 18 30 23.9
VNA1 P 18 30 27.9
VNA1 P 18 30 31.1
LPAZ La Paz 144.76 60 PKP PKPdf 18 30 22.4 -0.2
comp=Z,7.1nm,0.5s,baz=328,slow=3.3,SNR=19
LPAZ La Paz 144.76 60 *e*PKPdf PKPdf 18 30 20.8 -1.9
LPAZ PKP PKPdf 18 30 22.4 -0.2
LPAZ LR LR
comp=Z,2μm,20.0s,MS5.9
LPAZ La Paz 144.76 60 PKIKP PKPdf 18 30 22.4 -0.2
LPAZ pmax pmax
comp=Z,7.0nm,0.5s
RCBR Riachuelo 147.53 358 *e*PKPbc PKPdf 18 30 28.1 +0.6
RCBR *i* 18 30 30.3
RCBR LR LR
comp=Z,2μm,21.0s,MS5.8
LVC Limon Verde 148.36 69 PKPbc PKPdf 18 30 28.5 0.0
comp=Z,40nm,1.0s,baz=235,slow=0.1,SNR=16
LVC Limon Verde 148.36 69 PKPdf PKPdf 18 30 27.5 -1.0
LVC LR LR
comp=Z,2μm,21.0s,MS5.9
SIV San Ignacio 149.10 50 PKP PKPdf 18 30 28.3 -1.6
comp=Z,13nm,0.7s,baz=303,slow=1.1,SNR=18
SIV PKPbc PKPdf 18 30 33.9 +4.0
comp=Z,20nm,0.6s,baz=306,slow=3.3,SNR=29
PMSA Palmer Station 149.15 158 *e*PKPbc PKPdf 18 30 32.0 +3.5
PMSA LR LR
comp=Z,3μm,19.0s,MS6.1
FCH Farellones 152.48 90 *i* P PKPdf 18 30 40.6 +6.1
USHA Ushuaia 153.10 138 PKPbc PKPdf 18 30 43.0 +8.3
comp=Z,31nm,1.0s,baz=328,slow=7.1,SNR=4.0
CFAA Coronel Fontan 153.45 85 PKP PKPdf 18 30 35.7 -0.2
comp=Z,0.9nm,1.1s,baz=293,slow=2.9,SNR=1.7
CFAA PKPbc PKPdf 18 30 43.3 +7.4
comp=Z,2.6nm,0.6s,baz=281,slow=3.7,SNR=7.0
MDZ Mendoza 153.46 88 *e*P PKPdf 18 30 44.9 +9.0
PLCA Paso Flores 153.98 106 PKP PKPdf 18 30 36.8 +0.5
comp=Z,5.3nm,1.1s,baz=223,slow=4.5,SNR=5.5
PLCA PKPbc PKPdf 18 30 44.7 +8.4
comp=Z,7.8nm,1.0s,baz=272,slow=4.5,SNR=7.8
PLCA Paso Flores 153.98 106 *e*PKPdf PKPdf 18 30 38.1 +1.8
PLCA LR LR
comp=Z,2μm,20.0s,MS5.8
BAO Brasilia Array 155.24 27 PKPdf PKPdf 18 30 45.0 +6.3
CPUP Villa Florida 158.93 61 PKP PKPdf 18 30 43.5 +0.2
comp=Z,11nm,1.1s,baz=259,slow=2.3,SNR=7.6
CPUP Villa Florida 158.93 61 PKP PKPdf 18 30 43.5 +0.2
CPUP LR LR
comp=Z,3μm,19.0s,MS6.2
EFI East Falkland 160.07 139 PFAKE 18 30 50.0 +6.3
EFI LR LR
comp=Z,840nm,20.0s
TRQA Tornquist 160.23 97 *e*PKPab PKPab 18 31 22.9 -1.3
TRQA LR LR
comp=Z,3μm,22.0s
TRIS Tristan da Cun 160.60 266 PFAKE 18 30 50.0 +5.3
TRIS LR LR
comp=Z,3μm,21.0s
LPA La Plata 162.69 85 *c*PKP PKPdf 18 30 47.0 +0.2
LPA *e*PKS PKS 18 34 18.0 +1.9
LPA *e*PP PP 18 35 19.0 -1.1
LPA *e*SKKS 18 42 07.0
comp=Z,3μm,18.0s

HRVD ***30*** *18:11:05.7±0.3,5.27S×151.32E,h141km±5km,MW5.2/57, Centroid moment Tensor Solution. LP body waves: s7,c9; Mantle waves: s57,c97; Half duration: 1s0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.95±.49; $M_{\theta\theta}$1.12±.47; $M_{\phi\phi}$0.83±.44; $M_{r\theta}$-7.78±.33; $M_{\theta\phi}$2.04±.50; $M_{\phi r}$-3.00±.29; Best double couple: $M_0$8.738×10^{16} NP1:ϕ_s197°,δ12°, λ-141°. NP2:ϕ_s69°,δ83°,λ-81°. Principal axes: T 9.009, Plg37°, Azm150°; N -.535, Plg9°, Azm247°; P -8.467, Plg52°, Azm349°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50.*

IDC ***30*** *18:11:05.3±1.6,5.26S×151.13E,h126km±13km,mb4.6/11, mb1 4.6/14,mb1mx4.6/18,mbtmp5.1/14,MS4.5/1, Ms1 4.5/1,ms1mx4.0/24 Error ellipse: s-maj=13.2km s-min=10.5km az=116.0*

NEIC ***30*** *18:11:05.7±1.2,5.24S×151.19E,h132km±10km,mb5.2/11, Error ellipse: s-maj=8.7km s-min=7.9km az=201.0*

ISC 30 18:11:04.3±1.6,5.24S±0.07×151.12E±0.06,h131km±14km, n50,σ0=67/45,mb5.0/18,6C-4D,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.71**	**223**	P	**P**	**18 12 28.8**	**+0.8**
	35nm,0.3s,baz=51,slow=6.5,SNR=140						
PMG				S	**S**	**18 13 31.7**	**-1.0**
	63nm,0.3s,baz=106,slow=23,SNR=12						
PMG	**Port Moresby**	**5.71**	**223**	*e*Pn	**P**	**18 12 29.0**	**+1.1**
	724nm,0.9s						
HNR	**Honiara**	**9.69**	**116**	P	**P**	**18 13 20.6**	**-0.9**
	6.2nm,0.3s,baz=279,slow=2.7,SNR=6.6						
CTA	**Charters Tower**	**15.50**	**197**	⇓*i*P	**P**	**18 14 39.2**	**+2.2**
	82nm,1.5s						
CTA	**Charters Tower**	**15.50**	**197**	P	**P**	**18 14 39.0**	**+2.0**
	4.0nm,0.3s,baz=23,slow=12,SNR=64						
CTAO	**Charters Tower**	**15.50**	**197**	⇑*e*P	**P**	**18 14 38.7**	**+1.7**
	93nm,0.8s						
KAKA	**Kakadu**	**19.88**	**247**	⇓*i*P	**P**	**18 15 42.1**	**+15**
	152nm,0.4s						
KAKA				*e*S	**S**	**18 19 15.6**	**+17**
WRAB	**Tennant Creek**	**21.90**	**227**	*e*P	**P**	**18 15 47.9**	**+0.1**
	30nm,0.3s,mb5.2						
WB2	**Warramunga Arr**	**21.91**	**227**	⇑*i*P	**P**	**18 15 48.3**	**+0.5**
WB2				*e*S	**S**	**18 19 41.5**	**+5.2**
WRA	**Warramunga Arr**	**21.92**	**227**	P	**P**	**18 15 48.4**	**+0.5**
	44nm,0.6s,mb5.1,baz=50,slow=9.9,SNR=179						
WRA				S	**S**	**18 19 43.1**	**+6.7**
	21nm,0.8s,baz=56,slow=20,SNR=33						
WRA				ScP		18 23 09.2	
	18nm,0.8s,baz=51,slow=2.5,SNR=4.9						
NOUC	**Port Laguerre**	**22.29**	**140**	*e*P	**P**	**18 15 51.8**	**+0.3**
DZM	**Mont Dzumac**	**22.36**	**140**	*e*P	**P**	**18 15 50.9**	**-1.3**
DZM	**Mont Dzumac**	**22.36**	**140**	P	**P**	**18 15 52.5**	**+0.3**
	16nm,0.4s,mb4.8,baz=2.6,slow=6.8,SNR=25						
DZM				LR	LR	18 22 46.0	
	comp=Z,1μm,19.3s,baz=241,slow=31						
STKA	**Stephens Creek**	**27.96**	**197**	⇑*i*P	**P**	**18 16 44.0**	**-0.8**
	16nm,0.8s,mb4.8						
STKA	**Stephens Creek**	**27.96**	**197**	P	**P**	**18 16 44.0**	**-0.8**
	12nm,0.5s,mb4.9,baz=1.2,slow=11,SNR=43						
FITZ	**Fitzroy Crossi**	**27.99**	**241**	⇓*i*P	**P**	**18 16 44.4**	**-0.7**
	66nm,0.3s,mb5.8						
FITZ	**Fitzroy Crossi**	**27.99**	**241**	P	**P**	**18 16 44.4**	**-0.6**
	134nm,0.5s,mb5.9,baz=30,slow=5,6,SNR=600						
CNB	**Canberra Magne**	**29.97**	**183**	⇑*i*P	**P**	**18 17 02.3**	**-0.3**
	64nm,1.5s,mb5.1						
MBWA	**Marble Bar**	**34.31**	**240**	⇓*i*P	**P**	**18 17 39.2**	**-1.1**
	44nm,0.6s,mb5.4						
KKM	**Kota Kinabalu**	**36.61**	**287**	*e*P	**P**	**18 17 59.5**	**-0.3**
URZ	**Urewera**	**40.48**	**148**	P	**P**	**18 18 32.0**	**+0.3**
	8.2nm,0.3s,mb4.8,baz=295,slow=3.7,SNR=16						
MWZ	**Matawai**	**40.76**	**148**	*e*SN	**S**	**18 24 40.2**	**+5.8**
MWZ				*e*SN	**S**	**18 24 40.2**	**+5.9**
KLBR	**Kellerberrin**	**40.80**	**226**	*e*P	**P**	**18 18 33.5**	**-0.8**
	14nm,0.5s,mb4.8						
NNZ	**Nelson**	**40.99**	**154**	*e*PN	**P**	**18 18 36.1**	**+0.3**
THZ	**Tophouse**	**41.23**	**155**	⇑*e*PN	**P**	**18 18 38.1**	**+0.3**
TSZ	**Takapari Road**	**41.26**	**151**	*e*PN	**P**	**18 18 38.6**	**+0.5**
MRZ	**Mangatainoka R**	**41.54**	**152**	*e*PN	**P**	**18 18 40.2**	**-0.2**
LTZ	**Lake Taylor**	**41.83**	**157**	*e*PN	**P**	**18 18 42.7**	**0.0**
MUN	**Mundaring**	**42.12**	**226**	*e*P	**P**	**18 18 45.4**	**+0.1**
RPZ	**Rata Peaks**	**42.16**	**158**	P	**P**	**18 18 45.5**	**0.0**
	83nm,0.9s,mb5.3,baz=349,slow=0.8,SNR=57						
JNU	**Nakatsue**	**42.71**	**335**	P	**P**	**18 18 50.5**	**+0.4**
	47nm,0.8s,mb5.2,baz=84,slow=6.5,SNR=6.6						
ODZ	**Otahua Downs**	**43.17**	**160**	*e*PN	**P**	**18 18 53.7**	**+0.1**
INCN	**Inchon**	**48.24**	**334**	*e*P	**P**	**18 19 34.2**	**+0.4**
	93nm,1.2s,mb5.3						
ASAJ	**Asahikawa**	**49.72**	**352**	P	**P**	**18 19 45.0**	**-0.1**
	14nm,0.7s,mb4.7,baz=160,slow=12,SNR=3.3						
ULN	**Ulaanbaatar**	**65.50**	**329**	*e*P	**P**	**18 21 36.0**	**+0.3**
	20nm,0.9s,mb4.9						
SONM	**Songino Array**	**65.81**	**329**	P	**P**	**18 21 38.1**	**+0.4**
	3.5nm,0.4s,mb4.5,baz=141,slow=5,2,SNR=9.7						
CASY	**Casey**	**67.11**	**197**	⇑*i*P	**P**	**18 21 45.0**	**-0.7**
CASY				*e*		18 22 11.3	
VNDA	**Vanda**	**72.46**	**178**	P	**P**	**18 22 18.1**	**+0.2**
	4.4nm,0.8s,mb4.2,baz=325,slow=6.9,SNR=16						
ILAR	**Eielson Array**	**83.19**	**22**	P	**P**	**18 23 15.8**	**-1.1**
	6.7nm,0.6s,mb4.5,baz=248,slow=5.4,SNR=6.7						
MAW	**Mawson**	**84.53**	**203**	P	**P**	**18 23 24.3**	**+0.9**
	5.0nm,0.7s,mb4.4,baz=103,slow=7.4,SNR=21						
YKA	**Yellowknife Ar**	**96.59**	**28**	PKiKP		18 28 57.2	
	0.3nm,0.5s,baz=270,slow=2.5,SNR=2.6						
ARCES	**ARCESS Array B**	**106.79**	**343**	PKiKP		18 29 14.4	
	1.7nm,0.8s,baz=45,slow=0.8,SNR=5.8						
NOA	**NORSAR Array B**	**116.74**	**339**	PKP	PKPdf	18 29 34.1	+1.3
	0.8nm,0.6s,baz=68,slow=4.8,SNR=3.1						
BOSA	**Boshof**	**118.02**	**234**	PKP	PKPdf	18 29 37.6	+1.6
	4.9nm,1.0s,baz=90,slow=22,SNR=6.7						
PLCA	**Paso Flores**	**120.42**	**144**	PKP	PKPdf	18 29 42.1	+1.6
	1.4nm,0.7s,baz=33,slow=5.6,SNR=6.2						
GERES	**GERESS Array B**	**123.54**	**328**	PKP	PKPdf	18 29 47.5	+1.2
	2.0nm,0.6s,baz=68,slow=1.6,SNR=8.9						
CFAA	**Coronel Fontan**	**127.57**	**137**	PKP	PKPdf	18 29 56.2	+1.6
	baz=235,slow=1.5						
CFAA	**Coronel Fontan**	**127.57**	**137**	PKP	PKPdf	18 29 56.2	+1.6
LPAZ	**La Paz**	**135.67**	**120**	PKP	PKPdf	18 30 13.3	+3.1
	2.4nm,0.8s,baz=284,slow=4.0,SNR=9.2						
BDFB	**Brasilia**	**151.90**	**138**	PKPbc	PKPdf	18 30 46.4	+8.5
	13nm,0.6s,baz=223,slow=1.3,SNR=15						
BDFB				PKPab	PKPab	18 30 54.5	-2.1
	12nm,0.8s,baz=221,slow=3.2,SNR=8.0						

JMA ***30*** *18:13:59.9±0.1,38.50N×143.20E,h23km,M4.9*

JMA Felt I J1.
*NEIC **30** 18:13:60.0, 38.50N×143.20E, h23km, mb5.2/5, After JMA.*

ISC 30 18:13:58.5±0.9, 38.46N±0.05×143.40E±0.07, h33km, n25, σ1°05/25, mb5.2/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.49**	**295**	P	**P**	**18 14 23.5**	**+0.4**
OFUJ				*e*S	**S**	**18 14 40.9**	**-0.6**
JIO	**Ouri**	**1.61**	**270**	P	**P**	**18 14 25.2**	**+0.3**
JIO				*e*S	**S**	**18 14 43.4**	**-1.3**
JMK	**Ichinoseki**	**1.77**	**287**	P	**P**	**18 14 27.7**	**+0.5**
JMK				*e*S	**S**	**18 14 48.7**	**-0.1**
JOM	**Ohasama**	**1.93**	**302**	P	**P**	**18 14 30.3**	**+0.9**
JOM				*e*S	**S**	**18 14 51.5**	**-1.2**
JMM	**Marumori**	**2.14**	**255**	P	**P**	**18 14 33.0**	**+0.5**
JMM				*e*S	**S**	**18 14 57.0**	**-1.1**
JOU	**Okura**	**2.15**	**268**	P	**P**	**18 14 33.7**	**+1.1**
JOU				*e*S	**S**	**18 14 59.3**	**+0.9**
JFK	**Kawauchi**	**2.28**	**242**	P	**P**	**18 14 34.7**	**+0.3**
JFK				*e*S	**S**	**18 15 00.5**	**-1.1**
JANG	**Nango**	**2.40**	**323**	*e*S	**S**	**18 15 05.6**	**+0.8**
JFT	**Otama**	**2.60**	**250**	*e*S	**S**	**18 15 10.3**	**+0.6**
JYS	**Shiratake**	**2.63**	**266**	*e*S	**S**	**18 15 11.2**	**+0.6**
MAJO	**Matsushiro**	**4.55**	**247**	*e*P	**P**	**18 15 08.3**	**+1.5**
YSS	**Yuzh-Sakhalins**	**8.50**	**357**	P	**P**	**18 16 00.1**	**-2.1**
MDJ	**Mudanjiang**	**12.03**	**305**	P	**P**	**18 16 46.9**	**-3.5**
YAK	**Yakutsk**	**25.06**	**345**	P	**P**	**18 19 22.7**	**+1.7**
	52nm,0.9s,mb5.1						
ULN	**Ulaanbaatar**	**27.90**	**301**	*e*P	**P**	**18 19 43.2**	**-4.1**
	46nm,1.0s,mb5.1						
ENH	**Enshi**	**29.04**	**264**	*e*P	**P**	**18 19 52.9**	**-4.7**
	38nm,0.8s,mb5.2						
WRAB	**Tennant Creek**	**58.70**	**190**	*e*P	**P**	**18 23 54.6**	**-0.8**
	27nm,0.8s,mb5.3						
MBWA	**Marble Bar**	**63.33**	**205**	*e*P	**P**	**18 24 25.6**	**-1.1**
	19nm,1.1s,mb5.1						
SYO	**Syowa Base**	**130.19**	**207**	SH	PKPdf	18 33 15.0	+11
SNAA	**Sanae**	**142.57**	**197**		PKPdf	18 33 37.6	+11
SNAA	**Sanae**	**142.57**	**197**	P	PKPdf	18 33 26.0	-0.8
SNAA				P		18 33 37.6	
VNA2	**Neumayer--Watz**	**144.12**	**196**		PKPbc	18 33 34.7	+5.9
VNA2	**Neumayer--Watz**	**144.12**	**196**	P	PKPbc	18 33 32.3	+3.5
VNA2				P		18 33 34.7	
VNA3	**Neumayer Olymp**	**144.35**	**195**		PKPbc	18 33 37.8	+8.3
VNA3	**Neumayer Olymp**	**144.35**	**195**	P	PKPbc	18 33 33.6	+4.1
VNA3				P		18 33 37.8	

JMA 30 18:22:28.8±0.1, 38.45N×143.29E, h20km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.42**	**297**	P	Pn	18 22 53.8	+0.1
OFUJ				*e*S	Sn	18 23 12.3	+0.4
JIO	**Ouri**	**1.52**	**271**	P	Pn	18 22 55.4	+0.1
JIO				*e*S	Sn	18 23 14.0	-0.7
JMK	**Ichinoseki**	**1.70**	**288**	P	Pn	18 22 57.9	+0.2
JMK				*e*S	Sn	18 23 20.3	+1.3
JOM	**Ohasama**	**1.86**	**304**	P	Pn	18 23 00.5	+0.4
JOM				*e*S	Sn	18 23 23.7	+0.4
JMM	**Marumori**	**2.05**	**254**	P	Pn	18 23 03.0	+0.1
JMM				*e*S	Sn	18 23 27.6	-0.5
JOU	**Okura**	**2.06**	**268**	P	Pn	18 23 03.0	0.0
JOU				*e*S	Sn	18 23 29.3	+0.9
JFK	**Kawauchi**	**2.19**	**241**	P	Pn	18 23 04.5	-0.4
JYK	**Kaneyama**	**2.34**	**282**	P	Pn	18 23 07.8	+0.8
JANG	**Nango**	**2.36**	**325**	P	Pn	18 23 06.7	-0.6
JFT	**Otama**	**2.51**	**249**	P	Pn	18 23 10.9	+1.5
JYS	**Shiratake**	**2.55**	**266**	P	Pn	18 23 10.7	+0.8
JAH	**Hinai**	**2.69**	**311**	P	Pn	18 23 13.0	+1.0

*JMA **30** 18:49:59.7±0.1, 38.48N×143.32E, h19km, M4.4*
*IDC **30** 18:49:59.3±0.9, 38.44N×143.22E, mb3.9/9, mb1 4.1/12, mb1mx4.0/24, mbtmp4.0/12, ML3.7/3, Error ellipse: s-maj=23.5km s-min=19.7km az=107.0*
*NEIC **30** 18:50:00.4±0.6, 38.50N×143.32E, h10km, mb4.5/11, Error ellipse: s-maj=13.2km s-min=9.2km az=136.0*
*BJI **30** 18:50:00.9, 38.42N×142.87E, h10km, mB5.5, mb4.5*
*MOS **30** 18:50:01.5±0.8, 38.45N×143.36E, h33km, mb4.7/13, Error ellipse: s-maj=13.9km s-min=10.6km az=112.3*

ISC 30 18:49:58.3±1.5, 38.45N±0.05×143.34E±0.05, h8km±9km, n68, σ0°96/74, mb4.3/28, MS4.9/2, 1D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.45**	**296**	P	**Pn**	**18 50 25.2**	**+0.3**
OFUJ				*e*S	**Sb**	**18 50 43.8**	**+0.3**
JIO	**Ouri**	**1.56**	**271**	P	**Pn**	**18 50 26.6**	**+0.1**
JIO				*e*S	**Sb**	**18 50 45.9**	**-0.9**
JMK	**Ichinoseki**	**1.73**	**287**	P	**Pn**	**18 50 29.4**	**+0.5**
JMK				*e*S	**Sn**	**18 50 51.6**	**+0.3**
JOM	**Ohasama**	**1.89**	**303**	P	**Pn**	**18 50 31.6**	**+0.4**
JOM				*e*S	**Sn**	**18 50 54.0**	**-1.4**
JMM	**Marumori**	**2.09**	**254**	P	**Pn**	**18 50 34.3**	**+0.2**
JOU	**Okura**	**2.10**	**268**	P	**Pn**	**18 50 35.1**	**+0.8**
JFK	**Kawauchi**	**2.23**	**242**	P	**Pn**	**18 50 35.9**	**-0.2**
JYK	**Kaneyama**	**2.38**	**282**	P	**Pn**	**18 50 38.8**	**+0.6**
JANG	**Nango**	**2.38**	**324**	P	**Pn**	**18 50 37.8**	**-0.4**
JFT	**Otama**	**2.55**	**249**	P	**Pn**	**18 50 42.0**	**+1.4**
JFT				*e*S	**Sn**	**18 51 12.7**	**+0.6**
JYS	**Shiratake**	**2.58**	**266**	P	**Pn**	**18 50 42.2**	**+1.1**
JYS				*e*S	**Sn**	**18 51 13.5**	**+0.5**
MAJO	**Matsushiro**	**4.50**	**247**	*e*Pn	**Pn**	**18 51 09.7**	**+1.3**
MAT	**Matsushiro**	**4.50**	**247**	P	**Pn**	**18 51 09.7**	**+1.3**
MAT				*e*S	**Sn**	**18 51 56.5**	**-5.1**
MAT	**Matsushiro**	**4.50**	**247**	*e*P	**Pn**	**18 51 10.0**	**+1.6**
MAT				S	**Sn**	**18 52 12.0**	**+10**
ASAJ	**Asahikawa**	**5.69**	**355**	Pn	**Pn**	**18 51 24.3**	**-0.8**
	2.2nm,0.3s,baz=197,slow=11,SNR=25						
ASAJ	**Asahikawa**	**5.69**	**355**	P	**Pn**	**18 51 24.3**	**-0.8**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
JHJ	**Hachijo jima 2**	**6.05**	**210**	Pn	**Pn**	**18 51 29.5**	**-0.9**
	comp=Z,17nm,0.3s,baz=65,slow=22,SNR=7.3						
JHJ				Sn	**Sn**	**18 52 34.5**	**-6.2**
	comp=Z,12nm,0.3s,baz=328,slow=18,SNR=3.0						
JNU	**Nakatsue**	**11.43**	**246**	Pn	**P**	**18 52 44.7**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=150,slow=19,SNR=6.0						
MDJ	**Mudanjiang**	**11.99**	**305**	P	**P**	**18 52 51.0**	**-1.5**
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.0s						
SSE	**Sheshan**	**19.59**	**255**	P	**P**	**18 54 28.8**	**-0.8**
SSE				AMB	AMB		
	comp=Z,18nm,0.9s						
SSE				AMB	AMB		
	comp=Z,3μm,11.4s						
SSE	**Sheshan**	**19.59**	**255**	P	**P**	**18 54 28.7**	**-0.9**
	comp=Z,18nm,0.9s						
NJ2	**Nanjing**	**20.96**	**260**	*e*P	**P**	**18 54 42.5**	**-1.6**
NJ2				AP		18 54 51.8	
NJ2				XP		18 54 55.8	
NJ2				PP	PP	18 55 05.0	-1.7
NJ2				S	**S**	**18 58 28.0**	**-4.9**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s						
YAK	**Yakutsk**	**25.06**	**345**	*e*P	**P**	**18 55 23.5**	**-0.7**
	comp=Z,6.4nm,0.7s,mb4.3						
YAK	**Yakutsk**	**25.06**	**345**	*e*P	**P**	**18 55 23.5**	**-0.6**
YAK				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.2						
ULN	**Ulaanbaatar**	**27.87**	**302**	*e*P	**P**	**18 55 50.0**	**-0.2**
	comp=Z,4.0nm,1.3s,mb3.9						
ULN	**Ulaanbaatar**	**27.87**	**302**	*e*P	**P**	**18 55 50.0**	**-0.2**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb3.9						
XAN	**Xi'an**	**28.00**	**272**	P	**P**	**18 55 50.8**	**-0.8**
XAN				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.4						
SONM	**Songino Array**	**28.30**	**301**	P	**P**	**18 55 54.8**	**+0.7**
	comp=Z,1.7nm,0.7s,mb3.8,baz=89,slow=9.6,SNR=9.2						
ENH	**Enshi**	**28.99**	**264**	*e*P	**P**	**18 55 58.4**	**-2.0**
	comp=Z,19nm,0.7s,mb4.9						
ZAK	**Zakamensk**	**30.63**	**306**	*e*P	**P**	**18 56 15.4**	**+0.5**
ZAK				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.7						
BILL	**Bilibino**	**32.24**	**16**	*e*P	**P**	**18 56 30.0**	**+1.1**
BILL				*e*		18 56 42.2	
BILL				*e*		18 57 34.9	
BILL				*e*S	**S**	**19 01 43.7**	**+2.6**
BILL				pmax	pmax		
	comp=Z,10.0nm,1.6s,mb4.4						
GYA	**Guiyang**	**32.97**	**260**	P	**P**	**18 56 35.3**	**-0.3**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
GTA	**Gaotai**	**33.63**	**286**	P	**P**	**18 56 41.5**	**+0.3**
GTA				AP	pP	18 56 47.5	+3.7
GTA				XP	sP	18 56 52.0	+7.1
GTA				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.6						
TIXI	**Tiksi**	**34.08**	**352**	*e*P	**P**	**18 56 41.7**	**-3.2**
TIXI				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.9						
KMI	**Kunming**	**36.69**	**261**	P	**P**	**18 57 07.5**	**0.0**
KMI				AMB	AMB		
	comp=Z,5.0nm,1.4s,mb4.2						
KMI	**Kunming**	**36.69**	**261**	P	**P**	**18 57 07.4**	**-0.1**
	comp=Z,5.0nm,1.4s,mb4.2						
KMI	**Kunming**	**36.69**	**261**	P	**P**	**18 57 07.4**	**-0.1**
KMI				pmax	pmax		
	comp=Z,5.0nm,1.4s,mb4.2						
ZAL	**Zalesovo**	**42.12**	**311**	P	**P**	**18 57 53.3**	**+1.1**
	comp=Z,0.8nm,0.5s,mb3.6,baz=22,slow=11,SNR=4.1						
MKAR	**Makanchi Array**	**44.67**	**301**	P	**P**	**18 58 12.8**	**-0.3**
	comp=Z,0.8nm,0.7s,mb3.7,baz=87,slow=10,SNR=12						
KURK	**Kurchatov**	**46.27**	**307**	*e*P	**P**	**18 58 24.9**	**-0.8**
	comp=Z,3.8nm,0.6s,mb4.5						
KURK	**Kurchatov**	**46.27**	**307**	*e*P	**P**	**18 58 24.9**	**-0.8**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
ILAR	**Eielson Array**	**47.48**	**33**	P	**P**	**18 58 35.8**	**+0.7**
	comp=Z,1.0nm,0.8s,mb3.8,baz=263,slow=6.9,SNR=9.4						
KKN	**Kakani**	**49.06**	**276**	*e*P	**P**	**18 58 48.3**	**+0.4**
	comp=Z,15nm,0.6s,mb5.2						
KKN	**Kakani**	**49.06**	**276**	*e*P	**P**	**18 58 48.3**	**+0.4**
KKN				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.9						
DMN	**Daman**	**49.28**	**275**	*e*P	**P**	**18 58 49.6**	**0.0**
GKN	**Gorkha**	**49.46**	**276**	*e*P	**P**	**18 58 51.0**	**0.0**
	comp=Z,8.4nm,0.6s,mb4.9						
KOLN	**Koldanda**	**50.38**	**277**	*e*P	**P**	**18 58 58.1**	**+0.1**
	comp=Z,6.1nm,0.8s,mb4.7						
BVAR	**Borovoye Array**	**50.76**	**312**	P	**P**	**18 58 59.7**	**-0.7**
	comp=Z,0.7nm,0.6s,mb3.8,baz=80,slow=9.0,SNR=4.7						
AAK	**Ala-Archa**	**51.17**	**298**	*i* P	**P**	**18 59 03.1**	**-0.6**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
ARU	**Arti**	**56.31**	**318**	P	**P**	**18 59 38.8**	**-2.7**
	comp=Z,1.6nm,0.7s,mb4.2						
ARU	**Arti**	**56.31**	**318**	⇓*i*P	**P**	**18 59 41.1**	**-0.4**
ARU				*e*		19 01 46.5	
ARU				*e*PPP	PPP	19 03 00.2	-4.8
ARU				*e*S	**S**	**19 07 30.7**	**+0.7**
ARU				*e*		19 09 23.2	
ARU				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.4						
WRAB	**Tennant Creek**	**58.69**	**190**	*e*P	**P**	**18 59 57.3**	**-1.4**
	comp=Z,5.3nm,0.7s,mb4.7						
WRAB	**Tennant Creek**	**58.69**	**190**	*e*P	**P**	**18 59 57.3**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
WRA	**Warramunga Arr**	**58.70**	**190**	P	**P**	**18 59 57.7**	**-1.1**
	comp=Z,3.9nm,0.6s,mb4.6,baz=7.3,slow=7.0,SNR=34						
OBN	**Obninsk**	**67.87**	**324**	*e*P	**P**	**19 00 59.4**	**+0.6**
OBN				pmax	pmax		
	comp=Z,28nm,2.5s,mb4.8						
OBN				MLR	MLR		
	comp=Z,900nm,15.0s,MS5.1						
GOF	**Gofitskoye**	**70.28**	**312**	*e*P	**P**	**19 01 16.6**	**+2.7**
KIV	**Kislovodsk**	**71.12**	**311**	*i* P	**P**	**19 01 18.5**	**-0.5**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.5						
KIV				MLR	MLR		
	comp=Z,300nm,14.0s,MS4.7						
NVAR	**Mina Array Bea**	**72.92**	**54**	P	**P**	**19 01 32.4**	**+2.7**
	comp=Z,0.4nm,0.8s,mb3.4,baz=307,slow=4.5,SNR=2.7						
NVAR	**Mina Array Bea**	**72.92**	**54**	P	**P**	**19 01 32.4**	**+2.7**
NOA	**NORSAR Array B**	**73.46**	**338**	P	**P**	**19 01 33.1**	**+0.6**
	comp=Z,0.7nm,0.6s,mb3.8,baz=22,slow=1.2,SNR=2.7						
AKASG	**Malin Array Be**	**74.10**	**323**	P	**P**	**19 01 35.7**	**-0.6**
	comp=Z,1.8nm,0.6s,mb4.2,baz=44,slow=6.3,SNR=5.2						
AKASG	**Malin Array Be**	**74.10**	**323**	*i* P	**P**	**19 01 36.5**	**+0.2**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
VNA2	**Neumayer--Watz**	**144.10**	**196**		PKPbc	19 09 44.6	+12
VNA2	**Neumayer--Watz**	**144.10**	**196**	PKPdf	PKPdf	19 09 34.6	-1.5
VNA2				P		19 09 44.6	
VNA3	**Neumayer Olymp**	**144.32**	**195**		PKPbc	19 09 41.4	+8.2
VNA3	**Neumayer Olymp**	**144.32**	**195**		PKPbc	19 09 46.8	+14
VNA3	**Neumayer Olymp**	**144.32**	**195**		PKPbc	19 09 52.1	+19
VNA3	**Neumayer Olymp**	**144.32**	**195**	PKPdf	PKPdf	19 09 35.5	-1.0
VNA3				P		19 09 41.4	
VNA3				P		19 09 46.8	
VNA3				P		19 09 52.1	

*NEIC **30** 18:57:28.1±1.3, 71.93N×0.44W, h10km, mb3.8/1, Error ellipse: s-maj=18.1km s-min=9.3km az=93.0*
*BER **30** 18:57:29.1±4.6, 71.99N×1.07W, h12km±54km, ML3.0, ML3.1(NAO)*
*NAO **30** 18:57:30.0±3.1, 72.00N×0.01W, ML3.1*
*CSEM **30** 18:57:30.7±0.2, 71.76N×0.93E, h10km, ML3.0, Error ellipse: s-maj=7.2km s-min=4.6km az=80.0*
*IDC **30** 18:57:30.9±4.8, 71.56N×0.21E, mb3.3/2, mb1 3.8/6, mb1mx3.6/22, mbtmp3.7/6, ML3.5/4, Error ellipse: s-maj=60.1km s-min=34.8km az=115.0*

ISC 30 18:57:31.6±1.9, 71.6N±0.1×0.9E±0.3, h3km±21km, n28, σ0°92/38, mb3.3/3, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOF	**Lofoten**	**5.55**	**122**	*e*P	**Pn**	**18 59 00.5**	**+3.3**
LOF				*e*S	**Sn**	**19 00 08.9**	**+6.5**
TRO	**Tromso**	**6.29**	**99**	*e*P	**Pn**	**18 59 07.1**	**-0.6**
TRO				*e*S	**Sn**	**19 00 20.3**	**-0.7**
MELSS	**Ber_school_2**	**6.54**	**130**	*e*P	**Pn**	**18 59 11.7**	**+0.6**
MELSS				*e*S	**Sn**	**19 00 27.2**	**0.0**
STOK	**Stokkvaagen**	**6.81**	**134**	*e*P	**Pn**	**18 59 14.3**	**-0.5**
STOK				*e*S	**Sn**	**19 00 34.1**	**+0.3**
STOK				AML	AML	19 00 37.9	
	comp=Z,19nm,0.7s						
STOK	**Stokkvaagen**	**6.81**	**134**	*e*P	**Pn**	**18 59 14.3**	**-0.6**
	SNR=47						
STOK				*e*S	**Sn**	**19 00 34.1**	**+0.3**
	comp=Z,19nm,0.7s,SNR=47						
MOR8	**Moi Rana**	**7.27**	**131**	*e*P	**Pn**	**18 59 23.1**	**+1.7**
MOR8				*e*S	**Sn**	**19 00 46.4**	**+1.0**
MOR8				AML	AML	19 00 50.3	
	comp=Z,16nm,0.4s						
MOR8	**Moi Rana**	**7.27**	**131**	*e*P	**Pn**	**18 59 23.1**	**+1.7**
	SNR=47						
MOR8				*e*S	**Sn**	**19 00 46.4**	**+1.0**
	comp=Z,16nm,0.4s,SNR=47						
SPA0	**Spitsbergen Ar**	**7.74**	**24**	Pn	**Pn**	**18 59 18.6**	**-9.4**
	baz=206,slow=16						
KTK1	**Kautokeino**	**7.94**	**98**	*e*P	**Pn**	**18 59 32.2**	**+1.5**
KTK1	**Kautokeino**	**7.94**	**98**	*e*P	**Pn**	**18 59 32.5**	**+1.8**
NSS	**Namsos**	**8.16**	**144**	*e*P	**P**	**18 59 32.4**	**-1.5**
ARA0	**ARCESS Array S**	**8.42**	**92**	Pn	**P**	**18 59 36.5**	**-0.9**
	baz=297,slow=12						
ARCES	**ARCESS Array B**	**8.42**	**92**	Pn	**P**	**18 59 36.7**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=293,slow=12,SNR=38						
ARCES	**ARCESS Array B**	**8.42**	**92**	Pn	**P**	**18 59 36.7**	**-0.7**
MOL	**Molde**	**9.38**	**161**	*e*P	**P**	**18 59 50.5**	**-0.2**
NB2	**NORSAR Subarra**	**11.32**	**154**	Pn	**P**	**19 00 16.4**	**-0.8**
	baz=329,slow=12						
NB2				Sn	**S**	**19 02 24.4**	**-1.0**
	baz=340,slow=28						
NOA	**NORSAR Array B**	**11.32**	**154**	Pn	**P**	**19 00 16.2**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=332,slow=12,SNR=6.3						
NOA				Sn	**S**	**19 02 21.4**	**-3.9**
	comp=Z,0.5nm,0.3s,baz=332,slow=22,SNR=3.4						
NOA	**NORSAR Array B**	**11.32**	**154**	Pn	**P**	**19 00 16.2**	**-0.9**
HFS	**Hagfors**	**12.56**	**149**	Pn	**P**	**19 00 33.2**	**-0.7**
	baz=350,slow=14						
HFS				Sn	**S**	**19 02 51.6**	**-3.9**
	baz=350,slow=28						
HFS	**Hagfors**	**12.56**	**149**	Pn	**P**	**19 00 33.5**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=353,slow=12,SNR=26						
HFS				Sn	**S**	**19 02 51.8**	**-3.7**
	comp=Z,0.1nm,0.3s,baz=349,slow=24,SNR=6.2						
FIA0	**FINESS Array S**	**14.11**	**123**	P	**P**	**19 00 54.6**	**+0.4**
	baz=338,slow=14						
FINES	**FINESS Array B**	**14.11**	**123**	Pn	**P**	**19 00 54.9**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=336,slow=17,SNR=6.5						
JOF	**Joensuu**	**14.41**	**112**	*e*p	**P**	**19 00 57.9**	**-0.2**
CLL	**Collm**	**21.04**	**159**	*e*SP		19 02 18.0	
MOX	**Moxa**	**21.54**	**161**	*e*P	**P**	**19 02 24.0**	**+0.2**
MOX				*e*		19 02 40.0	
BRG	**Berggiesshubel**	**21.58**	**157**	*e*P	**P**	**19 02 25.0**	**+0.9**
	comp=Z,5.5nm,1.4s,mb3.8						
GERES	**GERESS Array B**	**23.55**	**159**	P	**P**	**19 02 44.0**	**+0.6**
	comp=Z,0.6nm,0.8s,mb3.1,baz=350,slow=8.1,SNR=4.1						
AKASG	**Malin Array Be**	**24.52**	**133**	P	**P**	**19 02 52.4**	**-0.5**
	comp=Z,0.2nm,0.3s,mb3.1,baz=333,slow=9.8,SNR=5.4						

PGC 30 19:00:56.1, 50.10N×114.87W, h-2km, ML2.9/4, Alberta

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WALA	**Waterton Lakes**	**1.22**	**149**	P		19 01 17.9	
WALA				S		19 01 37.0	
WALA				Trac		19 01 40.6	
	comp=Z,92nm,0.3s						
MNB	**Mounoet Dainar**	**3.05**	**315**	Pn		19 01 46.3	
MNB				Sg		19 02 31.6	
PNT	**Penticton**	**3.18**	**258**	Pn		19 01 46.5	
PNT				Sn		19 02 24.2	
PNT				Sg		19 02 34.8	
PNT				Trac		19 02 39.9	
	comp=Z,19nm,0.3s						
EDM	**Edmonton**	**3.27**	**16**	Pn		19 01 47.3	
EDM				Trac		19 02 46.2	
	comp=Z,20nm,0.2s						
EDM				Trac		19 02 46.2	
	comp=Z,20nm,0.2s						
LLLB	**Lillooet**	**4.52**	**279**	Sg		19 03 16.9	
YKW3	**Yellowknife Ar**	**12.49**	**1**	P		19 03 50.0	
YKW3				P		19 03 50.6	

*CSEM **30** 19:04:46.6±0.9, 38.62N×28.57W, h5km, ML1.8, Error ellipse: s-maj=3.9km s-min=2.3km az=10.0, After PDA*
*PDA **30** 19:04:46.6±0.9, 38.62N×28.57W, h5km, MD3.3, ML1.8, Error ellipse: s-maj=3.9km s-min=2.3km az=10.0*

SVSA 30 19:04:46.6±0.9, 38.62N×28.57W, h5km, MD3.3, ML1.8, Error ellipse: s-maj=3.9km s-min=2.3km az=10.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.10**	**272**	*e*P	Pg	19 04 48.3	-0.5
PCED				*e*S	Sg	19 04 50.5	+0.2
	110nm,0.2s						
HOR	**Horta**	**0.11**	**205**	*e*S	Sg	19 04 50.3	-0.2
CALA	**Caldeira**	**0.11**	**247**	*e*P	Pg	19 04 49.0	0.0
CALA				*e*S	Sg	19 04 50.6	+0.1
PICO	**Pico**	**0.17**	**137**	*e*P	Pg	19 04 49.5	-0.6
PICO				*e*S	Sg	19 04 52.5	+0.1
PMAN	**Manadas**	**0.38**	**89**	*e*S	Sg	19 04 58.6	-0.7
	42nm,0.1s						

*NEIC **30** 19:20:51.8, 29.23S×69.68W, h113km, After GUC.*

GUC 30 19:20:51.8±0.6, 29.23S×69.68W, h113km±22km, ML3.7, 3C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**1.15**	**304**	⇑*i*P	P	19 21 15.0	-0.2
VACH				*i* S	S	19 21 32.6	-0.2
VACH				AMP		19 21 35.0	
	comp=N,3μm,0.1s						
LSCH	**La Serena**	**1.52**	**243**	⇑*i*P	P	19 21 19.4	0.0
LSCH				*i* S	S	19 21 40.0	-0.3
LSCH				AMP		19 21 41.0	
	comp=E,541nm,0.4s						
CMCH	**Combarbala**	**2.25**	**210**	⇑*i*P	P	19 21 28.4	-0.3
CMCH				*i* S	S	19 21 56.8	+0.4
CMCH				AMP		19 21 59.5	
	comp=E,1μm,0.6s						
CHNG	**Los Chungos**	**3.07**	**210**	*i* P	P	19 21 39.2	-0.6
CHNG				*i* S	S	19 22 15.1	-1.1
CHNG				AMP		19 22 20.7	
	comp=E,102nm,0.8s						
LVC	**Limon Verde**	**6.63**	**6**	*e*Pn	P	19 22 24.3	-3.8
LVC				*e*Sn	S	19 23 37.4	-5.3

*LJU **30** 19:52:21.5, 46.21N×16.67E, h7km, ML2.3*
*PRU **30** 19:52:21.1, 46.27N×16.79E*
*NEIC **30** 19:52:22.3±1.8, 46.24N×16.59E, h5km±9km, ML2.8(VIE), Error ellipse: s-maj=16.3km s-min=7.4km az=75.0*
*CSEM **30** 19:52:22.0±0.1, 46.23N×16.58E, h20km, ML3.1/5, Error ellipse: s-maj=1.5km s-min=1.0km az=176.0*

ISC 30 19:52:20.4±0.5, 46.28N±0.02×16.69E±0.03, h4km±4km, n41, σ0°91/76, 12C-3D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTJ	**Puntijarka**	**0.62**	**234**	*i* Pg	**Pg**	**19 52 32.6**	**-0.2**
PTJ				*i* Sg	**Sg**	**19 52 40.7**	**-0.4**
PTJ	**Puntijarka**	**0.62**	**234**	*i* Pg	**Pg**	**19 52 32.6**	**-0.2**
PTJ				*i* Sg	**Sg**	**19 52 40.7**	**-0.4**
ZAG	**Zagreb**	**0.66**	**228**	*i* Pg	**Pg**	**19 52 33.7**	**+0.1**
ZAG				*i* Sg	**Sg**	**19 52 42.1**	**-0.4**
ZAG	**Zagreb**	**0.66**	**228**	*i* Pg	**Pg**	**19 52 33.

SMOL	**Smolenice**	**2.30**	**12**	*e*PN	**Pn**	**19 53 00.2**	**+0.7**
SMOL				*e*PG	**Pg**	**19 53 07.1**	**+0.9**
KBA	**Koelnbreinsper**	**2.44**	**290**	⇑*i*PN	**Pn**	**19 53 00.7**	**-0.9**
KBA				*i* PG	**Pg**	**19 53 07.4**	**-1.6**
KBA				*i* SG	**Sg**	**19 53 40.8**	**-0.7**
	comp=Z,4.4nm,0.4s						
VYHS	**Vyhne**	**2.66**	**33**	*e*PN	**Pn**	**19 53 05.2**	**+0.5**
VYHS				*e*PG	**Pg**	**19 53 12.0**	**-1.4**
VYHS				*e*SG	**Sn**	**19 53 36.7**	**-1.0**
HVAR	**Hvar**	**3.10**	**183**	*i* Pn	**Pn**	**19 53 10.0**	**-1.0**
HVAR				Sn	**Sn**	**19 53 40.7**	**-8.3**
KECS	**Kecovo**	**3.40**	**48**	*e*PN	**Pn**	**19 53 15.2**	**0.0**
KHC	**Kasperske Hory**	**3.54**	**325**	*e*PN	**Pn**	**19 53 18.8**	**+1.5**
KHC				*e*SN	**Sn**	**19 54 00.0**	**-0.2**
KHC				*e*SG	**Sg**	**19 54 14.0**	**-4.4**
KHC	**Kasperske Hory**	**3.54**	**325**	*e*Pn	**Pn**	**19 53 18.8**	**+1.5**
KHC				*e*Sg	**Sg**	**19 54 14.0**	**-4.4**
KHC	**Kasperske Hory**	**3.54**	**325**	*e*Pn	**Pn**	**19 53 18.8**	**+1.5**
KHC				*e*		19 54 00.0	
KHC				*e*Sg	**Sg**	**19 54 14.0**	**-4.4**
PRU	**Pruhonice**	**3.98**	**340**	*e*SG	**Sg**	**19 54 29.2**	**-3.8**
BRG	**Berggiesshubel**	**4.95**	**339**	*e*Sg	**Sg**	**19 55 01.4**	**-3.7**
CLL	**Collm**	**5.59**	**336**	*e*SG	**Sg**	**19 55 25.0**	**-1.6**

*NEIC **30** 20:01:08.4±0.7,32.85S×179.03W,h10^{km},mb4.5/6,Error ellipse: s-maj=18.1km s-min=10.5km az=96.0*
*IDC **30** 20:01:23.6±6.5,34.03S×179.17W,h150^{km}±59^{km},mb3.9/2,mb1 3.9/4,mb1mx3.6/14,mbtmp4.2/4,MS4.2/3,Ms1 4.2/3,ms1mx3.7/26,Error ellipse: s-maj=60.8km s-min=37.0km az=16.0*

ISC 30 20:01:15.1±0.7,33.27S±0.06×179.9W±0.1,h33^{km},n70,σ1$54/64,mb4.5/6,MS4.1/2,2C-2D,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**5.03**	**197**	*e*PN	**Pn**	**20 02 31.4**	**+1.1**
PUZ				SN	**Sn**	**20 03 32.8**	**+4.9**
PUZ	**Puketiti**	**5.03**	**197**	P	**P**	**20 02 32.1**	**+1.9**
WCZ	**Waipu Caves**	**5.46**	**239**	*e*PN	**Pn**	**20 02 46.5**	**+10**
MWZ	**Matawai**	**5.48**	**202**	*e*PN	**Pn**	**20 02 38.3**	**+1.7**
MWZ				*e*SN	**Sn**	**20 03 45.3**	**+6.1**
MWZ	**Matawai**	**5.48**	**202**	*e*P	**P**	**20 02 39.5**	**+3.1**
MWZ				S	**S**	**20 03 48.0**	**+8.8**
URZ	**Urewera**	**5.55**	**205**	P	**P**	**20 02 39.9**	**+2.5**
	4.6nm,0.3s,baz=54,slow=13,SNR=136						
URZ				S	**S**	**20 03 47.9**	**+7.0**
	15nm,0.3s,baz=309,slow=23,SNR=8.2						
URZ	**Urewera**	**5.55**	**205**	*e*PN	**Pn**	**20 02 39.5**	**+1.9**
URZ				*e*SN	**Sn**	**20 03 50.3**	**+9.3**
URZ	**Urewera**	**5.55**	**205**	*e*P	**P**	**20 02 40.1**	**+2.7**
OUZ	**Omahuta**	**5.74**	**248**	*e*PN	**Pn**	**20 02 49.8**	**+10**
OUZ	**Omahuta**	**5.74**	**248**	*e*P	**P**	**20 02 50.5**	**+10**
KNZ	**Kokohu**	**6.07**	**198**	*e*PN	**Pn**	**20 02 45.5**	**+0.5**
KNZ	**Kokohu**	**6.07**	**198**	*e*P	**P**	**20 02 45.5**	**+0.7**
TUVZ	**Tukino**	**6.99**	**210**	*e*PN	**Pn**	**20 03 01.6**	**+3.7**
TUVZ	**Tukino**	**6.99**	**210**	P	**P**	**20 03 01.6**	**+3.9**
WNVZ	**Wahianoa**	**7.06**	**210**	*e*PN	**Pn**	**20 03 01.8**	**+2.9**
WNVZ	**Wahianoa**	**7.06**	**210**	P	**P**	**20 03 01.8**	**+3.1**
MOVZ	**Moawhango**	**7.07**	**209**	P	**P**	**20 03 01.9**	**+3.1**
PXZ	**Pawanui**	**7.24**	**200**	PN	**Pn**	**20 03 00.5**	**-0.9**
BFZ	**Birch Farm**	**8.02**	**202**	*e*P	**P**	**20 03 12.1**	**0.0**
MRZ	**Mangatainoka R**	**8.22**	**205**	*e*PN	**P**	**20 03 13.8**	**-1.1**
MRZ				SN	**Sn**	**20 04 47.1**	**-0.8**
MRZ	**Mangatainoka R**	**8.22**	**205**	P	**P**	**20 03 13.8**	**-1.1**
KIW	**Kapiti Island**	**8.64**	**207**	*e*PN	**P**	**20 03 18.9**	**-1.8**
KIW	**Kapiti Island**	**8.64**	**207**	P	**P**	**20 03 19.4**	**-1.3**
DUWZ	**D'Urville Isla**	**9.00**	**212**	*e*PN	**P**	**20 03 25.3**	**-0.4**
MSWZ	**Moikau Station**	**9.01**	**204**	*e*PN	**P**	**20 03 22.9**	**-2.9**
MSWZ	**Moikau Station**	**9.01**	**204**	P	**P**	**20 03 23.1**	**-2.7**
NNZ	**Nelson**	**9.58**	**212**	*e*SN	**Sn**	**20 05 21.3**	**-0.1**
QRZ	**Quartz Range**	**9.68**	**217**	*e*PN	**P**	**20 03 34.0**	**-0.9**
QRZ	**Quartz Range**	**9.68**	**217**	*e*P	**P**	**20 03 34.2**	**-0.8**
THZ	**Tophouse**	**10.23**	**212**	*e*PN	**P**	**20 03 40.4**	**-2.2**
THZ				*e*SN	**S**	**20 05 37.1**	**-0.1**
THZ	**Tophouse**	**10.23**	**212**	*e*P	**P**	**20 03 40.4**	**-2.2**
KHZ	**Kahutara**	**10.51**	**208**	*e*PN	**P**	**20 03 43.3**	**-3.1**
KHZ				*e*SN	**S**	**20 05 37.1**	**-6.9**
KHZ	**Kahutara**	**10.51**	**208**	*e*P	**P**	**20 03 43.4**	**-3.0**
DSZ	**Denniston Nort**	**10.73**	**216**	*e*SN	**S**	**20 05 48.1**	**-1.4**
LTZ	**Lake Taylor**	**11.33**	**211**	*e*PN	**P**	**20 03 54.5**	**-3.1**
MQZ	**McQueen's Vall**	**11.95**	**207**	*e*PN	**P**	**20 04 01.1**	**-4.8**
MQZ				*e*SN	**S**	**20 06 12.0**	**-7.0**
RPZ	**Rata Peaks**	**12.61**	**212**	P	**P**	**20 04 11.9**	**-2.9**
	0.6nm,0.3s,baz=310,slow=0.7,SNR=3.5						
RPZ				S	**S**	**20 06 31.0**	**-4.0**
	1.4nm,0.3s,baz=45,slow=16,SNR=5.2						
DZM	**Mont Dzumac**	**16.45**	**309**	LR	LR	20 10 17.0	
	comp=Z,847nm,19.7s,baz=210,slow=31						
STKA	**Stephens Creek**	**32.37**	**262**	LR	LR	20 18 58.1	
	comp=Z,479nm,19.0s,MS4.2,baz=26,slow=32						
CTA	**Charters Tower**	**32.83**	**285**	*e*P	**P**	**20 07 50.0**	**+2.2**
	3.7nm,0.6s,mb4.5						
CTA	**Charters Tower**	**32.83**	**285**	P	**P**	**20 07 49.6**	**+1.8**
	3.3nm,0.5s,mb4.5,baz=124,slow=12,SNR=6.2						
CTA				LR	LR	20 18 50.4	
	comp=Z,276nm,21.2s,MS3.9,baz=199,slow=31						
CTAO	**Charters Tower**	**32.83**	**285**	*e*P	**P**	**20 07 49.4**	**+1.6**
	3.9nm,0.6s,mb4.5						
WB2	**Warramunga Arr**	**42.70**	**276**	*e*P	**P**	**20 09 10.9**	**+0.2**
WRAB	**Tennant Creek**	**42.70**	**276**	*e*P	**P**	**20 09 10.6**	**-0.2**
	4.9nm,0.7s,mb4.3						
WRA	**Warramunga Arr**	**42.71**	**276**	P	**P**	**20 09 11.1**	**+0.3**
	1.9nm,0.3s,mb4.2,baz=115,slow=7.8,SNR=93						
FITZ	**Fitzroy Crossi**	**50.83**	**273**	*e*P	**P**	**20 10 13.9**	**-0.8**
	8.3nm,1.2s,mb4.5						
CASY	**Casey**	**51.86**	**209**	*e*P	**P**	**20 10 20.1**	**-1.7**
QSPA	**South Pole Qui**	**56.85**	**180**	⇑*i*P	**P**	**20 10 57.8**	**-0.4**
	24nm,1.5s,mb5.0						
SYO	**Syowa Base**	**73.96**	**194**	⇓P	**P**	**20 12 44.4**	**-3.8**
SYO	**Syowa Base**	**73.96**	**194**	⇑P	**P**	**20 12 49.2**	**+1.0**
SYO	**Syowa Base**	**73.96**	**194**	⇓P	Px	20 13 01.3	
SNAA	**Sanae**	**75.33**	**179**		**P**	**20 12 56.8**	**+0.7**
SNAA	**Sanae**	**75.33**	**179**		Px	20 13 06.6	
SNAA	**Sanae**	**75.33**	**179**		Px	20 13 11.3	
SNAA	**Sanae**	**75.33**	**179**		Px	20 13 15.2	
SNAA	**Sanae**	**75.33**	**179**	P	**P**	**20 12 53.8**	**-2.3**
	2.5nm,0.7s,mb4.2						
VNA3	**Neumayer Olymp**	**75.55**	**177**		Px	20 13 05.4	
VNA3	**Neumayer Olymp**	**75.55**	**177**		Px	20 13 13.3	
VNA3	**Neumayer Olymp**	**75.55**	**177**	P	**P**	**20 12 55.9**	**-1.4**
VNA3				P	pP	20 13 05.4	-2.3
VNA3				P		20 13 13.3	
VNA2	**Neumayer--Watz**	**75.96**	**177**		**P**	**20 13 05.1**	**+5.4**
VNA2	**Neumayer--Watz**	**75.96**	**177**		Px	20 13 17.7	
VNA2	**Neumayer--Watz**	**75.96**	**177**	P	**P**	**20 12 58.6**	**-1.1**
VNA2				P		20 13 05.1	
VNA2				P		20 13 17.7	
VNA1	**Neumayer--Stat**	**76.20**	**177**		**P**	**20 13 00.6**	**-0.5**
MKAR	**Makanchi Array**	**118.36**	**309**	PKP	PKPdf	20 19 55.1	-3.9
	0.2nm,0.5s,baz=90,slow=1.4,SNR=3.6						
ARCES	**ARCESS Array B**	**141.01**	**346**	PKhKP		20 20 30.4	
	2.7nm,1.0s,baz=53,slow=4.5,SNR=6.6						
ARCES				PKP	PKPdf	20 20 36.5	-4.5
	1.5nm,0.7s,baz=63,slow=2.0,SNR=4.7						
KAF	**Kangasniemi**	**146.65**	**338**	*e*p	PKPdf	20 20 46.5	-4.4
FINES	**FINESS Array B**	**147.22**	**337**	PKPbc	PKPdf	20 20 50.5	-1.3
	1.8nm,0.5s,baz=68,slow=3.7,SNR=13						
NB2	**NORSAR Subarra**	**151.29**	**349**	PKPabc	PKPdf	20 20 59.3	+1.1
	1.1nm,0.6s,baz=18,slow=2.6						
NOA	**NORSAR Array B**	**151.29**	**349**	PKPbc	PKPdf	20 20 60.0	+1.7
	1.1nm,0.7s,baz=11,slow=4.0,SNR=6.0						
NOA				PKPab	PKPab	20 21 09.5	-5.1
	1.2nm,0.8s,baz=19,slow=4.2,SNR=3.8						
AKASG	**Malin Array Be**	**152.48**	**318**	PKPbc	PKPdf	20 21 03.3	+3.0
	0.5nm,0.3s,baz=49,slow=2.9,SNR=4.2						
AKASG				PKPab	PKPab	20 21 16.9	-3.0
	0.5nm,0.5s,baz=37,slow=2.6,SNR=3.8						

*NEIC **30** 20:31:17.9±2.7,6.20N×127.01E,h93^{km}±24^{km},mb4.4/8,Error ellipse: s-maj=23.4km s-min=6.7km az=68.0*
*BJI **30** 20:31:17.9,6.20N×127.00E,h93^{km},mB4.8,mb4.6*
*IDC **30** 20:31:18.8±3.5,6.22N×127.08E,h98^{km}±30^{km},mb4.1/14,mb1 4.2/14,mb1mx4.1/20,mbtmp4.4/14,Error ellipse: s-maj=45.3km s-min=11.9km az=73.0*

ISC 30 20:31:18.4±1.1,6.17N±0.06×126.98E±0.10,h112^{km}±9^{km},n38,σ0$97/42,mb4.3/21,4C-3D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**2.05**	**294**	⇓*i*P	**P**	**20 31 55.0**	**+2.4**
KCP				*i* S	**S**	**20 32 20.2**	**+1.8**
BIPH	**Bislig**	**2.10**	**343**	⇑*e*P	**P**	**20 31 52.7**	**-0.5**
BIPH				*e*S	**S**	**20 32 10.5**	**-8.8**
CTBH	**Cotabato--PC H**	**2.91**	**291**	⇓*i*P	**P**	**20 32 04.0**	**-0.2**
CTBH				*i* S	**S**	**20 32 38.2**	**-0.6**
CGP	**Cagayan de Oro**	**3.21**	**315**	⇓*e*P	**P**	**20 32 08.2**	**0.0**
CGP				*e*S	**S**	**20 32 44.1**	**-1.9**
PAGZ	**Pagadian**	**3.94**	**295**	*e*P	**P**	**20 32 17.6**	**-0.6**
SNPH	**Sibulan**	**4.87**	**311**	⇑*e*P	**P**	**20 32 31.4**	**+0.7**
KKM	**Kota Kinabalu**	**10.70**	**270**	*e*P	**P**	**20 33 49.2**	**-0.4**
KSM	**Kuching**	**17.27**	**255**	⇑*i*P	**P**	**20 35 13.8**	**-0.3**
KAKA	**Kakadu**	**19.52**	**164**	*e*P	**P**	**20 35 54.5**	**+15**
	19nm,0.6s						
QIZ	**Qiongzhong**	**21.02**	**309**	*e*P	**P**	**20 35 52.6**	**-2.1**
FITZ	**Fitzroy Crossi**	**24.15**	**183**	*e*P	**P**	**20 36 25.9**	**+0.6**
	7.0nm,0.5s,mb4.2						
FITZ	**Fitzroy Crossi**	**24.15**	**183**	P	**P**	**20 36 25.8**	**+0.4**
	8.4nm,0.5s,mb4.4,baz=355,slow=5.5,SNR=30						
WRAB	**Tennant Creek**	**26.93**	**165**	*e*P	**P**	**20 36 50.7**	**-0.6**
	14nm,0.7s,mb4.6						
WRA	**Warramunga Arr**	**26.94**	**165**	P	**P**	**20 36 50.9**	**-0.5**
	3.4nm,0.5s,mb4.1,baz=349,slow=10.0,SNR=54						
WRA				PcP	PcP	20 40 11.3	+0.5
	1.0nm,0.5s,baz=335,slow=2.6,SNR=5.0						
WRA				ScP		20 43 41.7	
	0.7nm,0.8s,baz=344,slow=3.3,SNR=4.8						
WB2	**Warramunga Arr**	**26.94**	**165**	*e*P	**P**	**20 36 50.7**	**-0.7**
MBWA	**Marble Bar**	**28.07**	**194**	*e*P	**P**	**20 36 59.9**	**-1.8**
	2.7nm,0.7s,mb3.9						
ASPA	**Alice Springs**	**30.41**	**167**	⇑*i*P	**P**	**20 37 21.9**	**-0.6**
NWAO	**Narrogin (SRO)**	**39.97**	**193**	P	**P**	**20 38 44.2**	**+0.7**
	4.8nm,0.5s,mb4.6,baz=18,slow=10,SNR=7.9						
STKA	**Stephens Creek**	**40.32**	**161**	*e*P	**P**	**20 38 47.1**	**+0.7**
	9.0nm,0.4s,mb5.0						
STKA	**Stephens Creek**	**40.32**	**161**	P	**P**	**20 38 47.2**	**+0.8**
	11nm,0.4s,mb5.0,baz=335,slow=7.3,SNR=56						
LSA	**Lhasa**	**41.06**	**309**	P	**P**	**20 38 53.9**	**+1.4**
	1.5nm,0.6s,mb4.0						
GTA	**Gaotai**	**41.17**	**327**	P	**P**	**20 38 54.5**	**+1.3**
GTA				AP	pP	20 39 20.0	+0.9
GTA				XP	sP	20 39 28.3	-4.1
GTA				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.6						
ULN	**Ulaanbaatar**	**44.90**	**341**	*e*P	**P**	**20 39 23.2**	**-0.3**
	comp=Z,2.6nm,0.9s,mb4.0						
SONM	**Songino Array**	**45.09**	**340**	P	**P**	**20 39 25.1**	**+0.1**
	comp=Z,2.2nm,1.1s,mb3.8,baz=149,slow=8.6,SNR=5.3						
MKAR	**Makanchi Array**	**55.72**	**324**	P	**P**	**20 40 45.5**	**-0.1**
	comp=Z,3.2nm,0.5s,mb4.6,baz=115,slow=7.3,SNR=67						
MKAR				PcP	PcP	20 41 43.3	0.0
	comp=Z,2.3nm,0.7s,baz=117,slow=2.7,SNR=5.1						
MKAR	**Makanchi Array**	**55.72**	**324**	P	**P**	**20 40 45.5**	**-0.2**
MKAR				PcP	PcP	20 41 43.3	0.0
ZAL	**Zalesovo**	**58.55**	**332**	P	**P**	**20 41 05.2**	**-0.2**
	comp=Z,2.0nm,0.5s,mb4.4,baz=334,slow=8.2,SNR=6.0						
BVAR	**Borovoye Array**	**65.43**	**326**	P	**P**	**20 41 51.1**	**-0.3**
	comp=Z,6.7nm,0.7s,mb4.6,baz=125,slow=7.5,SNR=20						
BRVK	**Borovoye**	**65.50**	**326**	*e*P	**P**	**20 41 51.4**	**-0.5**
	comp=Z,9.2nm,1.0s,mb4.6						
ARU	**Arti**	**73.03**	**327**	*e*P	**P**	**20 42 37.3**	**-0.3**
	comp=Z,6.1nm,0.5s,mb4.7						
ILAR	**Eielson Array**	**82.81**	**26**	P	**P**	**20 43 31.1**	**0.0**
	comp=Z,0.8nm,0.6s,mb3.8,baz=250,slow=5.3,SNR=5.4						
VNDA	**Vanda**	**85.80**	**173**	P	**P**	**20 43 47.1**	**+1.3**
	comp=Z,1.6nm,0.8s,mb4.0,baz=323,slow=5.6,SNR=6.2						
JOF	**Joensuu**	**87.14**	**333**	*e*p	**P**	**20 43 46.7**	**-5.9**
ARCES	**ARCESS Array B**	**88.26**	**340**	P	**P**	**20 43 57.3**	**-0.5**
	comp=Z,1.3nm,0.5s,mb4.2,baz=72,slow=5.7,SNR=4.0						
BRTR	**Keskin Array B**	**88.67**	**310**	P	**P**	**20 44 01.3**	**+0.8**
	comp=Z,0.8nm,0.6s,mb3.9,baz=72,slow=4.6,SNR=3.6						
KAF	**Kangasniemi**	**89.56**	**332**	*e*p	**P**	**20 44 03.3**	**-0.8**
FINES	**FINESS Array B**	**89.81**	**332**	P	**P**	**20 44 07.6**	**+2.4**
	comp=Z,1.7nm,0.7s,mb4.3,baz=56,slow=4.7,SNR=5.1						
HFS	**Hagfors**	**95.99**	**332**	P	**P**	**20 44 34.2**	**+0.6**
	comp=Z,2.0nm,0.8s,mb4.6,baz=56,slow=5.2,SNR=4.3						

MAN 30 20:31:25.5,11.86N×121.62E,h18^{km},mb4.8,ML3.7,MS3.7,1C-2D,Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTRP	**Odiongan**	**0.63**	**38**	*e*P	Pb	20 31 36.4	-1.4
OTRP				*e*S	Sb	20 31 45.3	-0.8
KALP	**Kalibo**	**0.73**	**105**	⇑*e*P	Pb	20 31 39.9	+0.5
KALP				*e*S	Sb	20 31 50.2	+1.3
SJMP	**San Jose**	**0.77**	**321**	*e*P	Pb	20 31 40.0	-0.1
SJMP				*e*S	Sb	20 31 51.4	+1.4
RCP	**Roxas**	**1.14**	**105**	⇓*e*P	Pb	20 31 45.9	-0.5
CUYO	**Cuyo Island**	**1.17**	**210**	*e*P	Pb	20 31 46.0	-0.8
BUSP	**Coron**	**1.40**	**276**	*e*P	Pn	20 31 49.7	-0.6
BUSP				*e*S	Sb	20 32 08.9	+0.8
GUIM	**Jordan**	**1.56**	**142**	*e*P	Pn	20 31 51.5	-1.2
BOAC	**Boac**	**1.60**	**8**	*e*P	Pn	20 31 53.0	-0.3
ENPP	**El Nido**	**2.25**	**253**	*e*P	Pn	20 32 01.5	-1.0
LLP	**Lapu-Lapu**	**2.77**	**123**	*e*P	Pn	20 32 33.9	+24
LLP				*e*S	Sn	20 33 08.0	+25
DCPH	**Dipolog City**	**3.68**	**152**	⇓*i*P	Pn	20 32 23.4	+0.5
IPIL	**Ipil**	**4.16**	**167**	*e*P	Pn	20 32 27.3	-2.4

*CSEM **30** 20:33:14.1,71.92N×1.17W,h10^{km},mb4.7*
*MOS **30** 20:33:14.3±1.0,71.92N×0.97W,h10^{km},mb4.9/62,MS4.1/19,Error ellipse: s-maj=18.9km s-min=3.1km az=96.2*
*IDC **30** 20:33:14.8±0.4,71.88N×1.16W,mb4.2/23,mb1 4.5/28,mb1mx4.4/33,mbtmp4.3/28,ML4.3/5,MS4.3/15,Ms1 4.3/15,ms1mx4.1/32,Error ellipse: s-maj=15.6km s-min=8.9km az=38.0*
*NAO **30** 20:33:15.6±2.8,71.93N×1.04W,ML3.7*
*BJI **30** 20:33:15.7,71.90N×1.00W,h10^{km},mB5.2,mb4.8,Ms4.5,Msz4.5*
*NEIC **30** 20:33:15.8±0.1,71.91N×0.98W,h10^{km},mb4.7/74,MS4.0/10,Error ellipse: s-maj=3.9km s-min=2.4km az=49.0*
*BER **30** 20:33:21.1±4.9,71.92N×0.50W,h10^{km},ML3.2,ML3.7(NAO)*

ISC 30 20:33:14.0±0.2,71.96N±0.02×0.83W±0.07,h10^{km},(h16^{km}±2.7^{km}:pP-P),n393,σ1$20/417,mb4.6/107,MS4.3/33,26C-6D,Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOF	**Lofoten**	**6.23**	**121**	*e*P	**Pn**	**20 34 49.3**	**+0.9**
DAG	**Danmarks Havn**	**6.79**	**323**	⇓*i*P	**Pn**	**20 34 51.7**	**-4.4**
	3.4nm,0.4s						
DAG				*i*		20 35 58.1	
DAG	**Danmarks Havn**	**6.79**	**323**	⇓*e*P	**Pn**	**20 34 51.7**	**-4.4**
	3.4nm,0.4s						
DAG				*i*		20 35 58.1	
DAG	**Danmarks Havn**	**6.79**	**323**	⇓*e*P	**Pn**	**20 34 51.7**	**-4.4**
DAG				pmax	pmax		
	comp=Z,3.0nm,0.4s						
TRO	**Tromso**	**6.91**	**100**	*e*P	**Pn**	**20 34 54.9**	**-3.0**
TRO				AML	AML	20 36 15.3	
	comp=Z,17nm,0.5s						
SCO	**Scoresbysund**	**6.96**	**268**	*i* P	**Pn**	**20 34 54.6**	**-4.0**
	comp=Z,7.5nm,0.5s						
SCO	**Scoresbysund**	**6.96**	**268**	*i* P	**Pn**	**20 34 54.6**	**-4.0**
SCO				pmax	pmax		
	comp=Z,8.0nm,0.5s						
MELSS	**Ber_school_2**	**7.23**	**128**	*e*P	**Pn**	**20 35 00.2**	**-2.2**
MELSS				*e*S	**Sn**	**20 36 16.0**	**-9.3**
STOK	**Stokkvaagen**	**7.49**	**132**	*e*P	**Pn**	**20 35 03.5**	**-2.5**
STOK				*e*S	**Sn**	**20 36 21.6**	**-10**
STOK				AML	AML	20 36 31.7	
	comp=Z,41nm,0.6s						
STOK	**Stokkvaagen**	**7.49**	**132**	*e*P	**Pn**	**20 35 03.5**	**-2.5**
	SNR=47						
STOK				*e*S	**Sn**	**20 36 21.6**	**-10**
	comp=Z,41nm,0.6s,SNR=47						
SPA0	**Spitsbergen Ar**	**7.62**	**27**	Pn	**Pn**	**20 35 07.5**	**-0.3**
	baz=219,slow=14						
KBS	**Kingsbay**	**7.67**	**19**	*e*P	**Pn**	**20 35 07.4**	**-1.2**
KBS				*e*S	**Sn**	**20 36 34.5**	**-2.0**
KBS				AML	AML	20 36 37.7	
	comp=Z,3.3nm,0.3s						
KBS	**Kingsbay**	**7.67**	**19**	Pn	**Pn**	**20 35 07.2**	**-1.4**
KBS				Sn	**Sn**	**20 36 34.2**	**-2.3**
NIKU	**Nikkaluokta**	**7.95**	**111**	P	**Pn**	**20 35 11.5**	**-0.9**
	baz=320						
MOR8	**Moi Rana**	**7.96**	**129**	*e*P	**Pn**	**20 35 10.9**	**-1.6**
MOR8				*e*S	**Sn**	**20 36 35.2**	**-8.3**
MOR8				AML	AML	20 36 38.6	
	comp=Z,30nm,0.6s						
MOR8	**Moi Rana**	**7.96**	**129**	*e*P	**Pn**	**20 35 10.9**	**-1.6**
MOR8				*e*S	**Sn**	**20 36 35.2**	**-8.3**
	comp=Z,30nm,0.6s,SNR=47						
SALU	**Saltoluokta**	**8.12**	**115**	P	**P**	**20 35 14.2**	**-0.6**
	baz=313						
RORSS	**Ber_school_1**	**8.38**	**142**	*e*P	**P**	**20 35 15.7**	**-2.6**
KTK1	**Kautokeino**	**8.54**	**99**	*e*P	**P**	**20 35 20.7**	**0.0**
LANU	**Lannavaara**	**8.71**	**106**	P	**P**	**20 35 21.7**	**-1.3**
	baz=287						
NSS	**Namsos**	**8.82**	**141**	*e*P	**P**	**20 35 21.5**	**-3.1**
NSS				*e*S	**Sn**	**20 36 55.1**	**-10**
NSS				AML	AML	20 36 58.8	
	comp=Z,41nm,0.8s						
DUNU	**Dundret**	**8.89**	**113**	P	**P**	**20 35 24.1**	**-1.3**
	baz=298						
ARA0	**ARCESS Array S**	**8.99**	**93**	Pn	**P**	**20 35 25.1**	**-1.8**
	baz=290,slow=10						
ARCES	**ARCESS Array B**	**8.99**	**93**	Pn	**P**	**20 35 25.3**	**-1.6**
	comp=Z,4.3nm,0.3s,baz=294,slow=12,SNR=214						
ARCES				LR	LR	20 38 39.0	
	comp=Z,1μm,19.8s,baz=292,slow=36						
ARE0	**ARCESS Array S**	**8.99**	**93**	*e*P	**P**	**20 35 25.0**	**-1.9**
MASU	**Masugnsbyn**	**9.08**	**109**	P	**P**	**20 35 26.7**	**-1.4**
	baz=301						
KEV	**Kevo**	**9.36**	**90**	*e*p	**P**	**20 35 29.1**	**-2.8**
ERTU	**Ertsjaerv**	**9.74**	**112**	P	**P**	**20 35 34.4**	**-2.7**
	baz=288						
MOL	**Molde**	**9.96**	**157**	*e*P	**P**	**20 35 39.5**	**-0.6**
MOL				*e*S	**Sn**	**20 37 22.6**	**-10**
MOL				AML	AML	20 37 28.8	
	comp=Z,23nm,0.3s						
MOL	**Molde**	**9.96**	**157**	*e*P	**P**	**20 35 39.5**	**-0.6**
MOL				*e*S	**Sn**	**20 37 22.6**	**-10**
SJUU	**Sjulsmark**	**10.34**	**118**	P	**P**	**20 35 43.5**	**-1.7**
	baz=313						
FOO	**Floro**	**10.66**	**165**	*e*P	**P**	**20 35 46.3**	**-3.3**
FOO				*e*S	**S**	**20 37 36.4**	**-14**
FOO				AML	AML	20 37 43.2	
	comp=Z,19nm,0.7s						
DOMB	**Dombas**	**10.66**	**154**	*e*P	**P**	**20 35 46.7**	**-3.1**
DOMB				*e*S	**S**	**20 37 37.9**	**-12**
DOMB				AML	AML	20 37 56.0	
	comp=Z,18nm,0.6s						
DOMB	**Dombas**	**10.66**	**154**	*e*P	**P**	**20 35 46.7**	**-3.0**
DOMB				*e*S	**S**	**20 37 38.3**	**-12**
DOMB	**Dombas**	**10.66**	**154**	*e*P	**P**	**20 35 46.7**	**-3.1**
DOMB				*e*S	**S**	**20 37 38.3**	**-12**
HYA	**Hoyanger**	**11.19**	**162**	*e*P	**P**	**20 35 54.8**	**-2.0**
SUMG	**Summit**	**11.36**	**291**	*e*P	**P**	**20 35 56.3**	**-2.8**
	comp=Z,77nm,1.3s						
SUMG	**Summit**	**11.36**	**291**	*e*P	**P**	**20 35 56.3**	**-2.8**
	comp=Z,77nm,1.3s						
NB2	**NORSAR Subarra**	**11.94**	**151**	Pn	**P**	**20 36 03.4**	**-3.6**
	baz=336,slow=14						
NB2	**NORSAR Subarra**	**11.94**	**151**	Pn	**P**	**20 36 04.3**	**-2.7**
	comp=Z,19nm,0.9s,baz=342,slow=14						
NB2	**NORSAR Subarra**	**11.94**	**151**	P	**P**	**20 36 04.3**	**-2.7**
NB2				pmax	pmax		

CLL *e* 20 38 18.0
CLL Collm 21.63 156⇑ *iP* **P 20 38 05.4 -0.6**
comp=Z,40nm,1.6s,mb4.6
CLL *e*pP 20 38 08.0
CLL LR LR
comp=Z,1μm,18.0s,MS4.3
CLL Collm 21.63 156⇑ *iP* **P 20 38 05.4 -0.6**
CLL *e**PP 20 38 08.0
CLL pmax pmax
comp=Z,40nm,1.6s,mb4.6
CLL MLR MLR
comp=Z,1μm,18.0s,MS4.3
MEM Membach 21.65 168 P **P 20 38 08.0 +1.8**
WAR Warsaw 22.00 142 *eP* **P 20 38 11.0 +1.3**
GIVF Givet 22.09 170 *eP* **P 20 38 10.1 -0.4**
comp=Z,126nm,1.4s,mb4.8
GIVF Givet 22.09 170 *eP* **P 20 38 10.1 -0.4**
GIVF pmax pmax
comp=Z,63nm,1.4s,mb4.8
BAIF Baives 22.10 171 *eP* **P 20 38 10.2 -0.5**
comp=Z,137nm,1.3s,mb4.9
BAIF Baives 22.10 171 *eP* **P 20 38 10.2 -0.5**
BAIF pmax pmax
comp=Z,68nm,1.3s,mb4.9
MOX Moxa 22.11 159 *i* P **P 20 38 11.6 +0.8**
comp=Z,logA/T=1.6,mb4.8
MOX L 20 46 37.0
MOX Moxa 22.11 159 *eP* **P 20 38 11.6 +0.8**
comp=Z,63nm,1.6s,mb4.8
MOX LR LR
comp=Z,500nm,21.0s,MS3.9
MOX Moxa 22.11 159 *eP* **P 20 38 11.6 +0.8**
MOX pmax pmax
comp=Z,63nm,1.6s,mb4.8
MOX MLR MLR
comp=Z,500nm,21.0s,MS3.9
BRG Berggiesshubel 22.18 155 *eP* **P 20 38 03.3 -8.1**
comp=Z,63nm,1.6s,mb4.8
BRG Berggiesshubel 22.18 155 *eP* **P 20 38 03.3 -8.1**
BRG LR LR
comp=Z,550nm,29.9s,MS3.8
BRG Berggiesshubel 22.18 155 *eP* **P 20 38 03.3 -8.1**
BRG pmax pmax
comp=Z,63nm,1.6s,mb4.8
BRG MLR MLR
comp=N,556nm,1.0s
TNS Taunus Mts 22.22 164 *eP* **P 20 38 12.2 +0.4**
comp=N,172nm,2.0s,mb5.1
TNS Taunus Mts 22.22 164 *eP* **P 20 38 12.2 +0.4**
TNS pmax pmax
comp=Z,172nm,2.0s,mb5.1
ABH Alteburg 22.48 166 *eP* **P 20 38 15.3 +0.8**
KSP Ksiaz 22.54 151 *eP* **P 20 38 15.2 +0.3**
comp=Z,100nm,1.6s,mb5.0
KSP *e*pP 20 38 21.6
KSP Ksiaz 22.54 151 *eP* **P 20 38 15.1 +0.2**
KSP *e*pP 20 38 21.6
PVCC Panska Ves 22.60 154 *eP* **P 20 38 16.5 +1.0**
PVCC AMS AMS 20 48 00.0
comp=Z,900nm,14.1s
WLF Walferdange 22.60 168 P **P 20 38 17.1 +1.6**
WLF Walferdange 22.60 168 *eP* **P 20 38 16.6 +1.2**
comp=Z,33nm,1.2s,mb4.6
WLF Walferdange 22.60 168 *eP* **P 20 38 16.6 +1.1**
WLF pmax pmax
comp=Z,33nm,1.2s,mb4.6
NKC Novy Kostel 22.62 157 *eP* **P 20 38 17.0 +1.4**
NKC AMS AMS 20 45 40.0
comp=Z,800nm,26.8s
UPC Upice 22.83 152 *eP* **P 20 38 18.6 +0.9**
MOS Moscow 22.83 115 *eP* **P 20 38 17.0 -0.7**
MOS *e*PPP PPP 20 38 47.6 -9.3
MOS pmax pmax
comp=Z,80nm,1.1s,mb5.1
MOS MLR MLR
comp=Z,2μm,16.4s,MS4.7
MOS MLR MLR
comp=N,2μm,15.0s
TOD Tromm 22.86 164 *eP* **P 20 38 18.6 +0.6**
GRA1 Grafenberg Arr 23.01 160 *eP* **P 20 38 19.9 +0.4**
comp=N,27nm,1.1s,mb4.6
GRA1 LR LR
comp=Z,600nm,21.1s,MS4.0
GRF Grafenberg Arr 23.01 160 *eP* **P 20 38 19.9 +0.4**
comp=Z,27nm,1.1s,mb4.6
GRF LR LR
comp=Z,600nm,21.1s,MS4.0
GRF Grafenberg Arr 23.01 160 *eP* **P 20 38 19.9 +0.4**
GRF pmax pmax
comp=Z,27nm,1.1s,mb4.6
GRF MLR MLR
comp=Z,600nm,21.1s,MS4.0
GRF Grafenberg Arr 23.01 160 *eP* **P 20 38 19.9 +0.4**
GRF pmax pmax
comp=Z,27nm,1.1s,mb4.6
GRF MLR MLR
comp=Z,600nm,21.1s,MS4.0
DPC Dobruska-Polom 23.02 151 *eP* **P 20 38 20.4 +0.8**
DPC AMS AMS 20 48 00.0
comp=Z,1μm,13.6s
OBN Obninsk 23.08 117 *eP* **P 20 38 20.6 +0.4**
comp=Z,146nm,1.3s,mb5.2
OBN Obninsk 23.08 117 *eP* **P 20 38 20.6 +0.4**
comp=Z,146nm,1.3s,mb5.2
OBN Obninsk 23.08 117α *iP* **P 20 38 20.8 +0.6**
OBN *i* *PP 20 38 26.0
OBN *i* 20 42 07.0
OBN *e*S **S 20 42 34.4 +7.6**
OBN pmax pmax
comp=Z,70nm,1.7s,mb4.8
OBN MLR MLR
comp=Z,2μm,20.0s,MS4.5
PRU Pruhonice 23.12 154 *eP* **P 20 38 22.1 +1.5**
PRU AMS AMS 20 45 30.0
comp=Z,800nm,21.2s
FLN La Foliniere 23.28 179 *eP* **P 20 38 20.8 -1.3**
comp=Z,48nm,0.8s,mb4.7
FLN *e*R
comp=Z,532nm,19.0s
FLN La Foliniere 23.28 179 *eP* **P 20 38 20.8 -1.3**
FLN pmax pmax
comp=Z,24nm,0.8s,mb4.7
FLN MLR MLR
comp=Z,530nm,19.0s,MS4.0
LANF Langenberg 23.40 166 *eP* **P 20 38 25.0 +1.7**
LDF La Druitiere 23.45 179 *eP* **P 20 38 23.0 -0.8**
comp=Z,60nm,0.9s,mb4.7
LDF La Druitiere 23.45 179 *eP* **P 20 38 23.0 -0.8**
LDF pmax pmax
comp=Z,30nm,0.9s,mb4.7
GRR Gorron 23.65 180 *eP* **P 20 38 25.2 -0.5**
comp=Z,38nm,1.0s,mb4.5
GRR Gorron 23.65 180 *eP* **P 20 38 25.2 -0.5**
GRR pmax pmax
comp=Z,19nm,1.0s,mb4.5
MEZF Maizieres J'vi 23.69 170 *eP* **P 20 38 26.2 +0.1**
OJC Ojcow 23.72 146 *eP* **P 20 38 27.9 +1.5**
STU Stuttgart 23.72 163 *eP* **P 20 38 27.8 +1.4**
STU Stuttgart 23.72 163 *eP* **P 20 38 27.8 +1.4**
ROSF Rostrenen 23.73 184 *eP* **P 20 38 26.0 -0.5**
comp=Z,81nm,1.1s,mb4.8
ROSF Rostrenen 23.73 184 *eP* **P 20 38 26.0 -0.5**
ROSF pmax pmax
comp=Z,40nm,1.1s,mb4.8
WET Wettzell 23.74 157 *eP* **P 20 38 28.2 +1.6**
comp=Z,86nm,2.3s,mb4.8
WET Wettzell 23.74 157 *eP* **P 20 38 28.2 +1.6**
WET pmax pmax
comp=Z,86nm,2.3s,mb4.8
MORC Moravsky Berou 23.77 150 *eP* **P 20 38 27.5 +0.6**
comp=Z,14nm,1.0s,mb4.3
MORC Moravsky Berou 23.77 150 *eP* **P 20 38 27.5 +0.6**
comp=Z,14nm,1.0s,mb4.3
MORC Moravsky Berou 23.77 150 *eP* **P 20 38 27.5 +0.6**
MORC pmax pmax
comp=Z,14nm,1.0s,mb4.3
SGMF Saint Gilles 23.80 183 *eP* **P 20 38 26.4 -0.8**
OKC Ostrava-Krasne 23.81 149 *eP* **P 20 38 28.0 +0.8**
OKC AMS AMS 20 48 30.0
comp=Z,800nm,9.9s
KHC Kasperske Hory 23.84 156 *eP* **P 20 38 29.4 +1.9**
KHC AMS AMS 20 46 00.0
comp=Z,700nm,21.3s
CDF Champ du Feu 23.92 167 *eP* **P 20 38 28.2 -0.2**
comp=Z,81nm,1.5s,mb4.6
CDF Champ du Feu 23.92 167 *eP* **P 20 38 28.2 -0.2**
CDF pmax pmax
comp=Z,41nm,1.5s,mb4.6
WLS Welschbruch 23.93 166 *eP* **P 20 38 29.3 +0.9**
THEF They Montfort 24.02 169 *eP* **P 20 38 30.4 +1.1**
VRAC Vranov 24.08 151 P **P 20 38 31.6 +1.7**
comp=Z,10nm,0.9s,mb4.2,baz=2.8,slow=11,SNR=20
VRAC LR LR 20 47 42.0
comp=Z,846nm,20.4s,MS4.2,baz=334,slow=36
BFO Black Forest 24.09 165 *eP* **P 20 38 30.6 +0.6**
comp=Z,37nm,1.5s,mb4.6
BFO Black Forest 24.09 165 *eP* **P 20 38 30.6 +0.6**
BFO pmax pmax
comp=Z,37nm,1.5s,mb4.6
ECH Echery 24.11 167 *eP* **P 20 38 31.4 +1.2**
GEC2 GERESS Array S 24.13 156 *eP* **P 20 38 31.7 +1.3**
comp=Z,26nm,1.5s,mb4.4
GEC2 GERESS Array S 24.13 156 *eP* **P 20 38 31.7 +1.3**
GEC2 pmax pmax
comp=Z,26nm,1.5s,mb4.4
GERES GERESS Array B 24.13 156 P **P 20 38 32.4 +1.9**
comp=Z,2.2nm,0.8s,mb3.6,baz=350,slow=8.1,SNR=17
GERES LR LR 20 47 30.6
comp=Z,619nm,21.3s,MS4.1,baz=344,slow=36
QUIF Quistinic 24.15 184 *eP* **P 20 38 30.1 -0.5**
comp=Z,26nm,0.8s,mb4.4
QUIF Quistinic 24.15 184 *eP* **P 20 38 30.1 -0.5**
QUIF pmax pmax
comp=Z,13nm,0.8s,mb4.4
HAU Haudompre 24.26 168 *eP* **P 20 38 31.3 -0.4**
comp=Z,41nm,1.2s,mb4.4
HAU *e*R
comp=Z,457nm,18.0s
HAU Haudompre 24.26 168 *eP* **P 20 38 31.3 -0.4**
HAU pmax pmax
comp=Z,21nm,1.2s,mb4.4
HAU MLR MLR
comp=Z,460nm,18.0s,MS4.0
MOF Molkenrain 24.47 167 *eP* **P 20 38 34.2 +0.5**
HINF Hinteralfeld 24.49 167 *eP* **P 20 38 33.4 -0.5**
FELD Feldberg 24.51 166 *eP* **P 20 38 35.2 +1.1**
NIE Niedzica 24.58 146 *eP* **P 20 38 36.2 +1.4**
STHS Stebnicka Huta 24.75 144 *eP* **P 20 38 37.6 +1.2**
STHS *e* 20 38 53.9
KWP Kalwaria 24.82 142 *eP* **P 20 38 38.5 +1.4**
comp=Z,300nm,2.7s,mb5.3
HYF Humbligny 24.82 174 *eP* **P 20 38 36.7 -0.5**
LOR Lormes 24.87 172 *eP* **P 20 38 37.0 -0.6**
comp=Z,31nm,1.0s,mb4.5
LOR *e*R
comp=Z,538nm,21.8s
LOR Lormes 24.87 172 *eP* **P 20 38 37.0 -0.6**
LOR pmax pmax
comp=Z,16nm,1.0s,mb4.5
LOR MLR MLR
comp=Z,540nm,21.8s,MS4.0
LVV L'vov 24.90 140 *eP* **P 20 38 38.7 +0.9**
LVV *e*S **S 20 42 54.5 -3.6**
LVV MLR MLR
comp=N,600nm,13.0s
LVV MLR MLR
comp=Z,600nm,13.0s,MS4.3
LOMF Lomont 24.95 168 *eP* **P 20 38 38.9 +0.6**
SMOL Smolenice 24.98 150 *eP* **P 20 38 40.1 +1.5**
SSF Saint Saulge 25.06 173 *eP* **P 20 38 38.7 -0.7**
comp=Z,21nm,1.1s,mb4.6
SSF Saint Saulge 25.06 173 *eP* **P 20 38 38.7 -0.7**
SSF pmax pmax
comp=Z,21nm,1.1s,mb4.6
MOA Molln 25.18 156⇑ *iP* **P 20 38 42.7 +2.1**
comp=Z,102nm,2.0s,mb5.0
AKASG Malin Array Be 25.20 132 P **P 20 38 40.8 +0.1**
comp=Z,12nm,0.8s,mb4.5,baz=332,slow=9.9,SNR=40
VYHS Vyhne 25.22 148 *eP* **P 20 38 42.0 +1.1**
VYHS *e*S **S 20 43 00.9 -2.7**
ZST Bratislava 25.24 151 *eP* **P 20 38 42.5 +1.4**
ZST *e*L 20 49 29.2
DAVA Damuels 25.25 163⇑ *iP* **P 20 38 42.6 +1.4**
comp=Z,47nm,1.9s,mb4.7
CRVS Cervenica-Dubn 25.28 144 *eP* **P 20 38 46.0 +4.5**
CRVS *e* 20 39 00.3
MOTA Moosalm 25.32 161⇑ *iP* **P 20 38 42.8 +1.0**
comp=Z,29nm,1.5s,mb4.6
MOTA Moosalm 25.32 161⇑ *iP* **P 20 38 42.8 +1.0**
MOTA pmax pmax
comp=Z,29nm,1.5s,mb4.6
AVF Avril sur Loir 25.33 173 *eP* **P 20 38 41.3 -0.6**
comp=Z,39nm,1.1s,mb4.5
AVF Avril sur Loir 25.33 173 *eP* **P 20 38 41.3 -0.6**
AVF pmax pmax
comp=Z,19nm,1.1s,mb4.5
MFF Saint Martin d 25.44 179 *eP* **P 20 38 42.2 -0.8**
comp=Z,46nm,1.1s,mb4.6
MFF Saint Martin d 25.44 179 *eP* **P 20 38 42.2 -0.8**
MFF pmax pmax
comp=Z,23nm,1.1s,mb4.6
SQTA Sankt Quirin 25.45 161⇑ *iP* **P 20 38 44.1 +1.0**
comp=Z,25nm,1.5s,mb4.5
SQTA Sankt Quirin 25.45 161⇑ *iP* **P 20 38 44.1 +1.0**
SQTA pmax pmax
comp=Z,25nm,1.5s,mb4.5
WTTA Wattenberg 25.45 160⇑ *iP* **P 20 38 42.7 -0.4**
comp=Z,77nm,1.9s,mb4.9
WTTA Wattenberg 25.45 160⇑ *iP* **P 20 38 42.7 -0.4**
WTTA pmax pmax
comp=Z,77nm,1.9s,mb4.9
SOKR Solikamsk 25.47 89⇑ *iP* **P 20 38 45.4 +2.3**
SOKR pmax pmax
comp=Z,20nm,1.0s,mb4.6
SOKR MLR MLR
comp=Z,480nm,17.0s,MS4.1
SMF Signal de Mont 25.49 173 *eP* **P 20 38 43.4 -0.1**
comp=Z,54nm,1.2s,mb4.7
SMF Signal de Mont 25.49 173 *eP* **P 20 38 43.4 -0.1**
SMF pmax pmax
comp=Z,27nm,1.2s,mb4.7
KECS Kecovo 25.51 146 *eP* **P 20 38 44.2 +0.5**
BGF Bois d'Agland 25.54 174 *eP* **P 20 38 43.6 -0.3**
comp=Z,34nm,0.8s,mb4.7
BGF Bois d'Agland 25.54 174 *eP* **P 20 38 43.6 -0.3**
BGF pmax pmax
comp=Z,17nm,0.8s,mb4.6
CABF La Chapelle 25.64 169 *eP* **P 20 38 44.6 -0.2**
DAVOX Davos 25.76 163 P **P 20 38 47.7 +1.8**
comp=Z,2.0nm,0.7s,mb3.7,baz=338,slow=18,SNR=3.7
DAVOX LR LR 20 48 57.9
comp=Z,384nm,19.9s,MS3.9,baz=350,slow=37
TCF Toulx Ste Croi 25.79 175 *eP* **P 20 38 45.5 -0.8**
comp=Z,37nm,1.0s,mb4.6
TCF Toulx Ste Croi 25.79 175 *eP* **P 20 38 45.5 -0.8**
TCF pmax pmax
comp=Z,18nm,1.0s,mb4.6
KBA Koelnbreinsper 25.83 157⇑ *iP* **P 20 38 47.9 +1.3**
comp=Z,28nm,1.9s,mb4.5
KBA Koelnbreinsper 25.83 157⇑ *iP* **P 20 38 47.9 +1.3**
KBA pmax pmax
comp=Z,29nm,1.9s,mb4.5
ARSA Arzberg 25.94 154⇑ *iP* **P 20 38 48.9 +1.3**
comp=Z,22nm,1.4s,mb4.5
PSZ Piszkesteto 25.96 147⇓ *eP* **P 20 38 49.3 +1.5**
PSZ Piszkesteto 25.96 147 *eP* **P 20 38 48.7 +0.9**
comp=Z,41nm,1.5s,mb4.7
PSZ Piszkesteto 25.96 147 *eP* **P 20 38 48.7 +0.9**
comp=Z,41nm,1.5s,mb4.7
PSZ Piszkesteto 25.96 147 *eP* **P 20 38 48.7 +0.9**
PSZ pmax pmax
comp=Z,41nm,1.5s,mb4.7
AGO Saint Agoulin 26.06 174 *eP* **P 20 38 49.6 +0.9**
PLDF La Plantade 26.16 173 *eP* **P 20 38 49.4 -0.3**
PYM Petit Puy Mans 26.35 174 *eP* **P 20 38 52.2 +0.7**
RJF Les Rejaudoux 26.76 176 *eP* **P 20 38 54.5 -0.7**
comp=Z,42nm,1.2s,mb4.5
RJF *e*R
comp=Z,469nm,18.8s
RJF Les Rejaudoux 26.76 176 *eP* **P 20 38 54.5 -0.7**
RJF pmax pmax
comp=Z,21nm,1.2s,mb4.5
RJF MLR MLR
comp=Z,470nm,18.8s,MS4.1
LPL La Plagne 26.77 168 *eP* **P 20 38 55.1 -0.2**
comp=Z,7.6nm,0.9s,mb3.9
LPL La Plagne 26.77 168 *eP* **P 20 38 55.1 -0.2**
LPL pmax pmax
comp=Z,4.0nm,0.9s,mb4.0
LPG La Plagne 26.79 168 *eP* **P 20 38 55.2 -0.3**
comp=Z,32nm,1.3s,mb4.4
LPG La Plagne 26.79 168 *eP* **P 20 38 55.2 -0.3**
LPG pmax pmax
comp=Z,16nm,1.3s,mb4.4
VOR Voronezh 26.82 118 *eP* **P 20 38 55.0 -0.7**
VOR pmax pmax
comp=Z,60nm,1.5s,mb4.9
VOR pmax pmax
comp=N,60nm,1.6s
CAF Calviac 27.15 175 *eP* **P 20 38 58.1 -0.7**
comp=N,30nm,1.3s,mb4.4
CAF Calviac 27.15 175 *eP* **P 20 38 58.1 -0.7**
CAF pmax pmax
comp=Z,15nm,1.3s,mb4.4
BNI Bardonecchia 27.23 168 *eP* **P 20 39 00.1 +0.6**
comp=Z,21nm,1.4s,mb4.5
BNI Bardonecchia 27.23 168 *eP* **P 20 39 00.1 +0.5**
comp=Z,21nm,1.4s,mb4.5
BNI Bardonecchia 27.23 168 *eP* **P 20 39 00.1 +0.6**
BNI pmax pmax
comp=Z,21nm,1.4s,mb4.5
BURAR Bucovina Array 27.24 140⇓ *iP* **P 20 38 59.4 -0.2**
BURAR Bucovina Array 27.24 140⇑ *iP* **P 20 38 59.4 -0.2**
BURAR Bucovina Array 27.24 140⇑ *iP* **P 20 38 59.4 -0.2**
VRSR Storozhevoye 27.28 118 *eP* **P 20 39 00.2 +0.3**
VRSR pmax pmax
comp=Z,20nm,1.0s,mb4.6
VRSR pmax pmax
comp=N,40nm,0.9s
VRSR pmax pmax
comp=E,20nm,1.0s
ORIF Oris-en-Rattie 27.31 170 *eP* **P 20 39 00.2 -0.1**
ORIF *e*R
comp=E,663nm,23.0s
VIVF Saint-Julien-l 27.31 171 *eP* **P 20 38 59.8 -0.5**
DRGR 27.55 144⇑ *iP* **P 20 39 02.3 -0.1**
DRGR 27.55 144⇑ *iP* **P 20 39 02.3 -0.1**
MBDF Montbardon 27.56 168 *eP* **P 20 39 02.0 -0.5**
comp=E,27nm,1.1s,mb4.5
MBDF Montbardon 27.56 168 *eP* **P 20 39 02.0 -0.5**
MBDF pmax pmax
comp=Z,14nm,1.1s,mb4.5
LASF Ste Croix 28.06 173 *eP* **P 20 39 06.1 -0.9**
VRHR Novokhopersk 28.06 115 *eP* **P 20 39 06.0 -1.0**
VRHR *e**PP pP 20 39 12.0 +2.1
VRHR pmax pmax
comp=Z,10.0nm,0.7s,mb4.5
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.7s
VRHR MLR MLR
comp=N,1μm,16.0s
VRHR MLR MLR
comp=Z,2μm,16.0s,MS4.8
VRHR MLR MLR
comp=E,940nm,25.0s
SMRF Simiane la Rot 28.24 170 *eP* **P 20 39 08.4 -0.3**
TOUF Mont Tournerai 28.30 168 *eP* **P 20 39 10.0 +0.8**
AUTN L'Aution 28.33 167 *eP* **P 20 39 10.0 +0.5**
SBF Sospel 28.46 167 *eP* **P 20 39 10.3 -0.4**
comp=E,46nm,1.4s,mb4.6
SBF Sospel 28.46 167 *eP* **P 20 39 10.3 -0.4**
SBF pmax pmax
comp=Z,23nm,1.4s,mb4.6
CALN Calern 28.54 168 *eP* **P 20 39 13.4 +2.0**
ARU Arti 28.57 91 *eP* **P 20 39 12.2 +0.7**
comp=Z,30nm,1.4s,mb4.8
ARU Arti 28.57 91 *eP* **P 20 39 12.2 +0.7**
comp=Z,30nm,1.4s,mb4.8
ARU Arti 28.57 91⇓ *iP* **P 20 39 12.6 +1.1**
ARU *e* 20 40 00.9
ARU *e*PPP PPP 20 40 10.6 -5.6
ARU *e*S **S 20 43 57.5 -0.7**
ARU *e*SSS SSS 20 45 32.7 -10
ARU pmax pmax
comp=Z,8.0nm,1.0s,mb4.4
ARU MLR MLR
comp=Z,600nm,19.0s,MS4.2
ARU MLR MLR
comp=N,400nm,18.0s,MS4.1
ARU MLR MLR
comp=E,300nm,22.0s,MS4.1
KIS Kishinev 28.59 135 *eP* **P 20 39 16.0 +4.2**
KIS *e* 20 40 10.0
FRF La Foret Royal 28.71 169 *eP* **P 20 39 12.5 -0.4**
MTLF Montolieu 28.74 175 *eP* **P 20 39 12.6 -0.6**
comp=E,31nm,1.5s,mb4.5
MTLF Montolieu 28.74 175 *eP* **P 20 39 12.6 -0.6**
MTLF pmax pmax
comp=Z,16nm,1.5s,mb4.5
SVE Sverdlovsk 28.89 89 *eP* **P 20 39 15.0 +0.6**
SVE MLR MLR
comp=N,200nm,14.0s,MS4.0
SVE MLR MLR
comp=E,200nm,14.0s,MS4.0
SVE MLR MLR
comp=Z,500nm,14.0s,MS4.3
SJPF Ste Jean 28.93 181 *eP* **P 20 39 14.0 -0.9**
EPF Esparros 29.02 178 *eP* **P 20 39 14.7 -1.0**
comp=Z,17nm,1.0s,mb4.4
EPF Esparros 29.02 178 *eP* **P 20 39 14.7 -1.0**
EPF pmax pmax
comp=Z,8.0nm,1.0s,mb4.4
ETSF Etsaut 29.14 180 *eP* **P 20 39 16.5 -0.3**
comp=Z,24nm,1.2s,mb4.5
ETSF Etsaut 29.14 180 *eP* **P 20 39 16.5 -0.3**
ETSF pmax pmax
comp=Z,12nm,1.2s,mb4.5
MLR Muntele Rosu 29.42 140 P **P 20 39 20.4 +1.1**
comp=Z,5.8nm,0.9s,mb4.3,baz=120,slow=8.6,SNR=8.3
MLR LR LR 20 51 26.0
comp=Z,1μm,19.7s,MS4.6,baz=330,slow=37
MLR Muntele Rosu 29.42 140⇑ *iP* **P 20 39 20.3 +1.0**
MLR Muntele Rosu 29.42 140⇑ *iP* **P 20 39 20.3 +0.9**
MTE Manteigas 31.82 190 *eP* **P 20 39 40.9 +0.3**
SCHQ Schefferville 31.97 273 P **P 20 39 40.7 -1.0**
comp=Z,6.1nm,0.9s,mb4.5,baz=28,slow=8.6,SNR=8.9
SCHQ LR LR 20 51 27.0
comp=Z,490nm,20.2s,MS4.2,baz=200,slow=34
PCBR Castelo Branco 32.37 190 *eP* **P 20 39 45.3 -0.1**
ESDC Sonseca Array 32.40 185 P **P 20 39 45.2 -0.5**
comp=Z,1.5nm,0.6s,mb4.0,baz=3.7,slow=8.7,SNR=9.9
ESLA Sonseca Array 32.40 185 *eP* **P 20 39 44.7 -1.0**
ESLA Sonseca Array 32.40 185 *eP* **P 20 39 44.7 -1.0**
ANN Anapa 32.71 125 *eP* **P 20 39 48.5 +0.2**
ANN *e*S **S 20 45 06.5 +3.0**
ANN pmax pmax
comp=Z,42nm,1.2s,mb5.2
ANN MLR MLR
comp=N,530nm,20.0s,MS4.3
ANN MLR MLR
comp=E,335nm,20.0s,MS4.3
ANN MLR MLR
comp=Z,2μm,20.0s,MS4.7
GOF Gofitskoye 33.95 118⇑ *iP* **P 20 39 52.0 -7.1**
GOF pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
PBEJ Beja 34.20 190 *eP* **P 20 40 01.5 +0.2**
comp=Z,22nm,1.7s,mb4.8
SOC Sochi 34.43 123 *eP* **P 20 40 00.7 -2.5**
SOC *e*PPP PPP 20 41 34.2 -2.7
SOC *e* 20 42 35.9
SOC *e*S **S 20 45 25.3 -5.0**
SOC *e*SS SS 20 47 40.3 -0.3
SOC *e*SSS SSS 20 48 09.9 +2.8
SOC pmax pmax
comp=Z,21nm,0.8s,mb5.1
SOC pmax pmax
comp=N,16nm,0.9s
SOC pmax pmax
comp=E,25nm,1.0s
KIV Kislovodsk 34.88 120 *eP* **P 20 40 08.1 +1.1**
KIV Kislovodsk 34.88 120 *eP* **P 20 40 08.1 +1.0**
KIV Kislovodsk 34.88 120c *iP* **P 20 40 07.8 +0.8**
KIV pmax pmax
comp=Z,18nm,1.0s,mb5.0
KIV MLR MLR
comp=Z,500nm,16.0s,MS4.4
BVAR Borovoye Array 35.13 84 P **P 20 40 10.9 +1.8**
comp=Z,3.2nm,0.7s,mb4.4,baz=322,slow=7.3,SNR=17
INK Inuvik 36.53 333 P **P 20 40 21.4 +0.6**
comp=Z,11nm,1.1s,mb4.6,baz=20,slow=10.0,SNR=8.8
INK LR LR 20 54 44.7
comp=Z,310nm,21.0s,MS4.1,baz=52,slow=35
INK Inuvik 36.53 333 *eP* **P 20 40 20.9 +0.1**

comp=Z,26nm,1.3s,mb4.9
INK Inuvik 36.53 333 *e*P **P 20 40 20.9 +0.1**
comp=Z,26nm,1.3s,mb4.9
INK Inuvik 36.53 333 *e*P **P 20 40 20.9 +0.1**
INK pmax pmax
comp=Z,26nm,1.3s
BRTR Keskin Array B 36.59 133 P **P 20 40 23.6 +2.0**
comp=Z,2.3nm,0.7s,mb4.1,baz=329,slow=7.2,SNR=8.0
BRTR Keskin Array B 36.59 133 P **P 20 40 23.5 +1.9**
NVS Novosibirsk 37.46 71 *e*P **P 20 40 32.7 +3.9**
NVS pmax pmax
comp=Z,15nm,1.7s,mb4.5
NVS pmax pmax
comp=N,9.0nm,1.6s
NVS pmax pmax
comp=E,3.0nm,1.4s
TI2 Plekhanov 37.50 119 *i* P **P 20 40 29.0 -0.2**
YKW3 Yellowknife Ar 38.38 317 *e*P **P 20 40 35.4 -1.0**
YKW3 Yellowknife Ar 38.38 317 *e*PcP PcP 20 42 49.5 -1.0
YKW3 Yellowknife Ar 38.38 317 *e*P **P 20 40 35.4 -1.0**
YKW3 *e*PcP PcP 20 42 49.5 -1.0
YKA Yellowknife Ar 38.44 317 P **P 20 40 36.6 -0.3**
comp=E,4.8nm,1.0s,mb4.2,baz=25,slow=8.6,SNR=13
YKA PcP PcP 20 42 49.9 -0.8
comp=E,2.9nm,0.8s,baz=22,slow=2.6,SNR=9.5
YKA Yellowknife Ar 38.44 317 PcP PcP 20 42 49.9 -0.8
ZAL Zalesovo 38.70 71 P **P 20 40 41.2 +2.0**
comp=E,0.7nm,0.6s,mb3.5,baz=118,slow=9.1,SNR=4.0
ZAL LR LR 20 59 13.4
comp=E,452nm,20.7s,MS4.3,baz=151,slow=40
ZAL Zalesovo 38.70 71 P **P 20 40 41.2 +2.0**
ZAL LR LR 20 59 13.4
GNI Garni 38.97 120 *e*P **P 20 40 42.9 +1.3**
comp=E,21nm,1.1s,mb4.8
GNI Garni 38.97 120 *e*P **P 20 40 42.9 +1.2**
comp=E,21nm,1.1s,mb4.8
GNI Garni 38.97 120 *e*P **P 20 40 42.9 +1.3**
GNI pmax pmax
comp=Z,21nm,1.1s
MALT Malatya 39.07 128 *e*P **P 20 40 44.8 +2.4**
comp=Z,30nm,1.5s,mb4.8
MALT Malatya 39.07 128 *e*P **P 20 40 44.8 +2.4**
comp=Z,30nm,1.5s,mb4.8
MALT Malatya 39.07 128 *e*P **P 20 40 44.8 +2.4**
MALT pmax pmax
comp=Z,30nm,1.5s,mb4.8
KURK Kurchatov 39.67 78 *e*P **P 20 40 48.6 +1.3**
comp=Z,7.0nm,0.8s,mb4.4
KURK Kurchatov 39.67 78 *e*P **P 20 40 48.6 +1.3**
comp=Z,7.0nm,0.8s,mb4.4
KURK Kurchatov 39.67 78 *e*P **P 20 40 48.6 +1.3**
KURK pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
BILL Bilibino 39.98 8 *i* P **P 20 40 51.7 +2.0**
BILL pmax pmax
comp=Z,23nm,1.7s,mb4.6
CSS Prodhromos 41.08 135 *e*P **P 20 41 00.4 +1.3**
comp=Z,65nm,1.5s,mb5.0
CSS Prodhromos 41.08 135 *e*P **P 20 41 00.4 +1.4**
comp=Z,65nm,1.5s,mb5.0
ILAR Eielson Array 41.60 339 P **P 20 41 04.5 +1.8**
comp=Z,5.0nm,1.0s,mb4.1,baz=6.6,slow=7.0,SNR=24
ILAR PcP PcP 20 42 59.9 -0.7
comp=Z,1.5nm,0.9s,baz=317,slow=3.5,SNR=5.3
ILAR Eielson Array 41.60 339 PcP PcP 20 42 59.9 -0.7
MCK McKinley 42.84 340 *e*P **P 20 41 14.4 +1.5**
comp=Z,33nm,1.9s,mb4.7
MCK McKinley 42.84 340 *e*P **P 20 41 14.4 +1.5**
comp=Z,33nm,1.9s,mb4.7
MSNY Massena 43.08 273 *e*P **P 20 41 15.6 +0.5**
MSNY Massena 43.08 273 *e*P **P 20 41 15.6 +0.5**
MIV Mineville/With 43.49 271 *e*P **P 20 41 19.2 +0.7**
MIV Mineville/With 43.49 271 *e*P **P 20 41 19.2 +0.7**
MKAR Makanchi Array 44.27 78 P **P 20 41 26.3 +1.5**
comp=Z,1.6nm,0.6s,mb3.9,baz=346,slow=5.0,SNR=7.1
MKAR LR LR 21 02 46.5
comp=Z,290nm,19.6s,MS4.2,baz=339,slow=40
SADO Sadowa 44.61 277 P **P 20 41 27.2 -0.4**
comp=Z,2.2nm,0.3s,mb4.5,baz=50,slow=9.2,SNR=5.2
ULM Lac du Bonnet 44.69 295 P **P 20 41 27.7 -0.4**
comp=Z,3.5nm,1.0s,mb4.2,baz=64,slow=9.4,SNR=4.1
ULM LR LR 20 59 27.0
comp=Z,491nm,19.0s,MS4.5,baz=33,slow=35
DLBC Dease Lake 45.20 325 P **P 20 41 34.5 +2.3**
comp=Z,3.6nm,1.1s,mb4.1,baz=351,slow=20,SNR=3.8
QURS Qurayyt al Mil 45.41 132 P **P 20 41 37.0 +2.9**
EDM Edmonton 46.57 310 *e*P **P 20 41 43.1 +0.1**
EDM Edmonton 46.57 310 *e*P **P 20 41 43.1 +0.2**
JMOS Jabal al Moall 47.05 135 P **P 20 41 43.6 -3.6**
TAYS Tayyib Ism 47.60 136 P **P 20 41 52.7 +1.2**
ALLY Alegheny Colle 47.75 276 *e*P **P 20 41 52.7 +0.2**
ALLY Alegheny Colle 47.75 276 *e*P **P 20 41 52.7 +0.2**
BDAS Al Bad' 47.76 136 P **P 20 41 52.0 -0.8**
TBKS Tabuk 48.28 134 P **P 20 41 59.0 +2.2**
WMQ Urumqi 48.59 75 P **P 20 42 00.0 +1.0**
WMQ XP sP 20 42 07.0 +3.8
WMQ PP PP 20 43 53.0 +1.2
WMQ S **S 20 49 01.0 +1.4**
WMQ SS SS 20 52 26.0 +1.0
WMQ AMB AMB
comp=Z,16nm,1.0s,mb5.0
WMQ AMB AMB
comp=Z,102nm,6.0s
WMQ LR LR
comp=N,148nm,14.0s,MS4.4
WMQ LR LR
comp=E,215nm,14.0s,MS4.4
WMQ LR LR
comp=Z,314nm,15.0s,MS4.4
MIB Mutribah 49.42 121 AMb AMB 20 42 10.3
comp=Z,52nm,0.7s,mb5.7
UMR Umm Al-Rimmam 49.76 121 *e*P **P 20 42 09.7 +1.5**
UMR AMb AMB 20 42 12.9
comp=Z,52nm,0.7s,mb5.7
KBD Kabd 50.11 121 *e*P **P 20 42 12.3 +1.4**
SONM Songino Array 50.21 57 P **P 20 42 13.3 +1.9**
comp=Z,0.4nm,0.7s,mb3.6,baz=338,slow=7.8,SNR=2.5
RDF Al-Radifah 50.31 122 *e*P **P 20 42 13.4 +1.0**
RDF AMb AMB 20 42 16.7
comp=Z,47nm,0.7s,mb5.6
HILS Ha'il 50.31 129 P **P 20 42 13.8 +1.3**
FWV Forest Hill 51.67 274 P **P 20 42 22.6 0.0**
FWV Forest Hill 51.67 274 P **P 20 42 22.6 -0.1**
NEW Newport 52.07 311 P **P 20 42 25.4 -0.1**
NEW Newport 52.07 311 P **P 20 42 25.4 -0.1**
CHMT Chamberlain Mo 52.39 307 *e*P **P 20 42 26.4 -1.5**
CHMT Chamberlain Mo 52.39 307 *e*P **P 20 42 26.4 -1.5**
TZTN Tazewell 53.48 276 *e*P **P 20 42 35.5 -0.6**
TZTN Tazewell 53.48 276 *e*P **P 20 42 35.5 -0.6**
YMR Madison River 53.90 304 P **P 20 42 39.2 +0.1**
YMR Madison River 53.90 304 P **P 20 42 39.2 +0.1**
AFFS 'Afif 53.92 128 P **P 20 42 40.8 +1.2**
MCMT McKenzie Canyo 54.23 306 *e*P **P 20 42 41.2 -0.3**
MCMT McKenzie Canyo 54.23 306 *e*P **P 20 42 41.2 -0.3**
MZLS Mizel 54.38 126 P **P 20 42 42.9 0.0**
CCM Cathedral Cave 54.44 284 *e*P **P 20 42 41.1 -2.1**
CCM Cathedral Cave 54.44 284 *e*P **P 20 42 41.1 -2.0**
IMW Indian Meadow 54.61 304 *e*P **P 20 42 44.6 +0.3**
comp=Z,15nm,1.2s,mb4.9
IMW Indian Meadow 54.61 304 *e*P **P 20 42 44.6 +0.2**
comp=Z,15nm,1.2s,mb4.9
CPCT Cooper Cave 54.79 277 *e*P **P 20 42 45.0 -0.8**
CPCT Cooper Cave 54.79 277 *e*P **P 20 42 45.0 -0.7**
JSC Jenkinsville 54.85 273 P **P 20 42 45.9 -0.4**
JSC Jenkinsville 54.85 273 P **P 20 42 45.9 -0.4**
MYNC Murphy 55.01 276 *e*P **P 20 42 46.6 -0.8**
comp=Z,62nm,1.6s,mb5.4
MYNC Murphy 55.01 276 *e*P **P 20 42 46.6 -0.8**
comp=Z,62nm,1.6s,mb5.4
PARMO Parma 55.27 282 P **P 20 42 48.7 -0.6**
PARMO Parma 55.27 282 P **P 20 42 48.6 -0.7**
BW06 Boulder Array 55.30 302 *e*P **P 20 42 48.6 -0.8**
comp=Z,16nm,1.5s,mb4.8
PDAR Pinedale Array 55.30 302 P **P 20 42 48.5 -1.0**
comp=Z,2.2nm,1.1s,mb4.1,baz=27,slow=6.6,SNR=13
BMO Blue Mountains 55.31 309 *e*P **P 20 42 48.5 -1.0**
comp=Z,11nm,1.2s,mb4.8
BMO Blue Mountains 55.31 309 *e*P **P 20 42 48.5 -1.0**
comp=Z,11nm,1.2s,mb4.8
HLID Hailey 55.81 306 *e*P **P 20 42 52.7 -0.4**
comp=Z,3.7nm,0.9s,mb4.4
GTA Gaotai 56.20 66 P **P 20 42 58.0 +2.1**
GTA AP pP 20 43 03.3 +4.3
GTA XP sP 20 43 07.3 +7.1
GTA PCP PcP 20 43 53.3 -0.2
GTA PP PP 20 45 06.3 +3.5
GTA SCP 20 47 50.0
GTA S **S 20 50 50.0 +6.4**
GTA XS 20 50 58.8
GTA SCS ScS 20 52 42.8 +1.0
GTA AMB AMB
comp=Z,3.0nm,1.5s,mb4.1
GTA AMB AMB
comp=Z,295nm,12.6s
GTA LR LR
comp=Z,224nm,15.3s,MS4.4
ISCO Idaho Springs 57.00 297 *e*P **P 20 43 00.9 -0.8**
comp=Z,22nm,1.5s,mb5.0
ISCO Idaho Springs 57.00 297 *e*P **P 20 43 00.9 -0.7**
comp=Z,22nm,1.5s,mb5.0
SMCO Snowmass 57.96 298 *e*P **P 20 43 08.4 0.0**
SMCO Snowmass 57.96 298 *e*P **P 20 43 08.4 +0.1**
CN2 Changchun 58.54 43 *e*P **P 20 43 13.3 +0.9**
CN2 LR LR
comp=Z,660nm,16.0s,MS4.8
ELK Elko 58.67 306 P **P 20 43 13.9 +0.6**
comp=Z,1.7nm,0.9s,mb4.1,baz=24,slow=8.5,SNR=5.7
ELK Elko 58.67 306 *e*P **P 20 43 13.3 0.0**
comp=Z,8.1nm,1.5s,mb4.5
ELK Elko 58.67 306 *e*P **P 20 43 13.3 -0.1**
comp=Z,8.1nm,1.5s,mb4.5
ELK Elko 58.67 306 P **P 20 43 13.9 +0.6**
ELK pmax pmax
comp=Z,2.0nm,0.9s
SDCO Great Sand Dun 58.89 296 *e*P **P 20 43 13.9 -1.0**
comp=Z,12nm,1.2s,mb4.8
SDCO Great Sand Dun 58.89 296 *e*P **P 20 43 13.9 -1.0**
comp=Z,12nm,1.2s,mb4.8
YBH Yreka Blue Hor 59.54 312 LR LR 21 07 42.5
comp=Z,304nm,19.2s,MS4.5,baz=16,slow=35
MSU Marysvale 59.98 302 *e*P **P 20 43 22.7 +0.3**
MSU Marysvale 59.98 302 *e*P **P 20 43 22.7 +0.2**
LZH Lanzhou 60.44 64 *e*P **P 20 43 25.3 -0.3**
LZH AP pP 20 43 30.0 +1.3
LZH PP PP 20 45 40.0 -1.0
LZH *e*S **S 20 51 37.0 -2.0**
LZH AMB AMB
comp=Z,16nm,1.2s,mb4.9
LZH AMB AMB
comp=Z,103nm,5.8s
LZH Lanzhou 60.44 64 *e*P **P 20 43 25.2 -0.4**
comp=Z,16nm,1.2s,mb4.9
LZH pP pP 20 43 28.5 -0.2
LZH *e*S **S 20 51 37.0 -2.0**
LZH Lanzhou 60.44 64 *e*P **P 20 43 25.2 -0.4**
comp=Z,16nm,1.2s,mb4.9
LZH pP pP 20 43 28.5 -0.2
LZH sP sP 20 43 30.1 +0.2
LZH PP PP 20 45 40.0 -1.0
LZH *e*S **S 20 51 37.0 -2.0**
LZH sS 20 51 42.0
LZH SS SS 20 55 33.6 -4.6
LZH LR LR
comp=Z,870nm,17.1s,MS5.0
LZH Lanzhou 60.44 64 *e*P **P 20 43 25.2 -0.4**
LZH *PP pP 20 43 28.5 -0.2
LZH *SP sP 20 43 30.1 +0.2
LZH 20 45 40.0
LZH *e*S **S 20 51 37.0 -2.0**
LZH SS SS 20 55 33.6 -4.6
LZH pmax pmax
comp=Z,16nm,1.2s,mb4.9
LZH MLR MLR
comp=Z,870nm,17.1s,MS5.0
ANMO Albuquerque 61.77 296 P **P 20 43 35.0 +0.3**
comp=Z,4.9nm,0.9s,mb4.7,baz=30,slow=6.0,SNR=14
ANMO Albuquerque 61.77 296 *e*P **P 20 43 34.4 -0.3**
comp=Z,22nm,1.5s,mb5.1
ANMO Albuquerque 61.77 296 *e*P **P 20 43 34.4 -0.3**
comp=Z,22nm,1.5s,mb5.1
ANMO Albuquerque 61.77 296 *e*P **P 20 43 34.4 -0.3**
ANMO pmax pmax
comp=Z,22nm,1.5s
MTUM Tungsten Hills 62.71 307 *e*P **P 20 43 41.1 +0.2**
MTUM Tungsten Hills 62.71 307 *e*P **P 20 43 41.1 +0.2**
NEN Nelson 63.38 304 *e*P **P 20 43 44.4 -0.9**
NEN Nelson 63.38 304 *e*P **P 20 43 44.4 -0.9**
MNTX Cornudas Mount 64.52 294 *e*P **P 20 43 50.6 -2.2**
comp=Z,3.3nm,0.9s,mb4.4
MNTX Cornudas Mount 64.52 294 *e*P **P 20 43 50.6 -2.2**
comp=Z,3.3nm,0.9s,mb4.4
LTX Lajitas 66.25 292 *e*P **P 20 44 02.8 -1.1**
comp=Z,18nm,1.3s,mb4.9
TXAR Lajitas Array 66.25 292 P **P 20 44 03.5 -0.4**
comp=Z,3.6nm,1.0s,mb4.4,baz=45,slow=5.3,SNR=15
NJ2 Nanjing 68.23 53 *e*P **P 20 44 18.8 +2.4**
NJ2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
SSE Sheshan 69.72 51 P **P 20 44 26.3 +0.8**
SSE AMB AMB
comp=Z,16nm,0.7s,mb5.1
SSE AMB AMB
comp=Z,266nm,5.5s
SSE Sheshan 69.72 51 P **P 20 44 26.2 +0.7**
comp=Z,16nm,0.7s,mb5.1
GYA Guiyang 70.30 65 P **P 20 44 36.0 +6.9**
GYA AP pP 20 44 40.3 +8.0
GYA XP sP 20 44 43.0 +10
GYA S S 20 53 43.5 +3.7
GYA AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
GYA AMB AMB
comp=Z,70nm,2.9s,mb5.1
GYA LR LR
comp=Z,270nm,18.6s,MS4.5
KMI Kunming 70.43 69 P **P 20 44 30.5 +0.5**
KMI AMB AMB
comp=Z,3.0nm,0.8s,mb4.3
KMI Kunming 70.43 69 P **P 20 44 30.4 +0.4**
comp=Z,3.0nm,0.8s,mb4.3
KMI Kunming 70.43 69 P **P 20 44 30.4 +0.4**
KMI pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
SDV Santo Domingo 75.40 253 P **P 20 44 59.5 +0.2**
comp=Z,5.4nm,0.8s,mb4.6,baz=17,slow=4.2,SNR=6.9
SDV LR LR 21 12 00.1
comp=Z,182nm,20.4s,MS4.4,baz=231,slow=31
SDV Santo Domingo 75.40 253 *e*P **P 20 44 59.5 +0.1**
comp=Z,6.3nm,0.9s,mb4.5
PLCA Paso Flores 122.38 238 PKP PKPdf 20 52 11.5 -0.1
comp=Z,1.1nm,0.8s,slow=1.0,SNR=2.9
MAW Mawson 145.57 143 PKPbc PKPbc 20 52 54.4 +3.4
comp=Z,5.3nm,0.9s,baz=323,slow=5.1,SNR=9.2
RPZ Rata Peaks 151.40 12 PKPbc PKPdf 20 53 08.0 +4.6
comp=Z,3.1nm,0.6s,baz=256,slow=5.1,SNR=4.1
RPZ PKPab PKPab 20 53 18.5 +1.4
comp=Z,10nm,0.9s,baz=62,slow=4.3,SNR=4.0

MDD 30 20:42:35.5±1.7, 36.54N×7.55W, h41km±49km, mb3.5/5, Error ellipse: s-maj=17.2km s-min=8.7km az=23.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGRO	**El Granado**	**1.00**	**3**	P	P	20 42 52.5	-0.7
	1.1nm,0.1s,SNR=16						
EGRO				S	S	20 43 04.9	-1.4
	7.0nm,0.1s,SNR=22						
PTEO	**Sao Teotonio**	**1.38**	**317**	*e*P	P	20 42 57.3	-1.4
PTEO				*e*S	S	20 43 13.9	-2.1
ESPR	**Espera**	**1.40**	**76**	P	P	20 42 58.4	-0.6
	0.4nm,0.1s,SNR=7.9						
ESPR				S	S	20 43 13.3	-3.1
	0.9nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.41**	**29**	P	P	20 42 57.9	-1.3
	0.3nm,0.1s,SNR=7.9						
EMIN				S	S	20 43 14.1	-2.7
	1.0nm,0.1s,SNR=7.9						
PBEJ	**Beja**	**1.51**	**350**	*e*S	S	20 43 16.9	-2.3
	1.3nm,0.1s						
PBEJ	**Beja**	**1.51**	**350**	S	S	20 43 16.9	-2.3
	0.6nm,0.1s						
EBAD	**Badajoz**	**2.25**	**11**	P	P	20 43 09.4	-1.8
	0.4nm,0.1s,SNR=4.0						
EBAD				S	S	20 43 35.7	-2.3
	1.3nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**2.87**	**55**	P	P	20 43 18.6	-1.3
	0.3nm,0.1s,SNR=7.9						
EADA				S	S	20 43 49.4	-4.2
	0.9nm,0.1s,SNR=7.9						
PCBR	**Castelo Branco**	**3.30**	**1**	*e*Pn	P	20 43 24.2	-1.8
PCBR				*e*Sn	S	20 44 00.9	-3.5
	1.0nm,0.1s						
PCBR	**Castelo Branco**	**3.30**	**1**	P	P	20 43 24.2	-1.8
PCBR				S	S	20 44 00.9	-3.5
	0.5nm,0.1s						

*IDC **30** 20:43:03.2±2.7, 20.75S×177.72W, h445km±28km, mb3.8/10, mb1 4.0/11, mb1mx3.9/16, mbtmp4.6/11, Error ellipse: s-maj=30.5km s-min=13.4km az=149.0*
*NEIC **30** 20:43:03.1±1.4, 20.72S×177.75W, h448km±15km, mb4.5/8, Error ellipse: s-maj=15.9km s-min=10.2km az=149.0*
*BJI **30** 20:43:03.0, 20.70S×177.70W, h447km, mB4.6, mb4.3*
ISC 30 20:42:59.7±1.4, 20.72S±0.08×177.80W±0.09, h414km±16km, n41, σ0983/36, mb4.2/18, 1C-2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.88**	**41**	P	P	**20 45 06.9**	**+1.1**
	12nm,0.3s,baz=60,slow=18,SNR=7.4						
AFI				S	S	**20 46 44.6**	**-0.9**
	8.9nm,0.3s,baz=90,slow=20,SNR=5.9						
AFI	**Afiamalu**	**8.88**	**41**	P	P	**20 45 06.9**	**+1.1**
AFI				S	S	**20 46 44.6**	**-0.9**
URZ	**Urewera**	**18.03**	**193**	S	S	**20 49 47.2**	**+1.2**
	1.4nm,0.3s,baz=92,slow=24,SNR=10						
CTA	**Charters Tower**	**33.66**	**265**	*e*P	P	**20 49 06.9**	**+1.5**
	14nm,0.4s,mb4.6						
CTAO	**Charters Tower**	**33.66**	**265**	*e*P	P	**20 49 05.9**	**+0.5**
	22nm,0.7s,mb4.6						
PMG	**Port Moresby**	**35.58**	**283**	P	P	**20 49 22.8**	**+1.2**
	12nm,0.8s,mb4.3,baz=100,slow=6.3,SNR=6.1						
PMG	**Port Moresby**	**35.58**	**283**	*e*P	P	**20 49 22.5**	**+0.9**
	18nm,0.7s,mb4.5						
STKA	**Stephens Creek**	**37.87**	**244**	*e*P	P	**20 49 41.4**	**+1.0**
	6.9nm,0.7s,mb4.1						
STKA	**Stephens Creek**	**37.87**	**244**	P	P	**20 49 41.3**	**+0.9**
	8.2nm,0.7s,mb4.2,baz=106,slow=9.7,SNR=15						
ASPA	**Alice Springs**	**44.66**	**257**	⇑*i*P	P	**20 50 35.4**	**+0.1**
WB2	**Warramunga Arr**	**44.75**	**262**	⇓*i*P	P	**20 50 35.2**	**-0.8**
WRAB	**Tennant Creek**	**44.75**	**262**	*e*P	P	**20 50 35.3**	**-0.8**
	26nm,0.8s,mb4.6						
WRA	**Warramunga Arr**	**44.76**	**262**	P	P	**20 50 35.9**	**-0.2**
	18nm,0.8s,mb4.5,baz=96,slow=7.0,SNR=480						
WRA				S	S	**20 56 36.2**	**-5.5**
	0.8nm,0.9s,baz=94,slow=12,SNR=4.8						
KAKA	**Kakadu**	**48.17**	**271**	⇓*i*P	P	**20 51 17.6**	**+15**
	13nm,0.4s,mb4.6						
FITZ	**Fitzroy Crossi**	**53.19**	**262**	*e*P	P	**20 51 38.9**	**-0.8**
	14nm,0.6s,mb4.4						
FITZ	**Fitzroy Crossi**	**53.19**	**262**	P	P	**20 51 39.1**	**-0.6**
	20nm,0.6s,mb4.5,baz=147,slow=4.1,SNR=40						
MBWA	**Marble Bar**	**57.99**	**257**	*e*P	P	**20 52 11.7**	**-1.6**
	19nm,0.8s,mb4.5						
CASY	**Casey**	**63.85**	**205**	*e*P	P	**20 52 49.9**	**-1.3**
QSPA	**South Pole Qui**	**69.35**	**180**	*e*P	P	**20 53 24.8**	**-0.3**
	6.8nm,0.7s,mb4.4						
KKM	**Kota Kinabalu**	**70.00**	**285**	*e*P	P	**20 53 30.0**	**-0.1**
MAT	**Matsushiro**	**70.50**	**324**	P	P	**20 53 32.4**	**-0.3**
MAT	**Matsushiro**	**70.50**	**324**	*e*P	P	**20 53 32.0**	**-0.7**
	8.2nm,0.7s,mb4.4						
JNU	**Nakatsue**	**72.56**	**317**	P	P	**20 53 45.2**	**+0.3**
	11nm,0.9s,mb4.4,baz=117,slow=6.8,SNR=4.7						
KSM	**Kuching**	**73.63**	**278**	*e*P	P	**20 53 51.5**	**+0.1**
MDJ	**Mudanjiang**	**80.81**	**325**	P	P	**20 54 31.0**	**+1.2**
MDJ				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,50nm,5.0s						
NVAR	**Mina Array Bea**	**81.05**	**43**	P	P	**20 54 31.8**	**+0.6**
	comp=Z,1.5nm,0.8s,mb3.8,baz=210,slow=6.3,SNR=7.7						
MAW	**Mawson**	**81.42**	**200**	P	P	**20 54 31.7**	**-0.8**
	comp=Z,1.3nm,0.6s,mb3.8,baz=148,slow=6.7,SNR=6.0						
CN2	**Changchun**	**82.59**	**322**	*e*P	P	**20 54 40.0**	**+1.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
TXAR	**Lajitas Array**	**87.01**	**57**	P	P	**20 55 01.7**	**+0.8**
	comp=Z,0.3nm,0.3s,mb3.6,baz=217,slow=6.3,SNR=6.4						
VNA3	**Neumayer Olymp**	**87.91**	**176**		P	**20 55 04.0**	**-0.2**
VNA2	**Neumayer--Watz**	**88.36**	**177**		P	**20 55 06.1**	**-0.2**
ILAR	**Eielson Array**	**88.48**	**13**	P	P	**20 55 05.8**	**-1.2**
	comp=Z,1.1nm,0.6s,mb3.7,baz=228,slow=5.6,SNR=12						
PDAR	**Pinedale Array**	**88.99**	**43**	P	P	**20 55 10.2**	**+0.3**
	comp=Z,1.0nm,0.8s,mb3.6,baz=225,slow=2.1,SNR=7.7						
AKASG	**Malin Array Be**	**143.30**	**331**	PKhKP		21 01 42.4	
	comp=Z,4.4nm,0.5s,baz=39,slow=4.3,SNR=13						
MBAR	**Mbarara**	**144.96**	**236**	*e*PKPdf	PKPdf	21 01 48.1	-1.0
EKA	**Eskdalemuir Ar**	**145.20**	**5**	PKPbc	PKPbc	21 01 48.9	-0.2
	comp=Z,0.8nm,0.5s,baz=311,slow=2.8,SNR=4.7						
BRTR	**Keskin Array B**	**147.13**	**312**	PKPbc	PKPdf	21 01 54.9	+2.9
	comp=Z,2.0nm,0.6s,baz=150,slow=4.0,SNR=5.3						
CLL	**Collm**	**148.32**	**347**	*i* PKP1	PKPdf	21 01 57.7	+4.2
MLR	**Muntele Rosu**	**148.51**	**327**	PKPbc	PKPdf	21 01 58.6	+4.6
	comp=Z,4.8nm,0.9s,baz=157,slow=5.7,SNR=4.1						
GERES	**GERESS Array B**	**150.46**	**345**	PKPbc	PKPdf	21 02 03.0	+6.0
	comp=Z,0.9nm,0.5s,baz=45,slow=1.9,SNR=7.4						
DAVOX	**Davos**	**153.26**	**348**	PKPbc	PKPdf	21 02 08.3	+7.3
	comp=Z,1.6nm,0.6s,baz=18,slow=20,SNR=5.2						

*NEIC **30** 20:52:31.5, 19.50N×69.38W, h24km, MD3.9(RSPR), After RSPR.*
RSPR 30 20:52:31.5, 19.50N×69.38W, h24km±60km, MD3.9/9, MD3.9/9, 8C-1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**2.37**	**115**	⇑*e*P	Pn	20 53 08.0	-1.7
AGPR				*e*S	Sn	20 53 34.9	-3.5
LSP	**Las Mesas**	**2.53**	**121**	⇓*e*P	Pn	20 53 10.4	-1.7
LSP				*e*S	Sn	20 53 38.2	-4.3
CRPR	**Cabo Rojo, PR**	**2.61**	**124**	⇑*e*P	Pn	20 53 10.4	-2.7
CRPR				*e*S	Sn	20 53 41.2	-3.1
MGP	**Maguayo**	**2.62**	**124**	⇑*e*P	Pn	20 53 10.7	-2.6
MGP				*e*S	Sn	20 53 39.7	-5.0
LRS	**Lares**	**2.68**	**116**	⇑*e*P	Pn	20 53 12.1	-2.0
LRS				*e*S	Sn	20 53 43.8	-2.3
PORP	**Portuguez**	**2.96**	**118**	⇑*e*P	Pn	20 53 15.9	-2.3
PORP				*e*S	Sn	20 53 51.1	-2.2
SJG	**San Juan**	**3.35**	**114**	*e*S	Sn	20 53 58.2	-5.0
CBYP	**Canovanas**	**3.55**	**110**	⇑*e*P	Pn	20 53 23.0	-3.4
CBYP				*e*S	Sn	20 54 02.6	-5.5
CPD	**Cerro la Pandu**	**3.58**	**113**	⇑*e*P	Pn	20 53 23.7	-3.3
CPD				*e*S	Sn	20 54 05.8	-3.2
MTP	**Monte Pirata**	**3.88**	**110**	⇑*e*P	Pn	20 53 27.4	-3.7
MTP				*e*S	Sn	20 54 12.5	-4.0
TBVI	**Tortola**	**4.64**	**103**	*e*S	Sn	20 54 30.3	-5.4

*CSEM **30** 20:53:48.3, 71.94N×1.35W, h10km, mb4.9*
*MOS **30** 20:53:48.2±0.9, 71.88N×1.36W, h10km, mb5.0/79, MS4.4/29, Error ellipse: s-maj=18.9km s-min=3.0km az=95.7*
*BJI **30** 20:53:48.9, 71.90N×1.10W, h10km, mB5.1, mb4.8, Ms5.0, Msz4.8*
*IDC **30** 20:53:48.7±0.4, 71.90N×1.17W, mb4.4/22, mb1 4.6/27, mb1mx4.6/31, mbtmp4.4/27, ML4.3/5, MS4.4/24, Ms1 4.4/24, ms1mx4.3/31, Error ellipse: s-maj=14.7km s-min=9.3km az=40.0*
*HRVD **30** 20:53:49.9±0.2, 71.84N×1.23W, h12km, MW5.1/61, Centroid moment Tensor Solution. LP body waves: s30,c38; Mantle waves: s61,c124; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.58±.12; $M_{\theta\theta}$1.76±.13; $M_{\phi\phi}$2.82±.10; $M_{r\theta}$-1.18±.45; $M_{\theta\phi}$1.97±.10; $M_{\phi r}$-1.03±.35; Best double couple: M_{ϕ}4.722×10^{16} NP1: ϕ_s214°, δ36°, λ-96°. NP2: ϕ_s41°, δ55°, λ-86°. Principal axes: T 4.588, Plg10°, Azm128°; N .268, Plg3°, Azm219°; P -4.855, Plg80°, Azm327°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **30** 20:53:49.9±0.1, 71.88N×1.06W, h10km, mb4.9/107, MS4.5/13 Error ellipse: s-maj=3.5km s-min=2.2km az=52.0*
*NAO **30** 20:53:50.8±2.8, 71.96N×0.82W, ML3.9*
*BER **30** 20:53:52.1±5.3, 71.91N×1.38W, h10km, MD3.0, ML3.6, ML3.9(NAO)*
*UPP **30** 20:54:09.7, 71.61N×3.42E, h8km, ML4.1*
ISC 30 20:53:48.2±0.1, 71.91N±0.02×1.09W±0.07, h10km, (h16km±2.3km: pP-P), n464, σ1906/479, mb4.8/141,

MS4.5/55, 33C-5D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNW	**Jan Mayen West**	**2.51**	**253**	*eP*	**Pn**	**20 54 28.8**	**-0.9**
JMIC	**Jan Mayen**	**2.55**	**252**	*eP*	**Pn**	**20 54 28.8**	**-1.6**
LOF	**Lofoten**	**6.28**	**120**	*eP*	**Pn**	**20 55 23.7**	**+0.5**
LOF				*eS*	**Sn**	**20 56 30.4**	**-5.4**
LOF				AML	AML	20 56 34.1	
	comp=Z,69nm,0.5s						
DAG	**Danmarks Havn**	**6.78**	**324**	⇓*iP*	**Pn**	**20 55 25.5**	**-4.7**
	comp=Z,6.7nm,0.8s						
DAG				*i*		20 56 32.7	
DAG	**Danmarks Havn**	**6.78**	**324**	⇓*eP*	**Pn**	**20 55 25.5**	**-4.7**
	comp=Z,6.7nm,0.8s						
DAG				*i*		20 56 32.7	
DAG	**Danmarks Havn**	**6.78**	**324**	⇓*eP*	**Pn**	**20 55 25.5**	**-4.7**
DAG				pmax	pmax		
	comp=Z,7.0nm,0.8s						
SCO	**Scoresbysund**	**6.88**	**268**	*i* P	**Pn**	**20 55 28.3**	**-3.3**
TRO	**Tromso**	**6.98**	**99**	*eP*	**Pn**	**20 55 28.8**	**-4.2**
TRO				AML	AML	20 56 50.2	
	comp=Z,28nm,0.6s						
MELSS	**Ber_school_2**	**7.26**	**127**	*eP*	**Pn**	**20 55 33.7**	**-3.3**
MELSS				*eS*	**Sn**	**20 56 50.3**	**-10**
STOK	**Stokkvaagen**	**7.51**	**131**	*eP*	**Pn**	**20 55 37.1**	**-3.5**
STOK				*eS*	**Sn**	**20 56 56.5**	**-10**
STOK				AML	AML	20 57 00.2	
	comp=Z,92nm,0.7s						
SPA0	**Spitsbergen Ar**	**7.70**	**28**	Pn	**Pn**	**20 55 42.0**	**-1.1**
	baz=216,slow=14						
KBS	**Kingsbay**	**7.75**	**19**	Pn	**Pn**	**20 55 41.3**	**-2.5**
KBS				Sn	**Sn**	**20 57 09.1**	**-3.3**
KBS	**Kingsbay**	**7.75**	**19**	Pn	**Pn**	**20 55 41.3**	**-2.5**
KBS				*eP*		20 55 41.5	
KBS				S	**Sn**	**20 57 09.1**	**-3.3**
MOR8	**Moi Rana**	**7.99**	**128**	*eP*	**Pn**	**20 55 44.9**	**-2.2**
MOR8				*eS*	**Sn**	**20 57 09.2**	**-9.3**
MOR8				AML	AML	20 57 12.3	
	comp=Z,85nm,0.4s						
MOR8	**Moi Rana**	**7.99**	**128**	*eP*	**Pn**	**20 55 44.9**	**-2.2**
MOR8				*eS*	**Sn**	**20 57 09.1**	**-9.4**
RORSS	**Ber_school_1**	**8.39**	**141**	*eP*	**P**	**20 55 49.3**	**-3.3**
KTK1	**Kautokeino**	**8.62**	**98**	*eP*	**P**	**20 55 54.9**	**-1.0**
KTK1	**Kautokeino**	**8.62**	**98**	*eP*	**P**	**20 55 54.8**	**-1.1**
NSS	**Namsos**	**8.83**	**141**	*eP*	**P**	**20 55 54.6**	**-4.3**
NSS				*eS*	**Sn**	**20 57 28.0**	**-12**
NSS				AML	AML	20 57 33.9	
	comp=Z,110nm,0.4s						
ARA0	**ARCESS Array S**	**9.07**	**92**	Pn	**P**	**20 55 59.3**	**-2.9**
	baz=299,slow=12						
ARCES	**ARCESS Array B**	**9.07**	**92**	Pn	**P**	**20 55 59.2**	**-2.9**
	comp=Z,3.6nm,0.3s,baz=293,slow=11,SNR=89						
ARCES				LR	LR	20 59 13.0	
	comp=Z,2μm,20.4s,baz=287,slow=36						
ARE0	**ARCESS Array S**	**9.07**	**92**	*eP*	**P**	**20 55 59.0**	**-3.1**
ARE0	**ARCESS Array S**	**9.07**	**92**	*eP*	**P**	**20 55 59.0**	**-3.1**
KEV	**Kevo**	**9.44**	**90**	*ep*	**P**	**20 56 03.2**	**-4.0**
MOL	**Molde**	**9.95**	**156**	*eP*	**P**	**20 56 13.0**	**-1.0**
MOL				*eS*	**Sn**	**20 57 54.6**	**-12**
MOL				AML	AML	20 57 59.7	
	comp=Z,30nm,0.6s						
BORG	**Borgarnes**	**10.31**	**236**	LR	LR	20 59 15.4	
	comp=Z,1μm,18.4s,baz=19,slow=32						
FOO	**Floro**	**10.63**	**164**	*eP*	**P**	**20 56 20.0**	**-3.4**
FOO				AML	AML	20 58 16.8	
	comp=Z,22nm,0.5s						
DOMB	**Dombas**	**10.66**	**153**	*eP*	**P**	**20 56 21.0**	**-2.8**
DOMB				*eS*	**S**	**20 58 11.8**	**-12**
DOMB				AML	AML	20 58 18.4	
	comp=Z,32nm,0.7s						
DOMB	**Dombas**	**10.66**	**153**	*eP*	**P**	**20 56 21.0**	**-2.8**
DOMB				*eS*	**S**	**20 58 13.1**	**-11**
DOMB	**Dombas**	**10.66**	**153**	*eP*	**P**	**20 56 21.0**	**-2.8**
DOMB				*eS*	**S**	**20 58 13.1**	**-11**
SUMG	**Summit**	**11.30**	**291**	*eP*	**P**	**20 56 27.5**	**-5.0**
	comp=Z,140nm,1.5s						
SUMG	**Summit**	**11.30**	**291**	*eP*	**P**	**20 56 27.5**	**-5.0**
	comp=Z,140nm,1.5s						
UMAU	**Umeaa**	**11.41**	**124**	P	**P**	**20 56 32.1**	**-1.9**
NB2	**NORSAR Subarra**	**11.93**	**150**	Pn	**P**	**20 56 38.8**	**-2.3**
	baz=340,slow=14						
NB2	**NORSAR Subarra**	**11.93**	**150**	Pn	**P**	**20 56 38.1**	**-3.0**
	comp=Z,39nm,1.1s,baz=342,slow=14						
NB2	**NORSAR Subarra**	**11.93**	**150**	P	**P**	**20 56 38.1**	**-3.0**
NB2				pmax	pmax		
	comp=Z,39nm,1.1s						
NOA	**NORSAR Array B**	**11.93**	**150**	Pn	**P**	**20 56 38.7**	**-2.4**
	comp=Z,1.8nm,0.3s,baz=331,slow=12,SNR=31						
NOA				Sn	**S**	**20 58 46.6**	**-8.7**
	comp=Z,1.7nm,0.3s,baz=331,slow=22,SNR=3.7						
NOA				LR	LR	21 01 02.4	
	comp=Z,2μm,20.2s,baz=340,slow=36						
NAO01	**NORSAR Array S**	**12.07**	**151**	*eP*	**P**	**20 56 39.2**	**-3.8**
	comp=Z,47nm,1.0s						
APA0	**Apatity Array**	**12.42**	**93**	Pn	**P**	**20 56 44.9**	**-2.8**
	baz=316,slow=14						
APA	**Apatity**	**12.57**	**93**	*eP*	**P**	**20 56 46.5**	**-3.2**
APA				MLR	MLR		
	comp=Z,2μm,20.0s						
LVZ	**Lovozero**	**12.77**	**91**	*i* P	**P**	**20 56 49.3**	**-3.1**
LVZ				pmax	pmax		
	comp=Z,26nm,0.7s						
KONO	**Kongsberg**	**13.04**	**155**	*eP*	**P**	**20 56 53.6**	**-2.4**
KONO	**Kongsberg**	**13.04**	**155**	*eP*	**P**	**20 56 52.2**	**-3.7**
	comp=Z,51nm,0.9s						
KONO	**Kongsberg**	**13.04**	**155**	*eP*	**P**	**20 56 52.2**	**-3.7**
	comp=Z,51nm,0.9s						
KONO	**Kongsberg**	**13.04**	**155**	*c iP*	**P**	**20 56 52.8**	**-3.1**
HFS	**Hagfors**	**13.20**	**146**	Pn	**P**	**20 56 55.9**	**-2.2**
	baz=351,slow=14						
HFS				Sn	**S**	**20 59 14.4**	**-12**
	baz=346,slow=37						
HFS	**Hagfors**	**13.20**	**146**	Pn	**P**	**20 56 56.0**	**-2.1**
	comp=Z,0.9nm,0.3s,baz=352,slow=10,SNR=107						
HFS				Sn	**S**	**20 59 15.2**	**-11**
	comp=Z,0.7nm,0.3s,baz=356,slow=24,SNR=7.5						
HFS				LR	LR	21 01 42.4	
	comp=Z,3μm,20.9s,baz=35,slow=36						
KAF	**Kangasniemi**	**14.35**	**119**	*ep*	**P**	**20 57 10.0**	**-3.0**
FIA0	**FINESS Array S**	**14.84**	**121**	P	**P**	**20 57 17.4**	**-2.0**
	baz=336,slow=16						
FINES	**FINESS Array B**	**14.84**	**121**	Pn	**P**	**20 57 17.4**	**-2.0**
	comp=Z,1.9nm,0.3s,baz=333,slow=13,SNR=58						
FINES				LR	LR	21 02 30.8	
	comp=Z,2μm,19.6s,baz=318,slow=35						
FINES	**FINESS Array B**	**14.84**	**121**	*eP*	**P**	**20 57 17.2**	**-2.2**
JOF	**Joensuu**	**15.13**	**110**	*ep*	**P**	**20 57 20.5**	**-2.7**
MUD	**Monsted U'grnd**	**16.11**	**159**	*i* P	**P**	**20 57 33.8**	**-2.1**
	comp=Z,29nm,1.1s						
MUD				*i*		21 00 59.6	
	comp=Z,1μm,16.0s						
MUD	**Monsted U'grnd**	**16.11**	**159**	*i* P	**P**	**20 57 33.8**	**-2.1**
MUD				pmax	pmax		
	comp=Z,29nm,1.1s						
EKA	**Eskdalemuir Ar**	**16.67**	**184**	Pn	**P**	**20 57 42.0**	**-1.0**
	comp=Z,0.3nm,0.3s,slow=12,SNR=9.9						
EKA	**Eskdalemuir Ar**	**16.67**	**184**	Pn	**P**	**20 57 42.0**	**-1.0**
COP	**Copenhagen**	**17.27**	**154**	*i* P	**P**	**20 57 50.2**	**-0.3**
	comp=Z,32nm,1.1s						
	comp=Z,900nm,20.0s						
BSD	**Bornholm Skovb**	**18.19**	**150**	⇑*iP*	**P**	**20 58 01.4**	**-0.7**
	comp=Z,54nm,0.9s						
BSD				*i*		20 58 17.2	
BSD	**Bornholm Skovb**	**18.19**	**150**	⇑*iP*	**P**	**20 58 01.4**	**-0.7**
BSD				pmax	pmax		
	comp=Z,54nm,0.9s						
RGN	**Rugen**	**18.50**	**153**	*eP*	**P**	**20 58 05.4**	**-0.5**
	comp=Z,176nm,1.2s						
RGN	**Rugen**	**18.50**	**153**	*eP*	**P**	**20 58 05.4**	**-0.5**
	comp=Z,176nm,1.2s						
BSEG	**Bad Segeberg**	**18.71**	**159**	*eP*	**P**	**20 58 08.9**	**+0.4**
WTSB	**Winterswijk**	**20.32**	**166**	*eP*	**P**	**20 58 25.4**	**-1.3**
GKP	**Gorka Klasztor**	**20.34**	**147**	*eP*	**P**	**20 58 26.0**	**-1.0**
GKP				MLR	MLR	21 05 59.8	
	comp=Z,2μm,19.7s,MS4.6						
GKP	**Gorka Klasztor**	**20.34**	**147**	*eP*	**P**	**20 58 26.0**	**-1.0**
GKP				LR	LR		
	comp=Z,2μm,19.7s,MS4.6						
RUE	**Ruedersdorf**	**20.57**	**153**	*eP*	**P**	**20 58 28.5**	**-0.9**
	comp=Z,183nm,1.4s						
CLZ	**Clausthal**	**20.78**	**160**	*eP*	**P**	**20 58 30.9**	**-0.6**
	comp=Z,140nm,1.5s						
CLZ	**Clausthal**	**20.78**	**160**	*eP*	**P**	**20 58 30.9**	**-0.6**
CLZ				pmax	pmax		
	comp=Z,140nm,1.5s						
SUW	**Suwalki**	**20.78**	**137**	*eP*	**P**	**20 58 30.1**	**-1.5**
SUW				MLR	MLR	21 06 02.3	
	comp=Z,2μm,18.7s,MS4.6						
HGN	**Heimansgroeve**	**21.46**	**168**	*eP*	**P**	**20 58 37.6**	**-0.8**
	comp=Z,40nm,1.8s,mb4.5						
HGN				*ex*	x	20 58 42.3	
	comp=Z,74nm,1.8s						
HGN				*eS*	**S**	**21 02 30.1**	**-1.3**
CLL	**Collm**	**21.62**	**155**	⇑P	**P**	**20 58 39.2**	**-0.8**
	comp=Z,logA/T=1.5,mb4.7						
CLL				*i* *PP		20 58 42.1	
CLL				*e*SP		20 58 45.0	
CLL				*e*		20 58 52.0	
CLL				*e*PP	PP	20 59 12.0	+7.4
CLL				*eS*	**S**	**21 02 39.0**	**+4.6**
CLL				*e*SS	SS	21 03 18.0	+7.6
CLL	**Collm**	**21.62**	**155**	⇑*iP*	**P**	**20 58 39.2**	**-0.8**
	comp=Z,40nm,1.4s,mb4.7						
CLL				*i* pP		20 58 42.1	
CLL				*eS*	**S**	**21 02 39.0**	**+4.6**
CLL				LR	LR		
	comp=Z,2μm,16.9s,MS4.5						
CLL	**Collm**	**21.62**	**155**	⇑*iP*	**P**	**20 58 39.2**	**-0.8**
CLL				*i* *PP		20 58 42.1	
CLL				*eS*	**S**	**21 02 39.0**	**+4.6**
CLL				pmax	pmax		
	comp=Z,40nm,1.4s,mb4.7						
CLL				MLR	MLR		
	comp=Z,2μm,16.9s,MS4.5						
MEM	**Membach**	**21.62**	**168**	P	**P**	**20 58 41.8**	**+1.8**
WAR	**Warsaw**	**22.02**	**142**	*eP*	**P**	**20 58 44.7**	**+0.7**
WAR				*ep*P		20 58 48.0	
WAR				MLR	MLR	21 06 25.2	
	comp=Z,1μm,24.7s,MS4.2						
WAR	**Warsaw**	**22.02**	**142**	*eP*	**P**	**20 58 44.7**	**+0.7**
WAR				*ep*P		20 58 48.0	
WAR				LR	LR		
	comp=Z,1μm,24.7s,MS4.2						
GIVF	**Givet**	**22.05**	**170**	*eP*	**P**	**20 58 43.9**	**-0.5**
BAIF	**Baives**	**22.06**	**171**	*eP*	**P**	**20 58 44.0**	**-0.5**
	comp=Z,250nm,1.7s,mb5.1						
BAIF	**Baives**	**22.06**	**171**	*eP*	**P**	**20 58 44.0**	**-0.5**
BAIF				pmax	pmax		
	comp=Z,125nm,1.7s,mb5.1						
MOX	**Moxa**	**22.10**	**158**	*i* P	**P**	**20 58 45.3**	**+0.5**
	comp=Z,logA/T=1.9,mb5.1						
MOX				L		21 07 32.0	
MOX	**Moxa**	**22.10**	**158**	*eP*	**P**	**20 58 45.3**	**+0.5**
	comp=Z,126nm,1.7s,mb5.1						
MOX				LR	LR		
	comp=Z,600nm,19.0s,MS4.0						
MOX	**Moxa**	**22.10**	**158**	*eP*	**P**	**20 58 45.3**	**+0.5**
MOX				pmax	pmax		
	comp=Z,126nm,1.7s,mb5.1						
MOX				MLR	MLR		
	comp=Z,600nm,19.0s,MS4.0						
BRG	**Berggiesshubel**	**22.17**	**154**	*eP*	**P**	**20 58 46.0**	**+0.5**
	comp=Z,88nm,1.8s,mb4.9						
BRG	**Berggiesshubel**	**22.17**	**154**	*eP*	**P**	**20 58 46.0**	**+0.4**
	comp=Z,88nm,1.8s,mb4.9						
BRG				LR	LR		
	comp=Z,1μm,26.9s,MS4.2						
BRG	**Berggiesshubel**	**22.17**	**154**	*eP*	**P**	**20 58 46.0**	**+0.5**
BRG				pmax	pmax		
	comp=Z,88nm,1.8s,mb4.9						
BRG				MLR	MLR		
	comp=Z,1μm,26.9s,MS4.2						
TNS	**Taunus Mts**	**22.19**	**164**	*eP*	**P**	**20 58 46.0**	**+0.2**
	comp=Z,206nm,1.9s,mb5.2						
TNS	**Taunus Mts**	**22.19**	**164**	*eP*	**P**	**20 58 46.0**	**+0.2**
TNS				pmax	pmax		
	comp=Z,206nm,1.9s,mb5.2						
ABH	**Alteburg**	**22.45**	**165**	*eP*	**P**	**20 58 48.7**	**+0.3**
KSP	**Ksiaz**	**22.54**	**150**	*eP*	**P**	**20 58 49.2**	**+0.2**
KSP				*ep*P		20 58 53.6	
KSP				MLR	MLR	21 06 39.9	
	comp=Z,2μm,23.1s,MS4.5						
KSP	**Ksiaz**	**22.54**	**150**	*eS*	**S**	**21 02 52.5**	**+1.3**
KSP	**Ksiaz**	**22.54**	**150**	*eP*	**P**	**20 58 49.1**	**+0.1**
KSP				*eS*	**S**	**21 02 52.5**	**+1.3**
KSP				LR	LR		
	comp=Z,3μm,15.7s,MS4.8						
WLF	**Walferdange**	**22.57**	**168**	*eP*	**P**	**20 58 49.9**	**+0.6**
	comp=Z,51nm,1.3s,mb4.8						
WLF	**Walferdange**	**22.57**	**168**	*eP*	**P**	**20 58 49.9**	**+0.6**
	comp=Z,51nm,1.3s,mb4.8						
WLF	**Walferdange**	**22.57**	**168**	*eP*	**P**	**20 58 49.9**	**+0.6**
WLF				pmax	pmax		
	comp=Z,51nm,1.3s,mb4.8						
PVCC	**Panska Ves**	**22.59**	**153**	*eP*	**P**	**20 58 50.2**	**+0.7**
PVCC				*ep*P		20 58 55.4	
PVCC				*eS*	**S**	**21 03 00.2**	**+8.0**
PVCC				AMS	AMS	21 08 30.0	
	comp=Z,1μm,15.1s						
NKC	**Novy Kostel**	**22.60**	**157**	*eP*	**P**	**20 58 50.7**	**+1.0**
NKC				*ep*P		20 58 55.5	
NKC				*eS*	**S**	**21 03 07.0**	**+15**
NKC				AMS	AMS	21 07 40.0	
	comp=Z,1μm,18.4s						
UPC	**Upice**	**22.82**	**151**	*eP*	**P**	**20 58 52.6**	**+0.8**
UPC				*ep*P		20 58 57.1	
TOD	**Tromm**	**22.83**	**163**	*eP*	**P**	**20 58 52.2**	**+0.2**
MOS	**Moscow**	**22.89**	**115**	*eP*	**P**	**20 58 51.6**	**-0.8**
MOS				*e*PPP	PPP	20 59 27.5	-4.3
MOS				*eS*	**S**	**21 03 03.7**	**+6.3**
MOS				pmax	pmax		
	comp=Z,300nm,1.5s,mb5.5						
MOS				pmax	pmax		
	comp=Z,146nm,1.3s,mb5.2						
MOS				MLR	MLR		
	comp=Z,3μm,16.0s,MS4.9						
MOS				MLR	MLR		
	comp=N,2μm,15.7s,MS4.8						
MOS				MLR	MLR		
	comp=E,600nm,14.8s,MS4.8						
GRA1	**Grafenberg Arr**	**22.99**	**159**	*eP*	**P**	**20 58 55.3**	**+1.8**
	comp=E,77nm,1.5s,mb4.9						
GRA1				LR	LR		
	comp=Z,1μm,21.7s,MS4.2						
GRF	**Grafenberg Arr**	**22.99**	**159**	*eP*	**P**	**20 58 55.3**	**+1.8**
	comp=Z,77nm,1.5s,mb4.9						
GRF				LR	LR		
	comp=Z,1μm,21.7s,MS4.2						
GRF	**Grafenberg Arr**	**22.99**	**159**	*eP*	**P**	**20 58 55.3**	**+1.8**
GRF				pmax	pmax		
	comp=Z,77nm,1.5s,mb4.9						
GRF				MLR	MLR		
	comp=Z,1μm,21.7s,MS4.2						
GRF	**Grafenberg Arr**	**22.99**	**159**	*eP*	**P**	**20 58 55.3**	**+1.8**
GRF				pmax	pmax		
	comp=Z,77nm,1.5s,mb4.9						
GRF				MLR	MLR		
	comp=Z,1μm,21.7s,MS4.2						
DPC	**Dobruska-Polom**	**23.02**	**151**	*eP*	**P**	**20 58 54.5**	**+0.7**
DPC				*ep*P		20 58 59.3	
DPC				*eS*	**S**	**21 03 10.5**	**+11**
DPC				AMS	AMS	21 08 20.0	
	comp=Z,1μm,16.4s						
DPC	**Dobruska-Polom**	**23.02**	**151**	*eP*	**P**	**20 58 54.5**	**+0.7**
DPC				*e*		20 58 59.3	
DPC				MLR	MLR		
	comp=Z,1μm,16.4s,MS4.5						
PRU	**Pruhonice**	**23.11**	**154**	*eP*	**P**	**20 58 55.5**	**+0.8**
PRU				*ep*P		20 59 00.5	
PRU				*eS*	**S**	**21 03 14.9**	**+13**
PRU				AMS	AMS	21 06 50.0	
	comp=Z,1μm,22.3s						
PRU	**Pruhonice**	**23.11**	**154**	*eP*	**P**	**20 58 55.5**	**+0.8**
PRU				*e*		20 59 00.5	
PRU				MLR	MLR		
	comp=Z,1μm,22.3s,MS4.3						
OBN	**Obninsk**	**23.13**	**117**	*eP*	**P**	**20 58 54.9**	**+0.1**
	comp=Z,189nm,1.1s,mb5.4						
OBN	**Obninsk**	**23.13**	**117**	α *iP*	**P**	**20 58 55.2**	**+0.4**
OBN				*i* *PP		20 58 59.9	
OBN				*e*		20 59 20.0	
OBN				*i* S	**S**	**21 03 10.5**	**+8.7**
OBN				pmax	pmax		
	comp=Z,56nm,1.2s,mb4.9						
OBN				MLR	MLR		
	comp=Z,600nm,10.0s,MS4.3						
FLN	**La Foliniere**	**23.23**	**179**	*eP*	**P**	**20 58 55.0**	**-0.8**
	comp=Z,42nm,0.8s,mb4.6						
FLN				*e*R			
	comp=Z,845nm,20.8s						
FLN	**La Foliniere**	**23.23**	**179**	*eP*	**P**	**20 58 55.0**	**-0.8**
FLN				pmax	pmax		
	comp=Z,21nm,0.8s,mb4.6						
FLN				MLR	MLR		
	comp=Z,840nm,20.8s,MS4.2						
LDF	**La Druitiere**	**23.40**	**178**	*eP*	**P**	**20 58 56.7**	**-0.8**
	comp=Z,136nm,1.2s,mb5.0						
LDF	**La Druitiere**	**23.40**	**178**	*eP*	**P**	**20 58 56.7**	**-0.8**
LDF				pmax	pmax		
	comp=Z,68nm,1.2s,mb5.0						
GRR	**Gorron**	**23.60**	**180**	*eP*	**P**	**20 58 58.7**	**-0.7**
	comp=Z,113nm,1.3s,mb4.8						
GRR	**Gorron**	**23.60**	**180**	*eP*	**P**	**20 58 58.7**	**-0.7**
GRR				pmax	pmax		
	comp=Z,56nm,1.3s,mb4.8						
MEZF	**Maizieres J'vi**	**23.66**	**170**	*eP*	**P**	**20 58 59.8**	**-0.2**
ROSF	**Rostrenen**	**23.68**	**184**	*eP*	**P**	**20 58 59.8**	**-0.3**
	comp=Z,98nm,1.2s,mb4.8						
ROSF	**Rostrenen**	**23.68**	**184**	*eP*	**P**	**20 58 59.8**	**-0.3**
ROSF				pmax	pmax		
	comp=Z,49nm,1.2s,mb4.8						
STU	**Stuttgart**	**23.70**	**163**	*eP*	**P**	**20 59 01.3**	**+1.0**
	comp=Z,27nm,0.9s,mb4.7						
STU	**Stuttgart**	**23.70**	**163**	*eP*	**P**	**20 59 01.3**	**+1.0**
	comp=Z,27nm,0.9s,mb4.7						
STU	**Stuttgart**	**23.70**	**163**	*eP*	**P**	**20 59 01.3**	**+1.0**
STU				pmax	pmax		
	comp=Z,27nm,0.9s,mb4.7						
OJC	**Ojcow**	**23.72**	**145**	*eP*	**P**	**20 59 00.9**	**+0.3**
WET	**Wettzell**	**23.73**	**157**	*eP*	**P**	**20 59 02.2**	**+1.6**
	comp=Z,72nm,2.2s,mb4.7						
WET	**Wettzell**	**23.73**	**157**	*eP*	**P**	**20 59 02.2**	**+1.6**
WET				pmax	pmax		
	comp=Z,72nm,2.2s,mb4.7						
SGMF	**Saint Gilles**	**23.75**	**182**	*eP*	**P**	**20 59 00.0**	**-0.8**
	comp=Z,124nm,1.5s,mb4.8						
SGMF	**Saint Gilles**	**23.75**	**182**	*eP*	**P**	**20 59 00.0**	**-0.8**
SGMF				pmax	pmax		
	comp=Z,62nm,1.5s,mb4.8						
MORC	**Moravsky Berou**	**23.77**	**149**	*eP*	**P**	**20 59 00.9**	**-0.1**
	comp=Z,20nm,1.0s,mb4.5						
MORC	**Moravsky Berou**	**23.77**	**149**	*eP*	**P**	**20 59 00.9**	**-0.1**
	comp=Z,20nm,1.0s,mb4.5						
MORC	**Moravsky Berou**	**23.77**	**149**	*eP*	**P**	**20 59 00.9**	**-0.1**
MORC				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.5						
OKC	**Ostrava-Krasne**	**23.81**	**148**	*eP*	**P**	**20 59 02.3**	**+0.9**
OKC				*ep*P		20 59 07.3	
OKC				*eS*	**S**	**21 03 28.6**	**+15**
OKC				AMS	AMS	21 08 50.0	
	comp=Z,1μm,14.1s						
KHC	**Kasperske Hory**	**23.83**	**156**	*eP*	**P**	**20 59 03.7**	**+2.1**
KHC				*ex*	x	20 59 14.5	
KHC				x	x	20 59 43.5	
KHC				*eS*	**S**	**21 03 24.4**	**+10**
KHC				AMS	AMS	21 08 40.0	
	comp=Z,1μm,20.1s						
KHC	**Kasperske Hory**	**23.83**	**156**	*eP*	**P**	**20 59 03.7**	**+2.1**
KHC				*e*		20 59 14.5	
KHC				*e*		20 59 43.5	
KHC				*eS*	**S**	**21 03 24.4**	**+10**
KHC				LR	LR		
	comp=Z,1μm,20.1s,MS4.4						
KHC	**Kasperske Hory**	**23.83**	**156**	*eP*	**P**	**20 59 03.7**	**+2.1**
KHC				*e*		20 59 43.5	
KHC				MLR	MLR		
	comp=Z,1μm,20.1s,MS4.4						
CDF	**Champ du Feu**	**23.89**	**166**	*eP*	**P**	**20 59 01.8**	**-0.5**
	comp=Z,103nm,1.5s,mb4.7						
CDF	**Champ du Feu**	**23.89**	**166**	*eP*	**P**	**20 59 01.8**	**-0.5**
CDF				pmax	pmax		
	comp=Z,52nm,1.5s,mb4.7						
WLS	**Welschbruch**	**23.90**	**166**	*eP*	**P**	**20 59 03.1**	**+0.8**
THEF	**They Montfort**	**23.99**	**168**	*eP*	**P**	**20 59 04.3**	**+1.1**
BFO	**Black Forest**	**24.06**	**164**	*eP*	**P**	**20 59 04.7**	**+0.8**
	comp=Z,23nm,1.3s,mb4.5						
BFO	**Black Forest**	**24.06**	**164**	*eP*	**P**	**20 59 04.7**	**+0.8**
BFO				pmax	pmax		
	comp=Z,23nm,1.3s,mb4.5						
VRAC	**Vranov**	**24.08**	**151**	P	**P**	**20 59 05.5**	**+1.5**
	comp=Z,13nm,0.9s,mb4.4,baz=347,slow=11,SNR=22						
VRAC				LR	LR	21 08 47.1	
	comp=Z,1μm,19.7s,MS4.4,baz=348,slow=37						
ECH	**Echery**	**24.08**	**166**	*eP*	**P**	**20 59 05.0**	**+0.9**
QUIF	**Quistinic**	**24.09**	**183**	*eP*	**P**	**20 59 03.6**	**-0.6**
	comp=Z,26nm,0.9s,mb4.4						
QUIF	**Quistinic**	**24.09**	**183**	*eP*	**P**	**20 59 03.6**	**-0.6**
QUIF				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.4						
GEC2	**GERESS Array S**	**24.12**	**156**	*eP*	**P**	**20 59 06.2**	**+1.7**
	comp=Z,26nm,1.6s,mb4.4						
GEC2	**GERESS Array S**	**24.12**	**156**	*eP*	**P**	**20 59 06.2**	**+1.7**
GEC2				pmax	pmax		
	comp=Z,26nm,1.6s,mb4.4						
GERES	**GERESS Array B**	**24.12**	**156**	P	**P**	**20 59 06.2**	**+1.7**
	comp=Z,4.3nm,0.9s,mb3.9,baz=350,slow=8.1,SNR=19						
GERES				LR	LR	21 08 55.6	
	comp=Z,958nm,19.1s,MS4.3,baz=338,slow=38						
HAU	**Haudompre**	**24.23**	**168**	*eP*	**P**	**20 59 05.2**	**-0.4**
	comp=Z,45nm,1.2s,mb4.5						
HAU				*e*R			
	comp=Z,566nm,17.0s						
HAU	**Haudompre**	**24.23**	**168**	*eP*	**P**	**20 59 05.2**	**-0.4**
HAU				pmax	pmax		
	comp=Z,22nm,1.2s,mb4.5						
HAU				MLR	MLR		
	comp=Z,570nm,17.0s,MS4.1						
MOF	**Molkenrain**	**24.44**	**167**	*eP*	**P**	**20 59 08.1**	**+0.5**
HINF	**Hinte

CRVS Cervenica-Dubn 25.29 144 *e*pP pP 20 59 21.5 +2.9
CRVS *e* 20 59 35.8
MOTA Moosalm 25.30 160⇑ *i*P **P 20 59 16.6 +0.8**
comp=Z,20nm,1.4s,mb4.5
MOTA Moosalm 25.30 160⇑ *i*P **P 20 59 16.6 +0.8**
MOTA pmax pmax
comp=Z,20nm,1.4s,mb4.5
WATA Walderalm 25.36 160⇑ *i*P **P 20 59 17.2 +0.8**
comp=Z,17nm,1.3s,mb4.4
WATA Walderalm 25.36 160⇑ *i*P **P 20 59 17.2 +0.8**
WATA pmax pmax
comp=Z,17nm,1.3s,mb4.4
MFF Saint Martin d 25.39 178 *e*P **P 20 59 15.7 -1.0**
comp=Z,75nm,1.2s,mb4.8
MFF Saint Martin d 25.39 178 *e*P **P 20 59 15.7 -1.0**
MFF pmax pmax
comp=Z,38nm,1.2s,mb4.8
SQTA Sankt Quirin 25.43 160⇑ *i*P **P 20 59 18.1 +1.0**
comp=Z,20nm,1.3s,mb4.5
SQTA Sankt Quirin 25.43 160⇑ *i*P **P 20 59 18.1 +1.0**
SQTA pmax pmax
comp=Z,20nm,1.3s,mb4.5
WTTA Wattenberg 25.43 160⇑ *i*P **P 20 59 18.4 +1.3**
comp=Z,54nm,1.8s,mb4.8
WTTA Wattenberg 25.43 160⇑ *i*P **P 20 59 18.4 +1.3**
WTTA pmax pmax
comp=Z,54nm,1.8s,mb4.8
SMF Signal de Mont 25.45 172 *e*P **P 20 59 17.3 0.0**
comp=Z,59nm,1.2s,mb4.7
SMF Signal de Mont 25.45 172 *e*P **P 20 59 17.3 0.0**
SMF pmax pmax
comp=Z,30nm,1.2s,mb4.7
BGF Bois d'Agland 25.50 174 *e*P **P 20 59 17.3 -0.4**
comp=Z,45nm,0.9s,mb4.7
BGF Bois d'Agland 25.50 174 *e*P **P 20 59 17.3 -0.4**
BGF pmax pmax
comp=Z,23nm,0.9s,mb4.7
KECS Kecovo 25.52 145 *e*P **P 20 59 18.3 +0.4**
SOKR Solikamsk 25.55 88⇓ *i*P **P 20 59 19.0 +1.0**
SOKR pmax pmax
comp=Z,30nm,1.0s,mb4.8
SOKR MLR MLR
comp=Z,670nm,16.0s,MS4.3
CABF La Chapelle 25.61 169 *e*P **P 20 59 18.2 -0.5**
comp=Z,92nm,1.5s,mb4.8
CABF La Chapelle 25.61 169 *e*P **P 20 59 18.2 -0.5**
CABF pmax pmax
comp=Z,46nm,1.5s,mb4.8
DAVOX Davos 25.73 162 P **P 20 59 22.0 +2.1**
comp=Z,2.3nm,0.7s,mb3.8,baz=323,slow=10,SNR=3.0
DAVOX LR LR 21 09 20.5
comp=Z,614nm,22.0s,MS4.1,baz=354,slow=36
TCF Toulx Ste Croi 25.75 175 *e*P **P 20 59 19.6 -0.5**
comp=Z,74nm,1.2s,mb4.8
TCF Toulx Ste Croi 25.75 175 *e*P **P 20 59 19.6 -0.5**
TCF pmax pmax
comp=Z,37nm,1.2s,mb4.8
KBA Koelnbreinsper 25.81 157⇑ *i*P **P 20 59 21.8 +1.1**
comp=Z,23nm,1.8s,mb4.4
KBA Koelnbreinsper 25.81 157⇑ *i*P **P 20 59 21.8 +1.1**
KBA pmax pmax
comp=Z,23nm,1.8s,mb4.4
ARSA Arzberg 25.93 154⇑ *i*P **P 20 59 22.7 +1.0**
comp=Z,81nm,3.0s
PSZ Piszkesteto 25.96 147 *e*P **P 20 59 23.1 +1.1**
PSZ Piszkesteto 25.96 147 *e*P **P 20 59 22.5 +0.5**
comp=Z,21nm,1.2s,mb4.5
PSZ Piszkesteto 25.96 147 *e*P **P 20 59 22.4 +0.4**
comp=Z,21nm,1.2s,mb4.5
PSZ Piszkesteto 25.96 147 *e*P **P 20 59 22.5 +0.5**
PSZ pmax pmax
comp=Z,21nm,1.2s,mb4.5
AGO Saint Agoulin 26.02 173 *e*P **P 20 59 24.3 +1.8**
PLDF La Plantade 26.12 173 *e*P **P 20 59 25.3 +1.8**
PYM Petit Puy Mans 26.31 174 *e*P **P 20 59 27.2 +1.9**
RJF Les Rejaudoux 26.72 176 *e*P **P 20 59 28.0 -1.0**
comp=Z,81nm,1.3s,mb4.8
RJF *e*R
comp=Z,706nm,18.8s
RJF Les Rejaudoux 26.72 176 *e*P **P 20 59 28.0 -1.0**
RJF pmax pmax
comp=Z,40nm,1.3s,mb4.8
RJF MLR MLR
comp=Z,710nm,18.8s,MS4.2
LPL La Plagne 26.74 168 *e*P **P 20 59 28.8 -0.4**
comp=Z,34nm,1.4s,mb4.4
LPL La Plagne 26.74 168 *e*P **P 20 59 28.8 -0.4**
LPL pmax pmax
comp=Z,17nm,1.4s,mb4.4
LPG La Plagne 26.76 168 *e*P **P 20 59 29.0 -0.4**
comp=Z,34nm,1.3s,mb4.4
LPG La Plagne 26.76 168 *e*P **P 20 59 29.0 -0.4**
LPG pmax pmax
comp=Z,17nm,1.3s,mb4.4
VOR Voronezh 26.86 117 *e*P **P 20 59 29.5 -0.8**
VOR pmax pmax
comp=Z,70nm,1.5s,mb5.0
VOR pmax pmax
comp=N,90nm,1.4s
VOR pmax pmax
comp=E,70nm,1.5s
VOR pmax pmax
comp=N,140nm,1.7s
VOR pmax pmax
comp=Z,120nm,1.7s,mb5.2
VOR pmax pmax
comp=E,270nm,1.6s
LFF La Frestale 27.07 177 *e*P **P 20 59 31.7 -0.5**
comp=E,71nm,1.4s,mb4.7
LFF La Frestale 27.07 177 *e*P **P 20 59 31.7 -0.5**
LFF pmax pmax
comp=Z,36nm,1.4s,mb4.7
CAF Calviac 27.11 175 *e*P **P 20 59 31.9 -0.7**
comp=Z,33nm,1.3s,mb4.4
CAF Calviac 27.11 175 *e*P **P 20 59 31.9 -0.7**
CAF pmax pmax
comp=Z,16nm,1.3s,mb4.4
BNI Bardonecchia 27.20 168 *e*P **P 20 59 33.9 +0.5**
comp=Z,27nm,1.3s,mb4.6
BNI Bardonecchia 27.20 168 *e*P **P 20 59 33.9 +0.6**
comp=Z,27nm,1.3s,mb4.6
BNI Bardonecchia 27.20 168 *e*P **P 20 59 33.9 +0.5**
BNI pmax pmax
comp=Z,27nm,1.3s,mb4.6
BURAR Bucovina Array 27.26 139⇑ *i*P **P 20 59 34.3 +0.4**
BURAR Bucovina Array 27.26 139⇑ *i*P **P 20 59 34.2 +0.3**
VIVF Saint-Julien-l 27.28 171 *e*P **P 20 59 33.5 -0.6**
ORIF Oris-en-Rattie 27.28 169 *e*P **P 20 59 33.8 -0.4**
ORIF *e*R
comp=Z,834nm,21.2s
VRSR Storozhevoye 27.32 118 *e*P **P 20 59 33.9 -0.6**
VRSR *e**PP pP 20 59 39.4 +2.0
VRSR pmax pmax
comp=N,100nm,1.0s
VRSR pmax pmax
comp=E,40nm,1.0s
VRSR pmax pmax
comp=Z,50nm,1.0s,mb5.0
VRSR pmax pmax
comp=N,1μm,18.0s
VRSR pmax pmax
comp=Z,2μm,18.0s
VRSR pmax pmax
comp=E,540nm,19.0s
MBDF Montbardon 27.52 168 *e*P **P 20 59 35.5 -0.9**
comp=E,27nm,1.1s,mb4.5
MBDF Montbardon 27.52 168 *e*P **P 20 59 35.5 -0.9**
MBDF pmax pmax
comp=Z,14nm,1.1s,mb4.5
DRGR 27.55 143⇑ *i*P **P 20 59 35.8 -0.8**
DRGR 27.55 143⇑ *i*P **P 20 59 35.8 -0.8**
LASF Ste Croix 28.02 172 *e*P **P 20 59 40.5 -0.4**
VRHR Novokhopersk 28.11 115 *e*P **P 20 59 39.2 -2.5**
VRHR *e**PP pP 20 59 43.9 -0.7
VRHR *e*S **S 21 04 16.0 -9.1**
VRHR pmax pmax
comp=Z,30nm,1.2s,mb4.8
VRHR pmax pmax
comp=N,40nm,1.1s
VRHR pmax pmax
comp=E,10.0nm,0.7s
VRHR pmax pmax
comp=Z,90nm,1.5s,mb5.2
VRHR pmax pmax
comp=N,250nm,1.3s
VRHR pmax pmax
comp=E,70nm,1.5s
VRHR smax
comp=N,30nm,0.8s
VRHR smax
comp=E,6.0nm,0.8s
VRHR smax
comp=Z,2.0nm,0.8s
VRHR MLR MLR
comp=N,2μm,16.0s,MS4.8
VRHR MLR MLR
comp=Z,3μm,16.0s,MS5.0
VRHR MLR MLR
comp=E,920nm,18.0s,MS4.8
SMRF Simiane la Rot 28.20 170 *e*P **P 20 59 42.0 -0.5**
comp=E,7.5nm,1.0s,mb4.0
TOUF Mont Tournerai 28.27 167 *e*P **P 20 59 44.8 +1.7**
AUTN L'Aution 28.30 167 *e*P **P 20 59 44.2 +0.8**
SAOF Saorge 28.32 167 *e*P **P 20 59 44.9 +1.3**
SBF Sospel 28.43 167 *e*P **P 20 59 44.0 -0.6**
comp=E,57nm,1.3s,mb4.8
SBF Sospel 28.43 167 *e*P **P 20 59 44.0 -0.6**
SBF pmax pmax
comp=Z,28nm,1.3s,mb4.7
CALN Calern 28.50 168 *e*P **P 20 59 46.3 +1.1**
KIS Kishinev 28.61 135 *e*P **P 20 59 48.0 +1.8**
KIS *e* 21 04 36.0
KIS MLR MLR
comp=Z,2μm,16.0s,MS4.8
KIS MLR MLR
comp=Z,20μm,16.0s
ARU Arti 28.65 91 *e*P **P 20 59 46.7 +0.3**
comp=Z,68nm,1.6s,mb5.1
ARU Arti 28.65 91 *e*P **P 20 59 46.7 +0.2**
comp=Z,68nm,1.6s,mb5.1
ARU Arti 28.65 91⇑ *i*P **P 20 59 46.6 +0.2**
ARU *e* 21 00 38.3
ARU *e* 21 03 00.0
ARU *e*S **S 21 04 34.5 +0.9**
ARU *e*SS SS 21 05 57.3 -2.4
ARU *e*SSS SSS 21 06 18.0 -1.1
ARU pmax pmax
comp=Z,14nm,1.0s,mb4.7
ARU MLR MLR
comp=Z,800nm,19.0s,MS4.3
ARU MLR MLR
comp=N,500nm,18.0s,MS4.2
ARU MLR MLR
comp=E,300nm,20.0s,MS4.2
FRF La Foret Royal 28.68 168 *e*P **P 20 59 45.9 -0.9**
comp=E,15nm,1.3s,mb4.3
FRF La Foret Royal 28.68 168 *e*P **P 20 59 45.9 -0.9**
FRF pmax pmax
comp=Z,7.0nm,1.3s,mb4.2
MTLF Montolieu 28.70 175 *e*P **P 20 59 46.5 -0.5**
SJPF Ste Jean 28.88 180 *e*P **P 20 59 48.0 -0.6**
LMR La Mourre 28.90 168 *e*P **P 20 59 48.0 -0.8**
EPF Esparros 28.97 178 *e*P **P 20 59 48.6 -0.8**
comp=Z,9.9nm,0.7s,mb4.3
EPF Esparros 28.97 178 *e*P **P 20 59 48.6 -0.8**
EPF pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
SVE Sverdlovsk 28.97 88 *e*P **P 20 59 55.5 +6.2**
SVE MLR MLR
comp=N,500nm,16.0s
SVE MLR MLR
comp=Z,500nm,16.0s,MS4.2
ETSF Etsaut 29.09 179 *e*P **P 20 59 49.9 -0.7**
comp=Z,52nm,1.6s,mb4.7
ETSF Etsaut 29.09 179 *e*P **P 20 59 49.9 -0.7**
ETSF pmax pmax
comp=Z,26nm,1.6s,mb4.7
VRI Vrincioaia 29.24 138⇓ *i*P **P 20 59 52.4 +0.6**
VRI Vrincioaia 29.24 138⇑ *i*P **P 20 59 52.4 +0.6**
VRI Vrincioaia 29.24 138⇑ *i*P **P 20 59 52.4 +0.6**
MLR Muntele Rosu 29.43 139 P **P 20 59 54.9 +1.3**
comp=Z,7.2nm,0.9s,mb4.4,baz=334,slow=4.5,SNR=8.1
MLR LR LR 21 11 58.9
comp=Z,2μm,19.2s,MS4.8,baz=336,slow=37
MLR Muntele Rosu 29.43 139⇑ *i*P **P 20 59 54.1 +0.5**
MLR Muntele Rosu 29.43 139⇑ *i*P **P 20 59 54.1 +0.5**
MLR Muntele Rosu 29.43 139 P **P 20 59 54.9 +1.3**
MLR pmax pmax
comp=Z,7.0nm,1.0s
MLR MLR MLR
comp=Z,2μm,19.2s
PGF Pioggiola 29.86 165 *e*P **P 20 59 56.1 -1.3**
comp=Z,66nm,1.5s,mb4.8
PGF Pioggiola 29.86 165 *e*P **P 20 59 56.1 -1.3**
PGF pmax pmax
comp=Z,33nm,1.5s,mb4.8
PBRG Braganca 30.32 188 *e*P **P 21 00 02.1 +0.6**
MTE Manteigas 31.75 189 *e*P **P 21 00 14.5 +0.3**
comp=Z,25nm,1.6s,mb4.8
SCHQ Schefferville 31.89 273 P **P 21 00 14.4 -0.8**
comp=Z,7.6nm,1.0s,mb4.5,baz=37,slow=8.3,SNR=8.8
SCHQ LR LR 21 11 50.3
comp=Z,847nm,21.0s,MS4.4,baz=60,slow=34
SCHQ Schefferville 31.89 273 *e*P **P 21 00 13.6 -1.6**
comp=Z,31nm,1.4s,mb5.0
SCHQ Schefferville 31.89 273 *e*P **P 21 00 13.6 -1.6**
comp=Z,31nm,1.4s,mb5.0
PCBR Castelo Branco 32.31 189 *e*P **P 21 00 19.5 +0.5**
ESDC Sonseca Array 32.35 184 P **P 21 00 18.7 -0.7**
comp=Z,1.5nm,0.7s,mb4.0,baz=1.8,slow=8.8,SNR=8.6
ESLA Sonseca Array 32.35 184 *e*P **P 21 00 18.5 -0.9**
comp=Z,7.1nm,1.4s,mb4.3
ESLA Sonseca Array 32.35 184 *e*P **P 21 00 18.5 -0.9**
comp=Z,7.1nm,1.4s,mb4.3
ANN Anapa 32.74 125 *e*P **P 21 00 22.4 -0.4**
ANN *e*S **S 21 05 37.1 -1.2**
ANN pmax pmax
comp=Z,60nm,1.5s,mb5.3
ANN MLR MLR
comp=N,595nm,16.0s,MS4.5
ANN MLR MLR
comp=E,378nm,16.0s,MS4.5
ANN MLR MLR
comp=Z,2μm,16.0s,MS4.9
TIXI Tiksi 33.12 26 *e*P **P 21 00 26.2 +0.4**
TIXI pmax pmax
comp=Z,34nm,1.4s,mb5.1
GOF Gofitskoye 34.00 118⇑ *i*P **P 21 00 31.3 -2.4**
GOF *i* 21 00 38.5
GOF pmax pmax
comp=Z,90nm,1.3s,mb5.5
PBEJ Beja 34.14 190 *e*P **P 21 00 34.6 -0.3**
SOC Sochi 34.47 123 *e*P **P 21 00 37.6 -0.2**
SOC *e*S **S 21 06 02.4 -2.7**
SOC pmax pmax
comp=N,28nm,0.9s
SOC pmax pmax
comp=Z,21nm,0.9s,mb5.1
SOC pmax pmax
comp=E,7.0nm,0.6s
SOC MLR MLR
comp=N,1μm,18.0s,MS4.6
SOC MLR MLR
comp=E,472nm,18.0s,MS4.6
SOC MLR MLR
comp=Z,1μm,18.0s,MS4.7
KIV Kislovodsk 34.92 119 *e*P **P 21 00 41.8 +0.2**
comp=Z,40nm,1.3s,mb5.2
KIV Kislovodsk 34.92 119 *e*P **P 21 00 41.8 +0.2**
comp=Z,40nm,1.3s,mb5.2
KIV Kislovodsk 34.92 119 *i* P **P 21 00 42.1 +0.5**
KIV pmax pmax
comp=Z,46nm,1.7s,mb5.1
BRVK Borovoye 35.15 83 *e*P **P 21 00 44.5 +1.0**
comp=Z,8.1nm,1.3s,mb4.5
BRVK Borovoye 35.15 83 *e*P **P 21 00 44.5 +1.1**
comp=Z,8.1nm,1.3s,mb4.5
BRVK Borovoye 35.15 83 *e*P **P 21 00 44.6 +1.1**
BRVK pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
VAE Valguarnera 35.41 158 LR LR 21 16 26.8
comp=Z,852nm,18.4s,MS4.5,baz=82,slow=38
INK Inuvik 36.53 333 P **P 21 00 54.3 -0.7**
comp=Z,22nm,1.1s,mb4.9,baz=36,slow=11,SNR=12
INK Inuvik 36.53 333 *e*P **P 21 00 54.2 -0.8**
comp=Z,40nm,1.3s,mb5.1
INK Inuvik 36.53 333 *e*P **P 21 00 54.2 -0.8**
comp=Z,40nm,1.3s,mb5.1
INK Inuvik 36.53 333 *e*P **P 21 00 54.2 -0.8**
INK pmax pmax
comp=Z,40nm,1.3s
BR131 Keskin Array S 36.61 133 *e*P **P 21 00 56.9 +0.9**
comp=Z,1.3nm,0.6s,mb3.9
BR131 Keskin Array S 36.61 133 *e*P **P 21 00 56.9 +0.9**
comp=Z,1.3nm,0.6s,mb3.9
BRTR Keskin Array B 36.61 133 P **P 21 00 57.3 +1.3**
comp=Z,6.1nm,1.1s,mb4.3,baz=333,slow=5.5,SNR=11
TBLG Delisi 37.55 118 P **P 21 01 04.8 +1.0**
TBLG S PP 21 02 25.3 -6.8
NVS Novosibirsk 37.55 71 *e*P **P 21 01 04.0 +0.3**
NVS pmax pmax
comp=Z,13nm,1.3s,mb4.5
NVS pmax pmax
comp=N,9.0nm,1.6s
NVS pmax pmax
comp=E,6.0nm,1.4s
ISP Isparta 37.72 137 *e*P **P 21 01 05.9 +0.6**
YKW3 Yellowknife Ar 38.36 317 *e*P **P 21 01 10.2 -0.2**
YKW3 Yellowknife Ar 38.36 317 *e*PcP PcP 21 03 23.1 -1.5
YKW3 Yellowknife Ar 38.36 317 *e*P **P 21 01 10.2 -0.2**
YKW3 *e*PcP PcP 21 03 23.1 -1.6
YKA Yellowknife Ar 38.42 317 P **P 21 01 10.6 -0.3**
comp=E,8.8nm,1.1s,mb4.4,baz=25,slow=8.8,SNR=20
YKA PcP PcP 21 03 23.6 -1.2
comp=E,5.7nm,0.9s,baz=22,slow=2.9,SNR=16
YKA Yellowknife Ar 38.42 317 PcP PcP 21 03 23.6 -1.2
ZAL Zalesovo 38.80 70 P **P 21 01 14.2 0.0**
comp=E,0.8nm,0.5s,mb3.7,baz=140,slow=9.1,SNR=7.6
ZAL PcP PcP 21 03 26.4 +0.3
comp=E,1.7nm,1.0s,baz=174,slow=14,SNR=3.7
ZAL LR LR 21 21 07.6
comp=E,358nm,20.0s,MS4.2,baz=140,slow=42
ZAL Zalesovo 38.80 70 PcP PcP 21 03 26.4 +0.3
GNI Garni 39.02 119 *e*P **P 21 01 17.7 +1.5**
comp=E,62nm,1.4s,mb5.1
GNI Garni 39.02 119 *e*P **P 21 01 17.7 +1.5**
comp=E,62nm,1.4s,mb5.1
GNI Garni 39.02 119 *e*P **P 21 01 17.7 +1.5**
GNI pmax pmax
comp=Z,61nm,1.4s
MALT Malatya 39.10 127 *e*P **P 21 01 18.6 +1.7**
comp=Z,51nm,1.7s,mb5.0
MALT Malatya 39.10 127 *e*P **P 21 01 18.6 +1.8**
comp=Z,51nm,1.7s,mb5.0
MALT Malatya 39.10 127 *e*P **P 21 01 18.6 +1.7**
MALT pmax pmax
comp=Z,51nm,1.7s,mb5.0
IDI Anoyia 39.10 145 LR LR 21 18 49.8
comp=Z,486nm,18.2s,MS4.4,baz=274,slow=38
MDT Midelt 39.20 185 P **P 21 01 18.9 +1.1**
comp=Z,1.9nm,0.9s,mb3.8,baz=30,slow=13,SNR=3.1
MDT LR LR 21 16 01.5
comp=Z,296nm,19.7s,MS4.1,baz=193,slow=34
KURK Kurchatov 39.76 78 *e*P **P 21 01 22.8 +0.6**
comp=Z,20nm,1.3s,mb4.7
KURK Kurchatov 39.76 78 *e*P **P 21 01 22.8 +0.6**
KURK pmax pmax
comp=Z,20nm,1.3s,mb4.7
BILL Bilibino 40.04 7*c* *i*P **P 21 01 26.0 +1.6**
BILL pmax pmax
comp=Z,22nm,1.3s,mb4.7
IMA Indian Mountai 41.04 343 *e*P **P 21 01 34.1 +1.5**
comp=Z,13nm,1.5s,mb4.3
IMA Indian Mountai 41.04 343 *e*P **P 21 01 34.1 +1.5**
IMA pmax pmax
comp=Z,13nm,1.5s,mb4.3
CSS Prodhromos 41.10 135 *e*P **P 21 01 33.7 +0.3**
comp=Z,71nm,1.6s,mb5.0
CSS Prodhromos 41.10 135 *e*P **P 21 01 33.7 +0.3**
comp=Z,71nm,1.6s,mb5.0
ILAR Eielson Array 41.62 339 P **P 21 01 38.5 +1.4**
comp=Z,8.3nm,1.1s,mb4.3,baz=5.1,slow=7.4,SNR=45
ILAR PcP PcP 21 03 33.9 -1.0
comp=Z,3.1nm,0.8s,baz=324,slow=3.4,SNR=12
ILAR LR LR 21 22 14.5
comp=Z,292nm,18.2s,MS4.2,baz=33,slow=41
ILAR Eielson Array 41.62 339 P **P 21 01 38.5 +1.4**
ILAR Eielson Array 41.62 339 PcP PcP 21 03 33.8 -1.0
YAK Yakutsk 42.13 32 *e*P **P 21 01 40.9 -0.5**
YAK pmax pmax
comp=Z,14nm,1.1s,mb4.5
FRNY Flat Rock 42.75 271 *e*P **P 21 01 46.7 +0.1**
FRNY Flat Rock 42.75 271 *e*P **P 21 01 46.7 +0.1**
MCK McKinley 42.86 340 *e*P **P 21 01 48.3 +1.0**
comp=Z,12nm,1.4s,mb4.4
MCK McKinley 42.86 340 *e*P **P 21 01 48.3 +1.1**
comp=Z,12nm,1.4s,mb4.4
BOD Bodaibo 42.98 45 *e*P **P 21 01 45.9 -2.5**
BOD pmax pmax
comp=Z,11nm,1.6s,mb4.3
MIV Mineville/With 43.41 271 *e*P **P 21 01 52.7 +0.6**
MIV Mineville/With 43.41 271 *e*P **P 21 01 52.7 +0.6**
MKAR Makanchi Array 44.36 77 P **P 21 02 01.1 +1.4**
comp=Z,4.6nm,1.0s,mb4.2,baz=342,slow=7.7,SNR=18
MKAR PcP PcP 21 03 43.4 -0.9
comp=Z,2.4nm,1.1s,slow=4.9,SNR=4.3
MKAR LR LR 21 23 18.5
comp=Z,324nm,18.8s,MS4.3,baz=351,slow=40
ULM Lac du Bonnet 44.63 294 P **P 21 02 01.9 0.0**
comp=Z,12nm,1.2s,mb4.6,baz=22,slow=8.0,SNR=7.2
ULM LR LR 21 20 21.0
comp=Z,601nm,18.7s,MS4.5,baz=270,slow=36
SML Sawmill 44.66 339 *e*P **P 21 02 02.0 +0.1**
MOY Mondy 45.37 59 *e*P **P 21 02 10.3 +2.6**
MOY pmax pmax
comp=Z,31nm,1.6s,mb4.9
AAK Ala-Archa 45.70 87 *e*P **P 21 02 12.2 +1.8**
comp=Z,8.9nm,1.2s,mb4.6
AAK Ala-Archa 45.70 87 *e*P **P 21 02 12.2 +1.8**
comp=Z,8.9nm,1.2s,mb4.6
AAK Ala-Archa 45.70 87 *e*P **P 21 02 12.2 +1.8**
AAK pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
BINY Binghamton 45.88 272 *e*P **P 21 02 12.8 +0.9**
comp=Z,30nm,1.2s,mb5.1
BINY Binghamton 45.88 272 *e*P **P 21 02 12.8 +0.9**
comp=Z,30nm,1.2s,mb5.1
SVW2 Sparrevohn 46.10 343 *e*P **P 21 02 14.9 +1.5**
SLKM Skilak Lake 46.14 339 *e*P **P 21 02 14.4 +0.7**
SLKM Skilak Lake 46.14 339 *e*P **P 21 02 14.4 +0.7**
CLNS Chul'man 46.15 38 *e*P **P 21 02 14.4 +0.6**
CLNS pmax pmax
comp=Z,64nm,1.0s,mb5.5
CLNS pmax pmax
comp=N,42nm,1.1s
CLNS pmax pmax
comp=E,22nm,1.0s
EDM Edmonton 46.54 310 *e*P **P 21 02 16.9 0.0**
EDM Edmonton 46.54 310 *e*P **P 21 02 16.9 0.0**
ZAK Zakamensk 47.15 58 *e*P **P 21 02 21.1 -0.7**
ZAK *e* 21 03 53.8
ZAK pmax pmax
comp=Z,2.0nm,1.4s,mb3.9
ZAK pmax pmax
comp=Z,2.0nm,1.3s,mb3.9
ALLY Alegheny Colle 47.67 276 *e*P **P 21 02 26.5 +0.4**
WMQ Urumqi 48.68 74 P **P 21 02 35.0 +1.2**
WMQ XP sP 21 02 42.0 +3.9
WMQ PP PP 21 04 28.0 +1.1
WMQ AMB AMB
comp=Z,16nm,1.0s,mb5.0
WMQ AMB AMB
comp=Z,134nm,5.0s
WMQ LR LR
comp=N,221nm,14.0s,MS4.7
WMQ LR LR
comp=E,438nm,14.0s,MS4.7
WMQ LR LR
comp=Z,378nm,14.0s,MS4.5
MIB Mutribah 49.47 121 *e*P **P 21 02 41.1 +1.1**
MIB AMb AMB 21 02 42.4
comp=Z,46nm,0.9s,mb5.5
UMR Umm Al-Rimmam 49.80 121 *e*P **P 21 02 43.6 +0.9**
UMR AMb AMB 21 02 46.7
comp=Z,53nm,1.0s,mb5.5
KBD Kabd 50.16 121 *e*P **P 21 02 46.3 +0.9**
KBD AMb AMB 21 02 49.3
comp=Z,134nm,1.1s,mb5.9
SONM Songino Array 50.30 57 P **P 21 02 47.5 +1.2**
comp=Z,4.7nm,1.2s,mb4.4,baz=326,slow=5.3,SNR=10
SONM PcP PcP 21 04 05.8 +0.5
comp=Z,0.5nm,0.5s,baz=333,slow=3.2,SNR=2.7
RDF Al-Radifah 50.35 121 *e*P **P 21 02 47.3 +0.4**
RDF AMb AMB 21 02 50.6
comp=Z,41nm,0.9s,mb5.5
ULN Ulaanbaatar 50.44 56 *e*P **P 21 02 48.6 +1.3**
comp=Z,3.5nm,0.9s,mb4.4
ULN Ulaanbaatar 50.44 56 *e*P **P 21 02 48.6 +1.3**

comp=Z,3.5nm,0.9s,mb4.4
ULN Ulaanbaatar 50.44 56 eP P 21 02 48.6 +1.3
ULN pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
BLA Blacksburg 51.81 273 eP P 21 02 58.1 +0.2
comp=Z,52nm,1.4s,mb5.3
BLA Blacksburg 51.81 273 eP P 21 02 58.1 +0.2
comp=Z,52nm,1.4s,mb5.3
BLA Blacksburg 51.81 273 eP P 21 02 58.1 +0.2
BLA pmax pmax
comp=Z,52nm,1.4s,mb5.3
ELN Prospectdale 51.90 274 eP P 21 02 58.1 -0.4
ELN Prospectdale 51.90 274 eP P 21 02 58.1 -0.5
NEW Newport 52.04 310 eP P 21 02 59.0 -0.4
comp=Z,8.7nm,1.1s,mb4.6
NEW Newport 52.04 310 eP P 21 02 59.0 -0.4
comp=Z,8.7nm,1.1s,mb4.6
NEW LR LR
comp=Z,969nm,20.0s,MS4.8
NEW Newport 52.04 310 eP P 21 02 59.0 -0.4
NEW pmax pmax
comp=Z,9.0nm,1.1s
NEW MLR MLR
comp=Z,969nm,20.0s
HIA Hailar 52.20 45 eP P 21 03 00.8 +0.2
comp=Z,20nm,1.3s,mb4.9
HIA Hailar 52.20 45 eP P 21 03 00.8 +0.2
comp=Z,20nm,1.3s,mb4.9
HIA Hailar 52.20 45 eP P 21 03 00.8 +0.2
HIA pmax pmax
comp=Z,20nm,1.3s
CHMT Chamberlain Mo 52.35 307 eP P 21 03 00.9 -0.9
MSO Missoula 52.60 307 eP P 21 03 03.1 -0.6
comp=Z,23nm,1.6s,mb4.9
MSO Missoula 52.60 307 eP P 21 03 03.1 -0.6
comp=Z,23nm,1.6s,mb4.9
WCI Wyandotte Cave 52.70 279 eP P 21 03 04.2 -0.3
comp=Z,20nm,1.0s,mb5.0
WCI Wyandotte Cave 52.70 279 eP P 21 03 04.2 -0.4
comp=Z,20nm,1.0s,mb5.0
TZTN Tazewell 53.40 276 eP P 21 03 09.4 -0.4
TZTN Tazewell 53.40 276 eP P 21 03 09.4 -0.4
QLMT Earthquake Lak 53.83 304 eP P 21 03 13.1 +0.4
QLMT Earthquake Lak 53.83 304 eP P 21 03 13.1 +0.4
CCM Cathedral Cave 54.38 284 eP P 21 03 14.7 -2.1
comp=Z,18nm,1.0s,mb5.0
CCM Cathedral Cave 54.38 284 eP P 21 03 14.7 -2.2
comp=Z,18nm,1.0s,mb5.0
IMW Indian Meadow 54.57 303 eP P 21 03 18.6 +0.4
comp=Z,22nm,1.3s,mb5.0
IMW Indian Meadow 54.57 303 eP P 21 03 18.6 +0.4
comp=Z,22nm,1.3s,mb5.0
CPCT Cooper Cave 54.71 276 eP P 21 03 18.7 -0.7
CPCT Cooper Cave 54.71 276 eP P 21 03 18.7 -0.6
LOHW Long Hollow 54.75 303 eP P 21 03 19.5 0.0
comp=Z,7.9nm,1.4s,mb4.5
LOHW Long Hollow 54.75 303 eP P 21 03 19.5 0.0
comp=Z,7.9nm,1.4s,mb4.5
MYNC Murphy 54.94 276 eP P 21 03 20.4 -0.7
comp=Z,63nm,1.3s,mb5.5
MYNC Murphy 54.94 276 eP P 21 03 20.4 -0.6
comp=Z,63nm,1.3s,mb5.5
RRI2 Red Ridge 55.18 304 eP P 21 03 22.8 +0.1
comp=Z,7.2nm,1.0s,mb4.7
BW06 Boulder Array 55.26 302 eP P 21 03 22.2 -1.1
comp=Z,16nm,1.3s,mb4.9
BW06 Boulder Array 55.26 302 eP P 21 03 22.2 -1.1
comp=Z,16nm,1.3s,mb4.9
PDAR Pinedale Array 55.26 302 P P 21 03 22.8 -0.5
comp=Z,5.4nm,1.1s,mb4.5,baz=45,slow=4.2,SNR=27
PDAR PcP PcP 21 04 25.0 +1.0
comp=Z,1.3nm,1.1s,baz=39,slow=5.8,SNR=2.3
PDAR LR LR 21 26 46.4
comp=Z,281nm,19.3s,MS4.4,baz=25,slow=36
PDAR Pinedale Array 55.26 302 PcP PcP 21 04 25.0 +1.0
HLID Hailey 55.78 306 eP P 21 03 26.5 -0.5
comp=Z,20nm,1.4s,mb5.0
HLID Hailey 55.78 306 eP P 21 03 26.5 -0.5
comp=Z,20nm,1.4s,mb5.0
HLID LR LR
comp=Z,872nm,20.0s,MS4.8
GTA Gaotai 56.30 66 P P 21 03 31.5 +0.7
GTA AP pP 21 03 37.8 +4.0
GTA XP sP 21 03 41.5 +6.5
GTA PCP PcP 21 04 26.0 -2.1
GTA PP PP 21 05 39.5 +1.7
GTA AMB AMB
comp=Z,8.0nm,1.3s,mb4.6
GTA AMB AMB
comp=Z,249nm,12.2s
GTA LR LR
comp=N,509nm,18.0s,MS4.9
GTA LR LR
comp=E,660nm,13.0s,MS4.9
GTA LR LR
comp=Z,942nm,16.0s,MS5.0
MET Memphis--Engin 56.69 281 P P 21 03 32.9 -0.7
ISCO Idaho Springs 56.95 297 eP P 21 03 35.5 0.0
comp=Z,22nm,1.3s,mb5.0
ISCO LR LR
comp=Z,2μm,19.0s,MS5.2
SPUT South Promonto 57.39 304 P P 21 03 38.6 +0.1
SPUT South Promonto 57.39 304 P P 21 03 38.6 +0.1
CTU Camp Tracy 57.78 303 eP P 21 03 40.4 -0.9
CTU Camp Tracy 57.78 303 eP P 21 03 40.4 -0.9
CN2 Changchun 58.63 43 eP P 21 03 47.0 -0.2
CN2 eAP pP 21 03 51.8 +1.5
CN2 AMB AMB
comp=Z,20nm,0.8s,mb5.2
CN2 LR LR
comp=N,900nm,17.0s,MS5.0
CN2 LR LR
comp=E,670nm,17.0s,MS5.0
CN2 LR LR
comp=Z,670nm,17.0s,MS4.8
ELK Elko 58.63 306 eP P 21 03 47.2 0.0
comp=Z,11nm,1.3s,mb4.7
ELK Elko 58.63 306 ePcP PcP 21 04 37.9 +0.7
ELK Elko 58.63 306 eP P 21 03 47.2 -0.1
comp=Z,11nm,1.3s,mb4.7
ELK ePcP PcP 21 04 37.9 +0.7
ELK LR LR
comp=Z,613nm,19.0s,MS4.7
MOD Modoc 58.78 310 eP P 21 03 47.9 -0.4
comp=Z,14nm,1.4s,mb4.8
MOD Modoc 58.78 310 eP P 21 03 47.9 -0.4
comp=Z,14nm,1.4s,mb4.8
SDCO Great Sand Dun 58.84 296 eP P 21 03 47.9 -0.8
comp=Z,20nm,1.2s,mb5.0
SDCO Great Sand Dun 58.84 296 eP P 21 03 47.9 -0.8
comp=Z,20nm,1.2s,mb5.0
SDCO LR LR
comp=Z,1μm,19.0s,MS5.0
SRU San Rafael 58.94 301 eP P 21 03 49.0 -0.4
SRU San Rafael 58.94 301 eP P 21 03 49.0 -0.4
PV10 Paradox Valley 59.23 300 eP P 21 03 51.8 +0.4
PV10 Paradox Valley 59.23 300 eP P 21 03 51.8 +0.3
PV01 Paradox Valley 59.33 299 eP P 21 03 52.0 -0.1
PV01 Paradox Valley 59.33 299 eP P 21 03 52.0 -0.2
MSU Marysvale 59.94 302 eP P 21 03 56.5 +0.2
MSU Marysvale 59.94 302 eP P 21 03 56.5 +0.2
LZH Lanzhou 60.54 64 eP P 21 04 01.0 +0.6
LZH AP pP 21 04 04.5 +0.9
LZH PP PP 21 06 16.0 0.0
LZH AMB AMB
comp=Z,31nm,1.5s,mb5.2
LZH AMB AMB
comp=Z,139nm,4.6s
LZH LR LR
comp=E,869nm,16.1s
LZH LR LR
comp=Z,1μm,17.1s,MS5.1
LZH Lanzhou 60.54 64 eP P 21 04 01.0 +0.6
comp=Z,31nm,1.5s,mb5.2
LZH pP pP 21 04 04.4 +0.8
LZH Lanzhou 60.54 64 eP P 21 04 01.0 +0.6
comp=Z,31nm,1.5s,mb5.2
LZH pP pP 21 04 04.4 +0.8
LZH sP sP 21 04 06.0 +1.3
LZH PP PP 21 06 16.0 0.0
LZH sS 21 12 19.0
LZH SS SS 21 16 14.0 +0.2
LZH LR LR
comp=Z,1μm,17.1s,MS5.1
NATX Nacogdoches 61.25 284 eP P 21 04 05.1 -0.2
NATX Nacogdoches 61.25 284 eP P 21 04 05.1 -0.3

NVAR Mina Array Bea 61.59 307 P P 21 04 07.7 +0.1
comp=Z,2.5nm,0.8s,mb4.4,baz=45,slow=5.1
ANMO Albuquerque 61.72 296 eP P 21 04 08.2 -0.3
comp=Z,14nm,1.1s,mb5.0
ANMO Albuquerque 61.72 296 eP P 21 04 08.2 -0.3
comp=Z,14nm,1.1s,mb5.0
ANMO LR LR
comp=Z,639nm,20.0s,MS4.8
ANMO Albuquerque 61.72 296 eP P 21 04 08.3 -0.2
ANMO pmax pmax
comp=Z,14nm,1.1s
ANMO MLR MLR
comp=Z,639nm,20.0s
KOLN Koldanda 62.23 86 eP P 21 04 12.0 0.0
comp=Z,33nm,1.2s,mb5.3
GKN Gorkha 62.34 85 eP P 21 04 12.7 0.0
comp=Z,38nm,1.1s,mb5.4
MTUM Tungsten Hills 62.67 307 eP P 21 04 15.5 +0.7
MTUM Tungsten Hills 62.67 307 eP P 21 04 15.5 +0.7
KKN Kakani 62.74 84 eP P 21 04 15.3 -0.1
comp=Z,32nm,1.1s,mb5.4
LSA Lhasa 62.76 78 eP P 21 04 17.5 +2.0
comp=Z,14nm,1.0s,mb5.0
LSA Lhasa 62.76 78 eP P 21 04 17.5 +2.0
comp=Z,14nm,1.0s,mb5.0
LSA Lhasa 62.76 78 eP P 21 04 17.5 +2.0
LSA pmax pmax
comp=Z,14nm,1.0s,mb5.0
DMN Daman 62.85 84 eP P 21 04 16.2 +0.1
comp=Z,32nm,1.3s,mb5.3
PKI Pulchoki 62.98 84 eP P 21 04 16.8 -0.1
NEN Nelson 63.34 303 eP P 21 04 19.3 +0.1
NEN Nelson 63.34 303 eP P 21 04 19.3 +0.1
XAN Xi'an 63.86 60 P P 21 04 22.5 -0.1
XAN AMB AMB
comp=Z,14nm,1.3s,mb4.8
LDFC Landfair 63.95 304 eP P 21 04 23.0 -0.1
LDFC Landfair 63.95 304 eP P 21 04 23.0 -0.1
ISA Isabella 64.25 307 eP P 21 04 25.2 +0.1
comp=Z,4.5nm,0.3s,mb5.0
ISA Isabella 64.25 307 eP P 21 04 25.2 +0.1
comp=Z,4.5nm,0.3s,mb5.0
MNTX Cornudas Mount 64.47 294 eP P 21 04 25.5 -1.1
comp=Z,3.9nm,0.8s,mb4.5
MNTX Cornudas Mount 64.47 294 eP P 21 04 25.4 -1.1
comp=Z,3.9nm,0.8s,mb4.5
MTP Monte Pirata 65.08 251 eP P 21 04 30.5 -0.2
DBIC Dimbokro 65.22 184 LR LR 21 32 47.8
comp=Z,169nm,19.8s,MS4.2,baz=9.0,slow=36
SJG San Juan 65.24 252 LR LR 21 27 52.3
comp=Z,161nm,20.3s,MS4.2,baz=93,slow=31
TUC Tucson 65.41 299 eP P 21 04 32.8 +0.2
comp=Z,9.6nm,1.2s,mb4.7
TUC Tucson 65.41 299 eP P 21 04 32.8 +0.2
comp=Z,9.6nm,1.2s,mb4.7
TXAR Lajitas Array 66.20 291 P P 21 04 37.4 -0.3
comp=Z,1.1nm,0.5s,mb4.2,baz=56,slow=4.5,SNR=23
TXAR LR LR 21 33 18.4
comp=Z,364nm,18.6s,MS4.6,baz=315,slow=36
ENH Enshi 67.57 61 eP P 21 04 46.0 -0.4
comp=Z,32nm,1.4s,mb5.2
MAJO Matsushiro 68.13 34 eP P 21 04 49.8 0.0
comp=Z,52nm,1.6s,mb5.3
MAJO Matsushiro 68.13 34 eP P 21 04 49.8 0.0
MAJO pmax pmax
comp=Z,52nm,1.6s,mb5.3
MAT Matsushiro 68.13 34 P P 21 04 49.8 0.0
MAT Matsushiro 68.13 34 eP P 21 04 50.0 +0.2
comp=Z,34nm,1.2s,mb5.3
MAT Matsushiro 68.13 34 eP P 21 04 50.0 +0.2
MAT pmax pmax
comp=Z,34nm,1.2s,mb5.2
SSE Sheshan 69.81 51 P P 21 04 59.5 -0.8
SSE AMB AMB
comp=Z,15nm,0.9s,mb4.9
SSE AMB AMB
comp=Z,109nm,5.7s
SSE Sheshan 69.81 51 P P 21 04 59.6 -0.7
comp=Z,15nm,0.9s,mb4.9
KMI Kunming 70.52 69 P P 21 05 05.0 +0.3
KMI AMB AMB
comp=Z,13nm,1.3s,mb4.7
KMI Kunming 70.52 69 P P 21 05 05.0 +0.3
comp=Z,13nm,1.3s,mb4.7
SDV Santo Domingo 75.31 253 P P 21 05 33.1 +0.1
comp=Z,6.2nm,0.8s,mb4.6,baz=1.4,slow=2.8,SNR=8.3
SDV Santo Domingo 75.31 253 eP P 21 05 32.6 -0.4
comp=Z,10nm,1.0s,mb4.7
ROSC El Rosal 80.23 256 P P 21 06 02.0 +1.9
comp=Z,3.3nm,0.3s,mb4.7,baz=90,slow=20,SNR=5.2
ROSC LR LR 21 35 42.0
comp=Z,151nm,20.2s,MS4.3,baz=324,slow=31
BDFB Brasilia 92.81 225 LR LR 21 42 41.7
comp=Z,151nm,20.3s,MS4.4,baz=99,slow=32
SIV San Ignacio 96.30 237 P P 21 07 18.2 +0.5
comp=Z,1.3nm,0.9s,mb4.4,baz=165,slow=2.8,SNR=4.6
LPAZ La Paz 98.50 243 LR LR 21 45 40.0
comp=Z,82nm,21.7s,MS4.2,baz=180,slow=32
PPT Papeete 122.62 324 eLR LR 21 50 37.5
comp=Z,227nm,26.0s
RKT Rikitea 124.77 306 eLR LR 21 51 38.1
comp=Z,254nm,27.2s
TBI Tubuai 128.23 322 eLR LR 21 53 13.5
comp=Z,500nm,32.5s
MAW Mawson 145.58 142 PKPbc PKPbc 21 13 27.2 +2.0
comp=Z,8.6nm,1.1s,baz=304,slow=4.8,SNR=5.8
URZ Urewera 146.26 3 PKPbc PKPbc 21 13 28.8 +1.0
comp=Z,4.6nm,0.8s,baz=342,slow=9.2,SNR=3.1

*BJI **30** 20:59:06.4, 2.10S×99.68E, h49km, mB5.1, mb4.9, Ms5.0, Msz4.7*
*MOS **30** 20:59:07.7±1.0, 1.62S×99.68E, h33km, mb5.4/39, Error ellipse: s-maj=11.1km s-min=5.3km az=116.5*
*HRVD **30** 20:59:08.7±0.5, 1.75S×99.54E, h21km±1km, MW5.0/49, Centroid moment Tensor Solution. LP body waves: s24, c36; Mantle waves: s49, c80; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.12±.27; $M_{\theta\theta}$-3.15±.17; $M_{\phi\phi}$0.03±.22; $M_{r\theta}$0.71±.28; $M_{r\phi}$1.77±.10; $M_{\theta\phi}$1.69±.41; Best double couple: $M_0$4.036×10^{16} NP1:ϕ_s88°, δ51°, λ52°. NP2:ϕ_s320°, δ52°, λ128°. Principal axes: T 4.132, Plg61°, Azm293°; N -.193, Plg29°, Azm114°; P -3.94, Plg0°, Azm24°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **30** 20:59:08.7±0.1, 1.66S×99.63E, mb5.2/56 Error ellipse: s-maj=5.4km s-min=4.1km az=56.0*
*IDC **30** 20:59:11.7±2.6, 1.71S×99.65E, h53km±22km, mb4.6/26, mb1 4.7/26, mb1mx4.7/26, mbtmp4.9/26, MS4.4/9, Ms1 4.4/9, ms1mx4.2/22, Error ellipse: s-maj=14.7km s-min=9.3km az=57.0*
ISC 30 20:59:07.6±0.2, 1.70S±0.03×99.61E±0.03, h33km, h33km±1.6km:pP-P, n288, σ0:95/273, mb5.1/111, MS4.6/24, 41C-9D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGM	**Kluang**	**5.23**	**45**	P	**P**	**21 00 26.7**	**+1.1**
IPM	**Ipoh**	**6.39**	**13**	P	**P**	**21 00 42.5**	**+0.6**
KULM	**Kulim**	**7.02**	**9**	ePn	**P**	**21 00 50.2**	**-0.4**
KULM				eSn	**S**	**21 02 12.8**	**+2.6**
SNG	**Songkhla**	**8.87**	**6**	P	**P**	**21 01 15.0**	**-1.4**
	280nm,1.0s						
KSM	**Kuching**	**11.15**	**74**	eP	**P**	**21 01 47.0**	**-0.9**
PBA	**Port Blair**	**14.92**	**333**	eP	**P**	**21 02 34.4**	**-3.6**
PBA				AMb	AMB	21 02 51.6	
	comp=Z,42nm,0.7s						
NST	**Nakhon Sawan**	**17.27**	**2**	P	**P**	**21 02 57.0**	**-11**
KKTK	**Khon Kaen**	**18.20**	**10**	P	**P**	**21 03 16.0**	**-3.6**
KKM	**Kota Kinabalu**	**18.28**	**65**	P	**P**	**21 03 22.0**	**+1.4**
KKM	**Kota Kinabalu**	**18.28**	**65**	eP	**P**	**21 03 21.4**	**+0.7**
TSM	**Tawau**	**19.20**	**72**	P	**P**	**21 03 32.1**	**+0.5**
CHG	**Chiang Mai**	**20.39**	**358**	⇑P	**P**	**21 03 45.5**	**+1.0**
	comp=Z,31nm,0.8s						
NANT	**Nan**	**20.40**	**3**	⇑P	**P**	**21 03 44.5**	**0.0**
	comp=Z,138nm,0.5s						
BATP	**Bataraza**	**20.91**	**60**	eP	**P**	**21 03 50.2**	**+0.3**
QIZ	**Qiongzhong**	**22.92**	**26**	eP	**P**	**21 04 11.0**	**+1.0**
QIZ				S	**S**	**21 08 21.5**	**+8.2**
QIZ				XS		21 08 40.5	
QIZ				AMB	AMB		
	comp=Z,33nm,1.0s,mb4.7						
QIZ				LR	LR		
	comp=N,1μm,11.8s,MS4.7						
QIZ				LR	LR		
	comp=E,1μm,10.5s,MS4.7						
QIZ				LR	LR		
	comp=Z,2μm,11.8s,MS4.7						
TRD	**Trivandrum**	**24.75**	**295**	ex	x	21 07 30.5	
VIS	**Vishakhapatnam**	**25.09**	**321**	eP	**P**	**21 04 31.9**	**+0.8**
VIS				AMb	AMB	21 04 33.7	
	comp=Z,57nm,1.2s,mb5.0						
PAGZ	**Pagadian**	**25.54**	**68**	eP	**P**	**21 04 37.0**	**+1.8**
KMI	**Kunming**	**26.83**	**6**	P	**P**	**21 04 48.3**	**+1.1**
KMI				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb4.2						
KMI				AMB	AMB		
	comp=Z,110nm,4.0s						
KMI				LR	LR		
	comp=N,1μm,14.2s,MS4.8						
KMI				LR	LR		
	comp=E,1μm,11.3s,MS4.8						
KMI				LR	LR		
	comp=Z,2μm,15.4s,MS4.7						
KMI	**Kunming**	**26.83**	**6**	P	**P**	**21 04 48.2**	**+1.0**
	comp=Z,8.0nm,1.1s,mb4.2						
KMI				pP	pP	21 04 53.1	-3.6
KMI				sP	sP	21 04 56.1	-4.7
KMI				PP	PP	21 05 31.8	-0.8
KMI				PPP	PPP	21 05 48.5	+3.9
KMI				S	**S**	**21 09 24.9**	**+5.5**
KMI				sS		21 09 37.5	
KMI				SS	SS	21 10 43.2	+10
KMI				SSS	SSS	21 11 01.9	+11
KMI				LR	LR		
	comp=Z,2μm,15.4s,MS4.7						
IMP	**Imphal**	**26.89**	**349**	ex	**P**	**21 04 49.0**	**+1.3**
MBWA	**Marble Bar**	**27.55**	**136**	eP	**P**	**21 04 53.5**	**-0.2**
	comp=Z,11nm,0.9s,mb4.5						
SHL	**Shillong**	**28.12**	**345**	eP	**P**	**21 04 59.6**	**+0.8**
GYA	**Guiyang**	**28.81**	**13⇑**	iP	**P**	**21 05 05.5**	**+0.5**
GYA				AP	pP	21 05 14.8	+0.2
GYA				XP	sP	21 05 18.8	-0.1
GYA				PP	PP	21 05 58.8	+0.4
GYA				S	**S**	**21 09 51.5**	**+0.4**
GYA				SS	SS	21 11 19.8	+0.3
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
GYA				AMB	AMB		
	comp=Z,120nm,3.0s						
GYA				LR	LR		
	comp=N,440nm,16.4s,MS4.3						
GYA				LR	LR		
	comp=E,410nm,16.0s,MS4.3						
GYA				LR	LR		
	comp=Z,520nm,15.8s,MS4.2						
BLSP	**Bilaspur**	**29.19**	**325**	iP	**P**	**21 05 08.2**	**-0.2**
BLSP				AMb	AMB	21 05 08.5	
	comp=Z,24nm,0.8s,mb5.0						
FITZ	**Fitzroy Crossi**	**30.30**	**124**	eP	**P**	**21 05 16.9**	**-1.5**
	comp=Z,36nm,0.8s,mb5.2						
NGP	**Nagpur**	**30.34**	**320**	eP	**P**	**21 05 18.4**	**-0.2**
NGP				AMb	AMB	21 05 19.8	
	comp=Z,21nm,1.3s,mb4.7						
PKI	**Pulchoki**	**32.15**	**336**	eP	**P**	**21 05 34.6**	**0.0**
	comp=Z,22nm,0.7s,mb5.1						
LSA	**Lhasa**	**32.25**	**346**	P	**P**	**21 05 36.3**	**+0.8**
LSA	**Lhasa**	**32.25**	**346**	eP	**P**	**21 05 35.8**	**+0.4**
	comp=Z,50nm,0.9s,mb5.3						
DMN	**Daman**	**32.31**	**335**	eP	**P**	**21 05 35.9**	**-0.1**
	comp=Z,53nm,1.0s,mb5.3						
KKN	**Kakani**	**32.40**	**336**	eP	**P**	**21 05 36.6**	**-0.1**
	comp=Z,69nm,0.9s,mb5.5						
GKN	**Gorkha**	**32.85**	**335**	eP	**P**	**21 05 40.6**	**-0.1**
	comp=Z,76nm,0.9s,mb5.6						
BHPL	**Bhopal**	**32.88**	**320**	eP	**P**	**21 05 40.7**	**-0.3**
BHPL				AMb	AMB	21 05 44.1	
	comp=Z,20nm,1.0s,mb5.0						
KOLN	**Koldanda**	**33.10**	**333**	eP	**P**	**21 05 42.8**	**0.0**
	comp=Z,71nm,1.0s,mb5.6						
ENH	**Enshi**	**33.16**	**16**	eP	**P**	**21 05 40.9**	**-2.4**
	comp=Z,45nm,1.2s,mb5.3						
KAKA	**Kakadu**	**34.31**	**110**	eP	**P**	**21 06 05.3**	**+12**
	comp=Z,8.7nm,0.6s,mb4.9						
NWAO	**Narrogin (SRO)**	**35.20**	**154**	P	**P**	**21 06 01.1**	**+0.3**
	comp=Z,19nm,0.7s,mb5.1,baz=311,slow=12,SNR=9.5						
XAN	**Xi'an**	**36.61**	**13**	P	**P**	**21 06 11.3**	**-1.5**
XAN				S	**S**	**21 11 58.0**	**+5.2**
XAN				AMB	AMB		
	comp=Z,26nm,1.1s,mb5.0						
XAN				LR	LR		
	comp=N,982nm,13.9s,MS4.9						
XAN				LR	LR		
	comp=E,830nm,12.3s,MS4.9						
XAN				LR	LR		
	comp=Z,2μm,14.3s,MS5.1						
NDI	**New Delhi**	**37.06**	**326**	eP	**P**	**21 06 14.0**	**-2.6**
LZH	**Lanzhou**	**37.80**	**6**	eP	**P**	**21 06 23.0**	**+0.3**
LZH				AP	pP	21 06 32.0	-0.5
LZH				XP	sP	21 06 36.5	-0.3
LZH				PP	PP	21 07 53.0	+0.6
LZH				eS	**S**	**21 12 13.0**	**+2.1**
LZH				SS	SS	21 14 50.0	+2.9
LZH				AMB	AMB		
	comp=Z,28nm,1.0s,mb5.0						
LZH				AMB	AMB		
	comp=Z,130nm,4.3s						
LZH				LR	LR		
	comp=N,2μm,10.0s						
LZH				LR	LR		
	comp=Z,2μm,11.7s,MS5.2						
LZH	**Lanzhou**	**37.80**	**6**	eP	**P**	**21 06 23.0**	**+0.3**
	comp=Z,28nm,1.0s,mb5.0						
LZH				pP	pP	21 06 32.0	-0.5
LZH				sP	sP	21 06 36.5	-0.3
LZH				PP	PP	21 07 53.0	+0.6
LZH				sS		21 12 28.5	
LZH				SS	SS	21 14 50.0	+2.9
LZH				LR	LR		
	comp=Z,2μm,11.7s,MS5.2						
LZH	**Lanzhou**	**37.80**	**6**	eP	**P**	**21 06 23.0**	**+0.3**
LZH				*PP	pP	21 06 32.0	-0.5
LZH				*SP	sP	21 06 36.5	-0.3
LZH						21 07 53.0	
LZH				SS	SS	21 14 50.0	+2.9
LZH				pmax	pmax		
	comp=Z,28nm,1.0s,mb5.0						
LZH				MLR	MLR		
	comp=Z,2μm,11.7s,MS5.2						
NJ2	**Nanjing**	**38.20**	**27**	eP	**P**	**21 06 25.5**	**-0.6**
NJ2				AP	pP	21 06 35.3	-0.6
NJ2				XP	sP	21 06 39.0	-1.2
NJ2				PP	PP	21 07 57.0	-0.2
NJ2				S	**S**	**21 12 17.0**	**-0.1**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,620nm,6.7s						
NJ2				LR	LR		
	comp=N,2μm,22.4s,MS5.1						
NJ2				LR	LR		
	comp=E,2μm,17.9s,MS5.1						
NJ2				LR	LR		
	comp=Z,1μm,17.6s,MS4.7						
WRA	**Warramunga Arr**	**38.48**	**121**	P	**P**	**21 06 27.5**	**-1.1**
	comp=Z,23nm,0.7s,mb5.0,baz=300,slow=9.2,SNR=135						
WRA				PcP	PcP	21 08 41.7	-0.1
	comp=Z,4.5nm,0.7s,baz=304,slow=2.6,SNR=4.7						
WRA				S	**S**	**21 12 18.0**	**-3.5**
	comp=Z,4.8nm,1.1s,baz=291,slow=15,SNR=6.9						
WRAB	**Tennant Creek**	**38.49**	**121⇑**	eP	**P**	**21 06 27.1**	**-1.5**
	comp=Z,61nm,0.9s,mb5.3						
WRAB	**Tennant Creek**	**38.49**	**121⇑**	eP	**P**	**21 06 27.1**	**-1.5**
WRAB				pmax	pmax		
	comp=Z,61nm,0.9s,mb5.3						
WB2	**Warramunga Arr**	**38.49**	**121**	eP	**P**	**21 06 27.4**	**-1.2**
SSE	**Sheshan**	**38.53**	**30**	P	**P**	**21 06 29.0**	**+0.1**
SSE				AP	pP	21 06 38.0	-0.7
SSE				XP	sP	21 06 41.8	-1.2
SSE				S	**S**	**21 12 22.8**	**+0.7**
SSE				AMB	AMB		
	comp=Z,23nm,0.8s,mb5.0						
SSE				AMB	AMB		
	comp=Z,370nm,7.3s						
SSE				LR	LR		
	comp=N,552nm,18.1s,MS4.4						
SSE				LR	LR		
	comp=E,200nm,18.0s,MS4.4						
SSE				LR	LR		

comp=Z,422nm,13.3s,MS4.4
SSE Sheshan 38.53 30 P P 21 06 28.9 0.0
comp=Z,23nm,0.8s,mb5.0
SSE pP pP 21 06 37.9 -0.8
SSE sP sP 21 06 41.7 -1.3
SSE S **S 21 12 22.8 +0.7**
SSE sS 21 12 38.5
SSE SS SS 21 15 14.1 +11
SSE LR LR
comp=Z,420nm,13.3s,MS4.4
GTA Gaotai 40.91 0 P P 21 06 49.0 +0.5
GTA AP pP 21 06 58.5 +0.1
GTA XP sP 21 07 02.3 -0.3
GTA PP PP 21 08 27.5 +1.7
GTA PCP PcP 21 08 49.8 +0.5
GTA PCS 21 12 40.0
GTA S **S 21 13 00.0 +2.3**
GTA SS SS 21 15 57.5 +2.1
GTA SCS ScS 21 16 47.8 -0.8
GTA AMB AMB
comp=Z,12nm,0.9s,mb4.5
GTA AMB AMB
comp=Z,310nm,9.9s
GTA LR LR
comp=N,512nm,16.0s,MS4.7
GTA LR LR
comp=E,660nm,13.0s,MS4.7
GTA LR LR
comp=Z,942nm,16.4s,MS4.7
BTO Baotou 43.16 12 *e*P **P 21 07 07.8 +0.8**
BTO AMB AMB
comp=Z,17nm,0.7s,mb4.9
HHC Hu-ho-hao-te 43.73 13 *e*P **P 21 07 12.0 +0.4**
HHC AP pP 21 07 22.0 +0.5
HHC XP sP 21 07 25.8 +0.1
HHC PP PP 21 08 55.5 +0.4
HHC SCP 21 12 42.3
HHC S **S 21 13 43.5 +4.4**
HHC XS 21 14 00.0
HHC SS SS 21 16 55.3 +8.0
HHC SCS ScS 21 17 04.8 -1.0
HHC AMB AMB
comp=Z,9.0nm,1.1s,mb4.4
HHC AMB AMB
comp=Z,236nm,5.0s
HHC LR LR
comp=N,2μm,14.4s,MS5.1
HHC LR LR
comp=E,646nm,14.4s,MS5.1
HHC LR LR
comp=Z,2μm,13.2s,MS5.1
JNU Nakatsue 45.49 38 P P 21 07 25.8 -0.1
comp=Z,22nm,0.9s,mb5.0,baz=177,slow=5.3,SNR=9.0
KSH Kashi 46.39 335 *e*P **P 21 07 32.0 -0.9**
KSH *e*AP pP 21 07 45.0 +2.2
KSH *e*PCP PcP 21 09 07.0 -0.9
KSH *e*PP PP 21 09 20.5 -1.3
KSH *e*PPP PPP 21 10 04.0 -3.0
KSH *e*SCP 21 12 57.3
KSH *e*PCS 21 13 01.0
KSH *e*S **S 21 14 15.5 -1.9**
KSH *e*SCS ScS 21 17 22.0 -0.7
KSH AMB AMB
comp=Z,70nm,2.2s,mb5.2
KSH LR LR
comp=N,260nm,4.9s
KSH LR LR
comp=E,220nm,6.9s
WMQ Urumqi 46.56 348⇓ *i*P **P 21 07 35.0 +0.9**
WMQ AP pP 21 07 45.0 +1.0
WMQ XP sP 21 07 49.0 +0.8
WMQ PP PP 21 09 24.0 +0.7
WMQ SCP 21 12 58.0
WMQ S **S 21 14 21.0 +1.4**
WMQ SCS ScS 21 17 24.0 +0.3
WMQ SS SS 21 17 40.0 +1.8
WMQ AMB AMB
comp=Z,65nm,1.0s,mb5.5
WMQ AMB AMB
comp=Z,118nm,5.0s
WMQ LR LR
comp=N,324nm,14.0s,MS4.7
WMQ LR LR
comp=E,489nm,15.0s,MS4.7
WMQ LR LR
comp=Z,352nm,14.0s,MS4.5
KS15 Wonju Array Si 46.93 31 *e*P **P 21 07 36.0 -1.1**
ULHL Ulahol 48.58 337 P sP 21 08 03.0 -1.0
SNR=6.5
CTA Charters Tower 49.08 115 *e*P **P 21 07 53.4 -0.7**
comp=Z,8.9nm,0.8s,mb4.8
CTA Charters Tower 49.08 115 *e*P **P 21 07 53.4 -0.7**
CTA pmax pmax
comp=Z,9.0nm,0.8s
CTAO Charters Tower 49.08 115 *e*P **P 21 07 53.1 -0.9**
comp=Z,14nm,0.9s,mb5.0
CTAO Charters Tower 49.08 115 *e*P **P 21 07 53.1 -1.0**
CTAO pmax pmax
comp=Z,14nm,0.9s,mb5.0
UCH Uchtor 49.26 335 P **P 21 07 56.0 +0.8**
SNR=10
TKM2 Tokmak 2 49.40 337 P **P 21 07 57.2 +0.9**
SNR=18
KBK Karagaybulak 49.44 336 P **P 21 07 57.3 +0.8**
SNR=16
AML Almayashu 49.53 335 P **P 21 07 58.0 +0.7**
SNR=7.1
AAK Ala-Archa 49.60 336 *e*P **P 21 07 56.8 -1.0**
comp=Z,22nm,1.3s,mb5.0
AAK Ala-Archa 49.60 336*c i*P **P 21 07 57.1 -0.7**
AAK pmax pmax
comp=Z,16nm,1.7s,mb4.8
STKA Stephens Creek 49.64 132⇑ *i*P **P 21 07 58.3 0.0**
comp=Z,16nm,0.9s,mb5.0
STKA Stephens Creek 49.64 132 P **P 21 07 58.7 +0.4**
comp=Z,25nm,1.0s,mb5.2,baz=302,slow=8.2,SNR=24
STKA LR LR 21 28 25.1
comp=Z,480nm,21.2s,MS4.5,baz=255,slow=35
SONM Songino Array 49.68 6 P **P 21 07 58.8 +0.4**
comp=Z,7.0nm,0.8s,mb4.7,baz=187,slow=9.8,SNR=19
SONM PcP PcP 21 09 19.0 -0.6
comp=Z,11nm,0.9s,baz=188,slow=6.1,SNR=3.9
FRU Bishkek 49.72 336 *e*P **P 21 07 58.5 -0.2**
FRU *e* 21 08 15.5
ULN Ulaanbaatar 49.79 7 *e*P **P 21 07 59.2 0.0**
comp=Z,20nm,1.0s,mb5.1
ULN *e*pP pP 21 08 08.1 -1.0
ULN Ulaanbaatar 49.79 7 *e*P **P 21 07 59.2 0.0**
ULN *e**PP pP 21 08 08.1 -1.0
ULN pmax pmax
comp=Z,20nm,1.0s,mb5.1
CHMS Chumysh 49.80 336 P **P 21 07 59.7 +0.3**
SNR=8.5
EKS2 Erkin-Say 49.92 335 P **P 21 08 00.6 +0.3**
SNR=18
USP Ospenovka 50.13 336 P **P 21 08 01.8 0.0**
SNR=32
MKAR Makanchi Array 50.63 345 P **P 21 08 05.4 -0.2**
comp=Z,13nm,0.6s,mb5.0,baz=153,slow=8.1,SNR=65
MKAR S **S 21 15 21.8 +5.0**
comp=Z,1.0nm,0.9s,baz=165,slow=14,SNR=4.7
CN2 Changchun 50.87 24 *e*P **P 21 08 06.0 -1.5**
CN2 *e*XP sP 21 08 20.8 -0.8
CN2 *e*S **S 21 15 20.5 +0.5**
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
CN2 LR LR
comp=N,880nm,18.0s,MS4.9
CN2 LR LR
comp=E,600nm,18.0s,MS4.9
CN2 LR LR
comp=Z,680nm,17.0s,MS4.7
ZAK Zakamensk 51.97 3 *e*P **P 21 08 15.6 -0.1**
ZAK *e* 21 09 28.2
ZAK pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
ZAK pmax pmax
comp=Z,3.0nm,1.2s,mb4.1
MAT Matsushiro 52.29 39 P **P 21 08 16.4 -1.8**
MAT S **S 21 15 40.0 +0.3**
MAT Matsushiro 52.29 39 *e*P **P 21 08 16.0 -2.2**
comp=Z,8.4nm,0.9s,mb4.7
MAT *e*S **S 21 15 41.0 +1.3**
MAT Matsushiro 52.29 39 *e*P **P 21 08 16.0 -2.2**
MAT *e*S **S 21 15 41.0 +1.3**
MAT pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
MDJ Mudanjiang 53.29 26 P **P 21 08 24.8 -0.8**
MDJ AP pP 21 08 35.3 -0.4
MDJ XP sP 21 08 39.0 -0.7
MDJ PP PP 21 10 26.8 -0.6
MDJ S **S 21 15 57.0 +3.8**
MDJ AMB AMB
comp=Z,7.0nm,0.8s,mb4.6
MDJ AMB AMB
comp=Z,86nm,5.8s
MDJ LR LR
comp=N,335nm,15.8s,MS4.5
MDJ LR LR
comp=E,89nm,17.1s,MS4.5
MDJ LR LR
comp=Z,446nm,17.1s,MS4.6
IRK Irkutsk 53.89 4 *e*P **P 21 08 29.6 -0.3**
IRK *e* 21 09 28.8
IRK pmax pmax
comp=Z,31nm,1.3s,mb5.1
OPO Ambohidratompo 54.02 248 P **P 21 08 31.8 +0.5**
comp=Z,12nm,1.0s,mb4.8,baz=92,slow=6.7,SNR=6.5
CIT Chita 54.81 10 *e*P **P 21 08 36.8 +0.2**
CIT *e* 21 09 38.9
KURK Kurchatov 55.21 344 *e*P **P 21 08 38.1 -1.5**
comp=Z,64nm,1.0s,mb5.6
KURK Kurchatov 55.21 344 *e*P **P 21 08 38.1 -1.5**
KURK pmax pmax
comp=Z,64nm,1.0s,mb5.6
ZAL Zalesovo 56.79 350 P **P 21 08 50.9 0.0**
comp=Z,23nm,0.9s,mb5.2,baz=293,slow=5.9,SNR=92
ZAL S **S 21 16 42.6 +2.7**
comp=Z,0.8nm,0.2s,baz=194,slow=20,SNR=8.6
ZAL LR LR 21 38 09.0
comp=Z,288nm,18.2s,MS4.4,baz=203,slow=41
ZAL Zalesovo 56.79 350 P **P 21 08 50.9 0.0**
ZAL S **S 21 16 42.6 +2.7**
ZAL LR LR 21 38 09.0
NVS Novosibirsk 57.94 349 *e*P **P 21 08 56.7 -2.3**
NVS *e*S **S 21 16 53.7 -1.3**
NVS pmax pmax
comp=Z,42nm,1.2s,mb5.3
NVS pmax pmax
comp=N,44nm,1.4s
NVS pmax pmax
comp=E,28nm,1.4s
NVS pmax pmax
comp=Z,12nm,1.6s,mb4.7
NVS pmax pmax
comp=N,14nm,1.4s
NVS pmax pmax
comp=E,5.0nm,1.4s
NVS smax
comp=N,29nm,2.0s
NVS smax
comp=E,17nm,2.3s
QRN Al-Qurain 57.99 306 *e*P **P 21 08 59.5 -0.2**
KBD Kabd 58.34 306 *e*P **P 21 09 01.4 -0.7**
KBD AMb AMB 21 09 02.7
comp=Z,236nm,1.0s,mb6.2
RDF Al-Radifah 58.36 306 *e*P **P 21 09 01.0 -1.3**
RDF AMb AMB 21 09 02.4
comp=Z,91nm,1.0s,mb5.8
UMR Umm Al-Rimmam 58.46 306 *e*P **P 21 09 02.3 -0.7**
UMR AMb AMB 21 09 03.6
comp=Z,73nm,0.9s,mb5.7
DJNS Zahran al Janu 58.47 292 P **P 21 09 03.7 +0.6**
MZLS Mizel 58.66 299 P **P 21 09 03.6 -0.9**
MIB Mutribah 58.86 307 *e*P **P 21 09 05.0 -0.8**
MIB AMb AMB 21 09 06.4
comp=Z,102nm,1.0s,mb5.8
ASAJ Asahikawa 59.59 35 P **P 21 09 10.8 +0.2**
comp=Z,7.7nm,0.8s,mb4.8,baz=263,slow=12,SNR=5.4
BRVK Borovoye 59.83 340⇑ *e*P **P 21 09 10.4 -1.7**
comp=Z,11nm,1.0s,mb4.9
BRVK Borovoye 59.83 340⇑ *e*P **P 21 09 10.4 -1.8**
BRVK pmax pmax
comp=Z,11nm,1.0s,mb4.8
BOD Bodaibo 60.44 9 *e*P **P 21 09 14.9 -1.4**
BOD pmax pmax
comp=Z,17nm,1.0s,mb5.0
AFFS 'Afif 60.56 299 P **P 21 09 17.3 -0.2**
YSS Yuzh-Sakhalins 61.43 32 *e*P **P 21 09 22.3 -0.8**
comp=Z,75nm,1.4s,mb5.6
YSS Yuzh-Sakhalins 61.43 32 *e*P **P 21 09 22.4 -0.7**
YSS *e* pP 21 09 32.0 -1.3
YSS MLR MLR
comp=Z,500nm,16.0s,MS4.8
LTHS Al Lith 61.94 294 P **P 21 09 26.7 -0.2**
KMBO Kilima Mbogo 62.34 270 P **P 21 09 30.3 +0.7**
comp=Z,16nm,1.0s,mb5.1,baz=59,slow=9.2,SNR=26
KMBO Kilima Mbogo 62.34 270⇑ *i*P **P 21 09 30.3 +0.7**
KMBO pmax pmax
comp=Z,16nm,1.0s
MIR Mirnyy 64.89 183*d i*P **P 21 09 46.6 +1.0**
MIR pmax pmax
comp=Z,34nm,1.4s,mb5.2
CASY Casey 64.92 175 *e*P **P 21 09 45.4 -0.4**
comp=Z,46nm,1.4s,mb5.3
GNI Garni 65.04 316 *e*P **P 21 09 46.3 -0.7**
comp=Z,17nm,1.2s,mb4.9
GNI Garni 65.04 316 *e*P **P 21 09 46.3 -0.7**
GNI pmax pmax
comp=Z,17nm,1.2s
TI2 Plekhanov 65.72 318⇑ *i*P **P 21 09 48.0 -3.4**
TBLG Delisi 65.73 318 P **P 21 09 50.4 -1.0**
UMJS Umm Lajj 65.90 299 P **P 21 09 53.6 +0.8**
SVE Sverdlovsk 66.26 338⇑ *e*P **P 21 09 53.8 -0.7**
SVE *e* pP 21 10 05.5 +0.6
SVE *e* 21 10 19.0
SVE *e*S S 21 19 04.0 +24
SVE pmax pmax
comp=Z,60nm,1.4s,mb5.4
ZEI Tsey 66.75 319 *e*P **P 21 09 53.1 -4.7**
ZEI *i* *PP pP 21 10 05.3 -2.9
ZEI pmax pmax
comp=Z,14nm,0.9s,mb5.0
ARU Arti 66.78 337 *e*P **P 21 09 56.4 -1.4**
comp=Z,38nm,1.3s,mb5.3
ARU *e*pP pP 21 10 04.5 -3.6
ARU Arti 66.78 337 *e*P **P 21 09 56.4 -1.4**
ARU *e**PP pP 21 10 04.6 -3.6
ARU pmax pmax
comp=Z,38nm,1.3s,mb5.3
TBKS Tabuk 67.31 301 P **P 21 10 02.2 +0.5**
QURS Qurayyt al Mil 67.52 305 P **P 21 10 03.3 +0.4**
YAK Yakutsk 67.55 15 *e*P **P 21 10 01.0 -1.5**
comp=Z,39nm,0.8s,mb5.5
YAK *e*pP pP 21 10 11.2 -1.7
YAK Yakutsk 67.55 15 *e*P **P 21 10 01.0 -1.5**
YAK *e**PP pP 21 10 11.2 -1.7
YAK pmax pmax
comp=Z,39nm,0.8s,mb5.5
KIV Kislovodsk 68.06 319 *e*P **P 21 10 05.1 -0.9**
comp=Z,50nm,1.3s,mb5.4
KIV *e* pP 21 10 17.2 +0.8
KIV Kislovodsk 68.06 319*c i*P **P 21 10 05.2 -0.9**
KIV pmax pmax
comp=Z,49nm,1.3s,mb5.4
KIV MLR MLR
comp=Z,100nm,18.0s,MS4.1
ASF Jabal al Asfar 68.10 306 LR LR 21 41 43.5
comp=Z,353nm,18.1s,MS4.6,baz=83,slow=37
GOF Gofitskoye 68.31 320⇑ *i*P **P 21 10 05.3 -2.3**
GOF *e*S S 21 19 02.3 -2.5
GOF pmax pmax
comp=Z,40nm,1.3s,mb5.3
GOF smax
comp=N,100nm,2.2s
MALT Malatya 68.85 312 *e*P **P 21 10 10.1 -1.0**
comp=N,10nm,0.9s,mb4.8
MALT Malatya 68.85 312 *e*P **P 21 10 10.1 -0.9**
MALT pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
MBAR Mbarara 68.86 270 *e*P **P 21 10 10.8 -0.8**
comp=Z,22nm,1.4s,mb4.9
MBAR Mbarara 68.86 270 *e*P **P 21 10 10.8 -0.8**
MBAR pmax pmax
comp=Z,22nm,1.4s,mb4.9
SOKR Solikamsk 69.64 338⇓ *i*P **P 21 10 15.4 -0.1**
SOKR pmax pmax
comp=Z,30nm,1.2s,mb5.1
MAW Mawson 70.48 194 P **P 21 10 21.3 +0.8**
comp=Z,24nm,0.9s,mb5.1,baz=38,slow=6.2,SNR=18
MAW LR LR 21 34 41.1
comp=Z,397nm,18.3s,MS4.7,baz=181,slow=30
LSZ Lusaka 71.64 255 *e*P **P 21 10 27.8 -0.5**
comp=Z,25nm,1.4s,mb5.0
LSZ Lusaka 71.64 255 *e*P **P 21 10 27.8 -0.5**
LSZ pmax pmax
comp=Z,25nm,1.4s,mb5.0
VRHR Novokhopersk 71.86 326 *e*P **P 21 10 27.6 -1.4**
VRHR pmax pmax
comp=Z,40nm,1.0s,mb5.3
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,20nm,0.9s
BR131 Keskin Array S 72.83 313 *e*P **P 21 10 33.2 -1.9**
comp=E,4.7nm,0.8s,mb4.5
BRTR Keskin Array B 72.83 313 P **P 21 10 33.7 -1.4**
comp=E,5.1nm,0.8s,mb4.5,baz=135,slow=7.1,SNR=22
MA2 Magadan 72.92 25 *e*P **P 21 10 35.1 -0.1**
comp=E,78nm,1.3s,mb5.5
MA2 Magadan 72.92 25*de*P **P 21 10 35.7 +0.5**
MA2 *e* 21 10 49.3
MA2 pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
PET Petropavlovsk 73.31 33 *e*P **P 21 10 37.4 -0.3**
comp=Z,53nm,1.1s,mb5.4
PET Petropavlovsk 73.31 33 *e*P **P 21 10 37.4 -0.3**
PET pmax pmax
comp=Z,53nm,1.1s,mb5.4
VOR Voronezh 73.50 326 *e*P **P 21 10 37.8 -1.0**
VOR *e**SP sP 21 10 49.5 -3.4
VOR pmax pmax
comp=Z,80nm,1.4s,mb5.5
VOR pmax pmax
comp=N,50nm,1.3s
VOR pmax pmax
comp=E,70nm,1.3s
SIM Simferopol' 74.11 318 *e*P **P 21 10 41.0 -1.5**
SIM pmax pmax
comp=Z,15nm,0.8s,mb5.0
BOSA Boshof 75.46 241 P **P 21 10 50.8 +0.2**
comp=Z,13nm,0.9s,mb4.8,baz=75,slow=7.2,SNR=11
RPZ Rata Peaks 75.47 135 P **P 21 10 51.1 +0.8**
comp=Z,21nm,1.0s,mb5.0,baz=183,slow=2.9,SNR=14
SEY Seymchan 75.49 22⇑ *e*P **P 21 10 50.3 +0.2**
TIXI Tiksi 75.62 9 *i*P **P 21 10 49.6 -1.0**
MOS Moscow 76.04 329 *e*P **P 21 10 51.8 -1.5**
MOS *e* pP 21 11 03.6 -0.1
MOS pmax pmax
comp=Z,100nm,1.5s,mb5.5
MOS pmax pmax
comp=Z,93nm,1.5s,mb5.5
OBN Obninsk 76.33 328 *e*P **P 21 10 53.8 -1.2**
comp=Z,88nm,1.4s,mb5.5
OBN Obninsk 76.33 328α *i*P **P 21 10 54.5 -0.5**
OBN *i* pP 21 11 05.9 +0.5
OBN *i* 21 11 10.1
OBN *e* 21 13 46.3
OBN *e*S S 21 20 42.8 +6.6
OBN pmax pmax
comp=Z,99nm,1.7s,mb5.5
OBN MLR MLR
comp=Z,200nm,22.0s,MS4.4
TIRR Tirgusor 77.87 316⇓ *i*P **P 21 11 03.3 -0.5**
TIRR Tirgusor 77.87 316⇑ *i*P **P 21 11 03.2 -0.5**
SYO Syowa Base 78.03 199⇓ P **P 21 11 03.5 -0.7**
SYO Syowa Base 78.03 199⇑ PcP PcP 21 11 13.0 -1.1
KIS Kishinev 78.25 319 *e*P **P 21 11 04.0 -1.8**
IDI Anoyia 78.55 306 P **P 21 11 08.1 +0.3**
comp=Z,18nm,1.0s,mb5.0,baz=172,slow=7.1,SNR=3.6
IDI LR LR 21 44 45.6
comp=Z,128nm,19.4s,MS4.3,baz=87,slow=35
AKASG Malin Array Be 79.01 322 P **P 21 11 08.5 -1.4**
comp=Z,2.5nm,0.7s,mb4.2,baz=90,slow=4.2,SNR=22
AKASG PP PP 21 14 07.3 -3.4
comp=Z,0.2nm,0.3s,baz=104,slow=6.9,SNR=5.5
URZ Urewera 79.14 129 P **P 21 11 10.9 -0.1**
comp=Z,6.1nm,0.6s,mb4.7,baz=270,slow=5.1,SNR=4.7
VRI Vrincioaia 79.37 317⇓ *i*P **P 21 11 12.7 +0.7**
VRI Vrincioaia 79.37 317⇑ *i*P **P 21 11 12.7 +0.7**
VRI Vrincioaia 79.37 317 P **P 21 11 12.3 +0.3**
MLR Muntele Rosu 79.81 317 P **P 21 11 14.5 +0.1**
comp=Z,31nm,1.0s,mb5.2,baz=113,slow=1.6,SNR=37
MLR Muntele Rosu 79.81 317⇓ *i*P **P 21 11 14.4 0.0**
MLR Muntele Rosu 79.81 317⇑ *i*P **P 21 11 14.4 +0.1**
BURAR Bucovina Array 80.78 319⇓ *i*P **P 21 11 19.8 +0.3**
BURAR Bucovina Array 80.78 319⇑ *i*P **P 21 11 19.8 +0.3**
VTS Vitosha 81.16 313 P **P 21 11 21.2 -0.4**
JOF Joensuu 81.78 335 *ep* **P 21 11 23.7 -0.7**
comp=Z,11nm,1.0s,mb4.8
TSUM Tsumeb 81.91 251 *e*P **P 21 11 26.6 +0.6**
comp=Z,9.2nm,0.9s,mb4.7
LVV L'vov 82.02 321 *e*P **P 21 11 25.1 -0.8**
LVV *e* 21 14 31.5
DRGR 82.28 318⇑ *i*P **P 21 11 26.6 -0.7**
DRGR 82.28 318⇑ *i*P **P 21 11 26.6 -0.7**
LVZ Lovozero 82.36 340 *i*P **P 21 11 27.4 +0.1**
VNDA Vanda 82.53 169 P **P 21 11 28.8 +0.8**
comp=Z,7.6nm,1.0s,mb4.7,baz=305,slow=5.6,SNR=22
KWP Kalwaria 82.82 320 *e*P **P 21 11 30.1 +0.1**
KWP Kalwaria 82.82 320 *e*P **P 21 11 30.1 +0.1**
BILL Bilibino 83.01 20 *i*P **P 21 11 30.5 -0.1**
SUW Suwalki 83.41 325 *e*P **P 21 11 32.9 -0.1**
SUW Suwalki 83.41 325 *e*P **P 21 11 32.8 -0.1**
CRVS Cervenica-Dubn 83.49 319 *e*P **P 21 11 35.9 +2.5**
SBA Scott Base 83.63 169⇑ *e*P **P 21 11 35.1 +1.5**
comp=Z,17nm,1.0s,mb5.1
SBA *e*pP pP 21 11 42.9 -1.2
SBA Scott Base 83.63 169⇑ *e*P **P 21 11 35.1 +1.5**
SBA *e**PP pP 21 11 42.9 -1.2
SBA pmax pmax
comp=Z,17nm,1.0s,mb5.1
FINES FINESS Array B 83.66 332 P **P 21 11 34.3 +0.3**
comp=Z,6.5nm,0.8s,mb4.8,baz=123,slow=5.6,SNR=11
FINES LR LR 21 56 40.0
comp=Z,189nm,18.8s,MS4.5,baz=330,slow=41
STHS Stebnicka Huta 83.72 320 *e*P **P 21 11 35.6 +1.0**
STHS *e*pP pP 21 11 46.4 +1.2
KAF Kangasniemi 83.74 333 *ep* **P 21 11 32.6 -1.8**
comp=Z,13nm,0.8s,mb5.1,baz=101,slow=4.7
KAF Kangasniemi 83.74 333 *e*P **P 21 11 32.6 -1.8**
KAF pmax pmax
comp=Z,13nm,0.8s,mb5.1
KECS Kecovo 84.06 319 *e*P **P 21 11 36.4 +0.1**
KECS *e*pP pP 21 11 47.9 +1.0
PKSM Moragy 84.96 316 P **P 21 11 41.0 +0.1**
VYHS Vyhne 85.14 319 *e*P **P 21 11 42.0 +0.2**
OKC Ostrava-Krasne 85.78 320 *e*P **P 21 11 45.2 +0.4**
ARCES ARCESS Array B 86.06 340 P **P 21 11 46.3 +0.6**
comp=Z,9.6nm,0.9s,mb5.0,baz=79,slow=4.6,SNR=5.4
ARCES LR LR 21 58 13.2
comp=Z,162nm,19.5s,MS4.4,baz=72,slow=41
MORC Moravsky Berou 86.16 320 P **P 21 11 47.4 +0.8**
ZST Bratislava 86.25 318 *e*P **P 21 11 47.7 +0.5**
VRAC Vranov 86.71 319 P **P 21 11 50.1 +0.6**
comp=Z,0.8nm,0.5s,mb4.2,baz=63,slow=4.9,SNR=6.4
DPC Dobruska-Polom 87.00 320 *e*P **P 21 11 52.1 +1.3**
KSP Ksiaz 87.08 321 *e*P **P 21 11 52.1 +0.9**
ARSA Arzberg 87.21 317⇑ *i*P **P 21 11 52.5 +0.6**
comp=Z,18nm,1.6s,mb5.0
UPC Upice 87.22 321 *e*P **P 21 11 52.7 +0.8**
BOJS Bojanci 87.24 316 *e*P **P 21 11 52.3 +0.3**
PERS Pernice 87.43 317 *e*P **P 21 11 53.6 +0.6**
LJU Ljubljana 87.79 316 *e*P **P 21 11 55.6 +0.9**
PRU Pruhonice 88.11 320 *e*P **P 21 11 56.6 +0.5**
MOA Molln 88.11 318⇑ *i*P **P 21 11 56.0 -0.2**
comp=Z,9.3nm,1.4s,mb4.8
PVCC Panska Ves 88.14 320 *e*P **P 21 11 57.7 +1.4**
QSPA South Pole Qui 88.26 180⇑ *i*P **P 21 11 57.8 +1.5**
comp=Z,29nm,1.1s,mb5.4
AQU L'Aquila 88.32 312⇑ *e*P **P 21 11 57.9 +0.5**
comp=Z,56nm,1.4s,mb5.6
AQU L'Aquila 88.32 312⇑ *e*P **P 21 11 57.9 +0.5**
AQU pmax pmax
comp=Z,56nm,1.4s,mb5.6
BRG Berggiesshubel 88.56 321 *e*P **P 21 11 58.9 +0.6**
comp=Z,15nm,1.2s,mb5.2
BRG Berggiesshubel 88.56 321 *e*P **P 21 11 58.9 +0.6**
BRG pmax pmax
comp=Z,15nm,1.2s,mb5.2
GEC2 GERESS Array S 88.56 319 *e*P **P 21 11 58.8 +0.4**
comp=Z,37nm,1.5s,mb5.5
GEC2 GERESS Array S 88.56 319 *e*P **P 21 11 58.8 +0.4**
GEC2 pmax pmax
comp=Z,37nm,1.5s,mb5.5

GERES	**GERESS Array B**	**88.56**	**319**	P	**P**	**21 11 59.0**	**+0.7**
	comp=Z,5.6nm,1.1s,mb4.8,baz=90,slow=5.3,SNR=26						
KHC	**Kasperske Hory**	**88.67**	**319**	*e*P	**P**	**21 11 59.6**	**+0.8**
KHC				pP	pP	21 12 11.5	+2.0
KHC	**Kasperske Hory**	**88.67**	**319**	*e*P	**P**	**21 11 59.6**	**+0.8**
KHC				*e*	pP	21 12 11.5	+2.0
WET	**Wettzell**	**89.13**	**319**	*e*P	**P**	**21 12 01.7**	**+0.7**
	comp=Z,36nm,1.7s,mb5.4						
WET	**Wettzell**	**89.13**	**319**	*e*P	**P**	**21 12 01.7**	**+0.7**
WET				pmax	pmax		
	comp=Z,36nm,1.7s,mb5.4						
CLL	**Collm**	**89.18**	**321**	⇑P	**P**	**21 12 01.6**	**+0.3**
	comp=Z,logA/T=1.3,mb5.4						
CLL				*i* *PP	pP	21 12 11.1	-0.8
CLL				*e*PP	PP	21 15 41.0	+6.8
CLL	**Collm**	**89.18**	**321**	⇑*i*P	**P**	**21 12 01.6**	**+0.3**
	comp=Z,30nm,1.5s,mb5.4						
CLL				*i* pP	pP	21 12 11.1	-0.8
CLL	**Collm**	**89.18**	**321**	⇑*i*P	**P**	**21 12 01.6**	**+0.3**
CLL				*i* *PP	pP	21 12 11.1	-0.8
CLL				pmax	pmax		
	comp=Z,30nm,1.5s,mb5.4						
NKC	**Novy Kostel**	**89.47**	**320**	*e*P	**P**	**21 12 03.7**	**+1.1**
WTTA	**Wattenberg**	**89.85**	**317**	⇑*i*P	**P**	**21 12 04.4**	**-0.1**
	comp=Z,13nm,1.1s,mb5.2						
WTTA	**Wattenberg**	**89.85**	**317**	⇑*i*P	**P**	**21 12 04.4**	**-0.1**
WTTA				pmax	pmax		
	comp=Z,13nm,1.1s,mb5.2						
MOX	**Moxa**	**90.02**	**320**	*i* P	**P**	**21 12 06.1**	**+0.9**
	comp=Z,logA/T=1.2,mb5.3						
MOX	**Moxa**	**90.02**	**320**	*e*P	**P**	**21 12 06.1**	**+0.9**
	comp=Z,27nm,1.6s,mb5.3						
MOX	**Moxa**	**90.02**	**320**	*e*P	**P**	**21 12 06.1**	**+0.9**
MOX				pmax	pmax		
	comp=Z,27nm,1.6s,mb5.3						
FUR	**Furstenfeldbru**	**90.14**	**318**	*e*P	**P**	**21 12 06.1**	**+0.3**
	comp=Z,18nm,1.1s,mb5.3						
FUR	**Furstenfeldbru**	**90.14**	**318**	*e*P	**P**	**21 12 06.1**	**+0.3**
FUR				pmax	pmax		
	comp=Z,18nm,1.1s,mb5.3						
MOTA	**Moosalm**	**90.22**	**317**	⇑*i*P	**P**	**21 12 06.1**	**-0.1**
	comp=Z,16nm,1.3s,mb5.2						
MOTA	**Moosalm**	**90.22**	**317**	⇑*i*P	**P**	**21 12 06.1**	**-0.1**
MOTA				pmax	pmax		
	comp=Z,16nm,1.3s,mb5.2						
GRA1	**Grafenberg Arr**	**90.23**	**320**	*e*P	**P**	**21 12 07.4**	**+1.2**
	comp=Z,71nm,1.8s,mb5.7						
GRF	**Grafenberg Arr**	**90.23**	**320**	*e*P	**P**	**21 12 07.4**	**+1.2**
	comp=Z,71nm,1.8s,mb5.7						
GRF	**Grafenberg Arr**	**90.23**	**320**	*e*P	**P**	**21 12 07.4**	**+1.2**
GRF				pmax	pmax		
	comp=Z,71nm,1.8s,mb5.7						
GRF	**Grafenberg Arr**	**90.23**	**320**	*e*P	**P**	**21 12 07.4**	**+1.2**
GRF				pmax	pmax		
	comp=Z,71nm,1.8s,mb5.7						
NB2	**NORSAR Subarra**	**90.69**	**331**	P	**P**	**21 12 08.4**	**+0.3**
	comp=Z,0.9nm,0.7s,mb4.2,baz=90,slow=5.0						
NB2	**NORSAR Subarra**	**90.69**	**331**	P	**P**	**21 12 08.4**	**+0.3**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.2						
NOA	**NORSAR Array B**	**90.69**	**331**	P	**P**	**21 12 07.5**	**-0.5**
	comp=Z,2.0nm,0.8s,mb4.5,baz=93,slow=4.7,SNR=5.1						
NOA				LR	LR	21 58 22.9	
	comp=Z,92nm,18.4s,MS4.2,baz=100,slow=39						
NOA	**NORSAR Array B**	**90.69**	**331**	P	**P**	**21 12 07.5**	**-0.5**
NOA				LR	LR	21 58 22.9	
CLZ	**Clausthal**	**90.85**	**322**	*e*P	**P**	**21 12 09.9**	**+0.8**
	comp=Z,46nm,1.9s,mb5.5						
CLZ	**Clausthal**	**90.85**	**322**	*e*P	**P**	**21 12 09.9**	**+0.8**
CLZ				pmax	pmax		
	comp=Z,46nm,1.9s,mb5.5						
BSEG	**Bad Segeberg**	**90.94**	**324**	*e*P	**P**	**21 12 10.5**	**+1.1**
DAVOX	**Davos**	**91.04**	**317**	P	**P**	**21 12 11.0**	**+0.9**
	comp=Z,11nm,1.0s,mb5.2,baz=115,slow=6.9,SNR=14						
DAVA	**Damuels**	**91.05**	**317**	⇑*i*P	**P**	**21 12 10.8**	**+0.7**
	comp=Z,24nm,1.1s,mb5.4						
TNS	**Taunus Mts**	**92.04**	**320**	*e*P	**P**	**21 12 15.1**	**+0.5**
	comp=Z,17nm,1.1s,mb5.3						
TNS	**Taunus Mts**	**92.04**	**320**	*e*P	**P**	**21 12 15.1**	**+0.5**
TNS				pmax	pmax		
	comp=Z,17nm,1.1s,mb5.3						
SNAA	**Sanae**	**92.31**	**198**		**P**	**21 12 22.3**	**+7.0**
SNAA	**Sanae**	**92.31**	**198**	P	**P**	**21 12 16.4**	**+1.1**
	comp=Z,1.7nm,0.8s,mb4.4,baz=72,slow=4.2,SNR=12						
SNAA	**Sanae**	**92.31**	**198**	Pdif	**P**	**21 12 16.7**	**+1.4**
SNAA				P		21 12 22.3	
LPG	**La Plagne**	**93.21**	**315**	*e*P	**P**	**21 12 20.7**	**+0.6**
	comp=Z,7.0nm,0.9s,mb4.8						
VNA2	**Neumayer--Watz**	**93.92**	**198**		**P**	**21 12 32.1**	**+9.4**
VNA2	**Neumayer--Watz**	**93.92**	**198**	Pdif	**P**	**21 12 25.6**	**+2.9**
VNA2				P		21 12 32.1	
VNA1	**Neumayer--Stat**	**94.27**	**199**		sP	21 12 37.2	-1.2
VNA1	**Neumayer--Stat**	**94.27**	**199**	Pdif	**P**	**21 12 27.4**	**+3.1**
VNA1				P	pP	21 12 37.2	+2.2
JMIC	**Jan Mayen**	**97.45**	**342**	LR	LR	22 02 41.2	
	comp=Z,128nm,18.1s,MS4.5,baz=274,slow=39						
IMA	**Indian Mountai**	**98.29**	**23**	*e*P	**P**	**21 12 42.9**	**+0.2**
	comp=Z,56nm,1.3s,mb5.9						
IMA				*es*P	sP	21 12 54.8	-1.9
ILAR	**Eielson Array**	**101.39**	**24**	PKKPbc		21 29 05.8	
	comp=Z,1.8nm,0.9s,baz=134,slow=1.7,SNR=15						
SCHQ	**Schefferville**	**125.89**	**350**	PKP	PKPdf	21 18 07.8	+1.6
	comp=Z,2.6nm,1.0s,baz=92,slow=4.5,SNR=3.6						
SCHQ	**Schefferville**	**125.89**	**350**	PKP	PKPdf	21 18 07.8	+1.6
DLMT	**Dillon**	**128.11**	**29**	*e*PKPdf	PKPdf	21 18 12.6	+1.7
BOZ	**Bozeman (W)**	**128.35**	**28**	*e*PKPdf	PKPdf	21 18 12.6	+1.3
QLMT	**Earthquake Lak**	**129.06**	**28**	*e*PKP	PKPdf	21 18 15.8	+3.2
NVAR	**Mina Array Bea**	**129.61**	**39**	PKP	PKPdf	21 18 17.2	+3.3
	comp=Z,1.2nm,0.7s,baz=256,slow=3.7,SNR=7.1						
NVAR				SKPbc		21 21 36.2	
	comp=Z,1.9nm,0.9s,baz=280,slow=5.5,SNR=5.9						
NVAR	**Mina Array Bea**	**129.61**	**39**	PKP	PKPdf	21 18 17.2	+3.3
NVAR				SKPbc		21 21 36.2	
ULM	**Lac du Bonnet**	**129.87**	**13**	PKP	PKPdf	21 18 15.7	+1.7
	comp=Z,2.5nm,0.6s,baz=340,slow=3.3,SNR=3.9						
PDAR	**Pinedale Array**	**131.50**	**29**	PKP	PKPdf	21 18 19.9	+2.5
	comp=Z,0.9nm,0.7s,baz=315,slow=2.1,SNR=7.5						
PDAR				SKPab		21 21 42.2	
	comp=Z,1.0nm,0.8s,baz=315,slow=2.6,SNR=4.8						
MSU	**Marysvale**	**133.22**	**35**	*e*PKPdf	PKPdf	21 18 23.3	+2.5
MSU				*es*KPbc		21 21 48.3	
PV10	**Paradox Valley**	**135.04**	**32**	*e*PKPdf	PKPdf	21 18 26.6	+2.5
PLCA	**Paso Flores**	**136.83**	**191**	PKP	PKPdf	21 18 28.2	+0.8
	comp=Z,1.8nm,0.9s,baz=156,slow=19,SNR=2.8						
PLCA	**Paso Flores**	**136.83**	**191**	PKP	PKPdf	21 18 28.2	+0.8
MNTX	**Cornudas Mount**	**141.97**	**36**	*e*PKPpre		21 18 33.9	
BDFB	**Brasilia**	**143.65**	**241**	PKP	PKPdf	21 18 39.0	-1.1
	comp=Z,5.1nm,0.8s,baz=130,slow=7.9,SNR=3.9						
CPUP	**Villa Florida**	**144.33**	**217**	PKP	PKPdf	21 18 41.4	+0.3
	comp=Z,52nm,0.9s,baz=142,slow=3.8,SNR=75						
CPUP	**Villa Florida**	**144.33**	**217**	*e*PKIKP	PKPdf	21 18 41.0	-0.1
ELN	**Prospectdale**	**144.64**	**0**	*e*PKPdf	PKPdf	21 18 40.7	-0.6
LTX	**Lajitas**	**144.70**	**37**	⇑*i*PKPdf	PKPdf	21 18 42.8	+1.1
TXAR	**Lajitas Array**	**144.70**	**37**	PKP	PKPdf	21 18 43.2	+1.5
	comp=Z,24nm,0.8s,baz=280,slow=1.7,SNR=116						
TXAR	**Lajitas Array**	**144.70**	**37**	PKP	PKPdf	21 18 43.2	+1.5
CFAA	**Coronel Fontan**	**144.93**	**198**	PKP	PKPdf	21 18 43.2	+1.2
	comp=Z,10.0nm,0.8s,baz=173,slow=2.8,SNR=137						
CFAA	**Coronel Fontan**	**144.93**	**198**	PKP	PKPdf	21 18 43.2	+1.2
WVT	**Waverly**	**145.05**	**11**	⇑*i*PKPbc	PKPbc	21 18 42.7	+0.4
WVT				*ep*PKPdf		21 18 53.5	
TZTN	**Tazewell**	**145.20**	**4**	*i* PKPbc	PKPbc	21 18 43.2	+0.5
TZTN				*ep*PKPdf		21 18 52.7	
CPCT	**Cooper Cave**	**146.20**	**6**	*e*PKPdf	PKPdf	21 18 45.5	+1.4
MYNC	**Murphy**	**146.61**	**6**	*e*PKPdf	PKPdf	21 18 45.2	+0.4
JSC	**Jenkinsville**	**147.57**	**1**	*e*PKPbc	PKPdf	21 18 50.1	+3.7
LRAL	**Lakeview Retre**	**148.22**	**11**	*e*PKPbc	PKPdf	21 18 51.8	+4.4
LVC	**Limon Verde**	**153.37**	**204**	*e*PKPdf	PKPdf	21 18 59.3	+3.8
LVC				*e*PKPbc	PKPdf	21 19 06.1	+11
LVC				*e*PKPab	PKPab	21 19 18.2	+0.6
LPAZ	**La Paz**	**158.41**	**214**	PKP	PKPdf	21 19 05.0	+2.6
	comp=Z,2.4nm,0.9s,baz=78,slow=5.8,SNR=8.1						
LPAZ				PKPab	PKPab	21 19 39.4	+0.1
	comp=Z,2.9nm,0.8s,baz=97,slow=5.6,SNR=6.2						

*JMA **30** 21:15:36.8±0.2, 38.47N×143.09E, h6km±3km, M3.6*
ISC 30 21:15:37.7±1.4, 38.44N±0.06×143.0E±0.1, h6km, n12, σ0§63/18, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.25**	**301**	P	**Pb**	**21 16 00.6**	**-0.6**
OFUJ				*e*S	**Sb**	**21 16 17.4**	**0.0**
JIO	**Ouri**	**1.33**	**271**	P	**Pb**	**21 16 01.9**	**-0.7**
JIO				*e*S	**Sb**	**21 16 19.4**	**-0.3**
JMK	**Ichinoseki**	**1.51**	**290**	P	**Pn**	**21 16 04.7**	**-0.7**
JOM	**Ohasama**	**1.71**	**308**	P	**Pn**	**21 16 08.0**	**-0.2**
JMM	**Marumori**	**1.86**	**253**	P	**Pn**	**21 16 09.9**	**-0.5**
JMM				*e*S	**Sn**	**21 16 34.1**	**-0.4**
JOU	**Okura**	**1.87**	**268**	P	**Pn**	**21 16 10.8**	**+0.3**
JFK	**Kawauchi**	**2.02**	**239**	P	**Pn**	**21 16 11.9**	**-0.8**
JYK	**Kaneyama**	**2.15**	**284**	P	**Pn**	**21 16 15.0**	**+0.4**
JANG	**Nango**	**2.26**	**329**	P	**Pn**	**21 16 16.8**	**+0.6**
JFT	**Otama**	**2.33**	**247**	P	**Pn**	**21 16 18.0**	**+0.9**
JFT				*e*S	**Sn**	**21 16 46.9**	**+0.6**
JYS	**Shiratake**	**2.35**	**266**	P	**Pn**	**21 16 17.5**	**+0.1**
JYS				*e*S	**Sn**	**21 16 48.2**	**+1.3**
MAT	**Matsushiro**	**4.28**	**245**	P	**Pn**	**21 16 45.6**	**+0.7**
MAT				*e*S	**Sn**	**21 17 35.2**	**-0.7**

*BJI **30** 21:27:58.0, 2.57S×99.42E, h30km, mB5.0, mb4.6, Ms4.4, Msz4.2*
*IDC **30** 21:28:01.3±0.5, 1.71S×99.56E, mb4.4/19, mb1 4.6/19, mb1mx4.5/20, mbtmp4.4/19, Error ellipse: s-maj=21.4km s-min=13.8km az=62.0*
*MOS **30** 21:28:04.6±1.1, 1.66S×99.60E, h33km, mb4.7/11, Error ellipse: s-maj=18.8km s-min=8.3km az=111.0*
*NEIC **30** 21:28:05.6±0.3, 1.73S×99.56E, h30km, mb4.7/12, Error ellipse: s-maj=10.4km s-min=7.4km az=63.0*
ISC 30 21:28:05.0±0.4, 1.69S±0.06×99.60E±0.07, h38km, h38km±3.5km:pP-P, n75, σ1§19/71, mb4.5/44, MS4.2/6, 3C, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.01**	**9**	*e*P	**P**	**21 29 47.5**	**-0.3**
KKM	**Kota Kinabalu**	**18.28**	**65**	*e*P	**P**	**21 32 19.2**	**+1.5**
QIZ	**Qiongzhong**	**22.92**	**26**	*e*P	**P**	**21 33 10.5**	**+3.6**
FITZ	**Fitzroy Crossi**	**30.32**	**124**	P	**P**	**21 34 13.5**	**-1.9**
	18nm,1.1s,mb4.7,baz=345,slow=11,SNR=3.9						
PKI	**Pulchoki**	**32.14**	**336**	*e*P	**P**	**21 34 30.5**	**-0.9**
LSA	**Lhasa**	**32.24**	**346**	P	**P**	**21 34 34.0**	**+1.8**
LSA	**Lhasa**	**32.24**	**346**	*e*P	**P**	**21 34 33.0**	**+0.7**
	7.8nm,0.7s,mb4.7						
LSA	**Lhasa**	**32.24**	**346**	*e*P	**P**	**21 34 33.0**	**+0.8**
LSA				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.7						
DMN	**Daman**	**32.30**	**335**	*e*P	**P**	**21 34 32.5**	**-0.2**
	comp=Z,8.3nm,0.8s,mb4.6						
KKN	**Kakani**	**32.38**	**336**	*e*P	**P**	**21 34 32.5**	**-1.0**
	comp=Z,22nm,0.9s,mb5.0						
KKN	**Kakani**	**32.38**	**336**	*e*P	**P**	**21 34 32.5**	**-1.0**
KKN				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.7						
GKN	**Gorkha**	**32.84**	**335**	*e*P	**P**	**21 34 37.1**	**-0.3**
	comp=Z,33nm,1.1s,mb5.2						
KOLN	**Koldanda**	**33.09**	**333**	*e*P	**P**	**21 34 39.0**	**-0.6**
	comp=Z,22nm,0.9s,mb5.1						
ENH	**Enshi**	**33.15**	**16**	P	**P**	**21 34 38.6**	**-1.5**
XAN	**Xi'an**	**36.61**	**13**	P	**P**	**21 35 13.0**	**+3.4**
XAN				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.4						
LZH	**Lanzhou**	**37.79**	**6**	*e*P	**P**	**21 35 21.5**	**+2.0**
LZH				AP	pP	21 35 31.0	+0.7
LZH				PP	PP	21 36 52.5	+3.3
LZH				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.7						
LZH	**Lanzhou**	**37.79**	**6**	*e*P	**P**	**21 35 21.4**	**+1.9**
	comp=Z,15nm,1.0s,mb4.7						
LZH				pP	pP	21 35 31.0	+0.7
LZH				sP	sP	21 35 34.5	-0.7
LZH				PP	PP	21 36 52.5	+3.3
LZH	**Lanzhou**	**37.79**	**6**	*e*P	**P**	**21 35 21.4**	**+1.9**
LZH				*PP	pP	21 35 31.0	+0.7
LZH				*SP	sP	21 35 34.5	-0.7
LZH						21 36 52.5	
LZH				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.7						
NJ2	**Nanjing**	**38.20**	**27**	*e*P	**P**	**21 35 20.3**	**-2.6**
NJ2				AP	pP	21 35 33.8	0.0
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
NJ2				LR	LR		
	comp=N,860nm,18.6s,MS4.9						
NJ2				LR	LR		
	comp=E,1μm,17.2s,MS4.9						
NJ2				LR	LR		
	comp=Z,700nm,17.2s,MS4.5						
WRA	**Warramunga Arr**	**38.49**	**121**	P	**P**	**21 35 25.0**	**-0.5**
	comp=Z,5.8nm,0.6s,mb4.5,baz=300,slow=9.2,SNR=14						
WRA				PcP	PcP	21 37 39.0	+0.5
	comp=Z,1.2nm,0.6s,baz=314,slow=2.5,SNR=5.2						
WRAB	**Tennant Creek**	**38.50**	**121**	*e*P	**P**	**21 35 24.6**	**-1.0**
	comp=Z,9.1nm,0.6s,mb4.7						
WRAB	**Tennant Creek**	**38.50**	**121**	*e*P	**P**	**21 35 24.6**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.7						
SSE	**Sheshan**	**38.53**	**30**	P	**P**	**21 35 24.5**	**-1.2**
SSE				AMB	AMB		
	comp=Z,24nm,0.7s,mb5.0						
SSE				AMB	AMB		
	comp=Z,263nm,7.5s						
SSE	**Sheshan**	**38.53**	**30**	P	**P**	**21 35 24.4**	**-1.3**
	comp=Z,24nm,0.7s,mb5.0						
GTA	**Gaotai**	**40.90**	**0**	P	**P**	**21 35 46.5**	**+1.2**
GTA				AP	pP	21 35 56.5	+0.3
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.0						
GTA				AMB	AMB		
	comp=Z,97nm,12.6s						
GTA				LR	LR		
	comp=N,186nm,15.7s,MS4.3						
GTA				LR	LR		
	comp=E,235nm,14.5s,MS4.3						
GTA				LR	LR		
	comp=Z,129nm,16.4s,MS3.9						
JNU	**Nakatsue**	**45.49**	**38**	P	**P**	**21 36 21.7**	**-1.0**
	comp=Z,5.0nm,0.7s,mb4.4,baz=180,slow=6.1,SNR=2.8						
KSH	**Kashi**	**46.38**	**335**	*e*P	**P**	**21 36 28.3**	**-1.3**
KSH				*e*AP	pP	21 36 41.5	+0.9
KSH				*e*PCP	PcP	21 38 03.3	-1.3
KSH				*e*PP	PP	21 38 16.3	-2.3
KSH				AMB	AMB		
	comp=Z,190nm,9.4s						
WMQ	**Urumqi**	**46.55**	**348**	P	**P**	**21 36 32.0**	**+1.1**
WMQ				AP	pP	21 36 42.0	+0.2
WMQ				PP	PP	21 38 21.0	+0.8
WMQ				SCP		21 41 55.0	
WMQ				S	**S**	**21 43 19.0**	**+3.1**
WMQ				AMB	AMB		
	comp=Z,35nm,1.0s,mb5.2						
WMQ				AMB	AMB		
	comp=Z,114nm,5.0s						
WMQ				LR	LR		
	comp=N,82nm,14.0s,MS4.1						
WMQ				LR	LR		
	comp=E,112nm,14.0s,MS4.1						
WMQ				LR	LR		
	comp=Z,98nm,14.0s,MS3.9						
AAK	**Ala-Archa**	**49.59**	**336**	*i* P	**P**	**21 36 55.2**	**+0.6**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.7s,mb4.2						
STKA	**Stephens Creek**	**49.65**	**132**	P	**P**	**21 36 56.1**	**+0.9**
	comp=Z,5.0nm,0.7s,mb4.7,baz=300,slow=9.5,SNR=4.2						
STKA	**Stephens Creek**	**49.65**	**132**	P	**P**	**21 36 56.1**	**+0.9**
SONM	**Songino Array**	**49.68**	**6**	P	**P**	**21 36 56.3**	**+1.2**
	comp=Z,2.6nm,0.8s,mb4.3,baz=185,slow=8.5,SNR=8.0						
ULN	**Ulaanbaatar**	**49.78**	**7**	*e*P	**P**	**21 36 56.9**	**+1.0**
	comp=Z,2.5nm,0.6s,mb4.4						
ULN	**Ulaanbaatar**	**49.78**	**7**	*e*P	**P**	**21 36 56.9**	**+1.0**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
MKAR	**Makanchi Array**	**50.63**	**345**	P	**P**	**21 37 02.7**	**+0.3**
	comp=Z,3.1nm,0.6s,mb4.4,baz=153,slow=7.6,SNR=29						
MKAR	**Makanchi Array**	**50.63**	**345**	P	**P**	**21 37 02.7**	**+0.3**
CN2	**Changchun**	**50.87**	**24**	*e*P	**P**	**21 37 07.0**	**+2.7**
ZAK	**Zakamensk**	**51.97**	**3**	*e*P	**P**	**21 37 11.0**	**-1.4**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.4s,mb3.5						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
MDJ	**Mudanjiang**	**53.29**	**26**	P	**P**	**21 37 26.0**	**+3.6**
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.6s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,221nm,5.4s						
KURK	**Kurchatov**	**55.20**	**344**	*e*P	**P**	**21 37 35.6**	**-0.7**
	comp=Z,4.8nm,0.6s,mb4.7						
KURK	**Kurchatov**	**55.20**	**344**	*e*P	**P**	**21 37 35.6**	**-0.7**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
ZAL	**Zalesovo**	**56.79**	**350**	P	**P**	**21 37 48.2**	**+0.5**
	comp=Z,5.4nm,0.5s,mb4.9,baz=302,slow=5.9,SNR=21						
ZAL	**Zalesovo**	**56.79**	**350**	P	**P**	**21 37 48.2**	**+0.5**
NVS	**Novosibirsk**	**57.94**	**349**	*e*P	**P**	**21 37 54.2**	**-1.6**
NVS				*es*	**S**	**21 45 50.4**	**-0.9**
NVS				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.7						
NVS				pmax	pmax		
	comp=N,7.0nm,1.0s						
NVS				pmax	pmax		
	comp=E,3.0nm,0.6s						
NVS				smax			
	comp=N,15nm,2.2s						
NVS				smax			
	comp=E,7.0nm,1.9s						
BVAR	**Borovoye Array**	**59.76**	**340**	P	**P**	**21 38 07.6**	**-0.9**
	comp=E,2.7nm,0.7s,mb4.4,baz=143,slow=7.4,SNR=17						
BRVK	**Borovoye**	**59.82**	**340**	*e*P	**P**	**21 38 07.5**	**-1.3**
	comp=E,1.4nm,0.5s,mb4.2						
BRVK	**Borovoye**	**59.82**	**340**	*e*P	**P**	**21 38 07.6**	**-1.3**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
BOD	**Bodaibo**	**60.44**	**9**	*e*P	**P**	**21 38 12.7**	**-0.3**
BOD				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
KMBO	**Kilima Mbogo**	**62.33**	**270**	P	**P**	**21 38 25.9**	**-0.4**
	comp=Z,3.3nm,0.8s,mb4.5,baz=43,slow=9.4,SNR=6.4						
GNI	**Garni**	**65.03**	**316**	*i* P	**P**	**21 38 45.6**	**+1.9**
GNI				pmax	pmax		
	comp=Z,13nm,1.7s						
SVE	**Sverdlovsk**	**66.25**	**338**	*e*P	**P**	**21 38 49.5**	**-1.7**
SVE				*e*		21 39 15.0	
SVE				MLR	MLR		
	comp=N,400nm,15.0s,MS4.8						
SVE				MLR	MLR		
	comp=E,100nm,15.0s,MS4.8						
SVE				MLR	MLR		
	comp=Z,200nm,15.0s,MS4.5						
ARU	**Arti**	**66.77**	**337**	⇑*i*P	**P**	**21 38 53.8**	**-0.7**
ARU				*e*		21 39 18.1	
ARU				*e*		21 41 19.1	
ARU				*es*	S	21 47 40.9	-1.5
ARU				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.5						
KIV	**Kislovodsk**	**68.05**	**319**	α *i*P	**P**	**21 39 03.2**	**+0.4**
KIV				*i* *PP	pP	21 39 15.8	+1.5
KIV				*i*		21 39 30.7	
KIV				*es*	S	21 48 02.9	+4.9
KIV				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.8						
KIV				MLR	MLR		
	comp=Z,50nm,18.0s,MS3.8						
ASF	**Jabal al Asfar**	**68.08**	**306**	P	**P**	**21 39 03.3**	**+0.1**
	comp=Z,0.5nm,0.4s,mb3.9,baz=85,slow=5.0,SNR=3.7						
MAW	**Mawson**	**70.48**	**194**	P	**P**	**21 39 18.3**	**+0.9**
	comp=Z,4.1nm,0.7s,mb4.5,baz=357,slow=1.4,SNR=14						
BR131	**Keskin Array S**	**72.82**	**313**	*e*P	**P**	**21 39 29.7**	**-2.1**
	comp=Z,1.3nm,0.4s,mb4.2						
BRTR	**Keskin Array B**	**72.82**	**313**	P	**P**	**21 39 30.7**	**-1.1**
	comp=Z,2.1nm,0.6s,mb4.2,baz=129,slow=6.2,SNR=11						
BOSA	**Boshof**	**75.46**	**241**	P	**P**	**21 39 47.0**	**-0.3**
	comp=Z,2.4nm,0.6s,mb4.3,baz=126,slow=11,SNR=5.9						
TIXI	**Tiksi**	**75.62**	**9**	*e*P	**P**	**21 39 45.9**	**-1.5**
TIXI				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.9						
OBN	**Obninsk**	**76.32**	**328**	*e*P	**P**	**21 39 52.3**	**+0.6**
OBN				*i*	pP	21 40 01.6	-1.7
OBN				*i*		21 42 45.4	
OBN				*i* S	S	21 49 29.7	-2.7
OBN				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.7						
OBN				MLR	MLR		
	comp=Z,100nm,18.0s,MS4.2						
AKASG	**Malin Array Be**	**79.00**	**322**	P	**P**	**21 40 05.9**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=88,slow=3.8,SNR=5.0						
AKASG	**Malin Array Be**	**79.00**	**322**	*i* P	**P**	**21 40 06.9**	**+0.3**
MLR	**Muntele Rosu**	**79.80**	**317**	P	**P**	**21 40 11.8**	**+0.7**
	comp=Z,7.7nm,0.9s,mb4.6,baz=115,slow=3.7,SNR=12						
VNDA	**Vanda**	**82.54**	**169**	P	**P**	**21 40

MKAR				pP	pP	21 38 16.6	-0.3
	comp=Z,4.8nm,0.9s,baz=142,slow=9.5,SNR=1.7						
KURK	**Kurchatov**	**60.66**	**342**	*e*P	**P**	**21 38 35.4**	**-0.9**
	comp=Z,5.7nm,0.8s,mb4.8						
KURK				*e*pP	pP	21 38 48.9	-0.2
ZAL	**Zalesovo**	**61.97**	**347**	P	**P**	**21 38 45.0**	**+0.1**
	comp=Z,4.1nm,0.6s,mb4.8,baz=337,slow=3.3,SNR=4.0						
ZAL				pP	pP	21 38 58.5	+0.7
	comp=Z,4.9nm,0.9s,baz=325,slow=5.2,SNR=2.6						
BVAR	**Borovoye Array**	**65.38**	**339**	P	**P**	**21 39 06.3**	**-1.0**
	comp=Z,3.0nm,0.6s,mb4.5,baz=146,slow=8.5,SNR=5.4						
SYO	**Syowa Base**	**75.19**	**200**	⇓P	**P**	**21 40 08.0**	**+1.4**
BRTR	**Keskin Array B**	**78.87**	**312**	P	**P**	**21 40 26.9**	**-0.8**
	comp=Z,1.3nm,0.8s,mb3.9,baz=121,slow=7.2,SNR=3.6						
AKASG	**Malin Array Be**	**85.04**	**322**	P	**P**	**21 40 59.3**	**-0.3**
	comp=Z,2.0nm,0.8s,mb4.3,baz=86,slow=4.7,SNR=6.1						
TXAR	**Lajitas Array**	**145.36**	**45**	PKPbc	PKPbc	21 48 03.4	+1.8
	comp=Z,3.6nm,0.7s,baz=315,slow=1.8,SNR=7.1						

NIED ***30*** *22:37:00,26.50N×129.80E,h5km,Mw4.3 Best double couple: M₀2.97×10¹⁵ NP1:φs49°,δ61°,λ-97°. NP2:φs243°, δ30°,λ-77°.*
IDC ***30*** *22:37:17.4±0.6,26.53N×129.76E,mb4.3/17,mb1 4.4/19, mb1mx4.4/25,mbtmp4.3/19,ML4.2/2,MS3.6/6,Ms1 3.6/6, ms1mx3.3/25,Error ellipse: s-maj=19.5km s-min=14.6km az=64.0*
JMA ***30*** *22:37:19.8,26.50N×129.76E,h53km,M3.9*
BJI ***30*** *22:37:21.2,26.44N×129.54E,h36km,mB4.6,mb4.5, Ms4.1,Msz3.9*
NEIC ***30*** *22:37:23.8±0.4,26.53N×129.69E,mb4.6/15, MW4.3(NIED),Error ellipse: s-maj=12.0km s-min=9.8km az=65.0*

ISC 30 22:37:20.7±0.3,26.54N±0.03×129.72E±0.03,h33km,n60, σ1§20/74,mb4.4/30,MS3.8/7,3D,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**1.33**	**283**	Pn	**Pn**	**22 37 42.6**	**-0.6**
	555nm,0.3s,baz=114,slow=15,SNR=333						
JOW				Sn	**Sn**	**22 37 59.4**	**-0.6**
	397nm,0.3s,baz=104,slow=22,SNR=13						
JOW	**Kunigami**	**1.33**	**283**	P	**P**	**22 37 43.0**	**-0.1**
JOW				S	**S**	**22 38 00.5**	**+0.7**
JTK	**Tokunoshima**	**1.42**	**331**	P	**P**	**22 37 44.5**	**+0.1**
JTK				*e*S	**S**	**22 38 02.1**	**0.0**
JMZ	**Minamidaito 2**	**1.52**	**118**	P	**P**	**22 37 44.6**	**-1.3**
JMZ				*e*S	**S**	**22 38 02.4**	**-2.3**
JIH	**Iheya**	**1.65**	**288**	P	**P**	**22 37 47.7**	**+0.1**
JIH				S	**S**	**22 38 07.7**	**-0.1**
JZK	**Kikaishima**	**1.78**	**7**	P	**P**	**22 37 50.1**	**+0.5**
JZK				S	**S**	**22 38 12.2**	**+0.9**
JJT2	**Tamagusuku 2**	**1.82**	**258**	P	**P**	**22 37 49.8**	**-0.2**
JJT2				*e*S	**S**	**22 38 11.7**	**-0.4**
NAH1	**Naha**	**1.85**	**260**	P	**P**	**22 37 50.2**	**-0.4**
NAH1				S	**S**	**22 38 12.1**	**-1.0**
JAM	**Amami Oshima**	**1.87**	**357**	P	**P**	**22 37 50.2**	**-0.6**
JAM				S	**S**	**22 38 12.5**	**-1.0**
JAGN	**Aguni-jima**	**2.22**	**272**	P	**P**	**22 37 55.6**	**-0.3**
JAGN				*e*S	**S**	**22 38 21.5**	**-0.9**
JKE	**Kume jima 2**	**2.64**	**266**	P	**P**	**22 38 00.7**	**-1.2**
JKE				S	**S**	**22 38 31.6**	**-1.5**
JNN	**Nakanoshima**	**3.29**	**2**	P	**P**	**22 38 10.3**	**-0.8**
JNN				*e*S	**S**	**22 38 47.0**	**-2.7**
JKC	**Kuchinoerabu**	**3.93**	**6**	P	**P**	**22 38 19.4**	**-0.8**
JKC				*e*S	**S**	**22 39 01.4**	**-4.4**
JTN	**Tanegashima 3**	**4.25**	**15**	P	**P**	**22 38 24.3**	**-0.4**
JTN				*e*S	**S**	**22 39 10.1**	**-3.7**
JNU	**Nakatsue**	**6.64**	**8**	Pn	**Pn**	**22 38 56.9**	**-1.7**
	5.3nm,0.3s,baz=341,slow=5.2,SNR=25						
JNU				LR	LR	22 41 46.1	
	comp=Z,181nm,19.0s,baz=348,slow=40						
JHJ	**Hachijo jima 2**	**10.92**	**51**	Pn	**P**	**22 39 52.9**	**-4.9**
	3.9nm,0.3s,baz=52,slow=19,SNR=2.8						
SNY	**Shenyang**	**16.07**	**343**	⇓P	**P**	**22 41 07.5**	**+1.8**
SNY				LR	LR		
	comp=N,390nm,12.0s						
SNY				LR	LR		
	comp=E,250nm,11.1s						
SNY				LR	LR		
	comp=Z,340nm,10.8s						
XAN	**Xi'an**	**19.44**	**298**	P	**P**	**22 41 45.5**	**-1.6**
XAN				AMB	AMB		
	comp=Z,25nm,0.8s						
ASAJ	**Asahikawa**	**20.40**	**27**	P	**P**	**22 41 55.2**	**-2.2**
	comp=Z,6.2nm,0.9s,baz=127,slow=31,SNR=3.1						
KMI	**Kunming**	**24.32**	**273**	P	**P**	**22 42 38.5**	**+2.0**
KMI				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb4.1						
KMI				AMB	AMB		
	comp=Z,259nm,5.1s						
KMI				LR	LR		
	comp=N,342nm,16.1s,MS4.2						
KMI				LR	LR		
	comp=E,388nm,11.8s,MS4.2						
KMI				LR	LR		
	comp=Z,377nm,10.2s,MS4.2						
KMI	**Kunming**	**24.32**	**273**	P	**P**	**22 42 38.6**	**+2.1**
	comp=Z,8.0nm,1.1s,mb4.1						
KMI				pP		22 42 51.2	
KMI				LR	LR		
	comp=Z,380nm,10.2s,MS4.2						
SONM	**Songino Array**	**28.04**	**325**	P	**P**	**22 43 12.5**	**+1.6**
	comp=Z,1.6nm,0.7s,mb3.8,baz=137,slow=10,SNR=4.7						
SONM				LR	LR	22 54 21.1	
	comp=Z,113nm,18.9s,MS3.5,baz=255,slow=36						
GTA	**Gaotai**	**28.05**	**305**	P	**P**	**22 43 09.8**	**-1.2**
GTA				AP	pP	22 43 17.0	-3.5
GTA				XP	sP	22 43 20.5	-4.3
GTA				AMB	AMB		
	comp=Z,11nm,0.6s,mb4.7						
GTA				AMB	AMB		
	comp=Z,139nm,8.4s						
GTA				LR	LR		
	comp=N,233nm,16.1s,MS4.1						
GTA				LR	LR		
	comp=E,282nm,15.7s,MS4.1						
GTA				LR	LR		
	comp=Z,305nm,16.4s,MS4.0						
PKI	**Pulchoki**	**39.32**	**282**	*e*P	**P**	**22 44 49.2**	**+0.8**
	comp=Z,13nm,0.8s,mb4.7						
KKN	**Kakani**	**39.40**	**282**	*e*P	**P**	**22 44 49.5**	**+0.4**
	comp=Z,15nm,0.9s,mb4.7						
DMN	**Daman**	**39.58**	**282**	*e*P	**P**	**22 44 51.8**	**+1.2**
	comp=Z,30nm,1.3s,mb4.9						
GKN	**Gorkha**	**39.93**	**283**	*e*P	**P**	**22 44 53.7**	**+0.2**
	comp=Z,15nm,0.7s,mb4.8						
KOLN	**Koldanda**	**40.87**	**283**	*e*P	**P**	**22 45 02.0**	**+0.7**
	comp=Z,11nm,0.8s,mb4.5						
MKAR	**Makanchi Array**	**42.33**	**311**	P	**P**	**22 45 12.3**	**-0.8**
	comp=Z,1.6nm,0.6s,mb3.8,baz=92,slow=9.1,SNR=19						
MKAR				LR	LR	23 04 08.1	
	comp=Z,40nm,19.7s,MS3.3,baz=356,slow=38						
ZAL	**Zalesovo**	**42.83**	**322**	P	**P**	**22 45 16.5**	**-0.5**
	comp=Z,1.3nm,0.6s,mb3.9,baz=15,slow=7.7,SNR=6.7						
FITZ	**Fitzroy Crossi**	**44.55**	**186**	P	**P**	**22 45 31.0**	**-0.4**
	comp=Z,6.9nm,0.8s,mb4.6,baz=356,slow=4.4,SNR=3.0						
WRAB	**Tennant Creek**	**46.41**	**174**	*e*P	**P**	**22 45 45.2**	**-1.0**
	comp=Z,7.4nm,0.7s,mb4.7						
WRAB				*e*pP	pP	22 45 55.6	-0.4
WRA	**Warramunga Arr**	**46.42**	**174**	P	**P**	**22 45 46.2**	**-0.1**
	comp=Z,4.7nm,0.6s,mb4.6,baz=353,slow=8.4,SNR=38						
BRVK	**Borovoye**	**51.01**	**318**	*e*P	**P**	**22 46 21.3**	**0.0**
	comp=Z,3.9nm,1.0s,mb4.3						
ARU	**Arti**	**57.98**	**322**	*e*P	**P**	**22 47 11.6**	**-0.6**
	comp=Z,12nm,1.1s,mb4.8						
ILAR	**Eielson Array**	**63.53**	**28**	P	**P**	**22 47 48.8**	**-0.9**
	comp=Z,0.6nm,0.8s,mb3.7,baz=274,slow=5.4,SNR=7.8						
KIV	**Kislovodsk**	**70.07**	**310**	*e*P	**P**	**22 48 32.3**	**+1.0**
	comp=Z,8.9nm,0.9s,mb4.7						
ARCES	**ARCESS Array B**	**70.21**	**339**	P	**P**	**22 48 31.4**	**-0.3**
	comp=Z,3.1nm,0.8s,mb4.3,baz=68,slow=6.5,SNR=3.8						
ARCES				LR	LR	23 24 43.9	
	comp=Z,58nm,18.1s,MS3.9,baz=314,slow=40						
JOF	**Joensuu**	**70.42**	**331**	*e*p	**P**	**22 48 31.4**	**-1.7**
KAF	**Kangasniemi**	**72.88**	**331**	*e*p	**P**	**22 48 45.7**	**-2.0**
FINES	**FINESS Array B**	**73.25**	**331**	P	**P**	**22 48 50.5**	**+0.6**
	comp=Z,2.1nm,0.4s,mb4.4,baz=62,slow=7.0,SNR=29						
FINES				LR	LR	23 25 02.1	
	comp=Z,62nm,18.5s,MS3.9,baz=13,slow=39						
AKASG	**Malin Array Be**	**76.16**	**320**	P	**P**	**22 49 07.0**	**0.0**
	comp=Z,3.2nm,0.7s,mb4.3,baz=56,slow=6.1,SNR=10						
YKA	**Yellowknife Ar**	**77.68**	**25**	P	**P**	**22 49 16.5**	**+1.3**
	comp=Z,0.6nm,0.6s,mb3.7,baz=297,slow=4.9,SNR=4.8						

BR131	**Keskin Array S**	**77.90**	**308**	*e*P	**P**	**22 49 17.9**	**+0.9**
	comp=Z,3.0nm,0.9s,mb4.2						
BRTR	**Keskin Array B**	**77.90**	**308**	P	**P**	**22 49 18.2**	**+1.3**
	comp=Z,2.9nm,0.8s,mb4.2,baz=93,slow=6.0,SNR=13						
URZ	**Urewera**	**78.26**	**144**	P	**P**	**22 49 18.9**	**0.0**
	comp=Z,2.1nm,0.4s,mb4.4,baz=214,slow=3.6,SNR=4.3						
RPZ	**Rata Peaks**	**79.53**	**151**	P	**P**	**22 49 25.0**	**-0.8**
	comp=Z,4.6nm,0.7s,mb4.5,baz=73,slow=11,SNR=2.1						
NB2	**NORSAR Subarra**	**79.62**	**334**	P	**P**	**22 49 25.7**	**-0.2**
	comp=Z,1.8nm,0.7s,mb4.1,baz=50,slow=5.0						
NOA	**NORSAR Array B**	**79.62**	**334**	P	**P**	**22 49 26.3**	**+0.4**
	comp=Z,4.0nm,0.8s,mb4.4,baz=50,slow=5.3,SNR=11						
NOA				LR	LR	23 27 30.6	
	comp=Z,43nm,18.5s,MS3.8,baz=55,slow=38						
KWP	**Kalwaria**	**80.38**	**321**	*e*P	**P**	**22 49 31.3**	**+1.1**
	comp=Z,18nm,1.1s,mb4.9						
SUMG	**Summit**	**80.82**	**356**	*e*P	**P**	**22 49 33.7**	**+1.7**
	comp=Z,11nm,0.9s,mb4.8						
DPC	**Dobruska-Polom**	**83.50**	**324**	*e*P	**P**	**22 49 48.4**	**+2.2**
UPC	**Upice**	**83.57**	**324**	*e*P	**P**	**22 49 48.9**	**+2.3**
PVCC	**Panska Ves**	**84.31**	**325**	*e*P	**P**	**22 49 52.7**	**+2.3**
PRU	**Pruhonice**	**84.64**	**324**	*e*P	**P**	**22 49 54.1**	**+2.1**
CLL	**Collm**	**84.66**	**326**	⇓P	**P**	**22 49 53.7**	**+1.6**
	comp=Z,logA/T=0.9,mb4.8						
CLL	**Collm**	**84.66**	**326**	↓*i*P	**P**	**22 49 53.7**	**+1.6**
	comp=Z,9.0nm,1.1s,mb4.8						
CLL				*i*		22 50 15.3	
KHC	**Kasperske Hory**	**85.65**	**324**	*e*P	**P**	**22 49 59.2**	**+2.2**
GERES	**GERESS Array B**	**85.76**	**323**	P	**P**	**22 49 59.3**	**+1.7**
	comp=Z,1.6nm,0.8s,mb4.3,baz=45,slow=5.7,SNR=14						
PDAR	**Pinedale Array**	**92.08**	**39**	P	**P**	**22 50 29.8**	**+2.0**
	comp=Z,0.9nm,0.9s,mb4.1,baz=333,slow=3.3,SNR=7.2						

NEIC ***30*** *22:38:05.5,15.53N×60.83W,h202km,MD4.0(TRN),After TRN.*

TRN 30 22:38:10.0,15.30N×61.37W,h167km,Md3.0(FDF), 9C-7D,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBL	**Barber's Block**	**0.24**	**338**	↓*i*P	P	22 38 33.5	+0.7
DWS	**Wesley**	**0.28**	**12**	*e*P	P	22 38 34.7	+1.8
DWS				*e*S	S	22 38 51.4	+1.1
FDF	**Fort de France**	**0.60**	**159**	↓*i*P	P	22 38 34.5	+0.4
FDF				*e*S	S	22 38 51.8	-0.9
TBG	**Guadaloupe-3**	**0.61**	**335**	↓*e*P	P	22 38 34.8	+0.6
MGG	**Marie-Galante**	**0.62**	**5**	↓*e*P	P	22 38 35.2	+0.9
CRM	**Caravelle**	**0.70**	**141**	↓*e*P	P	22 38 34.8	+0.2
CRM				*e*S	S	22 38 53.5	-0.1
PHG	**Guadaloupe-2**	**0.76**	**340**	*e*P	P	22 38 36.2	+1.3
DOG	**Dongo Capester**	**0.77**	**342**	*e*P	P	22 38 36.0	+1.0
SCG	**Saint Claude**	**0.79**	**338**	*e*P	P	22 38 36.3	+1.2
BCG	**Bois Riant Cap**	**0.82**	**343**	*e*P	P	22 38 36.7	+1.4
MVM	**Montagne Vauci**	**0.87**	**148**	⇑*e*P	P	22 38 36.2	+0.5
LZG	**Guadaloupe-1**	**0.92**	**335**	*e*P	P	22 38 37.0	+1.1
DEG	**La Desirade**	**1.05**	**17**	*e*P	P	22 38 38.2	+1.2
DEG				*e*S	S	22 38 58.1	+0.3
SEG	**Port Louis**	**1.11**	**353**	⇑*e*P	P	22 38 38.8	+1.4
SEG				*e*S	S	22 38 59.4	+0.7
SLW	**Petit Monier**	**1.34**	**162**	*e*P	P	22 38 39.6	0.0
MBRY		**1.59**	**332**	⇑↓*i*P	P	22 38 42.1	0.0
MRYT		**1.59**	**332**	⇑↓*i*P	P	22 38 42.1	0.0
MBLG		**1.61**	**332**	⇑↓*i*P	P	22 38 42.3	0.0
MLGT	**Long Ground**	**1.61**	**332**	⇑↓*i*P	P	22 38 42.3	0.0
MLYT		**1.62**	**331**	⇑↓*i*P	P	22 38 42.6	+0.1
MBWH		**1.64**	**331**	⇑↓*i*P	P	22 38 42.5	-0.1
MBGB		**1.65**	**330**	⇑↓*i*P	P	22 38 42.7	0.0
SVB	**Belmont**	**2.02**	**177**	↓*i*P	P	22 38 48.7	+2.0
SVB				*e*S	S	22 39 15.4	+0.4
SVB	**Belmont**	**2.02**	**177**	↓*i*P	P	22 38 48.7	+2.0
SVB				*e*S	S	22 39 15.0	0.0
SABS	**Saba**	**2.92**	**322**	*e*P	P	22 38 59.4	+1.6
SABS				*e*S	S	22 39 42.5	+8.1
SABT	**Saba**	**2.92**	**322**	*e*P	P	22 38 59.4	+1.6
SABT				*e*S	S	22 39 42.5	+8.1
GRW	**Mount Saint Ca**	**3.13**	**185**	*e*P	P	22 39 00.8	+0.5
GRW				*e*S	S	22 39 40.4	+1.3
GRW	**Mount Saint Ca**	**3.13**	**185**	*e*P	P	22 39 00.8	+0.5
GRW				*e*S	S	22 39 42.7	+3.7
MTP	**Monte Pirata**	**4.88**	**305**	*e*Pn	P	22 39 22.4	-0.6
SJG	**San Juan**	**5.37**	**302**	*e*Pn	P	22 39 28.5	-0.7

BJI 30 23:04:06.2,29.07N×100.66E,h13km,ML3.1,Ms3.6, Msz3.2,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**4.35**	**154**	PG	Pg	23 05 23.5	-9.5
KMI				SG	Sg	23 06 19.5	-11
KMI				Smax			
	comp=N,32nm,1.4s						
KMI				Smax			
	comp=E,21nm,1.0s						
KMI				LR	LR		
	comp=N,566nm,6.9s						
KMI				LR	LR		
	comp=E,506nm,8.7s						
KMI				LR	LR		
	comp=Z,269nm,9.4s						

NIED ***30*** *23:17:00,26.50N×129.80E,h5km,Mw4.4 Best double couple: M₀4.36×10¹⁵ NP1:φs41°,δ60°,λ-93°. NP2:φs227°, δ31°,λ-85°.*
IDC ***30*** *23:17:08.7±0.7,26.55N×129.64E,mb4.2/15,mb1 4.4/16, mb1mx4.3/22,mbtmp4.2/16,ML4.2/1,MS3.7/8,Ms1 3.7/8, ms1mx3.5/28,Error ellipse: s-maj=20.3km s-min=14.6km az=59.0*
JMA ***30*** *23:17:10.4,26.51N×129.75E,h43km,M4.1*
MOS ***30*** *23:17:12.3±1.4,26.51N×129.61E,h33km,mb4.7/16, MS4.2/6,Error ellipse: s-maj=16.2km s-min=7.6km az=123.5*
BJI ***30*** *23:17:12.9,26.56N×129.50E,h31km,mB4.7,mb4.5, Ms4.2,Msz4.1*
NEIC ***30*** *23:17:14.2±0.4,26.56N×129.57E,h35km,mb4.5/19, MW4.4(NIED),Error ellipse: s-maj=9.6km s-min=8.9km az=215.0*

ISC 30 23:17:10.1±1.0,26.55N±0.03×129.67E±0.03,h18km±6km, n106,σ1§17/129,mb4.4/40,MS4.0/18,1C-5D,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**1.28**	**283**	Pn	**Pn**	**23 17 33.5**	**+0.4**
	422nm,0.3s,baz=116,slow=16,SNR=256						
JOW				Sn	**Sn**	**23 17 49.6**	**-0.2**
	382nm,0.3s,baz=128,slow=27,SNR=19						
JOW				LR	LR	23 17 51.2	
	comp=Z,778nm,19.0s,baz=163,slow=34						
JOW	**Kunigami**	**1.28**	**283**	P	**Pn**	**23 17 33.5**	**+0.4**
JOW				S	**Sb**	**23 17 50.6**	**+1.4**
JTK	**Tokunoshima**	**1.38**	**333**	P	**Pn**	**23 17 34.9**	**+0.3**
JTK				*e*S	**Sb**	**23 17 52.9**	**+0.6**
JMZ	**Minamidaito 2**	**1.58**	**117**	P	**Pn**	**23 17 35.5**	**-1.9**
JMZ				*e*S	**Sn**	**23 17 53.2**	**-4.3**
JIH	**Iheya**	**1.59**	**288**	P	**Pn**	**23 17 38.1**	**+0.5**
JIH				S	**Sn**	**23 17 58.2**	**+0.3**
JJT2	**Tamagusuku 2**	**1.77**	**257**	P	**Pn**	**23 17 40.8**	**+0.6**
JJT2				*e*S	**Sn**	**23 18 02.1**	**-0.3**
JZK	**Kikaishima**	**1.77**	**9**	P	**Pn**	**23 17 40.5**	**+0.3**
JZK				*e*S	**Sn**	**23 18 02.8**	**+0.3**
NAH1	**Naha**	**1.81**	**259**	P	**Pn**	**23 17 41.2**	**+0.5**
NAH1				*e*S	**Sn**	**23 18 02.9**	**-0.4**
JAM	**Amami Oshima**	**1.85**	**358**	P	**Pn**	**23 17 40.8**	**-0.5**
JAM				*e*S	**Sn**	**23 18 02.8**	**-1.6**
JAGN	**Aguni-jima**	**2.17**	**271**	P	**Pn**	**23 17 46.4**	**+0.5**
JAGN				*e*S	**Sn**	**23 18 12.9**	**+0.3**
JKE	**Kume jima 2**	**2.59**	**266**	P	**Pn**	**23 17 51.3**	**-0.7**
JKE				S	**Sn**	**23 18 22.2**	**-1.1**
JNN	**Nakanoshima**	**3.28**	**3**	P	**Pn**	**23 18 01.0**	**-0.7**
JNN				S	**Sn**	**23 18 38.0**	**-2.7**
JKC	**Kuchinoerabu**	**3.92**	**7**	P	**Pn**	**23 18 09.9**	**-0.9**
JKC				*e*S	**Sn**	**23 18 52.7**	**-4.2**
JTN	**Tanegashima 3**	**4.25**	**15**	P	**Pn**	**23 18 14.5**	**-0.9**
JTN				S	**Sn**	**23 18 56.4**	**-8.7**
JNU	**Nakatsue**	**6.63**	**9**	Pn	**Pn**	**23 18 48.1**	**-1.0**
	5.0nm,0.3s,baz=356,slow=6.4,SNR=22						
JNU				Sn	**Sn**	**23 19 57.6**	**-7.3**
	0.4nm,0.3s,baz=200,slow=42,SNR=1.9						
YHNB	**Yeheng**	**7.71**	**258**	P	**Pn**	**23 19 02.3**	**-2.0**
SSE	**Sheshan**	**8.70**	**303**	P	**P**	**23 19 16.5**	**-1.6**
SSE				S	**Sn**	**23 20 49.8**	**-6.9**
SSE				AMB	AMB		
	comp=Z,16nm,0.7s						
SSE				AMB	AMB		
	comp=Z,278nm,8.4s						
SSE				LR	LR		
	comp=N,163nm,16.8s						
SSE				LR	LR		
	comp=E,136nm,16.8s						
SSE				LR	LR		
	comp=Z,263nm,18.2s						
SSE	**Sheshan**	**8.70**	**303**	P	**P**	**23 19 16.4**	**-1.7**
	comp=Z,16nm,0.7s						
SSE				S	**Sn**	**23 20 49.8**	**-6.9**
SNY	**Shenyang**	**16.04**	**343**	⇓P	**P**	**23 20 58.3**	**+2.0**
SNY				AMB	AMB		
	comp=Z,20nm,1.0s						
SNY				LR	LR		
	comp=N,560nm,9.6s						
SNY				LR	LR		
	comp=E,490nm,6.9s						
SNY				LR	LR		
	comp=Z,640nm,11.1s						
CN2	**Changchun**	**17.55**	**350**	*e*P	**P**	**23 21 16.5**	**+1.2**
CN2				*e*S	**S**	**23 24 28.5**	**+0.3**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
CN2				LR	LR		
	comp=N,480nm,13.0s						
CN2				LR	LR		
	comp=E,370nm,13.0s						
CN2				LR	LR		
	comp=Z,400nm,14.0s						
MDJ	**Mudanjiang**	**18.02**	**360**	P	**P**	**23 21 24.3**	**+3.0**
MDJ				S	**S**	**23 24 43.8**	**+4.8**
MDJ				AMB	AMB		
	comp=Z,3.0nm,0.5s						
MDJ				AMB	AMB		
	comp=Z,44nm,4.3s						
MDJ				LR	LR		
	comp=N,73nm,17.6s						
MDJ				LR	LR		
	comp=E,49nm,19.9s						
MDJ				LR	LR		
	comp=Z,75nm,15.2s						
XAN	**Xi'an**	**19.39**	**298**	P	**P**	**23 21 36.5**	**-1.3**
XAN				AMB	AMB		
	comp=Z,35nm,1.1s						
GYA	**Guiyang**	**20.59**	**275**	↓*i*P	**P**	**23 21 50.5**	**-0.2**
GYA				AP		23 21 59.8	
GYA				XP		23 22 03.5	
GYA				PP	PP	23 22 12.0	-0.1
GYA				S	**S**	**23 25 34.0**	**-1.1**
GYA				AMB	AMB		
	comp=Z,20nm,0.6s						
GYA				AMB	AMB		
	comp=Z,90nm,2.9s						
GYA				LR	LR		
	comp=N,390nm,15.4s,MS4.0						
GYA				LR	LR		
	comp=E,370nm,15.5s,MS4.0						
GYA				LR	LR		
	comp=Z,680nm,15.0s,MS4.1						
HHC	**Hu-ho-hao-te**	**20.68**	**318**	⇓P	**P**	**23 21 52.5**	**+0.9**
HHC				AP		23 22 01.3	
HHC				XP		23 22 06.0	
HHC				PP	PP	23 22 17.0	+3.6
HHC				S	**S**	**23 25 43.0**	**+6.1**
HHC				AMB	AMB		
	comp=Z,9.0nm,0.7s						
HHC				AMB	AMB		
	comp=Z,148nm,8.4s						
HHC				LR	LR		
	comp=N,584nm,14.4s,MS4.2						
HHC				LR	LR		
	comp=E,373nm,12.0s,MS4.2						
HHC				LR	LR		
	comp=Z,525nm,13.2s,MS4.1						
LZH	**Lanzhou**	**23.96**	**300**	*e*P	**P**	**23 22 23.5**	**-0.7**
LZH				AP		23 22 33.0	
LZH				XP		23 22 37.0	
LZH				PP	PP	23 22 57.0	-1.3
LZH				*e*S	**S**	**23 26 44.0**	**+7.2**
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.3						
LZH				AMB	AMB		
	comp=Z,60nm,4.1s						
LZH				LR	LR		
	comp=E,632nm,11.1s						
LZH				LR	LR		
	comp=Z,860nm,12.0s,MS4.5						
LZH	**Lanzhou**	**23.96**	**300**	*e*P	**P**	**23 22 23.6**	**-0.6**
	comp=Z,13nm,1.0s,mb4.3						
LZH				pP		23 22 33.0	
LZH				sP		23 22 37.0	
LZH				PP	PP	23 22 57.0	-1.3
LZH				*e*S	**S**	**23 26 44.0**	**+7.2**
LZH				sS		23 26 59.2	
LZH				*e*SS	SS	23 27 24.0	-3.8
LZH				LR	LR		
	comp=Z,860nm,12.0s,MS4.5						
LZH	**Lanzhou**	**23.96**	**300**	*e*P	**P**	**23 22 23.6**	**-0.6**
LZH				*PP		23 22 33.0	
LZH				*SP		23 22 37.0	
LZH						23 22 57.0	
LZH				*e*S	**S**	**23 26 44.0**	**+7.2**
LZH				*SS		23 26 59.2	
LZH				*e*SS	SS	23 27 24.0	-3.8
LZH				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.3						
LZH				MLR	MLR		
	comp=Z,860nm,12.0s,MS4.5						
KMI	**Kunming**	**24.26**	**273**	P	**P**	**23 22 29.5**	**+2.2**
KMI				AP		23 22 36.0	
KMI				AMB	AMB		
	comp=Z,11nm,0.9s,mb4.3						
KMI				AMB	AMB		
	comp=Z,232nm,6.0s						
KMI				LR	LR		
	comp=N,428nm,9.6s						
KMI				LR	LR		
	comp=E,736nm,10.8s						
KMI				LR	LR		
	comp=Z,683nm,10.4s,MS4.4						
KMI	**Kunming**	**24.26**	**273**	P	**P**	**23 22 29.4**	**+2.1**
	comp=Z,11nm,0.9s,mb4

comp=Z,153nm,19.0s,MS3.6,baz=71,slow=39
PET Petropavlovsk 34.14 31 *e*P **P 23 23 59.3 +3.4**
WMQ Urumqi 37.92 308 *e*P **P 23 24 28.0 0.0**
WMQ AP pP 23 24 38.0 +4.4
WMQ XP sP 23 24 42.0 +6.1
WMQ PP PP 23 25 58.0 +0.1
WMQ S **S 23 30 17.0 -1.4**
WMQ SS SS 23 32 54.0 -1.0
WMQ AMB AMB
comp=Z,16nm,1.0s,mb4.7
WMQ AMB AMB
comp=Z,214nm,5.0s
WMQ LR LR
comp=N,87nm,14.0s,MS3.9
WMQ LR LR
comp=E,95nm,14.0s,MS3.9
WMQ LR LR
comp=Z,118nm,14.0s,MS3.9
PKI Pulchoki 39.27 282 *e*P **P 23 24 39.6 +0.1**
comp=Z,14nm,1.0s,mb4.7
PKI Pulchoki 39.27 282 *e*P **P 23 24 39.6 +0.1**
PKI pmax pmax
comp=Z,7.0nm,1.0s,mb4.3
KKN Kakani 39.35 282 *e*P **P 23 24 39.9 -0.2**
comp=Z,24nm,1.0s,mb4.9
KKN Kakani 39.35 282 *e*P **P 23 24 39.9 -0.2**
KKN pmax pmax
comp=Z,12nm,1.0s,mb4.6
DMN Daman 39.53 282 *e*P **P 23 24 40.9 -0.7**
comp=Z,10nm,0.8s,mb4.6
PMG Port Moresby 39.58 152 LR LR 23 39 58.0
comp=Z,39nm,21.2s,MS3.2,baz=301,slow=35
GKN Gorkha 39.88 283 *e*P **P 23 24 44.5 0.0**
comp=Z,19nm,0.8s,mb4.8
KOLN Koldanda 40.82 283 *e*P **P 23 24 52.2 -0.1**
comp=Z,14nm,0.9s,mb4.6
MKAR Makanchi Array 42.28 311 P **P 23 25 03.2 -0.8**
comp=Z,1.4nm,0.6s,mb3.8,baz=106,slow=8.8,SNR=13
MKAR LR LR 23 43 41.8
comp=Z,70nm,19.1s,MS3.6,slow=38
ZAL Zalesovo 42.78 322 P **P 23 25 08.9 +0.8**
comp=Z,1.0nm,0.3s,mb4.0,baz=72,slow=15,SNR=6.1
FITZ Fitzroy Crossi 44.56 185 P **P 23 25 22.5 -0.5**
comp=Z,6.3nm,0.7s,mb4.6,baz=15,slow=3.3,SNR=8.1
KURK Kurchatov 45.48 316 P **P 23 25 28.7 -1.1**
WRAB Tennant Creek 46.43 174 *e*P **P 23 25 36.2 -1.6**
comp=Z,11nm,1.0s,mb4.7
WRAB Tennant Creek 46.43 174 *e*P **P 23 25 36.2 -1.6**
WRAB pmax pmax
comp=Z,11nm,1.0s,mb4.7
WRA Warramunga Arr 46.44 174 P **P 23 25 37.0 -0.8**
comp=Z,3.7nm,0.5s,mb4.6,baz=355,slow=8.5,SNR=36
BILL Bilibino 46.97 18 *i*P **P 23 25 41.6 +0.3**
BILL pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
BILL MLR MLR
comp=Z,100nm,18.0s,MS3.8
AAK Ala-Archa 47.35 305 *i*P **P 23 25 45.2 +0.5**
AAK pmax pmax
comp=Z,1.0nm,1.3s,mb3.6
CTA Charters Tower 49.08 159 P **P 23 25 57.5 -1.0**
comp=Z,4.0nm,0.7s,mb4.5,baz=339,slow=13,SNR=3.0
CTA LR LR 23 44 46.5
comp=Z,84nm,20.3s,MS3.7,baz=45,slow=34
BRVK Borovoye 50.96 318 *e*P **P 23 26 12.0 -0.4**
comp=Z,4.3nm,1.0s,mb4.3
BRVK Borovoye 50.96 318 *e*P **P 23 26 12.0 -0.4**
BRVK pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
SVE Sverdlovsk 56.79 322 *e*P **P 23 26 54.4 -0.9**
SVE pmax pmax
comp=Z,25nm,2.0s,mb4.9
SVE MLR MLR
comp=E,200nm,12.0s
SVE MLR MLR
comp=Z,400nm,12.0s,MS4.7
ARU Arti 57.94 322 *e*P **P 23 27 01.8 -1.5**
comp=Z,15nm,1.4s,mb4.8
ARU Arti 57.94 322 ⇓*i*P **P 23 27 02.4 -0.9**
ARU *e* 23 27 50.0
ARU *e* 23 29 07.4
ARU *e*S **S 23 34 59.4 -1.3**
ARU *e*SS SS 23 38 58.4 +5.0
ARU pmax pmax
comp=Z,11nm,1.0s,mb4.8
ILAR Eielson Array 63.54 28 P **P 23 27 40.3 -1.0**
comp=Z,0.5nm,0.7s,mb3.7,baz=270,slow=6.0,SNR=6.5
GOF Gofitskoye 69.45 311 *e*P **P 23 28 18.6 -0.6**
GNI Garni 69.74 306 LR LR 00 03 09.4
comp=Z,59nm,18.3s,MS3.9,baz=323,slow=40
GNI Garni 69.74 306 *i*P **P 23 28 22.6 +1.6**
GNI pmax pmax
comp=Z,14nm,1.4s
GNI MLR MLR
comp=Z,100nm,19.0s
KIV Kislovodsk 70.02 310 *e*P **P 23 28 23.3 +0.6**
comp=Z,9.6nm,0.9s,mb4.7
KIV Kislovodsk 70.02 310 *d*P **P 23 28 23.6 +0.9**
KIV pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
KIV MLR MLR
comp=Z,100nm,20.0s,MS4.1
ARCES ARCESS Array B 70.17 339 P **P 23 28 22.4 -0.7**
comp=Z,2.8nm,0.9s,mb4.2,baz=90,slow=4.9,SNR=3.8
OBN Obninsk 70.36 322 ⇑*i*P **P 23 28 24.3 -0.2**
OBN *i* 23 28 45.4
OBN *e*S S 23 37 33.9 -0.7
OBN *e*SS SS 23 42 07.7 +0.6
OBN pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
OBN MLR MLR
comp=Z,200nm,18.0s,MS4.4
JOF Joensuu 70.38 331 *e*p **P 23 28 21.7 -2.8**
comp=Z,6.8nm,0.8s,mb4.6
KAF Kangasniemi 72.84 331 *e*p **P 23 28 36.8 -2.3**
comp=Z,6.4nm,0.9s,mb4.5,baz=66,slow=5.6
KAF Kangasniemi 72.84 331 *e*P **P 23 28 36.8 -2.3**
KAF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
FINES FINESS Array B 73.21 331 P **P 23 28 41.3 -0.1**
comp=Z,2.2nm,0.4s,mb4.4,baz=61,slow=6.9,SNR=30
FINES LR LR 00 04 35.3
comp=Z,95nm,19.7s,MS4.1,baz=160,slow=39
ANN Anapa 73.30 312 *e*P **P 23 28 52.0 +10**
ANN pmax pmax
comp=Z,41nm,1.2s,mb5.2
AKASG Malin Array Be 76.12 320 P **P 23 28 58.2 -0.1**
comp=Z,2.2nm,0.6s,mb4.3,baz=53,slow=6.0,SNR=15
YKA Yellowknife Ar 77.69 25 P **P 23 29 06.5 -0.3**
comp=Z,0.3nm,0.4s,mb3.5,baz=304,slow=4.5,SNR=3.8
YKA Yellowknife Ar 77.69 25 P **P 23 29 06.5 -0.3**
BR131 Keskin Array S 77.85 308 *e*P **P 23 29 08.8 +0.6**
comp=Z,2.4nm,0.8s,mb4.2
BRTR Keskin Array B 77.85 308 P **P 23 29 09.1 +0.9**
comp=Z,2.7nm,0.8s,mb4.2,baz=97,slow=5.2,SNR=13
JMIC Jan Mayen 78.39 347 LR LR 00 07 41.9
comp=Z,62nm,18.5s,MS4.0,baz=73,slow=39
LVV L'vov 79.49 321 *e*P **P 23 29 26.3 +9.4**
NB2 NORSAR Subarra 79.59 334 P **P 23 29 16.1 -1.1**
comp=Z,1.9nm,0.8s,mb4.1,baz=52,slow=5.0
NB2 NORSAR Subarra 79.59 334 P **P 23 29 16.1 -1.1**
NB2 pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
NOA NORSAR Array B 79.59 334 P **P 23 29 17.2 0.0**
comp=Z,4.0nm,0.8s,mb4.4,baz=50,slow=5.4,SNR=10
NOA LR LR 00 07 33.7
comp=Z,55nm,19.1s,MS3.9,baz=85,slow=38
NOA NORSAR Array B 79.59 334 P **P 23 29 17.2 0.0**
KWP Kalwaria 80.33 321 *e*P **P 23 29 21.1 -0.3**
comp=Z,19nm,1.1s,mb4.9
KWP Kalwaria 80.33 321 *e*P **P 23 29 21.1 -0.3**
KWP pmax pmax
comp=Z,19nm,1.1s,mb4.9
SUMG Summit 80.80 356 *e*P **P 23 29 24.4 +1.0**
comp=Z,13nm,1.0s,mb4.8
STHS Stebnicka Huta 81.27 321 *e*P **P 23 29 28.4 +2.1**
OJC Ojcow 81.65 322 *e*P **P 23 29 29.6 +1.3**
NIE Niedzica 81.79 321 *e*P **P 23 29 31.2 +2.2**
KECS Kecovo 82.18 321 *e*P **P 23 29 31.8 +0.7**
OKC Ostrava-Krasne 82.76 323 *e*pP pP 23 29 47.5 +7.5
VYHS Vyhne 83.10 321 *e*P **P 23 29 34.3 -1.6**
DPC Dobruska-Polom 83.45 324 *e*P **P 23 29 39.6 +2.0**
PVCC Panska Ves 84.27 324 *e*P **P 23 29 43.7 +2.0**
BRG Berggiesshubel 84.39 325 *e*P **P 23 29 43.9 +1.5**
comp=Z,4.1nm,1.0s,mb4.5
BRG Berggiesshubel 84.39 325 *e*P **P 23 29 43.9 +1.5**
BRG pmax pmax
comp=Z,4.0nm,1.0s,mb4.5
PRU Pruhonice 84.60 324 *e*P **P 23 29 45.5 +2.1**
CLL Collm 84.62 326 P **P 23 29 44.6 +1.2**
comp=Z,logA/T=0.9,mb4.8
CLL Collm 84.62 326 *i*P **P 23 29 44.6 +1.2**
comp=Z,9.0nm,1.1s,mb4.8
CLL Collm 84.62 326 *i*P **P 23 29 44.6 +1.2**
CLL pmax pmax
comp=Z,9.0nm,1.1s,mb4.8
KHC Kasperske Hory 85.61 324 *e*P **P 23 29 50.4 +1.9**
GERES GERESS Array B 85.71 323 P **P 23 29 50.2 +1.2**
comp=Z,2.1nm,0.9s,mb4.4,baz=34,slow=4.8,SNR=11
HLID Hailey 88.81 41 *e*P **P 23 30 05.8 +1.7**
ELK Elko 89.97 43 P **P 23 30 11.3 +1.6**
PDAR Pinedale Array 92.10 39 P **P 23 30 21.0 +1.6**
comp=Z,1.0nm,0.9s,mb4.1,baz=315,slow=2.1,SNR=7.0
MSU Marysvale 93.20 44 *e*P **P 23 30 25.6 +1.0**

KRSC 30 23:49:29.6±0.8, 53.31N×160.53E, h36km±4km, ML3.8,
Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.37**	**235**	*i* P	P	23 49 39.1	+0.6
SPN				*i* S	S	23 49 45.7	+1.0
NLC	**Nalytchevo**	**0.73**	**259**	*i* P	P	23 49 43.6	+0.2
NLC				*i* S	S	23 49 54.2	+0.8
KII	**Karymskiy**	**0.97**	**319**	*i* P	P	23 49 47.0	+0.1
KII				*e*S	S	23 49 59.6	-0.1
SDLR	**Sedlovina**	**0.99**	**269**	*i* P	P	23 49 47.7	+0.6
SDLR				*e*S	S	23 50 01.0	+0.9
UGLR	**Uglovaya**	**1.03**	**265**	*i* P	P	23 49 48.6	+0.9
UGLR				*e*S	S	23 50 02.6	+1.5
SMAR	**Somma**	**1.04**	**268**	*i* P	P	23 49 48.3	+0.5
SMAR				*e*S	S	23 50 02.0	+0.6
AVH	**Avacha**	**1.08**	**268**	*i* P	P	23 49 49.1	+0.7
AVH				*e*S	S	23 50 04.1	+1.8
KOK	**Koryaka**	**1.14**	**270**	*i* P	P	23 49 49.8	+0.6
KOK				*e*S	S	23 50 05.0	+1.1
PET	**Petropavlovsk**	**1.17**	**257**	*i* P	P	23 49 49.8	+0.2
PET				*e*S	S	23 50 04.5	-0.1
MKZ	**Mys Kozlova**	**1.44**	**29**	*e*P	P	23 49 52.2	-1.4
MKZ				*e*S	S	23 50 09.2	-2.2
RUS	**Russkaya**	**1.50**	**235**	*e*P	P	23 49 54.2	-0.3
RUS				*e*S	S	23 50 12.3	-0.9
KRMR	**Karymshinskiy**	**1.53**	**253**	*e*P	P	23 49 55.5	+0.7
KRMR				*e*S	S	23 50 14.1	+0.4
GNL	**Ganaly**	**1.59**	**285**	*i* P	P	23 49 56.4	+0.6
GNL				*e*S	S	23 50 14.9	-0.5
GRL	**Gorelyy**	**1.67**	**244**	*e*P	P	23 49 57.5	+0.6
GRL				*e*S	S	23 50 17.8	+0.5
APC	**Apacha**	**2.07**	**261**	*i* P	P	23 50 03.4	+0.8
APC				*e*S	S	23 50 29.1	+1.7
APC				Smax			
	70nm,1.6s						
KMNR	**Kamenistaya**	**2.46**	**356**	*e*P	P	23 50 09.3	+1.2
KMNR				*e*S	S	23 50 38.5	+1.2
MIPR	**Malaya Ipel'ka**	**2.51**	**247**	*e*P	P	23 50 09.9	+1.0
MIPR				*e*S	S	23 50 40.3	+1.6
KPT	**Kopyto**	**2.67**	**356**	*e*P	P	23 50 12.7	+1.5
KPT				*e*S	S	23 50 43.8	+1.2
ZLN	**Zelenaya**	**2.72**	**3**	*e*P	P	23 50 13.9	+2.0
ZLN				*e*S	S	23 50 45.3	+1.4
KOZ	**Kozyrevsk**	**2.78**	**352**	*e*P	P	23 50 14.1	+1.3
KOZ				*e*S	S	23 50 46.9	+1.4
LGNR	**Loginova**	**2.78**	**2**	P	P	23 50 12.8	0.0
LGNR				*e*S	S	23 50 43.7	-1.8
CIRR	**Tsirk**	**2.81**	**2**	*e*P	P	23 50 15.2	+2.0
CIRR				*e*S	S	23 50 47.7	+1.4
ESO	**Esso**	**2.83**	**339**	*e*P	P	23 50 13.2	-0.2
ESO				*e*S	S	23 50 45.7	-1.0
ESO				Smax			
	40nm,0.8s						
KRSR	**Krestovskiy**	**2.91**	**0**	*e*P	P	23 50 15.2	+0.5
KRSR				*e*S	S	23 50 48.8	0.0
PAU	**Pauzhetka**	**2.93**	**232**	*e*P	P	23 50 17.0	+2.1
PAU				*e*S	S	23 50 49.5	+0.2
PAU				Smax			
	100nm,0.8s						
KLY	**Klyuchi**	**3.01**	**1**	*e*P	P	23 50 17.2	+1.2
KLY				*e*S	S	23 50 51.9	+0.6
SRDR	**Sredinnyy**	**3.05**	**351**	*e*P	P	23 50 16.9	+0.3
SRDR				*e*S	S	23 50 51.3	-1.0
KBTR	**Krutoberegovo**	**3.19**	**24**	*e*P	P	23 50 17.9	-0.7
KBTR				*e*S	S	23 50 53.5	-2.4
BKI	**Bering**	**3.71**	**57**	*i* P	P	23 50 24.8	-1.2
BKI				Smax			
	60nm,0.3s						

NAO ***31*** *00:33:24.6±1.1, 61.44N×15.03E, ML2.3*
IDC ***31*** *00:33:25.7±1.3, 61.43N×14.92E, h11km±10km, mb1 3.3/2, mb1mx3.0/19, mbtmp3.2/2, ML2.3/2, Error ellipse: s-maj=8.1km s-min=6.6km az=166.0*
BER ***31*** *00:33:27.3±3.0, 61.44N×14.93E, h15km±17km, ML2.3(NAO)*

HEL 31 00:33:28.0±0.1, 61.36N×15.01E, h23km, ML2.3, ML2.1(UPP), ML2.3(NAO), 4C-1D, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FALU	**Falun**	**0.95**	**155**	⇓*e*P	Pb	00 33 45.2	-0.5
FALU				*e*S	Sb	00 33 58.0	+0.1
HASU	**Hassela**	**1.11**	**43**	⇑*e*P	Pn	00 33 47.8	-0.5
HASU				*e*S	Sb	00 34 01.5	-0.8
IGGU	**Iggoen**	**1.22**	**112**	*e*P	Pn	00 33 48.8	-1.1
HFS	**Hagfors**	**1.39**	**208**	*e*P	Pn	00 33 51.8	-0.5
HFS				*e*SN	Sn	00 34 10.3	+0.3
HFS	**Hagfors**	**1.39**	**208**	Pn	Pn	00 33 51.9	-0.3
	4.3nm,0.3s,baz=24,slow=14,SNR=670						
HFS				Lg		00 34 10.4	
	2.8nm,0.3s,baz=25,slow=27,SNR=13						
HFS	**Hagfors**	**1.39**	**208**	Pn	Pn	00 33 51.8	-0.5
	baz=33,slow=16						
HFS				Lg		00 34 10.3	
	baz=35,slow=28						
OSTU	**Oestervaala**	**1.54**	**136**	*e*P	Pn	00 33 54.4	0.0
OSTU				*e*S	Sn	00 34 14.2	+0.4
NRAU	**Nora**	**1.79**	**180**	⇑*e*P	Pn	00 33 57.9	-0.2
NRAU				*e*S	Sn	00 34 20.0	-0.3
BACU	**Backbrunna**	**1.83**	**145**	*e*P	Pn	00 33 58.2	-0.4
BACU				*e*S	Sn	00 34 21.3	+0.1
FORU	**Forsmark**	**1.83**	**121**	*e*P	Pn	00 33 58.2	-0.4
FORU				*e*S	Sn	00 34 20.0	-1.3
NB2	**NORSAR Subarra**	**1.86**	**262**	*e*P	Pn	00 33 58.3	-0.8
NB2				*e*SB	Sb	00 34 23.7	-0.5
NB2	**NORSAR Subarra**	**1.86**	**262**	Pn	Pn	00 33 58.3	-0.8
	baz=79,slow=14						
NB2				Lg		00 34 23.7	
	baz=75,slow=28						
NOA	**NORSAR Array B**	**1.86**	**262**	Pn	Pn	00 33 58.1	-1.0
	0.9nm,0.3s,baz=321,slow=22,SNR=6.6						
NOA				Pg	Pn	00 33 59.0	-0.1
	1.8nm,0.3s,baz=75,slow=17,SNR=7.4						
NOA				Sn	Sn	00 34 20.2	-2.0
	6.2nm,0.3s,baz=68,slow=15,SNR=14						
NOA				Lg		00 34 22.6	
	6.5nm,0.3s,baz=44,slow=23,SNR=14						
FLYU	**Flymyra**	**1.87**	**130**	*e*P	Pn	00 33 58.7	-0.5
FLYU				*e*S	Sn	00 34 22.0	-0.4
GRAU	**Graesoe**	**2.01**	**119**	⇑*e*P	Pn	00 34 00.5	-0.7
GRAU				*e*S	Sn	00 34 25.5	-0.3
NOD	**Norderasen**	**2.10**	**358**	*e*P	Pn	00 34 01.8	-0.7
NOD				*e*S	Sn	00 34 27.8	-0.3
SOLU	**Sollefteaa**	**2.17**	**28**	*e*P	Pn	00 34 03.4	-0.1
ESKU	**Eskilstuna**	**2.24**	**161**	*e*P	Pn	00 34 03.6	-0.9
ASKU	**Askersund**	**2.47**	**182**	⇑*e*P	Pn	00 34 08.0	+0.2
NYNU	**Nynaeshamn**	**2.79**	**146**	*e*P	Pn	00 34 11.1	-1.3
BREU	**Bredtraesk**	**3.03**	**31**	*e*P	Pn	00 34 15.3	-0.5
LNKU	**Linkoeping**	**3.15**	**175**	*e*P	Pn	00 34 16.5	-1.0
VSTU	**Vaestervik**	**3.79**	**167**	*e*P	Pn	00 34 25.5	-1.0
VAF	**Ylistaro**	**3.97**	**61**	*e*P	Pn	00 34 28.4	-0.7
VAF				*e*SB	Sb	00 35 27.2	+2.1
VAF				MSG		00 35 28.8	
	comp=Z,7.6nm,0.3s						
OSKU	**Oskarshamn**	**4.21**	**172**	*e*P	Pn	00 34 31.1	-1.4
KEF	**Keuruu**	**4.75**	**76**	*e*P	Pn	00 34 38.0	-2.3
KEF				*e*S	Sn	00 35 31.0	-4.4
KEF				*e*		00 35 54.7	
KEF				MSG		00 35 55.9	
	comp=Z,2.1nm,0.2s						
FIA0	**FINESS Array S**	**5.32**	**84**	Pn	Pn	00 34 45.8	-2.5
	baz=265,slow=11						
FIA0				Sn	Sn	00 35 43.2	-6.3
	baz=272,slow=22						
FIA0				Lg		00 36 12.9	
	baz=273,slow=28						
FIA0	**FINESS Array S**	**5.32**	**84**	*e*S	Sn	00 35 44.5	-5.1
FIA0				*e*		00 36 13.4	
FINES	**FINESS Array B**	**5.32**	**84**	Pn	Pn	00 34 46.1	-2.1
	comp=Z,0.1nm,0.3s,baz=276,slow=13,SNR=3.6						
FINES				Sn	Sn	00 35 44.6	-4.9
	comp=Z,0.4nm,0.3s,baz=270,slow=21,SNR=6.6						
FINES				Lg		00 36 12.8	
	comp=Z,2.0nm,0.3s,baz=273,slow=26,SNR=17						
PVF	**Pernaja**	**5.35**	**94**	*e*P	Pn	00 34 46.1	-2.6
PVF				*e*		00 36 14.1	
PVF				MSG		00 36 17.8	
	comp=Z,2.8nm,0.2s						
SUF	**Sumiainen**	**5.42**	**71**	*e*P	Pn	00 34 47.5	-2.1
SUF				*e*S	Sn	00 35 47.0	-5.0
SUF				*e*		00 36 15.1	
SUF				MSG		00 36 19.1	
	comp=Z,2.7nm,0.2s						
KAF	**Kangasniemi**	**5.42**	**77**	*e*S	Sn	00 35 47.0	-5.1
KAF				*e*		00 36 15.1	
KAF				MSG		00 36 18.8	
	comp=Z,3.8nm,0.2s						
VJF	**Virojoki**	**6.17**	**92**	*e*	Sx	00 36 38.4	
OUL	**Oulu**	**6.18**	**48**	*e*S	Sn	00 36 06.2	-4.8
OUL				*e*		00 36 36.1	
KJN	**Kajaani**	**6.45**	**59**	*e*S	Sn	00 36 10.6	-7.2
KJN				*e*		00 36 43.9	
KJN				MSG		00 36 47.3	
	comp=Z,6.7nm,0.3s						
JOF	**Joensuu**	**7.80**	**71**	*e*P	Pn	00 35 20.5	-2.5
JOF				*e*S	Sn	00 36 43.6	-7.9
JOF				*e*		00 37 27.8	
SGF	**Sodankyl**	**7.87**	**34**	*e*	Sx	00 37 29.2	
ARA0	**ARCESS Array S**	**9.28**	**23**	Pn	P	00 35 37.8	-5.9
	baz=211,slow=14						
ARA0				Sn	Sn	00 37 13.5	-15
	baz=213,slow=22						
ARA0				Lg		00 38 11.8	
	baz=219,slow=37						
ARA0	**ARCESS Array S**	**9.28**	**23**	*e*P	P	00 35 37.8	-5.9
ARA0				*e*		00 37 13.5	
ARA0				*e*		00 38 11.8	
ARCES	**ARCESS Array B**	**9.28**	**23**	Pn	P	00 35 37.6	-6.1
	comp=Z,0.1nm,0.3s,baz=209,slow=14,SNR=6.5						
ARCES				Sn	Sn	00 37 14.0	-14
	comp=Z,0.2nm,0.3s,baz=215,slow=22,SNR=4.3						

STR ***31*** *00:36:14.7±0.4, 42.74N×1.73W, h10km±1km, Ml2.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
NEIC ***31*** *00:36:14.7, 42.74N×1.73W, h10km, ML2.7(LDG), ML2.7(STR), MN2.3(MDD), After STR.*
NEIC Felt [IV] at Labiano; [III] at Mutilva Baja, Tajonar and Zolina; [II] at Olaz; [I] at Mutilva Alta, Noain and Zulueta, Spain.
LDG ***31*** *00:36:16.9±0.2, 42.71N×1.68W, h5km, Md2.7/3, Ml2.7/20, Error ellipse: s-maj=4.2km s-min=2.2km az=30.0*
MDD ***31*** *00:36:16.9±0.2, 42.75N×1.57W, h1km±3km, mbLg2.3/23, Error ellipse: s-maj=2.4km s-min=1.3km az=20.0, PRXIMO III TAJONAR ZOLINA II-III MUTILVA BAJA II GORRAIZ OLAZ I ZULUETA IN MUTILVA ALTA*
MDD EMS: III-IV LABIANO.
CSEM ***31*** *00:36:17.0±0.1, 42.76N×1.61W, ML2.7/28, Error ellipse: s-maj=1.4km s-min=1.0km az=170.0*

ISC 31 00:36:14.7±0.2, 42.81N±0.02×1.63W±0.02, h10km, n102, σ1§29/174, 3C-1D, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EARA	**Aranguren**	**0.05**	**130**	Pg	**Pg**	**00 36 17.2**	**+0.4**
	8μm,0.1s,SNR=18						
EARA				Lg		00 36 18.0	
	39μm,0.1s,SNR=18						
IPRE	**Itoiz**	**0.20**	**90**	Pg	**Pg**	**00 36 19.9**	**+0.7**
	64nm,0.1s,SNR=62						
IPRE				Lg		00 36 21.4	
	136nm,0.2s,SNR=11						
IPRE	**Itoiz**	**0.20**	**90**	Pg	**Pg**	**00 36 19.9**	**+0.7**
	64nm,0.1s,SNR=62						
IPRE				Lg		00 36 21.4	
	136nm,0.2s,SNR=11						
EALK	**Alkurruntz**	**0.42**	**13**	⇑Pg	**Pg**	**00 36 25.1**	**+1.7**
	13nm,0.1s,SNR=18						
EALK				Lg		00 36 32.3	
	122nm,0.4s,SNR=5.0						
SJPF	**Ste Jean**	**0.43**	**44**	*e*Pg	**Pg**	**00 36 24.6**	**+1.1**
SJPF				*e*Sg	**Sg**	**00 36 33.6**	**+4.3**
	90nm,0.2s						
OSSF	**Osses**	**0.53**	**31**	Pg	**Pg**	**00 36 26.4**	**+1.0**
OSSF				Sg	**Sg**	**00 36 35.7**	**+3.2**
LARF	**Larrau**	**0.53**	**64**	Pg	**Pg**	**00 36 26.2**	**+0.8**
LARF				Sg	**Sg**	**00 36 35.0**	**+2.4**
ORDF	**Ordiarp**	**0.65**	**51**	Pg	**Pg**	**00 36 28.8**	**+0.9**
FDAF	**Les Forges d'A**	**0.79**	**89**	Pg	**Pg**	**00 36 31.2**	**+0.7**
FDAF				Sg	**Sg**	**00 36 42.5**	**+1.5**
ETSF	**Etsaut**	**0.80**	**83**	*e*Pg	**Pg**	**00 36 30.7**	**0.0**
ETSF				*e*Sg	**Sg**	**00 36 43.2**	**+1.8**
	21nm,0.2s						
REYF	**Montagne du Re**	**0.95**	**73**	Pg	**Pg**	**00 36 34.0**	**+0.3**
VIEF	**Viey**	**1.22**	**86**	Pg	**Pg**	**00 36 39.8**	**+0.6**
VIEF				Sg	**Sg**	**00 36 57.5**	**+2.0**
LABF	**Labassere**	**1.28**	**79**	Pg	**Pg**	**00 36 40.3**	**0.0**
LABF				Sg	**Sg**	**00 36 59.7**	**+2.4**
EBIE	**Bielsa**	**1.31**	**95**	Pg	**Pg**	**00 36 40.6**	**-0.4**
	8.5nm,0.1s,SNR=85						
EBIE				Lg		00 36 58.1	
	12nm,0.2s,SNR=12						
EBIE	**Bielsa**	**1.31**	**95**	Pg	**Pg**	**00 36 40.6**	**-0.4**
	8.5nm,0.1s,SNR=85						
ESAC	**San Caprasio**	**1.39**	**141**	Pg	**Pg**	**00 36 41.3**	**-1.2**
	164nm,0.3s,SNR=43						
ESAC				Lg		00 36 59.2	
	176nm,0.2s,SNR=13						
ESAC	**San Caprasio**	**1.39**	**141**	Pg	**Pg**	**00 36 41.3**	**-1.1**
	164nm,0.3s,SNR=43						
ELAN	**Lanestosa**	**1.39**	**288**	⇓Pg	**Pg**	**00 36 44.0**	**+1.6**
	9.0nm,0.2s,SNR=18						
ELAN				Lg		00 37 03.0	
	19nm,0.3s,SNR=6.5						
ELAN	**Lanestosa**	**1.39**	**288**	Pg	**Pg**	**00 36 44.0**	**+1.5**
	9.0nm,0.2s,SNR=18						
RESF	**Ens**	**1.45**	**89**	Pg	**Pg**	**00 36 43.9**	**+0.2**
RESF				Sg	**Sg**	**00 37 04.7**	**+1.6**
EPF	**Esparros**	**1.47**	**81**	*e*Pn	**Pn**	**00 36 42.8**	**+1.4**
EPF				*e*Pg	**Pg**	**00 36 44.6**	**+0.5**
EPF				*e*Sg	**Sg**	**00 37 05.5**	**+1.8**
	17nm,0.2s						
EGRA	**Graus**	**1.57**	**112**	Pg	**Pg**	**00 36 44.7**	**-1.4**
	6.2nm,0.2s,SNR=16						
EGRA				Lg		00 37 05.6	
	37nm,0.7s,SNR=5.0						
SALF	**Salau**	**2.08**	**90**	Pg	**Pg**	**00 36 54.7**	**-1.6**
SALF				Sg	**Sg**	**00 37 24.7**	**+0.7**
ERTA	**Horta de San J**	**2.36**	**141**	⇑Pn	**Pn**	**00 36 54.9**	**+0.7**
	1.0nm,0.1s,SNR=18						
ERTA				Pg	**Pg**	**00 36 58.7**	**-3.2**
	1.3nm,0.1s,SNR=9.4						
ERTA				Sn	**Sn**	**00 37 22.5**	**-0.9**
	2.5nm,0.2s,SNR=6.8						
ERTA				Lg		00 37 29.2	
	11nm,0.2s,SNR=5.0						
ERTA	**Horta de San J**	**2.36**	**141**	Pn	**Pn**	**00 36 54.9**	**+0.7**
	1.0nm,0.1s,SNR=18						
ERTA	**Horta de San J**	**2.36**	**141**	Pg	**Pg**	**00 36 58.7**	**-3.2**
	1.3nm,0.1s,SNR=9.4						
ERTA				Sn	**Sn**	**00 37 22.5**	**-1.0**
	2.5nm,0.2s,SNR=6.8						
ERTA	**Horta de San J**	**2.36**	**141**	⇑Pn	**Pn**	**

EPOB				Lg			00 37 33.7
	11nm,0.3s,SNR=5.0						
EPOB	**Poblet**	**2.49**	**125**	Pn	**Pn**	**00 36 56.5**	**+0.5**
	0.6nm,0.1s,SNR=7.1						
EPOB	**Poblet**	**2.49**	**125**	Pg	**Pg**	**00 37 01.5**	**-2.9**
	2.7nm,0.2s,SNR=11						
EPOB				Sn	**Sn**	**00 37 25.9**	**-0.8**
	1.6nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**2.49**	**125**	Pn	**Pn**	**00 36 56.5**	**+0.5**
EPOB				Pg	**Pg**	**00 37 01.5**	**-2.9**
EPOB				Sn	**Sn**	**00 37 25.9**	**-0.8**
EPOB				Lg		00 37 33.2	
EMIR	**Miracle**	**2.51**	**110**	Pn	**Pn**	**00 36 57.4**	**+1.2**
	0.2nm,0.1s,SNR=7.9						
EMIR				Pg	**Pg**	**00 37 01.7**	**-3.0**
	4.7nm,0.2s,SNR=13						
EMIR	**Miracle**	**2.51**	**110**	Pn	**Pn**	**00 36 57.4**	**+1.2**
	0.2nm,0.1s,SNR=7.9						
EMIR	**Miracle**	**2.51**	**110**	Pg	**Pg**	**00 37 01.7**	**-3.1**
	4.7nm,0.2s,SNR=13						
EMOS	**Mosqueruela**	**2.59**	**160**	Pn	**Pn**	**00 36 58.3**	**+0.9**
	0.1nm,0.1s,SNR=17						
EMOS				Pg	**Pg**	**00 37 04.1**	**-2.4**
	1.4nm,0.2s,SNR=9.2						
EMOS				Sn	**Sn**	**00 37 28.5**	**-0.9**
	2.6nm,0.0s,SNR=7.9						
EMOS				Lg		00 37 36.7	
	9.4nm,0.4s,SNR=7.9						
EMOS	**Mosqueruela**	**2.59**	**160**	Pn	**Pn**	**00 36 58.3**	**+0.8**
	0.1nm,0.1s,SNR=17						
EMOS	**Mosqueruela**	**2.59**	**160**	Pg	**Pg**	**00 37 04.1**	**-2.4**
	1.4nm,0.2s,SNR=9.2						
EMOS	**Mosqueruela**	**2.59**	**160**	Pn	**Pn**	**00 36 58.3**	**+0.9**
EMOS				Pg	**Pg**	**00 37 04.1**	**-2.4**
EMOS				Lg		00 37 35.5	
EARI	**Arriondas**	**2.67**	**282**	Pn	**Pn**	**00 37 00.5**	**+2.0**
	1.0nm,0.1s,SNR=7.9						
EARI				Sn	**Sn**	**00 37 33.0**	**+1.8**
	1.5nm,0.3s,SNR=7.9						
EARI				Lg		00 37 44.0	
	3.4nm,0.3s,SNR=7.9						
EARI	**Arriondas**	**2.67**	**282**	Pn	**Pn**	**00 37 00.5**	**+2.0**
	1.0nm,0.1s,SNR=7.9						
EARI				Sn	**Sn**	**00 37 31.7**	**+0.5**
	1.5nm,0.3s,SNR=7.9						
EARI	**Arriondas**	**2.67**	**282**	Pn	**Pn**	**00 37 00.5**	**+2.0**
EARI				Sn	**Sn**	**00 37 31.7**	**+0.5**
EARI				Lg		00 37 44.0	
LFF	**La Frestale**	**2.74**	**38**	*e*Pn	**Pn**	**00 37 01.2**	**+1.7**
LFF				*e*Sn	**Sn**	**00 37 34.1**	**+1.1**
	5.6nm,0.2s						
MTLF	**Montolieu**	**2.87**	**78**	*e*Pn	**Pn**	**00 37 02.5**	**+1.0**
MTLF				*e*Pg	**Pg**	**00 37 11.3**	**-0.8**
MTLF				*e*Sn	**Sn**	**00 37 36.5**	**+0.1**
	3.1nm,0.3s						
ECHE	**Chera**	**3.25**	**171**	Pg	**Pg**	**00 37 15.5**	**-4.1**
	4.4nm,0.5s,SNR=5.5						
ECHE				Lg		00 37 59.4	
	4.6nm,0.4s,SNR=5.4						
ECHE	**Chera**	**3.25**	**171**	Pg	**Pg**	**00 37 17.2**	**-2.5**
	4.4nm,0.5s,SNR=5.5						
EJON	**La Jonquera**	**3.36**	**95**	Pg	**Pg**	**00 37 17.6**	**-4.1**
	3.0nm,0.4s,SNR=7.9						
EJON				Sn	**Sn**	**00 37 47.1**	**-1.5**
	2.8nm,0.4s,SNR=4.0						
EJON				Lg		00 38 03.1	
	6.6nm,0.4s,SNR=7.9						
EJON	**La Jonquera**	**3.36**	**95**	Pg	**Pg**	**00 37 18.4**	**-3.3**
	3.0nm,0.4s,SNR=7.9						
EJON				Sn	**Sn**	**00 37 48.0**	**-0.7**
	2.8nm,0.4s,SNR=4.0						
RJF	**Les Rejaudoux**	**3.38**	**41**	*e*Pn	**Pn**	**00 37 09.7**	**+1.1**
RJF				*e*Pg	**Pg**	**00 37 20.5**	**-1.6**
RJF				*e*Sn	**Sn**	**00 37 49.3**	**+0.1**
	5.3nm,0.2s						
CAF	**Calviac**	**3.41**	**50**	*e*Pn	**Pn**	**00 37 10.2**	**+1.1**
CAF				*e*Pg	**Pg**	**00 37 21.2**	**-1.6**
CAF				*e*Sn	**Sn**	**00 37 49.8**	**-0.3**
	5.5nm,0.3s						
ESDC	**Sonseca Array**	**3.59**	**210**	Pn	**Pn**	**00 37 13.1**	**+1.5**
	1.9nm,0.3s,baz=35,slow=13,SNR=5.3						
ESDC				Sn	**Sn**	**00 37 53.2**	**-1.4**
	1.7nm,0.4s,baz=31,slow=24,SNR=5.7						
ESDC				Lg		00 38 11.2	
	0.6nm,0.2s,baz=33,slow=30,SNR=4.0						
ESDC	**Sonseca Array**	**3.59**	**210**	Pn	**Pn**	**00 37 13.1**	**+1.5**
	1.9nm,0.3s,SNR=5.3						
ESDC				Sn	**Sn**	**00 37 53.2**	**-1.3**
	1.7nm,0.4s,SNR=5.7						
ESDC	**Sonseca Array**	**3.59**	**210**	Pn	**Pn**	**00 37 13.1**	**+1.5**
ESDC				Sn	**Sn**	**00 37 53.2**	**-1.4**
ESDC				Lg		00 38 09.7	
ECAL	**Calabor**	**3.88**	**259**	Pn	**Pn**	**00 37 17.3**	**+1.6**
	1.5nm,0.1s,SNR=7.3						
ECAL				Sn	**Sn**	**00 38 02.2**	**+0.3**
	3.2nm,0.3s,SNR=5.3						
ECAL				Lg		00 38 20.9	
	4.4nm,0.3s,SNR=5.0						
ECAL	**Calabor**	**3.88**	**259**	Pn	**Pn**	**00 37 17.3**	**+1.6**
	1.5nm,0.1s,SNR=7.3						
ECAL				Sn	**Sn**	**00 38 02.2**	**+0.3**
	3.2nm,0.3s,SNR=5.3						
ECAL	**Calabor**	**3.88**	**259**	Pn	**Pn**	**00 37 17.3**	**+1.6**
ECAL				Sn	**Sn**	**00 38 02.2**	**+0.3**
ECAL				Lg		00 38 19.2	
MFF	**Saint Martin d**	**3.94**	**15**	*e*Pn	**Pn**	**00 37 17.5**	**+0.9**
MFF				*e*Sn	**Sn**	**00 38 02.7**	**-0.8**
	1.0nm,0.2s						
EPON	**Pontenova**	**4.07**	**279**	Pn	**Pn**	**00 37 20.5**	**+1.9**
	0.8nm,0.2s,SNR=7.9						
EPON				Sn	**Sn**	**00 38 07.0**	**+0.1**
	0.5nm,0.2s,SNR=7.9						
EPON				Lg		00 38 28.8	
	1.4nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**4.07**	**279**	Pn	**Pn**	**00 37 20.5**	**+2.0**
	0.8nm,0.2s,SNR=7.9						
EPON				Sn	**Sn**	**00 38 07.0**	**+0.1**
	0.5nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**4.07**	**279**	Pn	**Pn**	**00 37 20.5**	**+1.9**
EPON				Sn	**Sn**	**00 38 07.0**	**+0.1**
EPON				Lg		00 38 25.8	
ERUA	**La Rua**	**4.09**	**266**	Pn	**Pn**	**00 37 21.2**	**+2.4**
	1.8nm,0.1s,SNR=7.9						
ERUA				Pg	**Pg**	**00 37 31.8**	**-4.5**
	3.4nm,0.2s,SNR=7.9						
ERUA				Lg		00 38 30.1	
	2.3nm,0.3s,SNR=7.9						
ERUA	**La Rua**	**4.09**	**266**	Pn	**Pn**	**00 37 21.8**	**+3.1**
	1.8nm,0.1s,SNR=7.9						
ERUA	**La Rua**	**4.09**	**266**	Pn	**Pn**	**00 37 21.8**	**+3.0**
ERUA				Pg	**Pg**	**00 37 31.8**	**-4.5**
ERUA				Lg		00 38 30.1	
ETOB	**Tobarra**	**4.16**	**179**	Pn	**Pn**	**00 37 21.1**	**+1.3**
	1.4nm,0.3s,SNR=7.9						
ETOB				Lg		00 38 28.8	
	1.8nm,0.4s,SNR=7.9						
ETOB	**Tobarra**	**4.16**	**179**	Pn	**Pn**	**00 37 21.1**	**+1.4**
	1.4nm,0.3s,SNR=7.9						
LASF	**Ste Croix**	**4.20**	**71**	*e*Pn	**Pn**	**00 37 20.8**	**+0.5**
LASF				*e*Sn	**Sn**	**00 38 08.1**	**-1.8**
	1.7nm,0.3s						
EVIA	**Vianos**	**4.22**	**189**	Lg		00 38 30.5	
	5.7nm,0.5s,SNR=7.9						
EIBI	**Ibiza**	**4.40**	**148**	Pn	**Pn**	**00 37 23.1**	**0.0**
	0.7nm,0.1s,SNR=7.9						
EIBI				Sn	**Sn**	**00 38 09.8**	**-5.2**
	2.2nm,0.3s,SNR=7.9						
EIBI	**Ibiza**	**4.40**	**148**	Pn	**Pn**	**00 37 23.1**	**0.0**
	0.7nm,0.1s,SNR=7.9						
TCF	**Toulx Ste Croi**	**4.43**	**37**	*e*Pn	**Pn**	**00 37 23.9**	**+0.2**
TCF				*e*Sn	**Sn**	**00 38 14.1**	**-1.9**
	0.9nm,0.2s						
ELOB	**Lobios**	**4.86**	**261**	Pn	**Pn**	**00 37 30.1**	**+0.5**
	0.3nm,0.1s,SNR=7.9						
ELOB				Sn	**Sn**	**00 38 25.3**	**-1.3**
	0.8nm,0.3s,SNR=7.9						
ELOB				Lg		00 38 51.8	
	4.7nm,0.5s,SNR=7.9						
ELOB	**Lobios**	**4.86**	**261**	Pn	**Pn**	**00 37 30.1**	**+0.5**
	0.3nm,0.1s,SNR=7.9						
ELOB				Sn	**Sn**	**00 38 25.3**	**-1.3**
	0.8nm,0.3s,SNR=7.9						
ELOB	**Lobios**	**4.86**	**261**	Pn	**Pn**	**00 37 30.1**	**+0.5**
ELOB				Sn	**Sn**	**00 38 25.3**	**-1.3**
ELOB				Lg		00 38 50.1	
BGF	**Bois d'Agland**	**4.93**	**39**	*e*Pn	**Pn**	**00 37 30.7**	**+0.1**
BGF				*e*Sn	**Sn**	**00 38 26.1**	**-2.3**
	8.8nm,0.3s						
VIVF	**Saint-Julien-l**	**5.00**	**64**	*e*Pn	**Pn**	**00 37 31.8**	**+0.1**
VIVF				*e*Sn	**Sn**	**00 38 27.6**	**-2.7**
	1.3nm,0.2s						
EHUE	**Huescar**	**5.04**	**189**	Pn	**Pn**	**00 37 31.8**	**-0.5**
	0.1nm,0.3s,SNR=7.9						
EHUE				Pg	**Pg**	**00 37 49.0**	**-6.3**
	0.4nm,0.3s,SNR=7.9						
EHUE				Lg		00 38 56.2	
	0.5nm,0.3s,SNR=7.9						
EQES	**Quesada**	**5.12**	**193**	Pn	**Pn**	**00 37 34.0**	**+0.6**
	0.6nm,0.2s,SNR=7.9						
EQES				Pg	**Pg**	**00 37 52.7**	**-4.2**
	2.6nm,0.4s,SNR=5.5						
EQES				Lg		00 38 58.7	
	2.7nm,0.5s,SNR=7.9						
EQES	**Quesada**	**5.12**	**193**	Pn	**Pn**	**00 37 34.7**	**+1.4**
	0.6nm,0.2s,SNR=7.9						
EQES	**Quesada**	**5.12**	**193**	Pg	**Pg**	**00 37 52.7**	**-4.2**
EQES	**Quesada**	**5.12**	**193**	Pn	**Pn**	**00 37 34.7**	**+1.4**
EQES				Pg	**Pg**	**00 37 52.6**	**-4.2**
EQES				Lg		00 38 58.2	
EADA	**Adamuz**	**5.15**	**207**	Pn	**Pn**	**00 37 33.5**	**-0.2**
	0.2nm,0.1s,SNR=7.9						
EADA				Sn	**Sn**	**00 38 30.7**	**-3.2**
	0.2nm,0.3s,SNR=7.9						
EADA				Lg		00 39 00.7	
	1.5nm,0.4s,SNR=7.9						
EADA	**Adamuz**	**5.15**	**207**	Pn	**Pn**	**00 37 33.5**	**-0.3**
EADA				Sn	**Sn**	**00 38 30.7**	**-3.3**
QUIF	**Quistinic**	**5.22**	**349**	*e*Pn	**Pn**	**00 37 34.8**	**0.0**
QUIF				*e*Sn	**Sn**	**00 38 31.8**	**-4.0**
	2.4nm,0.2s						
AVF	**Avril sur Loir**	**5.33**	**40**	*e*Pn	**Pn**	**00 37 36.4**	**0.0**
AVF				*e*Sn	**Sn**	**00 38 35.8**	**-2.8**
	0.7nm,0.2s						
SMRF	**Simiane la Rot**	**5.38**	**75**	*e*Pn	**Pn**	**00 37 36.8**	**-0.3**
HYF	**Humbligny**	**5.39**	**33**	*e*Pn	**Pn**	**00 37 37.3**	**+0.1**
HYF				*e*Sn	**Sn**	**00 38 36.8**	**-3.3**
SMF	**Signal de Mont**	**5.47**	**44**	*e*Pn	**Pn**	**00 37 38.3**	**0.0**
SMF				*e*Sn	**Sn**	**00 38 38.5**	**-3.6**
	1.8nm,0.3s						
SGMF	**Saint Gilles**	**5.49**	**354**	*e*Pn	**Pn**	**00 37 38.2**	**-0.3**
SGMF				*e*Pg	**Pg**	**00 37 59.1**	**-5.2**
SGMF				*e*Sn	**Sn**	**00 38 38.8**	**-3.7**
	0.8nm,0.2s						
SSF	**Saint Saulge**	**5.60**	**39**	*e*Pn	**Pn**	**00 37 39.7**	**-0.5**
SSF				*e*Sn	**Sn**	**00 38 42.3**	**-3.1**
	0.6nm,0.2s						
GRR	**Gorron**	**5.61**	**5**	*e*Pn	**Pn**	**00 37 40.2**	**-0.1**
GRR				*e*Sn	**Sn**	**00 38 42.8**	**-2.7**
	1.0nm,0.2s						
ROSF	**Rostrenen**	**5.65**	**349**	*e*Pn	**Pn**	**00 37 40.4**	**-0.4**
ROSF				*e*Sn	**Sn**	**00 38 42.6**	**-3.9**
	6.2nm,0.5s						
EQUE	**Quentar**	**5.76**	**195**	Pn	**Pn**	**00 37 42.5**	**+0.1**
	0.2nm,0.2s,SNR=4.0						
EQUE				Lg		00 39 22.6	
	1.1nm,0.4s,SNR=4.0						
ORIF	**Oris-en-Rattie**	**5.83**	**66**	*e*Pn	**Pn**	**00 37 43.2**	**-0.1**
LDF	**La Druitiere**	**5.88**	**10**	*e*Pn	**Pn**	**00 37 43.8**	**-0.3**
LDF				*e*Sn	**Sn**	**00 38 48.5**	**-3.9**
	1.2nm,0.3s						
LOR	**Lormes**	**5.92**	**39**	*e*Pn	**Pn**	**00 37 43.8**	**-0.8**
LOR				*e*Sn	**Sn**	**00 38 49.8**	**-3.5**
	1.3nm,0.2s						
FLN	**La Foliniere**	**6.01**	**7**	*e*Pn	**Pn**	**00 37 45.8**	**-0.1**
FRF	**La Foret Royal**	**6.10**	**80**	*e*Pn	**Pn**	**00 37 46.5**	**-0.7**
MBDF	**Montbardon**	**6.38**	**70**	*e*Pn	**Pn**	**00 37 49.3**	**-1.9**
LPL	**La Plagne**	**6.60**	**63**	*e*Pn	**Pn**	**00 37 54.0**	**-0.2**
LPG	**La Plagne**	**6.60**	**63**	*e*Pn	**Pn**	**00 37 54.0**	**-0.3**
CABF	**La Chapelle**	**6.69**	**53**	*e*Pn	**Pn**	**00 37 55.3**	**-0.2**
HINF	**Hinteralfeld**	**7.80**	**47**	*e*Pn	**Pn**	**00 38 09.7**	**-1.4**
BAIF	**Baives**	**8.30**	**27**	*e*Pn	**P**	**00 38 16.7**	**-1.3**

HRVD ***31*** *01:24:48.6±0.2,59.49S×26.85W,h12km,MW5.5/74, Centroid moment Tensor Solution. LP body waves: s64,c142;Mantle waves: s74,c159; Half duration: 1s5 Moment tensor: Scale 10^{17}Nm; M_{rr}2.54±.03; $M_{\theta\theta}$-1.58±.04; $M_{\phi\phi}$-0.95±.03; $M_{r\theta}$-1.38±.10; $M_{\theta\phi}$-0.06±.03; $M_{\phi r}$-0.38±.10; Best double couple: $M_0$2.508×10^{17} NP1: ϕ_s84°,δ28°,λ95°. NP2:ϕ_s259°,δ62°,λ88°. Principal axes: T 2.99, Plg73°, Azm163°; N -.964, Plg2°, Azm260°; P -2.026, Plg17°, Azm351°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***31*** *01:24:48.6±0.2,59.36S×27.10W,h10km,mb5.3/16, MS5.2/110 Error ellipse: s-maj=10.3km s-min=6.5km az=50.0*

BJI ***31*** *01:24:48.5,59.40S×27.10W,h10km,mB5.8,Ms5.7, Msz5.3*

MOS ***31*** *01:24:51.8±1.5,59.43S×27.10W,h33km,mb5.4/12, MS5.2/12,Error ellipse: s-maj=28.3km s-min=12.6km az=102.1*

IDC ***31*** *01:24:54.0±3.7,59.45S×27.21W,h48km±34km,mb4.7/13, mb1 4.8/14,mb1mx4.7/16,mbtmp4.9/14,MS5.1/22, Ms1 5.1/22,ms1mx5.1/24,Error ellipse: s-maj=20.9km s-min=13.4km az=42.0*

ISC 31 01:24:47.3±0.3,59.38S±0.06×27.0W±0.1,h10km,n285, σ1§01/72,mb5.2/23,MS5.2/136,4C-6D,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.71**	**153**	*e*	**P**	**01 28 07.0**	**+3.2**
VNA1	**Neumayer--Stat**	**13.71**	**153**	*e*	**P**	**01 28 11.5**	**+7.7**
VNA1	**Neumayer--Stat**	**13.71**	**153**	*e*	Px	01 28 46.9	
VNA1	**Neumayer--Stat**	**13.71**	**153**	⇓*i*Pn	**P**	**01 28 03.0**	**-0.8**
VNA1				*e*		01 28 07.0	
VNA1				*e*		01 28 11.5	
VNA1				*e*		01 28 46.9	
VNA1				*e*		01 34 33.0	
VNA1				*e*		01 36 59.9	
VNA3	**Neumayer Olymp**	**13.85**	**156**	*e*	**P**	**01 28 09.2**	**+3.6**
VNA3	**Neumayer Olymp**	**13.85**	**156**	*e*	**P**	**01 28 12.4**	**+6.8**
VNA3	**Neumayer Olymp**	**13.85**	**156**	*e*	**P**	**01 28 13.1**	**+7.5**
VNA3	**Neumayer Olymp**	**13.85**	**156**	*e*	Px	01 28 50.1	
VNA3	**Neumayer Olymp**	**13.85**	**156**	⇓*i*Pn	**P**	**01 28 05.0**	**-0.6**
VNA3				*e*		01 28 09.2	
VNA3				*e*		01 28 12.4	
VNA3				*e*		01 28 13.1	
VNA3				*e*		01 28 50.1	
VNA3				*e*		01 30 35.4	
VNA3				*e*		01 30 43.0	
VNA3				*e*		01 30 47.6	
VNA3				*e*		01 34 34.0	
VNA3				*e*		01 37 02.9	
VNA2	**Neumayer--Watz**	**14.11**	**153**	*e*	**P**	**01 28 13.4**	**+4.4**
VNA2	**Neumayer--Watz**	**14.11**	**153**	*e*	**P**	**01 28 16.4**	**+7.4**
VNA2	**Neumayer--Watz**	**14.11**	**153**	*e*	**P**	**01 28 17.1**	**+8.1**
VNA2	**Neumayer--Watz**	**14.11**	**153**	*e*	Px	01 28 52.9	
VNA2	**Neumayer--Watz**	**14.11**	**153**	⇓*i*Pn	**P**	**01 28 08.0**	**-1.0**
VNA2				*e*		01 28 13.4	
VNA2				*e*		01 28 16.4	
VNA2				*e*		01 28 17.1	
VNA2				*e*		01 28 52.9	
VNA2				*e*		01 30 42.4	
VNA2				*e*		01 30 48.9	
VNA2				*e*		01 30 54.7	
VNA2				*e*		01 37 04.1	
SNAA	**Sanae**	**15.70**	**151**	*e*	**P**	**01 28 31.8**	**+2.0**
SNAA	**Sanae**	**15.70**	**151**	*e*	**P**	**01 28 33.4**	**+3.6**
SNAA	**Sanae**	**15.70**	**151**	*e*	**P**	**01 28 34.9**	**+5.1**
SNAA	**Sanae**	**15.70**	**151**	*e*	**P**	**01 28 37.8**	**+8.0**
SNAA	**Sanae**	**15.70**	**151**	*e*	**P**	**01 28 41.5**	**+12**
SNAA	**Sanae**	**15.70**	**151**	*e*	**P**	**01 28 45.3**	**+16**
SNAA	**Sanae**	**15.70**	**151**	*e*	Px	01 29 18.8	
SNAA	**Sanae**	**15.70**	**151**	P	**P**	**01 28 30.4**	**+0.6**
	2.4nm,0.3s,baz=312,slow=13,SNR=67						
SNAA				LR	LR	01 33 16.5	
	comp=Z,5μm,21.1s,baz=15,slow=32						
SNAA	**Sanae**	**15.70**	**151**	⇓*i*Pn	**P**	**01 28 30.1**	**+0.3**
SNAA				*e*		01 28 31.8	
SNAA				*e*		01 28 33.4	
SNAA				*e*		01 28 34.9	
SNAA				*e*		01 28 37.8	
SNAA				*e*		01 28 41.5	
SNAA				*e*		01 28 45.3	
SNAA				*e*		01 29 18.8	
SNAA				*e*		01 31 19.5	
SNAA				*e*		01 31 26.0	
SNAA				*e*		01 37 04.9	
SNAA	**Sanae**	**15.70**	**151**	⇓*i*P	**P**	**01 28 30.1**	**+0.3**
SNAA				*e*		01 31 26.0	
PMSA	**Palmer Station**	**17.96**	**237**	*e*P	**P**	**01 28 59.5**	**+1.1**
	118nm,1.6s						
EFI	**East Falkland**	**19.05**	**280**	P	**P**	**01 29 16.0**	**+4.2**
MAIT	**Maitri**	**19.47**	**142**	*e*P	**P**	**01 29 08.3**	**-8.3**
MAIT				*e*S	**S**	**01 32 49.2**	**-1.0**
MAIT	**Maitri**	**19.47**	**142**	*e*P	**P**	**01 29 16.8**	**+0.2**
MAIT				*e*		01 29 50.0	
USHA	**Ushuaia**	**22.68**	**263**	P	**P**	**01 29 50.4**	**+0.8**
	32nm,0.9s,mb4.7,baz=122,slow=8.4,SNR=8.7						
USHA				LR	LR	01 36 26.1	
	comp=Z,13μm,21.3s,MS5.3,baz=96,slow=31						
TRIS	**Tristan da Cun**	**24.27**	**30**	PFAKE		01 30 20.0	+15
TRIS				LR	LR		
	comp=Z,3μm,19.0s,MS4.8						
SYO	**Syowa Base**	**29.00**	**137**	⇓P	**P**	**01 30 47.0**	**-1.7**
SYO	**Syowa Base**	**29.00**	**137**	⇑pP	pP	01 30 56.1	+4.4
QSPA	**South Pole Qui**	**30.86**	**180**	*e*P	**P**	**01 31 06.2**	**+1.0**
	comp=Z,75nm,1.1s,mb5.4						
TRQA	**Tornquist**	**30.86**	**298**	*e*P	**P**	**01 31 02.8**	**-2.8**
	comp=Z,66nm,1.3s,mb5.3						
TRQA				LR	LR		
	comp=Z,3μm,22.0s,MS5.0						
LPA	**La Plata**	**31.76**	**307**	*ce*P	**P**	**01 31 14.0**	**+0.4**
LPA				*es*P	sP	01 31 30.0	+12
LPA				*e*S	**S**	**01 36 21.0**	**-1.3**
LPA				*e*SP		01 36 52.0	
	comp=Z,4μm,19.0s						
PLCA	**Paso Flores**	**32.83**	**285**	P	**P**	**01 31 20.7**	**-2.1**
	comp=Z,37nm,1.1s,mb5.2,baz=150,slow=7.8,SNR=23						
PLCA				PcP	PcP	01 34 06.2	-1.7
	comp=Z,3.8nm,1.0s,baz=146,slow=1.8,SNR=3.5						
PLCA				LR	LR	01 43 08.3	
	comp=Z,4μm,18.9s,MS5.1,baz=144,slow=33						
PLCA	**Paso Flores**	**32.83**	**285**	*e*P	**P**	**01 31 21.9**	**-0.9**
	comp=Z,37nm,1.1s,mb5.2						
PLCA				LR	LR		
	comp=Z,4μm,19.0s,MS5.1						
PLCA	**Paso Flores**	**32.83**	**285**	*e*P	**P**	**01 31 21.9**	**-0.9**
PLCA				pmax	pmax		
	comp=Z,37nm,1.1s						
PLCA				MLR	MLR		
	comp=Z,4μm,19.0s						
MAW	**Mawson**	**37.45**	**141**	*e*P	**P**	**01 32 02.5**	**+0.5**
	comp=Z,15nm,1.0s,mb4.8						
MAW	**Mawson**	**37.45**	**141**	P	**P**	**01 32 01.9**	**0.0**
	comp=Z,15nm,1.0s,mb4.8,baz=228,slow=8.5,SNR=21						
MAW				LR	LR	01 45 53.7	
	comp=Z,6μm,19.7s,MS5.4,baz=242,slow=34						
MAW	**Mawson**	**37.45**	**141**	*e*P	**P**	**01 32 02.5**	**+0.5**
MAW				pmax	pmax		
	comp=Z,15nm,1.0s						
FCH	**Farellones**	**38.58**	**293**	*e*P	**P**	**01 32 11.1**	**-0.8**
CFAA	**Coronel Fontan**	**39.06**	**297**	LR	LR	01 47 03.7	
	comp=Z,335nm,20.8s,MS4.2,baz=150,slow=34						
CPUP	**Villa Florida**	**39.15**	**314**	P	**P**	**01 32 16.8**	**+0.1**
	comp=Z,29nm,0.9s,mb5.0,baz=178,slow=11,SNR=32						
CPUP				PcP	PcP	01 34 25.1	-1.6
	comp=Z,3.9nm,0.9s,baz=117,slow=2.3,SNR=2.2						
CPUP				LR	LR	01 45 54.7	
	comp=Z,2μm,21.8s,MS4.9,baz=185,slow=32						
CPUP	**Villa Florida**	**39.15**	**314**	*e*P	**P**	**01 32 16.0**	**-0.7**
	comp=Z,46nm,1.1s,mb5.1						
CPUP				LR	LR		
	comp=Z,2μm,19.0s,MS4.9						
CPUP	**Villa Florida**	**39.15**	**314**	*e*P	**P**	**01 32 16.0**	**-0.7**
CPUP				pmax	pmax		
	comp=Z,46nm,1.1s						
CPUP				MLR	MLR		
	comp=Z,2μm,19.0s						
SUR	**Sutherland**	**41.52**	**71**	PFAKE		01 32 50.0	+14
SUR				LR	LR		
	comp=Z,1μm,22.0s,MS4.8						
VNDA	**Vanda**	**43.24**	**183**	P	**P**	**01 32 49.8**	**+0.2**
	comp=Z,17nm,1.1s,mb4.7,baz=185,slow=6.8,SNR=22						
VNDA				LR	LR	01 50 22.2	
	comp=Z,1μm,18.5s,MS4.8,baz=155,slow=35						
BDFB	**Brasilia**	**46.33**	**331**	P	**P**	**01 33 15.4**	**+0.4**
	comp=Z,12nm,1.0s,mb4.8,baz=133,slow=5.6,SNR=5.6						
BDFB				LR	LR	01 49 42.1	
	comp=Z,2μm,19.2s,MS5.1,baz=164,slow=32						
MIR	**Mirnyy**	**46.78**	**152**	*e*P	**P**	**01 33 19.0**	**+1.0**
MIR				pmax	pmax		
	comp=Z,99nm,2.0s,mb5.4						
MIR				MLR	MLR		
	comp=N,5μm,18.0s,MS5.5						
MIR				MLR	MLR		
	comp=E,2μm,18.0s,MS5.5						
MIR				MLR	MLR		
	comp=Z,7μm,18.0s,MS5.7						
BOSA	**Boshof**	**46.78**	**73**	P	**P**	**01 33 19.1**	**+0.6**
	comp=Z,19nm,1.0s,mb5.0,baz=205,slow=7.0,SNR=16						
BOSA				LR	LR	01 49 26.1	
	comp=Z,2μm,20.0s,MS5.0,baz=220,slow=31						
BOSA	**Boshof**	**46.78**	**73**	*e*P	**P**	**01 33 18.2**	**-0.3**
	com

comp=Z,22nm,0.9s,mb5.2,baz=159,slow=7.2,SNR=12
DBIC LR LR 01 58 39.6
comp=Z,1μm,18.5s,MS5.1,baz=168,slow=30
DBIC Dimbokro 68.17 24 P **P 01 35 49.7 -0.1**
DBIC LR LR 01 58 39.6
MBAR Mbarara 73.61 62 P **P 01 36 23.6 +1.1**
comp=Z,23nm,1.3s,mb5.0
MBAR LR LR
comp=Z,481nm,20.0s,MS4.8
MBAR Mbarara 73.61 62 P **P 01 36 25.5 +2.9**
MBAR pmax pmax
comp=Z,23nm,1.3s,mb5.0
ROSC El Rosal 74.13 310 P **P 01 36 25.0 -0.6**
comp=Z,4.1nm,0.6s,mb4.5,baz=124,slow=6.1,SNR=15
ROSC LR LR 02 08 59.2
comp=Z,1μm,21.4s,MS5.1,baz=15,slow=36
PAYG Puerto Ayora 76.11 293 PFAKE 01 36 50.0 +13
PAYG LR LR
comp=Z,2μm,21.0s,MS5.4
KMBO Kilima Mbogo 76.17 68 LR LR 02 06 12.5
comp=Z,2μm,21.6s,MS5.4,baz=278,slow=32
KMBO Kilima Mbogo 76.17 68 PFAKE 01 36 50.0 +13
KMBO LR LR
comp=Z,416μm,21.0s,MS7.7
RPZ Rata Peaks 76.19 193 LR LR 02 09 24.6
comp=Z,1μm,18.2s,MS5.3,baz=341,slow=35
SDV Santo Domingo 76.45 315 P **P 01 36 38.8 -0.1**
comp=Z,7.9nm,0.6s,mb4.8,baz=170,slow=6.1,SNR=14
SDV Santo Domingo 76.45 315 *e*P **P 01 36 38.5 -0.3**
comp=Z,21nm,1.0s,mb5.0
SDV LR LR
comp=Z,3μm,20.0s,MS5.5
TAU Tasmania Unive 77.96 176 PFAKE 01 37 00.0 +13
TAU LR LR
comp=Z,555nm,19.0s,MS4.9
SNZO South Karori 78.07 197 PFAKE 01 37 00.0 +13
SNZO LR LR
comp=Z,1μm,21.0s,MS5.3
RKT Rikitea 79.05 243 *e*S S 01 46 45.5 -5.2
RKT *e*LQ 01 58 08.6
RKT *e*LR LR 02 01 39.0
comp=Z,6μm,28.0s,baz=150
URZ Urewera 80.68 199 LR LR 02 11 23.4
comp=Z,1μm,18.5s,MS5.3,baz=346,slow=35
MSEY Mahe Island 82.17 86 PFAKE 01 37 20.0 +10
MSEY LR LR
comp=Z,530nm,20.0s,MS4.9
MTP Monte Pirata 83.36 323 *e*P **P 01 37 17.4 +1.6**
NWAO Narrogin (SRO) 83.37 150 LR LR 02 10 33.8
comp=Z,1μm,21.9s,MS5.2,baz=169,slow=33
NWAO Narrogin (SRO) 83.37 150 PFAKE 01 37 30.0 +14
NWAO LR LR
comp=Z,2μm,19.0s,MS5.5
SJG San Juan 83.56 323 PFAKE 01 37 30.0 +13
SJG LR LR
comp=Z,747nm,21.0s,MS5.0
TBI Tubuai 85.06 231 *e*LQ 02 00 29.6
TBI *e*LR LR 02 04 19.0
comp=Z,2μm,24.8s,baz=159
RAO Raoul Island 88.47 205 LR LR 02 11 17.7
comp=Z,1μm,22.0s,MS5.2,baz=144,slow=32
STKA Stephens Creek 88.59 170 P **P 01 37 41.4 +0.1**
comp=Z,16nm,1.0s,mb5.3,baz=166,slow=4.5,SNR=5.5
STKA LR LR 02 16 19.7
comp=Z,2μm,19.2s,MS5.6,baz=181,slow=35
ATD Arta Tunnel 89.87 67 LR LR 02 14 28.9
comp=Z,550nm,19.1s,MS5.0,baz=202,slow=33
PPT Papeete 90.30 234 *e*SS SS 01 54 51.3 +6.5
PPT *e*LR LR 02 06 31.6
comp=Z,2μm,20.5s,baz=159
PPT Papeete 90.30 234 LR LR 02 10 05.8
comp=Z,2μm,18.6s,MS5.6,baz=160,slow=30
TAOE Nuku Hiva Isla 93.87 246 *e*LR LR 02 08 37.0
comp=Z,10μm,27.6s,baz=168
MBWA Marble Bar 95.23 149 PFAKE 01 38 20.0 +7.8
MBWA LR LR
comp=Z,1μm,20.0s,MS5.3
BBSR BB Station 96.60 329 PFAKE 01 38 30.0 +12
BBSR LR LR
comp=Z,426nm,21.0s,MS4.9
CMLA Cha da Macela 96.80 1 PFAKE 01 38 30.0 +11
CMLA LR LR
comp=Z,3μm,21.0s,MS5.7
DWPF Disney 98.03 313 PFAKE 01 38 40.0 +15
DWPF LR LR
comp=Z,142nm,22.0s,MS4.4
WRA Warramunga Arr 99.50 162 P **P 01 38 31.4 -0.1**
comp=Z,2.7nm,1.1s,mb4.7,baz=193,slow=4.1,SNR=4.7
WRAB Tennant Creek 99.51 162 PFAKE 01 38 40.0 +8.5
WRAB LR LR
comp=Z,2μm,21.0s,MS5.5
WRAB Tennant Creek 99.51 162 *i* P **P 01 38 31.1 -0.4**
FITZ Fitzroy Crossi 99.62 154 LR LR 02 25 05.0
comp=Z,631nm,18.6s,MS5.2,baz=265,slow=36
ESDC Sonseca Array 100.53 18 P P 01 38 37.4 +1.7
comp=Z,1.0nm,0.8s,baz=180,slow=4.3,SNR=5.6
ESLA Sonseca Array 100.53 18 PFAKE 01 38 50.0 +14
ESLA LR LR
comp=Z,4μm,22.0s,MS5.9
CTAO Charters Tower 100.63 174 PFAKE 01 38 50.0 +13
CTAO LR LR
comp=Z,3μm,20.0s,MS5.8
CTAO Charters Tower 100.63 174 *e*P P 01 38 43.3 +6.7
CTAO pmax pmax
comp=Z,12nm,0.8s
AFI Afiamalu 101.59 215 PFAKE 01 38 50.0 +9.0
AFI LR LR
comp=Z,1μm,20.0s,MS5.5
NHSC New Hope 102.09 317 PFAKE 01 38 50.0 +7.0
NHSC LR LR
comp=Z,837nm,20.0s,MS5.3
LRAL Lakeview Retre 104.54 311 PFAKE 01 39 00.0 +6.2
LRAL LR LR
comp=Z,887nm,20.0s,MS5.3
PALK Pallekele 105.22 102 PFAKE 01 43 20.0
PALK LR LR
comp=Z,259nm,21.0s,MS4.8
MYNC Murphy 105.28 314 PFAKE 01 43 20.0
MYNC LR LR
comp=Z,665nm,20.0s,MS5.2
CBN Corbin 105.78 321 PFAKE 01 43 20.0
CBN LR LR
comp=Z,755nm,22.0s,MS5.2
BLA Blacksburg 105.89 318 PFAKE 01 43 20.0
BLA LR LR
comp=Z,607nm,21.0s,MS5.1
NATX Nacogdoches 106.51 305 PFAKE 01 43 20.0
NATX LR LR
comp=Z,400nm,19.0s,MS5.0
WVT Waverly 107.60 312 PFAKE 01 43 30.0
WVT LR LR
comp=Z,434nm,20.0s,MS5.0
WES Weston 107.80 327 PFAKE 01 43 30.0
WES LR LR
comp=Z,214nm,21.0s,MS4.7
HRV Harvard--Oak R 107.98 327 PFAKE 01 43 30.0
HRV LR LR
comp=Z,510nm,21.0s,MS5.1
LTX Lajitas 108.40 296 PFAKE 01 43 30.0
LTX LR LR
comp=Z,704nm,22.0s,MS5.2
TXAR Lajitas Array 108.40 296 PKiKP 01 43 16.2
comp=Z,0.6nm,1.0s,baz=166,slow=3.7,SNR=3.4
TXAR PP PP 01 43 44.0 -0.6
comp=Z,0.7nm,1.0s,baz=117,slow=8.4,SNR=4.3
WCI Wyandotte Cave 108.88 314 PFAKE 01 43 30.0
WCI LR LR
comp=Z,164nm,20.0s,MS4.6
EMMW East Machias 108.94 331 PFAKE 01 43 30.0
EMMW LR LR
comp=Z,3μm,20.0s,MS5.8
BINY Binghamton 108.98 324 PFAKE 01 43 30.0
BINY LR LR
comp=Z,754nm,21.0s,MS5.2
WVL Waterville 109.37 329 PFAKE 01 43 30.0
WVL LR LR
comp=Z,4μm,21.0s,MS5.9
NCB Newcomb 110.08 326 PFAKE 01 43 30.0 +8.8
NCB LR LR
comp=Z,501nm,21.0s,MS5.1
CCM Cathedral Cave 110.59 311 PFAKE 01 43 30.0 +7.6
CCM LR LR
comp=Z,179nm,22.0s,MS4.6
BR131 Keskin Array S 110.69 46 PFAKE 01 43 30.0 +7.5
BR131 LR LR
comp=Z,392nm,22.0s,MS4.9
PQI Presque Isle 110.91 331 PFAKE 01 43 30.0 +7.2
PQI LR LR
comp=Z,3μm,19.0s,MS5.9
MNTX Cornudas Mount 111.18 296 PFAKE 01 43 30.0 +6.3
MNTX LR LR
comp=Z,543nm,19.0s,MS5.2
HNR Honiara 111.19 187 PFAKE 01 43 30.0 +6.0
HNR LR LR
comp=Z,1μm,20.0s,MS5.4
PMG Port Moresby 111.28 174 PFAKE 01 43 30.0 +5.8
PMG LR LR
comp=Z,2μm,20.0s,MS5.6
PMG Port Moresby 111.28 174 *i* PKIKP PKPdf 01 43 21.8 -2.4
GERES GERESS Array B 112.86 28 PP PP 01 44 10.2 -6.6
comp=Z,1.5nm,1.0s,baz=202,slow=7.2,SNR=5.2
KHC Kasperske Hory 113.10 28 AMS AMS 02 23 20.0
comp=Z,900nm,27.1s
NKC Novy Kostel 113.87 26 AMS AMS 02 26 10.0
comp=Z,800nm,21.2s
PRU Pruhonice 114.13 28 AMS AMS 02 26 40.0
comp=Z,500nm,19.2s
TUC Tucson 114.21 293 PFAKE 01 43 40.0 +10
TUC LR LR
comp=Z,503nm,20.0s,MS5.1
ANMO Albuquerque 114.39 298 PFAKE 01 43 40.0 +10
ANMO LR LR
comp=Z,627nm,19.0s,MS5.2
CBKS Cedar Bluff 114.68 305 PFAKE 01 43 40.0 +10
CBKS LR LR
comp=Z,509nm,21.0s,MS5.1
DPC Dobruska-Polom 114.90 29 AMS AMS 02 27 40.0
comp=Z,600nm,18.6s
ESK Eskdalemuir 115.92 15 PFAKE 01 43 40.0 +7.6
ESK LR LR
comp=Z,217nm,20.0s,MS4.8
SDCO Great Sand Dun 116.28 300 PKPdf PKPdf 01 43 29.7 -3.8
SDCO LR LR
comp=Z,895nm,19.0s,MS5.4
ANN Anapa 116.49 46 *i* PKIKP PKPdf 01 43 39.1 +5.4
ANN *e**PP 01 43 51.3
ANN *e* 01 50 32.6
ANN *e* 01 54 23.8
ANN pmax pmax
comp=Z,38nm,1.3s
KIV Kislovodsk 117.77 50 PFAKE 01 43 50.0 +14
KIV LR LR
comp=Z,106nm,20.0s,MS4.5
KIV Kislovodsk 117.77 50 *i* PKIKP PKPdf 01 43 31.8 -4.4
KIV *e* 01 50 41.1
KIV pmax pmax
comp=Z,10.0nm,1.1s
KIV MLR MLR
comp=Z,400nm,23.0s,MS5.0
PFO Pinyon Flat Ob 117.98 289 PFAKE 01 43 50.0 +13
PFO LR LR
comp=Z,175nm,19.0s,MS4.7
ISCO Idaho Springs 118.02 301 PFAKE 01 43 50.0 +13
ISCO LR LR
comp=Z,517nm,20.0s,MS5.2
SCHQ Schefferville 118.25 335 PFAKE 01 43 50.0 +13
SCHQ LR LR
comp=Z,594nm,19.0s,MS5.2
PV10 Paradox Valley 118.39 298 PKPdf PKPdf 01 43 35.9 -1.7
AKASG Malin Array Be 118.82 37 PKP PKPdf 01 43 36.7 -1.4
comp=Z,0.8nm,0.6s,baz=239,slow=1.8,SNR=10
AKASG PP PP 01 44 57.3 -1.2
comp=Z,2.8nm,0.9s,baz=202,slow=6.9,SNR=5.3
SNCC San Nicolas Is 119.19 286 PFAKE 01 43 50.0 +11
SNCC LR LR
comp=Z,1μm,19.0s,MS5.6
SRU San Rafael 119.66 297 *e*PKPdf PKPdf 01 43 36.2 -3.7
SRU San Rafael 119.66 297 PKIKP PKPdf 01 43 36.9 -3.0
MSU Marysvale 119.93 296 *e*PKPdf PKPdf 01 43 38.2 -2.3
MSU Marysvale 119.93 296 PKIKP PKPdf 01 43 39.4 -1.1
ISA Isabella 120.62 289 PFAKE 01 43 50.0 +8.0
ISA LR LR
comp=Z,161nm,20.0s,MS4.7
DAC Darwin (Calif) 120.69 290 PFAKE 01 43 50.0 +7.9
DAC LR LR
comp=Z,480nm,19.0s,MS5.2
JLU Jordanelle 121.28 298 PKPdf PKPdf 01 43 40.3 -2.8
CTU Camp Tracy 121.49 297 *e*PKPdf PKPdf 01 43 42.4 -1.2
TCUT Toone Canyon 121.67 298 PKPdf PKPdf 01 43 41.1 -2.8
TPH Tonopah 121.95 292 PFAKE 01 43 50.0 +5.5
TPH LR LR
comp=Z,435nm,21.0s,MS5.1
BW06 Boulder Array 122.17 300 PFAKE 01 43 50.0 +5.2
BW06 LR LR
comp=Z,689nm,20.0s,MS5.3
PDAR Pinedale Array 122.17 300 PKP PKPdf 01 43 40.9 -3.9
comp=Z,1.3nm,0.9s,baz=90,slow=1.5,SNR=8.6
PDAR PP PP 01 45 21.9 +0.7
comp=Z,1.1nm,1.1s,baz=90,slow=5.9,SNR=4.6
ULM Lac du Bonnet 122.70 315 PKP PKPdf 01 43 42.4 -3.1
comp=Z,4.5nm,0.9s,baz=303,slow=3.5,SNR=5.9
ULM Lac du Bonnet 122.70 315 *e*PKPdf PKPdf 01 43 40.6 -4.9
ULM LR LR
comp=Z,654nm,21.0s,MS5.3
NVAR Mina Array Bea 122.74 291 PKP PKPdf 01 43 43.8 -2.2
comp=Z,3.1nm,1.0s,baz=129,slow=3.4,SNR=10.0
AHID Auburn Hatcher 122.85 299 PFAKE 01 44 00.0 +14
AHID LR LR
comp=Z,749nm,21.0s,MS5.3
SAO San Andreas Ge 122.94 287 PFAKE 01 44 00.0 +14
SAO LR LR
comp=Z,941nm,20.0s,MS5.4
ELK Elko 123.13 295 *e*PKPdf PKPdf 01 43 44.9 -1.7
ELK LR LR
comp=Z,823nm,20.0s,MS5.4
ELK Elko 123.13 295 PKIKP PKPdf 01 43 45.4 -1.2
LOHW Long Hollow 123.30 300 *e*PKPdf PKPdf 01 43 44.5 -2.4
TPAW Teton Pass 123.36 300 *e*PKPdf PKPdf 01 43 45.0 -2.0
RRI2 Red Ridge 123.41 300 *e*PKPdf PKPdf 01 43 44.6 -2.5
CMB Columbia Colle 123.43 289 PFAKE 01 44 00.0 +13
CMB LR LR
comp=Z,978nm,19.0s,MS5.5
NB2 NORSAR Subarra123.69 21 PKPdf PKPdf 01 43 46.6 -0.7
comp=Z,13nm,1.4s,baz=202,slow=1.9
NB2 NORSAR Subarra123.69 21 PKPd 01 43 46.6
baz=202,slow=1.9
NOA NORSAR Array B 123.69 21 PKP PKPdf 01 43 44.4 -2.9
comp=Z,3.6nm,1.0s,baz=195,slow=1.5,SNR=4.2
NOA NORSAR Array B 123.69 21 PKP PKPdf 01 43 44.4 -2.9
FLWY Flagg Ranch 123.72 301 *e*PKPdf PKPdf 01 43 45.3 -2.5
BMN Battle Mountai 123.81 293 PFAKE 01 44 00.0 +12
BMN LR LR
comp=Z,440nm,20.0s,MS5.1
LAO LASA Array 123.86 305 PFAKE 01 44 00.0 +12
LAO LR LR
comp=Z,685nm,19.0s,MS5.3
LKWY Lake 123.97 301 PFAKE 01 44 00.0 +12
LKWY LR LR
comp=Z,1μm,20.0s,MS5.5
YFT Old Faithful 124.07 301 *e*PKPdf PKPdf 01 43 47.2 -1.3
DGMT Dagmar 124.45 308 PFAKE 01 44 00.0 +11
DGMT LR LR
comp=Z,595nm,22.0s,MS5.2
QLMT Earthquake Lak 124.63 301 *e*PKPdf PKPdf 01 43 47.4 -1.9
OBN Obninsk 124.91 39 PFAKE 01 44 00.0 +10
OBN LR LR
comp=Z,107nm,19.0s,MS4.5
OBN Obninsk 124.91 39 *i* PKIKP PKPdf 01 43 49.2 -0.4
OBN *e* 01 50 50.3
OBN *e*SS SS 02 02 27.0 -4.4
OBN pmax pmax
comp=Z,5.0nm,1.0s
OBN MLR MLR
comp=Z,300nm,20.0s,MS5.0
HLID Hailey 124.97 298 *e*PKPdf PKPdf 01 43 48.3 -1.7
HLID LR LR
comp=Z,664nm,21.0s,MS5.3
MCMT McKenzie Canyo 125.25 300 *e*PKPdf PKPdf 01 43 47.8 -2.8
BOZ Bozeman (W) 125.36 301 PFAKE 01 44 00.0 +9.2
BOZ LR LR
comp=Z,677nm,19.0s,MS5.3
HOPS Hopland 125.49 288 PFAKE 01 44 00.0 +8.8
HOPS LR LR
comp=Z,801nm,19.0s,MS5.4
DLMT Dillon 125.56 300 *e*PKPdf PKPdf 01 43 48.0 -3.1
WVOR Wild Horse Val 126.04 294 *e*PKPdf PKPdf 01 43 47.1 -5.0
WVOR LR LR
comp=Z,613nm,19.0s,MS5.3
WVOR Wild Horse Val 126.04 294 PKIKP PKPdf 01 43 49.7 -2.4
POHA Pohakuloa 126.09 246 PFAKE 01 44 00.0 +7.2
POHA LR LR
comp=Z,16μm,20.0s,MS6.7
HRY Holter Researc 126.27 302 *e*PKPdf PKPdf 01 43 52.0 -0.3
MOD Modoc 126.41 292 *e*PKPdf PKPdf 01 43 50.1 -2.7
MOD LR LR
comp=Z,695nm,19.0s,MS5.3
WDC Whiskeytown Da 126.46 290 PFAKE 01 44 00.0 +7.1
WDC LR LR
comp=Z,703nm,22.0s,MS5.3
CHMT Chamberlain Mo 127.05 301 *e*PKPdf PKPdf 01 43 51.0 -2.9
FINES FINESS Array B 127.27 29 PKP PKPdf 01 43 51.8 -2.2
comp=Z,5.9nm,1.0s,baz=236,slow=5.0,SNR=6.3
BMO Blue Mountains 127.28 297 *e*PKPdf PKPdf 01 43 51.0 -3.4
BMO LR LR
comp=Z,587nm,22.0s,MS5.2
BMO Blue Mountains 127.28 297 PKIKP PKPdf 01 43 51.7 -2.7
MSO Missoula 127.29 300 *e*PKPdf PKPdf 01 43 51.8 -2.6
MSO LR LR
comp=Z,448nm,19.0s,MS5.2
YBH Yreka Blue Hor 127.43 290 PFAKE 01 44 00.0 +5.2
YBH LR LR
comp=Z,490nm,21.0s,MS5.2
KAF Kangasniemi 127.91 29 *e*p PKPdf 01 43 54.6 -0.6
HUMO Hull Mountain 128.22 291 *e*PKPdf PKPdf 01 43 53.0 -3.4
HUMO LR LR
comp=Z,577nm,20.0s,MS5.3
KWAJ Kwajalein Atol 128.33 199 PFAKE 01 44 10.0 +13
KWAJ LR LR
comp=Z,198nm,19.0s,MS4.8
KIP Kipapa 128.68 244 PFAKE 01 44 10.0 +12
KIP LR LR
comp=Z,992nm,19.0s,MS5.5
NEW Newport 129.78 300 PFAKE 01 44 10.0 +11
NEW LR LR
comp=Z,676nm,19.0s,MS5.4
JOF Joensuu 129.85 30 *e*p PKPdf 01 43 58.2 -0.7
COR Corvallis 129.88 292 PFAKE 01 44 10.0 +11
COR LR LR
comp=Z,139nm,21.0s,MS4.6
AAK Ala-Archa 130.92 73 *e*PKPdf PKPdf 01 43 58.8 -2.7
AAK LR LR
comp=Z,195nm,21.0s,MS4.8
AAK Ala-Archa 130.92 73 PKIKP PKPdf 01 44 01.7 +0.2
KMI Kunming 131.25 112 PKP PKPdf 01 44 02.6 0.0
KMI pPKP 01 44 12.5
KMI PP PP 01 46 23.3 +1.4
KMI PKS PKS 01 47 36.9 +2.1
KMI PPP PPP 01 49 14.3 +2.9
KMI *e* 01 51 10.4
KMI SKKS 01 53 13.2
KMI SS SS 02 03 53.3 +2.6
KMI LR LR
comp=Z,720nm,28.2s,MS5.2
KMI Kunming 131.25 112 PKIKP PKPdf 01 44 02.6 0.0
KMI 01 44 12.5
KMI 01 46 23.3
KMI PPP PPP 01 49 14.3 +2.9
KMI *e* 01 51 10.4
KMI SS SS 02 03 53.3 +2.6
KMI MLR MLR
comp=Z,720nm,28.2s,MS5.2
EDM Edmonton 131.82 306 *e*PKPdf PKPdf 01 44 00.8 -2.1
EDM Edmonton 131.82 306 PKIKP PKPdf 01 44 01.2 -1.7
OCWA Octopus Mounta 132.62 295 PFAKE 01 44 10.0 +5.4
OCWA LR LR
comp=Z,618nm,19.0s,MS5.3
ARU Arti 133.81 50 PFAKE 01 44 20.0 +14
ARU LR LR
comp=Z,151nm,20.0s,MS4.7
ARU Arti 133.81 50 *i* PKIKP PKPdf 01 44 02.7 -3.7
ARCES ARCESS Array B 134.00 23 PKP PKPdf 01 44 04.8 -1.7
comp=Z,5.7nm,0.9s,baz=270,slow=1.2,SNR=8.0
KEV Kevo 134.48 23 PFAKE 01 44 20.0 +13
KEV LR LR
comp=Z,702nm,22.0s,MS5.3
BRVK Borovoye 136.39 60 PFAKE 01 44 20.0 +8.7
BRVK LR LR
comp=Z,115nm,21.0s,MS4.6
BVAR Borovoye Array 136.42 60 PKP PKPdf 01 44 08.9 -2.4
comp=Z,3.6nm,0.9s,baz=180,slow=1.5,SNR=7.2
BVAR PP PP 01 46 53.7 +0.6
comp=Z,1.1nm,1.0s,baz=225,slow=4.1,SNR=2.6
MKAR Makanchi Array 137.76 75 PKhKP 01 44 04.0
comp=Z,0.8nm,0.8s,baz=242,slow=3.7,SNR=5.2
MKAR PKP PKPdf 01 44 11.9 -2.1
comp=Z,2.7nm,1.0s,baz=253,slow=4.3,SNR=5.4
MKAR PP PP 01 47 01.6 -0.6
comp=Z,0.6nm,0.8s,baz=180,slow=7.2,SNR=2.3
WMQ Urumqi 138.38 82 PKP PKPdf 01 44 14.0 -1.3
WMQ PP PP 01 47 08.0 +1.9
WMQ PKS PKS 01 47 49.0 +1.9
WMQ SKS SKS 01 51 19.0 -6.0
WMQ SKKS 01 53 54.0
WMQ SS SS 02 05 15.0 -0.9
WMQ PP PP
comp=Z,354nm,7.0s
WMQ LR LR
comp=N,584nm,20.0s,MS5.4
WMQ LR LR
comp=E,446nm,20.0s,MS5.4
WMQ LR LR
comp=Z,524nm,20.0s,MS5.3
KURK Kurchatov 138.65 68 PFAKE 01 44 30.0 +14
KURK LR LR
comp=Z,114nm,19.0s,MS4.6
YKA Yellowknife Ar 138.67 315 PKP PKPdf 01 44 12.0 -3.3
comp=Z,17nm,1.1s,baz=126,slow=2.1,SNR=19
YKA PP PP 01 47 04.3 -3.1
comp=Z,5.1nm,1.1s,baz=128,slow=6.4,SNR=11
YKW3 Yellowknife Ar 138.72 315 *e*PKPdf PKPdf 01 44 10.3 -5.0
YKW3 *e*PP PP 01 47 03.4 -4.3
KBS Kingsbay 139.99 11 PFAKE 01 44 30.0 +13
KBS LR LR
comp=Z,477nm,19.0s,MS5.3
LZH Lanzhou 140.80 104 *e*PKP PKPdf 01 44 20.5 +0.7
LZH *e*PP PP 01 47 25.5 +4.7
LZH *e*SKS SKS 01 51 27.0 -2.1
LZH SKKS 01 54 10.0
LZH SS SS 02 05 45.0 +0.6
LZH PP PP
comp=Z,742nm,7.8s
LZH LR LR
comp=E,880nm,19.6s
LZH LR LR
comp=Z,1μm,20.0s,MS5.6
LZH Lanzhou 140.80 104 *e*PKP PKPdf 01 44 20.6 +0.8
LZH sPKP 01 44 29.0
LZH *e*PP PP 01 47 25.4 +4.6
LZH *e*SKS SKS 01 51 27.0 -2.1
LZH SKKS 01 54 10.0
LZH SS SS 02 05 45.0 +0.6
LZH LR LR
comp=Z,1μm,20.0s,MS5.6
LZH Lanzhou 140.80 104 *e*PKIKP PKPdf 01 44 20.6 +0.8
LZH 01 44 29.0
LZH *e* 01 47 25.4
LZH *e* 01 51 27.0
LZH SS SS 02 05 45.0 +0.6
LZH MLR MLR
comp=Z,1μm,20.0s,MS5.6
GTA Gaotai 141.34 97 PKP PKPdf 01 44 15.0 -5.6
GTA XPKP 01 44 26.0
GTA PP PP 01 47 21.5 -2.4
GTA PKS PKS 01 47 49.3 -2.9
GTA PPP PPP 01 50 29.0 -2.6
GTA PP PP
comp=Z,183nm,13.8s
GTA LR LR
comp=N,389nm,21.8s,MS5.2
GTA LR LR
comp=E,333nm,24.5s,MS5.2
GTA LR LR
comp=Z,641nm,24.1s,MS5.3
MIDW Midway 142.81 226 PFAKE 01 44 30.0 +6.5
MIDW LR LR
comp=Z,598nm,19.0s,MS5.4
NVS Novosibirsk 143.43 66 *e*PKHKP 01 44 18.4
NVS *e* 01 47 36.1
NVS pmax pmax
comp=N,17nm,1.1s
NVS pmax pmax
comp=E,26nm,1.1s
NVS pmax pmax
comp=Z,55nm,1.1s
ZAL Zalesovo 143.63 68 PKP PKPdf 01 44 20.8 -3.2

comp=Z,4.1nm,0.7s,baz=256,slow=3.7,SNR=12
ZAL Zalesovo 143.63 68 PKP PKPdf 01 44 20.8 -3.3
SIT Sitka 143.85 298 PFAKE 01 44 30.0 +10
SIT LR LR
comp=Z,1μm,22.0s,MS5.7
NJ2 Nanjing 144.43 125 *e*PKP PKPdf 01 44 24.3 -1.9
NJ2 PP PP 01 47 45.0 +2.3
NJ2 PKS PKS 01 47 59.0 +1.5
NJ2 PP PP
comp=Z,530nm,6.9s
NJ2 LR LR
comp=N,1μm,25.2s,MS5.7
NJ2 LR LR
comp=E,1μm,24.2s,MS5.7
NJ2 LR LR
comp=Z,340nm,21.2s,MS5.1
SSE Sheshan 144.55 129 *e*PKP PKPdf 01 44 29.0 +2.6
SSE SS SS 02 06 34.3 +6.3
SSE PP PP
comp=Z,69nm,12.0s
SSE LR LR
comp=N,264nm,21.4s,MS5.1
SSE LR LR
comp=E,273nm,21.5s,MS5.1
SSE LR LR
comp=Z,423nm,21.8s,MS5.2
SSE Sheshan 144.55 129 *e*PKP PKPdf 01 44 29.4 +3.0
SSE PP PP 01 47 51.5 +8.0
SSE SS SS 02 06 34.2 +6.2
TIA Tai'an 147.22 119 *e*PKP PKPdf 01 44 31.3 +0.5
BTO Baotou 147.36 106 *e*PKP PKPdf 01 44 32.3 +1.4
HHC Hu-ho-hao-te 148.30 107 *e*PKP PKPdf 01 44 35.8 +3.4
HHC PP PP
comp=Z,474nm,10.8s
HHC LR LR
comp=N,436nm,15.6s,MS5.5
HHC LR LR
comp=E,412nm,15.6s,MS5.5
HHC LR LR
comp=Z,353nm,18.0s,MS5.2
INK Inuvik 148.39 317 PKPbc PKPdf 01 44 32.7 +1.0
comp=Z,47nm,1.1s,baz=93,slow=4.5,SNR=20
INK Inuvik 148.39 317 *e*PKPbc PKPdf 01 44 32.7 +1.0
DAWY Dawson 149.01 308 *e*PKPdf PKPdf 01 44 29.5 -3.3
MOY Mondy 150.27 82 *e*PKIKP PKPdf 01 44 34.2 -1.0
MOY *e* 01 44 40.3
MOY pmax pmax
comp=Z,114nm,2.7s
EYAK Cordova Ski Ar 150.28 299 *e*PKPbc PKPdf 01 44 37.5 +2.6
DIV Divide 150.54 300 *e*PKPbc PKPdf 01 44 38.5 +3.2
DIV LR LR
comp=Z,2μm,20.0s,MS5.8
SONM Songino Array 150.66 92 PKPbc PKPdf 01 44 40.0 +4.1
comp=Z,15nm,1.0s,baz=209,slow=2.2,SNR=9.1
ZAK Zakamensk 150.67 86 *e*PKIKP PKPdf 01 44 34.0 -1.8
ZAK *e* 01 44 40.1
ZAK pmax pmax
comp=Z,2.0nm,1.4s
ZAK pmax pmax
comp=Z,12nm,1.2s
ULN Ulaanbaatar 151.02 93 *e*PKPbc PKPdf 01 44 41.2 +4.8
ULN LR LR
comp=Z,501nm,21.0s,MS5.3
SML Sawmill 151.94 300 *e*PKPbc PKPdf 01 44 41.5 +4.2
PMR Palmer 152.21 300 PFAKE 01 44 50.0 +12
PMR LR LR
comp=Z,592nm,20.0s,MS5.4
KDAK Kodiak Island 152.25 291 PFAKE 01 44 50.0 +12
KDAK LR LR
comp=Z,239nm,20.0s,MS5.0
SLKM Skilak Lake 152.29 297 *e*PKPbc PKPdf 01 44 41.9 +4.1
INCN Inchon 152.30 131 PFAKE 01 44 50.0 +11
INCN LR LR
comp=Z,767nm,21.0s,MS5.5
ILAR Eielson Array 152.31 307 PKPbc PKPdf 01 44 41.8 +4.0
comp=Z,14nm,0.9s,baz=329,slow=2.1,SNR=13
FIB Fire Island 152.52 298 PFAKE 01 44 50.0 +12
FIB LR LR
comp=Z,1μm,21.0s,MS5.8
COLA College 152.74 307 PFAKE 01 44 50.0 +12
COLA LR LR
comp=Z,16nm,22.0s,MS3.8
MCK McKinley 152.85 304 *e*PKPbc PKPdf 01 44 43.1 +4.5
MCK LR LR
comp=Z,250nm,22.0s,MS5.0
MCK McKinley 152.85 304 PKIKP PKPdf 01 44 43.8 +5.2
SPU Mount Spurr 153.37 298 *e*PKPbc PKPdf 01 44 45.9 +6.5
RSO Redoubt South 153.43 296 *e*PKPbc PKPdf 01 44 47.7 +8.3
SNY Shenyang 154.69 121 ⇑PKP PKPdf 01 44 35.5 -6.3
SNY LR LR
comp=E,680nm,18.4s
SNY LR LR
comp=Z,530nm,24.0s
MAJO Matsushiro 155.21 151 PFAKE 01 44 50.0 +7.4
MAJO LR LR
comp=Z,548nm,20.0s,MS5.4
MAT Matsushiro 155.21 151 *e*PKP PKPdf 01 44 39.9 -2.7
MAT Matsushiro 155.21 151 PKP PKPdf 01 44 40.0 -2.6
MAT LR LR
comp=Z,370nm,22.0s,MS5.2
IMA Indian Mountai 155.38 308 *e*PKPbc PKPdf 01 44 49.6 +7.7
CN2 Changchun 157.09 121 *e*PKP PKPdf 01 44 43.3 -1.6
CN2 *e*PKP2 PKPab 01 45 15.5 +0.6
CN2 *e*PP PP 01 48 57.0 +2.7
CN2 LR LR
comp=N,460nm,18.0s,MS5.5
CN2 LR LR
comp=E,360nm,18.0s,MS5.5
CN2 LR LR
comp=Z,570nm,19.0s,MS5.4
MDJ Mudanjiang 159.52 126 PKP PKPdf 01 44 45.3 -2.5
MDJ APKP 01 44 56.0
MDJ SS SS 02 09 09.0 -2.7
MDJ PP PP
comp=Z,227nm,10.5s
MDJ LR LR
comp=N,392nm,25.6s,MS5.3
MDJ LR LR
comp=E,415nm,25.6s,MS5.3
MDJ LR LR
comp=Z,503nm,21.1s,MS5.3
BOD Bodaibo 159.82 77 *e*PKIKP PKPdf 01 44 44.8 -2.9
BOD *e* 01 45 24.2
BOD pmax pmax
comp=Z,10.0nm,1.0s
TNA Tin City 161.18 306 PFAKE 01 45 00.0 +11
TNA LR LR
comp=Z,438nm,22.0s
TIXI Tiksi 164.32 29 PFAKE 01 45 00.0 +8.1
TIXI LR LR
comp=Z,701nm,21.0s
YSS Yuzh-Sakhalins 166.14 149 PFAKE 01 45 00.0 +5.7
YSS LR LR
comp=Z,1μm,22.0s
YSS Yuzh-Sakhalins 166.14 149 *i* PKIKP PKPdf 01 44 54.0 -0.3
YSS *e* 01 45 06.0
YSS *e*PPP PPP 01 53 48.0 +9.2
YSS *e*PPS PPS 02 03 30.0 +5.2
SMY Shemya 166.50 250 PFAKE 01 45 00.0 +5.6
SMY LR LR
comp=Z,2μm,22.0s
YAK Yakutsk 168.30 67 PFAKE 01 45 00.0 +4.8
YAK LR LR
comp=Z,856nm,21.0s
BILL Bilibino 169.54 332 PFAKE 01 45 10.0 +14
BILL LR LR
comp=Z,1μm,22.0s
BILL Bilibino 169.54 332 *e*PKIKP PKPdf 01 44 50.0 -5.8
BILL *e* 01 45 00.4
BILL *e* 01 51 49.3
BILL pmax pmax
comp=Z,4.0nm,0.9s
PET Petropavlovsk 172.89 209 PFAKE 01 45 10.0 +12
PET LR LR
comp=Z,859nm,22.0s
MA2 Magadan 178.84 79 PFAKE 01 45 10.0 +11
MA2 LR LR
comp=Z,564nm,21.0s

*STR **31** 01:31:35.6±0.1, 45.26N×3.88E, h5km±1km, Ml2.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **31** 01:31:35.5±0.0, 45.25N×3.88E, h7km, Md2.6/3, Ml2.5/32, Error ellipse: s-maj=0.7km s-min=0.7km az=57.0*

*NEIC **31** 01:31:35.5, 45.25N×3.88E, h7km, ML2.7(STR), ML2.5(LDG), After LDG.*
*MDD **31** 01:31:35.5±0.4, 45.26N×3.87E, h10km±1km, mbLg1.9/19, Error ellipse: s-maj=2.8km s-min=2.3km az=45.0*
*CSEM **31** 01:31:35.5±0.1, 45.25N×3.89E, h12km, ML2.5/30, Error ellipse: s-maj=1.2km s-min=1.1km az=41.0*
ISC 31 01:31:33.1±0.2, 45.27N±0.01×3.91E±0.02, h13km±2km, n46, σ1°28/129, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COLF	**Collangettes**	**0.29**	**328**	Pg	**Pg**	**01 31 40.8**	**+1.5**
COLF				Sg	**Sg**	01 31 45.8	+2.3
LBL	**Lubilhac**	**0.47**	**266**	Pg	**Pg**	**01 31 44.8**	**+2.1**
LBL				Sg	**Sg**	01 31 51.1	+1.9
VIVF	**Saint-Julien-l**	**0.68**	**127**	*e*Pg	**Pg**	**01 31 48.1**	**+1.3**
VIVF				*e*Pn	**Pn**	01 31 49.4	+1.3
VIVF				*e*Sg	**Sg**	01 31 57.0	+1.0
	29nm,0.2s						
VIVF	**Saint-Julien-l**	**0.68**	**127**	Pg	**Pg**	**01 31 48.1**	**+1.3**
VIVF				Lg		01 31 57.0	
	15nm,0.2s						
PLDF	**La Plantade**	**0.73**	**344**	Pg	**Pg**	**01 31 49.9**	**+2.1**
PLDF				Sg	**Sg**	01 32 00.0	+2.4
CFF	**Clermont-Ferra**	**0.75**	**311**	Pg	**Pg**	**01 31 49.6**	**+1.4**
CFF				Sg	**Sg**	01 32 00.0	+1.8
AGO	**Saint Agoulin**	**0.95**	**325**	Pg	**Pg**	**01 31 54.2**	**+2.0**
AGO				Sg	**Sg**	01 32 06.6	+1.5
FRNF	**Fournols**	**0.96**	**277**	Pg	**Pg**	**01 31 53.0**	**+0.7**
FRNF				Sg	**Sg**	01 32 05.8	+0.6
LASF	**Ste Croix**	**1.20**	**182**	*e*Pn	**Pn**	**01 31 56.5**	**+1.0**
LASF				*e*Pg	**Pg**	**01 31 57.3**	**+0.3**
LASF				*e*Sg	**Sg**	**01 32 12.8**	**-0.2**
	27nm,0.2s						
OCF	**Saint Nazaire**	**1.21**	**125**	Pg	**Pg**	**01 31 58.5**	**+1.3**
OCF				Sg	**Sg**	01 32 15.5	+2.1
OG26	**St.-Nazaire-De**	**1.21**	**125**	Pg	**Pg**	**01 31 58.5**	**+1.3**
OG26				Sg	**Sg**	01 32 15.5	+2.1
CAF	**Calviac**	**1.35**	**256**	*e*Pn	**Pn**	**01 31 58.9**	**+1.2**
CAF				*e*Pg	**Pg**	**01 32 00.2**	**0.0**
CAF				*e*Sn	**Sn**	**01 32 15.6**	**0.0**
CAF				*e*Sg	**Sg**	**01 32 17.3**	**-1.0**
	8.7nm,0.2s						
SMF	**Signal de Mont**	**1.38**	**358**	*e*Pn	**Pn**	**01 31 59.0**	**+0.9**
SMF				*e*Pg	**Pg**	**01 32 01.2**	**+0.6**
SMF				*e*Sg	**Sg**	**01 32 19.2**	**+0.2**
	17nm,0.2s						
ORIF	**Oris-en-Rattie**	**1.44**	**103**	*e*Pn	**Pn**	**01 32 00.7**	**+1.7**
ORIF				*e*Pg	**Pg**	**01 32 03.2**	**+1.3**
ORIF				*e*Sn	**Sn**	**01 32 18.6**	**+0.8**
ORIF				*e*Sg	**Sg**	**01 32 21.6**	**+0.5**
	4.3nm,0.2s						
BGF	**Bois d'Agland**	**1.49**	**330**	*e*Pn	**Pn**	**01 32 00.9**	**+1.2**
BGF				*e*Pg	**Pg**	**01 32 03.5**	**+0.7**
BGF				*e*Sn	**Sn**	**01 32 19.4**	**+0.4**
BGF				*e*Sg	**Sg**	**01 32 22.2**	**-0.5**
	19nm,0.3s						
TCF	**Toulx Ste Croi**	**1.57**	**311**	*e*Pn	**Pn**	**01 32 01.8**	**+1.0**
TCF				*e*Pg	**Pg**	**01 32 04.1**	**-0.3**
TCF				*e*Sn	**Sn**	**01 32 21.3**	**+0.3**
TCF				*e*Sg	**Sg**	**01 32 24.5**	**-0.8**
	6.2nm,0.2s						
AVF	**Avril sur Loir**	**1.57**	**346**	*e*Pn	**Pn**	**01 32 02.4**	**+1.6**
AVF				*e*Pg	**Pg**	**01 32 04.8**	**+0.3**
AVF				*e*Sn	**Sn**	**01 32 21.5**	**+0.4**
AVF				*e*Sg	**Sg**	**01 32 25.0**	**-0.4**
	11nm,0.3s						
RJF	**Les Rejaudoux**	**1.69**	**272**	*e*Pn	**Pn**	**01 32 03.3**	**+0.7**
RJF				*e*Pg	**Pg**	**01 32 06.6**	**-0.3**
RJF				*e*Sg	**Sg**	**01 32 27.4**	**-2.1**
	16nm,0.2s						
SMRF	**Simiane la Rot**	**1.76**	**137**	*e*Pn	**Pn**	**01 32 04.7**	**+1.2**
SMRF				*e*Pg	**Pg**	**01 32 08.8**	**+0.6**
SMRF				*e*Sg	**Sg**	**01 32 31.5**	**-0.2**
	2.8nm,0.3s						
SSF	**Saint Saulge**	**1.81**	**351**	*e*Pn	**Pn**	**01 32 06.0**	**+1.7**
SSF				*e*Pg	**Pg**	**01 32 09.2**	**-0.1**
SSF				*e*Sn	**Sn**	**01 32 27.5**	**+0.2**
SSF				*e*Sg	**Sg**	**01 32 32.9**	**-0.6**
	12nm,0.2s						
SSF	**Saint Saulge**	**1.81**	**351**	*e*Pg	**Pg**	**01 32 09.2**	**-0.1**
SSF				*e*Sn	**Sn**	**01 32 27.5**	**+0.2**
SSF				*e*Sg	**Sg**	**01 32 32.9**	**-0.6**
	6.0nm,0.2s						
LOR	**Lormes**	**2.00**	**359**	*e*Pn	**Pn**	**01 32 08.0**	**+1.0**
LOR				*e*Pg	**Pg**	**01 32 12.8**	**-0.2**
	baz=177						
LOR				*e*Sn	**Sn**	**01 32 32.0**	**0.0**
	baz=183						
LOR				*e*Sg	**Sg**	**01 32 38.8**	**-0.9**
	9.3nm,0.2s,baz=180						
LPL	**La Plagne**	**2.00**	**82**	*e*Pn	**Pn**	**01 32 09.3**	**+2.3**
LPL				*e*Pg	**Pg**	**01 32 12.9**	**-0.2**
LPL				*e*Sg	**Sg**	**01 32 39.6**	**-0.2**
	3.4nm,0.2s						
LPG	**La Plagne**	**2.01**	**83**	*e*Pn	**Pn**	**01 32 09.3**	**+2.1**
LPG				*e*Pg	**Pg**	**01 32 14.2**	**+0.9**
LPG				*e*Sg	**Sg**	**01 32 39.9**	**-0.3**
	2.3nm,0.2s						
CABF	**La Chapelle**	**2.02**	**48**	*e*Pn	**Pn**	**01 32 08.1**	**+0.7**
CABF				*e*Pg	**Pg**	**01 32 14.1**	**+0.5**
CABF				*e*Sg	**Sg**	**01 32 40.3**	**-0.3**
	3.2nm,0.2s						
MBDF	**Montbardon**	**2.10**	**104**	*e*Sg	**Sg**	**01 32 42.1**	**-1.0**
	1.2nm,0.2s						
HYF	**Humbligny**	**2.18**	**337**	*e*Pg	**Pg**	**01 32 16.2**	**-0.5**
HYF				*e*Sn	**Sn**	**01 32 36.1**	**-0.6**
HYF				*e*Sg	**Sg**	**01 32 44.5**	**-1.4**
LFF	**La Frestale**	**2.27**	**263**	*e*Pn	**Pn**	**01 32 11.8**	**+0.9**
LFF				*e*Pg	**Pg**	**01 32 16.9**	**-1.5**
LFF				*e*Sg	**Sg**	**01 32 46.2**	**-2.5**
	9.7nm,0.2s						
MTLF	**Montolieu**	**2.28**	**213**	*e*Pn	**Pn**	**01 32 10.8**	**-0.2**
MTLF				*e*Pg	**Pg**	**01 32 17.1**	**-1.5**
MTLF				*e*Sg	**Sg**	**01 32 45.8**	**-3.3**
	4.0nm,0.2s						
FRF	**La Foret Royal**	**2.60**	**130**	*e*Pn	**Pn**	**01 32 16.3**	**+0.7**
FRF				*e*Pg	**Pg**	**01 32 23.9**	**-1.1**
FRF				*e*Sn	**Sn**	**01 32 46.3**	**-1.0**
FRF				*e*Sg	**Sg**	**01 32 57.2**	**-2.5**
	1.7nm,0.2s						
LMR	**La Mourre**	**2.69**	**135**	*e*Pn	**Pn**	**01 32 17.7**	**+0.9**
LMR				*e*Pg	**Pg**	**01 32 25.3**	**-1.5**
LMR				*e*Sn	**Sn**	**01 32 48.3**	**-1.2**
LMR				*e*Sg	**Sg**	**01 33 00.0**	**-2.6**
	0.9nm,0.2s						
SBF	**Sospel**	**2.88**	**118**	*e*Sn	**Sn**	**01 32 53.7**	**-0.8**
	1.3nm,0.3s						
SFTF	**Sexfontaines**	**3.04**	**14**	*e*Pn	**Pn**	**01 32 21.8**	**0.0**
SFTF				*e*Sn	**Sn**	**01 32 56.5**	**-1.8**
	baz=189						
SFTF				*e*Sg	**Sg**	**01 33 12.0**	**-2.2**
	5.8nm,0.2s						
MFF	**Saint Martin d**	**3.13**	**297**	*e*Pn	**Pn**	**01 32 23.7**	**+0.6**
MFF				*e*Pg	**Pg**	**01 32 33.0**	**-2.6**
MFF				*e*Sn	**Sn**	**01 32 58.4**	**-2.3**
MFF				*e*Sg	**Sg**	**01 33 13.0**	**-4.3**
	2.4nm,0.2s						
HAU	**Haudompre**	**3.21**	**31**	*e*Pn	**Pn**	**01 32 23.1**	**-1.2**
HAU				*e*Pg	**Pg**	**01 32 35.2**	**-2.0**
HAU				*e*Sg	**Sg**	**01 33 16.6**	**-3.4**
	3.6nm,0.3s						
HINF	**Hinteralfeld**	**3.26**	**38**	*e*Pn	**Pn**	**01 32 23.8**	**-1.1**
HINF				*e*Pg	**Pg**	**01 32 35.9**	**-2.2**
HINF				*e*Sg	**Sg**	**01 33 18.2**	**-3.3**
	2.5nm,0.2s						
MEZF	**Maizieres J'vi**	**3.33**	**13**	*e*Pn	**Pn**	**01 32 26.2**	**+0.3**
MEZF				*e*Pg	**Pg**	**01 32 37.7**	**-1.8**
	baz=193						
MEZF				*e*Sg	**Sg**	**01 33 21.0**	**-2.8**
	7.4nm,0.3s,baz=202						
EPF	**Esparros**	**3.41**	**230**	*e*Pn	**Pn**	**01 32 27.0**	**-0.1**
EPF				*e*Pg	**Pg**	**01 32 37.8**	**-3.3**
EPF				*e*Sg	**Sg**	**01 33 21.8**	**-4.8**
	1.4nm,0.2s						
RFYF	**Reffroy**	**3.53**	**17**	*e*Pn	**Pn**	**01 32 28.5**	**-0.2**
RFYF				*e*Pg	**Pg**	**01 32 42.8**	**-0.7**
	baz=200						
RFYF				*e*Sn	**Sn**	**01 33 08.7**	**-2.0**
	baz=204						
RFYF				*e*Sg	**Sg**	**01 33 26.9**	**-3.6**
	6.4nm,0.2s						
RFYF	**Reffroy**	**3.53**	**17**	Pn	**Pn**	**01 32 28.5**	**-0.2**
RFYF				Sn	**Sn**	**01 33 08.7**	**-2.0**
EBIE	**Bielsa**	**3.75**	**228**	Pn	**Pn**	**01 32 31.9**	**0.0**
	SNR=7.9						
EBIE				Pg	**Pg**	**01 32 43.2**	**-4.7**
	SNR=7.9						
EBIE				Sn	**Sn**	**01 33 14.5**	**-1.9**
	SNR=7.9						
EBIE				Lg		01 33 33.2	
	SNR=7.9						
CDF	**Champ du Feu**	**3.90**	**35**	*e*Pn	**Pn**	**01 32 34.8**	**+0.7**
CDF				*e*Sg	**Sg**	**01 33 38.6**	**-4.3**
	1.6nm,0.3s						
ETSF	**Etsaut**	**4.00**	**235**	*e*Pg	**Pg**	**01 32 48.8**	**-4.1**
ETSF				*e*Sg	**Sg**	**01 33 40.2**	**-6.1**
	1.1nm,0.3s						
SJPF	**Ste Jean**	**4.28**	**242**	*e*Pn	**Pn**	**01 32 39.0**	**-0.4**
SJPF				*e*Pg	**Pg**	**01 32 53.9**	**-4.6**
SJPF				*e*Sg	**Sg**	**01 33 49.0**	**-6.5**
	0.7nm,0.2s						
PGF	**Pioggiola**	**4.57**	**125**	*e*Pn	**Pn**	**01 32 43.6**	**0.0**
BAIF	**Baives**	**4.80**	**2**	*e*Pn	**Pn**	**01 32 46.8**	**0.0**
BAIF				*e*Pg	**Pg**	**01 33 04.5**	**-4.3**

*IDC **31** 01:54:42.9±1.2, 7.71N×91.60E, mb3.9/9, mb1 4.1/9, mb1mx3.9/20, mbtmp3.9/9, Error ellipse: s-maj=65.2km s-min=18.6km az=52.0*
*NEIC **31** 01:54:47.7±0.7, 7.77N×91.86E, h30km, mb4.4/8, Error ellipse: s-maj=23.1km s-min=7.2km az=50.0*
*BJI **31** 01:54:47.7, 7.80N×91.90E, h30km, mB4.9, mb4.5, Ms4.3, Msz4.2*
ISC 31 01:54:45.0±6.1, 7.8N±0.1×92.0E±0.2, h22km±43km, n25, σ0°89/25, mb4.2/19, MS4.2/1, 1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**9.00**	**106**	P	**P**	**01 56 55.7**	**-1.0**
PKI	**Pulchoki**	**20.59**	**343**	*e*P	**P**	**01 59 25.5**	**+0.1**
DMN	**Daman**	**20.72**	**343**	*e*P	**P**	**01 59 27.3**	**+0.6**
	17nm,0.8s						
KKN	**Kakani**	**20.84**	**343**	*e*P	**P**	**01 59 27.8**	**-0.1**
GKN	**Gorkha**	**21.23**	**342**	*e*P	**P**	**01 59 32.5**	**+0.6**
	22nm,0.7s,mb4.6						
KOLN	**Koldanda**	**21.36**	**339**	*e*P	**P**	**01 59 33.6**	**+0.5**
	36nm,0.9s,mb4.7						
LSA	**Lhasa**	**21.77**	**358**	P	**P**	**01 59 40.0**	**+2.7**
LSA	**Lhasa**	**21.77**	**358**	*e*P	**P**	**01 59 38.3**	**+1.0**
	18nm,0.6s,mb4.7						
GYA	**Guiyang**	**23.21**	**35**	⇓*i*P	**P**	**01 59 50.0**	**-1.6**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.3						
CD2	**Chengdu**	**25.48**	**24**	P	**P**	**02 00 13.3**	**-0.1**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.6						
ENH	**Enshi**	**27.73**	**34**	P	**P**	**02 00 38.1**	**+4.0**
	comp=Z,22nm,1.0s,mb4.8						
GTA	**Gaotai**	**32.23**	**11**	P	**P**	**02 01 14.3**	**+0.3**
GTA				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.6						
GTA				AMB	AMB		
	comp=Z,226nm,13.4s						
GTA				LR	LR		
	comp=N,389nm,21.0s,MS4.2						
GTA				LR	LR		
	comp=E,405nm,21.4s,MS4.2						
GTA				LR	LR		
	comp=Z,641nm,23.7s,MS4.2						
AAK	**Ala-Archa**	**37.93**	**339**	*e*P	**P**	**02 02 03.4**	**+0.8**
	comp=Z,3.4nm,0.9s,mb4.1						
MKAR	**Makanchi Array**	**39.70**	**350**	P	**P**	**02 02 17.6**	**+0.1**
	comp=Z,0.6nm,0.4s,mb3.6,baz=173,slow=9.8,SNR=6.3						
ULN	**Ulaanbaatar**	**41.91**	**15**	*e*P	**P**	**02 02 34.9**	**-0.7**
	comp=Z,4.6nm,1.1s,mb4.0						
FITZ	**Fitzroy Crossi**	**42.06**	**128**	P	**P**	**02 02 38.5**	**+1.3**
	comp=Z,3.3nm,0.7s,mb4.1,baz=358,slow=8.6,SNR=6.2						
KURK	**Kurchatov**	**44.17**	**348**	*e*P	**P**	**02 02 54.0**	**0.0**
	comp=Z,11nm,1.5s,mb4.4						
ZAL	**Zalesovo**	**46.34**	**354**	P	**P**	**02 03 11.4**	**+0.2**
	comp=Z,0.9nm,0.8s,mb3.8,baz=297,slow=12,SNR=5.5						
BVAR	**Borovoye Array**	**48.36**	**343**	P	**P**	**02 03 26.7**	**-0.4**
	comp=Z,0.4nm,0.5s,mb3.7,baz=135,slow=8.2,SNR=4.9						
WRA	**Warramunga Arr**	**50.01**	**124**	P	**P**	**02 03 40.5**	**+0.3**
	comp=Z,2.1nm,0.8s,mb4.2,baz=303,slow=8.8,SNR=14						
WRA				PcP	PcP	02 05 01.6	+1.3
	comp=Z,1.3nm,0.9s,baz=311,slow=3.0,SNR=5.7						
WRAB	**Tennant Creek**	**50.02**	**124**	*e*P	**P**	**02 03 41.0**	**+0.7**
BRTR	**Keskin Array B**	**60.83**	**311**	P	**P**	**02 04 56.1**	**-2.0**
	comp=Z,0.9nm,1.0s,mb3.9,baz=135,slow=2.0,SNR=3.3						
ARCES	**ARCESS Array B**	**74.58**	**340**	P	**P**	**02 06 22.9**	**-0.9**
	comp=Z,1.2nm,0.7s,mb3.9,baz=90,slow=9.7,SNR=2.4						
GERES	**GERESS Array B**	**76.42**	**318**	P	**P**	**02 06 33.4**	**-1.2**
	comp=Z,0.6nm,0.8s,mb3.6,baz=63,slow=3.0,SNR=5.4						
ILAR	**Eielson Array**	**95.60**	**22**	P	**P**	**02 08 10.2**	**+0.6**
	comp=Z,0.3nm,0.6s,mb3.9,baz=323,slow=4.5,SNR=3.9						

OTT 31 02:08:09.4±0.4, 41.59N×55.52W, h18km, ML3.8/13, Atlantic Offshore 600km southeast from Louisbourg, Ns, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAL	**Halifax**	**6.65**	**300**	PN	Pn	02 09 45.4	-3.4
HAL				SN	Sn	02 10 56.6	-8.2
HAL				Trac		02 11 13.4	
	comp=Z,13nm,0.1s						
DRLN	**Deer Lake**	**7.79**	**350**	PN	Pn	02 10 13.3	+8.5
DRLN				SN	Sn	02 11 45.0	+12
DRLN				Trac		02 12 03.8	
	comp=Z,2.7nm,0.1s						
LMN	**Caledonia Moun**	**7.96**	**305**	PN	Pn	02 10 03.8	-3.4
LMN				SN	Sn	02 11 27.7	-10
LMN				Trac		02 11 49.4	
	comp=Z,14nm,0.1s						
GGN	**Saint George**	**8.97**	**297**	PN	P	02 10 15.0	-6.2
GGN				SN	Sn	02 11 51.2	-12
GGN				Trac		02 12 05.1	
	comp=Z,9.8nm,0.2s						
GSQ	**Grosses Roches**	**10.96**	**316**	PN	P	02 10 44.2	-4.3
GSQ				SN	S	02 12 38.6	-13
GSQ				Trac		02 13 08.0	
	comp=Z,3.3nm,0.3s						
ICQ	**Pointe Anglais**	**11.43**	**318**	PN	P	02 10 50.4	-4.4
ICQ				SN	S	02 12 49.4	-14
ICQ				Trac		02 13 17.3	
	comp=Z,1.4nm,0.1s						
SMQ	**Clarke City**	**11.62**	**322**	PN	P	02 10 52.8	-4.6
SMQ				SN	S	02 12 53.7	-14
SMQ				Trac		02 13 25.3	
	comp=Z,1.4nm,0.1s						
CNQ	**Baie Comeau**	**11.71**	**315**	PN	P	02 10 53.6	-5.0
CNQ				SN	S	02 12 55.3	-14
CNQ				Trac		02 13 27.7	
	comp=Z,1.9nm,0.1s						
A21	**Saint Andre**	**11.79**	**306**	PN	P	02 10 55.0	-4.7
A21				SN	S	02 12 58.1	-14
A21				Trac		02 13 17.7	
	comp=Z,4.9nm,0.3s						
A61	**Sainte Mathild**	**12.03**	**305**	PN	P	02 10 58.0	-4.9
A61				SN	S	02 13 04.9	-13
A61				Trac		02 13 25.1	
	comp=Z,1.3nm,0.1s						
LMQ	**La Malbaie**	**12.12**	**304**	PN	P	02 10 59.7	-4.5
LMQ				SN	S	02 13 06.2	-14
LMQ				Trac		02 13 25.4	
	comp=Z,4.2nm,0.2s						
A54	**Misere**	**12.13**	**304**	PN	P	02 10 59.9	-4.5
A54				SN	S	02 13 06.4	-14
A54				Trac		02 13 23.9	
	comp=Z,2.0nm,0.1s						
GAC	**Glen Almond**	**15.02**	**293**	PN	P	02 11 44.8	+2.4
GAC				Trac		02 14 58.5	
	comp=Z,0.5nm,0.1s						

*NEIC **31** 02:20:55.8, 15.99N×97.60W, h16km, MD3.7(MEX), After MEX.*
MEX 31 02:20:55.8±0.6, 15.98N×97.61W, h16km±10km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.64**	**309**	*i* P	Pb	02 21 06.3	-1.9
PNIG				*i* S	Sb	02 21 14.3	-2.2
PNIG	**Pinotepa**	**0.64**	**309**	*e*P	Pb	02 21 06.3	-1.9

PNIG				*i* S	Sb	02 21 14.3	-2.2
VHO	**Vista Hermosa**	**1.37**	**38**	*i* P	Pn	02 21 16.9	-3.5
VHO				*i* S	Sb	02 21 32.7	-5.1
OXX	**Oaxaca**	**1.39**	**38**	*i* P	Pn	02 21 17.7	-2.9
OXX				*i* S	Sb	02 21 34.2	-3.9
HUIG	**Huatulco**	**1.46**	**98**	*i* P	Pn	02 21 18.4	-3.3
HUIG				*i* S	Sb	02 21 34.6	-5.7
HUIG	**Huatulco**	**1.46**	**98**	*i* P	Pn	02 21 19.4	-2.3
HUIG				*i* S	Sb	02 21 34.6	-5.7
CMIG	**Matias Romero**	**2.84**	**67**	*i* P	Pn	02 21 37.8	-3.6
CMIG				*i* S	Sn	02 22 11.2	-4.3

*IDC **31** 02:26:20.5±0.9, 71.68N×1.10W, mb3.5/7, mb1 3.9/11, mb1mx3.8/23, mbtmp3.7/11, ML3.5/4, MS4.0/2, Ms1 4.0/2, ms1mx3.4/23, Error ellipse: s-maj=26.2km s-min=14.6km az=44.0*
*NEIC **31** 02:26:22.6±0.4, 71.91N×0.85W, h10km, mb4.1/16, Error ellipse: s-maj=7.5km s-min=6.0km az=91.0*
*NAO **31** 02:26:24.2±2.4, 71.99N×0.43W, ML3.1*
*CSEM **31** 02:26:25.3±0.3, 71.78N×0.31W, h35km, mb4.1/13, Ms3.5, Error ellipse: s-maj=9.8km s-min=3.1km az=165.0*
*BER **31** 02:26:26.1±4.4, 71.93N×0.64W, h10km, ML2.9, ML3.1(NAO)*
*HEL **31** 02:26:26.1±0.9, 71.98N×0.17W, h10km, mb4.1(NEIC), ML2.9(BER), ML3.1(NAO)*

ISC 31 02:26:22.0±2.1, 71.96N±0.04×0.1W±0.2, h16km±16km, n70, σ1§16/87, mb3.9/23, MS3.8/2, 2C, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOF	**Lofoten**	**6.05**	**123**	*eP*	**Pn**	**02 27 57.0**	**+3.9**
LOF				*eS*	**Sn**	**02 29 02.1**	**-0.6**
LOF				AML	AML	02 29 06.1	
	comp=Z,18nm,0.5s						
LOF	**Lofoten**	**6.05**	**123**	P	**Pn**	**02 27 56.9**	**+3.8**
LOF				S	**Sn**	**02 29 02.1**	**-0.6**
	comp=Z,18nm,0.5s						
TRO	**Tromso**	**6.69**	**101**	*eP*	**Pn**	**02 28 02.0**	**-0.2**
TRO				*eS*	**Sn**	**02 29 13.8**	**-5.0**
TRO				AML	AML	02 29 17.2	
	comp=Z,5.6nm,0.3s						
TRO	**Tromso**	**6.69**	**101**	P	**Pn**	**02 28 02.0**	**-0.2**
TRO				S	**Sn**	**02 29 13.8**	**-5.0**
	comp=Z,5.6nm,0.3s						
DAG	**Danmarks Havn**	**6.92**	**323**	⇑*iP*	**Pn**	**02 27 58.0**	**-7.3**
	comp=Z,1.4nm,0.7s						
DAG				*e*		02 29 05.0	
DAG	**Danmarks Havn**	**6.92**	**323**	⇑*eP*	**Pn**	**02 27 58.0**	**-7.3**
	comp=Z,1.4nm,0.7s						
DAG				*e*		02 29 05.0	
MELSS	**Ber_school_2**	**7.06**	**130**	*eP*	**Pn**	**02 28 07.1**	**-0.2**
MELSS				*eS*	**Sn**	**02 29 22.0**	**-6.0**
STOK	**Stokkvaagen**	**7.33**	**134**	*eP*	**Pn**	**02 28 10.2**	**-0.9**
STOK				*eS*	**Sn**	**02 29 27.4**	**-7.4**
SPA0	**Spitsbergen Ar**	**7.52**	**27**	Pn	**Pn**	**02 28 14.1**	**+0.4**
	baz=206,slow=16						
SPA0	**Spitsbergen Ar**	**7.52**	**27**	*eP*	**Pn**	**02 28 14.1**	**+0.4**
KBS	**Kingsbay**	**7.61**	**18**	*eP*	**Pn**	**02 28 13.5**	**-1.5**
KBS				*eS*	**Sn**	**02 29 41.2**	**-0.5**
MOR8	**Moi Rana**	**7.79**	**131**	*eP*	**Pn**	**02 28 18.2**	**+0.7**
MOR8				*eS*	**Sn**	**02 29 41.0**	**-5.2**
MOR8				AML	AML	02 29 45.3	
	comp=Z,20nm,0.3s						
MOR8	**Moi Rana**	**7.79**	**131**	P	**Pn**	**02 28 18.2**	**+0.7**
MOR8				S	**Sn**	**02 29 40.9**	**-5.3**
	comp=Z,20nm,0.3s						
KTK1	**Kautokeino**	**8.33**	**99**	*eP*	**P**	**02 28 26.9**	**+1.8**
KTK1	**Kautokeino**	**8.33**	**99**	P	**P**	**02 28 26.8**	**+1.7**
NSS	**Namsos**	**8.69**	**143**	*eP*	**P**	**02 28 28.9**	**-1.1**
NSS				AML	AML	02 30 04.1	
	comp=Z,24nm,0.7s						
NSS	**Namsos**	**8.69**	**143**	P	**P**	**02 28 28.9**	**-1.1**
	comp=Z,24nm,0.7s						
ARA0	**ARCESS Array S**	**8.77**	**94**	Pn	**P**	**02 28 31.8**	**+0.6**
	baz=302,slow=12						
ARA0				Sn	**Sn**	**02 30 08.2**	**-2.5**
	baz=299,slow=22						
ARA0	**ARCESS Array S**	**8.77**	**94**	*eP*	**P**	**02 28 31.8**	**+0.6**
ARA0				*eS*	**Sn**	**02 30 08.2**	**-2.5**
ARCES	**ARCESS Array B**	**8.77**	**94**	Pn	**P**	**02 28 31.7**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=295,slow=12,SNR=29						
ARCES				Sn	**Sn**	**02 30 09.2**	**-1.5**
	comp=Z,0.4nm,0.3s,baz=297,slow=19,SNR=2.2						
ARCES	**ARCESS Array B**	**8.77**	**94**	Pn	**P**	**02 28 31.7**	**+0.5**
ARCES				Sn	**Sn**	**02 30 09.2**	**-1.5**
MOL	**Molde**	**9.88**	**159**	*eP*	**P**	**02 28 45.9**	**-0.4**
NB2	**NORSAR Subarra**	**11.83**	**152**	Pn	**P**	**02 29 12.1**	**-0.8**
	baz=332,slow=14						
NB2				Sn	**S**	**02 31 19.4**	**-6.1**
	baz=341,slow=28						
NB2	**NORSAR Subarra**	**11.83**	**152**	Pn	**P**	**02 29 11.7**	**-1.2**
	comp=Z,1.2nm,0.6s,baz=342,slow=14						
NB2	**NORSAR Subarra**	**11.83**	**152**	*eP*	**P**	**02 29 12.1**	**-0.8**
NB2				*eS*	**S**	**02 31 19.4**	**-6.1**
NOA	**NORSAR Array B**	**11.83**	**152**	Pn	**P**	**02 29 11.5**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=331,slow=12,SNR=4.7						
NOA				Sn	**S**	**02 31 17.9**	**-7.7**
	comp=Z,0.6nm,0.3s,baz=330,slow=22,SNR=4.5						
NOA	**NORSAR Array B**	**11.83**	**152**	Pn	**P**	**02 29 11.5**	**-1.4**
NOA				Sn	**S**	**02 31 17.9**	**-7.7**
HFS	**Hagfors**	**13.08**	**148**	*eP*	**P**	**02 29 28.5**	**-1.1**
HFS	**Hagfors**	**13.08**	**148**	Pn	**P**	**02 29 28.4**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=337,slow=11,SNR=19						
HFS				Sn	**S**	**02 31 45.9**	**-10**
	comp=Z,0.1nm,0.3s,baz=345,slow=23,SNR=7.2						
HFS	**Hagfors**	**13.08**	**148**	Pn	**P**	**02 29 28.5**	**-1.1**
	baz=342,slow=12						
FIA0	**FINESS Array S**	**14.61**	**123**	P	**P**	**02 29 51.1**	**+1.5**
	baz=336,slow=16						
FIA0	**FINESS Array S**	**14.61**	**123**	*eP*	**P**	**02 29 51.1**	**+1.5**
FINES	**FINESS Array B**	**14.61**	**123**	Pn	**P**	**02 29 50.0**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=342,slow=12,SNR=6.6						
FINES	**FINESS Array B**	**14.61**	**123**	Pn	**P**	**02 29 50.0**	**+0.4**
MOX	**Moxa**	**22.04**	**160**	*iP*	**P**	**02 31 18.7**	**+1.5**
	comp=Z,logA/T=0.9,mb4.1						
MOX	**Moxa**	**22.04**	**160**	*eP*	**P**	**02 31 18.7**	**+1.5**
	comp=Z,13nm,1.8s,mb4.1						
BAIF	**Baives**	**22.07**	**173**	*eP*	**P**	**02 31 17.5**	**0.0**
	comp=Z,18nm,1.2s,mb4.1						
BRG	**Berggiesshubel**	**22.09**	**156**	*eP*	**P**	**02 31 18.8**	**+1.1**
	comp=Z,20nm,1.8s,mb4.2						
BRG				*e*		02 31 26.5	
PVCC	**Panska Ves**	**22.50**	**155**	*eP*	**P**	**02 31 22.9**	**+1.2**
NKC	**Novy Kostel**	**22.54**	**159**	*eP*	**P**	**02 31 24.2**	**+2.2**
UPC	**Upice**	**22.72**	**153**	*eP*	**P**	**02 31 26.5**	**+2.7**
DPC	**Dobruska-Polom**	**22.92**	**152**	*eP*	**P**	**02 31 27.4**	**+1.6**
PRU	**Pruhonice**	**23.03**	**155**	*eP*	**P**	**02 31 28.9**	**+2.1**
FLN	**La Foliniere**	**23.28**	**181**	*eP*	**P**	**02 31 28.3**	**-0.9**
	comp=Z,16nm,0.9s,mb4.1						
FLN				*eR*			
	comp=Z,304nm,21.5s						
LDF	**La Druitiere**	**23.45**	**180**	*eP*	**P**	**02 31 29.4**	**-1.5**
	comp=Z,26nm,1.2s,mb4.2						
GRR	**Gorron**	**23.65**	**181**	*eP*	**P**	**02 31 32.5**	**-0.4**
	comp=Z,35nm,1.4s,mb4.3						
ROSF	**Rostrenen**	**23.75**	**185**	*eP*	**P**	**02 31 33.3**	**-0.5**
KHC	**Kasperske Hory**	**23.75**	**157**	*eP*	**P**	**02 31 39.5**	**+5.7**
VRAC	**Vranov**	**23.98**	**152**	LR	LR	02 40 58.2	
	comp=Z,297nm,19.5s,MS3.8,baz=78,slow=37						
GERES	**GERESS Array B**	**24.05**	**157**	P	**P**	**02 31 35.6**	**-1.1**
	comp=Z,0.4nm,0.6s,mb3.0,baz=18,slow=3.1,SNR=3.7						
GERES				LR	LR	02 41 05.3	
	comp=Z,359nm,18.8s,MS3.9,baz=135,slow=37						
LOR	**Lormes**	**24.84**	**174**	*eP*	**P**	**02 31 44.2**	**-0.2**
	comp=Z,5.1nm,0.7s,mb3.8						
SSF	**Saint Saulge**	**25.04**	**174**	*eP*	**P**	**02 31 45.8**	**-0.5**
AKASG	**Malin Array Be**	**25.04**	**133**	P	**P**	**02 31 46.2**	**-0.1**
	comp=Z,1.2nm,0.8s,mb3.5,baz=334,slow=9.9,SNR=9.3						
AVF	**Avril sur Loir**	**25.30**	**174**	*eP*	**P**	**02 31 48.5**	**-0.3**
	comp=Z,5.3nm,0.8s,mb3.8						
MFF	**Saint Martin d**	**25.44**	**180**	*eP*	**P**	**02 31 49.1**	**-1.0**
	comp=Z,17nm,1.3s,mb4.1						
SMF	**Signal de Mont**	**25.46**	**174**	*eP*	**P**	**02 31 50.8**	**+0.5**
	comp=Z,9.6nm,0.9s,mb4.0						
TCF	**Toulx Ste Croix**	**25.78**	**176**	*eP*	**P**	**02 31 53.2**	**-0.1**
	comp=Z,6.1nm,0.8s,mb3.9						
LPL	**La Plagne**	**26.73**	**169**	*eP*	**P**	**02 32 02.1**	**+0.1**
LPG	**La Plagne**	**26.75**	**169**	*eP*	**P**	**02 32 02.4**	**+0.2**
	comp=Z,4.8nm,0.9s,mb3.7						
RJF	**Les Rejaudoux**	**26.75**	**177**	*eP*	**P**	**02 32 01.2**	**-1.0**
RJF				*eR*			
	comp=Z,357nm,20.8s						
ORIF	**Oris-en-Rattie**	**27.28**	**171**	*eP*	**P**	**02 32 07.3**	**+0.2**
	comp=Z,4.3nm,0.9s,mb3.7						
SBF	**Sospel**	**28.41**	**168**	*eP*	**P**	**02 32 17.7**	**+0.3**
	comp=Z,8.7nm,0.9s,mb4.1						
PGF	**Pioggiola**	**29.83**	**166**	*eP*	**P**	**02 32 29.3**	**-0.8**
	comp=Z,19nm,1.2s,mb4.4						
ESDC	**Sonseca Array**	**32.42**	**186**	P	**P**	**02 32 48.1**	**-4.8**
	comp=Z,0.5nm,0.6s,mb3.5,baz=8.4,slow=9.8,SNR=3.1						
YKA	**Yellowknife Ar**	**38.59**	**317**	P	**P**	**02 33 44.1**	**-1.1**
	comp=Z,0.1nm,0.3s,mb3.1,baz=27,slow=8.2,SNR=4.5						
KURK	**Kurchatov**	**39.46**	**79**	*eP*	**P**	**02 33 55.0**	**+2.4**
	comp=Z,2.2nm,0.8s,mb3.9						
ILAR	**Eielson Array**	**41.68**	**339**	P	**P**	**02 34 11.9**	**+1.4**
	comp=Z,0.7nm,0.8s,mb3.4,baz=8.1,slow=6.4,SNR=6.5						
MKAR	**Makanchi Array**	**44.06**	**78**	P	**P**	**02 34 32.5**	**+2.3**
	comp=Z,1.9nm,0.9s,mb3.8,baz=343,slow=6.8,SNR=11						
MKAR	**Makanchi Array**	**44.06**	**78**	P	**P**	**02 34 32.5**	**+2.3**
TXAR	**Lajitas Array**	**66.45**	**292**	P	**P**	**02 37 10.2**	**-2.0**
	comp=Z,0.6nm,0.9s,mb3.6,baz=53,slow=4.5,SNR=5.7						

*TUN **31** 03:49:22.8, 36.72N×10.59E, h5km, MD3.3*
*ROM **31** 03:49:26.9±0.1, 37.04N×11.94E, h12km, Md3.3/1, Ml2.8/1, Error ellipse: s-maj=2.0km s-min=0.8km az=82.0*

CSEM 31 03:49:18.7±0.0, 36.81N×11.09E, h7km, MD3.3, Error ellipse: s-maj=2.1km s-min=0.4km az=166.0, Tunisia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBZ	**Menzel Bouzelf**	**0.36**	**249**	*iP*	Pg	03 49 26.8	+0.8
PTS	**Pantelleria**	**0.73**	**90**	Pg	Pg	03 49 32.5	-0.8
	104nm,0.2s						
ZGN	**Zaghouan**	**0.91**	**241**	*iP*	Pb	03 49 37.2	+0.9
KCHT	**Kechabta**	**0.97**	**288**	*iP*	Pb	03 49 39.5	+2.2
KRIT	**Krib**	**1.69**	**254**	*iP*	Pn	03 49 49.0	+0.2
ERC	**Erice**	**1.71**	**44**	Pn	Pn	03 49 48.8	-0.3
	353nm,0.8s						
TROT	**Trozza**	**1.73**	**224**	*iP*	Pn	03 49 51.0	+1.5
CLTB	**Caltabellotta**	**1.86**	**65**	Pn	Pn	03 49 49.3	-2.1
	27nm,0.4s						
GIB	**Gibilmanna**	**2.62**	**62**	Pn	Pn	03 50 01.3	-0.9
	230nm,1.5s						

OTT 31 03:59:22.6±0.4, 76.56N×99.24W, h18km, MN2.8/1, North Bathurst Island, Nu 240km northwest from Resolute, Nu Sverdrup Seismic Zone. 145km northwest from Polaris, Nu, Queen Elizabeth Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RES	**Resolute Bay**	**2.17**	**148**	PN	Pn	03 59 57.6	-0.8
RES				PG	Pn	04 00 00.8	+2.4
RES				SN	Sn	04 00 23.9	-1.2
RES				SG	Sn	04 00 31.1	+6.0
RES				Trac		04 00 34.0	
	comp=Z,22nm,0.2s						
EUNU	**Eureka**	**4.37**	**30**	PN	Pn	04 00 33.0	+3.3
EUNU				SN	Sn	04 01 23.6	+2.9
GIFN	**Gifford Fjord,**	**8.27**	**134**	PN	P	04 01 20.7	-3.9
GIFN				SN	Sn	04 02 48.1	-10
GIFN				LG		04 03 34.5	
GIFN				Trac		04 03 52.4	
	comp=Z,0.6nm,0.7s						
AP3N	**Apex site 3 Nu**	**8.30**	**141**	PN	P	04 01 20.6	-4.4
AP3N				SN	Sn	04 02 48.1	-11
AP3N				LG		04 03 38.1	
AP3N				Trac		04 03 50.5	
	comp=Z,1.6nm,0.6s						
LAIN	**Lailor River,**	**8.76**	**140**	PN	P	04 01 26.8	-4.6
LAIN				SN	Sn	04 02 59.2	-12
LAIN				Trac		04 03 56.1	
	comp=Z,1.2nm,0.6s						
ILON	**Igloolik, Nuna**	**8.79**	**136**	PN	P	04 01 27.4	-4.5
ILON				SN	Sn	04 02 59.9	-12
ILON				LG		04 03 59.0	
ILON				Trac		04 04 12.8	
	comp=Z,2.4nm,0.7s						
SRLN	**Sarcpa Lake, N**	**9.30**	**141**	PN	P	04 01 33.9	-5.0
SRLN				SN	Sn	04 03 12.6	-11
SRLN				LG		04 04 07.6	
BOXN	**Box Lake**	**13.21**	**201**	PN	P	04 02 26.2	-5.4
BOXN				SN	S	04 04 35.1	-24

MEX 31 04:03:14.9±1.7, 15.76N×91.65W, h15km±999km, MD4.1, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**0.70**	**318**	*iP*	Pb	04 03 25.5	-2.7
CCIG				*i* S	Sb	04 03 35.4	-2.0
SCX	**San Cristobal**	**1.36**	**316**	*iP*	Pn	04 03 37.7	-1.7
SCX				*i* S	Sb	04 03 52.5	-3.9
CMIG	**Matias Romero**	**3.37**	**294**	*eP*	Pn	04 04 04.0	-4.2
CMIG				*i* S	Sn	04 04 43.2	-5.1

*BJI **31** 04:19:13.5, 1.08S×124.10E, h112km, mB5.2, mb5.0*
*IDC **31** 04:19:23.2±2.5, 0.08S×123.08E, h99km±21km, mb4.2/14, mb1 4.3/15, mb1mx4.3/16, mbtmp4.5/15, MS3.1/1, Ms1 3.1/1, ms1mx2.8/20, Error ellipse: s-maj=24.7km s-min=11.1km az=76.0*
*NEIC **31** 04:19:24.5±1.4, 0.12S×123.26E, h112km±13km, mb4.8/23, Error ellipse: s-maj=13.2km s-min=6.1km az=68.0*
NEIC Felt [III] at Gorontalo.
*MOS **31** 04:19:29.9±1.2, 0.08S×123.33E, h181km, mb4.7/20, Error ellipse: s-maj=17.8km s-min=7.6km az=108.9*

ISC 31 04:19:24.0±1.1, 0.10S±0.04×123.28E±0.06, h124km±10km, n113, σ1§03/98, mb4.7/51, 4C-8D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**7.33**	**8**	⇓*iP*	**P**	**04 21 09.3**	**-0.4**
CTBH				*i* S	**S**	**04 22 27.0**	**-4.9**
DCPH	**Dipolog City**	**8.62**	**0**	⇑*eP*	**P**	**04 21 26.8**	**-0.3**
BUTP	**Butuan**	**9.30**	**14**	*eP*	**P**	**04 21 46.8**	**+11**
KKM	**Kota Kinabalu**	**9.32**	**311**	*eP*	**P**	**04 21 36.4**	**-0.1**
KSM	**Kuching**	**13.06**	**277**	*eP*	**P**	**04 22 25.2**	**-0.7**
KAKA	**Kakadu**	**15.48**	**144**	*eP*	**P**	**04 23 13.2**	**+16**
	21nm,0.6s						
FITZ	**Fitzroy Crossi**	**18.04**	**173**	⇓*iP*	**P**	**04 23 27.3**	**-0.9**
	12nm,0.6s						
FITZ	**Fitzroy Crossi**	**18.04**	**173**	P	**P**	**04 23 27.2**	**-1.0**
	2.3nm,0.3s,baz=5.5,slow=7.3,SNR=36						
MBWA	**Marble Bar**	**21.22**	**189**	*eP*	**P**	**04 24 01.0**	**-0.4**
	8.7nm,0.7s,mb4.2						
WRAB	**Tennant Creek**	**22.50**	**152**	*eP*	**P**	**04 24 14.2**	**+0.2**
	20nm,0.7s,mb4.6						
WRAB	**Tennant Creek**	**22.50**	**152**	*eP*	**P**	**04 24 14.2**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,20nm,0.7s,mb4.6						
WRA	**Warramunga Arr**	**22.50**	**152**	P	**P**	**04 24 14.4**	**+0.4**
	comp=Z,8.0nm,0.4s,mb4.4,baz=332,slow=10,SNR=199						
WRA				S	**S**	**04 28 13.7**	**+6.0**
	comp=Z,3.7nm,0.8s,baz=331,slow=17,SNR=6.7						
WRA				ScP		04 31 33.7	
	comp=Z,0.8nm,0.5s,baz=326,slow=2.5,SNR=11						
WB2	**Warramunga Arr**	**22.51**	**152**	⇓*iP*	**P**	**04 24 14.4**	**+0.3**
QIZ	**Qiongzhong**	**23.13**	**326**	*eP*	**P**	**04 24 23.5**	**+3.4**
SNG	**Songkhla**	**23.73**	**288**	P	**P**	**04 24 26.5**	**+0.5**
KKTK	**Khon Kaen**	**25.96**	**310**	P	**P**	**04 24 45.0**	**-2.0**
	comp=Z,864nm,0.5s						
NANT	**Nan**	**29.05**	**311**	⇓*iP*	**P**	**04 25 15.0**	**0.0**
	comp=Z,481nm,1.0s						
BDT	**Bhumibol Dam**	**29.47**	**307**	P	**P**	**04 25 19.5**	**+0.8**
	comp=Z,16nm,0.8s,mb4.7						
CHG	**Chiang Mai**	**30.40**	**310**	⇑*iP*	**P**	**04 25 27.5**	**+0.6**
	comp=Z,47nm,0.9s,mb5.1						
GYA	**Guiyang**	**30.88**	**330**	⇑*iP*	**P**	**04 25 32.3**	**+1.2**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
SSE	**Sheshan**	**31.08**	**357**	*eP*	**P**	**04 25 31.5**	**-1.3**
SSE				AMB	AMB		
	comp=Z,22nm,0.7s,mb5.0						
SSE				AMB	AMB		
	comp=Z,172nm,4.1s						
SSE	**Sheshan**	**31.08**	**357**	*eP*	**P**	**04 25 31.5**	**-1.3**
	comp=Z,22nm,0.7s,mb5.0						
KLBR	**Kellerberrin**	**31.76**	**189**	*eP*	**P**	**04 25 37.3**	**-1.4**
	comp=Z,42nm,1.4s,mb5.0						
KMI	**Kunming**	**31.99**	**323**	P	**P**	**04 25 42.8**	**+2.0**
KMI				AMB	AMB		
	comp=Z,14nm,1.2s,mb4.6						
KMI	**Kunming**	**31.99**	**323**	P	**P**	**04 25 42.8**	**+2.0**
	comp=Z,14nm,1.2s,mb4.6						
NJ2	**Nanjing**	**32.24**	**353**	*eP*	**P**	**04 25 43.0**	**+0.1**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,710nm,6.0s						
NJ2				LR	LR		
	comp=N,1μm,18.6s						
NJ2				LR	LR		
	comp=E,2μm,17.4s						
NJ2				LR	LR		
	comp=Z,510nm,21.9s						
CBIJ	**Chichi jima**	**32.58**	**32**	P	**P**	**04 25 45.9**	**+0.1**
	comp=Z,202nm,0.4s,baz=277,slow=8.1,SNR=16						
ENH	**Enshi**	**32.93**	**338**	*eP*	**P**	**04 25 50.5**	**+1.6**
	comp=Z,15nm,0.7s,mb4.9						
STKA	**Stephens Creek**	**36.05**	**153**	*eP*	**P**	**04 26 16.4**	**+1.1**
	comp=Z,3.0nm,0.5s,mb4.5						
STKA	**Stephens Creek**	**36.05**	**153**	P	**P**	**04 26 15.9**	**+0.6**
	comp=Z,3.3nm,0.5s,mb4.5,baz=336,slow=13,SNR=8.0						
STKA				ScP		04 32 16.8	
	comp=Z,3.0nm,0.7s,baz=32,slow=10,SNR=2.8						
STKA	**Stephens Creek**	**36.05**	**153**	*eP*	**P**	**04 26 15.7**	**+0.4**
JHJ	**Hachijo jima 2**	**36.51**	**24**	LR	LR	04 40 17.0	
	comp=Z,32nm,21.7s,baz=300,slow=34						
MAJO	**Matsushiro**	**39.00**	**19**	*eP*	**P**	**04 26 40.0**	**+0.1**
	comp=Z,12nm,0.6s,mb4.9						
MAJO	**Matsushiro**	**39.00**	**19**	*eP*	**P**	**04 26 40.0**	**+0.1**
MAJO				pmax	pmax		
	comp=Z,12nm,0.6s,mb4.9						
MAT	**Matsushiro**	**39.00**	**19**	P	**P**	**04 26 39.9**	**0.0**
MAT	**Matsushiro**	**39.00**	**19**	*eP*	**P**	**04 26 40.0**	**+0.1**
	comp=Z,12nm,0.8s,mb4.8						
MAT	**Matsushiro**	**39.00**	**19**	*eP*	**P**	**04 26 40.0**	**+0.1**
MAT				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.8						
LZH	**Lanzhou**	**40.28**	**335**	*eP*	**P**	**04 26 53.5**	**+3.0**
LZH				AMB	AMB		
	comp=Z,42nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,201nm,6.1s						
LZH	**Lanzhou**	**40.28**	**335**	*eP*	**P**	**04 26 53.5**	**+3.0**
	comp=Z,42nm,1.5s,mb5.0						
LZH				pP	pP	04 27 08.5	-10
LZH				sP	sP	04 27 15.5	-18
LSA	**Lhasa**	**42.61**	**317**	*eP*	**P**	**04 27 11.8**	**+2.1**
	comp=Z,37nm,1.1s,mb5.0						
LSA	**Lhasa**	**42.61**	**317**	*eP*	**P**	**04 27 11.8**	**+2.1**
LSA				pmax	pmax		
	comp=Z,37nm,1.1s,mb5.0						
GTA	**Gaotai**	**44.80**	**334**	P	**P**	**04 27 29.3**	**+2.1**
GTA				PCP	PcP	04 29 08.0	+0.4
GTA				AMB	AMB		
	comp=Z,21nm,0.7s,mb5.0						
MDJ	**Mudanjiang**	**44.87**	**6**	*eP*	**P**	**04 27 28.5**	**+0.8**
	comp=Z,5.9nm,0.6s,mb4.5						
GUN	**Gumba**	**45.39**	**311**	*eP*	**P**	**04 27 32.7**	**+0.6**
PKI	**Pulchoki**	**45.58**	**310**	*eP*	**P**	**04 27 33.5**	**0.0**
	comp=Z,72nm,1.0s,mb5.3						
PKI	**Pulchoki**	**45.58**	**310**	*eP*	**P**	**04 27 33.5**	**0.0**
PKI				pmax	pmax		
	comp=Z,36nm,1.0s,mb5.1						
KKN	**Kakani**	**45.78**	**310**	*eP*	**P**	**04 27 34.7**	**-0.5**
	comp=Z,170nm,1.2s,mb5.7						
KKN	**Kakani**	**45.78**	**310**	*eP*	**P**	**04 27 34.7**	**-0.5**
KKN				pmax	pmax		
	comp=Z,85nm,1.2s,mb5.3						
DMN	**Daman**	**45.83**	**310**	*eP*	**P**	**04 27 35.7**	**+0.2**
	comp=Z,147nm,1.1s,mb5.6						
GKN	**Gorkha**	**46.38**	**310**	*eP*	**P**	**04 27 40.4**	**+0.5**
	comp=Z,166nm,1.0s,mb5.7						
KOLN	**Koldanda**	**47.06**	**309**	*eP*	**P**	**04 27 45.6**	**+0.4**
	comp=Z,154nm,0.9s,mb5.7						
ASAJ	**Asahikawa**	**47.27**	**19**	P	**P**	**04 27 47.6**	**+1.0**
	comp=Z,19nm,0.7s,mb5.0,baz=241,slow=12,SNR=16						
HYB	**Hyderabad**	**47.33**	**294**	*iP*	**P**	**04 27 48.5**	**+1.1**
HYB	**Hyderabad**	**47.33**	**294**	*eP*	**P**	**04 27 48.5**	**+1.1**
HIA	**Hailar**	**49.26**	**357**	*eP*	**P**	**04 28 01.1**	**-0.8**
	comp=Z,3.5nm,0.5s,mb4.5						
HIA	**Hailar**	**49.26**	**357**	*eP*	**P**	**04 28 01.1**	**-0.9**
HIA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ULN	**Ulaanbaatar**	**49.81**	**346**	*eP*	**P**	**04 28 06.0**	**-0.2**
	comp=Z,10nm,0.8s,mb4.8						
ULN	**Ulaanbaatar**	**49.81**	**346**	*eP*	**P**	**04 28 06.0**	**-0.2**
ULN				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
YSS	**Yuzh-Sakhalins**	**49.86**	**17**	*iP*	**P**	**04 28 06.4**	**-0.2**
YSS				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8						
**SON

OBN					*e*S			04 42 12.7
OBN					pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.9							
BRTR	**Keskin Array B**	**89.78**	**310**	P		**P**	**04 32 08.9**	**-1.0**
	comp=Z,4.2nm,1.2s,mb4.4,baz=135,slow=5.2,SNR=4.4							
QSPA	**South Pole Qui**	**89.84**	**180**	*e*P		**P**	**04 32 10.7**	**+1.4**
	comp=Z,4.4nm,0.7s,mb4.7							
ILAR	**Eielson Array**	**90.01**	**25**	P		**P**	**04 32 09.3**	**-1.1**
	comp=Z,0.6nm,0.6s,mb3.9,baz=240,slow=5.2,SNR=10							
AKASG	**Malin Array Be**	**92.65**	**321**	P		**P**	**04 32 21.4**	**-1.6**
	comp=Z,1.2nm,0.7s,mb4.3,baz=76,slow=4.2,SNR=4.7							
ARCES	**ARCESS Array B**	**92.82**	**340**	P		**P**	**04 32 21.9**	**-1.4**
	comp=Z,1.5nm,0.7s,mb4.5,baz=85,slow=3.1,SNR=8.4							
ARCES	**ARCESS Array B**	**92.82**	**340**	P		**P**	**04 32 21.9**	**-1.4**
FINES	**FINESS Array B**	**93.54**	**331**	P		**P**	**04 32 25.9**	**-0.9**
	comp=Z,1.6nm,0.8s,mb4.4,baz=72,slow=6.0,SNR=6.1							
FINES	**FINESS Array B**	**93.54**	**331**	*i* P		**P**	**04 32 26.9**	**+0.2**
FINES					pmax	pmax		
	comp=Z,2.0nm,0.8s							
PDAR	**Pinedale Array**	**116.48**	**41**	PKP		PKPdf	04 37 56.1	+2.7
	comp=Z,0.5nm,0.5s,baz=138,slow=2.7,SNR=6.3							
PV10	**Paradox Valley**	**118.78**	**45**	*e*PKPdf		PKPdf	04 38 01.9	+3.9
ANMO	**Albuquerque**	**122.13**	**48**	*e*PKPdf		PKPdf	04 38 08.6	+4.1
ANMO	**Albuquerque**	**122.13**	**48**	*i* PKIKP		PKPdf	04 38 05.2	+0.7
SCHQ	**Schefferville**	**124.81**	**7**	PKP		PKPdf	04 38 11.2	+2.0
	comp=Z,0.9nm,0.5s,baz=4.7,slow=3.8,SNR=8.8							
TXAR	**Lajitas Array**	**126.65**	**53**	PKP		PKPdf	04 38 16.0	+2.6
	comp=Z,0.5nm,0.7s,baz=311,slow=0.3,SNR=8.0							
TXAR	**Lajitas Array**	**126.65**	**53**	PKIKP		PKPdf	04 38 10.0	-3.4
DBIC	**Dimbokro**	**127.85**	**278**	PKP		PKPdf	04 38 18.9	+2.7
	comp=Z,4.1nm,0.9s,baz=238,slow=7.1,SNR=3.8							
DBIC	**Dimbokro**	**127.85**	**278**	PKP		PKPdf	04 38 18.9	+2.7
CFAA	**Coronel Fontan**	**146.64**	**162**	PKPbc		PKPbc	04 38 54.1	+2.6
	comp=Z,0.8nm,0.5s,baz=200,slow=3.7,SNR=27							
CPUP	**Villa Florida**	**153.72**	**179**	PKPbc		PKPdf	04 39 11.4	+11
	comp=Z,1.2nm,0.6s,baz=69,slow=8.6,SNR=6.2							
LVC	**Limon Verde**	**154.50**	**153**	PKPbc		PKPdf	04 39 15.0	+13
	comp=Z,2.5nm,0.6s,baz=207,slow=9.5,SNR=2.9							
LPAZ	**La Paz**	**160.21**	**146**	PKPab		PKPab	04 39 54.8	+2.3
	comp=Z,1.0nm,0.8s,baz=118,slow=3.1,SNR=4.6							
BDFB	**Brasilia**	**162.16**	**208**	PKPab		PKPab	04 40 01.1	0.0
	comp=Z,2.4nm,0.7s,baz=204,slow=1.5,SNR=4.5							
SIV	**San Ignacio**	**163.45**	**165**	PKPab		PKPab	04 40 06.6	-0.1
	comp=Z,1.6nm,0.9s,baz=175,slow=5.1,SNR=6.3							

*IDC **31** 05:34:49.8±4.6, 5.89S×147.97E, h48km±41km, mb4.1/2, mb1 4.5/4, mb1mx4.0/11, mbtmp4.5/4, ML4.9/1, MS3.9/1, Ms1 3.9/1, ms1mx2.9/16, Error ellipse: s-maj=38.9km s-min=30.3km az=108.0*

*NEIC **31** 05:34:52.1±2.3, 6.05S×147.92E, h72km±19km, mb4.8/4, Error ellipse: s-maj=22.7km s-min=15.4km az=148.0*

ISC 31 05:34:47.3±3.0, 6.0S±0.2×147.9E±0.2, h43km±30km, n19, σ1°22/16, mb4.5/6, MS3.9/1, 3D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.51**	**193**	P	**P**	**05 35 43.4**	**+2.6**
	8.9nm,0.3s,baz=5.9,slow=6.2,SNR=14						
PMG				S	**S**	**05 36 20.7**	**-0.9**
	42nm,0.3s,baz=204,slow=21,SNR=9.6						
KAKA	**Kakadu**	**16.69**	**245**	*e*P	**P**	**05 38 55.2**	**+16**
	23nm,0.4s						
WRAB	**Tennant Creek**	**19.17**	**222**	*e*P	**P**	**05 39 08.6**	**-1.4**
	31nm,0.6s						
WB2	**Warramunga Arr**	**19.17**	**222**	⇓*i*P	**P**	**05 39 08.7**	**-1.4**
WRA	**Warramunga Arr**	**19.18**	**222**	P	**P**	**05 39 08.9**	**-1.3**
	3.6nm,0.3s,baz=48,slow=11,SNR=249						
WRA				S	**S**	**05 42 40.6**	**+1.7**
	baz=43,slow=21,SNR=10.0						
WRA				PcP	PcP	05 43 33.0	+0.6
	baz=21,slow=1.8,SNR=4.6						
FITZ	**Fitzroy Crossi**	**24.88**	**239**	⇓*i*P	**P**	**05 40 08.4**	**+0.7**
	65nm,0.5s,mb5.4						
FITZ	**Fitzroy Crossi**	**24.88**	**239**	P	**P**	**05 40 08.4**	**+0.7**
	71nm,0.4s,mb5.5,baz=52,slow=4.7,SNR=228						
STKA	**Stephens Creek**	**26.46**	**192**	⇓*i*P	**P**	**05 40 24.0**	**+1.6**
	4.9nm,0.4s,mb4.4						
STKA	**Stephens Creek**	**26.46**	**192**	P	**P**	**05 40 23.6**	**+1.3**
	5.4nm,0.4s,mb4.4,baz=8.7,slow=7.1,SNR=14						
STKA	**Stephens Creek**	**26.46**	**192**	*e*P	**P**	**05 40 21.9**	**-0.4**
MBWA	**Marble Bar**	**31.22**	**238**	*e*P	**P**	**05 41 04.7**	**-0.4**
	5.5nm,0.5s,mb4.6						
CBIJ	**Chichi jima**	**33.32**	**351**	LR	LR	05 52 35.6	
	comp=Z,211nm,18.9s,MS3.9,baz=76,slow=32						
KLBR	**Kellerberrin**	**38.05**	**224**	*e*P	**P**	**05 42 03.0**	**-0.4**
	13nm,0.8s,mb4.7						
MKAR	**Makanchi Array**	**78.05**	**320**	P	**P**	**05 46 44.2**	**+1.0**
	0.4nm,0.4s,mb3.7,baz=117,slow=5.4,SNR=4.8						
ILAR	**Eielson Array**	**85.08**	**23**	P	**P**	**05 47 19.2**	**-0.2**
	1.1nm,0.8s,mb4.0,baz=256,slow=4.9,SNR=11						
PLCA	**Paso Flores**	**121.65**	**146**	PKP	PKPdf	05 53 37.8	+0.9
	1.8nm,0.9s,baz=244,slow=3.7,SNR=3.7						
LPAZ	**La Paz**	**138.03**	**122**	PKP	PKPdf	05 54 09.5	+1.0
	1.1nm,0.7s,baz=271,slow=1.6,SNR=6.6						
SAML	**Samuel**	**145.63**	**115**	*e*PKPdf	PKPdf	05 54 24.2	+2.2
BDFB	**Brasilia**	**153.36**	**144**	PKPbc	PKPdf	05 54 43.9	+10
	2.7nm,0.4s,baz=147,slow=1.8,SNR=8.9						

*IDC **31** 05:38:51.9±0.8, 11.49N×139.10E, mb4.1/9, mb1 4.4/9, mb1mx4.2/17, mbtmp4.1/9, MS3.4/4, Ms1 3.4/4, ms1mx3.1/24, Error ellipse: s-maj=40.9km s-min=21.2km az=86.0*

*NEIC **31** 05:38:58.7±0.5, 11.42N×138.95E, h50km, mb4.5/2, Error ellipse: s-maj=26.3km s-min=11.6km az=84.0*

ISC 31 05:38:57.0±0.6, 11.39N±0.10×138.8E±0.2, h50km, n17, σ0°89/13, mb4.2/11, MS3.3/4, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima**	**21.65**	**2**	LR	LR	05 50 19.3	
	comp=Z,76nm,18.7s,MS3.1,baz=122,slow=32						
PMG	**Port Moresby**	**22.27**	**158**	LR	LR	05 52 08.9	
	comp=Z,95nm,21.6s,MS3.2,baz=174,slow=36						
JNU	**Nakatsue**	**22.82**	**343**	LR	LR	05 52 48.0	
	comp=Z,66nm,18.0s,MS3.1,baz=122,slow=37						
WRAB	**Tennant Creek**	**31.43**	**188**	P	**P**	**05 45 14.6**	**-1.4**
WRA	**Warramunga Arr**	**31.44**	**188**	P	**P**	**05 45 15.7**	**-0.5**
	1.2nm,0.8s,mb3.8,baz=359,slow=9.7,SNR=5.1						
STKA	**Stephens Creek**	**43.10**	**177**	P	**P**	**05 46 55.2**	**+1.0**
	3.9nm,0.9s,mb4.2,baz=342,slow=9.8,SNR=3.6						
MKAR	**Makanchi Array**	**59.04**	**318**	P	**P**	**05 48 54.8**	**+0.5**
	2.3nm,0.7s,mb4.3,baz=103,slow=8.5,SNR=13						
ZAL	**Zalesovo**	**60.06**	**326**	P	**P**	**05 49 01.7**	**+0.5**
	1.8nm,0.3s,mb4.5,baz=21,slow=4.8,SNR=4.1						
KURK	**Kurchatov**	**62.51**	**322**	*e*P	**P**	**05 49 16.9**	**-0.9**
	5.9nm,0.7s,mb4.8						
BRVK	**Borovoye**	**68.08**	**323**	*e*P	**P**	**05 49 53.6**	**+0.1**
	3.7nm,1.3s,mb4.2						
ILAR	**Eielson Array**	**73.09**	**26**	P	**P**	**05 50 22.2**	**-1.3**
	1.1nm,0.6s,mb3.9,baz=247,slow=6.0,SNR=10						
ARCES	**ARCESS Array B**	**87.29**	**341**	P	**P**	**05 51 39.7**	**+0.6**
	2.2nm,0.8s,mb4.4,baz=31,slow=7.1,SNR=4.6						
YKA	**Yellowknife Ar**	**87.50**	**26**	P	**P**	**05 51 39.5**	**-0.8**
	1.5nm,0.8s,mb4.2,baz=291,slow=5.4,SNR=4.0						
YKA	**Yellowknife Ar**	**87.50**	**26**	P	**P**	**05 51 39.5**	**-0.8**
VNDA	**Vanda**	**89.73**	**175**	P	**P**	**05 51 51.8**	**+1.1**
	0.3nm,0.6s,mb3.8,baz=32,slow=3.8,SNR=3.6						
FINES	**FINESS Array B**	**90.56**	**334**	LR	LR	06 37 39.2	
	comp=Z,27nm,18.0s,MS3.7,baz=100,slow=39						
NVAR	**Mina Array Bea**	**92.90**	**50**	P	**P**	**05 52 07.2**	**+1.0**
	0.6nm,0.7s,mb4.2,baz=264,slow=7.9,SNR=5.4						

WEL 31 05:59:10.1±0.8, 34.83S×176.45E, h33km, ML4.3/3, Error ellipse: s-maj=11.8km s-min=8.3km az=90.0, North of New Zealand

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.12**	**152**	*e*PN	Pn	05 59 56.2	-2.0
MXZ				SN	Sn	06 00 30.3	-4.4
URZ	**Urewera**	**3.47**	**171**	*e*PN	Pn	06 00 00.9	-2.2
PUZ	**Puketiti**	**3.55**	**156**	PN	Pn	06 00 02.5	-1.8
PUZ				SN	Sn	06 00 42.1	-3.6
MWZ	**Matawai**	**3.61**	**166**	*e*PN	Pn	06 00 02.8	-2.3

*NEIC **31** 06:00:46.1, 47.05S×165.13E, h12km, ML3.8(WEL), After WEL.*

WEL 31 06:00:45.5±0.7, 47.23S×164.99E, h33km, ML3.7/8, Error ellipse: s-maj=8.8km s-min=5.5km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**2.30**	**41**	*e*PN	Pn	06 01 19.7	-2.4
DCZ				SN	Sn	06 01 47.3	-2.2
DCZ	**Deep Cove**	**2.30**	**41**	*e*P	P	06 01 19.7	-2.2
WHZ	**Wether Hill Ro**	**2.44**	**58**	PN	Pn	06 01 22.3	-1.6
WHZ				SN	Sn	06 01 49.8	-3.1
WHZ	**Wether Hill Ro**	**2.44**	**58**	P	P	06 01 22.3	-1.5
WHZ				S	S	06 01 49.8	-2.9
MLZ	**Mavora Lakes**	**2.90**	**51**	*e*PN	Pn	06 01 28.7	-1.9
MLZ				SN	Sn	06 02 00.9	-3.8
MLZ	**Mavora Lakes**	**2.90**	**51**	*e*P	P	06 01 29.5	-0.9
TUZ	**Tuapeka**	**3.44**	**70**	*e*PN	Pn	06 01 36.1	-2.1
TUZ				SN	Sn	06 02 13.2	-5.2
TUZ	**Tuapeka**	**3.44**	**70**	*e*P	P	06 01 36.1	-2.0
EAZ	**Earnscleugh**	**3.60**	**58**	*e*PN	Pn	06 01 39.1	-1.4
EAZ				SN	Sn	06 02 18.6	-3.7
WKZ	**Wanaka**	**3.69**	**51**	*e*PN	Pn	06 01 40.5	-1.2
WKZ				*e*SN	Sn	06 02 19.8	-4.9
WKZ	**Wanaka**	**3.69**	**51**	*e*P	P	06 01 41.4	-0.2
JCZ	**Jackson Bay**	**4.11**	**41**	*e*PN	Pn	06 01 46.9	-0.9
JCZ	**Jackson Bay**	**4.11**	**41**	*e*P	P	06 01 47.3	-0.3
ODZ	**Otahua Downs**	**4.50**	**63**	*e*PN	Pn	06 01 48.9	-4.3
ODZ	**Otahua Downs**	**4.50**	**63**	*e*P	P	06 01 48.9	-4.2
LBZ	**Lake Benmore**	**4.61**	**54**	*e*PN	Pn	06 01 51.5	-3.3
FOZ	**Fox Glacier**	**4.94**	**44**	*e*PN	Pn	06 01 58.2	-1.2
FOZ	**Fox Glacier**	**4.94**	**44**	*e*P	P	06 01 58.2	-1.1

*CSEM **31** 06:09:21.2±0.9, 39.17N×28.61W, h5km, ML2.1, Error ellipse: s-maj=8.0km s-min=3.9km az=143.0, After PDA*

*PDA **31** 06:09:21.2±0.9, 39.17N×28.61W, h5km, MD3.2, ML2.1, Error ellipse: s-maj=8.0km s-min=3.9km az=143.0*

SVSA 31 06:09:21.2±0.9, 39.17N×28.61W, h5km, MD3.2, ML2.1, Error ellipse: s-maj=8.0km s-min=3.9km az=143.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGRA	**Graciosa**	**0.51**	**106**	*e*S	Sg	06 09 36.5	-1.7
	30nm,0.3s						
PCED	**Cedros**	**0.55**	**188**	*i* P	Pg	06 09 30.4	-1.8
PCED				*e*S	Sg	06 09 37.2	-2.3
	20nm,0.1s						
PCED	**Cedros**	**0.55**	**188**	*e*S	Sg	06 09 37.2	-2.3
CALA	**Caldeira**	**0.59**	**187**	*e*P	Pg	06 09 31.5	-1.6
CALA				*e*S	Sg	06 09 39.1	-1.9
PMAN	**Manadas**	**0.67**	**143**	*e*S	Sg	06 09 40.8	-2.9
	80nm,0.1s						
PICO	**Pico**	**0.69**	**168**	*e*P	Pg	06 09 32.6	-2.3
PICO				*e*S	Sg	06 09 41.6	-2.5

*IDC **31** 06:15:07.9±36.0, 35.57N×71.53E, mb3.7/3, mb1 3.6/4, mb1mx3.4/20, mbtmp3.5/4, ML2.9/1, Error ellipse: s-maj=671.8km s-min=47.6km az=158.0*

*NEIC **31** 06:15:14.9±0.7, 36.16N×71.05E, h10km, mb3.7/1, Error ellipse: s-maj=16.6km s-min=6.9km az=48.0*

*NNC **31** 06:15:29.6±8.2, 36.89N×71.06E, h178km±147km, mpv3.6, Error ellipse: s-maj=84.4km s-min=58.8km az=37.0*

ISC 31 06:15:19.0±2.5, 36.33N±0.08×71.4E±0.2, h62km±30km, n15, σ0°96/18, mb3.6/3, 1C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**6.74**	**20**	⇓P	**P**	**06 16 59.7**	**+2.2**
	2.3nm,0.5s						
AAK				⇑S	**S**	**06 18 13.4**	**-0.3**
	4.4nm,0.7s						
AAK	**Ala-Archa**	**6.74**	**20**	*e*P	**P**	**06 16 58.9**	**+1.3**
	3.9nm,0.3s						
KK31	**Karatay Array**	**6.80**	**355**	P	**P**	**06 16 59.7**	**+1.2**
	2.5nm,0.3s,baz=178,slow=11,SNR=106						
KK31				⇓S	**S**	**06 18 11.2**	**-4.0**
	2.0nm,0.3s,baz=185,slow=25,SNR=8.9						
MKAR	**Makanchi Array**	**13.25**	**35**	Pn	**P**	**06 18 25.9**	**0.0**
	0.1nm,0.3s,baz=220,slow=11,SNR=2.3						
KOLN	**Koldanda**	**13.41**	**126**	*e*P	**P**	**06 18 28.0**	**-0.1**
GKN	**Gorkha**	**13.95**	**123**	*e*P	**P**	**06 18 35.1**	**0.0**
	8.3nm,0.4s						
DMN	**Daman**	**14.52**	**123**	*e*P	**P**	**06 18 42.1**	**-0.4**
	3.7nm,0.3s						
KKN	**Kakani**	**14.52**	**122**	*e*P	**P**	**06 18 42.0**	**-0.6**
	5.9nm,0.4s						
PKI	**Pulchoki**	**14.75**	**122**	*e*P	**P**	**06 18 45.8**	**+0.3**
	3.8nm,0.2s						
AB31	**Akbulak array**	**15.38**	**331**	P	**P**	**06 18 51.9**	**-1.7**
	0.6nm,0.3s,baz=135,slow=13,SNR=36						
AB31				⇓S	**S**	**06 21 30.6**	**-12**
	0.5nm,0.5s,baz=155,slow=22,SNR=4.4						
FINES	**FINESS Array B**	**37.80**	**326**	P	**P**	**06 22 31.2**	**+0.5**
	0.3nm,0.3s,mb3.5,baz=120,slow=11,SNR=3.4						
FINES	**FINESS Array B**	**37.80**	**326**	P	**P**	**06 22 31.2**	**+0.5**
HFS	**Hagfors**	**43.39**	**322**	P	**P**	**06 23 17.3**	**+0.6**
	1.1nm,0.5s,mb3.8,baz=98,slow=10,SNR=6.9						
NB2	**NORSAR Subarra**	**44.70**	**323**	P	**P**	**06 23 27.1**	**-0.2**
	0.6nm,0.5s,mb3.7,baz=95,slow=7.4						
NOA	**NORSAR Array B**	**44.70**	**323**	P	**P**	**06 23 27.5**	**+0.2**
	0.5nm,0.5s,mb3.6,baz=96,slow=7.7,SNR=4.1						

*NEIC **31** 07:18:49.1, 17.13N×100.22W, h41km, MD3.7(MEX), After MEX.*

MEX 31 07:18:49.1±0.8, 17.13N×100.22W, h41km±8km, MD3.7, 1D, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.10**	**208**	⇓*i*P	P	07 18 54.2	-1.5
CAIG				*i* S	S	07 18 58.9	-1.6
ACX	**Acapulco**	**0.39**	**132**	*i* P	P	07 18 57.2	-1.3
ACX				*i* S	S	07 19 03.2	-1.9
ZIIG	**Zihuatanejo**	**1.28**	**292**	*e*P	P	07 19 09.0	-1.8
ZIIG				*i* S	S	07 19 23.9	-3.1
PLIG	**Platanillo**	**1.43**	**29**	*e*P	P	07 19 11.3	-1.7
PLIG				*i* S	S	07 19 28.8	-1.9
YAIG	**Yautepec**	**2.04**	**32**	*e*P	P	07 19 19.8	-1.9
YAIG				*i* S	S	07 19 43.4	-2.7
PPM	**Popocatepetl**	**2.45**	**38**	*e*P	P	07 19 28.3	+0.8

*IDC **31** 07:20:13.2±0.4, 5.49N×95.90E, mb4.6/21, mb1 4.7/21, mb1mx4.7/23, mbtmp4.6/21, MS4.0/7, Ms1 4.0/7, ms1mx3.8/19, Error ellipse: s-maj=18.4km s-min=11.8km az=62.0*

*MOS **31** 07:20:16.6±0.9, 5.41N×95.75E, h33km, mb5.0/32, Error ellipse: s-maj=13.2km s-min=5.0km az=121.7*

*HRVD **31** 07:20:19.8±0.9, 5.33N×95.80E, h28km±2km, MW4.8/28, Centroid moment Tensor Solution. LP body waves: s12,c15;Mantle waves: s28,c38; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.77±.30; $M_{\theta\theta}$-0.08±.17; $M_{\phi\phi}$1.86±.18; $M_{r\theta}$-0.53±.34; $M_{\theta\phi}$-0.38±.11; $M_{r\phi}$0.38±.26; Best double couple: $M_0$1.966×10^{16} NP1:ϕ_s3°, δ40°, λ-68°. NP2:ϕ_s156°, δ54°, λ-107°. Principal axes: T 1.993, Plg7°, Azm258°; N -.046, Plg14°, Azm166°; P -1.939, Plg74°, Azm15°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **31** 07:20:19.8±1.2, 5.36N×95.79E, h48km±11km, mb5.0/64 Error ellipse: s-maj=7.6km s-min=4.6km az=50.0*

NEIC Felt [IV] at Banda Aceh.

*BJI **31** 07:20:19.8, 5.40N×95.80E, h48km, mB5.0, mb5.1, Ms4.7, Msz4.4*

ISC 31 07:20:17.7±1.0, 5.32N±0.04×95.76E±0.04, h43km±8km, h55km±8.3km: pP-P, n265, σ1°03/251, mb4.9/111, MS4.2/17, 21C-5D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKT	**Phuket**	**3.66**	**41**	P	**P**	**07 21 17.5**	**+4.3**
KULM	**Kulim**	**4.87**	**90**	*e*P	**P**	**07 21 29.1**	**-1.2**
SNG	**Songkhla**	**5.17**	**69**	P	**P**	**07 21 34.0**	**-0.5**
	1μm,1.0s						
NNT	**Nongplab**	**8.22**	**28**	P	**P**	**07 22 16.8**	**-0.4**
NST	**Nakhon Sawan**	**11.15**	**22**	P	**P**	**07 22 55.5**	**-2.0**
KKTK	**Khon Kaen**	**12.96**	**32**	P	**P**	**07 23 35.0**	**+13**
	432nm,0.5s						
CHG	**Chiang Mai**	**13.77**	**13**	P	**P**	**07 23 39.9**	**+7.4**
NANT	**Nan**	**14.24**	**19**	⇑P	**P**	**07 23 42.0**	**+3.4**
	190nm,0.9s						
CHRT	**Chiangrai**	**14.99**	**15**	P	**P**	**07 23 55.0**	**+6.6**
	358nm,0.8s						
KSM	**Kuching**	**15.01**	**104**	*e*P	**P**	**07 23 51.6**	**+2.9**
VIS	**Vishakhapatnam**	**17.32**	**316**	*e*P	**P**	**07 24 18.8**	**+0.9**
VIS				AMb	AMB	07 24 27.6	
	comp=Z,49nm,1.0s						
VIS				*ex*	x	07 27 21.6	
SALM	**Salem**	**18.47**	**291**	*ex*	x	07 24 44.0	
SALM				*ex*	x	07 27 48.0	
QIZ	**Qiongzhong**	**19.35**	**44**	*e*P	**P**	**07 24 47.5**	**+5.1**
QIZ				AMB	AMB		
	comp=Z,28nm,2.0s						
QIZ				AMB	AMB		
	comp=Z,448nm,5.8s						
QIZ				LR	LR		
	comp=N,891nm,16.1s						
QIZ				LR	LR		
	comp=E,977nm,17.9s						
QIZ				LR	LR		
	comp=Z,543nm,17.0s						
KKM	**Kota Kinabalu**	**20.36**	**87**	*e*P	**P**	**07 24 53.3**	**-0.1**
SHL	**Shillong**	**20.48**	**350**	*e*P	**P**	**07 24 53.0**	**-1.5**
SHL				*ex*	x	07 27 50.0	
BOK	**Bokaro**	**20.69**	**334**	*e*P	**P**	**07 24 56.4**	**-0.3**
BOK				*ex*	x	07 24 58.6	
BOK				*ex*	x	07 28 39.3	
HYB	**Hyderabad**	**20.69**	**307**	*i* P	**P**	**07 24 58.0**	**+1.3**
HYB				*e*S	**S**	**07 28 51.0**	**+11**
HYB	**Hyderabad**	**20.69**	**307**	*e*P	**P**	**07 24 58.0**	**+1.3**
HYB				*e*S	**S**	**07 28 51.0**	**+11**
KMI	**Kunming**	**20.80**	**18**	P	**P**	**07 25 02.5**	**+4.7**
KMI				AP		07 25 13.8	
KMI				PP	PP	07 25 20.8	+0.2
KMI				AMB	AMB		
	comp=Z,72nm,1.5s						
KMI				AMB	AMB		
	comp=Z,432nm,3.1s						
KMI				LR	LR		
	comp=N,2μm,12.5s,MS4.7						
KMI				LR	LR		
	comp=E,782nm,14.7s,MS4.7						
KMI				LR	LR		
	comp=Z,2μm,11.5s,MS4.7						
BLSP	**Bilaspur**	**21.29**	**323**	*e*P	**P**	**07 25 03.3**	**+0.5**
BLSP				AMb	AMB	07 25 08.1	
	comp=Z,82nm,0.7s,mb5.1						
BLSP				*i* S	**S**	**07 28 55.8**	**+4.0**
NGP	**Nagpur**	**22.60**	**316**	*e*P	**P**	**07 25 14.0**	**-1.9**
NGP				AMb	AMB	07 25 19.5	
	comp=Z,38nm,0.7s,mb4.9						
GYA	**Guiyang**	**23.46**	**25**	⇓*i*P	**P**	**07 25 27.5**	**+3.3**
GYA				AP		07 25 37.0	
GYA				XP		07 25 40.8	
GYA				AMB	AMB		
	comp=Z,50nm,1.2s,mb4.8						
GYA				AMB	AMB		
	comp=Z,250nm,5.1s						
GYA				LR	LR		
	comp=N,880nm,10.8s,MS4.5						
GYA				LR	LR		
	comp=E,550nm,13.5s,MS4.5						
GYA				LR	LR		
	comp=Z,1μm,11.7s,MS4.5						
PKI	**Pulchoki**	**24.23**	**337**	*e*P	**P**	**07 25 33.4**	**+1.7**
	comp=Z,13nm,0.6s,mb4.5						
PKI	**Pulchoki**	**24.23**	**337**	*e*P	**P**	**07 25 33.4**	**+1.7**
PKI				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.2						
KAD	**Karad**	**24.25**	**301**	*i* P	**P**	**07 25 33.7**	**+1.7**
KAD				*e*S	**S**	**07 29 52.0**	**+7.2**
DMN	**Daman**	**24.38**	**337**	*e*P	**P**	**07 25 33.9**	**+0.7**
KKN	**Kakani**	**24.47**	**337**	*e*P	**P**	**07 25 33.8**	**-0.3**
	comp=Z,9.9nm,0.5s,mb4.5						
KKN	**Kakani**	**24.47**	**337**	*e*P	**P**	**07 25 33.8**	**-0.3**
KKN				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.2						
LSA	**Lhasa**	**24.64**	**350**	P	**P**	**07 25 37.8**	**+2.1**
LSA	**Lhasa**	**24.64**	**350**	*e*P	**P**	**07 25 37.8**	**+2.1**
	comp=Z,31nm,0.9s,mb4.8						
LSA	**Lhasa**	**24.64**	**350**	*e*P	**P**	**07 25 37.8**	**+2.1**
LSA				pmax	pmax		
	comp=Z,31nm,0.9s,mb4.8						
GKN	**Gorkha**	**24.92**	**336**	*e*P	**P**	**07 25 37.2**	**-1.2**
POO	**Poona**	**25.10**	**303**	*i* P	**P**	**07 25 42.9**	**+2.7**
POO				AMb	AMB	07 25 44.2	
	comp=Z,29nm,1.1s,mb4.7						
POO				*e*S	**S**	**07 30 05.0**	**+5.9**
BHPL	**Bhopal**	**25.11**	**317**	*i* P	**P**	**07 25 41.6**	**+1.4**
BHPL				AMb	AMB	07 25 45.0	
	comp=Z,51nm,1.1s,mb5.0						
BHPL				*e*S	**S**	**07 30 04.2**	**+5.0**
KOLN	**Koldanda**	**25.15**	**334**	*e*P	**P**	**07 25 39.8**	**-0.8**
	comp=Z,18nm,0.8s,mb4.7						
CD2	**Chengdu**	**26.55**	**16**	⇑*i*P	**P**	**07 25 55.3**	**+1.8**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
ENH	**Enshi**	**27.99**	**26**	*e*P	**P**	**07 26 05.6**	**-1.1**
	comp=Z,30nm,0.9s,mb4.9						
WHN

SSE Sheshan 35.04 40 *eP* **P 07 27 06.8 -1.7**
comp=Z,32nm,0.7s,mb5.4
SSE pP pP 07 27 23.6 +3.3
SSE PP PP 07 28 29.2 +1.5
SSE PcP PcP 07 29 35.7 -4.3
SSE S **S 07 32 36.9 +0.1**
SSE sS 07 33 06.0
SSE SS SS 07 35 15.7 +22
SSE ScS ScS 07 37 18.9 -4.2
SSE LR LR
comp=Z,230nm,15.5s,MS4.0
TIA Tai'an 36.48 30 *eP* **P 07 27 22.0 +1.4**
BTO Baotou 37.40 18 *eP* **P 07 27 30.0 +1.7**
BTO AMB AMB
comp=Z,11nm,0.5s,mb4.9
FITZ Fitzroy Crossi 37.55 129 *eP* **P 07 27 28.1 -1.7**
comp=Z,34nm,1.0s,mb5.0
FITZ Fitzroy Crossi 37.55 129 P **P 07 27 28.7 -1.1**
comp=Z,50nm,0.9s,mb5.2,baz=316,slow=2.9,SNR=30
FITZ PcP PcP 07 29 48.4 +0.7
comp=Z,7.7nm,0.9s,baz=359,slow=4.3,SNR=3.6
WMQ Urumqi 39.00 351 *eP* **P 07 27 40.0 -1.6**
WMQ AMB AMB
comp=Z,11nm,1.0s,mb4.5
KAKA Kakadu 40.61 116 *eP* **P 07 28 09.3 +14**
comp=Z,19nm,0.6s,mb4.9
ULHL Ulahol 40.67 338 P **P 07 27 56.2 +0.7**
SNR=6.0
UCH Uchtor 41.33 336 P **P 07 28 02.3 +1.4**
SNR=9.6
AML Almayashu 41.59 335 P **P 07 28 04.5 +1.4**
SNR=6.3
AAK Ala-Archa 41.68 336 *eP* **P 07 28 03.9 +0.1**
comp=Z,9.6nm,0.9s,mb4.4
AAK Ala-Archa 41.68 336 *c iP* **P 07 28 04.3 +0.5**
AAK *i* *PP pP 07 28 21.6 +5.8
AAK pmax pmax
comp=Z,10.0nm,1.3s,mb4.3
MUN Mundaring 41.89 154 *eP* **P 07 28 05.8 +0.1**
EKS2 Erkin-Say 41.99 336 P **P 07 28 07.6 +1.3**
SNR=6.4
USP Ospenovka 42.21 337 P **P 07 28 08.7 +0.6**
SNR=15
KLBR Kellerberrin 42.27 152 *eP* **P 07 28 09.1 +0.3**
comp=Z,22nm,0.8s,mb4.8
JNU Nakatsue 42.81 45 P **P 07 28 11.1 -2.1**
comp=Z,2.1nm,0.4s,mb4.2,baz=241,slow=13,SNR=2.8
MKAR Makanchi Array 42.93 346 P **P 07 28 13.3 -0.7**
comp=Z,5.2nm,0.8s,mb4.3,baz=164,slow=8.8,SNR=34
MKAR LR LR 07 46 48.0
comp=Z,108nm,19.3s,MS3.8,baz=180,slow=37
MKAR Makanchi Array 42.93 346 P **P 07 28 13.3 -0.7**
MKAR LR LR 07 46 48.0
MKAR Makanchi Array 42.93 346 *i P* **P 07 28 13.4 -0.6**
MKAR pmax pmax
comp=Z,2.0nm,0.6s
NWAO Narrogin (SRO) 43.15 153 P **P 07 28 16.2 +0.3**
comp=Z,23nm,0.7s,mb5.0,baz=332,slow=11,SNR=7.8
SONM Songino Array 43.33 10 P **P 07 28 15.9 -1.4**
comp=Z,7.6nm,0.8s,mb4.5,baz=187,slow=8.1,SNR=6.5
SONM PcP PcP 07 30 06.0 0.0
comp=Z,6.8nm,0.8s,baz=197,slow=4.9,SNR=5.1
SONM LR LR 07 48 15.0
comp=Z,318nm,18.1s,MS4.3,baz=252,slow=39
KS15 Wonju Array Si 43.37 38 *eP* **P 07 28 20.0 +2.3**
ULN Ulaanbaatar 43.48 11 *eP* **P 07 28 20.0 +1.5**
comp=Z,3.0nm,0.6s,mb4.2
ULN Ulaanbaatar 43.48 11 ⇑ *iP* **P 07 28 19.9 +1.4**
KKAR Karatay Array 43.76 333 P **P 07 28 20.6 -0.2**
KKAR pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
SNY Shenyang 44.00 30 ⇓ P **P 07 28 24.5 +1.8**
SNY XP sP 07 28 40.5 +0.5
SNY S **S 07 34 51.3 +0.2**
SNY AMB AMB
comp=Z,30nm,0.8s,mb5.1
SNY AMB AMB
comp=Z,270nm,6.9s
SNY LR LR
comp=N,570nm,15.7s
SNY LR LR
comp=Z,460nm,17.7s,MS4.4
ZAK Zakamensk 45.35 7 *eP* **P 07 28 32.5 -1.0**
ZAK *e* 07 30 11.8
ZAK pmax pmax
comp=Z,2.0nm,1.1s,mb3.9
ZAK pmax pmax
comp=Z,3.0nm,0.9s,mb4.1
ZAK pmax pmax
comp=Z,3.0nm,1.2s,mb4.0
WRA Warramunga Arr 45.48 125 P **P 07 28 33.9 -0.9**
comp=Z,17nm,0.7s,mb5.0,baz=304,slow=9.2,SNR=111
WRA PcP PcP 07 30 13.8 0.0
comp=Z,5.7nm,0.8s,baz=311,slow=3.2,SNR=5.2
WRAB Tennant Creek 45.48 125 *eP* **P 07 28 34.1 -0.9**
comp=Z,27nm,0.6s,mb5.3
WRAB Tennant Creek 45.48 125 *d iP* **P 07 28 34.2 -0.7**
WB2 Warramunga Arr 45.49 125 ⇓ *iP* **P 07 28 33.9 -1.1**
CN2 Changchun 46.38 30 *eP* **P 07 28 43.3 +1.6**
CN2 AMB AMB
comp=Z,30nm,0.7s,mb5.3
KURK Kurchatov 47.47 345 *eP* **P 07 28 49.9 -0.3**
comp=Z,10.0nm,0.8s,mb4.8
KURK Kurchatov 47.47 345 *eP* **P 07 28 49.9 -0.3**
KURK pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
HIA Hailar 48.28 21 *eP* **P 07 28 58.1 +1.7**
comp=Z,42nm,0.9s,mb5.5
HIA Hailar 48.28 21 *eP* **P 07 28 58.2 +1.7**
HIA pmax pmax
comp=Z,42nm,0.9s
CIT Chita 48.83 15 *eP* **P 07 28 57.1 -3.6**
MDJ Mudanjiang 49.07 32 P **P 07 29 03.3 +0.7**
MDJ AMB AMB
comp=Z,16nm,1.3s,mb4.9
MDJ AMB AMB
comp=Z,114nm,7.3s
MDJ Mudanjiang 49.07 32 *eP* **P 07 29 05.0 +2.4**
comp=Z,13nm,0.8s,mb5.0
ZAL Zalesovo 49.29 351 P **P 07 29 03.9 -0.3**
comp=Z,2.7nm,0.5s,mb4.5,baz=292,slow=3.8,SNR=14
MAT Matsushiro 49.74 45 P **P 07 29 08.2 +0.3**
MAT Matsushiro 49.74 45 *eP* **P 07 29 08.0 +0.1**
comp=Z,6.7nm,0.9s,mb4.7
MAT Matsushiro 49.74 45 *eP* **P 07 29 08.0 +0.1**
MAT pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
NVS Novosibirsk 50.41 351 *eP* **P 07 29 11.2 -1.5**
VOSK Vostochnaya 51.47 341 P **P 07 29 19.3 -1.5**
VOSK pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
BVA0 Borovoye Array 51.92 341 *i P* **P 07 29 22.9 -1.3**
BVA0 pmax pmax
comp=Z,2.0nm,1.2s,mb3.9
BVAR Borovoye Array 51.92 341 P **P 07 29 23.0 -1.1**
comp=Z,3.2nm,0.7s,mb4.3,baz=143,slow=7.4,SNR=22
BRVK Borovoye 51.98 341 *eP* **P 07 29 23.4 -1.2**
comp=Z,4.5nm,0.8s,mb4.5
BRVK Borovoye 51.98 341 *eP* **P 07 29 23.4 -1.2**
BRVK pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
AB31 Akbulak array 53.23 331 *i P* **P 07 29 33.2 -0.9**
AB31 pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
OPO Ambohidratompo 53.43 242 P **P 07 29 37.0 +1.1**
comp=Z,3.1nm,0.9s,mb4.3,baz=71,slow=5.8,SNR=4.0
AKTO Aktyubinsk 54.95 331 P **P 07 29 45.3 -1.3**
AKTO pmax pmax
comp=Z,5.0nm,1.3s,mb4.4
CTAO Charters Tower 55.67 119 *eP* **P 07 29 48.0 -4.3**
comp=Z,23nm,0.6s,mb5.4
CTAO Charters Tower 55.67 119 *eP* **P 07 29 48.0 -4.2**
CTAO pmax pmax
comp=Z,23nm,0.6s,mb5.4
STKA Stephens Creek 57.19 133 *eP* **P 07 30 02.2 -0.8**
comp=Z,10nm,0.7s,mb5.0
STKA Stephens Creek 57.19 133 P **P 07 30 02.3 -0.6**
comp=Z,11nm,0.7s,mb5.0,baz=305,slow=7.4,SNR=21
GNI Garni 57.37 315 ⇑ *eP* **P 07 30 02.8 -1.3**
GNI pmax pmax
comp=Z,98nm,1.3s
YSS Yuzh-Sakhalins 57.84 36 ⇑ *eP* **P 07 30 07.3 0.0**
YSS pmax pmax
comp=Z,55nm,1.3s,mb5.4
SVE Sverdlovsk 58.36 338 *eP* **P 07 30 10.0 -0.8**
SVE *e* 07 30 16.0
SVE *e* 07 31 05.0
KMBO Kilima Mbogo 58.79 265 P **P 07 30 16.3 +2.0**
comp=Z,1.8nm,0.7s,mb4.2,baz=103,slow=13,SNR=4.0
KMBO LR LR 07 50 06.2
comp=Z,139nm,20.2s,MS4.1,baz=96,slow=30
KMBO Kilima Mbogo 58.79 265 P **P 07 30 16.3 +2.0**
KMBO LR LR 07 50 06.2
ARU Arti 58.86 337 ⇑ *iP* **P 07 30 12.8 -1.5**
ARU pmax pmax
comp=Z,13nm,1.7s,mb4.7
ARU MLR MLR
comp=Z,100nm,17.0s,MS4.0
KIV Kislovodsk 60.28 318 *eP* **P 07 30 23.7 -0.6**
comp=Z,46nm,1.0s,mb5.5
KIV Kislovodsk 60.28 318 *d iP* **P 07 30 23.2 -1.1**
KIV *e*SS SS 07 42 33.7 +1.1
KIV pmax pmax
comp=Z,43nm,1.0s,mb5.4
MALT Malatya 61.34 311 *eP* **P 07 30 31.4 -0.1**
comp=Z,11nm,1.0s,mb5.0
MALT Malatya 61.34 311 *eP* **P 07 30 31.4 -0.1**
MALT pmax pmax
comp=Z,11nm,1.0s,mb4.9
SOC Sochi 62.14 317 *eP* **P 07 30 33.8 -3.0**
SOC *e*S **S 07 38 51.2 -6.0**
SOC *e* 07 40 21.8
SOC pmax pmax
comp=Z,38nm,0.8s,mb5.6
SOC pmax pmax
comp=N,47nm,1.2s
SOC pmax pmax
comp=E,19nm,0.9s
VRHR Novokhopersk 63.94 325 *eP* **P 07 30 46.4 -2.2**
VRHR pmax pmax
comp=Z,30nm,0.8s,mb5.4
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.7s
ANN Anapa 64.10 318 *eP* **P 07 30 43.4 -6.3**
ANN *i* *PP pP 07 31 01.2 -1.1
ANN pmax pmax
comp=Z,19nm,0.7s,mb5.2
BR131 Keskin Array S 65.31 311 *eP* **P 07 30 56.6 -1.0**
comp=Z,11nm,0.7s,mb5.0
BRTR Keskin Array B 65.31 311 P **P 07 30 56.5 -1.2**
comp=Z,14nm,0.8s,mb5.0,baz=125,slow=7.3,SNR=50
VRSR Storozhevoye 65.38 325 *eP* **P 07 30 55.7 -2.2**
VRSR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
VRSR pmax pmax
comp=N,10.0nm,1.0s
VRSR pmax pmax
comp=E,20nm,0.8s
SIM Simferopol' 66.38 317 *eP* **P 07 31 04.0 -0.4**
SIM pmax pmax
comp=Z,35nm,0.9s,mb5.4
OBN Obninsk 68.39 328 ⇑ *eP* **P 07 31 15.6 -1.2**
OBN *e* 07 31 36.5
OBN pmax pmax
comp=Z,25nm,1.2s,mb5.1
TIXI Tiksi 69.42 11 *eP* **P 07 31 19.1 -3.8**
TIXI pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
TIXI MLR MLR
comp=Z,117nm,14.0s,MS4.3
PSN Preselentsi 70.19 315 *eP* **P 07 31 28.0 -0.1**
TIRR Tirgusor 70.19 315 ⇑ P **P 07 31 27.3 -0.7**
TIRR Tirgusor 70.19 315 ⇑ *iP* **P 07 31 27.3 -0.7**
SEY Seymchan 70.58 24 ⇑ *iP* **P 07 31 30.1 0.0**
PRD Provadia 70.65 314 *eP* **P 07 31 31.0 +0.1**
JMB Yambol 71.11 313 *eP* **P 07 31 34.0 +0.4**
AKASG Malin Array Be 71.15 322 P **P 07 31 32.0 -1.7**
comp=Z,7.1nm,0.7s,mb4.7,baz=87,slow=4.9,SNR=14
VRI Vrincioaia 71.65 317 ⇑ P **P 07 31 37.2 +0.4**
VRI Vrincioaia 71.65 317 ⇑ *iP* **P 07 31 37.2 +0.4**
DIM Dimitrovgrad 71.80 312 *eP* **P 07 31 37.0 -0.8**
KDZ Kurdzhali 71.83 312 *eP* **P 07 31 38.0 +0.1**
MLR Muntele Rosu 72.12 316 ⇑ P **P 07 31 39.7 +0.1**
MLR Muntele Rosu 72.12 316 ⇑ *iP* **P 07 31 39.7 +0.2**
PVL Pavlikeni 72.14 314 *eP* **P 07 31 40.0 +0.2**
RZN Rozhen 72.35 312 *eP* **P 07 31 41.0 0.0**
VOIR 72.73 316 ⇑ P **P 07 31 42.7 -0.5**
VOIR 72.73 316 ⇑ *iP* **P 07 31 42.7 -0.5**
BURAR Bucovina Array 73.01 318 ⇑ P **P 07 31 45.3 +0.4**
BURAR Bucovina Array 73.01 318 ⇑ *iP* **P 07 31 45.3 +0.4**
MMB Musomiste 73.07 312 *eP* **P 07 31 44.5 -0.8**
KKB Krupnik 73.58 312 *eP* **P 07 31 46.8 -1.5**
VTS Vitosha 73.59 313 *eP* **P 07 31 48.0 -0.4**
JOF Joensuu 73.84 335 *ep* **P 07 31 48.0 -1.4**
comp=Z,6.7nm,0.6s,mb4.8
LVZ Lovozero 74.50 340 *eP* **P 07 31 51.2 -1.9**
LVZ pmax pmax
comp=Z,124nm,2.0s,mb5.5
DRGR 74.56 317 ⇑ P **P 07 31 53.4 -0.5**
DRGR 74.56 317 ⇑ *iP* **P 07 31 53.4 -0.4**
SUW Suwalki 75.51 324 *eP* **P 07 31 58.5 -0.7**
SUW Suwalki 75.51 324 *eP* **P 07 31 58.5 -0.7**
BOSA Boshof 75.62 239 P **P 07 32 01.7 +1.3**
comp=Z,6.6nm,0.6s,mb4.8,baz=74,slow=3.7,SNR=16
BOSA LR LR 08 00 50.8
comp=Z,63nm,18.2s,MS4.0,baz=184,slow=32
CRVS Cervenica-Dubn 75.70 319 *eP* **P 07 32 01.2 +0.8**
FINES FINESS Array B 75.71 332 P **P 07 31 59.4 -0.8**
comp=Z,4.1nm,0.5s,mb4.6,baz=88,slow=6.7,SNR=20
KAF Kangasniemi 75.79 333 *ep* **P 07 31 59.2 -1.4**
comp=Z,6.0nm,0.8s,mb4.6,baz=103,slow=5.3
KAF Kangasniemi 75.79 333 *eP* **P 07 31 59.2 -1.4**
KAF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
STHS Stebnicka Huta 75.92 320 *eP* **P 07 32 02.0 +0.4**
STHS *e* pP 07 32 12.9 -1.5
KECS Kecovo 76.29 319 *eP* **P 07 32 03.5 -0.2**
KECS *e* 07 32 13.1
MAW Mawson 76.38 192 *eP* **P 07 32 05.9 +2.0**
comp=Z,3.6nm,1.2s,mb4.2
MAW Mawson 76.38 192 P **P 07 32 06.2 +2.4**
comp=Z,3.3nm,0.6s,mb4.4,baz=32,slow=5.0,SNR=6.2
MAW LR LR 07 57 32.0
comp=Z,75nm,18.9s,MS4.0,baz=247,slow=29
MAW Mawson 76.38 192 *eP* **P 07 32 05.9 +2.0**
MAW pmax pmax
comp=Z,4.0nm,1.2s
NIE Niedzica 76.52 319 *eP* **P 07 32 05.5 +0.5**
OJC Ojcow 76.96 320 *eP* **P 07 32 07.4 -0.1**
VYHS Vyhne 77.38 318 *eP* **P 07 32 09.6 -0.3**
BILL Bilibino 77.86 21 *eP* **P 07 32 11.9 -0.2**
BILL pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
BILL MLR MLR
comp=Z,200nm,17.0s,MS4.5
OKC Ostrava-Krasne 77.97 320 *eP* **P 07 32 13.1 0.0**
TIP Timpagrande 78.14 309 *eP* **P 07 32 15.0 +0.7**
FX1 Attu Island--F 78.18 37 *eP* **P 07 32 14.8 +0.6**
ARCES ARCESS Array B 78.20 340 P **P 07 32 13.8 -0.2**
comp=Z,4.3nm,0.8s,mb4.5,baz=92,slow=5.7,SNR=18
ARCES ARCESS Array B 78.20 340 P **P 07 32 13.8 -0.2**
MORC Moravsky Berou 78.35 320 *eP* **P 07 32 15.4 +0.2**
comp=Z,12nm,1.1s,mb4.7
MORC Moravsky Berou 78.35 320 *eP* **P 07 32 15.4 +0.2**
MORC pmax pmax
comp=Z,12nm,1.1s,mb4.7
ZST Bratislava 78.50 318 *eP* **P 07 32 16.3 +0.3**
DPC Dobruska-Polom 79.19 320 *eP* **P 07 32 19.0 -0.8**
UPC Upice 79.40 320 *eP* **P 07 32 20.8 -0.1**
BOJS Bojanci 79.58 315 *i P* **P 07 32 22.2 +0.3**
PERS Pernice 79.73 316 *i P* **P 07 32 23.3 +0.5**
LJU Ljubljana 80.11 316 *i P* **P 07 32 25.3 +0.5**
PRU Pruhonice 80.31 320 *eP* **P 07 32 25.9 +0.1**
PRU *e*PCP PcP 07 32 30.9 -2.2
BRG Berggiesshubel 80.74 321 *i P* **P 07 32 28.4 +0.4**
comp=Z,7.0nm,0.7s,mb4.7
BRG Berggiesshubel 80.74 321 *i P* **P 07 32 28.5 +0.5**
BRG pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
GEC2 GERESS Array S 80.80 318 *eP* **P 07 32 28.6 +0.2**
comp=Z,12nm,0.9s,mb4.8
GEC2 GERESS Array S 80.80 318 *eP* **P 07 32 28.6 +0.2**
GEC2 pmax pmax
comp=Z,12nm,0.9s,mb4.8
GERES GERESS Array B 80.80 318 P **P 07 32 28.6 +0.2**
comp=Z,4.3nm,0.6s,mb4.6,baz=90,slow=5.3,SNR=32
AQU L'Aquila 80.80 312 *eP* **P 07 32 28.2 -0.4**
comp=Z,17nm,0.8s,mb5.0
AQU L'Aquila 80.80 312 *eP* **P 07 32 28.2 -0.3**
AQU pmax pmax
comp=Z,17nm,0.8s,mb5.0
KHC Kasperske Hory 80.89 319 *eP* **P 07 32 28.4 -0.5**
KHC *e*PCP PcP 07 32 33.5 -2.1
CLL Collm 81.35 321 P **P 07 32 31.0 -0.2**
comp=Z,logA/T=0.8,mb4.5
CLL Collm 81.35 321 *eP* **P 07 32 31.0 -0.2**
comp=Z,7.0nm,1.2s,mb4.5
CLL Collm 81.35 321 *eP* **P 07 32 31.0 -0.2**
CLL pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
WET Wettzell 81.35 319 *eP* **P 07 32 31.4 +0.1**
comp=Z,8.0nm,0.8s,mb4.7
WET Wettzell 81.35 319 *eP* **P 07 32 31.4 +0.1**
WET pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
NKC Novy Kostel 81.66 320 *eP* **P 07 32 31.0 -1.9**
GRA1 Grafenberg Arr 82.44 319 *eP* **P 07 32 37.5 +0.6**
comp=Z,14nm,0.9s,mb4.9
GRF Grafenberg Arr 82.44 319 *eP* **P 07 32 37.5 +0.6**
comp=Z,14nm,0.9s,mb4.9
GRF Grafenberg Arr 82.44 319 *eP* **P 07 32 37.5 +0.6**
GRF pmax pmax
comp=Z,14nm,0.9s,mb4.9
GRF Grafenberg Arr 82.44 319 *eP* **P 07 32 37.5 +0.6**
GRF pmax pmax
comp=Z,14nm,0.9s,mb4.9
NB2 NORSAR Subarra 82.74 331 P **P 07 32 37.2 -1.0**
comp=Z,2.0nm,0.7s,mb4.3,baz=95,slow=4.8
NB2 NORSAR Subarra 82.74 331 P **P 07 32 37.2 -1.0**
NB2 pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
NOA NORSAR Array B 82.74 331 P **P 07 32 37.6 -0.6**
comp=Z,1.3nm,0.6s,mb4.1,baz=95,slow=4.9,SNR=3.7
NOA LR LR 08 14 32.7
comp=Z,56nm,18.8s,MS4.0,baz=95,slow=39
NOA NORSAR Array B 82.74 331 P **P 07 32 37.6 -0.6**
NOA LR LR 08 14 32.7
CLZ Clausthal 83.00 321 *eP* **P 07 32 39.9 +0.2**
comp=Z,14nm,0.9s,mb5.0
CLZ Clausthal 83.00 321 *eP* **P 07 32 39.9 +0.2**
CLZ pmax pmax
comp=Z,14nm,0.9s,mb5.0
BSEG Bad Segeberg 83.05 324 *eP* **P 07 32 40.4 +0.5**
PGF Pioggiola 84.06 312 *eP* **P 07 32 45.3 0.0**
comp=Z,10nm,0.8s,mb4.7
PGF Pioggiola 84.06 312 *eP* **P 07 32 45.3 0.0**
PGF pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
BFO Black Forest 84.36 318 *eP* **P 07 32 46.9 +0.2**
comp=Z,11nm,0.9s,mb5.0
BFO Black Forest 84.36 318 *eP* **P 07 32 46.9 +0.2**
BFO pmax pmax
comp=Z,11nm,0.9s,mb5.0
CDF Champ du Feu 85.06 318 *eP* **P 07 32 49.5 -0.7**
comp=Z,11nm,0.6s,mb4.8
CDF Champ du Feu 85.06 318 *eP* **P 07 32 49.5 -0.7**
CDF pmax pmax
comp=Z,6.0nm,0.6s,mb4.9
SBF Sospel 85.15 313 *eP* **P 07 32 50.7 0.0**
comp=Z,36nm,0.8s,mb5.2
SBF Sospel 85.15 313 *eP* **P 07 32 50.7 0.0**
SBF pmax pmax
comp=Z,18nm,0.8s,mb5.2
LPG La Plagne 85.56 315 *eP* **P 07 32 52.9 +0.2**
comp=Z,37nm,0.8s,mb5.3
LPL La Plagne 85.57 315 *eP* **P 07 32 53.0 +0.3**
comp=Z,32nm,0.8s,mb5.3
MBDF Montbardon 85.58 314 *eP* **P 07 32 52.1 -0.7**
comp=Z,12nm,0.8s,mb4.8
BNI Bardonecchia 85.63 315 *eP* **P 07 32 52.8 -0.3**
comp=Z,9.8nm,0.8s,mb5.1
HAU Haudompre 85.70 318 *eP* **P 07 32 52.8 -0.5**
comp=Z,35nm,0.9s,mb5.3
FRF La Foret Royal 85.73 318 *eP* **P 07 32 53.7 +0.1**
comp=Z,29nm,0.9s,mb5.2
LMR La Mourre 85.85 313 *eP* **P 07 32 54.2 0.0**
comp=Z,34nm,1.1s,mb5.2
CABF La Chapelle 85.95 316 *eP* **P 07 32 54.7 +0.1**
comp=Z,27nm,1.0s,mb5.1
ORIF Oris-en-Rattie 86.20 315 *eP* **P 07 32 56.1 +0.2**
comp=Z,13nm,0.9s,mb4.9
SMRF Simiane la Rot 86.48 314 *eP* **P 07 32 57.8 +0.5**
comp=Z,23nm,1.0s,mb5.0
BAIF Baives 86.97 320 *eP* **P 07 32 59.6 +0.1**
comp=Z,25nm,0.8s,mb5.2
VIVF Saint-Julien-l 87.06 315 *eP* **P 07 33 00.1 0.0**
comp=Z,31nm,1.0s,mb5.2
LOR Lormes 87.43 317 *eP* **P 07 33 01.6 -0.2**
comp=Z,24nm,0.9s,mb5.1
SMF Signal de Mont 87.50 316 *eP* **P 07 33 01.8 -0.3**
comp=Z,20nm,0.8s,mb5.1
SSF Saint Saulge 87.69 317 *eP* **P 07 33 03.3 +0.3**
comp=Z,5.5nm,0.7s,mb4.6
LASF Ste Croix 87.71 314 *eP* **P 07 33 03.5 +0.3**
comp=Z,54nm,1.5s,mb5.2
AVF Avril sur Loir 87.82 317 *eP* **P 07 33 03.3 -0.3**
comp=Z,17nm,1.0s,mb4.9
TCF Toulx Ste Croi 88.65 316 *eP* **P 07 33 07.8 +0.2**
CAF Calviac 88.90 315 *eP* **P 07 33 09.3 +0.4**
comp=Z,22nm,1.1s,mb5.1
MTLF Montolieu 88.97 313 *eP* **P 07 33 09.6 +0.4**
comp=Z,13nm,0.9s,mb5.0
RJF Les Rejaudoux 89.25 315 *eP* **P 07 33 11.1 +0.6**
LFF La Frestale 89.84 315 *eP* **P 07 33 13.8 +0.5**
LDF La Druitiere 89.94 319 *eP* **P 07 33 13.8 +0.1**
comp=Z,21nm,0.8s,mb5.2
VNDA Vanda 90.12 169 P **P 07 33 14.4 +0.5**
comp=Z,0.7nm,0.8s,mb4.0,baz=302,slow=5.6,SNR=3.6
VNDA LR LR 08 10 16.6
comp=Z,98nm,19.1s,MS4.3,baz=358,slow=33
FLN La Foliniere 90.15 319 *eP* **P 07 33 14.8 +0.1**
comp=Z,54nm,0.9s,mb5.6
MFF Saint Martin d 90.23 317 *eP* **P 07 33 15.2 +0.1**
comp=Z,25nm,0.9s,mb5.2
GRR Gorron 90.45 319 *eP* **P 07 33 16.2 +0.1**
comp=Z,31nm,1.1s,mb5.2
ETSF Etsaut 91.04 313 *eP* **P 07 33 19.9 +0.9**
comp=Z,21nm,1.0s,mb5.1
SJPF Ste Jean 91.49 313 *eP* **P 07 33 22.0 +0.9**
comp=Z,15nm,0.8s,mb5.1
IMA Indian Mountai 93.36 22 *eP* **P 07 33 30.3 +1.2**
comp=Z,32nm,0.8s,mb5.8
ESDC Sonseca Array 94.09 310 P **P 07 33 34.2 +1.3**
comp=Z,2.9nm,0.7s,mb4.8,baz=47,slow=4.9,SNR=8.2
SCHQ Schefferville 118.34 349 PKP PKPdf 07 39 01.8 +1.4
comp=Z,3.2nm,0.7s,baz=267,slow=2.3,SNR=9.8
MSO Missoula 121.80 24 *e*PKPdf PKPdf 07 39 08.6 +1.2
MOD Modoc 122.66 31 *e*PKPdf PKPdf 07 39 10.7 +1.5
DLMT Dillon 123.54 24 *e*PKPdf PKPdf 07 39 11.0 +0.2
ULM Lac du Bonnet 123.75 9 PKP PKPdf 07 39 12.0 +1.0
comp=Z,4.7nm,0.9s,baz=306,slow=4.8,SNR=5.7
ULM Lac du Bonnet 123.75 9 PKP PKPdf 07 39 12.0 +1.0
LAO LASA Array 124.67 18 *e*PKPdf PKPdf 07 39 15.7 +2.8
LAO LR LR
comp=Z,172nm,21.0s,MS4.7
TPAW Teton Pass 125.75 24 *e*PKPdf PKPdf 07 39 16.7 +1.6
PDAR Pinedale Array 126.91 23 PKP PKPdf 07 39 18.9 +1.6
comp=Z,2.4nm,0.9s,baz=7,0,slow=1.2,SNR=20
MSU Marysvale 129.28 28 *e*PKPdf PKPdf 07 39 24.9 +2.8
KSU1 Kansas State U 134.35 13 *e*PKPdf PKPdf 07 39 33.4 +1.8
ANMO Albuquerque 134.81 26 *e*PKPdf PKPdf 07 39 34.9 +2.3
ANMO Albuquerque 134.81 26 *e*PKIKP PKPdf 07 39 34.8 +2.2
MNTX Cornudas Mount 138.03 27 *e*PKPdf PKPdf 07 39 40.7 +2.2
TXAR Lajitas Array 140.81 27 PKhKP 07 39 39.1
comp=Z,1.4nm,0.9s,baz=221,slow=2.6,SNR=6.2
TXAR PKP PKPdf 07 39 44.7 +1.0
comp=Z,1.1nm,0.8s,baz=225,slow=1.8,SNR=10
PLCA Paso Flores 142.66 197 PKhKP 07 39 45.5
comp=Z,1.3nm,0.7s,baz=324,slow=22,SNR=2.8
PLCA PKP PKPdf 07 39 49.2 +2.7
comp=Z,1.3nm,0.8s,baz=318,slow=1.9,SNR=5.1
PLCA Paso Flores 142.66 197 PKP PKPdf 07 39 45.5 -1.0
PLCA PKP PKPdf 07 39 49.2 +2.7
BDFB Brasilia 143.00 251 PKP PKPdf 07 39 50.2 +2.5
comp=Z,3.0nm,0.6s,baz=125,slow=4.9,SNR=5.4
CPUP Villa Florida 146.87 228 PKPbc PKPbc 07 39 57.9 +2.1
comp=Z,4.3nm,0.9s,baz=111,slow=2.4,SNR=7.2
SJG San Juan 150.67 323 *e*PKPbc PKPdf 07 40 07.6 +7.2
SIV San Ignacio 154.92 243 PKP PKPdf 07 40 09.3 +2.8
comp=Z,0.6nm,0.9s,baz=66,slow=2.4,SNR=4.9
SIV PKPab PKPab 07 40 33.7 +0.6
comp=Z,1.1nm,0.5s,baz=99,slow=8.7,SNR=12
SDV Santo Domingo 160.43 316 PKPab PKPab 07 40 56.8 -0.1
comp=Z,2.3nm,0.3s,baz=164,slow=3.2,SNR=9.8

LPAZ	La Paz	160.81	234	PKP	PKPdf	07 40 17.6 +4.0
	comp=Z,1.2nm,0.7s,baz=12,slow=3.1,SNR=5.7					
LPAZ				PKPab	PKPab	07 40 59.9 +1.5
	comp=Z,4.6nm,1.1s,baz=84,slow=5.5,SNR=11					
LPAZ	La Paz	160.81	234	PKIKP	PKPdf	07 40 17.6 +4.0
ROSC	El Rosal	165.86	315	PKP	PKPdf	07 40 21.6 +2.8
	comp=Z,4.7nm,0.7s,baz=100,slow=18,SNR=4.7					

NEIC ***31*** *07:35:38.8, 38.40S×176.18E, h147km, MG4.1(WEL), After WEL.*
WEL 31 07:35:39.0±0.1, 38.40S×176.19E, h145km±1km, ML4.0/12, 17C-7D, Error ellipse: s-maj=1.0km s-min=0.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATZ	Paeroa	0.05	68	⇓PN	P	07 35 58.7	0.0
PATZ	Paeroa	0.05	68	P	P	07 35 58.7	+0.1
UTU	Utuhina	0.22	360	⇓PN	P	07 35 58.9	-0.2
UTU	Utuhina	0.22	360	P	P	07 35 58.9	-0.2
TAZ	Tarawera	0.30	56	PN	P	07 35 59.0	-0.3
TAZ	Tarawera	0.30	56	P	P	07 35 59.1	-0.3
WHTZ	Whakaora	0.32	215	PN	P	07 35 59.4	-0.1
WHTZ				SN	S	07 36 14.7	-0.4
WHTZ	Whakaora	0.32	215	P	P	07 35 59.4	-0.1
WHTZ				S	S	07 36 16.1	+1.0
LIRZ	Lichensteins R	0.42	21	⇓PN	P	07 35 59.4	-0.5
LIRZ	Lichensteins R	0.42	21	P	P	07 35 59.4	-0.5
WATZ	Wairara	0.47	229	⇑PN	P	07 35 59.6	-0.5
WATZ				SN	S	07 36 15.6	-0.6
WATZ	Wairara	0.47	229	P	P	07 35 59.6	-0.5
HATZ	Hinemaiaia	0.50	189	⇑PN	P	07 35 59.6	-0.6
HATZ				SN	S	07 36 14.7	-1.7
HATZ	Hinemaiaia	0.50	189	P	P	07 35 59.6	-0.6
HATZ				S	S	07 36 14.7	-1.8
EDRZ	Edgecumbe	0.52	56	⇑PN	P	07 35 59.6	-0.7
EDRZ	Edgecumbe	0.52	56	P	P	07 35 59.8	-0.5
MARZ	Manawahe	0.56	43	PN	P	07 36 00.1	-0.4
MARZ	Manawahe	0.56	43	P	P	07 36 00.2	-0.3
RATZ	Rangitukua	0.57	215	⇑PN	P	07 36 00.1	-0.5
RATZ				SN	S	07 36 16.9	-0.3
RATZ	Rangitukua	0.57	215	P	P	07 36 00.1	-0.5
RITZ	Rihia Road	0.63	204	⇑PN	P	07 36 00.7	-0.3
RITZ				SN	S	07 36 17.8	0.0
RITZ	Rihia Road	0.63	204	P	P	07 36 00.9	0.0
TGRZ	Tauranga	0.67	4	⇓PN	P	07 36 00.7	-0.5
TGRZ	Tauranga	0.67	4	P	P	07 36 00.7	-0.5
KATZ	Kakaramea	0.69	214	PN	P	07 36 00.8	-0.5
KATZ				SN	S	07 36 17.9	-0.5
KATZ	Kakaramea	0.69	214	P	P	07 36 00.8	-0.5
URZ	Urewera	0.73	79	PN	P	07 36 00.9	-0.6
URZ				SN	S	07 36 17.3	-1.6
BKZ	Black Stump Fm	0.80	163	PN	P	07 36 01.8	-0.2
BKZ				SN	S	07 36 18.3	-1.3
BKZ	Black Stump Fm	0.80	163	P	P	07 36 01.8	-0.2
BKZ				S	S	07 36 18.3	-1.3
KRVZ	Karewarewa	0.82	212	⇑PN	P	07 36 01.7	-0.4
WTVZ	West Tongariro	0.86	213	⇑PN	P	07 36 02.0	-0.3
WTVZ	West Tongariro	0.86	213	P	P	07 36 02.0	-0.4
OTVZ	Oturere	0.87	208	PN	P	07 36 02.5	+0.1
OTVZ				SN	S	07 36 20.1	-0.3
TWVZ	Taurewa	0.89	221	⇑PN	P	07 36 02.3	-0.3
TWVZ				SN	S	07 36 19.9	-0.8
TWVZ	Taurewa	0.89	221	P	P	07 36 02.3	-0.3
NGZ	Ngauruhoe	0.90	211	PN	P	07 36 02.3	-0.3
NGZ				*e*SN	S	07 36 21.0	+0.1
NGZ	Ngauruhoe	0.90	211	P	P	07 36 02.3	-0.4
CNZ	Chateau	0.94	212	PN	P	07 36 02.4	-0.6
CNZ	Chateau	0.94	212	P	P	07 36 02.6	-0.4
WPVZ	Whakapapa	0.95	212	PN	P	07 36 02.6	-0.4
WPVZ				SN	S	07 36 21.8	+0.4
TUVZ	Tukino	0.96	206	⇑PN	P	07 36 03.1	0.0
TUVZ				SN	S	07 36 21.6	-0.1
FWVZ	Far West T-bar	0.99	210	PN	P	07 36 03.0	-0.3
FWVZ				SN	S	07 36 21.9	-0.2
FWVZ	Far West T-bar	0.99	210	P	P	07 36 03.1	-0.3
DRZ	Dome Shelter	1.00	209	PN	P	07 36 03.7	+0.3
DRZ				SN	S	07 36 22.3	+0.1
DRZ	Dome Shelter	1.00	209	P	P	07 36 03.7	+0.3
TRVZ	Turoa	1.03	209	PN	P	07 36 03.7	0.0
WNVZ	Wahianoa	1.04	207	⇑PN	P	07 36 03.7	-0.1
WNVZ				SN	S	07 36 22.4	-0.3
WNVZ	Wahianoa	1.04	207	P	P	07 36 03.7	-0.1
MWZ	Matawai	1.05	87	⇓PN	P	07 36 03.8	-0.1
MWZ				SN	S	07 36 22.2	-0.9
MWZ	Matawai	1.05	87	P	P	07 36 03.8	-0.1
HIZ	Hauiti	1.06	263	⇓PN	P	07 36 03.5	-0.4
HIZ				SN	S	07 36 22.3	-0.9
HIZ	Hauiti	1.06	263	P	P	07 36 03.5	-0.5
MOVZ	Moawhango	1.06	199	⇑PN	P	07 36 03.5	-0.6
MOVZ				SN	S	07 36 21.6	-1.6
MOVZ	Moawhango	1.06	199	P	P	07 36 03.5	-0.5
PKVZ	Pokaka	1.11	216	⇑PN	P	07 36 04.1	-0.4
PKVZ				SN	S	07 36 23.5	-0.5
MYRZ	Mayor Island	1.12	2	PN	P	07 36 04.0	-0.6
MTVZ	Mangateitei	1.13	210	PN	P	07 36 04.3	-0.4
MTVZ				SN	S	07 36 24.2	-0.3
KNZ	Kokohu	1.31	119	PN	P	07 36 06.6	+0.1
KNZ	Kokohu	1.31	119	P	P	07 36 06.6	+0.1
VRZ	Vera Road	1.34	237	⇑PN	P	07 36 06.4	-0.4
VRZ				SN	S	07 36 28.6	+0.5
VRZ	Vera Road	1.34	237	P	P	07 36 06.4	-0.4
WAZ	Wanganui	1.65	214	⇑PN	P	07 36 09.4	-0.7
WAZ	Wanganui	1.65	214	P	P	07 36 09.4	-0.7
PUZ	Puketiti	1.66	79	PN	P	07 36 09.8	-0.4
PUZ				SN	S	07 36 32.4	-1.8
PUZ	Puketiti	1.66	79	P	P	07 36 09.8	-0.4
RAEZ	Rainy Point	1.66	237	PN	P	07 36 10.2	0.0
RAEZ	Rainy Point	1.66	237	P	P	07 36 10.2	-0.1
TSZ	Takapari Road	1.67	186	⇑PN	P	07 36 09.5	-0.8
TSZ	Takapari Road	1.67	186	P	P	07 36 09.5	-0.8
TSZ				S	S	07 36 32.8	-1.6
KUZ	Kuaotunu	1.69	347	⇓PN	P	07 36 09.9	-0.8
KUZ				SN	S	07 36 33.7	-1.3
KUZ	Kuaotunu	1.69	347	P	P	07 36 09.9	-0.7
PXZ	Pawanui	1.71	163	PN	P	07 36 10.4	-0.4
NEZ	North Egmont	1.85	241	PN	P	07 36 12.4	0.0
NEZ	North Egmont	1.85	241	P	P	07 36 12.4	0.0
MXZ	Matakaoa Point	1.87	64	PN	P	07 36 12.5	-0.1
PKE	Pukeiti	1.90	245	PN	P	07 36 12.5	-0.4
PKE	Pukeiti	1.90	245	P	P	07 36 12.5	-0.4
NRZ	Ngariki Road	2.00	241	*e*PN	P	07 36 13.5	-0.6
NRZ	Ngariki Road	2.00	241	P	P	07 36 13.5	-0.6
BFZ	Birch Farm	2.28	179	⇑PN	P	07 36 16.0	-1.6
BFZ	Birch Farm	2.28	179	P	P	07 36 16.0	-1.6
MRZ	Mangatainoka R	2.31	192	⇑PN	P	07 36 16.0	-2.0
MRZ				SN	S	07 36 44.1	-3.8
MRZ	Mangatainoka R	2.31	192	P	P	07 36 16.0	-2.0
KIW	Kapiti Island	2.65	202	PN	P	07 36 19.5	-2.8
KIW				SN	S	07 36 51.0	-4.5
KIW	Kapiti Island	2.65	202	P	P	07 36 19.5	-2.9
MTW	Mount Morrison	2.81	191	P	P	07 36 21.4	-3.0
CAW	Cannon Point	2.84	197	P	P	07 36 21.8	-3.0
TRWZ	Traveller	3.02	187	SN	S	07 36 58.4	-5.5
MRW	Makara Radio	3.05	202	P	P	07 36 24.2	-3.3
WEL	Wellington	3.08	200	P	P	07 36 24.8	-3.2
MSWZ	Moikau Station	3.10	193	P	P	07 36 24.7	-3.5
SNZO	South Karori	3.12	201	P	P	07 36 25.0	-3.5
BHW	Baring Head	3.17	198	P	P	07 36 25.5	-3.6
TCW	Tory Channel	3.17	207	P	P	07 36 25.9	-3.2
NNZ	Nelson	3.55	217	P	P	07 36 29.4	-4.7
QRZ	Quartz Range	3.73	228	*e*P	P	07 36 32.2	-4.2
BSWZ	Blackbirch Sta	3.76	208	P	P	07 36 33.0	-3.8
THZ	Tophouse	4.20	216	*e*P	P	07 36 38.7	-3.9
KHZ	Kahutara	4.50	206	P	P	07 36 41.7	-4.8
DSZ	Denniston Nort	4.74	224	*e*P	P	07 36 44.9	-5.0
LTZ	Lake Taylor	5.30	213	*e*P	P	07 36 51.9	-5.3
MQZ	McQueen's Vall	5.94	206	P	P	07 36 59.4	-6.3
ODZ	Otahua Downs	7.83	210	*e*P	P	07 37 25.4	-5.8

ATH ***31*** *08:11:57.0, 38.96N×22.25E, h4km, MD2.9/4*
THE ***31*** *08:11:57.1, 39.00N×22.18E, h13km, ML2.6*
NEIC ***31*** *08:11:57.0, 38.96N×22.25E, h4km, MD2.9(ATH), After ATH.*
CSEM ***31*** *08:11:57.1±0.2, 38.96N×22.23E, h8km, MD2.9, Error ellipse: s-maj=4.8km s-min=2.8km az=170.0*
ISC 31 08:11:56.7±0.7, 38.99N±0.05×22.24E±0.04, h8km, n7, σ0=96/11, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGG	Agios Georgios	0.07	68	*e*Pg	Pg	08 11 59.9	+1.2
AGG				*e*Sg	Sg	08 12 02.9	+2.7
EVR	Evrytania	0.35	257	*e*PG	Pg	08 12 03.5	-0.3
EVR				*e*SG	Sg	08 12 08.4	-0.1
LKR	Lokris	0.68	120	*e*PB	Pb	08 12 09.9	-0.5
LKR				*e*SG	Sg	08 12 19.1	-0.5
NEO	Neokhori	0.82	67	*e*PG	Pg	08 12 12.5	-0.7
XOR	Xorichti	0.83	63	*e*Pg	Pg	08 12 13.4	+0.1
LIT	Litokhoron	1.12	10	*e*Pg	Pg	08 12 17.9	-1.2
LIT				*e*Sg	Sg	08 12 33.5	-0.6
JAN	Janina	1.27	302	*e*PB	Pb	08 12 21.5	+1.1

BJI ***31*** *08:18:24.6, 14.61S×65.45E, h21km, mB5.3, mb4.7, Ms4.9, Msz4.6*
MOS ***31*** *08:18:25.1±0.8, 14.57S×66.18E, h10km, mb5.1/34, Error ellipse: s-maj=13.2km s-min=7.0km az=111.8*
IDC ***31*** *08:18:25.5±0.6, 14.47S×66.31E, mb4.4/15, mb1 4.4/16, mb1mx4.3/23, mbtmp4.4/16, MS4.1/9, Ms1 4.1/9, ms1mx3.9/15, Error ellipse: s-maj=19.4km s-min=18.7km az=90.0*
HRVD ***31*** *08:18:26.9±0.5, 14.56S×66.13E, h12km, MW4.9/51, Centroid moment Tensor Solution. LP body waves: s26,c33;Mantle waves: s51,c78; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-2.85±.11; Mθθ1.11±.13; Mφφ1.73±. 12; Mrθ0.14±.41; Mrφ-0.65±.09; Mθφ0.80±.35; Best double couple: M0:2.609×1016 NP1:φ:321°, δ:39°, λ:-103°. NP2:φ:157°, δ:52°, λ:-80°. Principal axes: T 2.217, Plg7°, Azm240°; N .773, Plg8°, Azm331°; P -3, Plg79°, Azm110°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***31*** *08:18:26.9±0.2, 14.59S×66.11E, h10km, mb4.9/37, MS4.6/6 Error ellipse: s-maj=6.8km s-min=6.5km az=215.0*
ISC 31 08:18:25.2±2.4, 14.59S±0.08×66.15E±0.06, h10km±14km, h13km±2.0km: pP-P, n195, σ0=88/147, mb4.7/63, MS4.4/22, 4C-5D, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	Ambohidratompo	18.60	255	P	P	08 22 48.3	+3.5
	0.7nm,0.3s,baz=86,slow=12,SNR=3.7						
KMBO	Kilima Mbogo	31.54	293	LR	LR	08 36 15.4	
	comp=Z,187nm,18.3s,MS3.8,baz=278,slow=34						
LBTB	Lobatse	39.41	248	P	P	08 25 59.1	+1.9
	1.9nm,0.7s,mb4.0,baz=97,slow=8.1,SNR=2.9						
BOSA	Boshof	40.30	243	P	P	08 26 05.8	+1.2
	3.9nm,0.8s,mb4.2,baz=98,slow=7.3,SNR=4.2						
BOSA				LR	LR	08 40 00.4	
	comp=Z,373nm,19.3s,MS4.2,baz=70,slow=32						
BOSA	Boshof	40.30	243	*e*P	P	08 26 04.2	-0.3
KOLN	Koldanda	45.38	22	*e*P	P	08 26 47.0	+1.1
	84nm,1.7s,mb5.3						
DMN	Daman	45.80	24	*e*P	P	08 26 48.9	-0.3
	36nm,1.1s,mb5.2						
PKI	Pulchoki	45.88	24	*e*P	P	08 26 50.8	+0.9
	15nm,0.8s,mb5.0						
PKI	Pulchoki	45.88	24	*e*P	P	08 26 50.8	+0.9
PKI				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
GKN	Gorkha	45.97	23	*e*P	P	08 26 51.7	+1.1
	comp=Z,27nm,0.9s,mb5.2						
KKN	Kakani	46.03	24	*e*P	P	08 26 51.8	+0.7
	comp=Z,26nm,0.9s,mb5.2						
KKN	Kakani	46.03	24	*e*P	P	08 26 51.8	+0.7
KKN				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.9						
LSA	Lhasa	50.20	29	*e*P	P	08 27 24.9	+1.4
MAW	Mawson	53.02	182	P	P	08 27 44.5	+0.2
	comp=Z,1.5nm,0.7s,mb4.1,baz=357,slow=8.4,SNR=4.5						
MAW				LR	LR	08 44 12.8	
	comp=Z,339nm,18.6s,MS4.4,baz=166,slow=29						
MAW	Mawson	53.02	182	*e*P	P	08 27 44.0	-0.2
KMI	Kunming	53.20	42	P	P	08 27 48.0	+1.8
KMI				S	S	08 35 21.8	+6.3
KMI				AMB	AMB		
	comp=Z,11nm,0.6s,mb5.0						
KMI				LR	LR		
	comp=N,120nm,21.7s						
KMI				LR	LR		
	comp=E,159nm,32.1s						
KMI				LR	LR		
	comp=Z,135nm,25.5s,MS3.9						
KMI	Kunming	53.20	42	P	P	08 27 48.1	+1.9
	comp=Z,11nm,0.6s,mb5.0						
KMI				S	S	08 35 21.7	+6.2
KMI				LR	LR		
	comp=Z,140nm,25.5s,MS3.9						
KMI	Kunming	53.20	42	P	P	08 27 48.1	+1.9
KMI				S	S	08 35 21.7	+6.2
KMI				pmax	pmax		
	comp=Z,11nm,0.6s,mb5.0						
KMI				MLR	MLR		
	comp=Z,140nm,25.5s,MS3.9						
GYA	Guiyang	56.71	44	⇓*i*P	P	08 28 11.3	-0.4
GYA				PP	PP	08 30 19.5	+0.1
GYA				S	S	08 36 01.0	-1.4
GYA				SS	SS	08 39 50.3	-0.9
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.2						
GYA				AMB	AMB		
	comp=Z,90nm,4.9s						
GYA				LR	LR		
	comp=N,390nm,18.4s,MS4.7						
GYA				LR	LR		
	comp=E,410nm,18.8s,MS4.7						
GYA				LR	LR		
	comp=Z,430nm,18.0s,MS4.6						
SYO	Syowa Base	56.94	191	⇑pP	pP	08 28 15.0	-0.8
FITZ	Fitzroy Crossi	56.98	102	P	P	08 28 12.0	-1.8
	comp=Z,8.2nm,0.9s,mb4.8,baz=225,slow=1.6,SNR=5.4						
AAK	Ala-Archa	57.45	7	⇑*i*P	P	08 28 15.6	-1.2
AAK				pmax	pmax		
	comp=Z,11nm,2.5s,mb4.4						
GNI	Garni	57.99	341	P	P	08 28 21.0	+0.5
	comp=Z,2.9nm,0.3s,mb4.7,baz=153,slow=6.8,SNR=5.5						
GNI	Garni	57.99	341	*d i*P	P	08 28 20.7	+0.2
GNI				pmax	pmax		
	comp=Z,31nm,1.6s						
WMQ	Urumqi	61.37	18	P	P	08 28 44.0	+0.2
WMQ				XP	sP	08 28 51.0	+3.1
WMQ				PP	PP	08 31 01.0	-0.2
WMQ				SCP		08 33 25.0	
WMQ				S	S	08 37 03.0	+0.2
WMQ				SCS	ScS	08 38 31.0	-0.7
WMQ				SS	SS	08 41 05.0	+0.1
WMQ				AMB	AMB		
	comp=Z,19nm,1.2s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,314nm,7.0s						
WMQ				LR	LR		
	comp=N,225nm,16.0s,MS4.5						
WMQ				LR	LR		
	comp=E,187nm,16.0s,MS4.5						
WMQ				LR	LR		
	comp=Z,259nm,16.0s,MS4.5						
LZH	Lanzhou	61.72	34	*e*P	P	08 28 50.5	+4.2
LZH				AP	pP	08 28 53.5	+4.2
LZH				XP	sP	08 28 55.5	+5.1
LZH				PP	PP	08 31 09.0	+4.6
LZH				*e*S	S	08 37 12.5	+5.2
LZH				AMB	AMB		
	comp=Z,25nm,1.0s,mb5.3						
LZH				AMB	AMB		
	comp=Z,120nm,4.1s						
LZH				LR	LR		
	comp=E,759nm,16.0s						
LZH				LR	LR		
	comp=Z,1μm,17.3s,MS5.1						
LZH	Lanzhou	61.72	34	*e*P	P	08 28 50.5	+4.2
LZH				pP	pP	08 28 53.6	+4.3
LZH				sP	sP	08 28 55.5	+5.1
LZH				PP	PP	08 31 09.0	+4.6
LZH				*e*S	S	08 37 12.5	+5.2
LZH				sS		08 37 17.5	
LZH				SS	SS	08 41 16.5	+5.9
BRTR	Keskin Array B	61.95	332	P	P	08 28 47.3	-0.5
	comp=Z,1.1nm,0.4s,mb4.3,baz=153,slow=8.3,SNR=6.8						
KIV	Kislovodsk	62.08	341	*i* P	P	08 28 48.8	+0.2
GTA	Gaotai	62.23	29	P	P	08 28 49.8	+0.2
GTA				AP	pP	08 28 55.0	+2.4
GTA				XP	sP	08 28 58.8	+5.1
GTA				PCP	PcP	08 29 28.8	-0.6
GTA				PP	PP	08 31 10.5	+1.8
GTA				PPP	PPP	08 32 41.8	+3.6
GTA				SCP		08 33 27.0	
GTA				S	S	08 37 16.0	+2.4
GTA				XS		08 37 24.0	
GTA				SCS	ScS	08 38 38.5	+0.4
GTA				SS	SS	08 41 22.3	+3.7
GTA				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.8						
GTA				AMB	AMB		
	comp=Z,162nm,12.6s						
GTA				LR	LR		
	comp=N,291nm,24.0s,MS4.4						
GTA				LR	LR		
	comp=E,198nm,24.3s,MS4.4						
GTA				LR	LR		
	comp=Z,335nm,22.4s,MS4.5						
MKAR	Makanchi Array	62.80	12	P	P	08 28 52.0	-1.4
	comp=Z,2.3nm,0.7s,mb4.4,baz=207,slow=8.1,SNR=13						
MKAR				LR	LR	08 54 29.2	
	comp=Z,109nm,20.0s,MS4.0,baz=360,slow=34						
KAKA	Kakadu	64.24	97	*e*P	P	08 29 18.8	+16
	comp=Z,9.5nm,0.6s,mb5.0						
WHN	Wuhan	64.52	45	*e*P	P	08 29 08.0	+3.1
WRA	Warramunga Arr	64.95	105	P	P	08 29 07.7	-0.2
	comp=Z,5.5nm,0.8s,mb4.6,baz=269,slow=5.8,SNR=39						
WB2	Warramunga Arr	64.97	105	⇓*i*P	P	08 29 07.7	-0.3
WRAB	Tennant Creek	64.97	105	*e*P	P	08 29 06.2	-1.8
	comp=Z,11nm,0.8s,mb4.9						
WRAB	Tennant Creek	64.97	105	*e*P	P	08 29 06.2	-1.8
WRAB				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.9						
KURK	Kurchatov	65.94	9	*e*P	P	08 29 13.0	-0.7
	comp=Z,10nm,1.2s,mb4.7						
KURK	Kurchatov	65.94	9	*e*P	P	08 29 13.0	-0.7
KURK				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.7						
BVAR	Borovoye Array	67.44	3	P	P	08 29 22.0	-1.2
	comp=Z,3.0nm,0.8s,mb4.4,baz=166,slow=6.1,SNR=20						
BRVK	Borovoye	67.46	3	*e*P	P	08 29 22.5	-0.8
	comp=Z,6.0nm,1.2s,mb4.5						
BRVK	Borovoye	67.46	3	*e*P	P	08 29 22.5	-0.8
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.5						
NJ2	Nanjing	68.53	47	*e*P	P	08 29 31.0	+0.6
NJ2				AP	pP	08 29 36.0	+2.6
NJ2				XP	sP	08 29 39.0	+4.5
NJ2				PP	PP	08 32 06.3	+2.4
NJ2				S	S	08 38 33.0	+1.9
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,610nm,3.8s						
NJ2				LR	LR		
	comp=N,2μm,23.5s,MS5.3						
NJ2				LR	LR		
	comp=E,850nm,20.0s,MS5.3						
NJ2				LR	LR		
	comp=Z,800nm,20.6s,MS4.9						
SSE	Sheshan	69.68	49	*e*P	P	08 29 38.0	+0.6
SSE				AMB	AMB		
	comp=Z,36nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,181nm,4.6s						
SSE	Sheshan	69.68	49	*e*P	P	08 29 38.0	+0.6
	comp=Z,36nm,0.7s,mb5.4						
SNAA	Sanae	69.68	198	LR	LR	08 53 09.3	
	comp=Z,96nm,19.5s,MS4.0,baz=204,slow=30						
ZAL	Zalesovo	70.09	12	P	P	08 29 39.2	-0.3
	comp=Z,1.9nm,0.5s,mb4.3,baz=263,slow=5.7,SNR=9.4						
ZAL				LR	LR	08 59 45.5	
	comp=Z,172nm,19.3s,MS4.3,baz=267,slow=36						
ZAL	Zalesovo	70.09	12	P	P	08 29 39.2	-0.3
ZAL				LR	LR	08 59 45.5	
VNA2	Neumayer--Watz	70.94	199	*e*	P	08 29 49.9	+5.4
VNA2	Neumayer--Watz	70.94	199	⇓*i*P	P	08 29 44.6	+0.1
VNA2				*e*		08 29 49.9	
ARU	Arti	71.03	356	*e*P	P	08 29 44.5	-0.7
	comp=Z,5.4nm,0.3s,mb5.0						
ARU	Arti	71.03	356	*e*P	P	08 29 44.5	-0.8
ARU				pmax	pmax		
	comp=Z,5.0nm,0.3s,mb4.9						
SVE	Sverdlovsk	71.30	357	*e*P	P	08 29 45.7	-1.1
SVE				*e*		08 30 07.8	
SVE				pmax	pmax		
	comp=Z,20nm,1.5s,mb4.8						
VNA3	Neumayer Olymp	71.72	199	*e*	P	08 29 54.6	+5.4
VNA3	Neumayer Olymp	71.72	199	⇓*i*P	P	08 29 49.2	0.0
VNA3				*e*		08 29 54.6	
SONM	Songino Array	71.76	27	P	P	08 29 47.5	-2.3
	comp=Z,2.0nm,0.8s,mb4.1,baz=225,slow=4.2,SNR=3.8						
SONM				LR	LR	09 00 52.1	
	comp=Z,196nm,18.4s,MS4.4,baz=72,slow=36						
ULN	Ulaanbaatar	72.08	28	*e*P	P	08 29 46.8	-4.9
ZAK	Zakamensk	72.43	24	*e*P	P	08 29 46.0	-7.7
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.3s,mb3.6						
AKASG	Malin Array Be	72.60	336	P	P	08 29 53.1	-1.6
	comp=Z,0.3nm,0.3s,mb3.8,baz=148,slow=4.7,SNR=8.6						
OBN	Obninsk	73.81	343	⇑*i*P	P	08 30 01.4	-0.2
OBN				pmax	pmax		
	comp=Z,33nm,1.9s,mb4.9						
MOS	Moscow	74.06	344	*e*P	P	08 30 01.9	-1.2
VNDA	Vanda	77.09	167	LR	LR	08 59 21.4	
	comp=Z,111nm,19.3s,MS4.2,baz=259,slow=32						
PGF	Pioggiola	77.33	320	*e*P	P	08 30 20.7	-1.2
	comp=Z,3.7nm,0.8s,mb4.1						
PGF	Pioggiola	77.33	320	*e*P	P	08 30 20.7	-1.2
PGF				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
DPC	Dobruska-Polom	78.00	330	*e*P	P	08 30 25.8	+0.3
UPC	Upice	78.25	330	*e*P	P	08 30 26.5	-0.3
KHC	Kasperske Hory	78.60	328	*e*P	P	08 30 28.3	-0.4
PRU	Pruhonice	78.64	329	*e*P	P	08 30 29.4	+0.4
PVCC	Panska Ves	78.97	329	*e*P	P	08 30 31.6	+0.8
SBF	Sospel	79.00	321	*e*P	P	08 30 30.6	-0.5
	comp=Z,23nm,0.8s,mb

LPL	**La Plagne**	**80.31**	**322**	*eP*	**P**	**08 30 37.1**	**-1.0**
ORIF	**Oris-en-Rattie**	**80.51**	**321**	*eP*	**P**	**08 30 39.0**	**-0.2**
	comp=Z,16nm,1.1s,mb4.6						
ORIF	**Oris-en-Rattie**	**80.51**	**321**	*eP*	**P**	**08 30 39.0**	**-0.2**
ORIF				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
MOX	**Moxa**	**80.53**	**328**	⇑*iP*	**P**	**08 30 39.9**	**+0.8**
	comp=Z,logA/T=1.1,mb4.8						
MOX	**Moxa**	**80.53**	**328**	*eP*	**P**	**08 30 39.9**	**+0.8**
	comp=Z,22nm,1.6s,mb4.8						
MOX	**Moxa**	**80.53**	**328**	*eP*	**P**	**08 30 39.9**	**+0.8**
MOX				pmax	pmax		
	comp=Z,22nm,1.6s,mb4.8						
VIVF	**Saint-Julien-l**	**81.21**	**321**	*eP*	**P**	**08 30 42.7**	**-0.2**
	comp=Z,14nm,1.0s,mb4.5						
VIVF	**Saint-Julien-l**	**81.21**	**321**	*eP*	**P**	**08 30 42.7**	**-0.2**
VIVF				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
LASF	**Ste Croix**	**81.32**	**320**	*eP*	**P**	**08 30 43.4**	**-0.1**
	comp=Z,29nm,1.3s,mb4.7						
HINF	**Hinteralfeld**	**81.48**	**324**	*eP*	**P**	**08 30 43.3**	**-0.9**
CDF	**Champ du Feu**	**81.56**	**325**	*eP*	**P**	**08 30 44.0**	**-0.6**
	comp=Z,21nm,1.1s,mb4.7						
CDF	**Champ du Feu**	**81.56**	**325**	*eP*	**P**	**08 30 44.0**	**-0.6**
CDF				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
HAU	**Haudompre**	**81.86**	**324**	*eP*	**P**	**08 30 45.6**	**-0.6**
MTLF	**Montolieu**	**82.00**	**319**	*eP*	**P**	**08 30 47.1**	**+0.1**
	comp=Z,19nm,1.0s,mb4.7						
MTLF	**Montolieu**	**82.00**	**319**	*eP*	**P**	**08 30 47.1**	**+0.1**
MTLF				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
BOD	**Bodaibo**	**82.17**	**24**	*eP*	**P**	**08 30 41.3**	**-6.3**
MDJ	**Mudanjiang**	**82.30**	**40**	P	**P**	**08 30 50.0**	**+1.5**
MDJ				AP	pP	08 30 52.8	+1.2
MDJ				PCP	PcP	08 30 54.5	+0.1
MDJ				S	S	08 41 07.0	+4.1
MDJ				SCS	ScS	08 41 21.3	+4.2
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,55nm,6.0s						
MDJ				LR	LR		
	comp=E,68nm,19.8s						
MDJ				LR	LR		
	comp=Z,93nm,29.8s						
SMF	**Signal de Mont**	**82.62**	**322**	*eP*	**P**	**08 30 49.5**	**-0.6**
	comp=Z,16nm,0.9s,mb4.7						
SMF	**Signal de Mont**	**82.62**	**322**	*eP*	**P**	**08 30 49.5**	**-0.6**
SMF				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
CAF	**Calviac**	**82.86**	**320**	*eP*	**P**	**08 30 51.6**	**+0.2**
LOR	**Lormes**	**82.92**	**323**	*eP*	**P**	**08 30 51.5**	**-0.2**
AVF	**Avril sur Loir**	**82.98**	**322**	*eP*	**P**	**08 30 51.4**	**-0.6**
	comp=Z,19nm,1.1s,mb4.7						
AVF	**Avril sur Loir**	**82.98**	**322**	*eP*	**P**	**08 30 51.4**	**-0.6**
AVF				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.7						
SSF	**Saint Saulge**	**83.03**	**322**	*eP*	**P**	**08 30 51.9**	**-0.3**
EPF	**Esparros**	**83.07**	**318**	*eP*	**P**	**08 30 52.5**	**-0.1**
BGF	**Bois d'Agland**	**83.17**	**322**	*eP*	**P**	**08 30 53.2**	**+0.2**
	comp=Z,49nm,1.2s,mb5.1						
BGF	**Bois d'Agland**	**83.17**	**322**	*eP*	**P**	**08 30 53.2**	**+0.2**
BGF				pmax	pmax		
	comp=Z,25nm,1.2s,mb5.1						
RJF	**Les Rejaudoux**	**83.38**	**320**	*eP*	**P**	**08 30 54.3**	**+0.2**
	comp=Z,27nm,0.9s,mb5.0						
RJF	**Les Rejaudoux**	**83.38**	**320**	*eP*	**P**	**08 30 54.3**	**+0.2**
RJF				pmax	pmax		
	comp=Z,13nm,0.9s,mb5.0						
TCF	**Toulx Ste Croi**	**83.42**	**321**	*eP*	**P**	**08 30 54.3**	**0.0**
	comp=Z,9.1nm,0.9s,mb4.5						
TCF	**Toulx Ste Croi**	**83.42**	**321**	*eP*	**P**	**08 30 54.3**	**0.0**
TCF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
ETSF	**Etsaut**	**83.60**	**317**	*eP*	**P**	**08 30 55.6**	**+0.3**
	comp=Z,13nm,1.0s,mb4.7						
ETSF	**Etsaut**	**83.60**	**317**	*eP*	**P**	**08 30 55.6**	**+0.3**
ETSF				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.8						
GIVF	**Givet**	**83.82**	**325**	*eP*	**P**	**08 30 56.4**	**+0.2**
SJPF	**Ste Jean**	**84.13**	**317**	*eP*	**P**	**08 30 58.3**	**+0.3**
	comp=Z,33nm,1.2s,mb5.0						
SJPF	**Ste Jean**	**84.13**	**317**	*eP*	**P**	**08 30 58.3**	**+0.3**
SJPF				pmax	pmax		
	comp=Z,17nm,1.2s,mb5.0						
BAIF	**Baives**	**84.14**	**325**	*eP*	**P**	**08 30 58.3**	**+0.5**
	comp=Z,34nm,1.1s,mb5.1						
BAIF	**Baives**	**84.14**	**325**	*eP*	**P**	**08 30 58.3**	**+0.5**
BAIF				pmax	pmax		
	comp=Z,17nm,1.1s,mb5.1						
ESDC	**Sonseca Array**	**84.55**	**313**	P	**P**	**08 31 01.1**	**+1.0**
	comp=Z,4.1nm,0.9s,mb4.5,baz=108,slow=4.2,SNR=16						
MAT	**Matsushiro**	**84.73**	**50**	P	**P**	**08 31 01.6**	**+0.5**
MAT	**Matsushiro**	**84.73**	**50**	*eP*	**P**	**08 31 02.0**	**+0.8**
	comp=Z,15nm,1.3s,mb5.0						
MAT	**Matsushiro**	**84.73**	**50**	*eP*	**P**	**08 31 02.0**	**+0.8**
MAT				pmax	pmax		
	comp=Z,15nm,1.3s,mb5.0						
MFF	**Saint Martin d**	**85.01**	**321**	*eP*	**P**	**08 31 02.4**	**+0.1**
	comp=Z,24nm,1.0s,mb5.0						
MFF	**Saint Martin d**	**85.01**	**321**	*eP*	**P**	**08 31 02.4**	**+0.1**
MFF				pmax	pmax		
	comp=Z,12nm,1.0s,mb5.0						
HFS	**Hagfors**	**85.49**	**337**	P	**P**	**08 31 04.8**	**+0.4**
	comp=Z,2.7nm,0.8s,mb4.4,baz=124,slow=11,SNR=4.2						
LDF	**La Druitiere**	**85.91**	**322**	*eP*	**P**	**08 31 06.6**	**-0.1**
FLN	**La Foliniere**	**86.19**	**322**	*eP*	**P**	**08 31 08.0**	**-0.1**
	comp=Z,26nm,1.1s,mb5.1						
FLN	**La Foliniere**	**86.19**	**322**	*eP*	**P**	**08 31 08.0**	**-0.1**
FLN				pmax	pmax		
	comp=Z,13nm,1.1s,mb5.1						
GRR	**Gorron**	**86.25**	**322**	*eP*	**P**	**08 31 08.2**	**-0.2**
SGMF	**Saint Gilles**	**87.21**	**321**	*eP*	**P**	**08 31 13.5**	**+0.4**
ROSF	**Rostrenen**	**87.67**	**321**	*eP*	**P**	**08 31 15.9**	**+0.6**
	comp=Z,40nm,1.3s,mb5.2						
ROSF	**Rostrenen**	**87.67**	**321**	*eP*	**P**	**08 31 15.9**	**+0.6**
ROSF				pmax	pmax		
	comp=Z,20nm,1.3s,mb5.2						
ARCES	**ARCESS Array B**	**88.62**	**347**	P	**P**	**08 31 18.7**	**-0.7**
	comp=Z,4.3nm,0.9s,mb4.8,baz=346,slow=5.0,SNR=3.7						
ARCES				LR	LR	09 09 17.9	
	comp=Z,46nm,19.6s,MS3.9,baz=262,slow=34						
ARCES	**ARCESS Array B**	**88.62**	**347**	P	**P**	**08 31 18.7**	**-0.7**
ARCES				LR	LR	09 09 17.9	
BILL	**Bilibino**	**107.21**	**23**	*eP*	Pdif	08 32 38.9	-4.7
BILL				pmax	pmax		
	comp=Z,5.0nm,1.2s						
BILL				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.4						
INK	**Inuvik**	**124.84**	**9**	PKP	PKPdf	08 37 25.9	-2.3
	comp=Z,3.8nm,0.9s,baz=350,slow=3.8,SNR=3.3						
ILAR	**Eielson Array**	**125.03**	**17**	PKP	PKPdf	08 37 25.8	-2.8
	comp=Z,2.4nm,1.1s,baz=322,slow=3.2,SNR=12						
SCHQ	**Schefferville**	**125.88**	**329**	PKP	PKPdf	08 37 28.4	-2.1
	comp=Z,0.6nm,0.6s,baz=38,slow=8.1,SNR=3.6						
SCHQ	**Schefferville**	**125.88**	**329**	PKP	PKPdf	08 37 28.4	-2.1
YKA	**Yellowknife Ar**	**132.16**	**0**	PKP	PKPdf	08 37 40.2	-2.1
	comp=Z,0.9nm,0.7s,baz=355,slow=2.3,SNR=5.0						
YKA	**Yellowknife Ar**	**132.16**	**0**	PKP	PKPdf	08 37 40.2	-2.1
ULM	**Lac du Bonnet**	**141.55**	**341**	PKP	PKPdf	08 37 58.3	-1.5
	comp=Z,3.4nm,1.1s,baz=101,slow=5.0,SNR=3.4						
DGMT	**Dagmar**	**145.29**	**349**	*eP*	PKPbc	08 38 05.3	+1.6
WALA	**Waterton Lakes**	**145.63**	**0**	*eP*	PKPbc	08 38 05.6	+1.0
RPW	**Rockport**	**145.65**	**9**	P	PKPbc	08 38 05.8	+1.1
BLO	**Bloomington**	**145.70**	**321**	*eP*	PKPbc	08 38 06.0	+0.9
NEW	**Newport**	**146.31**	**4**	PKPbc	PKPbc	08 38 08.4	+2.1
	comp=Z,19nm,1.1s,baz=347,slow=3.1,SNR=30						
NEW	**Newport**	**146.31**	**4**	*eP*	PKPbc	08 38 08.4	+2.1
NEW				LR	LR		
	comp=Z,86nm,21.0s,MS4.5						
CPCT	**Cooper Cave**	**146.48**	**314**	*eP*	PKPbc	08 38 07.7	+0.6
WTV	**Waterville**	**146.60**	**8**	P	PKPbc	08 38 08.8	+1.8
TBM	**Table Mountain**	**147.03**	**8**	P	PKPdf	08 38 10.4	+1.1
OD2	**Odessa Site #2**	**147.05**	**6**	P	PKPdf	08 38 10.5	+1.1
LAO	**LASA Array**	**147.37**	**350**	*eP*	PKPdf	08 38 09.3	-0.5
CHMT	**Chamberlain Mo**	**147.77**	**359**	*eP*	PKPdf	08 38 08.9	-1.6
MSO	**Missoula**	**147.86**	**0**	*eP*	PKPdf	08 38 09.7	-1.0
WVT	**Waverly**	**148.35**	**317**	*e*PKPdf	PKPdf	08 38 10.4	-1.4
WVT				*e*PKPbc	PKPdf	08 38 12.8	+1.1
BOZ	**Bozeman (W)**	**148.99**	**357**	*e*PKPdf	PKPdf	08 38 12.1	-0.4
BOZ				*e*PKPbc	PKPdf	08 38 15.8	+3.4
CCM	**Cathedral Cave**	**149.23**	**324**	*e*PKPbc	PKPdf	08 38 15.8	+2.6
CCM				LR	LR		
	comp=Z,82nm,20.0s,MS4.5						
DLMT	**Dillon**	**149.31**	**358**	PKPdf	PKPdf	08 38 12.6	-0.4
DLMT				*e*PKPbc	PKPdf	08 38 16.6	+3.5
LRAL	**Lakeview Retre**	**149.48**	**312**	*e*PKPbc	PKPdf	08 38 16.2	+2.5
LRAL				LR	LR		
	comp=Z,103nm,20.0s,MS4.6						
BMO	**Blue Mountains**	**149.69**	**5**	*e*PKPbc	PKPdf	08 38 15.5	+1.8
QLMT	**Earthquake Lak**	**149.79**	**357**	*e*PKPbc	PKPdf	08 38 18.7	+4.9
MCMT	**McKenzie Canyo**	**149.85**	**359**	*e*PKPbc	PKPdf	08 38 17.3	+3.3
YNR	**Norris Junctio**	**149.85**	**356**	*e*PKPbc	PKPdf	08 38 20.1	+6.2
LKWY	**Lake**	**149.98**	**355**	*e*PKPbc	PKPdf	08 38 20.9	+6.8
LKWY				LR	LR		
	comp=Z,152nm,19.0s,MS4.8						
YFT	**Old Faithful**	**150.13**	**356**	*e*PKPbc	PKPdf	08 38 20.9	+6.5
FLWY	**Flagg Ranch**	**150.48**	**355**	*e*PKPbc	PKPdf	08 38 19.8	+4.9
IMW	**Indian Meadow**	**150.69**	**356**	*e*PKPbc	PKPdf	08 38 20.6	+5.4
LOHW	**Long Hollow**	**150.94**	**355**	*e*PKPbc	PKPdf	08 38 21.1	+5.5
TPAW	**Teton Pass**	**151.09**	**356**	*e*PKPdf	PKPdf	08 38 15.9	+0.1
TPAW				*e*PKPbc	PKPdf	08 38 21.6	+5.8
SNOW	**Snow King Moun**	**151.10**	**355**	*e*PKPbc	PKPdf	08 38 21.3	+5.5
HLID	**Hailey**	**151.12**	**1**	*e*PKPbc	PKPdf	08 38 20.9	+5.0
HLID				LR	LR		
	comp=Z,107nm,20.0s,MS4.7						
KSU1	**Kansas State U**	**151.25**	**331**	*e*PKPbc	PKPdf	08 38 20.3	+4.1
RRI2	**Red Ridge**	**151.26**	**356**	*e*PKPbc	PKPdf	08 38 21.7	+5.6
PDAR	**Pinedale Array**	**151.68**	**353**	PKP	PKPdf	08 38 15.4	-1.3
	comp=Z,1.1nm,1.1s,baz=45,slow=2.1,SNR=5.7						
PDAR				PKPbc	PKPdf	08 38 21.9	+5.2
	comp=Z,8.1nm,0.7s,baz=79,slow=2.8,SNR=69						
WVOR	**Wild Horse Val**	**151.95**	**8**	*e*PKPbc	PKPdf	08 38 22.5	+5.4
MOD	**Modoc**	**152.22**	**10**	*e*PKPbc	PKPdf	08 38 23.2	+5.6
MOD				LR	LR		
	comp=Z,74nm,19.0s,MS4.5						
LASM	**Arnica Sink**	**152.26**	**13**	P	PKPdf	08 38 24.4	+6.7
LBCM	**Butte Creek Ri**	**153.04**	**13**	P	PKPdf	08 38 25.9	+7.1
DAU	**Daniels Canyon**	**154.18**	**355**	*e*PKPab	PKPab	08 38 42.7	+1.0
SMCO	**Snowmass**	**154.77**	**347**	*e*PKPbc	PKPdf	08 38 28.9	+7.7
ANMO	**Albuquerque**	**158.66**	**343**	PKP	PKPdf	08 38 25.0	-1.4
	comp=Z,0.2nm,0.3s,baz=120,slow=3.4,SNR=3.4						
ANMO				PKPab	PKPab	08 39 00.5	-0.6
	comp=Z,1.4nm,1.1s,baz=51,slow=6.7,SNR=3.2						
ANMO	**Albuquerque**	**158.66**	**343**	PKP	PKPdf	08 38 25.0	-1.4
ANMO				PKPab	PKPab	08 39 00.5	-0.6
MNTX	**Cornudas Mount**	**161.29**	**337**	*e*PKPdf	PKPdf	08 38 28.9	-0.3
TXAR	**Lajitas Array**	**162.57**	**329**	PKP	PKPdf	08 38 29.9	-0.7
	comp=Z,0.8nm,1.0s,baz=189,slow=1.5,SNR=6.6						
TXAR				PKPab	PKPab	08 39 17.3	-0.9
	comp=Z,0.9nm,0.9s,baz=34,slow=4.5,SNR=7.8						
TXAR	**Lajitas Array**	**162.57**	**329**	PKP	PKPdf	08 38 29.9	-0.7
TXAR				PKPab	PKPab	08 39 17.3	-0.9

*BER **31** 08:19:16.1±3.1, 73.27N×6.96E, h14km±108km, ML2.0(NAO)*
*NAO **31** 08:19:16.1±1.9, 73.36N×7.78E, ML2.0*
*IDC **31** 08:19:18.8±2.5, 72.81N×7.66E, mb3.5/4, mb1 3.6/8, mb1mx3.5/22, mbtmp3.5/8, ML3.3/4, MS3.2/9, Ms1 3.2/9, ms1mx3.1/20, Error ellipse: s-maj=33.0km s-min=23.5km az=148.0*

HEL 31 08:19:17.4±0.3, 73.42N×7.91E, h10km, ML2.0(NAO), Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPA0	**Spitsbergen Ar**	**5.21**	**20**	Pn	Pn	08 20 34.2	-3.1
	baz=196,slow=16						
SPA0	**Spitsbergen Ar**	**5.21**	**20**	*eP*	Pn	08 20 34.2	-3.1
KBS	**Kingsbay**	**5.62**	**8**	*eP*	Pn	08 20 41.0	-2.0
KIF	**Kilpisjarvi**	**6.07**	**131**	*eP*	Pn	08 20 46.2	-3.3
KIF				*e*S	Sn	08 21 51.2	-8.7
ARA0	**ARCESS Array S**	**6.81**	**116**	Pn	Pn	08 20 57.0	-2.8
	baz=320,slow=12						
ARA0				Sn	Sn	08 22 11.2	-7.0
	baz=309,slow=22						
ARA0	**ARCESS Array S**	**6.81**	**116**	*eP*	Pn	08 20 57.0	-2.8
ARA0				*e*S	Sn	08 22 11.2	-7.0
ARCES	**ARCESS Array B**	**6.81**	**116**	Pn	Pn	08 20 57.0	-2.8
	0.7nm,0.3s,baz=327,slow=11,SNR=26						
ARCES				Sn	Sn	08 22 11.0	-7.2
	0.1nm,0.3s,baz=313,slow=20,SNR=3.1						
ARCES				LR	LR	08 24 21.1	
	comp=Z,107nm,19.6s,baz=236,slow=46						
KEV	**Kevo**	**7.05**	**112**	*eP*	Pn	08 20 59.8	-3.6
KEV				*e*S	Sn	08 22 17.4	-7.0
NB2	**NORSAR Subarra**	**12.50**	**173**	*eP*	P	08 22 10.7	-7.3
NOA	**NORSAR Array B**	**12.50**	**173**	Pn	P	08 22 11.6	-6.4
	0.2nm,0.3s,baz=339,slow=13,SNR=2.6						
NOA				LR	LR	08 26 28.9	
	comp=Z,68nm,20.1s,baz=355,slow=36						
HFS	**Hagfors**	**13.53**	**168**	*eP*	P	08 22 25.0	-6.4
HFS	**Hagfors**	**13.53**	**168**	Pn	P	08 22 24.0	-7.5
	0.1nm,0.3s,slow=12,SNR=6.4						
HFS				LR	LR	08 26 37.6	
	comp=Z,125nm,18.4s,baz=17,slow=34						
HFS	**Hagfors**	**13.53**	**168**	Pn	P	08 22 25.0	-6.4
	baz=358,slow=16						
FINES	**FINESS Array B**	**13.80**	**141**	Pn	P	08 22 30.3	-4.7
	0.1nm,0.3s,baz=338,slow=7.5,SNR=3.4						
FINES				LR	LR	08 27 33.4	
	comp=Z,88nm,20.2s,baz=354,slow=37						
VRAC	**Vranov**	**24.50**	**166**	LR	LR	08 33 19.0	
	comp=Z,66nm,19.4s,baz=344,slow=35						
AKASG	**Malin Array Be**	**24.59**	**146**	P	P	08 24 36.5	-1.7
	0.3nm,0.2s,baz=345,slow=9.6,SNR=4.9						
GERES	**GERESS Array B**	**24.80**	**171**	P	P	08 24 36.4	-3.8
	0.5nm,0.4s,slow=6.9,SNR=4.4						
GERES				LR	LR	08 34 54.2	
	comp=Z,42nm,19.8s,baz=18,slow=39						
BVAR	**Borovoye Array**	**32.49**	**94**	P	P	08 25 51.1	+1.4
	0.9nm,0.8s,baz=333,slow=6.6,SNR=6.8						
SCHQ	**Schefferville**	**34.41**	**279**	LR	LR	08 38 44.7	
	comp=Z,54nm,19.0s,baz=36,slow=34						
YKA	**Yellowknife Ar**	**39.04**	**322**	LR	LR	08 42 40.4	
	comp=Z,67nm,19.9s,baz=245,slow=36						
MKAR	**Makanchi Array**	**41.49**	**87**	P	P	08 27 07.1	+1.5
	0.2nm,0.3s,baz=346,slow=5.9,SNR=3.8						
YBH	**Yreka Blue Hor**	**60.31**	**319**	LR	LR	08 55 36.8	
	comp=Z,50nm,21.6s,baz=348,slow=36						

*IDC **31** 08:35:00.3±11.0, 21.32S×179.88E, h614km±151km, mb3.2/3, mb1 3.5/3, mb1mx3.0/11, mbtmp4.3/3, Error ellipse: s-maj=117.1km s-min=56.7km az=173.0*

ISC 31 08:34:57.8±1.7, 21.6S±0.9×180.0W±0.4, h600km, n8, σ0§16/7, mb4.0/5, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.64**	**245**	P	**P**	**08 41 08.1**	**0.0**
	6.1nm,0.6s,mb4.3,baz=95,slow=9.8,SNR=19						
ASPA	**Alice Springs**	**42.47**	**258**	*eP*	**P**	**08 42 03.3**	**0.0**
WB2	**Warramunga Arr**	**42.61**	**264**	⇓*iP*	**P**	**08 42 04.2**	**-0.2**
WRA	**Warramunga Arr**	**42.62**	**264**	P	**P**	**08 42 04.5**	**0.0**
	2.1nm,0.3s,mb4.1,baz=96,slow=7.8,SNR=185						
KAKA	**Kakadu**	**46.15**	**273**	*eP*	**P**	**08 42 48.0**	**+16**
	4.5nm,0.4s,mb4.3						
FITZ	**Fitzroy Crossi**	**51.05**	**264**	*eP*	**P**	**08 43 08.5**	**+0.3**
	3.5nm,0.6s,mb4.0						
TXAR	**Lajitas Array**	**89.21**	**58**	P	**P**	**08 46 52.2**	**0.0**
	0.5nm,0.9s,mb3.3,baz=233,slow=5.8,SNR=4.1						
AKASG	**Malin Array Be**	**143.03**	**329**	PKP	PKPdf	08 53 23.7	-0.1
	0.5nm,0.3s,baz=38,slow=4.4,SNR=7.6						

IDC 31 08:40:37.4±1.9, 21.61N×121.08E, mb3.8/3, mb1 3.9/3, mb1mx3.6/16, mbtmp3.8/3, Error ellipse: s-maj=161.2km s-min=27.8km az=65.0, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**28.71**	**339**	P	P	08 46 37.0	-1.3
	1.8nm,0.7s,baz=180,slow=8.9,SNR=3.6						
MKAR	**Makanchi Array**	**40.15**	**318**	P	P	08 48 14.4	-2.2
	0.9nm,0.7s,baz=113,slow=9.2,SNR=4.0						
WRA	**Warramunga Arr**	**43.28**	**162**	P	P	08 48 41.0	-1.8
	0.5nm,0.6s,baz=345,slow=9.0,SNR=5.1						

*MOS **31** 08:52:03.8±1.6, 56.27N×114.68E, h9km, mb4.4/1, Error ellipse: s-maj=20.8km s-min=12.1km az=56.6*

BYKL 31 08:52:04.1±0.3, 56.27N×114.67E, h11km±7km, 7C-3D, East of Lake Baykal

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

NLYR	**Nelyaty**	**0.62**	**68**	⇑*iPg*	Pg	08 52 15.0	-1.6
NLYR				*i* Sg	Sg	08 52 23.5	-1.4
NLYR				Pmax			
	394nm,0.3s						
NLYR				Smax			
	2μm,0.8s						
NLYR	**Nelyaty**	**0.62**	**68**	*e*PG	Pg	08 52 14.8	-1.8
NLYR				*e*		08 52 23.3	
NLYR				pmax	pmax		
	comp=Z,405nm,0.2s						
NLYR				smax			
	comp=N,2μm,0.9s						
SVKR	**Severomuysk**	**0.64**	**257**	⇑*iPg*	Pg	08 52 15.2	-1.8
SVKR				*i* Sg	Sg	08 52 23.9	-1.8
SVKR				Pmax			
	comp=N,319nm,0.3s						
SVKR				Smax			
	comp=N,1μm,0.5s						
SVKR	**Severomuysk**	**0.64**	**257**	*e*PG	Pg	08 52 15.1	-1.9
SVKR				*e*		08 52 23.7	
SVKR				pmax	pmax		
	comp=Z,324nm,0.2s						
SVKR				smax			
	comp=N,1μm,0.7s						
UKT	**Uakit**	**0.98**	**217**	⇓*iPg*	Pg	08 52 21.3	-2.4
	comp=N,119nm,0.5s						
UKT				⇓*iPg*	Pg	08 52 21.3	-2.4
	comp=N,111nm,0.5s						
UKT				⇑*iPg*	Pg	08 52 21.3	-2.4
	comp=N,132nm,0.5s						
UKT				*e*Sg	Sg	08 52 34.1	-2.8
UKT				Pmax			
	comp=N,151nm,0.5s						
UKT				Smax			
	comp=N,206nm,0.4s						
UKT	**Uakit**	**0.98**	**217**	⇑*iPG*	Pg	08 52 21.1	-2.6
UKT				*e*		08 52 34.4	
UKT				pmax	pmax		
	comp=Z,145nm,0.5s						
UKT				smax			
	comp=E,233nm,0.2s						
BOD	**Bodaibo**	**1.59**	**347**	⇑*iPg*	Pg	08 52 32.2	-3.8
BOD				*e*Sg	Sg	08 52 53.0	-4.3
BOD				*e*Sb	Sb	08 52 54.8	+1.6
BOD				Pmax			
	comp=E,163nm,0.2s						
BOD				max			
	comp=E,478nm,0.2s						
BOD	**Bodaibo**	**1.59**	**347**	⇑*iPN*	Pn	08 52 31.9	-0.6
BOD				*e*		08 52 52.2	
BOD				pmax	pmax		
	comp=Z,162nm,0.2s						
BOD				smax			
	comp=E,478nm,0.2s						
YOA	**Uoyan**	**1.65**	**266**	*e*Pg	Pg	08 52 34.5	-2.6
YOA				*e*Sg	Sg	08 52 56.3	-2.9
YOA				Pmax			
	comp=E,230nm,0.2s						
YOA				Smax			
	comp=E,1μm,0.5s						
YOA	**Uoyan**	**1.65**	**266**	*e*PN	Pn	08 52 34.8	+1.5
YOA				*e*		08 52 57.0	
YOA				pmax	pmax		
	comp=Z,205nm,0.3s						
YOA				smax			
	comp=E,1μm,0.5s						
KMO	**Kumora**	**1.98**	**260**	*e*Pn	Pn	08 52 38.3	+0.3
KMO				*e*Pg	Pg	08 52 39.5	-4.2
KMO				*e*Sg	Sg	08 53 05.7	-4.5
KMO				Pmax			
	comp=E,102nm,0.5s						
KMO				Smax			
	comp=E,388nm,1.1s						
KMO	**Kumora**	**1.98**	**260**	*e*PN	Pn	08 52 38.2	+0.2
KMO				*e*		08 52 39.4	
KMO				*e*S	Sn	08 53 03.5	+0.5
KMO				*e*		08 53 05.4	
KMO				pmax	pmax		
	comp=Z,102nm,0.5s						
KMO				smax			
	comp=N,385nm,1.0s						
CRS	**Chara**	**2.09**	**71**	*e*Pn	Pn	08 52 39.7	+0.2
CRS				*e*Pg	Pg	08 52 41.5	-4.3
CRS				*e*		08 52 45.3	
CRS				*e*Sg	Sg	08 53 09.2	-4.5
CRS				max			
	comp=N,331nm,0.9s						
CRS				Smax			
	comp=N,1μm,1.1s						
CRS	**Chara**	**2.09**	**71**	*e*PN	Pn	08 52 42.2	+2.7
CRS				*e*		08 53 09.5	
CRS				pmax	pmax		
	comp=Z,331nm,0.5s						
CRS				smax			
	comp=E,1μm,0.5s						
YLYR	**Ulyunkhan**	**2.43**	**236**	⇑*iPn*	Pn	08 52 44.3	-0.2
YLYR				*e*Pg	Pg	08 52 47.1

comp=E,42nm,0.9s
TNDR Tynda 5.79 97 *e* Pn 08 53 40.7 +8.6
TNDR *e*Sg Sg 08 55 04.3 -13
TRG Tyrgan 5.99 237 *e* Pn 08 53 55.4 +21
TRG *e*Sg Sg 08 55 08.2 -15
TRG Smax
comp=E,26nm,1.8s
HRMR Khuramsha 6.51 228 *e*Pg Pg 08 54 01.5 -13
HRMR *e*Sg Sg 08 55 27.6 -13
HRMR Pmax
comp=E,18nm,2.1s
HRMR Smax
comp=E,112nm,0.9s
ARS Arshan 8.41 244 *e* Sn 08 55 45.8 +1.0
ARS *e*Sg Sg 08 56 23.7 -20
ARS Smax
comp=E,40nm,0.8s

IGQ 31 09:22:29.9, 1.27S×77.36W, h35km±4km, mb4.0, 4C-12D, Error ellipse: s-maj=6.2km s-min=2.4km az=33.6, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULBA	**Ulba**	**1.06**	**260**	⇓P	P	09 22 50.0	+1.5
ULBA				S	S	09 23 03.6	+1.3
RUN5	**Runtun**	**1.07**	**262**	⇓P	P	09 22 50.2	+1.6
JUIV	**Juive**	**1.12**	**262**	⇓P	P	09 22 50.9	+1.6
JUIV				S	S	09 23 04.0	+0.3
ARRY	**Arrayan**	**1.12**	**258**	⇓P	P	09 22 50.6	+1.2
ARRY				S	S	09 23 04.5	+0.7
CUSU	**Cusua**	**1.14**	**261**	P	P	09 22 50.0	+0.4
ANTI	**Antisana**	**1.14**	**315**	⇓P	P	09 22 51.7	+2.1
TAMB	**Tambo**	**1.16**	**299**	⇓P	P	09 22 52.5	+2.7
TAMB				S	S	09 23 08.7	+4.0
ECOPE	**Copete-Rev Vol**	**1.18**	**347**	P	P	09 22 51.0	+0.8
VC1	**Cotopaxi 1**	**1.22**	**301**	⇓P	P	09 22 52.3	+2.9
CONE	**Cono NE Rev Vo**	**1.22**	**347**	P	P	09 22 51.9	+1.1
CONE				S	S	09 23 06.8	+0.4
NAS1	**Nasa**	**1.28**	**299**	⇑P	P	09 22 54.8	+3.2
CAMI	**Rancho Maria**	**1.29**	**297**	⇓P	P	09 22 54.8	+3.1
CAYR	**Refugio Cayamb**	**1.43**	**333**	⇓P	P	09 22 55.9	+2.1
CAYA	**Cayambe**	**1.47**	**335**	⇓P	P	09 22 56.4	+1.9
JUA2	**San Juan 2**	**1.63**	**310**	P	P	09 22 59.1	+2.4
QIL1	**Quilotoa**	**1.63**	**285**	⇑P	P	09 23 00.1	+3.5
GGP	**Refugio Guagua**	**1.65**	**311**	P	P	09 23 00.0	+3.2
PINO	**Pino**	**1.67**	**311**	⇑P	P	09 23 00.2	+3.0
YANA	**Yana**	**1.67**	**313**	⇑P	P	09 23 00.1	+2.9
JOR1	**San Jorge 1**	**1.80**	**315**	⇓P	P	09 22 59.5	+0.5
COTA	**Cotacachi**	**1.87**	**328**	⇓P	P	09 23 03.8	+3.7
ECEN	**Cerro Negro**	**2.17**	**344**	P	P	09 23 06.5	+2.2

*THR **31** 09:29:52.7±0.3, 36.13N×53.70E, h15km±4km, ML3.8*
*CSEM **31** 09:29:52.9±0.1, 36.07N×53.64E, h14km, ML3.8, Error ellipse: s-maj=2.3km s-min=2.0km az=29.0*
*TEH **31** 09:29:53.9, 36.07N×53.67E, h10km, Mn3.8*
ISC 31 09:29:52.3±1.0, 36.07N±0.04×53.65E±0.06, h2km±7km, n22, σ1°04/26, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGLO	**Galoogah**	**0.27**	**332**	Pg	**Sg**	**09 30 02.2**	**+0.8**
ISHM	**Shahmirzad**	**0.39**	**229**	Pg	**Pg**	**09 30 01.0**	**+0.9**
IANJ	**Anjiloo**	**0.63**	**160**	Pg	**Pg**	**09 30 05.3**	**+0.4**
IFIR	**Firoozkooh**	**0.84**	**240**	Pg	**Pg**	**09 30 09.3**	**+0.2**
IFIR				Sg	**Sg**	**09 30 20.8**	**+0.4**
ILAS	**Lasjerd**	**0.89**	**220**	Pg	**Pg**	**09 30 10.0**	**0.0**
IPRN	**Paran-Amol**	**1.16**	**279**	Pg	**Pg**	**09 30 13.6**	**-1.7**
IDMV	**Damavand**	**1.41**	**250**	Pn	**Pn**	**09 30 19.5**	**+0.6**
DAMV	**Damavand**	**1.44**	**253**	*e*PG	**Pg**	**09 30 20.2**	**-0.7**
DAMV				*e*SG	**Sg**	**09 30 40.4**	**+0.3**
DAMV				AML	AML	09 30 46.9	
	comp=N,1μm,0.3s						
DAMV	**Damavand**	**1.44**	**253**	*e*Pg	**Pg**	**09 30 20.2**	**-0.7**
	SNR=91						
DAMV				*e*Sg	**Sg**	**09 30 40.4**	**+0.4**
	SNR=91						
IAFJ	**Afjeh**	**1.59**	**263**	Pn	**Pn**	**09 30 22.6**	**+1.1**
IVRN	**Varamin**	**1.90**	**236**	Pn	**Pn**	**09 30 27.9**	**+1.9**
IVRN				Sn	**Sn**	**09 30 50.2**	**-0.6**
THKV	**Tehran--Karaj**	**2.26**	**267**	*e*PG	**Pg**	**09 30 34.5**	**-2.8**
IRAZ	**Razeghan**	**3.10**	**259**	Pn	**Pn**	**09 30 47.9**	**+4.8**
IKLH	**Kalahroud**	**3.23**	**213**	Pn	**Pn**	**09 30 43.9**	**-1.1**
ASAO	**Ashtian**	**3.33**	**244**	*e*PN	**Pn**	**09 30 47.4**	**+1.0**
NASN	**Na'in**	**3.33**	**192**	*e*PN	**Pn**	**09 30 47.6**	**+1.1**
NASN				AML	AML	09 31 50.3	
	comp=E,160nm,0.3s						
IZEF	**Zefreh**	**3.35**	**199**	Pn	**Pn**	**09 30 45.7**	**-0.9**
ICHK	**Chekchek**	**3.86**	**170**	Pn	**Pn**	**09 30 54.2**	**+0.2**
IGAR	**Garneh**	**4.00**	**198**	Pn	**Pn**	**09 30 53.1**	**-2.8**
IMEH	**Mehriz**	**4.73**	**170**	Pn	**Pn**	**09 31 06.4**	**+0.1**
IBAF	**Bafgh**	**4.74**	**160**	Pn	**Pn**	**09 31 06.2**	**-0.2**
GRMI	**Germi**	**5.34**	**303**	*e*PN	**Pn**	**09 31 14.1**	**-0.8**
GRMI				AML	AML	09 32 21.2	
	comp=N,48nm,0.2s						

IDC 31 09:56:44.5±1.4, 2.04N×96.53W, mb3.8/6, mb1 4.2/6, mb1mx3.9/20, mbtmp3.8/6, MS3.7/13, Ms1 3.7/13, ms1mx3.6/18, Error ellipse: s-maj=51.1km s-min=23.3km az=45.0, West of Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	**26.65**	**74**	P	P	10 02 26.0	-1.1
	1.3nm,0.3s,baz=291,slow=10,SNR=3.8						
SDV				LR	LR	10 11 16.5	
	comp=Z,124nm,21.1s,baz=9.9,slow=33						
TXAR	**Lajitas Array**	**27.98**	**347**	P	P	10 02 37.6	-1.5
	0.5nm,0.7s,baz=161,slow=10,SNR=9.3						
TXAR				PcP	PcP	10 05 52.2	-2.5
	0.3nm,0.8s,baz=153,slow=5.6,SNR=3.8						
LPAZ	**La Paz**	**33.45**	**124**	LR	LR	10 14 33.0	
	comp=Z,66nm,21.0s,baz=180,slow=32						
SIV	**San Ignacio**	**39.35**	**118**	P	P	10 04 15.9	-1.8
	1.2nm,0.9s,baz=295,slow=13,SNR=4.5						
NVAR	**Mina Array Bea**	**41.34**	**334**	P	P	10 04 33.1	-0.7
	0.9nm,0.8s,baz=150,slow=7.3,SNR=5.4						
PDAR	**Pinedale Array**	**42.19**	**346**	P	P	10 04 39.4	-1.4
	1.0nm,0.8s,baz=141,slow=9.5,SNR=9.2						
PDAR				LR	LR	10 21 49.3	
	comp=Z,195nm,18.7s,baz=195,slow=36						
CFAA	**Coronel Fontan**	**42.91**	**144**	LR	LR	10 19 14.3	
	comp=Z,9.1nm,18.5s,baz=149,slow=32						
CPUP	**Villa Florida**	**47.20**	**129**	LR	LR	10 23 04.6	
	comp=Z,40nm,18.7s,baz=172,slow=34						
PLCA	**Paso Flores**	**48.72**	**154**	LR	LR	10 22 10.0	
	comp=Z,134nm,18.3s,baz=359,slow=31						
PPT	**Papeete**	**55.77**	**247**	LR	LR	10 24 15.7	
	comp=Z,95nm,21.8s,baz=281,slow=30						
SCHQ	**Schefferville**	**57.92**	**20**	LR	LR	10 28 45.8	
	comp=Z,72nm,21.2s,baz=215,slow=33						
YKA	**Yellowknife Ar**	**61.81**	**351**	LR	LR	10 33 22.6	
	comp=Z,85nm,19.5s,baz=150,slow=36						
ILAR	**Eielson Array**	**72.23**	**340**	P	P	10 08 10.4	-2.8
	1.0nm,0.7s,baz=140,slow=5.1,SNR=16						
DBIC	**Dimbokro**	**91.43**	**83**	LR	LR	10 46 45.5	
	comp=Z,96nm,20.4s,baz=147,slow=33						
VNDA	**Vanda**	**94.49**	**192**	LR	LR	10 42 53.0	
	comp=Z,64nm,20.8s,baz=50,slow=29						
NOA	**NORSAR Array B**	**96.74**	**28**	LR	LR	10 55 51.5	
	comp=Z,22nm,18.7s,baz=300,slow=37						
ARCES	**ARCESS Array B**	**98.82**	**18**	LR	LR	10 52 45.4	
	comp=Z,54nm,20.8s,baz=269,slow=34						
WRA	**Warramunga Arr**	**127.25**	**246**	PKP	PKPdf	10 15 52.1	-1.7
	0.5nm,0.8s,baz=97,slow=1.8,SNR=5.3						

*IDC **31** 10:38:54.4±1.6, 0.68S×99.91E, mb4.2/8, mb1 4.3/8, mb1mx4.0/16, mbtmp4.2/8, Error ellipse: s-maj=86.0km s-min=18.5km az=55.0*
*NEIC **31** 10:38:57.3±1.0, 1.14S×99.34E, h30km, mb4.7/1, Error ellipse: s-maj=37.0km s-min=16.8km az=63.0*
ISC 31 10:38:57.6±1.2, 0.6S±0.3×100.0E±0.4, h33km, n15, σ0°70/13, mb4.3/9, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.93**	**7**	*e*P	**P**	**10 40 32.6**	**+7.2**
WRA	**Warramunga Arr**	**38.74**	**122**	P	**P**	**10 46 20.2**	**-0.5**
	0.3nm,0.4s,mb3.4,baz=306,slow=8.9,SNR=18						
WRA				PcP	PcP	10 48 32.3	-0.3
	0.2nm,0.4s,baz=314,slow=2.6,SNR=4.6						
SONM	**Songino Array**	**48.61**	**6**	P	**P**	**10 47 40.0**	**-0.1**
	1.1nm,0.5s,mb4.1,baz=195,slow=9.0,SNR=9.3						
SONM				PcP	PcP	10 49 04.9	-0.7
	0.6nm,0.5s,baz=188,slow=5.2,SNR=4.9						
MKAR	**Makanchi Array**	**49.72**	**344**	P	**P**	**10 47 49.4**	**+0.7**
	4.1nm,0.4s,mb4.8,baz=147,slow=7.7,SNR=30						
STKA	**Stephens Creek**	**50.09**	**133**	P	**P**	**10 47 52.3**	**+0.6**
	1.3nm,0.5s,mb4.2,baz=337,slow=4.5,SNR=6.2						
KURK	**Kurchatov**	**54.30**	**343**	*e*P	**P**	**10 48 23.1**	**+0.2**
	5.8nm,0.8s,mb4.6						
ZAL	**Zalesovo**	**55.83**	**349**	P	**P**	**10 48 34.0**	**+0.1**
	3.5nm,0.3s,mb4.9,baz=331,slow=6.3,SNR=10						
BVAR	**Borovoye Array**	**58.90**	**340**	P	**P**	**10 48 55.0**	**-0.8**
	1.4nm,0.5s,mb4.2,baz=144,slow=8.8,SNR=13						
JOF	**Joensuu**	**80.98**	**334**	*e*p	**P**	**10 51 10.6**	**+0.4**
FINES	**FINESS Array B**	**82.89**	**332**	P	**P**	**10 51 20.8**	**+0.7**
	0.8nm,0.4s,mb4.1,baz=90,slow=5.7,SNR=7.0						
FINES	**FINESS Array B**	**82.89**	**332**	P	**P**	**10 51 20.8**	**+0.7**
KAF	**Kangasniemi**	**82.96**	**333**	*e*p	**P**	**10 51 18.7**	**-1.7**
KEV	**Kevo**	**84.74**	**340**	*e*p	pP	10 51 38.7	-1.1
ARCES	**ARCESS Array B**	**85.19**	**340**	P	**P**	**10 51 31.9**	**+0.4**
	2.9nm,1.0s,mb4.4,baz=101,slow=6.2,SNR=10						
TXAR	**Lajitas Array**	**143.65**	**36**	PKhKP		10 58 29.0	
	0.9nm,0.6s,baz=270,slow=0.9,SNR=18						

*PRU **31** 10:49:55.8, 50.25N×18.58E*
WAR 31 10:49:54.0, 50.24N×18.77E, h0km, ML2.5, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.57**	**225**	*e*PG	Pg	10 50 04.6	-0.8
OKC				*e*SG	Sg	10 50 13.2	+0.2
	97nm,1.0s						
OJC	**Ojcow**	**0.66**	**92**	*e*PG	Pg	10 50 07.0	-0.2
OJC				*e*SG	Sg	10 50 16.0	-0.1
NIE	**Niedzica**	**1.30**	**129**	*e*PG	Pg	10 50 18.0	-1.9
NIE				*e*SG	Sg	10 50 37.0	-0.2
DPC	**Dobruska-Polom**	**1.57**	**275**	*e*PG	Pg	10 50 21.5	-3.9
DPC				*e*SG	Sg	10 50 43.1	-3.2
	9.1nm,0.3s						
KSP	**Ksiaz**	**1.69**	**292**	*e*PG	Pg	10 50 25.0	-2.7
KSP				*e*SG	Sg	10 50 47.0	-3.2
VYHS	**Vyhne**	**1.75**	**178**	*e*PN	Pn	10 50 24.9	-0.9
VYHS				*e*SN	Sn	10 50 48.1	-1.0
UPC	**Upice**	**1.78**	**280**	*e*SG	Sg	10 50 48.9	-4.5
STHS	**Stebnicka Huta**	**1.81**	**116**	*e*PN	Pn	10 50 27.6	+1.1
STHS				*e*SN	Sn	10 50 51.3	+0.9
KECS	**Kecovo**	**2.09**	**147**	*e*PN	Pn	10 50 33.3	+2.7
KECS				*e*SG	Sg	10 50 59.8	-3.8
KECS	**Kecovo**	**2.09**	**147**	*e*SN	Sn	10 50 54.4	-3.3
CRVS	**Cervenica-Dubn**	**2.21**	**126**	*e*PN	Pn	10 50 34.0	+1.7
CRVS				*e*SN	Sn	10 51 04.7	+4.0
PSZ	**Piszkesteto**	**2.44**	**162**	*e*P	rx	10 51 01.0	
PSZ				*e*S	Sn	10 51 06.7	+0.1
PRU	**Pruhonice**	**2.73**	**266**	*e*SG	Sg	10 51 18.8	-6.1
KHC	**Kasperske Hory**	**3.55**	**254**	*e*SG	Sg	10 51 44.8	-7.3

*IDC **31** 11:45:40.0±1.8, 37.62N×73.23E, mb3.7/3, mb1 3.7/5, mb1mx3.5/20, mbtmp3.5/5, ML3.1/2, Error ellipse: s-maj=42.1km s-min=28.1km az=60.0*
*NNC **31** 11:46:03.2±4.0, 38.51N×71.48E, mpv3.3, Error ellipse: s-maj=49.6km s-min=38.3km az=64.0*
ISC 31 11:46:01.7±3.9, 38.8N±0.3×73.6E±0.2, h158km±24km, n13, σ0°70/14, mb3.4/3, 1C-1D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.33**	**1**	P	**P**	**11 46 54.6**	**+0.4**
	SNR=10						
UCH	**Uchtor**	**3.49**	**11**	P	**P**	**11 46 56.8**	**+0.5**
	SNR=28						
EKS2	**Erkin-Say**	**3.86**	**2**	P	**P**	**11 47 02.0**	**+0.9**
	SNR=17						
ULHL	**Ulahol**	**3.98**	**29**	P	**P**	**11 47 02.0**	**-0.7**
	SNR=5.4						
TKM2	**Tokmak 2**	**4.38**	**19**	P	**P**	**11 47 08.2**	**+0.3**
	SNR=12						
USP	**Ospenovka**	**4.51**	**8**	P		11 47 25.3	
	SNR=5.3						
KK31	**Karatay Array**	**4.91**	**332**	P	**P**	**11 47 14.6**	**-0.2**
	1.7nm,0.3s,baz=140,slow=13,SNR=101						
KK31				⇓S	**S**	**11 48 10.9**	**-0.4**
	19nm,0.5s,baz=169,slow=28,SNR=4.8						
MKAR	**Makanchi Array**	**10.21**	**36**	Pn	**P**	**11 48 24.2**	**-0.8**
	0.2nm,0.3s,baz=238,slow=14,SNR=5.0						
AB31	**Akbulak array**	**14.34**	**321**	P	**P**	**11 49 17.3**	**-0.9**
	0.1nm,0.3s,baz=130,slow=12,SNR=11						
AB31				⇑S	**S**	**11 51 48.9**	**-4.4**
	0.9nm,0.7s,baz=157,slow=22,SNR=6.4						
BVAR	**Borovoye Array**	**14.40**	**352**	Pn	**P**	**11 49 19.1**	**+0.1**
	0.0nm,0.3s,baz=153,slow=16,SNR=2.9						
FINES	**FINESS Array B**	**36.81**	**324**	P	**P**	**11 52 55.9**	**+0.4**
	0.4nm,0.4s,mb3.4,baz=117,slow=9.3,SNR=3.1						
ARCES	**ARCESS Array B**	**39.86**	**336**	P	**P**	**11 53 21.4**	**+0.6**
	2.3nm,0.9s,mb3.8,baz=114,slow=11,SNR=3.7						
WRA	**Warramunga Arr**	**81.48**	**124**	P	**P**	**11 57 57.6**	**-5.2**
	0.2nm,0.7s,mb2.9,baz=327,slow=4.9,SNR=4.9						

*NEIC **31** 12:11:25.8, 19.22N×64.59W, h43km, MD3.6(RSPR), After RSPR.*
RSPR 31 12:11:25.8, 19.22N×64.59W, h43km±7km, MD3.5/6, MD3.5/6, 4C-1D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**0.81**	**181**	⇑*e*P	P	12 11 39.2	-1.7
TBVI				*e*S	S	12 11 50.0	-1.9
MTP	**Monte Pirata**	**1.45**	**219**	⇑*e*P	P	12 11 47.9	-2.1
MTP				*e*S	S	12 12 06.3	-1.7
CDVI	**St. Croix**	**1.47**	**186**	*e*S	S	12 12 07.3	-1.3
CBYP	**Canovanas**	**1.52**	**232**	⇑*e*P	P	12 11 49.2	-1.9
CBYP				*e*S	S	12 12 07.9	-2.0
SJG	**San Juan**	**1.84**	**233**	*e*P	P	12 11 54.1	-1.4
PORP	**Portuguez**	**2.26**	**239**	⇓*e*P	P	12 12 00.4	-1.1
PORP				*e*S	S	12 12 26.3	-1.9
CRPR	**Cabo Rojo, PR**	**2.67**	**244**	⇑*e*P	P	12 12 05.8	-1.6
CRPR				*e*S	S	12 12 37.5	-1.4

IDC 31 12:17:47.0±3.3, 22.30N×144.50E, mb3.7/4, mb1 3.8/4, mb1mx3.6/20, mbtmp3.7/4, Error ellipse: s-maj=145.2km s-min=28.0km az=80.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**39.67**	**319**	P	P	12 25 21.9	-0.5
	0.2nm,0.4s,baz=134,slow=8.7,SNR=4.2						
WRA	**Warramunga Arr**	**43.14**	**194**	P	P	12 25 49.4	-1.8
	0.4nm,0.5s,baz=9.4,slow=7.9,SNR=12						
BVAR	**Borovoye Array**	**63.01**	**319**	P	P	12 28 15.7	-2.2
	0.4nm,0.4s,baz=95,slow=8.2,SNR=3.0						
FINES	**FINESS Array B**	**83.16**	**335**	P	P	12 30 13.9	-2.0
	0.5nm,0.3s,baz=57,slow=5.8,SNR=5.8						

*ISK **31** 12:28:51.1, 36.89N×27.52E, h8km, MD3.3*
*CSEM **31** 12:28:51.4±0.1, 36.91N×27.51E, h10km, MD3.3, Error ellipse: s-maj=2.8km s-min=2.3km az=41.0*
*ATH **31** 12:28:52.2, 36.86N×27.49E, h29km±3km, MD3.2/5*
*NEIC **31** 12:28:52.2, 36.86N×27.49E, h29km, MD3.2(ATH), After ATH.*
ISC 31 12:28:51.3±0.7, 36.85N±0.03×27.51E±0.04, h7km±5km, n22, σ0°75/33, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.22**	**346**	*i* P	**Pg**	**12 28 56.3**	**+0.5**
BDRM				*i* S	**Sg**	**12 28 59.9**	**+1.1**
BODT	**Bodrum**	**0.26**	**323**	*i* PG	**Pg**	**12 28 56.2**	**-0.5**
BODT				*i* SG	**Sg**	**12 29 00.7**	**+0.4**
NISR	**Nisiros**	**0.39**	**232**	*e*PB	**Pb**	**12 29 01.0**	**+0.9**
MLSB	**Milas**	**0.49**	**26**	*i* PG	**Pg**	**12 29 00.9**	**-0.2**
MLSB				*i* SG	**Sg**	**12 29 07.0**	**-0.7**
YER	**Yerkesik**	**0.68**	**65**	PG	**Pg**	**12 29 04.4**	**-0.5**
ARG	**Arkhangelos**	**0.81**	**142**	*e*PN	**Pn**	**12 29 08.0**	**-0.8**
ARG				*e*SN	**Sn**	**12 29 21.2**	**+0.1**
AYDN	**Tasoluk**	**0.86**	**20**	*i* P	**Pb**	**12 29 07.5**	**-0.5**
AYDN				*i* S	**Sb**	**12 29 18.5**	**-1.1**
DALT	**Dalyan (Mudla)**	**0.91**	**95**	PG	**Pg**	**12 29 08.7**	**-0.7**
SMG	**Samos**	**1.01**	**328**	*e*PN	**Pn**	**12 29 11.0**	**-0.7**
SMG				*e*SN	**Sn**	**12 29 25.6**	**-0.6**
KARP	**Karpathos**	**1.33**	**192**	*e*PN	**Pn**	**12 29 16.6**	**+0.3**
DNZL	**Cakiroluk**	**1.48**	**55**	*i* P	**Pn**	**12 29 19.3**	**+0.8**
DNZL				*i* S	**Sb**	**12 29 40.5**	**+2.8**
DENT	**Denizli**	**1.51**	**53**	PN	**Pn**	**12 29 19.2**	**+0.3**
IZM	**Izmir**	**1.56**	**353**	*e*PN	**Pn**	**12 29 19.8**	**+0.3**
KDAG	**Bornova**	**1.56**	**353**	*i* P	**Pn**	**12 29 19.6**	**+0.1**
KDAG				*i* S	**Sb**	**12 29 40.8**	**+0.9**
APE	**Apeiranthos**	**1.60**	**278**	PN	**Pn**	**12 29 20.0**	**-0.2**
URLA	**Izmir**	**1.67**	**335**	*i* P	**Pn**	**12 29 20.2**	**-0.9**
URLA				*i* S	**Sn**	**12 29 50.2**	**+7.2**
GOLH	**Golhisar**	**1.69**	**76**	*i* P	**Pn**	**12 29 21.6**	**+0.3**
GOLH				*i* S	**Sn**	**12 29 50.3**	**+6.9**
AKAS	**Kas**	**1.80**	**109**	*i* P	**Pn**	**12 29 22.6**	**-0.3**
AKAS				*i* S	**Sn**	**12 29 50.8**	**+4.6**
ELL	**Elmali**	**1.93**	**92**	*e*PN	**Pn**	**12 29 25.5**	**+0.7**
AKS	**Akhisar**	**2.04**	**7**	*e*PN	**Pn**	**12 29 25.5**	**-0.9**
TKTP	**Tekketepe**	**2.53**	**61**	*i* P	**Pn**	**12 29 28.2**	**-5.3**
DST	**Dursunbey**	**2.89**	**17**	*e*PN	**Pn**	**12 29 39.1**	**+0.6**

*BJI **31** 12:45:35.5, 36.71N×69.24E, h5km, mB5.1, mb4.9, ML5.1, Ms5.0, Msz4.5*
*HRVD **31** 12:45:37.2±0.3, 36.44N×68.98E, h22km±1km, MW5.0/56, Centroid moment Tensor Solution. LP body waves: s36,c52;Mantle waves: s56,c107; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.98±.17; $M_{\theta\theta}$-1.12±.14; $M_{\phi\phi}$0.14±.12; $M_{r\theta}$-0.05±.22; $M_{\theta\phi}$-3.33±.11; $M_{\phi r}$-1.65±.24; Best double couple: $M_0$3.831×10^{16} NP1: ϕ_s93°,δ61°,λ169°. NP2:ϕ_s189°,δ80°,λ29°. Principal axes: T 3.54, Plg27°, Azm55°; N .585, Plg60°, Azm206°; P -4.122, Plg13°, Azm318°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **31** 12:45:37.2±2.3, 36.27N×69.21E, h18km±14km, mb5.0/90, MS4.4/13 Error ellipse: s-maj=5.0km s-min=2.8km az=197.0*
NEIC Felt at Feyzabad.
*MOS **31** 12:45:38.4±1.1, 36.45N×69.22E, h33km, mb5.2/46, MS4.4/25, Error ellipse: s-maj=6.1km s-min=4.2km az=113.6*
*IDC **31** 12:45:39.4±4.0, 36.27N×69.24E, h36km±33km, mb4.6/23, mb1 4.7/26, mb1mx4.7/28, mbtmp4.8/26, ML4.9/2, MS4.3/21, Ms1 4.3/21, ms1mx4.2/28, Error ellipse: s-maj=15.3km s-min=11.9km az=180.0*
*NNC **31** 12:45:42.7±3.0, 36.72N×68.72E, h47km±20km, mpv5.5, Error ellipse: s-maj=41.1km s-min=26.2km az=137.0*
ISC 31 12:45:38.3±0.1, 36.38N±0.02×69.23E±0.02, h37km, h37km±3.9km: pP-P, n410, σ1°04/435, mb5.0/136, MS4.5/53, 49C-27D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.36**	**138**	⇑Pp	**P**	**12 46 34.2**	**+4.5**
THW	**Thamme Wali**	**4.13**	**149**	P	**P**	**12 46 43.0**	**+2.4**
SBDP	**Sheikh Budin**	**4.27**	**162**	⇑P	**P**	**12 46 45.1**	**+2.5**
CHCP	**Chirah Chowk**	**4.28**	**128**	⇑P	**P**	**12 46 46.8**	**+4.1**
SARP	**Sargodha**	**5.28**	**146**	P	**P**	**12 46 58.4**	**+1.6**
SARP				S	**S**	**12 47 59.0**	**+1.7**
AML	**Almayashu**	**6.71**	**30**	P	**P**	**12 47 17.9**	**+1.0**
	SNR=1448						
KK31	**Karatay Array**	**6.79**	**8**	⇓Pn	**P**	**12 47 18.1**	**0.0**
	38nm,0.2s						
KK31				⇑Sn	**S**	**12 48 32.5**	**-2.6**
	394nm,0.8s						
KK31				⇑Lg		12 49 12.1	
	927nm,0.7s						
KK31	**Karatay Array**	**6.79**	**8**	⇓Pn	**P**	**12 47 18.1**	**0.0**
	38nm,0.3s						
KK31				Sn	**S**	**12 48 32.5**	**-2.6**
KK31				Lg		12 49 12.1	
KKAR	**Karatay Array**	**6.79**	**8**	PN	**P**	**12 47 18.1**	**0.0**
KKAR				pmax	pmax		
	comp=Z,20nm,0.2s						
KKAR				pmax	pmax		
	comp=Z,1μm,0.8s						
KKAR				pmax	pmax		
	comp=Z,8μm,7.0s						
UCH	**Uchtor**	**7.13**	**33**	P	**P**	**12 47 24.1**	**+1.2**
	SNR=2070						
EKS2	**Erkin-Say**	**7.19**	**28**	P	**P**	**12 47 24.6**	**+0.8**
	SNR=374						
KZA	**Kyzart**	**7.36**	**38**	P	**P**	**12 47 26.2**	**+0.1**
	SNR=691						
AAK	**Ala-Archa**	**7.46**	**31**	P	**P**	**12 47 28.5**	**+1.1**
	SNR=504						
AAK	**Ala-Archa**	**7.46**	**31**	⇑Pn	**P**	**12 47 28.4**	**+1.0**
	comp=Z,525nm,0.7s						
AAK				⇑Sn	**S**	**12 48 52.6**	**+1.0**
	comp=Z,554nm,0.8s						
AAK				⇑Lg		12 49 35.2	
	comp=Z,1μm,1.1s						
AAK	**Ala-Archa**	**7.46**	**31**	⇑Pn	**P**	**12 47 28.4**	**+1.0**
	comp=Z,525nm,0.7s						
AAK				Sn	**S**	**12 48 52.6**	**+1.0**
AAK				Lg		12 49 35.2	
KBK	**Karagaybulak**	**7.67**	**33**	P	**P**	**12 47 31.7**	**+1.3**
	SNR=220						
FRU	**Bishkek**	**7.67**	**31**	⇓*i* P	**P**	**12 47 31.0**	**+0.7**
FRU				*i* S	**S**	**12 48 56.0**	**-1.0**
FRU				pmax	pmax		
	comp=Z,800nm,2.0s						
FRU				smax			
	comp=N,3μm,3.0s						
FRU				pmax	pmax		
	comp=N,14

AB31	**Akbulak array**	**14.55 335**	P	**P**	**12 48 59.0**	**-4.3**
	comp=Z,72nm,0.6s					
AB31			S	**S**	**12 51 34.4**	**-10**
AB31	**Akbulak array**	**14.55 335**	P	**P**	**12 48 59.0**	**-4.3**
AB31			S	**S**	**12 51 34.4**	**-10**
AB31			pmax	pmax		
	comp=Z,72nm,0.6s					
BHPL	**Bhopal**	**14.89 149**	*e*P	**P**	**12 49 05.3**	**-2.6**
BHPL			AMb	AMB	12 49 09.2	
	comp=Z,98nm,0.6s					
BHPL			*e*S	**S**	**12 51 45.4**	**-6.9**
KOLN	**Koldanda**	**14.89 121**	*e*P	**P**	**12 49 05.7**	**-2.2**
	comp=Z,120nm,0.4s					
GKN	**Gorkha**	**15.47 118**	*e*P	**P**	**12 49 13.0**	**-2.5**
	comp=Z,395nm,0.4s					
KURK	**Kurchatov**	**15.85 22**	*e*P	**P**	**12 49 16.7**	**-3.5**
WMQ	**Urumqi**	**15.95 57**	P	**P**	**12 49 20.0**	**-1.5**
WMQ			S	**S**	**12 52 16.0**	**-0.9**
WMQ			AMB	AMB		
	comp=Z,57nm,0.8s					
WMQ			AMB	AMB		
	comp=Z,232nm,4.0s					
WMQ			LR	LR		
	comp=N,2μm,5.0s					
WMQ			LR	LR		
	comp=E,798nm,5.0s					
WMQ			LR	LR		
	comp=Z,604nm,5.0s					
DMN	**Daman**	**16.04 119**	*e*P	**P**	**12 49 19.9**	**-2.8**
	comp=Z,504nm,0.9s					
KKN	**Kakani**	**16.06 118**	*e*P	**P**	**12 49 20.2**	**-2.7**
	comp=Z,732nm,0.7s					
ASHO	**Ashiyiah**	**16.25 228**	⇑P	**P**	**12 49 26.2**	**+0.8**
PKI	**Pulchoki**	**16.28 118**	*e*P	**P**	**12 49 23.7**	**-2.0**
	comp=Z,461nm,0.6s					
HOQ	**Hoqain**	**16.39 222**	⇓P	**P**	**12 49 27.8**	**+0.7**
VOSK	**Vostochnaya**	**16.39 4**	⇑P	**P**	**12 49 24.4**	**-2.6**
	comp=Z,69nm,0.8s					
VOSK	**Vostochnaya**	**16.39 4**	⇑P	**P**	**12 49 24.4**	**-2.6**
	comp=Z,69nm,0.8s					
VOSK	**Vostochnaya**	**16.39 4**	⇑P	**P**	**12 49 24.4**	**-2.6**
VOSK			pmax	pmax		
	comp=Z,69nm,0.8s					
SMDO	**Samad**	**16.43 219**	⇓P	**P**	**12 49 27.9**	**+0.3**
BVA0	**Borovoye Array**	**16.67 2**	⇑P	**P**	**12 49 27.9**	**-2.6**
	comp=Z,13nm,1.1s					
BVA0	**Borovoye Array**	**16.67 2**	⇑P	**P**	**12 49 27.9**	**-2.6**
BVA0			pmax	pmax		
	comp=Z,13nm,1.1s					
BVAR	**Borovoye Array**	**16.67 2**	Pn	**P**	**12 49 27.6**	**-2.8**
	comp=Z,6.0nm,0.3s,baz=173,slow=12,SNR=103					
BVAR			Sn	**S**	**12 52 25.6**	**-7.9**
	baz=175,slow=17,SNR=2.8					
BVAR			Lg		12 54 32.5	
	baz=177,slow=29,SNR=2.3					
BRVK	**Borovoye**	**16.70 2**	*e*P	**P**	**12 49 28.0**	**-2.8**
	comp=Z,67nm,0.6s					
BRVK	**Borovoye**	**16.70 2**	*e*P	**P**	**12 49 28.0**	**-2.9**
BRVK			pmax	pmax		
	comp=Z,67nm,0.6s					
JMDO	**Jabal Madar**	**16.97 218**	⇑P	**P**	**12 49 36.0**	**+1.4**
ARQ	**Araqi**	**17.02 224**	⇑P	**P**	**12 49 36.7**	**+1.6**
BSY	**Bisya**	**17.12 221**	⇑P	**P**	**12 49 37.4**	**+1.0**
	SNR=7.2					
BLSP	**Bilaspur**	**18.09 138**	*e*P	**P**	**12 49 47.9**	**-0.7**
BLSP			AMb	AMB	12 49 59.3	
	comp=Z,129nm,1.6s					
BLSP			*e*S	**S**	**12 53 08.5**	**+2.5**
POO	**Poona**	**18.24 166**	*e*P	**P**	**12 49 51.2**	**+0.8**
POO			AMb	AMB	12 49 54.3	
	comp=Z,41nm,1.4s					
GTK	**Gangtok**	**18.75 113**	*e*P	**P**	**12 49 57.0**	**+0.4**
LATR	**Latur**	**19.02 158**	*e*P	**P**	**12 50 00.0**	**+0.1**
LATR			*e*S	**S**	**12 53 26.0**	**-1.0**
BOK	**Bokaro**	**19.07 127**	*i* P	**P**	**12 49 59.8**	**-0.6**
BOK			*i* x	x	12 53 18.8	
UMR	**Umm Al-Rimmam**	**19.27 256**	*e*P	**P**	**12 50 02.5**	**-0.1**
KBD	**Kabd**	**19.46 255**	*e*P	**P**	**12 50 04.6**	**-0.1**
KAD	**Karad**	**19.49 166**	*e*P	**P**	**12 50 03.9**	**-1.2**
KAD			AMb	AMB	12 50 11.3	
	comp=Z,20nm,0.9s					
LSA	**Lhasa**	**19.52 104**	P	**P**	**12 50 07.5**	**+2.1**
LSA			S	**S**	**12 53 50.0**	**+12**
LSA			AMB	AMB		
	comp=Z,30nm,1.3s					
LSA			LR	LR		
	comp=N,1μm,20.7s					
LSA			LR	LR		
	comp=E,1μm,16.9s					
LSA			LR	LR		
	comp=Z,690nm,14.1s					
LSA	**Lhasa**	**19.52 104**	*e*P	**P**	**12 50 07.7**	**+2.3**
	comp=Z,71nm,0.7s					
LSA	**Lhasa**	**19.52 104**	*e*P	**P**	**12 50 07.7**	**+2.3**
LSA			pmax	pmax		
	comp=Z,71nm,0.7s					
GNI	**Garni**	**19.58 289**	P	**P**	**12 50 05.8**	**0.0**
	comp=Z,1.4nm,0.3s,baz=350,slow=7.2,SNR=28					
GNI			LR	LR	12 59 58.1	
	comp=Z,340nm,18.5s,baz=306,slow=44					
GNI	**Garni**	**19.58 289**	*e*P	**P**	**12 50 05.9**	**0.0**
	comp=Z,110nm,1.0s					
GNI	**Garni**	**19.58 289**	*d i*P	**P**	**12 50 06.2**	**+0.3**
GNI			pmax	pmax		
	comp=Z,161nm,1.3s					
GNI			MLR	MLR		
	comp=Z,1μm,23.0s					
RDF	**Al-Radifah**	**19.68 254**	*e*P	**P**	**12 50 06.9**	**-0.3**
RDF			AMb	AMB	12 50 18.9	
	comp=Z,79nm,0.5s					
MTA	**Mtatsminda**	**19.69 293**	P	**P**	**12 50 05.3**	**-1.7**
TI2	**Plekhanov**	**19.72 293**	⇓*i*P	**P**	**12 50 03.6**	**-3.9**
TBLG	**Delisi**	**19.73 293**	P	**P**	**12 50 05.4**	**-2.2**
HAKT	**HAKKARI**	**20.41 281**	*i* P	**P**	**12 50 14.7**	**-0.1**
ZEI	**Tsey**	**20.50 296**	*e*P	**P**	**12 50 13.4**	**-2.3**
ZEI			*i* *PP		12 50 30.0	
ZEI			pmax	pmax		
	comp=Z,14nm,0.9s					
HYB	**Hyderabad**	**20.61 154**	⇓*i*P	**P**	**12 50 18.0**	**+1.0**
	comp=Z,180nm,1.0s					
HYB			*e*S	S	12 54 24.0	+24
HYB	**Hyderabad**	**20.61 154**	⇓*e*P	**P**	**12 50 13.0**	**-4.0**
	comp=Z,180nm,1.0s					
HYB			*e*S	S	12 54 24.0	+24
HYB	**Hyderabad**	**20.61 154**	⇓*e*P	**P**	**12 50 13.0**	**-4.0**
HYB			*e*S	S	12 54 24.0	+24
HYB			pmax	pmax		
	comp=Z,180nm,1.0s					
AKH	**Akhalkalaki**	**20.62 292**	P	**P**	**12 50 16.9**	**0.0**
ZAL	**Zalesovo**	**20.63 27**	P	**P**	**12 50 16.1**	**-0.9**
	comp=Z,78nm,0.4s,baz=253,slow=9.1,SNR=177					
ZAL			S	**S**	**12 53 59.6**	**-0.9**
	comp=Z,3.6nm,0.8s,baz=141,slow=15,SNR=1.5					
ZAL			LR	LR	12 59 44.4	
	comp=Z,1μm,18.8s,MS4.3,baz=251,slow=41					
DIGO	**Kars**	**20.64 289**	*i* P	**P**	**12 50 16.1**	**-1.0**
ONI	**Oni**	**20.80 295**	P	**P**	**12 50 18.9**	**+0.1**
NVS	**Novosibirsk**	**20.83 23**	*i* P	**P**	**12 50 17.2**	**-1.8**
NVS			*i* S	**S**	**12 54 04.9**	**+0.5**
NVS			pmax	pmax		
	comp=N,29nm,0.5s					
NVS			pmax	pmax		
	comp=E,29nm,0.5s					
NVS			pmax	pmax		
	comp=Z,50nm,0.5s					
NVS			smax			
	comp=N,128nm,1.6s					
NVS			smax			
	comp=E,30nm,1.2s					
GOA	**Goa**	**21.20 168**	*e*P	**P**	**12 50 20.0**	**-3.0**
GOA			*ex*	x	12 51 30.0	
SVE	**Sverdlovsk**	**21.26 347**	⇓*e*P	**P**	**12 50 21.2**	**-2.1**
SVE			*e*		12 50 31.5	
SVE			*e*S	**S**	**12 54 22.0**	**+9.5**
SVE			*e*SS	SS	12 55 06.0	+19
SVE			pmax	pmax		
	comp=Z,100nm,1.5s,mb4.9					
SVE			MLR	MLR		
	comp=N,3μm,12.0s,MS4.9					
SVE			MLR	MLR		
	comp=E,1μm,12.0s,MS4.9					
SVE			MLR	MLR		
	comp=Z,5μm,12.0s,MS5.1					
ARU	**Arti**	**21.32 344**	*e*P	**P**	**12 50 22.8**	**-1.2**
	comp=Z,167nm,1.1s,mb5.3					
ARU			LR	LR		
	comp=Z,348nm,20.0s,MS3.8					
ARU	**Arti**	**21.32 344**	*e*P	**P**	**12 50 22.8**	**-1.1**
ARU			pmax	pmax		
	comp=Z,167nm,1.1s,mb5.3					
ARU			MLR	MLR		
	comp=Z,348nm,20.0s,MS3.8					
CAL	**Calcutta**	**21.55 125**	*ex*	x	12 50 34.0	
CAL			*ex*	x	12 51 56.5	
CAL			*ex*	x	12 54 37.6	
KIV	**Kislovodsk**	**21.59 299**	*e*P	**P**	**12 50 25.6**	**-1.2**
	comp=Z,106nm,0.9s,mb5.3					
KIV	**Kislovodsk**	**21.59 299**	*d i*P	**P**	**12 50 25.1**	**-1.6**
KIV			*e**PP		12 50 44.4	
KIV			*e*S	**S**	**12 54 18.0**	**-0.8**
KIV			pmax	pmax		
	comp=Z,58nm,0.7s,mb5.1					
KIV			MLR	MLR		
	comp=Z,1μm,17.0s,MS4.4					
GOF	**Gofitskoye**	**21.60 302**	⇑*i*P	**P**	**12 50 22.6**	**-4.2**
GOF			pmax	pmax		
	comp=Z,190nm,1.4s,mb5.3					
ARTV	**Artvin**	**21.78 291**	*i* P	**P**	**12 50 28.7**	**+0.1**
ERZM	**Erzurum**	**22.16 288**	*i* P	**P**	**12 50 33.4**	**+0.9**
BEST	**Besiri**	**22.31 282**	*i* P	**P**	**12 50 35.8**	**+1.9**
VIS	**Vishakhapatnam**	**22.38 142**	*e*P	**P**	**12 50 36.0**	**+1.2**
VIS			AMb	AMB	12 50 38.7	
	comp=Z,49nm,0.4s,mb5.2					
VIS			*e*S	**S**	**12 54 36.8**	**+3.4**
MARD	**Mardin**	**22.76 281**	*i* P	**P**	**12 50 39.1**	**+0.8**
WHFO	**Wadi Hawf**	**22.90 221**	⇑P	**P**	**12 50 38.1**	**-1.9**
	SNR=22					
RBK	**Rabkut**	**23.03 219**	⇑P	**P**	**12 50 41.0**	**-0.2**
	SNR=7.5					
ABTO	**Aybut**	**23.62 221**	P	**P**	**12 50 46.2**	**-0.7**
	SNR=8.2					
SOC	**Sochi**	**23.65 297**	*e*P	**P**	**12 50 47.8**	**+0.8**
SOC			*e**PP		12 51 01.7	
SOC			*e*		12 51 22.1	
SOC			*e*S	**S**	**12 54 54.4**	**-1.4**
SOC			pmax	pmax		
	comp=Z,65nm,1.1s,mb5.0					
SOC			pmax	pmax		
	comp=N,31nm,1.2s					
SOC			pmax	pmax		
	comp=E,49nm,1.5s					
SOC			MLR	MLR		
	comp=Z,753nm,13.0s,MS4.3					
SOC			MLR	MLR		
	comp=N,1μm,19.0s					
SOC			MLR	MLR		
	comp=E,749nm,13.0s					
KELT	**Kelkit**	**23.78 288**	*i* P	**P**	**12 50 49.1**	**+0.8**
IMP	**Imphal**	**24.13 112**	*e*P	**P**	**12 50 55.0**	**+3.2**
GTA	**Gaotai**	**24.27 74**	P	**P**	**12 50 55.5**	**+2.5**
GTA			PCP	PcP	12 54 31.5	-2.4
GTA			S	**S**	**12 55 12.3**	**+5.8**
GTA			PCS		12 58 11.0	
GTA			AMB	AMB		
	comp=Z,44nm,0.8s,mb4.9					
GTA			AMB	AMB		
	comp=Z,335nm,6.5s					
GTA			LR	LR		
	comp=N,3μm,18.6s,MS4.9					
GTA			LR	LR		
	comp=E,820nm,17.5s,MS4.9					
GTA			LR	LR		
	comp=Z,1μm,17.1s,MS4.4					
MALT	**Malatya**	**24.51 284**	*e*P	**P**	**12 50 57.0**	**+1.6**
	comp=Z,17nm,0.9s,mb4.6					
MALT	**Malatya**	**24.51 284**	*e*P	**P**	**12 50 57.1**	**+1.7**
MALT			pmax	pmax		
	comp=Z,17nm,0.9s,mb4.6					
SOKR	**Solikamsk**	**24.57 345**	*d i*P	**P**	**12 50 56.9**	**+1.1**
SOKR			S	**S**	**12 55 16.8**	**+5.3**
SOKR			pmax	pmax		
	comp=Z,80nm,0.9s,mb5.2					
SOKR			MLR	MLR		
	comp=Z,1μm,17.0s,MS4.5					
VRHR	**Novokhopersk**	**24.60 315**	*e*P	**P**	**12 50 55.7**	**-0.4**
VRHR			*e**PP		12 51 04.1	
VRHR			pmax	pmax		
	comp=Z,100nm,1.0s,mb5.3					
VRHR			pmax	pmax		
	comp=N,150nm,1.1s					
VRHR			pmax	pmax		
	comp=E,250nm,1.4s					
VRHR			MLR	MLR		
	comp=Z,700nm,14.0s,MS4.3					
VRHR			MLR	MLR		
	comp=N,970nm,21.0s					
VRHR			MLR	MLR		
	comp=E,1μm,18.0s					
MDRS	**Chennai**	**25.23 154**	*ex*	x	12 55 35.0	
GZT	**Gaziantep**	**25.30 282**	*i* P	**P**	**12 51 03.2**	**+0.3**
ANN	**Anapa**	**25.45 299**	*e*P	**P**	**12 51 04.2**	**-0.1**
ANN	**Anapa**	**25.45 299**	*e*P	**P**	**12 51 01.0**	**-3.3**
ANN			*i*	pP	12 51 12.7	-1.6
ANN			*e*S	**S**	**12 55 19.8**	**-6.4**
ANN			pmax	pmax		
	comp=Z,125nm,1.0s,mb5.4					
ANN			MLR	MLR		
	comp=N,2μm,18.0s,MS4.9					
ANN			MLR	MLR		
	comp=E,3μm,18.0s,MS4.9					
ANN			MLR	MLR		
	comp=Z,3μm,18.0s,MS4.8					
KAHT	**Ahir Dag**	**25.81 283**	*i* P	**P**	**12 51 09.5**	**+1.8**
VORD	**Divnogorie**	**25.89 314**	*e*P	**P**	**12 51 07.3**	**-1.0**
VORD			pmax	pmax		
	comp=N,110nm,0.9s					
VORD			pmax	pmax		
	comp=E,190nm,0.9s					
VORD			pmax	pmax		
	comp=Z,100nm,0.9s,mb5.3					
SALM	**Salem**	**25.91 160**	*ex*	x	12 51 12.0	
VRSR	**Storozhevoye**	**26.04 314**	*d i*P	**P**	**12 51 08.7**	**-1.1**
VRSR			*e*		12 51 49.8	
VRSR			pmax	pmax		
	comp=Z,170nm,1.0s,mb5.5					
VRSR			pmax	pmax		
	comp=N,160nm,1.5s					
VRSR			pmax	pmax		
	comp=E,310nm,1.3s					
VRSR			pmax	pmax		
	comp=Z,650nm,17.0s					
VRSR			pmax	pmax		
	comp=N,850nm,26.0s					
VRSR			pmax	pmax		
	comp=E,560nm,17.0s					
VOR	**Voronezh**	**26.24 315**	*e*P	**P**	**12 51 11.0**	**-0.6**
VOR			pmax	pmax		
	comp=Z,300nm,1.0s,mb5.8					
COBT	**Iskenderun**	**26.46 280**	*i* P	**P**	**12 51 14.3**	**+0.6**
ASF	**Jabal al Asfar**	**26.98 271**	P	**P**	**12 51 17.4**	**-1.2**
	comp=Z,2.1nm,0.6s,mb3.9,baz=274,slow=1.0,SNR=5.3					
ASF			LR	LR	13 02 34.5	
	comp=Z,293nm,21.4s,MS3.8,baz=124,slow=38					
BOYT	**Boyabat**	**27.07 291**	*i* P	**P**	**12 51 19.0**	**-0.4**
MOY	**Mondy**	**27.21 46**	*e*P	**P**	**12 51 21.6**	**+1.1**
MOY			pmax	pmax		
	comp=Z,50nm,2.3s,mb4.6					
AVNT	**Avonos**	**27.26 286**	*i* P	**P**	**12 51 21.6**	**+0.5**
SIM	**Simferopol'**	**27.80 299**	P	**P**	**12 51 25.0**	**-1.0**
SIM	**Simferopol'**	**27.80 299**	P	**P**	**12 51 26.0**	**0.0**
SIM			S	**S**	**12 56 05.0**	**+0.3**
SIM			pmax	pmax		
	comp=Z,22nm,1.0s,mb4.7					
LZH	**Lanzhou**	**27.84 80**	*e*P	**P**	**12 51 28.0**	**+1.6**
LZH			PP	PP	12 52 18.0	+2.0
LZH			*e*S	**S**	**12 56 03.0**	**-2.3**
LZH			XS		12 56 22.0	
LZH			*e*SS	SS	12 57 27.0	-0.1
LZH			AMB	AMB		
	comp=Z,35nm,1.0s,mb4.9					
LZH			AMB	AMB		
	comp=Z,245nm,6.4s					
LZH			LR	LR		
	comp=N,2μm,12.7s					
LZH			LR	LR		
	comp=Z,2μm,14.3s,MS4.9					
LZH	**Lanzhou**	**27.84 80**	*e*P	**P**	**12 51 28.0**	**+1.6**
	comp=Z,35nm,1.0s,mb4.9					
LZH			pP	pP	12 51 40.0	+3.4
LZH			sP	sP	12 51 45.2	+4.0
LZH			PP	PP	12 52 18.0	+2.0
LZH			*e*S	**S**	**12 56 03.0**	**-2.3**
LZH			sS		12 56 22.0	
LZH			*e*SS	SS	12 57 27.0	-0.1
LZH			LR	LR		
	comp=Z,2μm,14.3s,MS4.9					
LZH	**Lanzhou**	**27.84 80**	*e*P	**P**	**12 51 28.0**	**+1.6**
LZH			*PP	pP	12 51 40.0	+3.4
LZH					12 52 18.0	
LZH			*e*S	**S**	**12 56 03.0**	**-2.3**
LZH			*SS		12 56 22.0	
LZH			*e*SS	SS	12 57 27.0	-0.1
LZH			pmax	pmax		
	comp=Z,35nm,1.0s,mb4.9					
LZH			MLR	MLR		
	comp=Z,2μm,14.3s,MS4.9					
BR131	**Keskin Array S**	**28.11 288**	*e*P	**P**	**12 51 28.6**	**-0.2**
	comp=Z,7.1nm,0.8s,mb4.3					
BRTR	**Keskin Array B**	**28.11 288**	P	**P**	**12 51 28.4**	**-0.4**
	comp=Z,3.2nm,0.7s,mb4.0,baz=96,slow=8.3,SNR=16					
ZAK	**Zakamensk**	**28.15 49**	*e*P	**P**	**12 51 30.0**	**+1.0**
ZAK			pmax	pmax		
	comp=Z,19nm,0.9s,mb4.7					
BALT	**Daday**	**28.21 292**	*i* P	**P**	**12 51 27.9**	**-1.7**
ELDT	**Eldivan**	**28.22 289**	*i* P	**P**	**12 51 29.0**	**-0.8**
TRD	**Trivandrum**	**28.62 164**	*ex*	x	12 56 48.5	
TRD			*i* x	x	13 00 32.5	
MOS	**Moscow**	**28.87 322**	*e*P	**P**	**12 51 33.9**	**-1.5**
MOS	**Moscow**	**28.87 322**	*e*P	**P**	**12 51 34.0**	**-1.4**
MOS			*e*		12 52 29.0	
MOS			pmax	pmax		
	comp=Z,134nm,1.1s,mb5.6					
OBN	**Obninsk**	**29.11 320**	*e*P	**P**	**12 51 35.5**	**-2.0**
	comp=Z,32nm,0.6s,mb5.2					
OBN	**Obninsk**	**29.11 320**	*d i*P	**P**	**12 51 37.0**	**-0.5**
OBN			*e*	pP	12 51 49.0	+1.2
OBN			pmax	pmax		
	comp=Z,180nm,1.4s,mb5.6					
OBN			MLR	MLR		
	comp=Z,800nm,16.0s,MS4.4					
CD2	**Chengdu**	**29.16 91**	P	**P**	**12 51 38.3**	**+0.1**
CD2			AMB	AMB		
	comp=Z,10.0nm,0.4s,mb4.9					
SGKT	**Sivrigoynuk**	**29.26 290**	*i* P	**P**	**12 51 38.6**	**-0.4**
SONM	**Songino Array**	**29.58 56**	P	**P**	**12 51 43.0**	**+1.3**
	comp=Z,25nm,0.8s,mb5.0,baz=261,slow=9.5,SNR=159					
SONM			LR	LR	13 05 20.6	
	comp=Z,798nm,20.7s,MS4.3,baz=262,slow=40					
ULN	**Ulaanbaatar**	**30.02 56**	*e*P	**P**	**12 51 46.7**	**+1.0**
	comp=Z,26nm,0.8s,mb5.0					
ULN			LR	LR		
	comp=Z,746nm,22.0s,MS4.3					
ULN	**Ulaanbaatar**	**30.02 56**	*e*P	**P**	**12 51 46.7**	**+1.0**
ULN			pmax	pmax		
	comp=Z,26nm,0.8s,mb5.0					
ULN			MLR	MLR		
	comp=Z,746nm,22.0s,MS4.3					
KMI	**Kunming**	**30.76 102**	P	**P**	**12 51 54.3**	**+1.8**
KMI			S	**S**	**12 56 56.3**	**+4.4**
KMI			AMB	AMB		
	comp=Z,9.0nm,1.3s,mb4.4					
KMI			LR	LR		
	comp=N,1μm,16.5s,MS4.7					
KMI			LR	LR		
	comp=E,632nm,13.5s,MS4.7					
KMI			LR	LR		
	comp=Z,646nm,16.9s,MS4.3					
KMI	**Kunming**	**30.76 102**	P	**P**	**12 51 54.2**	**+1.7**
	comp=Z,9.0nm,1.3s,mb4.4					
KMI			S	**S**	**12 56 56.3**	**+4.4**
KMI			LR	LR		
	comp=Z,650nm,16.9s,MS4.4					
KMI	**Kunming**	**30.76 102**	P	**P**	**12 51 54.2**	**+1.7**
KMI			S	**S**	**12 56 56.3**	**+4.4**
KMI			pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.4					
KMI			MLR	MLR		
	comp=Z,650nm,16.9s,MS4.4					
ULDT	**Uludag**	**31.52 289**	*i* P	**P**	**12 51 57.8**	**-1.3**
KIS	**Kishinev**	**31.67 302**	*e*P	**P**	**12 52 07.0**	**+6.7**
KIS			*e*		12 53 02.0	
AKASG	**Malin Array Be**	**31.92 309**	P	**P**	**12 52 01.2**	**-1.2**
	comp=Z,29nm,0.7s,mb5.2,baz=91,slow=7.2,SNR=89					
AKASG			PP	PP	12 53 10.1	+1.2
	comp=Z,20nm,1.0s,baz=80,slow=9.2,SNR=4.2					
BTO	**Baotou**	**32.00 70**	*e*P	**P**	**12 52 05.0**	**+1.7**
BTO			AMB	AMB		
	comp=Z,17nm,1.1s,mb4.8					
BTO			LR	LR		
	comp=N,961nm,15.3s,MS4.7					
BTO			LR	LR		
	comp=E,925nm,15.9s,MS4.7					
XAN	**Xi'an**	**32.36 82**	P	**P**	**12 52 06.5**	**0.0**
XAN			AP	pP	12 52 16.0	-0.9
XAN			AMB	AMB		
	comp=Z,21nm,1.2s,mb4.8					
NANT	**Nan**	**32.73 114**	⇓P	**P**	**12 52 08.0**	**-1.8**
	comp=Z,62nm,1.0s,mb5.5					
VRI	**Vrincioaia**	**33.05 300**	⇑P	**P**	**12 52 13.3**	**+0.9**
VRI	**Vrincioaia**	**33.05 300**	⇑*i*P	**P**	**12 52 13.3**	**+0.9**
HHC	**Hu-ho-hao-te**	**33.14 69**	⇑P	**P**	**12 52 15.0**	**+1.8**
HHC			XP	sP	12 52 27.3	-1.0
HHC			PP	PP	12 53 28.5	+3.8
HHC			S	**S**	**12 57 35.5**	**+6.5**
HHC			AMB	AMB		
	comp=Z,19nm,1.1s,mb4.9					
HHC			AMB	AMB		
	comp=Z,186nm,7.2s					
HHC			LR	LR		
	comp=N,711nm,16.8s,MS4.6					
HHC			LR	LR		
	comp=E,511nm,15.6s,MS4.6					
HHC			LR	LR		
	comp=Z,750nm,18.0s,MS4.4					
GYA	**Guiyang**	**33.26 97**	⇑*i*P	**P**	**12 52 14.8**	**+0.4**
GYA			AP	pP	12 52 27.0	+2.2
GYA			S	**S**	**12 57 29.0**	**-2.0**
GYA			XS		12 57 49.3	
GYA			SCP		12 58 37.3	
GYA			AMB	AMB		
	comp=Z,20nm,0.7s,mb5.2					
GYA			AMB	AMB		
	comp=Z,110nm,3.4s					
GYA			LR	LR		
	comp=N,540nm,16.4s,MS4.4					
GYA			LR	LR		
	comp=E,410nm,16.8s,MS4.4					
GYA			LR	LR		
	comp=Z,490nm,16.0s,MS4.3					
MLR	**Muntele Rosu**	**33.60 299**	P	**P**	**12 52 18.4**	**+1.3**
	comp=Z,22nm,0.8s,mb5.1,baz=90,slow=3.9,SNR=32					
MLR	**Muntele Rosu**	**33.60 299**	⇑P	**P**	**12 52 19.0**	**+1.9**
MLR	**Muntele Rosu**	**33.60 299**	⇑*i*P	**P**	**12 52 19.0**	**+1.9**
ENH	**Enshi**	**34.00 88**	*e*P	**P**	**12 52 21.1**	**+0.4**
	comp=Z,24nm,0.8s,mb5.2					
BURAR	**Bucovina Array**	**34.16 303**	⇓P	**P**	**12 52 22.2**	**+0.3**
BURAR	**Bucovina Array**	**34.16 303**	⇑*i*P	**P**	**12 52 22.2**	**+0.3**
NST	**Nakhon Sawan**	**34.35 119**	P	**P**	**12 52 22.8**	**-1.0**
CIT	**Chita**	**34.81 49**	*e*P	**P**	**12 52 28.0**	**+0.6**
CIT			*e*		12 52 44.2	
CIT			pmax	pmax		
	comp=Z,91nm,1.3s,mb5.5					
JOF	**Joensuu**	**35.27 331**	*ep*	**P**	**12 52 30.8**	**-0.5**
	comp=Z,36nm,0.4s,mb5.7					
VSU	**Vasula**	**35.40 322**	*i* P	**P**	**12 52 31.0**	**-1.4**
VSU	**Vasula**	**35.40 322**	*d i*P	**P**	**12 52 31.9**	**-0.5**
KKTK	**Khon Kaen**	**35.85 115**	P	**P**	**12 52 36.0**	**-0.6**
	comp=Z,432nm,0.5s					
KWP	**Kalwaria**	**35.94 306**	*e*P	**P**	**12 52 38.2**	**+1.2**
SUW	**Suwalki**	**36.17 314**	*e*P	**P**	**12 52 38.9**	**-0.1**
SUW	**Suwalki**	**36.17 314**	*e*P	**P**	**12 52 38.9**	**-0.1**
BOD	**Bodaibo**	**36.35 39**	*e*P	**P**	**12 52 40.3**	**-0.1**
BOD			pmax	pmax		
	comp=Z,27nm,1.0s,mb5.1					
CRVS	**Cervenica-Dubn**	**36.72 305**	*ep*P	pP	12 52 50.8	-3.3
FINES	**FINESS Array B**	**36.80 327**	P	**P**	**12 52 43.8**	**-0.3**
	comp=Z,12nm,0.4s,mb5.1,baz=115,slow=10.0,SNR=108					
FINES			LR	LR	13 09 03.3	
	comp=Z,940nm,20.4s,MS4.6,baz=139,slow=38					
FINES	**FINESS Array B**	**36.80 327**	*i* P	**P**	**12 52 44.3**	**+0.1**
FINES			pmax	pmax		
	comp=Z,12

KAF Kangasniemi 36.97 328 *eP* **P 12 52 45.2 -0.4**
KAF pmax pmax
comp=Z,20nm,0.5s,mb5.2
LVZ Lovozero 37.06 339⇑*iP* **P 12 52 46.5 +0.2**
APA Apatity 37.21 338⇓*iP* **P 12 52 48.0 +0.4**
APA *eS* **S 12 58 38.0 +6.5**
APA *e*SS 12 58 56.0
APA pmax pmax
comp=Z,39nm,1.0s,mb5.2
APA MLR MLR
comp=Z,2µm,10.0s,MS5.1
KECS Kecovo 37.35 304 *eP* **P 12 52 49.4 +0.4**
KECS *e*PP PP 12 54 16.7 -0.4
NIE Niedzica 37.48 306 *eP* **P 12 52 51.8 +1.8**
PSZ Piszkesteto 37.75 304 *eP* **P 12 52 53.2 +0.9**
comp=Z,56nm,1.8s,mb5.0
PSZ Piszkesteto 37.75 304 *eP* **P 12 52 53.2 +0.9**
PSZ pmax pmax
comp=Z,56nm,1.8s,mb5.0
WHN Wuhan 37.82 85 ⇑P **P 12 52 54.5 +1.4**
OJC Ojcow 37.84 307 *eP* **P 12 52 53.3 +0.3**
DIVS Divcibare 37.90 297⇓*iP* **P 12 52 54.4 +0.9**
VYHS Vyhne 38.45 304 *eP* **P 12 52 59.3 +1.2**
HIA Hailar 38.52 54 *eP* **P 12 53 00.3 +1.6**
comp=Z,19nm,1.0s,mb4.8
HIA LR LR
comp=Z,928nm,22.0s,MS4.6
HIA Hailar 38.52 54 *eP* **P 12 53 00.3 +1.6**
HIA pmax pmax
comp=Z,19nm,1.0s
HIA MLR MLR
comp=Z,928nm,22.0s
OKC Ostrava-Krasne 38.90 307 AMS AMS 13 14 10.0
comp=Z,400nm,17.0s
MORC Moravsky Berou 39.29 307 *eP* **P 12 53 06.1 +1.0**
comp=Z,13nm,1.1s,mb4.6
MORC Moravsky Berou 39.29 307 *eP* **P 12 53 06.1 +1.0**
MORC pmax pmax
comp=Z,13nm,1.1s,mb4.6
QIZ Qiongzhong 39.56 105 *eP* **P 12 53 14.0 +6.4**
QIZ LR LR
comp=Z,370nm,19.4s,MS4.2
VRAC Vranov 39.92 306 LR LR 13 14 07.6
comp=Z,315nm,18.2s,MS4.2,baz=93,slow=43
DPC Dobruska-Polom 40.08 307 *eP* **P 12 53 12.5 +0.9**
DPC *e*PP PP 12 54 48.5 +0.9
DPC AMS AMS 13 13 10.0
comp=Z,700nm,17.5s
KSP Ksiaz 40.09 308 *eP* **P 12 53 12.0 +0.3**
KSP LR LR
comp=Z,1µm,19.1s,MS4.8
UPC Upice 40.27 308 *eP* **P 12 53 14.5 +1.3**
KEV Kevo 40.40 339 *ep* **P 12 53 14.0 -0.1**
comp=Z,4.1nm,0.3s,mb4.6
ARCES ARCESS Array B 40.72 338 P **P 12 53 17.1 +0.3**
comp=Z,33nm,0.9s,mb5.0,baz=104,slow=9.1,SNR=78
ARCES LR LR 13 11 05.2
comp=Z,671nm,21.2s,MS4.5,baz=124,slow=37
ARE0 ARCESS Array S 40.72 338 *eP* **P 12 53 17.4 +0.6**
SNG Songkhla 40.81 128 P **P 12 53 19.0 +1.0**
NJ2 Nanjing 40.90 81 *eP* **P 12 53 22.0 +3.3**
NJ2 PP PP 12 55 00.5 +4.4
NJ2 S **S 12 59 29.0 +1.5**
NJ2 AMB AMB
comp=Z,20nm,0.9s,mb4.8
NJ2 AMB AMB
comp=Z,2µm,4.5s
NJ2 LR LR
comp=N,1µm,18.5s,MS4.9
NJ2 LR LR
comp=E,500nm,19.1s,MS4.9
NJ2 LR LR
comp=Z,700nm,16.2s,MS4.6
CRES Cresnjev 40.92 301 *eP* **P 12 53 19.2 +0.6**
PERS Pernice 41.07 302 *eP* **P 12 53 20.5 +0.7**
PVCC Panska Ves 41.19 308 AMS AMS 13 13 40.0
comp=Z,700nm,20.0s
PRU Pruhonice 41.23 307 *eP* **P 12 53 22.4 +1.3**
PRU *e*PP PP 12 55 00.4 +1.0
PRU AMS AMS 13 14 00.0
comp=Z,500nm,15.7s
MOA Molln 41.54 304⇑*iP* **P 12 53 24.2 +0.6**
comp=Z,12nm,1.0s,mb4.5
BRG Berggiesshubel 41.58 308 *i P* **P 12 53 24.8 +0.9**
comp=Z,20nm,1.1s,mb4.7
BRG PP PP 12 55 06.0 +2.8
BRG LR LR
comp=Z,830nm,16.2s,MS4.7
BRG Berggiesshubel 41.58 308 *i P* **P 12 53 24.8 +0.9**
BRG 12 55 06.0
BRG pmax pmax
comp=Z,20nm,1.1s,mb4.7
BRG MLR MLR
comp=Z,830nm,16.2s,MS4.7
GEC2 GERESS Array S 41.84 305 *eP* **P 12 53 26.4 +0.3**
comp=Z,10.0nm,1.3s,mb4.3
GEC2 GERESS Array S 41.84 305 *eP* **P 12 53 26.4 +0.3**
GEC2 pmax pmax
comp=Z,10.0nm,1.3s,mb4.3
GERES GERESS Array B 41.84 305 P **P 12 53 26.0 0.0**
comp=Z,3.0nm,0.8s,mb4.0,baz=90,slow=6.7,SNR=15
GERES PP PP 12 55 04.9 -1.1
comp=Z,2.1nm,0.7s,baz=59,slow=7.8,SNR=4.2
GERES LR LR 13 15 02.4
comp=Z,250nm,18.3s,MS4.1,baz=96,slow=42
KHC Kasperske Hory 41.90 306 *eP* **P 12 53 27.0 +0.4**
KHC x x 12 54 07.0
KHC *e*PP PP 12 54 58.3 -8.4
KHC AMS AMS 13 10 40.0
comp=Z,500nm,21.1s
KHC Kasperske Hory 41.90 306 *eP* **P 12 53 27.0 +0.4**
KHC *e* 12 54 07.0
KHC *e* 12 54 58.3
KHC LR LR
comp=Z,500nm,21.1s,MS4.4
KHC Kasperske Hory 41.90 306 *eP* **P 12 53 27.0 +0.4**
KHC MLR MLR
comp=Z,500nm,21.1s,MS4.4
SNY Shenyang 41.94 65 ⇑P **P 12 53 27.5 +0.5**
SNY AP pP 12 53 35.8 -1.8
SNY XP sP 12 53 39.3 -2.8
SNY S **S 12 59 54.8 +12**
SNY AMB AMB
comp=Z,20nm,0.8s,mb4.8
SNY AMB AMB
comp=Z,40nm,5.9s
SNY LR LR
comp=E,620nm,15.7s
SNY LR LR
comp=Z,480nm,22.1s
CLL Collm 42.16 309 ⇑P **P 12 53 29.5 +0.8**
comp=Z,logA/T=1.1,mb4.5
CLL *i* *SP sP 12 53 37.4 -6.4
CLL *i* PP PP 12 55 04.5 -4.9
CLL *i* *PPP 12 55 11.8
CLL *i* 12 55 24.7
CLL *e* 12 55 39.0
CLL *i* 13 00 11.7
CLL *e*SS SS 13 02 48.0 -0.7
CLL Collm 42.16 309⇑*iP* **P 12 53 29.5 +0.8**
comp=Z,11nm,0.9s,mb4.5
CLL *i* pP 12 53 37.4 -1.9
CLL *i* PP PP 12 55 11.8 +2.4
CLL Collm 42.16 309⇑*iP* **P 12 53 29.5 +0.8**
CLL *i* pP 12 53 37.4 -1.9
CLL *i* 12 55 11.8
CLL pmax pmax
comp=Z,11nm,0.9s,mb4.5
KBA Koelnbreinsper 42.23 303⇑*iP* **P 12 53 30.5 +1.1**
comp=Z,14nm,1.0s,mb4.5
KBA Koelnbreinsper 42.23 303⇑*iP* **P 12 53 30.5 +1.1**
KBA pmax pmax
comp=Z,14nm,1.0s,mb4.5
KULM Kulim 42.28 129 *eP* **P 12 53 30.5 +0.3**
HFS Hagfors 42.29 322 P **P 12 53 29.8 +0.1**
comp=Z,37nm,0.7s,mb5.1,baz=98,slow=10,SNR=72
HFS LR LR 13 14 24.9
comp=Z,1µm,18.8s,MS4.8,baz=110,slow=41
WET Wettzell 42.36 306 *eP* **P 12 53 30.7 +0.4**
comp=Z,16nm,2.0s,mb4.3
WET Wettzell 42.36 306 *eP* **P 12 53 30.7 +0.4**
WET pmax pmax
comp=Z,16nm,2.0s,mb4.3
NKC Novy Kostel 42.56 307 *eP* **P 12 53 33.2 +1.2**
NKC AMS AMS 13 14 30.0
comp=Z,1µm,19.1s
CN2 Changchun 42.93 62 *eP* **P 12 53 36.0 +0.9**
CN2 *e*S **S 12 59 57.0 -0.2**
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.5
CN2 LR LR
comp=N,1µm,16.0s,MS4.9
CN2 LR LR
comp=E,380nm,16.0s,MS4.9
CN2 LR LR
comp=Z,520nm,16.0s,MS4.5
MOX Moxa 43.07 308 *i P* **P 12 53 37.0 +0.9**
MOX L 13 16 12.0
MOX Moxa 43.07 308 *eP* **P 12 53 37.0 +0.9**
MOX MLR MLR
comp=Z,600nm,17.0s,MS4.6
SSE Sheshan 43.10 81 *eP* **P 12 53 37.0 +0.3**
SSE PP PP 12 55 18.5 -0.6
SSE S **S 13 00 01.5 +1.6**
SSE SCS ScS 13 03 31.3 -0.4
SSE AMB AMB
comp=Z,36nm,0.8s,mb5.2
SSE AMB AMB
comp=Z,301nm,3.6s
SSE LR LR
comp=N,418nm,21.0s,MS4.4
SSE LR LR
comp=E,319nm,21.0s,MS4.4
SSE LR LR
comp=Z,249nm,21.8s,MS4.1
SSE Sheshan 43.10 81 *eP* **P 12 53 37.0 +0.3**
comp=Z,36nm,0.8s,mb5.2
SSE pP pP 12 53 50.6 +3.3
SSE sP sP 12 53 56.1 +4.3
SSE PP PP 12 55 18.5 -0.6
SSE S **S 13 00 01.4 +1.5**
SSE sS 13 00 23.5
SSE SS SS 13 03 16.4 +10
SSE ScS ScS 13 03 31.2 -0.5
SSE LR LR
comp=Z,250nm,21.8s,MS4.1
WTTA Wattenberg 43.37 303⇓*iP* **P 12 53 38.8 +0.1**
comp=Z,18nm,1.2s,mb4.7
WTTA Wattenberg 43.37 303⇓*iP* **P 12 53 38.8 +0.1**
WTTA pmax pmax
comp=Z,19nm,1.2s,mb4.7
GRA1 Grafenberg Arr 43.39 307 *eP* **P 12 53 40.3 +1.5**
comp=Z,18nm,0.9s,mb4.8
GRA1 LR LR
comp=Z,500nm,19.2s,MS4.4
GRF Grafenberg Arr 43.39 307 *eP* **P 12 53 40.3 +1.5**
comp=Z,18nm,0.9s,mb4.8
GRF LR LR
comp=Z,500nm,19.2s,MS4.4
GRF Grafenberg Arr 43.39 307 *eP* **P 12 53 40.3 +1.5**
GRF pmax pmax
comp=Z,18nm,0.9s,mb4.8
GRF MLR MLR
comp=Z,500nm,19.2s,MS4.4
GRF Grafenberg Arr 43.39 307 *eP* **P 12 53 40.3 +1.5**
GRF pmax pmax
comp=Z,18nm,0.9s,mb4.8
GRF MLR MLR
comp=Z,500nm,19.2s,MS4.4
GRFO Grafenberg 43.39 307 *eP* **P 12 53 40.3 +1.5**
comp=Z,128nm,0.9s,mb5.7
GRFO Grafenberg 43.39 307 *eP* **P 12 53 40.3 +1.5**
GRFO pmax pmax
comp=Z,128nm,0.9s,mb5.7
NB2 NORSAR Subarra 43.62 323 P **P 12 53 40.3 -0.2**
comp=Z,42nm,0.8s,mb5.2,baz=98,slow=7.9
NB2 NORSAR Subarra 43.62 323 P **P 12 53 40.3 -0.2**
baz=98,slow=7.9
NB2 NORSAR Subarra 43.62 323 P **P 12 53 40.3 -0.2**
NB2 pmax pmax
comp=Z,42nm,0.8s,mb5.2
NOA NORSAR Array B 43.62 323 P **P 12 53 40.0 -0.5**
comp=Z,18nm,0.6s,mb5.0,baz=99,slow=8.0,SNR=62
NOA LR LR 13 15 07.8
comp=Z,619nm,19.4s,MS4.5,baz=85,slow=40
MOTA Moosalm 43.72 303⇑*iP* **P 12 53 41.3 -0.2**
comp=Z,13nm,0.8s,mb4.7
MOTA Moosalm 43.72 303⇑*iP* **P 12 53 41.3 -0.2**
MOTA pmax pmax
comp=Z,13nm,0.8s,mb4.7
BSEG Bad Segeberg 43.73 313 *eP* **P 12 53 42.3 +0.8**
NAO01 NORSAR Array S 43.76 323 *eP* **P 12 53 41.2 -0.5**
comp=Z,3.4nm,0.3s,mb4.5
CLZ Clausthal 43.78 310 *eP* **P 12 53 42.5 +0.6**
comp=Z,35nm,1.7s,mb4.8
CLZ Clausthal 43.78 310 *eP* **P 12 53 42.5 +0.6**
CLZ pmax pmax
comp=Z,35nm,1.7s,mb4.8
KONO Kongsberg 44.29 321 *eP* **P 12 53 45.9 0.0**
comp=Z,19nm,0.9s,mb4.8
KONO Kongsberg 44.29 321*c iP* **P 12 53 45.7 -0.2**
DAVA Damuels 44.55 303⇓*iP* **P 12 53 47.9 -0.3**
comp=Z,24nm,0.8s,mb5.1
DAVOX Davos 44.63 303 P **P 12 53 48.5 -0.3**
comp=Z,8.2nm,0.7s,mb4.7,baz=119,slow=9.3,SNR=9.4
YAK Yakutsk 44.90 36 *eP* **P 12 53 51.0 +0.3**
comp=Z,62nm,0.9s,mb5.4
YAK Yakutsk 44.90 36*c iP* **P 12 53 50.9 +0.2**
YAK *e**PP pP 12 53 58.4 -2.9
YAK *e* 12 55 37.1
YAK *e*S **S 13 00 25.0 -0.4**
YAK *e**SS 13 00 36.6
YAK pmax pmax
comp=Z,29nm,0.9s,mb5.1
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK pmax pmax
comp=E,8.0nm,1.1s
YAK pmax pmax
comp=Z,10.0nm,1.0s,mb4.6
YAK pmax pmax
comp=N,4.0nm,1.1s
YAK pmax pmax
comp=E,7.0nm,1.1s
YAK smax
comp=N,5.0nm,1.1s
YAK smax
comp=Z,3.0nm,0.8s
YAK smax
comp=E,7.0nm,1.4s
YAK MLR MLR
comp=Z,226nm,12.0s,MS4.3
YAK MLR MLR
comp=N,147nm,13.0s,MS4.5
YAK MLR MLR
comp=E,296nm,13.0s,MS4.5
TOD Tromm 44.96 307 *eP* **P 12 53 52.2 +0.8**
TNS Taunus Mts 45.12 308 *eP* **P 12 53 53.4 +0.7**
comp=E,8.0nm,1.0s,mb4.5
TNS Taunus Mts 45.12 308 *eP* **P 12 53 53.4 +0.7**
TNS pmax pmax
comp=Z,8.0nm,1.0s,mb4.5
LANF Langenberg 45.69 306 *eP* **P 12 53 58.2 +0.9**
MDJ Mudanjiang 45.70 60 P **P 12 53 57.0 -0.4**
MDJ AP pP 12 54 06.8 -1.3
MDJ PCP PcP 12 55 34.0 -1.4
MDJ PP PP 12 55 44.5 -0.4
MDJ SCP 12 59 23.8
MDJ PCS 12 59 29.0
MDJ S **S 13 00 36.3 -1.0**
MDJ AMB AMB
comp=Z,5.0nm,1.2s,mb4.3
MDJ AMB AMB
comp=Z,43nm,4.7s
MDJ LR LR
comp=N,1µm,24.1s,MS4.8
MDJ LR LR
comp=E,279nm,19.7s,MS4.8
MDJ LR LR
comp=Z,429nm,19.1s,MS4.4
FELD Feldberg 45.72 304 *eP* **P 12 53 57.7 +0.2**
PGF Pioggiola 46.06 297 *eP* **P 12 53 59.6 -0.7**
comp=Z,54nm,1.1s,mb5.1
PGF Pioggiola 46.06 297 *eP* **P 12 53 59.6 -0.7**
PGF pmax pmax
comp=Z,27nm,1.0s,mb5.1
BBS Basel-Blauen 46.12 304 *eP* **P 12 54 00.7 +0.1**
CDF Champ du Feu 46.12 305 *eP* **P 12 54 00.0 -0.7**
comp=Z,9.5nm,0.7s,mb4.5
CDF Champ du Feu 46.12 305 *eP* **P 12 54 00.0 -0.7**
CDF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
ECH Echery 46.23 305 *eP* **P 12 54 01.2 -0.3**
KS15 Wonju Array Si 46.24 70 *eP* **P 12 54 02.6 +0.8**
MOF Molkenrain 46.30 305 *eP* **P 12 54 02.4 +0.3**
TIXI Tiksi 46.43 22⇑*iP* **P 12 54 02.8 +0.1**
TIXI Tiksi 46.43 22 *eP* **P 12 54 00.7 -2.0**
TIXI *e*S **S 13 00 36.7 -10**
TIXI *e*SS SS 13 04 09.3 +3.8
TIXI pmax pmax
comp=Z,77nm,0.8s,mb5.7
TIXI MLR MLR
comp=Z,402nm,16.0s,MS4.5
HINF Hinteralfeld 46.50 305 *eP* **P 12 54 03.1 -0.5**
comp=Z,34nm,1.0s,mb5.0
HINF Hinteralfeld 46.50 305 *eP* **P 12 54 03.1 -0.5**
HINF pmax pmax
comp=Z,17nm,1.0s,mb4.9
LOMF Lomont 46.59 304 *eP* **P 12 54 04.2 -0.2**
SAOF Saorge 46.76 299 *eP* **P 12 54 06.4 +0.7**
HAU Haudompre 46.80 305 *eP* **P 12 54 05.7 -0.3**
HAU *e*R
comp=Z,421nm,17.0s
AUTN L'Aution 46.85 299 *eP* **P 12 54 07.3 +0.9**
SBF Sospel 46.87 299 *eP* **P 12 54 06.5 -0.1**
comp=Z,84nm,1.2s,mb5.3
TOUF Mont Tournerai 46.97 299 *eP* **P 12 54 08.2 +0.8**
LPG La Plagne 47.00 301 *eP* **P 12 54 08.0 +0.4**
LPL La Plagne 47.01 302 *eP* **P 12 54 08.0 +0.4**
MVIF Mont Vial 47.06 299 *eP* **P 12 54 08.7 +0.6**
BNI Bardonecchia 47.14 301 *eP* **P 12 54 08.7 0.0**
comp=Z,27nm,1.3s,mb5.0
MBDF Montbardon 47.15 300 *eP* **P 12 54 08.3 -0.5**
comp=Z,34nm,0.8s,mb5.0
CABF La Chapelle 47.23 303 *eP* **P 12 54 09.5 +0.1**
comp=Z,73nm,1.2s,mb5.2
CALN Calern 47.28 299 *eP* **P 12 54 10.4 +0.6**
FRF La Foret Royal 47.50 299 *eP* **P 12 54 11.1 -0.5**
MEZF Maizieres J'vi 47.57 306 *eP* **P 12 54 11.6 -0.4**
LMR La Mourre 47.65 299 *eP* **P 12 54 12.2 -0.6**
VLA Vladivostok 47.66 62⇑*iP* **P 12 54 13.4 +0.6**
KMBO Kilima Mbogo 47.71 226 P **P 12 54 12.2 -1.4**
comp=Z,0.7nm,0.5s,mb4.0,baz=39,slow=9.5,SNR=3.2
KMBO LR LR 13 14 39.0
comp=Z,168nm,18.9s,MS4.0,baz=87,slow=36
KMBO Kilima Mbogo 47.71 226 *i P* **P 12 54 20.8 +7.2**
KMBO pmax pmax
comp=Z,1.0nm,0.6s
ORIF Oris-en-Rattie 47.72 301 *eP* **P 12 54 12.8 -0.5**
ORIF *e*R
comp=Z,355nm,19.0s
BAIF Baives 47.85 308 *eP* **P 12 54 14.7 +0.5**
comp=Z,53nm,0.9s,mb5.2
SMRF Simiane la Rot 48.15 300 *eP* **P 12 54 16.6 -0.1**
comp=Z,26nm,1.2s,mb4.8
VIVF Saint-Julien-l 48.57 301 *eP* **P 12 54 20.0 +0.1**
LOR Lormes 48.59 304 *eP* **P 12 54 19.2 -0.8**
LOR *e*R
comp=Z,425nm,19.5s
SMF Signal de Mont 48.74 304 *eP* **P 12 54 20.8 -0.3**
comp=Z,83nm,0.9s,mb5.5
SSF Saint Saulge 48.87 304 *eP* **P 12 54 21.6 -0.5**
AVF Avril sur Loir 49.03 304 *eP* **P 12 54 22.9 -0.5**
comp=Z,76nm,1.0s,mb5.4
PLDF La Plantade 49.03 303 *eP* **P 12 54 23.7 +0.3**
LASF Ste Croix 49.33 300 *eP* **P 12 54 25.7 0.0**
comp=Z,95nm,1.2s,mb5.4
AGO Saint Agoulin 49.35 303 *eP* **P 12 54 26.3 +0.5**
BGF Bois d'Agland 49.42 304 *eP* **P 12 54 26.1 -0.3**
comp=Z,28nm,0.9s,mb5.0
PYM Petit Puy Mans 49.50 303 *eP* **P 12 54 27.5 +0.5**
TCF Toulx Ste Croi 49.91 303 *eP* **P 12 54 30.2 0.0**
comp=Z,81nm,1.1s,mb5.4
JNU Nakatsue 50.00 75 LR LR 13 17 16.4
comp=Z,371nm,21.3s,MS4.4,baz=59,slow=38
CAF Calviac 50.35 302 *eP* **P 12 54 33.5 -0.1**
comp=Z,43nm,1.1s,mb5.1
RJF Les Rejaudoux 50.63 302 *eP* **P 12 54 35.3 -0.4**
RJF *e*R
comp=Z,384nm,22.7s
MTLF Montolieu 50.67 300 *eP* **P 12 54 35.7 -0.3**
comp=Z,36nm,1.1s,mb4.9
LDF La Druitiere 50.91 307 *eP* **P 12 54 37.0 -0.8**
comp=Z,18nm,0.5s,mb5.0
FLN La Foliniere 51.11 307 *eP* **P 12 54 38.5 -0.7**
FLN *e*R
comp=Z,496nm,20.8s
LFF La Frestale 51.26 302 *eP* **P 12 54 40.2 -0.2**
MBAR Mbarara 51.28 233⇑*iP* **P 12 54 46.2 +5.2**
ETOS Mallorca 51.31 295 P **P 12 54 41.1 +0.2**
comp=Z,12nm,0.7s,mb4.9
MFF Saint Martin d 51.41 304 *eP* **P 12 54 40.9 -0.7**
comp=Z,48nm,1.1s,mb5.1
GRR Gorron 51.44 307 *eP* **P 12 54 40.7 -1.0**
comp=Z,68nm,1.2s,mb5.2
KSM Kuching 51.45 123 *eP* **P 12 54 42.5 +0.3**
MLS Moulis 51.57 300 *eP* **P 12 54 42.1 -0.7**
EMIR Miracle 51.58 298 P **P 12 54 43.5 +0.7**
comp=Z,16nm,1.2s,mb4.8
EPOB Poblet 52.07 298 P **P 12 54 46.4 -0.1**
comp=Z,21nm,1.0s,mb5.0
EPF Esparros 52.08 300 *eP* **P 12 54 45.8 -0.8**
EBIE Bielsa 52.32 300 P **P 12 54 48.7 +0.3**
comp=Z,5.6nm,0.6s,mb4.7
KKM Kota Kinabalu 52.46 114 *eP* **P 12 54 50.2 +0.4**
SGMF Saint Gilles 52.57 307 *eP* **P 12 54 49.6 -0.6**
ETSF Etsaut 52.74 300 *eP* **P 12 54 51.5 -0.1**
comp=Z,36nm,0.9s,mb5.0
ROSF Rostrenen 53.01 307 *eP* **P 12 54 52.6 -0.9**
comp=Z,30nm,0.7s,mb5.0
ESAC San Caprasio 53.05 299 P **P 12 54 54.2 +0.3**
comp=Z,36nm,0.7s,mb5.4
QUIF Quistinic 53.05 307 *eP* **P 12 54 53.0 -0.8**
SJPF Ste Jean 53.14 300 *eP* **P 12 54 54.3 -0.3**
EMOS Mosqueruela 53.50 297 P **P 12 54 58.0 +0.7**
comp=Z,29nm,0.9s,mb5.2
YSS Yuzh-Sakhalins 54.06 54 *eP* **P 12 55 02.5 +1.3**
comp=Z,38nm,1.1s,mb5.2
YSS LR LR
comp=Z,507nm,20.0s,MS4.6
YSS Yuzh-Sakhalins 54.06 54*d iP* **P 12 55 02.3 +1.0**
YSS pmax pmax
comp=Z,43nm,1.2s,mb5.2
YSS MLR MLR
comp=Z,400nm,18.0s,MS4.5
ECHE Chera 54.12 296 P **P 12 55 02.7 +0.8**
comp=Z,5.8nm,0.5s,mb4.8
MAT Matsushiro 54.32 68 P **P 12 55 01.8 -1.6**
MAT *e*S **S 13 02 38.6 +1.6**
MAT Matsushiro 54.32 68 *eP* **P 12 55 02.0 -1.4**
comp=Z,9.2nm,0.9s,mb4.7
MAT S **S 13 02 39.0 +2.0**
MAT Matsushiro 54.32 68 *eP* **P 12 55 02.0 -1.4**
MAT S **S 13 02 39.0 +2.0**
MAT pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
MAJO Matsushiro 54.32 68 *eP* **P 12 55 01.9 -1.4**
comp=Z,5.3nm,0.8s,mb4.5
MAJO LR LR
comp=Z,246nm,20.0s,MS4.3
MAJO Matsushiro 54.32 68 *eP* **P 12 55 01.9 -1.5**
MAJO pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
MAJO MLR MLR
comp=Z,246nm,20.0s,MS4.3
DAG Danmarks Havn 54.45 344⇑*iP* **P 12 55 03.9 +0.1**
comp=Z,22nm,0.7s,mb5.2
DAG Danmarks Havn 54.45 344⇑*eP* **P 12 55 03.9 +0.1**
comp=Z,22nm,0.7s,mb5.2
DAG Danmarks Havn 54.45 344⇑*eP* **P 12 55 03.9 +0.1**
DAG pmax pmax
comp=Z,22nm,0.7s,mb5.2
ELAN Lanestosa 54.64 301 P **P 12 55 05.5 -0.1**
comp=Z,35nm,0.7s,mb5.5
ETOB Tobarra 54.88 295 P **P 12 55 07.2 -0.1**
comp=Z,28nm,1.1s,mb5.2
EMUR La Murta 54.95 294 P **P 12 55 07.6 -0.3**
comp=Z,42nm,1.1s,mb5.4
SEY Seymchan 55.31 34⇓*iP* **P 12 55 10.8 +0.6**
EVIA Vianos 55.58 296 P **P 12 55 12.9 +0.5**
comp=Z,9.6nm,0.8s,mb4.9
EHUE Huescar 55.95 295 P **P 12 55 15.8 +0.6**
comp=Z,17nm,1.2s,mb4.9
ESDC Sonseca Array 56.25 297 P **P 12 55 16.1 -1.2**
comp=Z,7.0nm,0.7s,mb4.8,baz=59,slow=7.6,SNR=30
ESDC Sonseca Array 56.25 297 P **P 12 55 17.1 -0.2**
comp=Z,5.9nm,0.6s,mb4.8

ESLA	Sonseca Array	56.25	297	eP	P	12 55 16.7	-0.5
	comp=Z,2.5nm,0.8s,mb4.3						
EQES	Quesada	56.31	295	P	P	12 55 17.4	-0.3
	comp=Z,14nm,0.9s,mb5.0						
EBER	Berja	56.52	294	P	P	12 55 20.7	+1.5
	comp=Z,7.1nm,0.9s,mb4.7						
JHJ	Hachijo jima 2	56.87	71	LR	LR	13 19 45.5	
	comp=Z,235nm,20.2s,MS4.3,baz=304,slow=36						
EADA	Adamuz	57.27	296	P	P	12 55 24.1	-0.4
	comp=Z,14nm,0.7s,mb5.1						
ELUQ	Luque	57.27	295	P	P	12 55 23.9	-0.8
	comp=Z,15nm,0.8s,mb5.1						
MTE	Manteigas	58.52	299	eP	P	12 55 33.6	+0.3
	comp=Z,12nm,0.8s,mb5.0						
EBAD	Badajoz	58.79	297	P	P	12 55 35.0	-0.1
	comp=Z,14nm,0.8s,mb5.0						
BILL	Bilibino	59.34	26	eP	P	12 55 38.7	+0.1
BILL				e*PP	pP	12 55 54.1	+4.6
BILL				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
BILL				MLR	MLR		
	comp=Z,400nm,14.0s,MS4.7						
SUMG	Summit	60.71	341	eP	P	12 55 48.8	+0.8
	comp=Z,32nm,0.9s,mb5.5						
CBIJ	Chichi jima	61.42	76	LR	LR	13 26 40.7	
	comp=Z,239nm,18.2s,MS4.4,baz=272,slow=40						
PET	Petropavlovsk	61.61	43	eP	P	12 56 02.7	+8.5
PET				eS	S	13 04 24.7	+13
PET				pmax	pmax		
	comp=Z,23nm,1.3s,mb5.2						
PET				MLR	MLR		
	comp=Z,200nm,20.0s,MS4.3						
LSZ	Lusaka	64.35	225	eP	P	12 56 11.6	-1.3
	comp=Z,11nm,0.8s,mb5.0						
LSZ				e	pP	12 56 19.8	-4.1
SFJD	Kangerlussuaq	67.35	338	eP	P	12 56 31.3	+0.1
FX1	Attu Island--F	69.40	39	eP	P	12 56 44.2	+0.2
GUMO	Guam	70.58	87	LR	LR	13 29 59.2	
	comp=Z,223nm,18.2s,MS4.5,baz=261,slow=38						
IMA	Indian Mountai	72.66	17	eP	P	12 57 04.0	+0.6
	comp=Z,47nm,0.8s,mb5.5						
IMA	Indian Mountai	72.66	17	eP	P	12 57 04.0	+0.6
IMA				pmax	pmax		
	comp=Z,47nm,0.8s,mb5.5						
DBIC	Dimbokro	73.27	266	P	P	12 57 07.2	-0.8
	comp=Z,3.3nm,0.5s,mb4.5,baz=51,slow=7.0,SNR=3.6						
DBIC				LR	LR	13 34 52.7	
	comp=Z,146nm,20.4s,MS4.2,baz=33,slow=40						
LBTB	Lobatse	73.64	221	eP	P	12 57 08.8	-1.2
	comp=Z,17nm,0.9s,mb5.0						
LBTB	Lobatse	73.64	221	eP	P	12 57 08.8	-1.2
LBTB				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.0						
TSUM	Tsumeb	73.73	231	eP	P	12 57 09.4	-1.1
INK	Inuvik	74.25	9	P	P	12 57 12.8	+0.2
	comp=Z,6.2nm,0.4s,mb4.9,baz=351,slow=5.8,SNR=31						
INK	Inuvik	74.25	9	eP	P	12 57 13.9	+1.3
	comp=Z,11nm,0.7s,mb4.9						
INK	Inuvik	74.25	9	eP	P	12 57 14.0	+1.4
INK				pmax	pmax		
	comp=Z,11nm,0.7s						
MBWA	Marble Bar	74.50	132	eP	P	12 57 14.4	-0.6
	comp=Z,23nm,1.0s,mb5.1						
ILAR	Eielson Array	75.28	15	P	P	12 57 18.5	-0.2
	comp=Z,3.6nm,0.8s,mb4.4,baz=326,slow=5.2,SNR=28						
ILAR				LR	LR	13 31 43.4	
	comp=Z,170nm,21.9s,MS4.3,baz=333,slow=37						
FITZ	Fitzroy Crossi	75.97	125	P	P	12 57 22.9	-0.6
	comp=Z,5.6nm,0.7s,mb4.6,baz=306,slow=3.2,SNR=17						
BOSA	Boshof	76.74	219	P	P	12 57 26.6	-1.1
	comp=Z,4.3nm,0.7s,mb4.5,baz=22,slow=5.7,SNR=7.9						
DAWY	Dawson	77.36	12	eP	P	12 57 31.5	+1.1
PMR	Palmer	77.53	18	eP	P	12 57 37.9	+6.4
	comp=Z,18nm,1.0s,mb5.0						
PMR				LR	LR		
	comp=Z,309nm,22.0s,MS4.6						
MUN	Mundaring	80.98	141	eP	P	12 57 49.8	-0.9
YKW3	Yellowknife Ar	81.36	2	eP	P	12 57 52.5	+0.5
YKA	Yellowknife Ar	81.43	2	P	P	12 57 52.6	+0.2
	comp=Z,1.2nm,0.3s,mb4.3,baz=348,slow=5.3,SNR=35						
YKA				LR	LR	13 38 46.7	
	comp=Z,234nm,18.4s,MS4.6,baz=20,slow=39						
YKA	Yellowknife Ar	81.43	2	i P	P	12 57 53.4	+1.0
YKA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KLBR	Kellerberrin	81.47	140	eP	P	12 57 52.2	-1.1
	comp=Z,21nm,1.1s,mb5.0						
SCHQ	Schefferville	81.64	336	P	P	12 57 52.8	-0.9
	comp=Z,6.0nm,0.8s,mb4.2,baz=56,slow=7.3,SNR=4.8						
SCHQ				LR	LR	13 38 14.0	
	comp=Z,85nm,19.6s,MS4.1,baz=228,slow=39						
NWAO	Narrogin (SRO)	82.26	141	P	P	12 57 56.2	-1.1
	comp=Z,10nm,0.8s,mb4.8,baz=4.6,slow=4.7,SNR=5.9						
WRA	Warramunga Arr	83.14	121	P	P	12 58 00.8	-1.3
	comp=Z,3.0nm,0.4s,mb4.6,baz=324,slow=5.0,SNR=81						
WRAB	Tennant Creek	83.14	121	eP	P	12 58 01.0	-1.1
	comp=Z,18nm,1.0s,mb5.1						
WRAB	Tennant Creek	83.14	121	eP	P	12 58 01.0	-1.1
WRAB				pmax	pmax		
	comp=Z,18nm,1.0s,mb5.1						
DLBC	Dease Lake	84.18	10	P	P	12 58 07.2	+0.8
	comp=Z,1.9nm,0.6s,mb4.4,baz=303,slow=10,SNR=7.7						
EDM	Edmonton	90.75	2	P	P	12 58 36.6	-1.7
ULM	Lac du Bonnet	92.75	350	LR	LR	13 42 43.0	
	comp=Z,168nm,20.1s,MS4.5,baz=38,slow=37						
VNA2	Neumayer--Watz	119.75	202		PKPdf	13 04 28.7	+4.8
VNA2	Neumayer--Watz	119.75	202		PKPdf	13 04 34.7	+11
VNA2	Neumayer--Watz	119.75	202		PKPdf	13 04 37.8	+14
VNA2	Neumayer--Watz	119.75	202		PKPdf	13 04 41.2	+17
VNA2	Neumayer--Watz	119.75	202		PKPdf	13 04 42.4	+19
VNA2	Neumayer--Watz	119.75	202		PKPdf	13 04 48.1	+24
VNA3	Neumayer Olymp	120.56	202		PKPdf	13 04 30.0	+4.6
VNA3	Neumayer Olymp	120.56	202		PKPdf	13 04 36.0	+11
VNA3	Neumayer Olymp	120.56	202		PKPdf	13 04 39.4	+14
VNA3	Neumayer Olymp	120.56	202		PKPdf	13 04 43.5	+18
VNA3	Neumayer Olymp	120.56	202		PKPdf	13 04 47.5	+22
VNA3	Neumayer Olymp	120.56	202		PKPdf	13 05 04.7	+39
VNDA	Vanda	125.76	164	PKP	PKPdf	13 04 35.6	+0.4
	comp=Z,0.6nm,0.9s,baz=282,slow=6.1,SNR=2.9						
VNDA	Vanda	125.76	164	PKIKP	PKPdf	13 04 35.6	+0.4
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
PLCA	Paso Flores	148.44	250	PKPbc	PKPdf	13 05 21.9	+4.8
	comp=Z,2.3nm,0.9s,baz=80,slow=3.1,SNR=6.2						
PLCA	Paso Flores	148.44	250	PKP2	PKPab	13 05 22.0	-4.2
PLCA				pmax	pmax		
	comp=Z,2.0nm,0.9s						

NIED ***31*** *13:13:00,26.50N×129.70E,h50km,Mw4.5 Best double couple: M0 6.46×10^15 NP1:φs311°,δ80°,λ109°. NP2:φs69°, δ22°,λ29°.*
BJI ***31*** *13:13:21.4,26.50N×129.70E,h13km,mB4.6,mb4.2, Ms4.2,Msz4.0*
JMA ***31*** *13:13:23.4,26.48N×129.74E,h45km,M3.9*
NEIC ***31*** *13:13:23.4±4.8,26.50N×129.67E,h13km±29km,mb3.9/1, Error ellipse: s-maj=13.7km s-min=11.7km az=95.0*
IDC ***31*** *13:13:25.8±5.8,26.51N×129.64E,h28km±40km,mb3.9/13, mb1 4.1/15,mb1mx4.0/23,mbtmp4.1/15,ML3.9/2,MS3.6/3, Ms1 3.7/3,ms1mx3.3/19,Error ellipse: s-maj=19.5km s-min=17.1km az=45.0*

ISC 31 13:13:22.7±1.2,26.54N±0.04×129.70E±0.03,h19km±9km, n37,σ0§98/51,mb4.0/14,MS3.6/3,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	Kunigami	1.31	283	Pn	Pn	13 13 46.6	+0.5
	145nm,0.3s,baz=114,slow=20,SNR=181						
JOW				Sn	Sn	13 14 01.8	-1.3
	123nm,0.3s,baz=114,slow=29,SNR=44						
JOW	Kunigami	1.31	283	P	Pn	13 13 46.6	+0.5
JOW				S	Sb	13 14 03.0	+0.3
JTK	Tokunoshima	1.41	332	P	Pn	13 13 48.3	+0.7
JTK				eS	Sb	13 14 06.3	+0.5
JMZ	Minamidaito 2	1.54	117	P	Pn	13 13 48.2	-1.3
JMZ				eS	Sn	13 14 06.0	-3.1
JIH	Iheya	1.62	288	P	Pn	13 13 51.3	+0.7
JIH				S	Sn	13 14 10.7	-0.5
JZK	Kikaishima	1.79	8	P	Pn	13 13 54.0	+1.0
JZK				S	Sn	13 14 16.2	+0.9
JJT2	Tamagusuku 2	1.79	258	P	Pn	13 13 53.3	+0.3
JJT2				eS	Sn	13 14 15.1	-0.3
NAH1	Naha	1.83	260	P	Pn	13 13 54.0	+0.4
NAH1				eS	Sn	13 14 15.7	-0.7
JAM	Amami Oshima	1.87	358	P	Pn	13 13 54.3	+0.2
JAM				S	Sn	13 14 15.9	-1.5
JAGN	Aguni-jima	2.20	272	P	Pn	13 13 59.2	+0.3
JAGN				eS	Sn	13 14 24.5	-1.3
JKE	Kume jima 2	2.62	266	P	Pn	13 14 04.7	-0.1
JNN	Nakanoshima	3.30	3	P	Pn	13 14 14.2	-0.3
JNN				eS	Sn	13 14 50.8	-2.8
JKC	Kuchinoerabu	3.94	6	P	Pn	13 14 22.9	-0.7
JKC				eS	Sn	13 15 05.7	-4.1
JTN	Tanegashima 3	4.26	15	P	Pn	13 14 27.7	-0.4
JTN				eS	Sn	13 15 13.7	-4.2
JNU	Nakatsue	6.64	9	Pn	Pn	13 15 01.4	-0.5
	1.8nm,0.3s,baz=158,slow=2.6,SNR=13						
JNU				Sn	Sn	13 16 10.3	-7.5
	1.0nm,0.3s,baz=82,slow=43,SNR=3.8						
JHJ	Hachijo jima 2	10.94	51	Pn	P	13 16 00.9	-0.4
	7.1nm,0.3s,baz=108,slow=13,SNR=4.4						
GTA	Gaotai	28.03	305	P	P	13 19 13.0	-1.6
GTA				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.1						
SONM	Songino Array	28.03	325	P	P	13 19 15.5	+0.9
	comp=Z,1.2nm,1.0s,mb3.5,baz=132,slow=9.8,SNR=5.1						
SONM				LR	LR	13 31 12.8	
	comp=Z,81nm,18.6s,MS3.3,baz=353,slow=38						
MKAR	Makanchi Array	42.32	311	P	P	13 21 17.5	+0.7
	comp=Z,1.0nm,0.6s,mb3.6,baz=97,slow=9.8,SNR=6.1						
MKAR	Makanchi Array	42.32	311	P	P	13 21 17.5	+0.7
FITZ	Fitzroy Crossi	44.54	186	P	P	13 21 35.2	-0.1
	comp=Z,5.0nm,0.9s,mb4.3,baz=339,slow=6.0,SNR=4.2						
WRA	Warramunga Arr	46.42	174	P	P	13 21 49.5	-0.6
	comp=Z,3.0nm,0.5s,mb4.5,baz=354,slow=8.4,SNR=44						
BVAR	Borovoye Array	50.93	318	P	P	13 22 25.2	+0.6
	comp=Z,0.9nm,0.6s,mb3.9,baz=72,slow=9.0,SNR=5.7						
BVAR				PcP	PcP	13 23 39.8	-1.4
	comp=Z,1.2nm,0.7s,baz=108,slow=4.7,SNR=4.7						
BRVK	Borovoye	50.99	318	eP	P	13 22 26.3	+1.2
ILAR	Eielson Array	63.55	28	P	P	13 23 53.2	-0.5
	comp=Z,0.6nm,0.7s,mb3.7,baz=268,slow=7.6,SNR=7.4						
FINES	FINESS Array B	73.24	331	P	P	13 24 54.2	+0.2
	comp=Z,2.5nm,0.8s,mb4.2,baz=63,slow=8.5,SNR=5.9						
FINES				LR	LR	14 00 49.4	
	comp=Z,66nm,18.6s,MS4.0,baz=85,slow=39						
FINES	FINESS Array B	73.24	331	P	P	13 24 54.2	+0.2
FINES				LR	LR	14 00 49.4	
AKASG	Malin Array Be	76.15	320	P	P	13 25 10.5	-0.5
	comp=Z,1.0nm,0.5s,mb4.0,baz=52,slow=5.9,SNR=5.4						
BRTR	Keskin Array B	77.88	308	P	P	13 25 21.4	+0.6
	comp=Z,1.6nm,0.9s,mb4.0,baz=104,slow=5.1,SNR=6.1						
NB2	NORSAR Subarra	79.62	334	P	P	13 25 29.4	-0.4
	comp=Z,0.9nm,0.6s,mb3.9,baz=47,slow=5.6						
NOA	NORSAR Array B	79.62	334	P	P	13 25 28.7	-1.1
	comp=Z,1.8nm,0.8s,mb4.0,baz=49,slow=5.5,SNR=5.0						
NOA				LR	LR	14 02 12.1	
	comp=Z,27nm,18.0s,MS3.6,baz=35,slow=37						
NOA	NORSAR Array B	79.62	334	P	P	13 25 28.7	-1.1
NOA				LR	LR	14 02 12.1	
CLL	Collm	84.65	326	P	P	13 25 58.0	+1.9
GERES	GERESS Array B	85.75	323	P	P	13 26 02.3	+0.7
	comp=Z,0.3nm,0.3s,mb4.1,baz=45,slow=1.4,SNR=4.0						
DLMT	Dillon	88.77	39	eP	P	13 26 17.9	+1.5
NVAR	Mina Array Bea	89.34	47	P	P	13 26 20.9	+1.6
	comp=Z,0.4nm,0.5s,mb4.0,baz=300,slow=5.9,SNR=4.6						
PDAR	Pinedale Array	92.10	39	P	P	13 26 32.9	+1.0
	comp=Z,0.8nm,0.9s,mb4.0,slow=3.0,SNR=5.7						

CSEM ***31*** *13:33:23.3±0.8,38.74N×29.01W,h5km,ML1.8,Error ellipse: s-maj=11.8km s-min=6.9km az=41.0,After PDA*
PDA ***31*** *13:33:23.3±0.8,38.74N×29.01W,h5km,MD3.0,ML1.8, Error ellipse: s-maj=11.8km s-min=6.9km az=41.0*

SVSA 31 13:33:23.3±0.8,38.74N×29.01W,h5km,MD3.0,ML1.8, Error ellipse: s-maj=11.8km s-min=6.9km az=41.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	Cedros	0.27	114	i P	Pg	13 33 28.1	-0.6
PCED				eS	Sg	13 33 31.8	-0.5
	35nm,0.1s						
PCED	Cedros	0.27	114	eS	Sg	13 33 31.8	-0.5
CALA	Caldeira	0.29	122	eP	Pg	13 33 28.4	-0.7
CALA				eS	Sg	13 33 32.4	-0.6
PICO	Pico	0.52	117	eP	Pg	13 33 32.4	-1.3
PICO				eS	Sg	13 33 39.4	-1.2
PMAN	Manadas	0.73	98	eS	Sg	13 33 44.2	-3.5
	11nm,0.1s						

IDC 31 13:40:13.7±3.9,2.84N×96.38E,mb3.8/4,mb1 4.0/4, mb1mx3.7/17,mbtmp3.8/4,Error ellipse: s-maj=151.6km s-min=27.5km az=58.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	43.60	123	P	P	13 48 19.9	-1.8
	0.2nm,0.4s,baz=303,slow=9.3,SNR=2.8						
MKAR	Makanchi Array	45.47	346	P	P	13 48 33.8	-2.6
	1.1nm,0.7s,baz=172,slow=8.6,SNR=7.2						
SONM	Songino Array	45.65	9	P	P	13 48 36.6	-1.3
	0.7nm,0.6s,baz=191,slow=8.8,SNR=8.0						
ZAL	Zalesovo	51.82	351	P	P	13 49 23.6	-1.9
	1.4nm,0.3s,baz=178,slow=4.5,SNR=2.8						

CASC ***31*** *14:32:42.5±2.2, 12.45N×87.67W,h57km±45km,MD4.1, ML4.2*
IDC ***31*** *14:32:47.1±26.0, 12.74N×87.46W,h133km±193km, mb3.3/6,mb1 3.6/6,mb1mx3.4/19,mbtmp3.7/6,Error ellipse: s-maj=154.7km s-min=46.9km az=164.0*

ISC 31 14:32:41.4±0.8,12.65N±0.10×87.6W±0.1,h92km±7km,n44, σ0§74/39,mb3.7/6,9C-18D,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	San Cristobal	0.49	85	⇓iP	P	14 32 56.8	+0.2
CRIN				eS	S	14 33 07.6	-0.2
CNCH	Conchagua	0.68	336	⇓eP	P	14 33 05.5	+7.3
CNCH				eS	S	14 33 17.4	+6.8
LEON	Leon	0.69	110	⇓eP	P	14 32 57.2	-1.1
TEL3	Telica 3	0.70	97	⇓iP	P	14 32 58.3	-0.1
TELN	Telica	0.71	94	⇓eP	P	14 32 58.3	-0.1
TELN				eS	S	14 33 10.4	-0.6
CNGN	Cerro Negro	0.85	100	⇓eP	Px	14 32 59.9	
CNGN				eS	Sx	14 33 14.2	
MIRN	Miramar	0.85	104	⇑iP	P	14 32 59.7	-0.2
MOMJ	Momotombo	1.02	104	⇓iP	P	14 33 02.0	+0.3
MOMJ				eS	S	14 33 17.7	+0.7
BLLM	Bellamira	1.03	320	eP	Px	14 33 09.4	
BLLM				eS	Sx	14 33 23.8	
VSM	San Miguel	1.04	318	eP	Px	14 33 09.8	
VSM				eS	Sx	14 33 24.5	
COPN	Copaltepe	1.05	117	⇑iP	P	14 33 01.9	-0.2
CAHU	Cacacuatique	1.28	330	⇑eP	Px	14 33 13.8	
CAHU				eS	Sx	14 33 33.7	
XAVN	Gruta Xavier	1.30	113	⇓iP	P	14 33 05.5	+0.3
MGAN	Managua	1.37	111	⇓eP	P	14 33 06.4	+0.3
MGAN				eS	S	14 33 24.6	+0.2
	comp=E,6μm,0.2s						
MGAN				eS	S	14 33 24.9	+0.4
	comp=N,5μm,0.3s						
CRUN	El Crucero	1.39	118	⇓eP	P	14 33 06.5	+0.1
WILN	Americas 2	1.42	110	eS	S	14 33 26.0	+0.5
TICN	Ticuantepe	1.43	115	⇓eP	P	14 33 07.4	+0.5
PYTN	Playitas	1.46	94	⇓iP	P	14 33 08.1	+0.8
MASN	Masaya	1.52	116	⇓eP	P	14 33 08.3	+0.3
MASN				eS	S	14 33 27.4	-0.3
SNVI	San Vicente	1.57	307	⇓eP	Px	14 33 16.4	
SNVI				eS	Sx	14 33 36.1	
APON	Apoyo	1.63	117	⇓eP	P	14 33 09.4	+0.1
LCBS	La Ceiba	1.71	306	⇑eP	Px	14 33 17.6	
LCBS				eS	Sx	14 33 41.7	
LFRS	El Faro	1.76	303	⇑eP	Px	14 33 18.2	
LFRS				eS	Sx	14 33 39.4	
LBRS	Las Brisas	1.81	307	⇑eP	Px	14 33 19.6	
LBRS				eS	Sx	14 33 42.8	
LFU	La Fuente	1.87	306	⇑eP	Px	14 33 20.5	
LFU				eS	Sx	14 33 44.0	
SNET	Serv Nac Est T	1.93	302	i	Sx	14 33 48.6	
	comp=Z,1μm,0.4s						
BOQS	Boqueron	2.00	303	⇓eP	Px	14 33 22.0	
BOQS				eS	Sx	14 33 45.7	
SSNN	San Juan del S	2.15	129	⇓eP	P	14 33 15.5	-0.8
SSNN				eS	S	14 33 40.4	-1.7
CONN	Concepcion	2.17	120	⇑eP	P	14 33 16.5	-0.2
MADN	Villa Maderas	2.33	122	eP	P	14 33 18.6	-0.2
SBLS	San Blas	2.33	301	⇓eP	Px	14 33 25.9	
SBLS				eS	Sx	14 33 55.2	
SNJE	San Jose	2.33	301	⇓eP	Px	14 33 27.0	
SNJE				eS	Sx	14 33 56.3	
RTR	El Retiro	2.38	301	eP	Px	14 33 26.7	
RTR				eS	Sx	14 33 56.9	
VCR	Vista de Mar	3.14	143	eP	P	14 33 29.0	-1.0
PRS1	Puriscal	4.14	130	eP	P	14 33 45.0	+1.2
LCR2	La Lucha 2	4.53	129	eP	P	14 33 50.0	+1.0
LCR2				eS	S	14 34 41.0	+0.1
BUS	Buena Vista	4.83	129	eP	P	14 33 54.7	+1.5
BUS				eS	S	14 34 48.2	-0.2
TXAR	Lajitas Array	22.35	320	P	P	14 37 33.5	+0.9
	comp=Z,1.1nm,0.6s,mb3.3,baz=151,slow=9.3,SNR=6.3						
PDAR	Pinedale Array	35.55	332	P	P	14 39 31.2	-0.3
	comp=Z,0.3nm,0.4s,mb3.6,baz=128,slow=9.3,SNR=4.0						
NVAR	Mina Array Bea	37.48	319	P	P	14 39 49.5	+1.6
	comp=Z,0.5nm,0.7s,mb3.6,baz=127,slow=7.4,SNR=4.0						
ULM	Lac du Bonnet	38.10	351	P	P	14 39 52.1	-0.7
	comp=Z,2.0nm,0.7s,mb4.0,baz=190,slow=6.1,SNR=2.7						
SCHQ	Schefferville	45.11	17	P	P	14 40 49.3	-0.8
	comp=Z,4.1nm,0.9s,mb4.2,baz=195,slow=7.0,SNR=6.5						
ILAR	Eielson Array	65.80	336	P	P	14 43 16.9	-1.7
	comp=Z,0.2nm,0.3s,mb3.4,baz=151,slow=4.6,SNR=6.7						
WRA	Warramunga Arr	139.23	254	PKP	PKPdf	14 51 58.6	0.0
	comp=Z,0.4nm,0.5s,baz=91,slow=2.5,SNR=9.1						

CSEM ***31*** *14:34:38.3±0.1,30.53N×50.44E,h10km,ML3.1,Error ellipse: s-maj=2.2km s-min=1.5km az=146.0*
TEH ***31*** *14:34:40.9,30.51N×50.44E,h10km,Mn3.4*
THR ***31*** *14:34:40.6±0.6,30.50N×50.79E,h15km,ML3.6*
KISR ***31*** *14:34:42.0±0.8,30.42N×50.18E,h34km,ML3.2*

ISC 31 14:34:38.6±0.4,30.50N±0.04×50.37E±0.04,h10km,n28, σ0§95/29,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	Shooshtar-Gavs	2.09	321	ePN	Pg	14 35 20.3	-0.1
SHGR				AML	AML	14 36 04.8	
	comp=E,185nm,0.8s						
IGAR	Garneh	2.34	41	Pn	Pn	14 35 19.2	+1.4
IPAR	Pars	2.41	105	Pn	Pn	14 35 18.9	+0.1
UMR	Umm Al-Rimmam	2.48	248	eP	Pn	14 35 20.2	+0.4
IMOK	Mook	2.50	125	Pn	Pn	14 35 21.0	+0.9
ISRV	Sarvestan	2.63	114	Pn	Pn	14 35 22.4	+0.5
KBD	Kabd	2.67	241	eP	Pn	14 35 23.4	+0.9
KBD				eS	Sn	14 35 54.2	-1.0
KBD				AML	AML	14 35 56.2	
	comp=Z,110nm,0.3s						
MIB	Mutribah	2.71	256	eP	Pn	14 35 24.0	+0.9
MIB				AML	AML	14 36 11.0	
	comp=Z,123nm,0.5s						
QRN	Al-Qurain	2.76	231	eP	Pn	14 35 24.8	+1.1
QRN				AML	AML	14 36 00.1	
	comp=Z,103nm,0.2s						
RDF	Al-Radifah	2.91	238	eP	Pn	14 35 26.1	+0.3
RDF				eS	Sn	14 35 59.8	-1.5
RDF				AML	AML	14 36 13.5	
	comp=Z,104nm,0.5s						
IZEF	Zefreh	2.92	34	Pn	Pn	14 35 26.5	+0.5
IKLH	Kalahroud	3.00	20	Pn	Pn	14 35 27.0	-0.1
NASN	Na'in	3.10	42	ePN	Pn	14 35 28.3	-0.2
NASN				AML	AML	14 36 24.4	
	comp=N,73nm,0.8s						
GHIR	Ghir-Karzin	3.17	133	ePN	Pn	14 35 28.9	-0.8
GHIR				AML	AML	14 36 27.3	
	comp=N,242nm,0.3s						
IMEH	Mehriz	3.75	75	Pn	Pn	14 35 37.5	-0.4
ICHK	Chekchek	3.87	62	Pn	Pn	14 35 39.1	-0.4
ASAO	Ashtian	4.05	356	ePN	Pn	14 35 44.8	+2.7
IBAF	Bafgh	4.59	75	Pn	Pn	14 35 48.8	-1.0
IVRN	Varamin	4.63	14	Pn	Pn	14 35 49.6	-0.7
IRAZ	Razeghan	4.91	356	Pn	Pb	14 36 05.2	+0.8
IVIS	Veys	4.99	324	Pn	Pg	14 36 15.0	-3.3
IDMV	Damavand	5.26	15	Pn	Pn	14 35 58.5	-0.7
DAMV	Damavand	5.29	14	ePN	Pn	14 36 00.3	+0.7
DAMV	Damavand	5.29	14	ePn	Pn	14 36 00.3	+0.6
	SNR=52						
IAFJ	Afjeh	5.46	12	Pn	Pn	14 36 01.2	-0.9
IFIR	Firoozkooh	5.51	21	Pn	Pn	14 36 01.8	-0.9
KRBR	Kerman	5.56	94	ePN	Pn	14 35 59.7	-3.7
BNDS	Bandar-Abbas	5.95	120	AML	AML	14 37 25.7	
	comp=N,71nm,0.3s						

IDC ***31*** *14:53:14.4±3.6,6.98S×106.48E,h58km±31km,mb4.0/13, mb1 4.1/13,mb1mx4.0/18,mbtmp4.3/13,MS3.6/3, Ms1 3.6/3,ms1mx3.3/26,Error ellipse: s-maj=34.1km s-min=13.5km az=55.0*
NEIC ***31*** *14:53:19.2±1.9,6.98S×106.62E,h103km±17km,mb4.1/4, Error ellipse: s-maj=21.1km s-min=6.6km az=52.0*
NEIC Felt [II] at Bandung.

**ISC 31 14:53:15.8±2.9,7.0S±0.1×106.6E±0.2,h88km±26km

*CSEM **31** 15:01:29.7±0.1, 71.15N×6.98W, h15km, ML4.0, Error ellipse: s-maj=5.9km s-min=2.9km az=4.0*
*BER **31** 15:01:34.1±0.7, 71.10N×7.39W, h13km±51km, MD3.1, ML4.0*
*NEIC **31** 15:01:35.2, 71.30N×8.25W, h16km, MD3.1(BER), After BER.*

ISC 31 15:01:30.9±0.5, 70.9N±0.1×7.09W±0.10, h10km, n18, σ1§19/28, 1C-7D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNE	**Jan Mayen East**	**0.40**	**279**	⇓*iP*	**Pg**	**15 01 40.1**	**+1.0**
JNW	**Jan Mayen West**	**0.45**	**283**	⇓*iP*	**Pg**	**15 01 40.7**	**+0.6**
JNW				*eS*	**Sg**	**15 01 45.2**	**-1.0**
JNW				AML	AML	15 01 46.7	
	comp=Z,11μm,0.3s						
JNW	**Jan Mayen West**	**0.45**	**283**	⇓*iP*	**Pg**	**15 01 40.7**	**+0.6**
	SNR=109						
JNW				*eS*	**Sg**	**15 01 45.2**	**-1.0**
	comp=Z,11μm,0.3s,SNR=109						
JMIC	**Jan Mayen**	**0.47**	**278**	⇓*iP*	**Pg**	**15 01 40.9**	**+0.4**
JMIC				*eS*	**Sg**	**15 01 46.0**	**-0.9**
JMIC				AML	AML	15 01 47.4	
	comp=Z,9μm,0.1s						
JMIC	**Jan Mayen**	**0.47**	**278**	⇓*iP*	**Pg**	**15 01 40.9**	**+0.4**
	SNR=108						
JMIC				*eS*	**Sg**	**15 01 46.0**	**-0.9**
	comp=Z,9μm,0.1s,SNR=108						
JMI	**Jan Mayen**	**0.54**	**271**	⇓*iP*	**Pg**	**15 01 42.5**	**+0.7**
JMI				*eS*	**Sg**	**15 01 49.0**	**-0.1**
JMI				AML	AML	15 01 51.5	
	comp=Z,10μm,0.3s						
JMI	**Jan Mayen**	**0.54**	**271**	⇓*iP*	**Pg**	**15 01 42.5**	**+0.6**
	SNR=104						
JMI				*eS*	**Sg**	**15 01 49.0**	**-0.1**
	comp=Z,10μm,0.3s,SNR=104						
DAG	**Danmarks Havn**	**6.68**	**337**	⇑*iP*	**Pn**	**15 03 07.4**	**-4.2**
	comp=Z,25nm,0.5s						
LOF	**Lofoten**	**7.74**	**101**	*eP*	**Pn**	**15 03 28.6**	**+2.2**
LOF	**Lofoten**	**7.74**	**101**	*eP*	**Pn**	**15 03 28.5**	**+2.1**
	SNR=48						
STOK	**Stokkvaagen**	**8.64**	**112**	*eP*	**P**	**15 03 39.2**	**+0.3**
STOK				*eS*	**Sn**	**15 05 12.2**	**-5.1**
STOK				AML	AML	15 05 15.0	
	comp=Z,13nm,0.3s						
STOK	**Stokkvaagen**	**8.64**	**112**	*eP*	**P**	**15 03 39.2**	**+0.3**
	SNR=48						
STOK				*eS*	**Sn**	**15 05 12.2**	**-5.2**
	comp=Z,13nm,0.3s,SNR=48						
HSP	**Hornsund**	**8.66**	**35**	*eP*	**P**	**15 03 38.7**	**-0.6**
MOR8	**Moi Rana**	**9.18**	**111**	*eP*	**P**	**15 03 49.4**	**+3.0**
MOR8				*eS*	**Sn**	**15 05 28.3**	**-2.5**
NSS	**Namsos**	**9.63**	**122**	*eP*	**P**	**15 03 52.2**	**-0.2**
NSS				*eS*	**Sn**	**15 05 35.1**	**-6.6**
KTK1	**Kautokeino**	**10.51**	**86**	*eP*	**P**	**15 04 05.8**	**+1.4**
KAF	**Kangasniemi**	**15.73**	**107**	*ep*	**P**	**15 05 13.2**	**-0.5**
JOF	**Joensuu**	**16.74**	**99**	*ep*	**P**	**15 05 25.0**	**-1.7**

*CSEM **31** 15:30:33.4±0.1, 67.09N×20.84E, h2km, ML2.5, Error ellipse: s-maj=3.7km s-min=2.8km az=46.0, Mining explosion.*
*IDC **31** 15:30:34.5±0.9, 67.06N×21.14E, mb1 2.9/4, mb1mx2.8/21, mbtmp2.9/4, ML2.6/3, Error ellipse: s-maj=15.7km s-min=7.8km az=112.0*
*UPP **31** 15:30:34.4, 67.07N×20.95E, h0km, ML2.5, Mining explosion.*
*HEL **31** 15:30:35.0±0.1, 67.06N×20.94E, ML2.1, ML2.5(UPP), ML1.8(BER), Explosion*
*NAO **31** 15:30:35.0±1.0, 67.04N×21.04E, ML2.2*
*BER **31** 15:30:36.4±3.6, 67.08N×20.87E, ML1.8, ML2.2(NAO), Suspected explosion*

ISC 31 15:30:33.0±0.3, 67.07N±0.02×21.06E±0.07, n49, σ1§32/76, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.20**	**287**	*iP*	**Pg**	**15 30 37.7**	**+0.7**
MASU	**Masugnsbyn**	**0.54**	**42**	*iP*	**Pg**	**15 30 45.2**	**+1.4**
KUA	**Kurravaara**	**0.94**	**343**	*eP*	**Pg**	**15 30 51.5**	**-0.2**
SALU	**Saltoluokta**	**1.04**	**289**	*eP*	**Pb**	**15 30 53.1**	**-0.5**
LANU	**Lannavaara**	**1.05**	**19**	*eP*	**Pb**	**15 30 53.9**	**+0.1**
NIKU	**Nikkaluokta**	**1.12**	**317**	*eP*	**Pb**	**15 30 54.6**	**-0.4**
SJUU	**Sjulsmark**	**1.58**	**172**	*eP*	**Pn**	**15 31 03.2**	**+0.8**
KIF	**Kilpisjarvi**	**1.95**	**357**	*eP*	**Pn**	**15 31 10.1**	**+2.4**
KIF				*eSG*	**Sg**	**15 31 36.1**	**-1.8**
KTK1	**Kautokeino**	**2.12**	**22**	*eP*	**Pn**	**15 31 13.2**	**+3.1**
KTK1				*eSG*	**Sg**	**15 31 40.9**	**-2.7**
KTK1				AML	AML	15 31 43.0	
	comp=Z,12nm,0.3s						
KTK1	**Kautokeino**	**2.12**	**22**	P	**Pn**	**15 31 13.1**	**+3.0**
KTK1				Sg	**Sg**	**15 31 40.9**	**-2.7**
SGF	**Sodankyl**	**2.16**	**77**	*eP*	**Pn**	**15 31 13.1**	**+2.4**
SGF				*eSG*	**Sg**	**15 31 42.4**	**-2.5**
SGF				MSG		15 31 45.2	
	comp=Z,8.6nm,0.1s						
SGF	**Sodankyl**	**2.16**	**77**	P	**Pn**	**15 31 13.1**	**+2.4**
SGF				Sg	**Sg**	**15 31 42.3**	**-2.6**
BURU	**Burvik**	**2.50**	**177**	*eP*	**Pn**	**15 31 16.9**	**+1.4**
BURU	**Burvik**	**2.50**	**177**	P	**Pn**	**15 31 16.8**	**+1.3**
TRO	**Tromso**	**2.70**	**344**	*eSG*	**Sg**	**15 31 58.4**	**-4.4**
TRO				AML	AML	15 32 00.1	
	comp=Z,9.5nm,0.2s						
TRO	**Tromso**	**2.70**	**344**	Sg	**Sg**	**15 31 58.4**	**-4.4**
	comp=Z,9.5nm,0.2s						
MOR8	**Moi Rana**	**2.79**	**254**	*eP*	**Pn**	**15 31 19.1**	**-0.5**
OUL	**Oulu**	**2.80**	**133**	*eP*	**Pn**	**15 31 21.3**	**+1.5**
OUL				*eS*	**Sn**	**15 31 55.9**	**+1.1**
OUL				MSG		15 32 05.0	
	comp=Z,5.2nm,0.1s						
OUL	**Oulu**	**2.80**	**133**	P	**Pn**	**15 31 21.3**	**+1.4**
OUL				S	**Sn**	**15 31 55.9**	**+1.1**
	comp=Z,5.2nm,0.1s						
MELSS	**Ber_school_2**	**2.89**	**269**	*e*	**Pn**	**15 31 21.9**	**+0.7**
ARA0	**ARCESS Array S**	**2.98**	**32**	Pn	**Pn**	**15 31 23.4**	**+1.0**
	baz=209,slow=14						
ARA0				Sn	**Sn**	**15 31 59.9**	**+0.5**
	baz=222,slow=22						
ARA0	**ARCESS Array S**	**2.98**	**32**	*eP*	**Pn**	**15 31 23.4**	**+1.0**
ARA0				*eS*	**Sn**	**15 31 59.9**	**+0.5**
ARCES	**ARCESS Array B**	**2.98**	**32**	Pn	**Pn**	**15 31 23.1**	**+0.6**
	comp=Z,0.6nm,0.3s,baz=218,slow=14,SNR=72						
ARCES				Sn	**Sn**	**15 31 59.5**	**+0.1**
	comp=Z,1.9nm,0.3s,baz=214,slow=26,SNR=14						
LOF	**Lofoten**	**3.07**	**294**	*eP*	**Pn**	**15 31 23.1**	**-0.6**
KEV	**Kevo**	**3.48**	**36**	*eP*	**Pn**	**15 31 30.2**	**+0.6**
KEV				*eS*	**Sn**	**15 32 12.4**	**+0.3**
KEV				MSG		15 32 23.7	
	comp=Z,4.4nm,0.2s						
KEV	**Kevo**	**3.48**	**36**	P	**Pn**	**15 31 30.1**	**+0.5**
KEV				S	**Sn**	**15 32 12.3**	**+0.2**
	comp=Z,4.4nm,0.2s						
KJN	**Kajaani**	**4.07**	**134**	*eP*	**Pn**	**15 31 39.0**	**+1.1**
KJN				*eS*	**Sn**	**15 32 25.7**	**-1.3**
KJN				MSG		15 32 48.0	
	comp=Z,4.0nm,0.2s						
KJN	**Kajaani**	**4.07**	**134**	P	**Pn**	**15 31 39.0**	**+1.1**
KJN				S	**Sn**	**15 32 25.7**	**-1.3**
	comp=Z,4.0nm,0.2s						
VAF	**Ylistaro**	**4.10**	**170**	*eP*	**Pn**	**15 31 39.4**	**+1.1**
VAF	**Ylistaro**	**4.10**	**170**	P	**Pn**	**15 31 39.3**	**+1.0**
NSS	**Namsos**	**4.52**	**240**	*eS*	**Sn**	**15 32 38.6**	**+0.1**
NSS	**Namsos**	**4.52**	**240**	S	**Sn**	**15 32 38.5**	**0.0**
APA0	**Apatity Array**	**4.65**	**78**	Pn	**Pn**	**15 31 46.3**	**+0.1**
	baz=264,slow=11						
APA0				Sn	**Sn**	**15 32 40.6**	**-1.1**
	baz=271,slow=22						
APA0				Lg		15 33 00.3	
	baz=273,slow=37						
APA0	**Apatity Array**	**4.65**	**78**	*eP*	**Pn**	**15 31 46.3**	**+0.1**
APA0				*eS*	**Sn**	**15 32 40.6**	**-1.1**
APA0				*eSG*	**Sg**	**15 33 00.3**	**-7.5**
APA0	**Apatity Array**	**4.65**	**78**	P	**Pn**	**15 31 46.2**	**+0.1**
APA0				S	**Sn**	**15 32 40.6**	**-1.1**
APA0				Sg	**Sg**	**15 33 00.3**	**-7.5**
SUF	**Sumiainen**	**4.87**	**151**	*eP*	**Pn**	**15 31 49.9**	**+0.6**
SUF				*eS*	**Sn**	**15 32 44.2**	**-3.1**
SUF	**Sumiainen**	**4.87**	**151**	P	**Pn**	**15 31 49.9**	**+0.6**
SUF				S	**Sn**	**15 32 44.1**	**-3.2**
JOF	**Joensuu**	**6.02**	**129**	*eP*	**Pn**	**15 32 04.9**	**-0.5**
JOF				*eS*	**Sn**	**15 33 11.5**	**-4.5**
FIA0	**FINESS Array S**	**6.05**	**156**	Pn	**Pn**	**15 32 05.6**	**-0.3**
	baz=343,slow=14						
FIA0				Sn	**Sn**	**15 33 12.6**	**-4.3**
	baz=351,slow=22						
FIA0	**FINESS Array S**	**6.05**	**156**	*eP*	**Pn**	**15 32 05.8**	**-0.1**
FIA0				*eS*	**Sn**	**15 33 13.4**	**-3.5**
FINES	**FINESS Array B**	**6.05**	**156**	Pn	**Pn**	**15 32 04.8**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=348,slow=13,SNR=10						
FINES				Sn	**Sn**	**15 33 14.2**	**-2.7**
	comp=Z,0.5nm,0.3s,baz=356,slow=23,SNR=8.8						
FINES				Lg		15 33 45.5	
	comp=Z,0.5nm,0.3s,baz=343,slow=29,SNR=3.7						
NB2	**NORSAR Subarra**	**7.42**	**220**	Pn	**Pn**	**15 32 22.1**	**-3.2**
	baz=24,slow=11						
NB2	**NORSAR Subarra**	**7.42**	**220**	*eP*	**Pn**	**15 32 22.1**	**-3.2**
NOA	**NORSAR Array B**	**7.42**	**220**	Pn	**Pn**	**15 32 22.9**	**-2.3**
	comp=Z,0.2nm,0.3s,baz=42,slow=17,SNR=2.8						
NOA				Sn	**Sn**	**15 33 44.7**	**-6.5**
	comp=Z,0.1nm,0.3s,baz=60,slow=14,SNR=2.8						
HFS	**Hagfors**	**7.69**	**209**	*eP*	**Pn**	**15 32 26.4**	**-2.5**
HFS	**Hagfors**	**7.69**	**209**	Pn	**Pn**	**15 32 26.2**	**-2.7**
	baz=32,slow=13,SNR=3.2						
HFS				Sn	**Sn**	**15 33 50.9**	**-6.9**
	comp=Z,0.1nm,0.3s,baz=40,slow=24,SNR=4.1						
HFS	**Hagfors**	**7.69**	**209**	Pn	**Pn**	**15 32 26.4**	**-2.5**
	baz=34,slow=16						
SPA0	**Spitsbergen Ar**	**11.25**	**355**	Pn	**P**	**15 33 16.6**	**-1.3**
	baz=156,slow=14						
SPA0	**Spitsbergen Ar**	**11.25**	**355**	*eP*	**P**	**15 33 16.6**	**-1.3**

*NEIC **31** 15:32:52.5, 19.56N×69.23W, h36km, MD3.6(RSPR), After RSPR.*

RSPR 31 15:32:52.5, 19.56N×69.23W, h36km±30km, MD3.6/4, MD3.6/4, 3C-1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**2.28**	**118**	⇓*eP*	P	15 33 27.8	-0.7
AGPR				*eS*	S	15 33 53.7	-2.0
LSP	**Las Mesas**	**2.45**	**124**	*eS*	S	15 33 58.5	-1.5
CRPR	**Cabo Rojo, PR**	**2.54**	**127**	⇑*eP*	P	15 33 31.2	-1.0
CRPR				*eS*	S	15 33 59.9	-2.2
MGP	**Maguayo**	**2.55**	**127**	*eS*	S	15 34 00.3	-2.2
LRS	**Lares**	**2.59**	**119**	⇑*eP*	P	15 33 30.4	-2.5
LRS				*eS*	S	15 34 00.3	-3.2
PORP	**Portuguez**	**2.88**	**121**	*eS*	S	15 34 06.5	-4.3
MTP	**Monte Pirata**	**3.77**	**112**	⇑*eP*	P	15 33 47.5	-2.3
MTP				*eS*	S	15 34 28.6	-5.0

*NEIC **31** 15:35:37.5, 33.19N×115.61W, h4km, ML3.7(PAS), After PAS.*

ECX 31 15:35:37.7±0.7, 33.18N×115.61W, h3km±3km, ML3.7, 6C-5D, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRK	**Frink**	**0.22**	**354**	⇓*iP*	Pg	15 35 41.8	-0.3
COK	**Cook Ranch**	**0.35**	**197**	⇓*iP*	Pg	15 35 44.6	0.0
CRR	**Carrizo Plain**	**0.42**	**226**	⇓*iP*	Pg	15 35 45.5	-0.7
COA	**Coachella**	**0.52**	**128**	⇓*iP*	Pg	15 35 47.3	-0.8
YAQ	**Yaqui Meadows**	**0.62**	**269**	⇑*iP*	Pg	15 35 49.0	-1.1
GLA	**Glamis**	**0.67**	**101**	⇑*iP*	Pg	15 35 49.6	-1.5
GLA				*eS*	Sg	15 35 59.1	-0.9
GLA	**Glamis**	**0.67**	**101**	⇑*iP*	Pg	15 35 49.6	-1.5
RMX	**La Rumorosa**	**0.70**	**214**	*eS*	Sg	15 36 00.5	-0.6
RMX				⇓*e*		15 36 01.2	
	comp=E,3μm,0.2s						
PFO	**Pinyon Flat Ob**	**0.82**	**301**	*eP*	Pg	15 35 52.1	-2.0
PFO				*eS*	Sg	15 36 03.6	-1.6
BAR	**Barrett**	**1.03**	**241**	⇑*iP*	Pb	15 35 55.3	-2.5
BAR	**Barrett**	**1.03**	**241**	*eP*	Pb	15 35 55.2	-2.5
CBX	**Cerro Bola**	**1.24**	**226**	*eP*	Pb	15 35 59.0	-2.4
CBX				*eS*	Sb	15 36 15.7	-2.0
ENX	**Ensenada**	**1.57**	**215**	⇑*eP*	Pn	15 36 05.1	-1.6
ENX				*eS*	Sb	15 36 25.9	-1.5
PBX	**Punta Banda**	**1.72**	**214**	*eP*	Pn	15 36 07.1	-1.6
PBX				*eS*	Sn	15 36 29.2	-2.3
ECNX	**Esteban Cantu**	**1.74**	**209**	⇑*eP*	Pn	15 36 05.3	-3.8
ECNX				*eS*	Sn	15 36 25.5	-6.5
LDFC	**Landfair**	**1.93**	**12**	*eP*	Pn	15 36 10.8	-1.1
SPX	**San Pedro Mart**	**2.14**	**177**	*ePN*	Pn	15 36 11.5	-3.3
MWC	**Mount Wilson**	**2.29**	**298**	*ePn*	Pn	15 36 15.4	-1.5
GSC	**Goldstone**	**2.33**	**335**	Pn	Pn	15 36 16.0	-1.6
GSC				*ePg*	Pg	15 36 21.0	-3.3
NEN	**Nelson**	**2.54**	**14**	*ePn*	Pn	15 36 18.5	-2.1
DAC	**Darwin (Calif)**	**3.49**	**333**	*ePn*	Pn	15 36 30.1	-4.0
TUC	**Tucson**	**4.16**	**101**	*ePn*	Pn	15 36 40.5	-3.0
PTRM	**Twissleman Ran**	**4.53**	**304**	*ePn*	Pn	15 36 46.0	-2.8
MTUM	**Tungsten Hills**	**4.81**	**331**	Pn	Pn	15 36 47.3	-5.5
ARUT	**Antelope Range**	**4.92**	**20**	Pn	Pn	15 36 52.7	-1.7
TPH	**Tonopah**	**5.05**	**345**	Pn	Pn	15 36 53.4	-2.8
MSU	**Marysvale**	**6.00**	**27**	Pn	Pn	15 37 06.3	-3.3
CMB	**Columbia Colle**	**6.21**	**323**	Pn	Pn	15 37 11.7	-0.9
TMUT	**Trail Mountain**	**7.06**	**29**	Pn	Pn	15 37 21.5	-3.0
SRU	**San Rafael**	**7.20**	**33**	Pn	Pn	15 37 21.2	-5.4
PV10	**Paradox Valley**	**7.44**	**44**	Pn	Pn	15 37 26.6	-3.2
MPU	**Maple Canyon**	**7.53**	**24**	Pn	Pn	15 37 27.6	-3.6
ELK	**Elko**	**7.55**	**2**	Pn	Pn	15 37 26.1	-5.3
PV01	**Paradox Valley**	**7.56**	**47**	*ePn*	Pn	15 37 28.6	-3.0
MNTX	**Cornudas Mount**	**8.77**	**97**	*ePn*	P	15 37 43.1	-5.3

BJI 31 15:48:23.4, 39.99N×114.76E, h14km, mb4.4, ML4.1, Ms4.1, Msz4.0, 1C, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTO	**Baotou**	**3.68**	**281**	*ePG*	Pg	15 49 27.8	-9.0
BTO				SG	Sg	15 50 17.0	-8.9
BTO				Smax			
	comp=N,763nm,0.3s						
BTO				Smax			
	comp=E,257nm,0.4s						
TIA	**Tai'an**	**4.21**	**153**	P	Pn	15 49 29.0	+0.3
TIA				PG	Pg	15 49 34.8	-13
TIA				SG	Sg	15 50 28.8	-15
TIA				Smax			
	comp=N,118nm,0.7s						
TIA				Smax			
	comp=E,167nm,0.5s						
DL2	**Dalian**	**5.42**	**99**	PG	Pg	15 50 01.3	-10
DL2				SG	Sg	15 51 09.8	-14
DL2				Smax			
	comp=N,60nm,0.8s						
DL2				Smax			
	comp=E,50nm,0.6s						
SNY	**Shenyang**	**6.93**	**72**	⇑PG	Pg	15 50 25.3	-16
SNY				SG	Sg	15 51 56.0	-18
SNY				Smax			
	comp=N,80nm,0.7s						
SNY				Smax			
	comp=E,60nm,1.2s						
XAN	**Xi'an**	**7.55**	**220**	PG	Pg	15 50 41.8	-12
XAN				SG	Sg	15 52 17.8	-17
XAN				Smax			
	comp=N,77nm,1.2s						
XAN				Smax			
	comp=E,43nm,1.1s						
NJ2	**Nanjing**	**8.59**	**156**	*eP*	P	15 50 27.0	-3.2
NJ2				AP		15 50 31.5	
NJ2				S	Sn	15 52 06.3	-1.5
NJ2				XS		15 52 12.5	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
NJ2				Smax			
	comp=N,90nm,0.7s						
NJ2				Smax			
	comp=E,90nm,0.8s						
NJ2				LR	LR		
	comp=N,2μm,5.5s						
NJ2				LR	LR		
	comp=E,3μm,5.7s						
NJ2				LR	LR		
	comp=Z,1μm,6.3s						
LSA	**Lhasa**	**21.87**	**249**	P	P	15 53 14.3	-3.3

CASC 31 15:51:25.9±1.6, 11.63N×88.52W, h80km±161km, MD3.7, ML3.2, 3C-9D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**1.77**	**22**	*eP*	P	15 52 05.5	+10
CNCH				*eS*	S	15 52 29.0	+12
LEON	**Leon**	**1.77**	**64**	⇑*eP*	P	15 51 54.9	-0.5
LEON				⇑*iP*		15 51 54.9	
CRIN	**San Cristobal**	**1.79**	**53**	⇑*eP*	P	15 51 55.7	+0.1
BLLM	**Bellamira**	**1.83**	**9**	*eP*	P	15 52 06.8	+11
BLLM				*eS*	S	15 52 30.4	+12
TEL3	**Telica 3**	**1.89**	**60**	⇓*eP*	P	15 51 56.5	-0.4
TELN	**Telica**	**1.92**	**59**	⇓*eP*	P	15 51 57.0	-0.2
MIRN	**Miramar**	**1.94**	**65**	⇓*eP*	P	15 51 57.1	-0.5
COPN	**Copaltepe**	**1.96**	**74**	⇓*eP*	P	15 51 57.5	-0.4
CNGN	**Cerro Negro**	**1.98**	**64**	⇓*eP*	P	15 51 57.7	-0.4
SNVI	**San Vicente**	**2.00**	**351**	*eP*	P	15 52 13.1	+15
SNVI				*eS*	S	15 52 37.9	+16
LFRS	**El Faro**	**2.06**	**345**	*eP*	P	15 52 10.6	+11
LFRS				*eS*	S	15 52 35.0	+11
LCBS	**La Ceiba**	**2.07**	**348**	⇓*eP*	P	15 52 10.2	+11
LCBS				*eS*	S	15 52 35.6	+12
MOMJ	**Momotombo**	**2.09**	**68**	⇓*eP*	P	15 51 59.0	-0.6
BOQS	**Boqueron**	**2.23**	**341**	⇓*eP*	P	15 52 12.8	+11
BOQS				*eS*	S	15 52 40.7	+13
TICN	**Ticuantepe**	**2.28**	**79**	⇓*eP*	P	15 52 02.4	+0.1
MGAN	**Managua**	**2.28**	**77**	*eS*	S	15 52 29.4	0.0
	comp=N,180nm,0.1s						
WILN	**Americas 2**	**2.34**	**77**	*eS*	S	15 52 31.4	+0.5
RTR	**El Retiro**	**2.51**	**334**	*eP*	P	15 52 15.6	+10
RTR				*eS*	S	15 52 47.6	+13
CONN	**Concepcion**	**2.84**	**91**	*eP*	P	15 52 09.2	-0.9

WEL 31 15:52:28.2±0.2, 37.17S×176.70E, h248km±2km, ML3.7/12, 1C, Error ellipse: s-maj=4.0km s-min=4.0km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.14**	**163**	PN	P	15 53 03.7	-0.3
URZ				SN	S	15 53 31.4	-0.4
MWZ	**Matawai**	**1.33**	**151**	PN	P	15 53 05.2	-0.1
MWZ				SN	S	15 53 33.8	-0.4
MXZ	**Matakaoa Point**	**1.34**	**107**	PN	P	15 53 05.0	-0.4
MXZ				SN	S	15 53 33.4	-0.9
PUZ	**Puketiti**	**1.53**	**126**	⇑PN	P	15 53 06.7	-0.1
PUZ				SN	S	15 53 35.8	-1.1
BKZ	**Black Stump Fm**	**2.00**	**185**	PN	P	15 53 10.6	-0.1
BKZ				*e*SN	S	15 53 42.9	-0.8
KNZ	**Kokohu**	**2.00**	**158**	PN	P	15 53 10.6	-0.1
KNZ				SN	S	15 53 43.3	-0.4
CNZ	**Chateau**	**2.22**	**204**	*e*PN	P	15 53 13.1	+0.3
WPVZ	**Whakapapa**	**2.22**	**204**	*e*PN	P	15 53 13.2	+0.3
TUVZ	**Tukino**	**2.25**	**201**	*e*PN	P	15 53 13.4	+0.2
FWVZ	**Far West T-bar**	**2.27**	**203**	PN	P	15 53 14.0	+0.7
WNVZ	**Wahianoa**	**2.32**	**202**	PN	P	15 53 13.8	0.0
MOVZ	**Moawhango**	**2.35**	**198**	PN	P	15 53 13.8	-0.4
MOVZ				*e*SN	S	15 53 49.5	-0.4
PKVZ	**Pokaka**	**2.37**	**206**	PN	P	15 53 14.4	+0.1
MTVZ	**Mangateitei**	**2.41**	**203**	PN	P	15 53 14.8	+0.1
PXZ	**Pawanui**	**2.86**	**177**	PN	P	15 53 18.4	-1.0
PXZ				SN	S	15 53 57.4	-1.7
WAZ	**Wanganui**	**2.91**	**207**	PN	P	15 53 19.9	0.0
TSZ	**Takapari Road**	**2.94**	**191**	PN	P	15 53 19.1	-1.1
TSZ				SN	S	15 53 59.3	-1.4
MRZ	**Mangatainoka R**	**3.59**	**194**	PN	P	15 53 25.5	-2.1
MRZ				SN	S	15 54 11.3	-2.6
KIW	**Kapiti Island**	**3.94**	**200**	PN	P	15 53 29.4	-2.2
KIW				*e*SN	S	15 54 17.1	-3.9
MTW	**Mount Morrison**	**4.09**	**193**	PN	P	15 53 30.5	-3.0

*JMA **31** 15:59:16.1±0.3, 23.91N×124.66E, h10km, M3.7*
*IDC **31** 15:59:16.2±1.3, 23.91N×124.70E, h29km±7km, mb3.7/5, mb1 3.8/6, mb1mx3.6/18, mbtmp3.9/6, Error ellipse: s-maj=41.5km s-min=23.3km az=65.0*

ISC 31 15:59:14.7±0.8, 23.81N±0.06×124.63E±0.04, h29km, h29km±1.2km: pP-P, n14, σ0§92/18, mb3.7/5, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIJ	**Ishigaki jima**	**0.71**	**321**	P	**Pb**	**15 59 28.5**	**0.0**
JIJ				S	**Sb**	**15 59 37.2**	**-0.7**
JKRS	**Kuro-shima**	**0.71**	**307**	P	**Pb**	**15 59 29.4**	**+0.9**
JKRS				S	**Sb**	**15 59 38.9**	**+0.9**
HATJ	**Hateruma jima**	**0.80**	**288**	P	**Pb**	**15 59 31.2**	**+1.3**
JTJ	**Tarama**	**0.83**	**4**	P	**Pb**	**15 59 30.3**	**-0.2**
JTJ				S	**Sb**	**15 59 40.0**	**-1.3**
JMJ	**Miyako jima 2**	**1.17**	**31**	P	**Pn**	**15 59 35.9**	**+0.6**
JMJ				*e*S	**Sn**	**15 59 50.6**	**+0.2**
JOGS	**Gusukube**	**1.18**	**37**	P	**Pn**	**15 59 36.5**	**+1.0**
JOGS				*e*S	**Sn**	**15 59 52.1**	**+1.4**
JOW	**Kunigami**	**4.46**	**47**	Pn	**Pn**	**16 00 20.7**	**-1.6**
	baz=156,slow=20						
JOW				Sn	**Sn**	**16 01 14.5**	**+0.6**
	2.4nm,0.3s,baz=142,slow=19,SNR=3.1						
SONM	**Songino Array**	**28.03**	**333**	P	**P**	**16 05 03.6**	**-1.7**
	0.3nm,0.5s,mb3.2,baz=150,slow=8.5,SNR=3.4						
SONM				pP	pP	16 05 11.7	-2.1
	0.3nm,0.5s,baz=150,slow=9.3,SNR=3.1						
MKAR	**Makanchi Array**	**40.82**	**315**	P	**P**	**16 06 54.7**	**-0.5**
	0.4nm,0.3s,mb3.5,baz=102,slow=9.2,SNR=5.5						
MKAR				pP	pP	16 07 04.3	+0.3
	0.6nm,0.3s,baz=130,slow=11,SNR=5.1						
ZAL	**Zalesovo**	**42.30**	**326**	pP	pP	16 07 15.2	-0.8
	1.2nm,0.4s,baz=349

3.4nm,1.1s,mb4.4,baz=68,slow=7.5,SNR=3.9
VNA2 Neumayer--Watz 120.19 190 PKPdf 16 22 33.9 +3.9
VNA3 Neumayer Olymp 120.29 189 PKPdf 16 22 33.7 +3.5
VNA1 Neumayer--Stat 120.58 190 PKPdf 16 22 35.2 +4.4
PLCA Paso Flores 138.98 138 PKP PKPdf 16 23 09.8 +3.5
1.5nm,0.7s,baz=220,slow=2.9,SNR=3.8
DBIC Dimbokro 143.75 302 PKP PKPdf 16 23 16.1 +0.5
1.6nm,0.3s,baz=58,slow=3.9,SNR=9.1
LPAZ La Paz 148.12 99 PKPbc PKPdf 16 23 30.4 +7.6
2.6nm,0.6s,baz=265,slow=4.0,SNR=17

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*IDC **31** 16:29:40.3s0.4, 10.31Nx138.37E, mb4.9/25, mb1 5.0/26, mb1mx5.0/27, mbtmp4.9/26, ML5.3/1, MS4.7/25, Ms1 4.7/25, ms1mx4.6/33, Error ellipse: s-maj=20.0km s-min=10.9km az=80.0*
*BJI **31** 16:29:41.0, 10.34Nx138.99E, h27km, mB5.5, mb4.9, Ms5.1, Msz4.9*
*HRVD **31** 16:29:42.3±0.1, 10.42Nx138.43E, h12km, MW5.4/71, Centroid moment Tensor Solution. LP body waves: s63,c111; Mantle waves: s71,c157; Half duration: 1±2 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.34±.02; $M_{\theta\theta}$0.03±.02; $M_{\phi\phi}$1.31±.02; $M_{r\theta}$0.12±.05; $M_{\theta\phi}$0.25±.02; $M_{\phi r}$0.16±.05; Best double couple: $M_0$1.363×10^{17} NP1:ϕ_s7°, δ41°, λ-96°. NP2:ϕ_s194°, δ49°, λ-85°. Principal axes: T 1.368, Plg4°, Azm281°; N -.015, Plg4°, Azm11°; P -1.357, Plg85°, Azm145°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **31** 16:29:42.3±0.2, 10.30Nx138.42E, mb5.1/54, MS4.8/99 Error ellipse: s-maj=6.6km s-min=5.3km az=89.0*
*MOS **31** 16:29:43.9±1.3, 10.31Nx138.53E, h33km, mb5.3/38, MS4.6/17, Error ellipse: s-maj=10.7km s-min=5.6km az=108.5*

ISC 31 16:29:41.6±0.2, 10.24N±0.03, 138.48E±0.03, h16km, h16km±2.0km: pP-P, n351, σ1s23/259, mb5.0/101, MS4.8/134, 20C-17D, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**7.08**	**61**	Pn		**Pn**		**16 31 26.7**	**-0.5**
	52nm,0.3s,baz=244,slow=18,SNR=5.3								
GUMO				LR		LR		16 33 45.6	
	comp=Z,9μm,20.1s,baz=243,slow=34								
MSLP	**Maasin**	**13.41**	**271**	*e*P		**P**		**16 32 56.0**	**+2.2**
BUKP	**Musuan**	**13.46**	**261**	*e*P		**P**		**16 32 57.4**	**+2.9**
PAGZ	**Pagadian**	**15.10**	**262**	*e*P		**P**		**16 33 17.7**	**+1.5**
CAUP	**Cauayan**	**17.50**	**294**	*i* P		**P**		**16 33 50.2**	**+3.5**
ABRA	**Dolores**	**18.74**	**295**	⇑*e*P		**P**		**16 34 02.1**	**0.0**
JOW	**Kunigami**	**19.11**	**331**	LR		LR		16 39 25.6	
	comp=Z,3μm,21.8s,baz=199,slow=31								
PPR	**Puerto Princes**	**19.45**	**270**	⇓*e*P		**P**		**16 34 09.1**	**-1.5**
TSM	**Tawau**	**21.27**	**255**	P		**P**		**16 34 29.9**	**+0.2**
PMG	**Port Moresby**	**21.35**	**156**	P		**P**		**16 34 28.9**	**-1.5**
	38nm,1.1s,mb4.7,baz=356,slow=10,SNR=5.1								
PMG				LR		LR		16 42 21.3	
	comp=Z,3μm,19.4s,MS4.7,baz=202,slow=36								
PMG	**Port Moresby**	**21.35**	**156**	*e*P		**P**		**16 34 28.5**	**-2.0**
	69nm,1.1s,mb4.9								
PMG				LR		LR			
	comp=Z,3μm,20.0s,MS4.7								
PMG	**Port Moresby**	**21.35**	**156**	⇑*i*P		**P**		**16 34 30.2**	**-0.3**
KKM	**Kota Kinabalu**	**22.43**	**261**	P		**P**		**16 34 41.9**	**+0.6**
KKM	**Kota Kinabalu**	**22.43**	**261**	*e*P		**P**		**16 34 41.6**	**+0.3**
JHJ	**Hachijo jima 2**	**22.80**	**3**	LR		LR		16 41 45.4	
	comp=Z,1μm,18.9s,MS4.3,baz=201,slow=32								
KAKA	**Kakadu**	**23.58**	**195**	⇓*i*P		**P**		**16 35 09.5**	**+17**
	comp=Z,40nm,0.6s,mb5.0								
JNU	**Nakatsue**	**23.82**	**344**	P		**P**		**16 34 54.9**	**0.0**
	comp=Z,49nm,1.1s,mb4.9,baz=108,slow=8.4,SNR=16								
JNU				LR		LR		16 42 27.9	
	comp=Z,1μm,20.4s,MS4.4,baz=158,slow=32								
MJAR	**Matsushiro Arr**	**26.18**	**360**	LR		LR		16 43 48.9	
	comp=Z,769nm,21.8s,MS4.2,baz=160,slow=32								
MAJO	**Matsushiro**	**26.18**	**360**	*e*P		**P**		**16 35 14.1**	**-3.2**
	comp=Z,16nm,0.8s,mb4.6								
MAJO				LR		LR			
	comp=Z,963nm,19.0s,MS4.4								
MAJO	**Matsushiro**	**26.18**	**360**	*e*P		**P**		**16 35 14.1**	**-3.2**
MAJO				pmax		pmax			
	comp=Z,16nm,0.8s,mb4.6								
MAJO				MLR		MLR			
	comp=Z,963nm,19.0s,MS4.4								
MAT	**Matsushiro**	**26.18**	**360**	P		**P**		**16 35 13.9**	**-3.4**
MAT				S		**S**		**16 39 48.0**	**+1.7**
MAT	**Matsushiro**	**26.18**	**360**	*e*P		**P**		**16 35 14.0**	**-3.3**
	comp=Z,14nm,0.9s,mb4.5								
MAT				*e*S		**S**		**16 39 48.0**	**+1.7**
MAT				LR		LR			
	comp=Z,1μm,19.0s,MS4.4								
MAT	**Matsushiro**	**26.18**	**360**	*e*P		**P**		**16 35 14.0**	**-3.3**
MAT				*e*S		**S**		**16 39 48.0**	**+1.7**
MAT				pmax		pmax			
	comp=Z,14nm,0.9s,mb4.5								
MAT				MLR		MLR			
	comp=Z,1μm,19.0s,MS4.4								
SSE	**Sheshan**	**26.24**	**325**	*e*P		**P**		**16 35 16.5**	**-1.4**
SSE				S		**S**		**16 39 48.3**	**+1.0**
SSE				AMB		AMB			
	comp=Z,42nm,0.7s,mb5.1								
SSE				AMB		AMB			
	comp=Z,485nm,7.3s								
SSE				LR		LR			
	comp=Z,3μm,14.2s,MS5.0								
SSE	**Sheshan**	**26.24**	**325**	*e*P		**P**		**16 35 16.4**	**-1.5**
	comp=Z,42nm,0.7s,mb5.1								
SSE				pP		pP		16 35 19.6	-2.9
SSE				sP		sP		16 35 20.7	-3.9
SSE				S		**S**		**16 39 48.2**	**+0.9**
SSE				sS				16 39 53.7	
SSE				ScS		ScS		16 46 15.2	+3.7
SSE				LR		LR			
	comp=Z,3μm,14.2s,MS5.0								
NJ2	**Nanjing**	**28.29**	**323**	*e*P		**P**		**16 35 35.5**	**-1.0**
NJ2				AP		pP		16 35 41.0	-0.2
NJ2				PP		PP		16 36 26.0	-1.7
NJ2				S		**S**		**16 40 19.0**	**-1.6**
NJ2				AMB		AMB			
	comp=Z,10.0nm,0.6s,mb4.6								
NJ2				AMB		AMB			
	comp=Z,2μm,5.0s								
NJ2				LR		LR			
	comp=N,4μm,18.9s,MS5.2								
NJ2				LR		LR			
	comp=E,4μm,16.4s,MS5.2								
NJ2				LR		LR			
	comp=Z,2μm,18.8s,MS4.8								
WAKE	**Wake Island**	**28.65**	**68**	PFAKE				16 35 50.0	+10
WAKE				LR		LR			
	comp=Z,1μm,20.0s,MS4.5								
KWAJ	**Kwajalein Atol**	**28.77**	**90**	PFAKE				16 35 50.0	+9.0
KWAJ				LR		LR			
	comp=Z,553nm,21.0s,MS4.1								
HNR	**Honiara**	**28.95**	**132**	LR		LR		16 45 26.3	
	comp=Z,1μm,20.7s,MS4.5,baz=162,slow=32								
HNR	**Honiara**	**28.95**	**132**	PFAKE				16 35 50.0	+7.3
HNR				LR		LR			
	comp=Z,1μm,21.0s,MS4.5								
QIZ	**Qiongzhong**	**29.01**	**291**	*e*P		**P**		**16 35 45.5**	**+2.3**
QIZ				S		**S**		**16 40 28.5**	**-3.8**
QIZ				LR		LR			
	comp=E,2μm,17.6s								
QIZ				LR		LR			
	comp=Z,2μm,23.4s								
QIZ	**Qiongzhong**	**29.01**	**291**	PFAKE				16 35 50.0	+6.8
QIZ				LR		LR			
	comp=Z,2μm,20.0s,MS4.7								
INCN	**Inchon**	**29.15**	**340**	PFAKE				16 35 50.0	+5.8
INCN				LR		LR			
	comp=Z,911nm,20.0s,MS4.4								
WHN	**Wuhan**	**30.20**	**315**	⇓P		**P**		**16 35 55.0**	**+1.3**
WRAB	**Tennant Creek**	**30.26**	**188**	*e*P		**P**		**16 35 53.3**	**-1.0**
	comp=Z,23nm,0.8s,mb5.0								
WRAB	**Tennant Creek**	**30.26**	**188**	⇓*i*P		**P**		**16 35 53.5**	**-0.8**
WB2	**Warramunga Arr**	**30.27**	**188**	⇓*i*P		**P**		**16 35 53.6**	**-0.8**
WRA	**Warramunga Arr**	**30.27**	**188**	P		**P**		**16 35 53.2**	**-1.3**
	comp=Z,9.9nm,0.9s,mb4.5,baz=0.3,slow=9.5,SNR=60								
WRA				PcP		PcP		16 38 55.0	0.0
	comp=Z,4.7nm,0.8s,baz=350,slow=2.7,SNR=6.7								
FITZ	**Fitzroy Crossi**	**30.89**	**204**	*e*P		**P**		**16 35 57.4**	**-2.4**
	comp=Z,27nm,0.8s,mb5.1								
FITZ	**Fitzroy Crossi**	**30.89**	**204**	P		**P**		**16 35 57.4**	**-2.4**
	comp=Z,38nm,0.8s,mb5.3,baz=14,slow=9.2,SNR=28								
FITZ				PcP		PcP		16 38 56.8	+0.2
	comp=Z,12nm,0.8s,baz=217,slow=2.5,SNR=3.0								
CTA	**Charters Tower**	**31.10**	**166**	*e*P		**P**		**16 36 03.2**	**+1.5**
	comp=Z,12nm,0.9s,mb4.7								
CTA	**Charters Tower**	**31.10**	**166**	*e*P		**P**		**16 36 03.2**	**+1.5**
CTA				pmax		pmax			
	comp=Z,12nm,0.9s								
CTAO	**Charters Tower**	**31.10**	**166**	*e*P		**P**		**16 35 59.8**	**-1.9**
	comp=Z,19nm,0.9s,mb4.9								
CTAO				LR		LR			
	comp=Z,1μm,20.0s,MS4.6								
CTAO	**Charters Tower**	**31.10**	**166**	*e*P		**P**		**16 35 59.8**	**-1.9**
CTAO				pmax		pmax			
	comp=Z,19nm,0.9s,mb4.9								
CTAO				MLR		MLR			
	comp=Z,1μm,20.0s,MS4.6								
ENH	**Enshi**	**33.55**	**311**	*e*P		**P**		**16 36 21.1**	**-1.9**
	comp=Z,33nm,1.2s,mb5.1								
ENH				LR		LR			
	comp=Z,1μm,20.0s,MS4.6								
ASAJ	**Asahikawa**	**33.94**	**5**	LR		LR		16 49 03.8	
	comp=Z,517nm,20.2s,MS4.2,baz=48,slow=34								
ASPA	**Alice Springs**	**34.00**	**188**	*e*P		**P**		**16 36 26.7**	**-0.3**
SNY	**Shenyang**	**34.08**	**340**	⇑P		**P**		**16 36 27.0**	**-0.5**
SNY				AP		pP		16 36 36.8	+4.6
SNY				XP		sP		16 36 40.3	+6.1
SNY				PP		PP		16 37 45.8	+4.0
SNY				S		**S**		**16 41 57.0**	**+5.5**
SNY				XS				16 42 08.5	
SNY				AMB		AMB			
	comp=Z,20nm,1.2s,mb4.9								
SNY				LR		LR			
	comp=N,1μm,14.4s								
SNY				LR		LR			
	comp=Z,2μm,15.6s,MS5.0								
GYA	**Guiyang**	**34.10**	**303**	⇓*i*P		**P**		**16 36 29.8**	**+2.0**
GYA				AP		pP		16 36 33.8	+1.3
GYA				XP		sP		16 36 38.8	+4.3
GYA				PP		PP		16 37 46.3	+4.1
GYA				S		**S**		**16 41 55.3**	**+3.4**
GYA				SCP				16 42 48.0	
GYA				SS		SS		16 44 09.3	+9.0
GYA				AMB		AMB			
	comp=Z,20nm,1.0s,mb5.0								
GYA				AMB		AMB			
	comp=Z,130nm,4.0s								
MDJ	**Mudanjiang**	**35.10**	**349**	P		**P**		**16 36 35.3**	**-0.9**
MDJ				AP		pP		16 36 38.3	-2.6
MDJ				PP		PP		16 37 55.0	+0.1
MDJ				S		**S**		**16 42 08.3**	**+1.1**
MDJ				XS				16 42 14.3	
MDJ				SCP				16 42 52.3	
MDJ				PCS				16 42 53.5	
MDJ				AMB		AMB			
	comp=Z,5.0nm,2.1s,mb4.1								
MDJ				AMB		AMB			
	comp=Z,133nm,11.0s								
MDJ				LR		LR			
	comp=N,722nm,21.3s								
MDJ				LR		LR			
	comp=E,573nm,15.1s								
MDJ				LR		LR			
	comp=Z,803nm,24.7s,MS4.4								
MDJ	**Mudanjiang**	**35.10**	**349**	PFAKE				16 36 50.0	+14
MDJ				LR		LR			
	comp=Z,755nm,20.0s,MS4.4								
CN2	**Changchun**	**35.30**	**344**	*e*P		**P**		**16 36 35.0**	**-2.9**
CN2				PCP		PcP		16 39 06.0	-2.6
CN2				*e*S		**S**		**16 42 08.0**	**-2.3**
CN2				AMB		AMB			
	comp=Z,20nm,0.9s,mb5.0								
CN2				LR		LR			
	comp=N,2μm,16.0s,MS5.0								
CN2				LR		LR			
	comp=E,1μm,16.0s,MS5.0								
CN2				LR		LR			
	comp=Z,2μm,16.0s,MS4.8								
XAN	**Xi'an**	**35.96**	**316**	P		**P**		**16 36 44.0**	**+0.3**
XAN				AMB		AMB			
	comp=Z,19nm,1.2s,mb4.9								
MBWA	**Marble Bar**	**36.24**	**210**	*e*P		**P**		**16 36 43.1**	**-3.0**
YSS	**Yuzh-Sakhalins**	**36.77**	**5**	⇓*i*P		**P**		**16 36 49.4**	**-0.9**
YSS				LR		LR			
	comp=Z,727nm,19.0s,MS4.5								
YSS	**Yuzh-Sakhalins**	**36.77**	**5**	⇑*i*P		**P**		**16 36 49.8**	**-0.5**
YSS				*e*				16 38 14.0	
YSS				*e*				16 39 14.0	
YSS				*e*S		**S**		**16 42 33.0**	**+0.1**
YSS				pmax		pmax			
	comp=Z,20nm,1.1s,mb4.9								
YSS				MLR		MLR			
	comp=Z,900nm,17.0s,MS4.6								
YSS				MLR		MLR			
	comp=N,900nm,16.0s,MS4.7								
YSS				MLR		MLR			
	comp=E,600nm,17.0s,MS4.7								
KMI	**Kunming**	**36.98**	**298**	⇑P		**P**		**16 36 54.0**	**+1.7**
KMI				AP		pP		16 36 58.5	+1.5
KMI				PP		PP		16 38 17.0	-1.7
KMI				PPP		PPP		16 38 36.8	-1.9
KMI				S		**S**		**16 42 39.3**	**+2.9**
KMI				AMB		AMB			
	comp=Z,16nm,1.2s,mb4.7								
KMI				AMB		AMB			
	comp=Z,678nm,6.1s								
KMI				LR		LR			
	comp=N,1μm,16.8s,MS5.0								
KMI				LR		LR			
	comp=E,2μm,20.8s,MS5.0								
KMI				LR		LR			
	comp=Z,3μm,23.0s,MS5.0								
KMI	**Kunming**	**36.98**	**298**	⇑P		**P**		**16 36 54.0**	**+1.7**
	comp=Z,16nm,1.2s,mb4.7								
KMI				sP		sP		16 36 58.6	-0.4
KMI				PP		PP		16 38 17.1	-1.6
KMI				PPP		PPP		16 38 36.8	-1.9
KMI				S		**S**		**16 42 39.2**	**+2.8**
KMI				sS				16 42 44.6	
KMI				SS		SS		16 45 06.1	+0.5
KMI				ScS		ScS		16 47 08.7	+3.9
KMI				LR		LR			
	comp=Z,3μm,23.0s,MS5.0								
KMI	**Kunming**	**36.98**	**298**	⇑P		**P**		**16 36 54.0**	**+1.7**
KMI								16 38 17.1	
KMI				PPP		PPP		16 38 36.8	-1.9
KMI				S		**S**		**16 42 39.2**	**+2.8**
KMI				SS		SS		16 45 06.1	+0.5
KMI								16 47 08.7	
KMI				pmax		pmax			
	comp=Z,16nm,1.2s,mb4.7								
KMI				MLR		MLR			
	comp=Z,3μm,23.0s,MS5.0								
NANT	**Nan**	**37.48**	**288**	⇓P		**P**		**16 36 55.0**	**-1.6**
	comp=Z,75nm,1.0s,mb5.5								
SNG	**Songkhla**	**37.53**	**268**	P		**P**		**16 36 57.0**	**-0.1**
IPM	**Ipoh**	**37.54**	**264**	P		**P**		**16 36 56.1**	**-1.1**
KULM	**Kulim**	**37.78**	**265**	*e*P		**P**		**16 36 58.5**	**-0.7**
CD2	**Chengdu**	**38.22**	**308**	P		**P**		**16 37 03.8**	**+1.1**
CD2				PP		PP		16 38 31.8	-1.7
CD2				S		**S**		**16 42 55.0**	**-0.2**
CD2				AMB		AMB			
	comp=Z,10.0nm,0.5s,mb4.8								
CD2				AMB		AMB			
	comp=Z,500nm,6.5s								
CD2				LR		LR			
	comp=N,1μm,12.0s								
CD2				LR		LR			
	comp=Z,1μm,14.4s,MS4.8								
CHRT	**Chiangrai**	**38.49**	**289**	⇑P		**P**		**16 37 06.0**	**+1.0**
	comp=Z,108nm,1.1s,mb5.5								
HHC	**Hu-ho-hao-te**	**38.66**	**327**	P		**P**		**16 37 08.3**	**+2.1**
HHC				AP		pP		16 37 14.0	+3.0
HHC				XP		sP		16 37 15.0	+2.1
HHC				PP		PP		16 38 41.5	+3.0
HHC				PCP		PcP		16 39 19.8	+1.0
HHC				S		**S**		**16 43 06.5**	**+4.8**
HHC				XS				16 43 12.5	
HHC				SCS		ScS		16 47 13.3	-0.9
HHC				AMB		AMB			
	comp=Z,16nm,1.1s,mb4.7								
HHC				LR		LR			
	comp=E,1μm,14.4s,MS5.0								
HHC				LR		LR			
	comp=N,2μm,16.8s,MS5.0								
HHC				LR		LR			
	comp=Z,2μm,16.8s,MS4.9								
CHG	**Chiang Mai**	**39.13**	**287**	⇑P		**P**		**16 37 11.0**	**+0.6**
	comp=Z,16nm,1.0s,mb4.7								
LZH	**Lanzhou**	**40.57**	**315**	*e*P		**P**		**16 37 23.5**	**+1.4**
LZH				AP		pP		16 37 26.5	-0.4
LZH				PP		PP		16 39 00.0	+0.9
LZH				*e*S		**S**		**16 43 32.0**	**+1.4**
LZH				SS		SS		16 46 27.0	+1.6
LZH				AMB		AMB			
	comp=Z,39nm,1.2s,mb4.9								
LZH				AMB		AMB			
	comp=Z,232nm,6.0s								
LZH				LR		LR			
	comp=E,3μm,15.6s								
LZH				LR		LR			
	comp=Z,4μm,16.8s,MS5.3								
LZH	**Lanzhou**	**40.57**	**315**	*e*P		**P**		**16 37 23.5**	**+1.4**
	comp=Z,39nm,1.2s,mb4.9								
LZH				pP		pP		16 37 26.5	-0.4
LZH				sP		sP		16 37 28.6	-0.2
LZH				PP		PP		16 39 00.0	+0.9
LZH				*e*S		**S**		**16 43 32.1**	**+1.5**
LZH				sS				16 43 37.0	
LZH				SS		SS		16 46 27.0	+1.6
LZH				LR		LR			
	comp=Z,4μm,16.8s,MS5.3								
LZH	**Lanzhou**	**40.57**	**315**	*e*P		**P**		**16 37 23.5**	**+1.4**
LZH				*SP		sP		16 37 28.6	-0.2
LZH								16 39 00.0	
LZH				*e*S		**S**		**16 43 32.1**	**+1.5**
LZH				SS		SS		16 46 27.0	+1.6
LZH				pmax		pmax			
	comp=Z,39nm,1.2s,mb4.9								
LZH				MLR		MLR			
	comp=Z,4μm,16.8s,MS5.3								
HIA	**Hailar**	**41.92**	**342**	*e*P		**P**		**16 37 33.1**	**0.0**
	comp=Z,27nm,1.0s,mb4.8								
HIA				LR		LR			
	comp=Z,1μm,21.0s,MS4.7								
HIA	**Hailar**	**41.92**	**342**	*e*P		**P**		**16 37 33.1**	**0.0**
HIA				pmax		pmax			
	comp=Z,27nm,1.0s								
HIA				MLR		MLR			
	comp=Z,1μm,21.0s								
STKA	**Stephens Creek**	**41.99**	**176**	*e*P		**P**		**16 37 34.1**	**+0.2**
	comp=Z,18nm,0.8s,mb4.7								
STKA	**Stephens Creek**	**41.99**	**176**	P		**P**		**16 37 33.9**	**0.0**
	comp=Z,22nm,0.8s,mb4.8,baz=343,slow=7.1,SNR=28								
STKA				LR		LR		16 55 49.2	
	comp=Z,2μm,18.8s,MS5.0,baz=24,slow=37								
DZM	**Mont Dzumac**	**42.23**	**140**	P		**P**		**16 37 37.3**	**+1.3**
	comp=Z,13nm,0.9s,mb4.5,baz=316,slow=15,SNR=7.4								
SKR	**Severo-Kuril's**	**42.86**	**16**	*e*P		**P**		**16 37 39.0**	**-1.7**
GTA	**Gaotai**	**45.00**	**317**	P		**P**		**16 37 59.0**	**+0.8**
GTA				AP		pP		16 38 02.5	-0.5
GTA				PCP		PcP		16 39 40.0	+0.3
GTA				PP		PP		16 39 45.5	+1.1
GTA				PPP		PPP		16 40 27.5	+2.6
GTA				SCP				16 43 30.5	
GTA				S		**S**		**16 44 39.3**	**+3.9**
GTA				XS				16 44 47.0	
GTA				SCS		ScS		16 47 50.3	-2.2
GTA				SS		SS		16 47 52.3	+3.3
GTA				AMB		AMB			
	comp=Z,12nm,1.0s,mb4.7								
GTA				AMB		AMB			
	comp=Z,264nm,12.2s								
GTA				LR		LR			
	comp=N,502nm,18.6s,MS4.9								
GTA				LR		LR			
	comp=E,1μm,17.1s,MS4.9								
GTA				LR		LR			
	comp=Z,1μm,20.9s,MS4.8								
MIDW	**Midway**	**45.06**	**60**	PFAKE				16 38 10.0	+11
MIDW				LR		LR			
	comp=Z,686nm,22.0s,MS4.5								
PET	**Petropavlovsk**	**45.66**	**17**	⇑*i*P		**P**		**16 38 01.3**	**-2.0**
PET				LR		LR			
	comp=Z,409nm,19.0s,MS4.4								
PET	**Petropavlovsk**	**45.66**	**17**	*e*P		**P**		**16 38 04.9**	**+1.6**
PET				*e*S		**S**		**16 44 46.1**	**+1.4**
PET				*e*SS		SS		16 48 01.5	+0.8
PET				pmax		pmax			
	comp=Z,40nm,1.2s,mb5.2								
PET				pmax		pmax			
	comp=Z,100nm,5.8s								
PET				smax					
	comp=N,600nm,19.5s								
PET				MLR		MLR			
	comp=Z,300nm,20.0s,MS4.2								
ULN	**Ulaanbaatar**	**45.88**	**331**	*e*P		**P**		**16 38 04.6**	**-0.4**
	comp=Z,20nm,1.0s,mb5.0								
ULN				LR		LR			
	comp=Z,606nm,19.0s,MS4.6								
ULN	**Ulaanbaatar**	**45.88**	**331**	⇑*i*P		**P**		**16 38 05.9**	**+0.8**
KLBR	**Kellerberrin**	**46.09**	**205**	*e*P		**P**		**16 38 05.7**	**-1.3**
	comp=Z,18nm,1.0s,mb5.0								
KLBR				*i* PCP		PcP		16 39 42.9	-0.8
SONM	**Songino Array**	**46.18**	**330**	P		**P**		**16 38 06.7**	**-0.7**
	comp=Z,19nm,1.0s,mb5.0,baz=139,slow=7.5,SNR=61								
SONM				PcP		PcP		16 39 42.3	-1.4
	comp=Z,11nm,1.0s,baz=153,slow=2.6,SNR=6.9								
SONM				LR		LR		16 55 36.4	
	comp=Z,689nm,20.3s,MS4.6,baz=137,slow=34								
CIT	**Chita**	**46.33**	**339**	*e*P		**P**		**16 38 08.2**	**-0.4**
CIT				*e*				16 39 43.2	
CIT				pmax		pmax			
	comp=Z,72nm,2.2s,mb5.2								
MUN	**Mundaring**	**47.08**	**206**	*e*P		**P**		**16 38 13.9**	**-0.9**
NWAO	**Narrogin (SRO)**	**47.47**	**204**	P		**P**		**16 38 16.6**	**-1.3**
	comp=Z,8.4nm,0.6s,mb4.9,baz=46,slow=9.8,SNR=11								
NWAO				PcP		PcP		16 39 47.7	-0.8
	comp=Z,7.9nm,0.7s,baz=52,slow=6.3,SNR=3.6								
NWAO	**Narrogin (SRO)**	**47.47**	**204**	*e*P		**P**		**16 38 17.2**	**-0.7**
	comp=Z,10nm,0.8s,mb4.8								
NWAO	**Narrogin (SRO)**	**47.47**	**204**	*e*P		**P**		**16 38 17.2**	**-0.7**
NWAO				pmax		pmax			
	comp=Z,10.0nm,0.8s								
CLNS	**Chul'man**	**47.67**	**350**	*e*P		**P**		**16 38 19.1**	**0.0**
CLNS				pmax		pmax			
	comp=Z,40nm,0.9s,mb5.5								
CLNS				pmax		pmax			
	comp=N,23nm,0.8s								
CLNS				pmax		pmax			
	comp=E,17nm,0.9s								
TOO	**Toolangi**	**48.01**	**173**	*e*P		**P**		**16 38 23.8**	**+1.7**
	comp=E,16nm,1.2s,mb4.9								
TOO	**Toolangi**	**48.01**	**173**	*e*P		**P**		**16 38 23.8**	**+1.7**
TOO

comp=Z,39μm,2.5s
YAK Yakutsk 52.09 355 *e*P **P 16 38 50.9 -2.0**
comp=Z,122nm,1.0s,mb5.8
YAK LR LR
comp=Z,623nm,21.0s,MS4.6
YAK Yakutsk 52.09 355*d i*P **P 16 38 51.7 -1.2**
YAK pmax pmax
comp=Z,100nm,1.0s,mb5.7
YAK MLR MLR
comp=Z,400nm,17.0s,MS4.5
PKI Pulchoki 52.68 297 *e*P **P 16 38 57.5 -0.3**
comp=Z,54nm,1.1s,mb5.4
PKI Pulchoki 52.68 297 *e*P **P 16 38 57.5 -0.3**
PKI pmax pmax
comp=Z,27nm,1.1s,mb5.1
KKN Kakani 52.82 297 *e*P **P 16 38 58.6 -0.2**
comp=Z,45nm,0.9s,mb5.4
KKN Kakani 52.82 297 *e*P **P 16 38 58.6 -0.2**
KKN pmax pmax
comp=Z,22nm,0.9s,mb5.1
DMN Daman 52.95 297 *e*P **P 16 38 59.8 0.0**
comp=Z,95nm,1.1s,mb5.7
GKN Gorkha 53.41 297 *e*P **P 16 39 03.0 -0.2**
comp=Z,72nm,1.2s,mb5.5
SEY Seymchan 53.55 8 *i*P **P 16 39 03.9 +0.2**
KOLN Koldanda 54.29 297 *e*P **P 16 39 09.6 0.0**
comp=Z,26nm,1.0s,mb5.1
AFI Afiamalu 54.87 115 LR LR 16 57 32.3
comp=Z,2μm,20.0s,MS5.1,baz=261,slow=30
AFI Afiamalu 54.87 115 PFAKE 16 39 30.0 +16
AFI LR LR
comp=Z,2μm,20.0s,MS5.1
WMQ Urumqi 55.09 317 P **P 16 39 14.0 -1.3**
WMQ AP pP 16 39 21.0 +0.9
WMQ PP PP 16 41 19.0 -1.1
WMQ SCP 16 44 12.0
WMQ S **S 16 46 54.0 -1.4**
WMQ SCS ScS 16 48 59.0 -1.5
WMQ SS SS 16 50 37.0 -2.3
WMQ AMB AMB
comp=Z,14nm,1.1s,mb4.9
WMQ AMB AMB
comp=Z,215nm,6.0s
WMQ LR LR
comp=N,627nm,15.0s,MS4.9
WMQ LR LR
comp=E,456nm,15.0s,MS4.9
WMQ LR LR
comp=Z,542nm,15.0s,MS4.8
MDRS Chennai 57.00 279 *ex* x 16 39 31.0
MDRS *ex* x 16 47 26.0
PALK Pallekele 57.12 272 PFAKE 16 39 40.0 +10
PALK LR LR
comp=Z,178nm,20.0s,MS4.2
HYB Hyderabad 58.44 284 *i*P **P 16 39 39.0 -0.4**
HYB Hyderabad 58.44 284 *e*P **P 16 39 39.0 -0.4**
MKAR Makanchi Array 59.69 319 P **P 16 39 46.6 -1.1**
comp=Z,10nm,0.7s,mb5.0,baz=100,slow=9.0,SNR=63
MKAR PcP PcP 16 40 34.2 -0.2
comp=Z,6.0nm,0.6s,baz=104,slow=7.1,SNR=7.4
MKAR LR LR 17 04 12.5
comp=Z,584nm,21.2s,MS4.7,baz=127,slow=35
URZ Urewera 60.24 146 P **P 16 39 50.5 -1.1**
comp=Z,8.5nm,0.7s,mb4.9,baz=309,slow=4.2,SNR=8.1
URZ LR LR 17 01 40.5
comp=Z,920nm,18.7s,MS5.0,baz=194,slow=32
BILL Bilibino 60.58 12 *e*P **P 16 39 51.6 -1.9**
comp=Z,28nm,1.2s,mb5.3
BILL LR LR
comp=Z,314nm,22.0s,MS4.4
BILL Bilibino 60.58 12⇓*i*P **P 16 39 51.0 -2.5**
BILL *e*S **S 16 48 04.2 -2.9**
BILL pmax pmax
comp=Z,32nm,1.3s,mb5.3
BILL MLR MLR
comp=Z,200nm,17.0s,MS4.3
ZAL Zalesovo 60.84 327 P **P 16 39 53.8 -1.7**
comp=Z,7.2nm,0.9s,mb4.8,baz=10.0,slow=6.2,SNR=33
ZAL LR LR 17 07 18.0
comp=Z,1μm,21.7s,MS5.1,baz=351,slow=37
ZAL Zalesovo 60.84 327 *i*P **P 16 39 55.3 -0.2**
ZAL pmax pmax
comp=Z,7.0nm,0.9s
SNZO South Karori 61.19 149 PFAKE 16 40 10.0 +12
SNZO LR LR
comp=Z,1μm,22.0s,MS5.0
RPZ Rata Peaks 61.33 154 P **P 16 39 58.3 -0.6**
comp=Z,9.2nm,0.7s,mb5.0,baz=208,slow=3.9,SNR=4.2
RPZ LR LR 17 02 02.9
comp=Z,613nm,18.2s,MS4.8,baz=301,slow=32
TIXI Tiksi 61.64 357 *i*P **P 16 39 58.0 -2.7**
TIXI LR LR
comp=Z,391nm,19.0s,MS4.6
TIXI Tiksi 61.64 357*d i*P **P 16 39 58.9 -1.8**
TIXI pmax pmax
comp=Z,23nm,1.3s,mb5.2
NVS Novosibirsk 62.05 327 *e*P **P 16 40 01.9 -1.8**
NVS pmax pmax
comp=Z,34nm,1.2s,mb5.3
NVS pmax pmax
comp=N,14nm,1.5s
NVS pmax pmax
comp=E,28nm,1.5s
KSH Kashi 62.39 309 *e*P **P 16 40 07.0 +0.8**
KSH *e*AP pP 16 40 11.5 +0.4
KSH *e*PCP PcP 16 40 45.0 -0.4
KSH *e*PP PP 16 42 26.0 +0.5
KSH *e*PPP PPP 16 43 57.0 +1.7
KSH *e*SCP 16 44 45.3
KSH *e*PCS 16 44 47.3
KSH *e*S **S 16 48 32.0 +1.6**
KSH *e*SCS ScS 16 49 57.0 +2.9
KSH AMB AMB
comp=Z,260nm,6.0s
KSH LR LR
comp=N,460nm,9.4s
KSH LR LR
comp=E,420nm,9.0s
ULHL Ulahol 62.69 312 P **P 16 40 08.4 +0.3**
SNR=8.4
POO Poona 62.87 286 *e*P **P 16 40 08.5 -1.1**
KURK Kurchatov 63.22 322 *e*P **P 16 40 09.5 -2.0**
comp=E,82nm,0.9s,mb5.9
KURK LR LR
comp=Z,207nm,22.0s,MS4.3
TKM2 Tokmak 2 63.29 313 P **P 16 40 12.6 +0.6**
SNR=6.0
KZA Kyzart 63.38 312 P **P 16 40 14.5 +1.8**
SNR=23
CHMS Chumysh 63.92 313 P **P 16 40 17.5 +1.3**
SNR=6.0
UCH Uchtor 63.95 312 P **P 16 40 18.1 +1.6**
SNR=10
FRU Bishkek 63.98 313 *e*P **P 16 40 17.0 +0.4**
FRU pmax pmax
comp=Z,1μm,16.0s
AAK Ala-Archa 64.03 312 *e*P **P 16 40 16.1 -0.9**
comp=Z,4.4nm,0.9s,mb4.5
AAK LR LR
comp=Z,117nm,19.0s,MS4.1
AAK Ala-Archa 64.03 312⇑*i*P **P 16 40 16.3 -0.7**
AAK pmax pmax
comp=Z,5.0nm,1.3s,mb4.4
AAK MLR MLR
comp=Z,400nm,20.0s,MS4.6
USP Ospenovka 64.15 313 P **P 16 40 17.8 +0.1**
SNR=7.3
AML Almayashu 64.53 312 P **P 16 40 21.6 +1.4**
SNR=9.1
KKAR Karatay Array 67.00 312 *i*P **P 16 40 35.8 -0.2**
VOSK Vostochnaya 68.32 323 *i*P **P 16 40 43.4 -0.8**
BVA0 Borovoye Array 68.74 323 P **P 16 40 45.2 -1.5**
BVA0 pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
BRVK Borovoye 68.81 323 *e*P **P 16 40 45.4 -1.7**
comp=Z,35nm,0.9s,mb5.3
BRVK LR LR
comp=Z,90nm,19.0s,MS4.0
SVW2 Sparrevohn 69.55 28 *e*P **P 16 40 51.8 +0.2**
KDAK Kodiak Island 70.20 32 PFAKE 16 41 10.0 +14
KDAK LR LR
comp=Z,108nm,20.0s,MS4.1
RSO Redoubt South 70.73 29 *e*P **P 16 40 56.5 -2.2**
SPU Mount Spurr 71.23 29 *e*P **P 16 41 00.4 -1.4**
IMA Indian Mountai 71.78 23 *e*P **P 16 41 06.1 +1.1**
comp=Z,23nm,1.1s,mb5.0
IMA Indian Mountai 71.78 23 *e*P **P 16 41 06.1 +1.1**
IMA pmax pmax
comp=Z,23nm,1.1s,mb5.0
SLKM Skilak Lake 71.96 30 *e*P **P 16 41 05.6 -0.6**
PMR Palmer 72.69 29 *e*P **P 16 41 09.9 -0.5**
comp=Z,20nm,0.7s,mb5.2
PMR LR LR
comp=Z,359nm,20.0s,MS4.6
PMR Palmer 72.69 29 *e*P **P 16 41 09.9 -0.5**
PMR pmax pmax
comp=Z,20nm,0.7s,mb5.2
PMR MLR MLR
comp=Z,359nm,20.0s,MS4.6
COLA College 73.86 25 PFAKE 16 41 30.0 +13
COLA LR LR
comp=Z,9.0nm,20.0s
ILAR Eielson Array 74.25 25 P **P 16 41 17.3 -2.2**
comp=Z,7.4nm,0.8s,mb4.7,baz=252,slow=5.5,SNR=60
ILAR LR LR 17 11 54.4
comp=Z,432nm,21.4s,MS4.7,baz=200,slow=34
ILAR Eielson Array 74.25 25 P **P 16 41 17.3 -2.2**
ILAR LR LR 17 11 54.4
AB31 Akbulak array 74.83 318 *i*P **P 16 41 22.0 -1.1**
SVE Sverdlovsk 74.84 326 *e*P **P 16 41 24.0 +1.0**
SVE *e* 16 41 41.0
SVE *e* 16 51 37.0
SVE pmax pmax
comp=Z,60nm,1.5s,mb5.3
SVE MLR MLR
comp=N,200nm,14.0s,MS5.1
SVE MLR MLR
comp=E,600nm,14.0s,MS5.1
SVE MLR MLR
comp=Z,500nm,14.0s,MS5.0
MENT Mentasta 75.39 28 *e*P **P 16 41 26.5 +0.4**
ARU Arti 75.96 326 *e*P **P 16 41 27.2 -2.2**
comp=Z,33nm,0.9s,mb5.3
ARU LR LR
comp=Z,221nm,20.0s,MS4.5
PPT Papeete 76.23 111 *e*S S 16 51 06.7 -7.3
PPT *e*SS SS 16 55 55.4 -16
PPT *e*LR LR 17 04 05.3
comp=Z,3μm,25.2s,baz=291
PPT Papeete 76.23 111 LR LR 17 07 54.9
comp=Z,1μm,20.2s,MS5.2,baz=268,slow=30
SOKR Solikamsk 77.03 329⇓*i*P **P 16 41 35.8 +0.5**
SOKR pmax pmax
comp=Z,20nm,0.9s,mb5.0
BIDO Bidbid 77.20 292⇑P **P 16 41 38.0 +0.9**
TBI Tubuai 77.94 117 *e*SS SS 16 56 16.9 -20
TBI *e*LQ 17 02 03.9
TBI *e*LR LR 17 05 09.6
comp=Z,2μm,32.2s,baz=293
HOQ Hoqain 77.94 292 P **P 16 41 41.6 +0.5**
SNR=12
BSY Bisya 78.13 291⇓P **P 16 41 42.3 +0.1**
SNR=7.0
ARQ Araqi 78.69 292⇓P **P 16 41 46.1 +0.9**
CASY Casey 79.03 191⇑*i*P **P 16 41 46.2 0.0**
INK Inuvik 79.82 22 P **P 16 41 49.7 -0.7**
comp=Z,13nm,0.9s,mb4.9,baz=327,slow=3.6,SNR=11
INK Inuvik 79.82 22 *e*P **P 16 41 49.6 -0.9**
comp=Z,18nm,1.1s,mb4.9
RBK Rabkut 81.58 286⇑P **P 16 42 00.7 0.0**
WHFO Wadi Hawf 81.93 287⇑P **P 16 41 56.4 -6.1**
DLBC Dease Lake 82.14 32 *e*P **P 16 42 03.4 +0.5**
ABTO Aybut 82.45 286⇑P **P 16 42 04.4 -0.9**
SNR=6.4
TAOE Nuku Hiva Isla 83.17 100 *e*LQ 17 03 41.5
TAOE *e*LR LR 17 07 34.2
comp=Z,4μm,24.6s
MIR Mirnyy 83.43 197*d i*P **P 16 42 10.0 +0.7**
MIR pmax pmax
comp=Z,53nm,1.4s,mb5.4
HASS Wahat al Ahsa' 84.62 295 P **P 16 42 17.0 +0.7**
TI2 Plekhanov 86.03 312 *e*P **P 16 42 21.6 -1.3**
TBLG Delisi 86.04 312 P **P 16 42 23.9 +0.9**
APA Apatity 86.28 338 *e*P **P 16 42 26.5 +3.0**
GNI Garni 86.31 310⇑*i*P **P 16 42 26.6 +2.2**
GNI LR LR
comp=Z,261nm,22.0s,MS4.6
GNI Garni 86.31 310*c i*P **P 16 42 26.5 +2.1**
GNI pmax pmax
comp=Z,23nm,1.7s
GNI MLR MLR
comp=Z,300nm,22.0s
VRHR Novokhopersk 86.39 321 *e*P **P 16 42 23.2 -1.2**
VRHR pmax pmax
comp=Z,40nm,0.7s,mb5.8
VRHR pmax pmax
comp=N,7.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.5s
ZEI Tsey 86.47 313 *e*P **P 16 42 22.9 -2.1**
ZEI *i* *PP pP 16 42 32.9 +2.8
ZEI *i* 16 45 48.0
ZEI pmax pmax
comp=Z,17nm,1.2s,mb5.2
KBS Kingsbay 86.56 351 PFAKE 16 42 40.0 +15
KBS LR LR
comp=Z,340nm,19.0s,MS4.8
GOF Gofitskoye 86.65 315 *e*P **P 16 42 26.7 +0.8**
KIV Kislovodsk 87.11 314 *e*P **P 16 42 28.3 +0.2**
comp=Z,18nm,0.9s,mb5.3
KIV LR LR
comp=Z,75nm,20.0s,MS4.1
KIV Kislovodsk 87.11 314⇓*i*P **P 16 42 29.0 +0.9**
KIV *e* 16 42 37.2
KIV pmax pmax
comp=Z,14nm,1.0s,mb5.2
KIV MLR MLR
comp=Z,500nm,21.0s,MS4.9
OCWA Octopus Mounta 87.39 42 *e*P **P 16 42 30.8 +1.4**
comp=Z,51nm,1.2s,mb5.6
OCWA LR LR
comp=Z,400nm,21.0s,MS4.8
OBC Olympics--Boni 87.40 42 P **P 16 42 31.9 +2.5**
RYDS Riyadh 87.53 294 P **P 16 42 27.2 -3.4**
MOS Moscow 87.66 326 *e*P **P 16 42 30.0 -0.5**
MOS pmax pmax
comp=Z,60nm,1.0s,mb5.8
PGC Sidney 87.67 41 *e*P **P 16 42 31.3 +0.5**
comp=Z,61nm,1.1s,mb5.7
KEV Kevo 87.69 341 *e*P **P 16 42 29.3 -1.1**
comp=Z,17nm,1.0s,mb5.2
KEV LR LR
comp=Z,314nm,20.0s,MS4.7
KEV Kevo 87.69 341 *e*P **P 16 42 29.3 -1.1**
KEV pmax pmax
comp=Z,17nm,1.0s,mb5.2
KEV MLR MLR
comp=Z,314nm,20.0s,MS4.7
VRSR Storozhevoye 87.86 322 *e*P **P 16 42 30.4 -1.1**
VRSR pmax pmax
comp=Z,10.0nm,0.6s,mb5.2
VRSR pmax pmax
comp=N,1.0nm,0.3s
VRSR pmax pmax
comp=E,4.0nm,0.6s
MCW Mount Constitu 88.07 41 P **P 16 42 34.8 +2.2**
ARCES ARCESS Array B 88.27 341 P **P 16 42 32.4 -0.7**
comp=E,16nm,1.0s,mb5.2,baz=76,slow=6.1,SNR=21
ARCES LR LR 17 28 13.7
comp=E,372nm,18.1s,MS4.8,baz=63,slow=40
OBN Obninsk 88.40 326 *e*P **P 16 42 33.5 -0.6**
comp=E,53nm,1.1s,mb5.7
OBN LR LR
comp=Z,214nm,20.0s,MS4.6
OBN Obninsk 88.40 326⇑*i*P **P 16 42 33.4 -0.7**
OBN *e*SS SS 16 59 07.4 -2.9
OBN pmax pmax
comp=Z,47nm,1.0s,mb5.7
OBN MLR MLR
comp=Z,800nm,24.0s,MS5.0
JOF Joensuu 88.62 334 *e*p **P 16 42 33.5 -1.4**
comp=Z,9.2nm,0.7s,mb5.2
VNDA Vanda 88.62 175 P **P 16 42 35.7 +1.0**
comp=Z,7.8nm,1.2s,mb4.9,baz=317,slow=6.0,SNR=16
VNDA LR LR 17 18 36.7
comp=Z,252nm,20.7s,MS4.6,baz=345,slow=33
YKA Yellowknife Ar 88.65 26 P **P 16 42 35.0 -0.1**
comp=Z,1.6nm,0.5s,mb4.6,baz=294,slow=4.7,SNR=11
YKA LR LR 17 20 56.8
comp=Z,340nm,21.5s,MS4.7,baz=265,slow=35
YKA Yellowknife Ar 88.65 26 P **P 16 42 35.0 -0.1**
YKA LR LR 17 20 56.8
YKA Yellowknife Ar 88.65 26 *i*P **P 16 42 36.7 +1.6**
YKA pmax pmax
comp=Z,2.0nm,0.5s
COR Corvallis 88.68 45 PFAKE 16 42 50.0 +14
COR LR LR
comp=Z,398nm,19.0s,MS4.8
MZLS Mizel 88.84 294 P **P 16 42 34.6 -2.3**
TDL Tradedollar La 89.02 43 P **P 16 42 39.4 +2.2**
HUMO Hull Mountain 89.37 47 *e*P **P 16 42 40.2 +1.2**
comp=Z,23nm,1.2s,mb5.4
HUMO LR LR
comp=Z,406nm,22.0s,MS4.8
YBH Yreka Blue Hor 89.75 48 P **P 16 42 42.3 +1.5**
comp=Z,9.6nm,1.0s,mb5.1,baz=230,slow=2.8,SNR=9.7
YBH Yreka Blue Hor 89.75 48 *e*P **P 16 42 42.1 +1.3**
comp=Z,15nm,1.2s,mb5.2
YBH LR LR
comp=Z,330nm,20.0s,MS4.8
WDC Whiskeytown Da 90.15 49 PFAKE 16 42 50.0 +7.3
WDC LR LR
comp=Z,484nm,21.0s,MS4.9
RKT Rikitea 90.83 113 *e*SS SS 16 59 31.1 -15
RKT *e*LR LR 17 10 58.2
comp=Z,2μm,27.2s,baz=294
AFFS 'Afif 90.84 294 P **P 16 42 47.3 +1.1**
LBCM Butte Creek Ri 90.96 48 P **P 16 42 48.3 +1.9**
KAF Kangasniemi 91.07 334 *ep* **P 16 42 44.7 -1.7**
comp=Z,14nm,0.8s,mb5.3,baz=63,slow=4.4
KAF Kangasniemi 91.07 334 *e*P **P 16 42 44.7 -1.7**
KAF pmax pmax
comp=Z,14nm,0.8s,mb5.3
HILS Ha'il 91.21 298 P **P 16 42 49.3 +1.5**
OHCM Honcut 91.23 50 *e*P **P 16 42 48.8 +1.1**
FINES FINESS Array B 91.45 334 P **P 16 42 46.2 -1.9**
comp=Z,8.8nm,0.6s,mb5.2,baz=72,slow=6.0,SNR=35
FINES LR LR 17 25 59.2
comp=Z,462nm,19.4s,MS4.9,baz=73,slow=37
FINES FINESS Array B 91.45 334 *i*P **P 16 42 47.2 -0.9**
FINES pmax pmax
comp=Z,9.0nm,0.6s
MOD Modoc 91.46 47 *e*P **P 16 42 49.8 +1.1**
comp=Z,21nm,1.2s,mb5.3
MOD LR LR
comp=Z,248nm,19.0s,MS4.7
MALT Malatya 91.49 309 *e*P **P 16 42 49.5 +0.6**
comp=Z,5.7nm,0.9s,mb4.9
MALT Malatya 91.49 309 *e*P **P 16 42 49.5 +0.6**
MALT pmax pmax
comp=Z,6.0nm,0.9s,mb4.9
NEW Newport 91.84 40 P **P 16 42 51.6 +1.4**
comp=Z,4.2nm,0.6s,mb4.9,baz=270,slow=4.7,SNR=7.4
NEW Newport 91.84 40 *e*P **P 16 42 51.1 +0.9**
comp=Z,16nm,1.3s,mb5.2
NEW LR LR
comp=Z,487nm,21.0s,MS4.9
SAO San Andreas Ge 91.89 52 PFAKE 16 43 00.0 +9.2
SAO LR LR
comp=Z,307nm,19.0s,MS4.8
BEKR Beckwourth 91.94 49 *e*P **P 16 42 52.0 +1.1**
comp=Z,21nm,1.3s,mb5.3
VSU Vasula 92.37 331⇓*i*P **P 16 42 52.5 +0.1**
CMB Columbia Colle 92.39 51 *e*P **P 16 42 54.4 +1.4**
comp=Z,20nm,1.2s,mb5.3
CMB LR LR
comp=Z,326nm,20.0s,MS4.8
EDM Edmonton 92.49 35 *e*P **P 16 42 53.7 +0.6**
WVOR Wild Horse Val 92.51 46 *e*P **P 16 42 54.1 +0.6**
comp=Z,14nm,1.1s,mb5.3
WVOR LR LR
comp=Z,285nm,19.0s,MS4.7
BMO Blue Mountains 92.74 44 *e*P **P 16 42 55.4 +0.9**
comp=Z,6.6nm,0.9s,mb5.1
BMO LR LR
comp=Z,226nm,19.0s,MS4.6
SIM Simferopol' 92.81 316 *e*P **P 16 42 55.0 +0.2**
SIM *e* 16 53 17.0
SIM *e*S S 16 53 51.0 -5.6
SIM pmax pmax
comp=Z,22nm,1.0s,mb5.5
SIM MLR MLR
comp=Z,420nm,22.5s,MS4.8
MAW Mawson 93.98 202 *e*P **P 16 43 02.1 +2.4**
comp=Z,3.7nm,1.0s,mb4.8
MAW Mawson 93.98 202 P **P 16 43 00.8 +1.1**
comp=Z,5.8nm,1.1s,mb4.9,baz=61,slow=6.3,SNR=5.4
MAW Mawson 93.98 202 *e*P **P 16 43 02.1 +2.4**
MAW pmax pmax
comp=Z,4.0nm,1.0s
AKASG Malin Array Be 94.02 323 P **P 16 42 58.2 -2.0**
comp=Z,3.6nm,0.8s,mb4.8,baz=53,slow=4.4,SNR=10
AKASG Malin Array Be 94.02 323 *i*P **P 16 42 58.7 -1.5**
AKASG pmax pmax
comp=Z,4.0nm,0.8s
BMN Battle Mountai 94.10 48 PFAKE 16 43 10.0 +9.2
BMN LR LR
comp=Z,367nm,22.0s,MS4.8
ASF Jabal al Asfar 94.24 304 LR LR 17 30 56.4
comp=Z,170nm,18.4s,MS4.5,baz=107,slow=39
MSO Missoula 94.34 41 PFAKE 16 43 10.0 +8.2
MSO LR LR
comp=Z,179nm,22.0s,MS4.5
ISA Isabella 94.50 53 PFAKE 16 43 10.0 +7.2
ISA LR LR
comp=Z,73nm,20.0s,MS4.1
BRTR Keskin Array B 94.70 312 P **P 16 43 02.7 -0.9**
comp=Z,1.9nm,0.9s,mb4.5,baz=76,slow=5.1,SNR=4.7
CHMT Chamberlain Mo 94.76 41 *e*P **P 16 43 03.2 -0.5**
TPH Tonopah 94.78 50 PFAKE 16 43 20.0 +16
TPH LR LR
comp=Z,332nm,19.0s,MS4.8
DAC Darwin (Calif) 95.01 52 PFAKE 16 43 20.0 +15
DAC LR LR
comp=Z,429nm,21.0s,MS4.9
HLID Hailey 95.11 44 *e*P **P 16 43 06.7 +1.2**
comp=Z,9.2nm,1.2s,mb5.1
HLID LR LR
comp=Z,291nm,21.0s,MS4.7
ELK Elko 95.44 47 *e*P **P 16 43 07.8 +0.7**
comp=Z,10nm,1.3s,mb5.1
ELK LR LR
comp=Z,313nm,21.0s,MS4.8
DLMT Dillon 95.73 42 *e*P **P 16 43 08.3 +0.1**
HRY Holter Researc 95.74 41 *e*P **P 16 43 07.3 -1.0**
MCMT McKenzie Canyo 95.75 43 *e*P **P 16 43 02.4 -5.9**
SUW Suwalki 96.06 328 *e*P **P 16 43 10.0 +0.5**
BOZ Bozeman (W) 96.26 42 *e*P **P 16 43 11.5 +0.9**
comp=Z,6.4nm,1.2s,mb4.9
BOZ LR LR
comp=Z,304nm,22.0s,MS4.7
PFO Pinyon Flat Ob 96.67 54 PFAKE 16 43 20.0 +7.2
PFO LR LR
comp=Z,95nm,19.0s,MS4.3
QLMT Earthquake Lak 96.69 42 *e*P **P 16 43 13.7 +1.1**
RRI2 Red Ridge 97.30 44 *e*P **P 16 43 14.6 -0.7**
comp=Z,4.0nm,0.9s,mb4.8
IMW Indian Meadow 97.36 43 *e*P **P 16 43 16.6 +1.0**
LKWY Lake 97.47 42 PFAKE 16 43 30.0 +14
LKWY LR LR
comp=Z,331nm,20.0s,MS4.8
AHID Auburn Hatcher 97.67 44 PFAKE 16 43 30.0 +13
AHID LR LR
comp=Z,205nm,20.0s,MS4.6
HWUT Hardware Ranch 97.76 45 PFAKE 16 43 30.0 +13
HWUT LR LR
comp=Z,216nm,19.0s,MS4.7
NB2 NORSAR Subarra 97.80 337 P **P 16 43 17.7 +0.5**
comp=Z,0.8nm,0.8s,mb4.3,baz=53,slow=4.6
NB2 NORSAR Subarra 97.80 337 P **P 16 43 17.7 +0.5**
NB2 pmax pmax
comp=Z,1.0nm,0.8s,mb4.4
NOA NORSAR Array B 97.80 337 P **P 16 43 16.4 -0.7**
comp=Z,1.8nm,0.8s,mb4.6,baz=52,slow=4.7,SNR=3.4
NOA LR LR 17 31 46.5
comp=Z,280nm,18.8s,MS4.8,baz=50,slow=38
MLR Muntele Rosu 98.03 319 LR LR 17 32 30.2
comp=Z,448nm,20.2s,MS5.0,baz=53,slow=38
KWP Kalwaria 98.28 324 *e*P **P 16 43 19.5 -0.1**
DAU Daniels Canyon 98.41 46 *e*P **P 16 43 21.9 +1.5**
BW06 Boulder Array 98.72 44 *e*P **P 16 43 23.9 +2.1**
BW06 LR LR
comp=Z,233nm,20.0s,MS4.7
PDAR Pinedale Array 98.72 44 P **P 16 43 21.1 -0.7**
comp=Z,0.5nm,0.8s,mb4.1,baz=315,slow=2.1,SNR=5.5
PDAR PP PP 16 47 23.9 -1.6
comp=Z,0.4nm,0.7s,baz=315,slow=6.3,SNR=4.3
PDAR LR LR 17 27 29.2

comp=Z,178nm,18.7s,MS4.6,baz=292,slow=35
LAO LASA Array 99.29 39 PFAKE 16 43 40.0 +16
LAO LR LR
comp=Z,277nm,21.0s,MS4.7
KONO Kongsberg 99.30 336 PFAKE 16 43 40.0 +16
KONO LR LR
comp=Z,402nm,20.0s,MS4.9
KONO Kongsberg 99.30 336 *i* P **P 16 43 23.9 -0.1**
DGMT Dagmar 99.72 37 PFAKE 16 43 40.0 +14
DGMT LR LR
comp=Z,392nm,19.0s,MS4.9
QSPA South Pole Qui 100.10 180 PFAKE 16 43 40.0 +13
QSPA LR LR
comp=Z,534nm,20.0s,MS5.0
OKC Ostrava-Krasne 100.79 325 AMS AMS 17 36 00.0
comp=Z,800nm,16.8s
KMBO Kilima Mbogo 101.25 271 PFAKE 16 43 50.0 +16
KMBO LR LR
comp=Z,423μm,20.0s
KMBO Kilima Mbogo 101.25 271 *i* P P 16 43 37.2 +3.3
KMBO pmax pmax
comp=Z,2.0nm,0.7s
DPC Dobruska-Polom 101.53 326 AMS AMS 17 36 50.0
comp=Z,800nm,16.0s
TUC Tucson 101.60 54 PFAKE 16 43 50.0 +15
TUC LR LR
comp=Z,290nm,19.0s,MS4.8
PVCC Panska Ves 102.38 327 AMS AMS 17 37 50.0
comp=Z,500nm,13.6s
BRG Berggiesshubel 102.53 328 *e*P Pdif 16 43 39.7 +0.9
comp=Z,5.2nm,1.1s
BRG LR LR
comp=Z,770nm,16.0s,MS5.3
PRU Pruhonice 102.69 327 AMS AMS 17 37 40.0
comp=Z,700nm,16.5s
ULM Lac du Bonnet 103.46 32 PFAKE 16 43 50.0 +7.0
ULM LR LR
comp=Z,332nm,19.0s,MS4.9
SDCO Great Sand Dun 103.57 47 PFAKE 16 44 00.0 +16
SDCO LR LR
comp=Z,325nm,19.0s,MS4.9
NKC Novy Kostel 103.67 328 AMS AMS 17 38 10.0
comp=Z,900nm,16.1s
KHC Kasperske Hory 103.69 326 AMS AMS 17 38 10.0
comp=Z,700nm,15.0s
GERES GERESS Array B 103.78 326 Pdiff Pdif 16 43 43.7 -0.7
comp=Z,1.6nm,0.9s,baz=45,slow=5.7,SNR=8.5
ANMO Albuquerque 103.99 50 PFAKE 16 44 00.0 +14
ANMO LR LR
comp=Z,350nm,21.0s,MS4.9
MNTX Cornudas Mount 106.10 53 PFAKE 16 48 20.0
MNTX LR LR
comp=Z,268nm,22.0s,MS4.8
CBKS Cedar Bluff 107.14 44 PFAKE 16 48 20.0
CBKS LR LR
comp=Z,281nm,19.0s,MS4.8
MBAR Mbarara 107.56 273 PFAKE 16 48 20.0
MBAR LR LR
comp=Z,118nm,21.0s,MS4.4
LTX Lajitas 108.39 54 PFAKE 16 48 20.0
LTX LR LR
comp=Z,358nm,21.0s,MS4.9
SCHQ Schefferville 111.76 15 PFAKE 16 48 30.0 +11
SCHQ LR LR
comp=Z,288nm,20.0s,MS4.9
LSZ Lusaka 112.07 258 *e*PKPdf PKPdf 16 48 20.1 -0.6
LSZ LR LR
comp=Z,405nm,20.0s,MS5.0
CCM Cathedral Cave 113.20 41 PFAKE 16 48 30.0 +7.5
CCM LR LR
comp=Z,221nm,21.0s,MS4.7
NATX Nacogdoches 114.23 48 PFAKE 16 48 30.0 +5.3
NATX LR LR
comp=Z,348nm,20.0s,MS5.0
SNAA Sanae 114.25 193 P PKPdf 16 48 21.4 -2.4
SNAA Sanae 114.25 193 PKPdf 16 48 23.8 +0.1
SNAA Sanae 114.25 193 PKPdf 16 48 28.9 +5.2
SNAA Sanae 114.25 193 PKPdf 16 48 40.7 +17
SNAA Sanae 114.25 193 *i* PKIKP PKPdf 16 48 21.6 -2.1
BOSA Boshof 115.18 243 PFAKE 16 48 40.0 +13
BOSA LR LR
comp=Z,329nm,19.0s,MS5.0
VNA2 Neumayer--Watz 115.77 192 P PKPdf 16 48 26.1 -0.7
VNA2 Neumayer--Watz 115.77 192 PKPdf 16 48 28.2 +1.4
VNA2 Neumayer--Watz 115.77 192 PKPdf 16 48 29.4 +2.6
VNA2 Neumayer--Watz 115.77 192 PKPdf 16 48 34.2 +7.4
VNA3 Neumayer Olymp 115.95 191 P PKPdf 16 48 26.5 -0.6
VNA3 Neumayer Olymp 115.95 191 PKPdf 16 48 29.6 +2.5
VNA3 Neumayer Olymp 115.95 191 PKPdf 16 48 32.7 +5.6
VNA3 Neumayer Olymp 115.95 191 PKPdf 16 48 38.0 +11
VNA1 Neumayer--Stat 116.16 192 P PKPdf 16 48 27.0 -0.5
VNA1 Neumayer--Stat 116.16 192 PKPdf 16 48 30.5 +3.0
VNA1 Neumayer--Stat 116.16 192 PKPdf 16 48 40.3 +13
VNA1 Neumayer--Stat 116.16 192 PKPdf 16 48 48.3 +21
WCI Wyandotte Cave 116.20 38 PFAKE 16 48 40.0 +12
WCI LR LR
comp=Z,279nm,22.0s,MS4.8
WVT Waverly 116.53 41 PFAKE 16 48 40.0 +11
WVT LR LR
comp=Z,173nm,20.0s,MS4.7
NCB Newcomb 118.41 26 PFAKE 16 48 40.0 +7.5
NCB LR LR
comp=Z,240nm,21.0s,MS4.8
PQI Presque Isle 118.59 20 PFAKE 16 48 40.0 +7.2
PQI LR LR
comp=Z,6μm,22.0s
MCWV Mont Chateau 118.93 33 PFAKE 16 48 40.0 +6.4
MCWV LR LR
comp=Z,533nm,20.0s,MS5.2
LRAL Lakeview Retre 118.94 43 PFAKE 16 48 40.0 +6.2
LRAL LR LR
comp=Z,289nm,22.0s,MS4.9
BINY Binghamton 119.00 29 PFAKE 16 48 40.0 +6.3
BINY LR LR
comp=Z,373nm,19.0s,MS5.0
ESLA Sonseca Array 119.33 327 PFAKE 16 48 40.0 +5.7
ESLA LR LR
comp=Z,2μm,19.0s,MS5.8
MYNC Murphy 119.55 40 PFAKE 16 48 40.0 +5.2
MYNC LR LR
comp=Z,269nm,19.0s,MS4.9
WVL Waterville 119.79 23 PFAKE 16 48 40.0 +4.9
WVL LR LR
comp=Z,4μm,21.0s
BLA Blacksburg 120.34 36 PFAKE 16 48 50.0 +14
BLA LR LR
comp=Z,324nm,22.0s,MS4.9
EMMW East Machias 120.48 21 PFAKE 16 48 50.0 +14
EMMW LR LR
comp=Z,2μm,22.0s,MS5.6
HRV Harvard--Oak R 120.74 26 PFAKE 16 48 50.0 +13
HRV LR LR
comp=Z,267nm,20.0s,MS4.9
CBN Corbin 121.31 33 PFAKE 16 48 50.0 +12
CBN LR LR
comp=Z,815nm,22.0s,MS5.3
TSUM Tsumeb 122.37 254 PFAKE 16 48 50.0 +9.3
TSUM LR LR
comp=Z,424nm,20.0s,MS5.1
NHSC New Hope 123.31 39 PFAKE 16 48 50.0 +7.8
NHSC LR LR
comp=Z,347nm,22.0s,MS5.0
PMSA Palmer Station 123.31 169 PFAKE 16 48 50.0 +8.6
PMSA LR LR
comp=Z,603nm,19.0s,MS5.3
DWPF Disney 125.74 44 PFAKE 16 49 00.0 +13
DWPF LR LR
comp=Z,256nm,22.0s,MS4.8
CMLA Cha da Macela 129.95 343 PFAKE 16 49 00.0 +5.0
CMLA LR LR
comp=Z,3μm,22.0s,MS5.9
BBSR BB Station 132.19 27 PFAKE 16 49 10.0 +11
BBSR LR LR
comp=Z,202nm,19.0s,MS4.8
DBIC Dimbokro 139.81 293 PKhKP 16 49 04.0
comp=Z,4.9nm,0.9s,baz=339,slow=3.4,SNR=4.2
DBIC Dimbokro 139.81 293 PKHKP 16 49 03.9
SJG San Juan 142.78 41 PFAKE 16 49 30.0 +11
SJG LR LR
comp=Z,176nm,21.0s,MS4.8
MTP Monte Pirata 143.18 40 *e*PKPdf PKPdf 16 49 14.0 -5.6
ROSC El Rosal 144.04 67 PKP PKPdf 16 49 18.7 -2.6
comp=Z,5.8nm,0.5s,baz=277,slow=6.9,SNR=5.6
SDV Santo Domingo 145.35 58 *e*PKPdf PKPdf 16 49 20.9 -2.7
SDV LR LR
comp=Z,198nm,22.0s,MS4.8
TRQA Tornquist 146.77 150 *e*PKPdf PKPdf 16 49 23.9 -1.4
TRQA LR LR
comp=Z,368nm,21.0s,MS5.1
LVC Limon Verde 151.06 119 *e*PKPbc PKPdf 16 49 38.2 +5.6
LVC LR LR
comp=Z,457nm,22.0s,MS5.2
LPAZ La Paz 153.43 106 PKP PKPdf 16 49 34.9 -1.2
comp=Z,4.0nm,1.0s,baz=345,slow=4.4,SNR=9.4
LPAZ PKPbc PKPdf 16 49 43.3 +7.2
comp=Z,5.2nm,1.0s,baz=335,slow=3.5,SNR=7.8
LPAZ La Paz 153.43 106 PKP PKPdf 16 49 34.9 -1.2
LPAZ PKPbc PKPdf 16 49 43.3 +7.2
LPAZ LR LR
comp=Z,294nm,19.0s,MS5.1
CPUP Villa Florida 158.10 139 PKPab PKPab 16 50 14.7 +0.2
comp=Z,3.6nm,0.9s,baz=230,slow=4.9,SNR=4.4
SAML Samuel 158.60 88 PFAKE 16 49 50.0 +7.0
SAML LR LR
comp=Z,354nm,20.0s,MS5.2
RCBR Riachuelo 172.91 308 PFAKE 16 50 00.0 +5.3
RCBR LR LR
comp=Z,370nm,19.0s

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*IDC **31** 16:38:30.2±1.3, 10.29N×138.62E, mb3.9/6, mb1 4.1/6, mb1mx3.9/17, mbtmp3.9/6, Error ellipse: s-maj=56.5km s-min=22.6km az=92.0*
*NEIC **31** 16:38:31.6±1.1, 10.31N×138.59E, h10km, mb4.6/2, Error ellipse: s-maj=46.4km s-min=16.9km az=88.0*
ISC 31 16:38:33.2±1.1, 10.3N±0.1×138.5E±0.3, h33km, n9, σ0.9 85/9, mb4.0/8, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**30.29**	**188**	P		**P**		**16 44 45.1**	**+1.2**
	0.7nm,0.9s,mb3.4,baz=3.9,slow=9.5,SNR=5.0								
FITZ	**Fitzroy Crossi**	**30.91**	**204**	P		**P**		**16 44 48.3**	**-1.1**
	6.1nm,1.0s,mb4.4,baz=23,slow=11,SNR=4.1								
SONM	**Songino Array**	**46.18**	**330**	P		**P**		**16 46 57.6**	**+0.9**
	0.8nm,0.9s,mb3.6,baz=135,slow=6.3,SNR=4.3								
SONM				PcP		PcP		16 48 33.4	+0.8
	0.8nm,0.9s,baz=158,slow=3.3,SNR=4.1								
MKAR	**Makanchi Array**	**59.69**	**319**	P				**16 48 37.5**	**+0.6**
	0.8nm,0.7s,mb3.9,baz=98,slow=8.6,SNR=8.9								
KURK	**Kurchatov**	**63.22**	**322**	*e*P		**P**		**16 48 59.9**	**-0.7**
	5.4nm,0.9s,mb4.7								
BRVK	**Borovoye**	**68.81**	**323**	*e*P		**P**		**16 49 36.9**	**+0.8**
	3.2nm,1.0s,mb4.2								
ILAR	**Eielson Array**	**74.23**	**25**	P		**P**		**16 50 08.2**	**-0.1**
	0.5nm,0.6s,mb3.6,baz=248,slow=5.7,SNR=4.5								
ARU	**Arti**	**75.96**	**326**	*e*P		**P**		**16 50 17.5**	**-0.9**
FINES	**FINESS Array B**	**91.45**	**334**	P		**P**		**16 51 36.4**	**-0.8**
	1.1nm,0.6s,mb4.3,baz=76,slow=5.7,SNR=4.3								

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*JMA **31** 16:47:06.9±0.1, 26.49N×129.73E, h43km, M3.2*
*IDC **31** 16:47:08.6±7.6, 26.49N×129.60E, h27km±54km, mb3.3/3, mb1 3.5/4, mb1mx3.3/20, mbtmp3.5/4, ML3.3/1, Error ellipse: s-maj=32.3km s-min=23.2km az=43.0*
ISC 31 16:47:07.0±0.5, 26.51N±0.04×129.72E±0.03, h33km, n16, σ0.9 79/27, mb3.5/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**1.33**	**284**	Pn		**Pn**		**16 47 29.8**	**+0.2**
	76nm,0.3s,baz=125,slow=14,SNR=122								
JOW				Sn		**Sn**		**16 47 45.5**	**-0.8**
	120nm,0.3s,baz=106,slow=29,SNR=26								
JOW	**Kunigami**	**1.33**	**284**	P		**P**		**16 47 29.7**	**+0.3**
JOW				*e*S		**S**		**16 47 45.6**	**-0.5**
JTK	**Tokunoshima**	**1.44**	**332**	P		**P**		**16 47 31.5**	**+0.5**
JTK				*e*S		**S**		**16 47 49.6**	**+0.7**
JMZ	**Minamidaito 2**	**1.52**	**117**	P		**P**		**16 47 32.0**	**0.0**
JMZ				*e*S		**S**		**16 47 49.5**	**-1.3**
JIH	**Iheya**	**1.65**	**289**	P		**P**		**16 47 34.5**	**+0.5**
JIH				*e*S		**S**		**16 47 53.7**	**-0.5**
JJT2	**Tamagusuku 2**	**1.81**	**259**	P		**P**		**16 47 36.8**	**+0.6**
JJT2				*e*S		**S**		**16 47 57.8**	**-0.4**
JZK	**Kikaishima**	**1.81**	**7**	P		**P**		**16 47 37.4**	**+1.2**
JZK				*e*S		**S**		**16 47 59.5**	**+1.3**
NAH1	**Naha**	**1.85**	**261**	P		**P**		**16 47 37.3**	**+0.5**
NAH1				*e*S		**S**		**16 47 58.4**	**-0.8**
JAM	**Amami Oshima**	**1.89**	**357**	P		**P**		**16 47 37.5**	**+0.1**
JAM				*e*S		**S**		**16 47 59.0**	**-1.4**
JAGN	**Aguni-jima**	**2.22**	**272**	P		**P**		**16 47 42.6**	**+0.5**
JAGN				*e*S		**S**		**16 48 08.0**	**-0.6**
JKE	**Kume jima 2**	**2.64**	**267**	P		**P**		**16 47 49.0**	**+0.9**
JNN	**Nakanoshima**	**3.32**	**2**	P		**P**		**16 47 57.6**	**-0.2**
JNN				*e*S		**S**		**16 48 34.0**	**-2.6**
JNU	**Nakatsue**	**6.66**	**8**	Pn		**Pn**		**16 48 44.9**	**-0.4**
	0.6nm,0.3s,baz=162,slow=7.6,SNR=4.2								
MKAR	**Makanchi Array**	**42.35**	**311**	P		**P**		**16 55 00.1**	**+0.6**
	0.3nm,0.6s,mb3.1,baz=117,slow=6.4,SNR=4.2								
WRA	**Warramunga Arr**	**46.40**	**174**	P		**P**		**16 55 32.5**	**+0.2**
	0.4nm,0.6s,mb3.6,baz=353,slow=8.3,SNR=7.5								
FINES	**FINESS Array B**	**73.27**	**331**	P		**P**		**16 58 36.7**	**+0.4**
	0.4nm,0.4s,mb3.7,baz=72,slow=6.0,SNR=6.2								

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*IDC **31** 16:49:27.9±5.6, 19.46S×177.27E, h79km±52km, mb4.0/6, mb1 4.4/8, mb1mx4.1/14, mbtmp4.4/8, ML3.8/2, MS4.1/6, Ms1 4.1/6, ms1mx3.8/27, Error ellipse: s-maj=39.8km s-min=27.2km az=160.0*
*NEIC **31** 16:49:27.5±2.7, 19.53S×177.31E, h75km±23km, mb4.8/6, Error ellipse: s-maj=17.3km s-min=16.4km az=185.0*
ISC 31 16:49:25.9±3.8, 19.6S±0.1×177.3E±0.1, h75km±32km, n37, σ0.9 74/23, mb4.4/12, 2C-1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.45**	**254**	P		**P**		**16 51 55.2**	**+0.3**
	0.2nm,0.3s,baz=84,slow=18,SNR=5.9								
RAO	**Raoul Island**	**10.59**	**157**	LR		LR		16 54 43.8	
	comp=Z,925nm,21.2s,baz=71,slow=30								
URZ	**Urewera**	**18.64**	**180**	P		**P**		**16 53 39.7**	**-0.3**
	1.3nm,0.3s,baz=4.5,slow=7.7,SNR=19								
CTA	**Charters Tower**	**29.18**	**264**	LR		LR		17 05 42.9	
	comp=Z,368nm,18.8s,baz=70,slow=33								
CTAO	**Charters Tower**	**29.18**	**264**	*e*P		**P**		**16 55 21.6**	**-0.9**
	9.1nm,1.1s,mb4.3								
PMG	**Port Moresby**	**30.82**	**285**	LR		LR		17 04 08.3	
	comp=Z,137nm,21.1s,baz=119,slow=29								
STKA	**Stephens Creek**	**34.27**	**242**	P		**P**		**16 56 07.5**	**+0.7**
	3.1nm,0.9s,mb4.2,baz=103,slow=10,SNR=4.2								
STKA				LR		LR		17 09 31.2	
	comp=Z,452nm,19.8s,baz=46,slow=35								
STKA	**Stephens Creek**	**34.27**	**242**	*e*P		**P**		**16 56 07.1**	**+0.3**
STKA				LR		LR		17 09 31.1	
WB2	**Warramunga Arr**	**40.34**	**262**	*e*P		**P**		**16 56 57.6**	**-0.2**
WRAB	**Tennant Creek**	**40.34**	**262**	*e*P		**P**		**16 56 57.3**	**-0.5**
	19nm,1.2s,mb4.8								
WRA	**Warramunga Arr**	**40.35**	**262**	P		**P**		**16 56 57.5**	**-0.4**
	6.1nm,1.0s,mb4.4,baz=94,slow=8.2,SNR=18								
ASPA	**Alice Springs**	**40.44**	**256**	⇑*i*P		**P**		**16 56 59.0**	**+0.4**
FITZ	**Fitzroy Crossi**	**48.76**	**263**	⇓*i*P		**P**		**16 58 06.4**	**+1.0**
	22nm,1.0s,mb5.0								
MBWA	**Marble Bar**	**53.73**	**258**	*e*P		**P**		**16 58 42.4**	**-0.5**
	14nm,0.9s,mb5.0								
CASY	**Casey**	**62.94**	**205**	*e*P		**P**		**16 59 48.2**	**+1.7**
	6.7nm,1.2s,mb4.5								
QSPA	**South Pole Qui**	**70.50**	**180**	⇑*i*P		**P**		**17 00 32.6**	**-1.3**
	12nm,1.1s,mb4.6								
NVAR	**Mina Array Bea**	**83.45**	**45**	P		**P**		**17 01 46.9**	**+0.2**
	1.5nm,0.8s,mb3.9,baz=235,slow=11,SNR=10.0								
NVAR	**Mina Array Bea**	**83.45**	**45**	P		**P**		**17 01 46.9**	**+0.2**
ELK	**Elko**	**86.66**	**45**	LR		LR		17 36 04.5	
	comp=Z,117nm,18.1s,baz=95,slow=32								
ILAR	**Eielson Array**	**88.45**	**15**	P		**P**		**17 02 10.2**	**-0.3**
	1.5nm,0.9s,mb4.0,baz=235,slow=5.8,SNR=11								
DLBC	**Dease Lake**	**88.99**	**25**	LR		LR		17 39 17.6	
	comp=Z,172nm,18.6s,baz=277,slow=34								
VNA3	**Neumayer Olymp**	**89.31**	**178**			**P**		**17 02 14.1**	**-0.4**
VNA3	**Neumayer Olymp**	**89.31**	**178**			**P**		**17 02 21.6**	**+7.1**
VNA3	**Neumayer Olymp**	**89.31**	**178**			**P**		**17 02 29.0**	**+15**
VNA3	**Neumayer Olymp**	**89.31**	**178**			pP		17 02 34.5	-0.8
VNA2	**Neumayer--Watz**	**89.70**	**178**			**P**		**17 02 16.6**	**+0.3**
VNA2	**Neumayer--Watz**	**89.70**	**178**			**P**		**17 02 27.7**	**+11**
VNA2	**Neumayer--Watz**	**89.70**	**178**			pP		17 02 35.2	-1.9
VNA2	**Neumayer--Watz**	**89.70**	**178**			pP		17 02 41.8	+4.7
TXAR	**Lajitas Array**	**90.32**	**59**	P		**P**		**17 02 21.2**	**+1.0**
	5.0nm,0.8s,mb4.7,baz=211,slow=7.3,SNR=7.6								
PDAR	**Pinedale Array**	**91.37**	**45**	P		**P**		**17 02 24.1**	**-0.6**
	0.7nm,0.9s,mb3.8,baz=252,slow=2.9,SNR=3.4								
KURK	**Kurchatov**	**110.32**	**318**	*e*P		PKPdf		17 07 51.5	+2.6
UPC	**Upice**	**145.73**	**339**	*e*PKP		PKPdf		17 08 58.7	+3.2
DPC	**Dobruska-Polom**	**145.75**	**338**	*e*P		PKPdf		17 09 06.5	+11
DPC				LR		LR			
	comp=Z,800nm,16.0s								
CLL	**Collm**	**145.98**	**342**	*i* PKP1		PKPbc		17 08 59.3	+2.3
CLL				*i* *PPKP				17 09 06.6	
CLL				*e*				17 09 10.0	
KHC	**Kasperske Hory**	**147.72**	**340**	*e*P		PKPdf		17 09 04.1	+5.2
KHC				LR		LR			
	comp=Z,700nm,15.0s								
GERES	**GERESS Array B**	**147.93**	**339**	PKPbc		PKPdf		17 09 03.1	+3.9
	comp=Z,1.0nm,0.7s,slow=2.7,SNR=7.2								

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*IDC **31** 17:22:19.6±0.6, 10.24N×138.50E, mb4.3/12, mb1 4.5/12, mb1mx4.4/20, mbtmp4.3/12, MS3.6/3, Ms1 3.6/3, ms1mx3.3/18, Error ellipse: s-maj=31.9km s-min=14.5km az=85.0*
*NEIC **31** 17:22:21.3±0.4, 10.24N×138.48E, h10km, mb4.7/6, Error ellipse: s-maj=21.1km s-min=8.6km az=86.0*
ISC 31 17:22:22.9±0.6, 10.22N±0.08×138.4E±0.2, h33km, n30, σ0.9 91/24, mb4.4/17, MS3.5/3, 2C-1D, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**22.83**	**3**	LR		LR	LR	17 35 27.1	
	comp=Z,40nm,19.7s,MS2.9,baz=124,slow=34								
KAKA	**Kakadu**	**23.53**	**195**	⇓*i*P		**P**		**17 27 48.6**	**+17**
	18nm,0.7s,mb4.6								
HNR	**Honiara**	**29.01**	**132**	LR		LR	LR	17 39 04.3	
	comp=Z,63nm,19.1s,MS3.2,baz=322,slow=35								
WB2	**Warramunga Arr**	**30.23**	**188**	*e*P		**P**		**17 28 34.1**	**+1.1**
WRA	**Warramunga Arr**	**30.23**	**188**	P		**P**		**17 28 32.2**	**-0.8**
	2.4nm,0.8s,mb4.0,baz=360,slow=9.3,SNR=19								
WRA				PcP		PcP		17 31 34.0	+0.5
	1.0nm,0.8s,baz=352,slow=2.5,SNR=5.0								
FITZ	**Fitzroy Crossi**	**30.82**	**204**	⇑*i*P		**P**		**17 28 37.0**	**-1.3**
	9.6nm,0.9s,mb4.6								
FITZ	**Fitzroy Crossi**	**30.82**	**204**	P		**P**		**17 28 36.7**	**-1.6**
	14nm,0.8s,mb4.8,baz=28,slow=7.0,SNR=10.0								
HIA	**Hailar**	**41.92**	**342**	*e*P		**P**		**17 30 13.4**	**+1.4**
	5.4nm,0.8s,mb4.2								
STKA	**Stephens Creek**	**41.97**	**176**	⇑*i*P		**P**		**17 30 13.3**	**+0.7**
	8.2nm,0.8s,mb4.4								
STKA	**Stephens Creek**	**41.97**	**176**	P		**P**		**17 30 13.2**	**+0.6**
	8.6nm,0.8s,mb4.5,baz=346,slow=9.2,SNR=13								
SONM	**Songino Array**	**46.16**	**330**	P		**P**		**17 30 46.7**	**+0.6**
	2.4nm,1.0s,mb4.1,baz=137,slow=5.5,SNR=13								
SONM				PcP		PcP		17 32 22.3	+0.1
	2.0nm,1.0s,baz=152,slow=2.3,SNR=5.4								
SONM	**Songino Array**	**46.16**	**330**	PcP		PcP		17 32 22.3	+0.1
NWAO	**Narrogin (SRO)**	**47.41**	**204**	P		**P**		**17 30 56.2**	**0.0**
	4.5nm,0.8s,mb4.4,baz=216,slow=14,SNR=4.0								
NWAO	**Narrogin (SRO)**	**47.41**	**204**	P		**P**		**17 30 56.2**	**0.0**
MKAR	**Makanchi Array**	**59.65**	**319**	P		**P**		**17 32 26.6**	**+0.3**
	2.2nm,0.9s,mb4.2,baz=95,slow=8.7,SNR=16								
MKAR				PcP		PcP		17 33 12.7	-0.1
	2.1nm,0.9s,baz=103,slow=5.8,SNR=4.4								
ZAL	**Zalesovo**	**60.82**	**327**	P		**P**		**17 32 34.5**	**+0.4**
	1.3nm,0.6s,mb4.2,baz=18,slow=6.5,SNR=7.7								
KURK	**Kurchatov**	**63.18**	**322**	*e*P		**P**		**17 32 49.3**	**-0.7**
	14nm,0.9s,mb5.1								
BVAR	**Borovoye Array**	**68.70**	**323**	P		**P**		**17 33 25.4**	**+0.2**
	5.9nm,0.9s,mb4.5,baz=104,slow=6.1,SNR=36								
BRVK	**Borovoye**	**68.77**	**323**	*e*P		**P**		**17 33 25.8**	**+0.2**
	5.7nm,1.0s,mb4.5								
ILAR	**Eielson Array**	**74.31**	**25**	P		**P**		**17 33 57.3**	**-1.2**
	1.7nm,0.9s,mb4.0,baz=266,slow=6.2,SNR=15								
ARU	**Arti**	**75.93**	**326**	*e*P		**P**		**17 34 07.8**	**-0.1**
	5.8nm,0.6s,mb4.7								
PPT	**Papeete**	**76.31**	**111**	LR		LR		18 00 38.5	
	comp=Z,207nm,20.0s,MS4.4,baz=314,slow=30								
INK	**Inuvik**	**79.88**	**22**	P		**P**		**17 34 29.7**	**+0.1**
	1.2nm,0.5s,mb4.1,baz=307,slow=5.1,SNR=3.2								
INK	**Inuvik**	**79.88**	**22**	P		**P**		**17 34 29.7**	**+0.1**
JOF	**Joensuu**	**88.60**	**334**	*e*p		**P**		**17 35 10.6**	**-2.8**
VNDA	**Vanda**	**88.60**	**175**	P		**P**		**17 35 14.3**	**+1.2**
	1.4nm,0.9s,mb4.3,baz=308,slow=6.9,SNR=6.8								
KAF	**Kangasniemi**	**91.06**	**334**	*e*p		**P**		**17 35 18.4**	**-6.6**
FINES	**FINESS Array B**	**91.43**	**334**	P		**P**		**17 35 26.2**	**-0.5**
	1.1nm,0.6s,mb4.4,baz=72,slow=6.0,SNR=7.7								
SDV	**Santo Domingo**	**145.44**	**58**	PKPbc		PKPbc		17 42 00.9	+1.8
	10nm,0.2s,baz=257,slow=3.3,SNR=9.9								
LPAZ	**La Paz**	**153.51**	**106**	PKPbc		PKPdf		17 42 21.6	+11
	0.4nm,0.3s,baz=59,slow=3.8,SNR=4.3								

IDC 31 17:45:48.5±2.7, 22.01N×143.23E, h268km±25km, mb3.2/6, mb1 3.4/7, mb1mx3.2/21, mbtmp3.9/7, Error ellipse: s-maj=64.0km s-min=16.9km az=81.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.15**	**350**	P		P	P	17 47 06.6	-0.6
	6.7nm,0.3s,baz=306,slow=21,SNR=4.2								
CBIJ				S		S	S	17 48 04.8	-3.9
	13nm,0.3s,baz=274,slow=23,SNR=6.5								
SONM	**Songino Array**	**39.13**	**320**	P		P	P	17 52 50.6	-1.1
	0.7nm,0.4s,baz=125,slow=6.7,SNR=20								
WRA	**Warramunga Arr**	**42.59**	**192**	P		P	P	17 53 18.7	-1.6
	0.2nm,0.4s,baz=16,slow=9.3,SNR=16								
ZAL	**Zalesovo**	**54.00**	**321**	P		P	P	17 54 44.8	-2.1
	0.5nm,0.3s,baz=144,slow=16,SNR=3.2								
MKAR	**Makanchi Array**	**54.52**	**312**	P		P	P	17 54 49.0	-1.8
	0.3nm,0.5s,baz=95,slow=8.3,SNR=6.6								
ARCES	**ARCESS Array B**	**78.64**	**341**	P		P	P	17 57 21.2	-0.6
	1.9nm,0.9s,baz=69,slow=7.6,SNR=7.7								
FINES	**FINESS Array B**	**82.92**	**334**	P		P	P	17 57 42.7	-1.6
	1.0nm,0.3s,baz=59,slow=5.7,SNR=19								

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*NEIC **31** 17:57:03.7±0.8, 30.99N×138.88E, h390km±8km, mb3.9/5, Error ellipse: s-maj=21.0km s-min=10.6km az=77.0*
*JMA **31** 17:57:04.3±0.4, 31.08N×138.91E, h403km±4km, M3.6*
*IDC **31** 17:57:04.2±0.8, 30.94N×138.76E, h388km±15km, mb3.3/5, mb1 3.4/8, mb1mx3.2/22, mbtmp4.1/8, Error ellipse: s-maj=39.4km s-min=13.8km az=67.0*
ISC 31 17:57:02.8±0.4, 30.96N±0.05×138.9E±0.1, h403km±6km, n35, σ0.9 86/47, mb3.6/8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**2.27**	**18**	P		**P**	**P**	**17 58 02.1**	**+1.0**
	87nm,0.3s,baz=55,slow=17,SNR=29								
JHJ				S		**S**	**S**	**17 58 47.9**	**+0.9**
	75nm,0.3s,baz=85,slow=23,SNR=6.3								
JHJ2	**Mitsune**	**2.27**	**19**	P		**P**	**P**	**17 58 02.1**	**+1.0**
TK02	**Tokai 2**	**3.14**	**342**	P		**P**	**P**	**17 58 08.7**	**+1.0**
TK02

14nm,0.7s
MAT *eS* **S** **17 59 39.0 -2.6**
JHO Hitachi 5.80 13 P **P** **17 58 33.3 -0.6**
JNU Nakatsue 7.17 290 P **P** **17 58 48.5 -0.7**
0.4nm,0.3s,baz=126,slow=6.2,SNR=6.1
SONM Songino Array 29.98 314 P **P** **18 02 37.5 0.0**
0.7nm,0.7s,mb3.1,baz=127,slow=8.5,SNR=8.6
MKAR Makanchi Array 45.85 307 P **P** **18 04 48.1 -0.1**
1.8nm,0.7s,mb3.5,baz=85,slow=9.6,SNR=20
KURK Kurchatov 48.27 312 *eP* **P** **18 05 06.3 -0.3**
WRAB Tennant Creek 50.79 186 *eP* **P** **18 05 26.1 +0.1**
WRA Warramunga Arr 50.80 186 P **P** **18 05 26.8 +0.8**
4.6nm,0.5s,mb4.0,baz=1.1,slow=7.9,SNR=121
BVAR Borovoye Array 53.29 315 P **P** **18 05 44.0 +0.1**
2.5nm,0.5s,mb3.7,baz=98,slow=7.6,SNR=22
BRVK Borovoye 53.35 316 *eP* **P** **18 05 44.5 +0.2**
2.2nm,0.8s,mb3.4
MBWA Marble Bar 55.01 202 *eP* **P** **18 05 56.0 -0.5**
4.2nm,0.6s,mb3.9
ARU Arti 59.64 321 *eP* **P** **18 06 26.7 -1.0**
2.0nm,0.6s,mb3.7
AKASG Malin Array Be 77.83 322 P **P** **18 08 18.9 +1.0**
0.4nm,0.4s,mb3.4,baz=52,slow=5.4,SNR=4.1

ROM ***31*** *19:29:48.7±0.2, 44.59N×7.96E, h7km, Md2.5/4, Ml2.0/1, Error ellipse: s-maj=3.5km s-min=2.2km az=104.0*
CSEM ***31*** *19:29:48.8±0.1, 44.65N×8.00E, h10km, ML2.5/8, Error ellipse: s-maj=1.8km s-min=1.2km az=72.0*
STR ***31*** *19:29:49.6±0.4, 44.65N×7.97E, h5km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
GEN ***31*** *19:29:49.2, 44.62N×7.99E, h5km, ML2.0*
NEIC ***31*** *19:29:49.6, 44.65N×7.97E, h5km, ML2.6(GEN), ML2.5(LDG), ML2.3(STR), After STR.*
LDG ***31*** *19:29:49.2±0.3, 44.66N×8.01E, h2km, Md2.4/3, Ml2.5/10, Error ellipse: s-maj=5.0km s-min=2.7km az=71.0*
ISC 31 18:29:48.6±0.4, 44.64N±0.02×7.96E±0.03, h8km±3km, n48, σ0=84/81, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROB	**Roburent**	**0.35**	**191**	P	**Pg**	**18 29 56.1**	**+0.4**
ROB	**Roburent**	**0.35**	**191**	P	**Pg**	**18 29 56.1**	**+0.4**
ROB				S	**Sg**	**18 30 00.3**	**-0.2**
PCP	**Pian Castagno**	**0.43**	**103**	P	**Pg**	**18 29 57.2**	**-0.1**
PCP	**Pian Castagno**	**0.43**	**103**	P	**Pg**	**18 29 57.2**	**-0.1**
PCP				S	**Sg**	**18 30 02.4**	**-0.7**
MONC	**Moncucco Torin**	**0.44**	**357**	Pg	**Pg**	**18 29 59.2**	**+1.8**
MONC				Sg	**Sg**	**18 30 07.3**	**+4.0**
84nm,0.4s							
FIN	**Finale Ligure**	**0.46**	**157**	Pg	**Pg**	**18 29 57.9**	**-0.1**
FIN				Sg	**Sg**	**18 30 04.2**	**-0.1**
47nm,0.2s							
FIN	**Finale Ligure**	**0.46**	**157**	P	**Pg**	**18 29 57.9**	**-0.1**
FIN				S	**Sg**	**18 30 03.8**	**-0.5**
DOI	**San Damiano**	**0.53**	**256**	Pg	**Pg**	**18 30 00.0**	**+0.8**
DOI				Sg	**Sg**	**18 30 07.4**	**+1.1**
75nm,0.2s							
BHB	**Bricherasio**	**0.54**	**293**	P	**Pg**	**18 30 00.3**	**+0.9**
BHB	**Bricherasio**	**0.54**	**293**	P	**Pg**	**18 30 00.3**	**+0.9**
BHB				S	**Sg**	**18 30 07.3**	**+0.7**
ENR	**Entracque**	**0.56**	**223**	P	**Pg**	**18 30 00.2**	**+0.2**
ENR	**Entracque**	**0.56**	**223**	P	**Pg**	**18 30 00.2**	**+0.2**
ENR				S	**Sg**	**18 30 07.2**	**-0.3**
STV2	**Anna di Valdie**	**0.60**	**229**	P	**Pg**	**18 30 00.6**	**-0.1**
STV2	**Anna di Valdie**	**0.60**	**229**	P	**Pg**	**18 30 00.7**	**0.0**
STV2				S	**Sg**	**18 30 08.9**	**+0.1**
STV	**Sta Anna Valdi**	**0.60**	**229**	P	**Pg**	**18 30 00.7**	**0.0**
STV				S	**Sg**	**18 30 08.8**	**0.0**
SAOF	**Saorge**	**0.71**	**204**	Pg	**Pg**	**18 30 02.8**	**-0.1**
RSP	**Reno Superiore**	**0.72**	**316**	P	**Pb**	**18 30 03.4**	**+0.5**
RSP	**Reno Superiore**	**0.72**	**316**	P	**Pb**	**18 30 03.4**	**+0.5**
RSP				S	**Sb**	**18 30 12.6**	**-0.1**
IMI	**Imperia**	**0.73**	**184**	Pg	**Pg**	**18 30 03.1**	**-0.1**
18nm,0.2s							
IMI	**Imperia**	**0.73**	**184**	P	**Pb**	**18 30 03.0**	**-0.2**
IMI				S	**Sb**	**18 30 12.4**	**-0.6**
AUTN	**L'Aution**	**0.75**	**211**	Pg	**Pg**	**18 30 03.7**	**+0.1**
AUTN				Sg	**Sg**	**18 30 14.7**	**+1.1**
OG22	**Abries**	**0.75**	**285**	Pg	**Pg**	**18 30 03.8**	**+0.2**
OG22				Sg	**Sg**	**18 30 13.7**	**+0.1**
FENE	**Fenestrelle**	**0.75**	**302**	P	**Pb**	**18 30 03.6**	**+0.1**
FENE	**Fenestrelle**	**0.75**	**302**	P	**Pb**	**18 30 03.6**	**+0.2**
TOUF	**Mont Tournerai**	**0.81**	**220**	Pg	**Pg**	**18 30 04.9**	**+0.1**
TOUF				Sg	**Sg**	**18 30 16.2**	**+0.6**
NEGI	**Negi**	**0.81**	**193**	P	**Pb**	**18 30 04.8**	**+0.3**
SURF	**Saint Ours**	**0.83**	**260**	Pg	**Pg**	**18 30 05.3**	**0.0**
SURF				Sg	**Sg**	**18 30 17.5**	**+1.0**
MBDF	**Montbardon**	**0.85**	**276**	*e*Pg	**Pg**	**18 30 05.5**	**-0.2**
MBDF				*e*Sg	**Sg**	**18 30 17.4**	**+0.3**
20nm,0.3s							
SBF	**Sospel**	**0.86**	**206**	*e*Pg	**Pg**	**18 30 05.7**	**-0.2**
SBF				*e*Sg	**Sg**	**18 30 17.1**	**-0.3**
64nm,0.3s							
RRL	**Cesana Torines**	**0.88**	**289**	P	**Pb**	**18 30 06.0**	**+0.2**
RRL	**Cesana Torines**	**0.88**	**289**	P	**Pb**	**18 30 06.0**	**+0.3**
RRL				S	**Sb**	**18 30 18.0**	**+0.5**
MVIF	**Mont Vial**	**0.94**	**218**	Pg	**Pg**	**18 30 07.8**	**+0.3**
MVIF				Sg	**Sg**	**18 30 21.0**	**+1.0**
REVF	**Revere**	**0.99**	**206**	Pg	**Pg**	**18 30 08.9**	**+0.4**
REVF				Sg	**Sg**	**18 30 23.0**	**+1.2**
ORX	**Oropa**	**0.99**	**1**	P	**Pb**	**18 30 08.7**	**+1.0**
ORX	**Oropa**	**0.99**	**1**	P	**Pb**	**18 30 08.7**	**+1.0**
LSD	**Ceresole Reale**	**1.00**	**325**	P	**Pb**	**18 30 08.3**	**+0.6**
LSD	**Ceresole Reale**	**1.00**	**325**	P	**Pb**	**18 30 08.3**	**+0.6**
LSD				S	**Sb**	**18 30 19.8**	**-1.0**
CALN	**Calern**	**1.17**	**221**	Pg	**Pg**	**18 30 12.9**	**+0.8**
LPG	**La Plagne**	**1.21**	**316**	*e*Pg	**Pg**	**18 30 12.3**	**-0.6**
LPG				*e*Sg	**Sg**	**18 30 27.4**	**-1.7**
13nm,0.5s							
LPL	**La Plagne**	**1.24**	**316**	*e*Pg	**Pg**	**18 30 12.6**	**-0.7**
LPL				*e*Sg	**Sg**	**18 30 27.1**	**-2.7**
6.6nm,0.3s							
OG25	**Le Caire**	**1.38**	**259**	Pg	**Pg**	**18 30 16.4**	**+0.3**
OG25				Sg	**Sg**	**18 30 35.2**	**+0.7**
FRF	**La Foret Royal**	**1.43**	**222**	*e*Pg	**Pg**	**18 30 16.3**	**-1.0**
FRF				*e*Sg	**Sg**	**18 30 35.3**	**-1.1**
20nm,0.4s							
ORIF	**Oris-en-Rattie**	**1.51**	**281**	*e*Pn	**Pn**	**18 30 17.2**	**+1.1**
ORIF				*e*Pg	**Pg**	**18 30 18.6**	**-0.1**
ORIF				*e*Sg	**Sg**	**18 30 37.0**	**-1.9**
9.8nm,0.5s							
LMR	**La Mourre**	**1.67**	**219**	*e*Pn	**Pn**	**18 30 19.1**	**+0.7**
LMR				*e*Pg	**Pg**	**18 30 20.7**	**-1.3**
LMR				*e*Sg	**Sg**	**18 30 41.7**	**-2.6**
19nm,0.3s							
SMRF	**Simiane la Rot**	**1.84**	**250**	*e*Pg	**Pg**	**18 30 23.3**	**-2.0**
SMRF				*e*Sg	**Sg**	**18 30 48.3**	**-1.5**
9.5nm,0.4s							
PGF	**Pioggiola**	**2.22**	**160**	*e*Pn	**Pn**	**18 30 25.4**	**-0.9**
PGF				*e*Sn	**Sn**	**18 30 49.7**	**-4.5**
0.9nm,0.2s							
VIVF	**Saint-Julien-I**	**2.35**	**276**	*e*Pn	**Pn**	**18 30 28.9**	**+0.8**
VIVF				*e*Sn	**Sn**	**18 30 56.7**	**-0.8**
1.8nm,0.4s							
LOR	**Lormes**	**3.89**	**314**	*e*Pn	**Pn**	**18 30 50.1**	**+0.1**

BER 31 19:02:03.8±0.4, 71.10N×7.39W, h15km±2km, MD3.0, ML3.7, 4D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNE	**Jan Mayen East**	**0.32**	**250**	⇓*i*P	Pb	19 02 09.9	-0.7
JNW	**Jan Mayen West**	**0.35**	**258**	⇓*i*P	Pb	19 02 10.5	-0.6
JNW				*e*S	Sb	19 02 15.1	-0.9
JNW				AML	AML	19 02 15.4	
comp=Z,3μm,0.3s							
JNW	**Jan Mayen West**	**0.35**	**258**	⇓*i*P	Pb	19 02 10.5	-0.6
SNR=112							
JNW				*e*S	Sb	19 02 15.1	-1.0
comp=Z,3μm,0.3s,SNR=112							
JMI	**Jan Mayen**	**0.47**	**249**	⇓*i*P	Pb	19 02 12.3	-0.9
JMI				*e*S	Sb	19 02 18.8	-0.9

NIED ***31*** *19:05:00, 29.40N×132.10E, h5km, Mw4.6 Best double couple: M0=9.66×10^15 NP1:φs=13°, δ=51°, λ=-84°. NP2:φs=183°, δ=40°, λ=-97°.*
JMA ***31*** *19:05:10.2±0.2, 29.39N×132.07E, h66km, M4.7*
JMA Felt I J1.

MOS ***31*** *19:05:10.1±0.9, 29.42N×132.18E, h33km, mb5.1/34, MS4.1/12, Error ellipse: s-maj=10.0km s-min=5.4km az=111.1*
IDC ***31*** *19:05:10.4±6.8, 29.36N×132.09E, h25km±45km, mb4.4/20, mb1 4.6/24, mb1mx4.5/28, mbtmp4.6/24, ML4.4/4, MS3.9/11, Ms1 3.9/11, ms1mx3.6/24, Error ellipse: s-maj=17.2km s-min=15.1km az=45.0*
BJI ***31*** *19:05:11.1, 29.44N×132.21E, h40km, mB5.0, mb4.6, Ms4.5, Msz4.1*
NEIC ***31*** *19:05:12.3±0.2, 29.45N×132.11E, mb4.8/49, MW4.6(NIED), Error ellipse: s-maj=6.3km s-min=4.7km az=168.0*
NEIC Recorded [1 JMA] in Kagoshima Prefecture, Kyushu.
ISC 31 19:05:10.9±0.2, 29.44N±0.03×132.08E±0.03, h35km, h35km±1.3km: pP-P, n236, σ1=09/249, mb4.7/83, MS4.0/23, 11C-15D, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**1.54**	**322**	P	**P**	**19 05 36.5**	**+0.2**
JTN				S	**S**	**19 05 55.9**	**+0.5**
JKC	**Kuchinoerabu**	**1.93**	**302**	P	**P**	**19 05 42.1**	**+0.2**
JKC				S	**S**	**19 06 05.2**	**+0.1**
JNN	**Nakanoshima**	**1.96**	**282**	P	**P**	**19 05 42.2**	**-0.2**
JNN				S	**S**	**19 06 05.7**	**-0.3**
JTSR	**Tashiro 2**	**1.99**	**330**	P	**P**	**19 05 42.8**	**+0.1**
JTSR				S	**S**	**19 06 06.5**	**-0.2**
JZK	**Kikaishima**	**2.17**	**239**	P	**P**	**19 05 43.8**	**-1.4**
JZK				*e*S	**S**	**19 06 09.4**	**-1.7**
JNAR	**Kushima--Naru**	**2.19**	**342**	P	**P**	**19 05 45.9**	**+0.3**
JNAR				S	**S**	**19 06 11.6**	**-0.2**
JAM	**Amami Oshima**	**2.40**	**245**	P	**P**	**19 05 46.9**	**-1.7**
JAM				*e*S	**S**	**19 06 14.3**	**-2.9**
JTZ	**Takazaki**	**2.60**	**341**	P	**P**	**19 05 51.5**	**+0.1**
JTZ				S	**S**	**19 06 21.9**	**-0.2**
JSJ	**Shimokoshiki**	**3.02**	**318**	P	**P**	**19 05 56.5**	**-1.0**
JSJ				S	**S**	**19 06 30.8**	**-2.1**
JTK	**Tokunoshima**	**3.21**	**240**	P	**P**	**19 05 58.5**	**-1.7**
JTK				*e*S	**S**	**19 06 35.3**	**-2.4**
JTO	**Tosashimizu**	**3.46**	**10**	P	**P**	**19 06 01.8**	**-1.9**
JTO				*e*S	**S**	**19 06 38.3**	**-5.8**
JNU	**Nakatsue**	**3.81**	**345**	Pn	**P**	**19 06 08.2**	**-0.5**
38nm,0.3s,baz=90,slow=3.3,SNR=131							
JNU				Sn	**S**	**19 06 51.9**	**-1.1**
152nm,0.3s,baz=238,slow=21,SNR=23							
JOW	**Kunigami**	**4.25**	**233**	Pn	**P**	**19 06 11.8**	**-3.2**
35nm,0.3s,baz=87,slow=15,SNR=50							
JOW				Sn	**S**	**19 06 58.9**	**-5.1**
22nm,0.3s,baz=358,slow=27,SNR=6.2							
JOW	**Kunigami**	**4.25**	**233**	P	**P**	**19 06 11.9**	**-3.0**
JIH	**Iheya**	**4.35**	**238**	P	**P**	**19 06 13.0**	**-3.4**
JTU	**Tsushima**	**5.56**	**336**	P	**P**	**19 06 31.7**	**-1.6**
JHJ	**Hachijo jima 2**	**7.54**	**59**	Pn	**P**	**19 07 01.1**	**0.0**
17nm,0.3s,baz=48,slow=21,SNR=4.8							
JHJ				LR	LR	19 09 18.2	
comp=Z,503nm,21.5s,baz=256,slow=33							
KS15	**Wonju Array Si**	**8.71**	**337**	*e*P	**P**	**19 07 16.5**	**-1.0**
MAJO	**Matsushiro**	**8.75**	**34**	*e*P	**P**	**19 07 16.3**	**-1.6**
28nm,0.6s							
MAT	**Matsushiro**	**8.75**	**34**	P	**P**	**19 07 16.2**	**-1.7**
MAT				S	**S**	**19 08 53.5**	**-3.0**
MAT	**Matsushiro**	**8.75**	**34**	*e*P	**P**	**19 07 16.0**	**-1.9**
16nm,0.6s							
MAT				*e*S	**S**	**19 08 54.0**	**-2.5**
CBIJ	**Chichi jima**	**9.21**	**102**	Pn	**P**	**19 07 19.9**	**-4.3**
12nm,0.3s,baz=102,slow=23,SNR=4.8							
SSE	**Sheshan**	**9.57**	**283**	*e*P	**P**	**19 07 28.3**	**-1.0**
SSE				AP		19 07 36.0	
SSE				S	**S**	**19 09 16.8**	**+0.1**
SSE				XS		19 09 27.5	
SSE				AMB	AMB		
comp=Z,44nm,0.8s							
SSE				AMB	AMB		
comp=Z,966nm,7.1s							
SSE				LR	LR		
comp=N,136nm,30.2s							
SSE				LR	LR		
comp=E,536nm,30.3s							
SSE				LR	LR		
comp=Z,634nm,27.9s							
SSE	**Sheshan**	**9.57**	**283**	*e*P	**P**	**19 07 28.3**	**-1.0**
comp=Z,44nm,0.8s							
SSE				pP		19 07 36.0	
SSE				S	**S**	**19 09 16.8**	**+0.1**
SSE				sS		19 09 27.5	
NJ2	**Nanjing**	**11.68**	**286**	*e*P	**P**	**19 07 59.5**	**+1.5**
NJ2				AP		19 08 08.0	
NJ2				PP	PP	19 08 09.5	+2.5
NJ2				XP		19 08 11.0	
NJ2				S	**S**	**19 10 12.0**	**+3.8**
NJ2				XS		19 10 26.0	
NJ2				AMB	AMB		
comp=Z,370nm,4.8s							
NJ2				LR	LR		
comp=N,2μm,17.1s							
NJ2				LR	LR		
comp=E,2μm,18.0s							
NJ2				LR	LR		
comp=Z,810nm,21.6s							
SNY	**Shenyang**	**14.15**	**333**	⇑P	**P**	**19 08 34.3**	**+3.4**
SNY				AMB	AMB		
comp=Z,10.0nm,0.9s							
SNY				AMB	AMB		
comp=Z,230nm,6.7s							
SNY				LR	LR		
comp=N,670nm,22.1s							
SNY				LR	LR		
comp=E,540nm,16.7s							
SNY				LR	LR		
comp=Z,560nm,12.7s							
MDJ	**Mudanjiang**	**15.28**	**353**	*e*P	**P**	**19 08 52.2**	**+6.7**
comp=Z,30nm,1.2s							
CN2	**Changchun**	**15.28**	**341**	*e*P	**P**	**19 08 50.0**	**+4.4**
CN2				XP		19 09 01.8	
CN2				*e*S	**S**	**19 11 39.3**	**+5.2**
CN2				AMB	AMB		
comp=Z,30nm,1.0s							
CN2				LR	LR		
comp=N,860nm,15.0s							
CN2				LR	LR		
comp=E,730nm,15.0s							
CN2				LR	LR		
comp=Z,1μm,15.0s							
WHN	**Wuhan**	**15.41**	**278**	P	**P**	**19 08 53.0**	**+5.7**
ASAJ	**Asahikawa**	**16.87**	**27**	Pn	**P**	**19 09 02.5**	**-3.3**
comp=Z,0.2nm,0.3s,baz=278,slow=24,SNR=3.4							
ASAJ				LR	LR	19 15 24.7	
comp=Z,307nm,20.0s,baz=88,slow=36							
YSS	**Yuzh-Sakhalins**	**19.36**	**23**	*e*P	**P**	**19 09 36.0**	**-0.2**
YSS				MLR	MLR		
comp=Z,400nm,16.0s							
ENH	**Enshi**	**19.61**	**278**	*e*P	**P**	**19 09 37.4**	**-1.7**
comp=Z,40nm,0.8s							
HHC	**Hu-ho-hao-te**	**20.22**	**310**	P	**P**	**19 09 47.5**	**+2.0**
HHC				AP		19 09 57.3	
HHC				XP		19 10 01.0	
HHC				PP	PP	19 10 10.5	+4.6
HHC				S	**S**	**19 13 30.8**	**+5.2**
HHC				XS		19 13 44.0	
HHC				PCP	PcP	19 13 56.0	-2.6
HHC				SS	SS	19 13 59.5	+4.4
HHC				SCP		19 17 29.3	
HHC				AMB	AMB		
comp=Z,11nm,1.0s							
HHC				LR	LR		
comp=N,508nm,13.2s,MS4.3							
HHC				LR	LR		
comp=E,694nm,12.0s,MS4.3							
HHC				LR	LR		
comp=Z,520nm,13.2s,MS4.1							
HIA	**Hailar**	**21.92**	**338**	*e*P	**P**	**19 10 03.0**	**+0.2**
comp=Z,12nm,0.9s,mb4.3							
HIA	**Hailar**	**21.92**	**338**	*e*P	**P**	**19 10 03.0**	**+0.2**
HIA				pmax	pmax		
comp=Z,12nm,0.9s							
GYA	**Guiyang**	**22.64**	**269**	⇓*i*P	**P**	**19 10 13.5**	**+3.4**
GYA				AP		19 10 22.8	
GYA				XP		19 10 26.8	
GYA				PP	PP	19 10 42.8	+3.9
GYA				PCP	PcP	19 14 05.5	+2.0
GYA				S	**S**	**19 14 15.8**	**+4.8**
GYA				XS		19 14 30.5	
GYA				SS	SS	19 15 00.0	+5.8
GYA				SCP		19 17 39.5	
GYA				SCS	ScS	19 21 23.8	+2.8
QIZ	**Qiongzhong**	**22.74**	**248**	⇑P	**P**	**19 10 13.3**	**+2.2**
QIZ				AMB	AMB		
comp=Z,14nm,1.0s,mb4.3							
QIZ	**Qiongzhong**	**22.74**	**248**	*e*P	**P**	**19 10 12.5**	**+1.4**
comp=Z,44nm,1.3s,mb4.7							
CD2	**Chengdu**	**24.51**	**281**	P	**P**	**19 10 28.3**	**+0.1**
CD2				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.4							
LZH	**Lanzhou**	**24.60**	**293**	*e*P	**P**	**19 10 30.5**	**+1.4**
LZH				AP		19 10 40.5	
LZH				XP		19 10 45.0	
LZH				PP	PP	19 11 07.0	+1.4
LZH				*e*S	**S**	**19 14 46.0**	**+0.9**
LZH				XS		19 15 02.0	
LZH				*e*SS	SS	19 15 41.5	-0.3
LZH				AMB	AMB		
comp=Z,54nm,1.6s,mb4.8							
LZH				AMB	AMB		
comp=Z,190nm,4.4s							
LZH				LR	LR		
comp=E,975nm,12.0s							
LZH				LR	LR		
comp=Z,1μm,14.0s,MS4.6							
LZH	**Lanzhou**	**24.60**	**293**	*e*P	**P**	**19 10 30.6**	**+1.5**
comp=Z,54nm,1.6s,mb4.8							
LZH				pP		19 10 40.5	
LZH				sP		19 10 45.0	
LZH				PP	PP	19 11 07.0	+1.4
LZH				*e*S	**S**	**19 14 46.0**	**+0.9**
LZH				sS		19 15 02.0	
LZH				*e*SS	SS	19 15 41.5	-0.3
LZH				LR	LR		
comp=Z,1μm,14.0s,MS4.6							
LZH	**Lanzhou**	**24.60**	**293**	*e*P	**P**	**19 10 30.6**	**+1.5**
LZH				*PP		19 10 40.5	
LZH				*SP		19 10 45.0	
LZH						19 11 07.0	
LZH				*e*S	**S**	**19 14 46.0**	**+0.9**
LZH				*SS		19 15 02.0	
LZH				*e*SS	SS	19 15 41.5	-0.3
LZH				pmax	pmax		
comp=Z,54nm,1.6s,mb4.8							
LZH				MLR	MLR		
comp=Z,1μm,14.0s,MS4.6							
KMI	**Kunming**	**26.40**	**268**	P	**P**	**19 10 49.5**	**+3.4**
KMI				XP	sP	19 11 02.3	+2.1
KMI				S	**S**	**19 15 16.0**	**+1.0**
KMI				LR	LR		
comp=N,559nm,15.2s,MS4.3							
KMI				LR	LR		
comp=E,448nm,13.9s,MS4.3							
KMI				LR	LR		
comp=Z,355nm,13.6s,MS4.1							
KMI	**Kunming**	**26.40**	**268**	P	**P**	**19 10 49.5**	**+3.4**
KMI				sP	sP	19 11 02.2	+2.0
KMI				S	**S**	**19 15 16.1**	**+1.1**
KMI				LR	LR		
comp=Z,360nm,13.6s,MS4.1							
CIT	**Chita**	**26.42**	**334**	*e*P	**P**	**19 10 47.2**	**+1.2**
CIT				pmax	pmax		
comp=Z,52nm,1.5s,mb4.8							
ULN	**Ulaanbaatar**	**26.65**	**321**	*e*P	**P**	**19 10 48.4**	**+0.2**
comp=Z,47nm,1.3s,mb4.9							
ULN	**Ulaanbaatar**	**26.65**	**321**	*e*P	**P**	**19 10 48.4**	**+0.2**
ULN				pmax	pmax		
comp=Z,47nm,1.3s,mb4.9							
SONM	**Songino Array**	**27.00**	**320**	P	**P**	**19 10 50.9**	**-0.5**
comp=Z,5.8nm,0.8s,mb4.2,baz=134,slow=8.3,SNR=30							
SONM				LR	LR	19 22 56.9	
comp=Z,202nm,18.9s,MS3.7,baz=120,slow=39							
CLNS	**Chul'man**	**27.85**	**352**	*e*P	**P**	**19 10 58.7**	**-0.3**
CLNS				pmax	pmax		
comp=Z,28nm,1.3s,mb4.7							
CLNS				pmax	pmax		
comp=N,21nm,1.1s							
CLNS				pmax	pmax		
comp=E,12nm,0.9s							
GTA	**Gaotai**	**28.28**	**299**	P	**P**	**19 11 05.8**	**+2.7**
GTA				AP	pP	19 11 15.8	+2.7
GTA				XP	sP	19 11 19.3	+1.7
GTA				PP	PP	19 11 54.0	-0.5
GTA				PPP	PPP	19 12 05.5	-1.3
GTA				PCP	PcP	19 14 15.8	-0.1
GTA				S	**S**	**19 15 47.5**	**+2.1**
GTA				SS	SS	19 17 11.8	+1.5
GTA				SCP		19 17 51.0	
GTA				SCS	ScS	19 21 48.5	+4.2
GTA				AMB	AMB		
comp=Z,10.0nm,0.7s,mb4.5							
GTA				AMB	AMB		
comp=Z,208nm,10.6s							
GTA				LR	LR		
comp=N,332nm,16.4s,MS4.1							
GTA				LR	LR		
comp=E,322nm,18.6s,MS4.1							
GTA				LR	LR		
comp=Z,474nm,14.4s,MS4.2							
ZAK	**Zakamensk**	**30.11**	**322**	⇑*i*P	**P**	**19 11 18.8**	**-0.5**
ZAK				pmax	pmax		
comp=Z,7.0nm,1.0s,mb4.3							
PET	**Petropavlovsk**	**30.57**	**32**	*e*P	**P**	**19 11 22.5**	**-0.8**
PET				*e*S	**S**	**19 16 22.0**	**+0.5**
PET				pmax	pmax		
comp=Z,22nm,2.3s,mb4.6							
PET				smax			
comp=N,100nm,20.1s							
PET				MLR	MLR		
comp=Z,200nm,21.0s,MS3.7							
BOD	**Bodaibo**	**31.03**	**341**	*e*P	**P**	**19 11 23.7**	**-3.7**
YAK	**Yakutsk**	**32.63**	**358**	*e*P	**P**	**19 11 39.7**	**-1.7**
comp=Z,22nm,0.8s,mb5.1							
YAK	**Yakutsk**	**32.63**	**358**	*d i*P	**P**	**19 11 39.9**	**-1.4**
YAK				pmax	pmax		
comp=Z,27nm,1.0s,mb5.1							
YAK				MLR	MLR		
comp=Z,100nm,15.0s,MS3.6							
MA2	**Magadan**	**32.70**	**18**	*e*P	**P**	**19 11 40.9**	**-1.0**
comp=Z,42nm,1.1s,mb5.3							
MA2	**Magadan**	**32.70**	**18**	*d i*P	**P**	**19 11 41.2**	**-0.8**
MA2				pmax	pmax		
comp=Z,47nm,1.2s,mb5.3							
MA2				MLR	MLR		
comp=Z,100nm,15.0s,MS3.6							
LSA	**Lhasa**	**35.47**	**281**	*e*P	**P**	**19 12 09.2**	**+3.1**
comp=Z,4.6nm,1.0s,mb4.4							
LSA	**Lhasa**	**35.47**	**281**	*e*P	**P**	**19 12 09.2**	**+3.1**
LSA				pmax	pmax		
comp=Z,5.0nm,1.0s,mb4.4							
SEY	**Seymchan**	**35.99**	**16**	*d i*P	**P**	**19 12 10.0**	**-0.1**
SEY				*i* *PP	pP	19 12 18.9	-1.4
SEY				*i*		19 14 35.3	
WMQ	**Urumqi**	**37.94**	**305**	*e*P	**P**	**19 12 28.0**	**+1.2**
WMQ				AP	pP	19 12 38.0	+1.0
WMQ				XP	sP	19 12 42.0	+0.5
WMQ				PP	PP	19 13 58.0	+1.0
WMQ				S	**S**	**19 18 17.0**	**+1.2**
WMQ				SS	SS	19 20 55.0	+1.7
WMQ				AMB	AMB		
comp=Z,14nm,0.8s,mb4.7							
WMQ				AMB	AMB		
comp=Z,155nm,6.0s							
WMQ				LR	LR		
comp=N,178nm,14.0s,MS4.2							
WMQ				LR

ZAL PcP PcP 19 14 54.5 -0.7
comp=Z,2.1nm,0.8s,baz=334,slow=3.6,SNR=6.7
ZAL LR LR 19 32 33.8
comp=Z,266nm,18.1s,MS4.2,baz=9.2,slow=39
MKAR Makanchi Array 42.08 308 P P 19 13 01.7 +0.8
comp=Z,10nm,0.8s,mb4.5,baz=97,slow=9.9,SNR=87
MKAR PcP PcP 19 14 54.6 -1.3
comp=Z,3.6nm,0.8s,baz=90,slow=4.9,SNR=5.8
MKAR LR LR 19 32 11.0
comp=Z,77nm,19.7s,MS3.6,baz=104,slow=38
MKAR Makanchi Array 42.08 308 P P 19 13 01.7 +0.8
MKAR PcP PcP 19 14 54.6 -1.3
MKAR LR LR 19 32 11.0
TIXI Tiksi 42.29 358 *d iP* **P 19 13 01.4 -1.0**
TIXI pmax pmax
comp=Z,9.0nm,1.1s,mb4.3
TIXI MLR MLR
comp=Z,200nm,17.0s,MS4.1
KOLN Koldanda 42.36 280 *eP* **P 19 12 56.1 -7.4**
comp=Z,22nm,0.8s,mb4.9
NVS Novosibirsk 43.03 320 *eP* **P 19 13 07.4 -1.2**
BILL Bilibino 43.57 18 *d iP* **P 19 13 12.8 0.0**
BILL *e**PP pP 19 13 23.0 -0.2
BILL *e*S **S 19 19 39.0 -0.2**
BILL pmax pmax
comp=Z,34nm,1.0s,mb5.0
BILL MLR MLR
comp=Z,100nm,15.0s,MS3.8
KURK Kurchatov 44.96 314 *eP* **P 19 13 24.1 -0.1**
comp=Z,39nm,1.1s,mb5.2
KURK Kurchatov 44.96 314 P P 19 13 24.7 +0.5
KURK pmax pmax
comp=Z,13nm,0.9s,mb4.8
ULHL Ulahol 46.27 302 P P 19 13 35.1 +0.3
SNR=6.8
KSH Kashi 46.67 298 P P 19 13 40.3 +2.4
KSH AP pP 19 13 49.0 +0.7
KSH XP sP 19 13 52.5 -0.1
KSH AMB AMB
comp=Z,30nm,1.7s,mb5.0
TKM2 Tokmak 2 46.72 303 P P 19 13 40.0 +1.8
SNR=16
KZA Kyzart 47.02 302 P P 19 13 42.7 +2.1
SNR=12
KBK Karagaybulak 47.21 302 P P 19 13 44.0 +1.9
SNR=7.6
CHMS Chumysh 47.33 303 P P 19 13 44.7 +1.6
SNR=8.5
FRU Bishkek 47.44 303 *eP* **P 19 13 44.0 +0.1**
USP Ospenovka 47.50 303 P P 19 13 45.3 +0.9
SNR=6.5
AAK Ala-Archa 47.54 302 *eP* **P 19 13 45.0 +0.3**
comp=Z,5.8nm,0.8s,mb4.7
AAK Ala-Archa 47.54 302 *d iP* **P 19 13 44.9 +0.2**
AAK pmax pmax
comp=Z,11nm,1.6s,mb4.6
UCH Uchtor 47.56 302 P P 19 13 46.8 +2.0
SNR=22
EKS2 Erkin-Say 48.07 302 P P 19 13 50.3 +1.5
SNR=8.6
WRAB Tennant Creek 49.13 177 *eP* **P 19 13 56.1 -1.3**
WRA Warramunga Arr 49.14 177 P P 19 13 55.7 -1.7
comp=Z,4.1nm,0.8s,mb4.5,baz=354,slow=8.5,SNR=22
WB2 Warramunga Arr 49.14 177 *eP* **P 19 13 58.0 +0.6**
VOSK Vostochnaya 49.87 316 P P 19 14 02.3 -0.3
VOSK pmax pmax
comp=Z,22nm,1.3s,mb5.0
BVA0 Borovoye Array 50.24 316 *i P* **P 19 14 05.2 -0.2**
BVA0 pmax pmax
comp=Z,9.0nm,1.6s,mb4.5
BRVK Borovoye 50.31 316 *eP* **P 19 14 06.0 +0.1**
comp=Z,19nm,1.0s,mb5.1
BRVK Borovoye 50.31 316 *eP* **P 19 14 06.0 +0.1**
BRVK pmax pmax
comp=Z,19nm,1.0s,mb5.1
KKAR Karatay Array 50.42 303 P P 19 14 07.4 +0.4
KKAR pmax pmax
comp=Z,19nm,1.0s,mb5.1
SVE Sverdlovsk 55.87 321 *eP* **P 19 14 46.0 -1.1**
SVE *e* 19 15 04.8
SVE pmax pmax
comp=Z,20nm,1.2s,mb5.0
AB31 Akbulak array 56.99 312 *i P* **P 19 14 54.6 -0.7**
AB31 pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
ARU Arti 57.04 321 *eP* **P 19 14 54.3 -1.1**
comp=Z,12nm,0.8s,mb5.0
ARU Arti 57.04 321 *d iP* **P 19 14 54.4 -1.1**
ARU pmax pmax
comp=Z,19nm,1.0s,mb5.1
ARU MLR MLR
comp=Z,200nm,13.0s,MS4.4
IMA Indian Mountai 57.10 28 *eP* **P 19 14 55.7 -0.1**
comp=Z,52nm,1.2s,mb5.4
IMA Indian Mountai 57.10 28 *eP* **P 19 14 55.7 -0.1**
IMA pmax pmax
comp=Z,52nm,1.2s,mb5.4
SPU Mount Spurr 57.93 34 *eP* **P 19 15 00.6 -1.0**
PMR Palmer 59.30 33 *eP* **P 19 15 12.8 +1.6**
comp=Z,10nm,0.8s,mb4.9
PMR Palmer 59.30 33 *eP* **P 19 15 12.8 +1.6**
PMR pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
SML Sawmill 59.65 33 *eP* **P 19 15 13.0 -0.7**
DIV Divide 60.96 33 *eP* **P 19 15 21.9 -0.6**
comp=Z,65μm,1.2s
STKA Stephens Creek 61.65 171 P P 19 15 25.5 -2.1
comp=Z,4.7nm,0.8s,mb4.7,baz=343,slow=7.9,SNR=7.9
DAWY Dawson 63.32 29 *eP* **P 19 15 37.0 -1.3**
INK Inuvik 64.59 24 P P 19 15 45.0 -1.4
comp=Z,7.4nm,0.7s,mb4.8,baz=284,slow=3.4,SNR=8.6
INK Inuvik 64.59 24 *eP* **P 19 15 45.1 -1.3**
comp=Z,18nm,1.4s,mb4.9
INK Inuvik 64.59 24 *eP* **P 19 15 45.1 -1.3**
INK pmax pmax
comp=Z,18nm,1.4s
KEV Kevo 67.70 339 *ep* **P 19 16 04.9 -1.3**
comp=Z,13nm,0.7s,mb5.1
KEV Kevo 67.70 339 *eP* **P 19 16 04.9 -1.3**
KEV pmax pmax
comp=Z,13nm,0.7s,mb5.1
ARCES ARCESS Array B 68.27 339 P P 19 16 09.0 -0.8
comp=Z,6.8nm,0.8s,mb4.8,baz=56,slow=8.7,SNR=16
ARCES LR LR 19 47 49.4
comp=Z,128nm,21.0s,MS4.1,baz=56,slow=37
ARCES ARCESS Array B 68.27 339 P P 19 16 09.0 -0.7
ARCES LR LR 19 47 49.4
JOF Joensuu 68.89 331 *ep* **P 19 16 12.3 -1.4**
comp=Z,10nm,0.8s,mb4.8
DLBC Dease Lake 69.33 34 P P 19 16 16.6 +0.1
comp=Z,4.6nm,0.9s,mb4.4,baz=282,slow=10,SNR=5.9
VRSR Storozhevoye 69.36 318 *eP* **P 19 16 15.9 -0.8**
VRSR pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
VRSR pmax pmax
comp=N,5.0nm,1.1s
VRSR pmax pmax
comp=E,8.0nm,0.9s
OBN Obninsk 69.39 322 ⇑ *iP* **P 19 16 16.1 -0.7**
OBN *e**PP pP 19 16 29.9 +2.2
OBN pmax pmax
comp=Z,25nm,1.4s,mb5.0
OBN MLR MLR
comp=Z,100nm,21.0s,MS4.0
ZEI Tsey 69.44 308 *eP* **P 19 16 15.0 -2.4**
ZEI pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
GNI Garni 69.81 305 LR LR 19 51 06.1
comp=Z,35nm,19.8s,MS3.6,baz=69,slow=39
GNI Garni 69.81 305 *d iP* **P 19 16 20.6 +0.9**
GNI *i **PP pP 19 16 34.3 +3.8
GNI *i* 19 16 44.0
GNI pmax pmax
comp=Z,20nm,1.2s
KIV Kislovodsk 69.83 310 *eP* **P 19 16 20.3 +0.6**
comp=Z,37nm,1.2s,mb5.2
KIV Kislovodsk 69.83 310 *d iP* **P 19 16 20.0 +0.3**
KIV *e**PP pP 19 16 32.1 +1.6
KIV *e*SS SS 19 29 57.7 +1.9
KIV pmax pmax
comp=Z,46nm,1.7s,mb5.1
KIV MLR MLR
comp=Z,100nm,17.0s,MS4.1
KAF Kangasniemi 71.33 331 *ep* **P 19 16 27.2 -1.3**
comp=Z,7.0nm,0.8s,mb4.6,baz=61,slow=5.7
KAF Kangasniemi 71.33 331 *eP* **P 19 16 27.2 -1.3**
KAF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
FINES FINESS Array B 71.74 331 P P 19 16 30.3 -0.6
comp=Z,4.3nm,0.5s,mb4.6,baz=66,slow=7.3,SNR=40
FINES LR LR 19 49 32.5
comp=Z,96nm,19.9s,MS4.1,baz=49,slow=37
FINES FINESS Array B 71.74 331 P P 19 16 30.3 -0.6
FINES LR LR 19 49 32.5
FINES FINESS Array B 71.74 331 *eP* **P 19 16 30.2 -0.8**
RES Resolute Bay 71.74 12 *eP* **P 19 16 30.9 +0.1**
SOC Sochi 71.95 310 *eP* **P 19 16 32.1 -0.4**
SOC *e*PPP PPP 19 20 49.5 -6.7
SOC *e*S S 19 25 51.1 +1.0
SOC pmax pmax
comp=Z,25nm,0.9s,mb5.1
SOC pmax pmax
comp=N,20nm,1.0s
SOC pmax pmax
comp=E,14nm,1.0s
SOC MLR MLR
comp=Z,90nm,15.0s,MS4.2
ANN Anapa 72.96 312 *eP* **P 19 16 37.5 -1.0**
YKA Yellowknife Ar 74.17 26 P P 19 16 44.8 -0.3
comp=Z,4.1nm,0.8s,mb4.4,baz=301,slow=5.1,SNR=9.0
YKA Yellowknife Ar 74.17 26 P P 19 16 44.8 -0.3
SIM Simferopol' 75.02 313 *eP* **P 19 16 49.0 -1.5**
SIM pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
MALT Malatya 75.04 306 *eP* **P 19 16 52.2 +1.5**
comp=Z,3.3nm,0.7s,mb4.4
MALT Malatya 75.04 306 *eP* **P 19 16 52.2 +1.5**
MALT pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
AKASG Malin Array Be 75.29 320 P P 19 16 51.2 -0.6
comp=Z,4.3nm,0.6s,mb4.5,baz=56,slow=6.1,SNR=21
SUW Suwalki 76.82 325 *eP* **P 19 17 00.8 +0.3**
SUW Suwalki 76.82 325 *eP* **P 19 17 00.8 +0.3**
BR131 Keskin Array S 77.73 309 *eP* **P 19 17 06.3 +0.4**
comp=Z,7.9nm,0.9s,mb4.6
BRTR Keskin Array B 77.73 309 P P 19 17 06.0 +0.2
comp=Z,6.0nm,0.9s,mb4.5,baz=90,slow=4.9,SNR=26
NB2 NORSAR Subarra 77.91 335 P P 19 17 05.4 -1.0
comp=Z,6.2nm,0.9s,mb4.5,baz=50,slow=5.6
NB2 NORSAR Subarra 77.91 335 P P 19 17 05.4 -1.0
NB2 pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
NOA NORSAR Array B 77.91 335 P P 19 17 05.4 -1.0
comp=Z,3.0nm,0.9s,mb4.2,baz=50,slow=5.5,SNR=7.4
NOA LR LR 19 57 39.9
comp=Z,75nm,18.2s,MS4.1,baz=60,slow=40
SUMG Summit 78.05 357 *eP* **P 19 17 07.9 +0.9**
comp=Z,16nm,1.1s,mb4.9
CFR Carcaliu 78.64 316 ⇓ *iP* **P 19 17 09.6 -1.1**
CFR Carcaliu 78.64 316 ⇑ *iP* **P 19 17 09.6 -1.1**
VRI Vrincioaia 79.14 317 ⇑ *iP* **P 19 17 14.7 +1.2**
VRI Vrincioaia 79.14 317 ⇑ *iP* **P 19 17 14.7 +1.3**
KWP Kalwaria 79.44 321 *eP* **P 19 17 16.1 +1.1**
KWP Kalwaria 79.44 321 *eP* **P 19 17 16.1 +1.1**
MLR Muntele Rosu 79.80 317 ⇑ *iP* **P 19 17 17.4 +0.3**
MLR Muntele Rosu 79.80 317 ⇑ *iP* **P 19 17 17.4 +0.4**
EDM Edmonton 80.06 34 *eP* **P 19 17 17.5 -0.8**
EDM *ep*P pP 19 17 29.5 +0.3
STHS Stebnicka Huta 80.35 322 *eP* **P 19 17 20.5 +0.6**
STHS *ep*P pP 19 17 31.3 +0.5
HUMO Hull Mountain 80.58 46 *eP* **P 19 17 21.7 +0.4**
comp=Z,9.7nm,1.3s,mb4.6
OJC Ojcow 80.66 323 *eP* **P 19 17 22.2 +0.7**
NIE Niedzica 80.85 322 *eP* **P 19 17 24.2 +1.7**
NEW Newport 80.97 39 P P 19 17 23.4 +0.2
comp=Z,4.7nm,0.8s,mb4.5,baz=303,slow=4.3,SNR=5.2
NEW Newport 80.97 39 *eP* **P 19 17 23.6 +0.4**
comp=Z,2.4nm,0.8s,mb4.2
NEW *ep*P pP 19 17 34.1 -0.1
NEW Newport 80.97 39 *eP* **P 19 17 23.6 +0.4**
NEW *e**PP pP 19 17 34.1 -0.1
NEW pmax pmax
comp=Z,2.0nm,0.8s
YBH Yreka Blue Hor 81.20 47 P P 19 17 25.1 +0.5
comp=Z,4.4nm,0.9s,mb4.4,baz=302,slow=5.6,SNR=5.3
OKC Ostrava-Krasne 81.75 323 *eP* **P 19 17 27.5 +0.3**
OKC AMS AMS 19 59 00.0
comp=Z,200nm,17.8s
VYHS Vyhne 82.18 322 *eP* **P 19 17 30.2 +0.7**
DPC Dobruska-Polom 82.38 324 *eP* **P 19 17 31.5 +1.0**
DPC AMS AMS 19 58 40.0
comp=Z,300nm,16.7s
UPC Upice 82.44 325 *eP* **P 19 17 34.6 +3.8**
MOD Modoc 82.63 46 *eP* **P 19 17 31.8 -0.1**
comp=Z,9.8nm,1.1s,mb4.8
MOD *ep*P pP 19 17 42.8 -0.1
BMO Blue Mountains 82.80 42 *eP* **P 19 17 32.9 +0.1**
comp=Z,7.4nm,1.0s,mb4.7
PVCC Panska Ves 83.15 325 *eP* **P 19 17 34.8 +0.4**
PVCC AMS AMS 19 59 00.0
comp=Z,200nm,7.8s
BRG Berggiesshubel 83.24 326 *eP* **P 19 17 35.7 +0.8**
comp=Z,0.1nm,1.0s
ZST Bratislava 83.28 322 *eP* **P 19 17 36.1 +1.0**
CLL Collm 83.42 326 ⇓ *P* **P 19 17 36.3 +0.6**
comp=Z,logA/T=1.4,mb5.2
CLL *i* PCP PcP 19 17 39.6 -0.9
CLL *e**PP pP 19 17 47.0 +0.3
CLL *e**SP sP 19 17 51.0 +0.5
CLL *e* 19 18 03.0
CLL *i* PP PP 19 20 51.1 +1.3
CLL Collm 83.42 326 ⇓ *iP* **P 19 17 36.3 +0.6**
comp=Z,27nm,1.1s,mb5.2
CLL *i* PcP PcP 19 17 39.6 -0.9
CLL *ep*P pP 19 17 47.0 +0.3
CLL Collm 83.42 326 ⇓ *iP* **P 19 17 36.3 +0.6**
CLL *e**PP pP 19 17 47.0 +0.3
CLL pmax pmax
comp=Z,27nm,1.1s,mb5.2
PRU Pruhonice 83.50 325 *eP* **P 19 17 37.1 +1.0**
PRU AMS AMS 19 58 30.0
comp=Z,200nm,17.2s
BEKR Beckwourth 83.70 48 *eP* **P 19 17 37.8 +0.3**
comp=Z,5.7nm,1.0s,mb4.7
BEKR *ep*P pP 19 17 47.7 -0.8
NKC Novy Kostel 84.39 326 *eP* **P 19 17 41.5 +0.9**
NKC AMS AMS 20 02 10.0
comp=Z,300nm,6.8s
MOX Moxa 84.52 327 *i P* **P 19 17 41.1 -0.2**
comp=Z,logA/T=1.0,mb4.9
MOX Moxa 84.52 327 *eP* **P 19 17 41.1 -0.2**
comp=Z,15nm,1.5s,mb4.9
MOX Moxa 84.52 327 *eP* **P 19 17 41.1 -0.2**
MOX pmax pmax
comp=Z,15nm,1.5s,mb4.9
KHC Kasperske Hory 84.53 325 *eP* **P 19 17 42.3 +0.9**
KHC AMS AMS 19 59 50.0
comp=Z,200nm,17.3s
GERES GERESS Array B 84.65 324 P P 19 17 42.3 +0.3
comp=Z,2.6nm,1.0s,mb4.3,baz=45,slow=3.8,SNR=15
GERES LR LR 19 58 45.1
comp=Z,112nm,19.1s,MS4.3,baz=9.8,slow=38
CMB Columbia Colle 84.69 49 P P 19 17 41.3 -1.1
comp=Z,3.5nm,0.6s,mb4.7
CMB *ep*P pP 19 17 53.9 +0.4
CMB Columbia Colle 84.69 49 P P 19 17 41.3 -1.1
CMB *e**PP pP 19 17 53.9 +0.4
CMB pmax pmax
comp=Z,4.0nm,0.6s,mb4.7
ARSA Arzberg 84.70 322 ⇓ *iP* **P 19 17 43.0 +0.7**
comp=Z,8.2nm,1.2s,mb4.7
DLMT Dillon 85.19 40 *eP* **P 19 17 45.4 +0.6**
DLMT *ep*P pP 19 17 55.6 -0.2
HLID Hailey 85.24 42 *eP* **P 19 17 46.3 +1.3**
comp=Z,10.0nm,1.0s,mb4.9
HLID *ep*P pP 19 17 56.9 +0.8
PERS Pernice 85.31 322 *eP* **P 19 17 46.0 +0.7**
GRA1 Grafenberg Arr 85.34 326 *eP* **P 19 17 46.0 +0.6**
comp=Z,7.0nm,1.2s,mb4.7
GRF Grafenberg Arr 85.34 326 *eP* **P 19 17 46.0 +0.6**
comp=Z,7.0nm,1.2s,mb4.7
GRF Grafenberg Arr 85.34 326 *eP* **P 19 17 46.0 +0.6**
GRF pmax pmax
comp=Z,7.0nm,1.2s,mb4.7
GRF Grafenberg Arr 85.34 326 *eP* **P 19 17 46.0 +0.6**
GRF pmax pmax
comp=Z,7.0nm,1.2s,mb4.7
BMN Battle Mountai 85.38 46 *eP* **P 19 17 46.9 +1.1**
comp=Z,14nm,1.2s,mb5.0
BMN *ep*P pP 19 17 57.7 +0.9
BOZ Bozeman (W) 85.55 39 *eP* **P 19 17 47.6 +1.1**
comp=Z,6.1nm,0.8s,mb4.9
PDKS Podkum 85.73 322 *eP* **P 19 17 47.5 +0.1**
NVAR Mina Array Bea 85.83 48 P P 19 17 48.9 +0.8
comp=Z,5.8nm,0.7s,mb4.9,baz=290,slow=7.2,SNR=50
KBA Koelnbreinsper 85.97 323 ⇑ *iP* **P 19 17 48.9 +0.4**
comp=Z,3.9nm,1.0s,mb4.6
KBA Koelnbreinsper 85.97 323 ⇑ *iP* **P 19 17 48.9 +0.4**
KBA pmax pmax
comp=Z,4.0nm,1.0s,mb4.6
ELK Elko 86.42 45 P P 19 17 51.9 +1.0
comp=Z,3.6nm,0.8s,mb4.6,baz=315,slow=3.5,SNR=3.2
IMW Indian Meadow 87.03 40 *eP* **P 19 17 55.4 +1.7**
comp=Z,8.6nm,0.7s,mb5.1
CDF Champ du Feu 88.11 327 *eP* **P 19 17 58.9 0.0**
PDAR Pinedale Array 88.53 40 P P 19 18 01.7 +0.7
comp=Z,2.4nm,0.8s,mb4.6,baz=270,slow=1.5,SNR=9.1
HINF Hinteralfeld 88.73 327 *eP* **P 19 18 01.2 -0.6**
PPT Papeete 88.77 111 LR LR 19 52 42.0
comp=Z,142nm,18.2s,MS4.4,baz=209,slow=32
HAU Haudompre 88.84 327 *eP* **P 19 18 01.6 -0.8**
HAU *e*R
comp=Z,119nm,17.5s
DAU Daniels Canyon 89.03 43 *eP* **P 19 18 04.7 +1.2**
MEZF Maizieres J'vi 89.10 328 *eP* **P 19 18 03.0 -0.6**
ULM Lac du Bonnet 90.00 28 P P 19 18 08.1 +0.3
comp=Z,3.5nm,0.8s,mb4.7,baz=345,slow=3.4,SNR=3.7
LPL La Plagne 90.41 325 *eP* **P 19 18 09.7 -0.1**
LPG La Plagne 90.41 325 *eP* **P 19 18 09.7 -0.1**
LOR Lormes 90.54 328 *eP* **P 19 18 09.7 -0.7**
comp=Z,12nm,1.0s,mb4.9
LOR *e*R
comp=Z,106nm,17.0s
MBDF Montbardon 90.94 324 *eP* **P 19 18 11.6 -0.7**
comp=Z,4.4nm,0.8s,mb4.6
SMF Signal de Mont 91.00 327 *eP* **P 19 18 11.8 -0.8**
comp=Z,28nm,1.2s,mb5.2
AVF Avril sur Loir 91.13 328 *eP* **P 19 18 12.3 -0.9**
comp=Z,10nm,1.1s,mb4.8
PGF Pioggiola 91.28 322 *eP* **P 19 18 13.4 -0.6**
comp=Z,20nm,1.3s,mb5.0
PV10 Paradox Valley 91.65 44 *eP* **P 19 18 17.3 +1.6**
PV10 *ep*P pP 19 18 26.6 -0.3
PHWY Pilot Hill 91.79 39 P P 19 18 17.2 +0.9
PHWY *ep*P pP 19 18 27.8 +0.3
VIVF Saint-Julien-I 91.90 326 *eP* **P 19 18 16.0 -0.8**
PV01 Paradox Valley 92.09 43 *eP* **P 19 18 19.2 +1.4**
SNAA Sanae 131.21 197 P PKPdf 19 24 18.3 -0.4
SNAA Sanae 131.21 197 PKPdf 19 24 39.4 +21
VNA2 Neumayer--Watz 132.83 197 P PKPdf 19 24 24.0 +2.2
VNA2 Neumayer--Watz 132.83 197 PKPdf 19 24 27.1 +5.3
VNA2 Neumayer--Watz 132.83 197 PKPdf 19 24 35.5 +14
VNA2 Neumayer--Watz 132.83 197 PKPdf 19 24 37.2 +15
VNA2 Neumayer--Watz 132.83 197 PKPdf 19 24 38.7 +17
VNA3 Neumayer Olymp 133.18 196 P PKPdf 19 24 24.0 +1.6
VNA3 Neumayer Olymp 133.18 196 PKPdf 19 24 25.1 +2.7
VNA3 Neumayer Olymp 133.18 196 PKPdf 19 24 27.6 +5.2
VNA3 Neumayer Olymp 133.18 196 PKPdf 19 24 34.8 +12
VNA3 Neumayer Olymp 133.18 196 PKPdf 19 24 41.2 +19
VNA1 Neumayer--Stat 133.23 197 P PKPdf 19 24 24.7 +2.2
VNA1 Neumayer--Stat 133.23 197 PKPdf 19 24 36.9 +14
SDV Santo Domingo 136.06 33 P PKPdf 19 24 29.9 +0.7

*IDC **31** 19:26:21.3±0.7,14.95N×119.91E,mb4.0/10,mb1 4.2/10, mb1mx4.0/19,mbtmp4.0/10,MS3.7/4,Ms1 3.7/4, ms1mx3.3/27,Error ellipse: s-maj=62.5km s-min=16.3km az=68.0*
*MAN **31** 19:26:23.1,15.00N×119.56E,h5km,mb4.2,ML3.1,MS2.8*
*NEIC **31** 19:26:27.8±0.4,14.84N×119.78E,h50km,mb4.5/2,Error ellipse: s-maj=40.1km s-min=9.1km az=70.0*
ISC 31 19:26:24.1±0.5,14.8N±0.1×119.8E±0.3,h33km,n21, σ0∂63/17,mb4.0/11,MS3.6/4,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**20.83**	**27**	LR	LR	19 38 51.7	
	comp=Z,126nm,20.1s,MS3.3,baz=56,slow=36						
FITZ	**Fitzroy Crossi**	**33.23**	**170**	P	**P**	**19 33 01.1**	**+0.6**
	5.1nm,0.9s,mb4.5,baz=5.8,slow=10.0,SNR=3.8						
SONM	**Songino Array**	**34.73**	**344**	P	**P**	**19 33 12.0**	**-1.2**
	0.8nm,0.8s,mb3.7,baz=156,slow=9.3,SNR=7.1						
MBWA	**Marble Bar**	**35.76**	**180**	*eP*	**P**	**19 33 21.3**	**-0.9**
WRAB	**Tennant Creek**	**37.40**	**157**	*eP*	**P**	**19 33 35.5**	**-0.6**
	11nm,0.7s,mb4.8						
WRA	**Warramunga Arr**	**37.41**	**157**	P	**P**	**19 33 36.0**	**-0.1**
	6.0nm,0.6s,mb4.6,baz=336,slow=9.4,SNR=43						
WB2	**Warramunga Arr**	**37.41**	**157**	*eP*	**P**	**19 33 35.7**	**-0.4**
ASPA	**Alice Springs**	**40.68**	**160**	*eP*	**P**	**19 34 03.9**	**+0.6**
MKAR	**Makanchi Array**	**44.59**	**323**	P	**P**	**19 34 35.5**	**+0.6**
	0.5nm,0.8s,mb3.4,baz=135,slow=8.6,SNR=4.8						
MKAR				PcP	PcP	19 36 18.0	0.0
	0.6nm,0.7s,baz=135,slow=1.7,SNR=4.8						
MKAR				LR	LR	19 54 43.2	
	comp=Z,75nm,20.4s,MS3.6,baz=149,slow=38						
ZAL	**Zalesovo**	**47.65**	**333**	LR	LR	19 56 33.5	
	comp=Z,138nm,18.1s,MS4.0,baz=157,slow=38						
STKA	**Stephens Creek**	**50.94**	**156**	P	**P**	**19 35 25.1**	**+0.5**
	4.1nm,1.0s,mb4.3,baz=356,slow=11,SNR=3.6						
BVAR	**Borovoye Array**	**54.34**	**326**	P	**P**	**19 35 49.2**	**-0.5**
	0.3nm,0.5s,mb3.5,baz=124,slow=11,SNR=5.0						
ARCES	**ARCESS Array B**	**77.72**	**339**	P	**P**	**19 38 19.0**	**+0.1**
	2.6nm,0.8s,mb4.2,baz=63,slow=5.4,SNR=5.1						
ARCES				LR	LR	20 16 12.8	
	comp=Z,39nm,20.9s,MS3.7,baz=214,slow=38						
ARCES	**ARCESS Array B**	**77.72**	**339**	P	**P**	**19 38 19.0**	**+0.1**
ARCES				LR	LR	20 16 12.8	
ILAR	**Eielson Array**	**78.15**	**26**	P	**P**	**19 38 21.6**	**+0.2**
	0.3nm,0.8s,mb3.3,baz=248,slow=7.3,SNR=5.2						
FINES	**FINESS Array B**	**78.86**	**331**	P	**P**	**19 38 26.5**	**+1.1**
	0.7nm,0.5s,mb3.8,baz=79,slow=7.1,SNR=6.2						
FINES	**FINESS Array B**	**78.86**	**331**	P	**P**	**19 38 26.5**	**+1.1**
NB2	**NORSAR Subarra**	**85.85**	**332**	P	**P**	**19 39 01.3**	**-0.1**
	1.1nm,0.7s,mb4.2,baz=68,slow=5.0						
NOA	**NORSAR Array B**	**85.85**	**332**	P	**P**	**19 39 01.3**	**0.0**
	0.9nm,0.7s,mb4.1,baz=70,slow=5.2,SNR=4.3						
PLCA	**Paso Flores**	**152.67**	**163**	PKPbc	PKPdf	19 46 21.3	+11
	2.9nm,0.8s,baz=211,slow=3.2,SNR=7.8						
PLCA	**Paso Flores**	**152.67**	**163**	PKPbc	PKPdf	19 46 21.3	+11

GUC 31 19:38:32.2±0.4,30.96S×71.37W,h53km±4km,MD3.6, ML2.7,2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.38**	**124**	⇓ *iP*	P	19 38 42.8	+0.3
CMCH				*i* S	S	19 38 50.9	+0.9
CMCH				AMP		19 38 51.8	
	comp=E,2μm,0.7s						
ILCH	**Illapel**	**0.70**	**166**	*i* P	P	19 38 46.4	+0.3
ILCH				*i* S	S	19 38 57.1	+0.7
ILCH				AMP		19 38 57.9	
	comp=E,602nm,0.1s						
CHNG	**Los Chungos**	**0.93**	**187**	*i* P	P	19 38 49.4	+0.2
CHNG				*i* S	S	19 39 02.1	+0.2
CHNG				AMP		19 39 04.9	
	comp=E,158nm,0.5s						
TLL	**Tololo Astrono**	**0.93**	**32**	⇓ *iP*	P	19 38 50.1	+0.9
TLL				*i* S	S	19 39 03.3	+1.5
TLL				AMP		19 39 05.0	
	comp=N,760nm,0.6s						
FCH	**Farellones**	**2.53**	**159**	*eP*	P	19 39 12.1	+0.2
FCH				*i* S	S	19 39 42.4	+0.8
FCH				AMP		19 39 46.9	
	comp=E,39nm,0.4s						
RCDM	**Rinconada Maip**	**2.57**	**169**	*eP*	P	19 39 12.3	-0.1

IDC 31 19:54:34.7±3.2,7.87N×92.40E,mb3.5/4,mb1 3.6/4, mb1mx3.4/19,mbtmp3.5/4,Error ellipse: s-maj=124.0km s-min=27.6km az=59.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**39.74**	**349**	P	P	20 02 09.1	-1.6
	0.5nm,0.4s,baz=166,slow=8.3,SNR=15						
SONM	**Songino Array**	**41.56**	**14**	P	P	20 02 24.4	-1.3
	0.4nm,0.8s,baz=207,slow=9.7,SNR=3.7						
BVAR	**Borovoye Array**	**48.45**	**342**	P	P	20 03 18.3	-2.5
	0.6nm,0.7s,baz=180,slow=7.2,SNR=3.8						
WRA	**Warramunga Arr**	**49.67**	**124**	P	P	20 03 28.6	-2.1
	0.2nm,0.5s,baz=306,slow=8.5,SNR=8.1						

*GUC **31** 20:18:28.6±0.5,24.68S×70.66W,h61km±3km,ML3.8*
*IDC **31** 20:18:28.5±3.7,24.66S×70.79W,h41km±30km,mb1 4.2/2,mb1mx3.6/15,mbtmp3.9/2,ML4.4/2,Error ellipse: s-maj=48.8km s-min=13.3km az=102.0*
*NEIC **31** 20:18:28.6,24.68S×70.66W,h61km,After GUC.*

ISC 31 20:18:25.7±1.2,24.56S±0.05×71.1W±0.2,h59km±18km, n12,σ1§11/17,1C-2D,Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPN1	**Cerro Paranal**	**0.59**	**97**	*eP*	**P**	**20 18 39.1**	**+0.4**
CPN1				*i* S	**S**	**20 18 47.2**	**-1.0**
CPN1				AMP		20 18 48.6	
	comp=N,4μm,0.4s						
CRCH	**Chaqaral**	**1.82**	**168**	⇓*i*P	**P**	**20 18 55.9**	**+0.5**
CRCH				*i* S	**S**	**20 19 16.9**	**-0.3**
CRCH				AMP		20 19 17.9	
	comp=E,1μm,0.3s						
LVC	**Limon Verde**	**2.76**	**46**	P	**P**	**20 19 10.8**	**+2.2**
	comp=E,5.5nm,0.3s,baz=231,slow=10,SNR=45						
LVC				S	**S**	**20 19 41.0**	**+0.1**
	comp=E,62nm,0.3s,baz=35,slow=19,SNR=44						
LVC	**Limon Verde**	**2.76**	**46**	*eP*	**P**	**20 19 10.2**	**+1.6**
LVC				*i* S	**S**	**20 19 41.4**	**+0.5**
LVC				AMP		20 19 42.9	
	comp=N,324nm,0.9s						
CPCH	**Copiapo**	**2.86**	**167**	⇓*i*P	**P**	**20 19 11.2**	**+1.2**
CPCH				*i* S	**S**	**20 19 43.1**	**-0.2**
CPCH				AMP		20 19 45.5	
	comp=N,2μm,0.1s						
CFAA	**Coronel Fontan**	**7.45**	**161**	P	**P**	**20 20 13.2**	**-0.9**
	comp=N,0.1nm,0.3s,baz=343,slow=14,SNR=4.2						
CFAA				S	**S**	**20 21 32.7**	**-5.3**
	comp=N,0.2nm,0.3s,baz=217,slow=18,SNR=3.6						
ARE	**Arequipa**	**8.07**	**357**	⇑*i*P	**P**	**20 20 21.0**	**-1.7**
ARE				*e*S	**S**	**20 21 48.0**	**-5.3**
LPAZ	**La Paz**	**8.67**	**19**	P	**P**	**20 20 32.4**	**+1.4**
	comp=N,2.3nm,0.3s,baz=188,slow=6.9,SNR=44						
LPAZ				S	**S**	**20 22 07.8**	**-0.6**
	comp=N,0.1nm,0.3s,baz=341,slow=6.8,SNR=2.6						
SIV	**San Ignacio**	**12.65**	**50**	P	**P**	**20 21 21.4**	**-3.7**
	comp=N,0.4nm,0.3s,baz=214,slow=11,SNR=7.4						
WRA	**Warramunga Arr**	**129.33**	**211**	PKP	PKPdf	20 37 32.3	+3.8
	comp=N,0.6nm,0.6s,baz=158,slow=1.7,SNR=10						
ZAL	**Zalesovo**	**145.55**	**25**	PKPbc	PKPbc	20 38 02.0	+4.3
	comp=N,2.4nm,0.7s,baz=169,slow=5.4,SNR=14						
ZAL				pPKPbc		20 38 14.3	
	comp=N,1.5nm,0.9s,baz=162,slow=3.4,SNR=3.8						
MKAR	**Makanchi Array**	**149.25**	**37**	PKPbc	PKPdf	20 38 11.8	+8.6
	comp=N,1.2nm,0.6s,baz=320,slow=3.1,SNR=13						

IDC 31 20:24:24.6±1.1,10.38N×138.72E,mb3.7/4,mb1 3.9/4, mb1mx3.6/18,mbtmp3.7/4,Error ellipse: s-maj=70.4km s-min=25.9km az=89.0,Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**30.44**	**188**	P	P	20 30 39.2	-2.1
	0.4nm,0.8s,baz=2.0,slow=9.5,SNR=5.6						
WRA				PcP	PcP	20 33 38.9	-2.1
	0.5nm,0.8s,baz=353,slow=2.4,SNR=5.5						
STKA	**Stephens Creek**	**42.11**	**176**	P	P	20 32 18.2	-2.1
	2.5nm,0.8s,baz=353,slow=8.1,SNR=3.9						
BVAR	**Borovoye Array**	**68.77**	**323**	P	P	20 35 30.8	-1.7
	0.7nm,0.8s,baz=112,slow=7.8,SNR=5.0						
ILAR	**Eielson Array**	**74.03**	**25**	P	P	20 36 01.8	-2.0
	0.2nm,0.5s,baz=252,slow=5.4,SNR=4.5						

MAN 31 20:31:44.3,13.10N×123.30E,h7km,mb4.4,ML3.2,MS3.0, 1C,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	**Cataraman**	**1.46**	**114**	*eP*	Pn	20 32 10.2	-0.9
RCP	**Roxas**	**1.63**	**199**	⇑*eP*	Pn	20 32 13.0	-0.6
GUIM	**Jordan**	**2.56**	**196**	*eP*	Pn	20 32 28.0	+1.1
BESP	**Borongan**	**2.57**	**125**	*eP*	Pn	20 32 26.8	-0.3

IDC 31 20:34:53.0±8.2,12.06N×86.20W,h200km±87km,mb3.5/4, mb1 3.7/5,mb1mx3.3/21,mbtmp4.1/5,MS2.6/1,Ms1 2.6/1, ms1mx2.5/18,Error ellipse: s-maj=36.4km s-min=16.7km az=62.0,Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	**15.63**	**100**	P	P	20 38 23.3	-1.0
	0.5nm,0.3s,baz=292,slow=5.8,SNR=9.9						
SJG	**San Juan**	**20.27**	**70**	LR	LR	20 46 43.2	
	comp=Z,20nm,21.6s,baz=87,slow=35						
TXAR	**Lajitas Array**	**23.66**	**319**	P	P	20 39 46.6	-1.0
	1.8nm,0.6s,baz=137,slow=10,SNR=12						
SIV	**San Ignacio**	**37.35**	**138**	P	P	20 41 46.7	-1.5
	1.2nm,0.5s,baz=327,slow=11,SNR=7.2						
SCHQ	**Schefferville**	**45.32**	**16**	P	P	20 42 50.7	-1.9
	2.4nm,0.5s,baz=220,slow=9.7,SNR=15						
PLCA	**Paso Flores**	**54.48**	**165**	P	P	20 43 59.7	-2.4
	0.9nm,0.7s,baz=304,slow=3.8,SNR=3.3						
WRA	**Warramunga Arr**	**140.33**	**253**	PKhKP		20 53 53.0	
	0.8nm,0.8s,baz=90,slow=2.8,SNR=4.9						
WRA				PKP	PKPdf	20 54 00.2	+1.3
	1.0nm,0.6s,baz=90,slow=2.1,SNR=14						

*IDC **31** 20:51:51.9±7.3,72.45N×5.47E,mb1 3.6/4,mb1mx3.3/22, mbtmp3.6/4,ML3.3/4,Error ellipse: s-maj=82.5km s-min=31.1km az=148.0*
*BER **31** 20:51:57.4±5.0,72.75N×7.09E,ML1.9*

ISC 31 20:51:52.9±1.8,72.5N±0.1×6.0E±0.3,h10km,n12, σ1§03/16,Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOF	**Lofoten**	**5.05**	**146**	*eP*	**Pn**	**20 53 13.6**	**+3.1**
LOF				*e*S	**Sn**	**20 54 10.4**	**+0.8**
LOF				AML	AML	20 54 20.3	
	comp=Z,6.7nm,0.6s						
TRO	**Tromso**	**5.08**	**118**	*eP*	**Pn**	**20 53 10.2**	**-0.7**
TRO				*e*S	**Sn**	**20 54 02.1**	**-8.2**
TRO				AML	AML	20 54 15.0	
	comp=Z,2.3nm,0.7s						
MELSS	**Ber_school_2**	**6.24**	**151**	*eP*	**Pn**	**20 53 28.2**	**+0.9**
MELSS				*e*S	**Sn**	**20 54 38.8**	**-0.7**
STOK	**Stokkvaagen**	**6.64**	**155**	*eP*	**Pn**	**20 53 34.3**	**+1.3**
KTK1	**Kautokeino**	**6.65**	**113**	*eP*	**Pn**	**20 53 34.9**	**+1.8**
ARCES	**ARCESS Array B**	**6.99**	**106**	Pn	**Pn**	**20 53 37.3**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=306,slow=12,SNR=15						
ARCES				Sn	**Sn**	**20 54 57.2**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=306,slow=20,SNR=2.5						
MOR8	**Moi Rana**	**6.99**	**151**	*eP*	**Pn**	**20 53 38.5**	**+0.6**
NSS	**Namsos**	**8.28**	**162**	*eP*	**P**	**20 53 55.4**	**-0.4**
MOL	**Molde**	**9.98**	**176**	*e*	**P**	**20 54 18.2**	**-0.9**
NOA	**NORSAR Array B**	**11.67**	**167**	Pn	**P**	**20 54 40.7**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=332,slow=12,SNR=3.0						
HFS	**Hagfors**	**12.76**	**162**	Pn	**P**	**20 54 56.7**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=354,slow=13,SNR=30						
FINES	**FINESS Array B**	**13.46**	**135**	Pn	**P**	**20 55 06.0**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=330,slow=11,SNR=5.2						

*JMA **31** 21:02:10.1±0.4,38.39N×133.81E,h452km,M3.6*
*IDC **31** 21:02:11.4±1.8,38.35N×133.73E,h433km±21km, mb3.1/10,mb1 3.3/12,mb1mx3.1/25,mbtmp3.9/12,Error ellipse: s-maj=18.0km s-min=14.7km az=85.0*
*NEIC **31** 21:02:11.4±0.5,38.35N×133.71E,h433km±10km,mb3.8/3, Error ellipse: s-maj=14.6km s-min=10.7km az=162.0*

ISC 31 21:02:10.6±0.4,38.43N±0.07×133.85E±0.09,h444km±8km, n38,σ1§95/46,mb3.5/13,Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAI	**Saigo**	**2.26**	**191**	P	**P**	**21 03 13.0**	**+0.4**
JKG	**Kaga**	**2.92**	**137**	P	**P**	**21 03 17.3**	**+0.2**
JWT	**Wachi**	**3.38**	**158**	P	**P**	**21 03 20.9**	**+0.2**
JWT				S	**S**	**21 04 16.3**	**+0.3**
JHS	**Saijyo**	**3.48**	**190**	P	**P**	**21 03 19.7**	**-1.8**
JSD	**Sado**	**3.49**	**95**	P	**P**	**21 03 22.4**	**+0.8**
JGM	**Miyama**	**3.56**	**139**	*e*S	**S**	**21 04 18.8**	**+0.1**
MAJO	**Matsushiro**	**3.94**	**117**	*eP*	**P**	**21 03 25.6**	**+0.1**
MAT	**Matsushiro**	**3.94**	**117**	P	**P**	**21 03 25.4**	**-0.1**
MAT				S	**S**	**21 04 26.1**	**+1.6**
MAT	**Matsushiro**	**3.94**	**117**	*eP*	**P**	**21 03 25.0**	**-0.5**
MAT				*e*S	**S**	**21 04 26.0**	**+1.5**
JIE	**Ise**	**4.64**	**149**	P	**P**	**21 03 31.9**	**-0.1**
JRY	**Ryogami san**	**4.69**	**119**	P	**P**	**21 03 33.5**	**+1.0**
JRY				S	**S**	**21 04 37.7**	**+0.7**
JWZ	**Kozaga**	**5.12**	**162**	P	**P**	**21 03 36.0**	**-0.6**
JOD2	**Odawara 2**	**5.25**	**125**	P	**P**	**21 03 38.5**	**+0.5**
JOD2				*e*S	**S**	**21 04 47.8**	**+1.0**
JOSM	**Okushiri--Mats**	**5.64**	**48**	P	**P**	**21 03 43.1**	**+1.2**
JMK	**Ichinoseki**	**5.79**	**83**	P	**P**	**21 03 42.9**	**-0.5**
JMK				S	**S**	**21 04 53.9**	**-2.6**
JNU	**Nakatsue**	**5.82**	**205**	P	**P**	**21 03 43.0**	**-0.7**
	1.3nm,0.3s,baz=32,slow=12,SNR=8.5						
JOT	**Ohata**	**6.27**	**60**	P	**P**	**21 03 48.6**	**+0.2**
JKB	**Kayabe**	**6.49**	**56**	P	**P**	**21 03 50.7**	**-0.1**
BSO1	**Boso 1**	**6.86**	**121**	P	**P**	**21 03 53.1**	**-1.6**
BSO1				S	**S**	**21 05 13.5**	**-3.5**
ASAJ	**Asahikawa**	**8.69**	**46**	P	**P**	**21 04 14.2**	**-0.6**
	6.0nm,0.3s,baz=234,slow=12,SNR=38						
ASAJ				S	**S**	**21 05 51.9**	**-1.4**
	0.8nm,0.3s,baz=12,slow=27,SNR=5.8						
JTKR	**Abashiri--Toko**	**9.38**	**51**	P	**P**	**21 04 22.8**	**+0.3**
NEM2	**Nemuro 2**	**10.26**	**58**	P	**P**	**21 04 30.6**	**-1.6**
ENH	**Enshi**	**21.66**	**255**	*eP*	**P**	**21 06 27.4**	**-0.9**
	25nm,0.7s,mb4.8						
SONM	**Songino Array**	**22.04**	**304**	P	**P**	**21 06 32.8**	**+1.0**
	0.3nm,0.4s,mb3.1,baz=112,slow=11,SNR=7.1						
KURK	**Kurchatov**	**40.31**	**306**	*eP*	**P**	**21 09 08.2**	**-0.5**
	1.4nm,0.6s,mb3.5						
BVAR	**Borovoye Array**	**45.15**	**310**	P	**P**	**21 09 46.7**	**-0.3**
	0.4nm,0.5s,mb3.0,baz=91,slow=7.7,SNR=6.5						
ILAR	**Eielson Array**	**51.54**	**33**	P	**P**	**21 10 35.9**	**+0.7**
	0.7nm,0.5s,mb3.1,baz=273,slow=5.9,SNR=10						
INK	**Inuvik**	**55.86**	**27**	P	**P**	**21 11 07.3**	**+1.2**
	0.7nm,0.5s,mb3.2,baz=333,slow=9.0,SNR=2.7						
WRA	**Warramunga Arr**	**58.06**	**179**	P	**P**	**21 11 20.9**	**-0.9**
	0.6nm,0.5s,mb3.2,baz=354,slow=7.7,SNR=16						
ARCES	**ARCESS Array B**	**60.50**	**337**	P	**P**	**21 11 37.9**	**+0.5**
	1.2nm,0.6s,mb3.5,baz=67,slow=8.3,SNR=9.7						
JOF	**Joensuu**	**61.82**	**330**	*ep*	**P**	**21 11 39.5**	**-6.7**
KAF	**Kangasniemi**	**64.22**	**330**	*ep*	**P**	**21 11 54.1**	**-7.5**
	1.3nm,0.4s,mb3.8,baz=54,slow=6.1						
FINES	**FINESS Array B**	**64.68**	**330**	P	**P**	**21 12 04.8**	**+0.3**
	1.4nm,0.5s,mb3.9,baz=72,slow=6.2,SNR=20						
AKASG	**Malin Array Be**	**69.42**	**319**	P	**P**	**21 12 33.7**	**-0.1**
	0.7nm,0.4s,mb3.7,baz=48,slow=6.8,SNR=6.8						
AKASG	**Malin Array Be**	**69.42**	**319**	P	**P**	**21 12 33.7**	**-0.1**
NB2	**NORSAR Subarra**	**70.45**	**334**	P	**P**	**21 12 40.2**	**+0.4**
	1.1nm,0.6s,mb3.6,baz=45,slow=5.8						
NOA	**NORSAR Array B**	**70.45**	**334**	P	**P**	**21 12 40.5**	**+0.7**
	1.6nm,0.6s,mb3.7,baz=42,slow=6.0,SNR=8.4						
NVAR	**Mina Array Bea**	**78.81**	**50**	P	**P**	**21 13 30.1**	**+3.0**
	0.1nm,0.4s,mb2.8,baz=284,slow=9.4,SNR=4.3						

*CSEM **31** 21:16:47.9±0.5,34.64N×33.02E,h31km±1km,Mw2.7, Error ellipse: s-maj=10.9km s-min=5.2km az=174.0*
*ISK **31** 21:16:48.4,34.67N×33.10E,h30km,MD2.9*
*NEIC **31** 21:16:51.2,34.81N×32.97E,h18km,ML3.0(NIC),After NIC.*

NIC 31 21:16:51.2±0.2,34.81N×32.97E,h18km,ML3.0,MW2.7, 4C-1D,Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SZAC	**Souni-Zanaja**	**0.09**	**232**	⇑P	Pb	21 16 54.9	+0.1
SZAC				S	Sb	21 16 57.6	+0.4
LEF	**Lefka**	**0.32**	**349**	*i* PG	Pb	21 16 58.9	+0.9
LEF				*i* SG	Sb	21 17 07.4	+4.8
CSS	**Prodhromos**	**0.34**	**63**	⇑P	Pb	21 16 58.3	-0.1
	16nm,0.1s						
CSS				S	Sb	21 17 04.0	+0.8
CSS	**Prodhromos**	**0.34**	**63**	*i* PG	Pb	21 16 57.4	-1.0
CSS				*i* SG	Sb	21 17 03.4	+0.2
CSS	**Prodhromos**	**0.34**	**63**	⇑*i*P	Pb	21 16 58.3	-0.1
	16nm,0.1s						
CSS				*i* Sg	Sb	21 17 03.4	+0.2
CSS				S	Sb	21 17 04.0	+0.8
CSS	**Prodhromos**	**0.34**	**63**	⇑*i*P	Pb	21 16 58.3	-0.1
CSS				S	Sb	21 17 04.0	+0.8
MAMC	**Mammari**	**0.41**	**30**	⇓*i*P	Pb	21 17 00.2	+0.5
ALFC	**Alevga**	**0.46**	**319**	P	Pb	21 17 00.5	+0.1
	13nm,0.2s						
ALFC				S	Sb	21 17 07.7	+1.0
PPCY	**Paphos**	**0.52**	**278**	P	Pb	21 17 01.8	+0.4
PPCY				S	Sb	21 17 10.0	+1.6
IKL	**Isikli**	**1.54**	**22**	PN	Pn	21 17 16.1	-2.0
IKL				SN	Sn	21 17 35.6	-2.2

*IDC **31** 21:26:57.9±0.6,15.09N×120.16E,mb4.2/14,mb1 4.3/14, mb1mx4.2/21,mbtmp4.2/14,MS3.9/5,Ms1 3.9/5, ms1mx3.5/20,Error ellipse: s-maj=50.0km s-min=13.2km az=68.0*
*MAN **31** 21:26:59.6,14.98N×119.52E,h1km,mb4.3,ML3.2,MS3.0*
*NEIC **31** 21:26:59.3±0.3,15.01N×120.03E,h10km,mb4.5/5,Error ellipse: s-maj=22.8km s-min=6.1km az=69.0*
*BJI **31** 21:27:04.3,15.00N×120.00E,h10km,mB4.7,mb4.6, Ms4.5,Msz4.4*

ISC 31 21:26:58.8±0.4,14.93N±0.05×119.43E±0.05,h10km,n49, σ1§17/49,mb4.2/19,MS3.9/4,2C,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**0.96**	**29**	*eP*	**Pb**	**21 27 16.6**	**-0.4**
NBP	**Mount Natib**	**0.97**	**101**	*eP*	**Pb**	**21 27 17.0**	**-0.3**
NBP	**Mount Natib**	**0.97**	**101**	*eP*	**Pb**	**21 27 17.0**	**-0.3**
NZB	**Bigte**	**1.62**	**92**	*eP*	**Pn**	**21 27 26.6**	**-1.1**
ARP	**Angono**	**1.71**	**103**	⇑*eP*	**Pn**	**21 27 28.9**	**-0.1**
ARP	**Angono**	**1.71**	**103**	*eP*	**Pn**	**21 27 28.3**	**-0.7**
LBPH	**Los Banos**	**1.86**	**114**	⇑*eP*	**Pn**	**21 27 32.3**	**+1.1**
LBPH	**Los Banos**	**1.86**	**114**	*eP*	**Pn**	**21 27 32.3**	**+1.1**
POLP	**Polilio Island**	**2.44**	**95**	*eP*	**Pn**	**21 27 39.6**	**+0.3**
SJMP	**San Jose**	**2.96**	**146**	*eP*	**Pn**	**21 27 50.3**	**+3.5**
ABRA	**Dolores**	**2.97**	**24**	*eP*	**Pn**	**21 27 47.5**	**+0.6**
BUSP	**Coron**	**3.01**	**166**	*eP*	**Pn**	**21 27 49.9**	**+2.3**
CAUP	**Cauayan**	**3.05**	**49**	*eP*	**Pn**	**21 27 49.1**	**+1.0**
APYP	**Conner**	**3.39**	**31**	*eP*	**Pn**	**21 27 57.6**	**+4.6**
AUQP	**San Andres**	**3.53**	**117**	*eP*	**Pn**	**21 27 59.0**	**+4.0**
OTRP	**Odiongan**	**3.59**	**135**	*eP*	**Pn**	**21 27 57.6**	**+1.8**
ENPP	**El Nido**	**3.71**	**180**	*eP*	**Pn**	**21 27 59.7**	**+2.3**
CUYO	**Cuyo Island**	**4.34**	**159**	*eP*	**Pn**	**21 28 06.2**	**-0.3**
PVCP	**Virac**	**4.77**	**106**	*eP*	**Pn**	**21 28 13.1**	**+0.6**
PPR	**Puerto Princes**	**5.17**	**188**	*eP*	**Pn**	**21 28 08.6**	**-10**
BATP	**Bataraza**	**6.30**	**195**	*eP*	**Pn**	**21 28 45.0**	**+11**
CD2	**Chengdu**	**21.43**	**321**	P	**P**	**21 31 56.8**	**+7.5**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.4s,mb4.5						
FITZ	**Fitzroy Crossi**	**33.39**	**169**	P	**P**	**21 33 38.7**	**-1.2**
	comp=Z,8.1nm,1.0s,mb4.6,baz=20,slow=7.9,SNR=4.3						
FITZ				PcP	PcP	21 36 20.3	-1.3
	comp=Z,8.3nm,1.2s,baz=120,slow=1.4,SNR=4.4						
SONM	**Songino Array**	**34.54**	**344**	P	**P**	**21 33 49.4**	**-0.1**
	comp=Z,1.8nm,0.7s,mb4.1,baz=163,slow=10,SNR=18						
MBWA	**Marble Bar**	**35.87**	**180**	*eP*	**P**	**21 34 01.0**	**-0.1**
WRAB	**Tennant Creek**	**37.63**	**157**	*eP*	**P**	**21 34 12.2**	**-3.7**
	comp=Z,12nm,0.6s,mb4.8						
WRA	**Warramunga Arr**	**37.63**	**157**	P	**P**	**21 34 13.1**	**-2.8**
	comp=Z,6.9nm,0.5s,mb4.6,baz=330,slow=10.0,SNR=42						
WRA				PcP	PcP	21 36 32.9	-1.1
	comp=Z,1.0nm,0.5s,baz=343,slow=3.2,SNR=5.8						
WB2	**Warramunga Arr**	**37.64**	**157**	*eP*	**P**	**21 34 12.9**	**-3.1**
CTA	**Charters Tower**	**43.67**	**142**	P	**P**	**21 35 02.5**	**-3.3**
	comp=Z,4.6nm,0.8s,mb4.3,baz=351,slow=12,SNR=3.6						
MKAR	**Makanchi Array**	**44.31**	**324**	P	**P**	**21 35 11.9**	**+1.1**
	comp=Z,0.4nm,0.7s,mb3.3,baz=112,slow=12,SNR=4.5						
MKAR				PcP	PcP	21 36 54.8	-0.6
	comp=Z,1.1nm,0.7s,baz=108,slow=3.8,SNR=6.2						
ZAL	**Zalesovo**	**47.41**	**333**	P	**P**	**21 35 35.7**	**+0.5**
	comp=Z,0.8nm,0.4s,mb4.0,baz=313,slow=5.1,SNR=4.2						
ZAL	**Zalesovo**	**47.41**	**333**	P	**P**	**21 35 35.7**	**+0.5**
NWAO	**Narrogin (SRO)**	**47.63**	**182**	P	**P**	**21 35 37.0**	**-0.2**
	comp=Z,8.5nm,0.9s,mb4.8,baz=4.0,slow=5.6,SNR=3.5						
KURK	**Kurchatov**	**48.49**	**326**	*eP*	**P**	**21 35 44.3**	**+0.7**
	comp=Z,6.0nm,0.8s,mb4.7						
STKA	**Stephens Creek**	**51.17**	**156**	P	**P**	**21 36 01.9**	**-2.5**
	comp=Z,1.7nm,0.6s,mb4.2,baz=337,slow=8.6,SNR=5.5						
STKA	**Stephens Creek**	**51.17**	**156**	*eP*	**P**	**21 36 01.7**	**-2.7**
BVAR	**Borovoye Array**	**54.07**	**326**	P	**P**	**21 36 26.1**	**+0.4**
	comp=Z,0.6nm,0.5s,mb3.8,baz=113,slow=8.9,SNR=6.7						
BVAR				PcP	PcP	21 37 29.5	-1.1
	comp=Z,0.7nm,0.6s,baz=124,slow=5.3,SNR=3.7						
BRVK	**Borovoye**	**54.14**	**326**	*eP*	**P**	**21 36 26.6**	**+0.4**
	comp=Z,1.3nm,0.8s,mb3.9						
JOF	**Joensuu**	**75.98**	**332**	*ep*	**P**	**21 38 47.4**	**-0.2**
KEV	**Kevo**	**76.95**	**339**	*ep*	**P**	**21 38 52.1**	**-0.8**
MCK	**McKinley**	**77.46**	**27**	*eP*	**P**	**21 38 54.8**	**-1.0**
	comp=Z,2.7nm,0.9s,mb4.2						
ARCES	**ARCESS Array B**	**77.50**	**339**	P	**P**	**21 38 56.1**	**+0.2**
	comp=Z,2.0nm,0.6s,mb4.2,baz=88,slow=7.7,SNR=15						
ARCES				LR	LR	22 14 56.8	
	comp=Z,38nm,18.4s,MS3.8,baz=254,slow=37						
ILAR	**Eielson Array**	**78.19**	**26**	P	**P**	**21 38 56.0**	**-3.8**
	comp=Z,0.9nm,0.8s,mb3.7,baz=260,slow=5.1,SNR=6.5						
KAF	**Kangasniemi**	**78.39**	**331**	*ep*	**P**	**21 39 00.0**	**-0.9**
FINES	**FINESS Array B**	**78.61**	**331**	P	**P**	**21 39 02.5**	**+0.3**
	comp=Z,0.8nm,0.5s,mb3.9,baz=63,slow=8.5,SNR=15						
FINES				LR	LR	22 17 12.2	
	comp=Z,50nm,19.1s,MS3.9,baz=358,slow=38						
FINES	**FINESS Array B**	**78.61**	**331**	P	**P**	**21 39 02.5**	**+0.3**
FINES				LR	LR	22 17 12.2	
NB2	**NORSAR Subarra**	**85.61**	**332**	P	**P**	**21 39 38.1**	**-0.4**
	comp=Z,1.7nm,0.6s,mb4.5,baz=68,slow=5.0						
NOA	**NORSAR Array B**	**85.61**	**332**	P	**P**	**21 39 38.3**	**-0.2**
	comp=Z,2.4nm,0.7s,mb4.5,baz=69,slow=5.1,SNR=10						
NOA				LR	LR	22 24 10.9	
	comp=Z,64nm,18.7s,MS4.0,baz=190,slow=40						
GERES	**GERESS Array B**	**88.90**	**321**	P	**P**	**21 39 55.4**	**+0.6**
	comp=Z,0.5nm,0.7s,mb4.0,baz=45,slow=5.7,SNR=5.2						
GERES				LR	LR	22 25 23.3	
	comp=Z,49nm,19.4s,MS3.9,baz=120,slow=39						

*ROM **31** 21:55:32.9±0.2,46.29N×13.49E,h12km,Md3.2/10, Ml2.7/5,Error ellipse: s-maj=3.3km s-min=1.8km az=133.0*
*LJU **31** 21:55:33.0,46.31N×13.50E,h18km,ML2.6*
*NEIC **31** 21:55:33.5±0.3,46.30N×13.51E,h10km,ML3.0(VIE), ML2.8(LJU),ML2.8(LDG),ML2.8(SZGRF),Error ellipse: s-maj=4.3km s-min=3.4km az=173.0*
NEIC Felt [IV] at Bovec and Srpenica.
*CSEM **31** 21:55:33.3±0.1,46.30N×13.48E,h12km,ML3.3/24,Error ellipse: s-maj=1.2km s-min=0.9km az=19.0*
*PRU **31** 21:55:34.2,46.35N×13.56E*
*LDG **31** 21:55:35.6±0.3,46.24N×13.57E,h10km,Ml2.8/6,Error ellipse: s-maj=7.0km s-min=3.7km az=127.0*

ISC 31 21:55:32.7±0.2,46.35N±0.01×13.50E±0.01,h10km,n95, σ1§26/169,20C-11D,Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROBS	**Robic**	**0.10**	**178**	*i* Pg	**Pg**	**21 55 36.4**	**+0.9**
ROBS				*i* Sg	**Sg**	**21 55 38.0**	**+0.8**
ROBS	**Robic**	**0.10**	**178**	*i* Pg	**Pg**	**21 55 36.3**	**+0.9**
ROBS				*i* Sg	**Sg**	**21 55 38.0**	**+0.8**
	comp=Z,392nm,0.1s						
PTCC	**Patocco-Chiusa**	**0.12**	**299**	⇓*i*Pg	**Pg**	**21 55 37.3**	**+1.7**
PTCC				Sg	**Sg**	**21 55 40.3**	**+2.7**
LSR	**Lussari**	**0.13**	**7**	⇑*i*Pg	**Pg**	**21 55 37.9**	**+2.1**
LSR				*i* Sg	**Sg**	**21 55 41.3**	**+3.4**
DRE	**Drenchia**	**0.20**	**151**	⇓*i*Pg	**Pg**	**21 55 37.9**	**+0.8**
DRE				*i* Sg	**Sg**	**21 55 41.2**	**+1.2**
CADS	**Cadrg**	**0.20**	**127**	⇑*i*Pg	**Pg**	**21 55 38.0**	**+0.9**
CADS				*i* Sg	**Sg**	**21 55 41.3**	**+1.3**
	comp=Z,2μm,0.1s						
CADS	**Cadrg**	**0.20**	**127**	⇑*i*Pg	**Pg**	**21 55 38.0**	**+0.9**
CADS				*i* Sg	**Sg**	**21 55 41.3**	**+1.3**
	comp=Z,2μm,0.1s						
BAD	**Bernadia**	**0.21**	**238**	⇓*i*Pg	**Pg**	**21 55 37.8**	**+0.5**
BAD				*i* Sg	**Sg**	**21 55 41.4**	**+1.1**
COLI	**Coloredo**	**0.23**	**202**	⇓*i*Pg	**Pg**	**21 55 38.3**	**+0.7**
COLI				*i* Sg	**Sg**	**21 55 41.6**	**+0.6**
BOO	**Bordano**	**0.28**	**264**	⇓*e*Pg	**Pg**	**21 55 38.9**	**+0.4**
BOO				*e*Sg	**Sg**	**21 55 43.7**	**+1.2**
BUA	**Buia**	**0.29**	**244**	⇑*i*Pg	**Pg**	**21 55 39.2**	**+0.4**
BUA			

MOA *i* SG **Sg** **21 56 26.2 +0.5**
comp=Z,24nm,0.6s
TEOL Teolo 1.62 233⇑ *e*Pg **Pg** **21 56 01.7 -3.3**
WATA Walderalm 1.65 307⇑ *i*PG **Pg** **21 56 05.1 -0.6**
WATA *i* SG **Sg** **21 56 28.2 +0.5**
comp=Z,23nm,0.3s
ARSA Arzberg 1.66 56⇑ *i*PG **Pg** **21 56 04.7 -1.0**
ARSA *i* SG **Sg** **21 56 27.0 -0.8**
comp=Z,32nm,0.3s
SQTA Sankt Quirin 1.80 300⇓ *i*PG **Pg** **21 56 07.5 -1.2**
SQTA *i* SG **Sg** **21 56 32.2 -0.6**
comp=Z,27nm,0.3s
MOTA Moosalm 1.93 302⇑ *i*PG **Pg** **21 56 09.4 -1.8**
MOTA *i* SG **Sg** **21 56 36.2 -0.6**
comp=Z,34nm,0.4s
NVLJ Novalja 2.03 151 *i* Pn **Pn** **21 56 08.1 +0.7**
NVLJ *i* Sn **Sn** **21 56 34.2 +1.2**
NVLJ Novalja 2.03 151 *i* Pn **Pn** **21 56 08.0 +0.7**
NVLJ *i* Sn **Sn** **21 56 34.1 +1.2**
MABI Malga Bissina 2.10 263 Pg **Pg** **21 56 09.6 -5.0**
MABI Sg **Sg** **21 56 39.2 -3.4**
comp=Z,31nm,0.3s
FUORN Ofenpass 2.26 278 Pg **Pg** **21 56 13.3 -4.4**
GEC2 GERESS Array S 2.50 3 *e*Pn **Pn** **21 56 16.1 +2.0**
DAVA Damuels 2.66 292⇑ *i*PN **Pn** **21 56 18.7 +2.3**
DAVA *i* SN **Sn** **21 56 51.6 +2.6**
FSSB Fossombrone 2.71 191 Pg **Pg** **21 56 16.8 -10**
comp=Z,11nm,0.3s
KHC Kasperske Hory 2.79 1 *e*PN **Pn** **21 56 20.0 +1.8**
KHC *e*Pg **Pg** **21 56 26.2 -2.1**
KHC *e*SN **Sn** **21 56 52.5 +0.3**
KHC *e*SG **Sg** **21 57 03.9 -1.5**
comp=Z,5.9nm,0.2s
KHC Kasperske Hory 2.79 1 *e*Pg **Pg** **21 56 26.2 -2.1**
KHC Sg **Sg** **21 57 03.9 -1.5**
comp=Z,5.9nm,0.2s
WET Wettzell 2.83 352 *e*Pn **Pn** **21 56 20.1 +1.3**
ARV Arcevia 2.88 188 Pg **Pg** **21 56 19.4 -11**
comp=Z,6.0nm,0.5s
ZST Bratislava 3.07 52 *e*PN **Pn** **21 56 25.5 +3.3**
ZST *e*PG **Pg** **21 56 31.1 -2.9**
ZST *e*SG **Sg** **21 57 07.5 -7.4**
ZST Bratislava 3.07 52 *e*Pg **Pg** **21 56 31.1 -2.9**
ZST *e*Sg **Sg** **21 57 07.5 -7.4**
VRAC Vranov 3.62 34 *e*Sg **Sg** **21 57 26.8 -6.4**
PRU Pruhonice 3.71 10 *e*PN **Pn** **21 56 33.1 +1.8**
PRU *e*PG **Pg** **21 56 42.4 -4.3**
PRU *e*SG **Sg** **21 57 31.8 -4.4**
comp=Z,6.4nm,0.3s
PRU Pruhonice 3.71 10 *e*Pg **Pg** **21 56 42.4 -4.3**
PRU Sg **Sg** **21 57 31.8 -4.4**
comp=Z,6.4nm,0.3s
NKC Novy Kostel 3.95 350 *e*PG **Pg** **21 56 47.5 -4.1**
NKC *e*SG **Sg** **21 57 40.6 -3.6**
comp=Z,6.4nm,0.3s
DPC Dobruska-Polom 4.42 24 *e*PG **Pg** **21 56 54.8 -6.2**
DPC *e*SG **Sg** **21 57 53.5 -6.5**
comp=Z,20nm,1.2s
MOX Moxa 4.48 344 *i* P **Pn** **21 56 42.4 +0.2**
MOX S **Sn** **21 57 34.0 -1.1**
MOX Sg **Sg** **21 57 59.0 -2.8**
MOX Moxa 4.48 344 *e*Pn **Pn** **21 56 42.4 +0.2**
MOX *e*Sn **Sn** **21 57 34.9 -0.2**
MOX *e*Sg **Sg** **21 57 59.0 -2.8**
CDF Champ du Feu 4.71 298 *e*Pn **Pn** **21 56 45.2 -0.3**
HINF Hinteralfeld 4.78 290 *e*Pn **Pn** **21 56 46.0 -0.4**
HINF *e*Sn **Sn** **21 57 38.9 -3.6**
comp=Z,3.7nm,0.3s
LPG La Plagne 4.79 262 *e*Pn **Pn** **21 56 47.6 +1.0**
LPL La Plagne 4.80 262 *e*Pn **Pn** **21 56 47.8 +1.0**
SBF Sospel 4.96 242 *e*Pn **Pn** **21 56 48.4 -0.7**
SBF *e*Sn **Sn** **21 57 41.8 -5.5**
comp=Z,3.9nm,0.3s
CLL Collm 4.97 356 *i* PN **Pn** **21 56 49.9 +0.6**
CLL *i* SG **Sg** **21 58 12.5 -5.8**
PGF Pioggiola 4.98 222 *e*Pn **Pn** **21 56 47.4 -2.0**
PGF *e*Sn **Sn** **21 57 42.1 -5.7**
comp=Z,1.9nm,0.4s
MBDF Montbardon 5.00 254 *e*Pn **Pn** **21 56 46.7 -2.9**
MBDF *e*Sn **Sn** **21 57 44.1 -4.1**
comp=Z,3.2nm,0.5s
CABF La Chapelle 5.13 276 *e*Pn **Pn** **21 56 48.9 -2.6**
HAU Haudompre 5.15 291 *e*Pn **Pn** **21 56 51.7 -0.1**
ORIF Oris-en-Rattie 5.54 258 *e*Pn **Pn** **21 56 55.6 -1.6**
FRF La Foret Royal 5.61 243 *e*Pn **Pn** **21 56 56.1 -2.1**
FRF *e*Sn **Sn** **21 57 57.5 -6.0**
comp=Z,1.1nm,0.3s
LMR La Mourre 5.81 241 *e*Pn **Pn** **21 56 58.7 -2.4**
LMR *e*Sn **Sn** **21 58 02.4 -6.3**
comp=Z,1.7nm,0.4s
SMRF Simiane la Rot 6.09 250 *e*Pn **Pn** **21 57 02.8 -2.2**
VIVF Saint-Julien-l 6.37 260 *e*Pn **Pn** **21 57 07.0 -2.0**
SMF Signal de Mont 6.68 276 *e*Pn **Pn** **21 57 11.9 -1.4**
LOR Lormes 6.69 281 *e*Pn **Pn** **21 57 11.9 -1.5**
SSF Saint Saulge 6.91 280 *e*Pn **Pn** **21 57 15.4 -1.2**
AVF Avril sur Loir 7.01 277 *e*Pn **Pn** **21 57 16.2 -1.8**
LASF Ste Croix 7.18 255 *e*Pn **Pn** **21 57 17.8 -2.6**
BGF Bois d'Agland 7.37 275 *e*Pn **Pn** **21 57 21.6 -1.4**
TCF Toulx Ste Croi 7.82 274 *e*Pn **Pn** **21 57 27.9 -1.4**

*ROM **31** 22:35:47.7±0.3, 45.86N×14.59E, h10km, Md2.9/6, Ml2.1/3, Error ellipse: s-maj=4.7km s-min=1.8km az=118.0*
*LJU **31** 22:35:47.1, 45.92N×14.67E, h10km, ML2.1*
*NEIC **31** 22:35:47.4±0.5, 45.94N×14.66E, h10km, ML2.6(VIE), ML2.2(LJU), Error ellipse: s-maj=5.6km s-min=4.5km az=193.0*
NEIC Felt [IV] at Turjak.
*CSEM **31** 22:35:47.2±0.0, 45.92N×14.67E, h12km, ML3.0/6, Error ellipse: s-maj=0.9km s-min=0.7km az=6.0*

ISC 31 22:35:47.0±0.3, 45.93N±0.02×14.69E±0.02, h10km, n47, σ0§76/87, 16C-8D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LJU	**Ljubljana**	**0.16**	**315**	⇓*i*Pg	**Pg**	**Pg**	**22 35 51.0**	**+0.5**
LJU				*i* Sg	**Sg**	**Sg**	**22 35 53.3**	**+0.4**
comp=Z,441nm,0.1s								
LJU	**Ljubljana**	**0.16**	**315**	⇓*i*Pg	**Pg**	**Pg**	**22 35 51.0**	**+0.4**
LJU				*i* Sg	**Sg**	**Sg**	**22 35 53.3**	**+0.3**
comp=Z,441nm,0.1s								
VISS	**Visnje**	**0.17**	**140**	*i* Pg	**Pg**	**Pg**	**22 35 50.5**	**-0.3**
VISS				*i* Sg	**Sg**	**Sg**	**22 35 52.9**	**-0.3**
comp=Z,498nm,0.1s								
VISS	**Visnje**	**0.17**	**140**	*i* Pg	**Pg**	**Pg**	**22 35 50.5**	**-0.2**
VISS				*i* Sg	**Sg**	**Sg**	**22 35 52.9**	**-0.4**
comp=Z,498nm,0.1s								
PDKS	**Podkum**	**0.25**	**59⇑**	*i*Pg	**Pg**	**Pg**	**22 35 53.1**	**+0.8**
PDKS				*i* Sg	**Sg**	**Sg**	**22 35 57.0**	**+1.1**
comp=Z,274nm,0.1s								
CEY	**Cerknica**	**0.27**	**223⇑**	*i*Pg	**Pg**	**Pg**	**22 35 52.6**	**+0.1**
CEY				*i* Sg	**Sg**	**Sg**	**22 35 56.2**	**0.0**
comp=Z,217nm,0.2s								
CEY	**Cerknica**	**0.27**	**223⇑**	*i*Pg	**Pg**	**Pg**	**22 35 52.7**	**+0.1**
CEY				*i* Sg	**Sg**	**Sg**	**22 35 56.2**	**-0.1**
comp=Z,217nm,0.2s								
JAVS	**Javornik**	**0.44**	**265**	*i* Pg	**Pg**	**Pg**	**22 35 55.6**	**-0.2**
JAVS				*i* Sg	**Sg**	**Sg**	**22 36 02.1**	**+0.3**
comp=Z,30nm,0.2s								
JAVS	**Javornik**	**0.44**	**265**	*i* Pg	**Pg**	**Pg**	**22 35 55.6**	**-0.3**
JAVS				*i* Sg	**Sg**	**Sg**	**22 36 02.1**	**+0.3**
comp=Z,30nm,0.2s								
KNDS	**Knezji Dol**	**0.46**	**208**	*i* Pg	**Pg**	**Pg**	**22 35 56.2**	**-0.1**
KNDS				*i* Sg	**Sg**	**Sg**	**22 36 02.7**	**+0.2**
comp=Z,111nm,0.2s								
KNDS	**Knezji Dol**	**0.46**	**208**	*i* Pg	**Pg**	**Pg**	**22 35 56.2**	**-0.1**
KNDS				*i* Sg	**Sg**	**Sg**	**22 36 02.7**	**+0.2**
comp=Z,111nm,0.2s								
CRES	**Cresnjev**	**0.55**	**101**	*i* Pg	**Pg**	**Pg**	**22 35 58.3**	**+0.2**
CRES				*i* Sg	**Sg**	**Sg**	**22 36 05.9**	**+0.4**
comp=Z,30nm,0.1s								
CRES	**Cresnjev**	**0.55**	**101**	*i* Pg	**Pg**	**Pg**	**22 35 58.3**	**+0.2**
CRES				*i* Sg	**Sg**	**Sg**	**22 36 05.9**	**+0.4**
comp=Z,30nm,0.1s								
VOJS	**Vojsko**	**0.57**	**280**	*i* Pg	**Pg**	**Pg**	**22 35 58.0**	**-0.5**
VOJS				*e*Sg	**Sg**	**Sg**	**22 36 06.6**	**+0.5**
BOJS	**Bojanci**	**0.58**	**137⇑**	*i*Pg	**Pg**	**Pg**	**22 35 58.8**	**0.0**
BOJS				*i* Sg	**Sg**	**Sg**	**22 36 06.1**	**-0.5**
comp=Z,62nm,0.2s								
BOJS	**Bojanci**	**0.58**	**137⇑**	*i*Pg	**Pg**	**Pg**	**22 35 58.8**	**0.0**
BOJS				*i* Sg	**Sg**	**Sg**	**22 36 06.1**	**-0.5**
comp=Z,62nm,0.2s								
OBKA	**Obir**	**0.58**	**351⇑**	*i*PG	**Pg**	**Pg**	**22 35 59.1**	**+0.3**
OBKA				*i* SG	**Sg**	**Sg**	**22 36 07.1**	**+0.4**
comp=Z,70nm,0.2s								
DOBS	**Dobrina**	**0.59**	**68**	*i* Pg	**Pg**	**Pg**	**22 35 59.2**	**+0.3**
comp=Z,43nm,0.1s								
DOBS	**Dobrina**	**0.59**	**68**	*i* Pg	**Pg**	**Pg**	**22 35 59.2**	**+0.4**
comp=Z,43nm,0.1s								
GORS	**Gorjuse**	**0.62**	**309**	*i* Pg	**Pg**	**Pg**	**22 35 59.3**	**-0.1**
GORS				*i* Sg	**Sg**	**Sg**	**22 36 08.1**	**+0.4**
comp=Z,55nm,0.2s								
GORS	**Gorjuse**	**0.62**	**309**	*i* Pg	**Pg**	**Pg**	**22 35 59.3**	**-0.1**
GORS				*i* Sg	**Sg**	**Sg**	**22 36 08.1**	**+0.4**
comp=Z,55nm,0.2s								
GOLS	**Golise**	**0.66**	**83⇑**	*i*Pg	**Pg**	**Pg**	**22 36 00.6**	**+0.3**
GOLS				*e*Sg	**Sg**	**Sg**	**22 36 09.9**	**+0.8**
comp=Z,53nm,0.2s								
GOLS	**Golise**	**0.66**	**83⇑**	*i*Pg	**Pg**	**Pg**	**22 36 00.6**	**+0.3**
GOLS				*e*Sg	**Sg**	**Sg**	**22 36 09.9**	**+0.8**
comp=Z,53nm,0.2s								
GCIS	**Gornji Cirnik**	**0.66**	**95**	*i* Pg	**Pg**	**Pg**	**22 36 00.5**	**+0.2**
GCIS				*e*Sg	**Sg**	**Sg**	**22 36 10.2**	**+1.0**
comp=Z,24nm,0.1s								
TRI	**Trieste**	**0.68**	**251**	Pg	**Pg**	**Pg**	**22 35 59.8**	**-0.9**
comp=Z,39nm,0.5s								
CADS	**Cadrg**	**0.72**	**294⇑**	*i*Pg	**Pg**	**Pg**	**22 36 00.9**	**-0.6**
CADS				*i* Sg	**Sg**	**Sg**	**22 36 11.0**	**-0.2**
comp=Z,52nm,0.2s								
CADS	**Cadrg**	**0.72**	**294⇑**	*i*Pg	**Pg**	**Pg**	**22 36 00.9**	**-0.6**
CADS				*i* Sg	**Sg**	**Sg**	**22 36 11.0**	**-0.3**
comp=Z,52nm,0.2s								
DRE	**Drenchia**	**0.77**	**289⇑**	*i*Pg	**Pg**	**Pg**	**22 36 01.6**	**-0.8**
DRE				*i* Sg	**Sg**	**Sg**	**22 36 12.8**	**+0.2**
DRE	**Drenchia**	**0.77**	**289**	*i* Pg	**Pg**	**Pg**	**22 36 01.5**	**-0.9**
DRE				*i* Sg	**Sg**	**Sg**	**22 36 12.8**	**+0.2**
PERS	**Pernice**	**0.77**	**23⇓**	*i*Pg	**Pg**	**Pg**	**22 36 02.3**	**0.0**
GROS	**Grobnik**	**0.78**	**47⇓**	*i*Pg	**Pg**	**Pg**	**22 36 02.6**	**0.0**
GROS				*i* Sg	**Sg**	**Sg**	**22 36 12.8**	**-0.1**
comp=Z,20nm,0.1s								
GROS	**Grobnik**	**0.78**	**47⇓**	*i*Pg	**Pg**	**Pg**	**22 36 02.6**	**0.0**
GROS				*i* Sg	**Sg**	**Sg**	**22 36 12.9**	**0.0**
comp=Z,20nm,0.1s								
COLI	**Coloredo**	**0.93**	**283⇓**	*i*Pg	**Pg**	**Pg**	**22 36 04.7**	**-1.0**
COLI				*i* Sg	**Sg**	**Sg**	**22 36 18.9**	**+0.7**
LSR	**Lussari**	**0.97**	**304⇑**	*i*Pg	**Pg**	**Pg**	**22 36 05.9**	**-0.6**
LSR				*i* Sg	**Sg**	**Sg**	**22 36 19.8**	**+0.3**
PTCC	**Patocco-Chiusa**	**1.04**	**298**	Pg	**Pg**	**Pg**	**22 36 07.5**	**-0.3**
PTCC				Sg	**Sg**	**Sg**	**22 36 23.1**	**+1.4**
comp=Z,39nm,0.3s								
BAD	**Bernadia**	**1.05**	**287⇑**	*i*Pg	**Pg**	**Pg**	**22 36 06.5**	**-1.5**
BAD				*i* Sg	**Sg**	**Sg**	**22 36 23.3**	**+1.3**
PLRO	**Paularo**	**1.23**	**301⇑**	*e*Pg	**Pg**	**Pg**	**22 36 11.5**	**-0.2**
PLRO				*e*Sg	**Sg**	**Sg**	**22 36 28.9**	**+0.7**
NVLJ	**Novalja**	**1.38**	**174**	*i* Pg	**Pg**	**Pg**	**22 36 14.2**	**-0.3**
NVLJ				*i* Sg	**Sg**	**Sg**	**22 36 32.7**	**-0.2**
NVLJ	**Novalja**	**1.38**	**174**	*i* Pg	**Pg**	**Pg**	**22 36 14.1**	**-0.4**
NVLJ				*i* Sg	**Sg**	**Sg**	**22 36 32.6**	**-0.3**
ARSA	**Arzberg**	**1.44**	**23⇑**	*i*PG	**Pg**	**Pg**	**22 36 14.4**	**-1.4**
ARSA				*i* SG	**Sg**	**Sg**	**22 36 33.6**	**-1.4**
comp=Z,9.1nm,0.3s								
KBA	**Koelnbreinsper**	**1.47**	**322⇓**	*i*PG	**Pg**	**Pg**	**22 36 15.2**	**-1.3**
KBA				*i* SG	**Sg**	**Sg**	**22 36 35.3**	**-0.8**
comp=Z,21nm,0.4s								
FVI	**Forni Avoltri**	**1.48**	**297**	Pg	**Pg**	**Pg**	**22 36 15.7**	**-0.9**
FVI				Sg	**Sg**	**Sg**	**22 36 37.9**	**+1.6**
comp=Z,29nm,0.5s								
CAE	**Caneva**	**1.57**	**274⇑**	*e*Pg	**Pg**	**Pg**	**22 36 16.6**	**-1.8**
CAE				*e*Sg	**Sg**	**Sg**	**22 36 39.4**	**0.0**
MOA	**Molln**	**1.94**	**352⇓**	*i*PG	**Pg**	**Pg**	**22 36 24.1**	**-1.6**
MOA				*i* SG	**Sg**	**Sg**	**22 36 51.4**	**-0.2**
comp=Z,4.9nm,0.6s								
CTI	**Castel Tesino**	**2.12**	**274**	Pg	**Pn**	**Pn**	**22 36 24.2**	**+1.2**
comp=Z,12nm,0.5s								
APPI	**Appiano**	**2.46**	**284**	Pg	**Pn**	**Pn**	**22 36 29.6**	**+1.7**
comp=Z,13nm,0.6s								
FSSB	**Fossombrone**	**2.62**	**212**	Pg	**Pn**	**Pn**	**22 36 30.8**	**+0.6**
comp=Z,3.0nm,0.3s								

NEIC 31 22:45:49.8, 33.17N×115.62W, h4km, ML3.5(PAS), After PAS., Southern California

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GLA	**Glamis**	**0.68**	**100**	*e*P	Pg		22 46 02.0	-1.4
PFO	**Pinyon Flat Ob**	**0.82**	**302**	*e*P	Pg		22 46 04.7	-1.5
BAR	**Barrett**	**1.01**	**241**	*e*P	Pb		22 46 07.5	-1.9
LDFC	**Landfair**	**1.95**	**12**	*e*P	Pn		22 46 23.5	-0.5
MWC	**Mount Wilson**	**2.29**	**298**	*e*Pn	Pn		22 46 26.7	-2.1
GSC	**Goldstone**	**2.34**	**336**	*e*Pn	Pn		22 46 28.0	-1.6
NEN	**Nelson**	**2.55**	**14**	*e*Pn	Pn		22 46 31.5	-1.1
DAC	**Darwin (Calif)**	**3.50**	**333**	*e*Pn	Pn		22 46 43.3	-2.8
TUC	**Tucson**	**4.17**	**101**	*e*Pn	Pn		22 46 53.4	-2.2
PTRM	**Twissleman Ran**	**4.53**	**304**	*e*Pg	Pg		22 47 17.1	-3.2
MTUM	**Tungsten Hills**	**4.82**	**331**	Pn	Pn		22 47 00.9	-3.9
ARUT	**Antelope Range**	**4.94**	**21**	Pn	Pn		22 47 03.6	-3.0
TPH	**Tonopah**	**5.06**	**346**	Pn	Pn		22 47 07.7	-0.6
MSU	**Marysvale**	**6.02**	**27**	Pn	Pn		22 47 18.7	-3.1
CMB	**Columbia Colle**	**6.21**	**323**	Pn	Pn		22 47 19.5	-5.0
SRU	**San Rafael**	**7.22**	**33**	Pn	Pn		22 47 36.3	-2.4
PV10	**Paradox Valley**	**7.45**	**44**	Pn	Pn		22 47 37.6	-4.4

NEIC 31 22:47:44.9, 33.17N×115.62W, h4km, ML3.5(PAS), After PAS., Southern California

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GLA	**Glamis**	**0.68**	**100**	*e*P	Pg		22 47 57.3	-1.1
GLA	**Glamis**	**0.68**	**100**	*e*P	Pg		22 47 57.0	-1.3
PFO	**Pinyon Flat Ob**	**0.82**	**302**	*e*P	Pg		22 47 59.4	-2.0
BAR	**Barrett**	**1.01**	**241**	*e*P	Pb		22 48 02.9	-1.7
LDFC	**Landfair**	**1.95**	**12**	P	Pn		22 48 19.1	0.0
GSC	**Goldstone**	**2.34**	**335**	*e*Pn	Pn		22 48 22.8	-1.9
NEN	**Nelson**	**2.55**	**14**	P	Pn		22 48 26.9	-0.9

*BJI **31** 22:47:43.5, 33.16N×115.91W, h5km, mB4.8, mb4.4, Ms4.8, Msz4.4*
*ECX **31** 22:47:45.0±0.6, 33.17N×115.60W, h3km, ML4.6*
*NEIC **31** 22:47:45.6, 33.17N×115.64W, h4km, mb4.5/6, ML4.6(PAS), After PAS.*
NEIC Felt [IV] at Brawley; [III] at El Centro and Imperial. Felt as far as San Diego.
*IDC **31** 22:47:47.4±1.5, 33.22N×115.42W, mb4.1/3, mb1 4.3/8, mb1mx4.0/25, mbtmp4.0/8, ML4.2/3, MS4.3/14, Ms1 4.3/14, ms1mx4.2/22, Error ellipse: s-maj=23.0km s-min=15.0km az=56.0*

ISC 31 22:47:44.6±0.3, 33.16N±0.02×115.66W±0.03, h4km, n76, σ1§30/75, mb4.3/7, MS4.3/11, 5C-7D, Southern California

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FRK	**Frink**	**0.24**	**4⇓**	*i*P	**Pg**	**Pg**	**22 47 49.4**	**-0.2**
COK	**Cook Ranch**	**0.31**	**191⇓**	*i*P	**Pg**	**Pg**	**22 47 51.4**	**+0.5**
CRR	**Carrizo Plain**	**0.37**	**224⇓**	*i*P	**Pg**	**Pg**	**22 47 52.5**	**+0.3**
SGL	**Mount Signal**	**0.51**	**186⇓**	*i*P	**Pg**	**Pg**	**22 47 54.5**	**-0.3**
COA	**Coachella**	**0.54**	**123⇑**	*i*P	**Pg**	**Pg**	**22 47 54.4**	**-1.0**
YUH	**Yuha Desert**	**0.55**	**204⇓**	*i*P	**Pg**	**Pg**	**22 47 55.4**	**-0.3**
YAQ	**Yaqui Meadows**	**0.58**	**271⇓**	*i*P	**Pg**	**Pg**	**22 47 56.4**	**+0.2**
RMX	**La Rumorosa**	**0.66**	**213**	*e*P	**Pg**	**Pg**	**22 47 58.0**	**+0.3**
RMX				*e*S		**Sg**	**22 48 07.7**	**+1.1**
RMX				⇑*e*			22 48 09.2	
comp=E,27μm,0.4s								
GLA	**Glamis**	**0.70**	**98**	*e*P	**Pg**	**Pg**	**22 47 58.1**	**-0.6**
PFO	**Pinyon Flat Ob**	**0.81**	**304**	*e*P	**Pg**	**Pg**	**22 48 00.5**	**-0.2**
PFO				S		**Sg**	**22 48 12.0**	**+0.5**
BAR	**Barrett**	**0.98**	**241⇑**	*i*P	**Pb**	**Pb**	**22 48 03.1**	**-0.7**
BAR	**Barrett**	**0.98**	**241**	*e*P	**Pb**	**Pb**	**22 48 03.8**	**+0.1**
BAR				*e*S		**Sb**	**22 48 17.0**	**+0.2**
CBX	**Cerro Bola**	**1.19**	**226**	*e*P	**Pb**	**Pb**	**22 48 06.5**	**-1.0**
CBX				*e*S		**Sb**	**22 48 23.2**	**+0.2**
ENX	**Ensenada**	**1.53**	**214⇑**	*e*PN	**Pn**	**Pn**	**22 48 13.1**	**+0.2**
ENX				*e*S		**Sb**	**22 48 34.6**	**+1.8**
PBX	**Punta Banda**	**1.67**	**213⇑**	*e*PN	**Pn**	**Pn**	**22 48 15.2**	**+0.3**
PBX				*e*S		**Sb**	**22 48 37.2**	**+0.2**
ECNX	**Esteban Cantu**	**1.69**	**208⇓**	*e*PN	**Pn**	**Pn**	**22 48 12.7**	**-2.5**
ECNX				*e*S		**Sn**	**22 48 32.9**	**-4.6**
LDFC	**Landfair**	**1.97**	**13**	*e*P	**Pn**	**Pn**	**22 48 21.4**	**+2.2**
SPX	**San Pedro Mart**	**2.11**	**176**	*e*PN	**Pn**	**Pn**	**22 48 21.1**	**0.0**
SPX				*e*S		**Sn**	**22 48 52.0**	**+3.8**
GSC	**Goldstone**	**2.34**	**336**	*e*Pn	**Pn**	**Pn**	**22 48 25.3**	**+0.8**
NEN	**Nelson**	**2.58**	**15**	*e*Pn	**Pn**	**Pn**	**22 48 28.2**	**+0.3**
DAC	**Darwin (Calif)**	**3.50**	**333**	*e*Pn	**Pn**	**Pn**	**22 48 38.7**	**-2.2**
DAC				*e*Pg		**Pg**	**22 48 51.6**	**-2.8**
TUC	**Tucson**	**4.19**	**100**	*e*Pn	**Pn**	**Pn**	**22 48 50.1**	**-0.8**
TUC				Pg		**Pg**	**22 49 01.1**	**-7.3**
PTRM	**Twissleman Ran**	**4.51**	**305**	*e*Pg	**Pg**	**Pg**	**22 49 12.7**	**-2.1**
ARUT	**Antelope Range**	**4.96**	**21**	*e*Pn	**Pn**	**Pn**	**22 49 02.4**	**+0.6**
ARUT				*e*Pg		**Pg**	**22 49 17.2**	**-6.5**
TPH	**Tonopah**	**5.07**	**346**	*e*Pn	**Pn**	**Pg**	**22 49 19.8**	**-6.0**
comp=E,369nm,1.1s								
NVAR	**Mina Array Bea**	**5.68**	**339**	Pg		**Pg**	**22 49 31.7**	**-6.4**
comp=E,2.6nm,0.3s,baz=161,slow=18,SNR=24								
NVAR				Lg			22 50 46.6	
baz=147,slow=27,SNR=1.7								
SAO	**San Andreas Ge**	**5.96**	**309**	Pn	**Pn**	**Pn**	**22 49 13.8**	**-2.0**
MSU	**Marysvale**	**6.05**	**27**	P	**Pn**	**Pn**	**22 49 23.2**	**+6.2**
CMB	**Columbia Colle**	**6.21**	**323**	Pn	**Pn**	**Pn**	**22 49 17.4**	**-1.9**
comp=E,133nm,1.1s								
CMB				*e*Pg		**Pg**	**22 49 45.0**	**-3.5**
NLU	**North Lily Min**	**7.37**	**22**	Pn	**Pn**	**Pn**	**22 49 37.8**	**+2.1**
NLU				*e*			22 50 01.1	
NLU				*e*Pg		**Pg**	**22 50 05.8**	**-6.0**
ELK	**Elko**	**7.58**	**2**	Pn	**Pn**	**Pn**	**22 49 40.1**	**+1.5**
comp=E,0.1nm,0.3s,baz=181,slow=14,SNR=3.1								
ELK				Lg			22 51 45.2	
comp=E,0.5nm,0.3s,baz=243,slow=18,SNR=2.9								
ELK				LR	LR		22 53 06.7	
comp=E,3μm,19.0s,baz=28,slow=42								
ELK	**Elko**	**7.58**	**2**	Pn	**Pn**	**Pn**	**22 49 40.1**	**+1.5**
ELK				Lg			22 51 45.2	
ELK				LR	LR		22 53 06.7	
PV01	**Paradox Valley**	**7.61**	**47**	Pn	**Pn**	**Pn**	**22 49 41.1**	**+2.0**
OHCM	**Honcut**	**7.76**	**324**	Pn	**Pn**	**Pn**	**22 49 43.9**	**+2.8**
ANMO	**Albuquerque**	**7.84**	**74**	Pn	**Pn**	**Pn**	**22 49 42.0**	**-0.2**
baz=263,slow=12,SNR=11								
ANMO				Lg			22 51 49.5	
baz=141,slow=15,SNR=4.7								
ANMO	**Albuquerque**	**7.84**	**74**	*e*Pn	**Pn**	**Pn**	**22 49 38.4**	**-3.8**
ANMO				Pn	**Pn**	**Pn**	**22 49 42.0**	**-0.2**
ANMO				Lg			22 51 49.5	
MNTX	**Cornudas Mount**	**8.81**	**97**	*e*Pn	**P**	**P**	**22 49 51.3**	**-4.4**
SMCO	**Snowmass**	**9.24**	**47**	Pn	**P**	**P**	**22 49 57.7**	**-4.0**
SDCO	**Great Sand Dun**	**9.46**	**58**	Pn	**P**	**P**	**22 50 05.1**	**+0.3**
YBH	**Yreka Blue Hor**	**10.23**	**329**	Pn	**P**	**P**	**22 50 24.3**	**+9.0**
comp=E,0.1nm,0.3s,baz=151,slow=11,SNR=2.1								
YBH				Lg			22 53 07.9	
comp=E,0.1nm,0.3s,baz=240,slow=17,SNR=3.6								
HLID	**Hailey**	**10.44**	**5**	Pn	**P**	**P**	**22 50 22.0**	**+3.9**
RRI2	**Red Ridge**	**10.73**	**17**	Pn	**P**	**P**	**22 50 20.0**	**-2.1**
PDAR	**Pinedale Array**	**10.73**	**25**	Pn	**P**	**P**	**22 50 23.1**	**+0.9**
comp=E,0.3nm,0.3s,baz=214,slow=11,SNR=33								
PDAR				Lg			22 53 35.6	
comp=E,0.1nm,0.3s,baz=199,slow=22,SNR=3.0								
PDAR				LR	LR		22 54 47.2	
comp=E,3μm,19.4s,baz=231,slow=40								
RWWY	**Rawlins**	**10.84**	**36**	*e*Pn	**P**	**P**	**22 50 23.2**	**-0.5**
TXAR	**Lajitas Array**	**10.95**	**107**	Pn	**P**	**P**	**22 50 24.6**	**-0.5**
comp=E,0.3nm,0.3s,baz=278,slow=13,SNR=4.4								
TXAR				Lg			22 53 35.5	
comp=E,0.6nm,0.3s,baz=272,slow=24,SNR=4.4								
TXAR	**Lajitas Array**	**10.95**	**107**	Pn	**P**	**P**	**22 50 24.6**	**-0.5**
TXAR				Lg			22 53 35.5	
NEW	**Newport**	**15.13**	**356**	Pn	**P**	**P**	**22 51 24.8**	**+4.0**
comp=E,0.5nm,0.3s,baz=166,slow=11,SNR=9.5								
NEW				Lg			22 55 52.0	
baz=90,slow=20,SNR=3.3								
NEW				LR	LR		22 57 08.4	

RMX eS Sg 22 50 47.3 +1.5
RMX ⇑e 22 50 48.4
comp=E,16μm,0.4s
GLA Glamis 0.71 98 ⇓iP Pg 22 50 36.7 -1.5
PFO Pinyon Flat Ob 0.80 304 ePg Pg 22 50 38.9 -1.1
PFO eSg Sg 22 50 51.0 +0.4
BAR Barrett 0.97 241 eP Pb 22 50 41.6 -1.6
CBX Cerro Bola 1.19 225 eP Pb 22 50 46.2 -0.7
CBX eS Sb 22 51 03.0 +0.4
ENX Ensenada 1.53 214 eP Pn 22 50 51.5 -0.9
PBX Punta Banda 1.67 213 eP Pn 22 50 53.5 -1.0
LDFC Landfair 1.97 13 P Pn 22 50 57.8 -1.0
SPX San Pedro Mart 2.11 175 eP Pn 22 50 58.8 -1.9
NEN Nelson 2.58 15 Pn Pn 22 51 06.9 -0.5
TPH Tonopah 5.07 346 Pn Pn 22 51 40.2 -2.6
NLU North Lily Min 7.37 22 P Pn 22 52 11.6 -3.6
ELK Elko 7.58 2 Lg 22 54 23.3
comp=E,0.3nm,0.3s,baz=68,slow=15,SNR=2.4
ANMO Albuquerque 7.84 74 Lg 22 54 31.8
baz=133,slow=19,SNR=4.6
NEW Newport 15.13 356 Pn P 22 54 02.9 +2.5
baz=176,slow=11,SNR=6.5
ULM Lac du Bonnet 22.47 35 P P 22 55 25.8 +0.1
comp=E,4.4nm,0.9s,mb3.9,baz=216,slow=11,SNR=3.7
DLBC Dease Lake 27.07 343 P P 22 56 11.0 +1.5
comp=E,9.3nm,1.1s,mb4.2,baz=168,slow=6.9,SNR=5.7
DLBC Dease Lake 27.07 343 P P 22 56 11.0 +1.5
INK Inuvik 36.66 349 P P 22 57 34.5 +1.0
comp=E,4.2nm,1.0s,mb4.2,baz=138,slow=9.2,SNR=3.5
ILAR Eielson Array 36.94 338 P P 22 57 36.9 +1.0
comp=E,4.1nm,0.9s,mb4.2,baz=154,slow=7.0,SNR=16
LPAZ La Paz 66.91 130 LR LR 23 28 09.7
comp=E,124nm,20.9s,MS4.1,baz=117,slow=34
ARCES ARCESS Array B 73.75 13 P P 23 02 00.1 -0.7
comp=E,2.7nm,0.8s,mb4.2,baz=348,slow=8.3,SNR=5.8
FLN La Foliniere 80.10 37 eP P 23 02 36.7 +0.1
comp=E,22nm,1.1s,mb4.7
FLN eR
comp=E,262nm,18.0s
LDF La Druitiere 80.39 37 eP P 23 02 38.0 -0.2
FINES FINESS Array B 80.74 18 P P 23 02 40.5 +0.7
comp=E,3.1nm,1.0s,mb4.2,baz=333,slow=9.3,SNR=6.0
FINES FINESS Array B 80.74 18 P P 23 02 40.5 +0.7
CPUP Villa Florida 81.08 129 LR LR 23 37 20.5
comp=E,94nm,18.3s,MS4.2,baz=128,slow=35
MDJ Mudanjiang 82.52 319 P P 23 02 46.5 -2.9
MDJ AMB AMB
comp=Z,6.0nm,1.4s,mb4.4
MDJ AMB AMB
comp=Z,27nm,4.3s
TCF Toulx Ste Croi 83.09 38 eP P 23 02 52.3 0.0
BGF Bois d'Agland 83.24 38 eP P 23 02 53.0 -0.1
comp=Z,26nm,1.0s,mb4.8
SMF Signal de Mont 83.69 37 eP P 23 02 55.5 +0.2
ETSF Etsaut 83.82 42 eP P 23 02 56.5 +0.4
comp=Z,24nm,1.3s,mb4.9
ESDC Sonseca Array 83.87 46 P P 23 02 56.9 +0.5
comp=Z,0.4nm,0.7s,mb3.7,baz=285,slow=4.3,SNR=4.1
CAF Calviac 83.92 39 eP P 23 02 56.3 -0.3
comp=Z,27nm,1.2s,mb4.9
CDF Champ du Feu 84.14 34 eP P 23 02 58.1 +0.5
comp=Z,25nm,1.3s,mb4.9
HINF Hinteralfeld 84.36 35 eP P 23 02 58.9 +0.2
PLCA Paso Flores 84.49 147 P P 23 03 00.9 +1.4
comp=Z,1.4nm,0.9s,mb4.1,baz=353,slow=4.8,SNR=3.2
CABF La Chapelle 84.84 36 eP P 23 03 01.8 +0.7
comp=Z,26nm,1.2s,mb4.9
MTLF Montolieu 85.06 40 eP P 23 03 02.6 +0.3
comp=Z,14nm,1.2s,mb4.7
CN2 Changchun 85.30 320 eP P 23 03 00.0 -3.5
VIVF Saint-Julien-l 85.34 38 eP P 23 03 04.1 +0.5
comp=Z,14nm,1.0s,mb4.7
LASF Ste Croix 85.44 39 eP P 23 03 04.9 +0.7
ORIF Oris-en-Rattie 85.91 37 eP P 23 03 06.9 +0.4
ORIF eR
comp=Z,247nm,22.8s
LPL La Plagne 85.92 37 eP P 23 03 07.4 +0.8
LPG La Plagne 85.95 37 eP P 23 03 07.9 +1.2
MBDF Montbardon 86.50 37 eP P 23 03 09.8 +0.4
comp=Z,5.9nm,0.9s,mb4.5
GERES GERESS Array B 86.72 31 P P 23 03 10.7 +0.3
comp=Z,0.3nm,0.8s,mb3.6,baz=333,slow=6.0,SNR=4.2
FRF La Foret Royal 87.26 38 eP P 23 03 12.8 -0.3
comp=Z,12nm,1.1s,mb4.7
LMR La Mourre 87.35 38 eP P 23 03 13.4 -0.2
comp=Z,13nm,1.2s,mb4.7
SBF Sospel 87.45 37 eP P 23 03 14.5 +0.5
PGF Pioggiola 89.19 37 eP P 23 03 22.1 -0.3
AKASG Malin Array Be 90.93 21 P P 23 03 30.4 +0.2
comp=Z,0.2nm,0.4s,mb3.8,baz=327,slow=4.6,SNR=5.5
SONM Songino Array 91.00 333 P P 23 03 32.3 +1.7
comp=Z,0.5nm,1.1s,mb3.8,baz=45,slow=2.0,SNR=4.5
SSE Sheshan 96.53 314 eP P 23 03 54.0 -2.5
NJ2 Nanjing 97.24 316 eP P 23 03 58.0 -1.6
NJ2 AP pP 23 04 03.0 +2.7
NJ2 XP sP 23 04 07.0 +6.5
NJ2 PP PP 23 07 58.0 -0.7
NJ2 S S 23 15 18.0 -2.7
NJ2 XS 23 15 28.0
WMQ Urumqi 100.48 343 eP P 23 04 14.0 0.0
LZH Lanzhou 101.83 328 eP P 23 04 16.5 -3.8
LZH AP 23 04 18.5
LZH PP PP 23 08 29.0 -4.5
LZH AMB AMB
comp=Z,4.0nm,1.4s
LBTB Lobatse 145.34 87 PKPbc PKPbc 23 10 04.4 +0.2
comp=Z,4.8nm,0.9s,baz=294,slow=9.1,SNR=4.4
MAW Mawson 145.50 179 PKPbc PKPbc 23 10 03.7 +0.4
comp=Z,6.3nm,1.0s,baz=192,slow=5.1,SNR=7.4

IDC 31 22:54:41.9±4.3, 1.60N×97.72E, mb3.5/3, mb1 3.6/3, mb1mx3.4/16, mbtmp3.5/3, Error ellipse: s-maj=165.1km s-min=29.1km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.81**	**123**	P	P	23 02 33.4	-1.8
	0.3nm,0.4s,baz=304,slow=8.9,SNR=2.7						
SONM	**Songino Array**	**46.66**	**8**	P	P	23 03 12.8	-1.2
	0.6nm,0.7s,baz=188,slow=9.3,SNR=6.3						
MKAR	**Makanchi Array**	**46.98**	**346**	P	P	23 03 14.2	-2.4
	0.5nm,0.5s,baz=161,slow=8.8,SNR=8.5						

*CSEM **31** 22:56:10.1±0.2, 34.87N×3.74W, h10km, MD3.2, Error ellipse: s-maj=4.8km s-min=2.8km az=107.0*
*CNRM **31** 22:56:10.1, 35.03N×3.81W, h8km, MD3.2*
*MDD **31** 22:56:12.1±0.6, 34.90N×3.78W, h1km±6km, mbLg2.0/6, Error ellipse: s-maj=6.9km s-min=3.6km az=109.0, PRXIMO*
*NEIC **31** 22:56:14.0, 34.98N×3.81W, MG3.2(MDD), After MDD.*
ISC 31 22:56:10.6±0.7, 34.89N±0.03×3.84W±0.04, h6km±4km, n33, σ1§25/63, 1C, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOU	**Touzarine**	**0.10**	**45**	S	**Sg**	22 56 14.0	-0.2
TOU	**Touzarine**	**0.10**	**45**	*i* P	**Pg**	22 56 11.5	-1.3
TOU				*i* S	**Sg**	22 56 14.0	-0.2
MPAL	**Palemas**	**0.34**	**345**	*i* P	**Pg**	22 56 14.0	-3.5
MPAL				*i* S	**Sg**	22 56 18.0	-4.1
EMEL	**Melilla**	**0.83**	**60**	⇑P	**Pb**	22 56 27.8	+0.8
	21nm,0.1s,SNR=18						
EMEL				S	**Sb**	22 56 39.2	+1.1
	169nm,0.3s,SNR=8.9						
EMLI	**Melilla**	**0.83**	**61**	P	**Pb**	22 56 27.8	+0.8
	21nm,0.1s,SNR=18						
EMLI				S	**Sb**	22 56 39.2	+0.9
	169nm,0.3s,SNR=8.9						
TZK	**Tazeka**	**0.85**	**200**	*i* P	**Pb**	22 56 28.0	+0.6
TZK				*i* S	**Sb**	22 56 41.5	+2.6
ZAI	**Zaio**	**0.90**	**85**	*i* P	**Pb**	22 56 26.5	-1.7
ZAI				*i* S	**Sb**	22 56 38.0	-2.2
EALB	**Alboran**	**1.23**	**32**	P	**Pb**	22 56 35.2	+1.3
	4.9nm,0.2s,SNR=7.9						
EALB				S	**Sb**	22 56 49.1	-0.8
	23nm,0.3s,SNR=6.4						
EALB	**Alboran**	**1.23**	**32**	P	**Pb**	22 56 35.2	+1.3
	4.9nm,0.2s,SNR=7.9						
EALB				S	**Sb**	22 56 49.1	-0.8
	23nm,0.3s,SNR=6.4						
EALB	**Alboran**	**1.23**	**32**	P	**Pb**	22 56 35.2	+1.3
EALB				S	**Sb**	22 56 49.1	-0.8
EMIJ	**Mijas**	**1.83**	**336**	P	**Pn**	22 56 42.5	-0.4
	0.6nm,0.1s,SNR=4.0						
EMIJ				S	**Sn**	22 57 06.8	+0.1
	4.6nm,0.4s,SNR=5.9						
EMIJ	**Mijas**	**1.83**	**336**	P	**Pn**	22 56 45.1	+2.2
	0.6nm,0.1s,SNR=4.0						
EMIJ				S	**Sn**	22 57 06.8	+0.1
	4.6nm,0.4s,SNR=5.9						
EMIJ	**Mijas**	**1.83**	**336**	P	**Pn**	22 56 45.1	+2.2
EMIJ				S	**Sn**	22 57 06.8	+0.1
MIF	**Mishlifen**	**1.88**	**218**	*i* P	**Pn**	22 56 41.5	-2.1
MIF				*i* S	**Sn**	22 57 06.0	-1.9
CZD	**Col de Zad**	**2.11**	**209**	*i* P	**Pn**	22 56 46.5	-0.4
CZD				*i* S	**Sn**	22 57 14.0	+0.2
EBER	**Berja**	**2.14**	**21**	P	**Pn**	22 56 50.0	+2.6
	0.3nm,0.1s,SNR=4.0						
EBER				S	**Sn**	22 57 14.7	+0.1
	3.6nm,0.3s,SNR=6.7						
EBER	**Berja**	**2.14**	**21**	P	**Pn**	22 56 50.0	+2.7
EBER				S	**Sn**	22 57 14.7	+0.2
EQUE	**Quentar**	**2.33**	**8**	P	**Pn**	22 56 52.2	+2.2
	1.5nm,0.3s,SNR=4.0						
EQUE				S	**Sn**	22 57 19.3	0.0
	2.9nm,0.3s,SNR=7.9						
ESPR	**Espera**	**2.56**	**321**	P	**Pn**	22 56 54.8	+1.4
	0.7nm,0.2s,SNR=4.0						
ESPR				S	**Sn**	22 57 24.9	-0.4
	3.6nm,0.3s,SNR=7.9						
ESPR	**Espera**	**2.56**	**321**	P	**Pn**	22 56 54.8	+1.4
	0.7nm,0.2s,SNR=4.0						
ESPR				S	**Sn**	22 57 24.9	-0.4
	3.6nm,0.3s,SNR=7.9						
EQES	**Quesada**	**2.97**	**12**	P	**Pn**	22 56 59.3	+0.1
	1.4nm,0.4s,SNR=5.5						
EQES				S	**Sn**	22 57 34.9	-0.6
	2.4nm,0.3s,SNR=7.9						
EQES	**Quesada**	**2.97**	**12**	P	**Pn**	22 56 59.3	+0.1
	1.4nm,0.4s,SNR=5.5						
EQES				S	**Sn**	22 57 34.9	-0.6
	2.4nm,0.3s,SNR=7.9						
EHUE	**Huescar**	**3.08**	**19**	P	**Pn**	22 57 02.3	+1.5
	0.4nm,0.2s,SNR=7.9						
EHUE				S	**Sn**	22 57 37.5	-1.0
	0.4nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**3.32**	**350**	P	**Pn**	22 57 03.6	-0.6
	0.4nm,0.2s,SNR=4.0						
EADA				S	**Sn**	22 57 42.0	-2.4
	1.9nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**3.32**	**350**	P	**Pn**	22 57 03.6	-0.6
	0.4nm,0.2s,SNR=4.0						
EADA				S	**Sn**	22 57 43.2	-1.3
	1.9nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**3.32**	**350**	P	**Pn**	22 57 03.6	-0.5
EADA				S	**Sn**	22 57 43.2	-1.2
EMIN	**Mina Concepcio**	**3.67**	**322**	P	**Pn**	22 57 07.9	-1.2
	0.3nm,0.2s,SNR=6.3						
EMIN				S	**Sn**	22 57 48.6	-4.7
	0.2nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.67**	**322**	P	**Pn**	22 57 09.9	+0.8
	0.3nm,0.2s,SNR=6.3						
EMIN	**Mina Concepcio**	**3.67**	**322**	P	**Pn**	22 57 09.9	+0.8
EMIN				S	**Sn**	22 57 48.6	-4.7
ETOB	**Tobarra**	**4.17**	**25**	P	**Pn**	22 57 15.8	-0.5
	0.6nm,0.3s,SNR=7.9						
ETOB				S	**Sn**	22 58 02.1	-3.9
	0.5nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**4.17**	**25**	P	**Pn**	22 57 15.8	-0.4
	0.6nm,0.3s,SNR=7.9						
ETOB				S	**Sn**	22 58 02.1	-3.9
	0.5nm,0.3s,SNR=7.9						
EBAD	**Badajoz**	**4.62**	**327**	P	**Pn**	22 57 22.3	-0.3
	1.0nm,0.3s,SNR=7.9						
EBAD				S	**Sn**	22 58 12.0	-5.3
	1.1nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**4.62**	**327**	P	**Pn**	22 57 22.3	-0.3
	1.0nm,0.3s,SNR=7.9						

*BJI **31** 23:07:14.4, 33.20N×115.60W, h4km, mB4.9, mb4.9, Ms4.9, Msz4.5*
*ECX **31** 23:07:16.7±0.5, 33.18N×115.62W, h3km, MD4.2, ML4.3*
*IDC **31** 23:07:16.4±2.9, 33.19N×115.70W, mb1 4.0/3, mb1mx3.6/22, mbtmp3.5/3, ML3.7/3, Error ellipse: s-maj=45.1km s-min=14.0km az=49.0*
*NEIC **31** 23:07:16.4, 33.18N×115.62W, h5km, ML4.1(PAS), After PAS.*
NEIC Felt at Brawley, El Centro, Holtville, Imperial and Niland.
ISC 31 23:07:15.2±0.7, 33.19N±0.02×115.59W±0.03, h12km±5km, n53, σ1§15/59, mb5.3/1, 4C-4D, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRK	**Frink**	**0.21**	**350**	⇓*i*P	**Pg**	23 07 21.0	+1.0
COK	**Cook Ranch**	**0.36**	**198**	⇓*i*P	**Pg**	23 07 23.3	+0.6
CRR	**Carrizo Plain**	**0.44**	**226**	⇑*i*P	**Pg**	23 07 24.2	-0.1
SGL	**Mount Signal**	**0.55**	**192**	⇓*i*P	**Pb**	23 07 26.1	-0.3
YAQ	**Yaqui Meadows**	**0.64**	**268**	⇑*i*P	**Pb**	23 07 27.9	+0.2
GLA	**Glamis**	**0.66**	**102**	⇑*i*P	**Pb**	23 07 28.7	+0.6
GLA	**Glamis**	**0.66**	**102**	*e*P	**Pb**	23 07 28.3	+0.1
RMX	**La Rumorosa**	**0.72**	**215**	*e*S	**Sb**	23 07 39.1	+0.5
RMX				⇓*e*		23 07 41.0	
	comp=E,14μm,0.6s						
PFO	**Pinyon Flat Ob**	**0.83**	**300**	*e*P	**Pb**	23 07 31.2	+0.1
PFO				*e*S	**Sb**	23 07 43.0	+1.0
BAR	**Barrett**	**1.04**	**241**	*e*P	**Pb**	23 07 33.8	-0.9
BAR				*e*S	**Sb**	23 07 46.5	-1.6
CBX	**Cerro Bola**	**1.26**	**226**	*e*P	**Pb**	23 07 38.2	-0.2
CBX				*e*S	**Sb**	23 07 55.1	+0.7
ENX	**Ensenada**	**1.59**	**215**	⇑*e*P	**Pn**	23 07 44.0	+0.6
ENX				*e*S	**Sb**	23 08 05.9	+1.9
PBX	**Punta Banda**	**1.73**	**214**	*e*P	**Pn**	23 07 46.0	+0.5
PBX				*e*S	**Sn**	23 08 08.9	+1.3
ECNX	**Esteban Cantu**	**1.75**	**209**	*e*P	**Pn**	23 07 44.1	-1.6
ECNX				*e*S	**Sn**	23 08 05.0	-3.0
LDFC	**Landfair**	**1.92**	**12**	*e*P	**Pn**	23 07 49.7	+1.6
SPX	**San Pedro Mart**	**2.14**	**177**	*e*P	**Pn**	23 07 50.6	-0.7
MWC	**Mount Wilson**	**2.30**	**297**	*e*Pn	**Pn**	23 07 53.5	0.0
GSC	**Goldstone**	**2.33**	**335**	*e*Pn	**Pn**	23 07 53.2	-0.8
NEN	**Nelson**	**2.53**	**14**	*e*Pn	**Pn**	23 07 58.3	+1.4
SNCC	**San Nicolas Is**	**3.29**	**272**	*e*P	**Pn**	23 08 06.3	-1.4
DAC	**Darwin (Calif)**	**3.49**	**332**	*e*P	**Pn**	23 08 08.5	-2.0
TUC	**Tucson**	**4.15**	**101**	*e*Pn	**Pn**	23 08 18.2	-1.7
PTRM	**Twissleman Ran**	**4.54**	**304**	Pn	**Pn**	23 08 24.1	-1.4
MTUM	**Tungsten Hills**	**4.81**	**330**	Pn	**Pn**	23 08 30.0	+0.7
ARUT	**Antelope Range**	**4.91**	**20**	*e*Pn	**Pn**	23 08 31.4	+0.7
TPH	**Tonopah**	**5.05**	**345**	Pn	**Pn**	23 08 32.8	+0.1
LRV	**Little Rabbit**	**5.50**	**307**	Pn	**Pn**	23 08 38.6	-0.5
NVAR	**Mina Array Bea**	**5.67**	**338**	Pn	**Pn**	23 08 41.5	+0.1
	comp=E,0.3nm,0.3s,baz=166,slow=15,SNR=5.1						
NVAR				Pg	**Pg**	23 09 02.6	-5.9
	comp=E,2.9nm,0.3s,baz=160,slow=17,SNR=41						
NVAR				Lg		23 10 16.7	
	baz=156,slow=25						
SAO	**San Andreas Ge**	**5.98**	**308**	Pn	**Pn**	23 08 46.4	+0.6
MSU	**Marysvale**	**5.99**	**27**	*e*Pn	**Pn**	23 08 47.3	+1.4
CMB	**Columbia Colle**	**6.21**	**322**	*e*Pn	**Pn**	23 08 49.0	0.0
TMUT	**Trail Mountain**	**7.05**	**29**	Pn	**Pn**	23 09 01.5	+0.7
SRU	**San Rafael**	**7.19**	**33**	*e*Pn	**Pn**	23 09 01.4	-1.4
NLU	**North Lily Min**	**7.32**	**22**	*e*Pn	**Pn**	23 09 05.0	+0.4
BMN	**Battle Mountai**	**7.34**	**350**	Pn	**Pn**	23 09 03.8	-1.1
PV10	**Paradox Valley**	**7.42**	**44**	*e*Pn	**Pn**	23 09 05.9	-0.2
MPU	**Maple Canyon**	**7.52**	**24**	P	**Pn**	23 09 19.7	+12
ELK	**Elko**	**7.54**	**2**	*e*Pn	**Pn**	23 09 06.4	-1.4
PV01	**Paradox Valley**	**7.55**	**47**	*e*Pn	**Pn**	23 09 07.3	-0.5
BEKR	**Beckwourth**	**7.69**	**331**	Pn	**Pn**	23 09 07.0	-2.8
ANMO	**Albuquerque**	**7.78**	**74**	*e*Pn	**Pn**	23 09 09.9	-1.2
DAU	**Daniels Canyon**	**8.00**	**25**	Pn	**P**	23 09 12.3	-1.9
MNTX	**Cornudas Mount**	**8.76**	**97**	*e*Pn	**P**	23 09 23.2	-1.4
HWUT	**Hardware Ranch**	**8.99**	**20**	Pn	**P**	23 09 27.7	-0.1
PDAR	**Pinedale Array**	**10.68**	**25**	Pn	**P**	23 09 54.6	+3.6
	comp=E,0.1nm,0.3s,baz=216,slow=12,SNR=31						
PDAR				Lg		23 13 05.9	
	comp=E,0.0nm,0.3s,baz=254,slow=11,SNR=3.8						
RWWY	**Rawlins**	**10.78**	**36**	P	**P**	23 09 58.3	+5.8
TXAR	**Lajitas Array**	**10.90**	**107**	Pn	**P**	23 09 56.9	+2.6
	comp=E,0.5nm,0.3s,baz=279,slow=12,SNR=7.4						
TXAR				Lg		23 13 06.9	
	comp=E,0.2nm,0.3s,baz=273,slow=28,SNR=6.2						
LOHW	**Long Hollow**	**11.11**	**19**	P	**P**	23 09 59.1	+2.1
FLWY	**Flagg Ranch**	**11.52**	**18**	P	**P**	23 10 03.2	+0.6
HHC	**Hu-ho-hao-te**	**94.45**	**326**	*e*P	**P**	23 20 37.0	+0.7
HHC				AMB	AMB		
	comp=Z,14nm,1.1s,mb5.3						
SSE	**Sheshan**	**96.55**	**314**	*e*P	**P**	23 20 47.0	+0.8
NJ2	**Nanjing**	**97.25**	**316**	*e*P	**P**	23 20 51.0	+1.7
LZH	**Lanzhou**	**101.83**	**328**	*e*P	P	23 21 09.0	-0.9
LZH				PP	PP	23 25 21.5	-1.8
LZH				AMB	AMB		
	comp=Z,3.0nm,1.4s						

*ECX **31** 23:27:32.7±0.5, 33.19N×115.58W, h3km, MD4.0, ML4.2*
*IDC **31** 23:27:32.7±2.2, 33.29N×115.53W, mb3.9/2, mb1 4.0/5, mb1mx3.7/22, mbtmp3.7/5, ML3.7/3, Error ellipse: s-maj=35.5km s-min=14.1km az=45.0*
*NEIC **31** 23:27:32.2, 33.20N×115.59W, h3km, ML4.3(PAS), After PAS.*
NEIC Felt in the Imperial Valley.
*BJI **31** 23:27:33.1, 33.62N×116.55W, h5km, mB4.8, mb4.5, Ms4.9, Msz4.5*
ISC 31 23:27:31.5±0.7, 33.19N±0.03×115.59W±0.04, h12km±5km, n62, σ1§11/63, mb4.0/3, 3C-4D, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRK	**Frink**	**0.21**	**349**	⇓*i*PD	**Pg**	23 27 36.5	+0.3
COK	**Cook Ranch**	**0.36**	**199**	⇓*i*P	**Pg**	23 27 39.8	+0.7
CRR	**Carrizo Plain**	**0.44**	**226**	⇑*i*P	**Pg**	23 27 40.7	+0.1
SGL	**Mount Signal**	**0.55**	**192**	⇓*i*P	**Pb**	23 27 42.4	-0.3
GLA	**Glamis**	**0.66**	**102**	⇑*i*P	**Pb**	23 27 44.5	+0.1
GLA				*e*S	**Sb**	23 27 53.2	0.0
GLA	**Glamis**	**0.66**	**102**	*e*P	**Pb**	23 27 44.4	0.0
RMX	**La Rumorosa**	**0.72**	**215**	*e*S	**Sb**	23 27 56.0	+1.0
RMX				⇓*e*		23 28 03.8	
	comp=E,5μm,1.0s						
PFO	**Pinyon Flat Ob**	**0.83**	**300**	*e*P	**Pb**	23 27 47.2	-0.2
BAR	**Barrett**	**1.04**	**241**	*e*P	**Pb**	23 27 50.2	-0.9
CBX	**Cerro Bola**	**1.26**	**226**	*e*P	**Pb**	23 27 54.4	-0.4
CBX				*e*S	**Sb**	23 28 12.4	+1.7
ENX	**Ensenada**	**1.59**	**215**	*e*P	**Pn**	23 28 00.2	+0.5
ENX				⇑*e*		23 28 32.7	
	comp=E,8μm,1.0s						
PBX	**Punta Banda**	**1.74**	**214**	*e*P	**Pn**	23 28 02.3	+0.5
ECNX	**Esteban Cantu**	**1.75**	**209**	*e*P	**Pn**	23 28 00.4	-1.7
LDFC	**Landfair**	**1.92**	**12**	*e*P	**Pn**	23 28 04.3	-0.1
SPX	**San Pedro Mart**	**2.14**	**177**	*e*PN	**Pn**	23 28 07.2	-0.4
MWC	**Mount Wilson**	**2.30**	**297**	*e*P	**Pn**	23 28 08.7	-1.1
GSC	**Goldstone**	**2.33**	**335**	*e*Pn	**Pn**	23 28 08.7	-1.6
NEN	**Nelson**	**2.53**	**14**	*e*Pn	**Pn**	23 28 12.2	-0.9
TUC	**Tucson**	**4.14**	**101**	*e*Pn	**Pn**	23 28 33.9	-2.3
MTUM	**Tungsten Hills**	**4.81**	**330**	*e*Pn	**Pn**	23 28 45.7	+0.1
ARUT	**Antelope Range**	**4.91**	**20**	*e*Pn	**Pn**	23 28 46.5	-0.4
NVAR	**Mina Array Bea**	**5.67**	**338**	Pn	**Pn**	23 28 56.6	-1.1
	comp=E,0.4nm,0.3s,baz=169,slow=15,SNR=5.7						
NVAR				Pg	**Pg**	23 29 17.6	-7.2
	comp=E,3.6nm,0.3s,baz=163,slow=18,SNR=36						
NVAR				Lg		23 30 32.8	
	baz=152,slow=25,SNR=1.7						
MSU	**Marysvale**	**5.99**	**27**	*e*Pn	**Pn**	23 29 02.6	+0.5
CMB	**Columbia Colle**	**6.21**	**322**	*e*Pn	**Pn**	23 29 04.3	-1.1
TMUT	**Trail Mountain**	**7.04**	**29**	Pn	**Pn**	23 29 16.4	-0.7
SRU	**San Rafael**	**7.19**	**33**	*e*Pn	**Pn**	23 29 18.4	-0.6
NLU	**North Lily Min**	**7.32**	**22**	Pn	**Pn**	23 29 21.4	+0.5
PV10	**Paradox Valley**	**7.42**	**44**	*e*Pn	**Pn**	23 29 21.8	-0.5
ELK	**Elko**	**7.54**	**2**	*e*Pn	**Pn**	23 29 22.9	-1.1
ANMO	**Albuquerque**	**7.78**	**74**	*e*Pn	**Pn**	23 29 25.8	-1.5
DAU	**Daniels Canyon**	**8.00**	**24**	*e*Pn	**Pn**	23 29 29.4	-1.0
CTU	**Camp Tracy**	**8.09**	**21**	Pn	**P**	23 29 31.4	-0.2
JLU	**Jordanelle**	**8.10**	**23**	Pn	**P**	23 29 31.1	-0.7
SPUT	**South Promonto**	**8.48**	**16**	*e*Pn	**P**	23 29 36.6	-0.4
TCUT	**Toone Canyon**	**8.58**	**22**	Pn	**P**	23 29 40.2	+1.7
MNTX	**Cornudas Mount**	**8.76**	**97**	*e*Pn	**P**	23 29 38.3	-2.6
HVU	**Hansel Valley**	**8.86**	**14**	Pn	**P**	23 29 40.9	-1.4
SMCO	**Snowmass**	**9.17**	**47**	*e*P	**P**	23 29 47.2	+0.5
AHID	**Auburn Hatcher**	**10.19**	**19**	*e*P	**P**	23 30 02.5	+1.8
PDAR	**Pinedale Array**	**10.67**	**25**	Pn	**P**	23 30 08.8	+1.4
	comp=E,0.1nm,0.3s,baz=212,slow=12,SNR=30						
PDAR				Lg		23 33 14.8	
	comp=E,0.0nm,0.3s,baz=211,slow=10,SNR=2.6						
RRI2	**Red Ridge**	**10.68**	**17**	*e*P	**P**	23 30 08.3	+1.0
TXAR	**Lajitas Array**	**10.90**	**107**	Pn	**P**	23 30 11.7	+1.2
	comp=E,0.3nm,0.3s,baz=282,slow=12,SNR=5.3						
TXAR				Lg		23 33 18.0	
	comp=E,0.2nm,0.3s,baz=267,slow=31,SNR=4.3						
TPAW	**Teton Pass**	**10.90**	**18**	P	**P**	23 30 10.6	+0.1
LOHW	**Long Hollow**	**11.11**	**19**	*e*P	**P**	23 30 14.3	+1.0
IMW	**Indian Meadow**	**11.29**	**17**	*e*P	**P**	23 30 17.5	+1.8
FLWY	**Flagg Ranch**	**11.52**	**18**	P	**P**	23 30 19.0	+0.1
MCMT	**McKenzie Canyo**	**11.81**	**10**	P	**P**	23 30 25.8	+3.0
DLMT	**Dillon**	**12.37**	**10**	*e*P	**P**	23 30 34.2	+3.9
MSO	**Missoula**	**13.68**	**5**	P	**P**	23 30 50.6	+3.0
CHMT	**Chamberlain Mo**	**13.82**	**7**	*e*P	**P**	23 30 49.9	+0.4
NEW	**Newport**	**15.10**	**356**	*e*P	**P**	23 31 09.6	+3.3
WALA	**Waterton Lakes**	**15.90**	**4**	P	**P**	23 31 17.9	+1.2
EDM	**Edmonton**	**20.08

SAO	**San Andreas Ge**	**6.01**	**308**	Pn	**Pn**	**23 33 41.6**	**+0.2**
CMB	**Columbia Colle**	**6.24**	**322**	*e*Pn	**Pn**	**23 33 43.1**	**-1.5**
TMUT	**Trail Mountain**	**7.06**	**29**	Pn	**Pn**	**23 33 55.1**	**-1.0**
CTU	**Camp Tracy**	**8.11**	**21**	Pn	**P**	**23 34 08.7**	**-2.1**
AHID	**Auburn Hatcher**	**10.21**	**19**	Pn	**P**	**23 34 42.1**	**+2.3**
FLWY	**Flagg Ranch**	**11.54**	**18**	Pn	**P**	**23 34 57.2**	**-0.8**
NEW	**Newport**	**15.13**	**356**	P	**P**	**23 35 46.6**	**+1.2**
SSE	**Sheshan**	**96.58**	**314**	*e*P	**P**	**23 45 41.3**	**-0.2**
NJ2	**Nanjing**	**97.28**	**316**	*e*P	**P**	**23 45 45.5**	**+0.9**
NJ2				AP	pP	23 45 50.5	+2.0
NJ2				XP	sP	23 45 52.5	+2.7
NJ2				PP	PP	23 49 45.0	+1.0
NJ2				S	S	23 57 05.0	+0.4
NJ2				LR	LR		
	comp=Z,870nm,14.8s,MS5.4						
WMQ	**Urumqi**	**100.49**	**343**	*e*P	P	23 46 01.0	+2.2
LZH	**Lanzhou**	**101.86**	**328**	*e*P	P	23 46 05.0	-0.2
LZH				AP		23 46 07.0	
LZH				PP	PP	23 50 17.5	-1.1
LZH				AMB	AMB		
	comp=Z,4.0nm,1.4s						

NEIC 31 23:33:38.9,33.20N×115.61W,h4km,ML4.0(PAS),**After PAS.,Southern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLA	**Glamis**	**0.67**	**103**	*e*P	Pg	23 33 51.1	-1.1
PFO	**Pinyon Flat Ob**	**0.82**	**300**	*e*P	Pg	23 33 53.5	-1.7
BAR	**Barrett**	**1.04**	**240**	*e*P	Pb	23 33 57.0	-2.0
LDFC	**Landfair**	**1.92**	**12**	P	Pn	23 34 12.3	-0.4
MWC	**Mount Wilson**	**2.29**	**297**	Pn	Pn	23 34 17.4	-0.5
GSC	**Goldstone**	**2.32**	**335**	Pn	Pn	23 34 17.1	-1.3
ISA	**Isabella**	**3.41**	**317**	P	Pn	23 34 32.1	-1.9
TUC	**Tucson**	**4.16**	**101**	Pn	Pn	23 34 41.5	-3.1

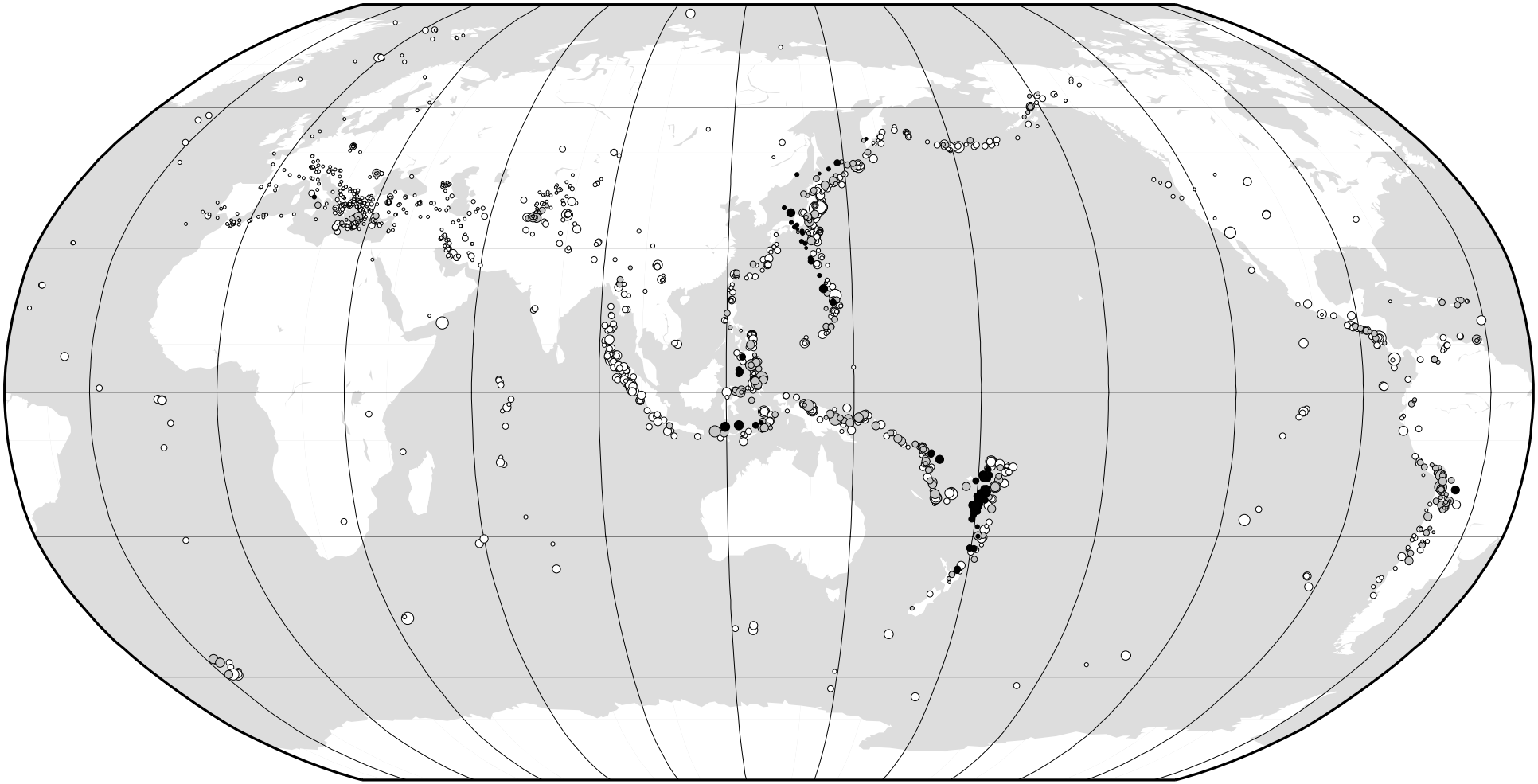
IDC 31 23:52:57.5±4.6,**8.16N×91.64E,mb3.6**/3,**mb1 3.8**/3,**mb1mx3.5**/17,**mbtmp3.6**/3,**Error ellipse: s-maj=163.6km s-min=30.5km az=63.0,Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**39.32**	**350**	P	P	00 00 28.1	-2.0
	0.2nm,0.4s,baz=169,slow=8.7,SNR=4.2						
SONM	**Songino Array**	**41.48**	**15**	P	P	00 00 46.5	-1.3
	0.6nm,0.6s,baz=202,slow=8.0,SNR=4.4						
WRA	**Warramunga Arr**	**50.45**	**124**	P	P	00 01 57.4	-2.1
	1.5nm,0.8s,baz=305,slow=8.6,SNR=9.1						

IDC 31 23:56:43.1±1.4,**25.78N×140.55E,mb3.6**/3,**mb1 3.8**/3,**mb1mx3.5**/18,**mbtmp3.6**/3,**Error ellipse: s-maj=79.9km s-min=30.2km az=98.0,Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.85**	**188**	P	P	00 05 07.1	-1.9
	0.4nm,0.3s,baz=9.2,slow=8.7,SNR=8.2						
ILAR	**Eielson Array**	**59.56**	**28**	P	P	00 06 48.1	-2.4
	0.4nm,0.8s,baz=260,slow=6.0,SNR=4.6						
FINES	**FINESS Array B**	**78.47**	**333**	P	P	00 08 45.7	-1.4
	0.4nm,0.3s,baz=76,slow=5.7,SNR=6.4						

ISC Computed Locations for August 2005



Depth (km)	0-70	70-300	>300
M=8	○	●	●
M=6.5	○	●	●
M=4	○	●	●

Robinson Projection, centred on 0˚N,130˚E

1771 Events